

FCC PART 15 SUBPART C TEST REPORT

for

Embedded computer

Model No.: DSA2XX

FCC ID: S8C-DSA2LS

of

Applicant: Shuttle Inc.

**Address: No. 30, Lane 76, Rei Kuang Rd. Nei-Hu Dist., Taipei
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.: W6M21404-14062-C-1

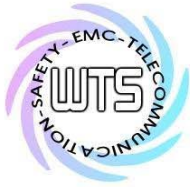


TABLE OF CONTENTS

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	4
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	EQUIVALENT ISOTROPIC RADIATED POWER	19
3.3	RF EXPOSURE COMPLIANCE REQUIREMENTS	19
3.4	TRANSMITTER RADIATED EMISSIONS IN RESTRICTED BANDS	20
3.5	SPURIOUS EMISSIONS (TX)	21
3.6	RADIATED EMISSION ON THE BAND EDGE	31
3.7	MINIMUM 6 dB BANDWIDTH	36
3.8	PEAK POWER SPECTRAL DENSITY	43
3.9	RADIATED EMISSION FROM DIGITAL PART	50
3.10	POWER LINE CONDUCTED EMISSION	51
	APPENDIX	54



Worldwide Testing Services(Taiwan) Co., Ltd.

Registration number: W6M21404-14062-C-1

FCC ID: S8C-DSA2LS

1 General Information

1.1 Notes

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

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

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

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

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

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

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

Specific Conditions:

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

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

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

Tester:

May 15, 2014

Spencer Yang

Date

WTS-Lab.

Name

Signature

Technical responsibility for area of testing:

May 15, 2014

Kevin Wang

Date

WTS

Name

Signature



Worldwide Testing Services(Taiwan) Co., Ltd.

Registration number: W6M21404-14062-C-1

FCC ID: S8C-DSA2LS

1.2 Testing laboratory

1.2.1 Location

OATS

No.5-1, Lishui, Shuang Sing Village,

Wanli Dist., New Taipei City 207,

Taiwan (R.O.C.)

3 meter semi-anechoic chamber

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

TEL:886-2-6613-0228

FAX:886-2-2791-5046

Company

Worldwide Testing Services(Taiwan) Co., Ltd.

6F, NO. 58, LANE 188, RUEY-KUANG RD.

NEIHU, TAIPEI 114, TAIWAN R.O.C.

Tel : 886-2-66068877

Fax : 886-2-66068879

1.2.2 Details of accreditation status

Accredited testing laboratory

A2LA accredited number: 2732.01

FCC filed test laboratory Reg. No. 930600

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



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: Shuttle Inc

Street: NO.30, Lane 76, Rei Kuang Rd. Nei-Hu Dist.,

Town: Taipei,

Country: Taiwan

Telephone: +886-2-87926168

Fax: +886-2-27936986



Registration number: W6M21404-14062-C-1

FCC ID: S8C-DSA2LS

1.4 Application details

Date of receipt of test item: April 02, 2014

Date of test: from April 03, 2014 to May 14, 2014

1.5 General information of Test item

Type of test item: Embedded computer

Model Number: DSA2XX

Brand Name: Shuttle

Multi-listing model number: ./.

Photos: see Appendix

Technical data

Frequency band: 2.4 GHz – 2.4835 GHz

802.11b, g, n 20MHz

Frequency (ch 1 or A): 2.412 GHz

Frequency (ch 6 or B): 2.437 GHz

Frequency (ch 11 or C): 2.462 GHz

802.11n 40MHz

Frequency (ch 1 or A): 2.422 GHz

Frequency (ch 4 or B): 2.437 GHz

Frequency (ch 7 or C): 2.452 GHz

Number of Channels: 802.11b, g, n 20MHz: 11

802.11n 40MHz: 7

Operation modes: duplex

Modulation Type: DSSS / OFDM

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

Type of Antenna: Dipole Antenna

Antenna gain: 4.87 dBi

Power supply: 100-240V~/ 50-60Hz/ 2A

Emission designator: Mode A (802.11b): DSSS: 17M6G1D

Mode B (802.11g): OFDM: 18M4D1D

Mode C (802.11n 20MHz): OFDM: 19M2D1D

Mode D (802.11n 40MHz): OFDM: 37M0D3D



Worldwide Testing Services(Taiwan) Co., Ltd.

Registration number: W6M21404-14062-C-1

FCC ID: S8C-DSA2LS

Host device: none

Classification:

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

Transmitter

Unom

Mode A (DSSS)

Power (ch 1 or A): Conducted: 14.02 dBm

Power (ch 6 or B): Conducted: 19.64 dBm

Power (ch 11 or C): Conducted: 16.65 dBm

Mode B (OFDM)

Power (ch 1 or A): Conducted: 14.45 dBm

Power (ch 6 or B): Conducted: 18.13 dBm

Power (ch 11 or C): Conducted: 11.89 dBm

Mode C (OFDM)

Power (ch 1 or A): Conducted: 14.21 dBm

Power (ch 6 or B): Conducted: 17.99 dBm

Power (ch 11 or C): Conducted: 12.28 dBm

Mode D (OFDM)

Power (ch 1 or A): Conducted: 16.33 dBm

Power (ch 4 or B): Conducted: 18.60 dBm

Power (ch 7 or C): Conducted: 16.69 dBm

Manufacturer: (if applicable)

Name: ./.

Street: ./.

Town: ./.

Country: ./.

1.6 Test standards

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



Registration number: W6M21404-14062-C-1

FCC ID: S8C-DSA2LS

2 Technical test

2.1 Summary of test results

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



or

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



2.2 Test environment

Temperature: 23 °C

Relative humidity content: 20 ... 75 %

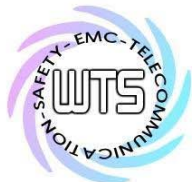
Air pressure: 86 ... 103 kPa

Power supply: 100-240V~/ 50-60Hz/ 2A

Extreme conditions parameters: ./.

Note:

1. This test report is valid in connection to the model has been tested, any modification to the product which is different from the test model will avoid the certification of the test report.
2. This test report shall always be duplicated in full pages unless the written approval of the testing laboratory is obtained.
3. The X in model number is representing different 0-9, A-Z , blank for marketing purpose.



Registration number: W6M21404-14062-C-1

FCC ID: S8C-DSA2LS

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	2013/9/2	2014/9/1
ETSTW-CE 003	AC POWER SOURCE	APS-9102	D161137	GW	Function Test	
ETSTW-CE 008	HF-EICHLITUNG RF STEP ATTENUATOR 139dB DPSP	334.6010.02	844581/024	R&S	Function Test	
ETSTW-CE 009	TEMP.&HUMIDITY CHAMBER	GTH-225-40-1P-U	MAA0305-009	GIANT FORCE	2013/7/10	2014/7/9
ETSTW-CE 016	TWO-LINE V-NETWORK	ENV216	100050	R&S	2013/10/28	2014/10/27
ETSTW-RE 004	EMI TEST RECEIVER	ESI 40	832427/004	R&S	2013/9/2	2014/9/1
ETSTW-RE 005	EMI TEST RECEIVER	ESVS10	843207/020	R&S	2013/9/2	2014/9/1
ETSTW-RE 012	TUNABLE BANDREJECT FILTER	D.C 0309	146	K&L	Function Test	
ETSTW-RE 013	TUNABLE BANDREJECT FILTER	D.C 0336	397	K&L	Function Test	
ETSTW-RE 018	MICROWAVE HORN ANTENNA	AT4560	27212	AR	2013/10/15	2014/10/14
ETSTW-RE 027	Passive Loop Antenna	6512	00034563	ETS-Lindgren	2013/7/3	2014/7/2
ETSTW-RE 030	Double-Ridged Guide Horn Antenna	3117	00035224	EMCO	2014/2/25	2015/2/24
ETSTW-RE 045	ESA-E SERIES SPECTRUM ANALYZER	E4404B	MY45111242	Agilent	Pre-test Use	
ETSTW-RE 049	TRILOG Super Broadband test Antenna	VULB 9160	9160-3185	Schwarzbeck	2014/2/18	2015/2/17
ETSTW-RE 050	Attenuator 10dB	50HF-010-1	None	JFW	2014/3/3	2015/3/2
ETSTW-RE 051	Attenuator 6dB	50HF-006-1	None	JFW	2014/3/3	2015/3/2
ETSTW-RE 053	Attenuator 3dB	50HF-003-1	None	JFW	2014/3/3	2015/3/2
ETSTW-RE 055	SPECTRUM ANALYZER	FSU 26	200074	R&S	2013/5/31	2014/5/30
ETSTW-RE 060	Attenuator 30dB	5015-30	F651012z-01	ATM	2014/3/3	2015/3/2
ETSTW-RE 062	Amplifier Module	CHC 2	None	KMIC	2013/11/27	2014/11/26
ETSTW-RE 064	Bluetooth Test Set	MT8852B-042	6K00005709	Anritsu	Function Test	
ETSTW-RE 069	Double-Ridged Guide Horn Antenna	3117	00069377	EMCO	Function Test	
ETSTW-RE 072	CELL SITE TEST SET	8921A	3339A00375	HP	2013/10/7	2014/10/6
ETSTW-RE 088	SOLID STATE AMPLIFIER	KMA180265A01	99057	KMIC	2013/10/11	2014/10/10
ETSTW-RE 099	DC Block	50DB-007-1	None	JFW	2014/3/3	2015/3/2
ETSTW-RE 106	Humidity Temperature Meter	TES-1366	091011113	TES	2013/12/04	2014/12/03
ETSTW-RE 111	TRILOG Super Broadband test Antenna	VULB 9160	9160-3309	Schwarz beck	2013/12/27	2014/12/26
ETSTW-RE 112	AC POWER SOURCE	TFC-1005	None	T-Power	Function test	
ETSTW-RE 115	2.4GHz Notch Filter	N0124411	473874	MICROWAVE CIRCUITS	2014/1/10	2015/1/09
ETSTW-RE 120	RF Player	MP9200	MP9210-111022	ADIVIC	Function test	
ETSTW-RE 122	SIGNAL GENERATOR	SMF100A	102149	R&S	2013/6/28	2014/6/27
ETSTW-RE 125	5GHz Notch filter	5NSL11-5200/E221.3-O/O	1	K&L Microwave	2013/8/16	2014/8/15



Worldwide Testing Services(Taiwan) Co., Ltd.

Registration number: W6M21404-14062-C-1

FCC ID: S8C-DSA2LS

ETSTW-RE 126	5GHz Notch filter	5NSL11-5800/E221.3-O/O	1	K&L Microwave	2013/8/16	2014/8/15
ETSTW-RE 127	RF Switch Box	RFS-01	None	WTS	2014/3/3	2015/3/2
ETSTW-RE 128	5.3GHz Notch filter	N0153001	SN487233	Microwave Circuits	2013/8/13	2014/8/12
ETSTW-RE 129	5.5GHz Notch filter	N0555984	SN487234	Microwave Circuits	2013/8/13	2014/8/12
ETSTW-RE 130	Handheld RF Spectrum Analyzer	N9340A	CN0147000204	Agilent	Pre-test Use	
ETSTW-GSM 002	Universal Radio Communication Tester	CMU 200	109439	R&S	2013/10/7	2014/10/6
ETSTW-GSM 019	Band Reject Filter	WRCTF824/849-822/851-40 /12+9SS	3	WI	2014/1/10	2015/1/09
ETSTW-GSM 020	Band Reject Filter	WRCD1747/1748-1743/1752-32/5SS	1	WI	2014/1/10	2015/1/09
ETSTW-GSM 021	Band Reject Filter	WRCD1879.5/1880.5-1875.5/1884.5-32/5SS	3	WI	2014/1/10	2015/1/09
ETSTW-GSM 022	Band Reject Filter	WRCT901.9/903.1-904.25-50/8SS	1	WI	2014/1/10	2015/1/09
ETSTW-GSM 023	Power Divider	4901.19.A	None	SUHNER	2013/9/18	2014/9/17
ETSTW-Cable 010	BNC Cable	5 M BNC Cable	None	JYE BAO CO.,LTD.	2014/2/27	2015/2/26
ETSTW-Cable 011	BNC Cable	BNC Cable 1	None	JYE BAO CO.,LTD.	Pre-test Use NCR	
ETSTW-Cable 012	N TYPE To SMA Cable	Cable 012	None	JYE BAO CO.,LTD.	2014/2/27	2015/2/26
ETSTW-Cable 016	BNC Cable	Switch Box	B Cable 1	Schwarz beck	2014/2/27	2015/2/26
ETSTW-Cable 017	BNC Cable	X Cable	B Cable 2	Schwarz beck	2014/2/27	2015/2/26
ETSTW-Cable 018	BNC Cable	Y Cable	B Cable 3	Schwarz beck	2014/2/27	2015/2/26
ETSTW-Cable 019	BNC Cable	Z Cable	B Cable 4	Schwarz beck	2014/2/27	2015/2/26
ETSTW-Cable 022	N TYPE Cable	5006	0002	JYE BAO CO.,LTD.	2014/2/19	2015/2/18
ETSTW-Cable 026	Microwave Cable	SUCOFLEX 104	279075	HUBER+SUHNER	2014/3/3	2015/3/2
ETSTW-Cable 027	Microwave Cable	SUCOFLEX 104	279083	HUBER+SUHNER	2014/3/3	2015/3/2
ETSTW-Cable 028	Microwave Cable	FA147A0015M2020	30064-2	UTIFLEX	2013/10/11	2014/10/10
ETSTW-Cable 029	Microwave Cable	FA147A0015M2020	30064-3	UTIFLEX	2013/10/11	2014/10/10
ETSTW-Cable 030	Microwave Cable	SUCOFLEX 104 (S_Cable 9)	279067	HUBER+SUHNER	2014/3/3	2015/3/2
ETSTW-Cable 031	Microwave Cable	SUCOFLEX 104 (S_Cable 10)	238092	HUBER+SUHNER	2013/11/27	2014/11/26
ETSTW-Cable 043	Microwave Cable	SUCOFLEX 104	317576	HUBER+SUHNER	2013/11/27	2014/11/26
ETSTW-Cable 047	Microwave Cable	SUCOFLEX 104	325518	HUBER+SUHNER	2013/11/27	2014/11/26
ETSTW-Cable 053	N TYPE To SMA Cable	RG142	None	JYE BAO CO.,LTD.	2014/2/19	2015/2/18
ETSTW-Cable 058	Microwave Cable	SUCOFLEX 104	none	HUBER+SUHNER	2014/2/19	2015/2/18
WTSTW-SW 002	EMI TEST SOFTWARE	EZ_EMC	None	Farad	Version ETS-03A1	



Registration number: W6M21404-14062-C-1

FCC ID: S8C-DSA2LS

2.4 General Test Procedure

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

RADIATION INTERFERENCE: The test procedure used was according to ANSI STANDARD C63.4-2009 6.4 employing a spectrum analyzer. For investigated frequency is equal to or below 1GHz, the RBW and VBW of the spectrum analyzer was 100 kHz and 100kHz respectively with an appropriate sweep speed. For investigated frequency is above 1GHz, both of RBW and VBW of the spectrum analyzer were 1 MHz with an appropriate sweep speed. The analyzer was calibrated in dB above a microvolt at the output of the antenna.

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

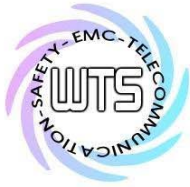
The EUT was placed on a table 80 cm high and with dimensions of 1m by 1.5m (non metallic table) and arranged according to ANSI C63.4-2009 6.3.1. The table used for radiated measurements is capable of continuous rotation. The spectrum was scanned from 30 MHz to the frequency specified as follows:

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

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

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

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



Registration number: W6M21404-14062-C-1

FCC ID: S8C-DSA2LS

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

The formula is as follows:

Average = Peak + Duty Factor

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

T = 100ms when the pulse train period is over 100 ms or the period of the pulse train.

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

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



Registration number: W6M21404-14062-C-1

FCC ID: S8C-DSA2LS

3 Test results (enclosure)

TEST CASE	Para. Number	Required	Test passed	Test failed
Peak Output Power	15.247(b)(3)	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Equivalent isotropically radiated Power	15.247(b)(3)	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Spurious Emissions radiated – Transmitter operating	15.247(c): 15.209	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Band Edge Measurement	15.247(c)	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Minimum 6 dB Bandwidth	15.247(d)	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Peak Power Spectral Density	15.247(e)	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Radiated Emission from Digital Part	15.109	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Power Line Conducted Emission	15.207	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>



Registration number: W6M21404-14062-C-1

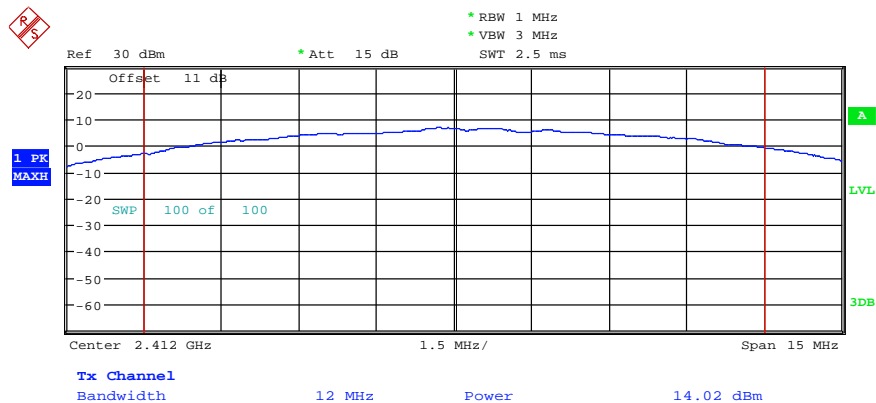
FCC ID: S8C-DSA2LS

3.1 Peak Output Power (transmitter)

FCC Rule: 15.247(b)(3)

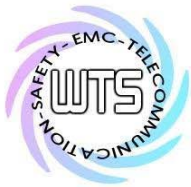
This measurement applies to equipment with an integral antenna and to equipment with an antenna connector and equipped with an antenna as declared by the applicant.

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

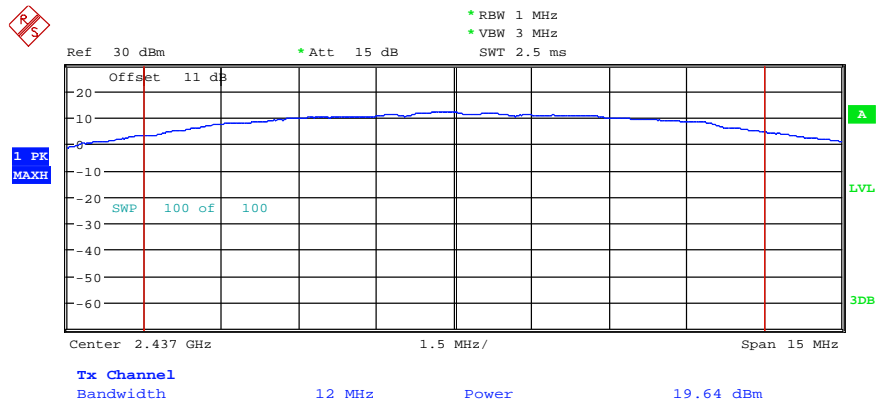


MAX OUTPUT POWER 802.11B CH01

Date: 10.MAY.2014 22:31:02

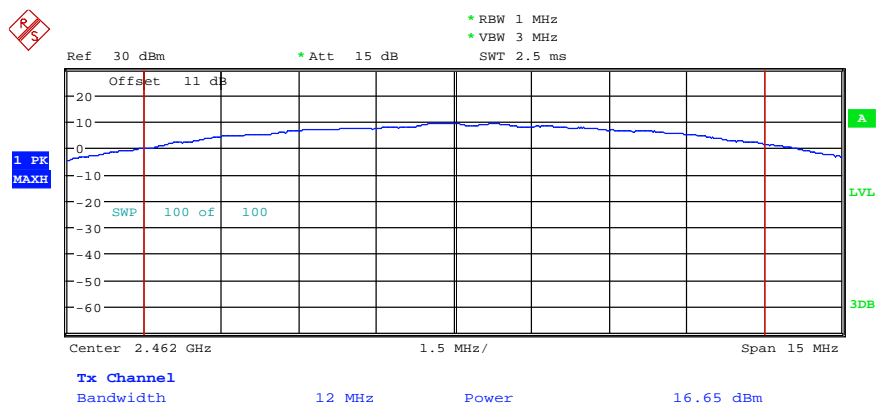


Registration number: W6M21404-14062-C-1
FCC ID: S8C-DSA2LS



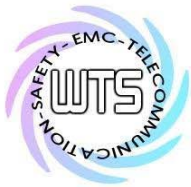
MAX OUTPUT POWER 802.11B CH06

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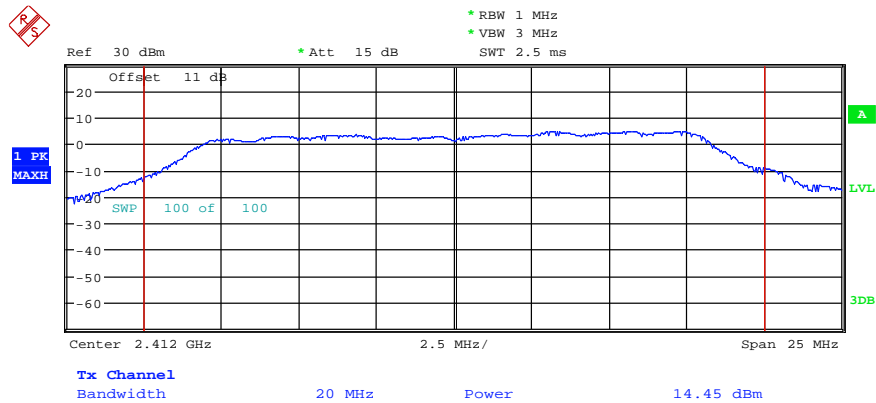


MAX OUTPUT POWER 802.11B CH11

Date: 10.MAY.2014 22:33:09

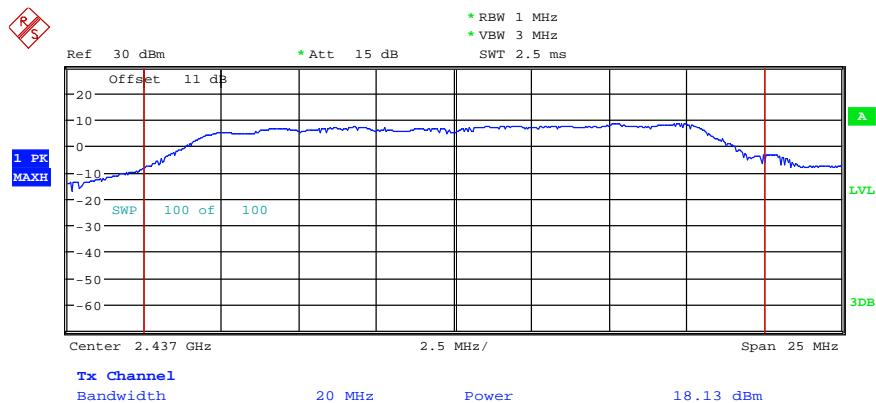


Registration number: W6M21404-14062-C-1
FCC ID: S8C-DSA2LS



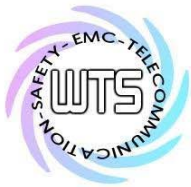
MAX OUTPUT POWER 802.11G CH01

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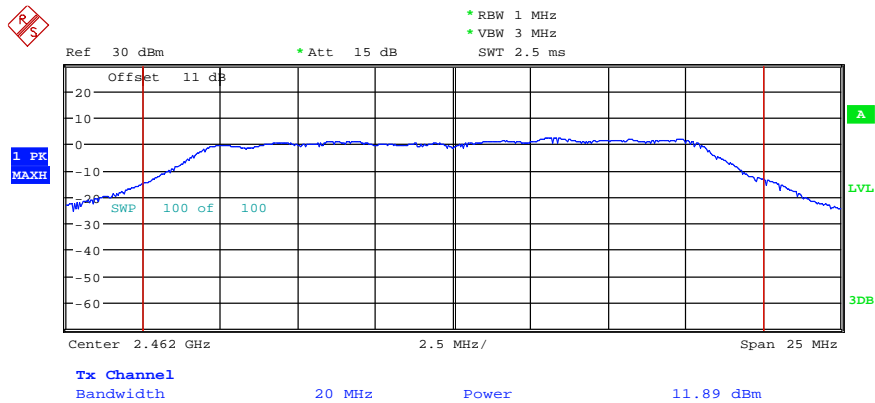


MAX OUTPUT POWER 802.11G CH06

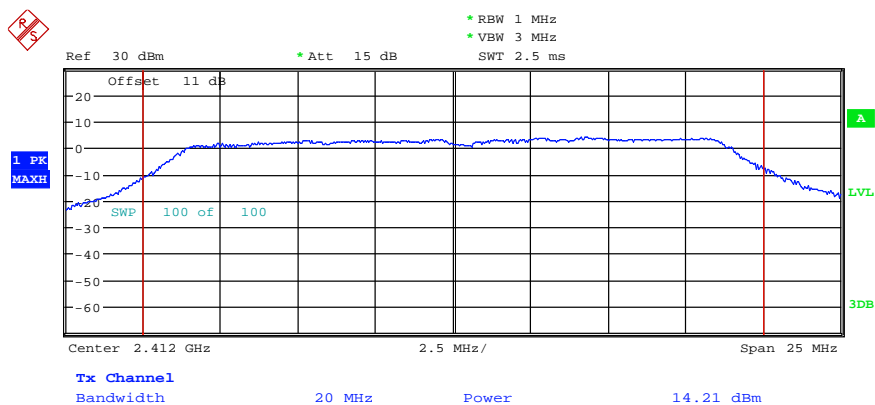
Date: 10.MAY.2014 22:34:32



Registration number: W6M21404-14062-C-1
FCC ID: S8C-DSA2LS



MAX OUTPUT POWER 802.11G CH11
Date: 10.MAY.2014 22:35:02

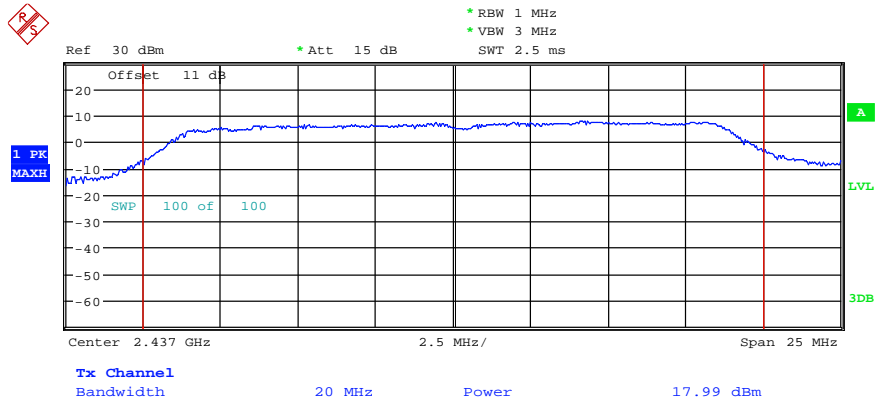


MAX OUTPUT POWER 802.11N 20MHZ CH01
Date: 10.MAY.2014 22:35:47



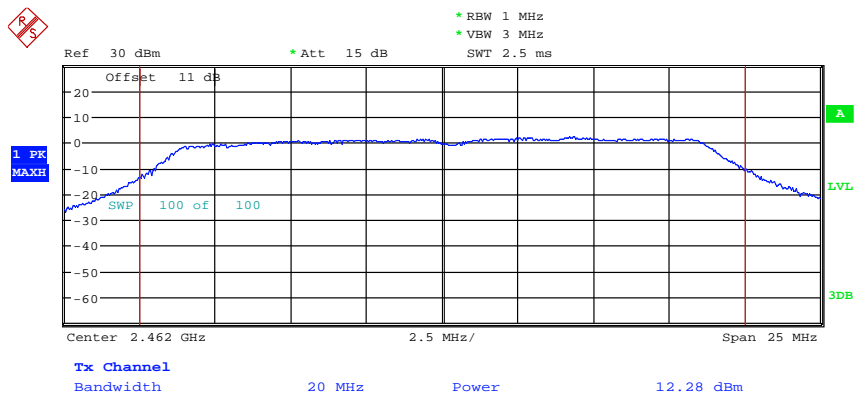
Worldwide Testing Services(Taiwan) Co., Ltd.

Registration number: W6M21404-14062-C-1
FCC ID: S8C-DSA2LS



MAX OUTPUT POWER 802.11N 20MHZ CH06

Date: 10.MAY.2014 22:36:23

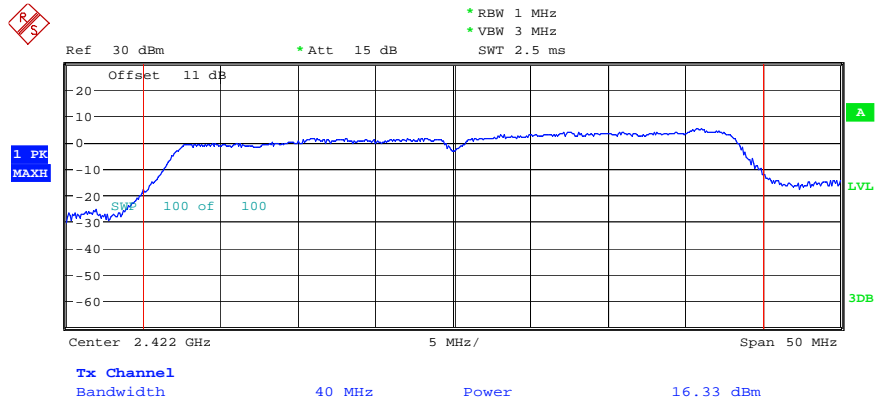


MAX OUTPUT POWER 802.11N 20MHZ CH11

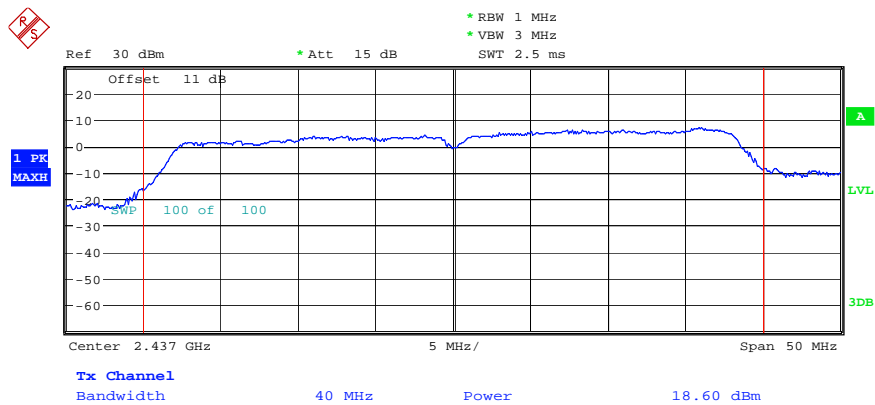
Date: 10.MAY.2014 22:36:53



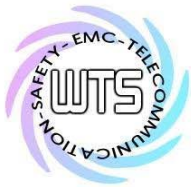
Registration number: W6M21404-14062-C-1
FCC ID: S8C-DSA2LS



MAX OUTPUT POWER 802.11N 40MHZ CH01
Date: 14.MAY.2014 07:08:52

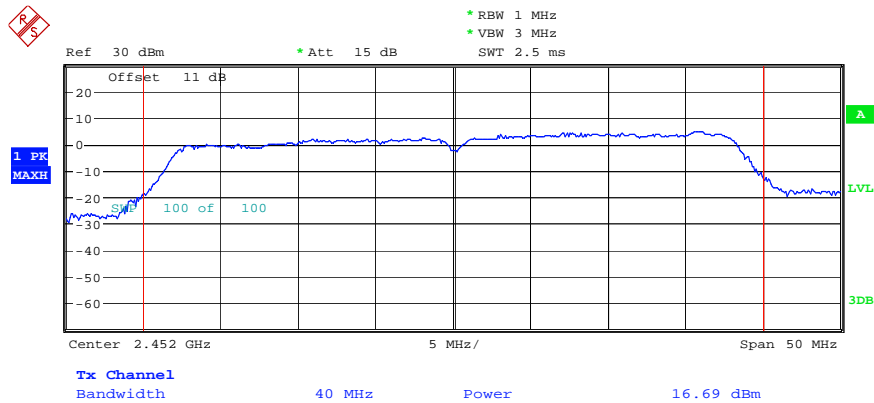


MAX OUTPUT POWER 802.11N 40MHZ CH04
Date: 14.MAY.2014 07:09:46



Registration number: W6M21404-14062-C-1

FCC ID: S8C-DSA2LS



MAX OUTPUT POWER 802.11N 40MHZ CH07

Date: 14.MAY.2014 07:12:13

Limits:

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

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

Test equipment used: ETSTW-RE 055, ETSTW-RE 050



Registration number: W6M21404-14062-C-1

FCC ID: S8C-DSA2LS

3.2 Equivalent isotropic radiated power

FCC Rule: 15.247(b)(3)

EIRP = max. conducted output power + antenna gain(Directional gain)

EIRP = 19.64 dBm + 4.87 dBi

= 24.51 dBm

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

Test equipment used: ETSTW-RE 055

3.3 RF Exposure Compliance Requirements

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

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

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

S – Power Density

P – Output power ERP

R – Distance

D – Cable Loss

AG – Antenna Gain

Item	Unit	Value	Remarks
P	mW	92.04496	Peak value
D	dB		
AG	dBi	4.87	
G		3.069	Calculated Value
R	cm	20	Assumed value
S	mW/cm ²	0.0562	Calculated value

Limits:

Limit for General Population / Uncontrolled Exposure	
Frequency (MHz)	Power Density (mW/cm ²)
1500 – 100.000	1.0



Registration number: W6M21404-14062-C-1

FCC ID: S8C-DSA2LS

3.4 Transmitter Radiated Emissions in Restricted Bands

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

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

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

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

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

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

Limits.

For frequencies below 1GHz:

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

For frequencies above 1GHz (Average measurements).

Guidance on Measurement of Digit Transmission Systems:

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

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

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

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

Explanation: See attached diagrams in Appendix.



Registration number: W6M21404-14062-C-1

FCC ID: S8C-DSA2LS

3.5 Spurious Emissions (tx)

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

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

FCC Rule: 15.247(c), 15.35

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

Limits:

For frequencies above 1GHz (Peak measurements).

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

For frequencies above 1GHz (Average measurements).

Max. reading – 20dB

Max. reading – 20 dB

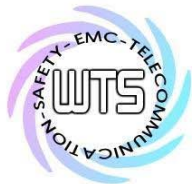
Guidance on Measurement of Digit Transmission Systems:

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

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

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

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



Worldwide Testing Services(Taiwan) Co., Ltd.

Registration number: W6M21404-14062-C-1

FCC ID: S8C-DSA2LS

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

Calculation of test results:

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

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

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

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

Summary table with radiated data of the test plots

Model: DSA2XX Date: 2014/5/1
Mode: 802.11b CH1 Temperature: 24 °C Engineer: Leon
Polarization: Horizontal Humidity: 60 %

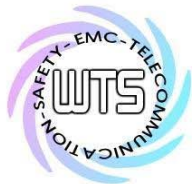
Frequency (MHz)	Reading (dBuV)	Detector	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Table Degree (Deg.)	Ant. High (cm)
193.2865	18.50	peak	12.20	30.70	43.50	-12.80	80	100
323.5271	17.23	peak	16.59	33.82	46.00	-12.18	55	100

Frequency (MHz)	Reading (dBuV)		Factor (dB)	Result (dBuV/m)		Limit (dBuV/m)		Margin (dB)	Table Degree (Deg.)	Ant. High (cm)
	Peak	Ave.	Corr.	Peak	Ave.	Peak	Ave.			
4825.6510	46.80	---	0.33	47.13	---	74.00	54.00	-26.87	90	100
7236.0000	39.89	---	3.77	43.66	---	74.00	54.00	-30.34	155	100
9648.0000	34.36	---	7.88	42.24	---	74.00	54.00	-31.76	75	100
12060.0000	34.01	---	13.12	47.13	---	74.00	54.00	-26.87	135	100

Polarization: Vertical

Frequency (MHz)	Reading (dBuV)	Detector	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Table Degree (Deg.)	Ant. High (cm)
35.8316	15.52	peak	13.44	28.96	40.00	-11.04	160	100
74.7094	19.83	peak	10.67	30.50	40.00	-9.50	115	100

Frequency (MHz)	Reading (dBuV)		Factor (dB)	Result (dBuV/m)		Limit (dBuV/m)		Margin (dB)	Table Degree (Deg.)	Ant. High (cm)
	Peak	Ave.	Corr.	Peak	Ave.	Peak	Ave.			
4824.1140	55.16	43.44	0.33	55.49	43.77	74.00	54.00	-10.23	206	100
7236.0000	40.20	---	3.77	43.97	---	74.00	54.00	-30.03	155	100
9648.0000	34.57	---	7.88	42.45	---	74.00	54.00	-31.55	55	100
12060.0000	33.93	---	13.12	47.05	---	74.00	54.00	-26.95	120	100



Worldwide Testing Services(Taiwan) Co., Ltd.

Registration number: W6M21404-14062-C-1

FCC ID: S8C-DSA2LS

Mode: 802.11b CH6

Polarization: Horizontal

Frequency (MHz)	Reading (dBuV)	Detector	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Table Degree (Deg.)	Ant. High (cm)
193.2865	18.87	peak	12.20	31.07	43.50	-12.43	30	100
387.6754	17.79	peak	18.36	36.15	46.00	-9.85	110	100

Frequency (MHz)	Reading (dBuV)		Factor (dB) Corr.	Result (dBuV/m)		Limit (dBuV/m)		Margin (dB)	Table Degree (Deg.)	Ant. High (cm)
	Peak	Ave.		Peak	Ave.	Peak	Ave.			
4873.7480	56.04	43.51	0.45	56.49	43.96	74.00	54.00	-10.04	25	100
7311.0000	39.54	---	3.62	43.16	---	74.00	54.00	-30.84	135	100
9748.0000	34.04	---	8.20	42.24	---	74.00	54.00	-31.76	115	100
12185.0000	32.34	---	13.69	46.03	---	74.00	54.00	-27.97	80	100

Polarization: Vertical

Frequency (MHz)	Reading (dBuV)	Detector	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Table Degree (Deg.)	Ant. High (cm)
35.8316	15.67	peak	13.44	29.11	40.00	-10.89	120	100
74.7094	19.88	peak	10.67	30.55	40.00	-9.45	45	100

Frequency (MHz)	Reading (dBuV)		Factor (dB) Corr.	Result (dBuV/m)		Limit (dBuV/m)		Margin (dB)	Table Degree (Deg.)	Ant. High (cm)
	Peak	Ave.		Peak	Ave.	Peak	Ave.			
4874.2070	62.57	46.32	0.46	63.03	46.78	74.00	54.00	-7.22	5	100
7311.0000	40.08	---	3.62	43.70	---	74.00	54.00	-30.30	165	100
9748.0000	35.25	---	8.20	43.45	---	74.00	54.00	-30.55	75	100
12185.0000	32.06	---	13.69	45.75	---	74.00	54.00	-28.25	115	100

Mode: 802.11b CH11

Polarization: Horizontal

Frequency (MHz)	Reading (dBuV)	Detector	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Table Degree (Deg.)	Ant. High (cm)
193.2865	17.85	peak	12.20	30.05	43.50	-13.45	155	100
387.6754	15.91	peak	18.36	34.27	46.00	-11.73	140	100

Frequency (MHz)	Reading (dBuV)		Factor (dB) Corr.	Result (dBuV/m)		Limit (dBuV/m)		Margin (dB)	Table Degree (Deg.)	Ant. High (cm)
	Peak	Ave.		Peak	Ave.	Peak	Ave.			
4921.8440	59.83	46.53	0.65	60.48	47.18	74.00	54.00	-6.82	13	100
7386.0000	39.52	---	3.85	43.37	---	74.00	54.00	-30.63	150	100
9848.0000	34.79	---	8.57	43.36	---	74.00	54.00	-30.64	175	100
12310.0000	34.01	---	14.42	48.43	---	74.00	54.00	-25.57	80	100



Worldwide Testing Services(Taiwan) Co., Ltd.

Registration number: W6M21404-14062-C-1

FCC ID: S8C-DSA2LS

Polarization: Vertical

Frequency (MHz)	Reading (dBuV)	Detector	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Table Degree (Deg.)	Ant. High (cm)
41.6633	15.02	peak	13.93	28.95	40.00	-11.05	120	100
76.6533	20.17	peak	10.37	30.54	40.00	-9.46	135	100

Frequency (MHz)	Reading (dBuV)		Factor (dB) Corr.	Result (dBuV/m)		Limit (dBuV/m)		Margin (dB)	Table Degree (Deg.)	Ant. High (cm)
	Peak	Ave.		Peak	Ave.	Peak	Ave.			
4921.8440	61.47	47.66	0.65	62.12	48.31	74.00	54.00	-5.69	135	100
7386.0000	40.04	---	3.85	43.89	---	74.00	54.00	-30.11	110	100
9848.0000	35.21	---	8.57	43.78	---	74.00	54.00	-30.22	75	100
12310.0000	34.53	---	14.42	48.95	---	74.00	54.00	-25.05	120	100

Mode: 802.11g CH1

Polarization: Horizontal

Frequency (MHz)	Reading (dBuV)	Detector	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Table Degree (Deg.)	Ant. High (cm)
193.2865	17.68	peak	12.20	29.88	43.50	-13.62	60	100
389.6191	15.74	peak	18.41	34.15	46.00	-11.85	115	100

Frequency (MHz)	Reading (dBuV)		Factor (dB) Corr.	Result (dBuV/m)		Limit (dBuV/m)		Margin (dB)	Table Degree (Deg.)	Ant. High (cm)
	Peak	Ave.		Peak	Ave.	Peak	Ave.			
4824.0000	40.99	---	0.33	41.32	---	74.00	54.00	-32.68	175	100
7236.0000	39.57	---	3.77	43.34	---	74.00	54.00	-30.66	80	100
9648.0000	35.03	---	7.88	42.91	---	74.00	54.00	-31.09	35	100
12060.0000	33.63	---	13.12	46.75	---	74.00	54.00	-27.25	110	100

Polarization: Vertical

Frequency (MHz)	Reading (dBuV)	Detector	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Table Degree (Deg.)	Ant. High (cm)
39.7194	15.47	peak	13.79	29.26	40.00	-10.74	40	100
76.6533	19.84	peak	10.37	30.21	40.00	-9.79	175	100

Frequency (MHz)	Reading (dBuV)		Factor (dB) Corr.	Result (dBuV/m)		Limit (dBuV/m)		Margin (dB)	Table Degree (Deg.)	Ant. High (cm)
	Peak	Ave.		Peak	Ave.	Peak	Ave.			
4824.0000	41.13	---	0.33	41.46	---	74.00	54.00	-32.54	235	100
7236.0000	40.65	---	3.77	44.42	---	74.00	54.00	-29.58	175	100
9648.0000	34.95	---	7.88	42.83	---	74.00	54.00	-31.17	155	100
12060.0000	33.62	---	13.12	46.74	---	74.00	54.00	-27.26	80	100



Worldwide Testing Services(Taiwan) Co., Ltd.

Registration number: W6M21404-14062-C-1

FCC ID: S8C-DSA2LS

Mode: 802.11g CH6

Polarization: Horizontal

Frequency (MHz)	Reading (dBuV)	Detector	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Table Degree (Deg.)	Ant. High (cm)
193.2865	17.23	peak	12.20	29.43	43.50	-14.07	235	100
387.6754	17.28	peak	18.36	35.64	46.00	-10.36	140	100

Frequency (MHz)	Reading (dBuV)		Factor (dB) Corr.	Result (dBuV/m)		Limit (dBuV/m)		Margin (dB)	Table Degree (Deg.)	Ant. High (cm)
	Peak	Ave.		Peak	Ave.	Peak	Ave.			
4874.0000	41.35	---	0.46	41.81	---	74.00	54.00	-32.19	115	100
7311.0000	40.01	---	3.62	43.63	---	74.00	54.00	-30.37	70	100
9748.0000	34.57	---	8.20	42.77	---	74.00	54.00	-31.23	85	100
12185.0000	32.59	---	13.69	46.28	---	74.00	54.00	-27.72	110	100

Polarization: Vertical

Frequency (MHz)	Reading (dBuV)	Detector	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Table Degree (Deg.)	Ant. High (cm)
76.6533	20.22	peak	10.37	30.59	40.00	-9.41	70	100
453.7675	15.69	peak	20.13	35.82	46.00	-10.18	115	100

Frequency (MHz)	Reading (dBuV)		Factor (dB) Corr.	Result (dBuV/m)		Limit (dBuV/m)		Margin (dB)	Table Degree (Deg.)	Ant. High (cm)
	Peak	Ave.		Peak	Ave.	Peak	Ave.			
4865.7310	43.64	---	0.43	44.07	---	74.00	54.00	-29.93	113	100
7311.0000	39.63	---	3.62	43.25	---	74.00	54.00	-30.75	160	100
9748.0000	35.20	---	8.20	43.40	---	74.00	54.00	-30.60	215	100
12185.0000	33.03	---	13.69	46.72	---	74.00	54.00	-27.28	140	100

Mode: 802.11g CH11

Polarization: Horizontal

Frequency (MHz)	Reading (dBuV)	Detector	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Table Degree (Deg.)	Ant. High (cm)
193.2865	20.27	peak	12.20	32.47	43.50	-11.03	30	100
389.6191	14.91	peak	18.41	33.32	46.00	-12.68	85	100

Frequency (MHz)	Reading (dBuV)		Factor (dB) Corr.	Result (dBuV/m)		Limit (dBuV/m)		Margin (dB)	Table Degree (Deg.)	Ant. High (cm)
	Peak	Ave.		Peak	Ave.	Peak	Ave.			
4921.8440	45.05	---	0.65	45.70	---	74.00	54.00	-28.30	160	100
7386.0000	39.60	---	3.85	43.45	---	74.00	54.00	-30.55	135	100
9848.0000	34.55	---	8.57	43.12	---	74.00	54.00	-30.88	75	100
12310.0000	34.33	---	14.42	48.75	---	74.00	54.00	-25.25	80	100



Worldwide Testing Services(Taiwan) Co., Ltd.

Registration number: W6M21404-14062-C-1

FCC ID: S8C-DSA2LS

Polarization: Vertical

Frequency (MHz)	Reading (dBuV)	Detector	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Table Degree (Deg.)	Ant. High (cm)
37.7756	15.51	peak	13.62	29.13	40.00	-10.87	165	100
76.6533	20.25	peak	10.37	30.62	40.00	-9.38	90	100

Frequency (MHz)	Reading (dBuV)		Factor (dB) Corr.	Result (dBuV/m)		Limit (dBuV/m)		Margin (dB)	Table Degree (Deg.)	Ant. High (cm)
	Peak	Ave.		Peak	Ave.	Peak	Ave.			
4913.8280	44.87	---	0.60	45.47	---	74.00	54.00	-28.53	153	100
7386.0000	39.62	---	3.85	43.47	---	74.00	54.00	-30.53	120	100
9848.0000	35.06	---	8.57	43.63	---	74.00	54.00	-30.37	75	100
12310.0000	33.91	---	14.42	48.33	---	74.00	54.00	-25.67	110	100

Mode: 802.11n 20MHz CH1

Polarization: Horizontal

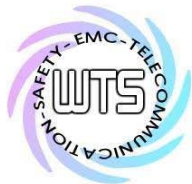
Frequency (MHz)	Reading (dBuV)	Detector	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Table Degree (Deg.)	Ant. High (cm)
193.2865	19.66	peak	12.20	31.86	43.50	-11.64	30	100
387.6754	16.20	peak	18.36	34.56	46.00	-11.44	50	100

Frequency (MHz)	Reading (dBuV)		Factor (dB) Corr.	Result (dBuV/m)		Limit (dBuV/m)		Margin (dB)	Table Degree (Deg.)	Ant. High (cm)
	Peak	Ave.		Peak	Ave.	Peak	Ave.			
4824.0000	40.60	---	0.33	40.93	---	74.00	54.00	-33.07	115	100
7236.0000	39.49	---	3.77	43.26	---	74.00	54.00	-30.74	70	100
9648.0000	34.28	---	7.88	42.16	---	74.00	54.00	-31.84	125	100
12060.0000	33.84	---	13.12	46.96	---	74.00	54.00	-27.04	90	100

Polarization: Vertical

Frequency (MHz)	Reading (dBuV)	Detector	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Table Degree (Deg.)	Ant. High (cm)
39.7194	16.02	peak	13.79	29.81	40.00	-10.19	110	100
76.6533	19.71	peak	10.37	30.08	40.00	-9.92	135	100

Frequency (MHz)	Reading (dBuV)		Factor (dB) Corr.	Result (dBuV/m)		Limit (dBuV/m)		Margin (dB)	Table Degree (Deg.)	Ant. High (cm)
	Peak	Ave.		Peak	Ave.	Peak	Ave.			
4824.0000	40.95	---	0.33	41.28	---	74.00	54.00	-32.72	35	100
7236.0000	40.07	---	3.77	43.84	---	74.00	54.00	-30.16	120	100
9648.0000	36.03	---	7.88	43.91	---	74.00	54.00	-30.09	15	100
12060.0000	34.21	---	13.12	47.33	---	74.00	54.00	-26.67	110	100



Worldwide Testing Services(Taiwan) Co., Ltd.

Registration number: W6M21404-14062-C-1

FCC ID: S8C-DSA2LS

Mode: 802.11n 20MHz CH6

Polarization: Horizontal

Frequency (MHz)	Reading (dBuV)	Detector	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Table Degree (Deg.)	Ant. High (cm)
193.2865	20.04	peak	12.20	32.24	43.50	-11.26	50	100
323.5271	16.72	peak	16.59	33.31	46.00	-12.69	75	100

Frequency (MHz)	Reading (dBuV)		Factor (dB) Corr.	Result (dBuV/m)		Limit (dBuV/m)		Margin (dB)	Table Degree (Deg.)	Ant. High (cm)
	Peak	Ave.		Peak	Ave.	Peak	Ave.			
4873.7480	42.64	---	0.45	43.09	---	74.00	54.00	-30.91	10	100
7311.0000	39.38	---	3.62	43.00	---	74.00	54.00	-31.00	115	100
9748.0000	34.83	---	8.20	43.03	---	74.00	54.00	-30.97	165	100
12185.0000	32.72	---	13.69	46.41	---	74.00	54.00	-27.59	90	100

Polarization: Vertical

Frequency (MHz)	Reading (dBuV)	Detector	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Table Degree (Deg.)	Ant. High (cm)
35.8316	15.87	peak	13.44	29.31	40.00	-10.69	135	100
76.6533	19.76	peak	10.37	30.13	40.00	-9.87	110	100

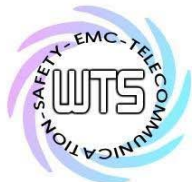
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	Peak	Ave.		Peak	Ave.	Peak	Ave.			
4881.7640	44.04	---	0.47	44.51	---	74.00	54.00	-29.49	25	100
7311.0000	39.38	---	3.62	43.00	---	74.00	54.00	-31.00	70	100
9748.0000	34.56	---	8.20	42.76	---	74.00	54.00	-31.24	210	100
12185.0000	32.26	---	13.69	45.95	---	74.00	54.00	-28.05	155	100

Mode: 802.11n 20MHz CH11

Polarization: Horizontal

Frequency (MHz)	Reading (dBuV)	Detector	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Table Degree (Deg.)	Ant. High (cm)
193.2865	18.98	peak	12.20	31.18	43.50	-12.32	60	100
389.6191	16.32	peak	18.41	34.73	46.00	-11.27	90	100

Frequency (MHz)	Reading (dBuV)		Factor (dB) Corr.	Result (dBuV/m)		Limit (dBuV/m)		Margin (dB)	Table Degree (Deg.)	Ant. High (cm)
	Peak	Ave.		Peak	Ave.	Peak	Ave.			
4921.8440	43.57	---	0.65	44.22	---	74.00	54.00	-29.78	130	100
7382.7660	40.72	---	3.84	44.56	---	74.00	54.00	-29.44	140	100
9848.0000	34.77	---	8.57	43.34	---	74.00	54.00	-30.66	90	100
12310.0000	33.77	---	14.42	48.19	---	74.00	54.00	-25.81	135	100



Worldwide Testing Services(Taiwan) Co., Ltd.

Registration number: W6M21404-14062-C-1

FCC ID: S8C-DSA2LS

Polarization: Vertical

Frequency (MHz)	Reading (dBuV)	Detector	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Table Degree (Deg.)	Ant. High (cm)
39.7194	15.37	peak	13.79	29.16	40.00	-10.84	140	100
76.6533	19.79	peak	10.37	30.16	40.00	-9.84	55	100

Frequency (MHz)	Reading (dBuV)		Factor (dB) Corr.	Result (dBuV/m)		Limit (dBuV/m)		Margin (dB)	Table Degree (Deg.)	Ant. High (cm)
	Peak	Ave.		Peak	Ave.	Peak	Ave.			
4921.8440	48.63	---	0.65	49.28	---	74.00	54.00	-24.72	20	100
7386.0000	39.37	---	3.85	43.22	---	74.00	54.00	-30.78	115	100
9848.0000	34.73	---	8.57	43.30	---	74.00	54.00	-30.70	195	100
12310.0000	33.83	---	14.42	48.25	---	74.00	54.00	-25.75	60	100

Mode: 802.11n 40MHz CH1

Polarization: Horizontal

Frequency (MHz)	Reading (dBuV)	Detector	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Table Degree (Deg.)	Ant. High (cm)
193.2865	19.51	peak	12.20	31.71	43.50	-11.79	50	100
323.5271	16.28	peak	16.59	32.87	46.00	-13.13	80	100

Frequency (MHz)	Reading (dBuV)		Factor (dB) Corr.	Result (dBuV/m)		Limit (dBuV/m)		Margin (dB)	Table Degree (Deg.)	Ant. High (cm)
	Peak	Ave.		Peak	Ave.	Peak	Ave.			
4844.0000	40.04	---	0.38	40.42	---	74.00	54.00	-33.58	155	100
7266.0000	40.64	---	3.69	44.33	---	74.00	54.00	-29.67	70	100
9688.0000	34.71	---	7.83	42.54	---	74.00	54.00	-31.46	130	100
12110.0000	32.87	---	13.52	46.39	---	74.00	54.00	-27.61	165	100

Polarization: Vertical

Frequency (MHz)	Reading (dBuV)	Detector	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Table Degree (Deg.)	Ant. High (cm)
39.7194	15.72	peak	13.79	29.51	40.00	-10.49	130	100
74.7094	19.45	peak	10.67	30.12	40.00	-9.88	150	100

Frequency (MHz)	Reading (dBuV)		Factor (dB) Corr.	Result (dBuV/m)		Limit (dBuV/m)		Margin (dB)	Table Degree (Deg.)	Ant. High (cm)
	Peak	Ave.		Peak	Ave.	Peak	Ave.			
4844.0000	40.56	---	0.38	40.94	---	74.00	54.00	-33.06	125	100
7266.0000	40.23	---	3.69	43.92	---	74.00	54.00	-30.08	70	100
9688.0000	35.27	---	7.83	43.10	---	74.00	54.00	-30.90	140	100
12110.0000	33.15	---	13.52	46.67	---	74.00	54.00	-27.33	90	100



Worldwide Testing Services(Taiwan) Co., Ltd.

Registration number: W6M21404-14062-C-1

FCC ID: S8C-DSA2LS

Mode: 802.11n 40MHz CH4

Polarization: Horizontal

Frequency (MHz)	Reading (dBuV)	Detector	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Table Degree (Deg.)	Ant. High (cm)
193.2865	19.41	peak	12.20	31.61	43.50	-11.89	225	100
387.6754	15.85	peak	18.36	34.21	46.00	-11.79	190	100

Frequency (MHz)	Reading (dBuV)		Factor (dB) Corr.	Result (dBuV/m)		Limit (dBuV/m)		Margin (dB)	Table Degree (Deg.)	Ant. High (cm)
	Peak	Ave.		Peak	Ave.	Peak	Ave.			
4874.0000	41.35	---	0.46	41.81	---	74.00	54.00	-32.19	75	100
7311.0000	40.42	---	3.62	44.04	---	74.00	54.00	-29.96	110	100
9748.0000	34.10	---	8.20	42.30	---	74.00	54.00	-31.70	135	100
12185.0000	32.37	---	13.69	46.06	---	74.00	54.00	-27.94	60	100

Polarization: Vertical

Frequency (MHz)	Reading (dBuV)	Detector	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Table Degree (Deg.)	Ant. High (cm)
39.7194	15.50	peak	13.79	29.29	40.00	-10.71	135	100
76.6533	20.23	peak	10.37	30.60	40.00	-9.40	170	100

Frequency (MHz)	Reading (dBuV)		Factor (dB) Corr.	Result (dBuV/m)		Limit (dBuV/m)		Margin (dB)	Table Degree (Deg.)	Ant. High (cm)
	Peak	Ave.		Peak	Ave.	Peak	Ave.			
4874.0000	41.86	---	0.46	42.32	---	74.00	54.00	-31.68	115	100
7311.0000	39.58	---	3.62	43.20	---	74.00	54.00	-30.80	135	100
9748.0000	34.81	---	8.20	43.01	---	74.00	54.00	-30.99	150	100
12185.0000	31.99	---	13.69	45.68	---	74.00	54.00	-28.32	80	100

Mode: 802.11n 40MHz CH7

Polarization: Horizontal

Frequency (MHz)	Reading (dBuV)	Detector	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Table Degree (Deg.)	Ant. High (cm)
193.2865	20.60	peak	12.20	32.80	43.50	-10.70	30	100
389.6191	14.99	peak	18.41	33.40	46.00	-12.60	75	100

Frequency (MHz)	Reading (dBuV)		Factor (dB) Corr.	Result (dBuV/m)		Limit (dBuV/m)		Margin (dB)	Table Degree (Deg.)	Ant. High (cm)
	Peak	Ave.		Peak	Ave.	Peak	Ave.			
4904.0000	40.84	---	0.54	41.38	---	74.00	54.00	-32.62	125	100
7356.0000	40.09	---	3.76	43.85	---	74.00	54.00	-30.15	140	100
9780.0600	36.06	---	8.45	44.51	---	74.00	54.00	-29.49	120	100
12260.0000	33.06	---	14.13	47.19	---	74.00	54.00	-26.81	75	100



Worldwide Testing Services(Taiwan) Co., Ltd.

