FCC PART 15 SUBPART C TEST REPORT

for

Wireless Lan USB 2.0 Adapter

Model No.: RNX-N180UBE

FCC ID: W6RRNX-N180UBE

of

Applicant: Rosewill Inc.
Address: 17708 Rowland St City of Industry, CA 91748 United States

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.: W6D21101-11182-C-1

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

TABLE OF CONTENTS

1 General Information

1.1 Notes

The purpose of conformity testing is to increase the probability of adherence to the essential requirements or conformity specifications, as appropriate.
The complexity of the technical specifications, however, means that full and thorough testing is impractical for both technical and economic reasons.
Furthermore, there is no guarantee that a test sample which has passed all the relevant tests conforms to a specification.
Neither is there any guarantee that such a test sample will interwork with other genuinely open systems.
The existence of the tests nevertheless provides the confidence that the test sample possesses the qualities as maintained and that is performance generally conforms to representative cases of communications equipment.

The test results of this test report relate exclusively to the item tested as specified in 1.5.
The test report may only be reproduced or published in full.
Reproduction or publication of extracts from the report requires the prior written approval of the Worldwide Testing Services(Taiwan) Co., Ltd.

Specific Conditions:
Usage of the hereunder tested device in combination with other integrated or external antennas requires at least additional output power measurements, spurious emission measurements, conducted emission measurements (AC supply lines) and radio frequency exposure evaluations for each individual configuration performed, for certification by FCC.
The test sample is able to work according IEEE 802.11 b/g/n.
This report is related to FCC Part 15 C (DSSS and OFDM device).

Tester:

February 14, 2011		Rick Chen	Rick Chen.
Date	WTS-Lab.	Name	Signature

Technical responsibility for area of testing:

February 14, 2011		Chang Tse-Ming	Chang Tse-Ming
Date	WTS	Name	Signature

Registration number: W6D21101-11182-C-1
FCC ID: W6RRNX-N180UBE

1.2 Testing laboratory

1.2.1 Location

OATS
No.5-1, Shuang Sing Village,
LiShuei Rd., Wanli Township,
Taipei County 207, Taiwan (R.O.C.)
Company
Worldwide Testing Services(Taiwan) Co., Ltd.
6F, NO. 58, LANE 188, RUEY-KUANG RD.
NEIHU, TAIPEI 114, TAIWAN R.O.C.
Tel : 886-2-66068877
Fax : 886-2-66068879

1.2.2 Details of accreditation status

Accredited testing laboratory

A2LA accredited number: 2732.01

FCC filed test laboratory Reg. No. 930600

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

Testing Laboratory
1477

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:	Rosewill Inc.
Street:	17708 Rowland St City of Industry,
Town:	CA 91748
Country:	United States
Telephone:	./.
Fax:	./.

1.4 Application details

Date of receipt of test item: January 27, 2011
Date of test: from January 27, 2011 to February 10, 2011

1.5 General information of Test item

Type of test item: Wireless Lan USB 2.0 Adapter
Model Number: RNX-N180UBE
Brand Name: Rosewill
Multi-listing model number: without
Photos: see Appendix

Technical data

Frequency band: 2.4 GHz – 2.4835 GHz

11b, 11g, 11n 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
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: 11b, 11g, 11n 20MHz: 11
11n 40MHz: 7
Operation modes: duplex
Modulation Type: DSSS / OFDM
Fixed point-to-point operation: ☐ Yes / ☒ No
Type of Antenna: Dipole Antenna
Antenna gain: 5dBi / 3dBi (only test 5dBi)
Power supply: 5VDC
Emission designator: 11b: DSSS: 17M2G1D
11g: OFDM: 17M8W7D
11n 20MHz: OFDM: 18M7W7D
11n 40MHz: OFDM: 38M1W7D

Host device: none

Registration number: W6D21101-11182-C-1
FCC ID: W6RRNX-N180UBE

Classification :

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

Transmitter **Unom**

Mode A (802.11b)
Power (ch 1 or A): Conducted: 12.04 dBm
Power (ch 6 or B): Conducted: 15.02 dBm
Power (ch 11 or C): Conducted: 16.61 dBm

Mode B (802.11g)
Power (ch 1 or A): Conducted: 3.10 dBm
Power (ch 6 or B): Conducted: 4.75 dBm
Power (ch 11 or C): Conducted: 7.89 dBm

Mode C (802.11n20MHz)
Power (ch 1 or A): Conducted: 7.59 dBm
Power (ch 6 or B): Conducted: 9.06 dBm
Power (ch 11 or C): Conducted: 10.45 dBm

Mode D (802.11n40MHz)
Power (ch 1 or A): Conducted: 7.57 dBm
Power (ch 4 or B): Conducted: 8.98 dBm
Power (ch 7 or C): Conducted: 9.93 dBm

Manufacturer: (if applicable)
Name: Loopcomm Technology Inc.
Street: 2F., No.114,Lian-Chen Rd., Chung-Ho Dist.,
Town: New Taipei City 235,
Country: Taiwan,R.O.C.

1.6 Test standards

Technical standard : FCC RULES PART 15 SUBPART C § 15.247 (2009-10)

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:	5VDC
Extreme conditions parameters:	./.

Special statement:

1. **This EUT is a multi-listing based on the original model no. LP-8697E.**
2. **The relevant Circuitry, PCB Layout, Inner element, and Function of the EUT are exactly the same as the original model no. LP-8697E. The differences between them are the approval holder, product name model no and housing. Therefore the test result is also based on the original test reports Nr. W6M21101-11181-C-1 without retesting.**

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	2010/9/2	2011/9/1
ETSTW-CE 004	ZWEILEITER-V-NETZNACHBILDUNG TWO-LINE V-NETWORK	ESH3-Z5	840731/011	R&S	2010/3/2	2011/3/1
ETSTW-CE 005	Line-Impedance Stabilisation Network	NNBM 8126D	137	Schwarzbeck	2010/9/8	2011/9/7
ETSTW-CE 006	IMPULSBEGRENZER PULSE LIMITER	ESH3-Z2	100226	R&S	2010/5/8	2011/5/7
ETSTW-CE 007	SPECTRUM ANALYZER 5GHz	FSB	849670/001	R&S	Pre-test Use NCR	
ETSTW-CE 008	HF-EICHLEITUNG RF STEP ATTENUATOR 139dB DPSP	334.6010.02	844581/024	R&S	Function Test	
ETSTW-CE 009	TEMP.&HUMIDITY CHAMBER	GTH-225-40-1P-U	MAA0305-009	GIANT FORCE	2010/7/21	2011/7/20
ETSTW-CE 013	CISPR 22 TWO BALANCED TELECOM PAIRS IMPEDANCE STABILIZATION NETWORK	FCC-TLISN-T4-02	20242	FCC	2010/10/21	2011/10/20
ETSTW-CE 015	CISPR 22 TWO BALANCED TELECOM PAIRS IMPEDANCE STABILIZATION NETWORK	FCC-TLISN-T8-02	20307	FCC	2010/9/6	2011/9/5
ETSTW-RE 002	Function Generator	33220A	MY43004982	Agilent	Function Test	
ETSTW-RE 003	EMI TEST RECEIVER	ESI 26	831438/001	R&S	2010/8/10	2011/8/9
ETSTW-RE 004	EMI TEST RECEIVER	ESI 40	832427/004	R&S	2010/9/14	2011/9/13
ETSTW-RE 005	EMI TEST RECEIVER	ESVS10	843207/020	R&S	2010/9/2	2011/9/1
ETSTW-RE 006	Attenuator 10dB	50HF-010-5N-1	None	STEP	2010/3/5	2011/3/4
ETSTW-RE 010	ABSORBING CLAMP	MDS 21	3469	Schwarzbeck	2010/9/6	2011/9/5
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	2010/10/4	2011/10/3
ETSTW-RE 020	MICROWAVE HORN ANTENNA	AT4002A	306915	AR	Function Test	
ETSTW-RE 021	SWEEP GENERATOR	SWM05	835130/010	R&S	2010/8/20	2011/8/19
ETSTW-RE 027	Passive Loop Antenna	6512	00034563	EMCO	2010/7/22	2011/7/21
ETSTW-RE 028	Log-Periodic Dipole Array Antenna	3148	34429	EMCO	2010/4/14	2011/4/13
ETSTW-RE 029	Biconical Antenna	3109	33524	EMCO	2010/4/14	2011/4/13
ETSTW-RE 030	Double-Ridged Guide Horn Antenna	3117	00035224	EMCO	2010/3/2	2011/3/1
ETSTW-RE 032	Millivoltmeter	URV 55	849086/013	R&S	2010/10/4	2011/10/3
ETSTW-RE 033	WaveRunner 6000A Serise Oscilloscope	WAVERUNNER 6100A	LCRY0604P14508	LeCroy	Function Test	
ETSTW-RE 034	Power Sensor	URV5-Z4	839313/006	R&S	2010/10/4	2011/10/3
ETSTW-RE 042	Biconical Antenna	HK116	100172	R&S	2011/1/14	2012/1/13
ETSTW-RE 044	Log-Periodic Antenna	HL050	100094	R&S	2010/5/11	2011/5/10
ETSTW-RE 047	PSA SERIES SPECTRUM ANALYZER	E4445A	MY46181369	Agilent	Pre-test Use NCR	
ETSTW-RE 048	Triple Loop Antenna	HXYZ 9170	HXYZ 9170-134	Schwarzbeck	2010/8/30	2011/8/29
ETSTW-RE 049	TRILOG Super Broadband test Antenna	VULB 9160	9160-3185	Schwarzbeck	2010/4/13	2011/4/12

ETSTW-RE 050	Attenuator 10dB	50HF-010-1	None	JFW	2010/3/5	2011/3/4
ETSTW-RE 051	Attenuator 6dB	50HF-006-1	None	JFW	2010/3/5	2011/3/4
ETSTW-RE 053	Attenuator 3dB	50HF-003-1	None	JFW	2010/3/5	2011/3/4
ETSTW-RE 055	SPECTRUM ANALYZER	FSU 26	200074	R&S	2010/6/3	2011/6/2
ETSTW-RE 060	Attenuator 30dB	5015-30	F651012z-01	ATM	2009/3/6	2011/3/6
ETSTW-RE 061	Amplifier Module	CHC 1	None	ETS	2010/9/27	2011/9/26
ETSTW-RE 062	Amplifier Module	CHC 2	None	KMIC	2010/11/30	2011/11/29
ETSTW-RE 064	Bluetooth Test Set	MT8852B-042	6K00005709	Anritsu	Function Test	
ETSTW-RE 065	Amplifier	AMF-6F-18002650-25-10P	941608	MITEQ	2010/4/13	2011/4/12
ETSTW-RE 066	Highpass Filter	H1G013G1	206015	MICROWAVE CIRCUITS, INC.	2010/3/5	2011/3/4
ETSTW-RE 072	CELL SITE TEST SET	8921A	3339A00375	HP	2010/10/7	2011/10/6
ETSTW-RE 073	Power Meter	N1911A	MY45100769	Agilent	2011/1/10	2012/1/9
ETSTW-RE 074	Power Sensor	N1921A	MY45241198	Agilent	2011/1/10	2012/1/9
ETSTW-RE 081	Highpass Filter	H03G13G1	4260-02 DC0428	MICROWAVE CIRCUITS, INC.	2010/3/5	2011/3/4
ETSTW-RE 096	SIGNAL GENERATOR	SMIQ 03B	102274	R&S	2010/5/31	2011/5/30
ETSTW-RE 099	DC Block	50DB-007-1	None	JFW	2010/3/5	2011/3/4
ETSTW-RE 105	2.4GHz Notch Filter	NO124411	39555	MICROWAVE CIRCUITS, INC.	2010/3/25	2011/3/24
ETSTW-RE 106	Humidity Temperature Meter	TES-1366	091011113	TES	2010/3/25	2011/3/24
ETSTW-RE 111	Log-Periodic Dipole Array Antenna	VULB 9160	9160-3309	Schwarz beck	2010/12/17	2011/12/16
ETSTW-RE 114	2.4GHz Notch Filter	N0124411	473873	MICROWAVE CIRCUITS	2011/1/13	2012/1/12
ETSTW-GSM 002	Universal Radio Communication Tester	CMU 200	109439	R&S	2010/10/7	2011/10/6
ETSTW-GSM 019	Band Reject Filter	WRCTF824/849-822/851-40/12+9SS	3	WI	2011/1/14	2012/1/13
ETSTW-GSM 020	Band Reject Filter	WRCD1747/1748-1743/1752-32/5SS	1	WI	2011/1/14	2012/1/13
ETSTW-GSM 021	Band Reject Filter	WRCD1879.5/1880.5-1875.5/1884.5-32/5SS	3	WI	2011/1/14	2012/1/13
ETSTW-GSM 022	Band Reject Filter	WRCT901.9/903.1-904.25-50/8SS	1	WI	2011/1/14	2012/1/13
ETSTW-GSM 023	Power Divider	4901.19.A	None	SUHNER	2010/9/20	2011/9/19
ETSTW-Cable 002	Microwave Cable	SUCOFLEX 104（S_Cable 7）	238093	HUBER+SUHNER	2010/9/27	2011/9/26
ETSTW-Cable 003	Microwave Cable	SUCOFLEX 104（S_Cable 11）	209953	HUBER+SUHNER	2010/9/27	2011/9/26
ETSTW-Cable 010	BNC Cable	5 M BNC Cable	None	JYE BAO CO.,LTD.	2010/3/5	2011/3/4
ETSTW-Cable 011	BNC Cable	BNC Cable 1	None	JYE BAO CO.,LTD.	2010/8/19	2011/8/18
ETSTW-Cable 012	BNC Cable	BNC Cable 2	None	JYE BAO CO.,LTD.	2010/8/19	2011/8/18
ETSTW-Cable 013	Microwave Cable	SUCOFLEX 104（S_Cable 5）	232345	HUBER+SUHNER	2010/3/5	2011/3/4
ETSTW-Cable 022	N TYPE Cable	OATS Cable 3	0002	JYE BAO CO.,LTD.	2010/3/5	2011/3/4
ETSTW-Cable 028	Microwave Cable	FA147A0015M2020	30064-2	UTIFLEX	2010/9/13	2011/9/12
ETSTW-Cable 029	Microwave Cable	FA147A0015M2020	30064-3	UTIFLEX	2010/9/13	2011/9/12

ETSTW-Cable 030	Microwave Cable	SUCOFLEX 104 （S_Cable 9）	279067	HUBER+SUHNER	2011/1/28	2012/1/27
ETSTW-Cable 031	Microwave Cable	SUCOFLEX 104 （S_Cable 10）	238092	HUBER+SUHNER	2010/11/30	2011/11/29
ETSTW-Cable 039	Microwave Cable	SUCOFLEX 104 （S_Cable 19）	316739	HUBER+SUHNER	2010/3/5	2011/3/4
ETSTW-Cable 043	Microwave Cable	SUCOFLEX 104	317576	HUBER+SUHNER	2010/11/30	2011/11/29
ETSTW-Cable 047	Microwave Cable	SUCOFLEX 104	325518	HUBER+SUHNER	2010/11/30	2011/11/29
WTSTW-SW 001	EMI TEST SOFTWARE	Harmonics-1000	None	EMC PARTNER	HARCS Version 4.16 Firmware Version 2.18	
WTSTW-SW 002	EMI TEST SOFTWARE	EZ_EMC	None	Farad	Version ETS-03A1	
WTSTW-SW 003	EMS TEST SOFTWARE	i2	None	AUDIX	Version 3.2007-8-17b	
WTSTW-SW 005	GSM Fading Level Correction	GSMFadLevCor	None	R&S	Version 1.66	

2.4 General Test Procedure

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

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

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

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

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

For hand-held devices, a exploratory test was performed with three (3) orthogonal planes to determine the highest emissions.
Measurements were made by Worldwide Testing Services(Taiwan) Co., Ltd. at the registered open field test site located at No.5-1, Shuang Sing Village, LiShuei Rd., Wanli Township, Taipei County 207, Taiwan (R.O.C.) The Registration Number: 930600.
When an emission was found, the table was rotated to produce the maximum signal strength. At this point, the antenna was raised and lowered from 1m to 4m. The antenna was placed in both the horizontal and vertical planes.

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

The formula is as follows:
Average = Peak + Duty Factor
Duty Factor = 20 log (dwell time/T)
T = 100ms when the pulse train period is over 100 ms or the period of the pulse train.

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

3 Test results (enclosure)

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

Note:

The worst case mode was base on the investigations by measuring the peak and average power according to the description above. The detail of chosen mode for full testing are as below:

Mode	Available channel	Chosen Channel	Modulation Technology	Modulation Type	Data Rate (Mbps)
802.11b	1 to 11	1,6,11	DSSS	DBPSK	1
802.11g	1 to 11	1,6,11	OFDM	BPSK	6
Draft 802.11n (20MHz)	1 to 11	1,6,11	OFDM	BPSK	6.5
Draft 802.11n (40MHz)	1 to 7	1,4,7	OFDM	BPSK	13.5

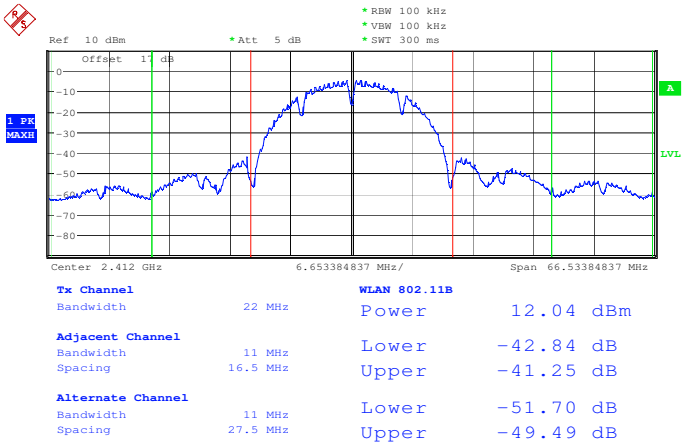
3.1 Peak Output Power (transmitter)

FCC Rule: 15.247(b)(3)

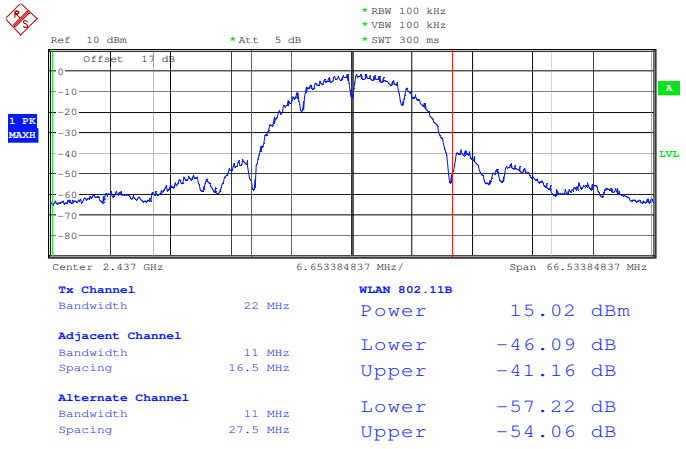
This measurement applies to equipment with an integral antenna and to equipment with an antenna connector and equipped with an antenna as declared by the applicant.

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

Mode 802.11b

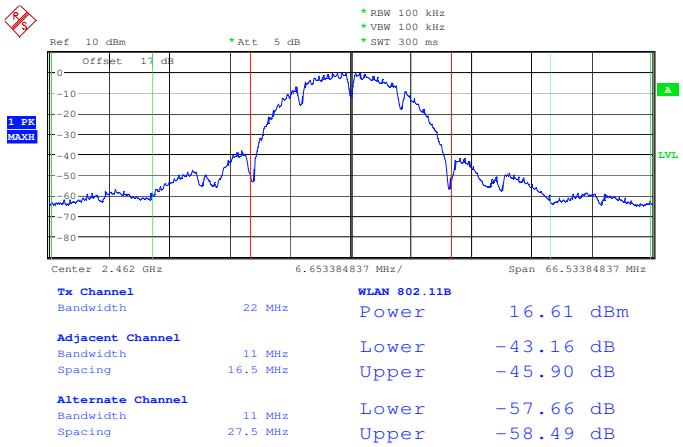


MAX OUTPUT POWER 802.11b CH1
Date: 21.JAN.2011 09:17:37



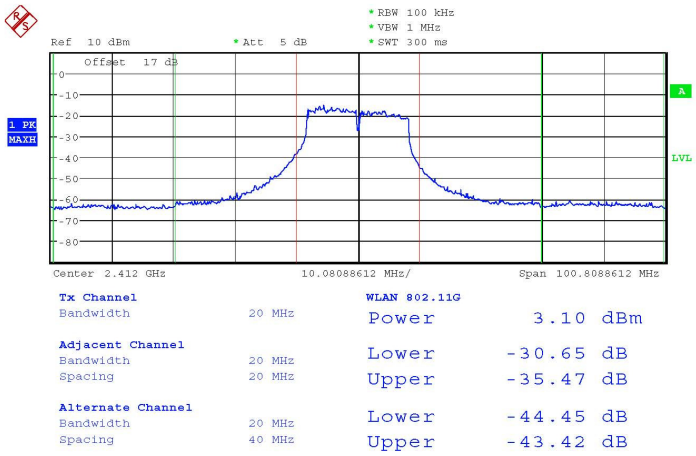
MAX OUTPUT POWER 802.11b CH6
Date: 21.JAN.2011 09:19:46

Registration number: W6D21101-11182-C-1
FCC ID: W6RRNX-N180UBE

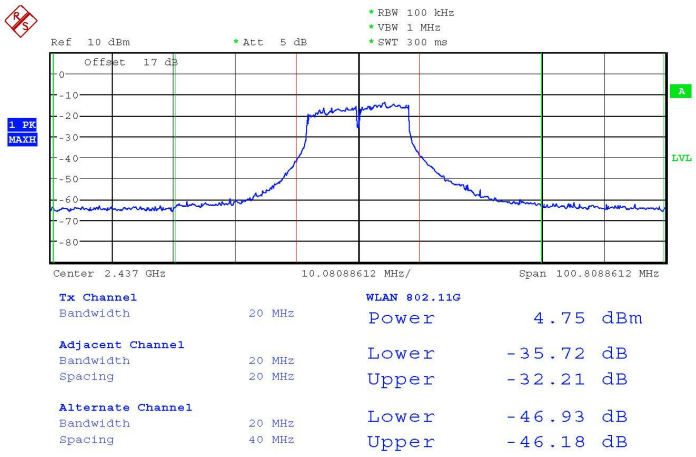


MAX OUTPUT POWER 802.11b CH11
Date: 21.JAN.2011 09:19:17

Mode 802.11g

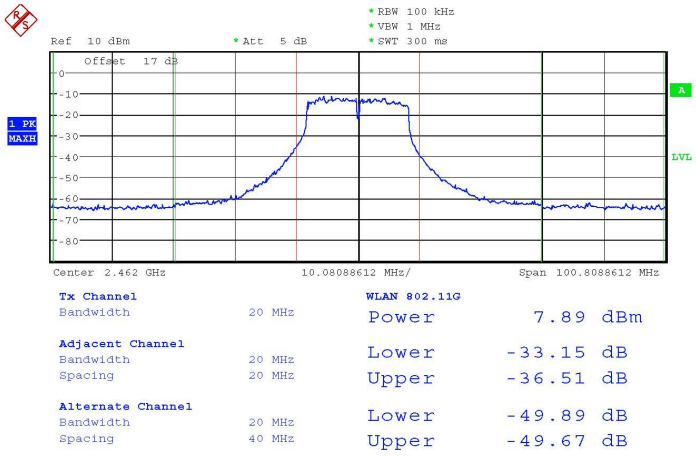


MAX OUTPUT POWER 802.11g CH1
Date: 21.JAN.2011 09:22:05



MAX OUTPUT POWER 802.11g CH6

Date: 21.JAN.2011 09:22:28

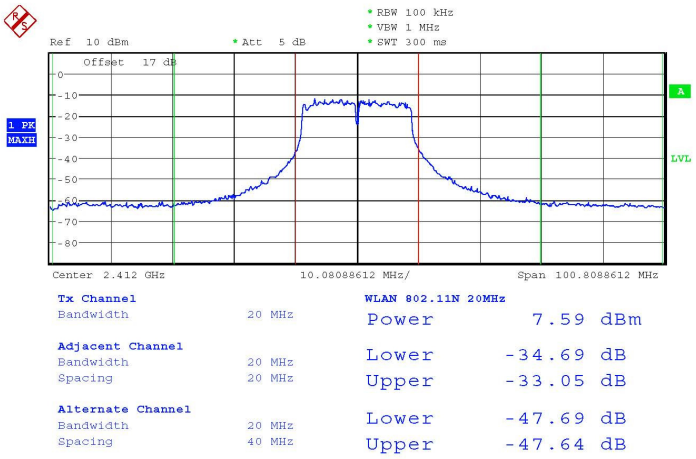


MAX OUTPUT POWER 802.11g CH11

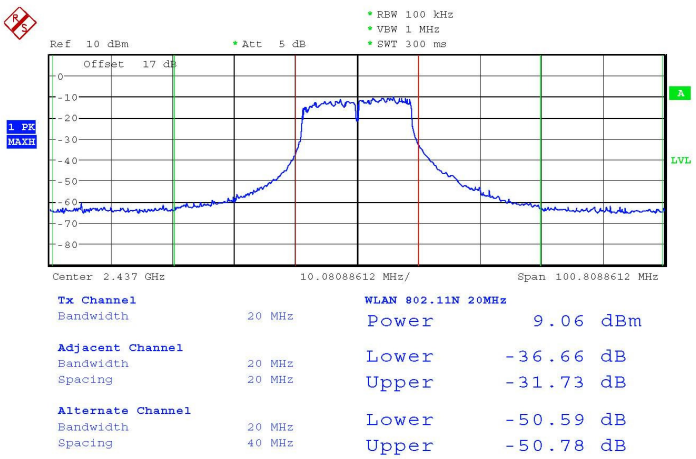
Date: 21.JAN.2011 09:23:05

Registration number: W6D21101-11182-C-1
FCC ID: W6RRNX-N180UBE

Mode 802.11n 20MHz

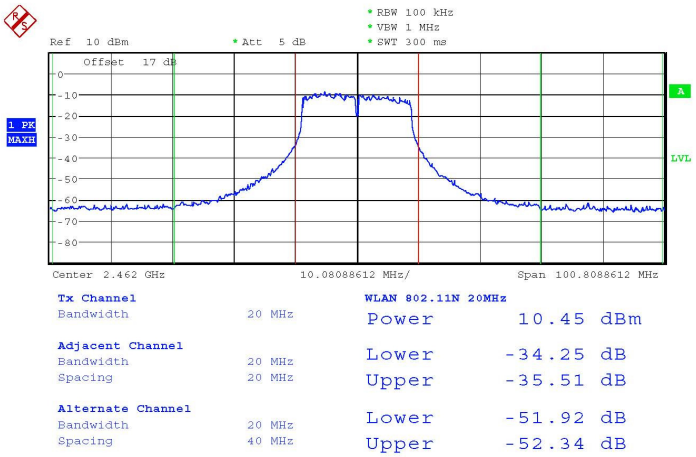


MAX OUTPUT POWER 802.11n 20MHz CH1
Date: 21.JAN.2011 09:25:32



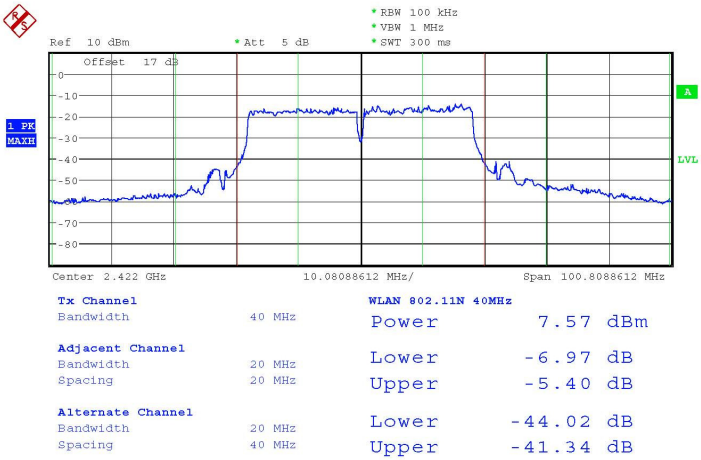
MAX OUTPUT POWER 802.11n 20MHz CH6
Date: 21.JAN.2011 09:25:51

Registration number: W6D21101-11182-C-1
FCC ID: W6RRNX-N180UBE

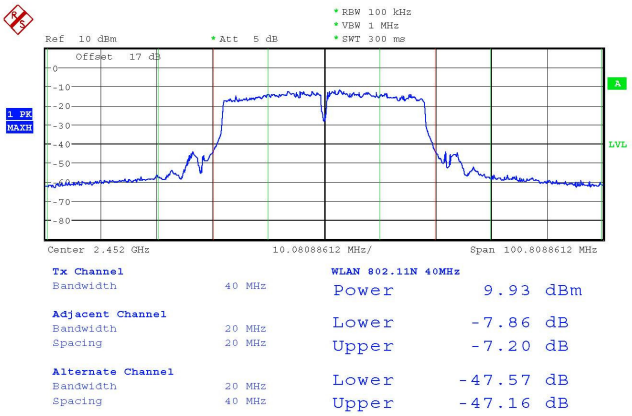


MAX OUTPUT POWER 802.11n 20MHz CH11
Date: 21.JAN.2011 09:26:12

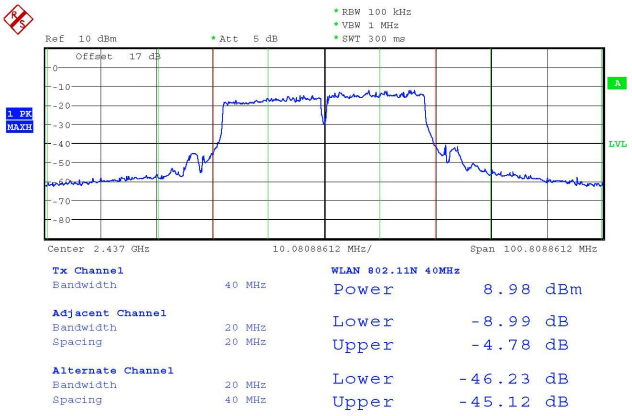
Mode 802.11n 40MHz



MAX OUTPUT POWER 802.11n 40MHz CH1
Date: 20.JAN.2011 18:07:49



MAX OUTPUT POWER 802.11n 40MHz CH7
Date: 20.JAN.2011 18:09:31



MAX OUTPUT POWER 802.11n 40MHz CH4
Date: 20.JAN.2011 18:08:43

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

3.2 Equivalent isotropic radiated power

FCC Rule: 15.247(b)(3)

EIRP = max. conducted output power + antenna gain
EIRP = 16.61 dBm + 5 dBi
= 21.61 dBm
Limit: EIRP = +36 dBm for Antenna gain < 6 dBi

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	45.8141	Peak value
D	dB		
AG	dBi	5	
G		3.1622	Calculated Value
R	cm	20	Assumed value
S	mW/cm^2	0.0288	Calculated value

Limits:

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

3.4 Transmitter Radiated Emissions in Restricted Bands

FCC Rules: 15.247 (c), 15.205, 15.209, 15.35
Radiated emission measurements were performed from 30 MHz to 26500 MHz.
For radiated emission tests, the analyzer setting was as followings:

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

Limits.

For frequencies below 1GHz:

Frequency of Emission (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 (dwell time/ 100ms)

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

Explanation: see attached diagrams in Appendix.

3.5 Spurious Emissions (tx)

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

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

FCC Rule: 15.247(c), 15.35
For out of band emissions that are close to or that exceed the 20 dB attenuation requirement described in the specification, radiated measurements were performed at a 3 m separation distance to determine whether these emissions complied with the general radiated emission requirement.

Limits:

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

For frequencies above 1GHz (Average measurements).
Max. reading – 20dB

Max. reading – 20 dB
Guidance on Measurement of Digit Transmission Systems:
"If the emission is pulsed, modify the unit for continuous operation, use the settings shown above, then correct the reading by subtracting the peak-average correction factor, derived from the appropriate duty cycle calculation."

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

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

Test equipment used: ETSTW-RE 003, ETSTW-RE 004, ETSTW-RE 018, ETSTW-RE 028, ETSTW-RE 029, ETSTW-RE 030, ETSTW-RE 044

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

Registration number: W6D21101-11182-C-1
FCC ID: W6RRNX-N180UBE

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".

Model: RNX-N180UBE Date: 2011/2/9
Mode: 802.11b CH1 Temperature: 21.8 °C Engineer: Rick
Polarization: Horizontal Humidity: 58 %

Frequency (MHz)	Reading (dBuV)	Detector	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Table Degree (Deg.)	Ant. High (cm)
284.4230	21.07	peak	14.93	36.00	46.00	-10.00	260	150
330.2884	9.09	peak	16.12	25.21	46.00	-20.79	250	150
993.2691	4.34	peak	27.35	31.69	54.00	-22.31	170	150

Polarization: Horizontal

Frequency (MHz)	Reading (dBuV) Peak	Reading (dBuV) Ave.	Factor (dB) Corr.	Result @3m (dBuV/m) Peak	Result @3m (dBuV/m) Ave.	Limit @3m (dBuV/m) Peak	Limit @3m (dBuV/m) Ave.	Margin (dB)	Table Degree (Deg.)	Ant. High (cm)
5002.0040	51.17	---	-5.11	46.06	---	74.00	54.00	-27.94	260	150
7236.0000	49.36	---	-2.37	46.99	---	74.00	54.00	-27.01	130	150
9648.0000	30.57	---	12.83	43.40	---	74.00	54.00	-30.60	210	150

Polarization: Vertical

Frequency (MHz)	Reading (dBuV)	Detector	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Table Degree (Deg.)	Ant. High (cm)
283.5577	20.51	peak	14.91	35.42	46.00	-10.58	240	150
405.4486	9.22	peak	17.90	27.12	46.00	-18.88	150	150
996.6345	2.81	peak	27.38	30.19	54.00	-23.81	250	150

Polarization: Vertical

Frequency (MHz)	Reading (dBuV) Peak	Reading (dBuV) Ave.	Factor (dB) Corr.	Result @3m (dBuV/m) Peak	Result @3m (dBuV/m) Ave.	Limit @3m (dBuV/m) Peak	Limit @3m (dBuV/m) Ave.	Margin (dB)	Table Degree (Deg.)	Ant. High (cm)
4993.9880	50.90	---	-5.10	45.80	---	74.00	54.00	-28.20	250	150
7236.0000	48.26	---	-2.37	45.89	---	74.00	54.00	-28.11	140	150
9648.0000	30.59	---	12.83	43.42	---	74.00	54.00	-30.58	220	150

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)
274.9037	20.30	peak	14.65	34.95	46.00	-11.05	250	150
330.2884	8.16	peak	16.12	24.28	46.00	-21.72	250	150
978.6858	4.25	peak	27.26	31.51	54.00	-22.49	220	150

Polarization: Horizontal

Frequency (MHz)	Reading (dBuV) Peak	Reading (dBuV) Ave.	Factor (dB) Corr.	Result @3m (dBuV/m) Peak	Result @3m (dBuV/m) Ave.	Limit @3m (dBuV/m) Peak	Limit @3m (dBuV/m) Ave.	Margin (dB)	Table Degree (Deg.)	Ant. High (cm)
4873.7480	52.65	---	-4.00	48.65	---	74.00	54.00	-25.35	270	150
7311.0000	47.24	---	-1.88	45.36	---	74.00	54.00	-28.64	190	150
9748.0000	28.98	---	13.37	42.35	---	74.00	54.00	-31.70	210	150

Polarization: Vertical

Frequency (MHz)	Reading (dBuV)	Detector	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Table Degree (Deg.)	Ant. High (cm)
280.5287	20.66	peak	14.85	35.51	46.00	-10.49	170	150
405.4486	9.03	peak	17.90	26.93	46.00	-19.07	260	150
992.1473	2.74	peak	27.35	30.09	54.00	-23.91	270	150

Polarization: Vertical

Frequency (MHz)	Reading (dBuV) Peak	Reading (dBuV) Ave.	Factor (dB) Corr.	Result @3m (dBuV/m) Peak	Result @3m (dBuV/m) Ave.	Limit @3m (dBuV/m) Peak	Limit @3m (dBuV/m) Ave.	Margin (dB)	Table Degree (Deg.)	Ant. High (cm)
4873.7480	55.30	---	-4.00	51.30	---	74.00	54.00	-22.70	170	150
7311.0000	46.70	---	-1.88	44.82	---	74.00	54.00	-29.18	230	150
9748.0000	30.84	---	13.37	44.21	---	74.00	54.00	-29.80	210	150

Registration number: W6D21101-11182-C-1
FCC ID: W6RRNX-N180UBE

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)
282.6922	20.27	peak	14.89	35.16	46.00	-10.84	160	150
331.4103	7.38	peak	16.14	23.52	46.00	-22.48	210	150
993.2691	4.38	peak	27.35	31.73	54.00	-22.27	100	150

Polarization: Horizontal

Frequency (MHz)	Reading (dBuV) Peak	Reading (dBuV) Ave.	Factor (dB) Corr.	Result @3m (dBuV/m) Peak	Result @3m (dBuV/m) Ave.	Limit @3m (dBuV/m) Peak	Limit @3m (dBuV/m) Ave.	Margin (dB)	Table Degree (Deg.)	Ant. High (cm)
4993.9880	52.36	---	-5.10	47.26	---	74.00	54.00	-26.74	190	150
7386.0000	47.40	---	-3.09	44.31	---	74.00	54.00	-29.69	250	150
9848.0000	31.80	---	13.02	44.82	---	74.00	54.00	-29.20	230	150

Polarization: Vertical

Frequency (MHz)	Reading (dBuV)	Detector	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Table Degree (Deg.)	Ant. High (cm)
284.8556	22.54	peak	14.94	37.48	46.00	-8.52	250	150
405.4486	10.25	peak	17.90	28.15	46.00	-17.85	200	150
992.1473	2.79	peak	27.35	30.14	54.00	-23.86	180	150

Polarization: Vertical

Frequency (MHz)	Reading (dBuV) Peak	Reading (dBuV) Ave.	Factor (dB) Corr.	Result @3m (dBuV/m) Peak	Result @3m (dBuV/m) Ave.	Limit @3m (dBuV/m) Peak	Limit @3m (dBuV/m) Ave.	Margin (dB)	Table Degree (Deg.)	Ant. High (cm)
4993.9880	50.15	---	-5.10	45.05	---	74.00	54.00	-28.95	120	150
7390.7820	51.02	---	-3.11	47.91	---	74.00	54.00	-26.09	130	150
9848.0000	30.88	---	13.02	43.90	---	74.00	54.00	-30.10	210	150

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)
273.1730	20.92	peak	14.58	35.50	46.00	-10.50	170	150
331.4103	7.40	peak	16.14	23.54	46.00	-22.46	180	150
992.1473	3.70	peak	27.35	31.05	54.00	-22.95	130	150

Registration number: W6D21101-11182-C-1
FCC ID: W6RRNX-N180UBE

Polarization: Horizontal

Frequency (MHz)	Reading (dBuV) Peak	Reading (dBuV) Ave.	Factor (dB) Corr.	Result @3m (dBuV/m) Peak	Result @3m (dBuV/m) Ave.	Limit @3m (dBuV/m) Peak	Limit @3m (dBuV/m) Ave.	Margin (dB)	Table Degree (Deg.)	Ant. High (cm)
4993.9880	51.70	---	-5.10	46.60	---	74.00	54.00	-27.40	190	150
7238.4770	51.72	---	-2.38	49.34	---	74.00	74.00	-24.66	210	150
9648.0000	31.50	---	12.83	44.33	---	74.00	54.00	-29.67	240	150

Polarization: Vertical

Frequency (MHz)	Reading (dBuV)	Detector	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Table Degree (Deg.)	Ant. High (cm)
282.6922	20.43	peak	14.89	35.32	46.00	-10.68	170	150
405.4486	8.82	peak	17.90	26.72	46.00	-19.28	260	150
993.2691	6.92	peak	27.35	34.27	54.00	-19.73	250	150

Polarization: Vertical

Frequency (MHz)	Reading (dBuV) Peak	Reading (dBuV) Ave.	Factor (dB) Corr.	Result @3m (dBuV/m) Peak	Result @3m (dBuV/m) Ave.	Limit @3m (dBuV/m) Peak	Limit @3m (dBuV/m) Ave.	Margin (dB)	Table Degree (Deg.)	Ant. High (cm)
4993.9880	50.21	---	-5.10	45.11	---	74.00	54.00	-28.89	170	150
7236.0000	48.49	---	-2.37	46.12	---	74.00	74.00	-27.88	280	150
9648.0000	29.95	---	12.83	42.78	---	74.00	54.00	-31.22	210	150

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)
274.4712	21.57	peak	14.63	36.20	46.00	-9.80	270	150
332.5321	8.22	peak	16.17	24.39	46.00	-21.61	170	150
611.8590	1.84	peak	22.23	24.07	46.00	-21.93	250	150

Polarization: Horizontal

Frequency (MHz)	Reading (dBuV) Peak	Reading (dBuV) Ave.	Factor (dB) Corr.	Result @3m (dBuV/m) Peak	Result @3m (dBuV/m) Ave.	Limit @3m (dBuV/m) Peak	Limit @3m (dBuV/m) Ave.	Margin (dB)	Table Degree (Deg.)	Ant. High (cm)
4993.9880	50.41	---	-3.89	46.52	---	74.00	54.00	-27.48	290	150
7311.0000	46.55	---	-1.88	44.67	---	74.00	54.00	-29.33	210	150
9748.0000	31.64	---	13.37	45.01	---	74.00	54.00	-28.99	280	150

Polarization: Vertical

Frequency (MHz)	Reading (dBuV)	Detector	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Table Degree (Deg.)	Ant. High (cm)
284.8556	22.23	peak	14.94	37.17	46.00	-8.83	200	150
405.4486	10.14	peak	17.90	28.04	46.00	-17.96	220	150
998.8781	2.06	peak	27.39	29.45	54.00	-24.55	240	150

Polarization: Vertical

Frequency (MHz)	Reading (dBuV) Peak	Reading (dBuV) Ave.	Factor (dB) Corr.	Result @3m (dBuV/m) Peak	Result @3m (dBuV/m) Ave.	Limit @3m (dBuV/m) Peak	Limit @3m (dBuV/m) Ave.	Margin (dB)	Table Degree (Deg.)	Ant. High (cm)
4993.9880	50.45	---	-3.89	46.56	---	74.00	54.00	-27.44	240	150
7311.0000	46.94	---	-1.88	45.06	---	74.00	54.00	-28.94	190	150
9748.0000	31.40	---	13.37	44.77	---	74.00	54.00	-29.23	290	150

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)
270.5770	20.89	peak	14.48	35.37	46.00	-10.63	200	150
405.4485	5.86	peak	17.90	23.76	46.00	-22.24	130	150
609.6154	1.63	peak	22.22	23.85	46.00	-22.15	170	150

Polarization: Horizontal

Frequency (MHz)	Reading (dBuV) Peak	Reading (dBuV) Ave.	Factor (dB) Corr.	Result @3m (dBuV/m) Peak	Result @3m (dBuV/m) Ave.	Limit @3m (dBuV/m) Peak	Limit @3m (dBuV/m) Ave.	Margin (dB)	Table Degree (Deg.)	Ant. High (cm)
4993.9880	50.83	---	-5.10	45.73	---	74.00	54.00	-28.27	240	150
7386.0000	48.02	---	-3.09	44.93	---	74.00	54.00	-29.07	200	150
9848.0000	30.70	---	13.02	43.72	---	74.00	54.00	-30.28	260	150

Polarization: Vertical

Frequency (MHz)	Reading (dBuV)	Detector	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Table Degree (Deg.)	Ant. High (cm)
283.9904	21.07	peak	14.92	35.99	46.00	-10.01	270	150
405.4486	9.50	peak	17.90	27.40	46.00	-18.60	220	150
993.2691	4.90	peak	27.35	32.25	54.00	-21.75	180	150

Polarization: Vertical

Frequency (MHz)	Reading (dBuV) Peak	Reading (dBuV) Ave.	Factor (dB) Corr.	Result @3m (dBuV/m) Peak	Result @3m (dBuV/m) Ave.	Limit @3m (dBuV/m) Peak	Limit @3m (dBuV/m) Ave.	Margin (dB)	Table Degree (Deg.)	Ant. High (cm)
4993.9880	50.65	---	-5.10	45.55	---	74.00	54.00	-28.45	170	150
7386.0000	47.63	---	-3.09	44.54	---	74.00	54.00	-29.46	250	150
9848.0000	31.14	---	13.02	44.16	---	74.00	54.00	-29.84	210	150

Mode: 802.11n 20M CH1

Polarization: Horizontal

Frequency (MHz)	Reading (dBuV)	Detector	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Table Degree (Deg.)	Ant. High (cm)
272.3077	21.51	peak	14.55	36.06	46.00	-9.94	250	150
334.7755	11.64	peak	16.22	27.86	46.00	-18.14	250	150
994.3910	3.40	peak	27.36	30.76	54.00	-23.24	170	150

Polarization: Horizontal

Frequency (MHz)	Reading (dBuV) Peak	Reading (dBuV) Ave.	Factor (dB) Corr.	Result @3m (dBuV/m) Peak	Result @3m (dBuV/m) Ave.	Limit @3m (dBuV/m) Peak	Limit @3m (dBuV/m) Ave.	Margin (dB)	Table Degree (Deg.)	Ant. High (cm)
4993.9880	51.25	---	-5.10	46.15	---	74.00	54.00	-27.85	170	150
7236.0000	48.76	---	-2.37	46.39	---	74.00	54.00	-27.61	240	150
9648.0000	31.53	---	12.83	44.36	---	74.00	54.00	-29.64	240	150

Polarization: Vertical

Frequency (MHz)	Reading (dBuV)	Detector	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Table Degree (Deg.)	Ant. High (cm)
284.4230	21.22	peak	14.93	36.15	46.00	-9.85	240	150
405.4486	9.67	peak	17.90	27.57	46.00	-18.43	140	150
995.5126	2.20	peak	27.37	29.57	54.00	-24.43	250	150

Polarization: Vertical

Frequency (MHz)	Reading (dBuV) Peak	Reading (dBuV) Ave.	Factor (dB) Corr.	Result @3m (dBuV/m) Peak	Result @3m (dBuV/m) Ave.	Limit @3m (dBuV/m) Peak	Limit @3m (dBuV/m) Ave.	Margin (dB)	Table Degree (Deg.)	Ant. High (cm)
4993.9880	49.73	---	-5.10	44.63	---	74.00	54.00	-29.37	160	150
7236.0000	48.34	---	-2.37	45.97	---	74.00	54.00	-28.03	210	150
9648.0000	31.63	---	12.83	44.46	---	74.00	54.00	-29.54	270	150

Registration number: W6D21101-11182-C-1
FCC ID: W6RRNX-N180UBE

Mode: 802.11n 20M CH6
Polarization: Horizontal

Frequency (MHz)	Reading (dBuV)	Detector	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Table Degree (Deg.)	Ant. High (cm)
282.2595	22.44	peak	14.89	37.33	46.00	-8.67	160	150
331.4103	10.33	peak	16.14	26.47	46.00	-19.53	130	150
996.6345	2.15	peak	27.38	29.53	54.00	-24.47	150	150

Polarization: Horizontal

Frequency (MHz)	Reading (dBuV) Peak	Ave.	Factor (dB) Corr.	Result @3m (dBuV/m) Peak	Ave.	Limit @3m (dBuV/m) Peak	Ave.	Margin (dB)	Table Degree (Deg.)	Ant. High (cm)
4993.9880	51.91	---	-3.89	48.02	---	74.00	54.00	-25.98	210	150
7311.0000	47.55	---	-1.88	45.67	---	74.00	54.00	-28.33	170	150
9748.0000	32.64	---	13.37	46.01	---	74.00	54.00	-27.99	280	150

Polarization: Vertical

Frequency (MHz)	Reading (dBuV)	Detector	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Table Degree (Deg.)	Ant. High (cm)
281.8270	20.64	peak	14.88	35.52	46.00	-10.48	270	150
405.4486	10.28	peak	17.90	28.18	46.00	-17.82	220	150
993.2691	1.72	peak	27.35	29.07	54.00	-24.93	140	150

Polarization: Vertical

Frequency (MHz)	Reading (dBuV) Peak	Ave.	Factor (dB) Corr.	Result @3m (dBuV/m) Peak	Ave.	Limit @3m (dBuV/m) Peak	Ave.	Margin (dB)	Table Degree (Deg.)	Ant. High (cm)
4993.9880	50.89	---	-3.89	47.00	---	74.00	54.00	-27.00	240	150
7311.0000	46.31	---	-1.88	44.43	---	74.00	54.00	-29.57	190	150
9748.0000	30.82	---	13.37	44.19	---	74.00	54.00	-29.81	210	150

Mode: 802.11n 20M CH11
Polarization: Horizontal

Frequency (MHz)	Reading (dBuV)	Detector	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Table Degree (Deg.)	Ant. High (cm)
264.9520	20.01	peak	14.27	34.28	46.00	-11.72	280	150
610.7372	3.67	peak	22.23	25.90	46.00	-20.10	210	150
993.2691	2.22	peak	27.35	29.57	54.00	-24.43	250	150

Registration number: W6D21101-11182-C-1
FCC ID: W6RRNX-N180UBE

Polarization: Horizontal

Frequency (MHz)	Reading (dBuV) Peak	Reading (dBuV) Ave.	Factor (dB) Corr.	Result @3m (dBuV/m) Peak	Result @3m (dBuV/m) Ave.	Limit @3m (dBuV/m) Peak	Limit @3m (dBuV/m) Ave.	Margin (dB)	Table Degree (Deg.)	Ant. High (cm)
4993.9880	51.44	---	-5.10	46.34	---	74.00	54.00	-27.66	190	150
7386.0000	47.67	---	-3.09	44.58	---	74.00	54.00	-29.42	240	150
9848.0000	31.98	---	13.02	45.00	---	74.00	54.00	-29.00	240	150

Polarization: Vertical

Frequency (MHz)	Reading (dBuV)	Detector	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Table Degree (Deg.)	Ant. High (cm)
274.4712	20.97	peak	14.63	35.60	46.00	-10.40	220	150
405.4485	10.10	peak	17.90	28.00	46.00	-18.00	150	150
992.1473	2.73	peak	27.35	30.08	54.00	-23.92	220	150

Polarization: Vertical

Frequency (MHz)	Reading (dBuV) Peak	Reading (dBuV) Ave.	Factor (dB) Corr.	Result @3m (dBuV/m) Peak	Result @3m (dBuV/m) Ave.	Limit @3m (dBuV/m) Peak	Limit @3m (dBuV/m) Ave.	Margin (dB)	Table Degree (Deg.)	Ant. High (cm)
4993.9880	50.46	---	-5.10	45.36	---	74.00	54.00	-28.64	160	150
7386.0000	48.81	---	-3.09	45.72	---	74.00	54.00	-28.28	250	150
9848.0000	31.00	---	13.02	44.02	---	74.00	54.00	-29.98	100	150

Mode: 802.11n 40M CH1
Polarization: Horizontal

Frequency (MHz)	Reading (dBuV)	Detector	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Table Degree (Deg.)	Ant. High (cm)
283.1250	21.48	peak	14.90	36.38	46.00	-9.62	260	150
333.6537	10.75	peak	16.20	26.95	46.00	-19.05	130	150
980.9294	3.79	peak	27.27	31.06	54.00	-22.94	210	150

Polarization: Horizontal

Frequency (MHz)	Reading (dBuV) Peak	Reading (dBuV) Ave.	Factor (dB) Corr.	Result @3m (dBuV/m) Peak	Result @3m (dBuV/m) Ave.	Limit @3m (dBuV/m) Peak	Limit @3m (dBuV/m) Ave.	Margin (dB)	Table Degree (Deg.)	Ant. High (cm)
4993.9880	50.73	---	-5.10	45.63	---	74.00	54.00	-28.37	290	150
7266.0000	47.09	---	-2.53	44.56	---	74.00	54.00	-29.44	240	150
9688.0000	30.66	---	12.65	43.31	---	74.00	54.00	-30.69	180	150

Polarization: Vertical

Frequency (MHz)	Reading (dBuV)	Detector	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Table Degree (Deg.)	Ant. High (cm)
282.2595	21.52	peak	14.89	36.41	46.00	-9.59	200	150
405.4486	9.93	peak	17.90	27.83	46.00	-18.17	200	150
994.3910	2.44	peak	27.36	29.80	54.00	-24.20	160	150

Polarization: Vertical

Frequency (MHz)	Reading (dBuV) Peak	Ave.	Factor (dB) Corr.	Result @3m (dBuV/m) Peak	Ave.	Limit @3m (dBuV/m) Peak	Ave.	Margin (dB)	Table Degree (Deg.)	Ant. High (cm)
5002.0040	50.46	---	-5.11	45.35	---	74.00	54.00	-28.65	160	150
7266.0000	48.84	---	-2.53	46.31	---	74.00	54.00	-27.69	240	150
9688.0000	30.56	---	12.65	43.21	---	74.00	54.00	-30.79	130	150

Mode: 802.11n 40M CH4
Polarization: Horizontal

Frequency (MHz)	Reading (dBuV)	Detector	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Table Degree (Deg.)	Ant. High (cm)
280.5287	21.06	peak	14.85	35.91	46.00	-10.09	170	150
334.7755	8.78	peak	16.22	25.00	46.00	-21.00	210	150
992.1473	1.85	peak	27.35	29.20	54.00	-24.80	170	150

Polarization: Horizontal

Frequency (MHz)	Reading (dBuV) Peak	Ave.	Factor (dB) Corr.	Result @3m (dBuV/m) Peak	Ave.	Limit @3m (dBuV/m) Peak	Ave.	Margin (dB)	Table Degree (Deg.)	Ant. High (cm)
4993.9880	49.94	---	-3.89	46.05	---	74.00	54.00	-27.95	100	150
7311.0000	47.26	---	-1.88	45.38	---	74.00	54.00	-28.62	290	150
9748.0000	32.09	---	13.37	45.46	---	74.00	54.00	-28.54	210	150

Polarization: Vertical

Frequency (MHz)	Reading (dBuV)	Detector	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Table Degree (Deg.)	Ant. High (cm)
274.4712	20.70	peak	14.63	35.33	46.00	-10.67	270	150
405.4486	9.97	peak	17.90	27.87	46.00	-18.13	260	150
980.9294	3.38	peak	27.27	30.65	54.00	-23.35	180	150

Polarization: Vertical

Frequency (MHz)	Reading (dBuV) Peak	Reading (dBuV) Ave.	Factor (dB) Corr.	Result @3m (dBuV/m) Peak	Result @3m (dBuV/m) Ave.	Limit @3m (dBuV/m) Peak	Limit @3m (dBuV/m) Ave.	Margin (dB)	Table Degree (Deg.)	Ant. High (cm)
4993.9880	50.57	---	-3.89	46.68	---	74.00	54.00	-27.32	290	150
7311.0000	46.28	---	-1.88	44.40	---	74.00	54.00	-29.60	160	150
9748.0000	30.11	---	13.37	43.48	---	74.00	54.00	-30.52	210	150

Mode: 802.11n 40M CH7

Polarization: Horizontal

Frequency (MHz)	Reading (dBuV)	Detector	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Table Degree (Deg.)	Ant. High (cm)
284.8556	20.66	peak	14.94	35.60	46.00	-10.40	160	150
405.4486	7.07	peak	17.90	24.97	46.00	-21.03	270	150
992.1473	1.75	peak	27.85	29.60	54.00	-24.40	110	150

Polarization: Horizontal

Frequency (MHz)	Reading (dBuV) Peak	Reading (dBuV) Ave.	Factor (dB) Corr.	Result @3m (dBuV/m) Peak	Result @3m (dBuV/m) Ave.	Limit @3m (dBuV/m) Peak	Limit @3m (dBuV/m) Ave.	Margin (dB)	Table Degree (Deg.)	Ant. High (cm)
4993.9880	47.87	---	-5.10	42.77	---	74.00	54.00	-31.23	200	150
7356.0000	42.06	---	-2.96	39.10	---	74.00	54.00	-34.90	140	150
9808.0000	30.43	---	13.01	43.44	---	74.00	54.00	-30.56	290	150

Polarization: Vertical

Frequency (MHz)	Reading (dBuV)	Detector	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Table Degree (Deg.)	Ant. High (cm)
281.3942	20.56	peak	14.87	35.43	46.00	-10.57	110	150
405.4486	7.44	peak	17.90	25.34	46.00	-20.66	220	150
992.1473	2.02	peak	27.35	29.37	54.00	-24.63	140	150

Polarization: Vertical

Frequency (MHz)	Reading (dBuV) Peak	Reading (dBuV) Ave.	Factor (dB) Corr.	Result @3m (dBuV/m) Peak	Result @3m (dBuV/m) Ave.	Limit @3m (dBuV/m) Peak	Limit @3m (dBuV/m) Ave.	Margin (dB)	Table Degree (Deg.)	Ant. High (cm)
4993.9880	51.30	---	-5.10	46.20	---	74.00	54.00	-27.80	180	150
7356.0000	49.43	---	-2.96	46.47	---	74.00	54.00	-27.53	240	150
9808.0000	30.20	---	13.01	43.21	---	74.00	54.00	-30.79	210	150

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

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

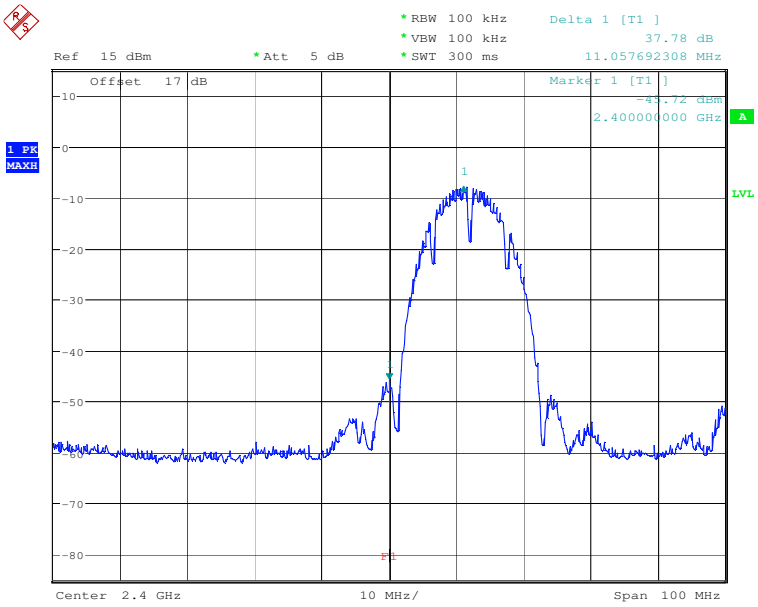
Test equipment used: ETSTW-RE 003, ETSTW-RE 004, ETSTW-RE 018, ETSTW-RE 028, ETSTW-RE 029, ETSTW-RE 030, ETSTW-RE 044

3.6 Radiated Emission on the band edge

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

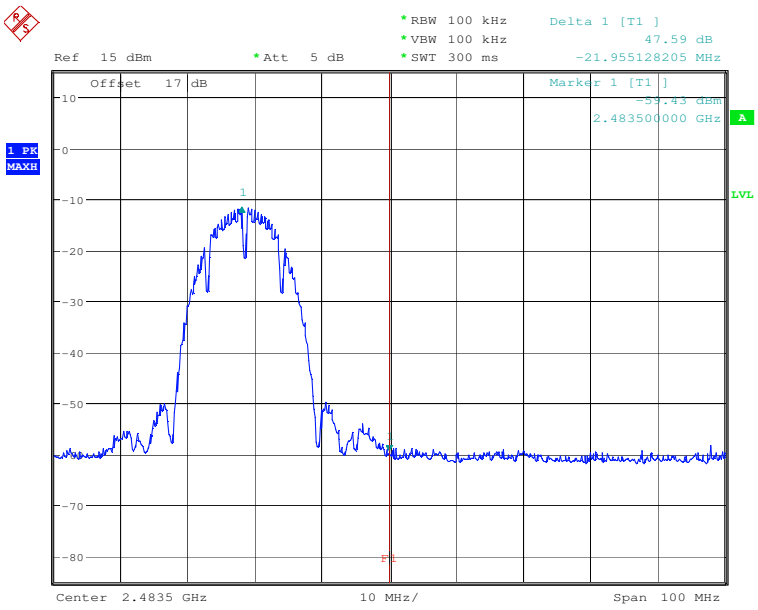
In addition radiated emission which fall in the restricted bands, as defined in section 15.205(a), must also with the radiated emission limits.

Mode 802.11b



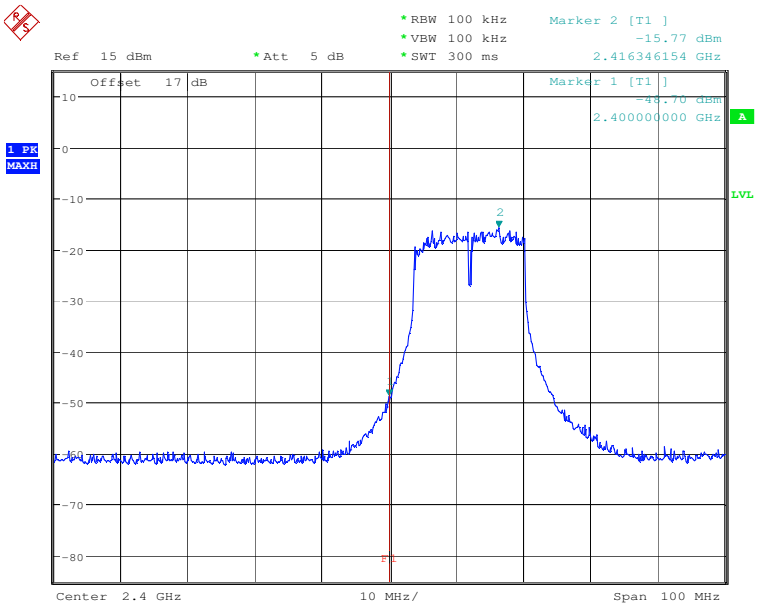
FREQENCY RANGE 802.11b CH1
Date: 20.JAN.2011 18:48:56

Registration number: W6D21101-11182-C-1
FCC ID: W6RRNX-N180UBE



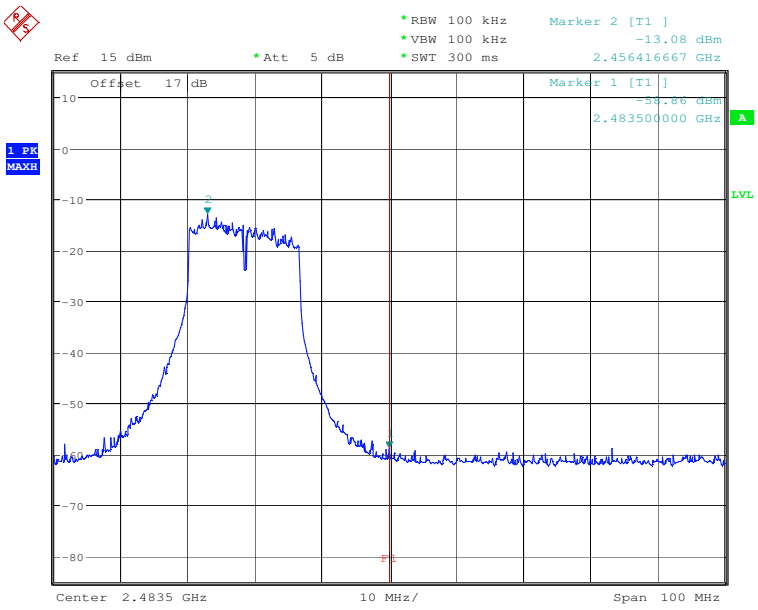
FREQENCY RANGE 802.11b CH11
Date: 20.JAN.2011 18:48:23

Mode 802.11g



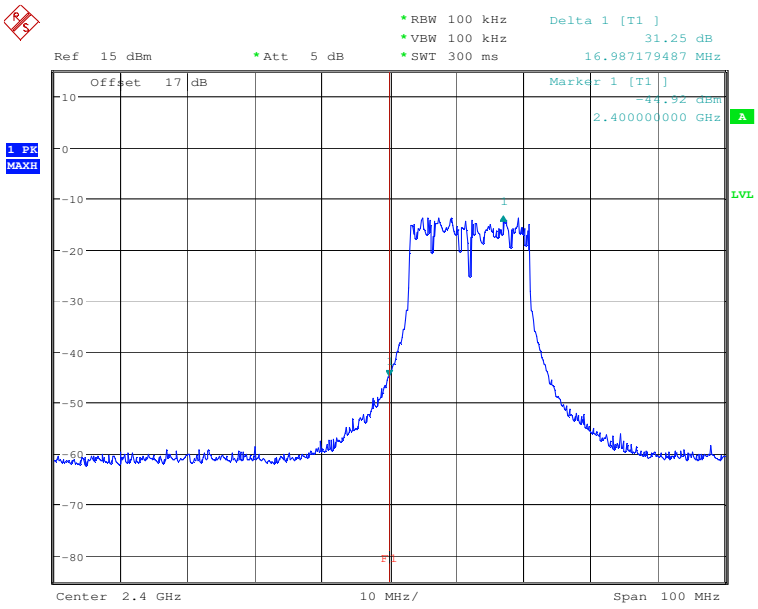
FREQENCY RANGE 802.11g CH1
Date: 20.JAN.2011 18:44:34

Registration number: W6D21101-11182-C-1
FCC ID: W6RRNX-N180UBE



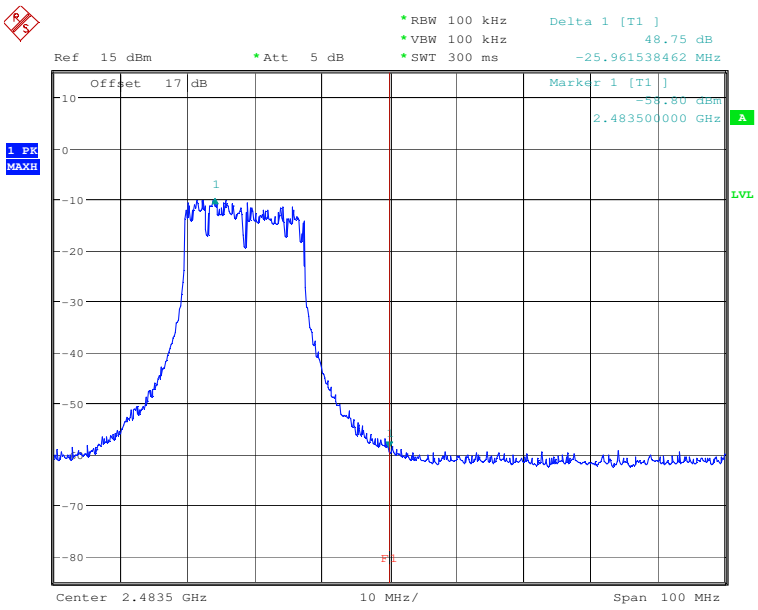
FREQENCY RANGE 802.11g CH11
Date: 20.JAN.2011 18:45:19

Mode 802.11n 20MHz



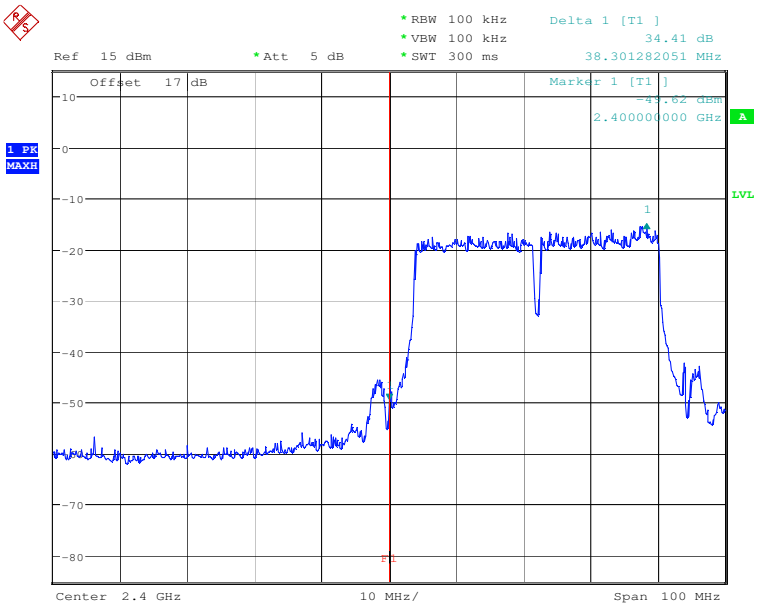
FREQENCY RANGE 802.11n 20MHz CH1
Date: 20.JAN.2011 18:23:51

Registration number: W6D21101-11182-C-1
FCC ID: W6RRNX-N180UBE



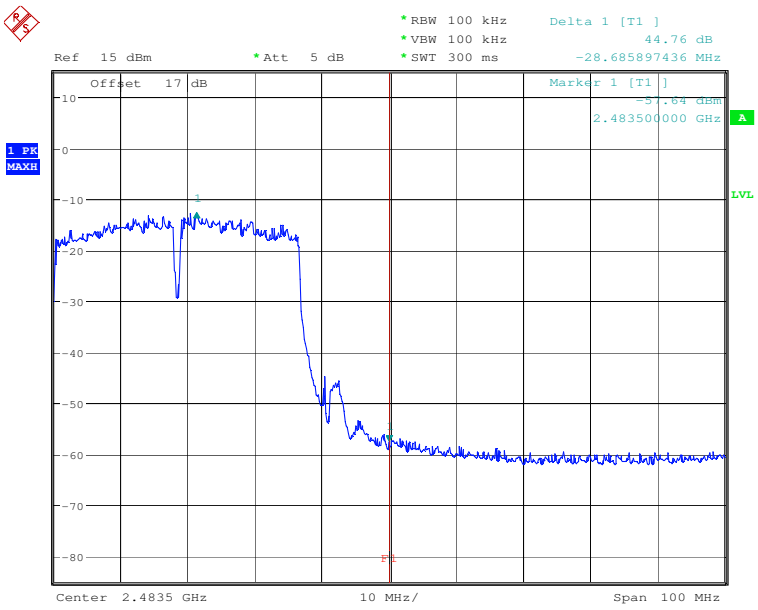
FREQENCY RANGE 802.11n 20MHz CH11
Date: 20.JAN.2011 18:24:33

Mode 802.11n 40MHz



FREQENCY RANGE 802.11n 40MHz CH1
Date: 20.JAN.2011 18:21:36

Registration number: W6D21101-11182-C-1
FCC ID: W6RRNX-N180UBE



FREQENCY RANGE 802.11n 40MHz CH7
Date: 20.JAN.2011 18:20:51

Limit:

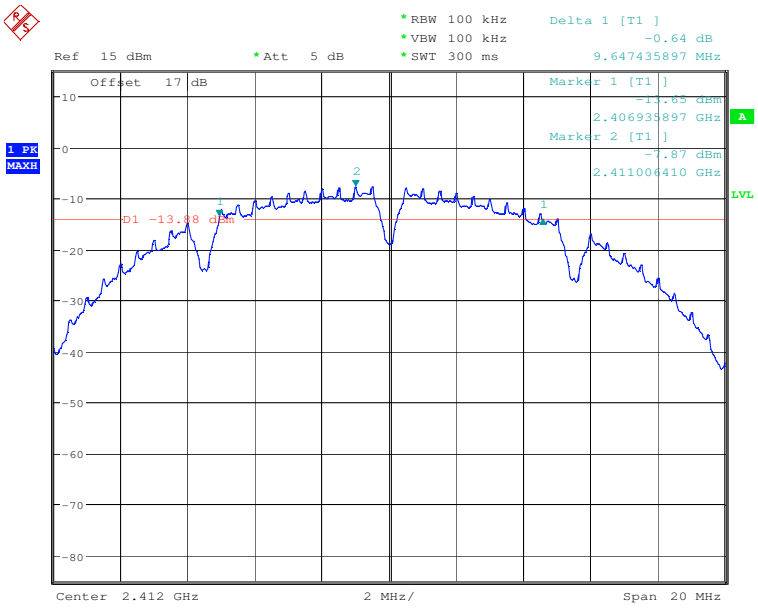
Frequency Range / MHz	Limit
902 –928 2400 – 2483.5 5725 - 5850	- 20 dB

Test equipment used: ETSTW-RE 055
.

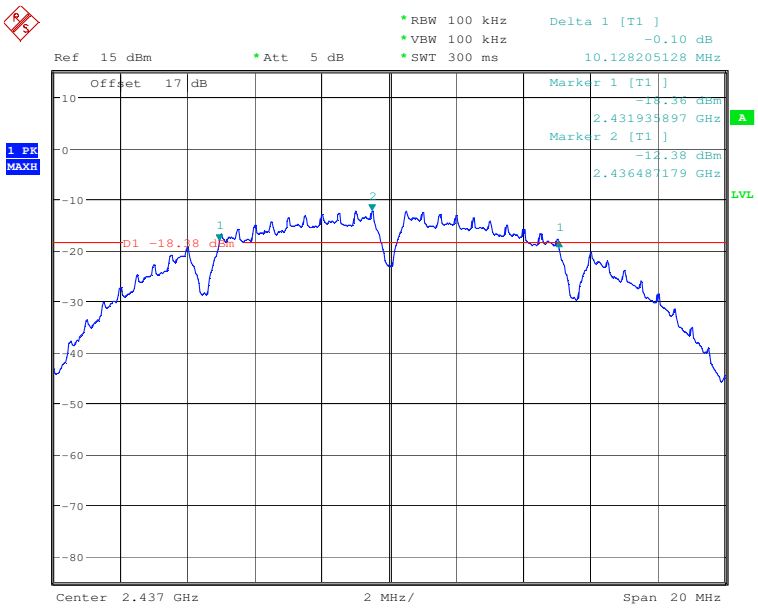
3.7 Minimum 6 dB Bandwidth

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

Mode 802.11b

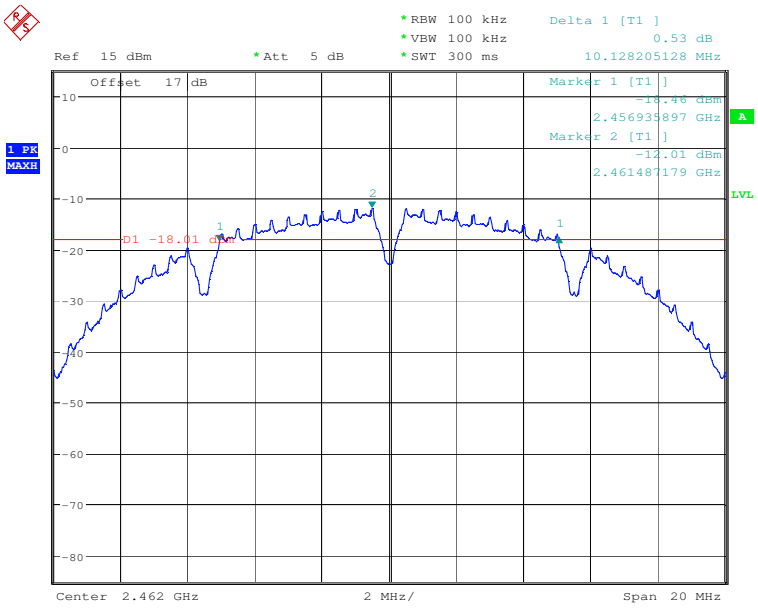


6DB BANDWIDTH 802.11b CH1
Date: 21.JAN.2011 07:39:50



6DB BANDWIDTH 802.11b CH6

Date: 21.JAN.2011 07:41:11

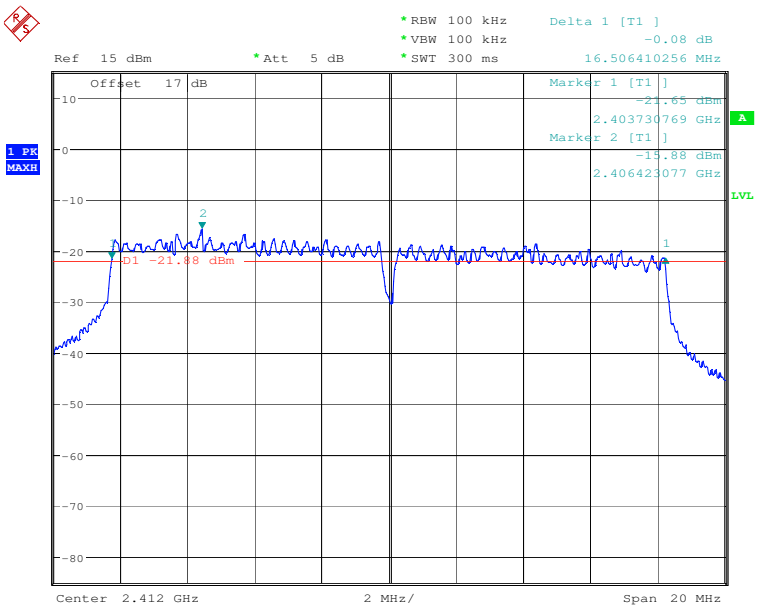


6DB BANDWIDTH 802.11b CH11

Date: 21.JAN.2011 07:42:43

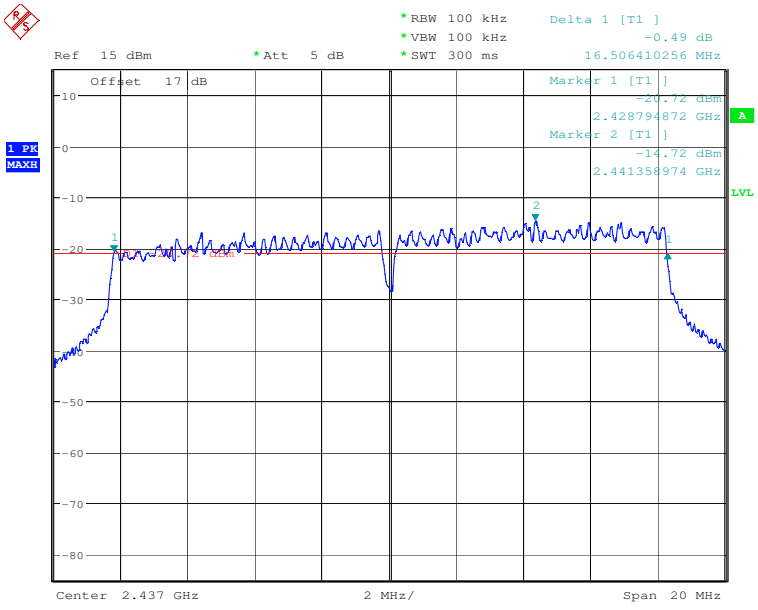
Registration number: W6D21101-11182-C-1
FCC ID: W6RRNX-N180UBE

Mode 802.11g



6DB BANDWIDTH 802.11g CH1

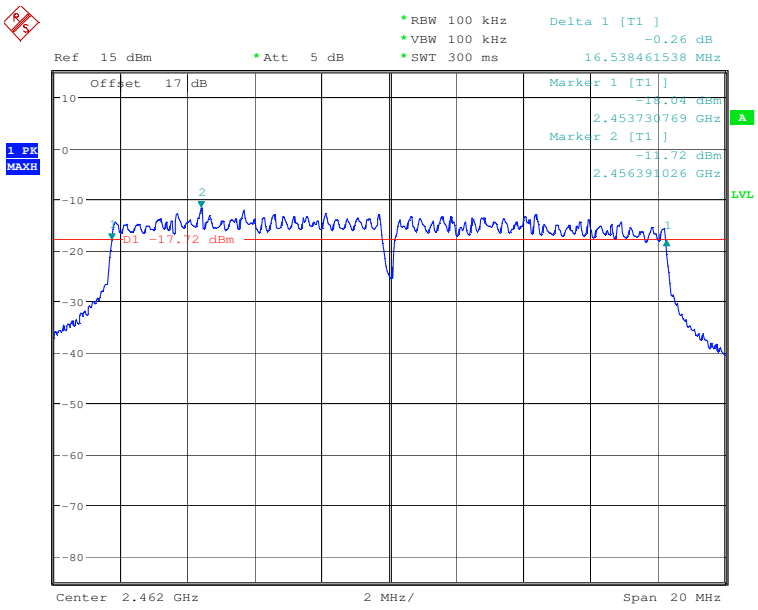
Date: 21.JAN.2011 07:47:15



6DB BANDWIDTH 802.11g CH6

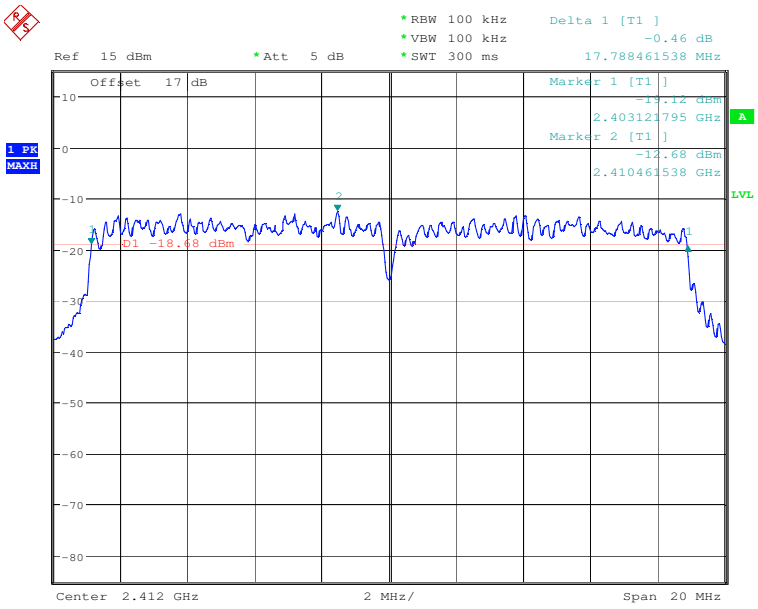
Date: 21.JAN.2011 07:46:16

Registration number: W6D21101-11182-C-1
FCC ID: W6RRNX-N180UBE



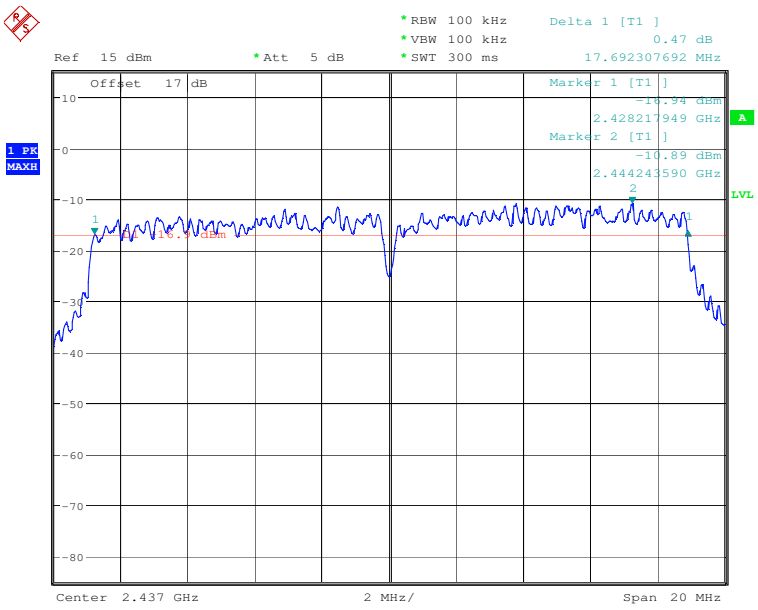
6DB BANDWIDTH 802.11g CH11
Date: 21.JAN.2011 07:45:18

Mode 802.11n 20MHz



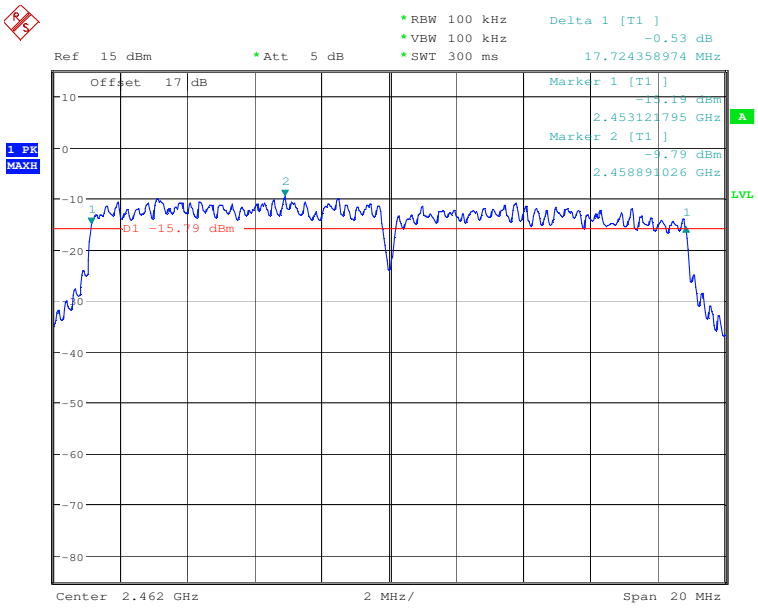
6DB BANDWIDTH 802.11n 20MHz CH1
Date: 21.JAN.2011 07:49:54

Registration number: W6D21101-11182-C-1
FCC ID: W6RRNX-N180UBE



6DB BANDWIDTH 802.11n 20MHz CH6

Date: 21.JAN.2011 07:51:01

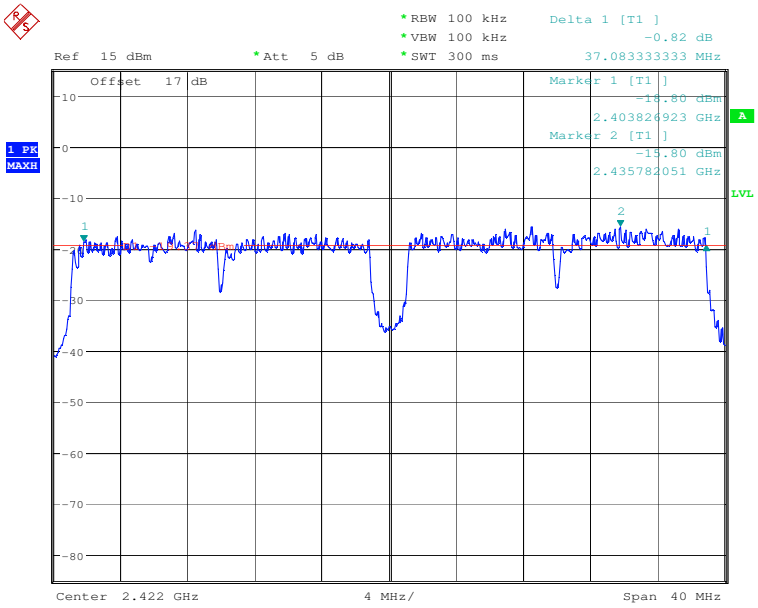


6DB BANDWIDTH 802.11n 20MHz CH11

Date: 21.JAN.2011 07:52:32

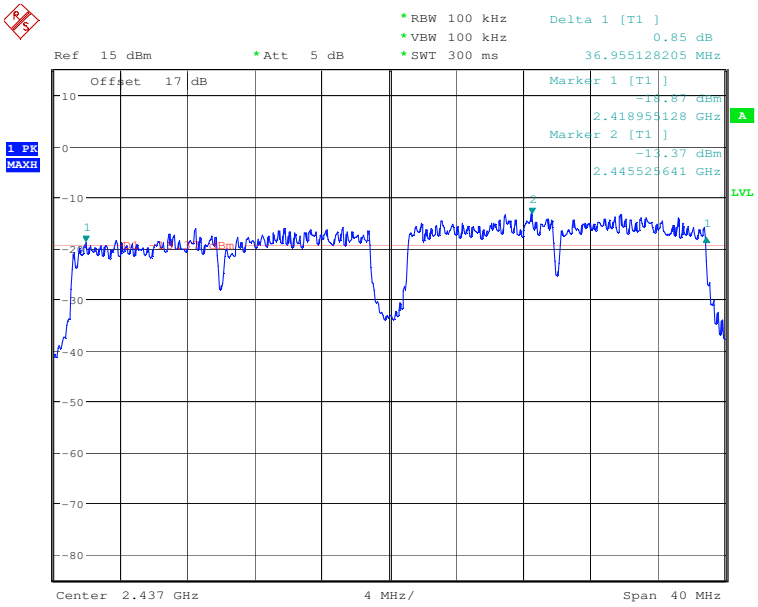
Registration number: W6D21101-11182-C-1
FCC ID: W6RRNX-N180UBE

Mode 802.11n 40MHz



6DB BANDWIDTH 802.11n 40MHz CH1

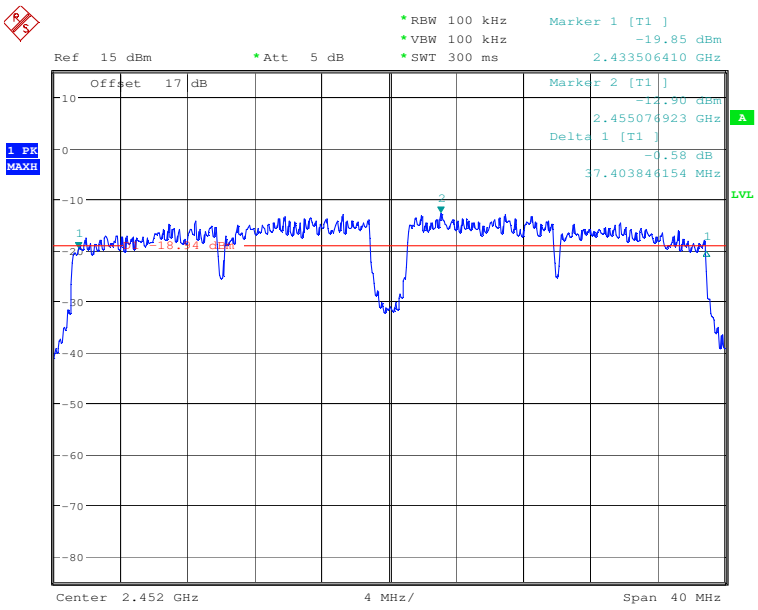
Date: 21.JAN.2011 07:58:36



6DB BANDWIDTH 802.11n 40MHz CH4

Date: 21.JAN.2011 07:57:42

Registration number: W6D21101-11182-C-1
FCC ID: W6RRNX-N180UBE



6DB BANDWIDTH 802.11n 40MHz CH7
Date: 21.JAN.2011 07:55:12

Limits:

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

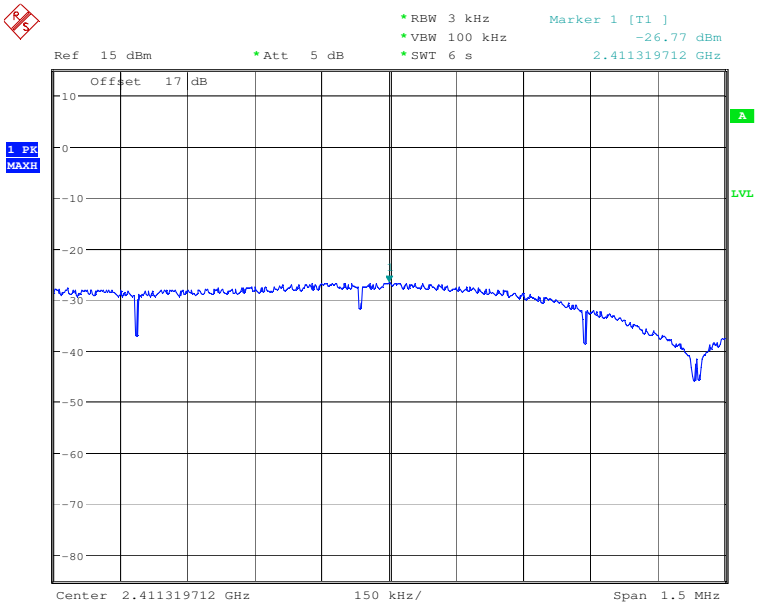
Test equipment used: ETSTW-RE 055

3.8 Peak Power Spectral Density

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

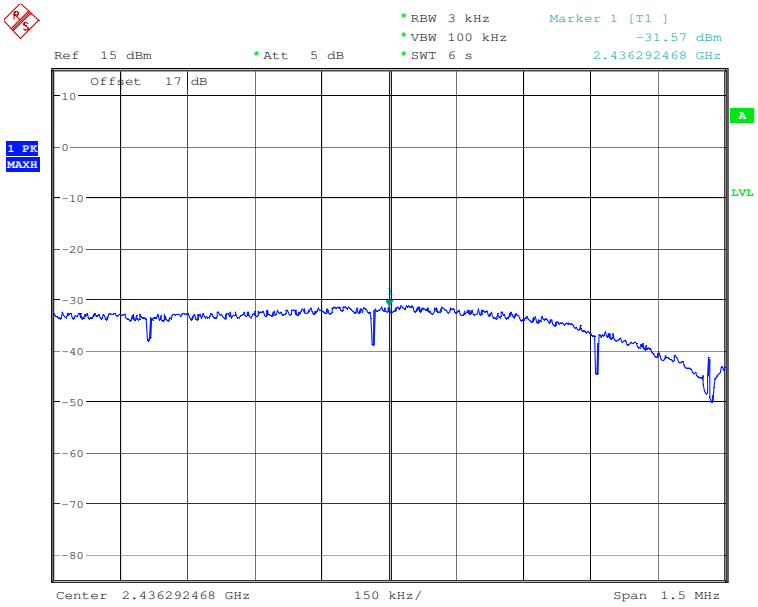
The peak output power is measured with a measurement bandwidth of 10 MHz and displayed on diagram together with Peak Power Spectral Density result which was measured with a bandwidth of 3 kHz, appreciate frequency span and sweep time.

