FCC PART 15 SUBPART C TEST REPORT

for

High Power Compact AC Wi-Fi Range Extender

Model No.: REC15A

FCC ID: ZTT-REC15A

of

Applicant: Amped Wireless Address: 13089 Peyton Dr. #C307 Chino Hills California 91709 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.: W6M21401-13774-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: <u>wts@wts-lab.com</u>



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<u>1</u> 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 a/b/g/n/ac.

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

Spencer Yang

Tester:

February 12, 2014

Date

WTS-Lab. Name

pencer

Signature

Technical responsibility for area of testing:

Kevin Wang February 12, 2014 Kevin Wang WTS Date Name Signature



1.2 Testing laboratory

1.2.1 Location

OATS No.5-1, Lishui, Shuang Sing Village, Wanli Dist., New Taipei City 207, Taiwan (R.O.C.) 3 meter semi-anechoic chamber No.35, Aly. 21, Ln. 228, Ankang Rd., Neihu Dist., Taipei City 114, Taiwan (R.O.C.) TEL:886-2-6613-0228 FAX:886-2-2791-5046

Company

Worldwide Testing Services(Taiwan) Co., Ltd. 6F, NO. 58, LANE 188, RUEY-KUANG RD. NEIHU, TAIPEI 114, TAIWAN R.O.C. Tel : 886-2-66068877 Fax : 886-2-66068879

1.2.2 Details of accreditation status

Accredited testing laboratory A2LA accredited number: 2732.01 FCC filed test laboratory Reg. No. 930600 Industry Canada filed test laboratory Reg. No. IC 5679A-1



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

Name:	./
Accredited number:	./
Street:	./
Town:	./
Country:	./
Telephone:	./
Fax:	./

1.3 Details of approval holder

Name:	Amped Wireless
Street:	13089 Peyton Dr. #C307
Town:	Chino Hills California 91709
Country:	United States
Telephone:	(909) 217-3229
Fax:	(909) 580-8883



1.4 Application details

Date of receipt of test item:	January 10, 2014
Date of test:	from January 13, 2014 to February 12, 2014

1.5 General information of Test item

Type of test item:	High Power Compact AC Wi-Fi Range Extender
Model Number:	REC15A
Brand Name:	amped wireless
Multi-listing model number:	./.
Photos:	see Appendix

Technical data

Frequency band:	5.745 GHz-5.825GHz, 2.4 GHz-2.4835 GHz
802.11a	
Frequency (ch 149):	5.745 GHz
Frequency (ch 157):	5.785 GHz
Frequency (ch 165):	5.825 GHz
802.11n 20MHz	
Frequency (ch 149):	5.745 GHz
Frequency (ch 157):	5.785 GHz
Frequency (ch 165):	5.825 GHz
802.11n 40MHz	
Frequency (ch 151):	5.755 GHz
Frequency (ch 159):	5.795 GHz
802.11ac	
Frequency (ch 155):	5.775 GHz
11b, 11g, 11n 20MHz	
Frequency (ch 1):	2.412 GHz
Frequency (ch 6):	2.437 GHz
Frequency (ch 11):	2.462 GHz
11n 40MHz	
Frequency (ch 1):	2.422 GHz
Frequency (ch 4):	2.437 GHz
Frequency (ch 7):	2.452 GHz



Registration number: W6M21401-13774-C-1 FCC ID: ZTT-REC15A

Number of Channels:	11a, 11n 20MHz : 5 channels
	11n 40MHz: 2 channels
	11ac : 1 channels
	11b, 11g, 11n 20MHz: 11 channels
	11n 40MHz: 7 channels
Operation modes:	duplex
Modulation Type:	DSSS / OFDM
Fixed point-to-point operation:	\Box Yes / \bigotimes No
Type of Antenna:	Dipole Antenna
Antenna gain:	2 dBi (for 2.4GHz & 5GHz)
Power supply:	100-240Vac, 50/60Hz, 1.6A
Emission designator:	5.8GHz
Emission designator:	5.8GHz 802.11a: OFDM: 18M0D1D
Emission designator:	
Emission designator:	802.11a: OFDM: 18M0D1D
Emission designator:	802.11a: OFDM: 18M0D1D 802.11n 20MHz: OFDM: 18M8D1D
Emission designator:	802.11a: OFDM: 18M0D1D 802.11n 20MHz: OFDM: 18M8D1D 802.11n 40MHz: OFDM: 38M0D1D
Emission designator:	802.11a: OFDM: 18M0D1D 802.11n 20MHz: OFDM: 18M8D1D 802.11n 40MHz: OFDM: 38M0D1D 802.11ac: OFDM: 78M2D1D
Emission designator:	802.11a: OFDM: 18M0D1D 802.11n 20MHz: OFDM: 18M8D1D 802.11n 40MHz: OFDM: 38M0D1D 802.11ac: OFDM: 78M2D1D 2.4GHz
Emission designator:	802.11a: OFDM: 18M0D1D 802.11n 20MHz: OFDM: 18M8D1D 802.11n 40MHz: OFDM: 38M0D1D 802.11ac: OFDM: 78M2D1D 2.4GHz 802.11b: DSSS: 16M2G1D
Emission designator:	802.11a: OFDM: 18M0D1D 802.11n 20MHz: OFDM: 18M8D1D 802.11n 40MHz: OFDM: 38M0D1D 802.11ac: OFDM: 78M2D1D 2.4GHz 802.11b: DSSS: 16M2G1D 802.11g: OFDM: 17M2D1D

Host device:

none

Classification

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

:



Registration number: W6M21401-13774-C-1 FCC ID: ZTT-REC15A

Transmitter

Mode A (802.11a)

Power (ch 149 or A): Power (ch 157 or B): Power (ch 165 or C):

Conducted: 22.78 dBm Conducted: 21.95 dBm Conducted: 21.73 dBm

Unom

Mode B (802.11n 20MHz)

Power (ch 149 or A): Power (ch 157 or B): Power (ch 165 or C): Conducted: 22.71 dBm Conducted: 21.93 dBm Conducted: 21.77 dBm

Mode C (802.11n 40MHz)

Power (ch 151 or A): Power (ch 159 or B): Conducted: 21.37 dBm Conducted: 20.67 dBm

Conducted: 23.23 dBm

Conducted: 25.44 dBm

Conducted: 25.62 dBm

Conducted: 24.95 dBm

Mode D (802.11ac)

Power (ch 155 or A):

Mode E (802.11b)

Power (ch 1 or A): Power (ch 6 or B): Power (ch 11 or C):

Mode F (802.11g)

Power (ch 1 or A): Power (ch 6 or B): Power (ch 11 or C): Conducted: 21.14 dBm Conducted: 21.33 dBm Conducted: 21.40 dBm

Mode G (802.11n 20MHz)

Power (ch 1 or A): Power (ch 6 or B): Power (ch 11 or C): Conducted: 21.15 dBm Conducted: 21.36 dBm Conducted: 21.41 dBm

Mode H (802.11n 40MHz)

Power (ch 1 or A): Power (ch 4 or B): Power (ch 7 or C): Conducted: 21.11 dBm Conducted: 21.20 dBm Conducted: 21.26 dBm

Manufacturer: (if applicable)

Name: Street: Town: Country:

Loopcomm Technology, Ltd. 6F,No.236,Bo'ai St.,Shulin Dist., New Taipei City 23845, Taiwan,R.O.C.

1.6 Test standards

Technical standard : FCC RULES PART 15 SUBPART C § 15.247 (2011-10)



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:	100-240Vac, 50/60Hz, 1.6A
Extreme conditions parameters:	./.



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2.3 Test Equipment List

No.	Test equipment	Туре	Serial No.	Manufacturer	Cal. Date	Next Cal. Date
ETSTW-CE 001	EMI TEST RECEIVER	ESHS10	842121/013	R&S	2013/9/2	2014/9/1
ETSTW-CE 003	AC POWER SOURCE	APS-9102	D161137	GW	Function	on Test
ETSTW-CE 008	HF-EICHLEITUNG RF STEP ATTENUATOR 139dB DPSP	334.6010.02	844581/024	R&S	Function	on Test
ETSTW-CE 009	TEMP.&HUMIDITY CHAMBER	GTH-225-40-1P-U	MAA0305-009	GIANT FORCE	2013/7/10	2014/7/9
ETSTW-CE 016	TWO-LINE V-NETWORK	ENV216	100050	R&S	2013/10/28	2014/10/27
ETSTW-RE 004	EMI TEST RECEIVER	ESI 40	832427/004	R&S	2013/9/2	2014/9/1
ETSTW-RE 005	EMI TEST RECEIVER	ESVS10	843207/020	R&S	2013/9/2	2014/9/1
ETSTW-RE 012	TUNABLE BANDREJECT FILTER	D.C 0309	146	K&L	Function	on Test
ETSTW-RE 013	TUNABLE BANDREJECT FILTER	D.C 0336	397	K&L	Function	on Test
ETSTW-RE 018	MICROWAVE HORN ANTENNA	AT4560	27212	AR	2013/10/15	2014/10/14
ETSTW-RE 027	Passive Loop Antenna	6512	00034563	ETS-Lindgren	2013/7/3	2014/7/2
ETSTW-RE 030	Double-Ridged Guide Horn Antenna	3117	00035224	EMCO	2013/3/4	2014/3/3
ETSTW-RE 045	ESA-E SERIES SPECTRUM ANALYZER	E4404B	MY45111242	Agilent	Pre-te	st Use
ETSTW-RE 049	TRILOG Super Broadband test Antenna	VULB 9160	9160-3185	Schwarzbeck	2013/3/21	2014/3/20
ETSTW-RE 050	Attenuator 10dB	50HF-010-1	None	JFW	2013/3/4	2014/3/3
ETSTW-RE 051	Attenuator 6dB	50HF-006-1	None	JFW	2013/3/4	2014/3/3
ETSTW-RE 053	Attenuator 3dB	50HF-003-1	None	JFW	2013/3/4	2014/3/3
ETSTW-RE 055	SPECTRUM ANALYZER	FSU 26	200074	R&S	2013/5/31	2014/5/30
ETSTW-RE 060	Attenuator 30dB	5015-30	F651012z-01	ATM	2013/3/4	2014/3/3
ETSTW-RE 062	Amplifier Module	CHC 2	None	KMIC	2013/11/27	2014/11/26
ETSTW-RE 064	Bluetooth Test Set	MT8852B-042	6K00005709	Anritsu	Function	on Test
ETSTW-RE 069	Double-Ridged Guide Horn Antenna	3117	00069377	EMCO	Function	on Test
ETSTW-RE 072	CELL SITE TEST SET	8921A	3339A00375	HP	2013/10/7	2014/10/6
ETSTW-RE 088	SOLID STATE AMPLIFIER	KMA180265A01	99057	KMIC	2013/10/11	2014/10/10
ETSTW-RE 099	DC Block	50DB-007-1	None	JFW	2013/3/4	2014/3/3
ETSTW-RE 106	Humidity Temperature Meter	TES-1366	091011113	TES	2013/12/04	2014/12/03
ETSTW-RE 111	TRILOG Super Broadband test Antenna	VULB 9160	9160-3309	Schwarz beck	2013/12/27	2014/12/26
ETSTW-RE 112	AC POWER SOURCE	TFC-1005	None	T-Power	Functi	on test
ETSTW-RE 115	2.4GHz Notch Filter	N0124411	473874	MICROWAVE CIRCUITS	2014/1/10	2015/1/09
ETSTW-RE 120	RF Player	MP9200	MP9210-111022	ADIVIC	Functi	on test
ETSTW-RE 122	SIGNAL GENERATOR	SMF100A	102149	R&S	2013/6/28	2014/6/27
ETSTW-RE 125	5GHz Notch filter	5NSL11- 5200/E221.3-O/O	1	K&L Microwave	2013/8/16	2014/8/15



ETSTW-RE 126	5GHz Notch filter	5NSL11- 5800/E221.3-O/O	1	K&L Microwave	2013/8/16	2014/8/15
ETSTW-RE 127	RF Switch Box	RFS-01	None	WTS	2013/3/4	2014/3/3
ETSTW-RE 128	5.3GHz Notch filter	N0153001	SN487233	Microwave Circits	2013/8/13	2014/8/12
ETSTW-RE 129	5.5GHz Notch filter	N0555984	SN487234	Microwave Circits	2013/8/13	2014/8/12
ETSTW-RE 130	Handheld RF Spectrum Analyzer	N9340A	CN0147000204	Agilent	Pre-te	st Use
ETSTW-GSM 002	Universal Radio Communication Tester	CMU 200	109439	R&S	2013/10/7	2014/10/6
ETSTW-GSM 019	Band Reject Filter	WRCTF824/849- 822/851-40 /12+9SS	3	WI	2014/1/10	2015/1/09
ETSTW-GSM 020	Band Reject Filter	WRCD1747/1748- 1743/1752-32/5SS	1	WI	2014/1/10	2015/1/09
ETSTW-GSM 021	Band Reject Filter	WRCD1879.5/1880.5 -1875.5/1884.5- 32/5SS	3	WI	2014/1/10	2015/1/09
ETSTW-GSM 022	Band Reject Filter	WRCT901.9/903.1- 904.25-50/8SS	1	WI	2014/1/10	2015/1/09
ETSTW-GSM 023	Power Divider	4901.19.A	None	SUHNER	2013/9/18	2014/9/17
ETSTW-Cable 010	BNC Cable	5 M BNC Cable	None	JYE BAO CO.,LTD.	2013/3/4	2014/3/3
ETSTW-Cable 011	BNC Cable	BNC Cable 1	None	JYE BAO CO.,LTD.	Pre-test	Use NCR
ETSTW-Cable 012	N TYPE To SMA Cable	Cable 012	None	JYE BAO CO.,LTD.	2013/3/4	2014/3/3
ETSTW-Cable 016	BNC Cable	Switch Box	B Cable 1	Schwarz beck	2013/3/4	2014/3/3
ETSTW-Cable 017	BNC Cable	X Cable	B Cable 2	Schwarz beck	2013/3/4	2014/3/3
ETSTW-Cable 018	BNC Cable	Y Cable	B Cable 3	Schwarz beck	2013/3/4	2014/3/3
ETSTW-Cable 019	BNC Cable	Z Cable	B Cable 4	Schwarz beck	2013/3/4	2014/3/3
ETSTW-Cable 022	N TYPE Cable	5006	0002	JYE BAO CO.,LTD.	2013/3/26	2014/3/25
ETSTW-Cable 026	Microwave Cable	SUCOFLEX 104	279075	HUBER+SUHNER	2013/3/4	2014/3/3
ETSTW-Cable 027	Microwave Cable	SUCOFLEX 104	279083	HUBER+SUHNER	2013/3/4	2014/3/3
ETSTW-Cable 028	Microwave Cable	FA147A0015M2020	30064-2	UTIFLEX	2013/10/11	2014/10/10
ETSTW-Cable 029	Microwave Cable	FA147A0015M2020	30064-3	UTIFLEX	2013/10/11	2014/10/10
ETSTW-Cable 030	Microwave Cable	SUCOFLEX 104 (S_Cable 9)	279067	HUBER+SUHNER	2013/3/4	2014/3/3
ETSTW-Cable 031	Microwave Cable	SUCOFLEX 104 (S_Cable 10)	238092	HUBER+SUHNER	2013/11/27	2014/11/26
ETSTW-Cable 043	Microwave Cable	SUCOFLEX 104	317576	HUBER+SUHNER	2013/11/27	2014/11/26
ETSTW-Cable 047	Microwave Cable	SUCOFLEX 104	325518	HUBER+SUHNER	2013/11/27	2014/11/26
ETSTW-Cable 053	N TYPE To SMA Cable	RG142	None	JYE BAO CO.,LTD.	2013/3/26	2014/3/25
ETSTW-Cable 058	Microwave Cable	SUCOFLEX 104	none	HUBER+SUHNER	2013/6/20	2014/6/19
WTSTW-SW 002	EMI TEST SOFTWARE	EZ_EMC	None	Farad	Version I	ETS-03A1



2.4 General Test Procedure

POWER LINE CONDUCTED INTERFERENCE: The procedure used was ANSI STANDARD C63.4-2009 5.2 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 C63.4-2009 6.4 employing a spectrum analyzer. For investigated frequency is equal to or below 1GHz, the RBW and VBW of the spectrum analyzer was 100 kHz and 100kHz respectively with an appropriate sweep speed. For investigated frequency is above 1GHz, both of RBW and VBW of the spectrum analyzer were 1 MHz with an appropriate sweep speed. The analyzer was calibrated in dB above a microvolt at the output of the antenna.

FORMULA OF CONVERSION FACTORS: The Field Strength at 3m was established by adding the meter reading of the spectrum analyzer (which is set to read in units of $dB\mu V$) to the antenna correction factor supplied by the antenna manufacturer. The antenna correction factors are stated in terms of dB.

Example:Freq (MHz)METER READING + ACF + CABLE LOSS (to the receiver) = FS33 $20 \text{ dB}\mu\text{V} + 10.36 \text{ dB} + 6 \text{ dB} = 36.36 \text{ dB}\mu\text{V/m} @3m$

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

(1) If the intentional radiator operates below 10 GHz: to the tenth harmonic of the highest fundamental frequency or to 40 GHz, whichever is lower.

(2) If the intentional radiator operates at or above 10 GHz and below 30 GHz: to the fifth harmonic of the highest fundamental frequency or to 100 GHz, whichever is lower.

(3) If the intentional radiator operates at or above 30 GHz: to the fifth harmonic of the highest fundamental frequency or to 200 GHz, whichever is lower, unless specified otherwise elsewhere in the rules.

(4) If the intentional radiator contains a digital device, regardless of whether this digital device controls the functions of the intentional radiator or the digital device is used for additional control or function purposes other than to enable the operation of the intentional radiator, the frequency range shall be investigated up to the range specified in paragraphs (a)(1)-(a)(3) of this section or the range applicable to the digital device, as shown in paragraph (b)(1) of this Section, whichever is the higher frequency range of investigation.

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

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

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



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

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



Registration number: W6M21401-13774-C-1 FCC ID: ZTT-REC15A

3 Test results (enclosure)

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



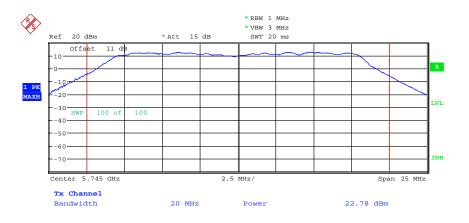
3.1 Peak Output Power (transmitter)

FCC Rule: 15.247(b)(3)

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

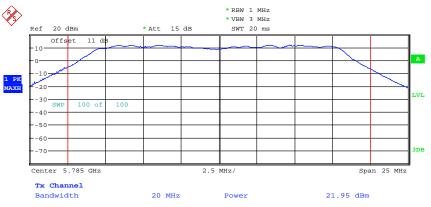
The power was measured with modulation (declared by the applicant).

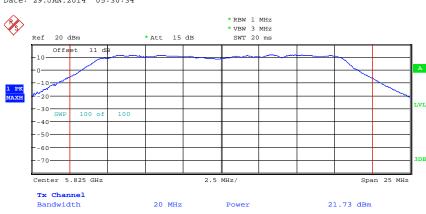
Mode A



MAX OUTPUT POWER 802.11A CH149 Date: 29.JAN.2014 05:29:51







MAX OUTPUT POWER 802.11A CH157 Date: 29.JAN.2014 05:30:34

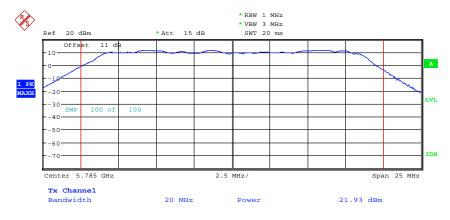
MAX OUTPUT POWER 802.11A CH165 Date: 29.JAN.2014 05:31:12



Mode B

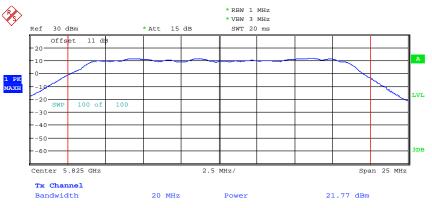


MAX OUTPUT POWER 802.11N 20MHZ CH149 Date: 29.JAN.2014 05:32:18



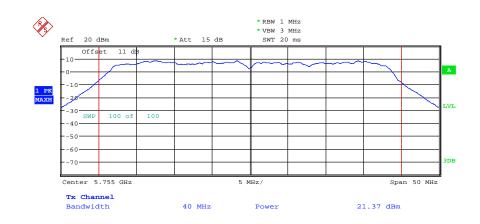
MAX OUTPUT POWER 802.11N 20MHZ CH157 Date: 29.JAN.2014 05:32:59





MAX OUTPUT POWER 802.11N 20MHZ CH165 Date: 29.JAN.2014 05:33:41

Mode C

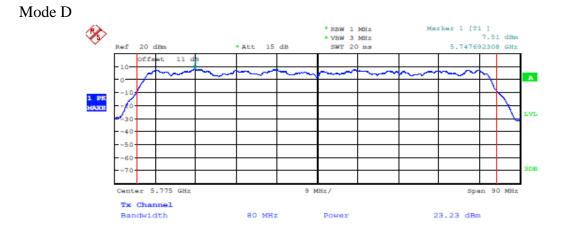


MAX OUTPUT POWER 802.11N 40MHZ CH151 Date: 29.JAN.2014 05:34:47





MAX OUTPUT POWER 802.11N 40MHZ CH159 Date: 29.JAN.2014 05:35:34



MAX OUTPUT POWER 802.11AC 80MHZ CH155 Date: 6.FEB.2014 11:02:22



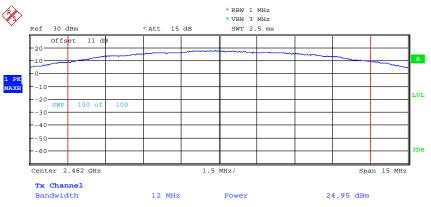
Mode E





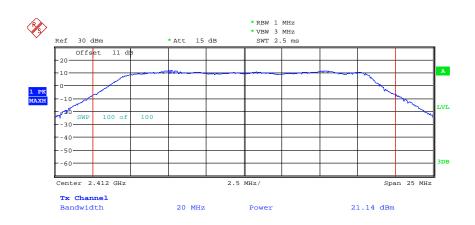
MAX OUTPUT POWER 802.11B CH06 Date: 29.JAN.2014 05:02:25





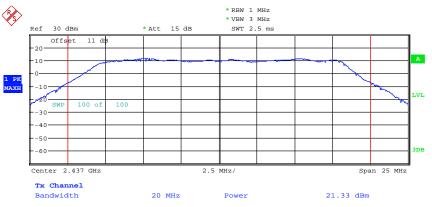
MAX OUTPUT POWER 802.11B CH11 Date: 29.JAN.2014 05:17:56

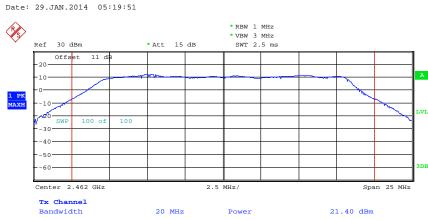
Mode F



MAX OUTPUT POWER 802.11G CH01 Date: 29.JAN.2014 05:19:12





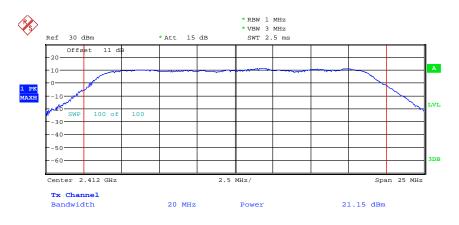


MAX OUTPUT POWER 802.11G CH06

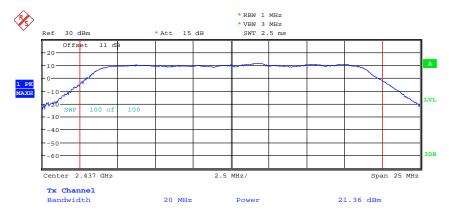
MAX OUTPUT POWER 802.11G CH11 Date: 29.JAN.2014 05:20:25



Mode G

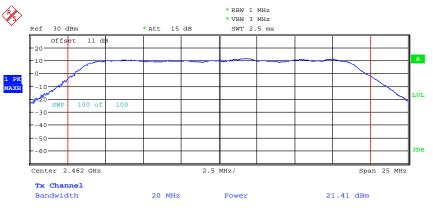


MAX OUTPUT POWER 802.11N 20MHZ CH01 Date: 29.JAN.2014 05:21:15



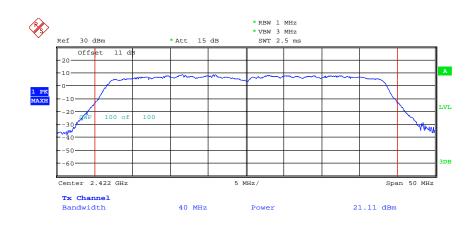
MAX OUTPUT POWER 802.11N 20MHZ CH06 Date: 29.JAN.2014 05:21:52





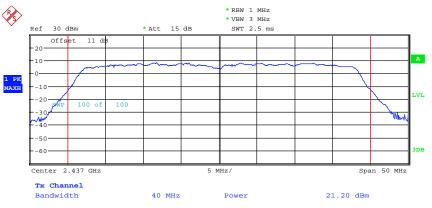
MAX OUTPUT POWER 802.11N 20MHZ CH11 Date: 29.JAN.2014 05:22:24

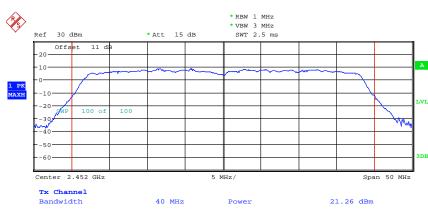
Mode H



MAX OUTPUT POWER 802.11N 40MHZ CH01 Date: 29.JAN.2014 05:23:33







MAX OUTPUT POWER 802.11N 40MHZ CH04 Date: 29.JAN.2014 05:24:10

MAX OUTPUT POWER 802.11N 40MHZ CH07 Date: 29.JAN.2014 05:24:41



Limits:

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

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

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



3.2 Equivalent isotropic radiated power

FCC Rule: 15.247(b)(3) EIRP = max. conducted output power + antenna gain

5.8GHz:802.11aEIRP = 22.78 dBm + 2 dBi = 24.78 dBm 5.8GHz:802.11n(20MHz), 802.11n(40MHz)EIRP = 22.71 dBm + 2 dBi = 24.71 dBm 5.8GHz:802.11acEIRP = 23.23 dBm + 2 dBi = 25.23 dBm 2.4GHz:802.11b/gEIRP = 25.62 dBm + 2 dBi = 27.62 dBm 2.4GHz: 802.11n(20MHz), 802.11n(40MHz)EIRP = 21.41 dBm + 2 dBi = 23.41 dBm

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

Test equipment used: ETSTW-RE 055

3.3 **RF Exposure Compliance Requirements**

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

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

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

S – Power Density P – Output power ERP R – Distance D – Cable Loss AG – Antenna Gain

5.8GHz:802.11a

Item	Unit	Value	Remarks
Р	mW	189.6706	Peak value
D	dB		
AG	dBi	2	
G		1.5849	Calculated Value
R	cm	20	Assumed value
Ŝ	mW/cm2	0.0598	Calculated value



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5.8GHz:802.11n(20MHz), 802.11n(40MHz)

Item	Unit	Value	Remarks
Р	mW	186.6380	Peak value
D	dB		
AG	dBi	2	
G		1.5849	Calculated Value
R	cm	20	Assumed value
S	mW/cm2	0.0588	Calculated value

5.8GHz:802.11ac

Item	Unit	Value	Remarks
Р	mW	210.3778	Peak value
D	dB		
AG	dBi	2	
G		1.5849	Calculated Value
R	cm	20	Assumed value
S	mW/cm2	0.0663	Calculated value

2		0.0005	Culculated value
802.11b/g			
Item	Unit	Value	Remarks
Р	mW	364.7539	Peak value
D	dB		
AG	dBi	2	
G		1.5849	Calculated Value
R	cm	20	Assumed value
S	mW/cm2	0.1150	Calculated value
2.4G:802.11n(20MHz)	, 802.11n(40MHz)		
Item	Unit	Value	Remarks
Р	mW	138.3566	Peak value
D	dB		
AG	dBi	2	
G		1.5849	Calculated Value
R	cm	20	Assumed value
S	mW/cm2	0.0436	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	Field strength	Field Strength
(MHz)	(microvolts/meter)	(dB microvolts/meter)
30 - 88	100	40.0
88 - 216	150	43.5
216 - 960	200	46.0
Above	500	54.0

For frequencies above 1GHz (Average measurements).

Guidance on Measurement of Digit Transmission Systems:

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

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

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

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

Explanation: see attached diagrams in Appendix.



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)

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



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

Calculation of test results:

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

The peak and average spurious emission plots was measured with the average limits. In the Table being listed the critical peak and average value and exhibit the compliance with the above calculated Limits.

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

Summary table with radiated data of the test plots									
Model: REC15A			REC15A Date:		2014/01/18~2	014/01/24			
Mode:	802.1	11a 5745MHz	<u>Z</u>	Temperature:	24	°C	Engineer:	Leon	
Polarization:	Horizontal			Humidity:	60	%	_		
Frequency (MHz)	Reading (dBuV)	Detector	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Table Degree (Deg.)	Ant. High (cm)	
45.5510	10.04	peak	14.15	24.19	40.00	-15.81	70	100	
142.7453	10.25	peak	15.03	25.28	43.50	-18.22	155	100	
199.1182	13.10	peak	11.77	24.87	43.50	-18.63	80	100	
249.6593	25.13	peak	14.40	39.53	46.00	-6.47	115	100	

Frequency	Readir (dBuV		Factor (dB)		t @3m IV/m)		@3m V/m)	Margin	Table Degree	Ant. High
(MHz)	Peak /	Ave.	Corr.	Peak	Ave.	Peak	Ave.	(dB)	(Deg.)	(cm)
11490.0000	36.97		12.90	49.87		74.00	54.00	-24.13	155	100
17235.0000	27.15		21.95	49.10		74.00	54.00	-24.90	235	100

Polarization: Vertical

Frequency (MHz)	Reading (dBuV)	Detector	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Table Degree (Deg.)	Ant. High (cm)
45.5511	22.36	peak	14.15	36.51	40.00	-3.49	130	100
80.5411	21.60	peak	9.79	31.39	40.00	-8.61	110	100
142.7453	17.56	peak	15.03	32.59	43.50	-10.91	65	100
249.6593	25.83	peak	14.40	40.23	46.00	-5.77	245	100

Frequency	Read (dBi	0	Factor (dB)		t @3m ıV/m)		@3m V/m)	Margin	Table Degree	Ant. High
(MHz)	Peak	Ave.	Corr.	Peak	Ave.	Peak	Ave.	(dB)	(Deg.)	(cm)
11489.0580	46.77	40.39	12.89	59.66	53.28	74.00	54.00	-0.72	160	100
17235.0000	27.17		21.95	49.12		74.00	54.00	-24.88	115	100



Mode: Polarization:		11a 5785M Horizontal	Hz									
Frequency (MHz)	Reading (dBuV)	Detector	Facto (dB)	r	Result (dBuV/m)			Limit (dBuV/m)			ble Degree (Deg.)	Ant. High (cm)
45.5510	10.53	peak	14.15	;	24.68		40.00		-15.32		210	100
142.7453	10.37	peak	15.03	;	2	5.40	43.	50	-18.10		130	100
199.1182	13.41	peak	11.77	'	2	5.18	43.	50	-18.32		80	100
249.6593	25.12	peak	14.40)	3	9.52	46.	00	-6.48		155	100
·								•				
Frequency (MHz)	Reac (dBu Peak	5	Factor (dB) Corr.		Result @3m (dBuV/m) Peak Ave.		(dB	Limit @3m (dBuV/m) Peak Ave.		gin 3)	Table Degree (Deg.)	Ant. High (cm)
11570.0000	35.69		13.43	4	19.12		74.00	54.0	· ·	/	155	100
17355.0000	27.16		21.76		18.92		74.00	54.0			135	100
17555.0000	27.10		21.70		10.72		74.00	54.0	20.0	50	100	100
Polarization:	Vertical	1					1					
Frequency (MHz)	Reading (dBuV)	Detector	Faci (dE			Result 3uV/m)	Limit (dBuV/m)		Margin (dB)		Table Degree (Deg.)	Ant. High (cm)
45.5511	22.07	peak	14.1	15	36.22		40.00		-3.78		70	100
80.5411	21.60	peak	9.7		31.39		40.00		-8.61		100	100
142.7455	17.28	peak	15.0			32.31	43.		-11.19		60	100
249.6593	24.16	peak	14.4			38.56	46.0		-7.44		115	100
247.0373	24.10	peak	17	10		0.00	40.0	50	7.77		115	100
Frequency	Readi (dBu)		Factor (dB)	F	Result (dBuV		Limit (dBu)		Margi	n	Table Degree	Ant. High
(MHz)	Peak	Ave.	Corr.	l	Peak Ave		Peak	Ave.	(dB)		(Deg.)	(cm)
11569.3380	43.12	38.63	13.42	56.	5.54 52.05		74.00 54.00		-1.95)	158	100
17355.0000	28.57		21.76	50.	.33		74.00	54.00	-23.6	7	120	100
Mode: Polarization:		11a 5825M Horizontal	Hz									
Frequency (MHz)	Reading (dBuV)	Detector	Facto (dB)	r	Result	(dBuV/m)	Lir (dBu'		Margin (dB)		ble Degree (Deg.)	Ant. High (cm)
45.5510	9.96	peak	14.15)	2	4.11	40.	00	-15.89		40	100
142.7453	10.64	peak	15.03	}	2	5.67	43.	50	-17.83		110	100
199.1182	13.06	peak	11.77	'	2	4.83	43.	50	-18.67		90	100
249.6593	24.97	peak	14.40)	3	9.37	46.	00	-6.63		235	100
Frequency	Read (dBu		Factor (dB)			lt @3m uV/m)		t @3m uV/m)	Marg	gin	Table	Ant.
(MHz)	Peak	Ave.	Corr.		Peak	•	Pea		. (dE	3)	Degree (Deg.)	High (cm)
11650.0000	36.54		13.34	/	19.88		74.00	54.0			135	100
17475.0000	27.80		21.63		19.43		74.00	54.0			130	100
	27.00	1	21.00			1	71.00	51.0	27.0	. 1	100	100



Polarization:	Vertical										
Frequency (MHz)	Reading (dBuV)	Detector	, Fac (dE				Lin (dBu ^v	-	Margin (dB)	Table Degree (Deg.)	Ant. High (cm)
45.5511	22.53	peak	14.1	15	36.68		40.00		-3.32	185	100
80.5411	21.57	peak	9.7	9		31.36	40.	00	-8.64	120	100
142.7455	17.35	peak	15.0)3		32.38	43.	50	-11.12	210	100
249.6593	25.63	peak	14.4	40	4	40.03	46.	00	-5.97	140	100
	1			I					I		
Frequency (MHz)	Read (dBu Peak	U U	Factor (dB) Corr.		esult (dBu\ Peak	@3m //m) Ave.	Limit (dBu Peak		Margir (dB)	n Table Degree (Deg.)	Ant. High (cm)
11655.3110	43.23	39.23	13.32	56.5	55	52.55	74.00	54.00	-1.45	120	100
17475.0000	27.50		21.63	49.1	13		74.00	54.00	-24.87	/ 115	100
Mode: Polarization:	802.11r	n 20MHz 574 Horizontal	15MHz								Ant.
Frequency (MHz)	Reading (dBuV)	Detector	Facto (dB)	r F	Result (dBuV/m)			Limit (dBuV/m)		Table Degree (Deg.)	High (cm)
45.5510	10.22	peak	14.15			24.37		40.00		110	100
142.7453	11.26	peak	15.03			26.29	43		-17.21	140	100
199.1182	12.92	peak	11.77			24.69		50	-18.81	150	100
249.6593	24.62	peak	14.40)	39.02		46	.00	-6.98	75	100
Frequency (MHz)	Read (dBi Peak		Factor (dB) Corr.			llt @3m uV/m) < Ave.	(dB Pea	1	```) Degree) (Deg.)	Ant. High (cm)
11490.0000	35.40		12.90		8.30		74.00	54.00			100
17235.0000	27.11		21.95	49	9.06		74.00	54.00) -24.9	65	100
Polarization:	Vertical	1					Ι				
Frequency (MHz)	Reading (dBuV)	Detector	, Faci (dE			Result BuV/m)	Limit (dBuV/m)		Margin (dB)	Table Degree (Deg.)	Ant. High (cm)
45.5511	22.78	peak	14.1	15		36.93	40.	00	-3.07	145	100
80.5411	21.88	peak	9.7	9		31.67	40.	00	-8.33	120	100
142.7455	18.17	peak	15.0)3		33.20	43.	50	-10.30	30	100
249.6593	24.55	peak	14.4	40		38.95	46.	00	-7.05	105	100
Frequency (MHz)	Read (dBu Peak	IV) Ave.	Factor (dB) Corr.	F	(dBu\ <u>Peak</u>	Ave.	Limit (dBu Peak	V/m) Ave.	Margir (dB)	Degree (Deg.)	Ant. High (cm)
11489.0980 17235.0000	45.01 26.77	39.16	12.89 21.95	57.9 48.7		52.05	74.00 74.00	54.00 54.00	-1.95		100 100



Mode: Polarization:		20MHz 578 Horizontal	35MHz								
Frequency (MHz)	Reading (dBuV)	Detector	Facto (dB)	r	Result (dBuV/m)			Limit (dBuV/m)		Table Degree (Deg.)	Ant. High (cm)
45.5510	9.90	peak	14.15)	24.05		40.00		-15.95	130	100
142.7453	11.33	peak	15.03	;	2	6.36	43.	50	-17.14	145	100
199.1182	11.62	peak	11.77	'		3.39	43.	50	-20.11	110	100
249.6593	25.07	peak	14.40)	3	9.47	46.	00	-6.53	75	100
		1 1									
Frequency (MHz)	Read (dBu Peak		Factor (dB) Corr.		Result @3m (dBuV/m) Peak Ave.		(dB	Limit @3m (dBuV/m) Peak Ave		in Table Degree) (Deg.)	Ant. High (cm)
11570.0000	34.85		13.43	4	8.28		74.00 54.00		```	, , , ,	100
17355.0000	27.45		21.76		9.20		74.00	54.00			100
.,	27.10	1	21.70			1	, 1.00	01.00	~	. 10	100
Polarization:	Vertical										
Frequency (MHz)	Reading (dBuV)	Detecto	r Fact (dE		Result (dBuV/m)		Limit (dBuV/m)		Margin (dB)	Table Degree (Deg.)	Ant. High (cm)
45.5511	22.41	peak	14.1	15	36.56		40.00		-3.44	135	100
80.5411	20.97	peak	9.7			30.76	40.00		-9.24	240	100
140.8015	17.64	peak	14.9			32.59	43.5		-10.91	70	100
	-	· ·				32.39 39.81					
249.6593	25.41	peak	14.4	ŧU	37.01		46.0	10	-6.19	55	100
Frequency	Read (dBu	V)	Factor (dB)		Result ((dBuV	//m)	Limit ((dBu) Peak	//m)	Margii	Degree	Ant. High
(MHz)		Ave.	Corr.		Peak	Ave.			(dB)	(Deg.)	(cm)
11560.1200	40.38	39.74	13.37 21.76	53.		53.11	74.0054.0074.0054.00		-0.89		100
17355.0000	27.32		21.70	49.	08		74.00	54.00	-24.92	2 160	100
Mode: Polarization:		20MHz 582 Horizontal	25MHz								
Frequency (MHz)	Reading	Detector	Facto (dB)	r	Result	(dBuV/m)		Limit (dBuV/m)		Table Degree (Deg.)	Ant. High (cm)
. ,	(dBuV)				23.81		40.00			F.0	100
45.5510	(dBuV) 9.66	peak	14.15)	2	3.81	40.	00	-16.19	50	100
45.5510 142.7453	<u>9.66</u> 11.34	peak peak	14.15			3.81 6.37	40. 43.		-16.19 -17.13	110	100
45.5510	9.66	1		}	2			50		110 90	
45.5510 142.7453	<u>9.66</u> 11.34	peak	15.03	}	2 2	6.37	43.	50 50	-17.13	110	100
45.5510 142.7453 199.1182	9.66 11.34 12.70	peak peak	15.03 11.77	}	2 2	6.37 4.47	43. 43.	50 50	-17.13 -19.03	110 90	100 100
45.5510 142.7453 199.1182	9.66 11.34 12.70	peak peak peak	15.03 11.77)	2 2 3 Resul	6.37 4.47	43. 43. 46. Limit	50 50	-17.13 -19.03	110 90 125 in Table	100 100 100 Ant.
45.5510 142.7453 199.1182 249.6593	9.66 11.34 12.70 24.19 Read	peak peak peak	15.03 11.77 14.40 Factor)	2 2 3 Resul	6.37 4.47 8.59 It @3m JV/m)	43. 43. 46. Limit	50 50 00 t @3m uV/m)	-17.13 -19.03 -7.41 Marg	110 90 125 in Table Degree	100 100 100
45.5510 142.7453 199.1182 249.6593 Frequency	9.66 11.34 12.70 24.19 Read (dBu	peak peak peak ling IV)	15.03 11.77 14.40 Factor (dB)		2 2 3 Resul (dBu	6.37 4.47 8.59 It @3m JV/m)	43. 43. 46. Limit (dB	50 50 00 t @3m uV/m)	-17.13 -19.03 -7.41 Marg . (dB	110 90 125 in Table Degree (Deg.)	100 100 100 Ant. High



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Polarization:	Vertical										
Frequency (MHz)	Reading (dBuV)	Detector	Fac (dE					nit V/m)	Margin (dB)	Table Degree (Deg.)	Ant. High (cm)
45.5511	22.32	peak	14.1	15	36.47		40.00		-3.53	80	100
80.5411	22.26	peak	9.7	9.79		32.05	40	.00	-7.95	140	100
140.8015	17.50	peak	14.9	95		32.45	43	.50	-11.05	55	100
249.6593	25.05	peak	14.4	40	39.45		46	.00	-6.55	130	100
Frequency (MHz)	Read (dBu Peak	0	Factor (dB) Corr.		Result (dBu\ Peak	@3m V/m) Ave.	(dBi Peak	@3m JV/m) Ave.	Margiı (dB)	n Table Degree (Deg.)	Ant. High (cm)
11655.3110	37.47		13.32	50.	79		74.00	54.00	-23.21	75	100
17475.0000	27.77		21.63	49.4	40		74.00	54.00	-24.60) 140	100
Mode: Polarization: Frequency		1 40MHz 575 Horizontal	55MHz Facto	r				mit	Margin	Table Degree	Ant.
(MHz)	Reading (dBuV)	Detector	(dB)		Result (dBuV/m)		(dBı	ıV/m)	Margin (dB) -15.65	(Deg.)	High (cm)
43.6071	10.30	peak	14.05			24.35		40.00		130	100
142.7453	11.93	peak	15.03			26.96		.50	-16.54 -18.25	115	100
199.1182	13.48	peak	11.77			25.25		43.50 46.00		240	100
249.6593	24.55	peak	14.4()	38.95		46	0.00	-7.05	60	100
Frequency (MHz)	Read (dBi Peak		Factor (dB) Corr.		Result @3m (dBuV/m) Peak Ave.		(dl Pea		,	Degree (Deg.)	Ant. High (cm)
11510.0000	35.30		13.06	4	8.36		74.00	54.0			100
17265.0000	26.58		22.39	4	8.97		74.00	54.0	0 -25.0)3 235	100
Polarization:	Vertical										
Frequency (MHz)	Reading (dBuV)	Detector	Fac (dE			Result BuV/m)	Limit (dBuV/m)		Margin (dB)	Table Degree (Deg.)	Ant. High (cm)
45.5511	22.27	peak	14.1	15		36.42	40	.00	-3.58	40	100
80.5411	21.99	peak	9.7	9		31.78	40	.00	-8.22	155	100
131.0822	18.04	peak	14.2	23		32.27	43	.50	-11.23	110	100
249.6593	25.11	peak	14.4	40		39.51	46	.00	-6.49	75	100
Frequency (MHz)	Read (dBu Peak	V) Ave.	Factor (dB) Corr.	F	(dBu\ ² eak	Ave.	(dBı Peak		Margiı (dB)	Degree (Deg.)	Ant. High (cm)
11512.5250	43.51	40.51	13.08	56.	59	53.59	74.00	54.00	-0.41	55	100
17265.0000	26.68		22.39	49.0			74.00	54.00	-24.93	3 105	100