Registration number: W6M21404-14062-C-1

FCC ID: S8C-DSA2LS

Polarization: Vertical

Frequency (MHz)	Reading (dBuV)	Detector	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Table Degree (Deg.)	Ant. High (cm)
37.7756	15.77	peak	13.62	29.39	40.00	-10.61	115	100
76.6533	20.05	peak	10.37	30.42	40.00	-9.58	75	100

Frequency (MHz)	Reading (dBuV)		Factor (dB) Corr.	Result (dBuV/m)		Limit (dBuV/m)		Margin (dB)	Table Degree (Deg.)	Ant. High (cm)
	Peak	Ave.		Peak	Ave.	Peak	Ave.			
4904.0000	41.66	---	0.54	42.20	---	74.00	54.00	-31.80	155	100
7356.0000	40.03	---	3.76	43.79	---	74.00	54.00	-30.21	135	100
9808.0000	35.62	---	8.60	44.22	---	74.00	54.00	-29.78	50	100
12260.0000	34.07	---	14.13	48.20	---	74.00	54.00	-25.80	120	100

Note

1. **Correction Factor = Antenna factor + Cable loss - Preamplifier**
2. **The formula of measured value as: Test Result = Reading + Correction Factor**
3. **Detector function in the form : PK = Peak, QP = Quasi Peak, AV = Average**
4. **All not in the table noted test results are more than 20 dB below the relevant limits.**
5. **Measurement uncertainty for 3m measurement: 30-1000 MHz = ± 3.68 dB, 1-18 GHz = ± 5.37 dB, 18-40 GHz = ± 3.43 dB ; Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of k = 2.**
6. **See attached diagrams in appendix.**

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

Test equipment used: ETSTW-RE 004, ETSTW-RE 030, ETSTW-RE 111,
ETSTW-RE 088, ETSTW-RE 018



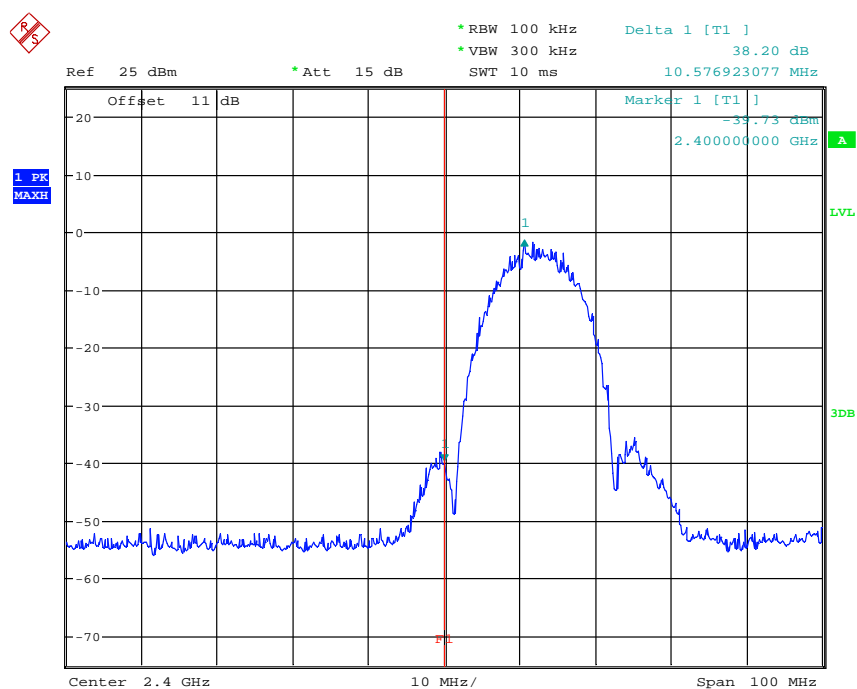
Registration number: W6M21404-14062-C-1

FCC ID: S8C-DSA2LS

3.6 Radiated Emission on the band edge

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

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

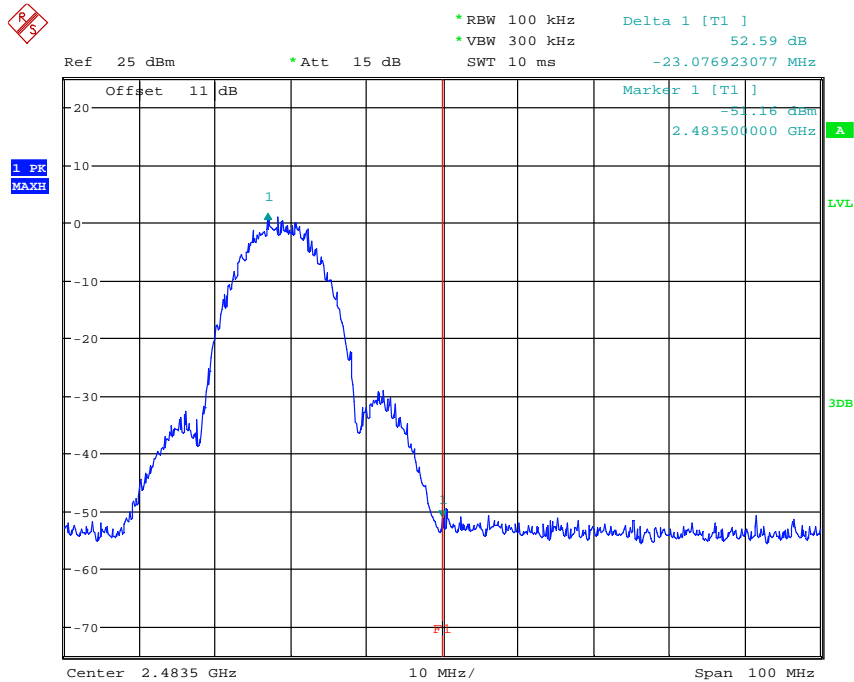


BANDEGE 802.11B CH01

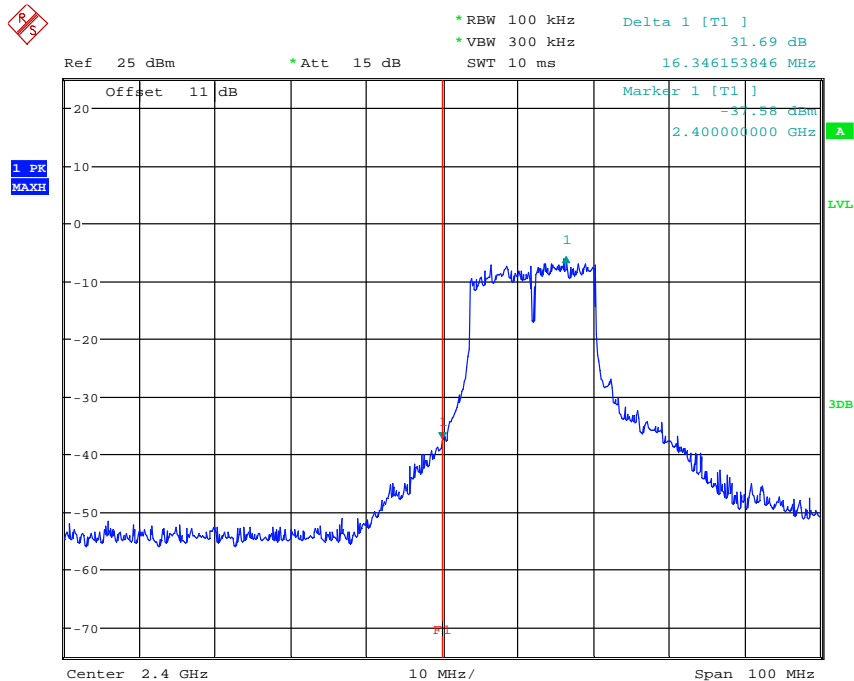
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Registration number: W6M21404-14062-C-1
FCC ID: S8C-DSA2LS



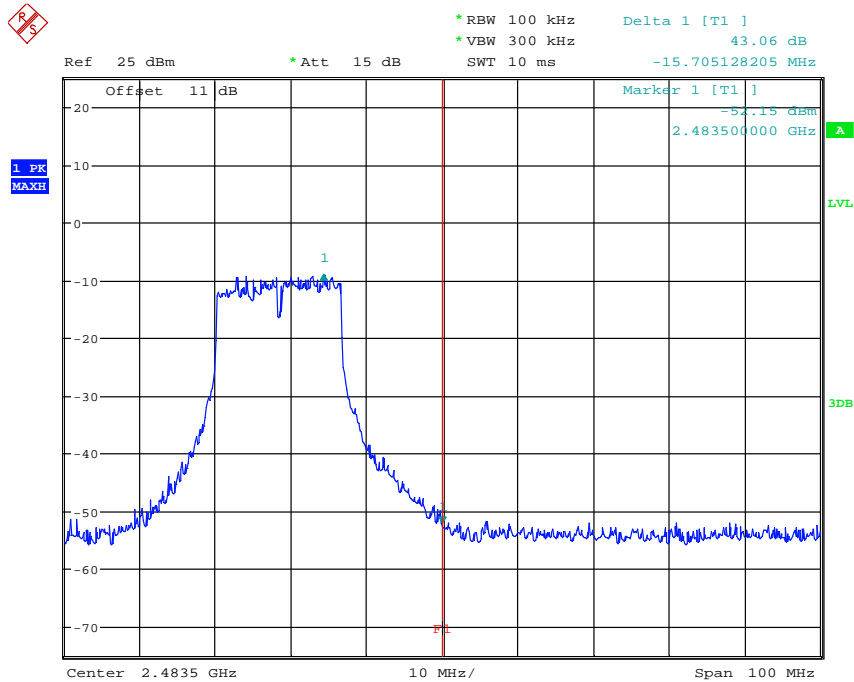
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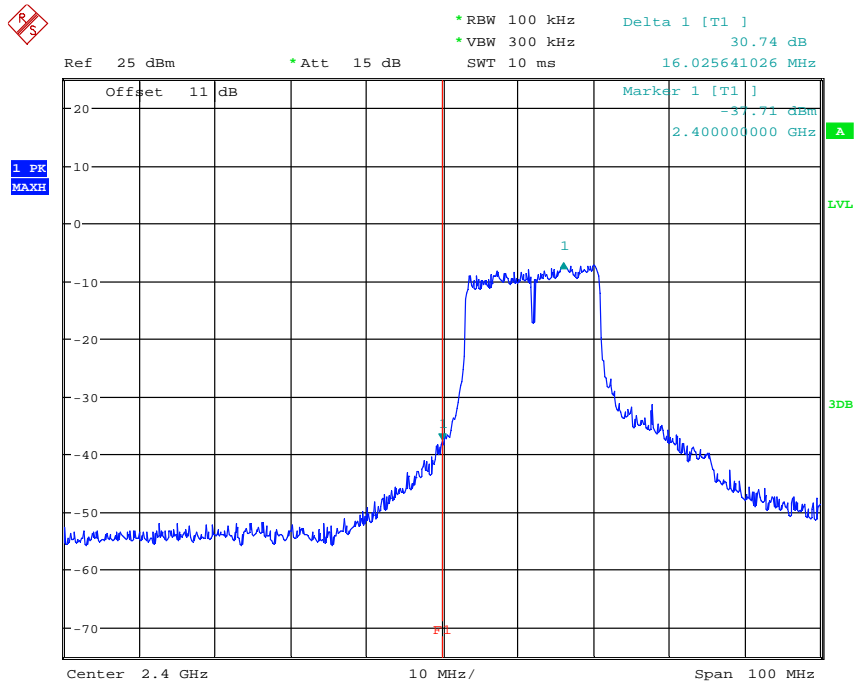
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Registration number: W6M21404-14062-C-1
FCC ID: S8C-DSA2LS



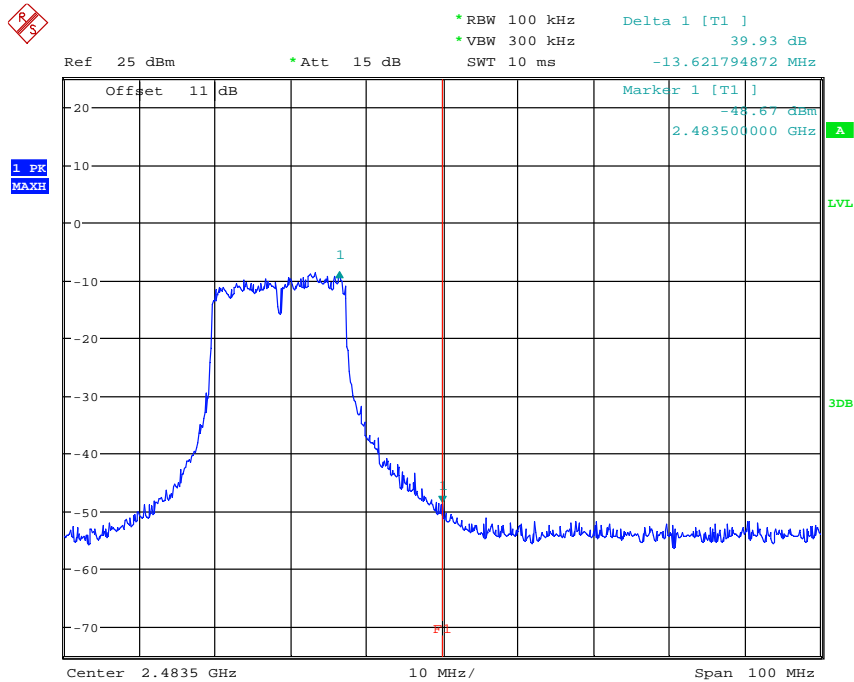
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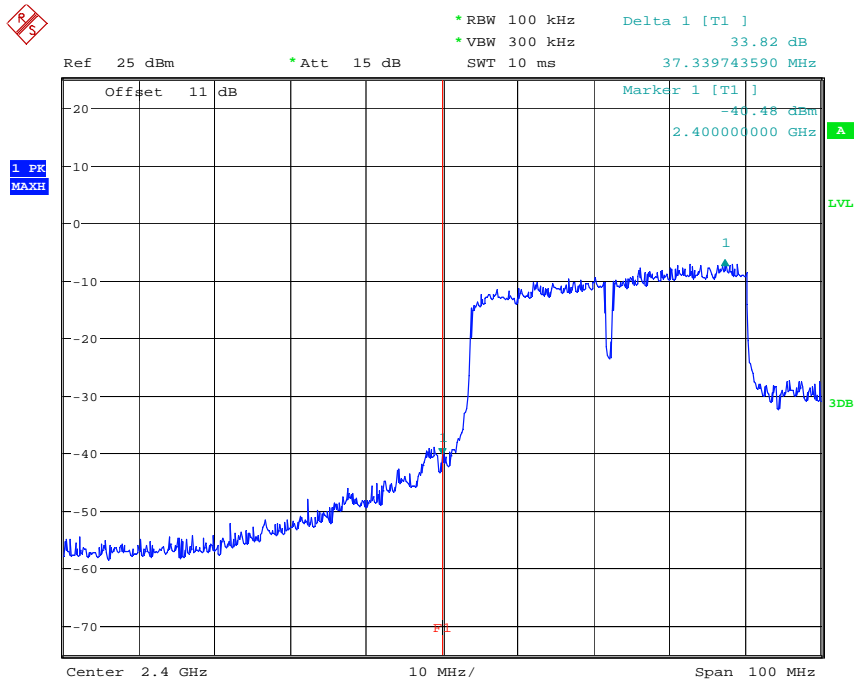
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Registration number: W6M21404-14062-C-1
FCC ID: S8C-DSA2LS



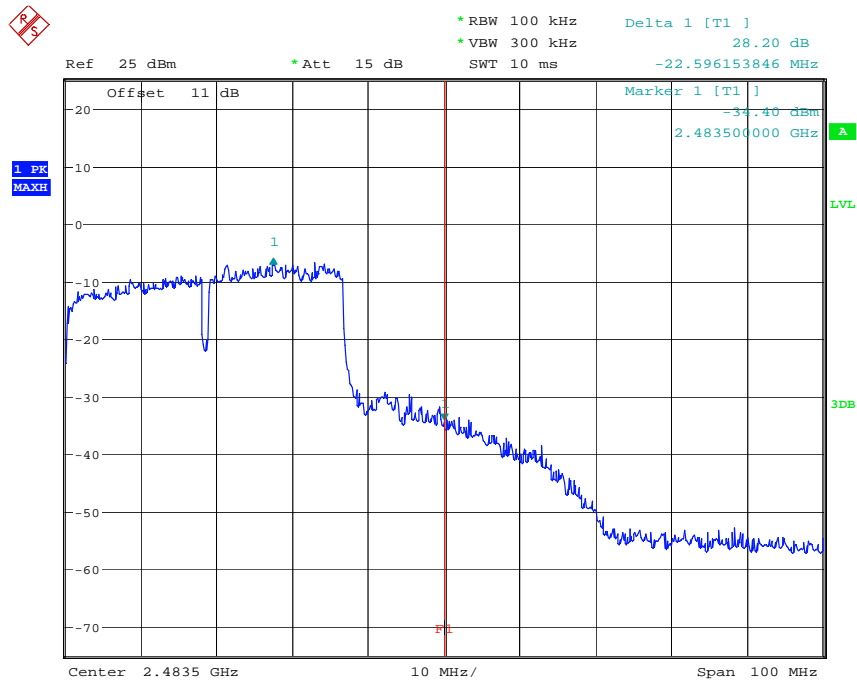
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Date: 10.MAY.2014 22:37:14



BANDEDGE 802.11N 40MHZ CH01
Date: 14.MAY.2014 07:09:14



Registration number: W6M21404-14062-C-1
FCC ID: S8C-DSA2LS



BANDEDGE 802.11N 40MHZ CH07
Date: 14.MAY.2014 07:12:35

Limit:

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

Test equipment used: ETSTW-RE 055, ETSTW-RE 050



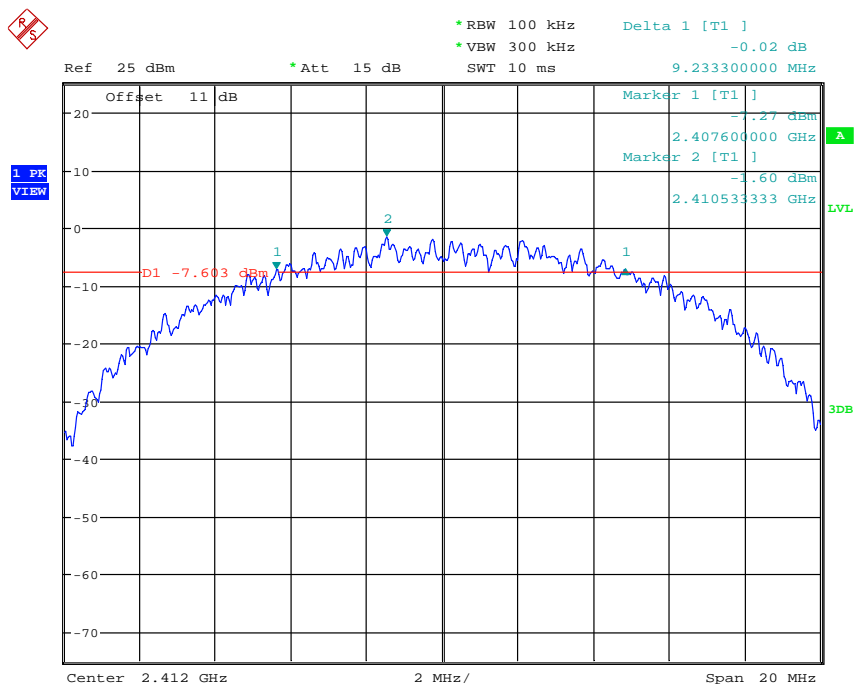
Registration number: W6M21404-14062-C-1

FCC ID: S8C-DSA2LS

3.7 Minimum 6 dB Bandwidth

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

The 6 dB bandwidth is the frequency difference between the two markers.

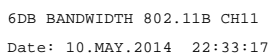
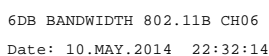


6DB BANDWIDTH 802.11B CH01

Date: 10.MAY.2014 22:31:11

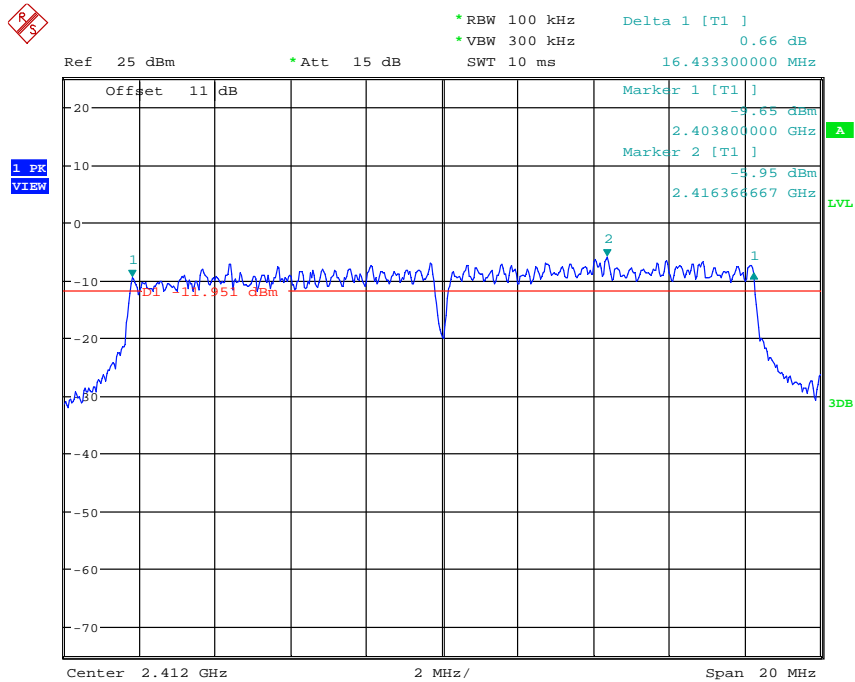


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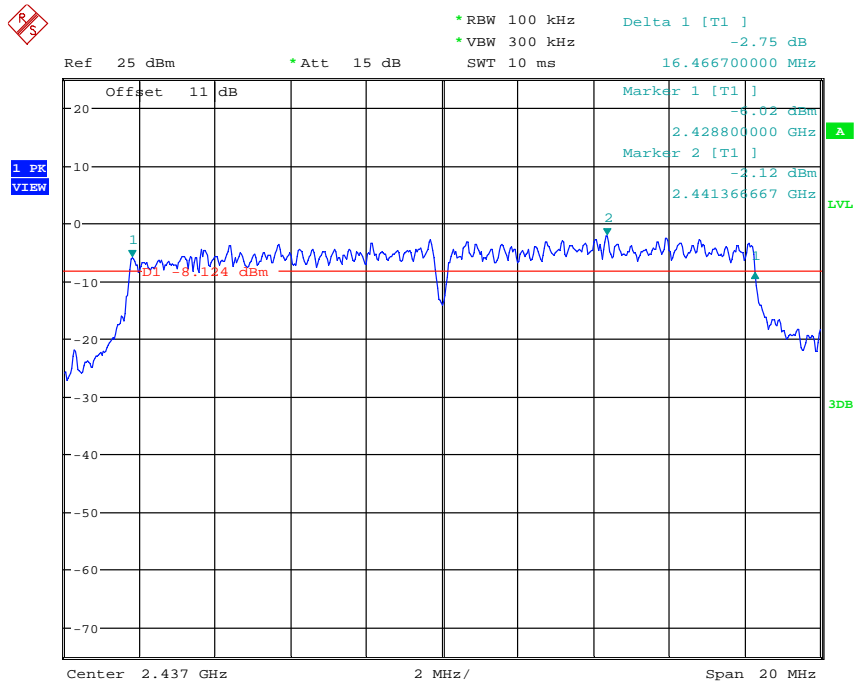




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FCC ID: S8C-DSA2LS



6DB BANDWIDTH 802.11G CH01
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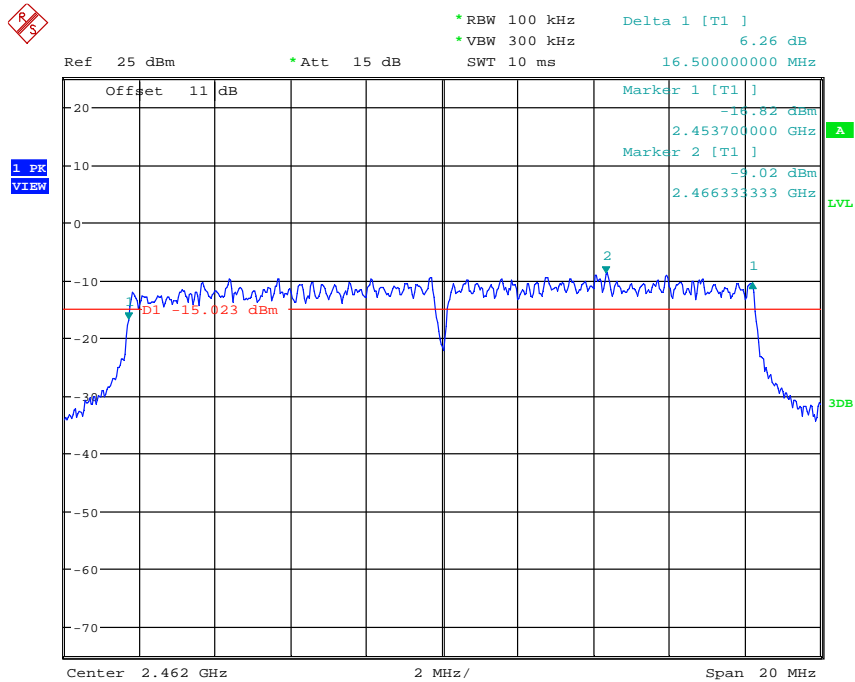


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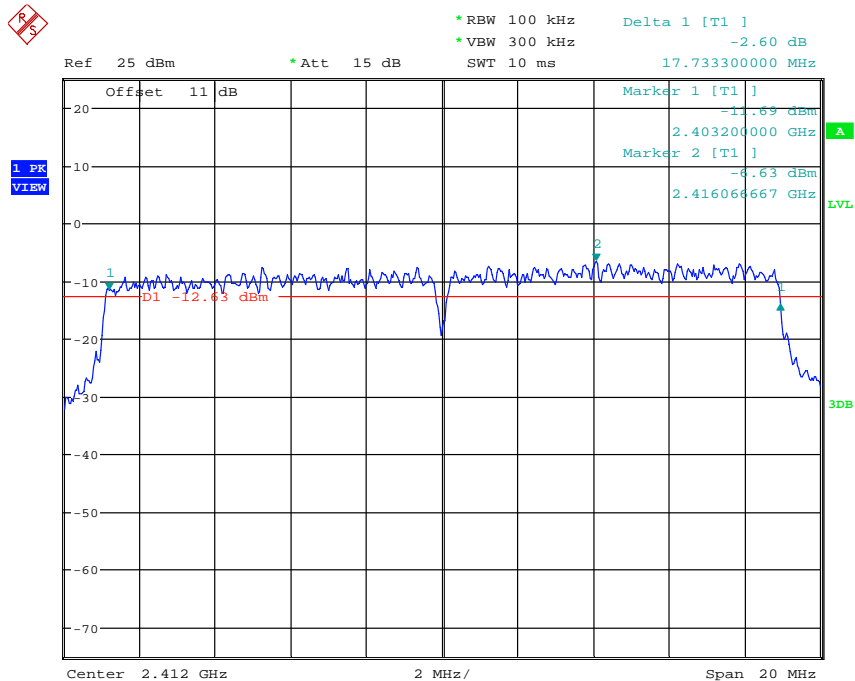
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FCC ID: S8C-DSA2LS



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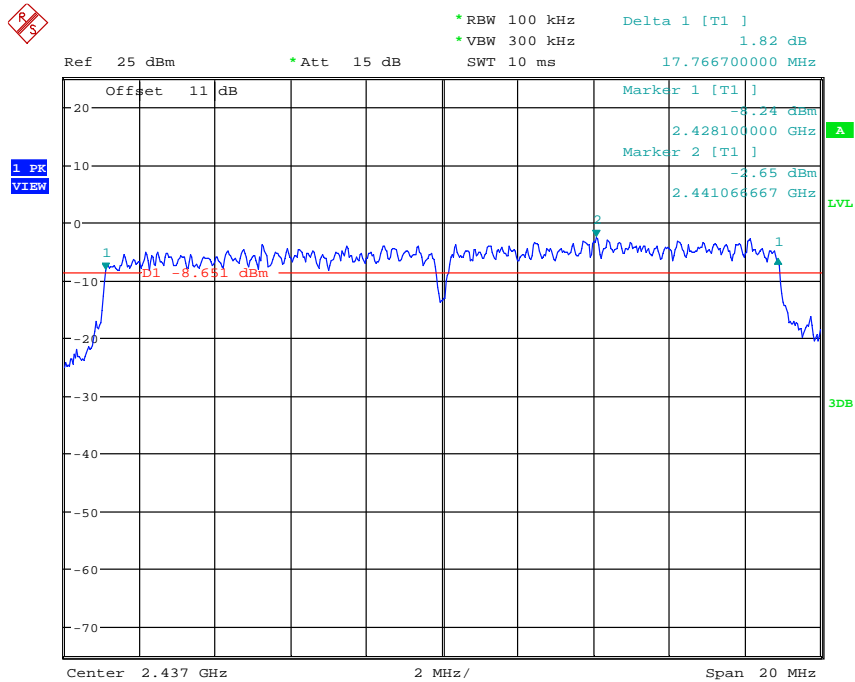


6DB BANDWIDTH 802.11N 20MHZ CH01

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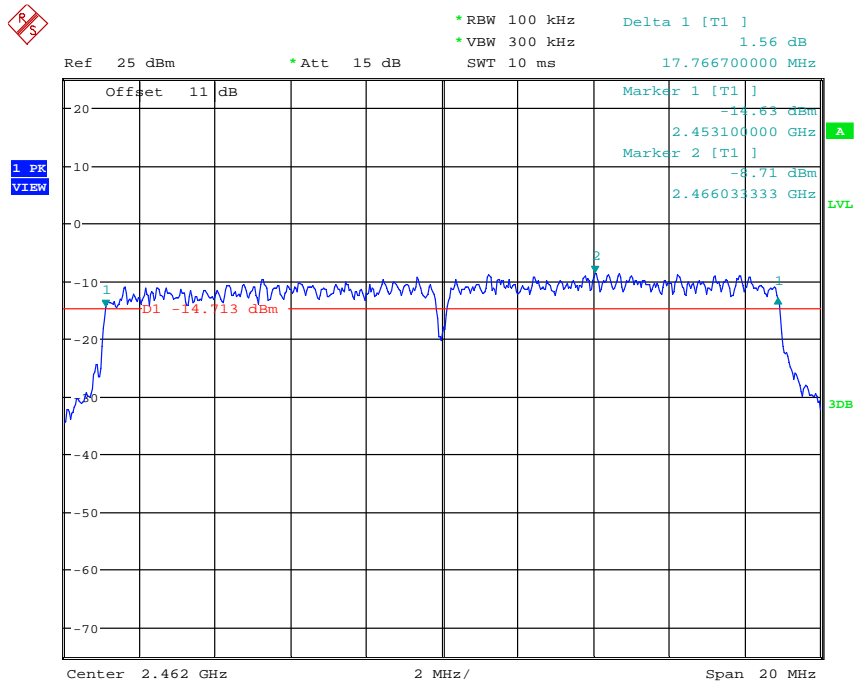


Registration number: W6M21404-14062-C-1
FCC ID: S8C-DSA2LS



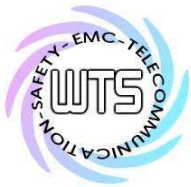
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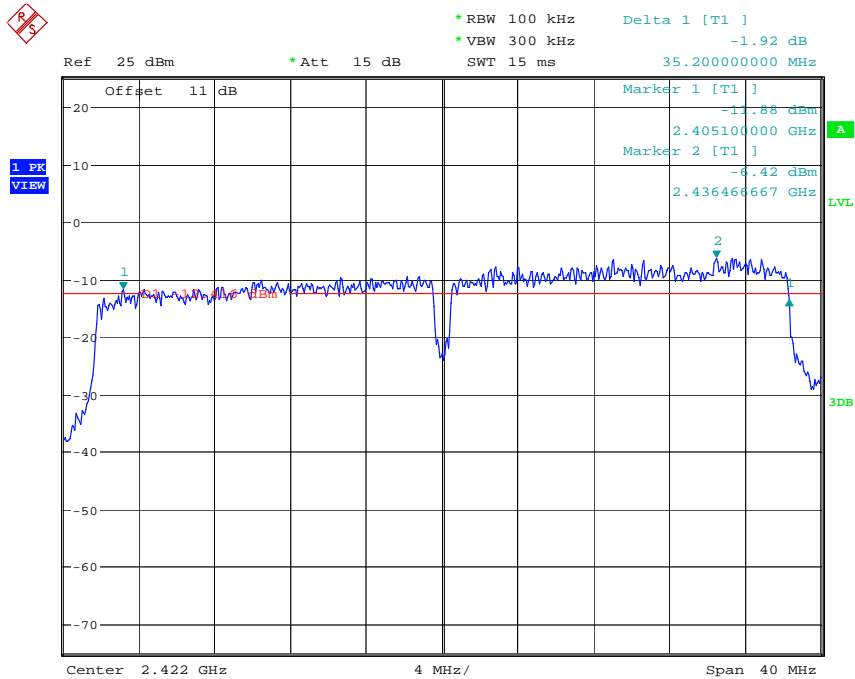
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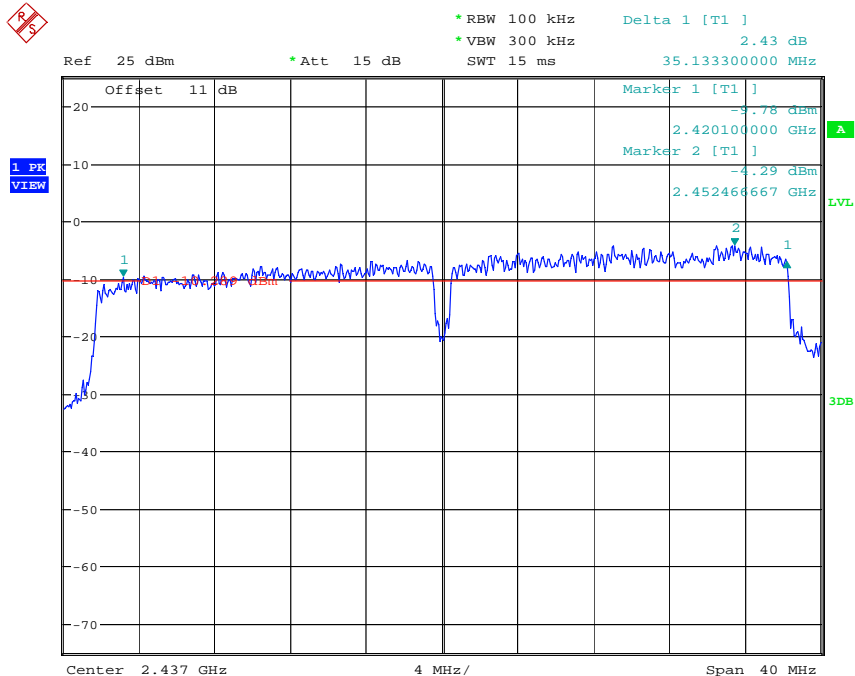
Worldwide Testing Services(Taiwan) Co., Ltd.

Registration number: W6M21404-14062-C-1
FCC ID: S8C-DSA2LS



6DB BANDWIDTH 802.11N 40MHZ CH01

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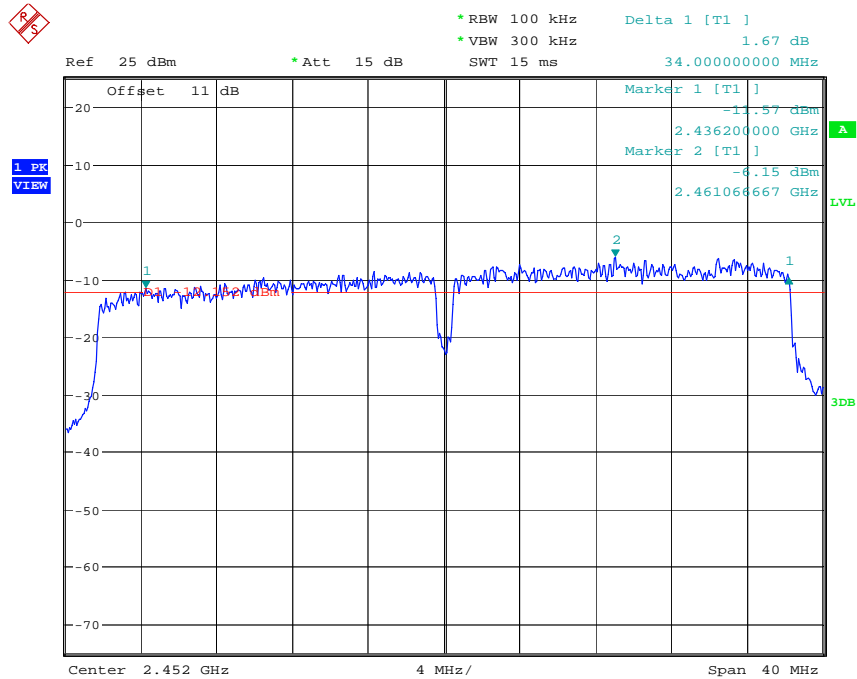


6DB BANDWIDTH 802.11N 40MHZ CH04

Date: 14.MAY.2014 07:09:53



Registration number: W6M21404-14062-C-1
FCC ID: S8C-DSA2LS



6DB BANDWIDTH 802.11N 40MHZ CH07

Date: 14.MAY.2014 07:12:20

Limits:

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

Test equipment used: ETSTW-RE 055, ETSTW-RE 050.



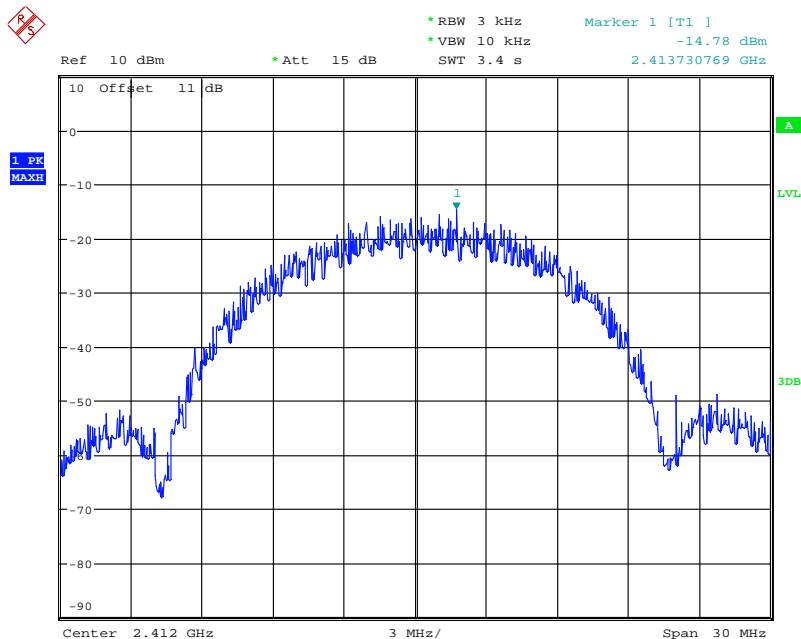
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FCC ID: S8C-DSA2LS

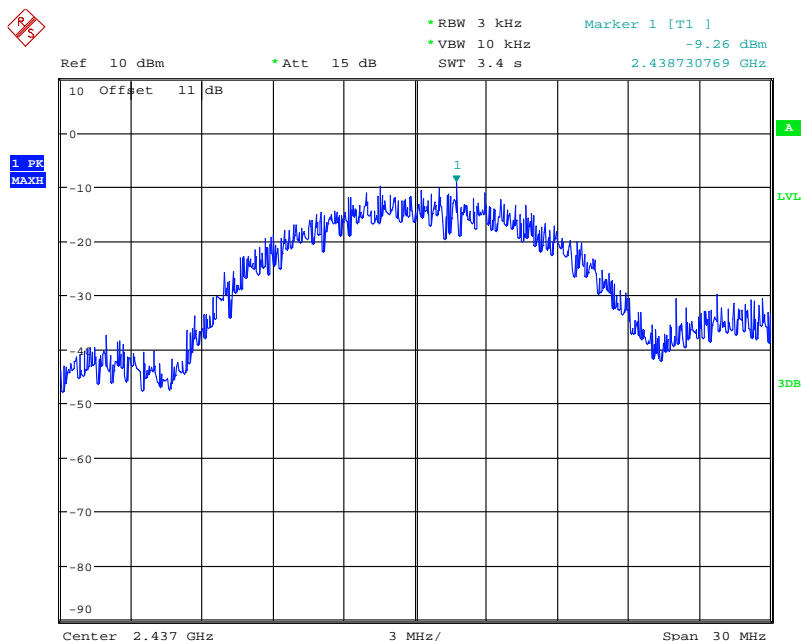
3.8 Peak Power Spectral Density

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

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



POWER DENSITY 802.11B CH01
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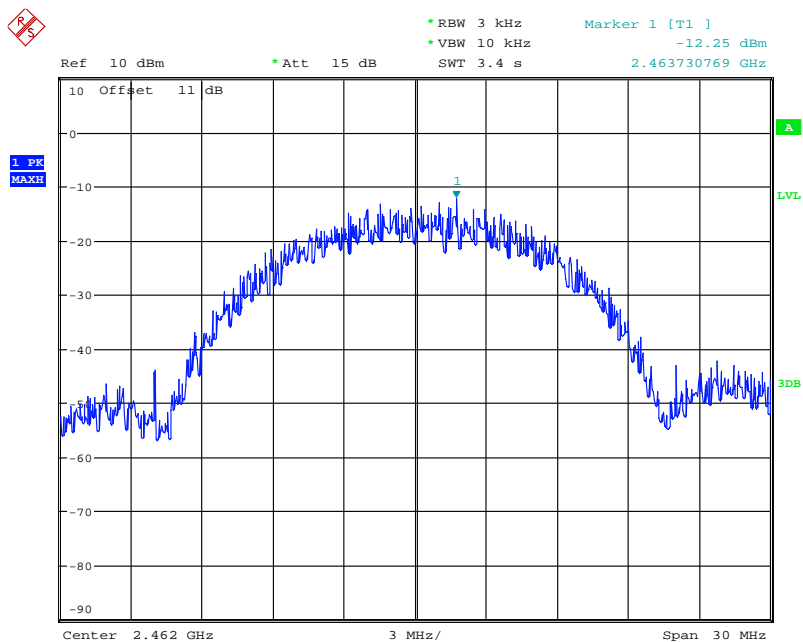


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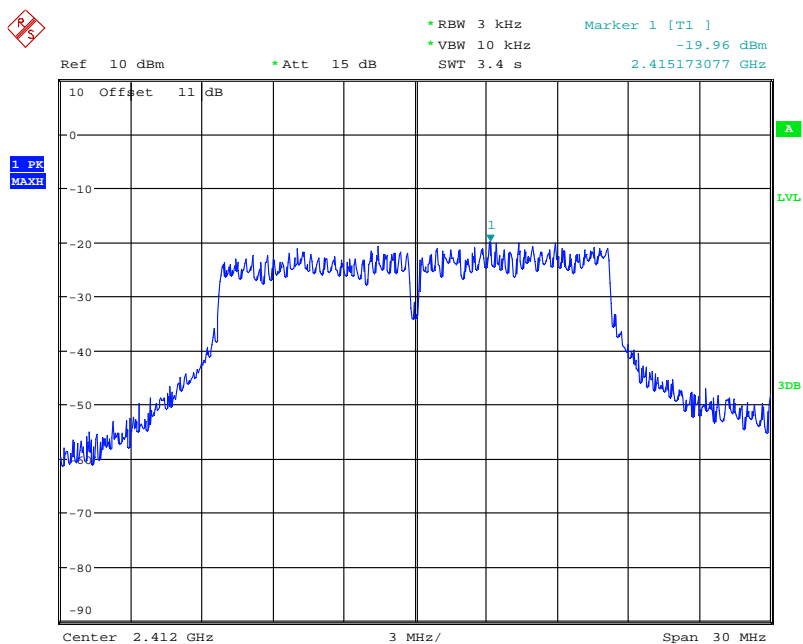


Registration number: W6M21404-14062-C-1

FCC ID: S8C-DSA2LS



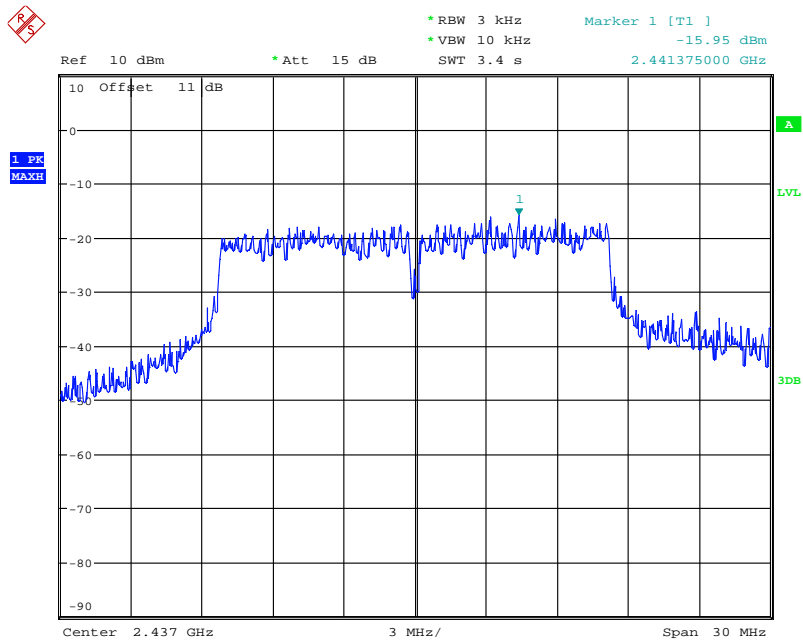
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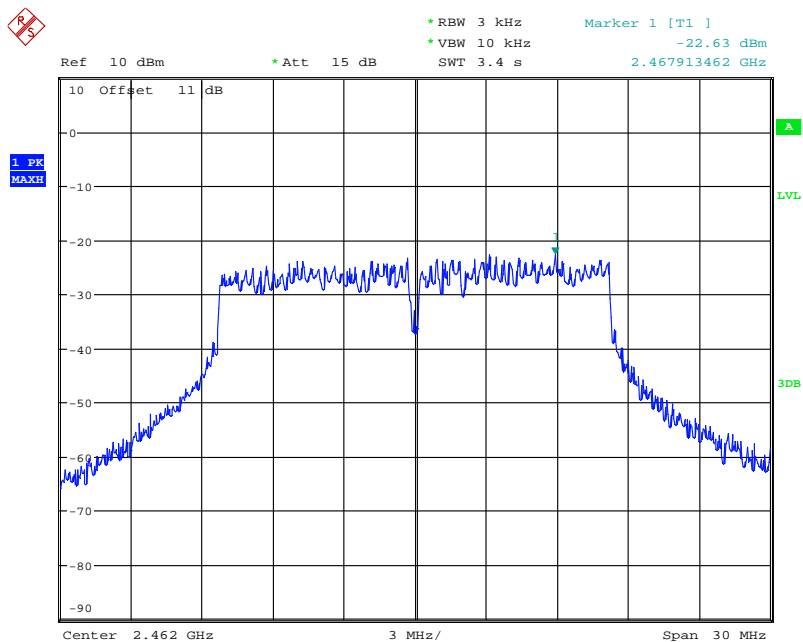
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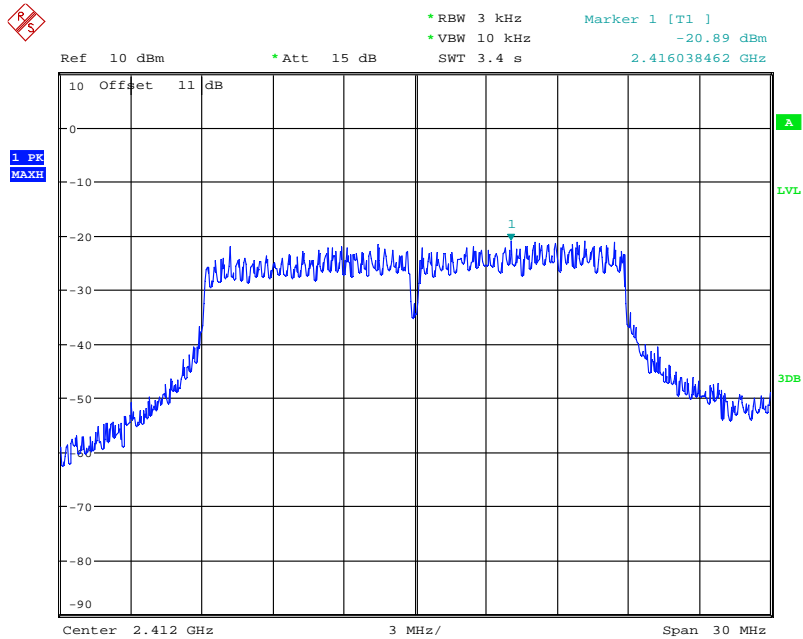
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Date: 10.MAY.2014 22:34:48



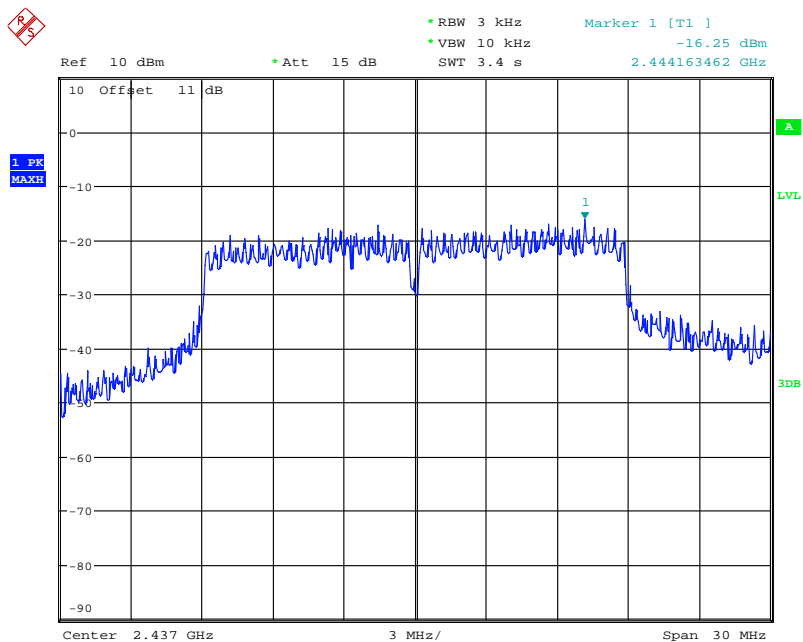
POWER DENSITY 802.11G CH11
Date: 10.MAY.2014 22:35:19



Registration number: W6M21404-14062-C-1
FCC ID: S8C-DSA2LS



POWER DENSITY 802.11N 20MHZ CH01
Date: 10.MAY.2014 22:36:03

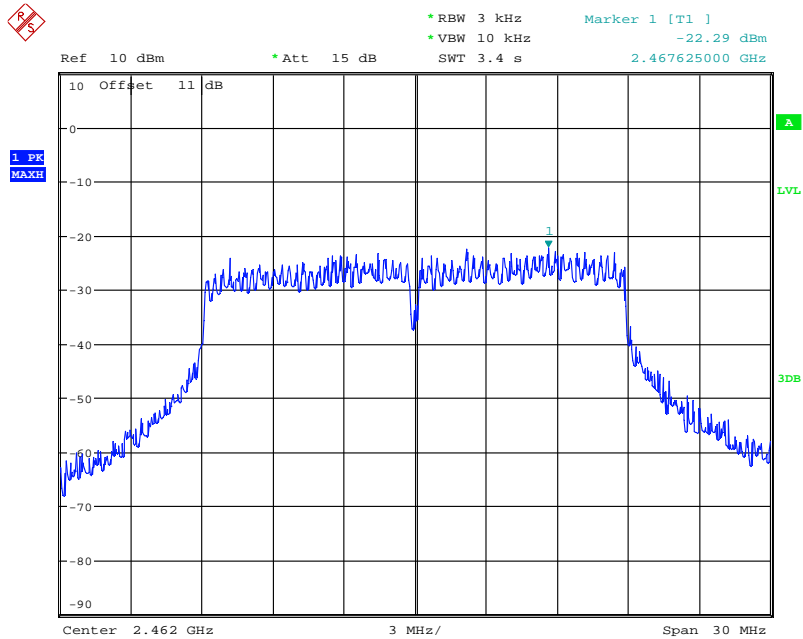


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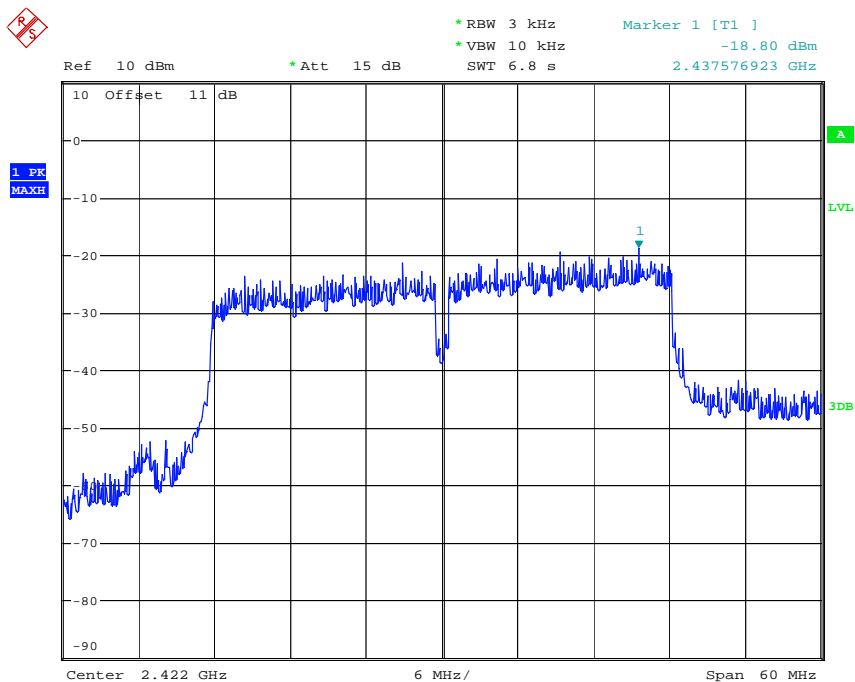


Worldwide Testing Services(Taiwan) Co., Ltd.

Registration number: W6M21404-14062-C-1
FCC ID: S8C-DSA2LS



POWER DENSITY 802.11N 20MHZ CH11
Date: 10.MAY.2014 22:37:09

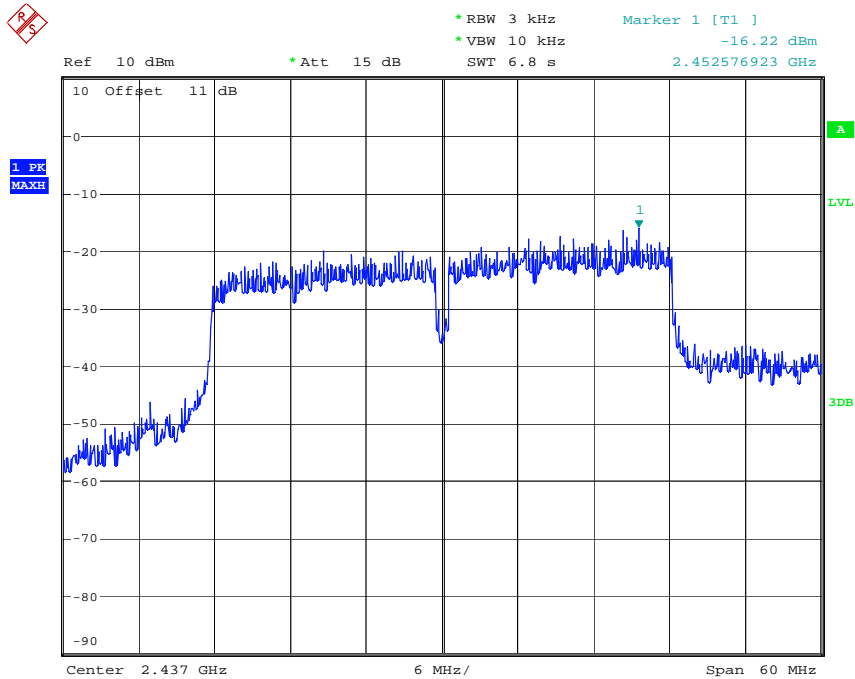


POWER DENSITY 802.11N 40MHZ CH01
Date: 14.MAY.2014 07:09:10



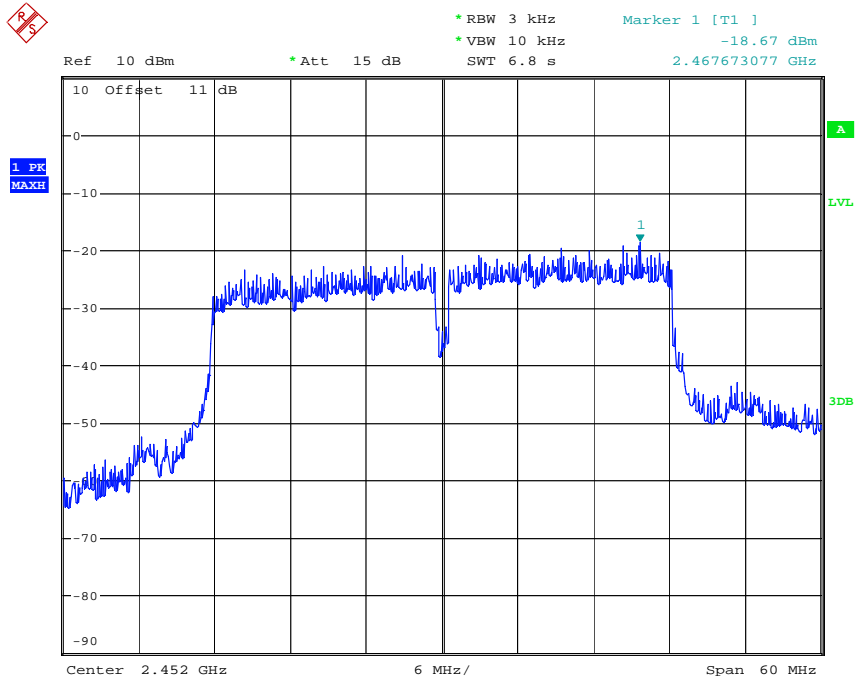
Registration number: W6M21404-14062-C-1

FCC ID: S8C-DSA2LS



POWER DENSITY 802.11N 40MHZ CH04

Date: 14.MAY.2014 07:10:04



POWER DENSITY 802.11N 40MHZ CH07

Date: 14.MAY.2014 07:12:31



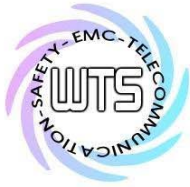
Registration number: W6M21404-14062-C-1

FCC ID: S8C-DSA2LS

Limits:

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

Test equipment used: ETSTW-RE 055, ETSTW-RE 050



Registration number: W6M21404-14062-C-1

FCC ID: S8C-DSA2LS

3.9 Radiated Emission from Digital Part

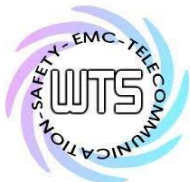
FCC Rule: 15.109

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

Frequency of Emission (MHz)	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 055, ETSTW-RE 064, ETSTW-RE 004, ETSTW-RE 030
ETSTW-RE 111

Explanation: The test results are listed in the separated test report no.: W6M21404-14062-P-15B.



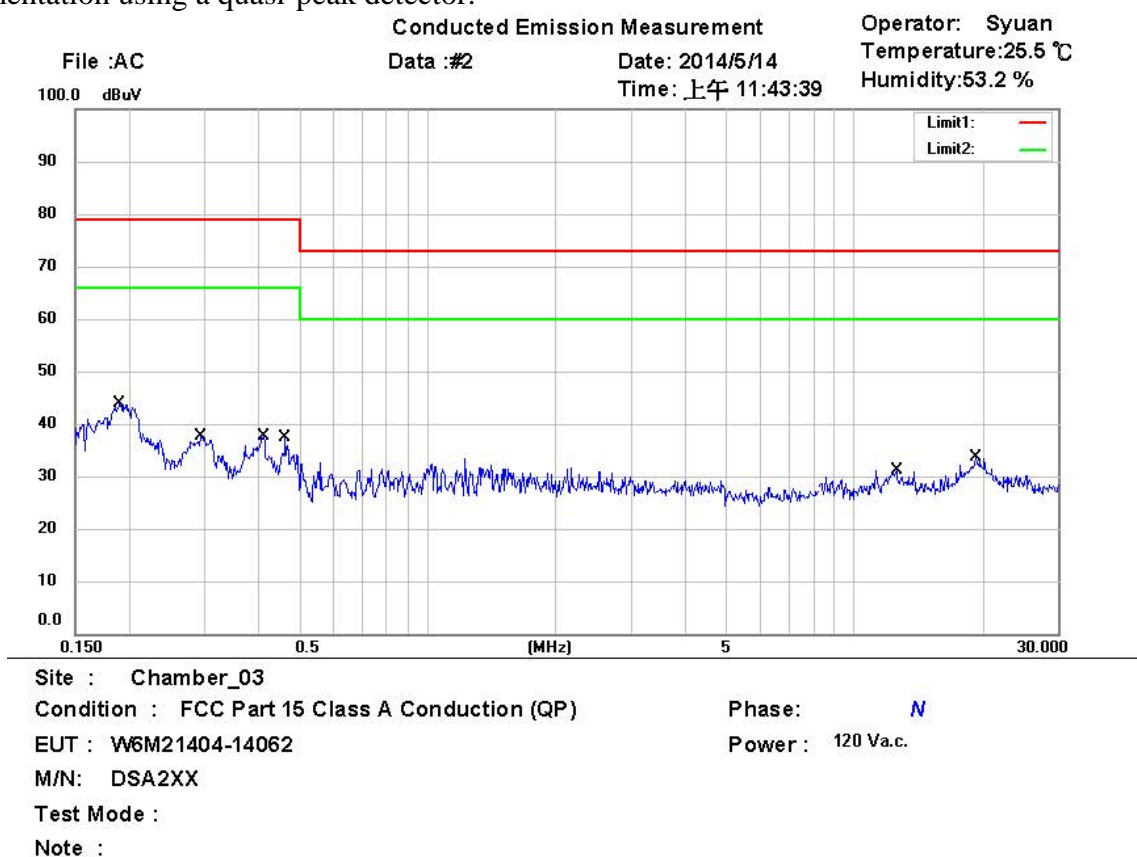
Registration number: W6M21404-14062-C-1

FCC ID: S8C-DSA2LS

3.10 Power Line Conducted Emission

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

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

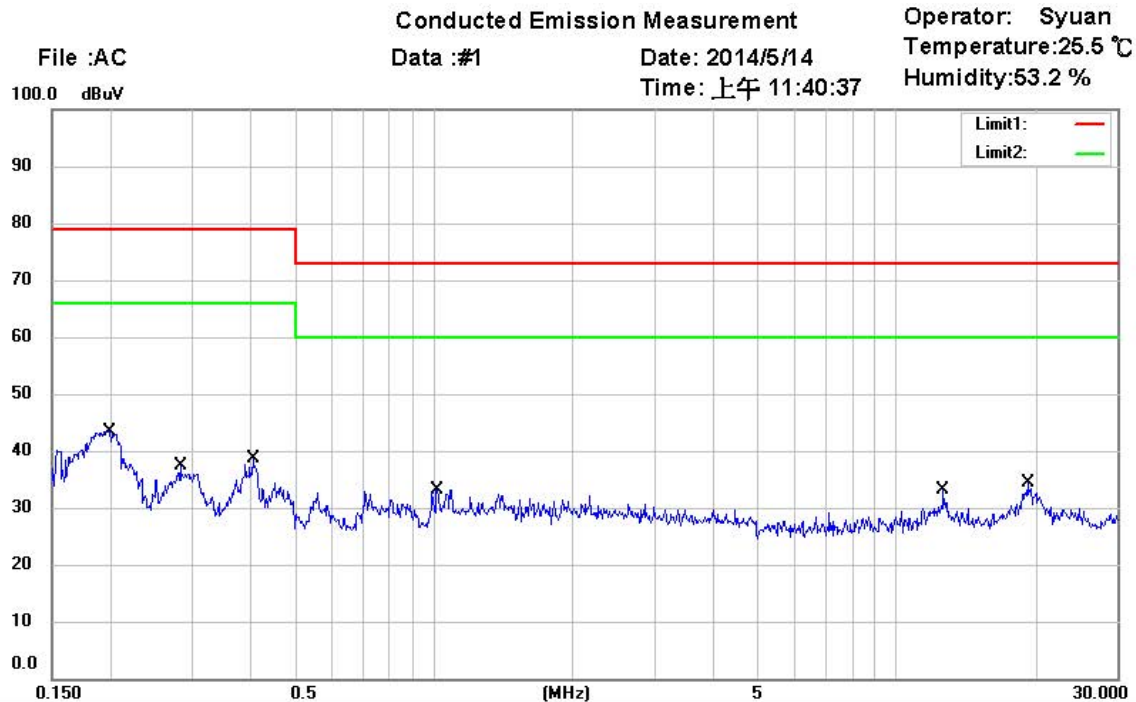


Mk.	Frequency (MHz)	Reading (dBuV)	Detector	Corrected factor(dB)	Result (dBuV)	Limit (dBuV)	Margin (dB)	Comment
*	0.1904	29.71	QP	9.67	39.38	79.00	-39.62	
	0.1904	13.49	AVG	9.67	23.16	66.00	-42.84	
	0.2940	22.59	QP	9.67	32.26	79.00	-46.74	
	0.2940	6.95	AVG	9.67	16.62	66.00	-49.38	
	0.4110	19.77	QP	9.68	29.45	79.00	-49.55	
	0.4110	8.24	AVG	9.68	17.92	66.00	-48.08	
	0.4634	16.66	QP	9.68	26.34	79.00	-52.66	
	0.4634	4.59	AVG	9.68	14.27	66.00	-51.73	
	12.5625	12.27	QP	10.07	22.34	73.00	-50.66	
	12.5625	6.09	AVG	10.07	16.16	60.00	-43.84	
	19.2250	16.18	QP	10.19	26.37	73.00	-46.63	
	19.2250	9.42	AVG	10.19	19.61	60.00	-40.39	



Worldwide Testing Services(Taiwan) Co., Ltd.

Registration number: W6M21404-14062-C-1
FCC ID: S8C-DSA2LS



Mk.	Frequency (MHz)	Reading (dBuV)	Detector	Corrected factor(dB)	Result (dBuV)	Limit (dBuV)	Margin (dB)	Comment
*	0.1992	30.67	QP	9.66	40.33	79.00	-38.67	
	0.1992	14.41	AVG	9.66	24.07	66.00	-41.93	
	0.2821	19.61	QP	9.66	29.27	79.00	-49.73	
	0.2821	6.51	AVG	9.66	16.17	66.00	-49.83	
	0.4044	19.34	QP	9.67	29.01	79.00	-49.99	
	0.4044	11.79	AVG	9.67	21.46	66.00	-44.54	
	1.0175	14.67	QP	9.70	24.37	73.00	-48.63	
	1.0175	6.41	AVG	9.70	16.11	60.00	-43.89	
	12.6375	13.77	QP	10.01	23.78	73.00	-49.22	
	12.6375	8.16	AVG	10.01	18.17	60.00	-41.83	
	19.1750	15.64	QP	10.05	25.69	73.00	-47.31	
	19.1750	9.01	AVG	10.05	19.06	60.00	-40.94	

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

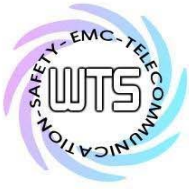


Registration number: W6M21404-14062-C-1
FCC ID: S8C-DSA2LS

Limits:

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

Test equipment used: ETSTW-CE 001, ETSTW-CE 016, ETSTW-CE 006, ETSTW-RE 045



Registration number: W6M21404-14062-C-1
FCC ID: S8C-DSA2LS

Appendix

Measurement diagrams

Spurious Emissions radiated



Worldwide Testing Services(Taiwan) Co., Ltd.