Mode 802.11b



POWER DENSITY 802.11b CH1

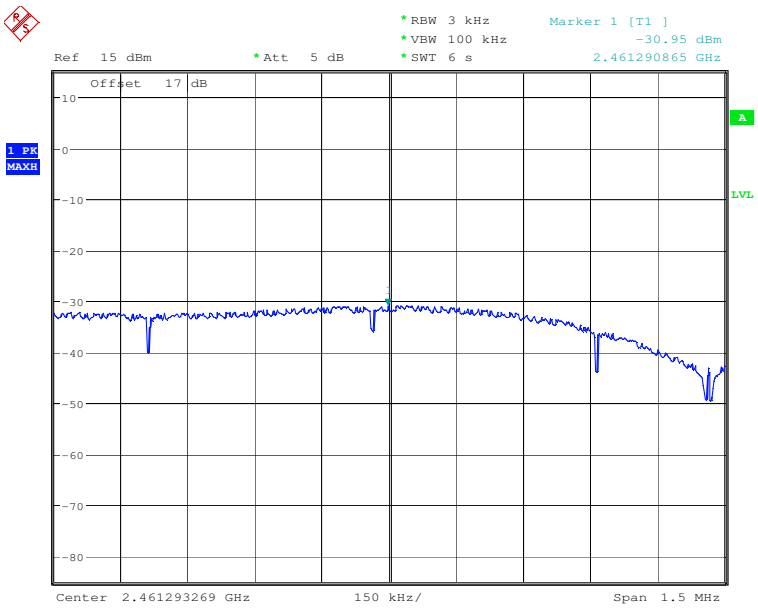
Date: 21.JAN.2011 07:36:40



POWER DENSITY 802.11b CH6

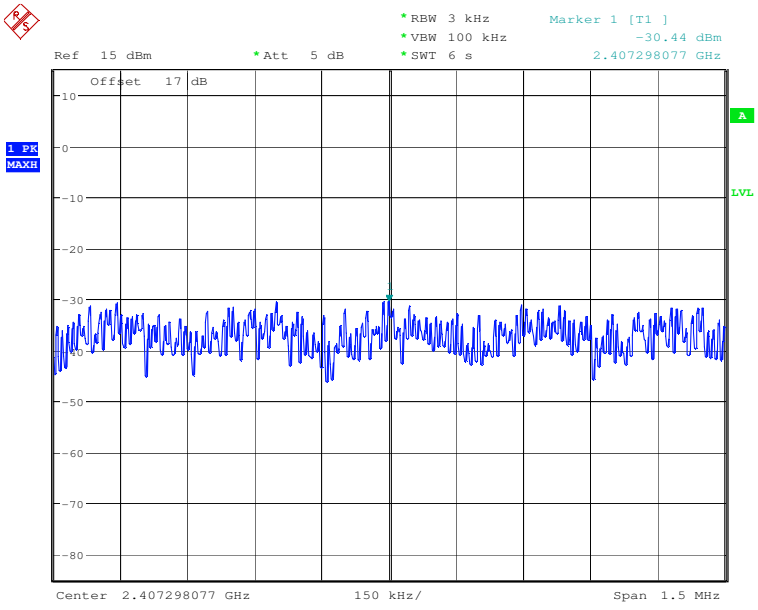
Date: 21.JAN.2011 07:35:53

Registration number: W6D21101-11182-C-1
FCC ID: W6RRNX-N180UBE



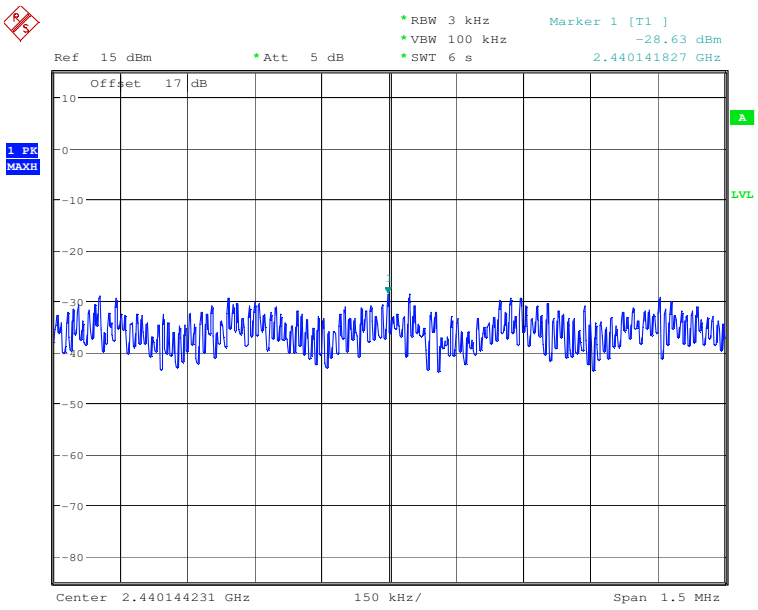
POWER DENSITY 802.11b CH11
Date: 21.JAN.2011 07:35:00

Mode 802.11g

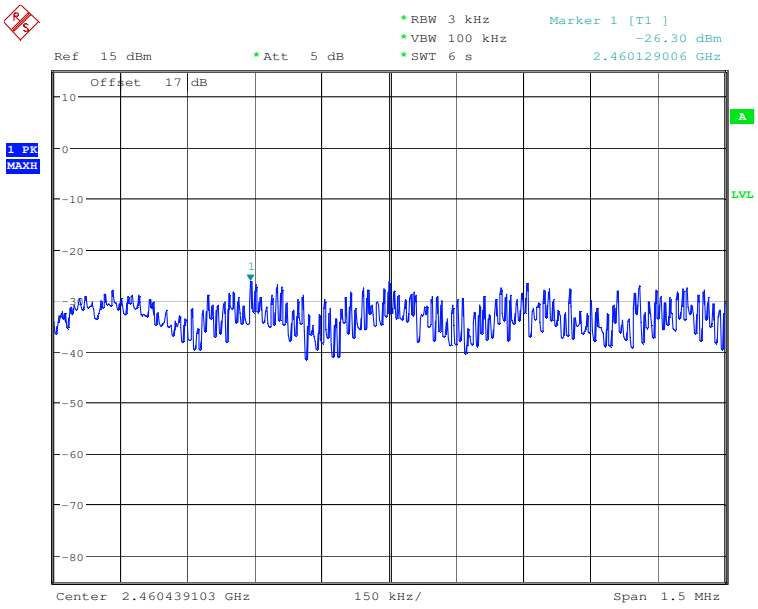


POWER DENSITY 802.11g CH1
Date: 21.JAN.2011 07:27:43

Registration number: W6D21101-11182-C-1
FCC ID: W6RRNX-N180UBE



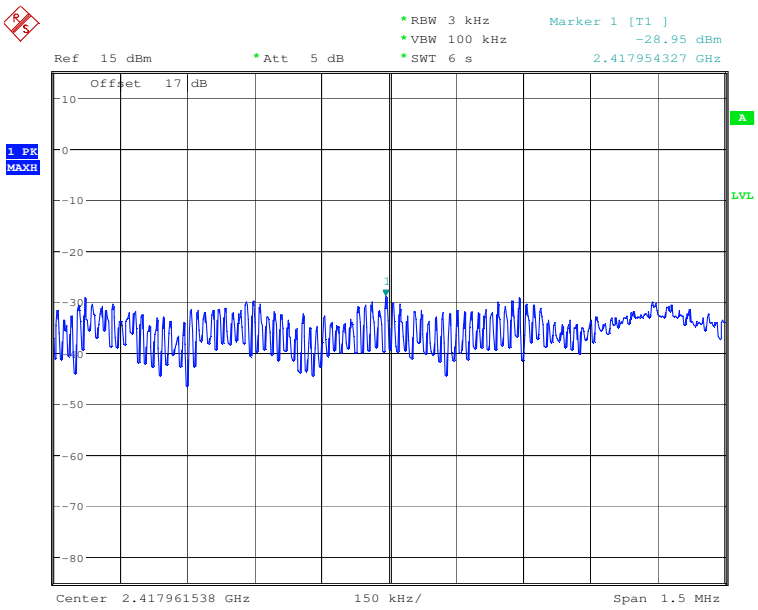
POWER DENSITY 802.11g CH6
Date: 21.JAN.2011 07:28:49



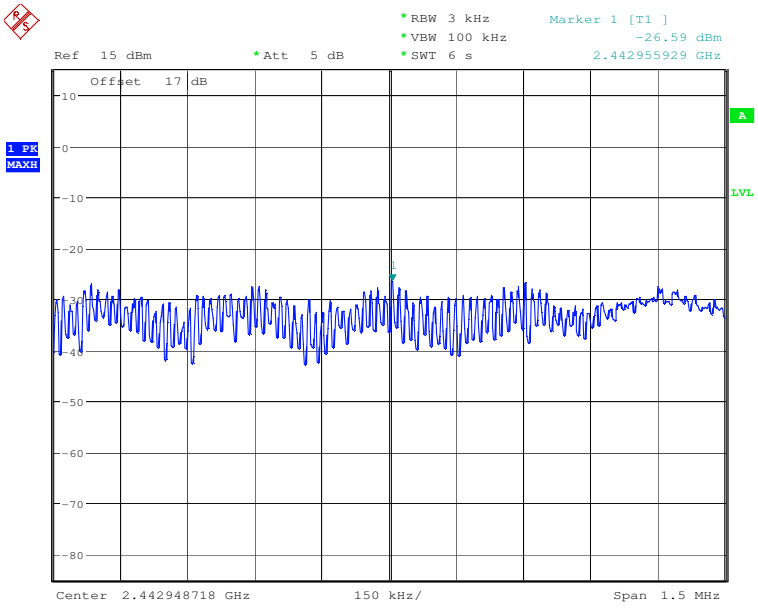
POWER DENSITY 802.11g CH11
Date: 21.JAN.2011 07:29:36

Registration number: W6D21101-11182-C-1
FCC ID: W6RRNX-N180UBE

Mode 802.11n 20MHz

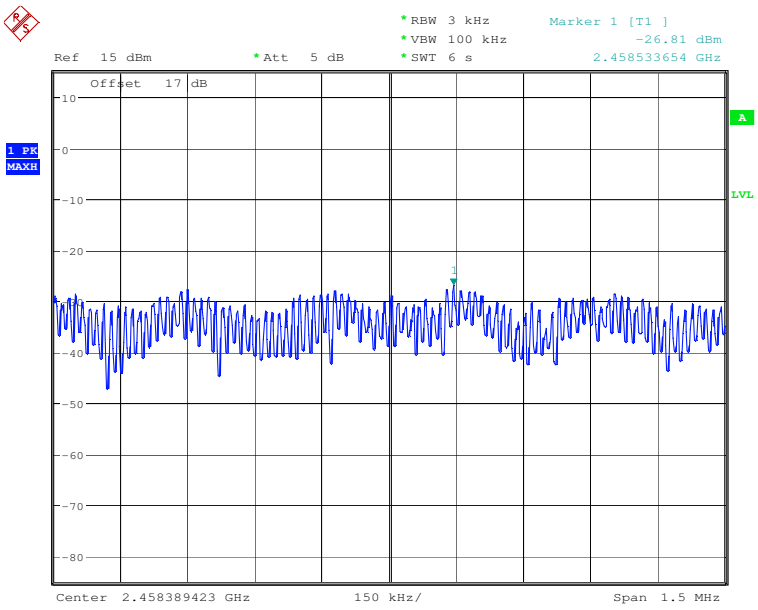


POWER DENSITY 802.11n 20MHz CH1
Date: 21.JAN.2011 07:24:27



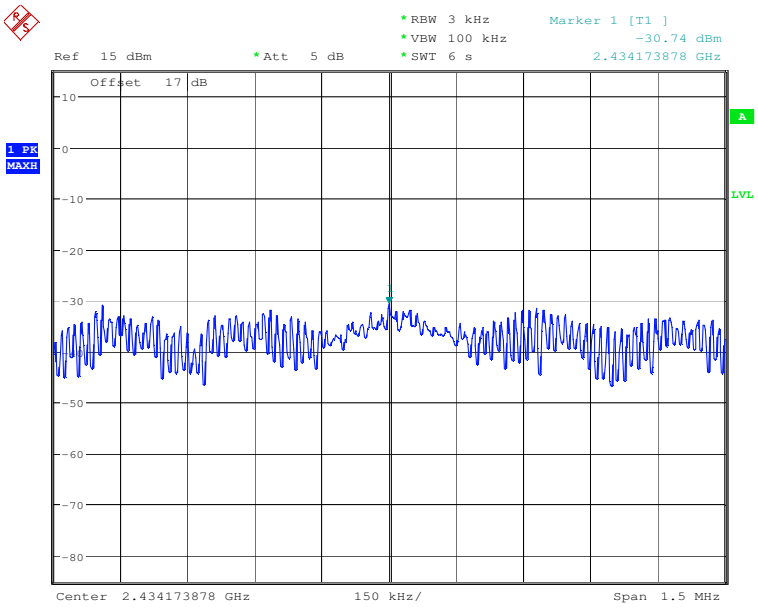
POWER DENSITY 802.11n 20MHz CH6
Date: 21.JAN.2011 07:23:36

Registration number: W6D21101-11182-C-1
FCC ID: W6RRNX-N180UBE



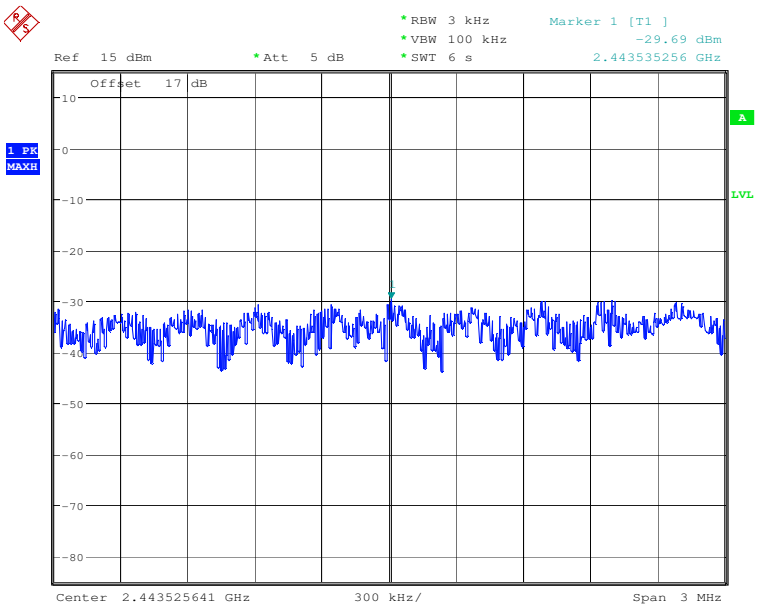
POWER DENSITY 802.11n 20MHz CH11
Date: 21.JAN.2011 07:22:36

Mode 802.11n 40MHz

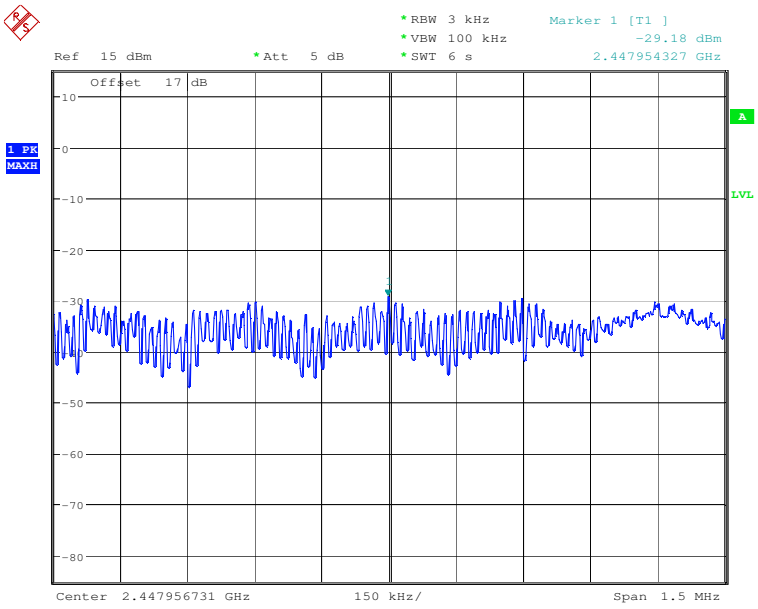


POWER DENSITY 802.11n 40MHz CH1
Date: 21.JAN.2011 07:17:19

Registration number: W6D21101-11182-C-1
FCC ID: W6RRNX-N180UBE



POWER DENSITY 802.11n 40MHz CH4
Date: 21.JAN.2011 07:19:07



POWER DENSITY 802.11n 40MHz CH7
Date: 21.JAN.2011 07:20:45

Limits:

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

Test equipment used: ETSTW-RE 055

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 003, ETSTW-RE 004, ETSTW-RE 018, ETSTW-RE 028, ETSTW-RE 029, ETSTW-RE 030, ETSTW-RE 044

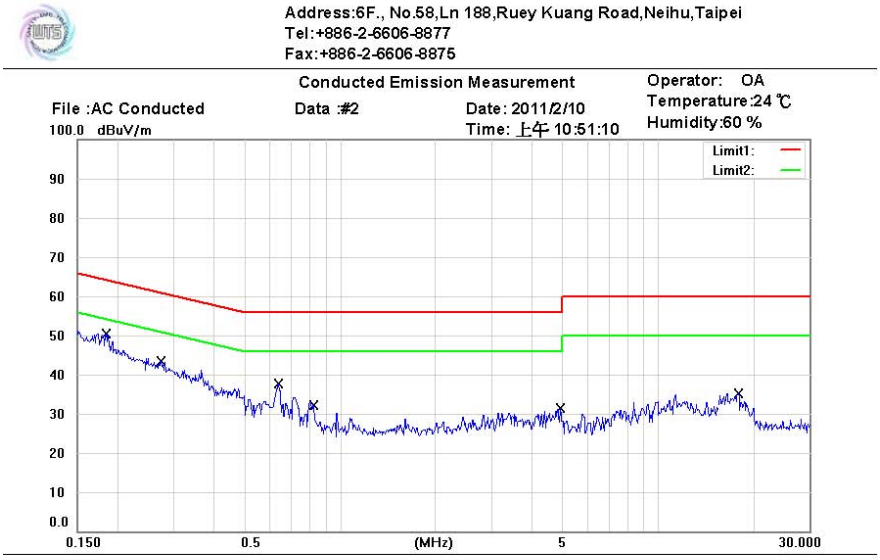
Explanation: The test results are listed in the separated test report no. W6D21101-11182-P-15B.

3.9 Power Line Conducted Emission

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

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

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

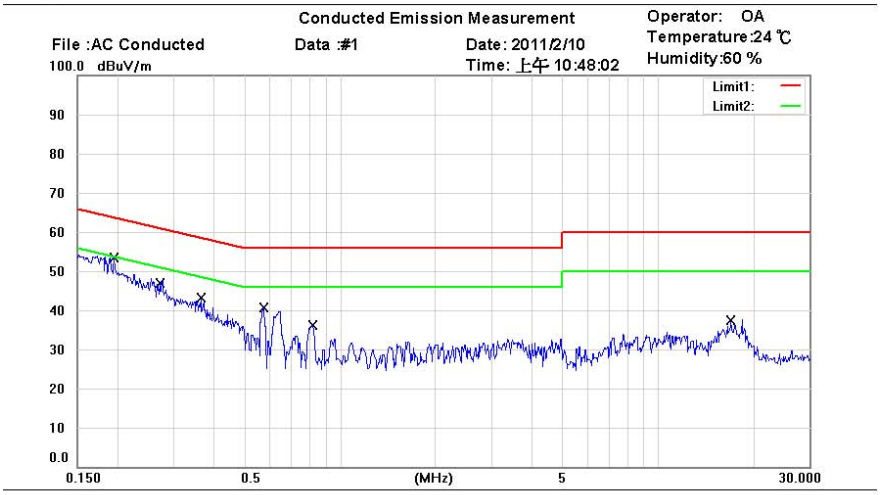


Site : CHAMBER
Condition : FCC Part 15 Class B Conduction (QP) Phase: N
EUT : W6D21101-11182 Power : 120
M/N: RNX-N180UBE
Test Mode :
Note :

Mk.	Frequency (MHz)	Reading (dBuV/m)	Detector	Corrected factor(dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Comment
	0.1838	36.43	QP	9.96	46.39	64.31	-17.92	
	0.1838	21.70	AVG	9.96	31.66	54.31	-22.65	
	0.2733	29.47	QP	9.92	39.39	61.02	-21.63	
	0.2733	17.19	AVG	9.92	27.11	51.02	-23.91	
	0.6400	26.51	QP	9.91	36.42	56.00	-19.58	
*	0.6400	21.42	AVG	9.91	31.33	46.00	-14.67	
	0.8250	19.58	QP	9.93	29.51	56.00	-26.49	
	0.8250	5.13	AVG	9.93	15.06	46.00	-30.94	
	4.9200	16.80	QP	10.14	26.94	56.00	-29.06	
	4.9200	4.76	AVG	10.14	14.90	46.00	-31.10	
	17.8888	18.20	QP	10.90	29.10	60.00	-30.90	
	17.8888	9.40	AVG	10.90	20.30	50.00	-29.70	

Registration number: W6D21101-11182-C-1
FCC ID: W6RRNX-N180UBE

Address:6F., No.58,Ln 188,Ruey Kuang Road,Neihu,Taipei
Tel:+886-2-6606-8877
Fax:+886-2-6606-8875



Site : CHAMBER
Condition : FCC Part 15 Class B Conduction (QP) Phase: L1
EUT : W6D21101-11182 Power : 120
M/N: RNX-N180UBE
Test Mode :
Note :

Mk.	Frequency (MHz)	Reading (dBuV/m)	Detector	Corrected factor(dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Comment
	0.1955	35.09	QP	9.96	45.05	63.80	-18.75	
	0.1955	18.62	AVG	9.96	28.58	53.80	-25.22	
	0.2710	33.06	QP	9.94	43.00	61.09	-18.09	
	0.2710	23.30	AVG	9.94	33.24	51.09	-17.85	
	0.3651	29.17	QP	9.94	39.11	58.61	-19.50	
	0.3651	19.36	AVG	9.94	29.30	48.61	-19.31	
	0.5750	17.62	QP	9.93	27.55	56.00	-28.45	
	0.5750	-0.36	AVG	9.93	9.57	46.00	-36.43	
	0.8200	25.54	QP	9.95	35.49	56.00	-20.51	
*	0.8200	21.04	AVG	9.95	30.99	46.00	-15.01	
	16.9722	18.98	QP	11.07	30.05	60.00	-29.95	
	16.9722	8.20	AVG	11.07	19.27	50.00	-30.73	

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. Up Line: QP Limit Line, Down Line: Ave Limit Line.

Limits:

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

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

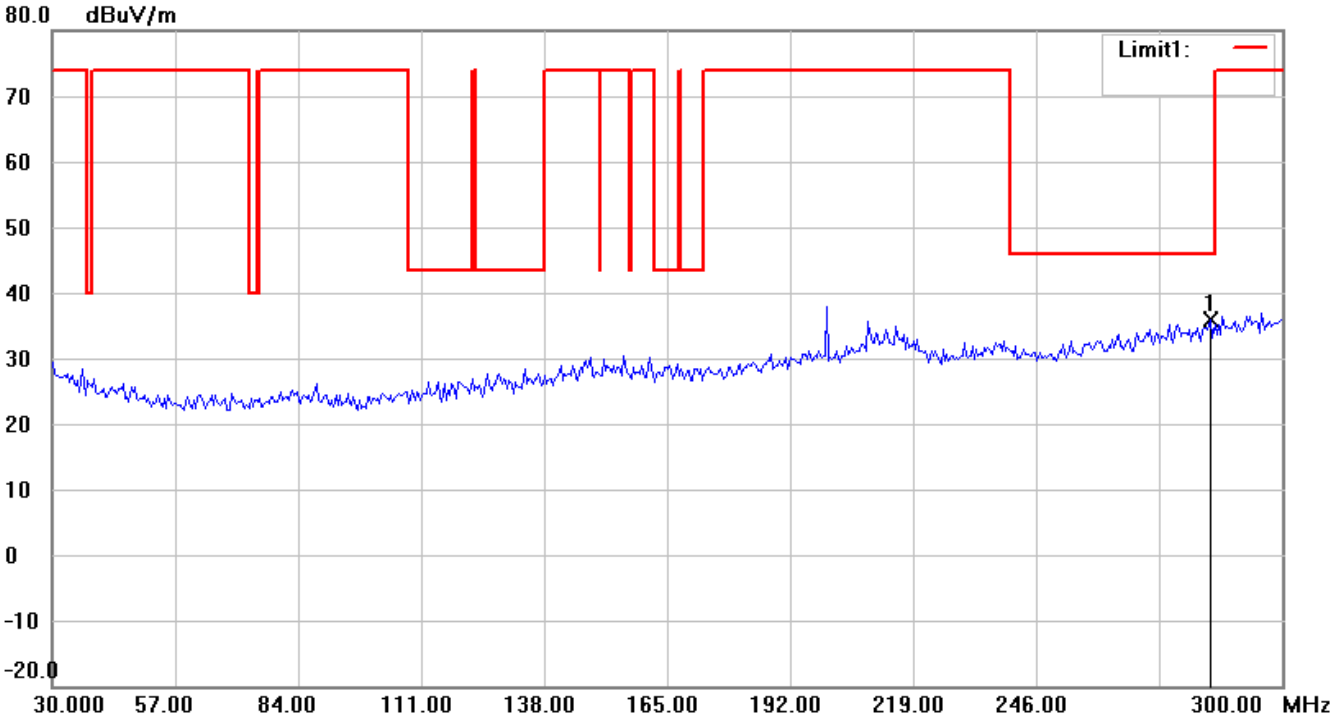
Appendix

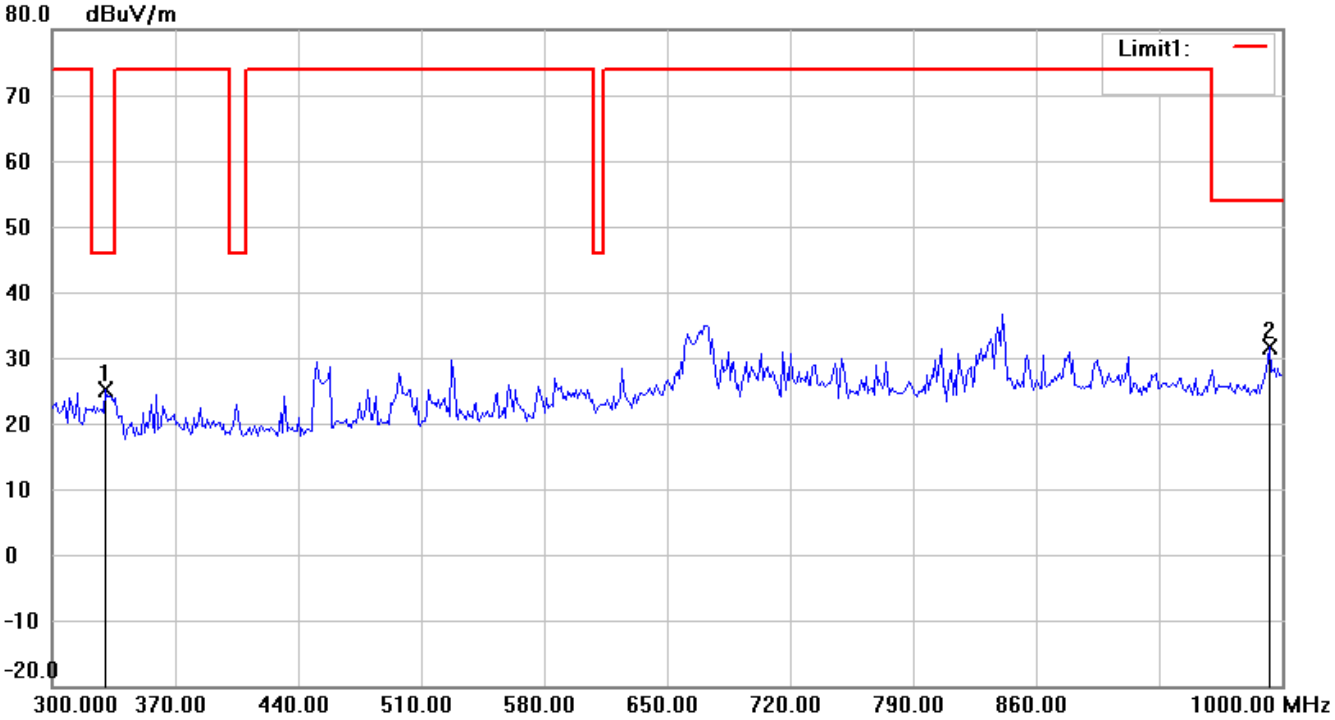
Measurement diagrams

Spurious Emissions radiated

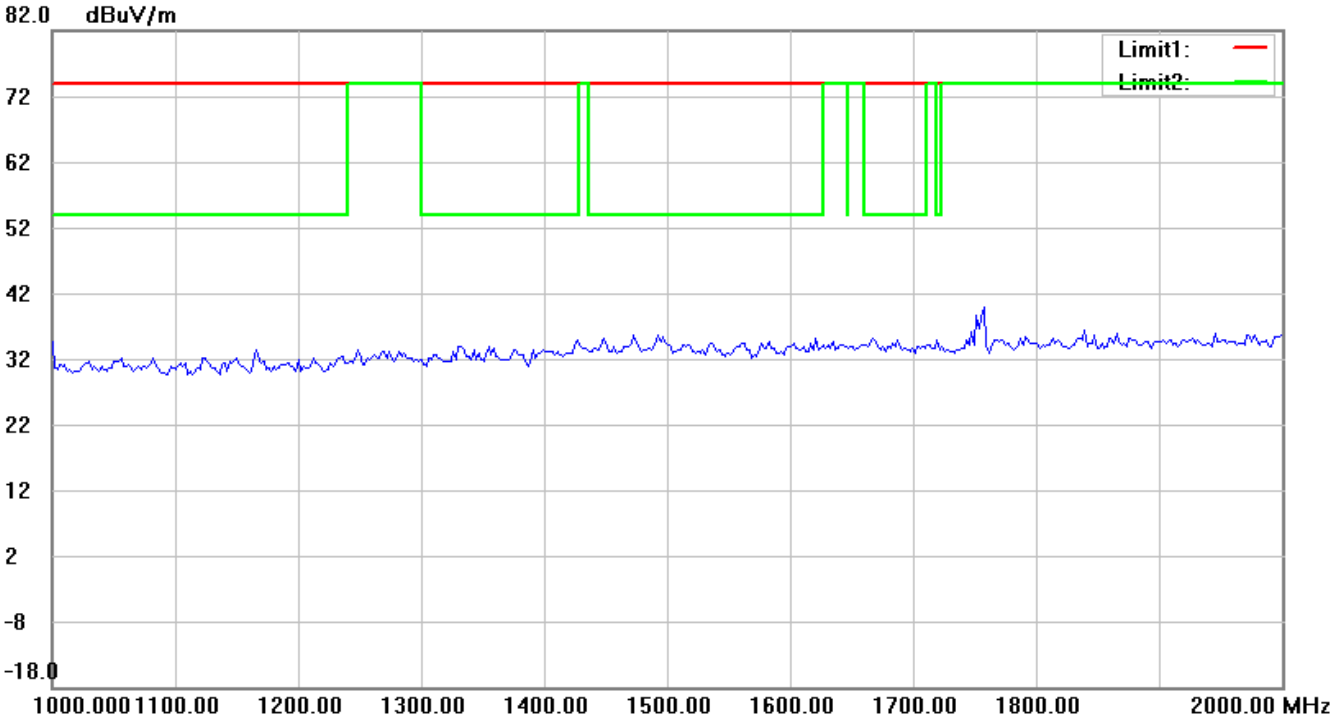
Registration number: W6D21101-11182-C-1
FCC ID: W6RRNX-N180UBE

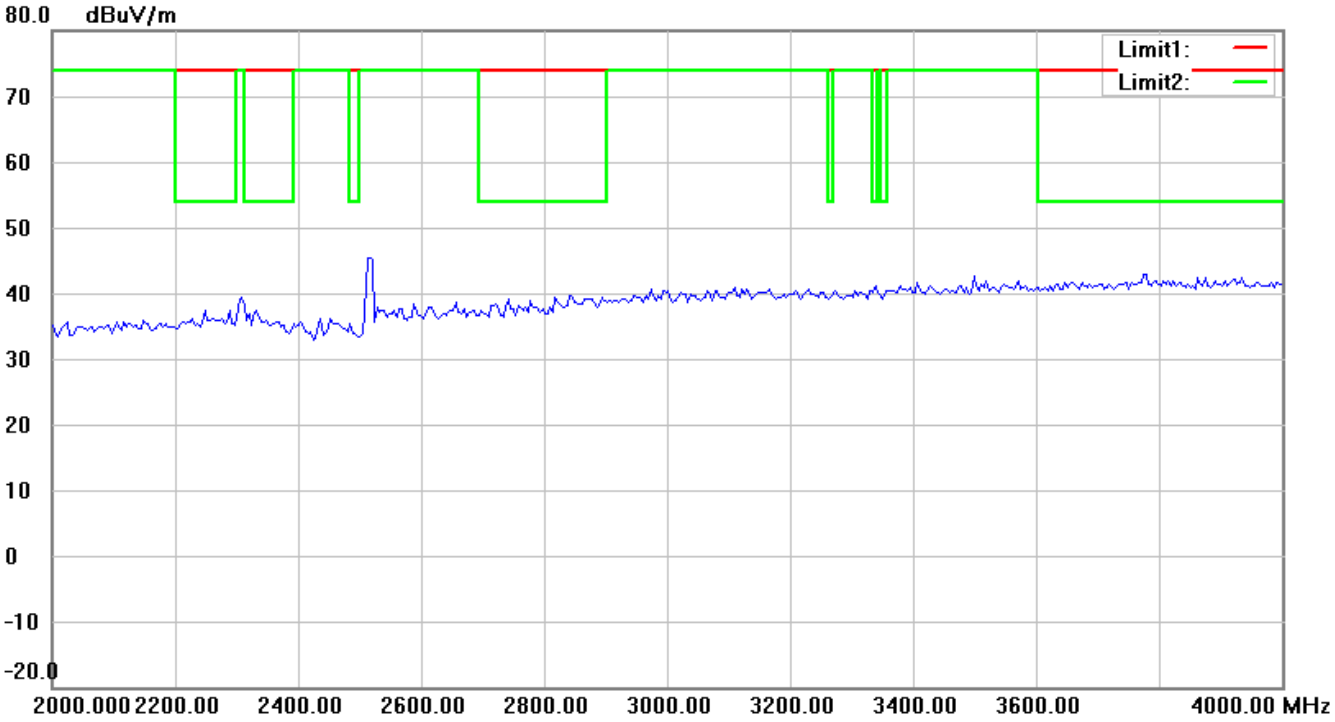
Spurious Emissions radiated
802.11b
Channel 1
Antenna Polarization H



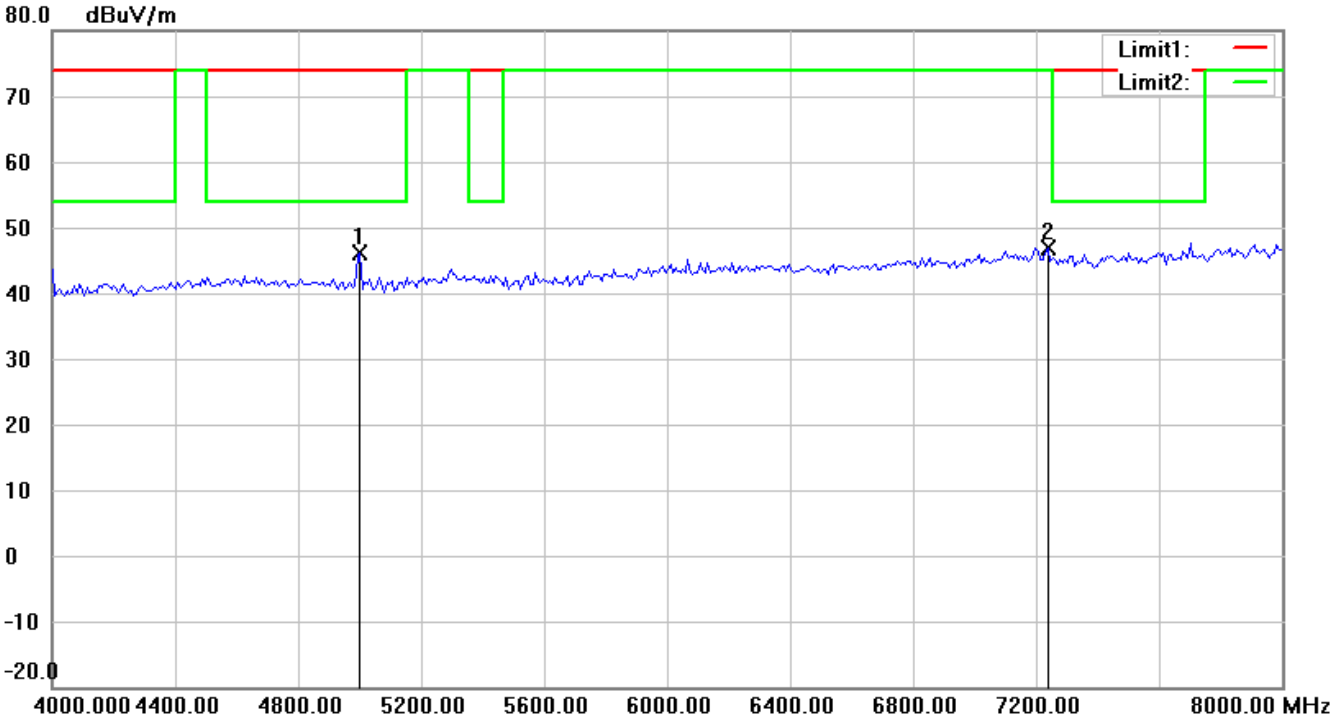


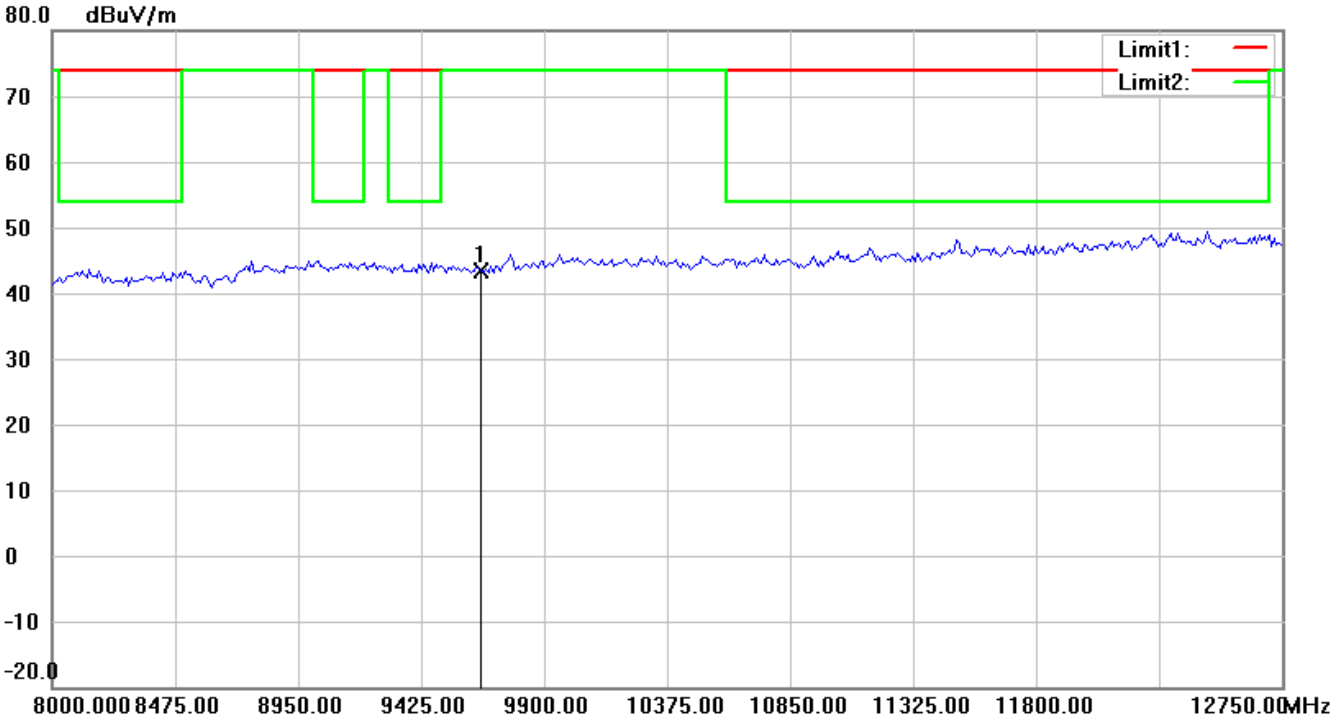
Registration number: W6D21101-11182-C-1
FCC ID: W6RRNX-N180UBE



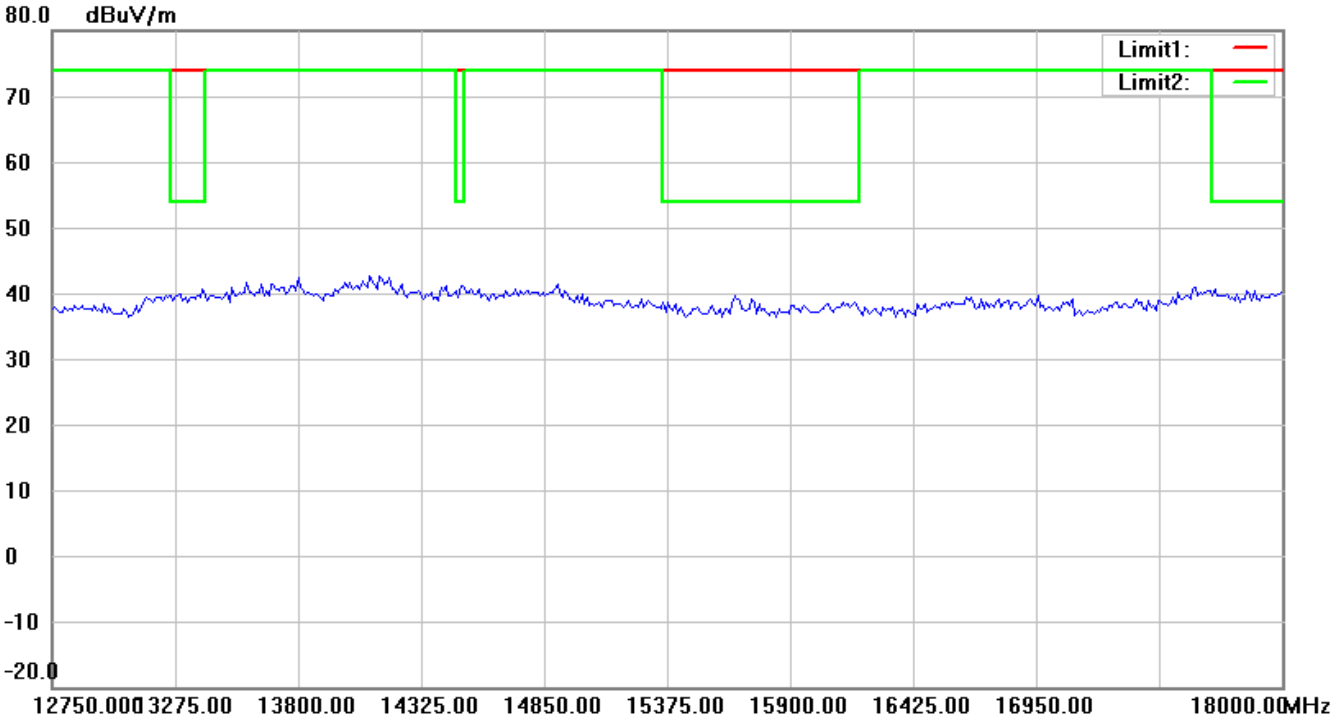


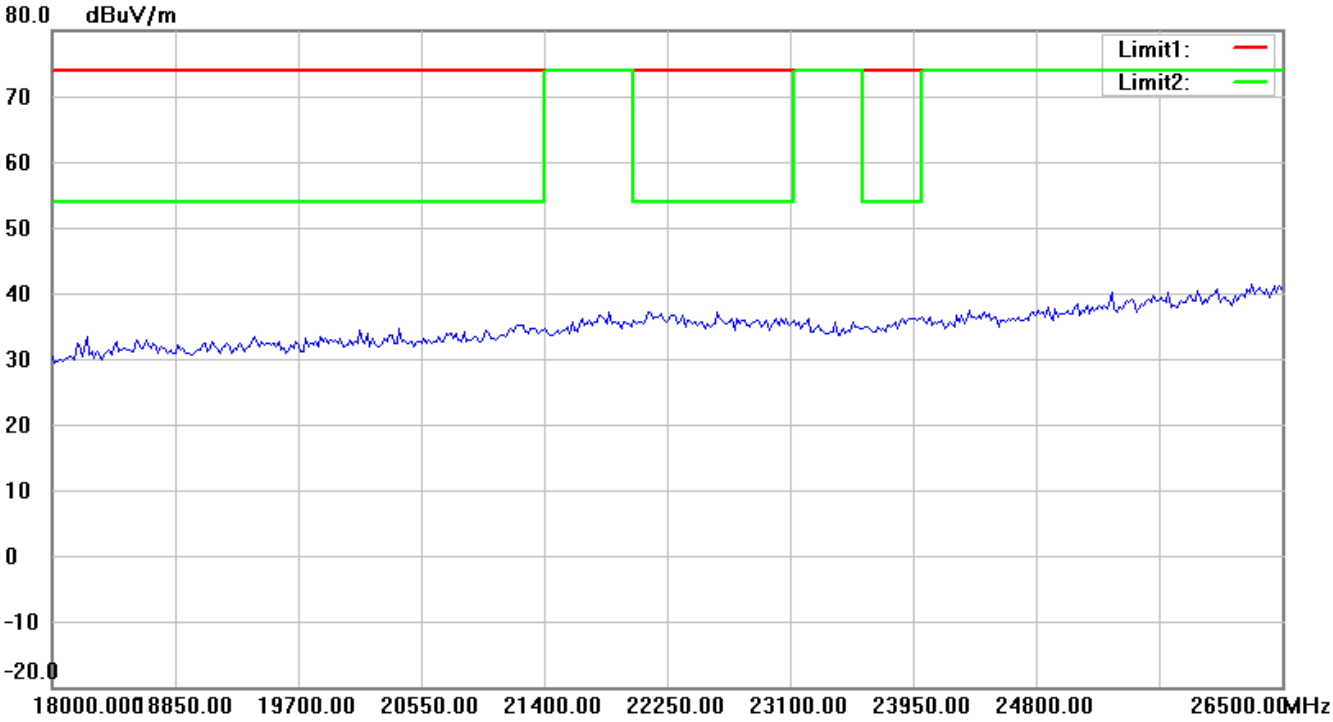
Registration number: W6D21101-11182-C-1
FCC ID: W6RRNX-N180UBE





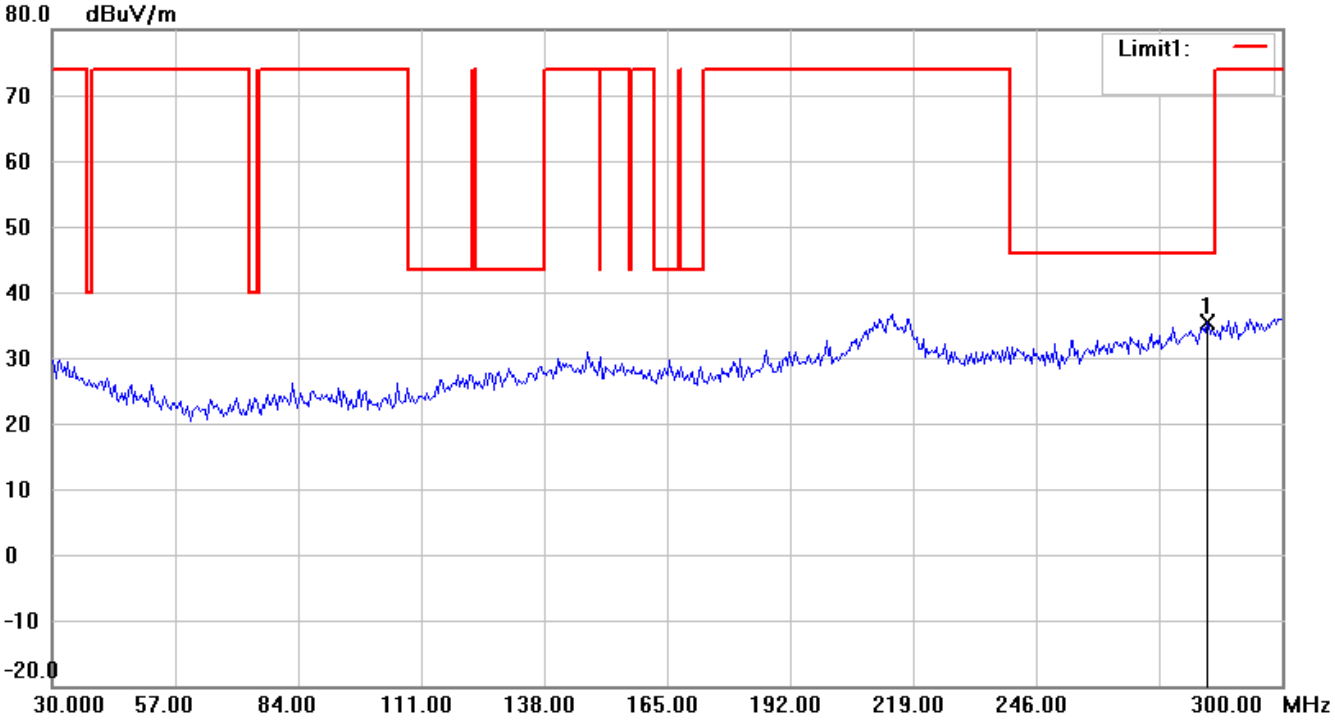
Registration number: W6D21101-11182-C-1
FCC ID: W6RRNX-N180UBE

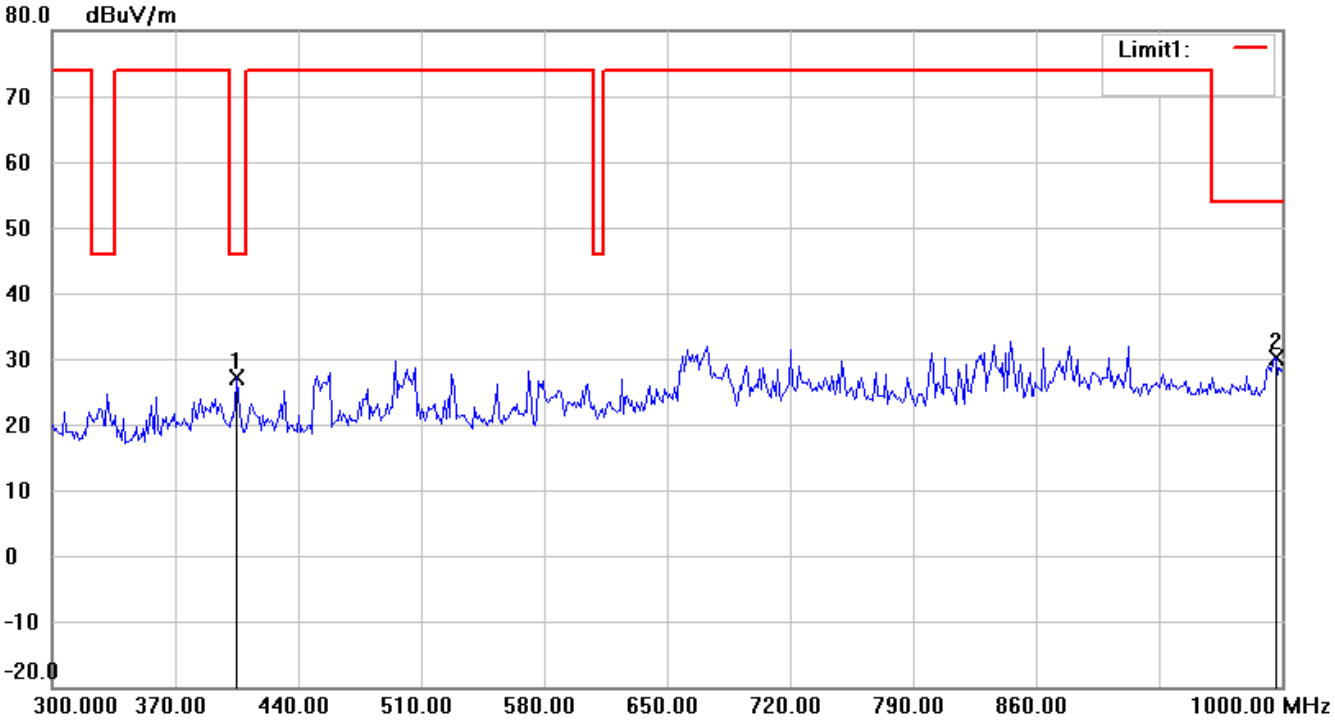




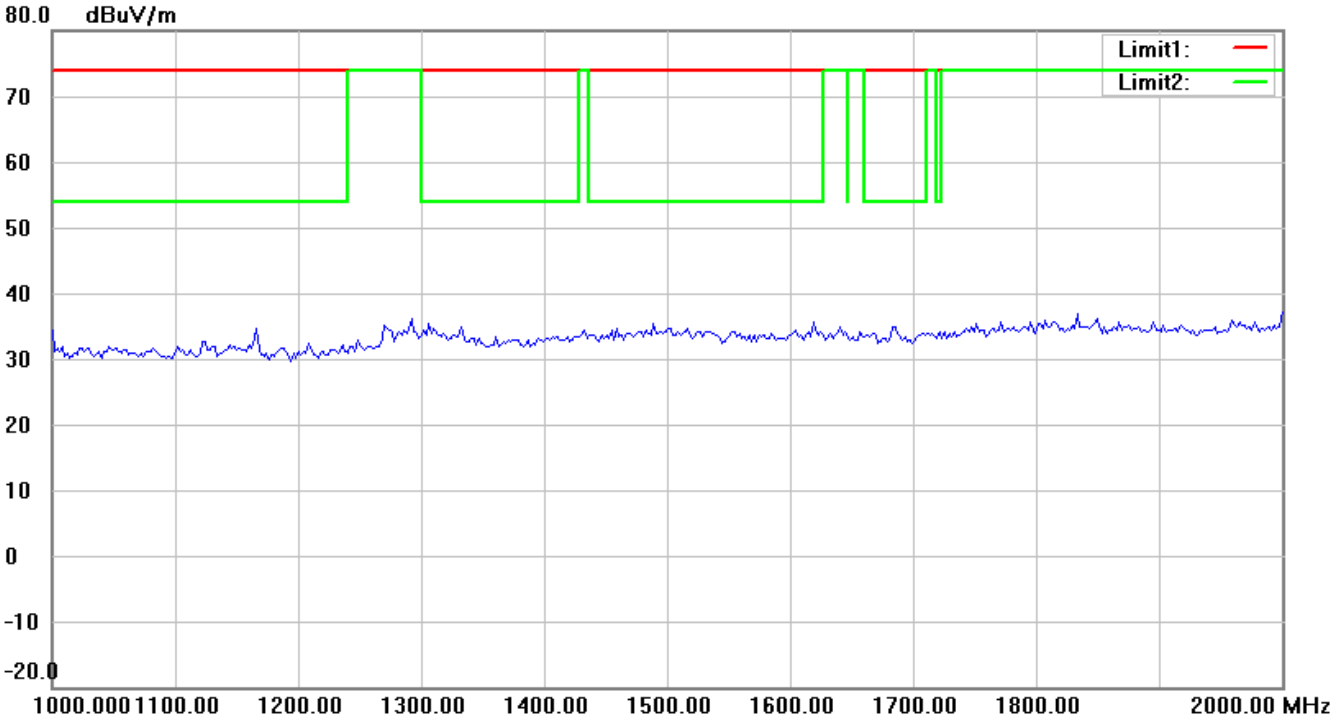
Registration number: W6D21101-11182-C-1
FCC ID: W6RRNX-N180UBE

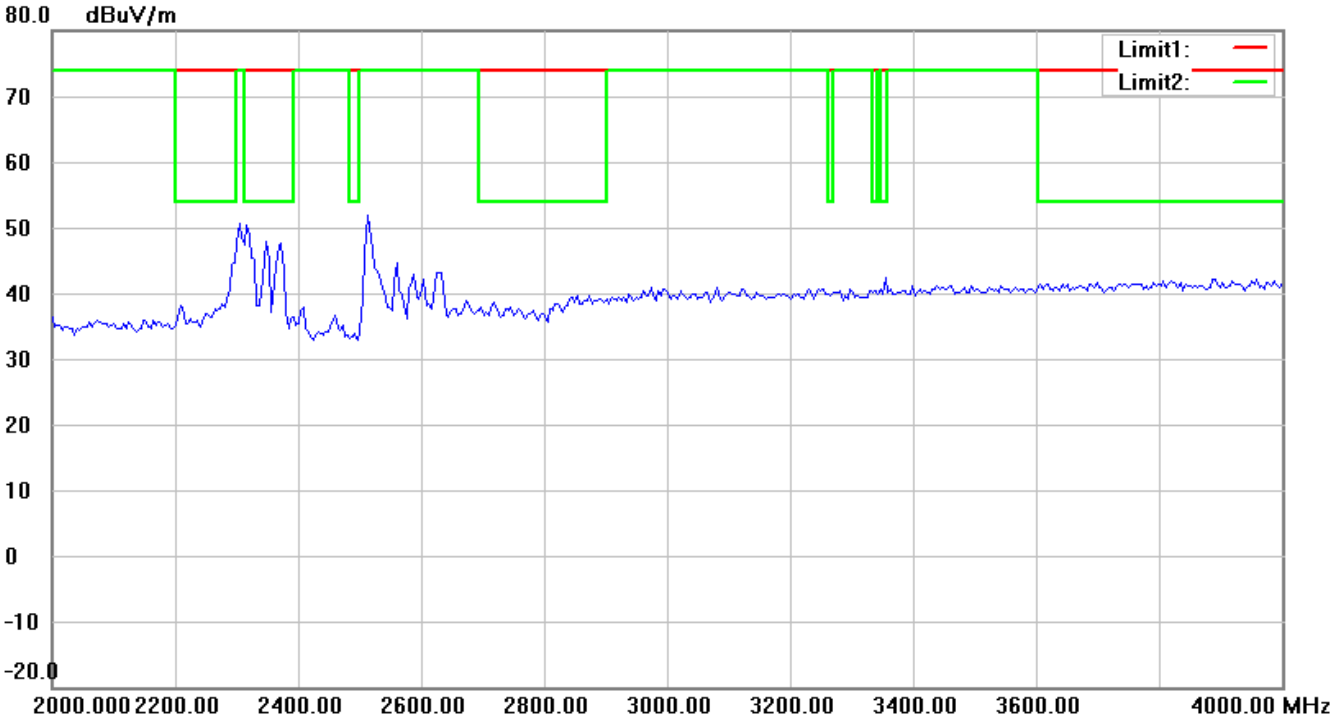
Antenna Polarization V



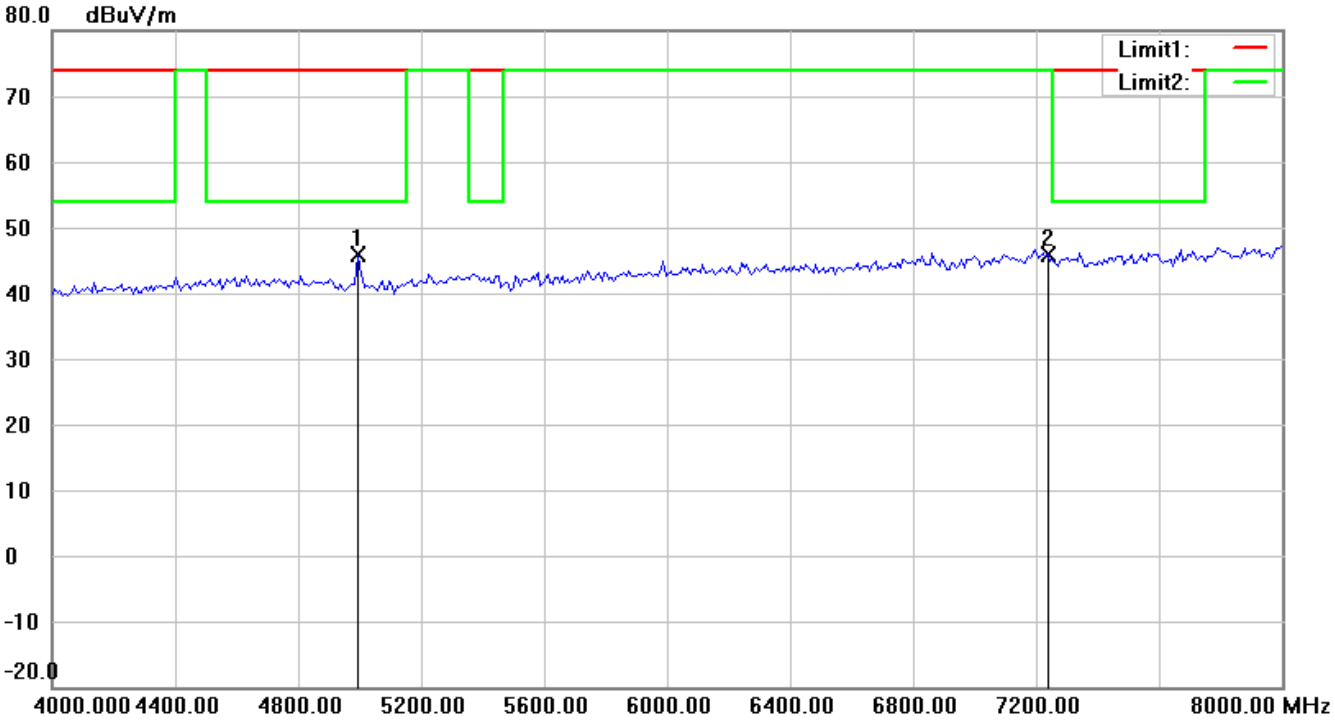


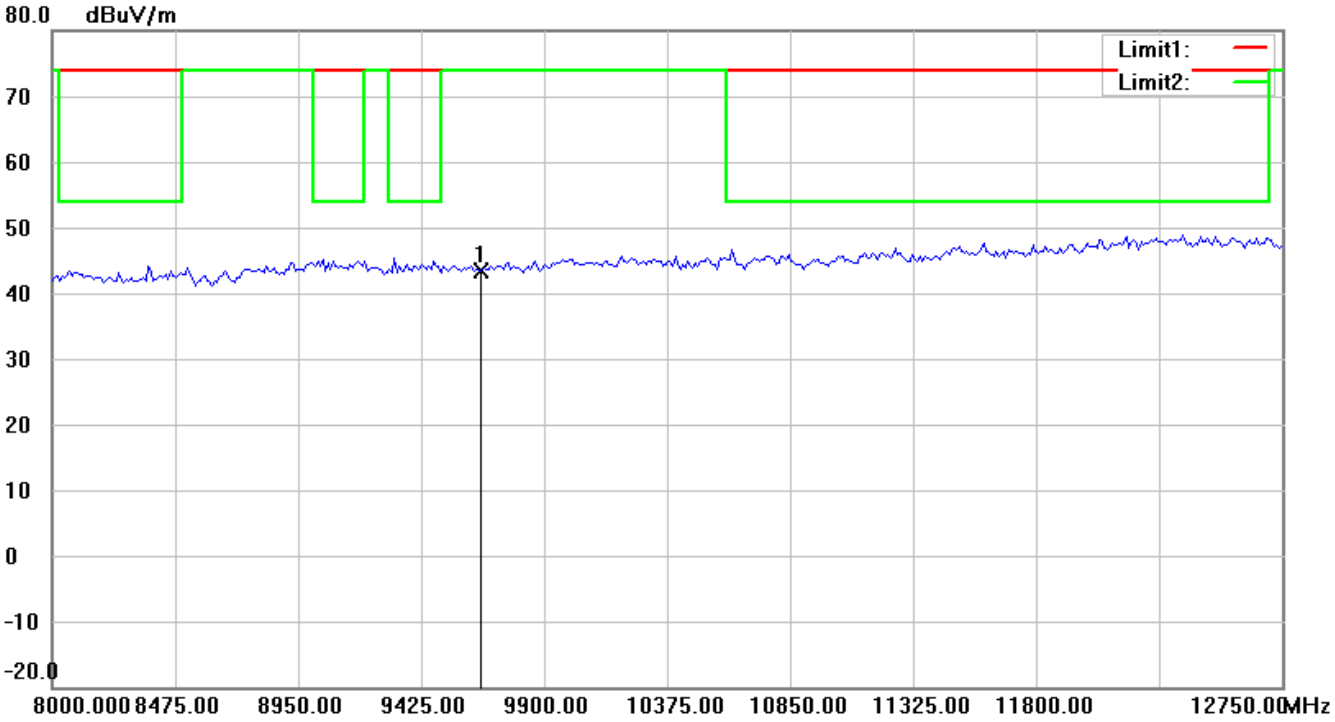
Registration number: W6D21101-11182-C-1
FCC ID: W6RRNX-N180UBE



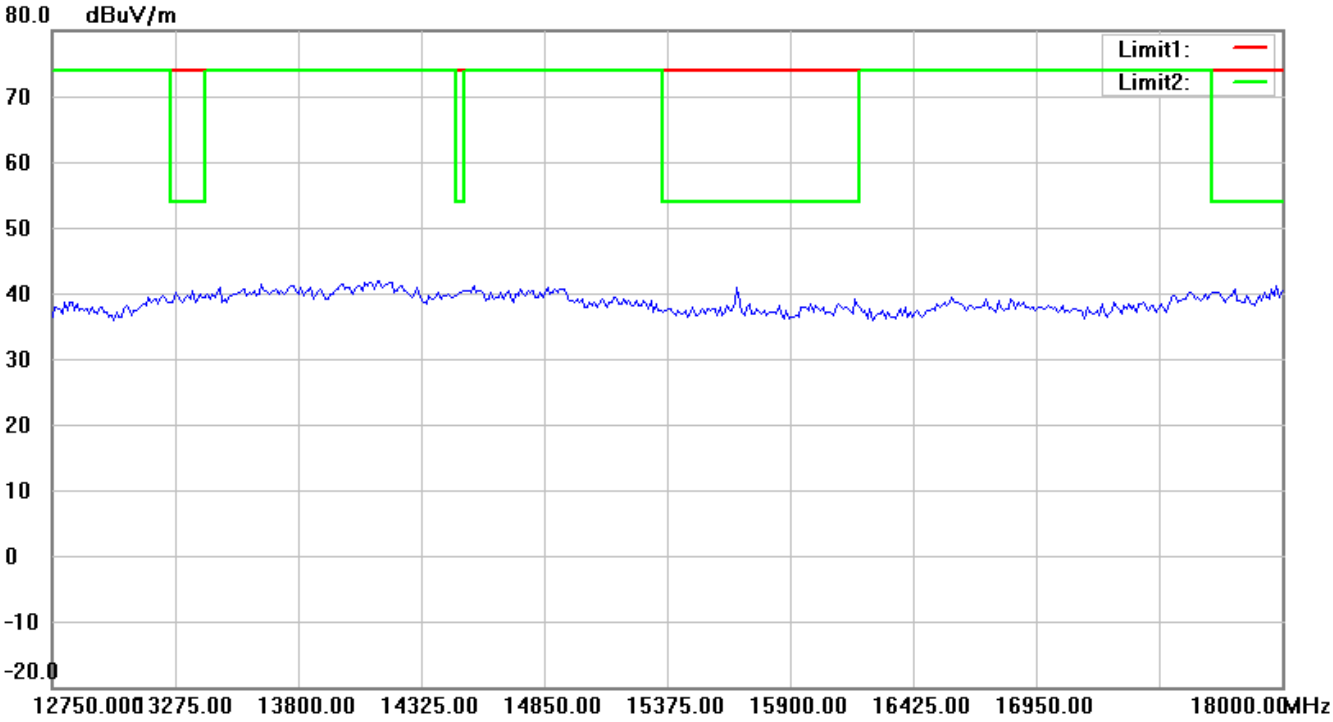


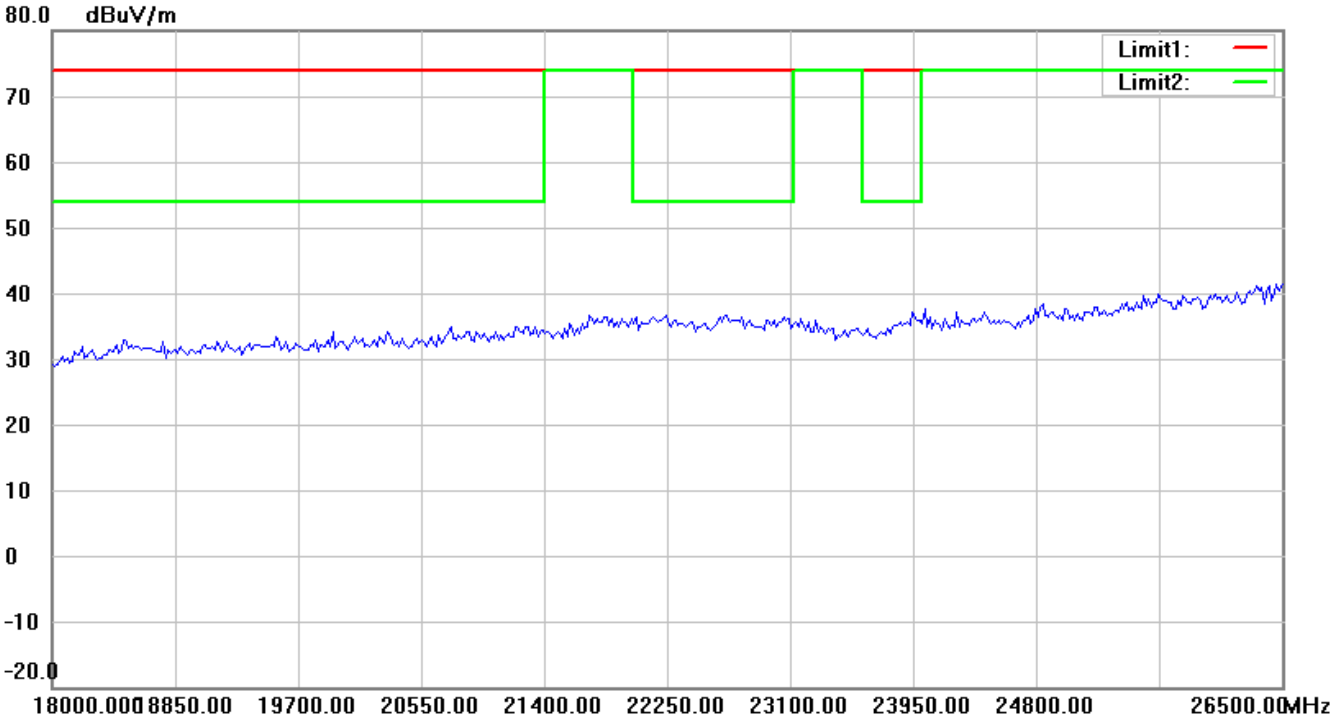
Registration number: W6D21101-11182-C-1
FCC ID: W6RRNX-N180UBE





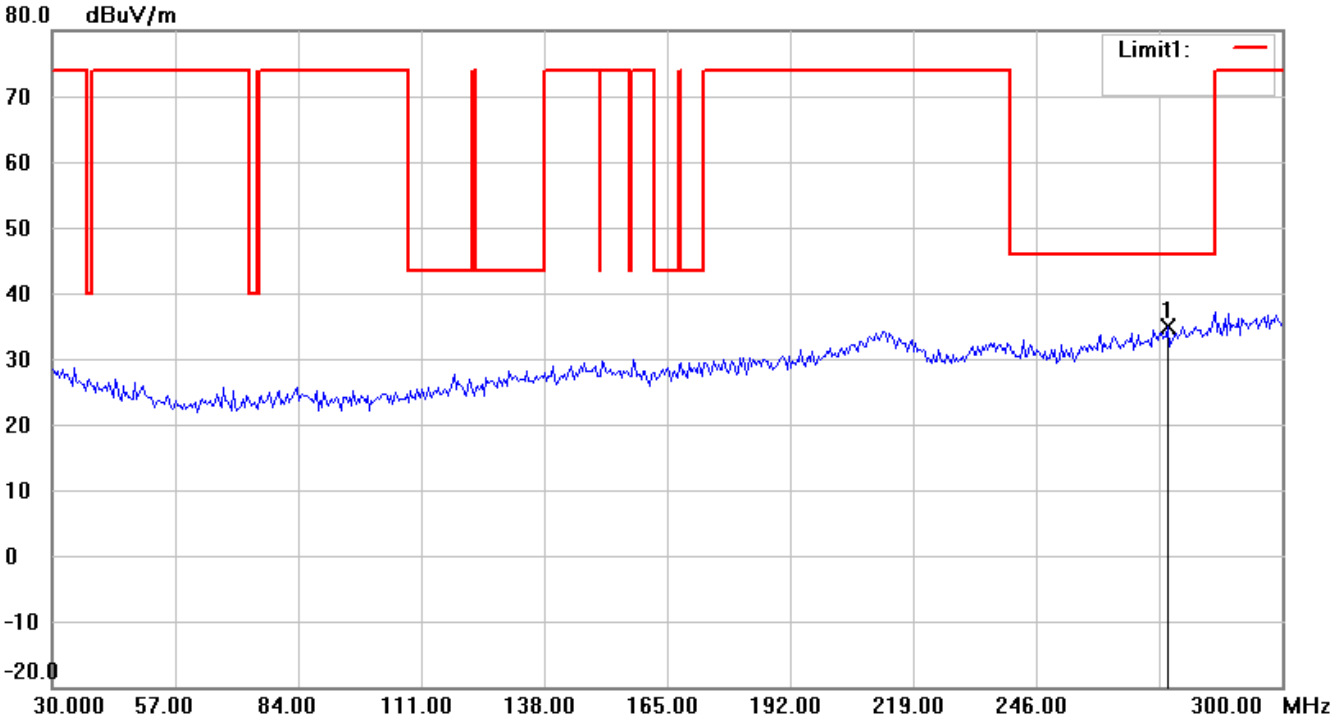
Registration number: W6D21101-11182-C-1
FCC ID: W6RRNX-N180UBE

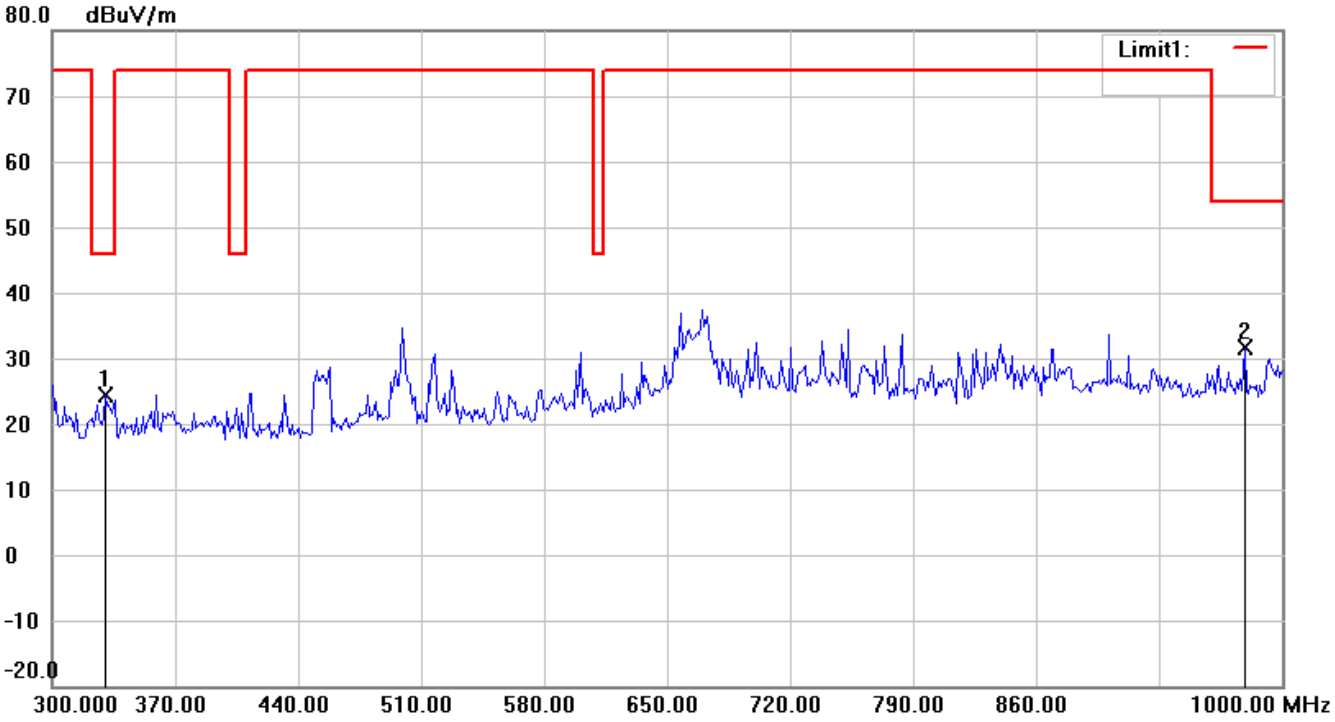




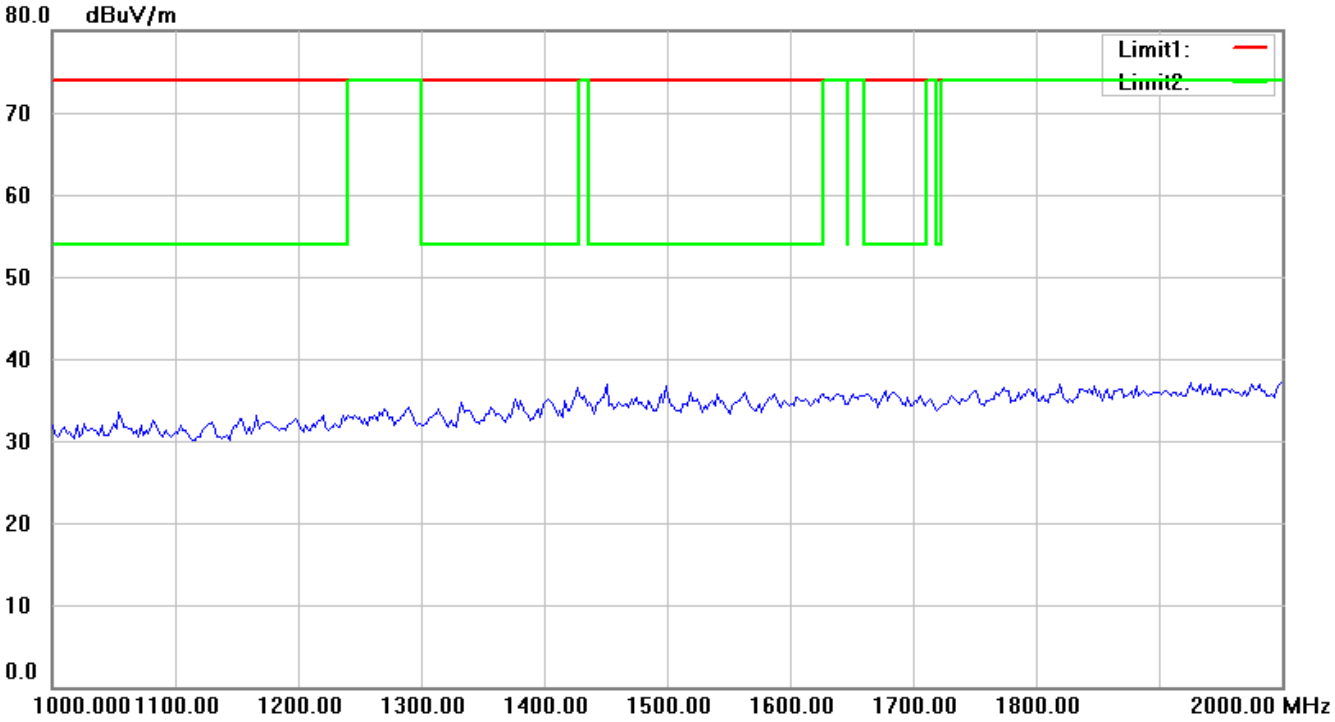
Registration number: W6D21101-11182-C-1
FCC ID: W6RRNX-N180UBE

