FCC PART 15 SUBPART C TEST REPORT

for

WiFi 802.11b/g module

Model No.: PWF0831MR09

FCC ID: V93PWF0831MR09

of

Applicant: Posiflex Technologies, Inc.
Address: 6, Wu-Chuan Road, Wu Ku, Taipei Hsien,
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.: W6M20808-9278-C-1

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



Registration number: W6M20808-9278-C-1

FCC ID: V93PWF0831MR09

TABLE OF CONTENTS

1 GE	ENERAL INFORMATION	3
1.1	Notes	3
1.2	TESTING LABORATORY	4
1.2	2.1 Location	4
1.2	2.2 Details of accreditation status	4
1.3	DETAILS OF APPROVAL HOLDER	4
1.4	APPLICATION DETAILS	5
1.5	GENERAL INFORMATION OF TEST ITEM	5
1.6	TEST STANDARDS	6
2 TE	CCHNICAL TEST	7
2.1	SUMMARY OF TEST RESULTS	7
2.2	TEST ENVIRONMENT	7
2.3	TEST EQUIPMENT LIST	8
2.4	GENERAL TEST PROCEDURE	10
3 TE	CST RESULTS (ENCLOSURE)	12
3.1	PEAK OUTPUT POWER (TRANSMITTER)	13
3.2	EQUIVALENT ISOTROPIC RADIATED POWER	14
3.3	RF Exposure Compliance Requirements	14
3.4	TRANSMITTER RADIATED EMISSIONS IN RESTRICTED BANDS	15
3.5	Spurious Emissions (TX)	16
3.6	RADIATED EMISSION ON THE BAND EDGE	23
3.7	MINIMUM 6 DB BANDWIDTH	24
3.8	PEAK POWER SPECTRAL DENSITY	25
3.9	RADIATED EMISSION FROM RECEIVER PART	26
3.10	Power Line Conducted Emission	31
APPE	NDIX	33

FCC ID: V93PWF0831MR09

1 General Information

1.1 Notes

The purpose of conformity testing is to increase the probability of adherence to the essential requirements or conformity specifications, as appropriate.

The complexity of the technical specifications, however, means that full and thorough testing is impractical for both technical and economic reasons.

Furthermore, there is no guarantee that a test sample which has passed all the relevant tests conforms to a specification.

Neither is there any guarantee that such a test sample will interwork with other genuinely open systems. The existence of the tests nevertheless provides the confidence that the test sample possesses the qualities as maintained and that is performance generally conforms to representative cases of communications equipment.

The test results of this test report relate exclusively to the item tested as specified in 1.5.

The test report may only be reproduced or published in full.

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

Specific Conditions:

Usage of the hereunder tested device in combination with other integrated or external antennas requires at least additional output power measurements, spurious emission measurements, conducted emission measurements (AC supply lines) and radio frequency exposure evaluations for each individual configuration performed, for certification by FCC.

The test sample is able to work according IEEE 802.11 b/g.

This report is related to FCC Part 15 C (DSSS and OFDM device).

Tester:

September 24, 2008 Jeff Lin Jeff Lin

Date WTS-Lab. Name Signature

Technical responsibility for area of testing:

September 24, 2008 Chang Tse-Ming

Date WTS Name Signature

FCC ID: V93PWF0831MR09

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: Posiflex Technologies, Inc.

Street: 6, Wu-Chuan Road,
Town: Wu Ku, Taipei Hsien,

Country: Taiwan, R.O.C.

Telephone: +886 2 2299-1599

Fax: +886 2 2299-1819

FCC ID: V93PWF0831MR09

1.4 Application details

Date of receipt of test item: September 8, 2008

Date of test: from September 9, 2008 to September 24, 2008

1.5 General information of Test item

Type of test item: WiFi 802.11b/g module

Model Number: PWF0831MR09

Brand Name: POSIFLEX

Multi-listing model number: ./.

Photos: See Appendix

Technical data

Frequency band: 2.4 GHz - 2.4835 GHz

Frequency (ch 1 or A): 2.412 GHz

Frequency (ch 6 or B): 2.437 GHZ

Frequency (ch 11 or C): 2.462 GHz

Number of Channels: 11

Operation modes: duplex

Modulation Type: DSSS / OFDM

Fixed point-to-point operation: \square Yes / \boxtimes No

Type of Antenna: PCB Antenna

Antenna gain: -2.84 dBi

Power supply: 3.3 VDC (power on PC)

Emission designator: DSSS: 13M6G1D

OFDM: 16M5W7D



Registration number: W6M20808-9278-C-1

FCC ID: V93PWF0831MR09

Host device: none

Classification:

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

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

Mode A (DSSS)

Power (ch 1 or A): Conducted: 11.93 dBm
Power (ch 6 or B): Conducted: 11.24 dBm
Power (ch 11 or C): Conducted: 11.33 dBm

Mode B (OFDM)

Power (ch 1 or A): Conducted: 11.70 dBm

Power (ch 6 or B): Conducted: 11.25 dBm

Power (ch 11 or C): Conducted: 11.65 dBm

Manufacturer: (if applicable)

Name: Posiflex Technologies, Inc.
Street: 6, Wu-Chuan Road, Wu Ku,

Town: Taipei Hsien,
Country: Taiwan, R.O.C

Additional information: The sample is using WLAN technology according IEEE 802.11 b/g.

There are two testing modes in the test report.

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

The scheme for frequency generation, spectrum spreading,

receiver parameters, synchronization procedure, and other parameters

are determined by the mentioned standard above.

1.6 Test standards

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

FCC ID: V93PWF0831MR09

2 Technical test

2.1 Summary of test results

No deviations from the technical specification(s) were ascertained in the course of the tests performed.	×
or	
The deviations as specified in 2.5 were ascertained in the course of the tests performed.	

2.2 Test environment

Temperature: 23 °C

Relative humidity content: 20 ... 75 %

Air pressure: 86 ... 103 kPa

Power supply: 3.3 VDC (power on PC)

Extreme conditions parameters: ./.



Registration number: W6M20808-9278-C-1

FCC ID: V93PWF0831MR09

2.3 Test Equipment List

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		Function 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	2008/10/22
ETSTW-CE 009	TEMP.&HUMIDITY CHAMBER	GTH-225-40-1P-U	MAA0305-009	GIANT FORCE	2008/7/25	2009/7/24
ETSTW-CE 013	CISPR 22 TWO BALANCED TELECOM PAIRS IMPEDANCE STABILIZATION NETWORK	FCC-TLISN-T4-02	20242	FCC	2007/11/2	2008/11/1
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 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 011	PROGRAMMABLE LINEAR POWER SUPPLY	LPS-305	30503070165	МОТЕСН	Functi	on Test
ETSTW-RE 017	Log-Periodic Antenna	HL025	352886/001	R&S	2008/5/5	2009/5/4
ETSTW-RE 018	MICROWAVE HORN ANTENNA	AT4560	27212	AR	2007/11/7	2008/11/6
ETSTW-RE 020	MICROWAVE HORN ANTENNA	AT4002A	306915	AR	Functi	on Test
ETSTW-RE 021	SWEEP GENERATOR	SWM05	835130/010	R&S	2008/8/27	2009/8/26
ETSTW-RE 028	Log-Periodic DipoleArray Antenna	3148	34429	EMCO	2008/4/23	2009/4/22
ETSTW-RE 029	Biconical Antenna	3109	33524	EMCO	2008/4/23	2009/4/22
ETSTW-RE 030	Double-Ridged Guide Horn Antenna	3117	00035224	EMCO	2008/3/26	2009/3/25
ETSTW-RE 032	Millivoltmeter	URV 55	849086/013	R&S	2008/9/1	2009/8/31
ETSTW-RE 033	WaveRunner 6000A Serise Oscilloscope	WAVERUNNER 6100A	LCRY0604P14508	LeCroy	2008/6/27	2009/6/26
ETSTW-RE 034	Power Sensor	URV5-Z4	839313/006	R&S	2008/9/1	2009/8/31
ETSTW-RE 042	Biconical Antenna	HK116	100172	R&S	2007/1/11	2009/1/10



Registration number: W6M20808-9278-C-1

FCC ID: V93PWF0831MR09

ETSTW-RE 043	Log-Periodic Dipole Antenna	HL223	100166	R&S	2008/5/2	2009/5/1
ETSTW-RE 044	Log-Periodic Antenna	HL050	100094	R&S	2008/5/22	2009/5/21
ETSTW-RE 047	ESA-E SERIES SPECTRUM ANALYZER	E4445A	MY46181369	Agilent	2008/6/26	2009/6/25
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	2008/7/1	2009/6/30
ETSTW-RE 064	Bluetooth Test Set	MT8852B-042	6K00005709	Anritsu	2008/9/1	2009/8/31
ETSTW-RE 072	CELL SITE TEST SET	8921A	3339A00375	HP	2007/7/2	2009/7/1

FCC ID: V93PWF0831MR09

2.4 General Test Procedure

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

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

FORMULA OF CONVERSION FACTORS: The Field Strength at 3m was established by adding the meter reading of the spectrum analyzer (which is set to read in units of $dB\mu V$) 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 $20 dB\mu V + 10.36 dB + 6 dB = 36.36 dB\mu V/m @3m$

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 at No.5-1, Shuang Sing Village, LiShuei Rd., Wanli Township, Taipei County 207, Taiwan (R.O.C.) The Registration Number: 930600.

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



FCC ID: V93PWF0831MR09

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



FCC ID: V93PWF0831MR09

3 Test results (enclosure)

TEST CASE	Para. Number	Required	Test passed	Test failed
Peak Output Power	15.247(b)(3)	×	×	
Equivalent radiated Power	15.247(b)(3)	×	×	
Spurious Emissions radiated – Transmitter operating	15.247(c):	×	×	
	15.209			
Band Edge Measurement	15.247(c)	×	×	
Minimum 6 dB Bandwidth	15.247(a)(2)	×	×	
Peak Power Spectral Density	15.247(d)	×	×	
Radiated Emission from Receiver Part	15.109	×	×	
Power Line Conducted Emission	15.207	×	×	

The follows is intended to leave blank.



Registration number: W6M20808-9278-C-1

FCC ID: V93PWF0831MR09

3.1 Peak Output Power (transmitter)

FCC Rule: 15.247(b)(3)

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

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

Mode A

Test condition -		Conducted Power		
		Channel A	Channel B	Channel C
T _{nom} = 23°C	$V_{\text{nom}} = 3.3 \text{ V}$	[dBm] [dBm] [d	[dBm]	
1 nom- 23 C	v _{nom} — 3.3 v	11.93	11.24	11.33

Mode B

Test condition -		Conducted Power		
		Channel A	Channel B	Channel C
T - 22°C	V - 22 V	[dBm] [dBm] [dB	[dBm]	
$T_{\text{nom}} = 23^{\circ}\text{C}$	$V_{\text{nom}} = 3.3 \text{ V}$	11.70	11.25	11.65

Mode A

Test condition $T_{nom}=23^{\circ}C$, $V_{nom}=3.3$ V	Signal Field strength TX highest power mode dB μ V/m
Frequency [MHz]	
	

Mode B

Test condition $T_{nom}=23^{\circ}C,\ V_{nom}=\ 3.3\ V$	Signal Field strength TX highest power mode dB μ V/m
Frequency [MHz]	
	

Limits:

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

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

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

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

FCC ID: V93PWF0831MR09

3.2 Equivalent isotropic radiated power

FCC Rule: 15.247(b)(3)

EIRP = max. conducted output power + antenna gain

EIRP = 11.93 dBm + (-2.84dBi)

 $= 9.06 \, dBm$

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

Test equipment used: ETSTW-RE 003 ETSTW-RE 004 ETSTW-RE 017 ETSTW-RE 021

ETSTW-RE 028 ETSTW-RE 030 ETSTW-RE 043 ETSTW-RE 044

3.3 RF Exposure Compliance Requirements

FCC OET Bulletin 65 Edition 97.01 determines the equations for predicting RF fields and applicable limits.

The prediction for power density in the far-field but will over-predict power density in the near field, where it could be used for walking a "worst case" or conservative prediction.

S – Power Density

P – Output power ERP

R – Distance

D – Cable Loss

AG – Antenna Gain

Item	Unit	Value	Remarks
P	mW	15.5955	Peak value
D	dB		
AG	dBi	-2.84	
G		0.52	Calculated Value
R	cm	20	Assumed value
S	mW/cm ²	0.0016	Calculated value

Limits:

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

FCC ID: V93PWF0831MR09

3.4 Transmitter Radiated Emissions in Restricted Bands

FCC Rules: 15.247 (c), 15.205, 15.209, 15.35

Radiated emission measurements were performed from 30 MHz to 26500 MHz.

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

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

Limits.

For frequencies below 1GHz:

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

For frequencies above 1GHz (Average measurements).

Guidance on Measurement of Digit Transmission Systems:

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

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

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

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

Explanation: See attached diagrams in Appendix.

FCC ID: V93PWF0831MR09

3.5 Spurious Emissions (tx)

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

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

FCC Rule: 15.247(c), 15.35

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

Limits:

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

For frequencies above 1GHz (Average measurements).

Max. reading – 20dB

Max. reading - 20 dB

Guidance on Measurement of Digit Transmission Systems:

"If the emission is pulsed, modify the unit for continuous operation, use the settings shown above, then correct the reading by subtracting the peak-average correction factor, derived from the appropriate duty cycle calculation."

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

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

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

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

FCC ID: V93PWF0831MR09

SAMPLE CALCULATION OF LIMIT. All results will be updated by an automatic measuring system in accordance with point 2.3.

Calculation of test results:

Such factors like antenna correction, cable loss, external attenuation etc. are already included in the provided measurement results. This is done by using validated test software and calibrated test system according the accreditation requirements.

The peak and average spurious emission plots was measured with the average limits.

In the Table being listed the critical peak and average value and exhibit the compliance with the above calculated Limits.

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

Summary table with radiated data of the test plots

Model: PWF0831MR09 Date: 2008/9/10-9/12

Mode: 802.11b Tx Ch1 Temperature: 26 °C Engineer: Jeff

Polarization: Horizontal Humidity: 60 %

1 Olarizationii	rionzonia			r rannant j	00	70		
Frequency (MHz)	Reading (dBuV)	Detector	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Table Degree (Deg.)	Ant. High (cm)
296.212	31.04	peak	15.16	46.20	74.00	-27.80	124	150
353.307	27.25	peak	16.58	43.83	74.00	-30.17	214	150

Frequency	Rea (dB	ding uV)	Factor (dB)		t @3m ıV/m)		Limit @3m (dBuV/m)		Limit @3m (dBuV/m)		Table Degree	Ant. High
(MHz)	Peak	Ave.	Corr.	Peak	,	Peak	Ave.	(dB)	(Deg.)	(cm)		
1038.076	55.95		-14.00	41.95		74.00	54.00	-32.05	331	150		
1663.327	54.85		-9.15	45.70		74.00	54.00	-28.30	147	150		
4824.000	40.47		-1.30	39.17		74.00	54.00	-34.83	234	150		
7236.000	42.49		1.86	44.35		74.00	54.00	-29.65	147	150		
9648.000	21.75		25.06	40.81		74.00	54.00	-33.19	331	150		
12060.000	21.89		29.44	45.33		74.00	54.00	-28.67	278	150		

Polarization: Vertical

Frequency (MHz)	Reading (dBuV)	Detector	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Table Degree (Deg.)	Ant. High (cm)
211.263	29.75	peak	12.36	42.11	74.00	-31.89	159	150
353.307	25.01	peak	16.58	41.59	74.00	-32.41	321	150



Registration number: W6M20808-9278-C-1

FCC ID: V93PWF0831MR09

Frequency	Rea (dB	ding uV)	Factor (dB)		t @3m ıV/m)		Limit @3m (dBuV/m)		Table Degree	Ant. High
(MHz)	Peak	Ave.	Corr.	Peak	,	Peak	Ave.	(dB)	(Deg.)	(cm)
1454.910	51.16		-11.81	39.35		74.00	54.00	-34.65	212	150
2468.938	52.40		-5.10	47.30		74.00	54.00	-26.70	279	150
4824.000	41.49		-1.30	40.19		74.00	54.00	-33.81	341	150
7236.000	42.80		1.86	44.66		74.00	54.00	-29.34	224	150
9648.000	21.60		25.06	40.66		74.00	54.00	-33.34	91	150
12060.000	22.14		29.44	45.58		74.00	54.00	-28.42	224	150

Mode: 802.11b Tx Ch6 Temperature: 26 °C Engineer: Jeff

Polarization: Horizontal Humidity: 60 %

F	requency (MHz)	Reading (dBuV)	Detector	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Table Degree (Deg.)	Ant. High (cm)
	296.212	31.04	peak	15.16	46.20	74.00	-27.80	124	150
	353.307	27.25	peak	16.58	43.83	74.00	-30.17	214	150

Frequency		ding uV)	Factor (dB)		t @3m ıV/m)		Limit @3m (dBuV/m)		Limit @3m (dBuV/m)		Table Degree	Ant. High
(MHz)	Peak	Ave.	Corr.	Peak	,	,	Ave.	(dB)	(Deg.)	(cm)		
1038.076	58.25		-11.81	46.44		74.00	54.00	-27.56	241	150		
4824.000	41.63		-2.41	39.22		74.00	54.00	-34.78	214	150		
7236.000	38.33		2.07	40.40		74.00	54.00	-33.60	315	150		
9648.000	34.01		4.96	32.97		74.00	54.00	-41.03	321	150		
12060.000	31.92		11.60	37.52		74.00	54.00	-36.48	147	150		

Polarization: Vertical

Frequency (MHz)	Reading (dBuV)	Detector	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Table Degree (Deg.)	Ant. High (cm)
211.263	29.75	peak	12.36	42.11	74.00	-31.89	159	150
353.307	25.01	peak	16.58	41.59	74.00	-32.41	321	150

Frequency	Rea	ding	Factor	Resul	t @3m	Limit	Limit @3m		Table	
	(dB	uV)	(dB)	(dBu	V/m)	(dBu	(dBuV/m)		Degree	Ant. High
(MHz)	Peak	Ave.	Corr.	Peak	Ave.	Peak	Ave.	(dB)	(Deg.)	(cm)
1040.080	58.96		-11.81	47.15		74.00	54.00	-26.85	214	150
4824.000	39.71		-2.41	37.30		74.00	54.00	-36.70	147	150
7326.000	38.30		2.28	40.58		74.00	54.00	-33.42	331	150
9648.000	33.49		4.96	32.45		74.00	54.00	-41.55	331	150
12060.000	32.58		11.60	38.18		74.00	54.00	-35.82	197	150



Registration number: W6M20808-9278-C-1

FCC ID: V93PWF0831MR09

Mode: 802.11b Tx Ch11 Temperature: 26 °C Engineer: Jeff

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)
296.212	31.04	peak	15.16	46.20	74.00	-27.80	124	150
353.307	27.25	peak	16.58	43.83	74.00	-30.17	214	150

Frequency	Rea	ding	Factor	Resul	t @3m	Limit	Limit @3m		Table			
	(dB	uV)	(dB)	(dBu	ıV/m)	(dBu	(dBuV/m)		(dBuV/m)		Degree	Ant. High
(MHz)	Peak	Ave.	Corr.	Peak	Ave.	Peak	Ave.	(dB)	(Deg.)	(cm)		
1038.076	53.24		-11.81	41.43	-	74.00	54.00	-32.57	241	150		
4824.000	46.96		-2.41	44.55		74.00	54.00	-29.45	224	150		
7236.000	44.80		2.07	46.87		74.00	54.00	-27.13	119	150		
9648.000	33.06		4.96	32.02		74.00	54.00	-41.98	247	150		
12060.000	32.99		11.60	38.59		74.00	54.00	-35.41	102	150		

Polarization: Vertical

Frequency (MHz)	Reading (dBuV)	Detector	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Table Degree (Deg.)	Ant. High (cm)
211.263	29.75	peak	12.36	42.11	74.00	-31.89	159	150
353.307	25.01	peak	16.58	41.59	74.00	-32.41	321	150

Frequency	Read	ding	Factor			Limit	@3m	Margin	Table	
	(dBı	ıV)	(dB)	(dBu	(dBuV/m) (dBuV/m		V/m)		Degree	Ant. High
(MHz)	Peak	Ave.	Corr.	Peak	Ave.	Peak	Ave.	(dB)	(Deg.)	(cm)
1663.327	59.18		-10.79	48.39		74.00	54.00	-25.61	241	150
4824.000	41.42		-2.41	39.01	-	74.00	54.00	-34.99	357	150
7326.000	38.91		2.28	41.19	-	74.00	54.00	-32.81	221	150
9648.000	33.15		4.96	32.11		74.00	54.00	-41.89	324	150
12060.000	32.10		11.60	37.7		74.00	54.00	-36.30	197	150

Mode: 802.11g Tx Ch1 Temperature: 26 °C Engineer: Jeff 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)
296.212	31.04	peak	15.16	46.20	74.00	-27.80	124	150
353.307	27.25	peak	16.58	43.83	74.00	-30.17	214	150



Registration number: W6M20808-9278-C-1

FCC ID: V93PWF0831MR09

Frequency	Rea	ding	Factor Result @3m		Limit	Limit @3m		Table		
	(dB	uV)	(dB)	(dBu	(dBuV/m)		(dBuV/m)		Degree	Ant. High
(MHz)	Peak	Ave.	Corr.	Peak	Ave.	Peak	Ave.	(dB)	(Deg.)	(cm)
1040.080	60.58		-11.81	48.77		74.00	54.00	-25.23	142	150
4824.000	41.71		-2.41	39.30		74.00	54.00	-34.70	321	150
7236.000	39.56		2.07	41.63		74.00	54.00	-32.37	102	150
9648.000	33.20		4.96	32.16		74.00	54.00	-41.84	321	150
12060.000	31.66		11.60	37.26		74.00	54.00	-36.74	147	150

Polarization: Vertical

Frequency (MHz)	Reading (dBuV)	Detector	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Table Degree (Deg.)	Ant. High (cm)
211.263	29.75	peak	12.36	42.11	74.00	-31.89	159	150
353.307	25.01	peak	16.58	41.59	74.00	-32.41	321	150

Frequency	Rea	ding	Factor	or Result @3m		Limit	Limit @3m		Table	
	(dB	0	(dB) (dBuV/m)		(dBu	(dBuV/m)		Degree	Ant. High	
(MHz)	Peak	Ave.	Corr.	Peak	Ave.	Peak	Ave.	(dB)	(Deg.)	(cm)
1456.914	56.59		-11.89	44.70		74.00	54.00	-29.30	159	150
4824.000	40.92		-2.41	38.51		74.00	54.00	-35.49	124	150
7236.000	39.46		2.07	41.53		74.00	54.00	-32.47	334	150
9648.000	33.56		4.96	32.52		74.00	54.00	-41.48	278	150
12060.000	32.10		11.60	37.7		74.00	54.00	-36.30	314	150

Mode: 802.11g Tx Ch6 Temperature: 26 °C Engineer: Jeff 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)
296.212	31.04	peak	15.16	46.20	74.00	-27.80	124	150
353.307	27.25	peak	16.58	43.83	74.00	-30.17	214	150

Frequency	Rea	ding	Factor	Result @3m		Limit @3m		Margin	Table	
	(dB	uV)	(dB)	(dBu	ıV/m)	(dBuV/m)			Degree	Ant. High
(MHz)	Peak	Ave.	Corr.	Peak	Ave.	Peak	Ave.	(dB)	(Deg.)	(cm)
1038.076	53.79		-11.81	41.98		74.00	54.00	-32.02	321	150
4824.000	41.42		-2.41	39.01		74.00	54.00	-34.99	234	150
7236.000	39.37		2.07	41.44		74.00	54.00	-32.56	321	150
9648.000	34.22		4.96	33.18		74.00	54.00	-40.82	325	150
12060.000	33.49		11.60	39.09		74.00	54.00	-34.91	175	150



Registration number: W6M20808-9278-C-1

FCC ID: V93PWF0831MR09

Polarization: Vertical

Frequency (MHz)	Reading (dBuV)	Detector	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Table Degree (Deg.)	Ant. High (cm)
211.263	29.75	peak	12.36	42.11	74.00	-31.89	159	150
353.307	25.01	peak	16.58	41.59	74.00	-32.41	321	150

Frequency	Rea	ding	Factor	Result @3m		Limit	Limit @3m		Table	
	(dB	uV)	(dB)	(dBu	(dBuV/m)		(dBuV/m)		Degree	Ant. High
(MHz)	Peak	Ave.	Corr.	Peak	Ave.	Peak	Ave.	(dB)	(Deg.)	(cm)
1663.327	55.41		-10.79	44.62		74.00	54.00	-29.38	312	150
4824.000	40.91		-2.41	38.50		74.00	54.00	-35.50	231	150
7236.000	39.37		2.07	41.44		74.00	54.00	-32.56	197	150
9648.000	34.96		4.96	33.92		74.00	54.00	-40.08	234	150
12060.000	32.43		11.60	38.03		74.00	54.00	-35.97	128	150

Mode: 802.11g Tx Ch11 Temperature: 26 °C Engineer: Jeff

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)
	296.212	31.04	peak	15.16	46.20	74.00	-27.80	124	150
1	353.307	27.25	peak	16.58	43.83	74.00	-30.17	214	150

Frequency	Rea (dB	ding uV)	Factor (dB)		t @3m ıV/m)		@3m V/m)	Margin	Table Degree	Ant. High
(MHz)	Peak	Áve.	Corr.	Peak	Ave.	Peak	Ave.	(dB)	(Deg.)	(cm)
1038.076	53.79		-11.81	41.98		74.00	54.00	-32.02	124	150
4824.000	41.42		-2.41	39.01		74.00	54.00	-34.99	341	150
7236.000	39.37		2.07	41.44		74.00	54.00	-32.56	167	150
9648.000	34.22		4.96	33.18		74.00	54.00	-40.82	325	150
12060.000	33.49		11.60	39.09		74.00	54.00	-34.91	175	150

Polarization: Vertical

Frequency (MHz)	Reading (dBuV)	Detector	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Table Degree (Deg.)	Ant. High (cm)
211.263	29.75	peak	12.36	42.11	74.00	-31.89	159	150
353.307	25.01	peak	16.58	41.59	74.00	-32.41	321	150



Registration number: W6M20808-9278-C-1

FCC ID: V93PWF0831MR09

Frequency	Rea	ding	Factor	Resul	t @3m	Limit	@3m	Margin	Table	
	(dB	uV)	(dB)	(dBu	V/m)	(dBu	V/m)		Degree	Ant. High
(MHz)	Peak	Ave.	Corr.	Peak	Ave.	Peak	Ave.	(dB)	(Deg.)	(cm)
1663.327	55.41		-10.79	44.62		74.00	54.00	-29.38	119	150
4824.000	40.91		-2.41	38.50		74.00	54.00	-35.50	334	150
7236.000	39.37		2.07	41.44		74.00	54.00	-32.56	124	150
9648.000	34.96		4.96	33.92		74.00	54.00	-40.08	134	150
12060.000	32.43		11.60	38.03		74.00	54.00	-35.97	167	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.