Registration number: W6M21404-14062-C-1

FCC ID: S8C-DSA2LS

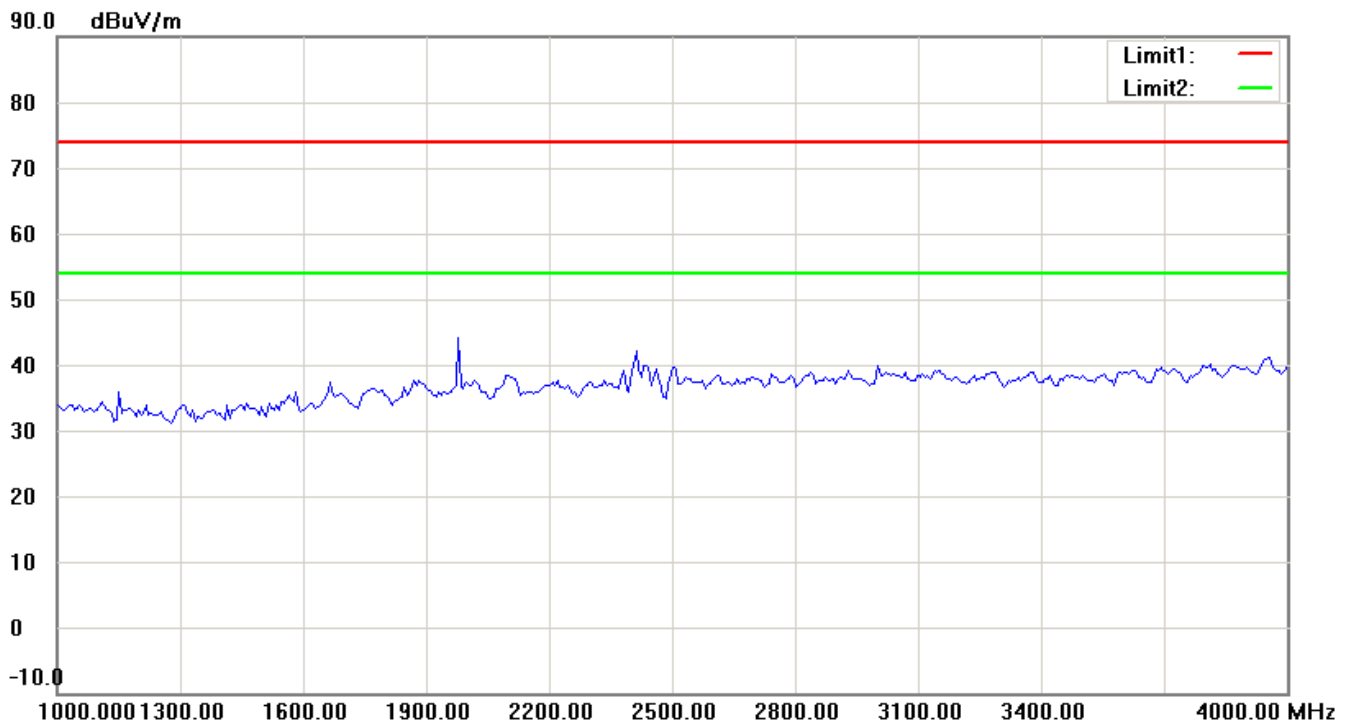
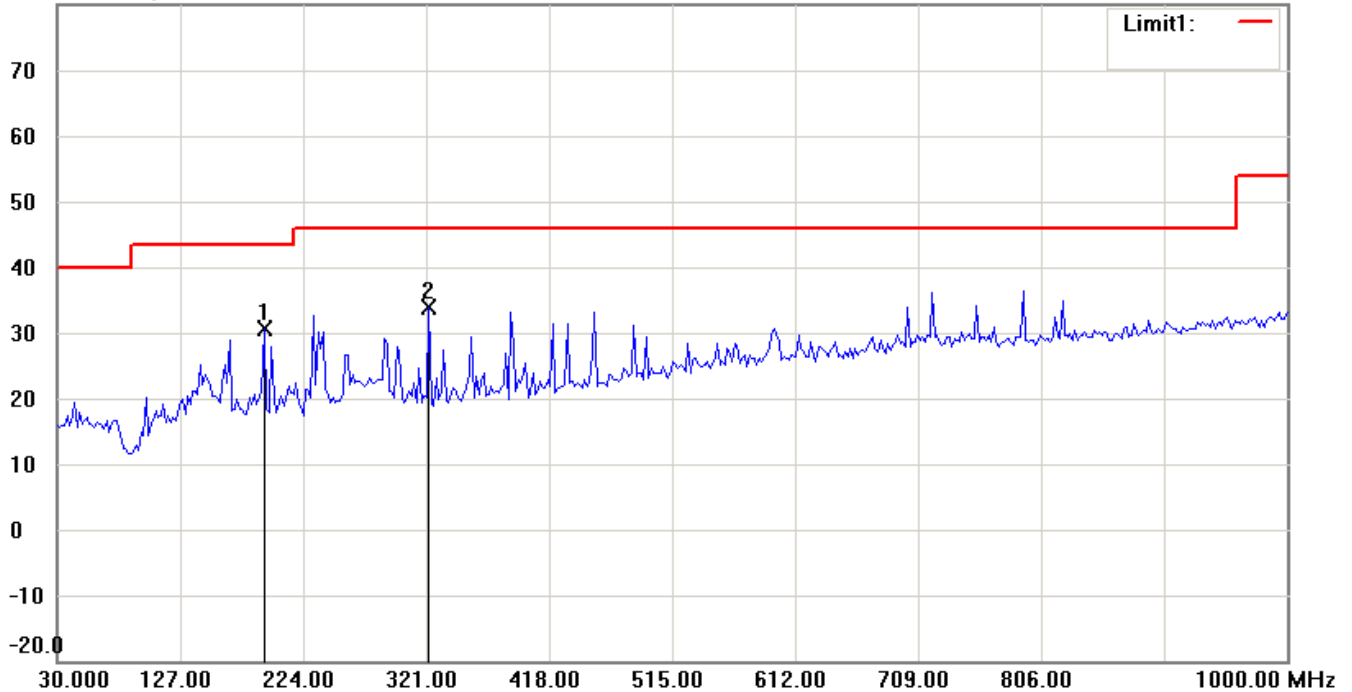
Spurious Emissions radiated

802.11b

CH1

Antenna Polarization H

80.0 dBuV/m



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

Note:

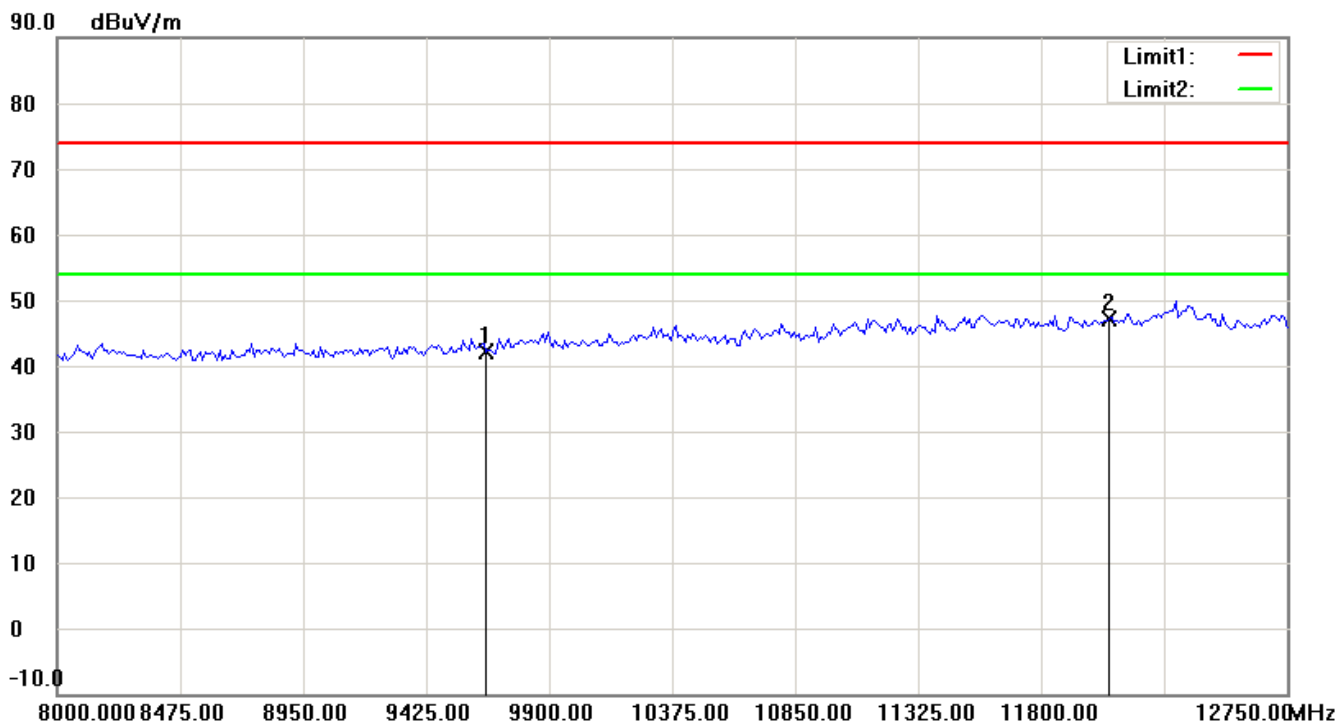
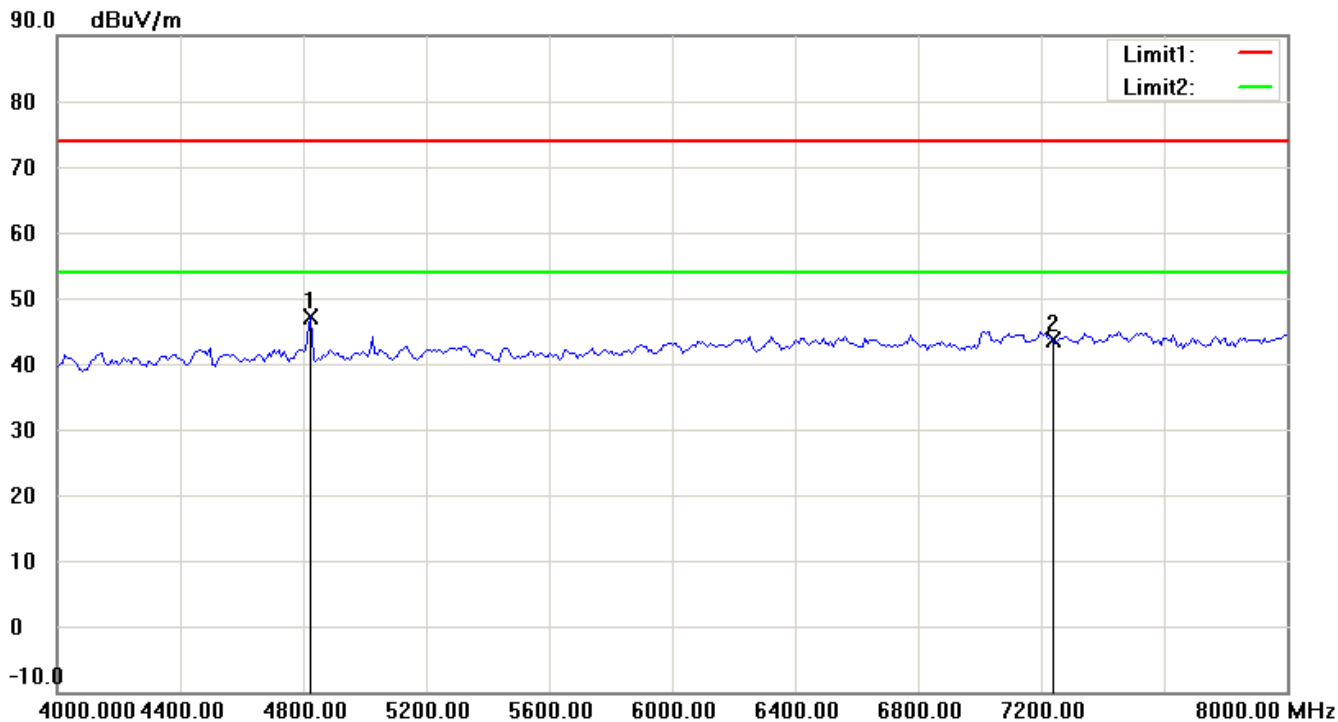
1. The attached measurement plots are preliminarily pre-scanned with peak detector for determining the final checking frequencies and are for reference only.
2. The some frequencies may exceed the limit line without the specified detectors, but that cannot present the results are failed to the specification 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: W6M21404-14062-C-1

FCC ID: S8C-DSA2LS



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

Note:

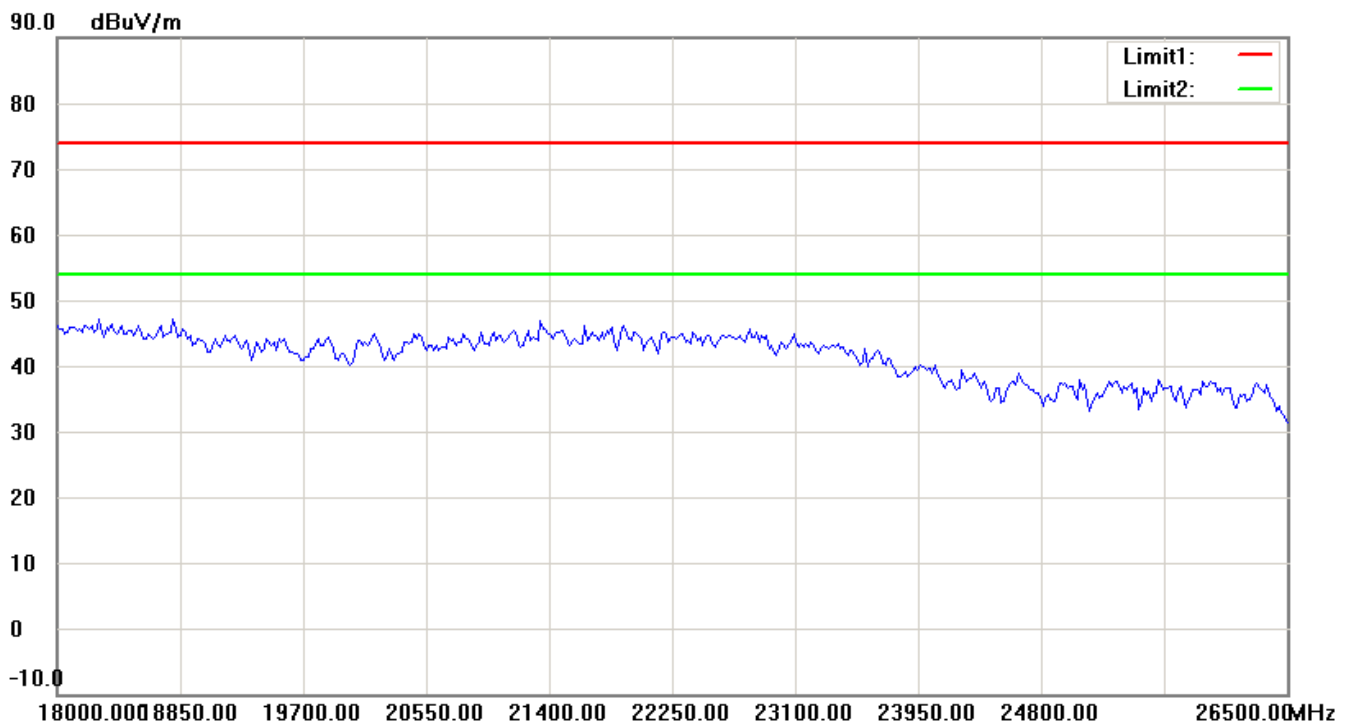
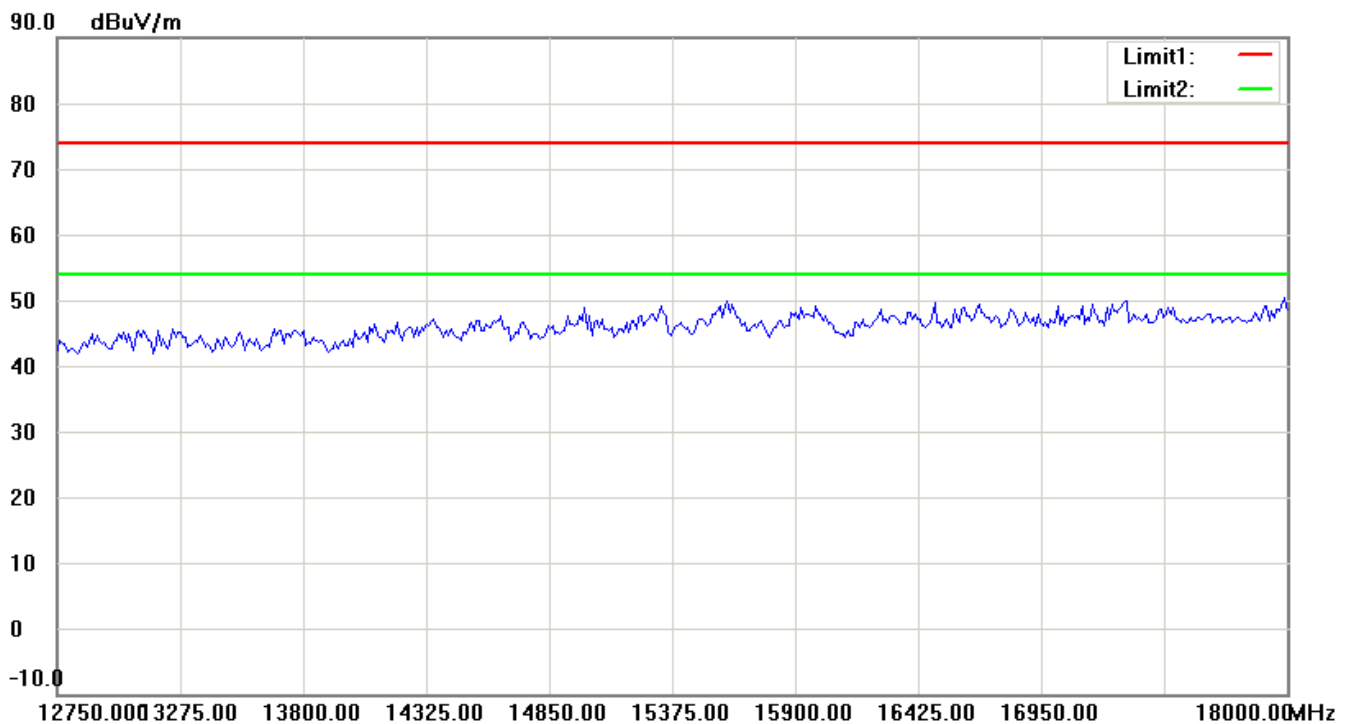
1. The attached measurement plots are preliminarily pre-scanned with peak detector for determining the final checking frequencies and are for reference only.
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Worldwide Testing Services(Taiwan) Co., Ltd.

Registration number: W6M21404-14062-C-1

FCC ID: S8C-DSA2LS



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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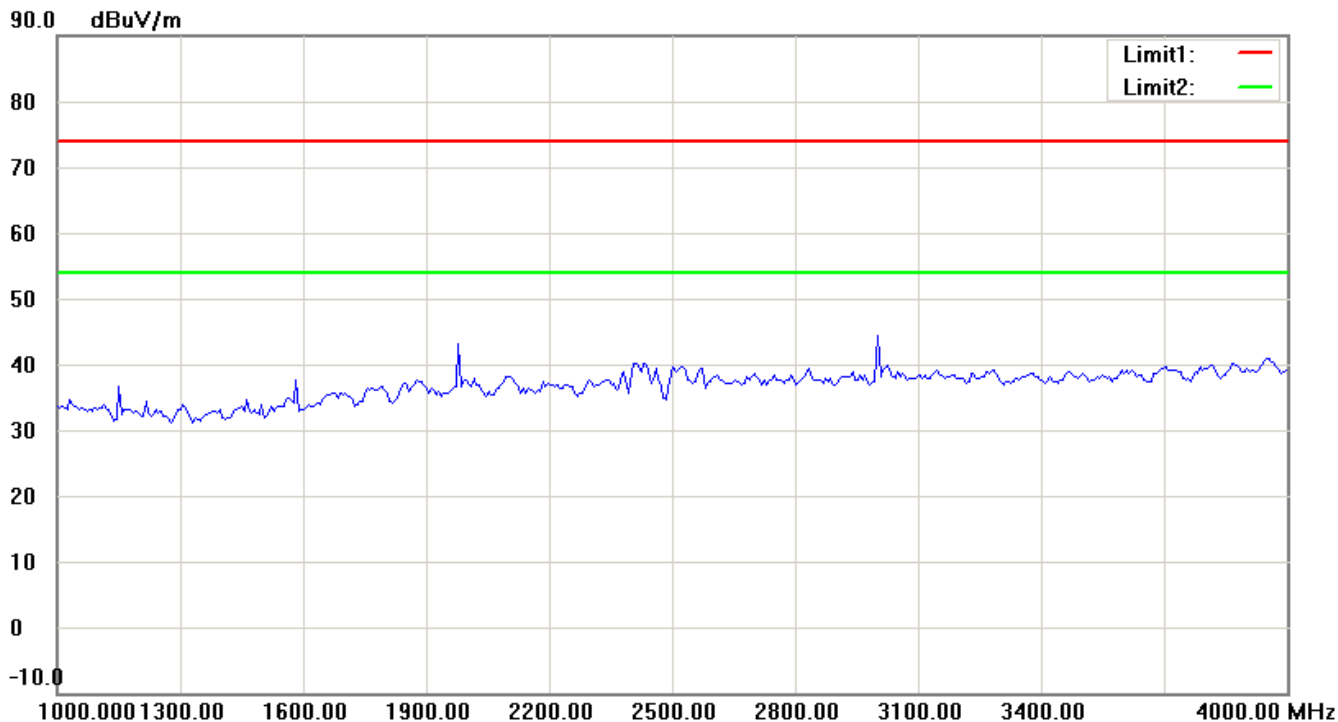
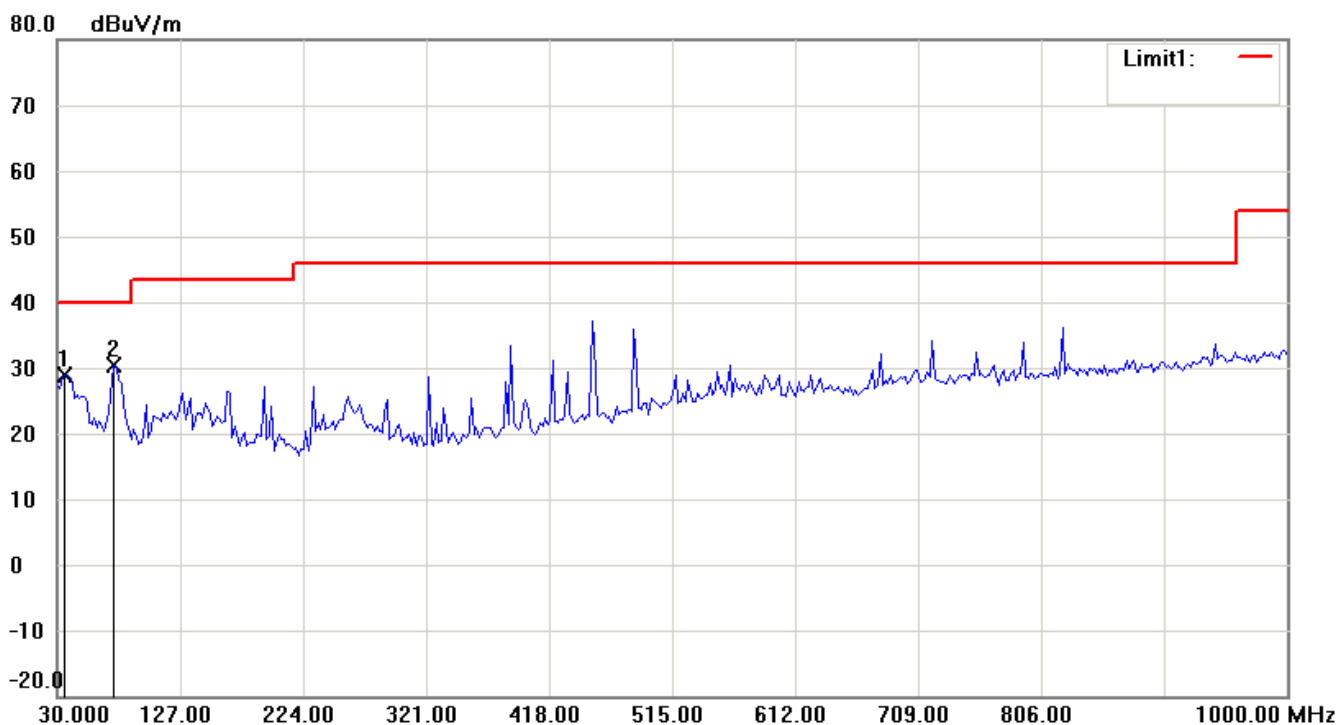


Worldwide Testing Services(Taiwan) Co., Ltd.

Registration number: W6M21404-14062-C-1

FCC ID: S8C-DSA2LS

Antenna Polarization V



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

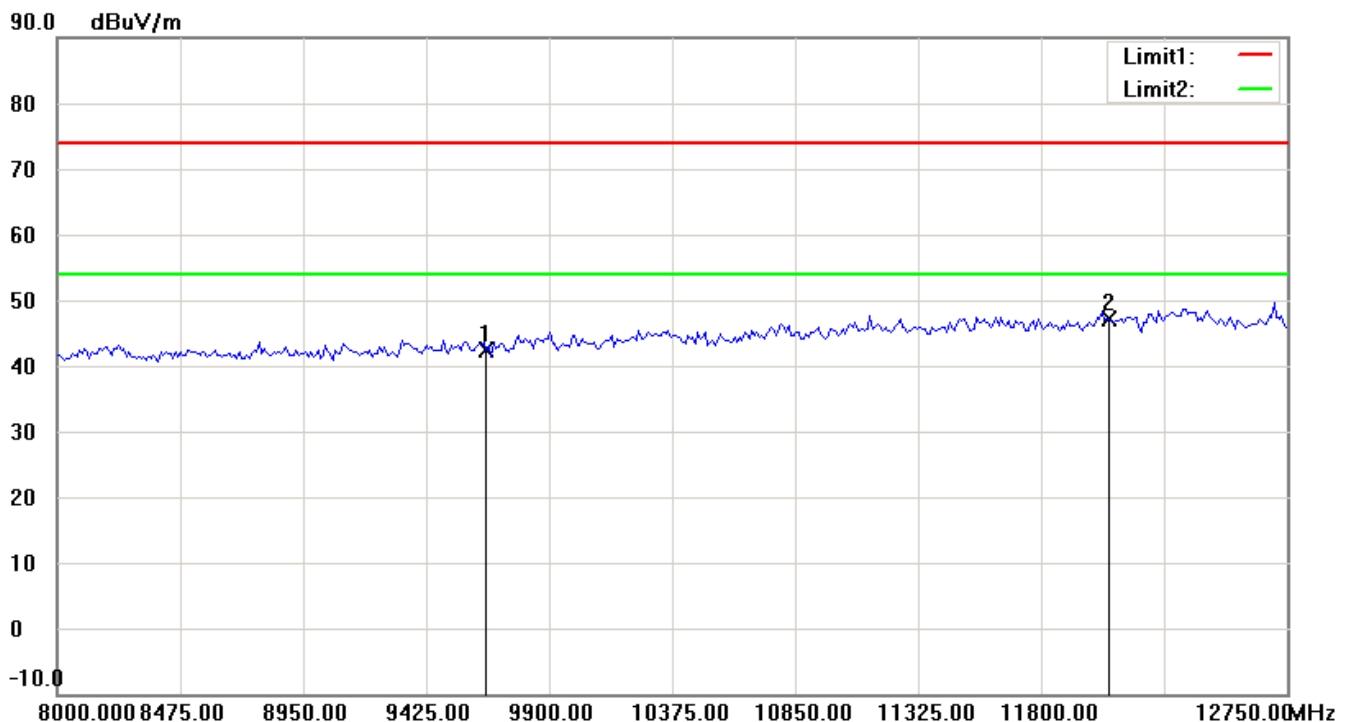
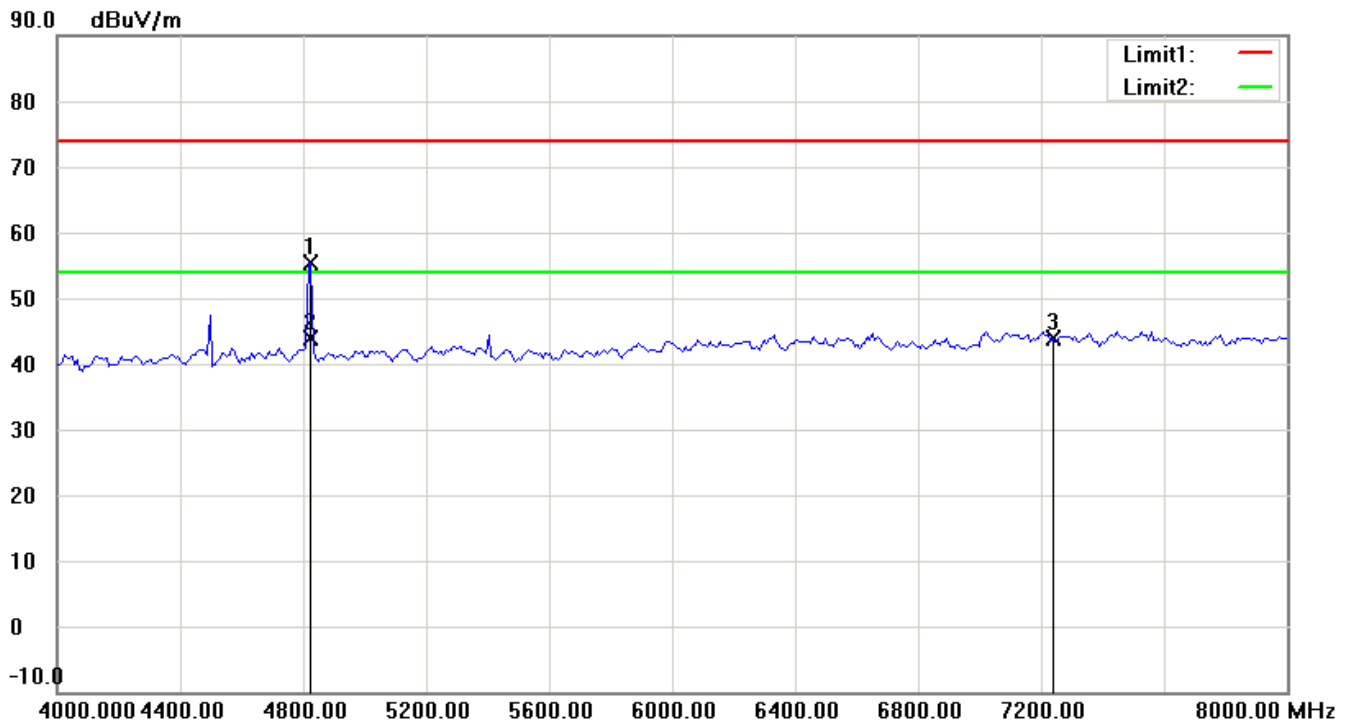
Note:

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



Registration number: W6M21404-14062-C-1

FCC ID: S8C-DSA2LS



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

Note:

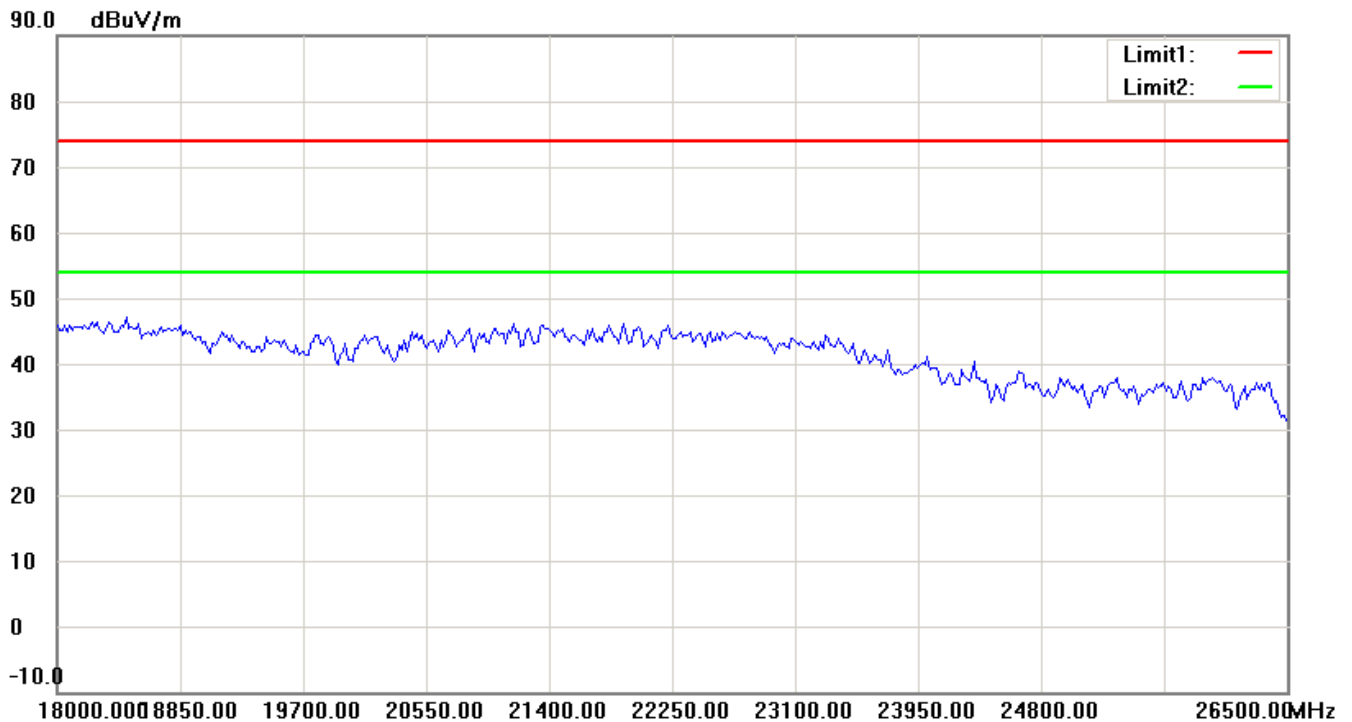
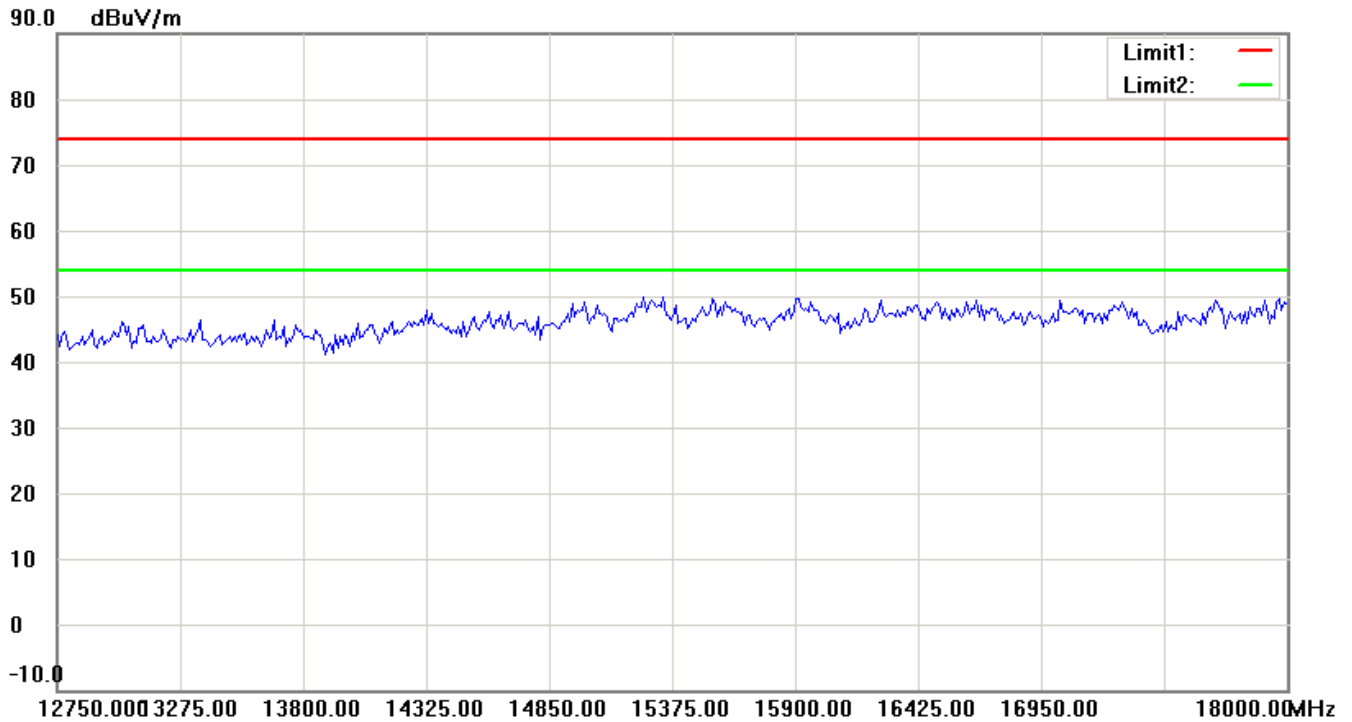
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Worldwide Testing Services(Taiwan) Co., Ltd.

Registration number: W6M21404-14062-C-1

FCC ID: S8C-DSA2LS



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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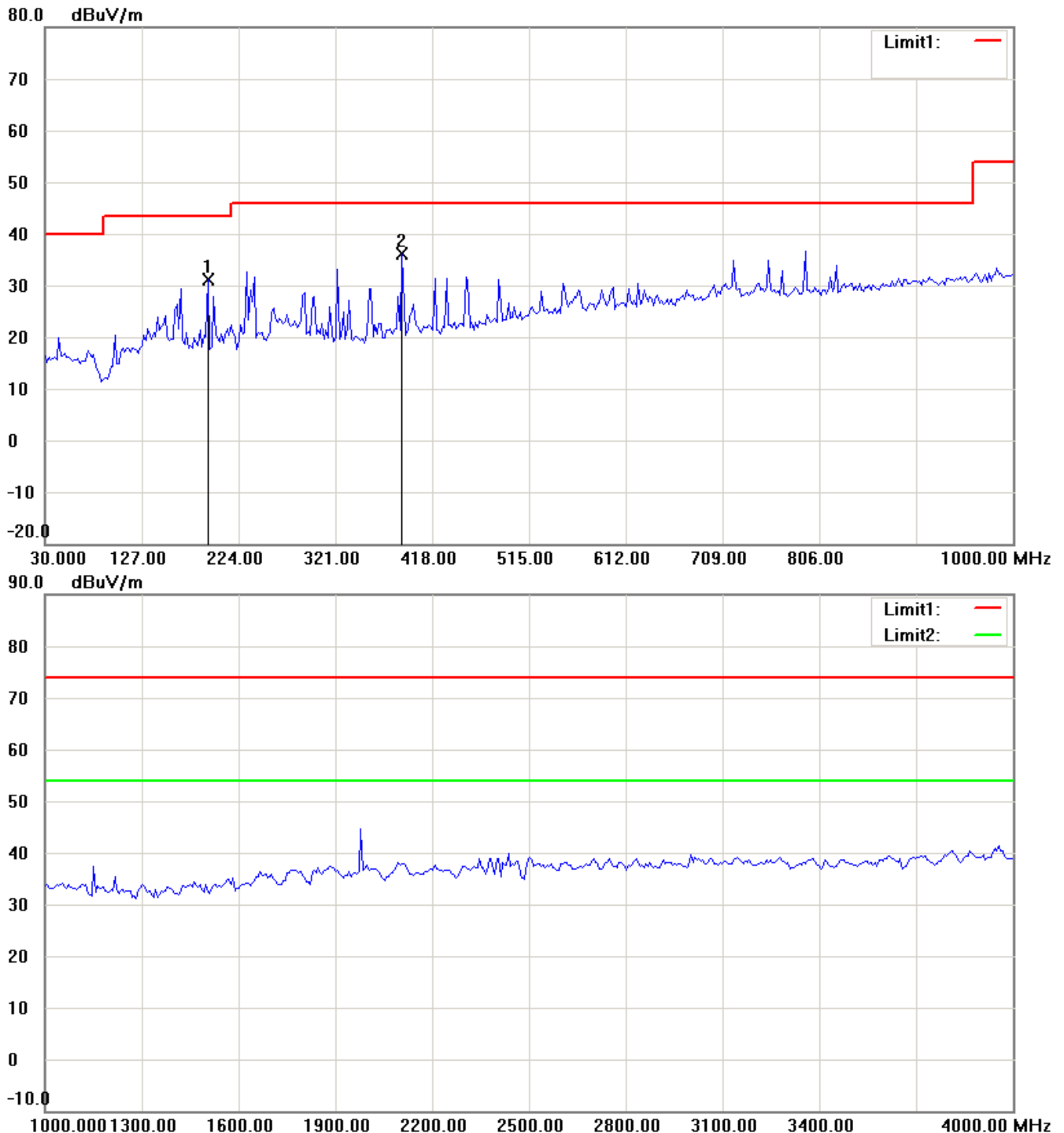
Worldwide Testing Services(Taiwan) Co., Ltd.

Registration number: W6M21404-14062-C-1

FCC ID: S8C-DSA2LS

CH6

Antenna Polarization H



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

Note:

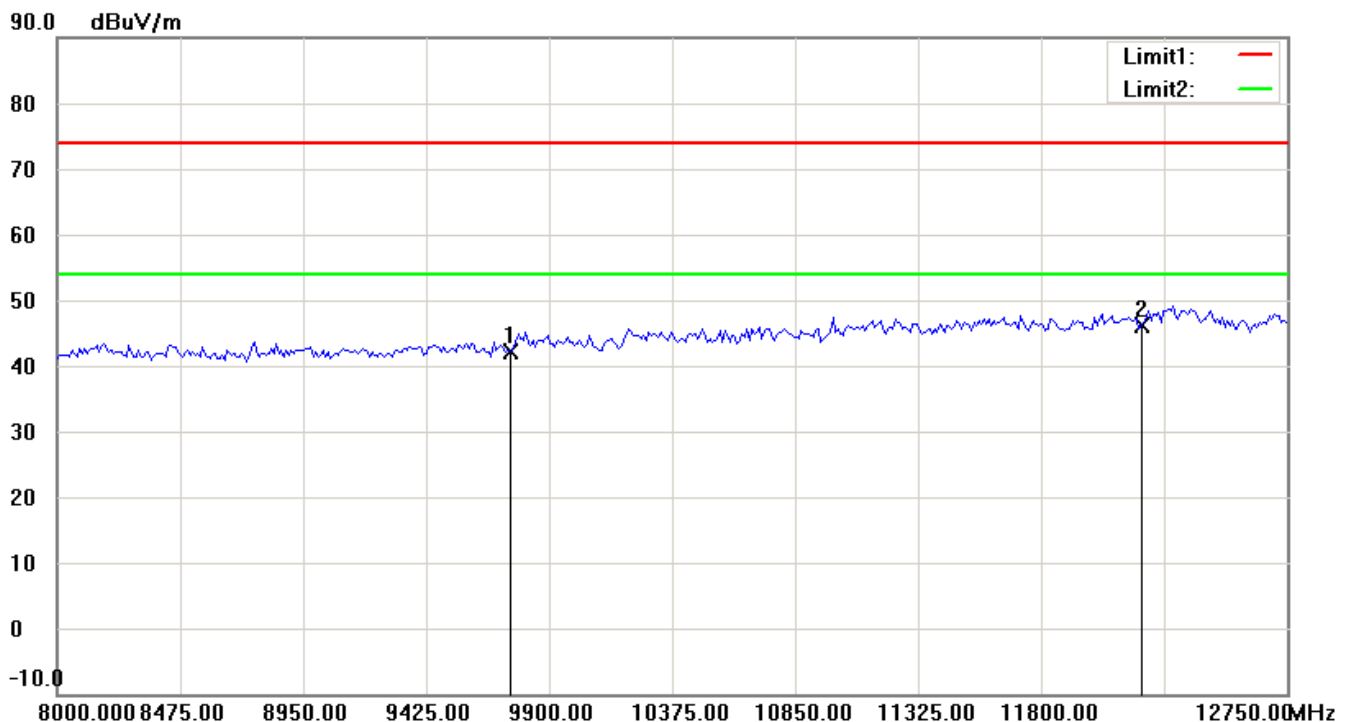
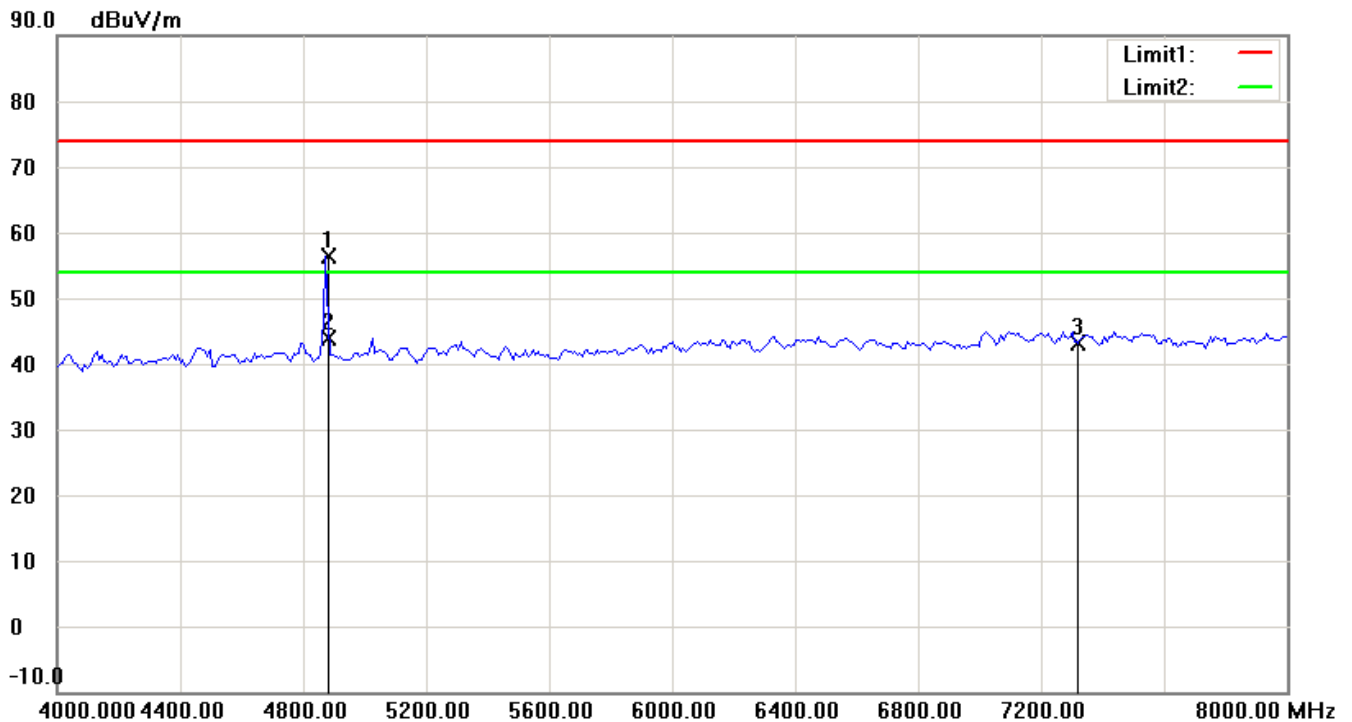
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2. The some frequencies may exceed the limit line without the specified detectors, but that cannot present the results are failed to the specification of test standard.
3. For corrected test results are listed in the relevant table of radiated test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



Worldwide Testing Services(Taiwan) Co., Ltd.

Registration number: W6M21404-14062-C-1

FCC ID: S8C-DSA2LS



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

Note:

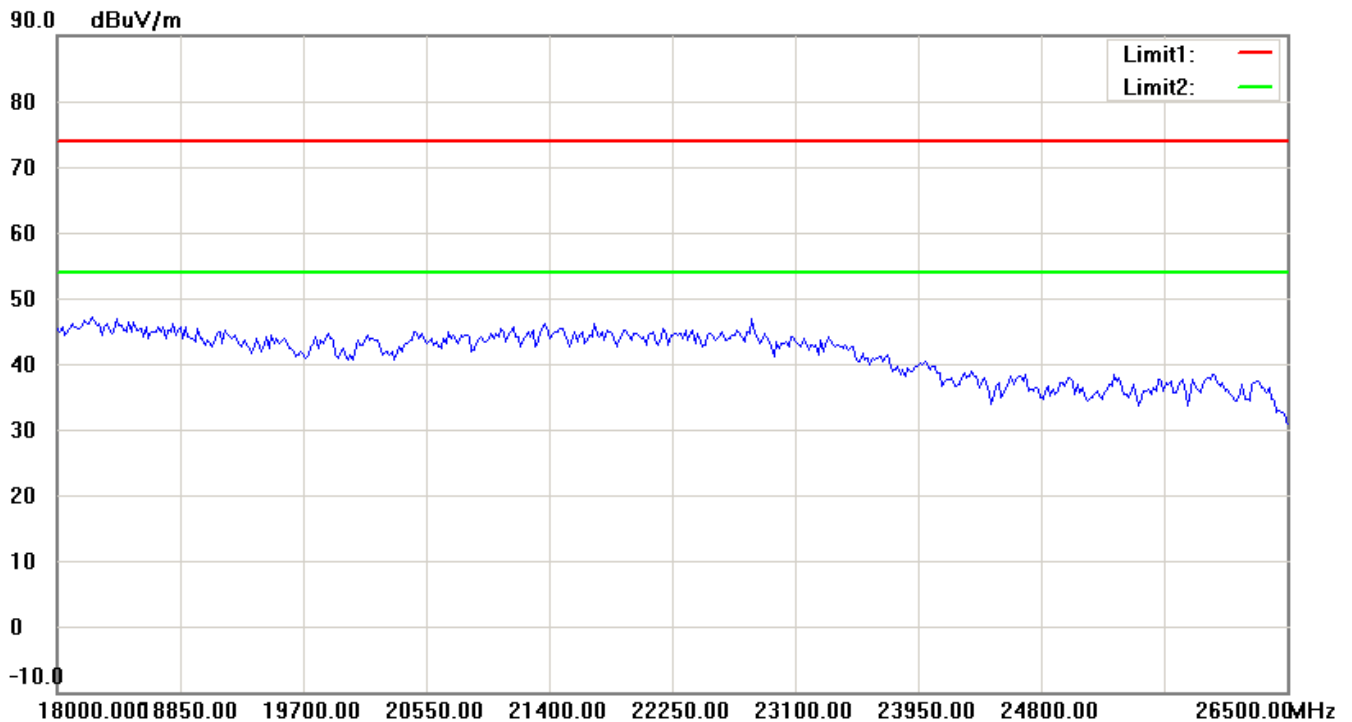
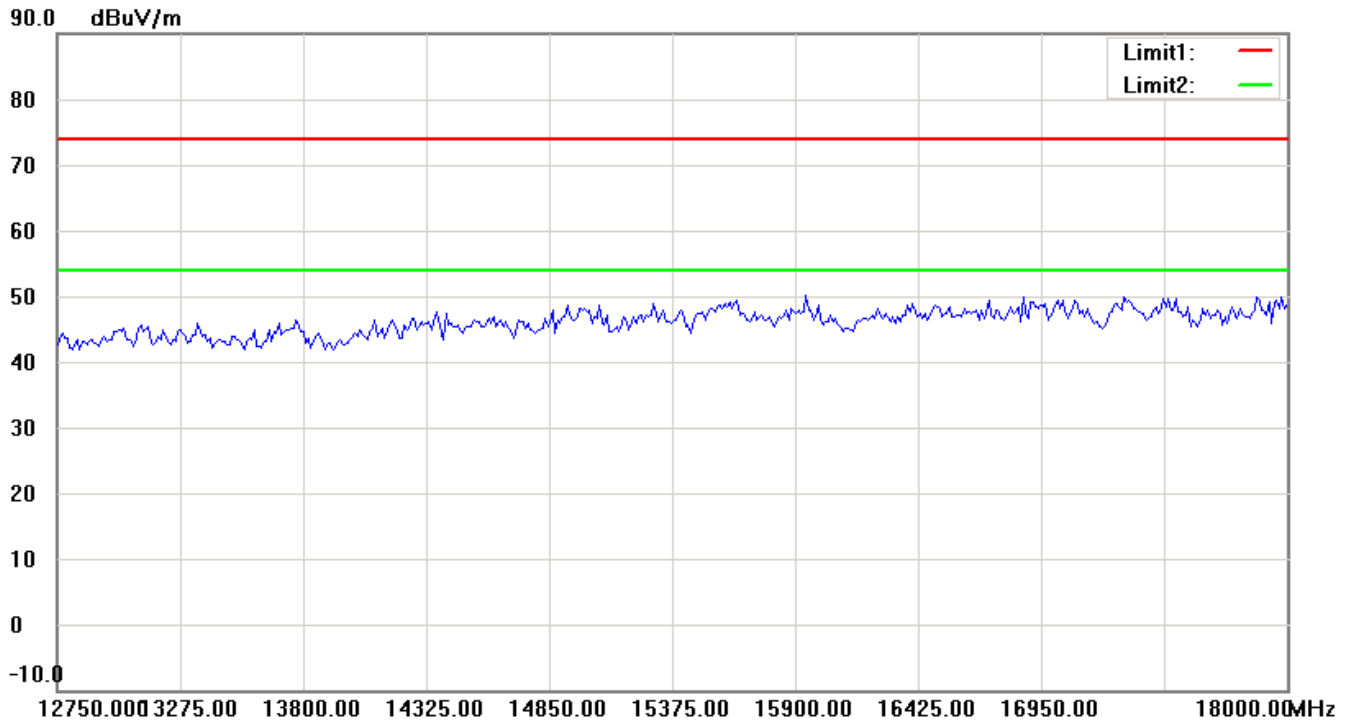
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Worldwide Testing Services(Taiwan) Co., Ltd.

Registration number: W6M21404-14062-C-1

FCC ID: S8C-DSA2LS



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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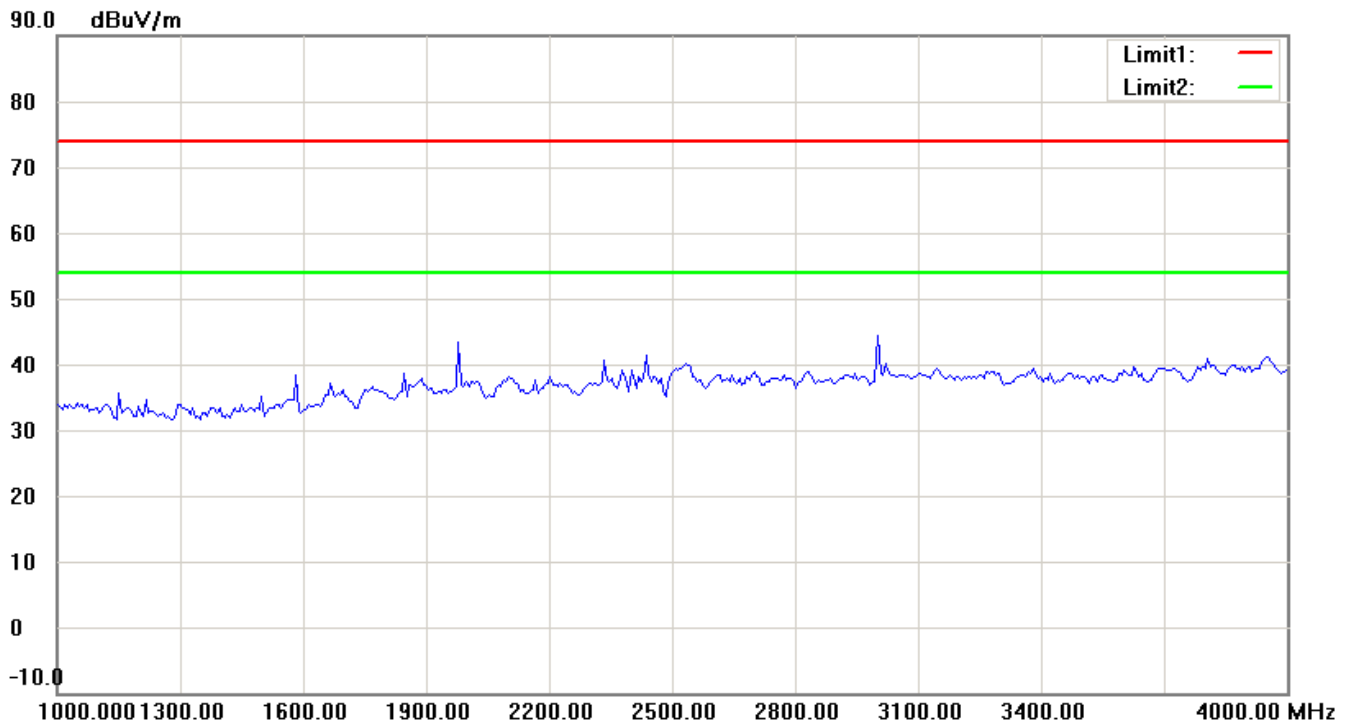
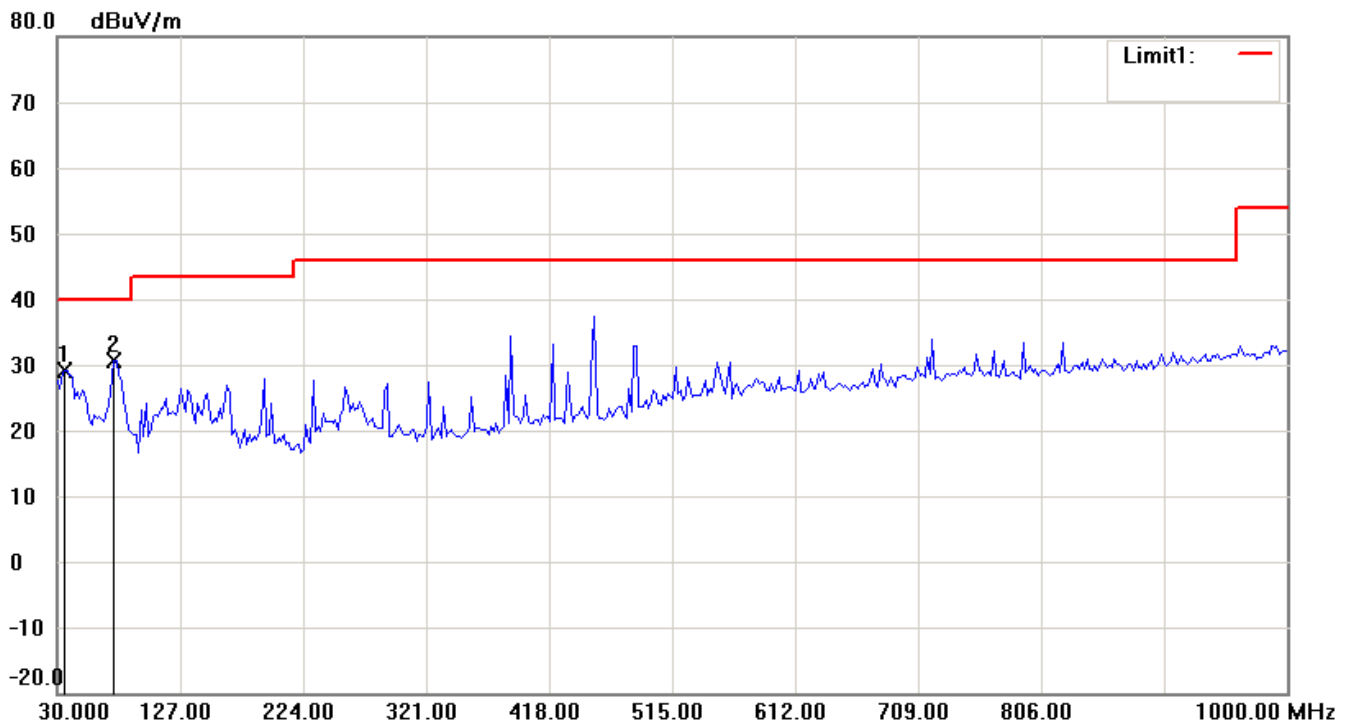


Worldwide Testing Services(Taiwan) Co., Ltd.

Registration number: W6M21404-14062-C-1

FCC ID: S8C-DSA2LS

Antenna Polarization V



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

Note:

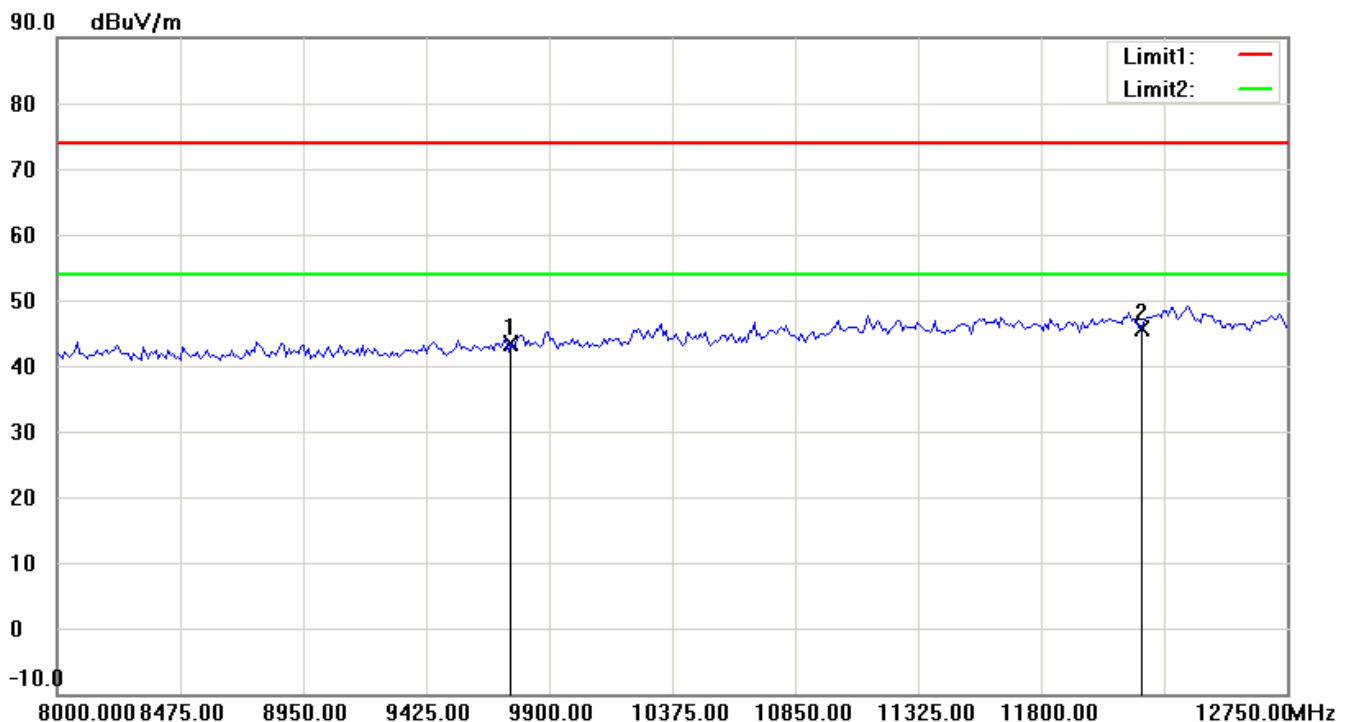
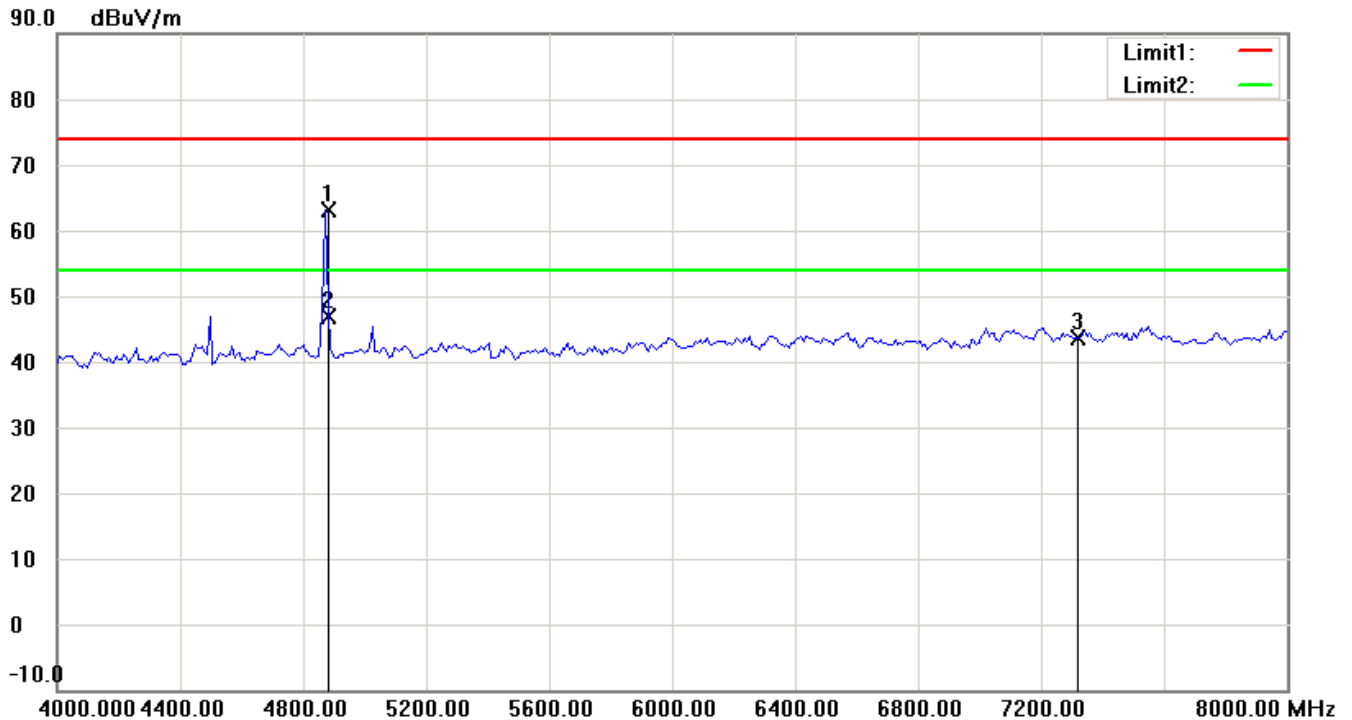
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Worldwide Testing Services(Taiwan) Co., Ltd.

Registration number: W6M21404-14062-C-1

FCC ID: S8C-DSA2LS



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

Note:

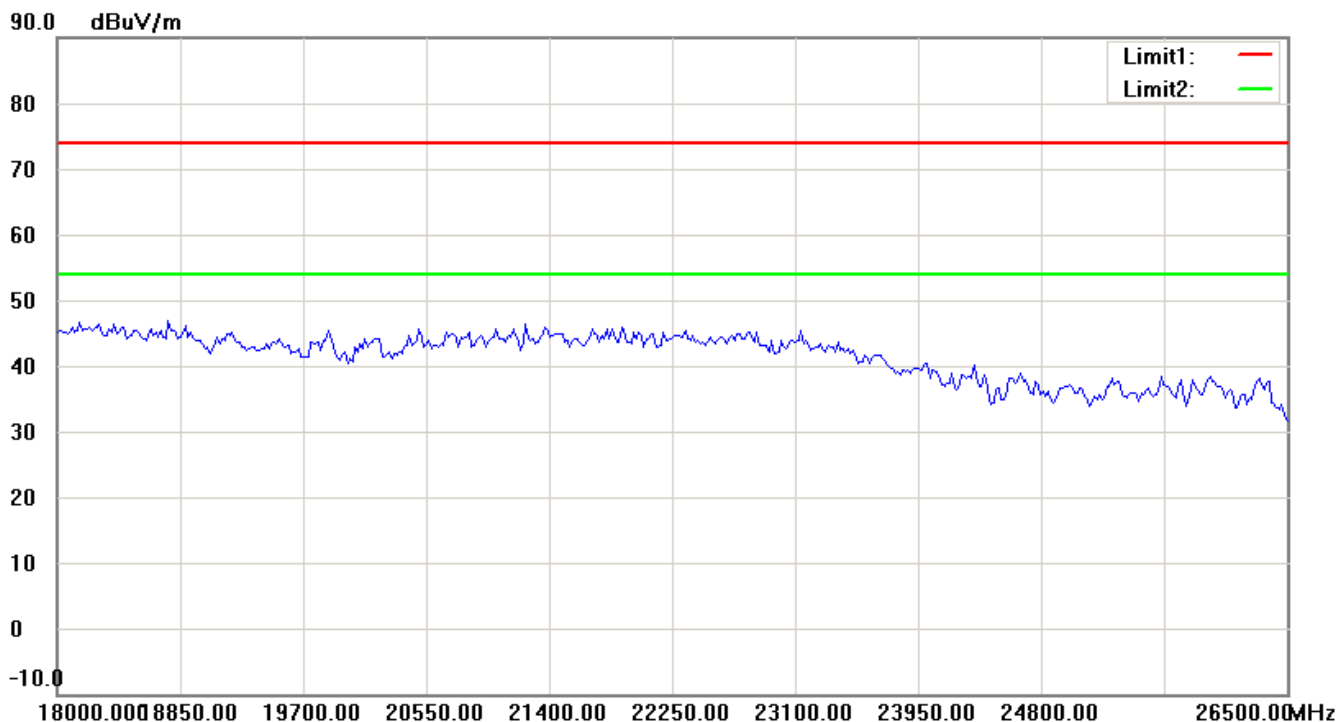
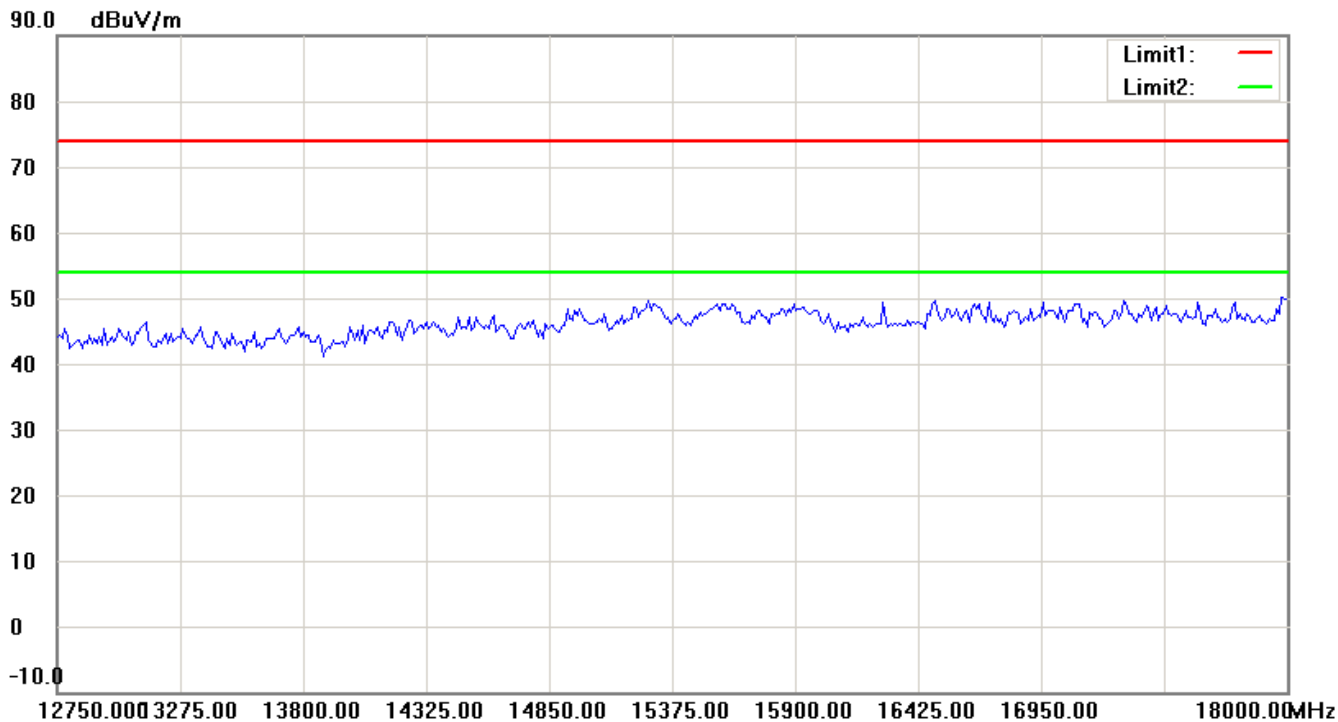
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Registration number: W6M21404-14062-C-1

FCC ID: S8C-DSA2LS



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

Note:

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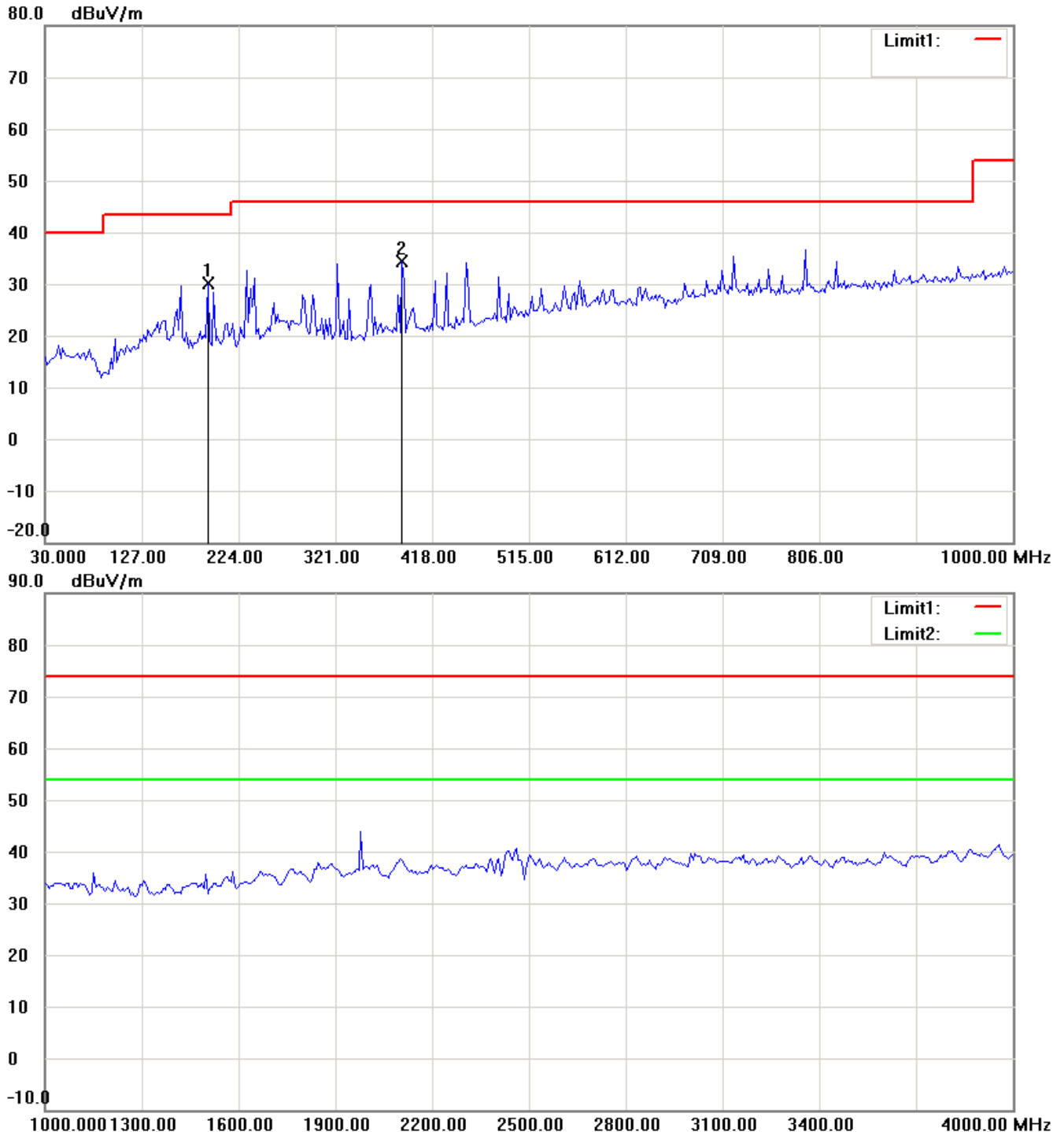
Worldwide Testing Services(Taiwan) Co., Ltd.