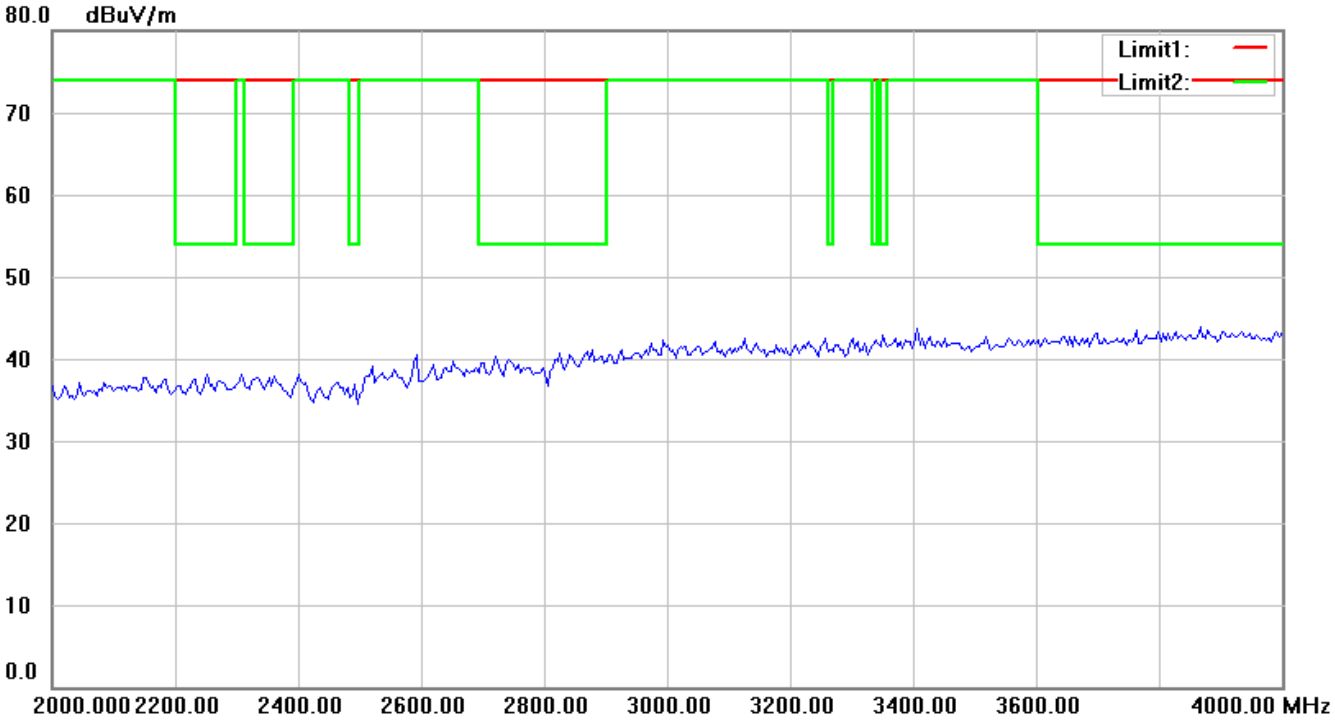
Channel 6
Antenna Polarization H



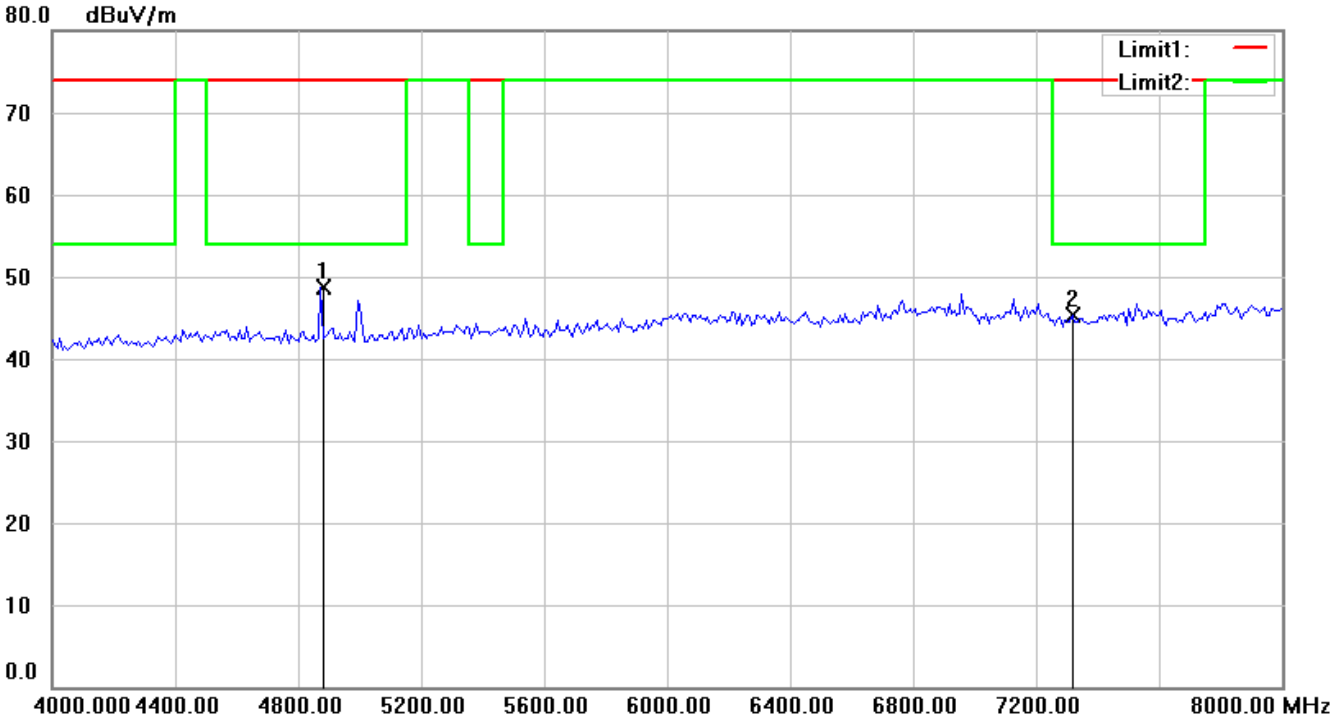


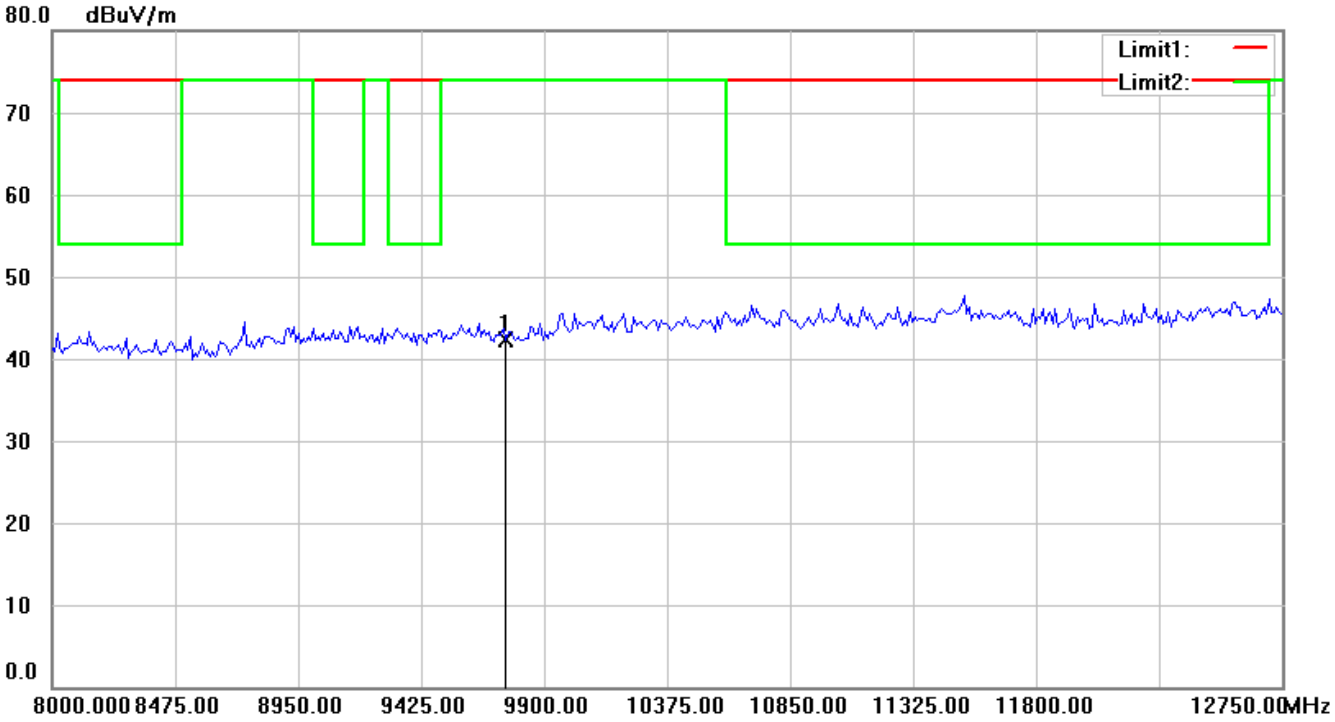
Registration number: W6D21101-11182-C-1
FCC ID: W6RRNX-N180UBE



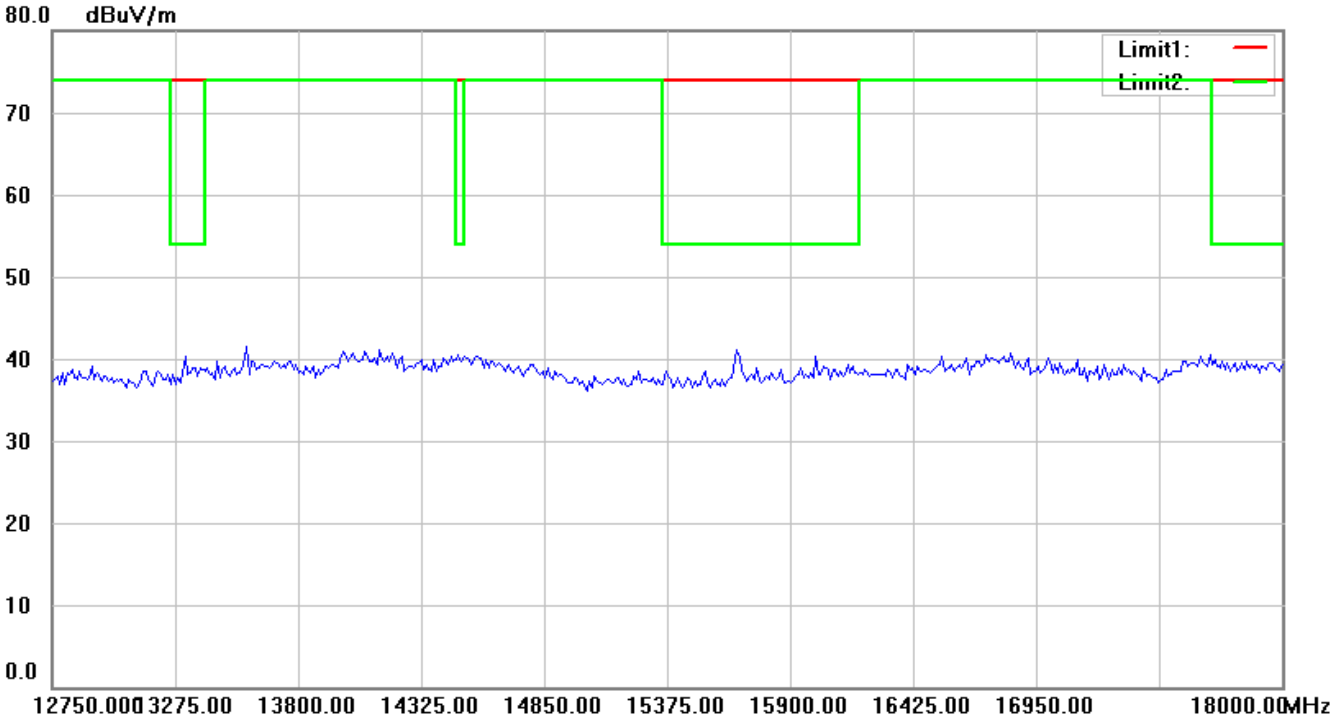


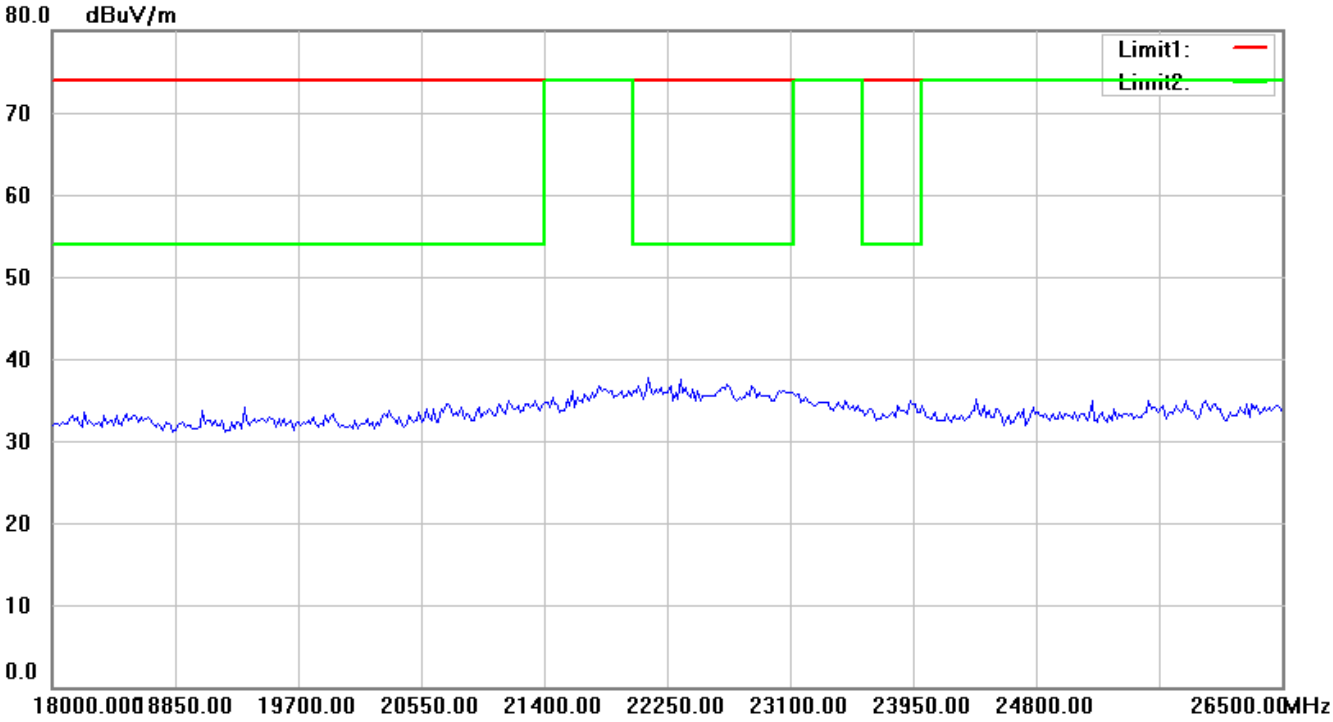
Registration number: W6D21101-11182-C-1
FCC ID: W6RRNX-N180UBE





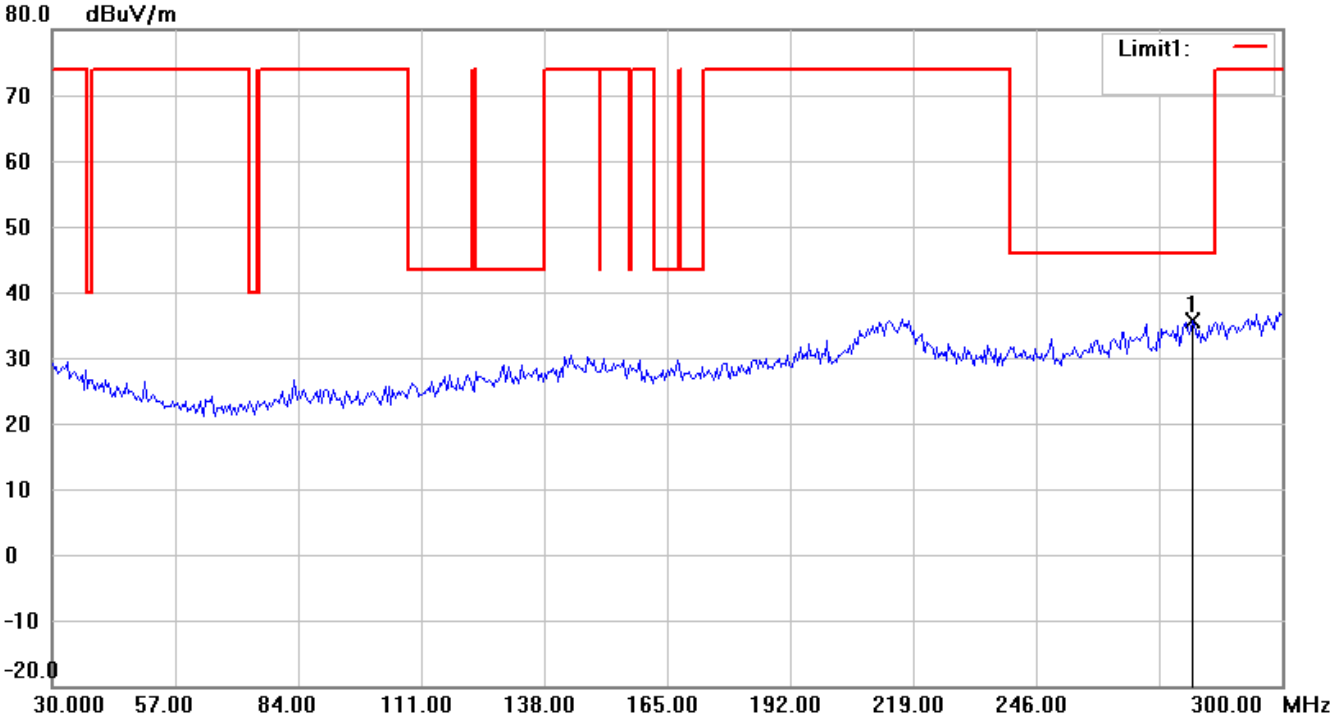
Registration number: W6D21101-11182-C-1
FCC ID: W6RRNX-N180UBE

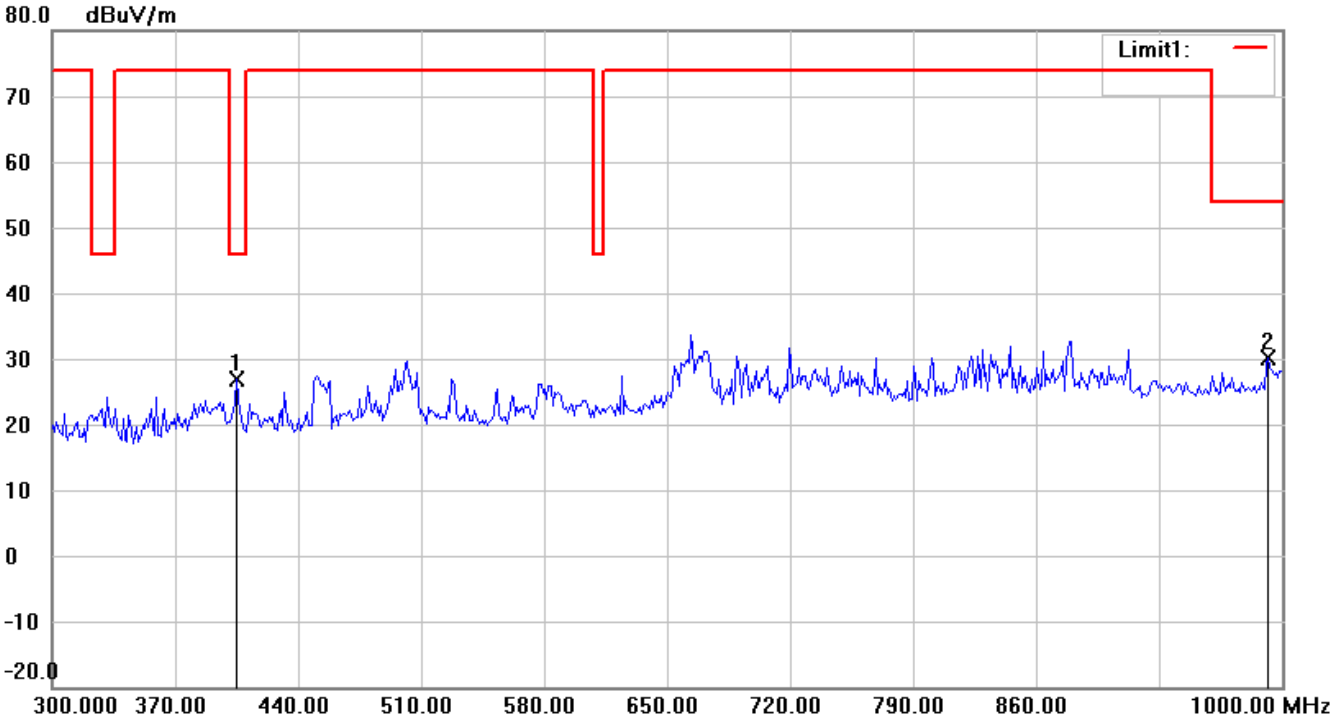




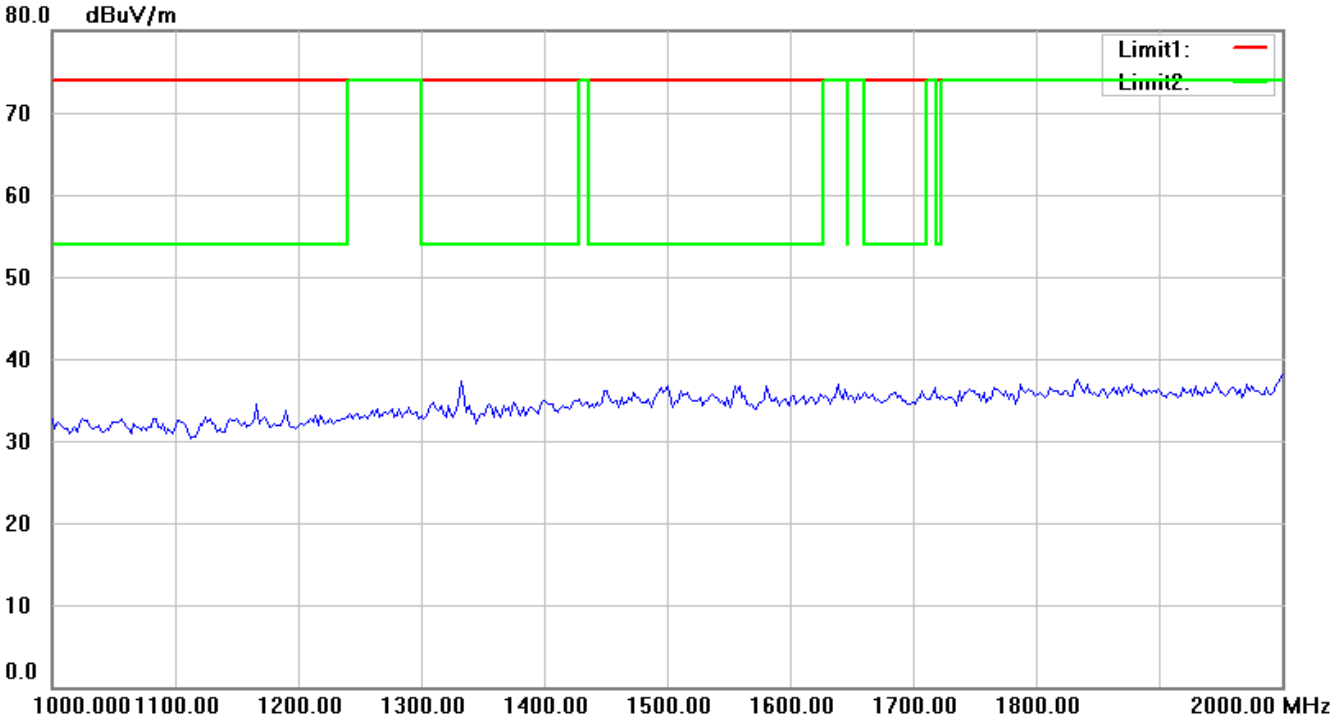
Registration number: W6D21101-11182-C-1
FCC ID: W6RRNX-N180UBE

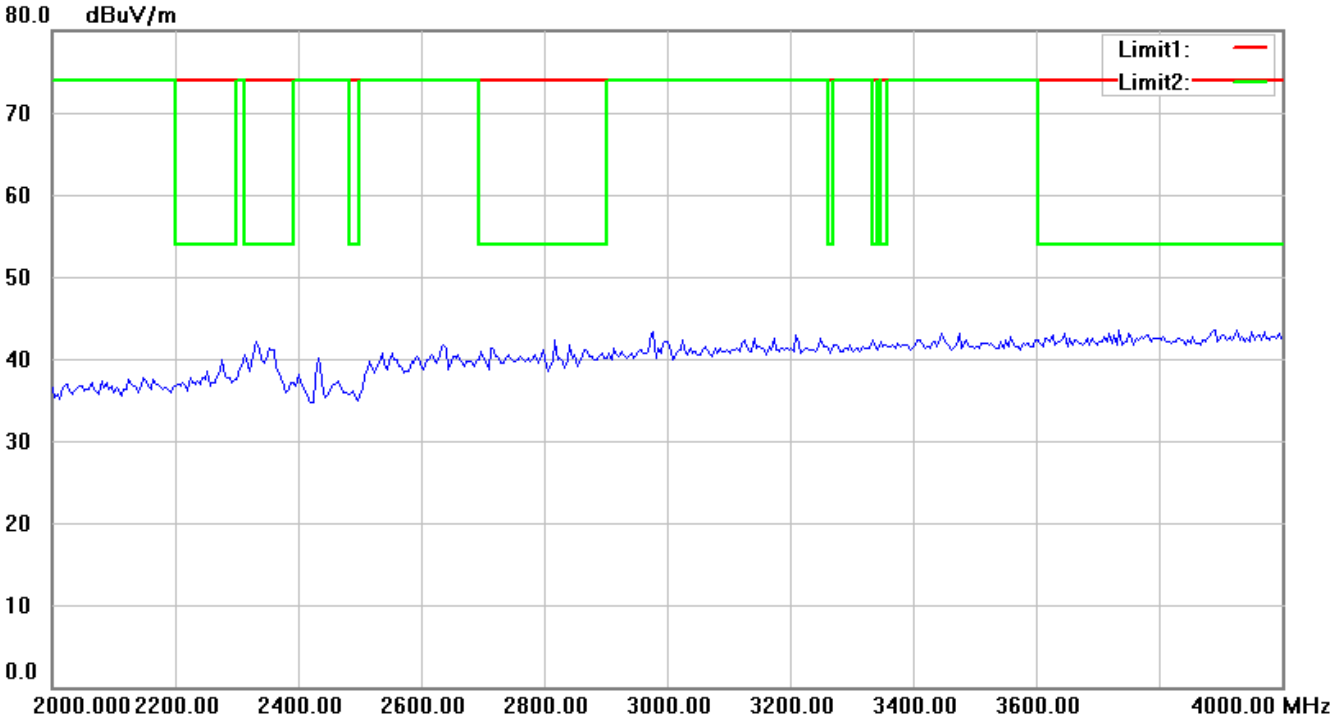
Antenna Polarization V



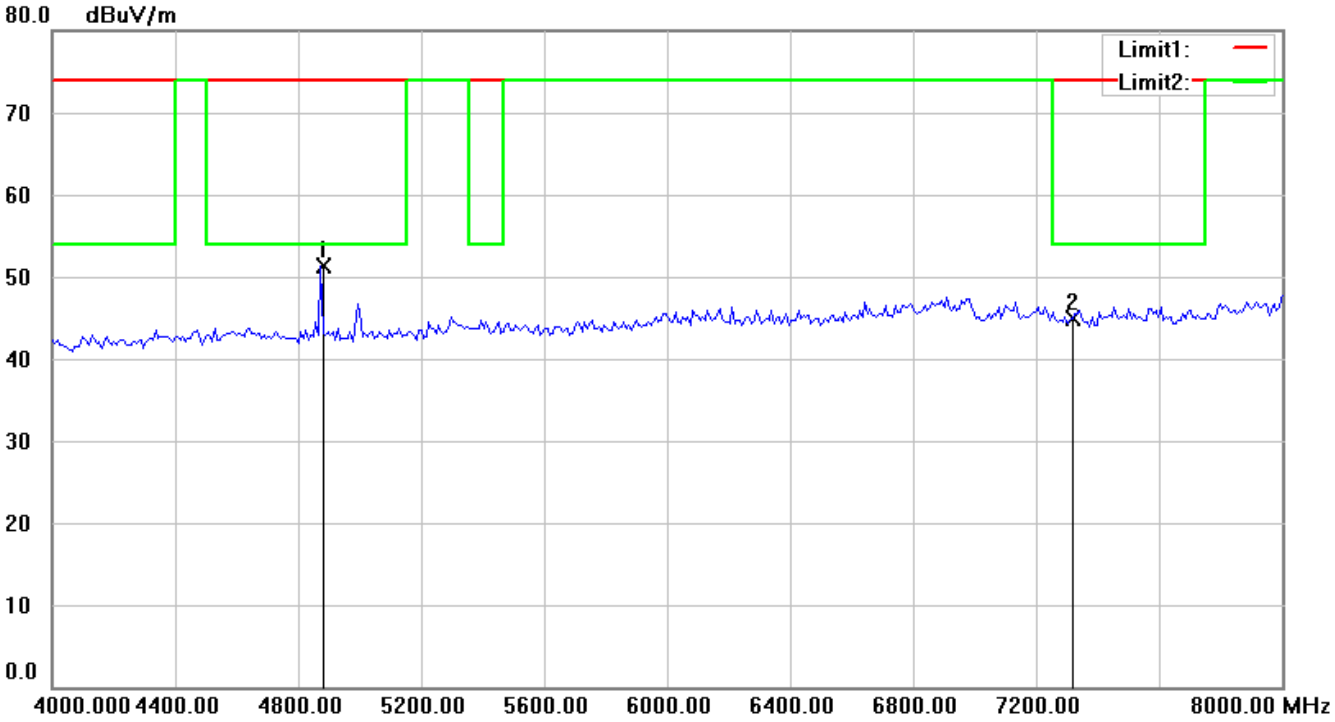


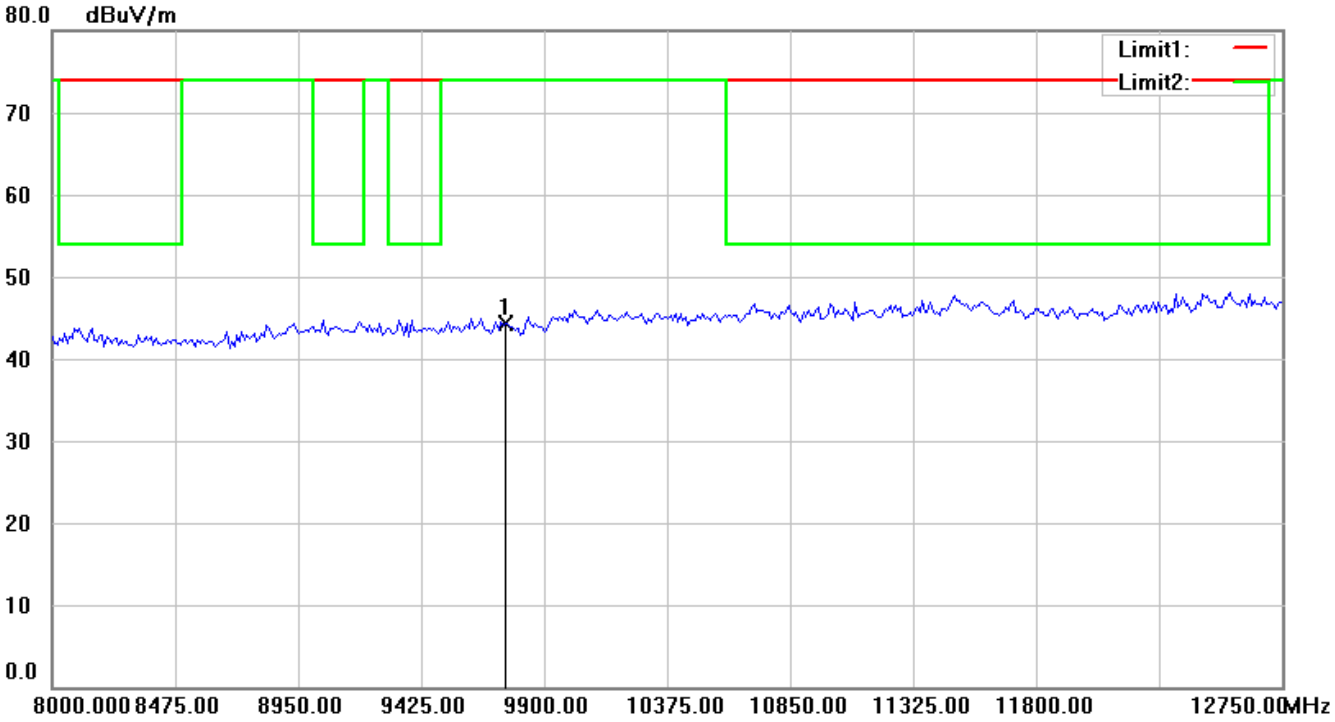
Registration number: W6D21101-11182-C-1
FCC ID: W6RRNX-N180UBE



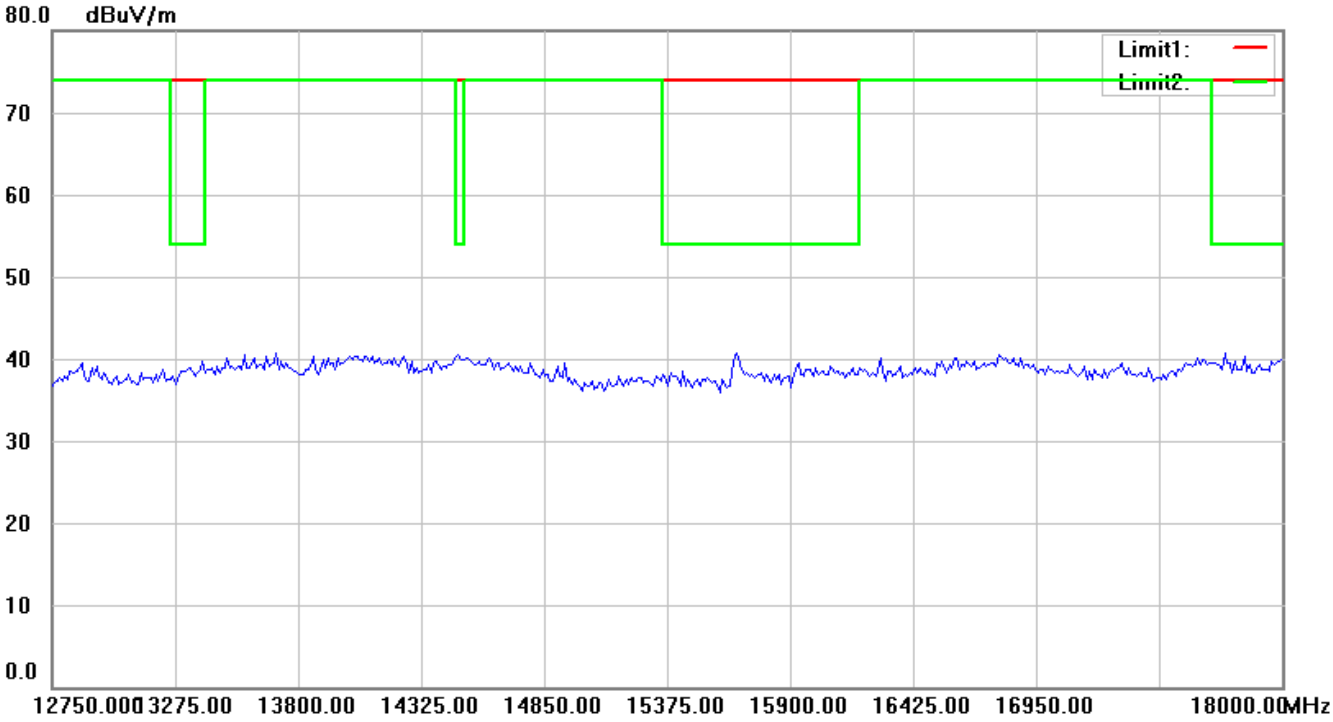


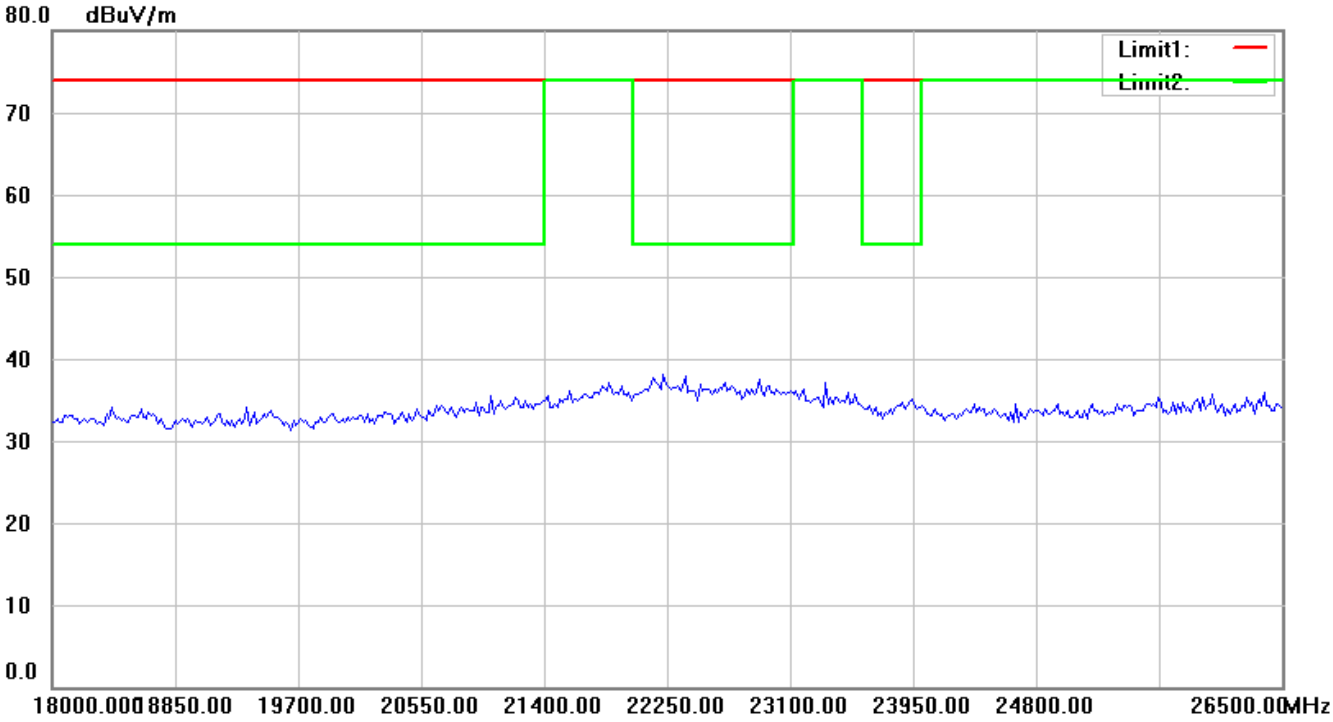
Registration number: W6D21101-11182-C-1
FCC ID: W6RRNX-N180UBE





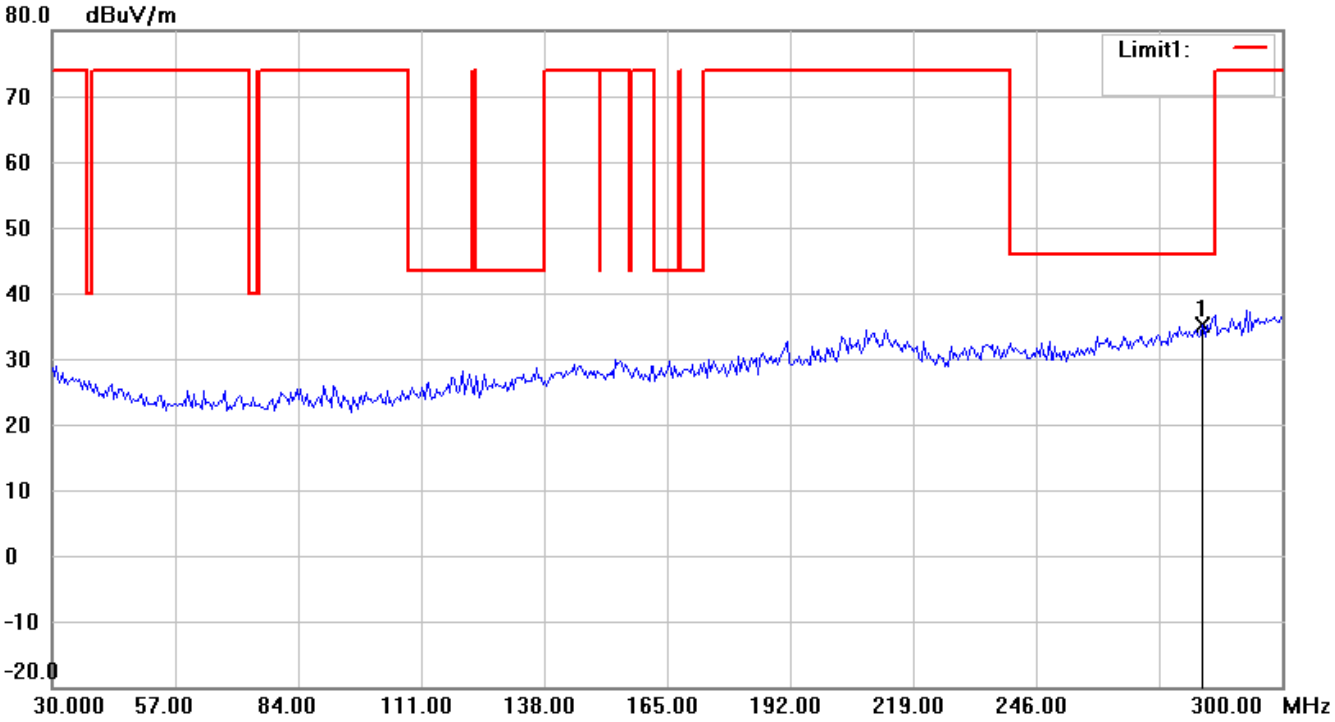
Registration number: W6D21101-11182-C-1
FCC ID: W6RRNX-N180UBE

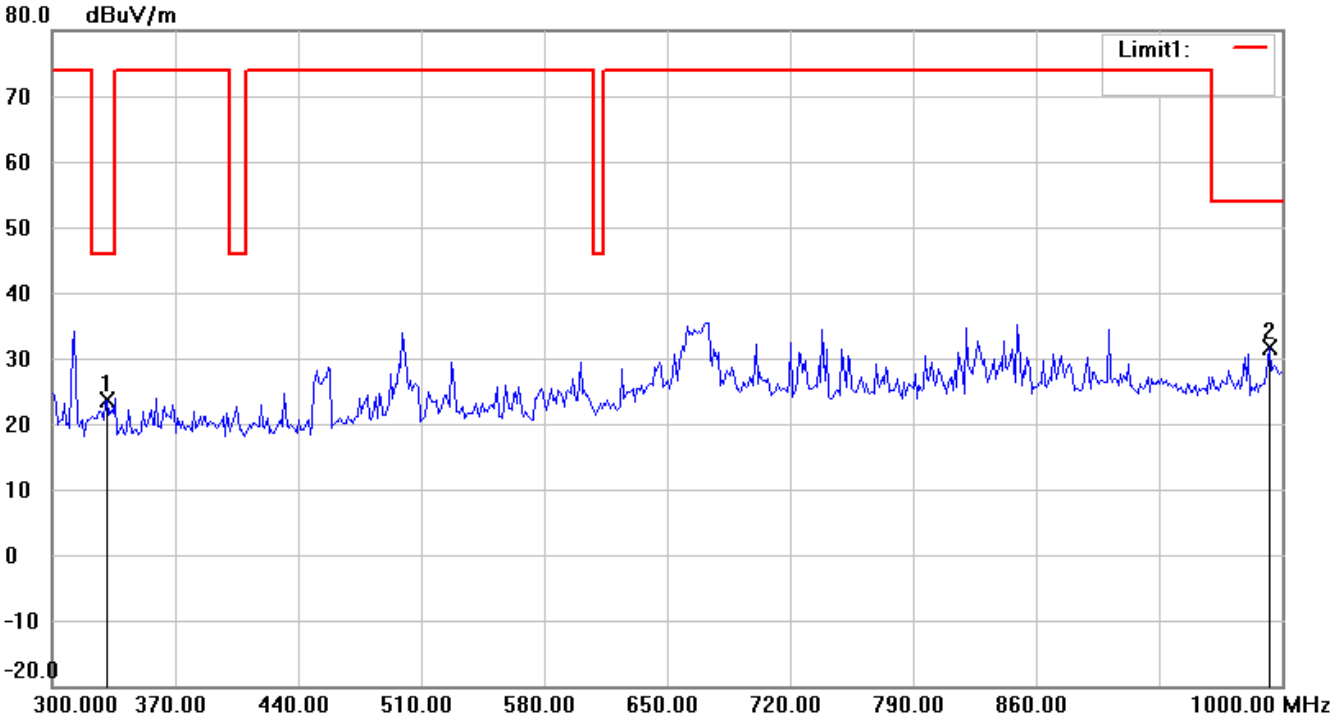




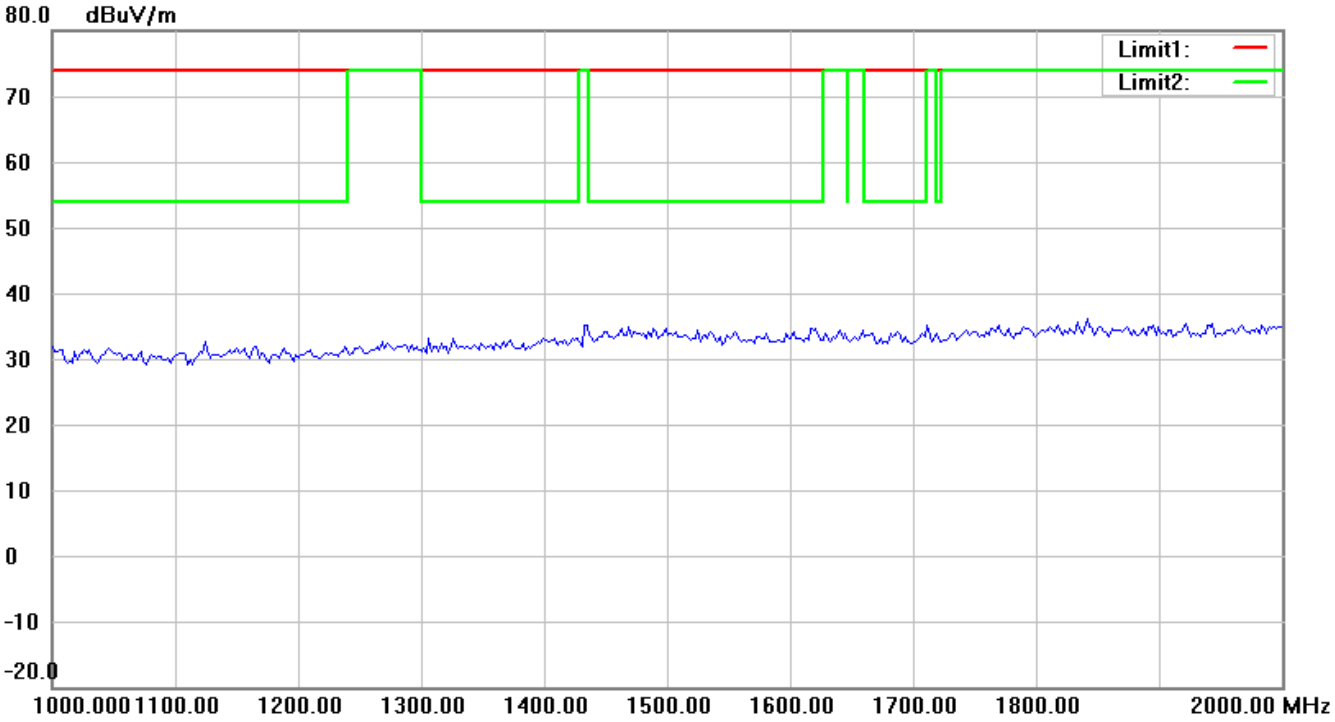
Registration number: W6D21101-11182-C-1
FCC ID: W6RRNX-N180UBE

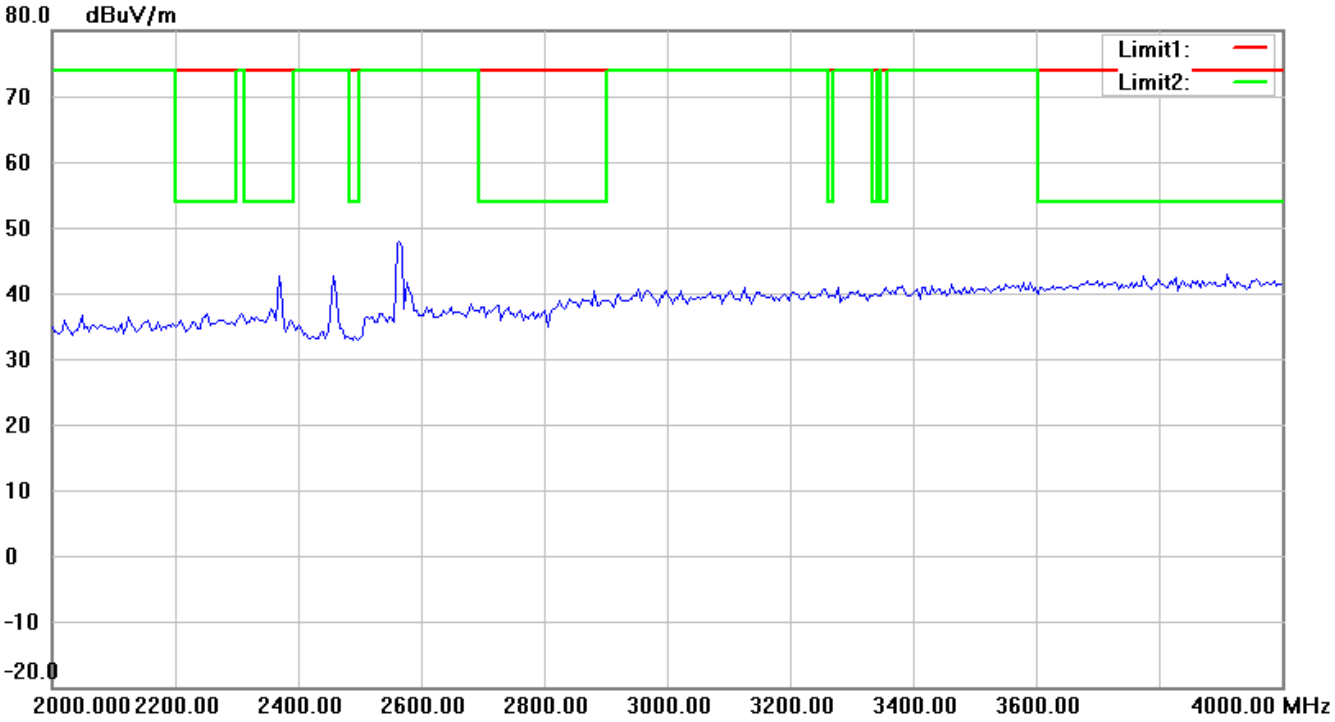
Channel 11
Antenna Polarization H



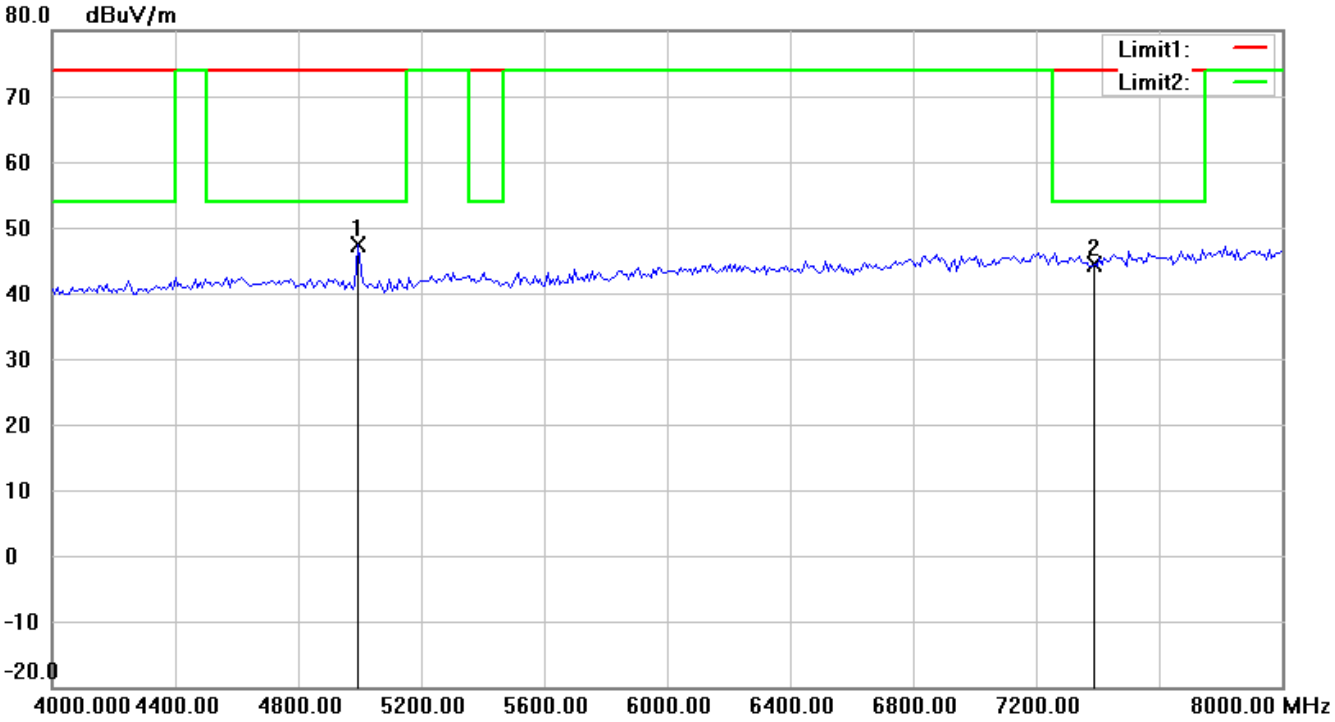


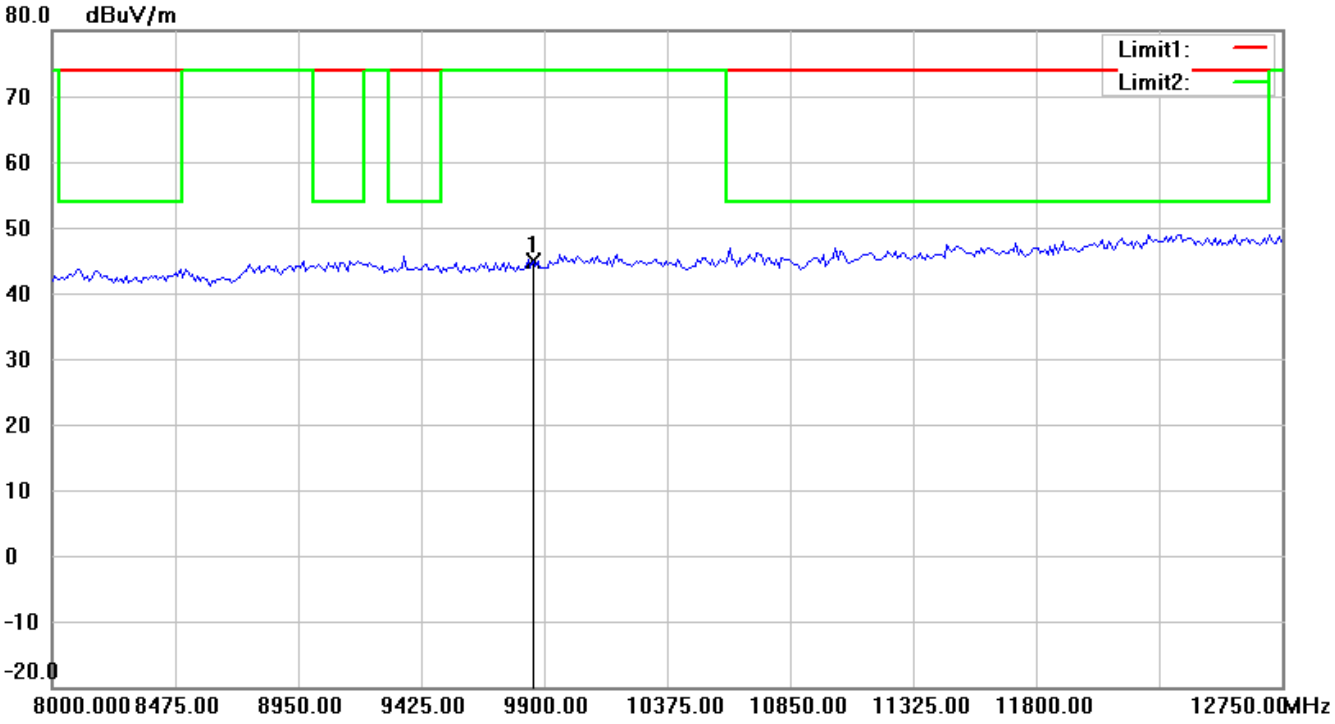
Registration number: W6D21101-11182-C-1
FCC ID: W6RRNX-N180UBE



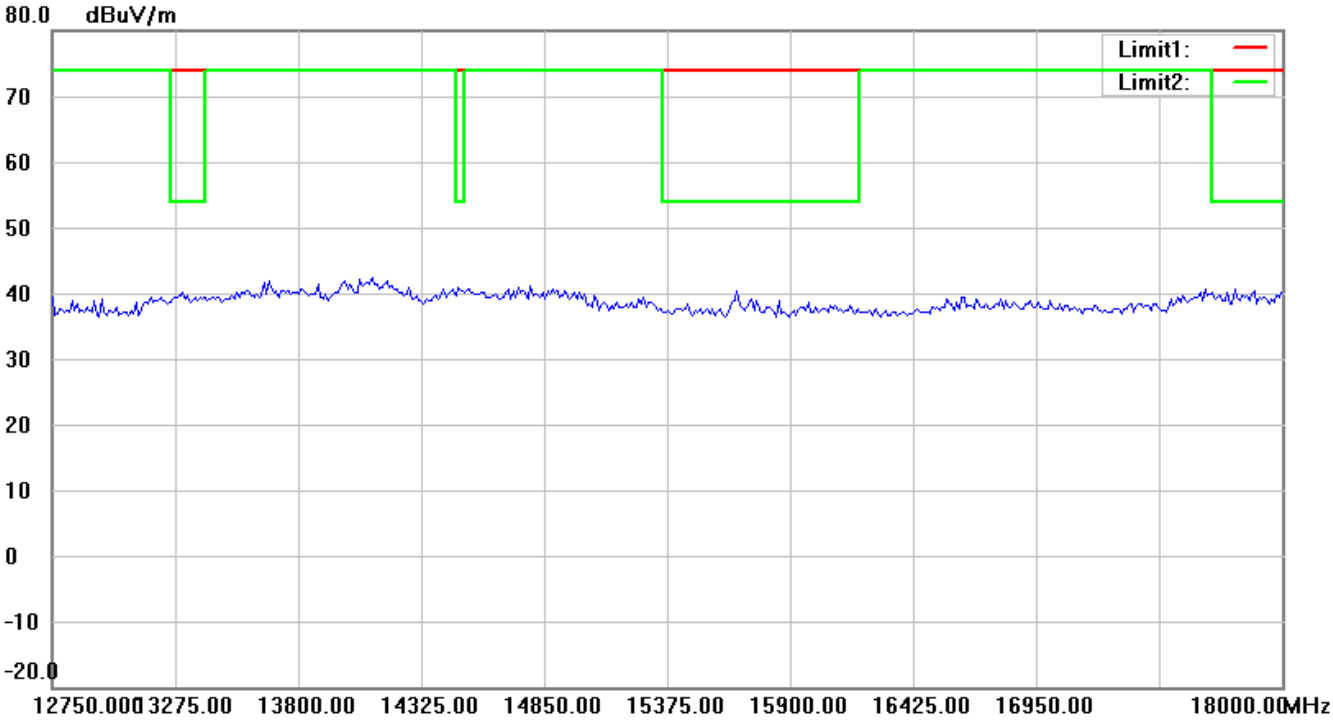


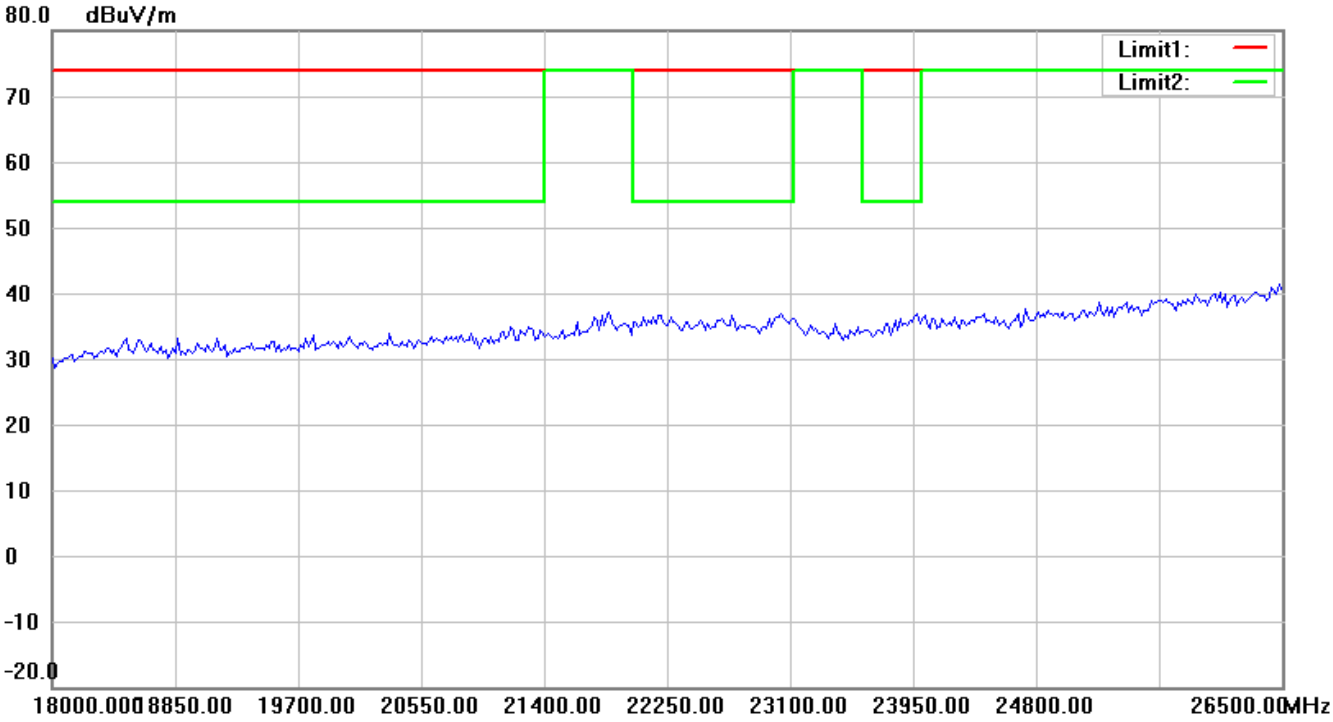
Registration number: W6D21101-11182-C-1
FCC ID: W6RRNX-N180UBE





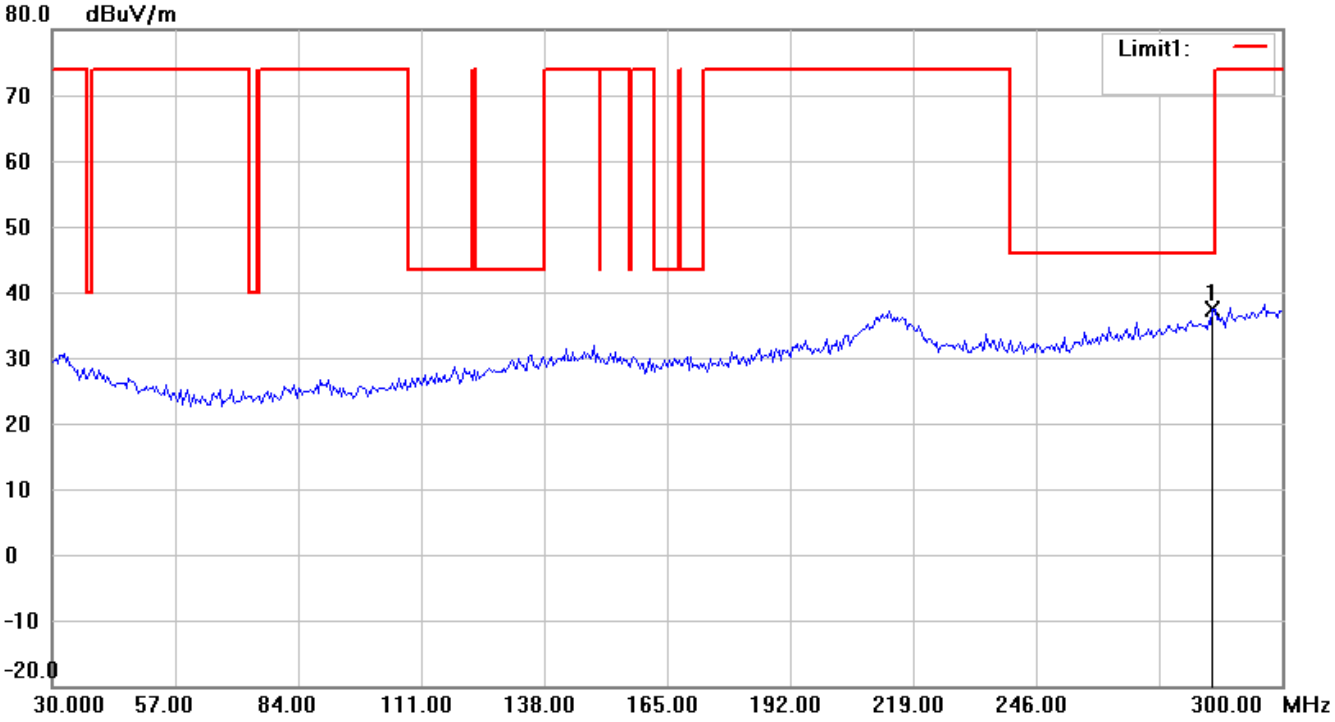
Registration number: W6D21101-11182-C-1
FCC ID: W6RRNX-N180UBE

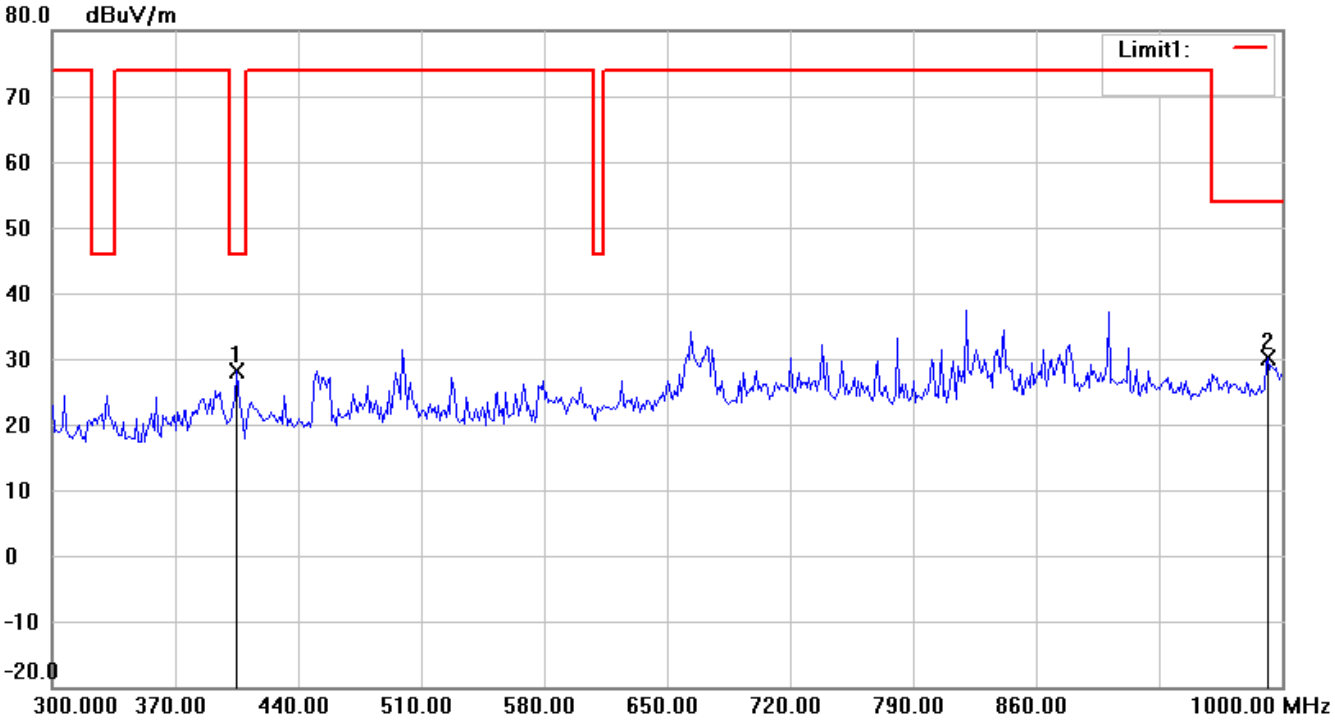




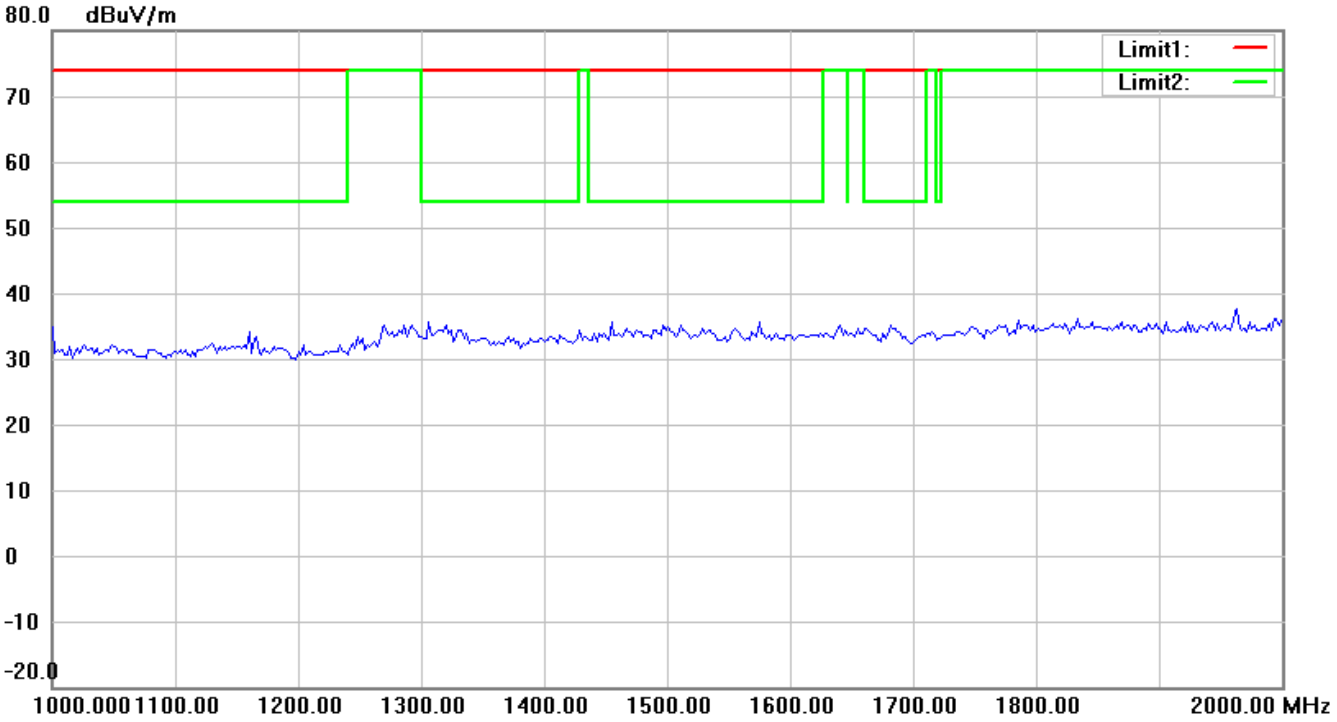
Registration number: W6D21101-11182-C-1
FCC ID: W6RRNX-N180UBE

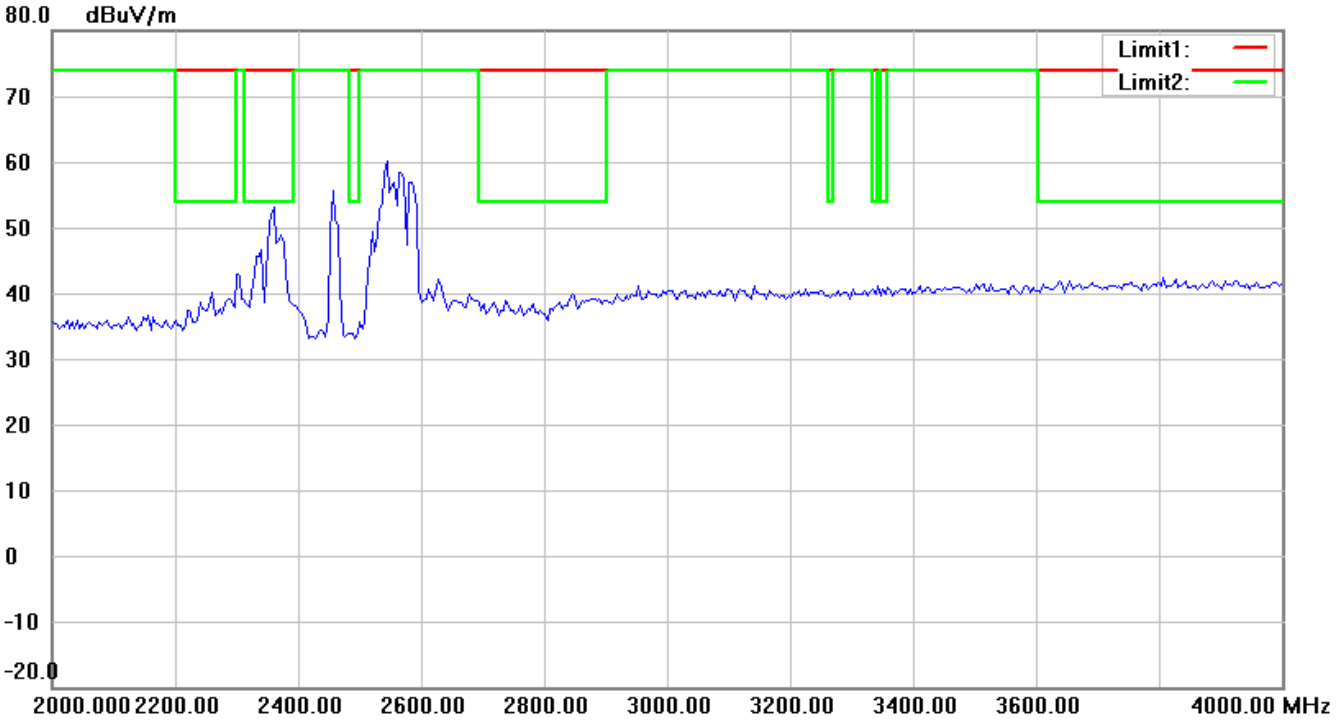
Antenna Polarization V



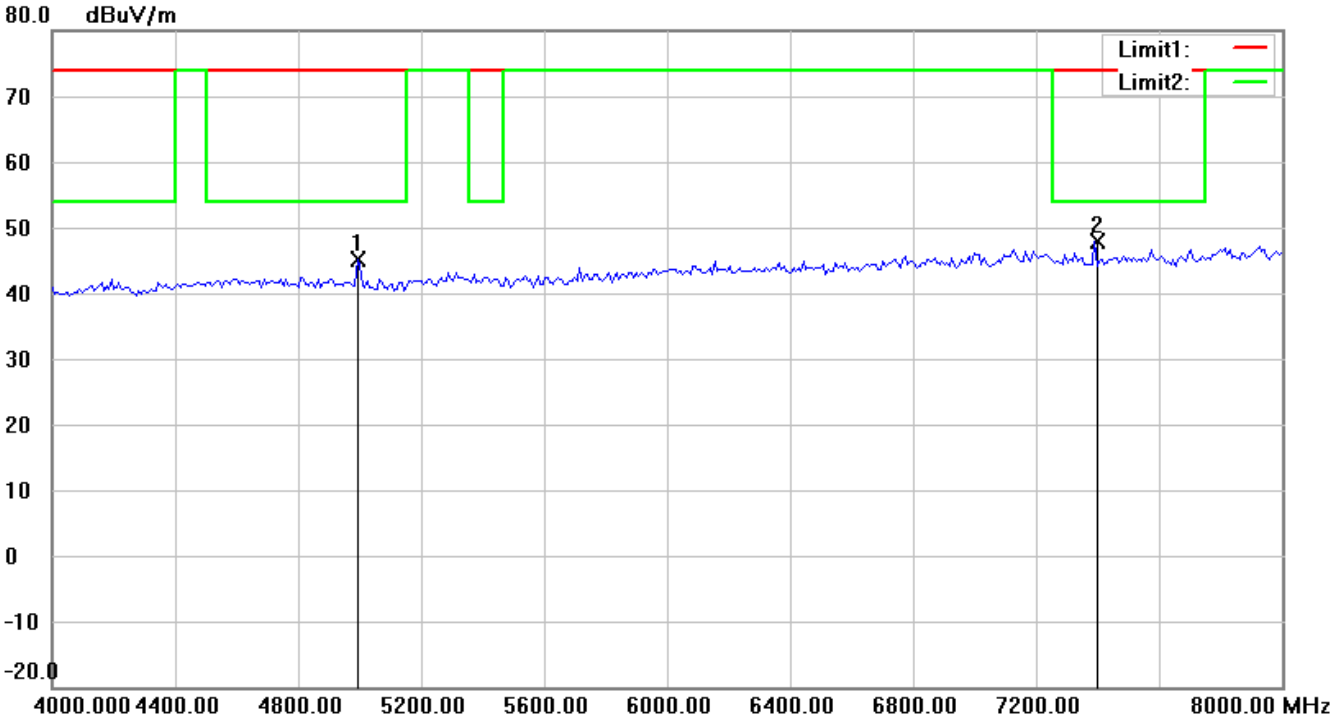


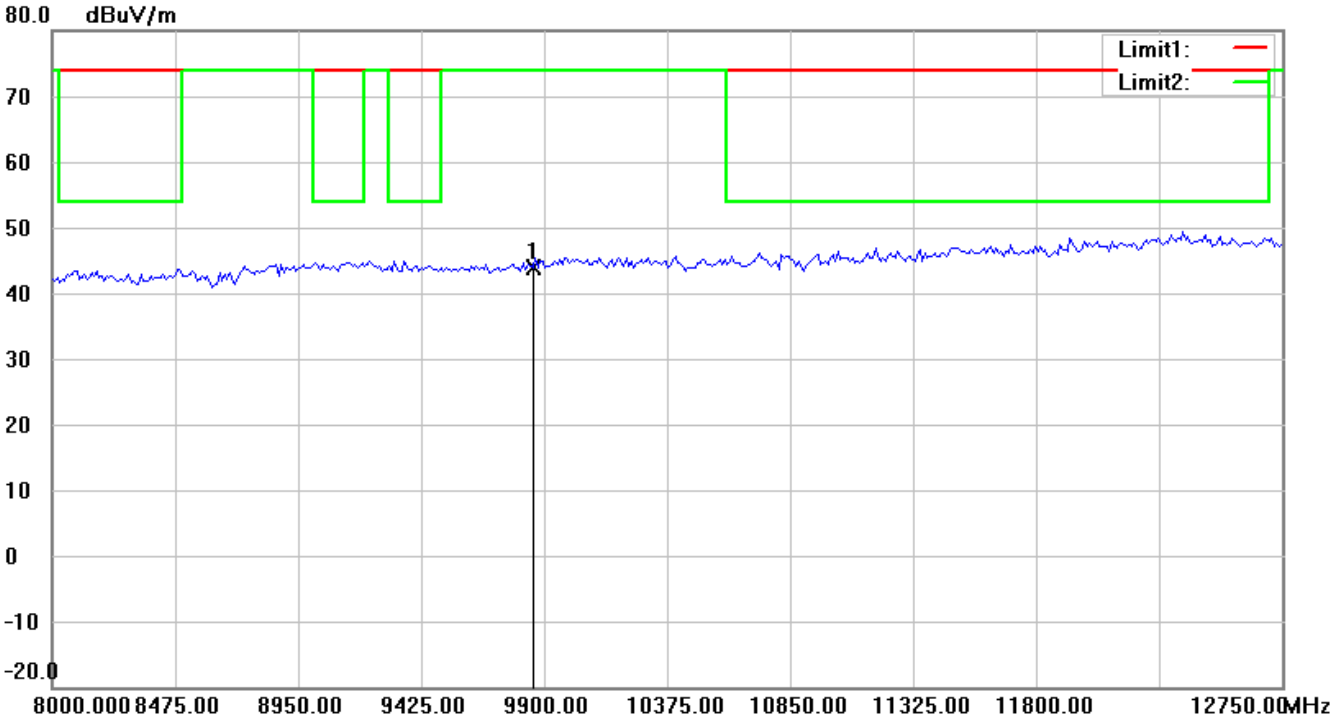
Registration number: W6D21101-11182-C-1
FCC ID: W6RRNX-N180UBE



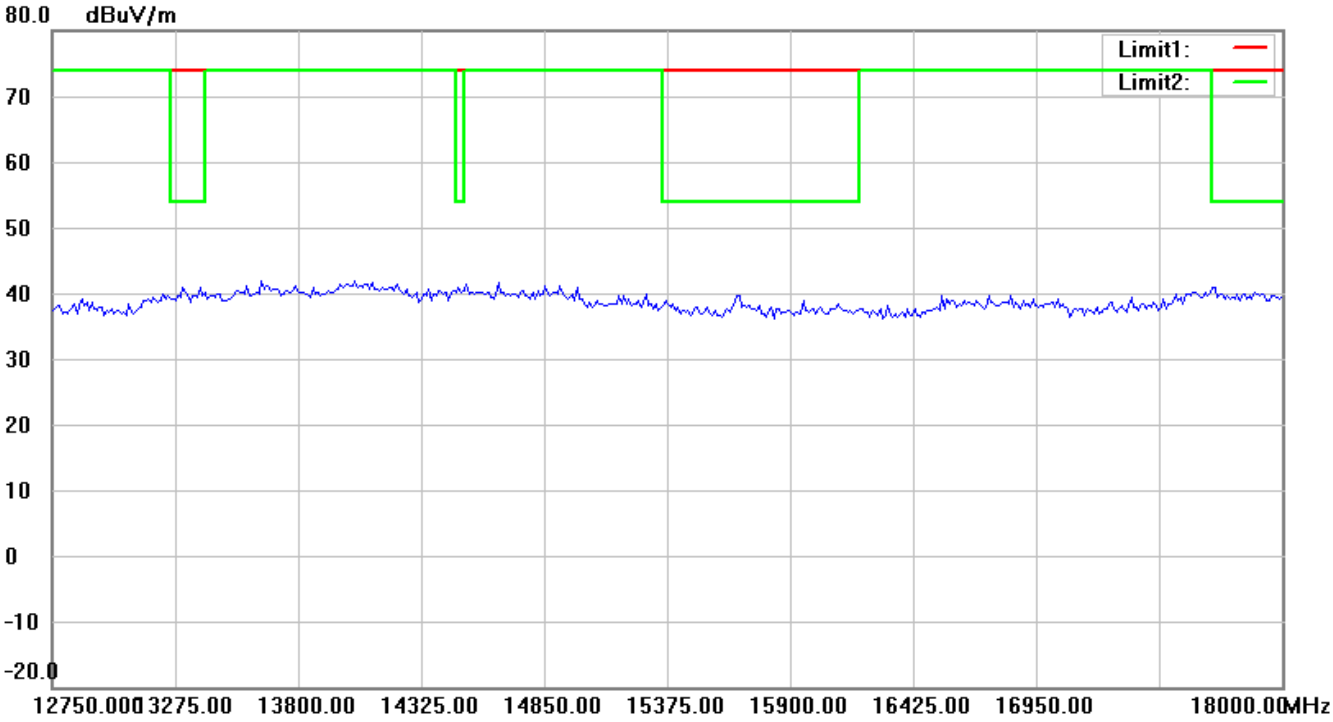


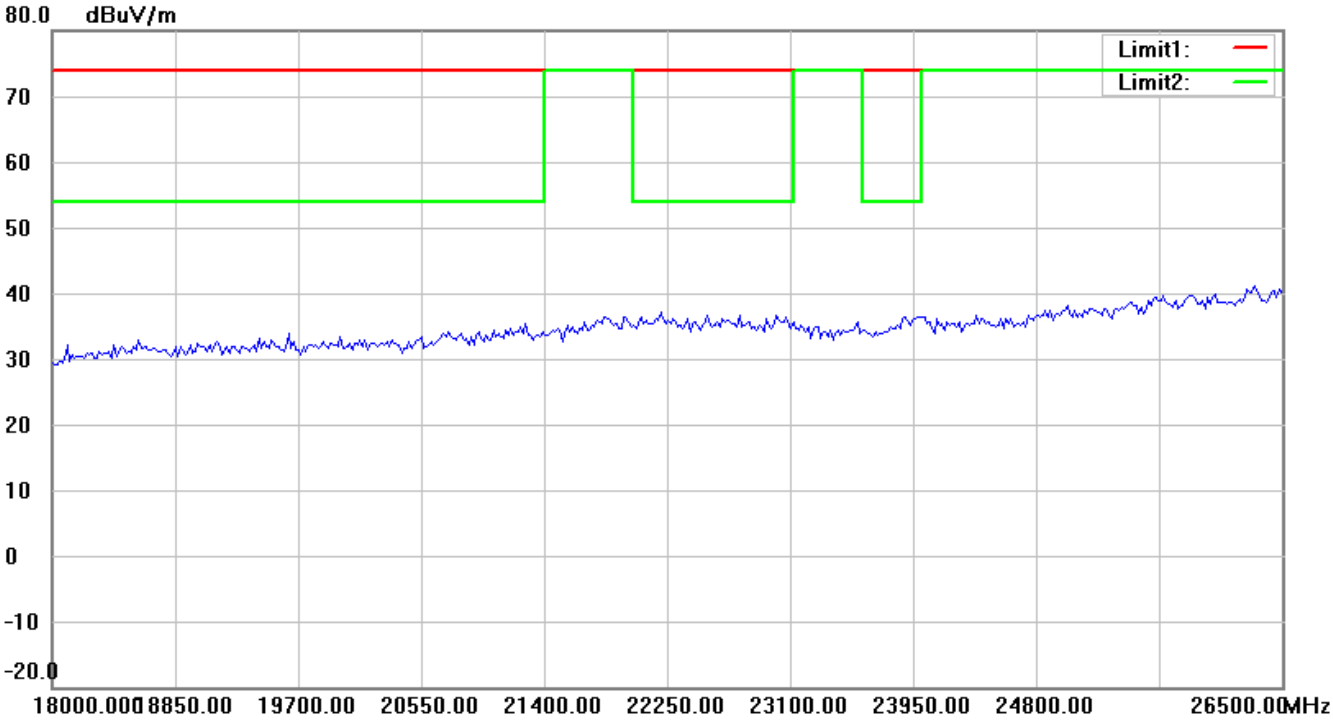
Registration number: W6D21101-11182-C-1
FCC ID: W6RRNX-N180UBE