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

Test equipment used: ETSTW-RE003 ETSTW-RE 004 ETSTW-RE 017 ETSTW-RE 028

ETSTW-RE029 ETSTW-RE 030 ETSTW-RE 042 ETSTW-RE 043

ETSTW-RE044

FCC ID: V93PWF0831MR09

3.6 Radiated Emission on the band edge

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

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

Mode A

Test co	nditions	Attenuation at or outside band-edges				
		Lower Band-edge	Upper Band-edge			
T _{nom} = 23°C	$V_{nom} = 3.3 \text{ V}$	47.06 dB	48.36 dB			

Mode B

Test co	nditions	Attenuation at or outside band-edges			
		Lower Band-edge	Upper Band-edge		
T _{nom} = 23°C	$V_{nom} = 3.3 \text{ V}$	32.52 dB	43.05 dB		

Limit:

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

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

Explanation: Please see attached diagrams as appendix.

FCC ID: V93PWF0831MR09

3.7 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 con	nditions	6 dB Bandwidth			
Test con		Channel 1 Channel 6		Channel 11	
T _{nom} = 23°C	$T_{\text{nom}} = 23^{\circ}\text{C}$ $V_{\text{nom}} = 3.3 \text{ V}$ $9.58333333333333333333333333333333333333$		9.987980769 MHz	9.576923077 MHz	

Mode B

Test co	nditions	6 dB Bandwidth			
1051 00.	narrons	Channel 1 Channel 6		Channel 11	
$T_{nom}=23^{\circ}C$	$V_{nom} = 3.3 \text{ V}$	16.570512821 MHz	16.570512821 MHz	16.564102564 MHz	

Limits:

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

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

Explanation: See attached diagrams in Appendix.

FCC ID: V93PWF0831MR09

3.8 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 co	nditions	Channel 1	Channel 11			
		[dBm]	[dBm]	[dBm]		
T_{nom} = 23°C V_{nom} = 3.3 V		-18.89	-19.45	-19.24		

Mode B

		Peak Power Spectral Density (3 kHz)				
Test con	nditions	Channel 1	Channel 1 Channel 6			
		[dBm]	[dBm]	[dBm]		
T_{nom} = 23°C V_{nom} = 3.3 V		-18.89	-18.34	-18.13		

Limits:

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

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

Explanation: See attached diagrams in Appendix.



Registration number: W6M20808-9278-C-1

FCC ID: V93PWF0831MR09

3.9 Radiated Emission from Receiver Part

Model PWF0831MR09 Date: 2008/9/20

Mode: 802.11b Rx Ch1 Temperature: 26 °C Engineer: Jeff

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)
65.170	15.00	peak	13.37	28.37	40.00	-11.63	114	150
134.970	16.41	peak	14.45	30.86	43.50	-12.64	247	150
209.098	18.71	peak	12.32	31.03	43.50	-12.47	237	150
415.030	22.69	peak	18.10	40.79	46.00	-5.21	224	150
520.240	18.97	peak	20.10	39.07	46.00	-6.93	47	150
831.663	11.70	peak	25.55	37.25	46.00	-8.75	147	150

Frequency	Rea	ding	Factor	Result	(@3m	Limit	Limit @3m M		Table	
	(dB	uV)	(dB)	(dBu	V/m)	(dBu	(dBuV/m)		Degree	Ant. High
(MHz)	Peak	Ave.	Corr.	Peak	Ave.	Peak	Ave.	(dB)	(Deg.)	(cm)
1769.539	52.26		-8.65	43.61		54.00		-10.39	224	150

Polarization: Vertical

Frequency (MHz)	Reading (dBuV)	Detector	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Table Degree (Deg.)	Ant. High (cm)
30.541	23.25	peak	13.03	36.28	40.00	-3.72	147	150
156.072	17.27	peak	15.43	32.70	43.50	-10.80	24	150
233.447	20.67	peak	13.23	33.90	46.00	-12.10	121	150
520.240	20.73	peak	20.10	40.83	46.00	-5.17	224	150
727.856	16.79	peak	24.18	40.97	46.00	-5.03	44	150
988.778	8.38	peak	27.32	35.70	54.00	-18.30	347	150

Frequency	Rea	ding	Factor	Resul	t @3m	Limit	@3m	Margin	Table	
	(dB	uV)	V) (dB) (dBuV/m) (dBuV/m)			Degree	Ant. High			
(MHz)	Peak	Ave.	Corr.	Peak	Ave.	Peak	Ave.	(dB)	(Deg.)	(cm)
1559.118	57.92		-10.22	47.70		54.00	-	-6.30	314	150

Mode: 802.11b Rx Ch6 Temperature: 26 °C Engineer: Jeff

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)
65.170	15.28	peak	13.37	28.65	40.00	-11.35	274	150
104.128	16.33	peak	11.85	28.18	43.50	-15.32	234	150
209.098	18.24	peak	12.32	30.56	43.50	-12.94	117	150
415.030	25.61	peak	18.10	43.71	46.00	-2.29	341	150
520.241	21.95	peak	20.10	42.05	46.00	-3.95	84	150
831.663	11.70	peak	25.55	37.25	46.00	-8.75	119	150



Registration number: W6M20808-9278-C-1

FCC ID: V93PWF0831MR09

Frequency	Rea	ding	Factor	Result @3m		Limit	@3m	Margin	Table	
	(dB	uV)	(dB)	(dBu	V/m)	(dBu	V/m)		Degree	Ant. High
(MHz)	Peak	Ave.	Corr.	Peak	Ave.	Peak	Ave.	(dB)	(Deg.)	(cm)
1769.539	52.26		-8.65	43.61		54.00		-10.39	224	150

Polarization: Vertical

Frequency (MHz)	Reading (dBuV)	Detector	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Table Degree (Deg.)	Ant. High (cm)
30.541	22.80	peak	13.03	35.83	40.00	-4.17	234	150
209.098	19.00	peak	12.32	31.32	43.50	-12.18	274	150
233.447	18.80	peak	13.23	32.03	46.00	-13.97	110	150
520.240	23.23	peak	20.10	43.33	46.00	-2.67	274	150
727.856	19.29	peak	24.18	43.47	46.00	-2.53	174	150
935.471	16.37	peak	27.01	43.38	46.00	-2.62	334	150

Frequency	cy Reading		Factor	Resul	t @3m	Limit	Limit @3m		Table	
	(dB	uV)	(dB)	(dBu	ıV/m)	(dBu	(dBuV/m)		Degree	Ant. High
(MHz)	Peak	Ave.	Corr.	Peak	Ave.	Peak	Ave.	(dB)	(Deg.)	(cm)
1559.118	57.92		-10.22	47.70		54.00		-6.30	314	150

Mode: 802.11b Rx Ch11 Temperature: 26 °C Engineer: Jeff

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)
65.170	17.28	peak	13.37	30.65	40.00	-9.35	197	150
135.511	16.68	peak	14.49	31.17	43.50	-12.33	341	150
209.098	21.24	peak	12.32	33.56	43.50	-9.94	221	150
415.030	24.69	peak	18.10	42.79	46.00	-3.21	347	150
520.241	20.97	peak	20.10	41.07	46.00	-4.93	249	150
831.663	11.70	peak	25.55	37.25	46.00	-8.75	110	150

Frequency	Rea	ding	Factor	Result @3m		Limit	@3m	Margin	Table	
	(dB	uV)	(dB)	(dBu	V/m)	(dBu	(dBuV/m)		Degree	Ant. High
(MHz)	Peak	Ave.	Corr.	Peak	Ave.	Peak	Ave.	(dB)	(Deg.)	(cm)
1769.539	52.26		-8.65	43.61		54.00		-10.39	224	150

Polarization: Vertical

Frequency (MHz)	Reading (dBuV)	Detector	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Table Degree (Deg.)	Ant. High (cm)
45.691	18.06	peak	13.66	31.72	40.00	-8.28	47	150
156.072	20.25	peak	15.43	35.68	43.50	-7.82	119	150
233.447	20.30	peak	13.23	33.53	46.00	-12.47	321	150
311.222	21.26	peak	15.59	36.85	46.00	-9.15	125	150
520.240	21.23	peak	20.10	41.33	46.00	-4.67	334	150
727.856	18.79	peak	24.18	42.97	46.00	-3.03	217	150



Registration number: W6M20808-9278-C-1

FCC ID: V93PWF0831MR09

Frequency	Rea	ding	Factor	Resul	t @3m	Limit	Limit @3m N		Table	
	(dB	uV)	(dB)	(dBu	V/m)	(dBu	(dBuV/m)		Degree	Ant. High
(MHz)	Peak	Ave.	Corr.	Peak	Ave.	Peak	Ave.	(dB)	(Deg.)	(cm)
1559.118	57.92		-10.22	47.70		54.00		-6.30	314	150

Mode: 802.11g Rx Ch1 Temperature: 26 °C Engineer: Jeff

Polarization: Horizontal Humidity: 60 %

T GIGITZGUOTTI	· · · · · · · · · · · · · · · · · · ·			r rannang r				
Frequency (MHz)	Reading (dBuV)	Detector	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Table Degree (Deg.)	Ant. High (cm)
65.711	18.11	peak	13.23	31.34	40.00	-8.66	338	150
135.511	17.68	peak	14.49	32.17	43.50	-11.33	74	150
209.098	19.74	peak	12.32	32.06	43.50	-11.44	127	150
415.030	23.19	peak	18.10	41.29	46.00	-4.71	229	150
520.240	20.97	peak	20.10	41.07	46.00	-4.93	310	150
727.856	14.39	peak	24.18	38.57	46.00	-7.43	147	150

Frequency	Rea	ding	Factor	Resul	t @3m	Limit	@3m	Margin	Table	
	(dB	uV)	(dB)	(dBu	V/m)	(dBu	V/m)		Degree	Ant. High
(MHz)	Peak	Ave.	Corr.	Peak	Ave.	Peak	Ave.	(dB)	(Deg.)	(cm)
1769.539	52.26		-8.65	43.61		54.00	1	-10.39	224	150

Polarization: Vertical

Frequency (MHz)	Reading (dBuV)	Detector	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Table Degree (Deg.)	Ant. High (cm)
156.072	21.25	peak	15.43	36.68	43.50	-6.82	297	150
209.098	20.50	peak	12.32	32.82	43.50	-10.68	114	150
233.447	20.30	peak	13.23	33.53	46.00	-12.47	341	150
520.240	20.73	peak	20.10	40.83	46.00	-5.17	129	150
624.048	20.23	peak	22.29	42.52	46.00	-3.48	337	150
727.856	19.29	peak	24.18	43.47	46.00	-2.53	114	150

Frequency	Rea	ding	Factor	Resul	t @3m	Limit	@3m	Margin	Table	
	(dB	uV)	(dB)	(dBu	ıV/m)	(dBu	V/m)		Degree	Ant. High
(MHz)	Peak	Ave.	Corr.	Peak	Ave.	Peak	Ave.	(dB)	(Deg.)	(cm)
1559.118	57.92		-10.22	47.70		54.00		-6.30	314	150



Registration number: W6M20808-9278-C-1

FCC ID: V93PWF0831MR09

Mode: 802.11g Rx Ch6 Temperature: 26 °C Engineer: Jeff

Polarization: Horizontal Humidity: 60 %

1 Oldrization:	TTOTIZOTICAL			riairiiaity.	00	70		
Frequency (MHz)	Reading (dBuV)	Detector	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Table Degree (Deg.)	Ant. High (cm)
104.128	17.33	peak	11.85	29.18	43.50	-14.32	179	150
154.449	14.48	peak	15.42	29.90	43.50	-13.60	210	150
204.228	18.94	peak	12.22	31.16	43.50	-12.34	130	150
415.030	22.69	peak	18.10	40.79	46.00	-5.21	114	150
520.240	19.47	peak	20.10	39.57	46.00	-6.43	247	150
729.259	12.86	peak	24.22	37.08	46.00	-8.92	337	150

Frequency	Rea	ding	Factor	Result	@3m	Limit	@3m	Margin	Table	
	(dB	uV)	(dB)	(dBu	V/m)	(dBu	V/m)		Degree	Ant. High
(MHz)	Peak	Ave.	Corr.	Peak	Ave.	Peak	Ave.	(dB)	(Deg.)	(cm)
1769.539	52.26		-8.65	43.61		54.00		-10.39	224	150

Polarization: Vertical

i olarization.	rortioai							
Frequency (MHz)	Reading (dBuV)	Detector	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Table Degree (Deg.)	Ant. High (cm)
67.335	17.69	peak	12.80	30.49	40.00	-9.51	224	150
156.072	18.25	peak	15.43	33.68	43.50	-9.82	112	150
209.098	19.00	peak	12.32	31.32	43.50	-12.18	337	150
311.222	24.76	peak	15.59	40.35	46.00	-5.65	249	150
520.241	23.23	peak	20.10	43.33	46.00	-2.67	331	150
831.663	17.88	peak	25.55	43.43	46.00	-2.57	187	150

Frequency	Rea	ding	Factor	Resul	t @3m	Limit	@3m	Margin	Table	
	(dB	uV)	(dB)	(dBu	V/m)	(dBu	V/m)		Degree	Ant. High
(MHz)	Peak	Ave.	Corr.	Peak	Ave.	Peak	Ave.	(dB)	(Deg.)	(cm)
1559.118	57.92		-10.22	47.70		54.00		-6.30	314	150

Mode: 802.11g Rx Ch11 Temperature: 26 °C Engineer: Jeff 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)
65.170	15.28	peak	13.37	28.65	40.00	-11.35	240	150
134.970	15.58	peak	14.45	30.03	43.50	-13.47	324	150
209.098	18.24	peak	12.32	30.56	43.50	-12.94	197	150
415.030	19.69	peak	18.10	37.79	46.00	-8.21	224	150
520.240	17.97	peak	20.10	38.07	46.00	-7.93	147	150
729.259	12.86	peak	24.22	37.08	46.00	-8.92	341	150



Registration number: W6M20808-9278-C-1

FCC ID: V93PWF0831MR09

Frequency	Rea	ding	Factor	Resul	t @3m	Limit	@3m	Margin	Table	
	(dB	uV)	(dB)	(dBu	V/m)	(dBu	V/m)		Degree	Ant. High
(MHz)	Peak	Ave.	Corr.	Peak	Ave.	Peak	Ave.	(dB)	(Deg.)	(cm)
1769.539	54.76		-8.65	46.11		54.00		-7.89	297	150

Polarization: Vertical

1 Glarizationi								
Frequency (MHz)	Reading (dBuV)	Detector	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Table Degree (Deg.)	Ant. High (cm)
30.541	21.30	peak	13.03	34.33	40.00	-5.67	274	150
156.072	21.25	peak	15.43	36.68	43.50	-6.82	91	150
233.447	18.80	peak	13.23	32.03	46.00	-13.97	124	150
520.240	21.73	peak	20.10	41.83	46.00	-4.17	257	150
727.856	19.29	peak	24.18	43.47	46.00	-2.53	47	150
935.471	17.37	peak	27.01	44.38	46.00	-1.62	334	150

Frequency	Rea	ding	Factor	Resul	t @3m	Limit	@3m	Margin	Table	
	(dB	uV)	(dB)	(dBu	V/m)	(dBu	V/m)		Degree	Ant. High
(MHz)	Peak	Ave.	Corr.	Peak	Ave.	Peak	Ave.	(dB)	(Deg.)	(cm)
1559.118	54.42		-10.22	44.20		54.00		-9.80	178	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.

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

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



Registration number: W6M20808-9278-C-1

FCC ID: V93PWF0831MR09

3.10 Power Line Conducted Emission

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

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

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

Model:	PWF083	31MR09	Date: 2008			/9/11		
Mode:			Tempe	rature:	26	°C		Engineer:
Polarization:	N		Humidi	ty:	60	%		Jeff
Frequency	Rea	ding	Factor	Re	sult	Lir	mit	Margin
. ,	(dB	uV)	(dB)	(dB	BuV)	(dB	uV)	
(MHz)	QP	Ave.	Corr.	QP	Ave.	QP	Ave.	(dB)
0.1792	37.02	27.13	10.12	47.14	37.25	79.00	66.00	-28.75
0.4743	34.28	26.51	10.17	44.45	36.68	79.00	66.00	-29.32
0.8350	31.76	24.01	10.12	41.88	34.13	73.00	60.00	-25.87
3.3400	29.80	23.31	10.09	39.89	33.40	73.00	60.00	-26.60
5.7778	24.53	16.79	10.15	34.68	26.94	73.00	60.00	-33.06
13.4167	19.47	13.60	10.47	29.94	24.07	73.00	60.00	-35.93

Polarization: L1

Frequency	Reading (dBuV)		Factor (dB)	Result (dBuV)		Limit (dBuV)		Margin
(MHz)	QP	Äve.	Corr.	QP	Áve.	QP	Áve.	(dB)
0.1811	37.88	23.93	10.12	48.00	34.05	79.00	66.00	-31.00
0.4106	34.23	25.51	10.07	44.30	35.58	79.00	66.00	-30.42
0.9600	31.68	23.92	10.11	41.79	34.03	73.00	60.00	-25.97
2.1350	31.01	23.63	10.07	41.08	33.70	73.00	60.00	-26.30
3.6550	28.40	21.33	10.13	38.53	31.46	73.00	60.00	-28.54
7.4722	21.02	14.85	10.37	31.39	25.22	73.00	60.00	-34.78



FCC ID: V93PWF0831MR09

Note: 1. The formula of measured value as: Test Result = Reading + Correction Factor

- 2. The Correction Factor = Cable Loss + LISN Insertion Loss + Pulse Limit Loss
- 3. Detector function in the form: PK = Peak, QP = Quasi Peak, AVG = Average
- 4. All not in the table noted test results are more than 20 dB below the relevant limits.
- 5. See attached diagrams in Appendix.

Limits:

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

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

FCC ID: V93PWF0831MR09

Appendix

A Measurement diagrams

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

B Photos

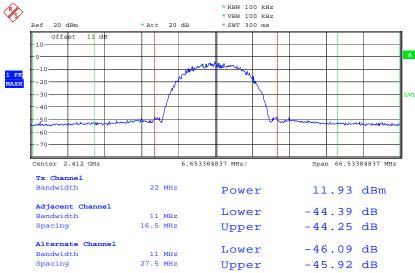
- 1. EUT Photos
- 2. Set Up Photo of Radiated Emission
- 3. Set Up Photo of Conducted Emission



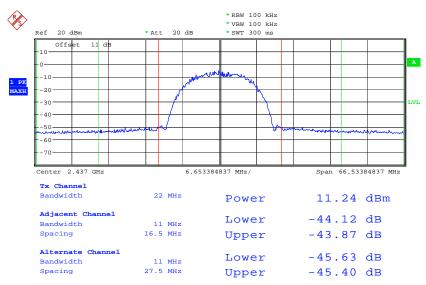
Registration number: W6M20808-9278-C-1

FCC ID: V93PWF0831MR09

Peak Output Power



MAX OUTPUT POWER 802.11b CH1 Date: 19.SEP.2008 16:12:45

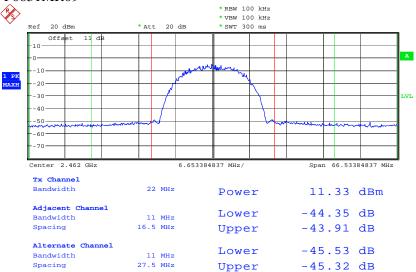


MAX OUTPUT POWER 802.11b CH6 Date: 19.SEP.2008 16:21:12

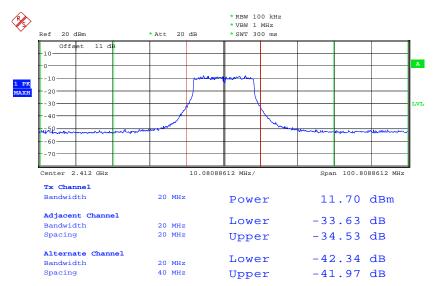


Registration number: W6M20808-9278-C-1

FCC ID: V93PWF0831MR09



MAX OUTPUT POWER 802.11b CH11 Date: 19.SEP.2008 16:30:34

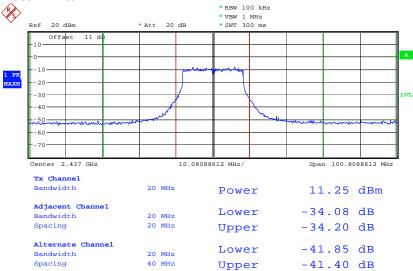


MAX OUTPUT POWER 802.11g CH1 Date: 19.SEP.2008 17:06:42

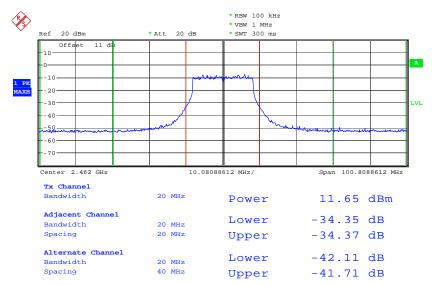


Registration number: W6M20808-9278-C-1

FCC ID: V93PWF0831MR09



MAX OUTPUT POWER 802.11g CH6 Date: 19.SEP.2008 17:01:31



MAX OUTPUT POWER 802.11g CH11 Date: 19.SEP.2008 16:54:38

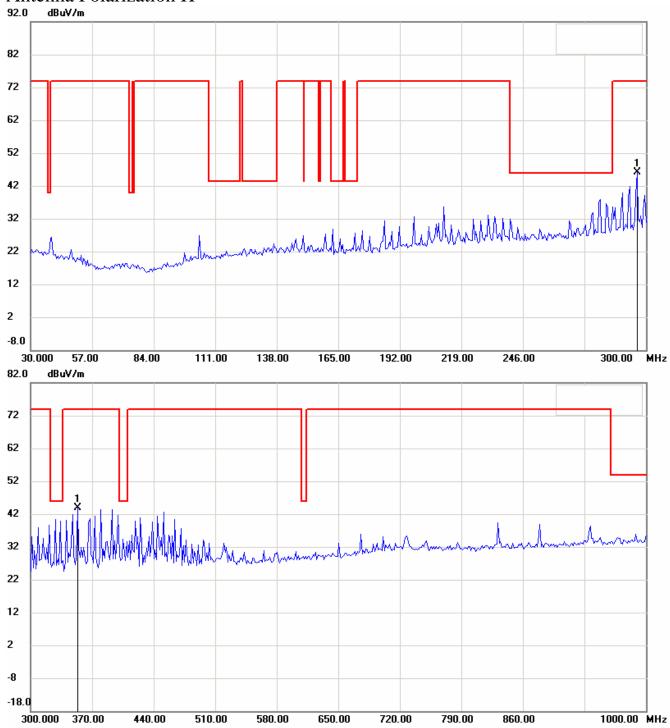


Registration number: W6M20808-9278-C-1

FCC ID: V93PWF0831MR09

Spurious Emission Radiated-tx

Mode A Low channel Antenna Polarization H



Note:

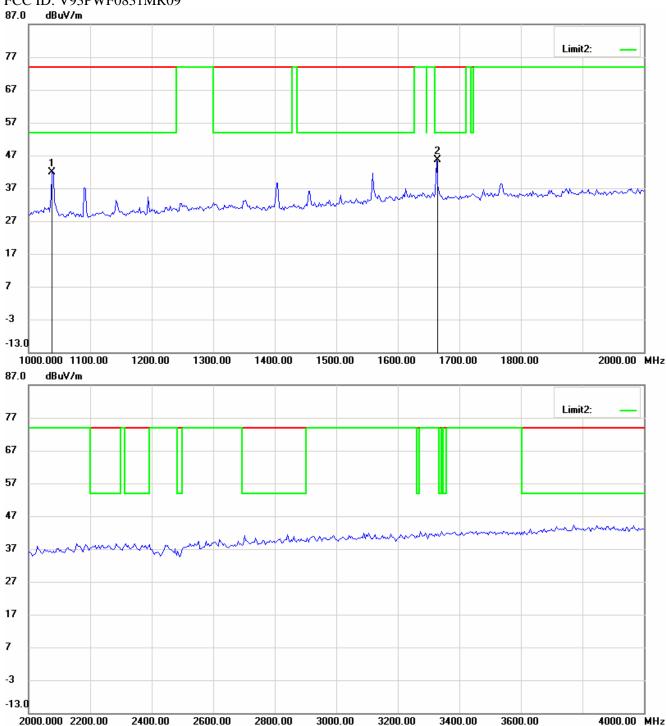
Up Line: Peak Limit Line, Down Line: Ave Limit Line

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



Registration number: W6M20808-9278-C-1

FCC ID: V93PWF0831MR09



Note:

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

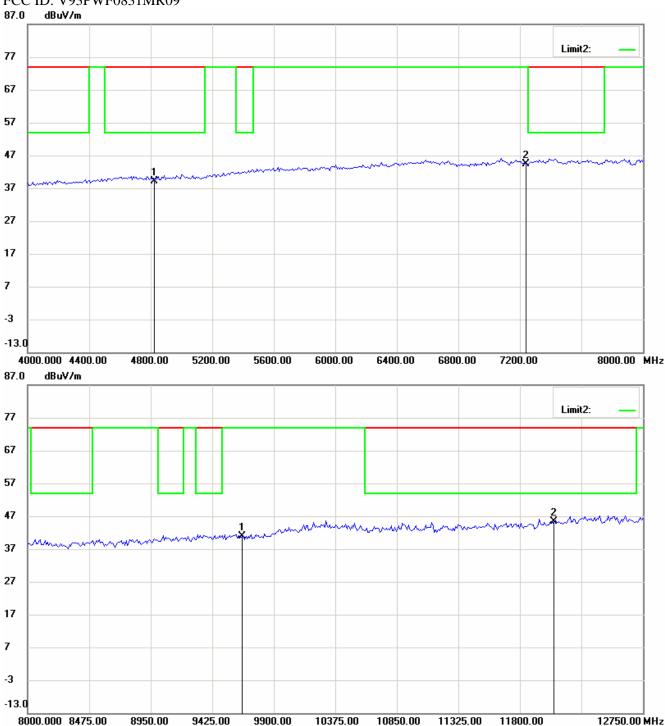
1. The attached measurement plots are preliminarily pre-scanned with peak detector for determining the final checking frequencies and are for reference only.

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.



