

**FCC PART 15 SUBPART C TEST REPORT**

**for**

**Wireless Transmitter**

**Model No.: WT 50**

**FCC ID: R48WT50**

**of**

**Applicant: MEILOON INDUSTRIAL CO., LTD.**

**Address: No.77, Lane 1775, Chuen-Ryh Road,  
Taoyuan City, Taiwan**

**Tested and Prepared**

**by**

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

**FCC Registration No.: 930600**

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

**A2LA Accredited No.: 2732.01**



**Report No.: W6M20908-9998-P-15**

6F, NO. 58, LANE 188, RUEY-KUANG RD., NEIHU TAIPEI 114, TAIWAN, R.O.C.  
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## **TABLE OF CONTENTS**

1	GENERAL INFORMATION .....	2
1.1	Notes .....	2
1.2	Testing laboratory .....	3
1.2.1	Location .....	3
1.2.2	Details of accreditation status .....	3
1.3	Details of approval holder .....	3
1.4	Application details .....	3
1.5	General information of Test item .....	4
1.6	Test standards .....	5
2	TECHNICAL TEST .....	6
2.1	Summary of test results .....	6
2.2	Test environment .....	6
2.3	Test Equipment List .....	7
2.4	General Test Procedure .....	9
3	TEST RESULTS (ENCLOSURE) .....	11
3.1	Peak Output Power (transmitter) .....	12
3.2	RF Exposure Compliance Requirements .....	14
3.3	Out of Band Radiated Emissions .....	14
3.4	Transmitter Radiated Emissions in restricted Bands .....	15
3.5	Spurious emissions (tx) .....	16
3.6	Carrier Frequency Separation .....	20
3.7	Number of Hopping Frequencies .....	21
3.7.1	Pseudorandom Frequency Hopping Sequence .....	22
3.7.2	Coordination of hopping sequences to other transmitters .....	22
3.7.3	System Receiver Hopping Capability .....	22
3.7.4	Equal Hopping Frequency Use .....	22
3.8	Time of Occupancy (Dwell Time) .....	23
3.9	20dB Bandwidth .....	24
3.10	Band-edge Compliance of RF Emissions .....	25
3.11	Radiated Emissions from Receiver Section of Transceiver .....	26
3.12	Power Line Conducted Emission .....	29



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

Registration number: W6M20908-9998-P-15  
FCC ID: R48WT50

## **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.

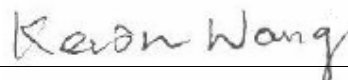
The existence of the tests nevertheless provides the confidence that the test sample possesses the qualities as maintained and that its performance generally conforms to representative cases of communications equipment.

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

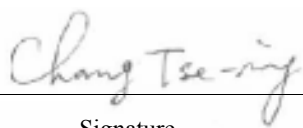
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### **Tester:**

September 18, 2009	Kevin Wang	
Date	WTS-Lab. Name	Signature

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

September 18, 2009	Chang Tse-Ming	
Date	WTS Name	Signature



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

Registration number: W6M20908-9998-P-15  
FCC ID: R48WT50

## **1.2 Testing laboratory**

### **1.2.1 Location**

OATS

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

Company

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

Tel : 886-2-66068877

Fax : 886-2-66068879

### **1.2.2 Details of accreditation status**

Accredited testing laboratory

A2LA accredited number: 2732.01

FCC filed test laboratory Reg. No. 930600

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



### **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 : MEILOON INDUSTRIAL CO., LTD.  
Street : No.77, Lane 1775, Chuen-Ryh Road  
Town : Taoyuan City  
Country : Taiwan  
Telephone : +886-3-326-1611  
Fax : +886-3-326-3884



Registration number: W6M20908-9998-P-15

FCC ID: R48WT50

## **1.4 Application details**

Date of receipt of test item : August 24, 2009

Date of test : from August 25, 2009 to September 17, 2009

## **1.5 General information of Test item**

Type of test item : Wireless Transmitter

Model Number : WT 50

Multi-listing model number : ./.

Photos : see Appendix

### **Technical data**

Frequency band : 2403.3-2479.1 MHz

Frequency (ch A or ch L) : 2403.3 MHz

Frequency (ch B or ch M) : 2442.2 MHz

Frequency (ch C or ch H) : 2479.1 MHz

### **Transmitter**

### **Unom**

Power ( ch A or ch L) : Conducted: 12.05 dBm

Power ( ch B or ch M) : Conducted: 12.72 dBm

Power ( ch C or ch H) : Conducted: 13.02 dBm

Power supply : Adaptor ( I/P: AC 100-240 V / 50-60 Hz / 0.45 A,  
O/P: 18 Vdc / 400 mA )

Operation modes : duplex

Modulation Type : FSK

Antenna Type :  $1/2 \lambda$  Dipole antenna

Antenna gain : 2.06 dBi



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

Registration number: W6M20908-9998-P-15  
FCC ID: R48WT50

Host device : none

Classification :

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

**Manufacturer:**  
(if applicable)

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

## **1.6 Test standards**

Technical standard : FCC RULES PART 15 Subpart B / SUBPART C § 15.247 (2008-10)



Registration number: W6M20908-9998-P-15  
FCC ID: R48WT50

## **2 Technical test**

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

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



**or**

The deviations as specified in 3 were ascertained in the course of the tests performed.



### **2.2 Test environment**

Temperature : 23 °C

Relative humidity content : 20 ... 75 %

Air pressure : 86 ... 103 kPa

Details of power supply : Adaptor ( I/P: AC 100-240 V / 50-60 Hz / 0.45 A,  
O/P: 18 Vdc / 400 mA )

Extreme conditions parameters : test voltage : -- extreme  
min :-- V  
max :-- V



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

Registration number: W6M20908-9998-P-15

FCC ID: R48WT50

## 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	2009/9/10	2010/9/9
ETSTW-CE 003	AC POWER SOURCE	APS-9102	D161137	GW	Function Test	
ETSTW-CE 004	ZWEILEITER-V-NETZNACHBILDUNG TWO-LINE V-NETWORK	ESH3-Z5	840731/011	R&S	2009/3/27	2010/3/26
ETSTW-CE 005	Line-Impedance Stabilisation Network	NNBM 8126D	137	Schwarzbeck	2009/9/9	2010/9/8
ETSTW-CE 006	IMPULSBEGRENZER PULSE LIMITER	ESH3-Z2	100226	R&S	2009/5/9	2010/5/8
ETSTW-CE 009	TEMP.&HUMIDITY CHAMBER	GTH-225-40-1P-U	MAA0305-009	GIANT FORCE	2009/7/21	2010/7/20
ETSTW-CE 015	CISPR 22 TWO BALANCED TELECOM PAIRS IMPEDANCE STABILIZATION NETWORK	FCC-TLISN-T8-02	20307	FCC	2009/9/12	2010/9/11
ETSTW-CE 016	TWO-LINE V-NETWORK	ENV216	100050	R&S	2009/9/9	2010/9/8
ETSTW-RE 002	Function Generator	33220A	MY43004982	Agilent	Function Test	
ETSTW-RE 003	EMI TEST RECEIVER	ESI 26	831438/001	R&S	2008/10/8	2009/10/7
ETSTW-RE 004	EMI TEST RECEIVER	ESI 40	832427/004	R&S	2008/9/22	2009/9/21
ETSTW-RE 005	EMI TEST RECEIVER	ESVS10	843207/020	R&S	2009/9/11	2010/9/10
ETSTW-RE 010	ABSORBING CLAMP	MDS 21	3469	Schwarzbeck	2009/9/11	2010/9/10
ETSTW-RE 011	PROGRAMMABLE LINEAR POWER SUPPLY	LPS-305	30503070165	MOTECH	Function Test	
ETSTW-RE 017	Log-Periodic Antenna	HL025	352886/001	R&S	2009/5/4	2010/5/3
ETSTW-RE 018	MICROWAVE HORN ANTENNA	AT4560	27212	AR	2008/10/27	2009/10/26
ETSTW-RE 020	MICROWAVE HORN ANTENNA	AT4002A	306915	AR	Function Test	
ETSTW-RE 021	SWEEP GENERATOR	SWM05	835130/010	R&S	2009/8/19	2010/8/18
ETSTW-RE 027	Passive Loop Antenna	6512	00034563	EMCO	2009/8/14	2011/8/13
ETSTW-RE 028	Log-Periodic Dipole Array Antenna	3148	34429	EMCO	2009/4/15	2010/4/14
ETSTW-RE 029	Biconical Antenna	3109	33524	EMCO	2009/4/15	2010/4/14
ETSTW-RE 030	Double-Ridged Guide Horn Antenna	3117	00035224	EMCO	2009/3/23	2010/3/22
ETSTW-RE 032	Millivoltmeter	URV 55	849086/013	R&S	2009/8/23	2010/8/22
ETSTW-RE 033	WaveRunner 6000A Serise Oscilloscope	WAVERUNNER 6100A	LCRY0604P14508	LeCroy	2009/6/15	2010/6/14
ETSTW-RE 034	Power Sensor	URV5-Z4	839313/006	R&S	2009/8/23	2010/8/22
ETSTW-RE 042	Biconical Antenna	HK116	100172	R&S	2009/1/8	2010/1/7
ETSTW-RE 043	Log-Periodic Dipole Antenna	HL223	100166	R&S	2009/5/5	2010/5/4
ETSTW-RE 044	Log-Periodic Antenna	HL050	100094	R&S	2009/5/21	2010/5/20
ETSTW-RE 047	PSA SERIES SPECTRUM ANALYZER	E4445A	MY46181369	Agilent	2009/6/15	2010/6/14
ETSTW-RE 048	Triple Loop Antenna	HXYZ 9170	HXYZ 9170-134	Schwarzbeck	2009/8/31	2010/8/30
ETSTW-RE 049	TRILOG Super Broadband test Antenna	VULB 9160	9160-3185	Schwarzbeck	2009/4/14	2010/4/13
ETSTW-RE 055	SPECTRUM ANALYZER	FSU 26	200074	R&S	2009/6/10	2010/6/09





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

Registration number: W6M20908-9998-P-15  
FCC ID: R48WT50

ETSTW-RE 064	Bluetooth Test Set	MT8852B-042	6K00005709	Anritsu	Function Test	
ETSTW-RE 065	Amplifier	AMF-6F-18002650-25-10P	941608	MITEQ	2009/4/21	2010/4/20
ETSTW-RE 072	CELL SITE TEST SET	8921A	3339A00375	HP	2008/10/28	2009/10/27
ETSTW-RE 073	Power Meter	N1911A	MY45100769	Agilent	2009/1/13	2010/1/12
ETSTW-RE 074	Power Sensor	N1921A	MY45241198	Agilent	2009/1/13	2010/1/12
ETSTW-RE 091	Match Pad	MDCS1500	None	WOKEN	2008/10/9	2009/10/8
ETSTW-RE 092	Match Pad	MDCS1510	None	WOKEN	2008/10/9	2009/10/8
ETSTW-RE 093	LUMPED ELEMENT POWER DIVIDER	PL2-10	146	MCLI	2009/3/6	2010/3/5
ETSTW-RE 094	Precision Coaxial Termination	HP 909F	03941	Agilent	2008/12/19	2009/12/18
ETSTW-RE 095	Digital Thermo-Hygro Meter	0410	01	WISEWIND	2009/3/24	2010/3/23
ETSTW-RE 096	SIGNAL GENERATOR	SMIQ 03B	102274	R&S	2009/6/5	2010/6/4
ETSTW-RE 097	GPS SIGNAL GENERATOR	GSG-L1	06-0507-0311	Naviva	Function Test	
ETSTW-GSM 002	Universal Radio Communication Tester	CMU 200	109439	R&S	2008/9/23	2009/9/22
ETSTW-GSM 023	Power Divider	4901.19.A	None	SUHNER	2008/9/22	2009/9/21
ETSTW-Cable 001	Microwave Cable	SUCOFLEX 104 (S Cable 1)	238094	HUBER+SUHNER	2008/9/22	2009/9/21
ETSTW-Cable 002	Microwave Cable	SUCOFLEX 104 (S Cable 7)	238093	HUBER+SUHNER	2008/9/22	2009/9/21
ETSTW-Cable 003	Microwave Cable	SUCOFLEX 104 (S Cable 11)	209953	HUBER+SUHNER	2008/9/22	2009/9/21
ETSTW-Cable 006	Microwave Cable	SUCOFLEX 104 (S Cable 8)	238095	HUBER+SUHNER	2009/3/6	2010/3/5
ETSTW-Cable 010	BNC Cable	5 M BNC Cable	None	JYE BAO CO.,LTD.	2009/3/6	2010/3/5
ETSTW-Cable 011	BNC Cable	BNC Cable 1	None	JYE BAO CO.,LTD.	2009/8/20	2010/8/19
ETSTW-Cable 012	BNC Cable	BNC Cable 2	None	JYE BAO CO.,LTD.	2009/8/20	2010/8/19
ETSTW-Cable 013	Microwave Cable	SUCOFLEX 104 (S Cable 5)	232345	HUBER+SUHNER	2009/3/6	2010/3/5
ETSTW-Cable 022	N TYPE Cable	OATS Cable 3	0002	JYE BAO CO.,LTD.	2009/3/6	2010/3/5



Registration number: W6M20908-9998-P-15  
FCC ID: R48WT50

## **2.4 General Test Procedure**

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

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

**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 UUT was placed on a table 80 cm high and with dimensions of 1m by 1.5m (non metallic table) and arranged according to ANSI C63.4-2003 Section 13.1.2. The table used for radiated measurements is capable of continuous rotation. The spectrum was scanned from 30 MHz to the frequency specified as follows:

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

For hand-held devices, a exploratory test was performed with three (3) orthogonal planes to determine the highest emissions.

Measurements were made by Worldwide Testing Services(Taiwan) Co., Ltd. at the registered open field test site located No.5-1, Shuang Sing Village, LiShuei Rd., Wanli Township, Taipei County 207, Taiwan (R.O.C.). The Registration Number: **930600**.



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

Registration number: W6M20908-9998-P-15  
FCC ID: R48WT50

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

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

The formula is as follows:

Average = Peak + Duty Factor

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

$T = 100\text{ms}$  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



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

Registration number: W6M20908-9998-P-15  
FCC ID: R48WT50

### **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 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"/>
Band-edge Compliance of RF Emission	15.247(c)	<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 checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

The follows is intended to leave blank.



Registration number: W6M20908-9998-P-15  
FCC ID: R48WT50

### 3.1 Peak Output Power (transmitter)

FCC Rule: 15.247

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

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

Test conditions	Conducted Power		
	Channel A [dBm]	Channel B [dBm]	Channel C [dBm]
T <sub>nom</sub> = 23°C    V <sub>nom</sub> = 120 V	12.05	12.72	13.02

Test conditions	Radiated Power		
	Channel A [dBm]	Channel B [dBm]	Channel C [dBm]
T <sub>nom</sub> = --°C    V <sub>nom</sub> = -- V	--	--	--

Test conditions	Signal Field strength TX highest power mode
T <sub>nom</sub> = --°C, V <sub>nom</sub> = -- V	dBμV/m
Frequency [MHz]	
--	--
Measurement uncertainty	< 3 dB

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



Registration number: W6M20908-9998-P-15  
FCC ID: R48WT50

## **Maximum Peak Output Power**

Limits:

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

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

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



Registration number: W6M20908-9998-P-15  
FCC ID: R48WT50

### **3.2 RF Exposure Compliance Requirements**

According to Supplement C, Edition 01-01 to OET Bulletin 65, Edition 97-01 this spread spectrum transmitter is categorically excluded from routine environmental evaluation because of the low power level, where there is a high likelihood of compliance with RF exposure standards.

### **3.3 Out of Band Radiated Emissions**

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 below 1GHz :

Max. reading – 20 dB

Guidance on Measurement of FHSS 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.” Here the correction was added to the limit instead subtracted from the reading.

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

For frequencies above 1GHz (Peak measurements).

Limit = max. aver. reading-20dB +20dB(because Peak detector is used)

For frequencies above 1GHz (Average measurements).

Max. reading – 20 dB - duty cycle correction:

No duty cycle correction was added to the reading

Test equipment used: ETSTW-RE 003, ETSTW-RE 004, ETSTW-RE 017, ETSTW-RE 018,  
ETSTW-RE 021, ETSTW-RE 028, ETSTW-RE 030, ETSTW-RE 043,  
ETSTW-RE 064



Registration number: W6M20908-9998-P-15  
FCC ID: R48WT50

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

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

Radiated emission measurements were performed from 30 MHz to 26000 MHz.

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

RES BW VID BW

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

Frequency >1 GHz 1 MHz 1 MHz (Peak measurements)

1 MHz 1 MHz (Average measurements)

Limits:

For frequencies below 1GHz :

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

For frequencies above 1GHz (Average measurements).

Guidance on Measurement of FHSS Systems:

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

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

For frequencies above 1GHz (Average measurements).

Limit – duty cycle correction

No duty cycle correction was added to the reading.

54.0dB $\mu$ V/m

For frequencies above 1GHz (Peak measurements).

Limit + 20dB

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

Note: See attached diagrams.

Test equipment used: ETSTW-RE 003, ETSTW-RE 004, ETSTW-RE 017, ETSTW-RE 028,  
ETSTW-RE 029, ETSTW-RE 030, ETSTW-RE 042, ETSTW-RE 043,  
ETSTW-RE 064





Registration number: W6M20908-9998-P-15  
FCC ID: R48WT50

### 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))

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

Calculation of test results:

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

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

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

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

Model: WT 50 Date: 2009/9/15  
Mode: 2403.3 MHz Temperature: 24 °C Engineer: Kevin  
Polarization: Horizontal Humidity: 51 %

Frequency (MHz)	Reading (dBuV)	Detector	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Table Degree (Deg.)	Ant. High (cm)
270.300	13.87	peak	14.47	28.34	46.00	-17.66	120	150
998.597	5.96	peak	27.39	33.35	54.00	-20.65	130	150

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.			
4801.603	52.21	---	-5.95	46.26	---	74.00	54.00	-27.74	120	150
7214.429	55.12	46.05	-0.73	54.39	45.32	74.00	54.00	-8.68	270	150
9613.200	30.09	---	20.92	45.01	---	74.00	54.00	-28.99	120	150
12016.500	30.46	---	22.61	47.07	---	74.00	54.00	-26.93	220	150



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

Registration number: W6M20908-9998-P-15

FCC ID: R48WT50

Polarization: Vertical

Frequency (MHz)	Reading (dBuV)	Detector	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Table Degree (Deg.)	Ant. High (cm)
113.700	23.51	peak	12.75	36.26	43.50	-7.24	250	150
995.792	8.33	peak	27.37	35.70	54.00	-18.30	110	150

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.			
4801.603	54.23	---	-5.95	48.28	---	74.00	54.00	-25.72	210	150
7214.429	55.03	46.07	-0.73	54.30	45.34	74.00	54.00	-8.66	280	150
9613.000	30.38	---	20.92	45.30	---	74.00	54.00	-28.70	110	150
12016.500	30.2	---	22.61	46.81	---	74.00	54.00	-27.19	230	150

Mode: 2442.2 MHz

Temperature: 24 °C

Engineer: Kevin

Polarization: Horizontal

Humidity: 51 %

Frequency (MHz)	Reading (dBuV)	Detector	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Table Degree (Deg.)	Ant. High (cm)
270.300	13.60	peak	14.47	28.07	46.00	-17.93	120	150
405.210	19.04	peak	17.90	36.94	46.00	-9.06	140	110

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.			
4884.400	46.92	---	-5.55	41.37	---	74.00	54.00	-32.63	120	150
7326.653	51.10	---	-1.01	50.09	---	74.00	54.00	-23.91	230	150
9768.800	30.56	---	21.36	45.92	---	74.00	54.00	-28.08	210	150
12211.000	31.50	---	23.18	48.68	---	74.00	54.00	-25.32	230	150

Polarization: Vertical

Frequency (MHz)	Reading (dBuV)	Detector	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Table Degree (Deg.)	Ant. High (cm)
110.325	23.68	peak	12.39	36.07	43.50	-7.43	120	150
971.944	6.87	peak	27.23	34.10	54.00	-19.90	100	150



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

Registration number: W6M20908-9998-P-15  
FCC ID: R48WT50

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.			
4884.400	46.12	---	-5.55	40.57	---	74.00	54.00	-33.43	240	150
7326.600	48.39	---	-1.01	47.38	---	74.00	54.00	-26.62	170	150
9768.800	29.70	---	21.36	45.06	---	74.00	54.00	-28.94	210	150
12211.000	30.32	---	23.18	47.50	---	74.00	54.00	-26.50	330	150

Mode: 2479.1 MHz Temperature: 24 °C Engineer: Kevin  
Polarization: Horizontal Humidity: 51 %

Frequency (MHz)	Reading (dBuV)	Detector	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Table Degree (Deg.)	Ant. High (cm)
123.150	13.57	peak	13.63	27.20	43.50	-16.30	220	150
405.210	18.98	peak	17.90	36.88	46.00	-9.12	180	150

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.			
4958.000	46.84	---	-5.40	41.44	---	74.00	54.00	-32.56	110	150
7437.000	50.16	---	-1.02	49.14	---	74.00	54.00	-24.86	170	150
9916.000	30.26	---	21.63	45.89	---	74.00	54.00	-28.11	120	150
12395.000	30.54	---	23.41	47.95	---	74.00	54.00	-26.05	270	150

Polarization: Vertical

Frequency (MHz)	Reading (dBuV)	Detector	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Table Degree (Deg.)	Ant. High (cm)
114.375	23.81	peak	12.82	36.63	43.50	-6.87	120	150
405.210	15.36	peak	17.90	33.26	46.00	-12.74	210	150

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.			
4958.000	46.87	---	-5.40	41.47	---	74.00	54.00	-32.53	310	150
7437.000	49.72	---	-1.02	48.70	---	74.00	54.00	-25.30	240	150
9916.000	30.74	---	21.63	46.37	---	74.00	54.00	-27.63	210	150
12395.000	31.10	---	23.41	48.51	---	74.00	54.00	-25.49	220	150



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

Registration number: W6M20908-9998-P-15

FCC ID: R48WT50

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

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

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

Test equipment used: ETSTW-RE 003, ETSTW-RE 004, ETSTW-RE 017, ETSTW-RE 018,  
ETSTW-RE 021, ETSTW-RE 028, ETSTW-RE 030, ETSTW-RE 043,  
ETSTW-RE 064



Registration number: W6M20908-9998-P-15  
FCC ID: R48WT50

### 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.

Test conditions		Channel Separation	
		Channel A	Channel A+1
$T_{nom} = 23^{\circ}\text{C}$	$V_{nom} = 120\text{ V}$	4.102564103 MHz	

Test conditions		Channel Separation	
		Channel B	Channel B+1
$T_{nom} = 23^{\circ}\text{C}$	$V_{nom} = 120\text{ V}$	6.185897436 MHz	

Test conditions		Channel Separation	
		Channel C	Channel C+1
$T_{nom} = 23^{\circ}\text{C}$	$V_{nom} = 120\text{ V}$	4.070512821 MHz	

#### 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

Note: See attached diagram as appendix.



Registration number: W6M20908-9998-P-15  
FCC ID: R48WT50

### **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.

Test conditions		Operating Mode	Number of Channels
$T_{nom} = 23^{\circ}\text{C}$	$V_{nom} = 120\text{ V}$	normal transmitting	20

#### **Limits:**

Frequency Range MHz	Limit	
	20dB Bandwidth	Number of Channels
902-928 MHz	Bandwidth < 250 kHz	$\geq 50$
	Bandwidth $\geq 250\text{ kHz}$	$\geq 25$
2400-2483.5	not defined	15
5725-5850.0 MHz	1 MHz	75

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

Note: See attached diagrams as appendix.



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

The RF module can synthesize a total of 38 channels. At any given point in time, it only hops on a subset of 20 of these channels. If one of the 20 channels it is using is deemed to be bad, it stops using it and replaces it with one of the other 18 unused channels.

Channel	Frequency GHz	Channel	Frequency GHz	Channel	Frequency GHz	Channel	Frequency GHz
0	2.403328	11	2.425856	22	2.448384	33	2.470912
1	2.405376	12	2.427904	23	2.450432	34	2.472960
2	2.407424	13	2.429952	24	2.452480	35	2.475008
3	2.409472	14	2.432000	25	2.454528	36	2.477056
4	2.411520	15	2.434048	26	2.456576	37	2.479104
5	2.413568	16	2.436096	27	2.458624		
6	2.415616	17	2.438144	28	2.460672		
7	2.417664	18	2.440192	29	2.462720		
8	2.419712	19	2.442240	30	2.464768		
9	2.421760	20	2.444288	31	2.466816		
10	2.423808	21	2.446336	32	2.468864		

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

This transmitter does not have the ability of being coordinated with other FHSS system for as soon as the transmitter is in operation, the hopping frequency will follow the selected hopping sequence to transmit independently and no coordination is possible. Especially, this transmitter is used as a duplex Wireless speaker system, so no coordination of hopping frequency is required.

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

There are two steps to make the receiver to shift the frequencies in synchronization with the transmitted signals:

First, the Transmitter will emit a preamble signal of 5 ms and the receiver will scan this signal by 0.2 ms sweeping until the preamble signal is caught. Second, the preamble signal is coded with the information of hopping sequence and the next transmitting frequency, so the receiver will be able to shift the receiving frequencies in synchronization with the transmitted signals.

### **3.7.4 Equal Hopping Frequency Use**

Due to each hopping frequency will be transmitted in accordance to the frequency tables described above, there is no any frequency will be able to hop more times than others. Therefore each frequency will be used equally.



Registration number: W6M20908-9998-P-15  
FCC ID: R48WT50

### 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.

Test conditions	Operating mode	Measurement period	Time of Occupancy
$T_{nom} = 23^{\circ}\text{C}$ $V_{nom} = 120\text{ V}$	Channel A	8	382.24 ms
	Channel B	8	382.24 ms
	Channel C	8	382.24 ms

#### Limits and measurement periods:

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

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

Note: See attached diagrams as appendix, which show the On-time and the number of counted events during the measurement period





Registration number: W6M20908-9998-P-15  
FCC ID: R48WT50

### **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.

Test conditions		20 dB Bandwidth		
		Channel A	Channel B	Channel C
$T_{nom} = 23^{\circ}\text{C}$	$V_{nom} = 120\text{ V}$	1.846153846 MHz	1.865384615 MHz	1.865384615 MHz

#### **Limits:**

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

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

Note: See attached diagram as appendix.



Registration number: W6M20908-9998-P-15  
FCC ID: R48WT50

### **3.10 Band-edge Compliance of RF Emissions**

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

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

Test conditions		Attenuation at or outside band-edges Single Frequency	
		Lower Band-edge	Upper Band-edge
$T_{nom} = 23^{\circ}\text{C}$	$V_{nom} = 120\text{ V}$	48.09 dB	55.26 dB

Test conditions		Attenuation at or outside band-edges Hopping Frequency	
		Lower Band-edge	Upper Band-edge
$T_{nom} = 23^{\circ}\text{C}$	$V_{nom} = 120\text{ V}$	42.16 dB	47.38 dB

#### **Limits:**

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

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

Note: See attached diagrams as appendix.



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

Registration number: W6M20908-9998-P-15  
FCC ID: R48WT50

## 3.11 Radiated Emissions from Receiver Section of Transceiver

FCC Rule: 15.109

### Receiver part

Model: WT 50 Date: 2009/9/15  
Mode: 2403.3 MHz Temperature: 24 °C Engineer: Kevin  
Polarization: Horizontal Humidity: 51 %

Frequency (MHz)	Reading (dBuV)	Detector	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Table Degree (Deg.)	Ant. High (cm)
61.725	12.28	peak	13.61	25.89	40.00	-14.11	110	150
116.400	12.93	peak	13.04	25.97	43.50	-17.53	350	150
233.175	16.94	peak	13.22	30.16	46.00	-15.84	280	150
417.836	23.91	peak	18.16	42.07	46.00	-3.93	310	150
661.924	15.77	peak	22.86	38.63	46.00	-7.37	120	150

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.			
3206.413	46.41	---	-4.91	41.50	---	74.00	54.00	-32.50	120	150

Polarization: Vertical

Frequency (MHz)	Reading (dBuV)	Detector	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Table Degree (Deg.)	Ant. High (cm)
48.900	24.42	peak	13.57	37.99	40.00	-2.01	125	150
75.900	25.43	peak	10.82	36.25	40.00	-3.75	170	150
113.700	23.01	peak	12.75	35.76	43.50	-7.74	220	150
368.738	21.30	peak	16.94	38.24	46.00	-7.76	110	150
417.836	22.87	peak	18.16	41.03	46.00	-4.97	250	150

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.			
3693.387	45.09	---	-2.53	42.56	---	74.00	54.00	-31.44	110	150



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

Registration number: W6M20908-9998-P-15  
FCC ID: R48WT50

Mode: 2442.2 MHz Temperature: 24 °C Engineer: Kevin  
Polarization: Horizontal Humidity: 51 %

Frequency (MHz)	Reading (dBuV)	Detector	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Table Degree (Deg.)	Ant. High (cm)
61.050	11.73	peak	13.65	25.38	40.00	-14.62	170	150
117.075	12.97	peak	13.11	26.08	43.50	-17.42	130	150
233.175	17.28	peak	13.22	30.50	46.00	-15.50	220	150
417.836	23.60	peak	18.16	41.76	46.00	-4.24	320	150
671.744	14.35	peak	22.93	37.28	46.00	-8.72	80	150

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.			
3591.182	45.39	---	-2.85	42.54	---	74.00	54.00	-31.46	140	150

Polarization: Vertical

Frequency (MHz)	Reading (dBuV)	Detector	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Table Degree (Deg.)	Ant. High (cm)
48.900	25.05	peak	13.57	38.62	40.00	-1.38	130	150
75.900	25.93	peak	10.82	36.75	40.00	-3.25	220	150
113.700	22.70	peak	12.75	35.45	43.50	-8.05	190	150
417.836	22.54	peak	18.16	40.70	46.00	-5.30	170	150
701.202	12.69	peak	23.46	36.15	46.00	-9.85	250	150

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.			
3819.639	44.37	---	-2.21	42.16	---	74.00	54.00	-31.84	250	150

Mode: 2479.1 MHz Temperature: 24 °C Engineer: Kevin  
Polarization: Horizontal Humidity: 51 %

Frequency (MHz)	Reading (dBuV)	Detector	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Table Degree (Deg.)	Ant. High (cm)
61.725	12.59	peak	13.61	26.20	40.00	-13.80	280	150
123.150	13.57	peak	13.63	27.20	43.50	-16.30	110	150
233.175	17.16	peak	13.22	30.38	46.00	-15.62	240	150
417.836	23.78	peak	18.16	41.94	46.00	-4.06	150	150
671.744	13.93	peak	22.93	36.86	46.00	-9.14	280	150



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

Registration number: W6M20908-9998-P-15  
FCC ID: R48WT50

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.			
3717.435	45.37	---	-2.47	42.90	---	74.00	54.00	-31.10	205	150

Polarization: Vertical

Frequency (MHz)	Reading (dBuV)	Detector	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Table Degree (Deg.)	Ant. High (cm)
48.900	24.67	peak	13.57	38.24	40.00	-1.76	125	150
75.900	25.37	peak	10.82	36.19	40.00	-3.81	240	150
114.375	23.81	peak	12.82	36.63	43.50	-6.87	130	150
368.738	22.88	peak	16.94	39.82	46.00	-6.18	310	150
725.050	14.64	peak	24.12	38.76	46.00	-7.24	220	150

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.			
3585.170	45.19	---	-2.87	42.32	---	74.00	54.00	-31.68	110	150

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

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

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

Test equipment used: ETSTW-RE 003, ETSTW-RE 004, ETSTW-RE 017, ETSTW-RE 028,  
ETSTW-RE 029, ETSTW-RE 030, ETSTW-RE 042, ETSTW-RE 043,  
ETSTW-RE 064

Explanation: The test results of digital part are listed in the separated test report no. W6M20908-9998-P-15B.



Registration number: W6M20908-9998-P-15  
FCC ID: R48WT50

## 3.12 Power Line Conducted Emission

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

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

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

Model: WT 50 Date: 2009/9/17  
Mode: Temperature: 24 °C Engineer: Kevin  
Polarization: N Humidity: 51 %

Frequency (MHz)	Reading (dBμV)		Factor (dB) Corr.	Result (dBμV)		Limit (dBμV)		Margin (dB)
	QP	Ave.		QP	Ave.	QP	Ave.	
0.1539	39.46	22.55	10.10	49.56	32.65	65.79	55.79	-16.23
0.4685	29.40	17.80	10.10	39.50	27.90	56.54	46.54	-17.04
1.0100	20.50	11.06	10.10	30.60	21.16	56.00	46.00	-24.84
1.4250	20.14	11.73	10.10	30.24	21.83	56.00	46.00	-24.17
16.4444	18.69	13.00	10.10	28.79	23.10	60.00	50.00	-26.90
27.2222	14.90	8.04	10.10	25.00	18.14	60.00	50.00	-31.86

Polarization: L1

Frequency (MHz)	Reading (dBμV)		Factor (dB) Corr.	Result (dBμV)		Limit (dBμV)		Margin (dB)
	QP	Ave.		QP	Ave.	QP	Ave.	
0.1551	39.42	23.12	10.10	49.52	33.22	65.72	55.72	-16.20
0.4673	29.65	20.12	10.10	39.75	30.22	56.56	46.56	-16.34
0.9550	21.43	13.89	10.10	31.53	23.99	56.00	46.00	-22.01
1.3700	22.33	12.76	10.10	32.43	22.86	56.00	46.00	-23.14
16.8333	18.56	11.71	10.10	28.66	21.81	60.00	50.00	-28.19
26.9444	11.13	6.47	10.10	21.23	16.57	60.00	50.00	-33.43



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

Registration number: W6M20908-9998-P-15

FCC ID: R48WT50

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

### **Limits:**

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

Test equipment used: ETSTW-CE 001, ETSTW-CE 003, ETSTW-CE 004, ETSTW-CE 006,  
ETSTW-RE 064



## **Appendix**

### Measurement diagrams

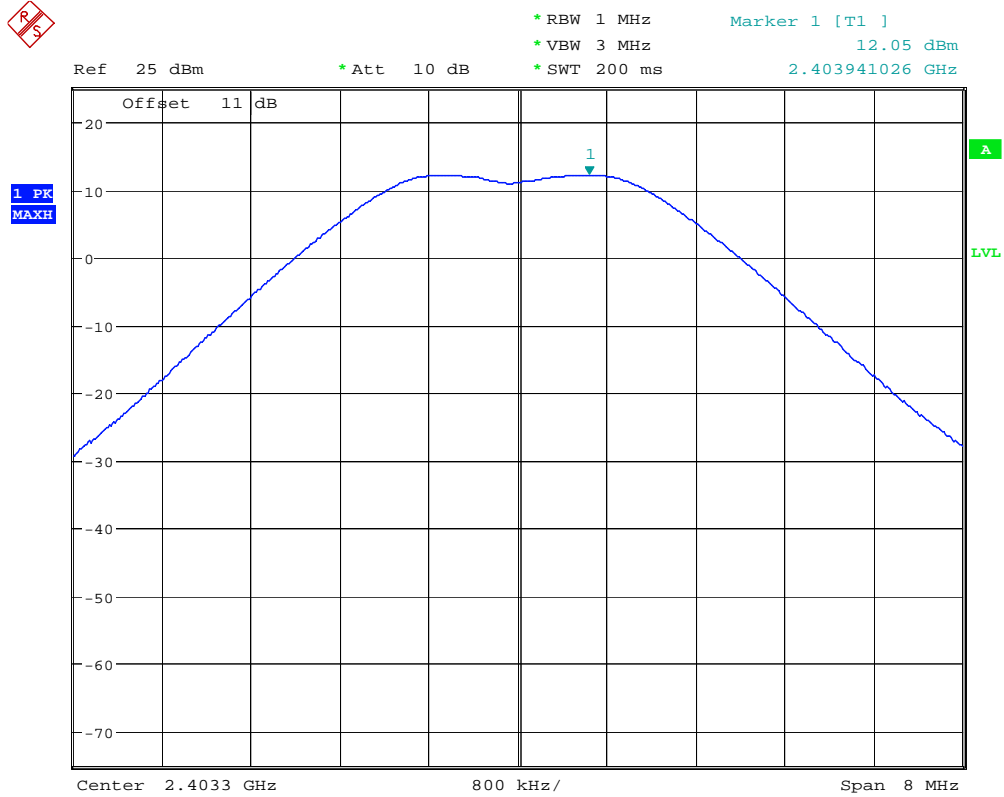
1. Peak Output Power
2. Spurious Emissions radiated
3. Carrier Frequency Separation
4. Number of Hopping Frequencies
5. Time of Occupancy (Dwell Time)
6. 20dB Bandwidth
7. Band-edge Compliance of RF Conducted Emissions
8. Radiated Emissions from Receiver Section of Transceiver
9. Conducted Emission





Registration number: W6M20908-9998-P-15  
FCC ID: R48WT50

## Peak Output Power



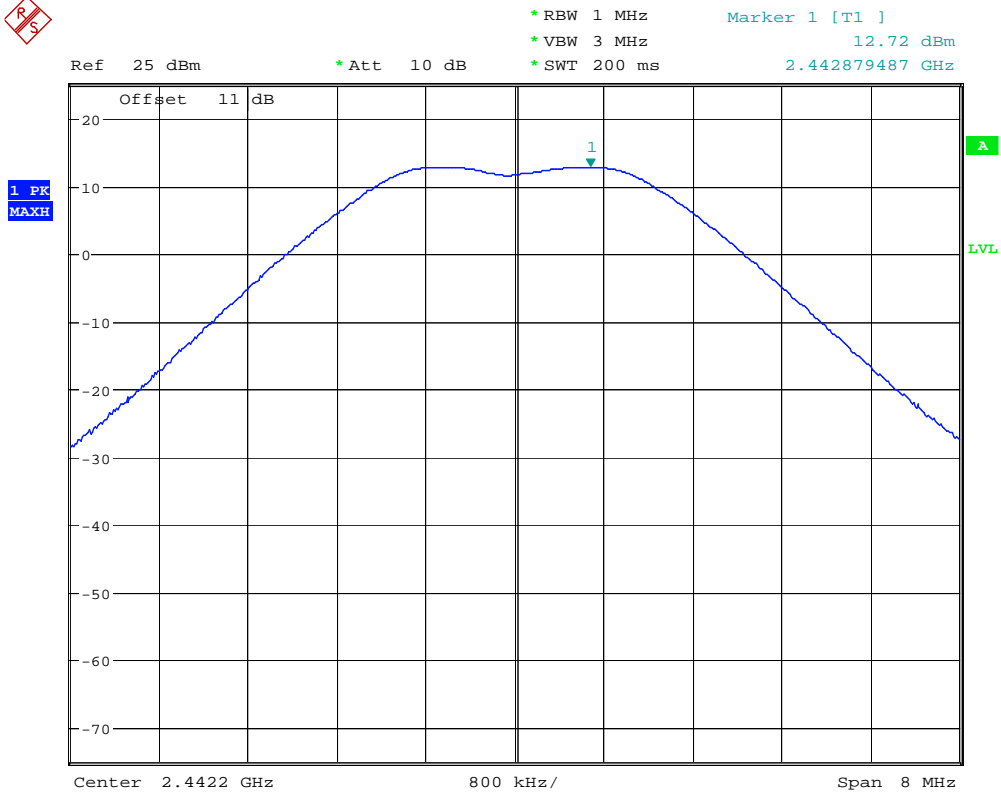
MAX OUTPUT POWER 2403.3MHz  
Date: 10.SEP.2009 13:37:57



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

Registration number: W6M20908-9998-P-15

FCC ID: R48WT50



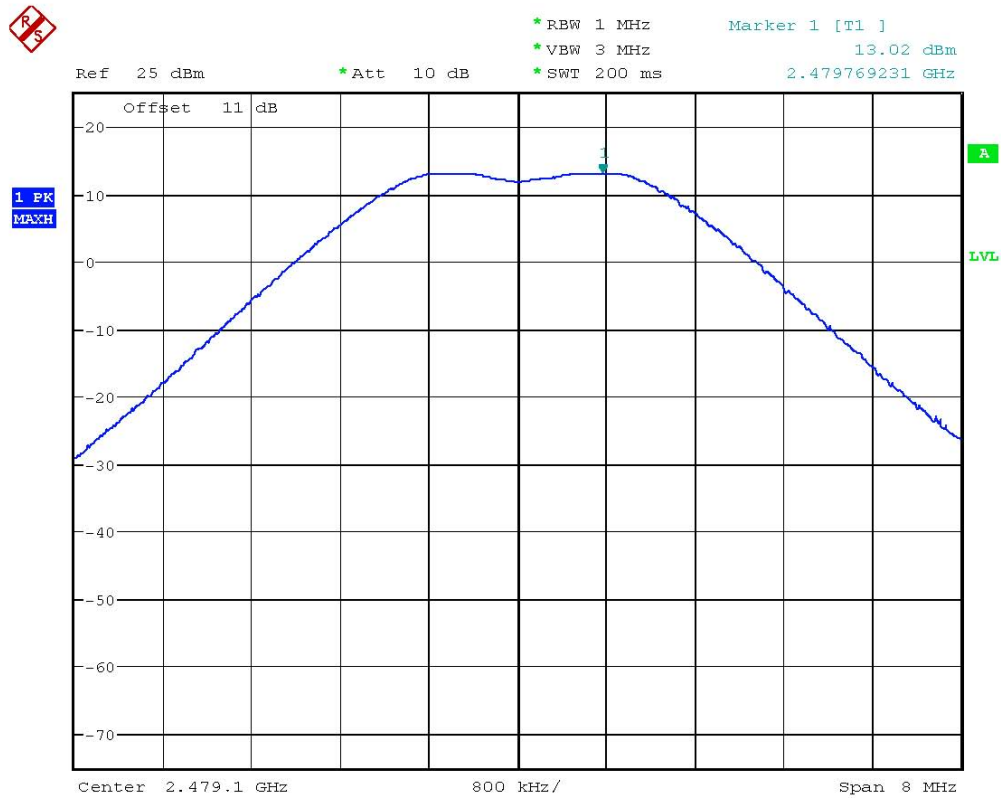
MAX OUTPUT POWER 2442.2MHz

Date: 10.SEP.2009 13:40:06



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

Registration number: W6M20908-9998-P-15  
FCC ID: R48WT50



MAX OUTPUT POWER 2479.1MHz  
Date: 10.SEP.2009 13:40:53



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

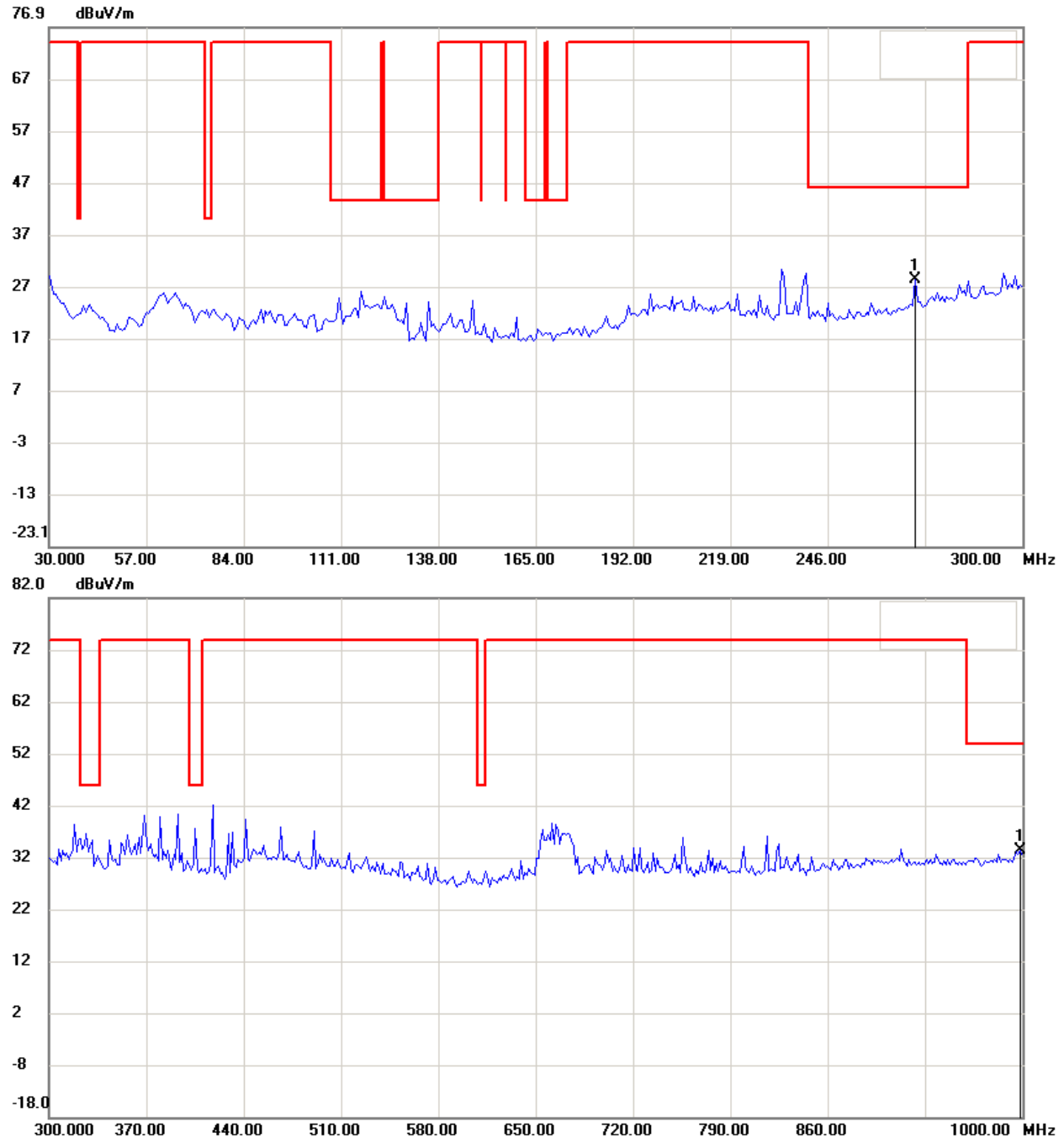
Registration number: W6M20908-9998-P-15

FCC ID: R48WT50

Spurious Emissions radiated

Transmitter\_ 2403.3 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.