Mode: Polarization:		40MHz 579 Horizontal	95MHz									
Frequency (MHz)	Reading (dBuV)	Detector	Facto (dB)	r	Result (dBuV/m)			Limit (dBuV/m)		gin B)	Table Degree (Deg.)	Ant. High (cm)
45.5510	9.71	peak	14.15	,	2	3.86	40	.00	-16.	14	175	100
142.7453	10.79	peak	15.03		2	5.82	43	.50	-17.	68	135	100
199.1182	12.92	peak	11.77	'	2	4.69	43	.50	-18.	81	40	100
249.6593	24.60	peak	14.40)	3	9.00	46	.00	-7.(00	90	100
			-	<u> </u>								
Frequency	Read (dBu	JV)	Factor (dB)		Result @3m (dBuV/m)		(dE	Limit @3m (dBuV/m)		Margi	Degree	Ant. High
(MHz)	Peak	Ave.	Corr.		Peak Ave.		Pea	1		(dB)	· 57	(cm)
11590.0000	35.35		13.55		18.90		74.00	54.0		-25.10		100
17385.0000	27.95		21.14	4	19.09		74.00	54.0	0	-24.9	1 200	100
Polarization:	Vertical											
Frequency (MHz)	Reading (dBuV)	Detector	Fact (dB			Result 3uV/m)	Lin (dBu'	-	Margin (dB)		Table Degree (Deg.)	Ant. High (cm)
45.5511	22.30	peak	14.1	5	36.45		40.	40.00		55	70	100
80.5411	21.35	peak	9.7	9	31.14		40.	40.00		86	45	100
142.7455	17.73	peak	15.0)3		32.76	43.	50	-10	.74	130	100
249.6593	25.34	peak	14.4	10	3	39.74	46.	00	-6.	26	155	100
		· · · · · · · · · · · · · · · · · · ·									·	
Frequency (MHz)	Read (dBu Peak		Factor (dB) Corr.		Result (dBuV Peak	-		@3m V/m) Ave.	N	largin (dB)	Table Degree (Deg.)	Ant. High (cm)
11588.6770	43.11	39.66	13.54	56.	.65	53.20	74.00	54.00	-	0.80	125	100
17385.0000	27.38		21.14	48.	.52		74.00	54.00	-2	25.48	80	100
Mode: Polarization:		11ac 5775N Horizontal	1Hz									
Frequency (MHz)	Reading (dBuV)	Detector	Facto (dB)	r	Result	(dBuV/m)		mit IV/m)	Margin (dB)		Table Degree (Deg.)	Ant. High (cm)
45.5510	10.06	peak	14.15		2	4.21	40	.00	-15.	79	175	100
140.8015	10.13	peak	14.95			5.08		.50	-18.		110	100
199.1182	13.16	peak	11.77			4.93		.50	-18.		235	100
249.6593	24.85	peak	14.40)	3	9.25	46	.00	-6.7	75	40	100
Frequency	Read (dBu		Factor (dB)			lt @3m uV/m)		it @3m BuV/m)		Margi	n Table Degree	Ant. High
(MHz)	Peak	Ave.	Corr.				Pea			(dB)		(cm)
(101112)	i oun											/
11510.0000	35.24		13.06	4	18.30		74.00	54.0	0	-25.70	0 155	100



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Polarization:	Vertical				•		1				
Frequency (MHz)	Reading (dBuV)	Detector	r Fac (dE			Result BuV/m)	Lim (dBu\		Margin (dB)	Table Degree (Deg.)	Ant. High (cm)
45.5511	22.43	peak	14.	14.15		36.58		40.00		55	100
80.5411	21.27	peak	9.7	'9		31.06	40.0	40.00		130	100
142.7455	17.24	peak	15.	03		32.27	43.	43.50		140	100
249.6593	24.51	peak	14.	40		38.91	46.0	00	-7.09	185	100
r									-		1 1
Frequency	Read (dBu		Factor (dB)		Result @3m (dBuV/m)		Limit @3m (dBuV/m)		Margin	Table Degree	Ant. High
(MHz)	•	Áve.	Corr.		Peak	Áve.	Peak	Áve.	(dB)	(Deg.)	(cm)
11569.6390	43.69	39.91	13.42	57.	.11	53.33	74.00	54.00	-0.67	145	100
17265.0000	26.38		22.39	48.	77		74.00	54.00	-25.23	35	100
Mode: Polarization:		11b 2412M Horizontal	Hz								ſ
Frequency (MHz)	Reading (dBuV)	Detector	Facto (dB)		r Result (dBuV/m)			Limit I (dBuV/m)		Table Degree (Deg.)	Ant. High (cm)
142.7453	11.85	peak	15.03	3	26.88		43.	43.50		140	100
249.6593	24.69	peak	14.40)		39.09	46.	00	-6.91	265	100
									I		I
Frequency	Read (dBu		Factor (dB)		Result @3m (dBuV/m)		Limit @3m (dBuV/m)		Margi	n Table Degree	Ant. High
(MHz)	Peak	Ave.	Corr.		Peak		Pea		. (dB)		(cm)
4824.0000	42.27		0.50	4	2.77		74.00	54.0	`` '		100
7236.0000	41.74		4.06	4	5.80		74.00	54.0	0 -28.2	0 100	100
9648.0000	36.62		9.16	4	5.78		74.00	54.0	0 -28.2	2 155	100
12060.0000	32.76		13.89	4	6.65		74.00	54.0	0 -27.3	5 120	100
Polarization:	Vertical										
Frequency (MHz)	Reading (dBuV)	Detector	r Fac (dE			Result BuV/m)	Lim (dBu\		Margin (dB)	Table Degree (Deg.)	Ant. High (cm)
43.6072	22.50	peak	14.	05		36.55	40.0	00	-3.45	155	100
0.40.4500	05 50			10							100

14.40

peak

39.92

46.00

-6.08

25.52

249.6593

90

100



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802.11b 2437MHz

Frequency (MHz)	Read (dBu Peak		Factor (dB) Corr.	(dBu	Result @3m (dBuV/m) Peak Ave. 56.18 51.79		Limit @3m (dBuV/m) Peak Ave.		Table Degree (Deg.)	Ant. High (cm)
2240.0980	60.62	56.23	-4.44	56.18	51.79	74.00	54.00	-2.21	190	100
2560.0380	64.42	54.49	-3.39	61.03	51.10	74.00	54.00	-2.90	180	100
4824.0000	42.45		0.50	42.95		74.00	54.00	-31.05	155	100
7236.0000	44.41		4.06	48.47		74.00	54.00	-25.53	90	100
9646.7940	38.00		9.16	47.16		74.00	54.00	-26.84	150	100
12060.0000	33.34		13.89	47.23		74.00	54.00	-26.77	175	100

Polarization:		Horizontal						
Frequency (MHz)	Reading (dBuV)	Detector	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Table Degree (Deg.)	Ant. High (cm)
142.7453	10.79	peak	15.03	25.82	43.50	-17.68	90	100
249.6593	25.34	peak	14.40	39.74	46.00	-6.26	125	100

Frequency (MHz)	Readir (dBu\ Peak	Factor (dB) Corr.		lt @3m uV/m) Ave.		@3m V/m) Ave.	Margin (dB)	Table Degree (Deg.)	Ant. High (cm)
4874.0000	41.50	 0.61	42.11		74.00	54.00	-31.89	220	100
7311.0000	40.64	 4.20	44.84		74.00	54.00	-29.16	175	100
9748.0000	34.88	 9.51	44.39		74.00	54.00	-29.61	35	100
12185.0000	32.52	 14.83	47.35		74.00	54.00	-26.65	90	100

Polarization:

Mode:

Vertical

Frequency (MHz)	Reading (dBuV)	Detector	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Table Degree (Deg.)	Ant. High (cm)
45.5511	22.37	peak	14.15	36.52	40.00	-3.48	55	100
249.6593	24.47	peak	14.40	38.87	46.00	-7.13	60	100

Frequency (MHz)	Read (dBi Peak		Factor (dB) Corr.	(dB) (dBuV/m) Corr. Peak Av -4.45 54.17 51. -3.37 54.05 51. 0.61 42.28 4.20 48.22		Limit @3m (dBuV/m) Peak Ave.		Margin (dB)	Table Degree (Deg.)	Ant. High (cm)
2238.4770	58.62	55.96	-4.45	54.17	51.51	74.00	54.00	-2.49	180	100
2563.1260	57.42	55.13	-3.37	54.05	51.76	74.00	54.00	-2.24	190	100
4874.0000	41.67		0.61	42.28		74.00	54.00	-31.72	85	100
7311.0000	44.02		4.20	48.22		74.00	54.00	-25.78	110	100
9748.0000	34.70		9.51	44.21		74.00	54.00	-29.79	70	100
12185.0000	33.02		14.83	47.85		74.00	54.00	-26.15	130	100



Mode: Polarization:	802	.11b 2462M Horizontal	Hz								
Frequency (MHz)	Reading (dBuV)	Detector	Facto (dB)		esult	(dBuV/m)		nit V/m)	Margin (dB)	Table Degree (Deg.)	Ant. High (cm)
142.7453	11.12	peak	15.03	3	2	26.15	43	.50	-17.35	165	100
249.6593	25.04	peak	14.40)	3	9.44	46	.00	-6.56	75	100
Frequency (MHz)	Rea (dB Peak		Factor (dB) Corr.			lt @3m uV/m) c Ave.		it @3m suV/m) k Ave	Març	Degree	Ant. High (cm)
4924.0000	41.14		0.84	41.			74.00	54.0	,	/ \ J/	100
7386.0000	40.61		4.43	45.			74.00	54.0			100
9848.0000	35.24		9.76	45.			74.00	54.0			100
12310.0000	34.38		14.12	48.			74.00	54.0			100
Polarization:	Vertical	1									
Frequency (MHz)	Reading (dBuV)	Detecto	r Fac (dE			Result BuV/m)	Lin (dBu ^v		Margin (dB)	Table Degree (Deg.)	Ant. High (cm)
45.5511	22.34	peak	14.1	15	3	36.49	40.	00	-3.51	110	100
249.6593	25.50	peak	14.4	40	3	39.90	46.	00	-6.10	35	100
		1 1	1								
Frequency	Reac (dBu	ιV)	Factor (dB)	(0	lBuV		(dBu	@3m V/m)	Margi	Degree	Ant. High
(MHz)	Peak	Ave.	Corr.	Pe	1	Ave.	Peak		(dB)		(cm)
2238.4770	57.80	55.21	-4.45	53.35		50.76	74.00	54.00			100
2557.1140	57.67	55.09	-3.41	54.26		51.68	74.00	54.00			100
4921.8440	43.06		0.83	43.89			74.00	54.00			100
7386.0000	41.90		4.43	46.33			74.00	54.00			100
9848.0000	34.84		9.76	44.60			74.00	54.00			100
12310.0000	34.42		14.12	48.54	1		74.00	54.00	-25.4	6 140	100
Mode: Polarization:	802	.11g 2412M Horizontal	Hz								
Frequency (MHz)	Reading (dBuV)	Detector	Facto (dB)		esult	(dBuV/m)	Lir (dBu	nit V/m)	Margin (dB)	Table Degree (Deg.)	Ant. High (cm)
45.5510	10.21	peak	14.15	5	2	24.36	40	.00	-15.64	110	100
249.6593	24.54	peak	14.40)	3	8.94	46	.00	-7.06	95	100



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Frequency (MHz)	Readir (dBu\ Peak		Factor (dB) Corr.		t @3m JV/m) Ave.		@3m V/m) Ave.	Margin (dB)	Table Degree (Deg.)	Ant. High (cm)
2238.4770	58.64	56.45	-4.45	54.19	52.00	74.00	54.00	-2.00	155	100
2334.6690	57.87	56.71	-4.07	53.80	52.64	74.00	54.00	-1.36	135	100
4824.0000	44.18		0.50	44.68		74.00	54.00	-29.32	125	100
7236.0000	41.63		4.06	45.69		74.00	54.00	-28.31	140	100
9648.0000	36.40		9.16	45.56		74.00	54.00	-28.44	110	100
12060.0000	34.04		13.89	47.93		74.00	54.00	-26.07	55	100

Polarization:	Vertical					-		
Frequency (MHz)	Reading (dBuV)	Detector	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Table Degree (Deg.)	Ant. High (cm)
43.6072	22.56	peak	14.05	36.61	40.00	-3.39	130	100
249.6593	25.60	peak	14.40	40.00	46.00	-6.00	85	100

Frequency (MHz)	Read (dBi Peak		Factor (dB) Corr.	Result @3m (dBuV/m) Peak Ave.		Limit @3m (dBuV/m) Peak_Ave.		Margin (dB)	Table Degree (Deg.)	Ant. High (cm)
2238.4770	59.42	57.51	-4.45	54.97	53.06	74.00	54.00	-0.94	220	100
2334.6690	58.99	57.05	-4.07	54.92	52.98	74.00	54.00	-1.02	215	100
4824.0000	43.33		0.50	43.83		74.00	54.00	-30.17	175	100
7236.0000	41.97		4.06	46.03		74.00	54.00	-27.97	130	100
9648.0000	35.89		9.16	45.05		74.00	54.00	-28.95	235	100
12060.0000	34.25		13.89	48.14		74.00	54.00	-25.86	110	100

Mode: Polarization:		11g 2437MHz Horizontal	<u>-</u>			
Frequency (MHz)	Reading (dBuV)	Detector	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)
142.7453	12.00	peak	15.03	27.03	43.50	-16.47

14.40

peak

Frequency (MHz)	Readir (dBu\ Peak		Factor (dB) Corr.	(dB) (dBuV/m) Corr. Peak Ave.		Limit @3m (dBuV/m) Peak Ave.		Margin (dB)	Table Degree (Deg.)	Ant. High (cm)
2238.4770	59.15	56.10	-4.45	54.70	51.65	74.00	54.00	-2.35	155	100
2358.7170	58.93	56.09	-3.98	54.95	52.11	74.00	54.00	-1.89	210	100
4874.0000	42.24		0.61	42.85		74.00	54.00	-31.15	155	100
7311.0000	41.25		4.20	45.45		74.00	54.00	-28.55	130	100
9748.0000	35.69		9.51	45.20		74.00	54.00	-28.80	235	100
12185.0000	32.84		14.83	47.67		74.00	54.00	-26.33	140	100

39.53

46.00

25.13

249.6593

Ant.

High

(cm)

100

100

Table Degree

(Deg.)

110

55

-6.47



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Polarization:	Vertical						-				
Frequency (MHz)	Reading (dBuV)	Detecto	Fac (dE			Result BuV/m)	Lin (dBu\	-	Margin (dB)	Table Degree (Deg.)	Ant. High (cm)
45.5511	22.27	peak	14.1	15		36.42	40.	00	-3.58	115	100
249.6593	25.00	peak	14.4	40		39.40	46.	00	-6.60	130	100
	•										
Frequency	Readi (dBu'	V)	Factor (dB)		(dBu\	@3m V/m)	Limit (dBu	@3m V/m)	Margir	Degree	Ant. High
(MHz)	Peak	Ave.	Corr.	F	Peak	Ave.	Peak	Ave.	(dB)	(Deg.)	(cm)
2238.4770	59.94	57.69	-4.45	55.4	49	53.24	74.00	54.00	-0.76	135	100
2358.7170	58.84	57.34	-3.98	54.	86	53.36	74.00	54.00	-0.64	210	100
4874.0000	42.90		0.61	43.	51		74.00	54.00	-30.49	9 155	100
7311.0000	41.48		4.20	45.	68		74.00	54.00	-28.32	90	100
9748.0000	35.40		9.51	44.9	91		74.00	54.00	-29.09	215	100
12185.0000	32.59		14.83	47.4	42		74.00	54.00	-26.58	3 135	100
Mode: Polarization:		11g 2462M Horizontal	Hz								
Frequency (MHz)	Reading (dBuV)	Detector	Facto (dB)	r I	Resul	t (dBuV/m)		nit V/m)	Margin (dB)	Table Degree (Deg.)	Ant. High (cm)
142.7453	12.10	peak	15.03	3		27.13	43.	50	-16.37	110	100
249.6593	25.24	peak	14.40)		39.64	46	00	-6.36	85	100
							1				

Frequency (MHz)	Reading (dBuV) Peak Ave.		Factor (dB) Corr.		t @3m ıV/m) Ave.		@3m V/m) Ave.	Margin (dB)	Table Degree (Deg.)	Ant. High (cm)
2238.4770	59.44	55.76	-4.45	54.99	51.31	74.00	54.00	-2.69	155	100
4924.0000	41.93		0.84	42.77		74.00	54.00	-31.23	120	100
7386.0000	40.79		4.43	45.22		74.00	54.00	-28.78	70	100
9848.0000	37.47		9.76	47.23		74.00	54.00	-26.77	135	100
12310.0000	35.27		14.12	49.39		74.00	54.00	-24.61	90	100

Polarization:	Vertical							
Frequency (MHz)	Reading (dBuV)	Detector	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Table Degree (Deg.)	Ant. High (cm)
45.5511	23.00	peak	14.15	37.15	40.00	-2.85	165	100
249.6593	25.89	peak	14.40	40.29	46.00	-5.71	120	100



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Frequency (MHz)	Reading (dBuV) Peak Ave.		Factor (dB) Corr.		t @3m ıV/m) Ave.		@3m V/m) Ave.	Margin (dB)	Table Degree (Deg.)	Ant. High (cm)
2238.4770	60.06	57.67	-4.45	55.61	53.22	74.00	54.00	-0.78	225	100
4921.8440	43.18		0.83	44.01		74.00	54.00	-29.99	135	100
7386.0000	41.05		4.43	45.48		74.00	54.00	-28.52	55	100
9848.0000	35.59		9.76	45.35		74.00	54.00	-28.65	85	100
12310.0000	34.17		14.12	48.29		74.00	54.00	-25.71	120	100

Mode: 802.11n 20 MHz 2412MHz

Polarization:	ł	Horizontal						
Frequency (MHz)	Reading (dBuV)	Detector	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Table Degree (Deg.)	Ant. High (cm)
142.7453	11.74	peak	15.03	26.77	43.50	-16.73	160	100
249.6593	24.19	peak	14.40	38.59	46.00	-7.41	75	100

Frequency (MHz)	Reading (dBuV) Peak Ave.		Factor (dB) Corr.		lt @3m uV/m) Ave.	-	@3m V/m) Ave.	Margin (dB)	Table Degree (Deg.)	Ant. High (cm)
2238.4770	59.07	56.11	-4.45	54.62	51.66	74.00	54.00	-2.34	135	100
2334.6690	58.36	56.09	-4.07	54.29	52.02	74.00	54.00	-1.98	210	100
4824.0000	43.84		0.50	44.34		74.00	54.00	-29.66	155	100
7236.0000	41.45		4.06	45.51		74.00	54.00	-28.49	90	100
9648.0000	35.38		9.16	44.54		74.00	54.00	-29.46	145	100
12060.0000	34.29		13.89	48.18		74.00	54.00	-25.82	130	100

Polarization:	Vertical							
Frequency (MHz)	Reading (dBuV)	Detector	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Table Degree (Deg.)	Ant. High (cm)
43.6072	22.23	peak	14.05	36.28	40.00	-3.72	140	100
249.6593	25.31	peak	14.40	39.71	46.00	-6.29	115	100

Frequency (MHz)	Reading (dBuV) Peak Ave.		Factor (dB) Corr.	B) (dBuV/m)		Limit @3m (dBuV/m) Peak Ave.		Margin (dB)	Table Degree (Deg.)	Ant. High (cm)
2238.4770	59.12	57.77	-4.45	54.67	53.32	74.00	54.00	-0.68	225	100
2328.6570	57.70	57.15	-4.10	53.60	53.05	74.00	54.00	-0.95	210	100
4824.0000	42.47		0.50	42.97		74.00	54.00	-31.03	45	100
7236.0000	42.82		4.06	46.88		74.00	54.00	-27.12	130	100
9648.0000	35.73		9.16	44.89		74.00	54.00	-29.11	105	100
12060.0000	34.67		13.89	48.56		74.00	54.00	-25.44	120	100



Registration number: W6M21401-13774-C-1 FCC ID: ZTT-REC15A

Mode: Polarization:	802.11r	n 20MHz 243 Horizontal	37MHz								
Frequency (MHz)	Reading (dBuV)	Detector	Facto (dB)	r Res	sult (dBuV/	′m)	Lin (dBu ^v		Margin (dB)	Table Degree (Deg.)	Ant. High (cm)
142.7453	11.17	peak	15.03	;	26.20		43.	50	-17.30	110	100
249.6593	25.41	peak	14.40)	39.81		46.	00	-6.19	85	100
	1		- 1								
Frequency	Rea (dB		Factor (dB)		esult @3m dBuV/m)			t @3m uV/m)	Marg	Degree	Ant. High
(MHz)	Peak	Ave.	Corr.	P	eak Ave		Peal	1) (Deg.)	(cm)
2238.4770	59.05	57.25	-4.45	54.6	0 52.8	0	74.00	54.0	0 -1.2	0 125	100
2358.7170	58.10	57.09	-3.98	54.1	2 53.1	1	74.00	54.0	0 -0.8	9 90	100
4874.0000	43.35		0.61	43.9	6		74.00	54.0	0 -30.0	04 105	100
7311.0000	41.61		4.20	45.8	1		74.00	54.0			100
9748.0000	34.92		9.51	44.4	3		74.00	54.0	0 -29.5	57 35	100
12185.0000	33.05		14.83	47.8	8		74.00	54.0	0 -26.1	2 110	100
Polarization:	Vertical									1	
Frequency (MHz)	Reading (dBuV)	Detector	, Fact (dE		Result (dBuV/m)		Lim (dBu\		Margin (dB)	Table Degree (Deg.)	Ant. High (cm)
43.6072	22.40	peak	14.0)5	36.45		40.0)0	-3.55	130	100
249.6593	24.96	peak	14.4	10	39.36		46.0)0	-6.64	55	100
		• •									
Frequency	Read (dBu	ιV)	Factor (dB)	(dE	ult @3m BuV/m)		Limit ((dBu)	//m)	Margir	Degree	Ant. High
(MHz)	Peak	Ave.	Corr.	Pea			Peak	Ave.	(dB)	(Deg.)	(cm)
2238.4770	59.64	58.06	-4.45	55.19	53.61		74.00	54.00			100
2358.7170	59.02	57.33	-3.98	55.04	53.35		74.00	54.00			100
4874.0000	42.59		0.61	43.20			74.00	54.00			100
7311.0000	41.75		4.20	45.95			74.00	54.00			100
9748.0000	36.32		9.51	45.83			74.00	54.00			100
12185.0000	32.57		14.83	47.40			74.00	54.00	-26.60) 90	100
Mode: Polarization:	802.11r	n 20MHz 246 Horizontal	52MHz								
Frequency (MHz)	Reading (dBuV)	Detector	Facto (dB)	r Res	sult (dBuV/	′m)	Lin (dBu ^v		Margin (dB)	Table Degree (Deg.)	Ant. High (cm)
45.5510	10.02	peak	14.15)	24.17		40.	00	-15.83	100	100
249.6593	25.04	peak	14.40)	39.44		46.	00	-6.56	135	100



Registration number: W6M21401-13774-C-1 FCC ID: ZTT-REC15A

Frequency (MHz)	Reading (dBuV) Peak Ave.		Factor (dB) Corr.		lt @3m JV/m) Ave.		@3m V/m) Ave.	Margin (dB)	Table Degree (Deg.)	Ant. High (cm)
2238.4770	59.05	56.76	-4.45	54.60	52.31	74.00	54.00	-1.69	155	100
4924.0000	41.49		0.84	42.33		74.00	54.00	-31.67	75	100
7386.0000	40.94		4.43	45.37		74.00	54.00	-28.63	130	100
9848.0000	36.91		9.76	46.67		74.00	54.00	-27.33	220	100
12310.0000	36.15		14.12	50.27		74.00	54.00	-23.73	195	100

Polarization:	Vertical							
Frequency (MHz)	Reading (dBuV)	Detector	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Table Degree (Deg.)	Ant. High (cm)
45.5511	22.23	peak	14.15	36.38	40.00	-3.62	115	100
249.6593	25.04	peak	14.40	39.44	46.00	-6.56	70	100

Frequency (MHz)	Reading (dBuV) Peak Ave.		Factor (dB) Corr.		t @3m JV/m) Ave.		@3m V/m) Ave.	Margin (dB)	Table Degree (Deg.)	Ant. High (cm)
2238.4770	59.17	57.69	-4.45	54.72	53.24	74.00	54.00	-0.76	215	100
2382.7650	58.63	56.91	-3.89	54.74	53.02	74.00	54.00	-0.98	230	100
4924.0000	42.18		0.84	43.02		74.00	54.00	-30.98	85	100
7386.0000	41.77		4.43	46.20		74.00	54.00	-27.80	110	100
9848.0000	35.93		9.76	45.69		74.00	54.00	-28.31	105	100
12310.0000	35.49		14.12	49.61		74.00	54.00	-24.39	60	100

Mode: Polarization: 802.11n 40MHz 2422MHz Horizontal

T Old IZ ation.		10112011101						
Frequency (MHz)	Reading (dBuV)	Detector	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Table Degree (Deg.)	Ant. High (cm)
142.7453	11.13	peak	15.03	26.16	43.50	-17.34	220	100
249.6593	25.02	peak	14.40	39.42	46.00	-6.58	50	100

Frequency (MHz)	Readir (dBu\ Peak		Factor (dB) Corr.		t @3m JV/m) Ave.		@3m V/m) Ave.	Margin (dB)	Table Degree (Deg.)	Ant. High (cm)
2238.4770	59.11	57.66	-4.45	54.66	53.21	74.00	54.00	-0.79	125	100
4844.0000	42.36		0.54	42.90		74.00	54.00	-31.10	95	100
7266.0000	42.05		4.11	46.16		74.00	54.00	-27.84	130	100
9688.0000	35.66		9.19	44.85		74.00	54.00	-29.15	75	100
12110.0000	34.45		14.34	48.79		74.00	54.00	-25.21	160	100



Registration number: W6M21401-13774-C-1 FCC ID: ZTT-REC15A

Polarization:	Vertical									
Frequency (MHz)	Reading (dBuV)	Detecto	r Fac (dE		Result (dBuV/m)	Lin (dBu)	-	Margin (dB)	Table Degree (Deg.)	Ant. High (cm)
45.5511	22.44	peak	14.1	15	36.59	40.	00	-3.41	60	100
249.6593	24.82	peak	14.4	40	39.22	46.	00	-6.78	115	100
	1									
Frequency	Read (dBu	IV)	Factor (dB)	(dE	ult @3m BuV/m)	(dBu	@3m V/m)	Margin	Table Degree	Ant. High
(MHz)	Peak	Ave.	Corr.	Pea	k Ave.	Peak	Ave.	(dB)	(Deg.)	(cm)
2238.4770	59.22	57.73	-4.45	54.77	53.28	74.00	54.00	-0.72	225	100
2340.6810	58.57	57.35	-4.05	54.52	53.30	74.00	54.00	-0.70	210	100
4844.0000	41.44		0.54	41.98		74.00	54.00	-32.02	135	100
7266.0000	42.43		4.11	46.54		74.00	54.00	-27.46	100	100
9688.0000	35.83		9.19	45.02		74.00	54.00	-28.98	55	100
12110.0000	34.26		14.34	48.60		74.00	54.00	-25.40	130	100

_	Mode: Polarization:		40MHz 2437 Horizontal	MHz				
	Frequency (MHz)	Reading (dBuV)	Detector	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Table Degree (Deg.)
	142.7453	12.28	peak	15.03	27.31	43.50	-16.19	110
	249.6593	24.70	peak	14.40	39.10	46.00	-6.90	135

Frequency (MHz)	Readir (dBu\ Peak		Factor (dB) Corr.		t @3m JV/m) Ave.		@3m V/m) Ave.	Margin (dB)	Table Degree (Deg.)	Ant. High (cm)
2238.4770	59.30	56.63	-4.45	54.85	52.18	74.00	54.00	-1.82	220	100
4874.0000	42.71		0.61	43.32		74.00	54.00	-30.68	210	100
7311.0000	41.19		4.20	45.39		74.00	54.00	-28.61	145	100
9748.0000	35.27		9.51	44.78		74.00	54.00	-29.22	75	100
12185.0000	32.75		14.83	47.58		74.00	54.00	-26.42	130	100

Polarization:	Vertical							
Frequency (MHz)	Reading (dBuV)	Detector	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Table Degree (Deg.)	Ant. High (cm)
45.5511	22.26	peak	14.15	36.41	40.00	-3.59	125	100
249.6593	24.57	peak	14.40	38.97	46.00	-7.03	140	100

Ant. High (cm) 100



Mode:

Worldwide Testing Services(Taiwan) Co., Ltd.

Registration number: W6M21401-13774-C-1 FCC ID: ZTT-REC15A

Frequency (MHz)	Read (dBi Peak		Factor (dB) Corr.		t @3m ıV/m) Ave.		@3m V/m) Ave.	Margin (dB)	Table Degree (Deg.)	Ant. High (cm)
2238.4770	59.15	57.96	-4.45	54.70	53.51	74.00	54.00	-0.49	225	100
2358.7170	59.22	57.37	-3.98	55.24	53.39	74.00	54.00	-0.61	210	100
4874.0000	42.82		0.61	43.43		74.00	54.00	-30.57	215	100
7311.0000	41.12		4.20	45.32		74.00	54.00	-28.68	140	100
9748.0000	35.64		9.51	45.15		74.00	54.00	-28.85	130	100
12185.0000	33.58		14.83	48.41		74.00	54.00	-25.59	170	100

802.11n 40MHz 2452MHz

Polarization:	ŀ	Horizontal						
Frequency (MHz)	Reading (dBuV)	Detector	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Table Degree (Deg.)	Ant. High (cm)
142.7453	11.19	peak	15.03	26.22	43.50	-17.28	155	100
249.6593	24.83	peak	14.40	39.23	46.00	-6.77	205	100

Frequency (MHz)	Readir (dBu\ Peak		Factor (dB) Corr.		t @3m ıV/m) Ave.		@3m V/m) Ave.	Margin (dB)	Table Degree (Deg.)	Ant. High (cm)
2238.4770	58.62	56.37	-4.45	54.17	51.92	74.00	54.00	-2.08	155	100
4904.0000	43.58		0.70	44.28		74.00	54.00	-29.72	75	100
7356.0000	42.43		4.34	46.77		74.00	54.00	-27.23	125	100
9808.0000	36.72		9.83	46.55		74.00	54.00	-27.45	145	100
12260.0000	34.67		14.37	49.04		74.00	54.00	-24.96	35	100

Polar	ization:	Vertical							
	luency 1Hz)	Reading (dBuV)	Detector	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Table Degree (Deg.)	Ant. High (cm)
43.	6072	22.51	peak	14.05	36.56	40.00	-3.44	90	100
249	.6593	25.33	peak	14.40	39.73	46.00	-6.27	125	100

Frequency (MHz)	Read (dBi Peak		Factor (dB) Corr.		t @3m ıV/m) Ave.		@3m V/m) Ave.	Margin (dB)	Table Degree (Deg.)	Ant. High (cm)
2238.4770	58.91	57.66	-4.45	54.46	53.21	74.00	54.00	-0.79	220	100
	-									
2370.7420	58.48	57.35	-3.93	54.55	53.42	74.00	54.00	-0.58	175	100
4904.0000	42.57		0.70	43.27		74.00	54.00	-30.73	115	100
7356.0000	42.33		4.34	46.67		74.00	54.00	-27.33	90	100
9808.0000	36.49		9.83	46.32		74.00	54.00	-27.68	75	100
12260.0000	33.67		14.37	48.04		74.00	54.00	-25.96	140	100



Note

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

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

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

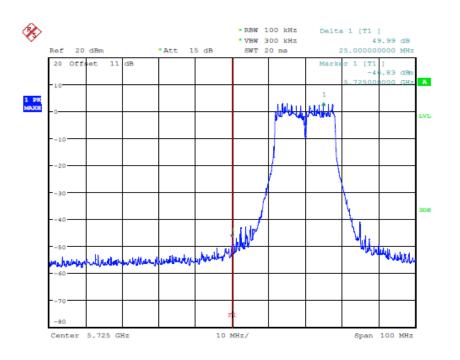


3.6 Radiated Emission on the band edge

According to FCC rules part 15 subpart C §15.247(d) 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.

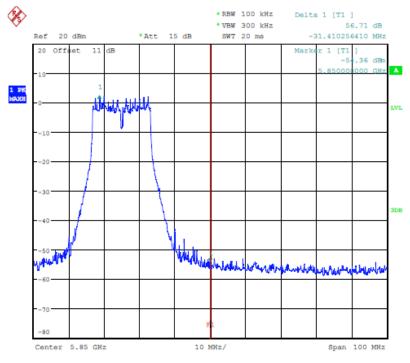


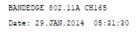


BANDEDGE 802.11A CH149 Date: 29.JAN.2014 05:30:10

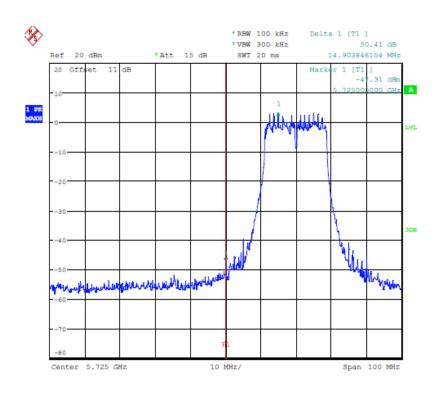


Registration number: W6M21401-13774-C-1 FCC ID: ZTT-REC15A



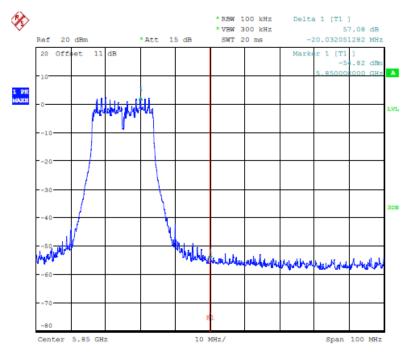


Mode B



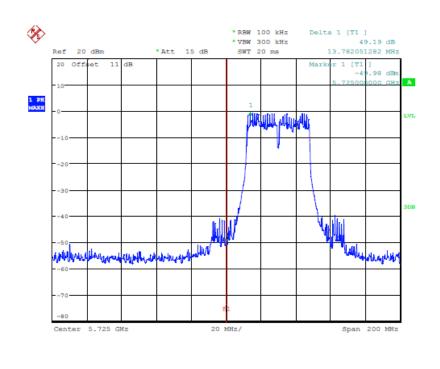
BANDEDGE 802.11N 20MHZ CH149 Date: 29.JAN.2014 05:32:36





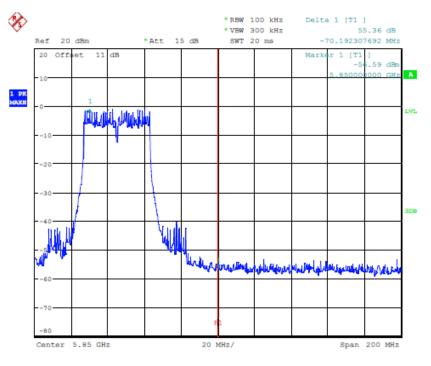
BANDEDGE 802.11N 20MHZ CH165 Date: 29.JAN.2014 05:34:01

Mode C



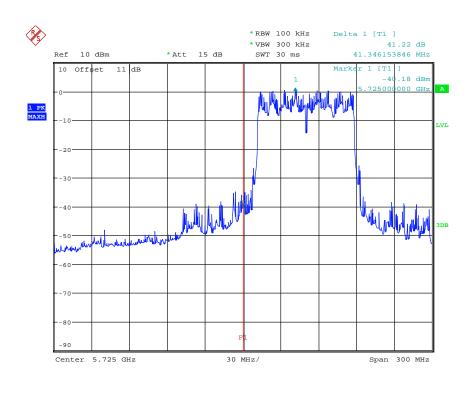
BANDEDGE 802.11N 40MHZ CH151 Date: 29.JAN.2014 05:35:05





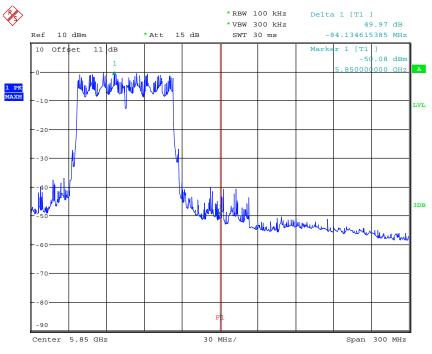
BANDEDGE 802.11N 40MHZ CH159 Date: 29.JAN.2014 05:35:52

Mode D



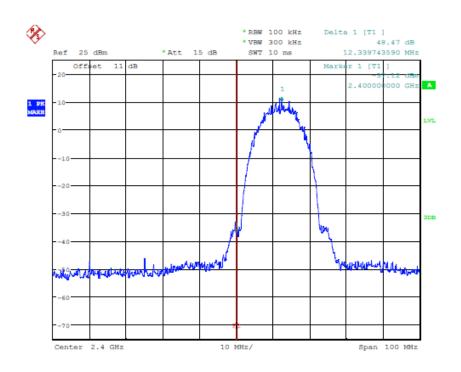
BANDEDGE 802.11AC 80MHZ CH155 Date: 12.FEB.2014 06:20:02





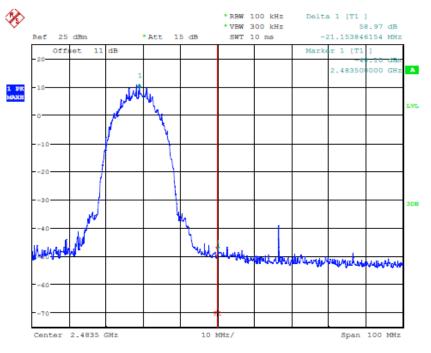
BANDEDGE 802.11AC 80MHZ CH155 Date: 12.FEB.2014 10:53:55

Mode E



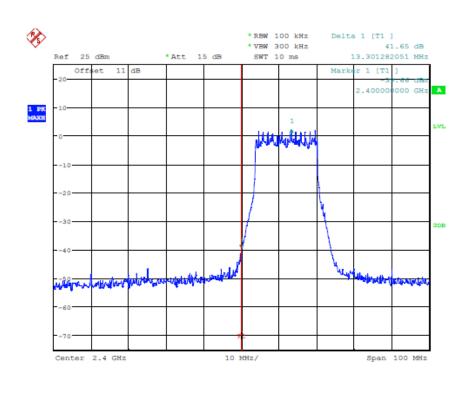
BANDEDGE 802.11B CH01 Date: 29.JAN.2014 05:01:57





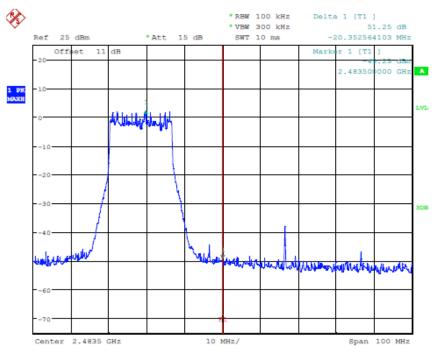
BANDEDGE 802.11B CH11 Date: 29.JAN.2014 05:18:16

Mode F



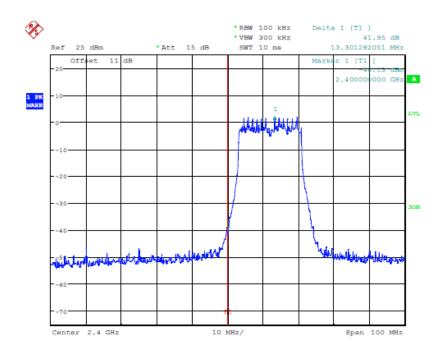
BANDEDGE 802.11G CH01 Date: 29.JAN.2014 05:19:31





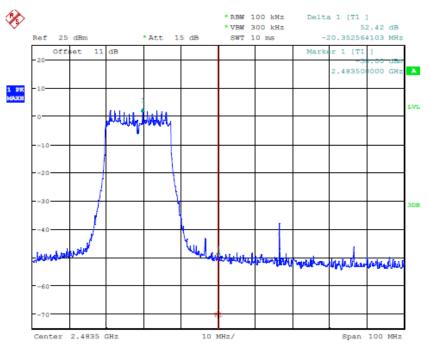


Mode G



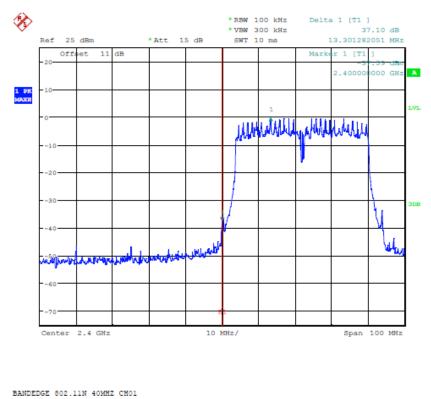
BANDEDGE 802.11N 20MHZ CH01 Date: 29.JAN.2014 05:21:34





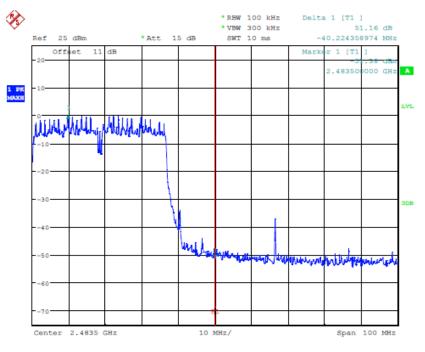


Mode H



Date: 29.JAN.2014 05:23:52





BANDEDGE 802.11N 40MHZ CH07 Date: 29.JAN.2014 05:25:00

Limit:

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

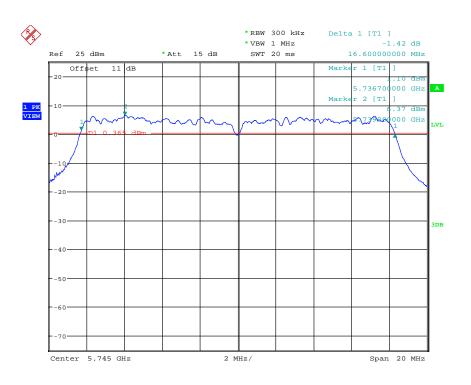
Test equipment used: ETSTW-RE 055, ETSTW-RE 050