Registration number: W6M20808-9278-C-1

FCC ID: V93PWF0831MR09



Note

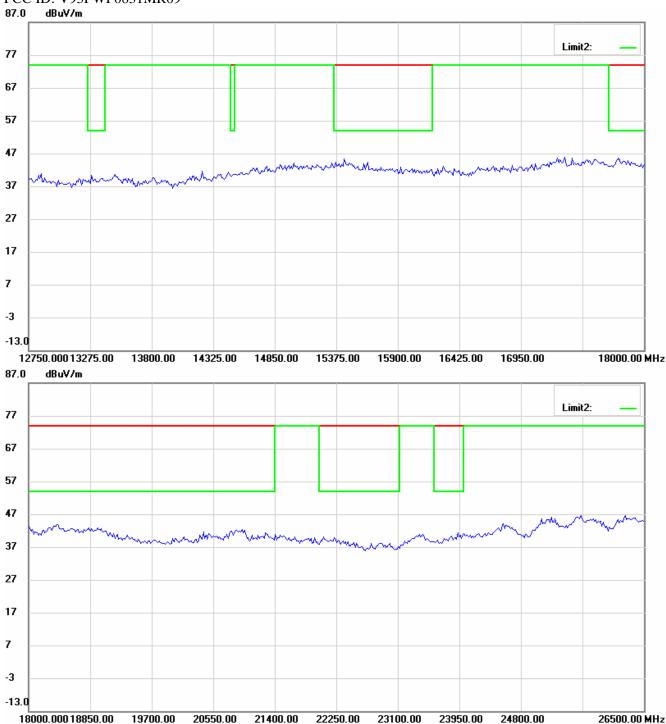
Up Line: Peak Limit Line, Down Line: Ave Limit Line

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



Registration number: W6M20808-9278-C-1

FCC ID: V93PWF0831MR09



Note

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

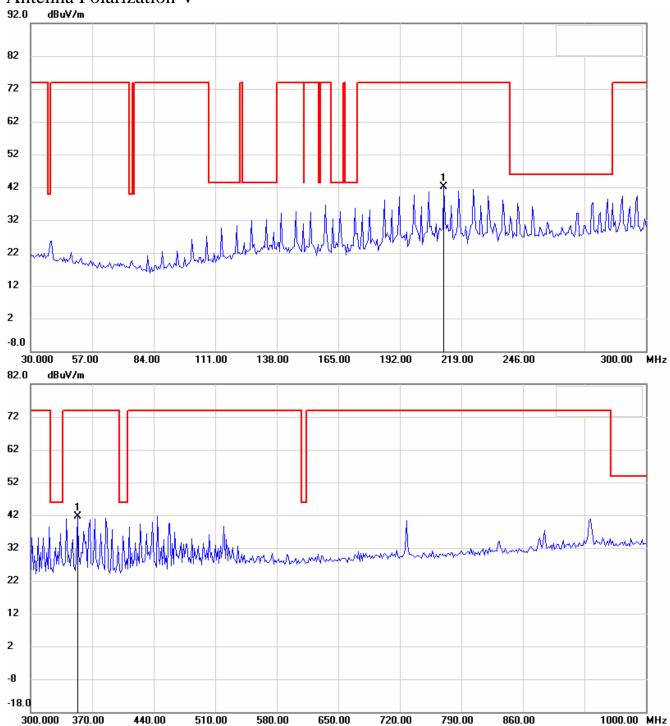
1. The attached measurement plots are preliminarily pre-scanned with peak detector for determining the final checking frequencies and are for reference only.

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.



Registration number: W6M20808-9278-C-1

FCC ID: V93PWF0831MR09 Antenna Polarization V



Note:

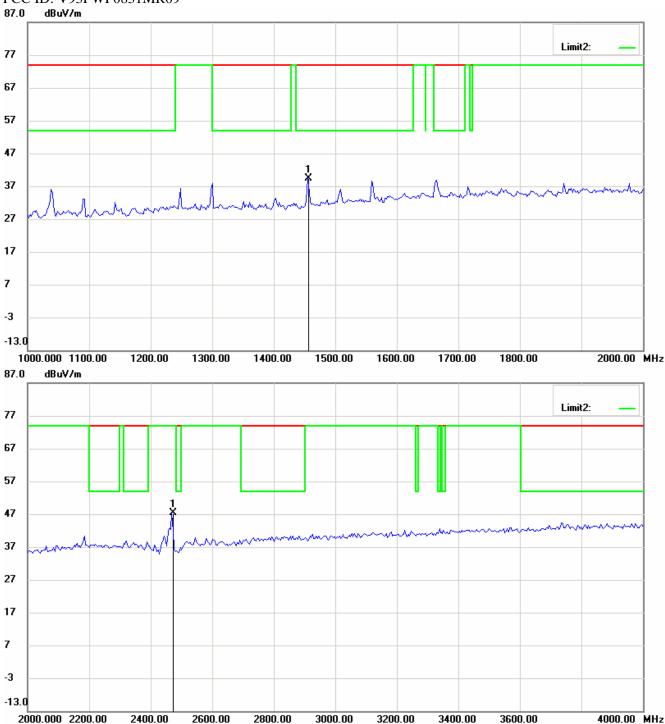
Up Line: Peak Limit Line, Down Line: Ave Limit Line

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



Registration number: W6M20808-9278-C-1

FCC ID: V93PWF0831MR09



Note:

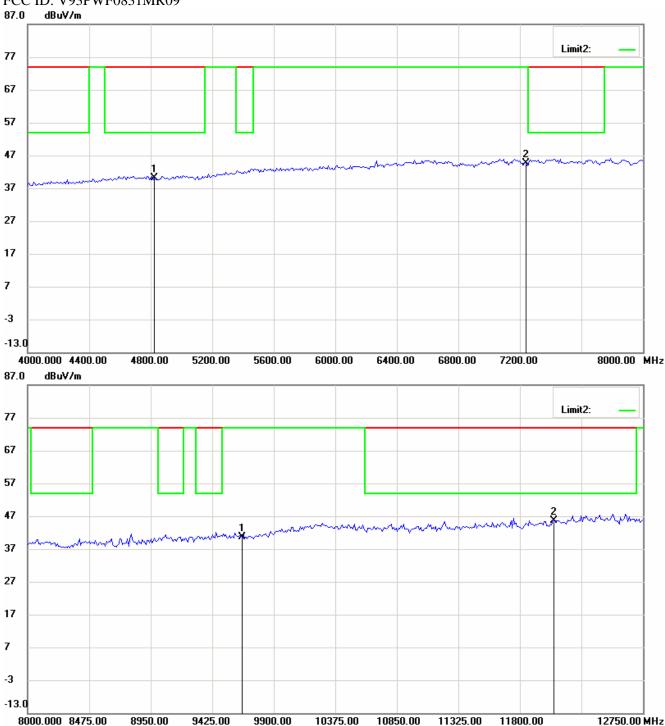
Up Line: Peak Limit Line, Down Line: Ave Limit Line

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



Registration number: W6M20808-9278-C-1

FCC ID: V93PWF0831MR09



Note

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

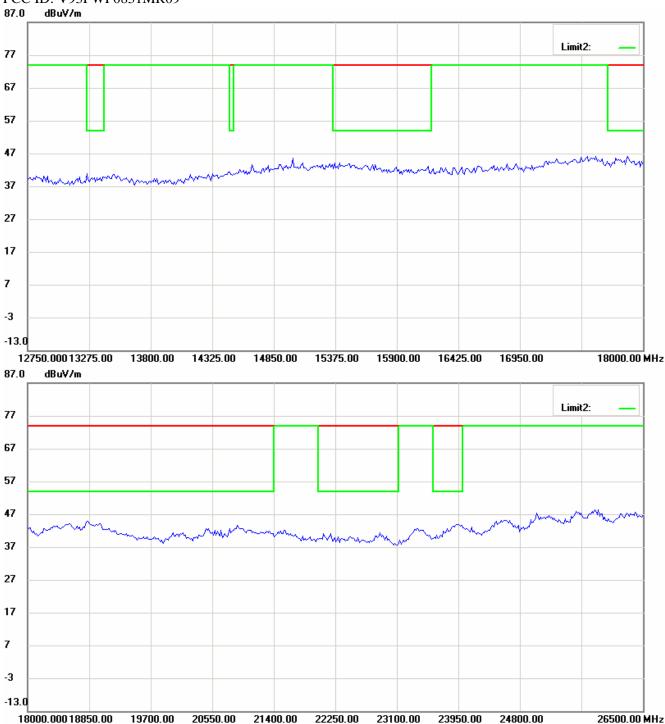
1. The attached measurement plots are preliminarily pre-scanned with peak detector for determining the final checking frequencies and are for reference only.

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.



Registration number: W6M20808-9278-C-1

FCC ID: V93PWF0831MR09



Note

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.

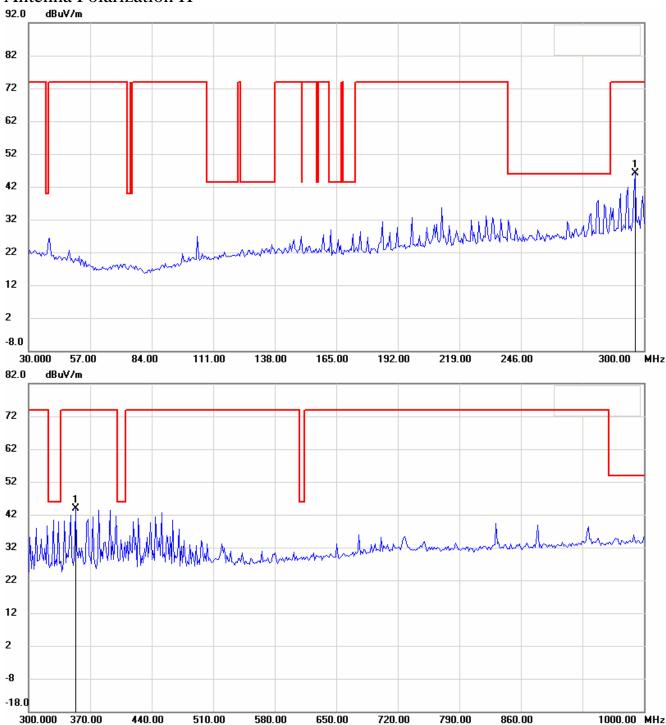


Registration number: W6M20808-9278-C-1

FCC ID: V93PWF0831MR09

Middle channel

Antenna Polarization H



Note:

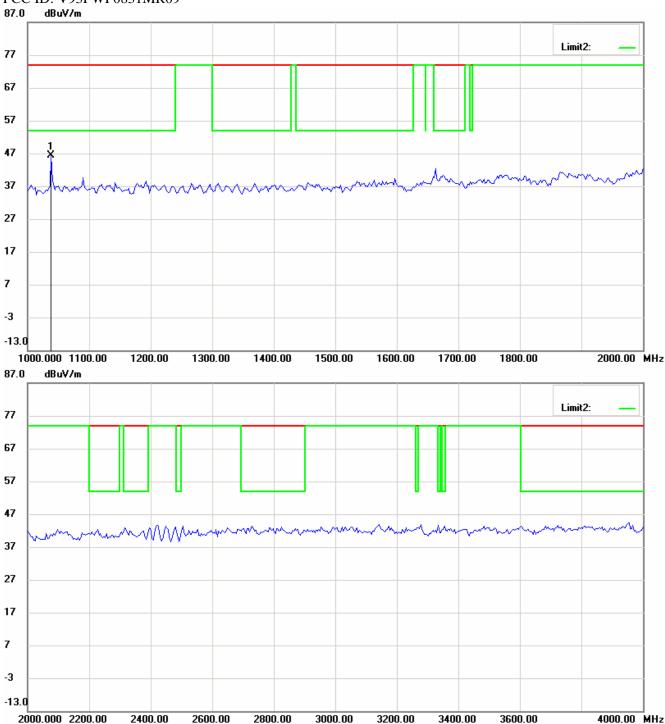
Up Line: Peak Limit Line, Down Line: Ave Limit Line

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



Registration number: W6M20808-9278-C-1

FCC ID: V93PWF0831MR09



Note

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

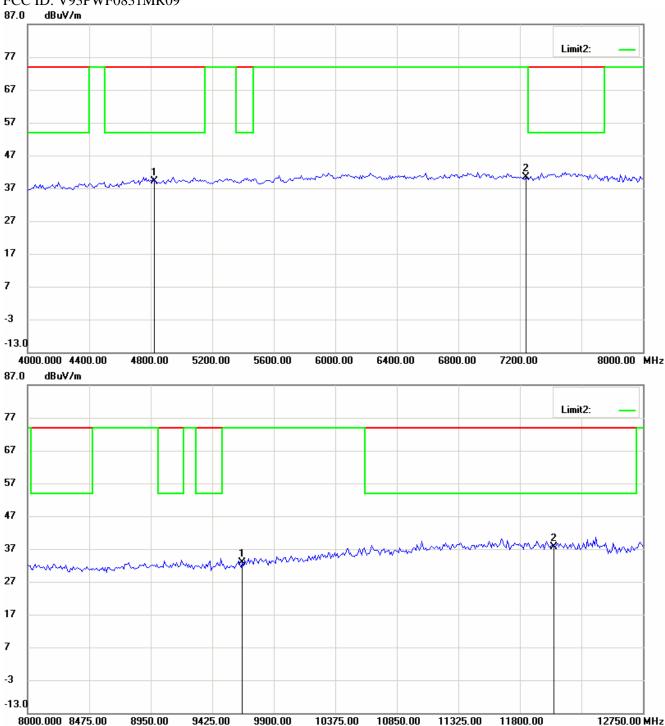
1. The attached measurement plots are preliminarily pre-scanned with peak detector for determining the final checking frequencies and are for reference only.

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.



Registration number: W6M20808-9278-C-1

FCC ID: V93PWF0831MR09



Note

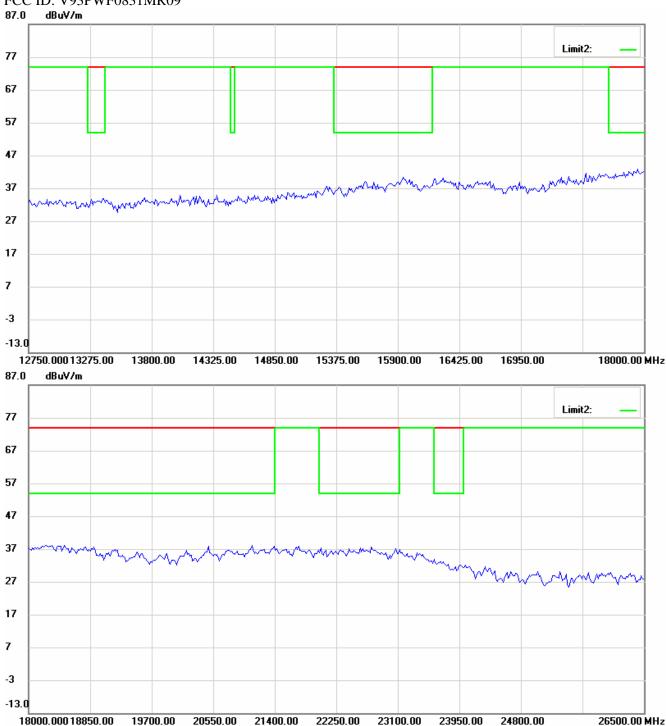
Up Line: Peak Limit Line, Down Line: Ave Limit Line

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



Registration number: W6M20808-9278-C-1

FCC ID: V93PWF0831MR09



Note

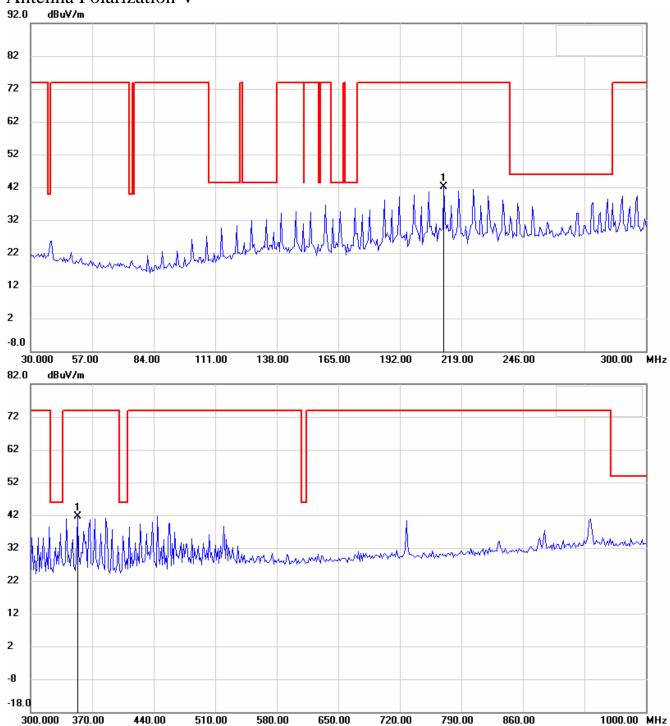
Up Line: Peak Limit Line, Down Line: Ave Limit Line

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



Registration number: W6M20808-9278-C-1

FCC ID: V93PWF0831MR09 Antenna Polarization V



Note:

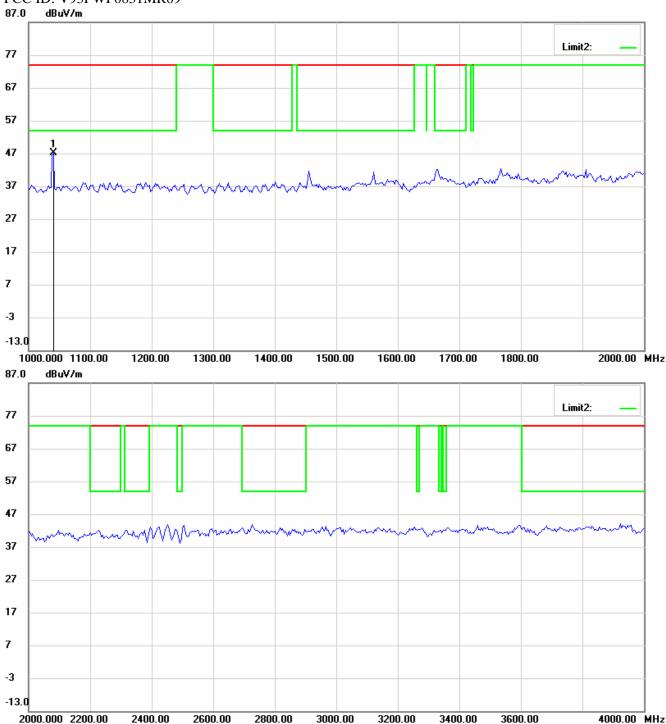
Up Line: Peak Limit Line, Down Line: Ave Limit Line

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



Registration number: W6M20808-9278-C-1

FCC ID: V93PWF0831MR09



Note

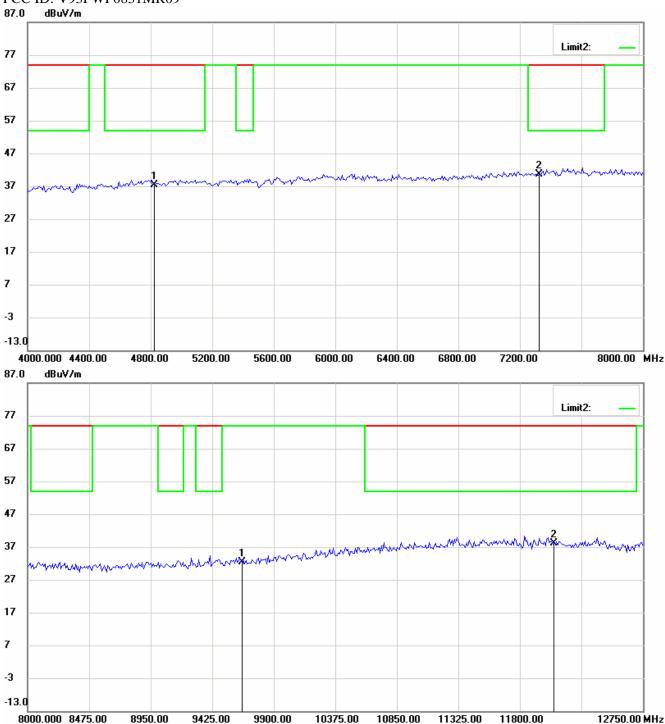
Up Line: Peak Limit Line, Down Line: Ave Limit Line

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



Registration number: W6M20808-9278-C-1

FCC ID: V93PWF0831MR09



Note

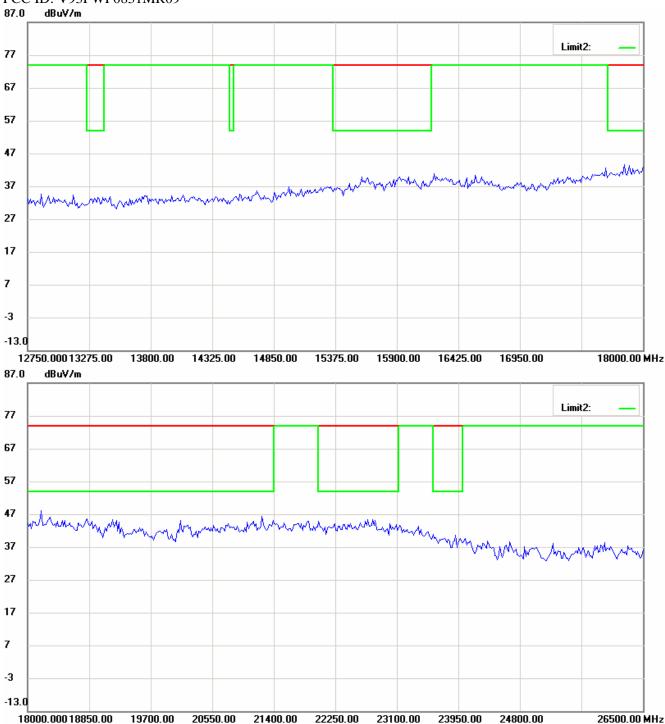
Up Line: Peak Limit Line, Down Line: Ave Limit Line

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



Registration number: W6M20808-9278-C-1

FCC ID: V93PWF0831MR09



Note:

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.

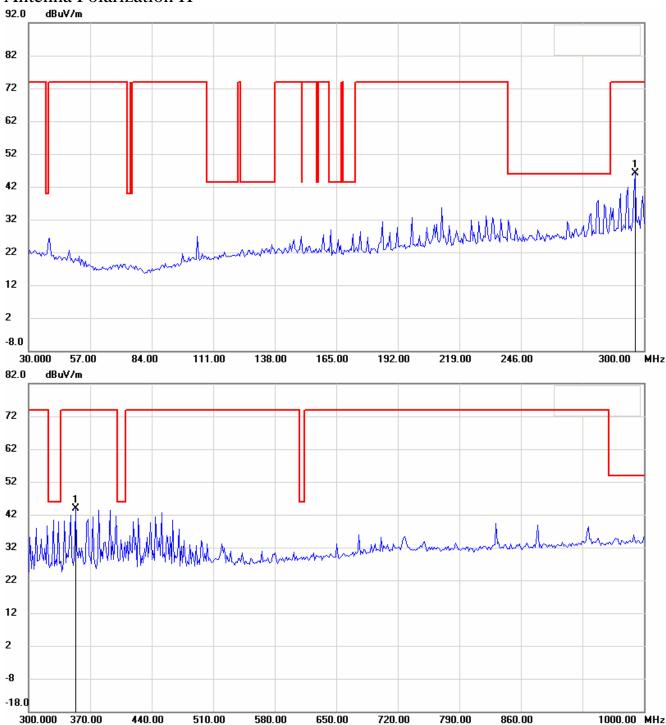


Registration number: W6M20808-9278-C-1

FCC ID: V93PWF0831MR09

High channel

Antenna Polarization H



Note:

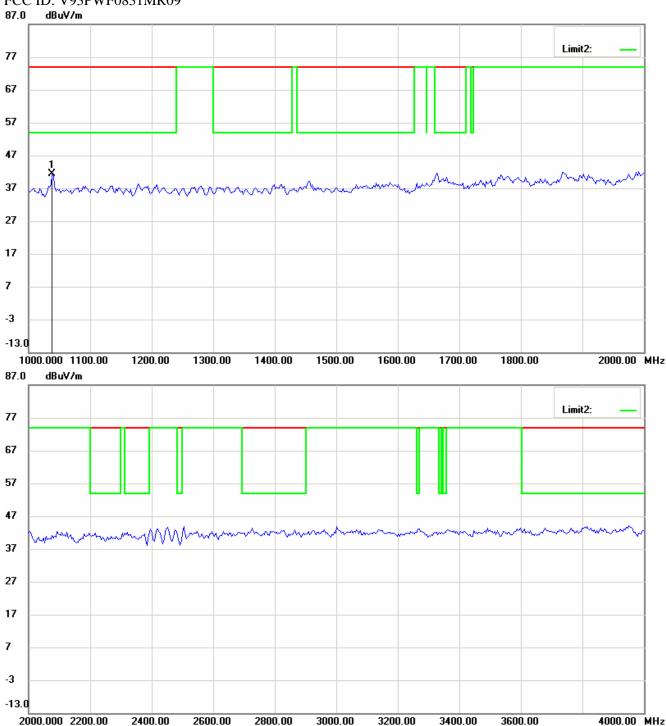
Up Line: Peak Limit Line, Down Line: Ave Limit Line

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



Registration number: W6M20808-9278-C-1

FCC ID: V93PWF0831MR09



Note:

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

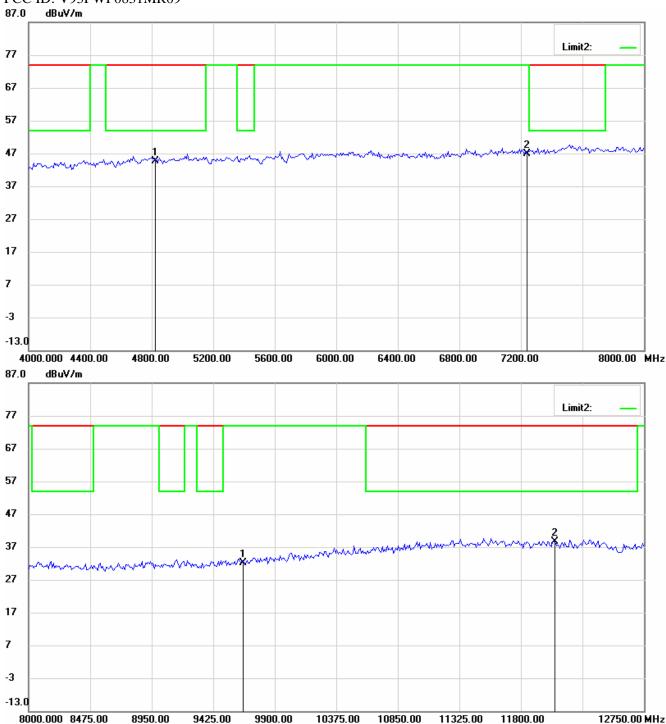
1. The attached measurement plots are preliminarily pre-scanned with peak detector for determining the final checking frequencies and are for reference only.

