

**FCC PART 15 SUBPART C TEST REPORT**

**for**

**Bluetooth Wireless Headphones**

**Model No.: ASL06**

**FCC ID: S9HZJRNFY06**

**of**

Applicant: AcousticSheep, LLC

Address: 2001 Peninsula Drive Erie Pennsylvania 16506 USA

Tested and Prepared

by

**Worldwide Testing Services (Taiwan) Co., Ltd.**

**FCC Registration No.: 930600**

**Industry Canada filed test laboratory Reg. No. IC 5679A-1, IC 5107A**

**A2LA Accredited No.: 2732.01**



**Report No.: W6M21408-14400-C-1**

6F, NO. 58, LANE 188, RUEY-KUANG RD., NEIHU TAIPEI 114, TAIWAN, R.O.C.  
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# Worldwide Testing Services(Taiwan) Co., Ltd.

Registration number: W6M21408-14400-C-1  
FCC ID: S9HZJRNFY06

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## **1 General Information**

### **1.1 Notes**

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

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

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

Neither is there any guarantee that such a test sample will interwork with other genuinely open systems. The existence of the tests nevertheless provides the confidence that the test sample possesses the qualities as maintained and that its 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.

### **Tester:**

September 13, 2014

Rick Chen

*Rick Chen.*

Date

WTS-Lab.

Name

Signature

### **Technical responsibility for area of testing:**

September 13, 2014

Kevin Wang

*Kevin Wang*

Date

WTS

Name

Signature



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## **1.2 Testing laboratory**

### **1.2.1 Location**

OATS

No.5-1, Lishui, Shuang Sing Village,  
Wanli Dist., New Taipei City 207,  
Taiwan (R.O.C.)

3 meter semi-anechoic chamber

No.35, Aly. 21, Ln. 228, Ankang Rd., Neihu Dist., Taipei City 114, Taiwan (R.O.C.)

TEL:886-2-6613-0228

FAX:886-2-2791-5046

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, IC 5107A



**Test location, where different from Worldwide Testing Services (Taiwan) Co., Ltd. :**

Name: ./.

Accredited number: ./.

Street: ./.

Town: ./.

Country: ./.

Telephone: ./.

Fax: ./.

## **1.3 Details of approval holder**

Name: AcousticSheep, LLC

Street: 2001 Peninsula Drive

City: Erie Pennsylvania 16506

Country: USA

Telephone: ./.

Fax: ./.



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## 1.4 Application details

Date of receipt of test item: August 21, 2014  
Date of test: from August 22, 2014 to September 11, 2014

## 1.5 General information of Test item

Type of product: Bluetooth Wireless Headphones  
Type identification: ASL06  
Multi-listing model number: ./.  
Brand Name: AcousticSheep  
Photos: see Appendix

### Technical data

Frequency band: 2.4 GHz – 2.4835 GHz  
Number of Channels: Bluetooth 2.0 79 channels  
Bluetooth 4.0 40 channels  
Operation modes: Duplex  
Modulation Type: GFSK、π/4DQPSK、8DPSK  
Fixed point-to-point operation:  Yes /  No  
Type of Antenna: PIFA PCB antenna  
Antenna gain: 0.5 dBi  
Power supply: Battery 3.7 VDC, 175 mAh  
USB 5 VDC  
Emission designator: Bluetooth 2.0: 1M28F1D  
Bluetooth 4.0: 1M40G1D  
Host device: none

Classification :

Fixed Device	<input type="checkbox"/>
Mobile Device (Human Body distance > 20cm)	<input type="checkbox"/>
Portable Device (Human Body distance < 20cm)	<input checked="" type="checkbox"/>
Modular Radio Device	<input type="checkbox"/>



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## Transmitter

## Unom

### **Mode A (Bluetooth 2.0 Normal mode)**

Power ( ch 0 or A):	Conducted: 4.74 dBm
Power ( ch 39 or B):	Conducted: 5.98 dBm
Power ( ch 78 or C):	Conducted: 7.25 dBm

### **Mode B (Bluetooth 2.0 EDR mode)**

Power ( ch 0 or A):	Conducted: 3.67 dBm
Power ( ch 39 or B):	Conducted: 5.38 dBm
Power ( ch 78 or C):	Conducted: 6.71 dBm

### **Mode C (Bluetooth 4.0)**

Power ( ch 0):	Conducted: 4.30 dBm
Power ( ch 19):	Conducted: 5.67 dBm
Power ( ch 39):	Conducted: 6.94 dBm

### **Manufacturer: (if applicable)**

Name:	AcousticSheep, LLC
Street:	2001 Peninsula Drive
City:	Erie Pennsylvania 16506
Country:	United States

## **1.6 Test standards**

Technical standard : FCC RULES PART 15 SUBPART C § 15.247 (2013-10)



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## **2 Technical test**

### **2.1 Summary of test results**

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

or

The deviations as specified in 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: Battery 3.7 VDC, 175 mAh  
USB 5 VDC

Extreme conditions parameters: ./

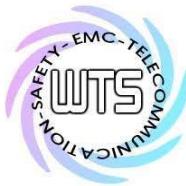


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## 2.3 Test Equipment List

No.	Test equipment	Type	Serial No.	Manufacturer	Cal. Date	Next Cal. Date
ETSTW-CE 001	EMI TEST RECEIVER	ESHS10	842121/013	R&S	2014/9/3	2015/9/2
ETSTW-CE 003	AC POWER SOURCE	APS-9102	D161137	GW	Function Test	
ETSTW-CE 008	HF-EICHLEITUNG RF STEP ATTENUATOR 139dB DPSP	334.6010.02	844581/024	R&S	Function Test	
ETSTW-CE 009	TEMP.&HUMIDITY CHAMBER	GTH-225-40-1P-U	MAA0305-009	GIANT FORCE	2014/7/8	2015/7/7
ETSTW-CE 016	TWO-LINE V-NETWORK	ENV216	100050	R&S	2013/10/28	2014/10/27
ETSTW-RE 004	EMI TEST RECEIVER	ESI 40	832427/004	R&S	2014/9/3	2015/9/2
ETSTW-RE 005	EMI TEST RECEIVER	ESVS10	843207/020	R&S	2014/9/3	2015/9/2
ETSTW-RE 012	TUNABLE BANDREJECT FILTER	D.C 0309	146	K&L	Function Test	
ETSTW-RE 013	TUNABLE BANDREJECT FILTER	D.C 0336	397	K&L	Function Test	
ETSTW-RE 018	MICROWAVE HORN ANTENNA	AT4560	27212	AR	2013/10/15	2014/10/14
ETSTW-RE 027	Passive Loop Antenna	6512	00034563	ETS-Lindgren	2014/7/01	2015/6/30
ETSTW-RE 030	Double-Ridged Guide Horn Antenna	3117	00035224	EMCO	2014/2/25	2015/2/24
ETSTW-RE 045	ESA-E SERIES SPECTRUM ANALYZER	E4404B	MY45111242	Agilent	Pre-test Use	
ETSTW-RE 049	TRILOG Super Broadband test Antenna	VULB 9160	9160-3185	Schwarzbeck	2014/2/18	2015/2/17
ETSTW-RE 050	Attenuator 10dB	50HF-010-1	None	JFW	2014/3/3	2015/3/2
ETSTW-RE 051	Attenuator 6dB	50HF-006-1	None	JFW	2014/3/3	2015/3/2
ETSTW-RE 053	Attenuator 3dB	50HF-003-1	None	JFW	2014/3/3	2015/3/2
ETSTW-RE 055	SPECTRUM ANALYZER	FSU 26	200074	R&S	2014/6/05	2015/6/04
ETSTW-RE 060	Attenuator 30dB	5015-30	F651012z-01	ATM	2014/3/3	2015/3/2
ETSTW-RE 062	Amplifier Module	CHC 2	None	KMIC	2013/11/27	2014/11/26
ETSTW-RE 064	Bluetooth Test Set	MT8852B-042	6K00005709	Anritsu	Function Test	
ETSTW-RE 069	Double-Ridged Guide Horn Antenna	3117	00069377	EMCO	Function Test	
ETSTW-RE 072	CELL SITE TEST SET	8921A	3339A00375	HP	2013/10/7	2014/10/6
ETSTW-RE 088	SOLID STATE AMPLIFIER	KMA180265A01	99057	KMIC	2013/10/11	2014/10/10
ETSTW-RE 099	DC Block	50DB-007-1	None	JFW	2014/3/3	2015/3/2
ETSTW-RE 106	Humidity Temperature Meter	TES-1366	091011113	TES	2013/12/04	2014/12/03
ETSTW-RE 111	TRILOG Super Broadband test Antenna	VULB 9160	9160-3309	Schwarzbeck	2013/12/27	2014/12/26
ETSTW-RE 112	AC POWER SOURCE	TFC-1005	None	T-Power	Function test	
ETSTW-RE 115	2.4GHz Notch Filter	N0124411	473874	MICROWAVE CIRCUITS	2014/1/10	2015/1/09
ETSTW-RE 120	RF Player	MP9200	MP9210-111022	ADIVIC	Function test	
ETSTW-RE 122	SIGNAL GENERATOR	SMF100A	102149	R&S	2014/6/11	2015/6/10
ETSTW-RE 125	5GHz Notch filter	5NSL11-5200/E221.3-O/O	1	K&L Microwave	2014/8/12	2015/8/11

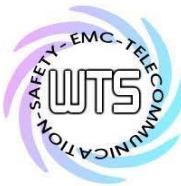


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ETSTW-RE 126	5GHz Notch filter	5NSL11-5800/E221.3-O/O	1	K&L Microwave	2014/8/12	2015/8/11
ETSTW-RE 127	RF Switch Box	RFS-01	None	WTS	2014/3/3	2015/3/2
ETSTW-RE 128	5.3GHz Notch filter	N0153001	SN487233	Microwave Circits	2014/8/12	2015/8/11
ETSTW-RE 129	5.5GHz Notch filter	N0555984	SN487234	Microwave Circits	2014/8/12	2015/8/11
ETSTW-RE 130	Handheld RF Spectrum Analyzer	N9340A	CN0147000204	Agilent	Pre-test Use	
ETSTW-GSM 002	Universal Radio Communication Tester	CMU 200	109439	R&S	2013/10/7	2014/10/6
ETSTW-GSM 019	Band Reject Filter	WRCTF824/849-822/851-40 /12+9SS	3	WI	2014/1/10	2015/1/09
ETSTW-GSM 020	Band Reject Filter	WRCD1747/1748-1743/1752-32/5SS	1	WI	2014/1/10	2015/1/09
ETSTW-GSM 021	Band Reject Filter	WRCD1879.5/1880.5-1875.5/1884.5-32/5SS	3	WI	2014/1/10	2015/1/09
ETSTW-GSM 022	Band Reject Filter	WRCT901.9/903.1-904.25-50/8SS	1	WI	2014/1/10	2015/1/09
ETSTW-GSM 023	Power Divider	4901.19.A	None	SUHNER	2014/9/3	2015/9/2
ETSTW-Cable 010	BNC Cable	5 M BNC Cable	None	JYE BAO CO.,LTD.	2014/2/27	2015/2/26
ETSTW-Cable 011	BNC Cable	BNC Cable 1	None	JYE BAO CO.,LTD.	Pre-test Use NCR	
ETSTW-Cable 012	N TYPE To SMA Cable	Cable 012	None	JYE BAO CO.,LTD.	2014/2/27	2015/2/26
ETSTW-Cable 016	BNC Cable	Switch Box	B Cable 1	Schwarz beck	2014/2/27	2015/2/26
ETSTW-Cable 017	BNC Cable	X Cable	B Cable 2	Schwarz beck	2014/2/27	2015/2/26
ETSTW-Cable 018	BNC Cable	Y Cable	B Cable 3	Schwarz beck	2014/2/27	2015/2/26
ETSTW-Cable 019	BNC Cable	Z Cable	B Cable 4	Schwarz beck	2014/2/27	2015/2/26
ETSTW-Cable 022	N TYPE Cable	5006	0002	JYE BAO CO.,LTD.	2014/2/19	2015/2/18
ETSTW-Cable 026	Microwave Cable	SUCOFLEX 104	279075	HUBER+SUHNER	2014/3/3	2015/3/2
ETSTW-Cable 027	Microwave Cable	SUCOFLEX 104	279083	HUBER+SUHNER	2014/3/3	2015/3/2
ETSTW-Cable 028	Microwave Cable	FA147A0015M2020	30064-2	UTIFLEX	2013/10/11	2014/10/10
ETSTW-Cable 029	Microwave Cable	FA147A0015M2020	30064-3	UTIFLEX	2013/10/11	2014/10/10
ETSTW-Cable 030	Microwave Cable	SUCOFLEX 104 (S Cable 9)	279067	HUBER+SUHNER	2014/3/3	2015/3/2
ETSTW-Cable 031	Microwave Cable	SUCOFLEX 104 (S Cable 10)	238092	HUBER+SUHNER	2013/11/27	2014/11/26
ETSTW-Cable 043	Microwave Cable	SUCOFLEX 104	317576	HUBER+SUHNER	2013/11/27	2014/11/26
ETSTW-Cable 047	Microwave Cable	SUCOFLEX 104	325518	HUBER+SUHNER	2013/11/27	2014/11/26
ETSTW-Cable 053	N TYPE To SMA Cable	RG142	None	JYE BAO CO.,LTD.	2014/2/19	2015/2/18
ETSTW-Cable 058	Microwave Cable	SUCOFLEX 104	none	HUBER+SUHNER	2014/2/19	2015/2/18
WTSTW-SW 002	EMI TEST SOFTWARE	EZ_EMU	None	Farad	Version ETS-03A1	



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## 2.4 General Test Procedure

**POWER LINE CONDUCTED INTERFERENCE:** The procedure used was ANSI STANDARD C63.4-2009 5.2 using a 50 $\mu$ H LISN (if necessary). Both lines were observed. The bandwidth of the spectrum analyzer was 10 kHz with an appropriate sweep speed.

**RADIATION INTERFERENCE:** The test procedure used was according to ANSI STANDARD C63.4-2009 6.4 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 C63.4-2009 6.3.1. 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, Lishui, Shuang Sing Village, Wanli Dist., New Taipei City 207, Taiwan (R.O.C.). The Registration Number: 930600.

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



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

The formula is as follows:

Average = Peak + Duty Factor

Duty Factor =  $20 \log (\text{dwell time}/T)$

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

ANSI STANDARD C63.4-2009 10.2.7: Any measurements that utilize special test software shall be indicated and referenced in the test report. During testing, test software 'EZ EMC' was used for setting up different operation modes.



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## **3 Test results (enclosure)**

TEST CASE	Para. Number	Required	Test passed	Test failed
Peak Output Power	15.247(b)	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Equivalent isotropically radiated Power	15.247(b)	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Spurious Emissions radiated – Transmitter operating	15.247(c)	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Spurious Emissions conducted – Transmitter operating	15.247	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Carrier Frequency Separation	15.247(a) (1)	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Number of Hopping Frequencies	15.247(a) (1)(i)	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Time of Occupancy (Dwell Time)	15.247(a) (1)(i)	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
20 dB Bandwidth	15.247(a) (1)(i)	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Minimum 6 dB Bandwidth	15.247(a)(2)	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Band-edge Compliance of RF Emission	15.247(d)	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Peak Power Spectral Density	15.247(e)	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Radiated Emission from Receiver part	15.109	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Power Line Conducted Emission	15.207(a)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

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### 3.1 Peak Output Power (transmitter)

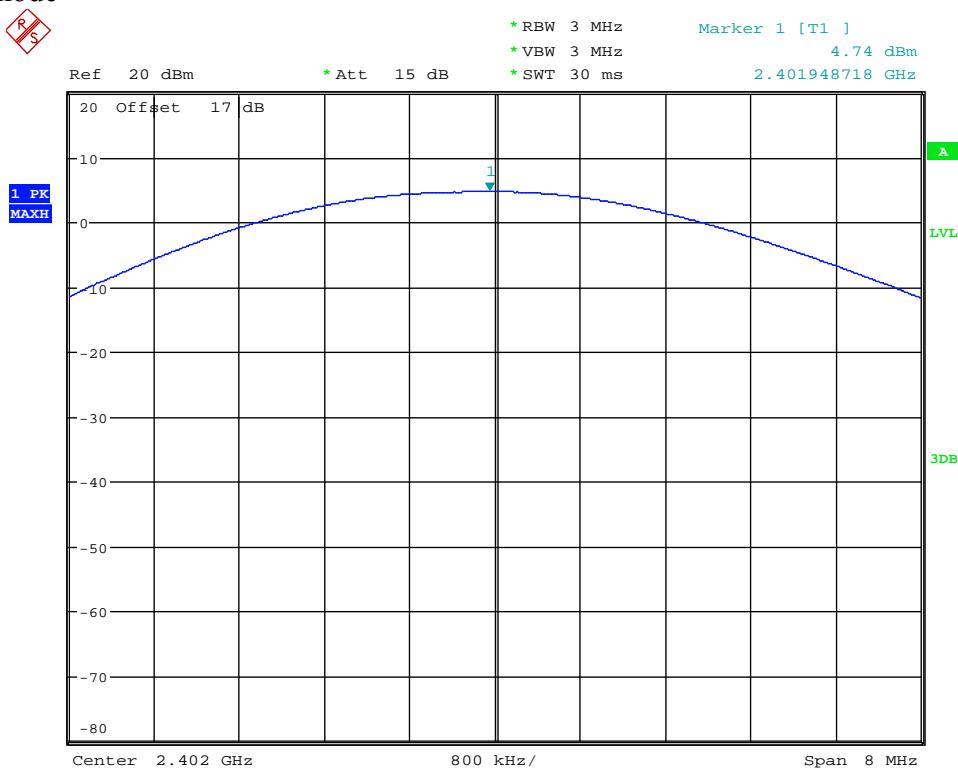
FCC Rule: 15.247(b)(3)

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.

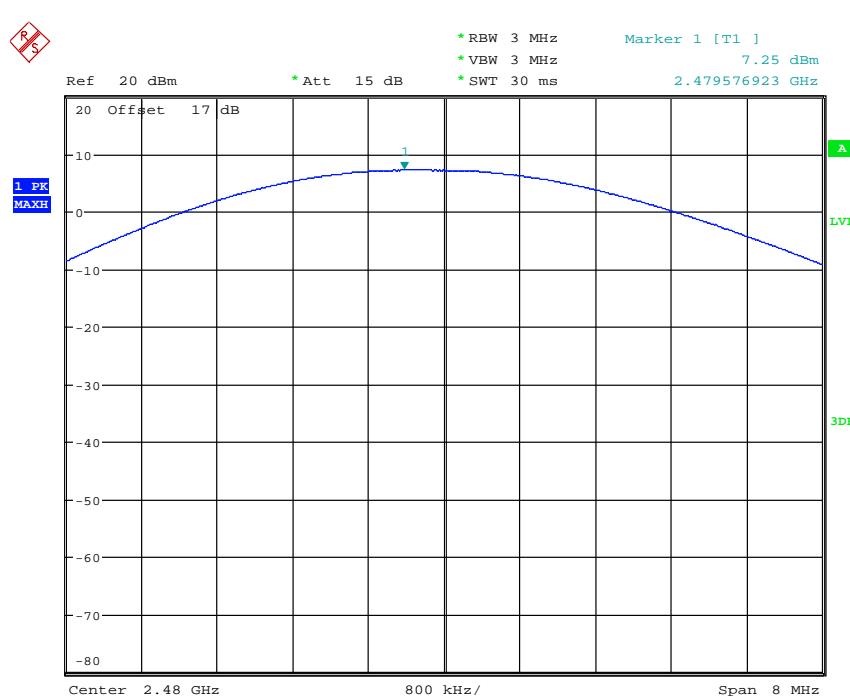
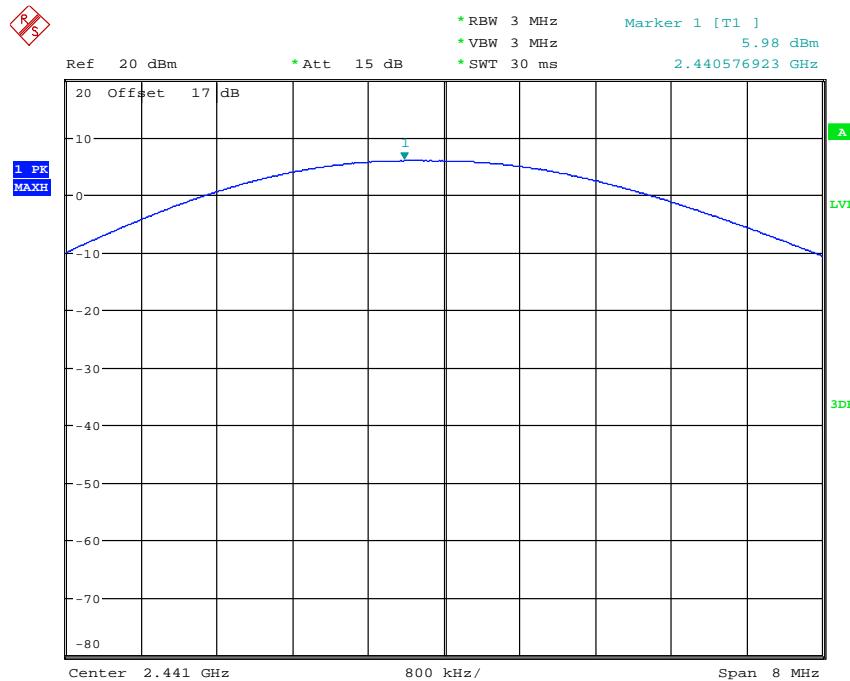
The power was measured with modulation (declared by the applicant).

Bluetooth 2.0

Normal mode

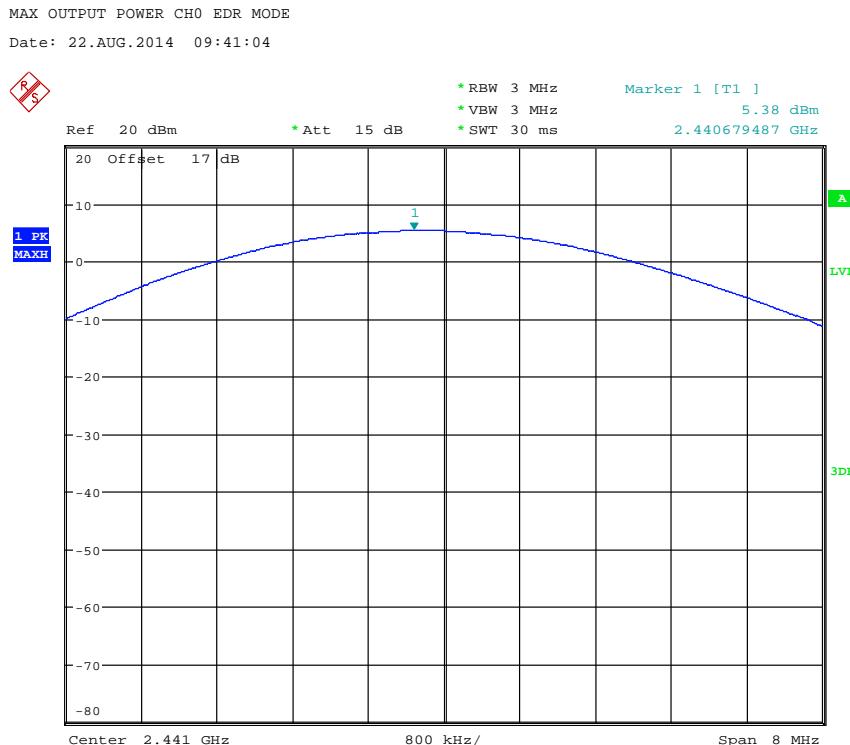
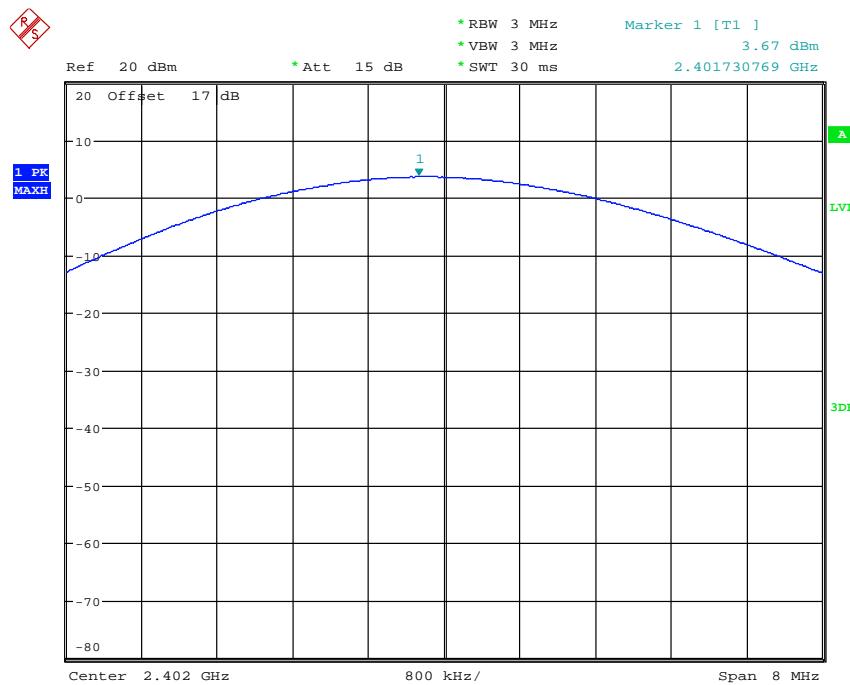


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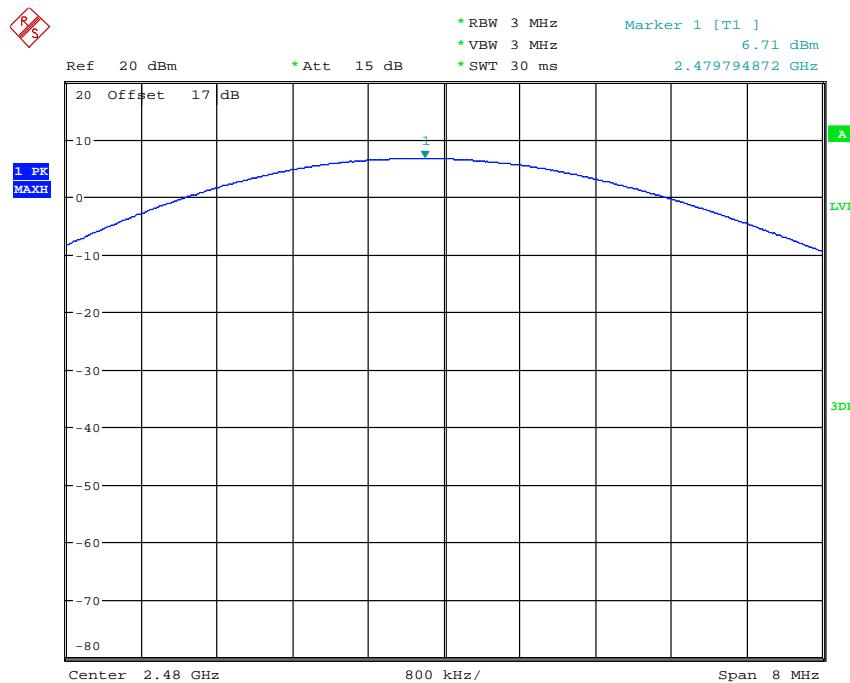


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EDR mode

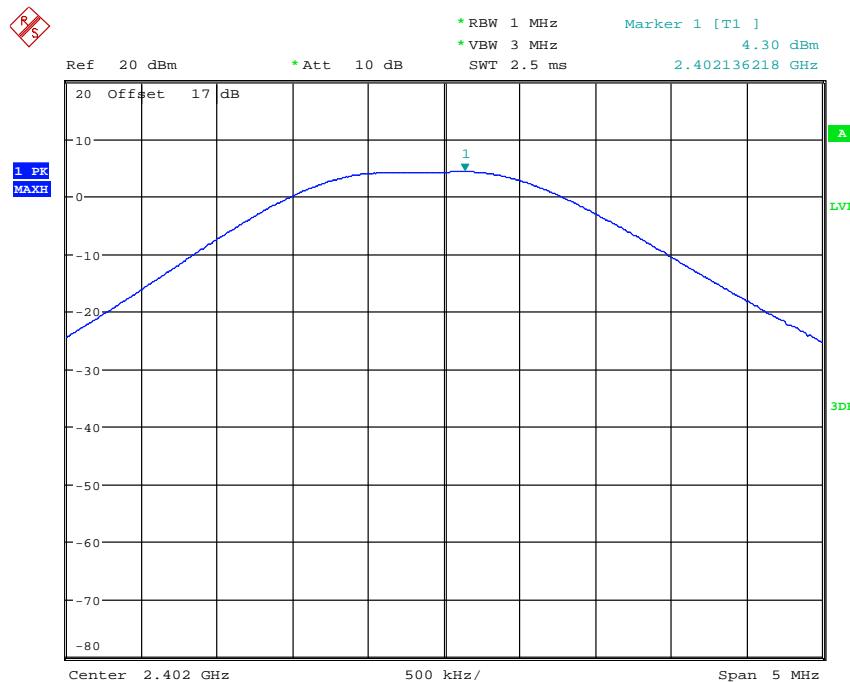


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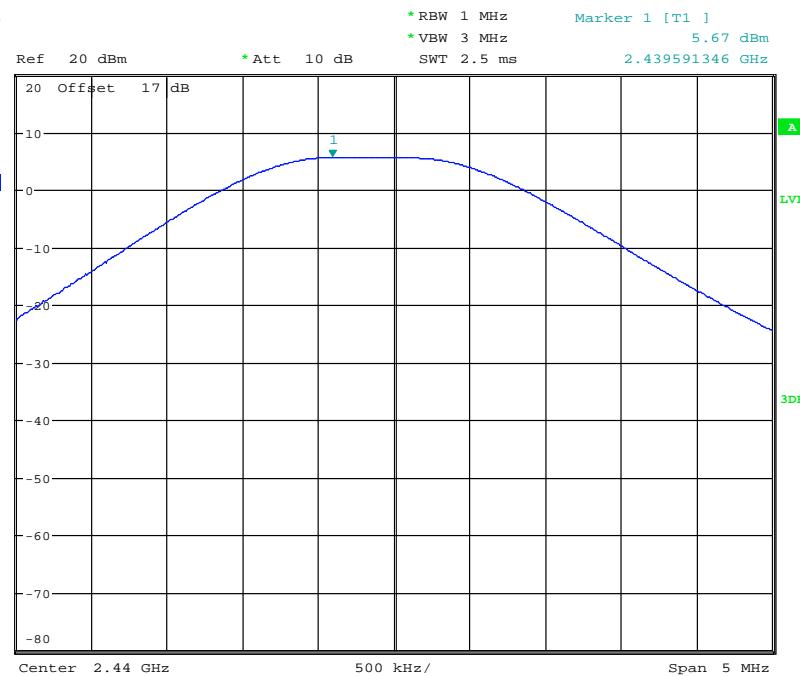
MAX OUTPUT POWER CH78 EDR MODE  
 Date: 22.AUG.2014 09:42:24

## Bluetooth 4.0

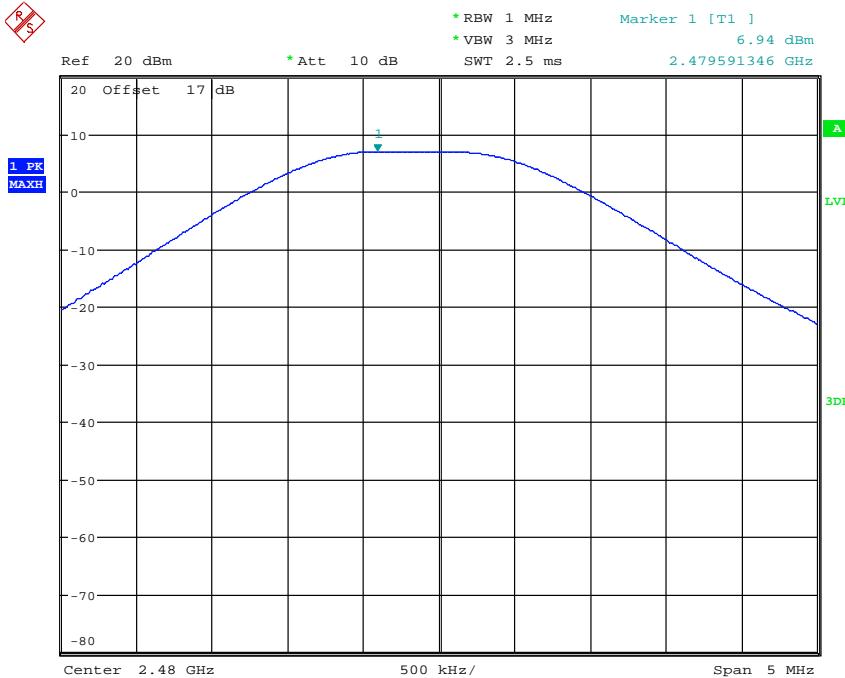


MAX OUTPUT POWER BT4.0 CH00  
 Date: 22.AUG.2014 10:06:19

Registration number: W6M21408-14400-C-1  
 FCC ID: S9HZJRNFY06



MAX OUTPUT POWER BT4.0 CH19  
 Date: 22.AUG.2014 10:07:15



MAX OUTPUT POWER BT4.0 CH39  
 Date: 22.AUG.2014 10:07:59



# Worldwide Testing Services(Taiwan) Co., Ltd.

Registration number: W6M21408-14400-C-1

FCC ID: S9HZJRNFY06

## Mode A

Test condition $T_{\text{nom}} = 23^{\circ}\text{C}$ , $V_{\text{nom}} = 120$ V	Signal Field strength TX highest power mode dB $\mu$ V/m
Frequency [MHz]	--
--	--

## Mode B

Test condition $T_{\text{nom}} = 23^{\circ}\text{C}$ , $V_{\text{nom}} = 120$ V	Signal Field strength TX highest power mode dB $\mu$ V/m
Frequency [MHz]	--
--	--

## Mode C

Test condition $T_{\text{nom}} = 23^{\circ}\text{C}$ , $V_{\text{nom}} = 120$ V	Signal Field strength TX highest power mode dB $\mu$ V/m
Frequency [MHz]	--
--	--

## Limits:

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

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

Test equipment used: ETSTW-RE 055



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## 3.2 Equivalent isotropic radiated power

FCC Rule: 15.247(b)(3)

Bluetooth 2.0+EDR

EIRP = max. conducted output power + antenna gain

EIRP = 7.25 dBm + 0.5 dBi = 7.75 dBm

Limit: EIRP = +36 dBm for Antenna gain 0.5 dBi

Bluetooth 4.0

EIRP = max. conducted output power + antenna gain

EIRP = 6.94 dBm + 0.5 dBi = 7.44 dBm

Limit: EIRP = +36 dBm for Antenna gain 0.5 dBi

Test equipment used: ETSTW-RE 055

## 3.3 RF Exposure Compliance Requirements

### RESULT:

Test standard : FCC KDB Publication 447498 10 D01v05

According to KDB447498 10 D01v05:

SAR evaluation, by measurement or numerical simulation, is not required when the corresponding SAR Exclusion Threshold condition, listed below, is satisfied.

The enclosure of the device provides  $\geq$  0.5 cm separation from the antenna elements to significant metal parts of the enclosure to minimize potential perturbations.

Frequency Band: 2400-2483.5 MHz

Maximum Power fed to Antenna (BT2.0): 5.9566 mW

Maximum Power fed to Antenna (BT4.0): 5.5463 mW

Separation distances:

Antenna feed center to metal parts of enclosure: > 5 mm

Distance prescribed in user manual: > 5 mm

MHz	5	10	15	20	25	mm
2450	10	19	29	38	48	SAR Test Exclusion Threshold (mW)

MHz	30	35	40	45	50	mm
2450	57	67	77	86	96	SAR Test Exclusion Threshold (mW)

MHz	50	60	70	80	90	100	110	120	130	140	150	160	170	180	190	mm
2450	96	196	296	396	496	596	696	796	896	996	1096	1196	1296	1396	1496	mW



# Worldwide Testing Services(Taiwan) Co., Ltd.

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## **3.4 Transmitter Radiated Emissions in Restricted Bands**

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

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

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

Frequency  $\leq$  1 GHz, RBW:100 kHz, VBW: 100 kHz (Peak measurements)

Frequency > 1 GHz, RBW: 1 MHz, VBW: 1 MHz (Peak measurements)

Frequency > 1 GHz , RBW:1 MHz , VBW: 10 Hz (Average measurements)

Limits.

For frequencies below 1GHz:

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

For frequencies above 1GHz (Average measurements).

Guidance on Measurement of Digit Transmission Systems:

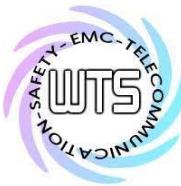
“If the emission is pulsed, modify the unit for continuous operation, use the setting shown above, then correct the reading by subtracting the peak-average correction factor, derived from the appropriate duty cycle calculation.”

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

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

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

Explanation: See attached diagrams in Appendix.



# Worldwide Testing Services(Taiwan) Co., Ltd.

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## **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 =  $20 \log (\text{dwell time}/100\text{ms})$

Test equipment used: ETSTW-RE 004, ETSTW-RE 030, ETSTW-RE 042,  
ETSTW-RE 043, ETSTW-RE 044

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



# Worldwide Testing Services(Taiwan) Co., Ltd.

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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:	ASL06		Date:	2014/8/28				
Mode:	BT2.0 TX_2402 MHz		Temperature:	24 °C		Engineer:	Roy	
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)
53.3267	18.88	peak	13.97	32.85	40.00	-7.15	135	100
366.2925	22.53	peak	17.66	40.19	46.00	-5.81	220	100

Frequency (MHz)	Reading (dBuV)		Factor (dB)	Result @3m (dBuV/m)		Limit @3m (dBuV/m)		Margin (dB)	Table Degree (Deg.)	Ant. High (cm)
	Peak	Ave.	Corr.	Peak	Ave.	Peak	Ave.			
4801.6030	46.25	---	0.27	46.52	---	74.00	54.00	-27.48	130	100
7206.0000	42.41	---	3.85	46.26	---	74.00	54.00	-27.74	220	100
9608.0000	34.44	---	7.93	42.37	---	74.00	54.00	-31.63	245	100
12010.0000	33.34	---	12.65	45.99	---	74.00	54.00	-28.01	150	100

Polarization: Vertical

Frequency (MHz)	Reading (dBuV)	Detector	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Table Degree (Deg.)	Ant. High (cm)
49.4388	22.83	peak	14.25	37.08	40.00	-2.92	80	100
366.2926	16.56	peak	17.66	34.22	46.00	-11.78	155	100

Frequency (MHz)	Reading (dBuV)		Factor (dB)	Result @3m (dBuV/m)		Limit @3m (dBuV/m)		Margin (dB)	Table Degree (Deg.)	Ant. High (cm)
	Peak	Ave.	Corr.	Peak	Ave.	Peak	Ave.			
4801.6030	46.93	---	0.27	47.20	---	74.00	54.00	-26.80	25	100
7206.0000	42.52	---	3.85	46.37	---	74.00	54.00	-27.63	95	100
9608.0000	34.85	---	7.93	42.78	---	74.00	54.00	-31.22	155	100
12010.0000	34.58	---	12.65	47.23	---	74.00	54.00	-26.77	110	100



# Worldwide Testing Services(Taiwan) Co., Ltd.

Registration number: W6M21408-14400-C-1

FCC ID: S9HZJRNFY06

Mode: BT2.0 TX\_2441 MHz

Polarization: Horizontal

Frequency (MHz)	Reading (dBuV)	Detector	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Table Degree (Deg.)	Ant. High (cm)
53.3267	16.60	peak	13.97	30.57	40.00	-9.43	155	100
366.2925	21.89	peak	17.66	39.55	46.00	-6.45	325	100

Frequency (MHz)	Reading (dBuV)		Factor (dB)	Result @3m (dBuV/m)		Limit @3m (dBuV/m)		Margin (dB)	Table Degree (Deg.)	Ant. High (cm)
	Peak	Ave.		Peak	Ave.	Peak	Ave.			
4881.7640	48.45	---	0.47	48.92	---	74.00	54.00	-25.08	230	100
7323.0000	41.67	---	3.66	45.33	---	74.00	54.00	-28.67	275	100
9764.0000	34.38	---	8.33	42.71	---	74.00	54.00	-31.29	190	100
12205.0000	32.72	---	13.75	46.47	---	74.00	54.00	-27.53	70	100

Polarization: Vertical

Frequency (MHz)	Reading (dBuV)	Detector	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Table Degree (Deg.)	Ant. High (cm)
49.4388	22.20	peak	14.25	36.45	40.00	-3.55	30	100
368.2364	16.63	peak	17.73	34.36	46.00	-11.64	110	100

Frequency (MHz)	Reading (dBuV)		Factor (dB)	Result @3m (dBuV/m)		Limit @3m (dBuV/m)		Margin (dB)	Table Degree (Deg.)	Ant. High (cm)
	Peak	Ave.		Peak	Ave.	Peak	Ave.			
4881.7640	50.11	---	0.47	50.58	---	74.00	54.00	-23.42	90	100
7323.0000	42.57	---	3.66	46.23	---	74.00	54.00	-27.77	135	100
9764.0000	34.21	---	8.33	42.54	---	74.00	54.00	-31.46	280	100
12205.0000	33.63	---	13.75	47.38	---	74.00	54.00	-26.62	145	100

Mode: BT2.0 TX\_2480 MHz

Polarization: Horizontal

Frequency (MHz)	Reading (dBuV)	Detector	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Table Degree (Deg.)	Ant. High (cm)
53.3267	17.42	peak	13.97	31.39	40.00	-8.61	85	100
366.2925	22.28	peak	17.66	39.94	46.00	-6.06	200	100

Frequency (MHz)	Reading (dBuV)		Factor (dB)	Result @3m (dBuV/m)		Limit @3m (dBuV/m)		Margin (dB)	Table Degree (Deg.)	Ant. High (cm)
	Peak	Ave.		Peak	Ave.	Peak	Ave.			
4953.9080	48.28	---	0.84	49.12	---	74.00	54.00	-24.88	35	100
7440.0000	41.70	---	3.93	45.63	---	74.00	54.00	-28.37	180	100
9894.2890	37.54	---	8.53	46.07	---	74.00	54.00	-27.93	110	100
12400.0000	32.55	---	14.46	47.01	---	74.00	54.00	-26.99	50	100



# Worldwide Testing Services(Taiwan) Co., Ltd.

Registration number: W6M21408-14400-C-1

FCC ID: S9HZJRNFY06

Polarization: Vertical

Frequency (MHz)	Reading (dBuV)	Detector	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Table Degree (Deg.)	Ant. High (cm)
53.3267	24.41	peak	13.97	38.38	40.00	-1.62	175	100
368.2364	16.56	peak	17.73	34.29	46.00	-11.71	60	100

Frequency (MHz)	Reading (dBuV)	Detector	Factor (dB)	Result @3m (dBuV/m)	Limit @3m (dBuV/m)	Margin (dB)	Table Degree (Deg.)	Ant. High (cm)
	Peak	Ave.	Corr.	Peak	Ave.	Peak	Ave.	
4953.9080	47.52	---	0.84	48.36	---	74.00	54.00	-25.64
7440.0000	41.56	---	3.93	45.49	---	74.00	54.00	-28.51
9920.0000	34.15	---	8.50	42.65	---	74.00	54.00	-31.35
12400.0000	31.98	---	14.46	46.44	---	74.00	54.00	-27.56

Mode: BT4.0 TX\_2402 MHz

Polarization: Horizontal

Frequency (MHz)	Reading (dBuV)	Detector	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Table Degree (Deg.)	Ant. High (cm)
53.3267	16.89	peak	13.97	30.86	40.00	-9.14	45	100
366.2925	21.88	peak	17.66	39.54	46.00	-6.46	115	100

Frequency (MHz)	Reading (dBuV)	Detector	Factor (dB)	Result @3m (dBuV/m)	Limit @3m (dBuV/m)	Margin (dB)	Table Degree (Deg.)	Ant. High (cm)
	Peak	Ave.	Corr.	Peak	Ave.	Peak	Ave.	
4804.0000	43.19	---	0.28	43.47	---	74.00	54.00	-30.53
7206.0000	41.93	---	3.85	45.78	---	74.00	54.00	-28.22
9608.0000	34.27	---	7.93	42.20	---	74.00	54.00	-31.80
12010.0000	33.55	---	12.65	46.20	---	74.00	54.00	-27.80

Polarization: Vertical

Frequency (MHz)	Reading (dBuV)	Detector	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Table Degree (Deg.)	Ant. High (cm)
51.3828	22.14	peak	14.14	36.28	40.00	-3.72	250	100
368.2364	16.71	peak	17.73	34.44	46.00	-11.56	100	100

Frequency (MHz)	Reading (dBuV)	Detector	Factor (dB)	Result @3m (dBuV/m)	Limit @3m (dBuV/m)	Margin (dB)	Table Degree (Deg.)	Ant. High (cm)
	Peak	Ave.	Corr.	Peak	Ave.	Peak	Ave.	
4801.6030	45.21	---	0.27	45.48	---	74.00	54.00	-28.52
7206.0000	41.95	---	3.85	45.80	---	74.00	54.00	-28.20
9608.0000	35.32	---	7.93	43.25	---	74.00	54.00	-30.75
12010.0000	33.32	---	12.65	45.97	---	74.00	54.00	-28.03



# Worldwide Testing Services(Taiwan) Co., Ltd.

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FCC ID: S9HZJRNFY06

Mode: BT4.0 TX\_2440MHz

Polarization: Horizontal

Frequency (MHz)	Reading (dBuV)	Detector	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Table Degree (Deg.)	Ant. High (cm)
51.3828	16.59	peak	14.14	30.73	40.00	-9.27	220	100
368.2364	22.09	peak	17.73	39.82	46.00	-6.18	285	100

Frequency (MHz)	Reading (dBuV)		Factor (dB) Corr.	Result @3m (dBuV/m)		Limit @3m (dBuV/m)		Margin (dB)	Table Degree (Deg.)	Ant. High (cm)
	Peak	Ave.		Peak	Ave.	Peak	Ave.			
4873.7480	45.94	---	0.45	46.39	---	74.00	54.00	-27.61	65	100
7320.0000	41.26	---	3.65	44.91	---	74.00	54.00	-29.09	155	100
9760.0000	34.82	---	8.29	43.11	---	74.00	54.00	-30.89	300	100
12200.0000	32.55	---	13.72	46.27	---	74.00	54.00	-27.73	215	100

Polarization: Vertical

Frequency (MHz)	Reading (dBuV)	Detector	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Table Degree (Deg.)	Ant. High (cm)
55.2705	22.30	peak	13.81	36.11	40.00	-3.89	115	100
366.2926	15.60	peak	17.66	33.26	46.00	-12.74	70	100

Frequency (MHz)	Reading (dBuV)		Factor (dB) Corr.	Result @3m (dBuV/m)		Limit @3m (dBuV/m)		Margin (dB)	Table Degree (Deg.)	Ant. High (cm)
	Peak	Ave.		Peak	Ave.	Peak	Ave.			
4873.7480	48.36	---	0.45	48.81	---	74.00	54.00	-25.19	175	100
7320.0000	42.44	---	3.65	46.09	---	74.00	54.00	-27.91	55	100
9760.0000	34.49	---	8.29	42.78	---	74.00	54.00	-31.22	200	100
12200.0000	32.61	---	13.72	46.33	---	74.00	54.00	-27.67	115	100

Mode: BT4.0 TX\_2480MHz

Polarization: Horizontal

Frequency (MHz)	Reading (dBuV)	Detector	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Table Degree (Deg.)	Ant. High (cm)
51.3828	16.31	peak	14.14	30.45	40.00	-9.55	90	100
366.2925	21.97	peak	17.66	39.63	46.00	-6.37	160	100

Frequency (MHz)	Reading (dBuV)		Factor (dB) Corr.	Result @3m (dBuV/m)		Limit @3m (dBuV/m)		Margin (dB)	Table Degree (Deg.)	Ant. High (cm)
	Peak	Ave.		Peak	Ave.	Peak	Ave.			
4953.9080	46.27	---	0.84	47.11	---	74.00	54.00	-26.89	220	100
7440.0000	41.56	---	3.93	45.49	---	74.00	54.00	-28.51	295	100
9920.0000	34.37	---	8.50	42.87	---	74.00	54.00	-31.13	165	100
12400.0000	32.00	---	14.46	46.46	---	74.00	54.00	-27.54	95	100



# Worldwide Testing Services(Taiwan) Co., Ltd.

Registration number: W6M21408-14400-C-1

FCC ID: S9HZJRNFY06

Polarization: Vertical

Frequency (MHz)	Reading (dBuV)	Detector	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Table Degree (Deg.)	Ant. High (cm)
53.6218	15.22	QP	13.95	29.17	40.00	-10.83	150	100
366.2926	17.22	peak	17.66	34.88	46.00	-11.12	25	100

Frequency (MHz)	Reading (dBuV)		Factor (dB)	Result @3m (dBuV/m)		Limit @3m (dBuV/m)		Margin (dB)	Table Degree (Deg.)	Ant. High (cm)
	Peak	Ave.	Corr.	Peak	Ave.	Peak	Ave.			
4953.9080	48.54	---	0.84	49.38	---	74.00	54.00	-24.62	120	100
7440.0000	41.65	---	3.93	45.58	---	74.00	54.00	-28.42	255	100
9920.0000	34.10	---	8.50	42.60	---	74.00	54.00	-31.40	85	100
12400.0000	32.82	---	14.46	47.28	---	74.00	54.00	-26.72	240	100

## 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. Measurement uncertainty for 3m measurement: 30-1000 MHz =  $\pm 3.68$  dB, 1-18 GHz =  $\pm 5.37$  dB, 18-40 GHz =  $\pm 3.43$  dB ; Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of  $k = 2$ .
6. Up Line: PK Limit Line, Down Line: Ave Limit Line.
7. See attached diagrams in appendix.

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

Test equipment used: ETSTW-RE 004, ETSTW-RE 030, ETSTW-RE 042,  
ETSTW-RE 043, ETSTW-RE 044

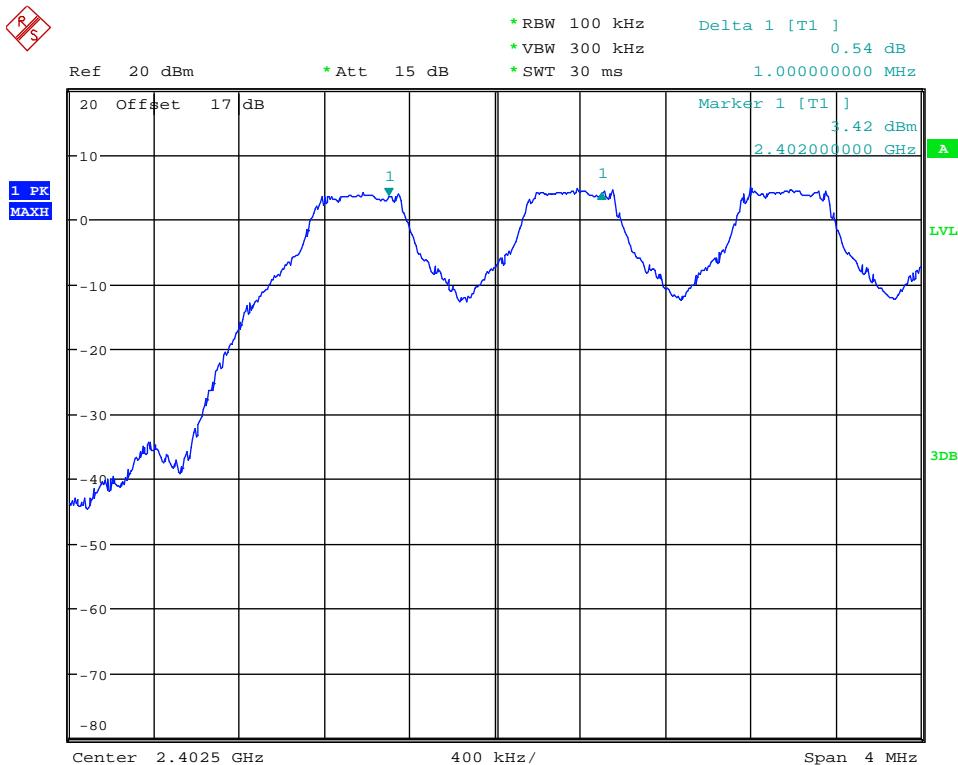
Registration number: W6M21408-14400-C-1  
 FCC ID: S9HZJRNFY06

### 3.6 Carrier Frequency Separation

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

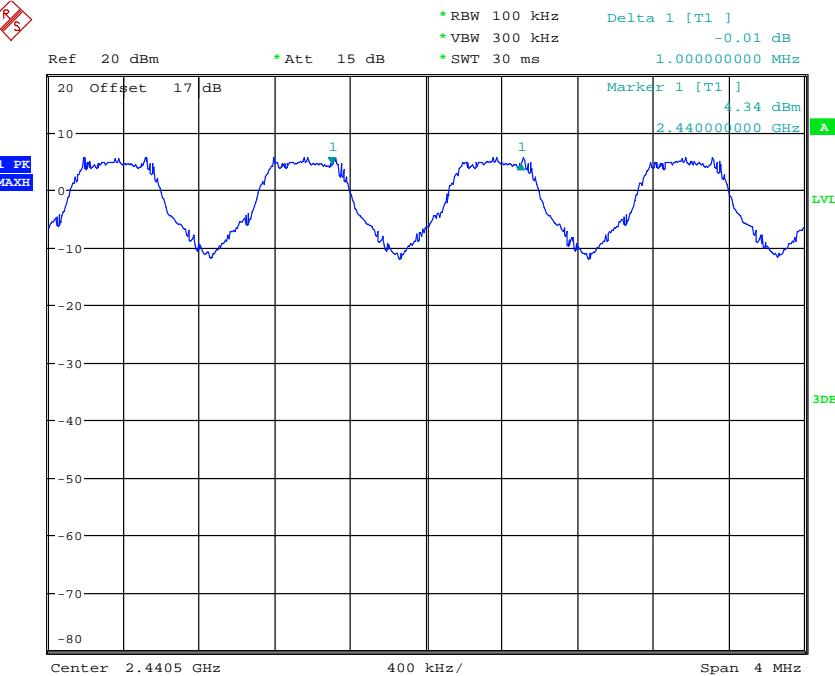
According to FCC rules part 15 subpart C §15.247 frequency hopping systems shall have hopping channel carrier frequencies separated by a minimum of 25 kHz or 20 dB bandwidth of the hopping channel, whichever is greater.

