FCC 47 CFR PART 15 SUBPART E &
INDUSTRY CANADA RSS-247

TEST REPORT

For

Product	Model
Wi-Fi (11a/b/g/n/ac 2Tx2R)+BT (V4.1LE) USB Combo Module	WCBN4510R
	WCBN4510R(2M)
	WCBN4512R
Wi-Fi (11a/b/g/n 2Tx2R)+BT (V4.1LE) USB Combo Module	WCBN4510R(32U)
	WCBN4510R(32U2M)

Trade Name: LITE-ON

Issued to

Lite-On Technology Corp.
Bldg. C, 90, Chien 1 Road, Chung Ho, New Taipei City 23585, Taiwan, R.O.C

Issued by

Compliance Certification Services Inc.
No.11, Wugong 6th Rd., Wugu Dist.,
New Taipei City 24891, Taiwan. (R.O.C.)
http://www.ccsrf.com
service@ccsrf.com
Issued Date: February 2, 2016

Revision History

Rev.		Issue Date		Revisions	Effect Page	Revised By
00		February 2, 2016		Initial Issue	ALL	Kelly Cheng

TABLE OF CONTENTS

1. TEST RESULT CERTIFICATION

Applicant: Lite-On Technology Corp.
Bldg. C, 90, Chien 1 Road, Chung Ho, New Taipei City 23585, Taiwan, R.O.C

Manufacturer: LITE-ON TECHNOLOGY (Changzhou) CO., LTD
A9 Building,No.88 Yanghu Road, Wujin Hi-Tech Industrial Development Zone ,Changzhou City,Jiangsu Province 213100 China

Equipment Under Test / Model Number:

Product	Model
Wi-Fi (11a/b/g/n/ac 2Tx2R)+BT (V4.1LE) USB Combo Module	WCBN4510R
	WCBN4510R(2M)
	WCBN4512R
Wi-Fi (11a/b/g/n 2Tx2R)+BT (V4.1LE) USB Combo Module	WCBN4510R(32U)
	WCBN4510R(32U2M)

Trade Name: LITE-ON

Date of Test: December 8, 2015 ~ January 20, 2016

APPLICABLE STANDARDS	
STANDARD	**TEST RESULT**
FCC 47 CFR Part 15 Subpart E & Industry Canada RSS-247 Issue 1	No non-compliance noted

We hereby certify that:

Compliance Certification Services Inc. tested the above equipment. The test data, data evaluation, test procedures, and equipment configurations shown in this report were made in accordance with the procedures given in ANSI C63.10: 2013 and the energy emitted by the sample EUT tested as described in this report is in compliance with conducted and radiated emission limits of FCC Rules Part 15.407 and Industry Canada RSS-247 Issue 1.

The test results of this report relate only to the tested sample identified in this report.

Approved by:

Miller Lee
Manager
Compliance Certification Services Inc.

Reviewed by:

Angel Cheng
Section Manager
Compliance Certification Services Inc.

2. EUT DESCRIPTION

<table>
<tr><td rowspan="6">Product / Model Number</td><td>Product</td><td>Model</td></tr>
<tr><td rowspan="3">Wi-Fi (11a/b/g/n/ac 2Tx2R)+BT (V4.1LE) USB Combo Module</td><td>WCBN4510R</td></tr>
<tr><td>WCBN4510R(2M)</td></tr>
<tr><td>WCBN4512R</td></tr>
<tr><td rowspan="2">Wi-Fi (11a/b/g/n 2Tx2R)+BT (V4.1LE) USB Combo Module</td><td>WCBN4510R(32U)</td></tr>
<tr><td>WCBN4510R(32U2M)</td></tr>
<tr><td>Trade Name</td><td colspan="2">LITE-ON</td></tr>
<tr><td>Received Date</td><td colspan="2">November 23, 2015</td></tr>
<tr><td>Power Supply</td><td colspan="2">Power form host device</td></tr>
<tr><td>Operating Frequency Range & Number of Channels</td><td colspan="2">
<table>
<tr><th></th><th>Mode</th><th>Frequency Range (MHz)</th><th>Number of Channels</th></tr>
<tr><td rowspan="4">UNII Band I</td><td>IEEE 802.11a</td><td>5180 ~ 5240</td><td>4 Channels</td></tr>
<tr><td>IEEE 802.11n HT 20 MHz</td><td>5180 ~ 5240</td><td>4 Channels</td></tr>
<tr><td>IEEE 802.11n HT 40 MHz</td><td>5190 ~ 5230</td><td>2 Channels</td></tr>
<tr><td>IEEE 802.11ac VHT 80 MHz</td><td>5210</td><td>1 Channel</td></tr>
<tr><td rowspan="4">UNII Band II</td><td>IEEE 802.11a</td><td>5260 ~ 5320</td><td>4 Channels</td></tr>
<tr><td>IEEE 802.11n HT 20 MHz</td><td>5260 ~ 5320</td><td>4 Channels</td></tr>
<tr><td>IEEE 802.11n HT 40 MHz</td><td>5270 ~ 5310</td><td>2 Channels</td></tr>
<tr><td>IEEE 802.11ac VHT 80 MHz</td><td>5290</td><td>1 Channel</td></tr>
<tr><td rowspan="4">UNII Band III</td><td>IEEE 802.11a</td><td>5500 ~ 5700</td><td>11 Channels</td></tr>
<tr><td>IEEE 802.11n HT 20 MHz</td><td>5500 ~ 5700</td><td>11 Channels</td></tr>
<tr><td>IEEE 802.11n HT 40 MHz</td><td>5510 ~ 5670</td><td>5 Channels</td></tr>
<tr><td>IEEE 802.11ac VHT 80 MHz</td><td>5530</td><td>1 Channel</td></tr>
</table>
</td></tr>
<tr><td>Transmit Power</td><td colspan="2">
<table>
<tr><th></th><th>Mode</th><th>Frequency Range (MHz)</th><th>Output Power (dBm)</th><th>Output Power (w)</th></tr>
<tr><td rowspan="4">UNII Band I</td><td>IEEE 802.11a</td><td>5180 ~ 5240</td><td>14.94</td><td>0.0312</td></tr>
<tr><td>IEEE 802.11n HT 20 MHz</td><td>5180 ~ 5240</td><td>17.57</td><td>0.0571</td></tr>
<tr><td>IEEE 802.11n HT 40 MHz</td><td>5190 ~ 5230</td><td>17.78</td><td>0.0600</td></tr>
<tr><td>IEEE 802.11ac VHT 80 MHz</td><td>5210</td><td>14.52</td><td>0.0283</td></tr>
<tr><td rowspan="4">UNII Band II</td><td>IEEE 802.11a</td><td>5260 ~ 5320</td><td>15.25</td><td>0.0335</td></tr>
<tr><td>IEEE 802.11n HT 20 MHz</td><td>5260 ~ 5320</td><td>15.71</td><td>0.0372</td></tr>
<tr><td>IEEE 802.11n HT 40 MHz</td><td>5270 ~ 5310</td><td>18.10</td><td>0.0646</td></tr>
<tr><td>IEEE 802.11ac VHT 80 MHz</td><td>5290</td><td>15.50</td><td>0.0355</td></tr>
<tr><td rowspan="4">UNII Band III</td><td>IEEE 802.11a</td><td>5500 ~ 5700</td><td>14.31</td><td>0.0270</td></tr>
<tr><td>IEEE 802.11n HT 20 MHz</td><td>5500 ~ 5700</td><td>17.87</td><td>0.0612</td></tr>
<tr><td>IEEE 802.11n HT 40 MHz</td><td>5510 ~ 5670</td><td>17.42</td><td>0.0552</td></tr>
<tr><td>IEEE 802.11ac VHT 80 MHz</td><td>5530</td><td>15.47</td><td>0.0352</td></tr>
</table>
</td></tr>
<tr><td>Modulation Technique</td><td colspan="2">OFDM (256QAM, 64QAM, 16QAM, QPSK, BPSK)</td></tr>
<tr><td>Transmit Data Rate</td><td colspan="2">IEEE 802.11a mode: 54, 48, 36, 24, 18, 12, 9, 6 Mbps
IEEE 802.11n HT 20 mode: OFDM (6.5, 7.2, 13, 14.4, 14.44, 19.5, 21.7, 26, 28.89, 28.9, 39, 43.3, 43.33 52, 57.78, 57.8, 58.5, 65.0, 72.2, 78, 86.67, 104, 115.56, 117, 130, 144.44 Mbps)
IEEE 802.11n HT 40 mode: OFDM (13.5, 15, 27, 30, 40.5, 45, 54, 60, 81, 90, 108, 120, 121.5, 135, 150, 162, 180, 216, 240, 243, 270, 300 Mbps)
IEEE 802.11ac VHT 80 Mode: OFDM (2x2 80MHz,up to 866.6Mbps)</td></tr>
</table>

Antenna Specification	1. Walsin / PIFA Antenna RFMTA401029IMLB701 / 3.77dBi 2. Walsin / Dipole Antenna SOUND BAR / 6.11dBi 3. Walsin / PIFA Antenna Integral Antenna1 / 1.74dBi Integral Antenna2 / 1.74dBi For PIFA Antenna MIMO:10*LOG(((10^(3.77 / 20)+10^(3.77 /20))^2)/2)= 6.78 dBi For Dipole Antenna MIMO:10*LOG(((10^(6.11 / 20)+10^(6.11 /20))^2)/2)= 9.12 dBi

Remark: *1. The sample selected for test was engineering sample that approximated to production product and was provided by manufacturer.*

2. Model Discrepancy：

Model	***Main Chipset***	***Function***	***Antenna Mode***
WCBN4510R	*Media Tek MT7662U*	*Wi-Fi (11a/b/g/n/ac) + Bluetooth*	*Triple External Antennas for WiFi&BT*
WCBN4510R(2M)	*Media Tek MT7662U*	*Wi-Fi (11a/b/g/n/ac) + Bluetooth*	*Two Metal Antenna for WiFi Single External Antenna for BT*
WCBN4512R	*Media Tek MT7662U*	*Wi-Fi (11a/b/g/n/ac) + Bluetooth*	*Two Metal Antenna for WiFi Single External Antenna for BT*
WCBN4510R(32U)	*Media Tek MT7632U*	*Wi-Fi (11a/b/g/n) + Bluetooth*	*Triple External Antennas for WiFi&BT*
WCBN4510R(32U2M)	*Media Tek MT7632U*	*Wi-Fi (11a/b/g/n) + Bluetooth*	*Two Metal Antenna for WiFi Single External Antenna for BT*

3. TEST METHODOLOGY

The tests documented in this report were performed in accordance with ANSI C63.10: 2013 and FCC CFR 47 Part 15.207, 15.209, 15.407, KDB 644545 D03 v01 and KDB 789033 D02 v01r01General UNII Test Procedures New Rules v01.

The tests documented in this report were performed in accordance with IC RSS-247, IC RSS-Gen and ANSI C63.10:2013.

This submittal(s) (test report) is intended for IC Certification with Industry Canada RSS-247.

3.1 EUT CONFIGURATION

The EUT configuration for testing is installed for RF field strength measurement to meet the Commissions requirement, and is operated in a manner intended to generate the maximum emission in a continuous normal application.

3.2 EUT EXERCISE

The EUT is operated in the engineering mode to fix the Tx frequency for the purposes of measurement.

According to its specifications, the EUT must comply with the requirements of Section 15.407 under the FCC Rules Part 15 Subpart E.

3.3 GENERAL TEST PROCEDURES

Conducted Emissions

According to the requirements in ANSI C63.10: 2013, the conducted emission from the EUT is measured in the frequency range between 0.15 MHz and 30MHz, using the CISPR Quasi-Peak detector mode.

Radiated Emissions

The EUT is placed on the turntable, which is 1.5 m above the ground plane. The turntable is then rotated for 360 degrees to determine the proper orientation for the maximum emission level. The EUT is set 3m away from the receiving antenna, which is varied from 1m to 4m to find out the highest emission level. And, each emission is to be maximized by changing the horizontal and vertical polarization of the receiving antenna. In order to find out the maximum emissions, exploratory radiated emission measurements were made according to the requirements in ANSI C63.10: 2013.

3.4 FCC PART 15.205 RESTRICTED BANDS OF OPERATIONS

(a) Except as shown in paragraph (d) of this section, only spurious emissions are permitted in any of the frequency bands listed below:

MHz	MHz	MHz	GHz
0.090 - 0.110	16.42 - 16.423	399.9 - 410	4.5 - 5.15
[1]0.495 - 0.505	16.69475 - 16.69525	608 - 614	5.35 - 5.46
2.1735 - 2.1905	16.80425 - 16.80475	960 - 1240	7.25 - 7.75
4.125 - 4.128	25.5 - 25.67	1300 - 1427	8.025 - 8.5
4.17725 - 4.17775	37.5 - 38.25	1435 - 1626.5	9.0 - 9.2
4.20725 - 4.20775	73 - 74.6	1645.5 - 1646.5	9.3 - 9.5
6.215 - 6.218	74.8 - 75.2	1660 - 1710	10.6 - 12.7
6.26775 - 6.26825	108 - 121.94	1718.8 - 1722.2	13.25 - 13.4
6.31175 - 6.31225	123 - 138	2200 - 2300	14.47 - 14.5
8.291 - 8.294	149.9 - 150.05	2310 - 2390	15.35 - 16.2
8.362 - 8.366	156.52475 -	2483.5 - 2500	17.7 - 21.4
8.37625 - 8.38675	156.52525	2655 - 2900	22.01 - 23.12
8.41425 - 8.41475	156.7 - 156.9	3260 - 3267	23.6 - 24.0
12.29 - 12.293	162.0125 - 167.17	3332 - 3339	31.2 - 31.8
12.51975 - 12.52025	167.72 - 173.2	3345.8 - 3358	36.43 - 36.5
12.57675 - 12.57725	240 - 285	3600 - 4400	([2])
13.36 - 13.41	322 - 335.4		

[1] Until February 1, 1999, this restricted band shall be 0.490-0.510 MHz.

[2] Above 38.6

(b) Except as provided in paragraphs (d) and (e), the field strength of emissions appearing within these frequency bands shall not exceed the limits shown in Section 15.209. At frequencies equal to or less than 1000 MHz, compliance with the limits in Section 15.209 shall be demonstrated using measurement instrumentation employing a CISPR quasi-peak detector. Above 1000 MHz, compliance with the emission limits in Section 15.209 shall be demonstrated based on the average value of the measured emissions. The provisions in Section 15.35 apply to these measurements.

3.5 DESCRIPTION OF TEST MODES

The EUT (model: WCBN4510R) had been tested under operating condition.

The EUT is a 2x2 configuration spatial MIMO (2Tx & 2Rx) without beam forming function that operate in double TX chains and double RX chains. The 2x2 configuration is implemented with two outside TX & RX chains (Chain 0 and 1).

Software used to control the EUT for staying in continuous transmitting mode was programmed.

After verification, all tests were carried out with the worst case test modes as shown below except radiated spurious emission below 1GHz, which worst case was in normal link mode only.

UNII Band I:

IEEE 802.11a for 5180 ~ 5240MHz:
Channel Low (5180MHz), Channel Mid (5220MHz) and Channel High (5240MHz) with 6Mbps data rate were chosen for full testing.

IEEE 802.11n HT 20 MHz for 5180 ~ 5240MHz:
Channel Low (5180MHz), Channel Mid (5220MHz) and Channel High (5240MHz) with 6.5Mbps data rate were chosen for full testing.

IEEE 802.11n HT 40 MHz Channel for 5190 ~ 5230MHz:
Channel Low (5190MHz) and Channel High (5230MHz) with 13.5Mbps data rate were chosen for full testing.

IEEE 802.11ac VHT 80 MHz Channel for 5210MHz:
Channel Low(5210MHz) with 29.3Mbps data rate were chosen for full testing.

UNII Band II:

IEEE 802.11a for 5260 ~ 5320MHz:
Channel Low (5260MHz), Channel Mid (5280MHz) and Channel High (5320MHz) with 6Mbps data rate were chosen for full testing.

IEEE 802.11n HT 20 MHz for 5260 ~ 5320MHz:
Channel Low (5260MHz), Channel Mid (5280MHz) and Channel High (5320MHz) with 6.5Mbps data rate were chosen for full testing.

IEEE 802.11n HT 40 MHz for 5270 ~ 5310MHz:

Channel Low (5270MHz) and Channel High (5310MHz) with 13.5Mbps data rate were chosen for full testing.

IEEE 802.11ac VHT 80 MHz for 5290MHz:

Channel Low (5290MHz) with 29.3Mbps data rate were chosen for full testing.

UNII Band III:

IEEE 802.11a for 5500 ~ 5720MHz:
Channel Low (5500MHz), Channel Mid (5580MHz) and Channel High (5720MHz) with 6Mbps data rate were chosen for full testing.

IEEE 802.11n HT 20 MHz for 5500 ~ 5720MHz:
Channel Low (5500MHz), Channel Mid (5580MHz) and Channel High (5720MHz) with 6.5Mbps data rate were chosen for full testing.

IEEE 802.11n HT 40 MHz for 5510 ~ 5710MHz:
Channel Low (5510MHz), Channel Mid (5550MHz) and Channel High (5710MHz) with 13.5Mbps data rate were chosen for full testing.

IEEE 802.11ac VHT 80 MHz for 5530 ~ 5690MHz:
Channel Low (5530MHz) and Channel High (5690MHz) with 29.3Mbps data rate were chosen for full testing.

For PIFA Antenna

The field strength of spurious emission was measured in the following position: EUT stand-up position (Z axis), lie-down position (X, Y axis). The worst emission was found in lie-down position (Z axis) and the worst case was recorded.

For Dipole Antenna

The field strength of spurious emission was measured in the following position: EUT stand-up position (Z axis), lie-down position (X, Y axis). The worst emission was found in lie-down position (Y axis) and the worst case was recorded.

4. INSTRUMENT CALIBRATION

4.1 MEASURING INSTRUMENT CALIBRATION

The measuring equipment, which was utilized in performing the tests documented herein, has been calibrated in accordance with the manufacturer's recommendations for utilizing calibration equipment, which is traceable to recognized national standards.

4.2 MEASUREMENT EQUIPMENT USED

Equipment Used for Emissions Measurement

Remark: *Each piece of equipment is scheduled for calibration once a year and Loop Antenna is scheduled for calibration once three years.*

Conducted Emissions Test Site				
Name of Equipment	**Manufacturer**	**Model**	**Serial Number**	**Calibration Due**
Spectrum Analyzer	Agilent	E4446A	US42510252	12/07/2016
Thermostatic/Humidity Chamber	TAICHY	MHG-150LF	930619	10/07/2016
AC Power Source	EXTECH	6205	1140845	N.C.R
DC Power Supply	ABM	8301HD	D011531	N.C.R
Power Meter	Anritsu	ML2495A	1012009	07/07/2016
Power Sensor	Anritsu	MA2411A	0917072	07/07/2016
Spectrum Analyzer	ROHDE&SCHWARZ	FSV40	101073	07/19/2016

Wugu 966 Chamber A				
Name of Equipment	**Manufacturer**	**Model**	**Serial Number**	**Calibration Due**
Spectrum Analyzer	Agilent	E4446A	US42510268	01/24/2017
EMI Test Receiver	R&S	ESCI	100064	06/03/2016
Bilog Antenna	Sunol Sciences	JB3	A030105	08/05/2016
Horn Antenna	EMCO	3117	00055165	01/25/2017
Horn Antenna	EMCO	3116	26370	12/24/2016
Turn Table	CCS	CC-T-1F	N/A	N.C.R
Antenna Tower	CCS	CC-A-1F	N/A	N.C.R
Controller	CCS	CC-C-1F	N/A	N.C.R
Pre-Amplifier	MITEQ	1652-3000	1490939	08/09/2016
Pre-Amplifier	EMC	EMC 012635	980151	06/04/2016
Pre-Amplifier	MITEQ	AMF-6F-260400-40-8P	985646	12/24/2016
Coaxial Cable	Huber+Suhner	102	29212/2	12/24/2016
Coaxial Cable	Huber+Suhner	102	29406/2	12/24/2016
Test S/W	EZ-EMC (CCS-3A1RE)			

Conducted Emission Room # B				
Name of Equipment	**Manufacturer**	**Model**	**Serial Number**	**Calibration Due**
EMI Test Receiver	R&S	ESCI	101073	09/08/2016
LISN	R&S	ENV216	101054	06/06/2016
LISN	SCHWARZBECK	NSLK 8127	8127-541	11/22/2016
Capacitive Voltage Probe	FCC	F-CVP-1	100185	03/12/2016
Test S/W	CCS-3A1-CE			

4.3 MEASUREMENT UNCERTAINTY

PARAMETER	UNCERTAINTY
Powerline Conducted Emission	+/- 1.2575
3M Semi Anechoic Chamber / 30M~200M	+/- 4.0138
3M Semi Anechoic Chamber / 200M~1000M	+/- 3.9483
3M Semi Anechoic Chamber / 1G~8G	+/- 2.5975
3M Semi Anechoic Chamber / 8G~18G	+/- 2.6112
3M Semi Anechoic Chamber / 18G~26G	+/- 2.7389
3M Semi Anechoic Chamber / 26G~40G	+/- 2.9683

***Remark**: This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2.*

5. FACILITIES AND ACCREDITATIONS

5.1 FACILITIES

All measurement facilities used to collect the measurement data are located at

☐ No.199, Chunghsen Road, Hsintien City, Taipei Hsien, Taiwan, R.O.C.
Tel: 886-2-2217-0894 / Fax: 886-2-2217-1029

☒ No.11, Wugong 6th Rd., Wugu Dist., New Taipei City 24891, Taiwan. (R.O.C.)
Tel: 886-2-2299-9720 / Fax: 886-2-2298-4045

☐ No.81-1, Lane 210, Bade 2nd Rd., Luchu Hsiang, Taoyuan Hsien 338, Taiwan
Tel: 886-3-324-0332 / Fax: 886-3-324-5235

The sites are constructed in conformance with the requirements of ANSI C63.7, ANSI C63.10: 2013 and CISPR Publication 22.

5.2 EQUIPMENT

Radiated emissions are measured with one or more of the following types of linearly polarized antennas: tuned dipole, biconical, log periodic, bi-log, ridged waveguide, horn and/or Loop. Spectrum analyzers with pre-selectors and quasi-peak detectors are used to perform radiated measurements.

Conducted emissions are measured with Line Impedance Stabilization Networks and EMI Test Receivers.

Calibrated wideband preamplifiers, coaxial cables, and coaxial attenuators are also used for making measurements.

All receiving equipment conforms to CISPR Publication 16-1, “Radio Interference Measuring Apparatus and Measurement Methods.”

5.3 LABORATORY ACCREDITATIONS AND LISTING

The test facilities used to perform radiated and conducted emissions tests are accredited by American Association for Laboratory Accreditation Program for the specific scope accreditation under Lab Code: 0824-01 to perform Electromagnetic Interference tests according to FCC Part 15 and CISPR 22 requirements. In addition, the test facilities are listed with Industry Canada, Certification and Engineering Bureau, IC 2324G-1 for 3M Semi Anechoic Chamber A, 2324G-2 for 3M Semi Anechoic Chamber B.

5.4 TABLE OF ACCREDITATIONS AND LISTINGS

Country	Agency	Scope of Accreditation	Logo
USA	FCC	3M Semi Anechoic Chamber (FCC MRA: TW1039) to perform FCC Part 15 measurements	FCC MRA: TW1039
Taiwan	TAF	LP0002, RTTE01, FCC Method-47 CFR Part 15 Subpart C, D, E, RSS-247, RSS-310 IDA TS SRD, AS/NZS 4268, AS/NZS 4771, TS 12.1 & 12,2, ETSI EN 300 440-1, ETSI EN 300 440-2, ETSI EN 300 328, ETSI EN 300 220-1, ETSI EN 300 220-2, ETSI EN 301 893, ETSI EN 301 489-1/3/7/17 FCC OET Bulletin 65 + Supplement C, EN 50360, EN 50361, EN 50371, RSS 102, EN 50383, EN 50385, EN 50392, IEC 62209, CNS 14958-1, CNS 14959 FCC Method –47 CFR Part 15 Subpart B IEC / EN 61000-3-2, IEC / EN 61000-3-3, IEC / EN 61000-4-2/3/4/5/6/8/11	TAF Testing Laboratory 1309
Canada	Industry Canada	3M Semi Anechoic Chamber (IC 2324G-1 / IC 2324G-2) to perform	Canada IC 2324G-1 IC 2324G-2

** No part of this report may be used to claim or imply product endorsement by A2LA or any agency of the US Government.*

6. SETUP OF EQUIPMENT UNDER TEST

6.1 SETUP CONFIGURATION OF EUT

See test photographs attached in Appendix I for the actual connections between EUT and support equipment.