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.



Registration number: W6M20808-9278-C-1

FCC ID: V93PWF0831MR09



Note

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

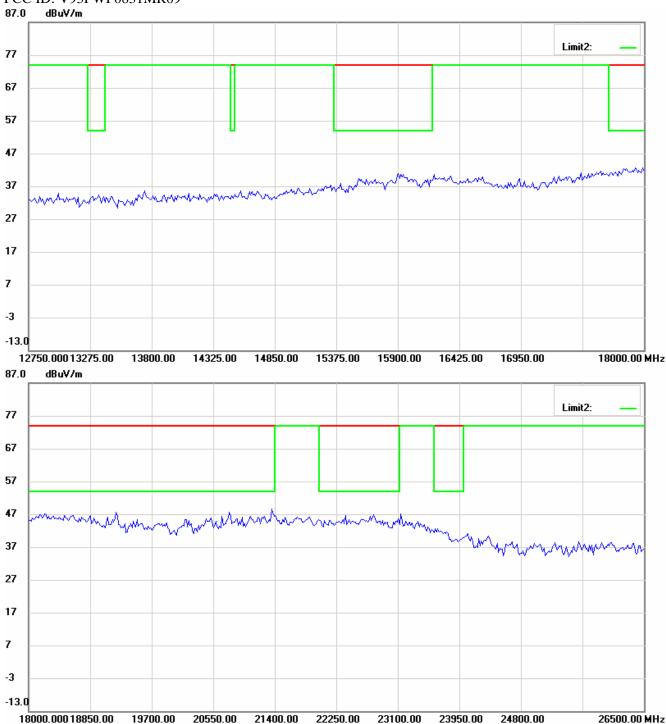
1. The attached measurement plots are preliminarily pre-scanned with peak detector for determining the final checking frequencies and are for reference only.

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.



Registration number: W6M20808-9278-C-1

FCC ID: V93PWF0831MR09



Note

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

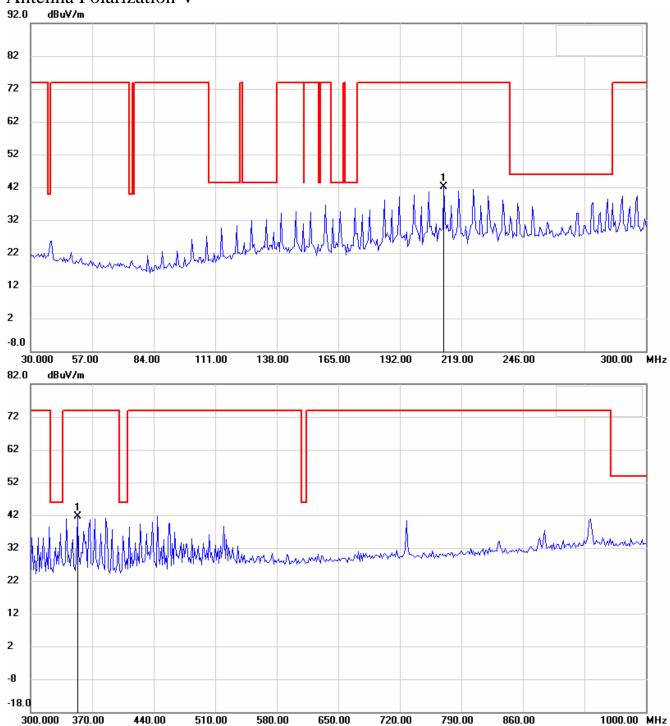
1. The attached measurement plots are preliminarily pre-scanned with peak detector for determining the final checking frequencies and are for reference only.

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.



Registration number: W6M20808-9278-C-1

FCC ID: V93PWF0831MR09 Antenna Polarization V



Note:

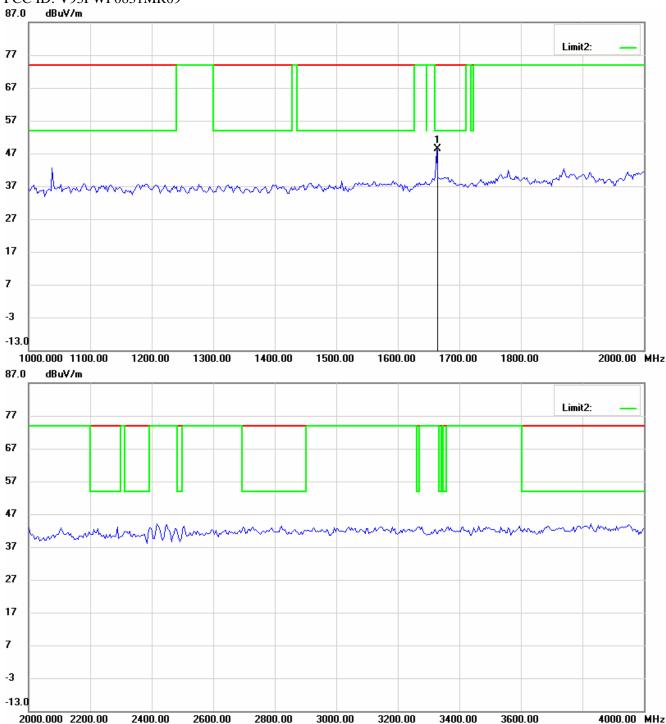
Up Line: Peak Limit Line, Down Line: Ave Limit Line

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



Registration number: W6M20808-9278-C-1

FCC ID: V93PWF0831MR09



Note

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

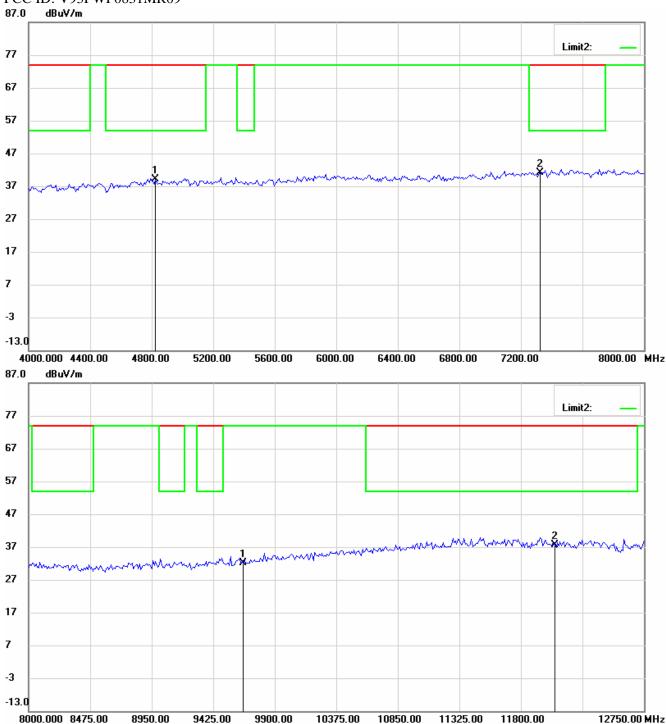
1. The attached measurement plots are preliminarily pre-scanned with peak detector for determining the final checking frequencies and are for reference only.

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.



Registration number: W6M20808-9278-C-1

FCC ID: V93PWF0831MR09



Note

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

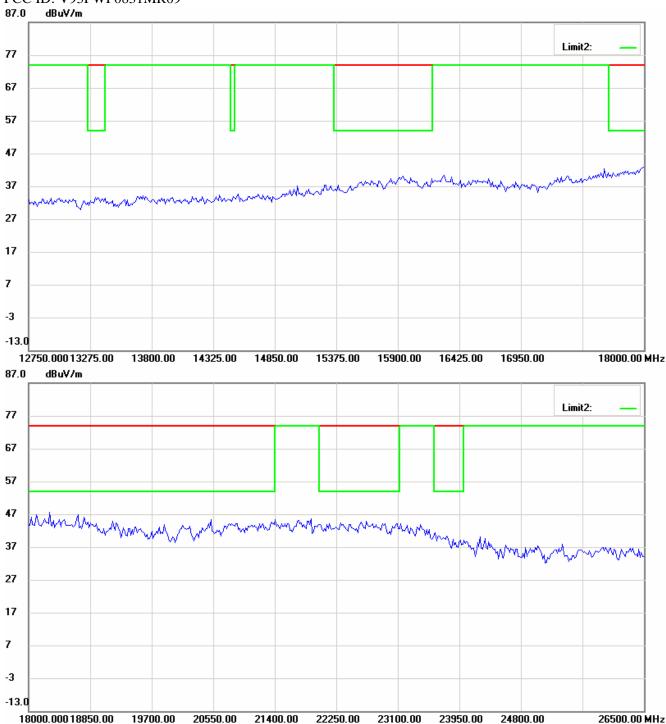
1. The attached measurement plots are preliminarily pre-scanned with peak detector for determining the final checking frequencies and are for reference only.

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.



Registration number: W6M20808-9278-C-1

FCC ID: V93PWF0831MR09



Note

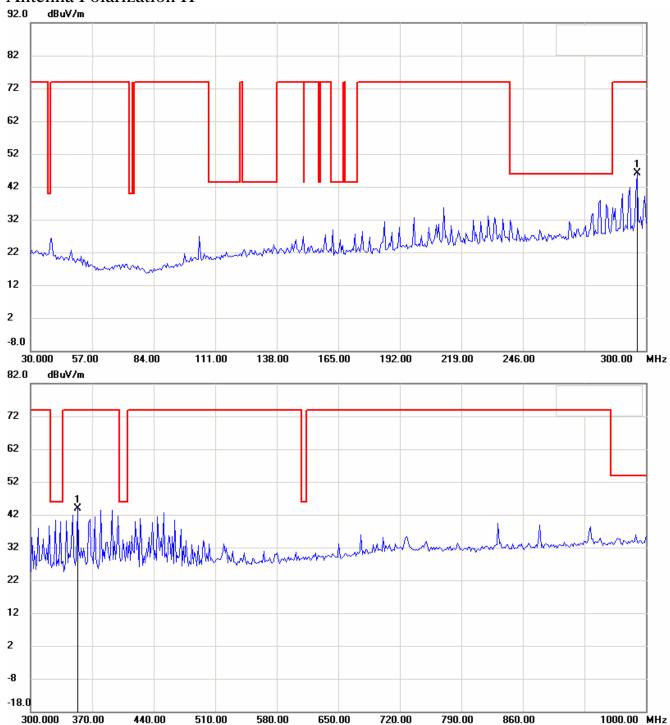
Up Line: Peak Limit Line, Down Line: Ave Limit Line

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



Registration number: W6M20808-9278-C-1

FCC ID: V93PWF0831MR09 Mode B Low channel Antenna Polarization H



Note:

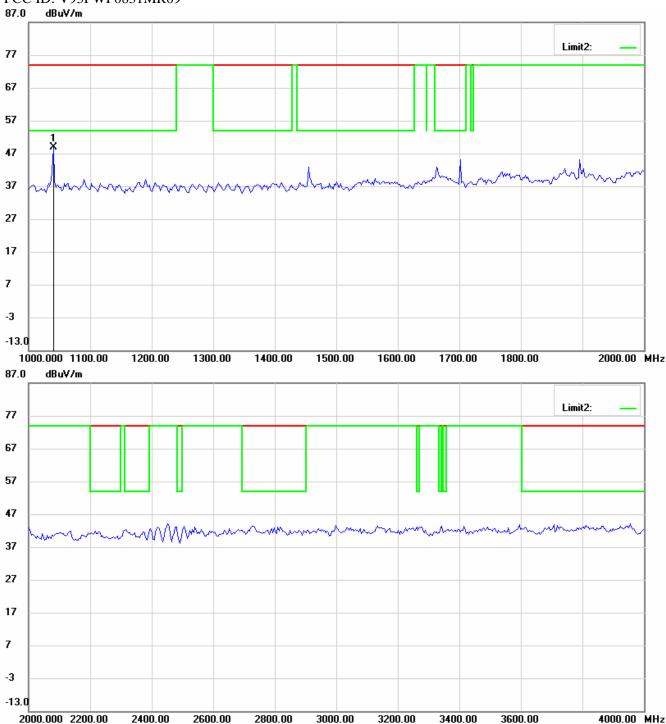
Up Line: Peak Limit Line, Down Line: Ave Limit Line

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



Registration number: W6M20808-9278-C-1

FCC ID: V93PWF0831MR09



Note

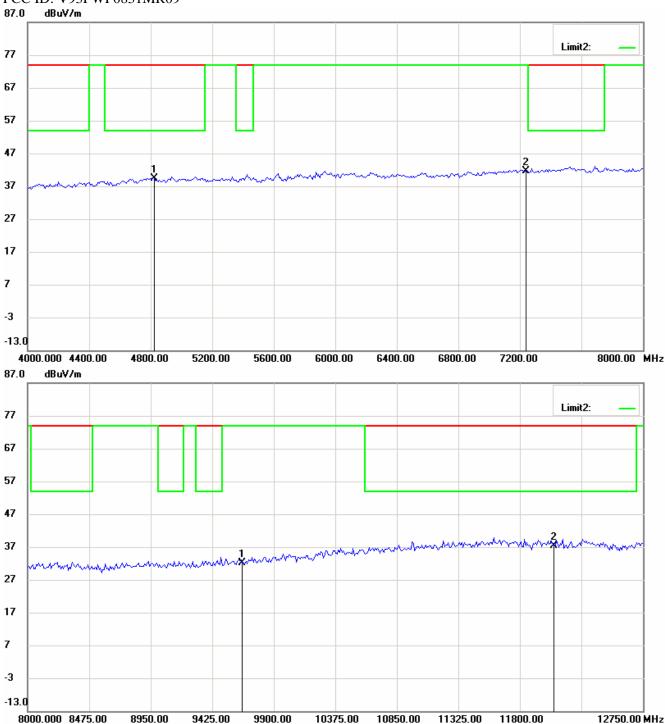
Up Line: Peak Limit Line, Down Line: Ave Limit Line

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



Registration number: W6M20808-9278-C-1

FCC ID: V93PWF0831MR09



Note

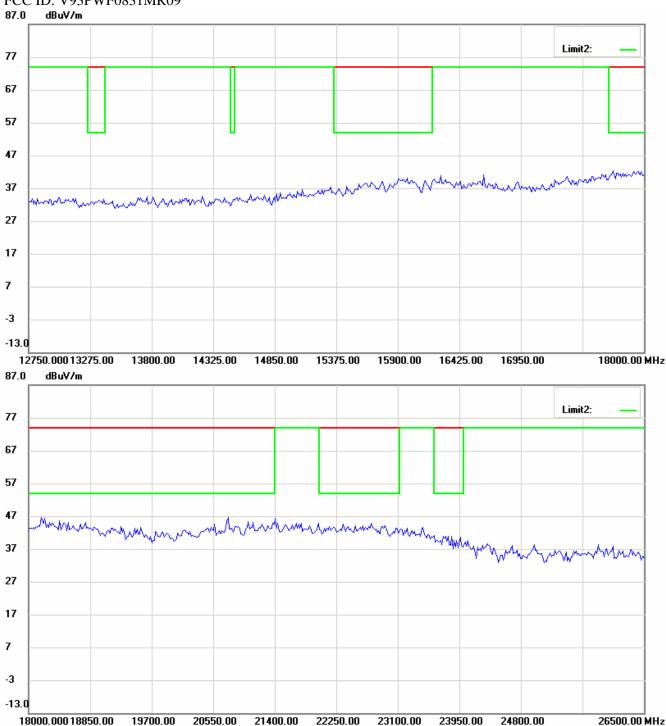
Up Line: Peak Limit Line, Down Line: Ave Limit Line

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



Registration number: W6M20808-9278-C-1

FCC ID: V93PWF0831MR09



Note

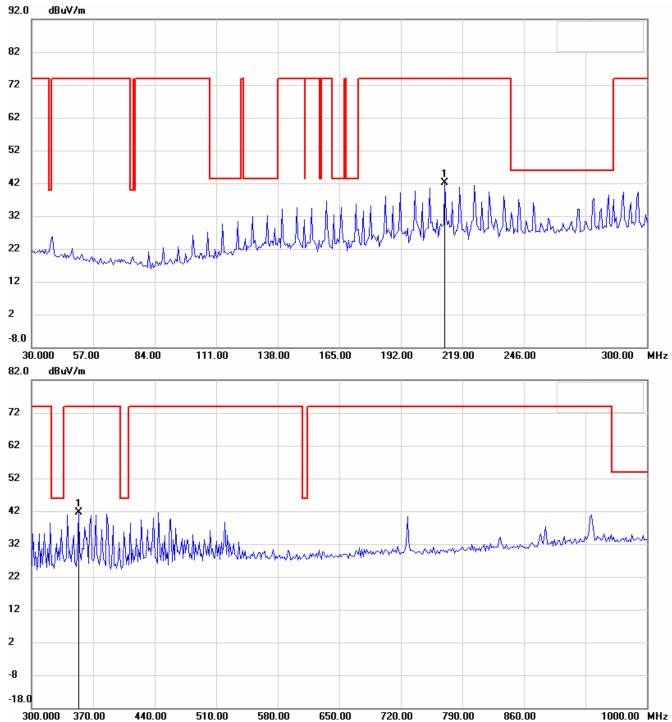
Note. Up Line: Peak Limit Line, Down Line: Ave Limit Line

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



Registration number: W6M20808-9278-C-1

FCC ID: V93PWF0831MR09 Antenna Polarization V



Note:

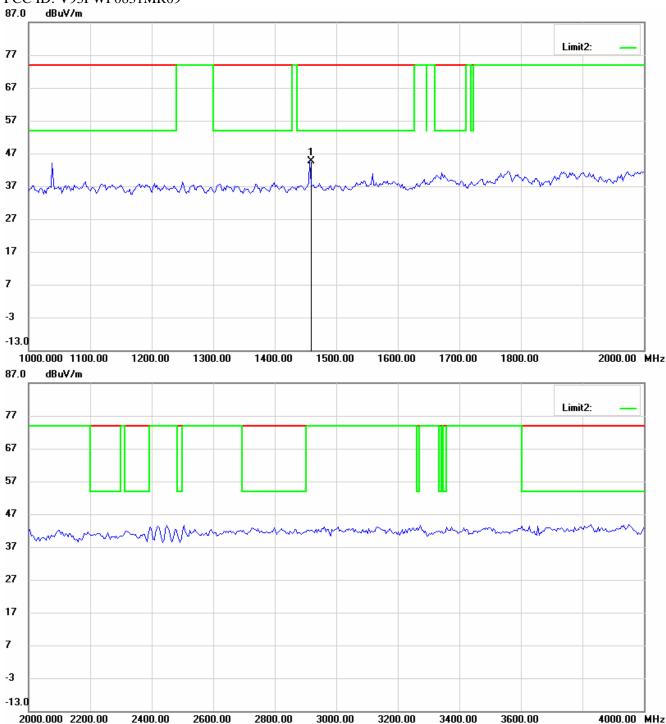
Up Line: Peak Limit Line, Down Line: Ave Limit Line

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



Registration number: W6M20808-9278-C-1

FCC ID: V93PWF0831MR09



Note

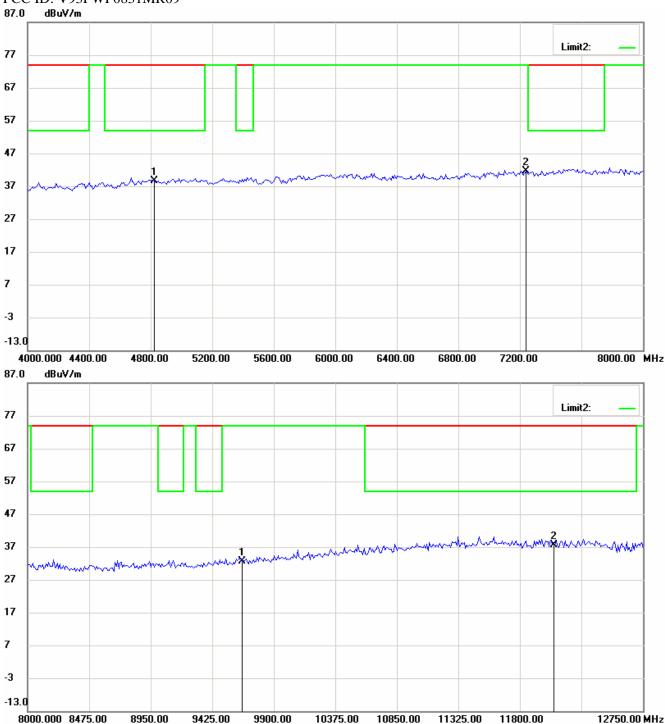
Up Line: Peak Limit Line, Down Line: Ave Limit Line

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



Registration number: W6M20808-9278-C-1

FCC ID: V93PWF0831MR09



Note

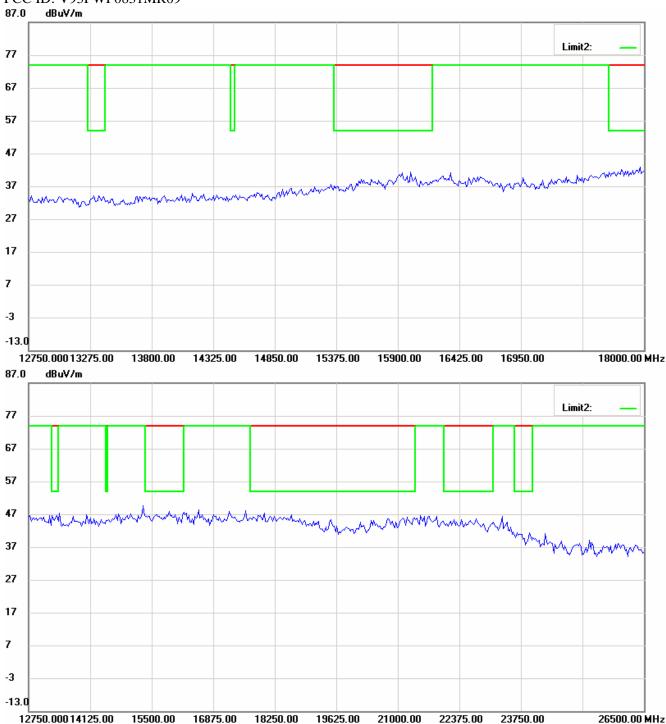
Note. Up Line: Peak Limit Line, Down Line: Ave Limit Line

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



Registration number: W6M20808-9278-C-1

FCC ID: V93PWF0831MR09



Note

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.