Registration number: W6M21404-14062-C-1

FCC ID: S8C-DSA2LS

CH11

Antenna Polarization H



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

Note:

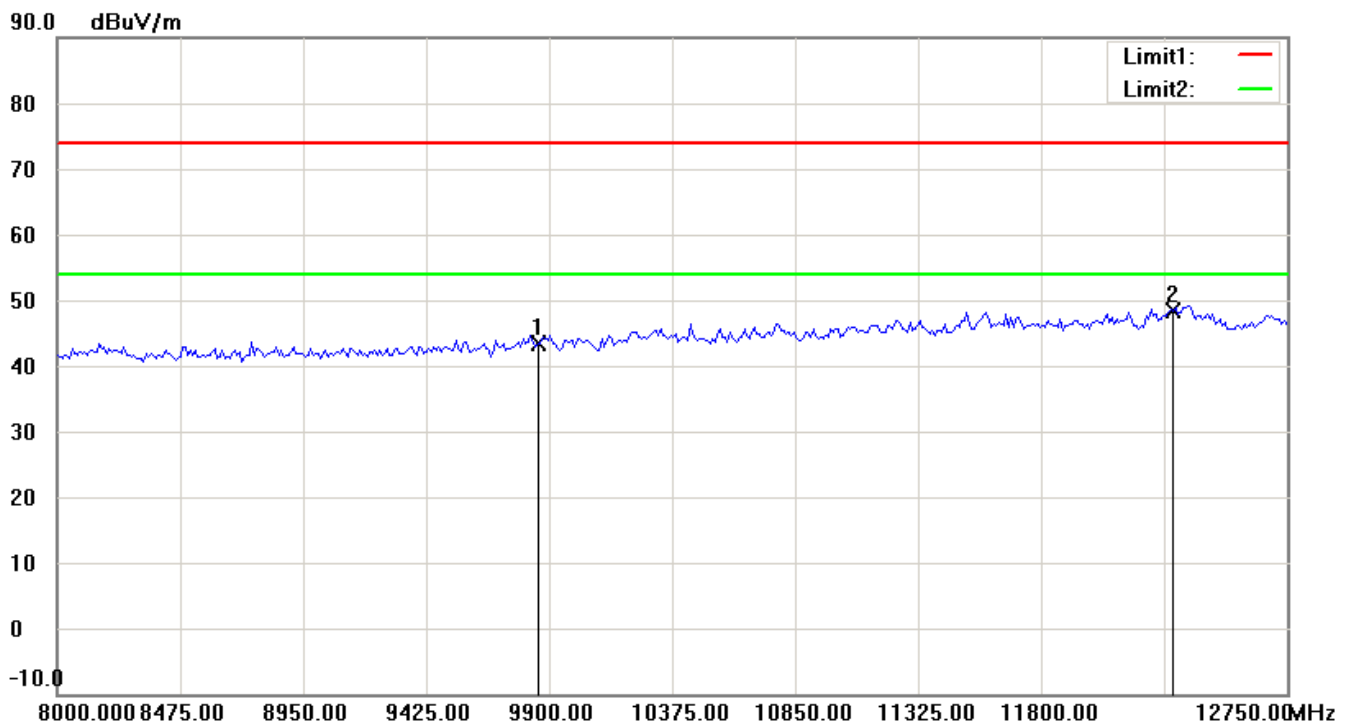
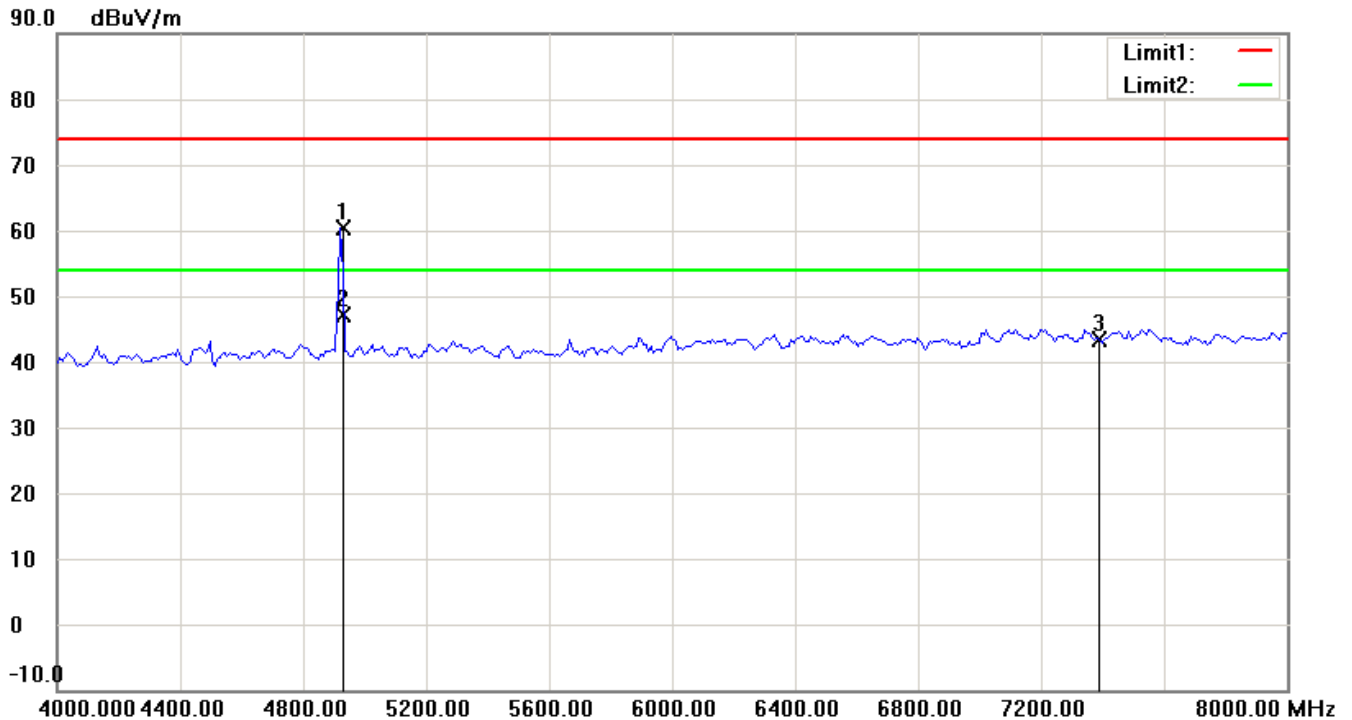
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FCC ID: S8C-DSA2LS



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

Note:

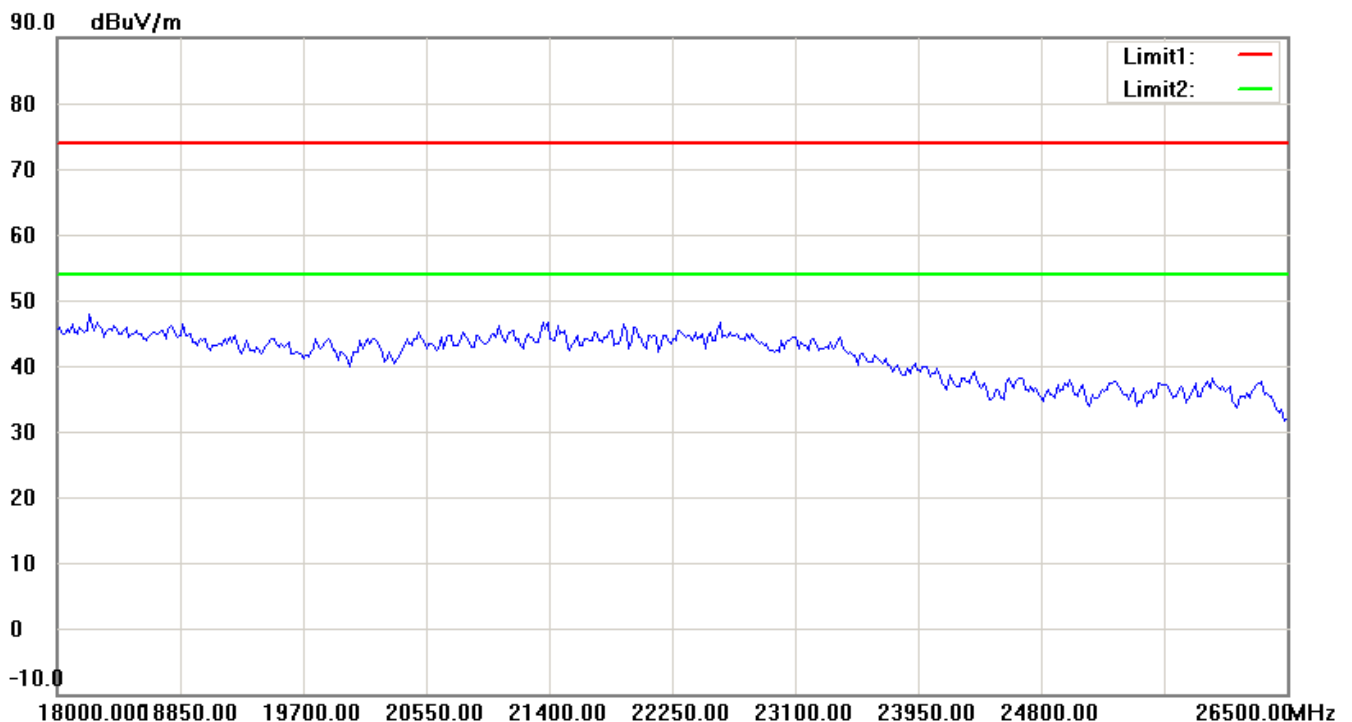
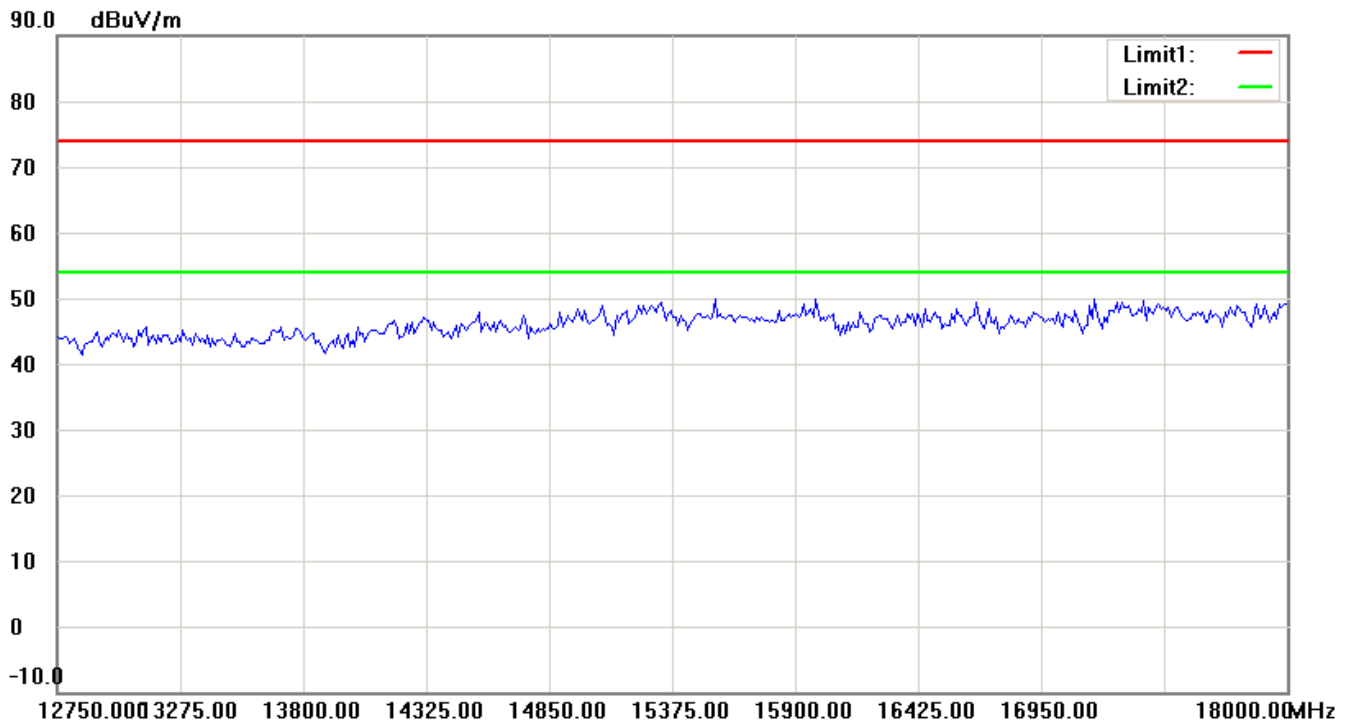
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Worldwide Testing Services(Taiwan) Co., Ltd.

Registration number: W6M21404-14062-C-1

FCC ID: S8C-DSA2LS



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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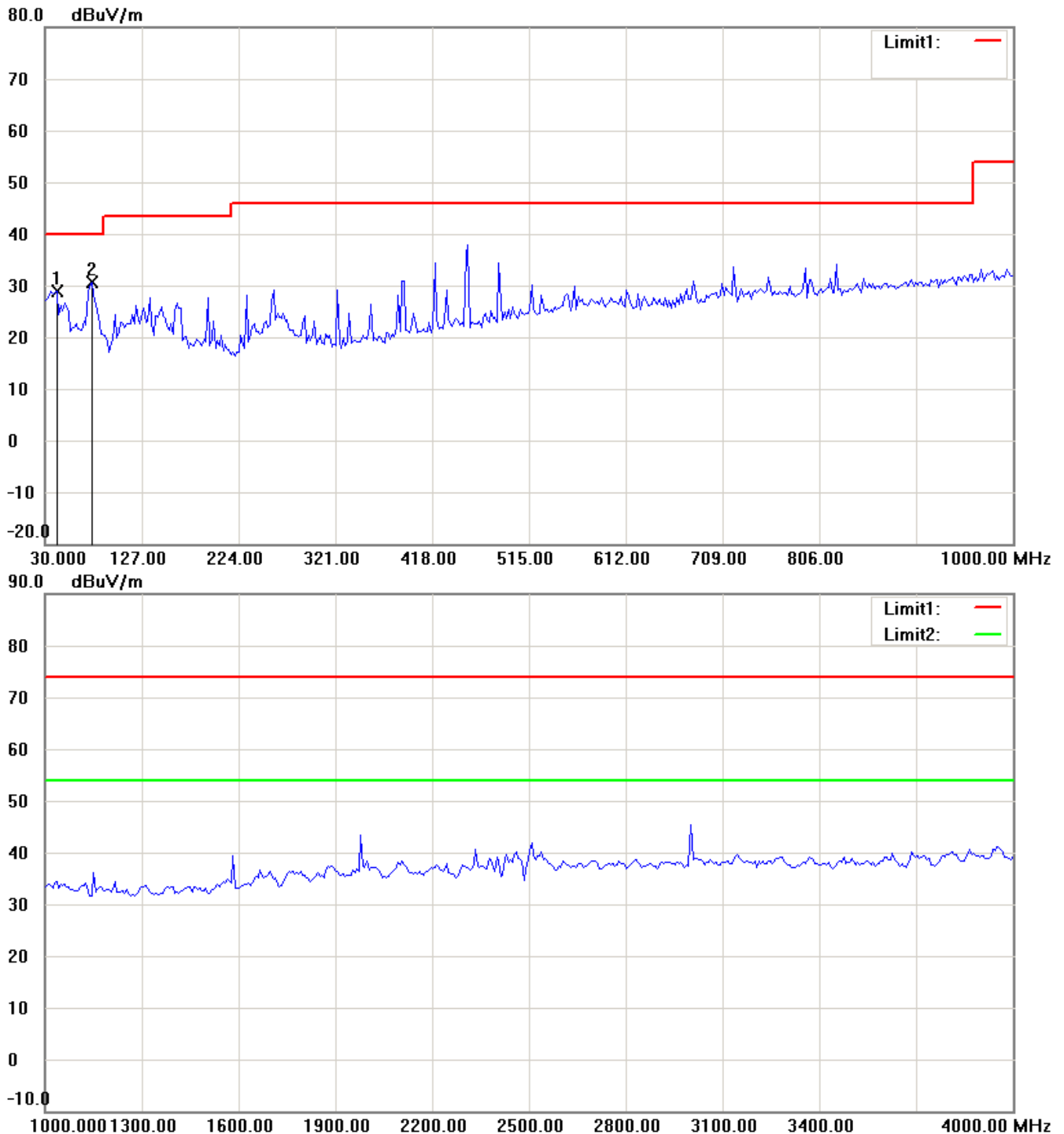


Worldwide Testing Services(Taiwan) Co., Ltd.

Registration number: W6M21404-14062-C-1

FCC ID: S8C-DSA2LS

Antenna Polarization V



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

Note:

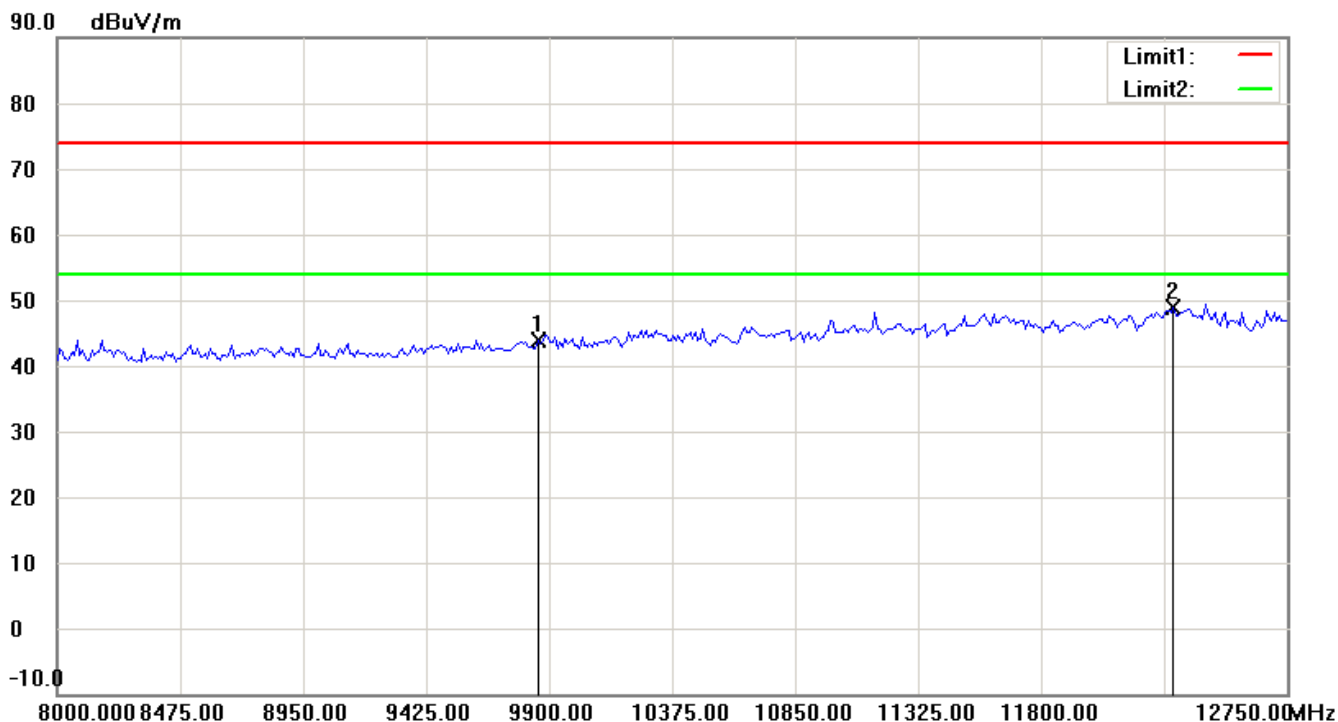
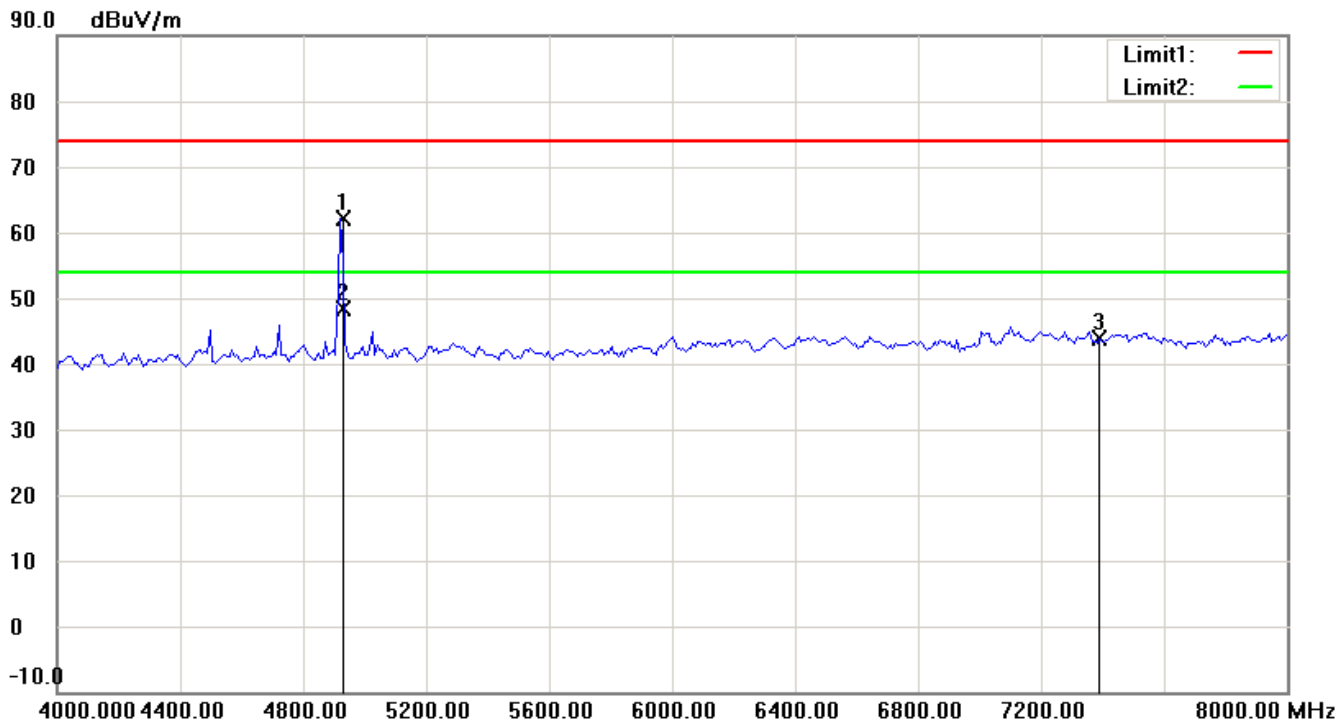
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Worldwide Testing Services(Taiwan) Co., Ltd.

Registration number: W6M21404-14062-C-1

FCC ID: S8C-DSA2LS



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

Note:

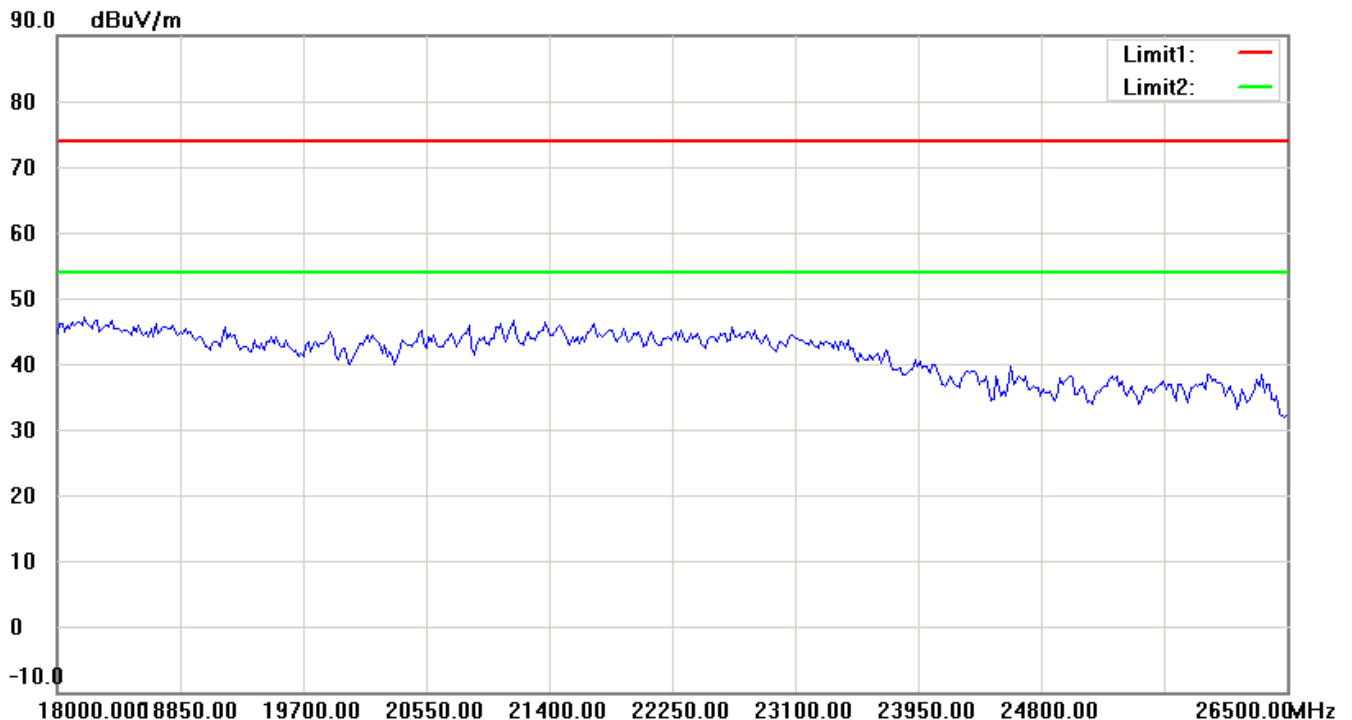
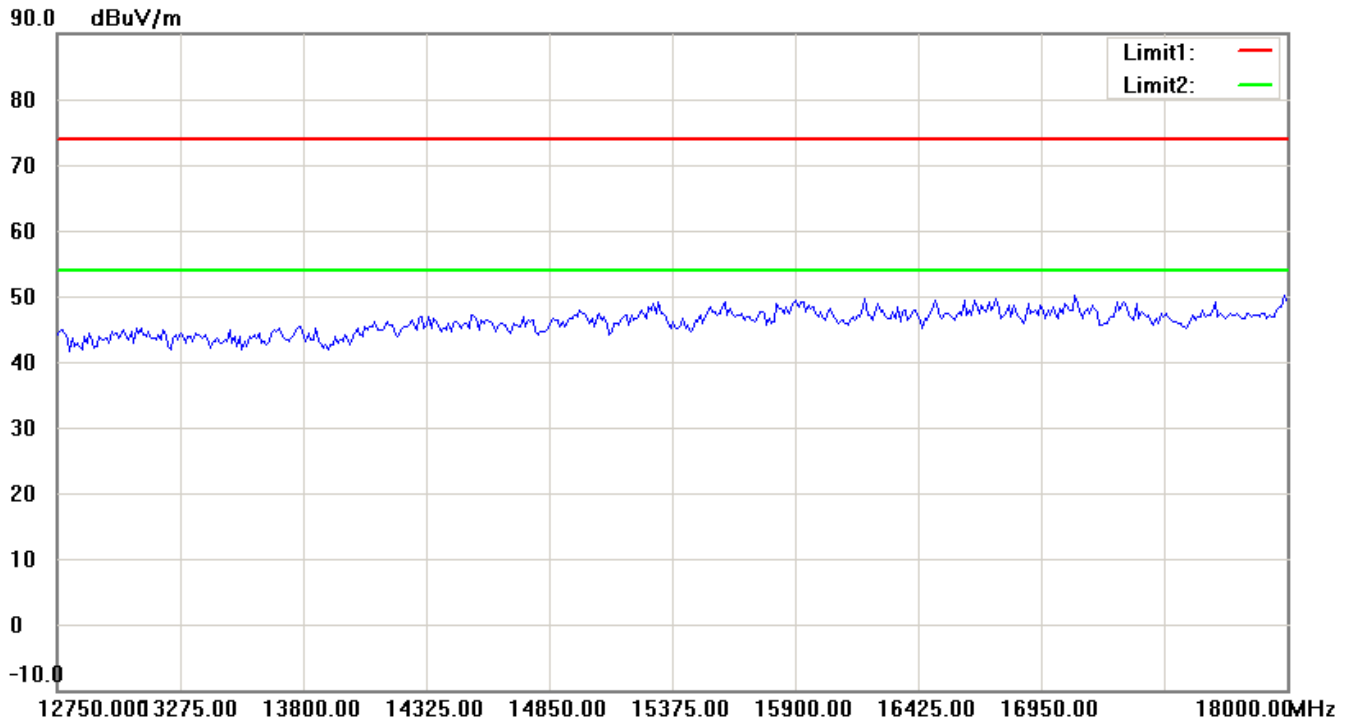
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Worldwide Testing Services(Taiwan) Co., Ltd.

Registration number: W6M21404-14062-C-1

FCC ID: S8C-DSA2LS



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

Note:

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Worldwide Testing Services(Taiwan) Co., Ltd.

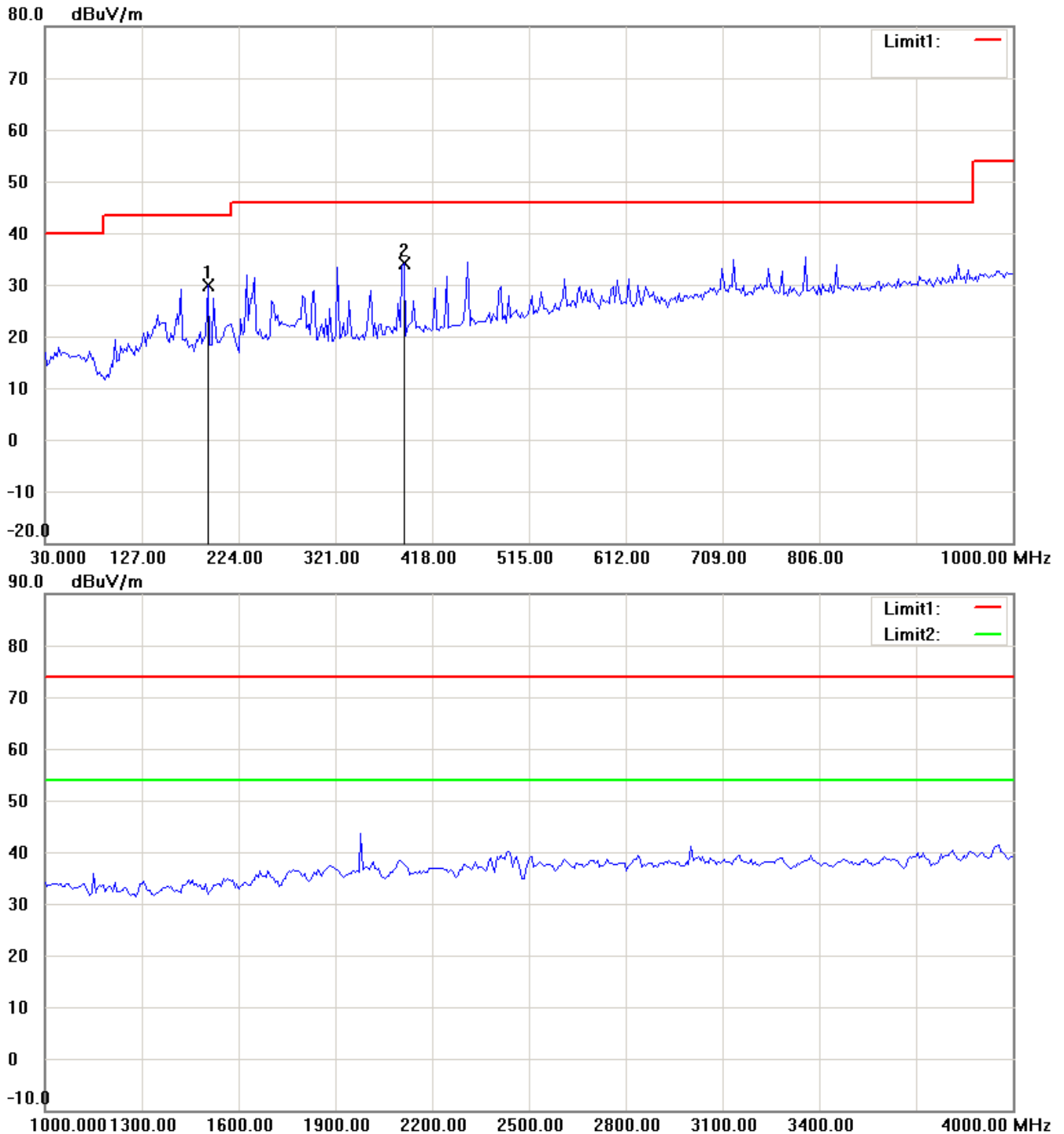
Registration number: W6M21404-14062-C-1

FCC ID: S8C-DSA2LS

802.11g

CH1

Antenna Polarization H



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

Note:

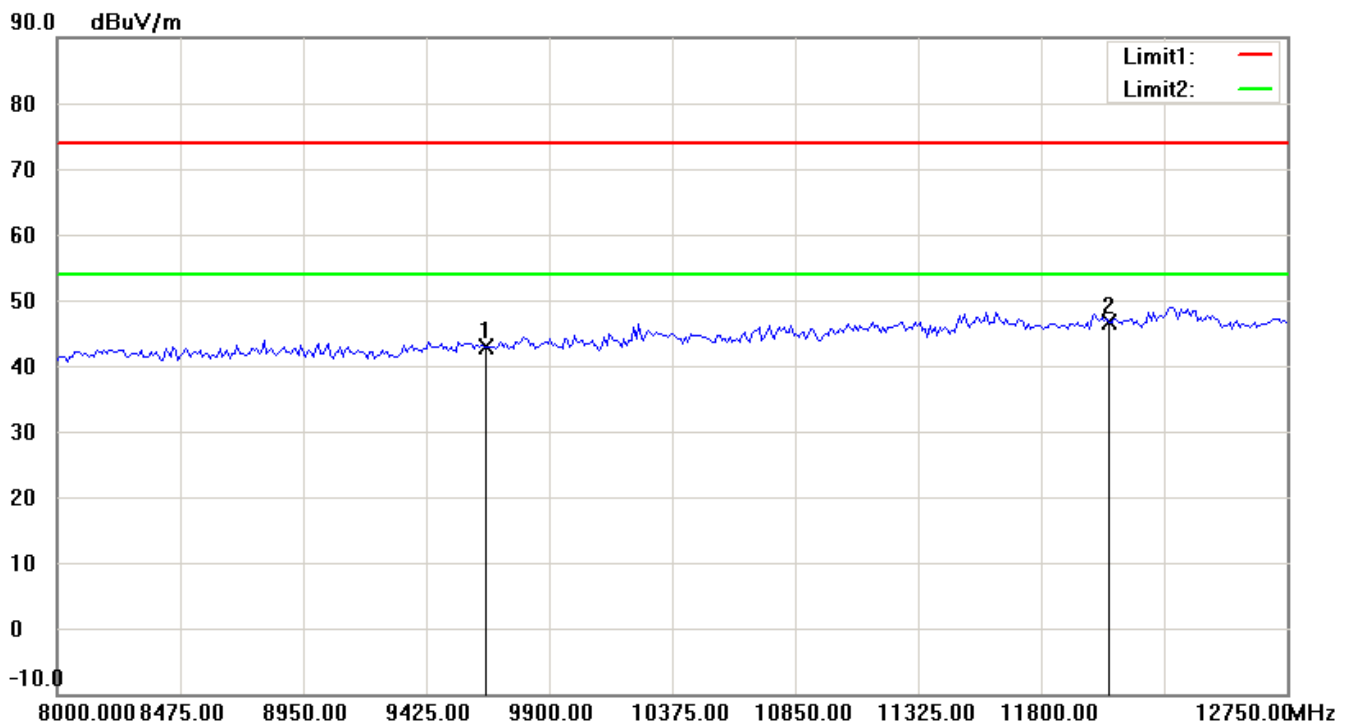
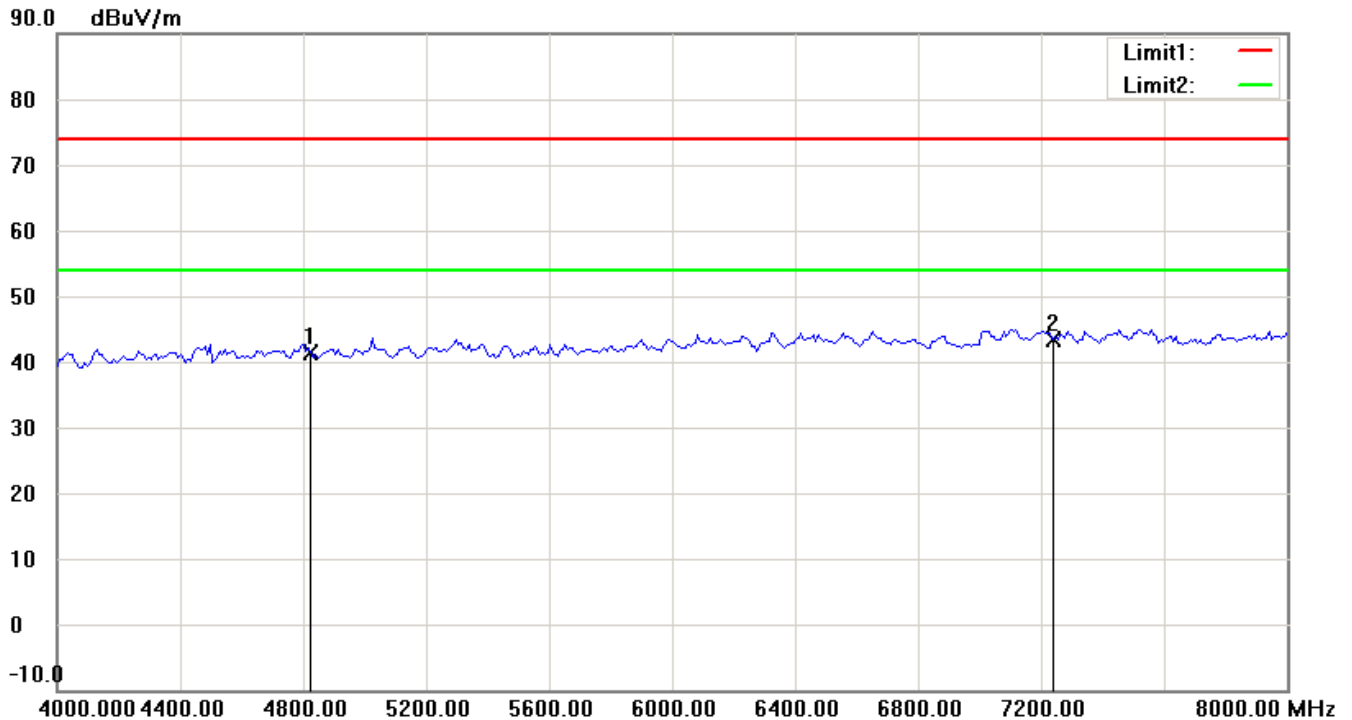
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Worldwide Testing Services(Taiwan) Co., Ltd.

Registration number: W6M21404-14062-C-1

FCC ID: S8C-DSA2LS



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

Note:

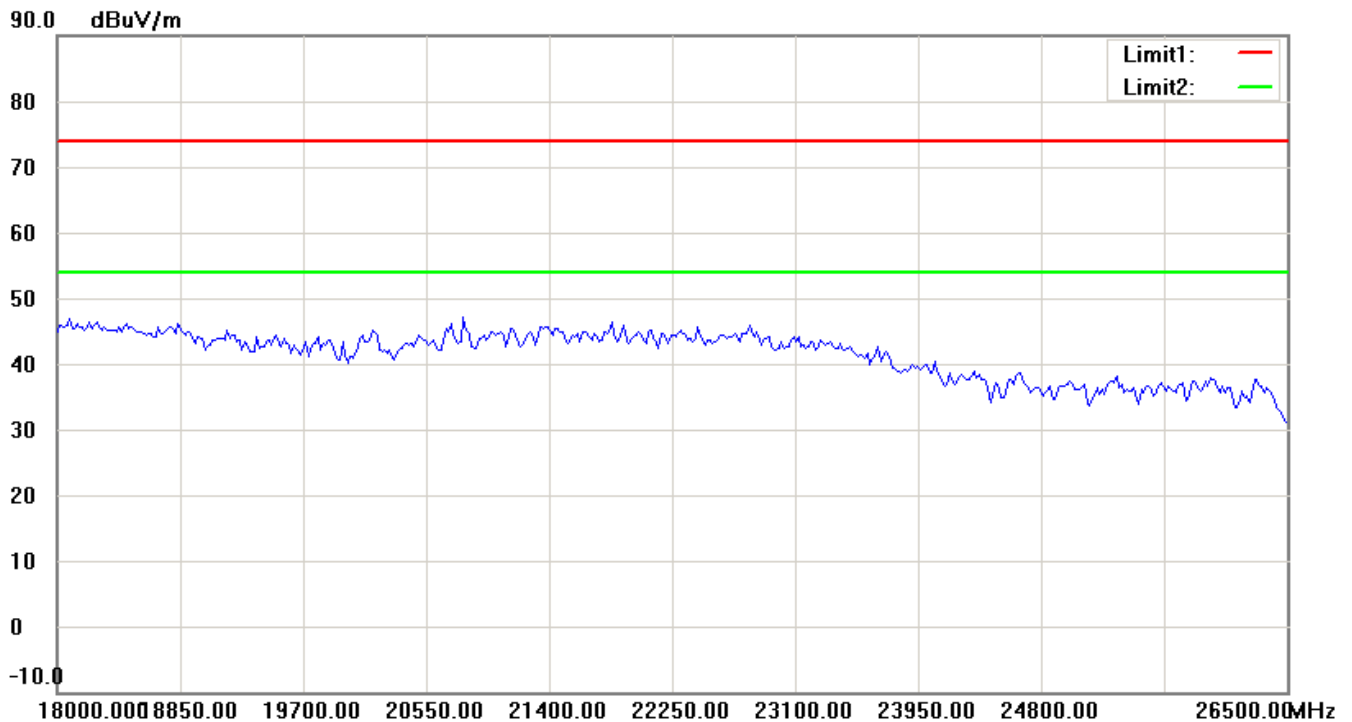
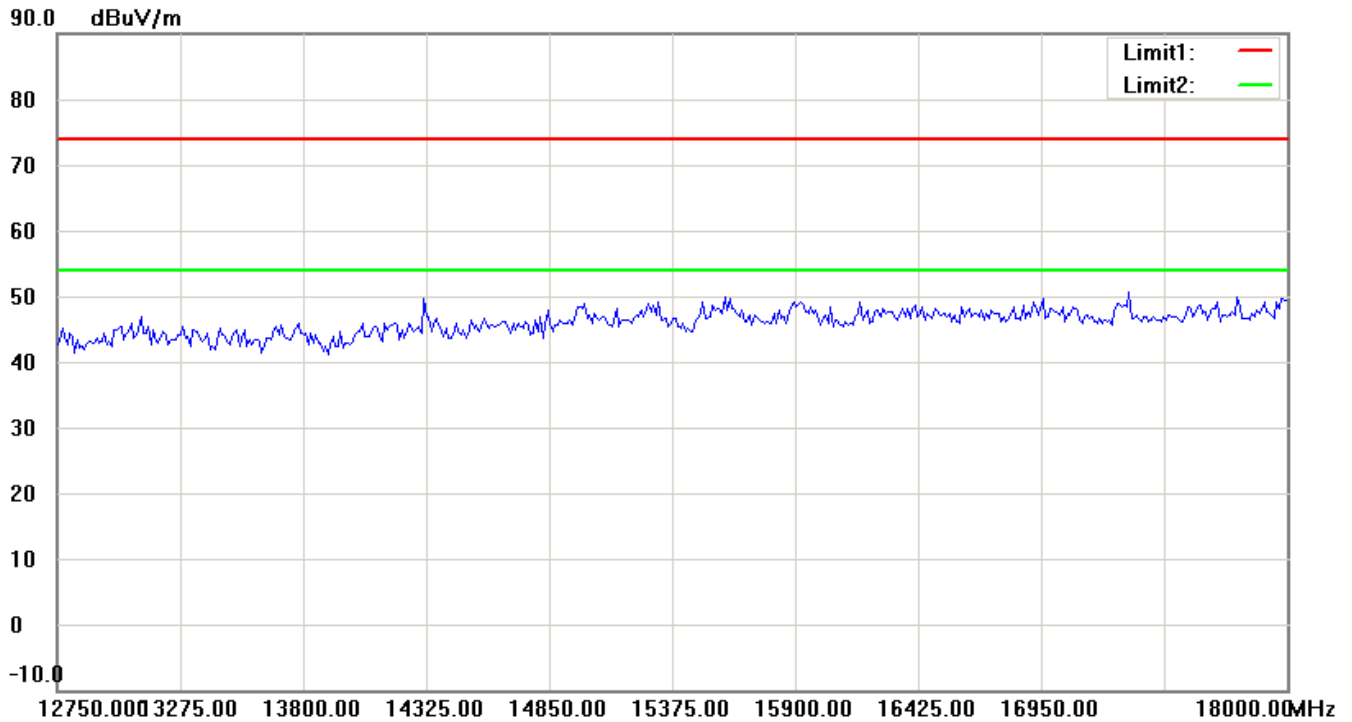
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Registration number: W6M21404-14062-C-1

FCC ID: S8C-DSA2LS



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

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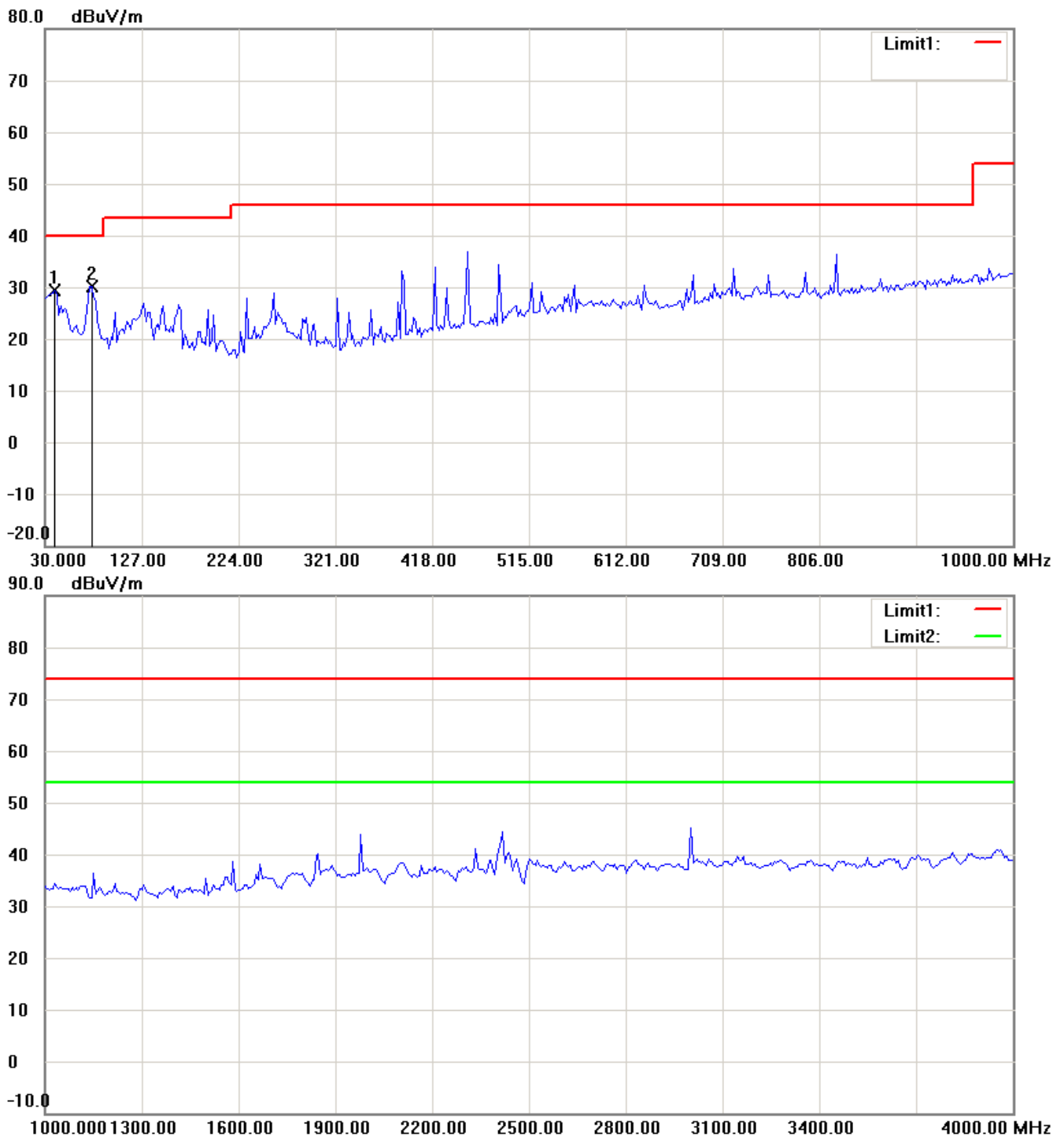


Worldwide Testing Services(Taiwan) Co., Ltd.

Registration number: W6M21404-14062-C-1

FCC ID: S8C-DSA2LS

Antenna Polarization V



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

Note:

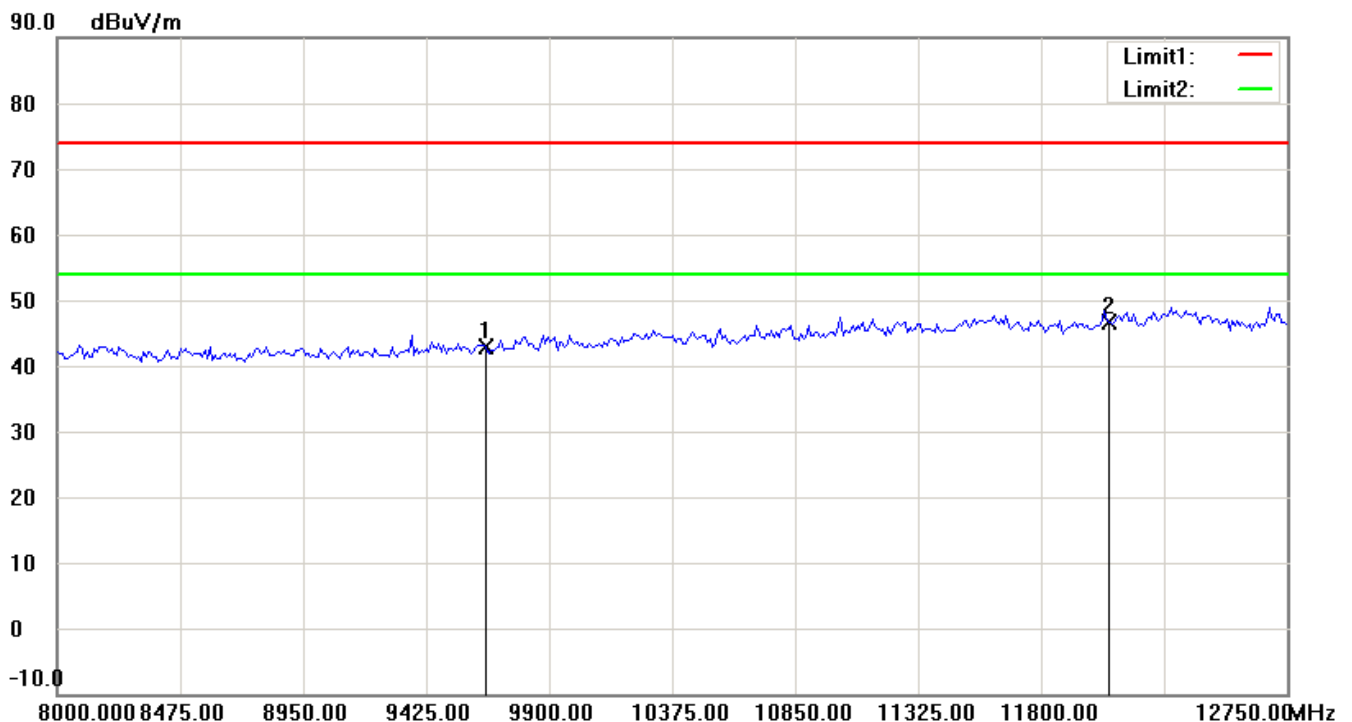
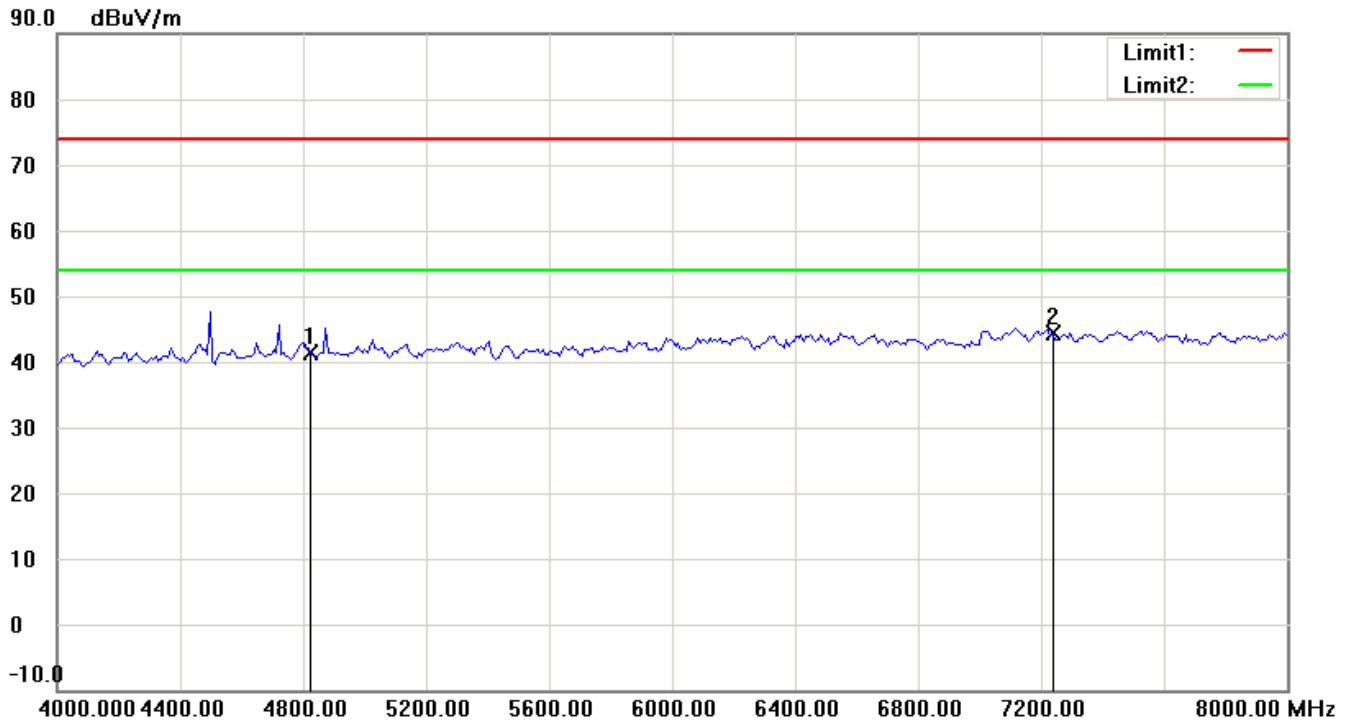
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Worldwide Testing Services(Taiwan) Co., Ltd.