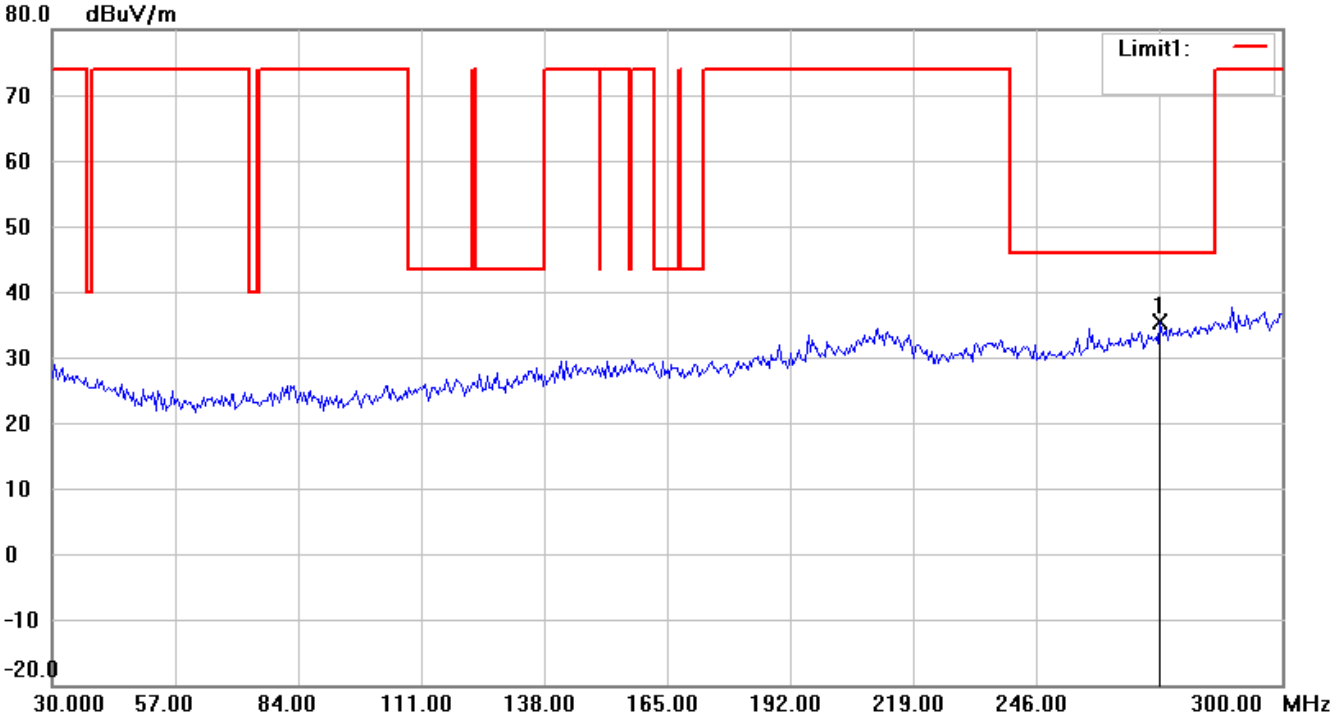


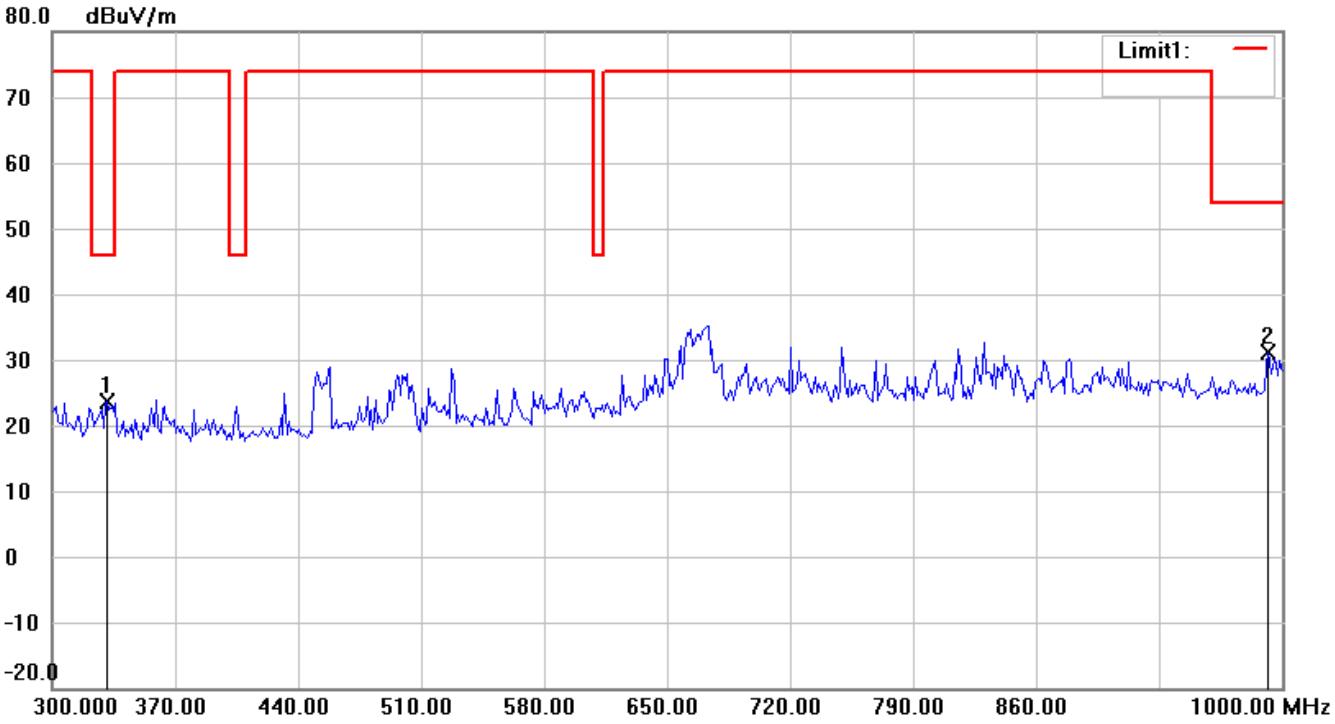
Registration number: W6D21101-11182-C-1
FCC ID: W6RRNX-N180UBE



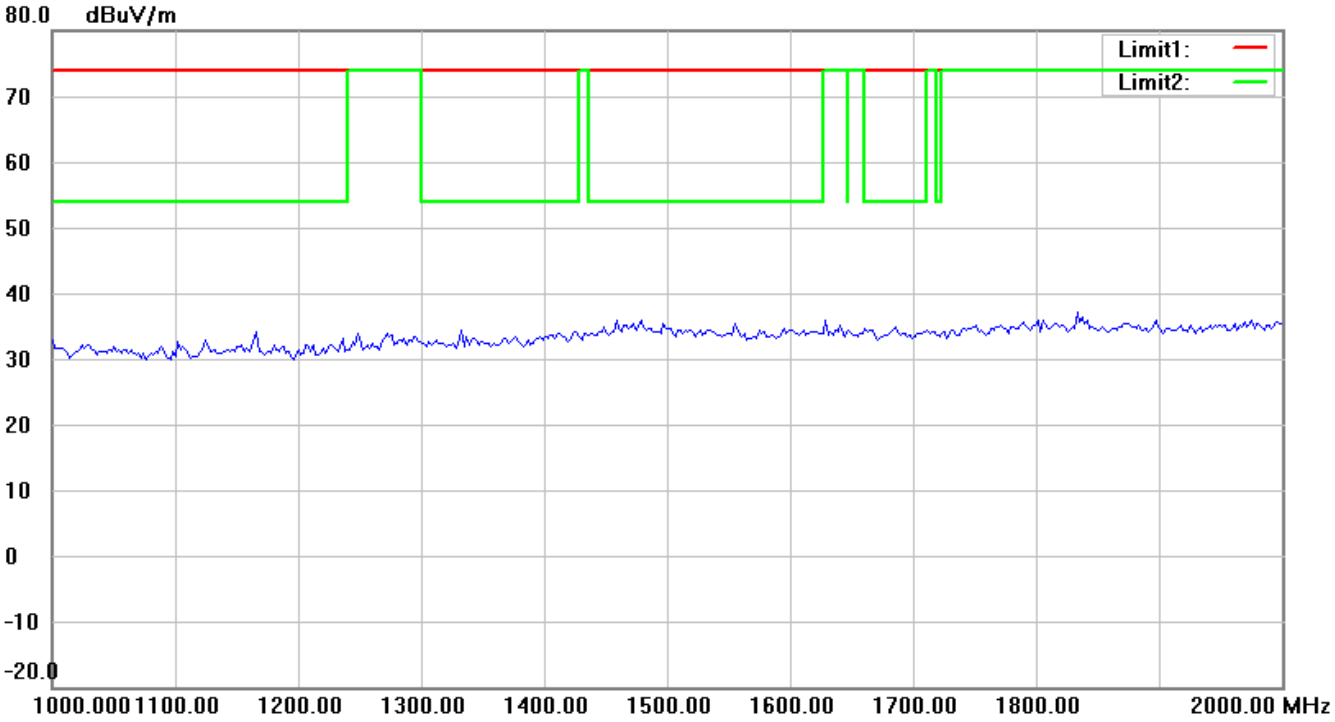


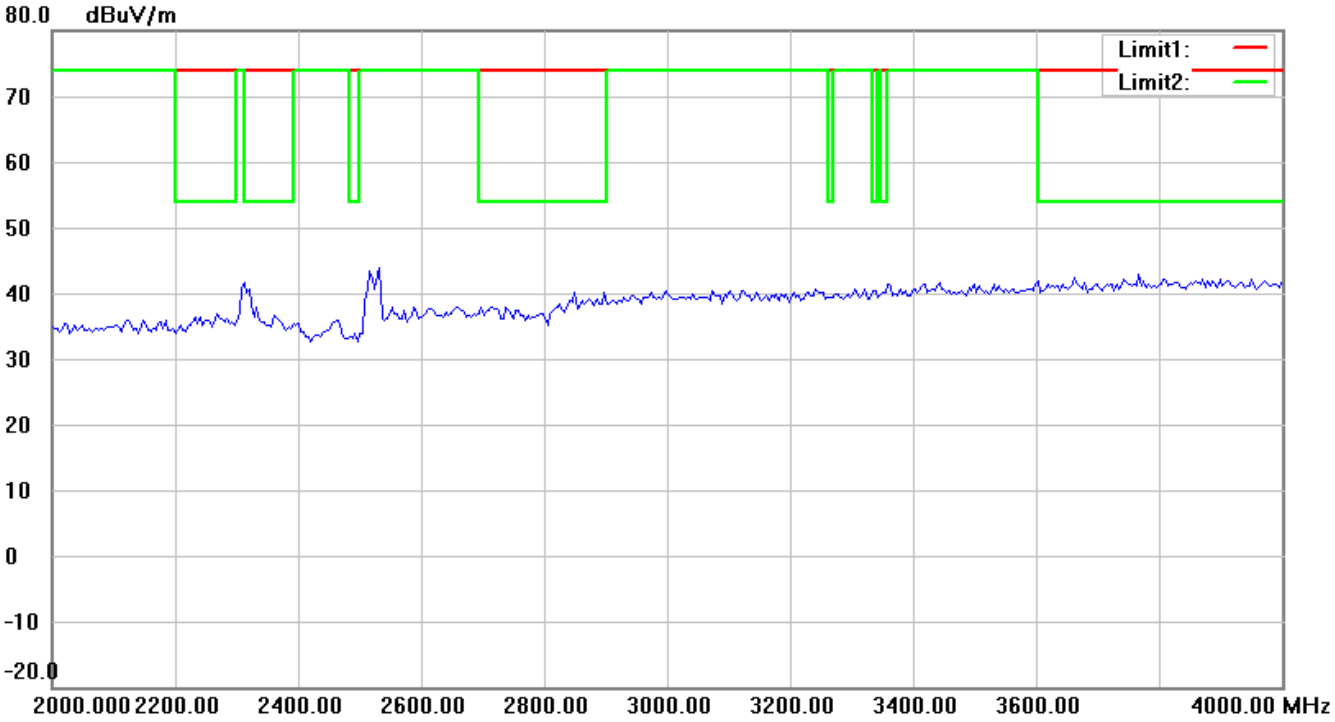
802.11g
Channel 1
Antenna Polarization H



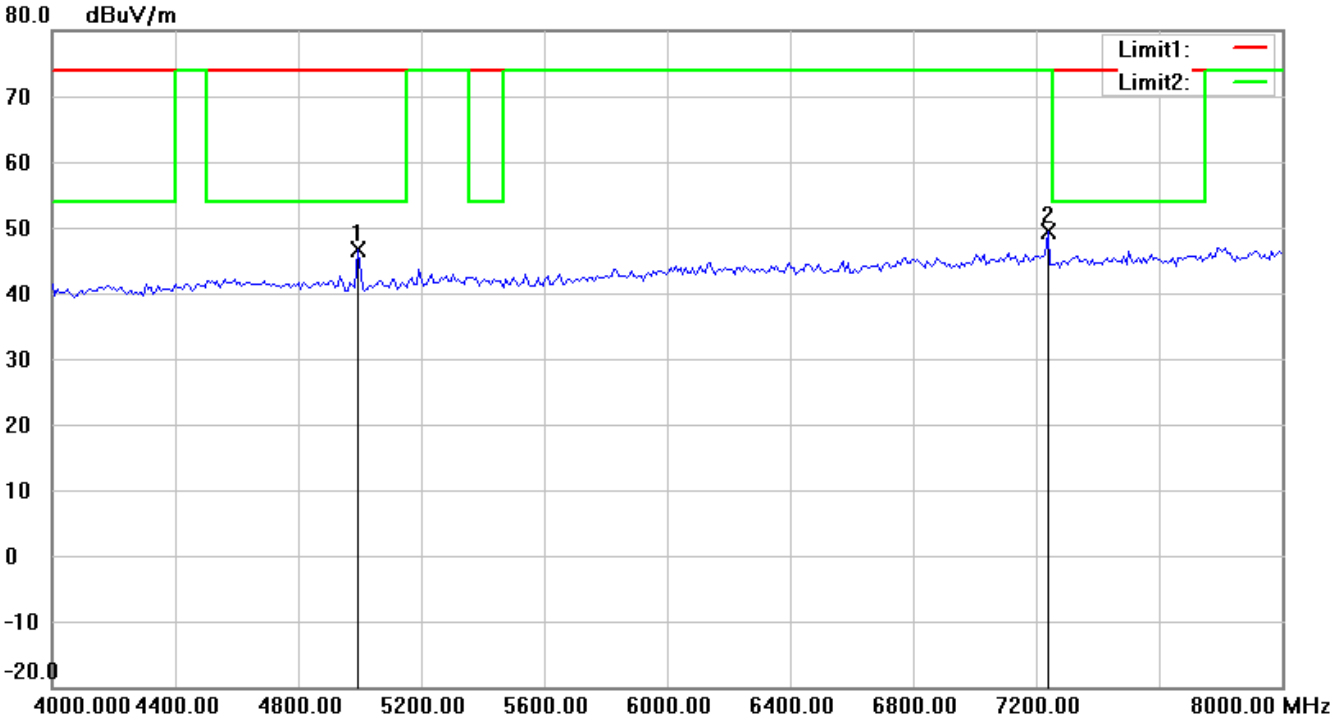


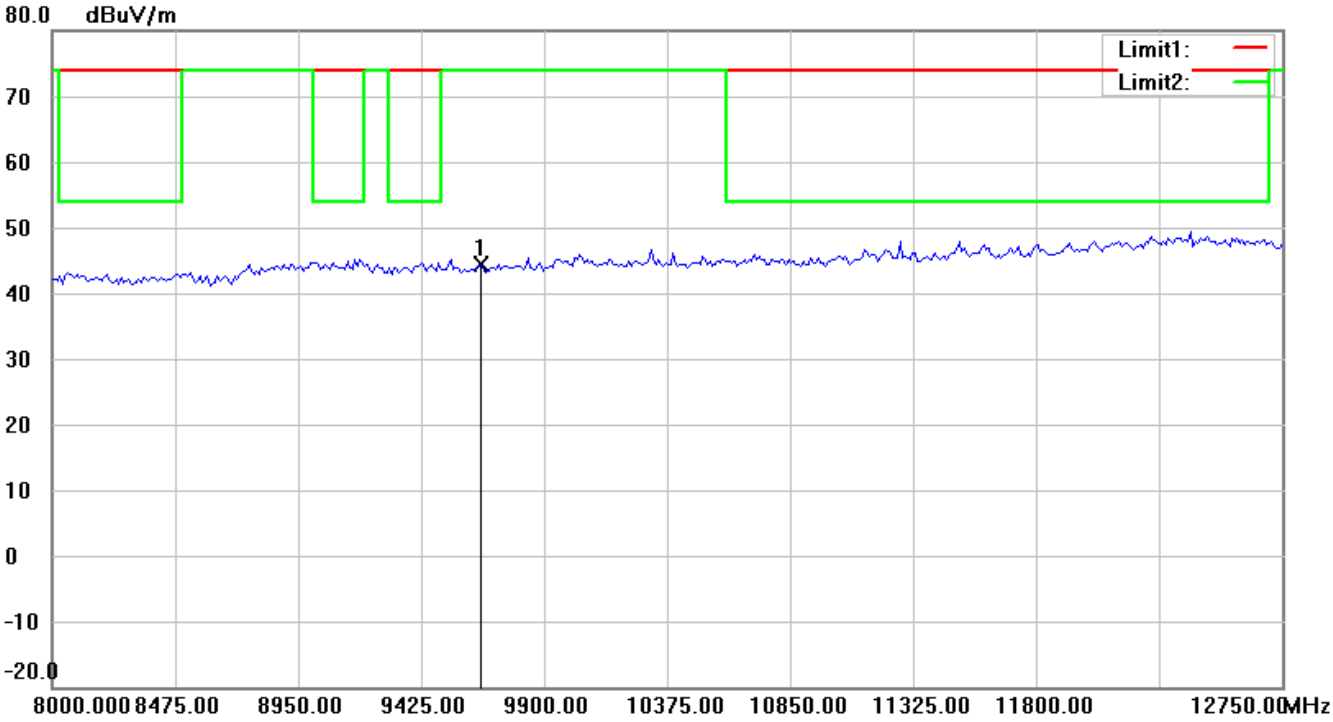
Registration number: W6D21101-11182-C-1
FCC ID: W6RRNX-N180UBE



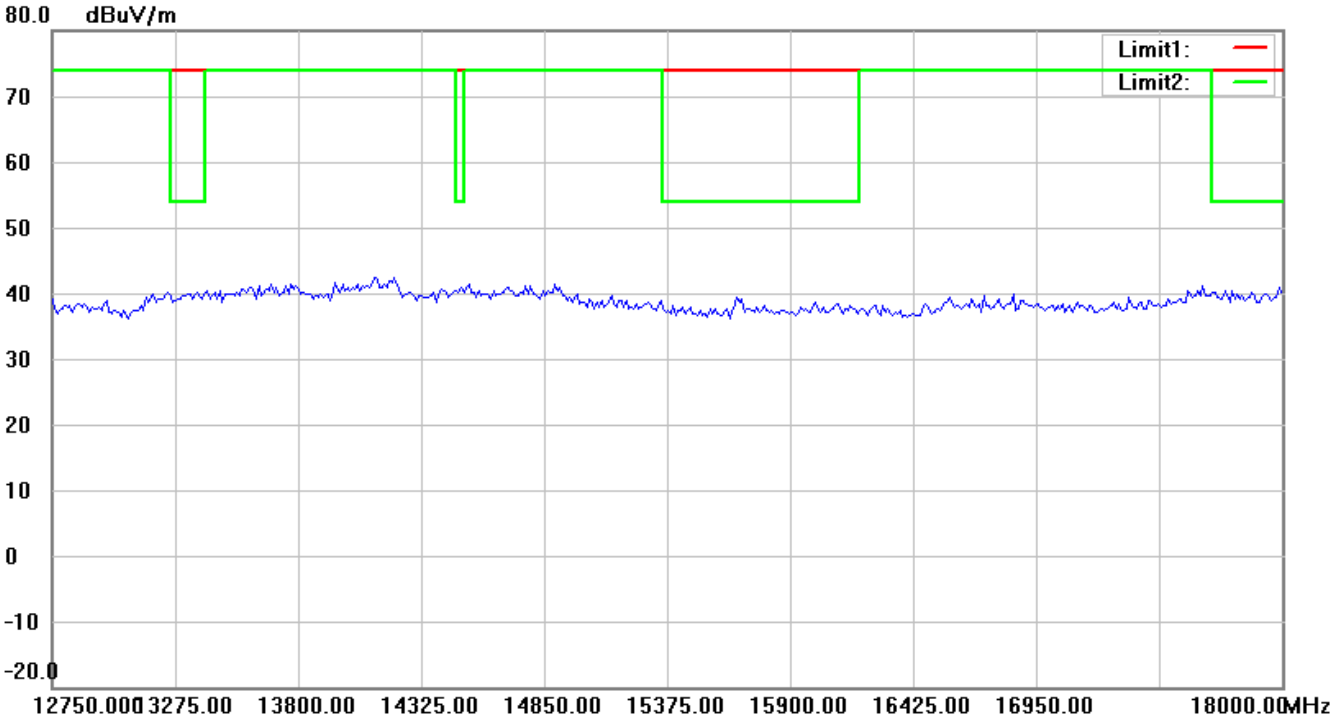


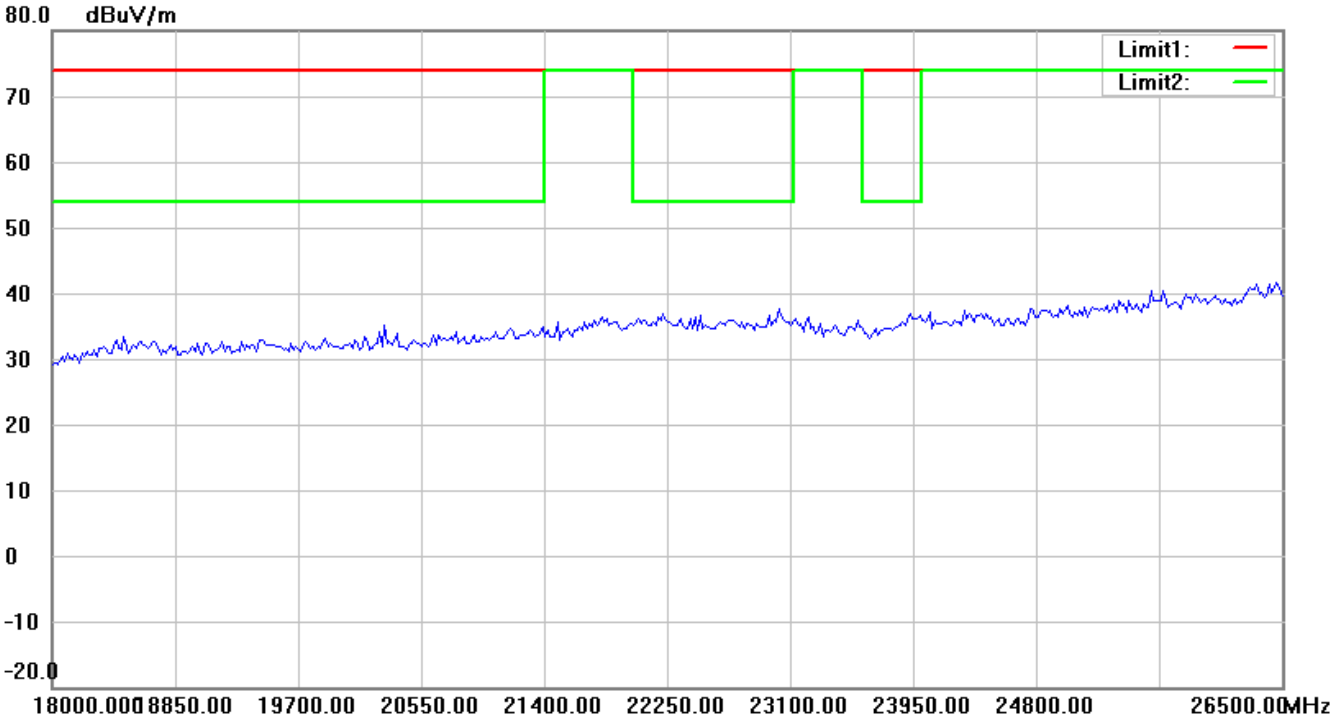
Registration number: W6D21101-11182-C-1
FCC ID: W6RRNX-N180UBE





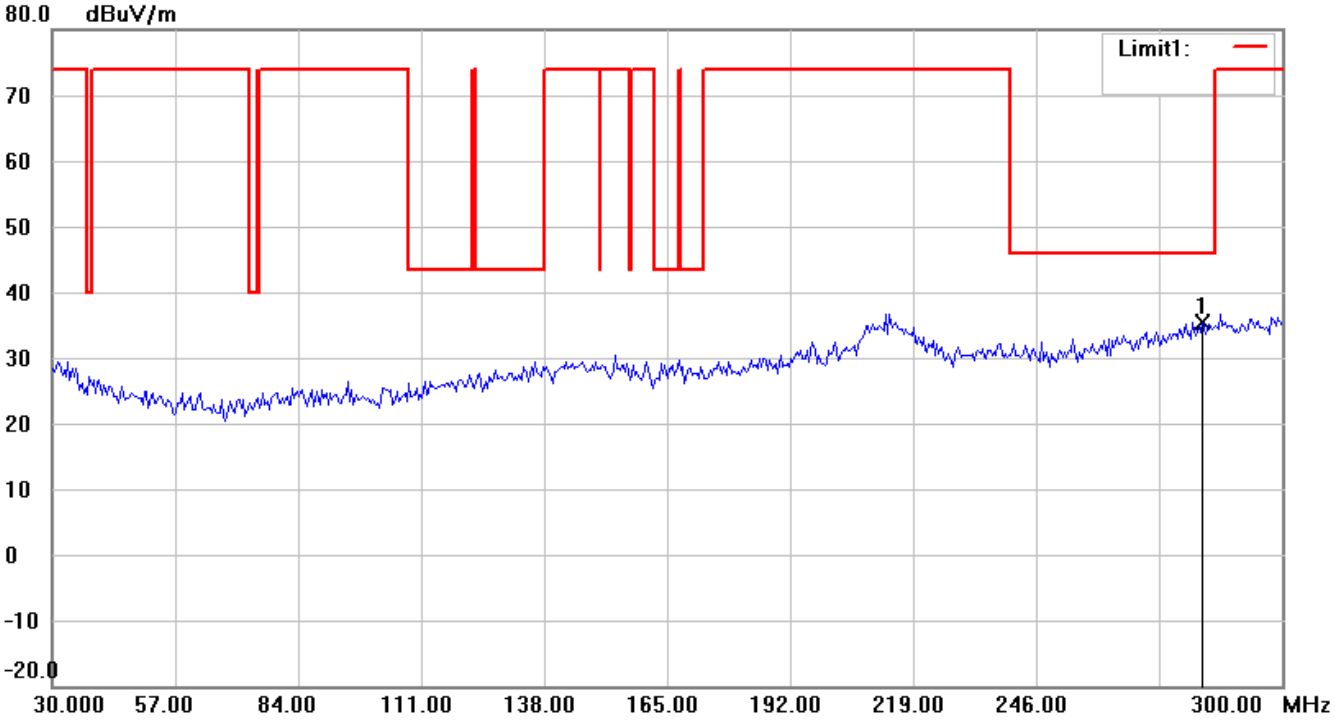
Registration number: W6D21101-11182-C-1
FCC ID: W6RRNX-N180UBE

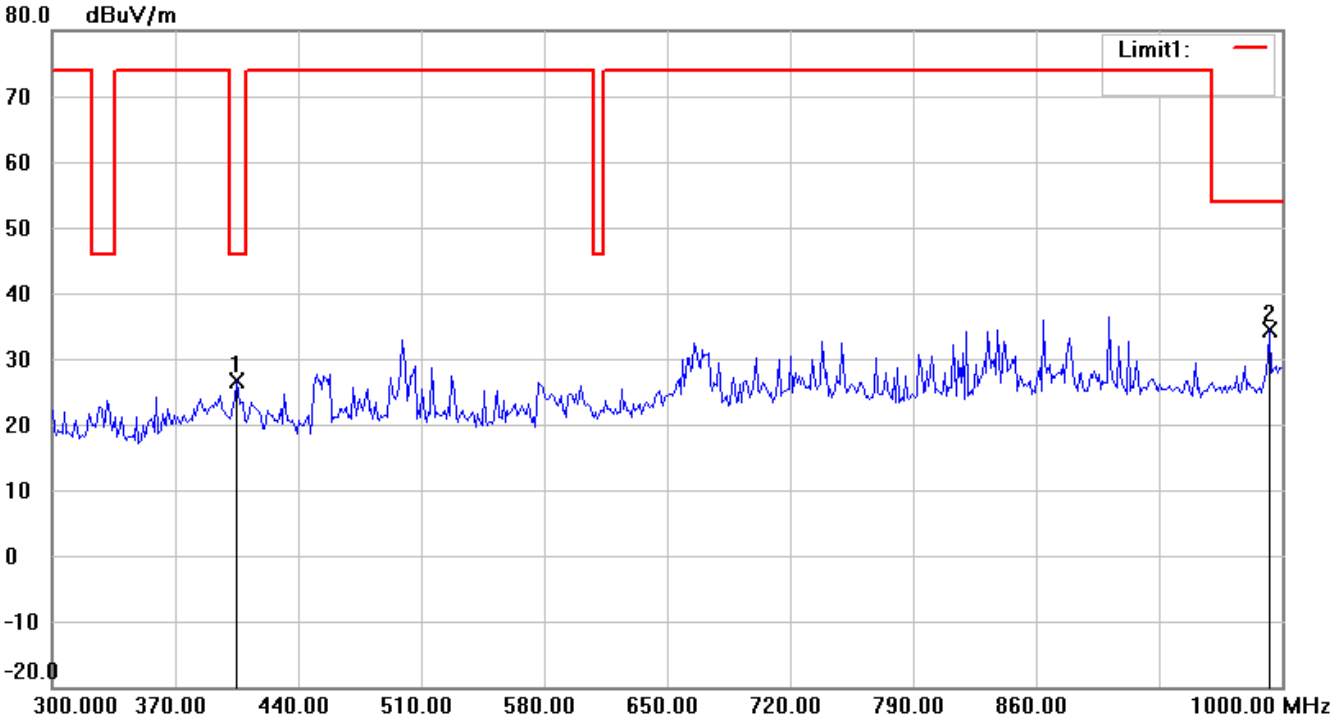




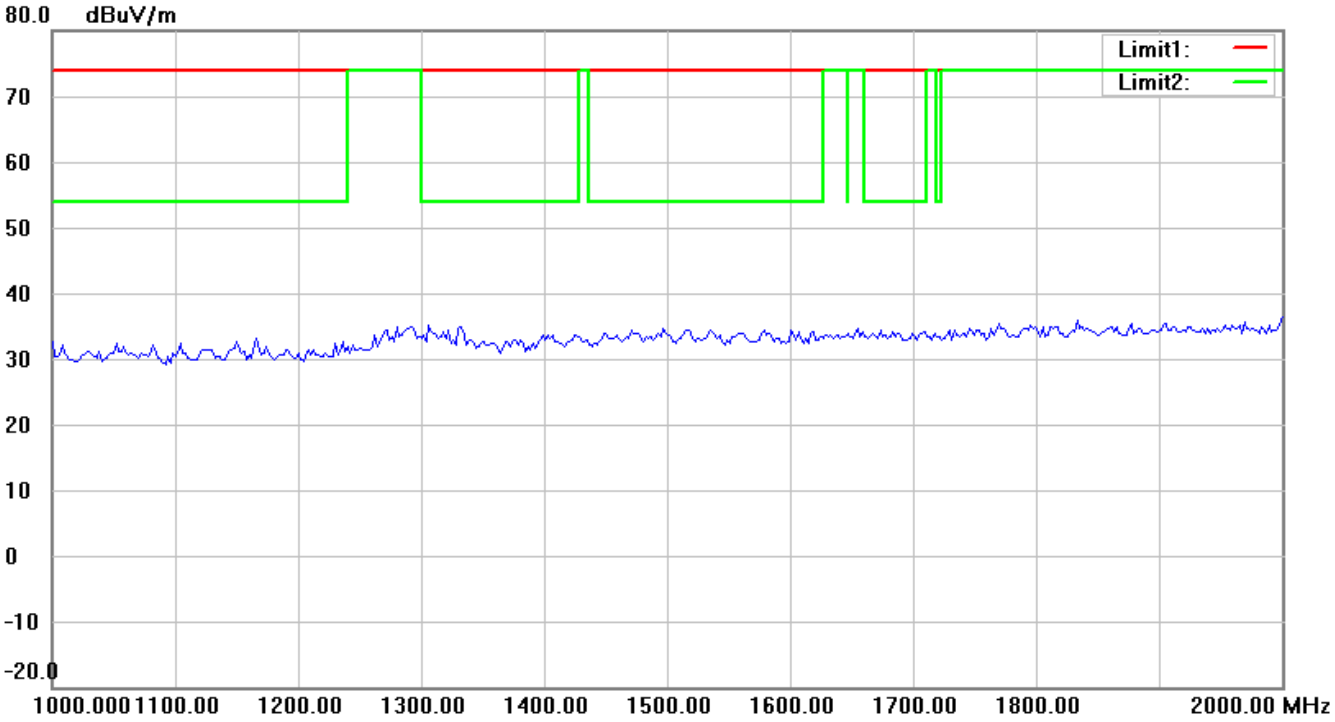
Registration number: W6D21101-11182-C-1
FCC ID: W6RRNX-N180UBE

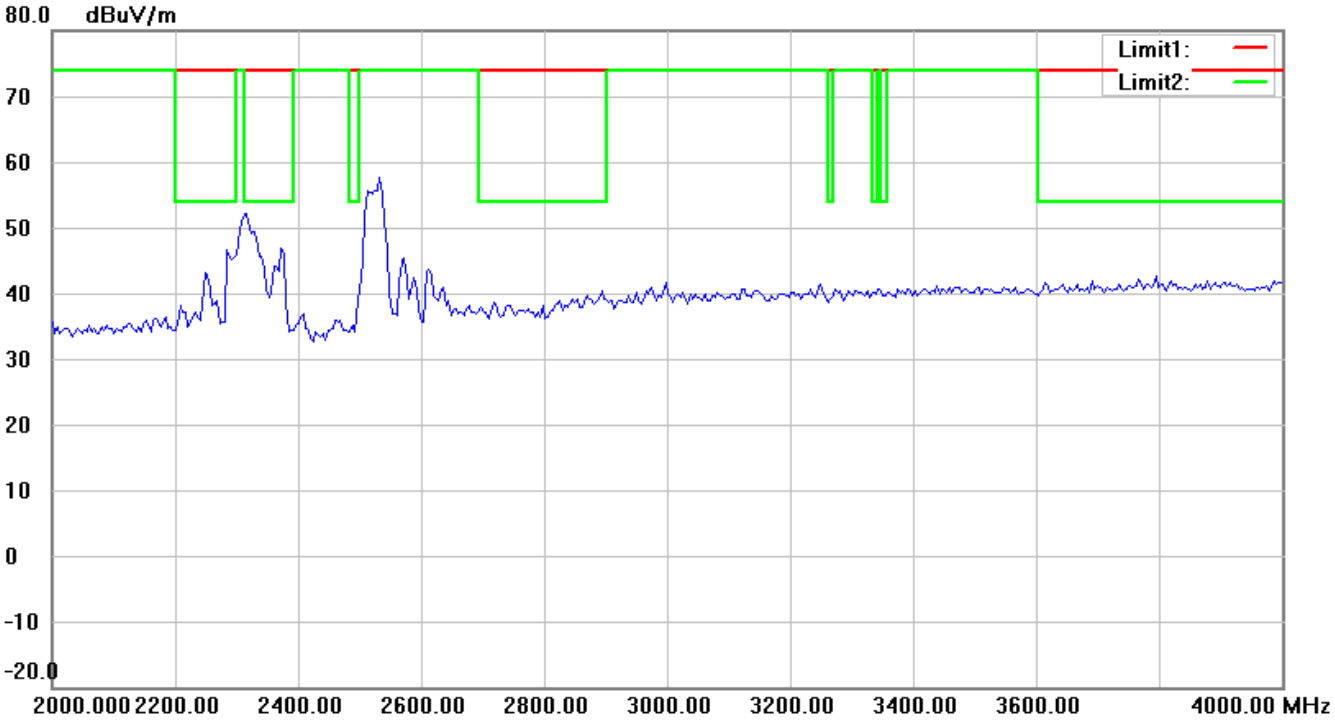
Antenna Polarization V



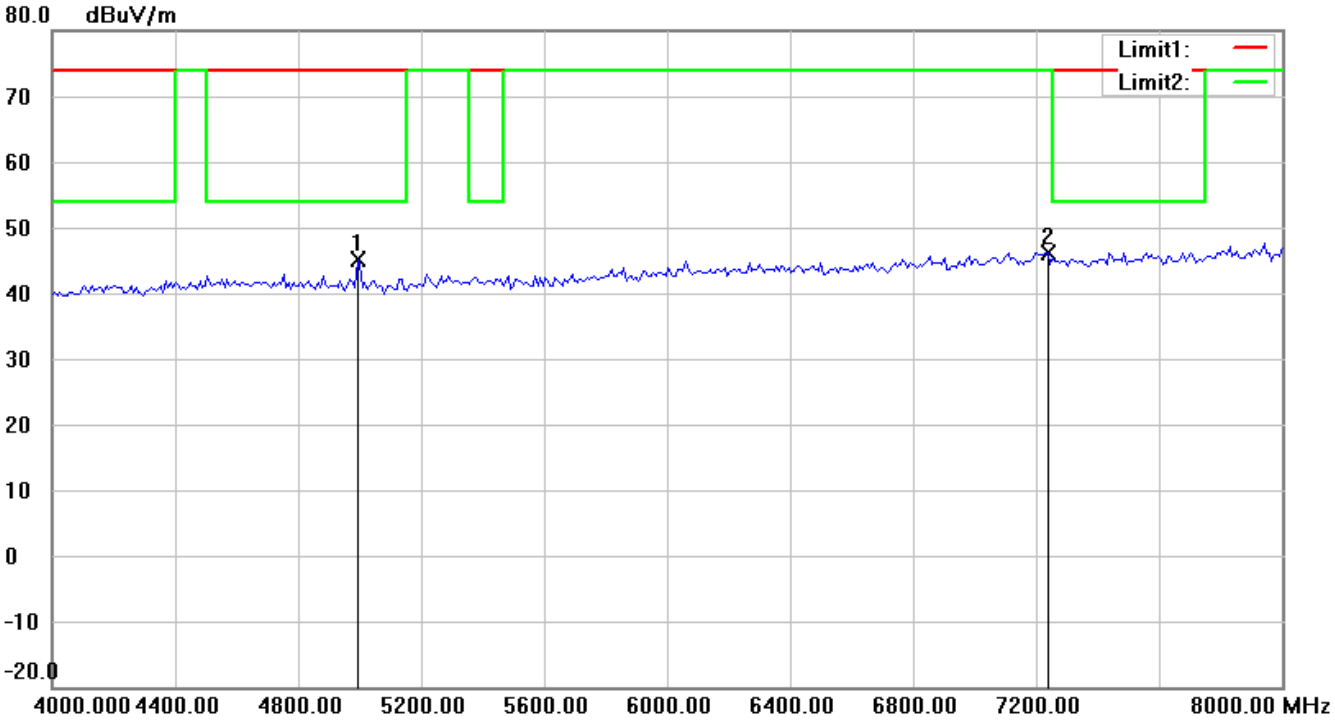


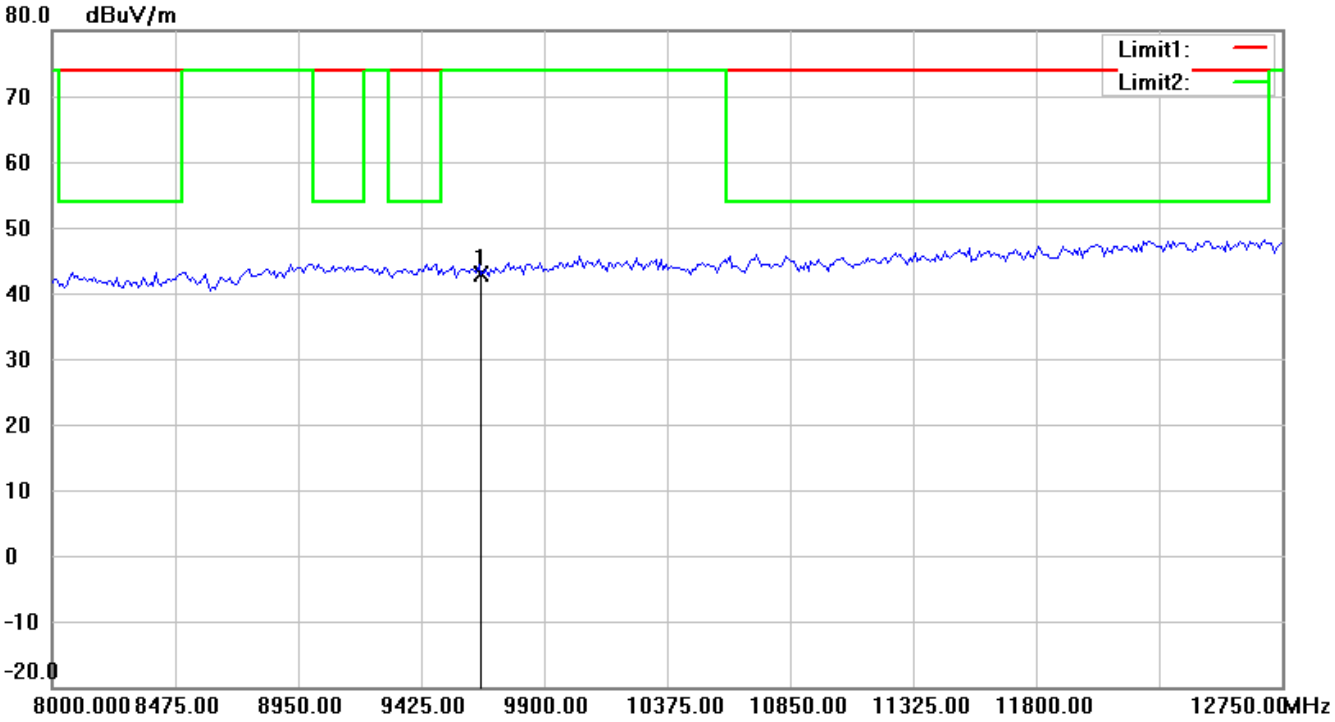
Registration number: W6D21101-11182-C-1
FCC ID: W6RRNX-N180UBE



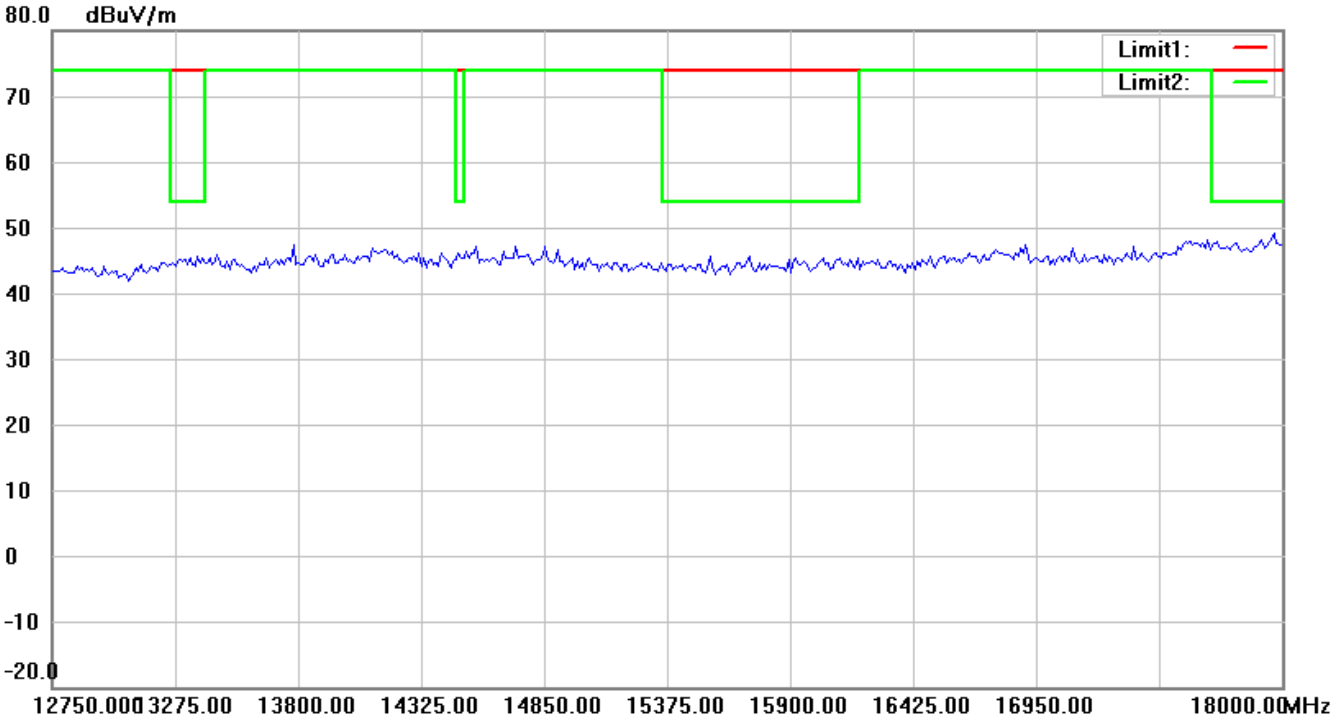


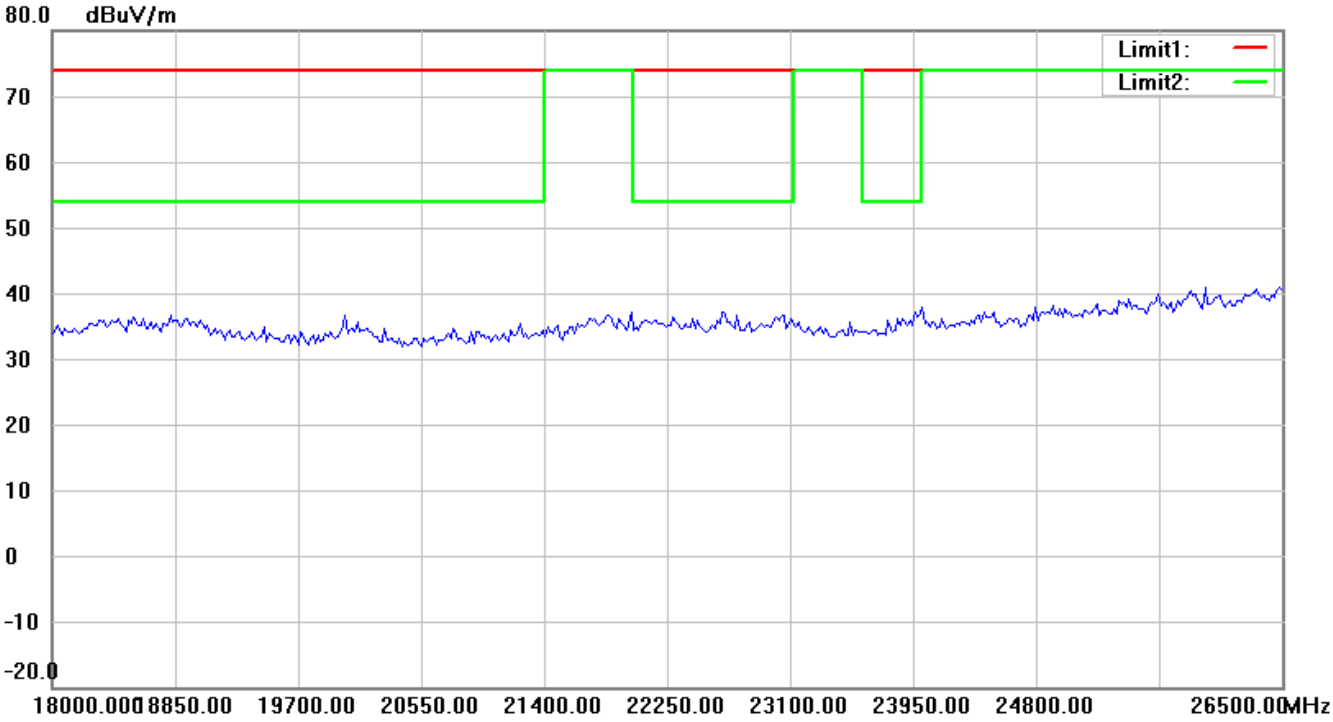
Registration number: W6D21101-11182-C-1
FCC ID: W6RRNX-N180UBE





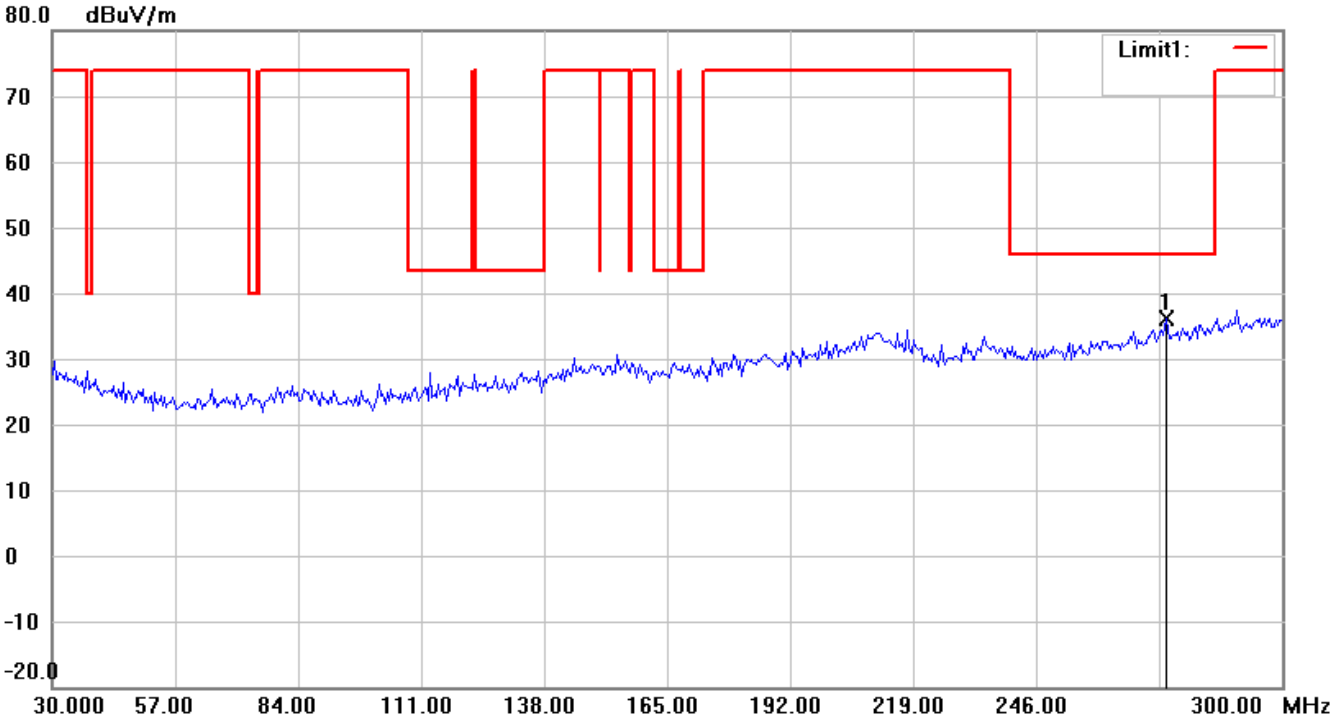
Registration number: W6D21101-11182-C-1
FCC ID: W6RRNX-N180UBE

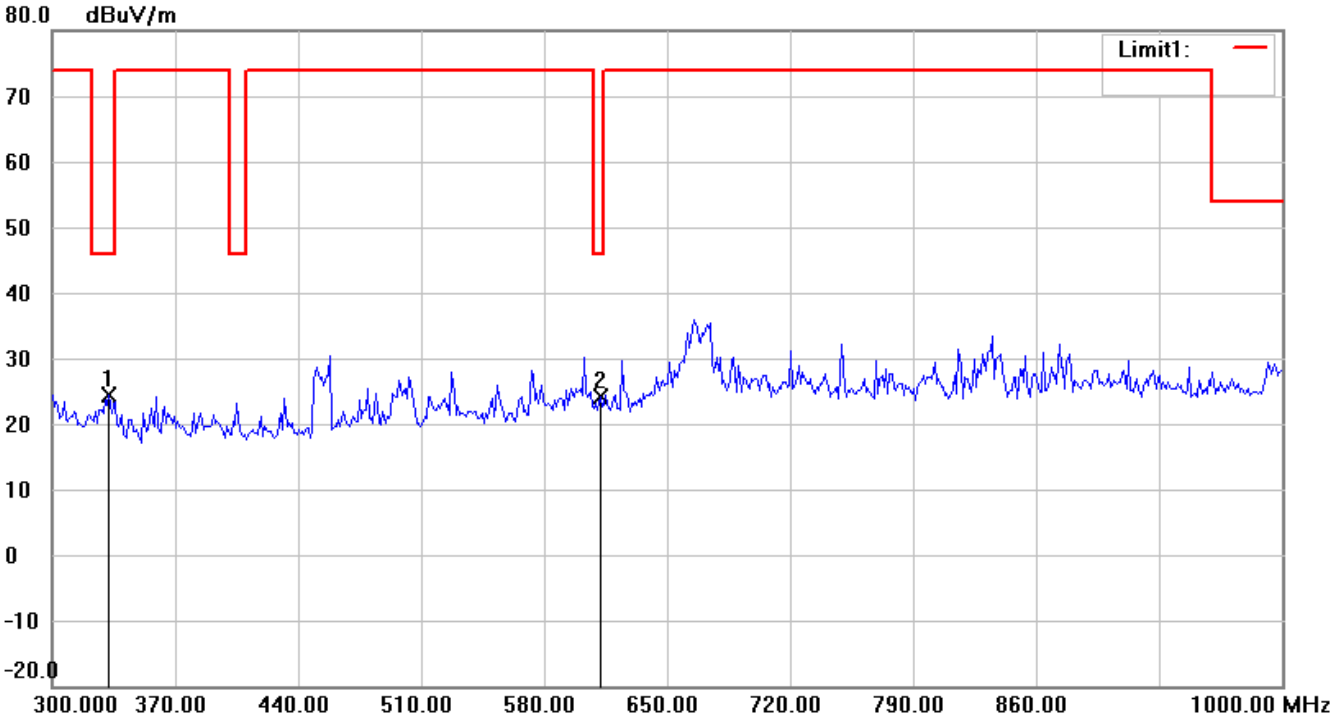




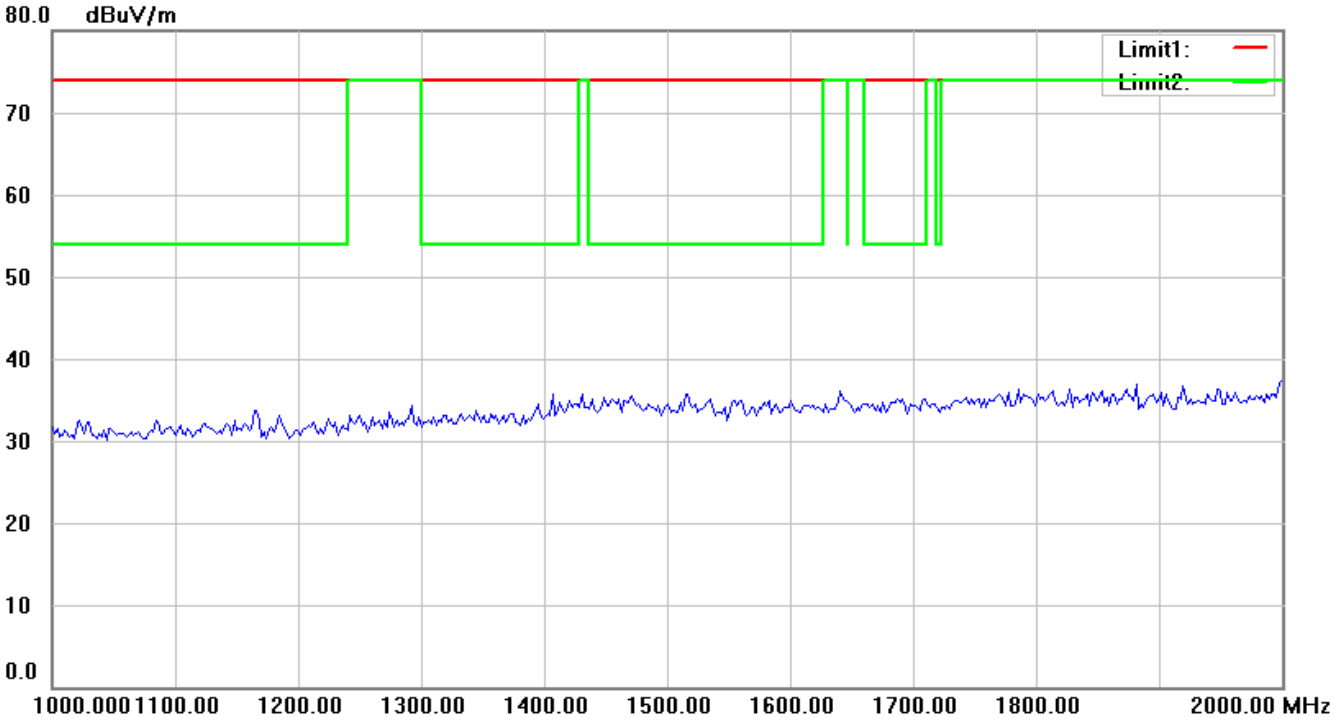
Registration number: W6D21101-11182-C-1
FCC ID: W6RRNX-N180UBE

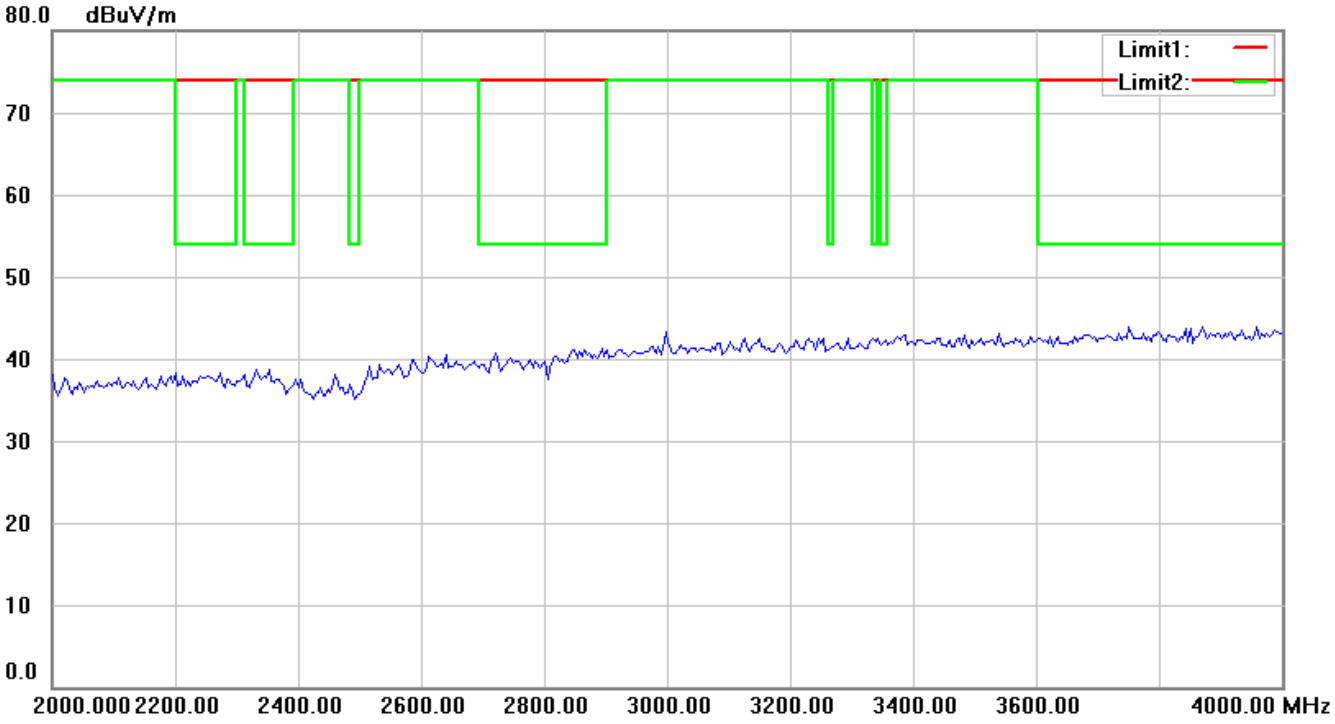
Channel 6
Antenna Polarization H



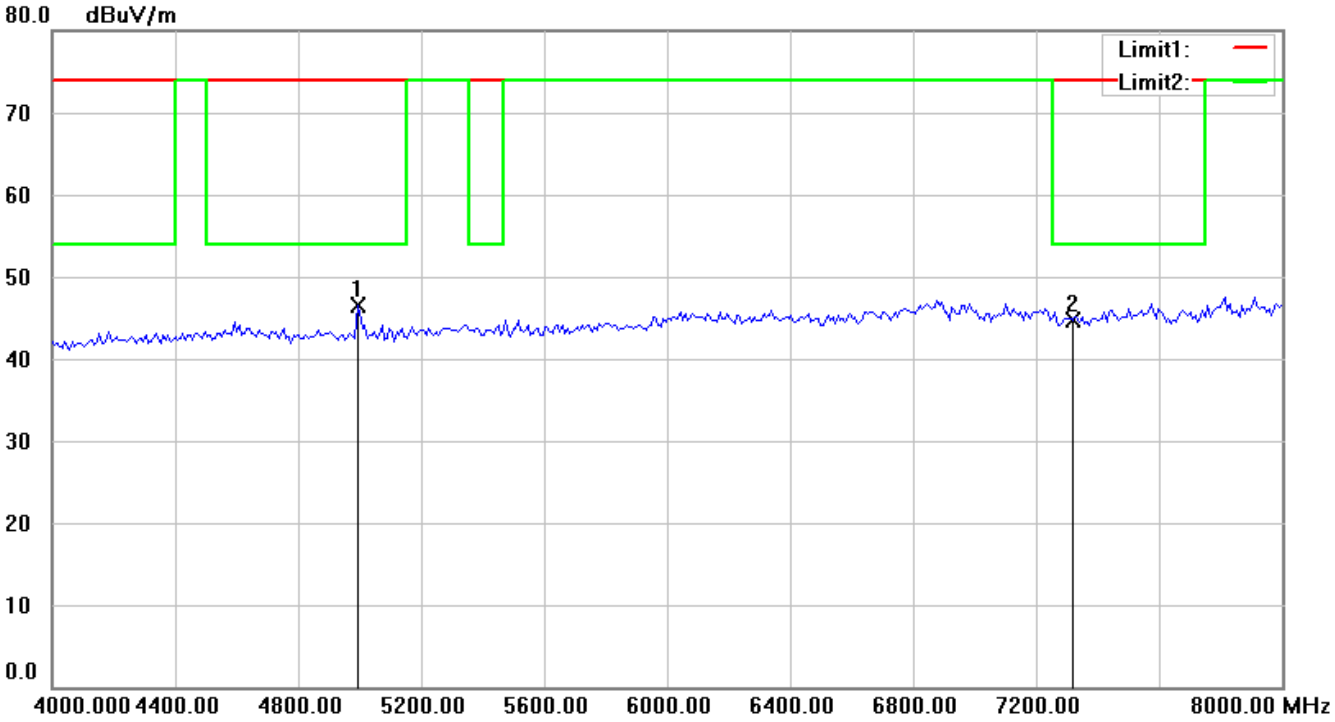


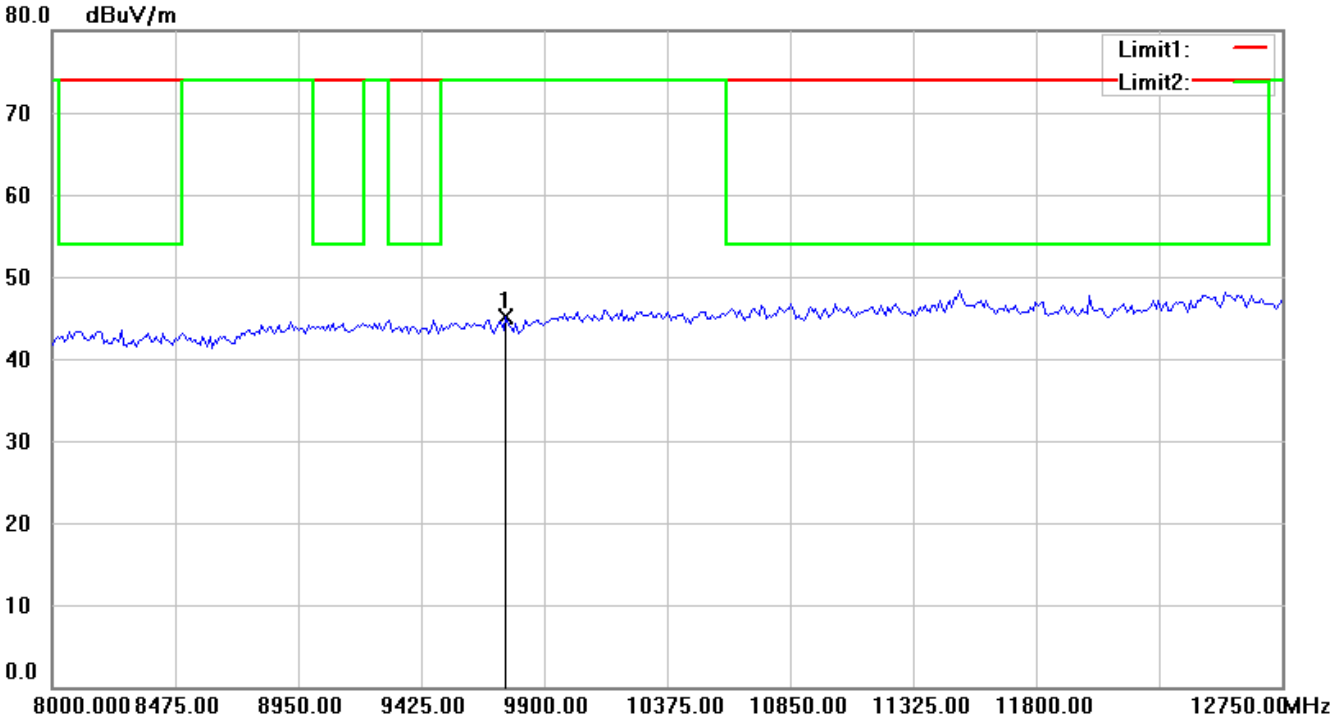
Registration number: W6D21101-11182-C-1
FCC ID: W6RRNX-N180UBE



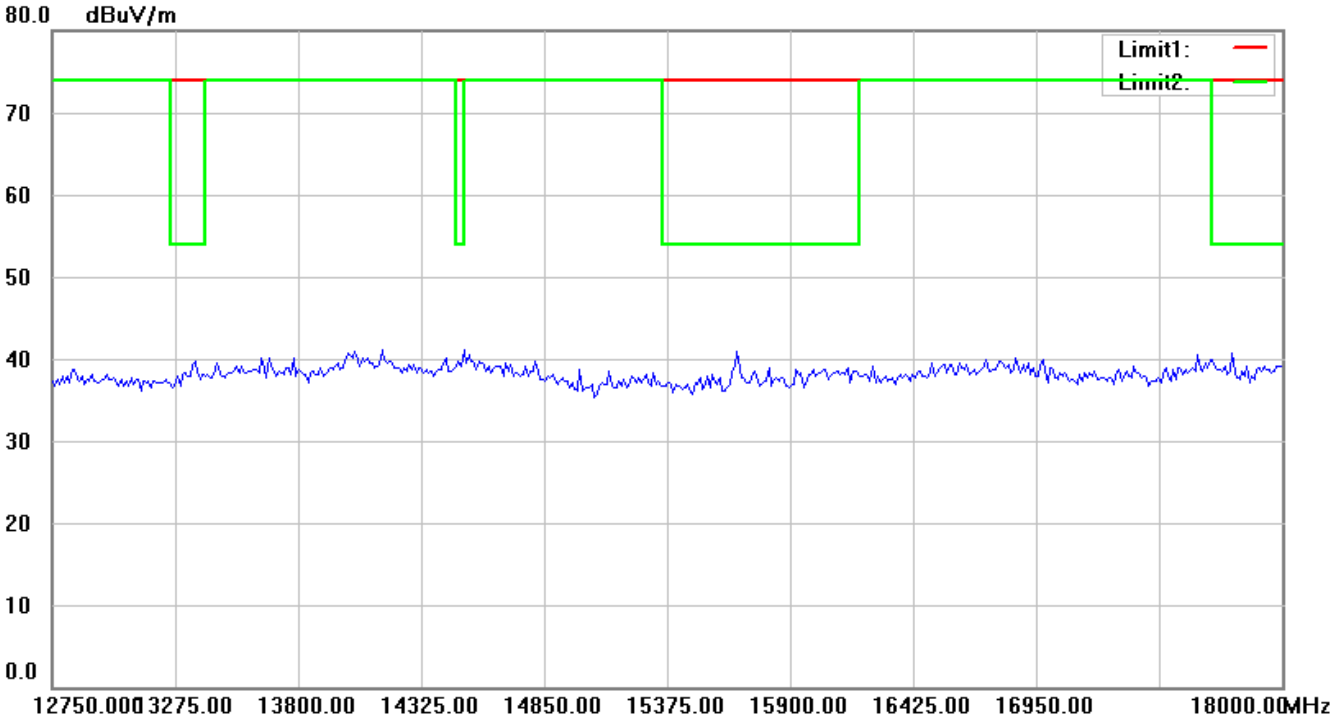


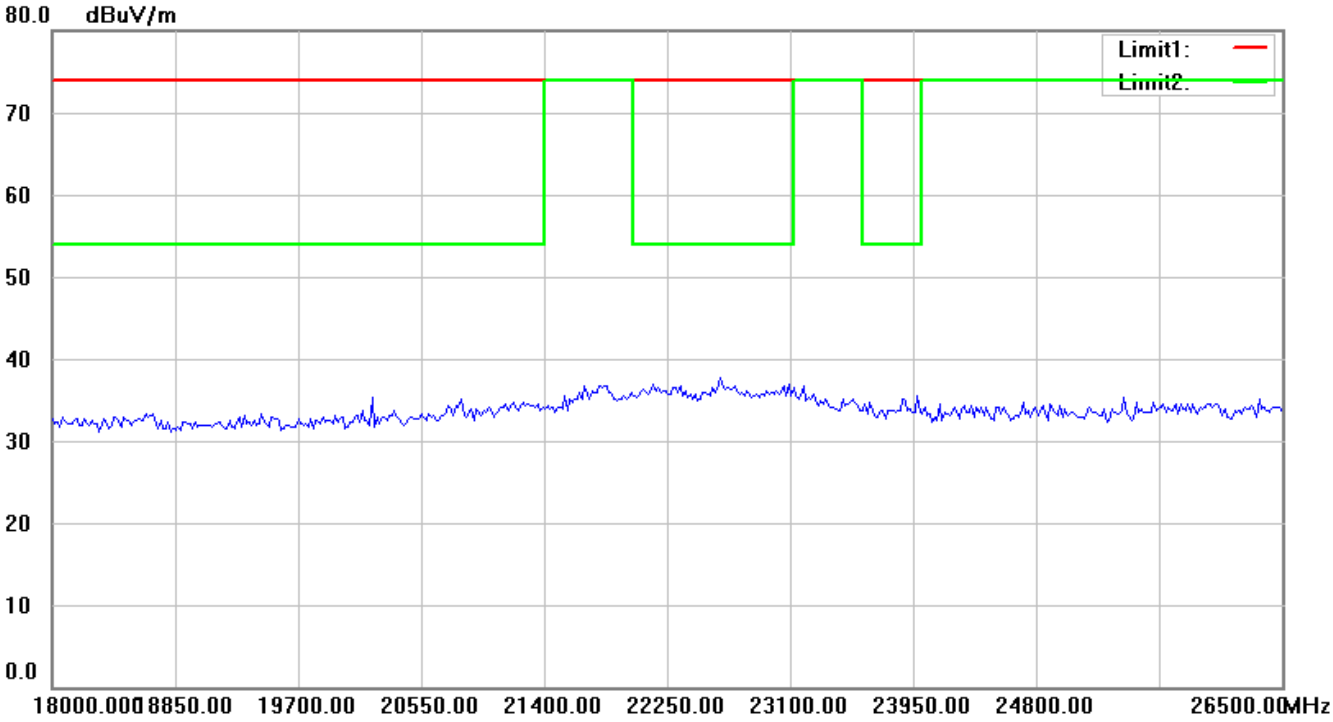
Registration number: W6D21101-11182-C-1
FCC ID: W6RRNX-N180UBE





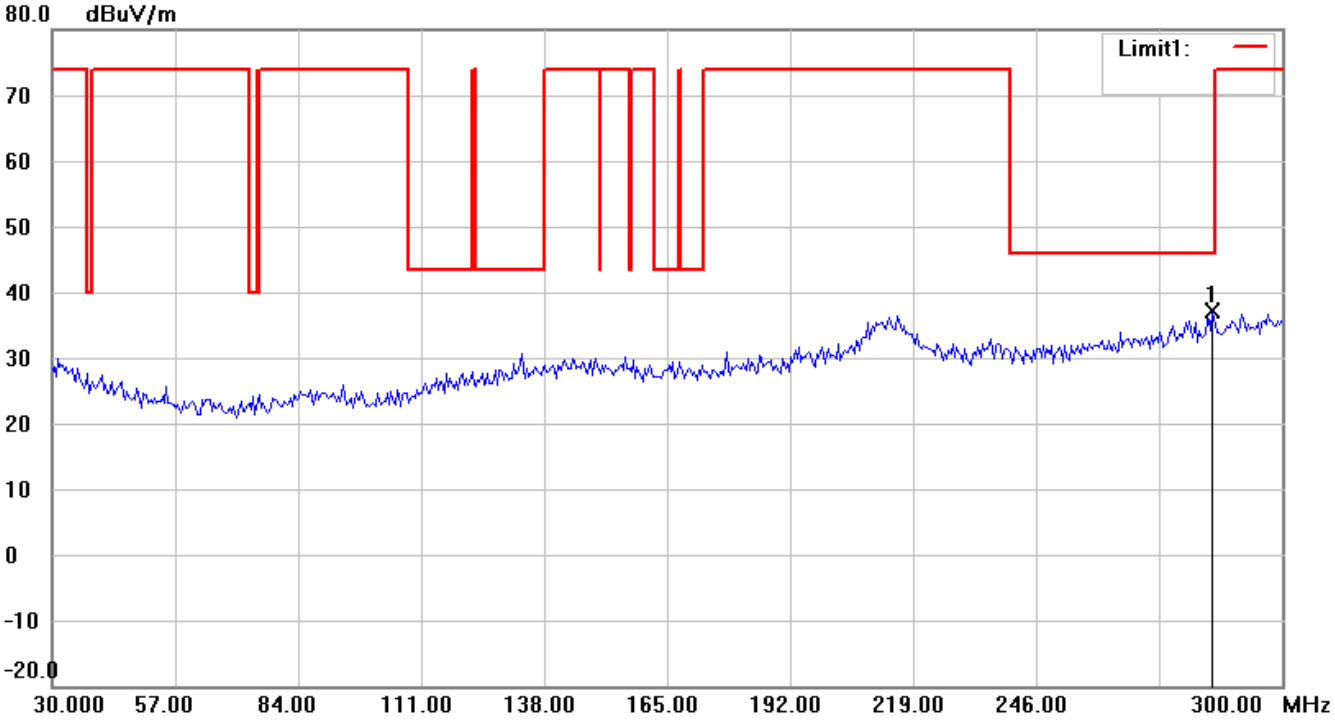
Registration number: W6D21101-11182-C-1
FCC ID: W6RRNX-N180UBE

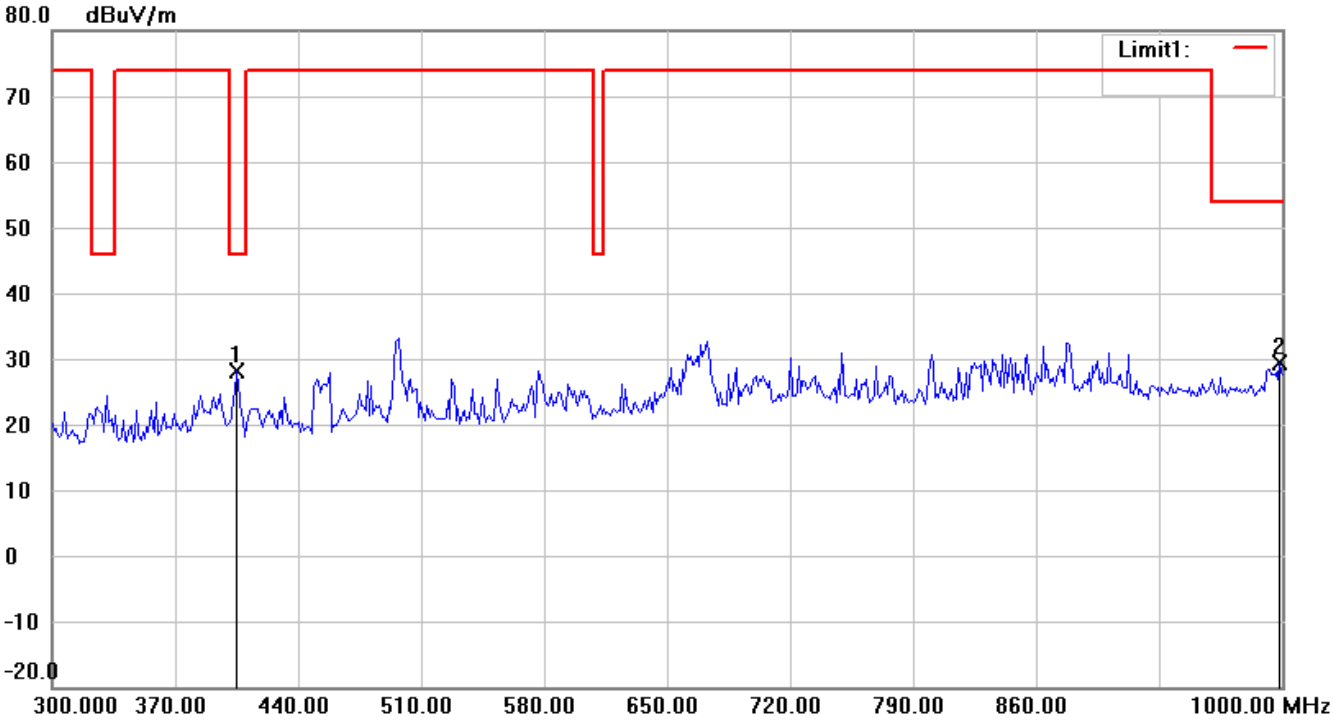




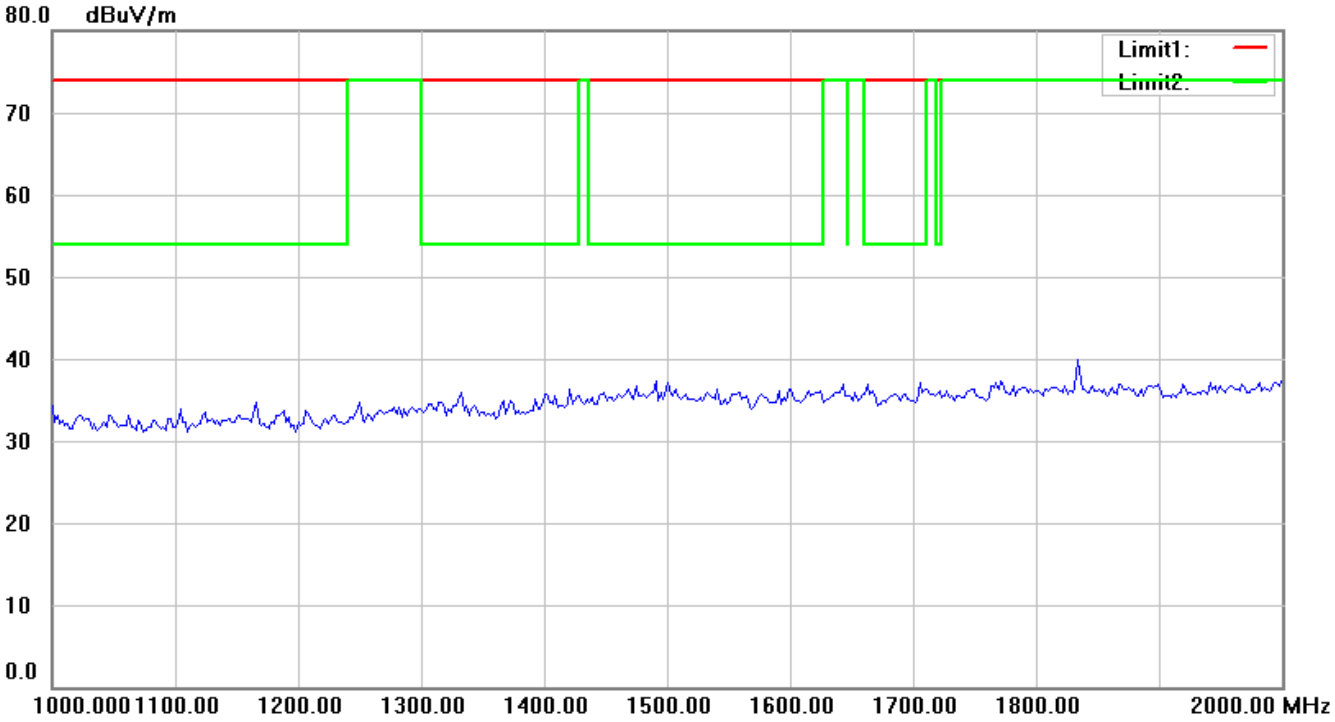
Registration number: W6D21101-11182-C-1
FCC ID: W6RRNX-N180UBE