Bluetooth 2.0

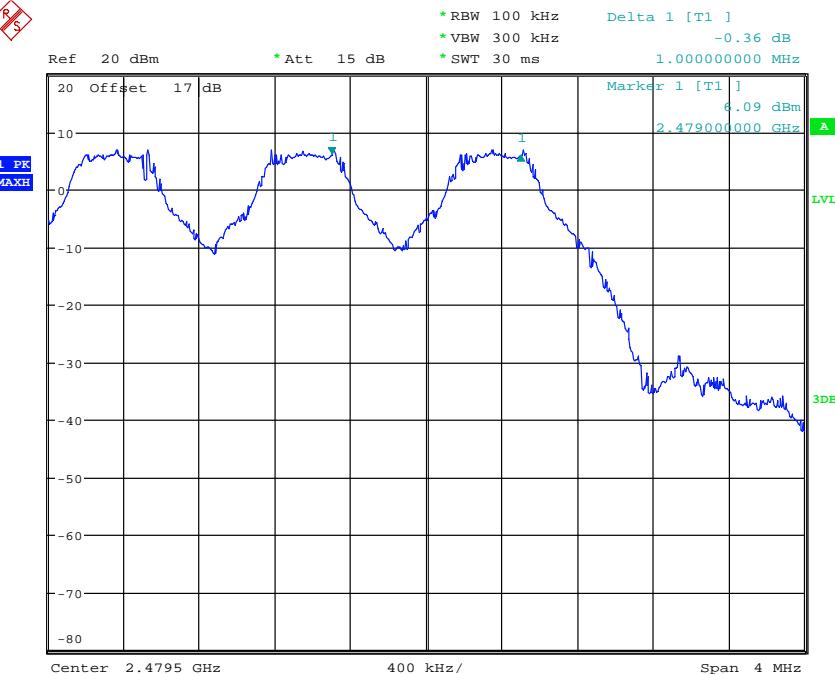


FREQUENCY SEPARATION CH0  
 Date: 22.AUG.2014 09:38:16

Registration number: W6M21408-14400-C-1  
 FCC ID: S9HZJRNFY06



FREQUENCY SEPARATION CH39  
 Date: 22.AUG.2014 09:39:00



FREQUENCY SEPARATION CH78  
 Date: 22.AUG.2014 09:39:48



# Worldwide Testing Services(Taiwan) Co., Ltd.

Registration number: W6M21408-14400-C-1  
FCC ID: S9HZJRNFY06

## Limits:

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

Test equipment used: ETSTW-RE 055, ETSTW-RE 064

Registration number: W6M21408-14400-C-1

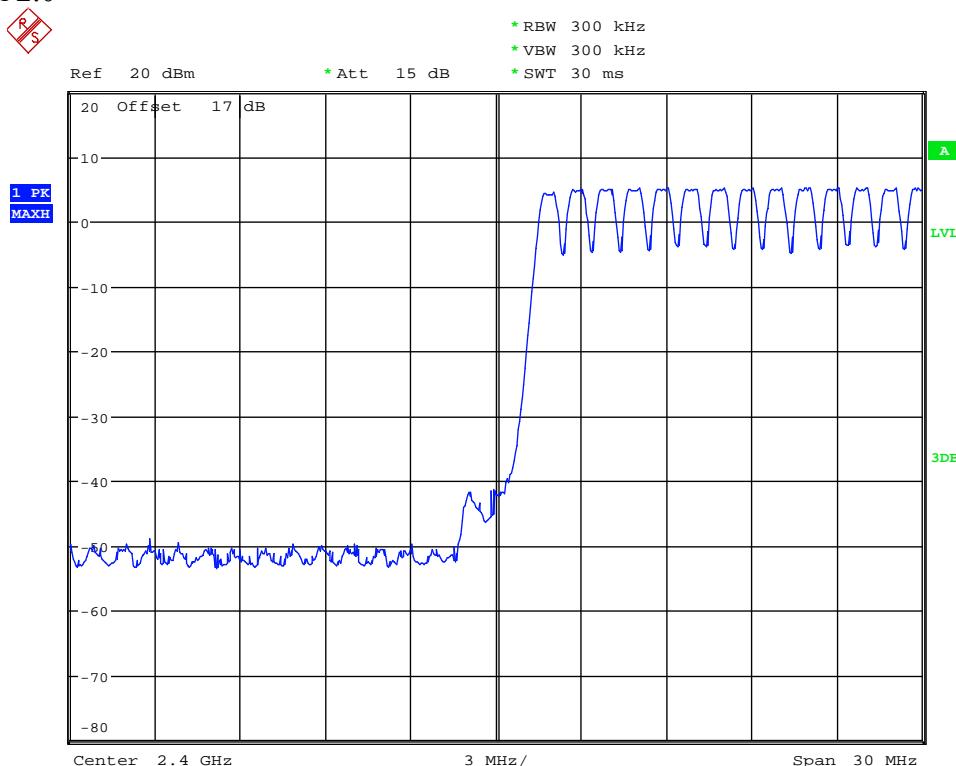
FCC ID: S9HZJRNFY06

### 3.7 Number of Hopping Frequencies

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

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

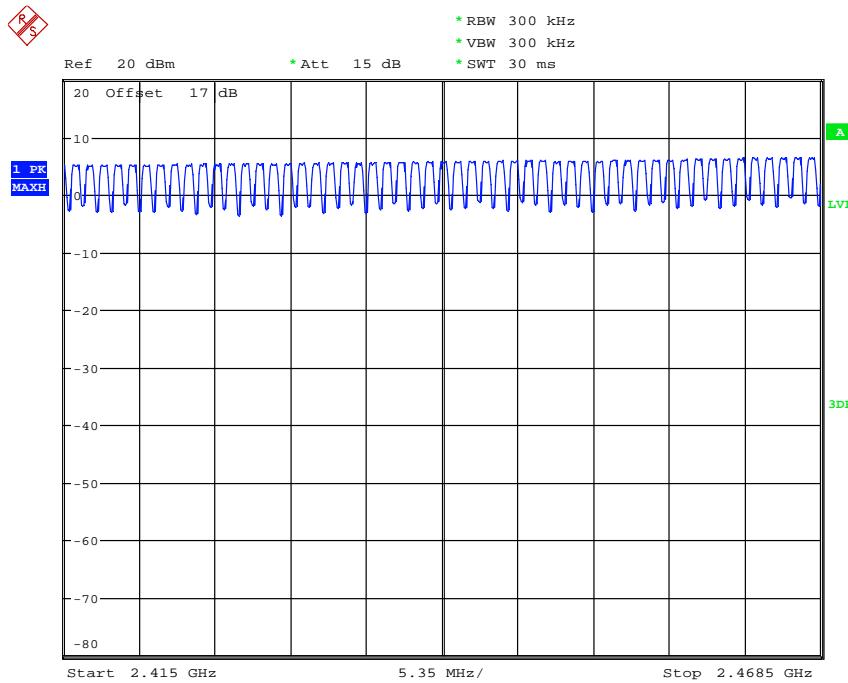
#### Bluetooth 2.0



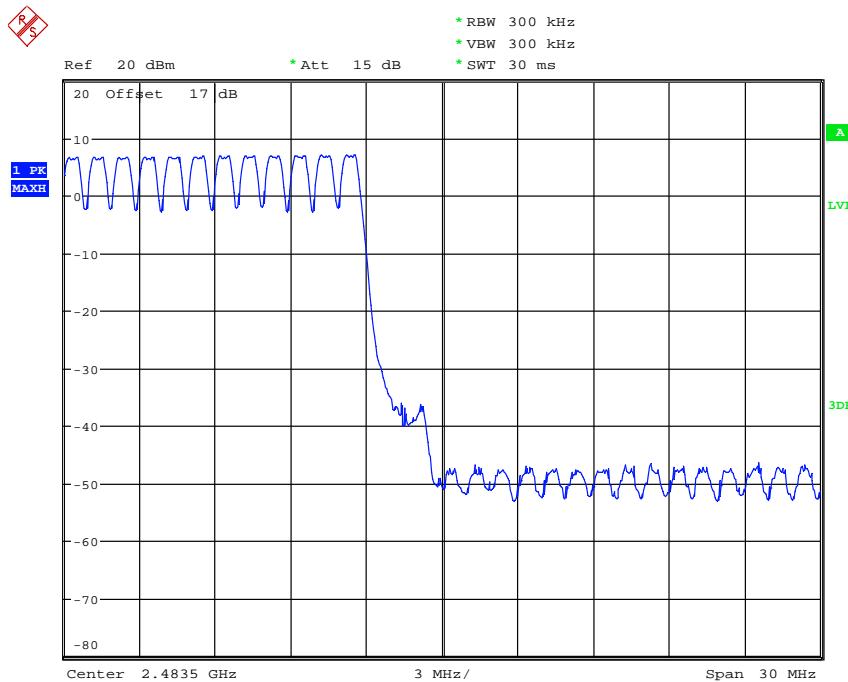
NUMBER OF HOPPING CH0-13

Date: 22.AUG.2014 09:35:36

Registration number: W6M21408-14400-C-1  
 FCC ID: S9HZJRNFY06



NUMBER OF HOPPING CH14-66  
 Date: 22.AUG.2014 09:37:24



NUMBER OF HOPPING CH67-78  
 Date: 22.AUG.2014 09:36:16



# Worldwide Testing Services(Taiwan) Co., Ltd.

Registration number: W6M21408-14400-C-1  
FCC ID: S9HZJRNFY06

## Limits:

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

Test equipment used: ETSTW-RE 055, ETSTW-RE 064

### **3.7.1 Pseudorandom Frequency Hopping Sequence**

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

### **3.7.2 Coordination of hopping sequences to other transmitters**

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

### **3.7.3 System Receiver Hopping Capability**

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

Registration number: W6M21408-14400-C-1

FCC ID: S9HZJRNFY06

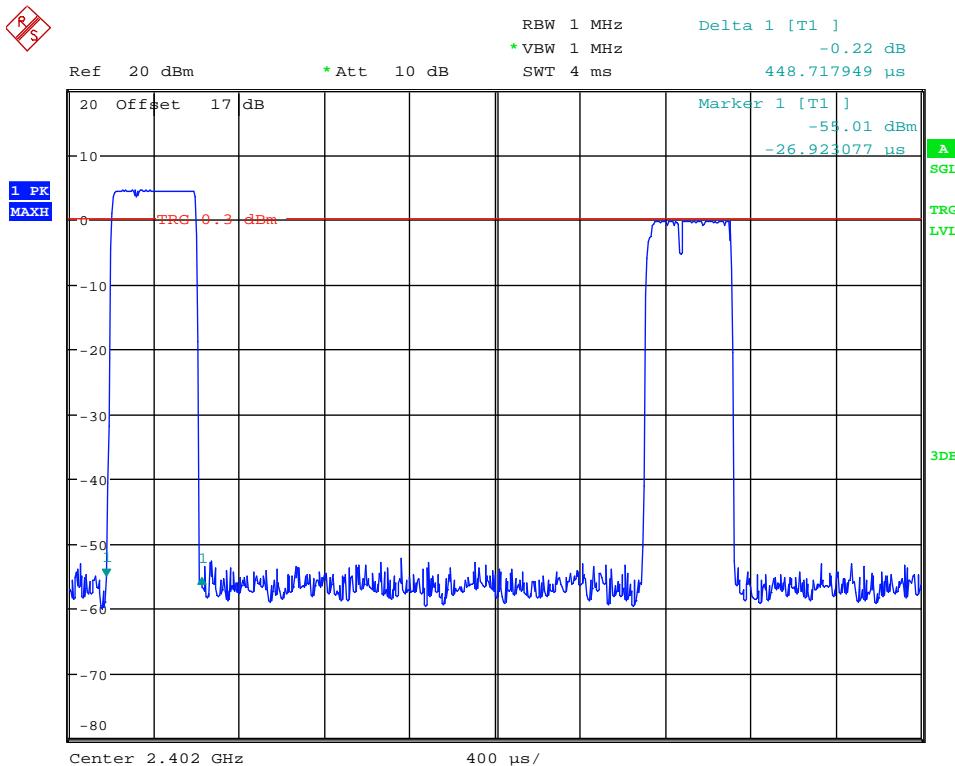
### 3.8 Time of Occupancy (Dwell Time)

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

In 2400-2483.5 MHz band the average time of occupancy on any channel shall not be greater than 0.4 seconds multiplied by the number of hopping channels employed.

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

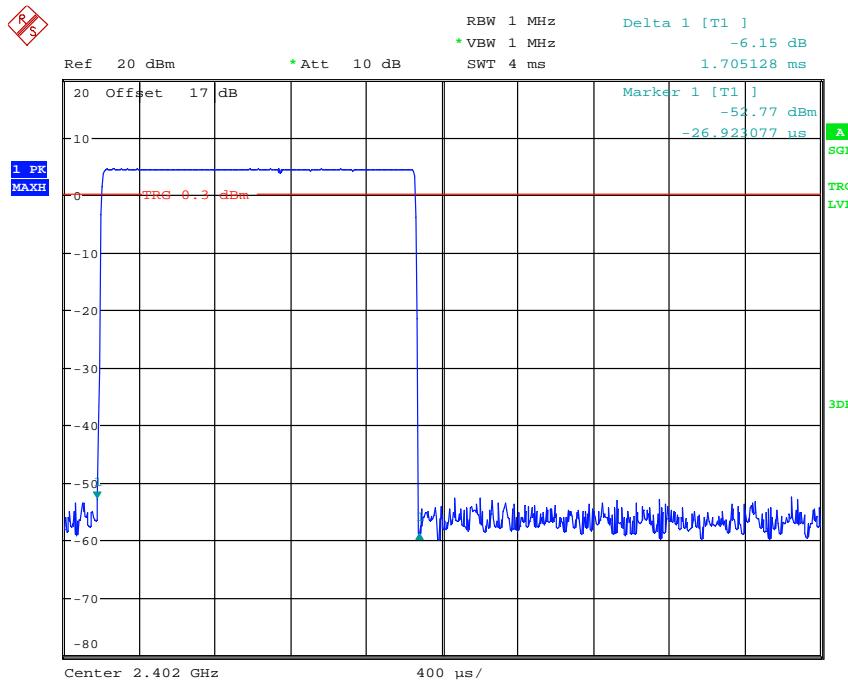
Bluetooth 2.0



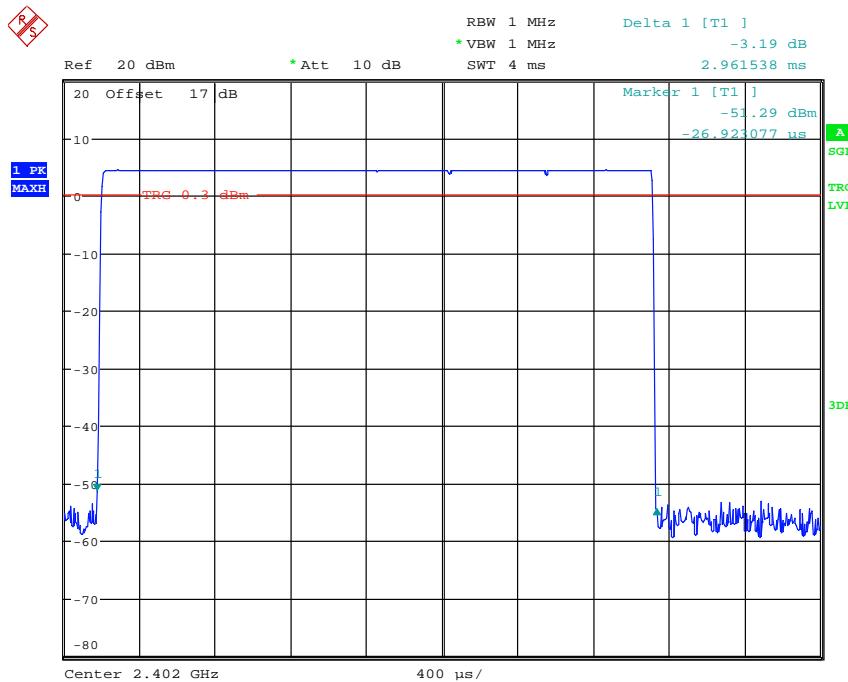
DWELL TIME CH0 DH1(0.449ms \* 320events =143.68ms)

Date: 22.AUG.2014 10:16:21

Registration number: W6M21408-14400-C-1  
 FCC ID: S9HZJRNFY06

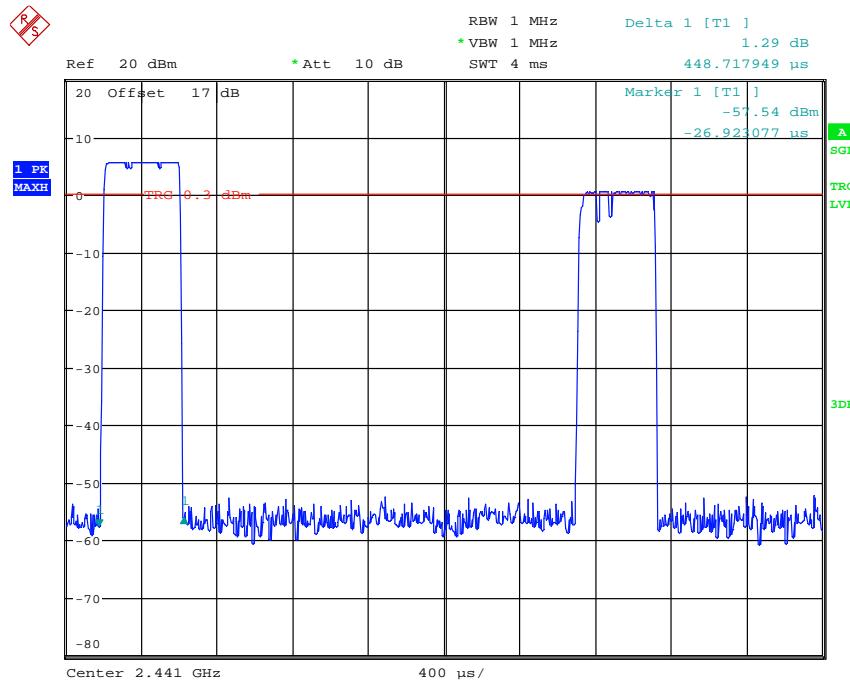


DWELL TIME CH0 DH3(1.705ms \* 160events =272.8ms)  
 Date: 22.AUG.2014 10:18:01

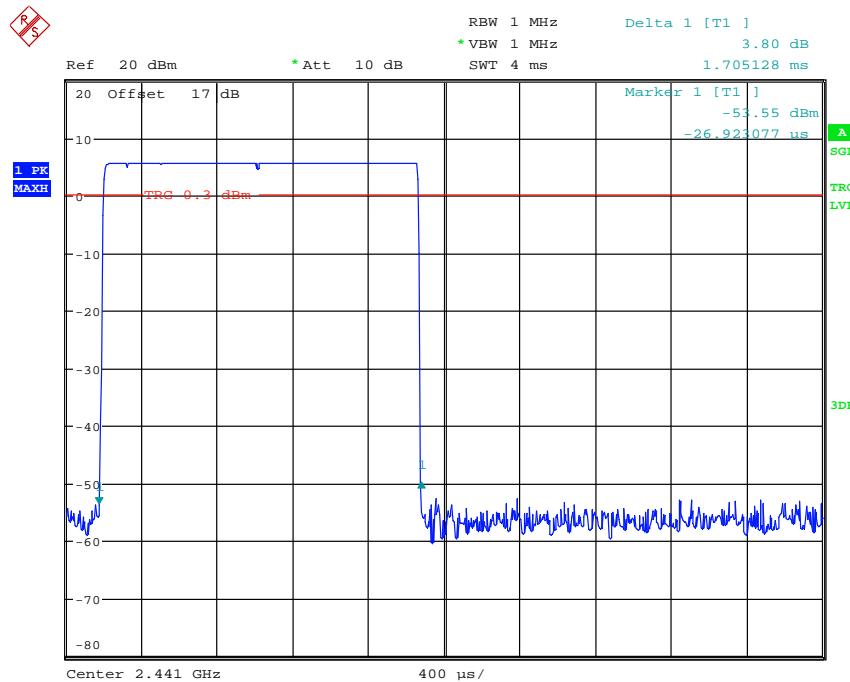


DWELL TIME CH0 DH5(2.962ms \* 106events =313.972ms)  
 Date: 22.AUG.2014 10:21:13

Registration number: W6M21408-14400-C-1  
 FCC ID: S9HZJRNFY06

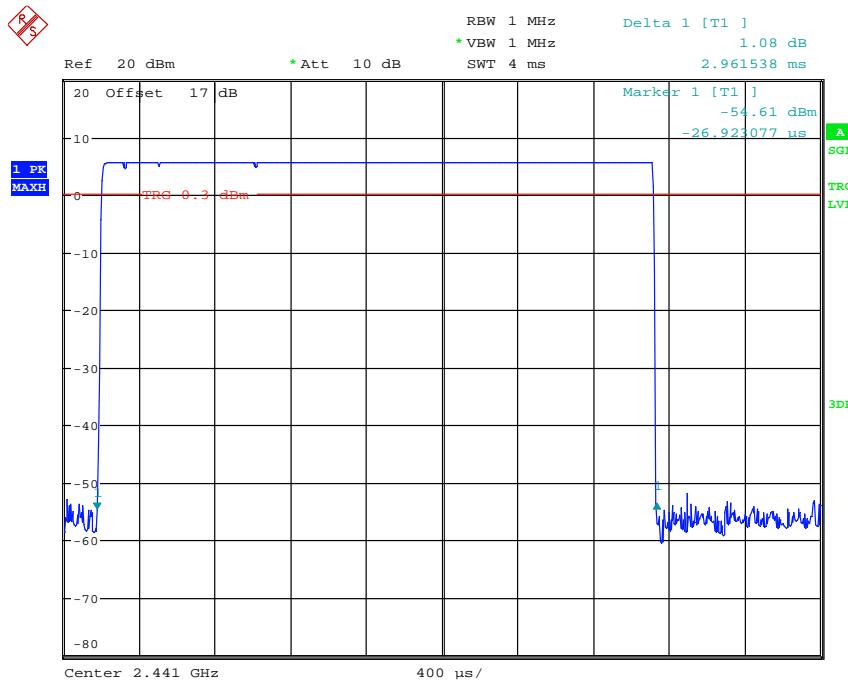


DWELL TIME CH39 DH1(0.449ms \* 320events =143.68ms)  
 Date: 22.AUG.2014 10:16:05

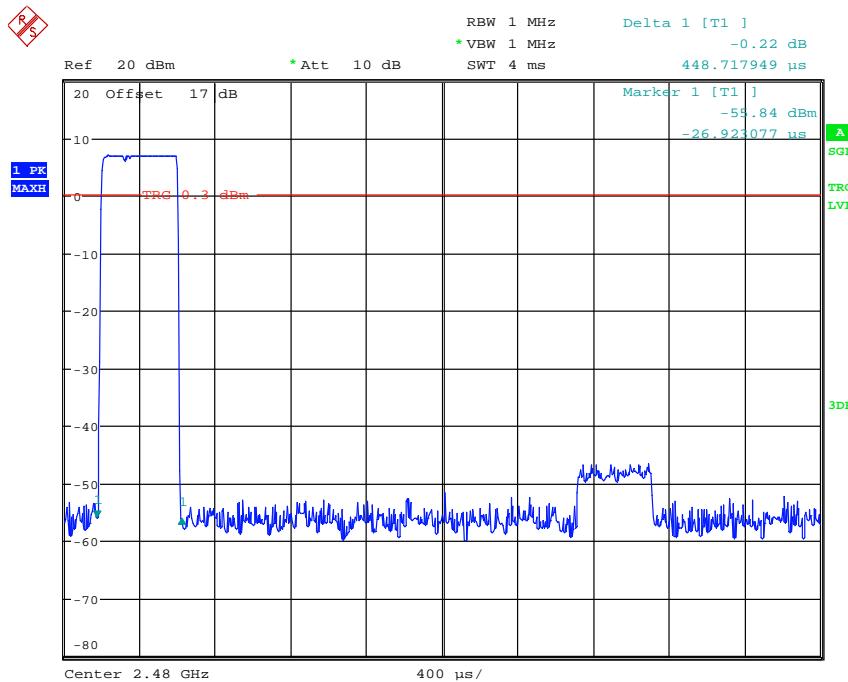


DWELL TIME CH39 DH3(1.705ms \* 160events =272.8ms)  
 Date: 22.AUG.2014 10:18:21

Registration number: W6M21408-14400-C-1  
 FCC ID: S9HZJRNFY06

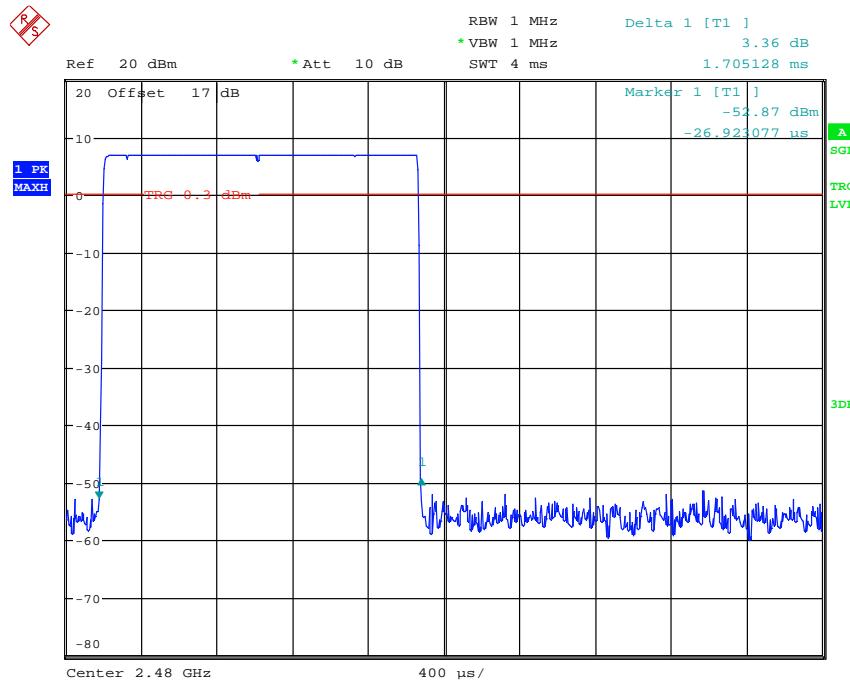


DWELL TIME CH39 DH5(2.962ms \* 106events =313.972ms)  
 Date: 22.AUG.2014 10:20:51

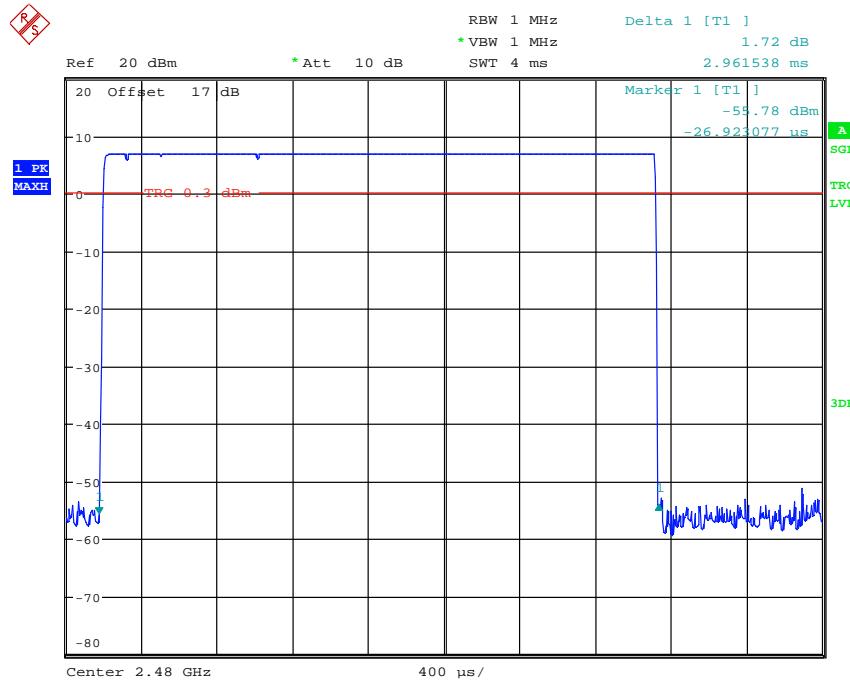


DWELL TIME CH78 DH1(0.449ms \* 320events =143.68ms)  
 Date: 22.AUG.2014 10:15:42

Registration number: W6M21408-14400-C-1  
 FCC ID: S9HZJRNFY06



DWELL TIME CH78 DH3(1.705ms \* 160events =272.8ms)  
 Date: 22.AUG.2014 10:18:43



DWELL TIME CH78 DH5(2.962ms \* 106events =313.972ms)  
 Date: 22.AUG.2014 10:20:14



# Worldwide Testing Services(Taiwan) Co., Ltd.

Registration number: W6M21408-14400-C-1  
FCC ID: S9HZJRNFY06

## **Limits and measurement periods:**

Frequency MHz	Number of channels	Measurement Period	Limit
902 – 928	≥50	20 s	0.4 s
	49 ≥ 25	10 s	0.4 s
2400 – 2483.5	≥ 15	0.4 s * number of used channels	0.4 s
5725- 5850	≥ 75	30 s	0.4s

Test equipment used: ETSTW-RE 055, ETSTW-RE 064

Registration number: W6M21408-14400-C-1  
 FCC ID: S9HZJRNFY06

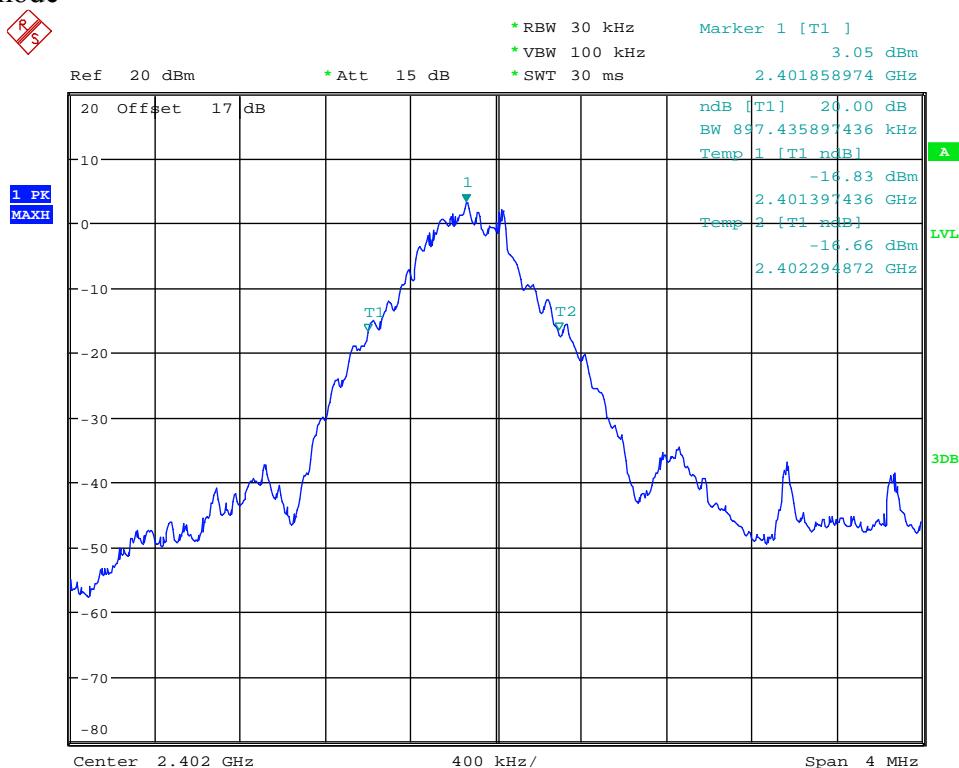
### 3.9 20dB Bandwidth

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

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

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

Bluetooth 2.0  
 Normal mode

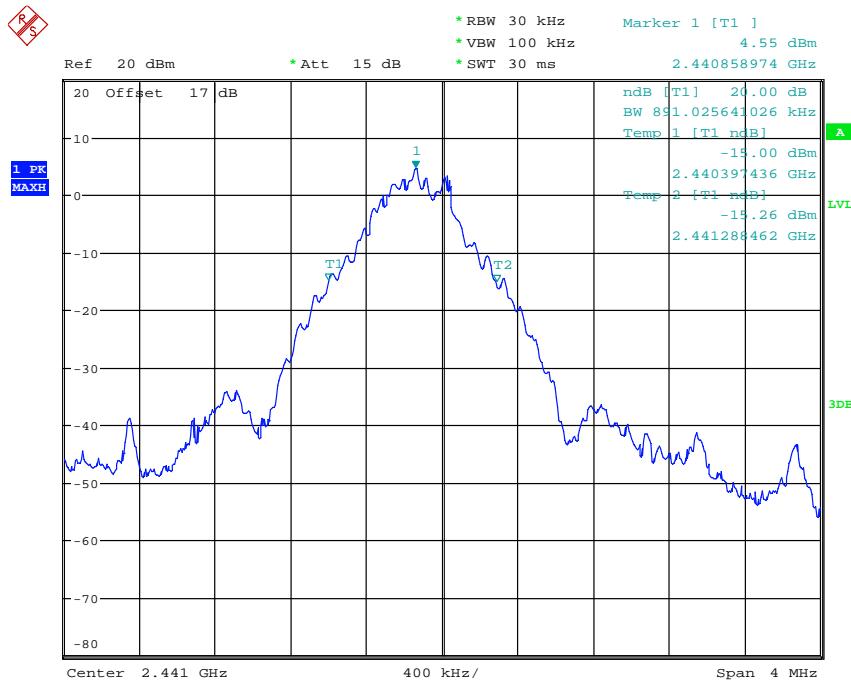


20DB BANDWIDTH CH0  
 Date: 22.AUG.2014 09:33:24

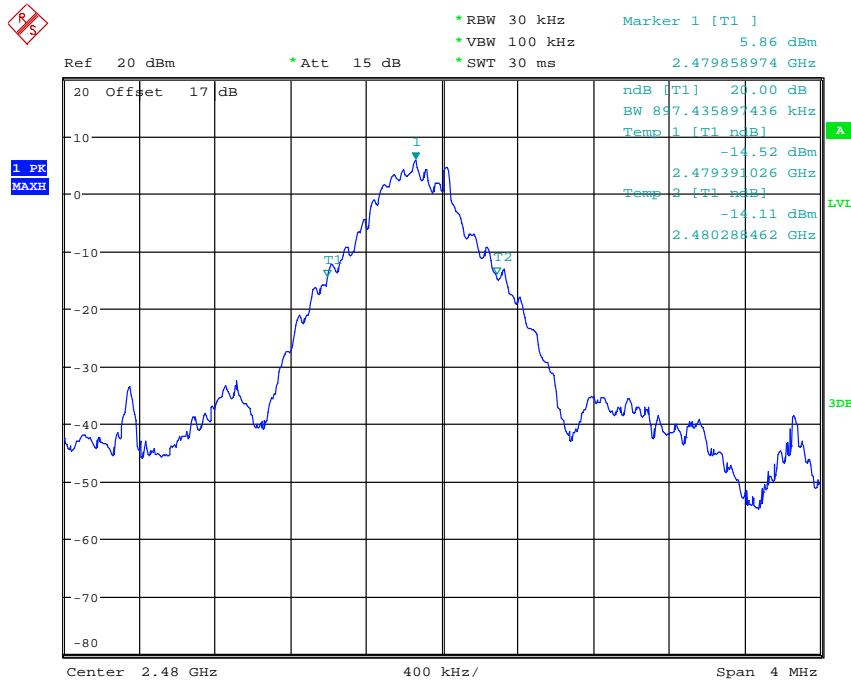


*Worldwide Testing Services(Taiwan) Co., Ltd.*

Registration number: W6M21408-14400-C-1  
FCC ID: S9HZJRNFY06



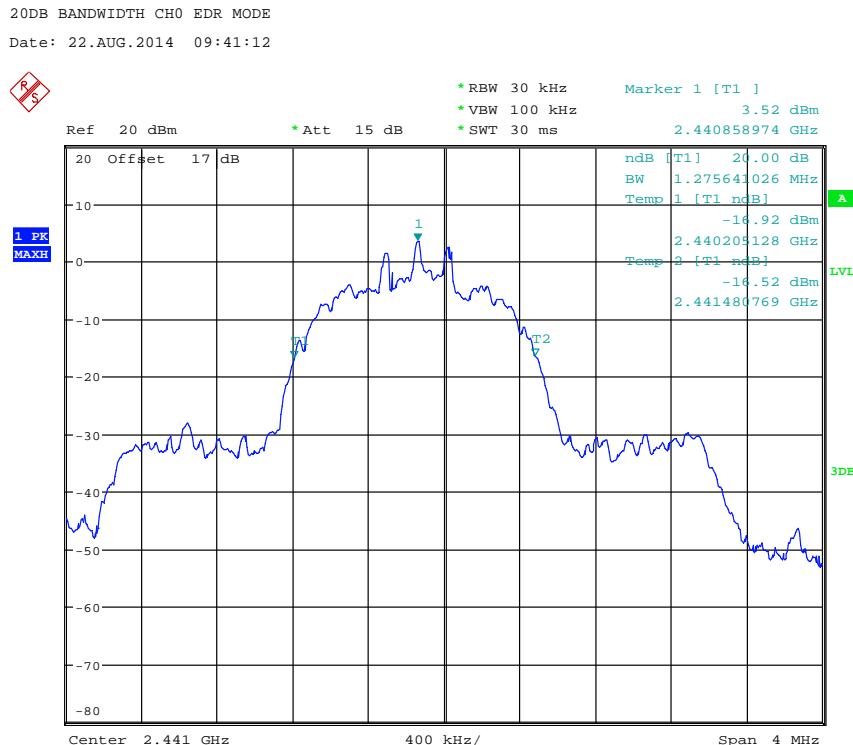
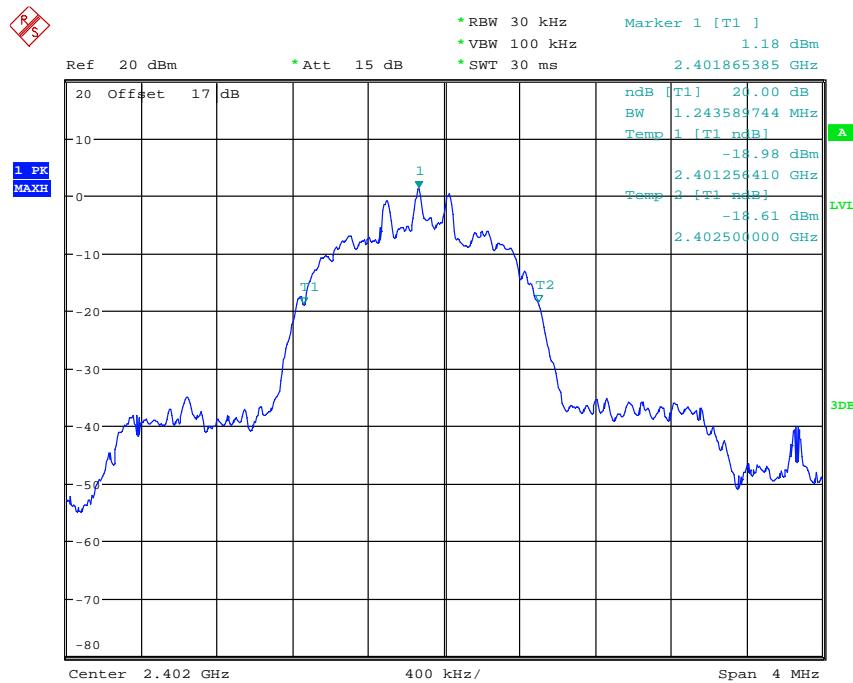
20DB BANDWIDTH CH39



20DB BANDWIDTH CH78

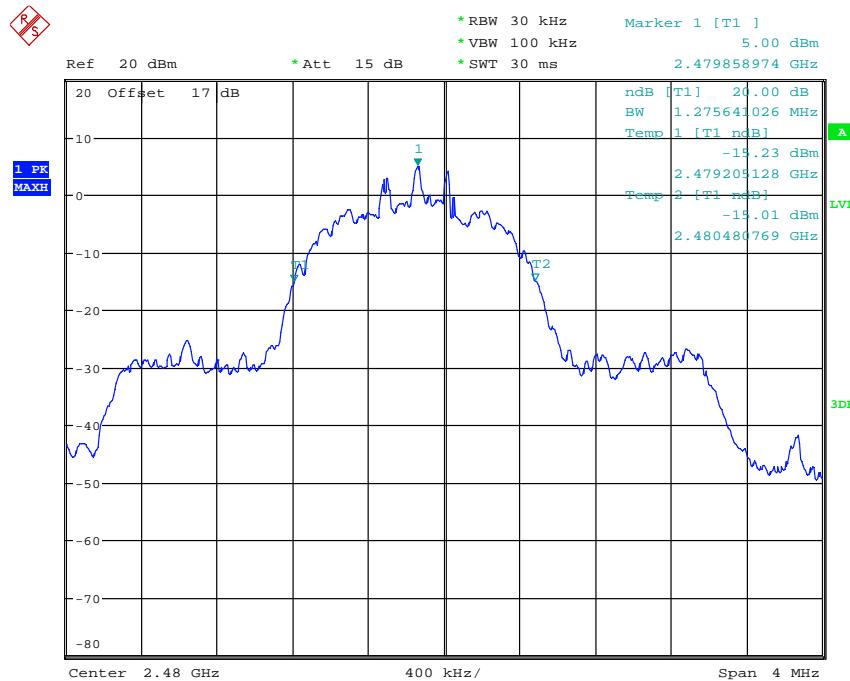
Registration number: W6M21408-14400-C-1  
 FCC ID: S9HZJRNFY06

EDR mode



20DB BANDWIDTH CH39 EDR MODE  
 Date: 22.AUG.2014 09:42:04

Registration number: W6M21408-14400-C-1  
 FCC ID: S9HZJRNFY06



20DB BANDWIDTH CH78 EDR MODE  
 Date: 22.AUG.2014 09:42:32

## Limits:

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

Test equipment used: ETSTW-RE 055, ETSTW-RE 064

### 3.9.1 System Receiver Input Bandwidth

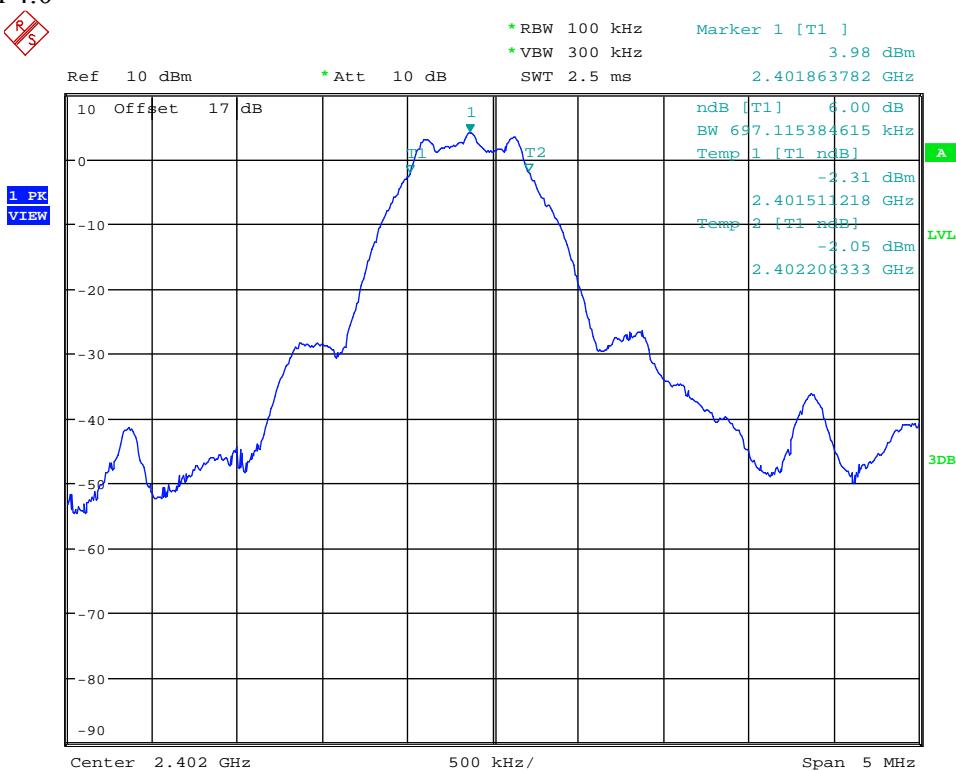
It is determined in the Bluetooth core specification. The value matches to the bandwidth of transmitter signal.

Registration number: W6M21408-14400-C-1  
 FCC ID: S9HZJRNFY06

### 3.10 Minimum 6 dB Bandwidth

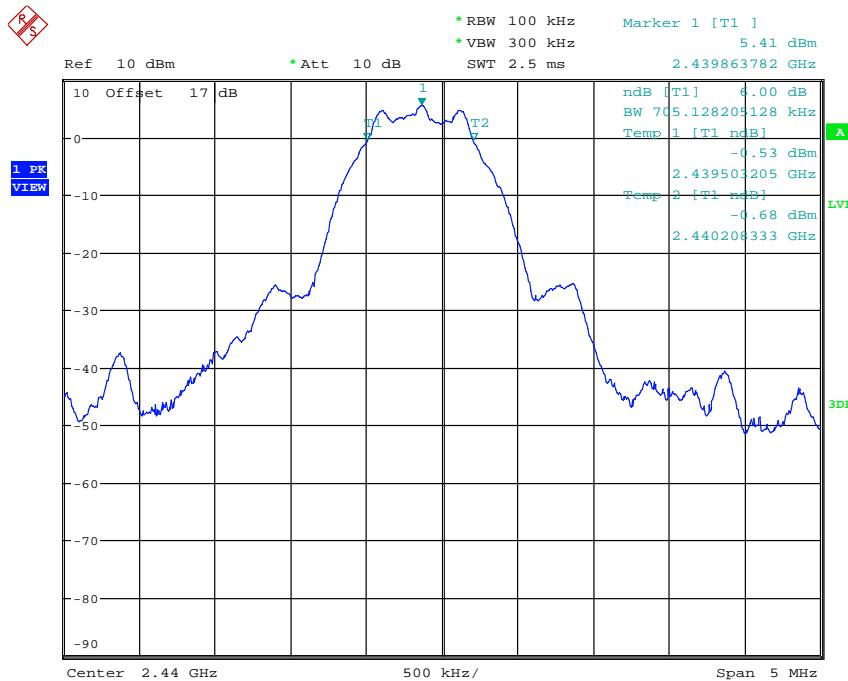
The analyzer ResBW was set to 100 kHz. For each RF output channel investigated, the spectrum analyzer center frequency was set to the channel carrier. A PEAK reading was taken, two markers were set 6 dB below the maximum level on the right and the left side of the emission. The 6 dB bandwidth is the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

Bluetooth 4.0

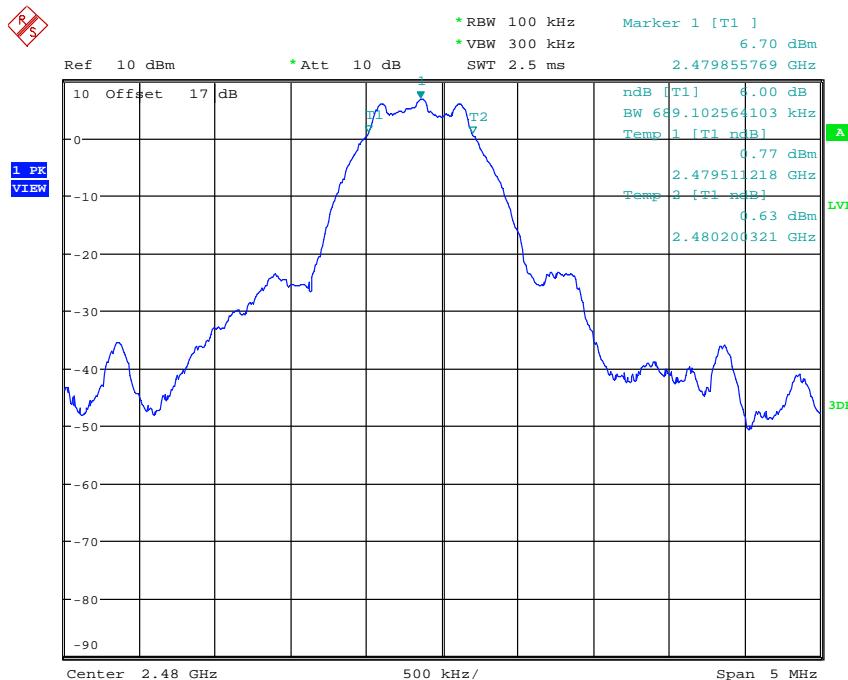


6DB BANDWIDTH BT4.0 CH00  
 Date: 22.AUG.2014 10:06:29

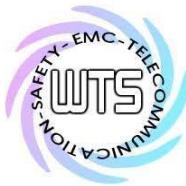
Registration number: W6M21408-14400-C-1  
 FCC ID: S9HZJRNFY06



6DB BANDWIDTH BT4.0 CH19  
 Date: 22.AUG.2014 10:07:25



6DB BANDWIDTH BT4.0 CH39  
 Date: 22.AUG.2014 10:08:11



# Worldwide Testing Services(Taiwan) Co., Ltd.

Registration number: W6M21408-14400-C-1

FCC ID: S9HZJRNFY06

## **Limits:**

Frequency Range MHz	<b>Limits</b>
902-928	min 500 kHz
2400-2483.5	min 500 kHz
5725-5850	min 500 kHz

Test equipment used: ETSTW-RE 055

Registration number: W6M21408-14400-C-1

FCC ID: S9HZJRNFY06

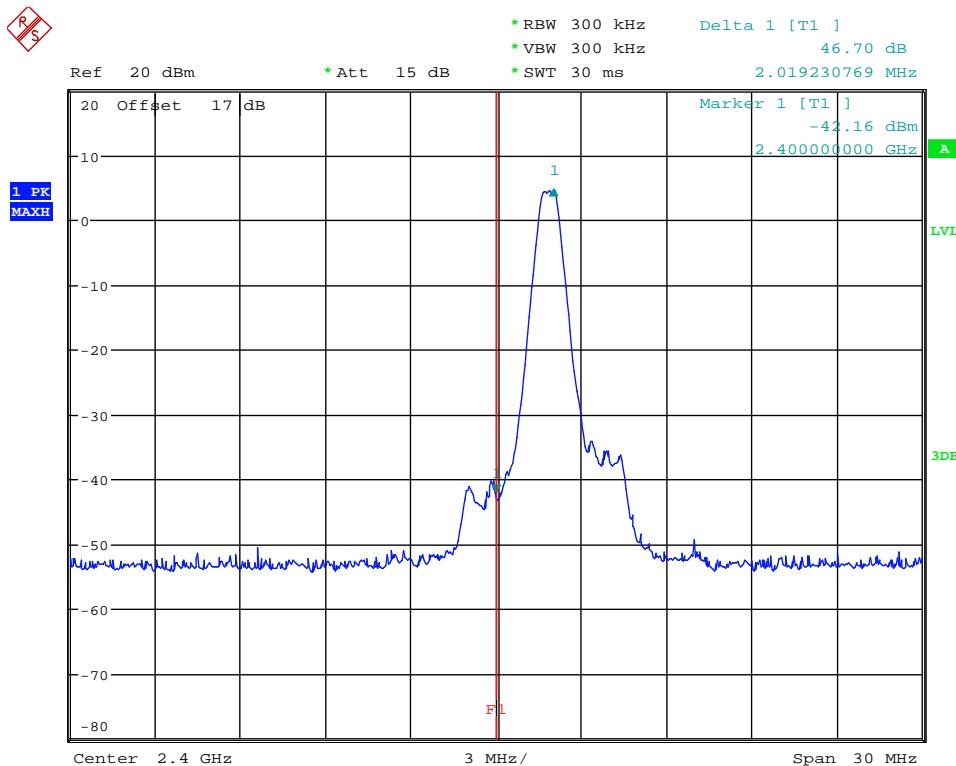
### 3.11 Radiated Emission on the bandedge

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.