6.2 SUPPORT EQUIPMENT

No.	Device Type	Brand	Model	Series No.	FCC ID	Data Cable	Power Cord
1	Notebook PC	ASUS	M5200AE	5BN0AG019631	PD9WM3B2100	N/A	AC I/P: Unshielded, 1.8m with a core DC O/P: Unshielded, 1.8m

Remark:

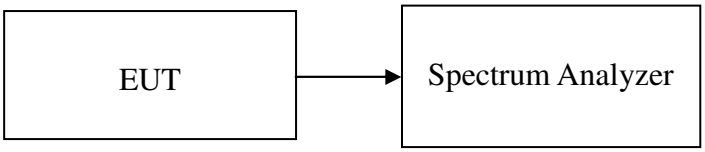
1. *All the equipment/cables were placed in the worst-case configuration to maximize the emission during the test.*
2. *Grounding was established in accordance with the manufacturer's requirements and conditions for the intended use.*

7. FCC PART 15 REQUIREMENTS & RSS-247 REQUIREMENTS

7.1 99% BANDWIDTH

Test Configuration

TEST PROCEDURE



The resolution bandwidth shall be set to as close to 1% of the selected span as is possible without being below 1%. The video bandwidth shall be set to 3 times the resolution bandwidth. Video averaging is not permitted. Where practical, a sampling detector shall be used since a peak or, peak hold.

TEST RESULTS

Test mode: IEEE 802.11a mode / 5180 ~ 5240MHz

Channel	Frequency (MHz)	99% Bandwidth (MHz)
36	5180	23.878
44	5220	26.201
48	5240	26.842

Test mode: IEEE 802.11n HT 20 MHz mode / 5180 ~ 5240MHz / Chain 0

Channel	Frequency (MHz)	99% Bandwidth (MHz)
36	5180	19.070
44	5220	22.355
48	5240	23.076

Test mode: IEEE 802.11n HT 20 MHz mode / 5180 ~ 5240MHz / Chain 1

Channel	Frequency (MHz)	99% Bandwidth (MHz)
36	5180	18.830
44	5220	20.272
48	5240	21.233

Test mode: IEEE 802.11n HT 40 MHz mode / 5190 ~ 5230MHz / Chain 0

Channel	Frequency (MHz)	99% Bandwidth (MHz)
38	5190	36.858
46	5230	40.064

Test mode: IEEE 802.11n HT 40 MHz mode / 5190 ~ 5230MHz / Chain 1

Channel	Frequency (MHz)	99% Bandwidth (MHz)
38	5190	36.698
46	5230	38.301

Test mode: IEEE 802.11ac VHT 80 MHz mode / 5210MHz / Chain 0

Channel	Frequency (MHz)	99% Bandwidth (MHz)
42	5210	75.128

Test mode: IEEE 802.11ac VHT 80 MHz mode / 5210MHz / Chain 1

Channel	Frequency (MHz)	99% Bandwidth (MHz)
42	5210	75.384

Test mode: IEEE 802.11a mode / 5260 ~ 5320MHz

Channel	Frequency (MHz)	99% Bandwidth (MHz)
52	5260	33.173
56	5280	32.692
64	5320	32.451

Test mode: IEEE 802.11n HT 20 MHz mode / 5260 ~ 5320MHz / Chain 0

Channel	Frequency (MHz)	99% Bandwidth (MHz)
52	5260	31.009
56	5280	30.448
64	5320	24.278

Test mode: IEEE 802.11n HT 20 MHz mode / 5260 ~ 5320MHz / Chain 1

Channel	Frequency (MHz)	99% Bandwidth (MHz)
52	5260	27.644
56	5280	26.923
64	5320	21.394

Test mode: IEEE 802.11n HT 40 MHz mode / 5270 ~ 5310MHz / Chain 0

Channel	Frequency (MHz)	99% Bandwidth (MHz)
54	5270	53.044
62	5310	36.858

Test mode: IEEE 802.11n HT 40 MHz mode / 5270 ~ 5310MHz / Chain 1

Channel	Frequency (MHz)	99% Bandwidth (MHz)
54	5270	42.948
62	5310	36.858

Test mode: IEEE 802.11ac VHT 80 MHz mode / 5290MHz / Chain 0

Channel	Frequency (MHz)	99% Bandwidth (MHz)
58	5290	75.128

Test mode: IEEE 802.11ac VHT 80 MHz mode / 5290MHz / Chain 1

Channel	Frequency (MHz)	99% Bandwidth (MHz)
58	5290	75.128

Test mode: IEEE 802.11a mode / 5500 ~ 5700MHz

Channel	Frequency (MHz)	99% Bandwidth (MHz)
100	5500	22.916
116	5580	20.993
140	5700	23.878

Test mode: IEEE 802.11n HT 20 MHz mode / 5500 ~ 5700MHz / Chain 0

Channel	Frequency (MHz)	99% Bandwidth (MHz)
100	5500	18.750
116	5580	18.830
140	5700	18.990

Test mode: IEEE 802.11n HT 20 MHz mode / 5500 ~ 5700MHz / Chain 1

Channel	Frequency (MHz)	99% Bandwidth (MHz)
100	5500	18.750
116	5580	18.669
140	5700	18.669

Test mode: IEEE 802.11n HT 40 MHz mode / 5510 ~ 5710MHz / Chain 0

Channel	Frequency (MHz)	99% Bandwidth (MHz)
102	5510	36.858
118	5550	37.339
134	5670	38.301

Test mode: IEEE 802.11n HT 40 MHz mode / 5510 ~ 5670MHz / Chain 1

Channel	Frequency (MHz)	99% Bandwidth (MHz)
102	5510	36.698
118	5550	37.179
134	5670	37.339

Test mode: IEEE 802.11ac VHT 80 MHz mode / 5530 ~ 5690MHz / Chain 0

Channel	Frequency (MHz)	99% Bandwidth (MHz)
106	5530	75.128

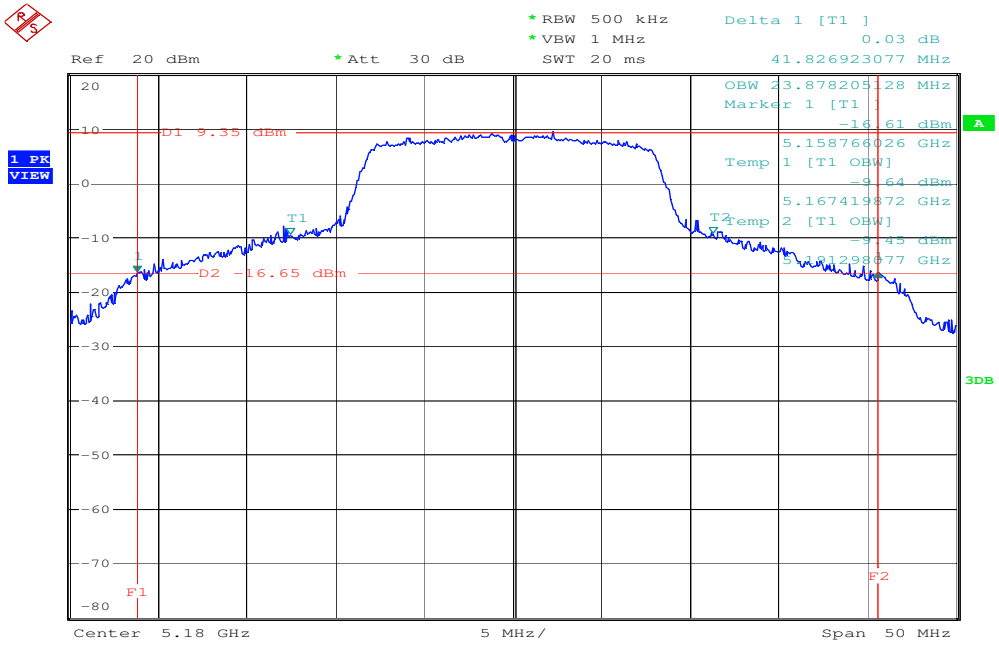
Test mode: IEEE 802.11ac VHT 80 MHz mode / 5530 ~ 5690MHz / Chain 1

Channel	Frequency (MHz)	99% Bandwidth (MHz)
106	5530	75.128

Test Plot

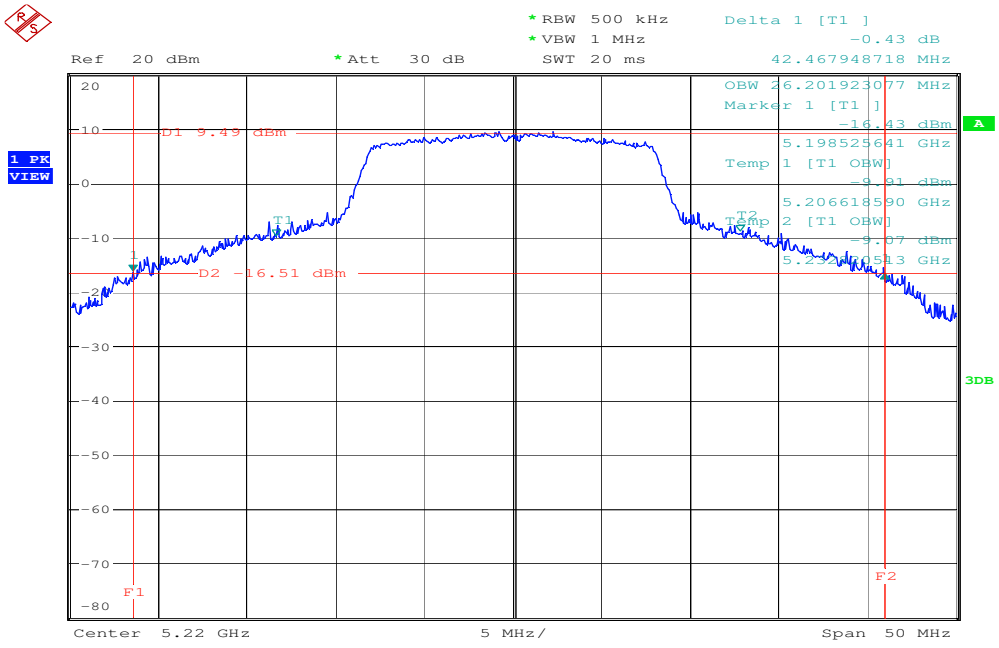
IEEE 802.11a mode / 5180 ~ 5240MHz

99% Bandwidth (5180 MHz)



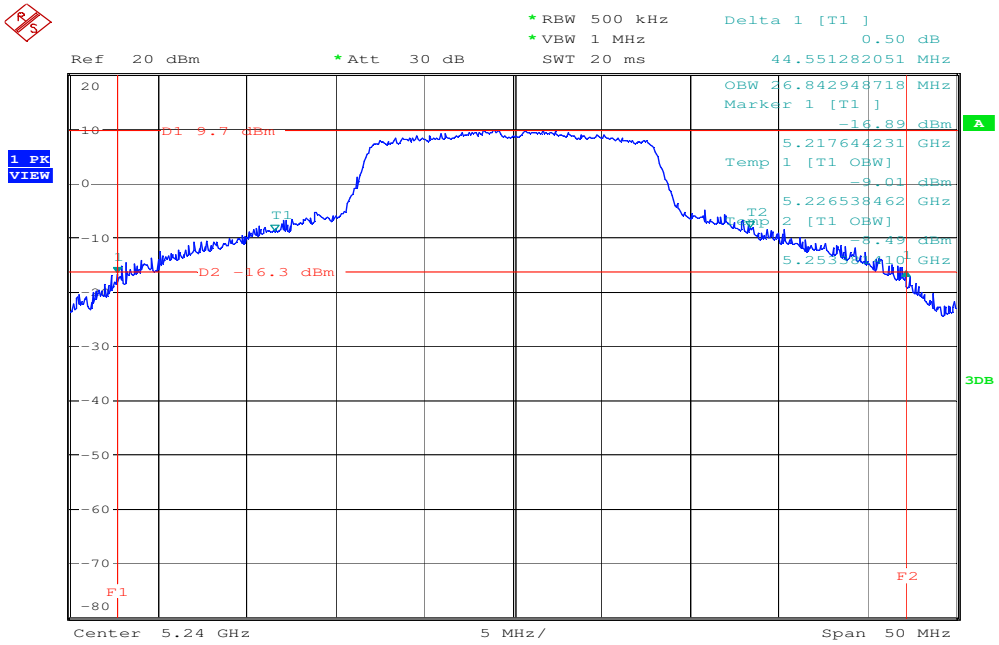
Date: 5.JAN.2016 20:43:47

99% Bandwidth (5220 MHz)



Date: 5.JAN.2016 20:46:02

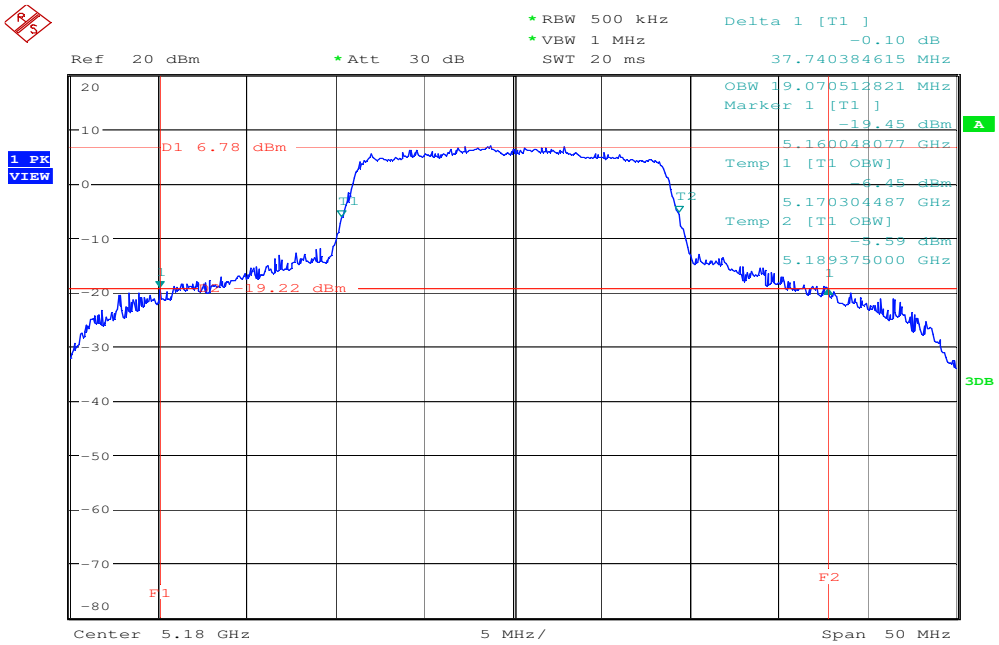
99% Bandwidth (5240 MHz)



Date: 5.JAN.2016 20:47:36

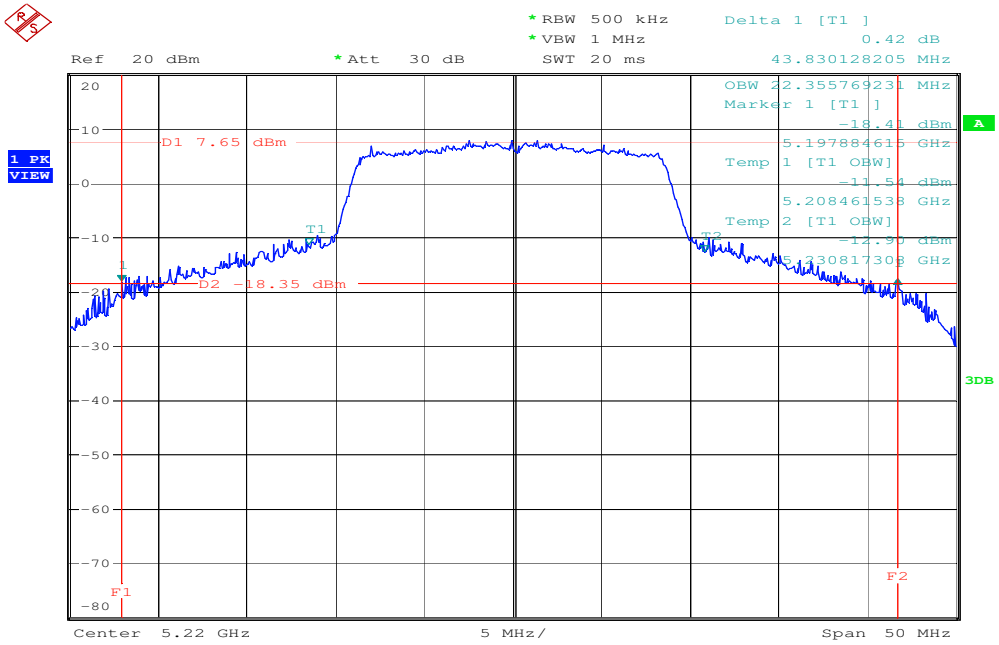
IEEE 802.11n HT 20 MHz Channel mode / 5180 ~ 5240MHz / Chain 0

99% Bandwidth (5180 MHz)



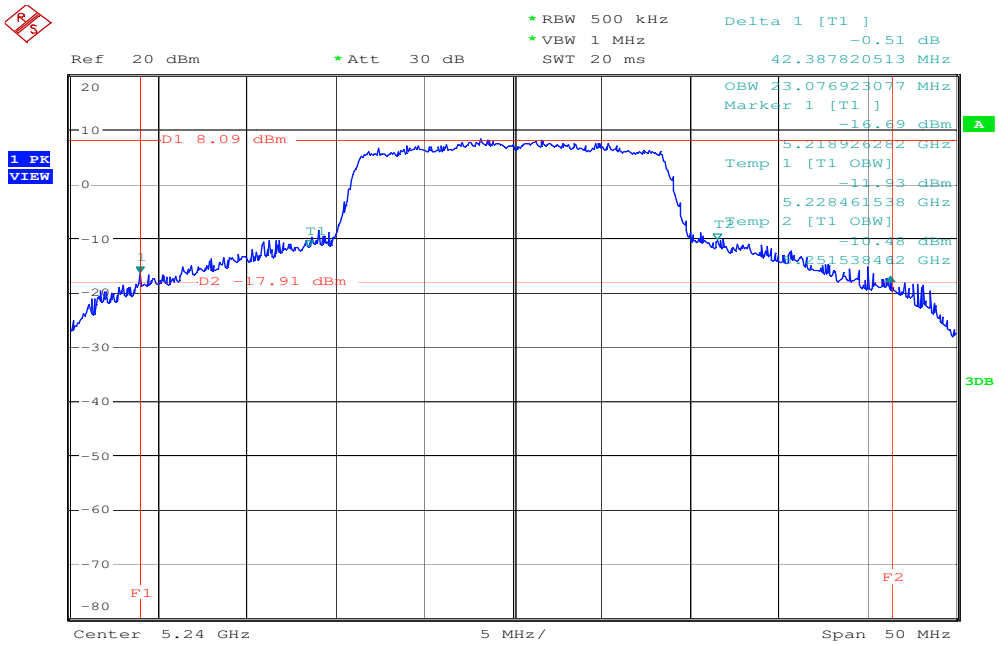
Date: 5.JAN.2016 21:24:22

99% Bandwidth (5220 MHz)



Date: 5.JAN.2016 21:37:38

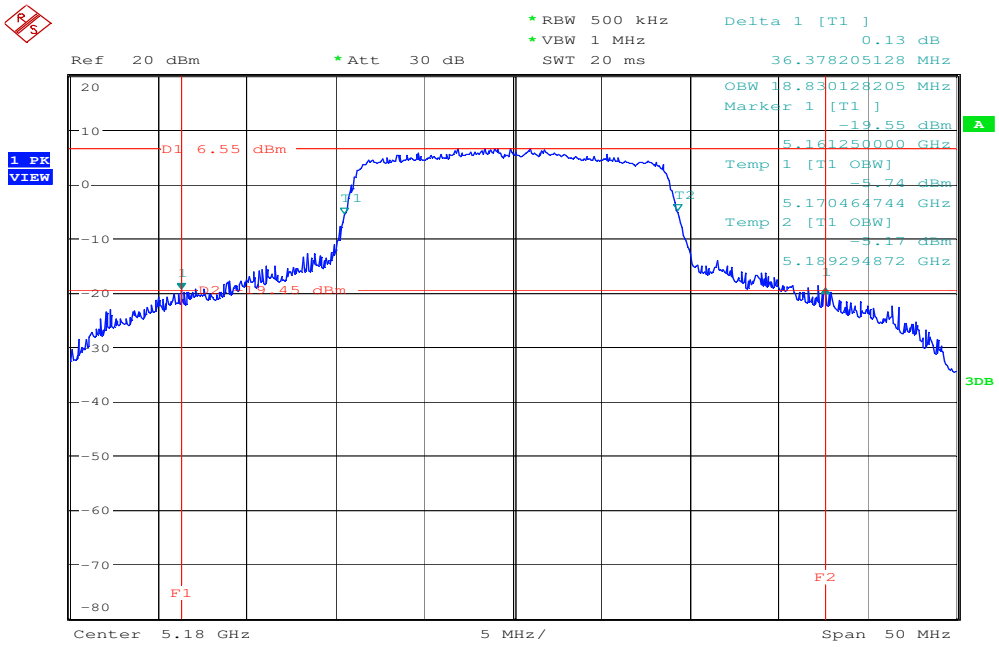
99% Bandwidth (5240 MHz)



Date: 5.JAN.2016 21:39:48

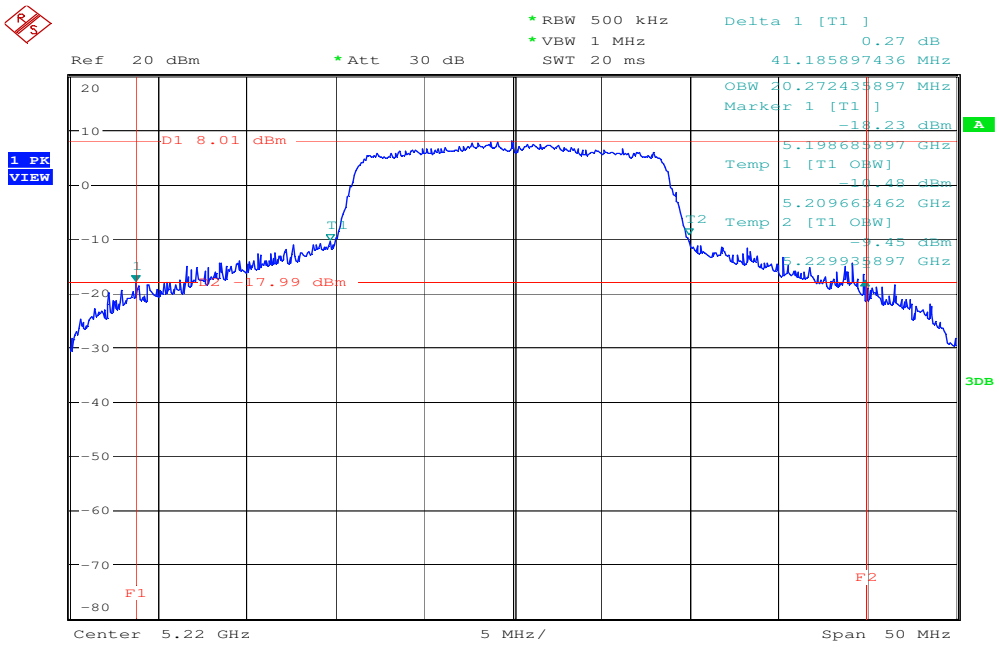
IEEE 802.11n HT 20 MHz Channel mode / 5180 ~ 5240MHz / Chain 1

99% Bandwidth (5180 MHz)



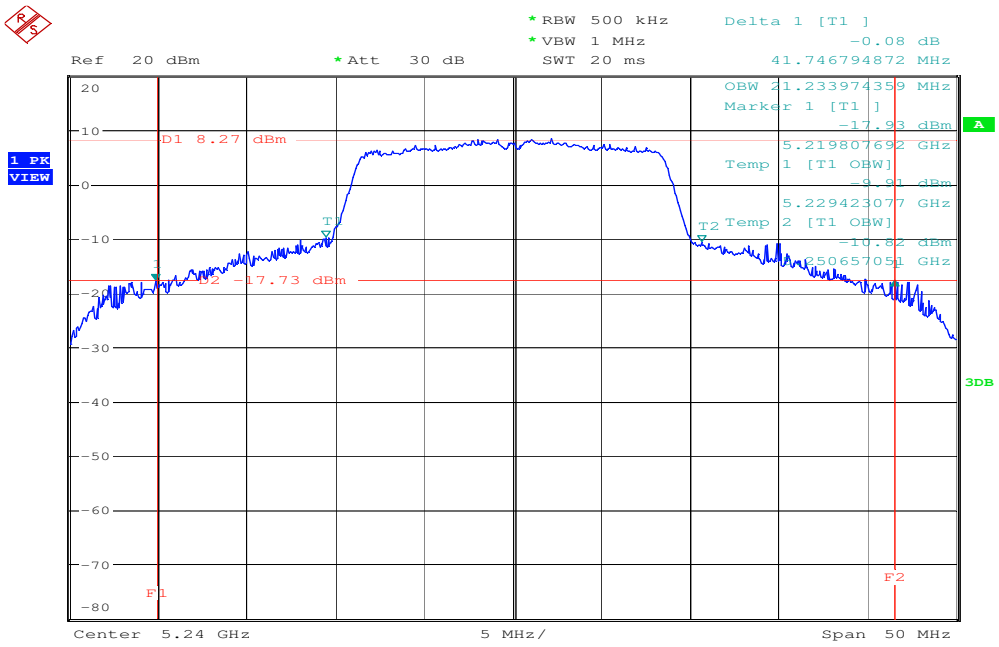
Date: 5.JAN.2016 22:13:03

99% Bandwidth (5220 MHz)