3.7 Minimum 6 dB Bandwidth

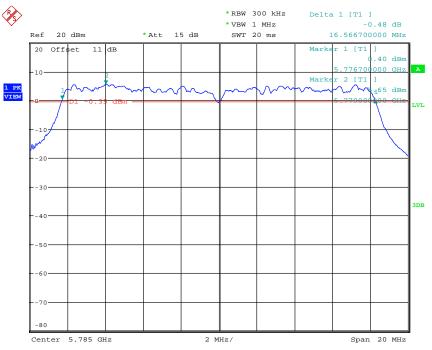
The analyzer ResBW was set to 100 kHz. For each RF output channel investigated, the spectrum analyzer center frequency was set to the channel carrier. A PEAK reading was taken, two markers were set 6 dB below the maximum level on the right and the left side of the emission. The 6 dB bandwidth is the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

Mode A

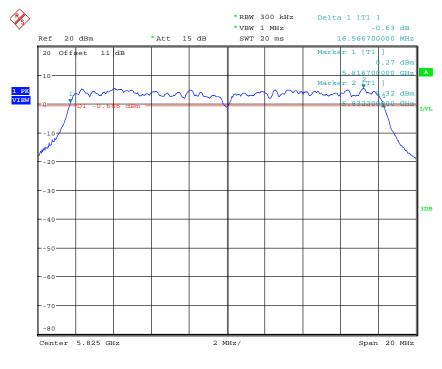


6DB BANDWIDTH 802.11A CH149 Date: 29.JAN.2014 05:29:58





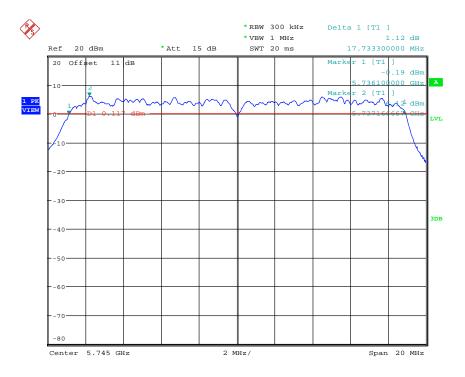
⁶DB BANDWIDTH 802.11A CH157 Date: 29.JAN.2014 05:30:41



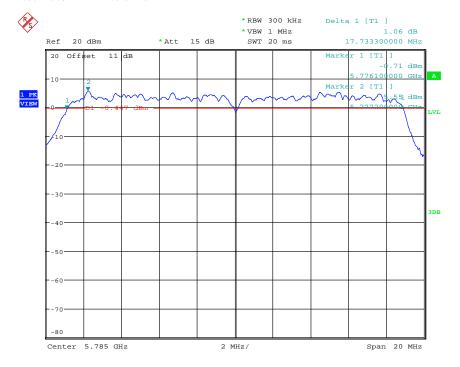
6DB BANDWIDTH 802.11A CH165 Date: 29.JAN.2014 05:31:19



Mode B

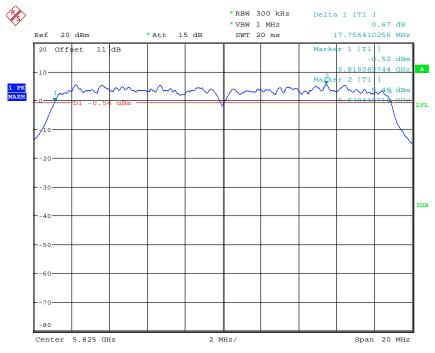


6DB BANDWIDTH 802.11N 20MHZ CH149 Date: 29.JAN.2014 05:32:25



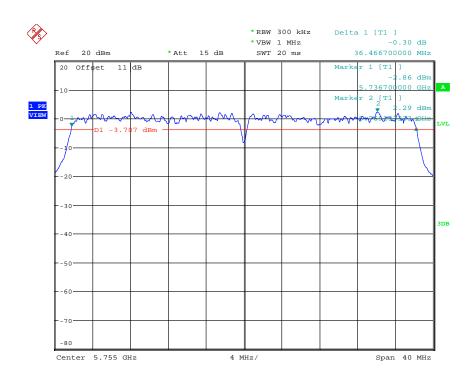
6DB BANDWIDTH 802.11N 20MHZ CH157 Date: 29.JAN.2014 05:33:07





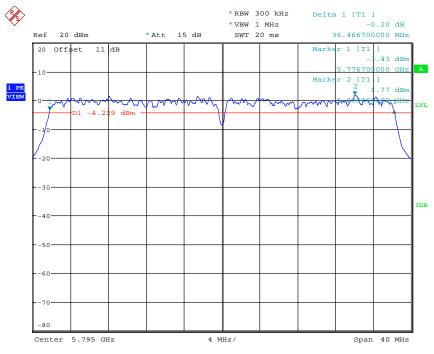
6DB BANDWIDTH 802.11N 20MHZ CH165 Date: 7.FEB.2014 14:06:11

Mode C



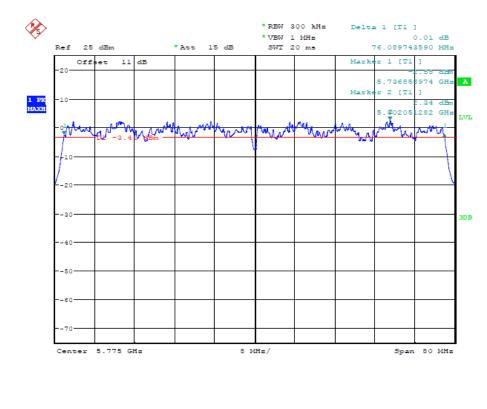
6DB BANDWIDTH 802.11N 40MHZ CH151 Date: 29.JAN.2014 05:34:54





6DB BANDWIDTH 802.11N 40MHZ CH159 Date: 29.JAN.2014 05:35:41

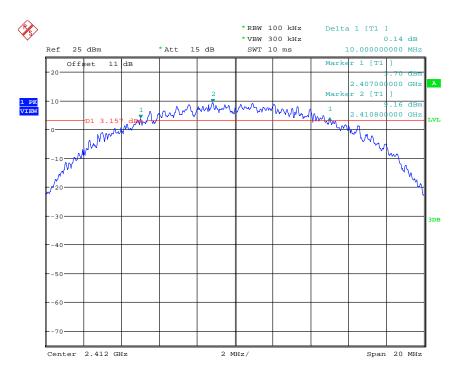
Mode D



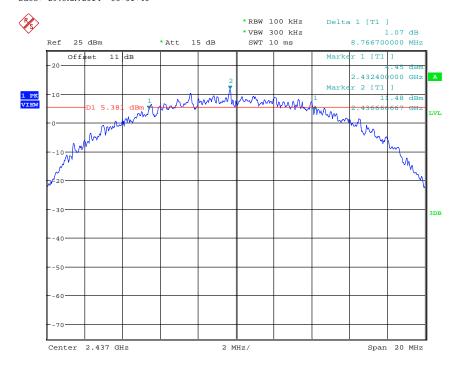
6DB BANDWIDTH 802.11AC 80MHZ CH155 Date: 6.FEB.2014 10:59:40



Mode E

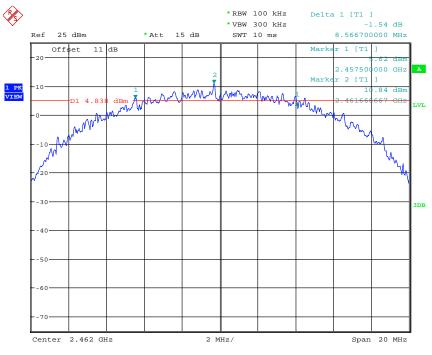


⁶DB BANDWIDTH 802.11B CH01 Date: 29.JAN.2014 05:01:46



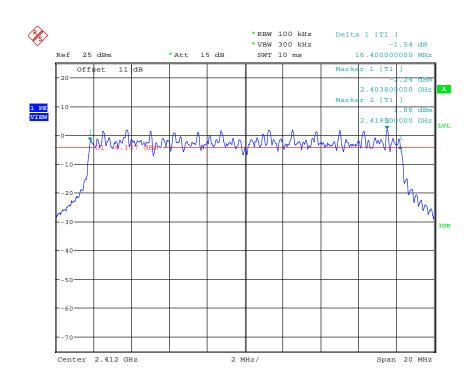
6DB BANDWIDTH 802.11B CH06 Date: 29.JAN.2014 05:02:33





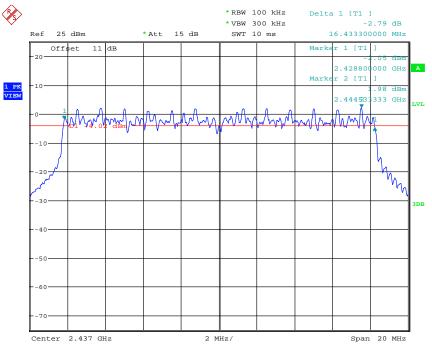
6DB BANDWIDTH 802.11B CH11 Date: 29.JAN.2014 05:18:05

Mode F

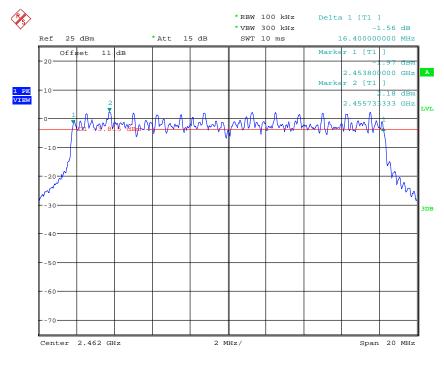


6DB BANDWIDTH 802.11G CH01 Date: 29.JAN.2014 05:19:20





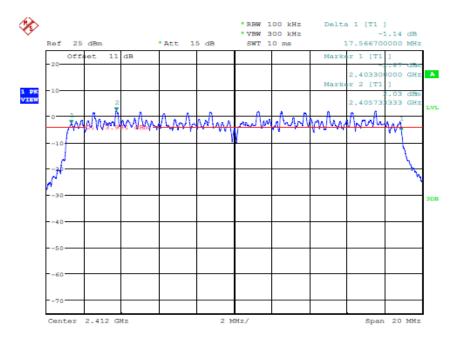
⁶DB BANDWIDTH 802.11G CH06 Date: 29.JAN.2014 05:19:58



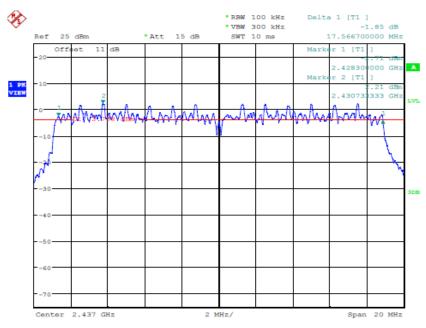
6DB BANDWIDTH 802.11G CH11 Date: 29.JAN.2014 05:20:32



Mode G

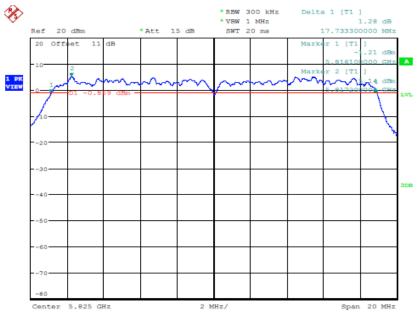


⁶DB BANDWIDTH 802.11N 20MHZ CH01 Date: 29.JAN.2014 05:21:23

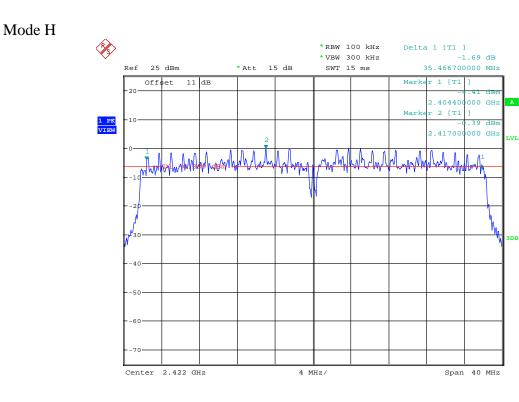


⁶DB BANDWIDTH 802.11N 20MHZ CH06 Date: 29.JAN.2014 05:21:59



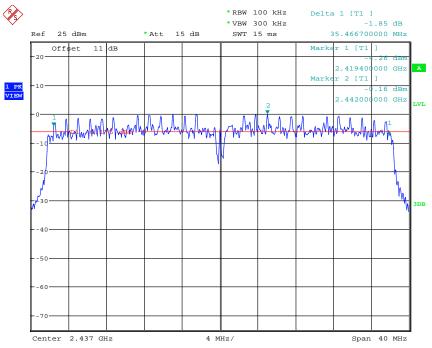


⁶DB BANDWIDTH 802.11N 20MHZ CH11 Date: 29.JAN.2014 05:33:48

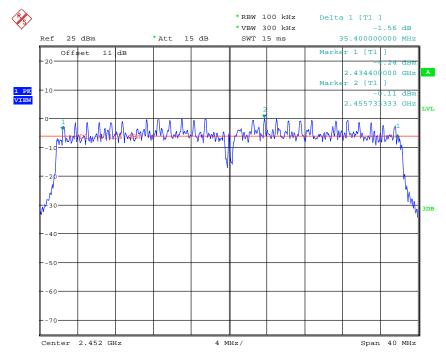


6DB BANDWIDTH 802.11N 40MHZ CH01 Date: 29.JAN.2014 05:23:41





⁶DB BANDWIDTH 802.11N 40MHZ CH04 Date: 29.JAN.2014 05:24:17



6DB BANDWIDTH 802.11N 40MHZ CH07 Date: 29.JAN.2014 05:24:50



Registration number: W6M21401-13774-C-1 FCC ID: ZTT-REC15A

Limits:

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

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

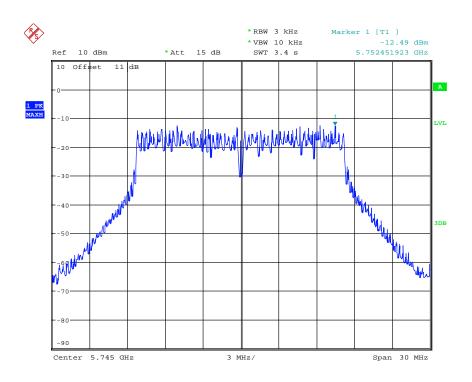


3.8 Peak Power Spectral Density

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

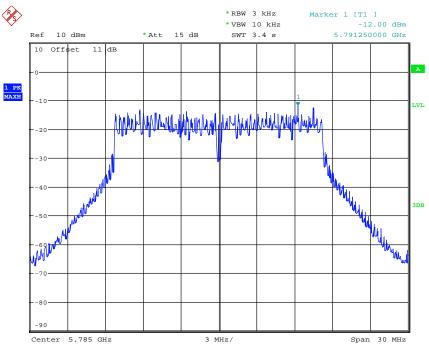
The peak output power is measured with a measurement bandwidth of 10 MHz and displayed on diagram together with Peak Power Spectral Density result which was measured with a bandwidth of 3 kHz, appreciate frequency span and sweep time.

Mode A

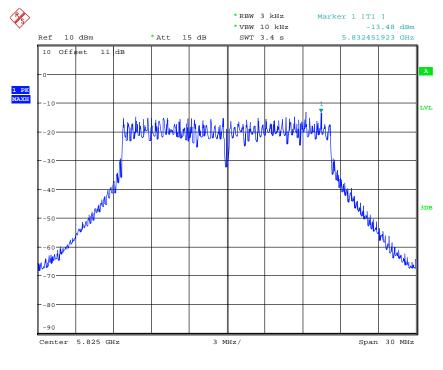


POWER DENSITY 802.11A CH149 Date: 6.FEB.2014 06:52:53





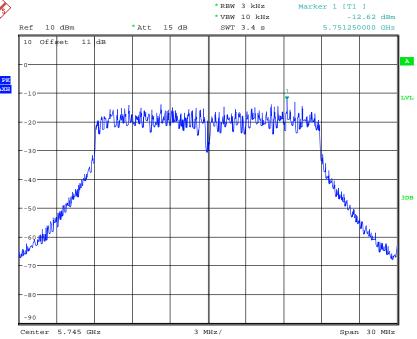
POWER DENSITY 802.11A CH157 Date: 6.FEB.2014 06:53:47



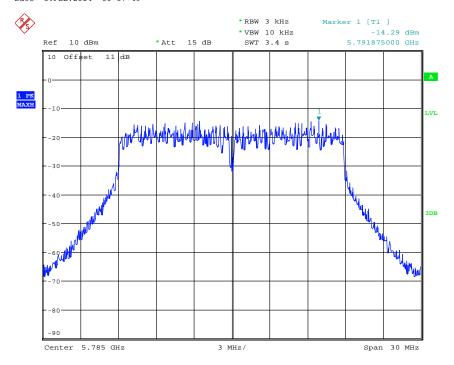
POWER DENSITY 802.11A CH165 Date: 6.FEB.2014 06:54:31



Mode B

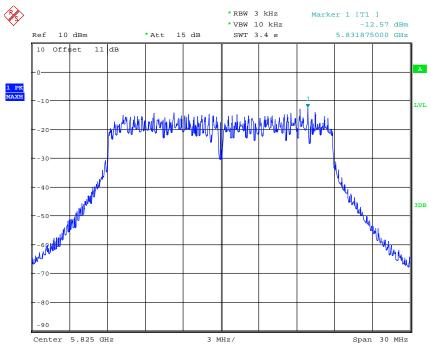


POWER DENSITY 802.11N 20MHZ CH149 Date: 6.FEB.2014 06:57:49



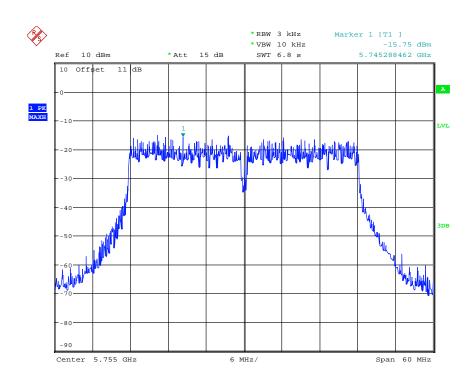
POWER DENSITY 802.11N 20MHZ CH157 Date: 6.FEB.2014 06:56:54





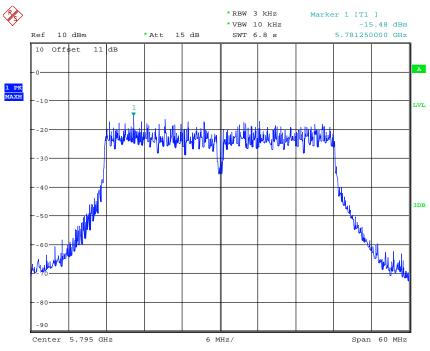
POWER DENSITY 802.11N 20MHZ CH165 Date: 6.FEB.2014 06:56:15

Mode C



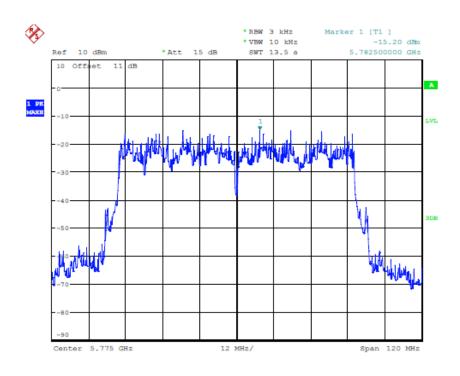
POWER DENSITY 802.11N 40MHZ CH151 Date: 6.FEB.2014 06:59:53





POWER DENSITY 802.11N 40MHZ CH159 Date: 6.FEB.2014 07:00:48

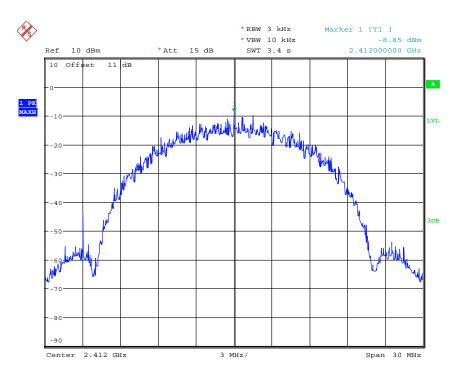
Mode D



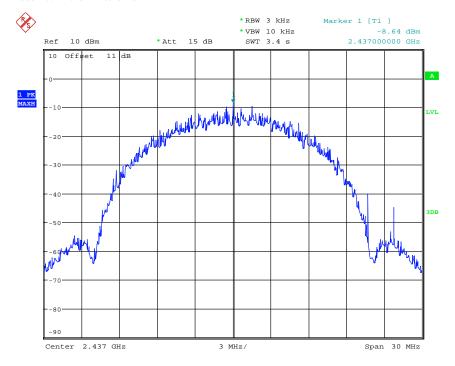
POWER DENSITY 802.11AC 80MHZ CH155 Date: 6.FEB.2014 10:56:36



Mode E

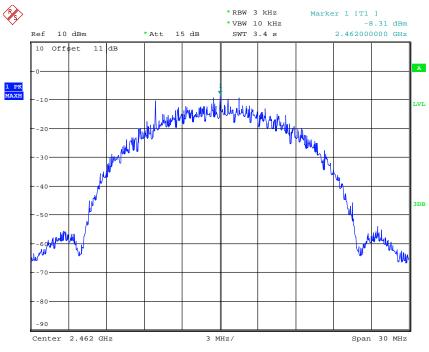


POWER DENSITY 802.11B CH1 Date: 6.FEB.2014 06:34:54



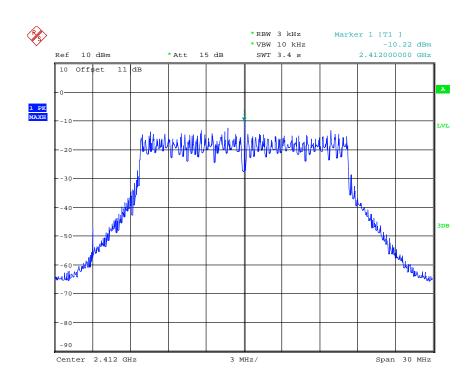
POWER DENSITY 802.11B CH6 Date: 6.FEB.2014 06:35:52





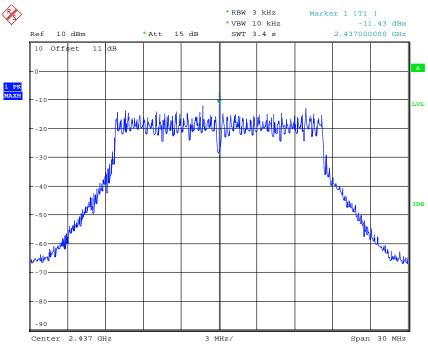
POWER DENSITY 802.11B CH11 Date: 6.FEB.2014 06:36:37

Mode F

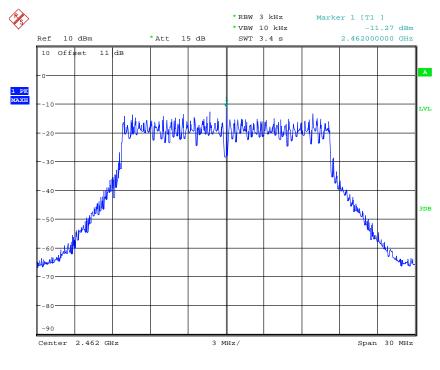


POWER DENSITY 802.11G CH1 Date: 6.FEB.2014 06:44:40





POWER DENSITY 802.11G CH6 Date: 6.FEB.2014 06:42:06



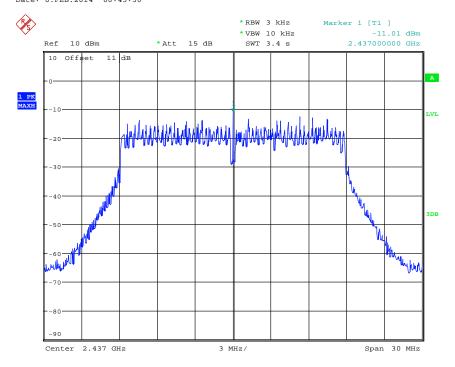
POWER DENSITY 802.11G CH11 Date: 6.FEB.2014 06:41:23



Mode G

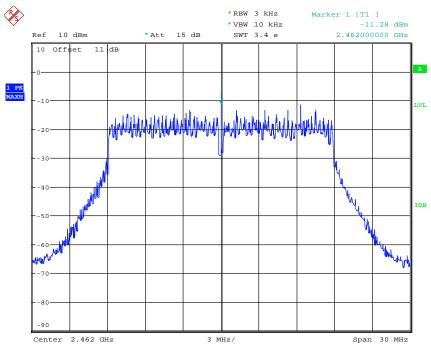
× *RBW 3 kHz Marker 1 [T1] -10.69 dBm *VBW 10 kHz 2.412000000 GHz Ref 10 dBm *Att 15 dB SWT 3.4 s 10 Offset 11 dB 1 PK MAXH VL M. Manaphing and And And And ALLANDER HUNDER ALLANDER HUNDER DE Mur Martin Center 2.412 GHz 3 MHz/ Span 30 MHz

POWER DENSITY 802.11N 20MHZ CH1 Date: 6.FEB.2014 06:45:50



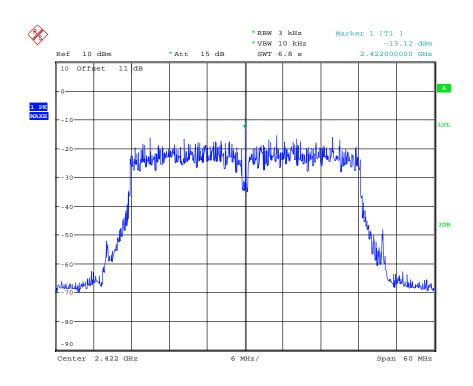
POWER DENSITY 802.11N 20MHZ CH6 Date: 6.FEB.2014 06:46:30





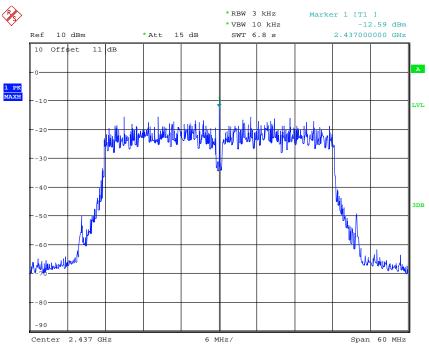
POWER DENSITY 802.11N 20MHZ CH11 Date: 6.FEB.2014 06:47:09

Mode H

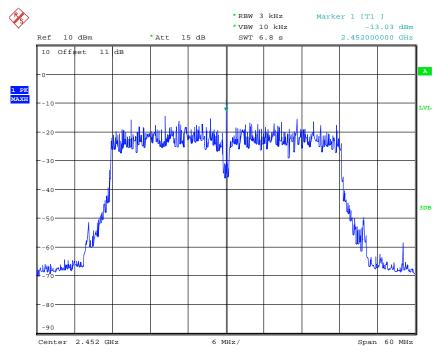


POWER DENSITY 802.11N 40MHZ CH1 Date: 6.FEB.2014 06:48:25





POWER DENSITY 802.11N 40MHZ CH4 Date: 6.FEB.2014 06:49:17



POWER DENSITY 802.11N 40MHZ CH7 Date: 6.FEB.2014 06:50:04



Limits:

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

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



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

Test equipment used: ETSTW-RE 055, ETSTW-RE 064, ETSTW-RE 004, ETSTW-RE 030, ETSTW-RE 111

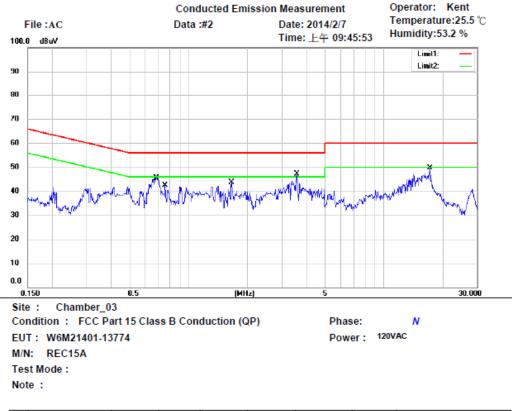
Explanation: The test results are listed in the separated test report no.: W6M21401-13774-P-15B.



3.9 Power Line Conducted Emission

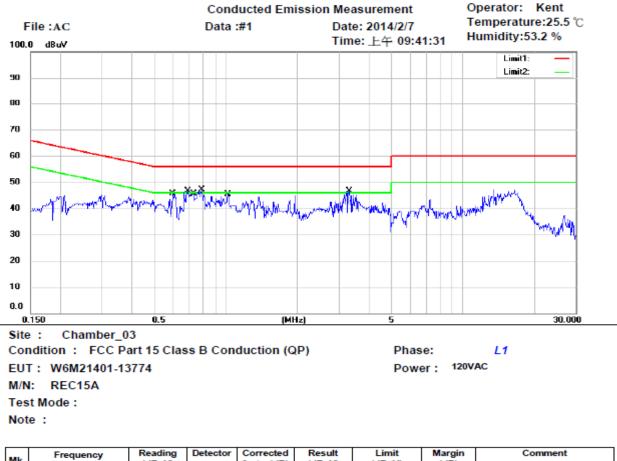
For an intentional radiator which is designed to be connected to the public utility (AC) power line, the radio frequency voltage that is conducted back onto the AC line on any frequency or frequencies within the band 150 kHz to 30 MHz shall not exceed the limits in the table bellows with this provision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



Mk.	Frequency (MHz)	Reading (dBuV)	Detector	Corrected factor(dB)	Result (dBuV)	Limit (dBuV)	Margin (dB)	Comment
*	0.6854	34.02	QP	9.68	43.70	56.00	-12.30	
	0.6854	23.06	AVG	9.68	32.74	46.00	-13.26	
	0.6887	33.80	QP	9.68	43.48	56.00	-12.52	
	0.6887	22.20	AVG	9.68	31.88	46.00	-14.12	
	0.7653	24.29	QP	9.68	33.97	56.00	-22.03	
	0.7653	10.76	AVG	9.68	20.44	46.00	-25.56	
	1.6691	25.01	QP	9.70	34.71	56.00	-21.29	
	1.6691	10.87	AVG	9.70	20.57	46.00	-25.43	
	3.5932	25.57	QP	9.78	35.35	56.00	-20.65	
	3.5932	11.18	AVG	9.78	20.96	46.00	-25.04	
	17.1777	29.20	QP	10.12	39.32	60.00	-20.68	
	17.1777	22.32	AVG	10.12	32.44	50.00	-17.56	





Mk.	Frequency (MHz)	Reading (dBuV)	Detector	Corrected factor(dB)	Result (dBuV)	Limit (dBuV)	Margin (dB)	Comment
	0.6043	30.38	QP	9.67	40.05	56.00	-15.95	
	0.6043	14.02	AVG	9.67	23.69	46.00	-22.31	
	0.6890	32.36	QP	9.67	42.03	56.00	-13.97	
	0.6890	20.40	AVG	9.67	30.07	46.00	-15.93	
*	0.7295	33.10	QP	9.67	42.77	56.00	-13.23	
	0.7295	20.01	AVG	9.67	29.68	46.00	-16.32	
	0.7826	27.91	QP	9.68	37.59	56.00	-18.41	
	0.7826	13.80	AVG	9.68	23.48	46.00	-22.52	
	1.0094	30.56	QP	9.69	40.25	56.00	-15.75	
	1.0094	17.29	AVG	9.69	26.98	46.00	-19.02	
	3.3257	24.60	QP	9.76	34.36	56.00	-21.64	
	3.3257	10.65	AVG	9.76	20.41	46.00	-25.59	

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

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



Limits:

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

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



Appendix

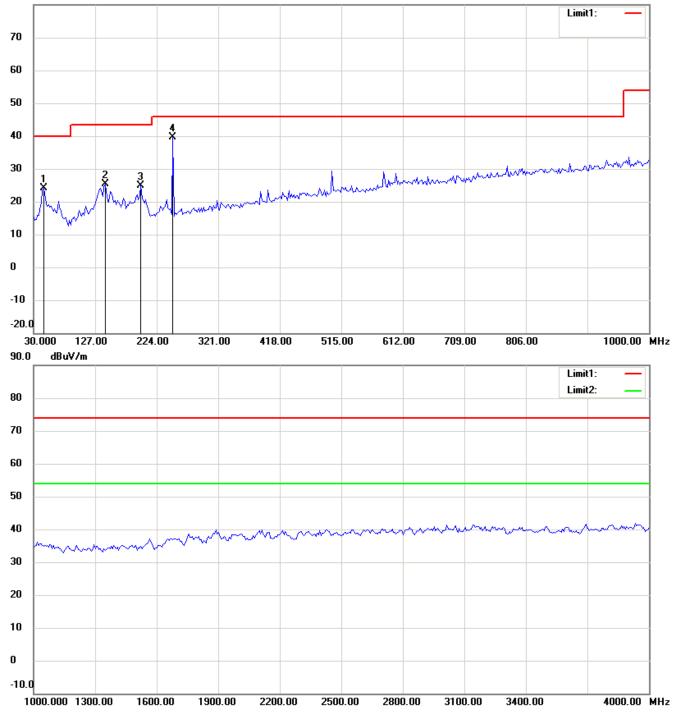
Measurement diagrams

Spurious Emissions radiated



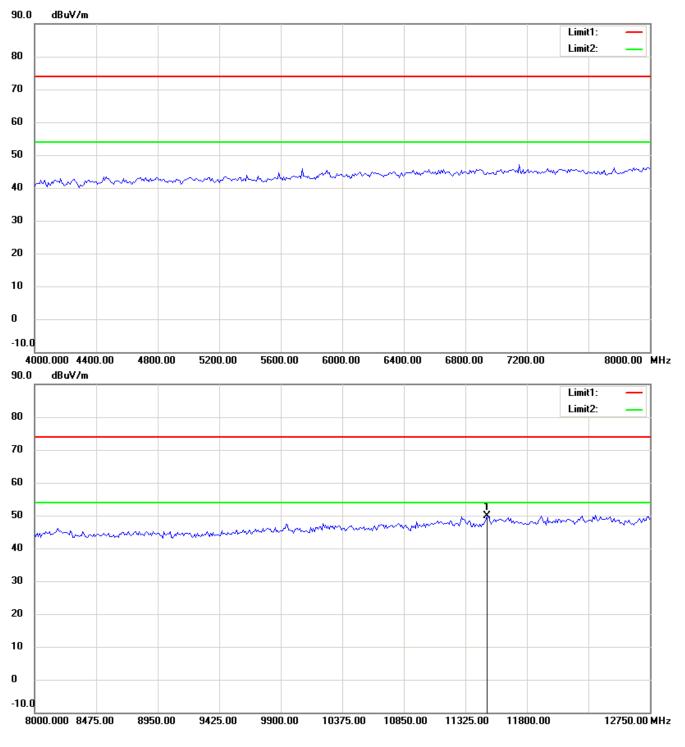
Radiated Emission-Transmitter 802.11a 5745MHz

Antenna Polarization H



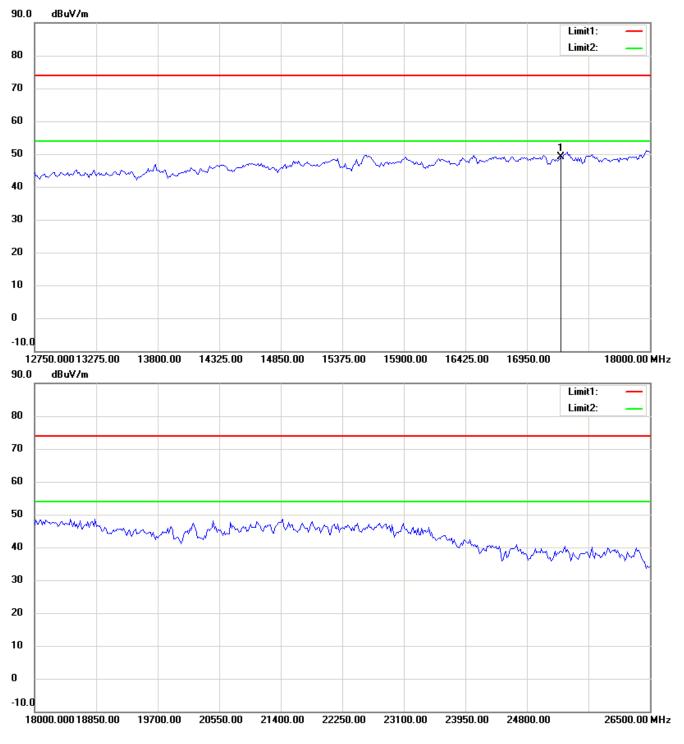
- 1. The attached measurement plots are preliminarily pre-scanned with peak detector for determining the final checking frequencies and are for reference only.
- 2. The some frequencies may exceed the limit line without the specified detectors, but that cannot present the results are failed to the specification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





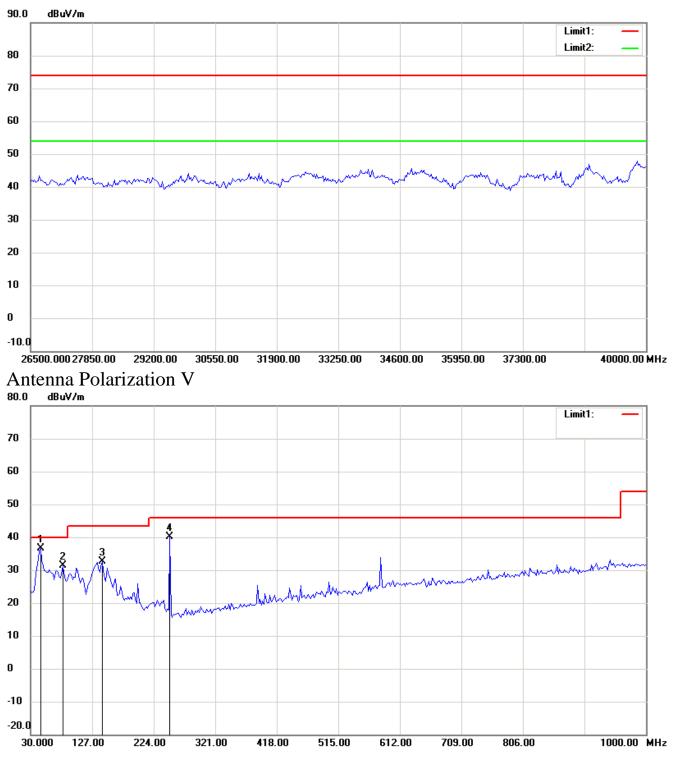
- 1. The attached measurement plots are preliminarily pre-scanned with peak detector for determining the final checking frequencies and are for reference only.
- 2. The some frequencies may exceed the limit line without the specified detectors, but that cannot present the results are failed to the specification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





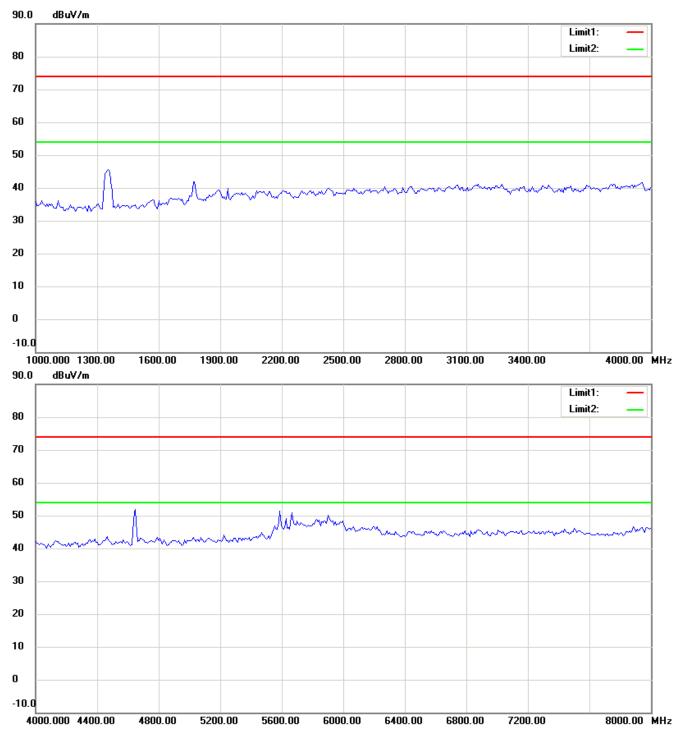
- 1. The attached measurement plots are preliminarily pre-scanned with peak detector for determining the final checking frequencies and are for reference only.
- 2. The some frequencies may exceed the limit line without the specified detectors, but that cannot present the results are failed to the specification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





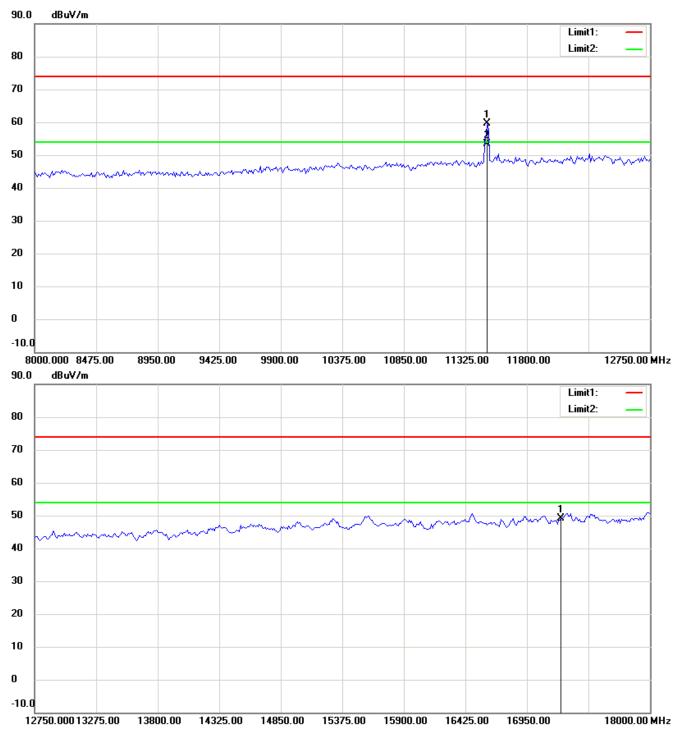
- 1. The attached measurement plots are preliminarily pre-scanned with peak detector for determining the final checking frequencies and are for reference only.
- 2. The some frequencies may exceed the limit line without the specified detectors, but that cannot present the results are failed to the specification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