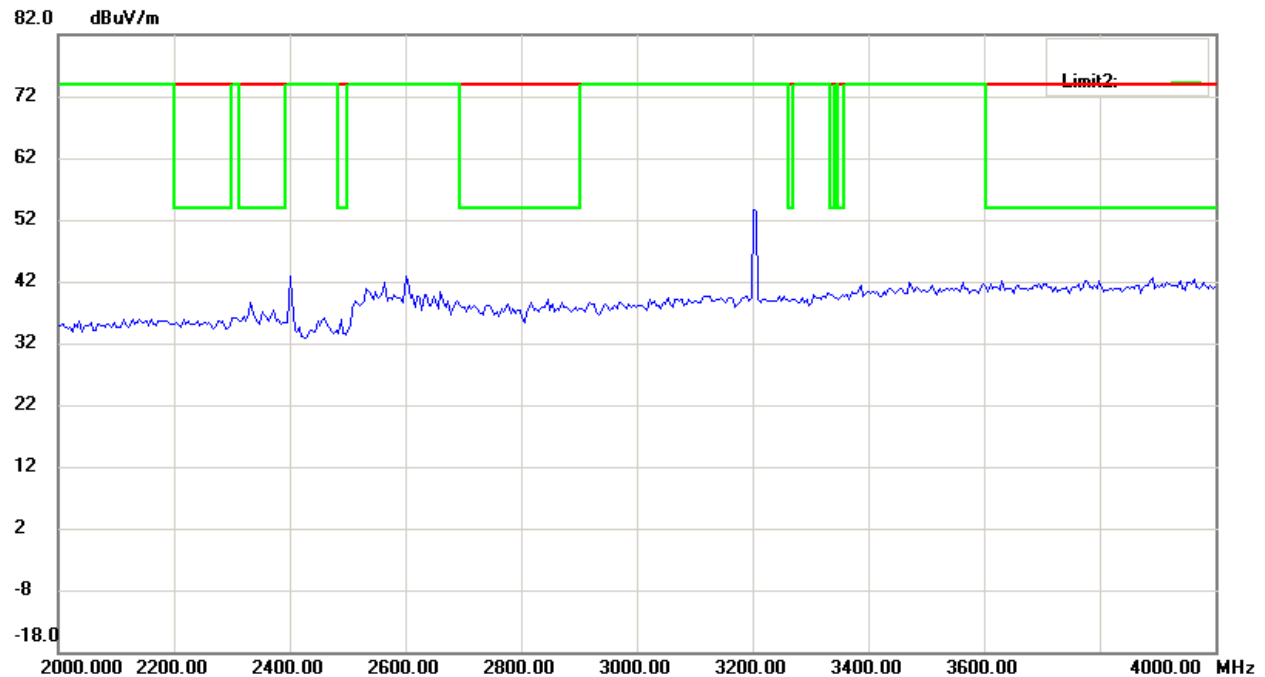
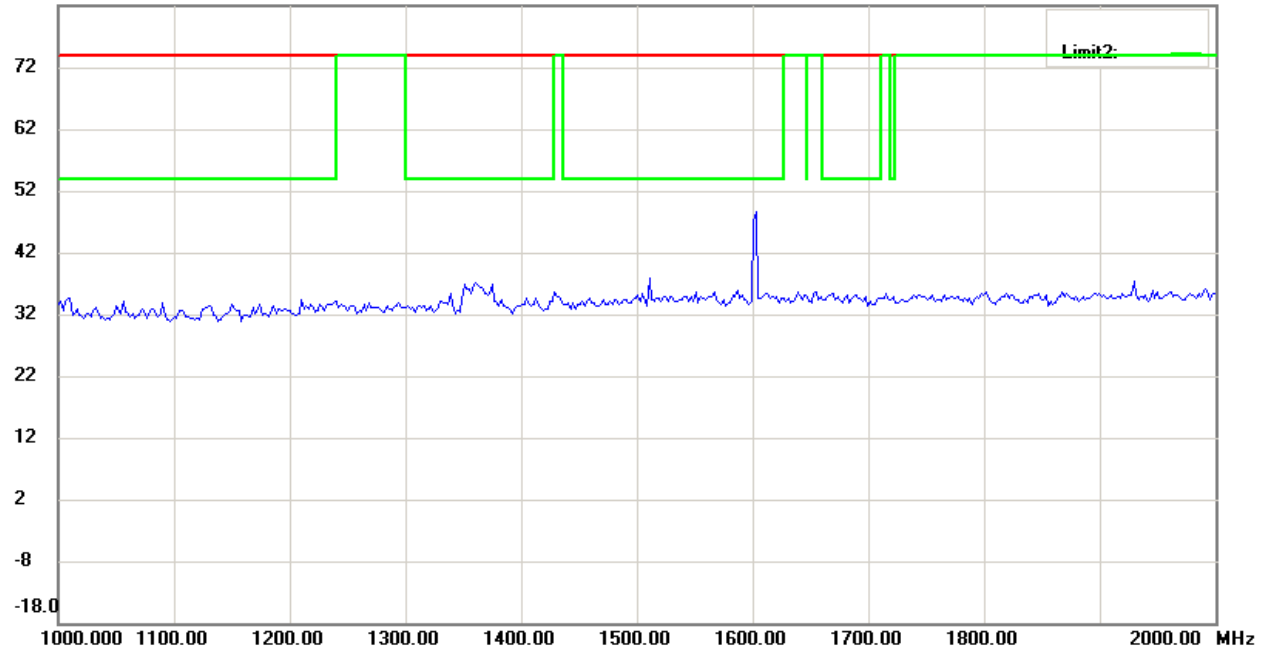


# Worldwide Testing Services(Taiwan) Co., Ltd.

Registration number: W6M20908-9998-P-15

FCC ID: R48WT50

82.0 dBuV/m



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.

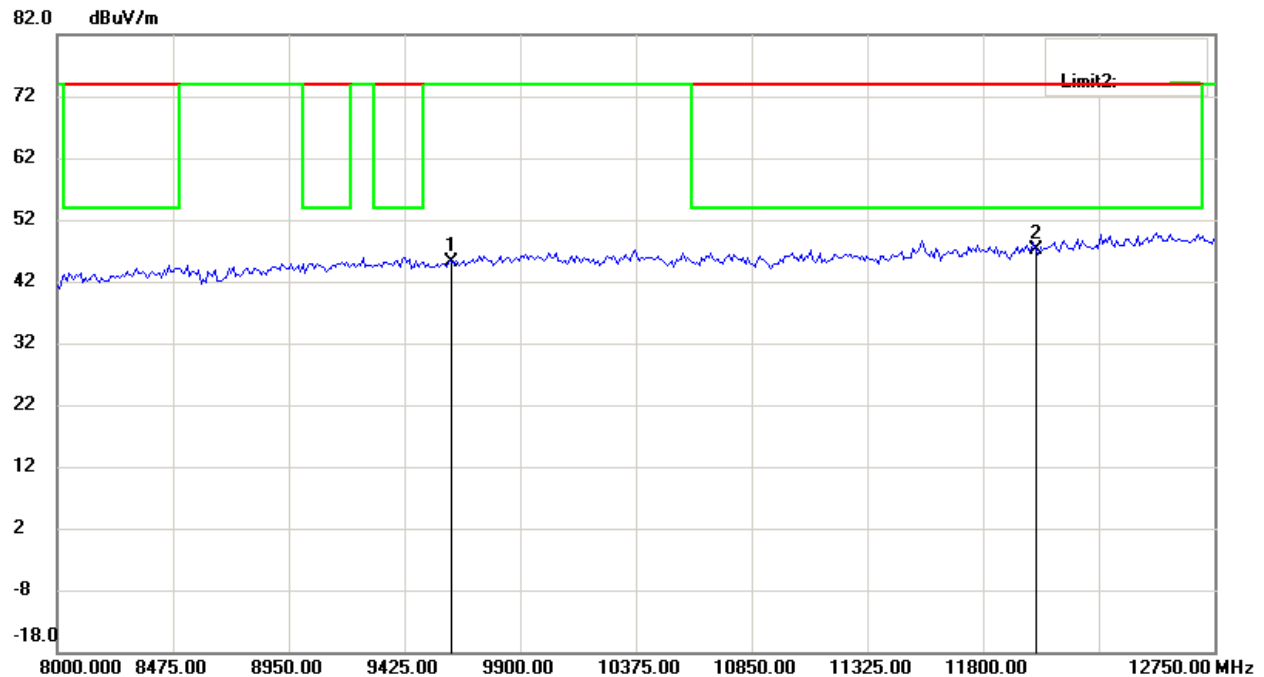
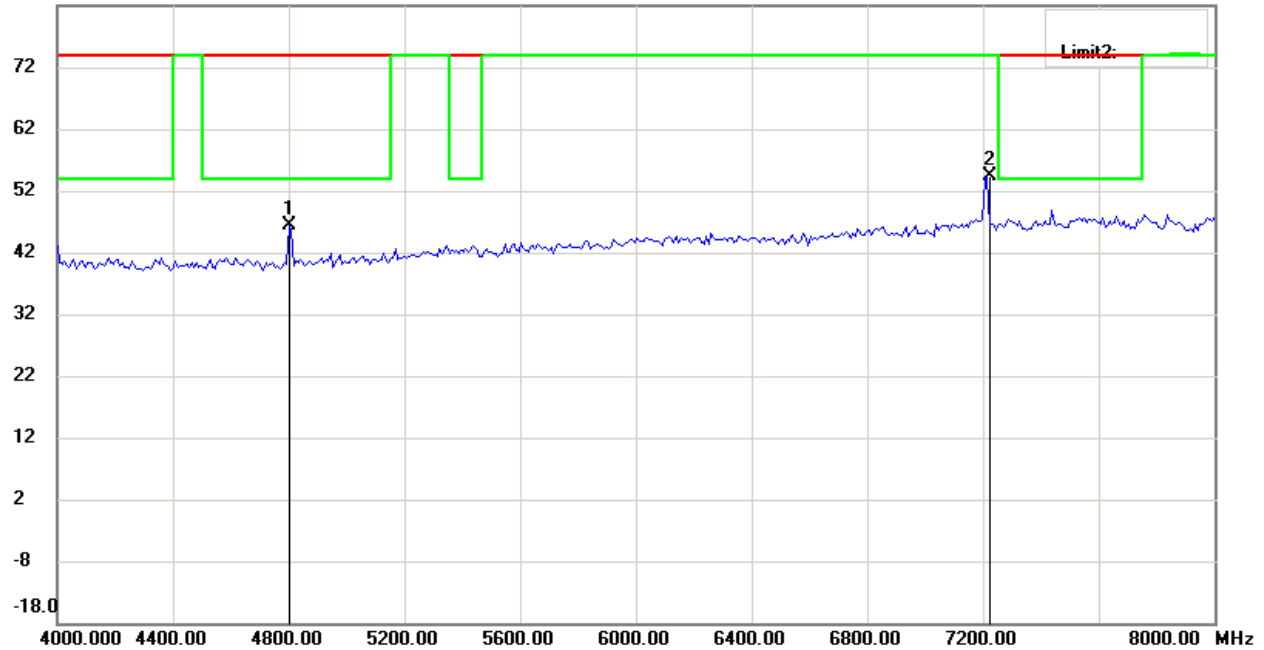


# Worldwide Testing Services(Taiwan) Co., Ltd.

Registration number: W6M20908-9998-P-15

FCC ID: R48WT50

82.0 dBuV/m



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

Note:

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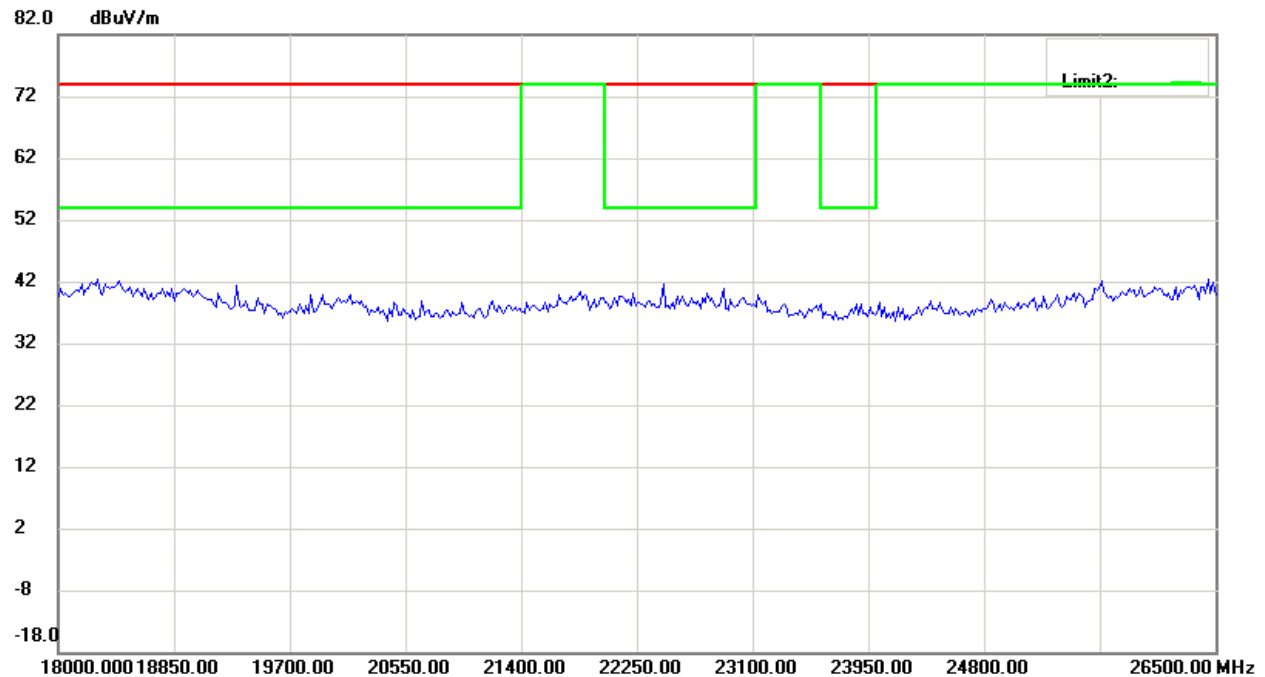
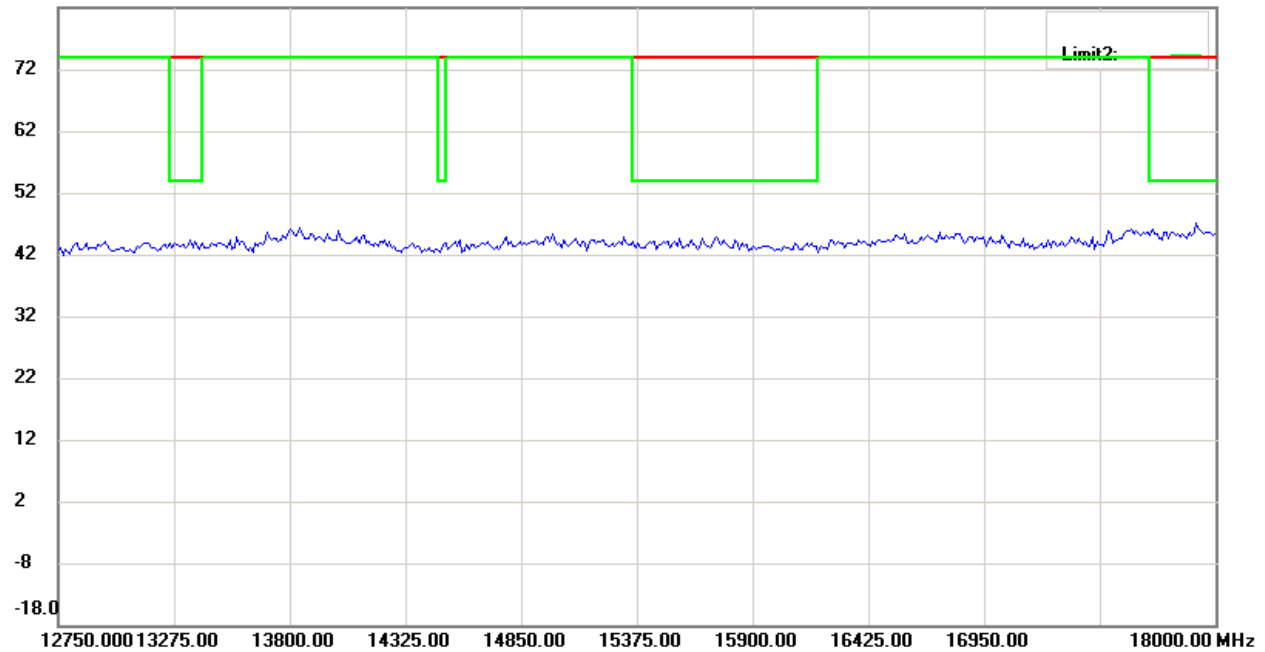


# Worldwide Testing Services(Taiwan) Co., Ltd.

Registration number: W6M20908-9998-P-15

FCC ID: R48WT50

82.0 dBuV/m



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

Note:

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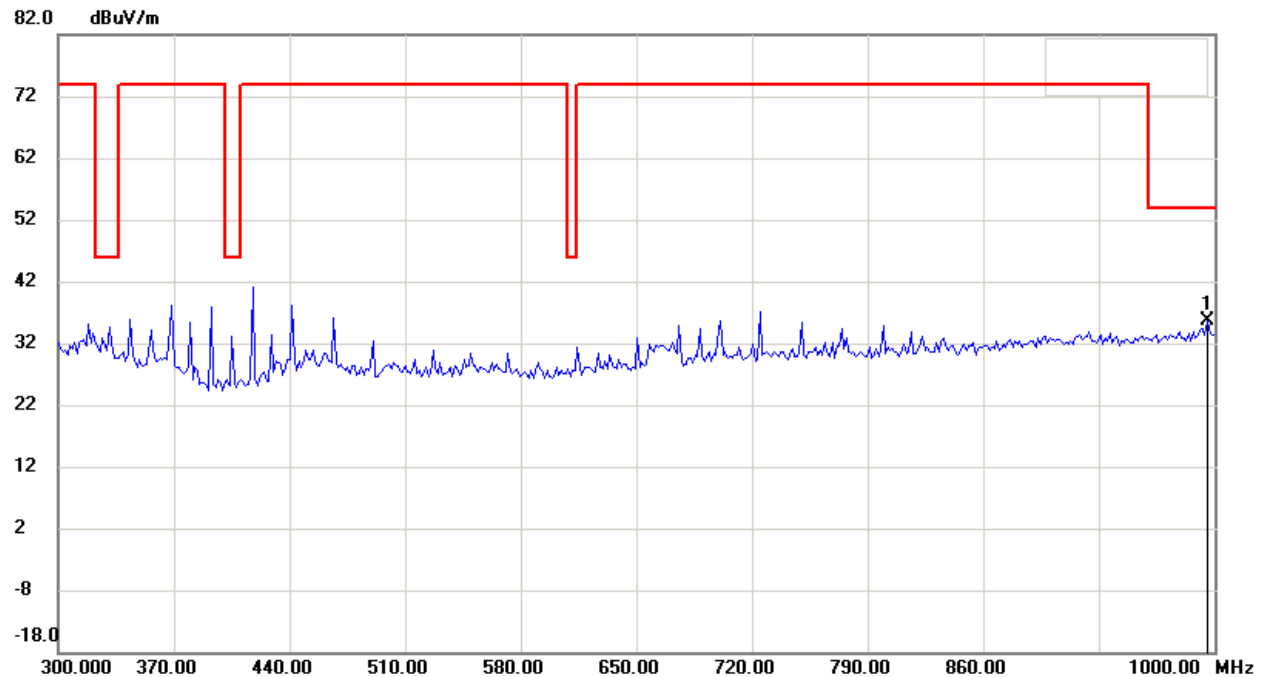
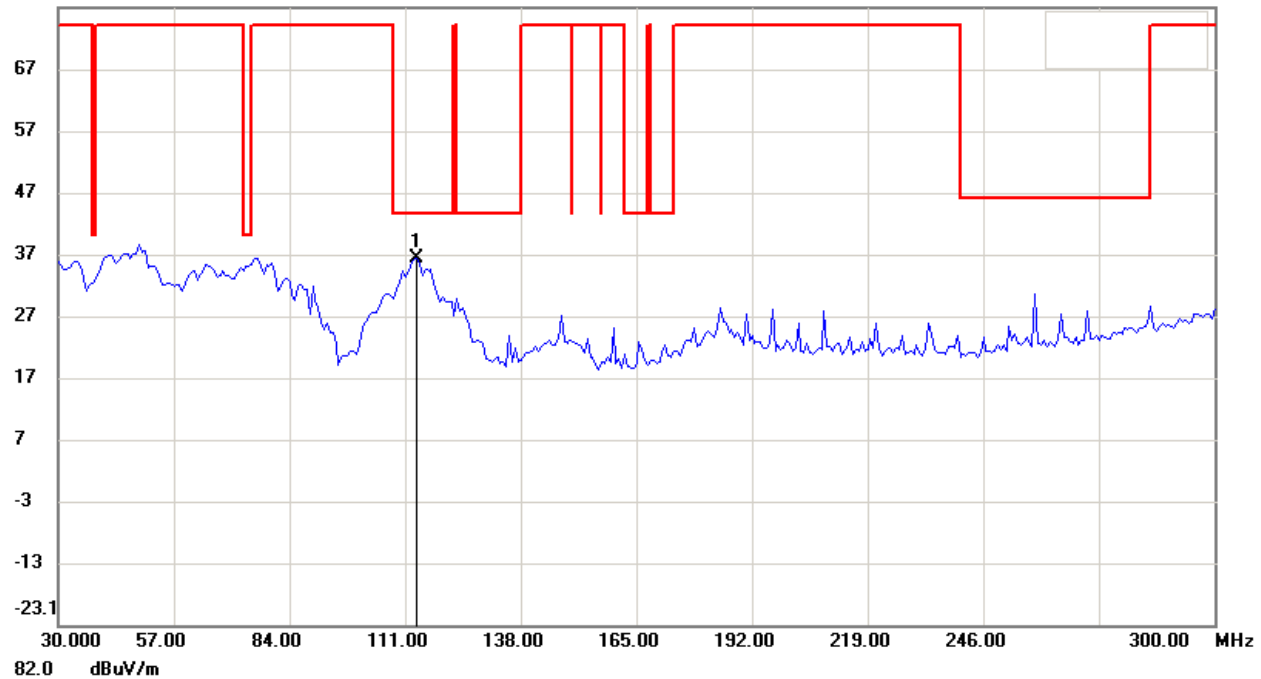
# Worldwide Testing Services(Taiwan) Co., Ltd.

Registration number: W6M20908-9998-P-15

FCC ID: R48WT50

## Antenna Polarization V

76.9 dBuV/m



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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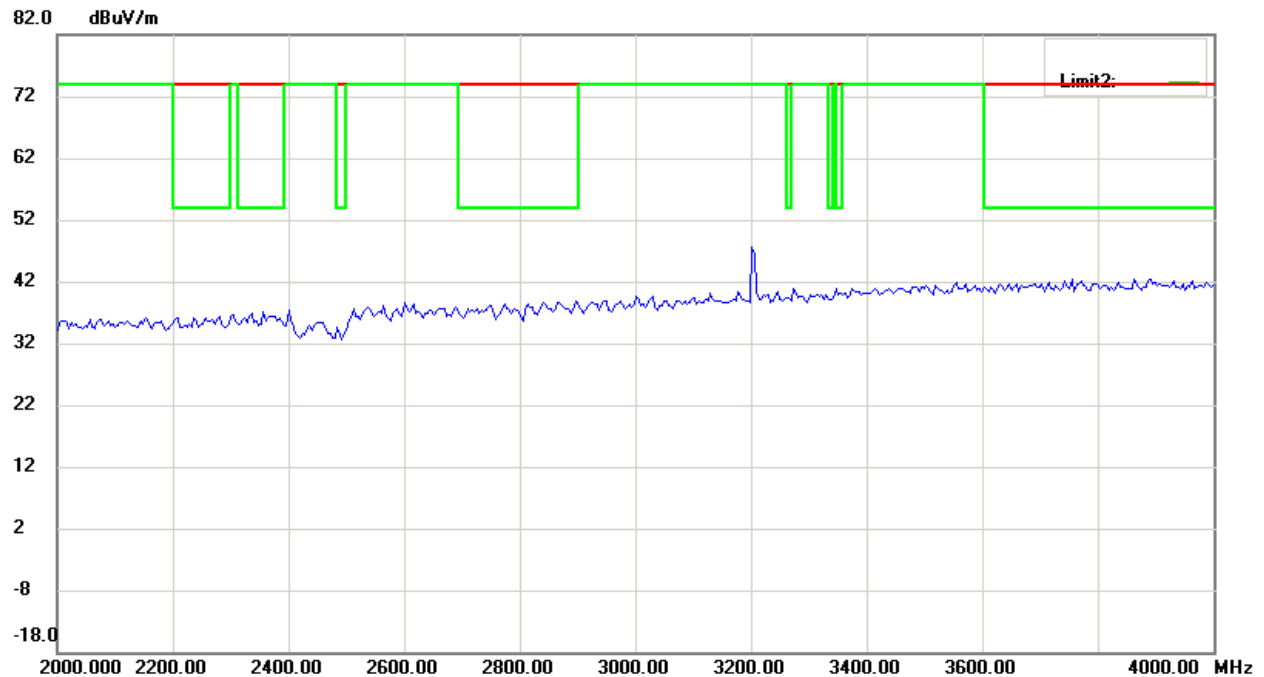
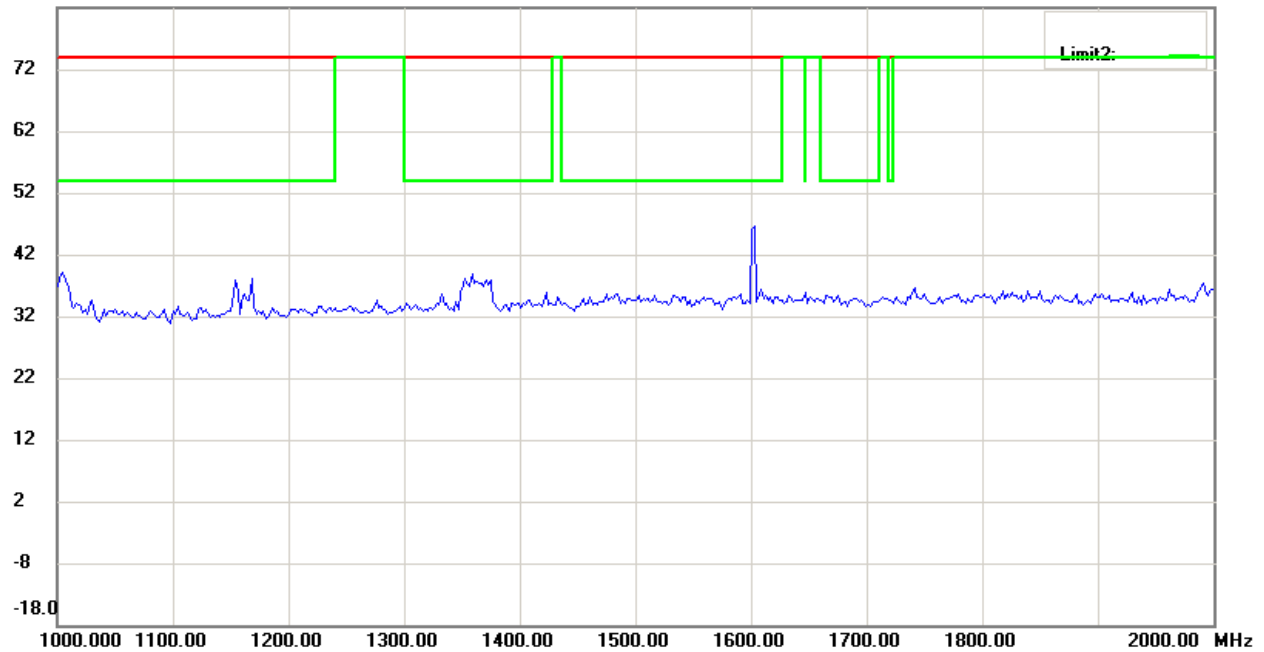


# Worldwide Testing Services(Taiwan) Co., Ltd.

Registration number: W6M20908-9998-P-15

FCC ID: R48WT50

82.0 dBuV/m



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

Note:

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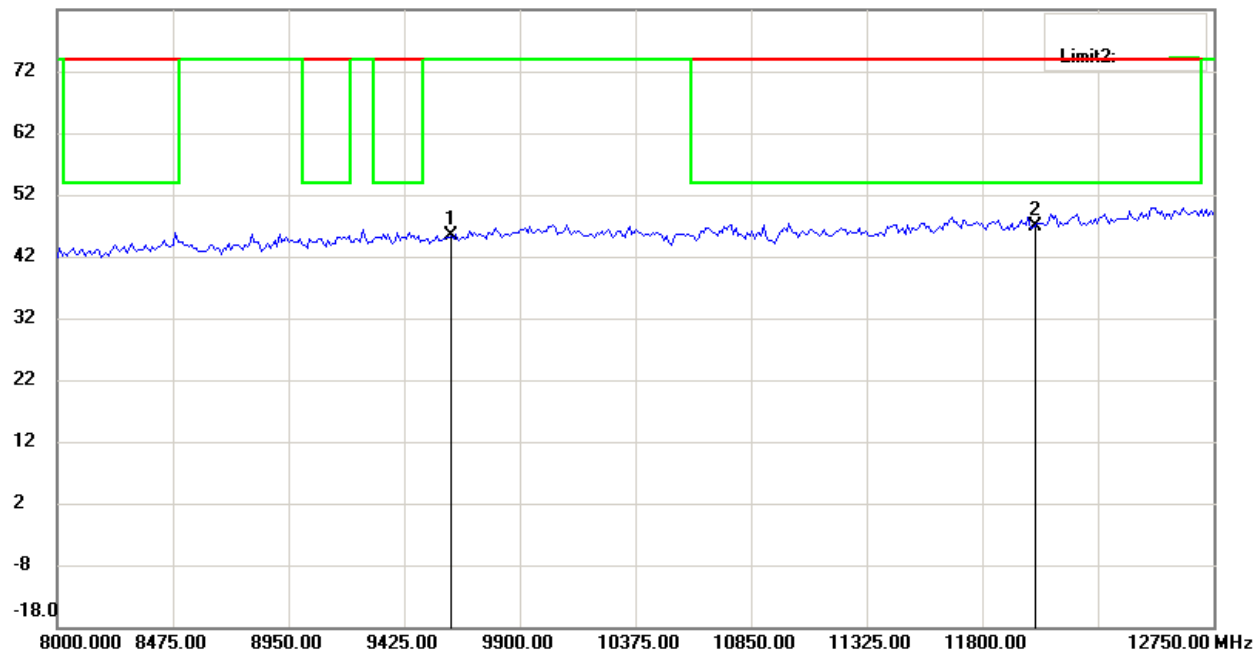
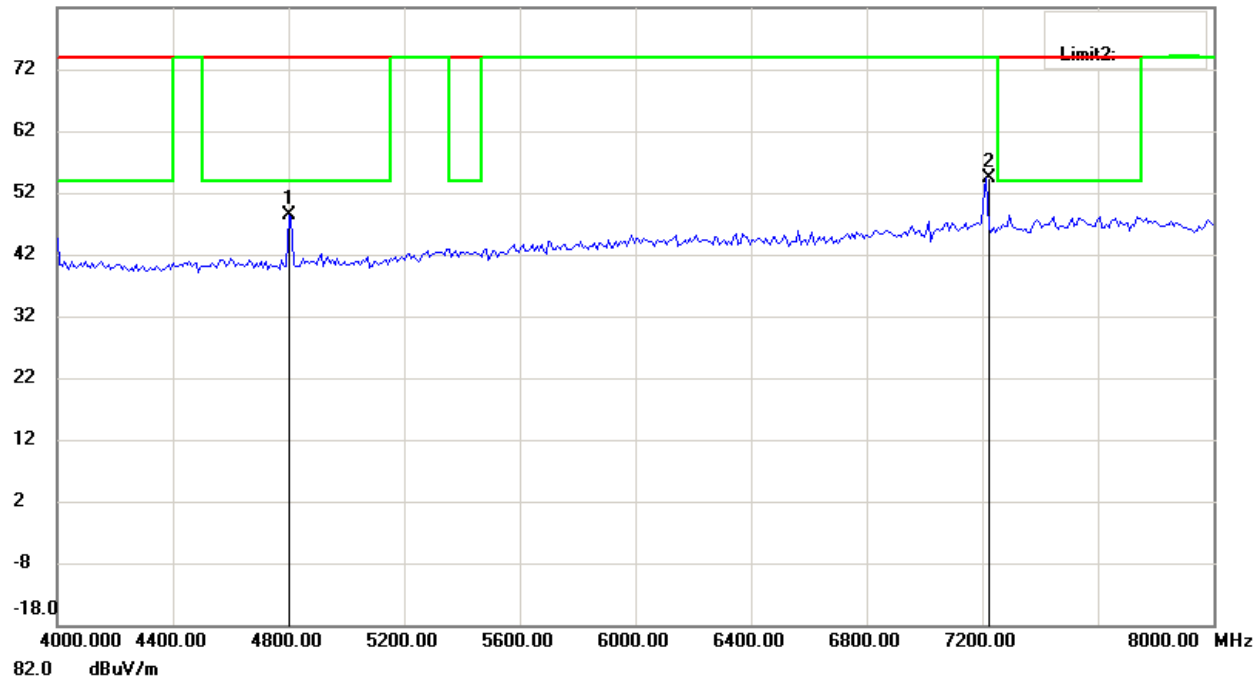


# Worldwide Testing Services(Taiwan) Co., Ltd.

Registration number: W6M20908-9998-P-15

FCC ID: R48WT50

82.0 dBuV/m



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

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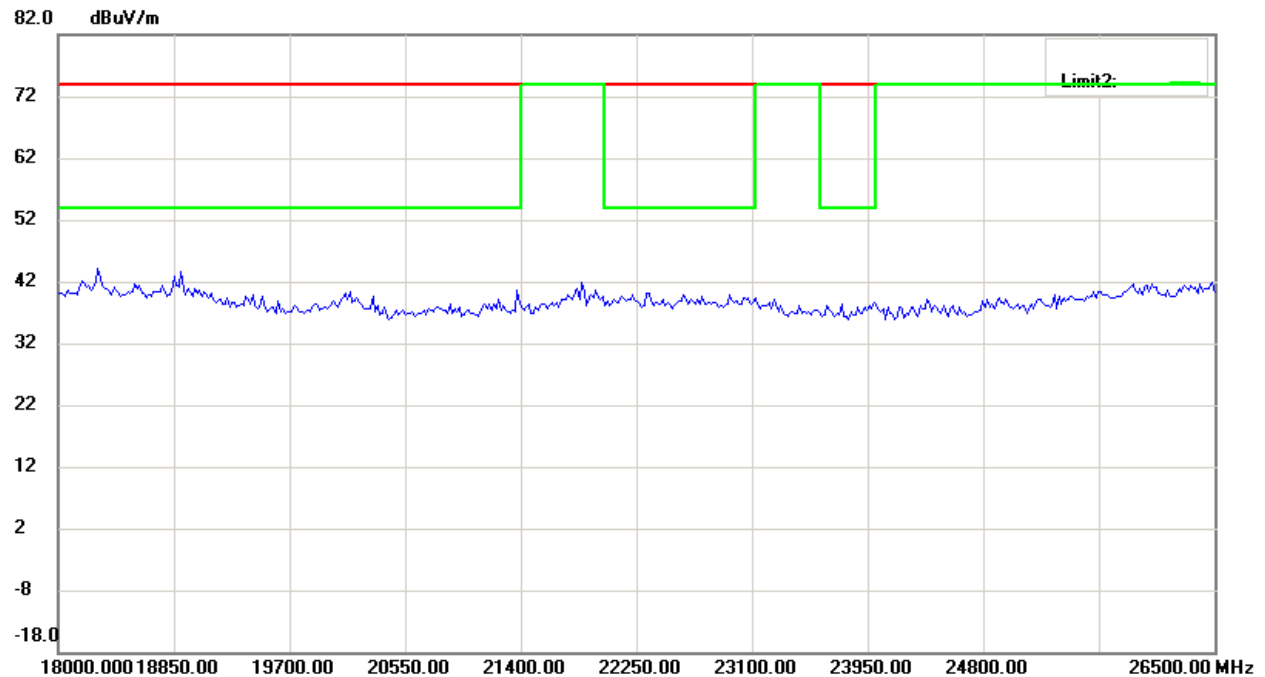
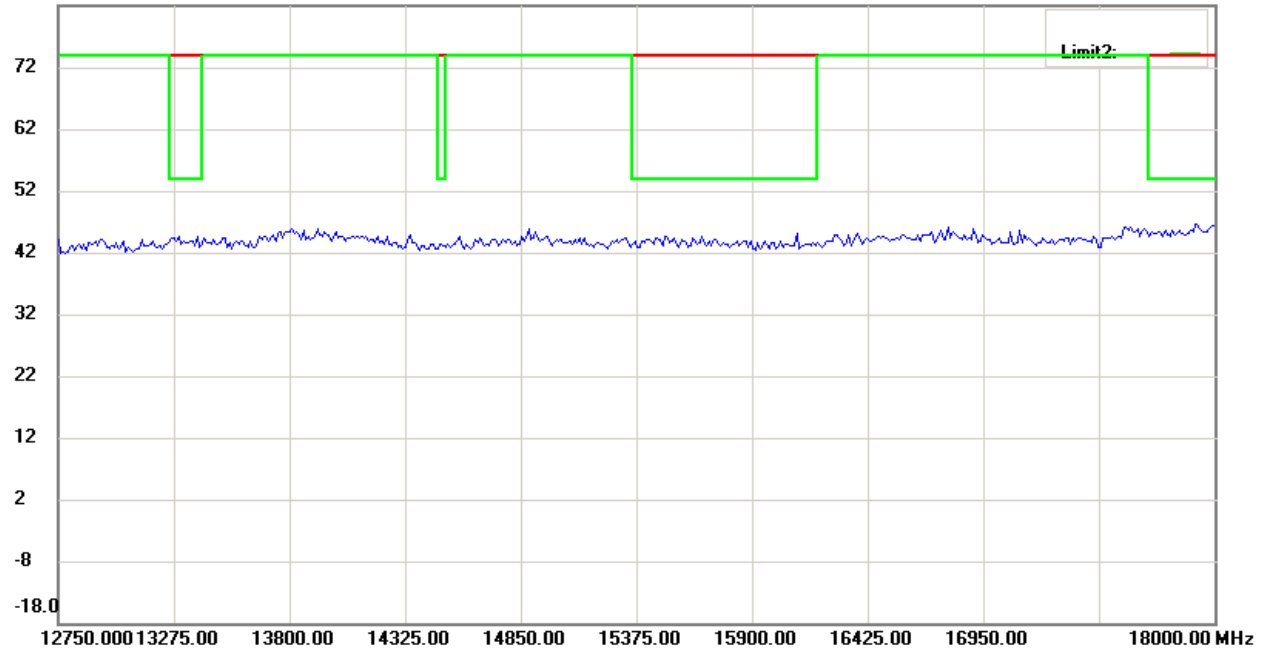