Bluetooth 2.0

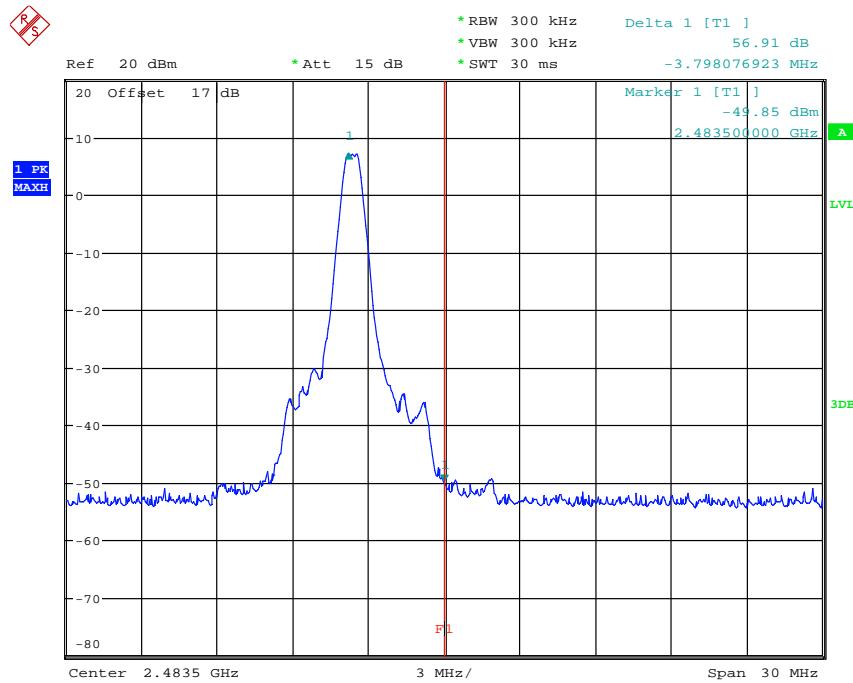
Normal mode



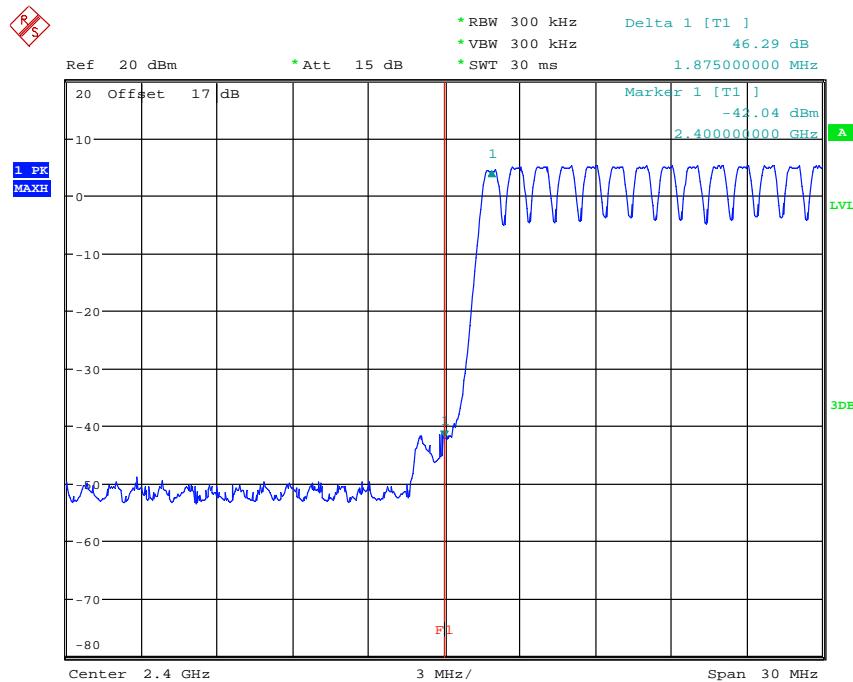
BANDEdge CH0

Date: 22.AUG.2014 09:33:37

Registration number: W6M21408-14400-C-1  
 FCC ID: S9HZJRNFY06



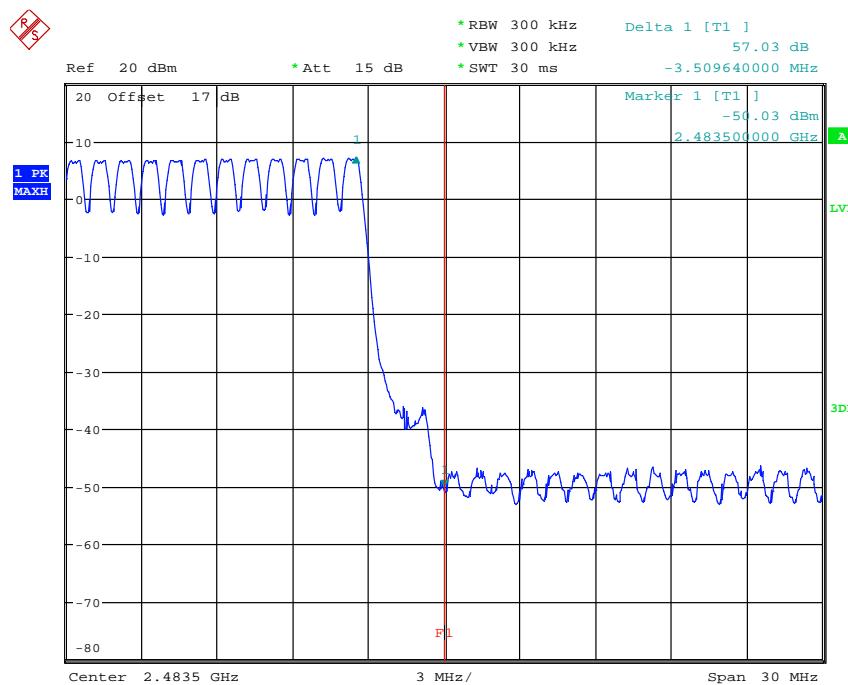
BANDEDGE CH78  
 Date: 22.AUG.2014 09:34:40



BANDEDGE CH0 HOPPING MODE  
 Date: 22.AUG.2014 09:35:37

Registration number: W6M21408-14400-C-1

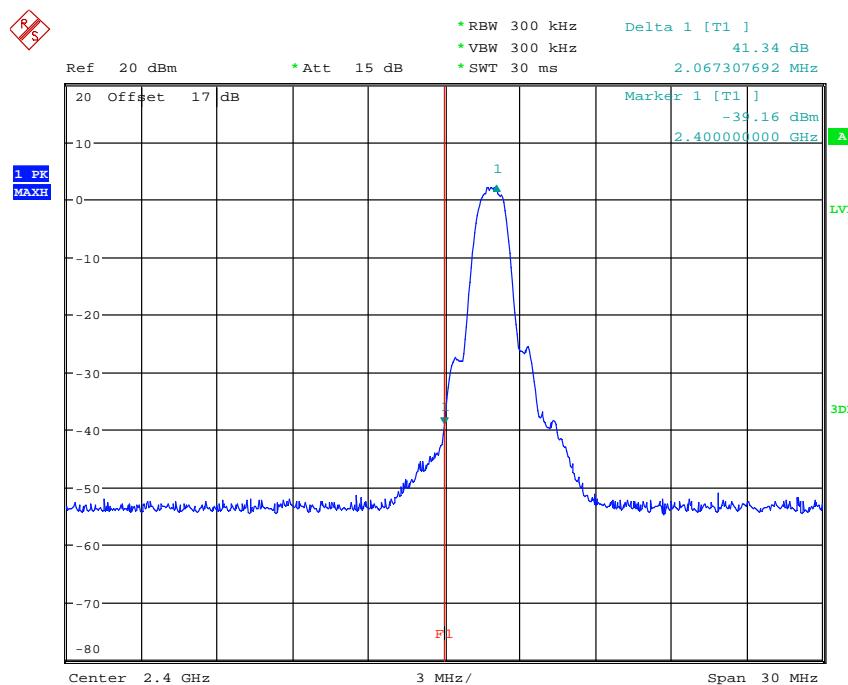
FCC ID: S9HZJRNFY06



BANDEDGE CH78 HOPPING MODE

Date: 22.AUG.2014 09:36:17

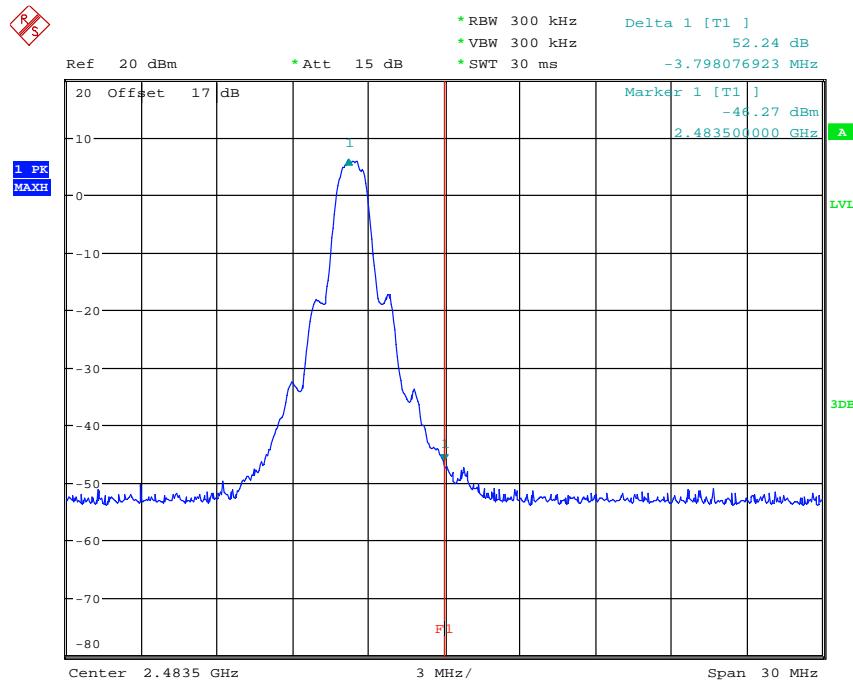
EDR mode



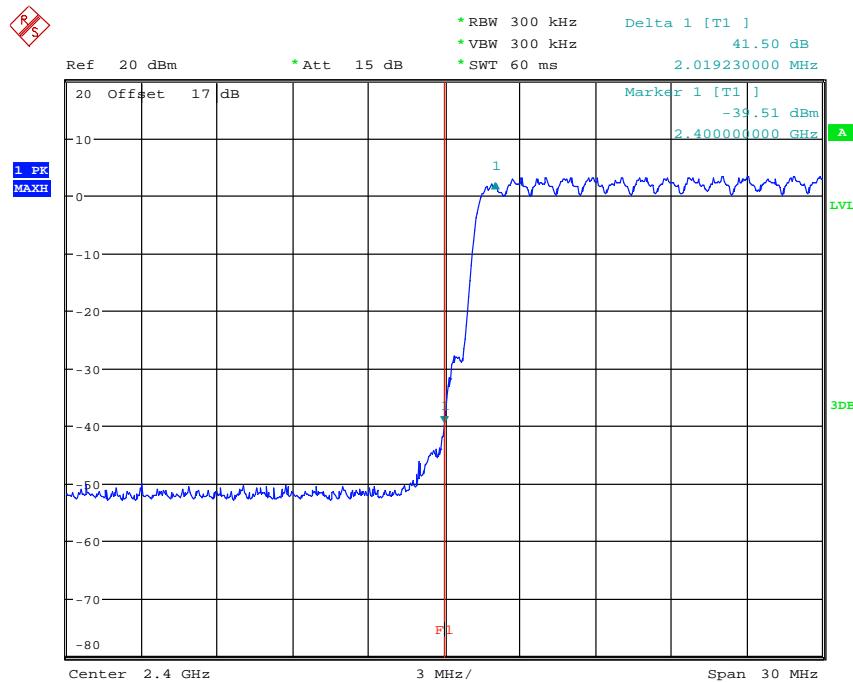
BANDEDGE CH0 EDR MODE

Date: 22.AUG.2014 09:41:20

Registration number: W6M21408-14400-C-1  
 FCC ID: S9HZJRNFY06

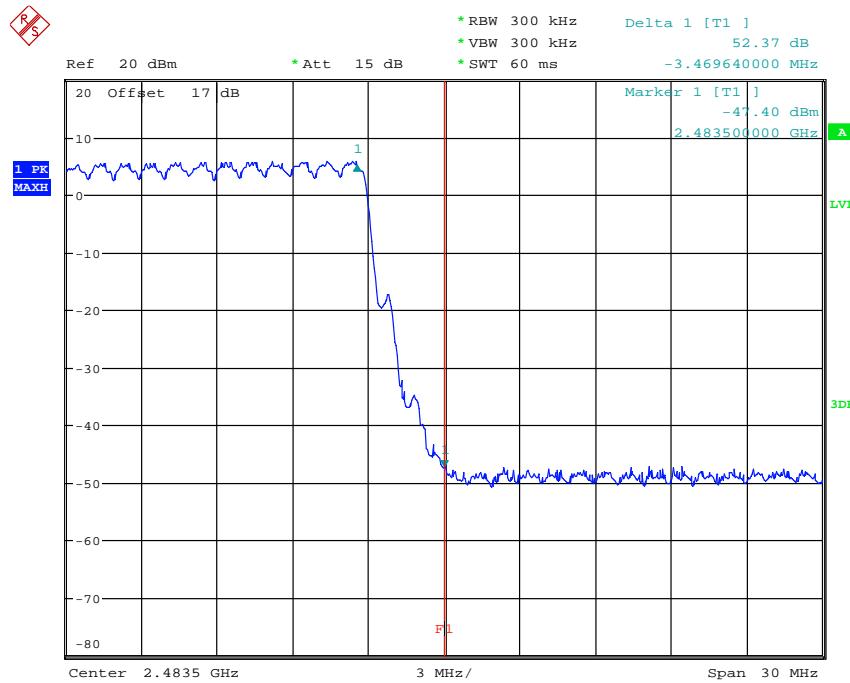


BANDEDGE CH78 EDR MODE  
 Date: 22.AUG.2014 09:42:44



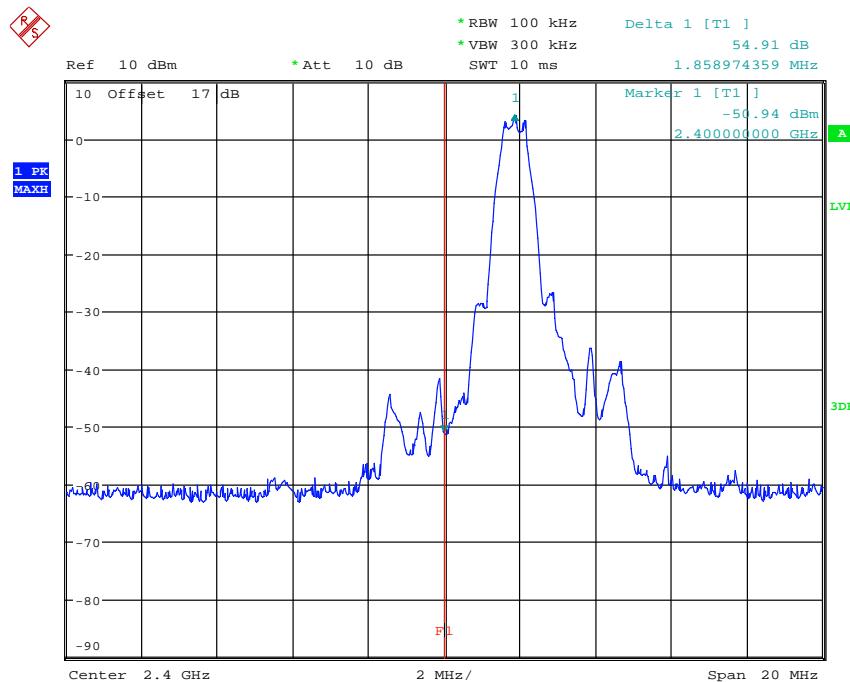
BANDEDGE CH0 EDR HOPPING MODE  
 Date: 22.AUG.2014 10:01:01

Registration number: W6M21408-14400-C-1  
 FCC ID: S9HZJRNFY06



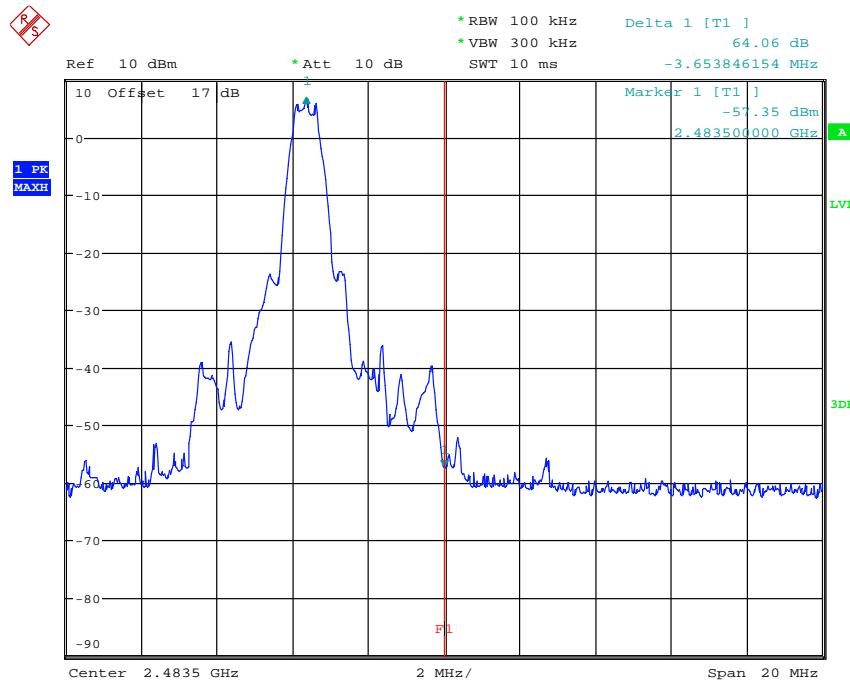
BANDEDGE CH78 EDR HOPPING MODE  
 Date: 22.AUG.2014 10:02:45

## Bluetooth 4.0



BANDEDGE BT4.0 CH00  
 Date: 22.AUG.2014 10:06:49

Registration number: W6M21408-14400-C-1  
 FCC ID: S9HZJRNFY06



BANDEdge BT4.0 CH39  
 Date: 22.AUG.2014 10:08:31

Limit:

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

Test equipment used: ETSTW-RE 055

Registration number: W6M21408-14400-C-1

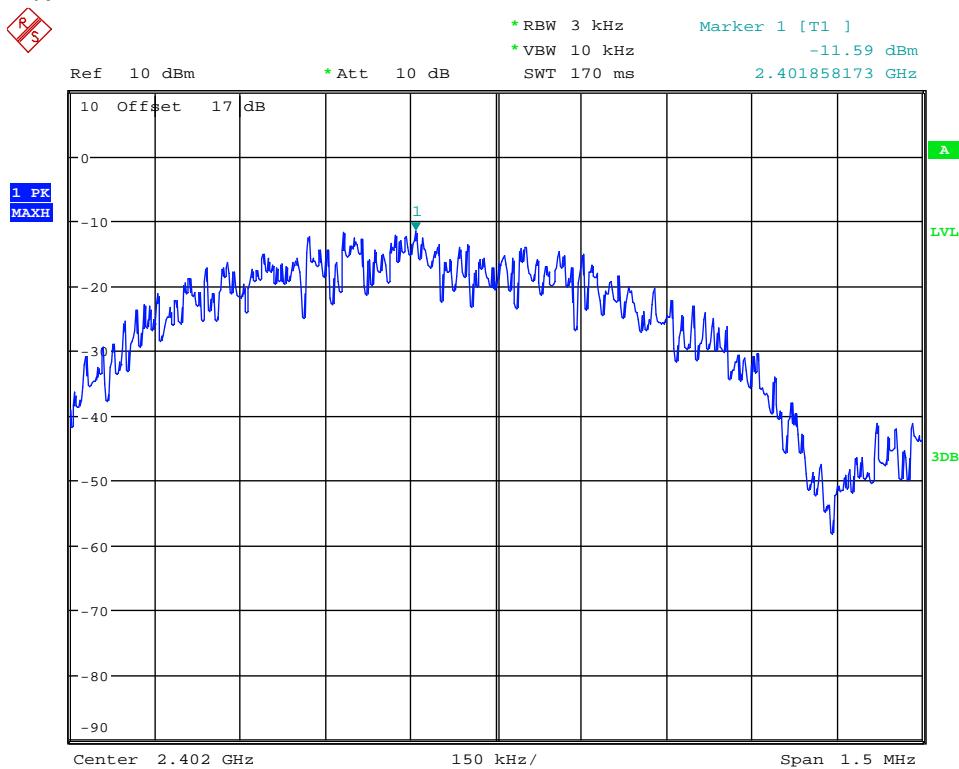
FCC ID: S9HZJRNFY06

## 3.12 Peak Power Spectral Density

Peak Power Spectral density is measured at low, middle and high channel.

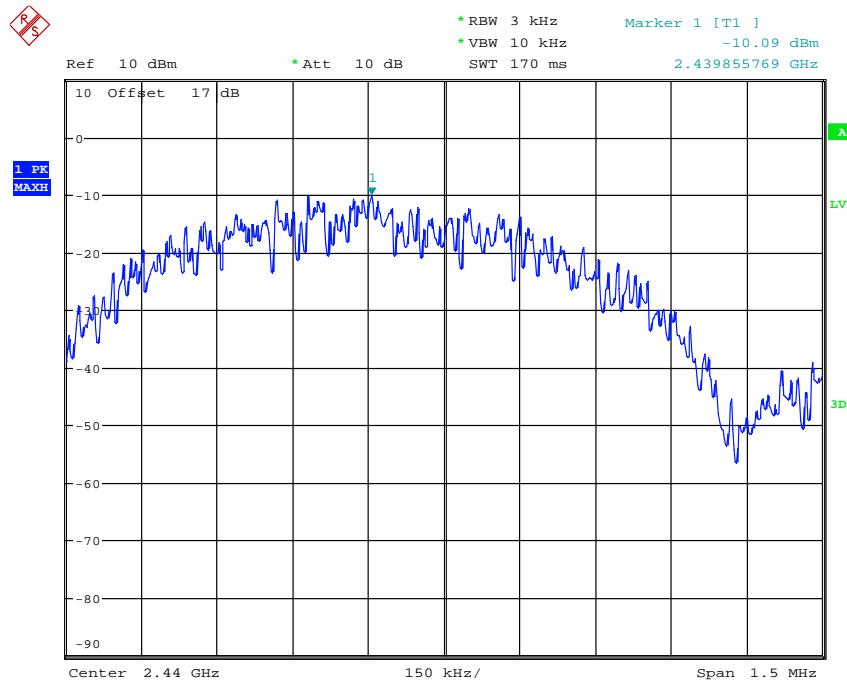
The peak output power is measured with a measurement bandwidth of 10 MHz and displayed on diagram together with Peak Power Spectral Density result which was measured with a bandwidth of 3 kHz, appreciate frequency span and sweep time.

Bluetooth 4.0

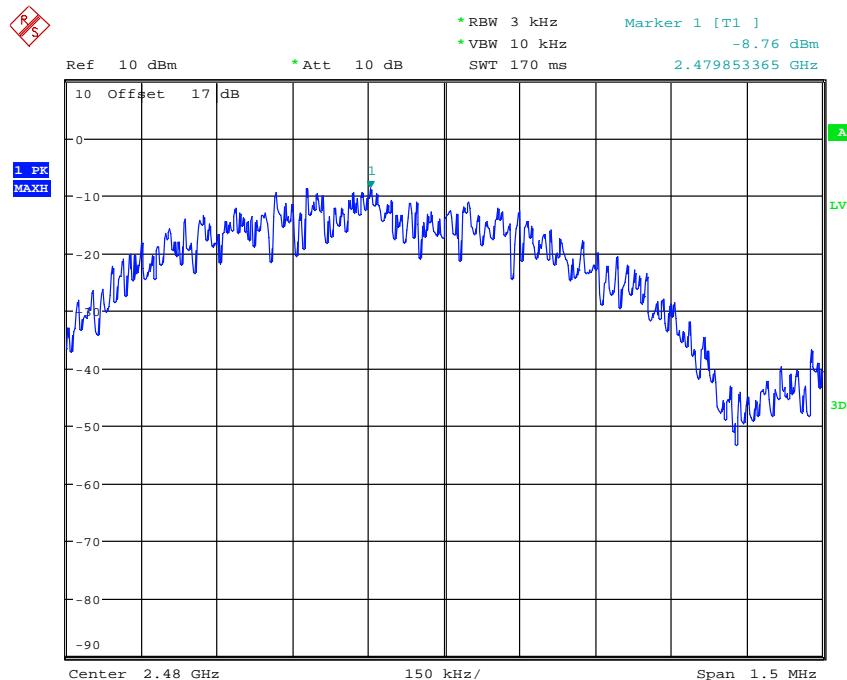


POWER DENSITY BT4.0 CH00  
Date: 22.AUG.2014 10:06:41

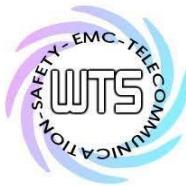
Registration number: W6M21408-14400-C-1  
 FCC ID: S9HZJRNFY06



POWER DENSITY BT4.0 CH19  
 Date: 22.AUG.2014 10:07:37



POWER DENSITY BT4.0 CH39  
 Date: 22.AUG.2014 10:08:23



# Worldwide Testing Services(Taiwan) Co., Ltd.

Registration number: W6M21408-14400-C-1

FCC ID: S9HZJRNFY06

## **Limits:**

Frequency Range MHz	dBm
902-928	8
2400-2483.5	8
5725-5850	8

Test equipment used: ETSTW-RE 055



# Worldwide Testing Services(Taiwan) Co., Ltd.

Registration number: W6M21408-14400-C-1

FCC ID: S9HZJRNFY06

## 3.13 Radiated Emission from Receiver Part

FCC Rule: 15.109

Model: ASL06 Date: 2014/08/28  
Mode: BT2.0 RX\_2402 MHz Temperature: 24 °C Engineer: Roy  
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)
53.3267	17.74	peak	13.97	31.71	40.00	-8.29	185	100
239.9398	17.39	peak	14.16	31.55	46.00	-14.45	275	100
300.2004	15.48	peak	16.00	31.48	46.00	-14.52	140	100
366.2925	21.85	peak	17.66	39.51	46.00	-6.49	30	100

Frequency (MHz)	Reading (dBuV)	Factor (dB)	Result @3m (dBuV/m)	Limit @3m (dBuV/m)	Margin (dB)	Table Degree (Deg.)	Ant. High (cm)			
Peak	Ave.	Corr.	Peak Ave.	Peak Ave.						
4464.9300	43.11	---	-0.31	42.80	---	74.00	54.00	-31.20	125	100
6555.1100	40.29	---	3.91	44.20	---	74.00	54.00	-29.80	230	100

Polarization: Vertical

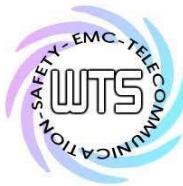
Frequency (MHz)	Reading (dBuV)	Detector	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Table Degree (Deg.)	Ant. High (cm)
51.3828	24.54	peak	14.14	38.68	40.00	-1.32	165	100
57.2144	23.37	peak	13.64	37.01	40.00	-2.99	55	100
366.2926	16.15	peak	17.66	33.81	46.00	-12.19	120	100
636.4930	8.98	peak	23.48	32.46	46.00	-13.54	305	100

Frequency (MHz)	Reading (dBuV)	Factor (dB)	Result @3m (dBuV/m)	Limit @3m (dBuV/m)	Margin (dB)	Table Degree (Deg.)	Ant. High (cm)			
Peak	Ave.	Corr.	Peak Ave.	Peak Ave.						
4128.2570	42.89	---	-1.07	41.82	---	74.00	54.00	-32.18	65	100
6442.8860	41.16	---	3.65	44.81	---	74.00	54.00	-29.19	140	100

Mode: BT2.0 RX\_2441 MHz

Polarization: Horizontal

Frequency (MHz)	Reading (dBuV)	Detector	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Table Degree (Deg.)	Ant. High (cm)
59.1582	16.83	peak	13.47	30.30	40.00	-9.70	100	100
300.2004	15.48	peak	16.00	31.48	46.00	-14.52	295	100
366.2925	21.69	peak	17.66	39.35	46.00	-6.65	175	100
432.3847	9.70	peak	19.70	29.40	46.00	-16.60	240	100



# Worldwide Testing Services(Taiwan) Co., Ltd.

Registration number: W6M21408-14400-C-1  
FCC ID: S9HZJRNFY06

Frequency (MHz)	Reading (dBuV) Peak Ave.		Factor (dB) Corr.	Result @3m (dBuV/m) Peak Ave.		Limit @3m (dBuV/m) Peak Ave.		Margin (dB)	Table Degree (Deg.)	Ant. High (cm)
4787.5750	42.40	---	0.20	42.60	---	74.00	54.00	-31.40	70	100
6653.3060	40.39	---	4.01	44.40	---	74.00	54.00	-29.60	255	100

Polarization: Vertical

Frequency (MHz)	Reading (dBuV)	Detector	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Table Degree (Deg.)	Ant. High (cm)
51.3828	23.11	peak	14.14	37.25	40.00	-2.75	265	100
300.2004	14.31	peak	16.00	30.31	46.00	-15.69	130	100
366.2926	17.20	peak	17.66	34.86	46.00	-11.14	170	100
434.3287	10.91	peak	19.77	30.68	46.00	-15.32	220	100

Frequency (MHz)	Reading (dBuV) Peak Ave.		Factor (dB) Corr.	Result @3m (dBuV/m) Peak Ave.		Limit @3m (dBuV/m) Peak Ave.		Margin (dB)	Table Degree (Deg.)	Ant. High (cm)
5306.6130	40.92	---	2.33	43.25	---	74.00	54.00	-30.75	240	100
7102.2040	40.98	---	4.08	45.06	---	74.00	54.00	-28.94	115	100

Mode: BT2.0 RX\_2480 MHz

Polarization: Horizontal

Frequency (MHz)	Reading (dBuV)	Detector	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Table Degree (Deg.)	Ant. High (cm)
53.3267	19.66	peak	13.97	33.63	40.00	-6.37	155	100
261.3226	17.62	peak	14.71	32.33	46.00	-13.67	40	100
300.2004	15.03	peak	16.00	31.03	46.00	-14.97	220	100
368.2364	22.05	peak	17.73	39.78	46.00	-6.22	115	100

Frequency (MHz)	Reading (dBuV) Peak Ave.		Factor (dB) Corr.	Result @3m (dBuV/m) Peak Ave.		Limit @3m (dBuV/m) Peak Ave.		Margin (dB)	Table Degree (Deg.)	Ant. High (cm)
4478.9580	43.36	---	-0.18	43.18	---	74.00	54.00	-30.82	40	100
6456.9140	41.23	---	3.64	44.87	---	74.00	54.00	-29.13	150	100

Polarization: Vertical

Frequency (MHz)	Reading (dBuV)	Detector	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Table Degree (Deg.)	Ant. High (cm)
57.2144	21.48	peak	13.64	35.12	40.00	-4.88	90	100
158.2966	15.23	peak	15.38	30.61	43.50	-12.89	105	100
300.2004	15.41	peak	16.00	31.41	46.00	-14.59	200	100
366.2926	16.47	peak	17.66	34.13	46.00	-11.87	35	100



# Worldwide Testing Services(Taiwan) Co., Ltd.

Registration number: W6M21408-14400-C-1

FCC ID: S9HZJRNFY06

Frequency (MHz)	Reading (dBuV) Peak Ave.	Factor (dB) Corr.	Result @3m (dBuV/m) Peak Ave.	Limit @3m (dBuV/m) Peak Ave.	Margin (dB)	Table Degree (Deg.)	Ant. High (cm)			
5236.4730	41.76	---	1.81	43.57	---	74.00	54.00	-30.43	260	100
7004.0080	41.84	---	3.84	45.68	---	74.00	54.00	-28.32	185	100

Mode: BT4.0 RX\_2402 MHz

Polarization: Horizontal

Frequency (MHz)	Reading (dBuV)	Detector	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Table Degree (Deg.)	Ant. High (cm)
53.3267	17.12	peak	13.97	31.09	40.00	-8.91	70	100
239.9398	16.32	peak	14.16	30.48	46.00	-15.52	300	100
300.2004	15.54	peak	16.00	31.54	46.00	-14.46	160	100
366.2925	22.26	peak	17.66	39.92	46.00	-6.08	115	100

Frequency (MHz)	Reading (dBuV) Peak Ave.	Factor (dB) Corr.	Result @3m (dBuV/m) Peak Ave.	Limit @3m (dBuV/m) Peak Ave.	Margin (dB)	Table Degree (Deg.)	Ant. High (cm)			
4464.9300	42.91	---	-0.31	42.60	---	74.00	54.00	-31.40	180	100
6456.9140	40.79	---	3.64	44.43	---	74.00	54.00	-29.57	250	100

Polarization: Vertical

Frequency (MHz)	Reading (dBuV)	Detector	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Table Degree (Deg.)	Ant. High (cm)
49.4388	22.22	peak	14.25	36.47	40.00	-3.53	190	100
90.2605	22.46	peak	8.89	31.35	43.50	-12.15	225	100
300.2004	15.87	peak	16.00	31.87	46.00	-14.13	280	100
368.2364	16.75	peak	17.73	34.48	46.00	-11.52	135	100

Frequency (MHz)	Reading (dBuV) Peak Ave.	Factor (dB) Corr.	Result @3m (dBuV/m) Peak Ave.	Limit @3m (dBuV/m) Peak Ave.	Margin (dB)	Table Degree (Deg.)	Ant. High (cm)			
4450.9020	43.52	---	-0.44	43.08	---	74.00	54.00	-30.92	95	100
6414.8300	41.13	---	3.66	44.79	---	74.00	54.00	-29.21	280	100

Mode: BT4.0 RX\_2440 MHz

Polarization: Horizontal

Frequency (MHz)	Reading (dBuV)	Detector	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Table Degree (Deg.)	Ant. High (cm)
53.3267	18.17	peak	13.97	32.14	40.00	-7.86	155	100
131.0822	13.29	peak	14.23	27.52	43.50	-15.98	140	100
239.9398	16.80	peak	14.16	30.96	46.00	-15.04	220	100
366.2925	22.05	peak	17.66	39.71	46.00	-6.29	265	100



# Worldwide Testing Services(Taiwan) Co., Ltd.

Registration number: W6M21408-14400-C-1

FCC ID: S9HZJRNFY06

Frequency (MHz)	Reading (dBuV)		Factor (dB)	Result @3m (dBuV/m)		Limit @3m (dBuV/m)		Margin (dB)	Table Degree (Deg.)	Ant. High (cm)
	Peak	Ave.	Corr.	Peak	Ave.	Peak	Ave.			
4044.0880	43.30	---	-0.95	42.35	---	74.00	54.00	-31.65	85	100
5993.9880	42.20	---	2.70	44.90	---	74.00	54.00	-29.10	190	100

Polarization: Vertical

Frequency (MHz)	Reading (dBuV)	Detector	Factor (dB)	Result (dBuV/m)		Limit (dBuV/m)		Margin (dB)	Table Degree (Deg.)	Ant. High (cm)
				Peak	Ave.	Peak	Ave.			
51.3828	21.54	peak	14.14	35.68		40.00		-4.32	125	100
123.3066	17.02	peak	13.51	30.53		43.50		-12.97	80	100
366.2926	16.60	peak	17.66	34.26		46.00		-11.74	170	100
432.3848	11.89	peak	19.70	31.59		46.00		-14.41	315	100

Frequency (MHz)	Reading (dBuV)		Factor (dB)	Result @3m (dBuV/m)		Limit @3m (dBuV/m)		Margin (dB)	Table Degree (Deg.)	Ant. High (cm)
	Peak	Ave.	Corr.	Peak	Ave.	Peak	Ave.			
4366.7340	42.88	---	-0.77	42.11	---	74.00	54.00	-31.89	260	100
7032.0640	41.64	---	3.91	45.55	---	74.00	54.00	-28.45	175	100

Mode: BT4.0 RX\_2480 MHz

Polarization: Horizontal

Frequency (MHz)	Reading (dBuV)	Detector	Factor (dB)	Result (dBuV/m)		Limit (dBuV/m)		Margin (dB)	Table Degree (Deg.)	Ant. High (cm)
				Peak	Ave.	Peak	Ave.			
51.3828	17.13	peak	14.14	31.27		40.00		-8.73	75	100
239.9398	16.71	peak	14.16	30.87		46.00		-15.13	180	100
300.2004	14.98	peak	16.00	30.98		46.00		-15.02	235	100
366.2925	21.94	peak	17.66	39.60		46.00		-6.40	295	100

Frequency (MHz)	Reading (dBuV)		Factor (dB)	Result @3m (dBuV/m)		Limit @3m (dBuV/m)		Margin (dB)	Table Degree (Deg.)	Ant. High (cm)
	Peak	Ave.	Corr.	Peak	Ave.	Peak	Ave.			
4156.3130	42.58	---	-0.84	41.74	---	74.00	54.00	-32.26	120	100
5993.9880	41.93	---	2.70	44.63	---	74.00	54.00	-29.37	225	100

Polarization: Vertical

Frequency (MHz)	Reading (dBuV)	Detector	Factor (dB)	Result (dBuV/m)		Limit (dBuV/m)		Margin (dB)	Table Degree (Deg.)	Ant. High (cm)
				Peak	Ave.	Peak	Ave.			
53.3267	24.48	peak	13.97	38.45		40.00		-1.55	240	100
162.1844	15.31	peak	15.27	30.58		43.50		-12.92	50	100
368.2364	16.60	peak	17.73	34.33		46.00		-11.67	165	100
434.3287	11.02	peak	19.77	30.79		46.00		-15.21	320	100



# Worldwide Testing Services(Taiwan) Co., Ltd.

Registration number: W6M21408-14400-C-1

FCC ID: S9HZJRNFY06

Frequency (MHz)	Reading (dBuV) Peak Ave.		Factor (dB) Corr.	Result @3m (dBuV/m) Peak Ave.		Limit @3m (dBuV/m) Peak Ave.		Margin (dB)	Table Degree (Deg.)	Ant. High (cm)
4478.9580	42.66	---	-0.18	42.48	---	74.00	54.00	-31.52	300	100
6456.9140	41.11	---	3.64	44.75	---	74.00	54.00	-29.25	85	100

**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.**  
Measurement uncertainty for 3m measurement: 30-1000 MHz =  $\pm 3.68$  dB, 1-18 GHz =  $\pm 5.37$  dB,  
18-40 GHz =  $\pm 3.43$  dB ; Reported uncertainties represent expanded uncertainties expressed at  
approximately the 95% confidence level using a coverage factor of  $k = 2$ .
5. **Up Line: PK Limit Line, Down Line: Ave Limit Line.**
6. **See attached diagrams in 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 (MHz)	Field Strength (microvolts/meter)	Field Strength (dBmicrovolts/meter)
30 – 88	100	40.0
88 – 216	150	43.5
216 – 960	200	46.0
Above 960	500	54.0

Test equipment used: ETSTW-RE 004, ETSTW-RE 030, ETSTW-RE 042,  
ETSTW-RE 043, ETSTW-RE 044



# Worldwide Testing Services(Taiwan) Co., Ltd.

Registration number: W6M21408-14400-C-1

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## **3.14 Power Line Conducted Emission**

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

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

Model: -- Date: --  
Mode: -- Temperature: -- °C Engineer: --  
Polarization: -- Humidity: -- %

Frequency (MHz)	Reading (dBuV)		Factor (dB) Corr.	Result (dBuV)		Limit (dBuV)		Margin (dB)
	QP	Ave.		QP	Ave.	QP	Ave.	
--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--

Polarization: --

Frequency (MHz)	Reading (dBuV)		Factor (dB) Corr.	Result (dBuV)		Limit (dBuV)		Margin (dB)
	QP	Ave.		QP	Ave.	QP	Ave.	
--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--

Frequency	Level (dB $\mu$ V)	
	quasi-peak	average
150 kHz	lower limit line	Lower limit line

- Note:**
1. The formula of measured value as: Test Result = Reading + Correction Factor
  2. The Correction Factor = Cable Loss + LISN Insertion Loss + Pulse Limit Loss
  3. Detector function in the form : PK = Peak, QP = Quasi Peak, AV = Average
  4. All not in the table noted test results are more than 20 dB below the relevant limits.
  5. Measurement uncertainty =  $\pm 1.41$  dB; Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of  $k = 2$ .
  6. Up Line: QP Limit Line, Down Line: Ave Limit Line.
  7. This test is not required because the EUT uses battery.



# Worldwide Testing Services(Taiwan) Co., Ltd.

Registration number: W6M21408-14400-C-1

FCC ID: S9HZJRNFY06

## **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 016, ETSTW-CE 006



# Worldwide Testing Services(Taiwan) Co., Ltd.

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FCC ID: S9HZJRNFY06

## **Appendix**

### **Measurement diagrams**

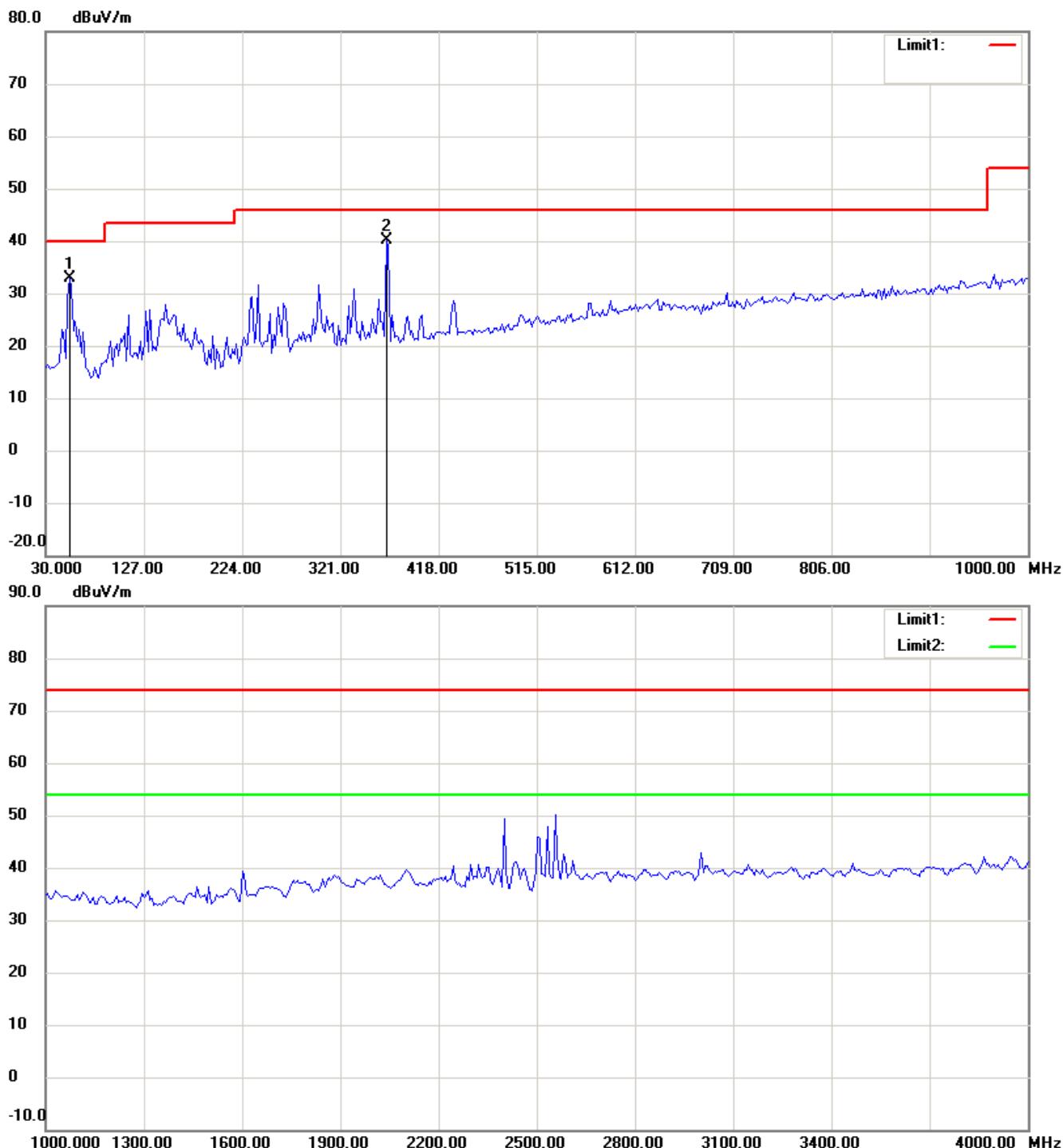
Spurious Emissions radiated

### **Photos**

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

Registration number: W6M21408-14400-C-1  
 FCC ID: S9HZJRNFY06

Spurious Emissions radiated-TX  
 Bluetooth 2.0 TX\_2402 MHz  
 Antenna Polarization H



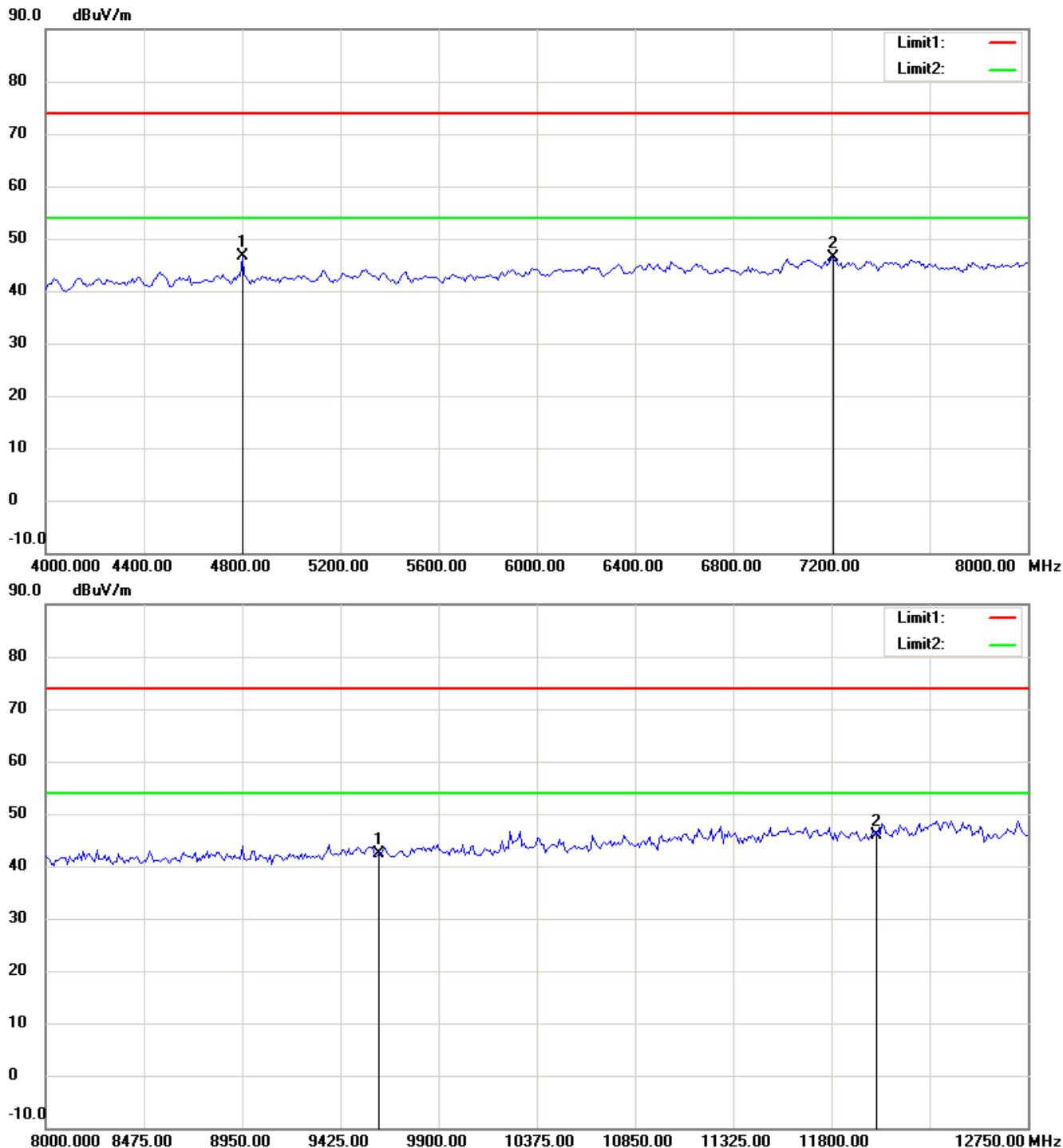
Up Line: Peak Limit Line Down Line: Ave Limit Line

Note:

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

Registration number: W6M21408-14400-C-1

FCC ID: S9HZJRNFY06



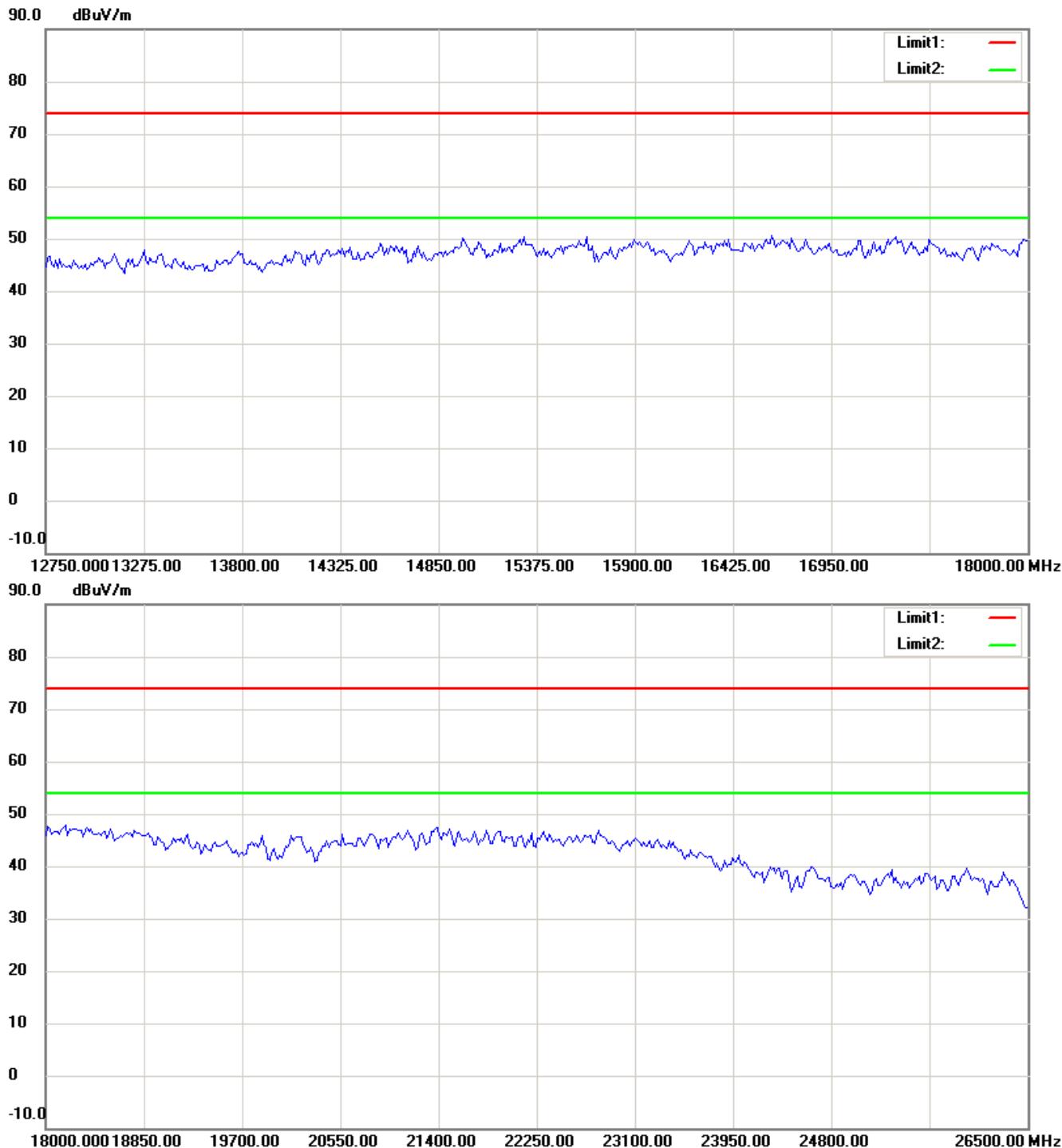
**Up Line: Peak Limit Line Down Line: Ave Limit Line**