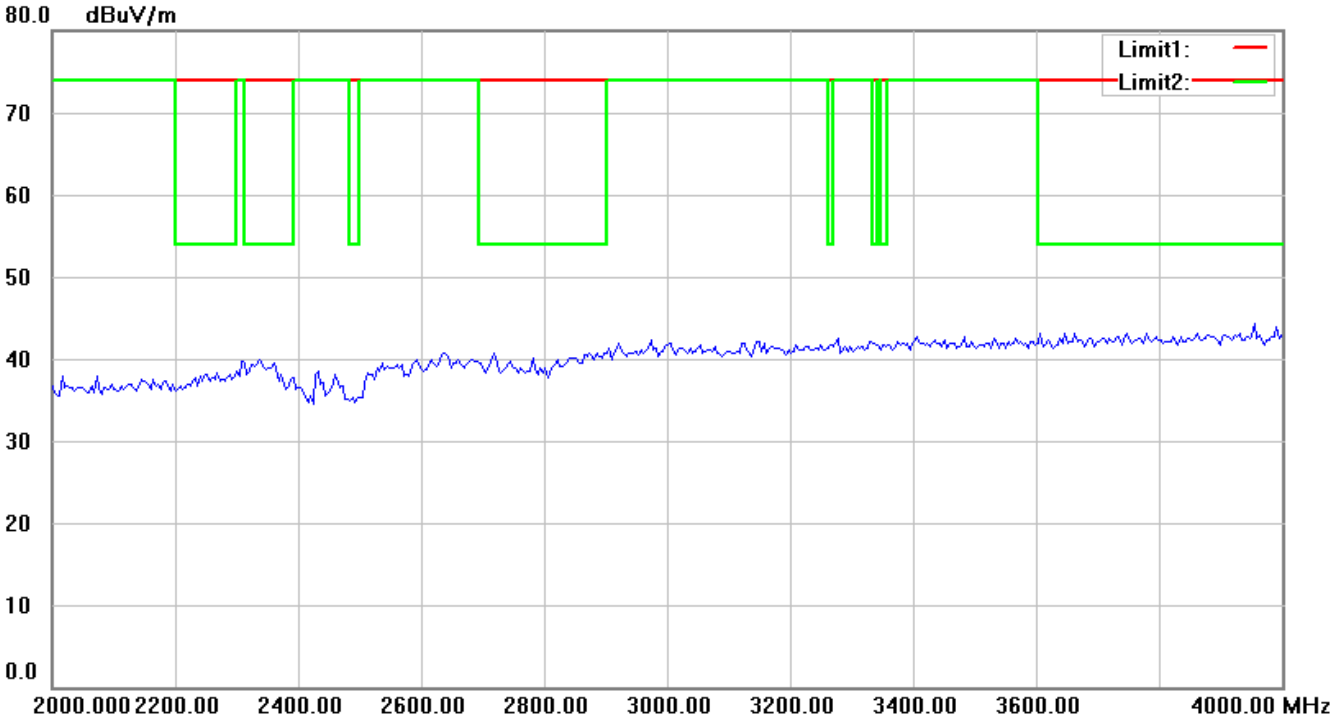
Antenna Polarization V



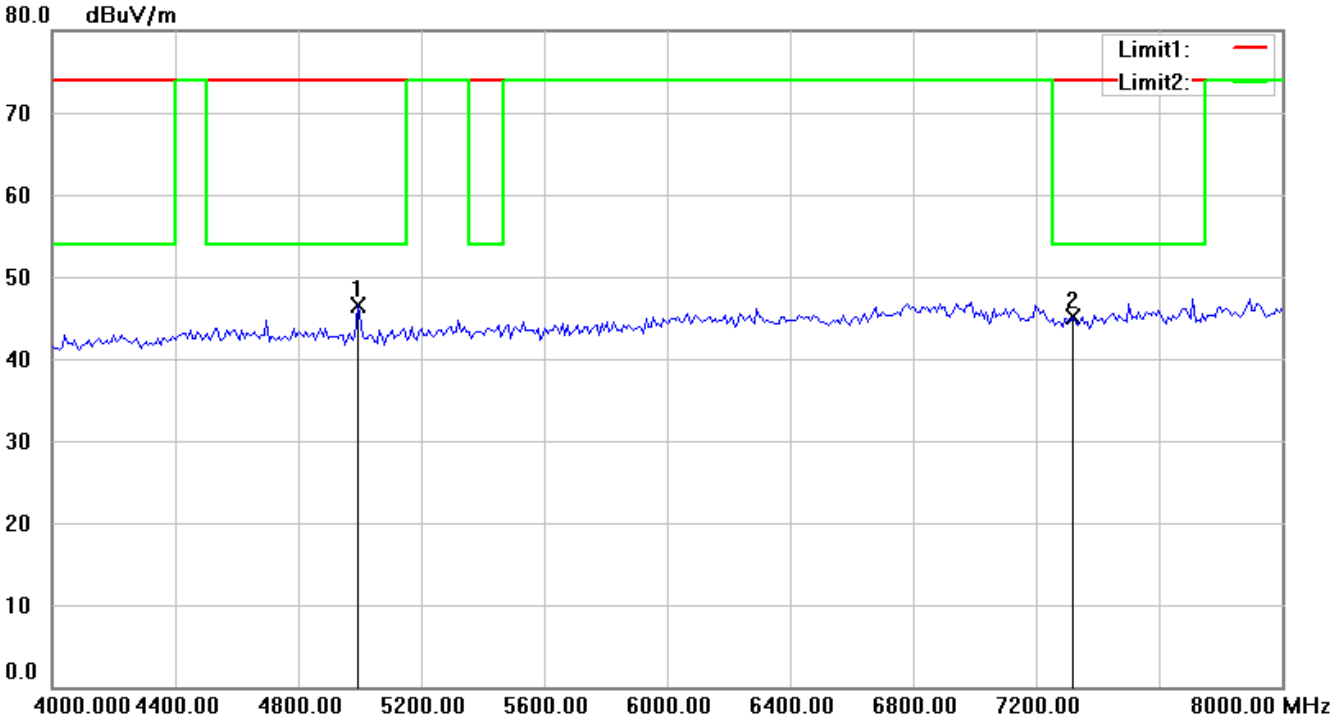


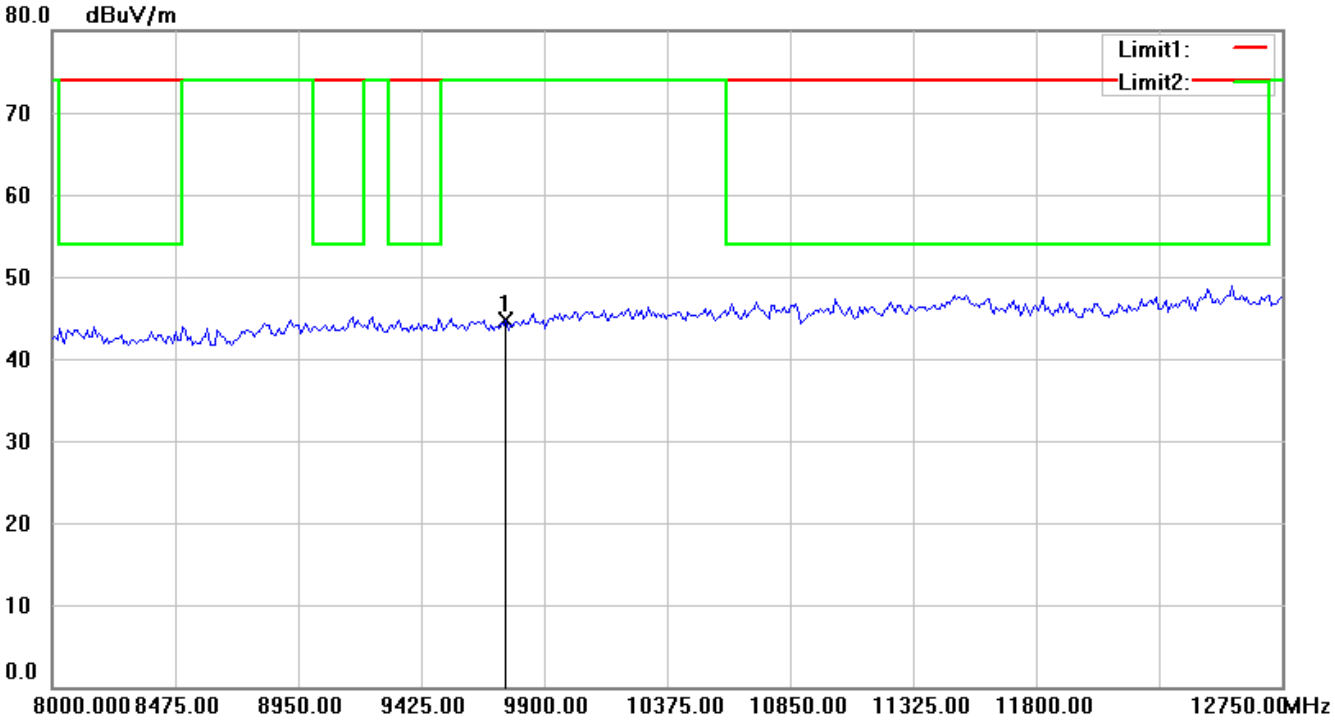
Registration number: W6D21101-11182-C-1
FCC ID: W6RRNX-N180UBE



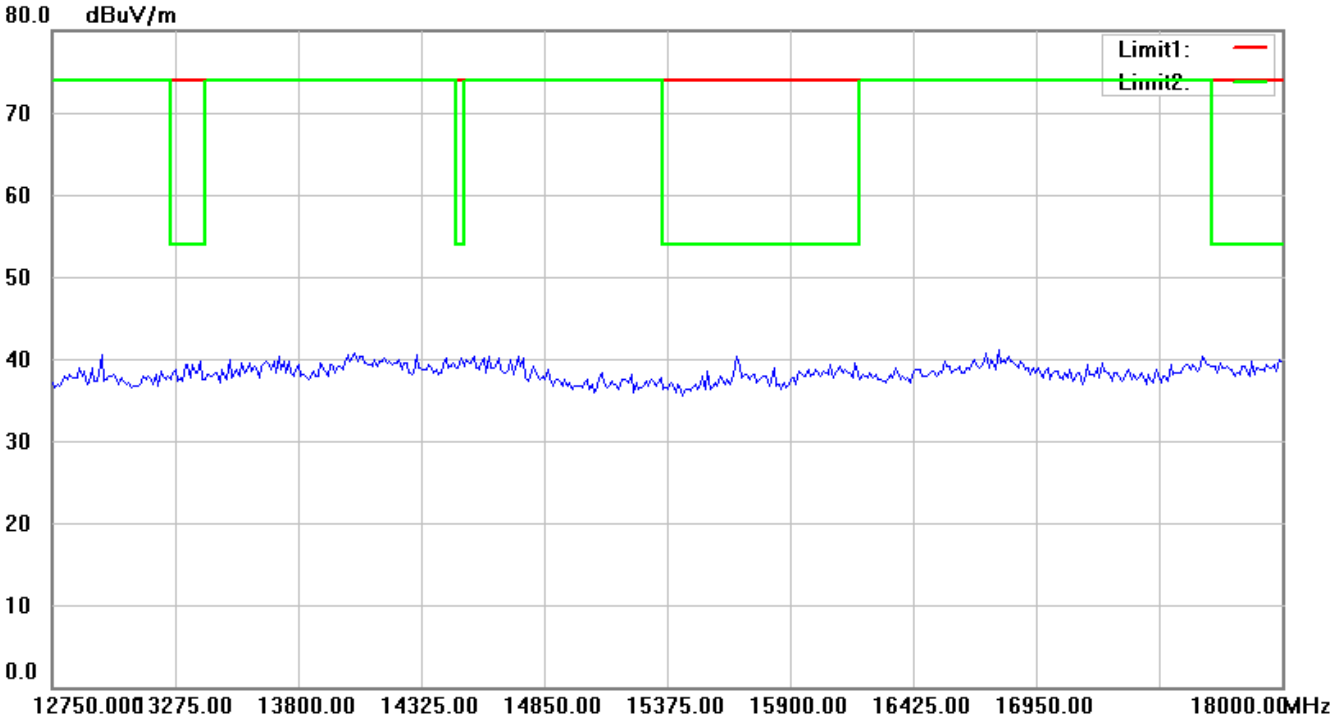


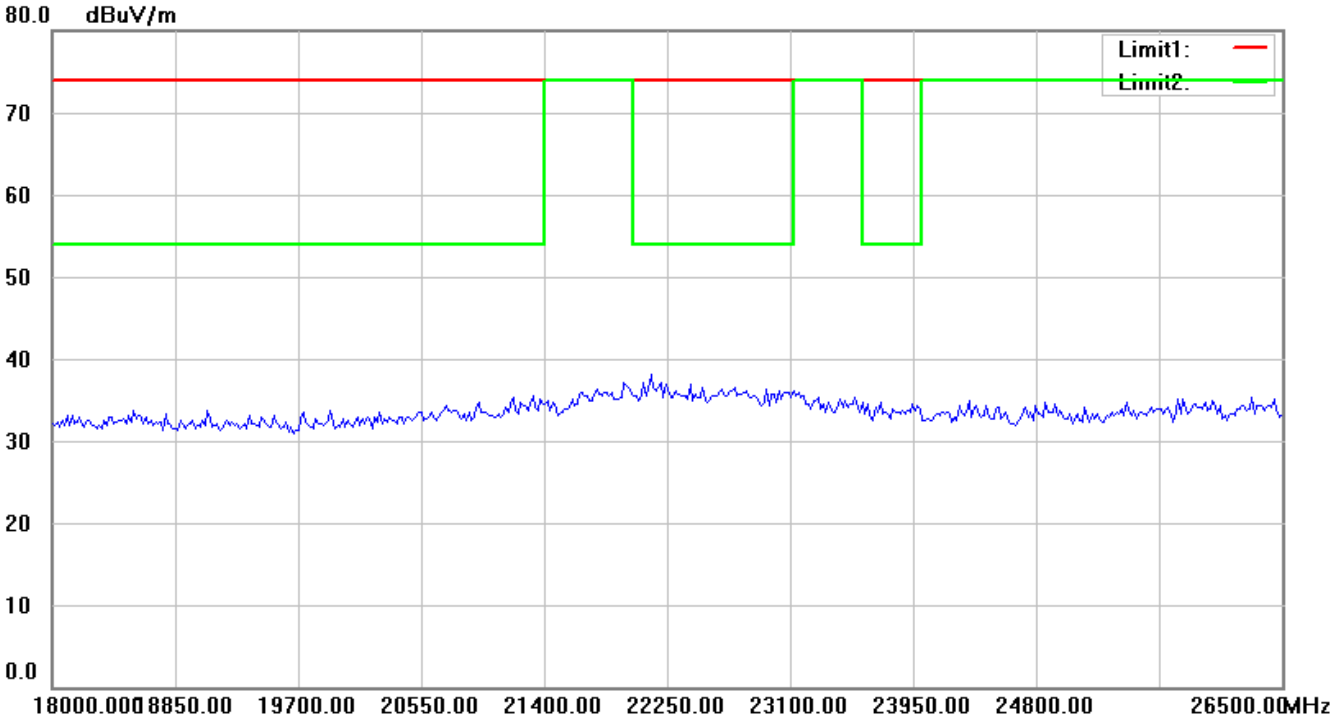
Registration number: W6D21101-11182-C-1
FCC ID: W6RRNX-N180UBE





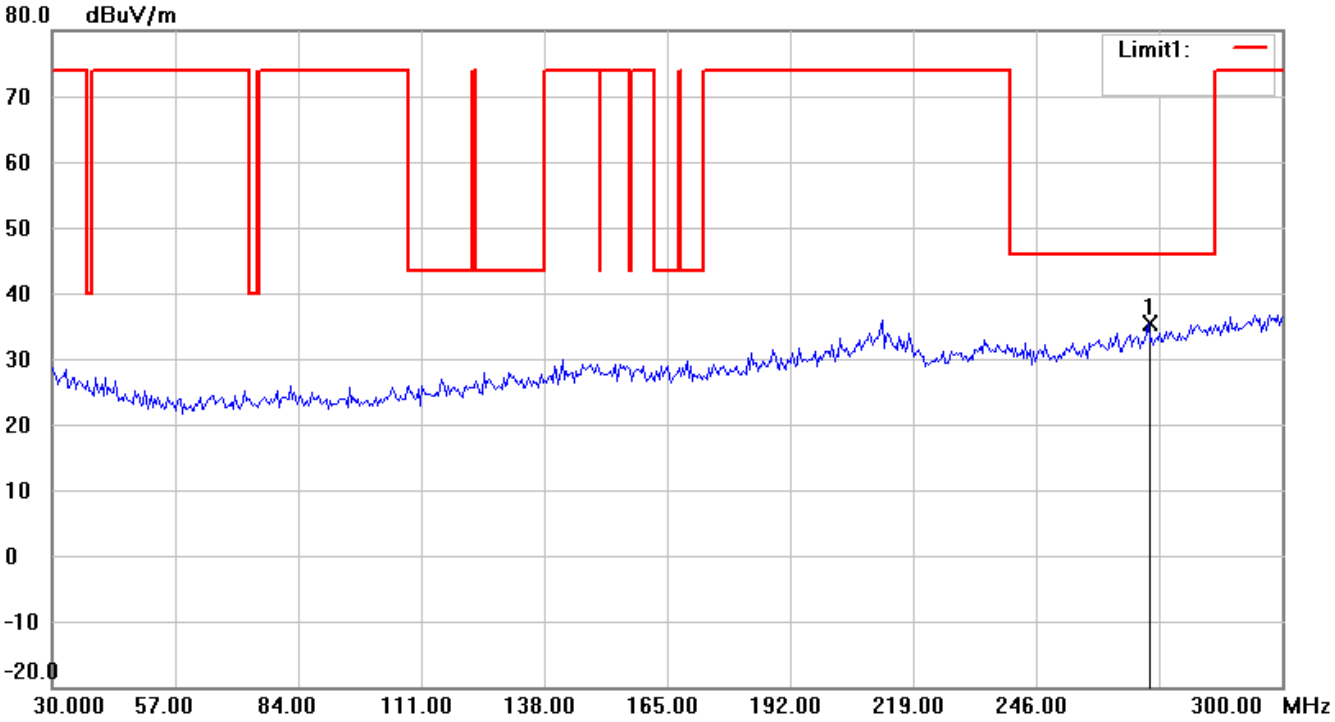
Registration number: W6D21101-11182-C-1
FCC ID: W6RRNX-N180UBE

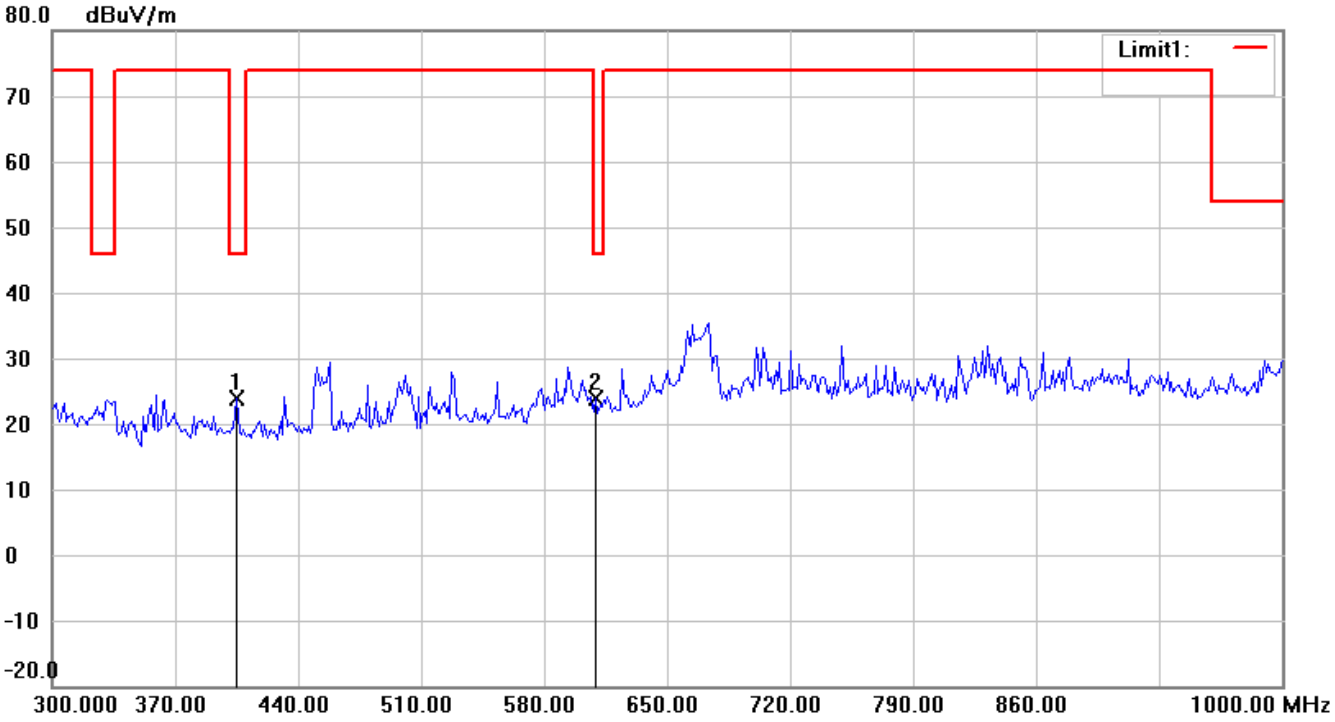




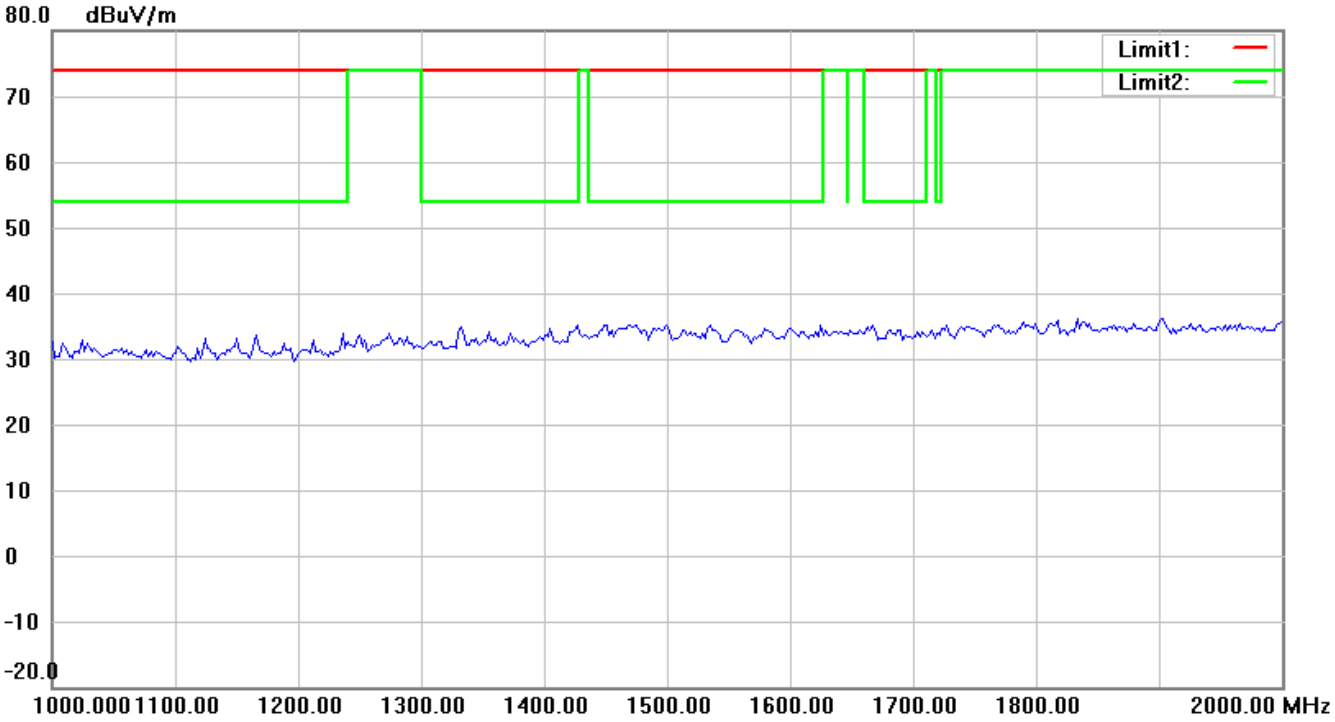
Registration number: W6D21101-11182-C-1
FCC ID: W6RRNX-N180UBE

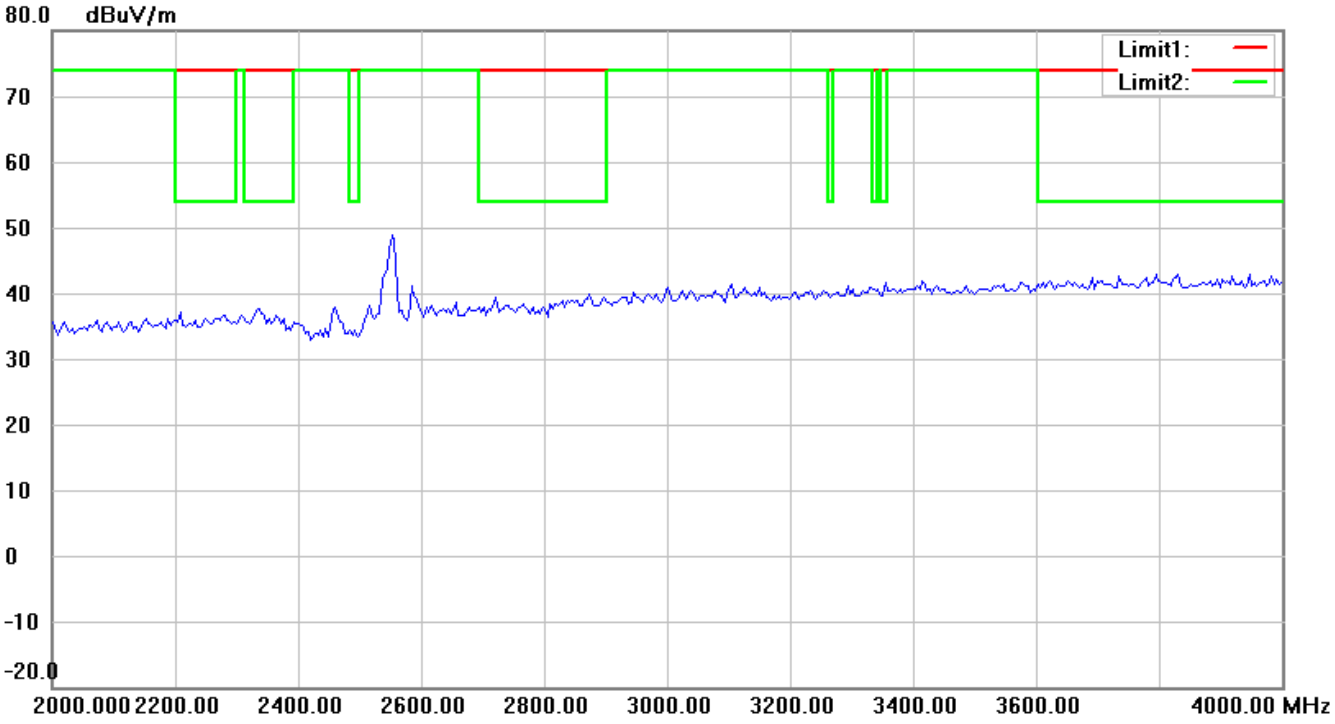
Channel 11
Antenna Polarization H



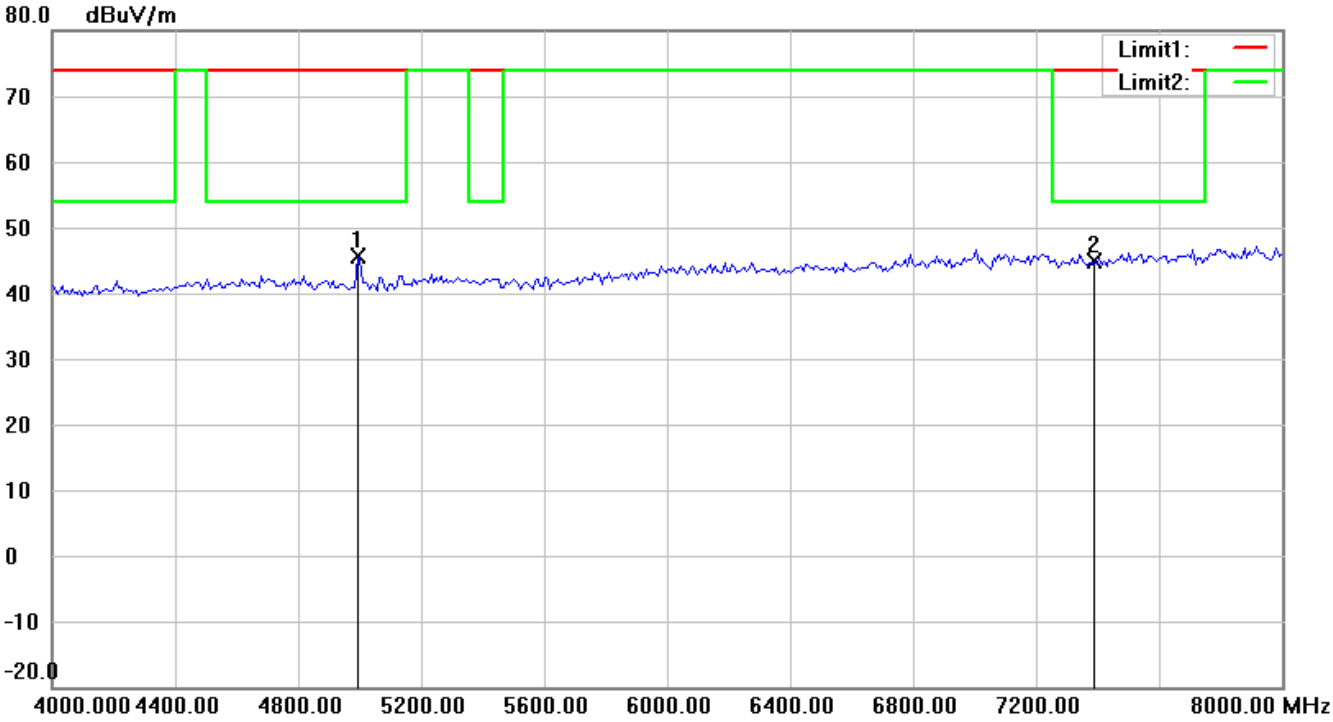


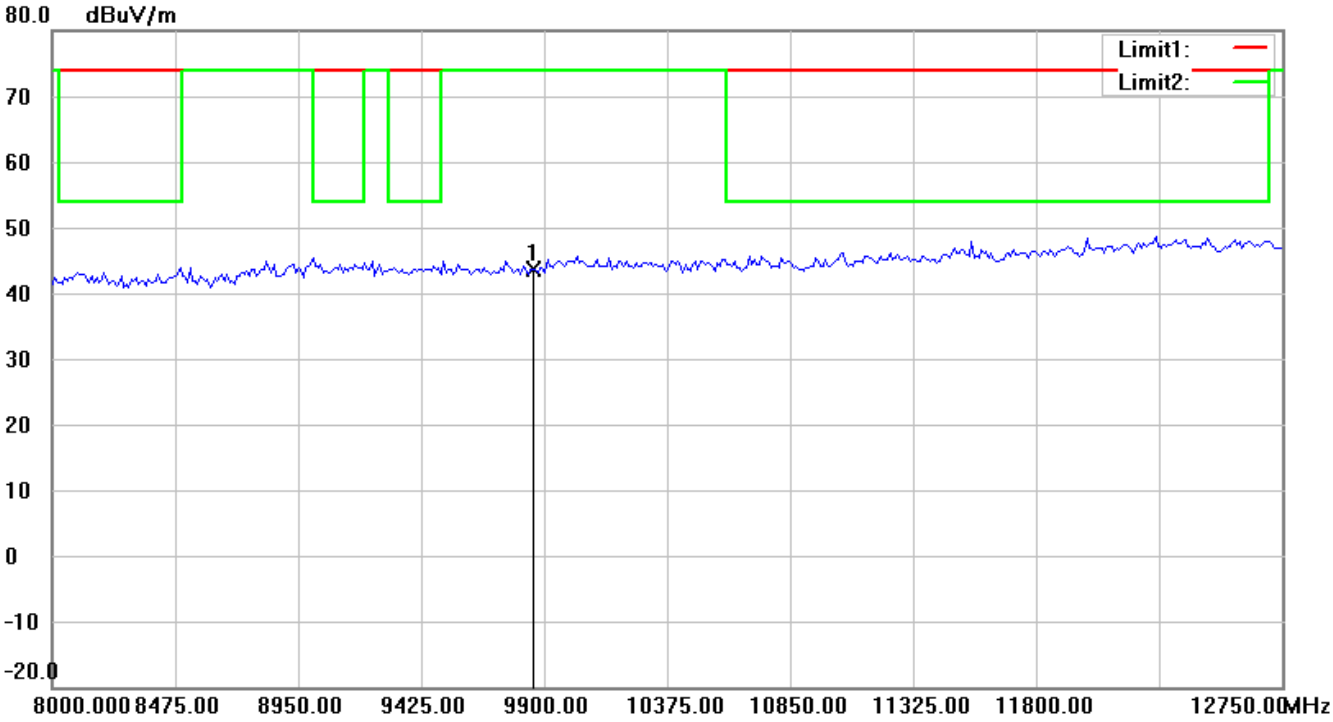
Registration number: W6D21101-11182-C-1
FCC ID: W6RRNX-N180UBE



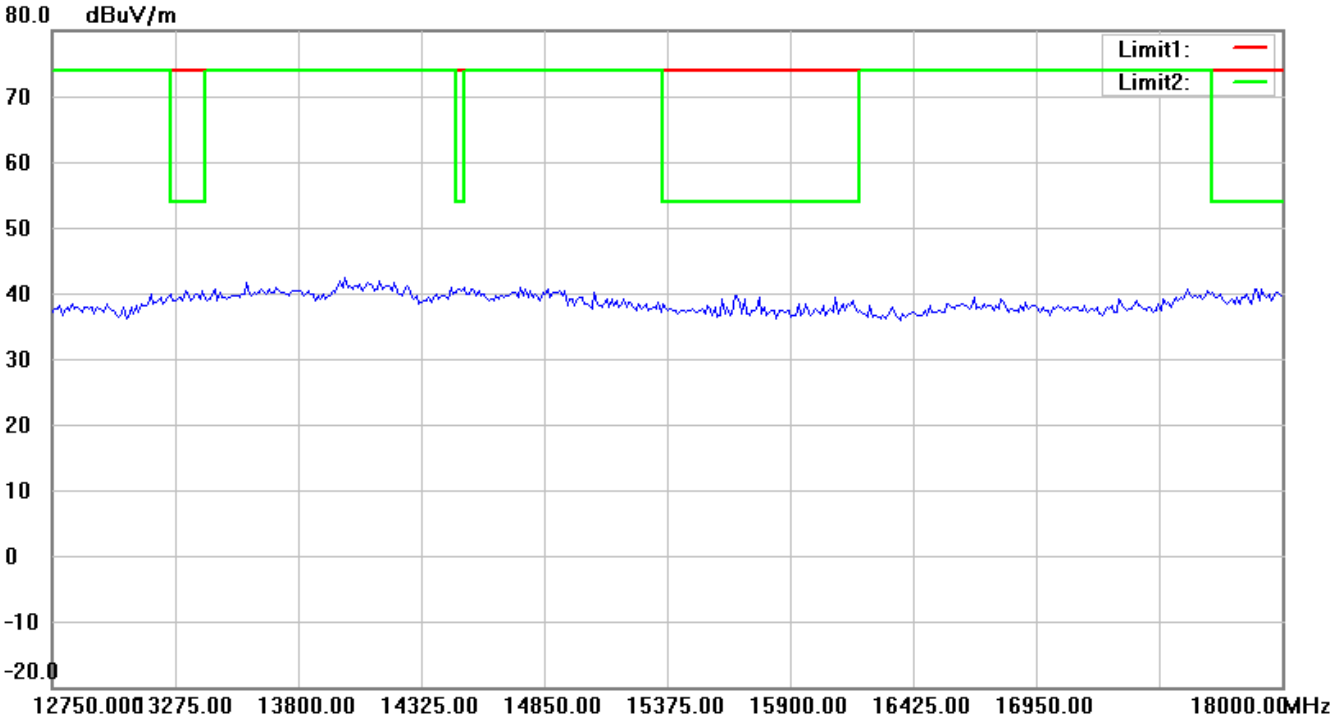


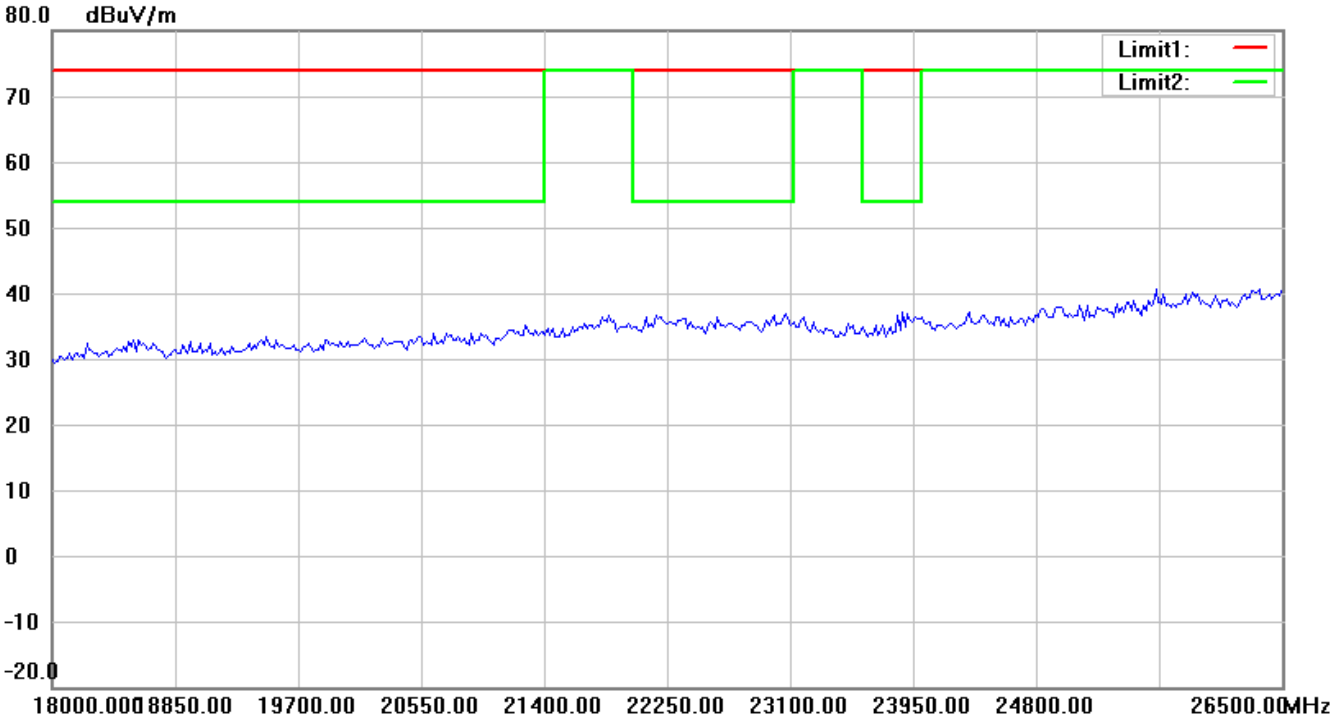
Registration number: W6D21101-11182-C-1
FCC ID: W6RRNX-N180UBE





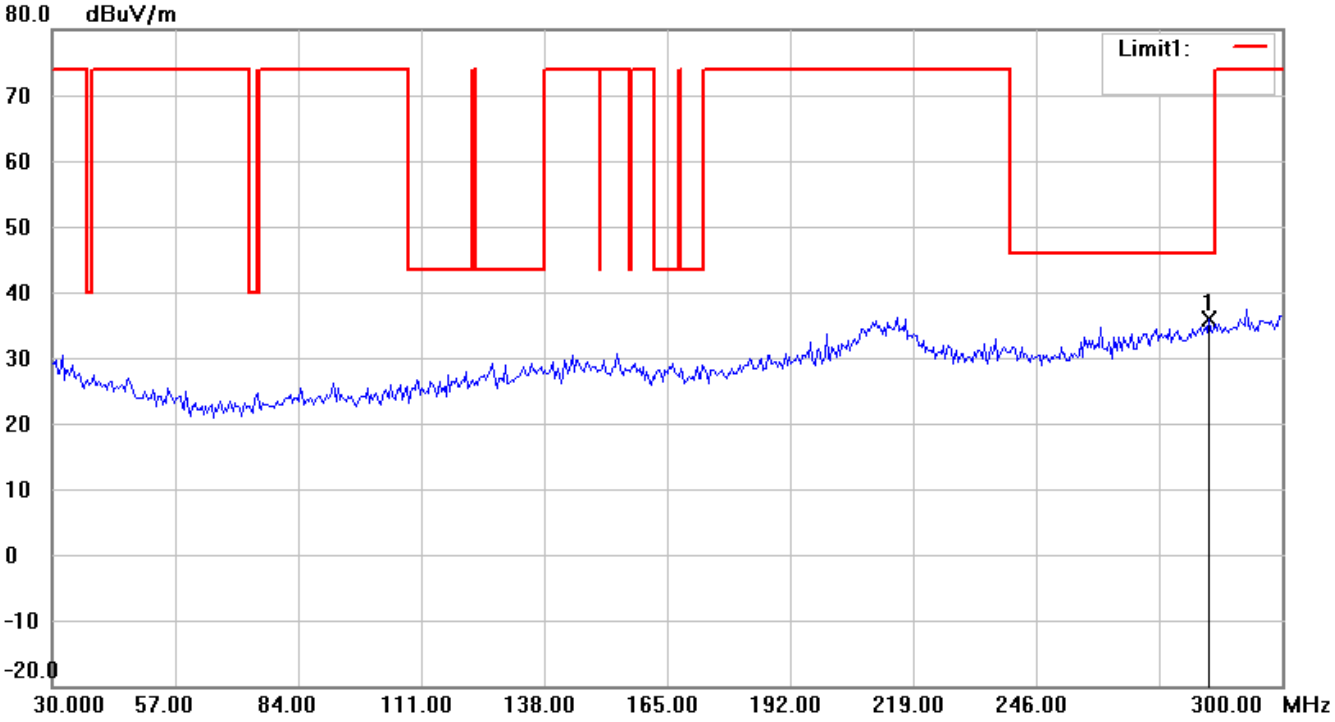
Registration number: W6D21101-11182-C-1
FCC ID: W6RRNX-N180UBE

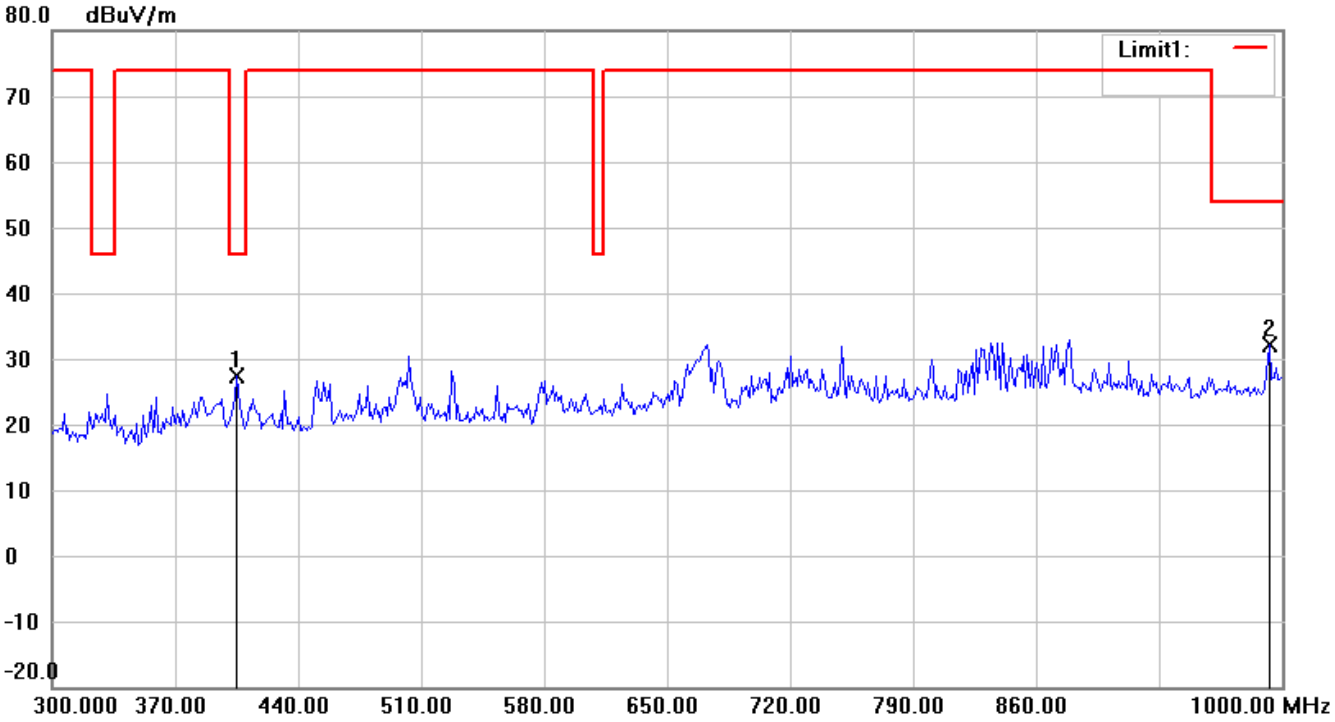




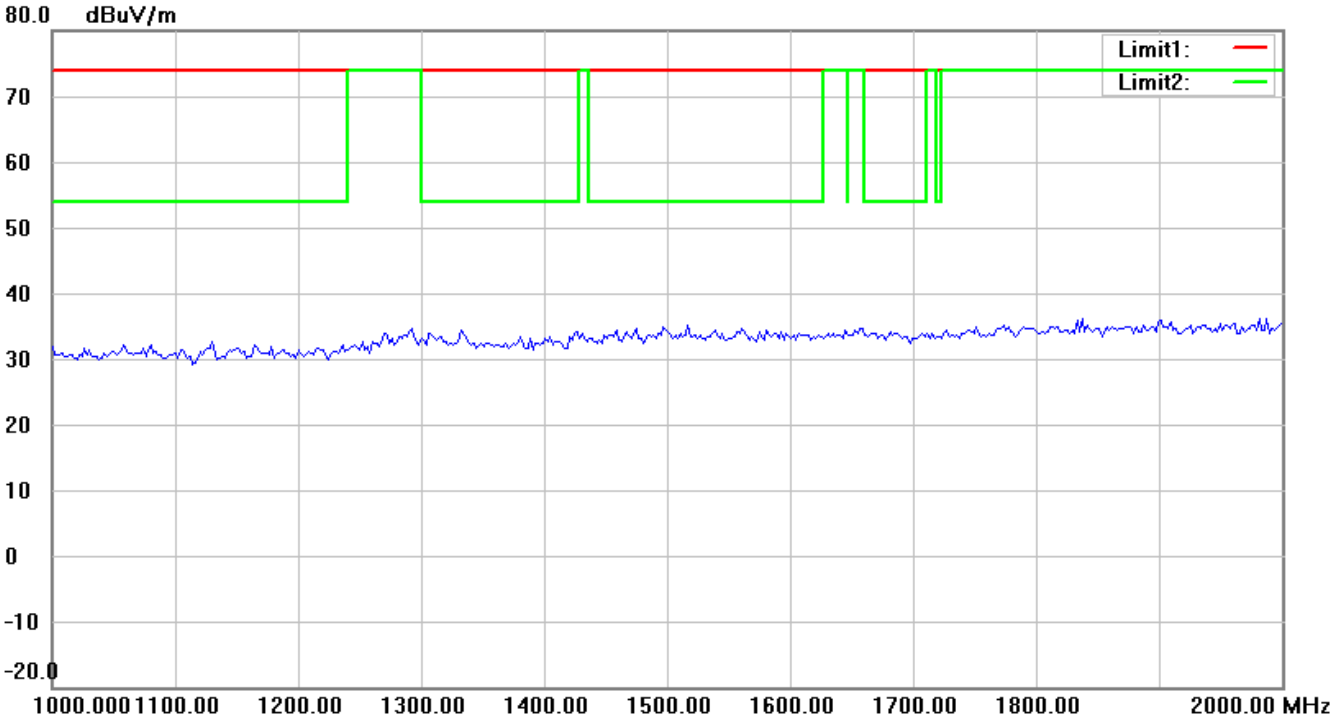
Registration number: W6D21101-11182-C-1
FCC ID: W6RRNX-N180UBE

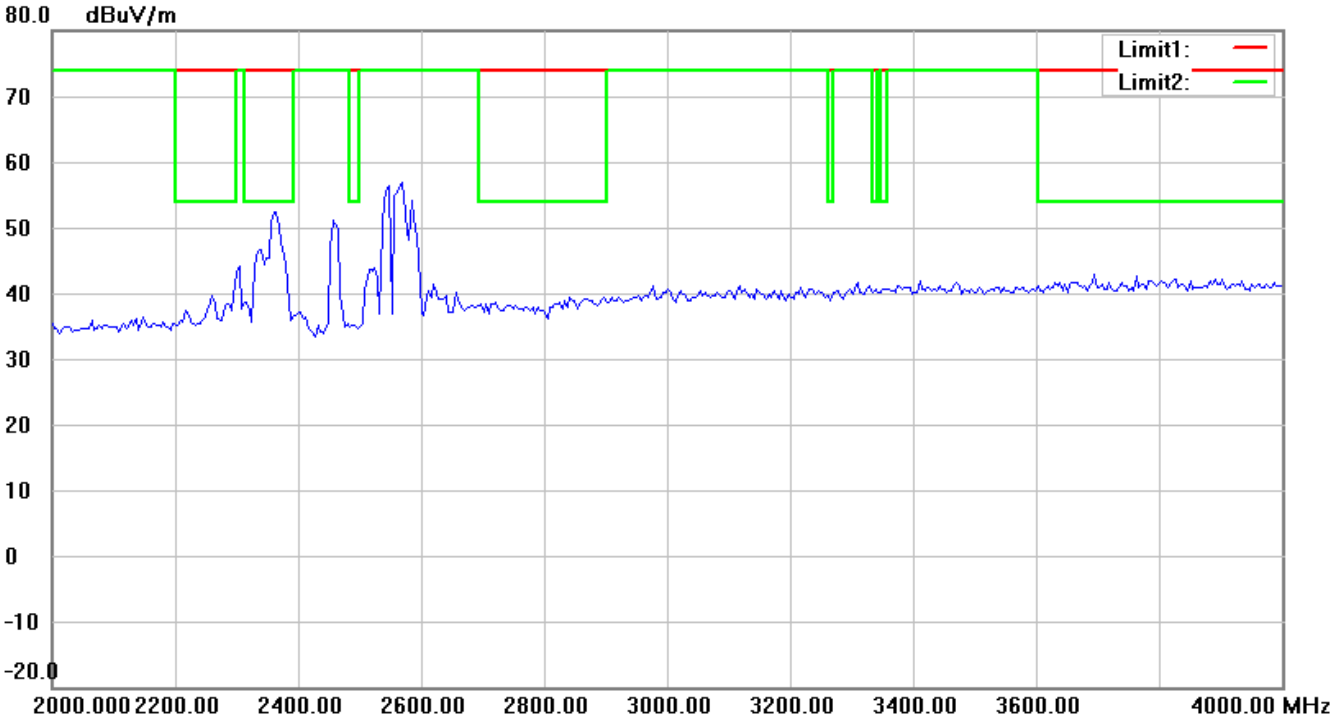
Antenna Polarization V



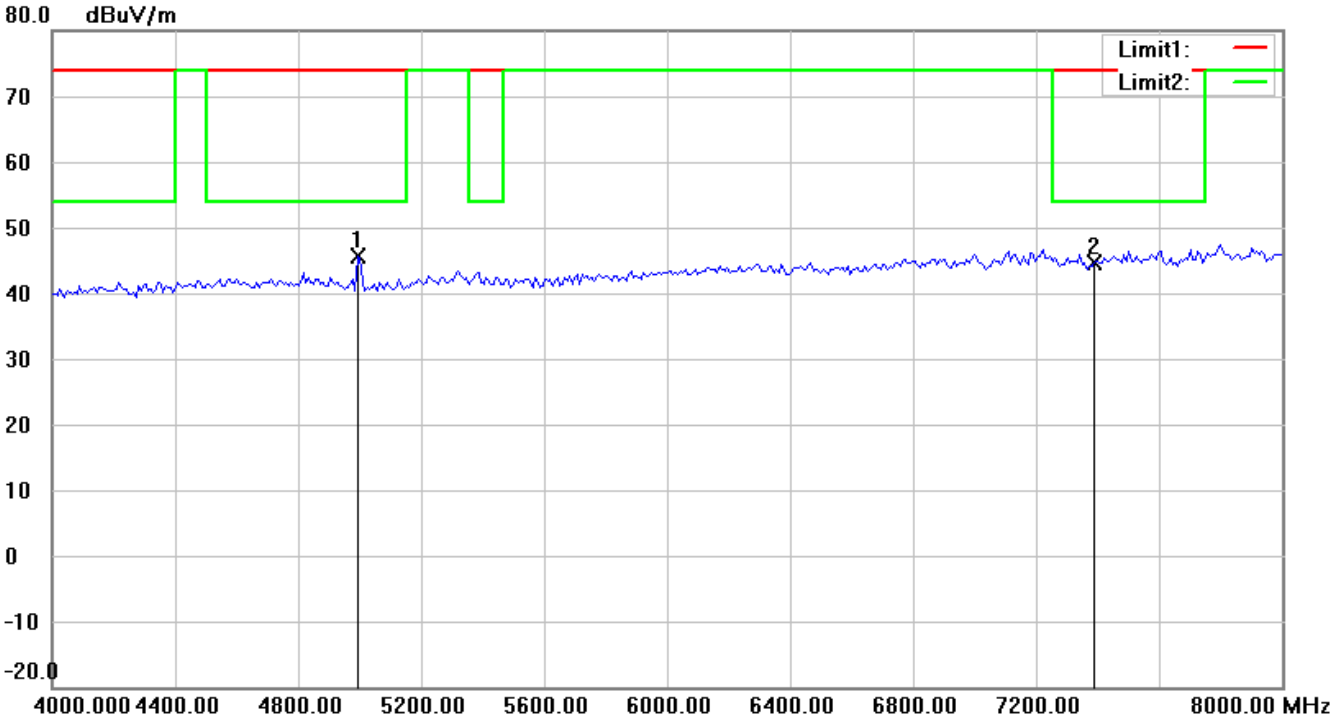


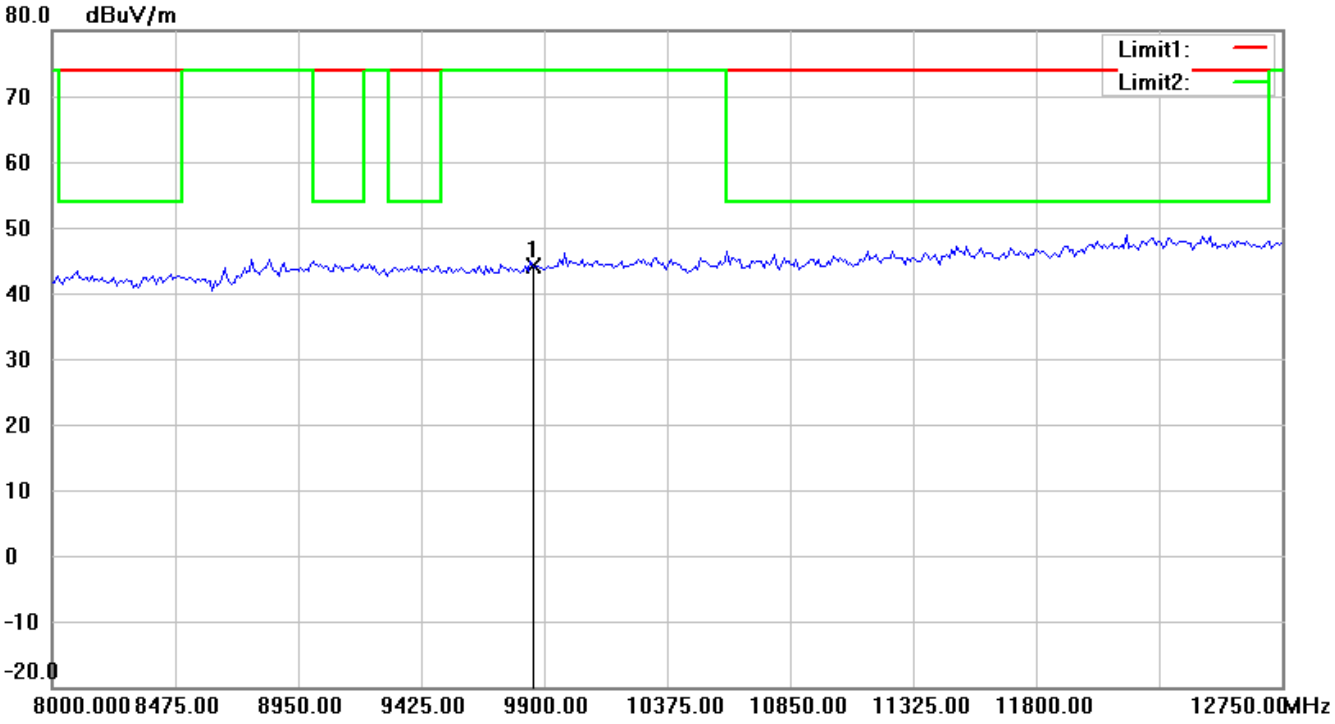
Registration number: W6D21101-11182-C-1
FCC ID: W6RRNX-N180UBE



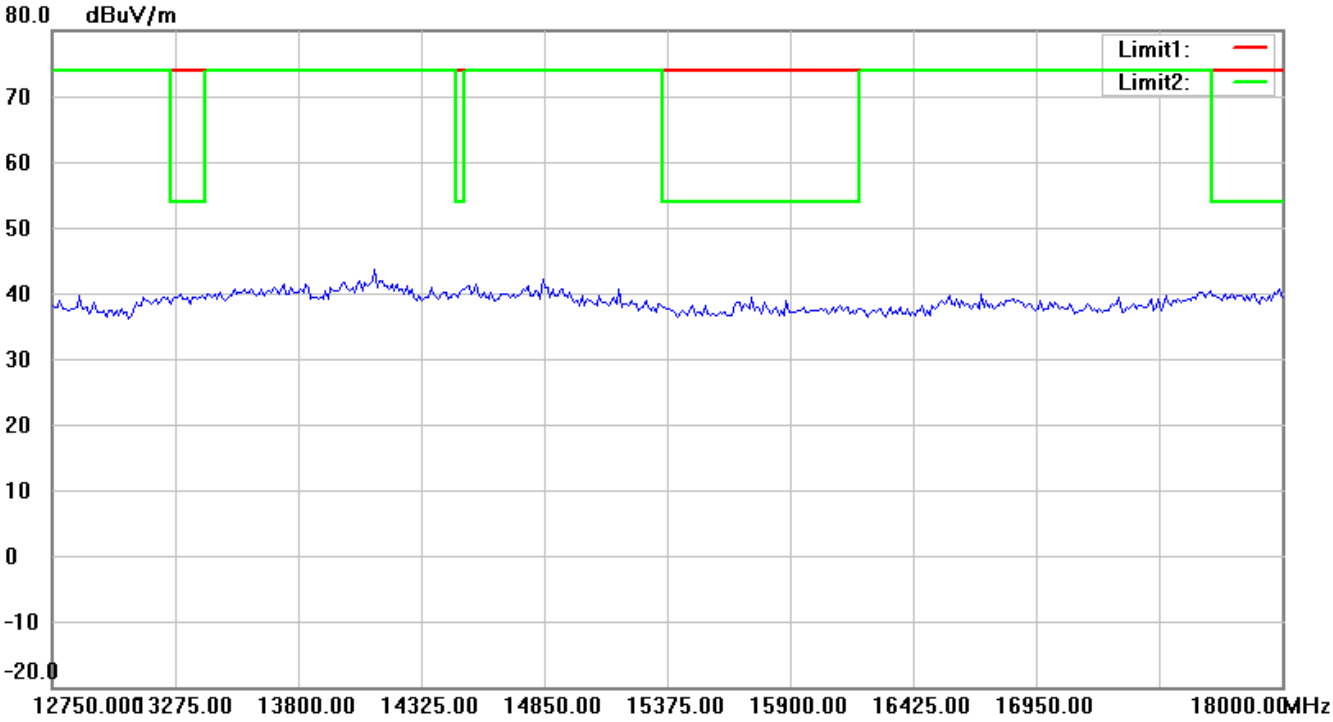


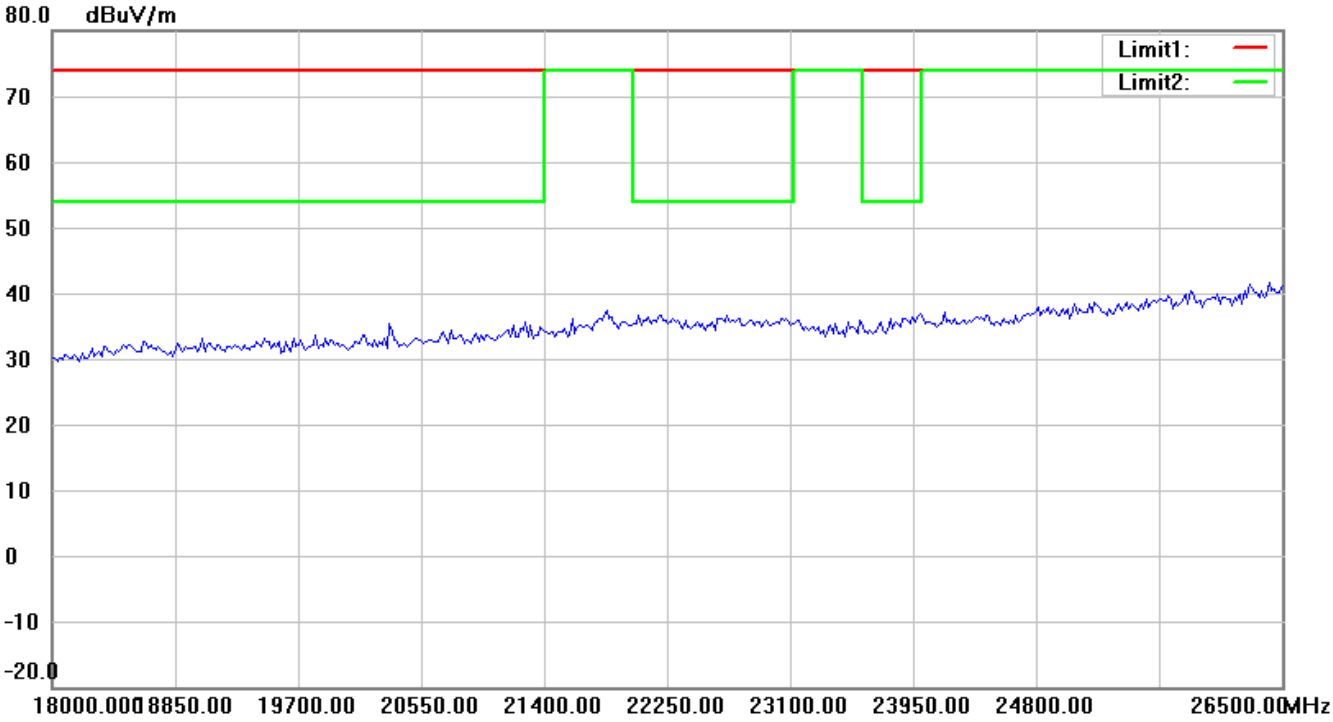
Registration number: W6D21101-11182-C-1
FCC ID: W6RRNX-N180UBE





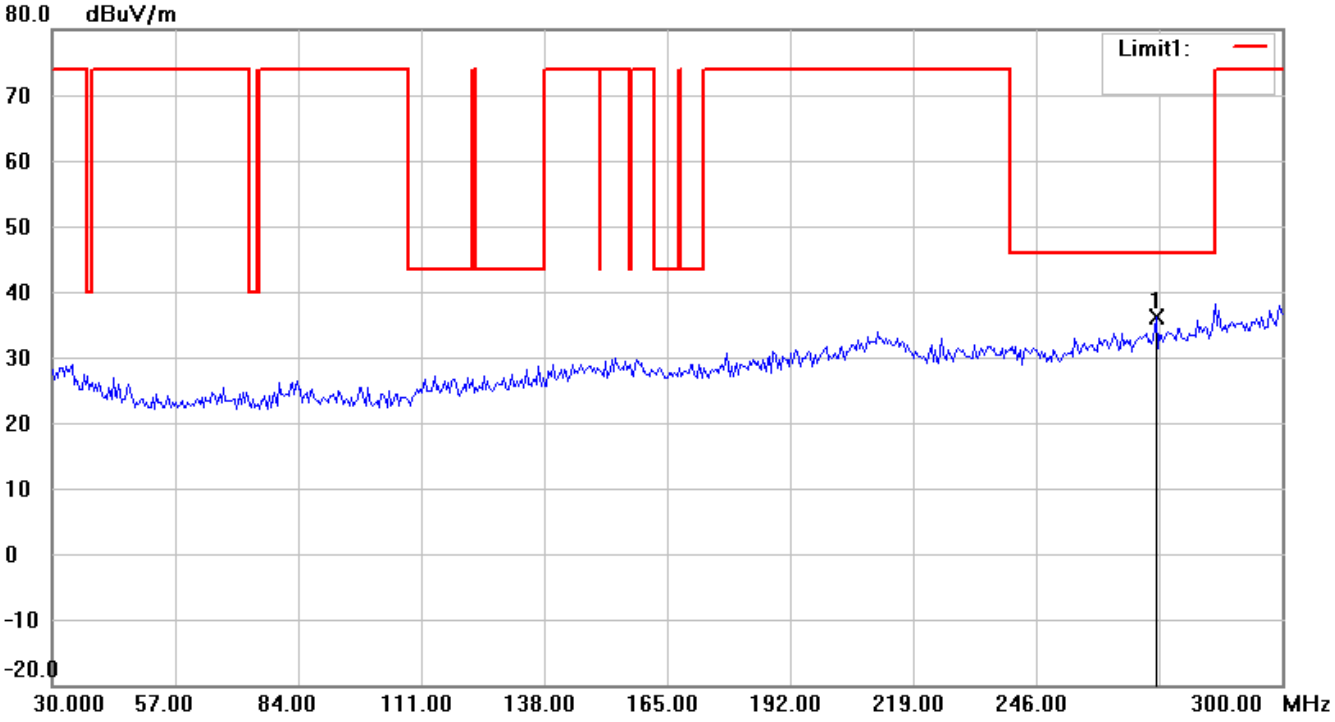
Registration number: W6D21101-11182-C-1
FCC ID: W6RRNX-N180UBE

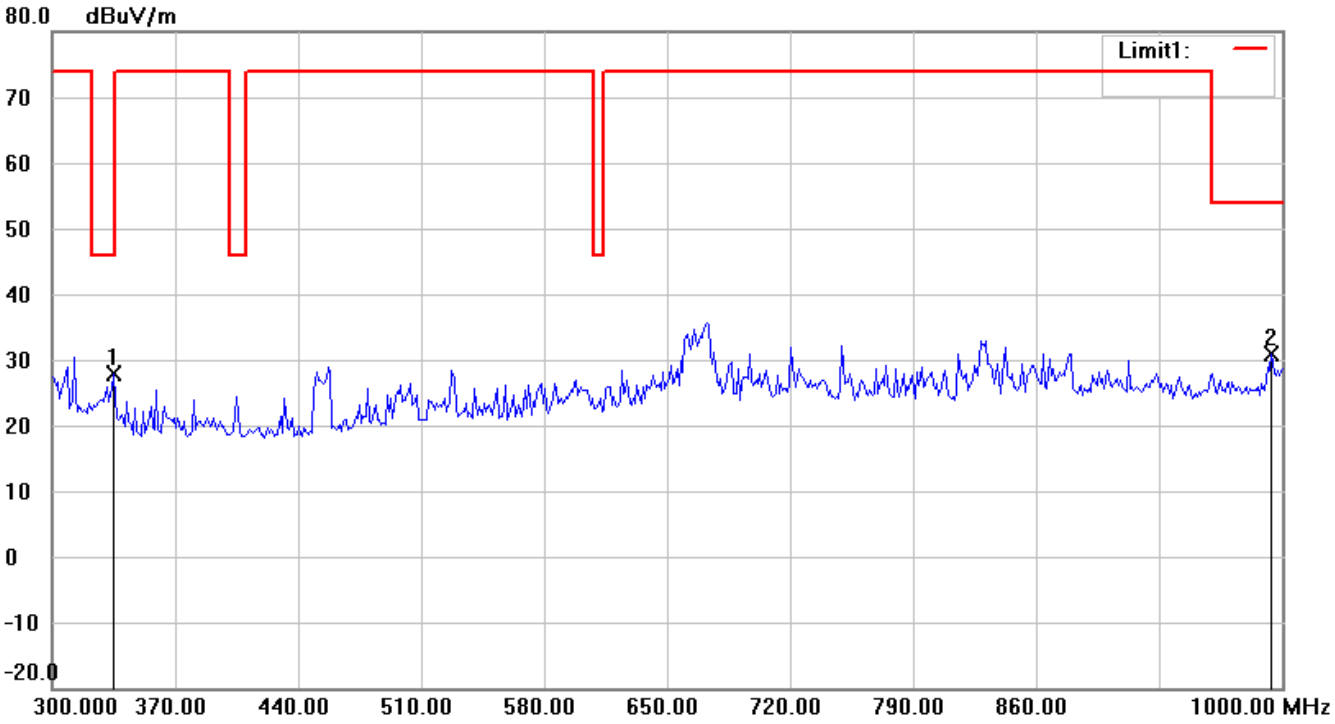




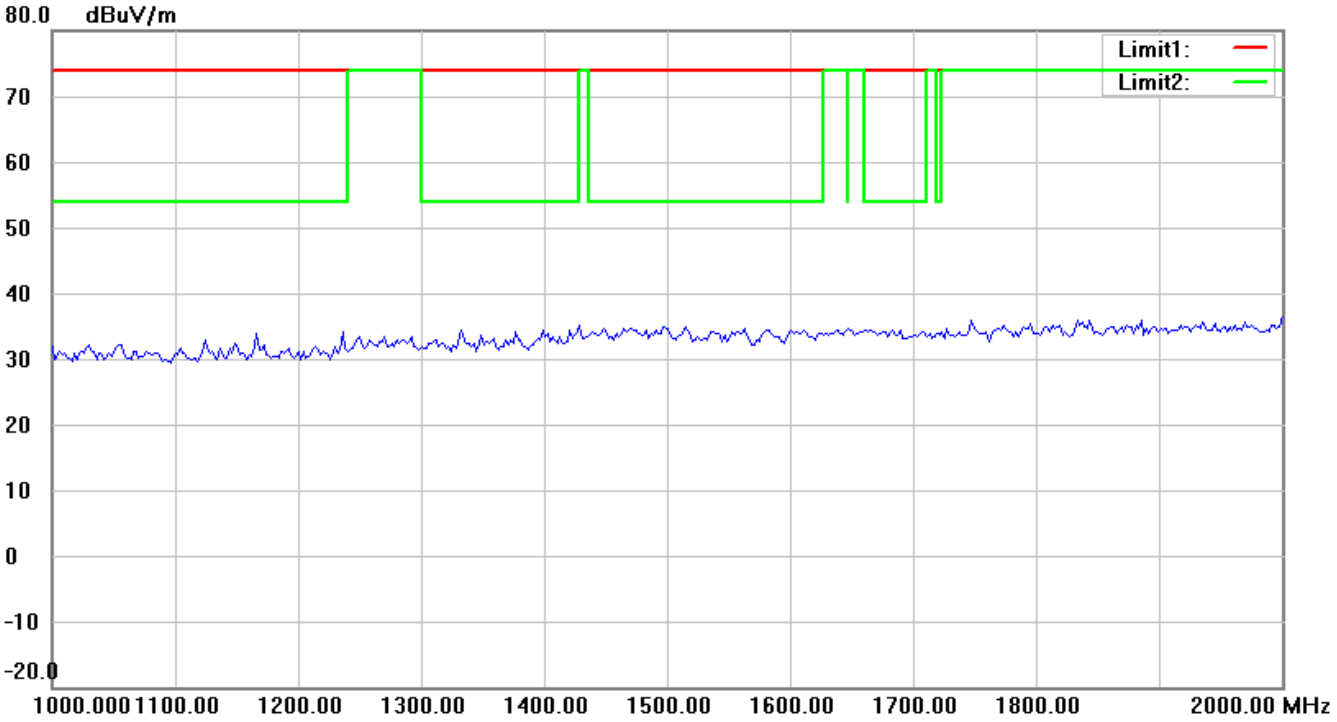
Registration number: W6D21101-11182-C-1
FCC ID: W6RRNX-N180UBE

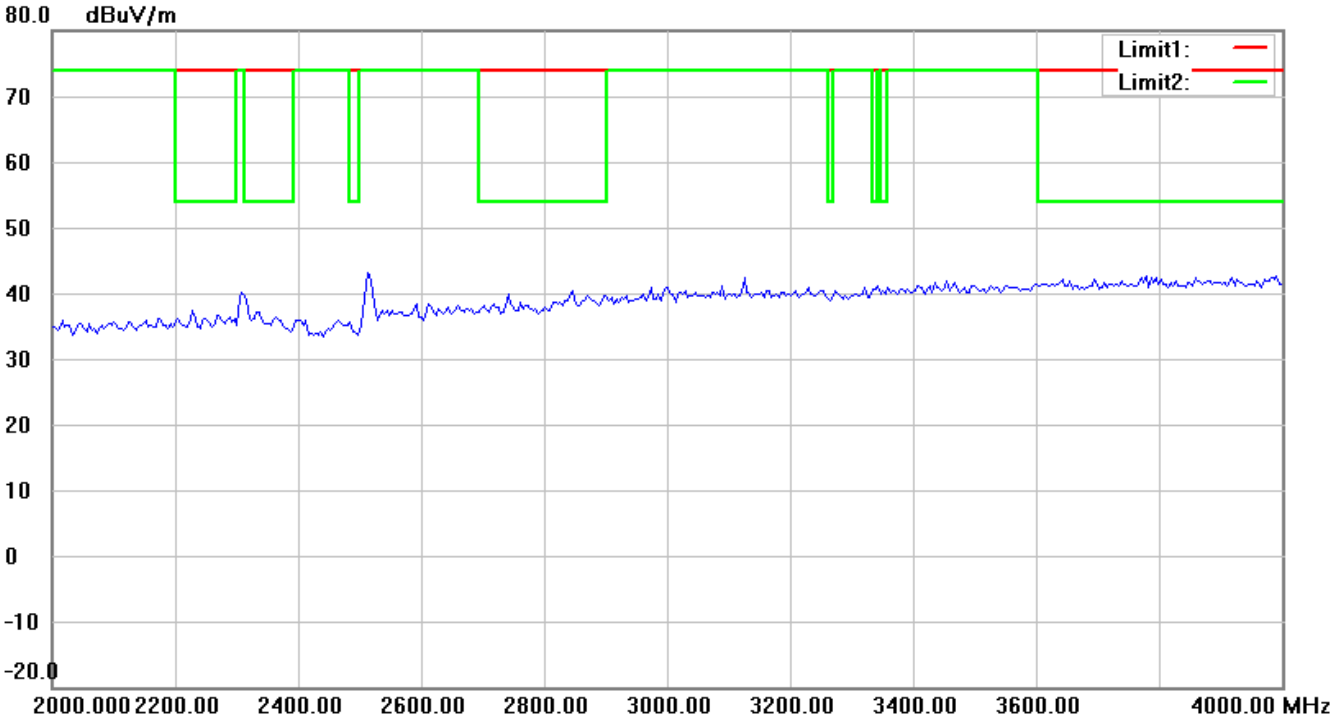
802.11n 20MHz
Channel 1
Antenna Polarization H



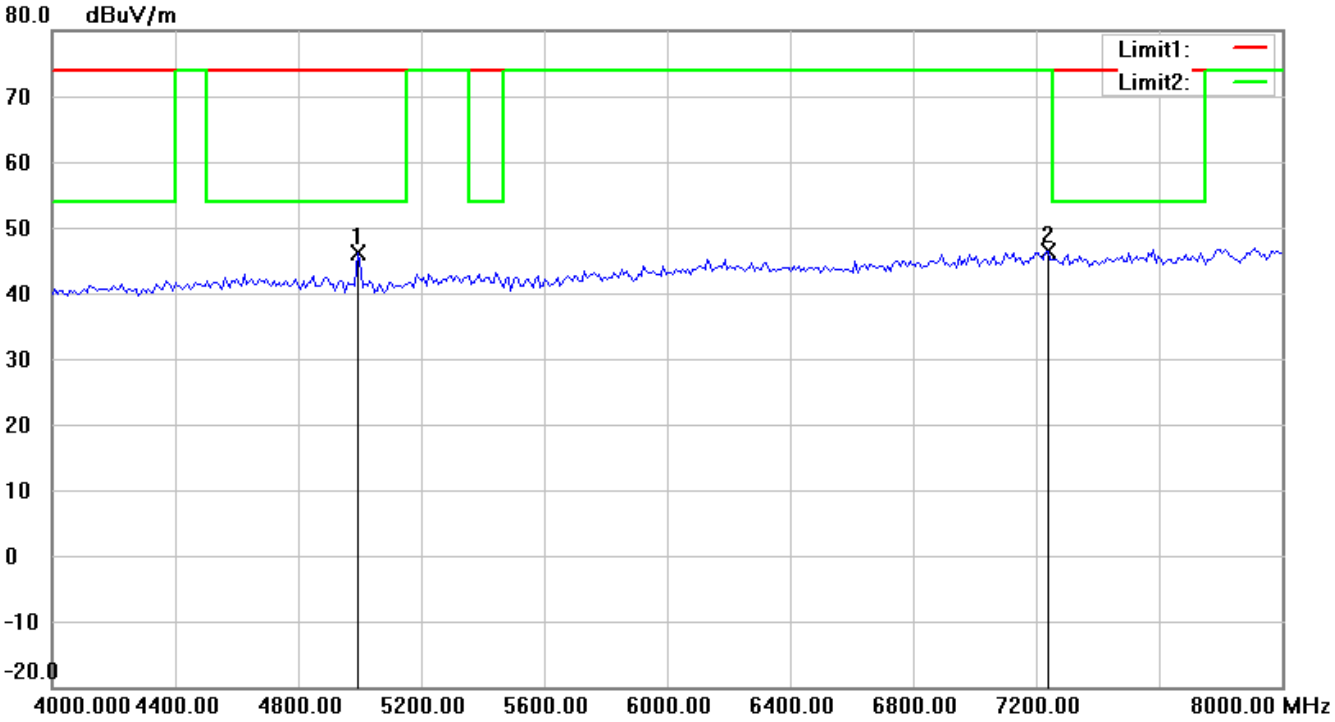


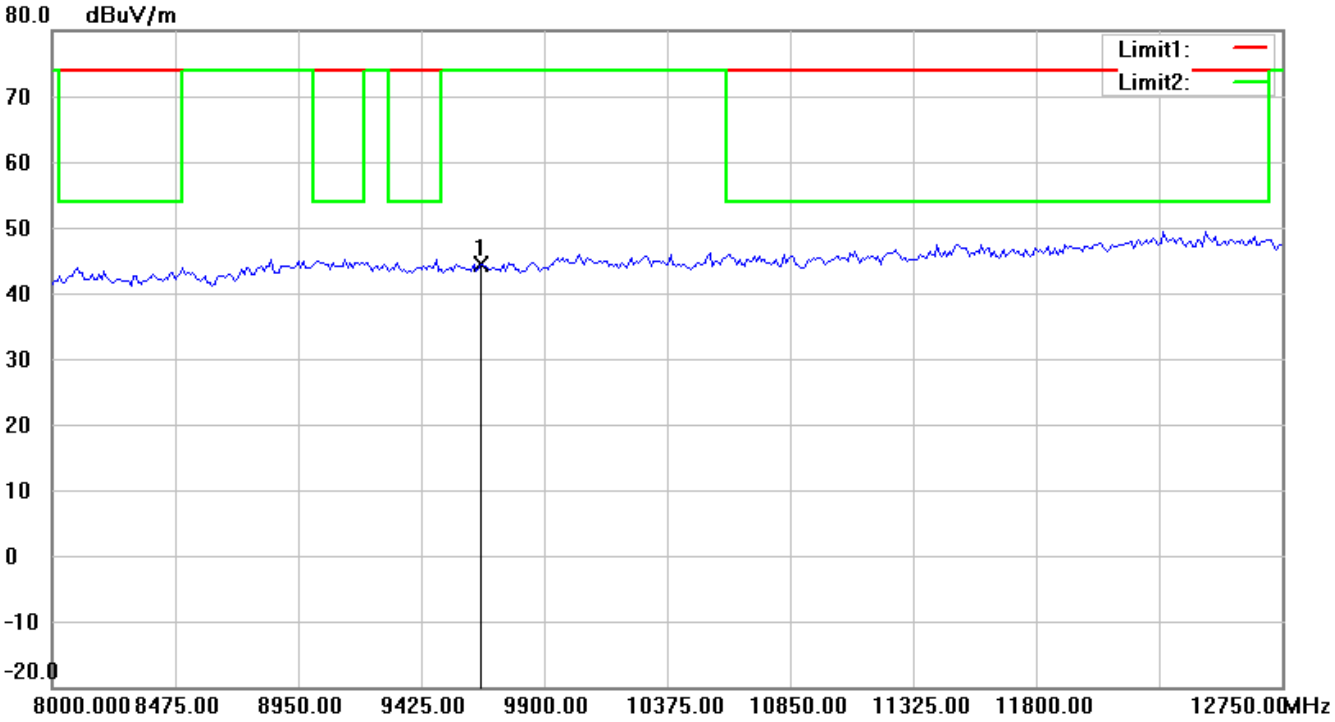
Registration number: W6D21101-11182-C-1
FCC ID: W6RRNX-N180UBE



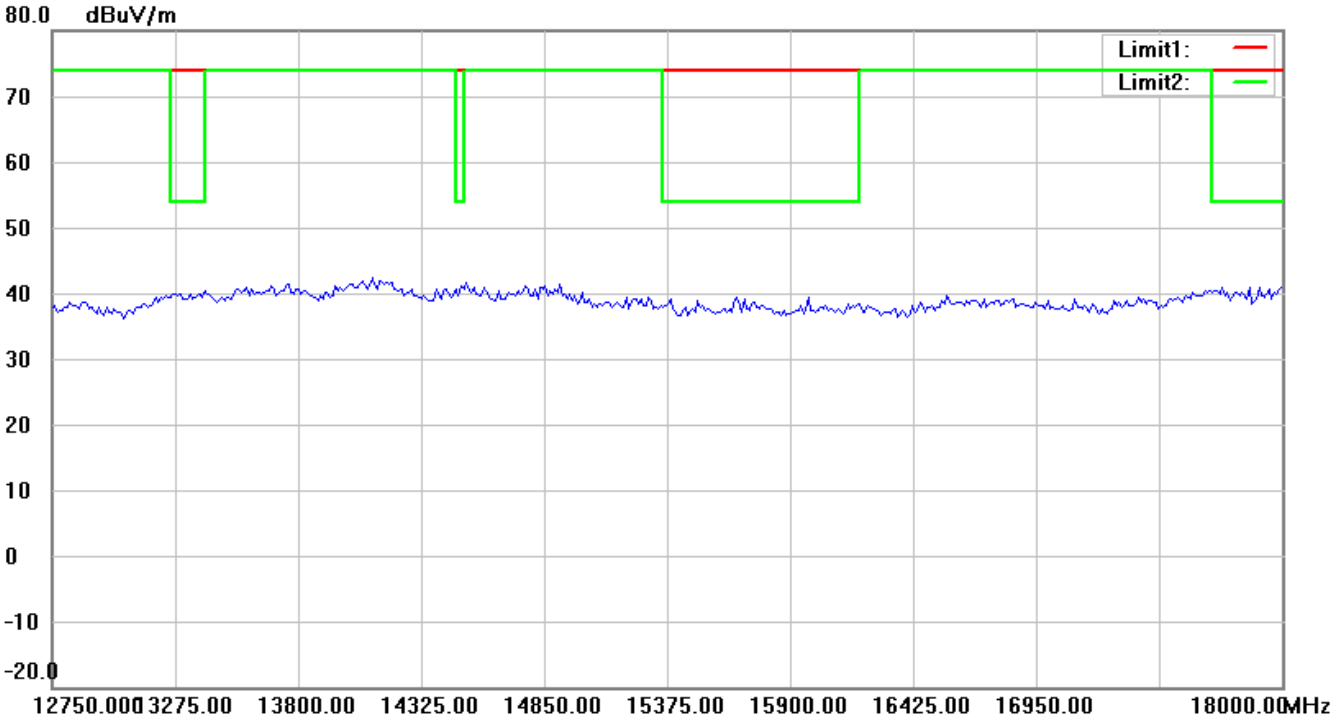


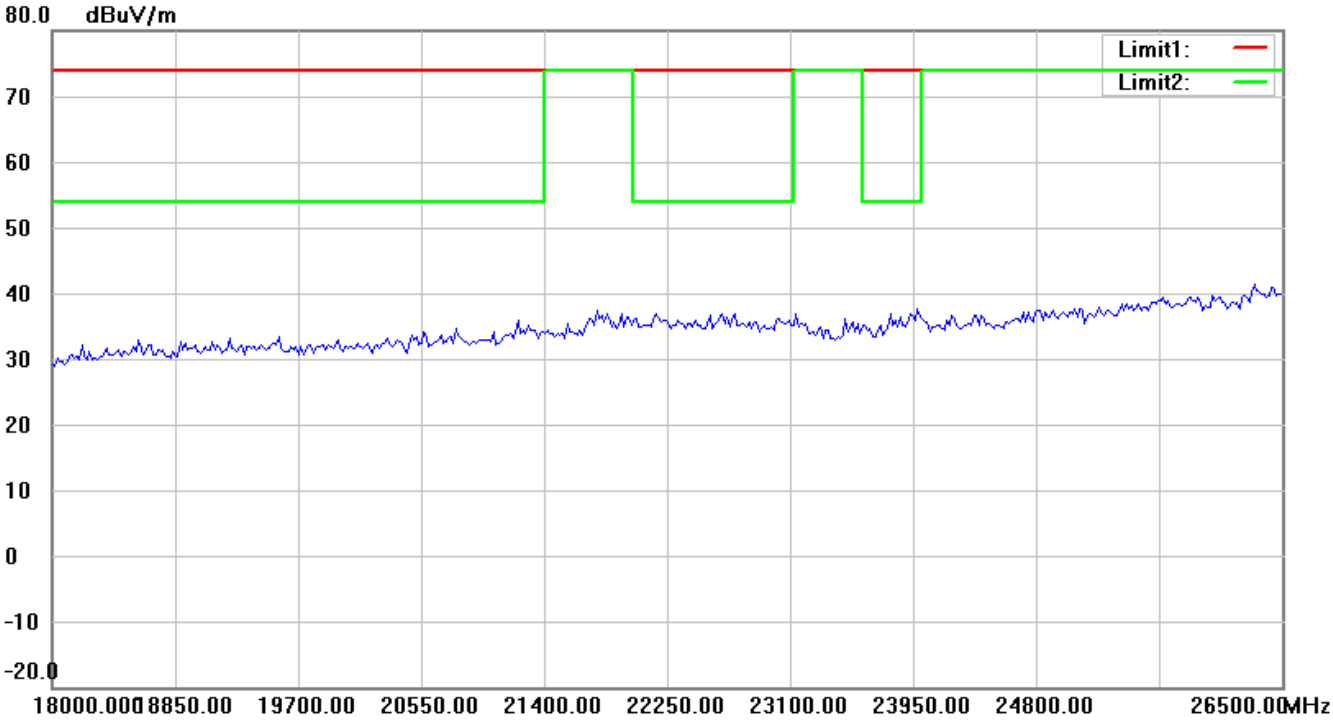
Registration number: W6D21101-11182-C-1
FCC ID: W6RRNX-N180UBE