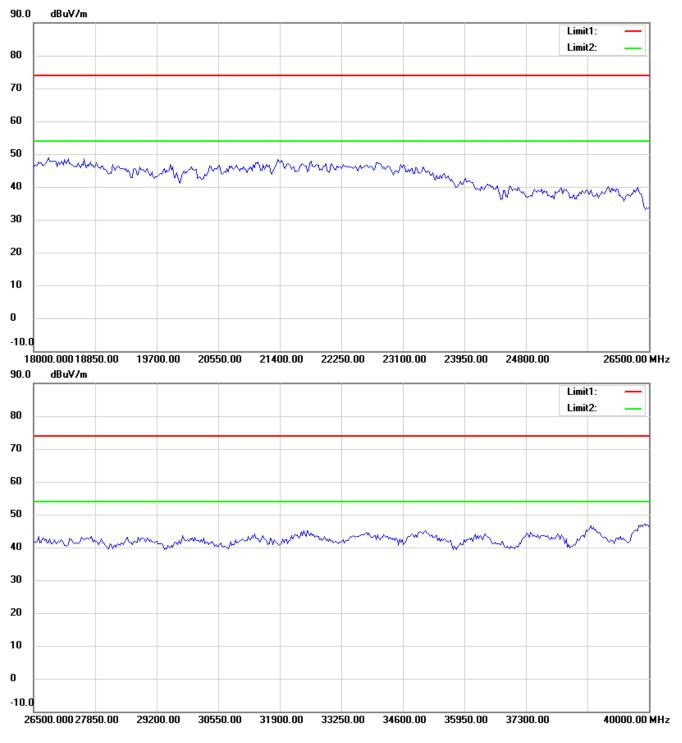
- 1. The attached measurement plots are preliminarily pre-scanned with peak detector for determining the final checking frequencies and are for reference only.
- 2. The some frequencies may exceed the limit line without the specified detectors, but that cannot present the results are failed to the specification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





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



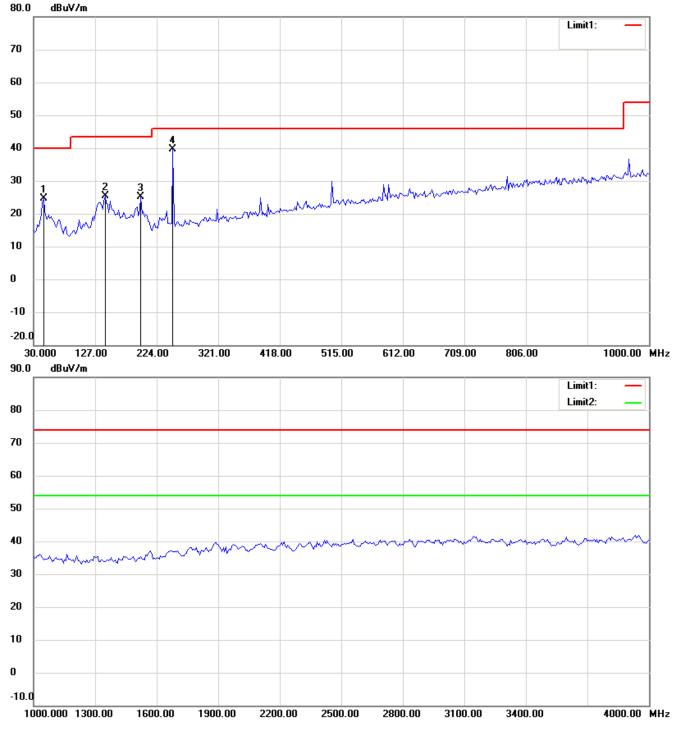


- 1. The attached measurement plots are preliminarily pre-scanned with peak detector for determining the final checking frequencies and are for reference only.
- 2. The some frequencies may exceed the limit line without the specified detectors, but that cannot present the results are failed to the specification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



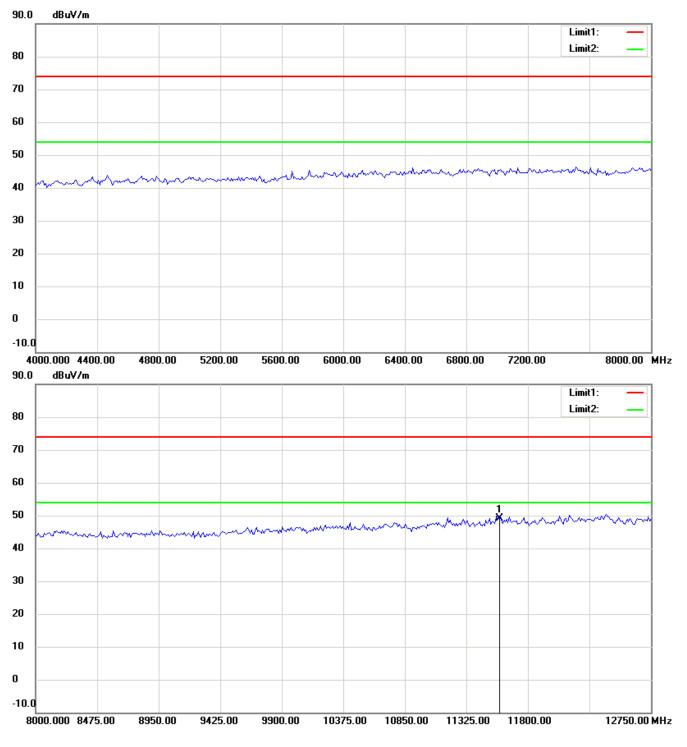
802.11a 5785MHz

Antenna Polarization H



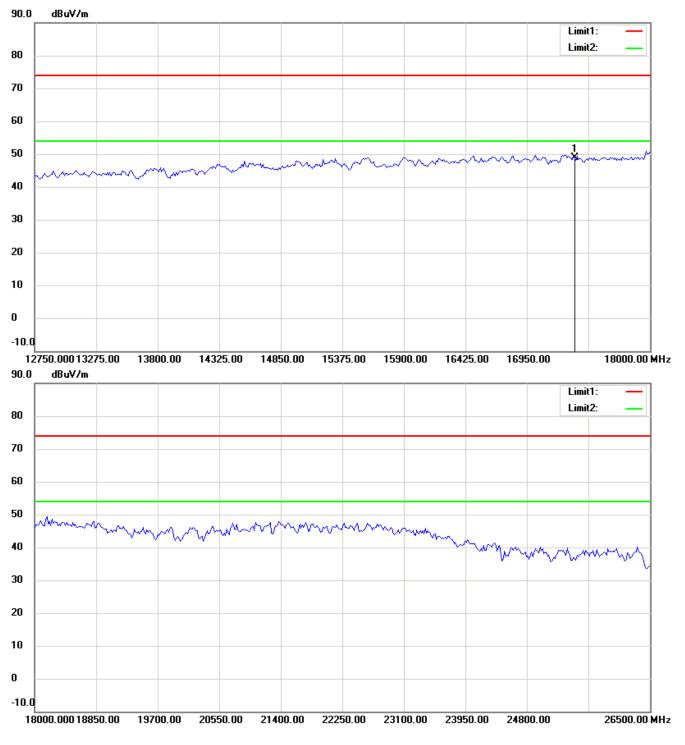
- 1. The attached measurement plots are preliminarily pre-scanned with peak detector for determining the final checking frequencies and are for reference only.
- 2. The some frequencies may exceed the limit line without the specified detectors, but that cannot present the results are failed to the specification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





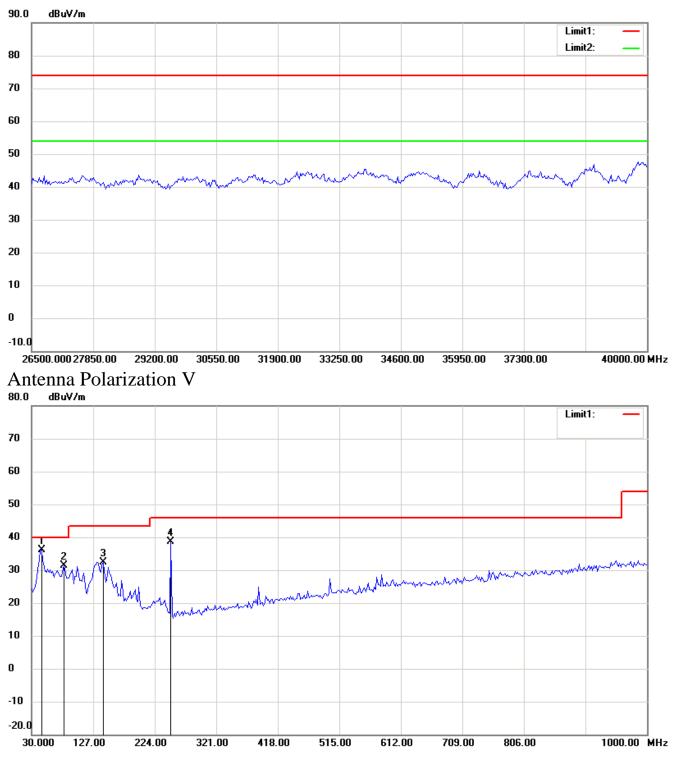
- 1. The attached measurement plots are preliminarily pre-scanned with peak detector for determining the final checking frequencies and are for reference only.
- 2. The some frequencies may exceed the limit line without the specified detectors, but that cannot present the results are failed to the specification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





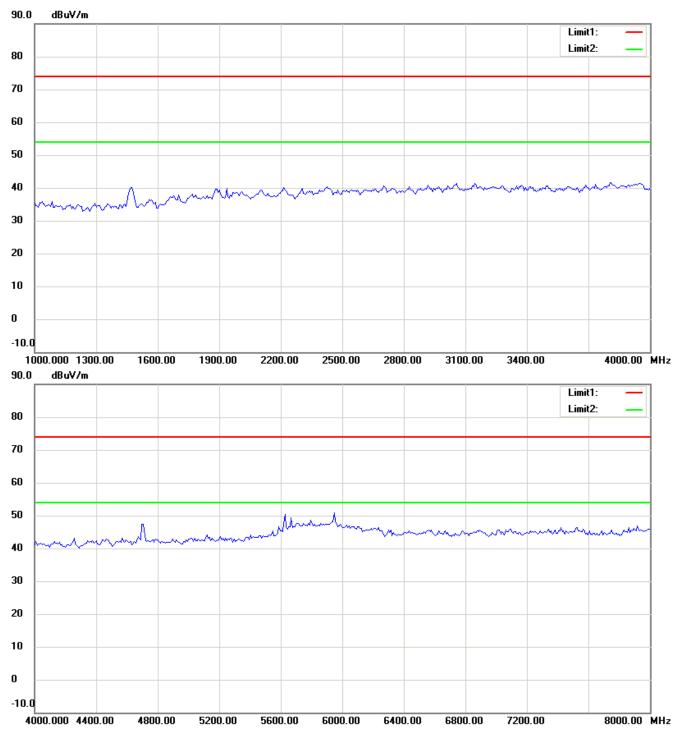
- 1. The attached measurement plots are preliminarily pre-scanned with peak detector for determining the final checking frequencies and are for reference only.
- 2. The some frequencies may exceed the limit line without the specified detectors, but that cannot present the results are failed to the specification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





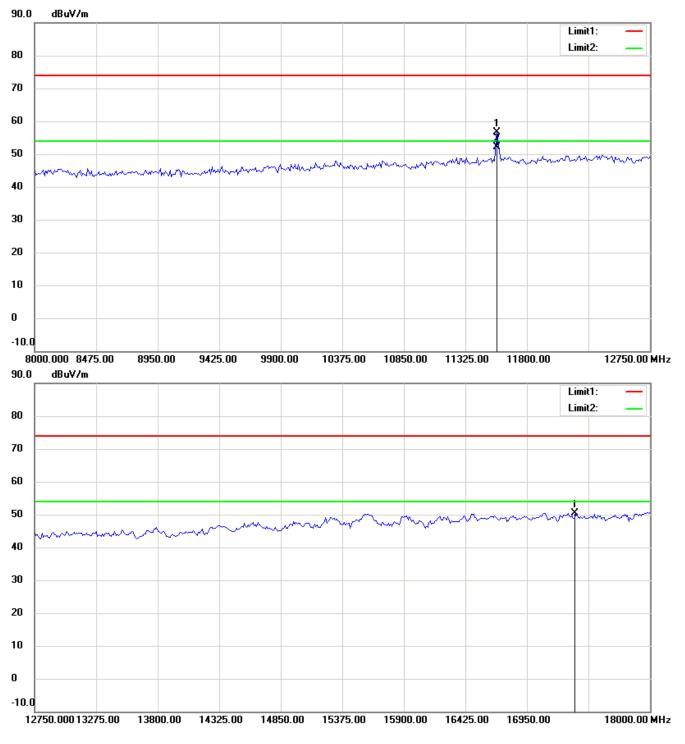
- 1. The attached measurement plots are preliminarily pre-scanned with peak detector for determining the final checking frequencies and are for reference only.
- 2. The some frequencies may exceed the limit line without the specified detectors, but that cannot present the results are failed to the specification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





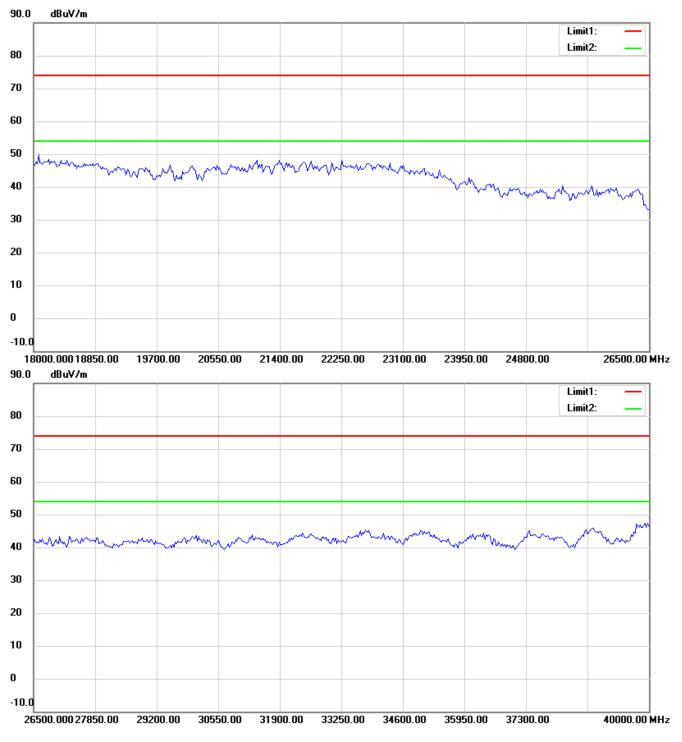
- 1. The attached measurement plots are preliminarily pre-scanned with peak detector for determining the final checking frequencies and are for reference only.
- 2. The some frequencies may exceed the limit line without the specified detectors, but that cannot present the results are failed to the specification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





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



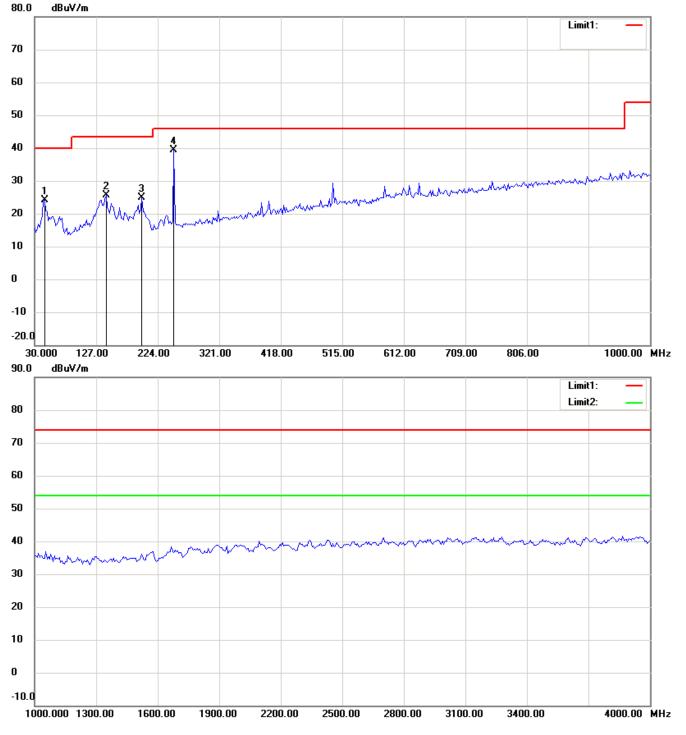


- 1. The attached measurement plots are preliminarily pre-scanned with peak detector for determining the final checking frequencies and are for reference only.
- 2. The some frequencies may exceed the limit line without the specified detectors, but that cannot present the results are failed to the specification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



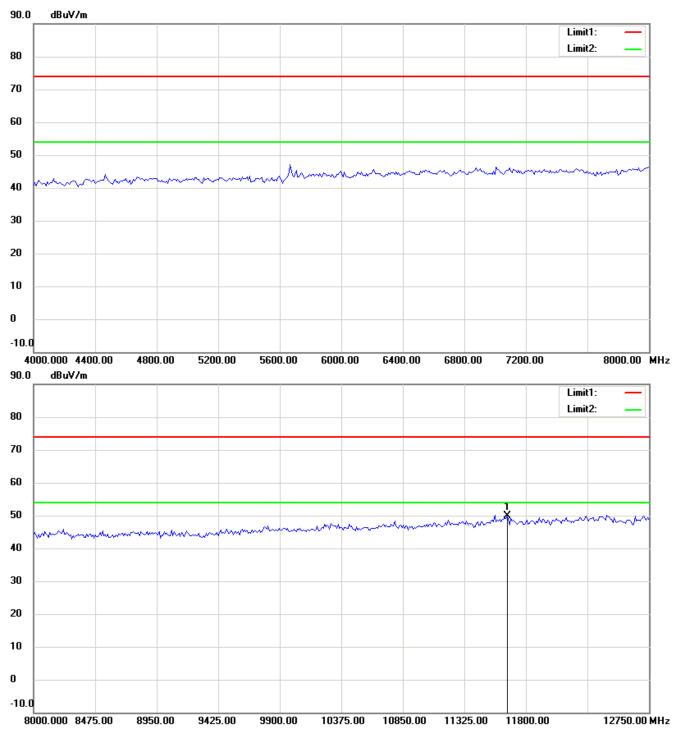
802.11a 5825MHz

Antenna Polarization H



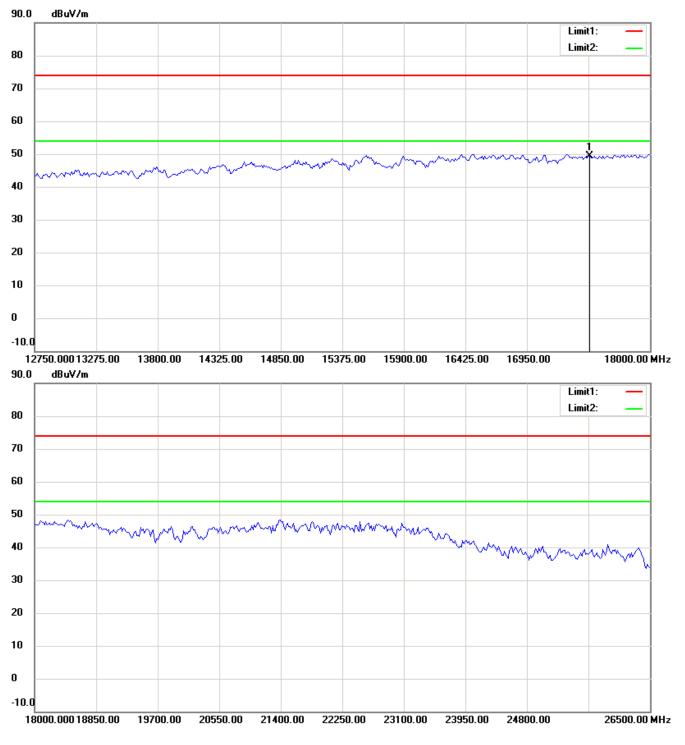
- 1. The attached measurement plots are preliminarily pre-scanned with peak detector for determining the final checking frequencies and are for reference only.
- 2. The some frequencies may exceed the limit line without the specified detectors, but that cannot present the results are failed to the specification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





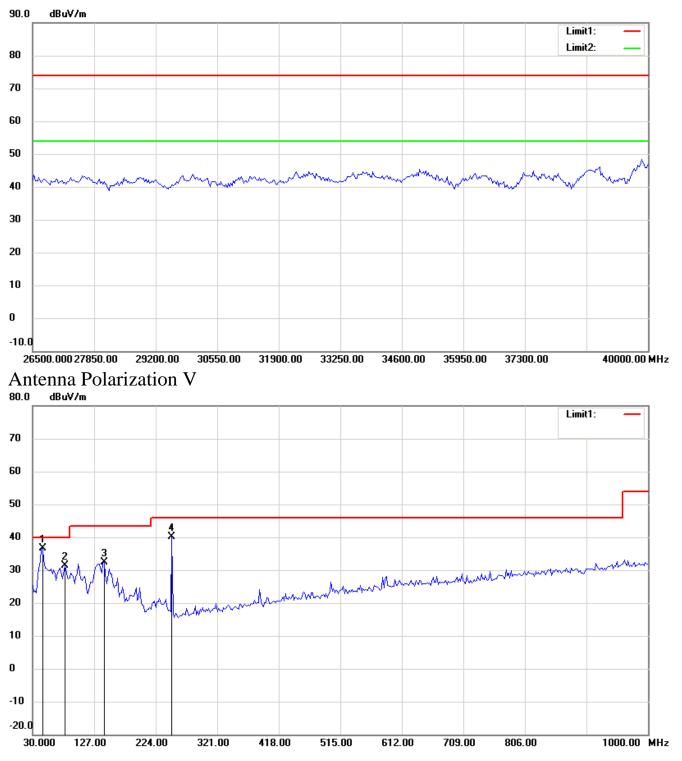
- 1. The attached measurement plots are preliminarily pre-scanned with peak detector for determining the final checking frequencies and are for reference only.
- 2. The some frequencies may exceed the limit line without the specified detectors, but that cannot present the results are failed to the specification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





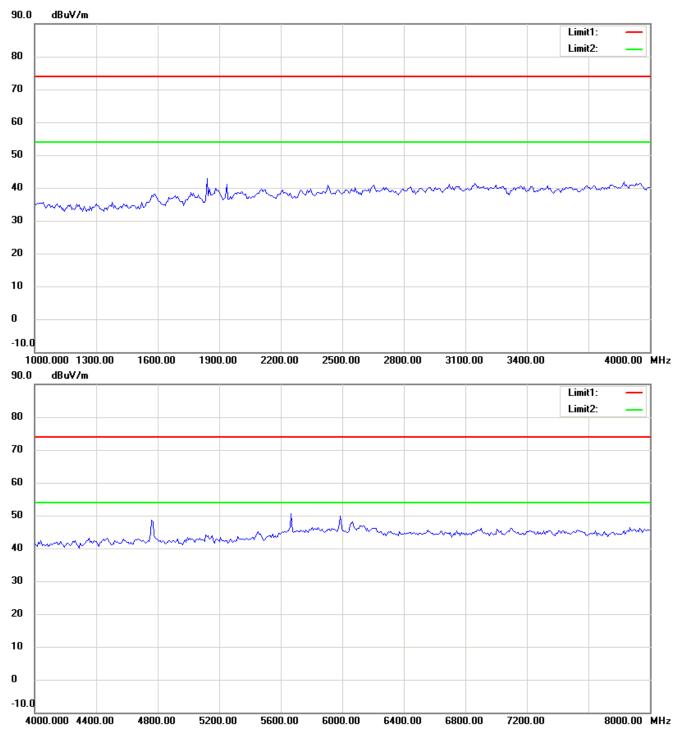
- 1. The attached measurement plots are preliminarily pre-scanned with peak detector for determining the final checking frequencies and are for reference only.
- 2. The some frequencies may exceed the limit line without the specified detectors, but that cannot present the results are failed to the specification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





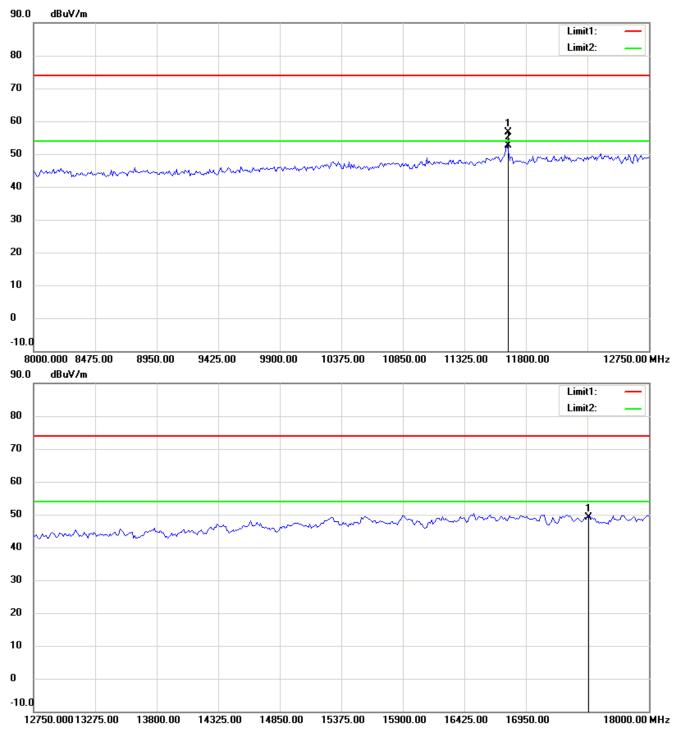
- 1. The attached measurement plots are preliminarily pre-scanned with peak detector for determining the final checking frequencies and are for reference only.
- 2. The some frequencies may exceed the limit line without the specified detectors, but that cannot present the results are failed to the specification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





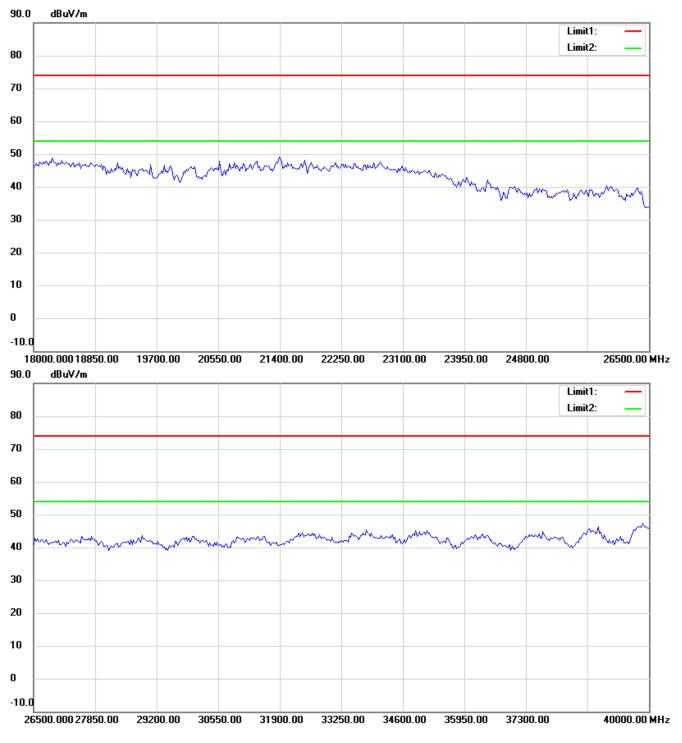
- 1. The attached measurement plots are preliminarily pre-scanned with peak detector for determining the final checking frequencies and are for reference only.
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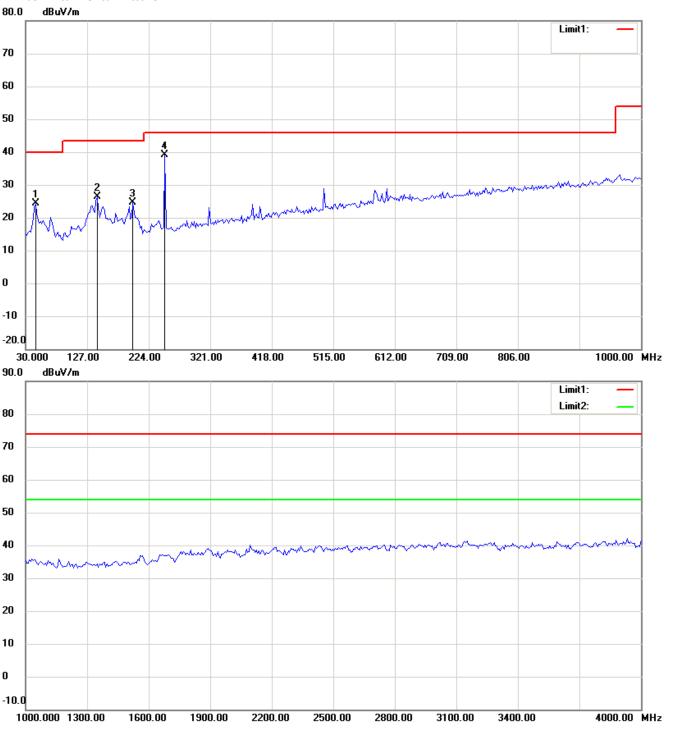


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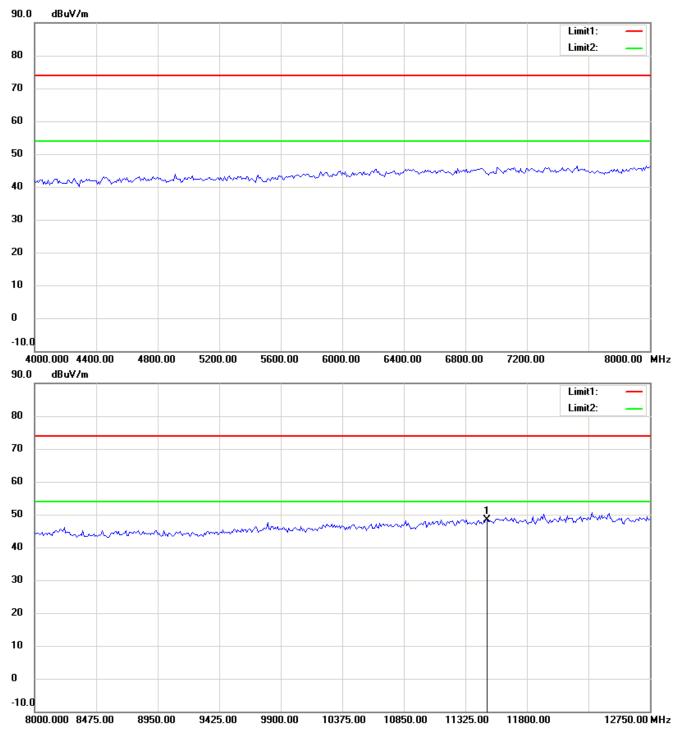
802.11n 20MHz 5745MHz

Antenna Polarization H



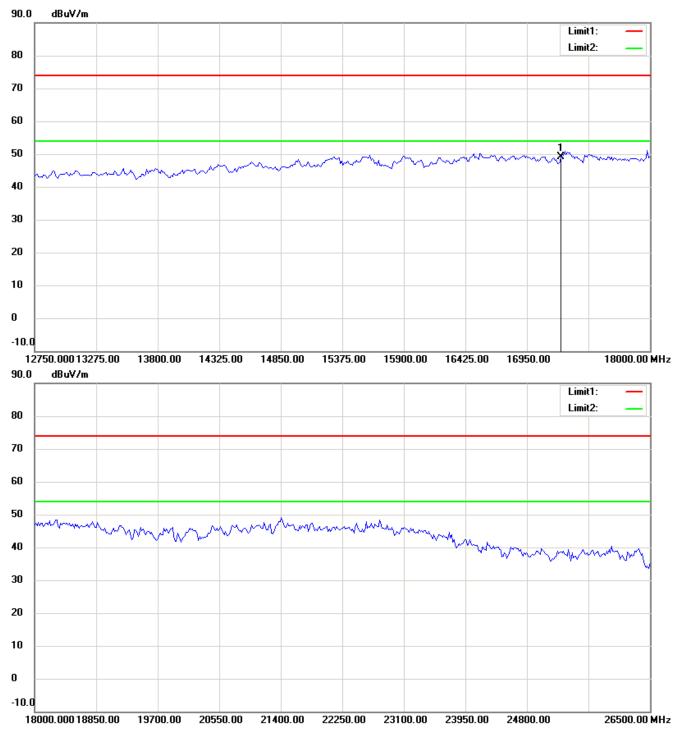
- 1. The attached measurement plots are preliminarily pre-scanned with peak detector for determining the final checking frequencies and are for reference only.
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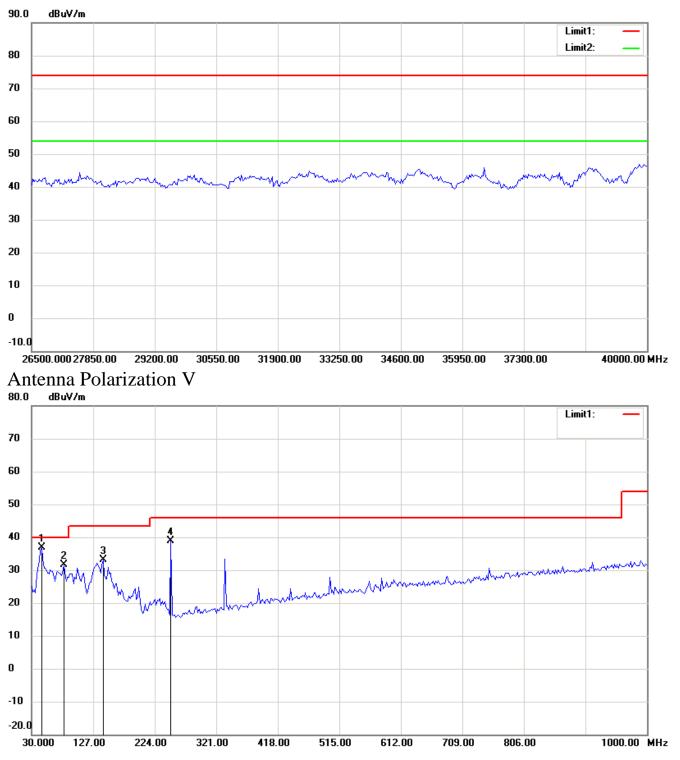
- 1. The attached measurement plots are preliminarily pre-scanned with peak detector for determining the final checking frequencies and are for reference only.
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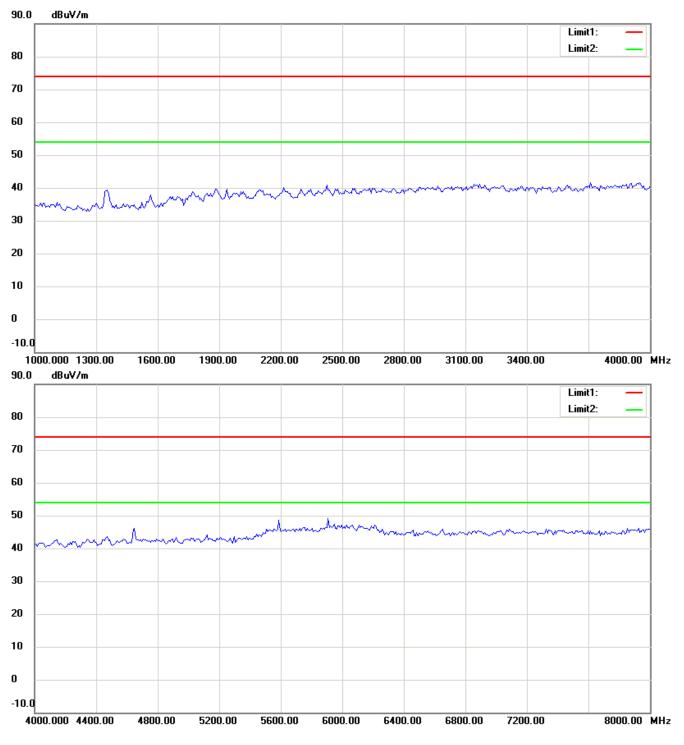
- 1. The attached measurement plots are preliminarily pre-scanned with peak detector for determining the final checking frequencies and are for reference only.
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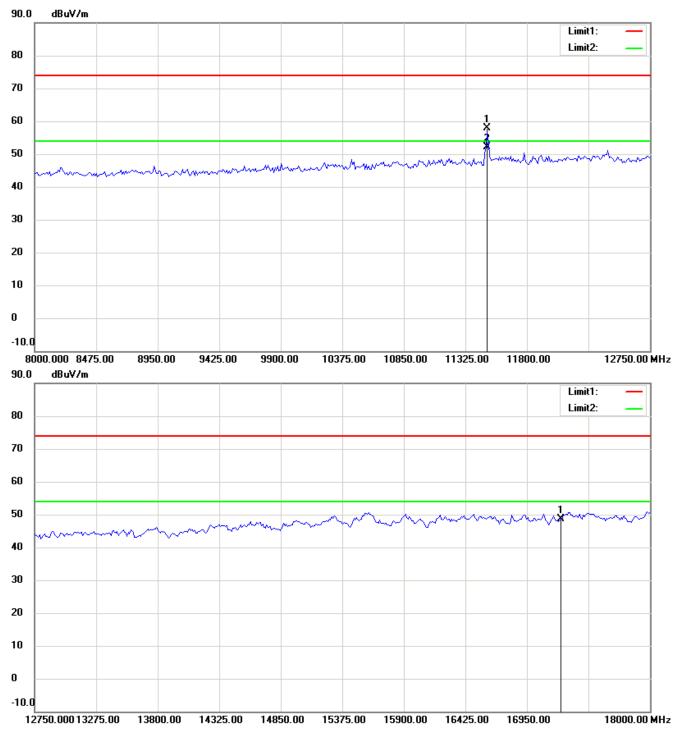
- 1. The attached measurement plots are preliminarily pre-scanned with peak detector for determining the final checking frequencies and are for reference only.
- 2. The some frequencies may exceed the limit line without the specified detectors, but that cannot present the results are failed to the specification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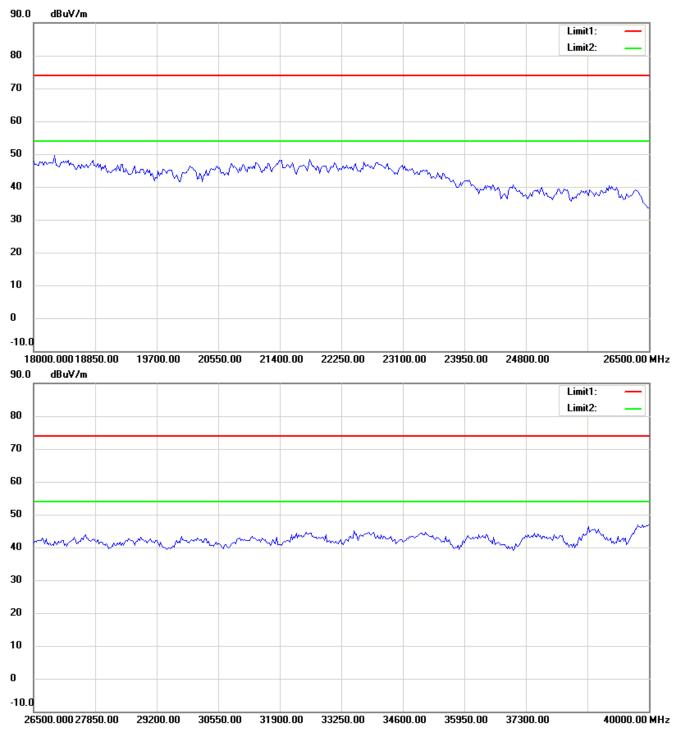
- 1. The attached measurement plots are preliminarily pre-scanned with peak detector for determining the final checking frequencies and are for reference only.
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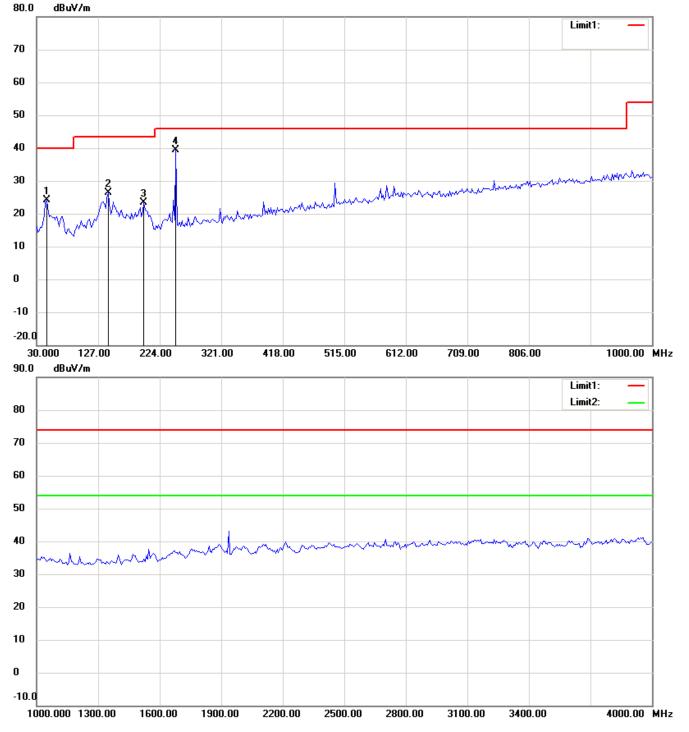


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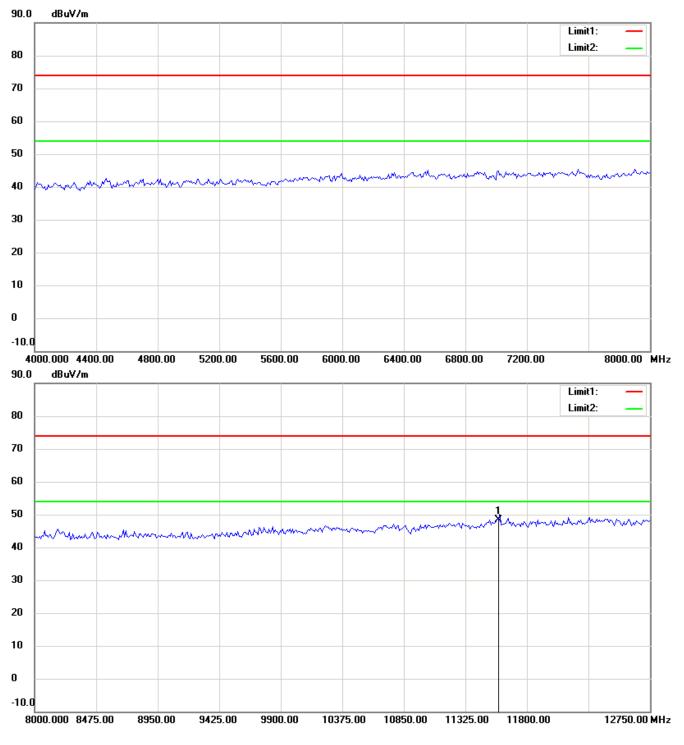
802.11n 20MHz 5785MHz