Date: 5.JAN.2016 22:14:45

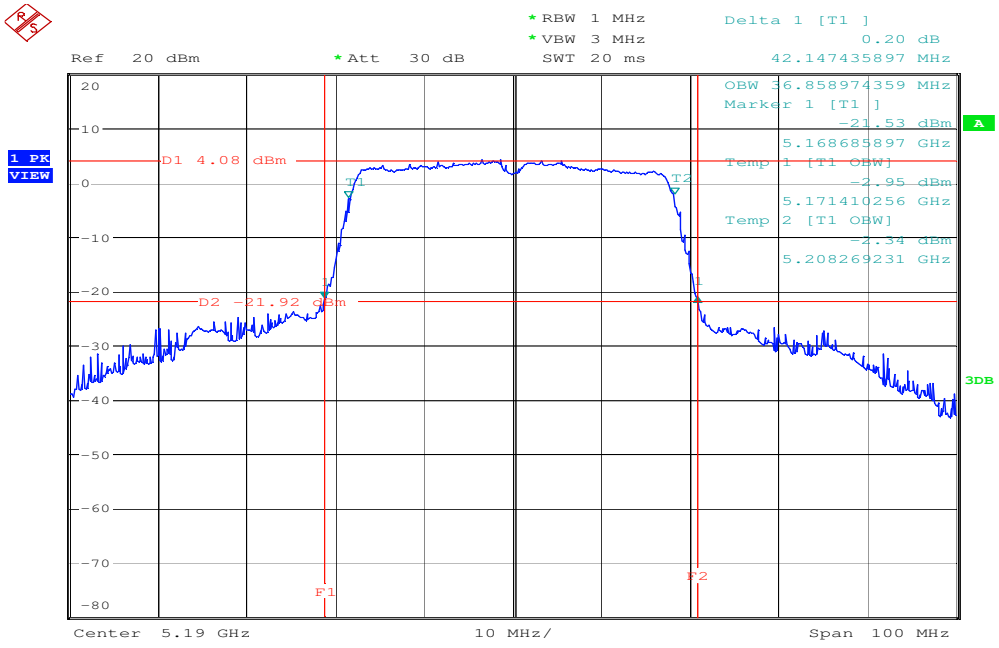
99% Bandwidth (5240 MHz)



Date: 5.JAN.2016 22:17:35

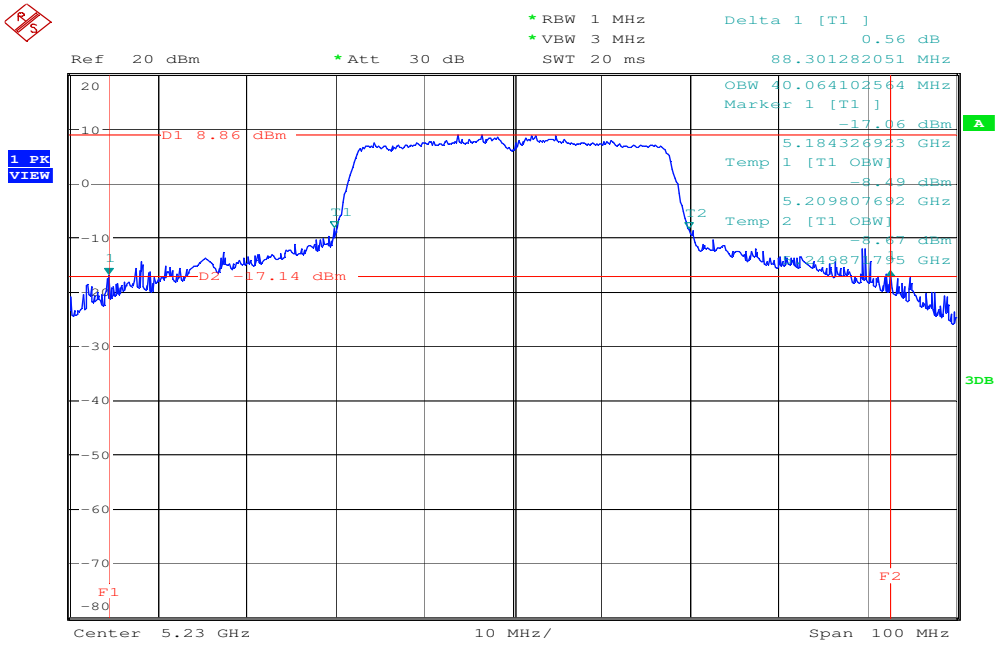
IEEE 802.11n HT 40 MHz mode / 5190 ~ 5230MHz / Chain 0

99% Bandwidth (5190 MHz)



Date: 6.JAN.2016 10:08:56

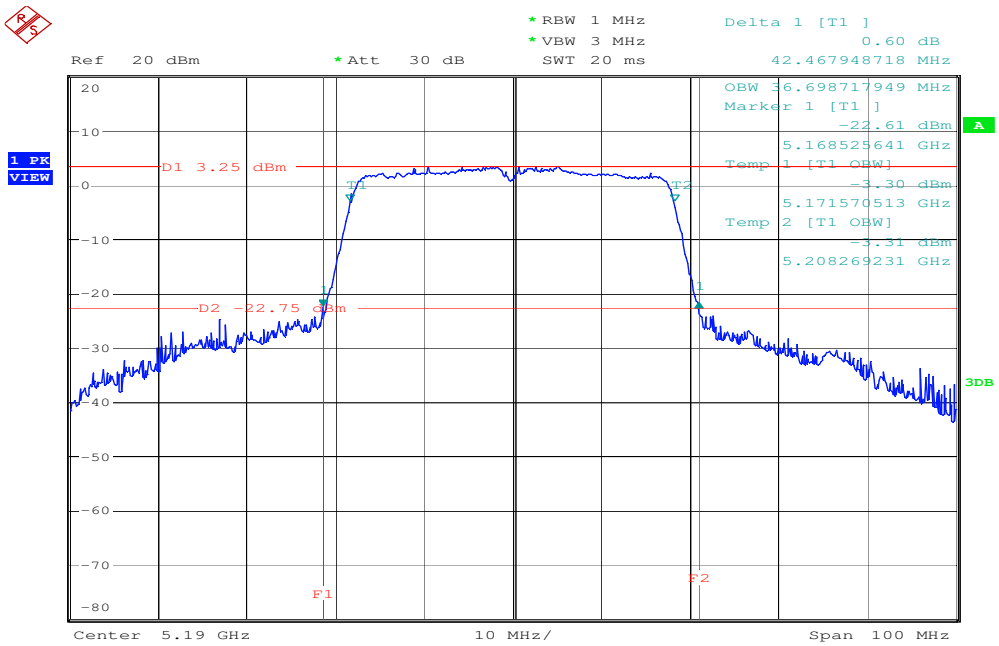
99% Bandwidth (5230 MHz)



Date: 6.JAN.2016 10:07:20

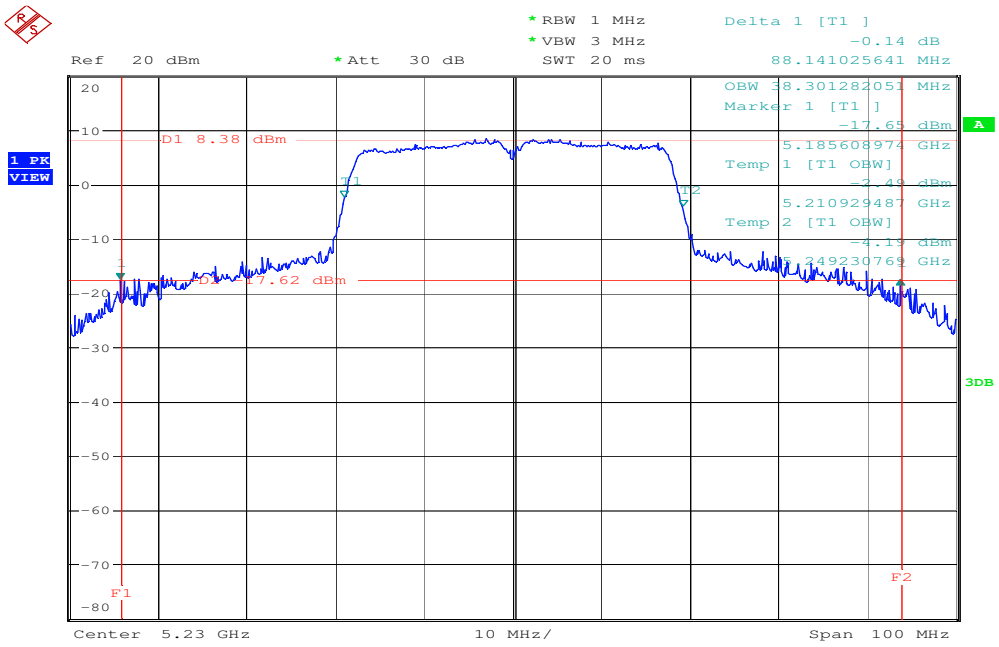
IEEE 802.11n HT 40 MHz mode / 5190 ~ 5230MHz / Chain 1

99% Bandwidth (5190 MHz)



Date: 6.JAN.2016 11:13:07

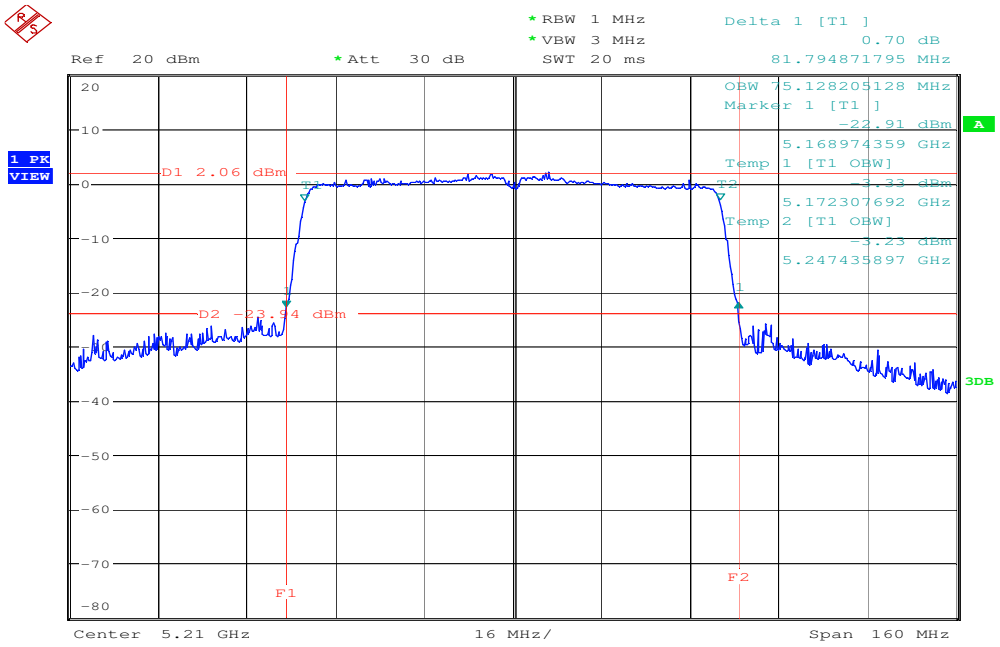
99% Bandwidth (5230 MHz)



Date: 6.JAN.2016 11:16:32

IEEE 802.11ac VHT 80 MHz mode / 5210MHz / Chain 0

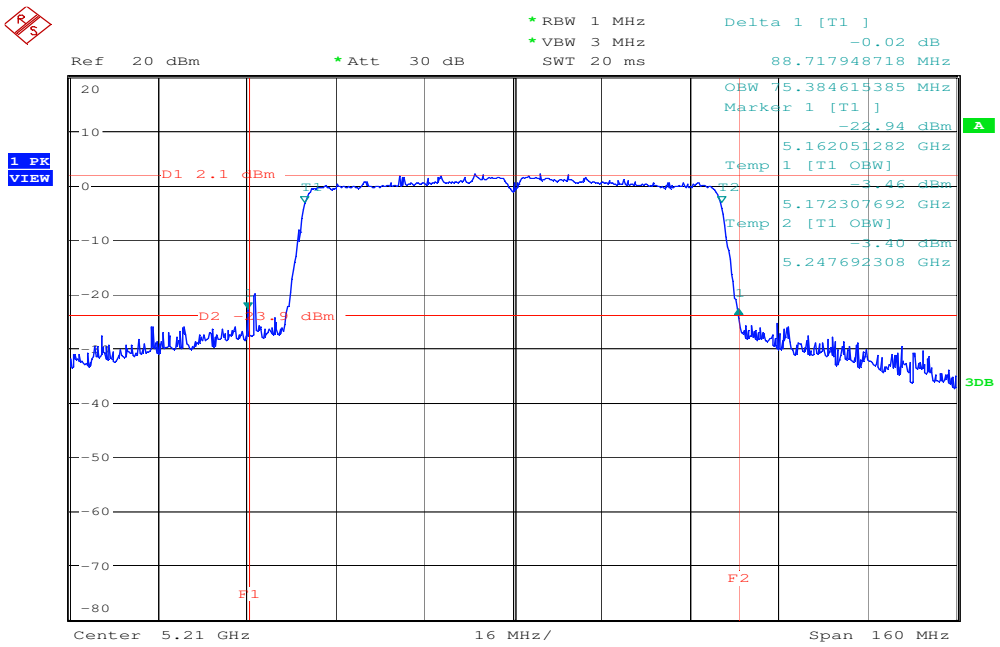
99% Bandwidth (5210 MHz)



Date: 6.JAN.2016 13:36:17

IEEE 802.11ac VHT 80 MHz mode / 5210MHz / Chain 1

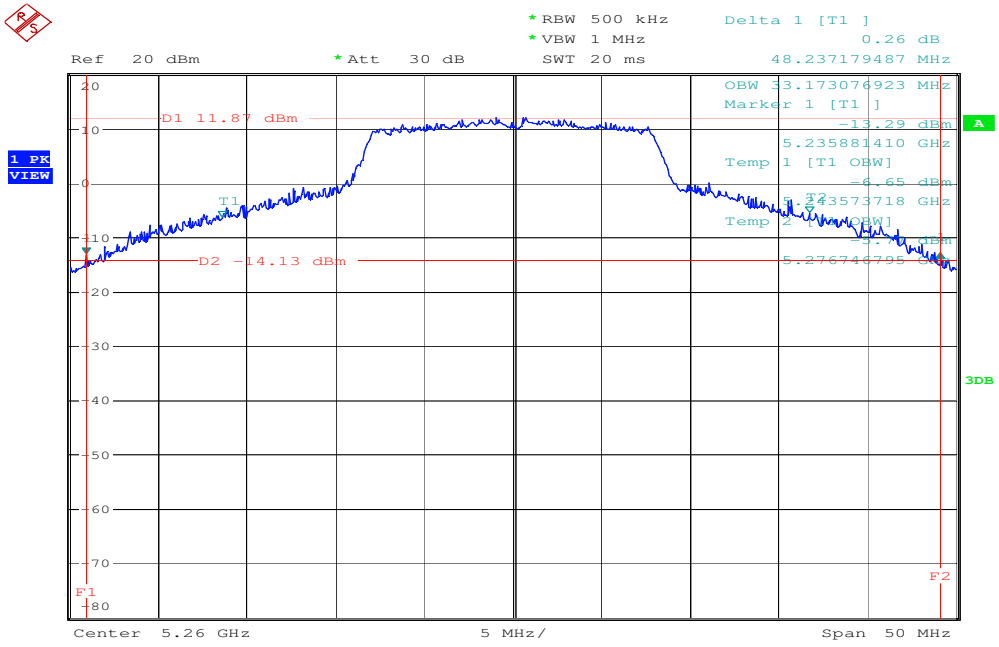
99% Bandwidth (5210 MHz)



Date: 6.JAN.2016 14:10:28

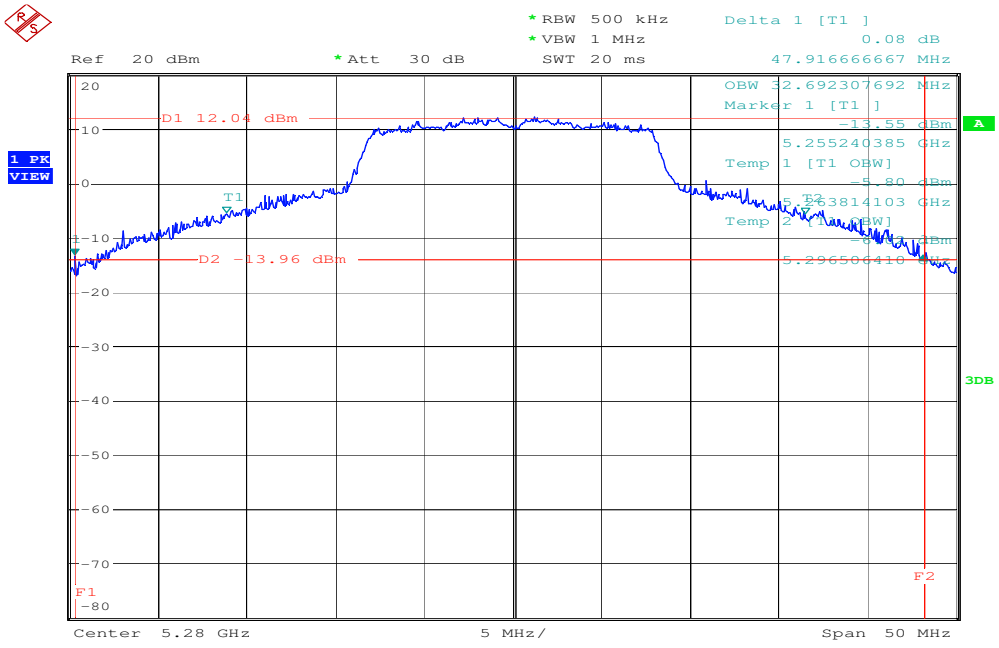
IEEE 802.11a mode / 5260 ~ 5320MHz

99% Bandwidth (5260 MHz)



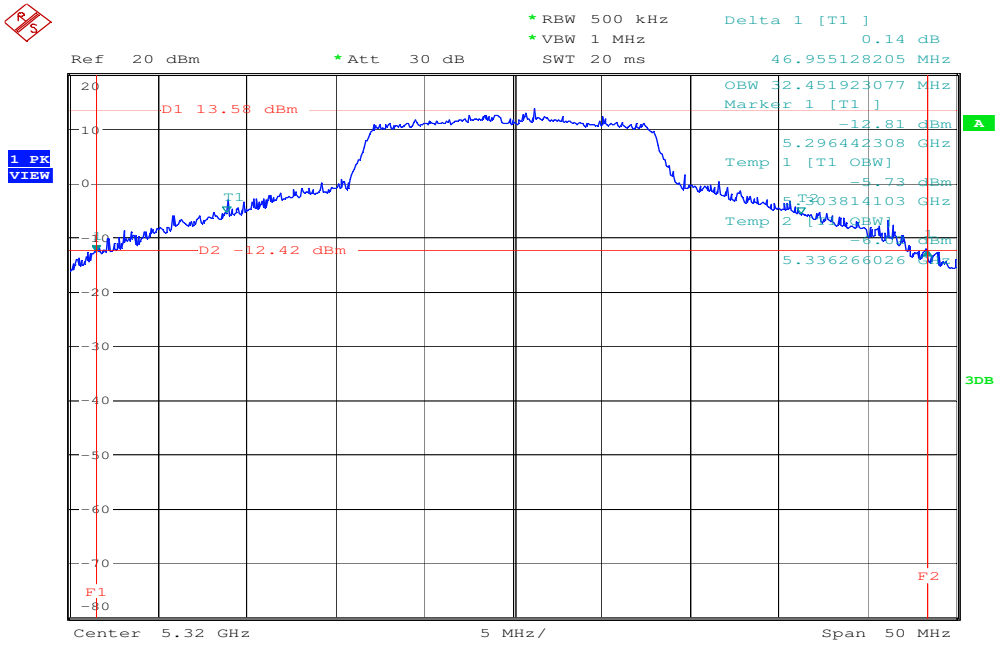
Date: 5.JAN.2016 20:49:19

99% Bandwidth (5280 MHz)



Date: 5.JAN.2016 20:50:52

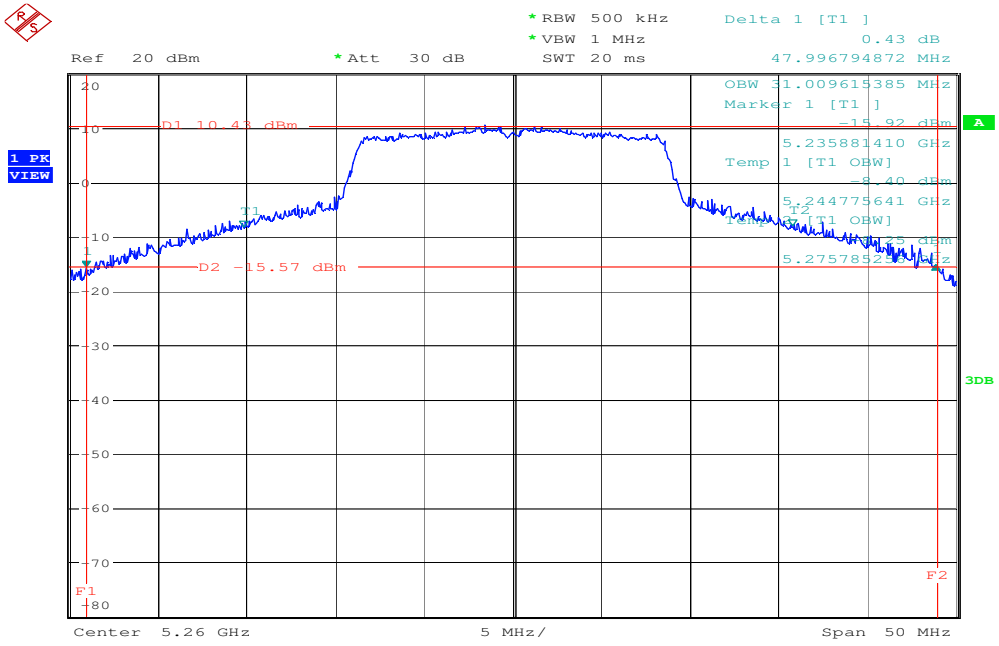
99% Bandwidth (5320 MHz)



Date: 5.JAN.2016 20:52:21

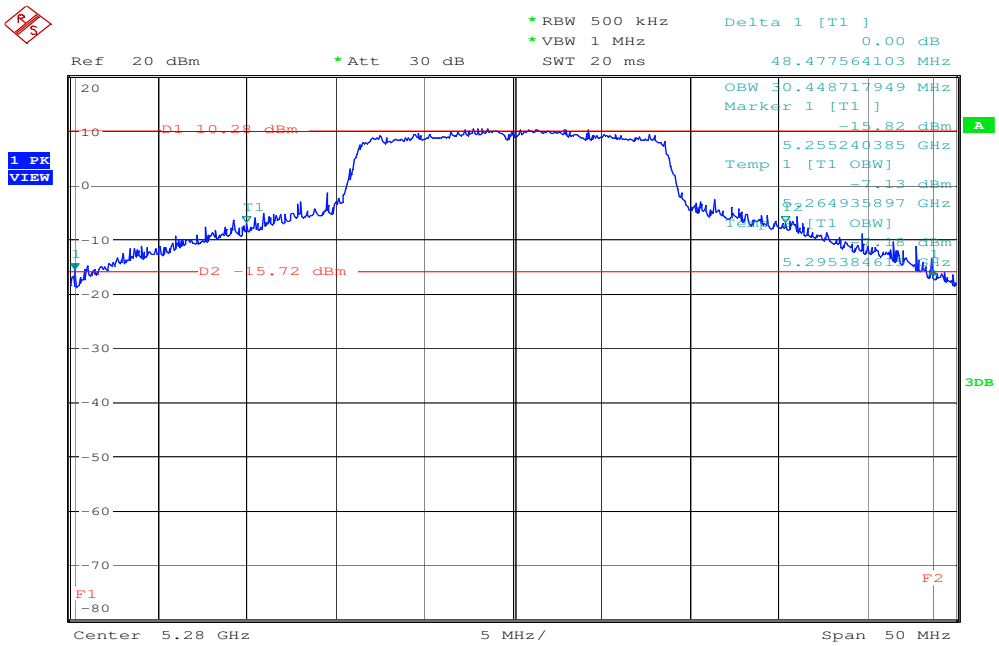
IEEE 802.11n HT 20 MHz mode / 5260 ~ 5320MHz / Chain 0