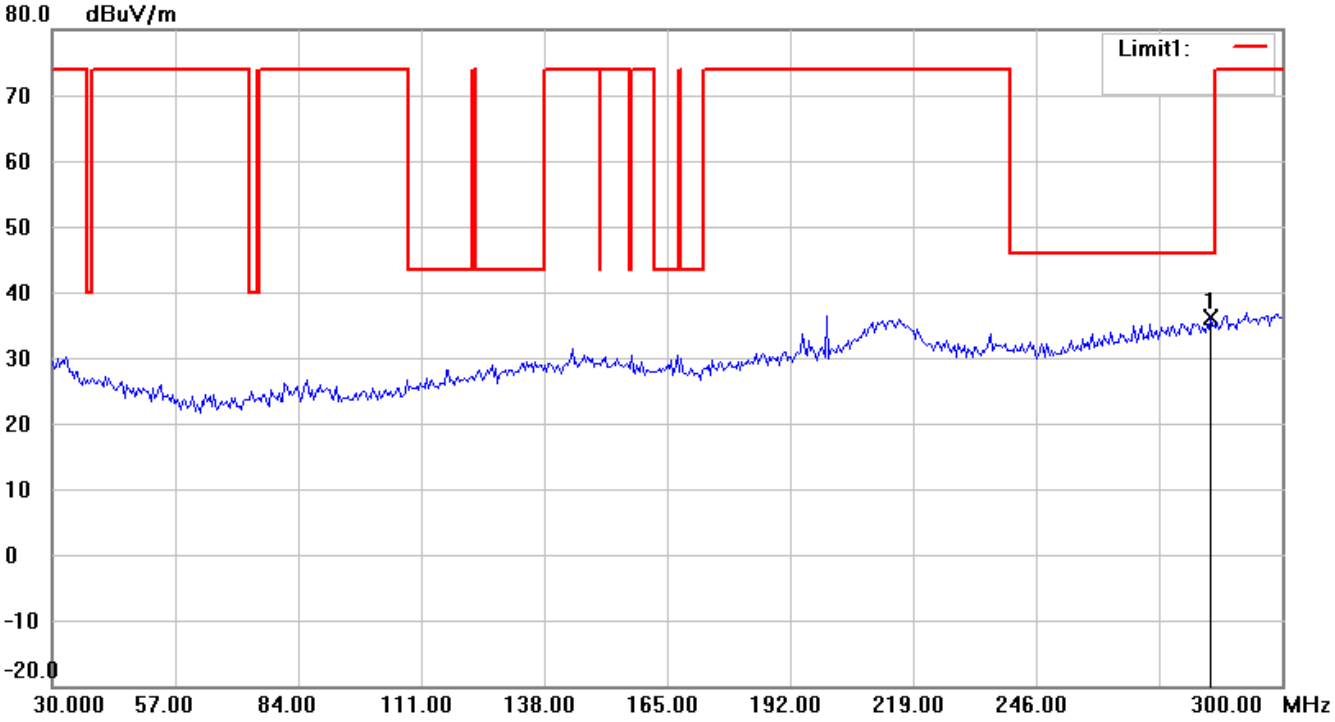
Registration number: W6D21101-11182-C-1
FCC ID: W6RRNX-N180UBE

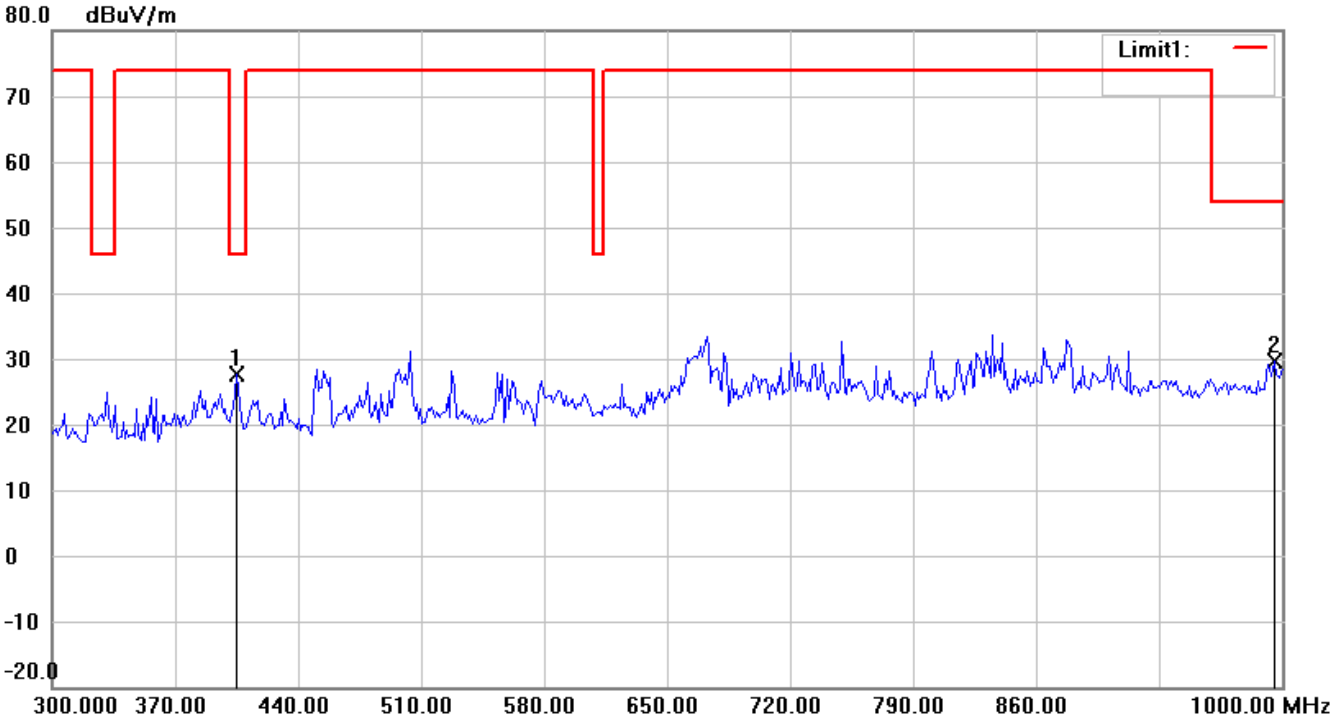




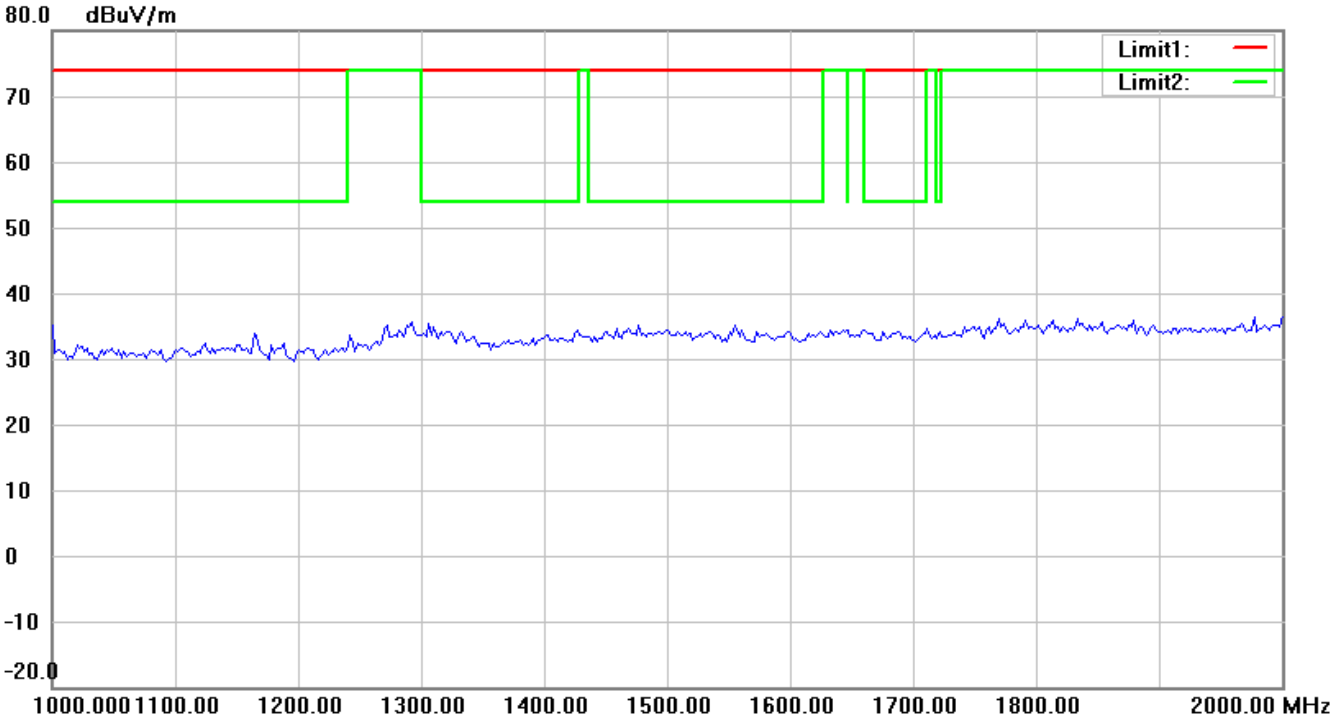
Registration number: W6D21101-11182-C-1
FCC ID: W6RRNX-N180UBE

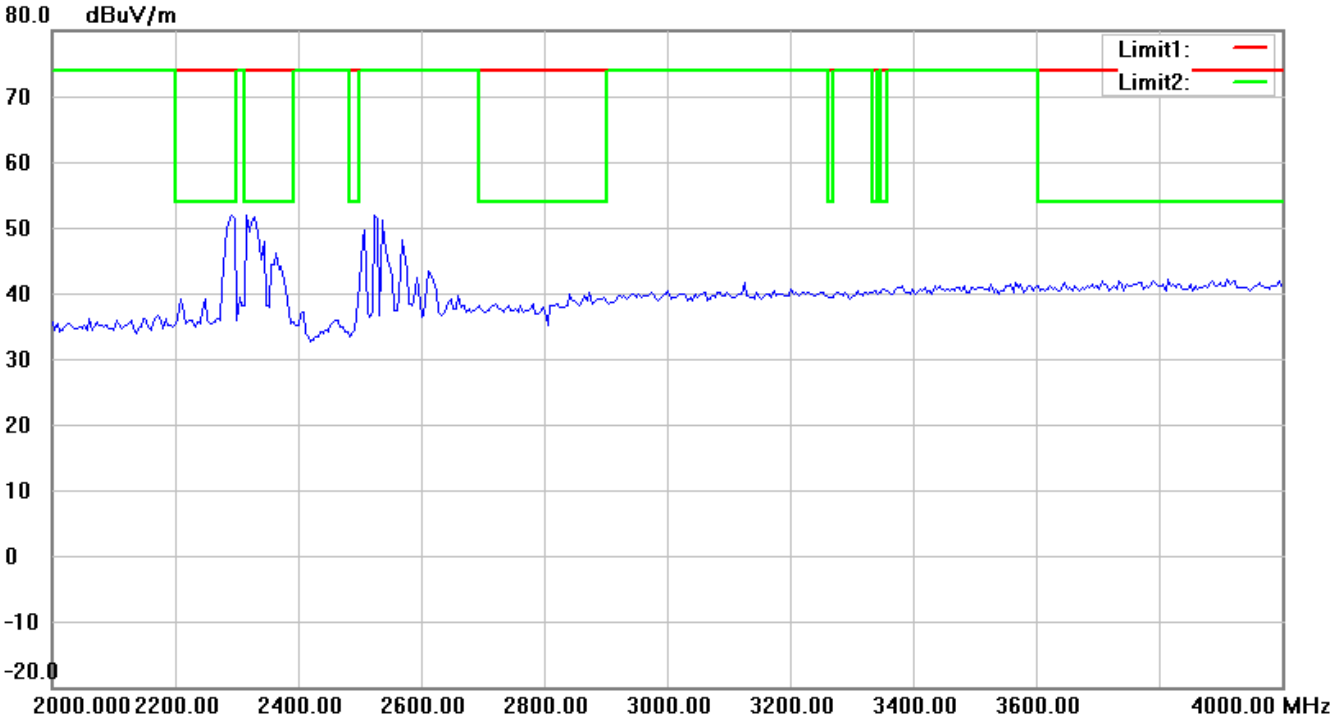
Antenna Polarization V



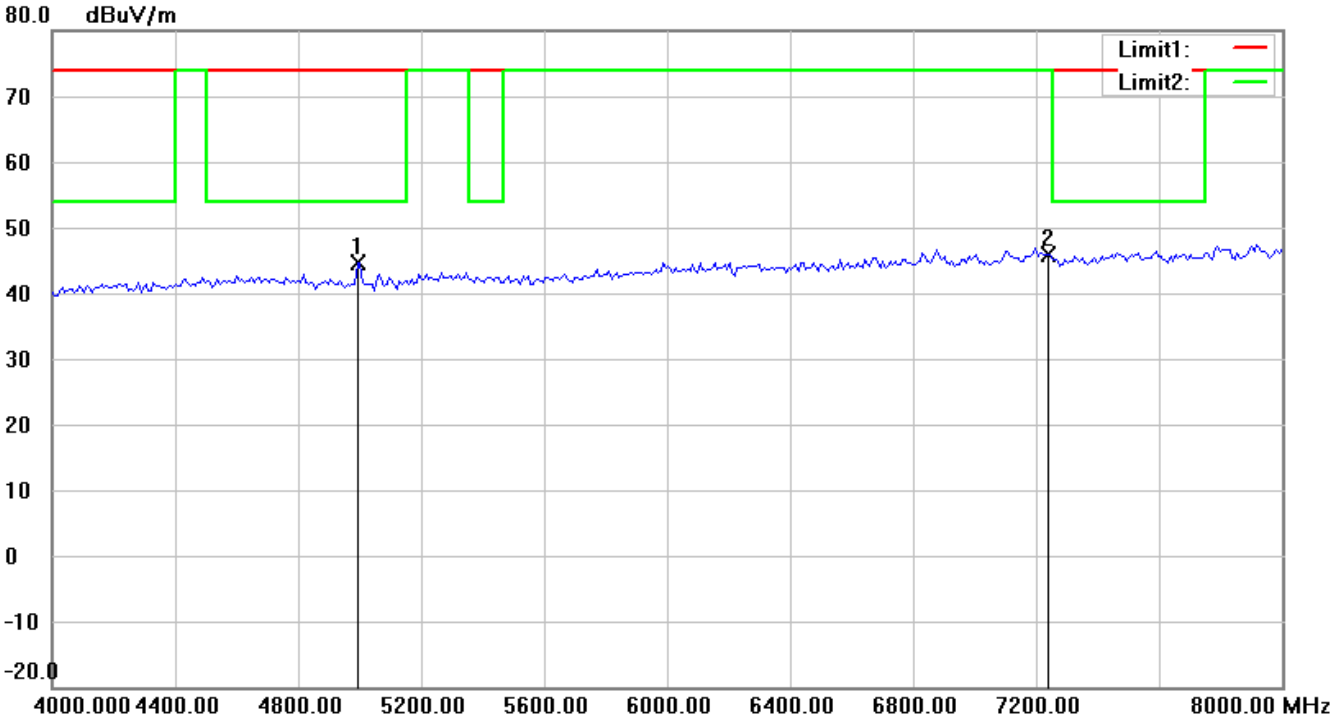


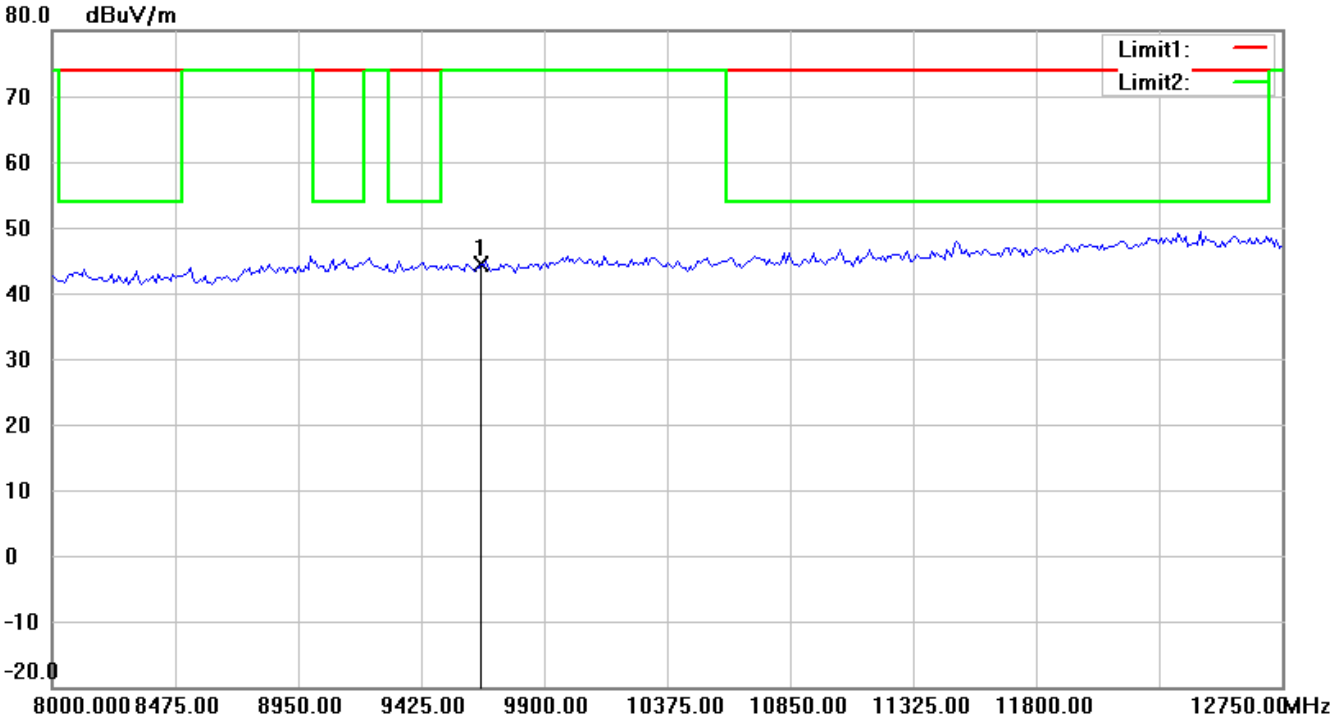
Registration number: W6D21101-11182-C-1
FCC ID: W6RRNX-N180UBE



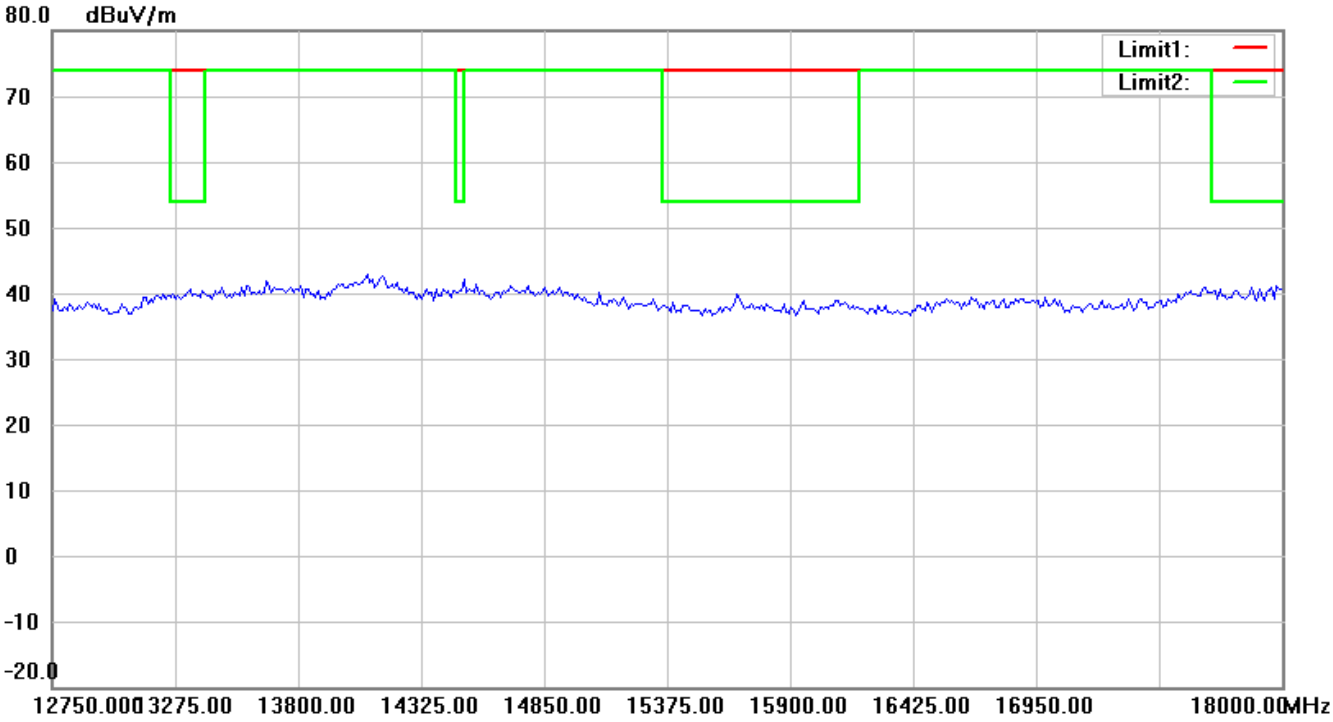


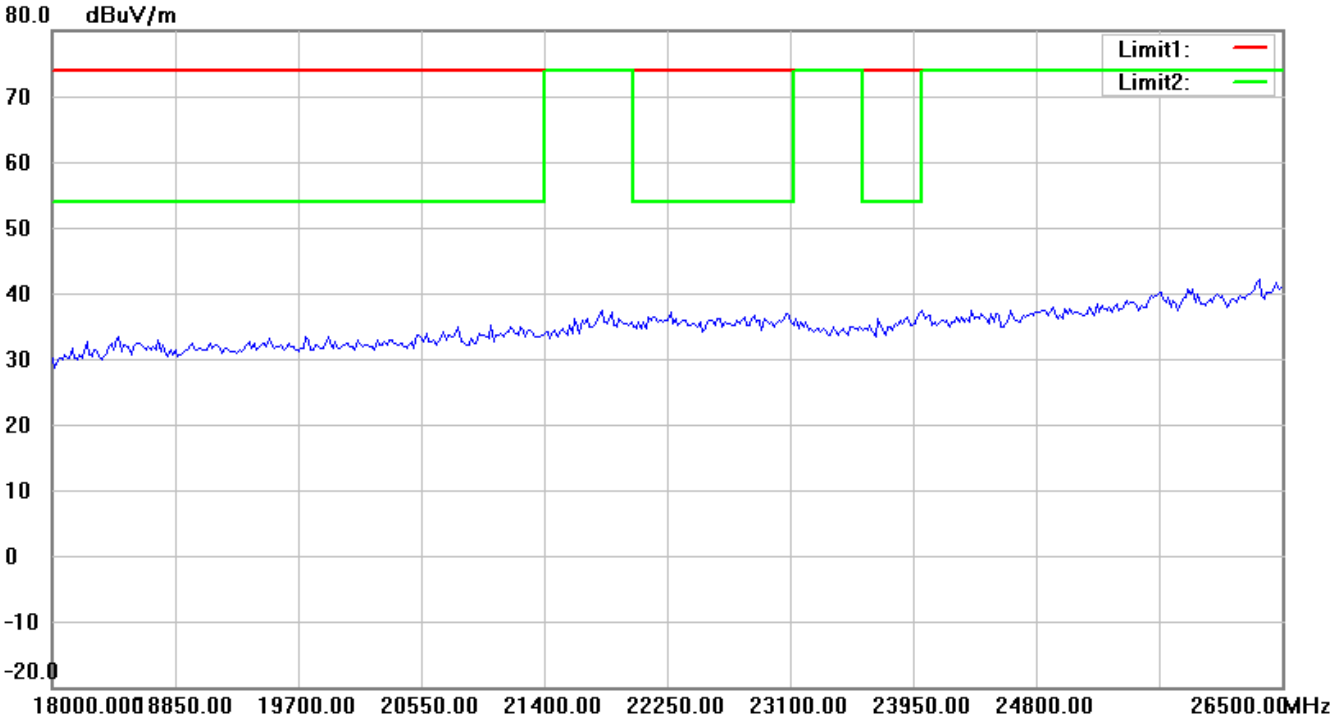
Registration number: W6D21101-11182-C-1
FCC ID: W6RRNX-N180UBE





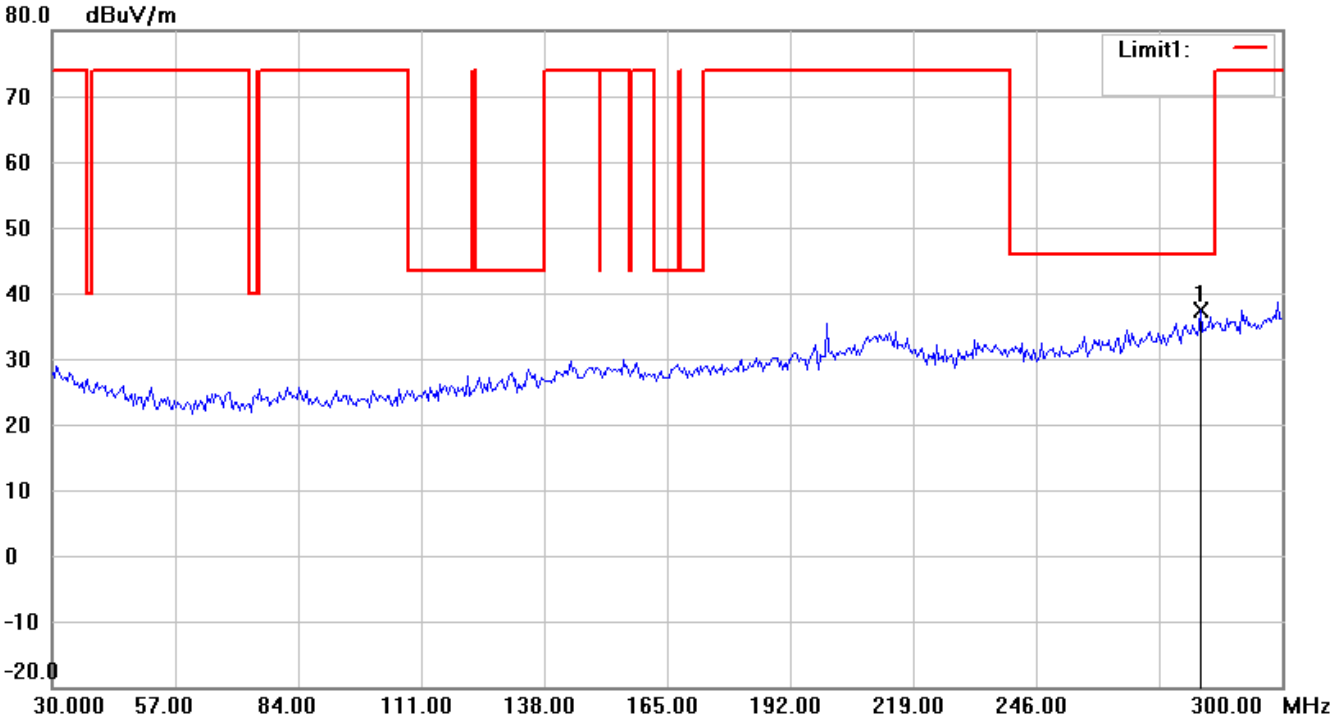
Registration number: W6D21101-11182-C-1
FCC ID: W6RRNX-N180UBE

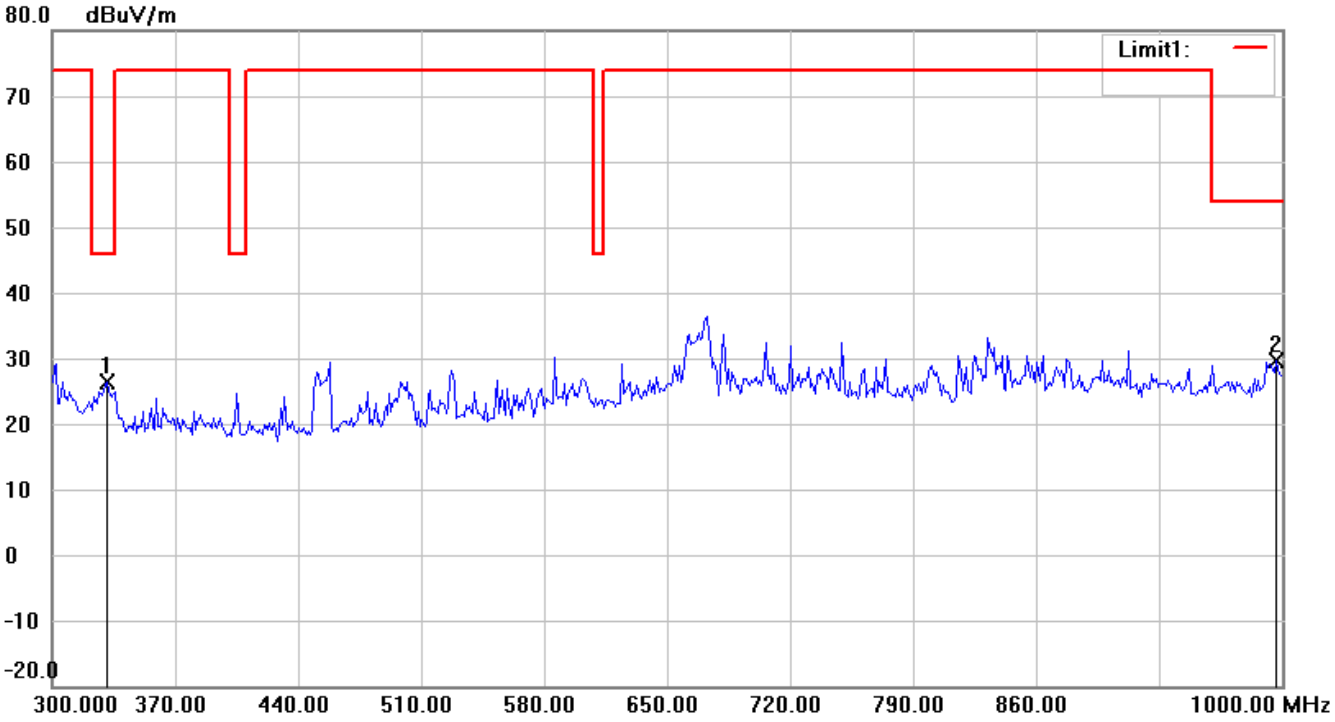




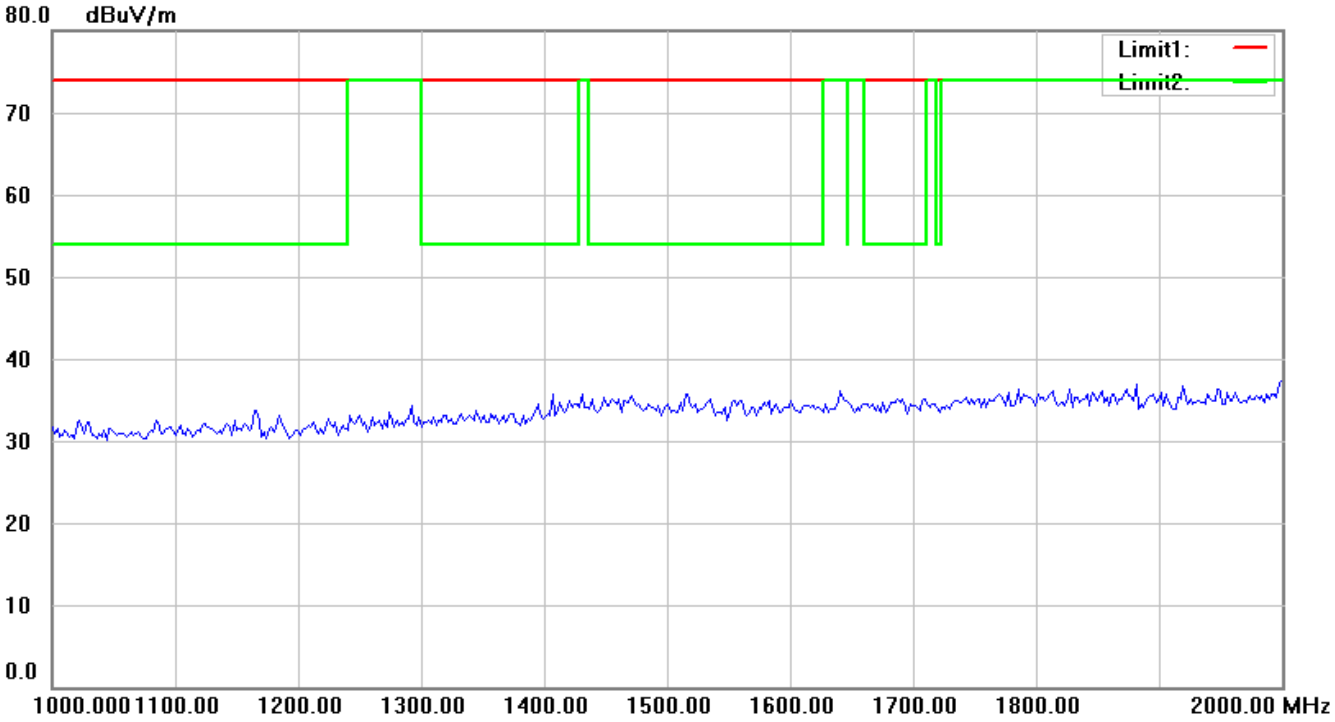
Registration number: W6D21101-11182-C-1
FCC ID: W6RRNX-N180UBE

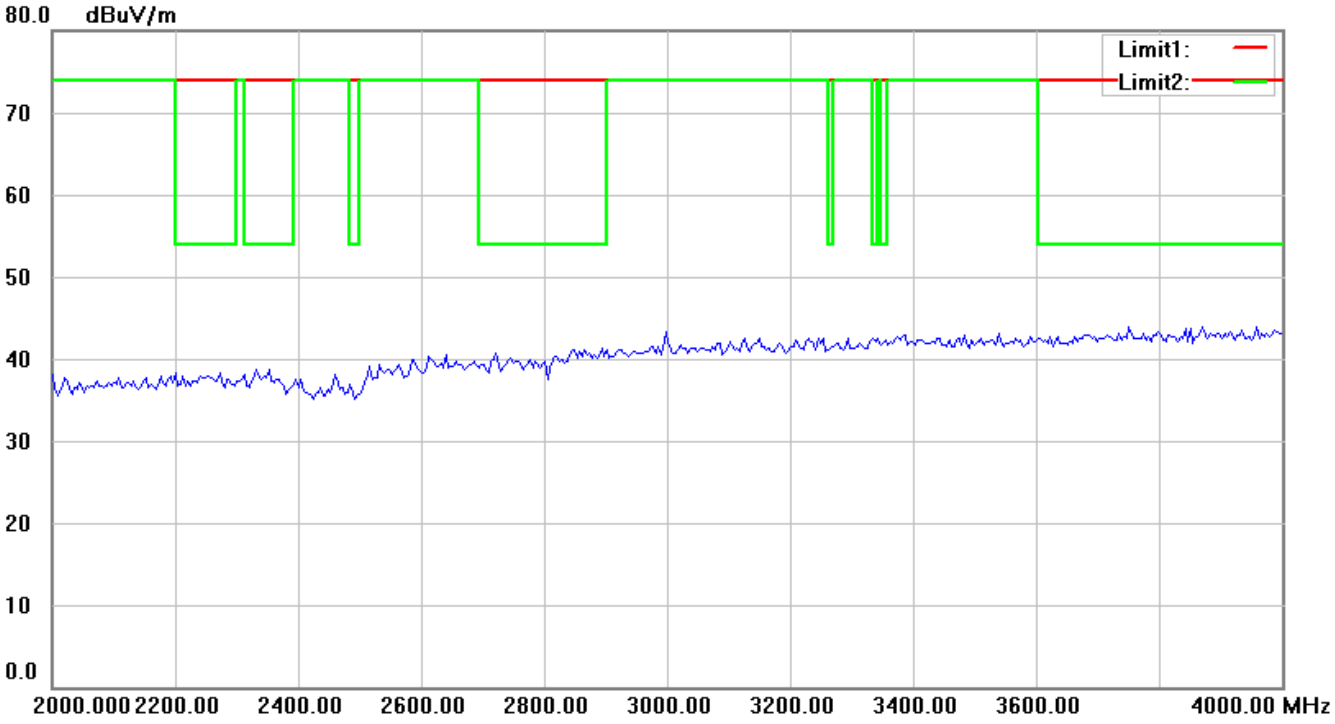
Channel 6
Antenna Polarization H



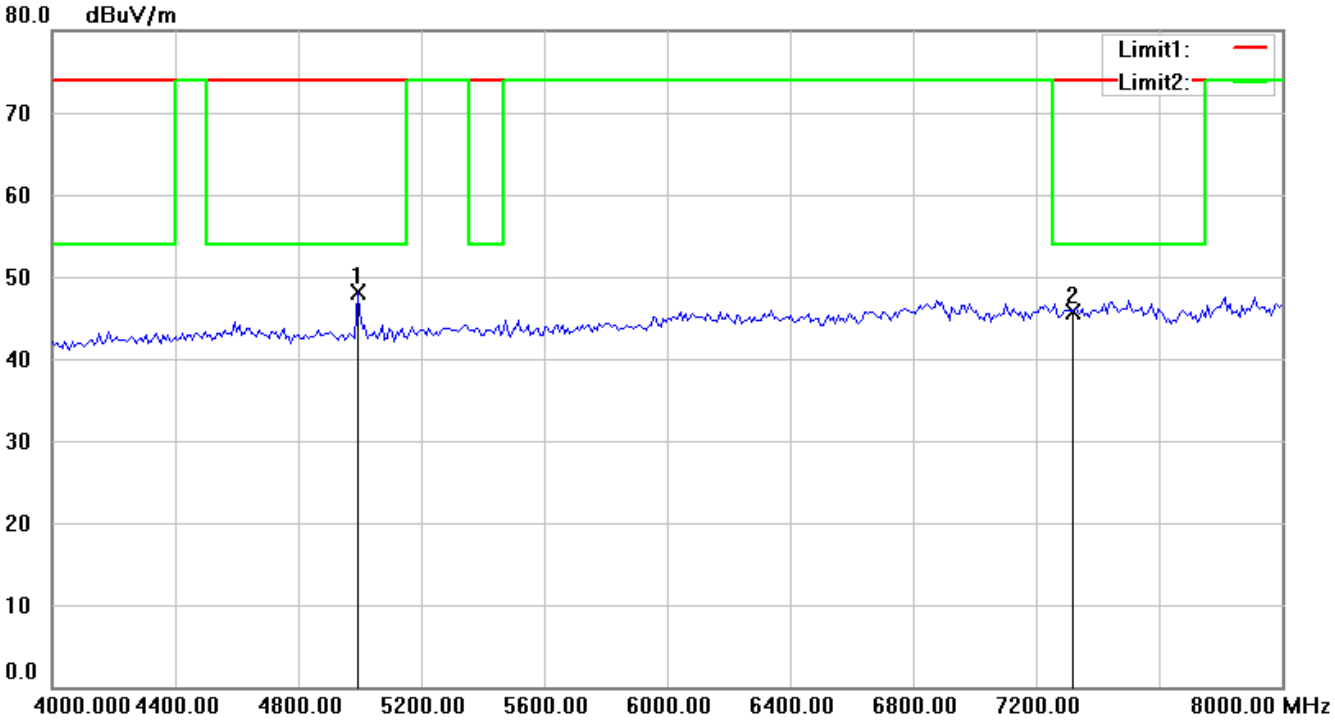


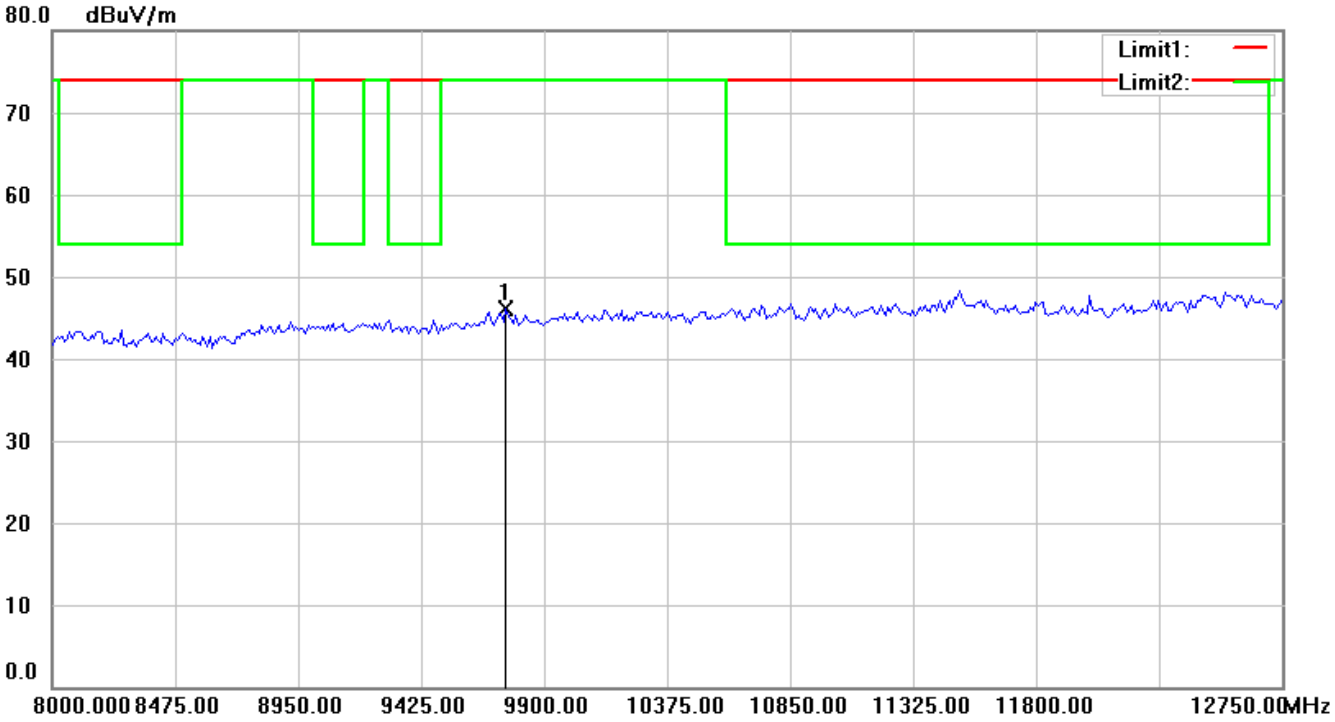
Registration number: W6D21101-11182-C-1
FCC ID: W6RRNX-N180UBE



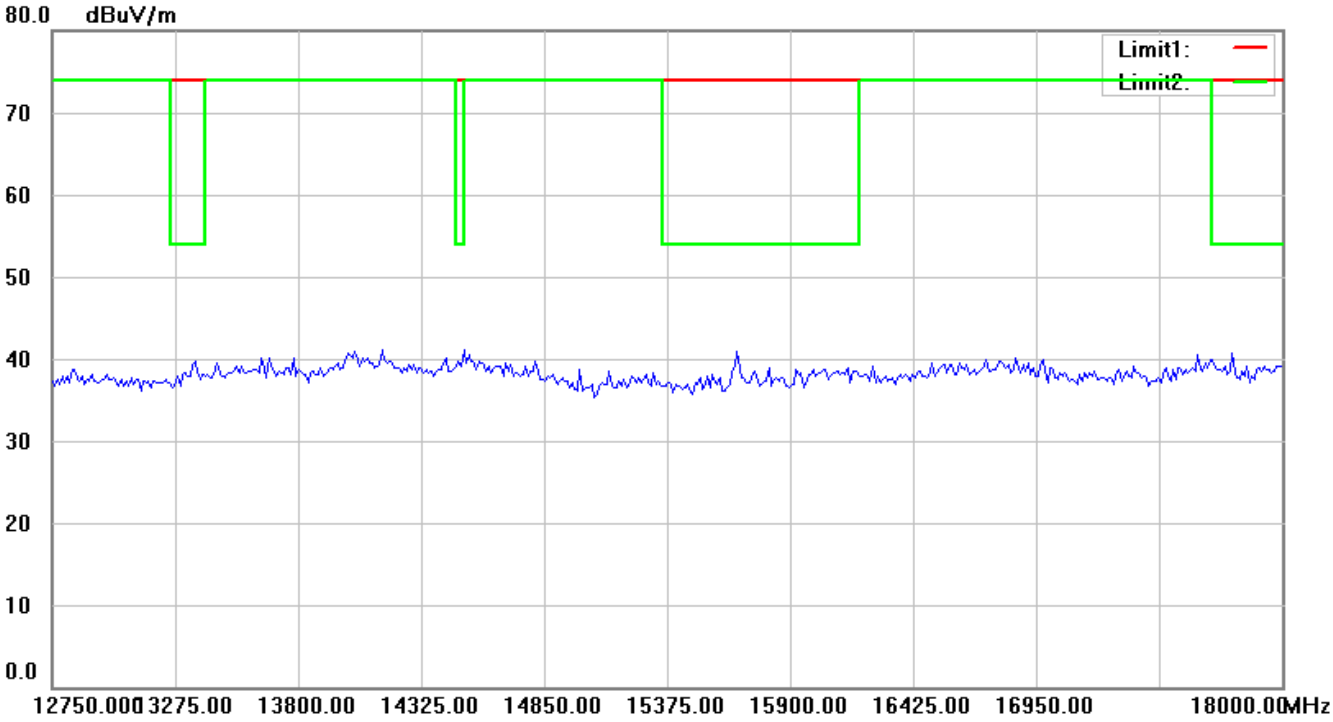


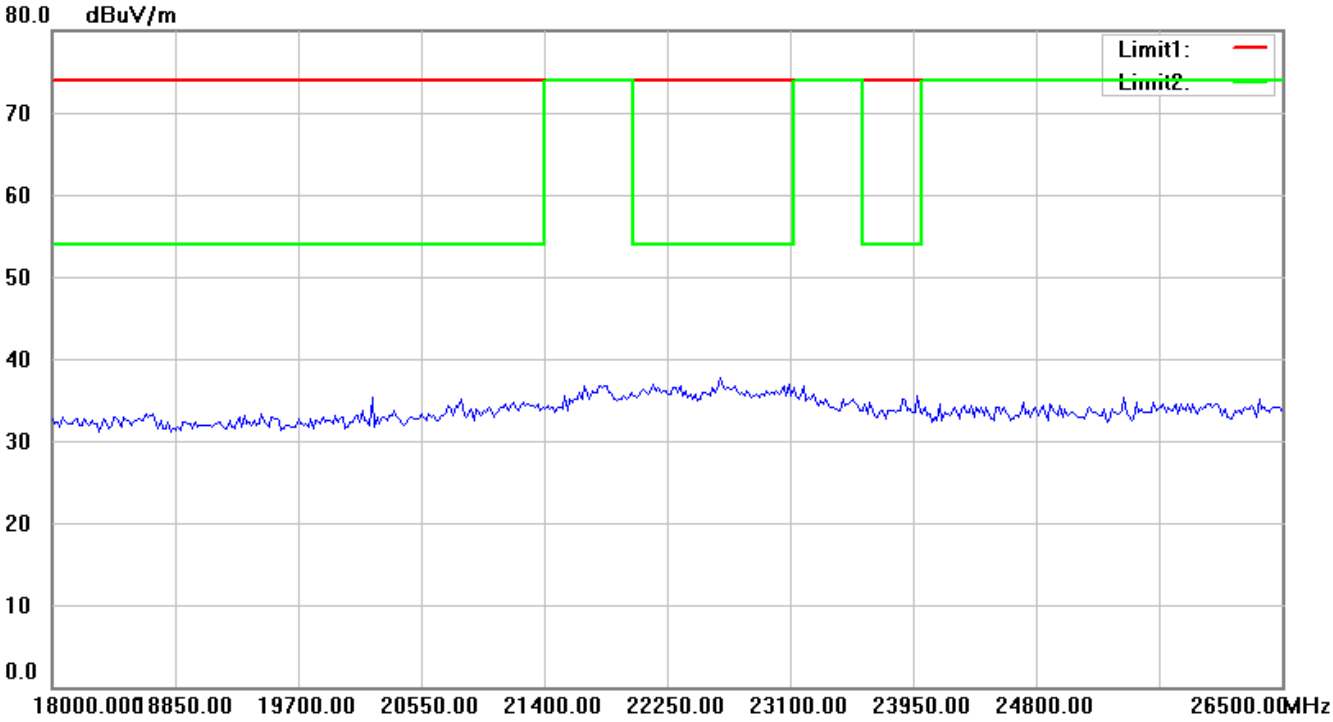
Registration number: W6D21101-11182-C-1
FCC ID: W6RRNX-N180UBE





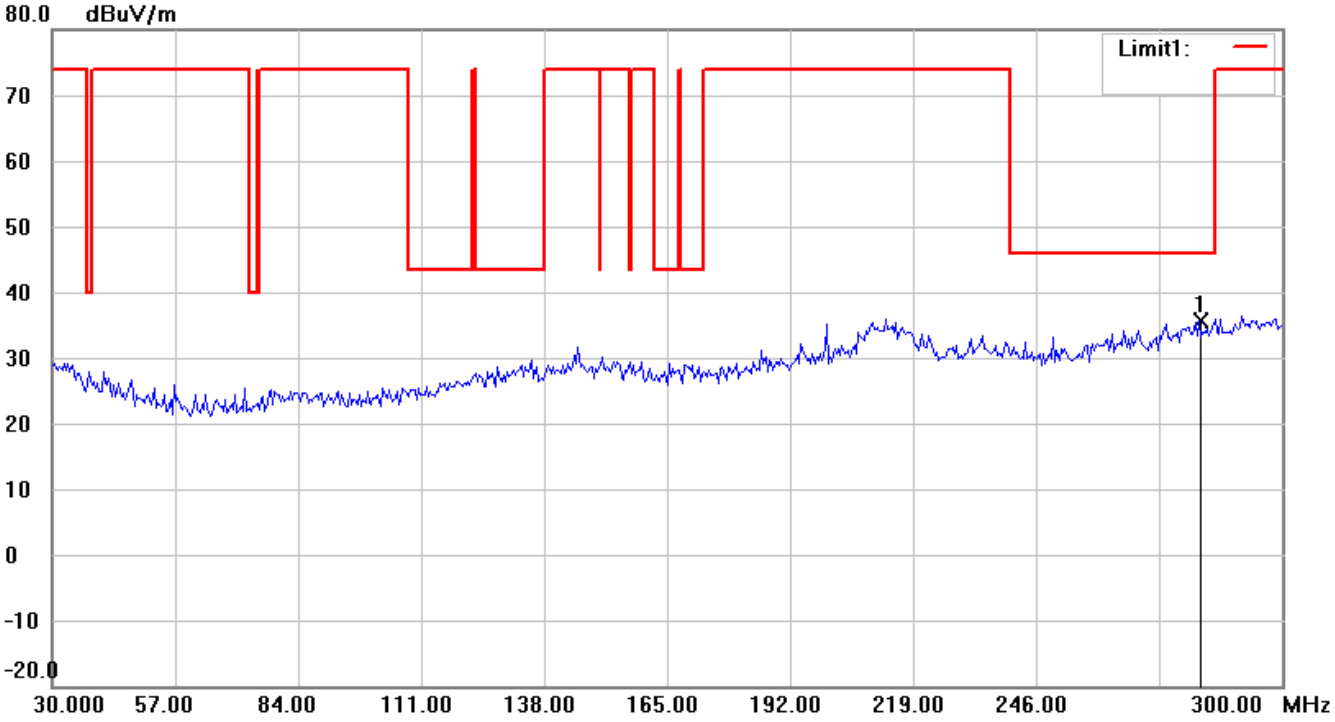
Registration number: W6D21101-11182-C-1
FCC ID: W6RRNX-N180UBE

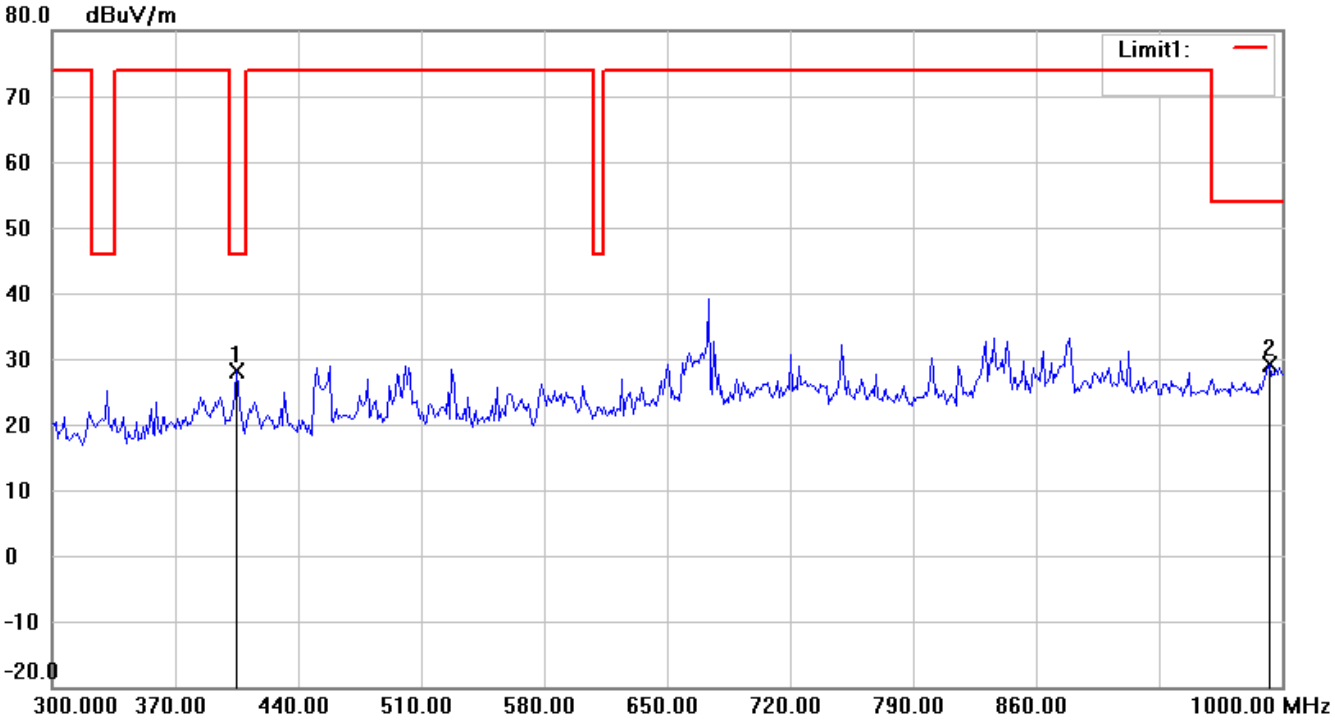




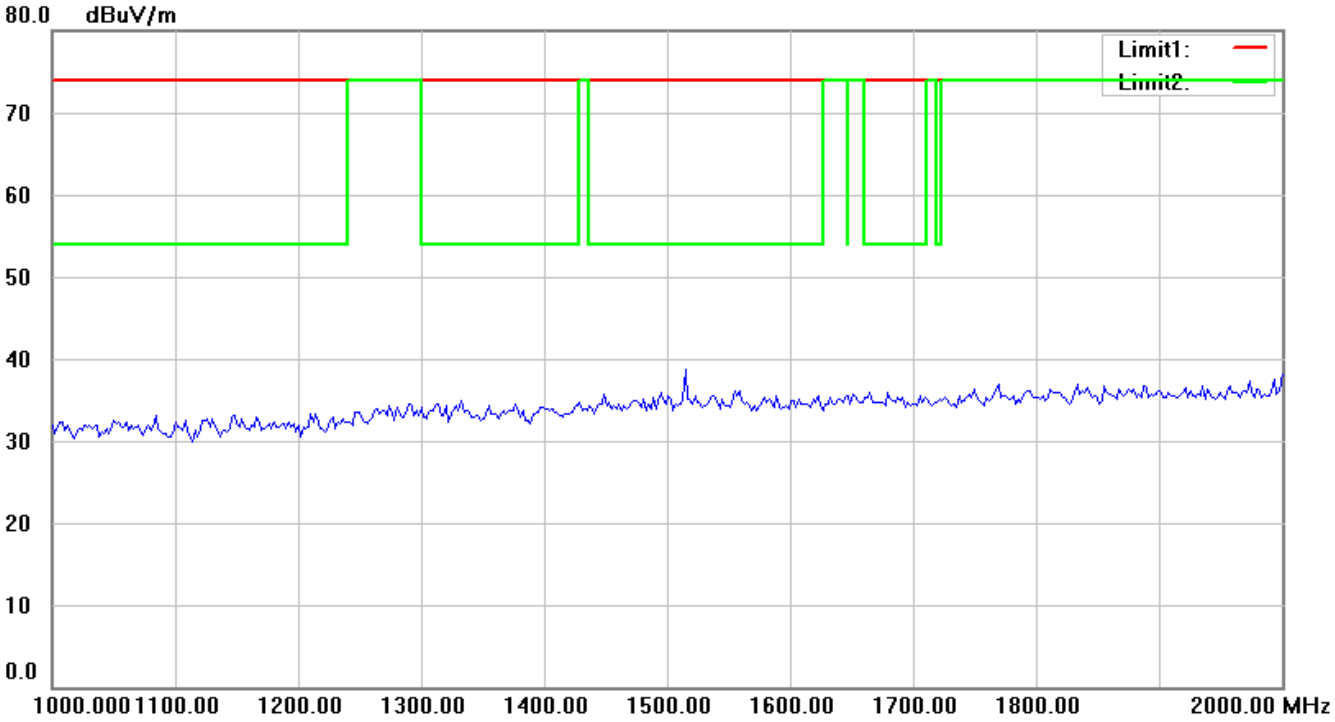
Registration number: W6D21101-11182-C-1
FCC ID: W6RRNX-N180UBE

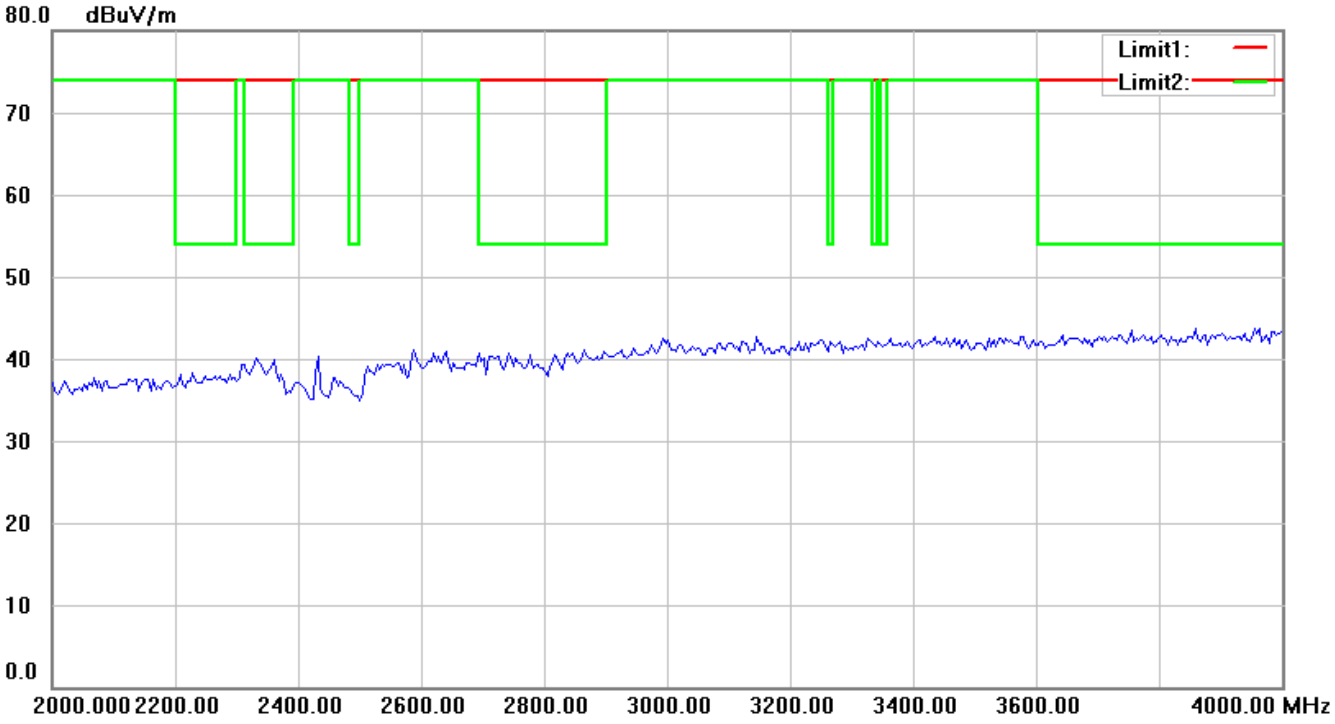
Antenna Polarization V



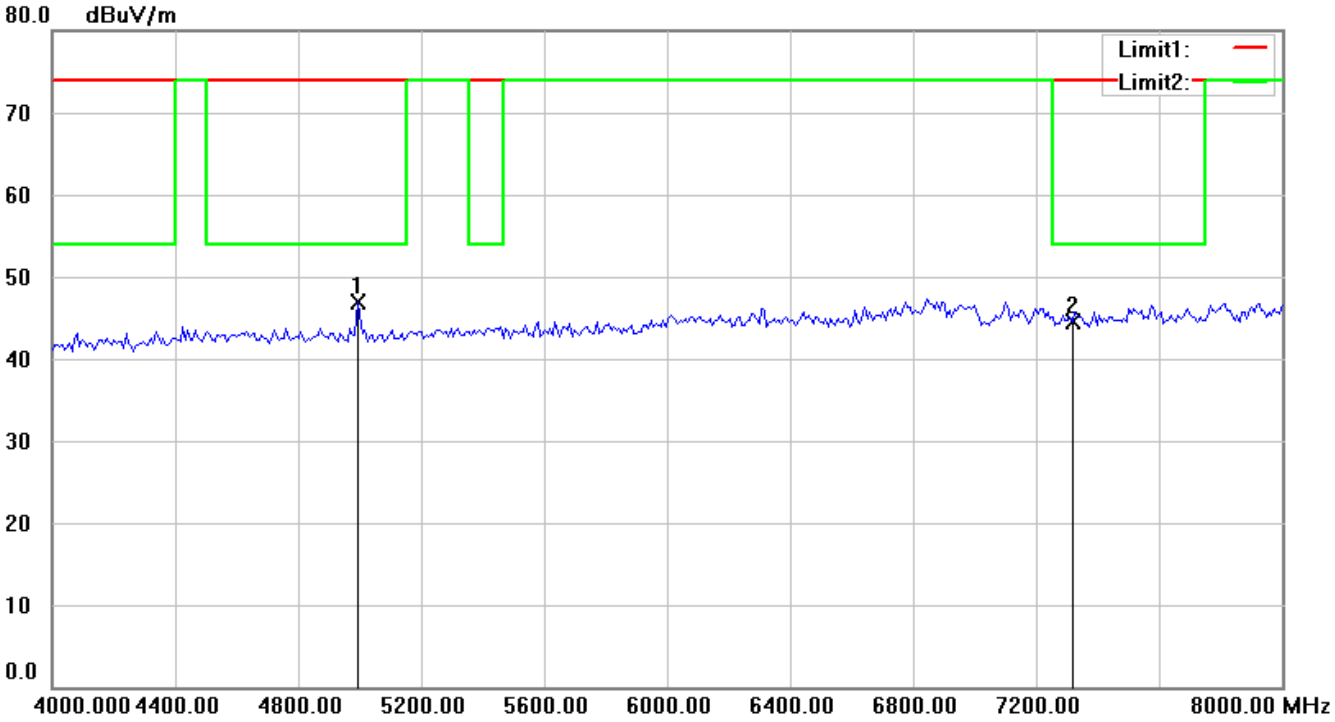


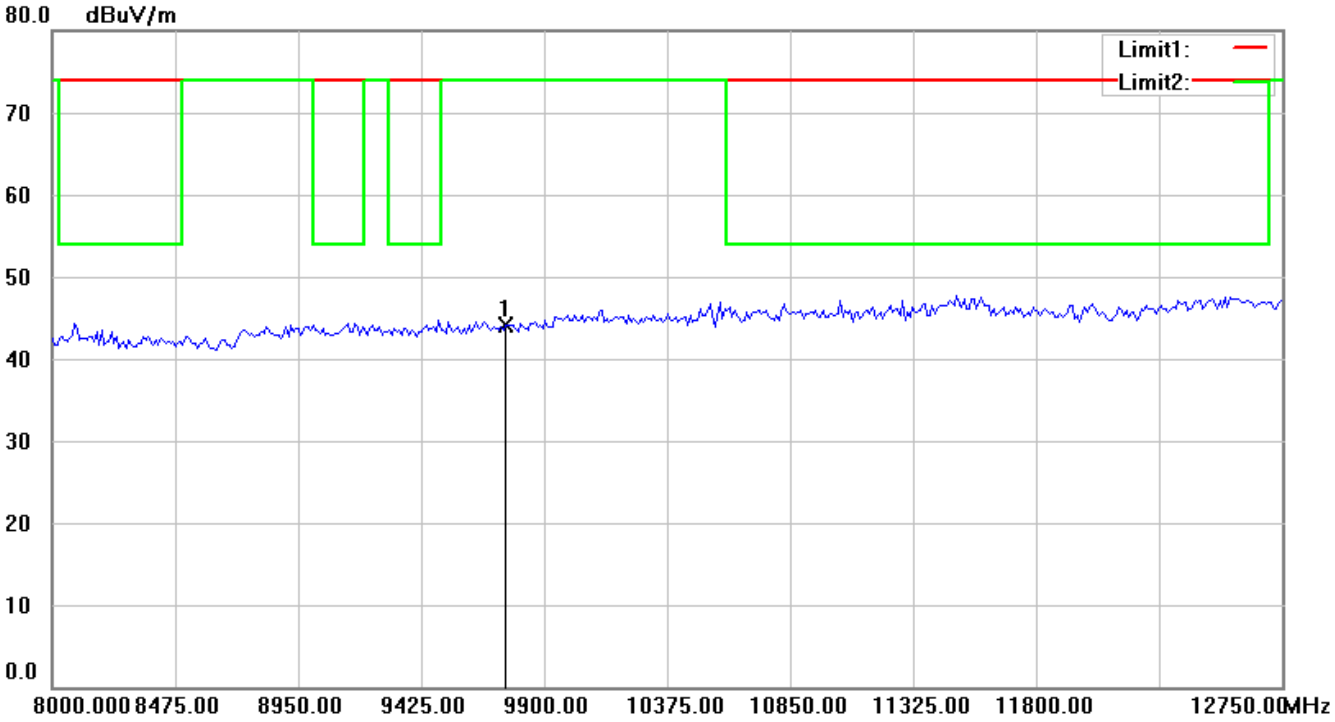
Registration number: W6D21101-11182-C-1
FCC ID: W6RRNX-N180UBE



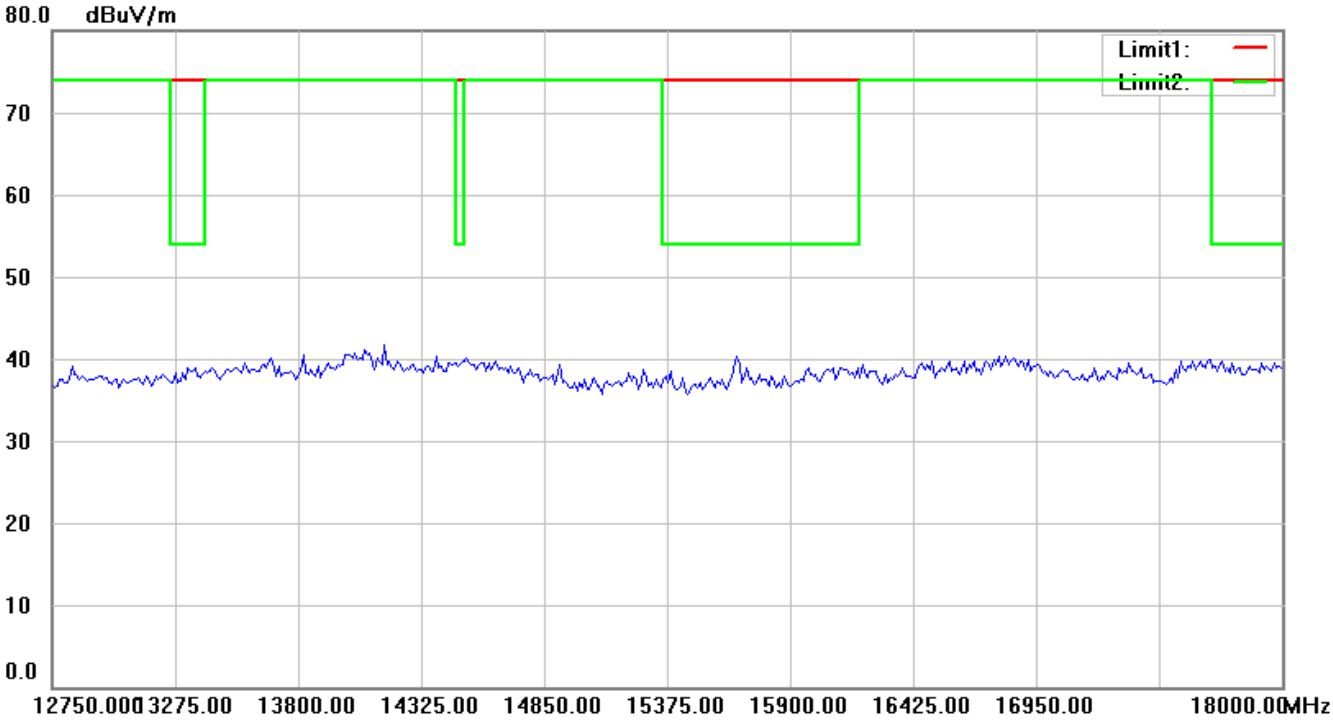


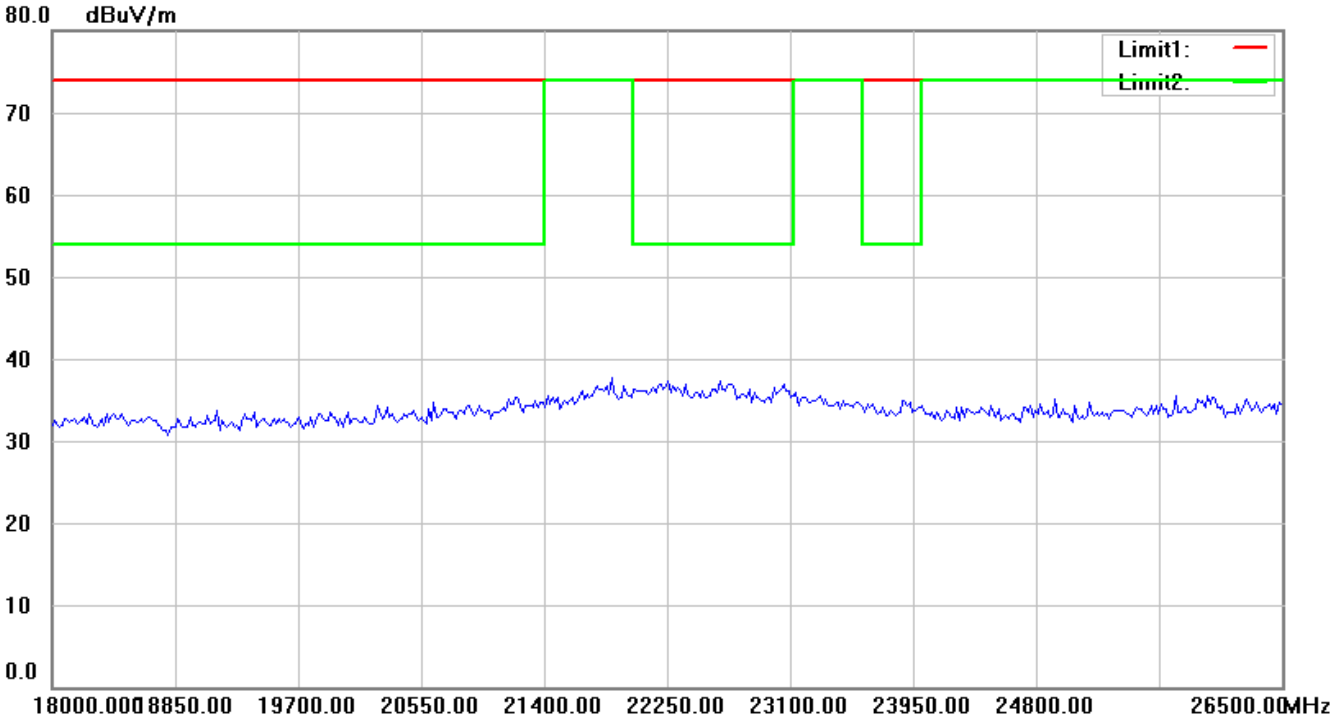
Registration number: W6D21101-11182-C-1
FCC ID: W6RRNX-N180UBE





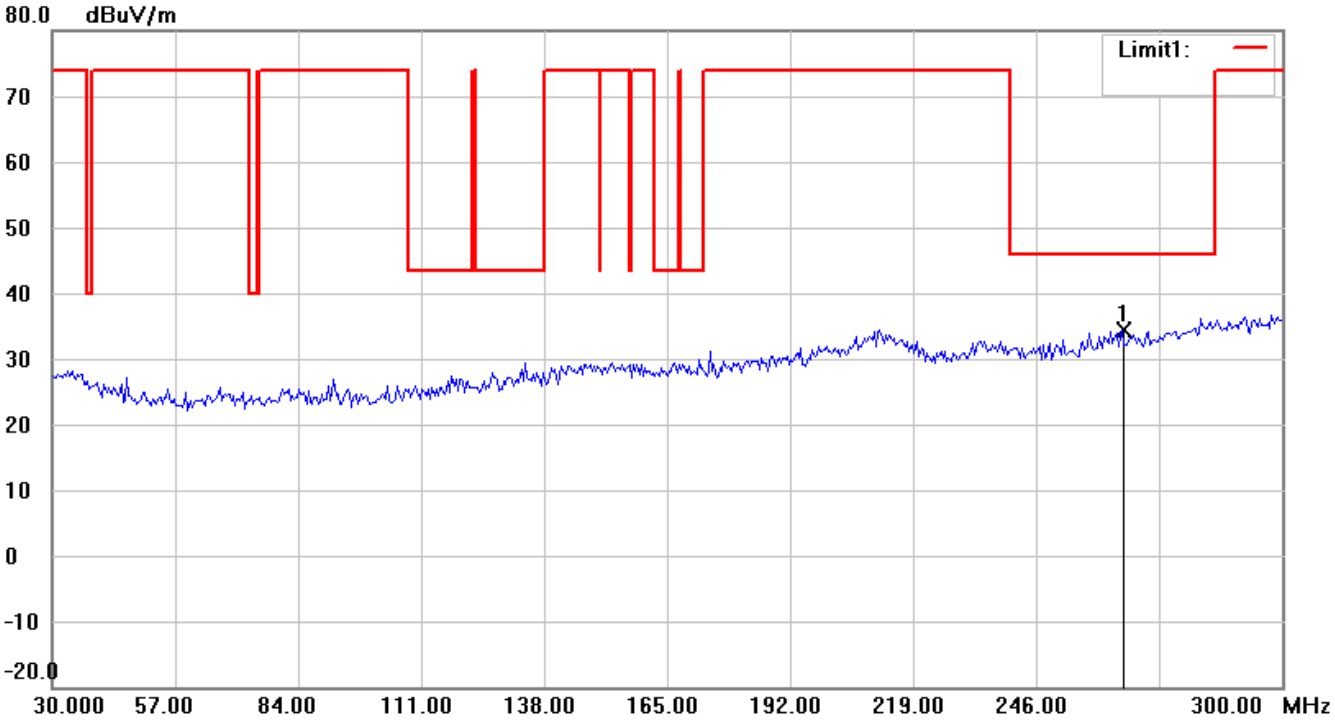
Registration number: W6D21101-11182-C-1
FCC ID: W6RRNX-N180UBE

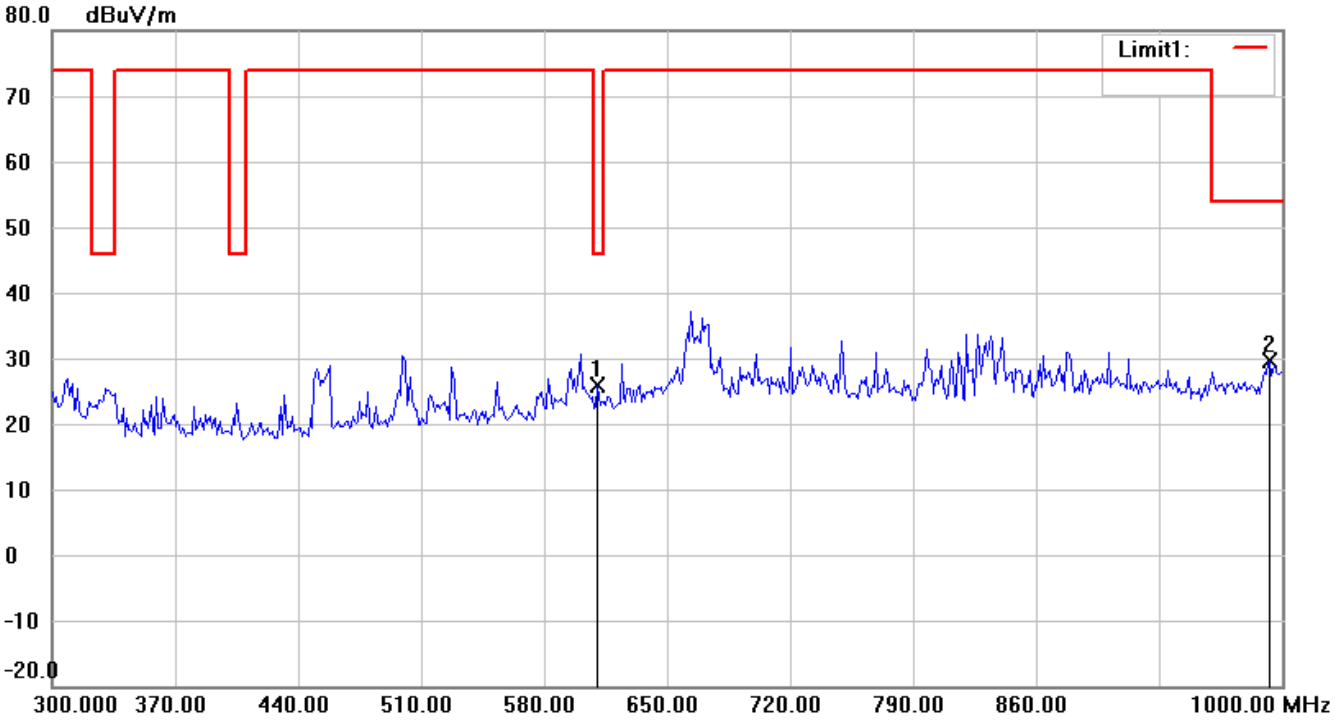




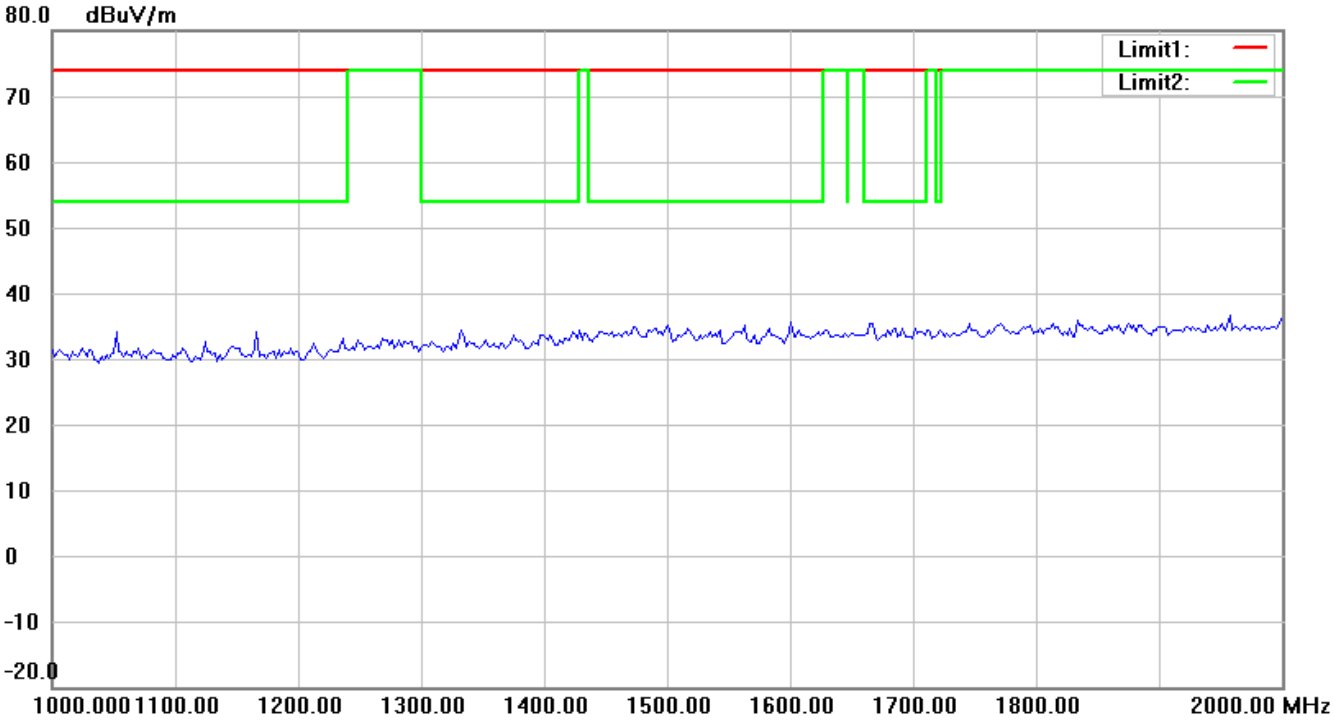
Registration number: W6D21101-11182-C-1
FCC ID: W6RRNX-N180UBE

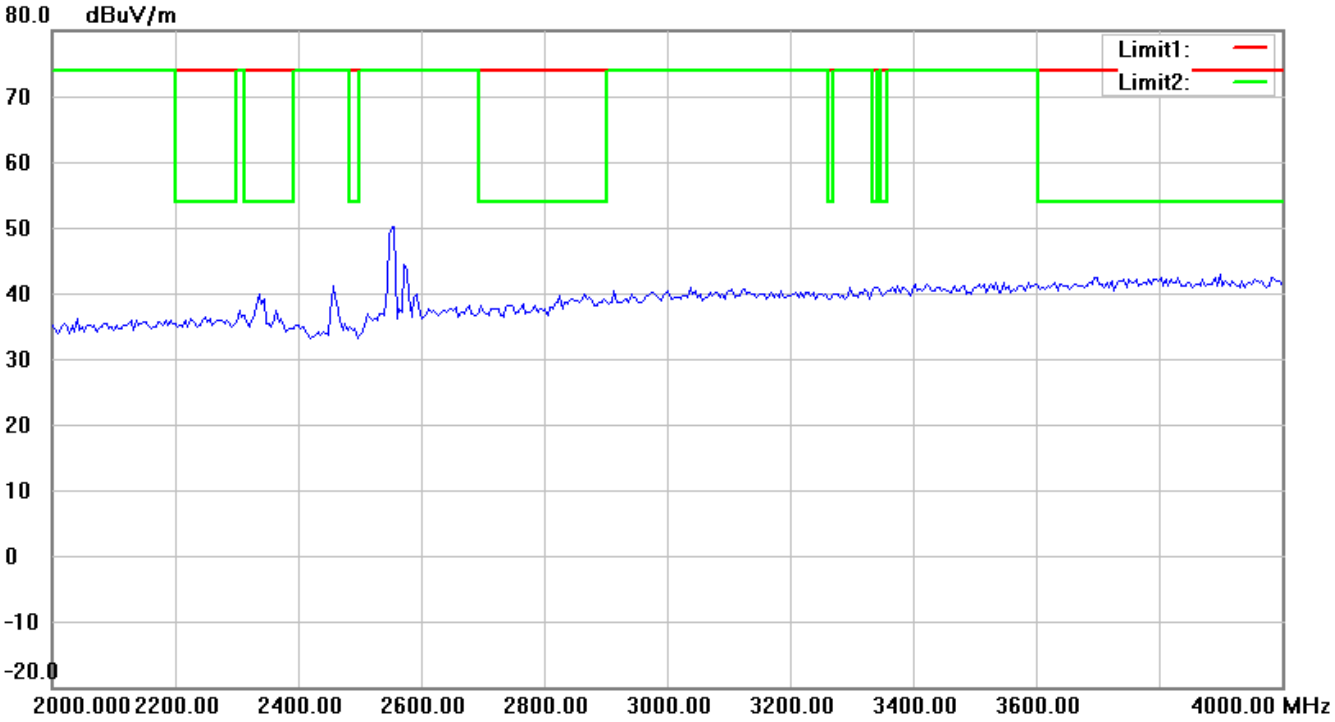
Channel 11
Antenna Polarization H



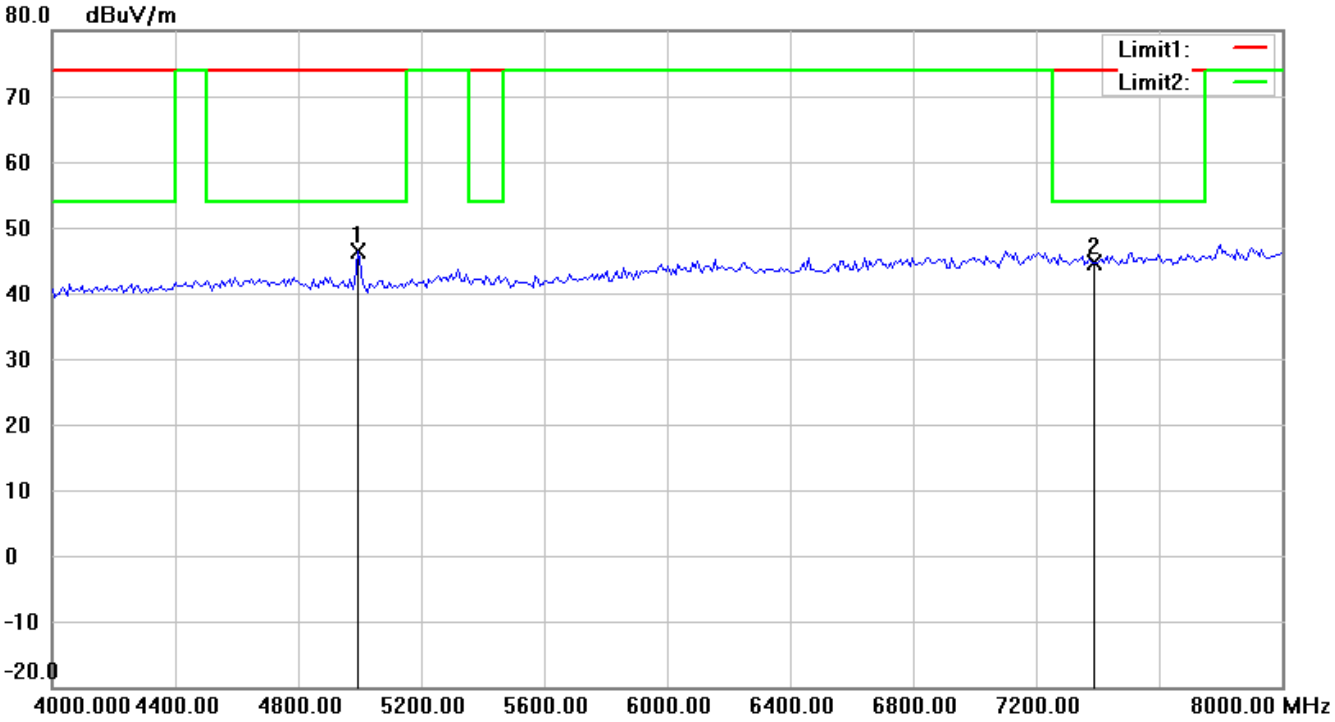


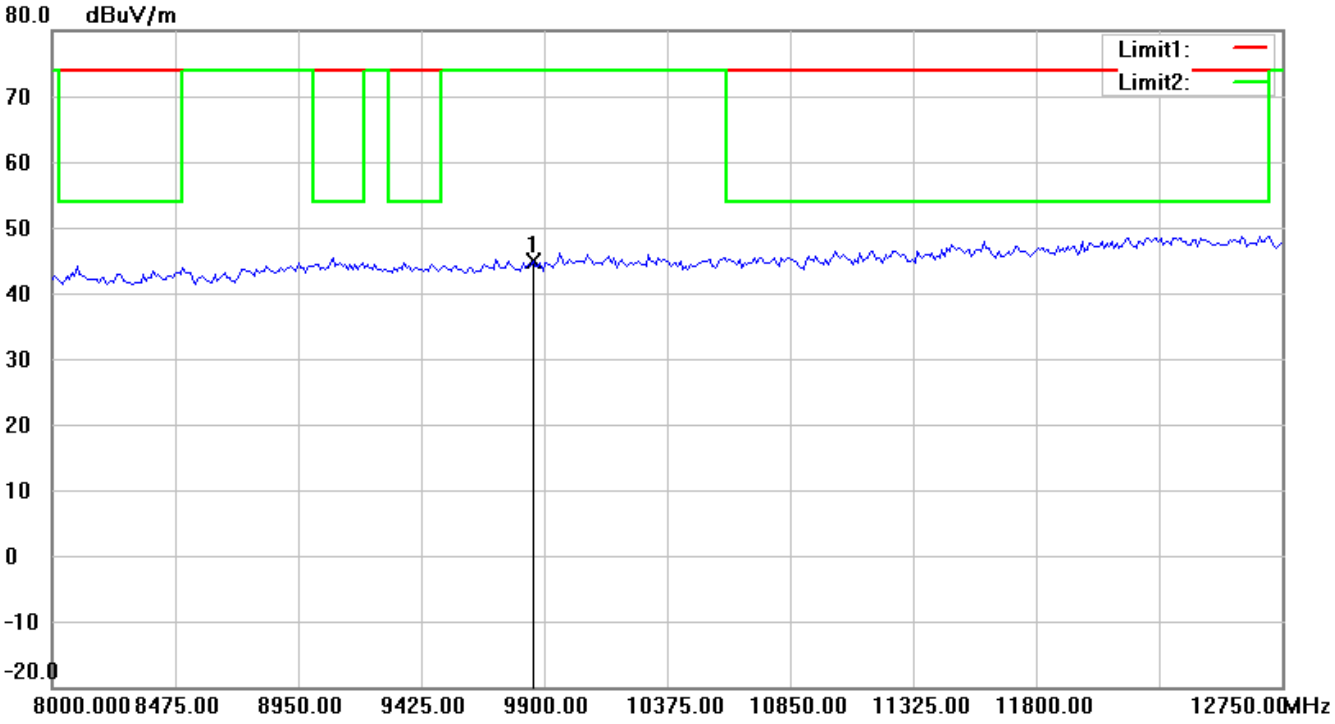
Registration number: W6D21101-11182-C-1
FCC ID: W6RRNX-N180UBE