Registration number: W6M21404-14062-C-1

FCC ID: S8C-DSA2LS



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

Note:

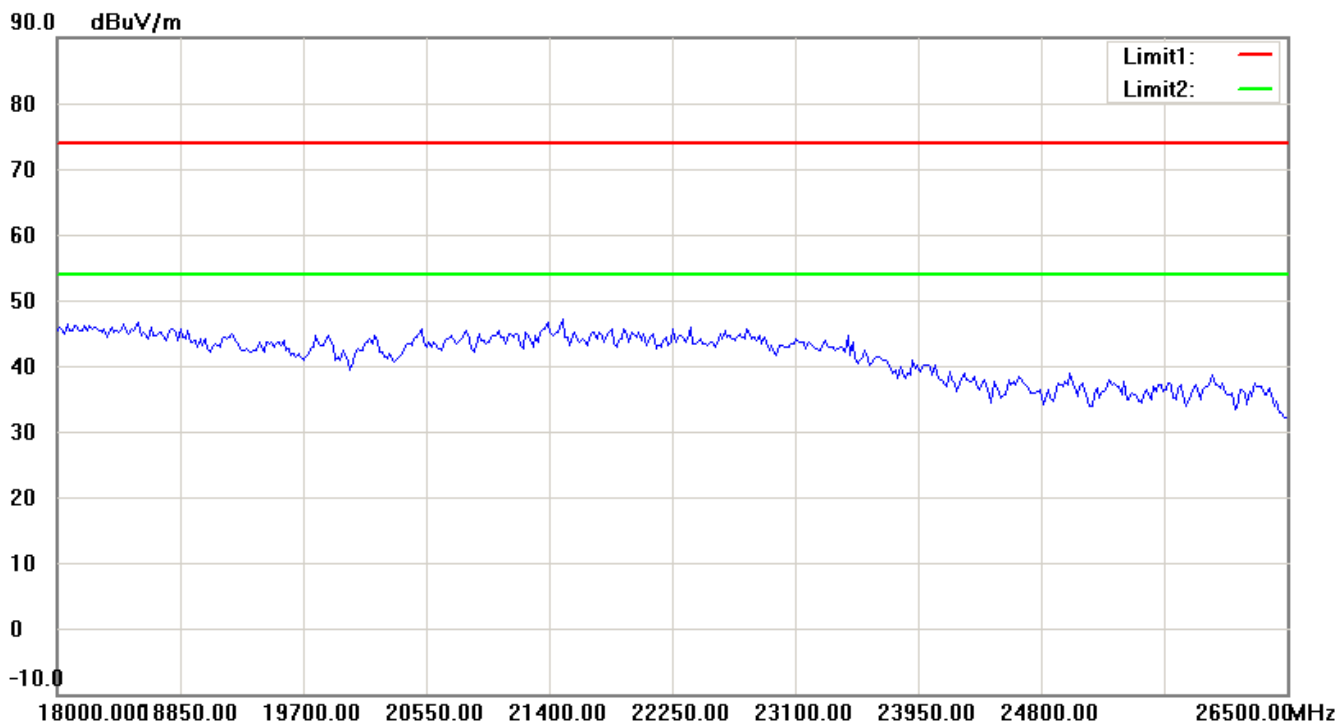
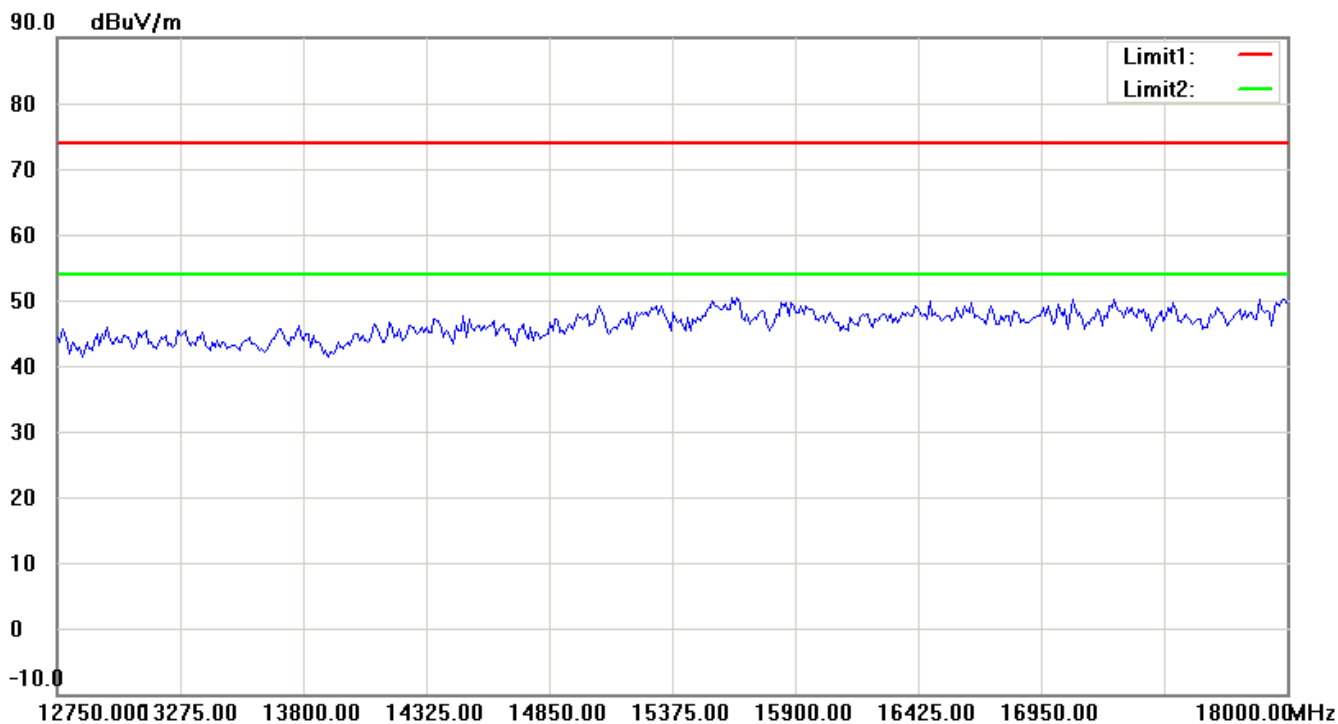
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Registration number: W6M21404-14062-C-1

FCC ID: S8C-DSA2LS



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

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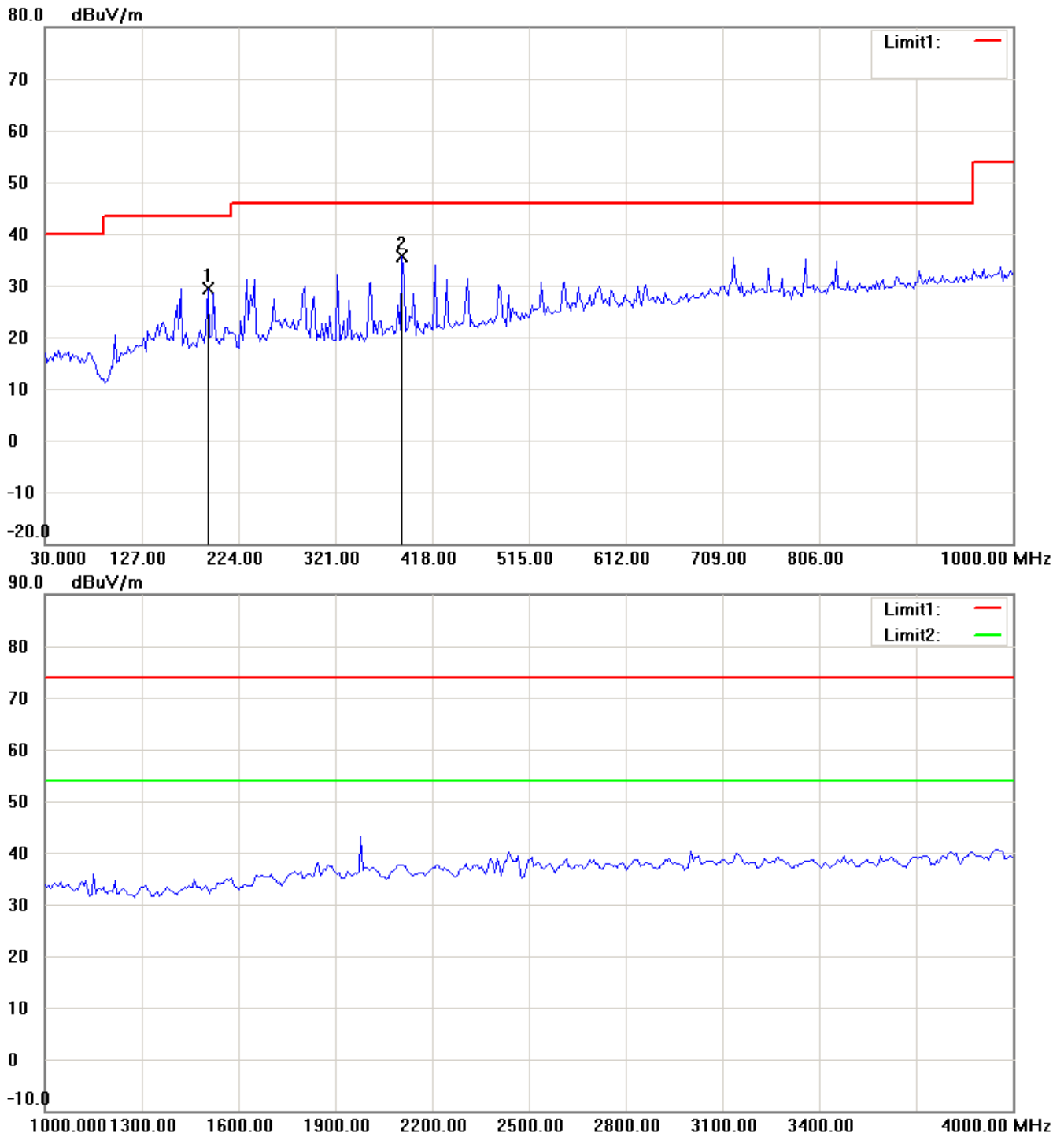


Registration number: W6M21404-14062-C-1

FCC ID: S8C-DSA2LS

CH6

Antenna Polarization H



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

Note:

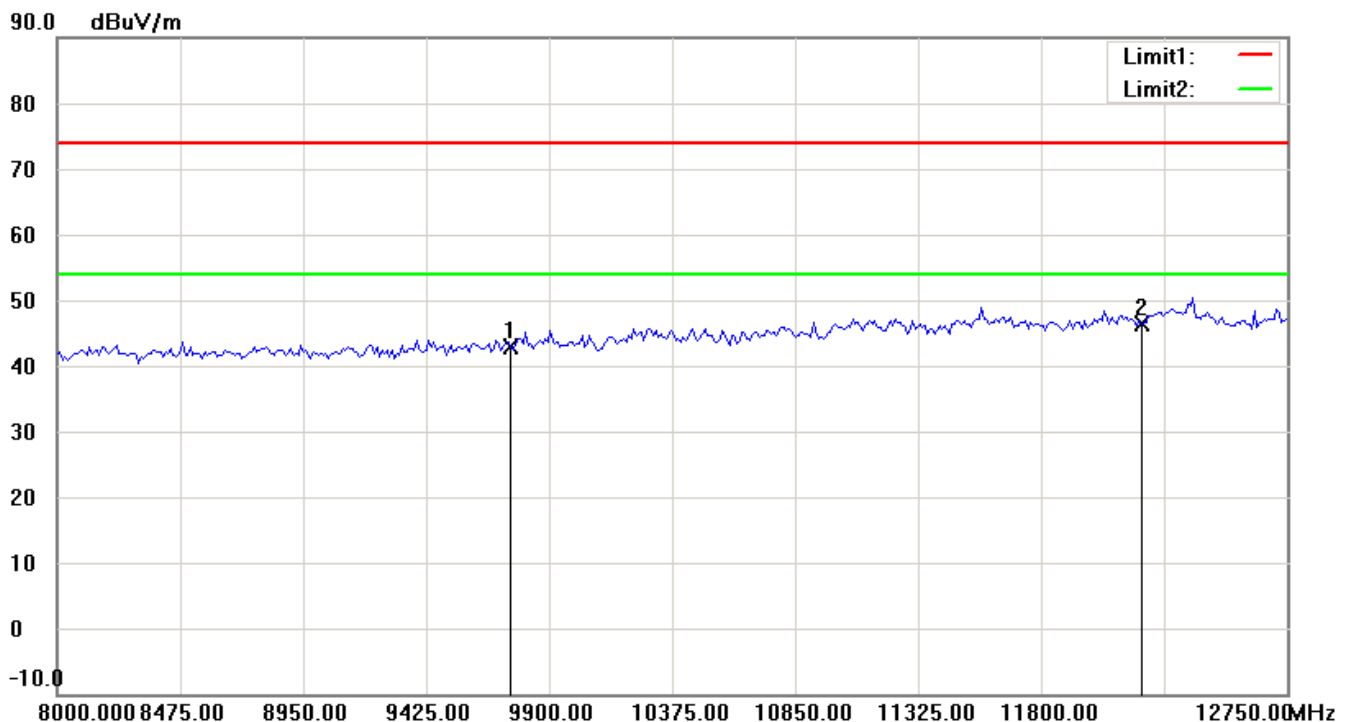
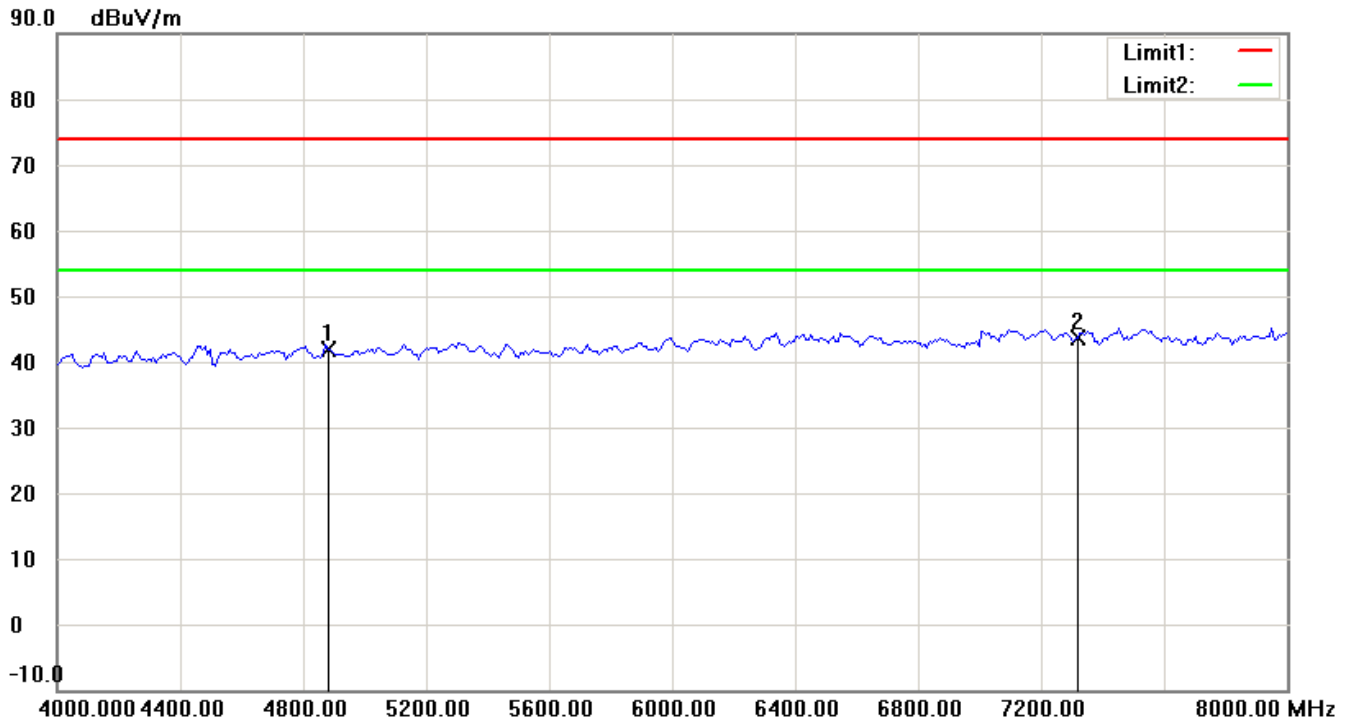
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Worldwide Testing Services(Taiwan) Co., Ltd.

Registration number: W6M21404-14062-C-1

FCC ID: S8C-DSA2LS



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

Note:

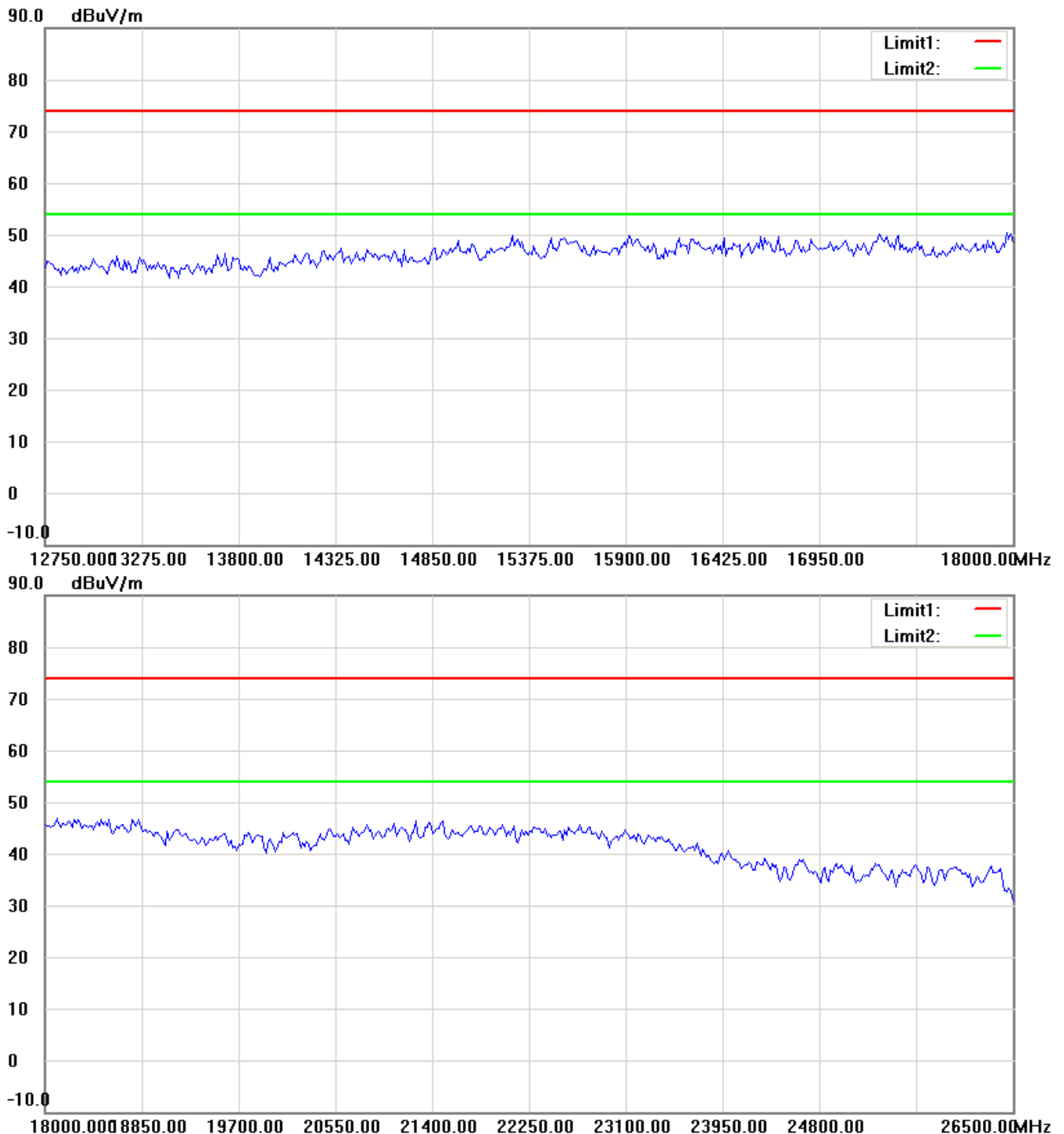
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Worldwide Testing Services(Taiwan) Co., Ltd.

Registration number: W6M21404-14062-C-1

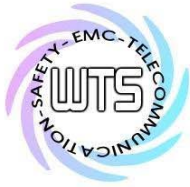
FCC ID: S8C-DSA2LS



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

Note:

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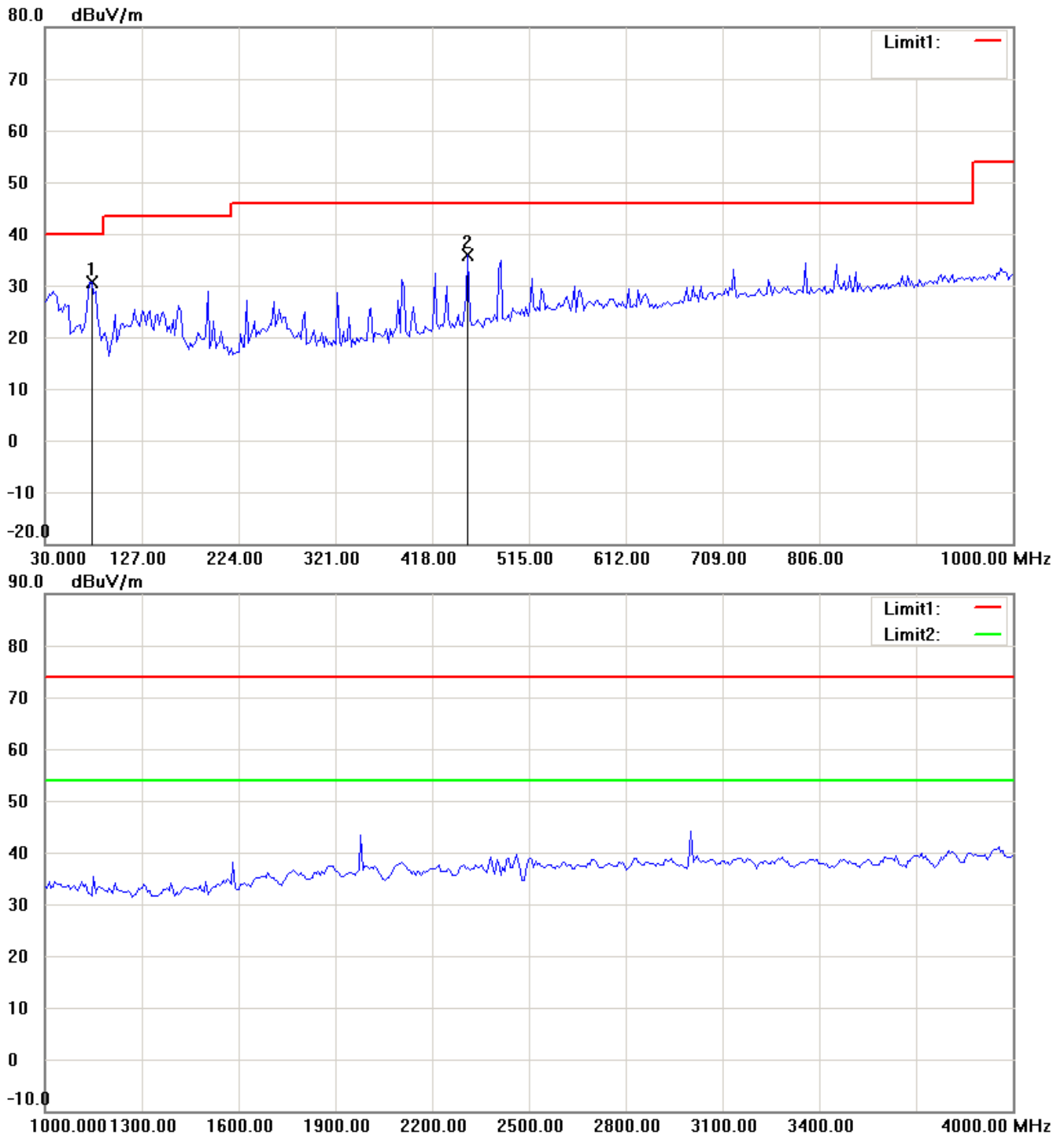


Worldwide Testing Services(Taiwan) Co., Ltd.

Registration number: W6M21404-14062-C-1

FCC ID: S8C-DSA2LS

Antenna Polarization V



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

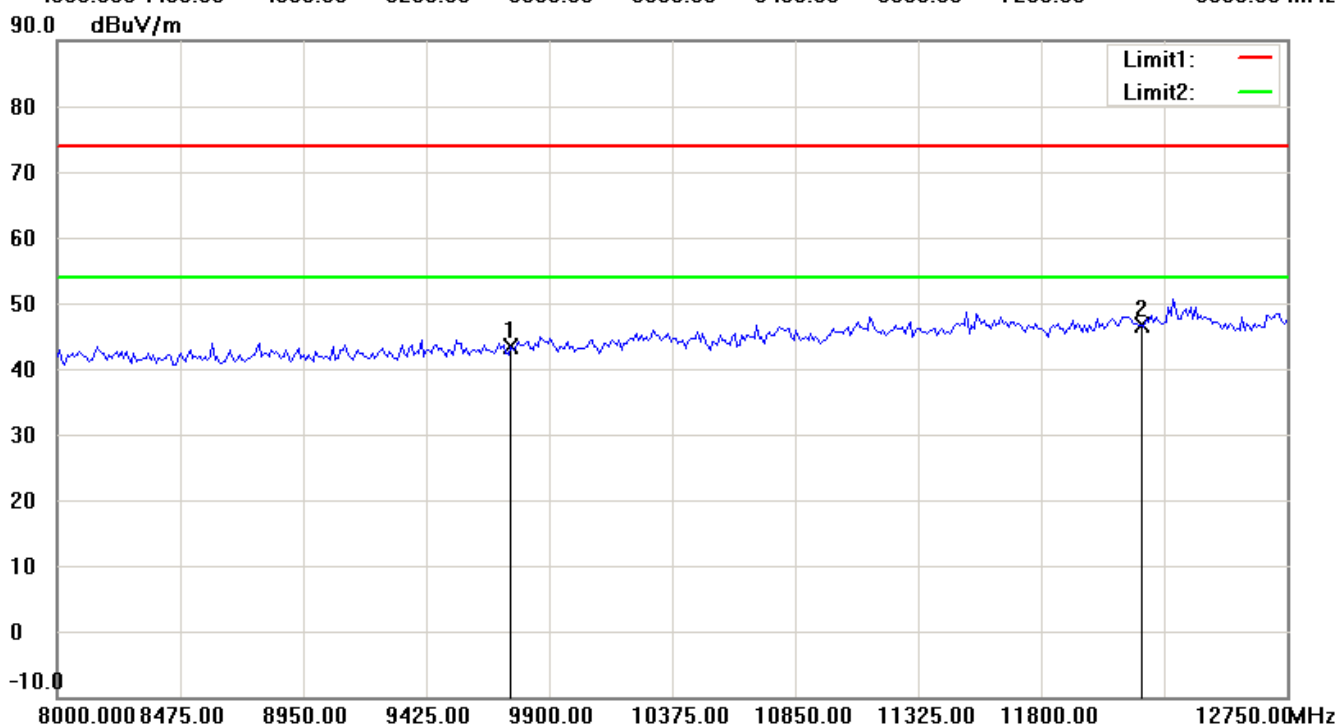
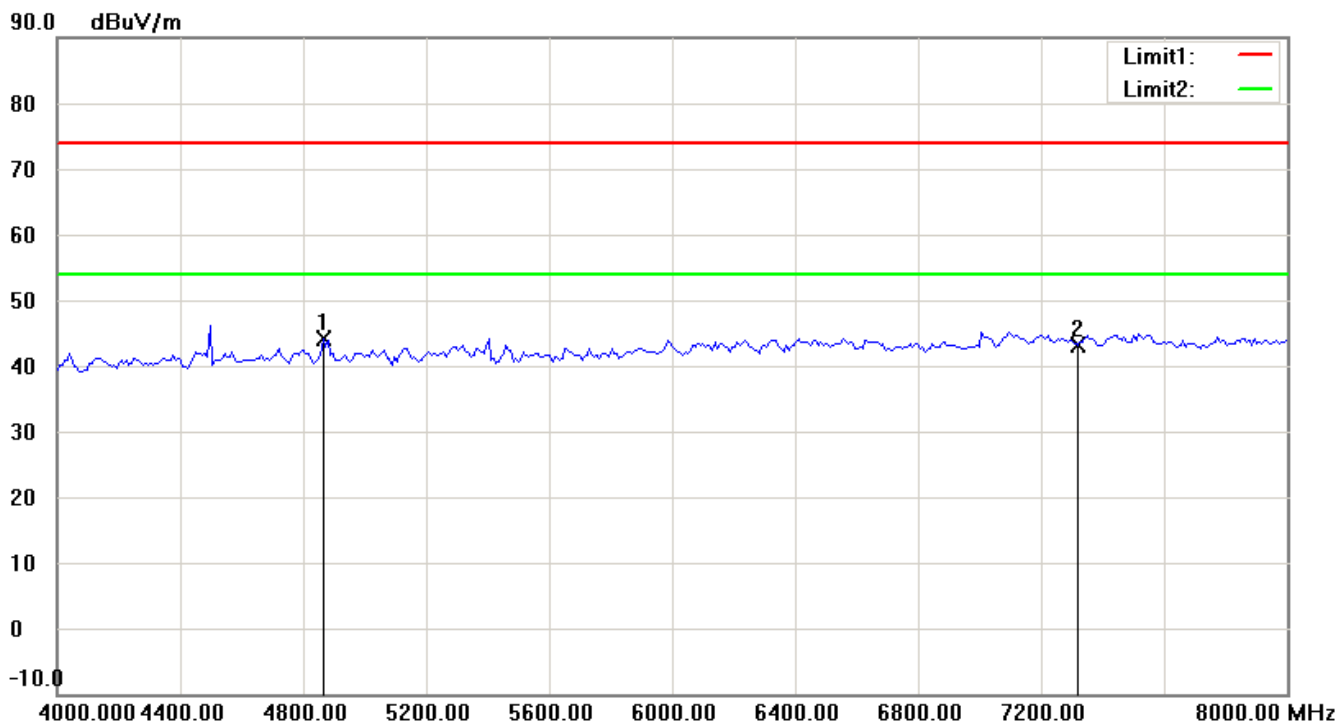
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Registration number: W6M21404-14062-C-1

FCC ID: S8C-DSA2LS



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

Note:

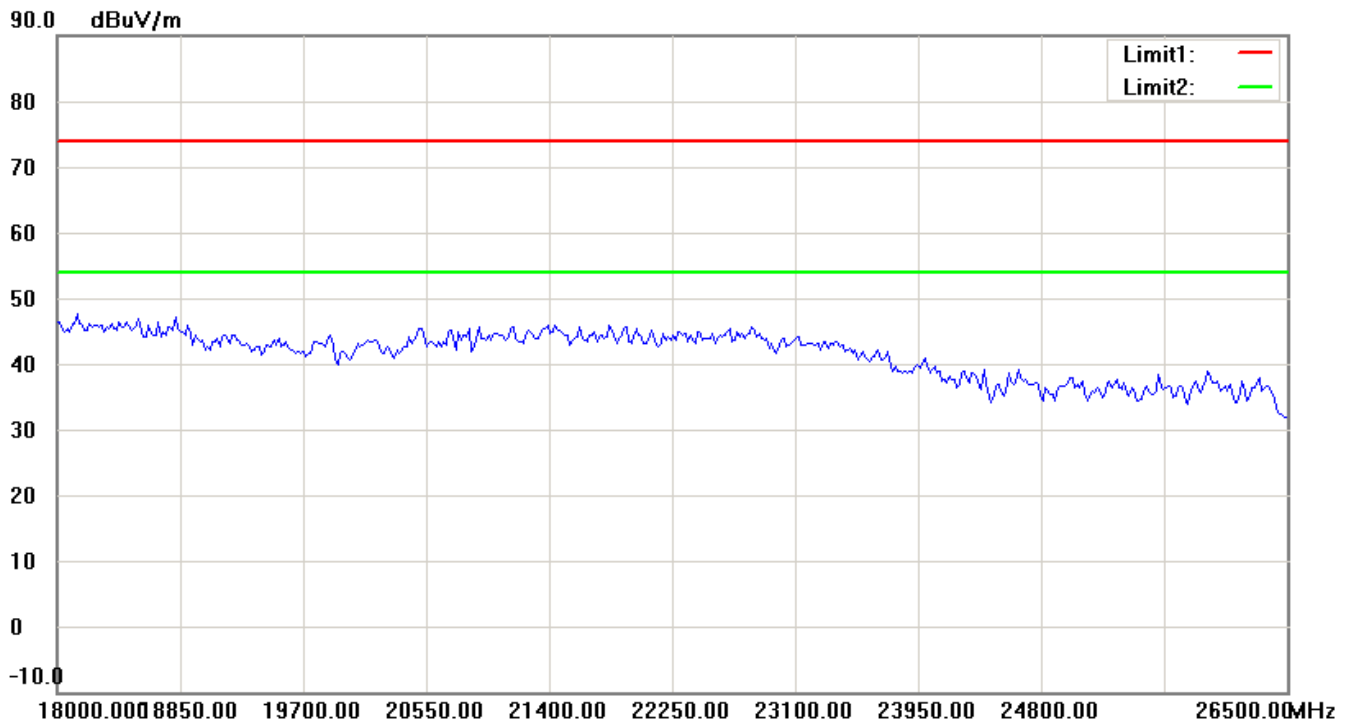
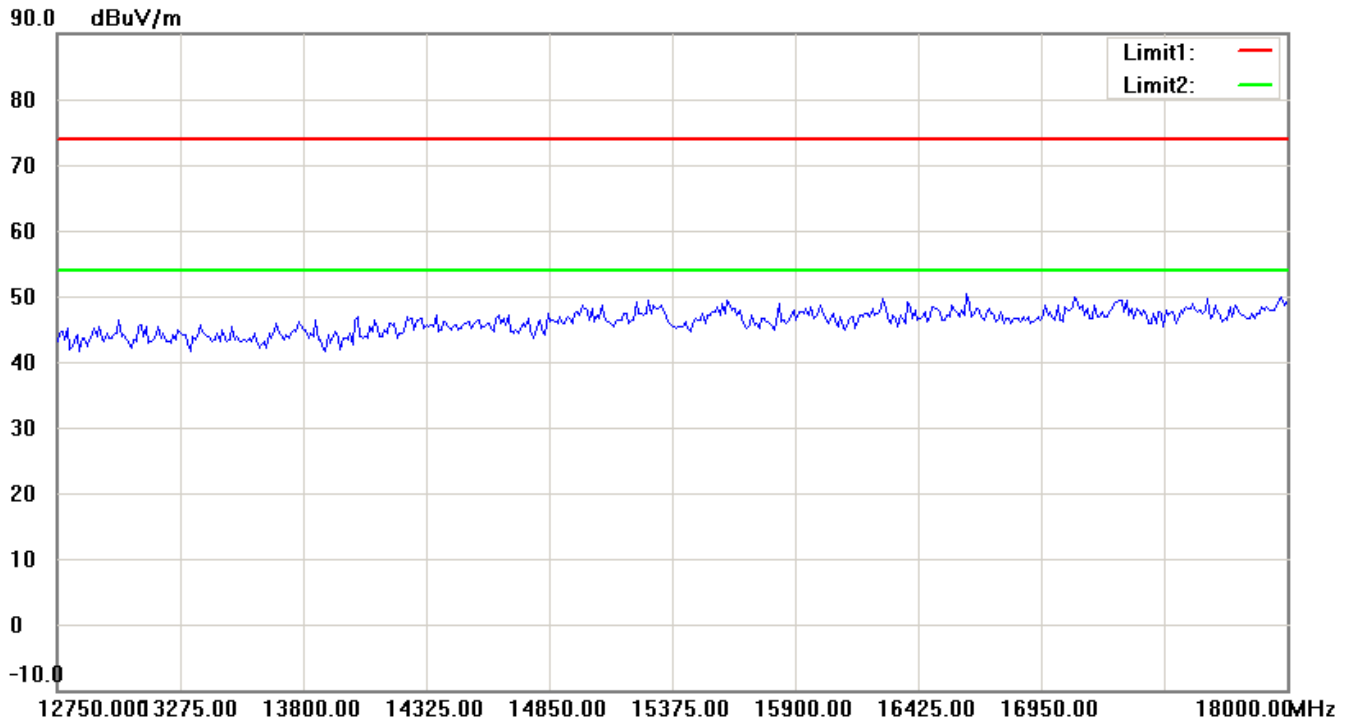
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FCC ID: S8C-DSA2LS



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

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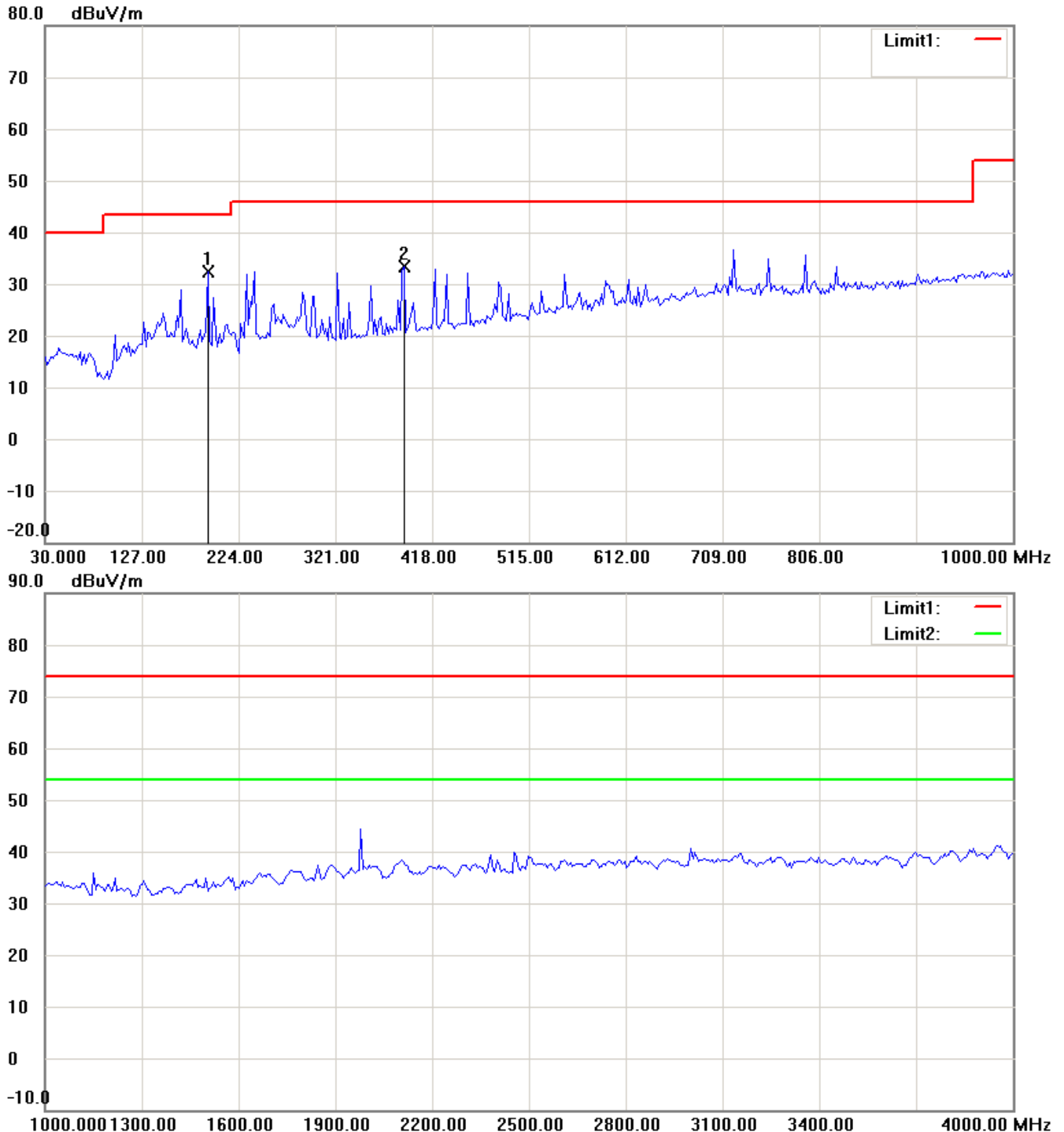


Registration number: W6M21404-14062-C-1

FCC ID: S8C-DSA2LS

CH11

Antenna Polarization H



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

Note:

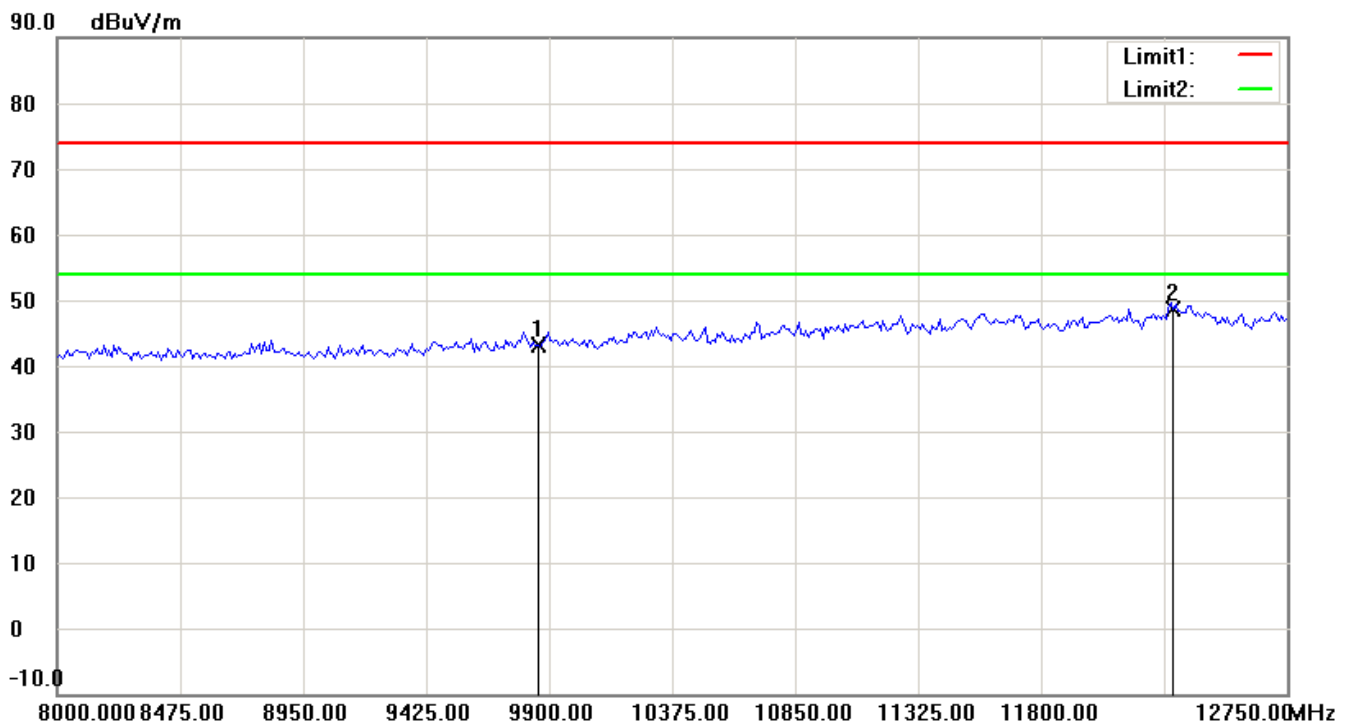
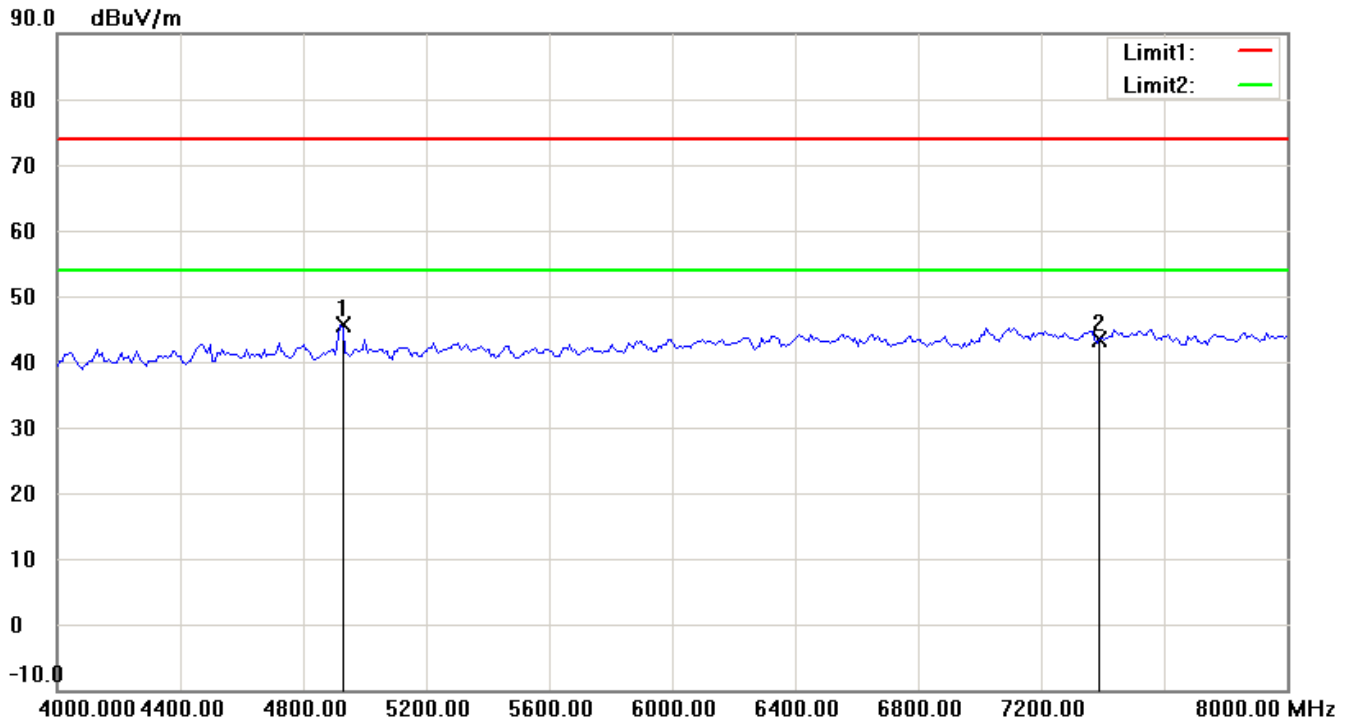
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Registration number: W6M21404-14062-C-1

FCC ID: S8C-DSA2LS



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

Note:

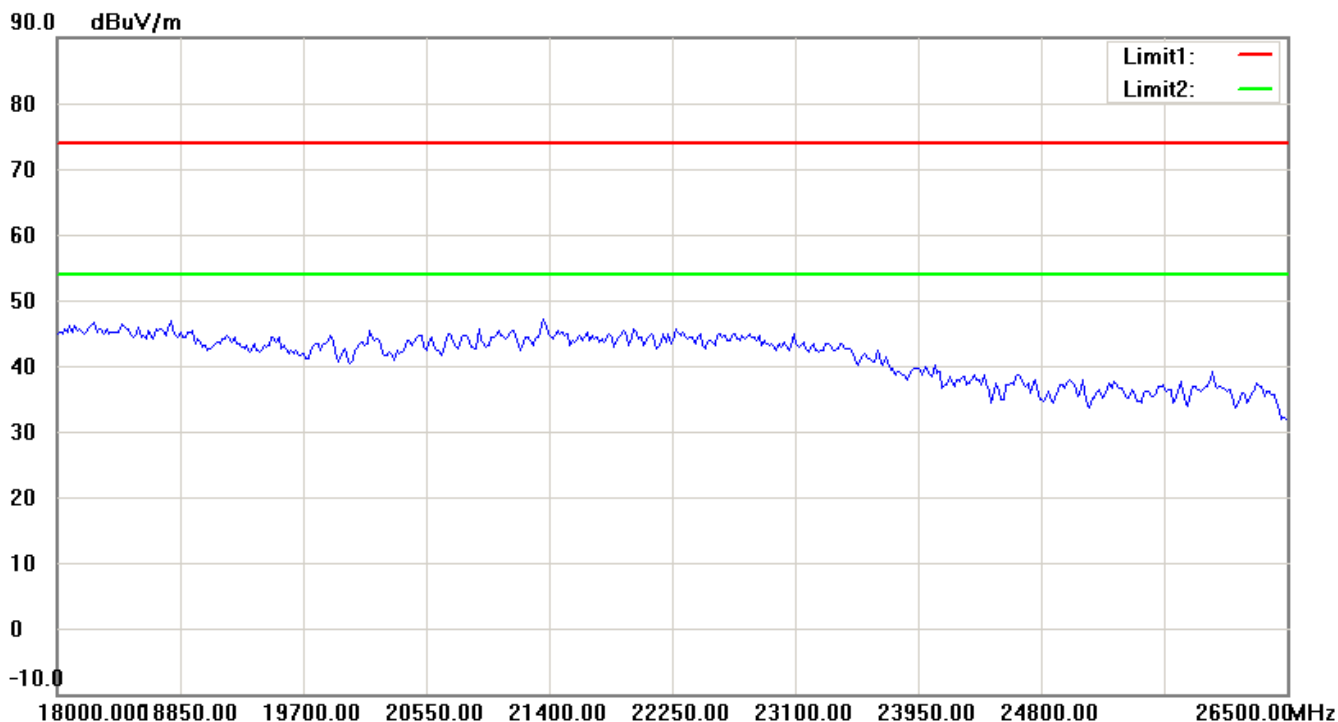
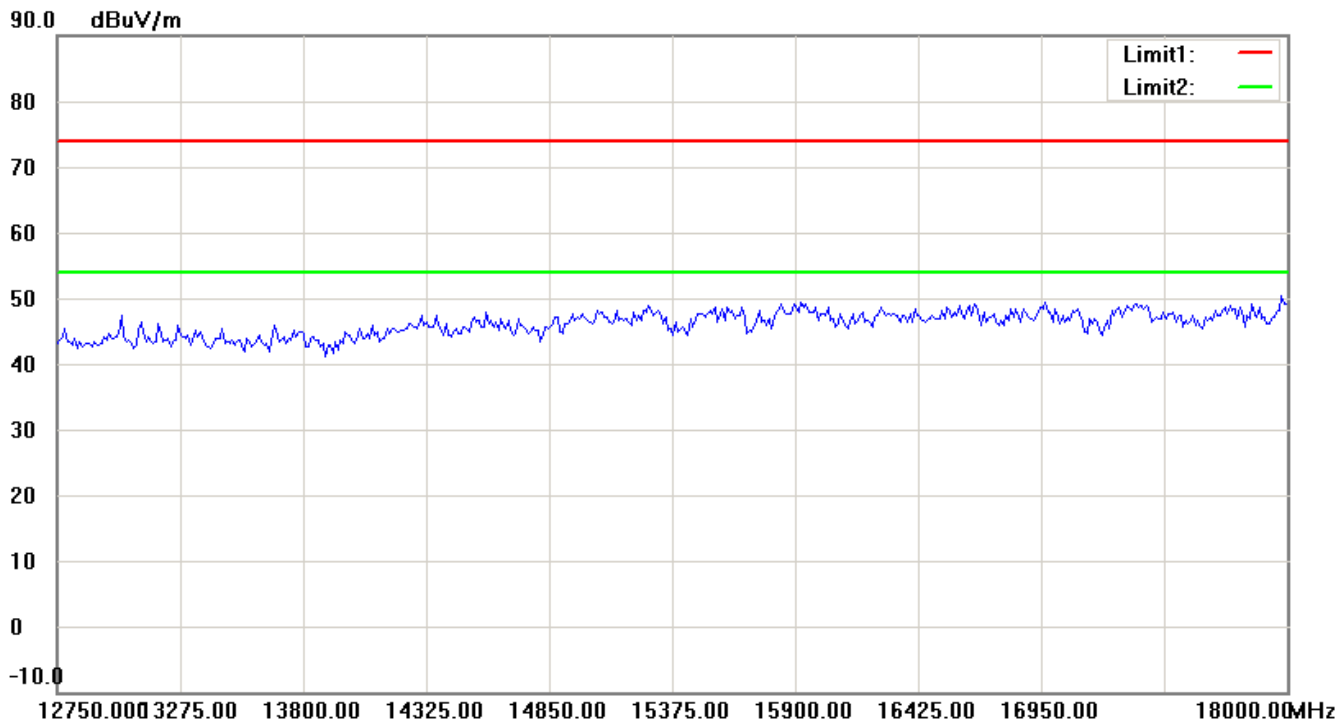
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FCC ID: S8C-DSA2LS



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

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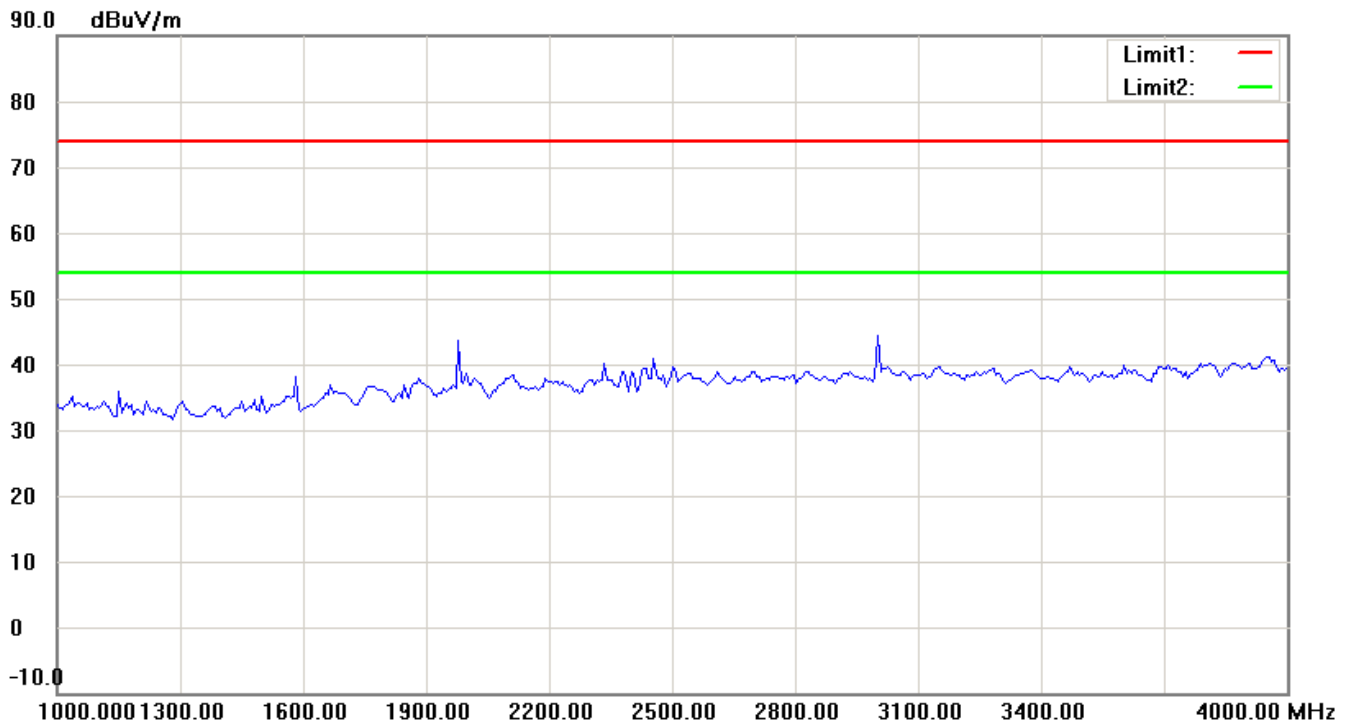
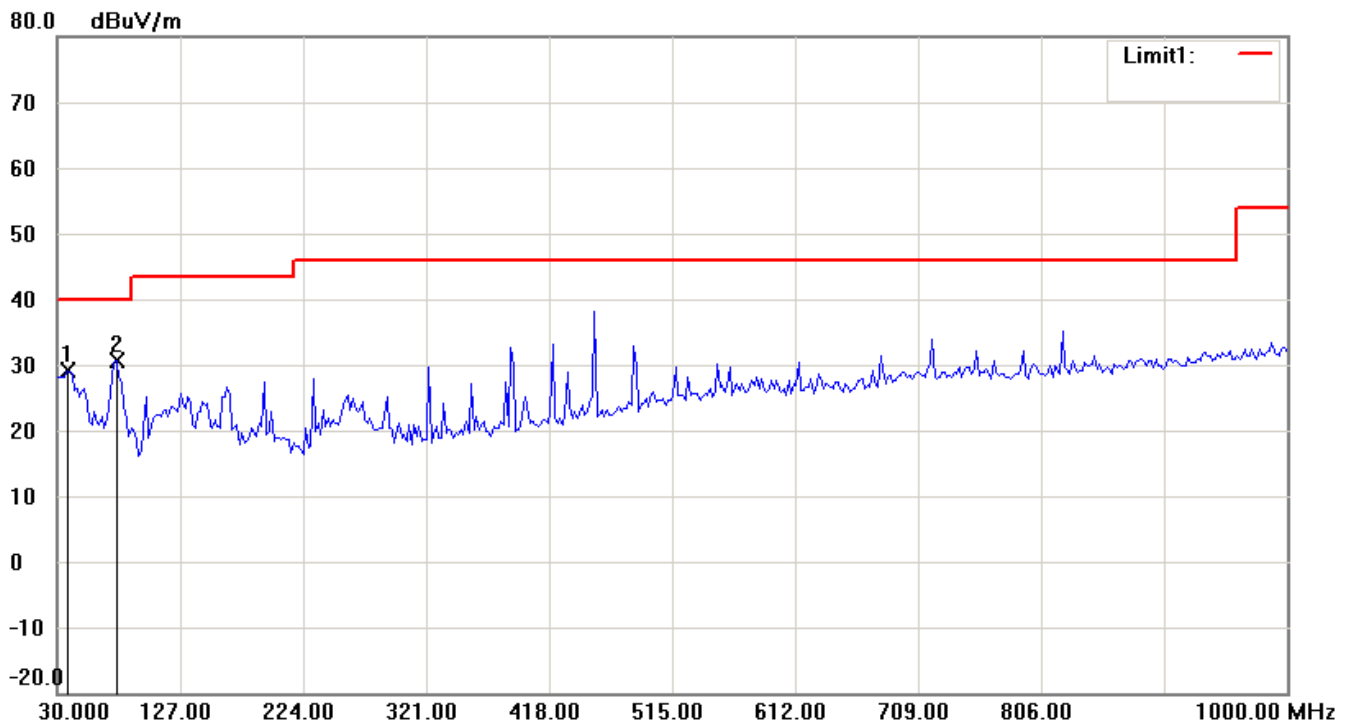


Worldwide Testing Services(Taiwan) Co., Ltd.

Registration number: W6M21404-14062-C-1

FCC ID: S8C-DSA2LS

Antenna Polarization V



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

Note:

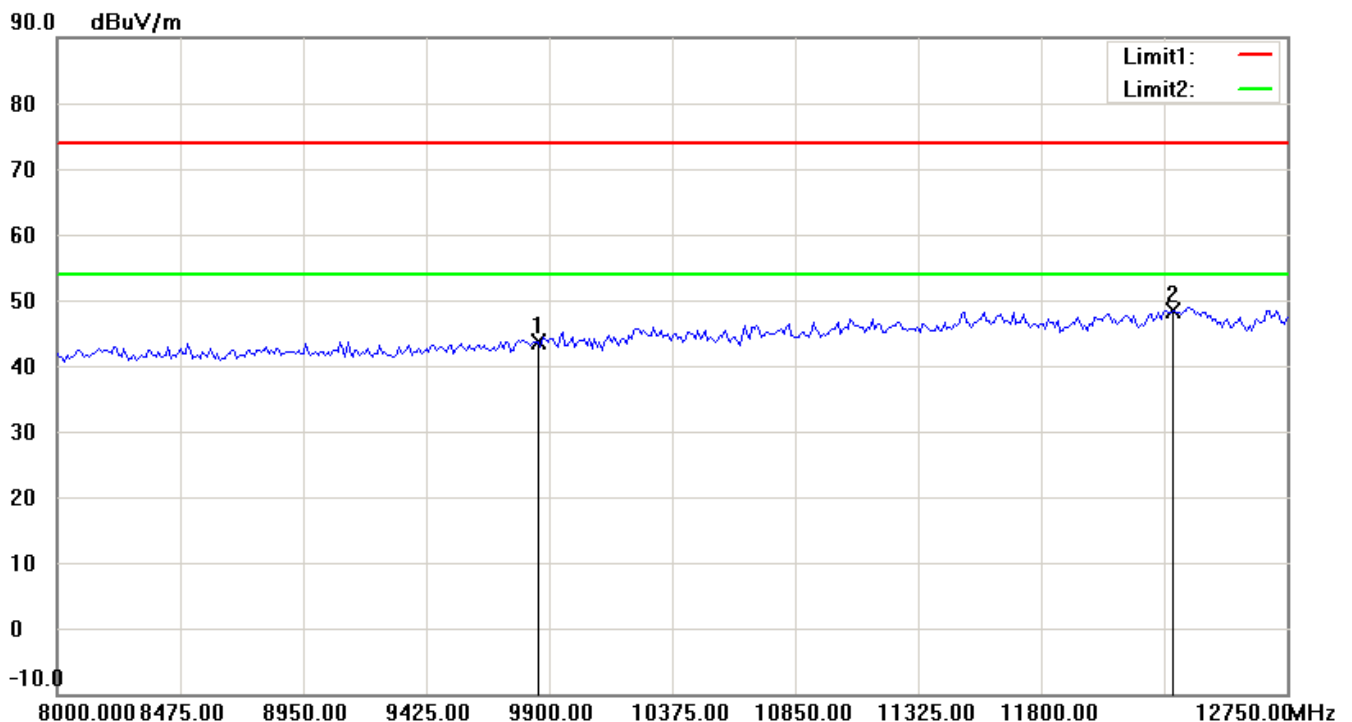
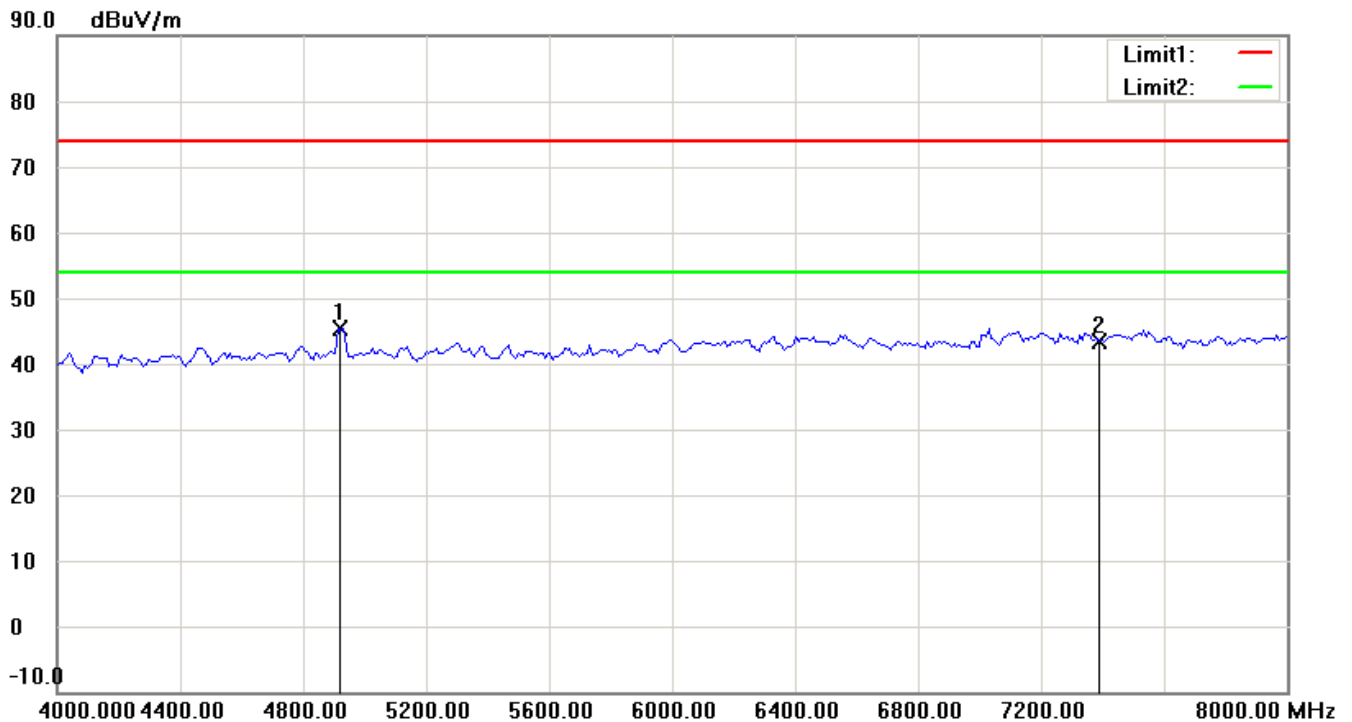
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Worldwide Testing Services(Taiwan) Co., Ltd.