# Worldwide Testing Services(Taiwan) Co., Ltd.

Registration number: W6M20908-9998-P-15

FCC ID: R48WT50

82.0 dBuV/m



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

Note:

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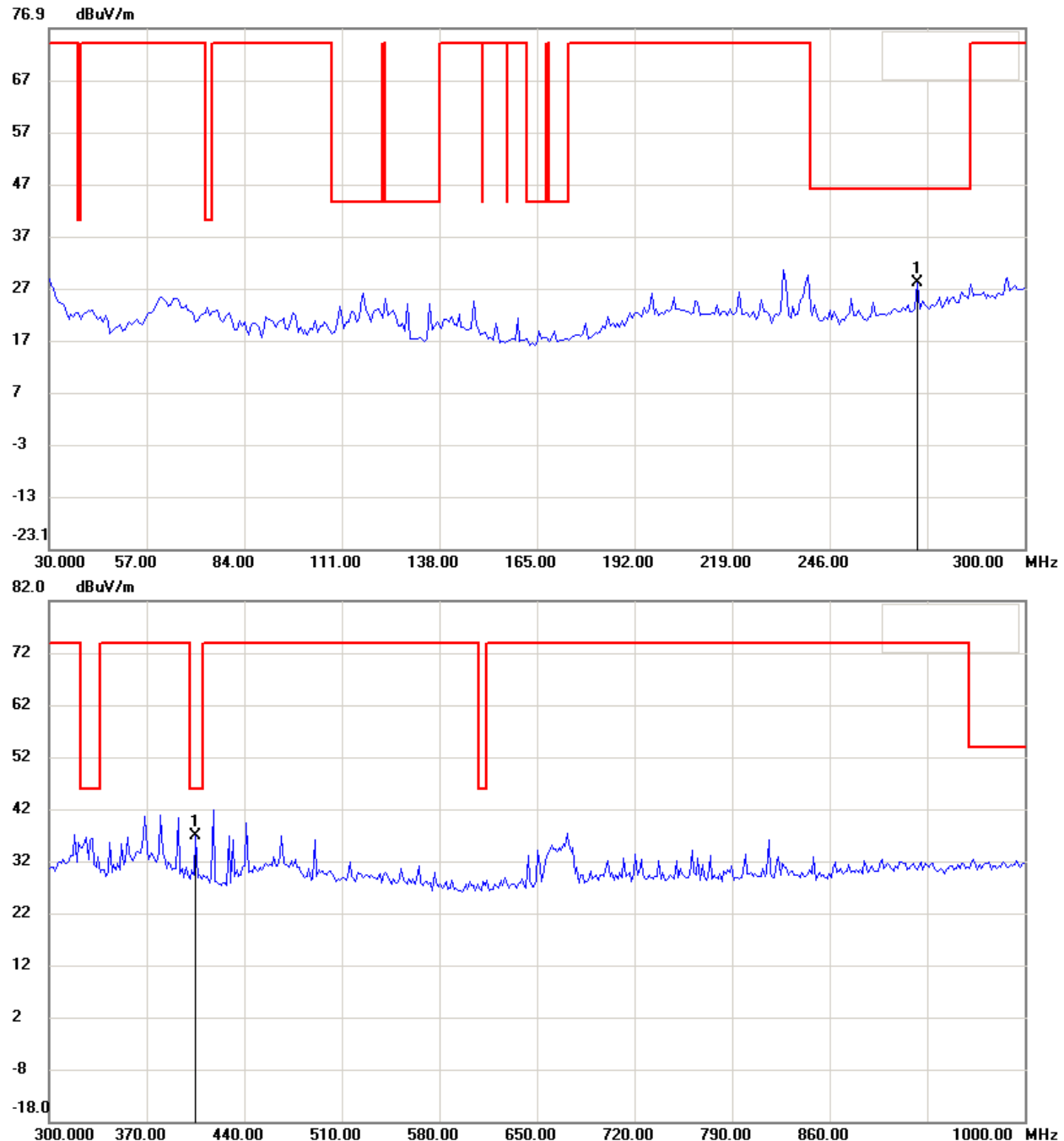
# Worldwide Testing Services(Taiwan) Co., Ltd.

Registration number: W6M20908-9998-P-15

FCC ID: R48WT50

Transmitter\_ 2442.2 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.
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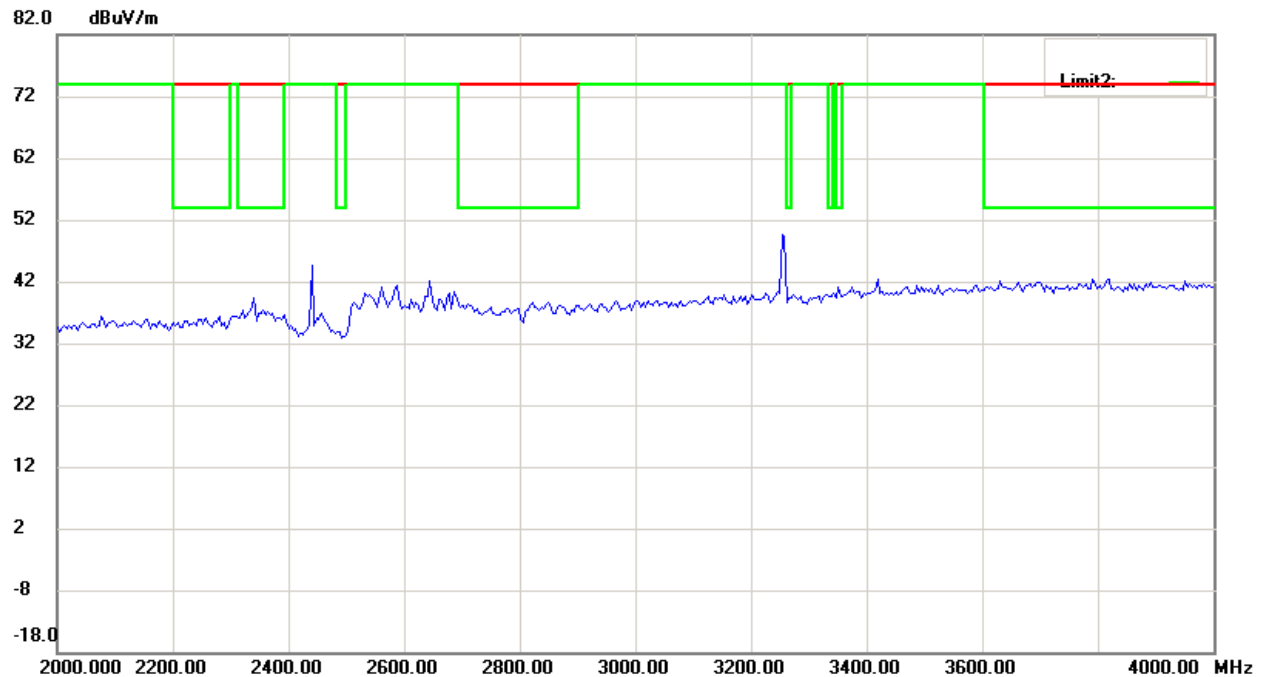
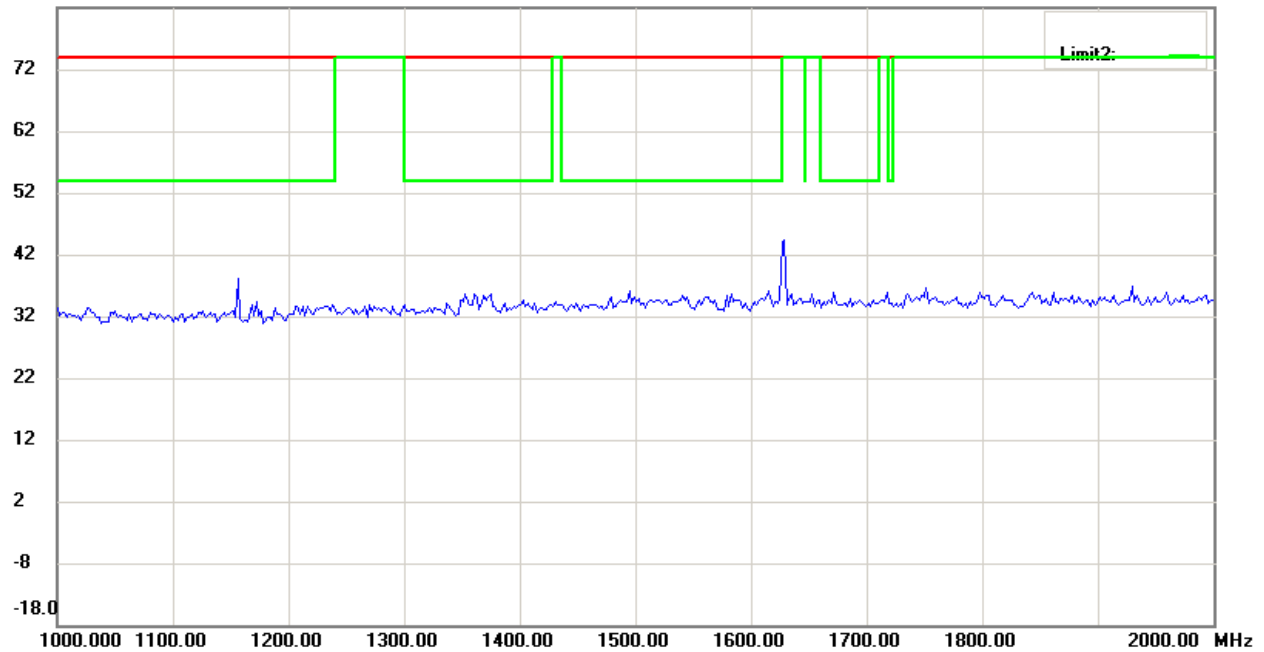


# Worldwide Testing Services(Taiwan) Co., Ltd.

Registration number: W6M20908-9998-P-15

FCC ID: R48WT50

82.0 dBuV/m



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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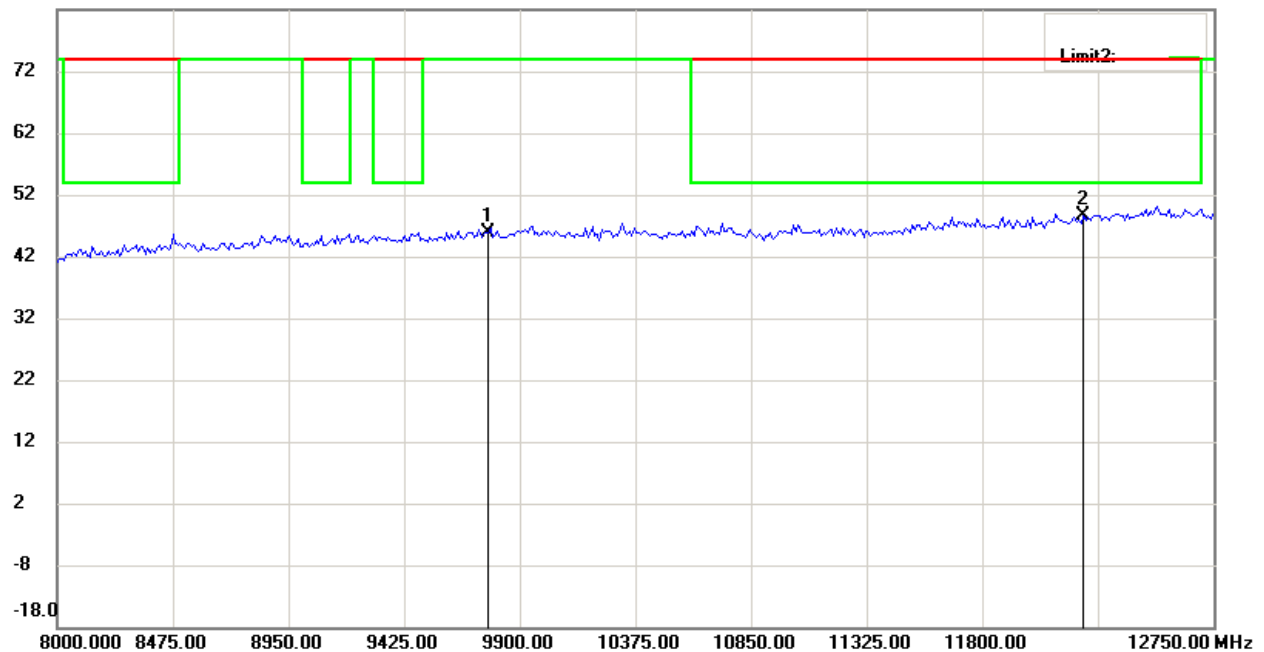
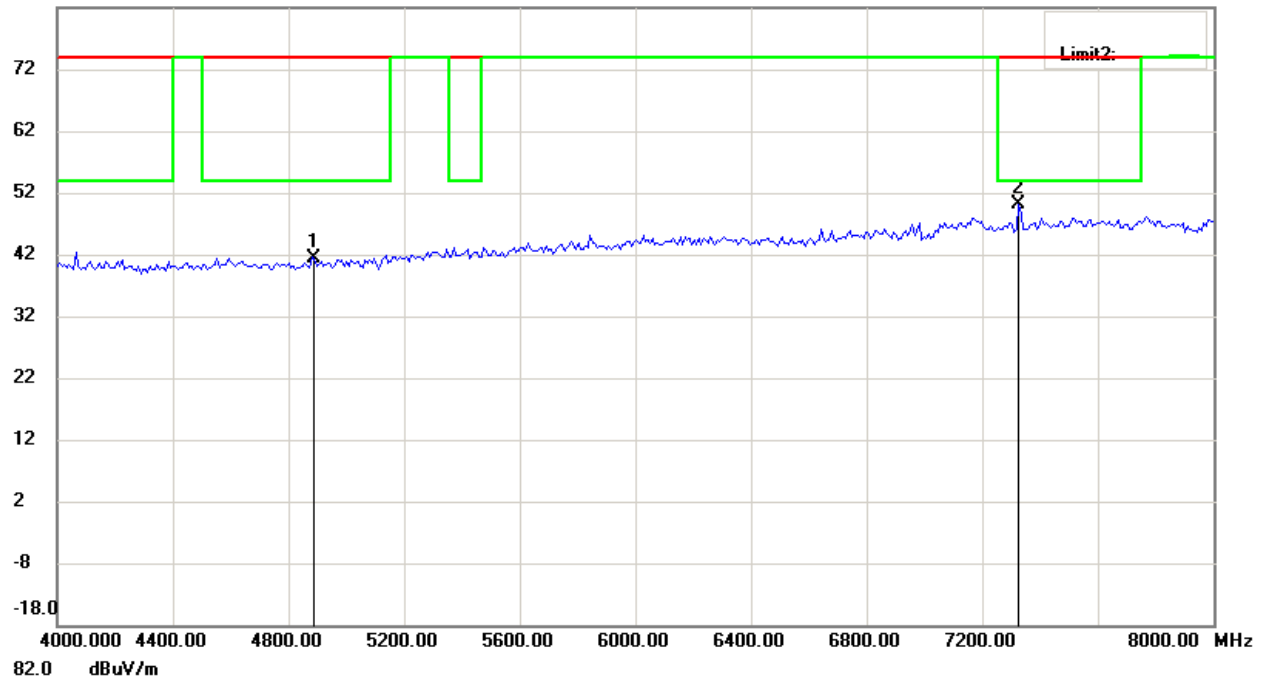


# Worldwide Testing Services(Taiwan) Co., Ltd.

Registration number: W6M20908-9998-P-15

FCC ID: R48WT50

82.0 dBuV/m



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.
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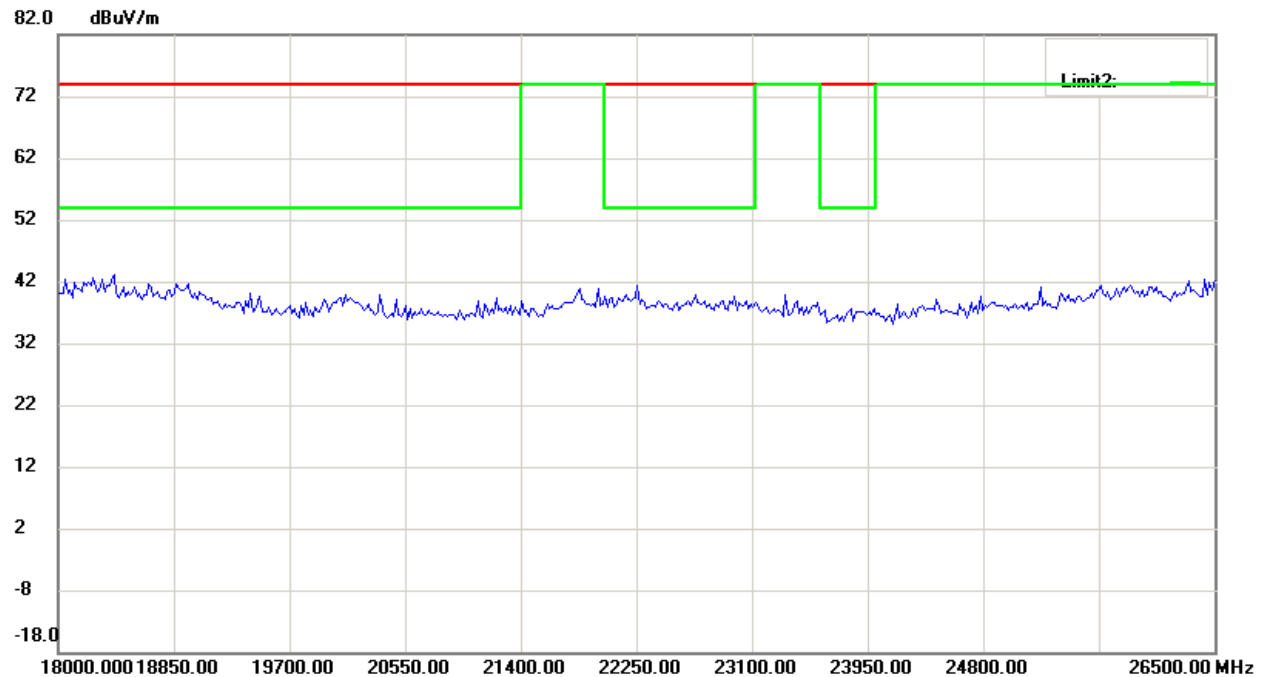
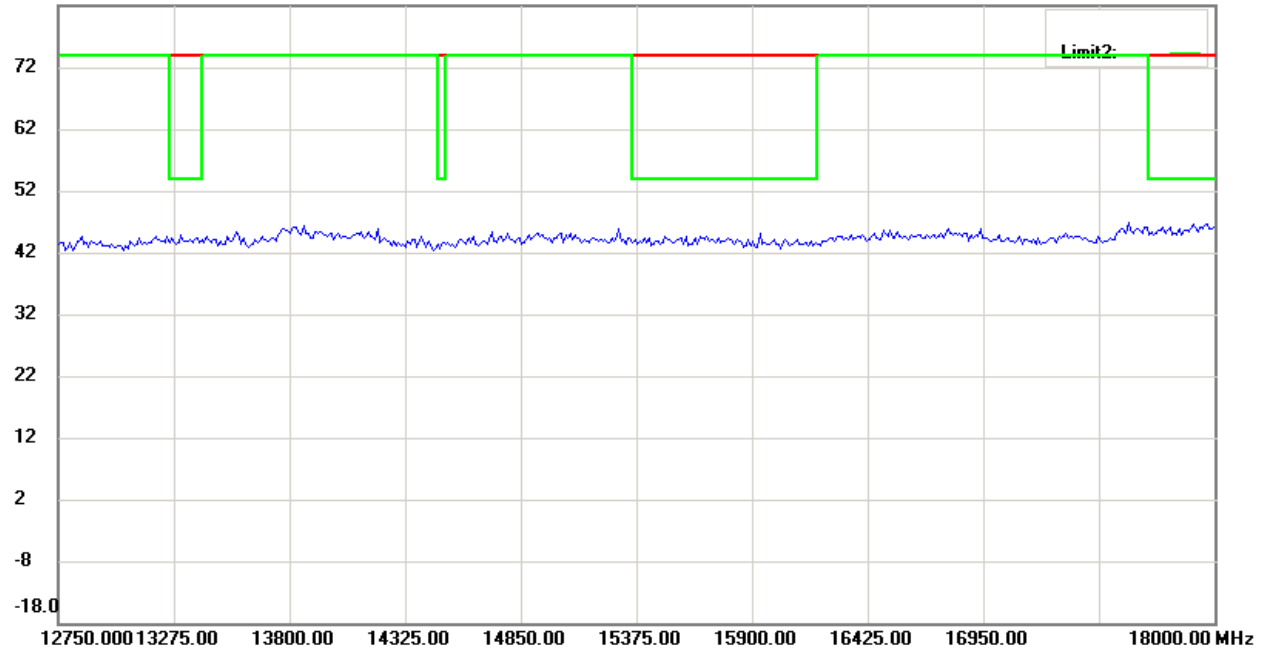


# Worldwide Testing Services(Taiwan) Co., Ltd.

Registration number: W6M20908-9998-P-15

FCC ID: R48WT50

82.0 dBuV/m



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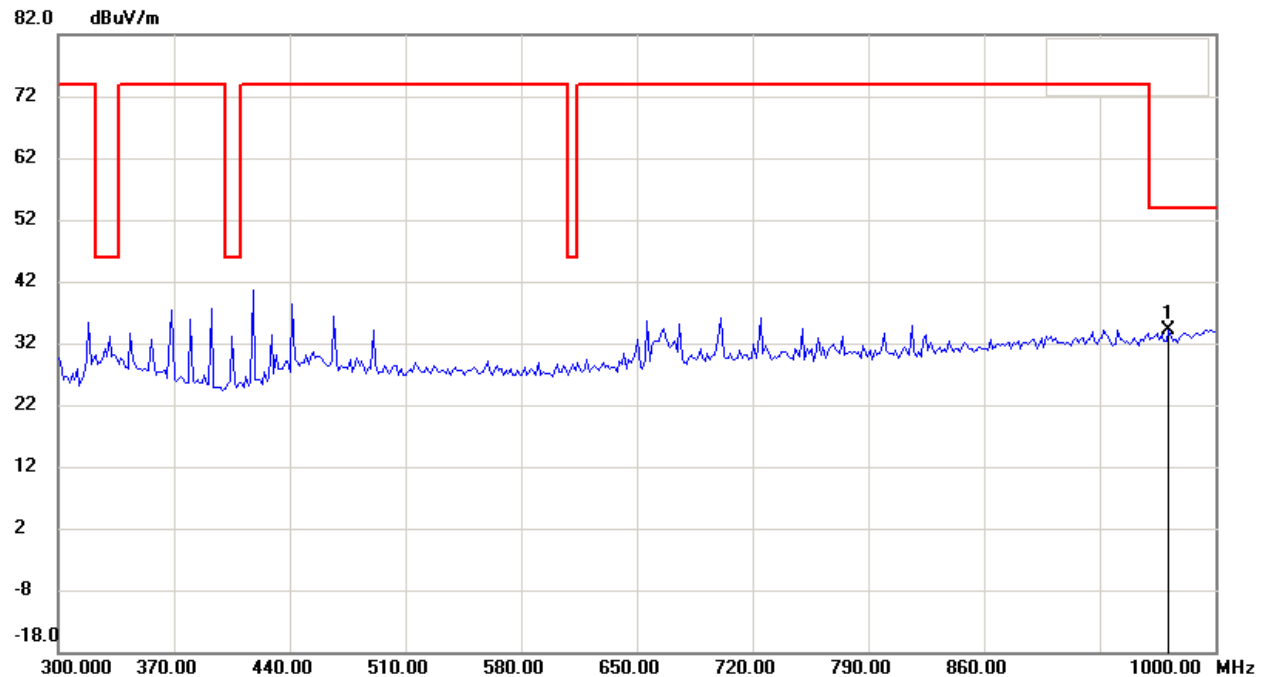
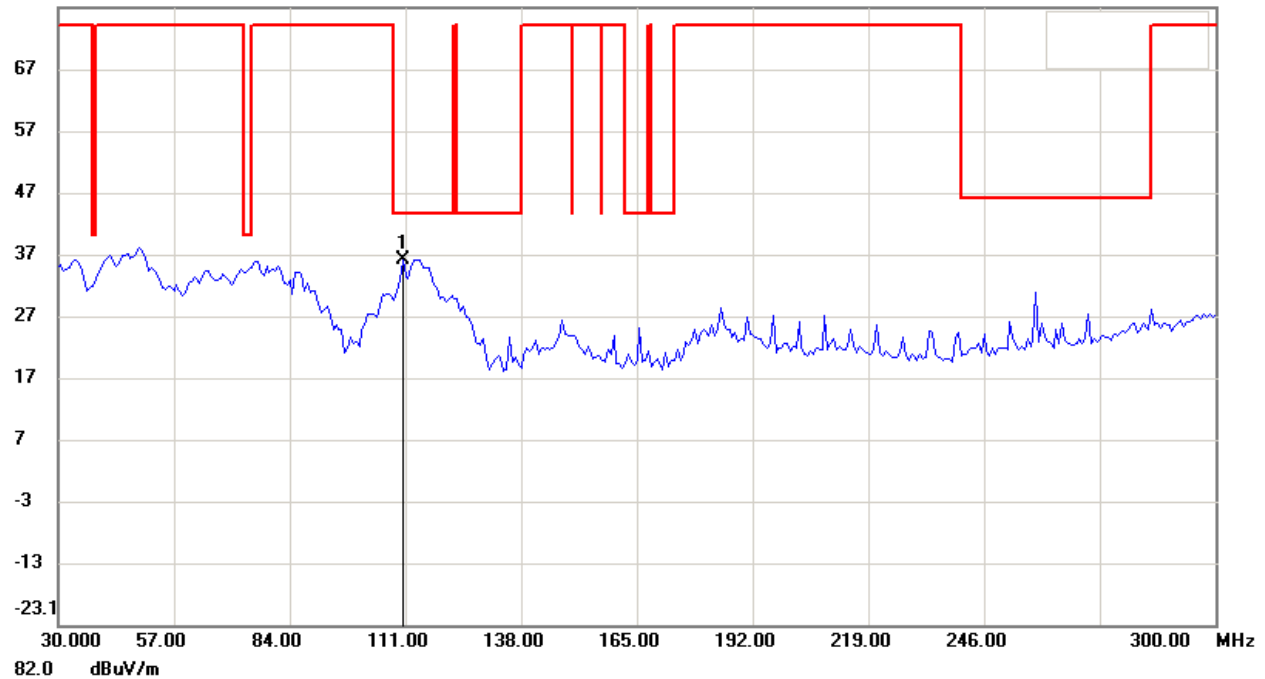
# Worldwide Testing Services(Taiwan) Co., Ltd.

Registration number: W6M20908-9998-P-15

FCC ID: R48WT50

## Antenna Polarization V

76.9 dBuV/m



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.



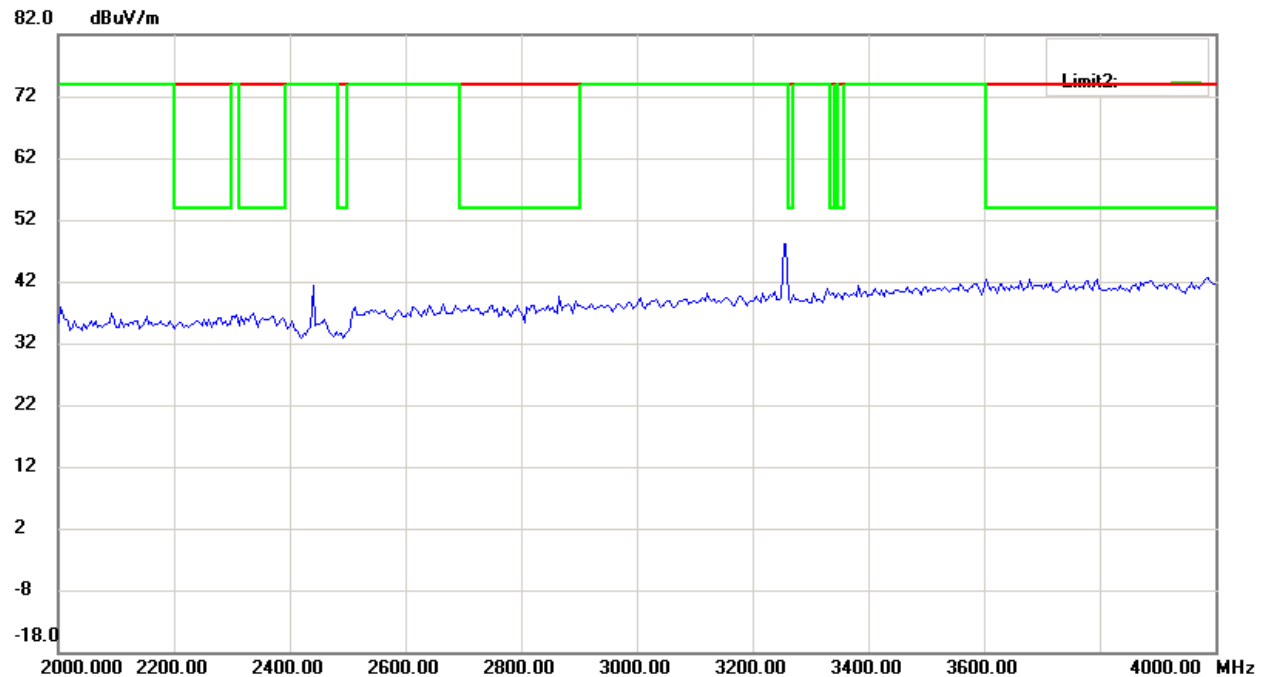
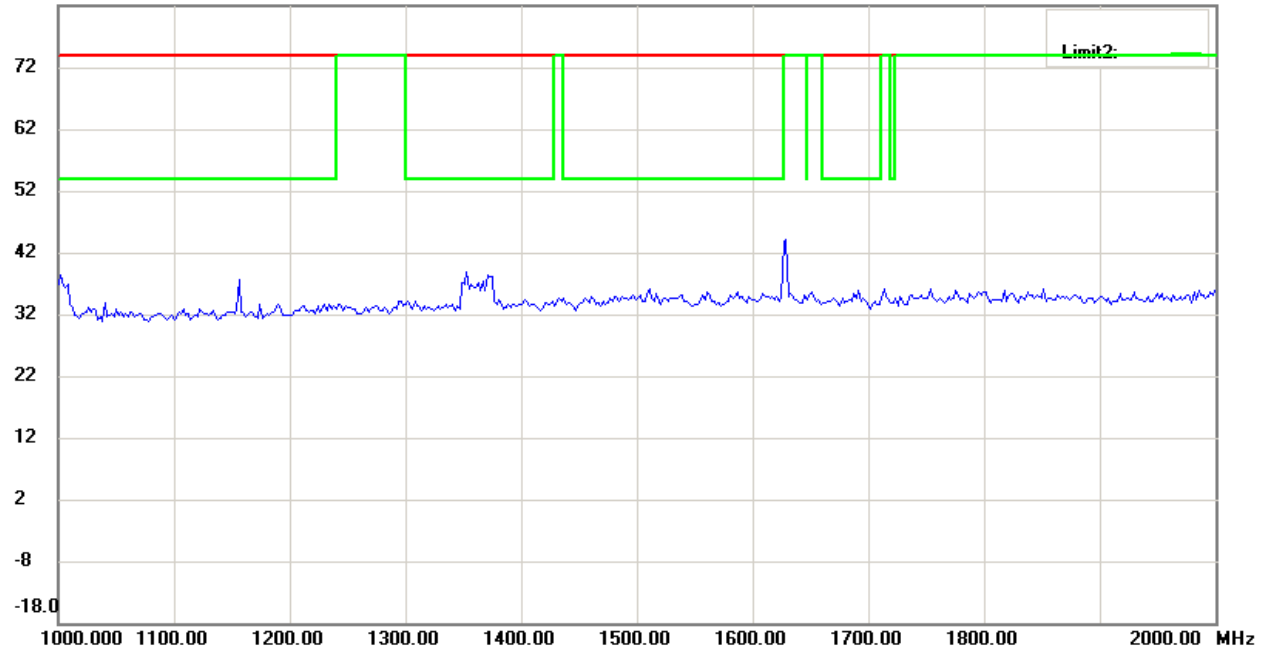


# Worldwide Testing Services(Taiwan) Co., Ltd.

Registration number: W6M20908-9998-P-15

FCC ID: R48WT50

82.0 dBuV/m



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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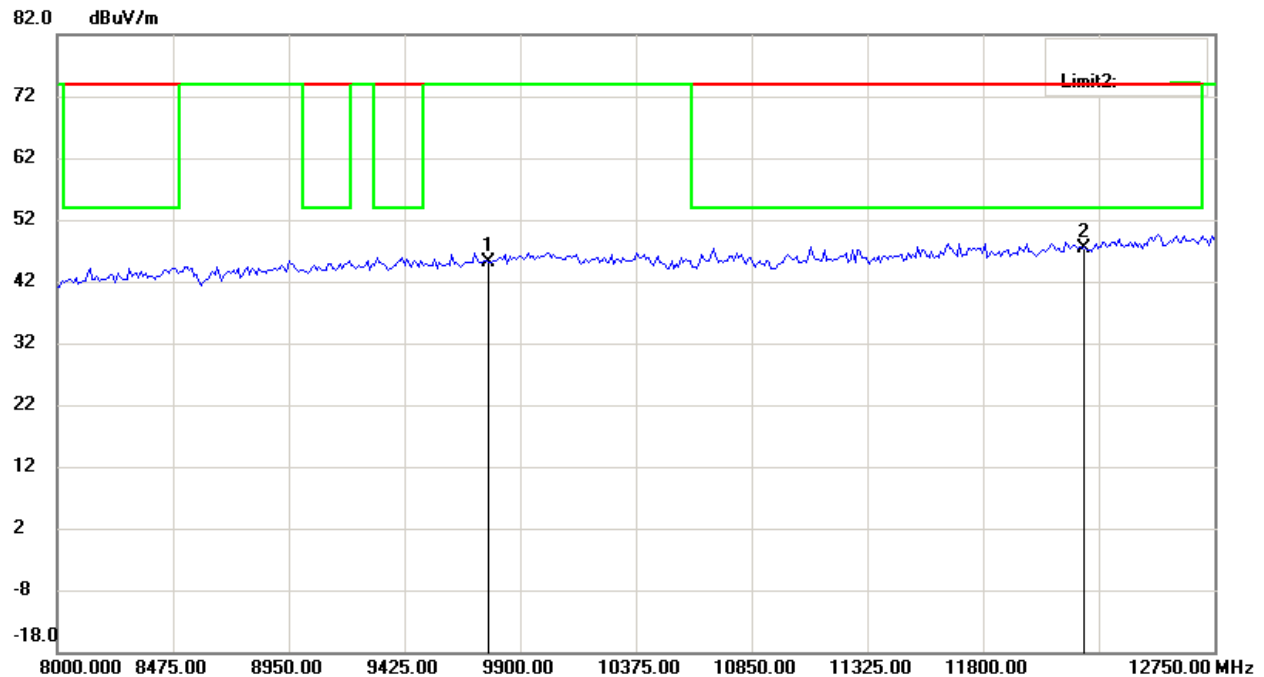
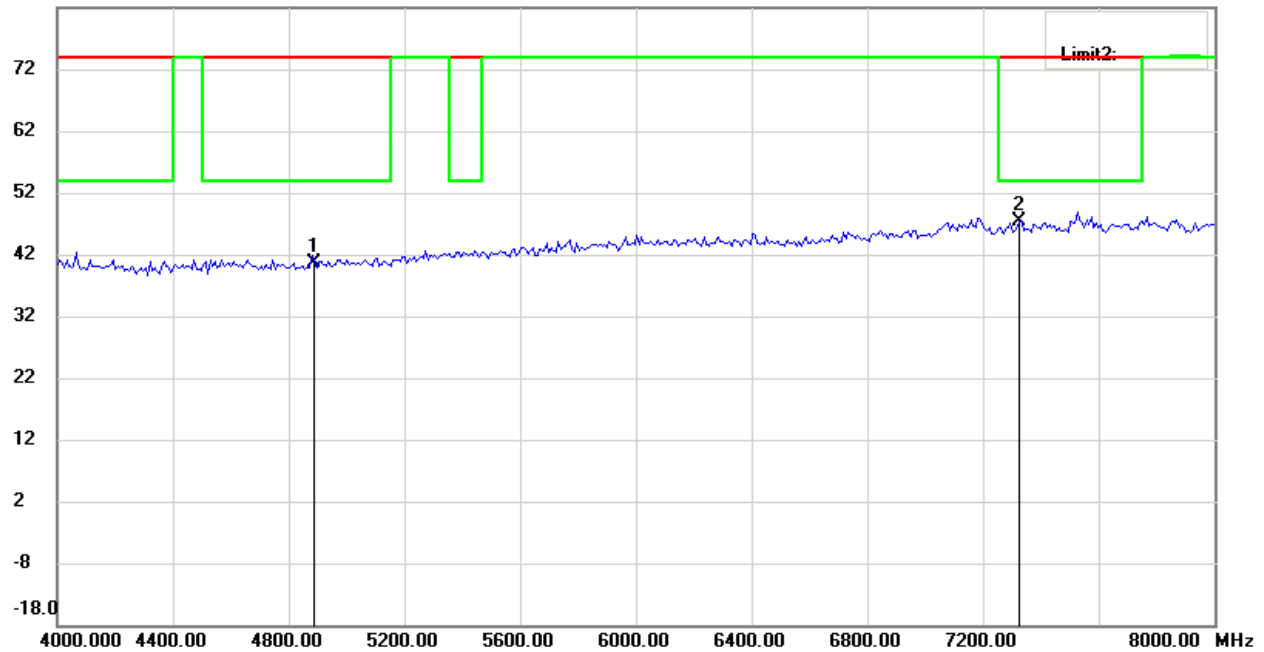


# Worldwide Testing Services(Taiwan) Co., Ltd.

Registration number: W6M20908-9998-P-15

FCC ID: R48WT50

82.0 dBuV/m



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

Note:

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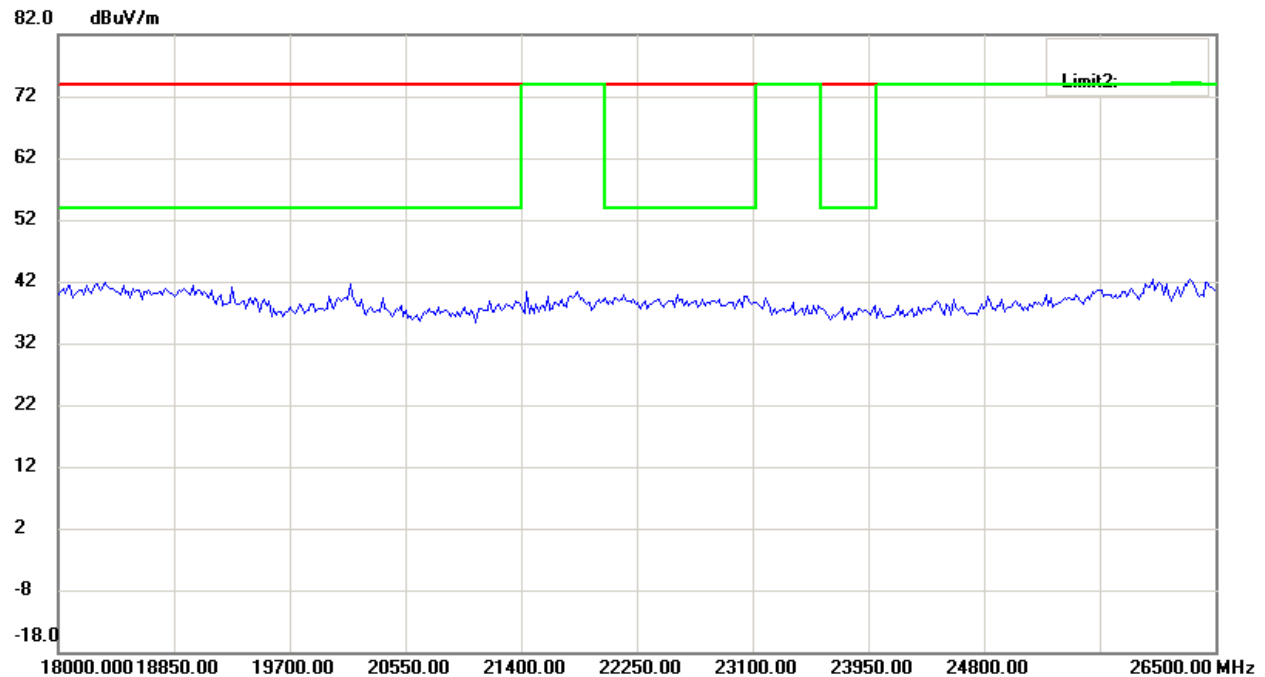
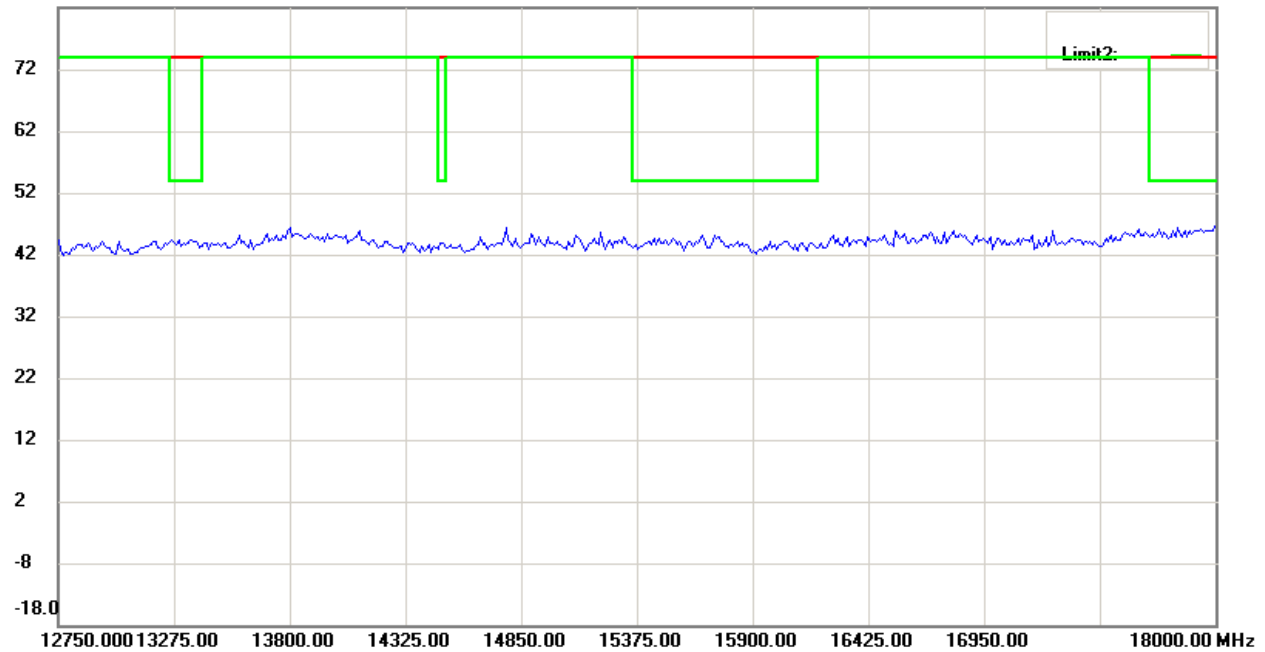


# Worldwide Testing Services(Taiwan) Co., Ltd.

Registration number: W6M20908-9998-P-15

FCC ID: R48WT50

82.0 dBuV/m



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

Note:

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

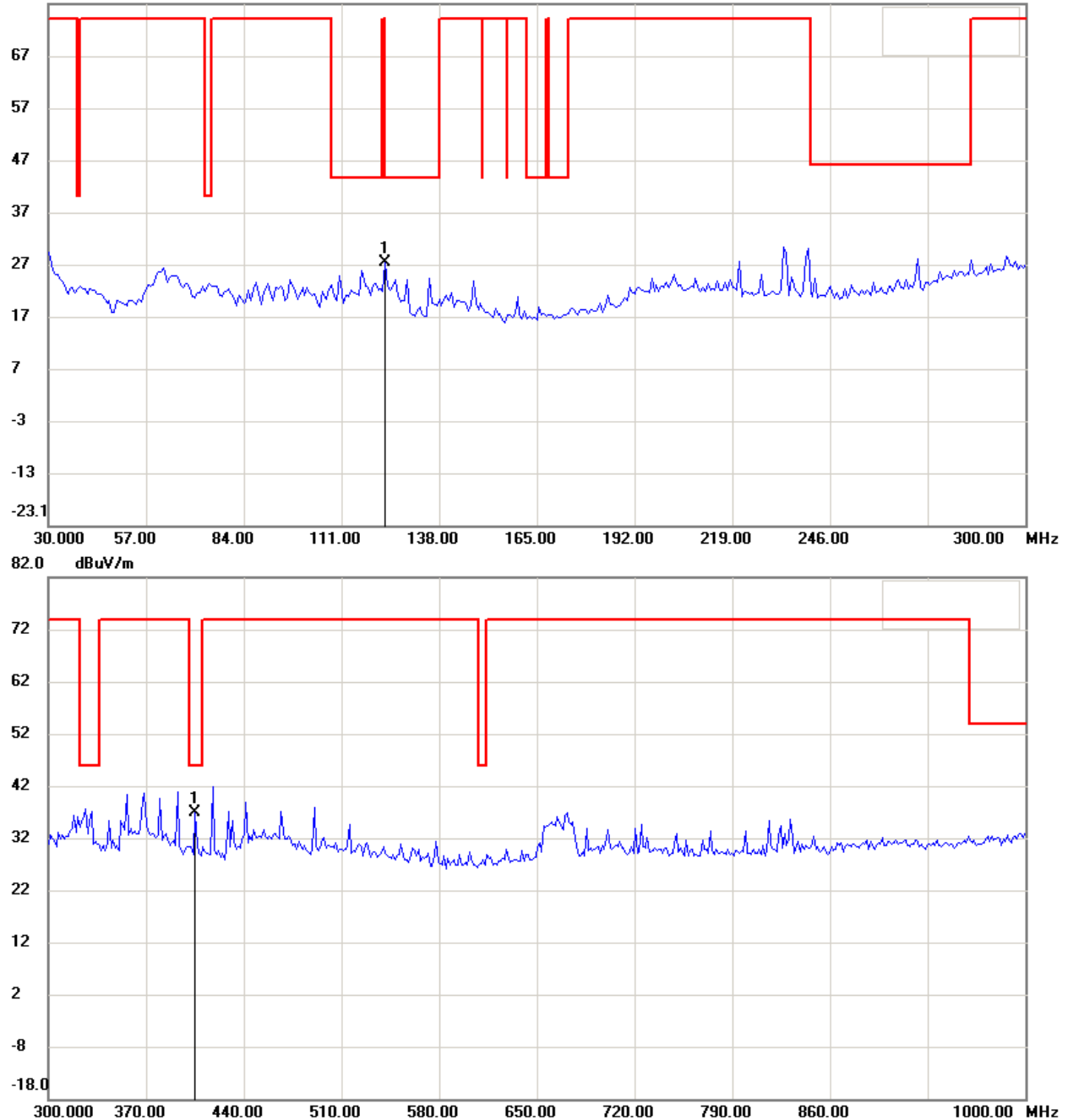
Registration number: W6M20908-9998-P-15

FCC ID: R48WT50

Transmitter\_ 2479.1 MHz

Antenna Polarization H

76.9 dBuV/m



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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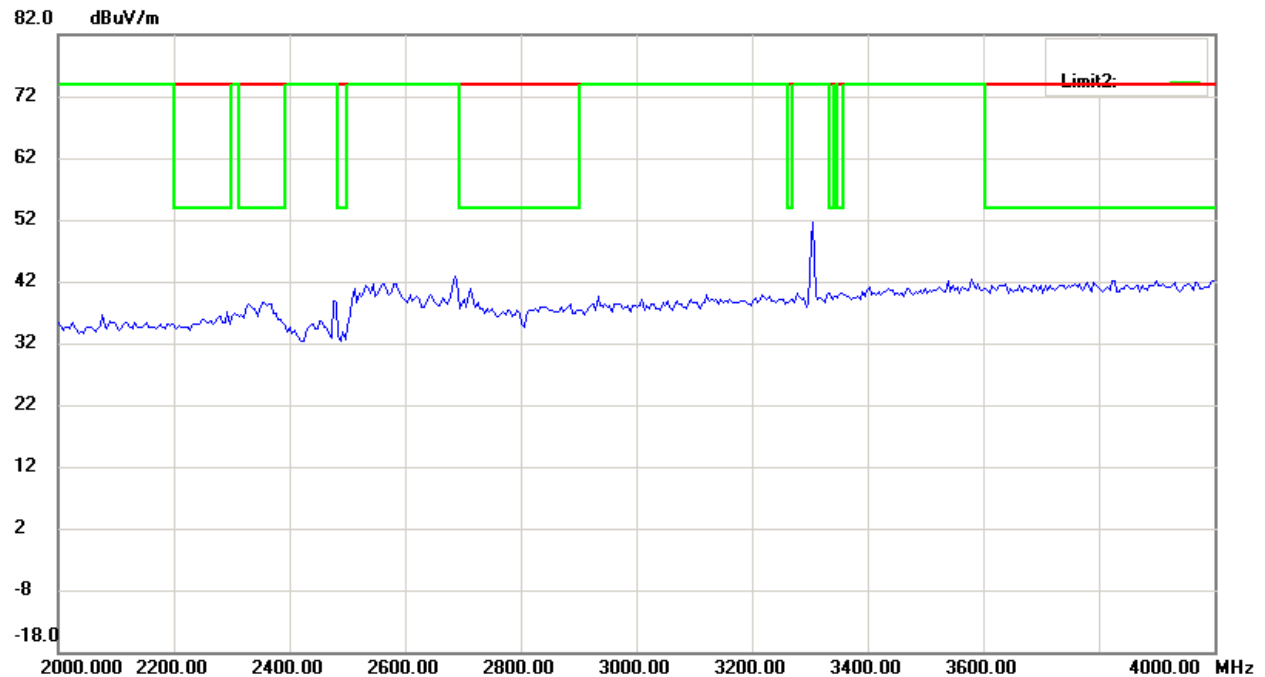
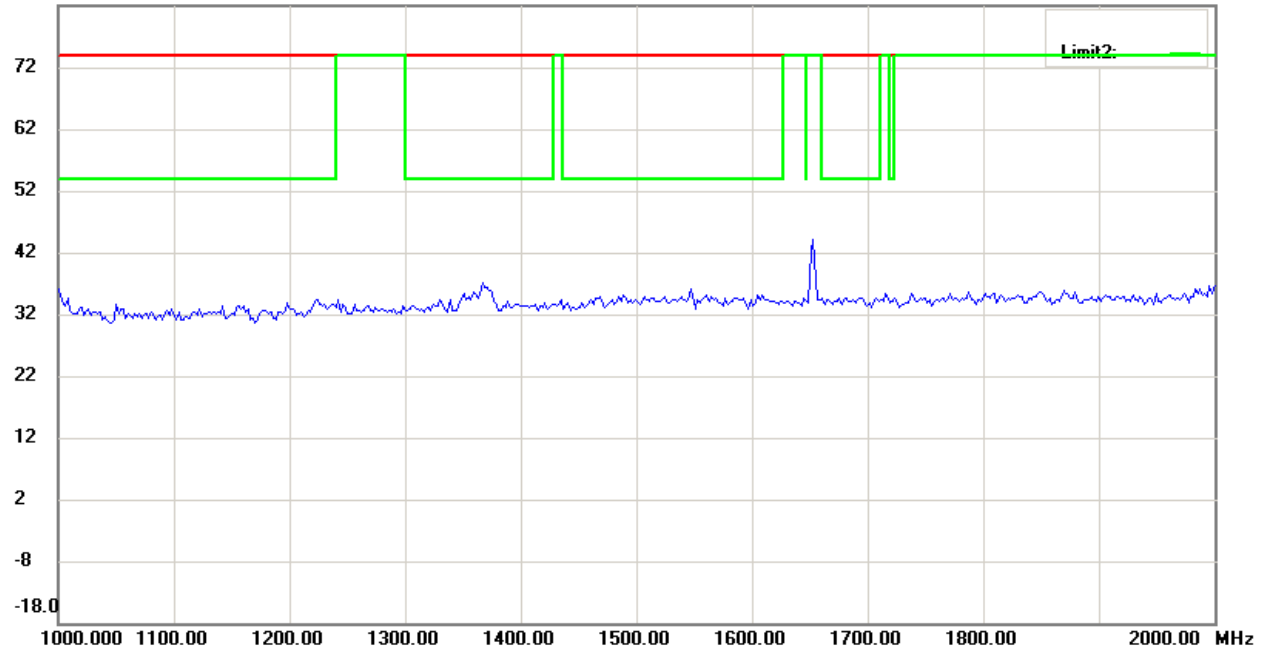


# Worldwide Testing Services(Taiwan) Co., Ltd.

Registration number: W6M20908-9998-P-15

FCC ID: R48WT50

82.0 dBuV/m



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

Note:

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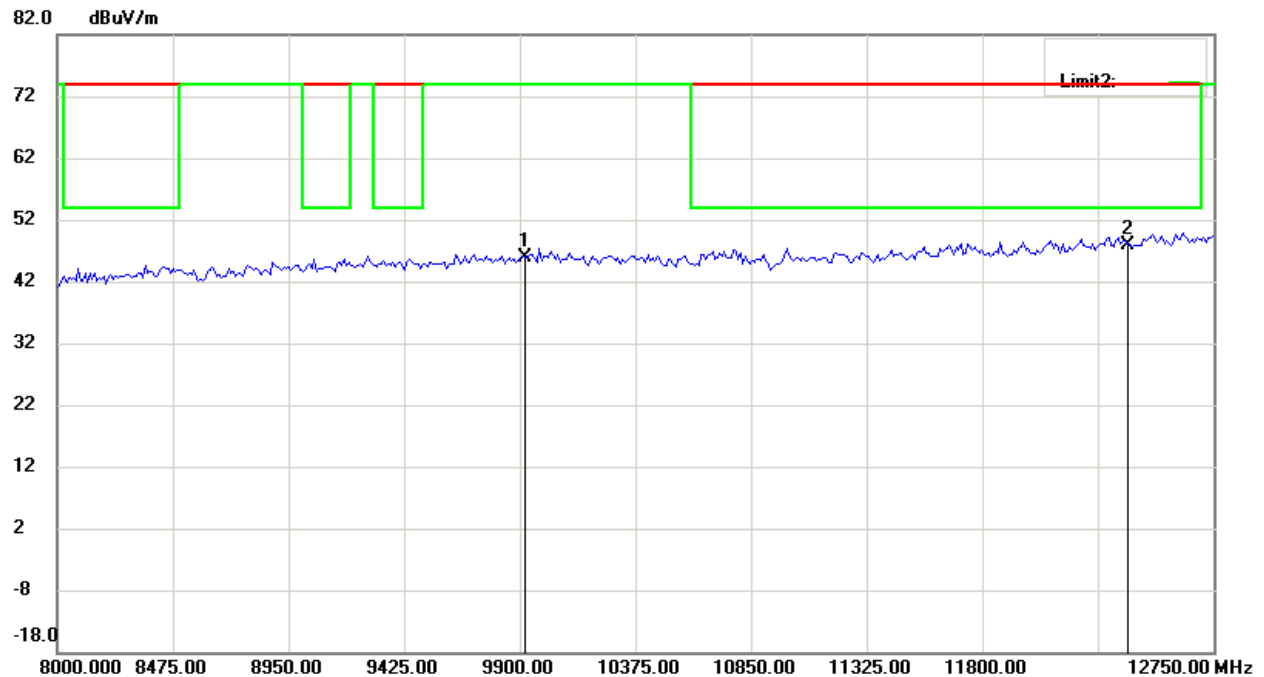
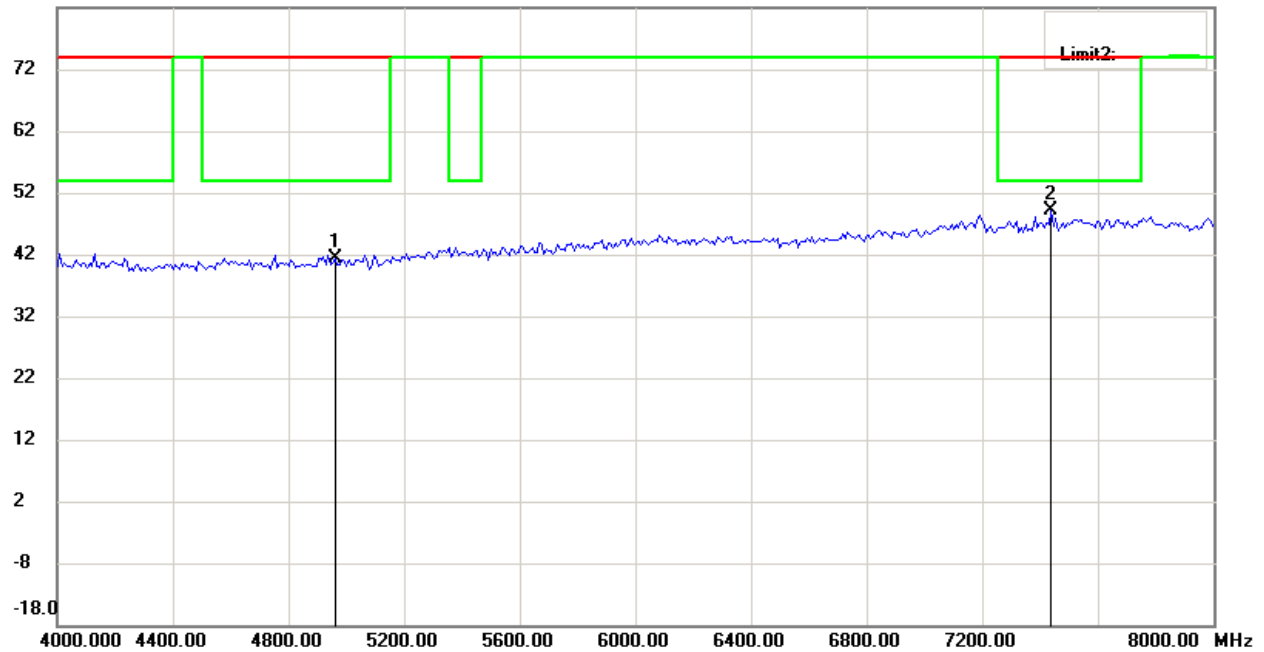


# Worldwide Testing Services(Taiwan) Co., Ltd.

Registration number: W6M20908-9998-P-15

FCC ID: R48WT50

82.0 dBuV/m



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

Note:

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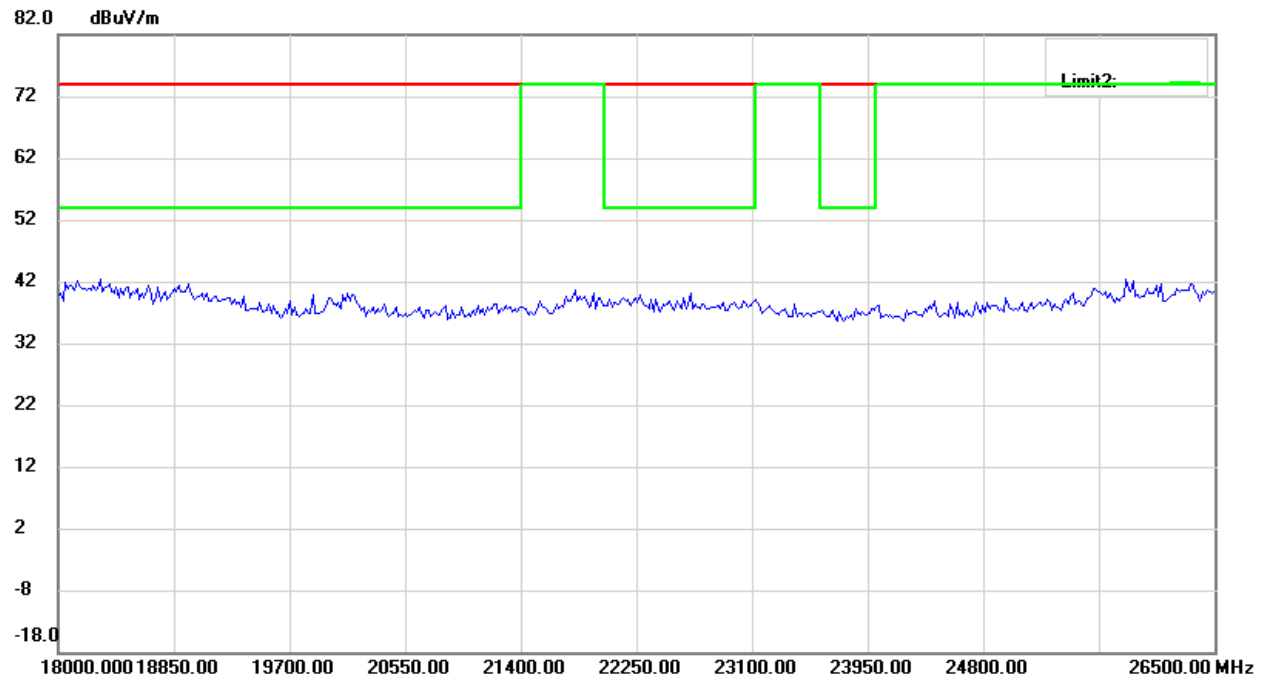
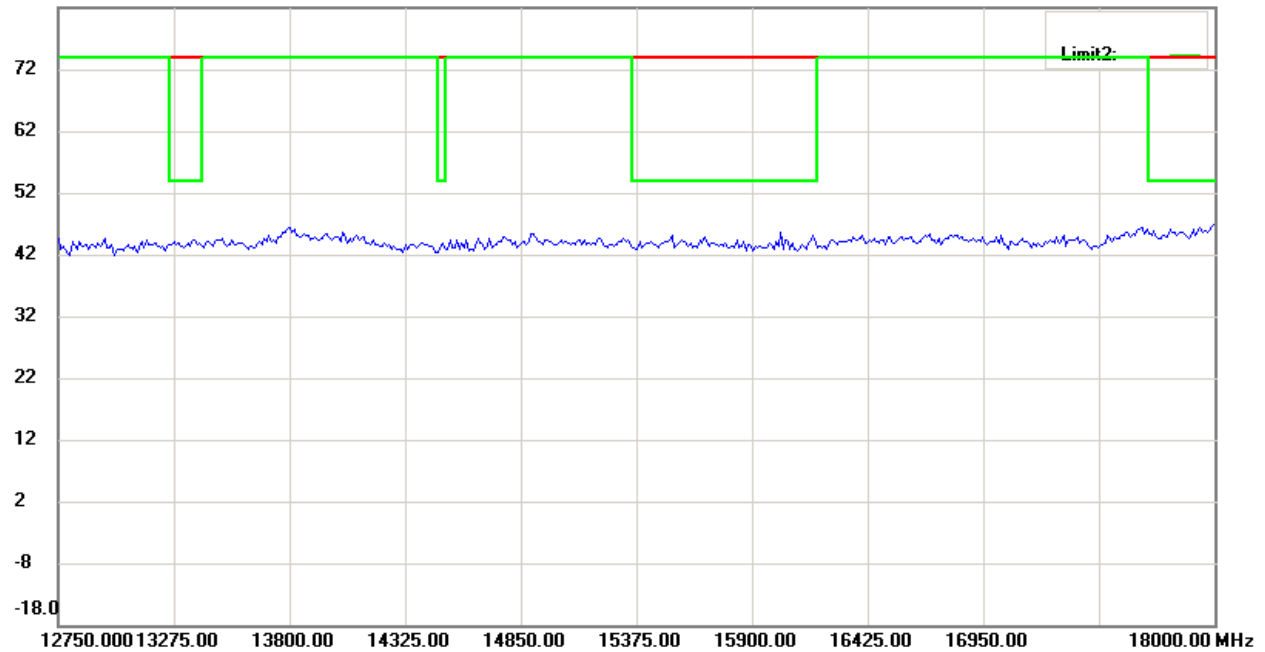


# Worldwide Testing Services(Taiwan) Co., Ltd.

Registration number: W6M20908-9998-P-15

FCC ID: R48WT50

82.0 dBuV/m



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

Note:

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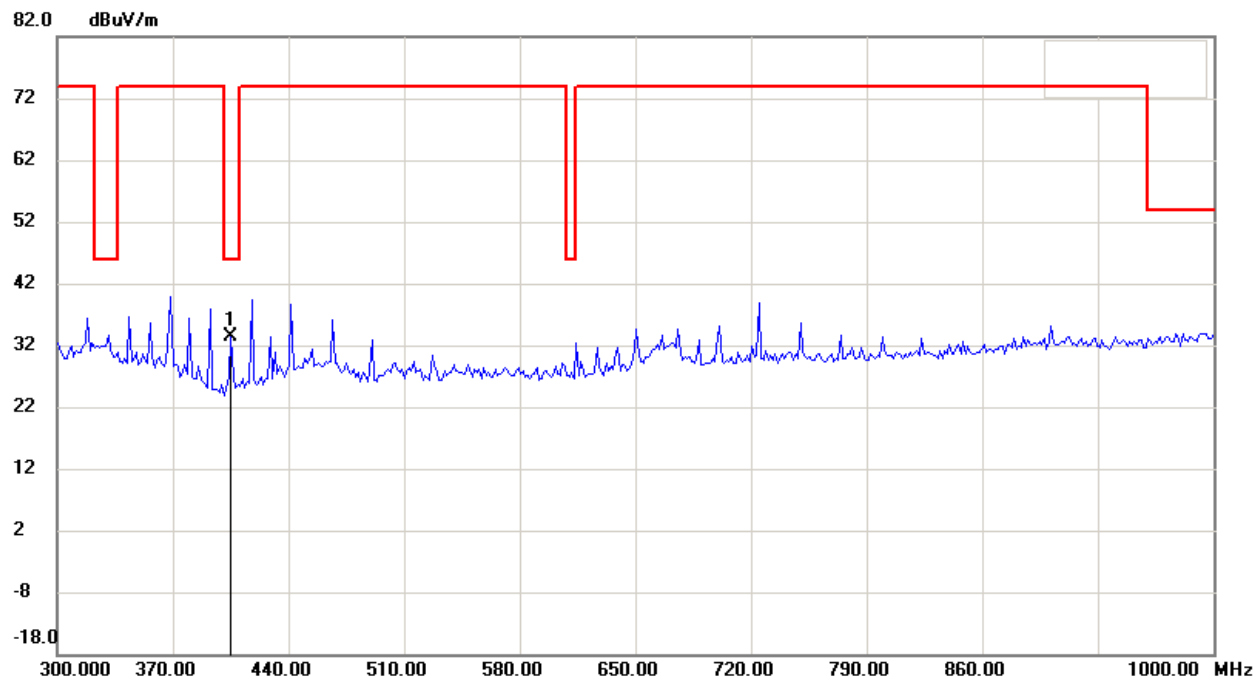
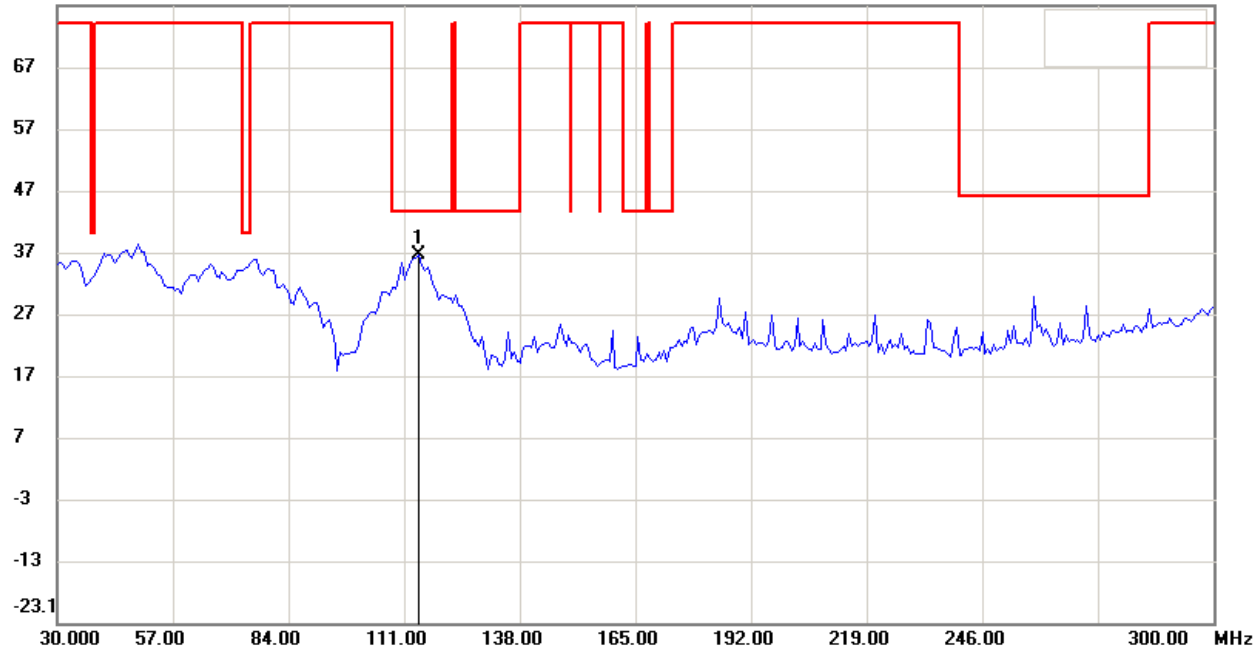
# Worldwide Testing Services(Taiwan) Co., Ltd.

Registration number: W6M20908-9998-P-15

FCC ID: R48WT50

## Antenna Polarization V

76.9 dBuV/m



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.



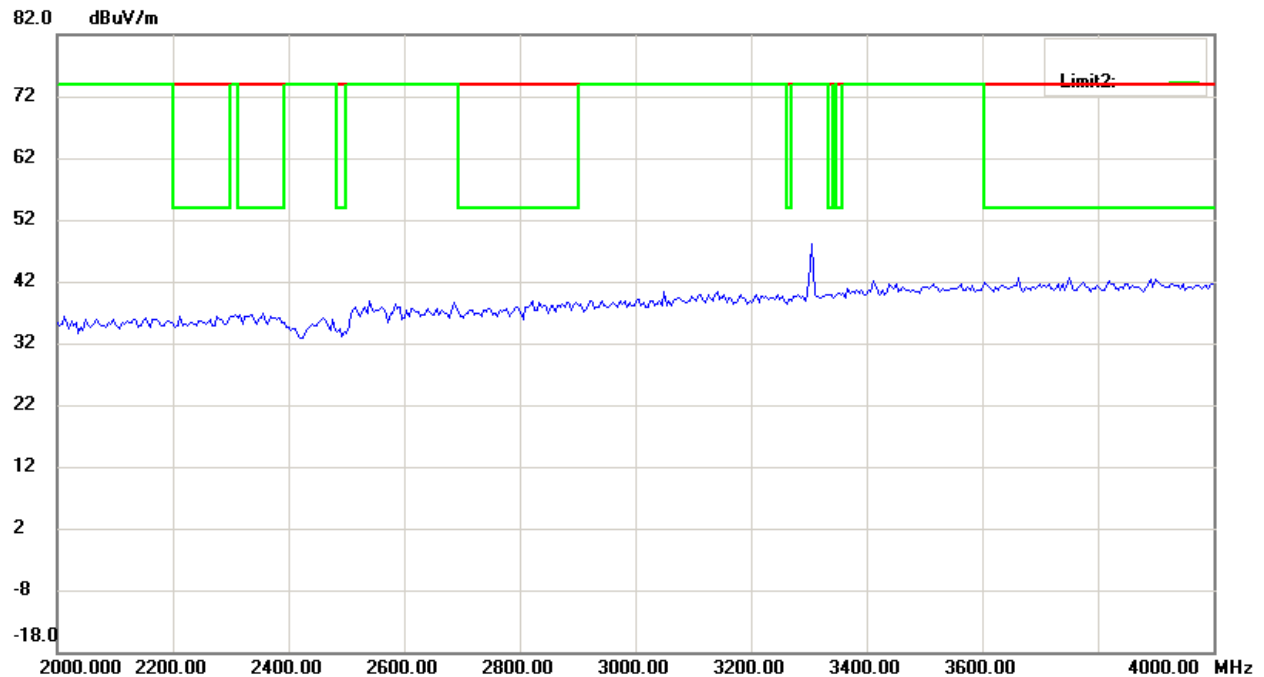
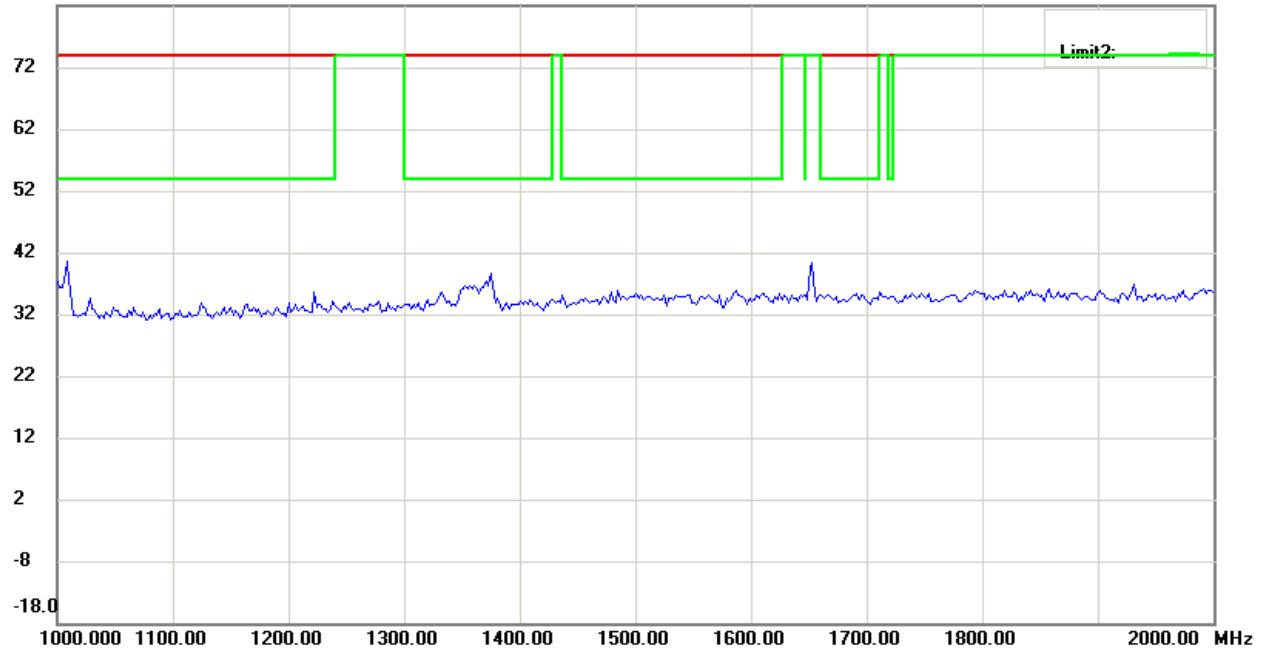


# Worldwide Testing Services(Taiwan) Co., Ltd.

Registration number: W6M20908-9998-P-15

FCC ID: R48WT50

82.0 dBuV/m



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.

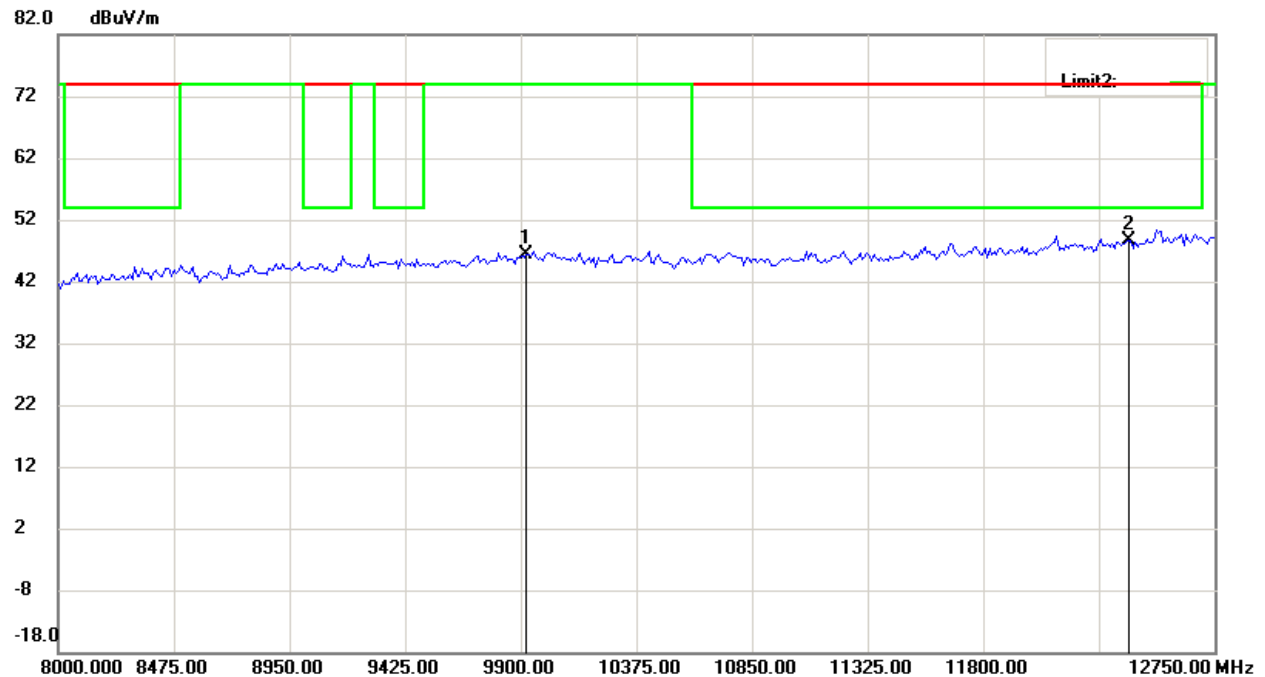
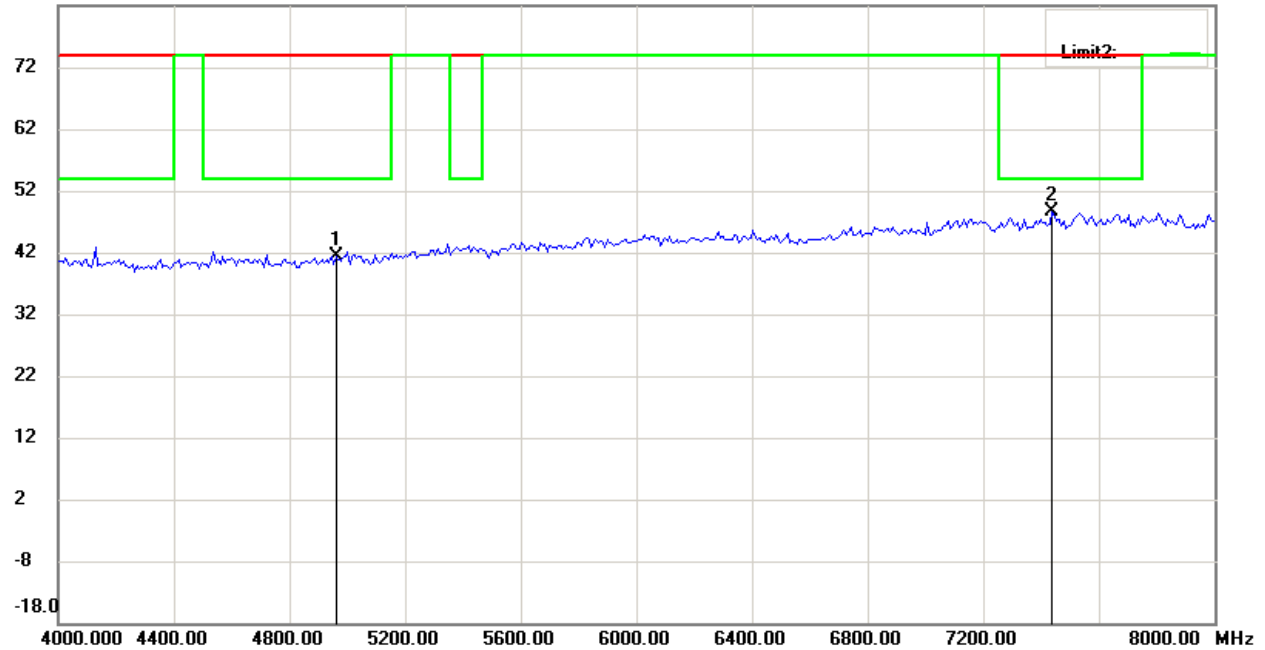


# Worldwide Testing Services(Taiwan) Co., Ltd.

Registration number: W6M20908-9998-P-15

FCC ID: R48WT50

82.0 dBuV/m



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.