99% Bandwidth (5260 MHz)



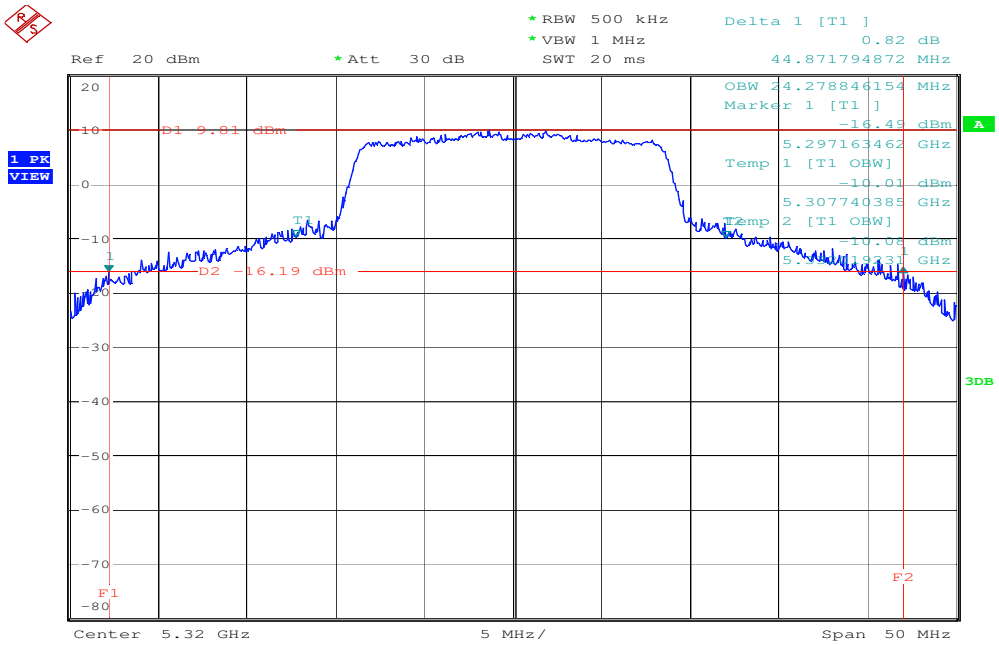
Date: 5.JAN.2016 21:41:29

99% Bandwidth (5280 MHz)



Date: 5.JAN.2016 21:42:59

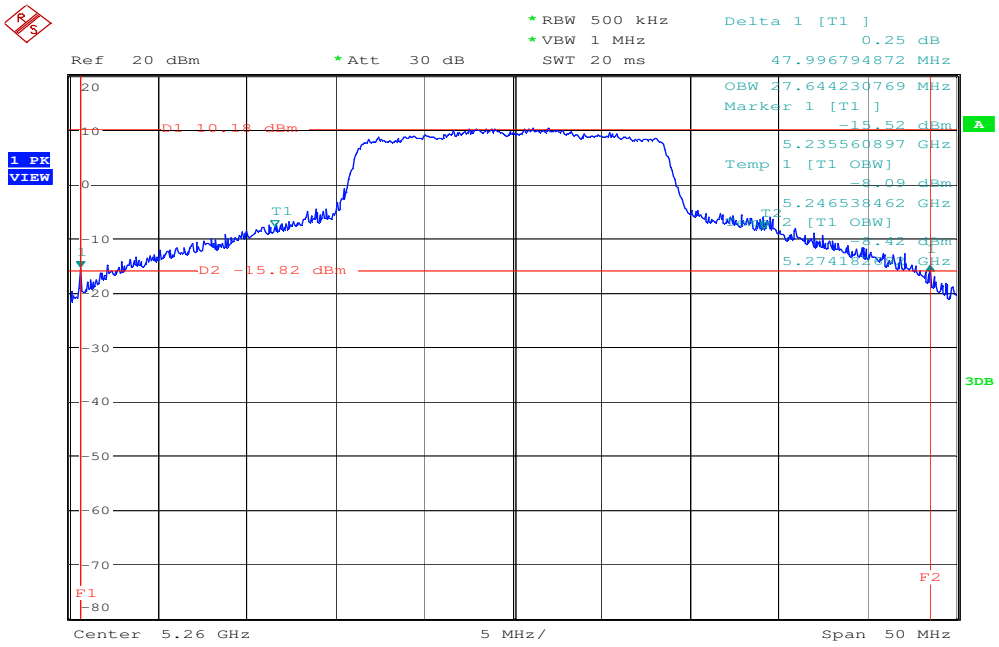
99% Bandwidth (5320 MHz)



Date: 5.JAN.2016 21:44:40

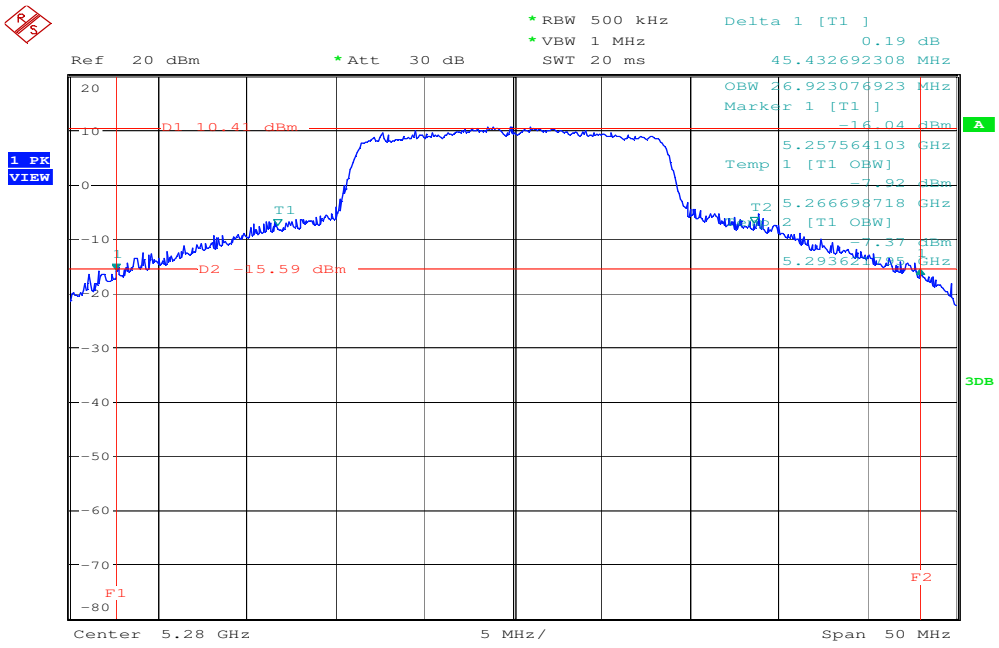
IEEE 802.11n HT 20 MHz mode / 5260 ~ 5320MHz / Chain 1

99% Bandwidth (5260 MHz)



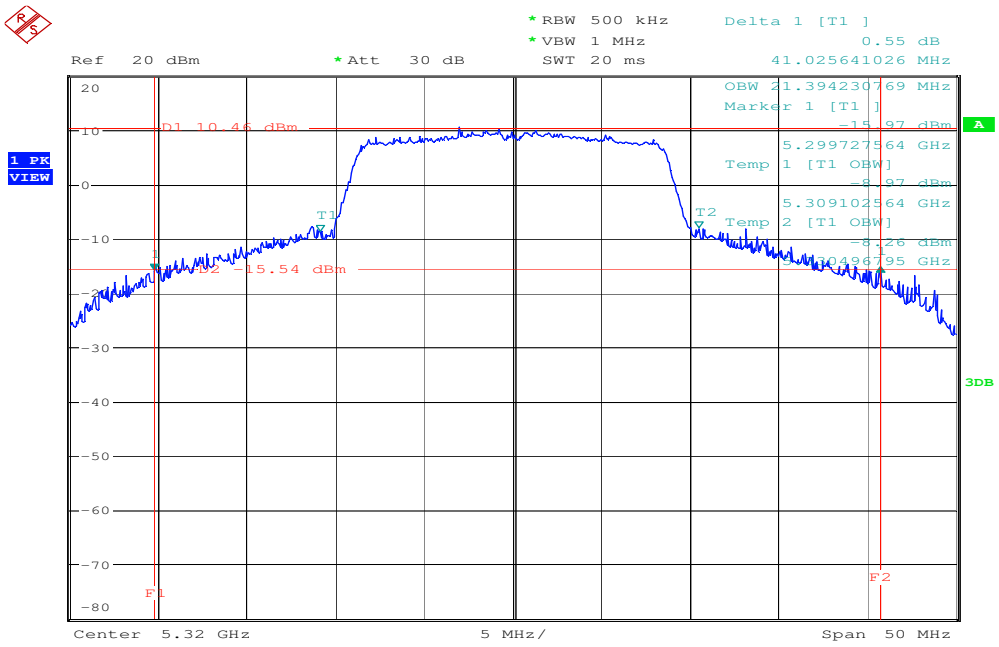
Date: 5.JAN.2016 22:19:35

99% Bandwidth (5280 MHz)



Date: 5.JAN.2016 22:21:28

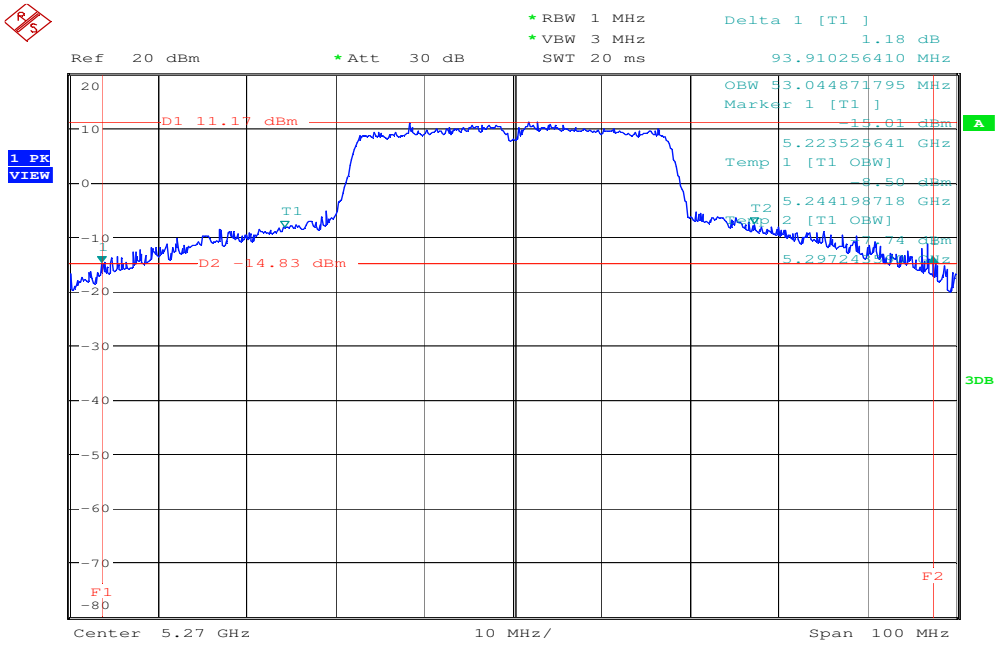
99% Bandwidth (5320 MHz)



Date: 5.JAN.2016 22:22:55

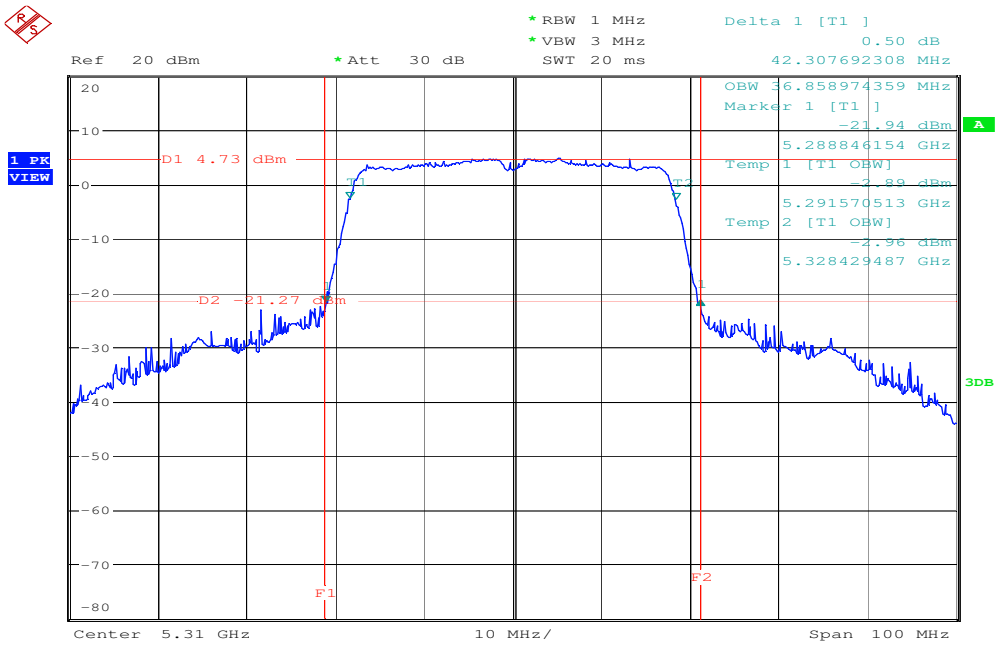
IEEE 802.11n HT 40 MHz mode / 5270 ~ 5310MHz / Chain 0

99% Bandwidth (5270 MHz)



Date: 6.JAN.2016 10:10:51

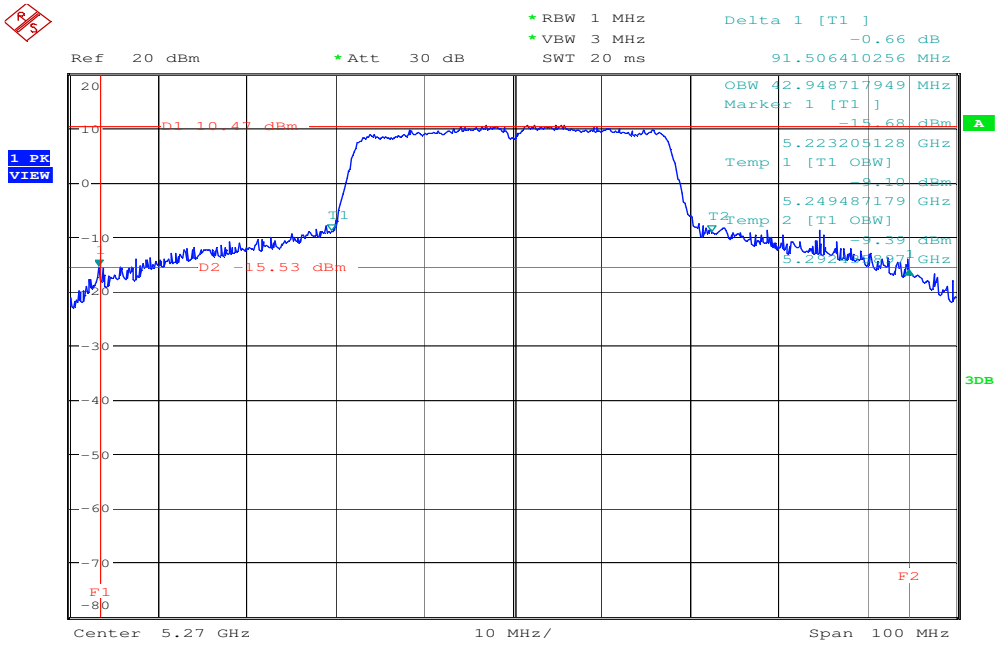
99% Bandwidth (5310 MHz)



Date: 6.JAN.2016 10:12:30

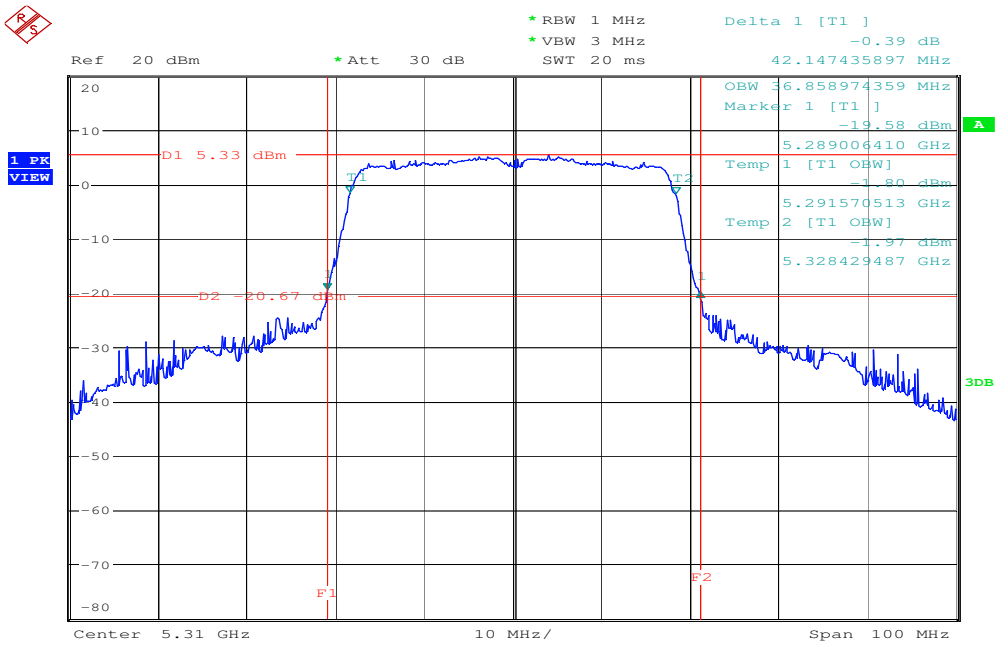
IEEE 802.11n HT 40 MHz mode / 5270 ~ 5310MHz / Chain 1

99% Bandwidth (5270 MHz)



Date: 6.JAN.2016 11:19:09

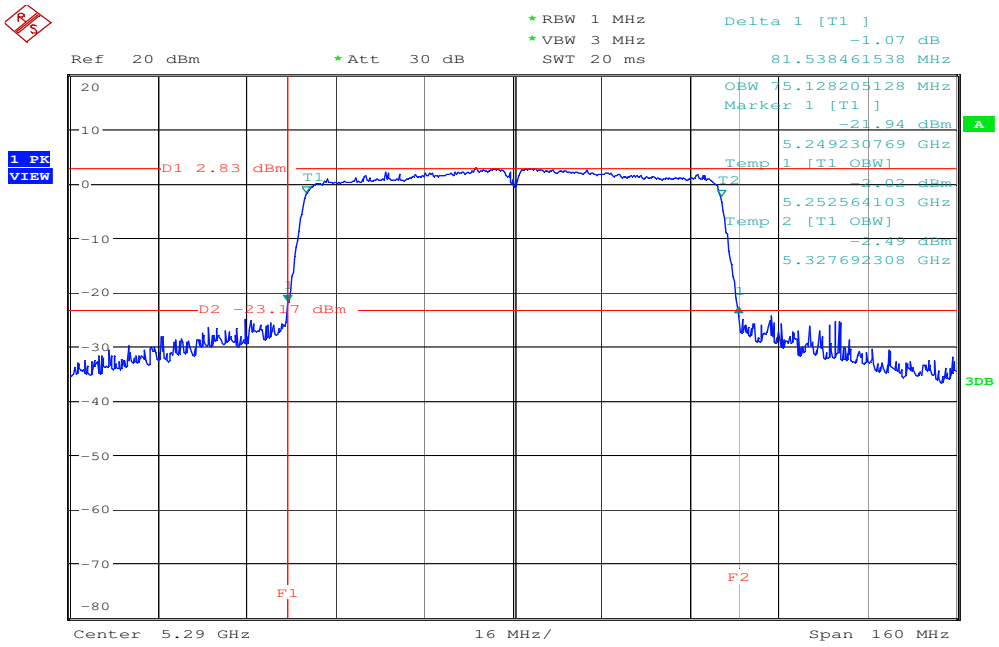
99% Bandwidth (5310 MHz)



Date: 6.JAN.2016 11:22:01

IEEE 802.11ac VHT 80 MHz mode / 5290MHz / Chain 0

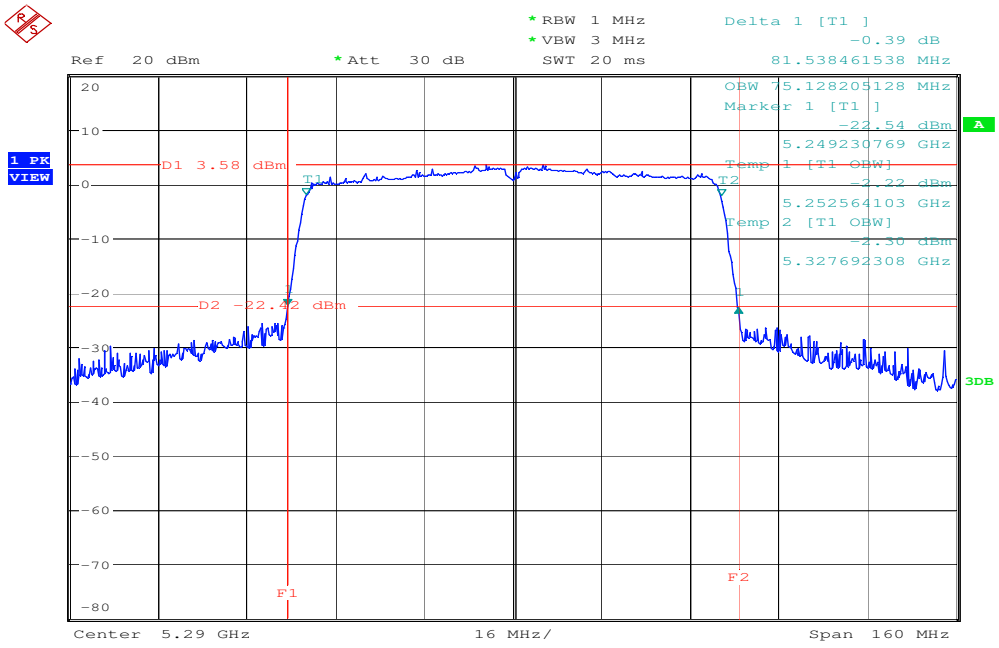
99% Bandwidth (5290 MHz)



Date: 6.JAN.2016 13:37:30

IEEE 802.11ac VHT 80 MHz mode / 5290MHz / Chain 1

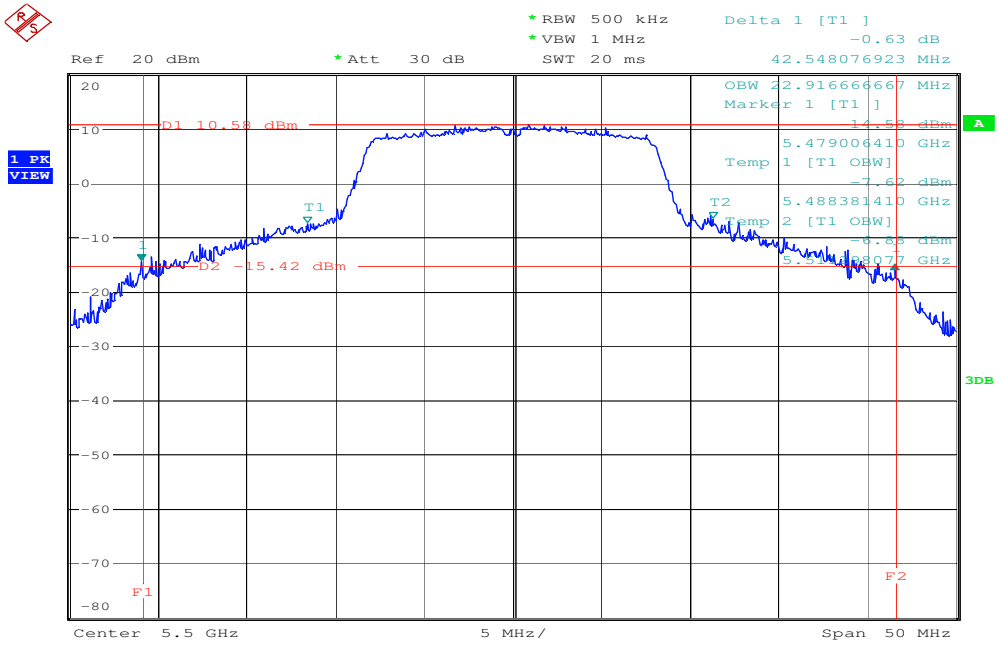
99% Bandwidth (5290 MHz)