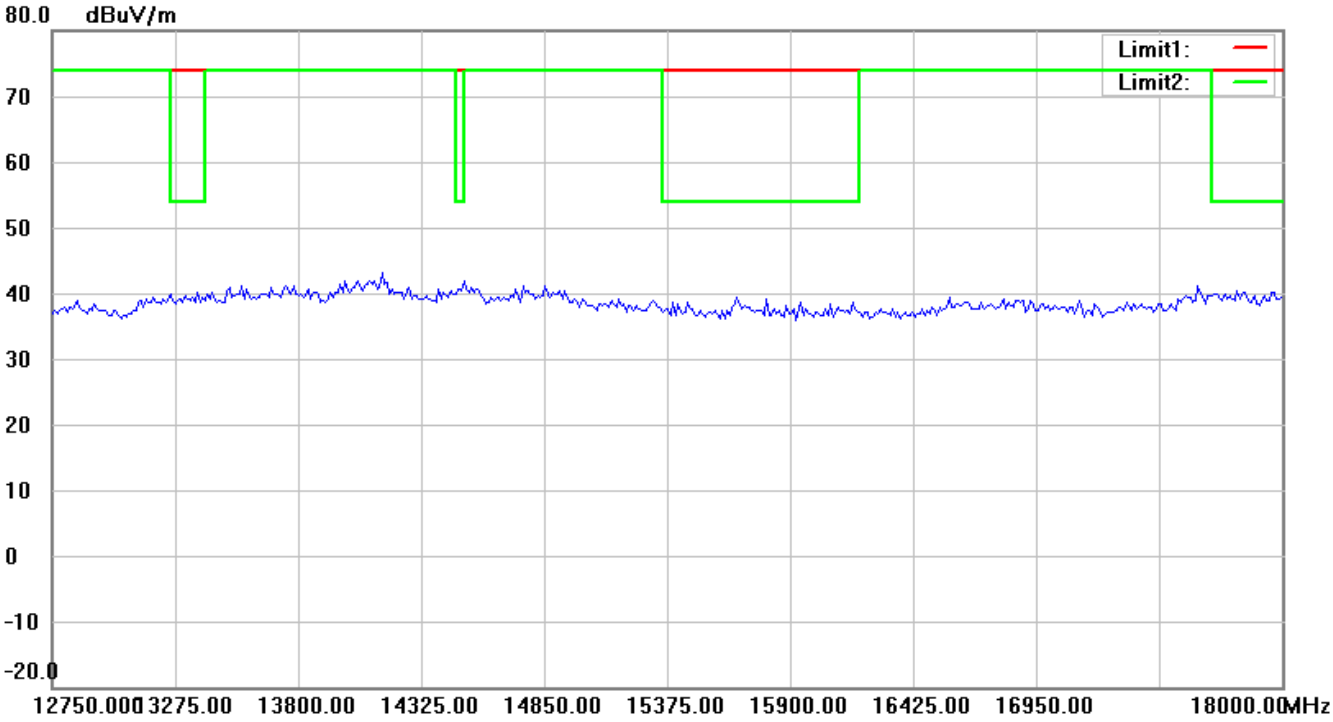


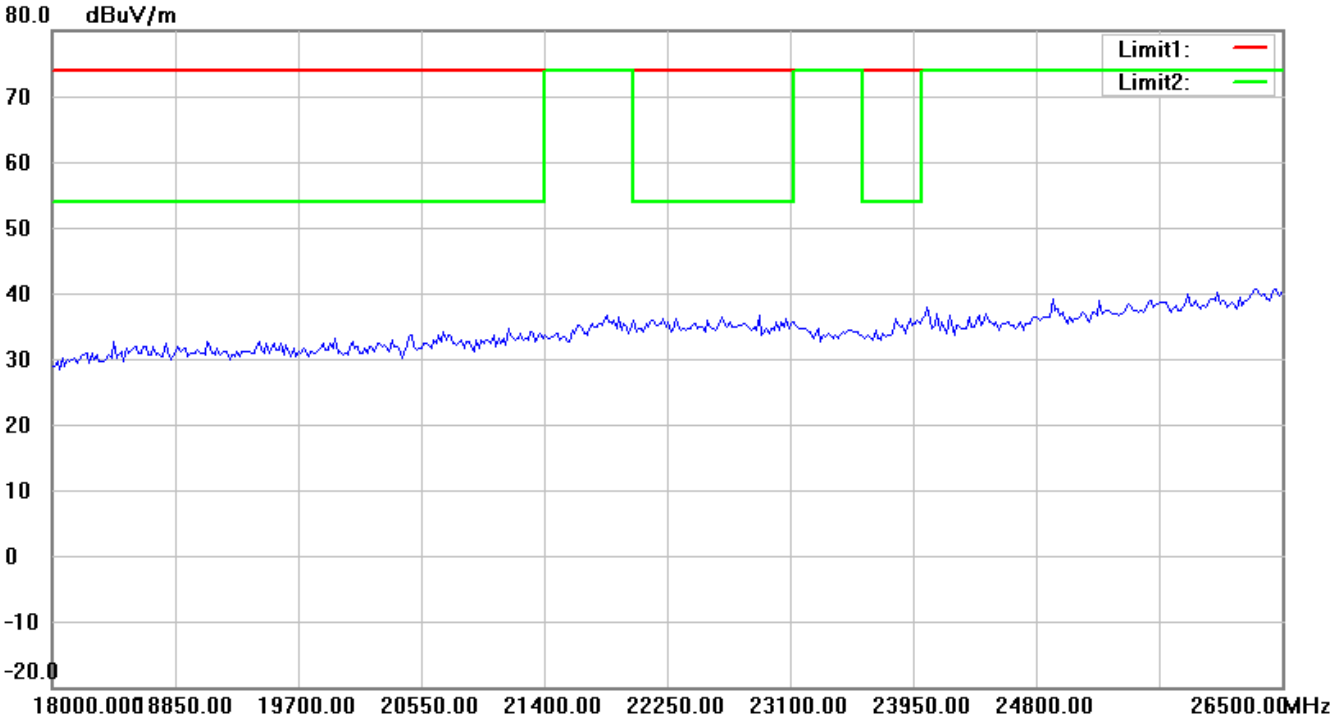
Registration number: W6D21101-11182-C-1
FCC ID: W6RRNX-N180UBE





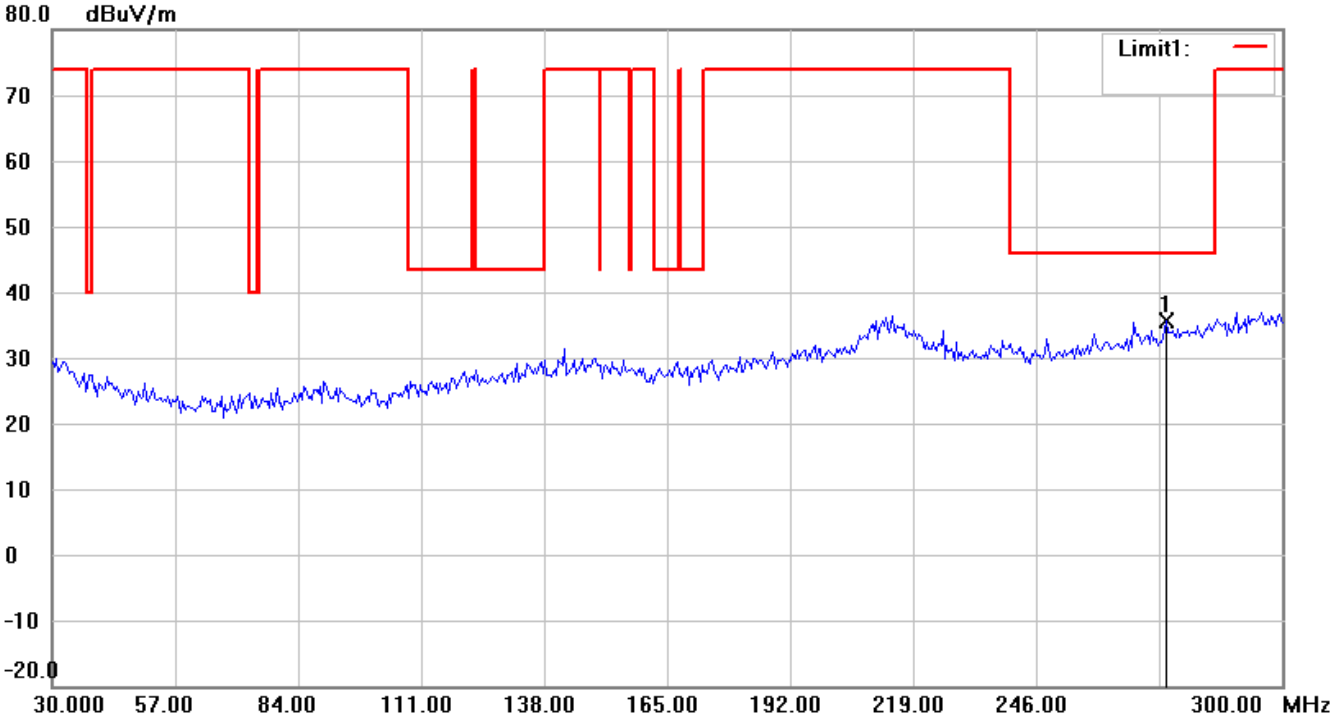
Registration number: W6D21101-11182-C-1
FCC ID: W6RRNX-N180UBE

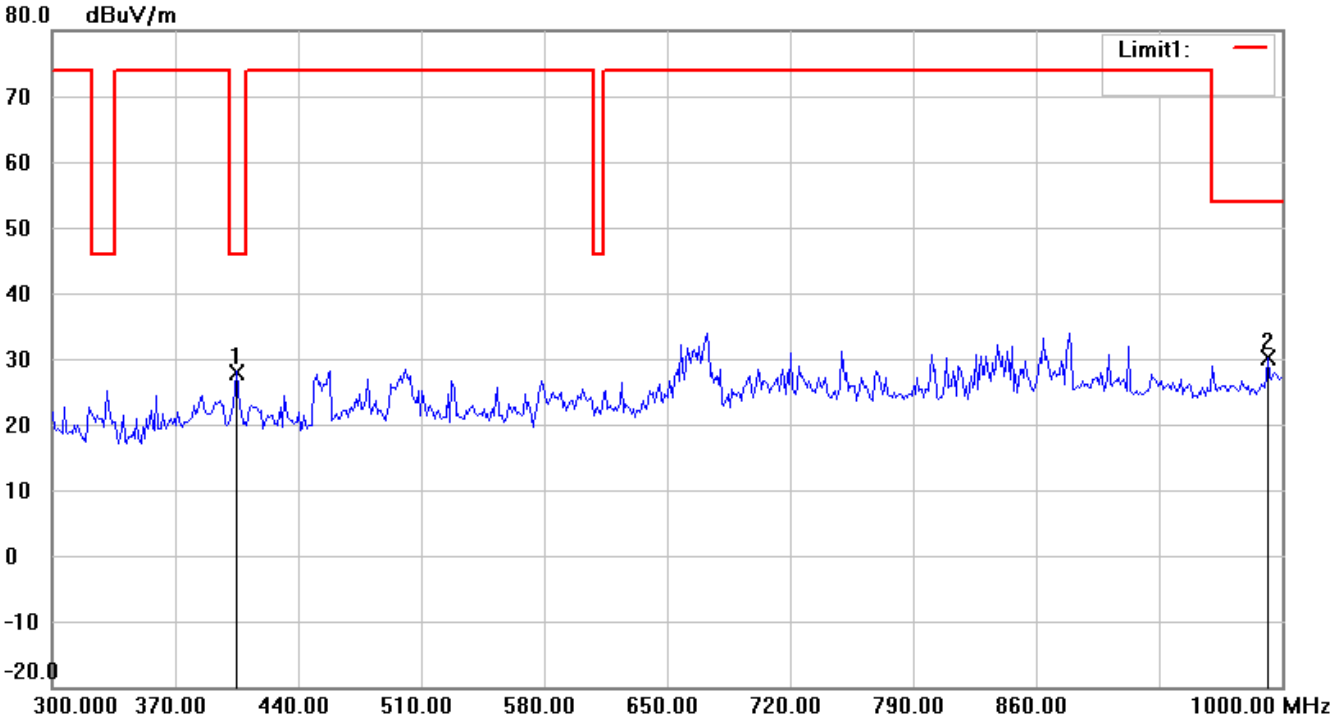




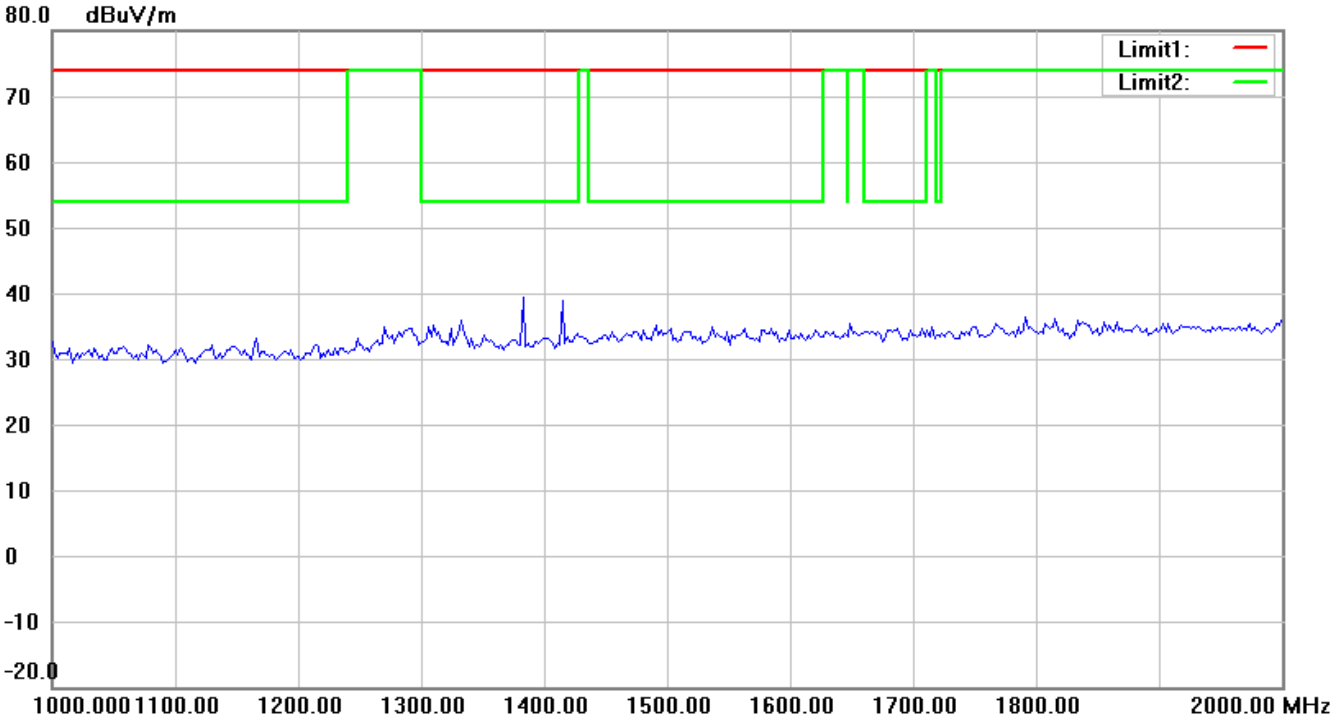
Registration number: W6D21101-11182-C-1
FCC ID: W6RRNX-N180UBE

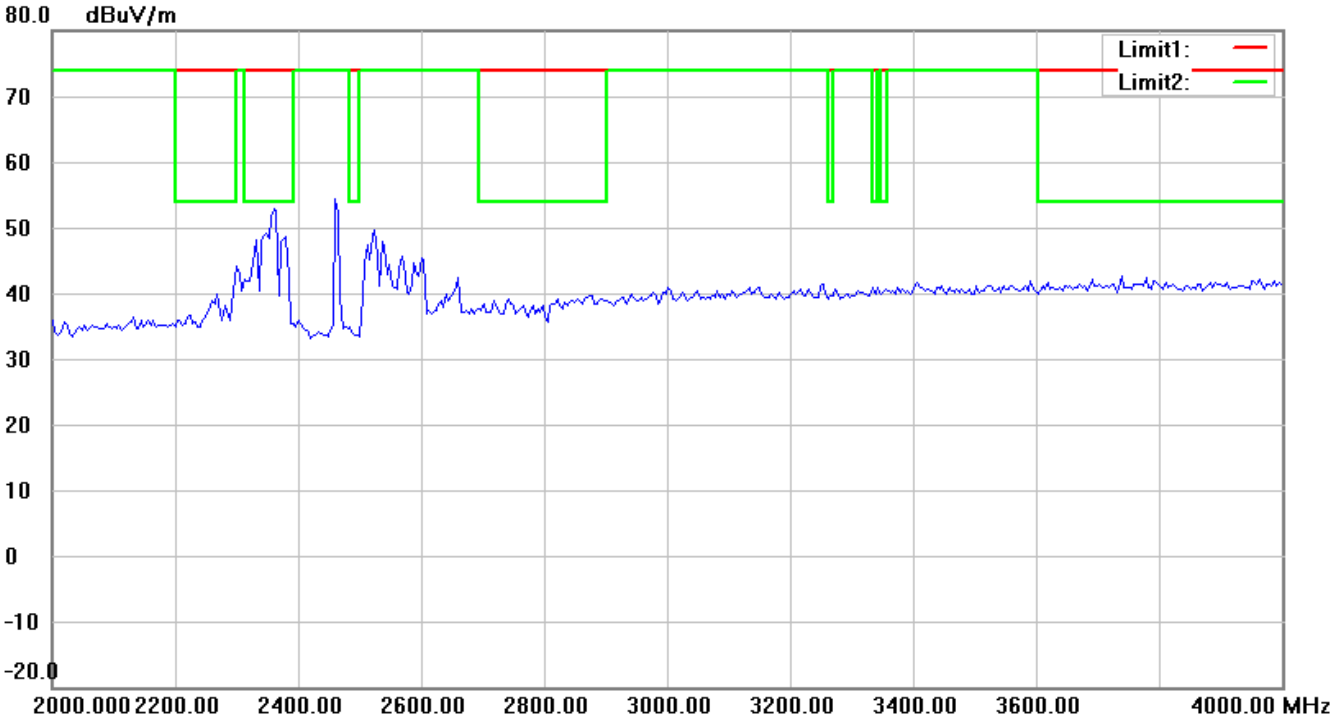
Antenna Polarization V



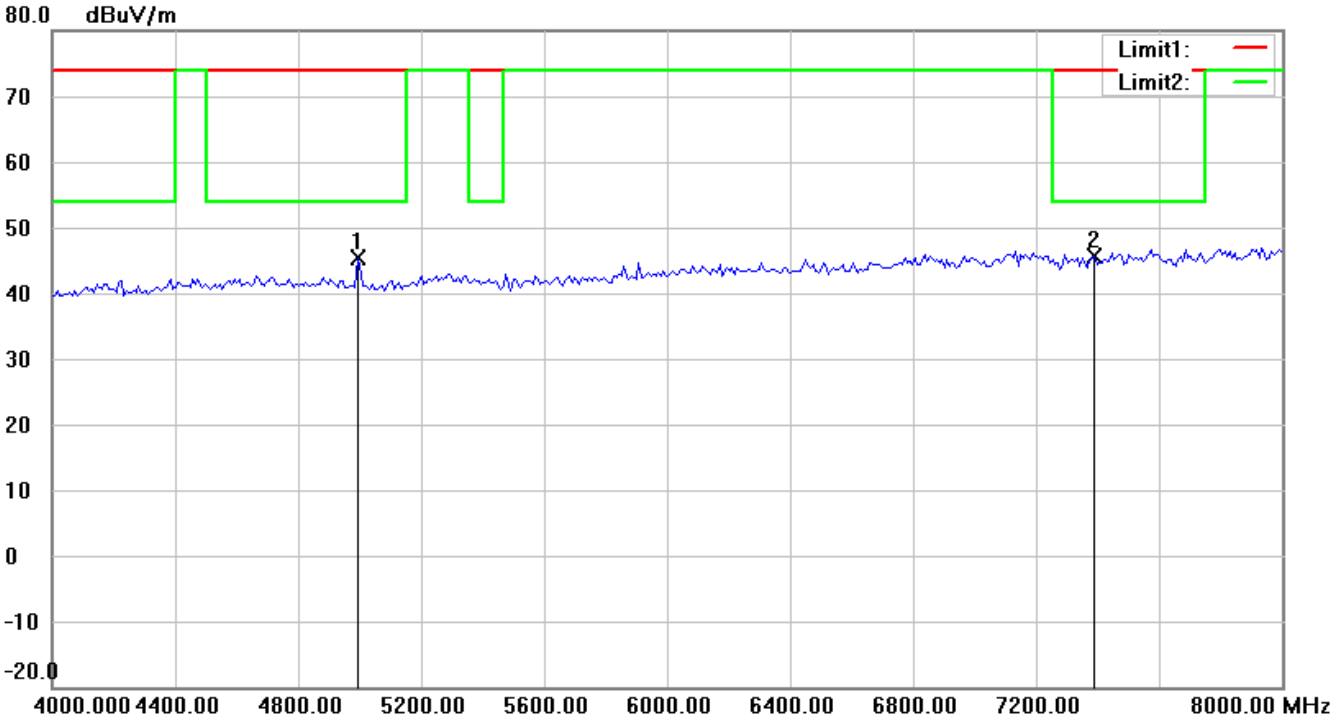


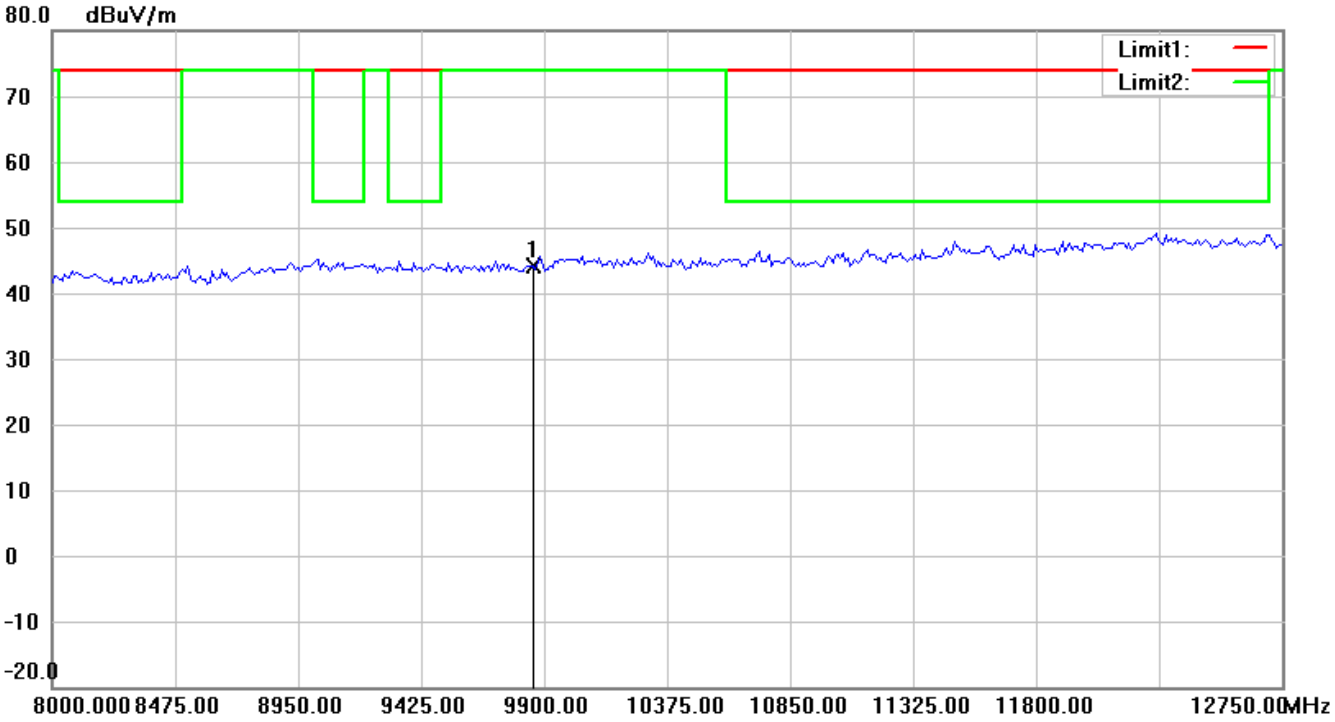
Registration number: W6D21101-11182-C-1
FCC ID: W6RRNX-N180UBE



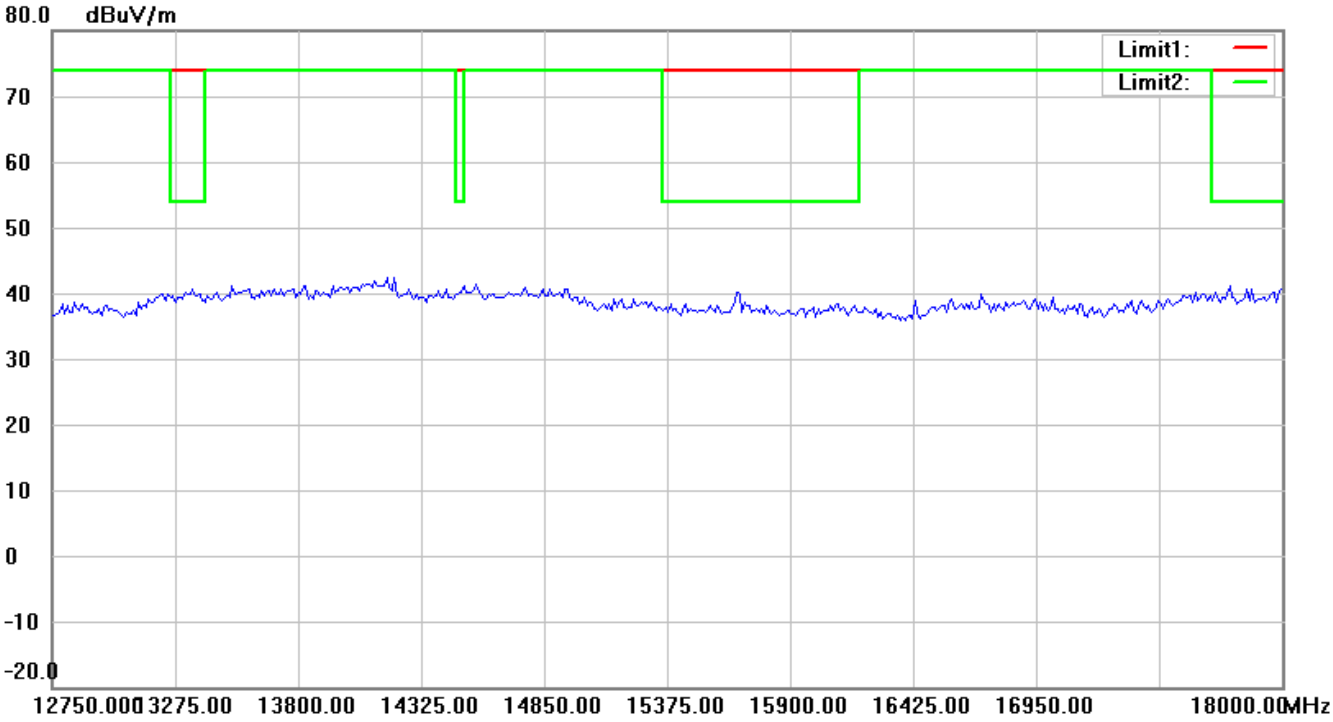


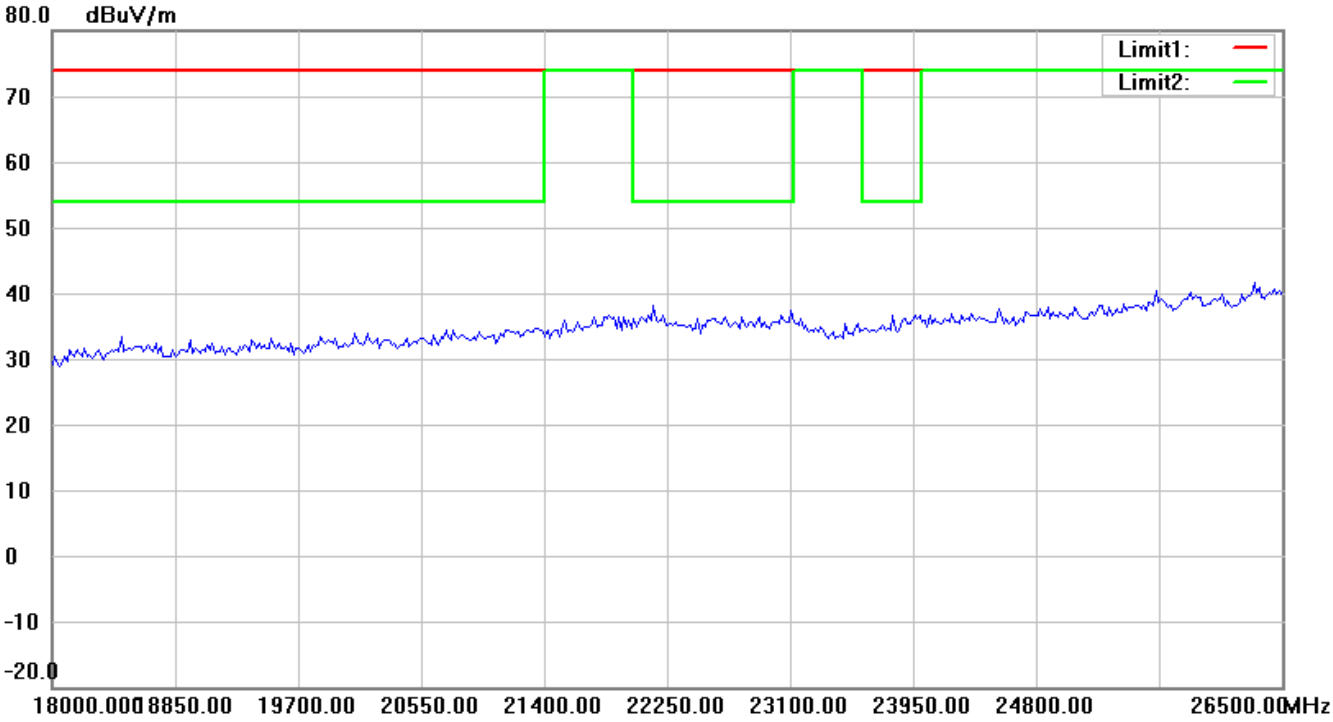
Registration number: W6D21101-11182-C-1
FCC ID: W6RRNX-N180UBE





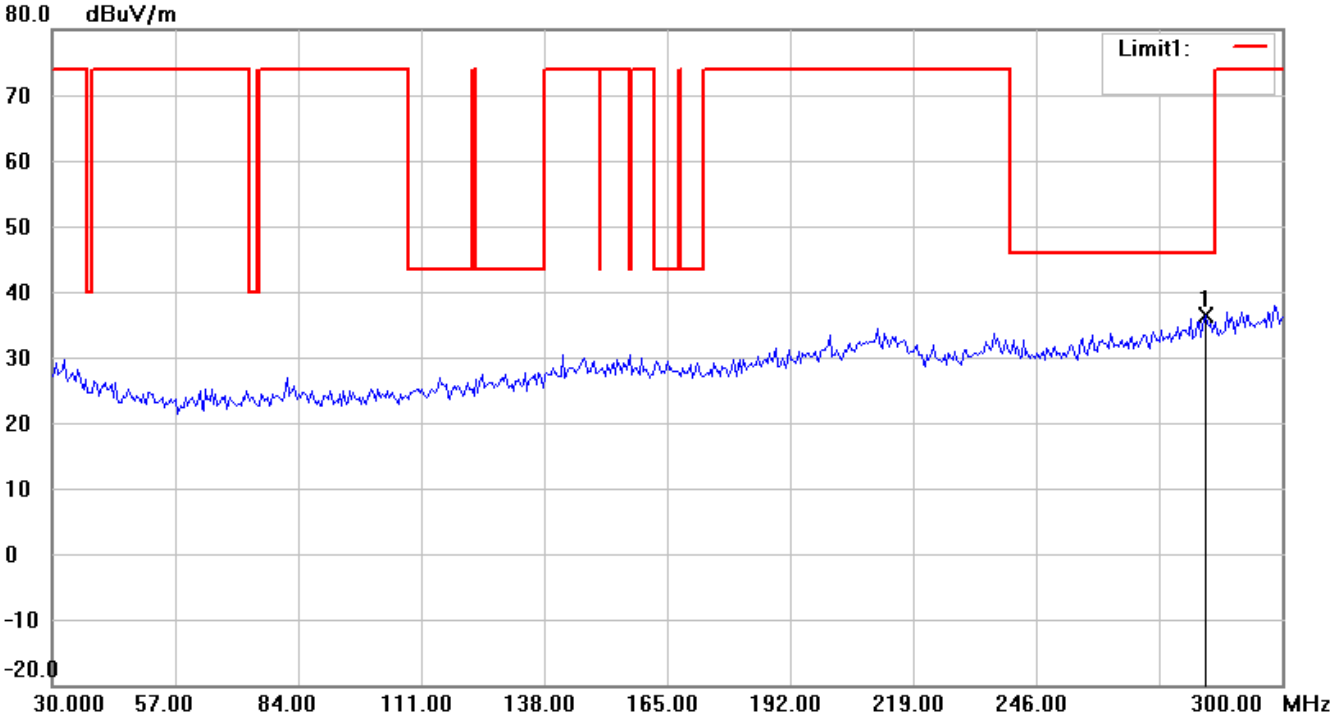
Registration number: W6D21101-11182-C-1
FCC ID: W6RRNX-N180UBE

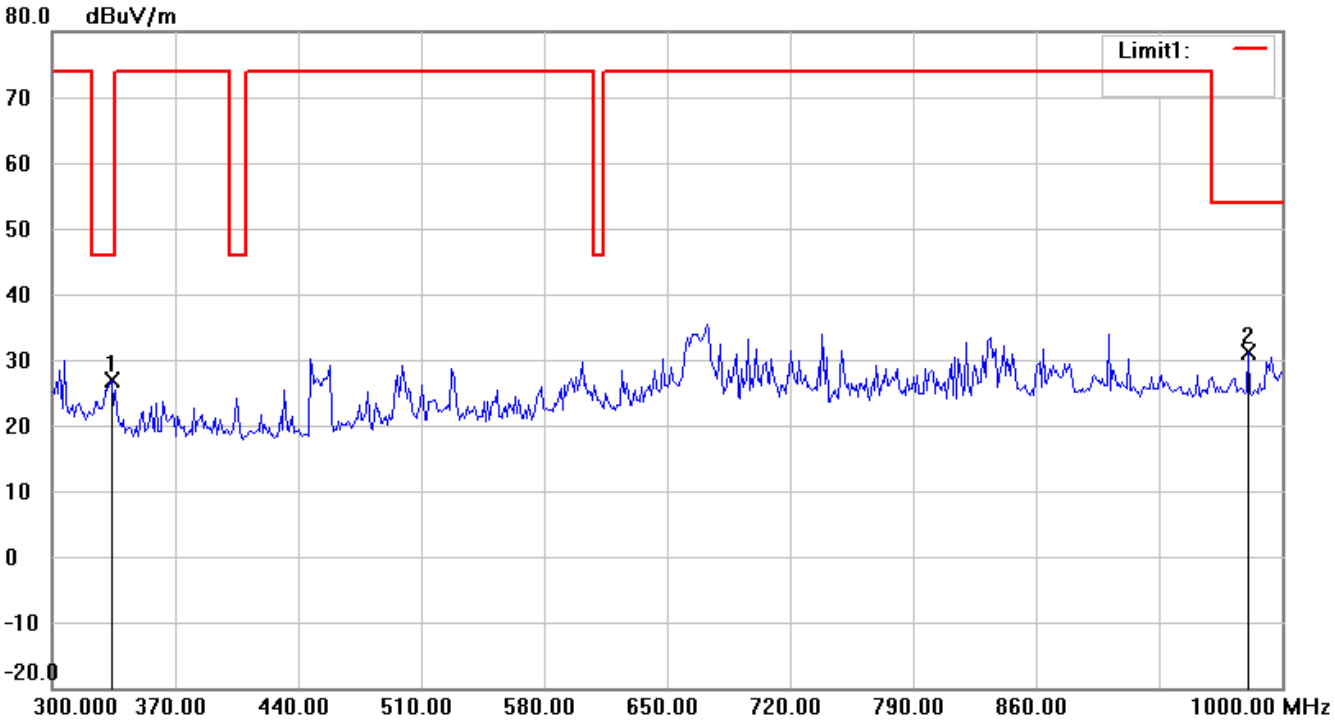




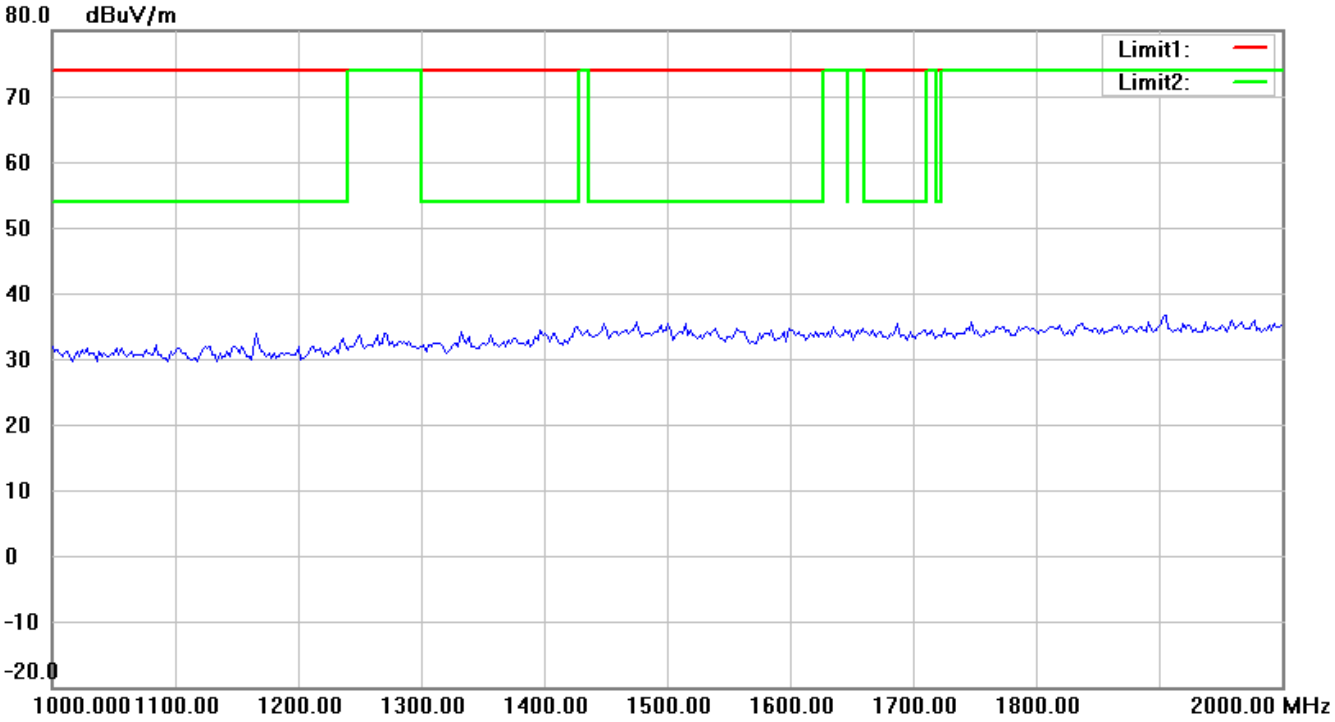
Registration number: W6D21101-11182-C-1
FCC ID: W6RRNX-N180UBE

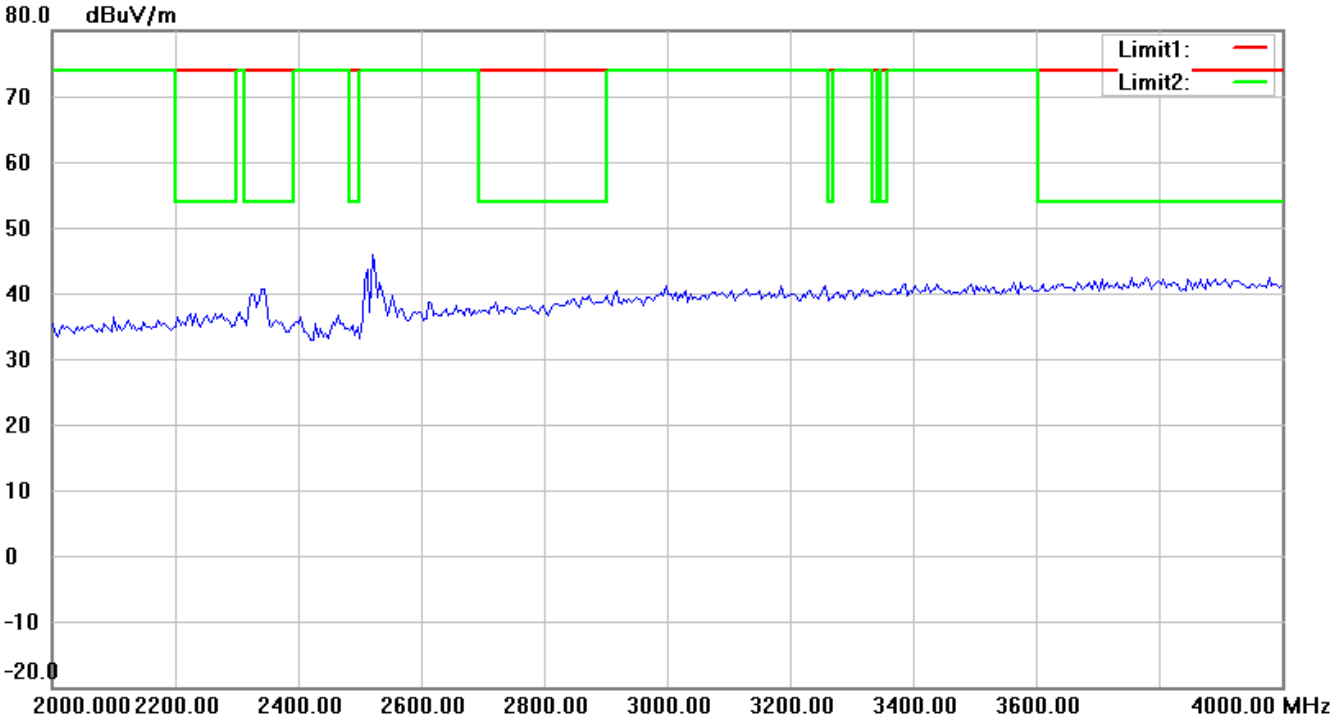
802.11n 40MHz
Channel 1
Antenna Polarization H



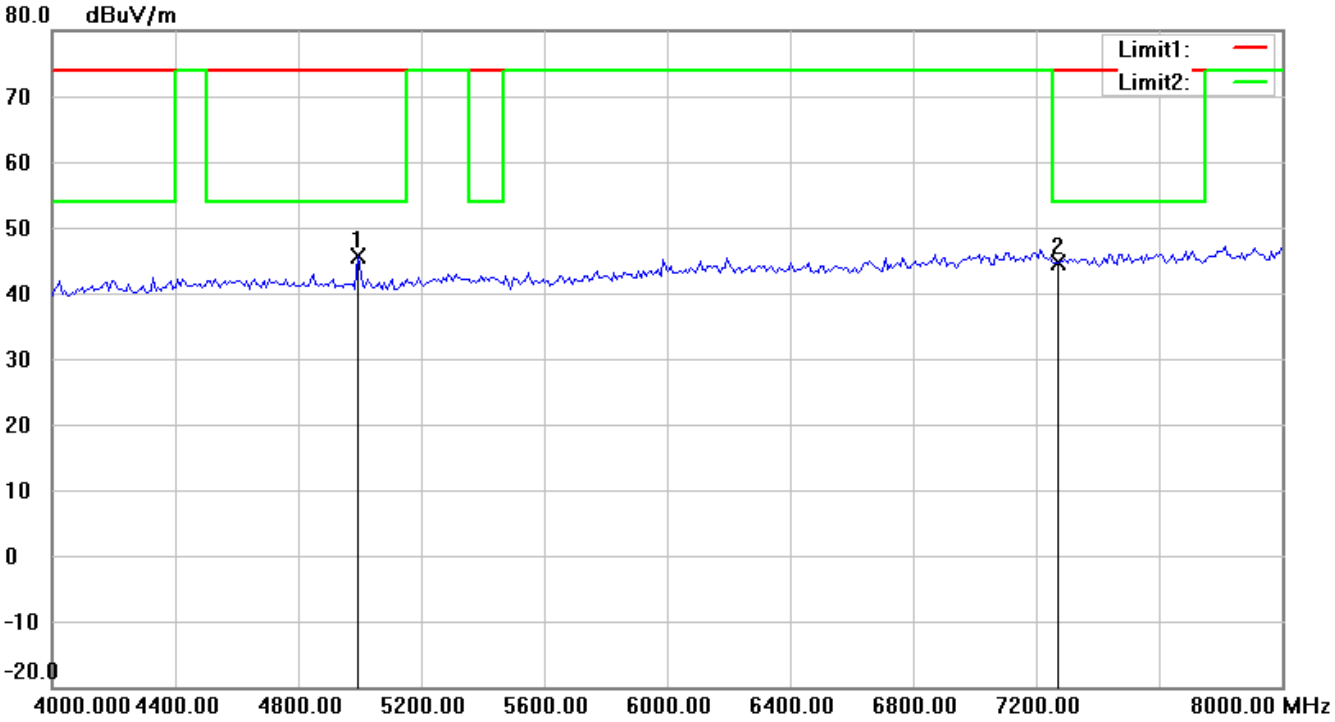


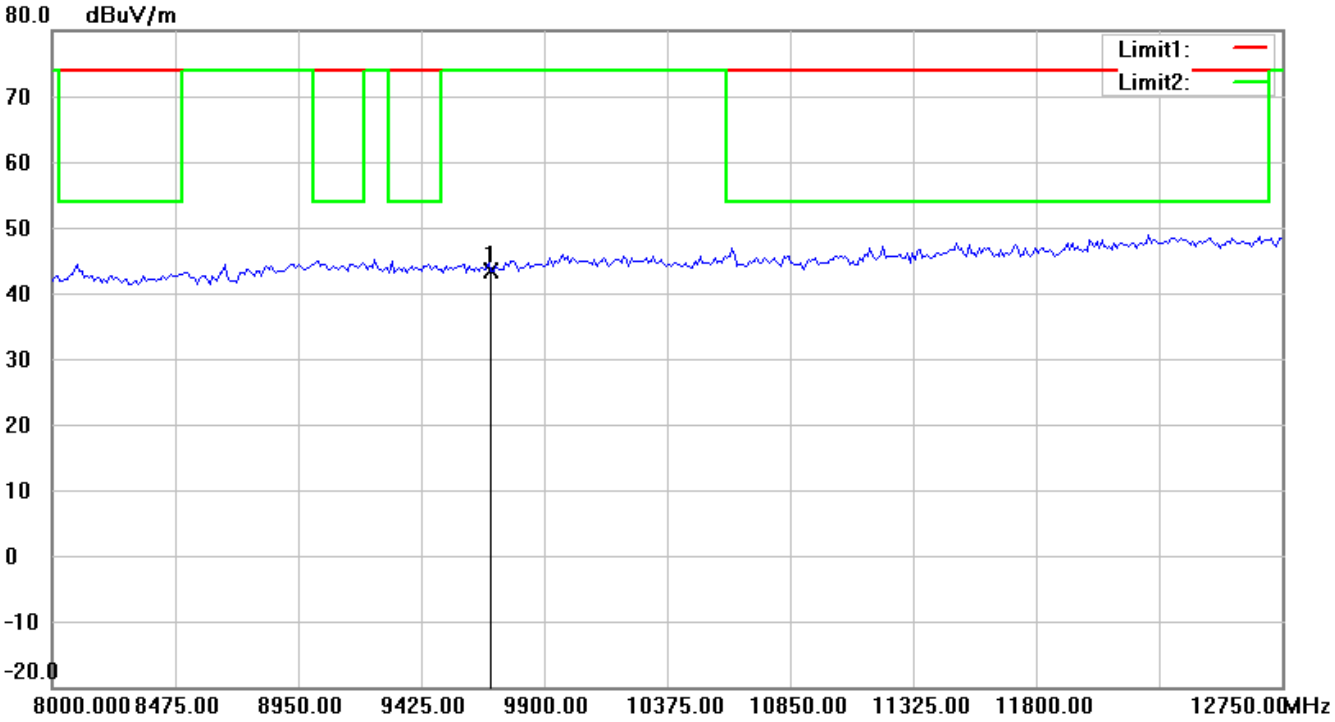
Registration number: W6D21101-11182-C-1
FCC ID: W6RRNX-N180UBE



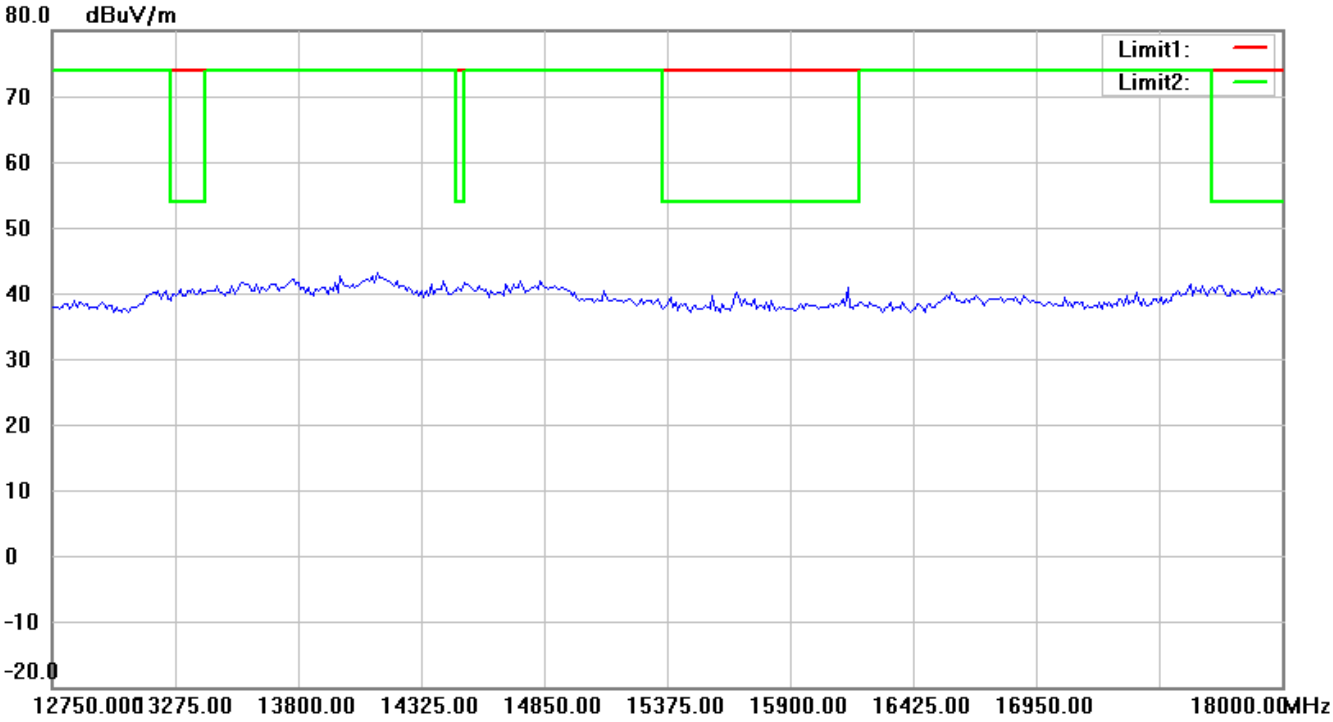


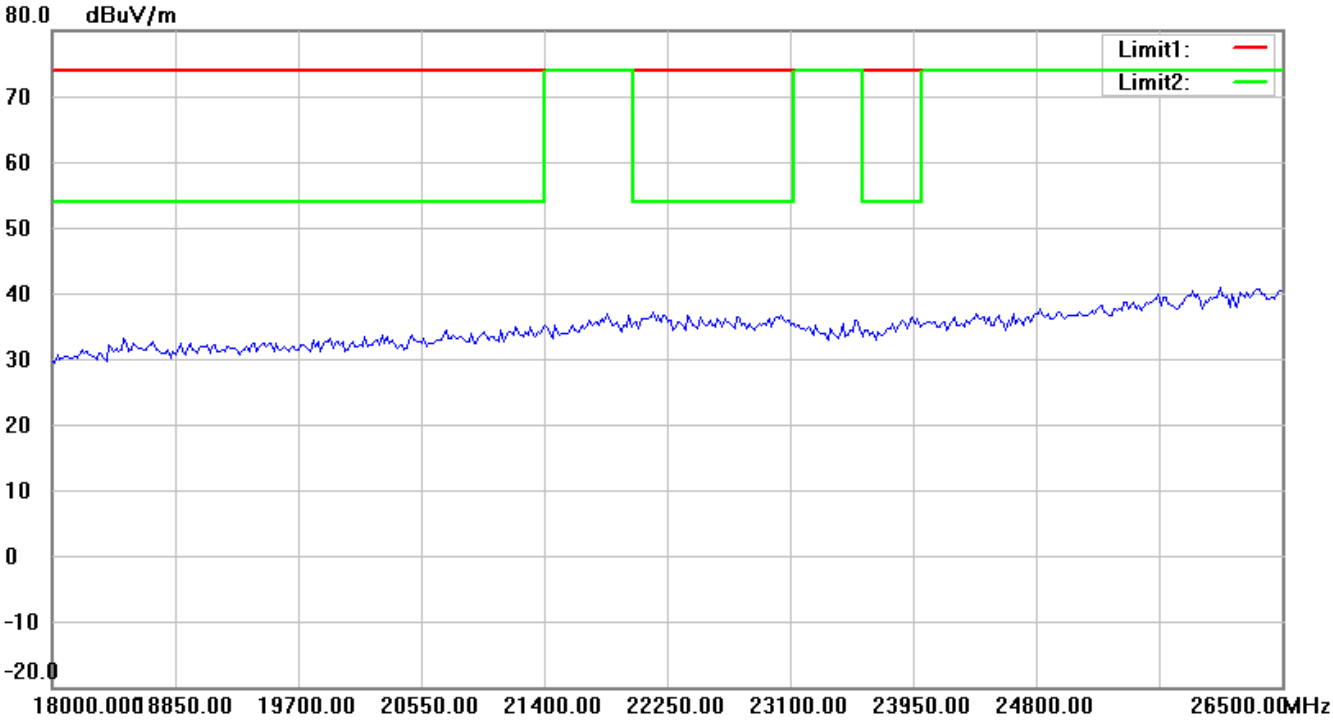
Registration number: W6D21101-11182-C-1
FCC ID: W6RRNX-N180UBE





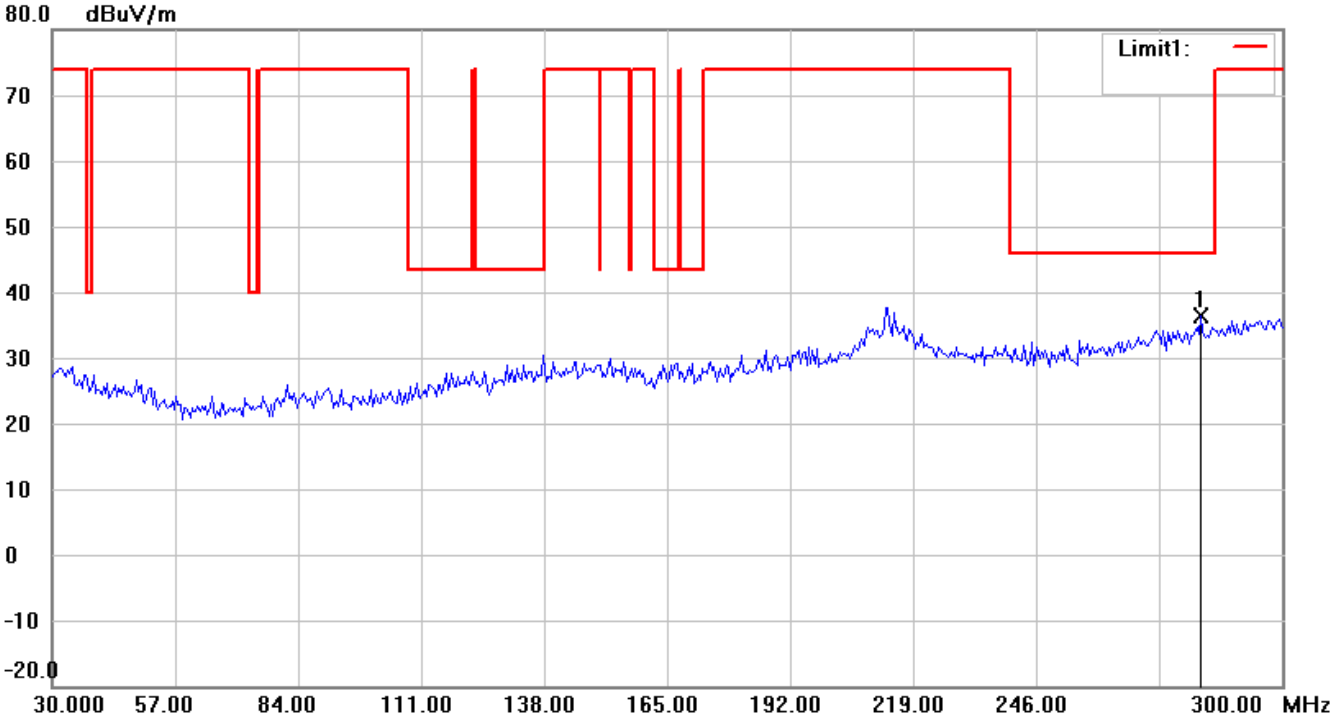
Registration number: W6D21101-11182-C-1
FCC ID: W6RRNX-N180UBE

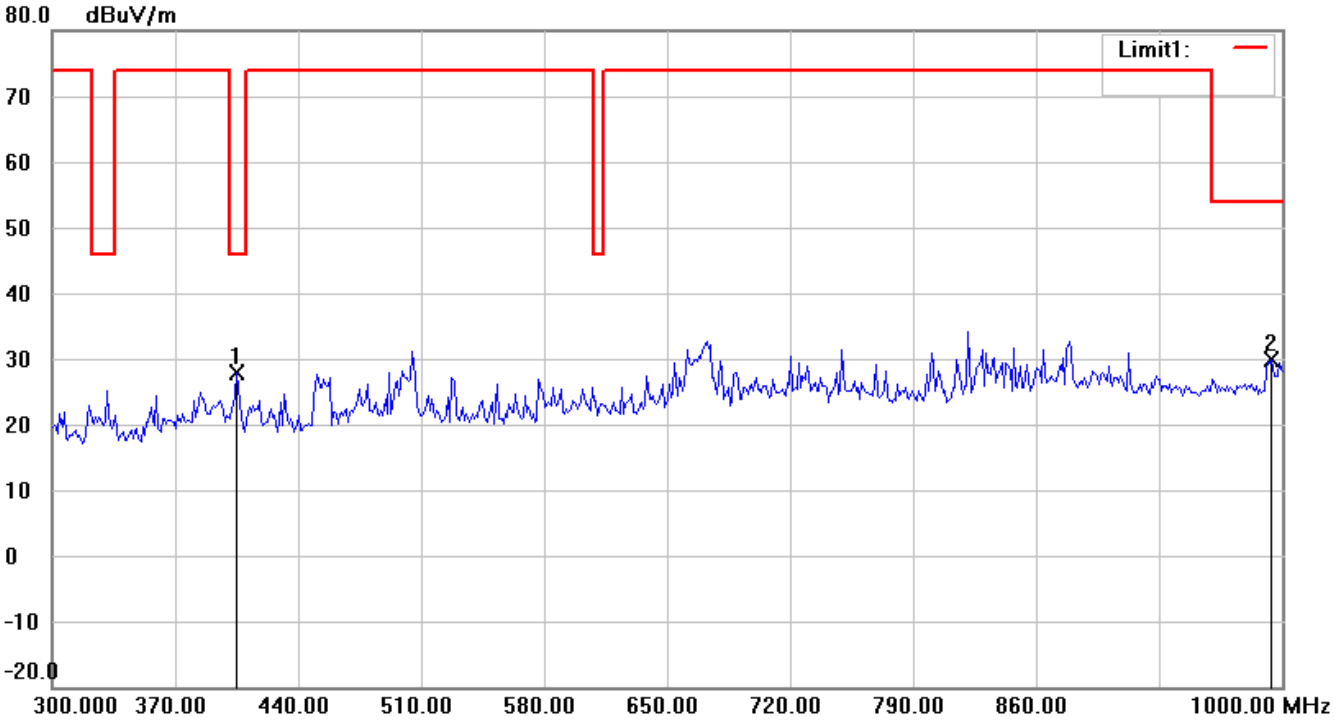




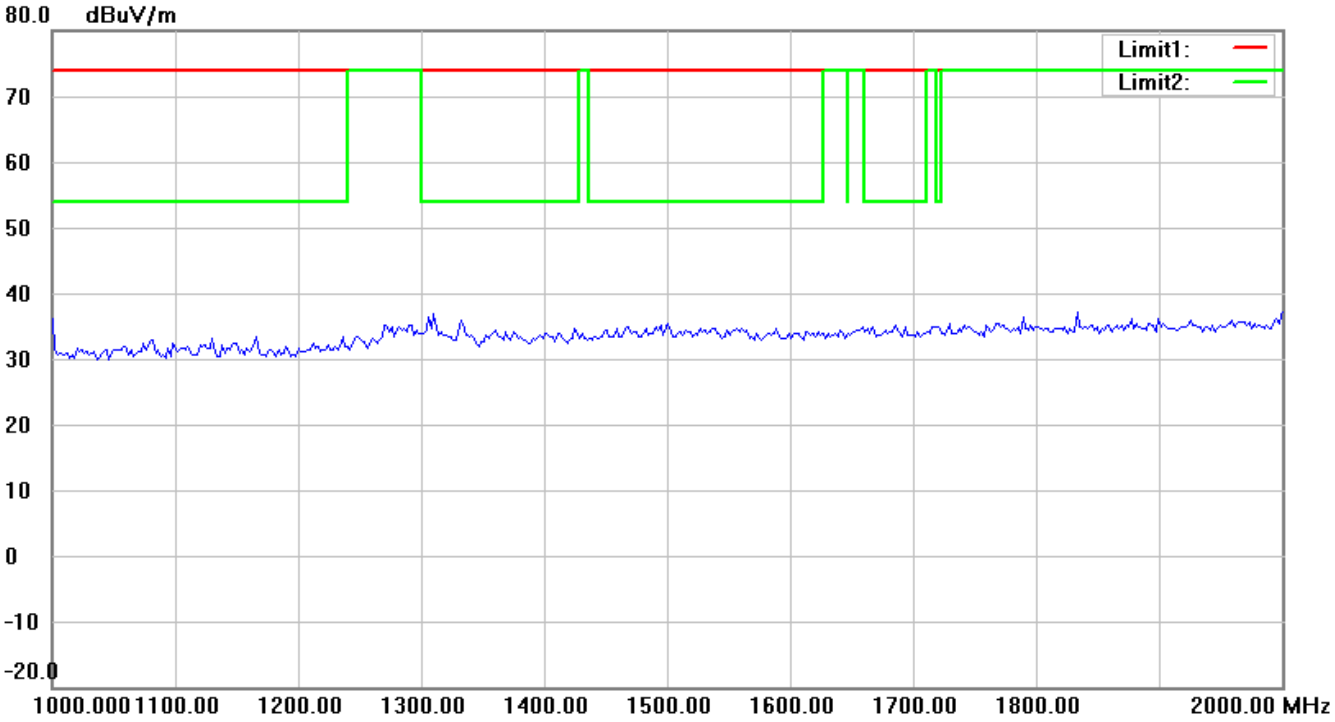
Registration number: W6D21101-11182-C-1
FCC ID: W6RRNX-N180UBE

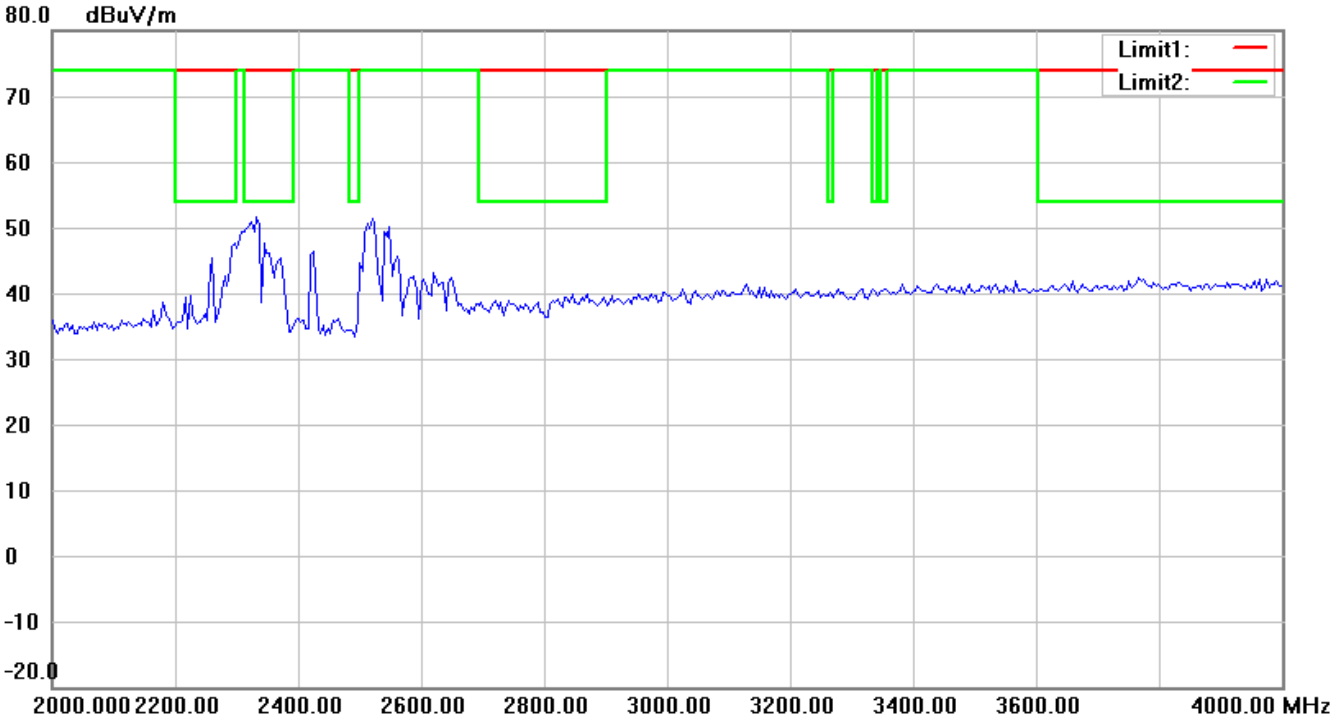
Antenna Polarization V



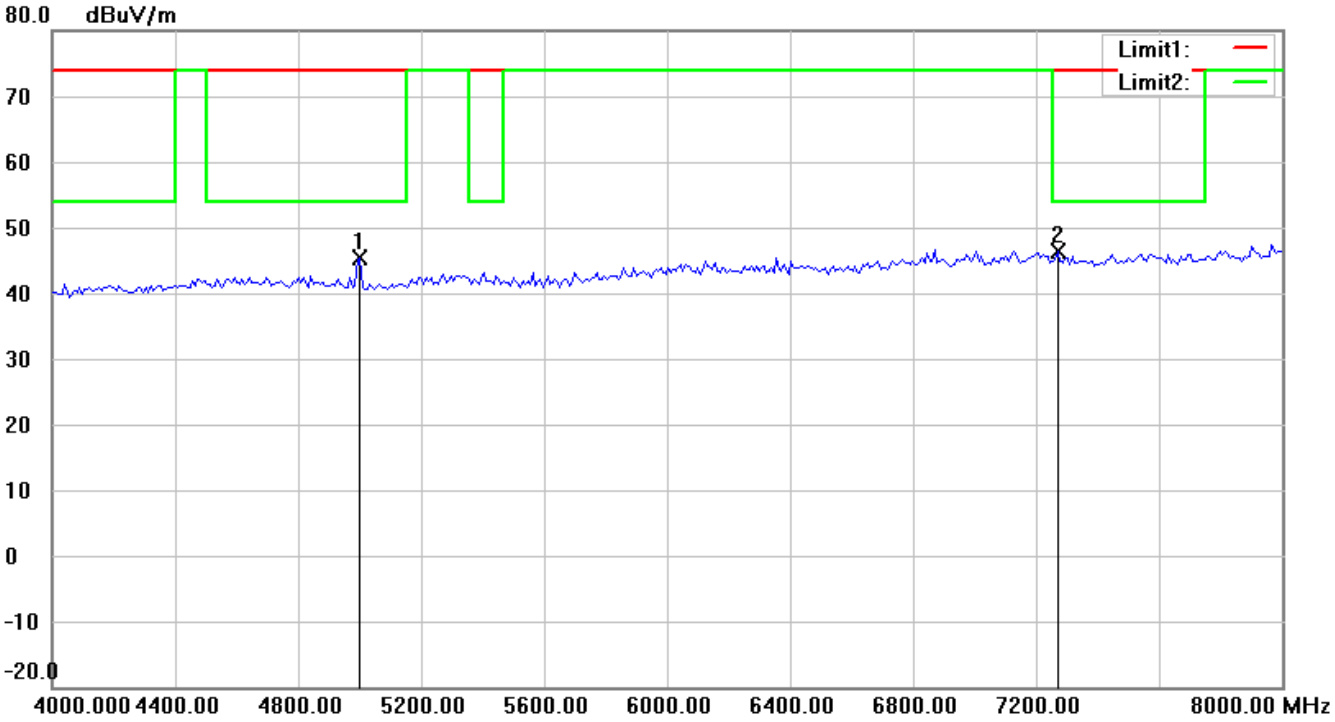


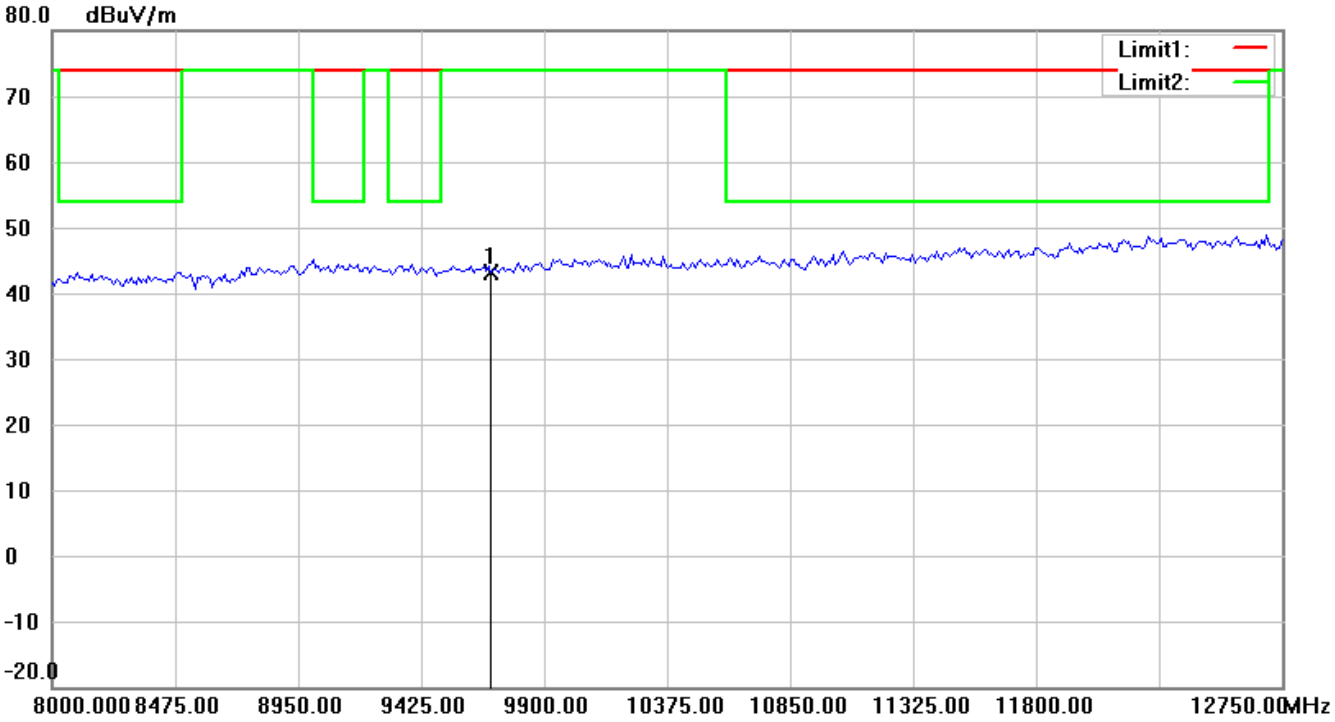
Registration number: W6D21101-11182-C-1
FCC ID: W6RRNX-N180UBE



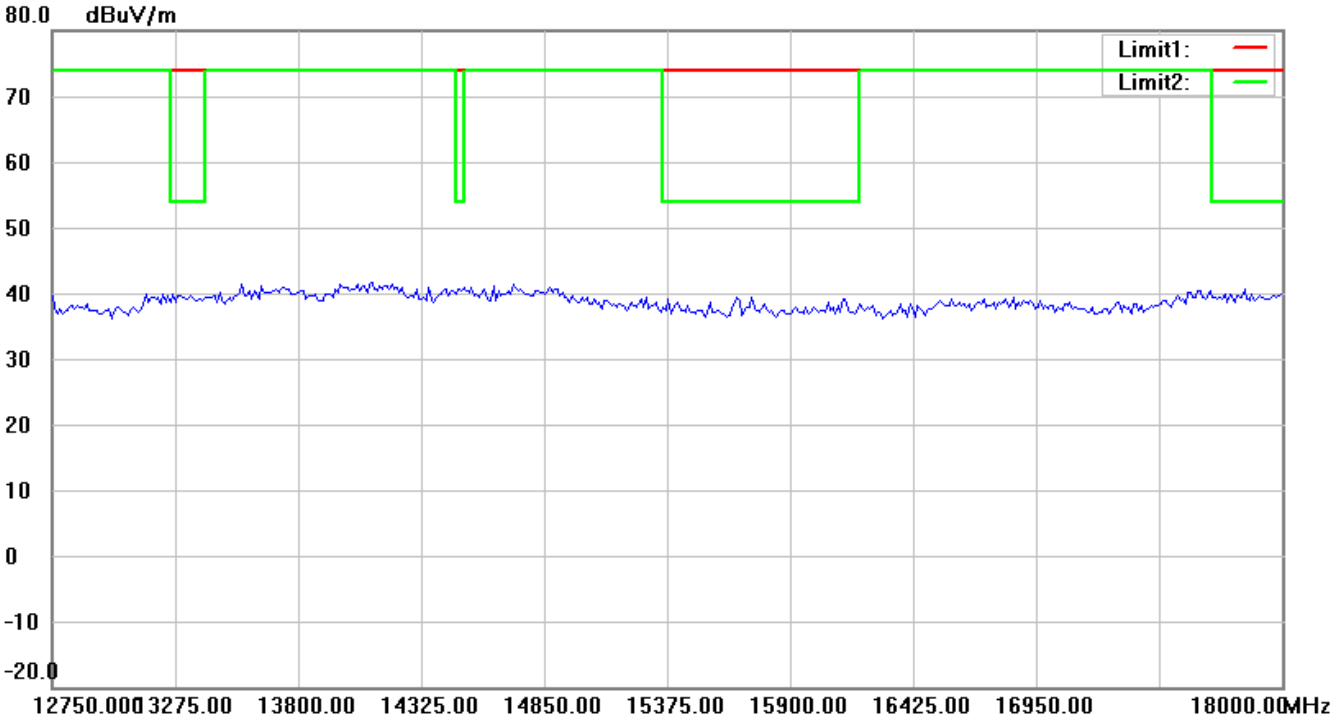


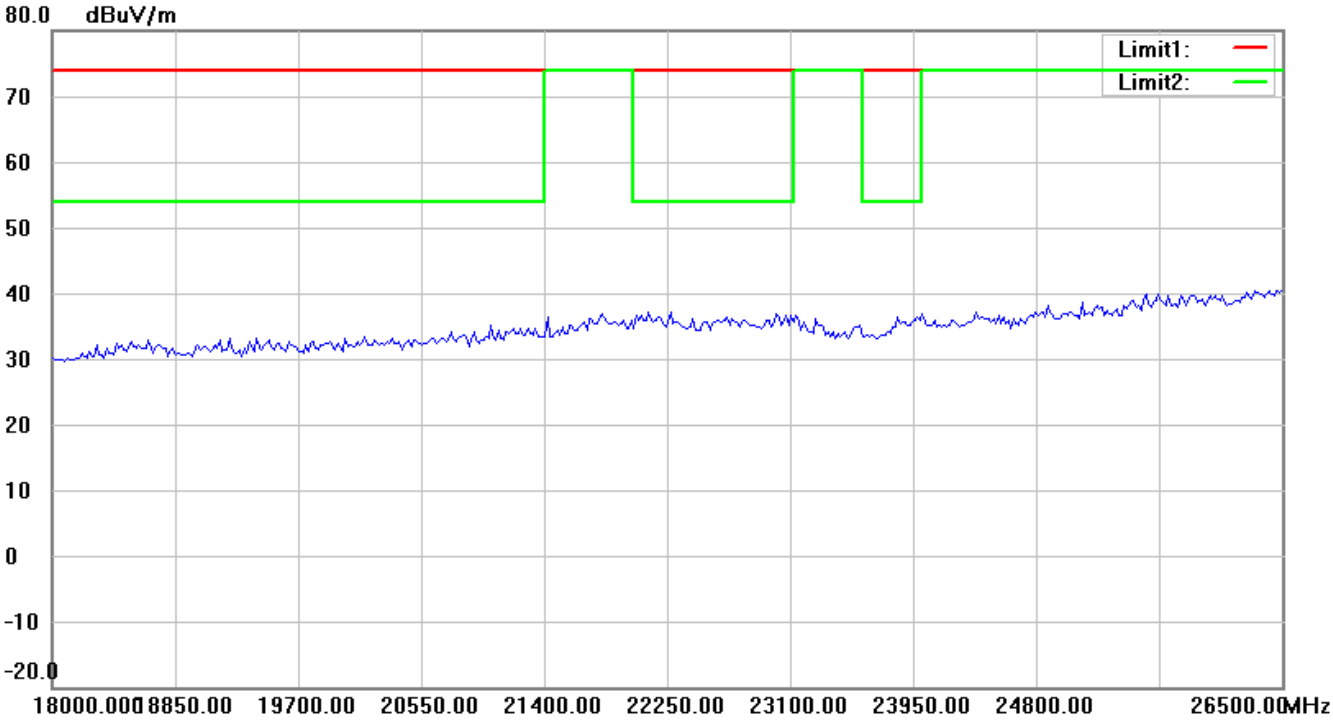
Registration number: W6D21101-11182-C-1
FCC ID: W6RRNX-N180UBE





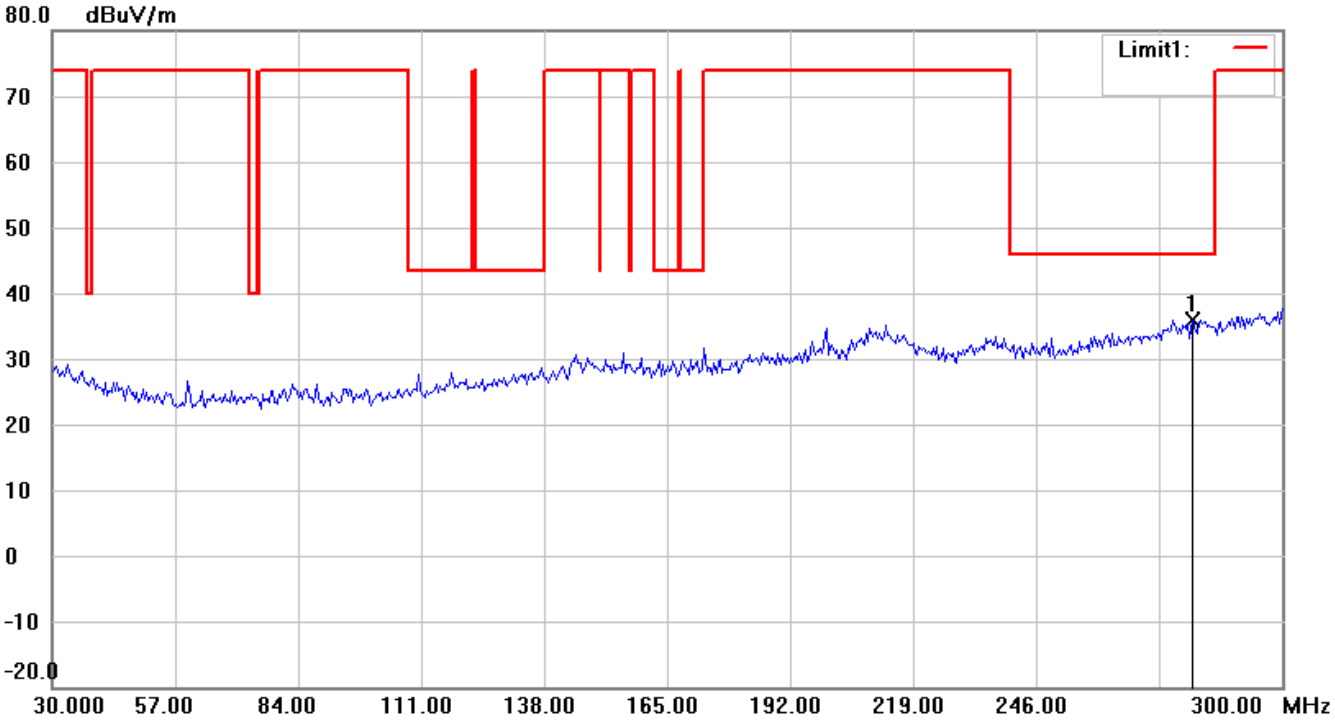
Registration number: W6D21101-11182-C-1
FCC ID: W6RRNX-N180UBE