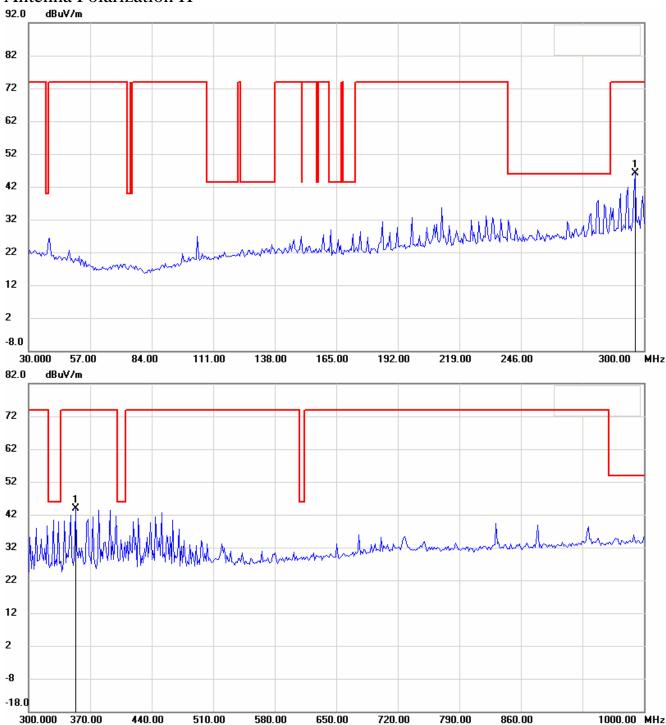


Registration number: W6M20808-9278-C-1

FCC ID: V93PWF0831MR09

Middle channel

Antenna Polarization H



Note:

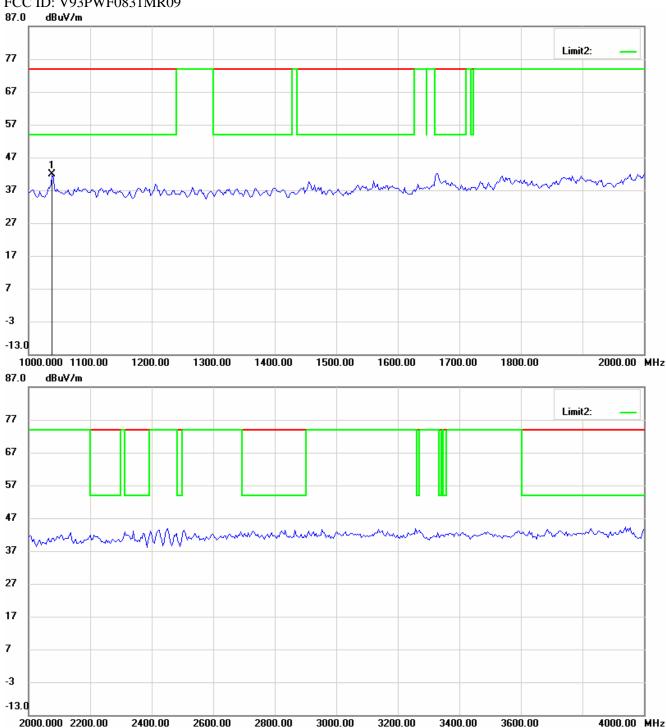
Up Line: Peak Limit Line, Down Line: Ave Limit Line

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



Registration number: W6M20808-9278-C-1

FCC ID: V93PWF0831MR09



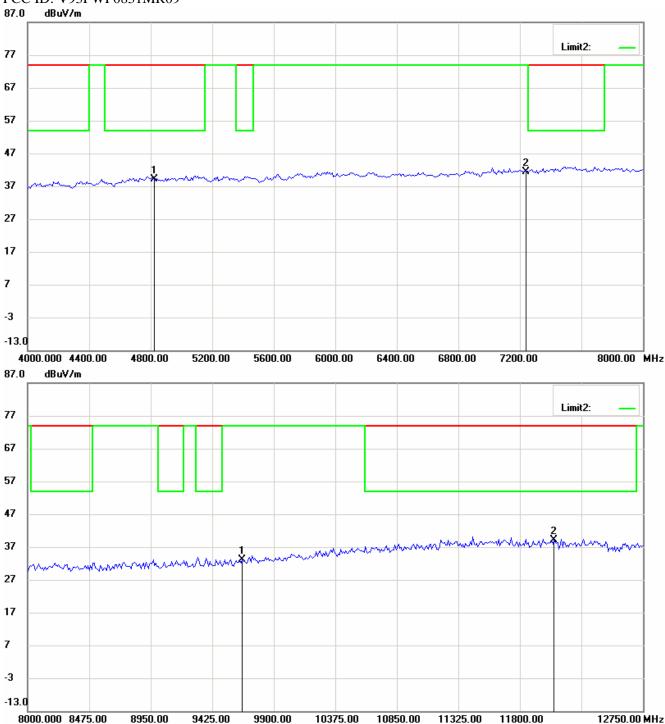
Up Line: Peak Limit Line, Down Line: Ave Limit Line

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



Registration number: W6M20808-9278-C-1

FCC ID: V93PWF0831MR09



Note:

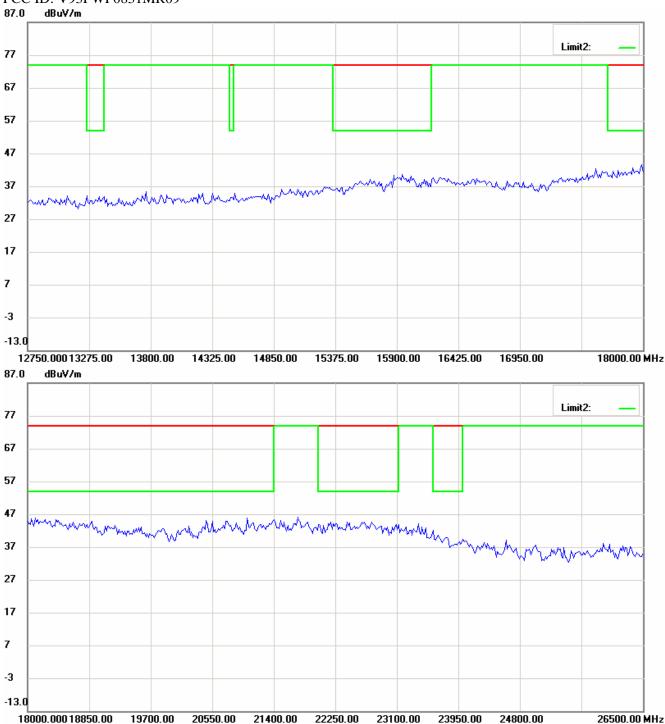
Up Line: Peak Limit Line, Down Line: Ave Limit Line

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



Registration number: W6M20808-9278-C-1

FCC ID: V93PWF0831MR09



Note:

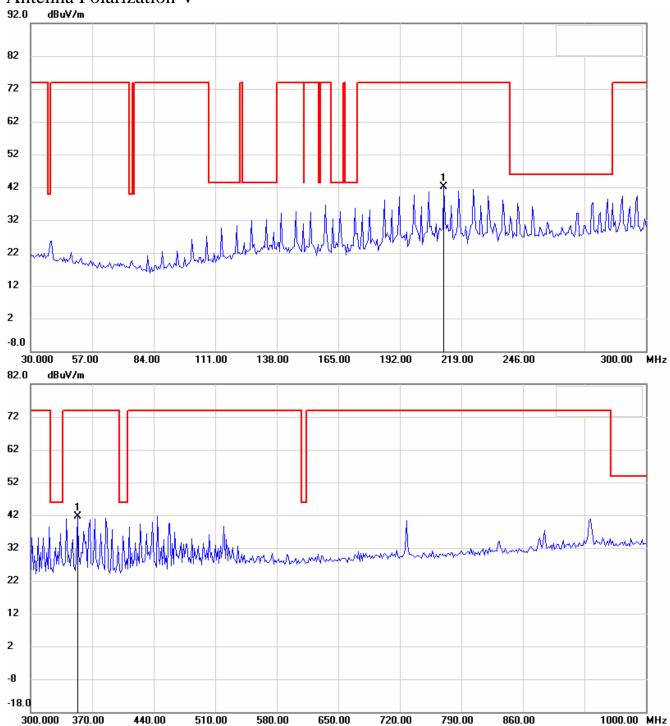
Up Line: Peak Limit Line, Down Line: Ave Limit Line

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



Registration number: W6M20808-9278-C-1

FCC ID: V93PWF0831MR09 Antenna Polarization V



Note:

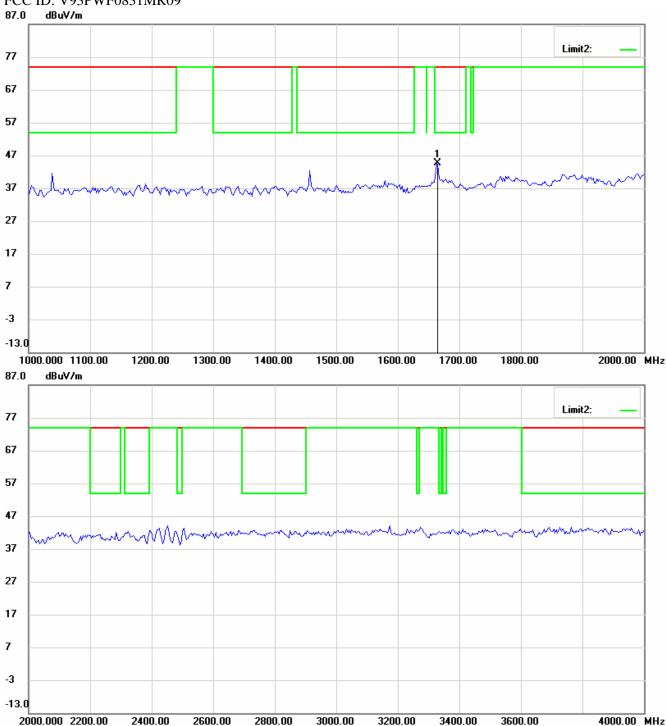
Up Line: Peak Limit Line, Down Line: Ave Limit Line

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



Registration number: W6M20808-9278-C-1

FCC ID: V93PWF0831MR09



Note

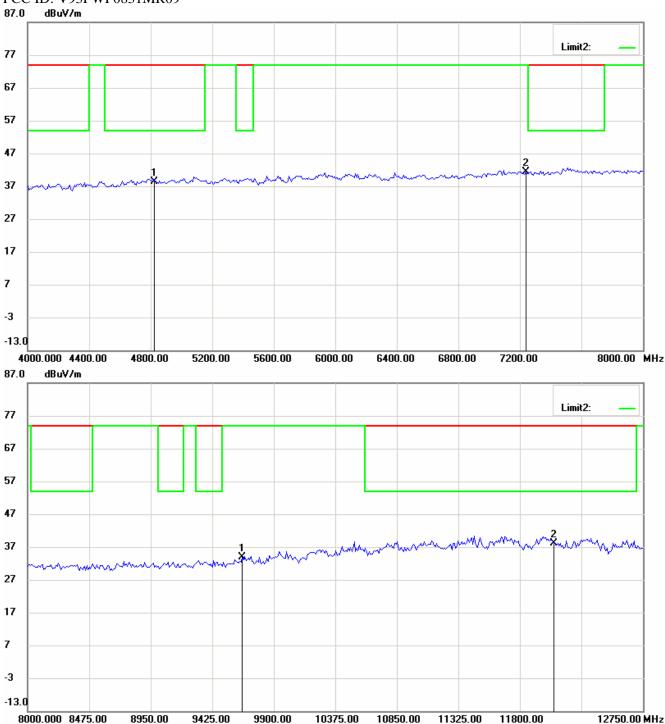
Up Line: Peak Limit Line, Down Line: Ave Limit Line

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



Registration number: W6M20808-9278-C-1

FCC ID: V93PWF0831MR09



Note

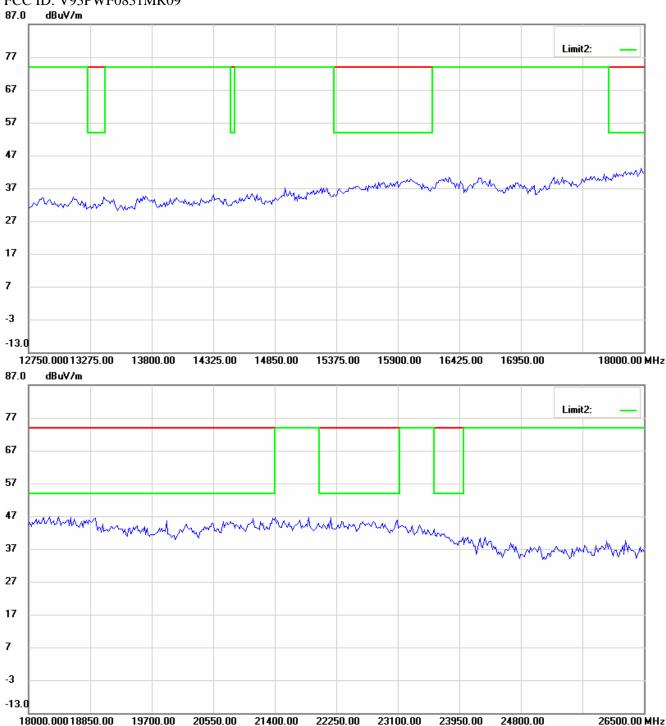
Up Line: Peak Limit Line, Down Line: Ave Limit Line

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



Registration number: W6M20808-9278-C-1

FCC ID: V93PWF0831MR09



Note

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.

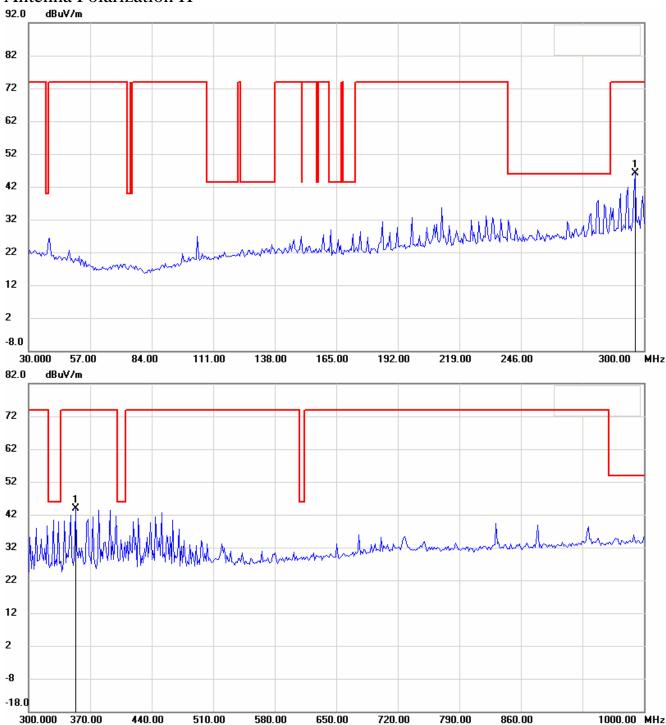


Registration number: W6M20808-9278-C-1

FCC ID: V93PWF0831MR09

High channel

Antenna Polarization H



Note:

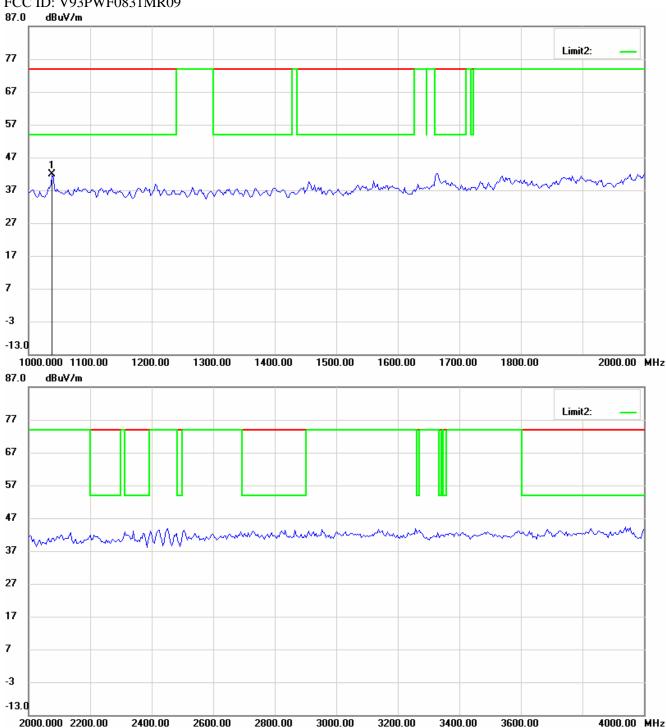
Up Line: Peak Limit Line, Down Line: Ave Limit Line

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



Registration number: W6M20808-9278-C-1

FCC ID: V93PWF0831MR09



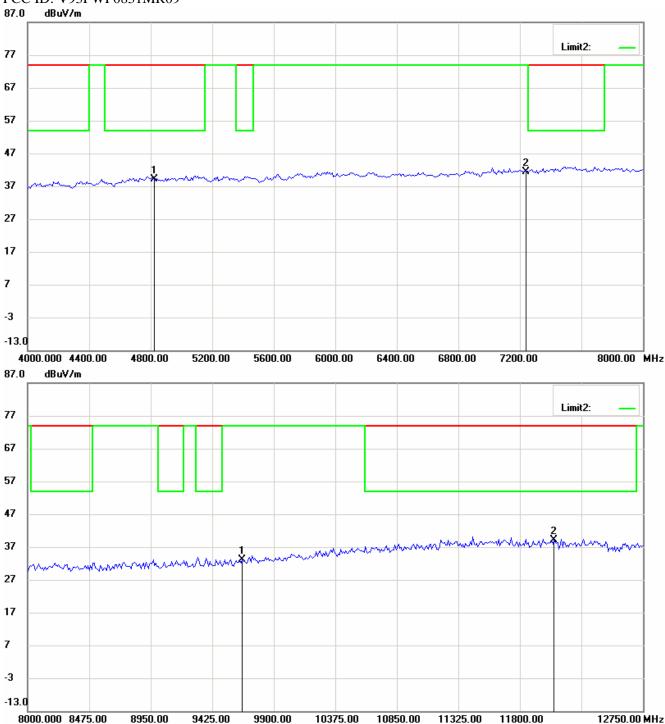
Up Line: Peak Limit Line, Down Line: Ave Limit Line

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



Registration number: W6M20808-9278-C-1

FCC ID: V93PWF0831MR09



Note

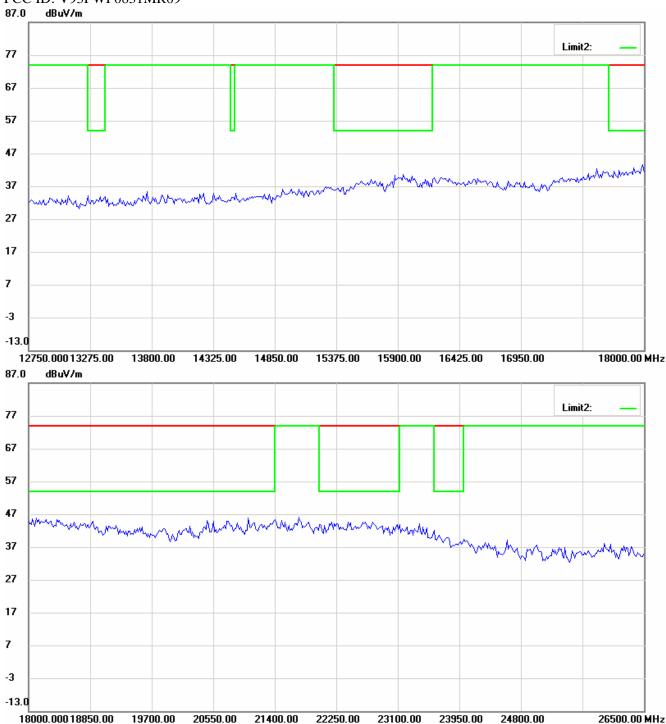
Up Line: Peak Limit Line, Down Line: Ave Limit Line

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



Registration number: W6M20808-9278-C-1

FCC ID: V93PWF0831MR09



Note

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

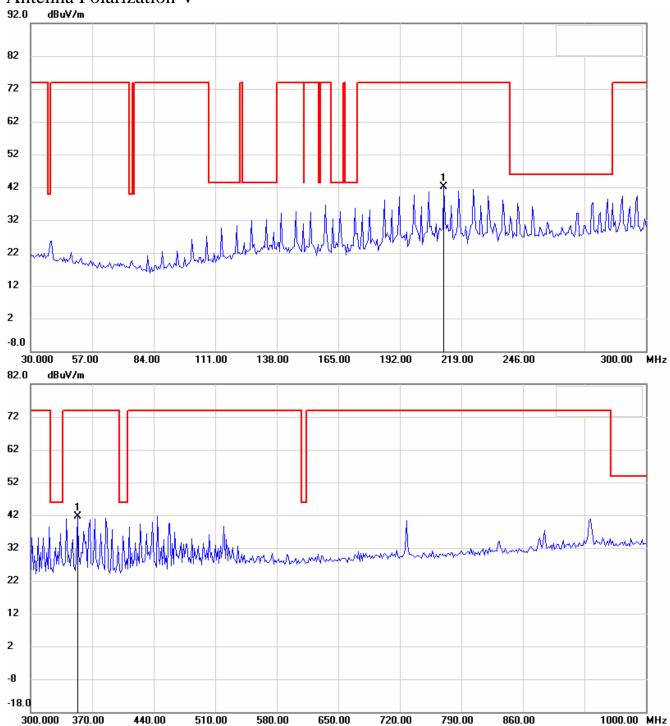
1. The attached measurement plots are preliminarily pre-scanned with peak detector for determining the final checking frequencies and are for reference only.

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.



Registration number: W6M20808-9278-C-1

FCC ID: V93PWF0831MR09 Antenna Polarization V



Note:

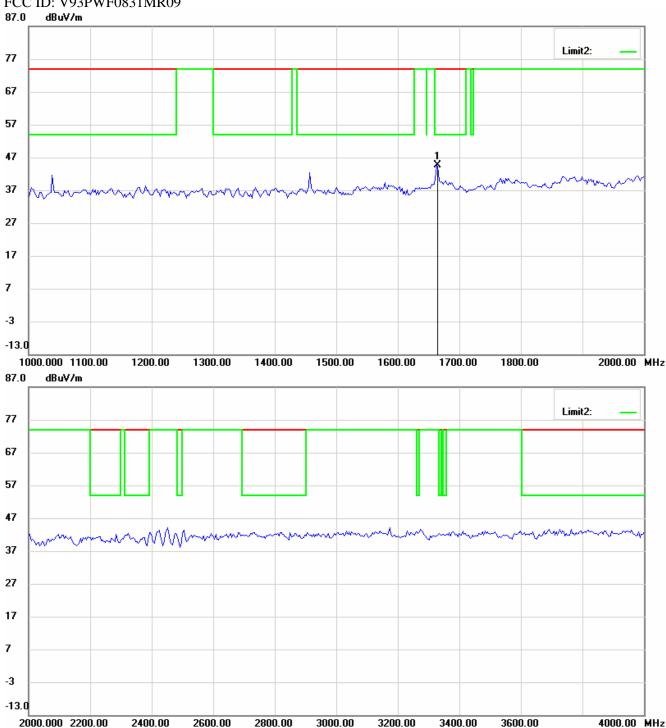
Up Line: Peak Limit Line, Down Line: Ave Limit Line

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



Registration number: W6M20808-9278-C-1

FCC ID: V93PWF0831MR09



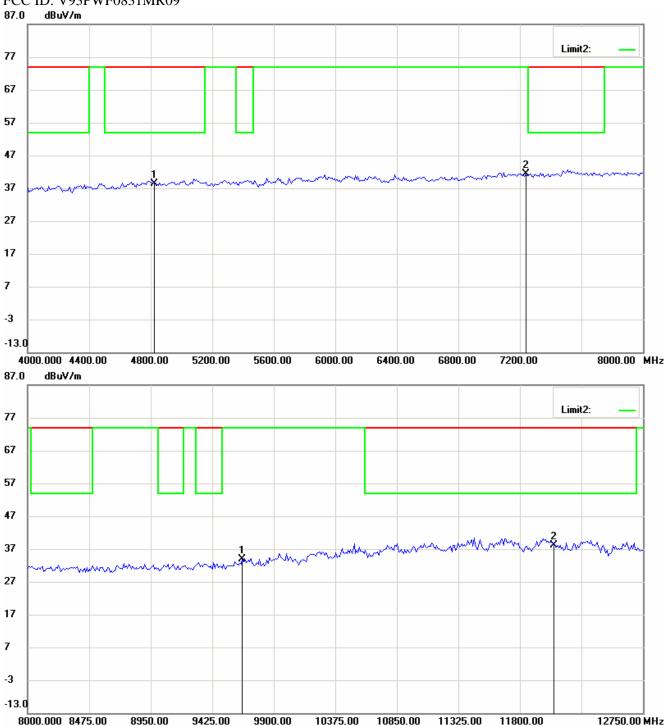
Up Line: Peak Limit Line, Down Line: Ave Limit Line

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



Registration number: W6M20808-9278-C-1

FCC ID: V93PWF0831MR09



Note

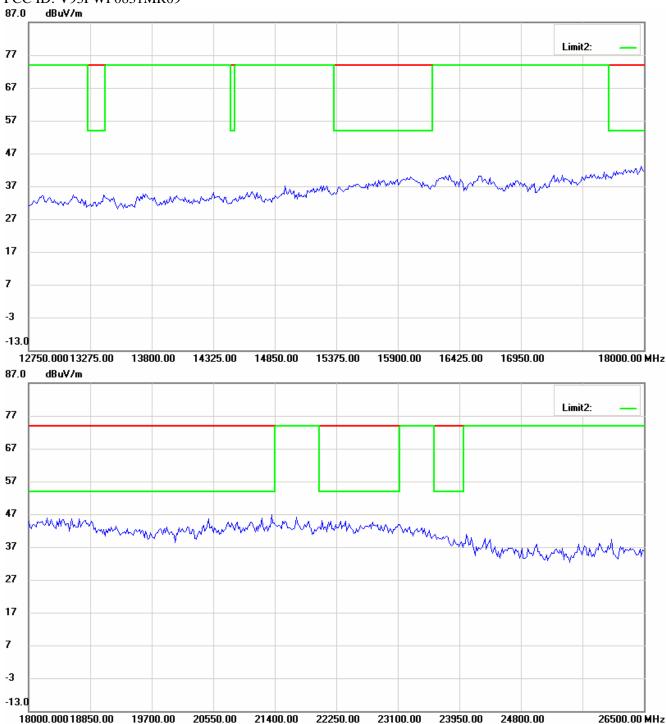
Note. Up Line: Peak Limit Line, Down Line: Ave Limit Line

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



Registration number: W6M20808-9278-C-1

FCC ID: V93PWF0831MR09



Note

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.

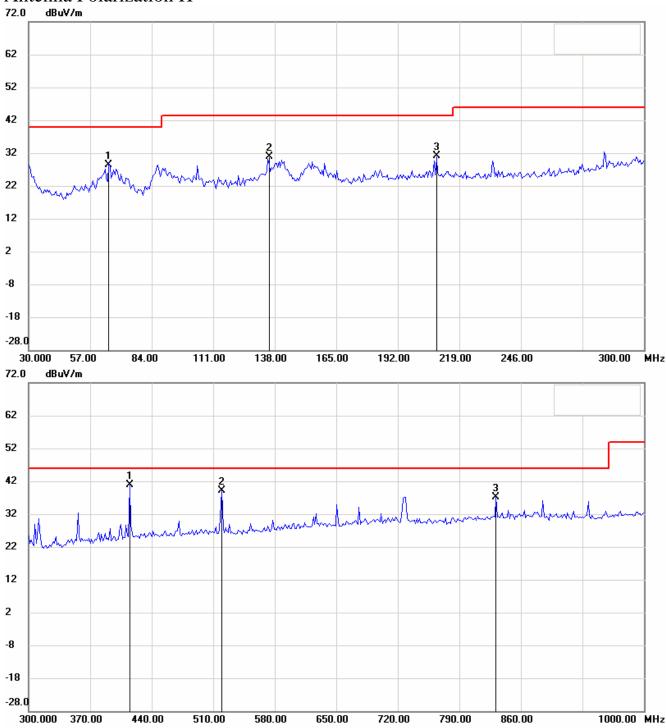


Registration number: W6M20808-9278-C-1

FCC ID: V93PWF0831MR09

Spurious Emission Radiated-rx

Mode A Low channel Antenna Polarization H

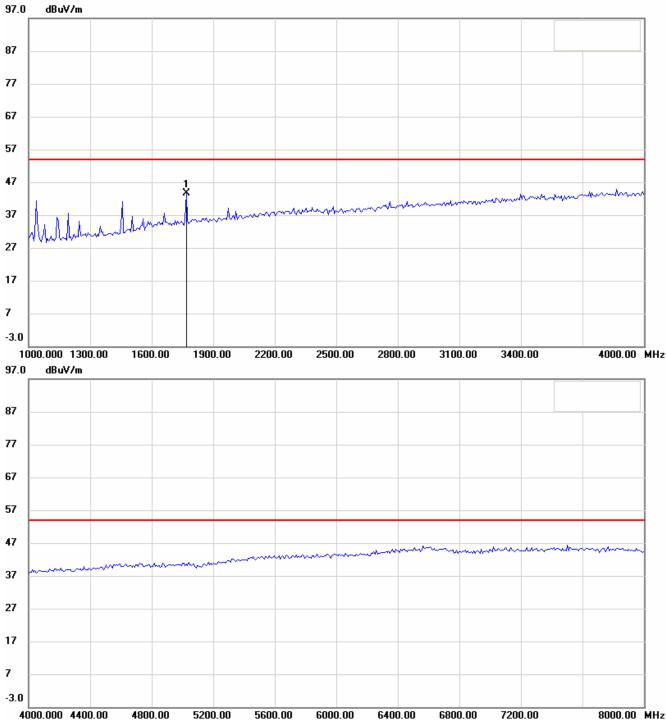


- 1. The attached measurement plots are preliminarily pre-scanned with peak detector for determining the final checking frequencies and are for reference only.
- 2. The some frequencies may exceed the limit line without the specified detectors, but that cannot present the results are failed to the specification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



Registration number: W6M20808-9278-C-1

FCC ID: V93PWF0831MR09

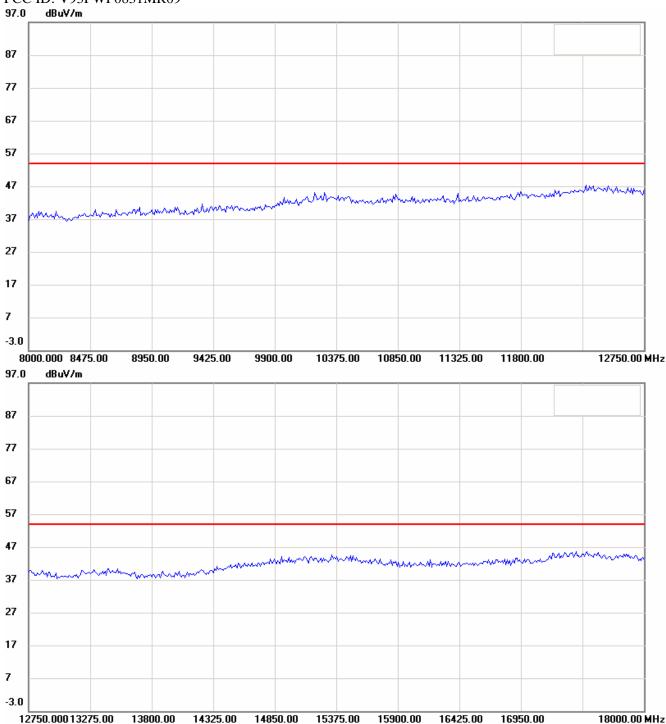


^{1.} The attached measurement plots are preliminarily pre-scanned with peak detector for determining the final checking frequencies and are for reference only.