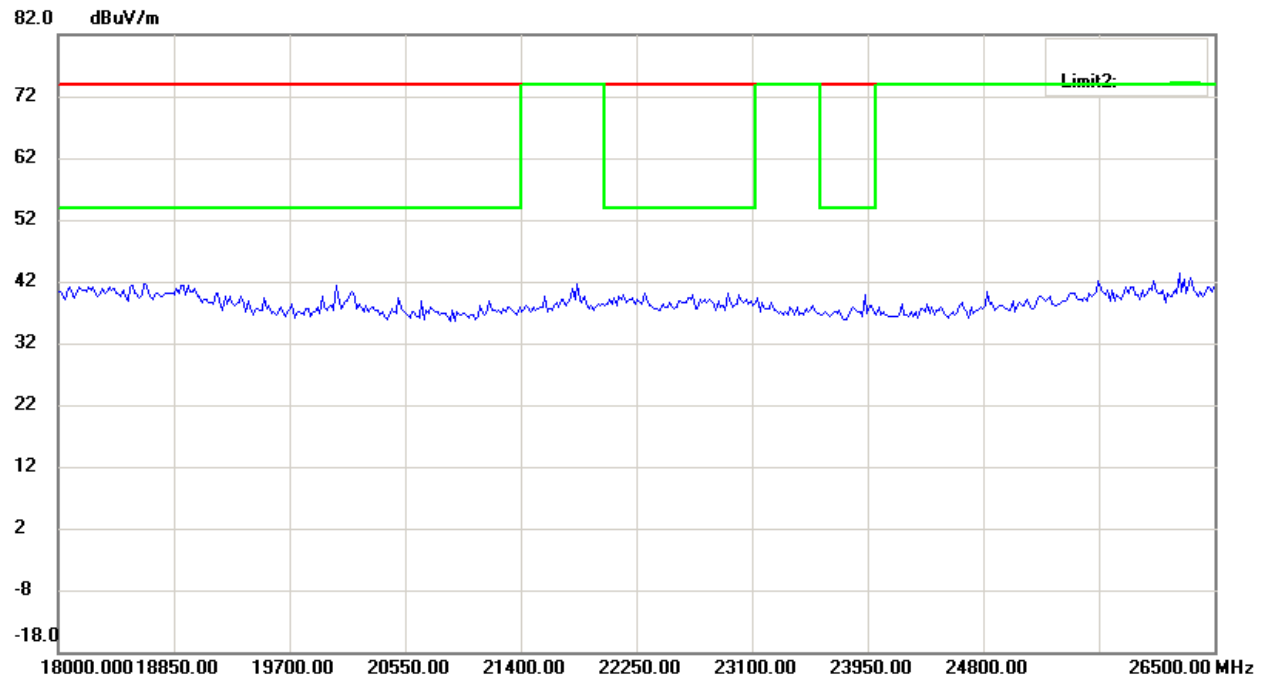
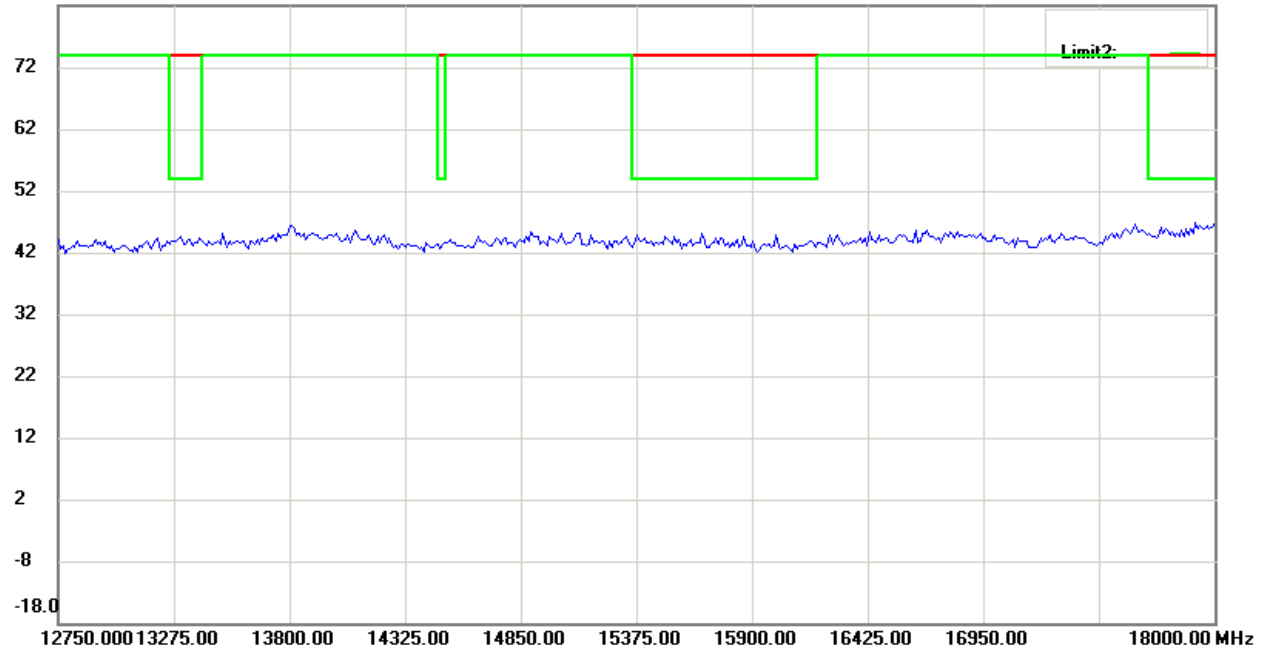


# Worldwide Testing Services(Taiwan) Co., Ltd.

Registration number: W6M20908-9998-P-15

FCC ID: R48WT50

82.0 dBuV/m



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

Note:

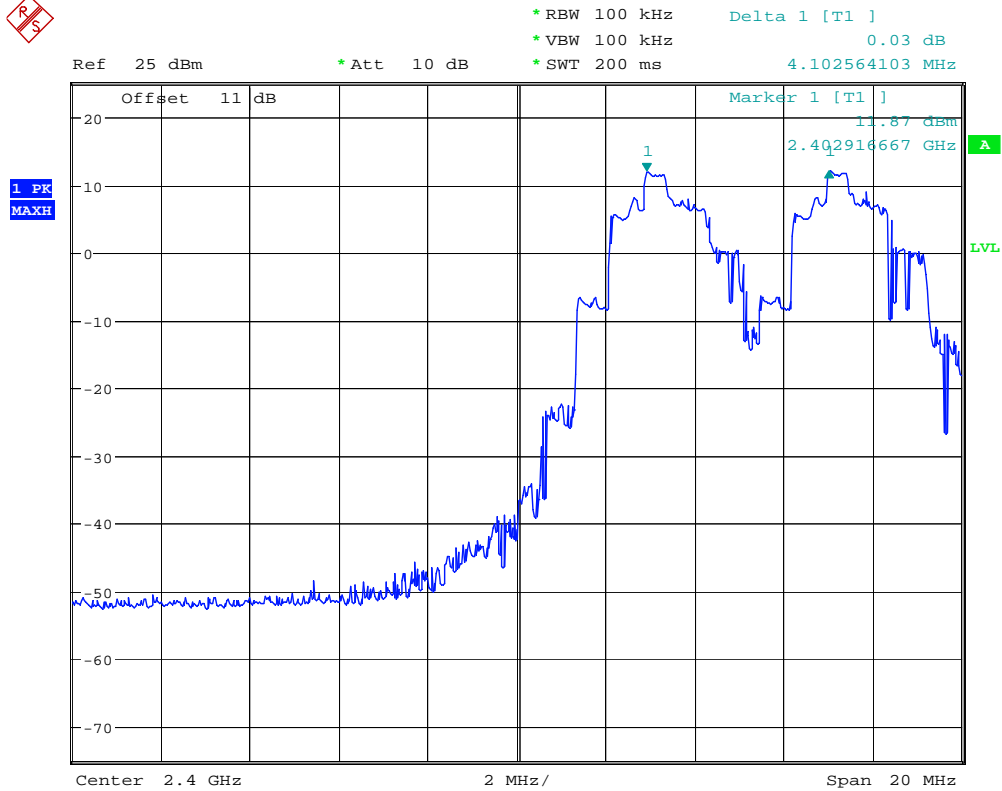
1. The attached measurement plots are preliminarily pre-scanned with peak detector for determining the final checking frequencies and are for reference only.
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3. For corrected test results are listed in the relevant table of radiated test data of this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



Registration number: W6M20908-9998-P-15

FCC ID: R48WT50

### Carrier Frequency Separation



FREQUENCY SEPARATION LOW CHANNEL

Date: 10.SEP.2009 14:58:28



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

Registration number: W6M20908-9998-P-15

FCC ID: R48WT50



FREQUENCY SEPARATION MIDDLE CHANNEL

Date: 10.SEP.2009 15:01:18



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

Registration number: W6M20908-9998-P-15

FCC ID: R48WT50



FREQUENCY SEPARATION HIGH CHANNEL

Date: 10.SEP.2009 15:02:54

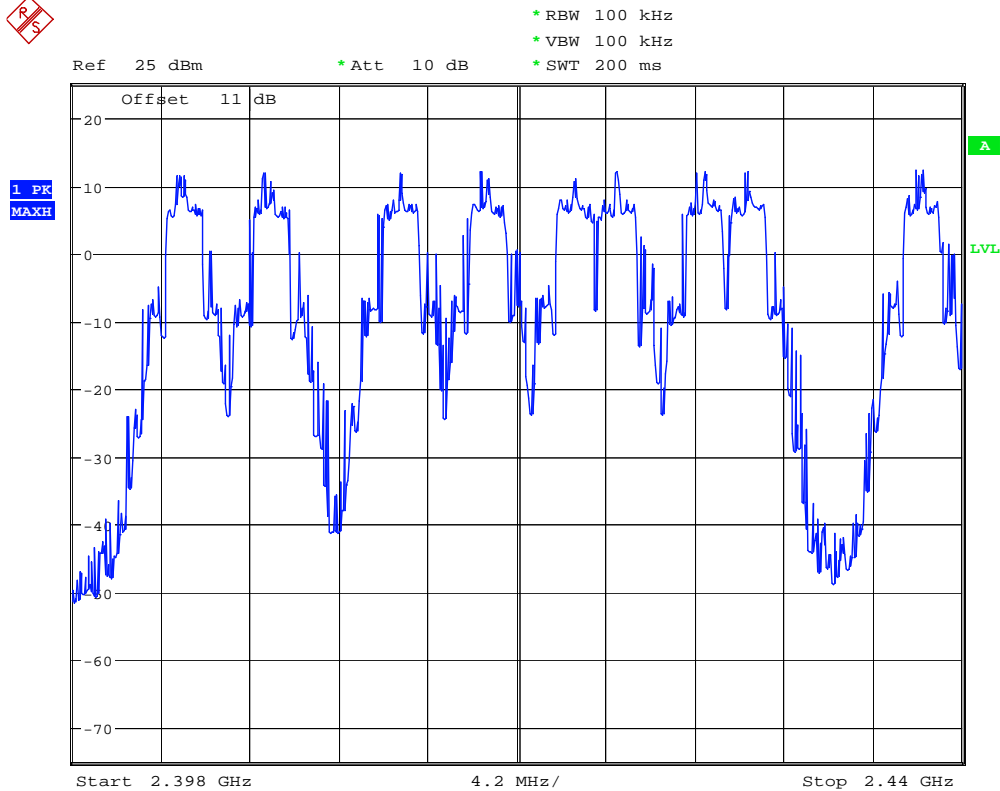


# Worldwide Testing Services(Taiwan) Co., Ltd.

Registration number: W6M20908-9998-P-15

FCC ID: R48WT50

## Number of Hopping Frequencies



NUMBER OF HOPPING

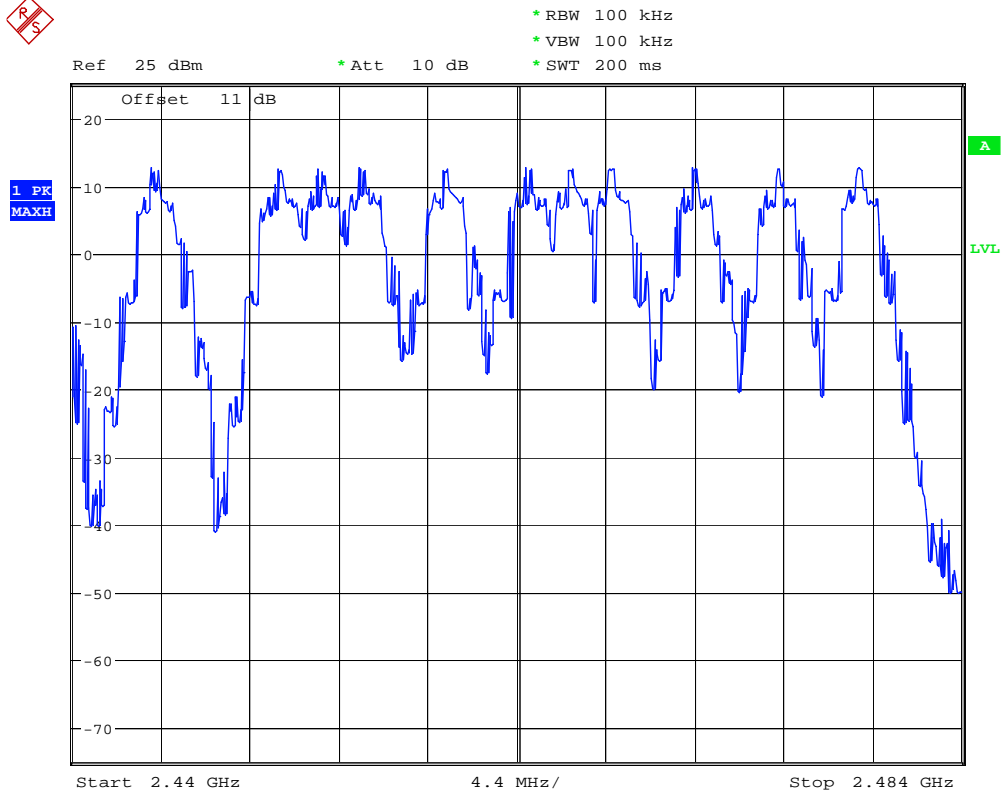
Date: 10.SEP.2009 14:45:48



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

Registration number: W6M20908-9998-P-15

FCC ID: R48WT50



NUMBER OF HOPPING

Date: 10.SEP.2009 14:47:43



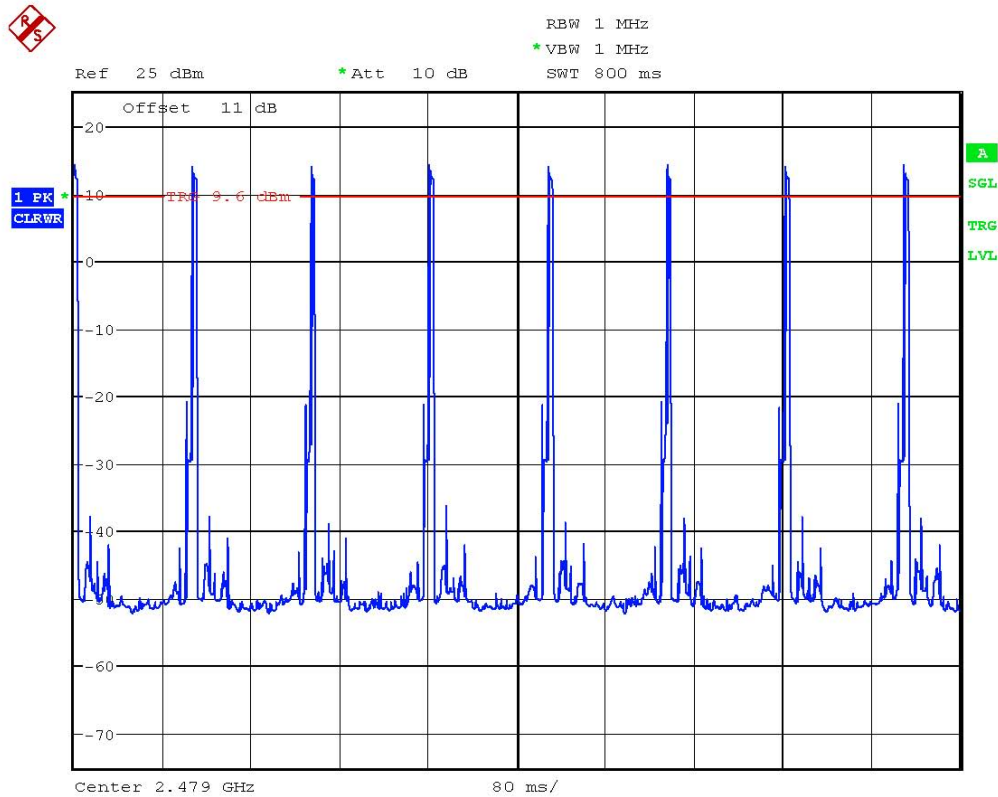


# Worldwide Testing Services(Taiwan) Co., Ltd.

Registration number: W6M20908-9998-P-15

FCC ID: R48WT50

Time of Occupancy (Dwell Time)

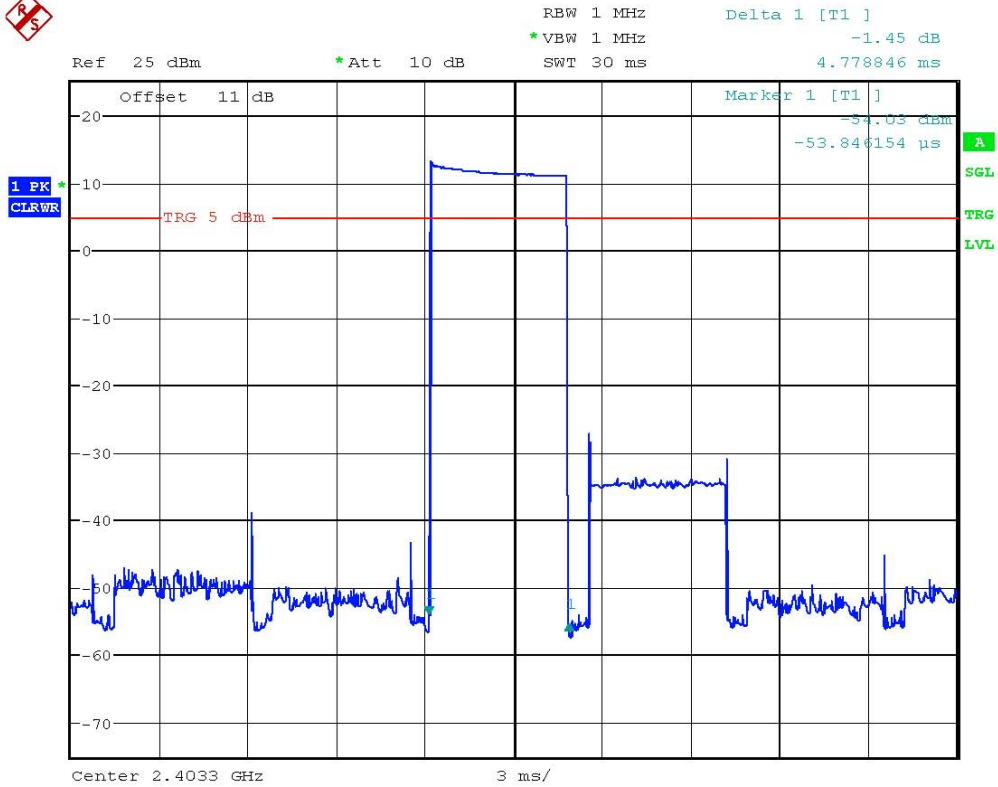


DWELL TIME

Date: 10.SEP.2009 15:11:56



Registration number: W6M20908-9998-P-15  
FCC ID: R48WT50

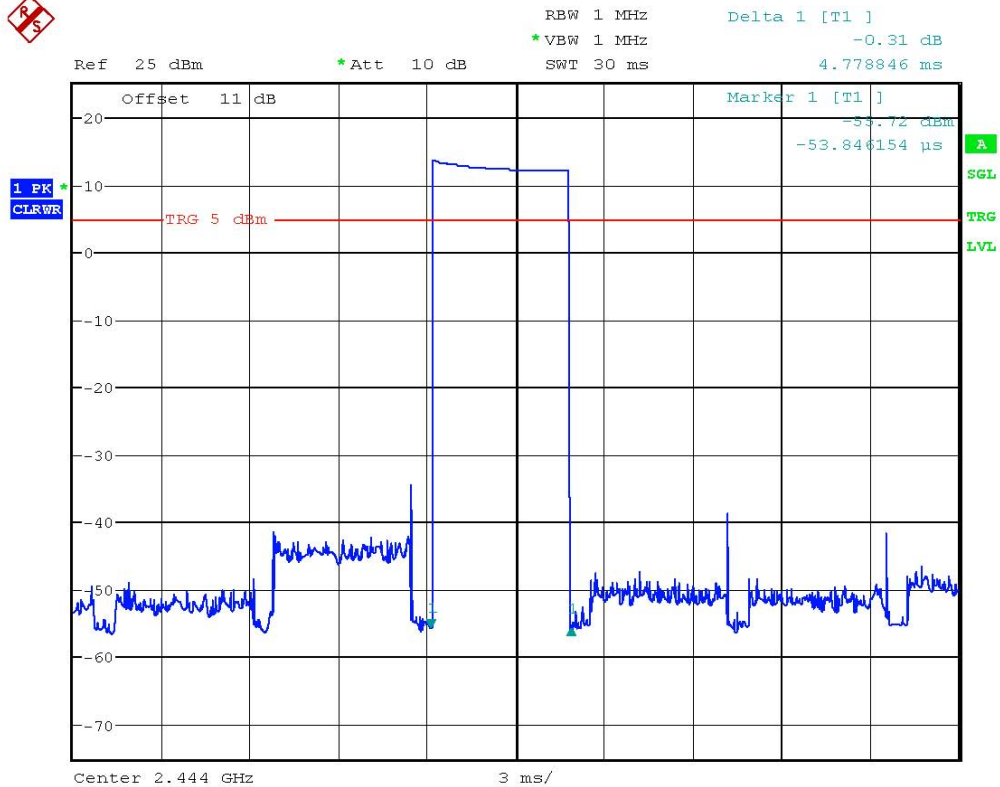


DWELL TIME LOW CHANNEL (4.778ms \* 80events =382.24ms)

Date: 10.SEP.2009 15:24:05



Registration number: W6M20908-9998-P-15  
FCC ID: R48WT50

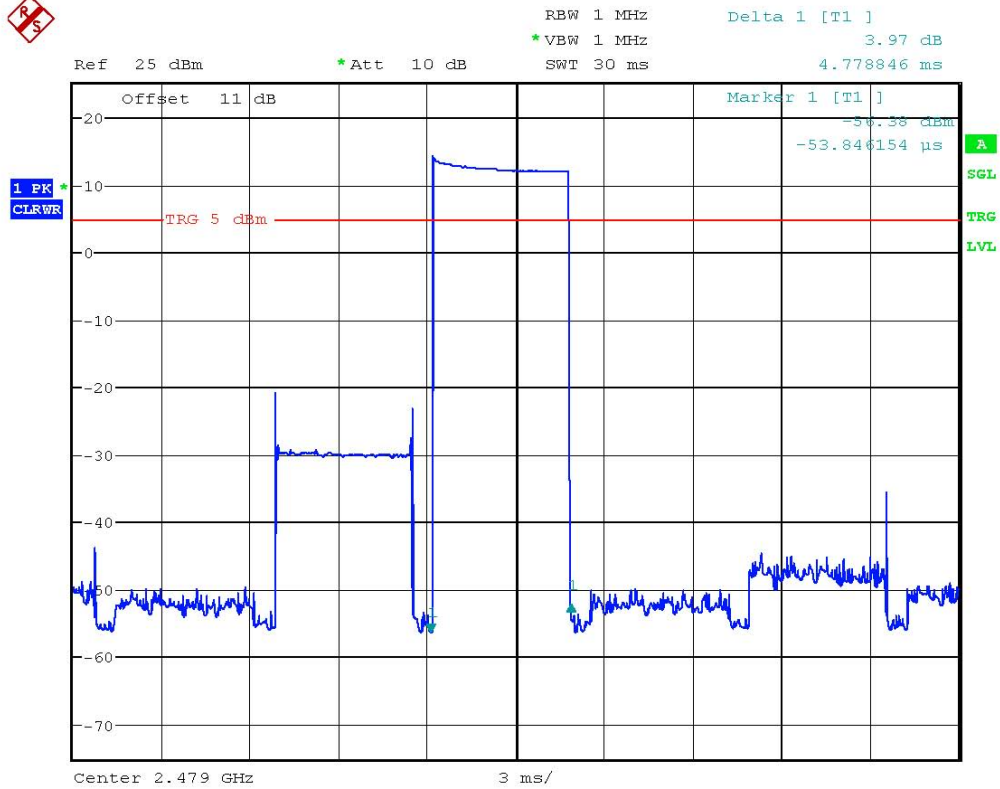


DWELL TIME MIDDLE CHANNEL (4.778ms \* 80events =382.24ms)

Date: 10.SEP.2009 15:25:32



Registration number: W6M20908-9998-P-15  
FCC ID: R48WT50



DWELL TIME HIGH CHANNEL (4.778ms \* 80events =382.24ms)

Date: 10.SEP.2009 15:27:41

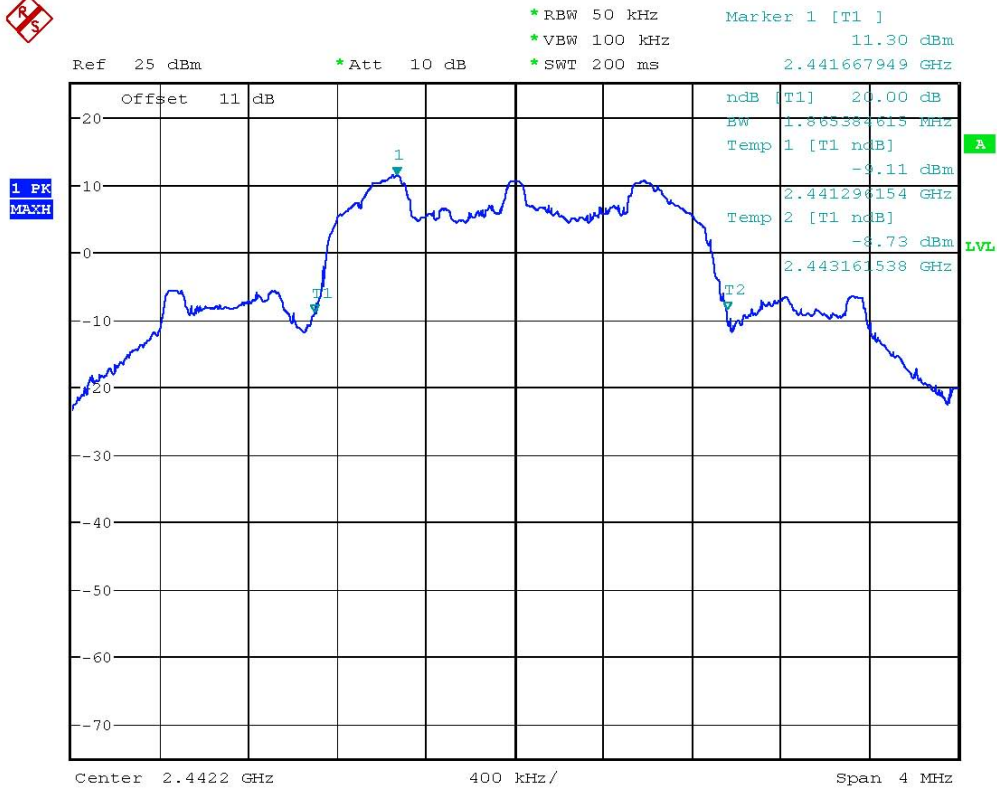


## 20dB Bandwidth



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

Registration number: W6M20908-9998-P-15  
FCC ID: R48WT50

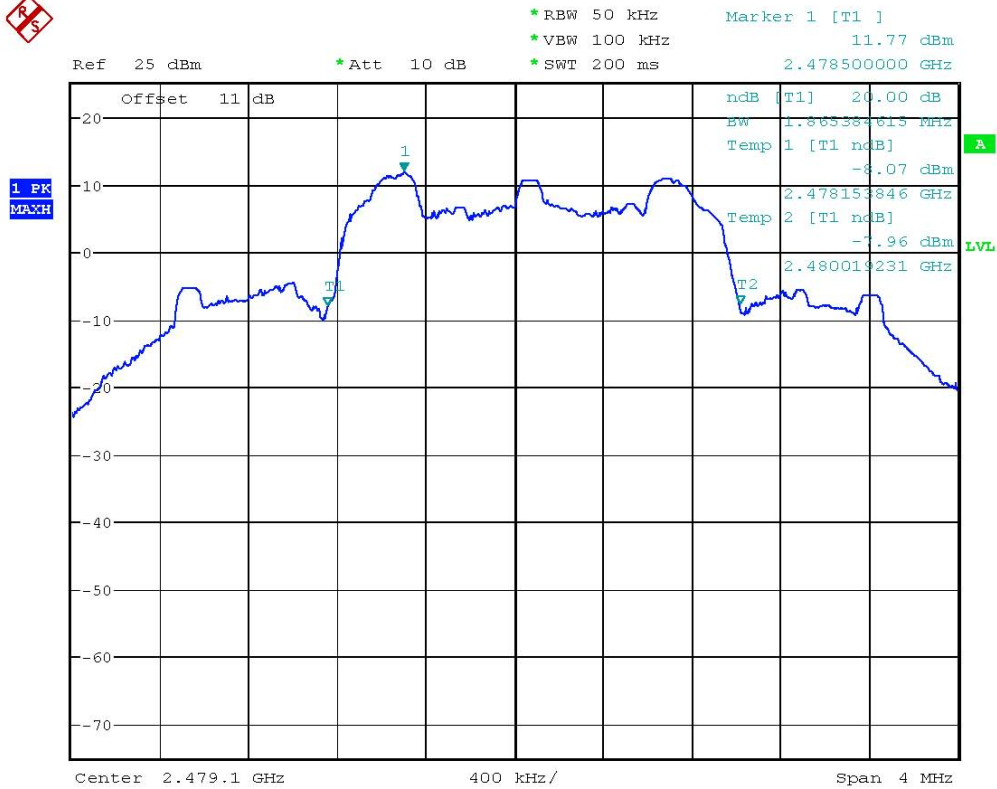


20db BANDWIDTH 2442.2MHz  
Date: 10.SEP.2009 14:27:16



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

Registration number: W6M20908-9998-P-15  
FCC ID: R48WT50



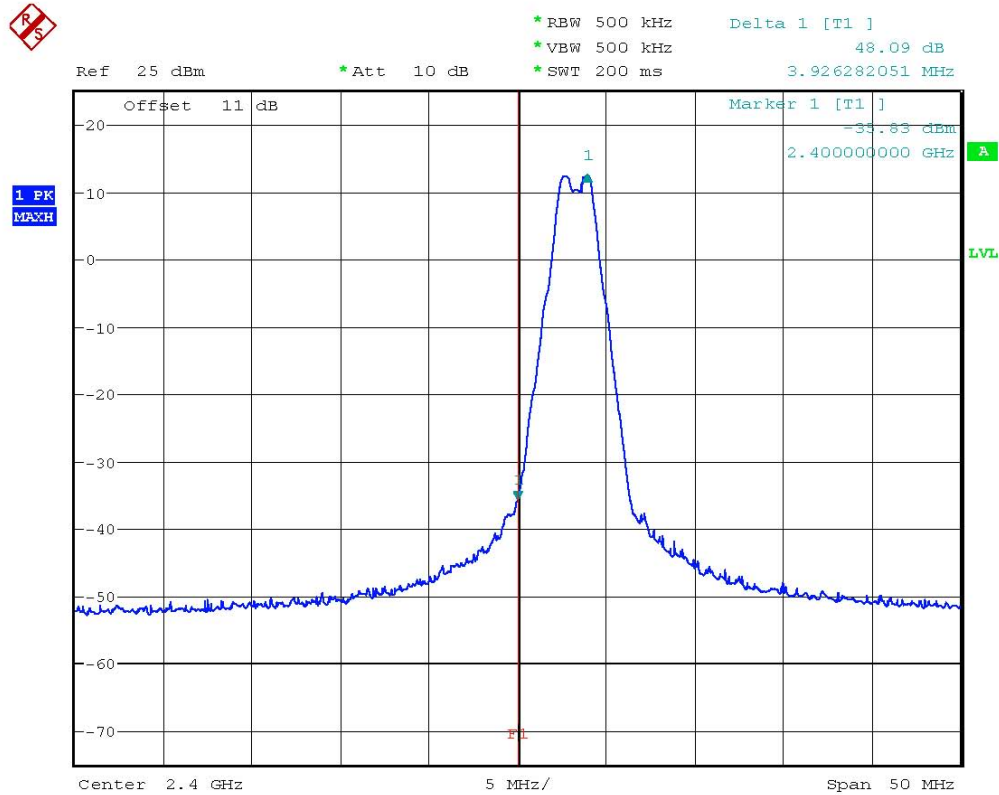
20db BANDWIDTH 2479.1MHz  
Date: 10.SEP.2009 14:24:18