Date: 6.JAN.2016 14:11:45

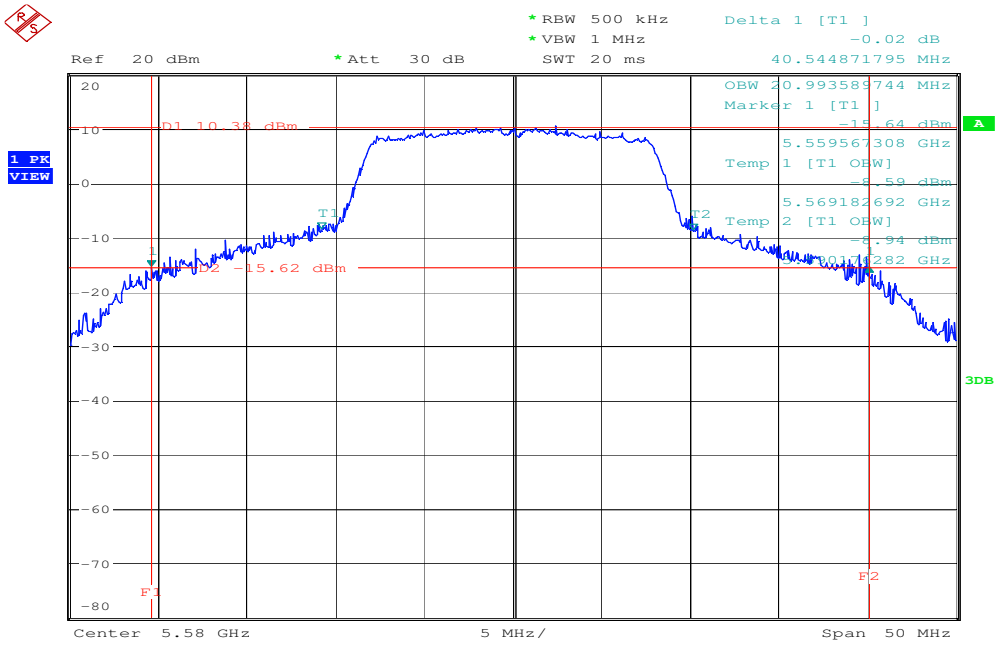
Test mode: IEEE 802.11a mode / 5500 ~ 5700MHz

99% Bandwidth (5500 MHz)



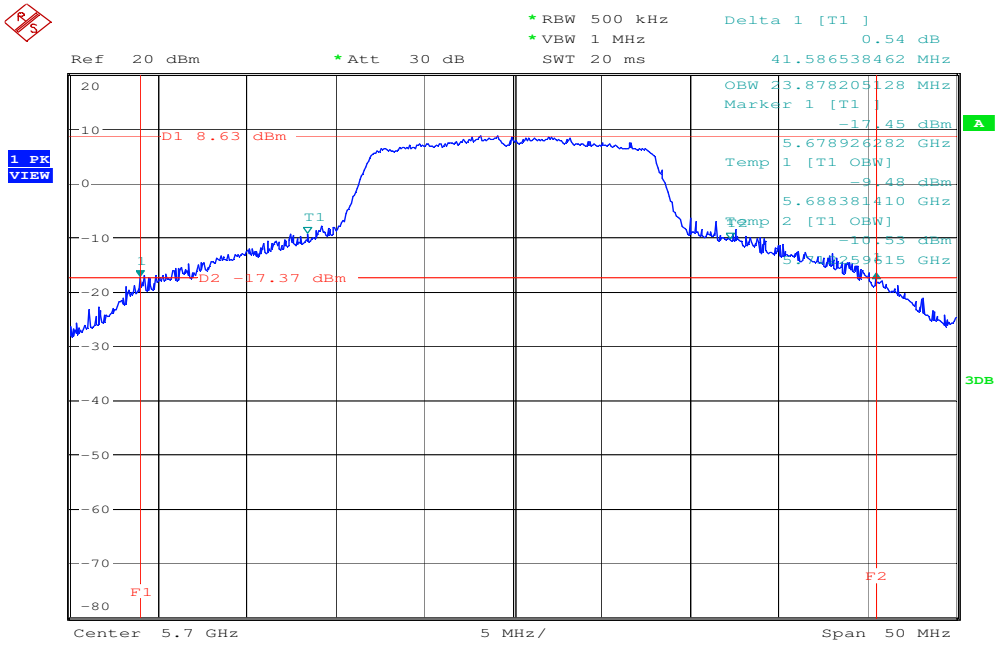
Date: 5.JAN.2016 20:54:19

99% Bandwidth (5580 MHz)



Date: 5.JAN.2016 20:55:48

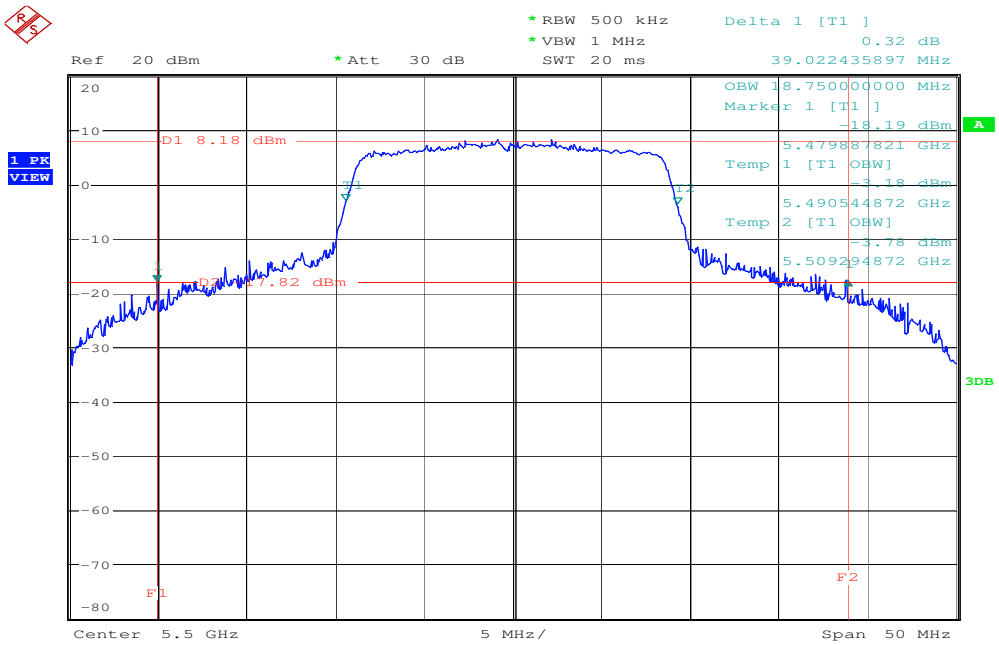
99% Bandwidth (5700 MHz)



Date: 5.JAN.2016 20:57:49

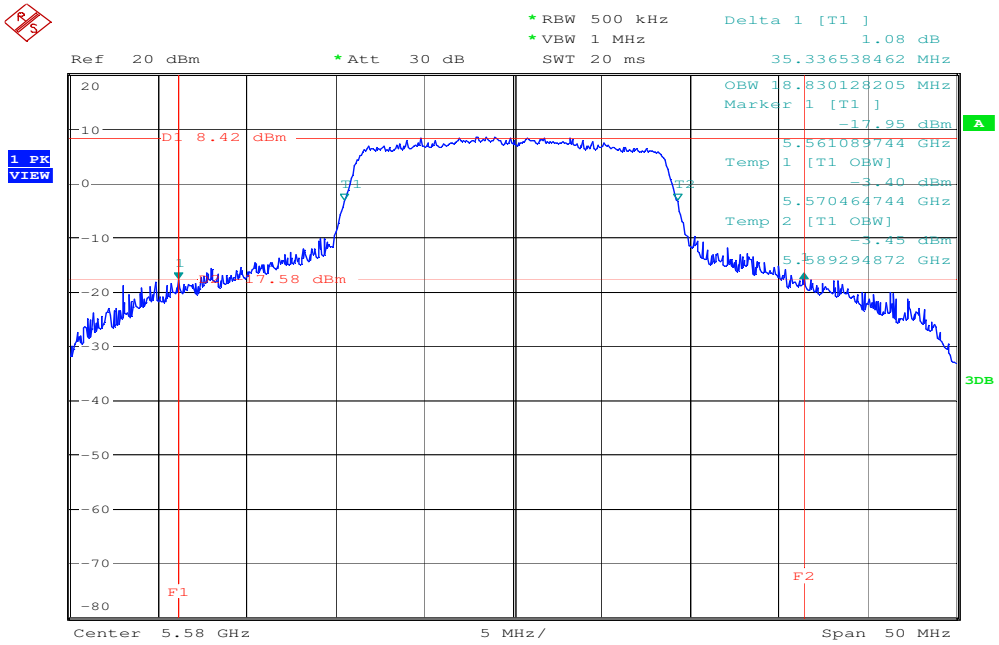
IEEE 802.11n HT 20 MHz mode / 5500 ~ 5700MHz / Chain 0

99% Bandwidth (5500 MHz)



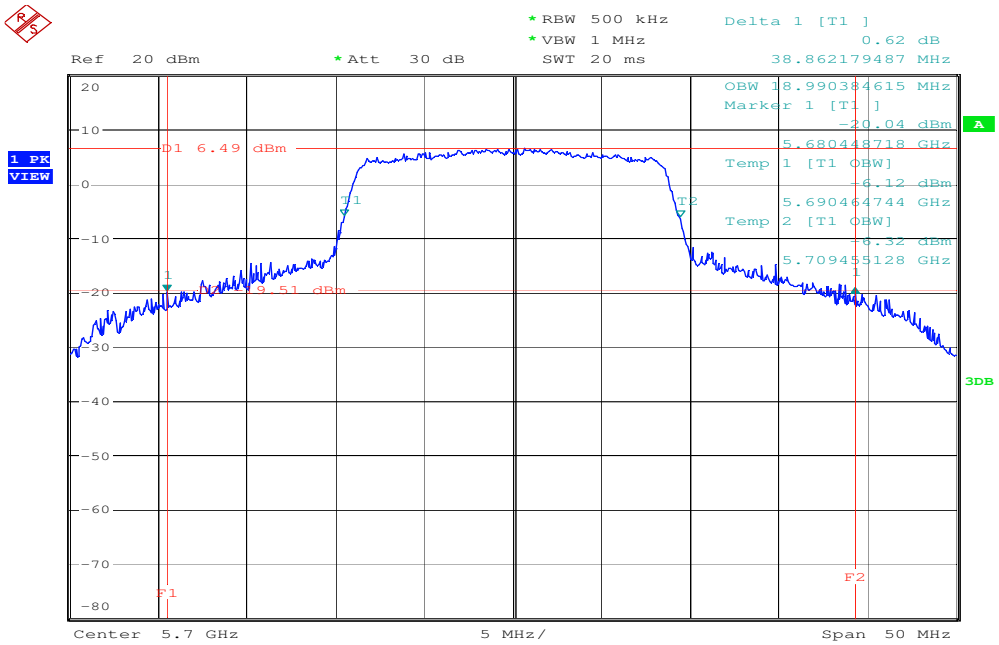
Date: 5.JAN.2016 21:46:55

99% Bandwidth (5580 MHz)



Date: 5.JAN.2016 21:48:20

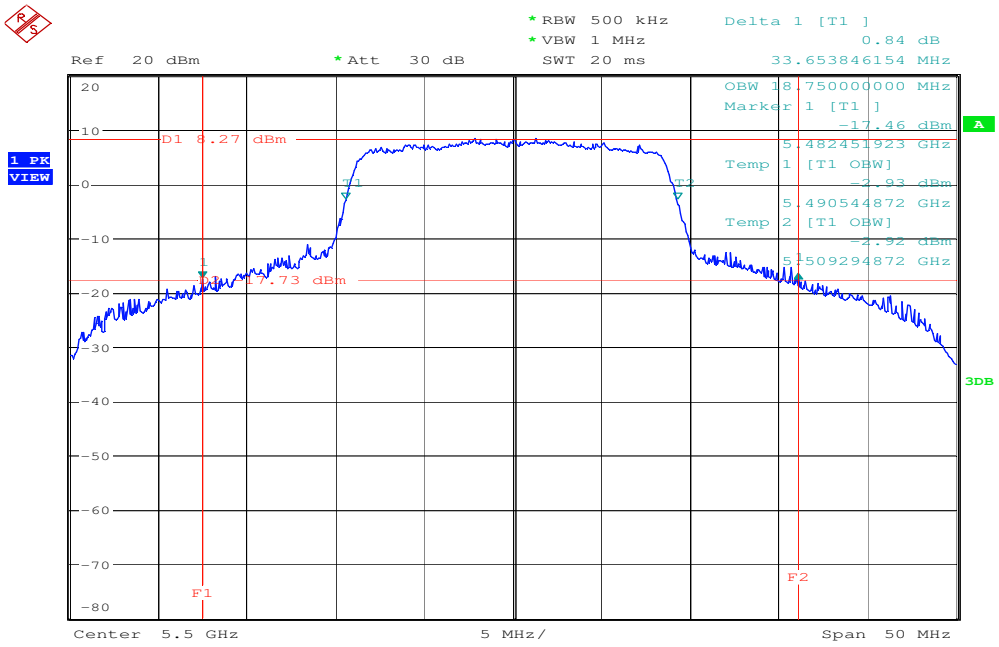
99% Bandwidth (5700MHz)



Date: 5.JAN.2016 21:50:17

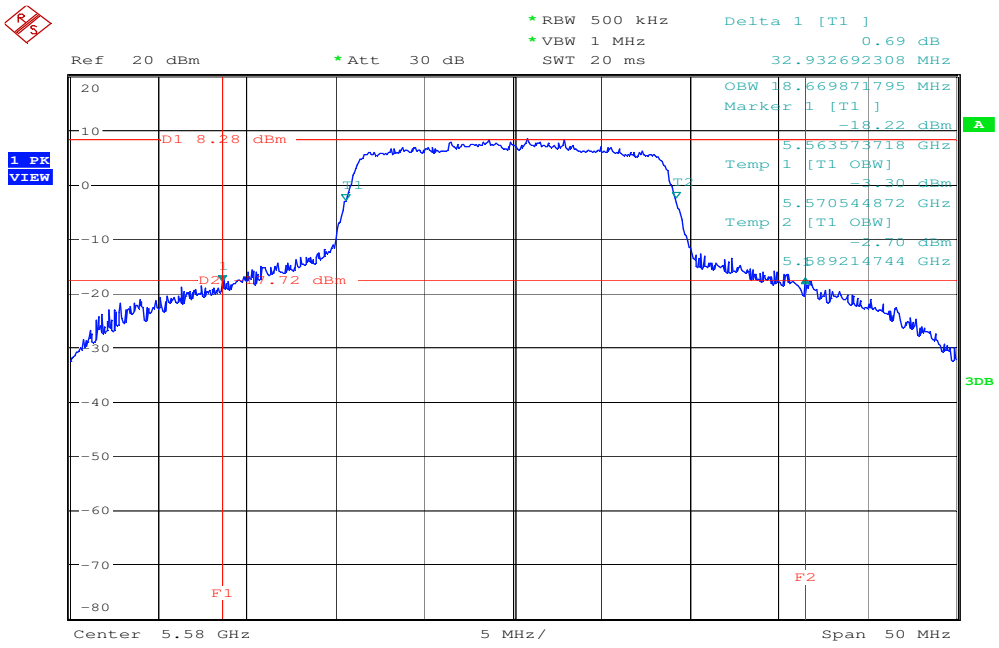
IEEE 802.11n HT 20 MHz mode / 5500 ~ 5700MHz / Chain 1

99% Bandwidth (5500 MHz)



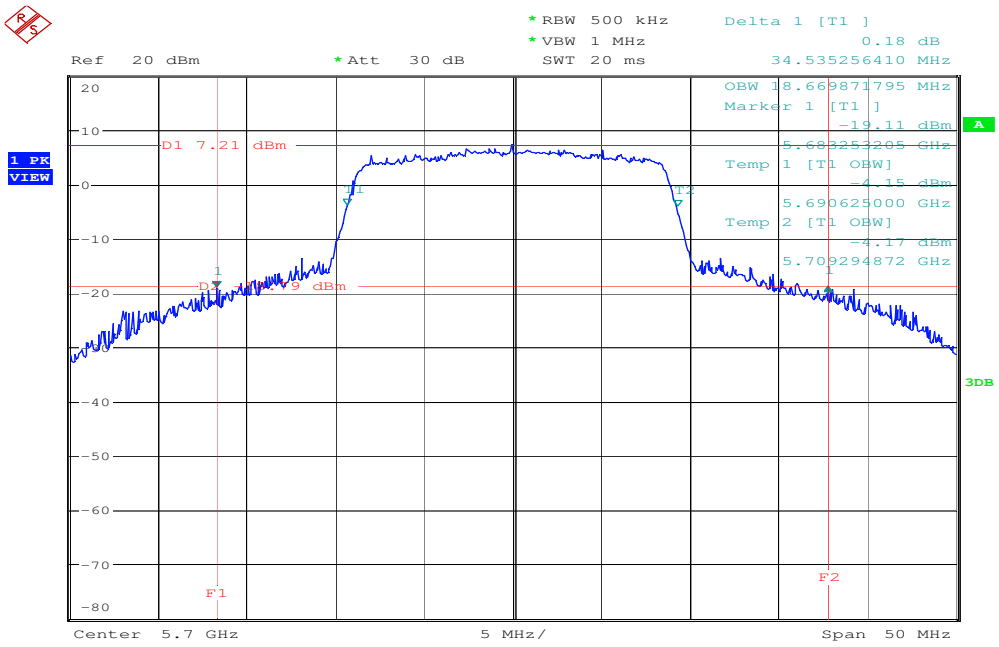
Date: 5.JAN.2016 22:24:41

99% Bandwidth (5580 MHz)



Date: 5.JAN.2016 22:26:36

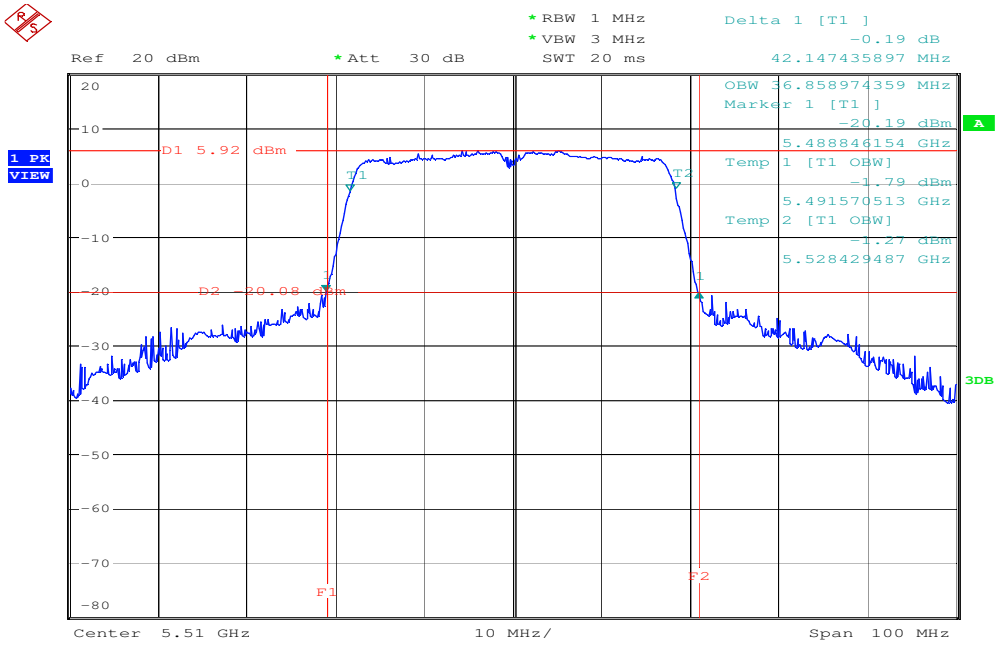
99% Bandwidth (5700 MHz)



Date: 5.JAN.2016 22:28:11

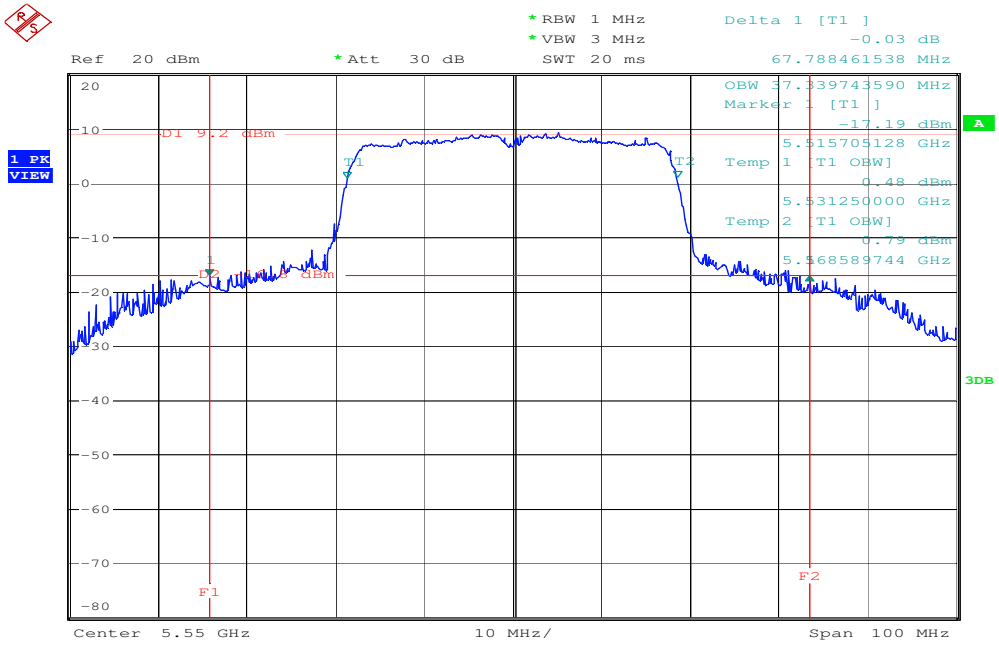
IEEE 802.11n HT 40 MHz mode / 5510 ~ 5670MHz / Chain 0

99% Bandwidth (5510 MHz)



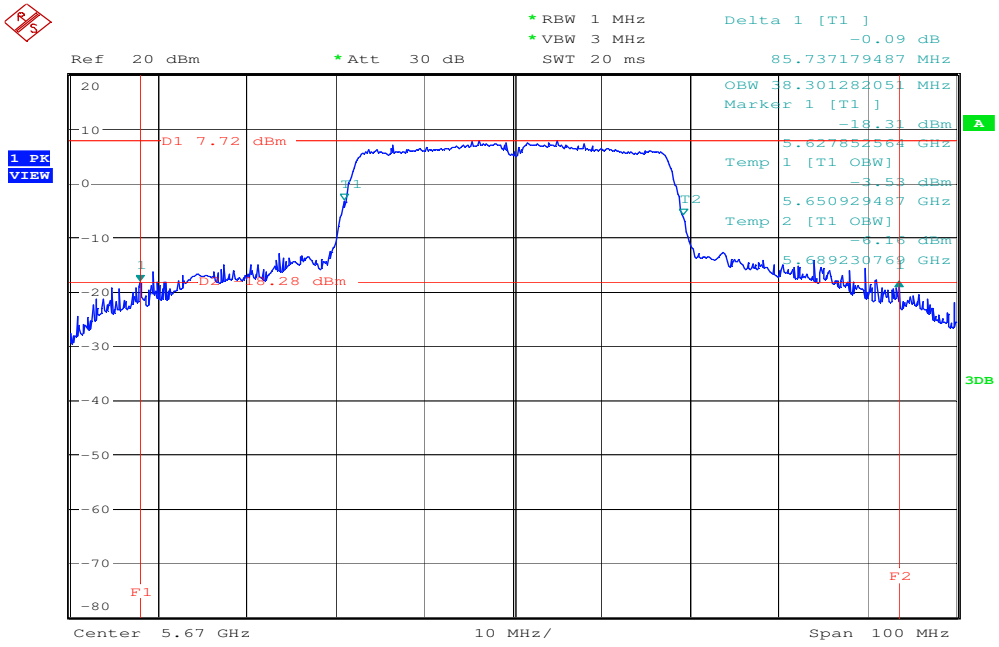
Date: 6.JAN.2016 10:14:14

99% Bandwidth (5550 MHz)