Registration number: W6M21404-14062-C-1

FCC ID: S8C-DSA2LS



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

Note:

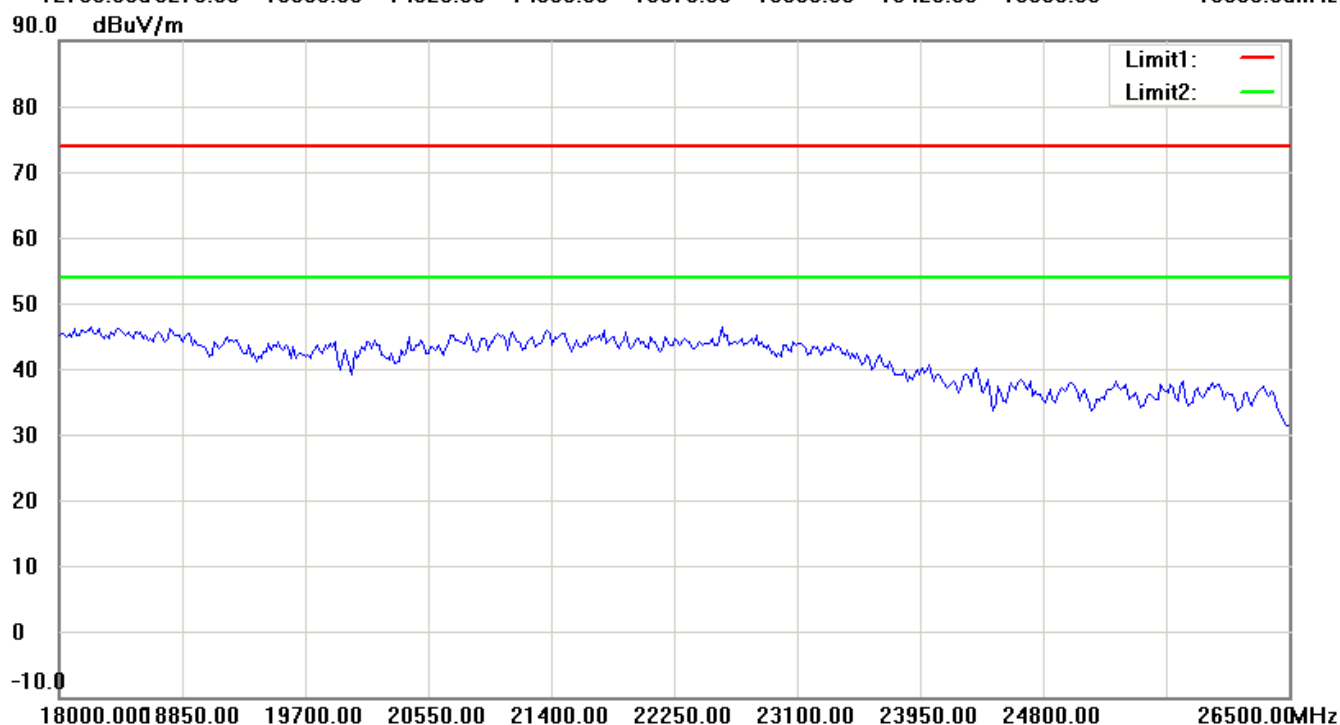
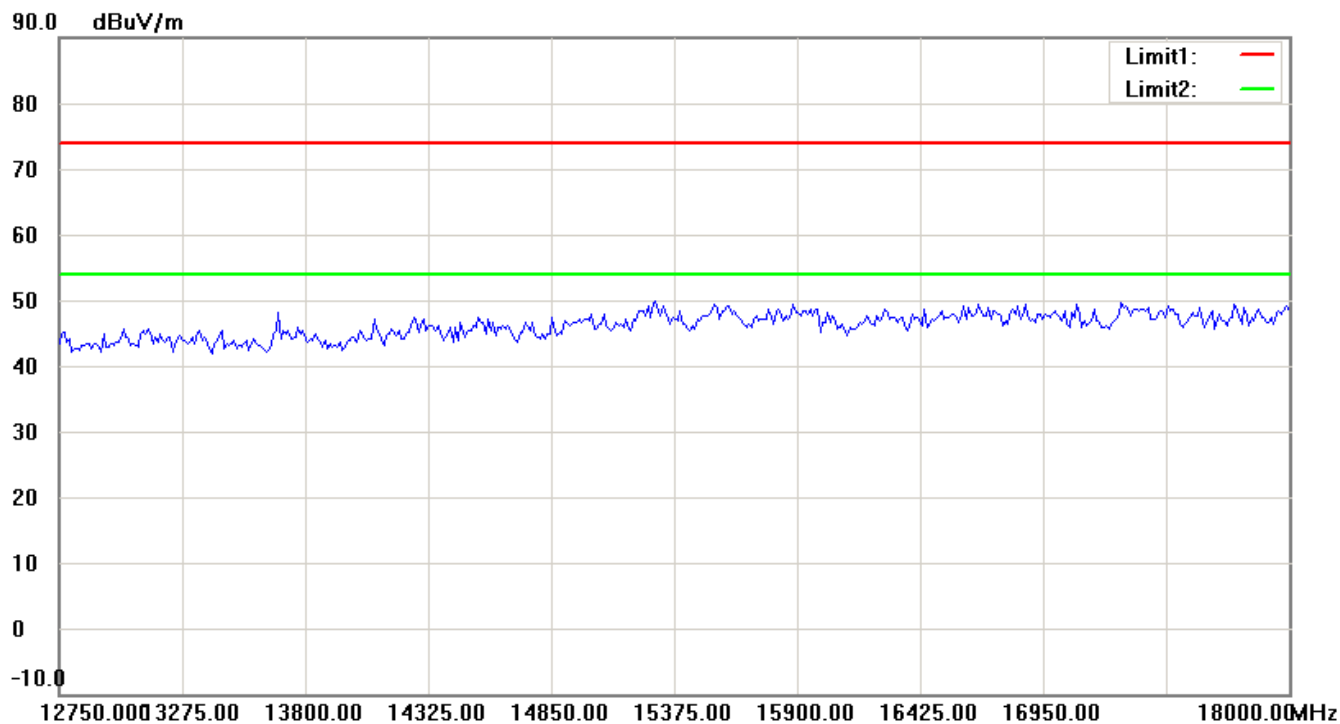
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FCC ID: S8C-DSA2LS



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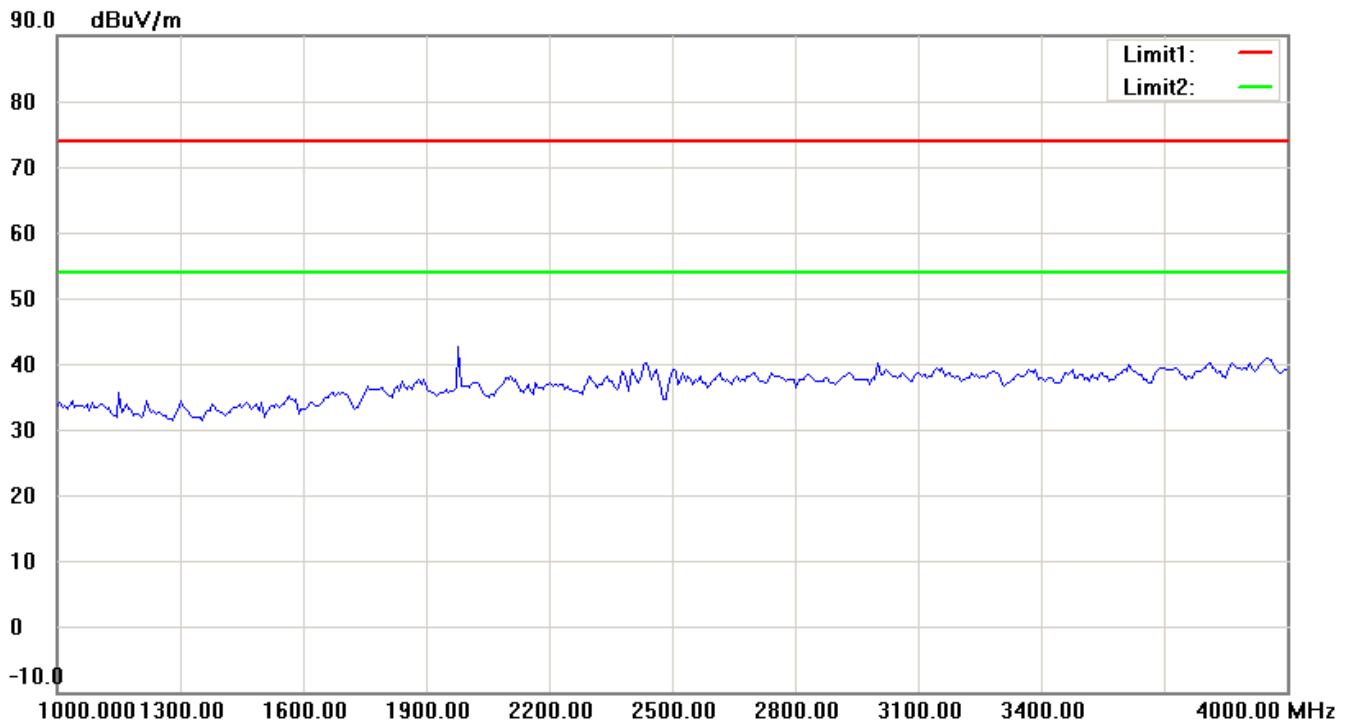
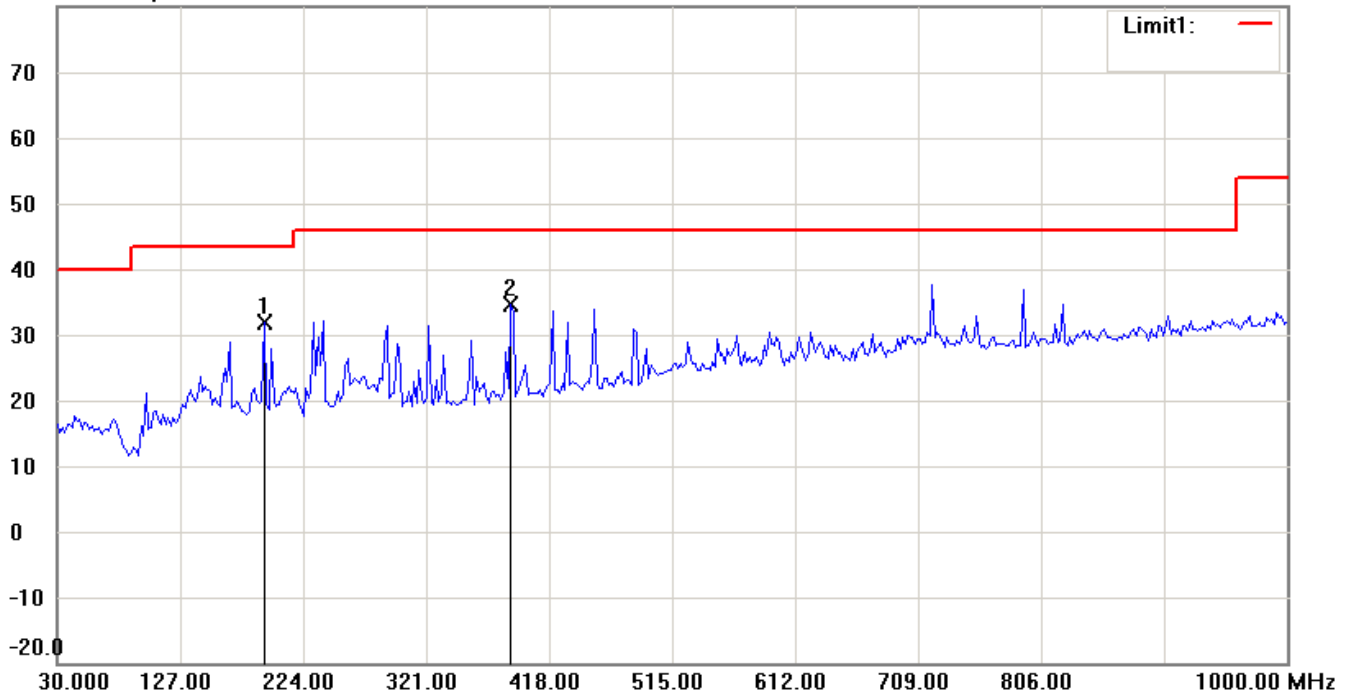
FCC ID: S8C-DSA2LS

802.11n 20MHz

CH1

Antenna Polarization H

80.0 dBuV/m



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

Note:

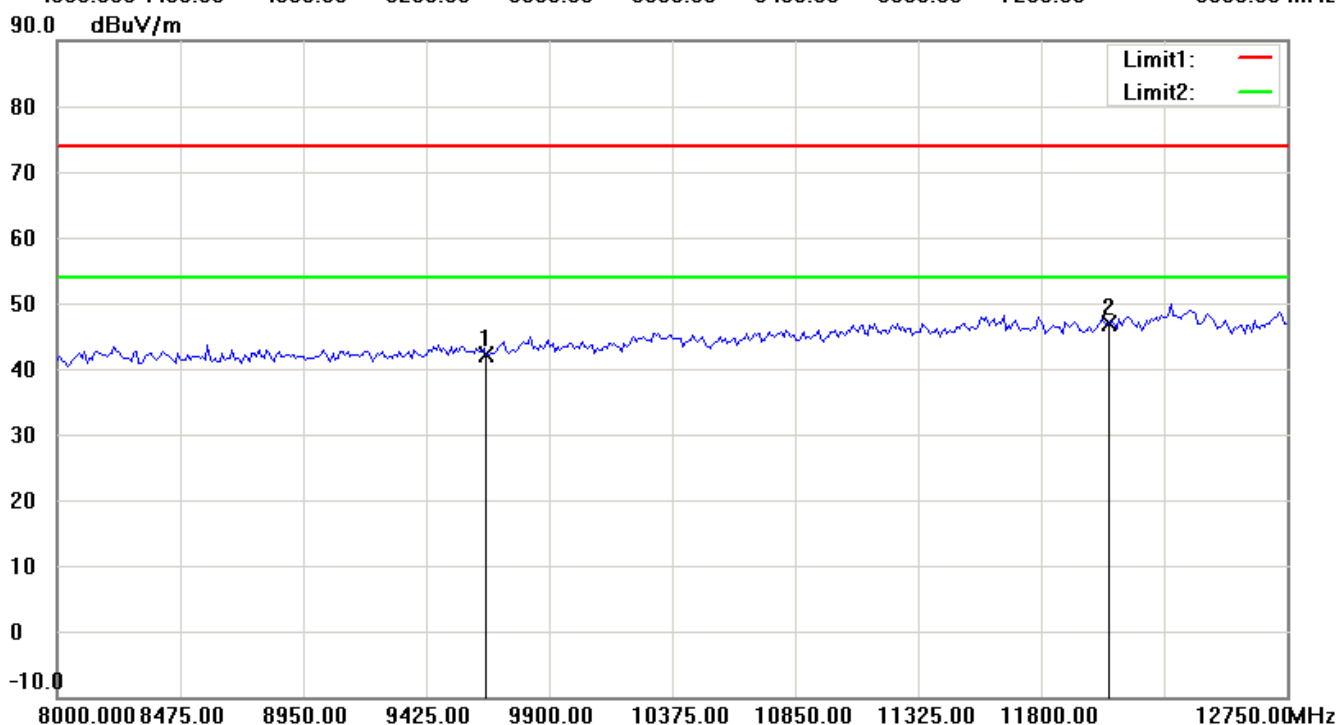
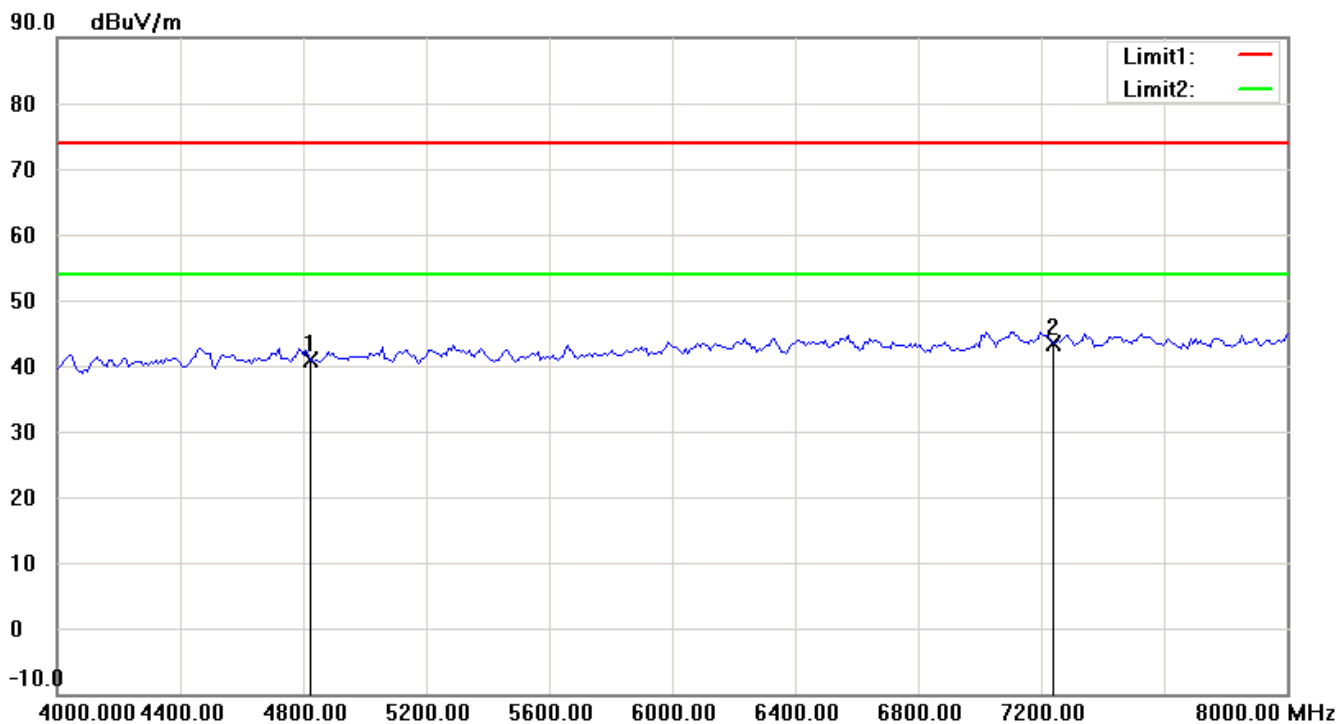
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FCC ID: S8C-DSA2LS



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

Note:

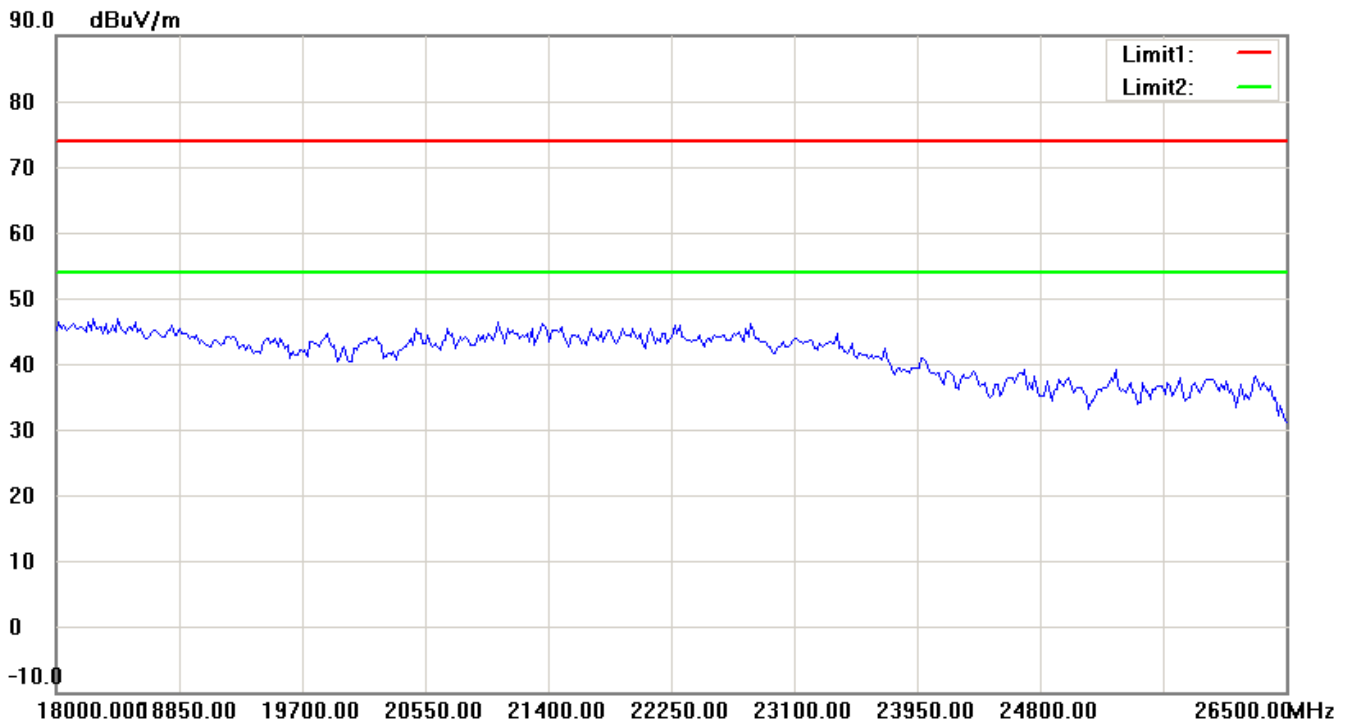
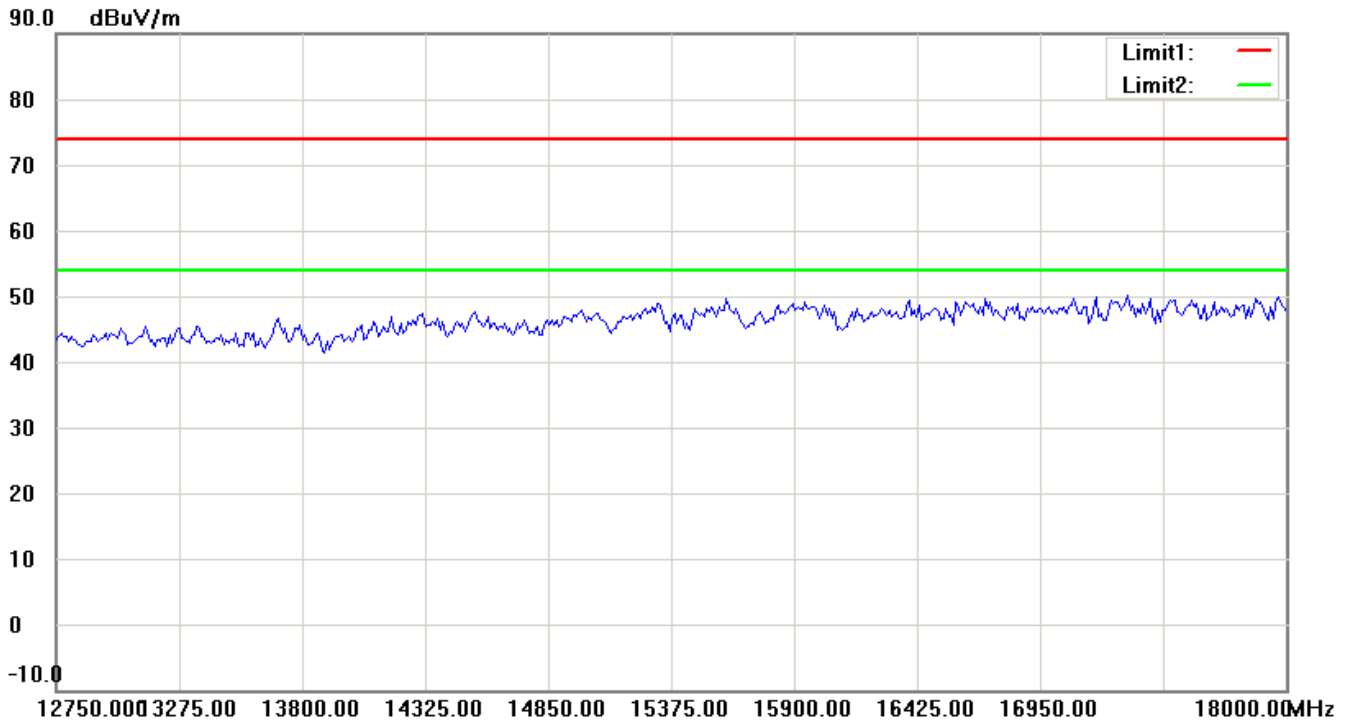
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FCC ID: S8C-DSA2LS



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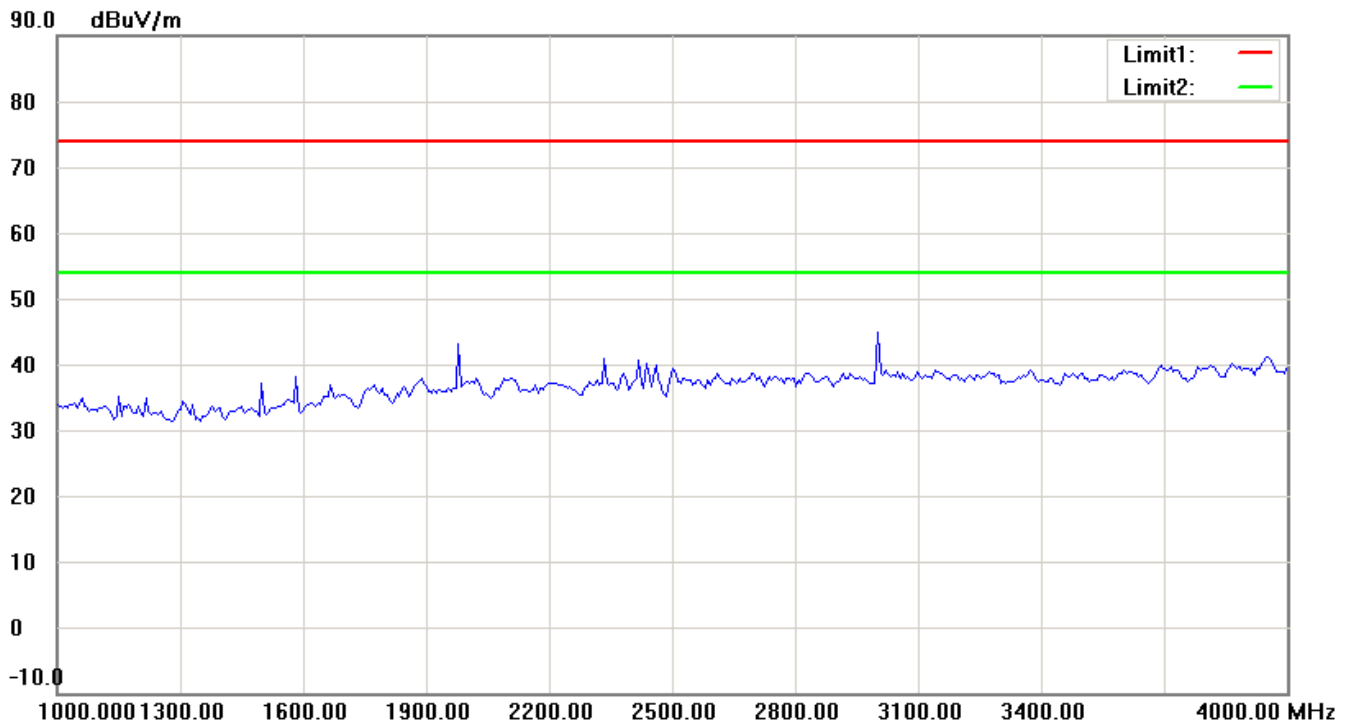
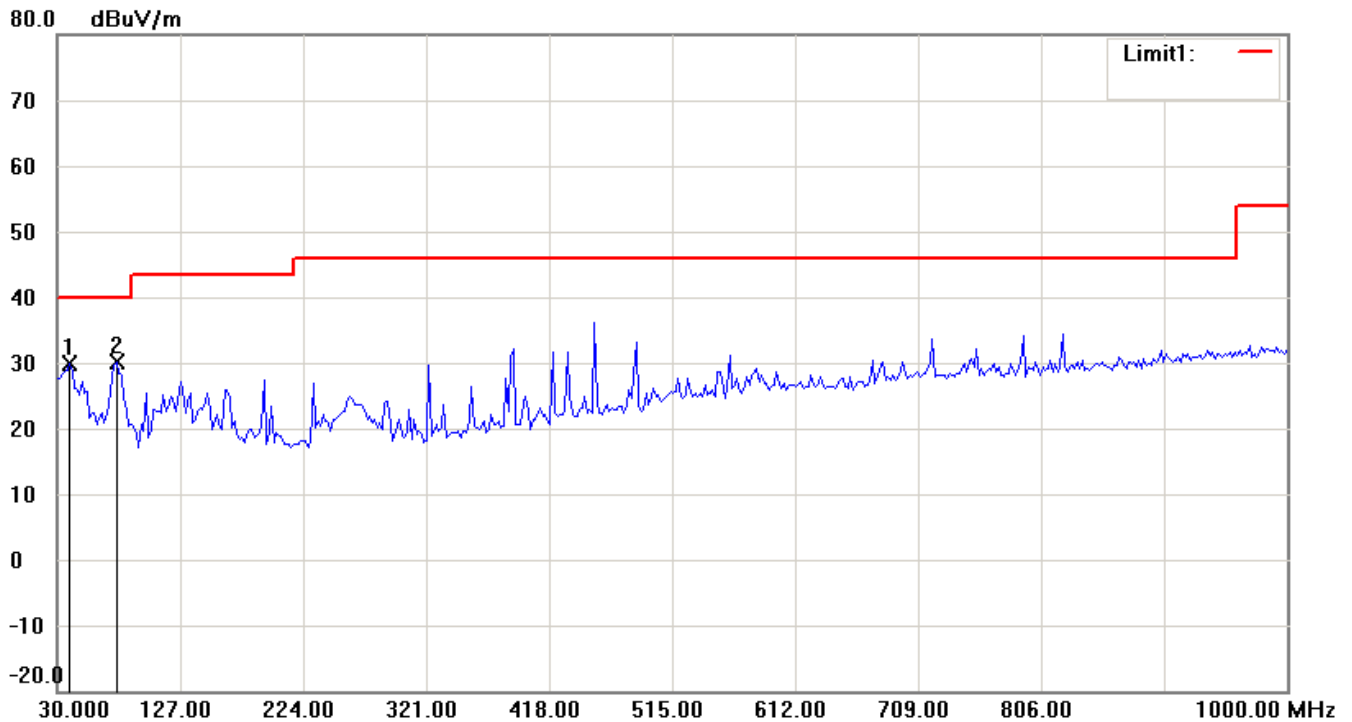


Worldwide Testing Services(Taiwan) Co., Ltd.

Registration number: W6M21404-14062-C-1

FCC ID: S8C-DSA2LS

Antenna Polarization V



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

Note:

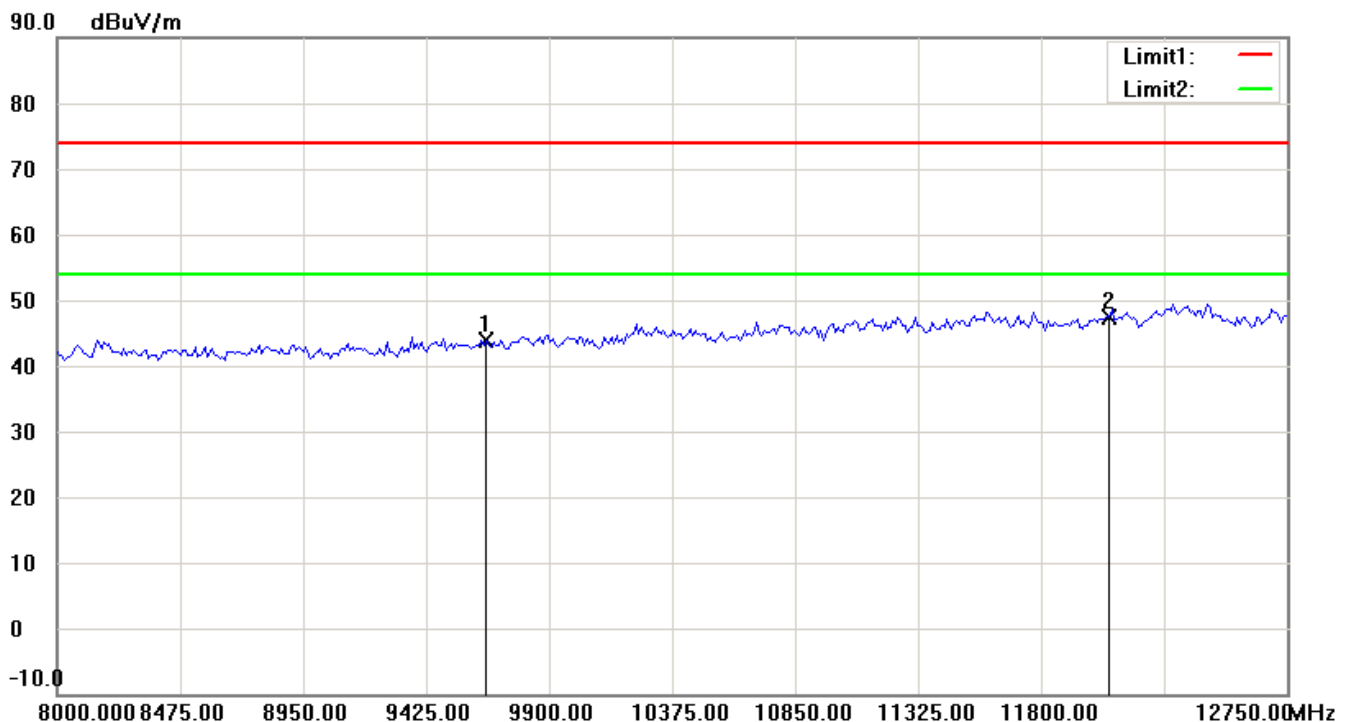
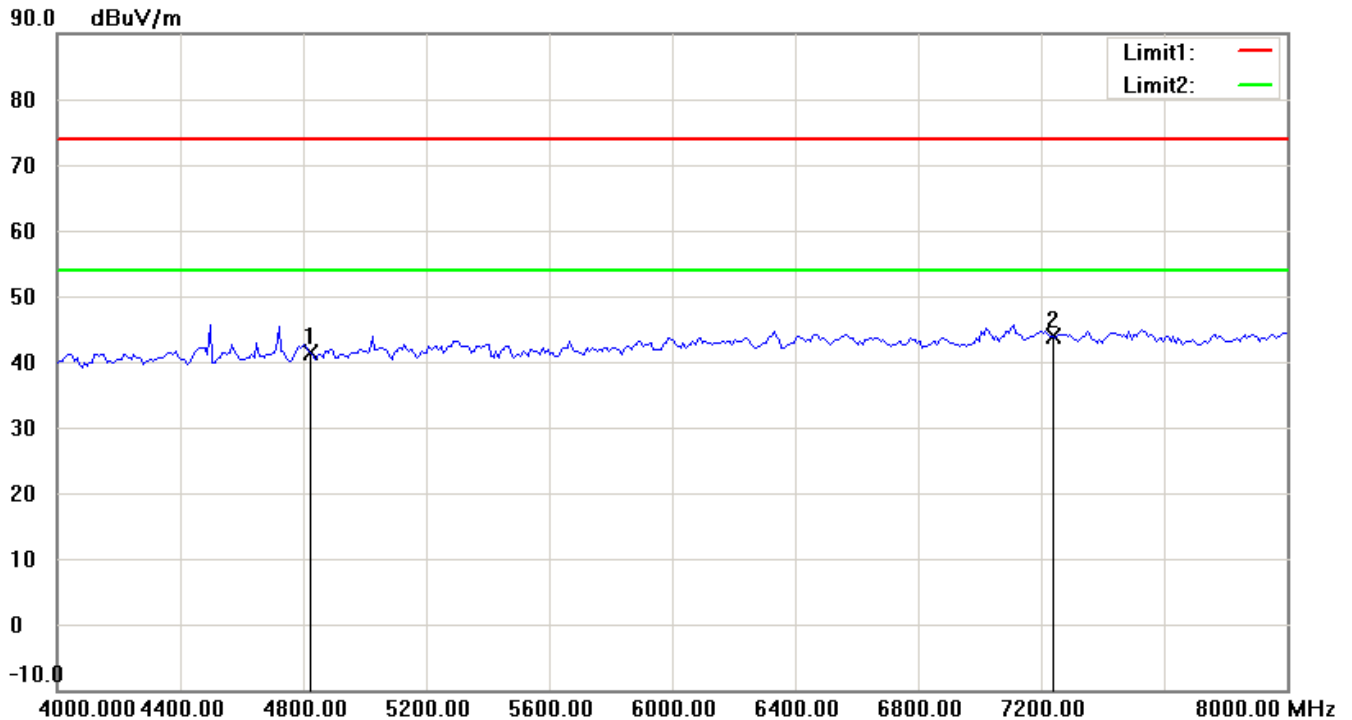
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Up Line: Peak Limit Line Down Line: Ave Limit Line

Note:

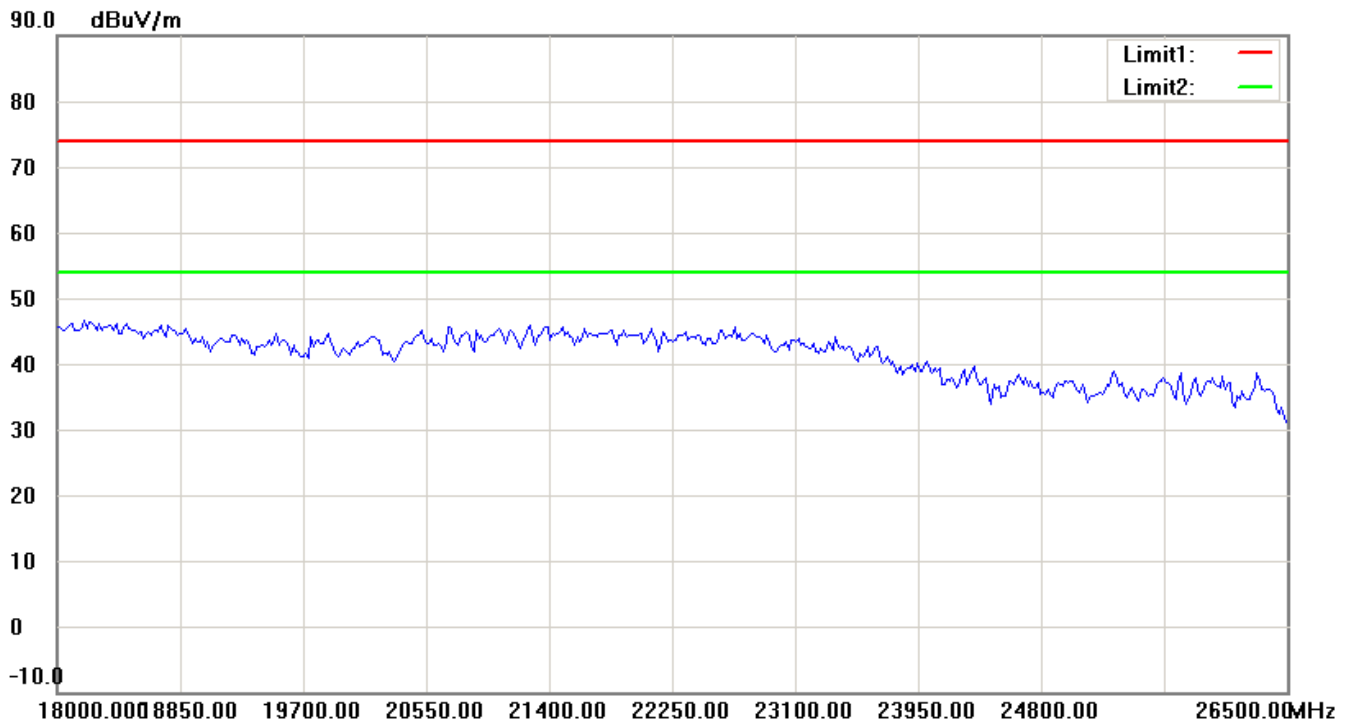
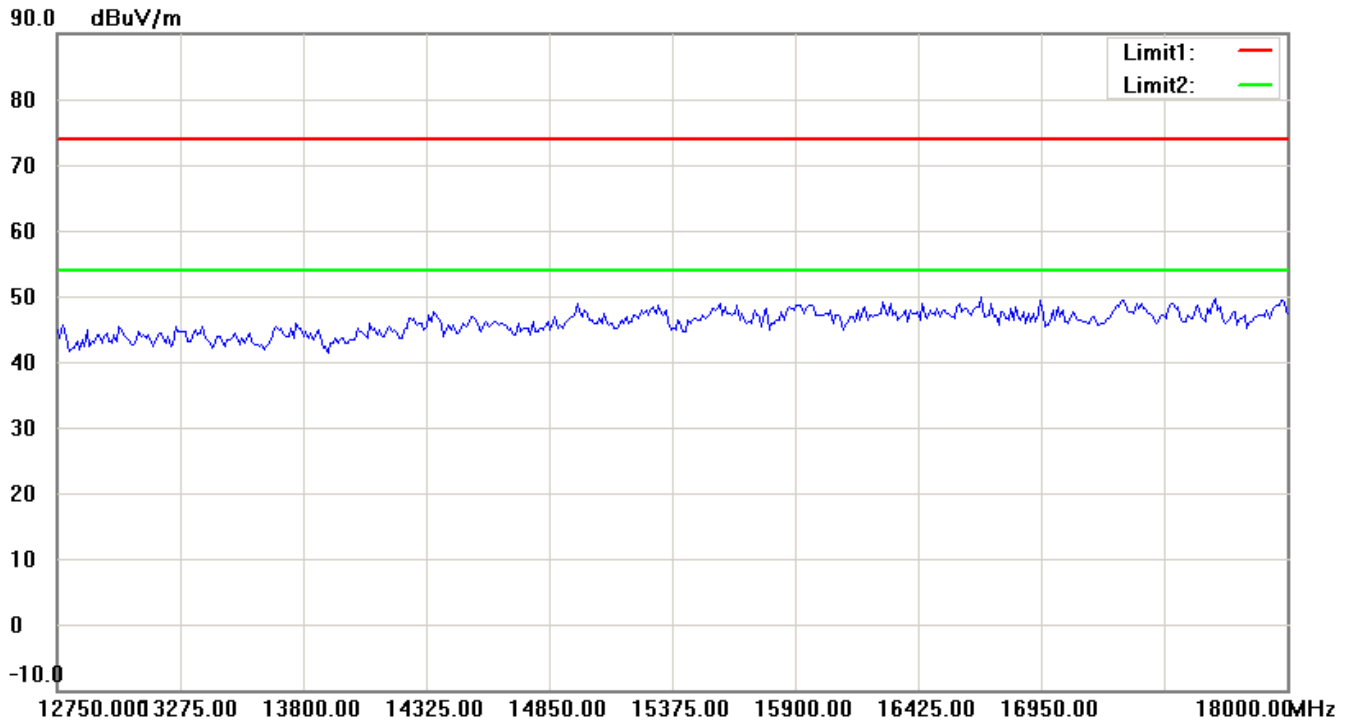
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Up Line: Peak Limit Line Down Line: Ave Limit Line

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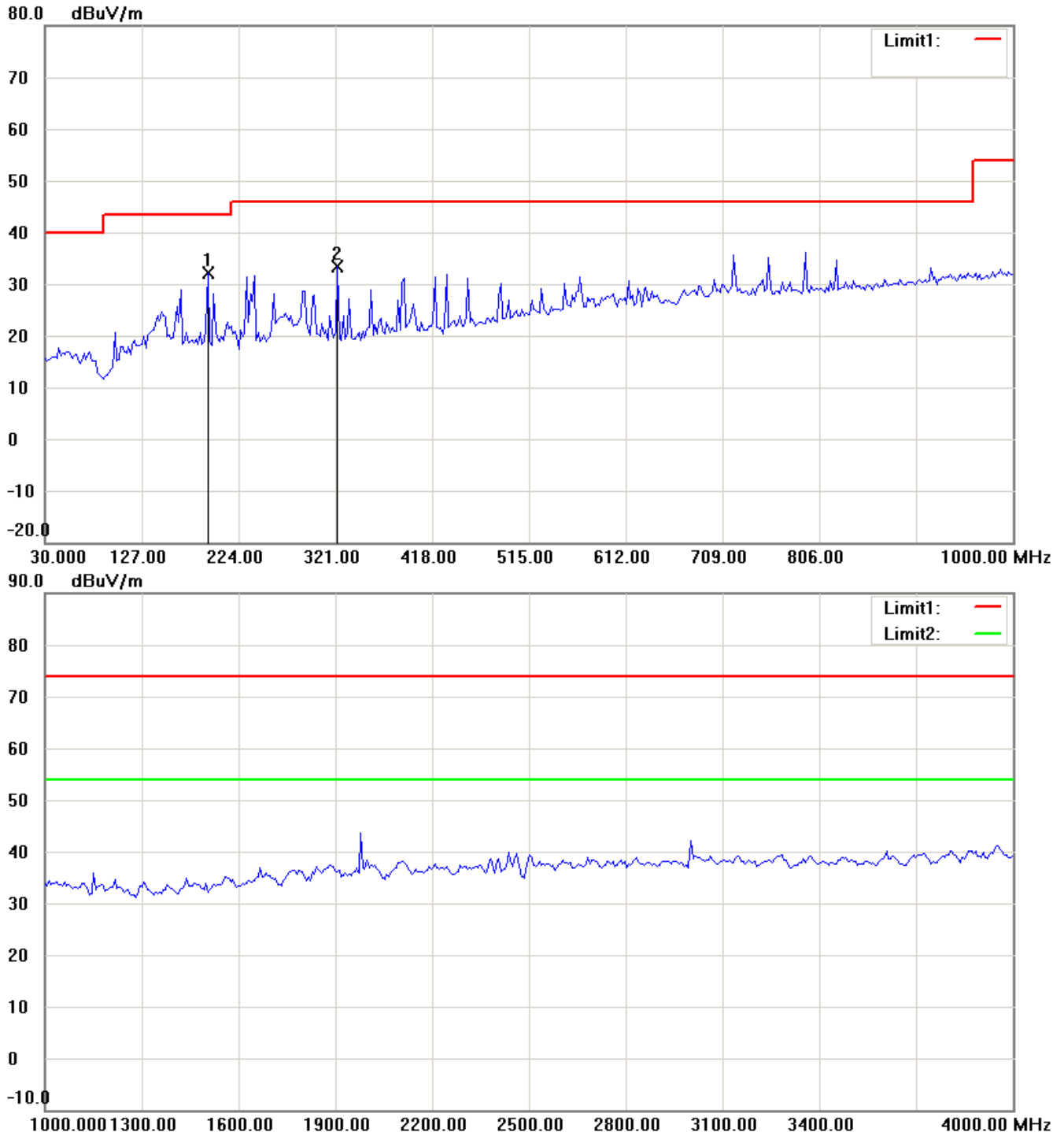
Worldwide Testing Services(Taiwan) Co., Ltd.

Registration number: W6M21404-14062-C-1

FCC ID: S8C-DSA2LS

CH6

Antenna Polarization H



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

Note:

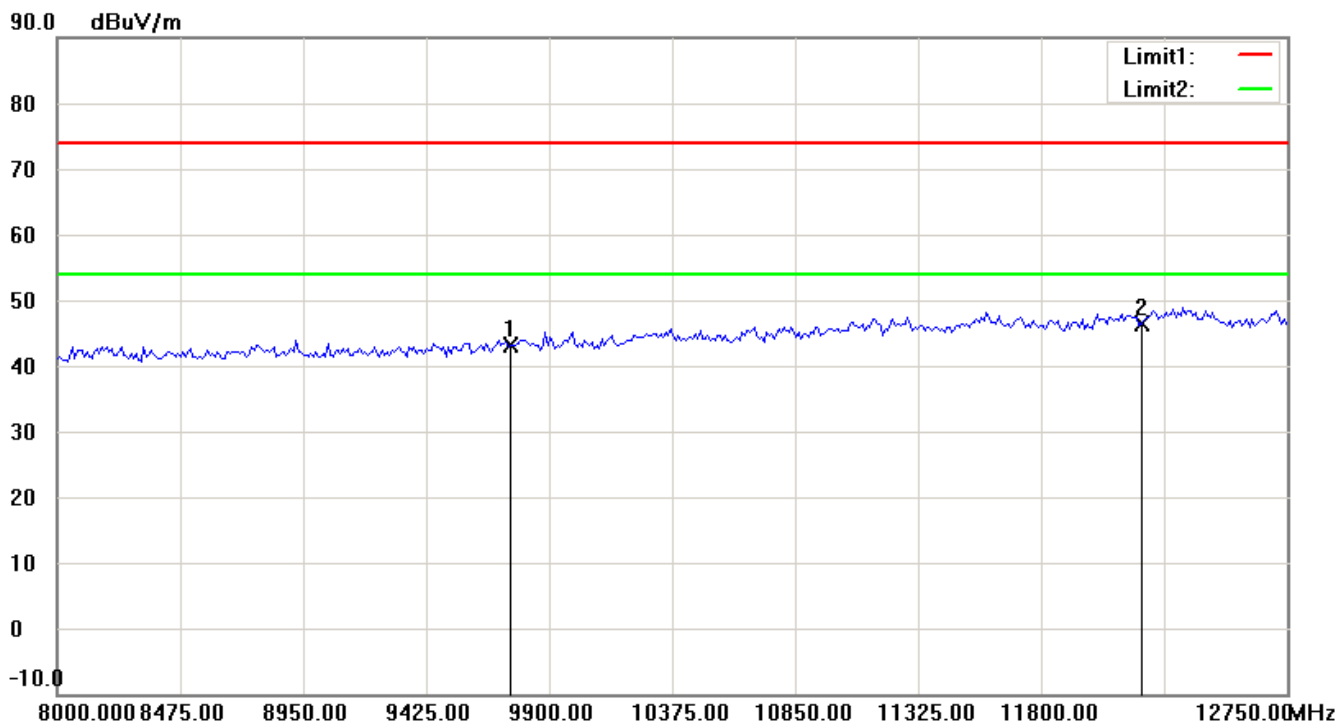
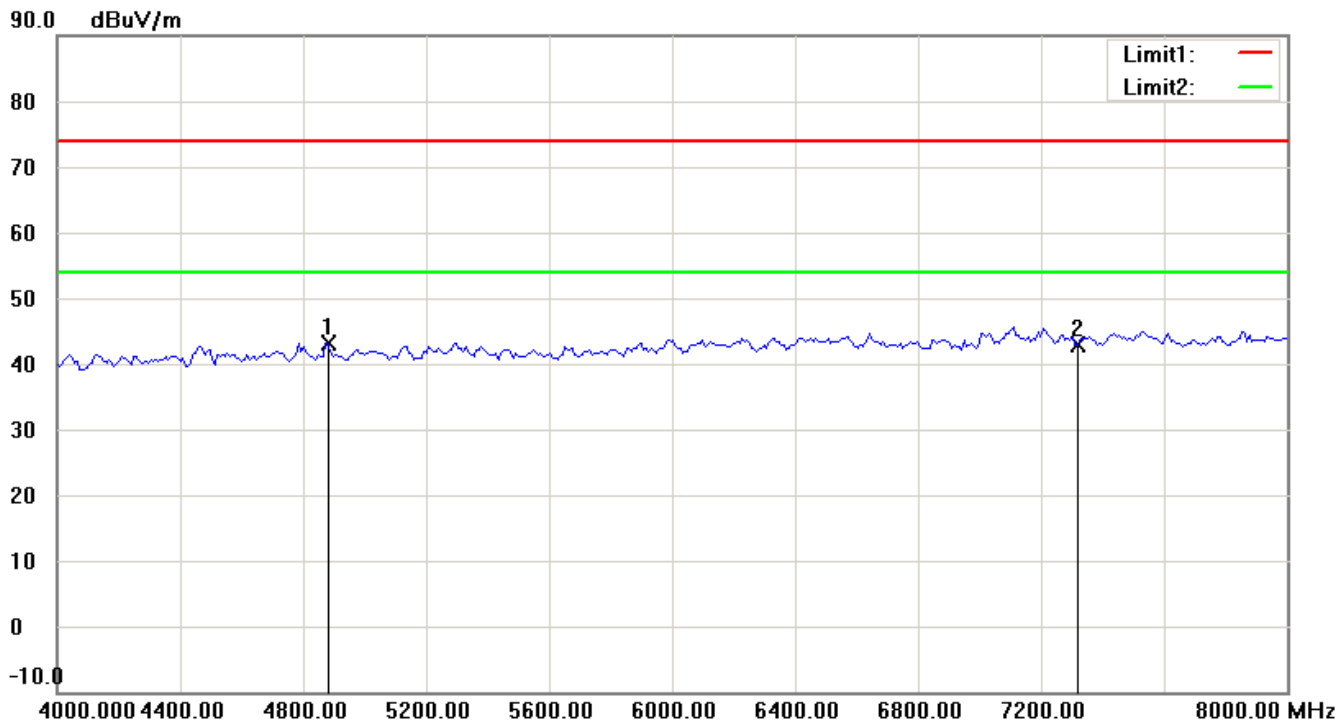
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FCC ID: S8C-DSA2LS



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

Note:

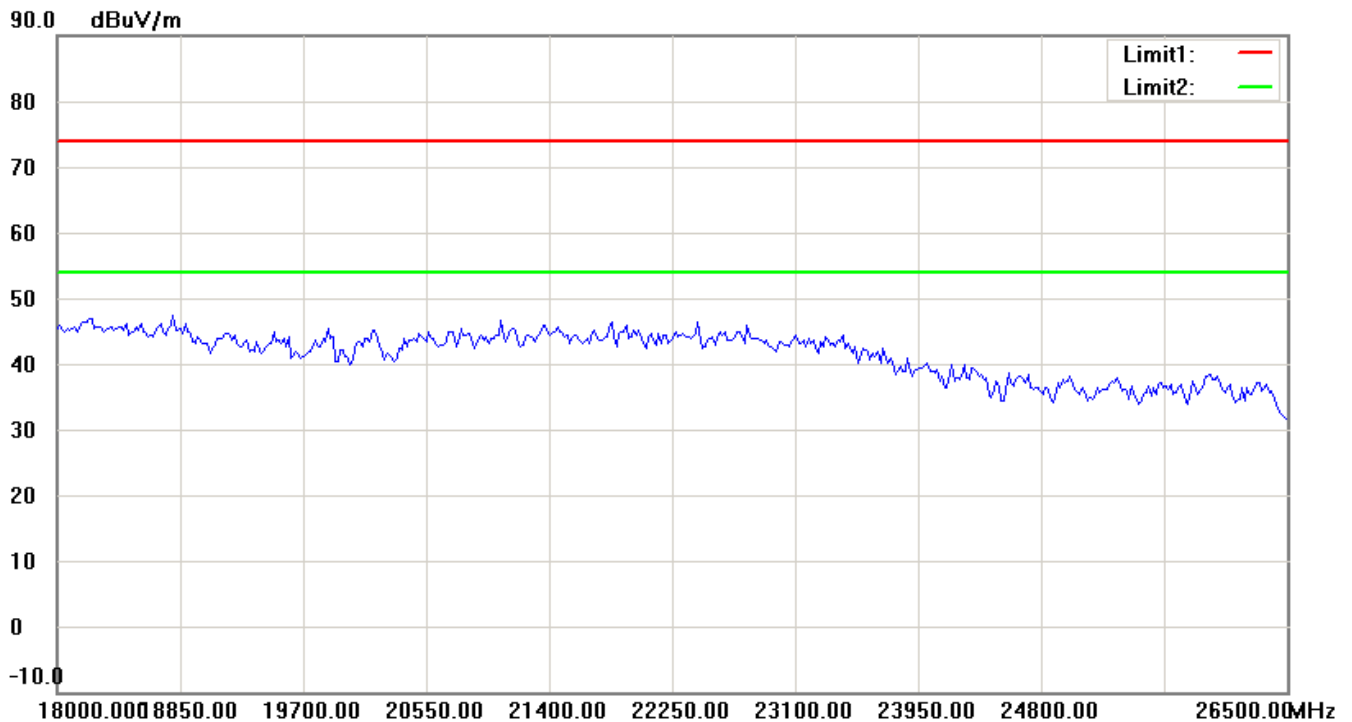
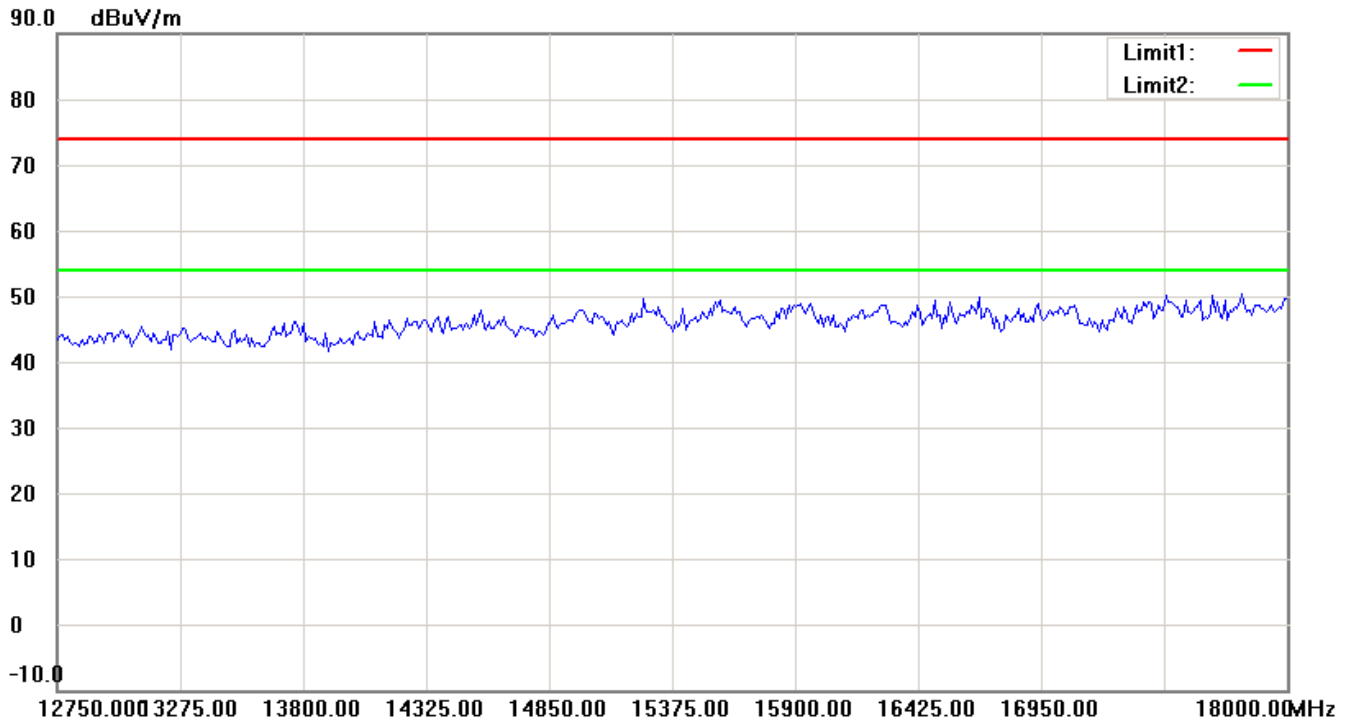
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FCC ID: S8C-DSA2LS



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.

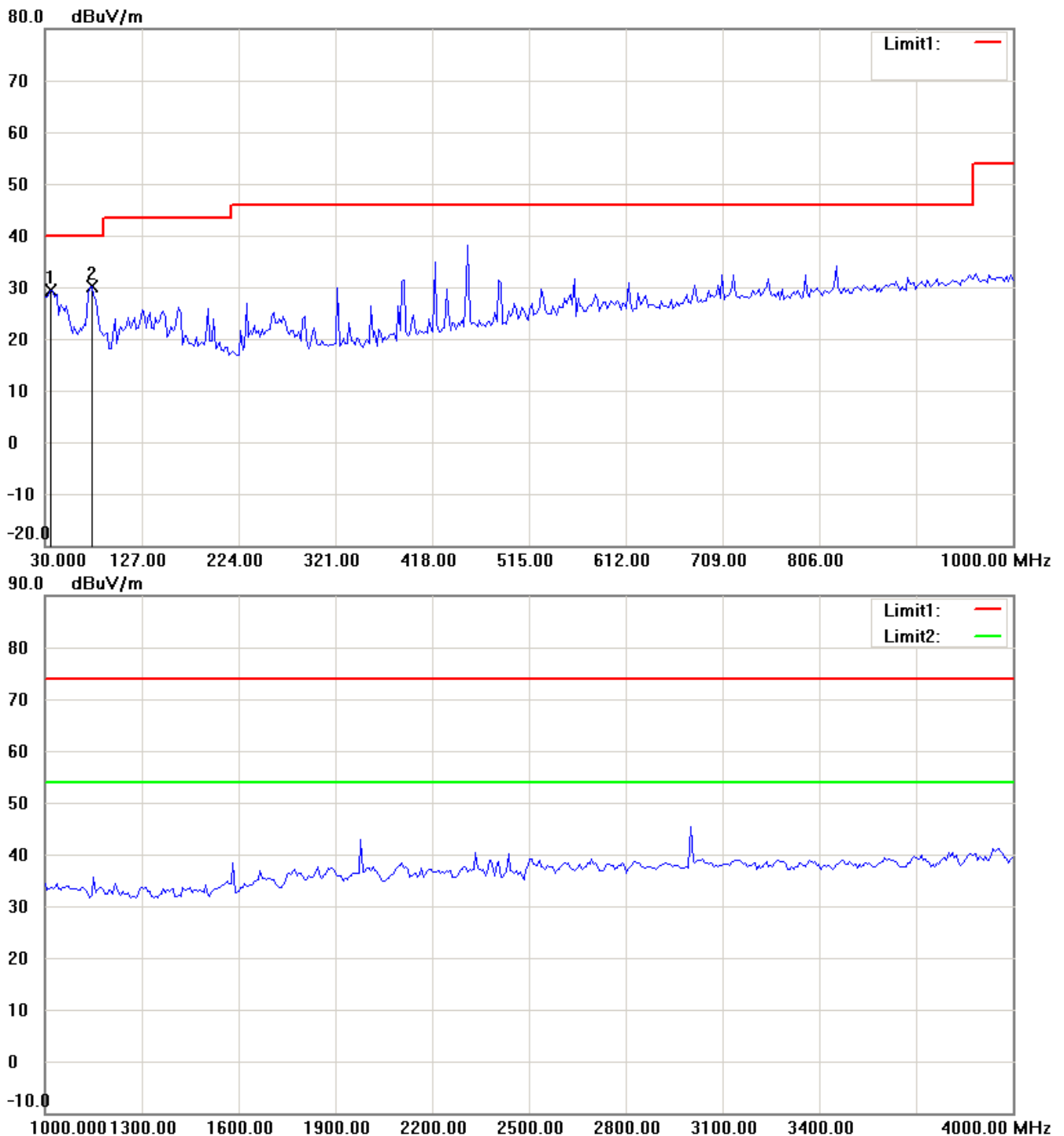


Worldwide Testing Services(Taiwan) Co., Ltd.

Registration number: W6M21404-14062-C-1

FCC ID: S8C-DSA2LS

Antenna Polarization V



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

Note:

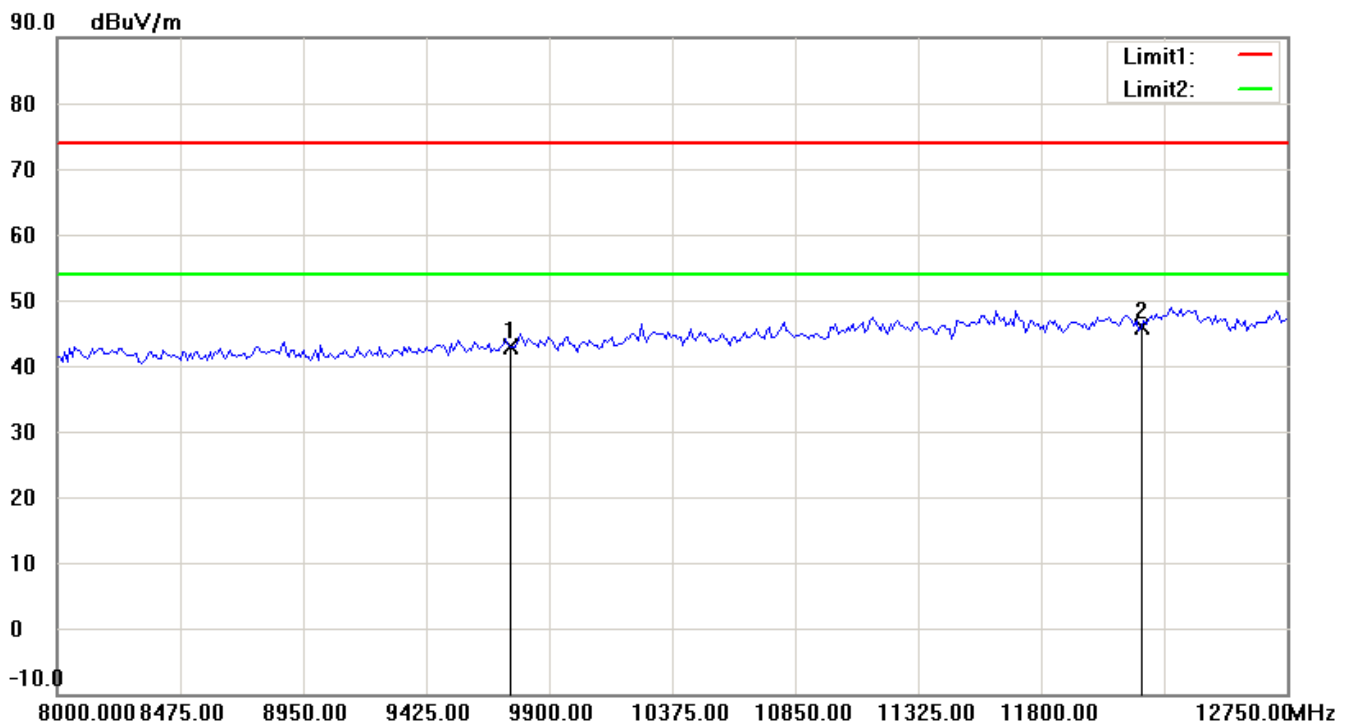
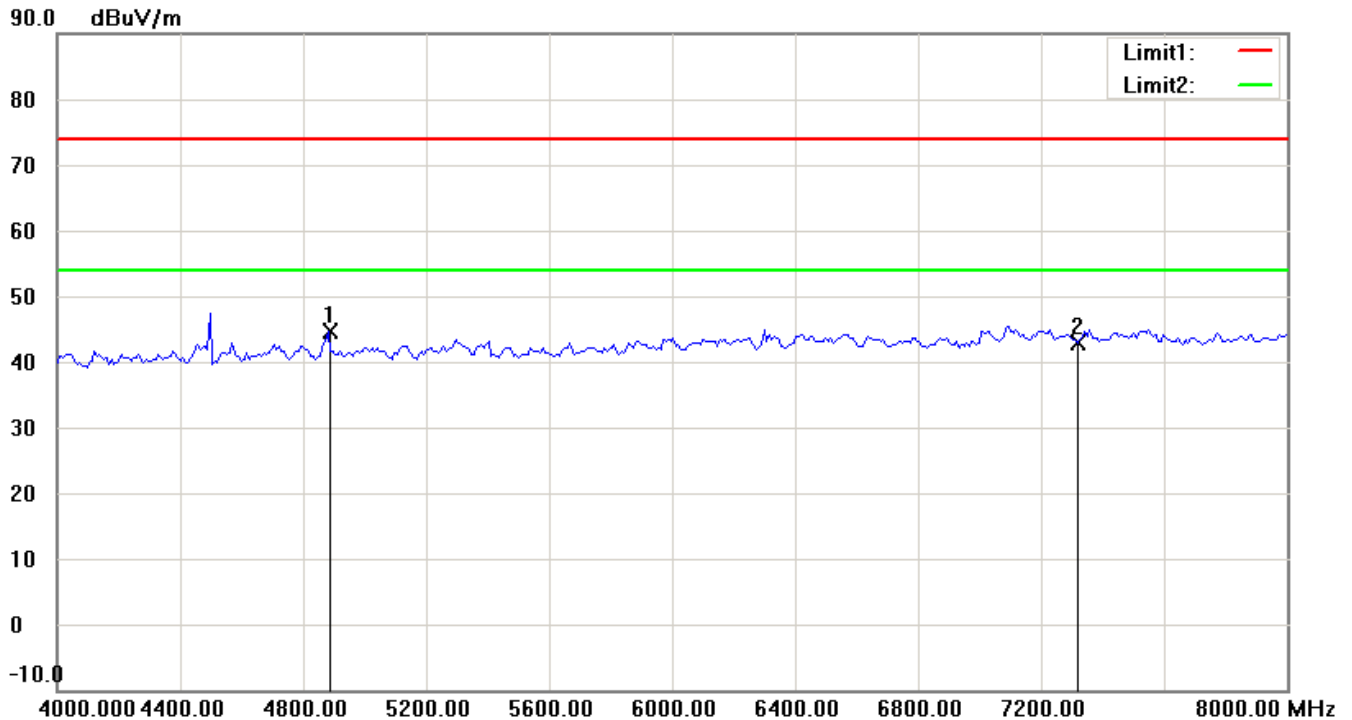
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Worldwide Testing Services(Taiwan) Co., Ltd.

Registration number: W6M21404-14062-C-1

FCC ID: S8C-DSA2LS



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

Note:

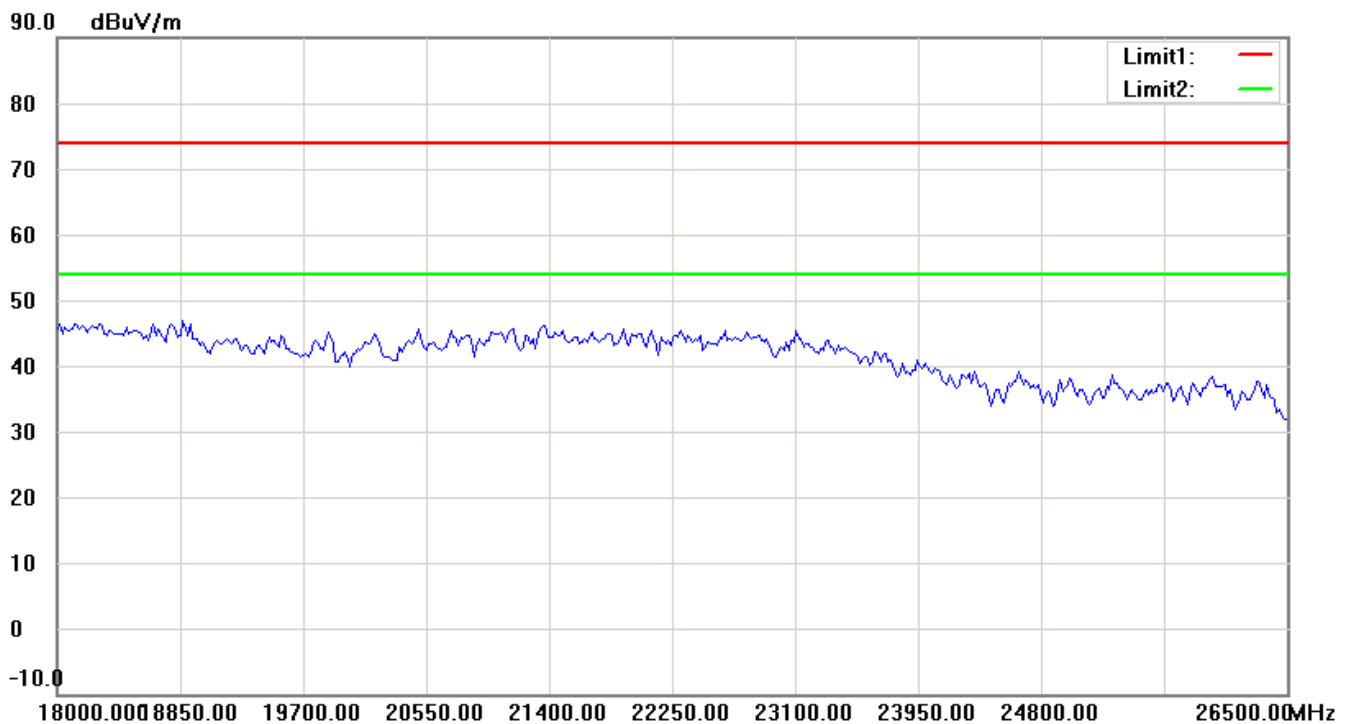
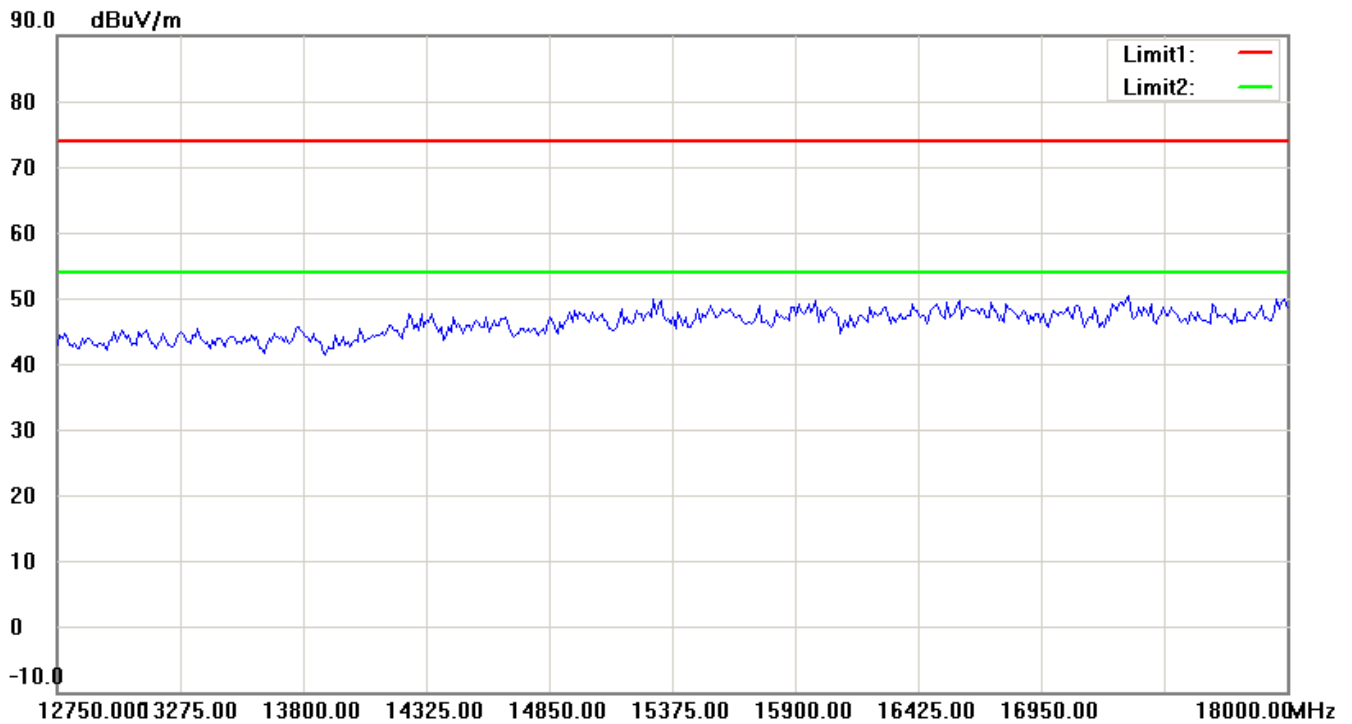
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Worldwide Testing Services(Taiwan) Co., Ltd.