**Note:**

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

Registration number: W6M21408-14400-C-1

FCC ID: S9HZJRNFY06



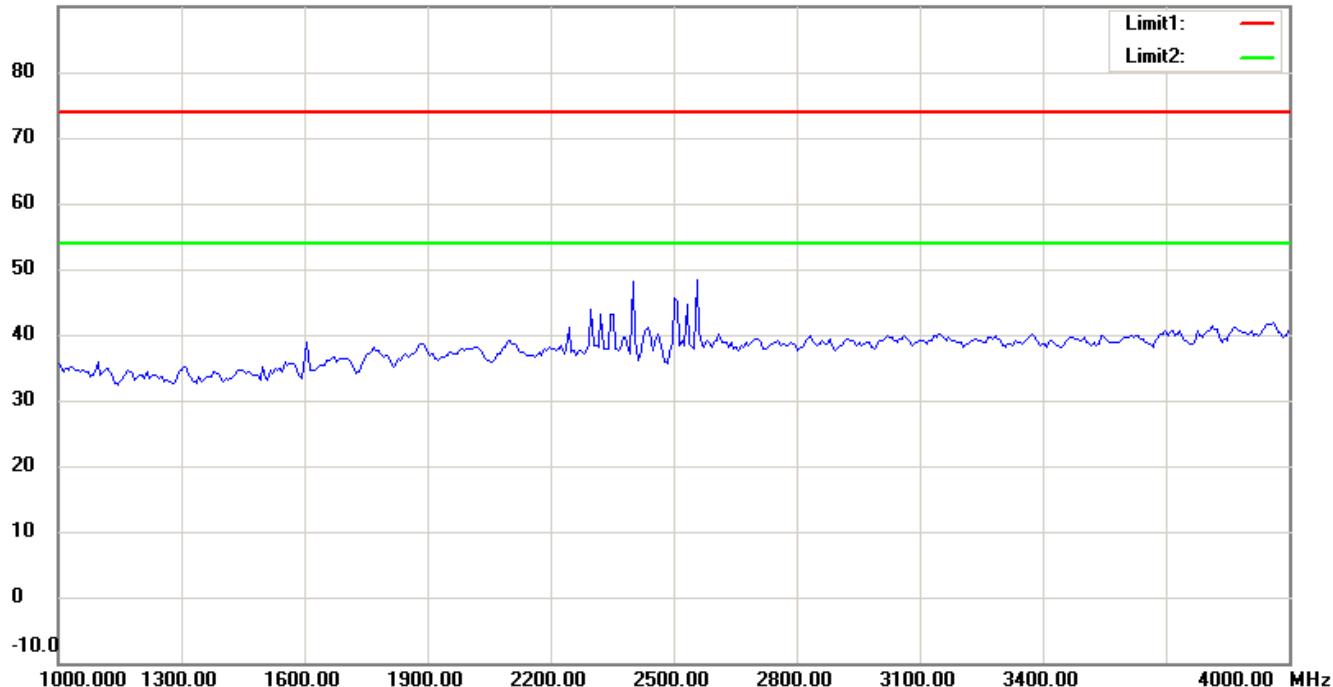
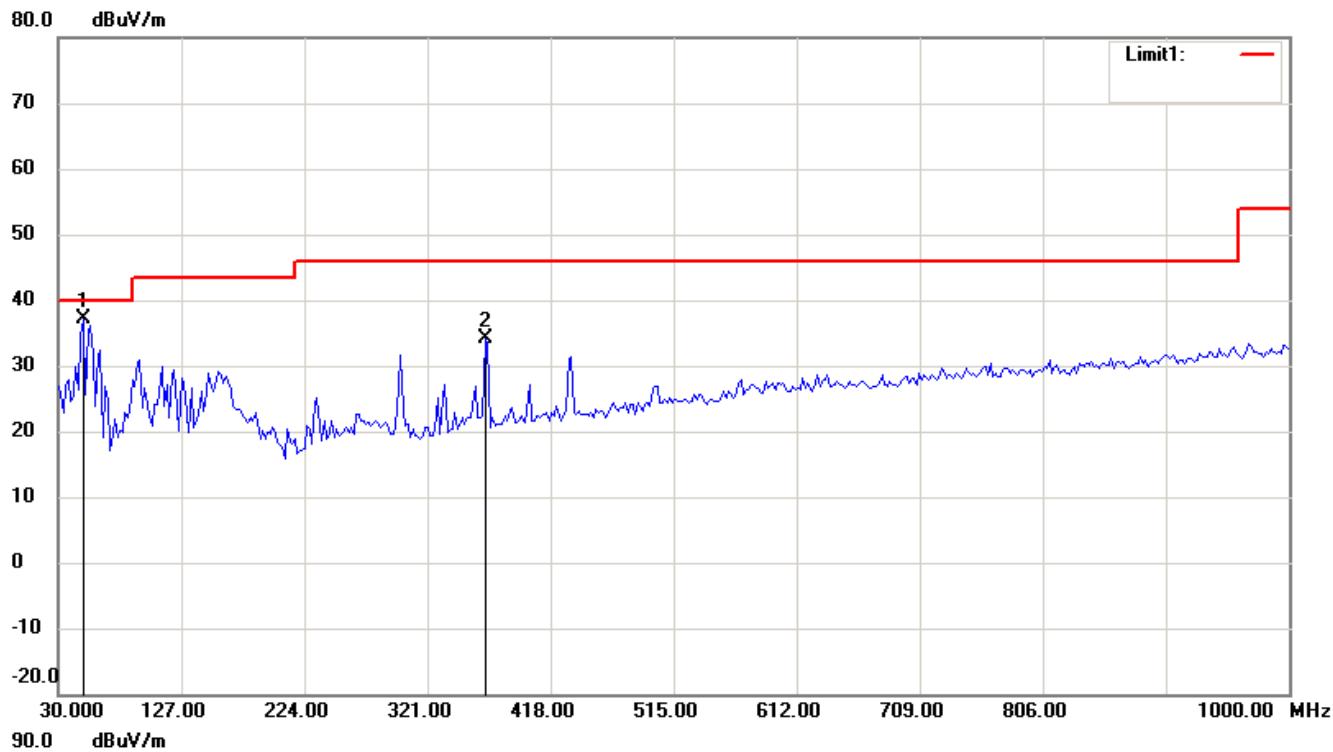
**Up Line: Peak Limit Line Down Line: Ave Limit Line**

**Note:**

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

Registration number: W6M21408-14400-C-1  
 FCC ID: S9HZJRNFY06

## Antenna Polarization V



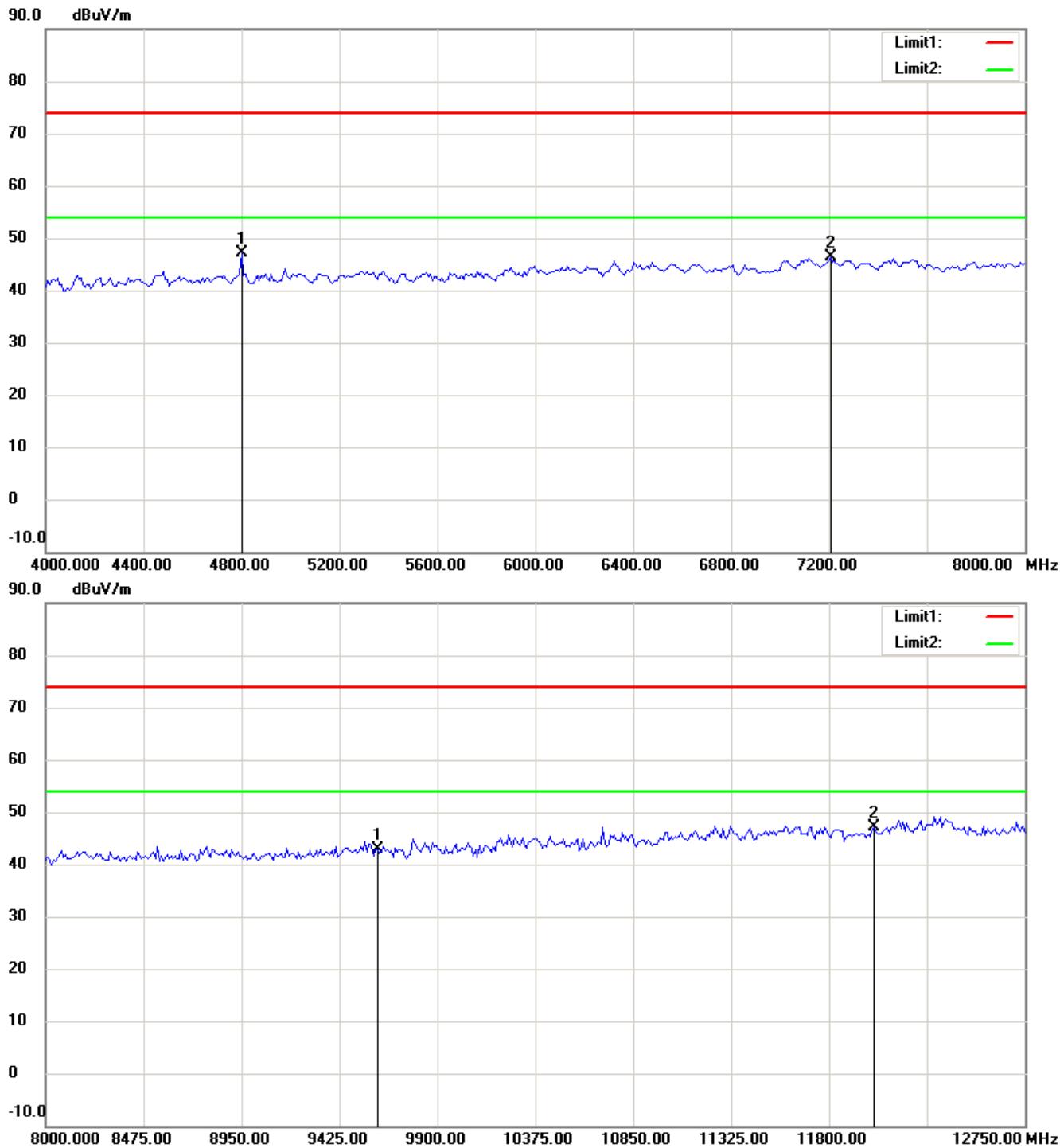
**Up Line: Peak Limit Line Down Line: Ave Limit Line**

**Note:**

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

Registration number: W6M21408-14400-C-1

FCC ID: S9HZJRNFY06



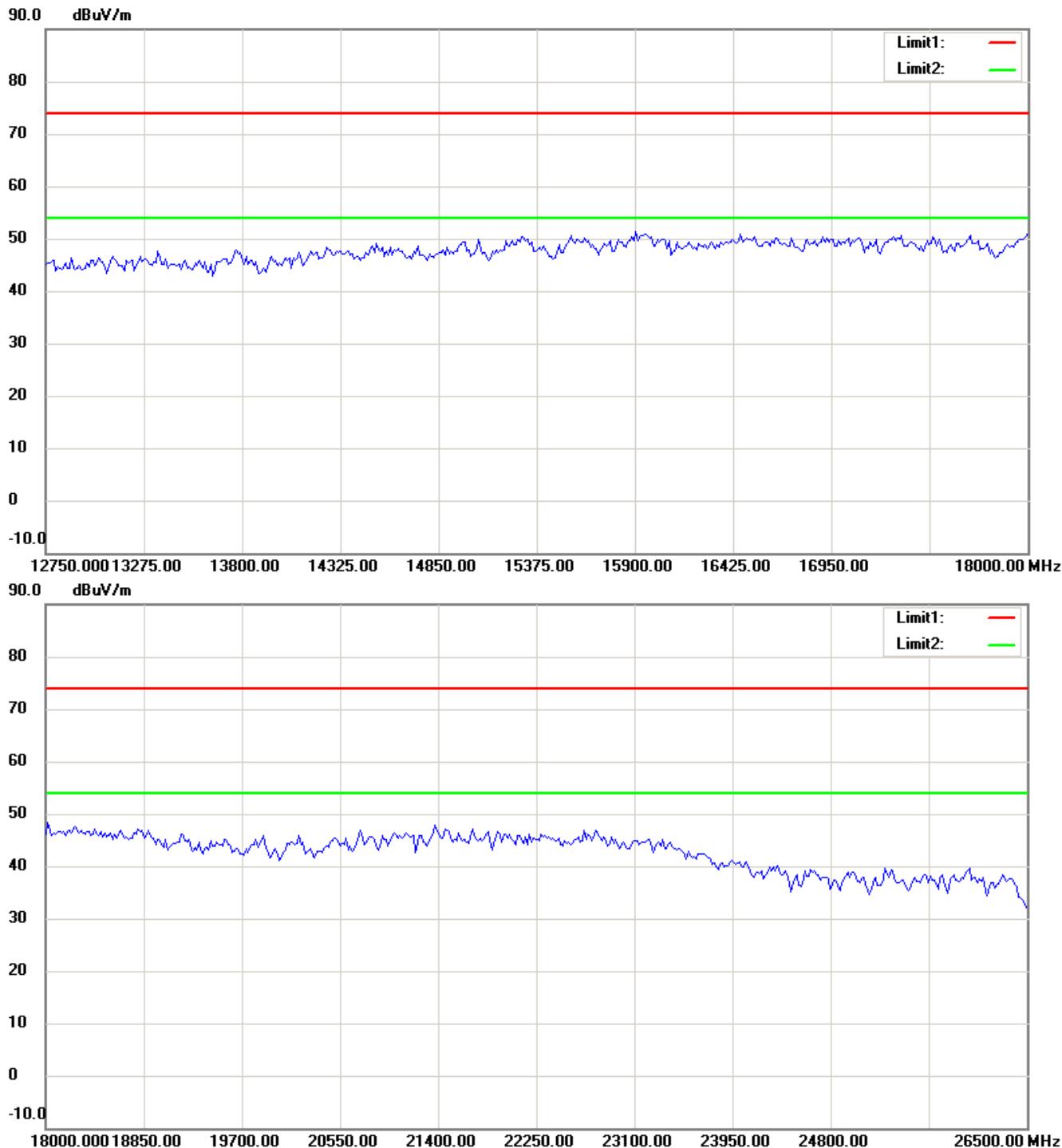
**Up Line: Peak Limit Line Down Line: Ave Limit Line**

**Note:**

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

Registration number: W6M21408-14400-C-1

FCC ID: S9HZJRNFY06



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

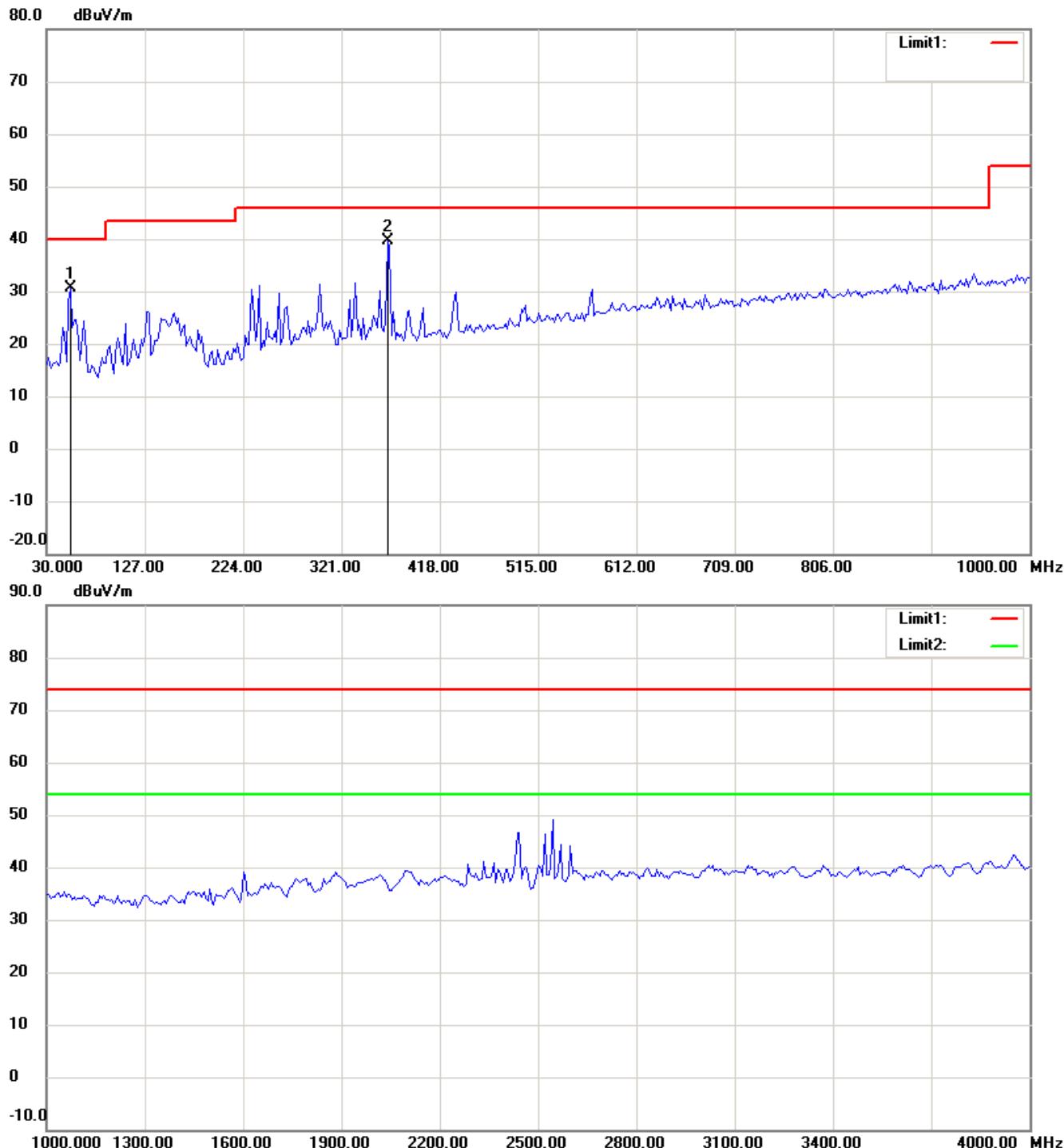
**Note:**

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

Registration number: W6M21408-14400-C-1  
 FCC ID: S9HZJRNFY06

Bluetooth 2.0 TX\_2441 MHz

Antenna Polarization H

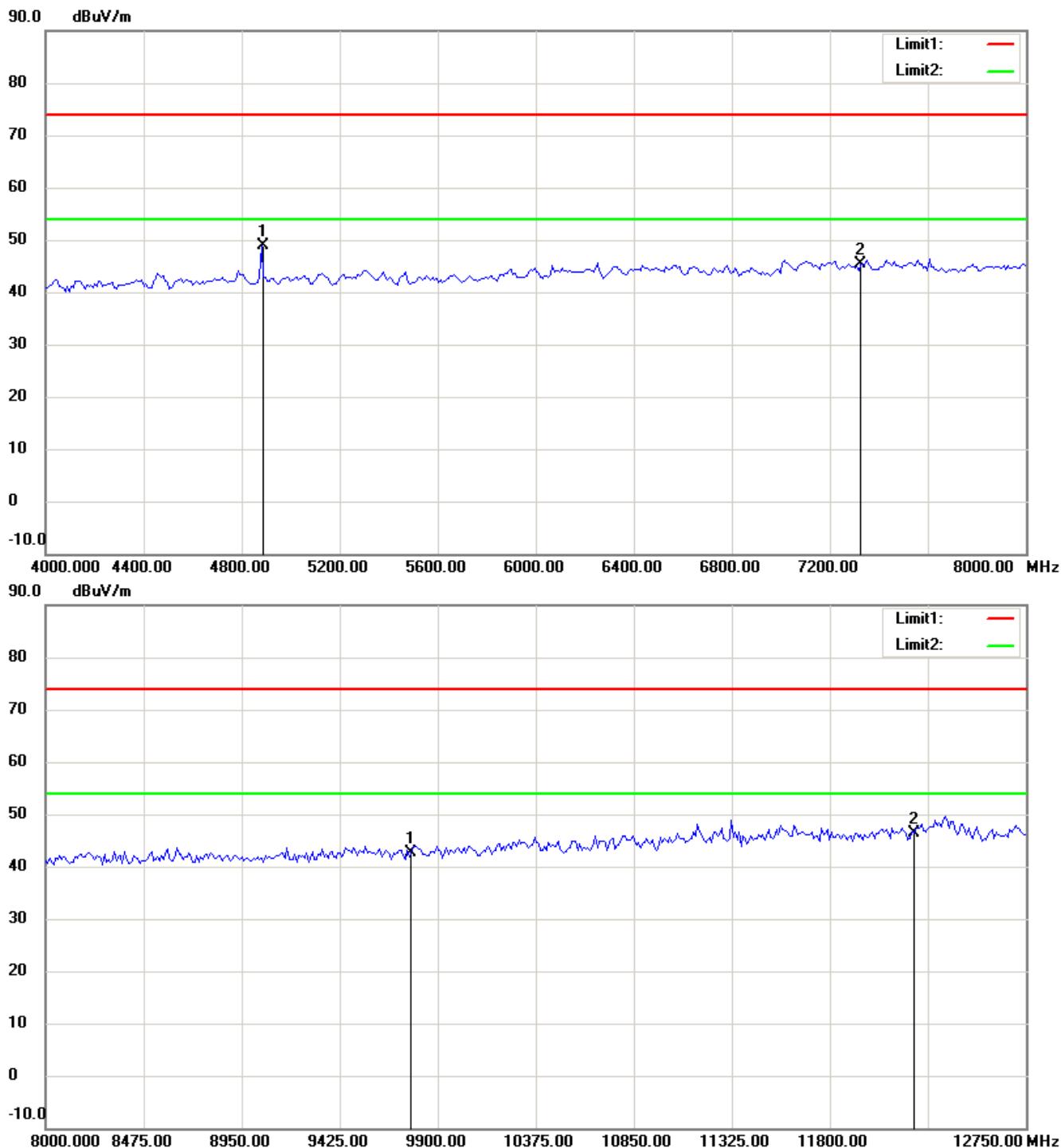


**Up Line: Peak Limit Line Down Line: Ave Limit Line**

**Note:**

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

Registration number: W6M21408-14400-C-1  
 FCC ID: S9HZJRNFY06



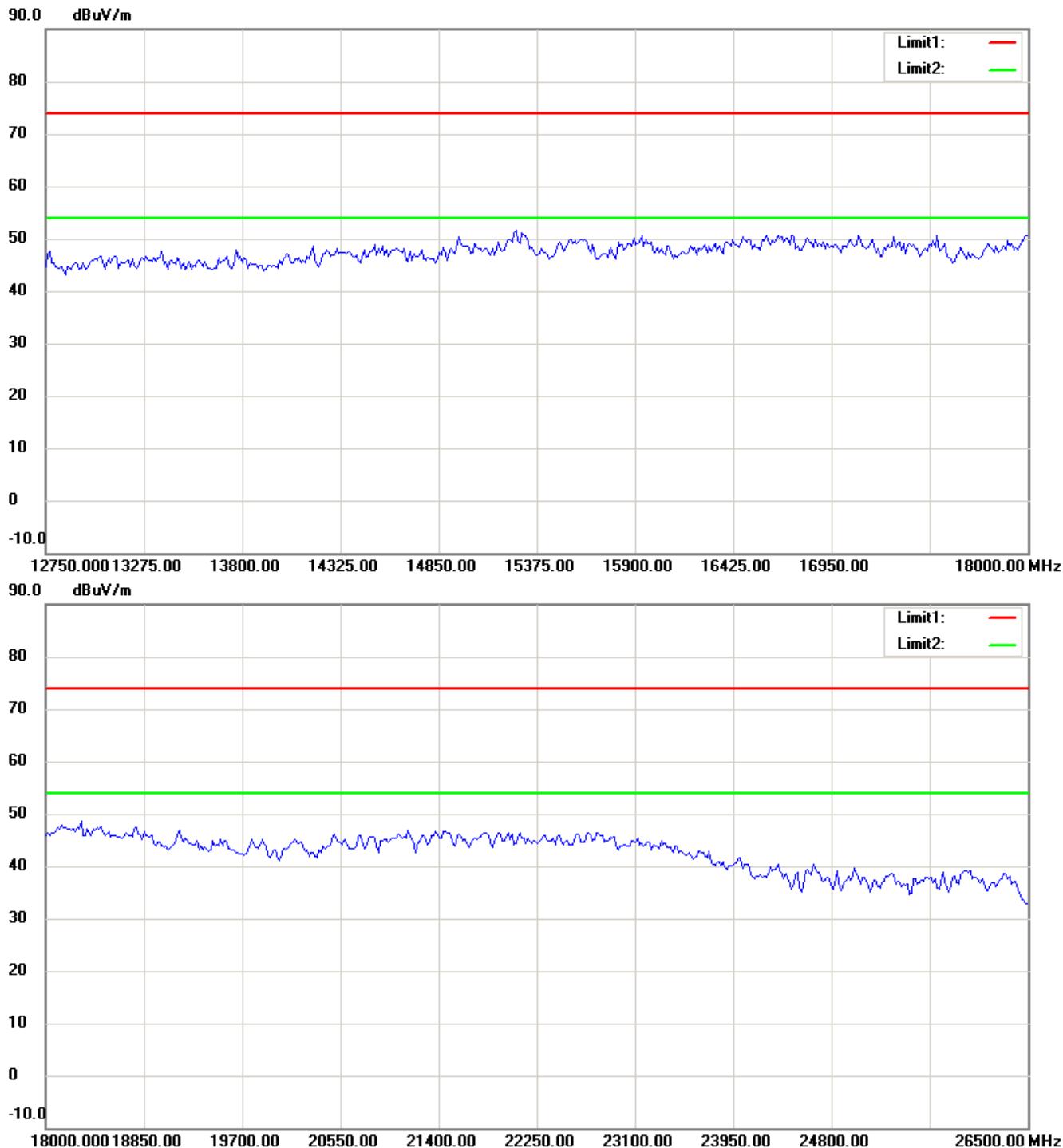
**Up Line: Peak Limit Line Down Line: Ave Limit Line**

**Note:**

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

Registration number: W6M21408-14400-C-1

FCC ID: S9HZJRNFY06



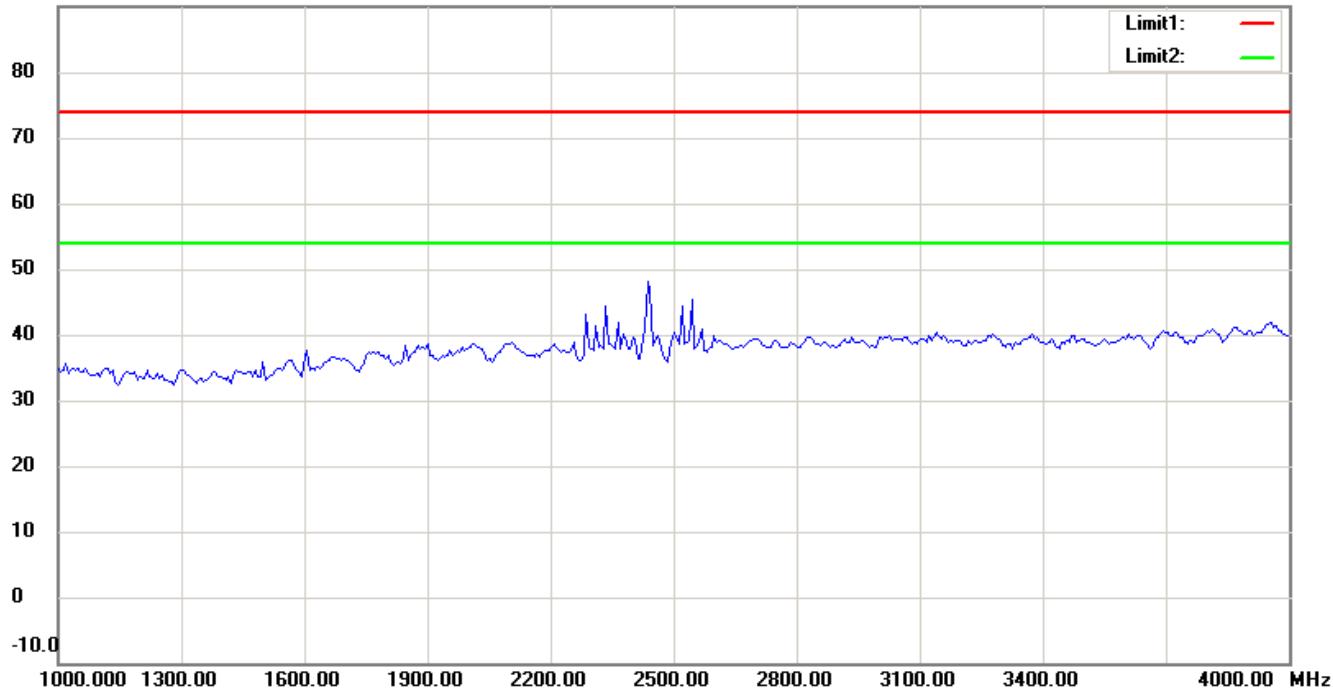
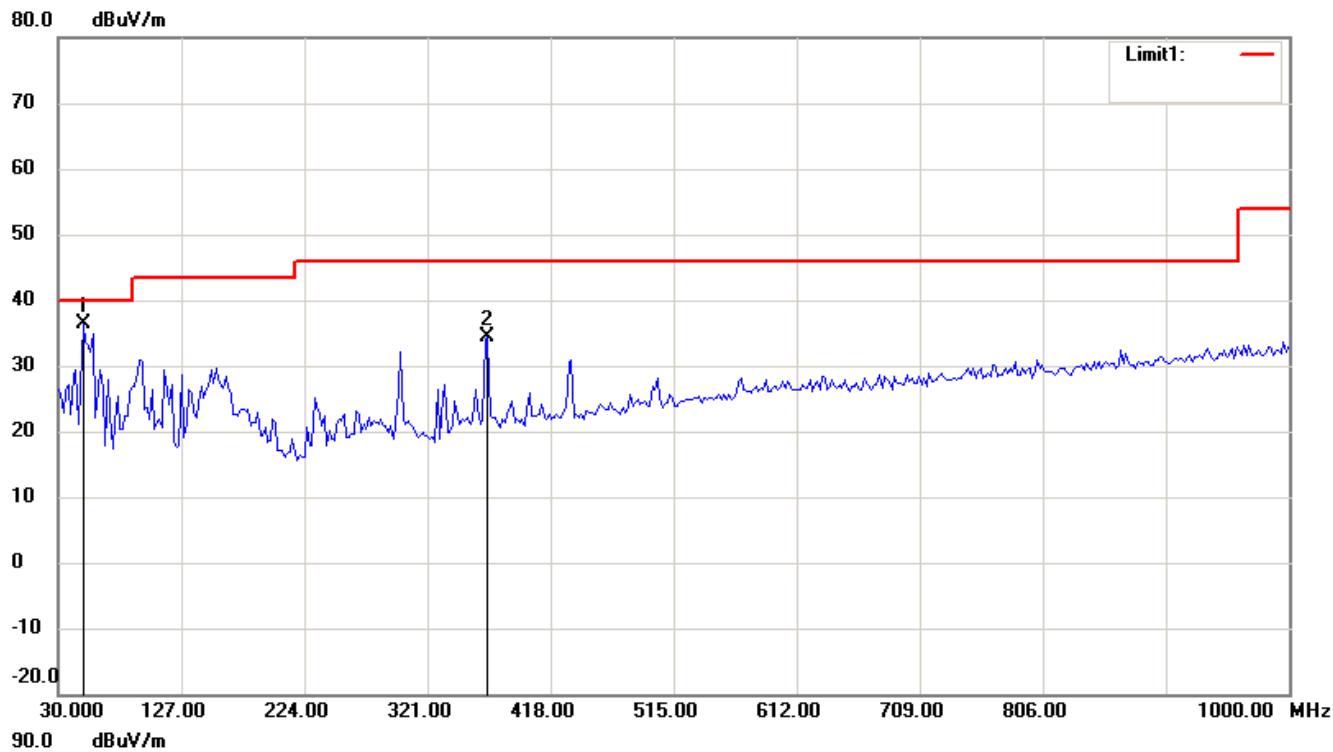
**Up Line: Peak Limit Line Down Line: Ave Limit Line**

**Note:**

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

Registration number: W6M21408-14400-C-1  
 FCC ID: S9HZJRNFY06

## Antenna Polarization V



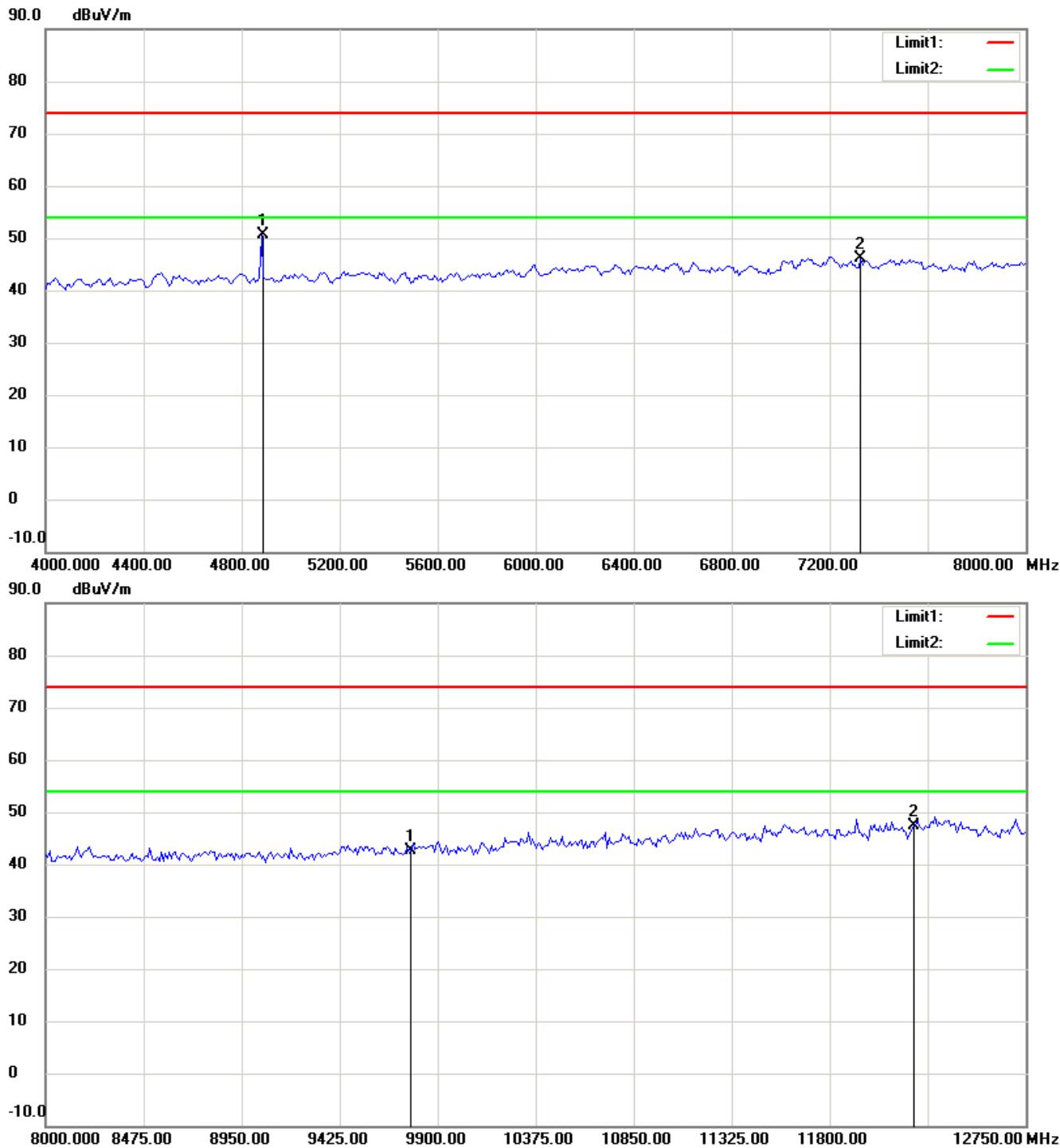
**Up Line: Peak Limit Line Down Line: Ave Limit Line**

**Note:**

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

Registration number: W6M21408-14400-C-1

FCC ID: S9HZJRNFY06



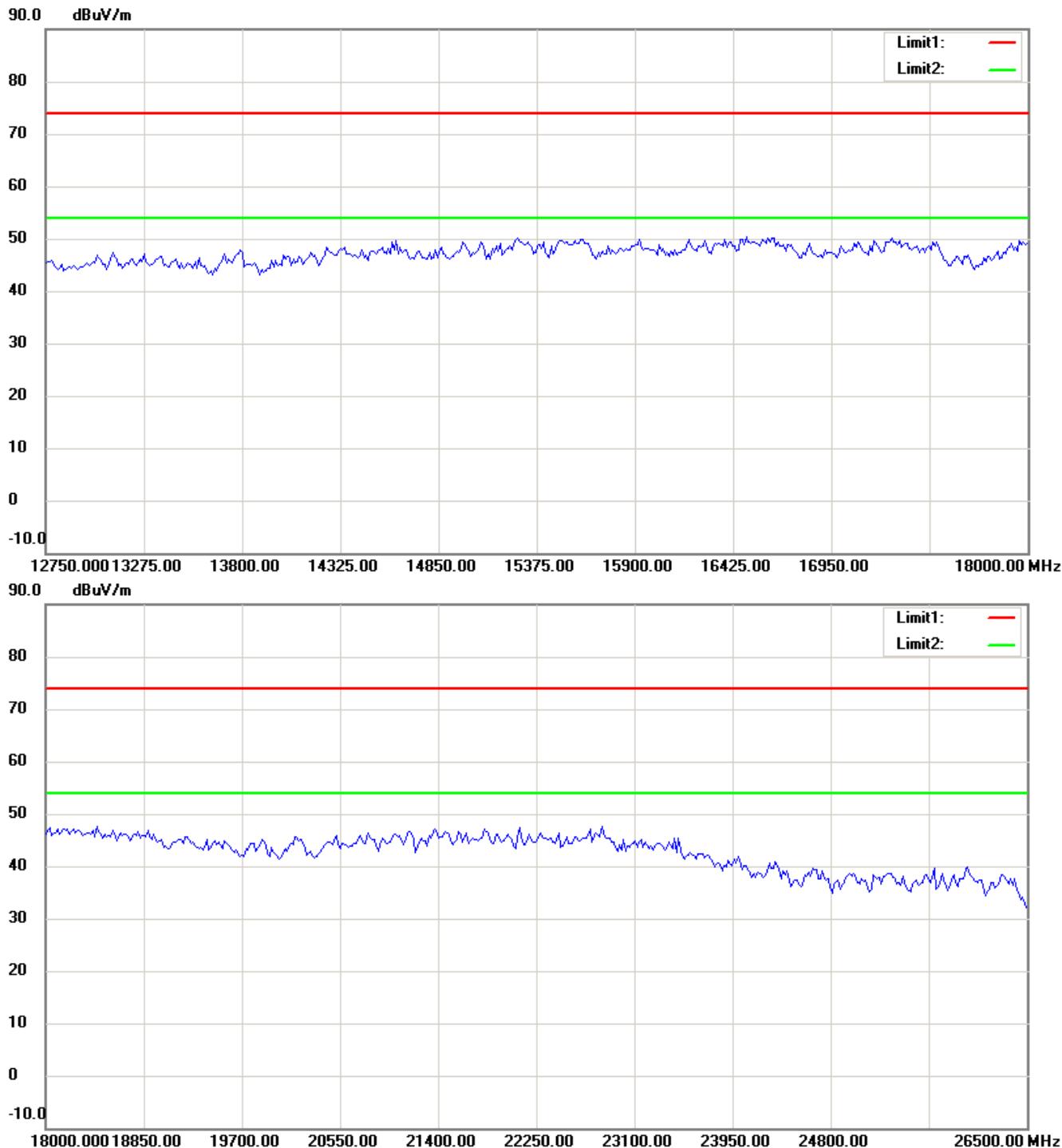
**Up Line: Peak Limit Line Down Line: Ave Limit Line**

**Note:**

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

Registration number: W6M21408-14400-C-1

FCC ID: S9HZJRNFY06



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

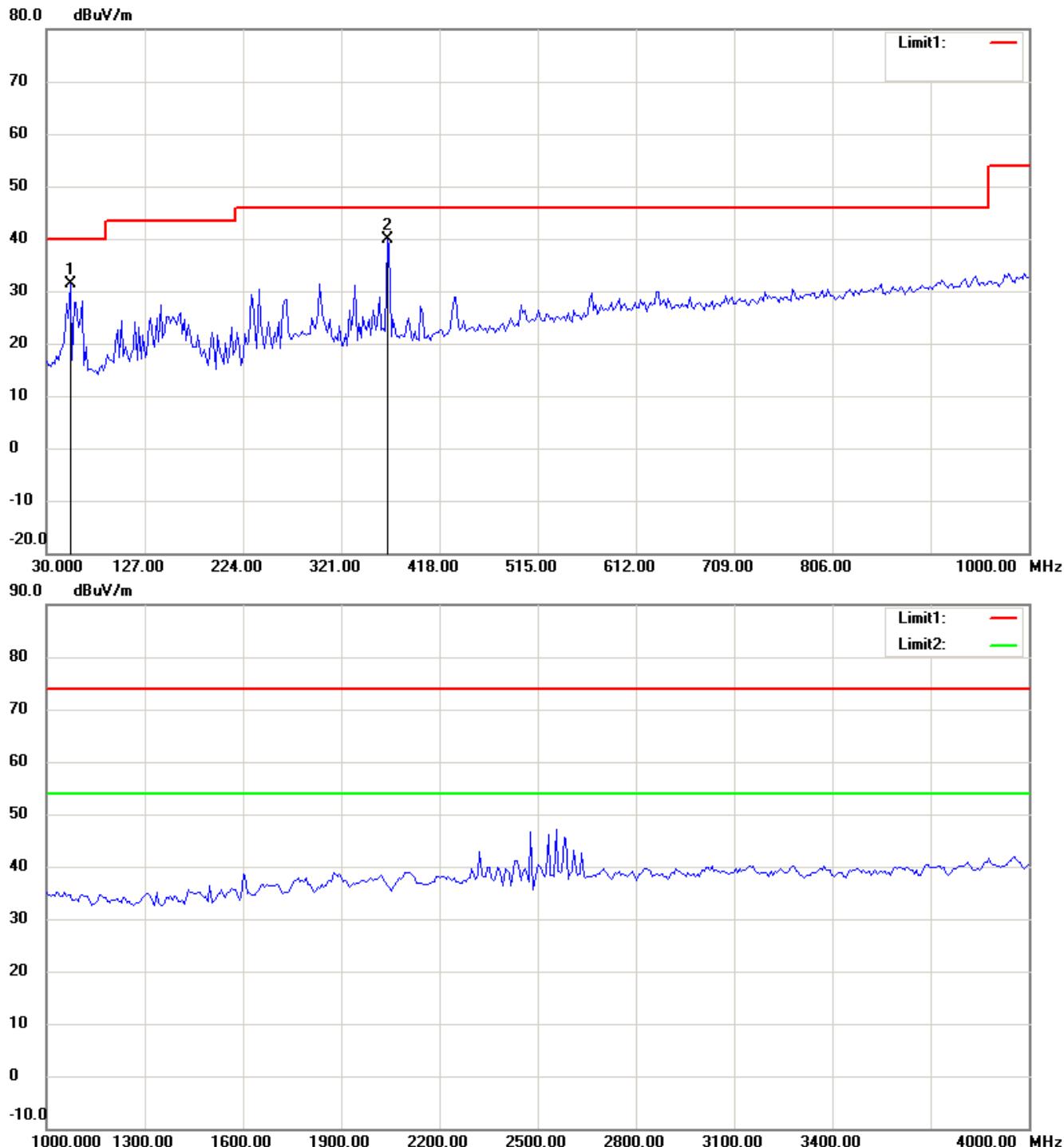
**Note:**

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

Registration number: W6M21408-14400-C-1  
 FCC ID: S9HZJRNFY06

Bluetooth 2.0 TX\_2480 MHz

Antenna Polarization H



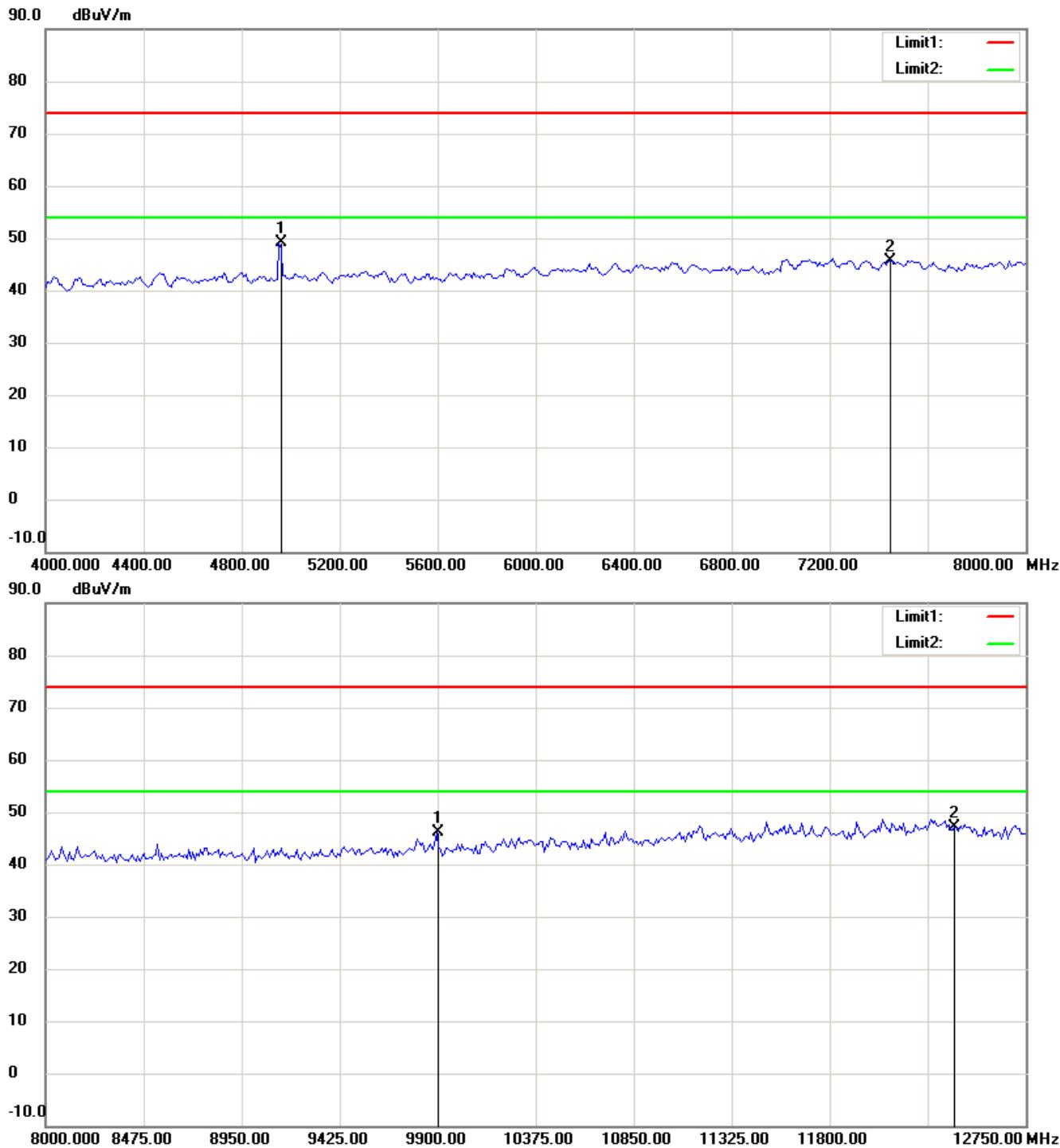
**Up Line: Peak Limit Line Down Line: Ave Limit Line**

**Note:**

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

Registration number: W6M21408-14400-C-1

FCC ID: S9HZJRNFY06



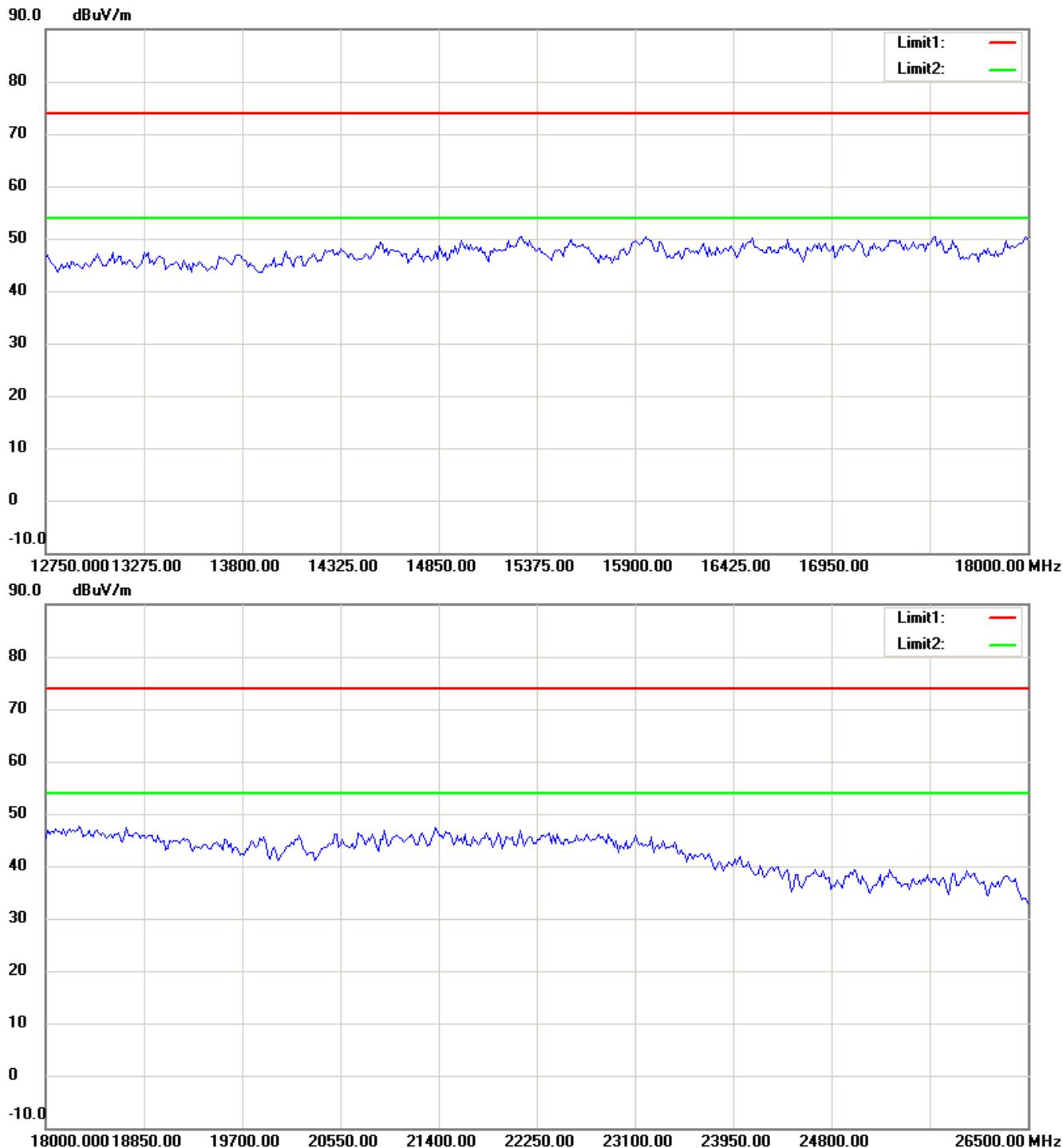
**Up Line: Peak Limit Line Down Line: Ave Limit Line**

**Note:**

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

Registration number: W6M21408-14400-C-1

FCC ID: S9HZJRNFY06



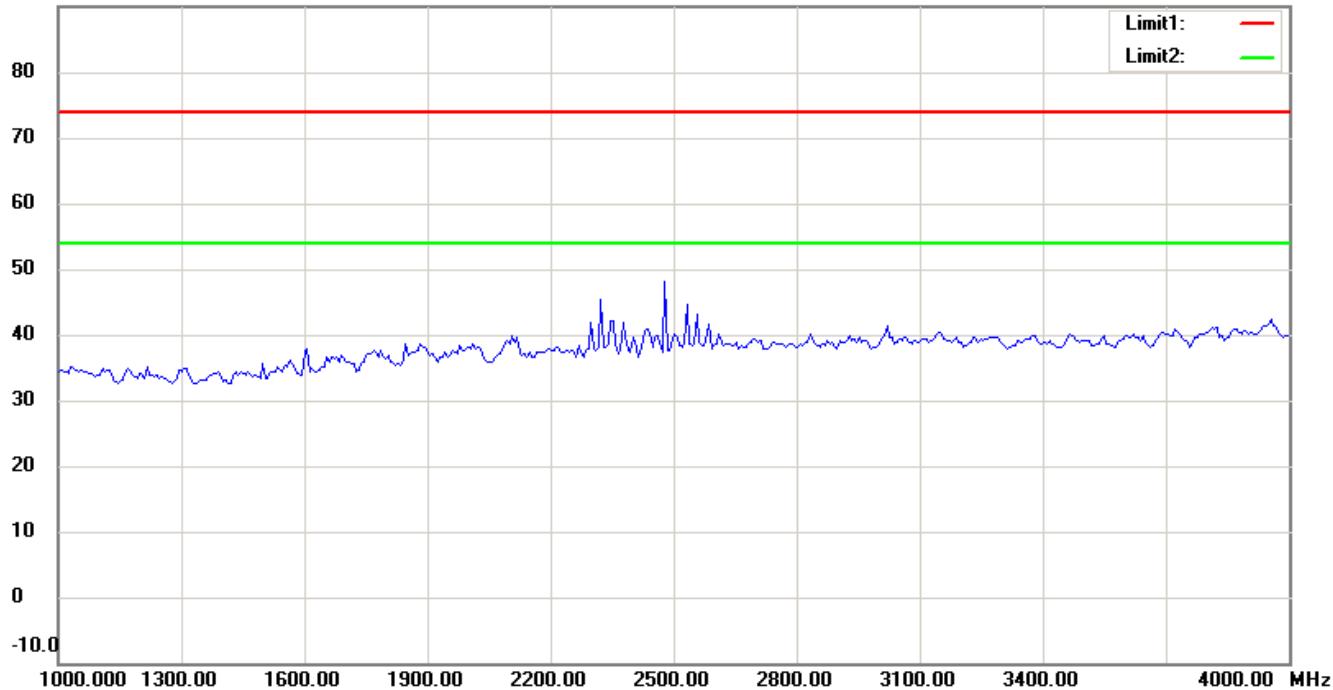
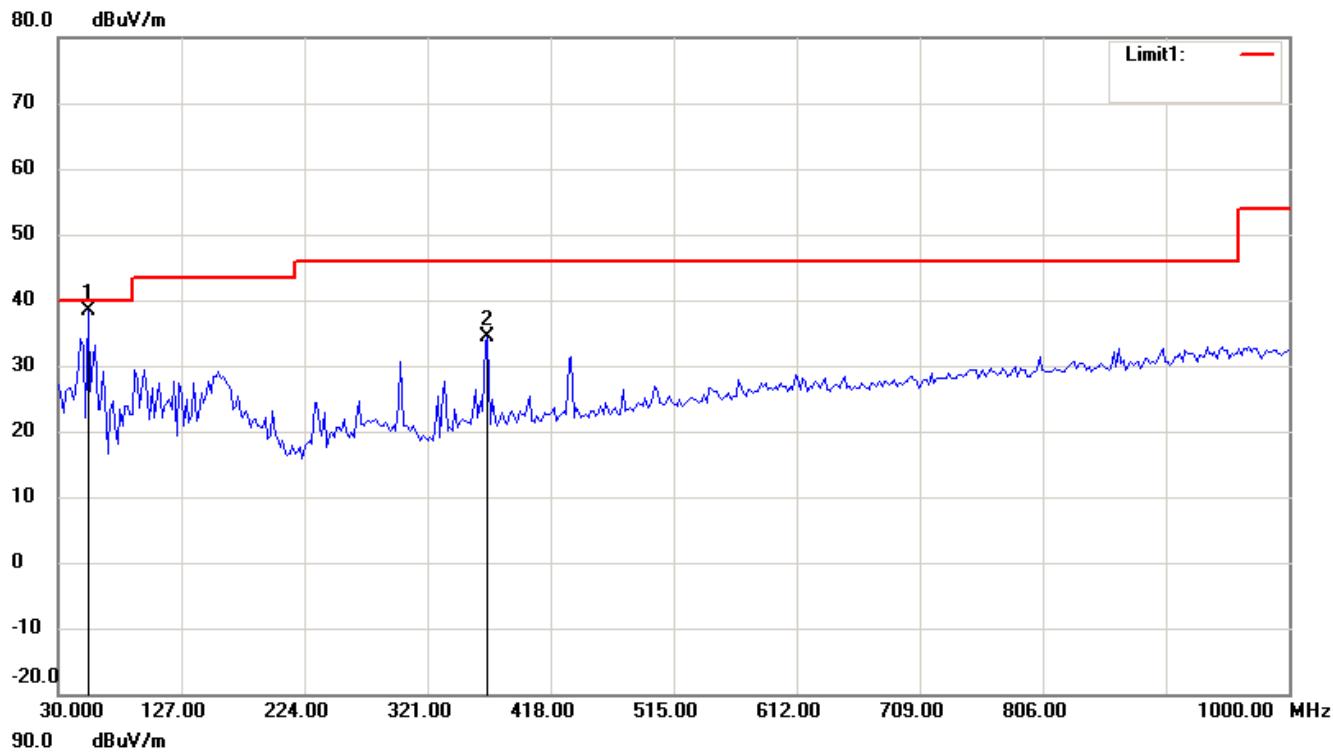
**Up Line: Peak Limit Line Down Line: Ave Limit Line**