Antenna Polarization H



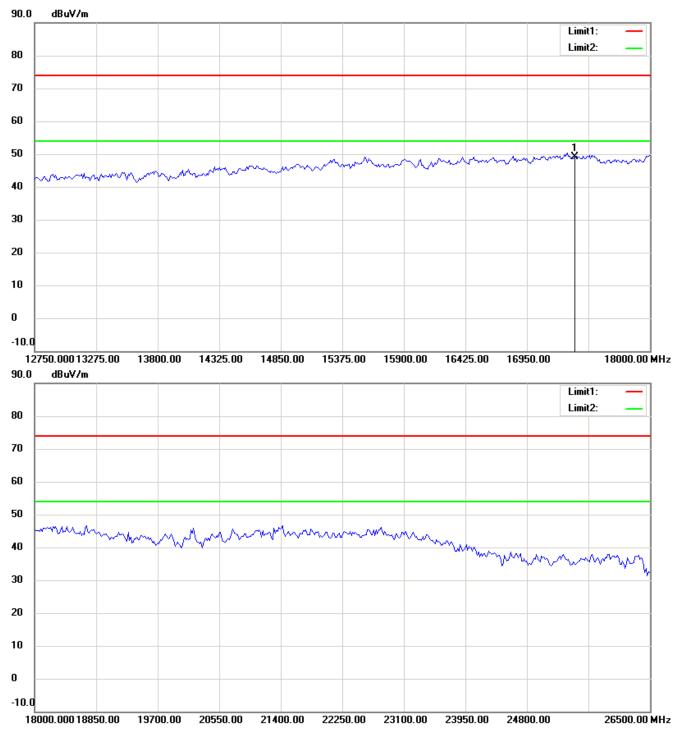
- 1. The attached measurement plots are preliminarily pre-scanned with peak detector for determining the final checking frequencies and are for reference only.
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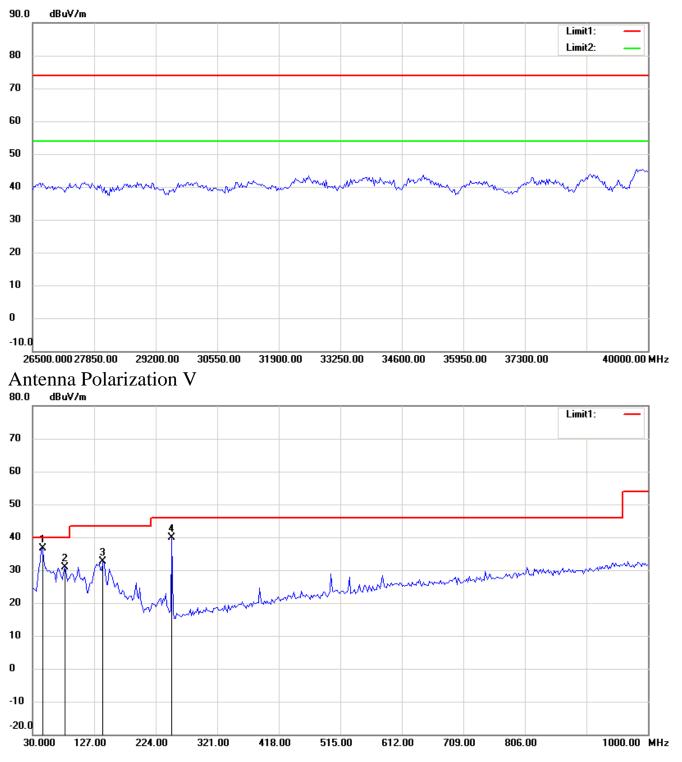
- 1. The attached measurement plots are preliminarily pre-scanned with peak detector for determining the final checking frequencies and are for reference only.
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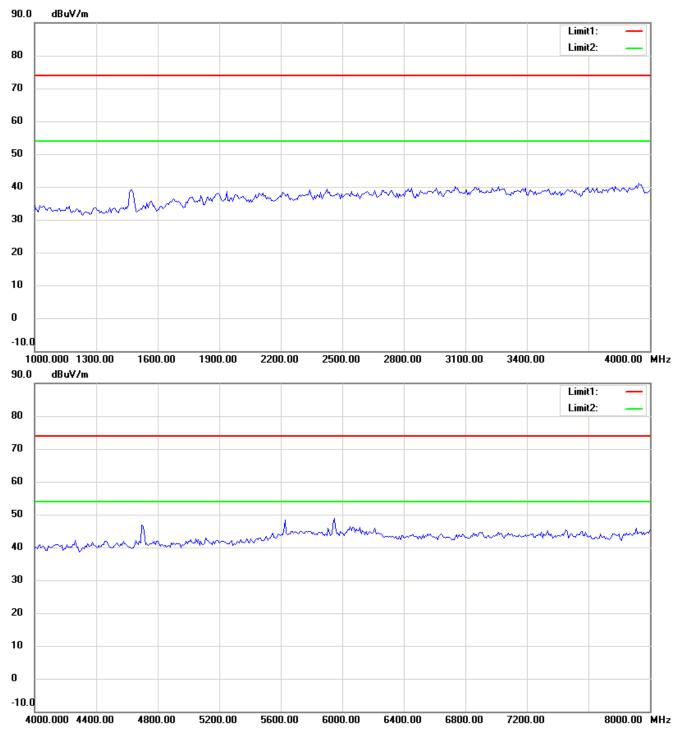
- 1. The attached measurement plots are preliminarily pre-scanned with peak detector for determining the final checking frequencies and are for reference only.
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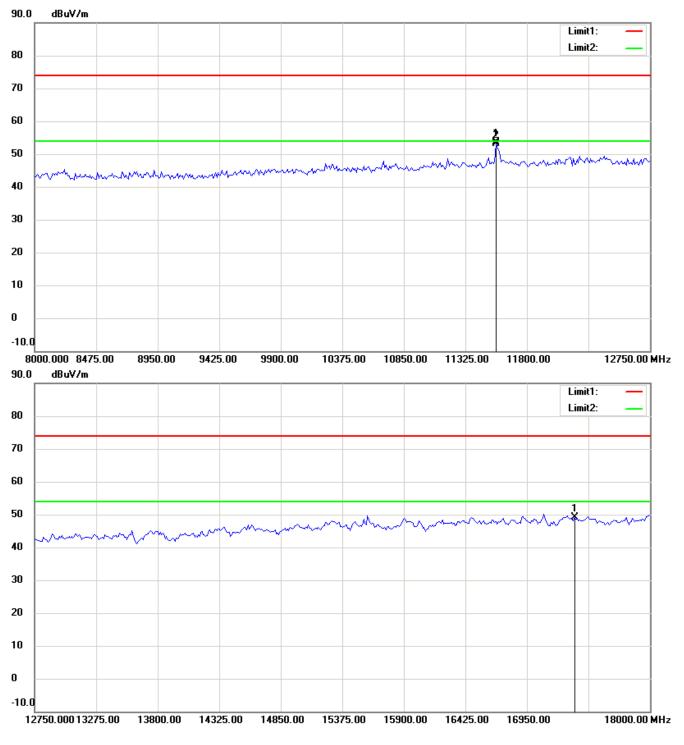
- 1. The attached measurement plots are preliminarily pre-scanned with peak detector for determining the final checking frequencies and are for reference only.
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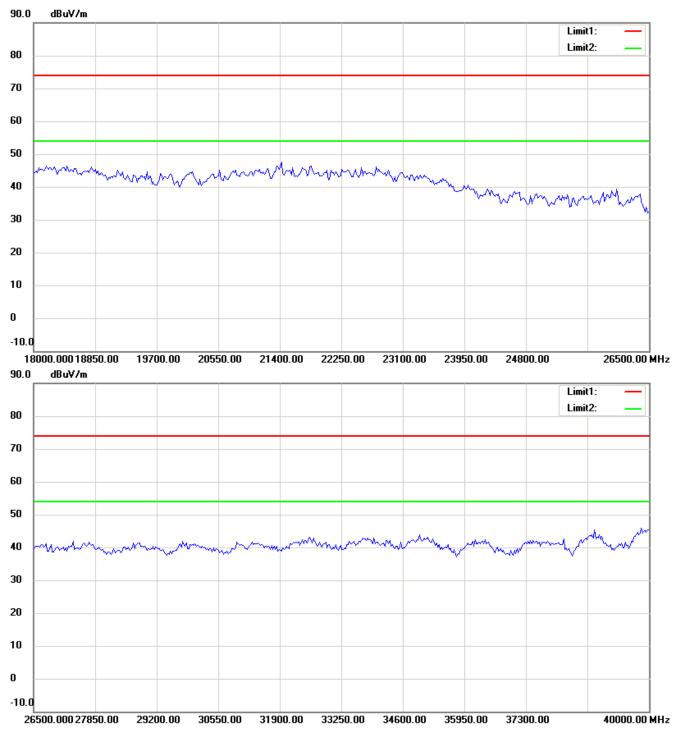
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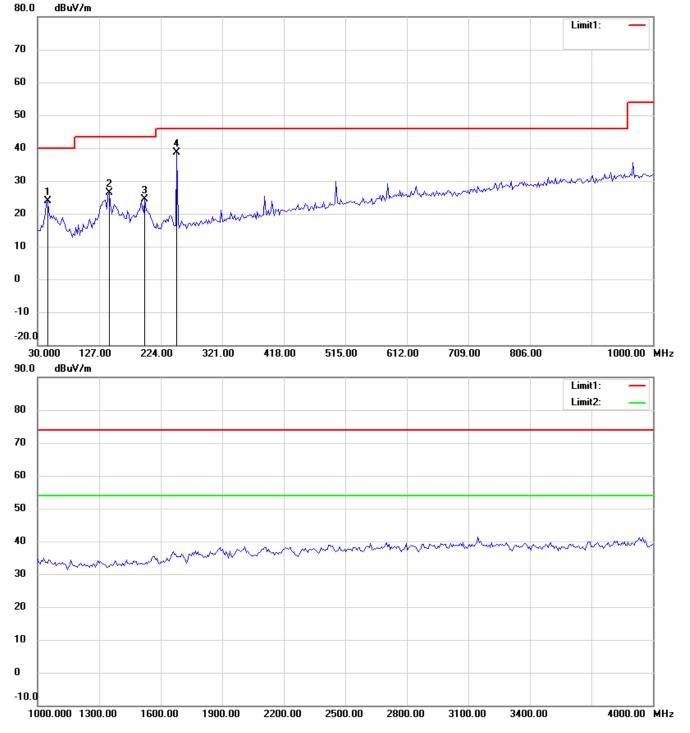


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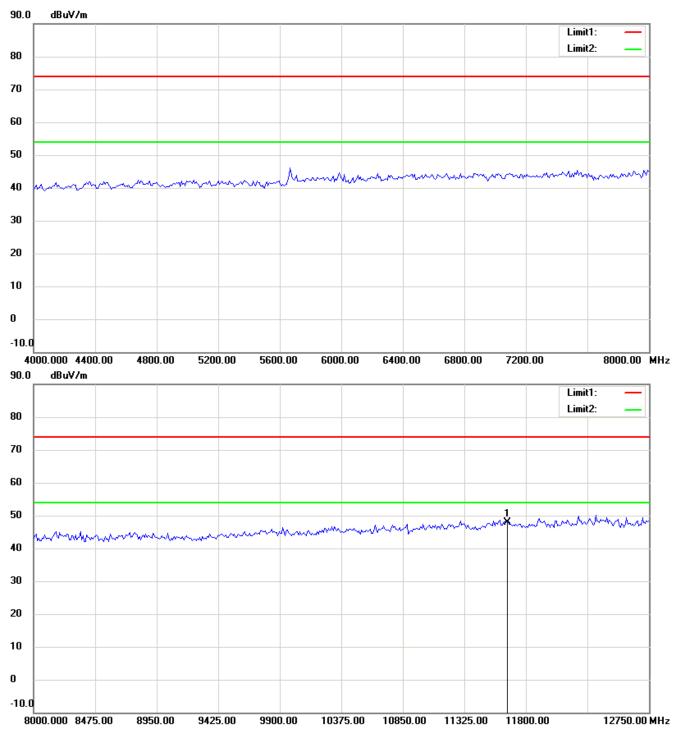
802.11n 20MHz 5825MHz

Antenna Polarization H



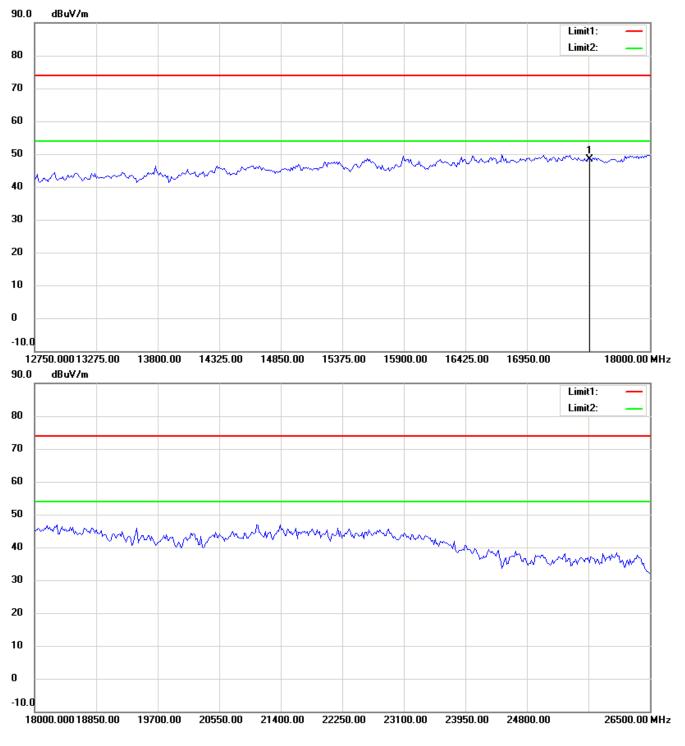
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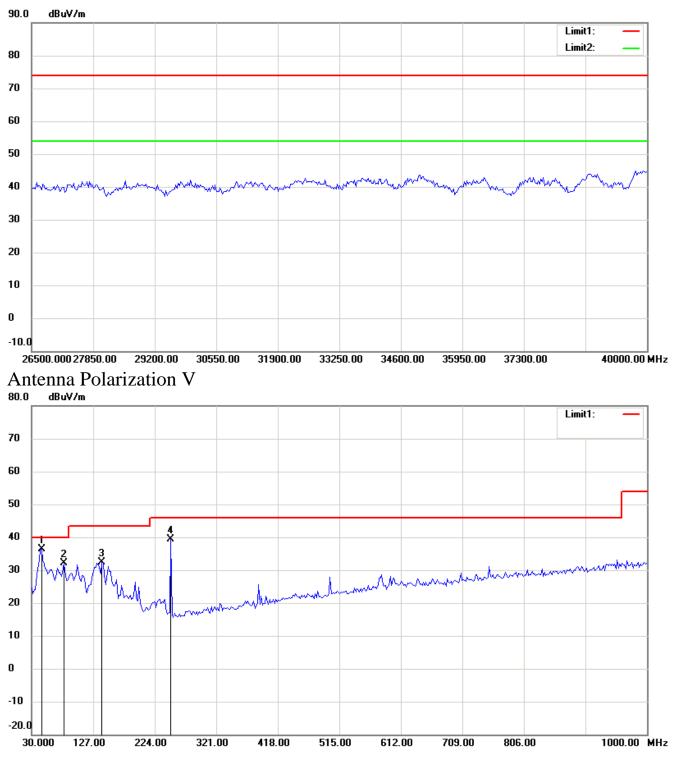
- 1. The attached measurement plots are preliminarily pre-scanned with peak detector for determining the final checking frequencies and are for reference only.
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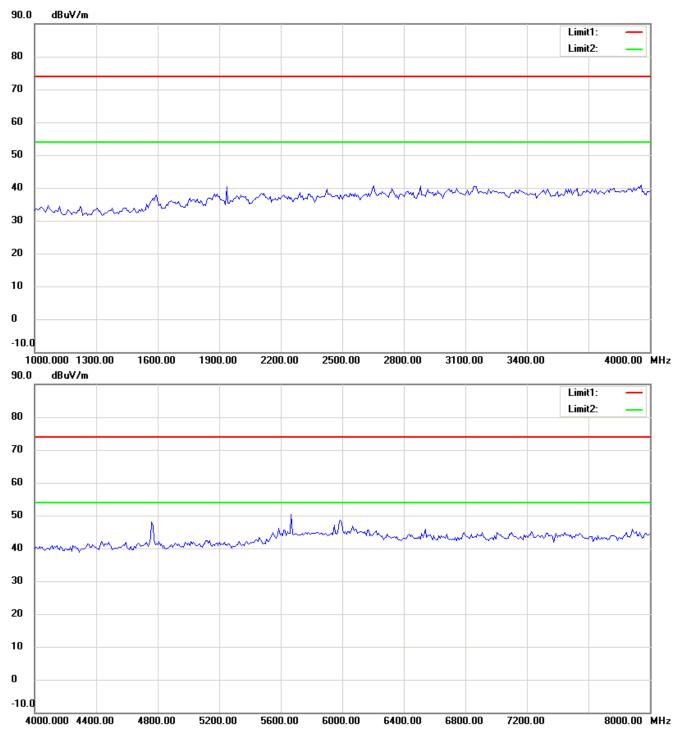
- 1. The attached measurement plots are preliminarily pre-scanned with peak detector for determining the final checking frequencies and are for reference only.
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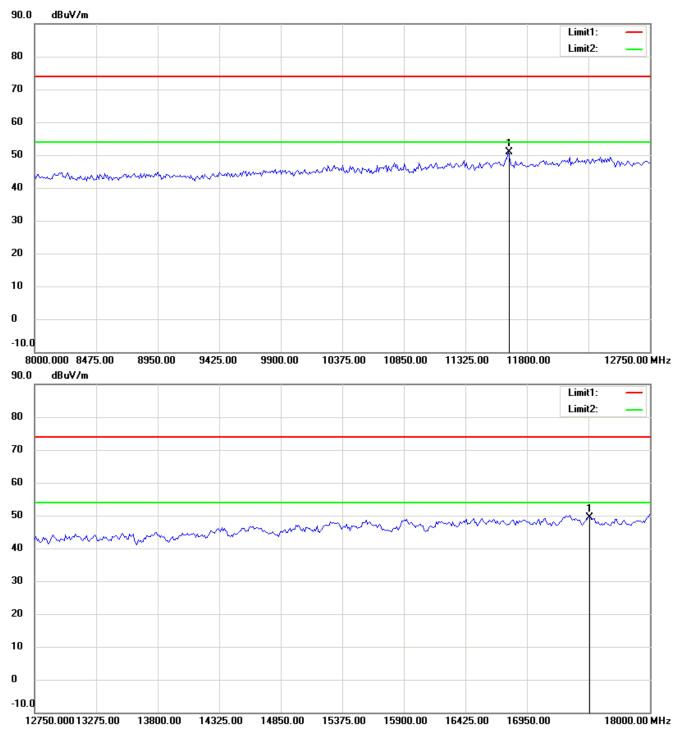
- 1. The attached measurement plots are preliminarily pre-scanned with peak detector for determining the final checking frequencies and are for reference only.
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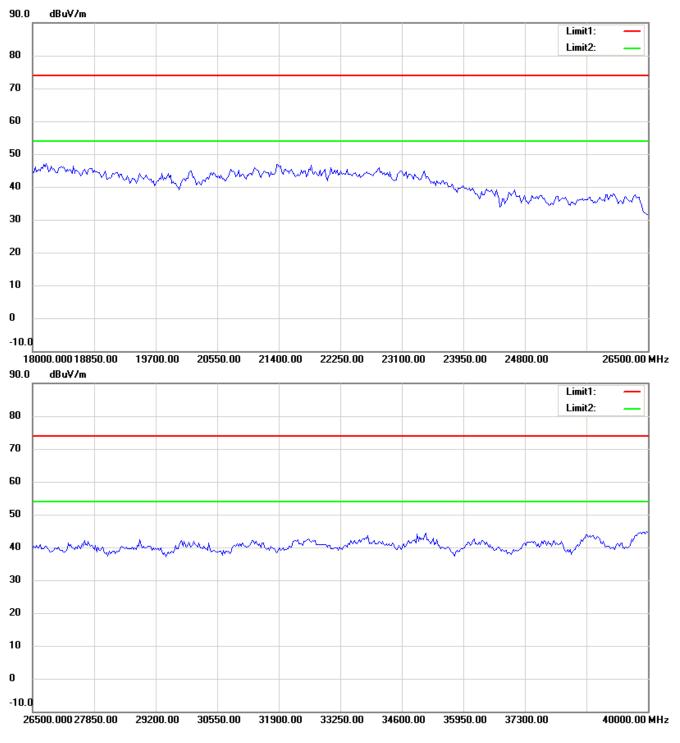
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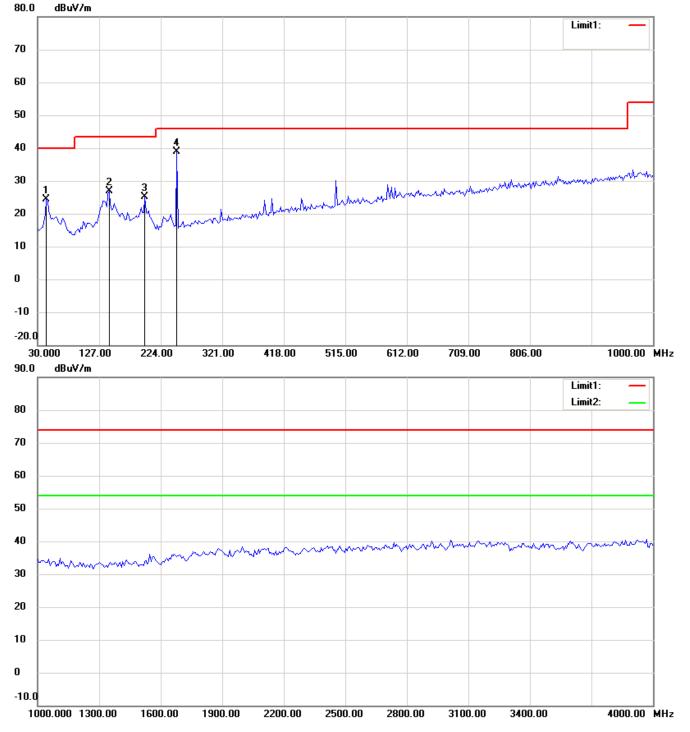


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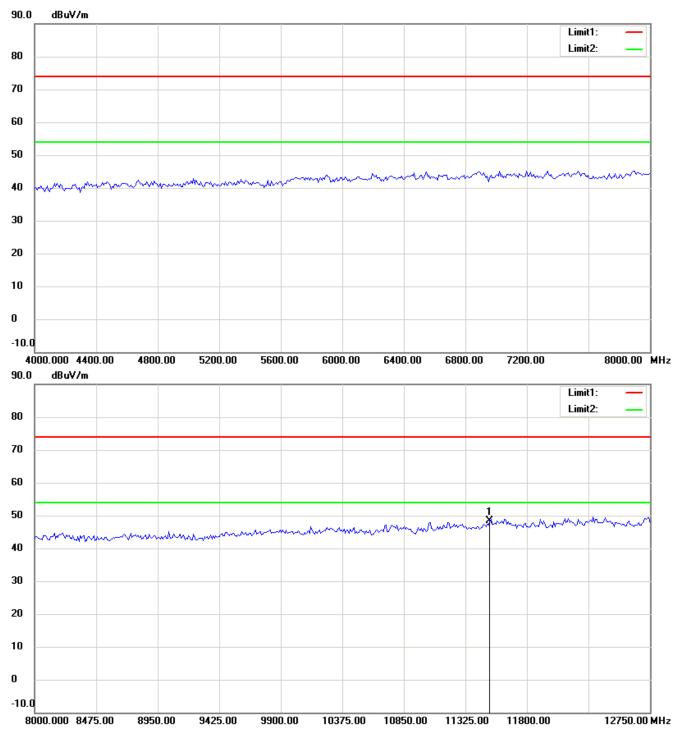
802.11n 40MHz 5755MHz

Antenna Polarization H



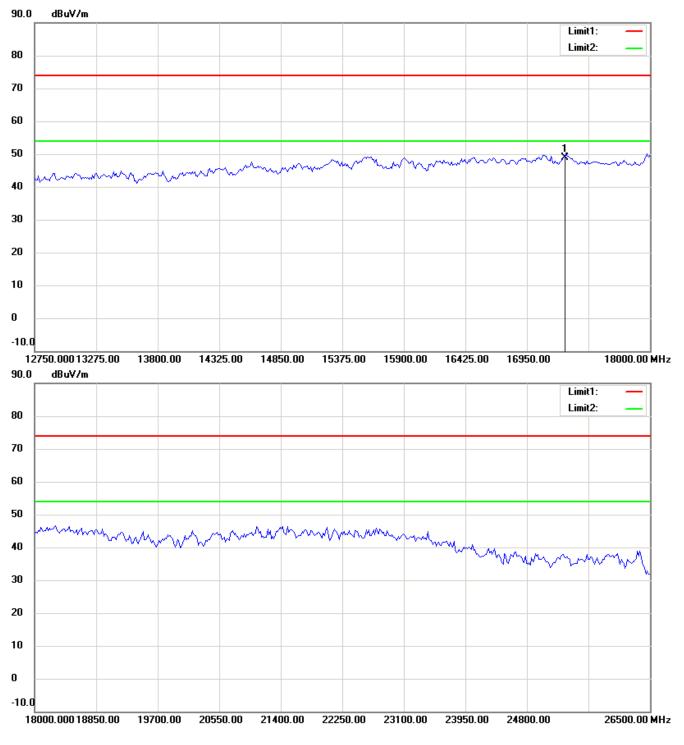
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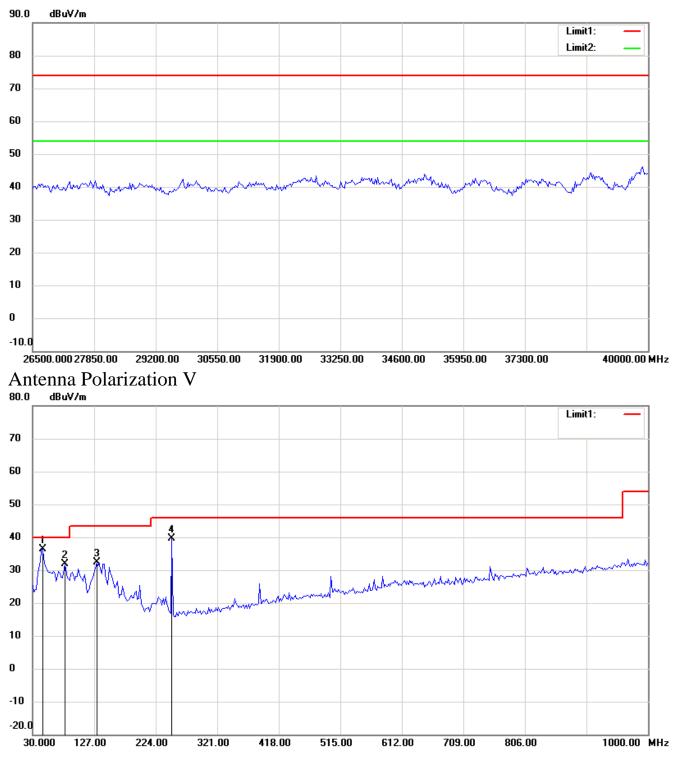
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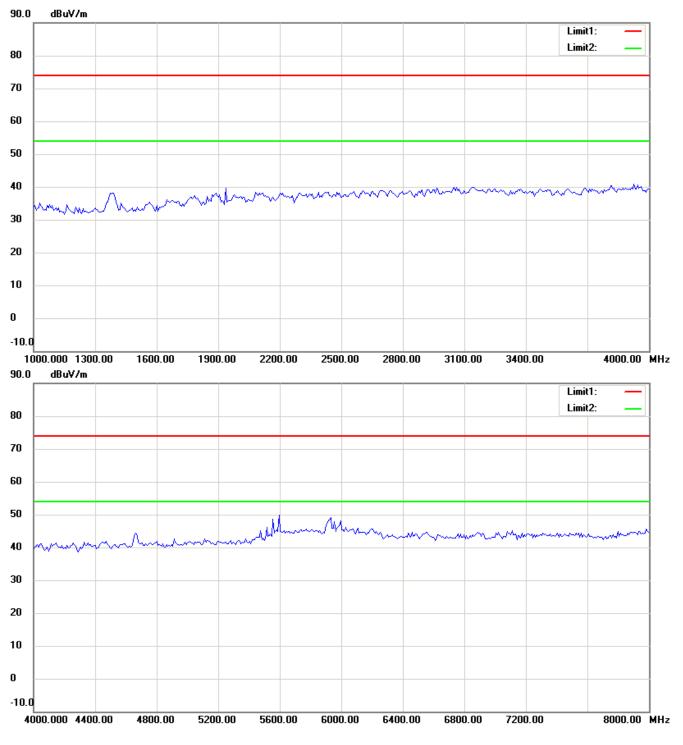
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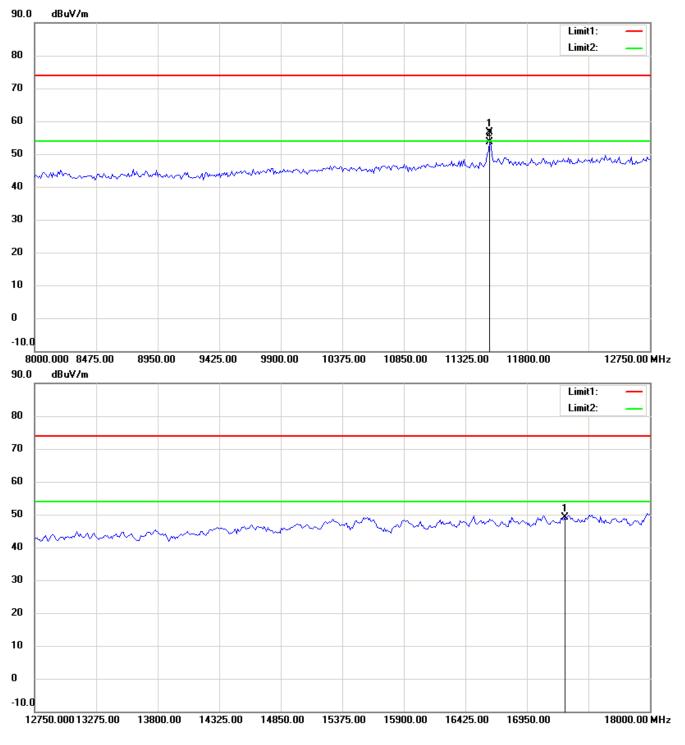
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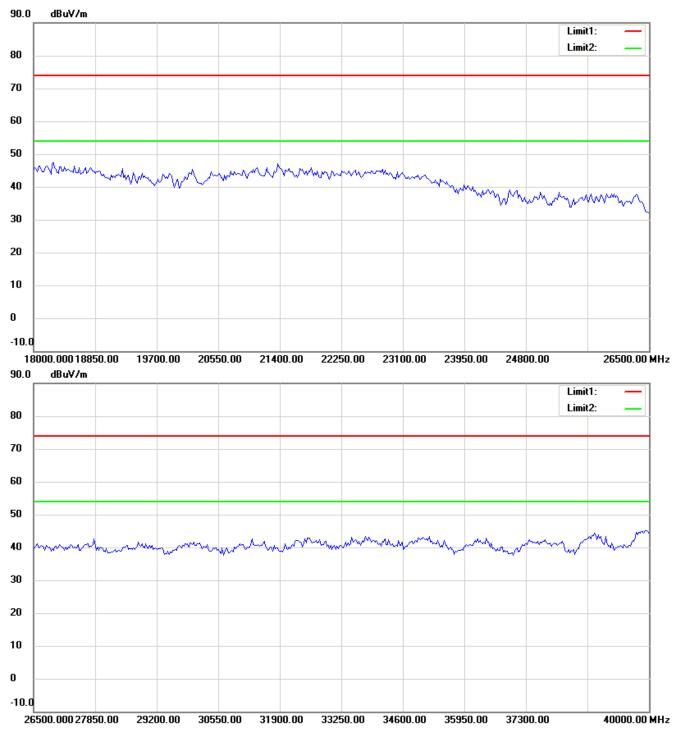
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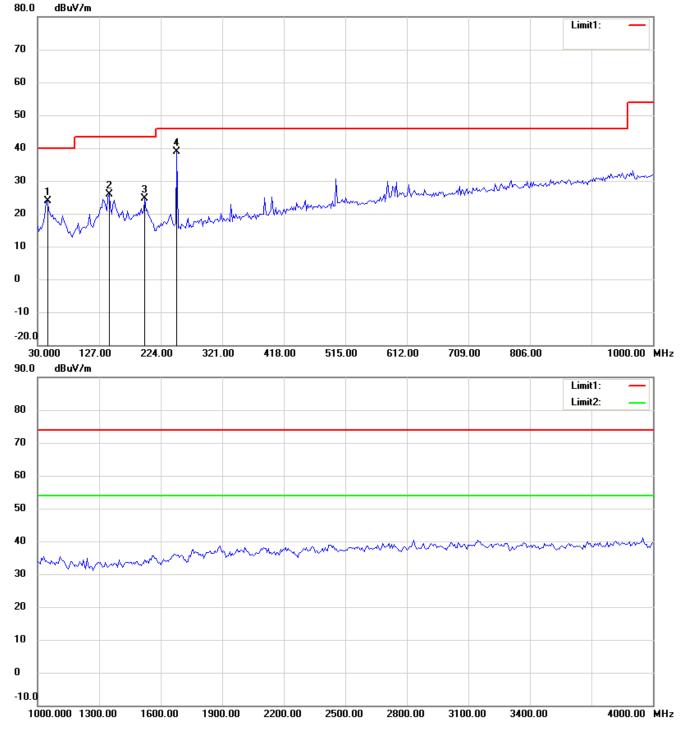


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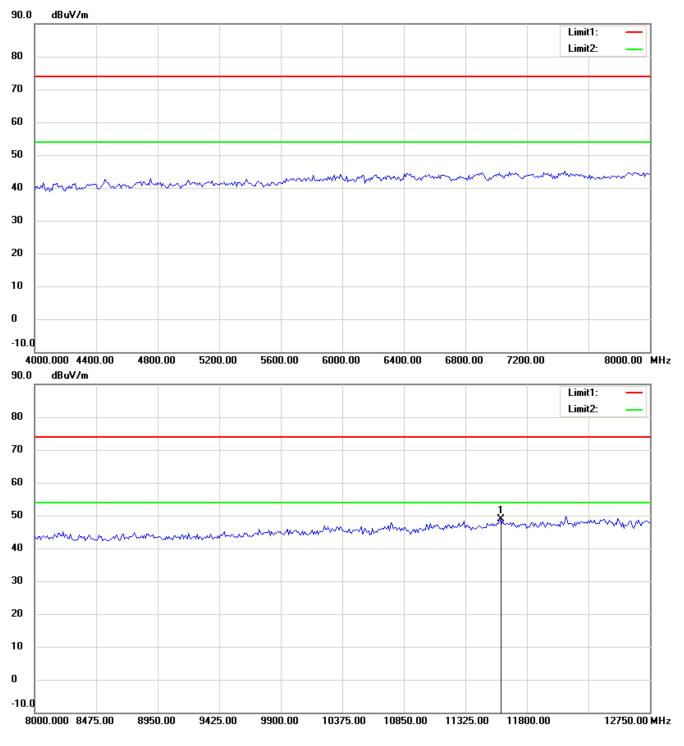
802.11n 40MHz 5795MHz

Antenna Polarization H



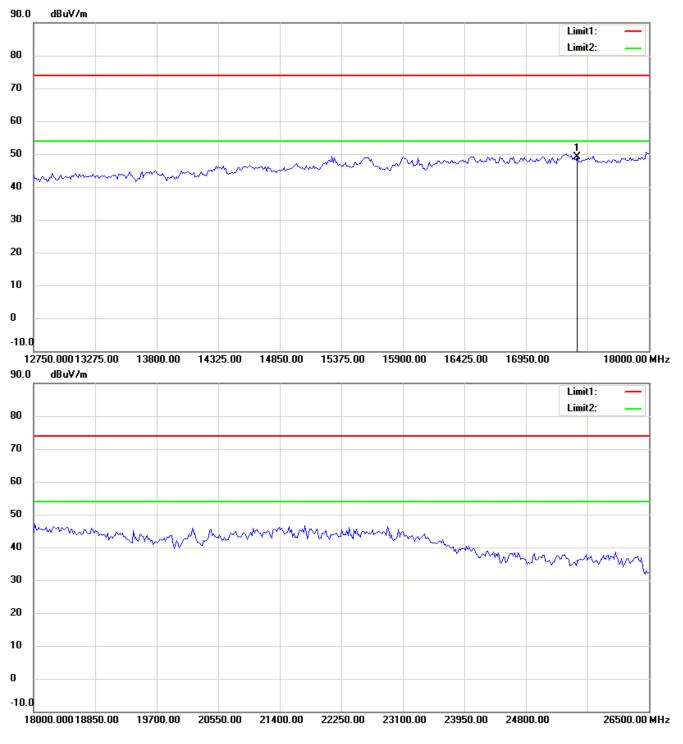
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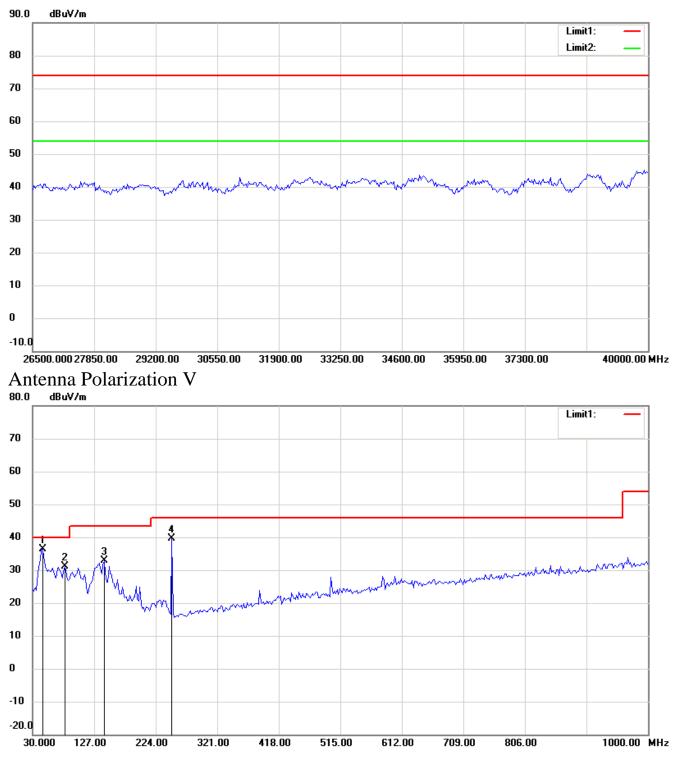
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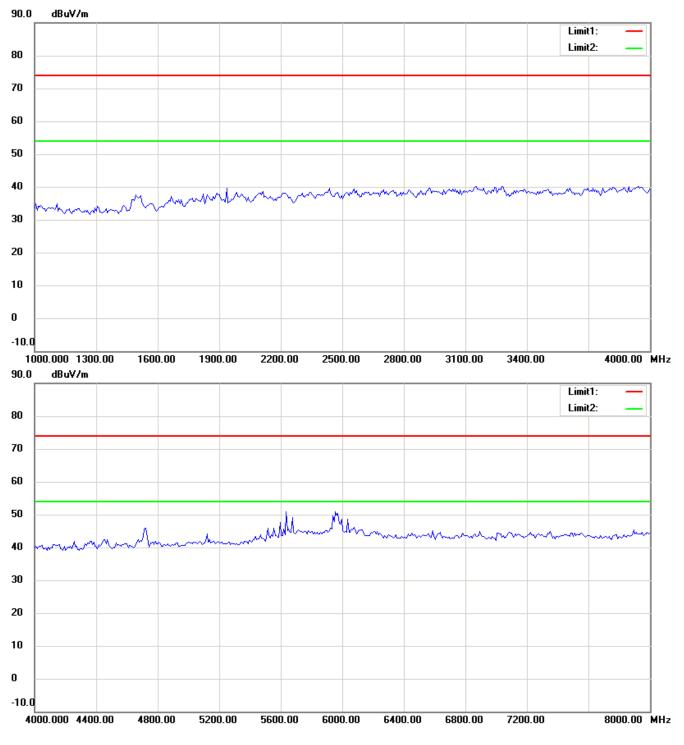
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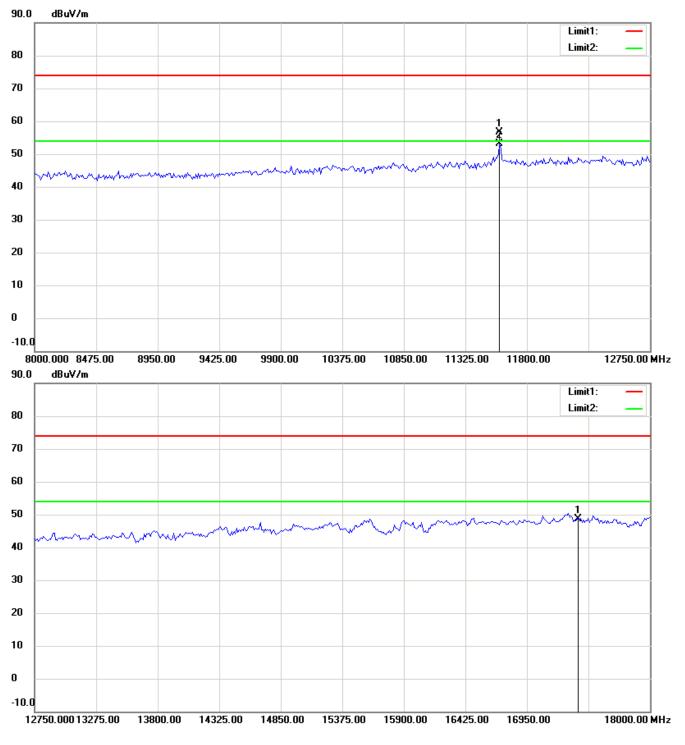
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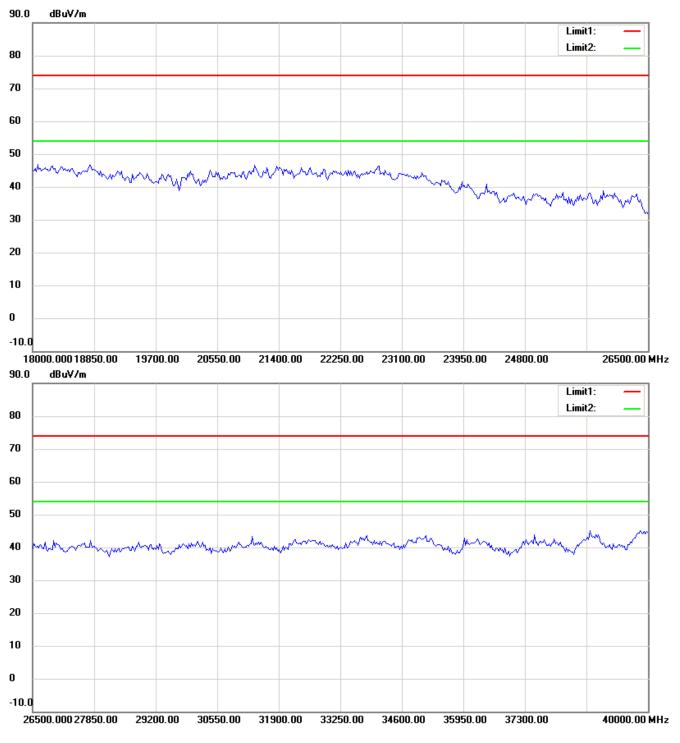
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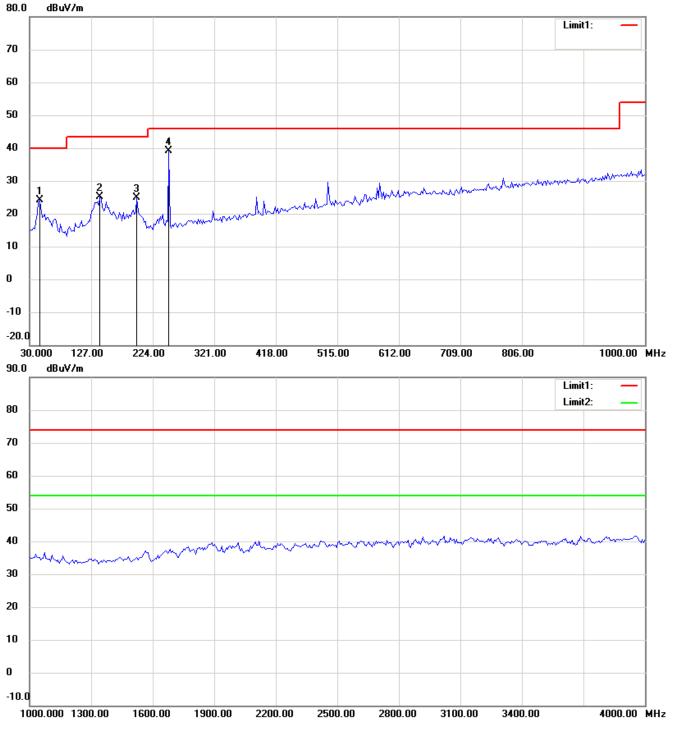