Date: 6.JAN.2016 10:24:15

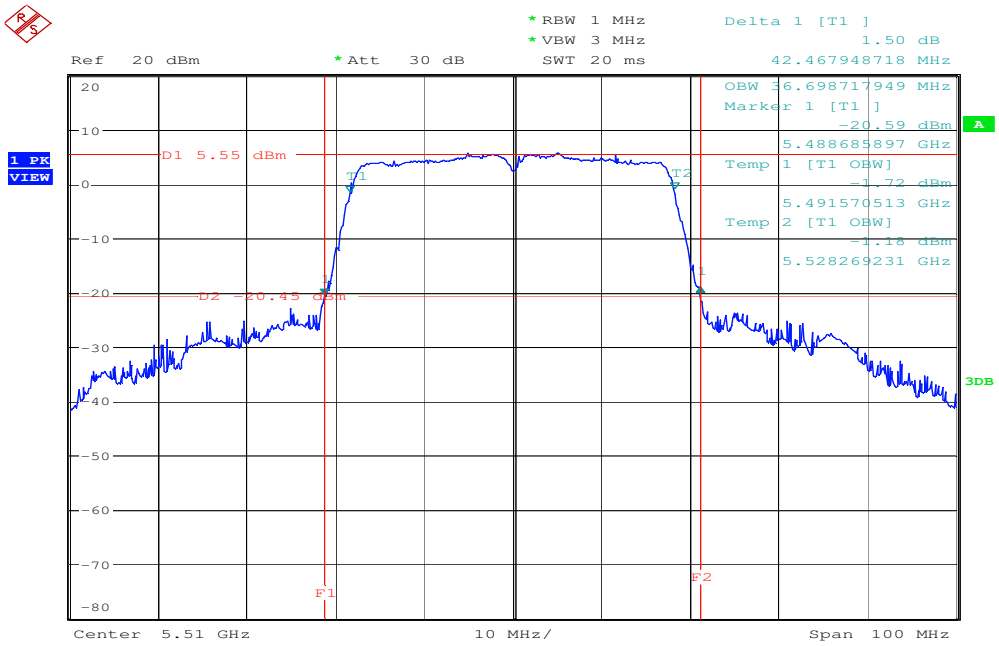
99% Bandwidth (5670 MHz)



Date: 6.JAN.2016 10:29:20

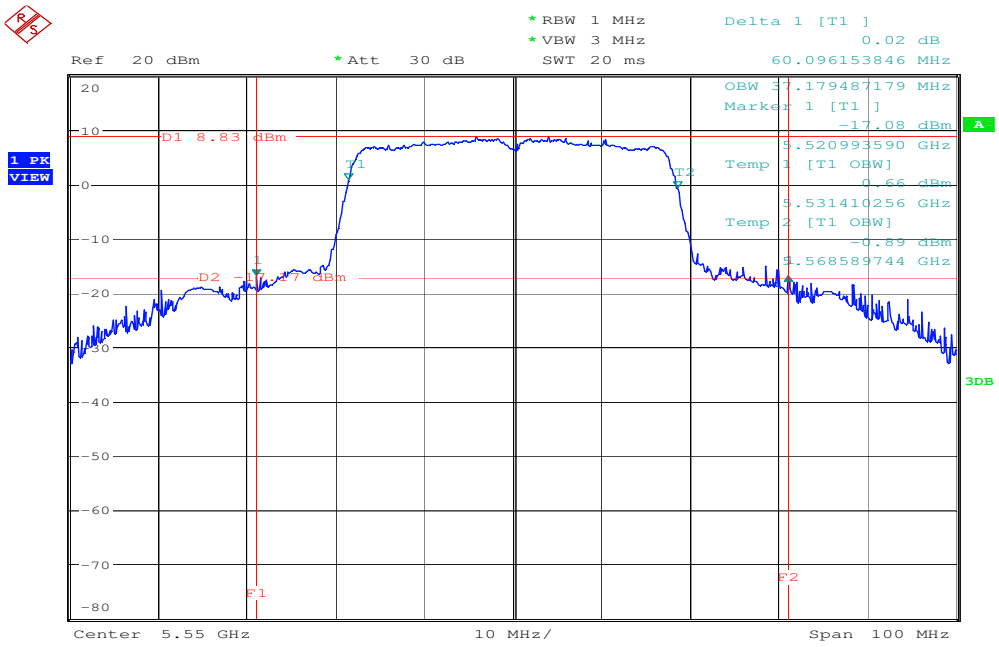
IEEE 802.11n HT 40 MHz mode / 5510 ~ 5710MHz / Chain 1

99% Bandwidth (5510 MHz)



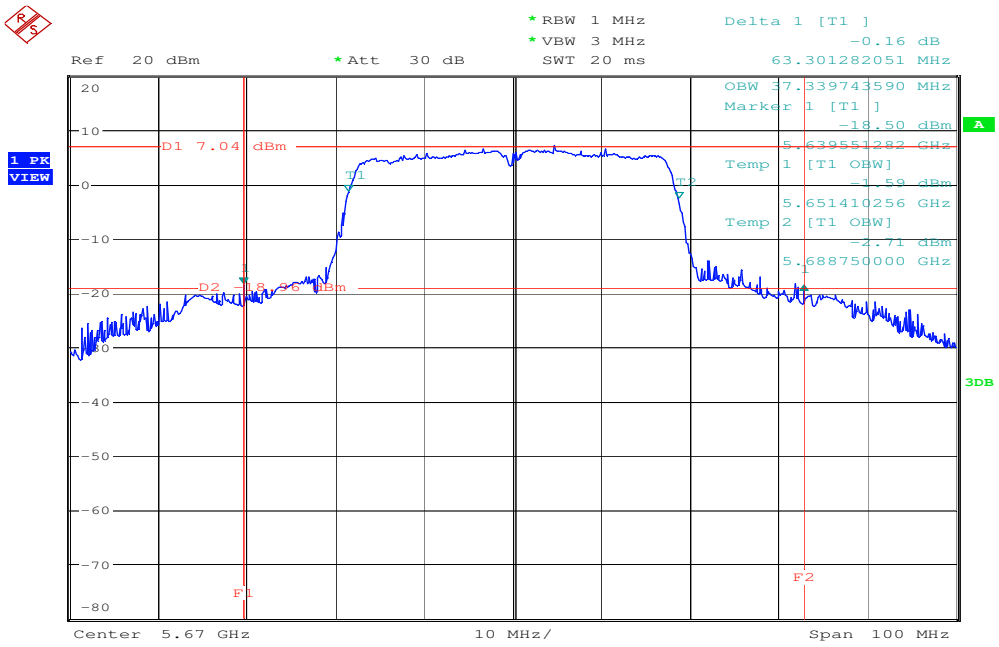
Date: 6.JAN.2016 11:23:36

99% Bandwidth (5550 MHz)



Date: 6.JAN.2016 11:25:20

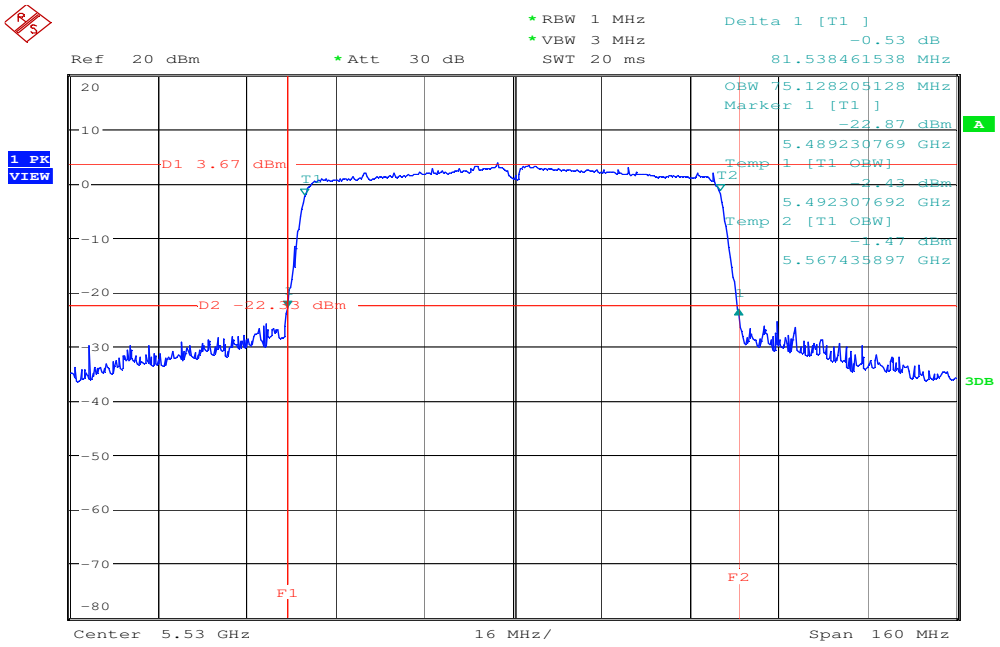
99% Bandwidth (5670 MHz)



Date: 6.JAN.2016 11:34:06

IEEE 802.11ac VHT 80 MHz mode / 5530 ~ 5690MHz/ Chain 0

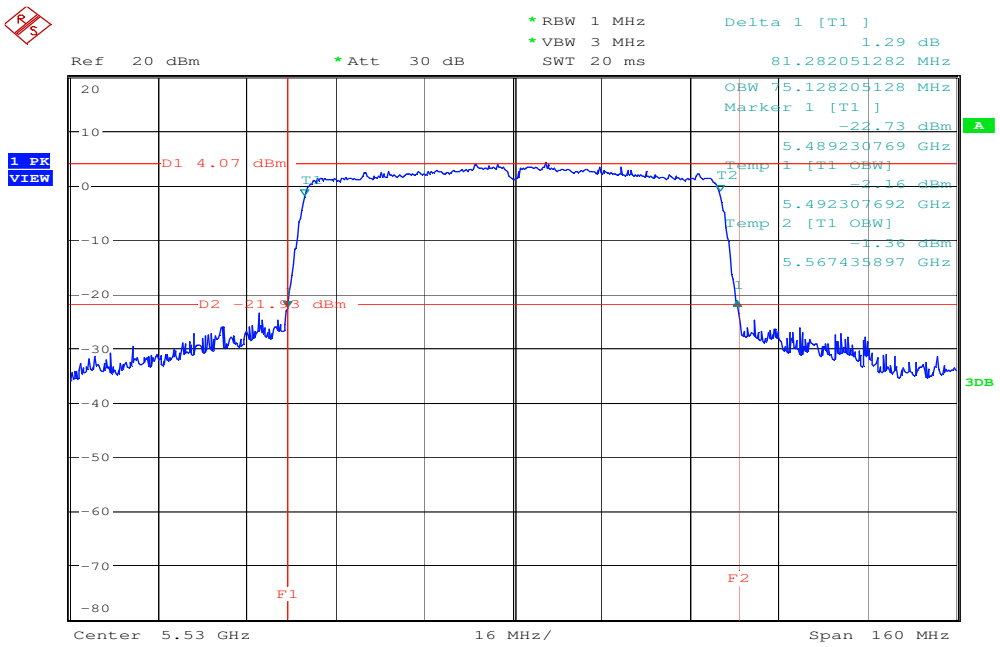
99% Bandwidth (5530 MHz)



Date: 6.JAN.2016 13:39:03

IEEE 802.11ac VHT 80 MHz mode / 5530 ~ 5690MHz/ Chain 1

99% Bandwidth (5530 MHz)



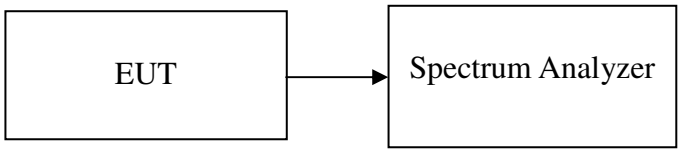
Date: 6.JAN.2016 14:13:22

7.2 26 dB EMISSION BANDWIDTH

LIMIT

Measure the maximum width of the emission that is 26 dB down from the maximum of the emission. Compare this with the RBW setting of the analyzer. Readjust RBW and repeat measurement as needed until the RBW/EBW ratio is approximately 1%.

Test Configuration



TEST PROCEDURE

1. Place the EUT on the table and set it in the transmitting mode.
2. Remove the antenna from the EUT and then connect a low-loss RF cable from the antenna port to the spectrum analyzer.
3. Set the spectrum analyzer as RBW > 1%EBW, VBW > RBW, Span >26dB bandwidth, and Sweep = auto.
4. Mark the peak frequency and –26dB (upper and lower) frequency.
5. Repeat until all the rest channels were investigated.

TEST RESULTS

No non-compliance noted

Test Data

Test mode: IEEE 802.11a mode / 5180 ~ 5240MHz

Channel	Frequency (MHz)	26db Bandwidth (MHz)
36	5180	41.826
44	5220	42.467
48	5240	44.551

Test mode: IEEE 802.11n HT 20 MHz mode / 5180 ~ 5240MHz / Chain 0

Channel	Frequency (MHz)	26db Bandwidth (MHz)
36	5180	37.740
44	5220	43.830
48	5240	42.387

Test mode: IEEE 802.11n HT 20 MHz mode / 5180 ~ 5240MHz / Chain 1

Channel	Frequency (MHz)	26db Bandwidth (MHz)
36	5180	36.378
44	5220	41.185
48	5240	41.746

Test mode: IEEE 802.11n HT 40 MHz mode / 5190 ~ 5230MHz / Chain 0

Channel	Frequency (MHz)	26db Bandwidth (MHz)
38	5190	42.147
46	5230	88.301

Test mode: IEEE 802.11n HT 40 MHz mode/ 5190 ~ 5230MHz / Chain 1

Channel	Frequency (MHz)	26db Bandwidth (MHz)
38	5190	42.467
46	5230	88.141

Test mode: IEEE 802.11ac VHT 80 MHz mode / 5210MHz / Chain 0

Channel	Frequency (MHz)	26db Bandwidth (MHz)
42	5210	81.794

Test mode: IEEE 802.11ac VHT 80 MHz mode / 5210MHz / Chain 1

Channel	Frequency (MHz)	26db Bandwidth (MHz)
42	5210	88.717

Test mode: IEEE 802.11a mode / 5260 ~ 5320MHz

Channel	Frequency (MHz)	26db Bandwidth (MHz)
52	5260	48.237
56	5280	47.916
64	5320	46.955

Test mode: IEEE 802.11n HT 20 MHz mode / 5260 ~ 5320MHz / Chain 0

Channel	Frequency (MHz)	26db Bandwidth (MHz)
52	5260	47.996
56	5280	48.477
64	5320	44.871

Test mode: IEEE 802.11n HT 20 MHz mode / 5260 ~ 5320MHz / Chain 1

Channel	Frequency (MHz)	26db Bandwidth (MHz)
52	5260	47.996
56	5280	45.432
64	5320	41.025

Test mode: IEEE 802.11n HT 40 MHz mode / 5270 ~ 5310MHz / Chain 0

Channel	Frequency (MHz)	26db Bandwidth (MHz)
54	5270	93.910
62	5310	42.307

Test mode: IEEE 802.11n HT 40 MHz mode/ 5270 ~ 5310MHz / Chain 1

Channel	Frequency (MHz)	26db Bandwidth (MHz)
54	5270	91.506
62	5310	42.147

Test mode: IEEE 802.11ac VHT 80 MHz mode / 5290MHz / Chain 0

Channel	Frequency (MHz)	26db Bandwidth (MHz)
58	5290	81.536

Test mode: IEEE 802.11ac VHT 80 MHz mode / 5290MHz / Chain 1

Channel	Frequency (MHz)	26db Bandwidth (MHz)
58	5290	81.538

Test mode: IEEE 802.11a mode / 5500 ~ 5700MHz

Channel	Frequency (MHz)	26db Bandwidth (MHz)
100	5500	42.548
116	5580	40.544
140	5700	41.586

Test mode: IEEE 802.11n HT 20 MHz mode / 5500 ~ 5700MHz / Chain 0

Channel	Frequency (MHz)	26db Bandwidth (MHz)
100	5500	39.022
116	5580	35.336
140	5700	38.862

Test mode: IEEE 802.11n HT 20 MHz mode / 5500 ~ 5700MHz / Chain 1

Channel	Frequency (MHz)	26db Bandwidth (MHz)
100	5500	33.653
116	5580	32.932
140	5700	34.535

Test mode: IEEE 802.11n HT 40 MHz mode / 5510 ~ 5670MHz / Chain 0

Channel	Frequency (MHz)	26db Bandwidth (MHz)
102	5510	42.147
118	5550	67.788
134	5670	85.737

Test mode: IEEE 802.11n HT 40 MHz mode / 5510 ~ 5670MHz / Chain 1

Channel	Frequency (MHz)	26db Bandwidth (MHz)
102	5510	42.467
118	5550	60.096
134	5670	63.301

Test mode: IEEE 802.11ac VHT 80 MHz mode / 5530MHz / Chain 0

Channel	Frequency (MHz)	26db Bandwidth (MHz)
106	5530	81.538

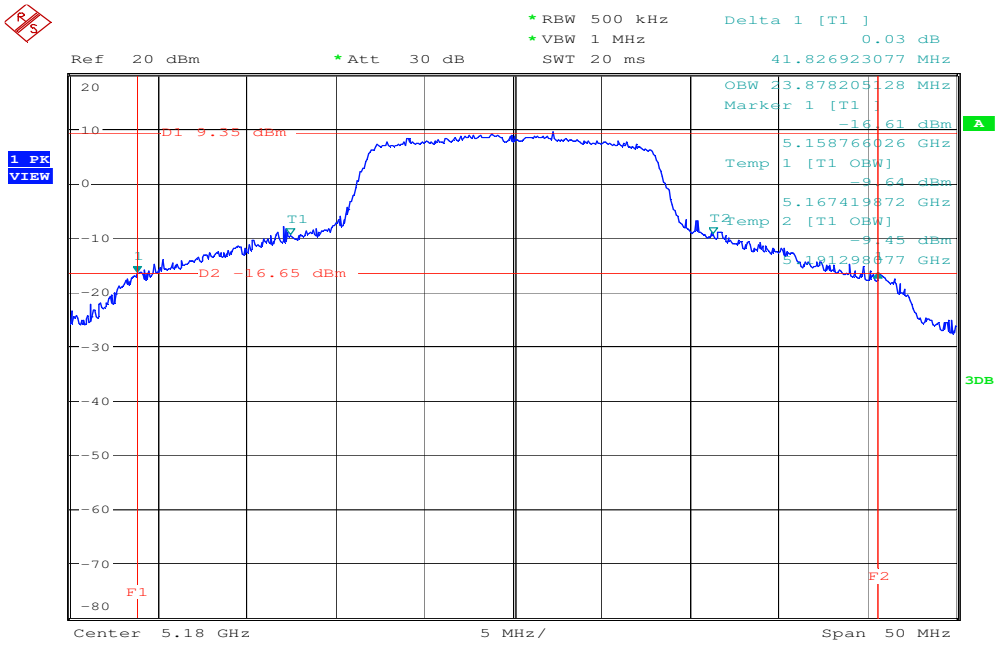
Test mode: IEEE 802.11ac VHT 80 MHz mode / 5530MHz / Chain 1

Channel	Frequency (MHz)	26db Bandwidth (MHz)
106	5530	81.282

Test Plot

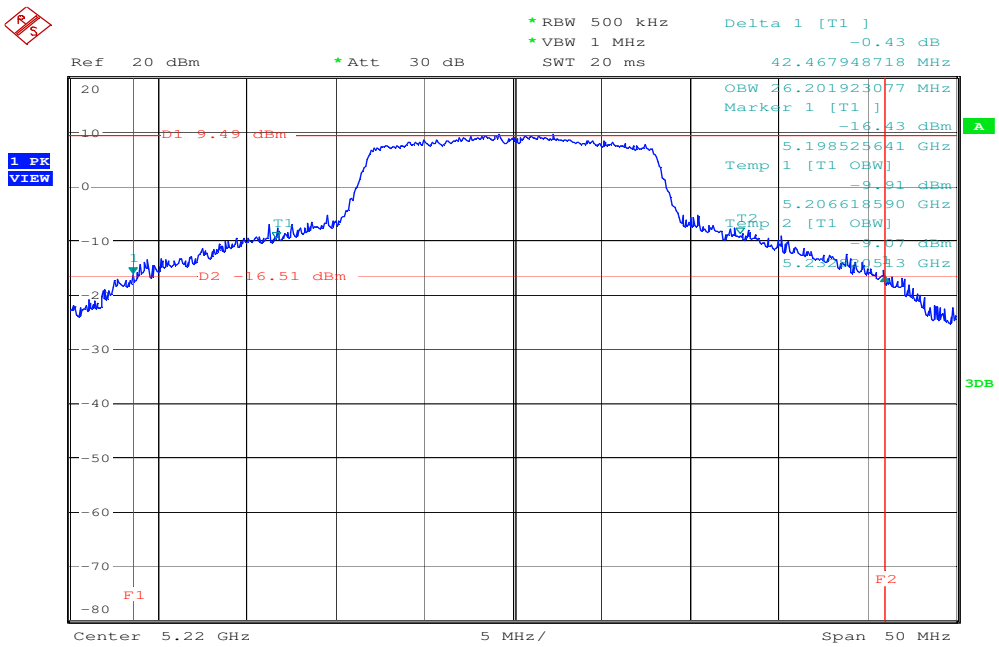
IEEE 802.11a for 5180 ~ 5240MHz

5180 MHz



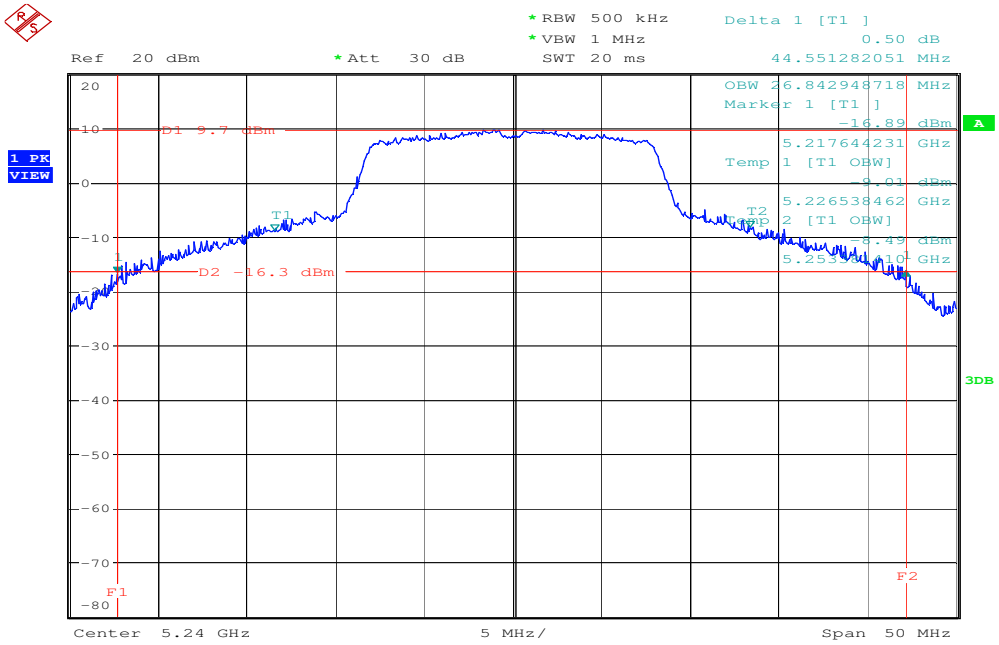
Date: 5.JAN.2016 20:43:47

5220 MHz



Date: 5.JAN.2016 20:46:02

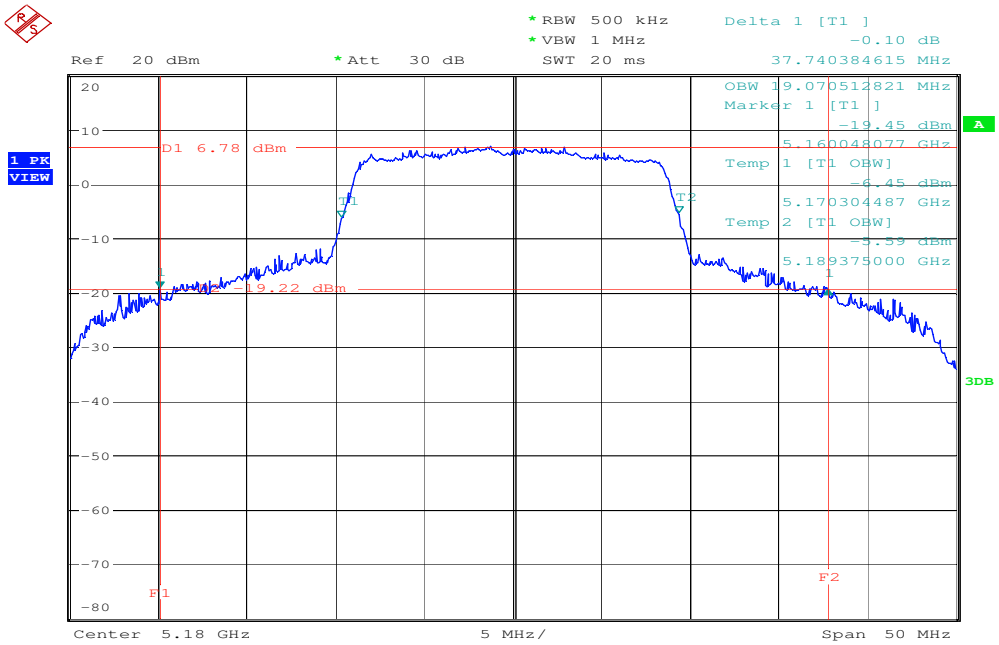
5240 MHz



Date: 5.JAN.2016 20:47:36

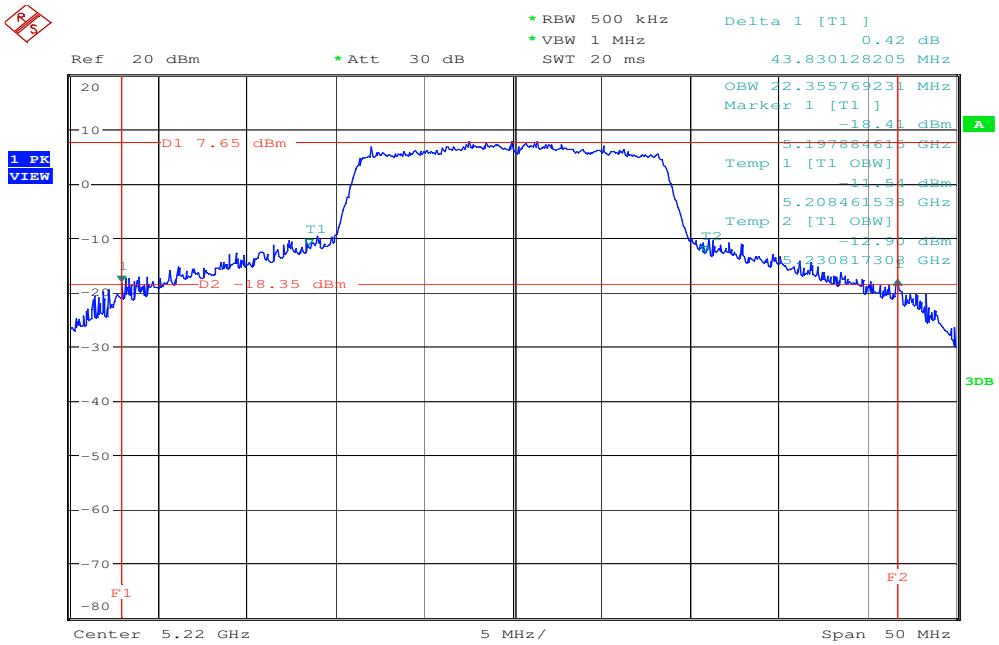
IEEE 802.11n HT 20 MHz mode / 5180 ~ 5240MHz / Chain 0