^{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.



Registration number: W6M20808-9278-C-1



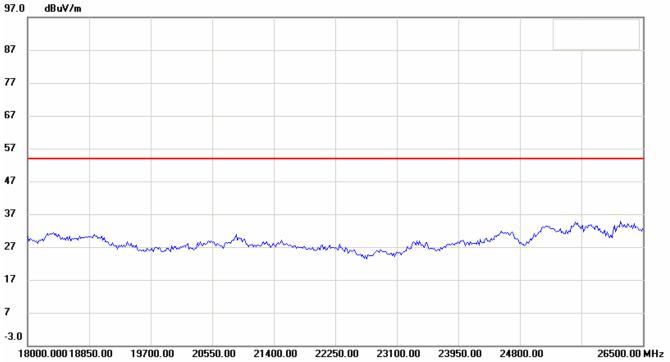
^{1.} The attached measurement plots are preliminarily pre-scanned with peak detector for determining the final checking frequencies and are for reference only.

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.
 For corrected test results are listed in the relevant table of radiated test data of this test report.

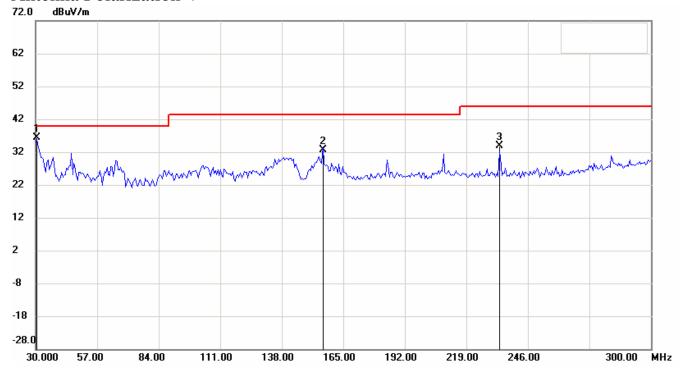


Registration number: W6M20808-9278-C-1

FCC ID: V93PWF0831MR09



Antenna Polarization V



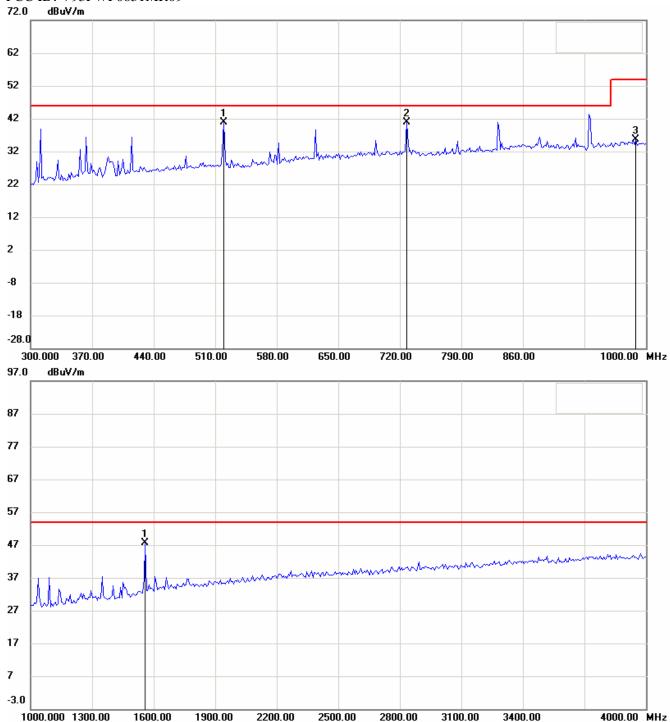
^{1.} The attached measurement plots are preliminarily pre-scanned with peak detector for determining the final checking frequencies and are for reference only.

^{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.



Registration number: W6M20808-9278-C-1

FCC ID: V93PWF0831MR09

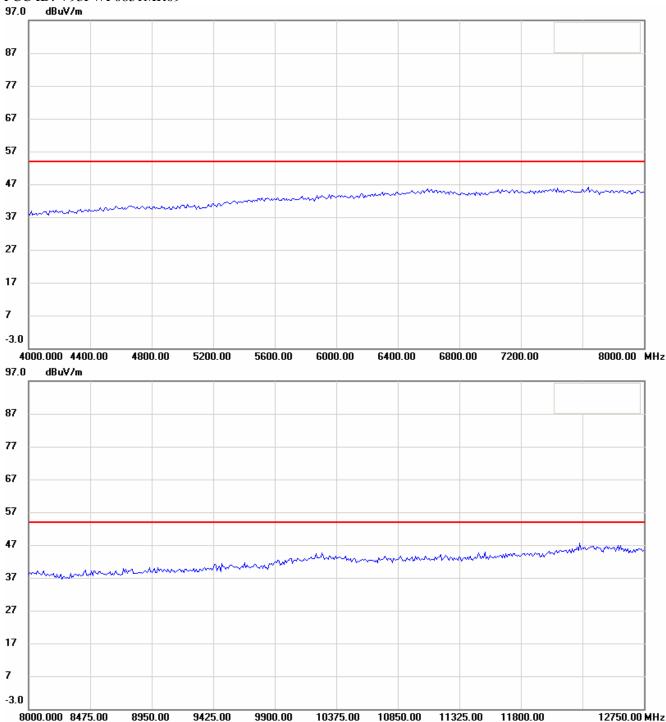


^{1.} The attached measurement plots are preliminarily pre-scanned with peak detector for determining the final checking frequencies and are for reference only.

^{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.



Registration number: W6M20808-9278-C-1



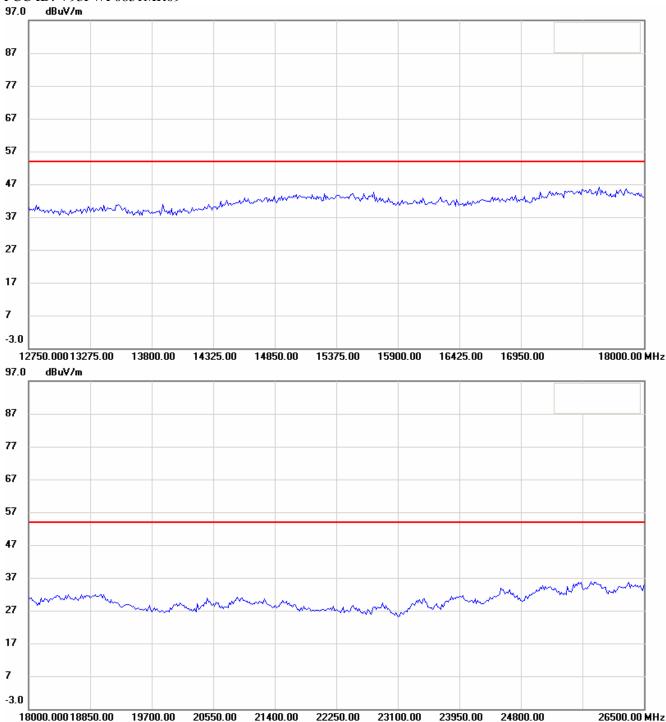
^{1.} The attached measurement plots are preliminarily pre-scanned with peak detector for determining the final checking frequencies and are for reference only.

^{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.



Registration number: W6M20808-9278-C-1

FCC ID: V93PWF0831MR09



^{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.

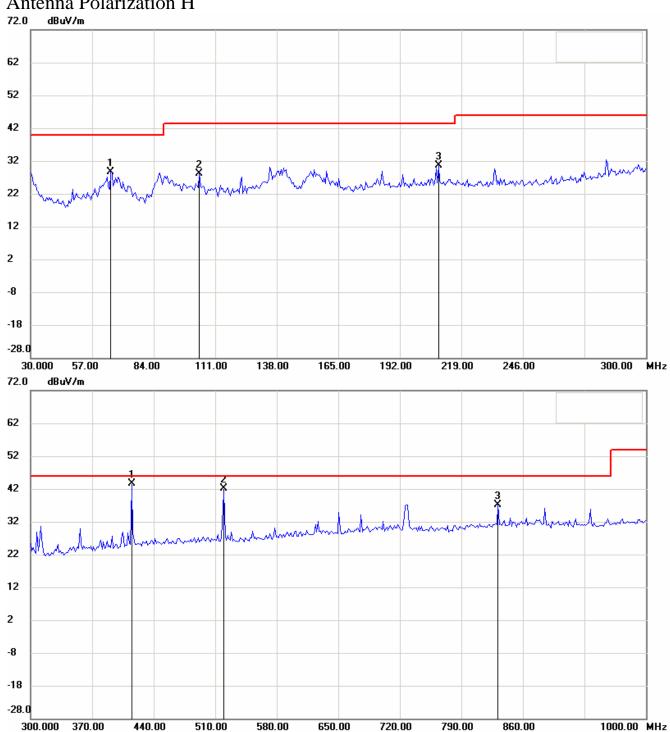


Registration number: W6M20808-9278-C-1

FCC ID: V93PWF0831MR09

Middle channel

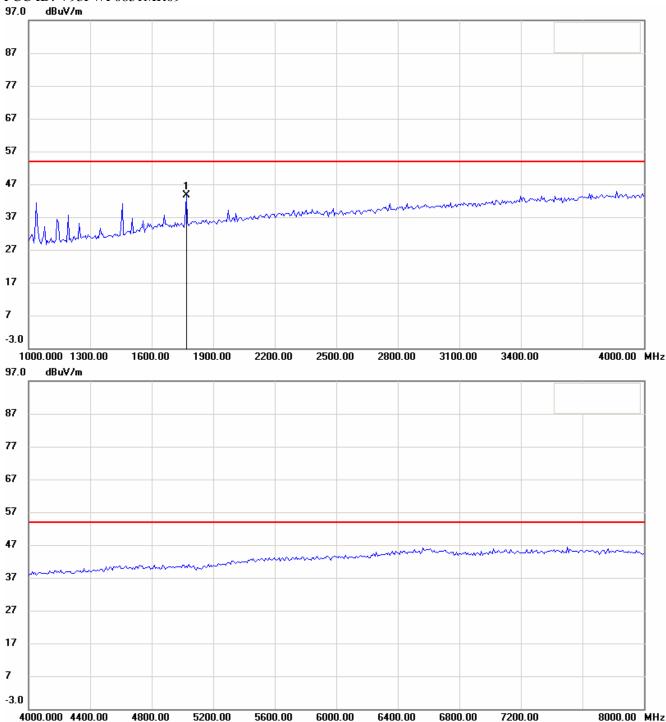
Antenna Polarization H



- 1. The attached measurement plots are preliminarily pre-scanned with peak detector for determining the final checking frequencies and are for reference only.
- 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: W6M20808-9278-C-1

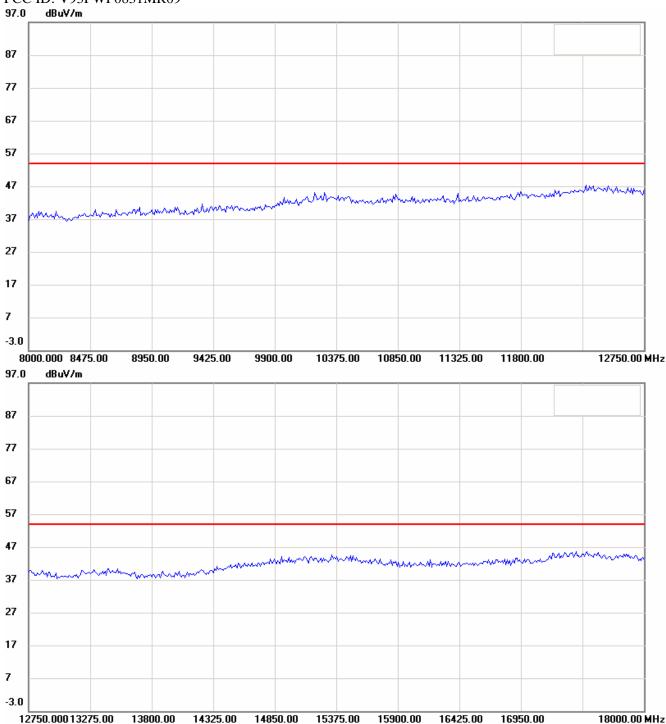


^{1.} The attached measurement plots are preliminarily pre-scanned with peak detector for determining the final checking frequencies and are for reference only.

^{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.



Registration number: W6M20808-9278-C-1



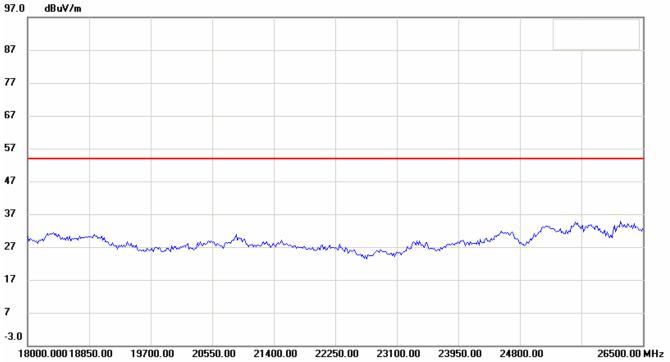
^{1.} The attached measurement plots are preliminarily pre-scanned with peak detector for determining the final checking frequencies and are for reference only.

^{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.

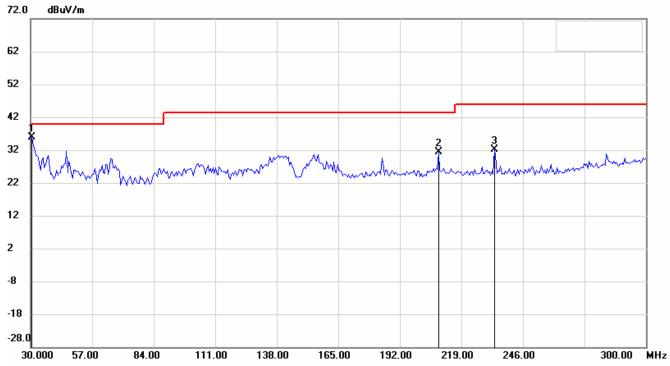


Registration number: W6M20808-9278-C-1

FCC ID: V93PWF0831MR09



Antenna Polarization V



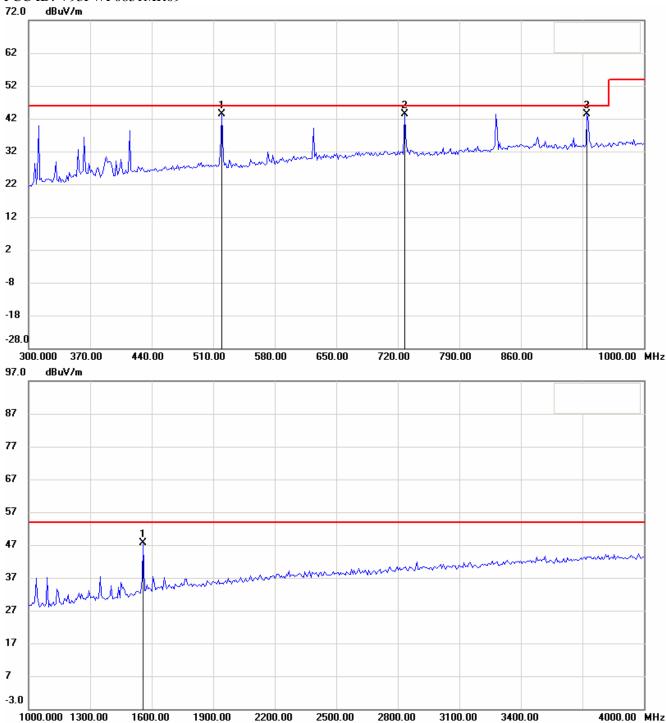
^{1.} The attached measurement plots are preliminarily pre-scanned with peak detector for determining the final checking frequencies and are for reference only.

^{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.



Registration number: W6M20808-9278-C-1

FCC ID: V93PWF0831MR09

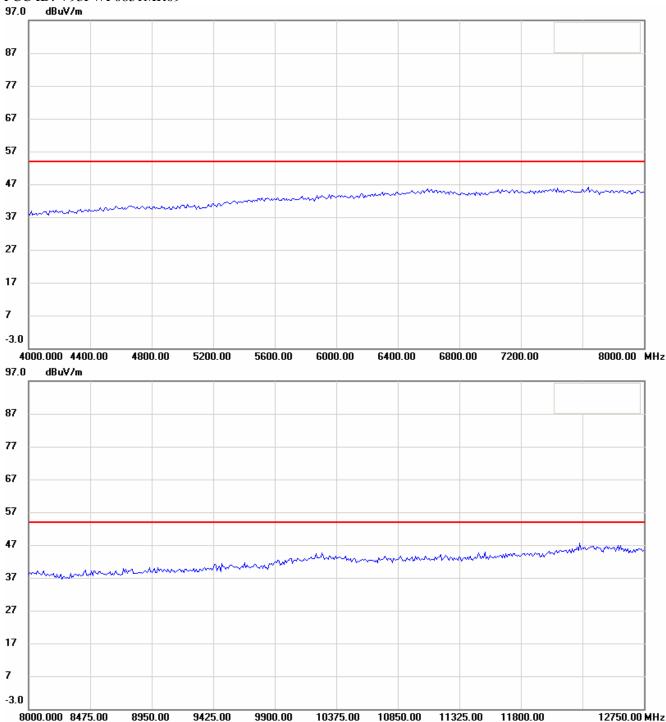


^{1.} The attached measurement plots are preliminarily pre-scanned with peak detector for determining the final checking frequencies and are for reference only.

^{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.



Registration number: W6M20808-9278-C-1



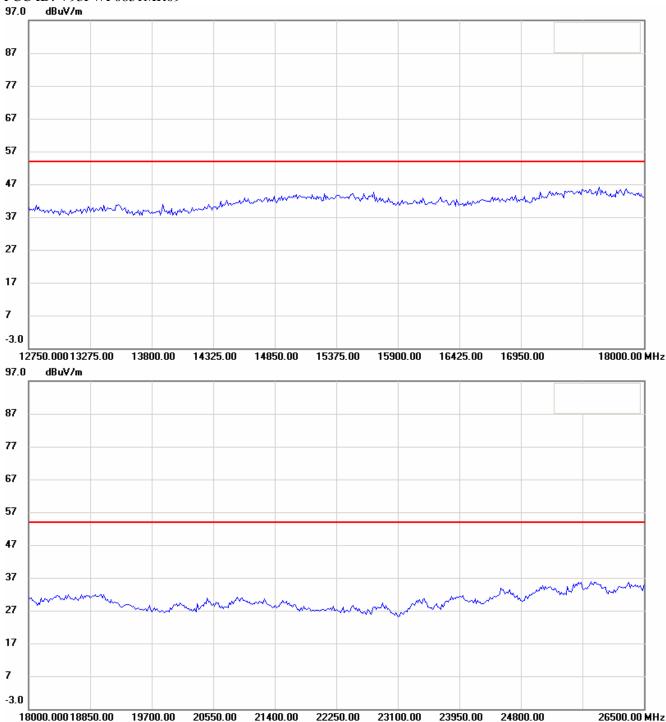
^{1.} The attached measurement plots are preliminarily pre-scanned with peak detector for determining the final checking frequencies and are for reference only.

^{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.



Registration number: W6M20808-9278-C-1

FCC ID: V93PWF0831MR09



^{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.

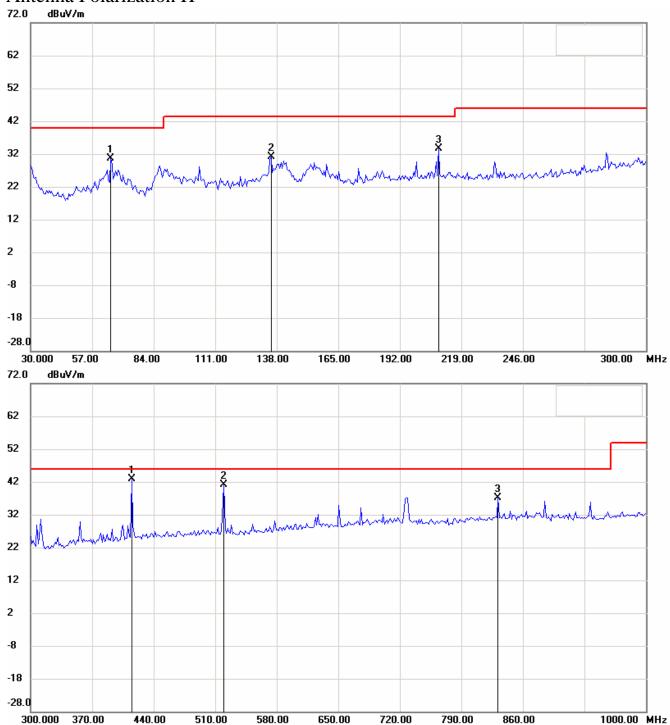


Registration number: W6M20808-9278-C-1

FCC ID: V93PWF0831MR09

High channel

Antenna Polarization H

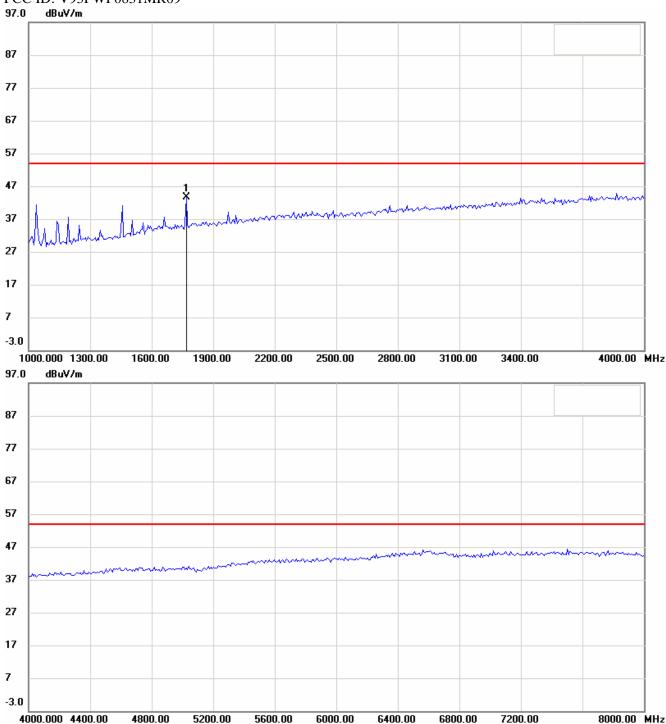


1. The attached measurement plots are preliminarily pre-scanned with peak detector for determining the final checking frequencies and are for reference only.

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.



Registration number: W6M20808-9278-C-1



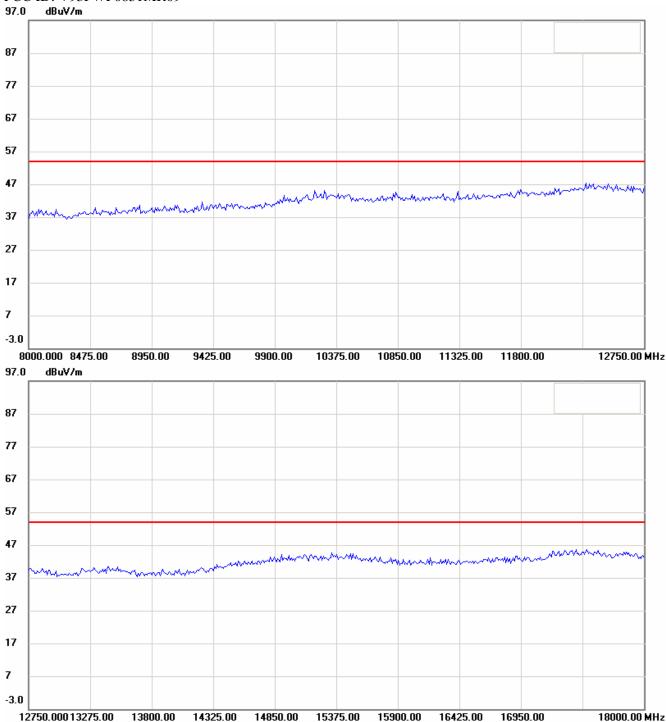
^{1.} The attached measurement plots are preliminarily pre-scanned with peak detector for determining the final checking frequencies and are for reference only.

^{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.



Registration number: W6M20808-9278-C-1

FCC ID: V93PWF0831MR09



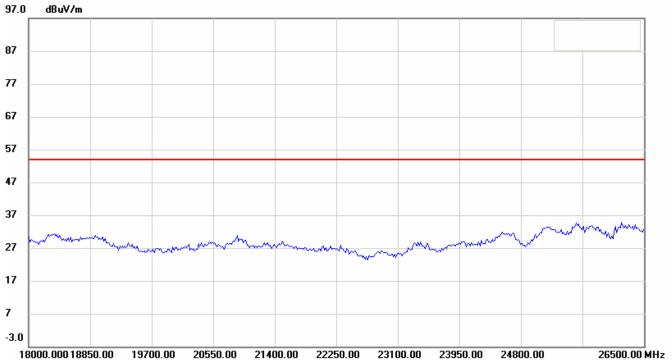
^{1.} The attached measurement plots are preliminarily pre-scanned with peak detector for determining the final checking frequencies and are for reference only.