Registration number: W6M20908-9998-P-15

FCC ID: R48WT50

**Band-edge Compliance of RF Conducted Emissions**



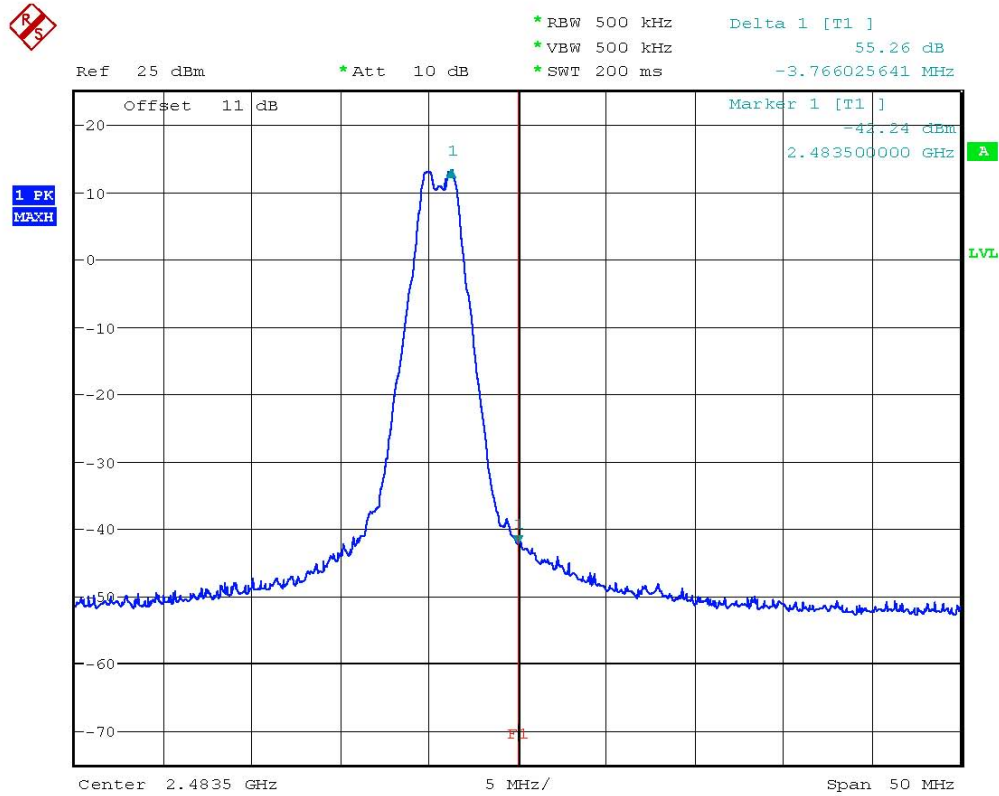
BANDEDGE 2403.3MHz

Date: 10.SEP.2009 14:06:43





Registration number: W6M20908-9998-P-15  
FCC ID: R48WT50

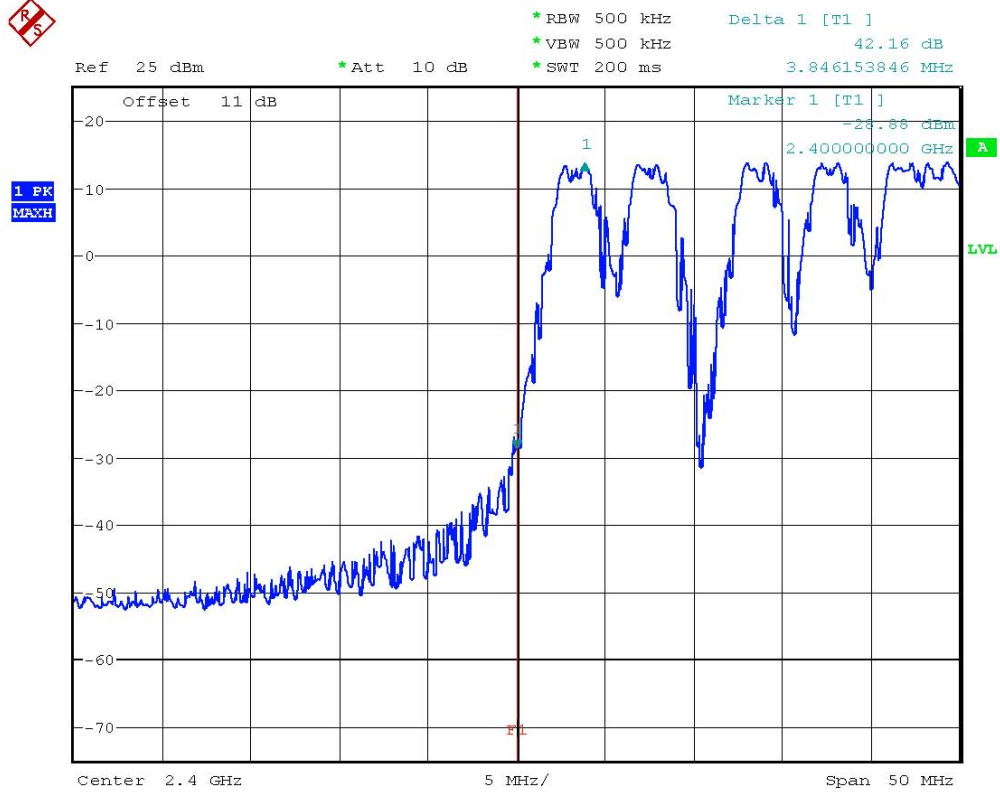


BANDEDGE 2479.1MHz  
Date: 10.SEP.2009 14:03:39



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

Registration number: W6M20908-9998-P-15  
FCC ID: R48WT50

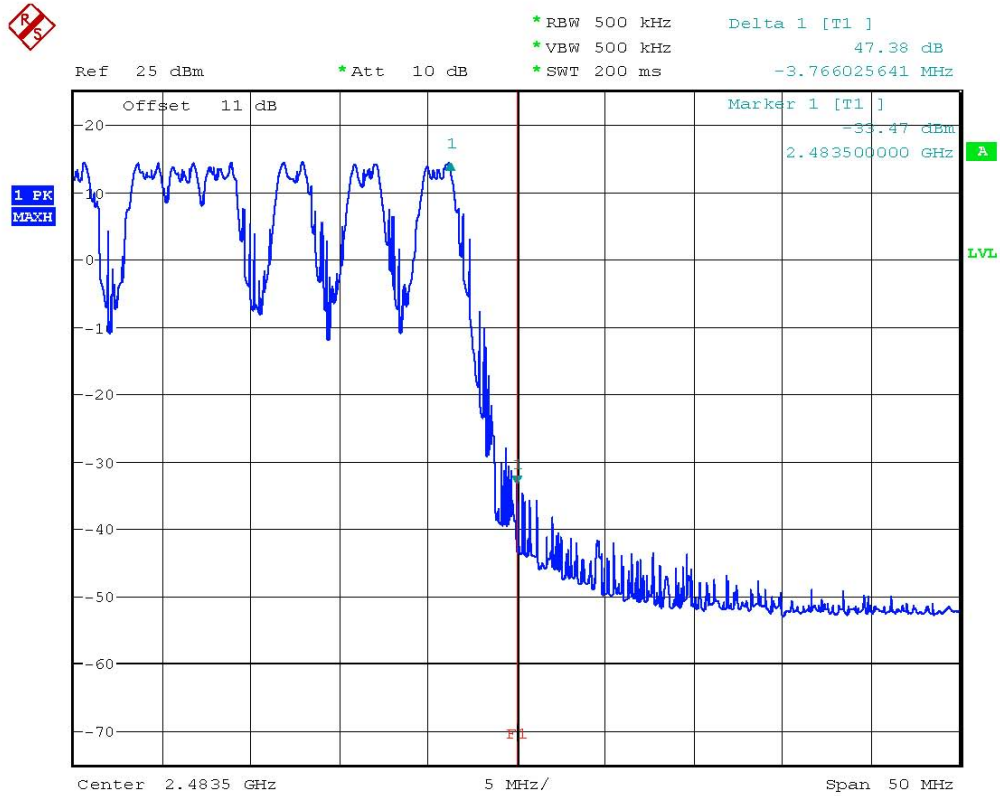


BANDEDGE 2403.3MHz HOPPING MODE

Date: 10.SEP.2009 14:09:33



Registration number: W6M20908-9998-P-15  
FCC ID: R48WT50



BANDEDGE 2479.1MHz HOPPING MODE

Date: 10.SEP.2009 14:02:45



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

Registration number: W6M20908-9998-P-15

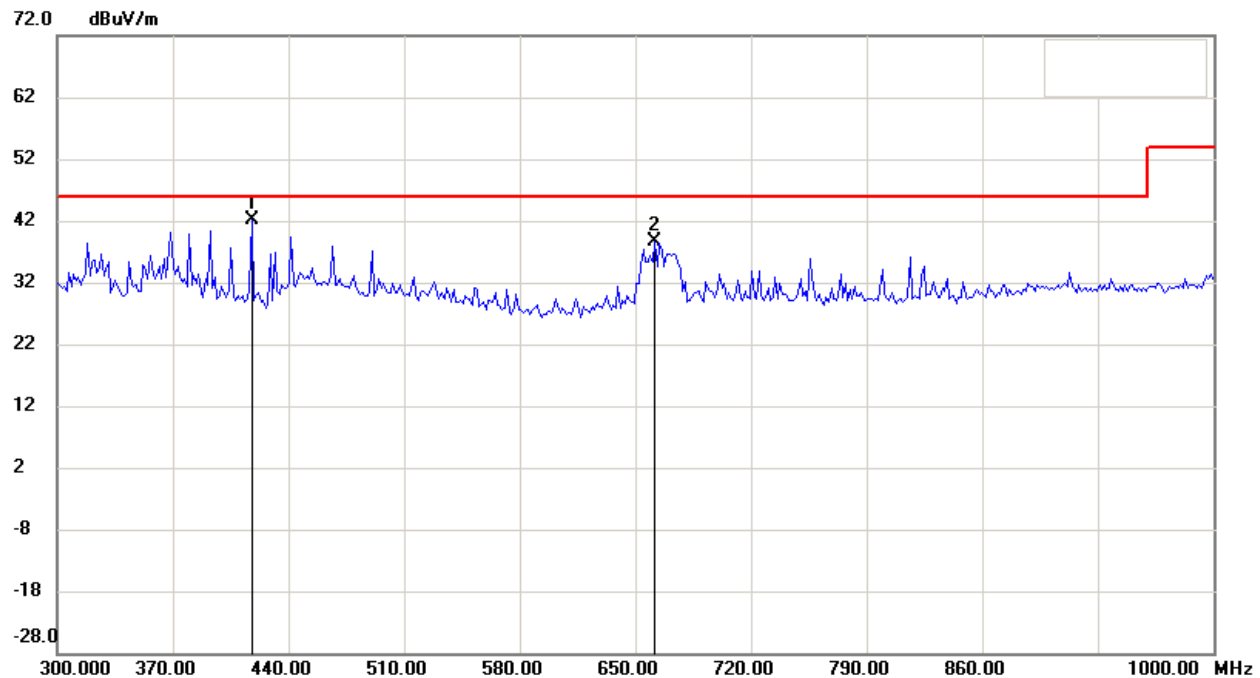
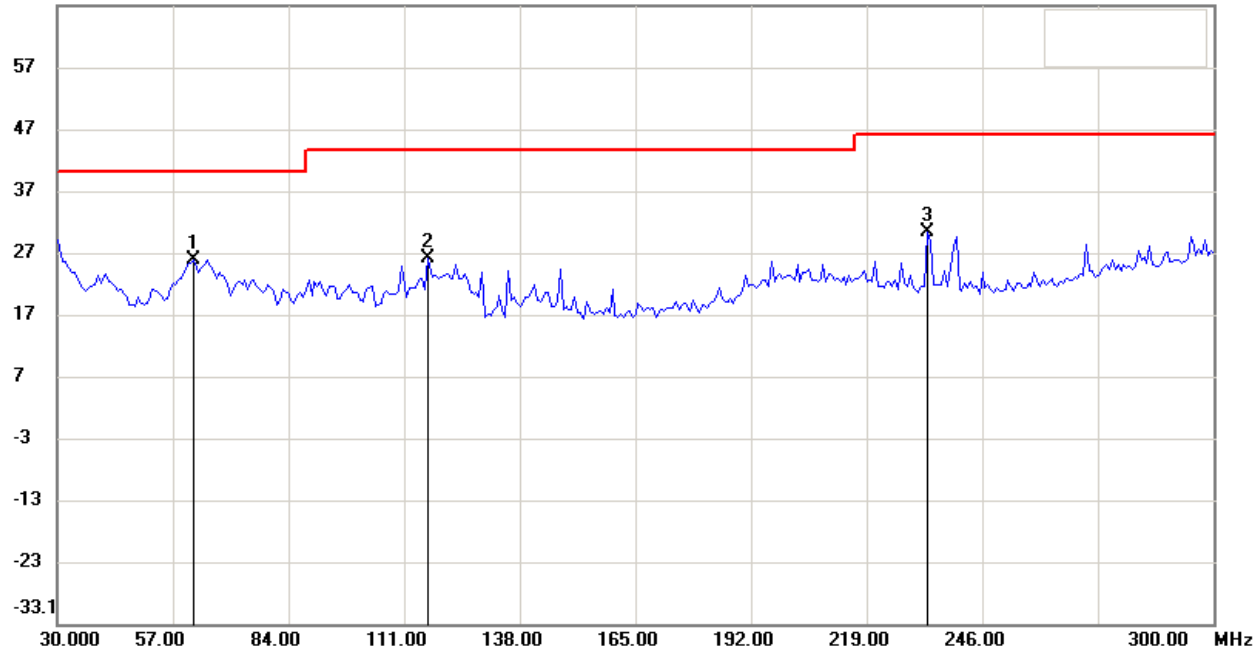
FCC ID: R48WT50

Radiated Emissions from Receiver part

Receiver \_ 2403.3 MHz

Antenna Polarization H

66.9 dBuV/m



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.

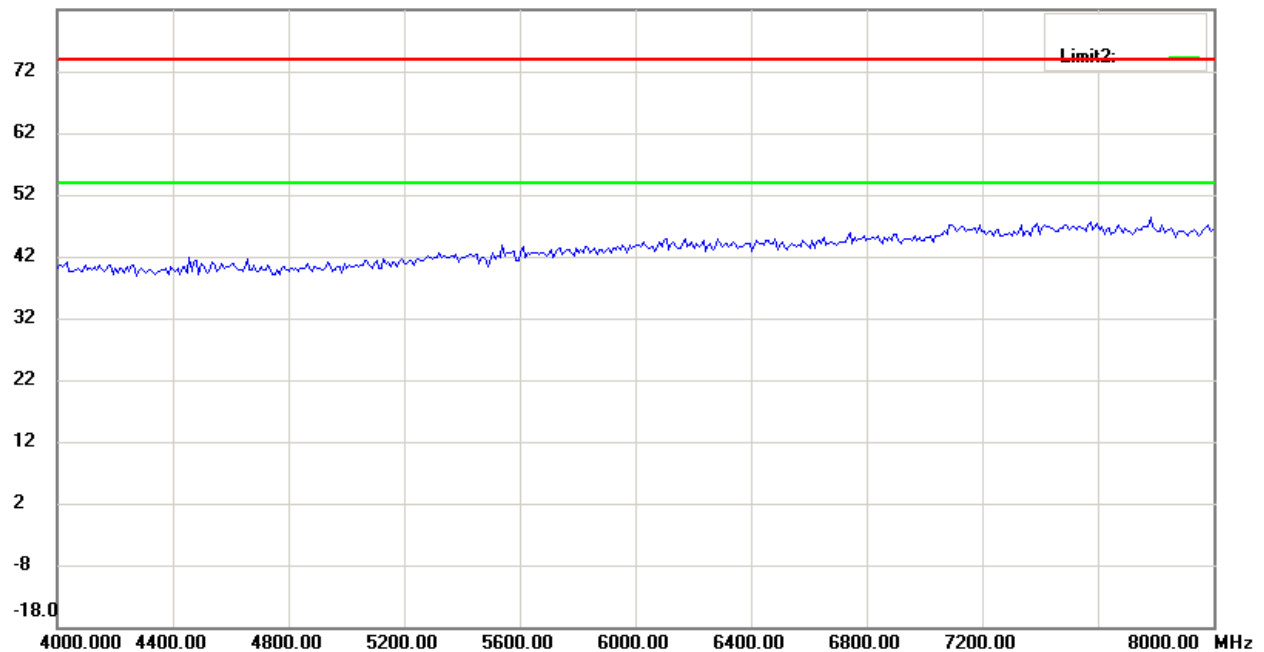
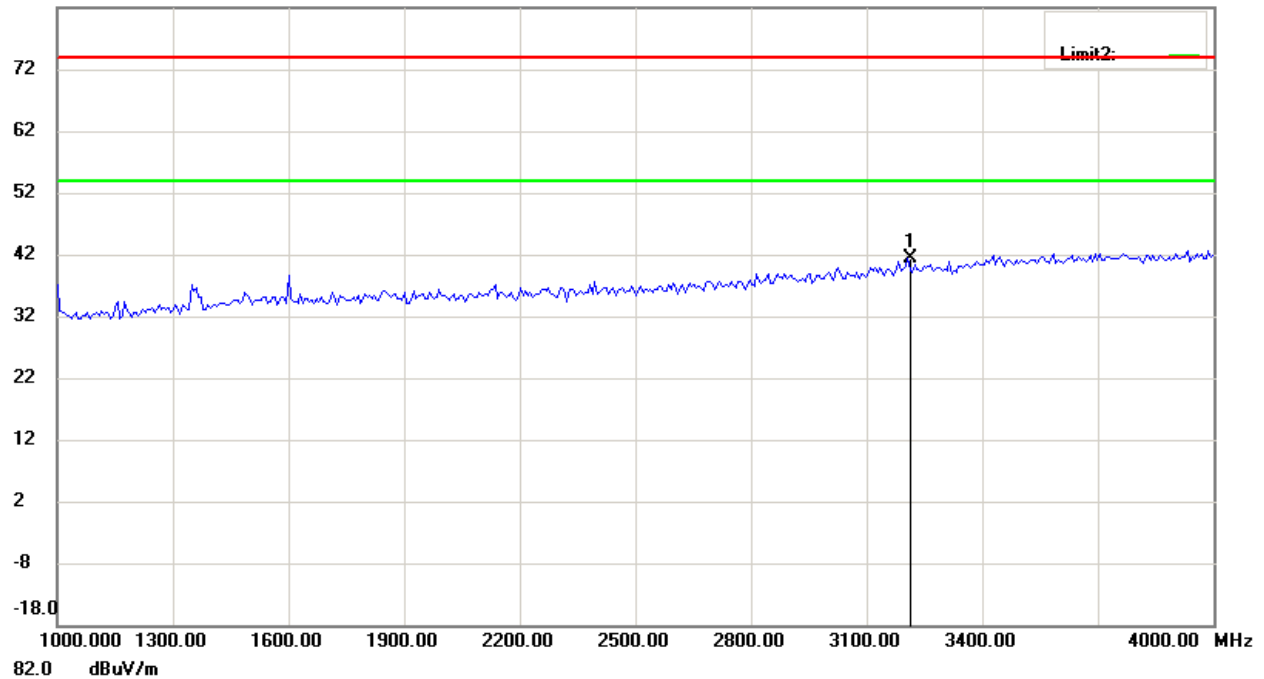


# Worldwide Testing Services(Taiwan) Co., Ltd.

Registration number: W6M20908-9998-P-15

FCC ID: R48WT50

82.0 dBuV/m



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

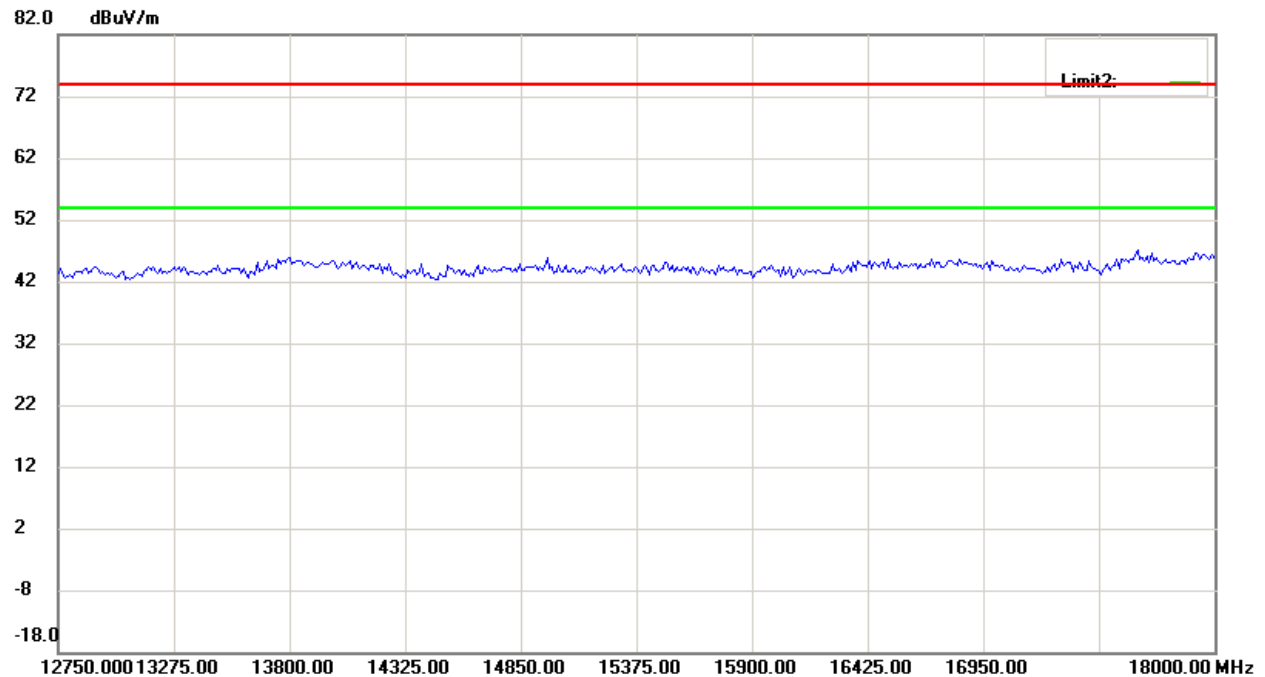
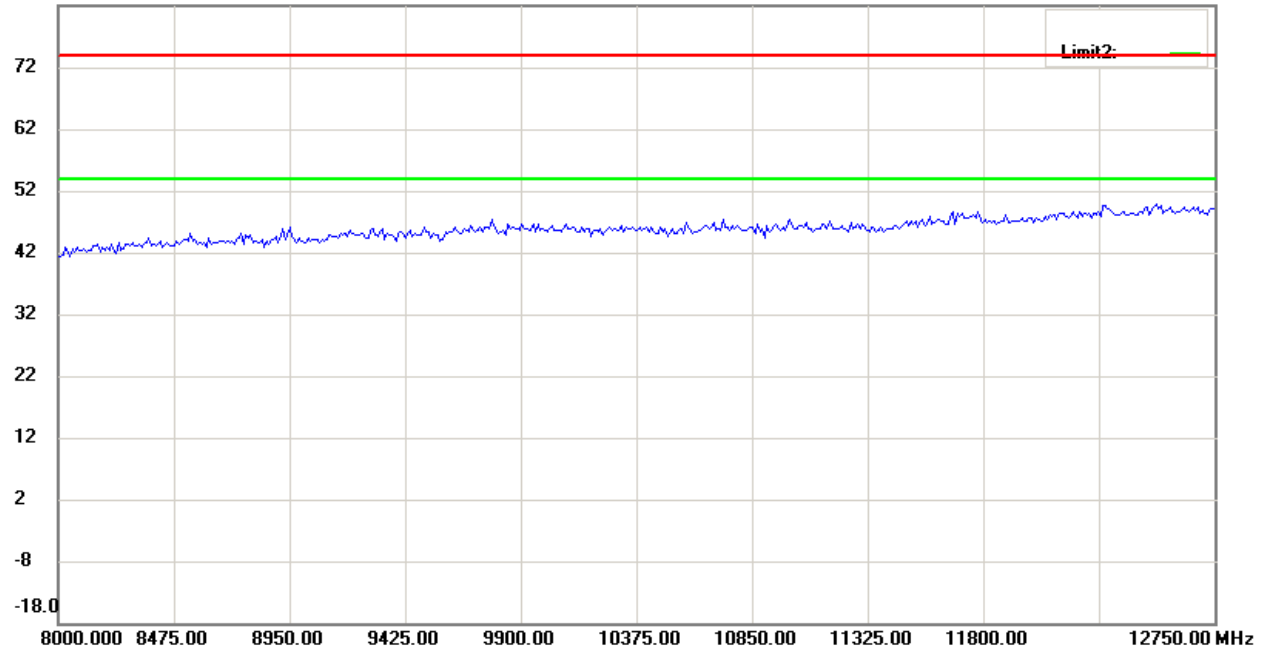


# Worldwide Testing Services(Taiwan) Co., Ltd.

Registration number: W6M20908-9998-P-15

FCC ID: R48WT50

82.0 dBuV/m



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

Note:

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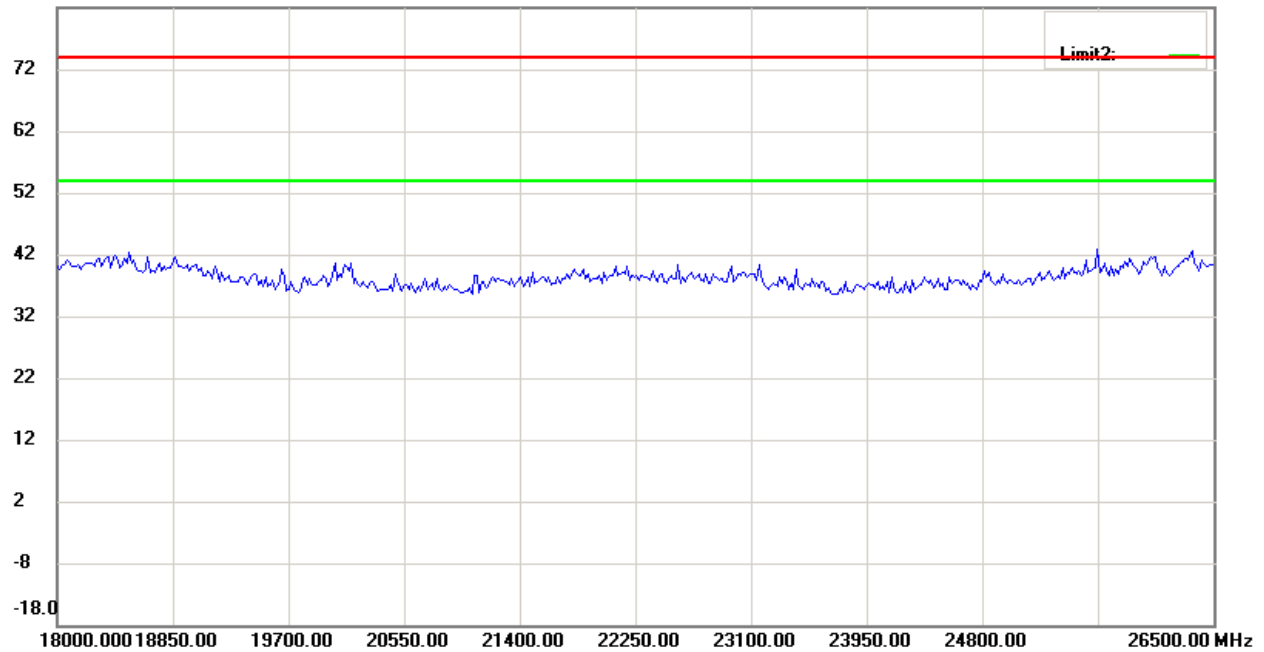


# Worldwide Testing Services(Taiwan) Co., Ltd.

Registration number: W6M20908-9998-P-15

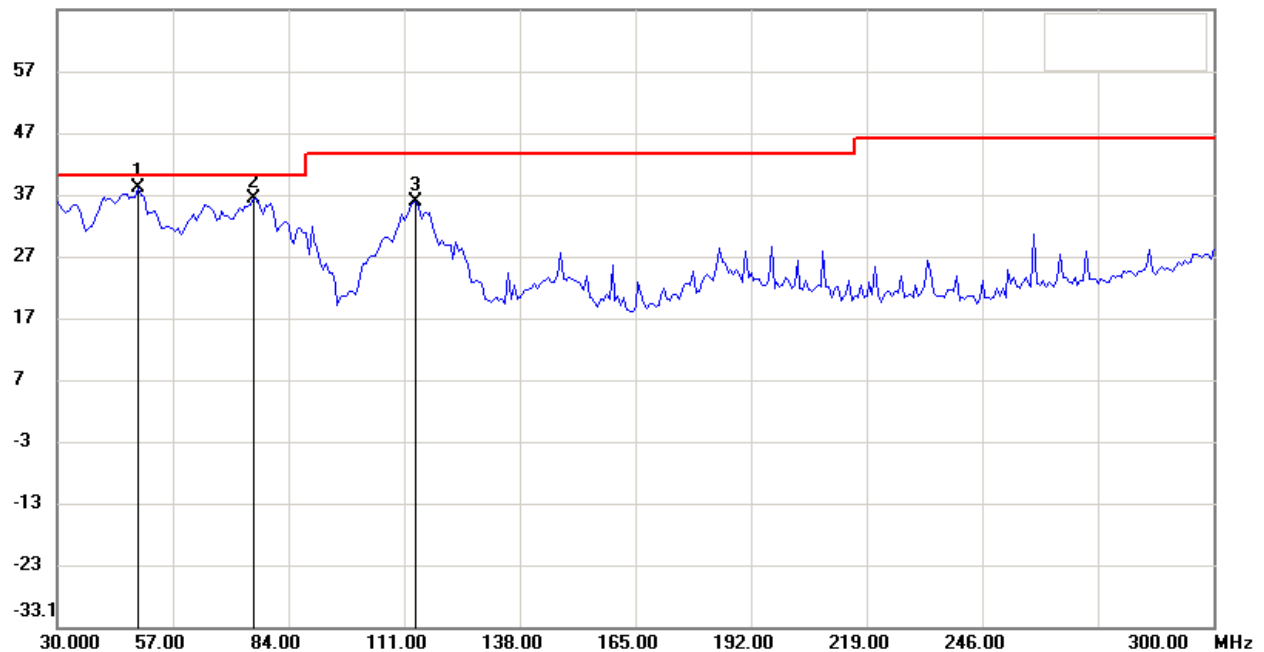
FCC ID: R48WT50

82.0 dBuV/m



## Antenna Polarization V

66.9 dBuV/m



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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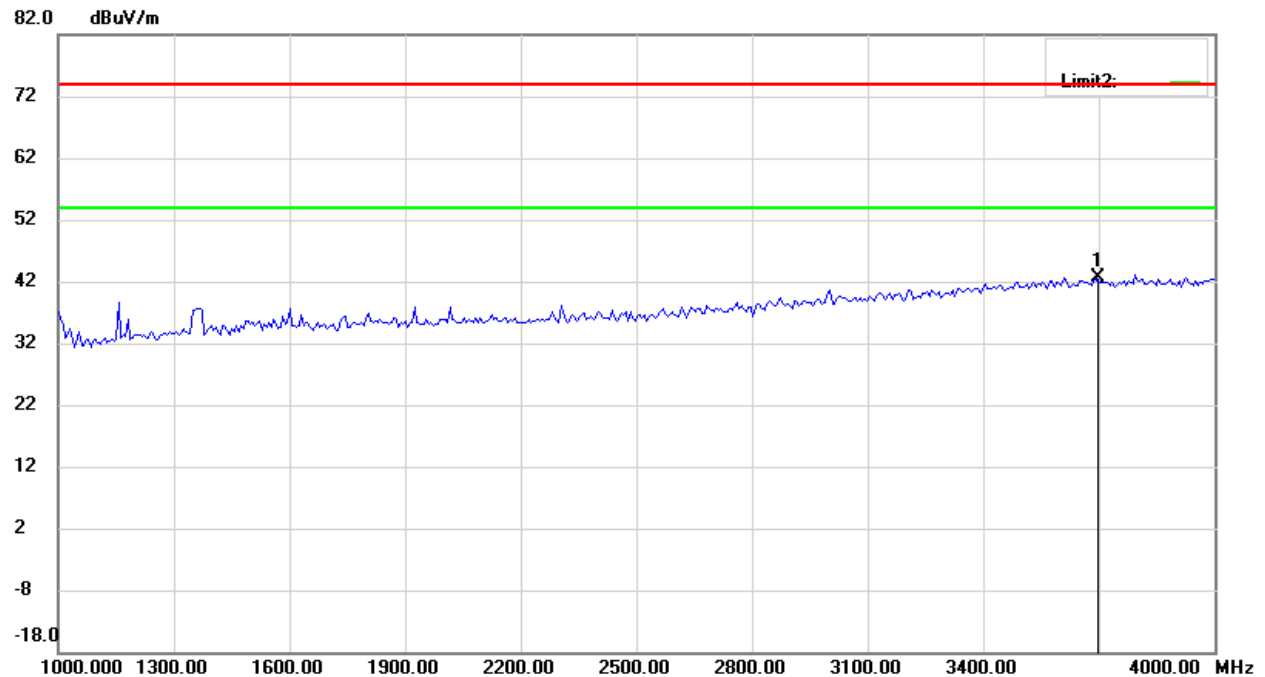
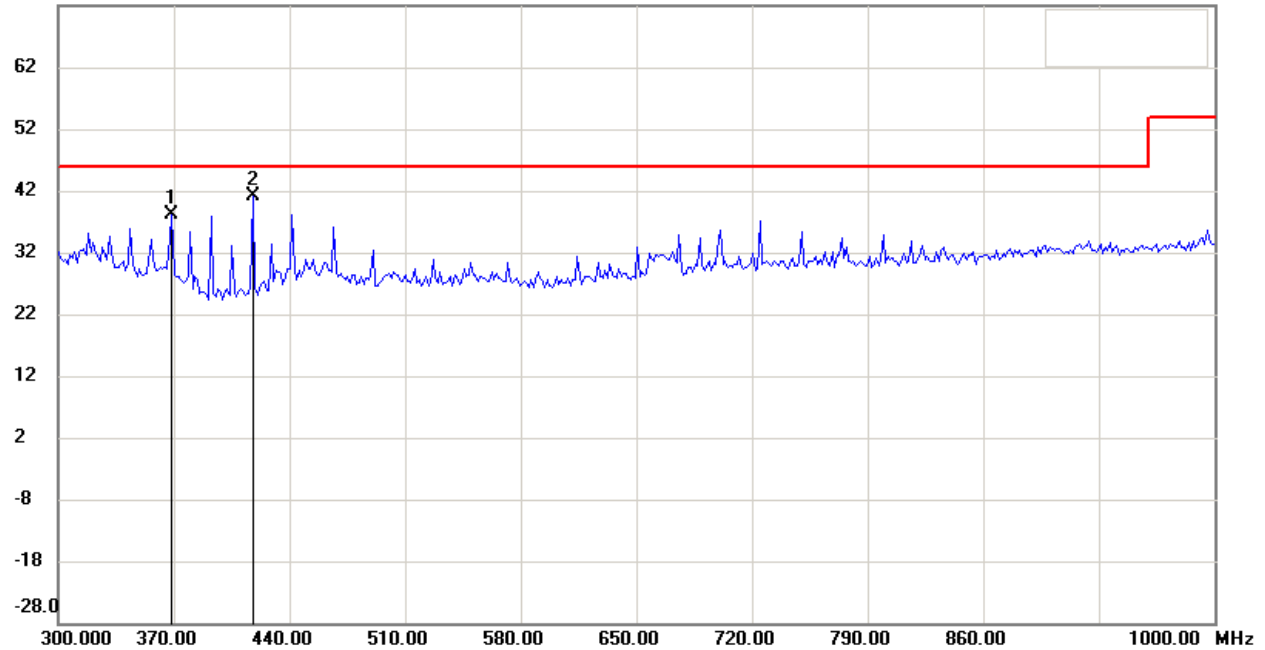


# Worldwide Testing Services(Taiwan) Co., Ltd.

Registration number: W6M20908-9998-P-15

FCC ID: R48WT50

72.0 dBuV/m



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

Note:

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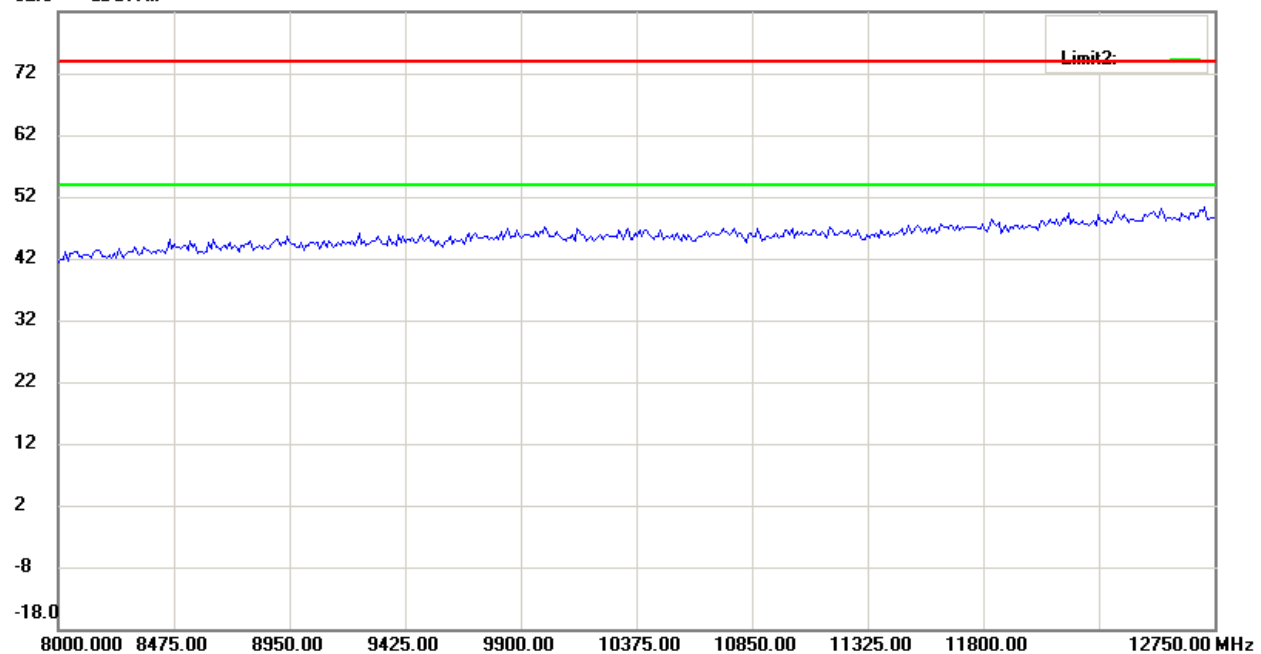
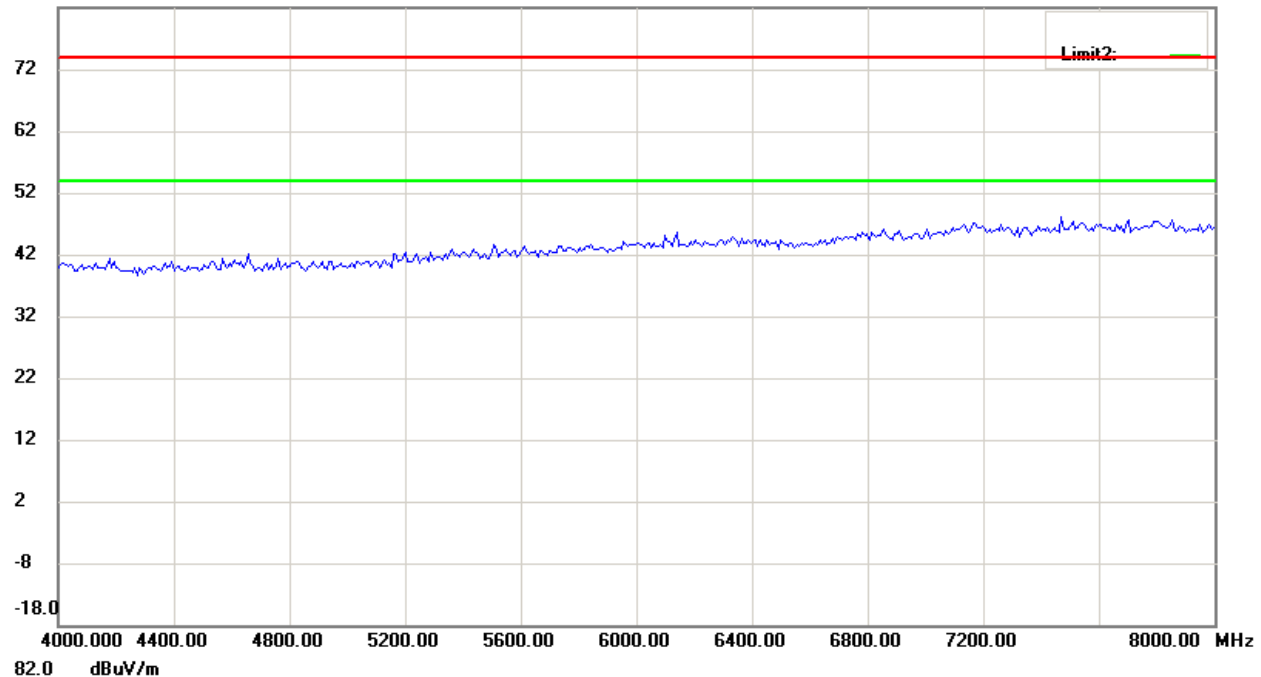


# Worldwide Testing Services(Taiwan) Co., Ltd.

Registration number: W6M20908-9998-P-15

FCC ID: R48WT50

82.0 dBuV/m



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

Note:

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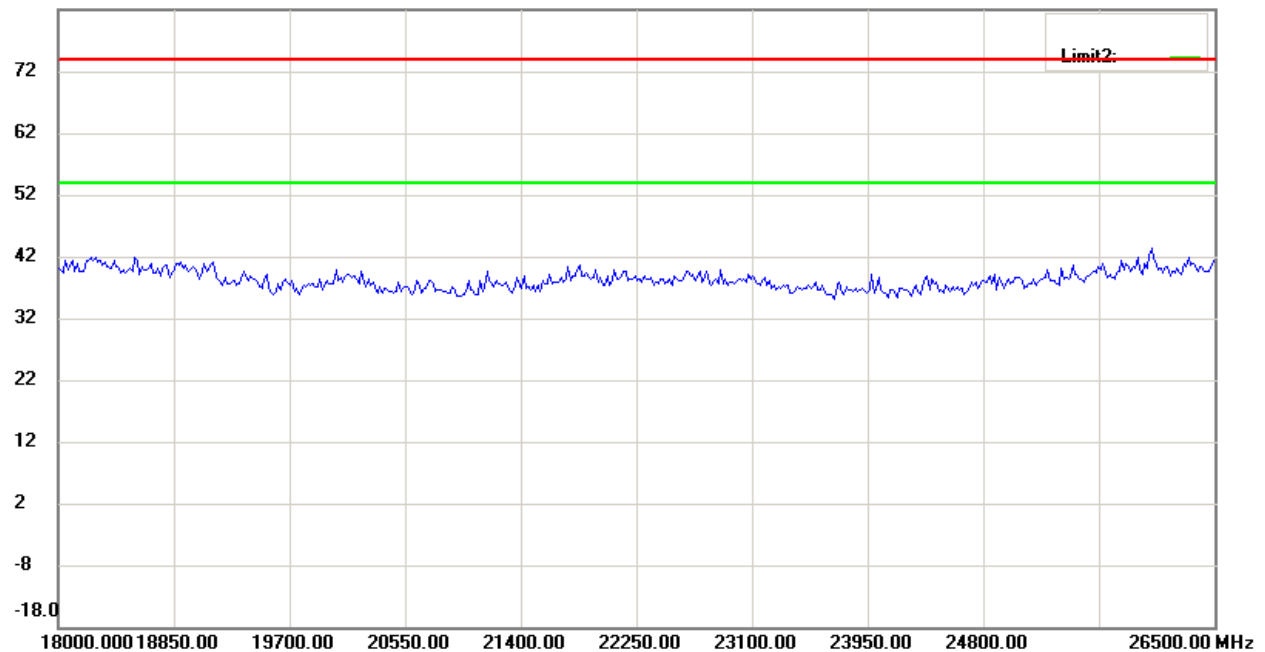
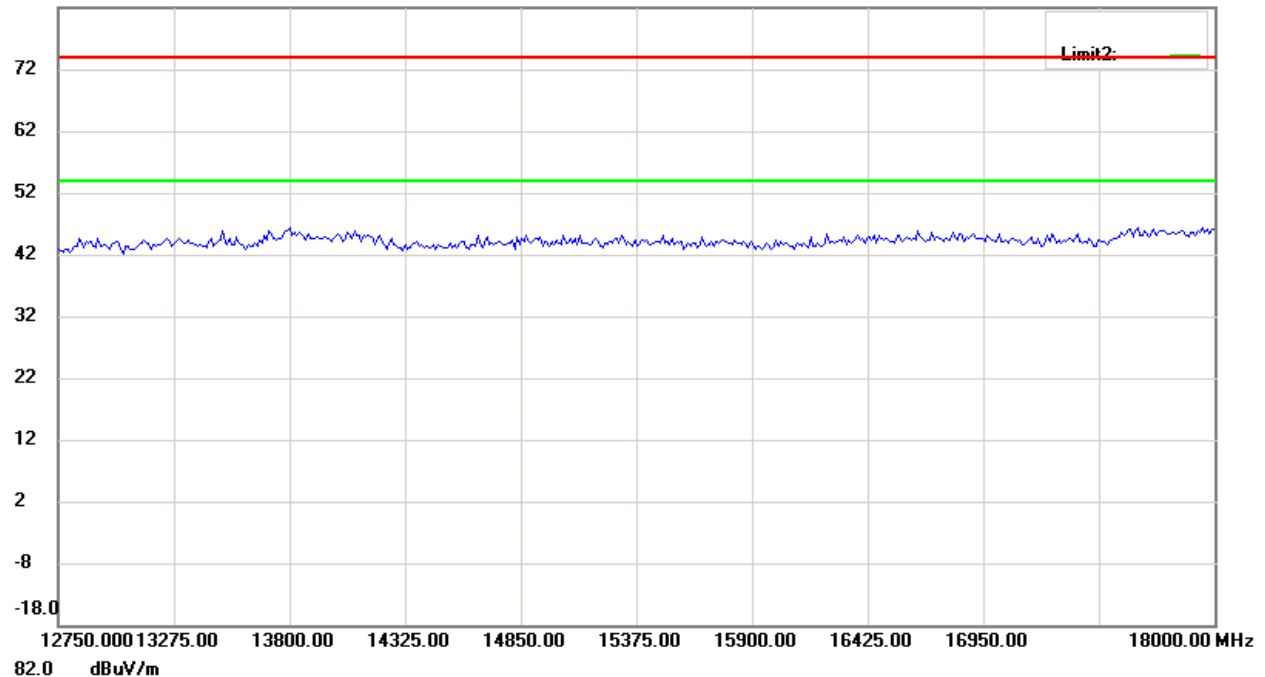


# Worldwide Testing Services(Taiwan) Co., Ltd.

Registration number: W6M20908-9998-P-15

FCC ID: R48WT50

82.0 dBuV/m



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

Note:

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

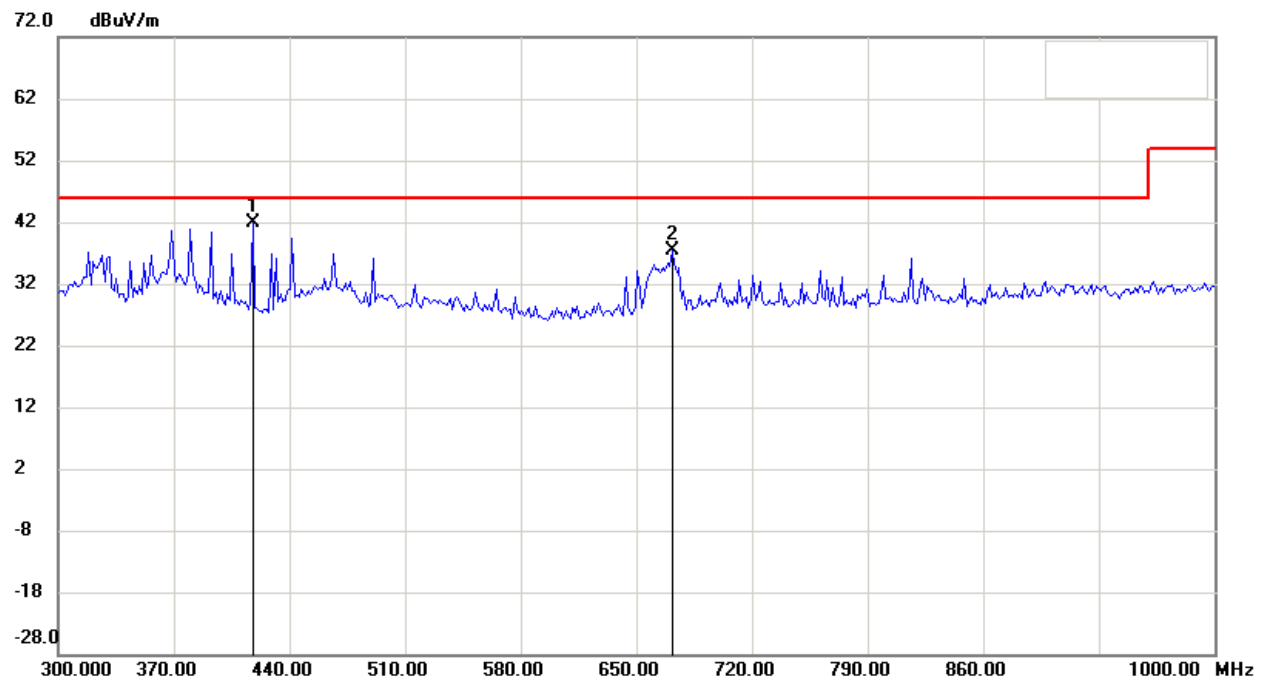
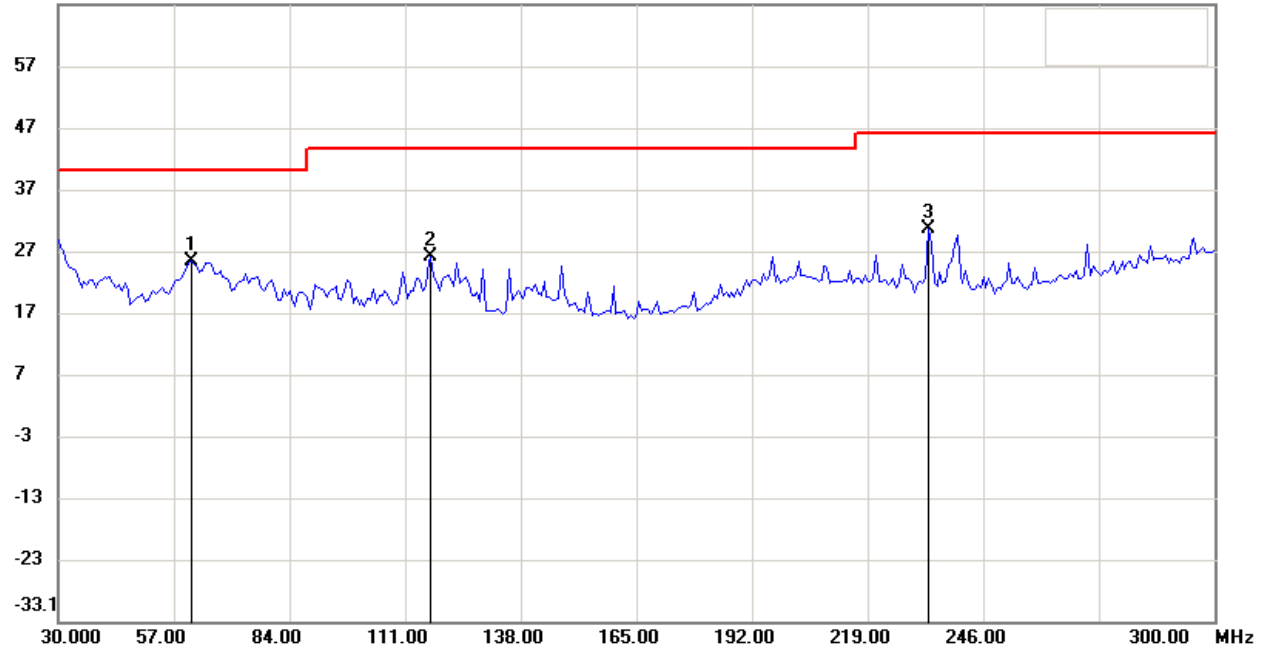
Registration number: W6M20908-9998-P-15

FCC ID: R48WT50

Receiver \_ 2442.2 MHz

Antenna Polarization H

66.9 dBuV/m



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

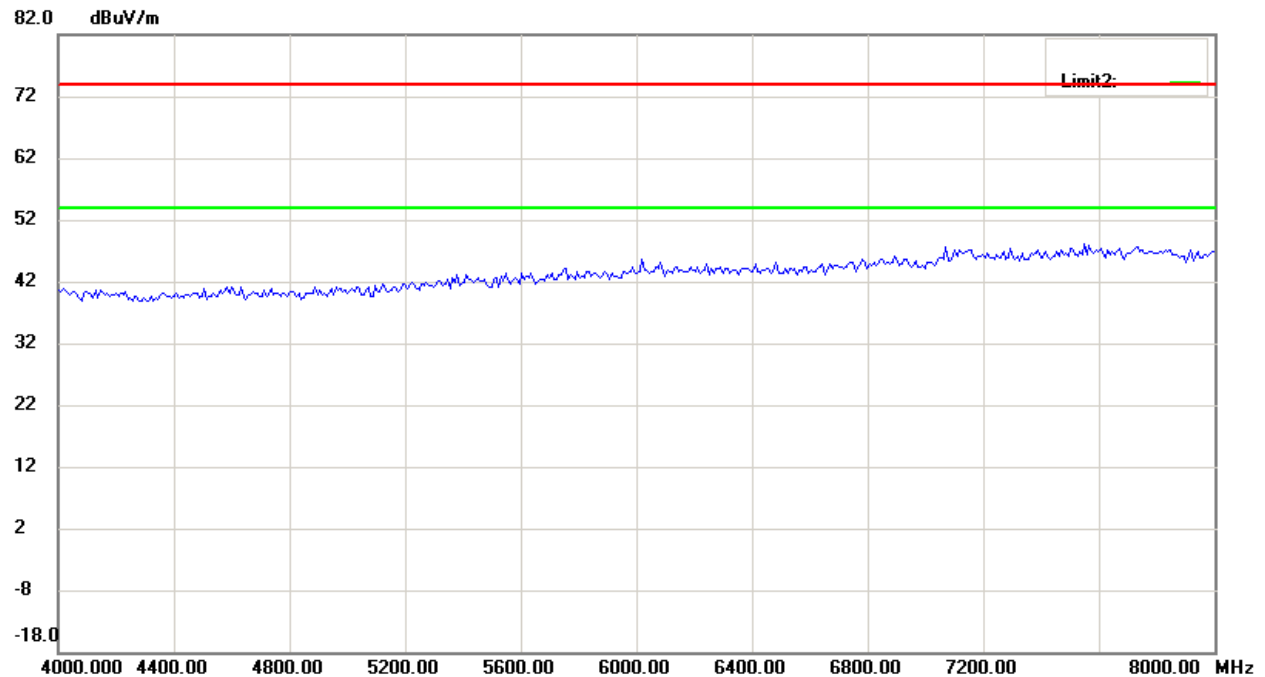
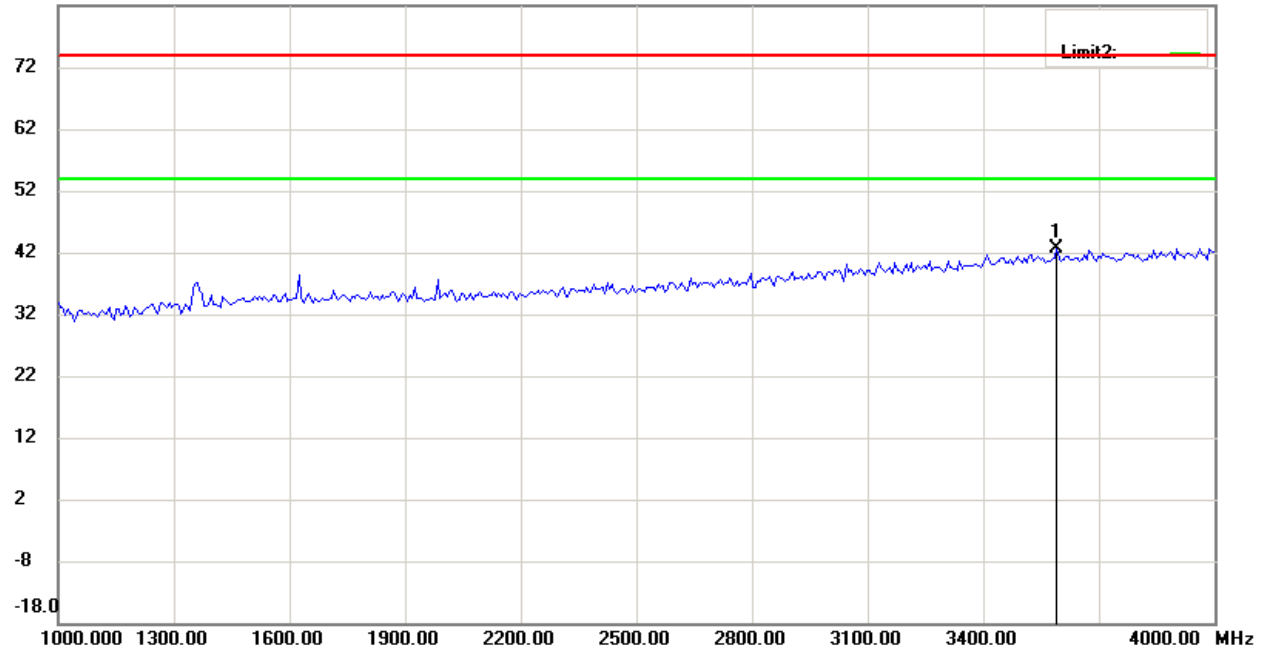


# Worldwide Testing Services(Taiwan) Co., Ltd.

Registration number: W6M20908-9998-P-15

FCC ID: R48WT50

82.0 dBuV/m



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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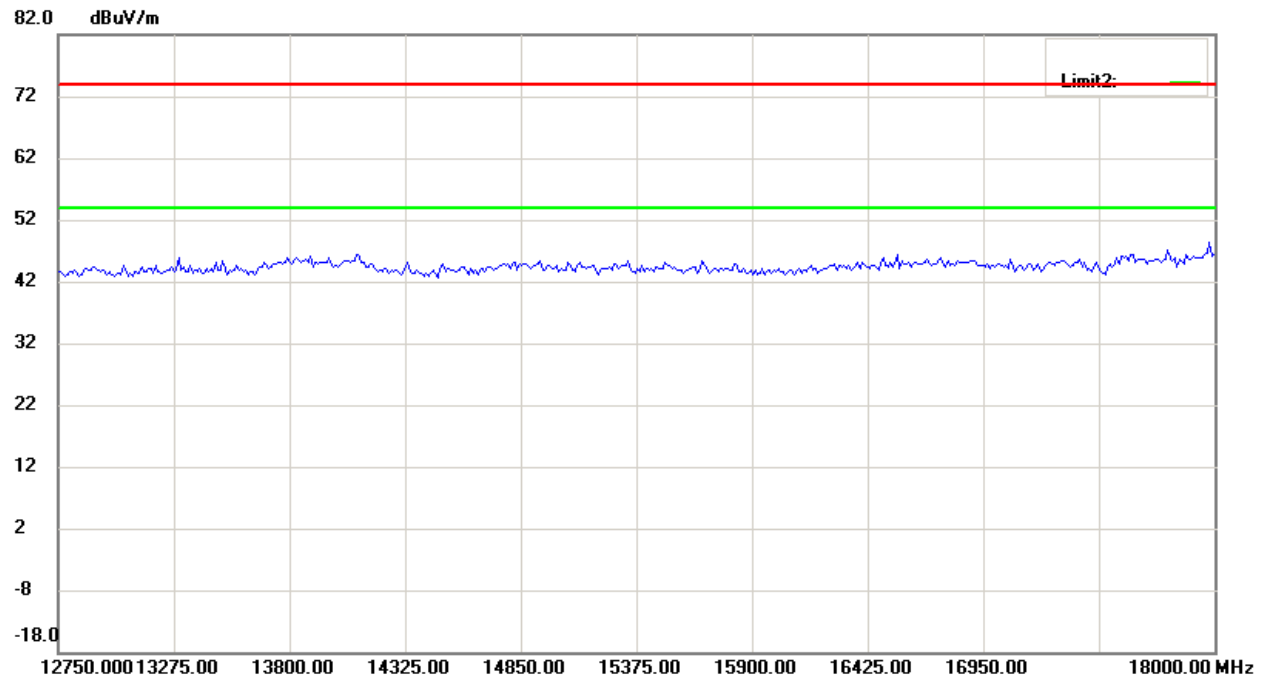
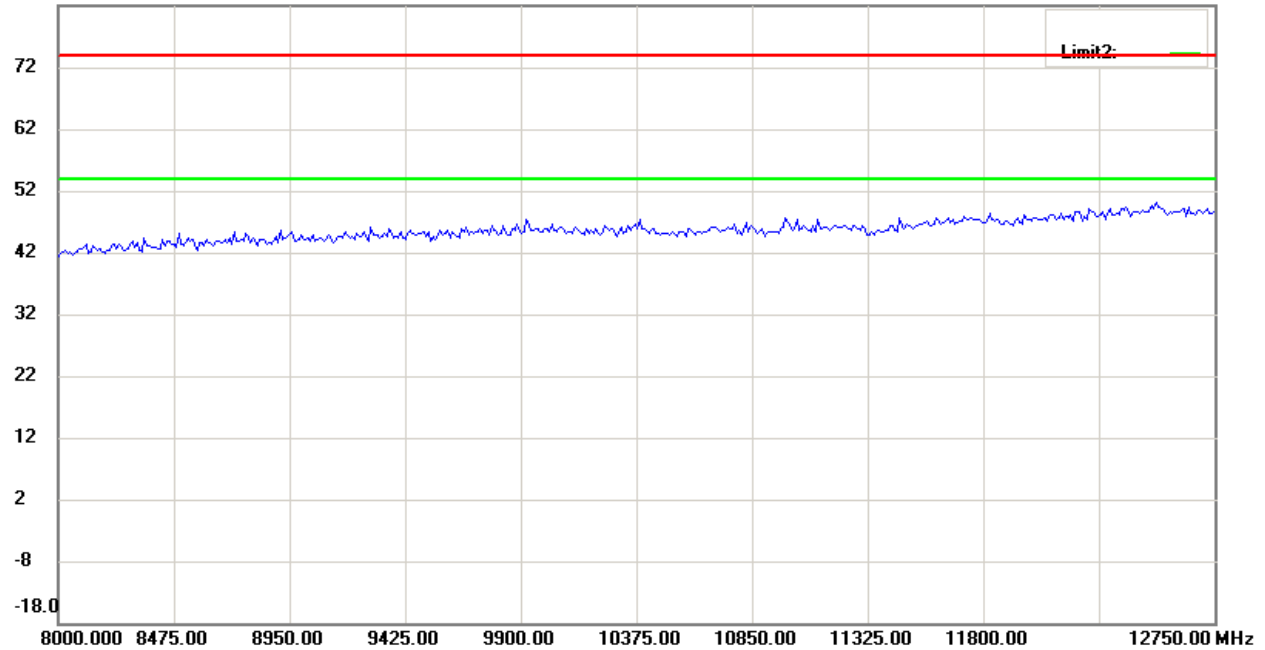


# Worldwide Testing Services(Taiwan) Co., Ltd.

Registration number: W6M20908-9998-P-15

FCC ID: R48WT50

82.0 dBuV/m



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

Note:

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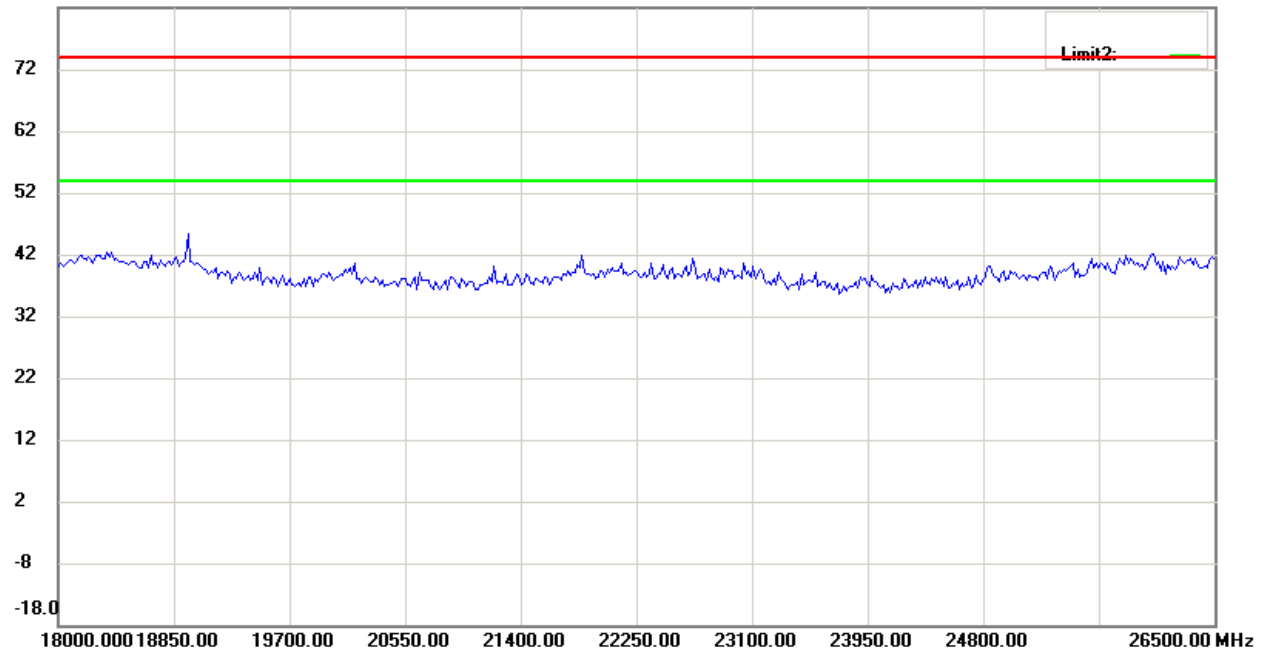


# Worldwide Testing Services(Taiwan) Co., Ltd.

Registration number: W6M20908-9998-P-15

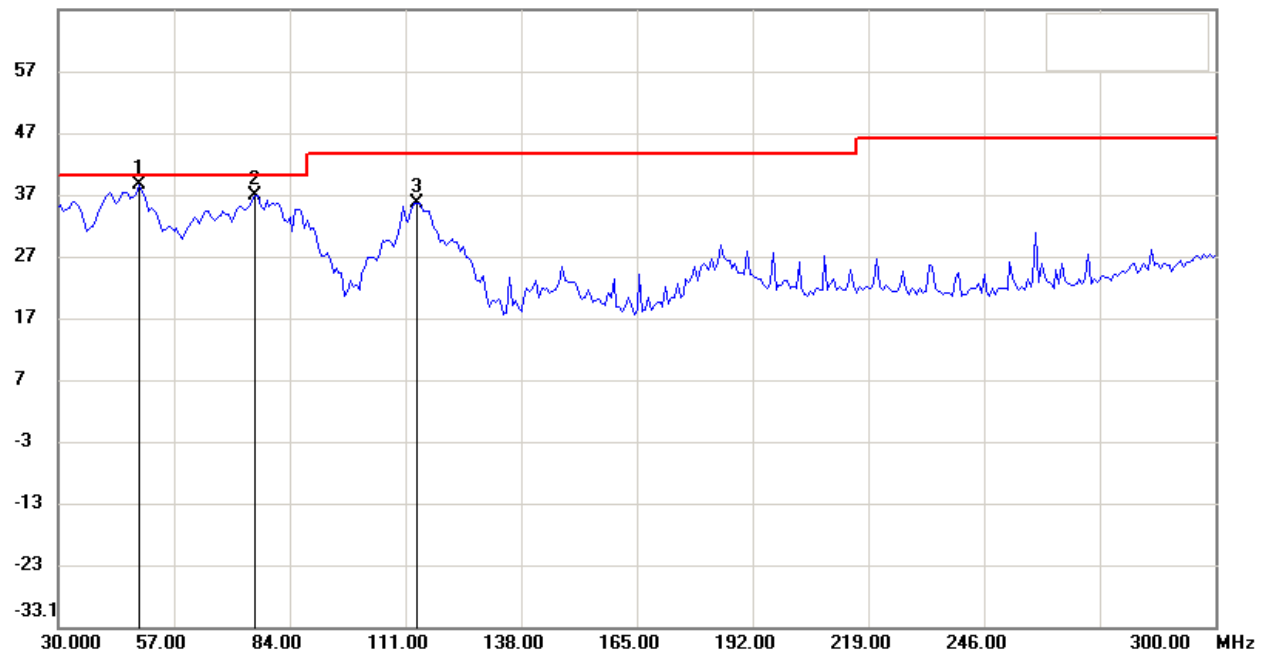
FCC ID: R48WT50

82.0 dBuV/m



## Antenna Polarization V

66.9 dBuV/m



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.

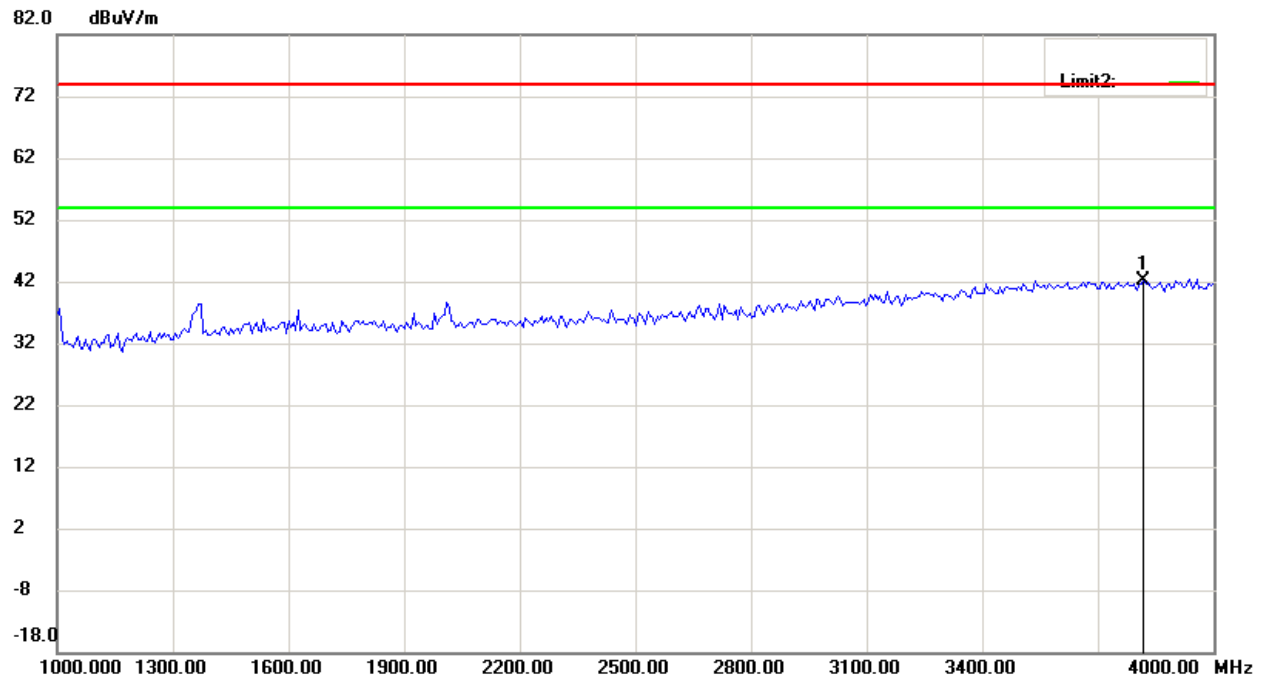
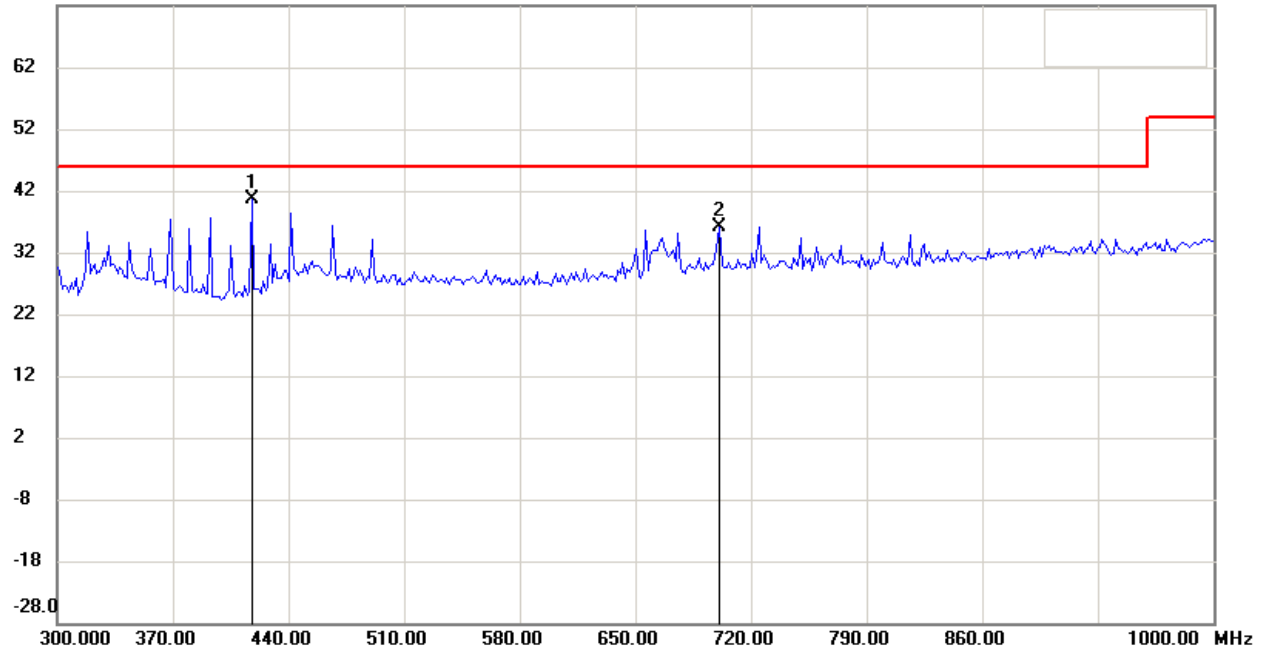


# Worldwide Testing Services(Taiwan) Co., Ltd.

Registration number: W6M20908-9998-P-15

FCC ID: R48WT50

72.0 dBuV/m



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.

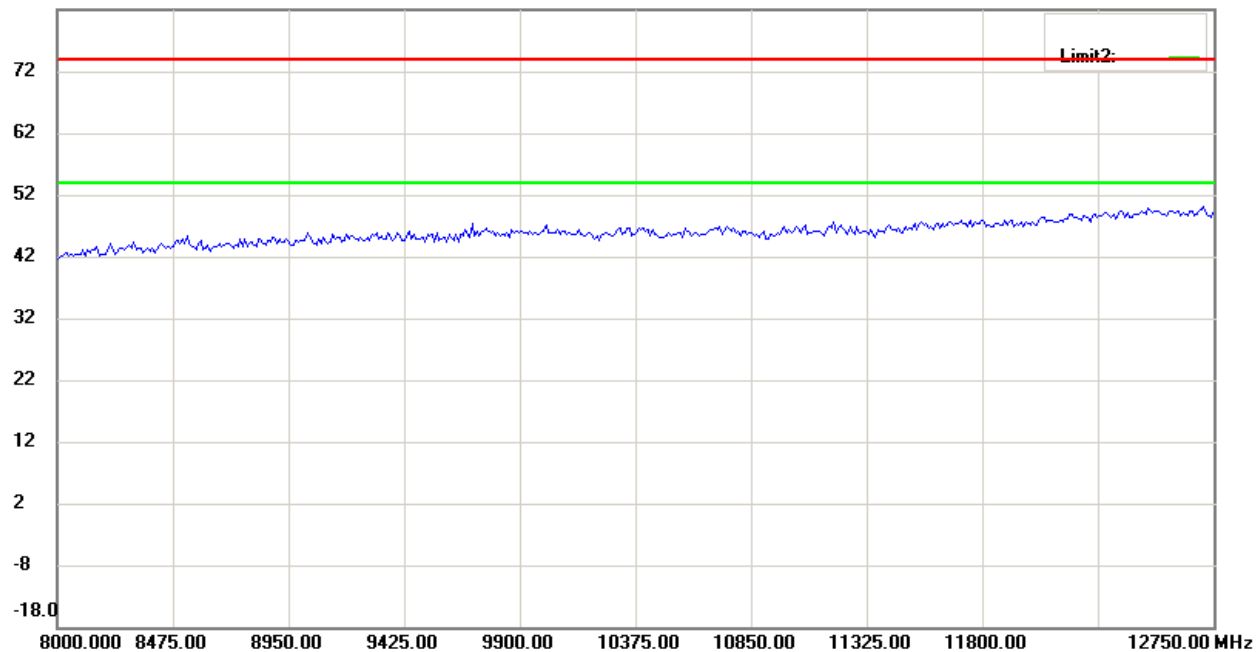
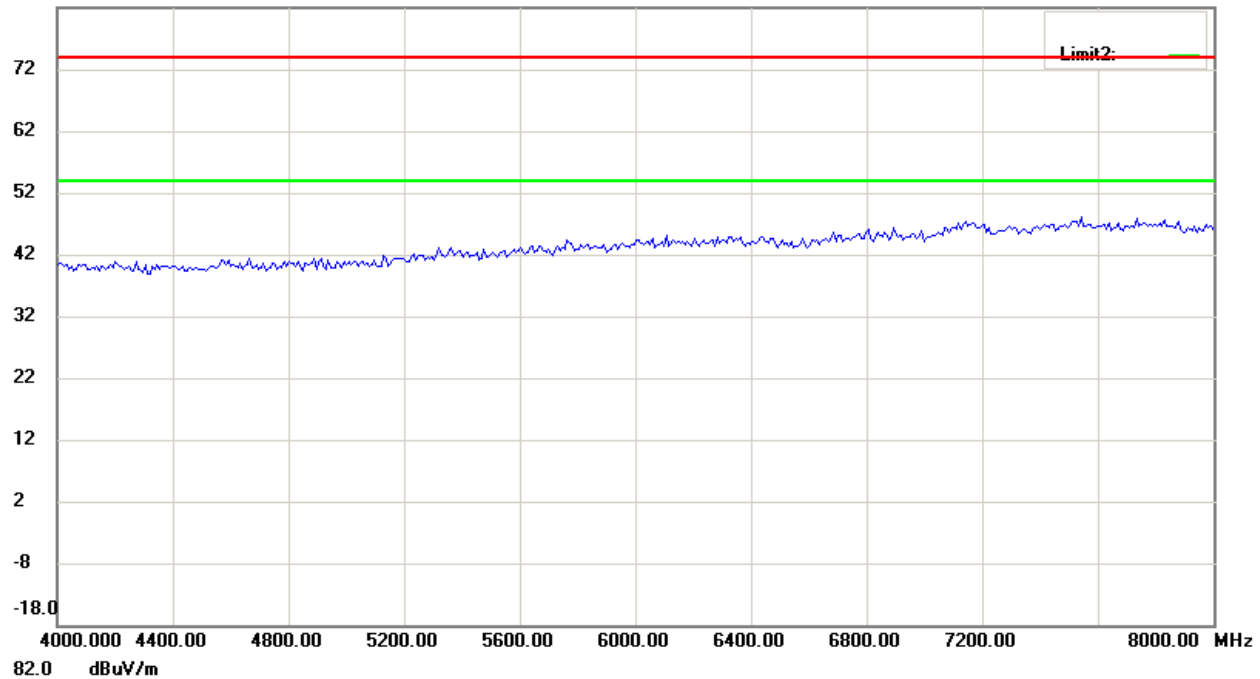


# Worldwide Testing Services(Taiwan) Co., Ltd.

Registration number: W6M20908-9998-P-15

FCC ID: R48WT50

82.0 dBuV/m



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.



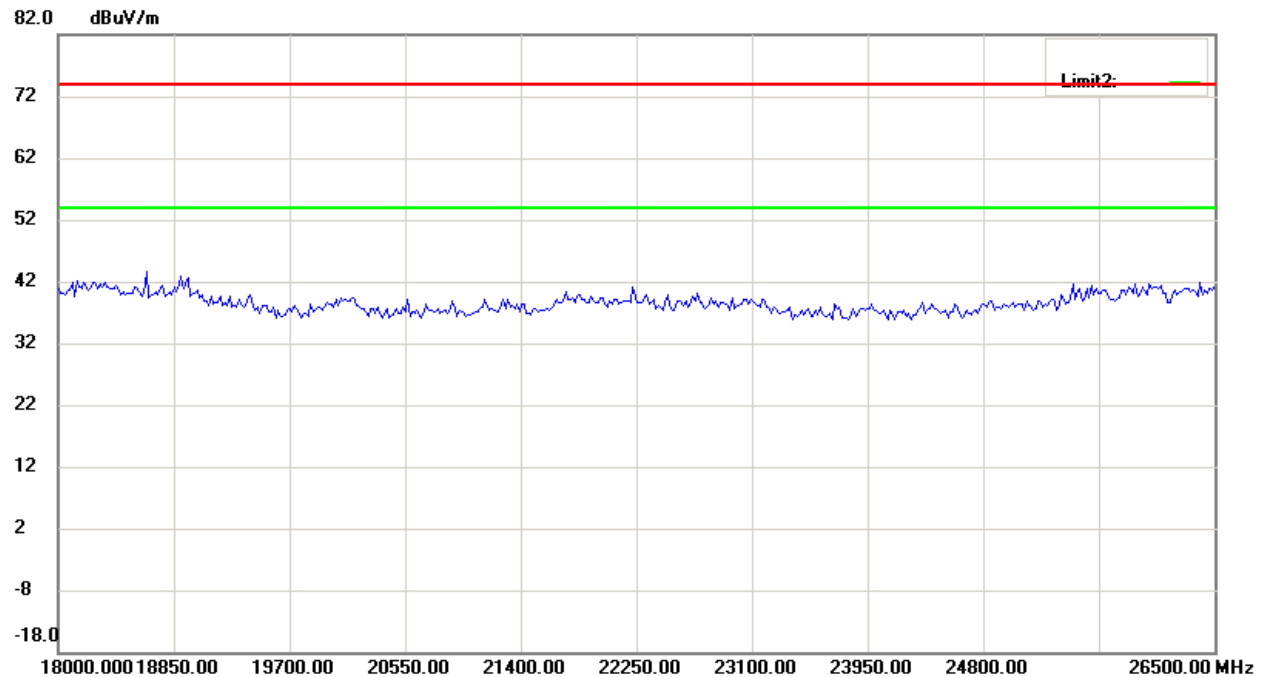
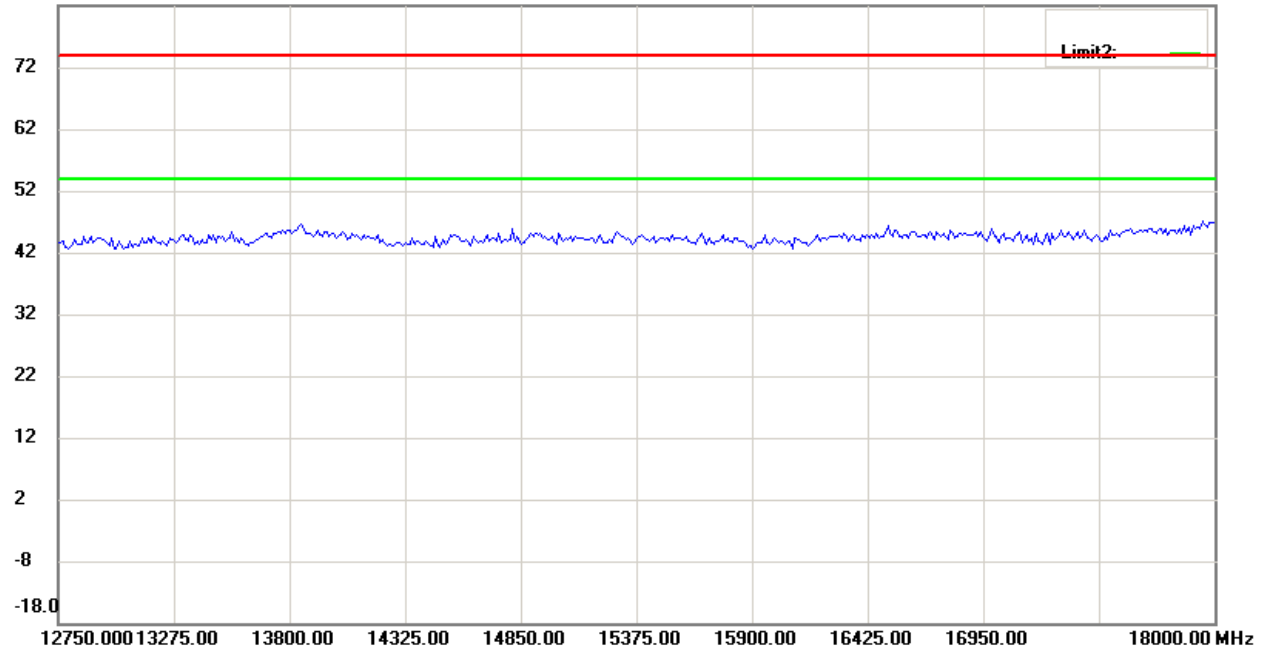


# Worldwide Testing Services(Taiwan) Co., Ltd.

Registration number: W6M20908-9998-P-15

FCC ID: R48WT50

82.0 dBuV/m



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

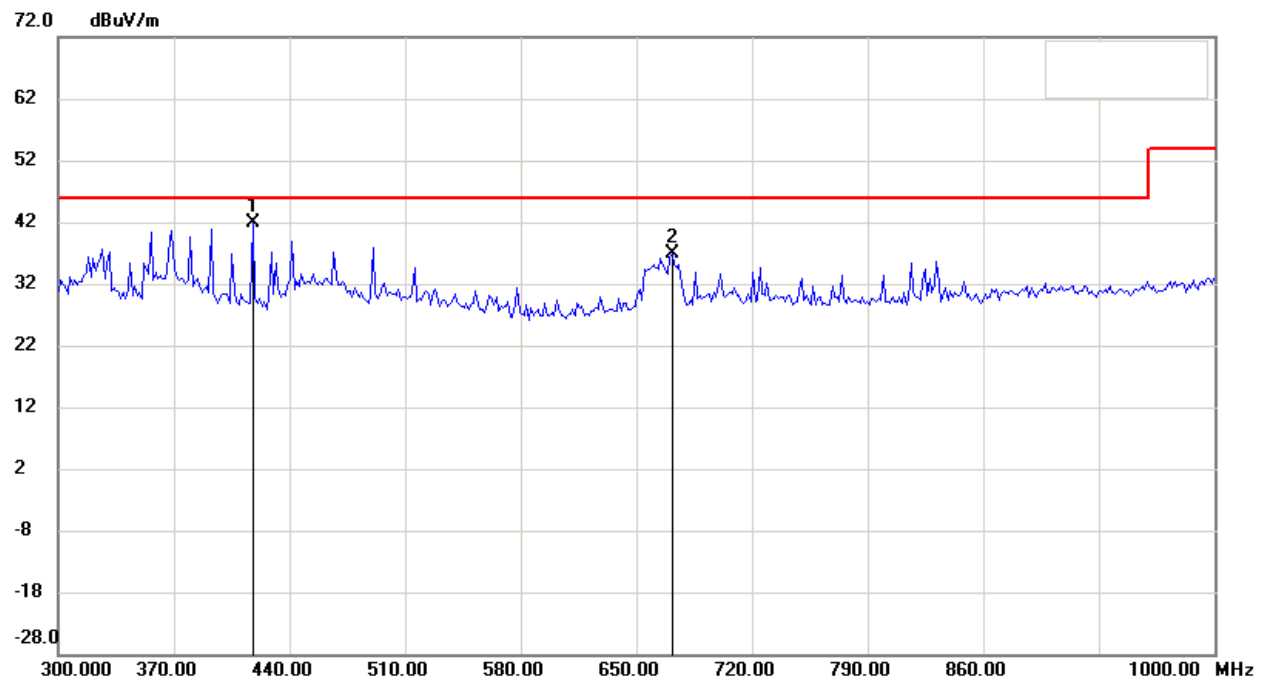
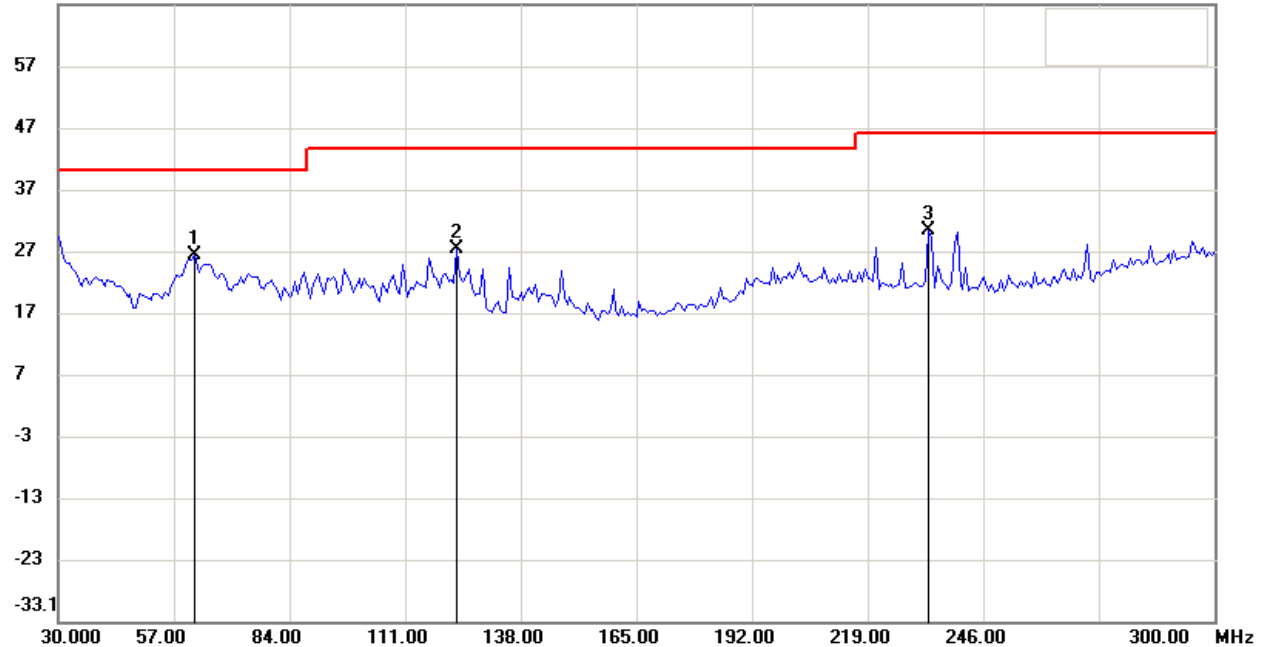
Registration number: W6M20908-9998-P-15

FCC ID: R48WT50

Receiver \_ 2479.1 MHz

Antenna Polarization H

66.9 dBuV/m



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.