**Note:**

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

Registration number: W6M21408-14400-C-1  
 FCC ID: S9HZJRNFY06

## Antenna Polarization V



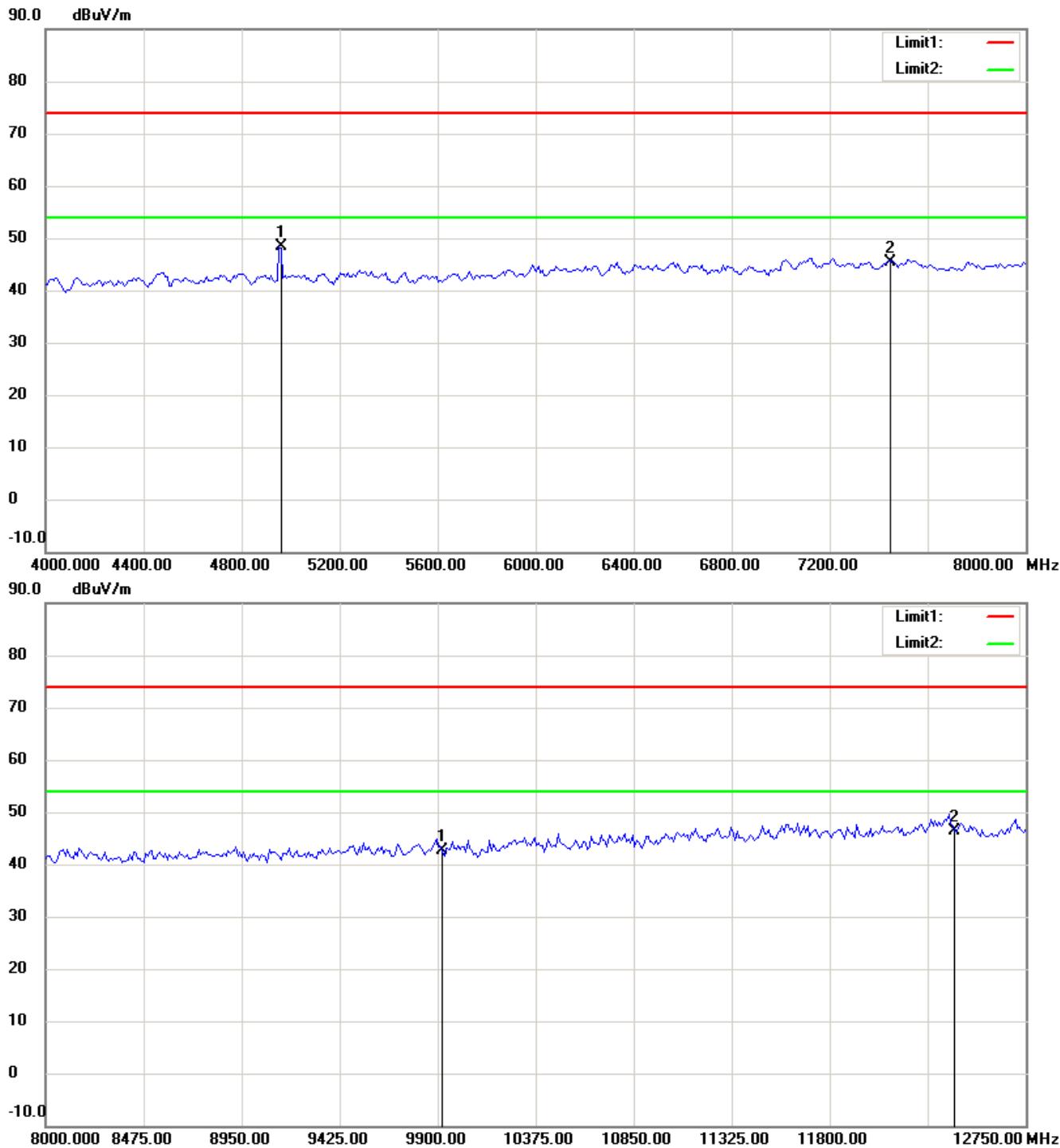
**Up Line: Peak Limit Line Down Line: Ave Limit Line**

**Note:**

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

Registration number: W6M21408-14400-C-1

FCC ID: S9HZJRNFY06



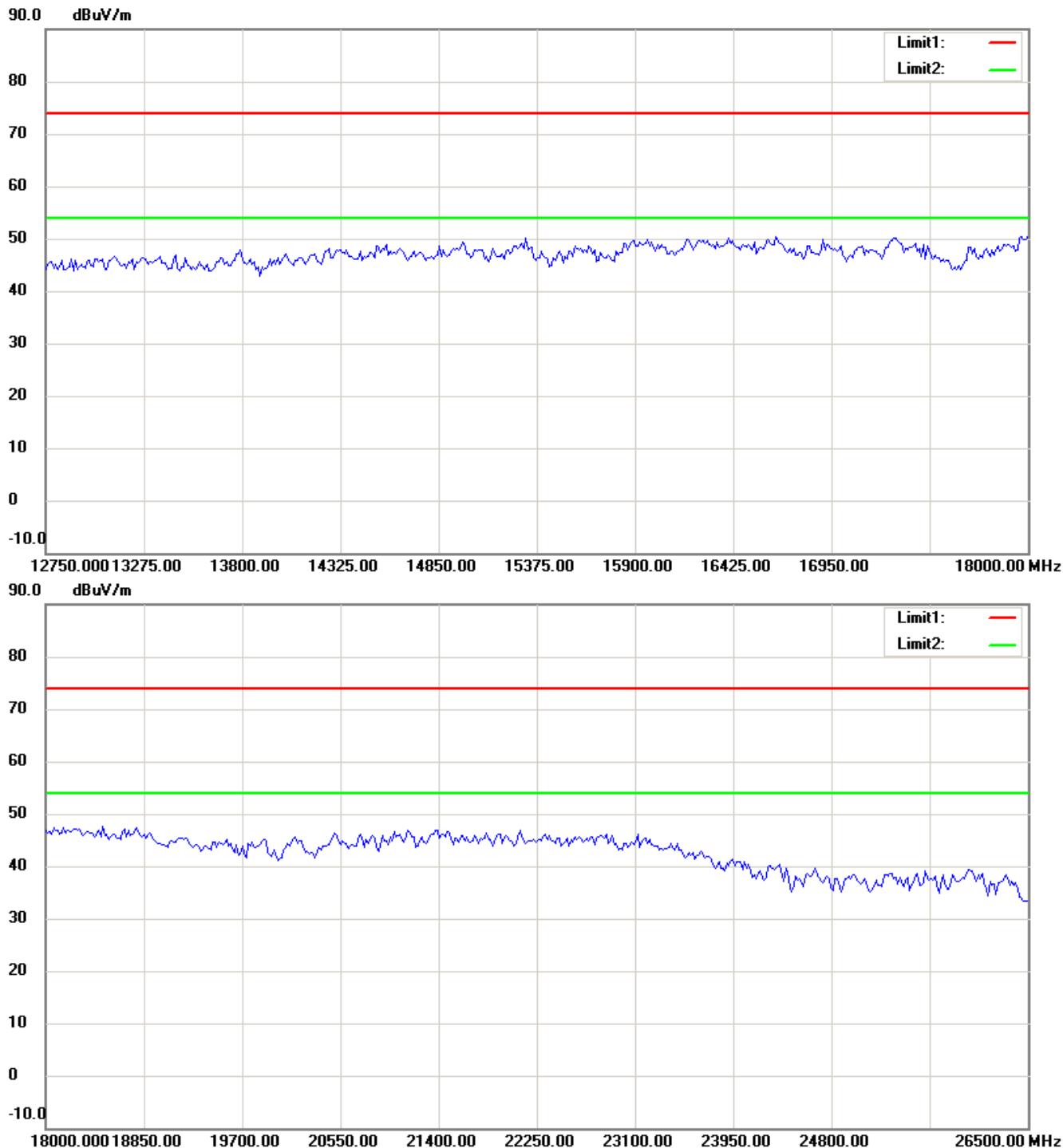
**Up Line: Peak Limit Line Down Line: Ave Limit Line**

**Note:**

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

Registration number: W6M21408-14400-C-1

FCC ID: S9HZJRNFY06



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

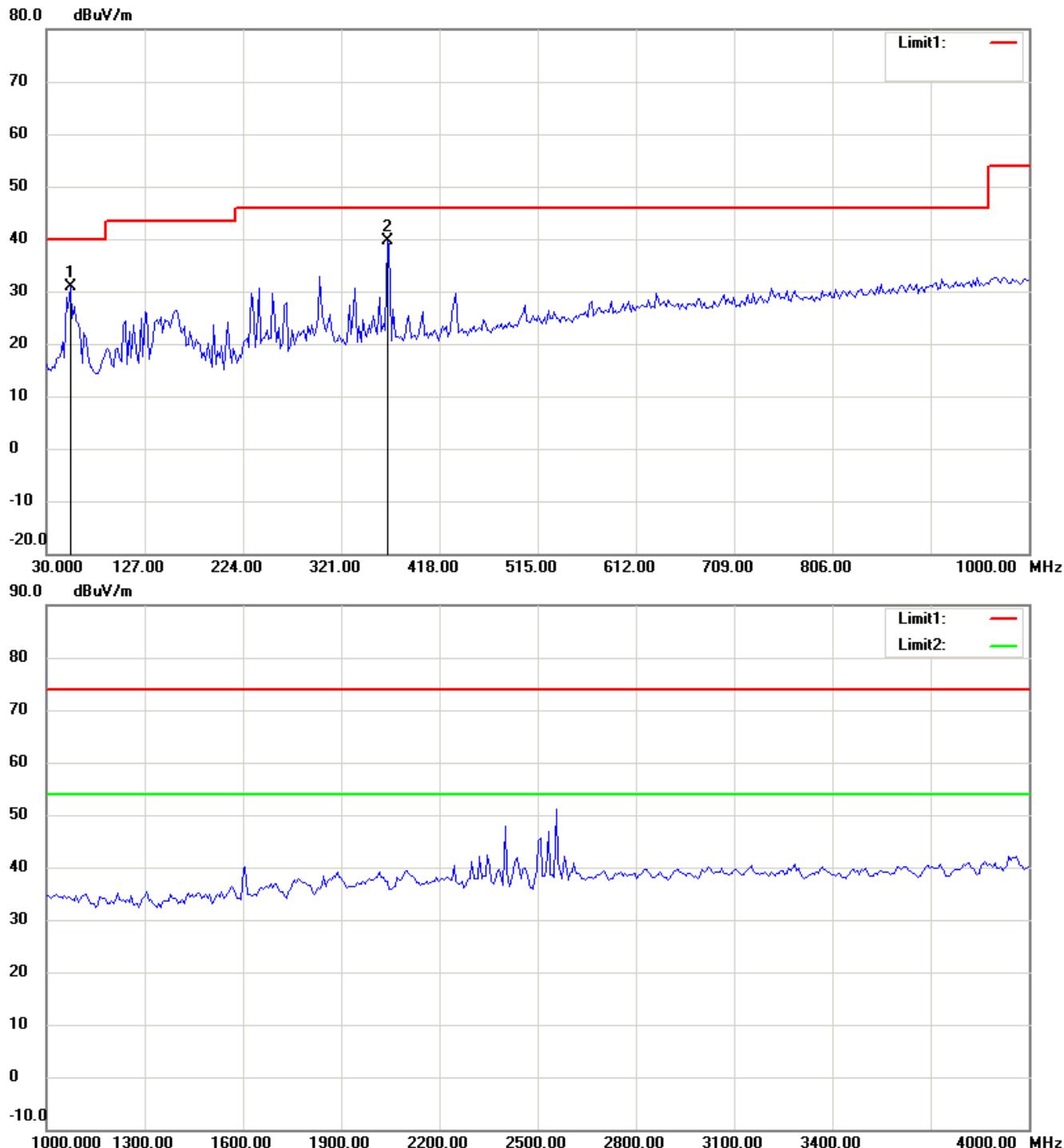
**Note:**

1. The attached measurement plots are preliminarily pre-scanned with peak detector for determining the final checking frequencies and are for reference only.
2. The some frequencies may exceed the limit line without the specified detectors, but that cannot present the results are failed to the specification of test standard.
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Registration number: W6M21408-14400-C-1  
 FCC ID: S9HZJRNFY06

Bluetooth 4.0 TX\_2402 MHz

Antenna Polarization H



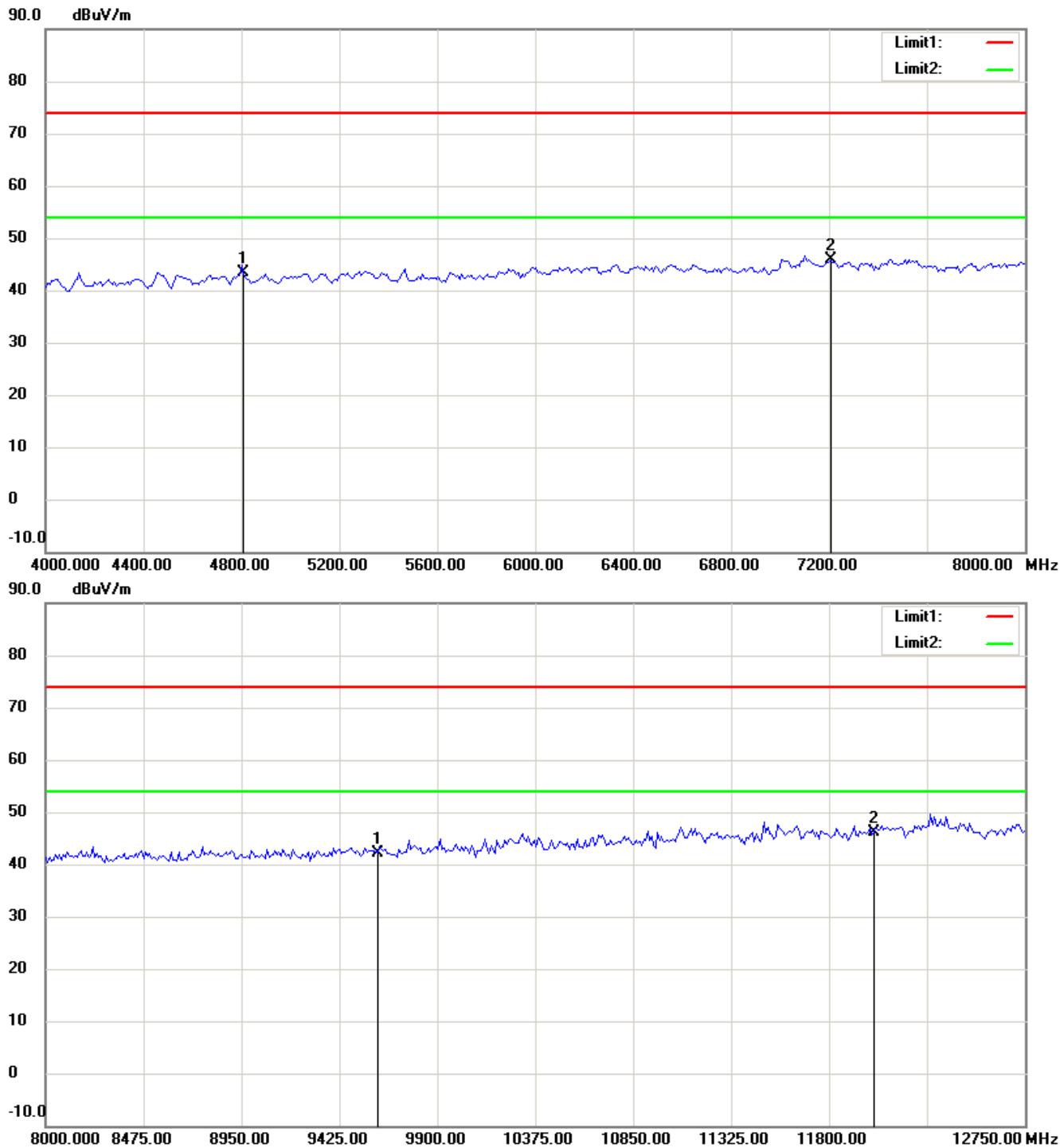
**Up Line: Peak Limit Line Down Line: Ave Limit Line**

**Note:**

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

Registration number: W6M21408-14400-C-1

FCC ID: S9HZJRNFY06

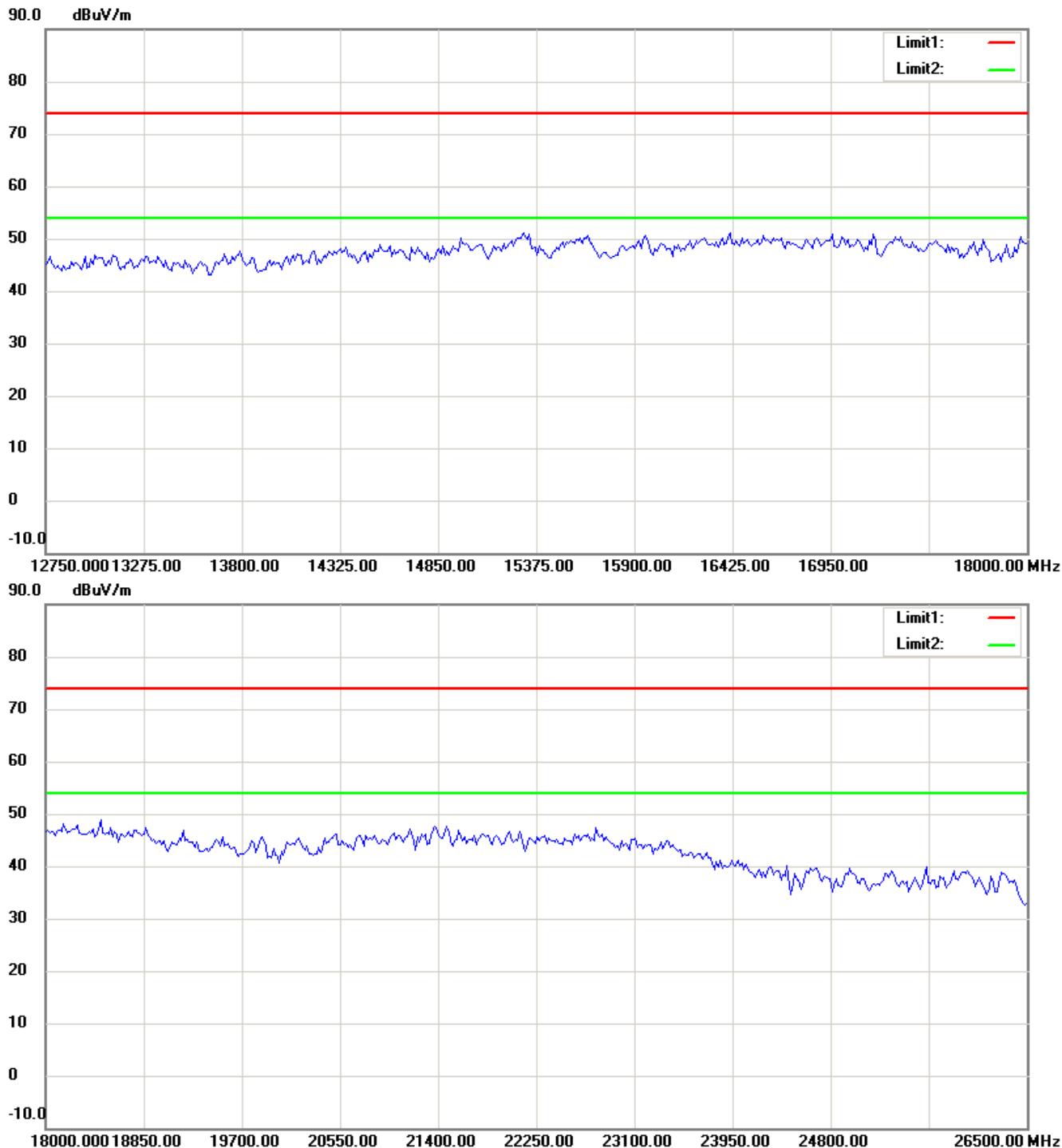


**Up Line: Peak Limit Line Down Line: Ave Limit Line**

**Note:**

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

Registration number: W6M21408-14400-C-1  
 FCC ID: S9HZJRNFY06



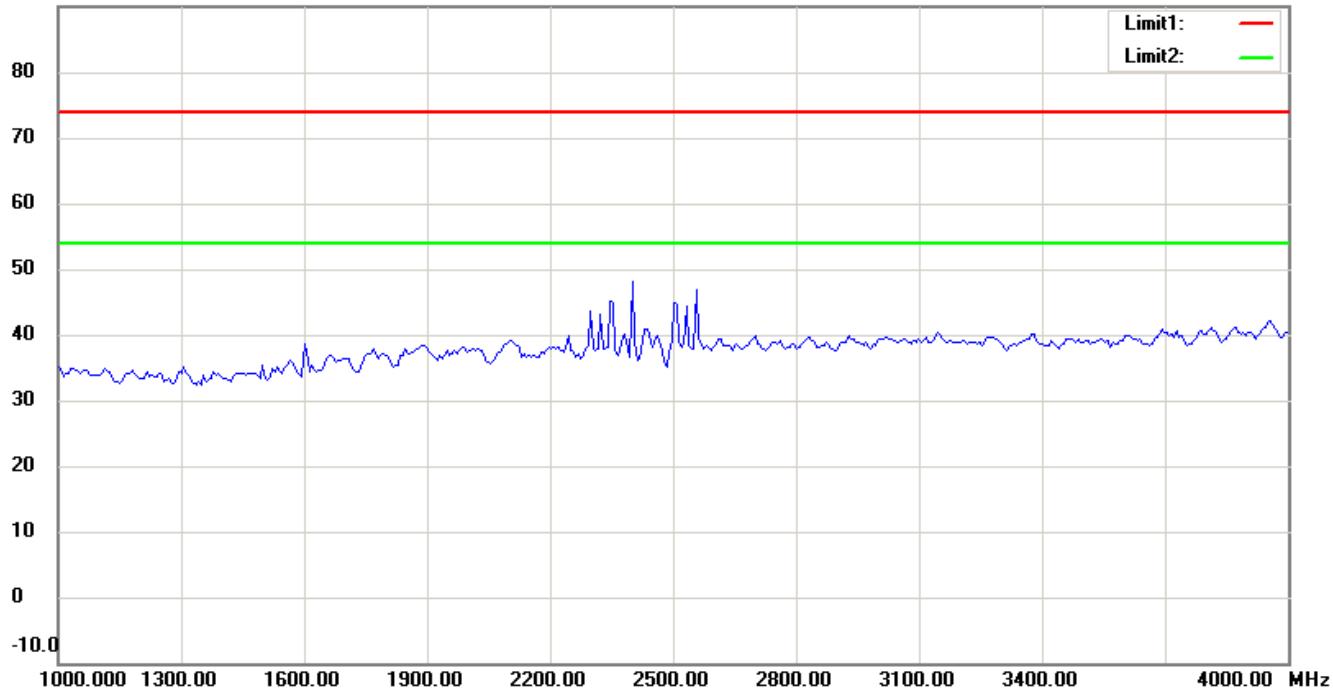
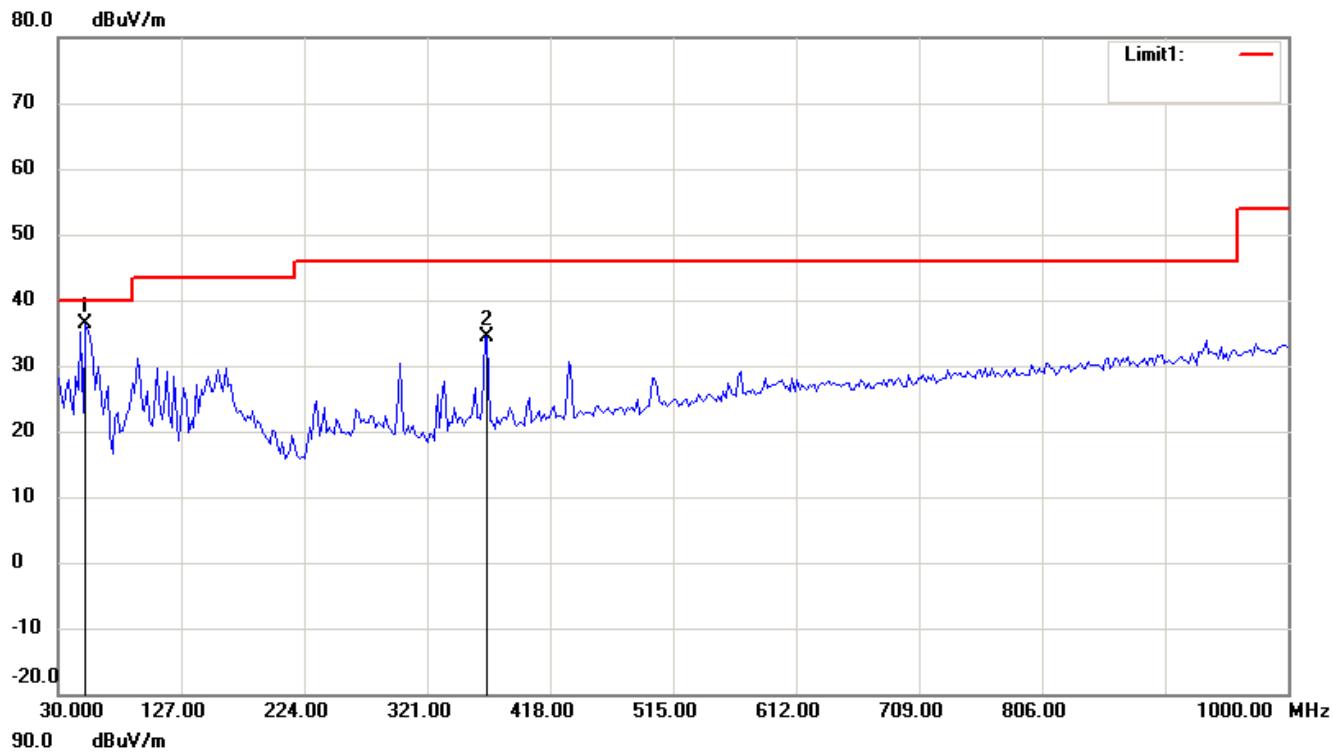
**Up Line: Peak Limit Line Down Line: Ave Limit Line**

**Note:**

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

Registration number: W6M21408-14400-C-1  
 FCC ID: S9HZJRNFY06

## Antenna Polarization V



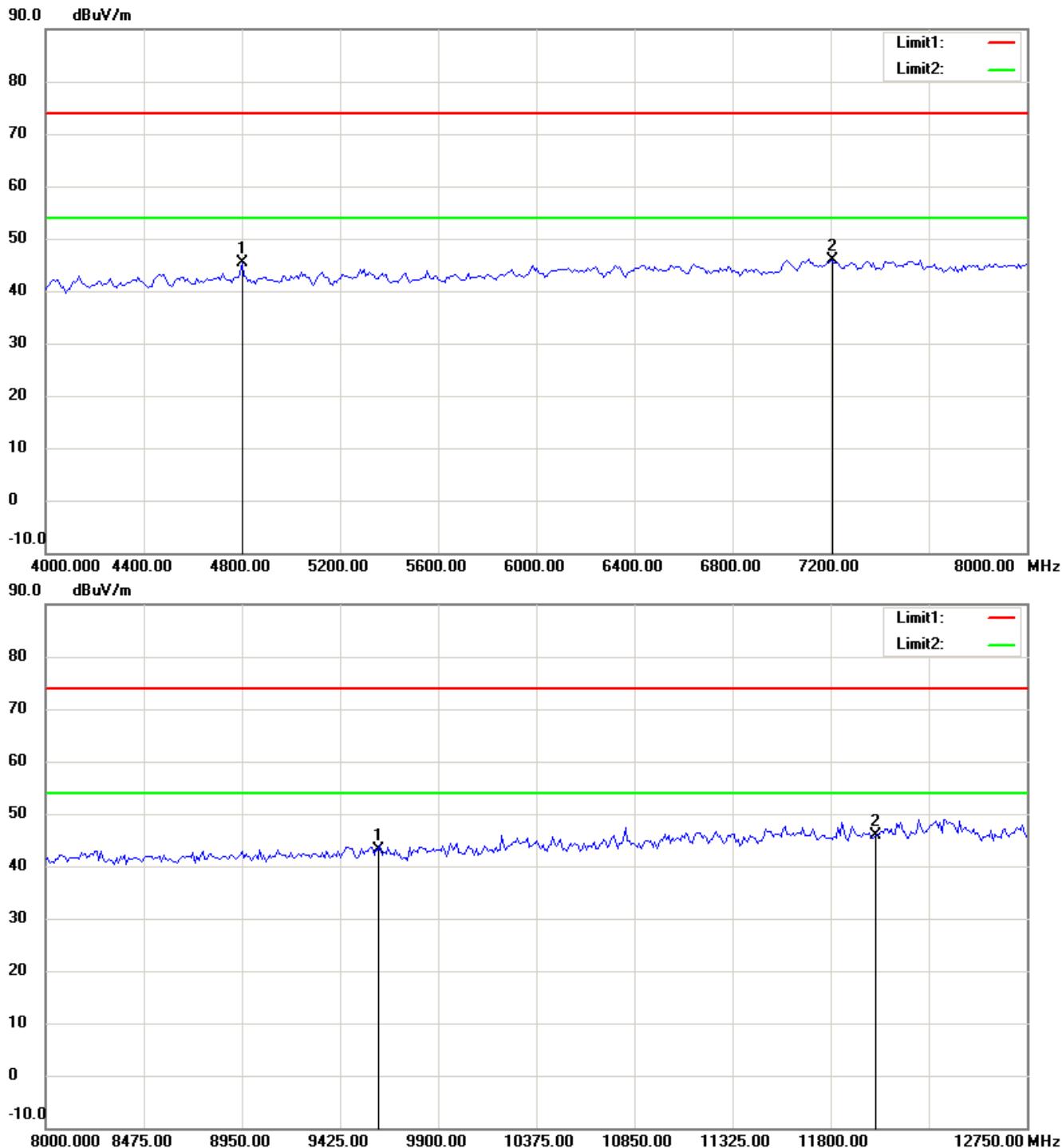
**Up Line: Peak Limit Line Down Line: Ave Limit Line**

**Note:**

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

Registration number: W6M21408-14400-C-1

FCC ID: S9HZJRNFY06



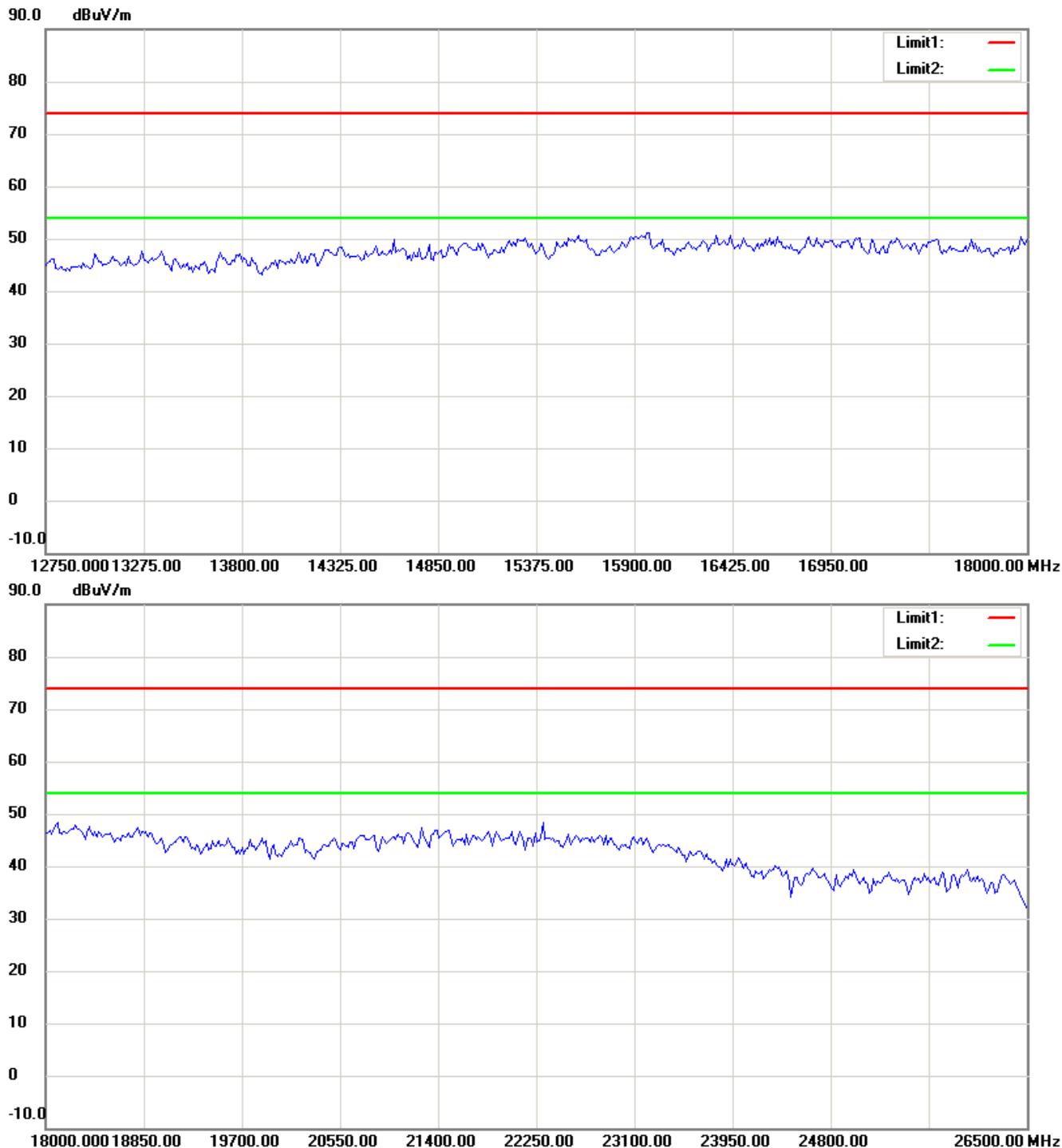
**Up Line: Peak Limit Line Down Line: Ave Limit Line**

**Note:**

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

Registration number: W6M21408-14400-C-1

FCC ID: S9HZJRNFY06



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

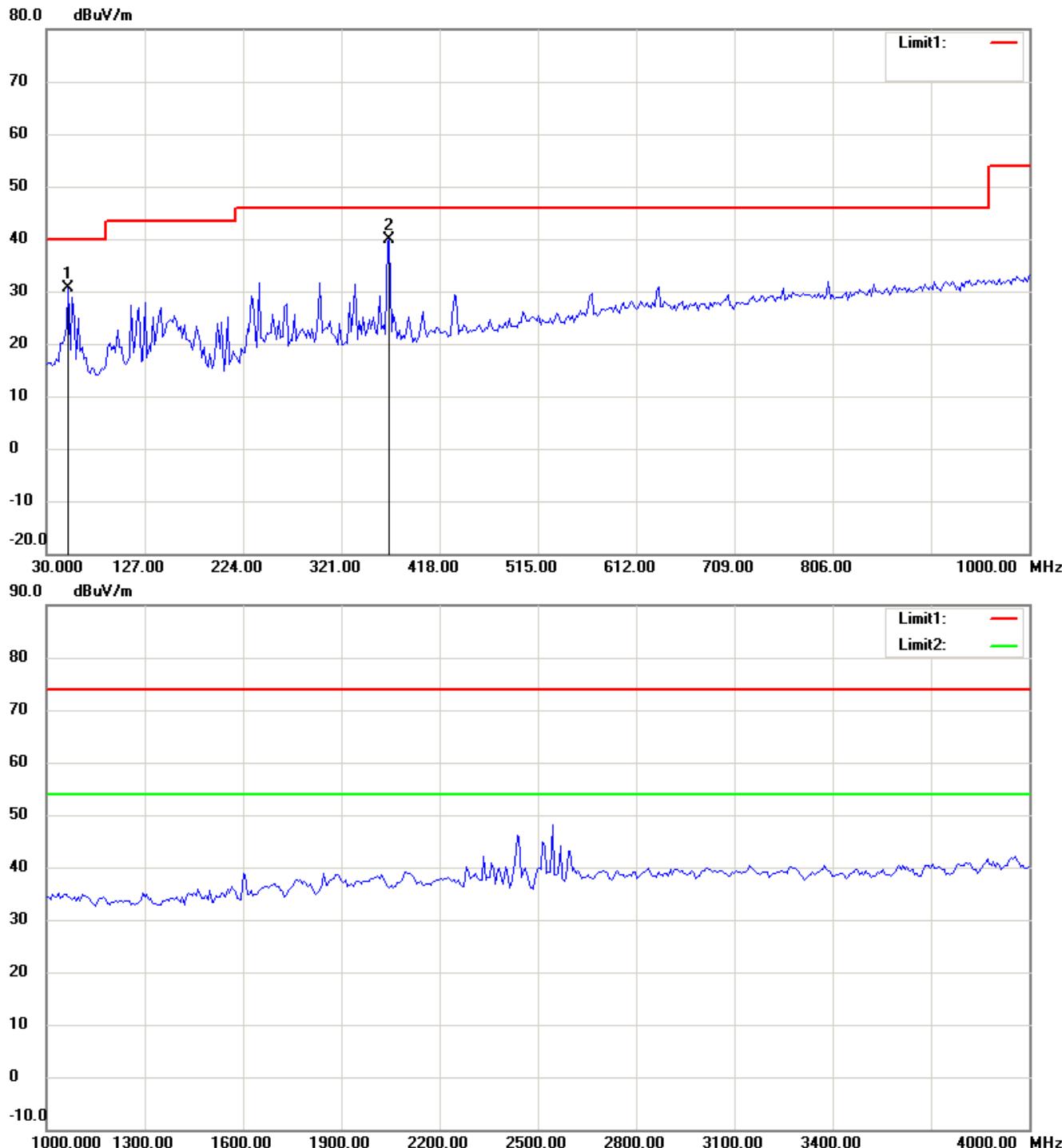
**Note:**

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

Registration number: W6M21408-14400-C-1  
 FCC ID: S9HZJRNFY06

Bluetooth 4.0 TX\_2440 MHz

Antenna Polarization H



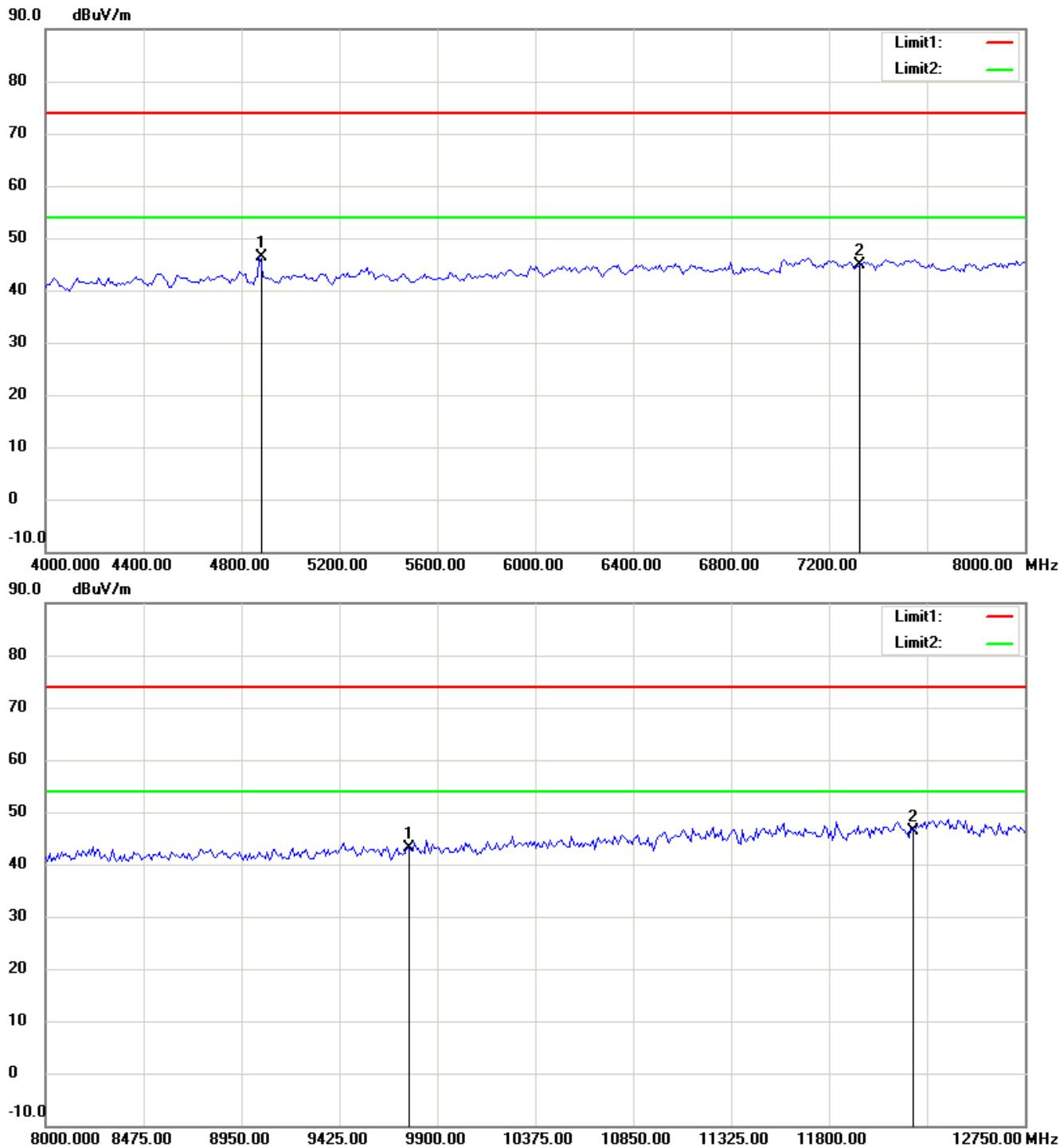
**Up Line: Peak Limit Line Down Line: Ave Limit Line**

**Note:**

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

Registration number: W6M21408-14400-C-1

FCC ID: S9HZJRNFY06



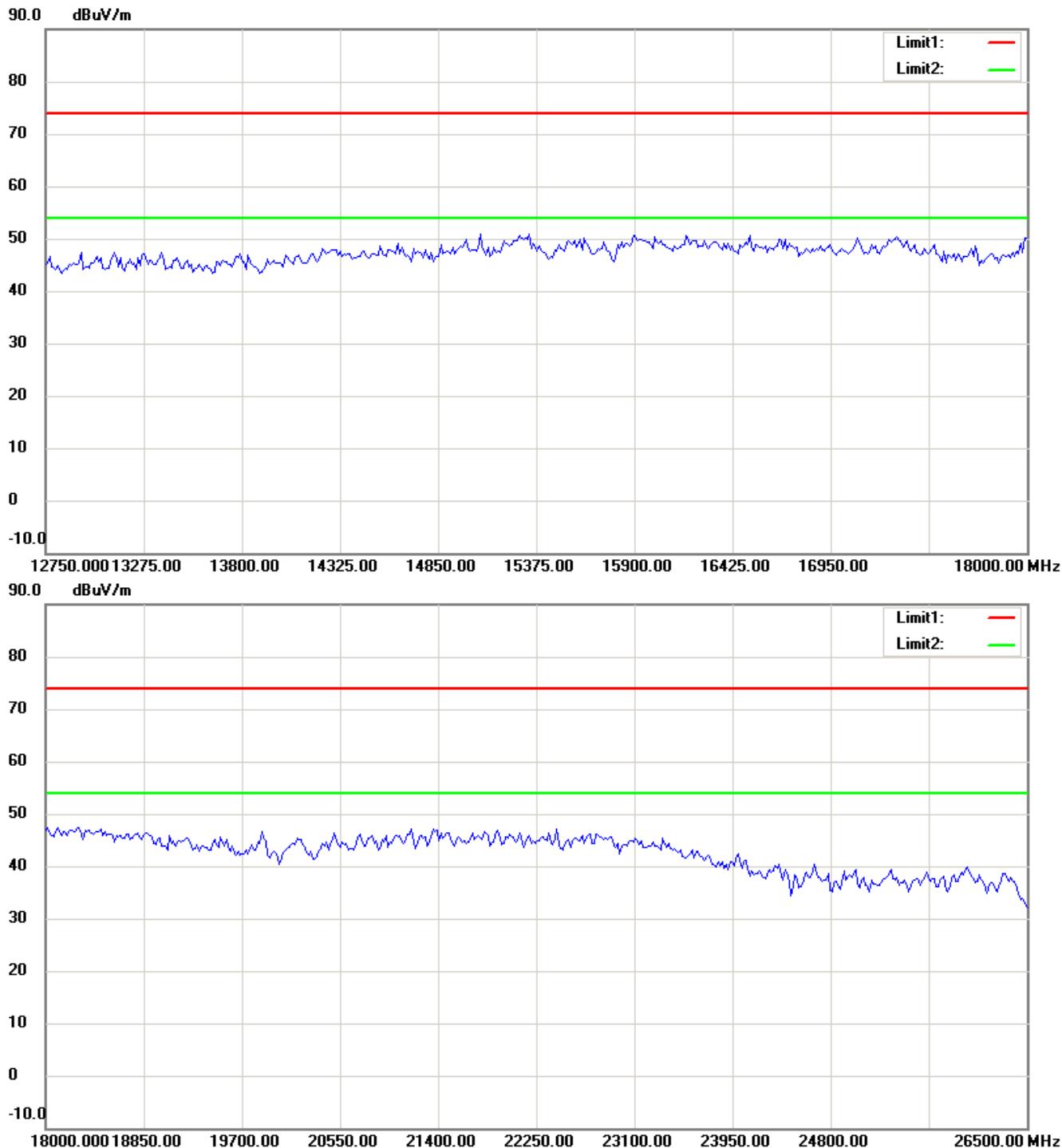
**Up Line: Peak Limit Line Down Line: Ave Limit Line**

**Note:**

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

Registration number: W6M21408-14400-C-1

FCC ID: S9HZJRNFY06



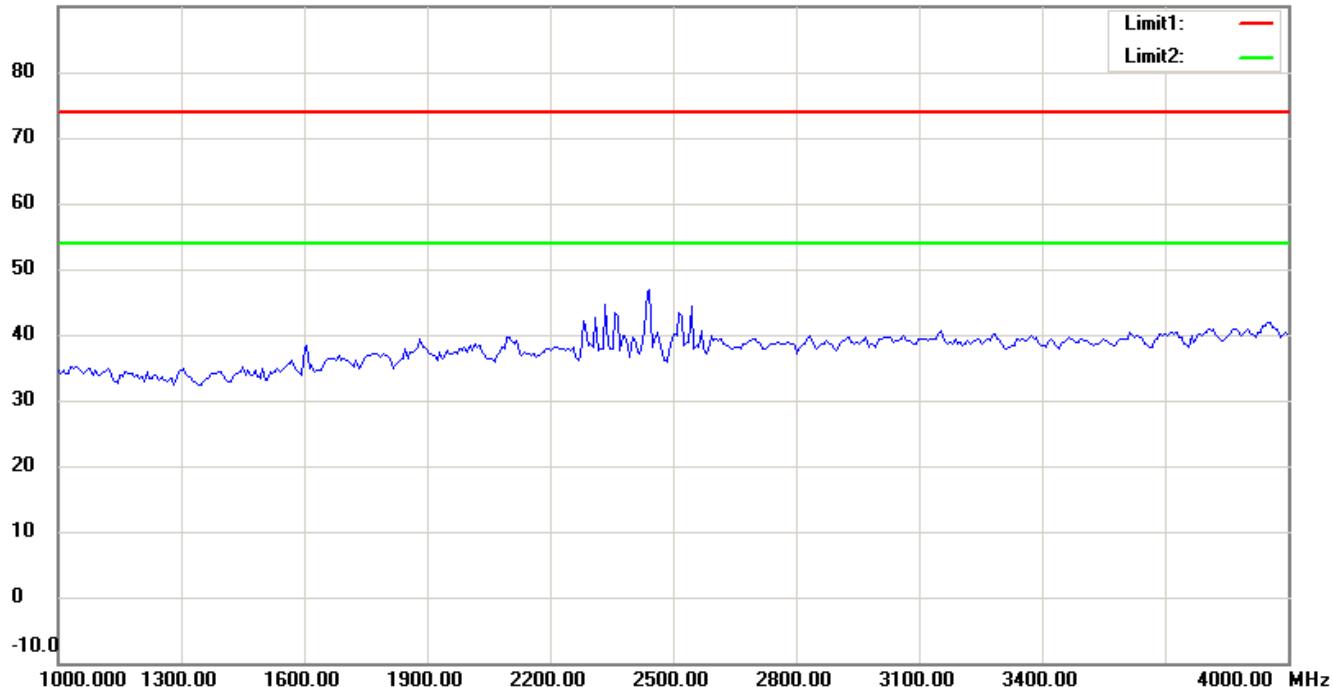
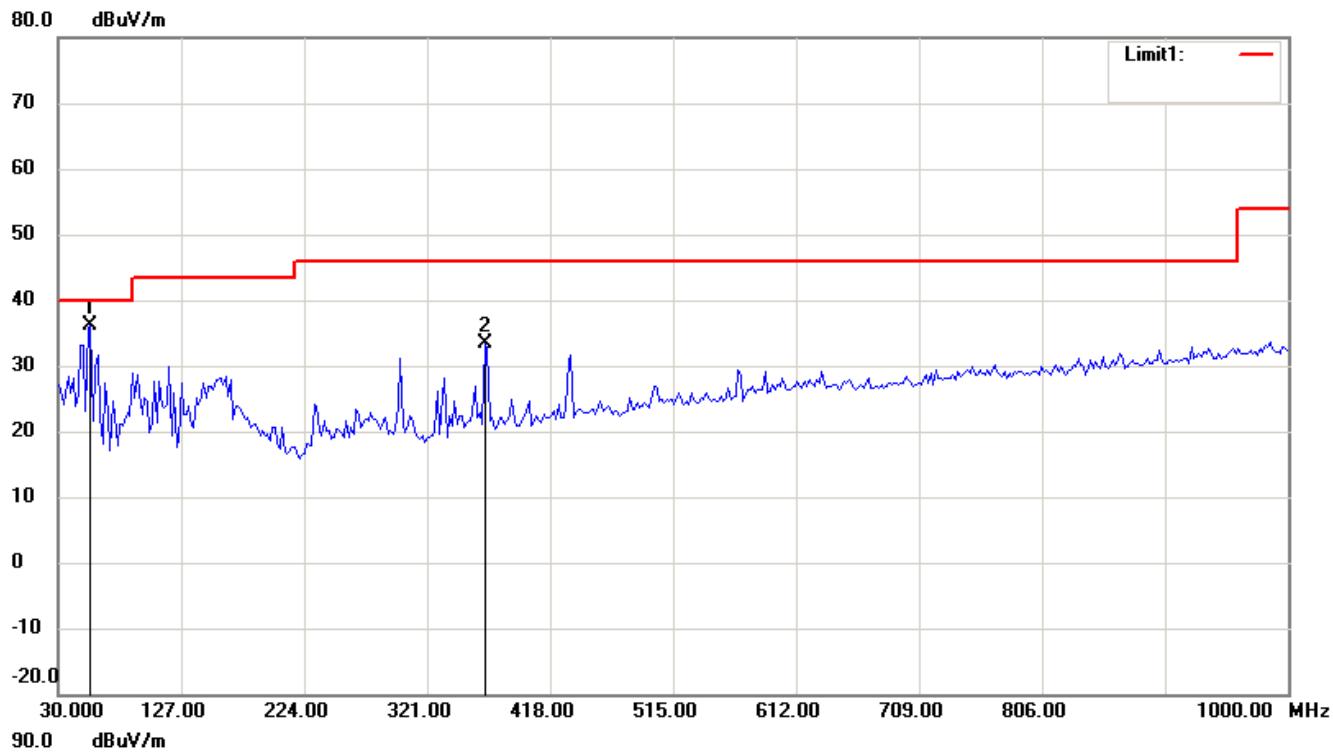
**Up Line: Peak Limit Line Down Line: Ave Limit Line**