^{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.

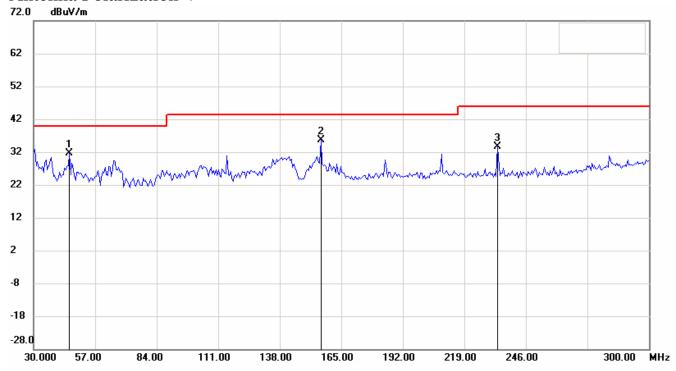


Registration number: W6M20808-9278-C-1

FCC ID: V93PWF0831MR09



Antenna Polarization V



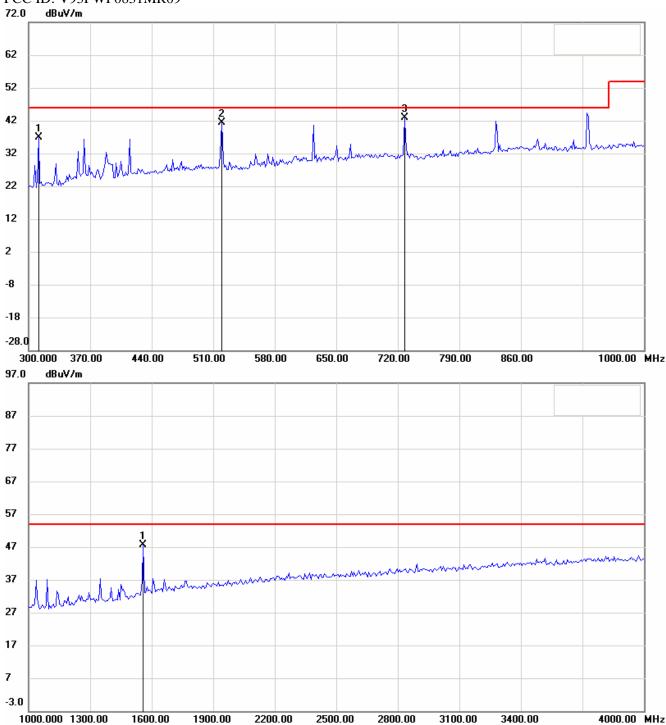
^{1.} The attached measurement plots are preliminarily pre-scanned with peak detector for determining the final checking frequencies and are for reference only.

^{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.



Registration number: W6M20808-9278-C-1

FCC ID: V93PWF0831MR09

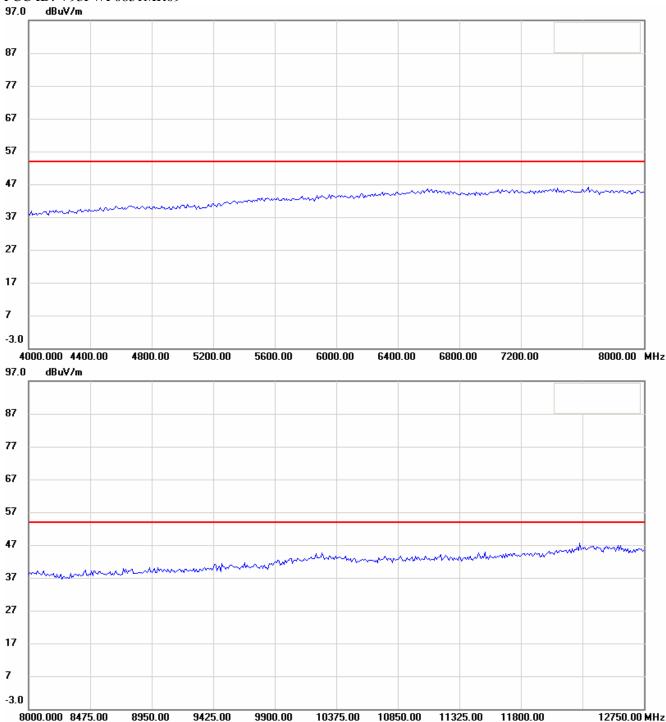


^{1.} The attached measurement plots are preliminarily pre-scanned with peak detector for determining the final checking frequencies and are for reference only.

^{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.



Registration number: W6M20808-9278-C-1

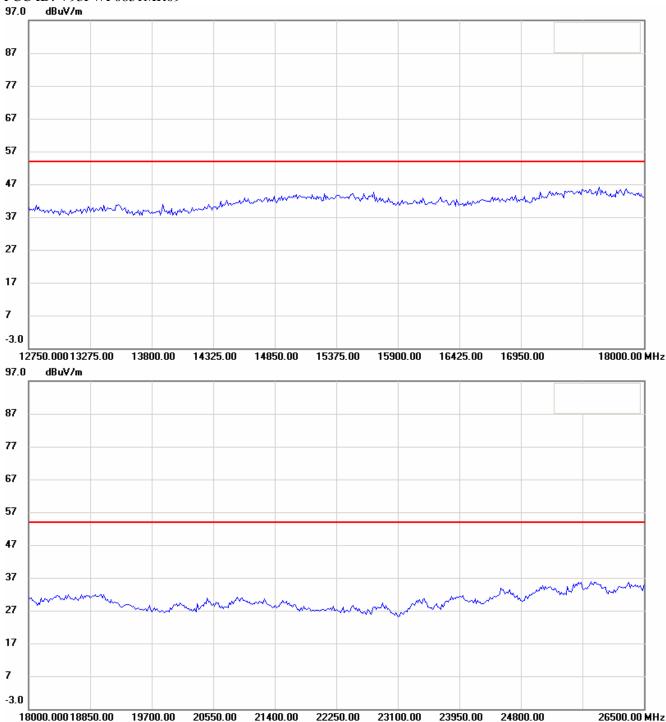


^{1.} The attached measurement plots are preliminarily pre-scanned with peak detector for determining the final checking frequencies and are for reference only.

^{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.



Registration number: W6M20808-9278-C-1



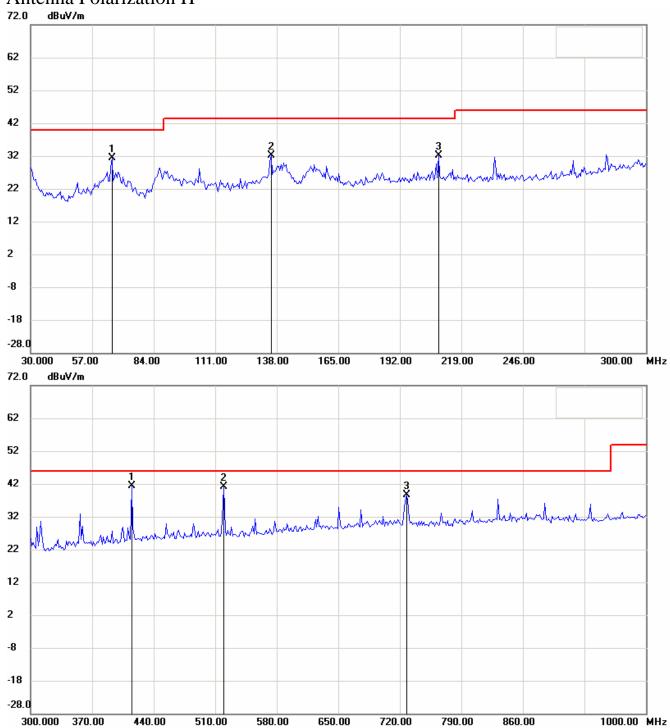
^{1.} The attached measurement plots are preliminarily pre-scanned with peak detector for determining the final checking frequencies and are for reference only.

^{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.



Registration number: W6M20808-9278-C-1

FCC ID: V93PWF0831MR09 Mode B Low channel Antenna Polarization H

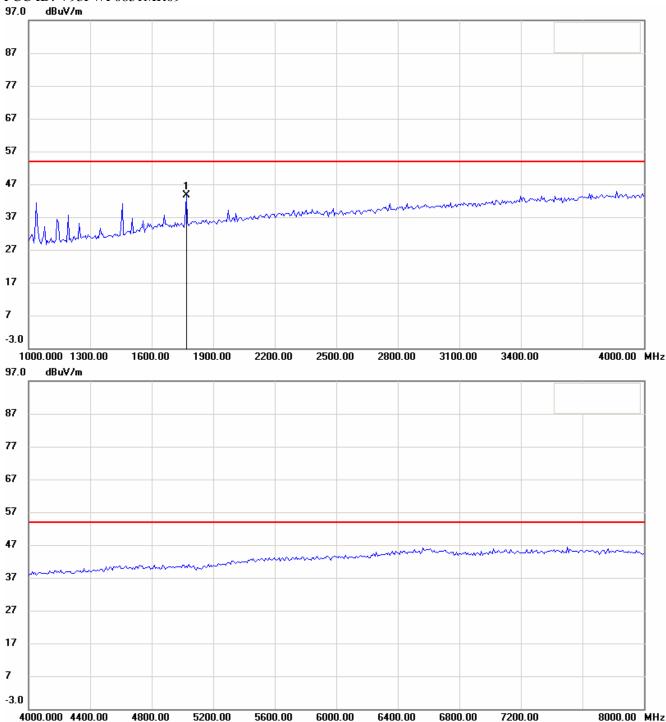


1. The attached measurement plots are preliminarily pre-scanned with peak detector for determining the final checking frequencies and are for reference only.

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.



Registration number: W6M20808-9278-C-1

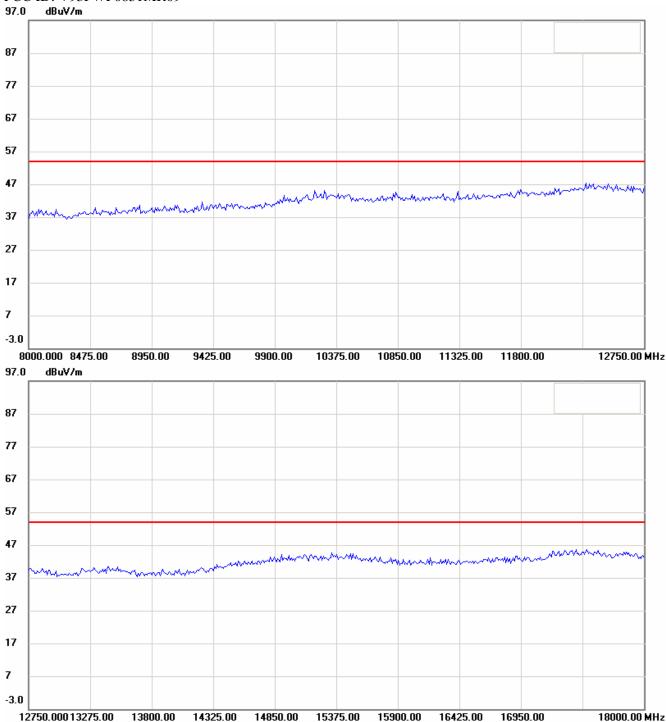


^{1.} The attached measurement plots are preliminarily pre-scanned with peak detector for determining the final checking frequencies and are for reference only.

^{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.



Registration number: W6M20808-9278-C-1



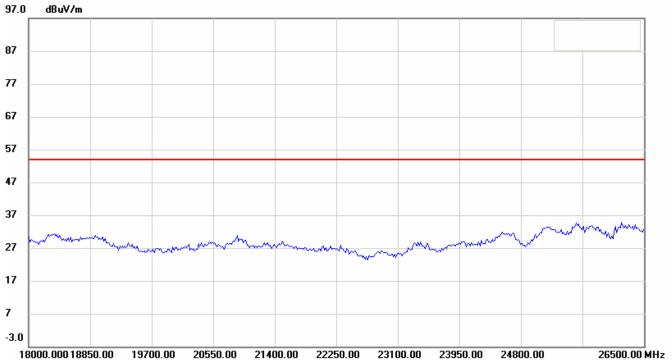
^{1.} The attached measurement plots are preliminarily pre-scanned with peak detector for determining the final checking frequencies and are for reference only.

^{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.

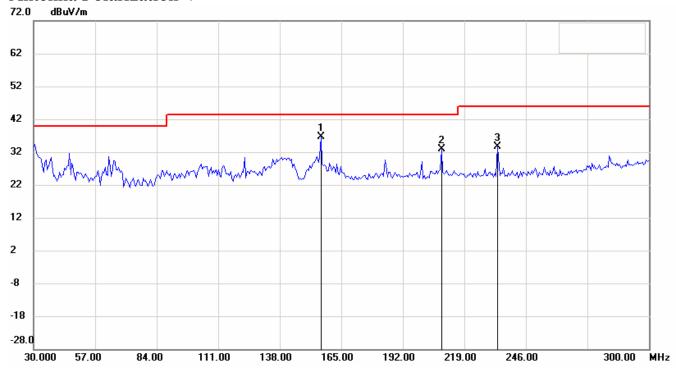


Registration number: W6M20808-9278-C-1

FCC ID: V93PWF0831MR09



Antenna Polarization V



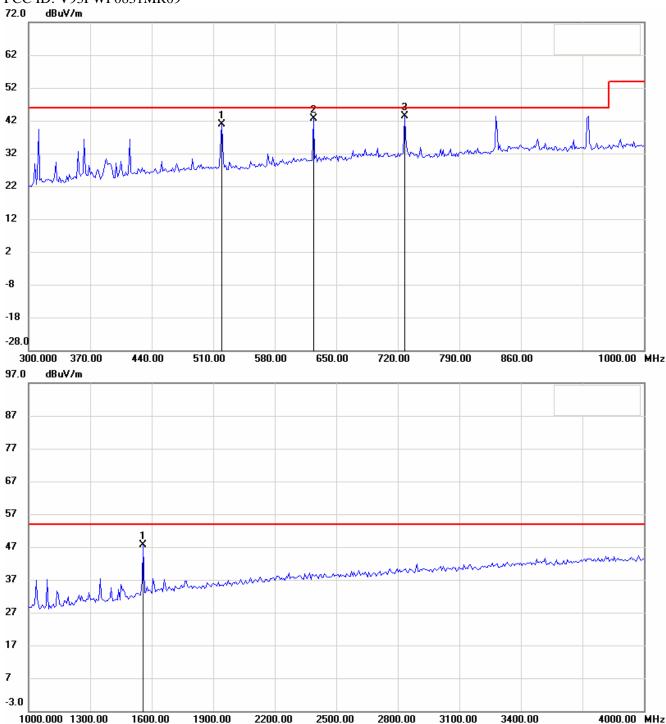
^{1.} The attached measurement plots are preliminarily pre-scanned with peak detector for determining the final checking frequencies and are for reference only.

^{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.



Registration number: W6M20808-9278-C-1

FCC ID: V93PWF0831MR09



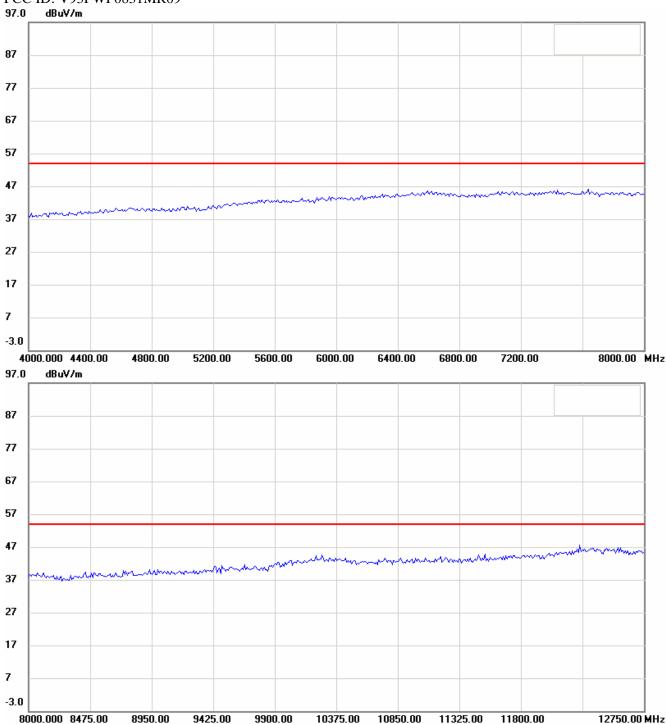
^{1.} The attached measurement plots are preliminarily pre-scanned with peak detector for determining the final checking frequencies and are for reference only.

^{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.



Registration number: W6M20808-9278-C-1

FCC ID: V93PWF0831MR09



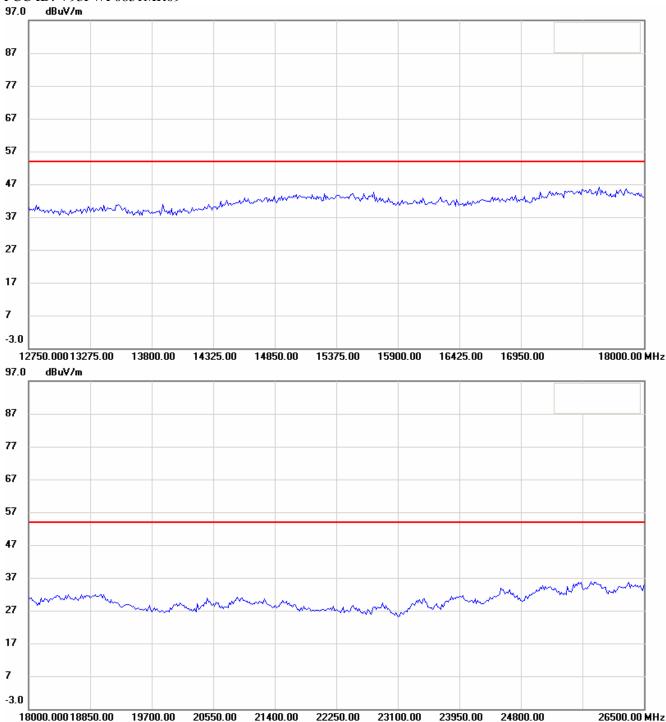
^{1.} The attached measurement plots are preliminarily pre-scanned with peak detector for determining the final checking frequencies and are for reference only.

^{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.



Registration number: W6M20808-9278-C-1

FCC ID: V93PWF0831MR09



^{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.

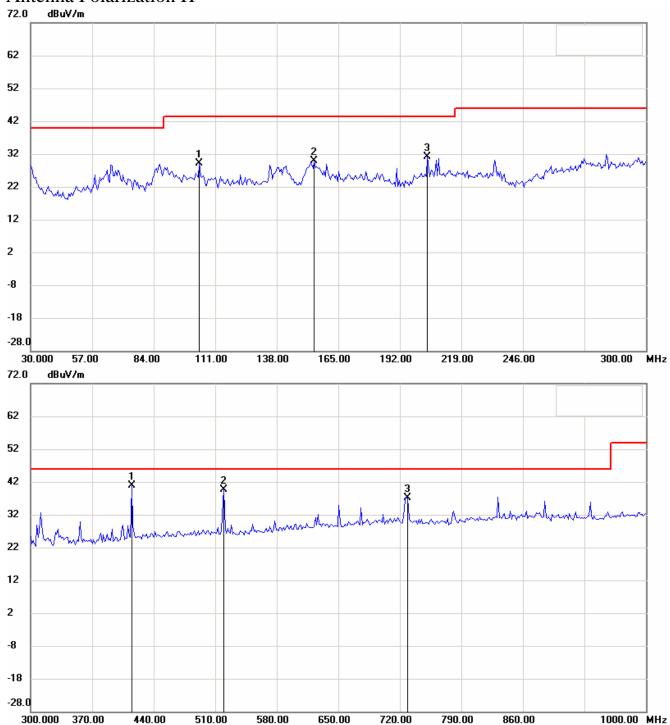


Registration number: W6M20808-9278-C-1

FCC ID: V93PWF0831MR09

Middle channel

Antenna Polarization H



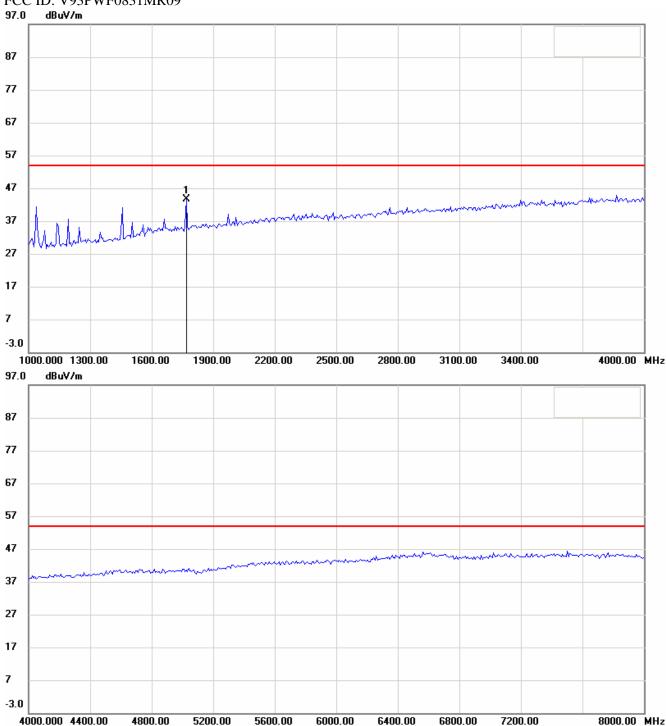
1. The attached measurement plots are preliminarily pre-scanned with peak detector for determining the final checking frequencies and are for reference only.

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.



Registration number: W6M20808-9278-C-1

FCC ID: V93PWF0831MR09



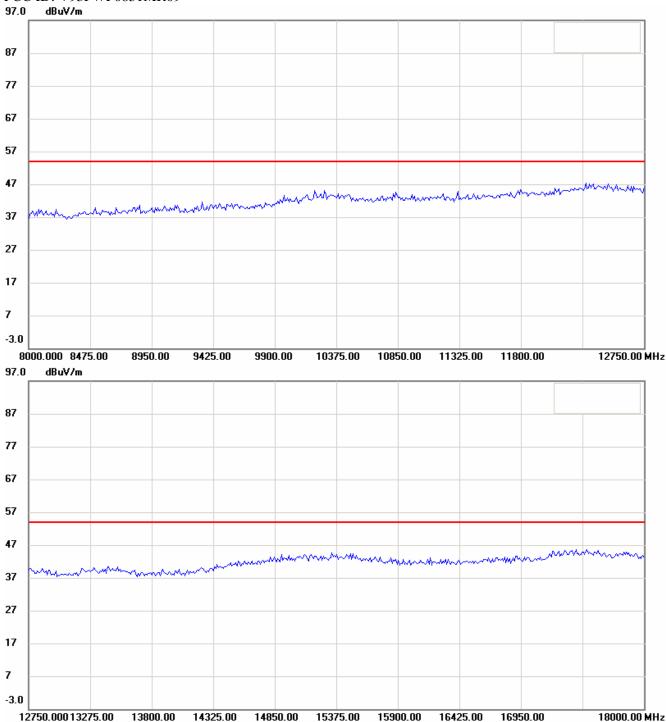
^{1.} The attached measurement plots are preliminarily pre-scanned with peak detector for determining the final checking frequencies and are for reference only.

^{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.



Registration number: W6M20808-9278-C-1

FCC ID: V93PWF0831MR09



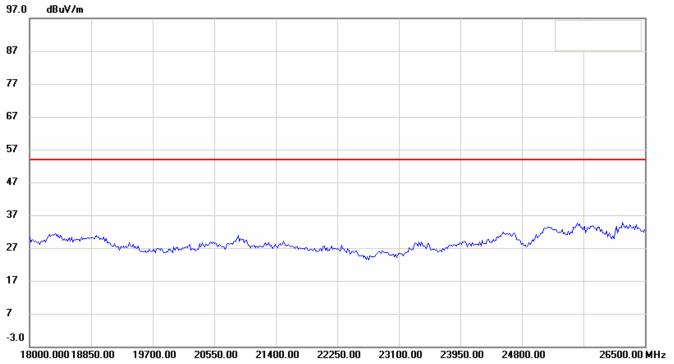
^{1.} The attached measurement plots are preliminarily pre-scanned with peak detector for determining the final checking frequencies and are for reference only.

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.
 For corrected test results are listed in the relevant table of radiated test data of this test report.

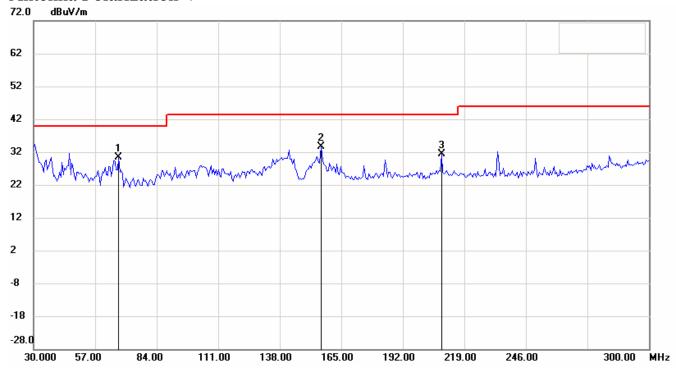


Registration number: W6M20808-9278-C-1

FCC ID: V93PWF0831MR09



Antenna Polarization V



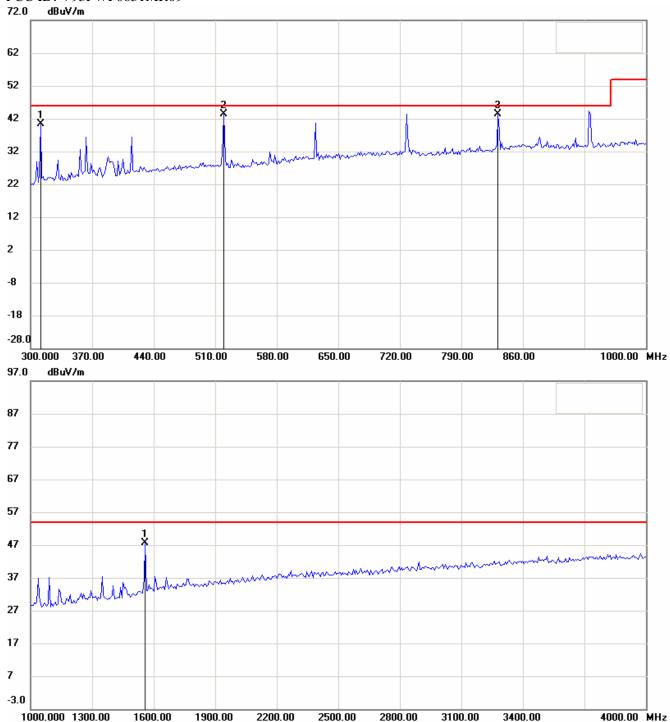
^{1.} The attached measurement plots are preliminarily pre-scanned with peak detector for determining the final checking frequencies and are for reference only.