5180 MHz



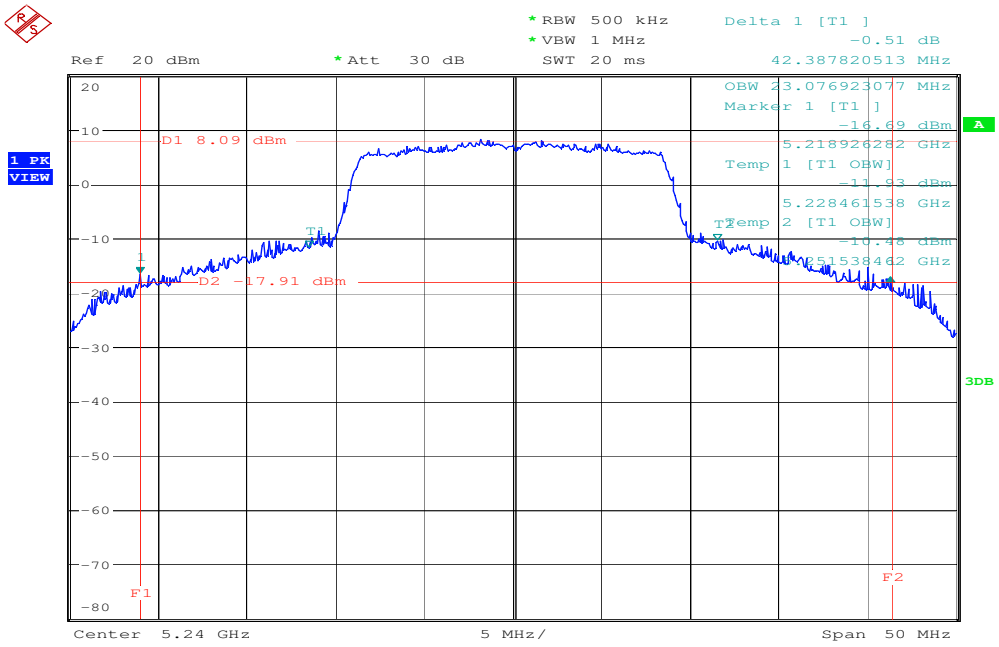
Date: 5.JAN.2016 21:24:22

5220 MHz



Date: 5.JAN.2016 21:37:38

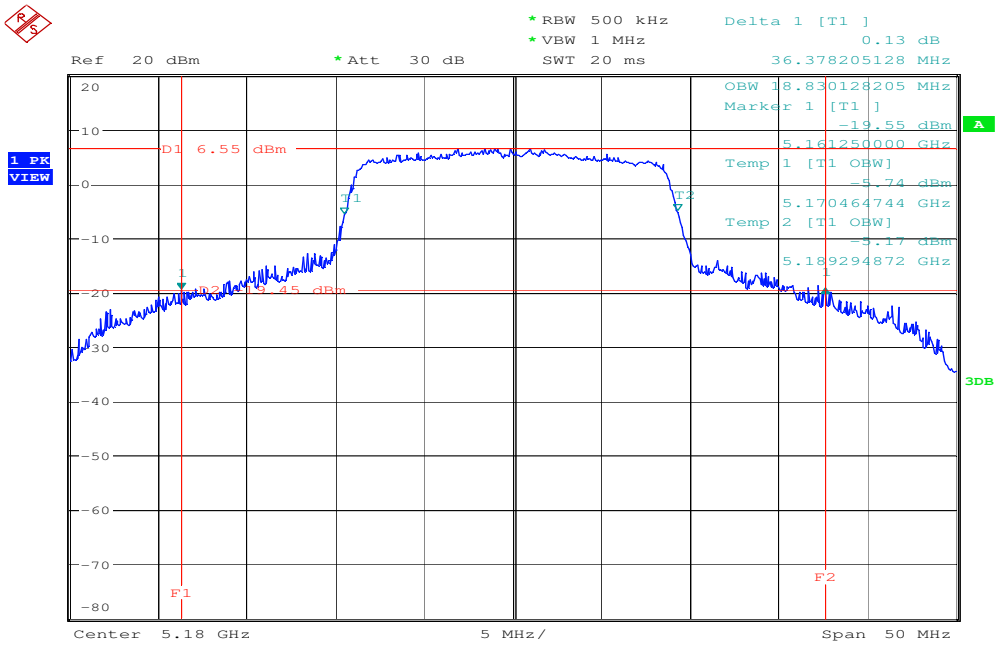
5240 MHz



Date: 5.JAN.2016 21:39:48

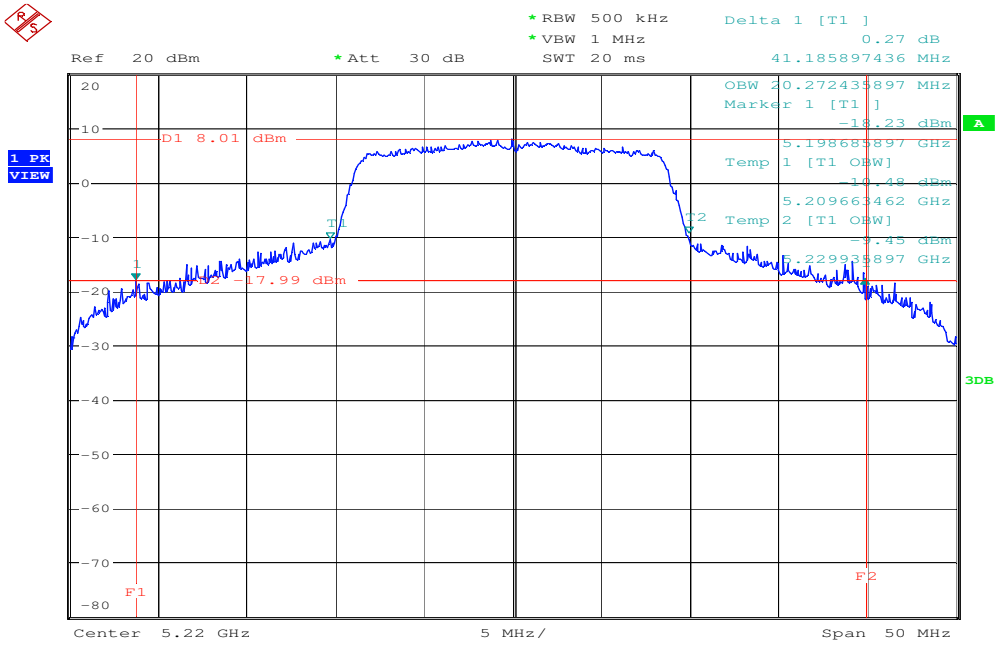
IEEE 802.11n HT 20 MHz mode / 5180 ~ 5240MHz / Chain 1

5180 MHz



Date: 5.JAN.2016 22:13:03

5220 MHz



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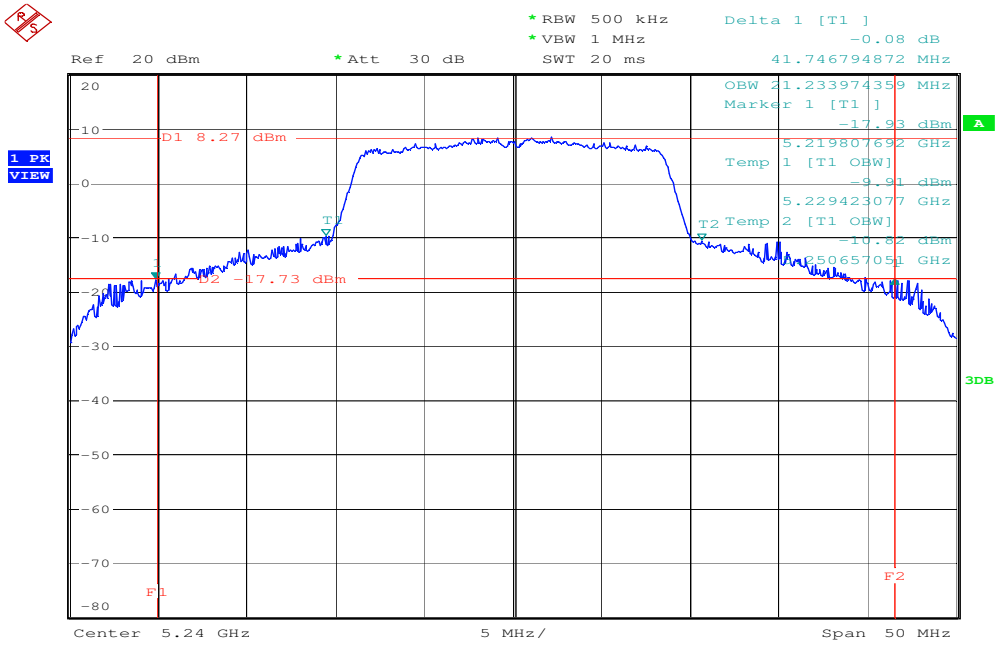
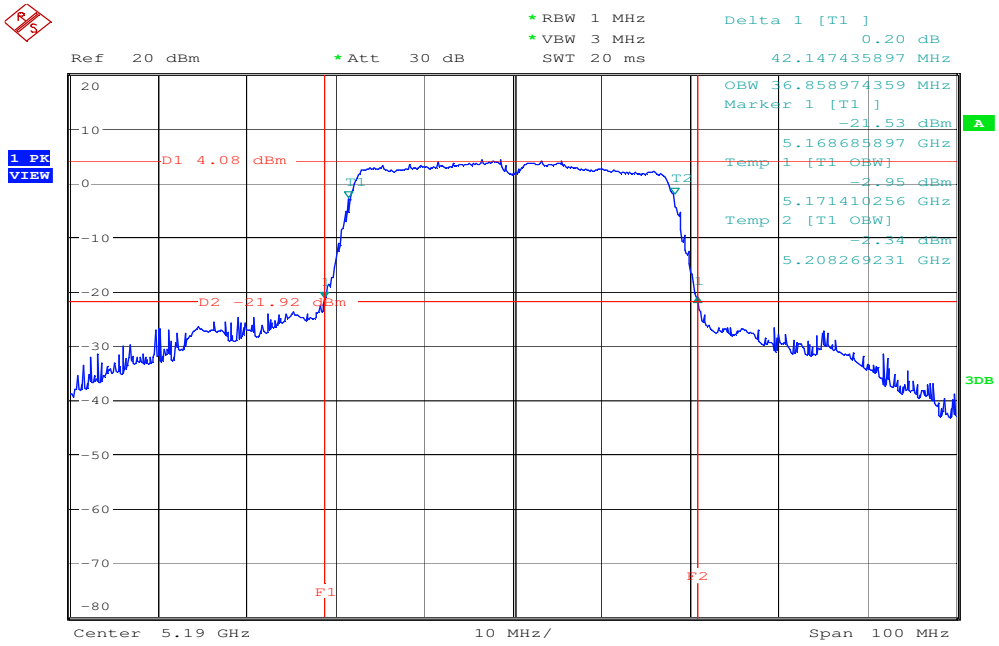
5240 MHz



Date: 5.JAN.2016 22:17:35

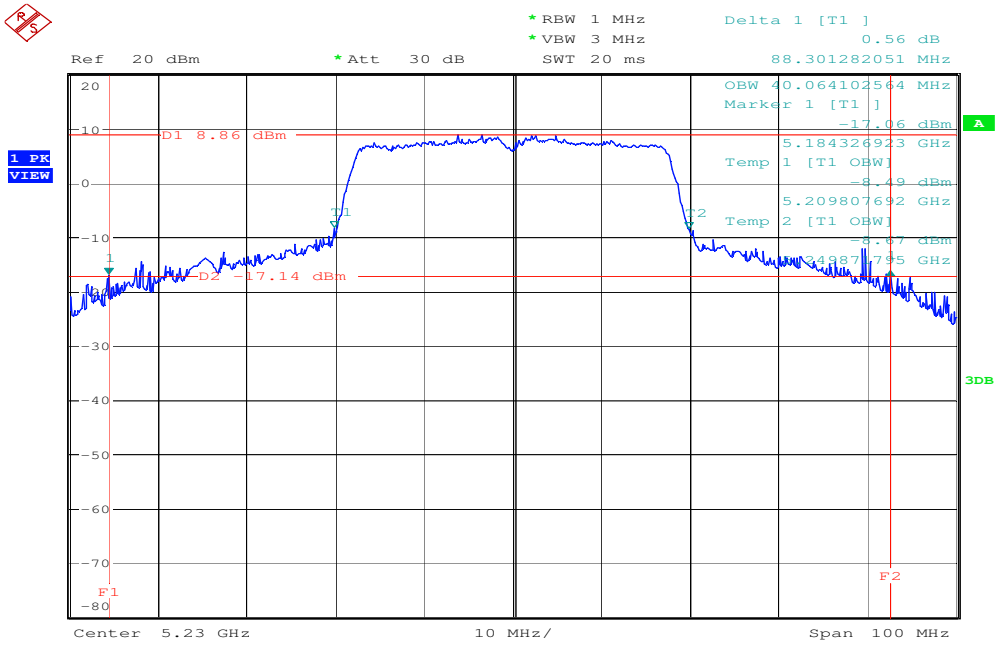
IEEE 802.11n HT 40 MHz mode / 5190 ~ 5230MHz / Chain 0

5190 MHz



Date: 6.JAN.2016 10:08:56

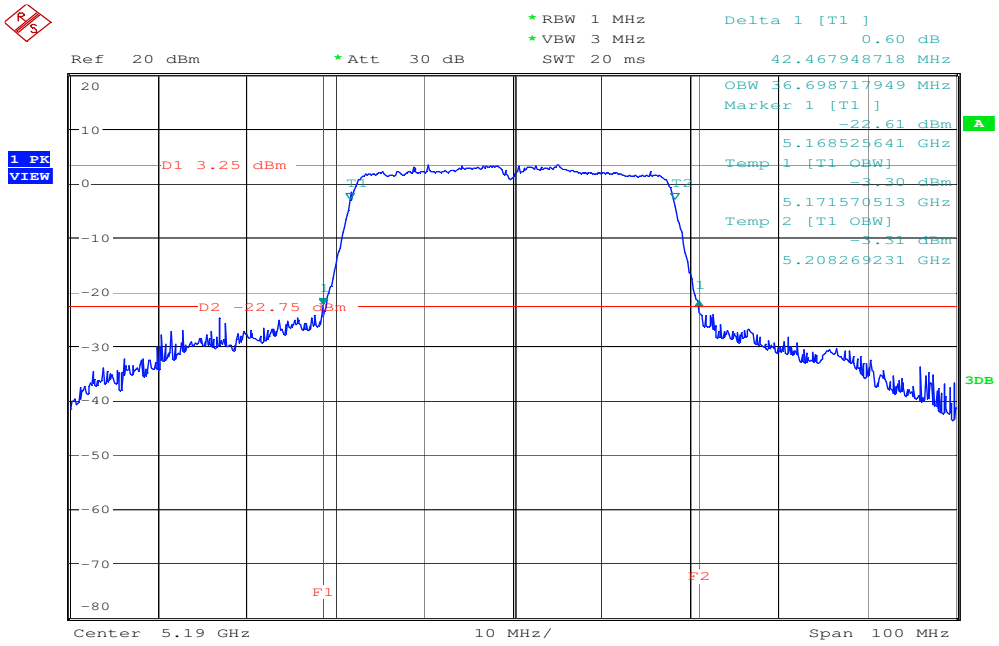
5230 MHz



Date: 6.JAN.2016 10:07:20

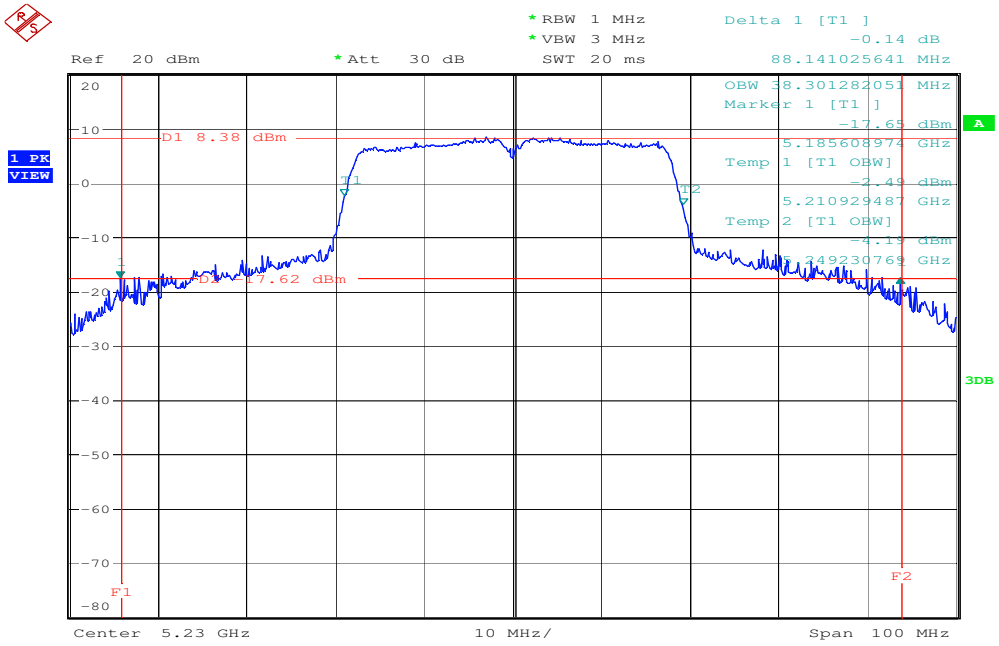
IEEE 802.11n HT 40 MHz mode / 5190 ~ 5230MHz / Chain 1