**Note:**

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

Registration number: W6M21408-14400-C-1  
 FCC ID: S9HZJRNFY06

## Antenna Polarization V



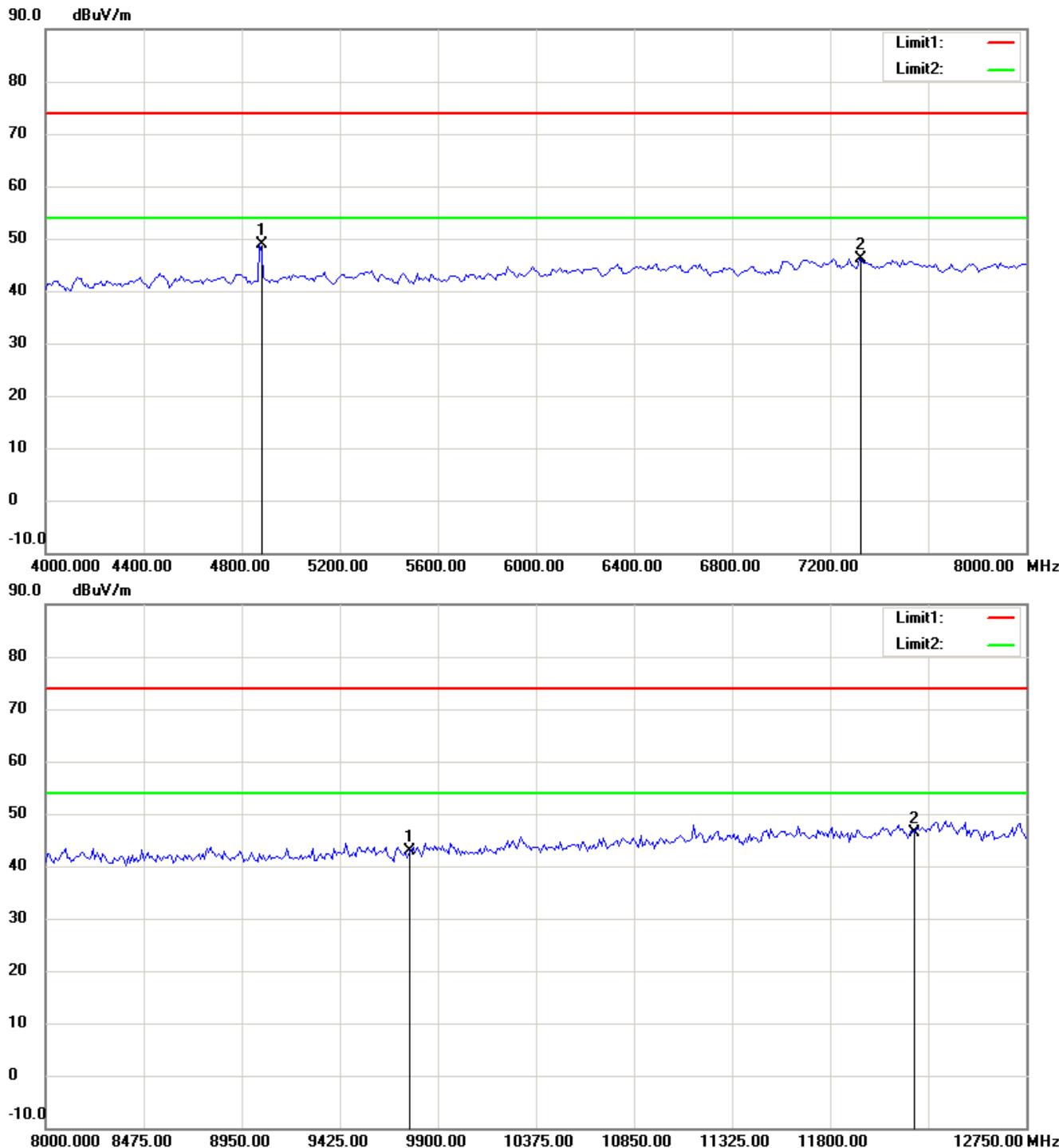
**Up Line: Peak Limit Line Down Line: Ave Limit Line**

**Note:**

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

Registration number: W6M21408-14400-C-1

FCC ID: S9HZJRNFY06

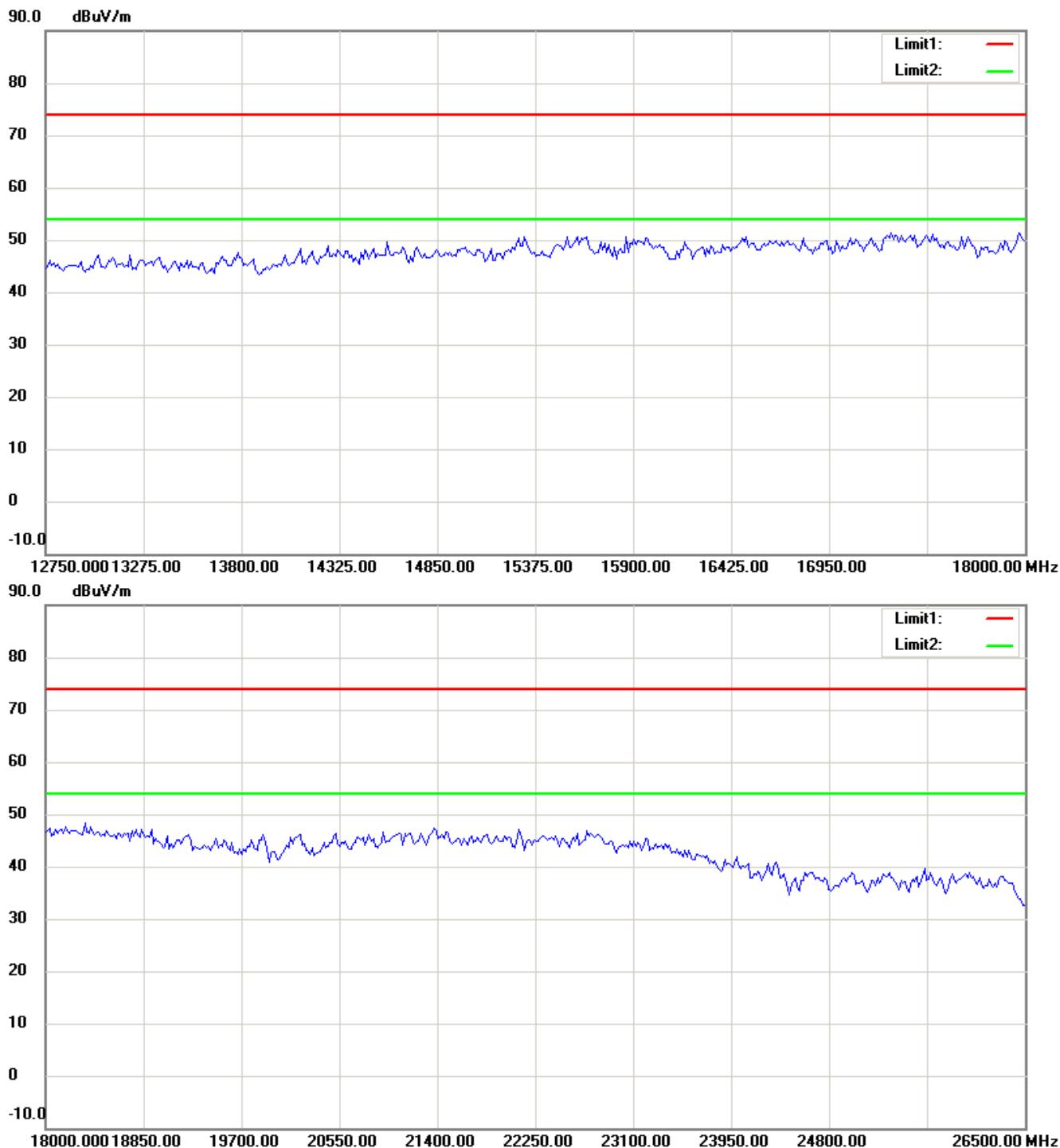


**Up Line: Peak Limit Line Down Line: Ave Limit Line**

**Note:**

1. The attached measurement plots are preliminarily pre-scanned with peak detector for determining the final checking frequencies and are for reference only.
2. The some frequencies may exceed the limit line without the specified detectors, but that cannot present the results are failed to the specification of test standard.
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Registration number: W6M21408-14400-C-1  
 FCC ID: S9HZJRNFY06



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

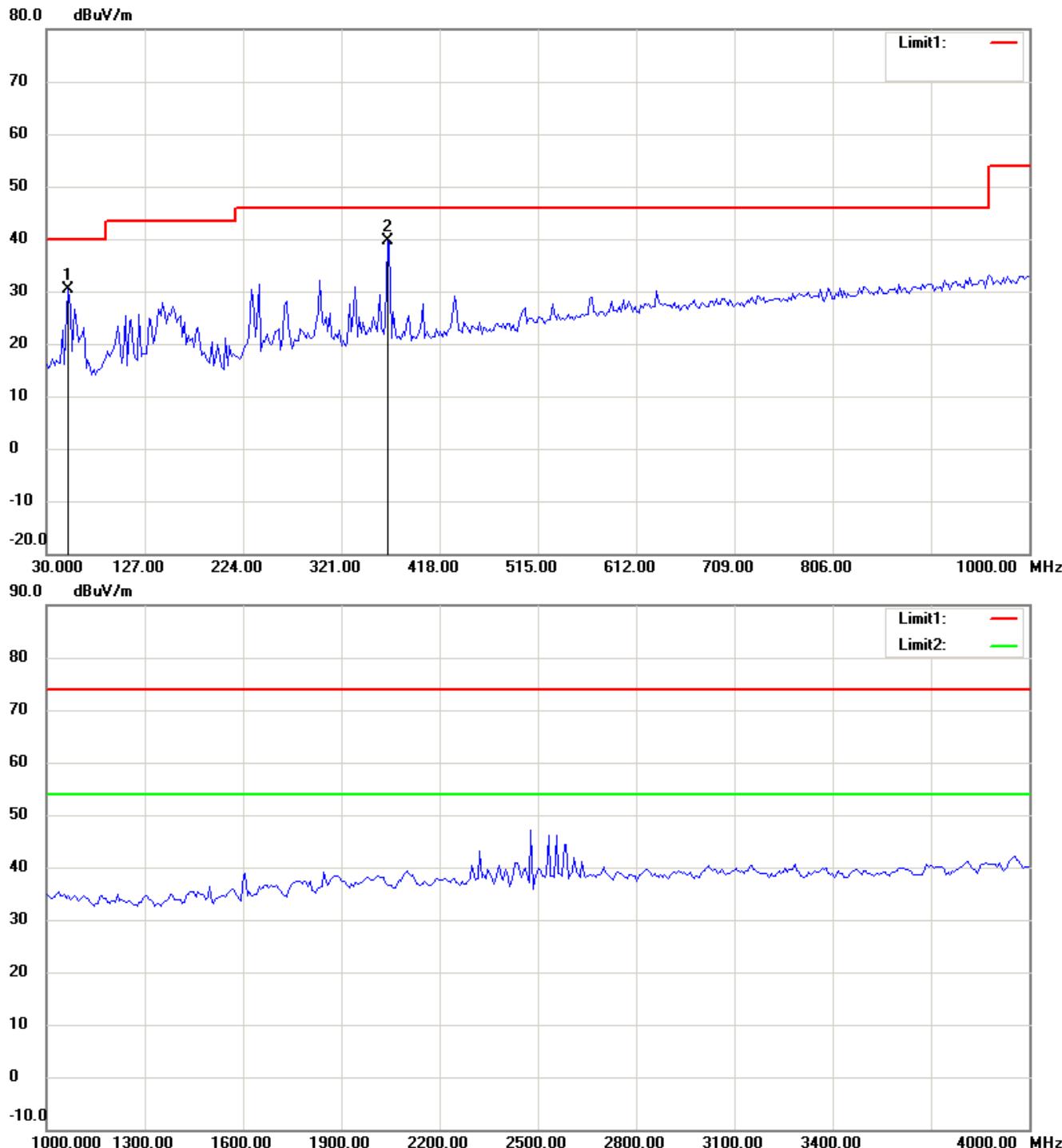
**Note:**

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

Registration number: W6M21408-14400-C-1  
 FCC ID: S9HZJRNFY06

Bluetooth 4.0 TX\_2480 MHz

Antenna Polarization H

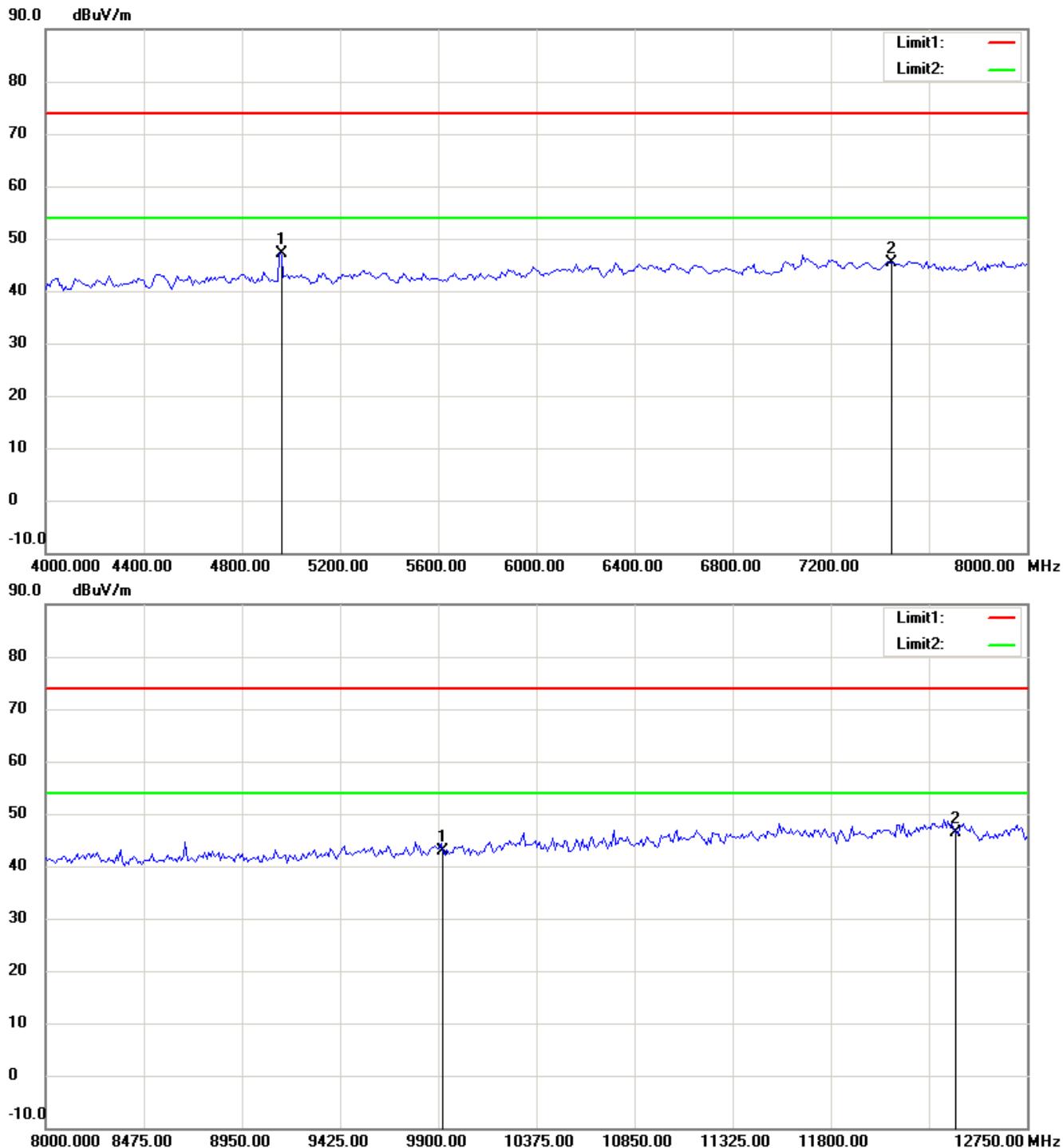


**Up Line: Peak Limit Line Down Line: Ave Limit Line**

**Note:**

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

Registration number: W6M21408-14400-C-1  
 FCC ID: S9HZJRNFY06



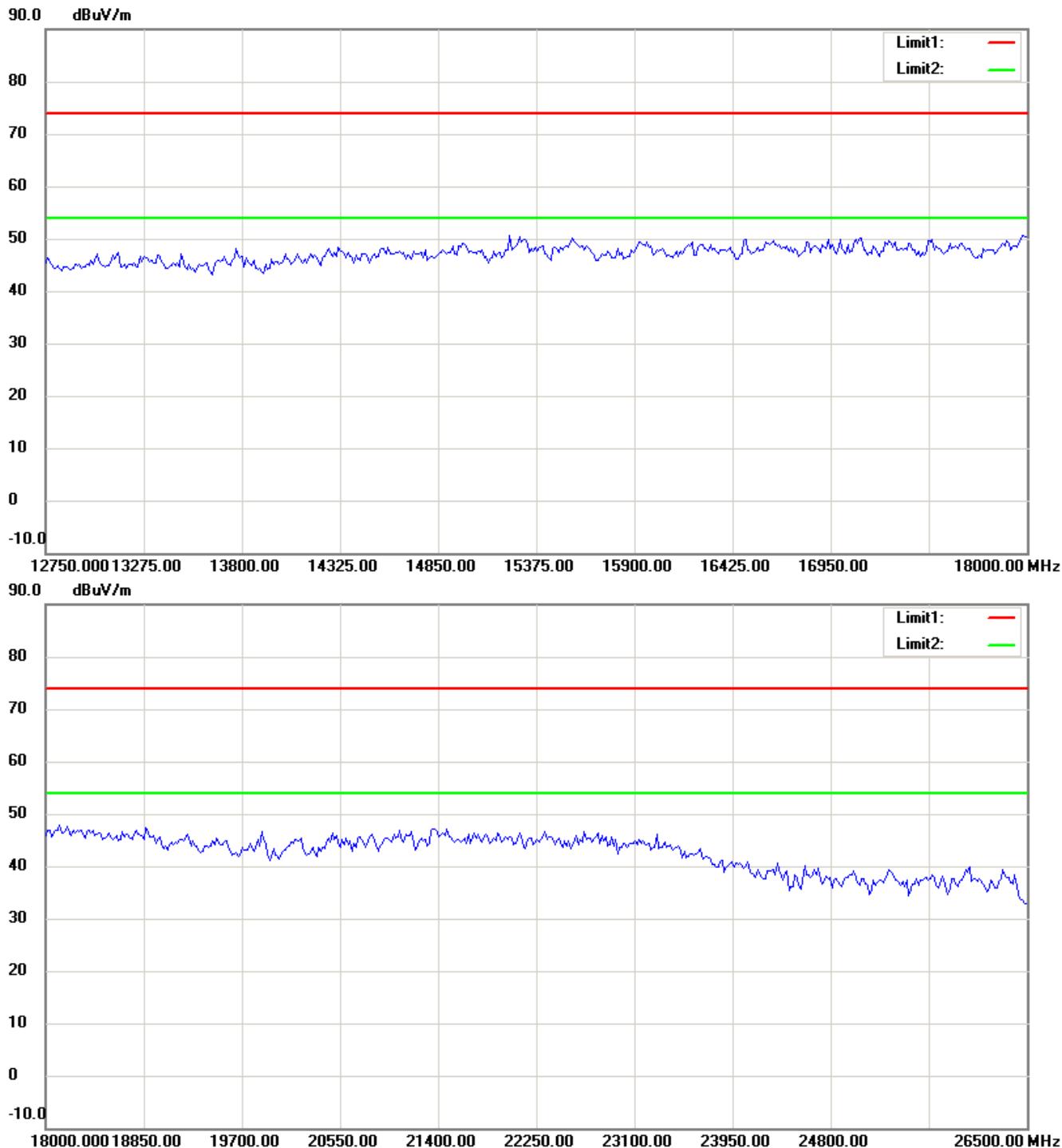
**Up Line: Peak Limit Line Down Line: Ave Limit Line**

**Note:**

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

Registration number: W6M21408-14400-C-1

FCC ID: S9HZJRNFY06



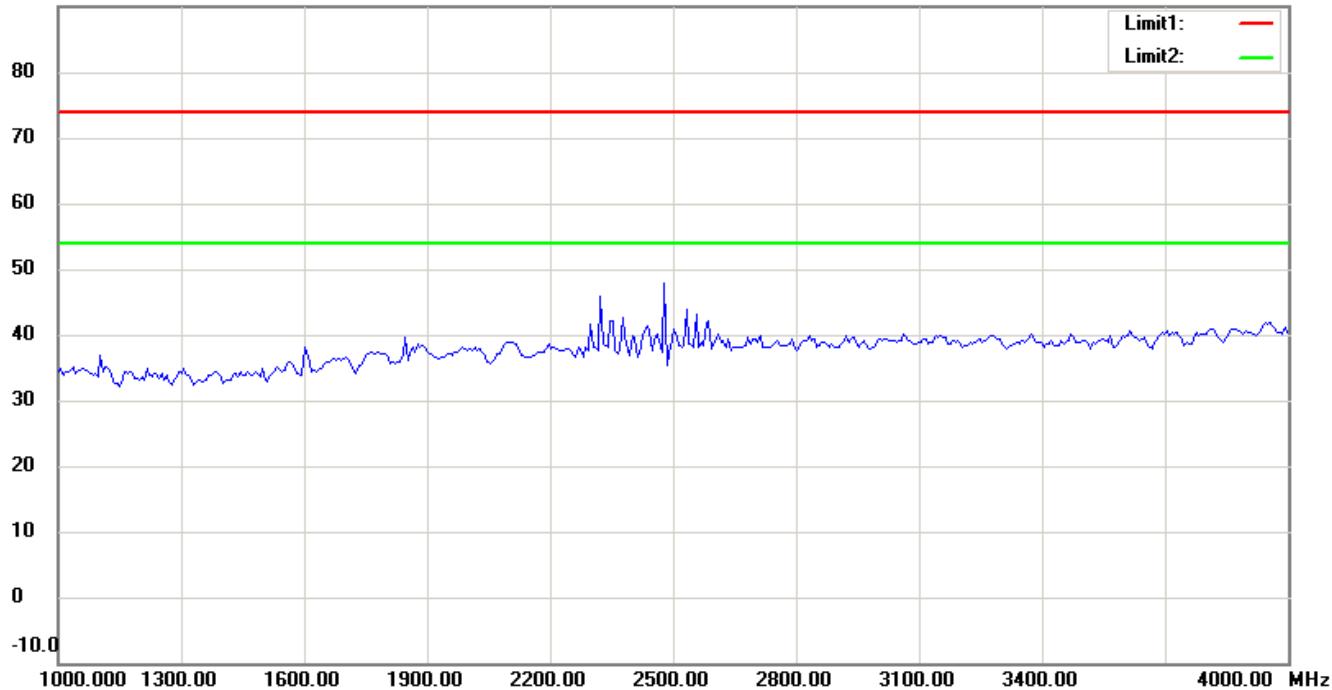
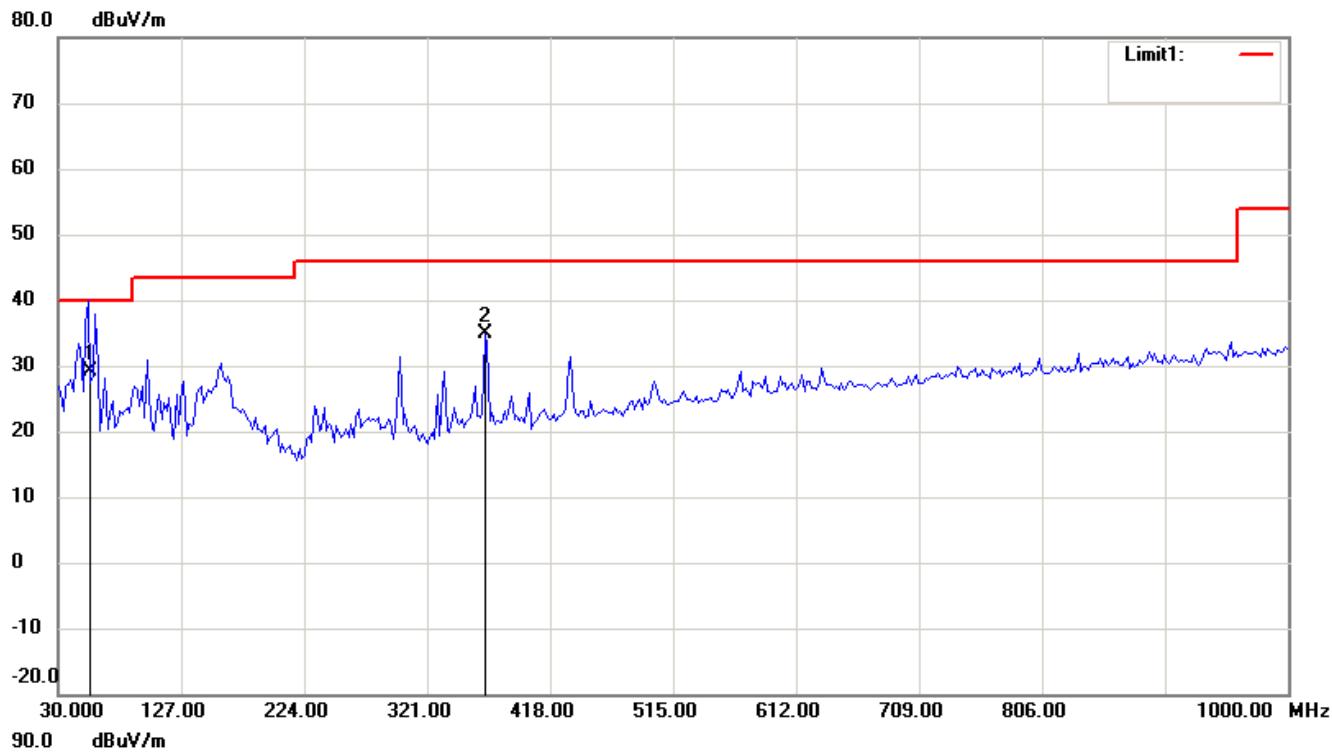
**Up Line: Peak Limit Line Down Line: Ave Limit Line**

**Note:**

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Registration number: W6M21408-14400-C-1  
 FCC ID: S9HZJRNFY06

## Antenna Polarization V

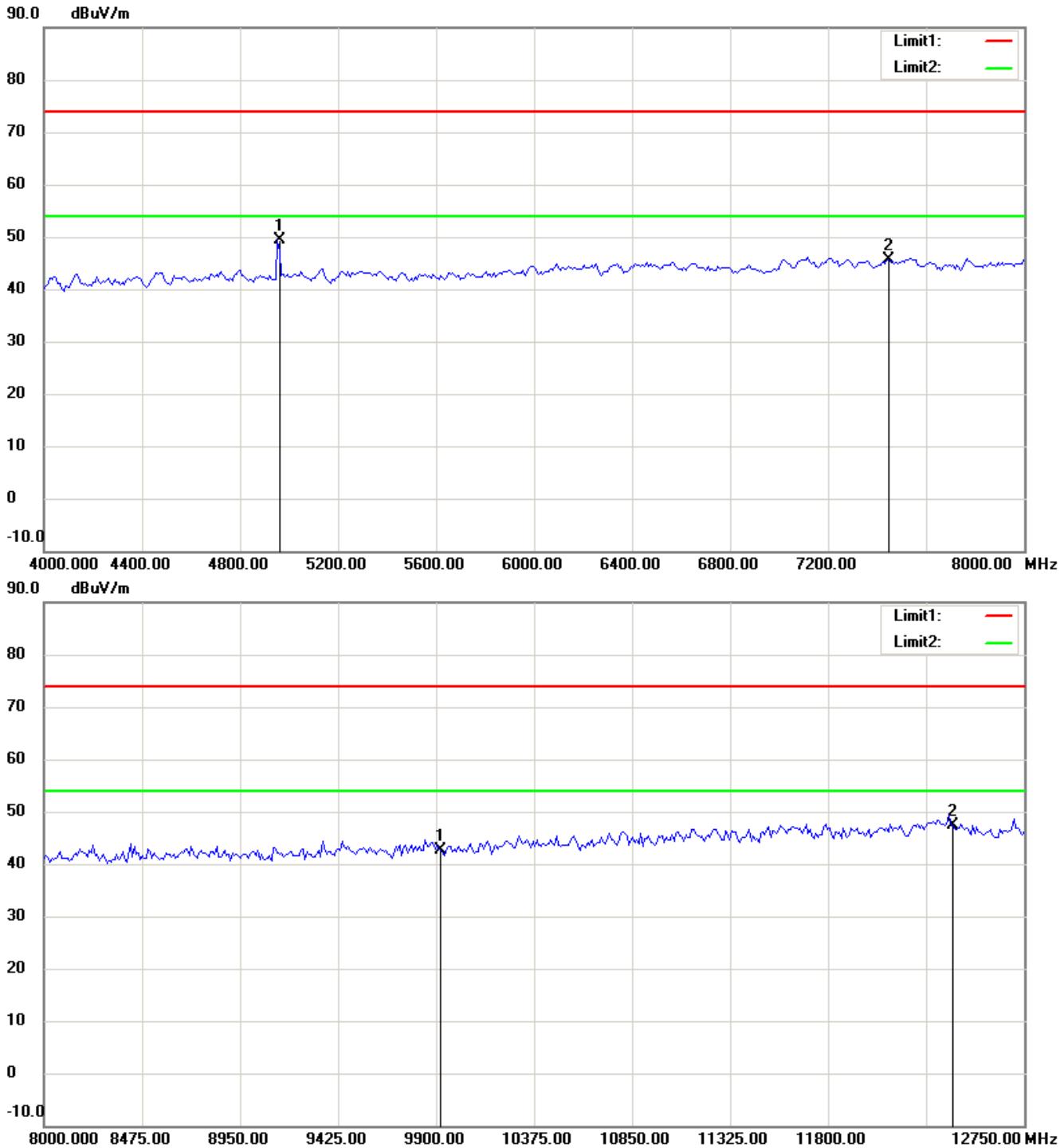


**Up Line: Peak Limit Line Down Line: Ave Limit Line**

**Note:**

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

Registration number: W6M21408-14400-C-1  
 FCC ID: S9HZJRNFY06



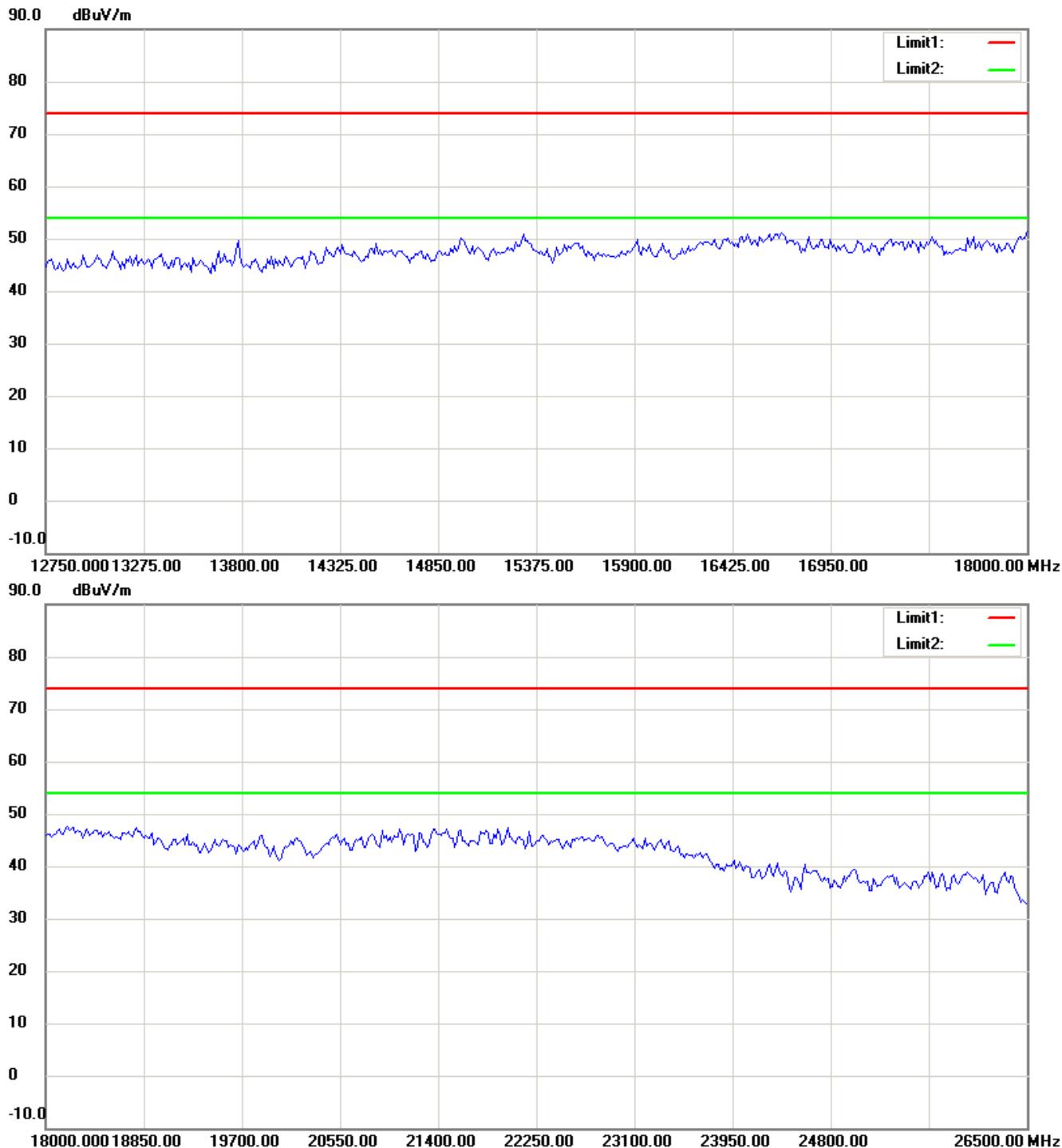
**Up Line: Peak Limit Line Down Line: Ave Limit Line**

**Note:**

1. The attached measurement plots are preliminarily pre-scanned with peak detector for determining the final checking frequencies and are for reference only.
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Registration number: W6M21408-14400-C-1

FCC ID: S9HZJRNFY06



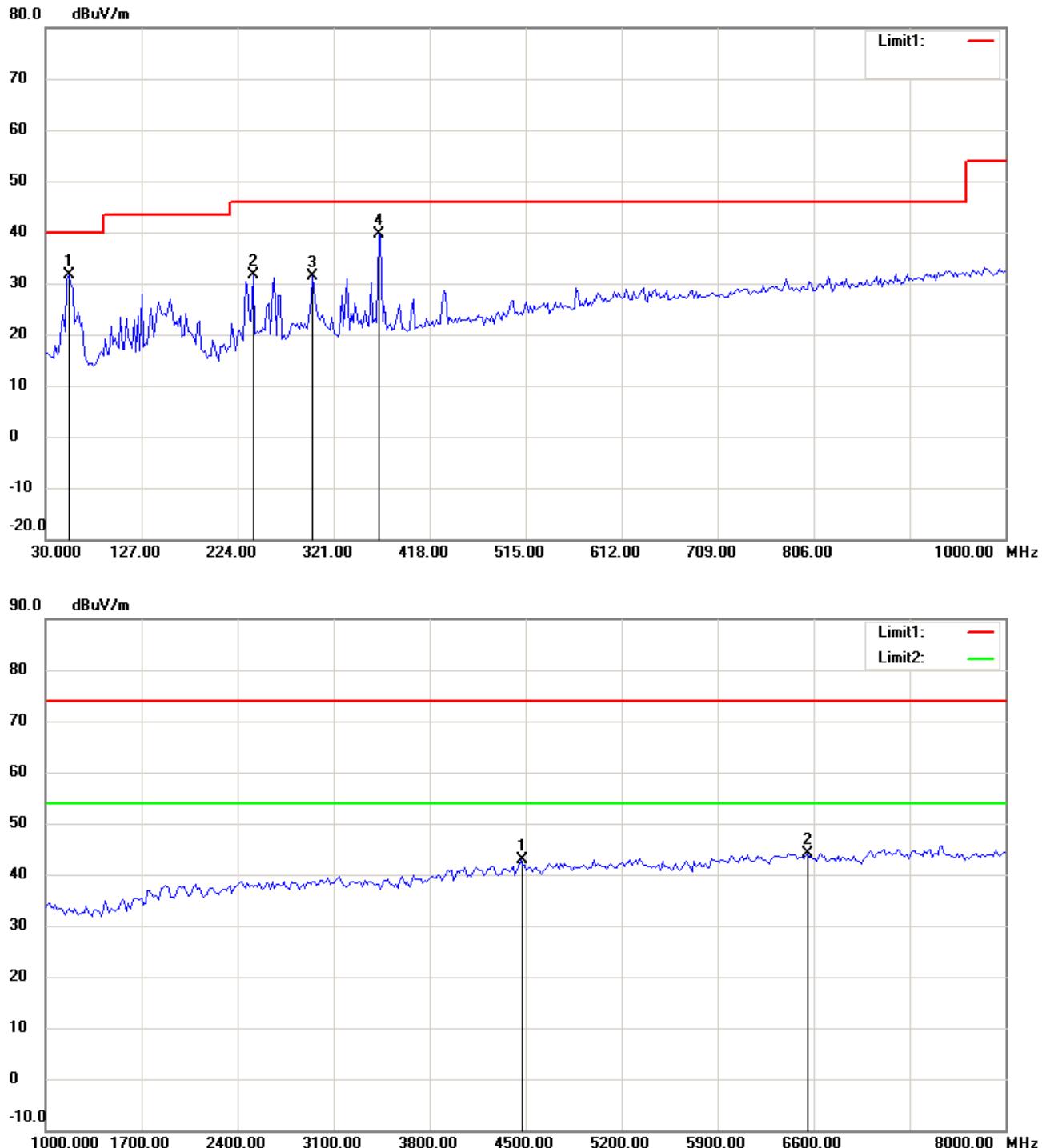
**Up Line: Peak Limit Line Down Line: Ave Limit Line**

**Note:**

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Registration number: W6M21408-14400-C-1  
 FCC ID: S9HZJRNFY06

Radiated Emission  
 Bluetooth 2.0 RX\_2402MHz  
 Antenna Polarization H



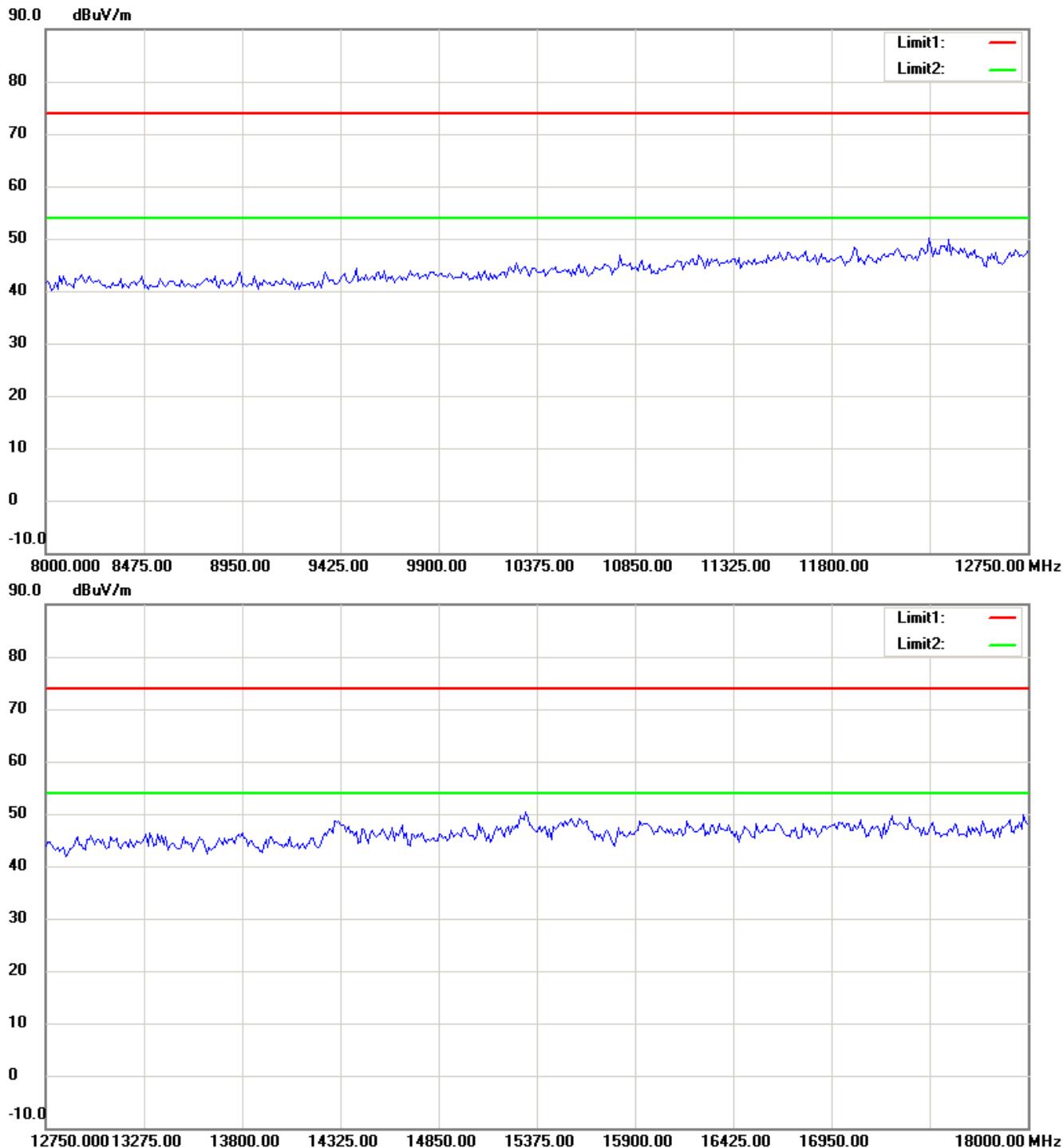
Up Line: Peak Limit Line Down Line: Ave Limit Line

Note:

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Registration number: W6M21408-14400-C-1

FCC ID: S9HZJRNFY06



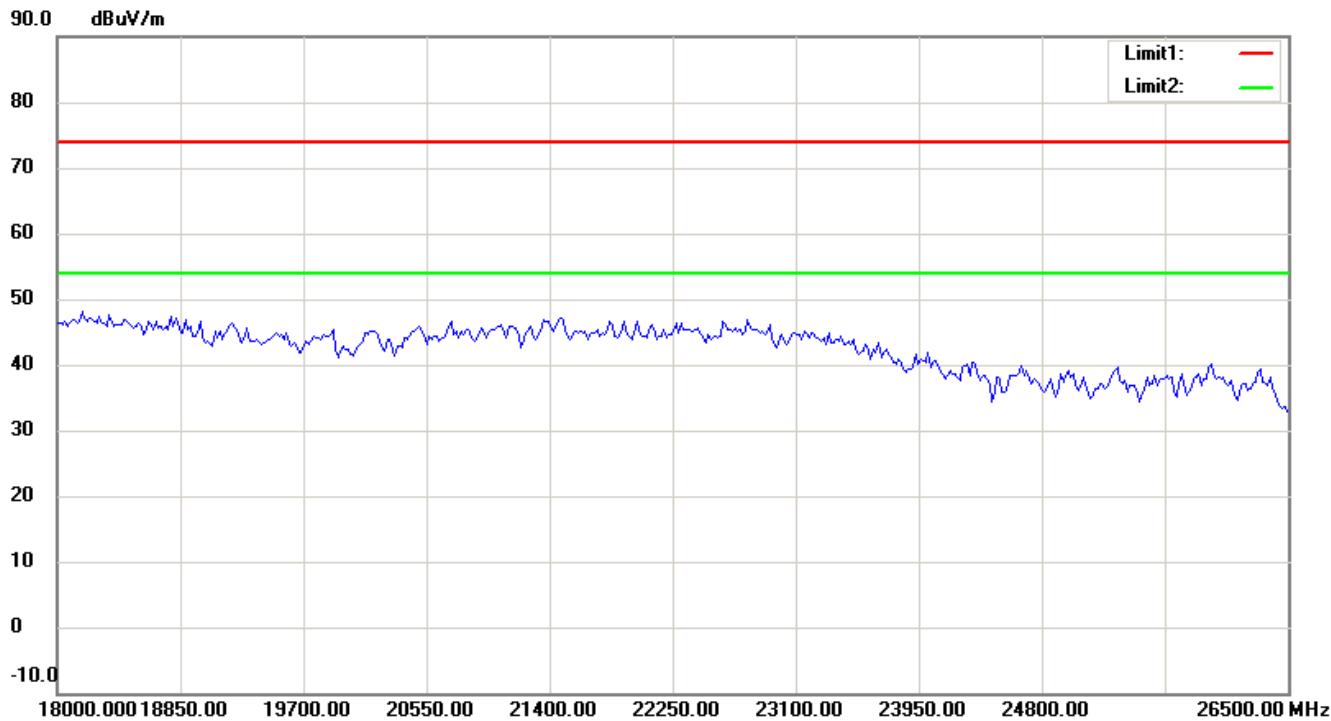
**Up Line: Peak Limit Line Down Line: Ave Limit Line**

**Note:**

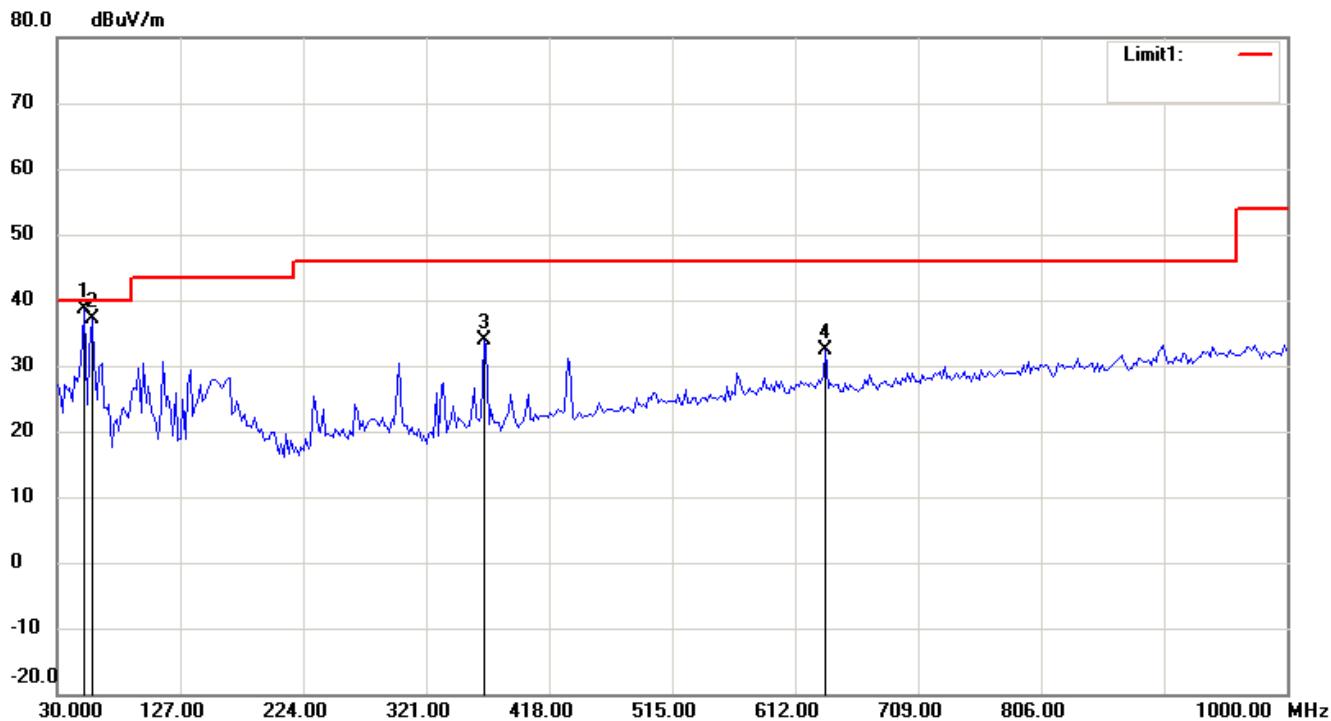
1. The attached measurement plots are preliminarily pre-scanned with peak detector for determining the final checking frequencies and are for reference only.
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Registration number: W6M21408-14400-C-1

FCC ID: S9HZJRNFY06



## Antenna Polarization V

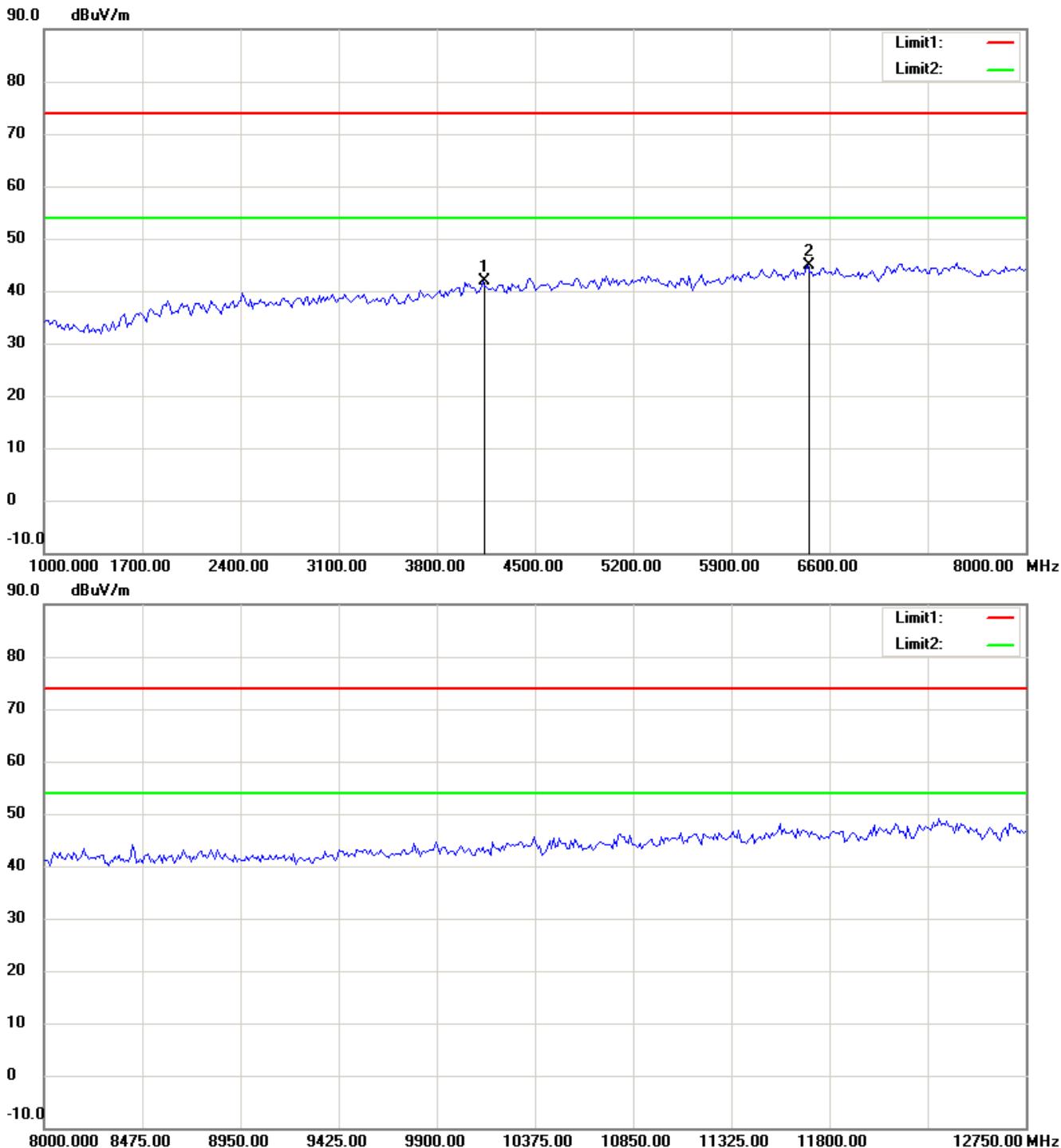


**Up Line: Peak Limit Line Down Line: Ave Limit Line**

**Note:**

1. The attached measurement plots are preliminarily pre-scanned with peak detector for determining the final checking frequencies and are for reference only.
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Registration number: W6M21408-14400-C-1  
 FCC ID: S9HZJRNFY06



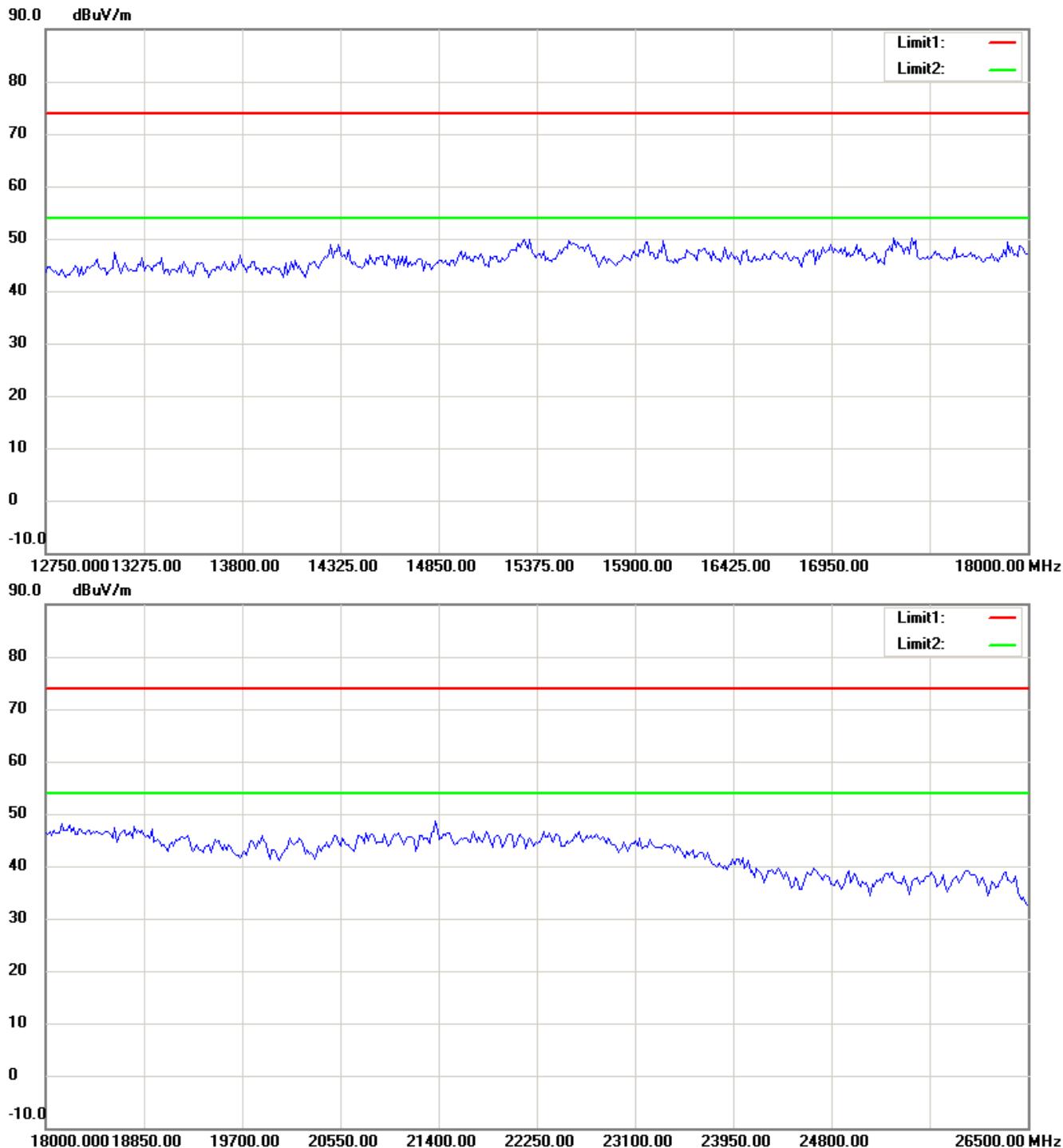
**Up Line: Peak Limit Line Down Line: Ave Limit Line**