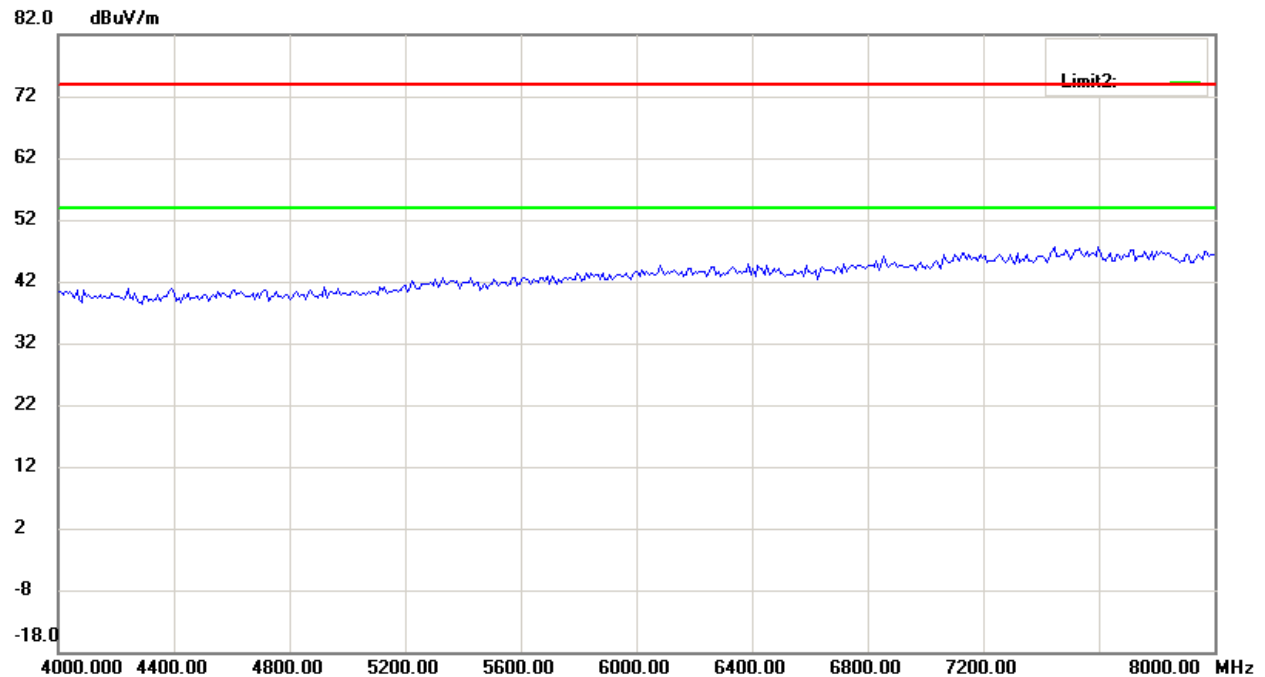
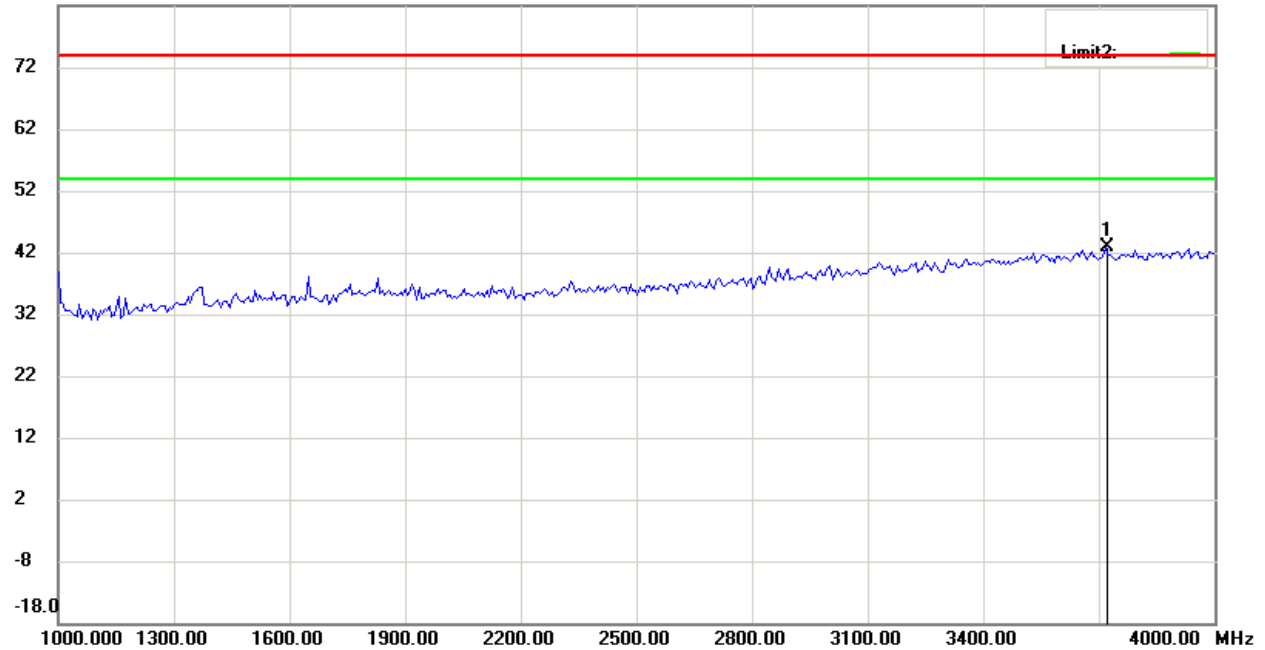


# Worldwide Testing Services(Taiwan) Co., Ltd.

Registration number: W6M20908-9998-P-15

FCC ID: R48WT50

82.0 dBuV/m



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.

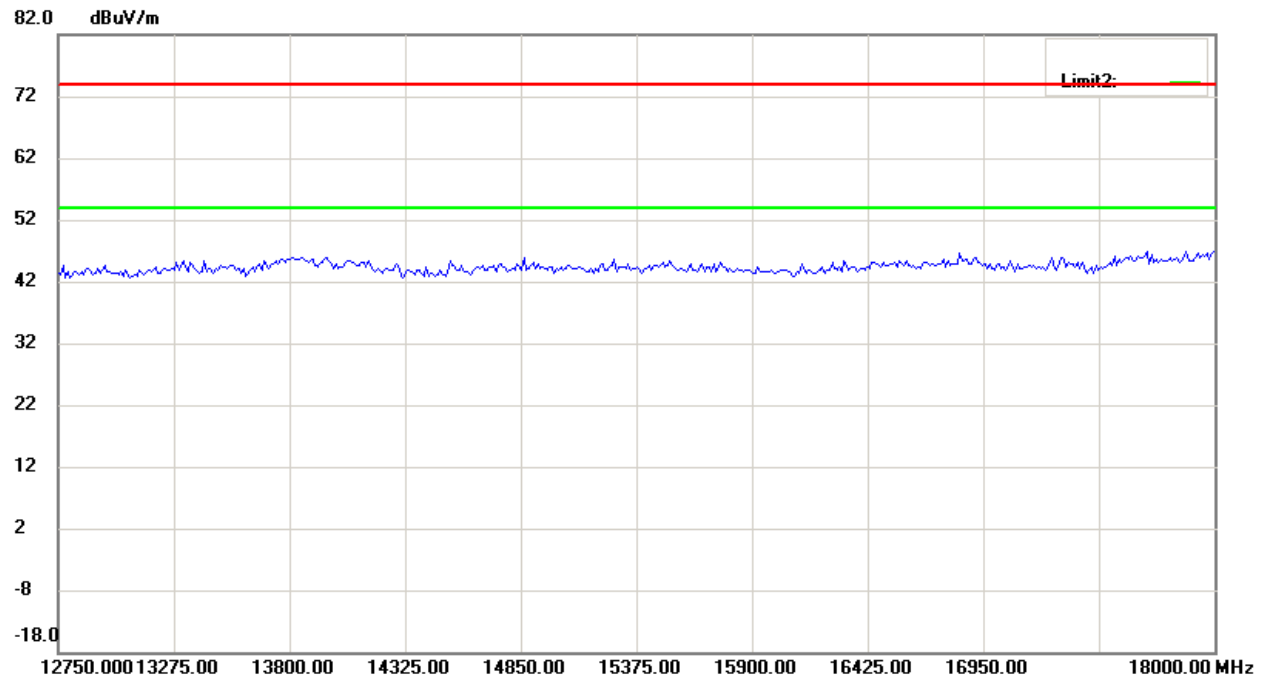
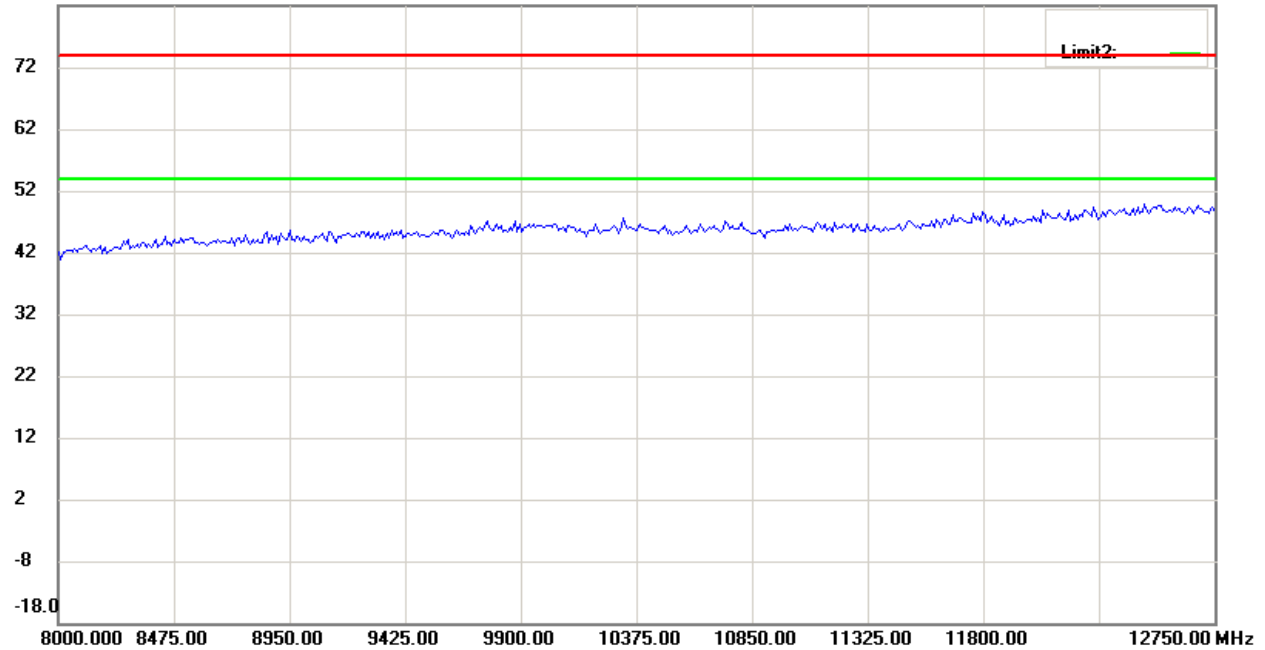


# Worldwide Testing Services(Taiwan) Co., Ltd.

Registration number: W6M20908-9998-P-15

FCC ID: R48WT50

82.0 dBuV/m



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

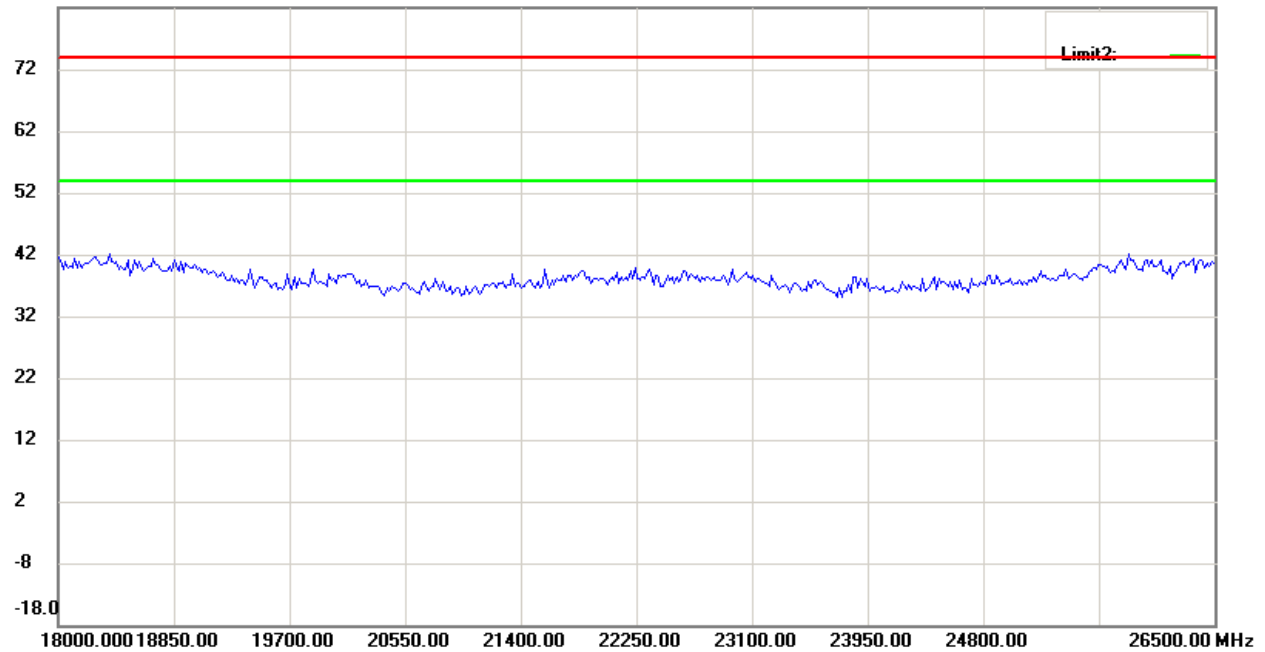


# Worldwide Testing Services(Taiwan) Co., Ltd.

Registration number: W6M20908-9998-P-15

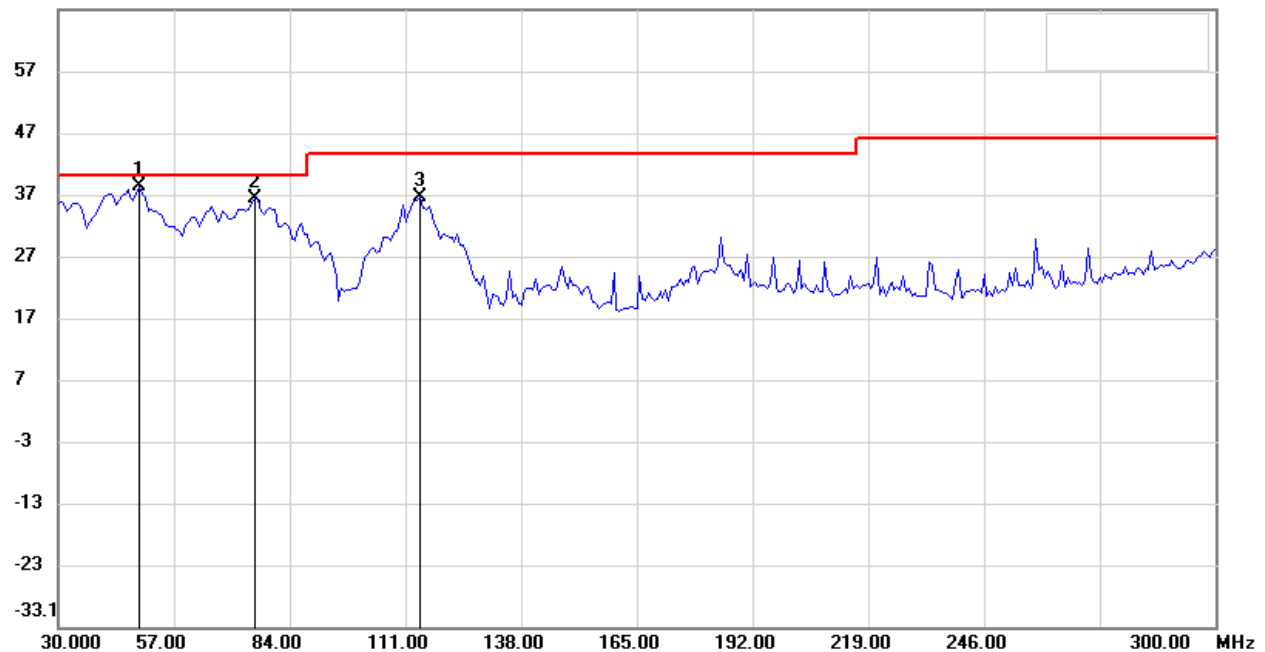
FCC ID: R48WT50

82.0 dBuV/m



## Antenna Polarization V

66.9 dBuV/m



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.

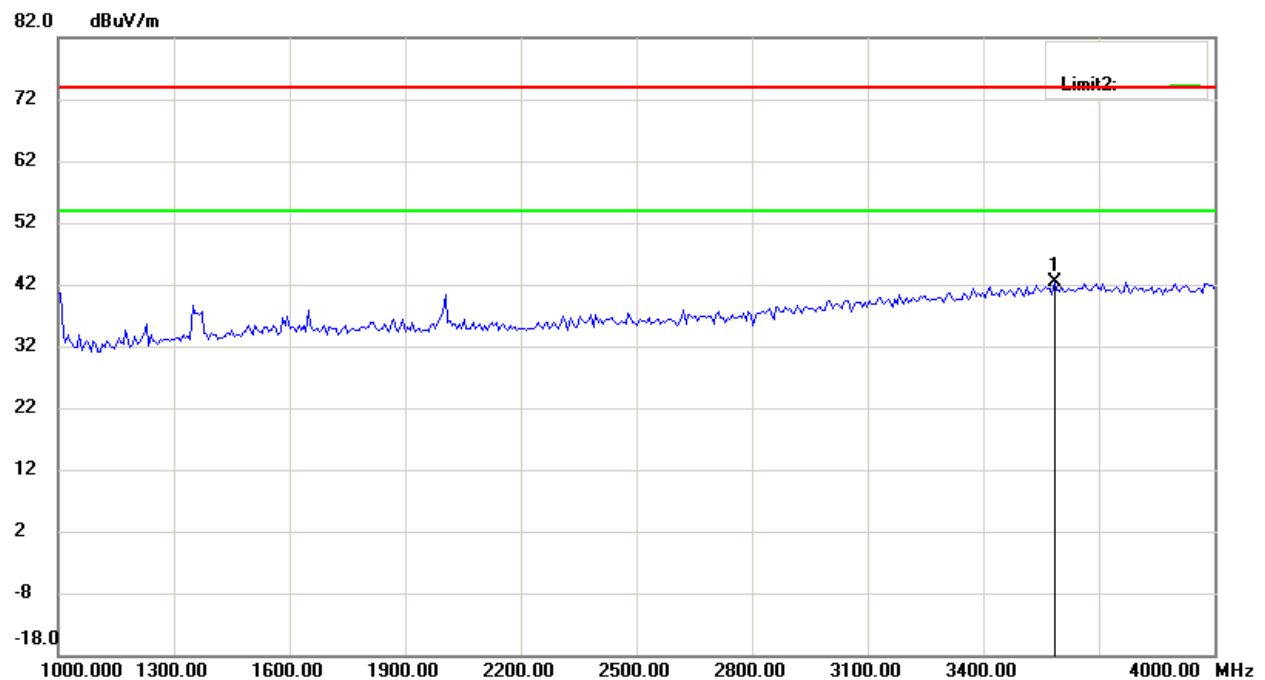
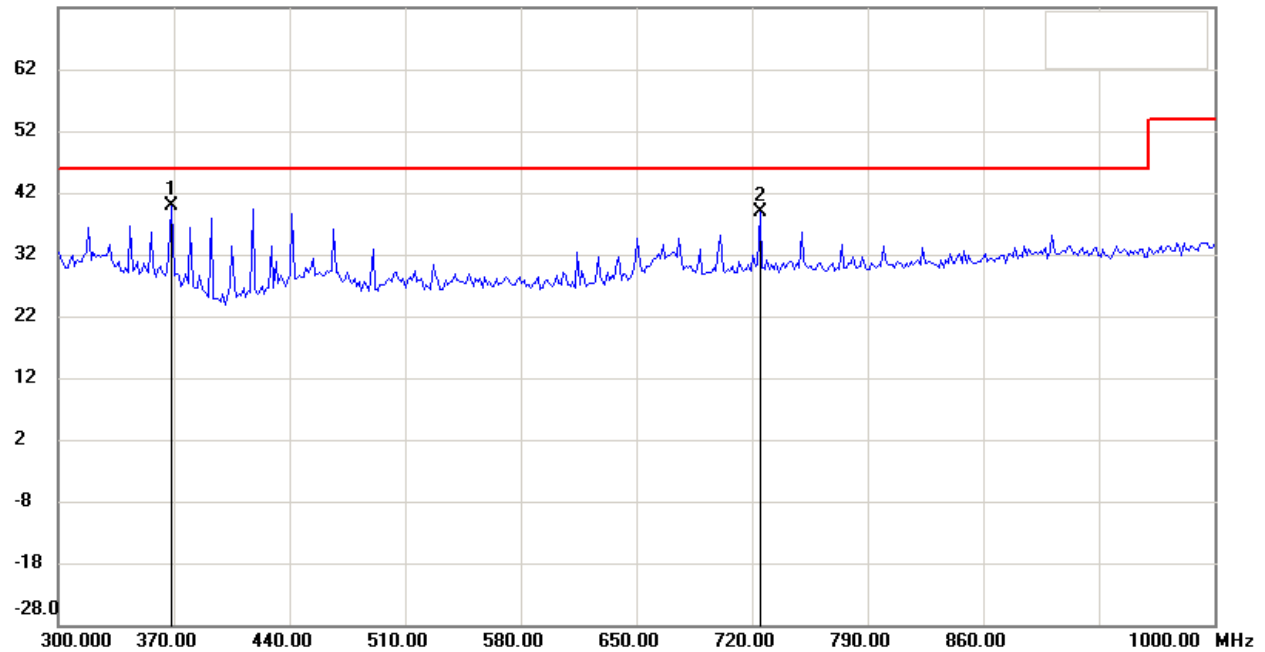


# Worldwide Testing Services(Taiwan) Co., Ltd.

Registration number: W6M20908-9998-P-15

FCC ID: R48WT50

72.0 dBuV/m



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.

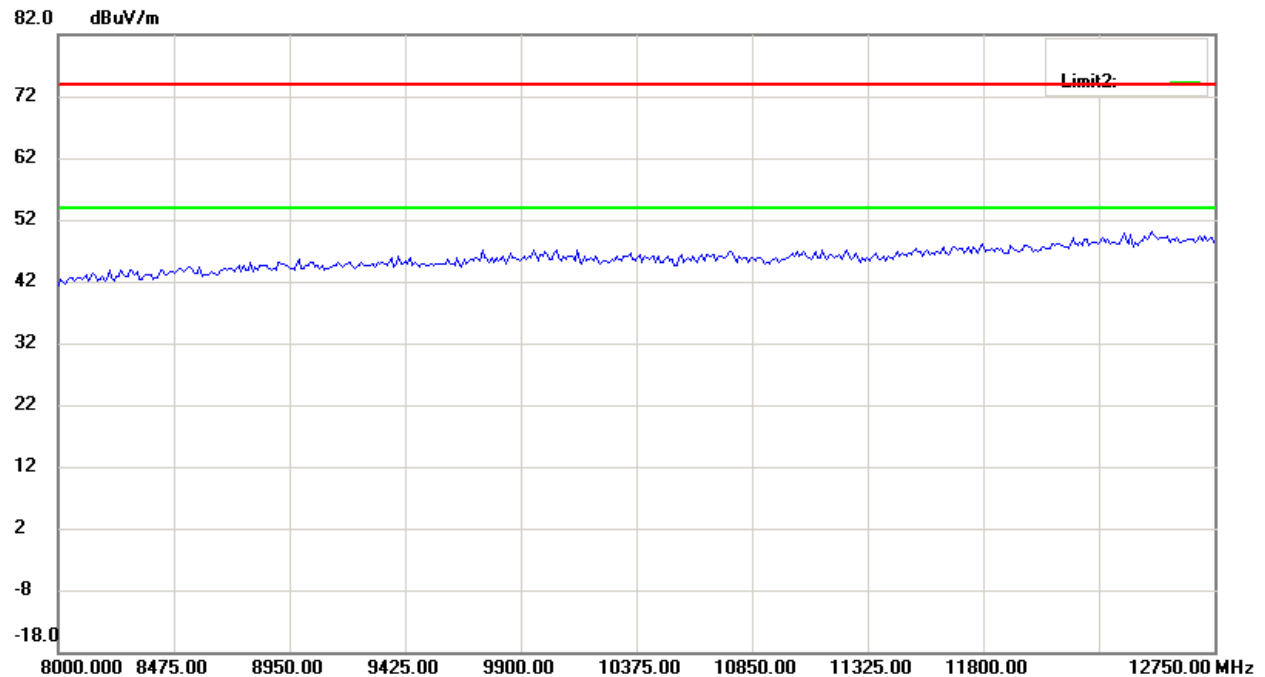
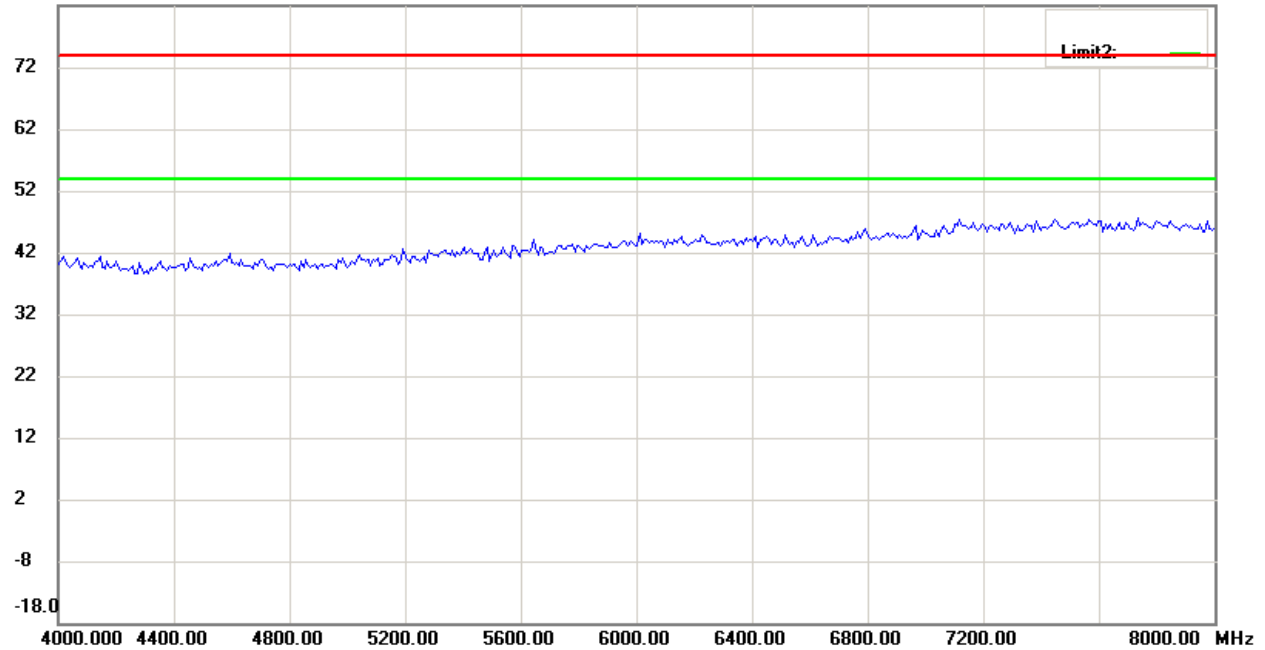


# Worldwide Testing Services(Taiwan) Co., Ltd.

Registration number: W6M20908-9998-P-15

FCC ID: R48WT50

82.0 dBuV/m



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.

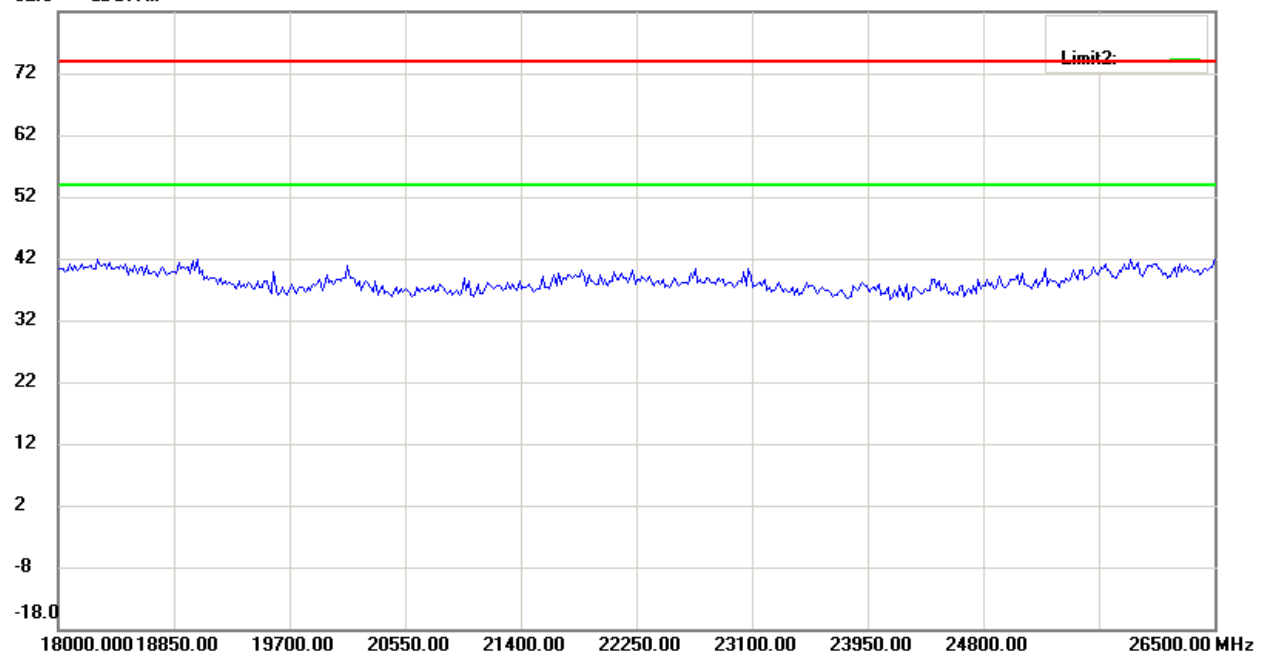
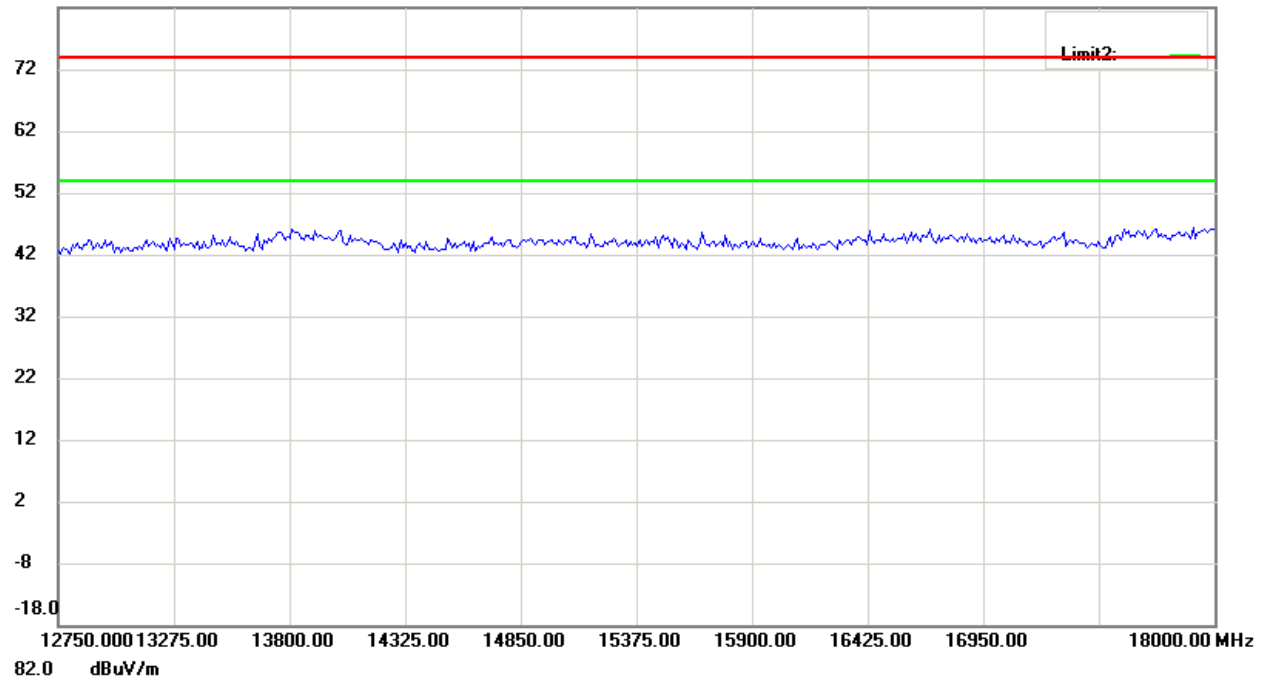


# Worldwide Testing Services(Taiwan) Co., Ltd.

Registration number: W6M20908-9998-P-15

FCC ID: R48WT50

82.0 dBuV/m



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





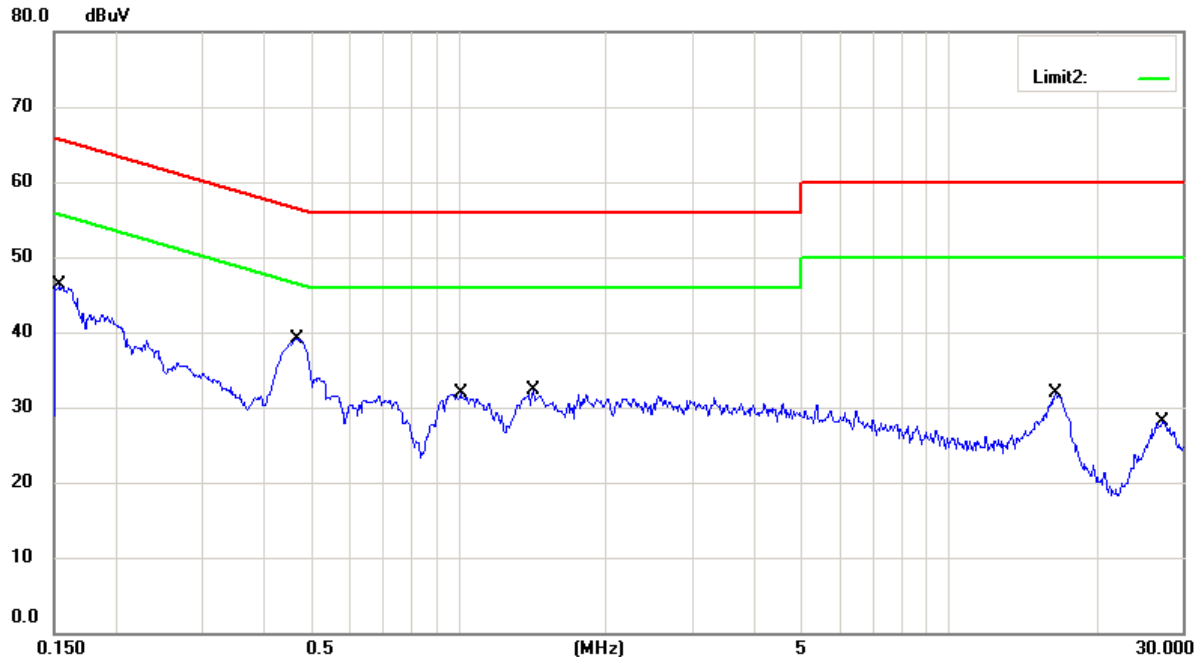
# Worldwide Testing Services(Taiwan) Co., Ltd.

Registration number: W6M20908-9998-P-15

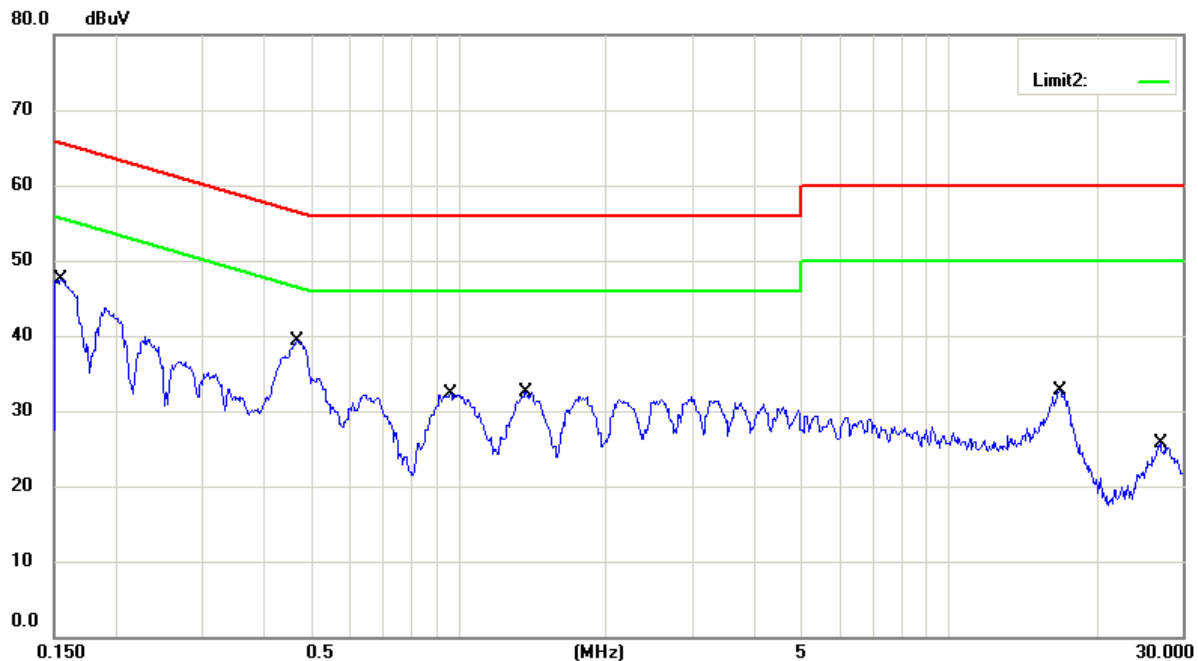
FCC ID: R48WT50

## Conducted Emission

### LISN N



### LISN L1



Up Line: QP Limit Line

Down Line: Ave Limit Line

Note:

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