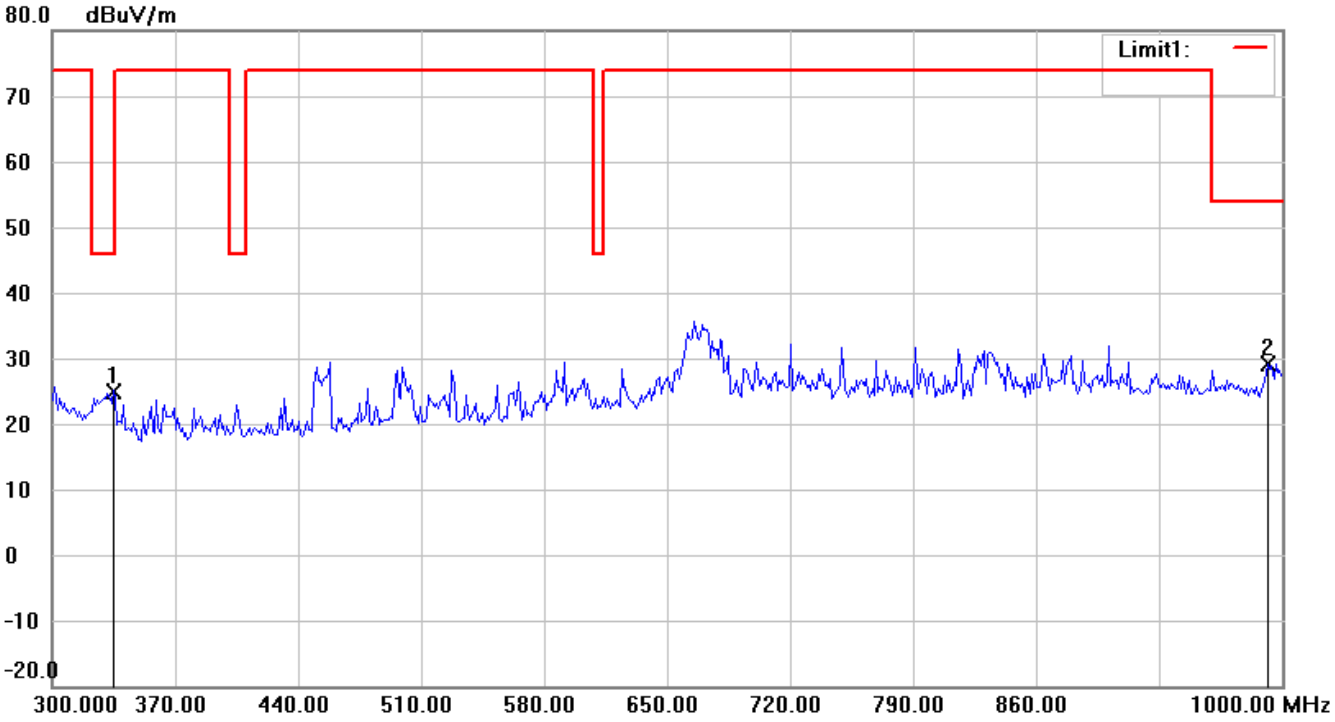




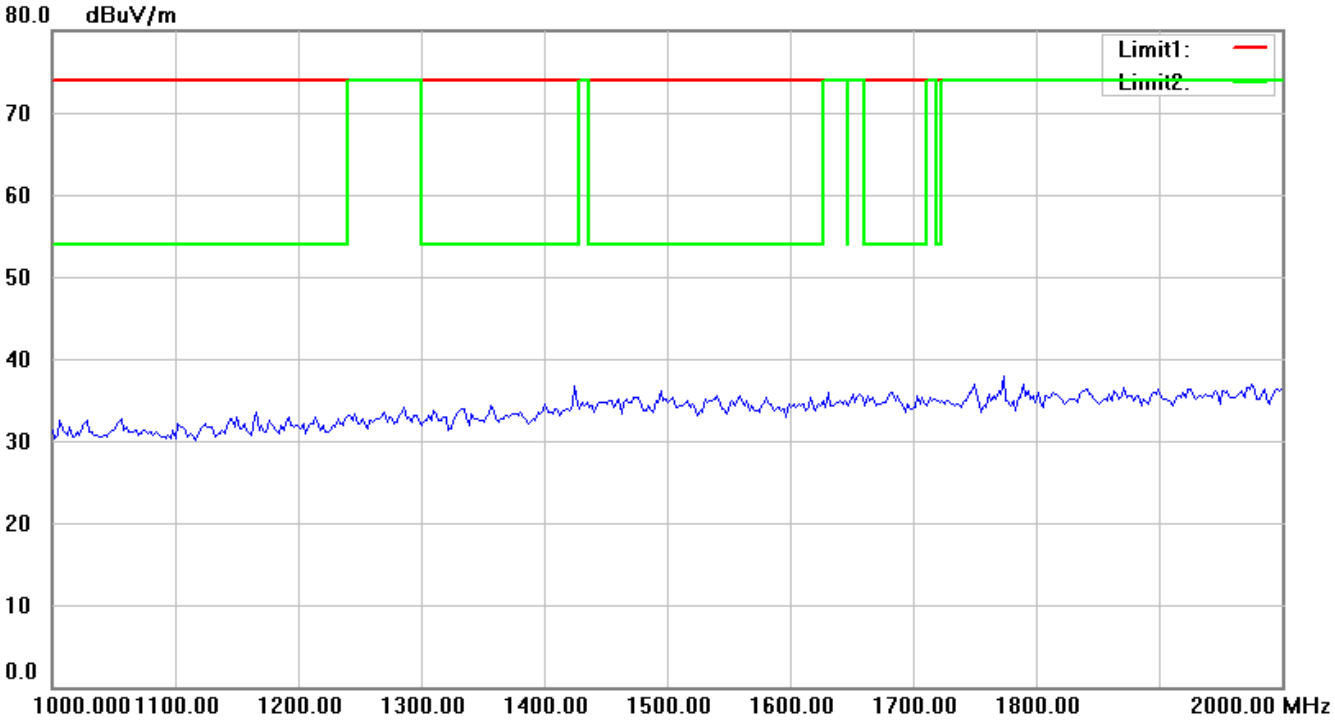
Registration number: W6D21101-11182-C-1
FCC ID: W6RRNX-N180UBE

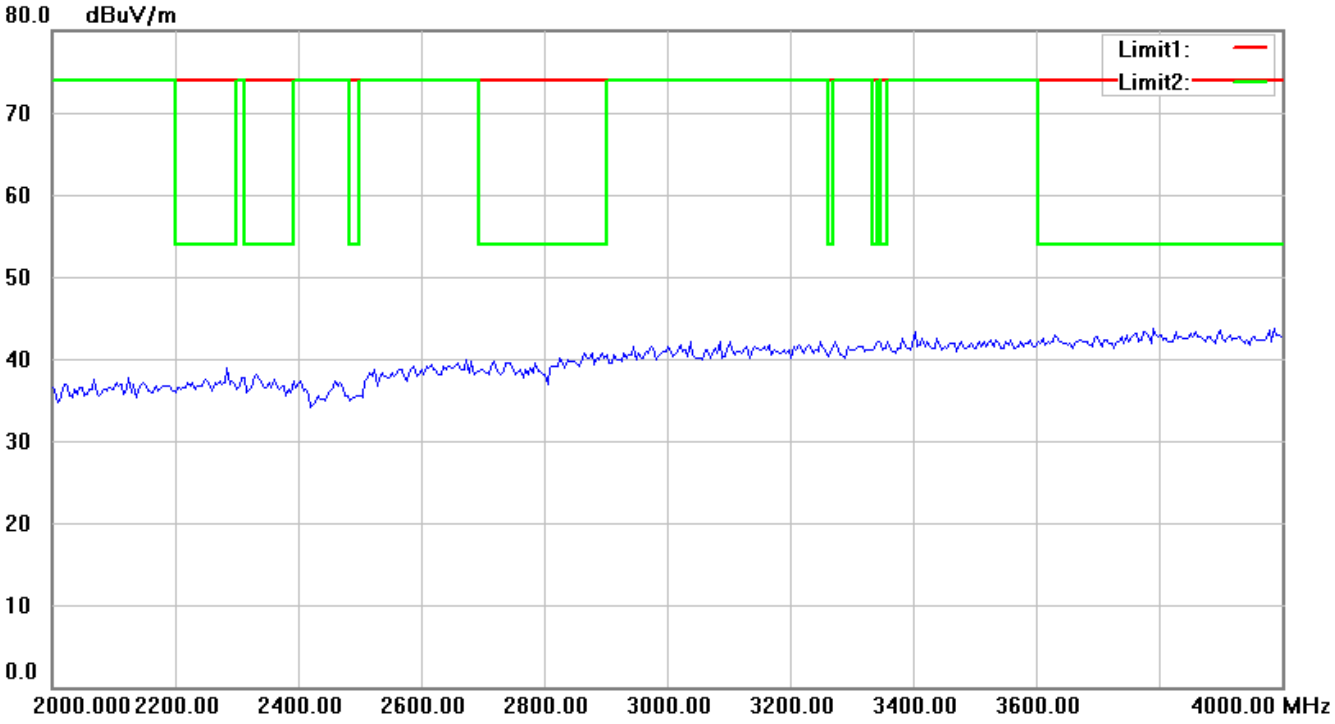
Channel 4
Antenna Polarization H



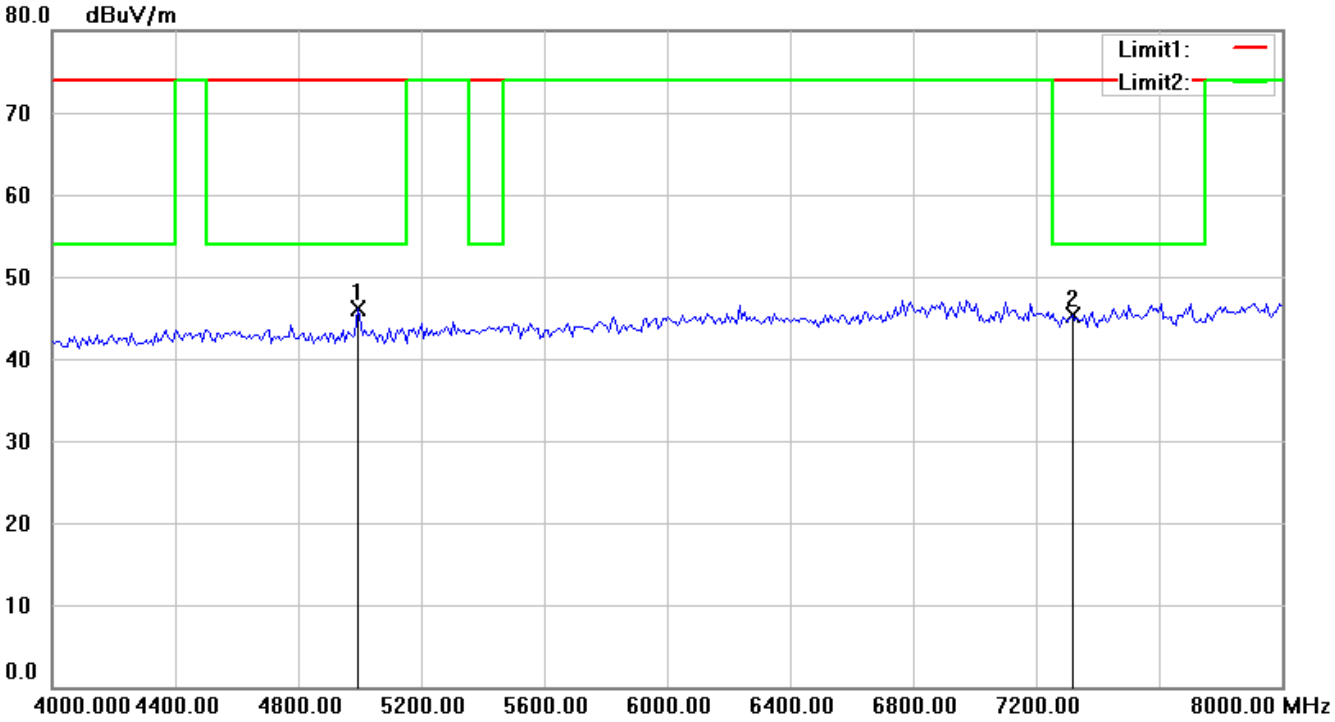


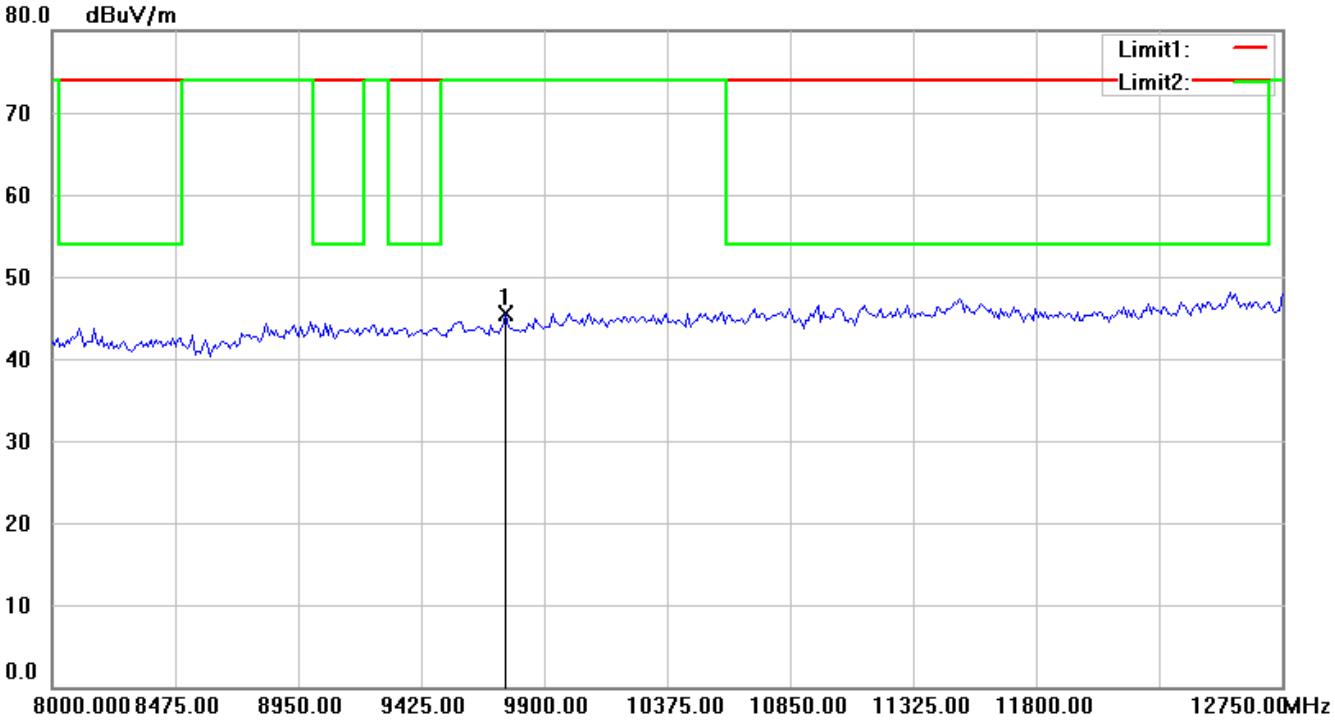
Registration number: W6D21101-11182-C-1
FCC ID: W6RRNX-N180UBE



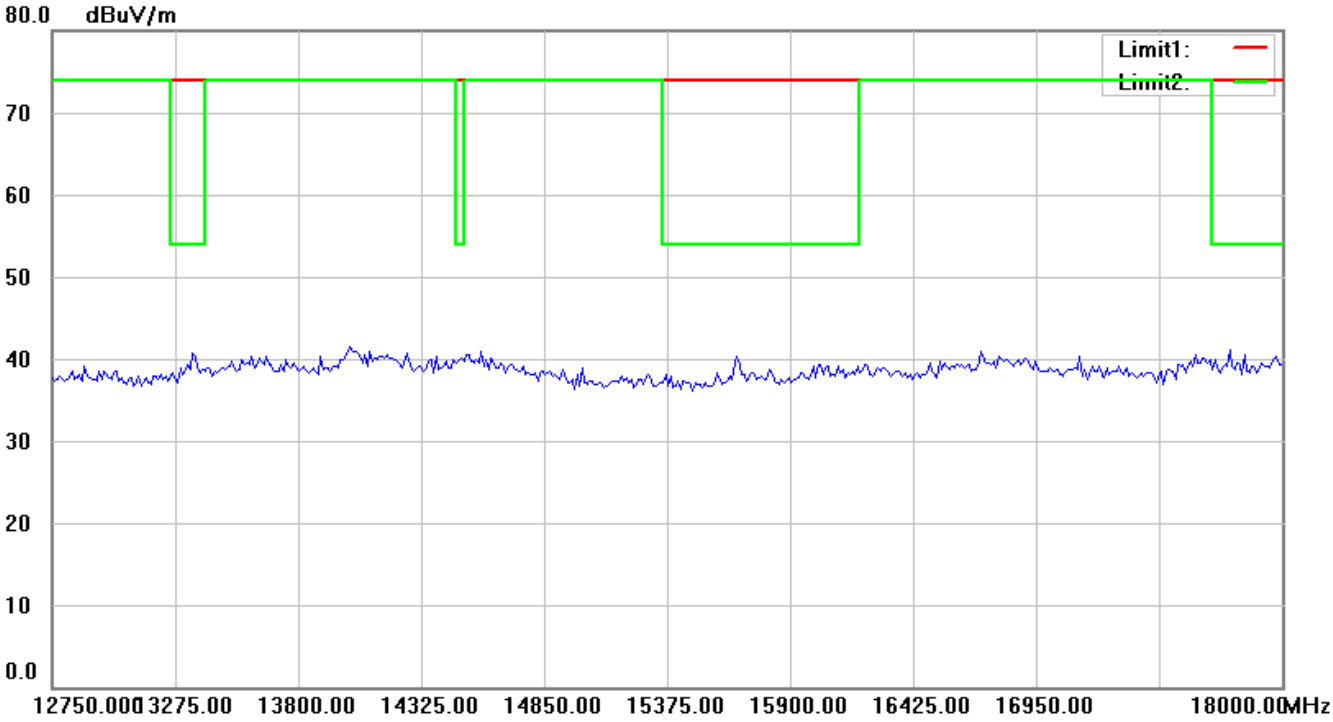


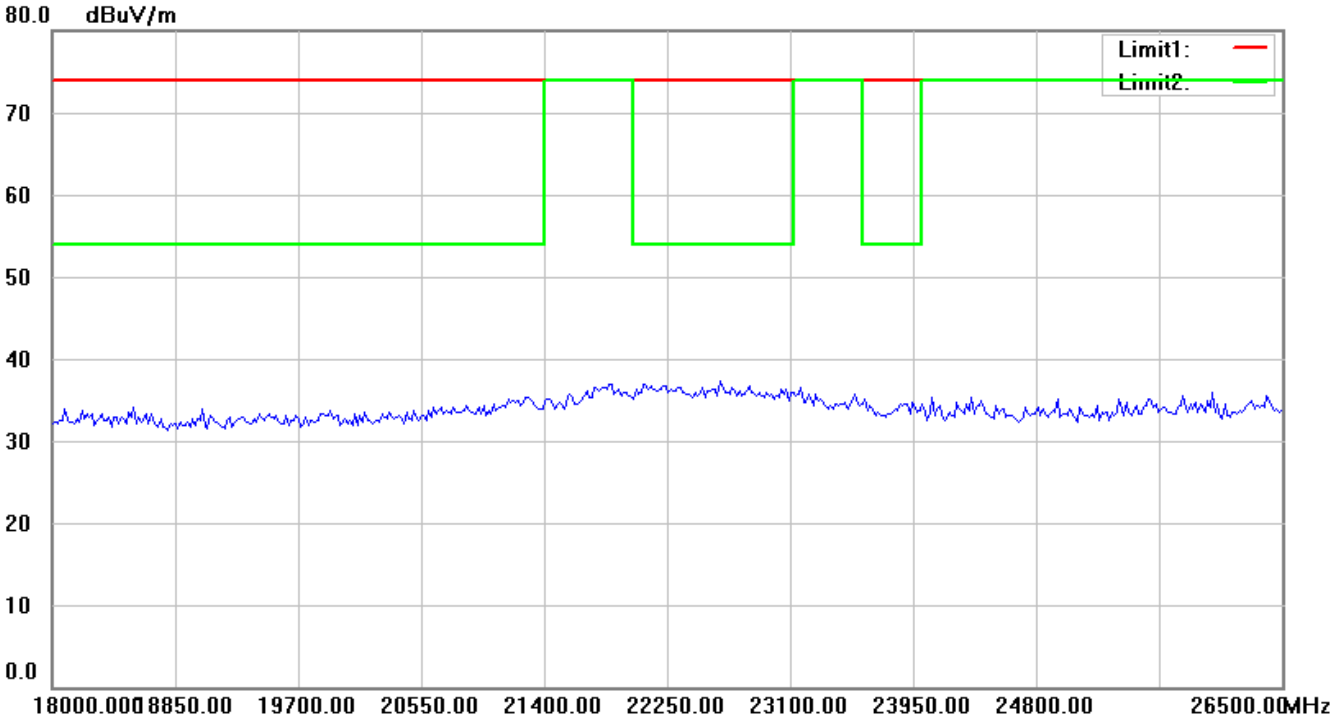
Registration number: W6D21101-11182-C-1
FCC ID: W6RRNX-N180UBE





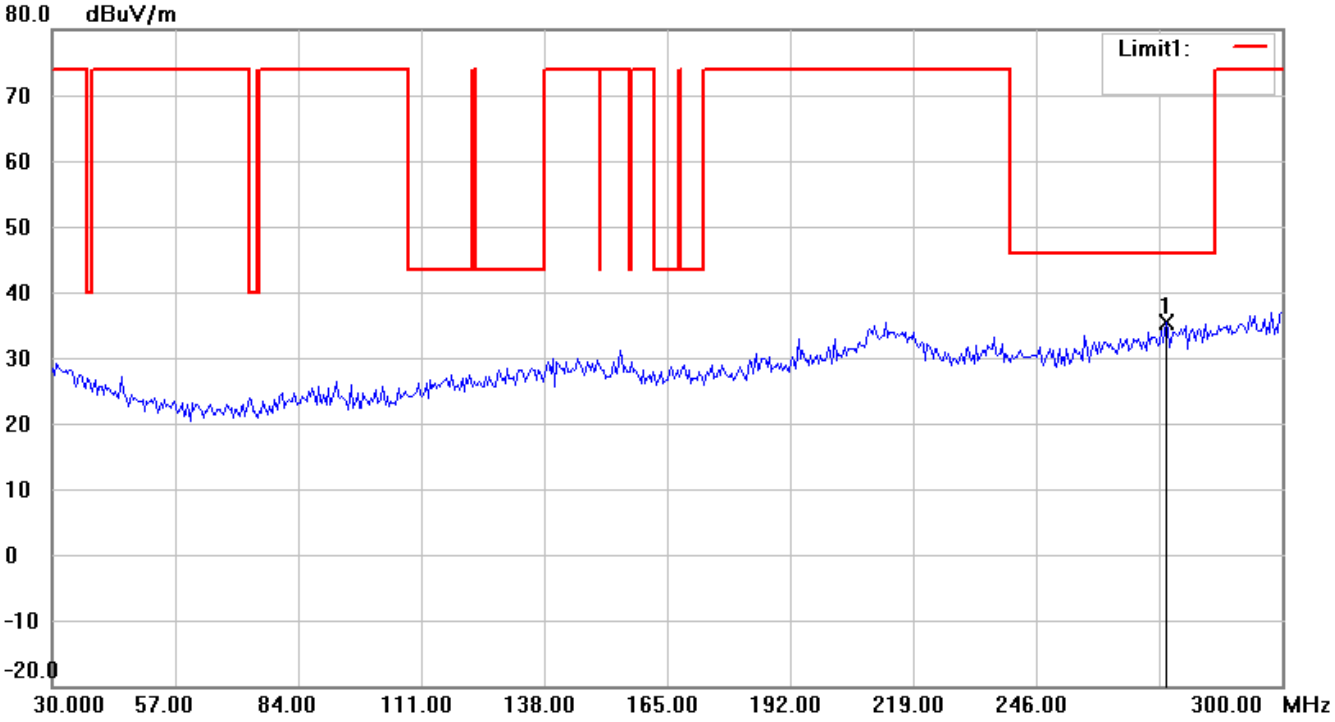
Registration number: W6D21101-11182-C-1
FCC ID: W6RRNX-N180UBE

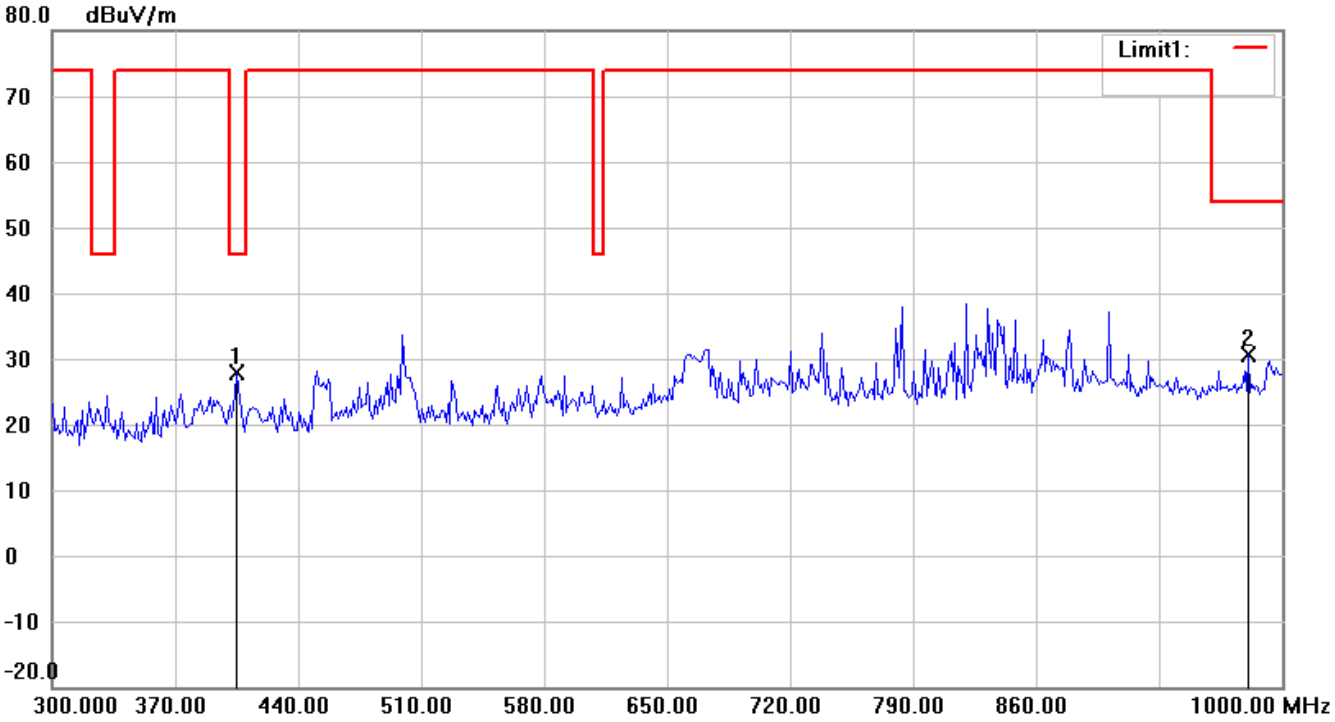




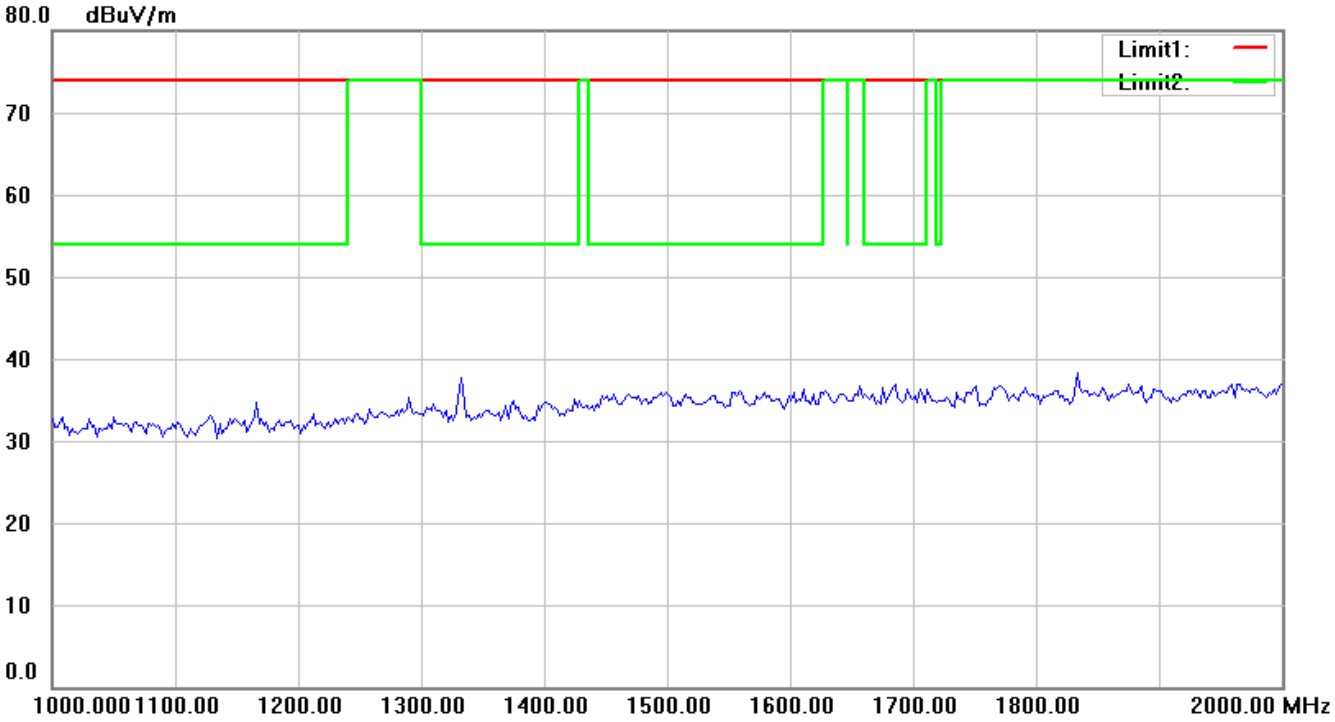
Registration number: W6D21101-11182-C-1
FCC ID: W6RRNX-N180UBE

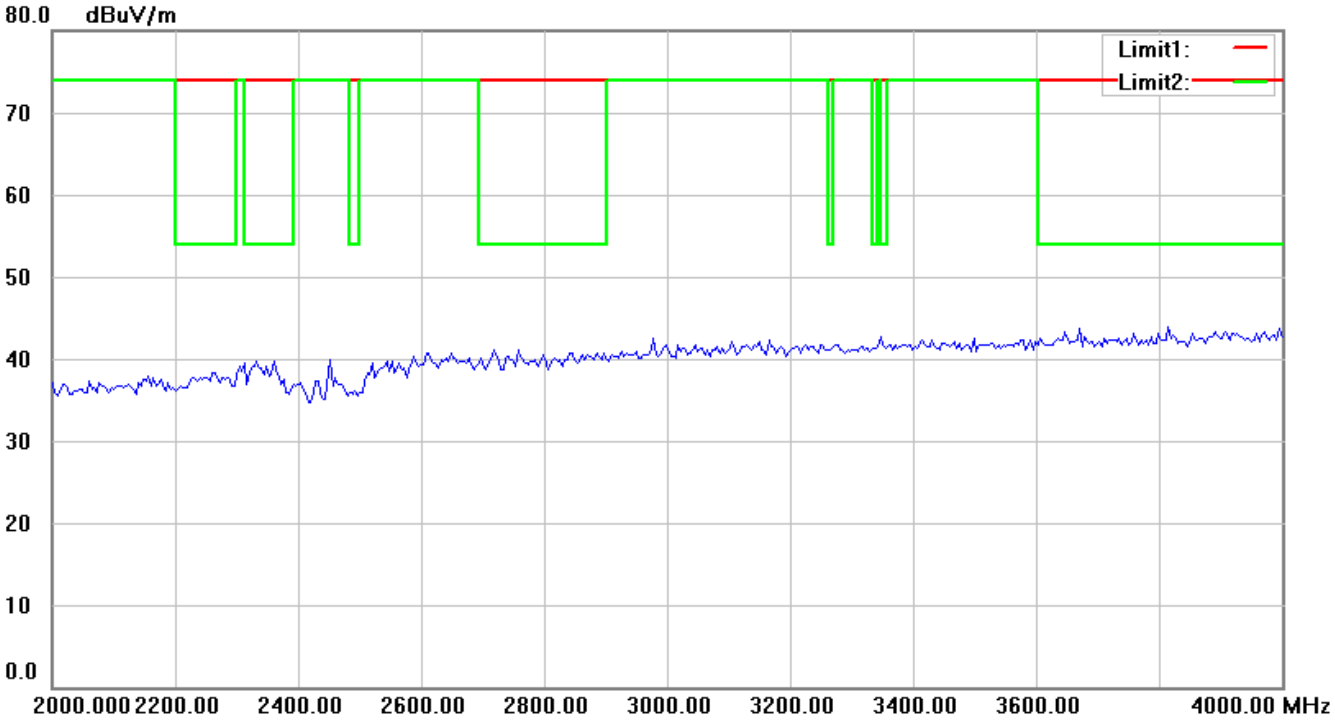
Antenna Polarization V



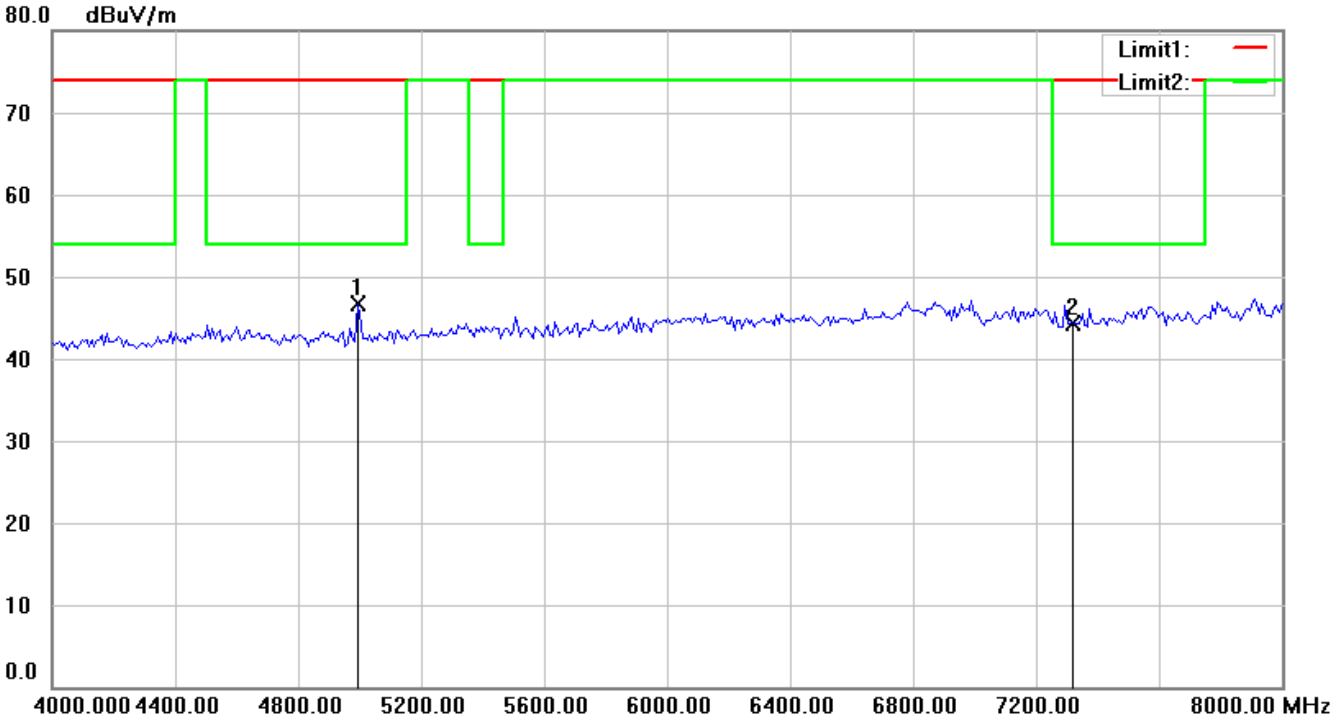


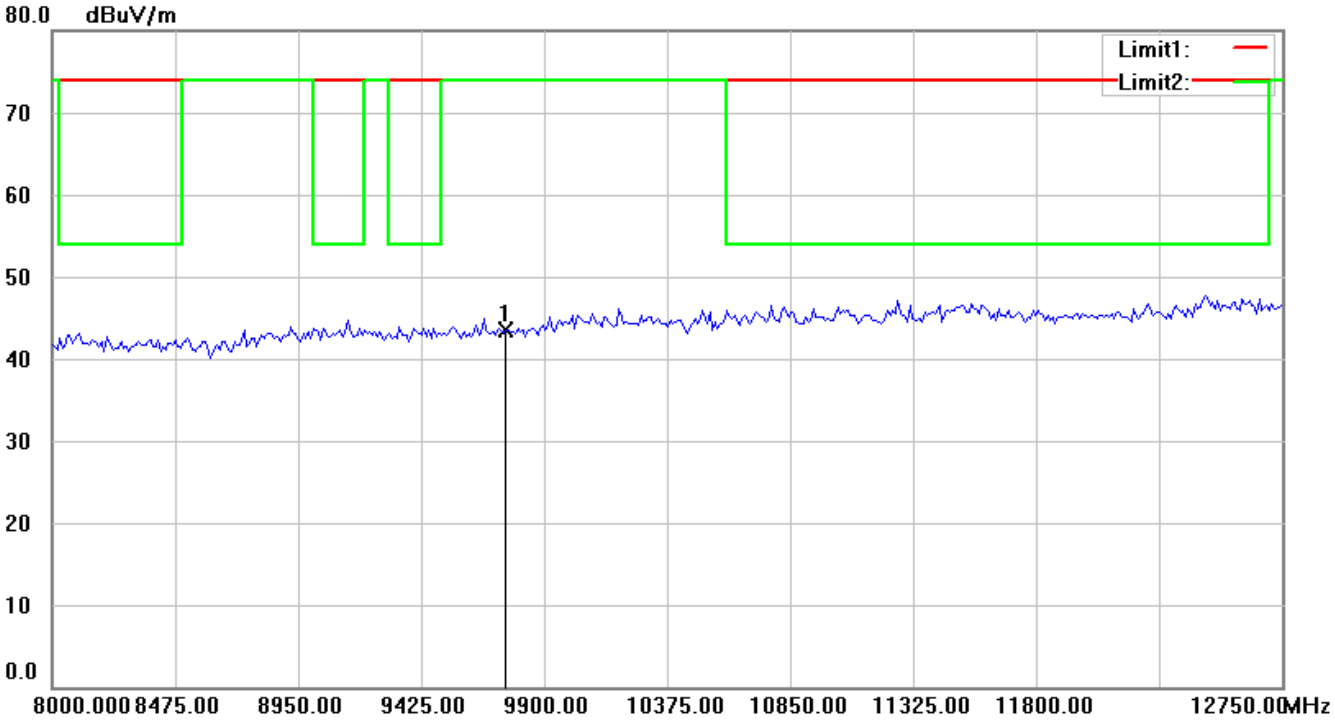
Registration number: W6D21101-11182-C-1
FCC ID: W6RRNX-N180UBE



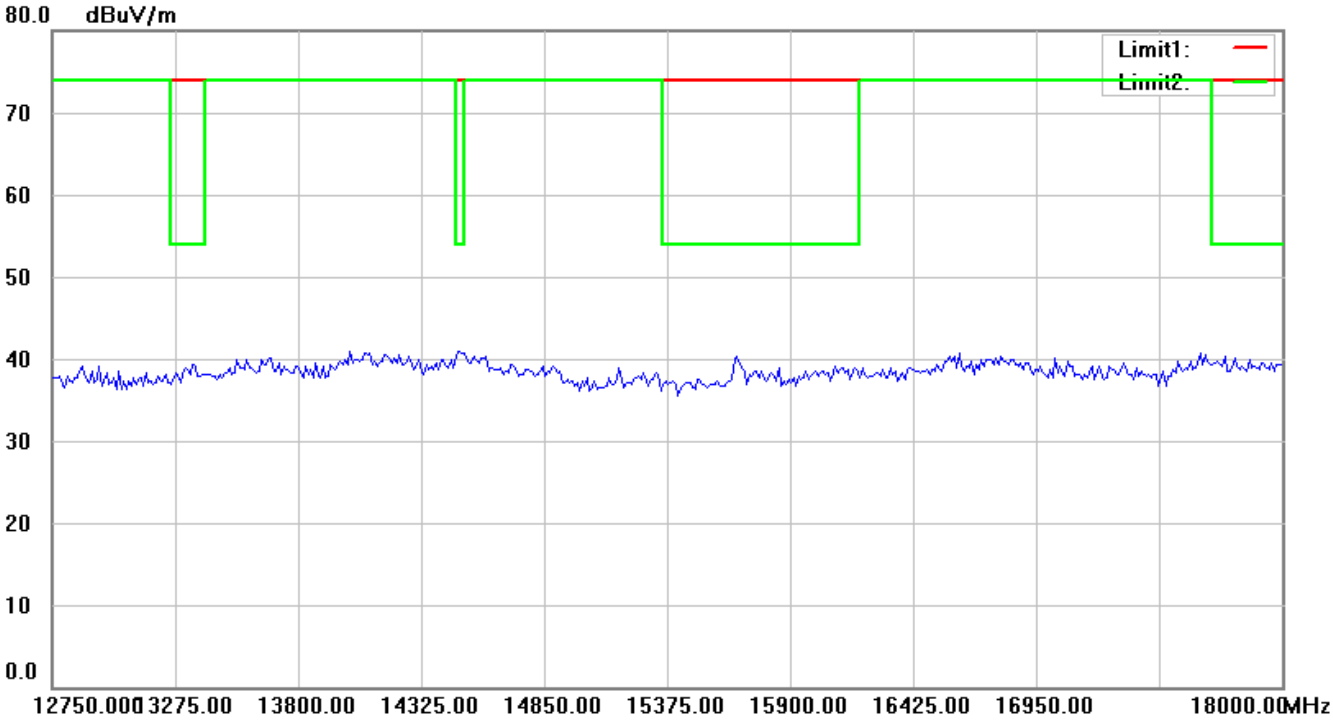


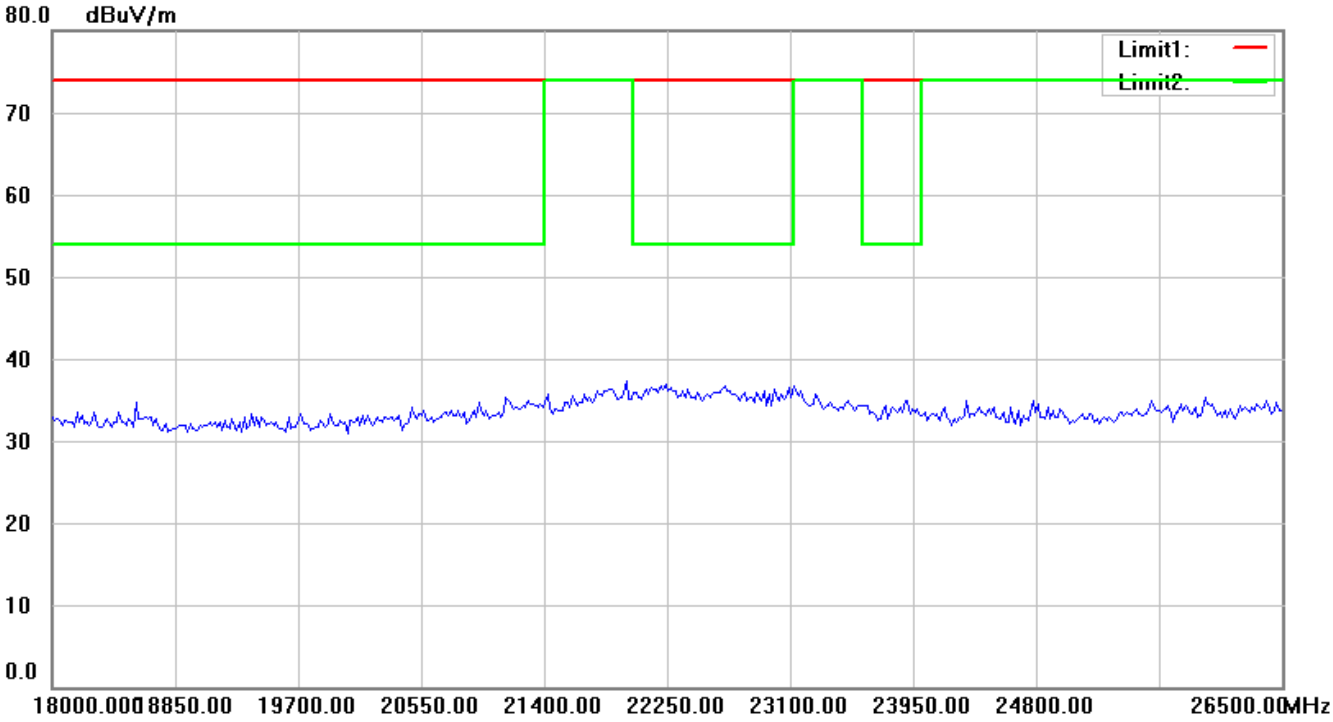
Registration number: W6D21101-11182-C-1
FCC ID: W6RRNX-N180UBE





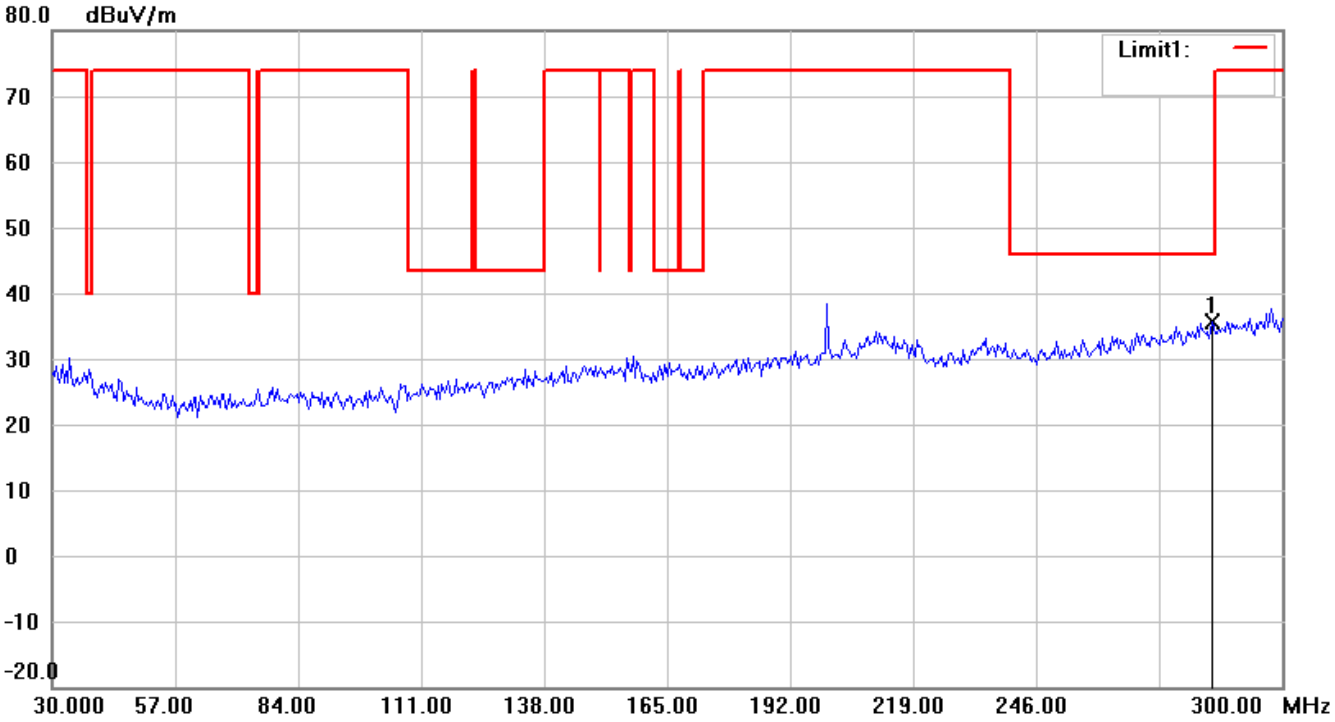
Registration number: W6D21101-11182-C-1
FCC ID: W6RRNX-N180UBE

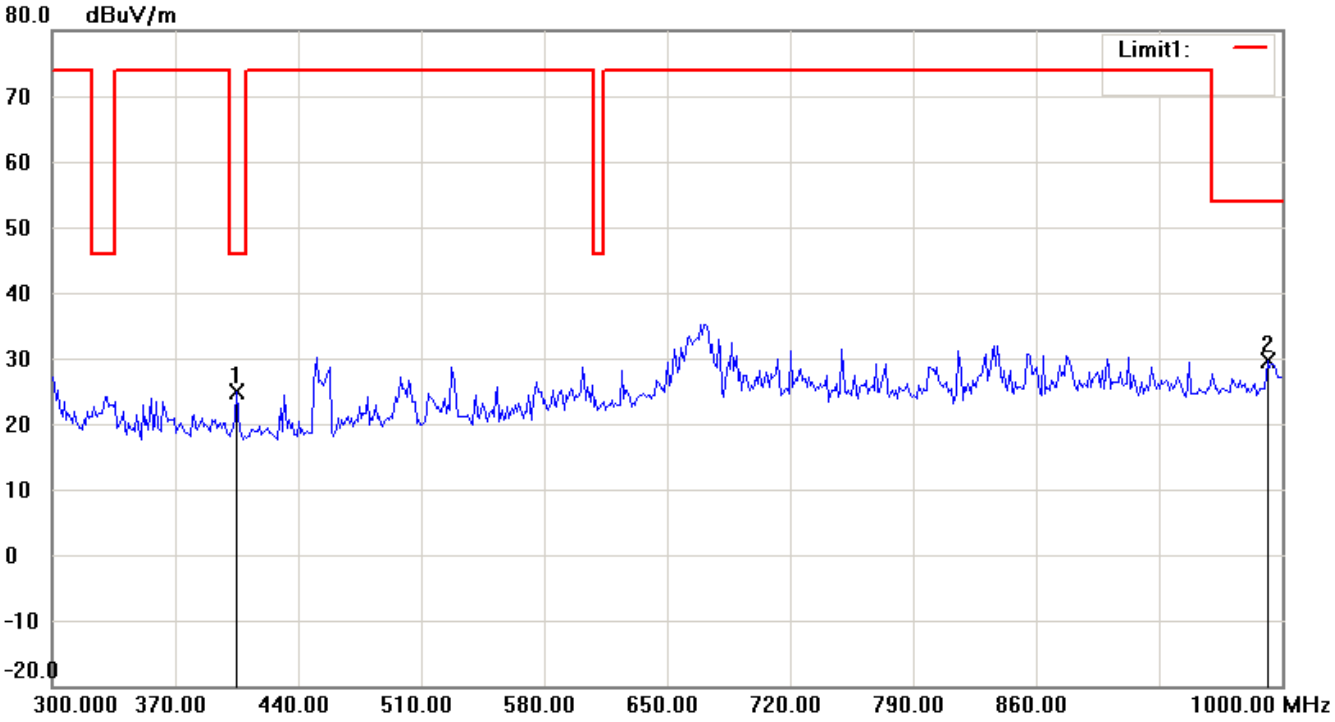




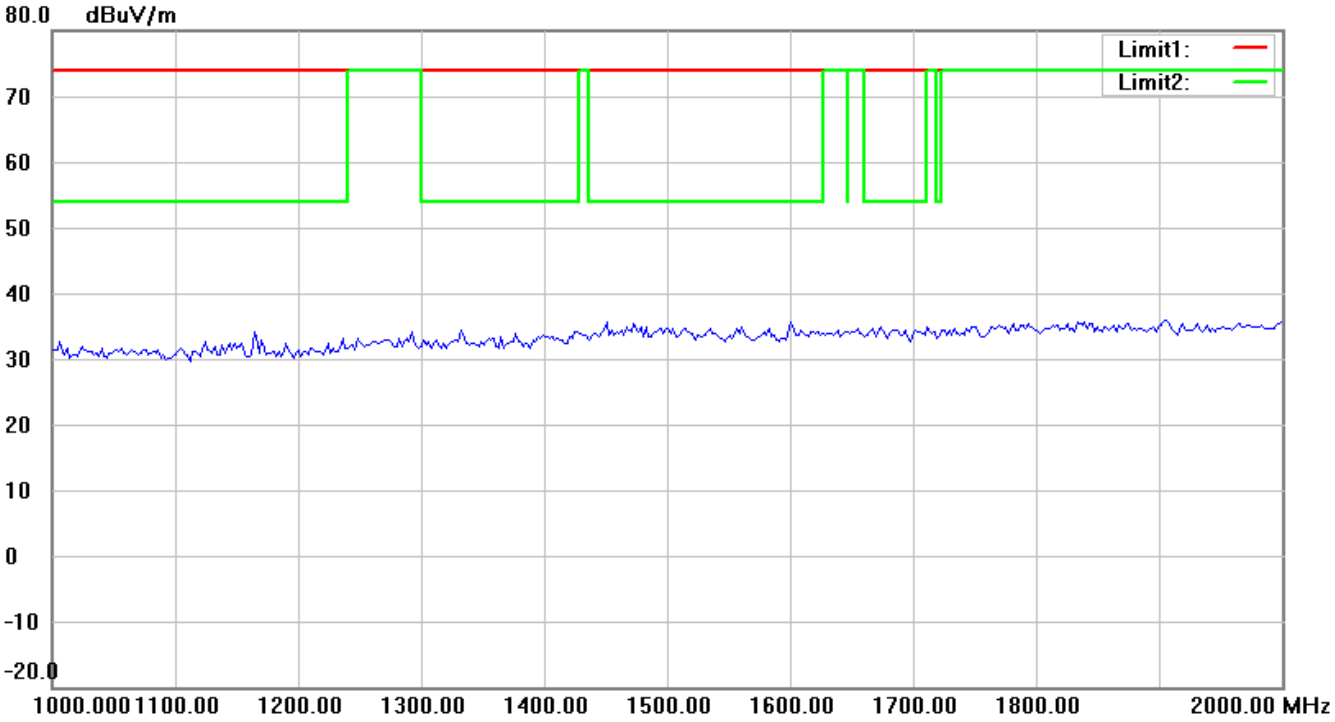
Registration number: W6D21101-11182-C-1
FCC ID: W6RRNX-N180UBE

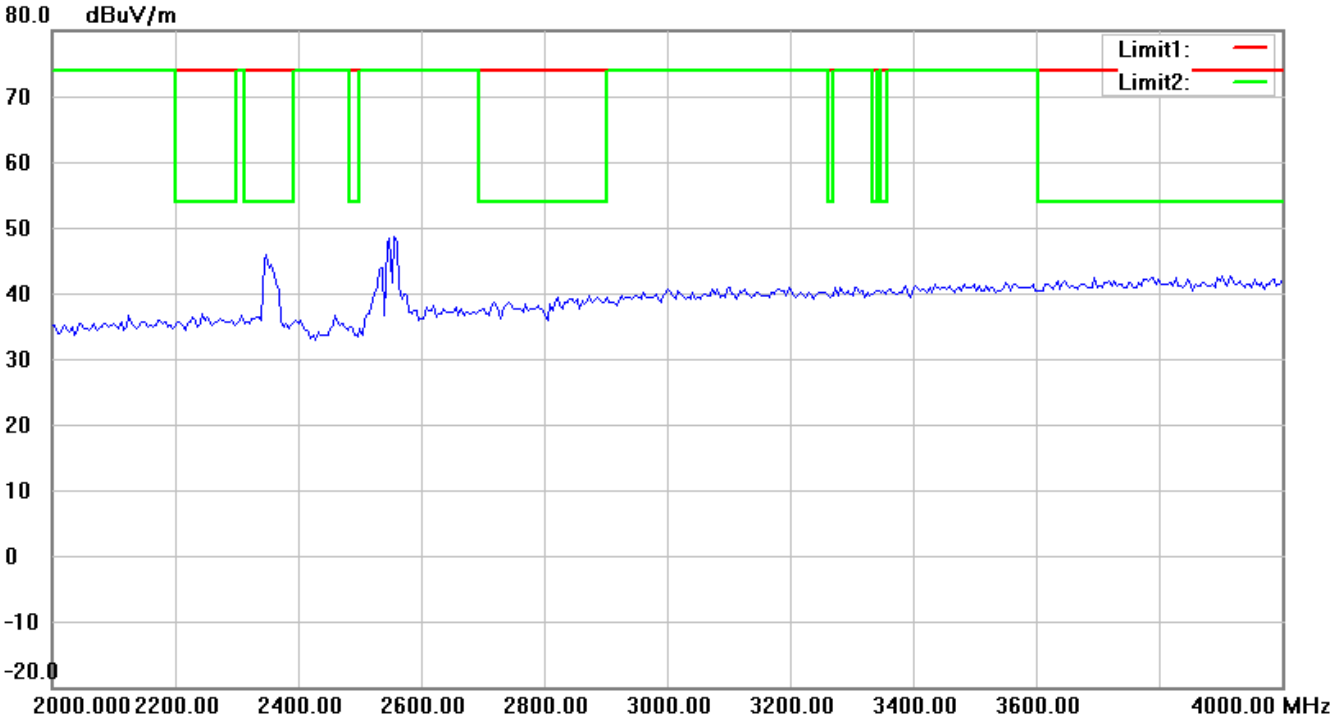
Channel 7
Antenna Polarization H



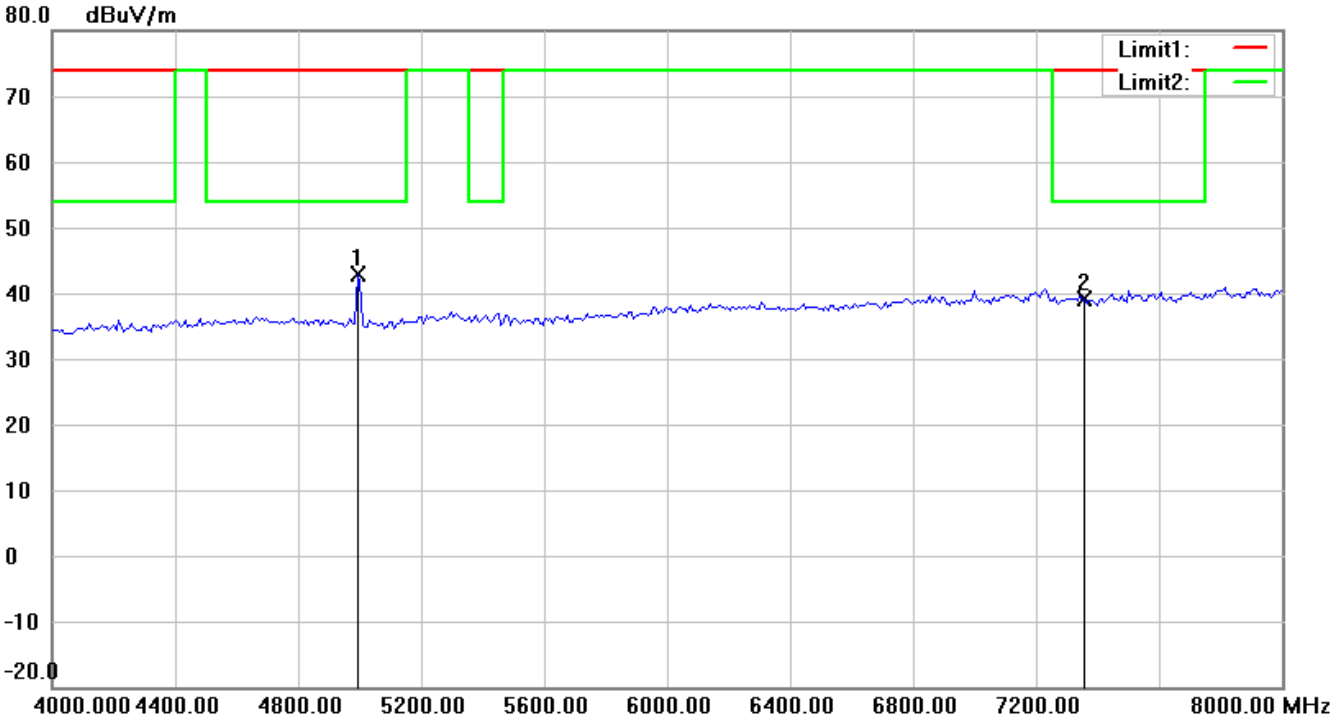


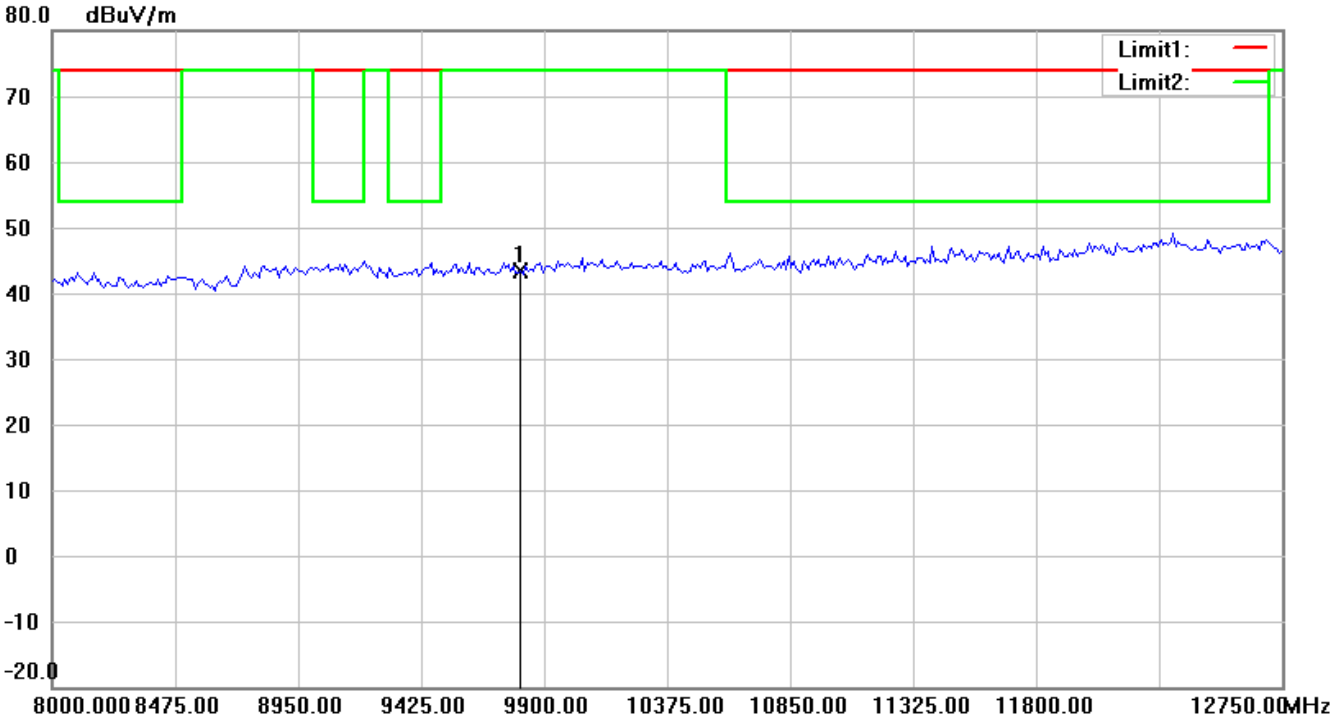
Registration number: W6D21101-11182-C-1
FCC ID: W6RRNX-N180UBE



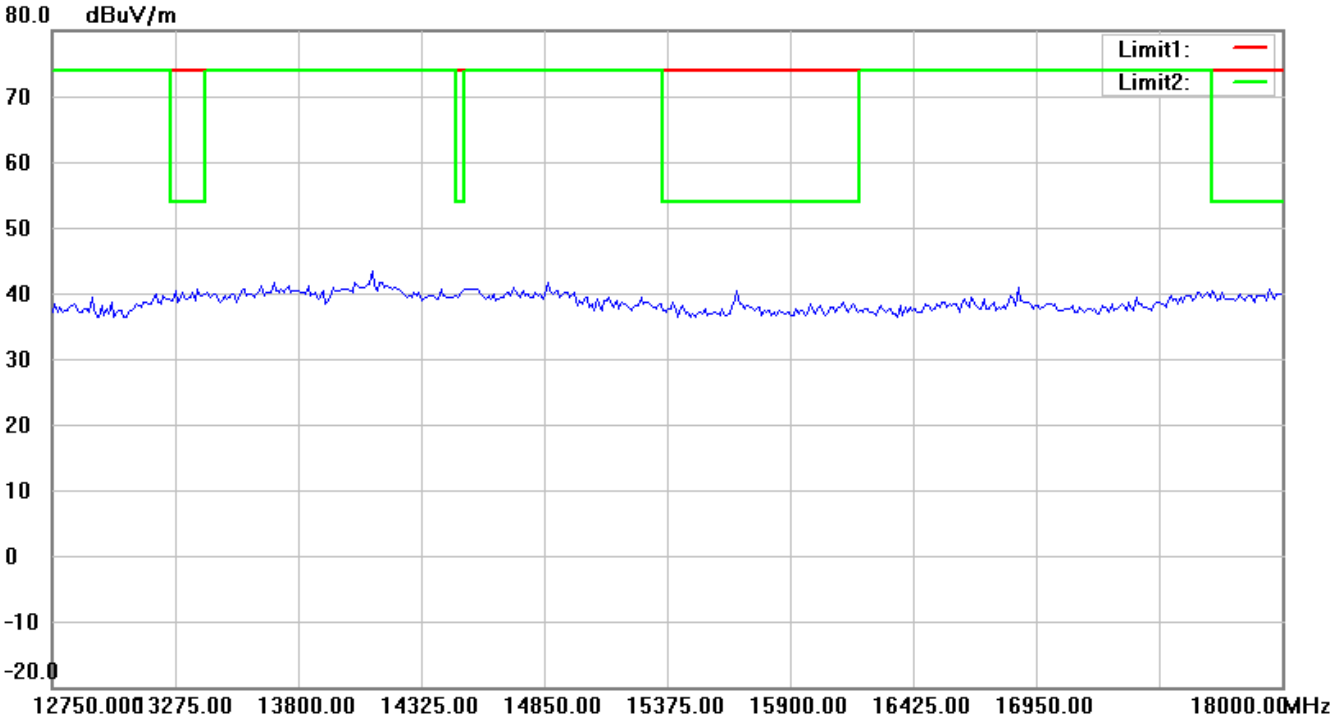


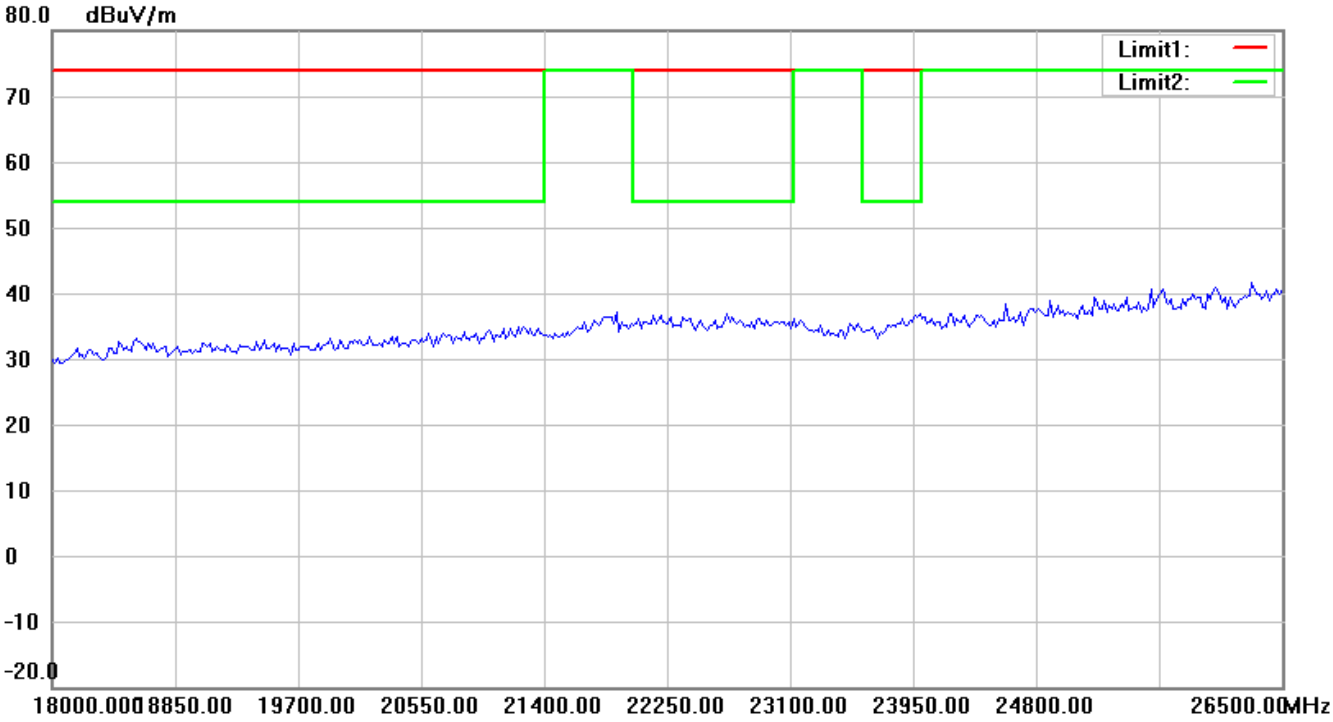
Registration number: W6D21101-11182-C-1
FCC ID: W6RRNX-N180UBE





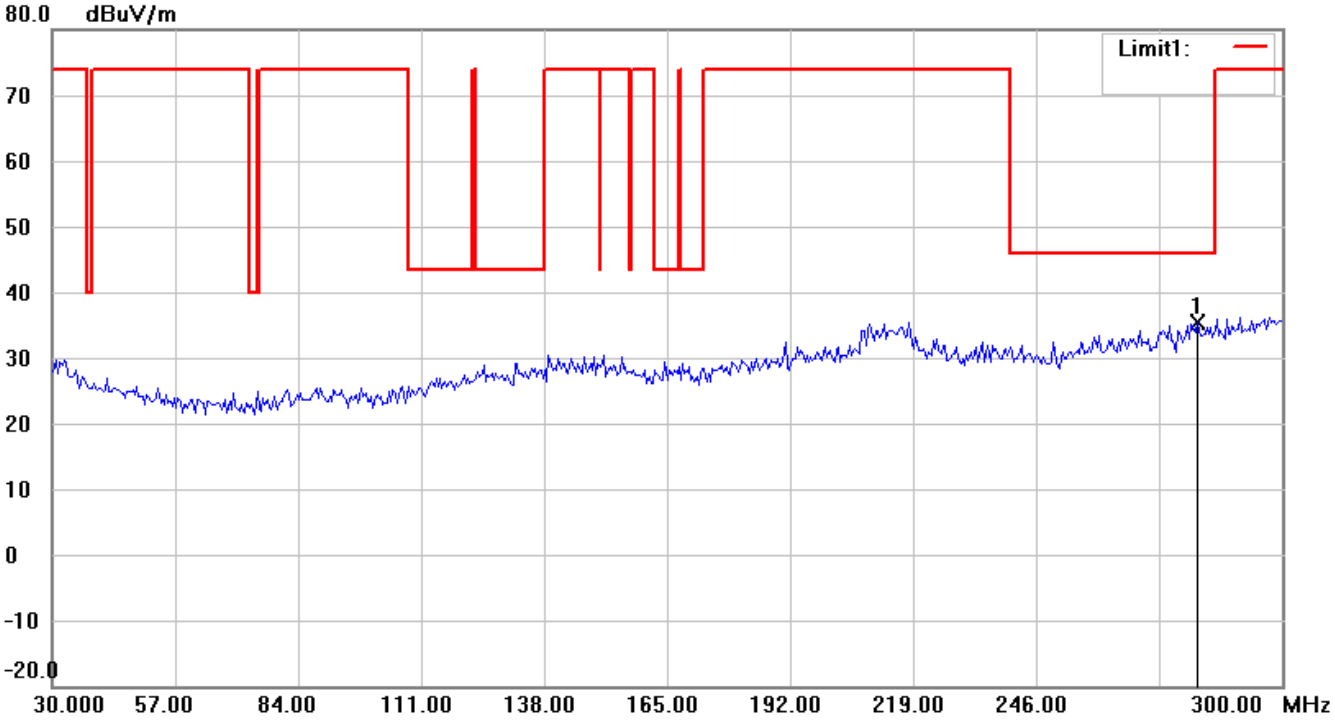
Registration number: W6D21101-11182-C-1
FCC ID: W6RRNX-N180UBE

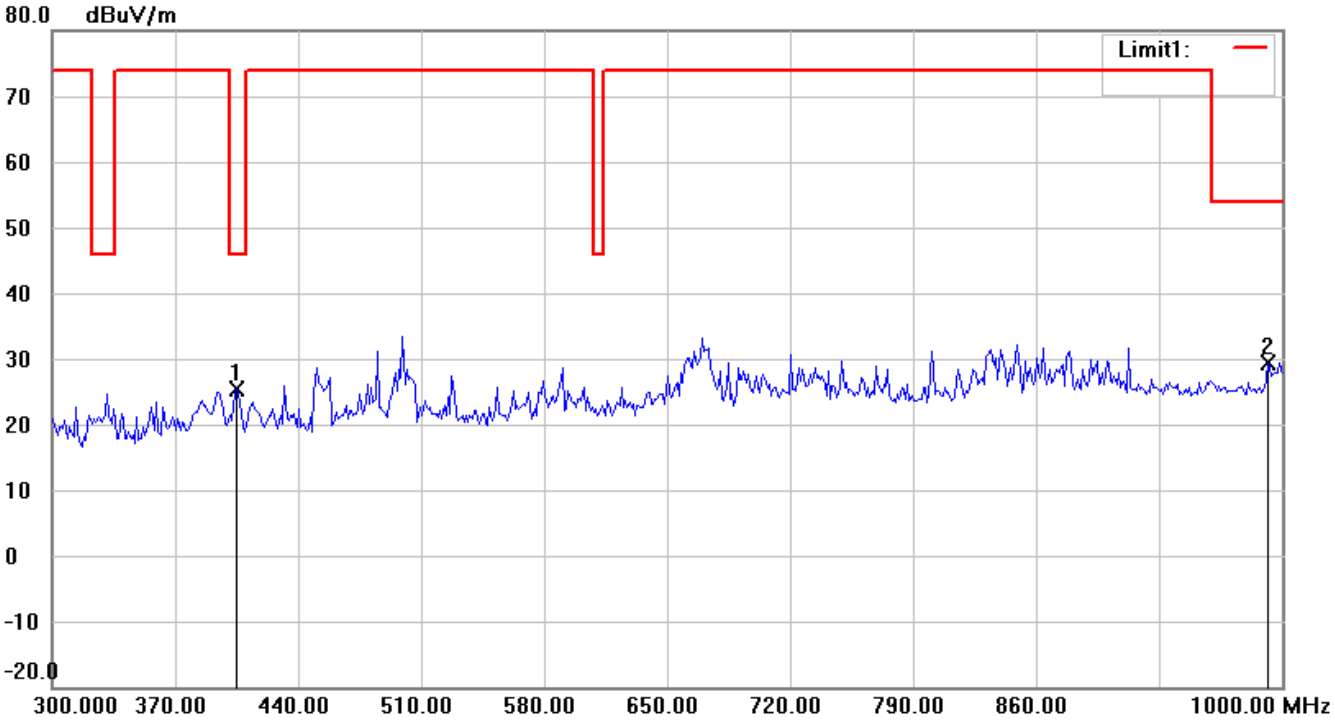




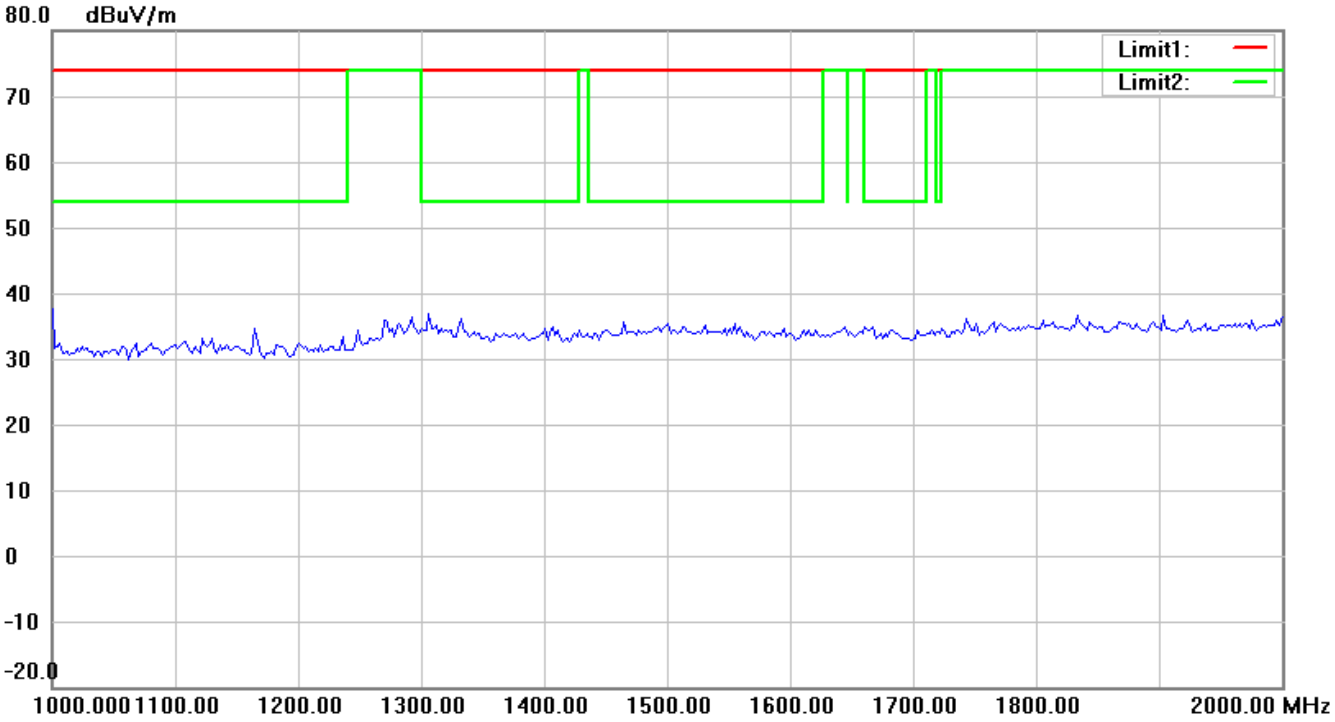
Registration number: W6D21101-11182-C-1
FCC ID: W6RRNX-N180UBE

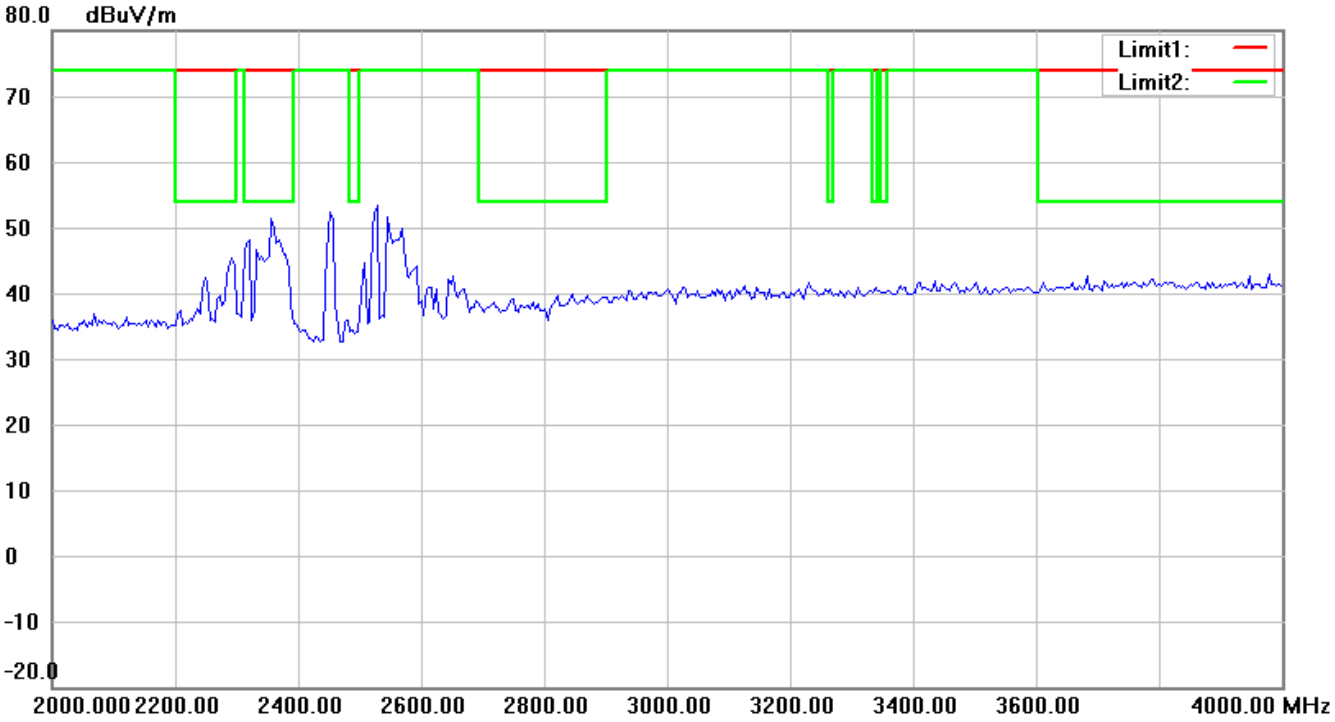
Antenna Polarization V



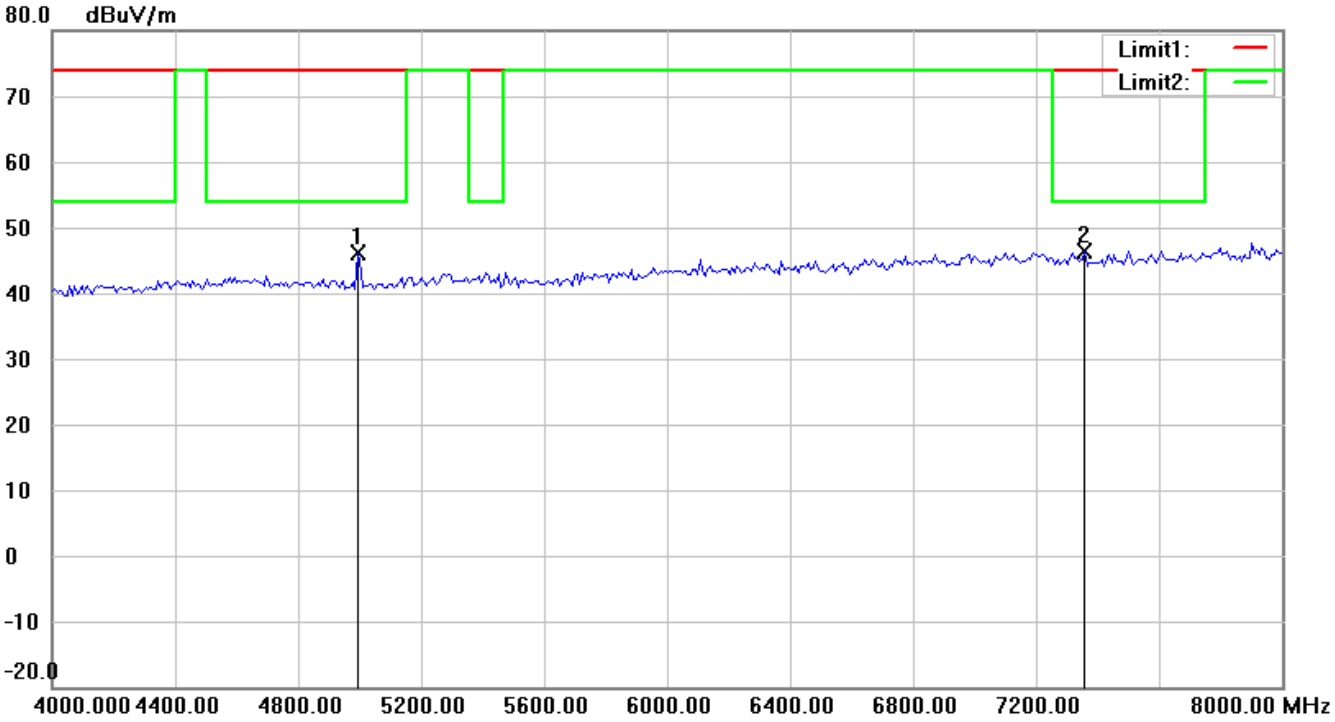


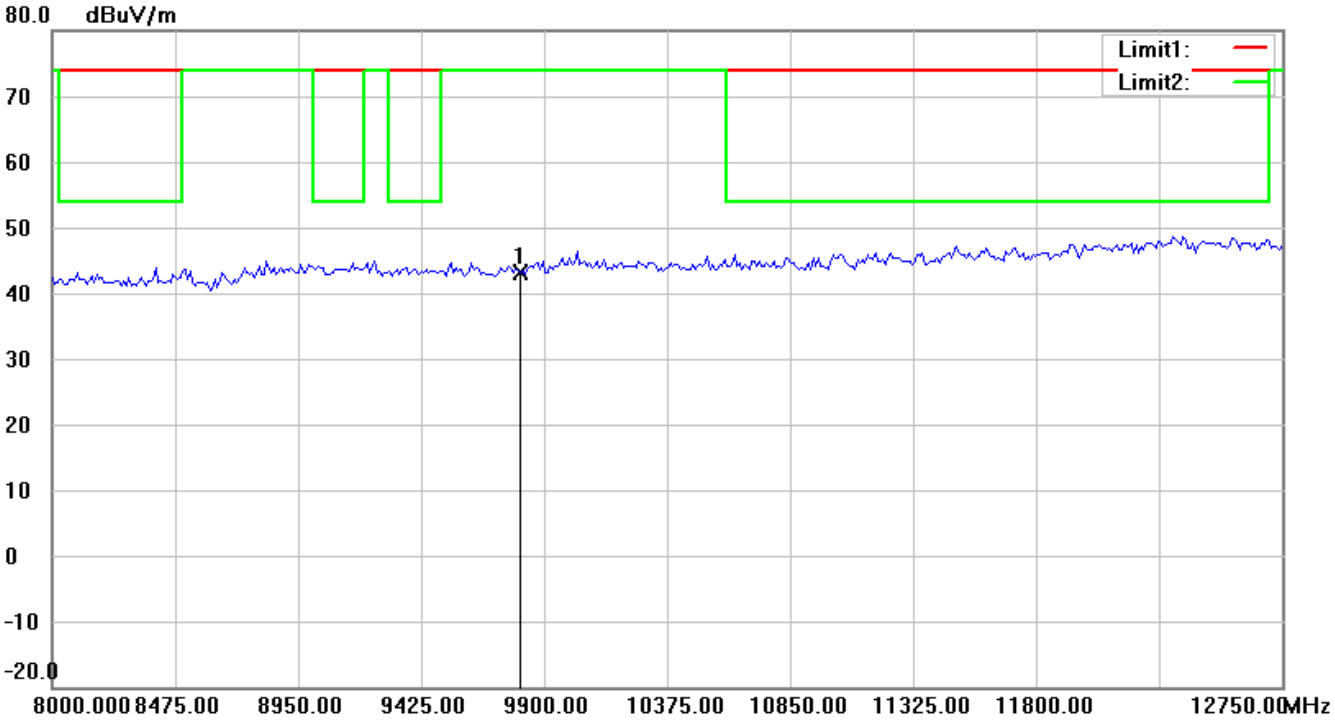
Registration number: W6D21101-11182-C-1
FCC ID: W6RRNX-N180UBE





Registration number: W6D21101-11182-C-1
FCC ID: W6RRNX-N180UBE





Registration number: W6D21101-11182-C-1
FCC ID: W6RRNX-N180UBE