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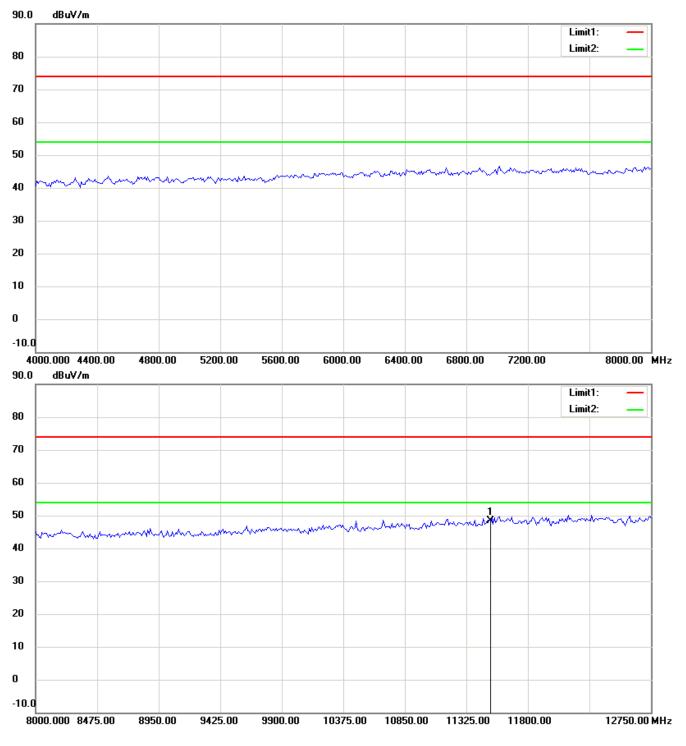
802.11ac 5775MHz

Antenna Polarization H



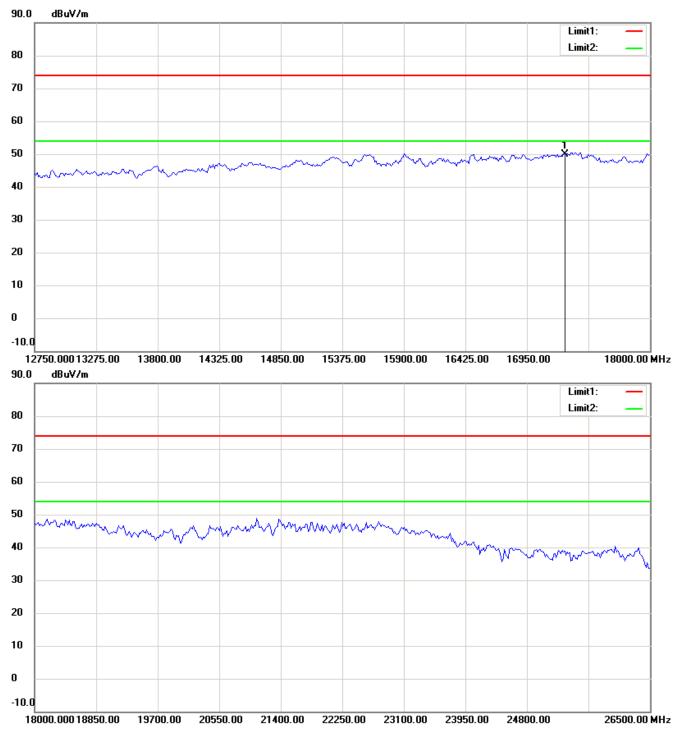
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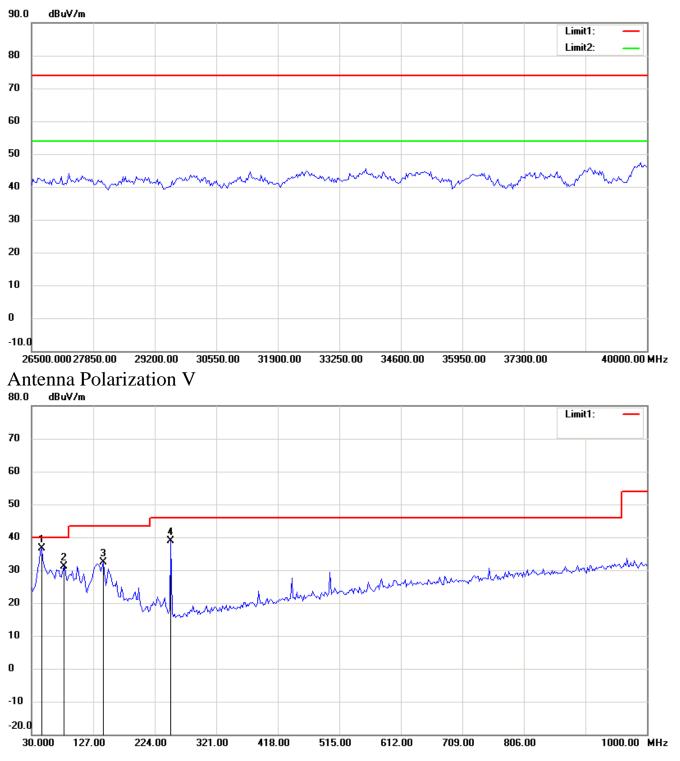
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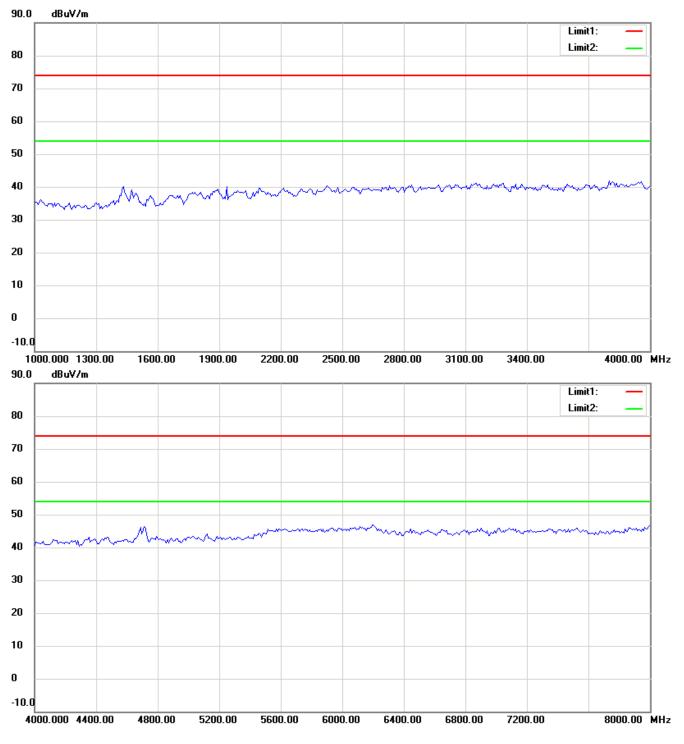
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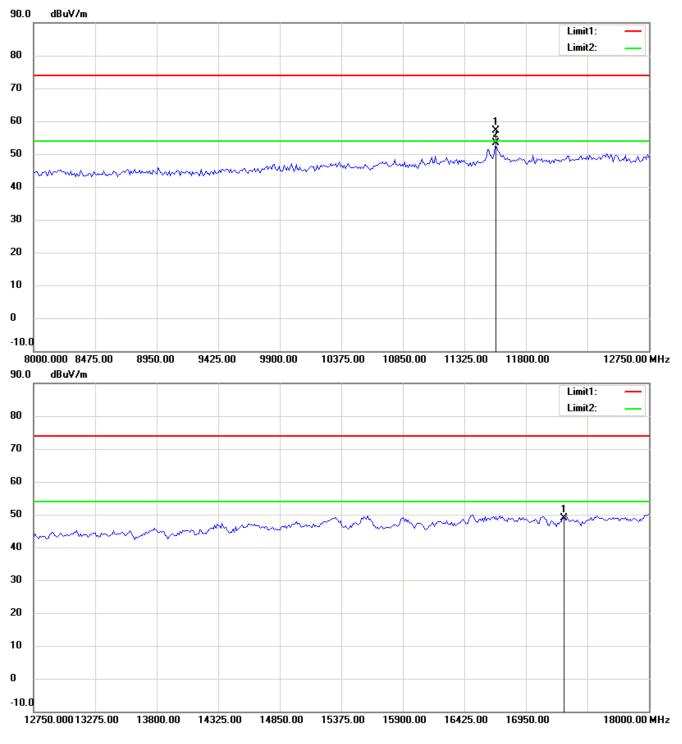
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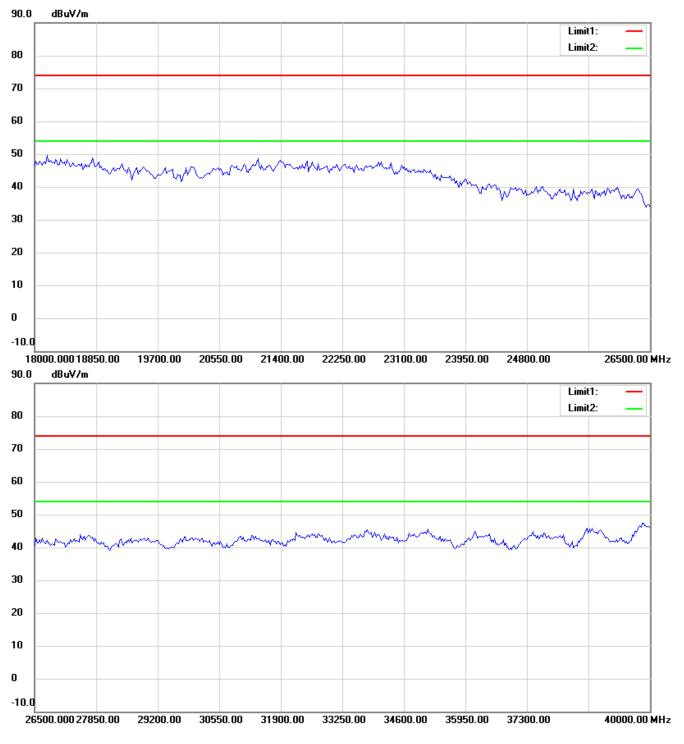
- 1. The attached measurement plots are preliminarily pre-scanned with peak detector for determining the final checking frequencies and are for reference only.
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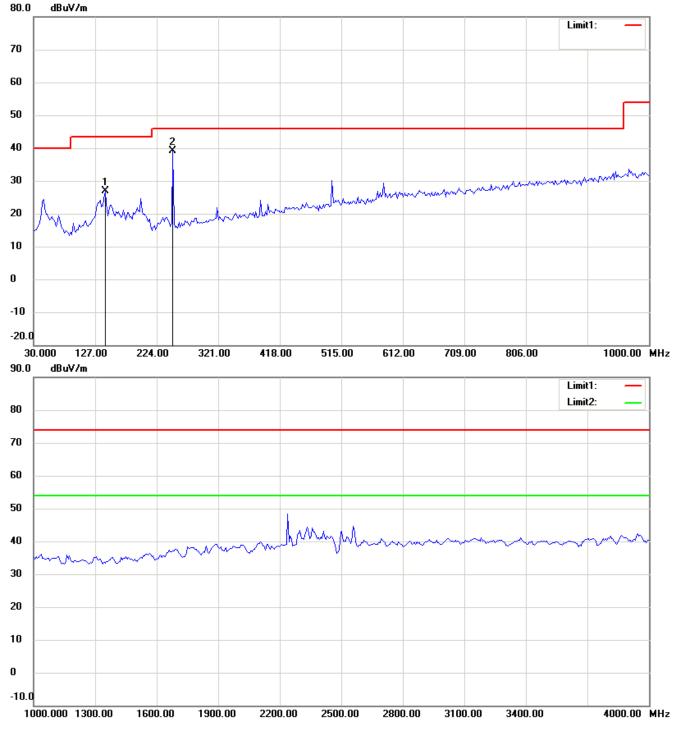


- 1. The attached measurement plots are preliminarily pre-scanned with peak detector for determining the final checking frequencies and are for reference only.
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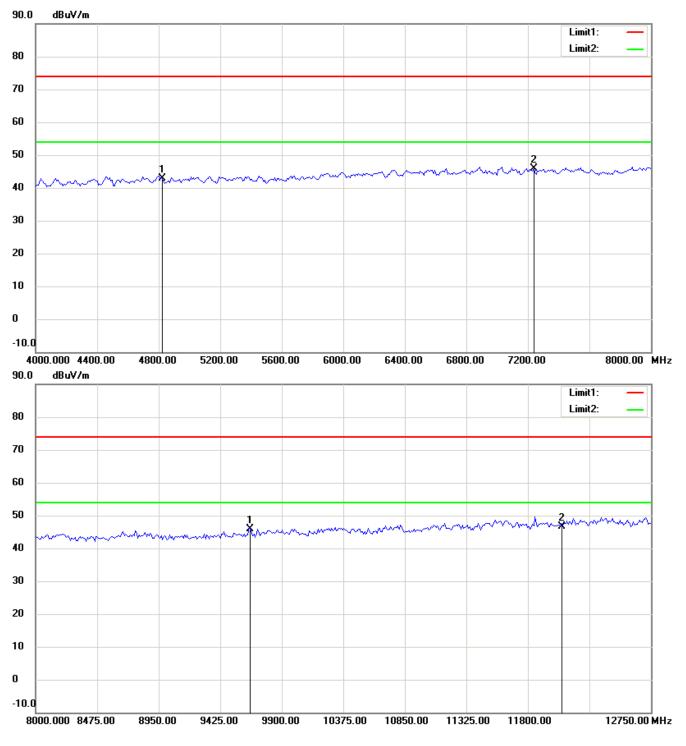
802.11b 2412MHz

Antenna Polarization H



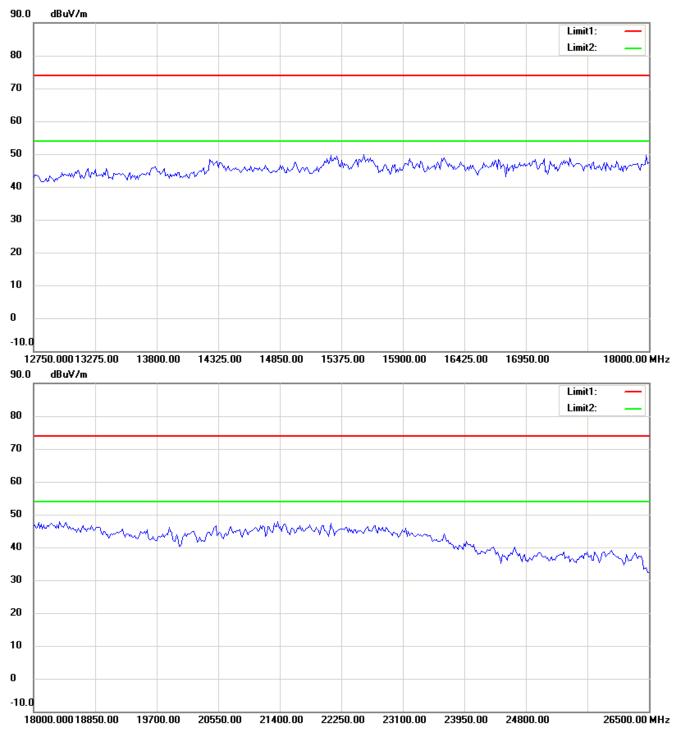
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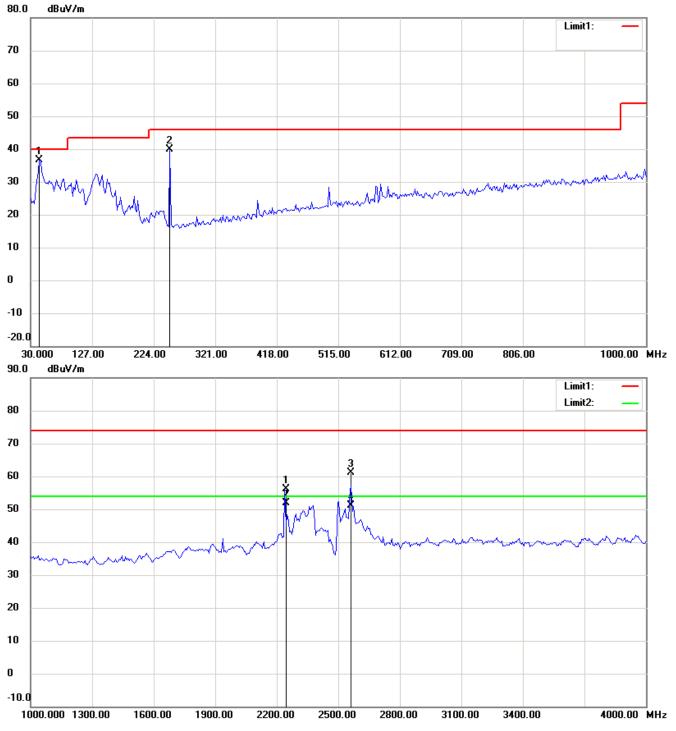




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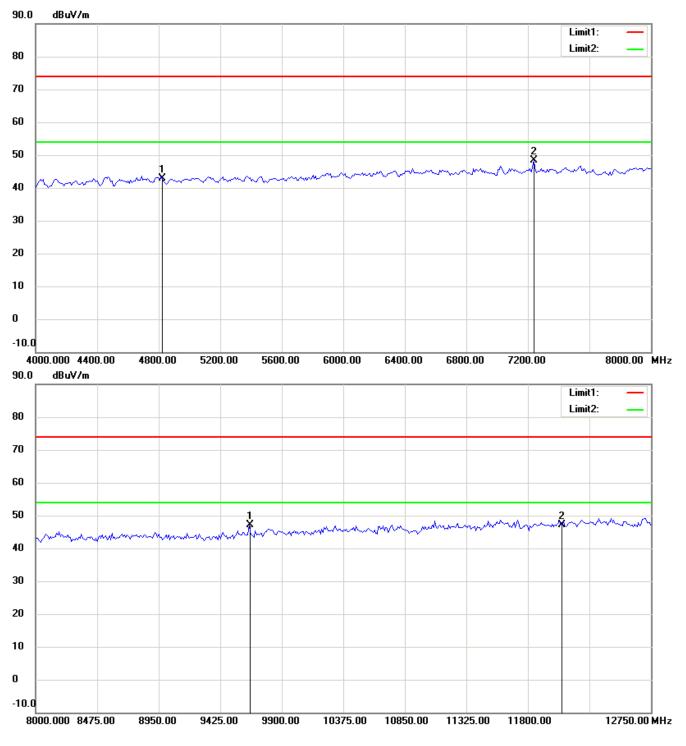


Antenna Polarization V



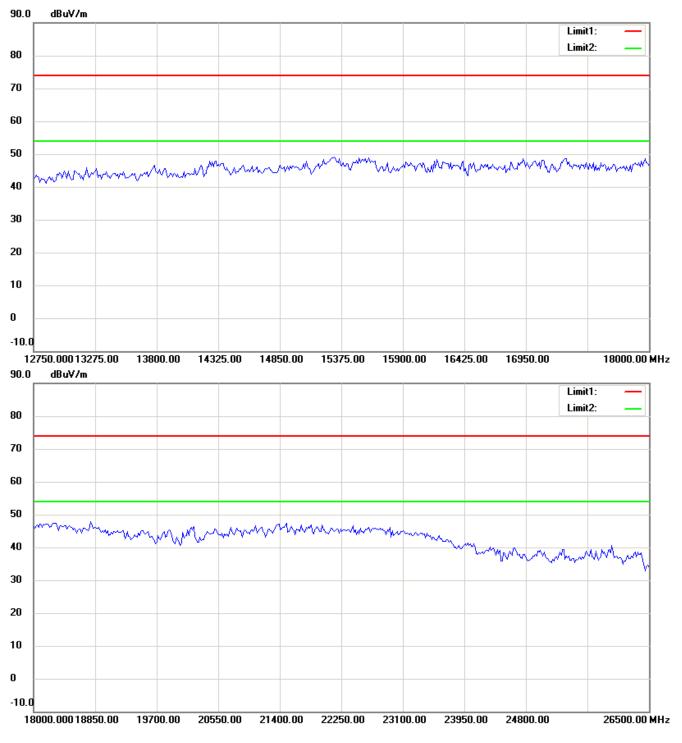
- 1. The attached measurement plots are preliminarily pre-scanned with peak detector for determining the final checking frequencies and are for reference only.
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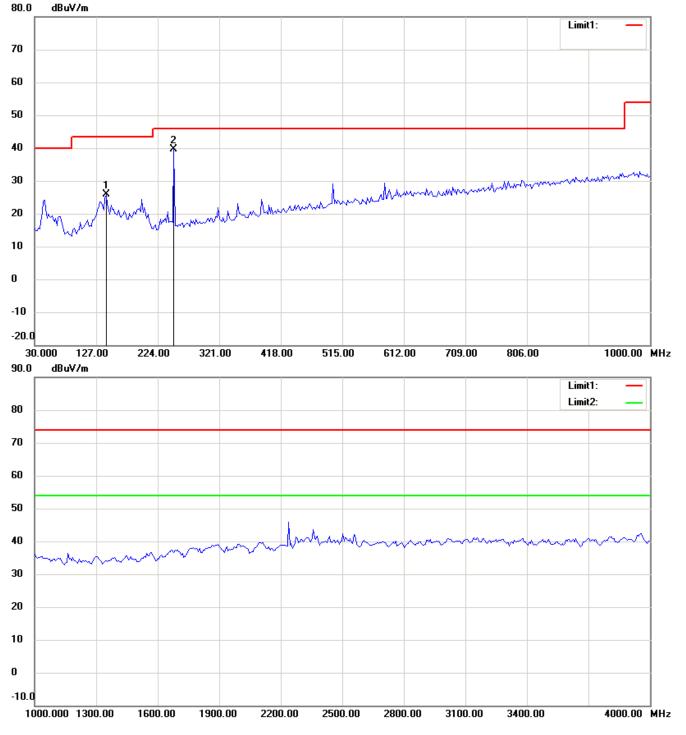


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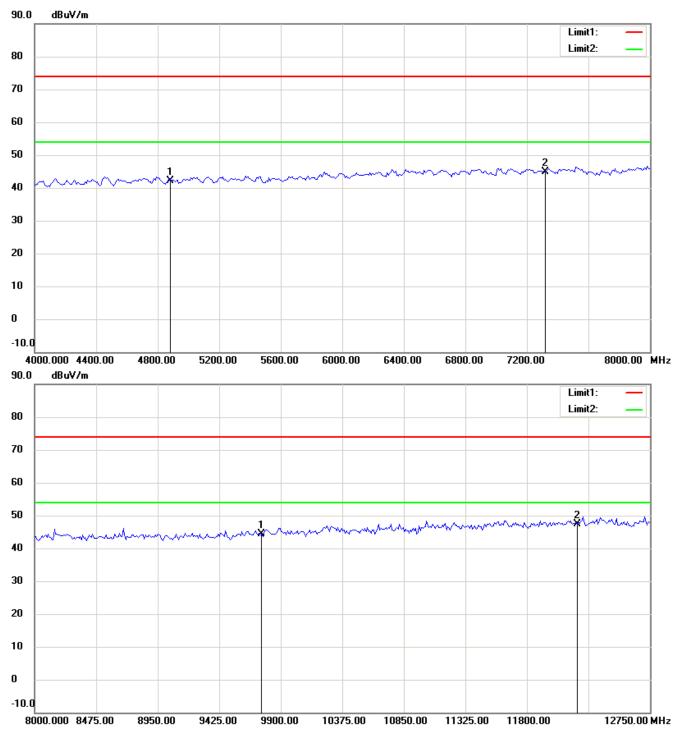
802.11b 2437MHz

Antenna Polarization H



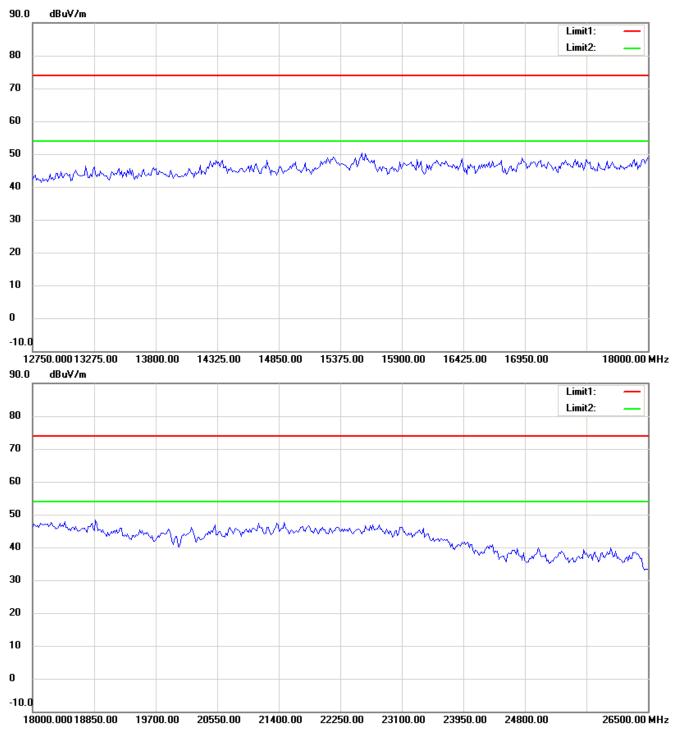
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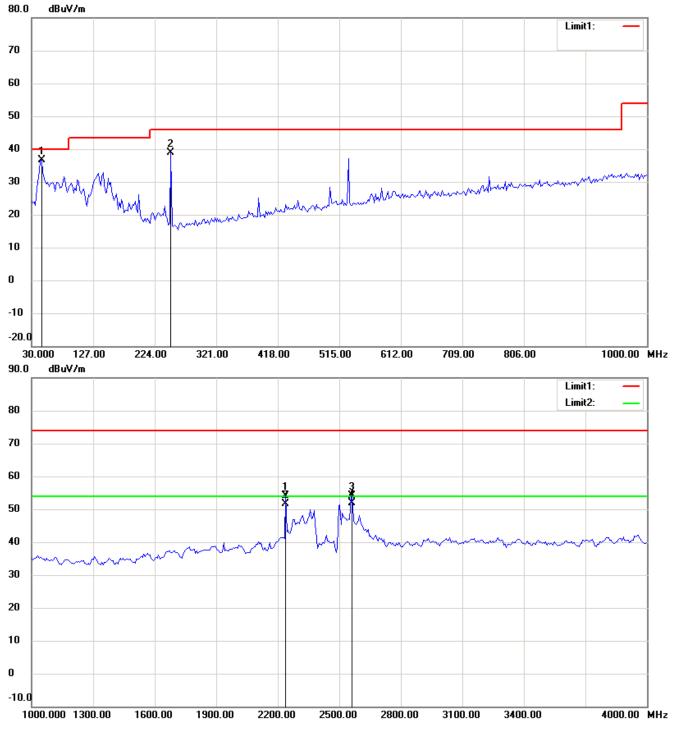




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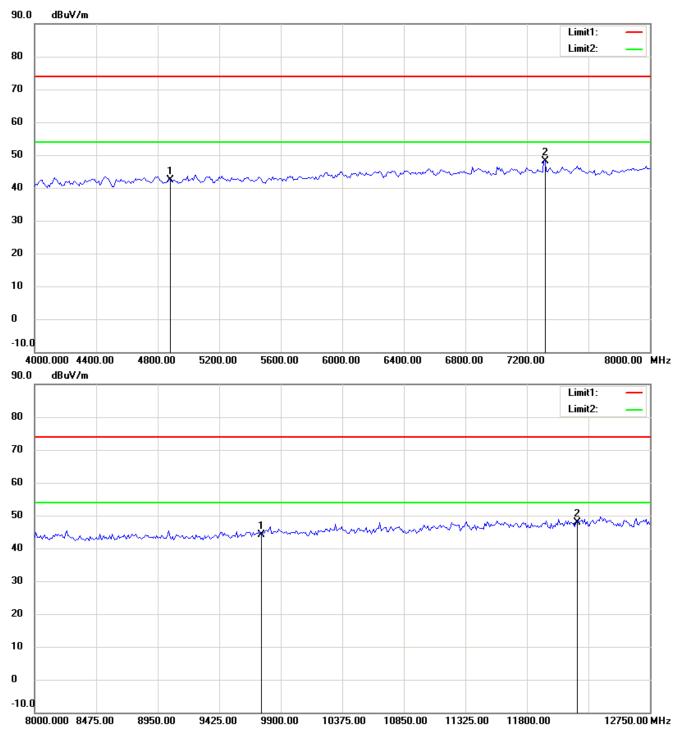


Antenna Polarization V



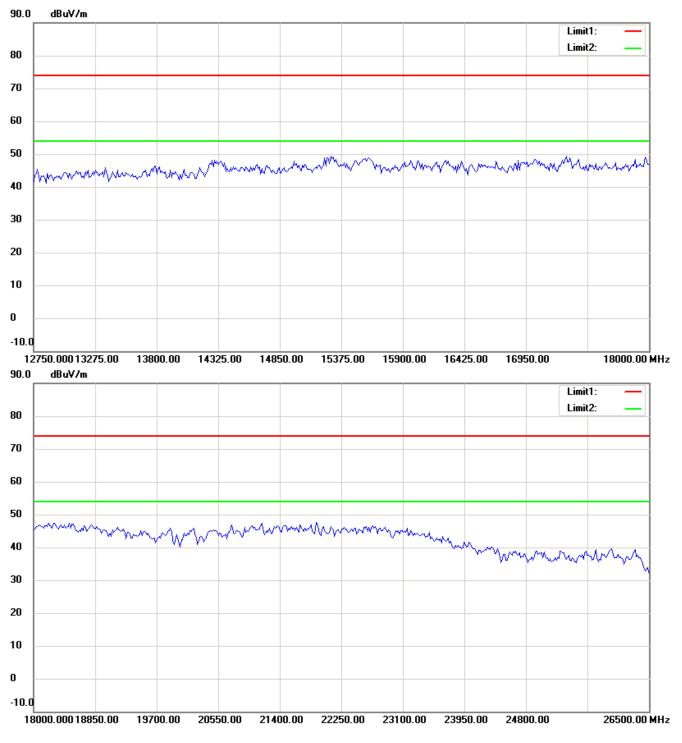
- 1. The attached measurement plots are preliminarily pre-scanned with peak detector for determining the final checking frequencies and are for reference only.
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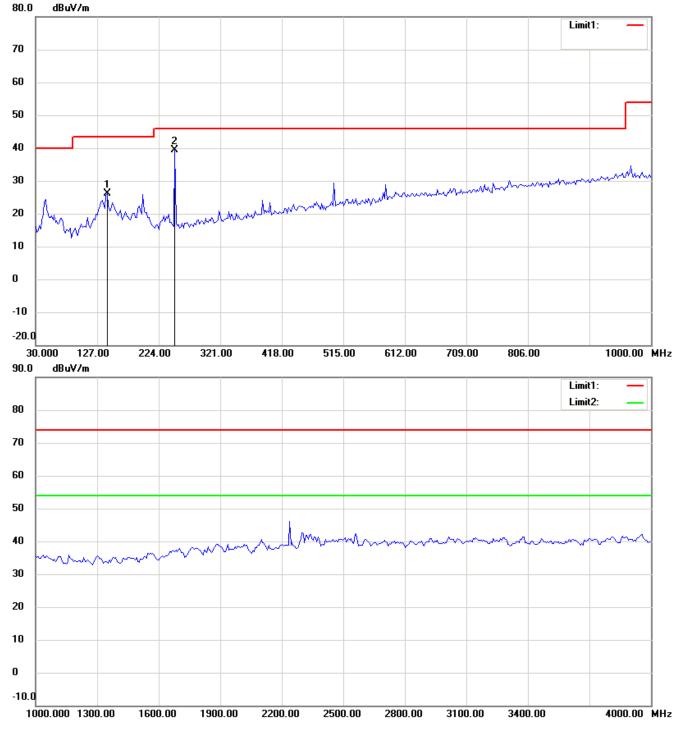


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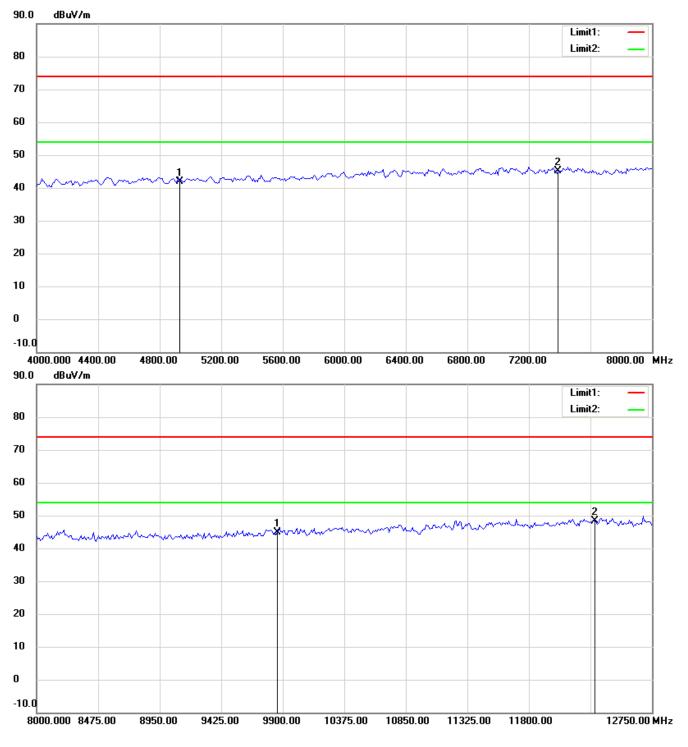
802.11b 2462MHz

Antenna Polarization H



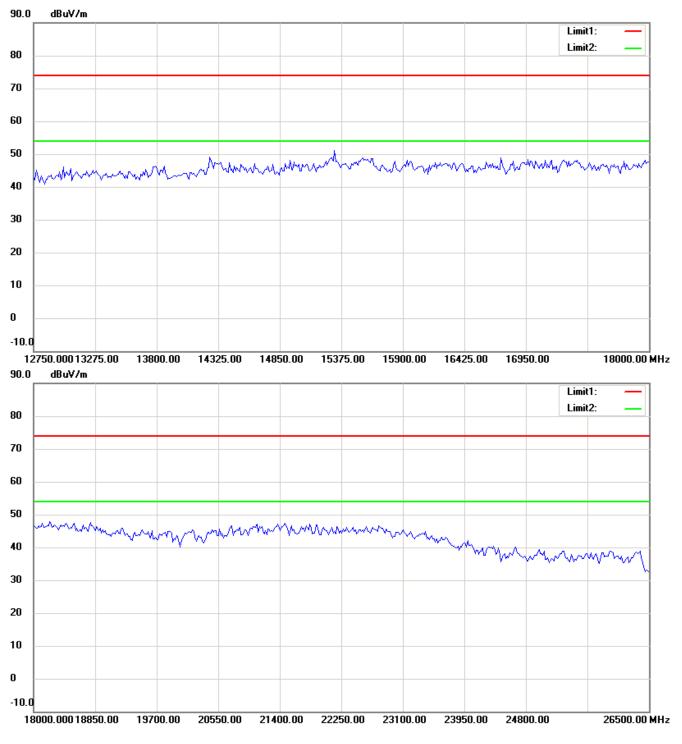
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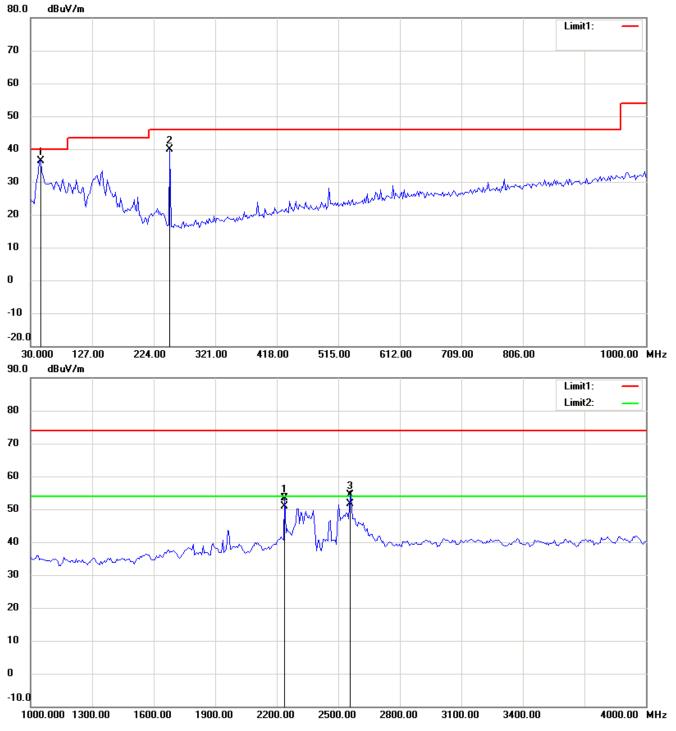




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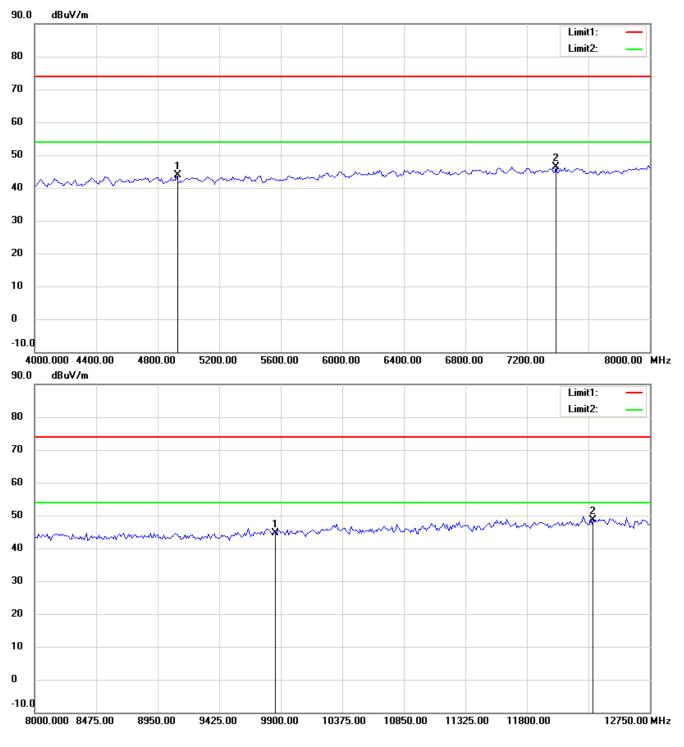


Antenna Polarization V



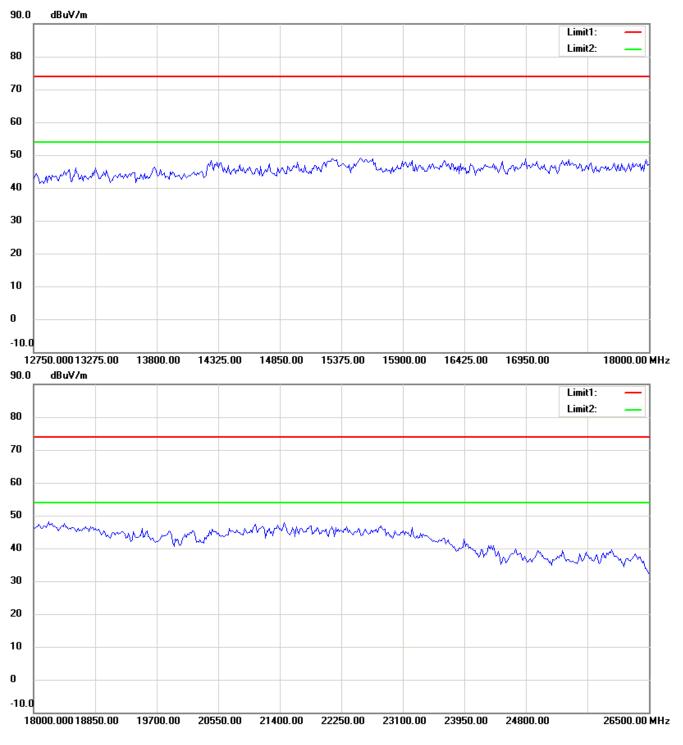
- 1. The attached measurement plots are preliminarily pre-scanned with peak detector for determining the final checking frequencies and are for reference only.
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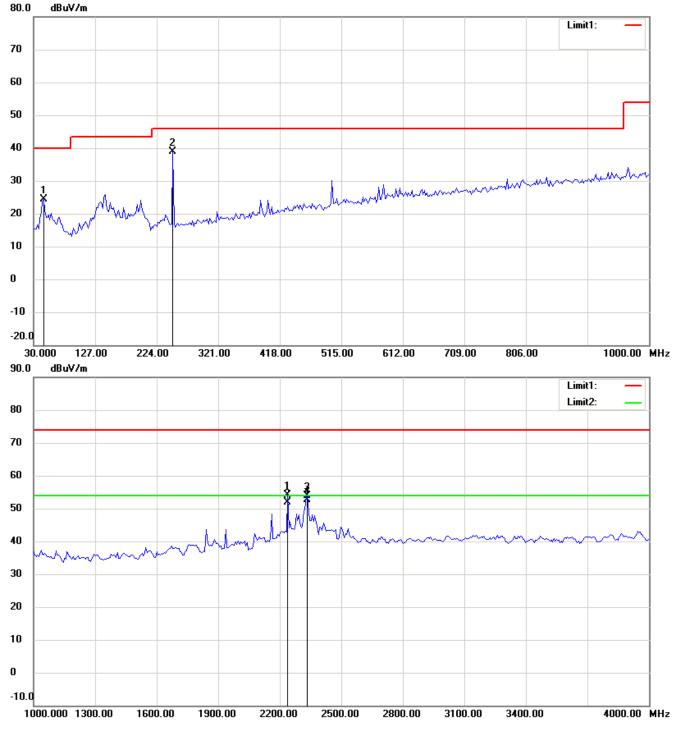