Registration number: W6M21404-14062-C-1

FCC ID: S8C-DSA2LS



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

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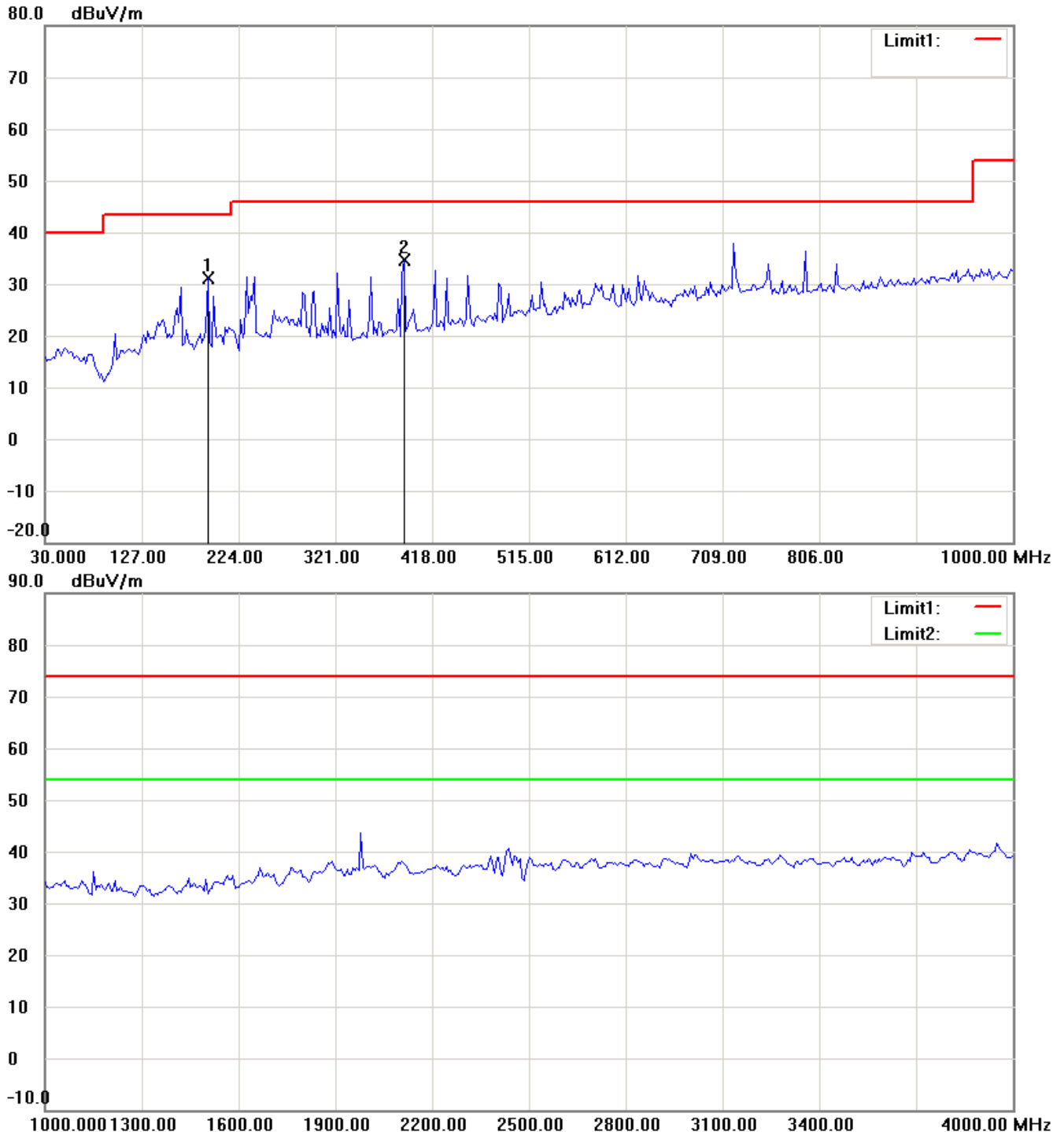
Worldwide Testing Services(Taiwan) Co., Ltd.

Registration number: W6M21404-14062-C-1

FCC ID: S8C-DSA2LS

CH11

Antenna Polarization H



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

Note:

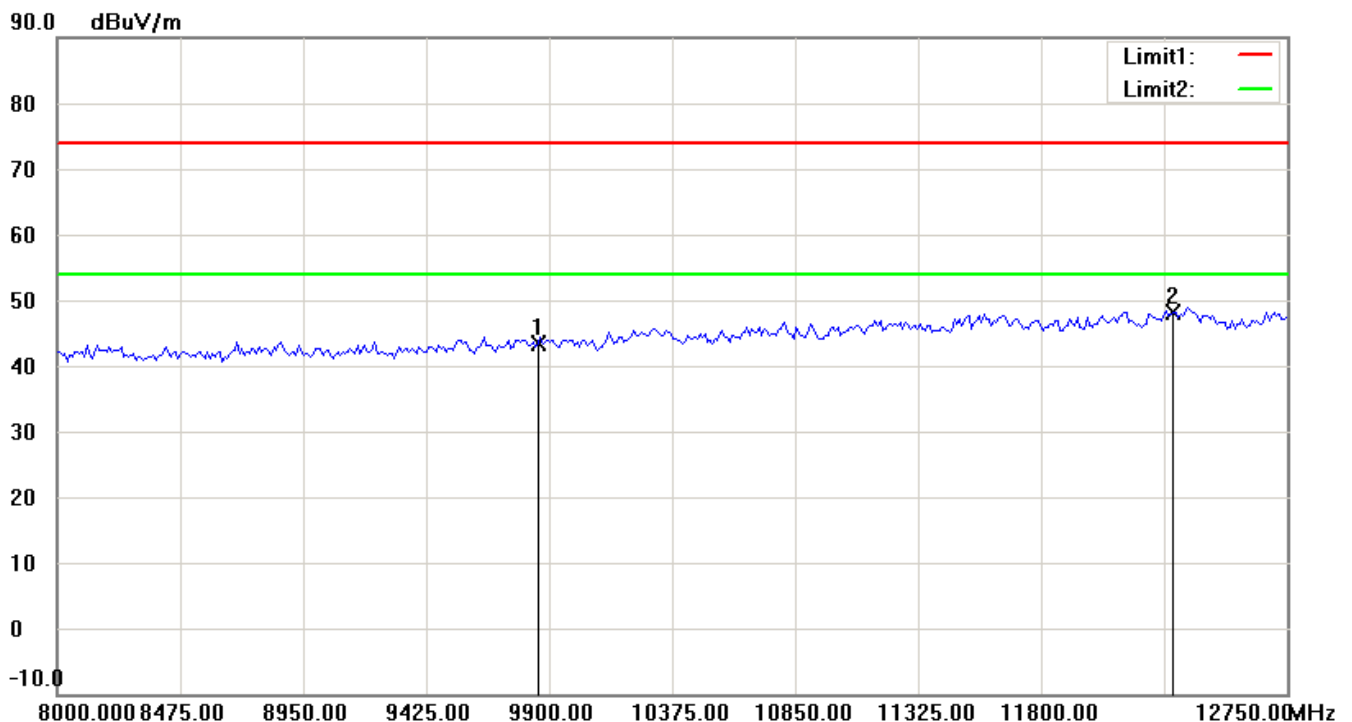
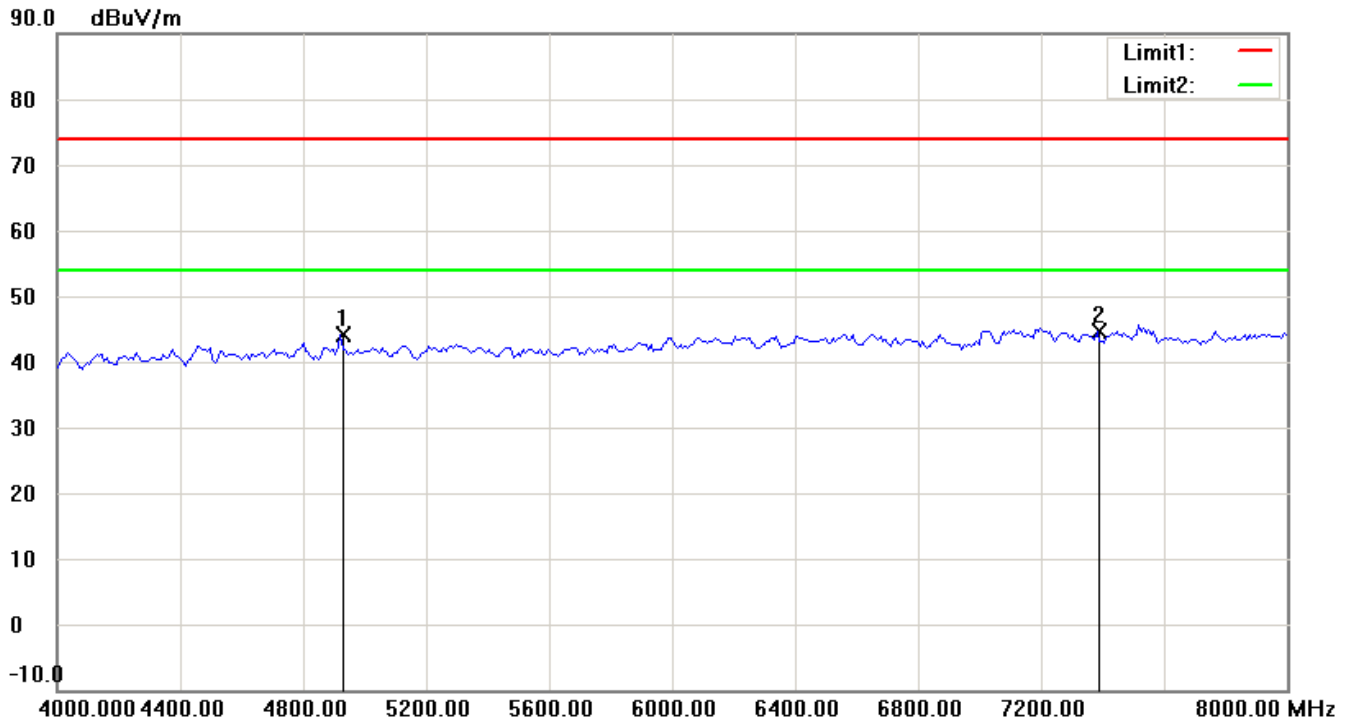
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Worldwide Testing Services(Taiwan) Co., Ltd.

Registration number: W6M21404-14062-C-1

FCC ID: S8C-DSA2LS



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

Note:

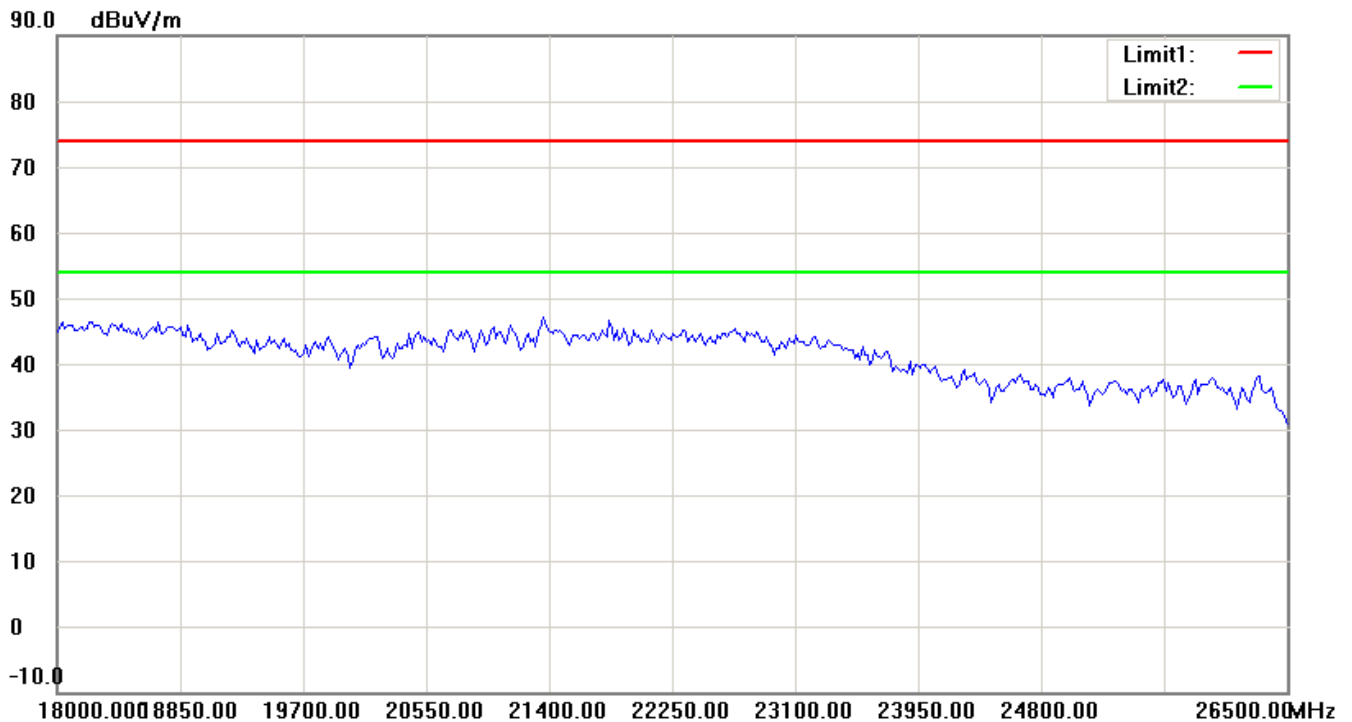
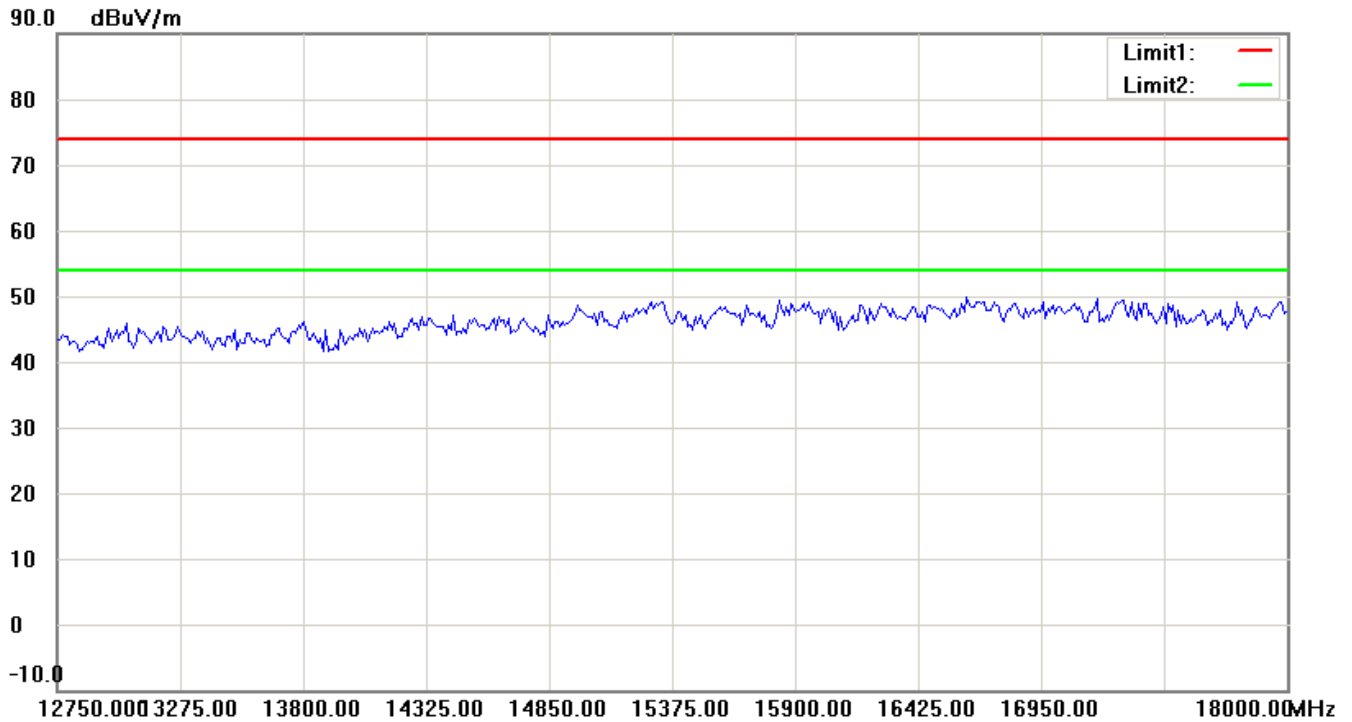
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Worldwide Testing Services(Taiwan) Co., Ltd.

Registration number: W6M21404-14062-C-1

FCC ID: S8C-DSA2LS



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

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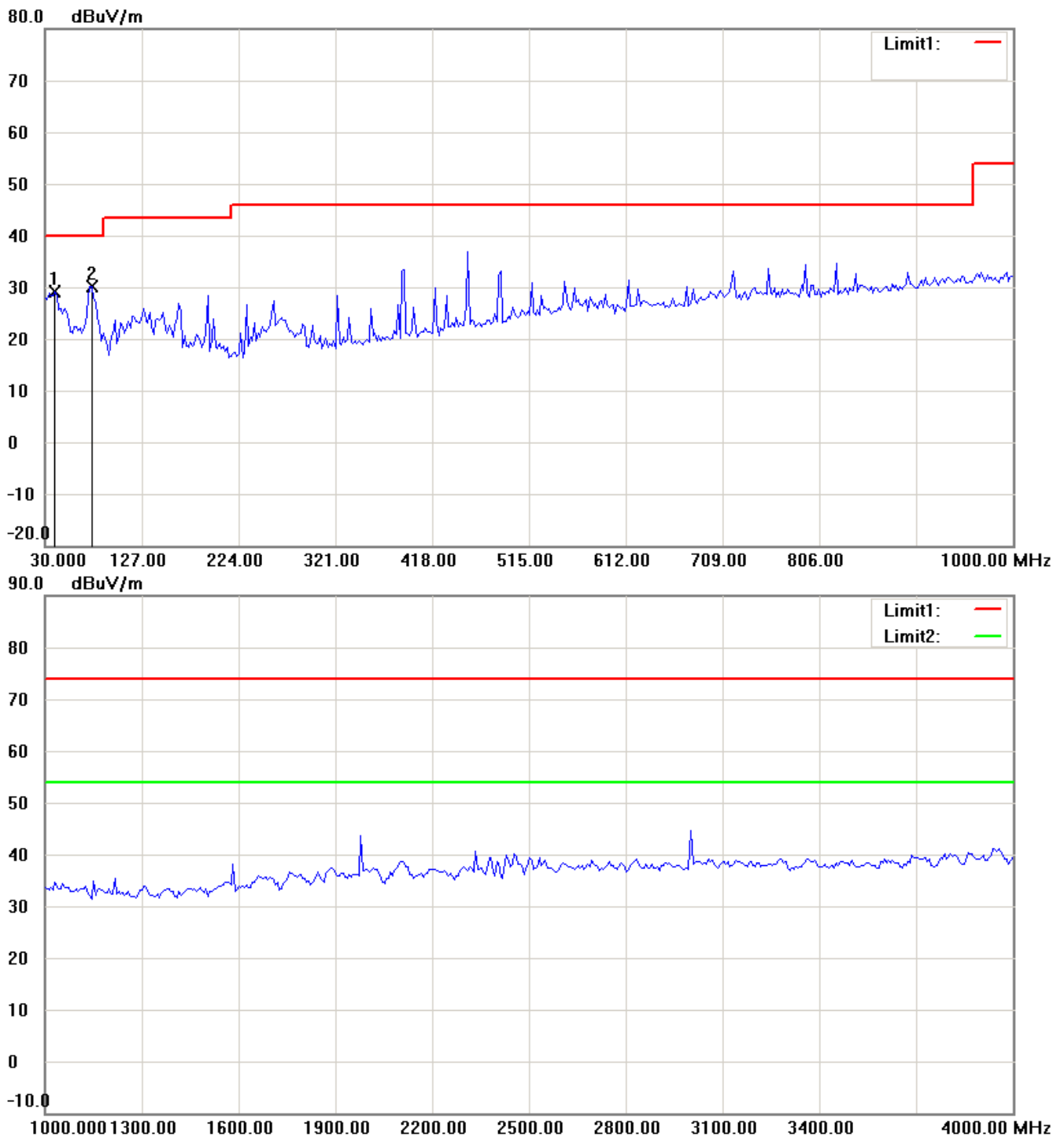


Worldwide Testing Services(Taiwan) Co., Ltd.

Registration number: W6M21404-14062-C-1

FCC ID: S8C-DSA2LS

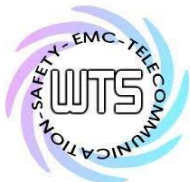
Antenna Polarization V



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

Note:

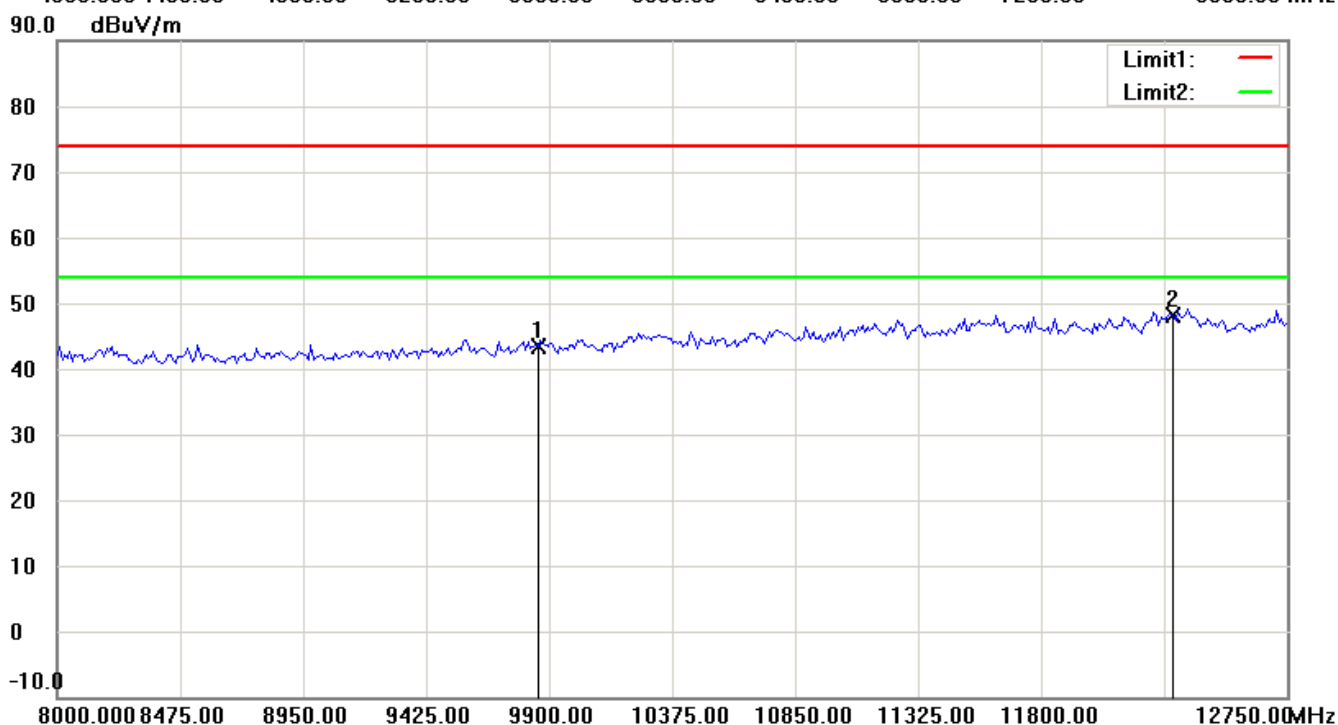
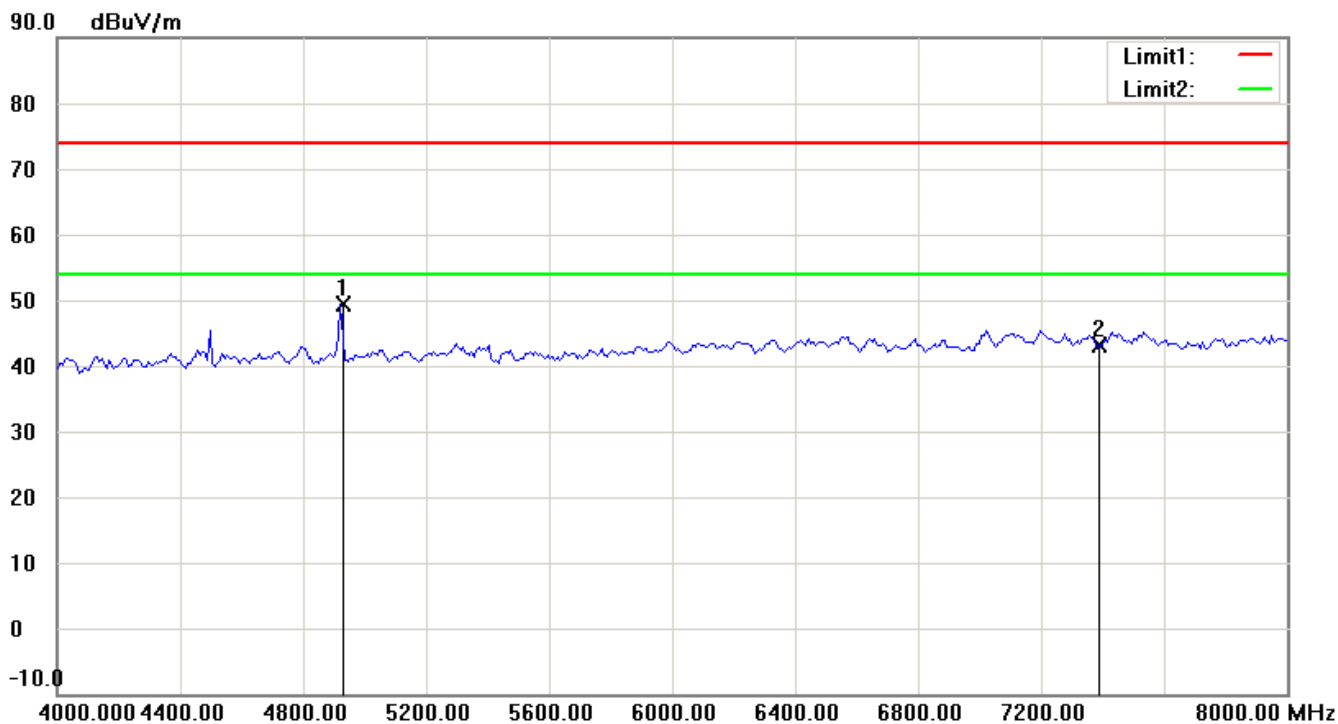
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Worldwide Testing Services(Taiwan) Co., Ltd.

Registration number: W6M21404-14062-C-1

FCC ID: S8C-DSA2LS



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

Note:

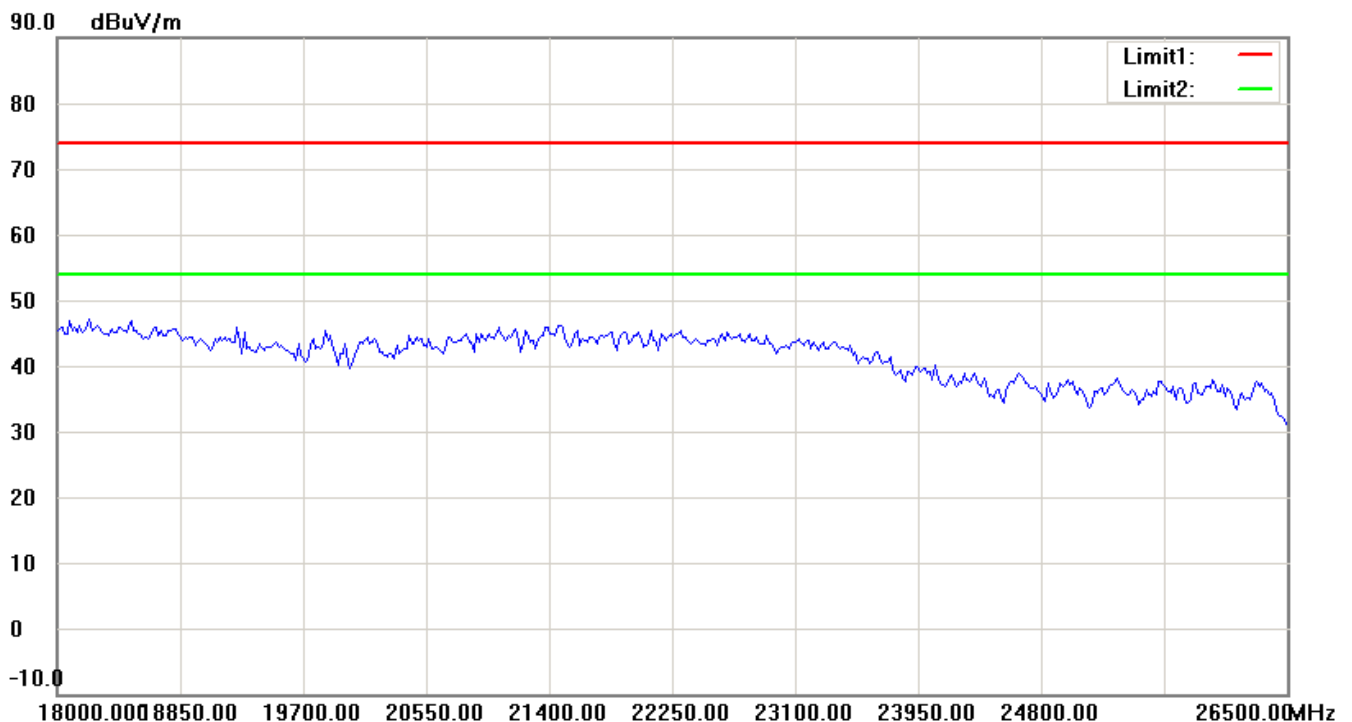
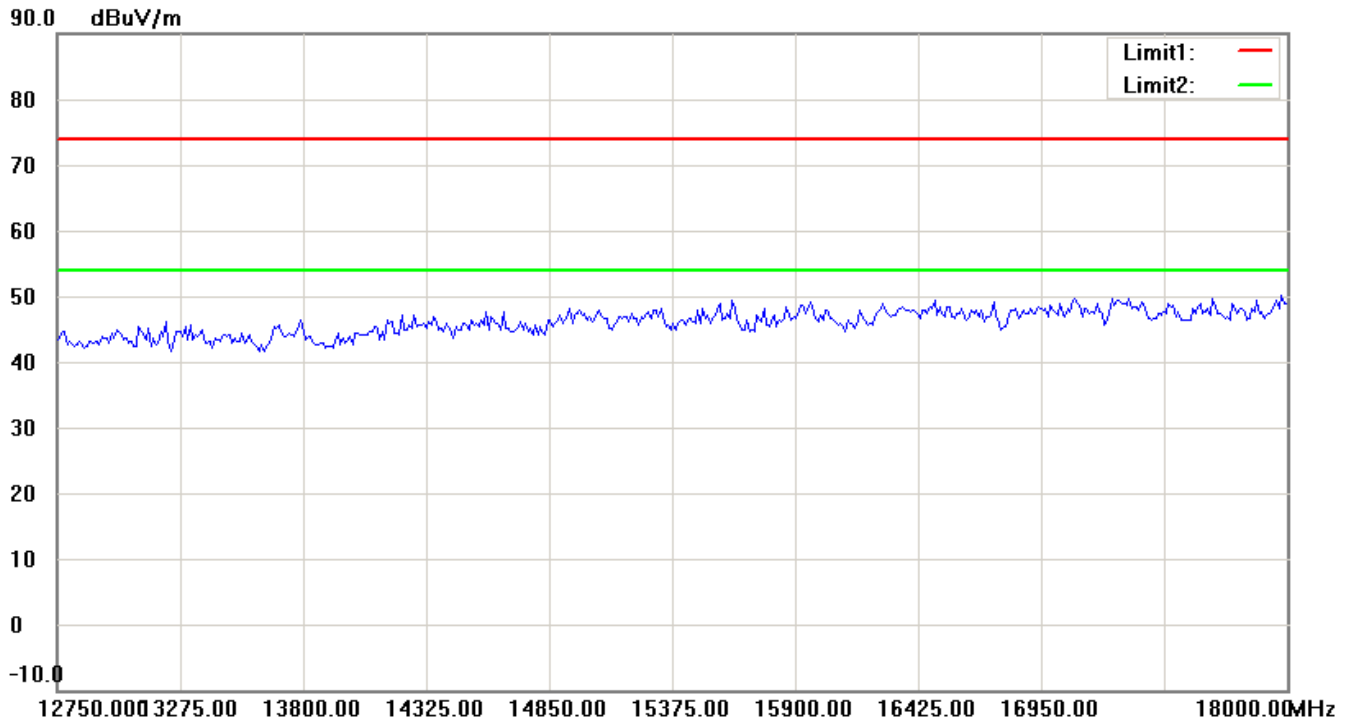
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Worldwide Testing Services(Taiwan) Co., Ltd.

Registration number: W6M21404-14062-C-1

FCC ID: S8C-DSA2LS



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

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Worldwide Testing Services(Taiwan) Co., Ltd.

Registration number: W6M21404-14062-C-1

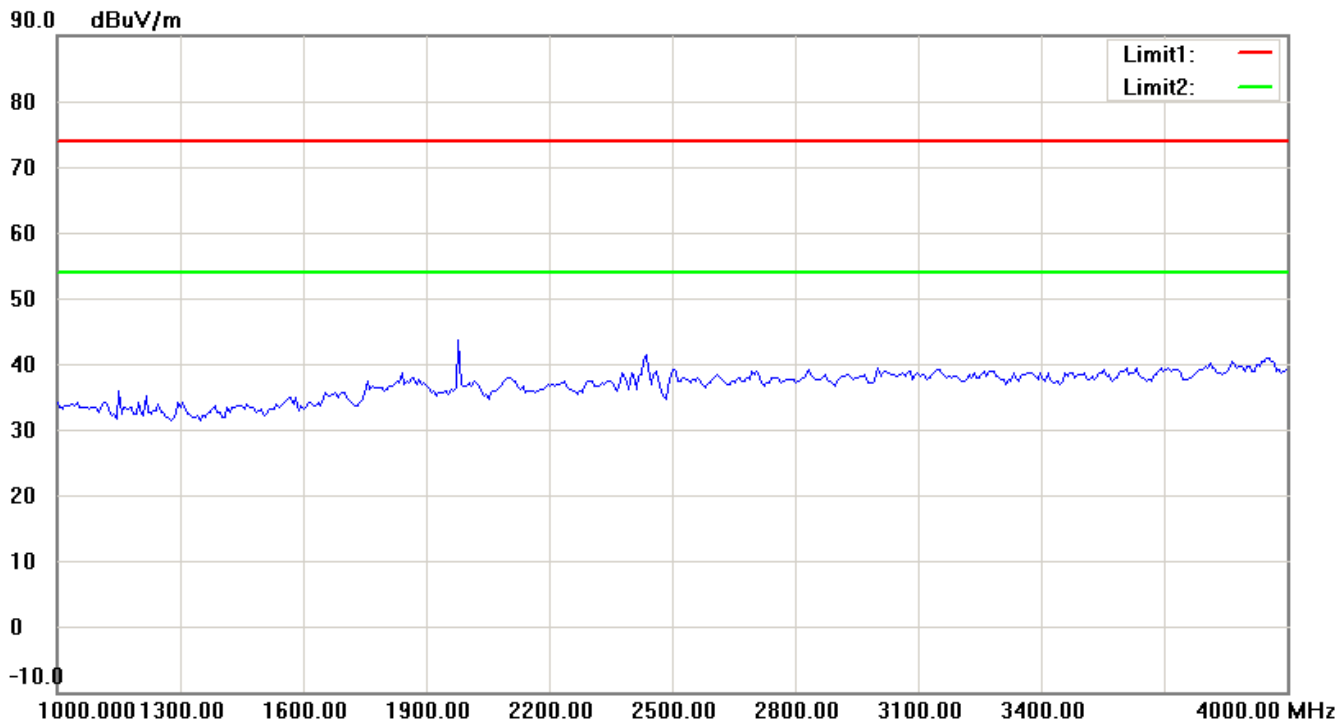
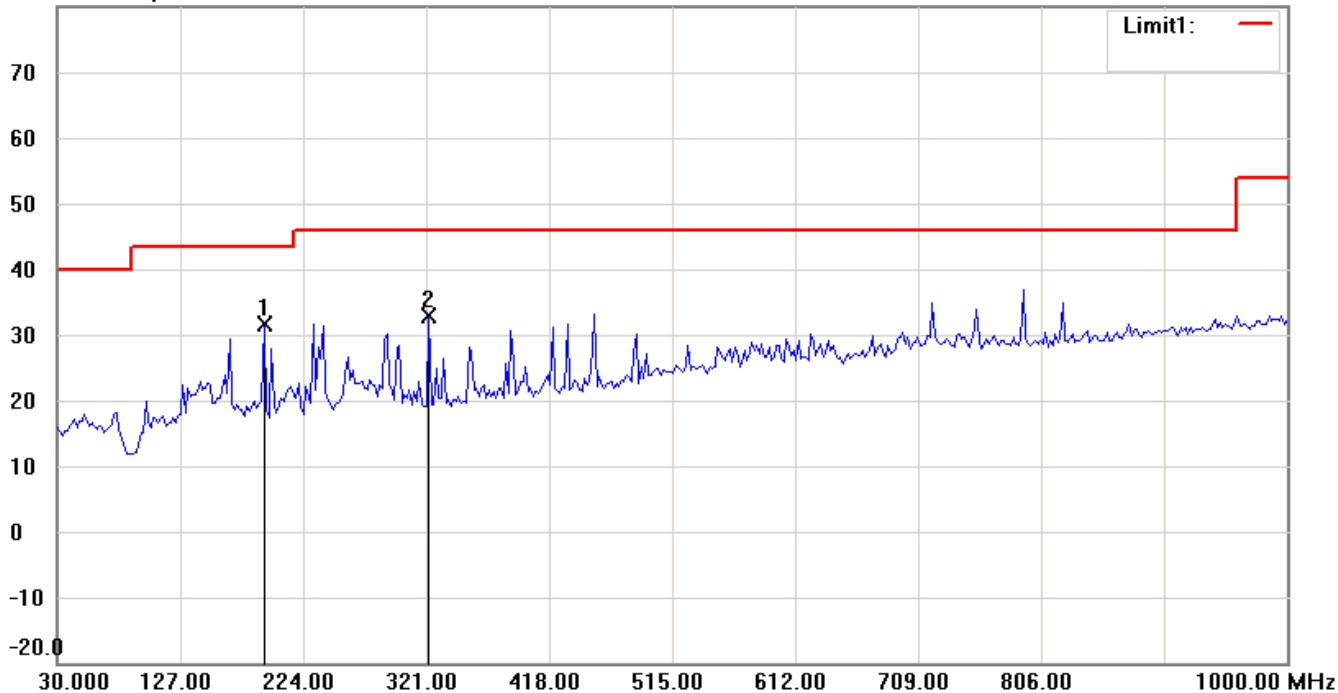
FCC ID: S8C-DSA2LS

802.11n 40MHz

CH1

Antenna Polarization H

80.0 dBuV/m



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

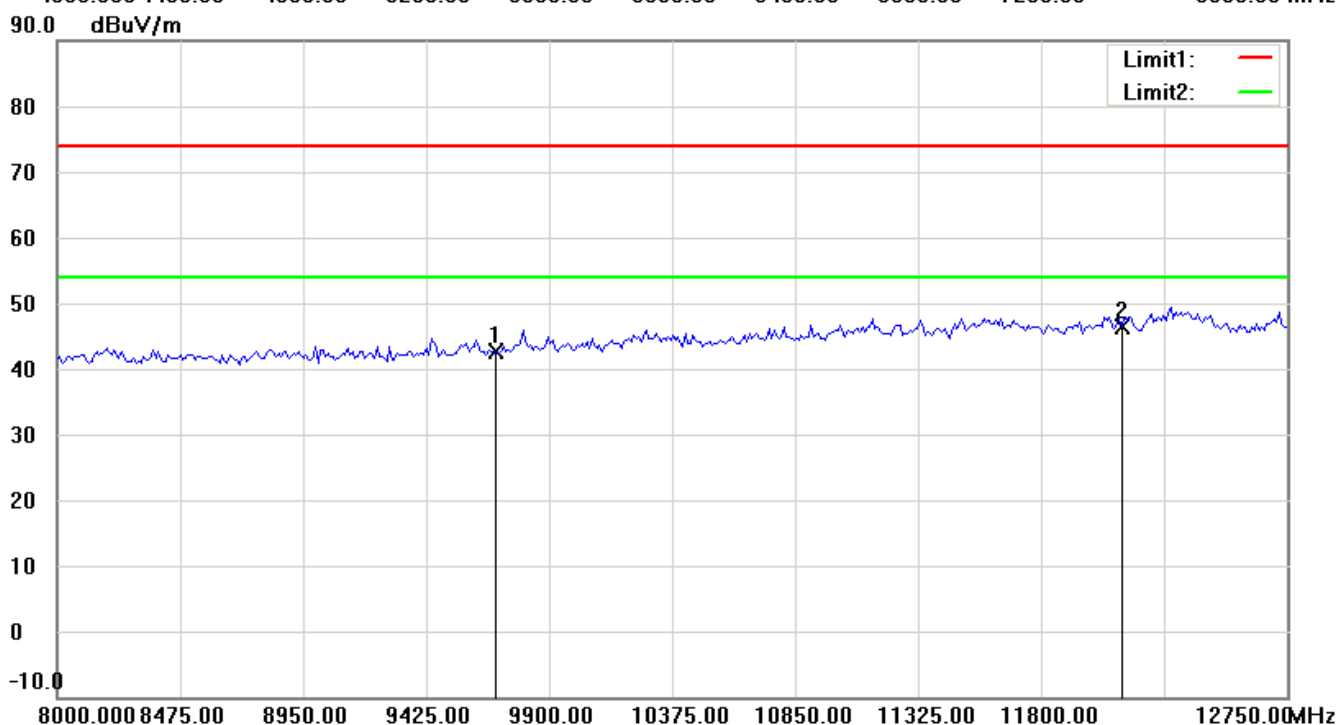
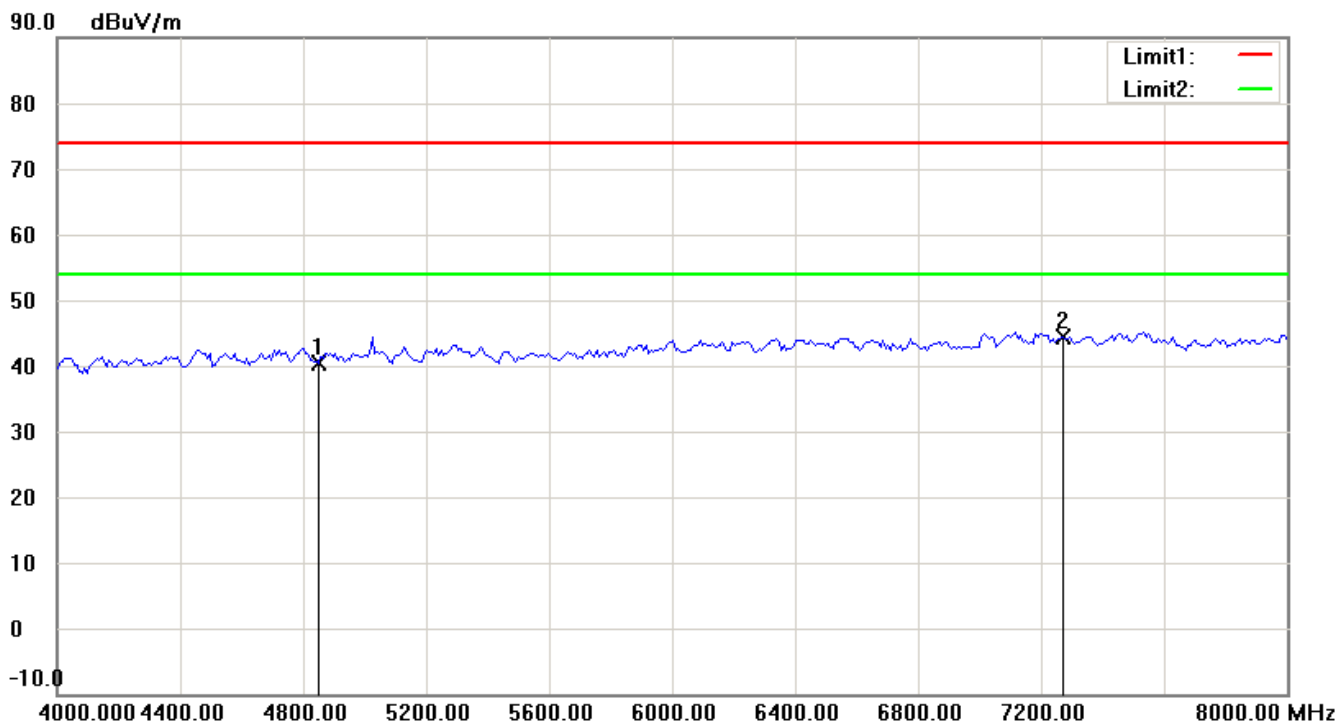
Note:

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Registration number: W6M21404-14062-C-1

FCC ID: S8C-DSA2LS



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

Note:

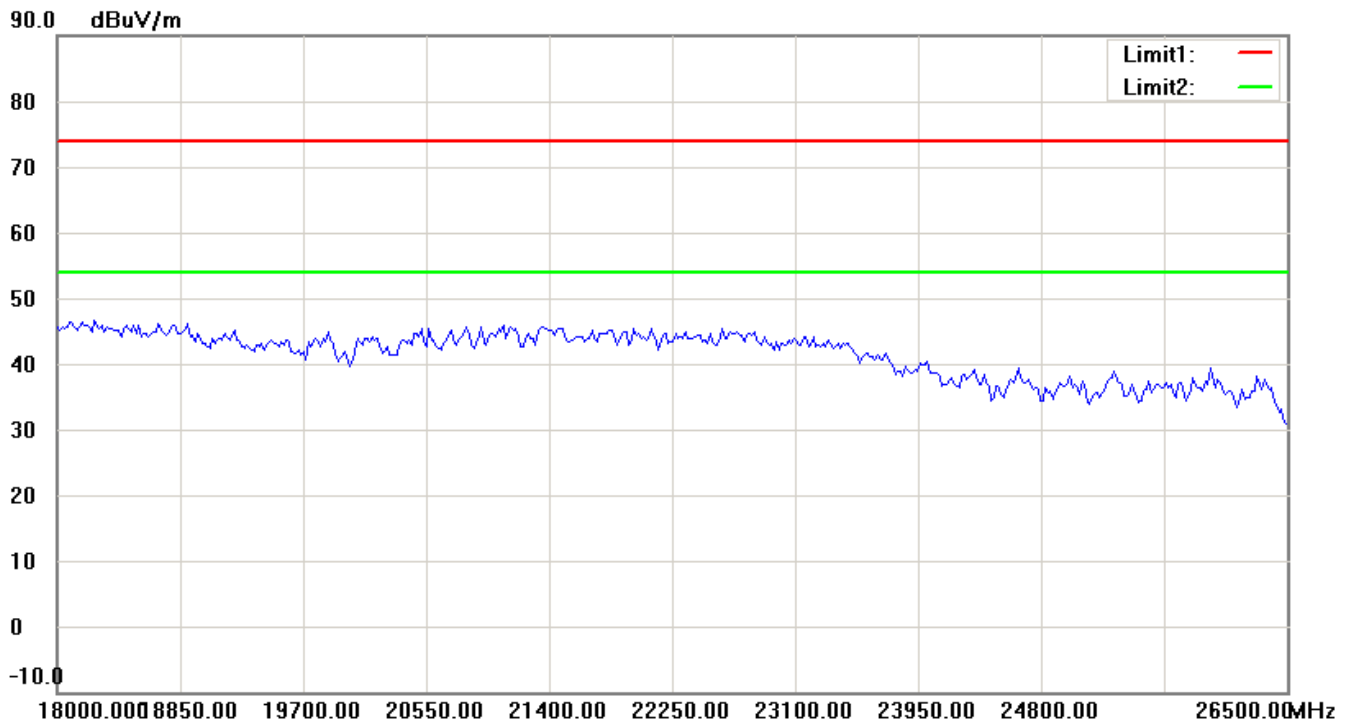
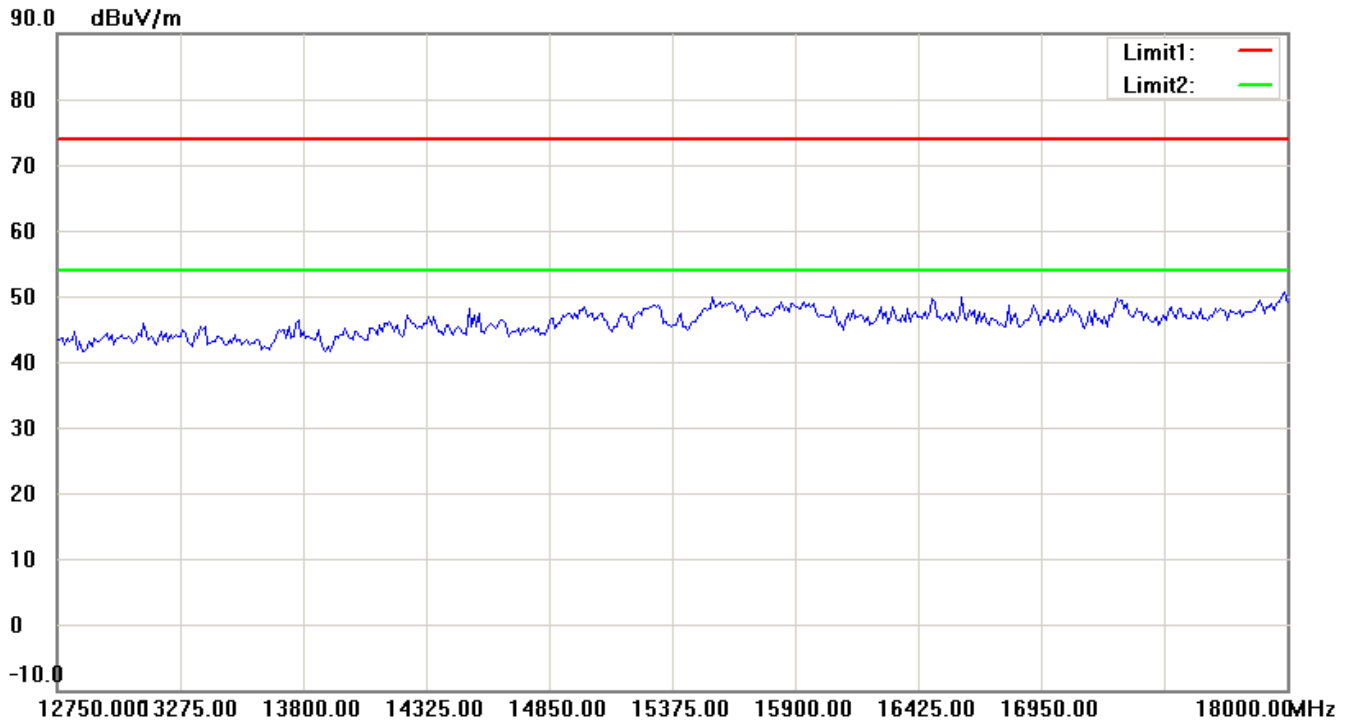
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Worldwide Testing Services(Taiwan) Co., Ltd.

Registration number: W6M21404-14062-C-1

FCC ID: S8C-DSA2LS



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

Note:

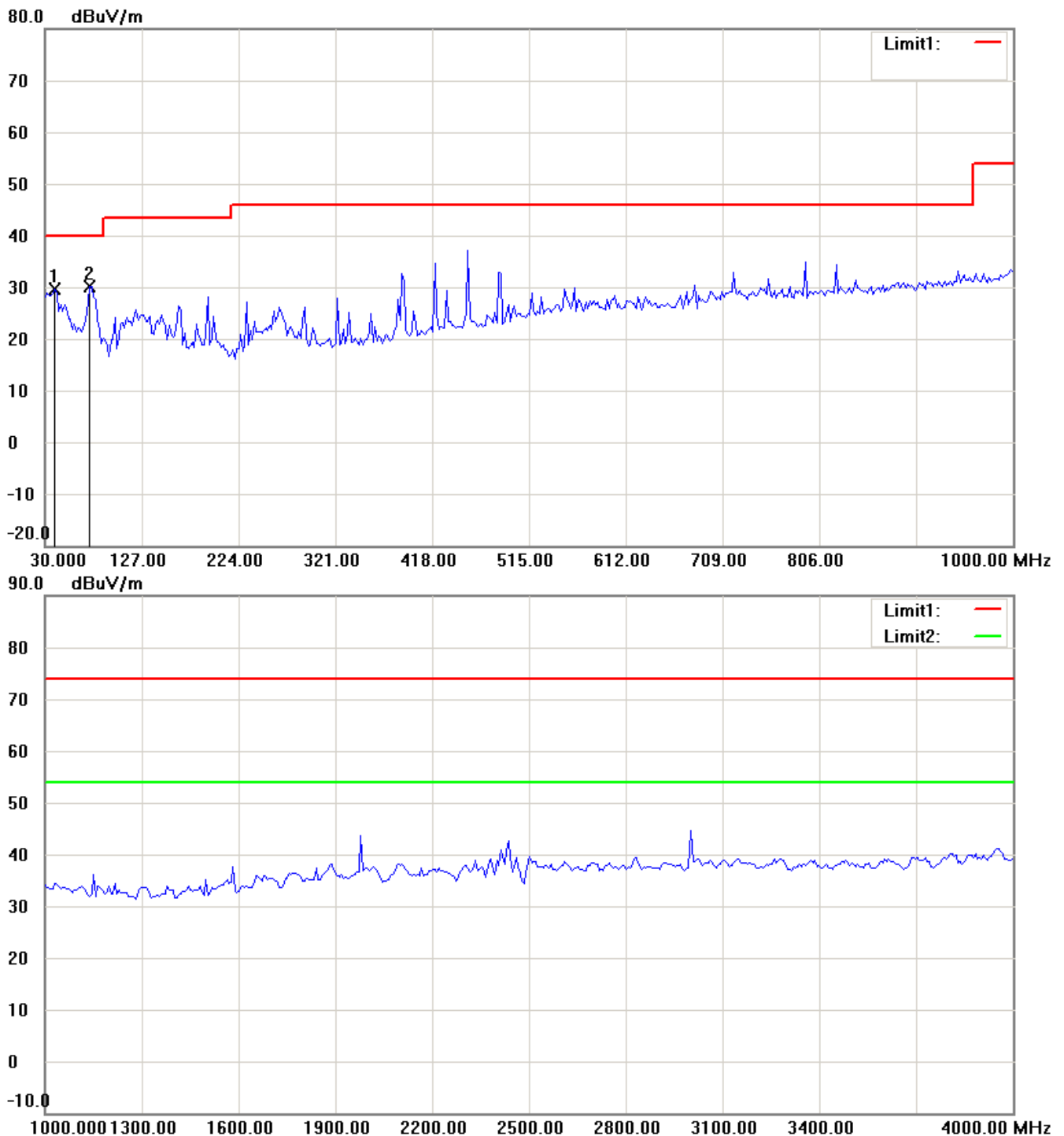
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Registration number: W6M21404-14062-C-1

FCC ID: S8C-DSA2LS

Antenna Polarization V



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

Note:

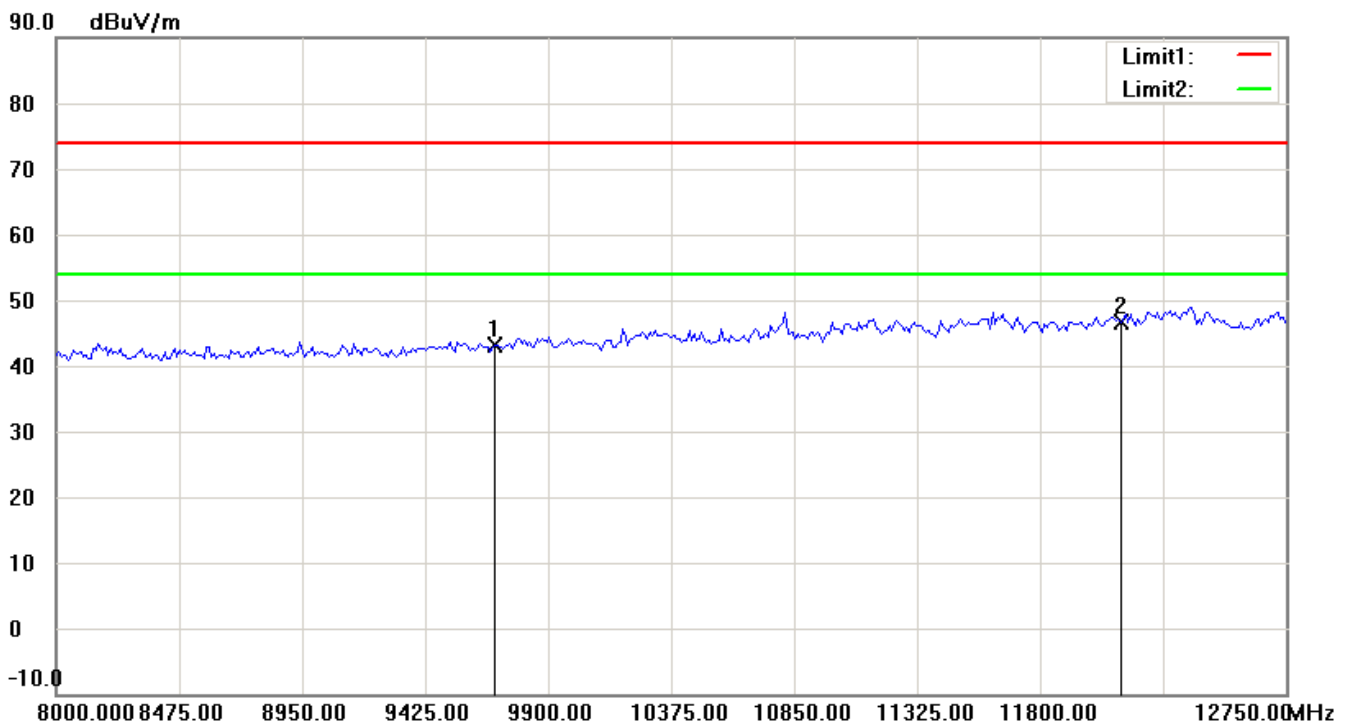
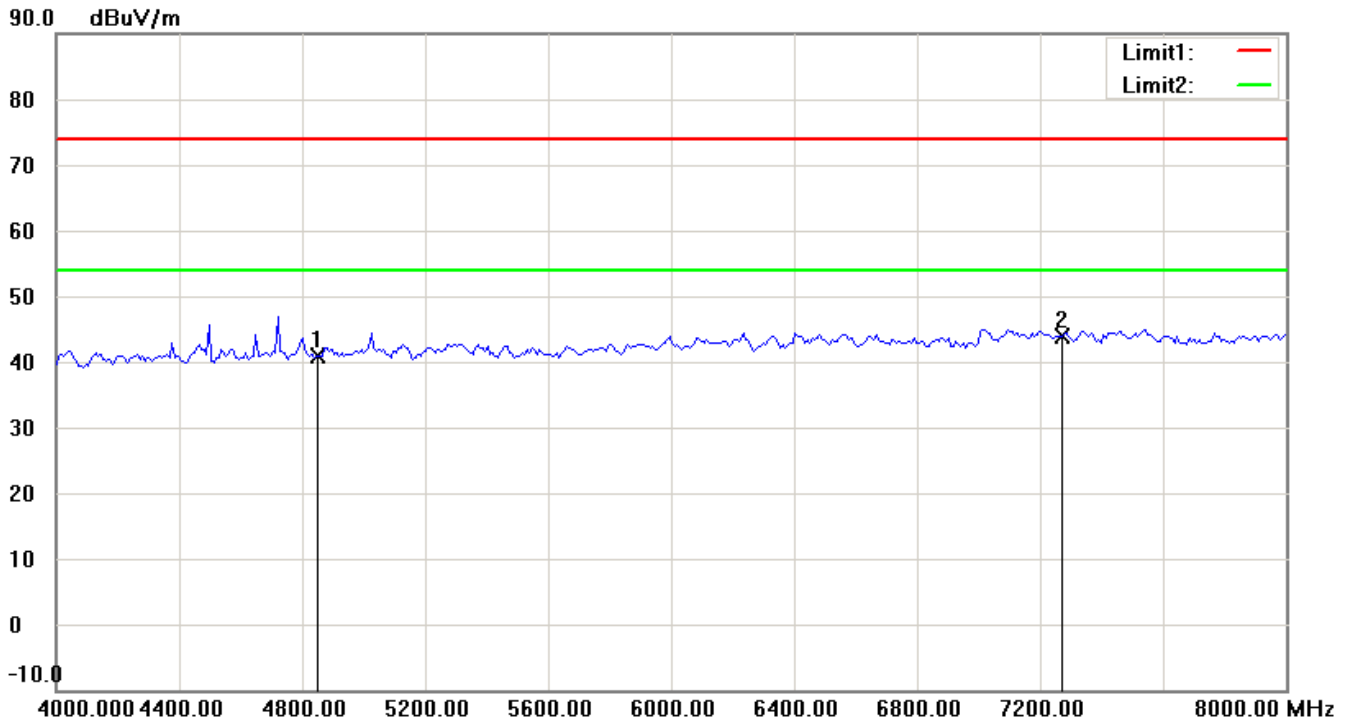
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Worldwide Testing Services(Taiwan) Co., Ltd.

Registration number: W6M21404-14062-C-1

FCC ID: S8C-DSA2LS



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

Note:

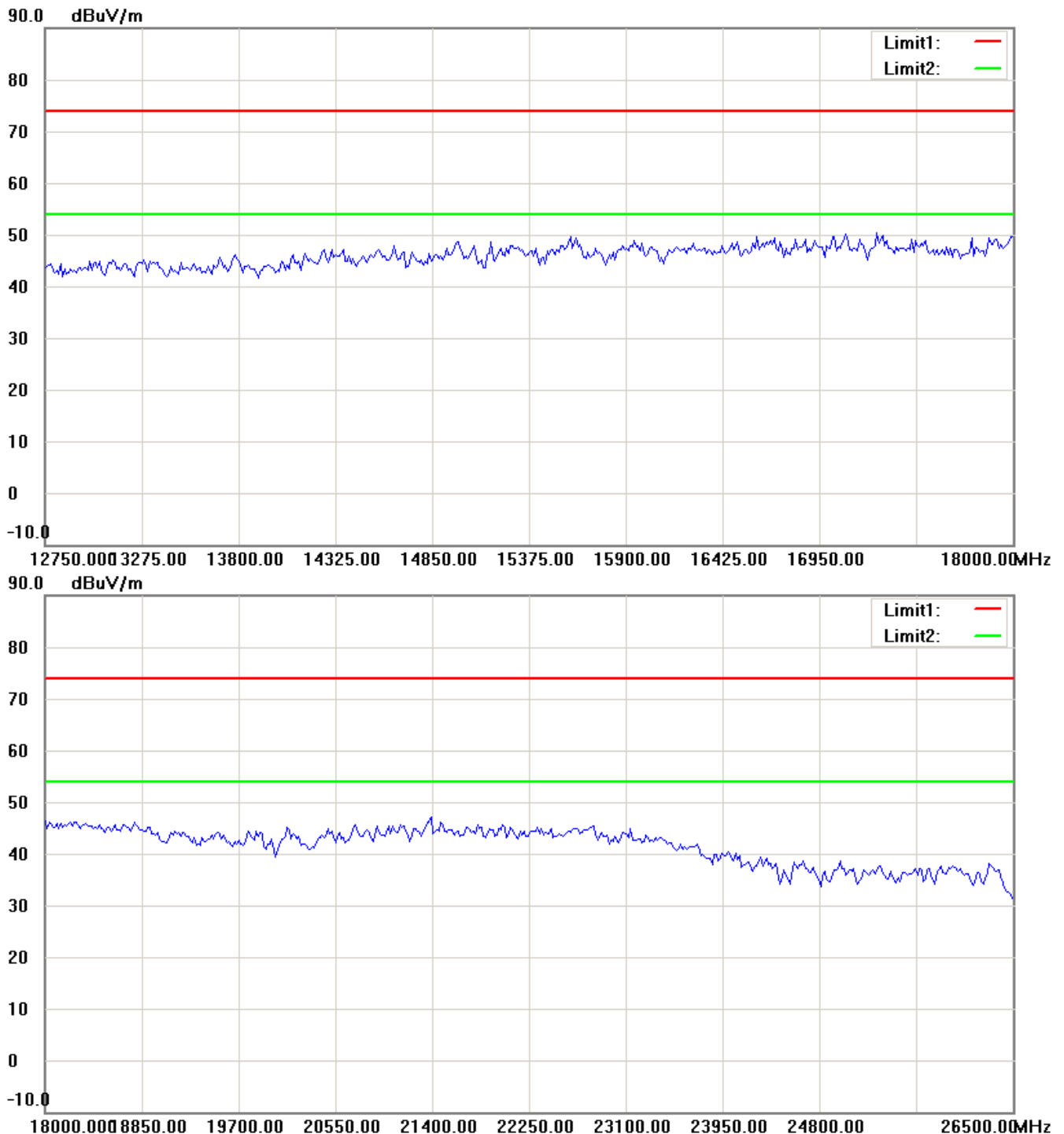
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Worldwide Testing Services(Taiwan) Co., Ltd.