**Note:**

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Registration number: W6M21408-14400-C-1

FCC ID: S9HZJRNFY06



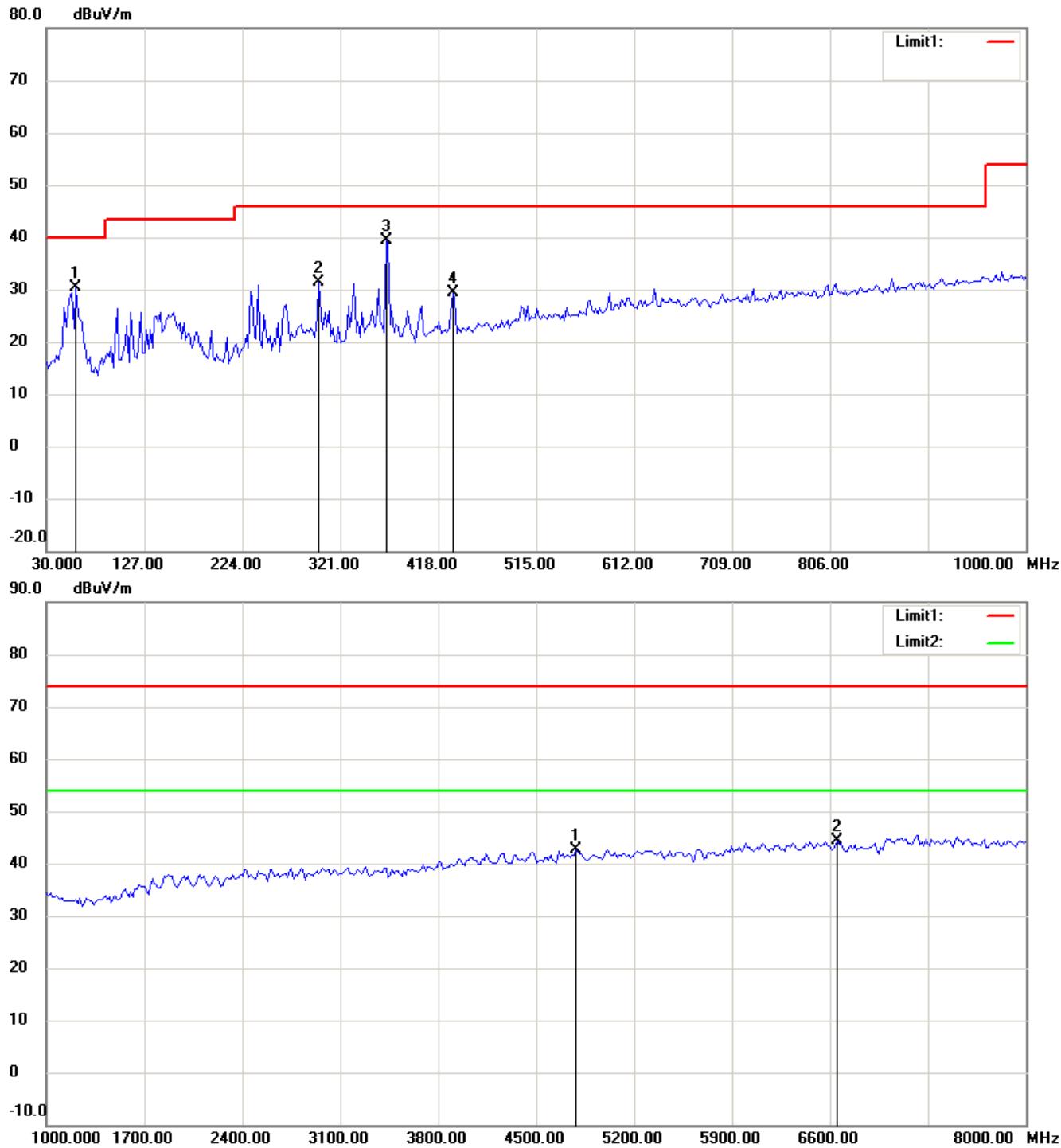
**Up Line: Peak Limit Line Down Line: Ave Limit Line**

**Note:**

1. The attached measurement plots are preliminarily pre-scanned with peak detector for determining the final checking frequencies and are for reference only.
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Registration number: W6M21408-14400-C-1  
 FCC ID: S9HZJRNFY06

## Bluetooth 2.0 RX 2441 MHz Antenna Polarization H

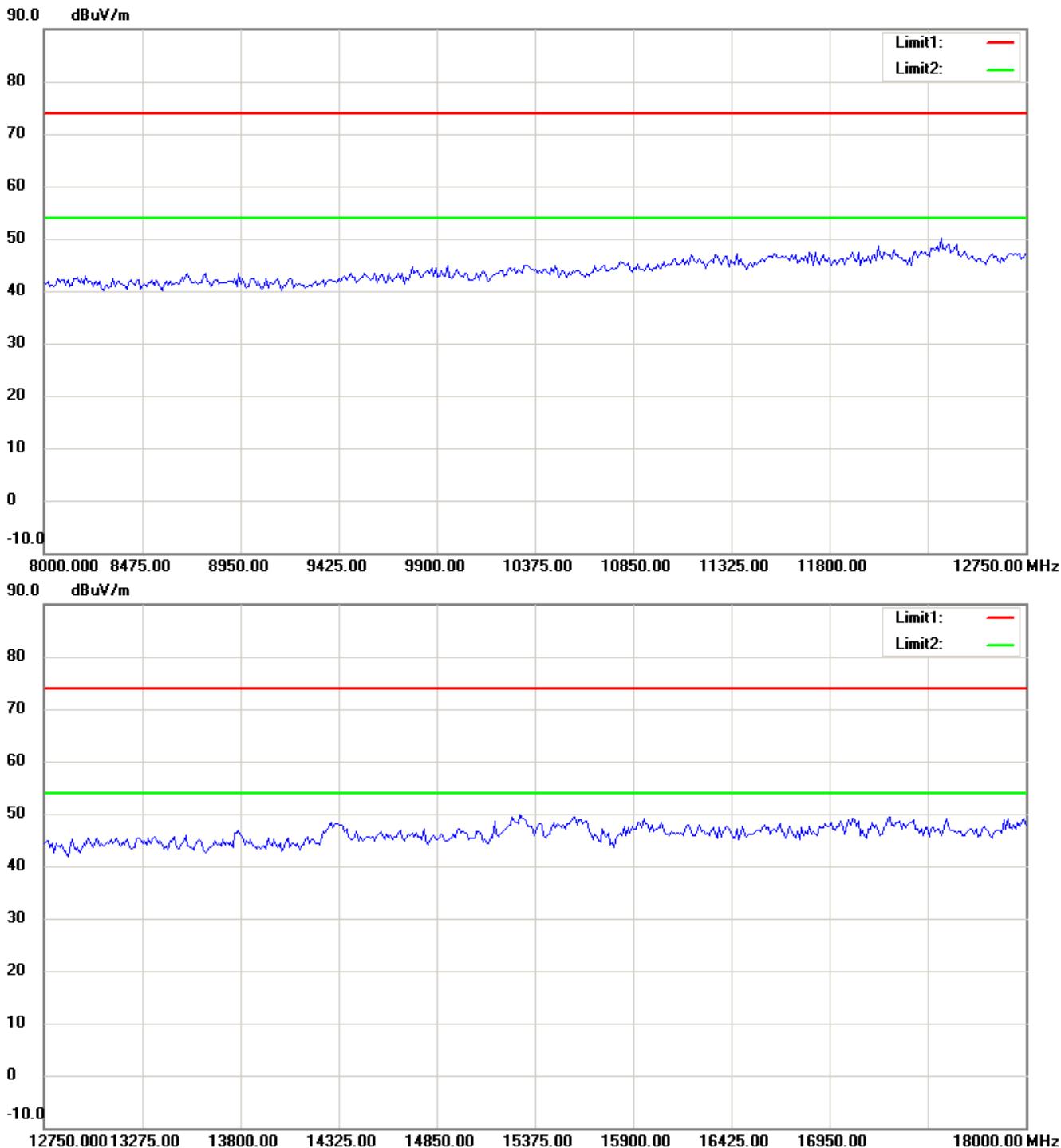


**Up Line: Peak Limit Line Down Line: Ave Limit Line**

**Note:**

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

Registration number: W6M21408-14400-C-1  
 FCC ID: S9HZJRNFY06

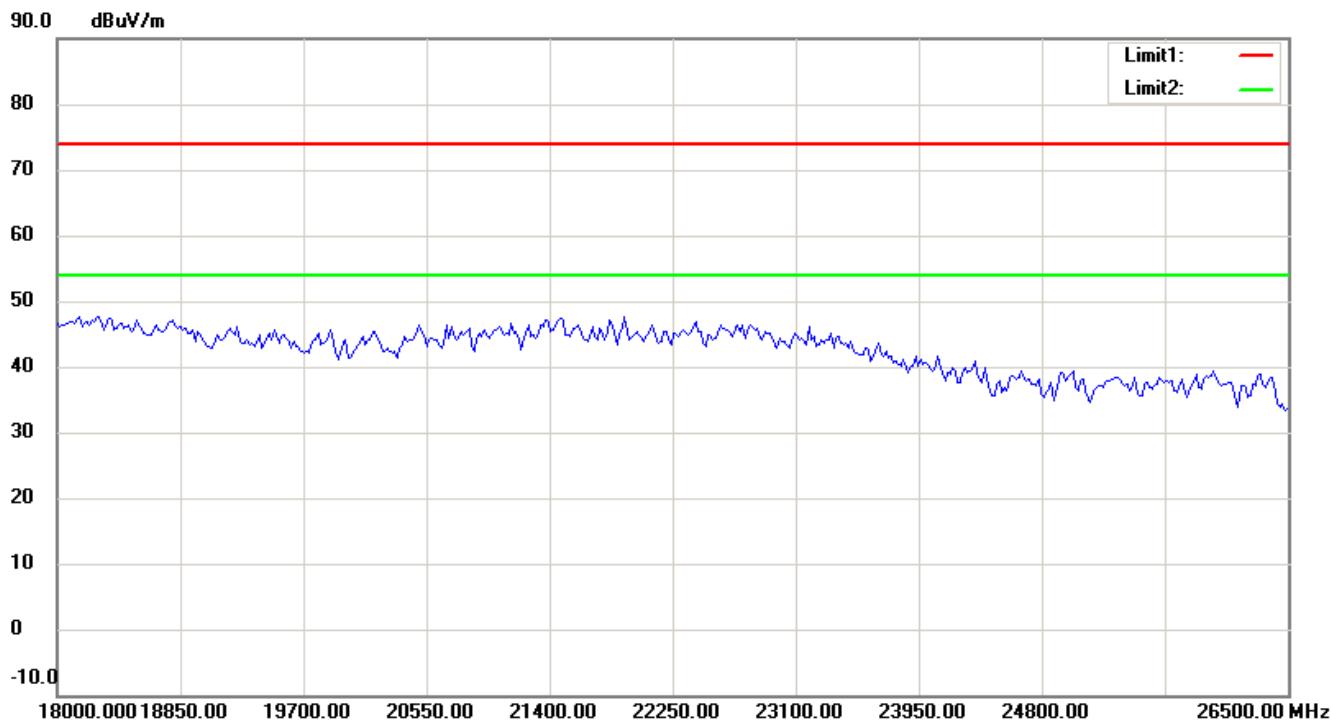


**Up Line: Peak Limit Line Down Line: Ave Limit Line**

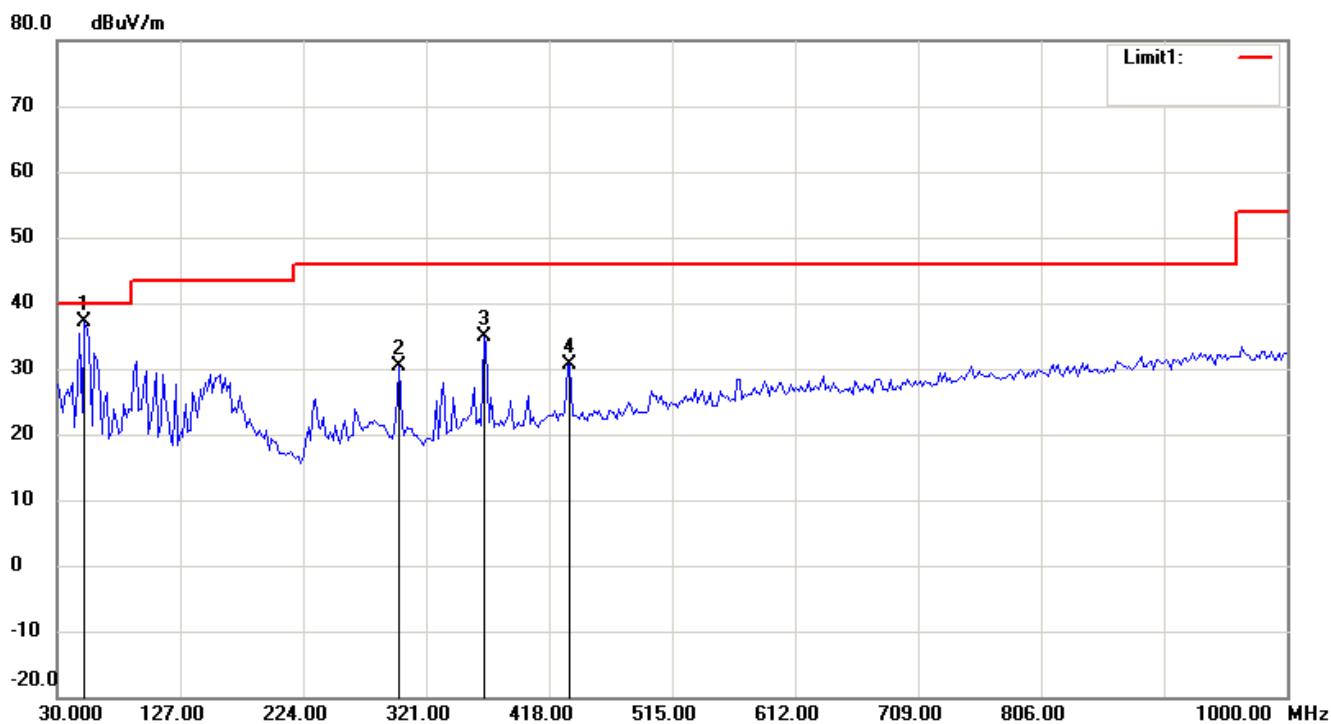
**Note:**

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

Registration number: W6M21408-14400-C-1  
 FCC ID: S9HZJRNFY06



## Antenna Polarization V

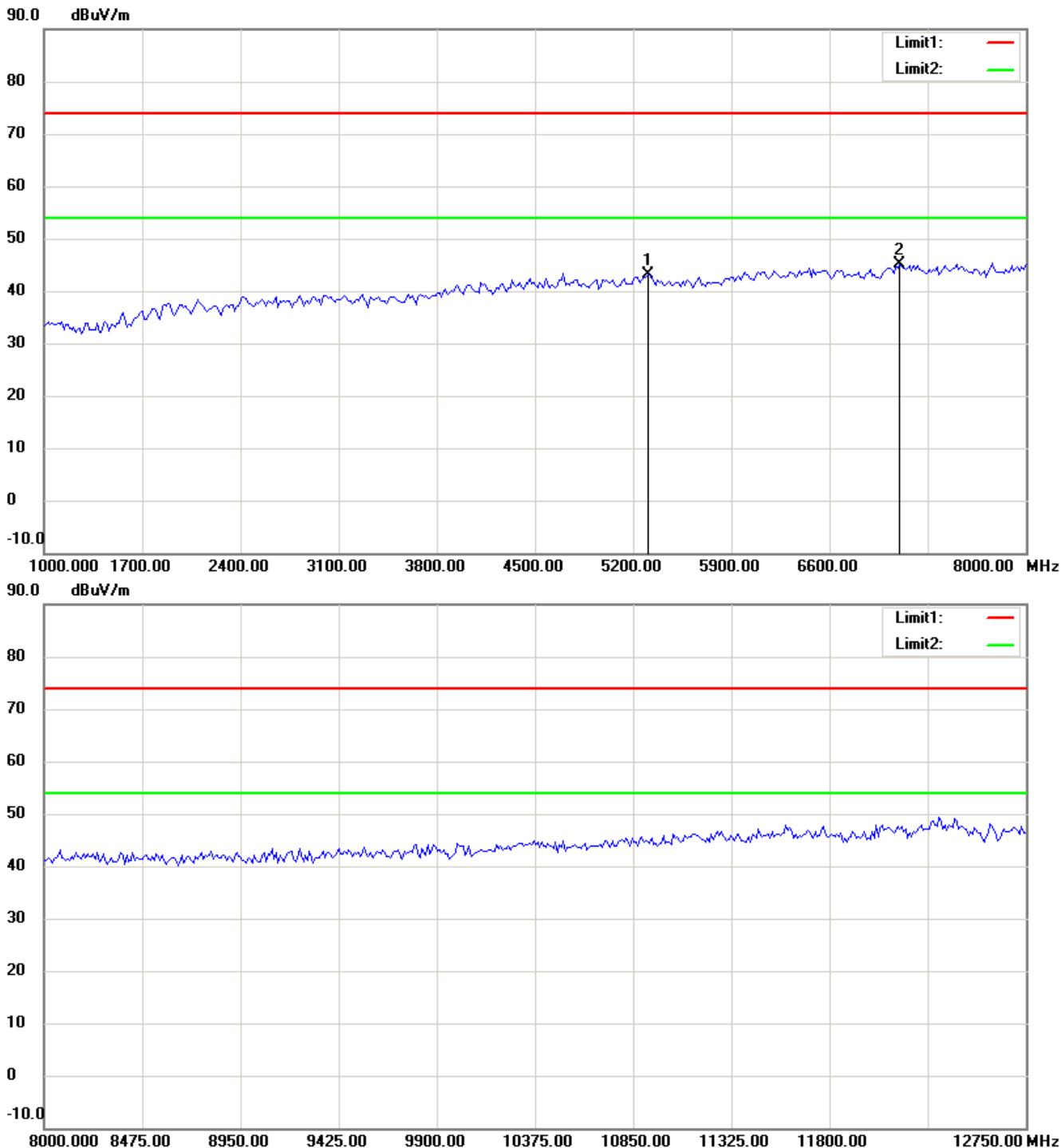


**Up Line: Peak Limit Line Down Line: Ave Limit Line**

**Note:**

1. The attached measurement plots are preliminarily pre-scanned with peak detector for determining the final checking frequencies and are for reference only.
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Registration number: W6M21408-14400-C-1  
 FCC ID: S9HZJRNFY06



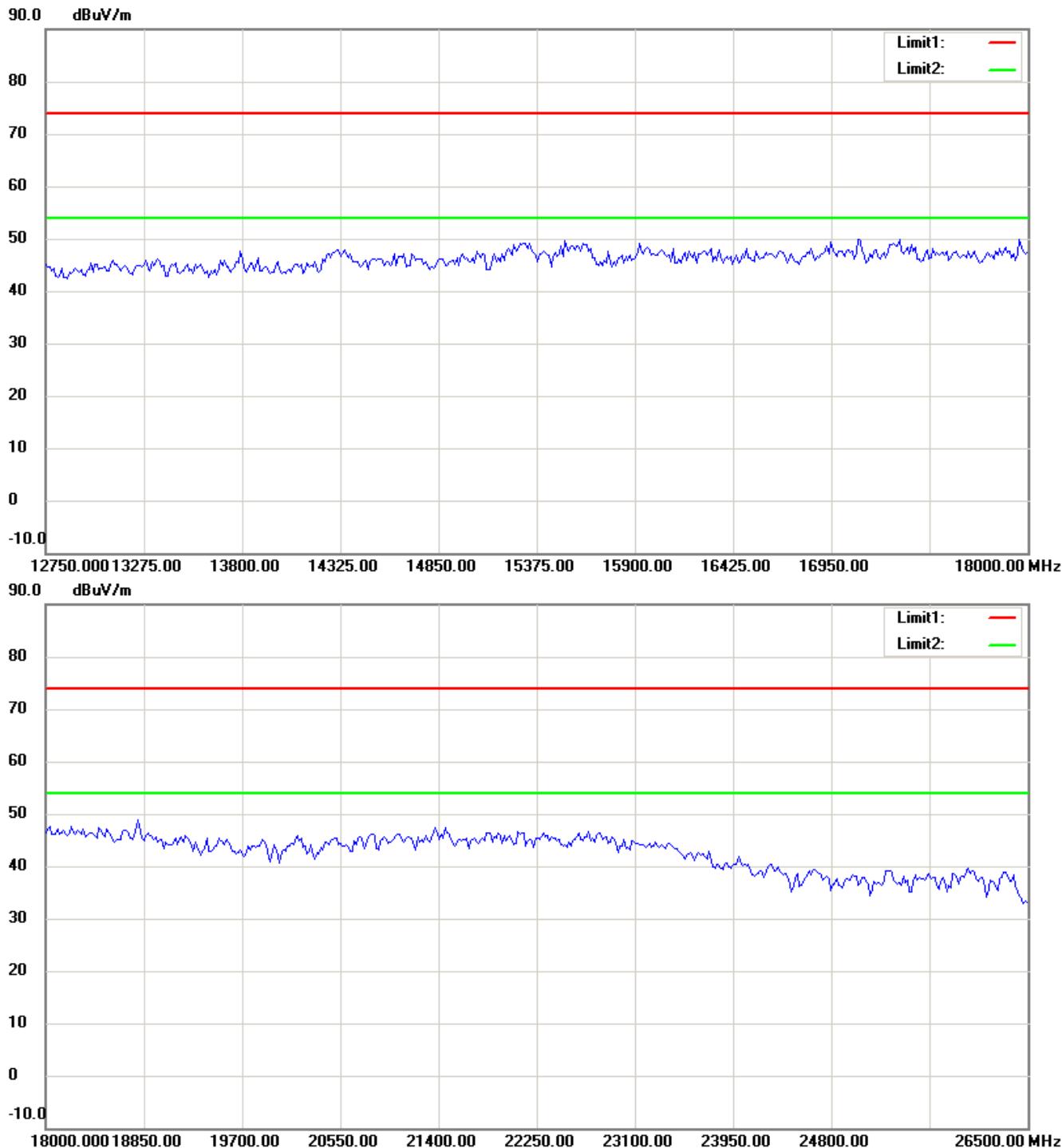
**Up Line: Peak Limit Line Down Line: Ave Limit Line**

**Note:**

1. The attached measurement plots are preliminarily pre-scanned with peak detector for determining the final checking frequencies and are for reference only.
2. The some frequencies may exceed the limit line without the specified detectors, but that cannot present the results are failed to the specification of test standard.
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Registration number: W6M21408-14400-C-1

FCC ID: S9HZJRNFY06



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

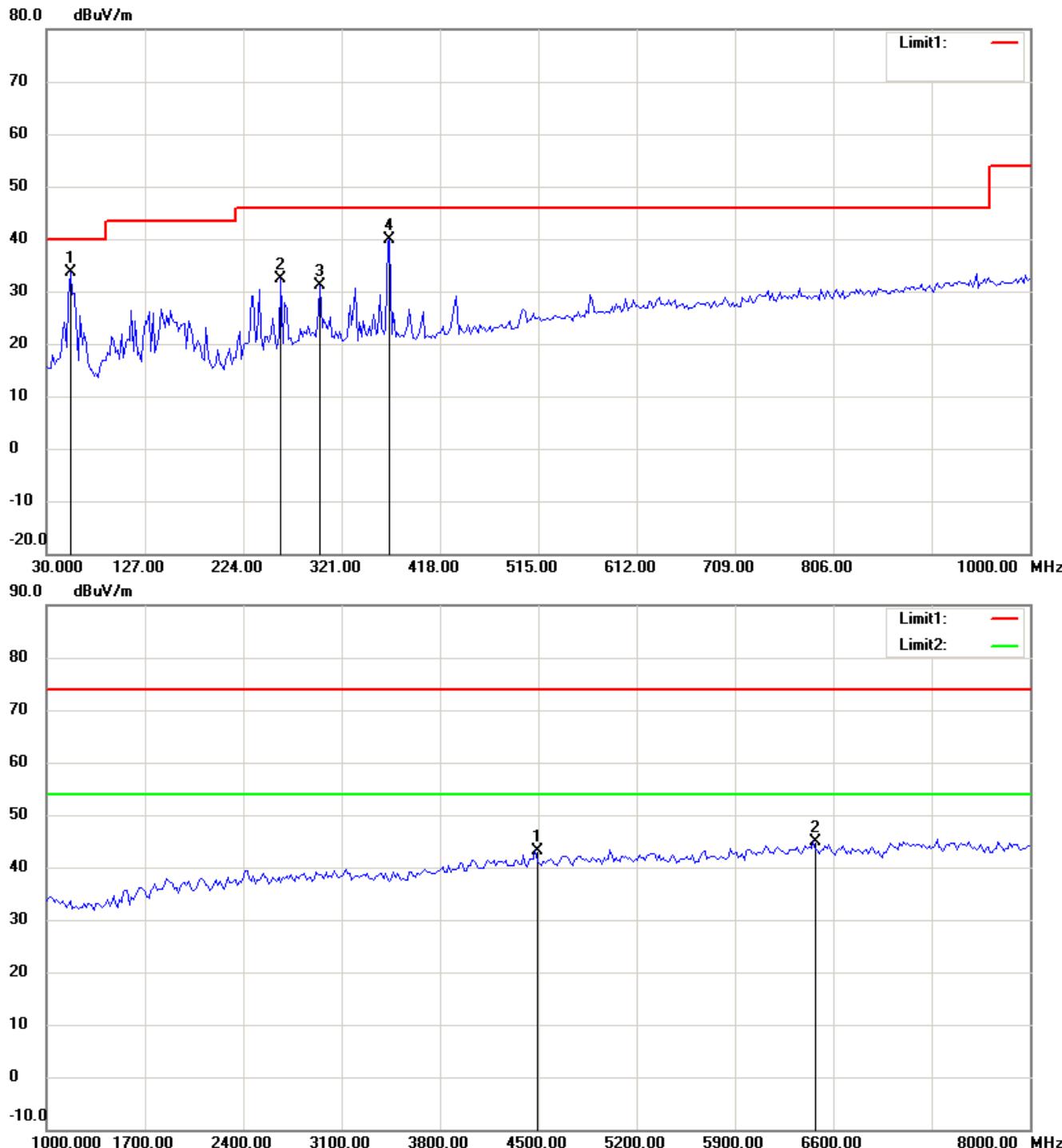
**Note:**

1. The attached measurement plots are preliminarily pre-scanned with peak detector for determining the final checking frequencies and are for reference only.
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Registration number: W6M21408-14400-C-1  
 FCC ID: S9HZJRNFY06

Bluetooth 2.0 RX\_2480 MHz

Antenna Polarization H



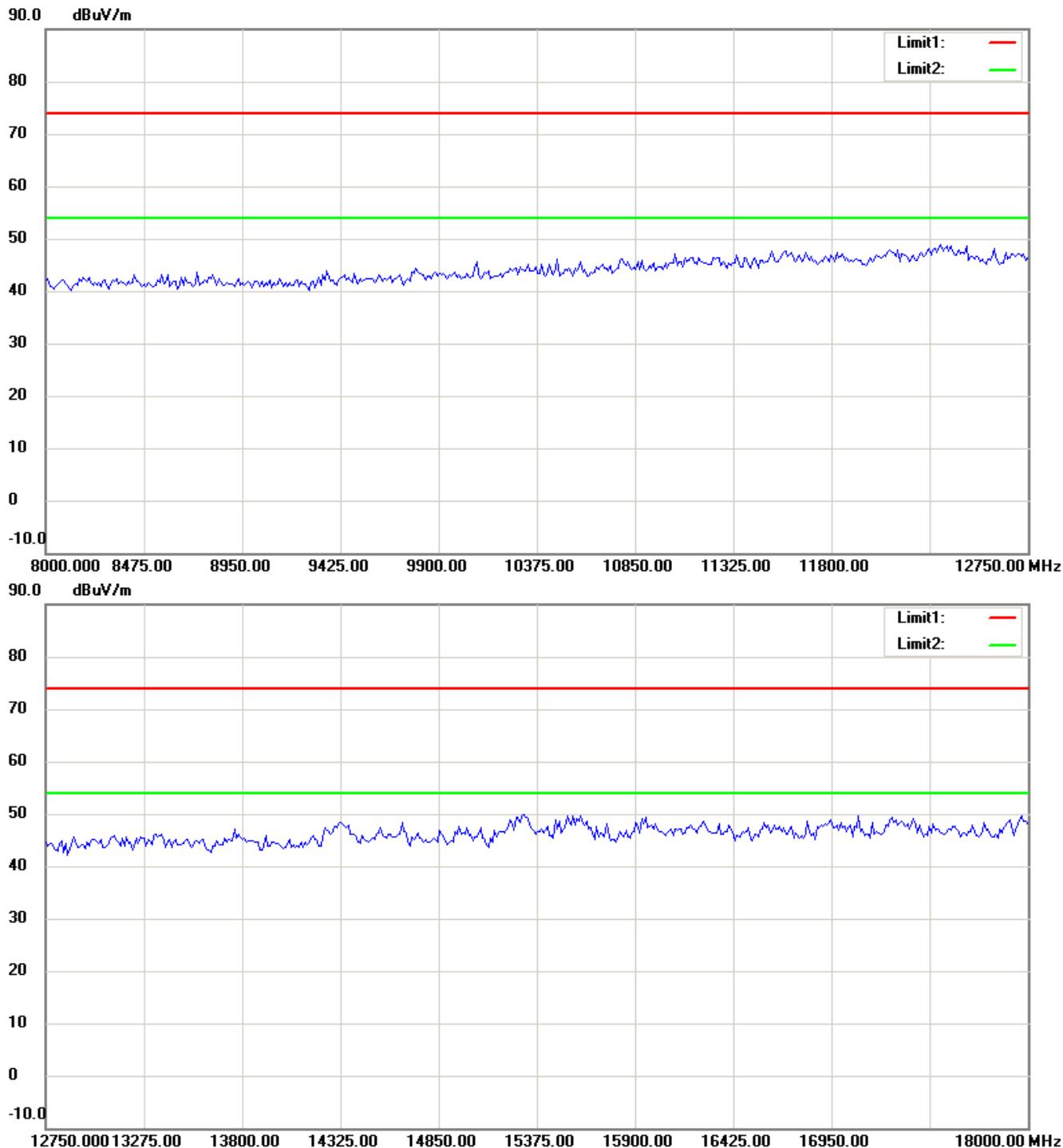
**Up Line: Peak Limit Line Down Line: Ave Limit Line**

**Note:**

1. The attached measurement plots are preliminarily pre-scanned with peak detector for determining the final checking frequencies and are for reference only.
2. The some frequencies may exceed the limit line without the specified detectors, but that cannot present the results are failed to the specification of test standard.
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Registration number: W6M21408-14400-C-1

FCC ID: S9HZJRNFY06

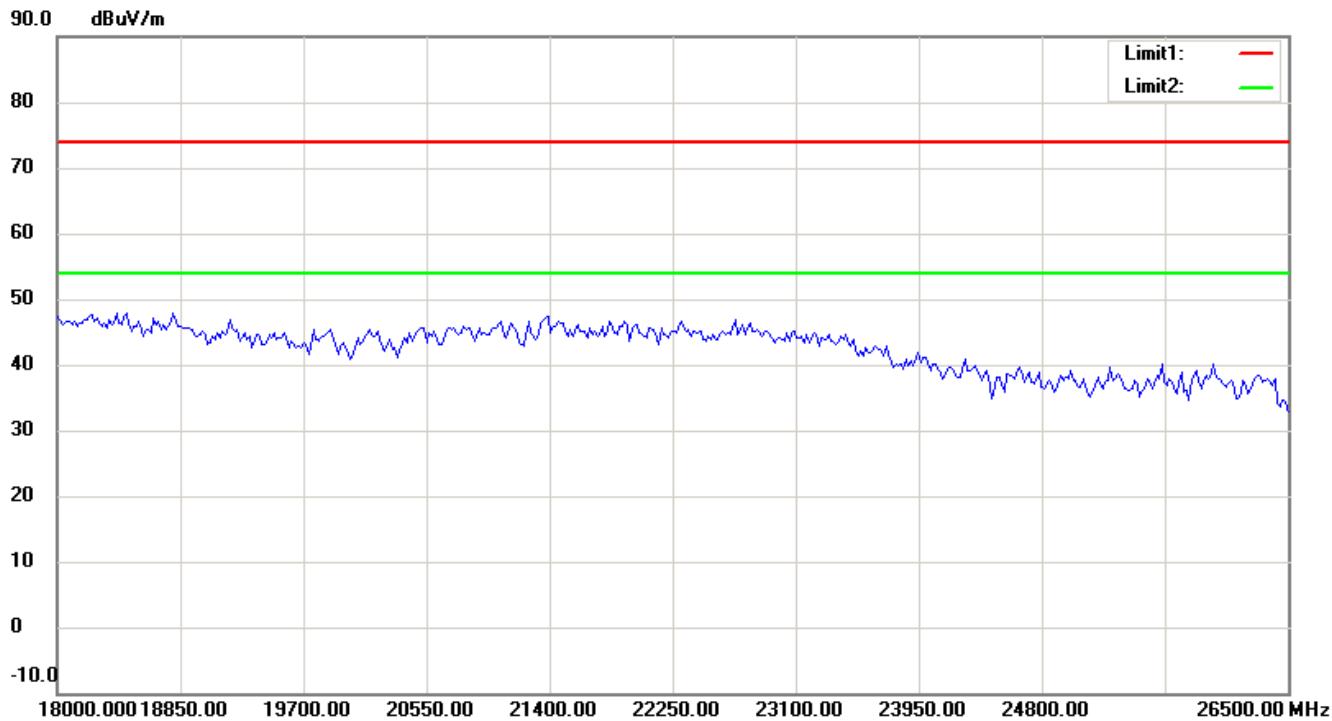


**Up Line: Peak Limit Line Down Line: Ave Limit Line**

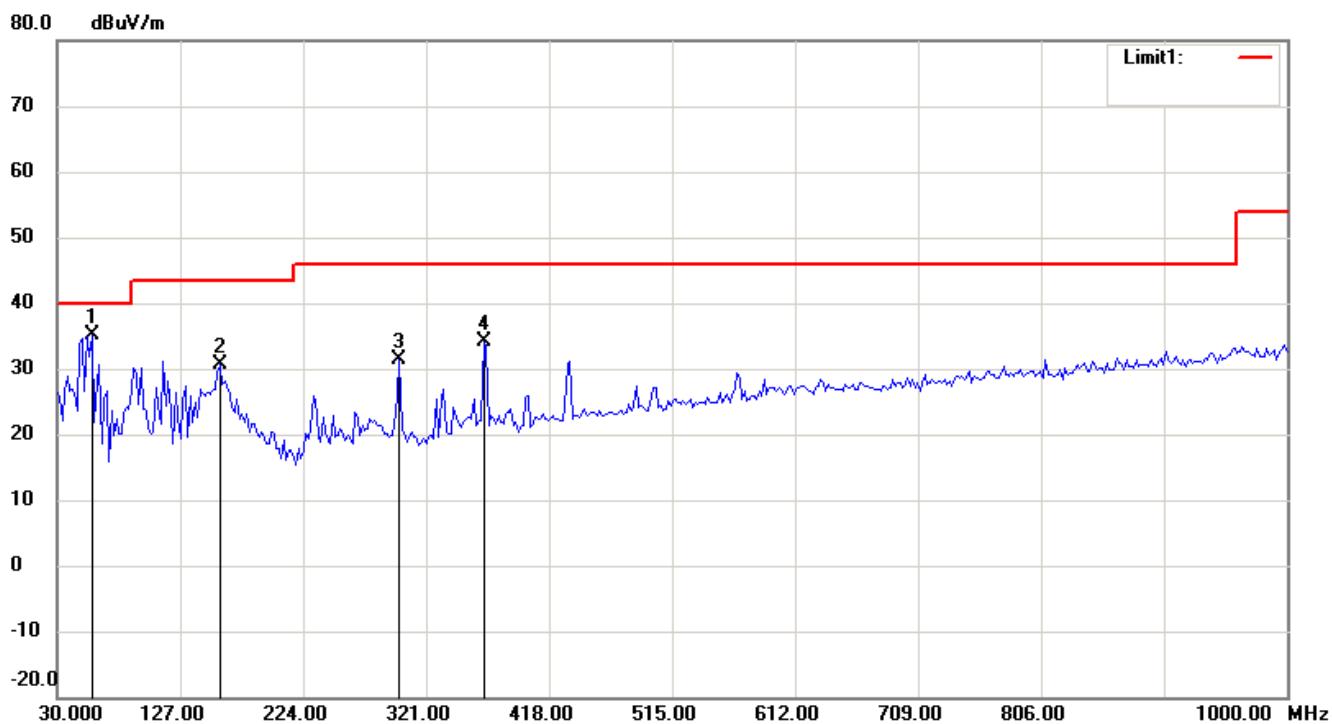
**Note:**

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

Registration number: W6M21408-14400-C-1  
 FCC ID: S9HZJRNFY06



## Antenna Polarization V



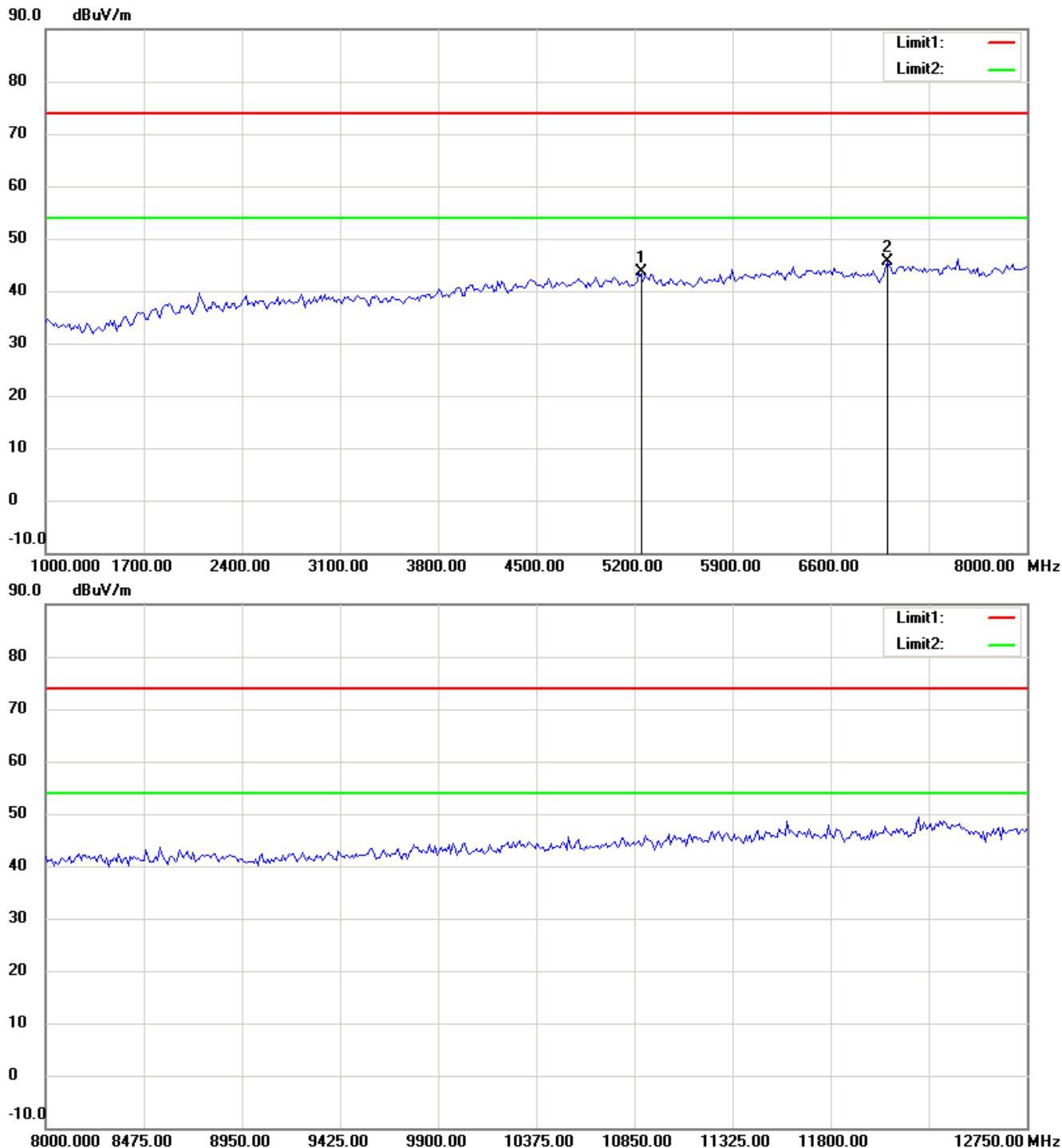
**Up Line: Peak Limit Line Down Line: Ave Limit Line**

**Note:**

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

Registration number: W6M21408-14400-C-1

FCC ID: S9HZJRNFY06



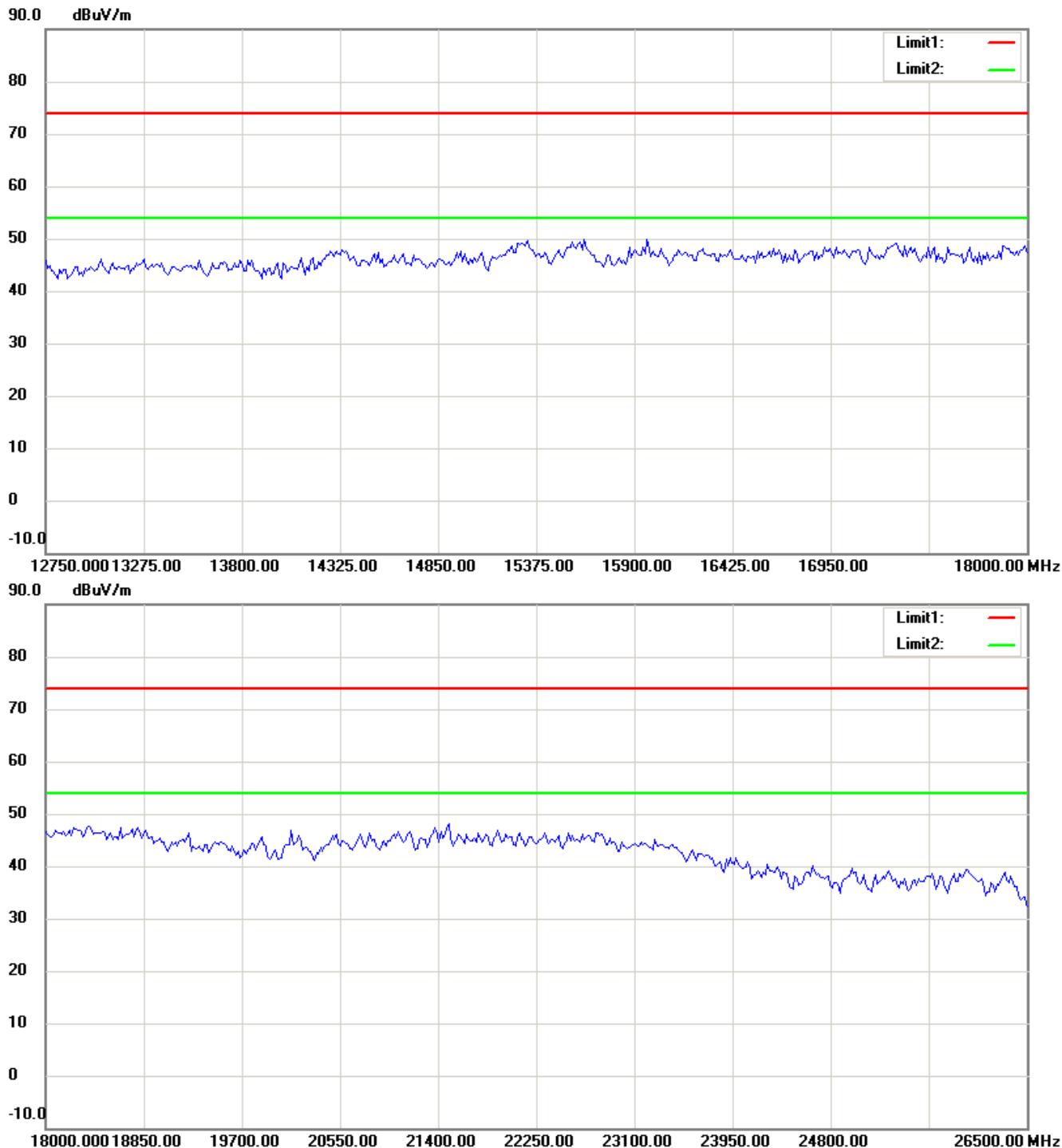
**Up Line: Peak Limit Line Down Line: Ave Limit Line**

**Note:**

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

Registration number: W6M21408-14400-C-1

FCC ID: S9HZJRNFY06



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

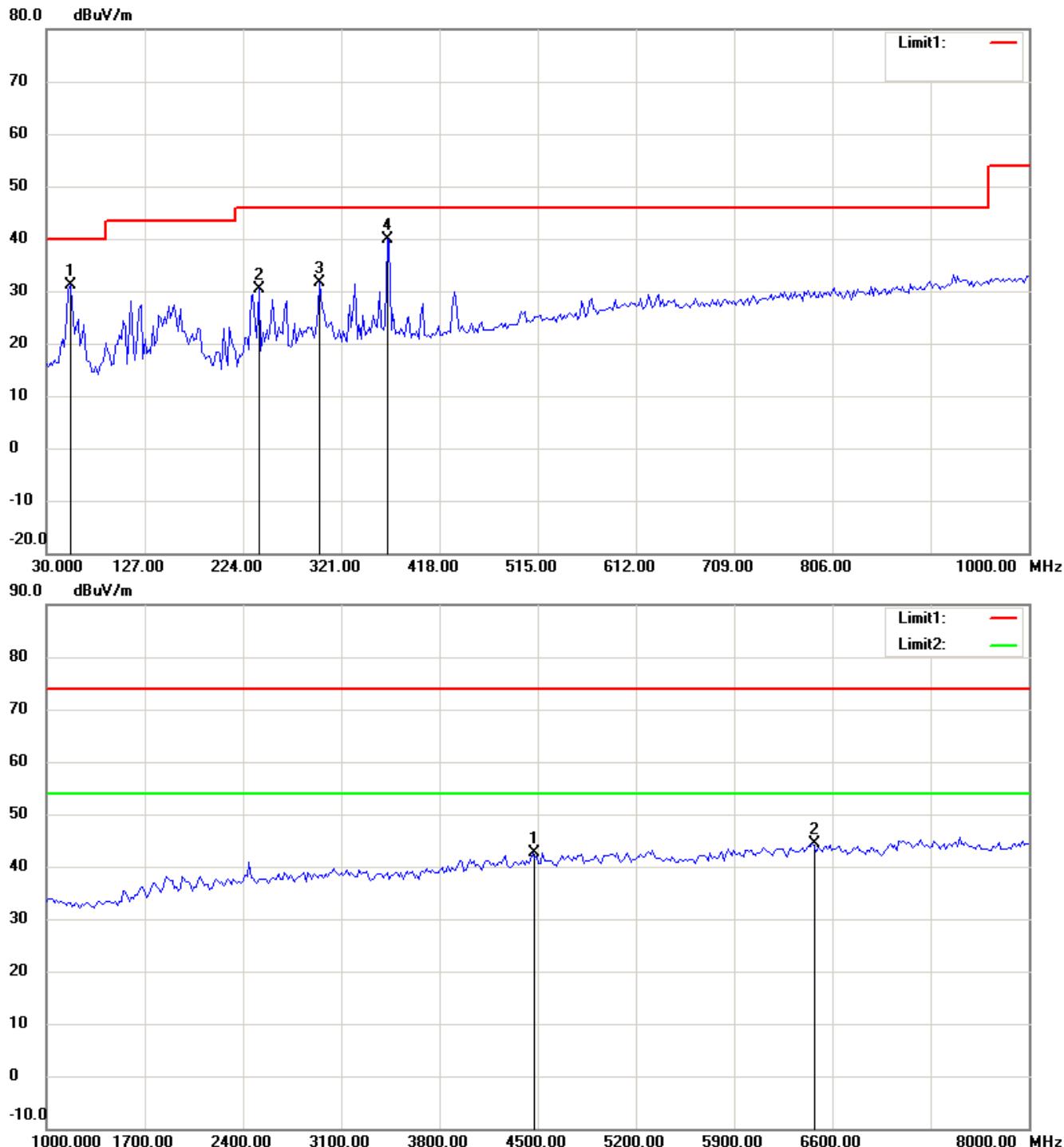
**Note:**

1. The attached measurement plots are preliminarily pre-scanned with peak detector for determining the final checking frequencies and are for reference only.
2. The some frequencies may exceed the limit line without the specified detectors, but that cannot present the results are failed to the specification of test standard.
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Registration number: W6M21408-14400-C-1  
 FCC ID: S9HZJRNFY06

Bluetooth 4.0 RX\_2402MHz

Antenna Polarization H



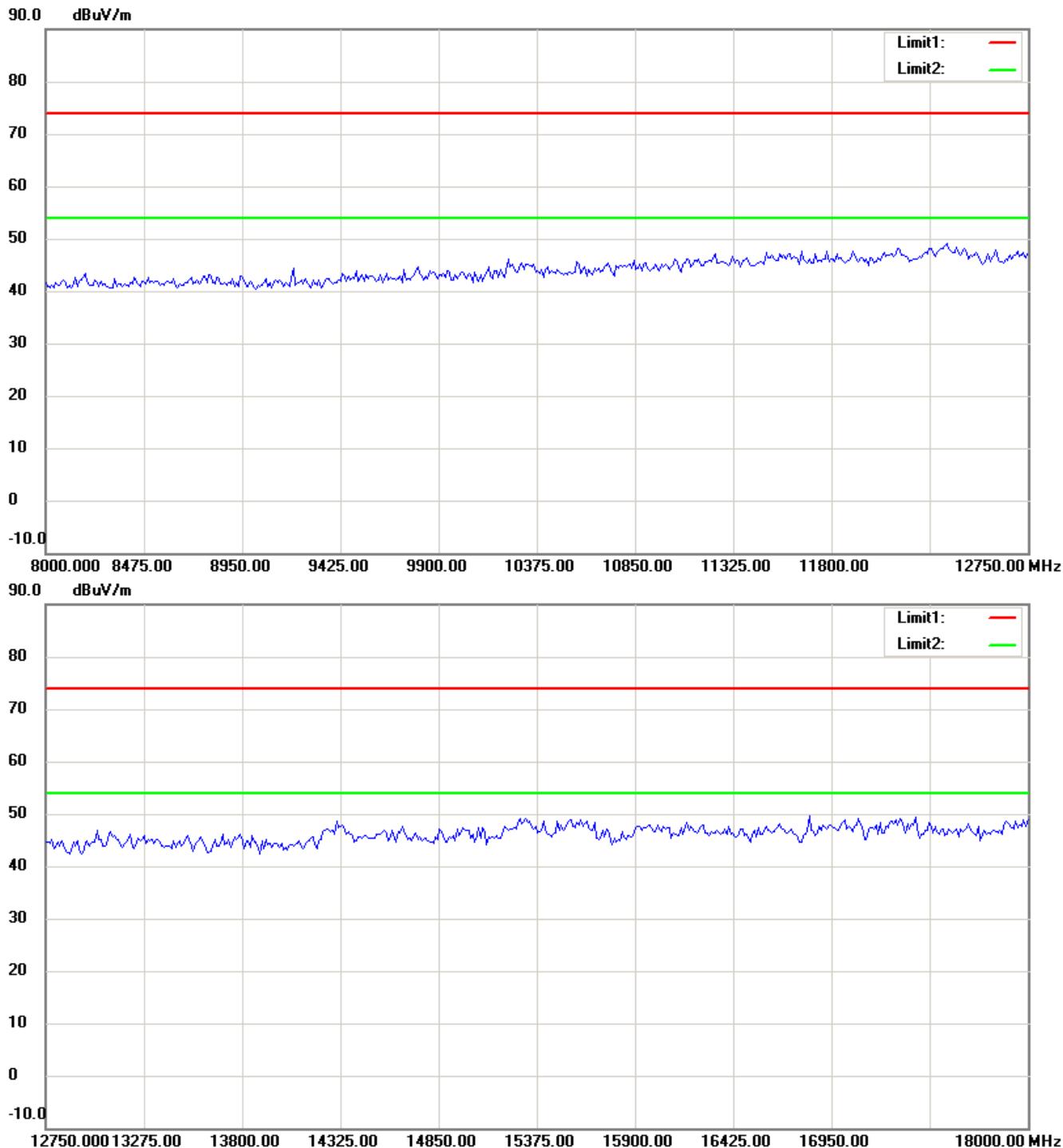
**Up Line: Peak Limit Line Down Line: Ave Limit Line**