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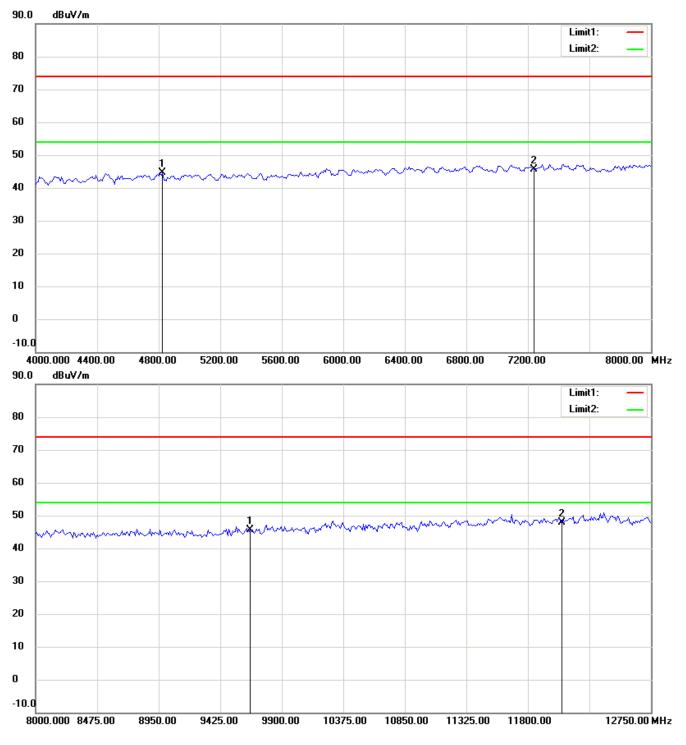
802.11g 2412MHz

Antenna Polarization H



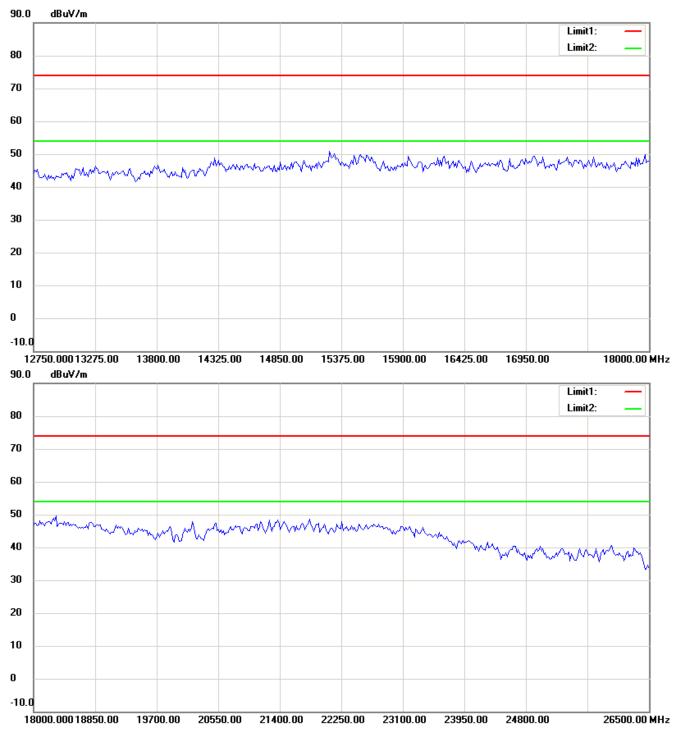
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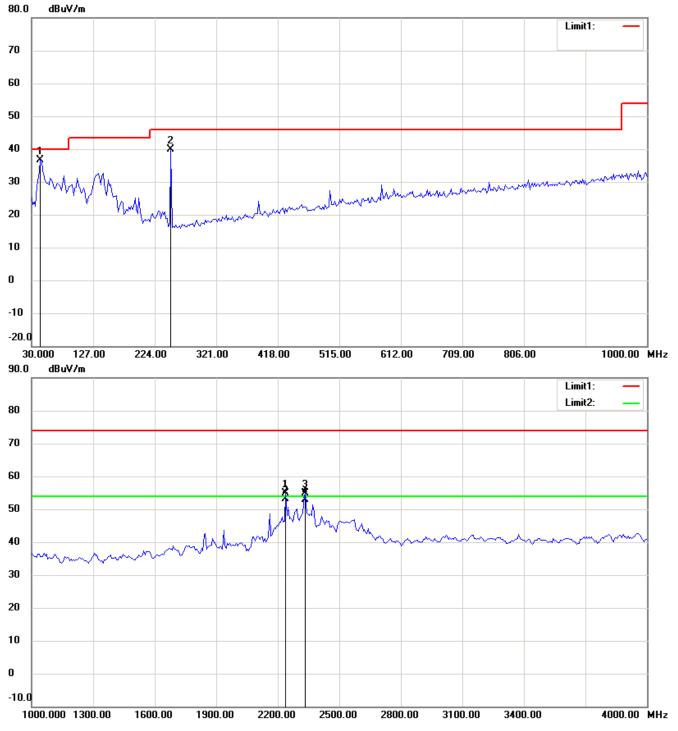




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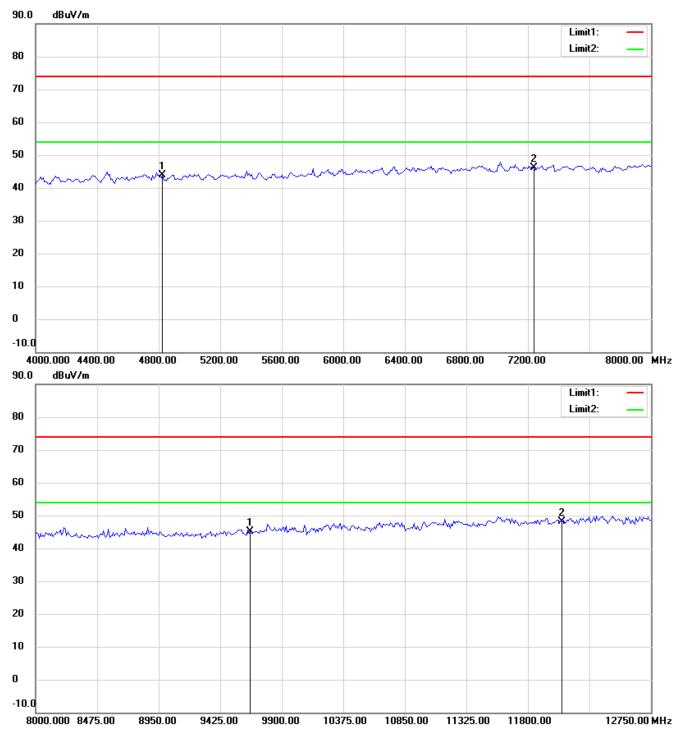


Antenna Polarization V



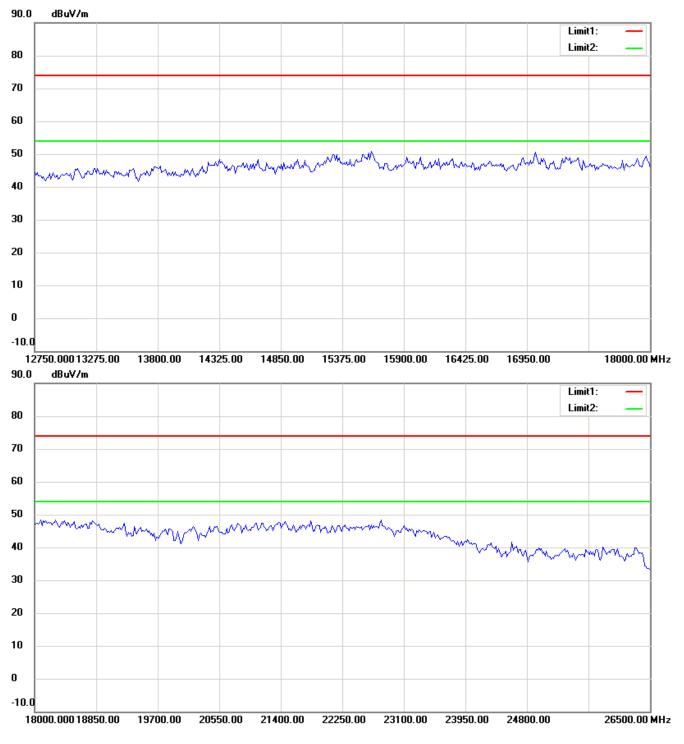
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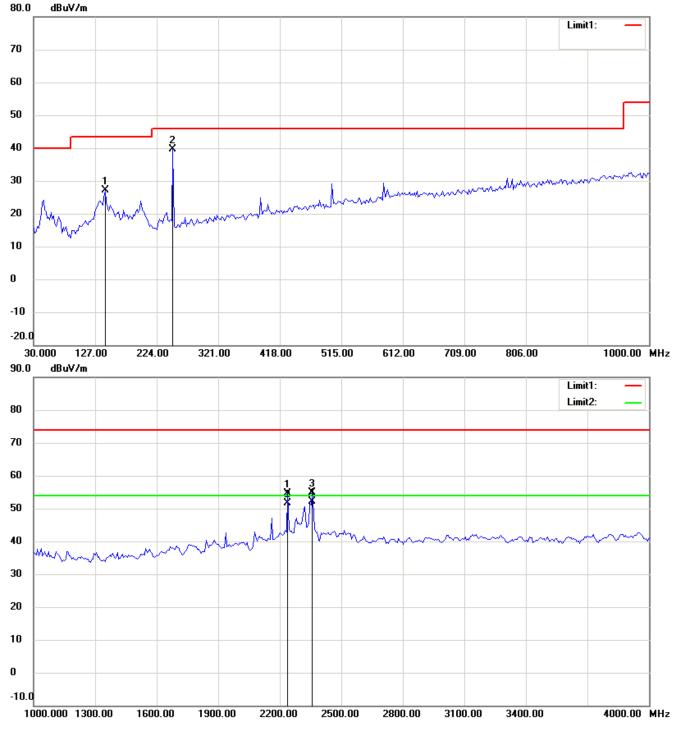


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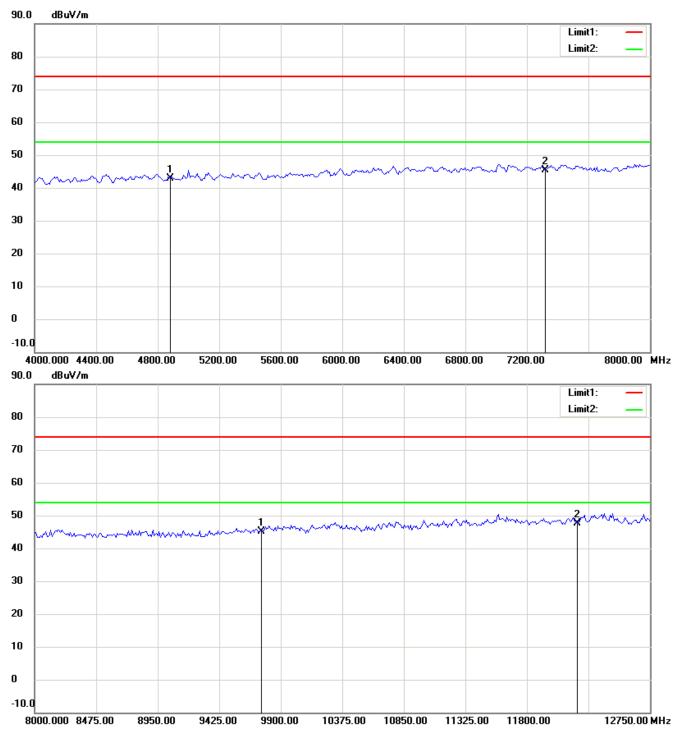
802.11g 2437MHz

Antenna Polarization H



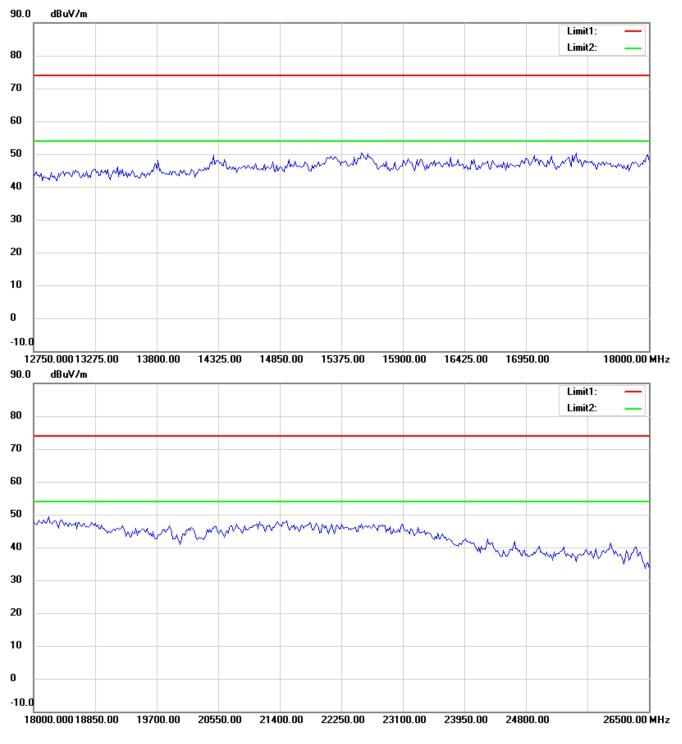
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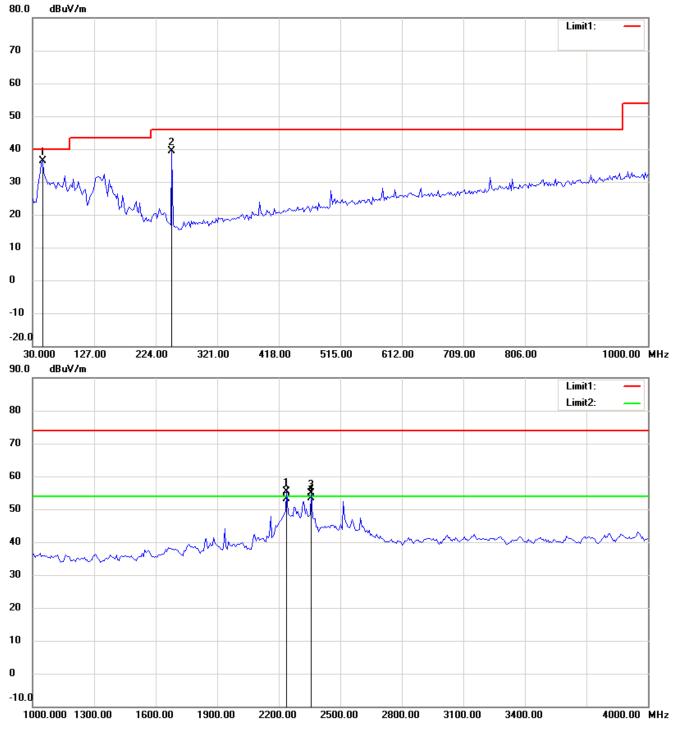




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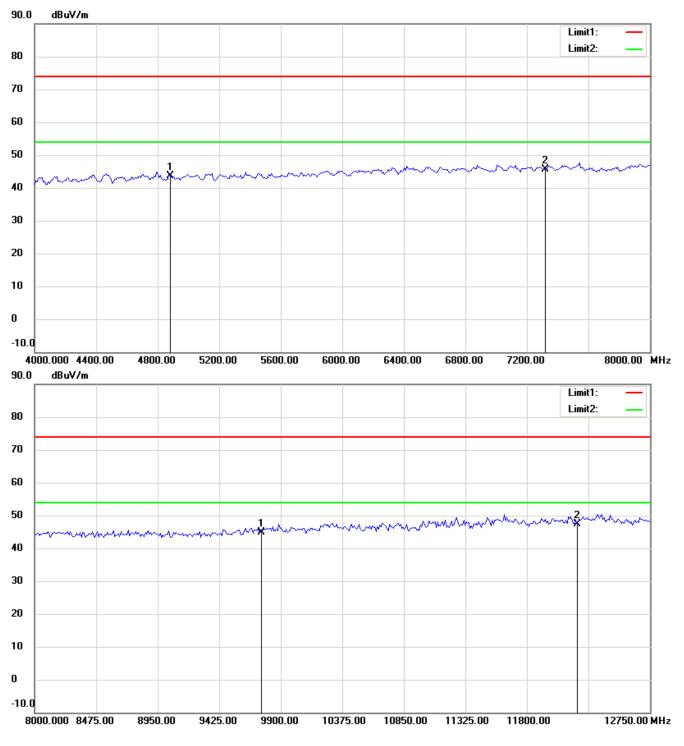


Antenna Polarization V



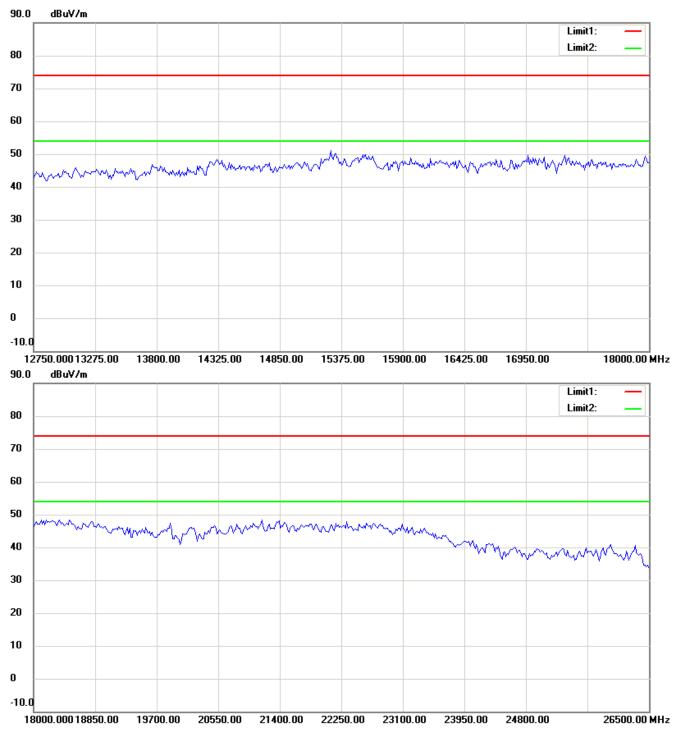
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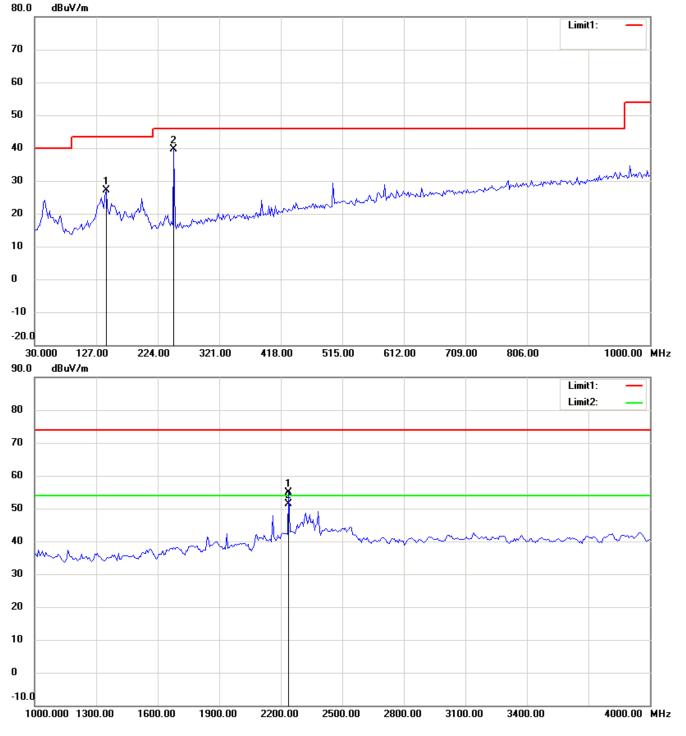


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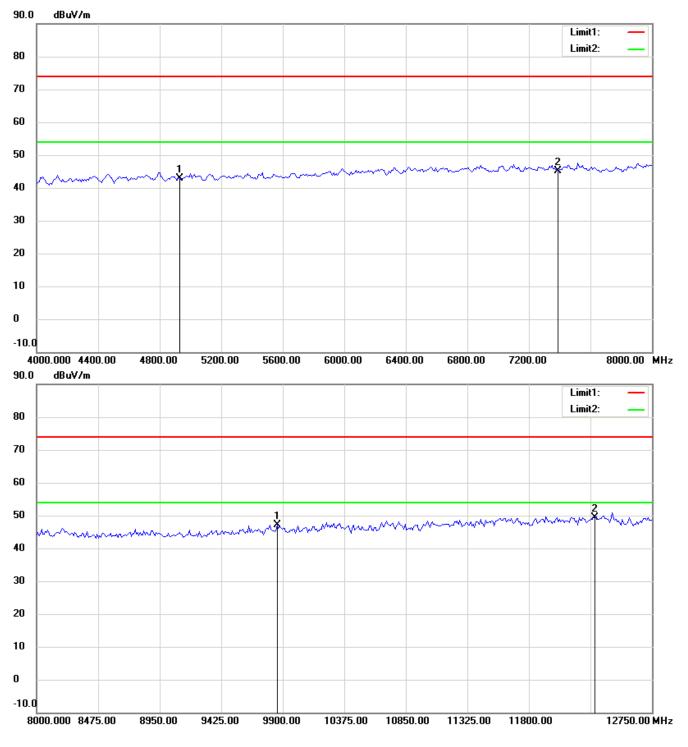
802.11g 2462MHz

Antenna Polarization H



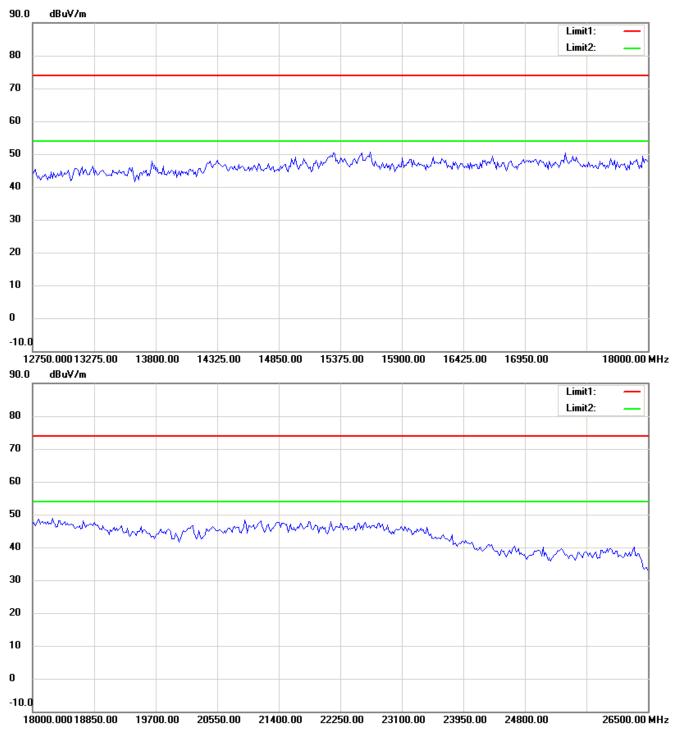
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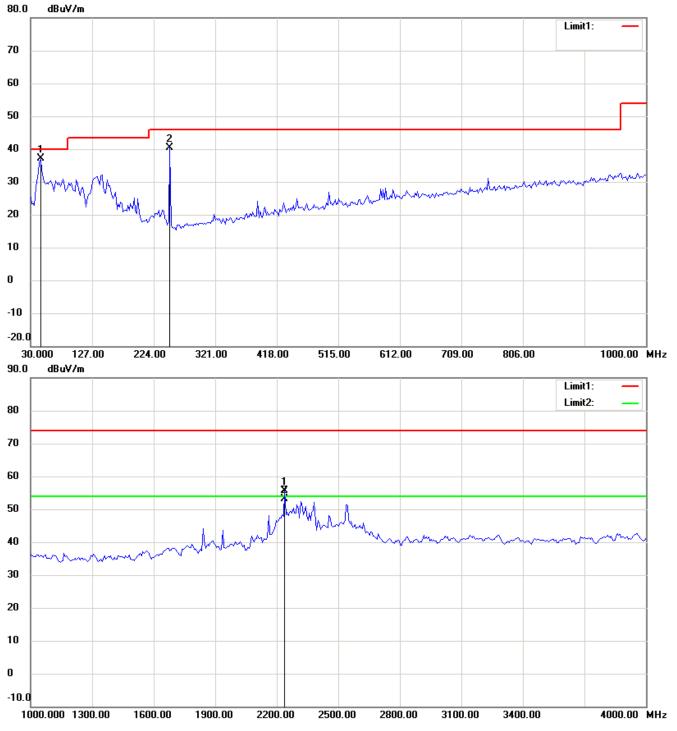




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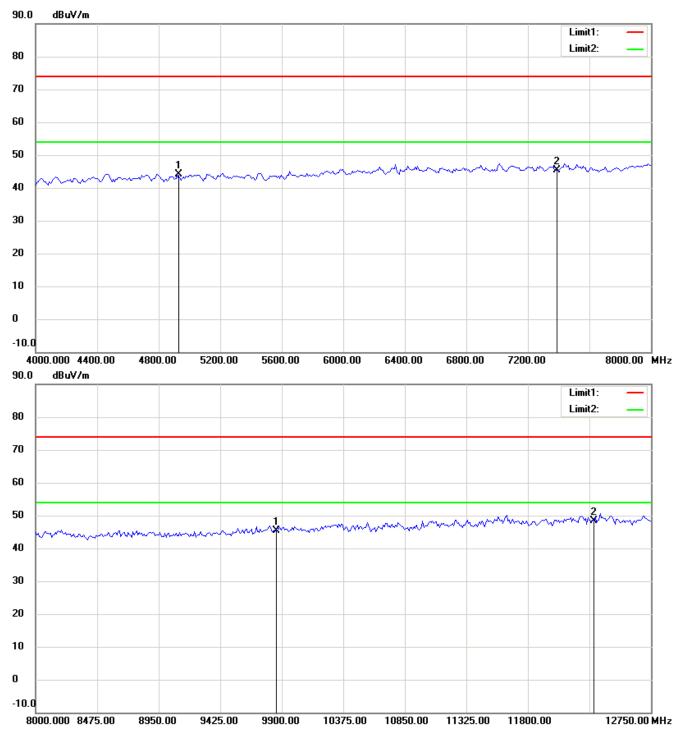


Antenna Polarization V



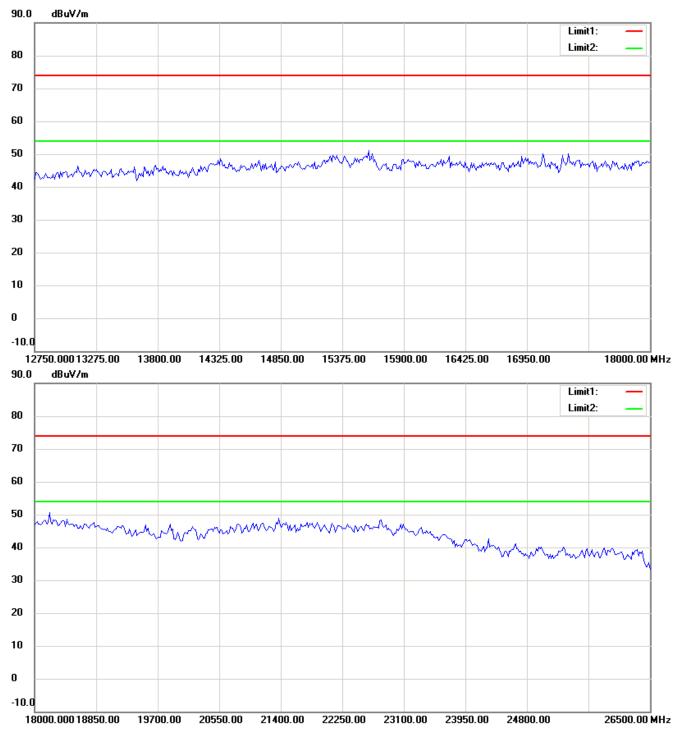
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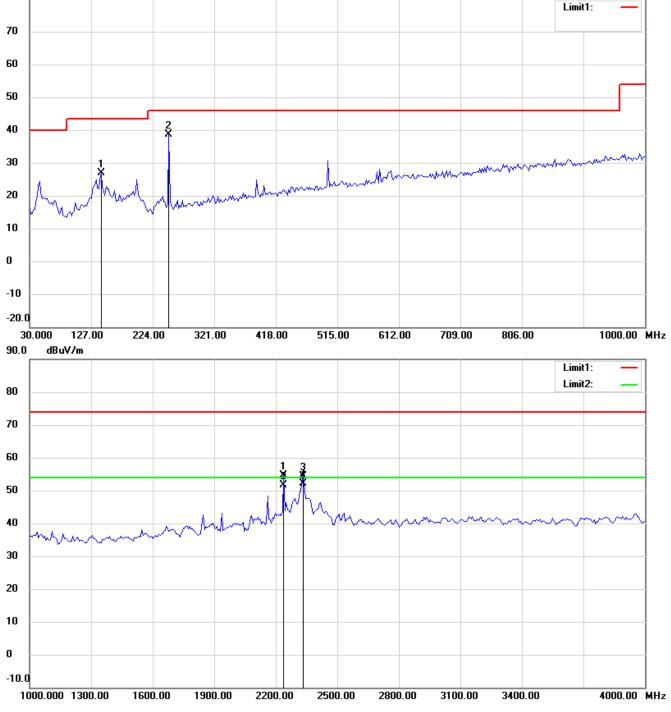
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802.11n 20MHz 2412MHz

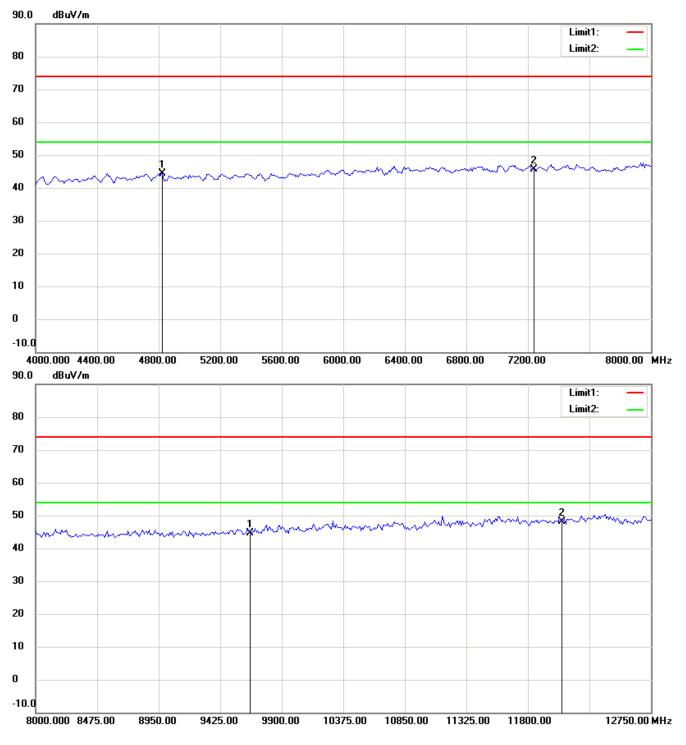
Antenna Polarization H





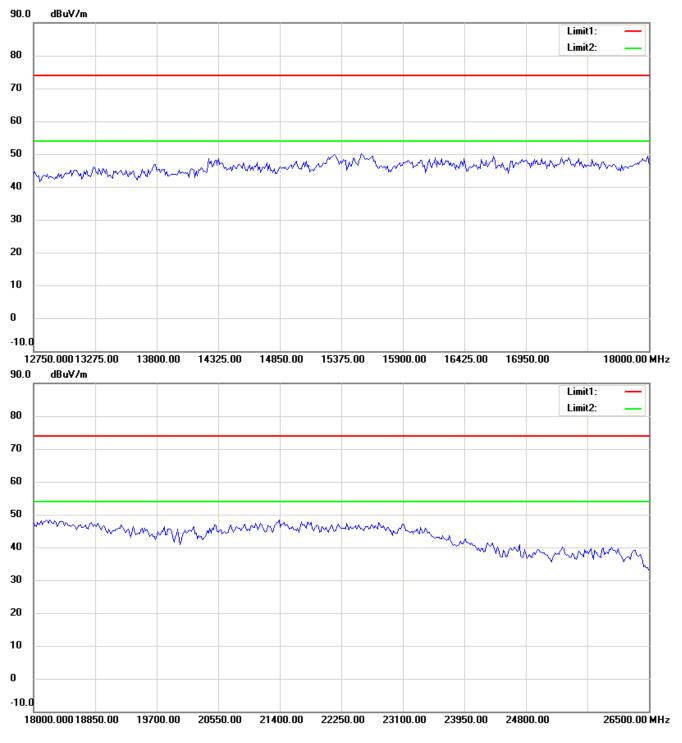
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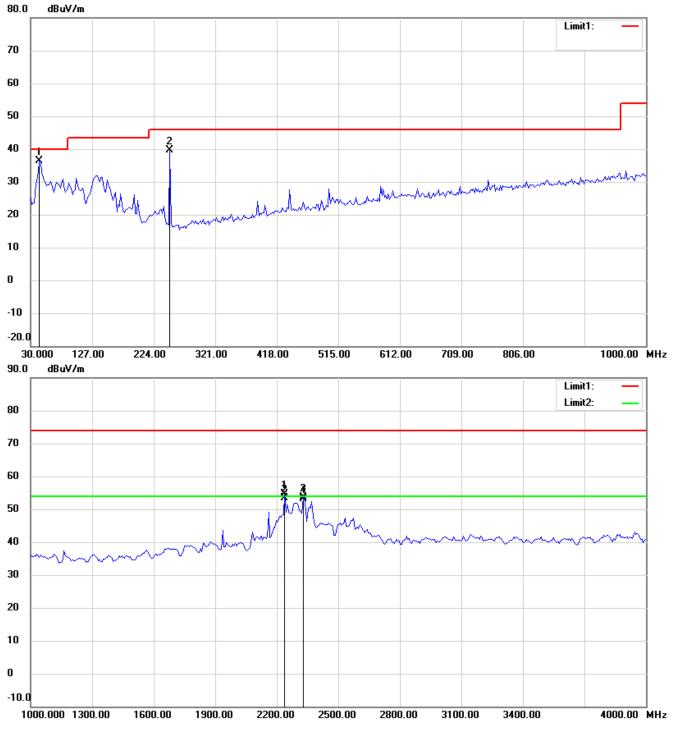




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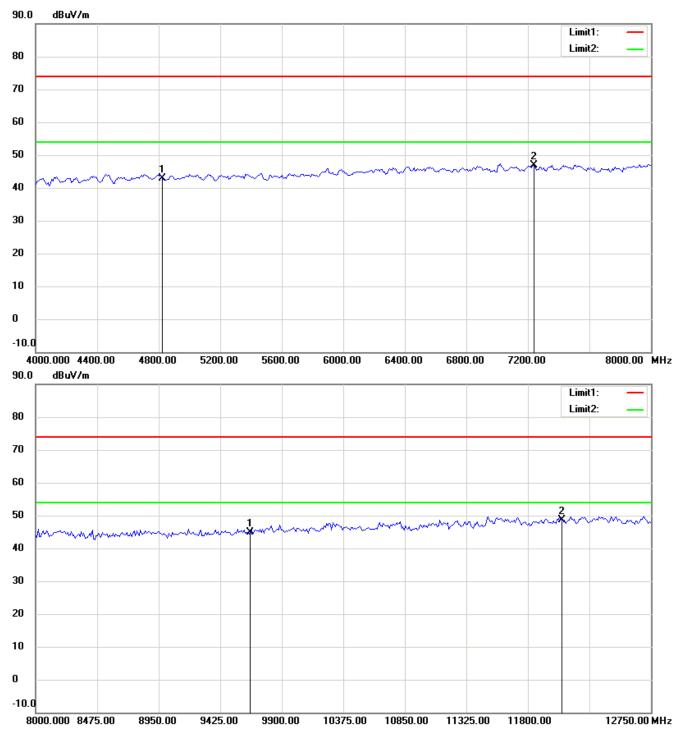


Antenna Polarization V



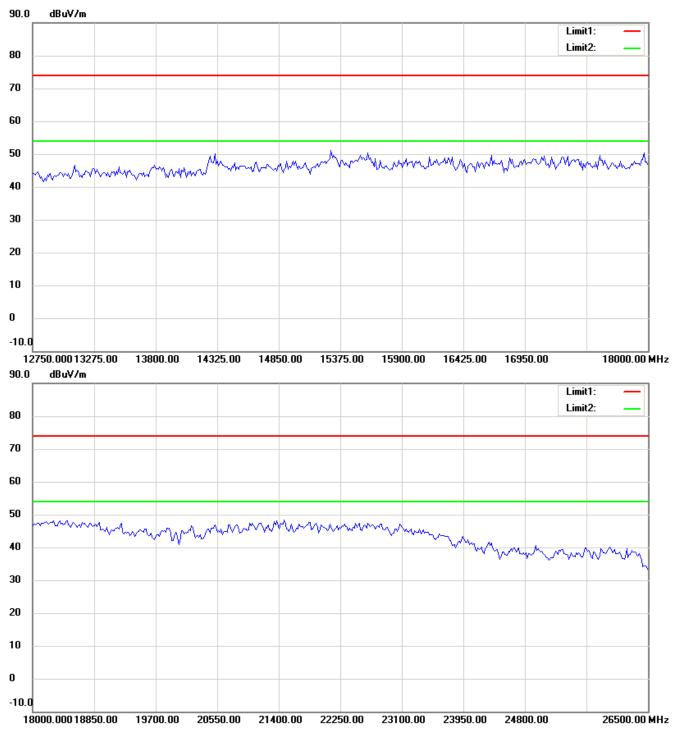
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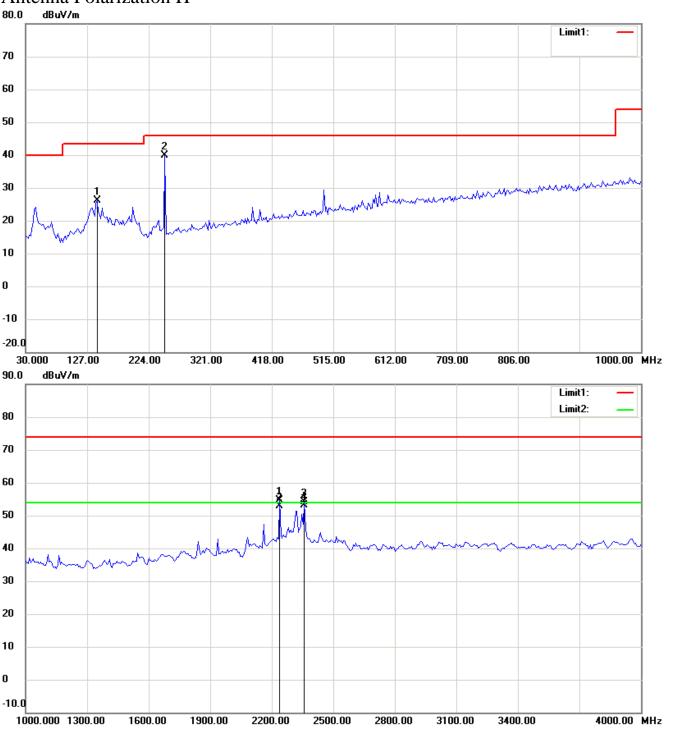


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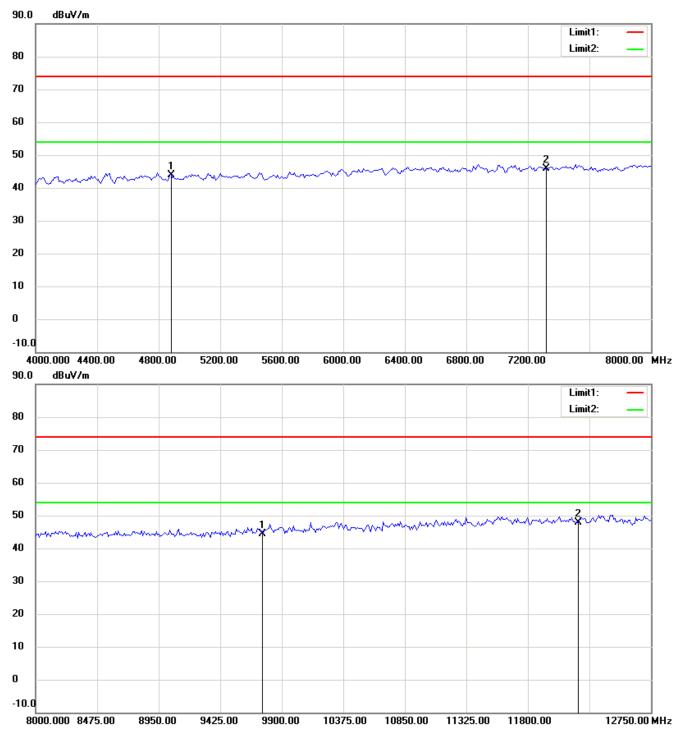
802.11n 20MHz 2437MHz

Antenna Polarization H



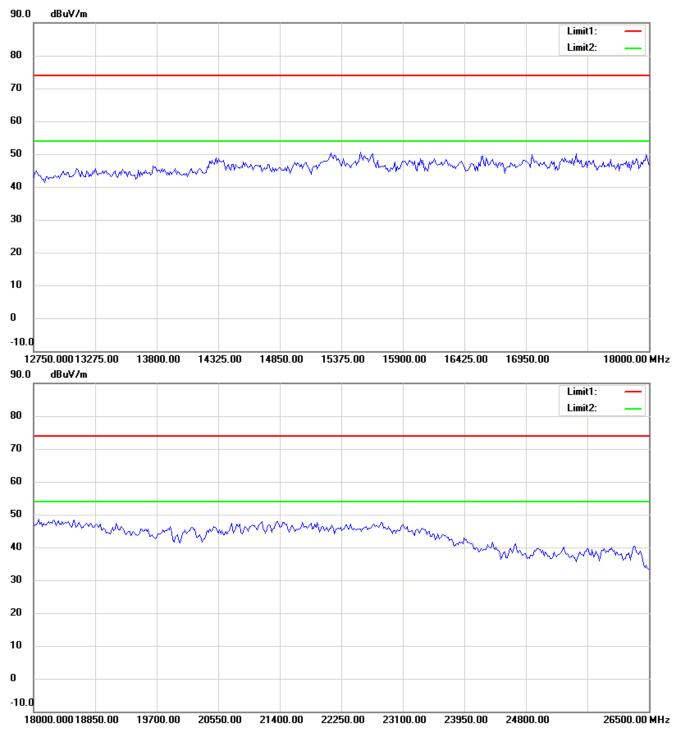
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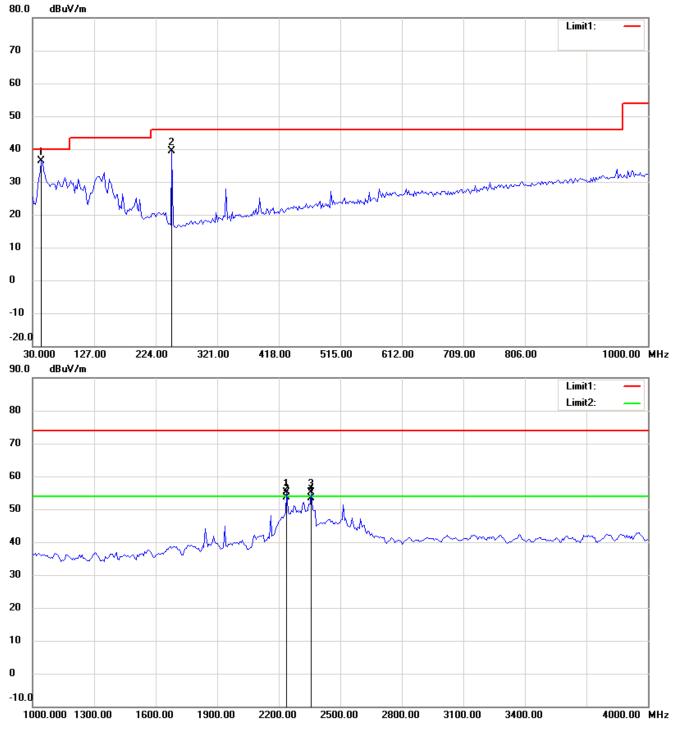