Registration number: W6M21404-14062-C-1

FCC ID: S8C-DSA2LS



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

Note:

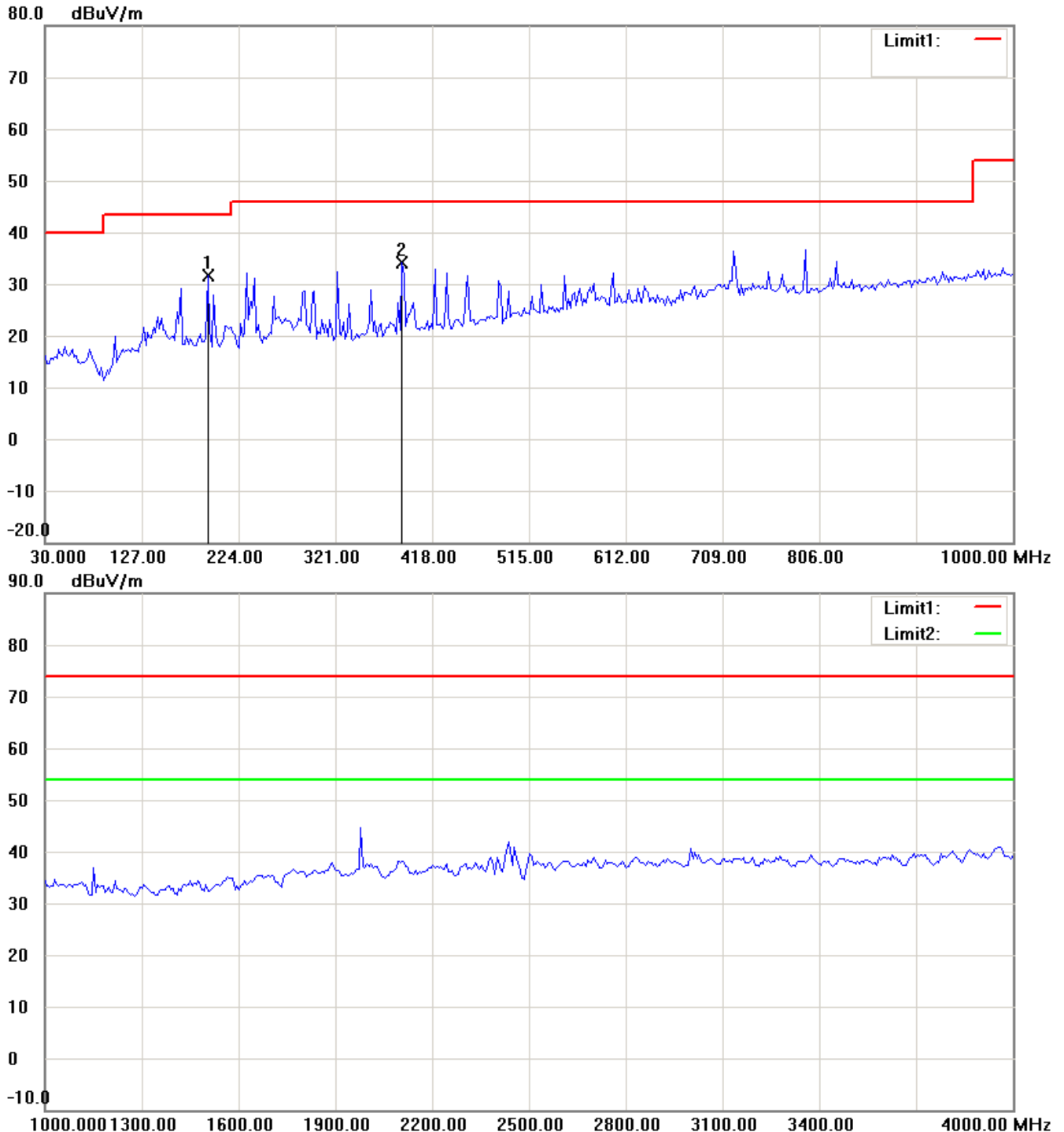
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Registration number: W6M21404-14062-C-1
FCC ID: S8C-DSA2LS

CH4

Antenna Polarization H



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

Note:

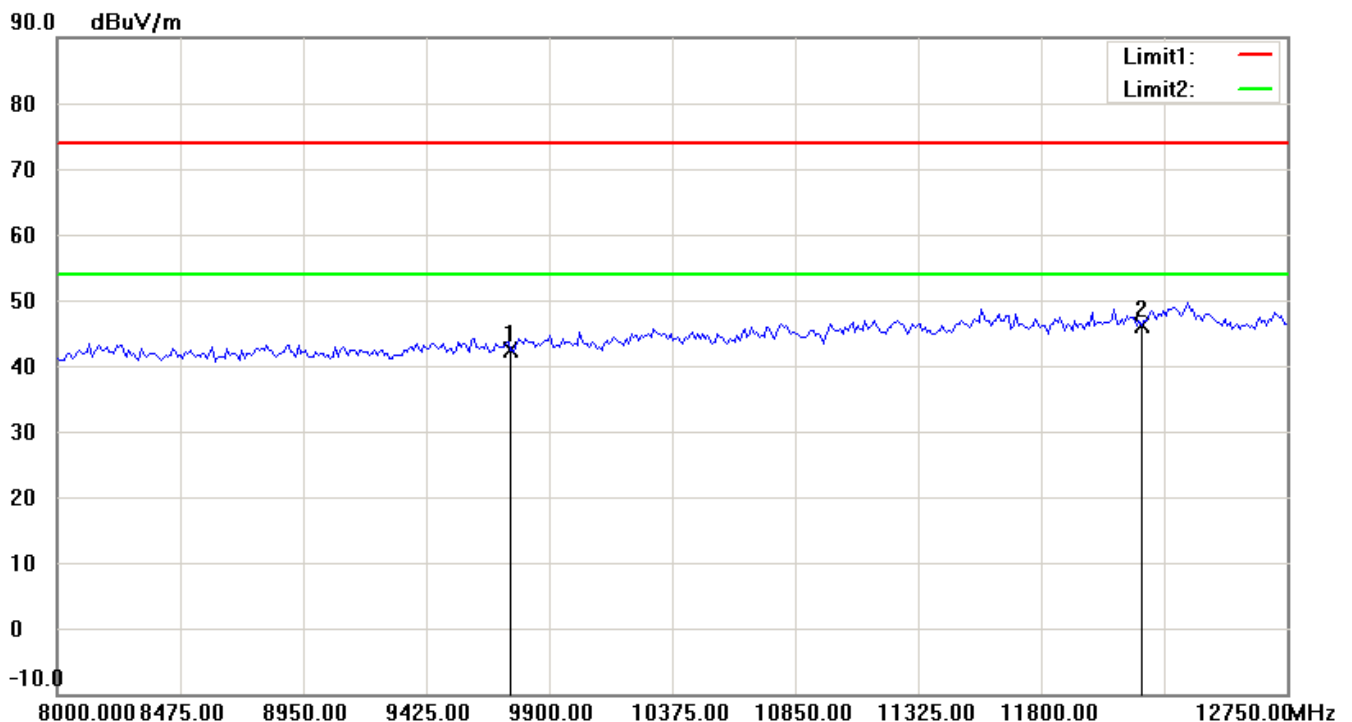
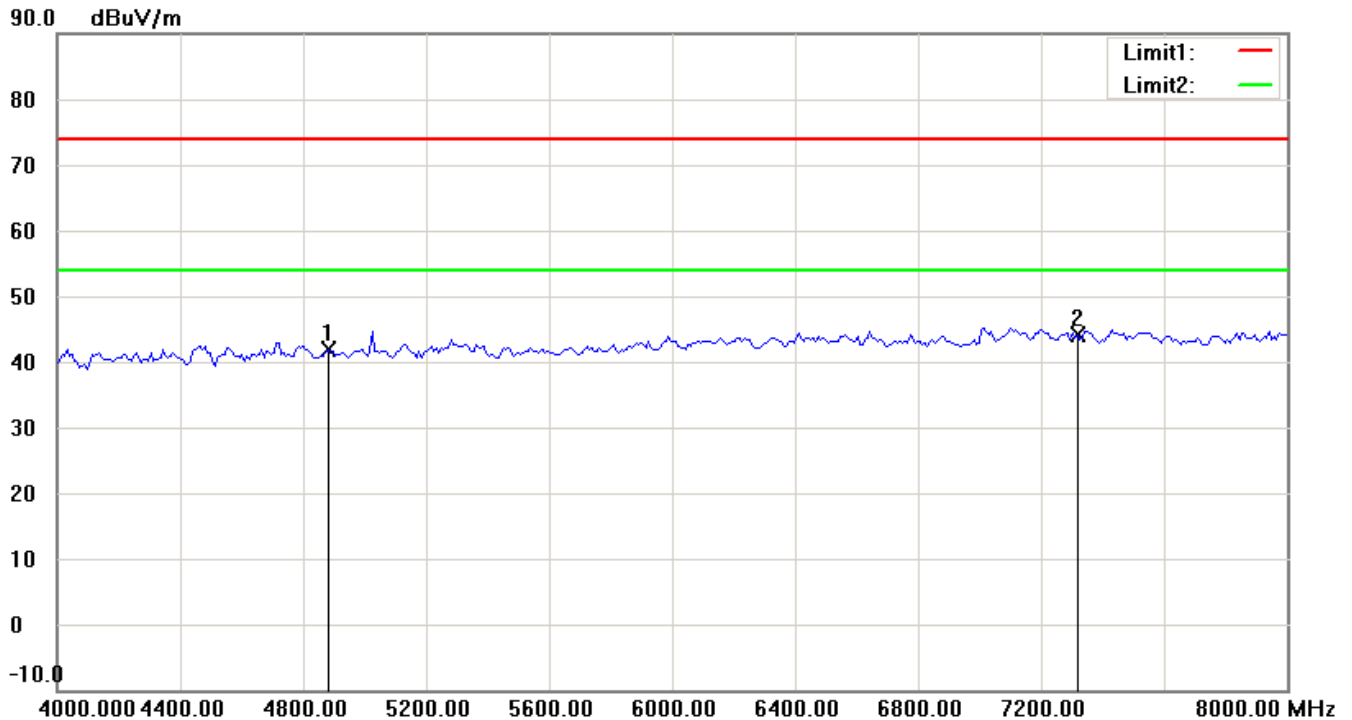
1. The attached measurement plots are preliminarily pre-scanned with peak detector for determining the final checking frequencies and are for reference only.
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Worldwide Testing Services(Taiwan) Co., Ltd.

Registration number: W6M21404-14062-C-1

FCC ID: S8C-DSA2LS



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

Note:

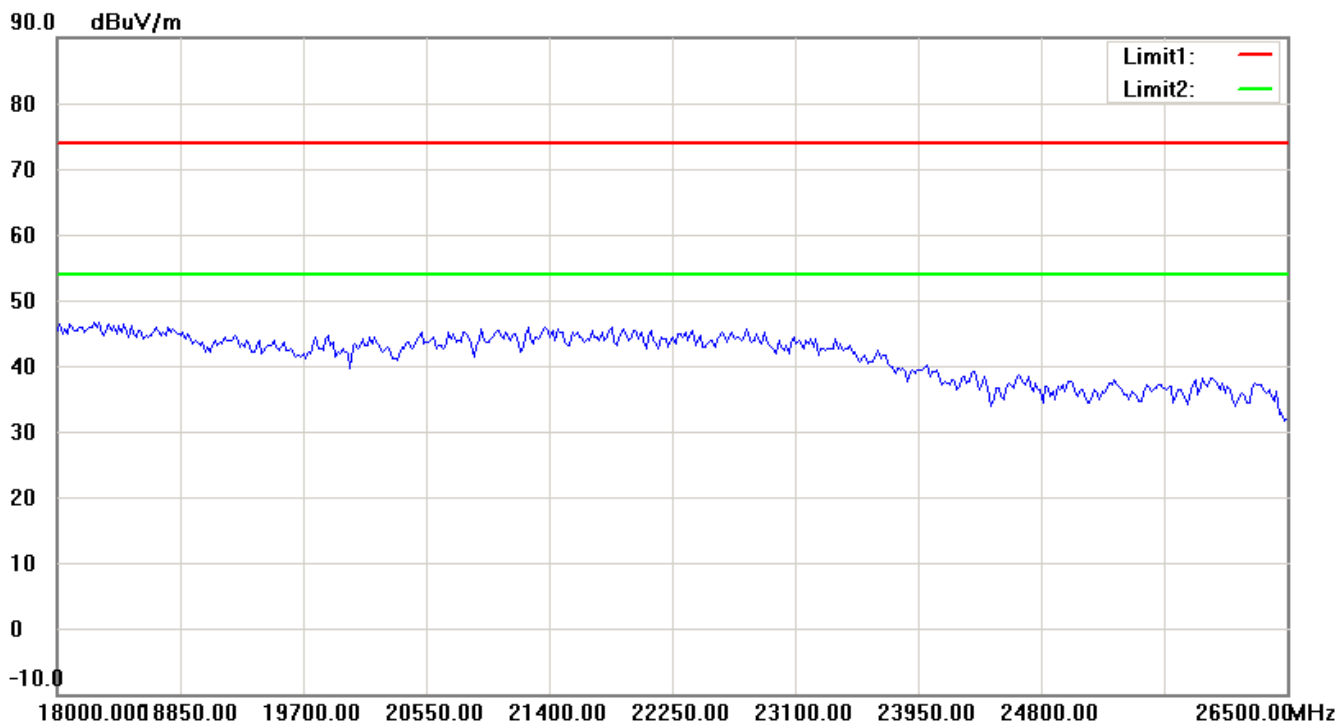
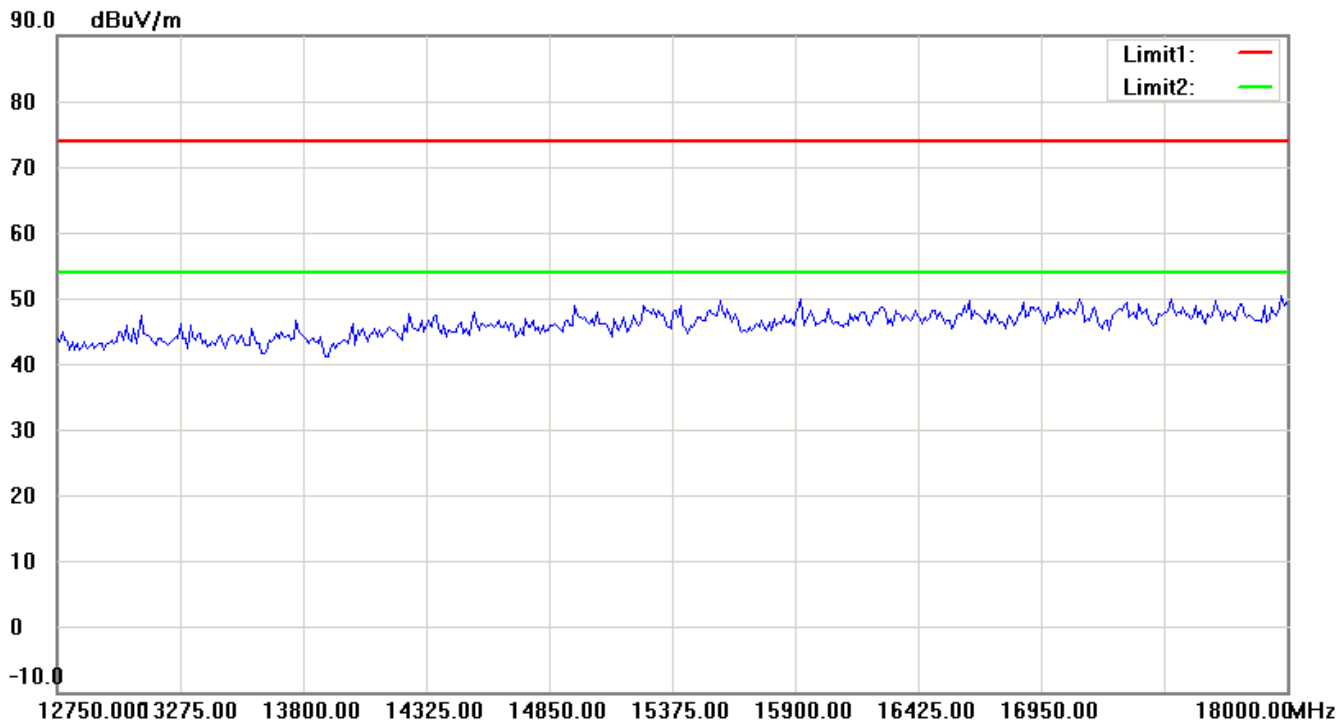
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Worldwide Testing Services(Taiwan) Co., Ltd.

Registration number: W6M21404-14062-C-1

FCC ID: S8C-DSA2LS



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

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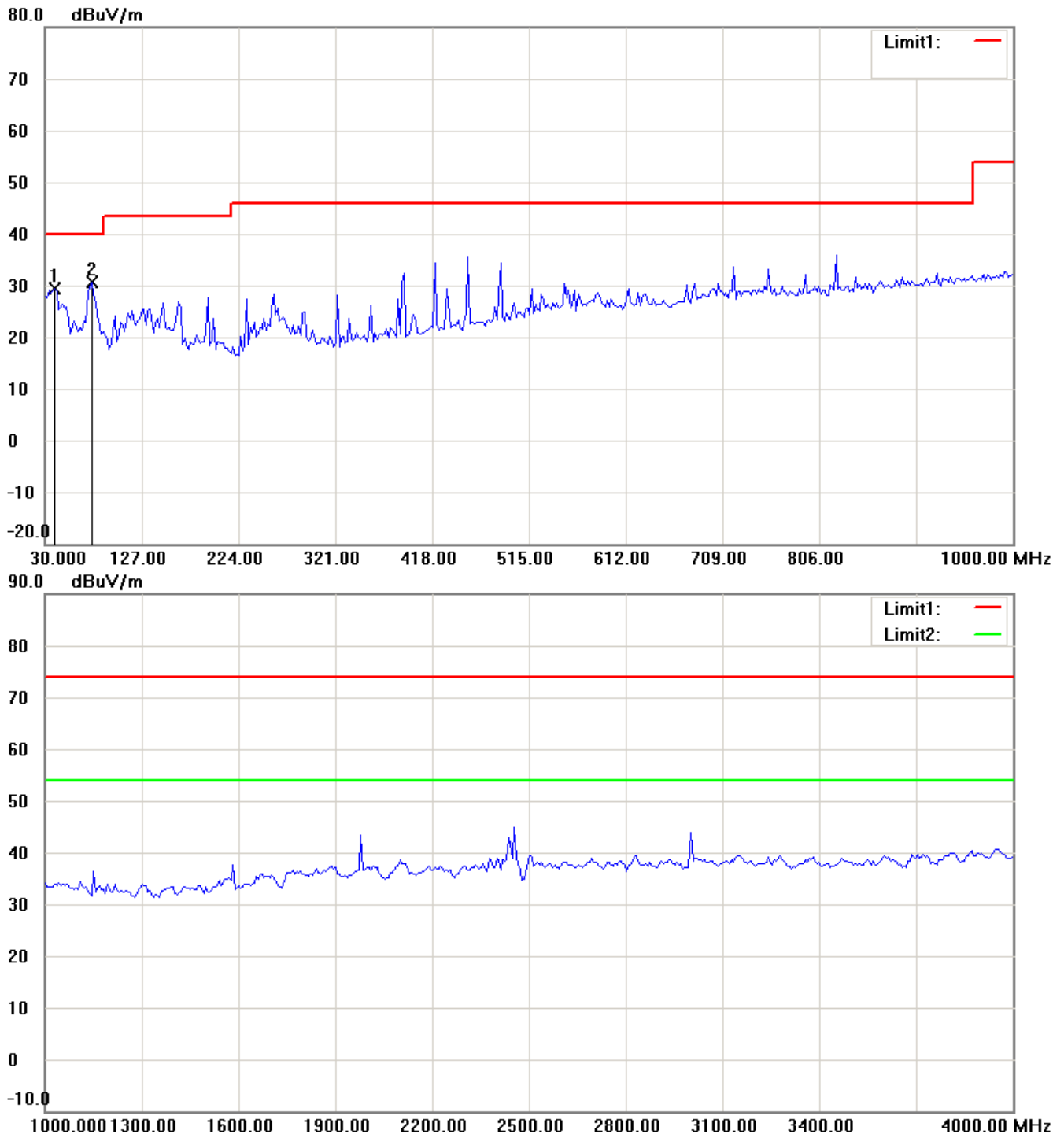


Worldwide Testing Services(Taiwan) Co., Ltd.

Registration number: W6M21404-14062-C-1

FCC ID: S8C-DSA2LS

Antenna Polarization V



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

Note:

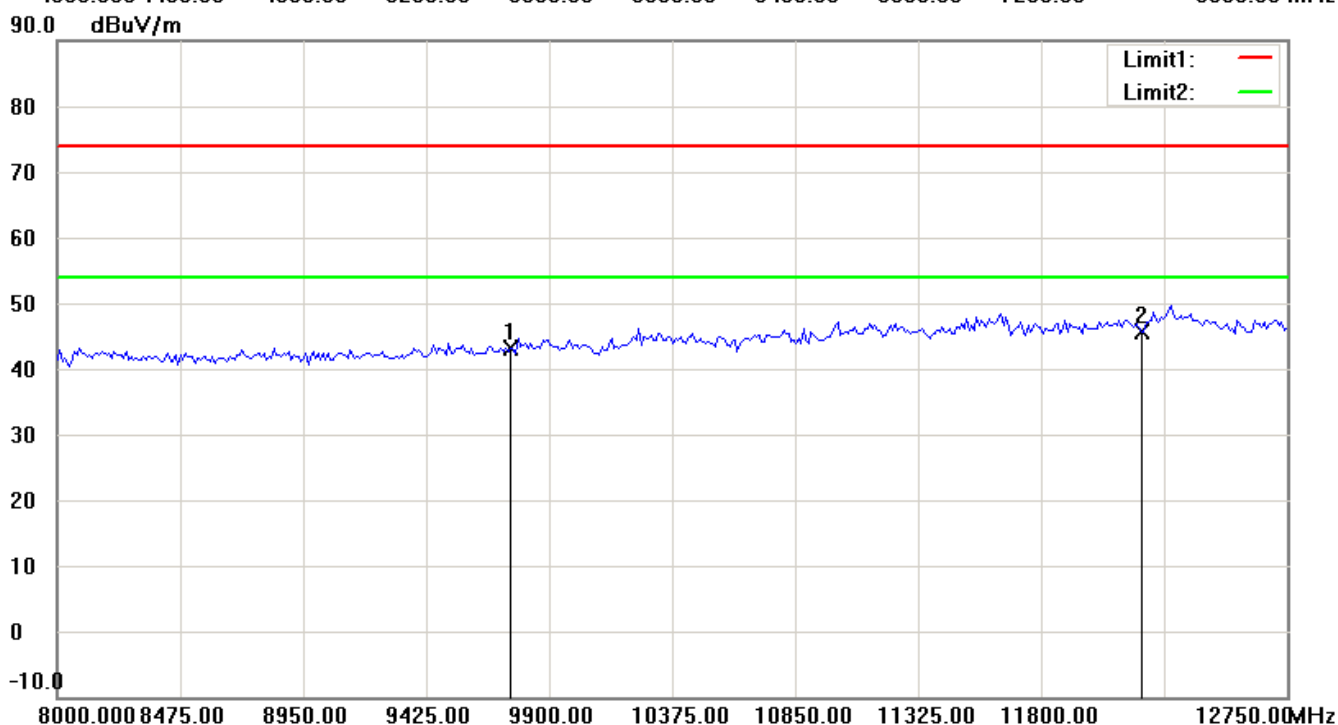
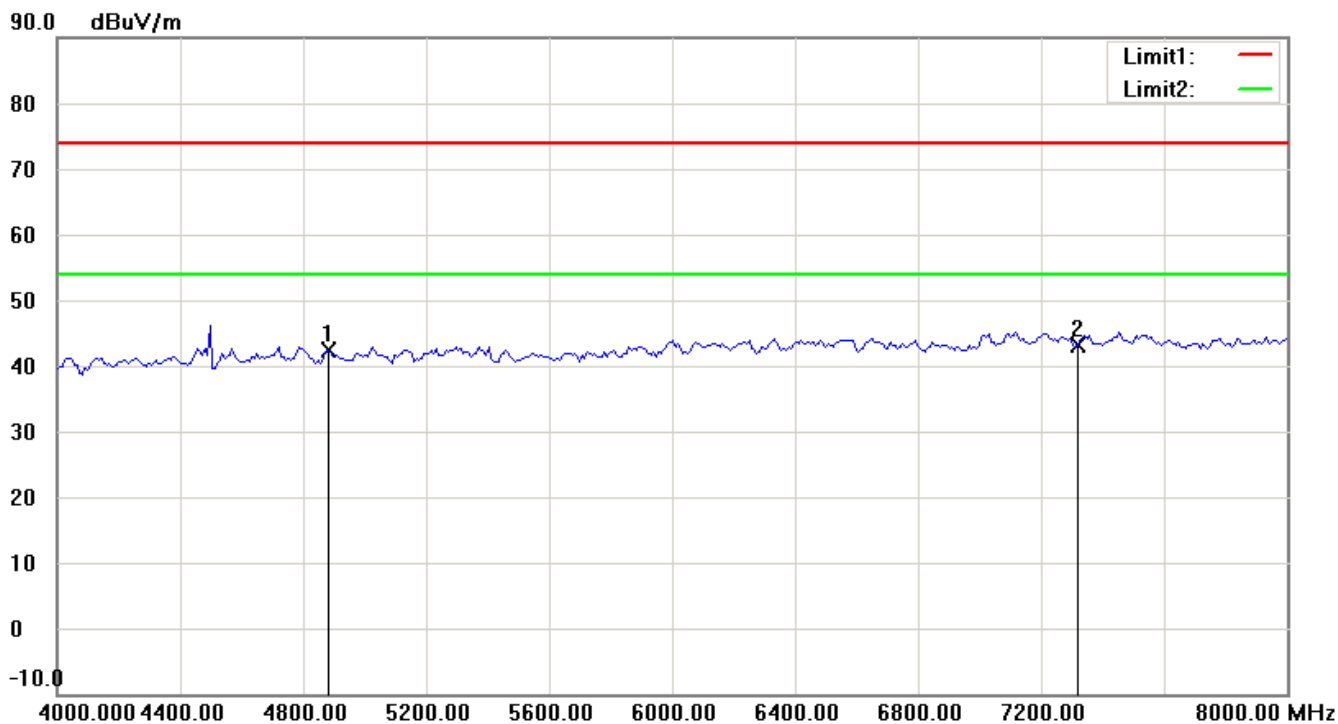
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Worldwide Testing Services(Taiwan) Co., Ltd.

Registration number: W6M21404-14062-C-1

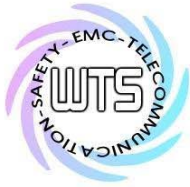
FCC ID: S8C-DSA2LS



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

Note:

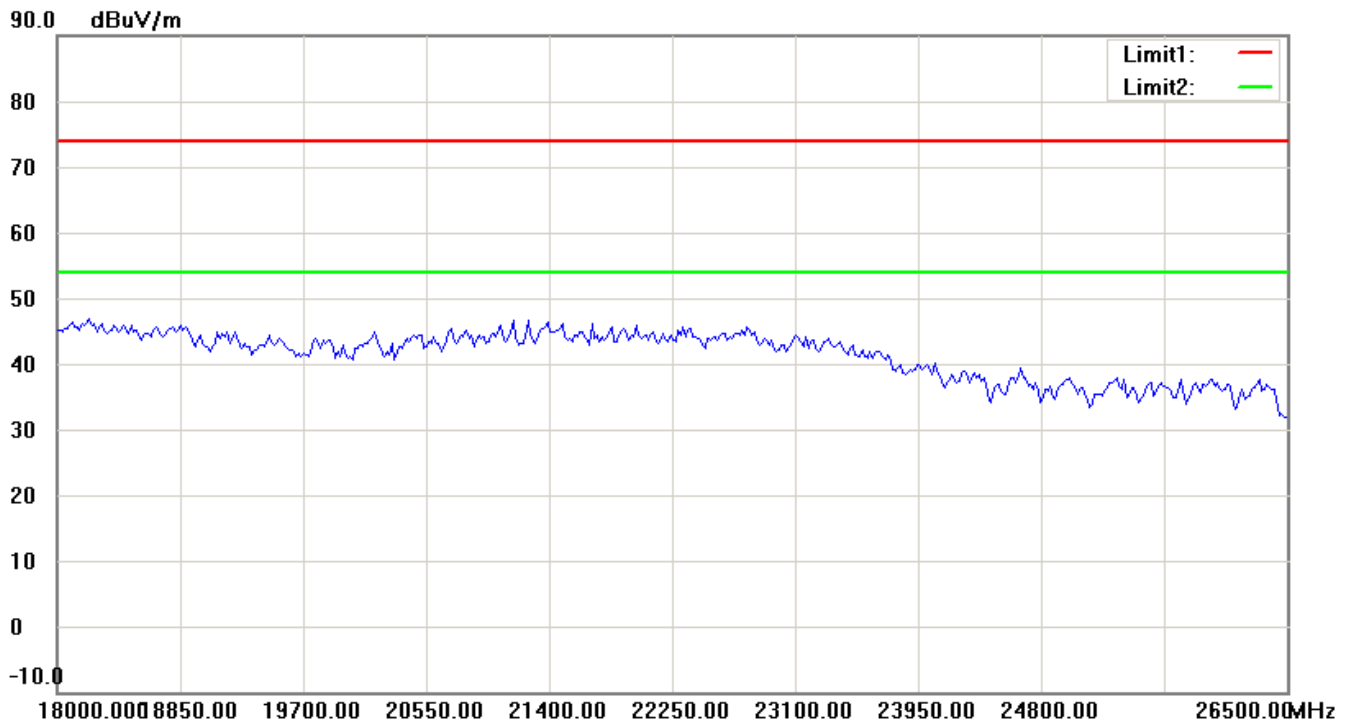
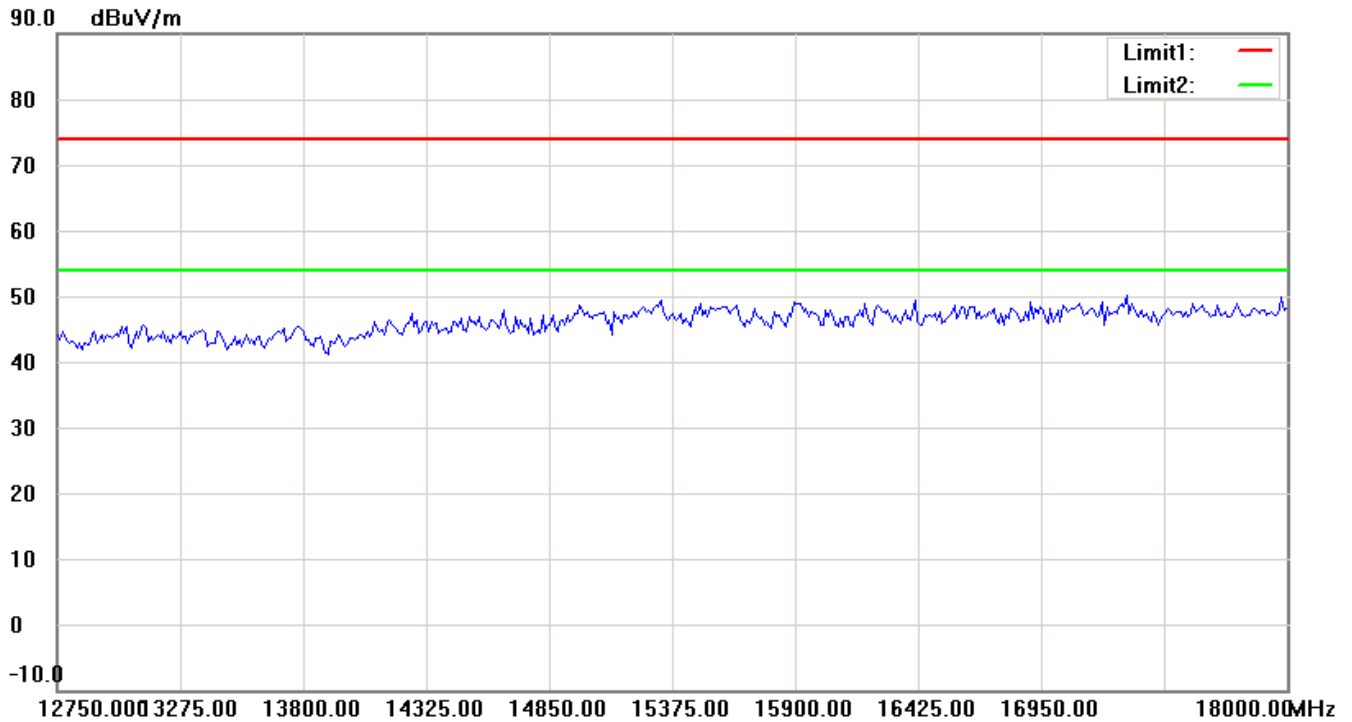
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Worldwide Testing Services(Taiwan) Co., Ltd.

Registration number: W6M21404-14062-C-1

FCC ID: S8C-DSA2LS



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

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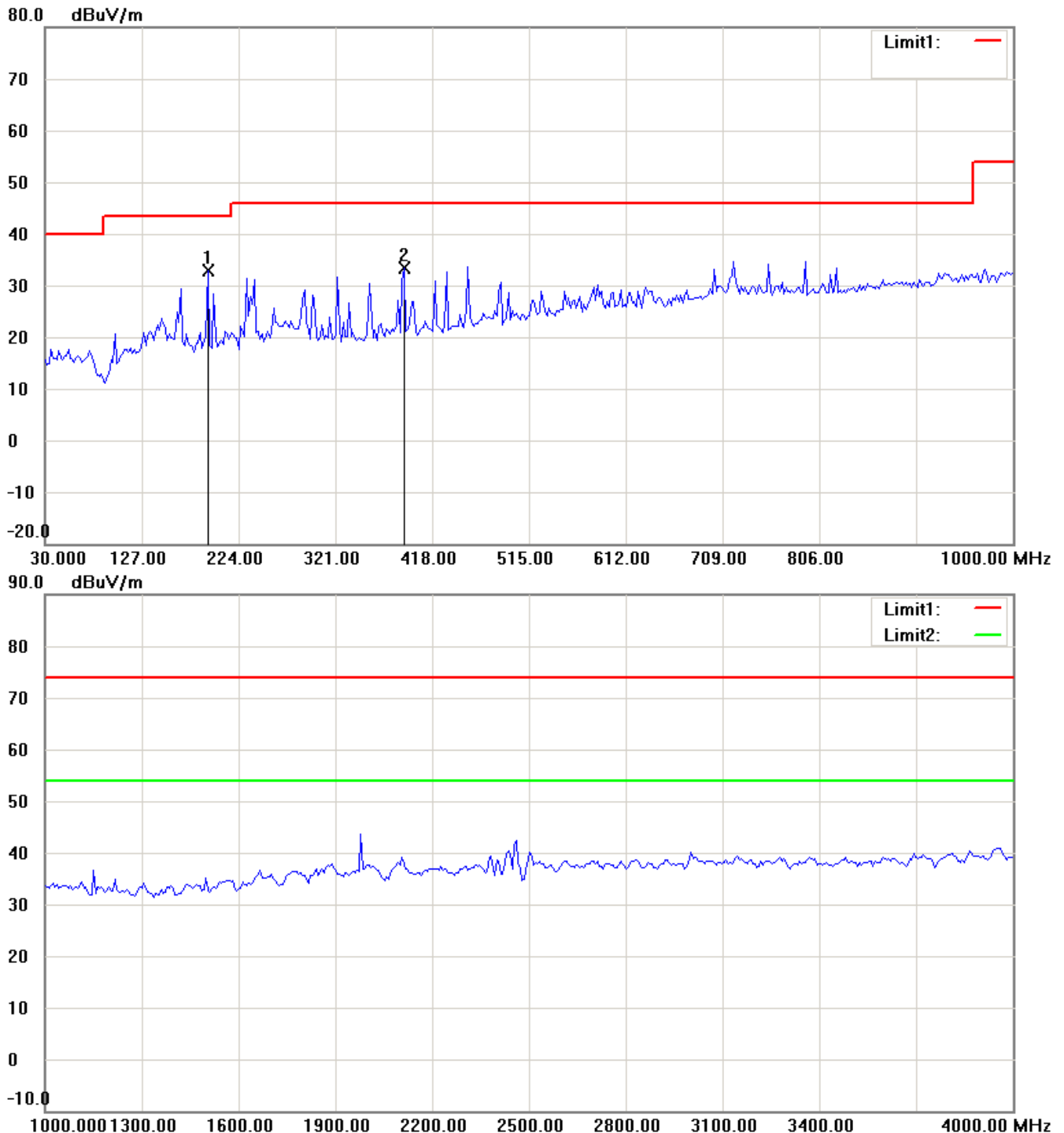
Worldwide Testing Services(Taiwan) Co., Ltd.

Registration number: W6M21404-14062-C-1

FCC ID: S8C-DSA2LS

CH7

Antenna Polarization H



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

Note:

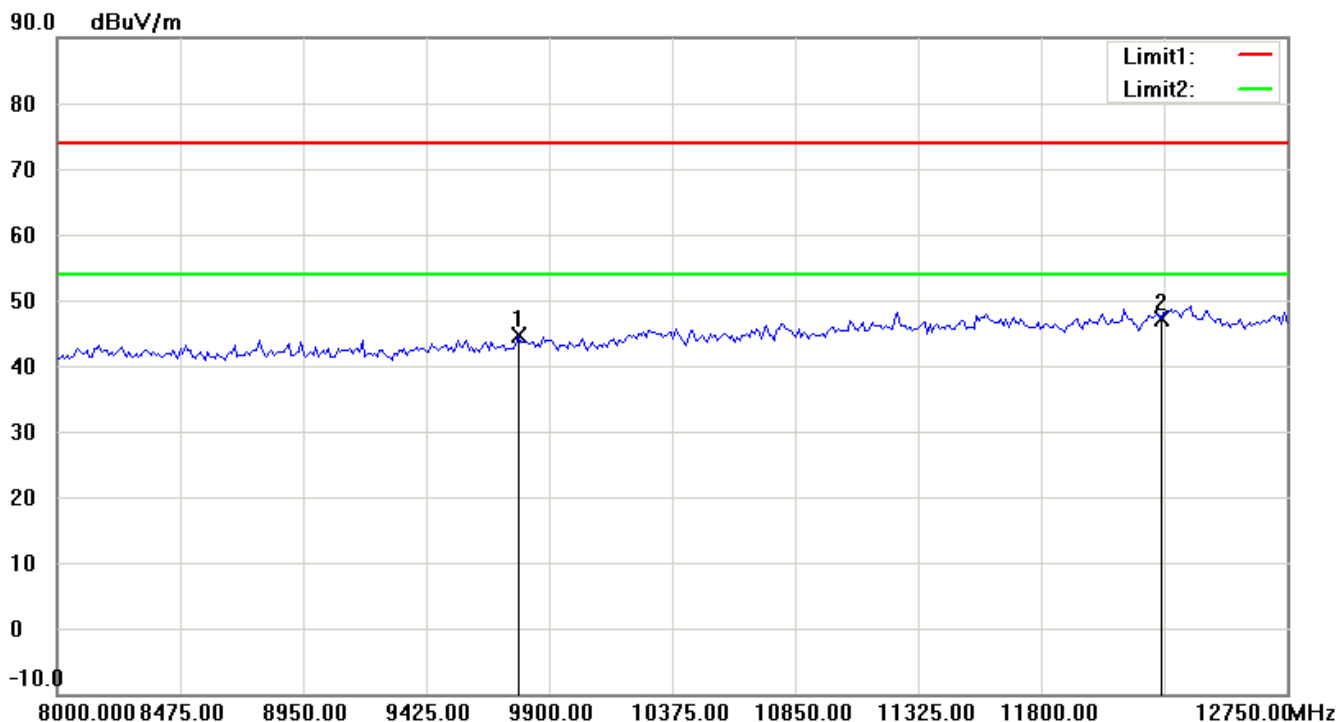
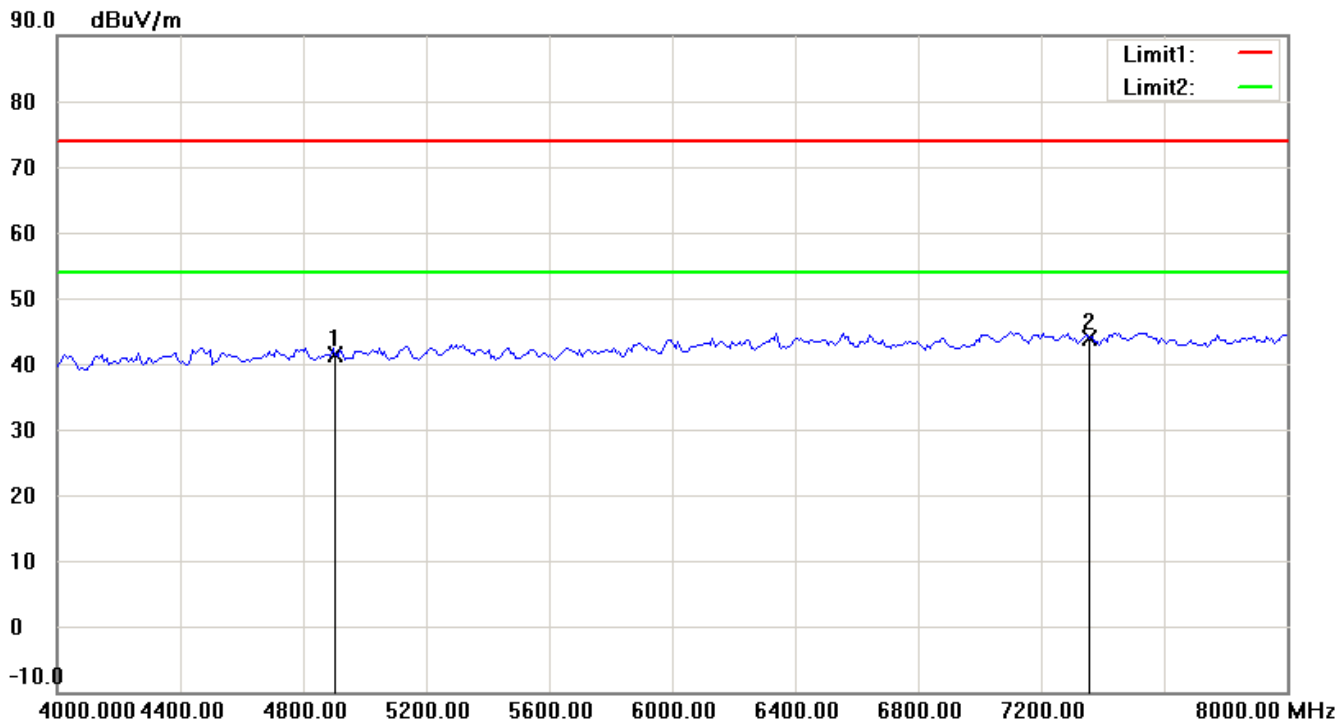
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Worldwide Testing Services(Taiwan) Co., Ltd.

Registration number: W6M21404-14062-C-1

FCC ID: S8C-DSA2LS



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

Note:

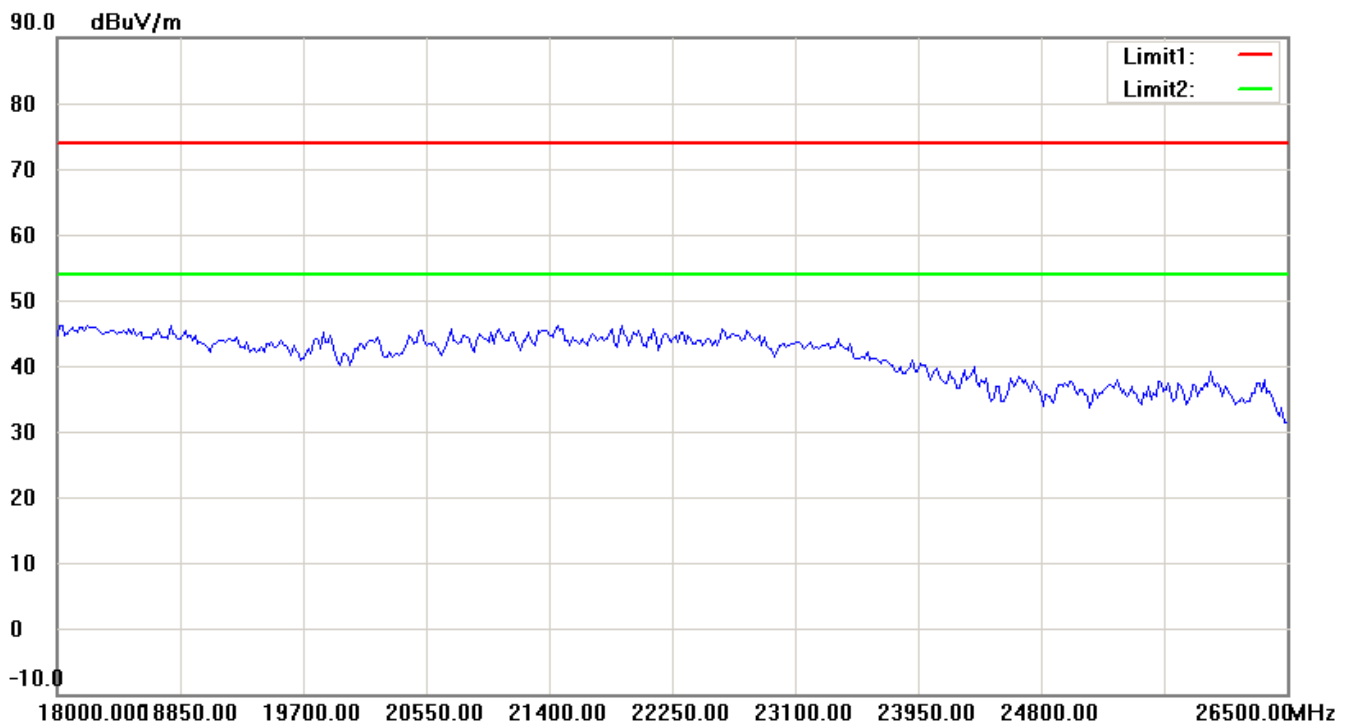
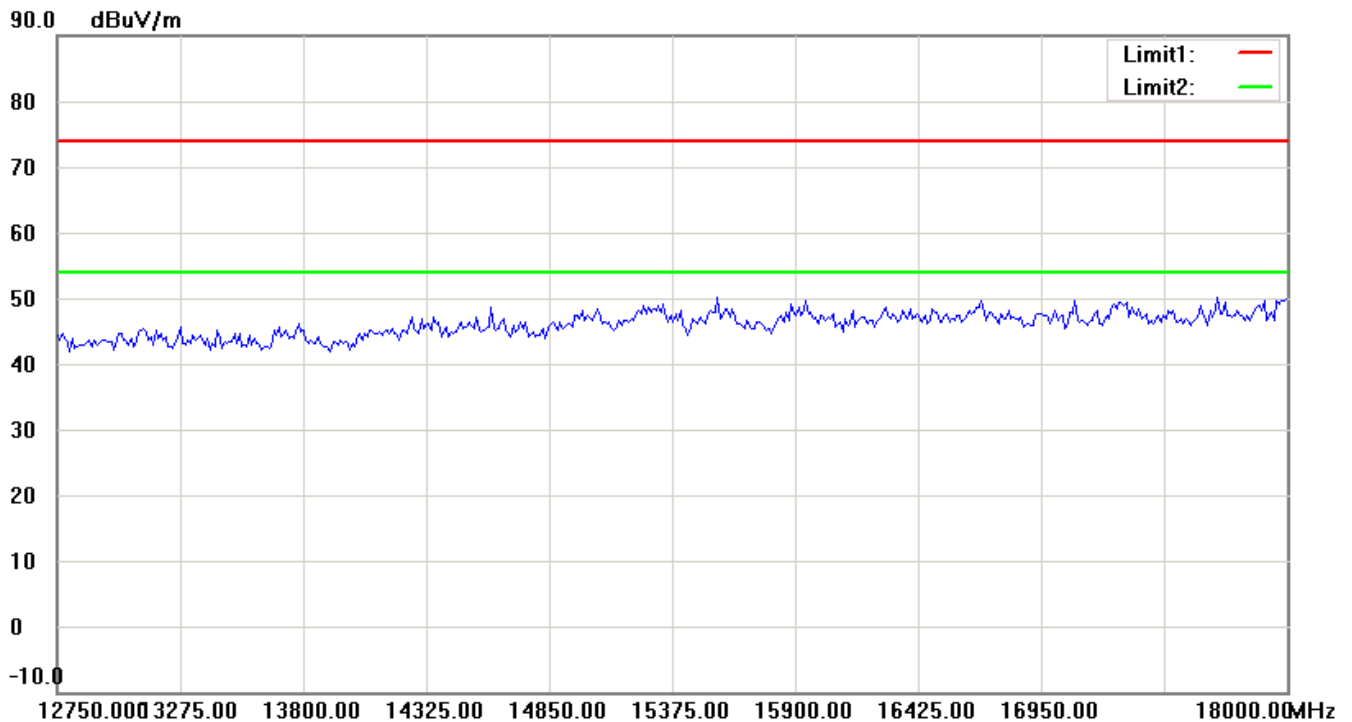
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Worldwide Testing Services(Taiwan) Co., Ltd.

Registration number: W6M21404-14062-C-1

FCC ID: S8C-DSA2LS



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

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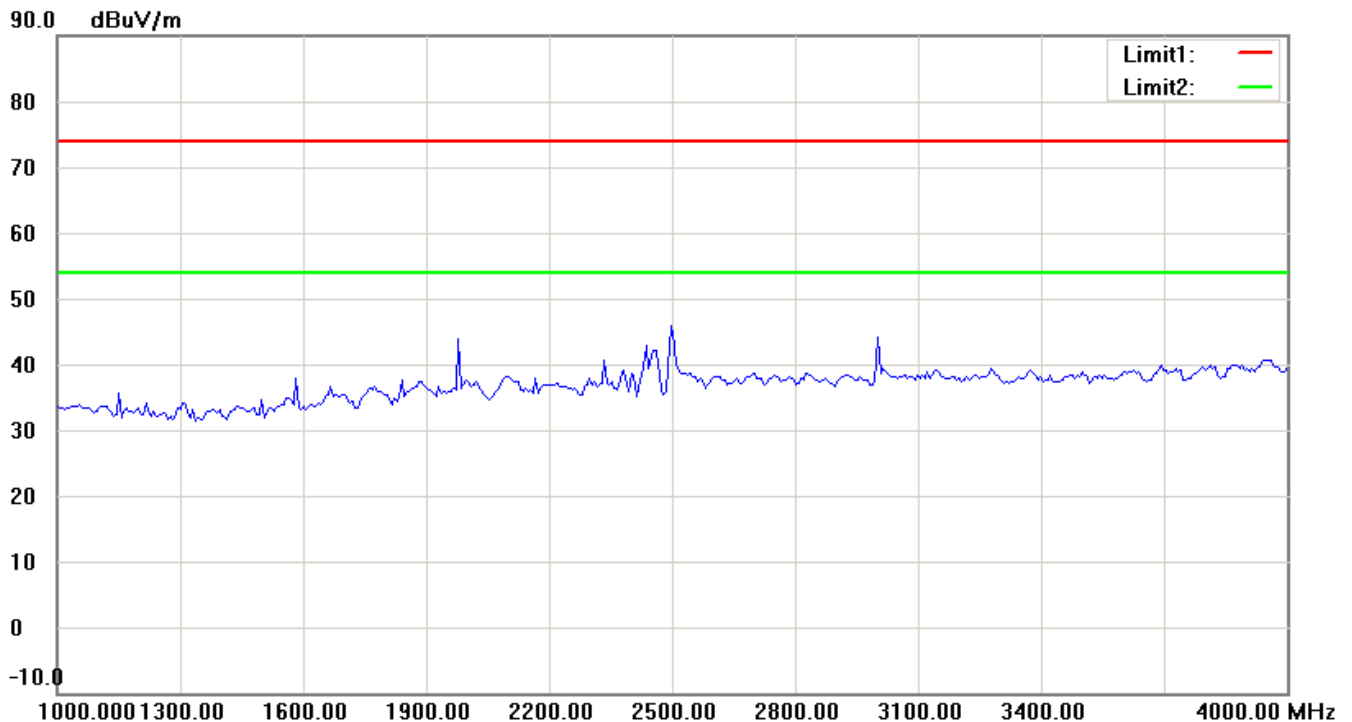
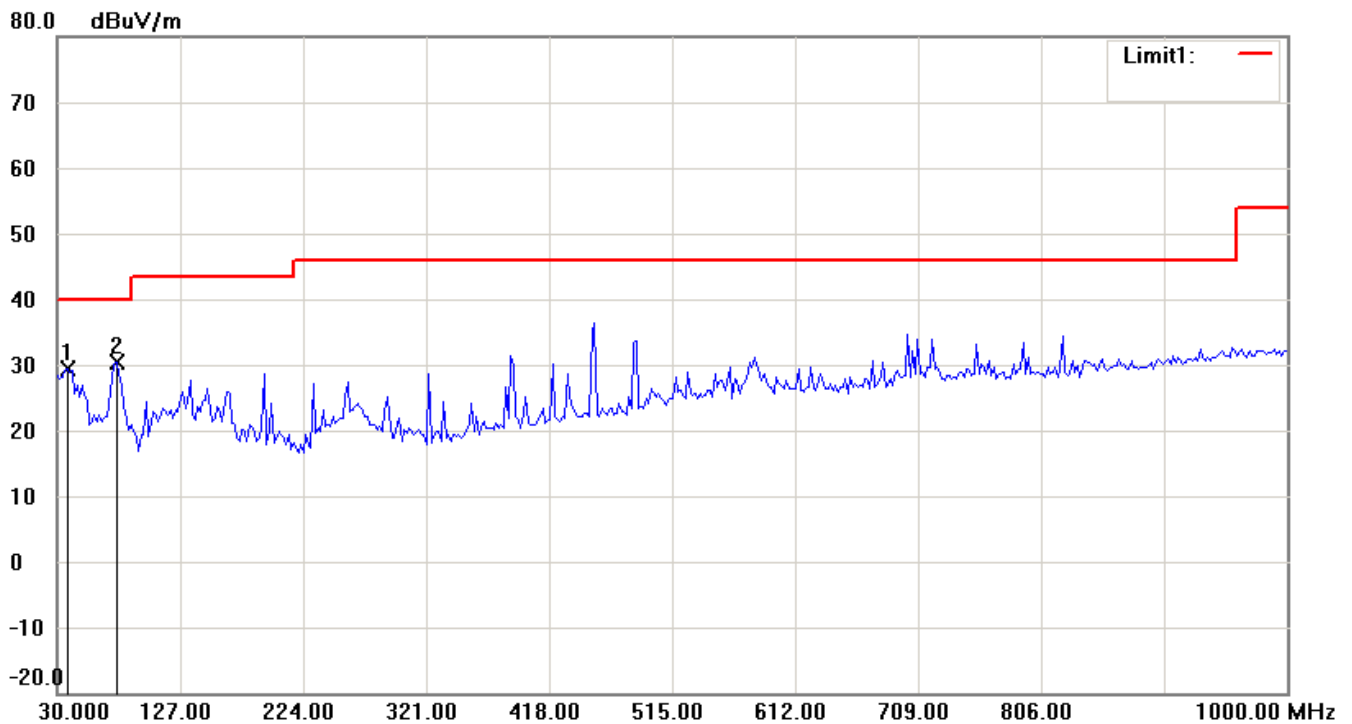


Worldwide Testing Services(Taiwan) Co., Ltd.

Registration number: W6M21404-14062-C-1

FCC ID: S8C-DSA2LS

Antenna Polarization V



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

Note:

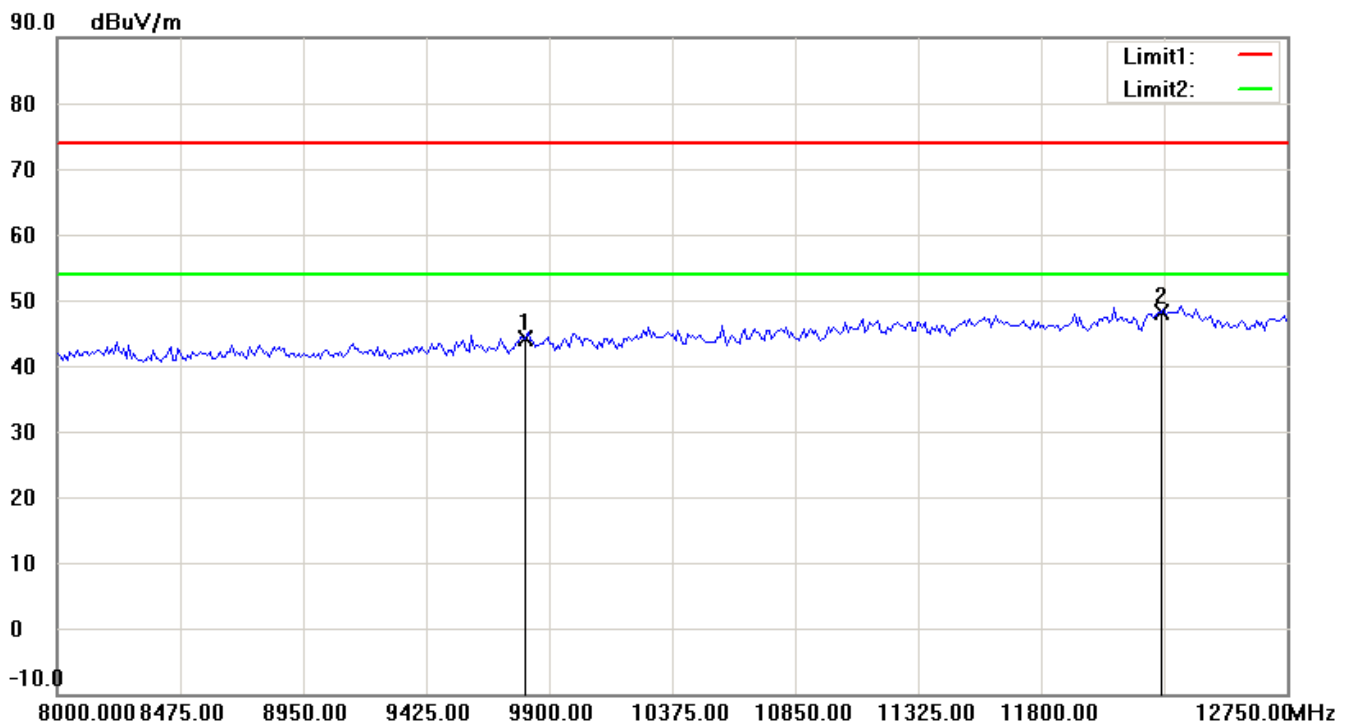
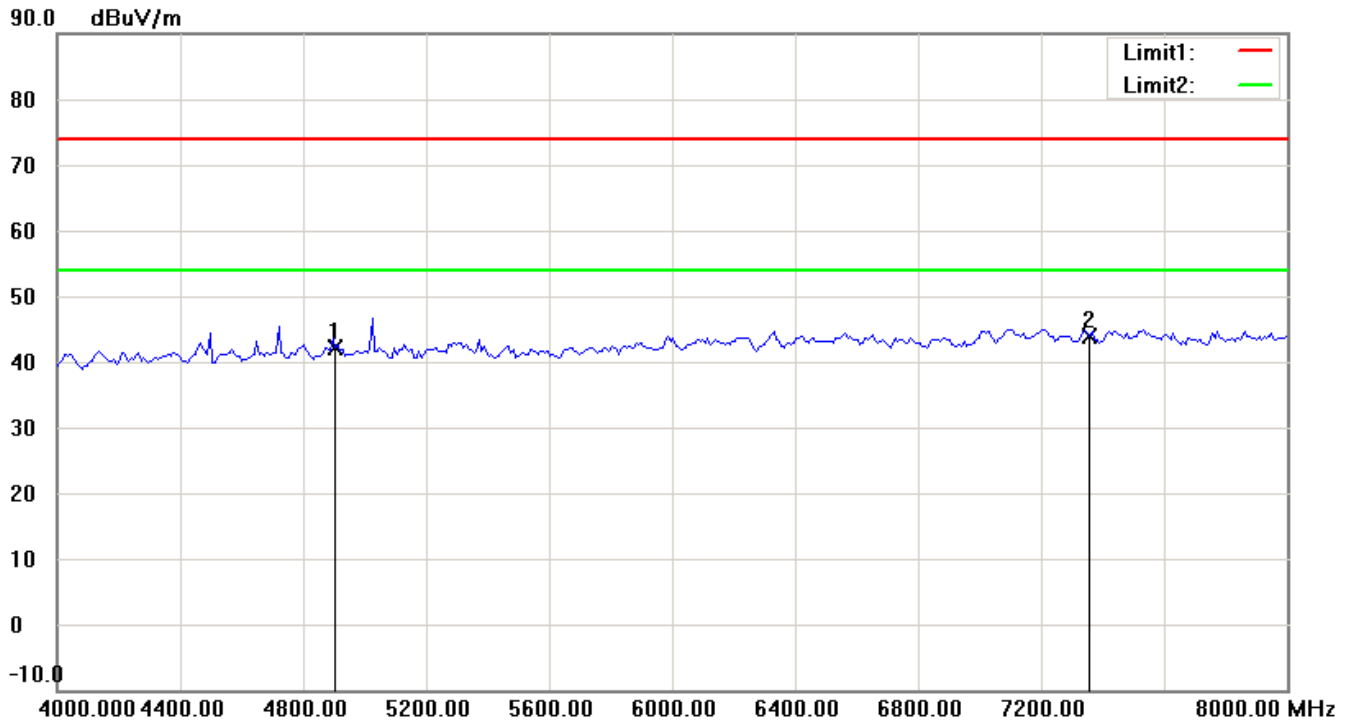
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Worldwide Testing Services(Taiwan) Co., Ltd.

Registration number: W6M21404-14062-C-1

FCC ID: S8C-DSA2LS



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

Note:

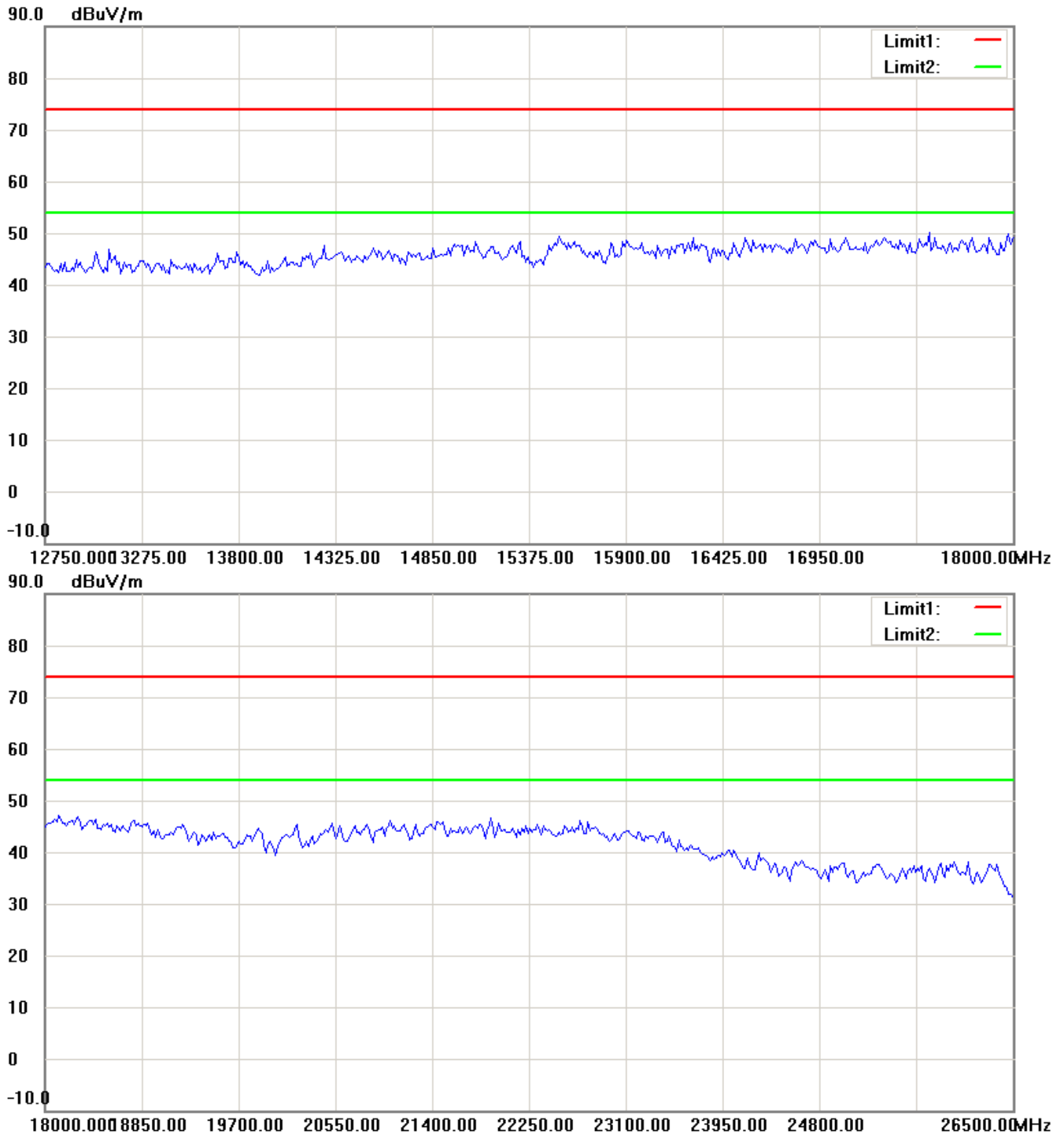
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Worldwide Testing Services(Taiwan) Co., Ltd.

Registration number: W6M21404-14062-C-1

FCC ID: S8C-DSA2LS



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