^{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.



Registration number: W6M20808-9278-C-1

FCC ID: V93PWF0831MR09



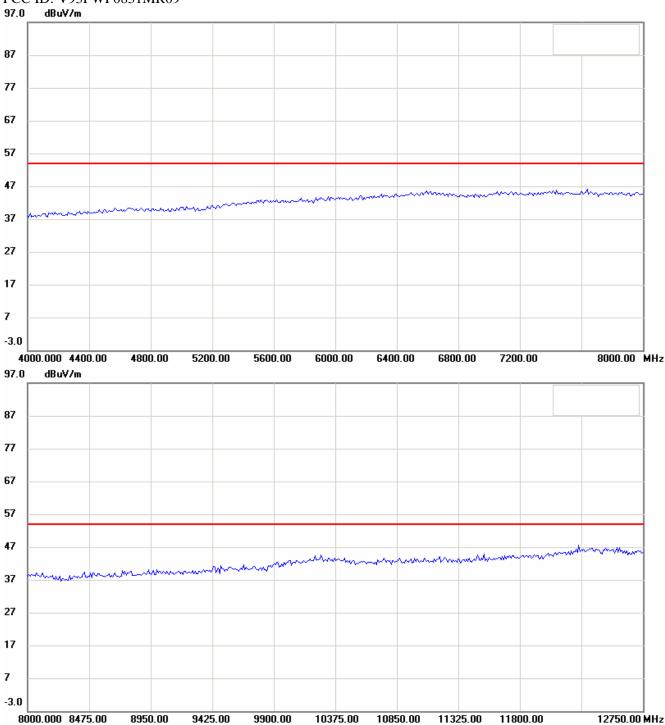
^{1.} The attached measurement plots are preliminarily pre-scanned with peak detector for determining the final checking frequencies and are for reference only.

^{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.



Registration number: W6M20808-9278-C-1

FCC ID: V93PWF0831MR09



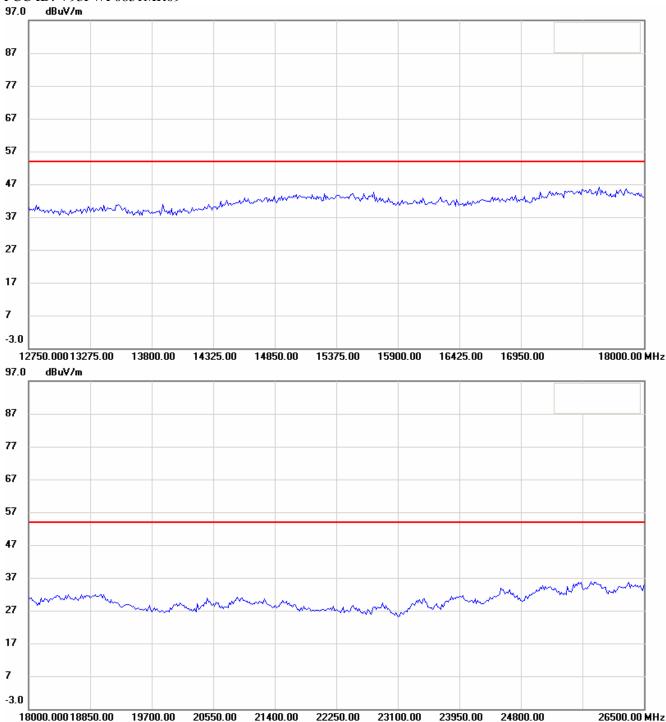
^{1.} The attached measurement plots are preliminarily pre-scanned with peak detector for determining the final checking frequencies and are for reference only.

^{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.



Registration number: W6M20808-9278-C-1

FCC ID: V93PWF0831MR09



^{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.

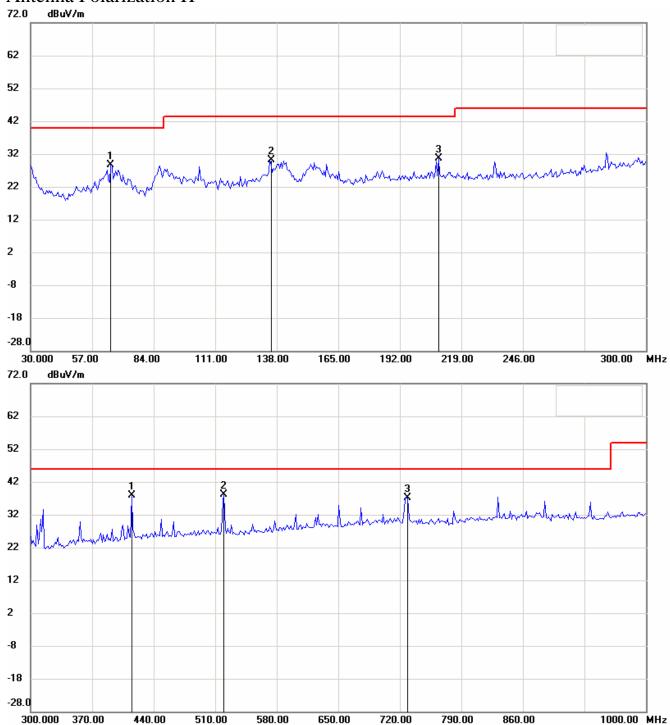


Registration number: W6M20808-9278-C-1

FCC ID: V93PWF0831MR09

High channel

Antenna Polarization H



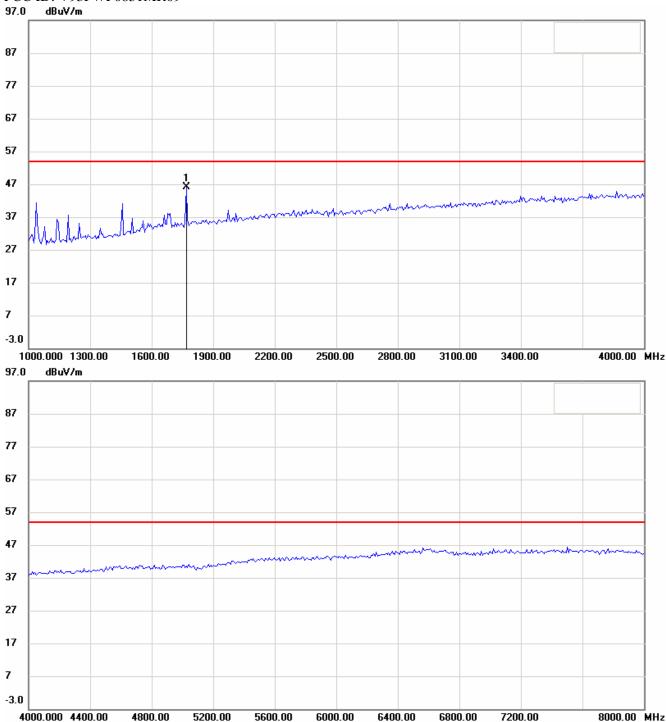
1. The attached measurement plots are preliminarily pre-scanned with peak detector for determining the final checking frequencies and are for reference only.

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.



Registration number: W6M20808-9278-C-1

FCC ID: V93PWF0831MR09



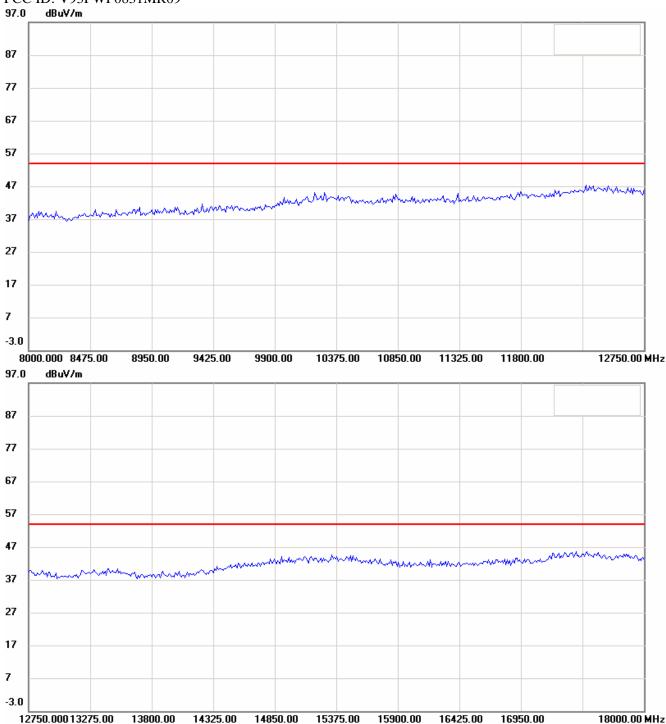
^{1.} The attached measurement plots are preliminarily pre-scanned with peak detector for determining the final checking frequencies and are for reference only.

^{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.



Registration number: W6M20808-9278-C-1

FCC ID: V93PWF0831MR09



^{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.

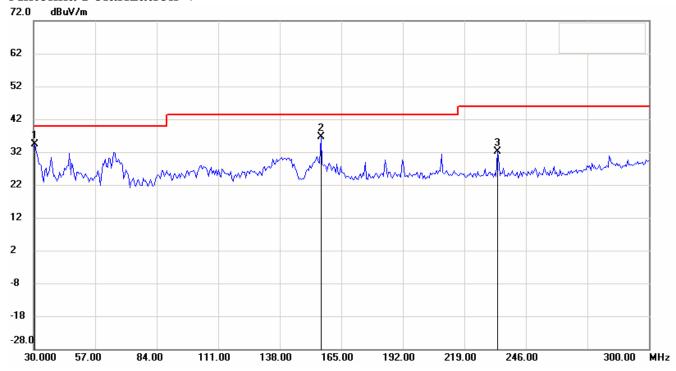


Registration number: W6M20808-9278-C-1

FCC ID: V93PWF0831MR09



Antenna Polarization V



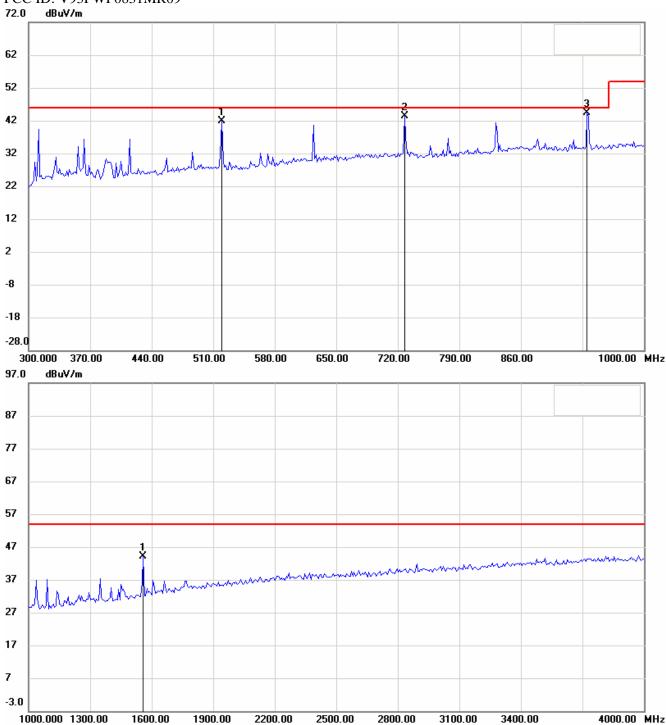
^{1.} The attached measurement plots are preliminarily pre-scanned with peak detector for determining the final checking frequencies and are for reference only.

^{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.



Registration number: W6M20808-9278-C-1

FCC ID: V93PWF0831MR09



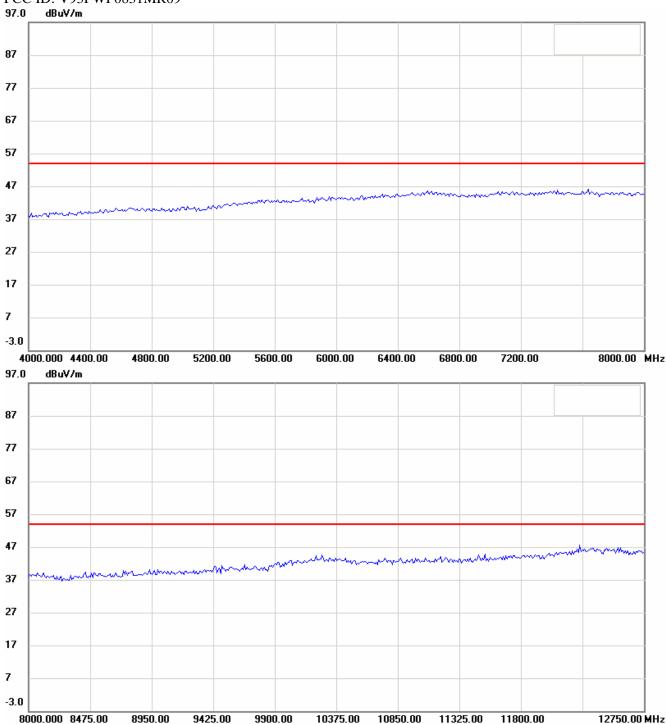
^{1.} The attached measurement plots are preliminarily pre-scanned with peak detector for determining the final checking frequencies and are for reference only.

^{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.



Registration number: W6M20808-9278-C-1

FCC ID: V93PWF0831MR09



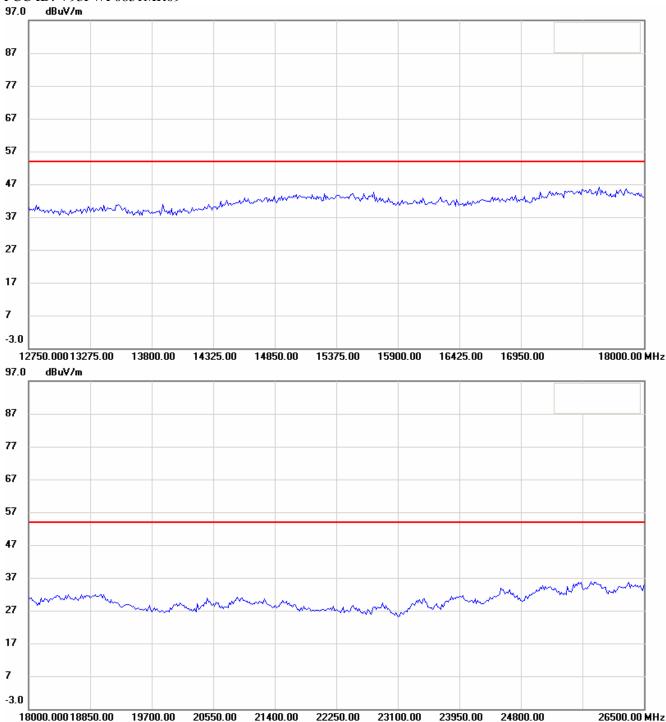
^{1.} The attached measurement plots are preliminarily pre-scanned with peak detector for determining the final checking frequencies and are for reference only.

^{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.



Registration number: W6M20808-9278-C-1

FCC ID: V93PWF0831MR09



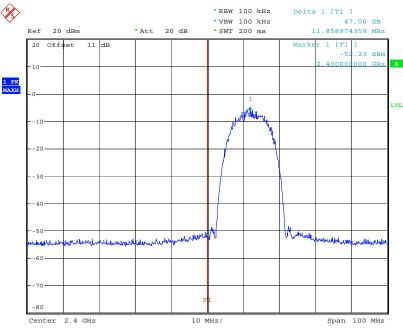
^{1.} The attached measurement plots are preliminarily pre-scanned with peak detector for determining the final checking frequencies and are for reference only.

^{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.

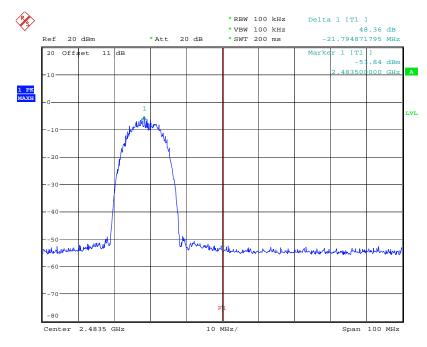


Registration number: W6M20808-9278-C-1

FCC ID: V93PWF0831MR09 Band Edge Measurement



BANDEDGE 802.11b CH1
Date: 19.SEP.2008 16:15:10

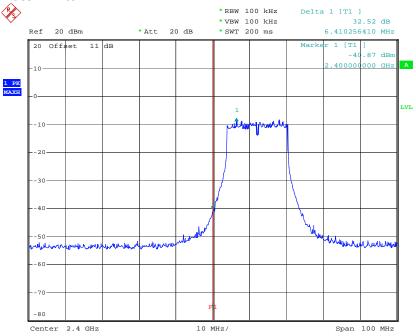


BANDEDGE 802.11b CH11
Date: 19.SEP.2008 16:32:06

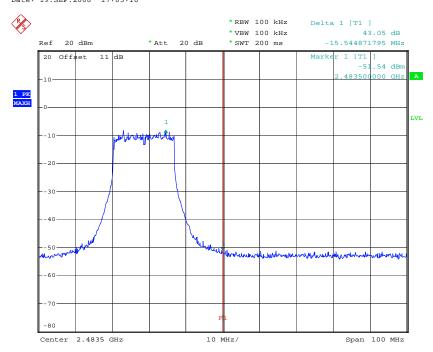


Registration number: W6M20808-9278-C-1

FCC ID: V93PWF0831MR09



BANDEDGE 802.11g CH1
Date: 19.SEP.2008 17:05:16



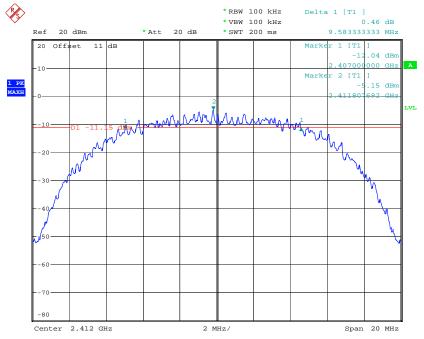
BANDEDGE 802.11g CH11
Date: 19.SEP.2008 16:55:58



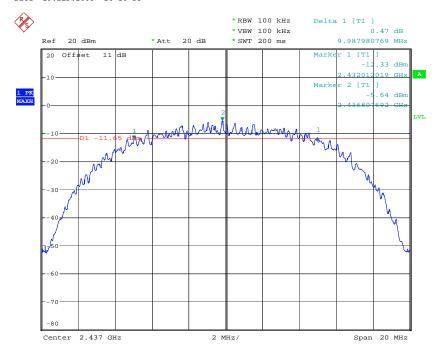
Registration number: W6M20808-9278-C-1

FCC ID: V93PWF0831MR09

Minimum 6dB Bandwidth



6DB BANDWIDTH 802.11b CH1
Date: 19.SEP.2008 16:16:58

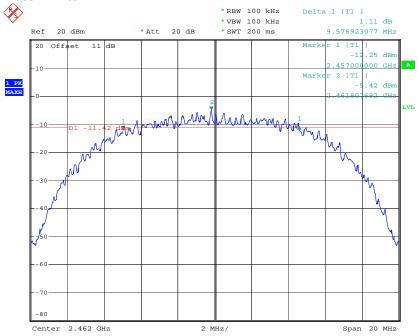


6DB BANDWIDTH 802.11b CH6
Date: 19.SEP.2008 16:23:37

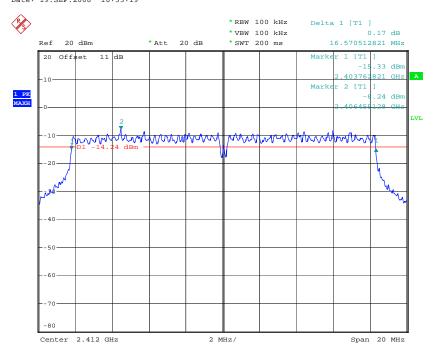


Registration number: W6M20808-9278-C-1

FCC ID: V93PWF0831MR09



6DB BANDWIDTH 802.11b CH11
Date: 19.SEP.2008 16:33:19

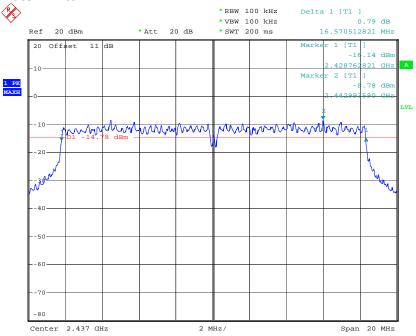


6DB BANDWIDTH 802.11g CH1
Date: 19.SEP.2008 17:04:38

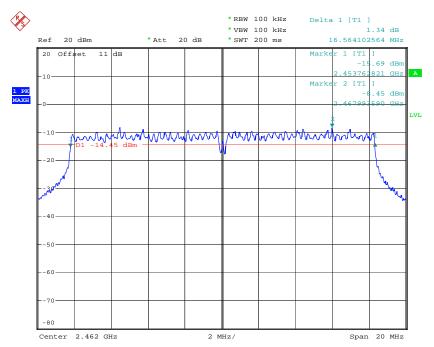


Registration number: W6M20808-9278-C-1

FCC ID: V93PWF0831MR09



6DB BANDWIDTH 802.11g CH6
Date: 19.SEP.2008 17:03:32



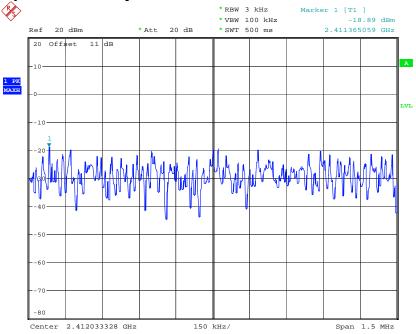
6DB BANDWIDTH 802.11g CH11
Date: 19.SEP.2008 16:58:33



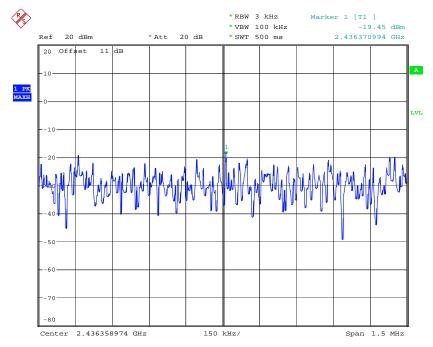
Registration number: W6M20808-9278-C-1

FCC ID: V93PWF0831MR09

Peak Power Spectral Density



POWER DENSITY 802.11b CH1
Date: 19.SEP.2008 16:14:23

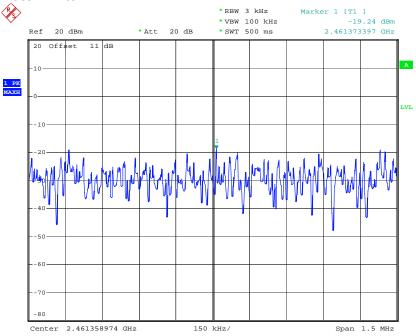


POWER DENSITY 802.11b CH6
Date: 19.SEP.2008 16:22:27

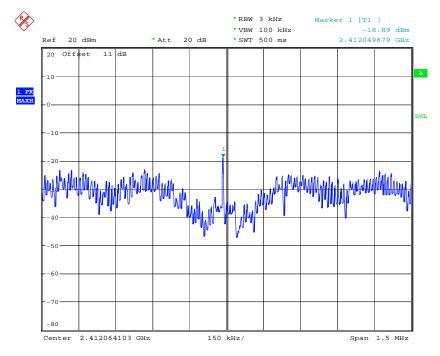


Registration number: W6M20808-9278-C-1

FCC ID: V93PWF0831MR09



POWER DENSITY 802.11b CH11
Date: 19.SEP.2008 16:31:19

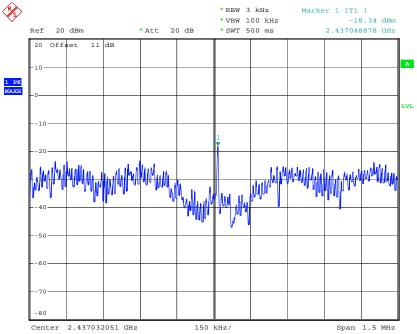


POWER DENSITY 802.11g CH1
Date: 19.SEP.2008 17:06:10

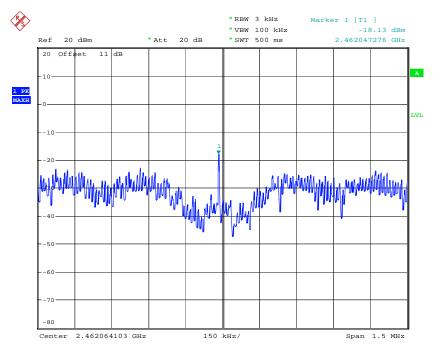


Registration number: W6M20808-9278-C-1

FCC ID: V93PWF0831MR09



POWER DENSITY 802.11g CH6
Date: 19.SEP.2008 17:02:07



POWER DENSITY 802.11g CH11 Date: 19.SEP.2008 16:55:16



Registration number: W6M20808-9278-C-1

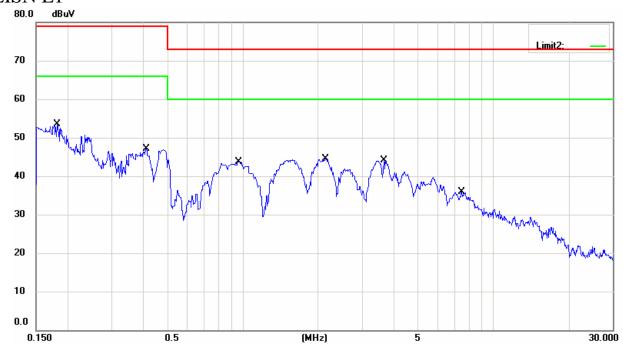
FCC ID: V93PWF0831MR09

Power Line Conducted Emission

LISN N



LISN L1



Up Line: QP Limit Line Down Line: Ave Limit Line

Note:

- 1. The plots are pre-scanned data for determining the tested points and for reference only.
- 2. The exact test result is shown in the data table of AC conducted emission test of this test report.