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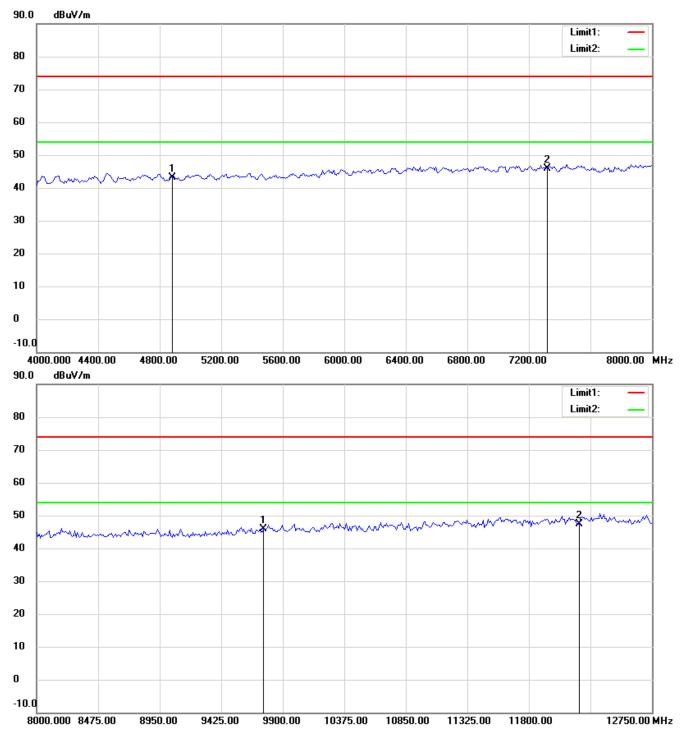


Antenna Polarization V



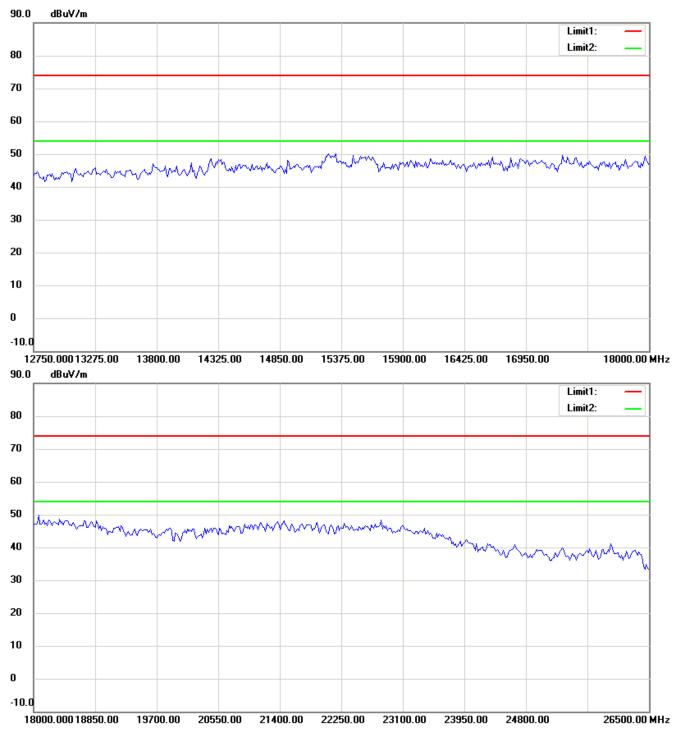
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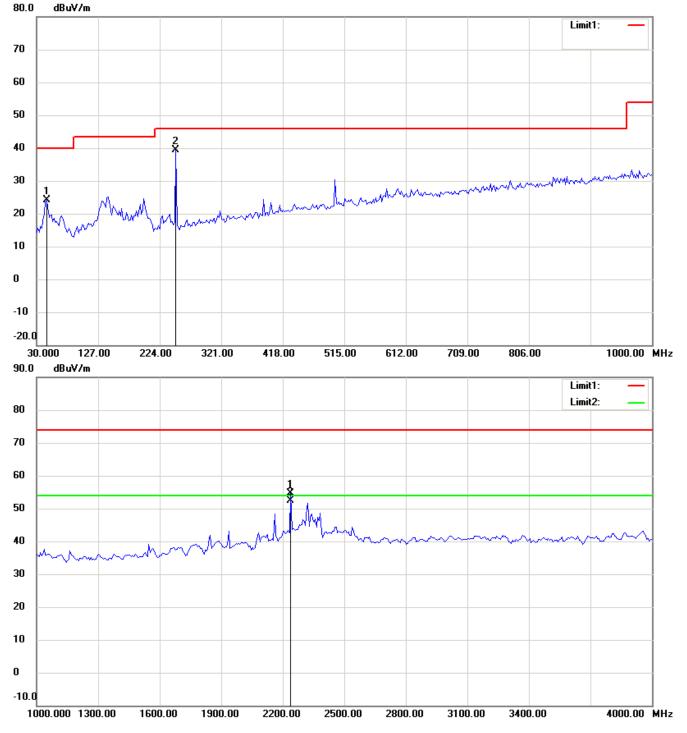


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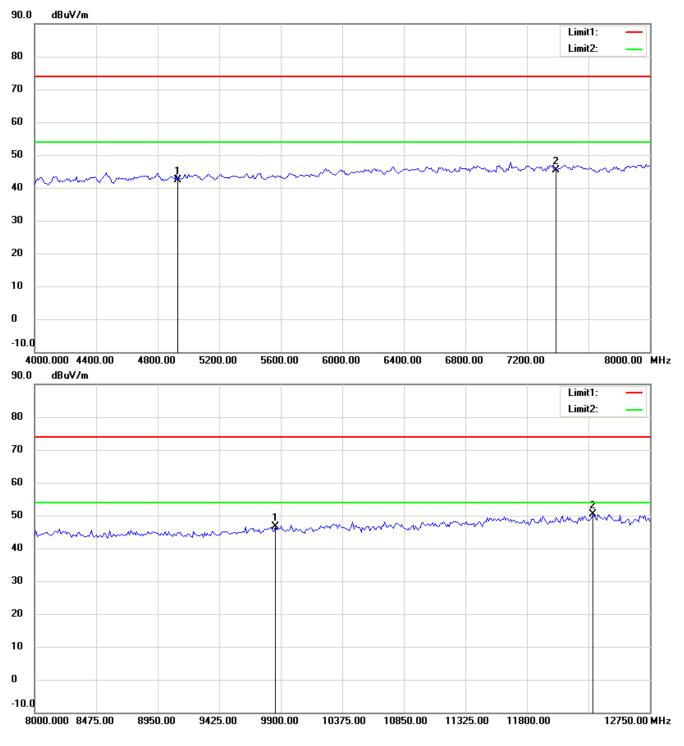
802.11n 20MHz 2462MHz

Antenna Polarization H



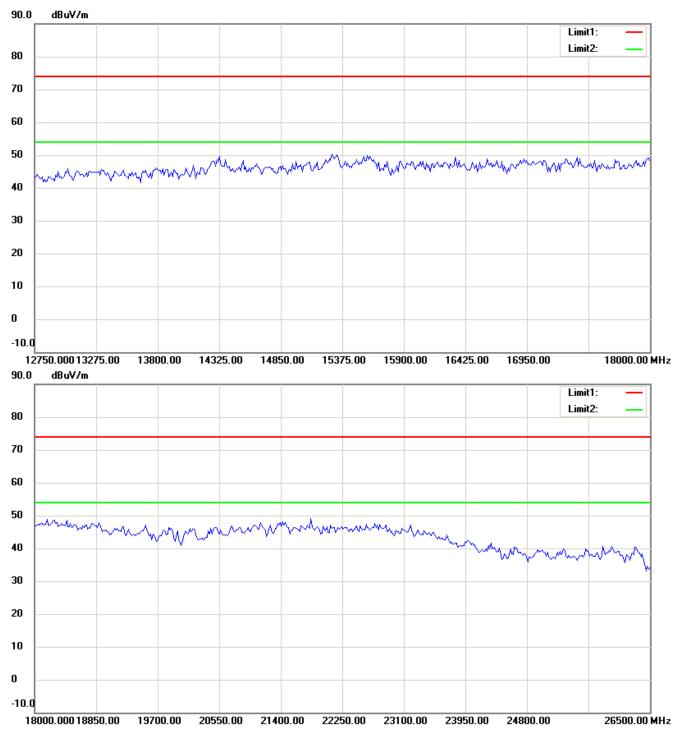
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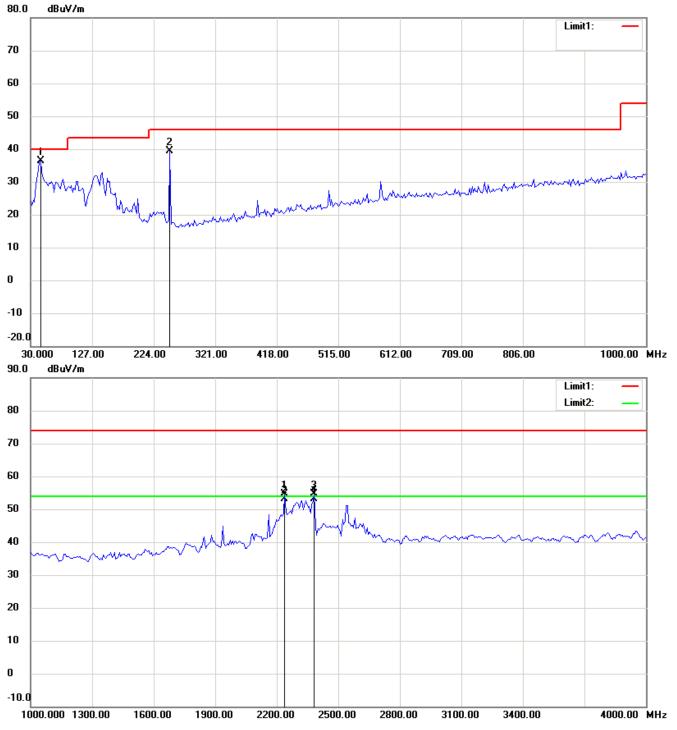




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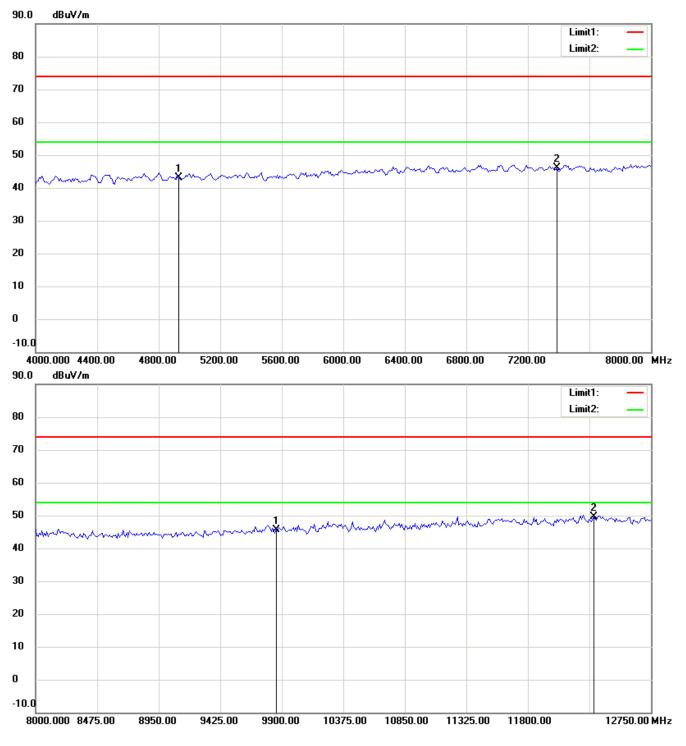


Antenna Polarization V



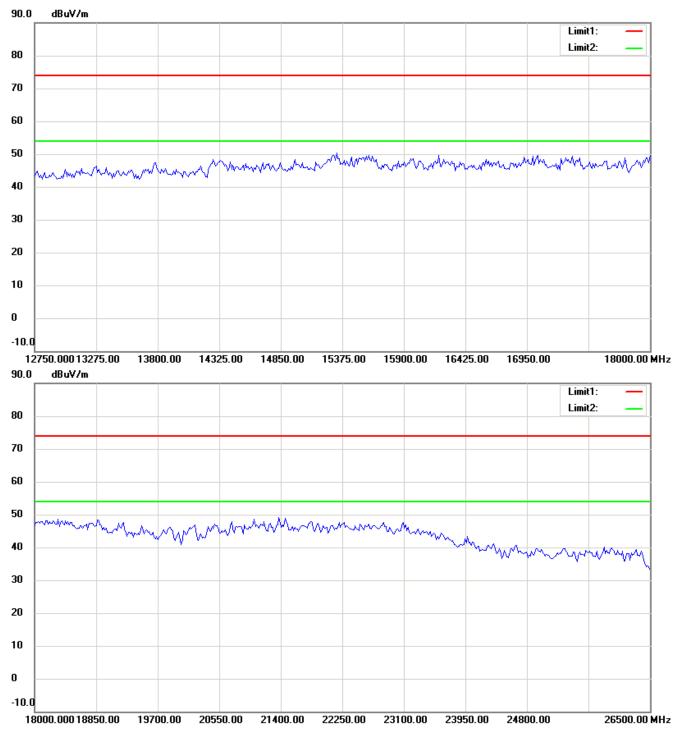
- 1. The attached measurement plots are preliminarily pre-scanned with peak detector for determining the final checking frequencies and are for reference only.
- 2. The some frequencies may exceed the limit line without the specified detectors, but that cannot present the results are failed to the specification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





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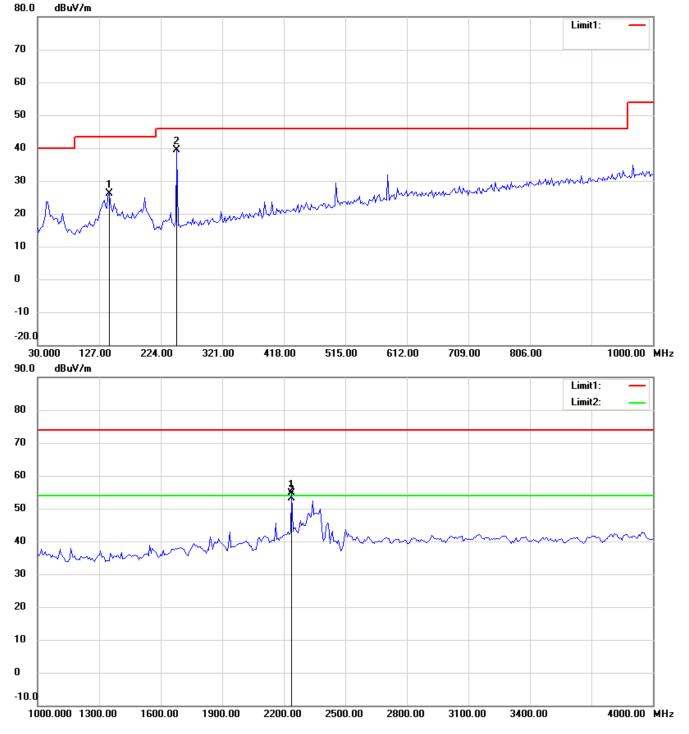


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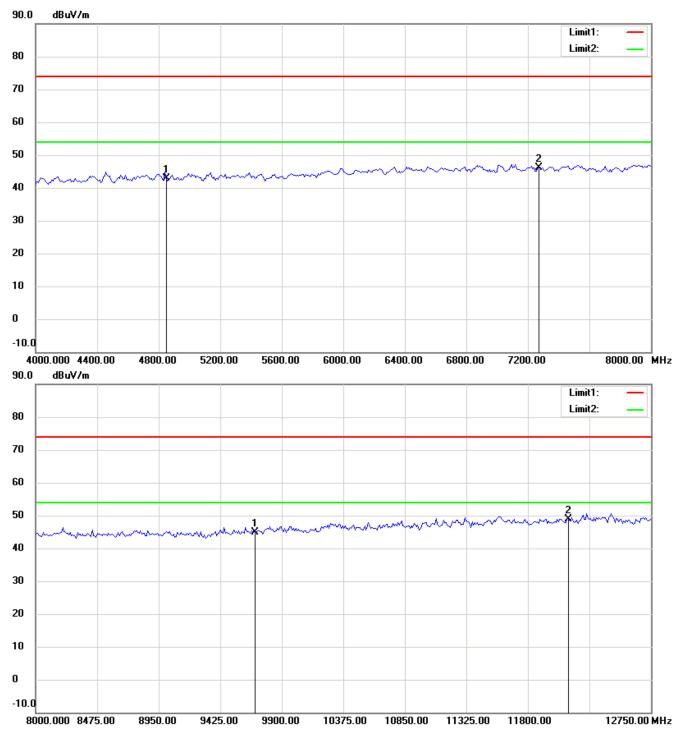
802.11n 40MHz 2422MHz

Antenna Polarization H



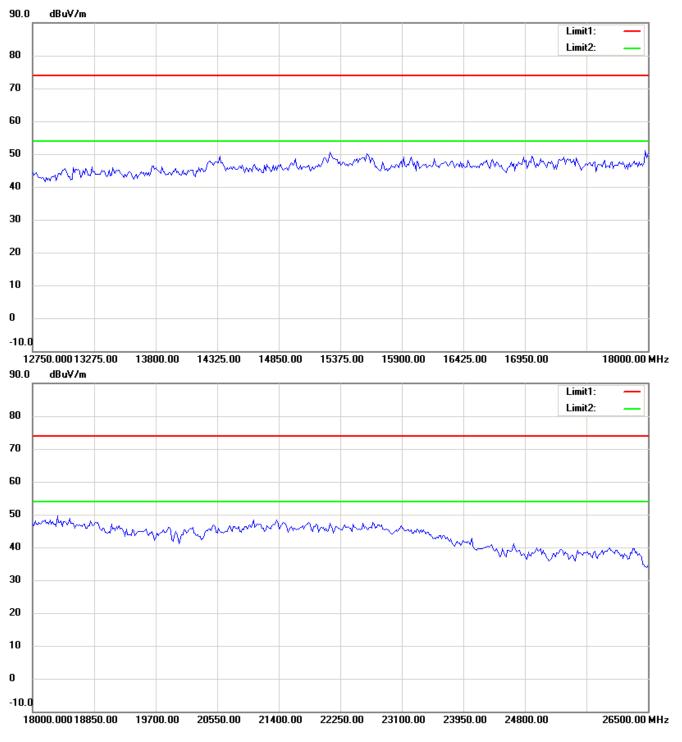
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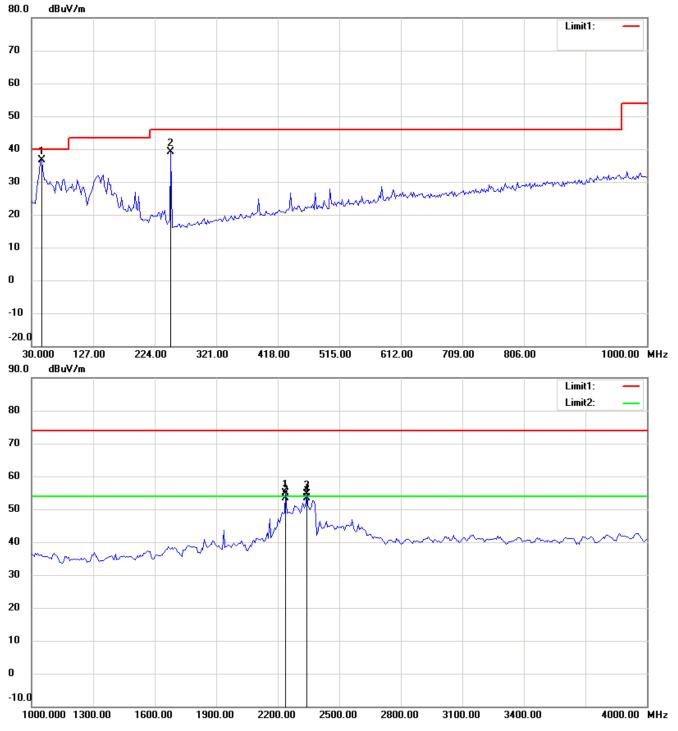




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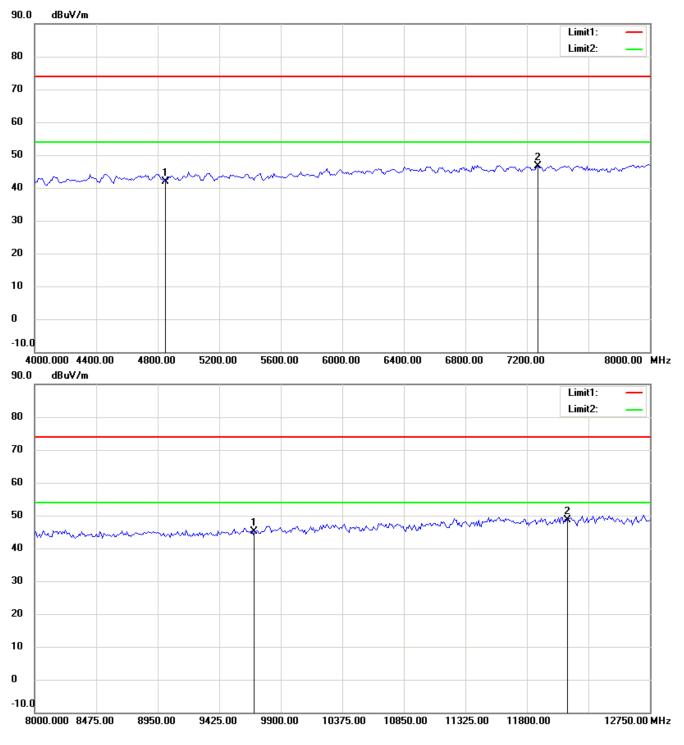


Antenna Polarization V



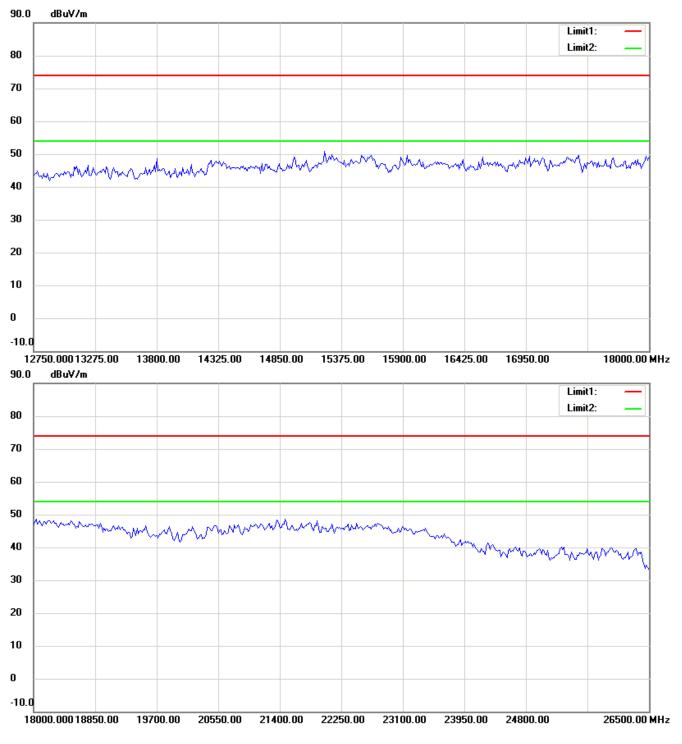
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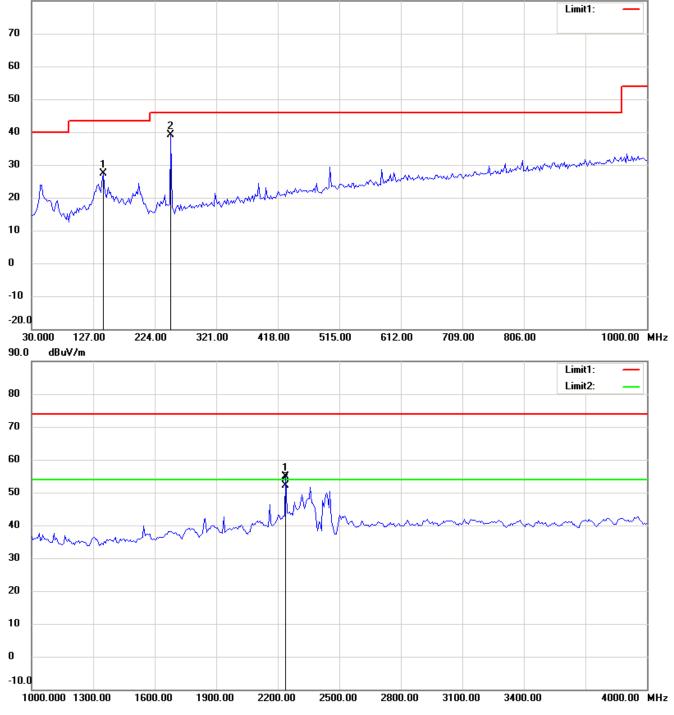
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802.11n 40MHz 2437MHz

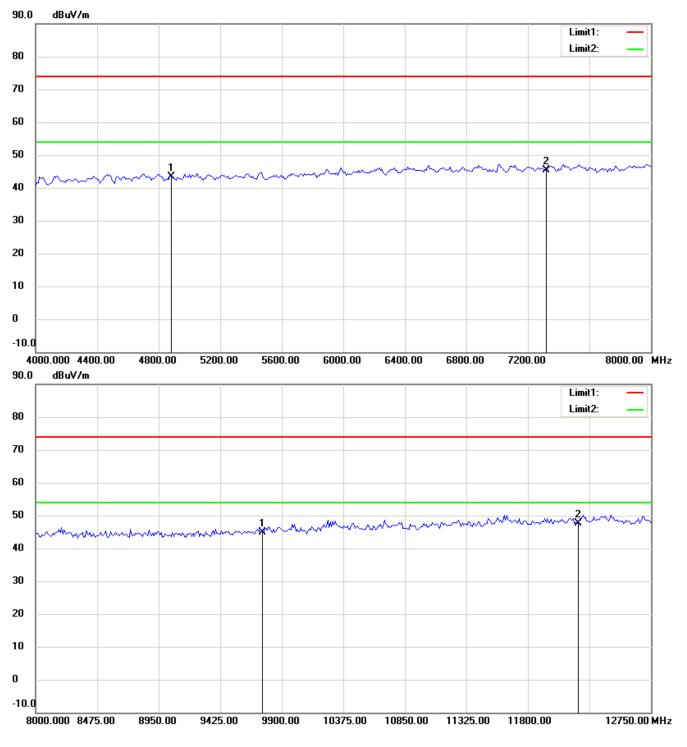
Antenna Polarization H





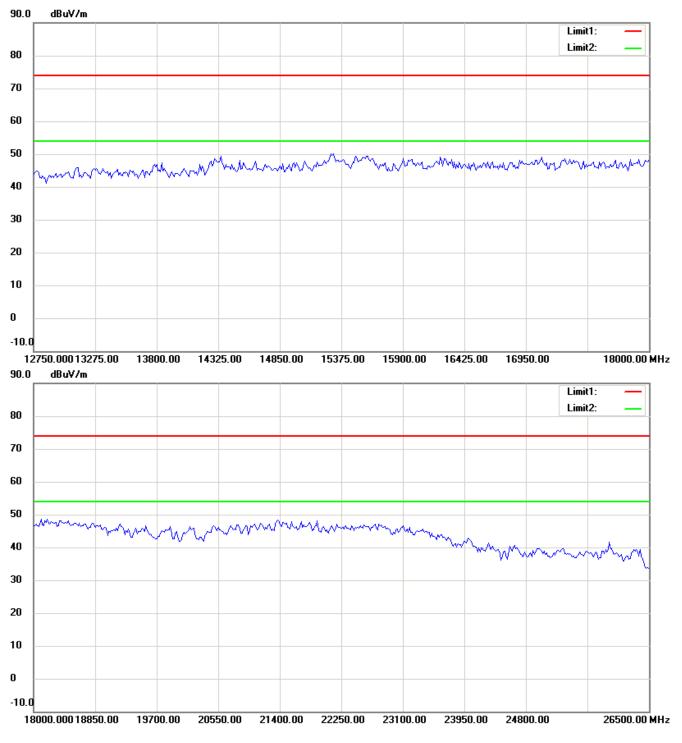
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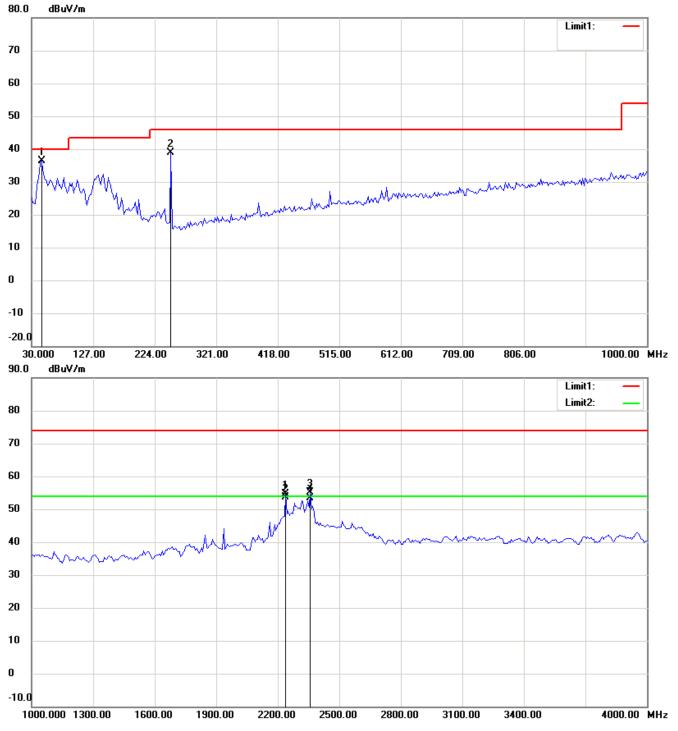




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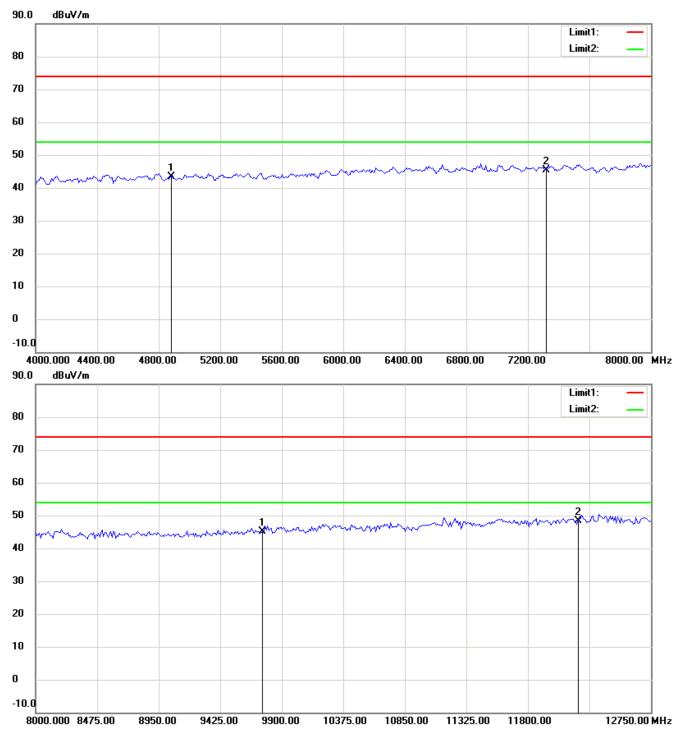


Antenna Polarization V



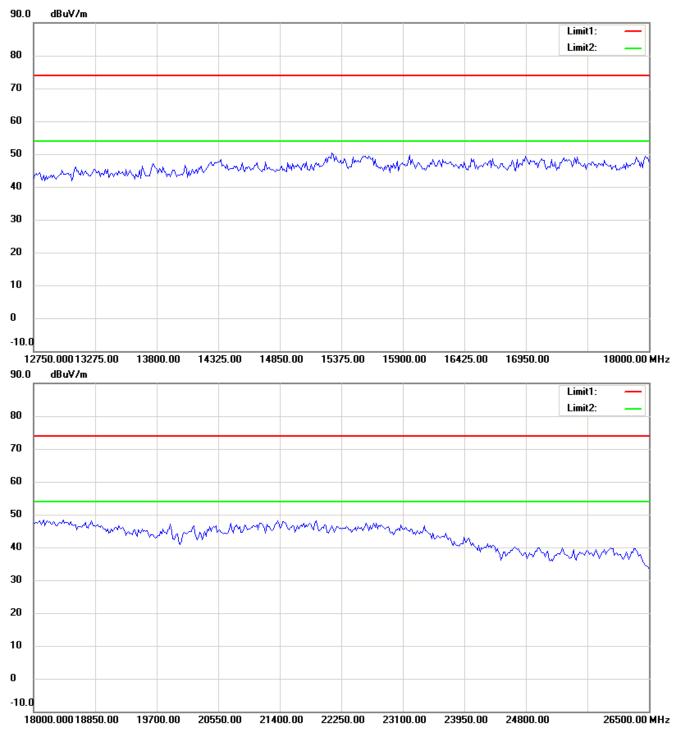
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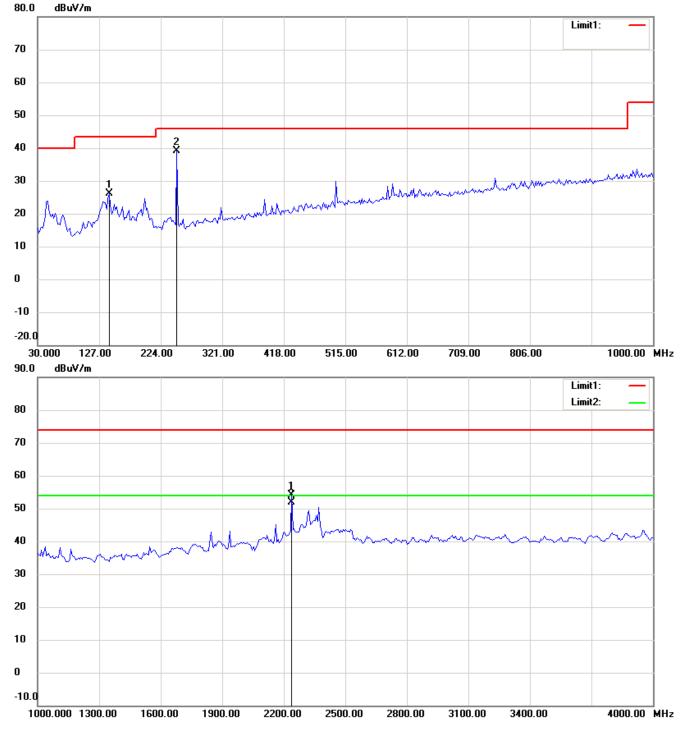


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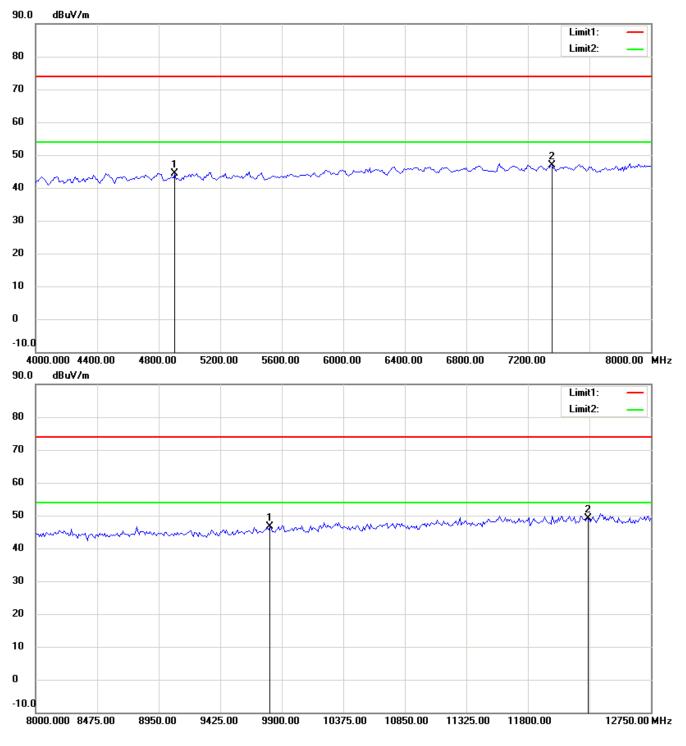
802.11n 40MHz 2452MHz

Antenna Polarization H



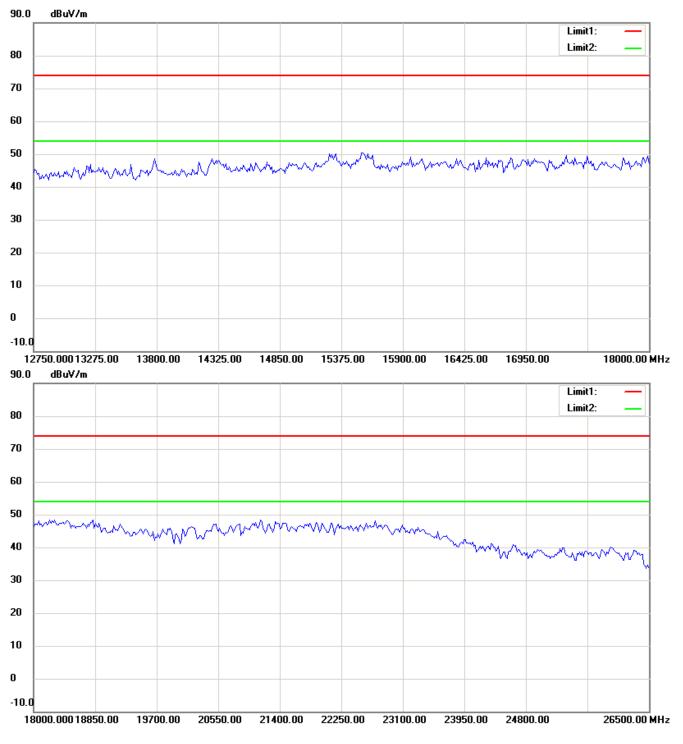
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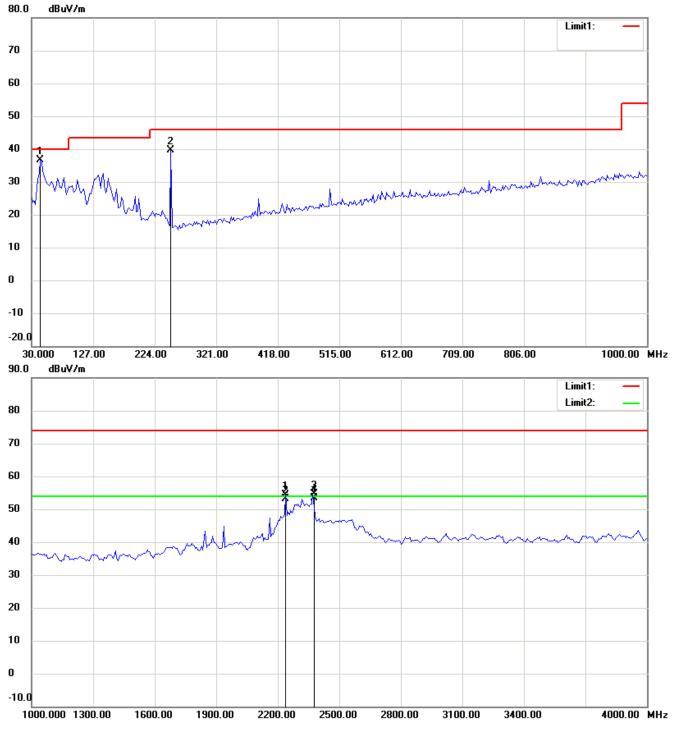




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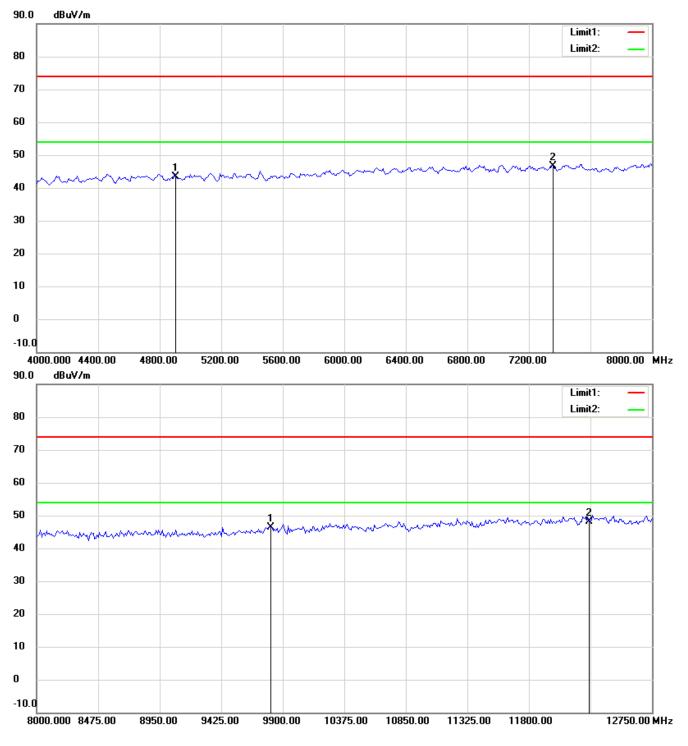


Antenna Polarization V



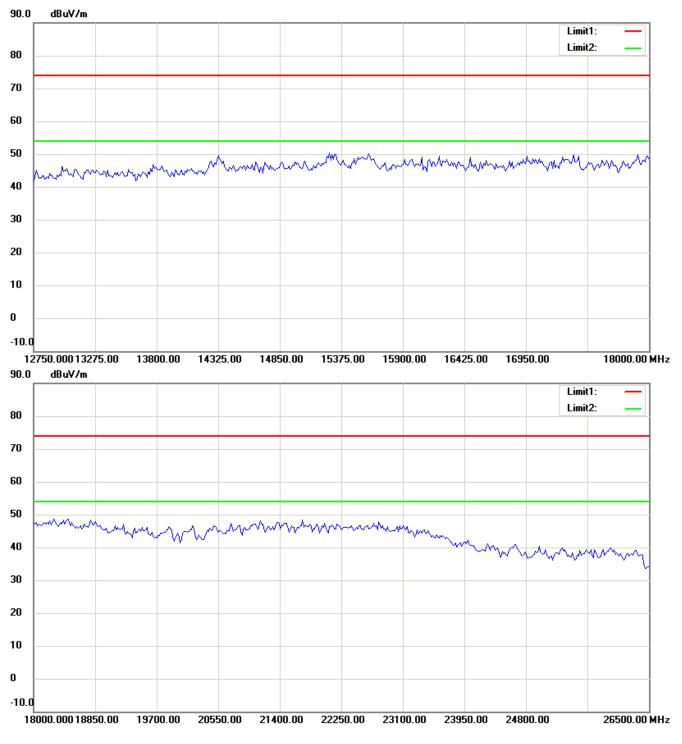
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