**Note:**

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

Registration number: W6M21408-14400-C-1

FCC ID: S9HZJRNFY06

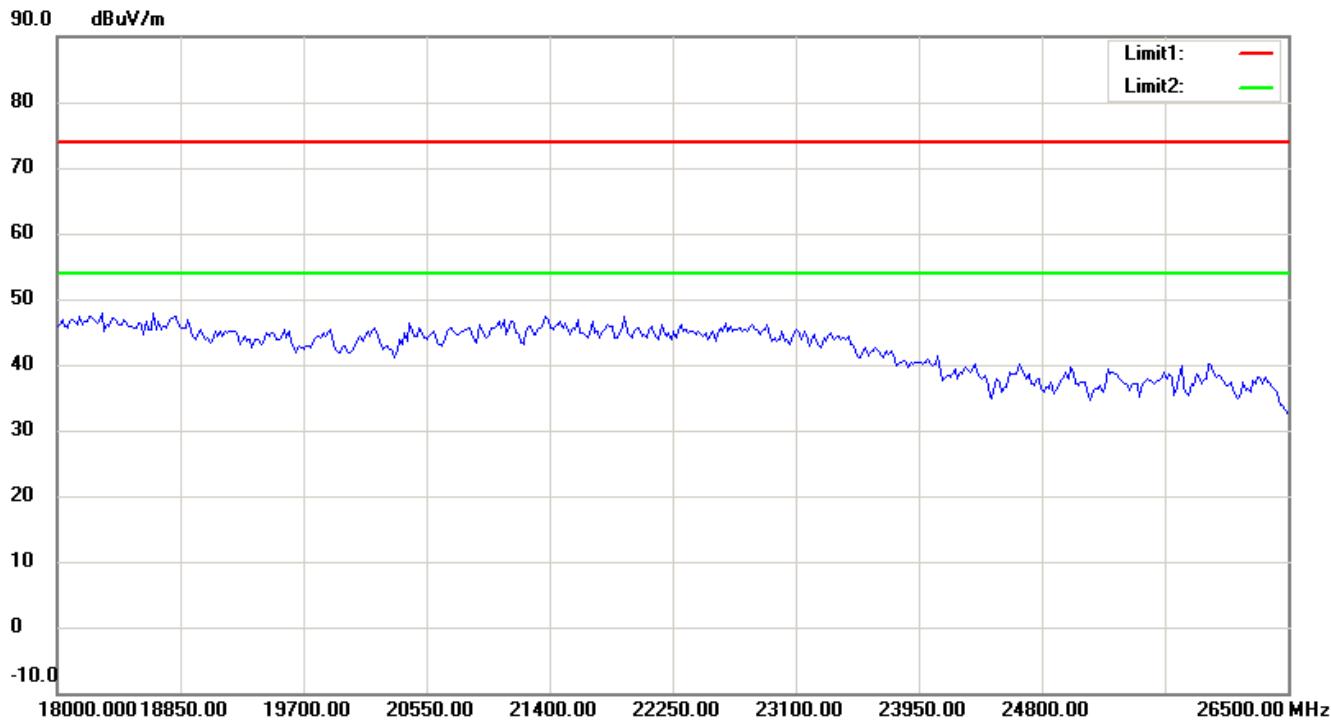


**Up Line: Peak Limit Line Down Line: Ave Limit Line**

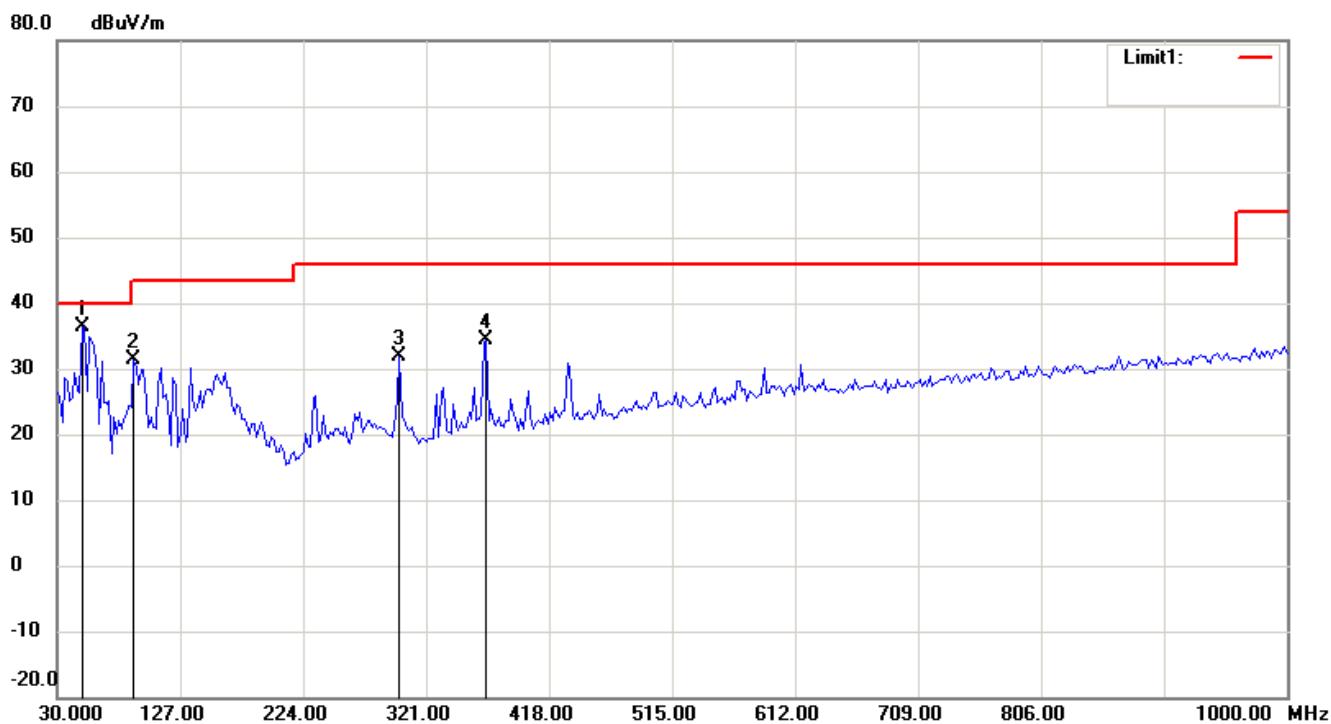
**Note:**

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

Registration number: W6M21408-14400-C-1  
 FCC ID: S9HZJRNFY06



## Antenna Polarization V



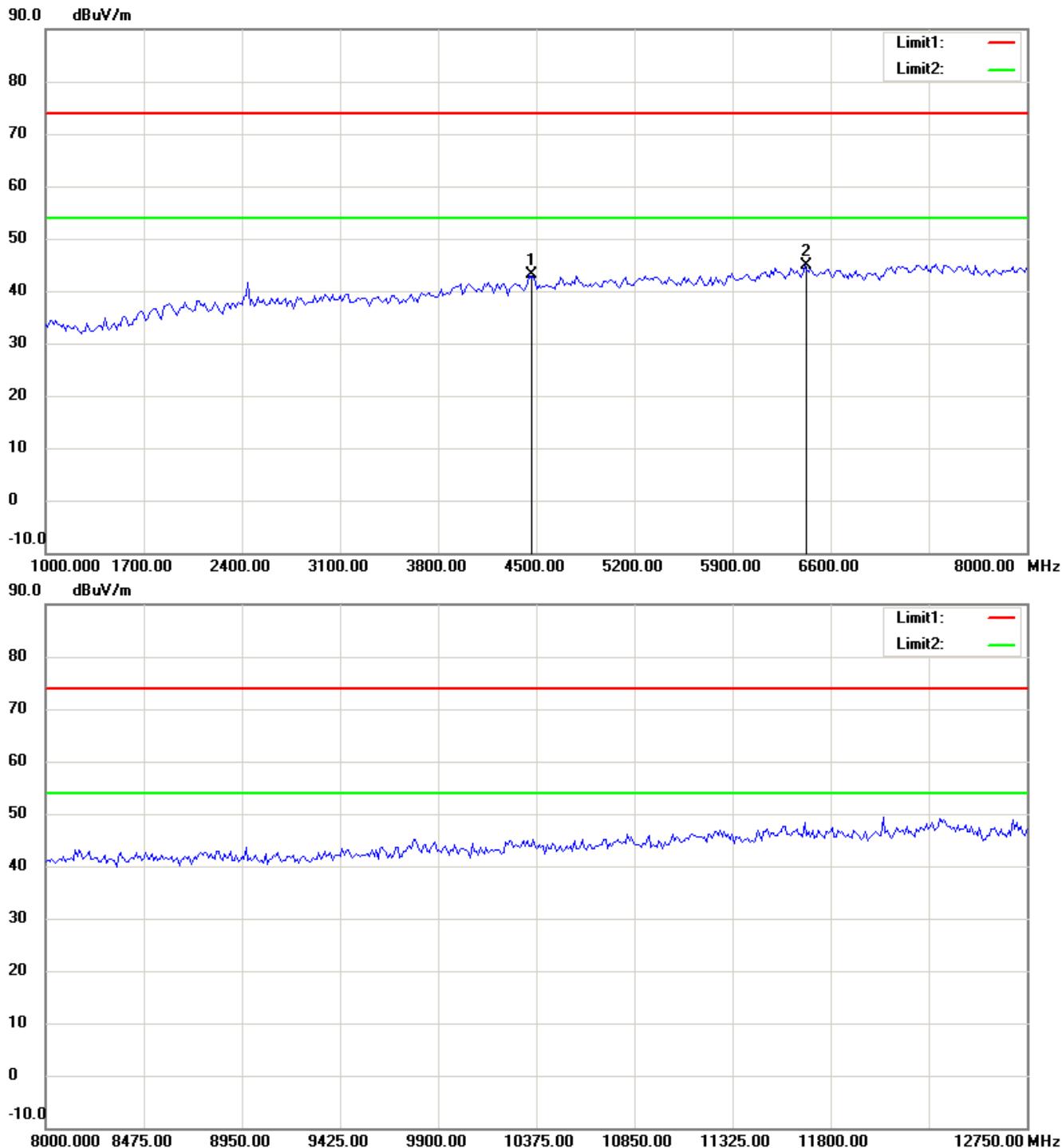
**Up Line: Peak Limit Line Down Line: Ave Limit Line**

**Note:**

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

Registration number: W6M21408-14400-C-1

FCC ID: S9HZJRNFY06



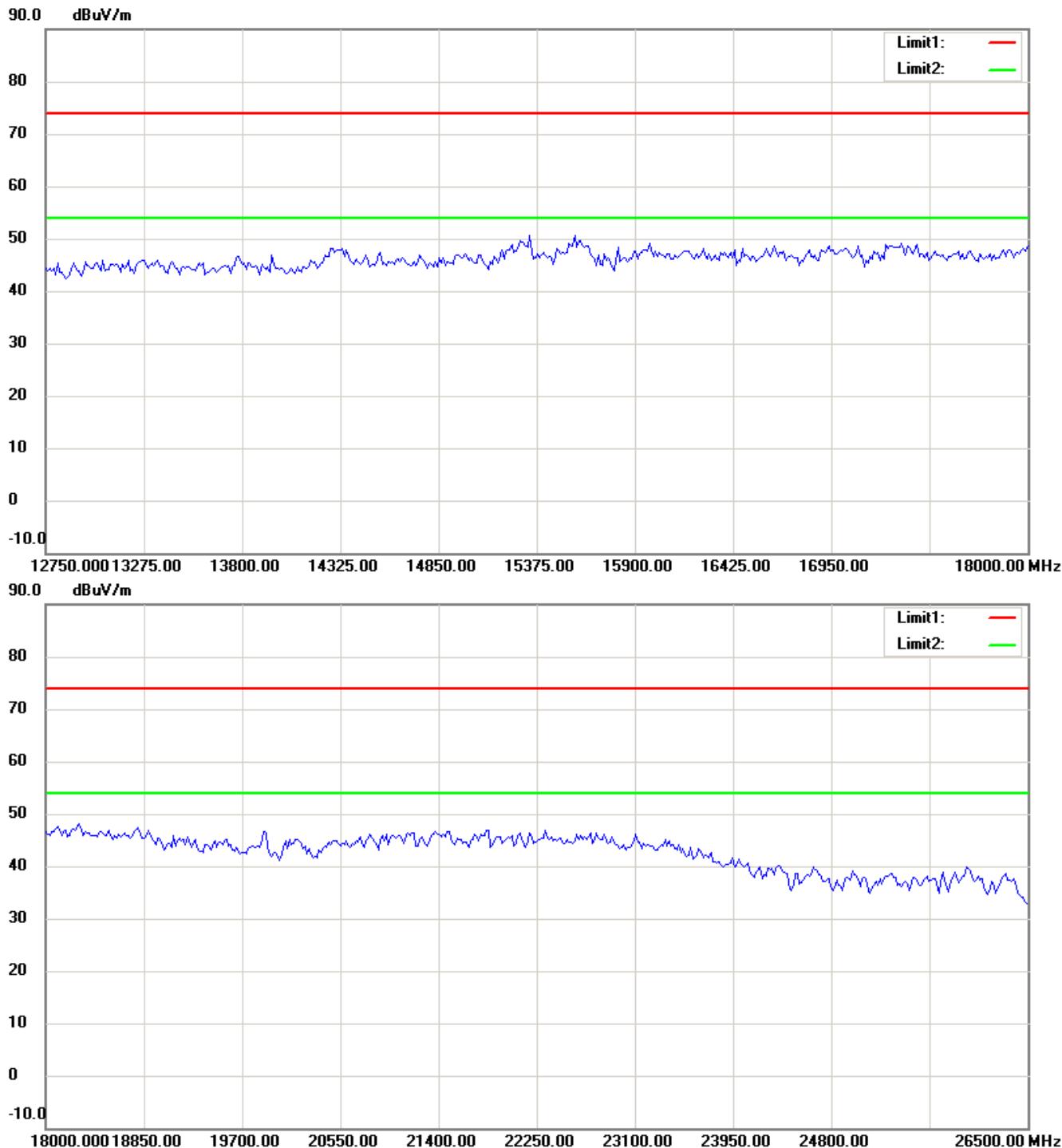
**Up Line: Peak Limit Line Down Line: Ave Limit Line**

**Note:**

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

Registration number: W6M21408-14400-C-1

FCC ID: S9HZJRNFY06



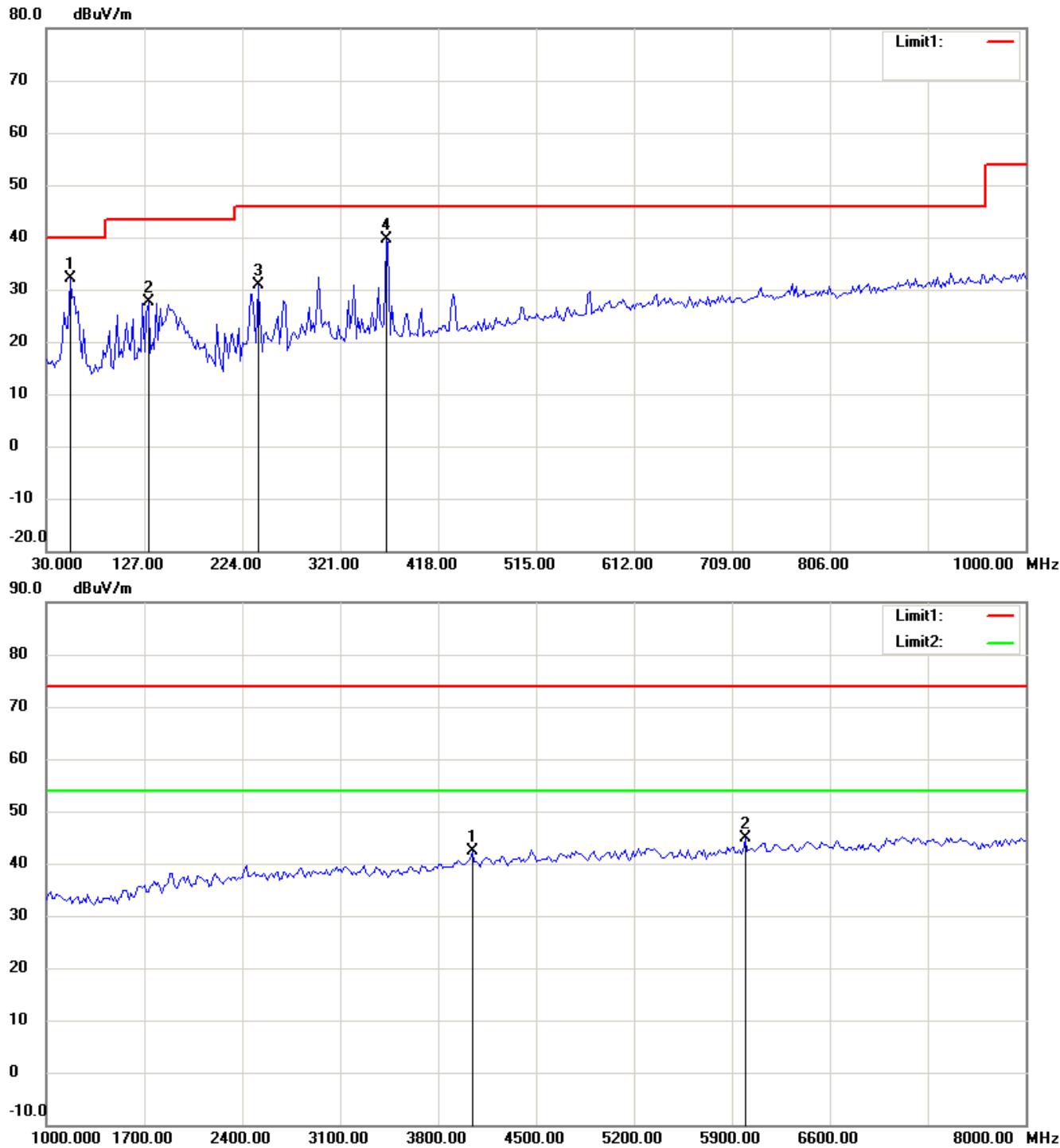
**Up Line: Peak Limit Line Down Line: Ave Limit Line**

**Note:**

1. The attached measurement plots are preliminarily pre-scanned with peak detector for determining the final checking frequencies and are for reference only.
2. The some frequencies may exceed the limit line without the specified detectors, but that cannot present the results are failed to the specification of test standard.
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Registration number: W6M21408-14400-C-1  
 FCC ID: S9HZJRNFY06

## Bluetooth 4.0 RX\_2440 MHz Antenna Polarization H



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

**Note:**

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

Registration number: W6M21408-14400-C-1  
 FCC ID: S9HZJRNFY06

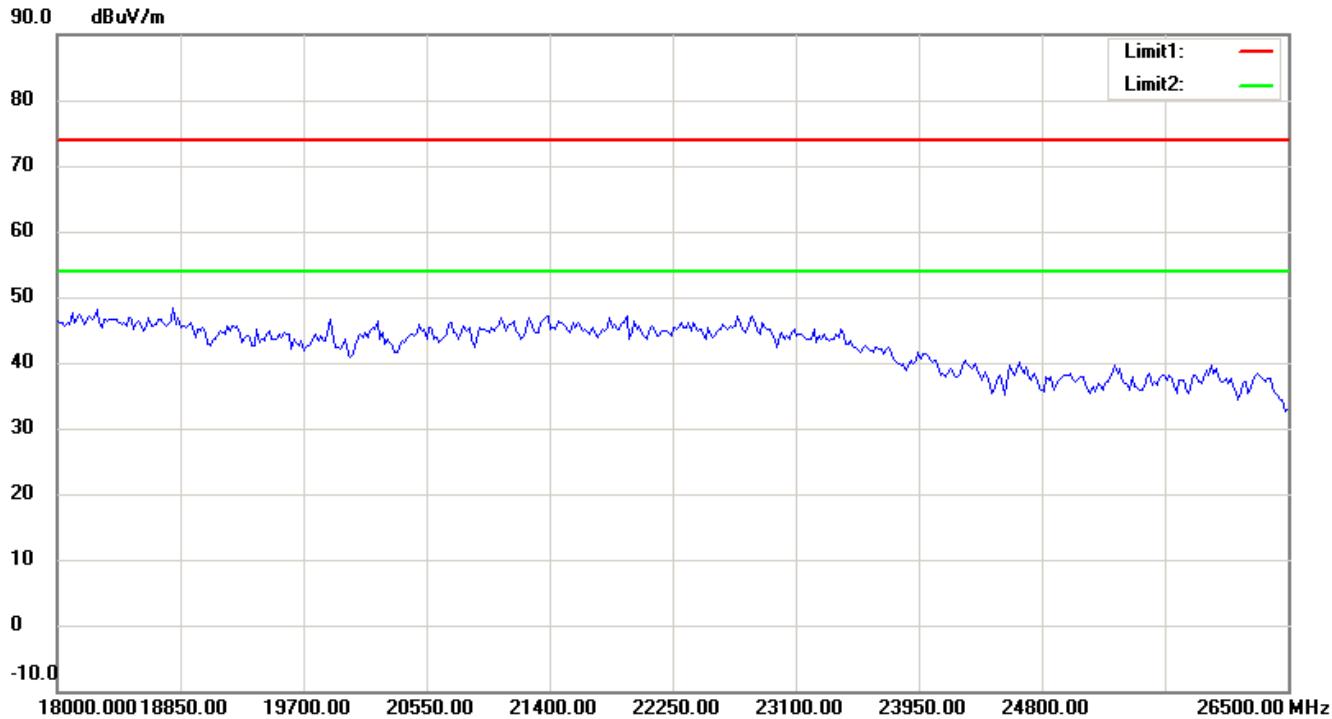


**Up Line: Peak Limit Line Down Line: Ave Limit Line**

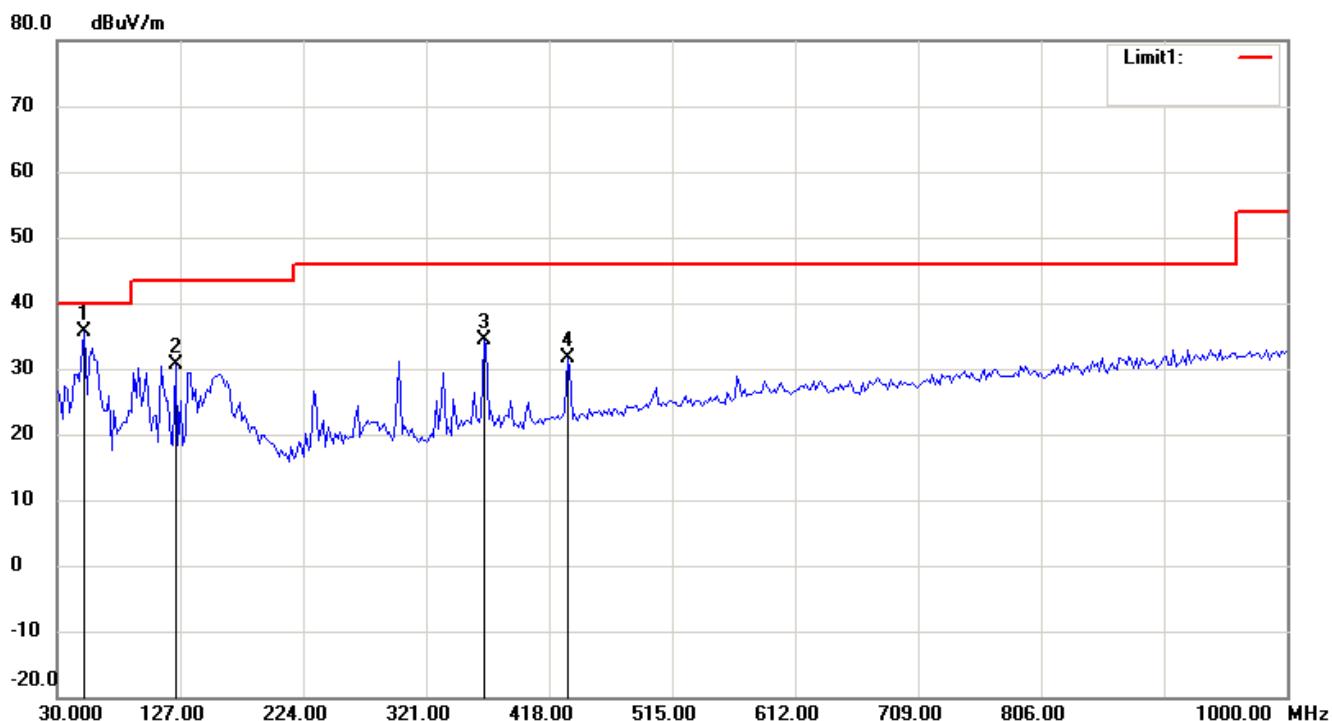
**Note:**

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

Registration number: W6M21408-14400-C-1  
 FCC ID: S9HZJRNFY06



## Antenna Polarization V

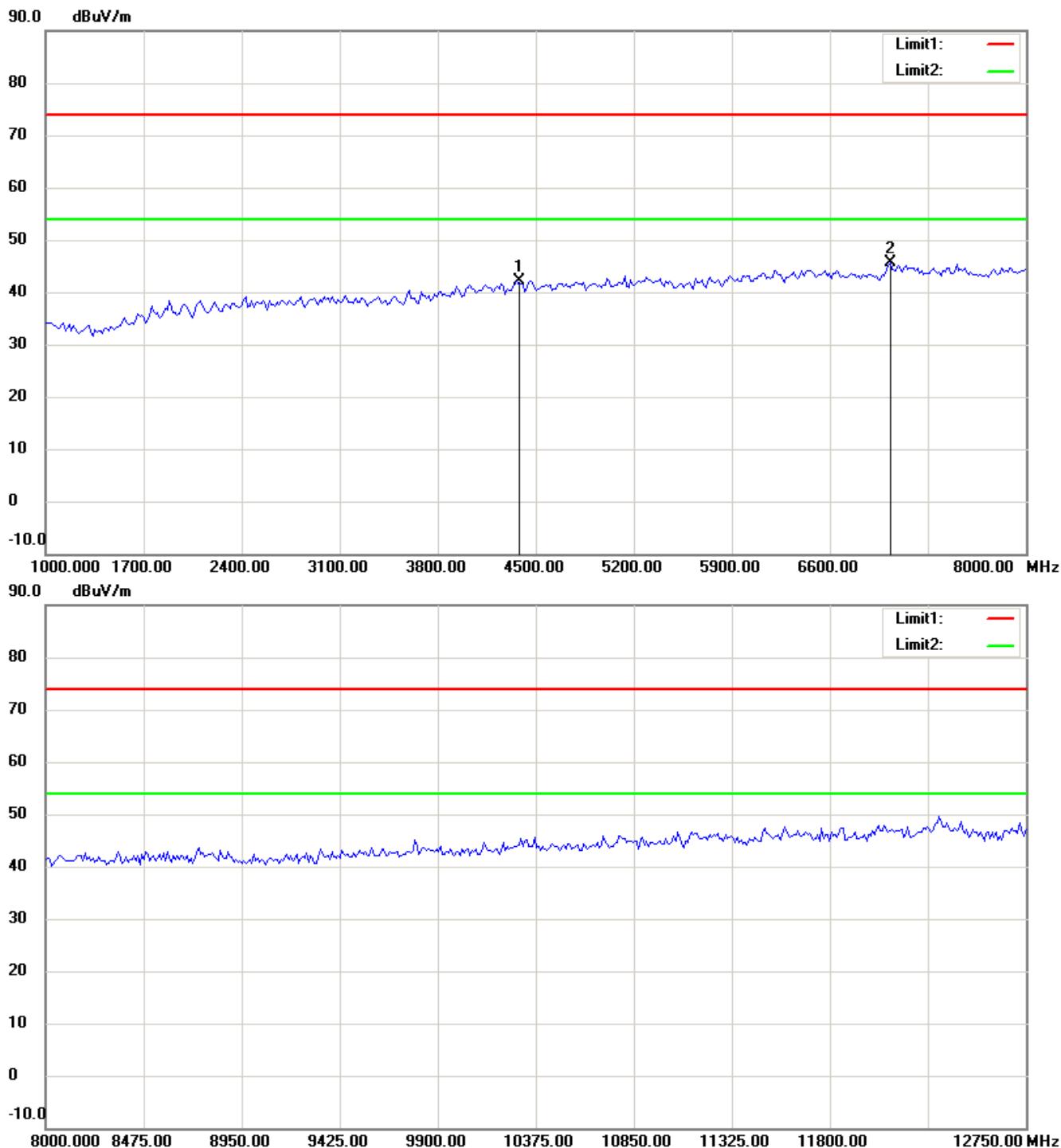


**Up Line: Peak Limit Line Down Line: Ave Limit Line**

**Note:**

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

Registration number: W6M21408-14400-C-1  
 FCC ID: S9HZJRNFY06



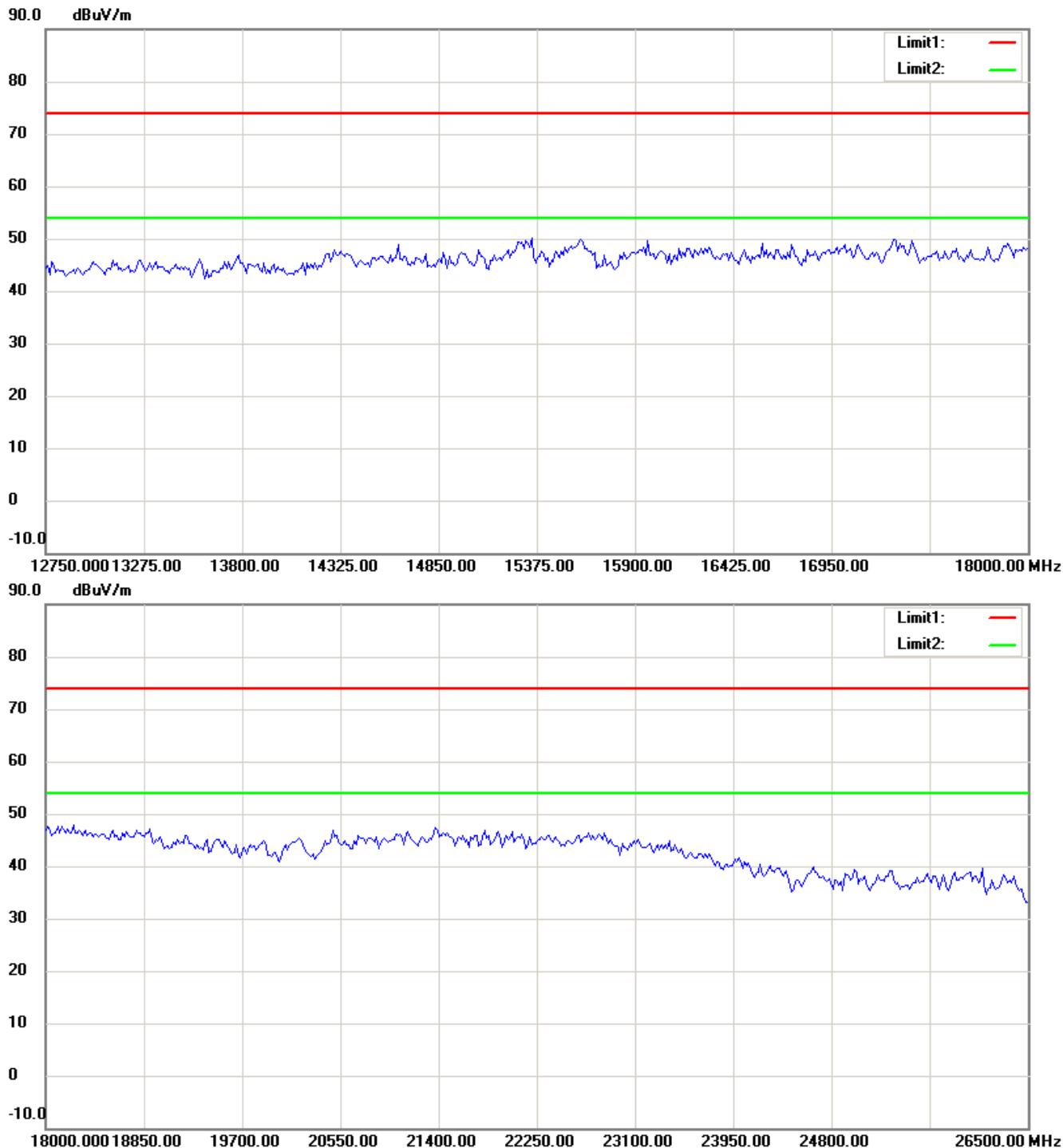
**Up Line: Peak Limit Line Down Line: Ave Limit Line**

**Note:**

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

Registration number: W6M21408-14400-C-1

FCC ID: S9HZJRNFY06



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

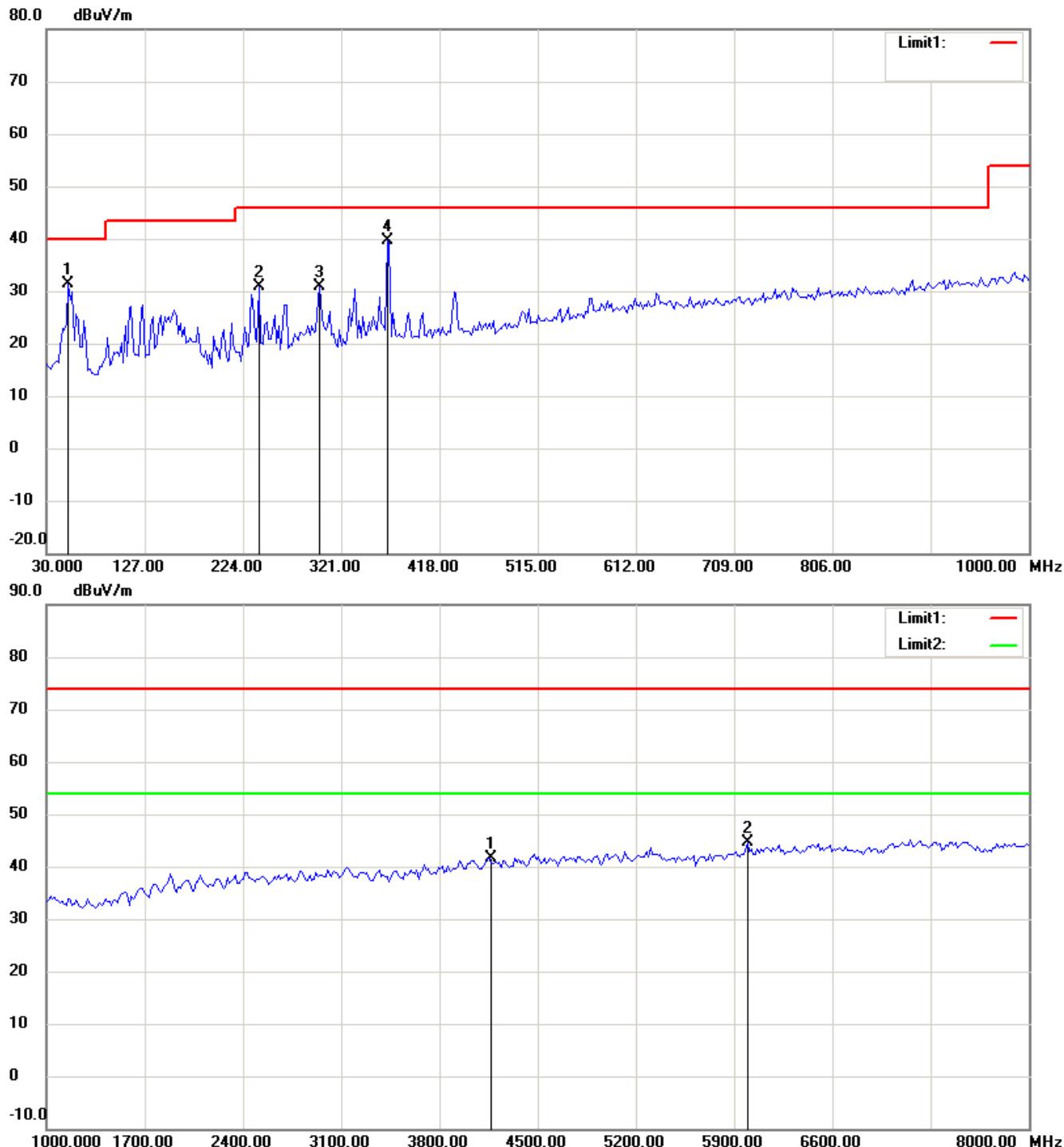
**Note:**

1. The attached measurement plots are preliminarily pre-scanned with peak detector for determining the final checking frequencies and are for reference only.
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Registration number: W6M21408-14400-C-1  
 FCC ID: S9HZJRNFY06

Bluetooth 4.0 RX\_2480 MHz

Antenna Polarization H

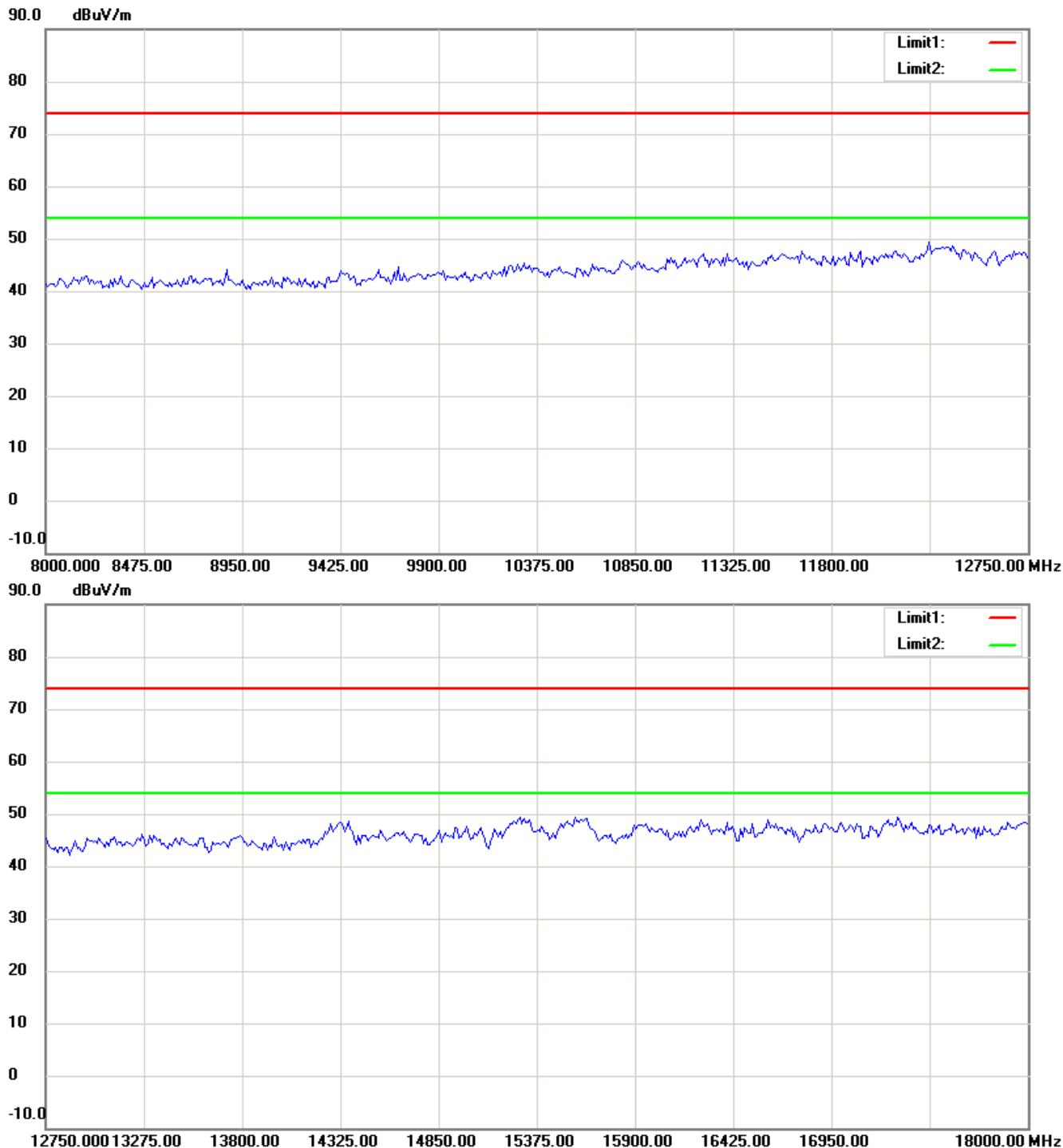


**Up Line: Peak Limit Line Down Line: Ave Limit Line**

**Note:**

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Registration number: W6M21408-14400-C-1  
 FCC ID: S9HZJRNFY06

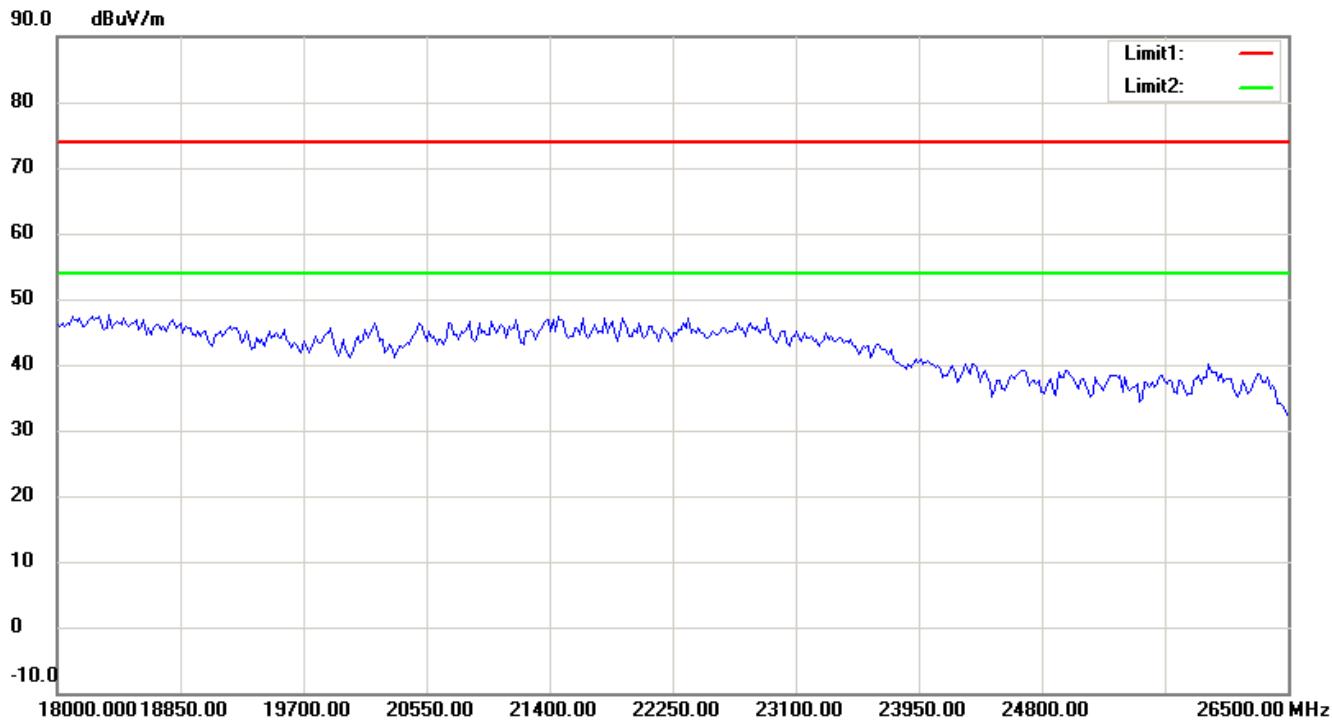


**Up Line: Peak Limit Line Down Line: Ave Limit Line**

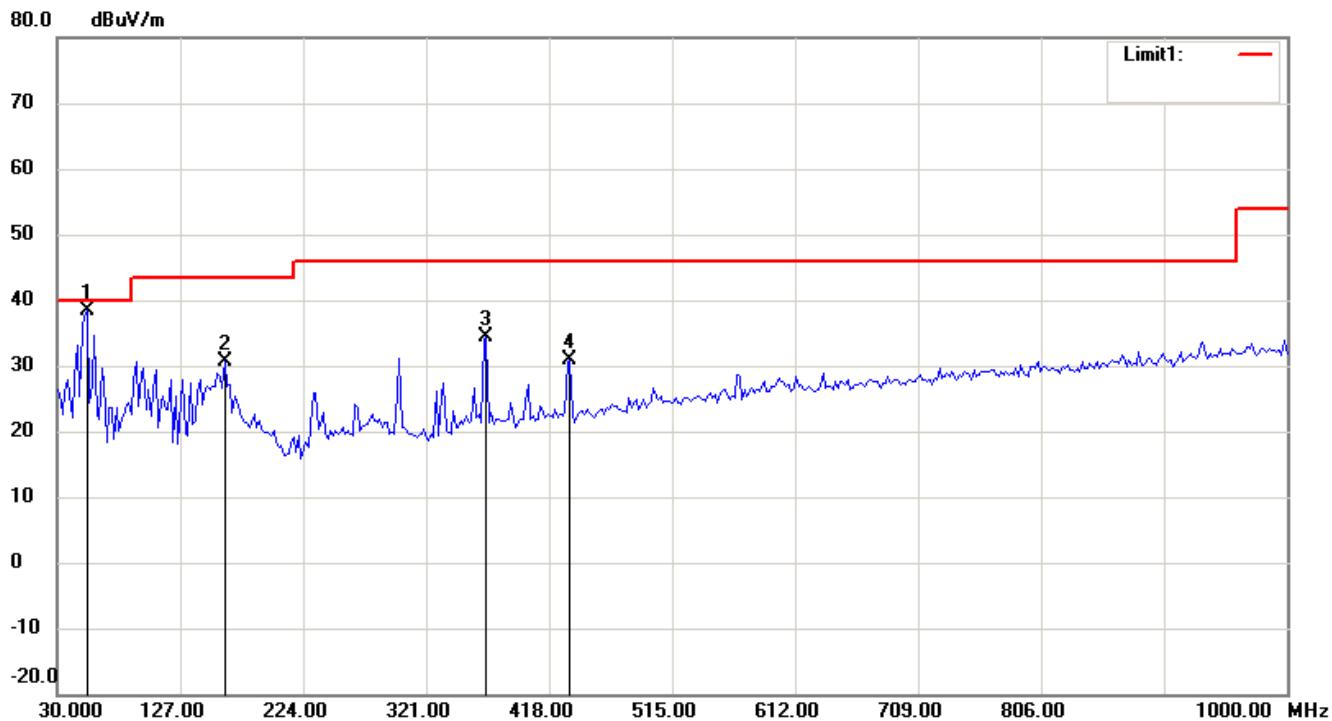
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Registration number: W6M21408-14400-C-1  
 FCC ID: S9HZJRNFY06



## Antenna Polarization V



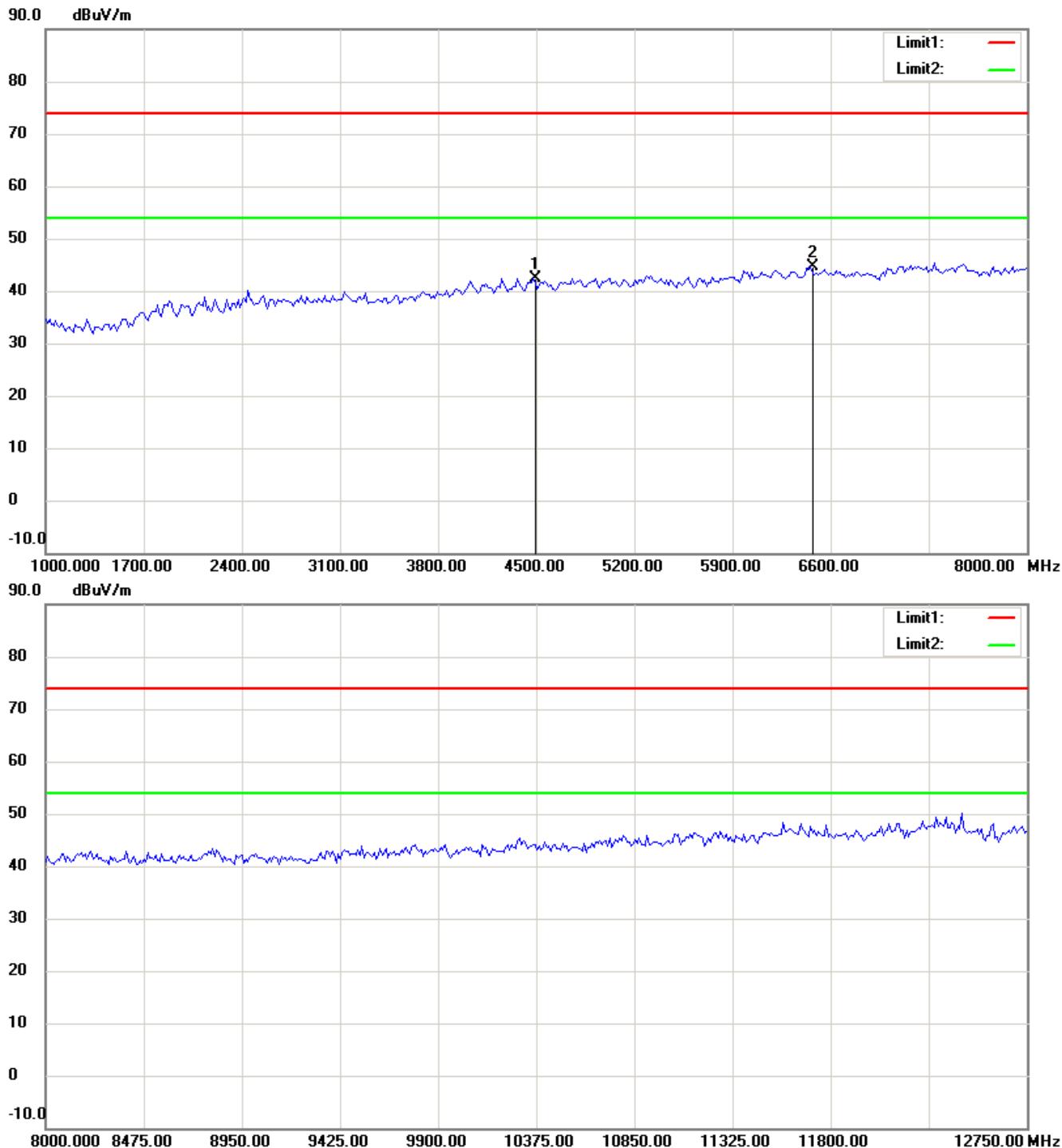
**Up Line: Peak Limit Line Down Line: Ave Limit Line**

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Registration number: W6M21408-14400-C-1

FCC ID: S9HZJRNFY06



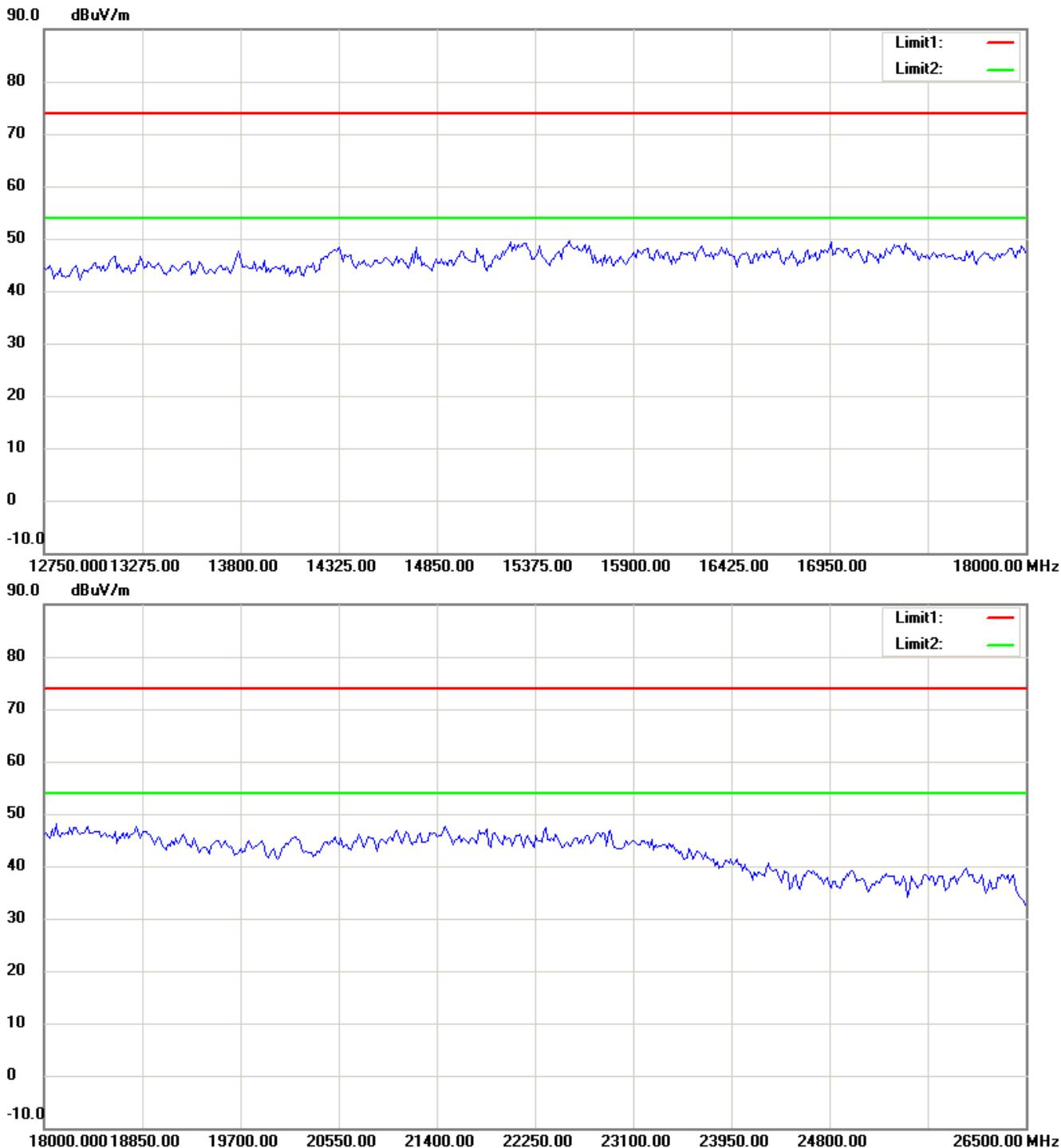
**Up Line: Peak Limit Line Down Line: Ave Limit Line**

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Registration number: W6M21408-14400-C-1

FCC ID: S9HZJRNFY06



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

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