5190 MHz



Date: 6.JAN.2016 11:13:07

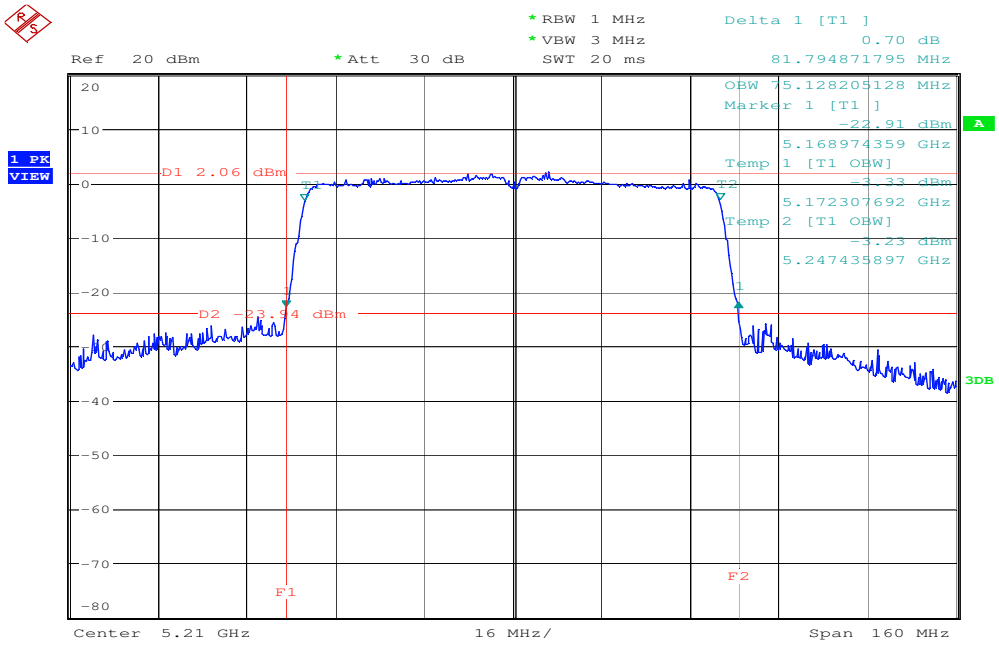
5230 MHz



Date: 6.JAN.2016 11:16:32

IEEE 802.11ac VHT 80 MHz mode / 5210MHz / Chain 0

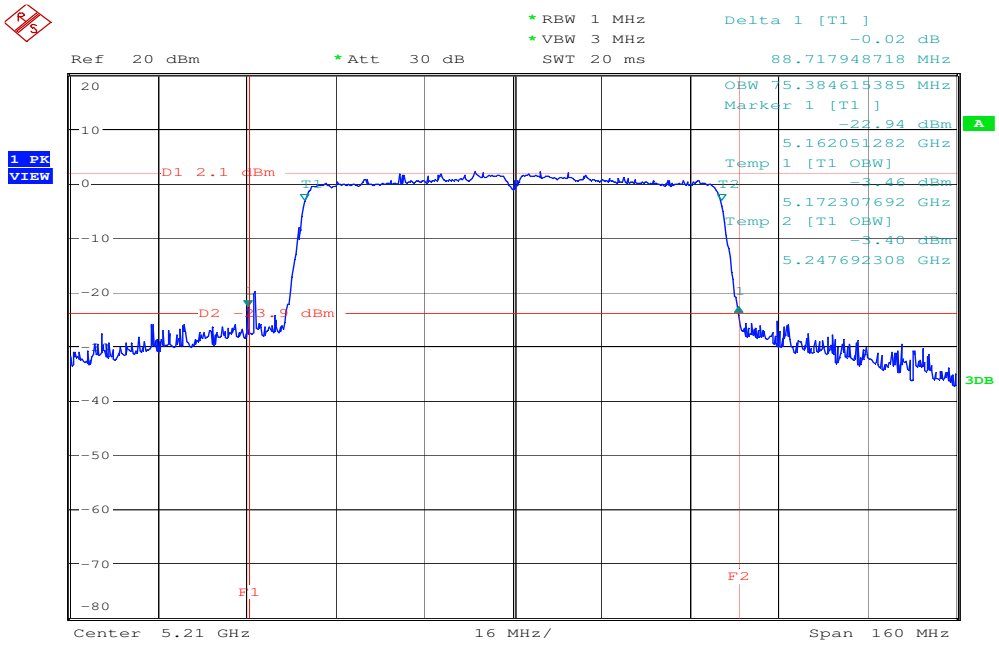
5210 MHz



Date: 6.JAN.2016 13:36:17

IEEE 802.11ac VHT 80 MHz mode / 5210MHz / Chain 1

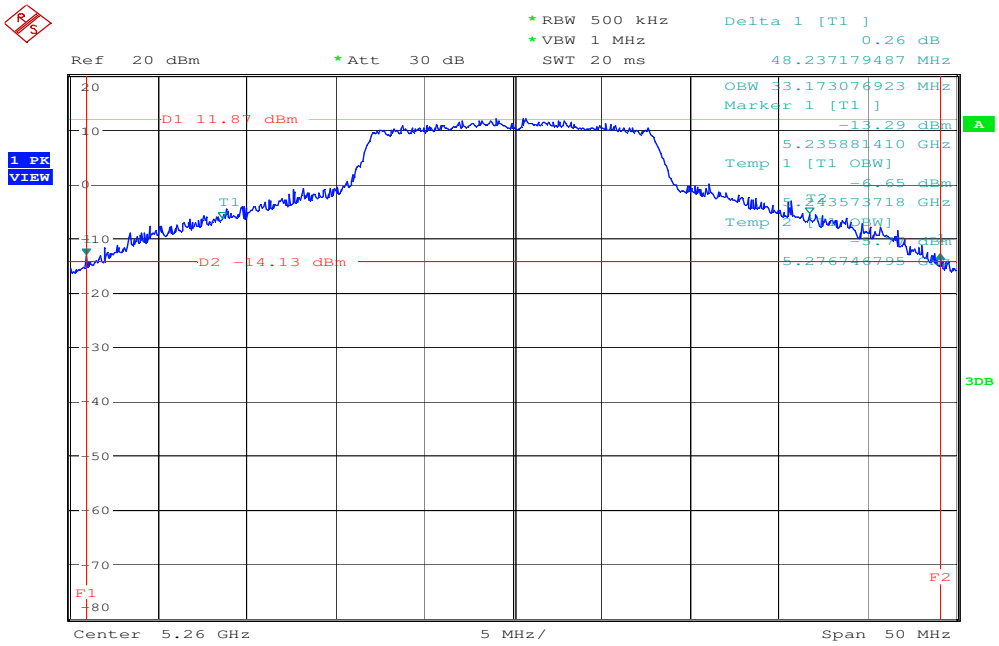
5210 MHz



Date: 6.JAN.2016 14:10:28

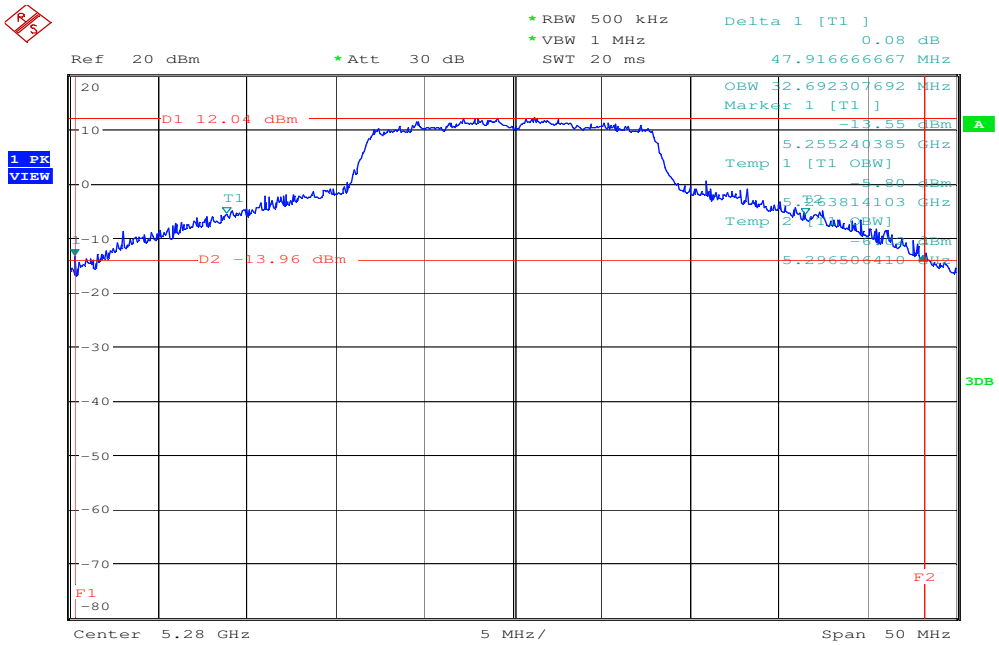
IEEE 802.11a mode / 5260 ~ 5320MHz

5260 MHz



Date: 5.JAN.2016 20:49:19

5280 MHz



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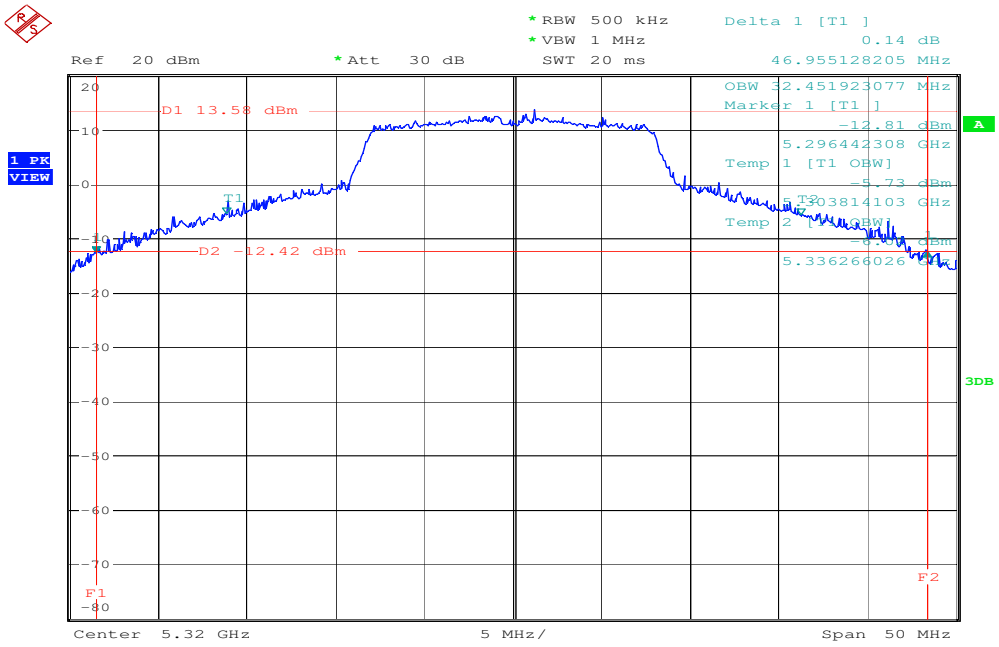
5320 MHz



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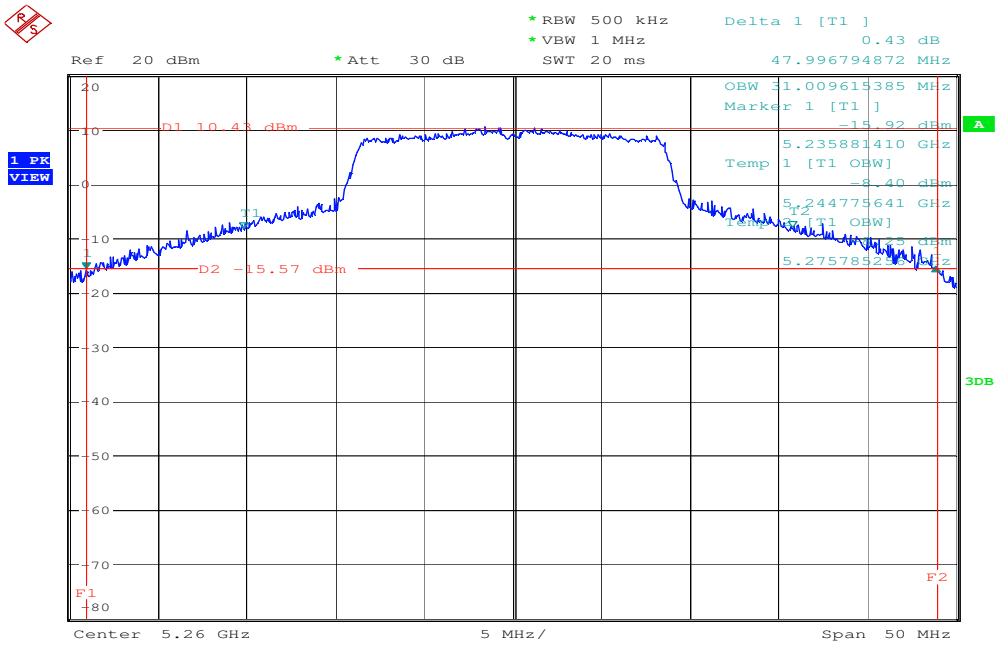
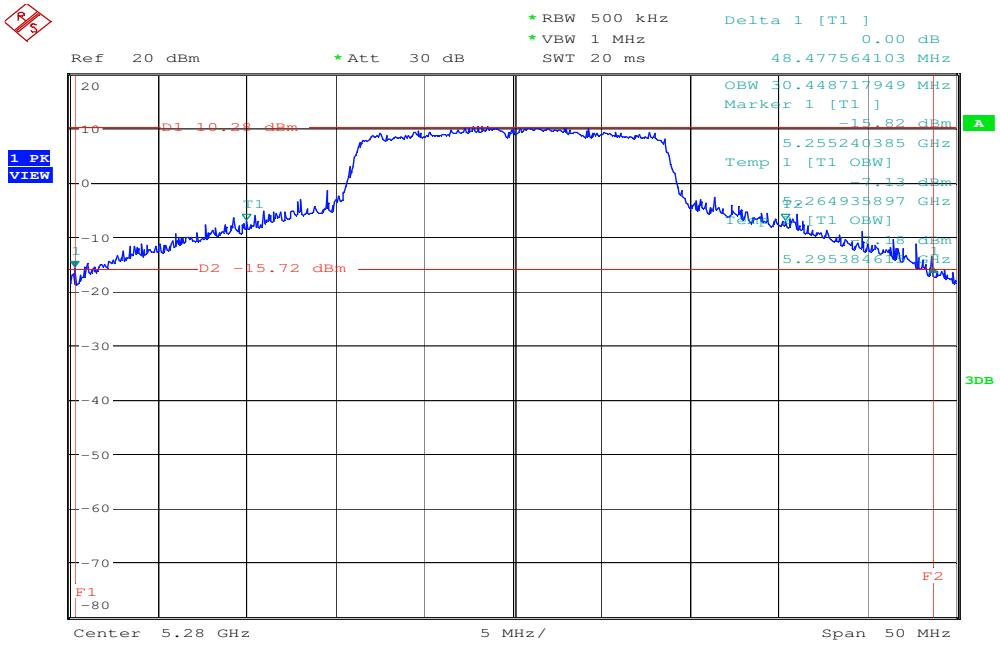
IEEE 802.11n HT 20 MHz mode / 5260 ~ 5320MHz / Chain 0

5260 MHz



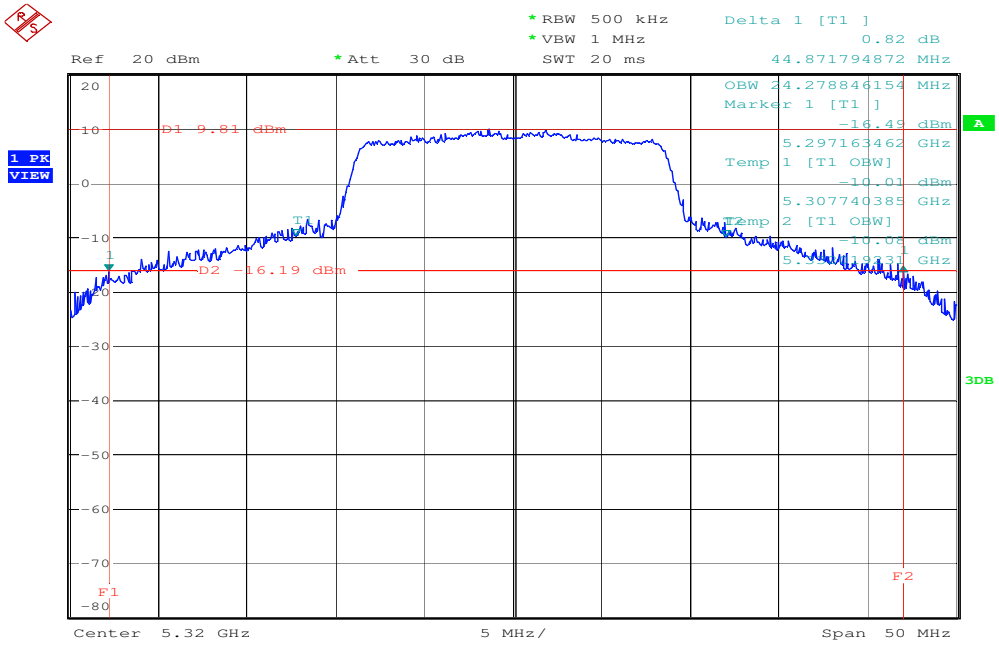
Date: 5.JAN.2016 21:41:29

5280 MHz



Date: 5.JAN.2016 21:42:59

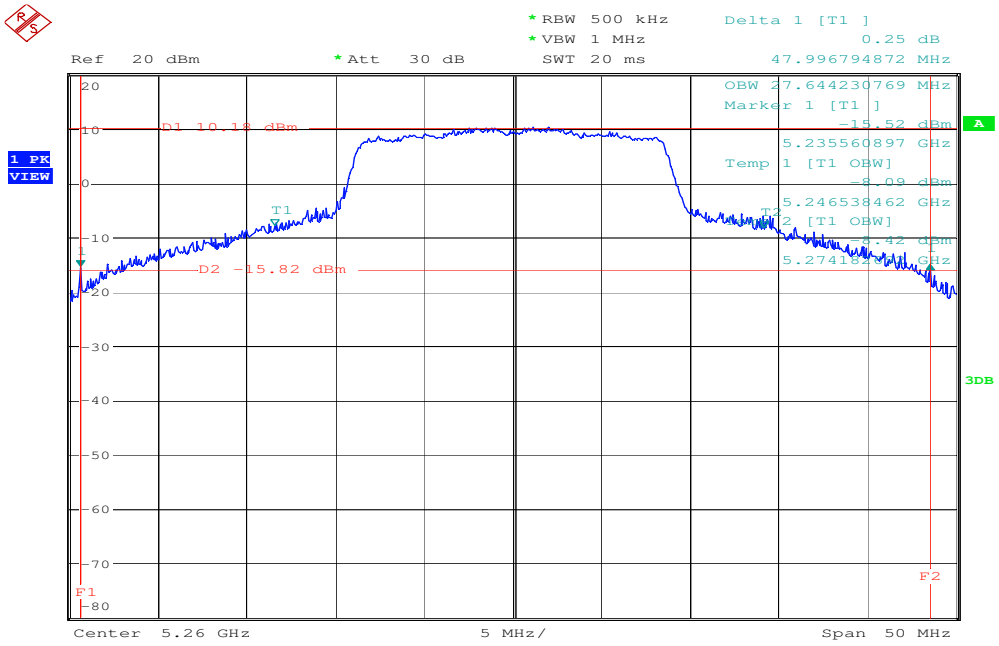
5320 MHz



Date: 5.JAN.2016 21:44:40

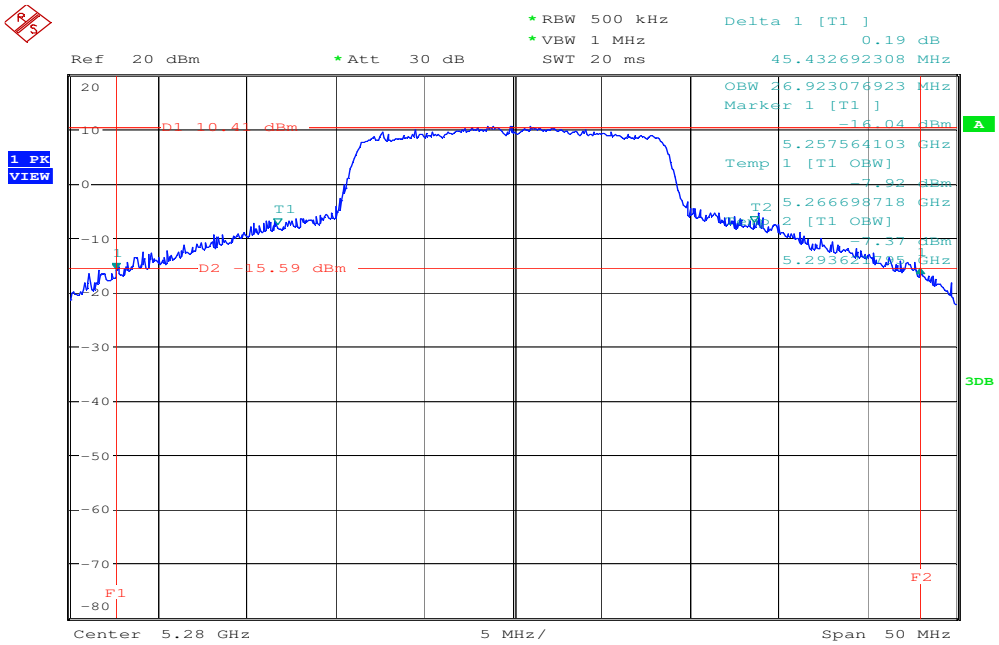
IEEE 802.11n HT 20 MHz mode / 5260 ~ 5320MHz / Chain 1

5260 MHz



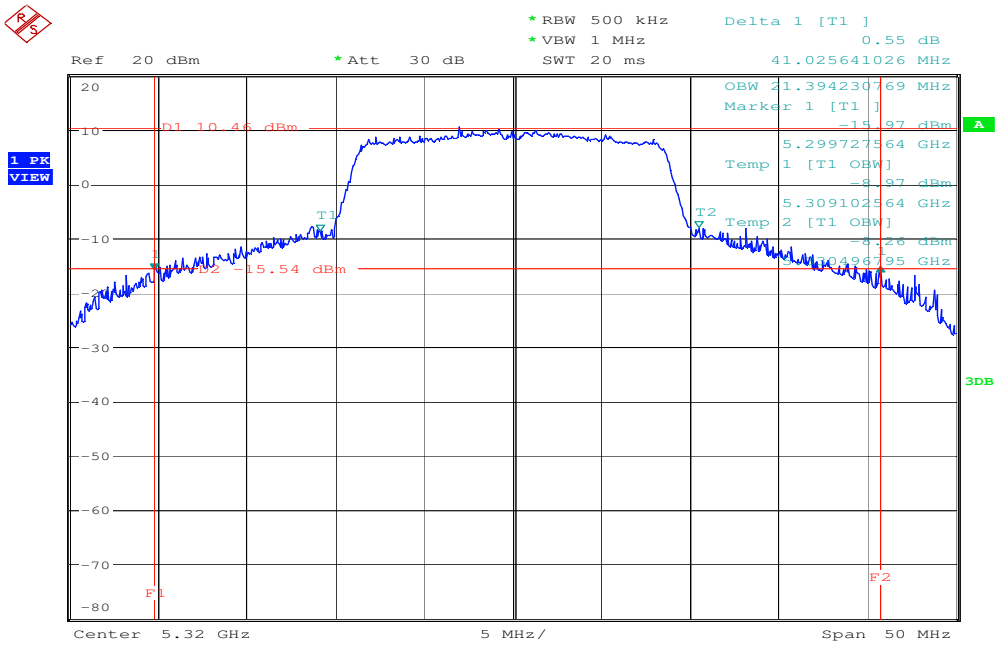
Date: 5.JAN.2016 22:19:35

5280 MHz



Date: 5.JAN.2016 22:21:28

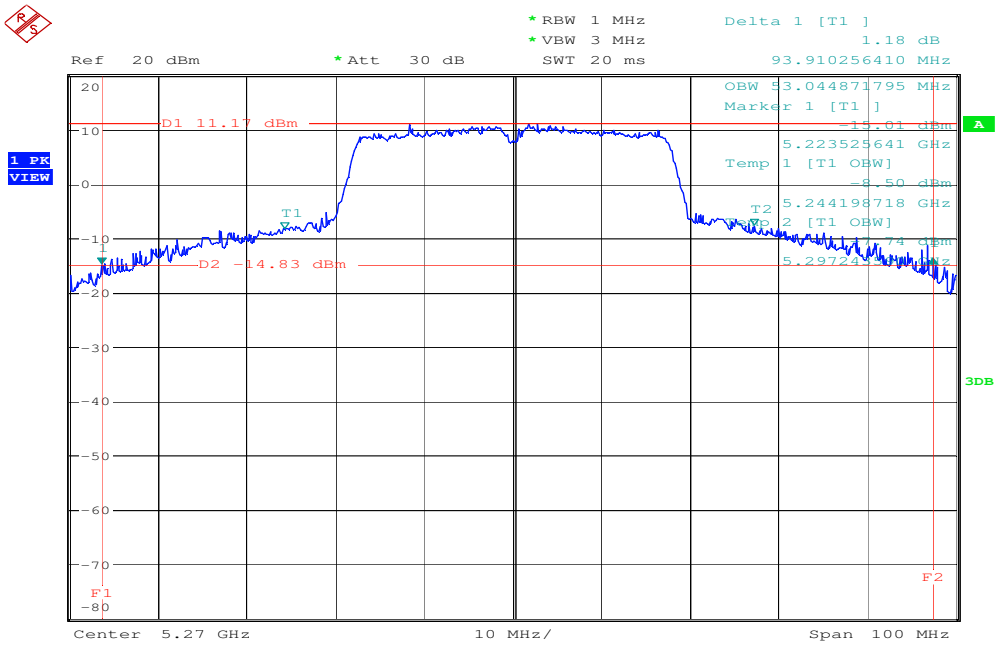
5320 MHz



Date: 5.JAN.2016 22:22:55

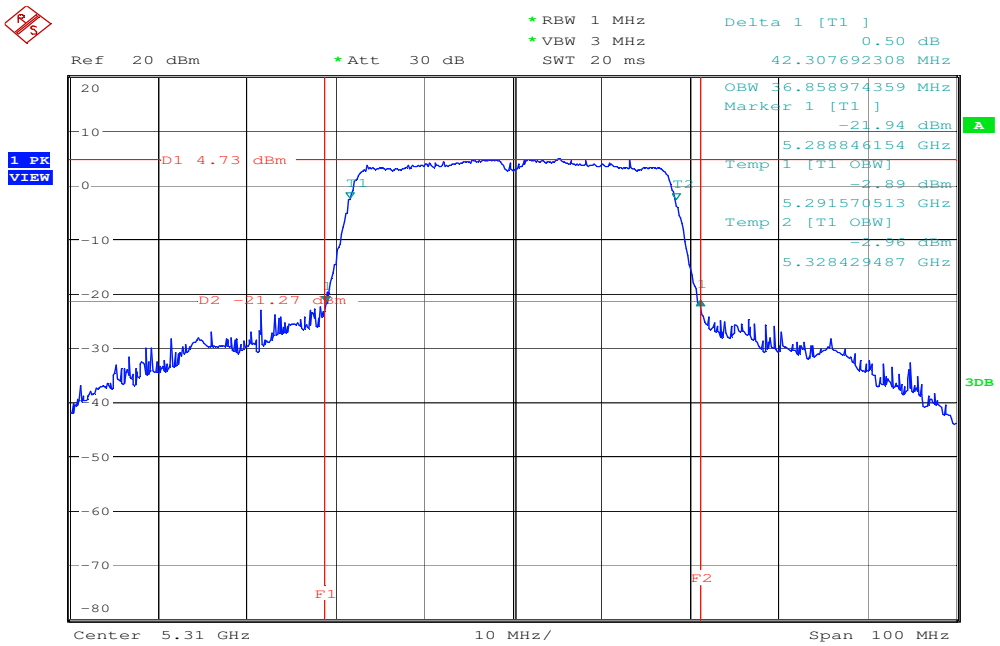
IEEE 802.11n HT 40 MHz mode / 5270 ~ 5310MHz / Chain 0

5270 MHz



Date: 6.JAN.2016 10:10:51

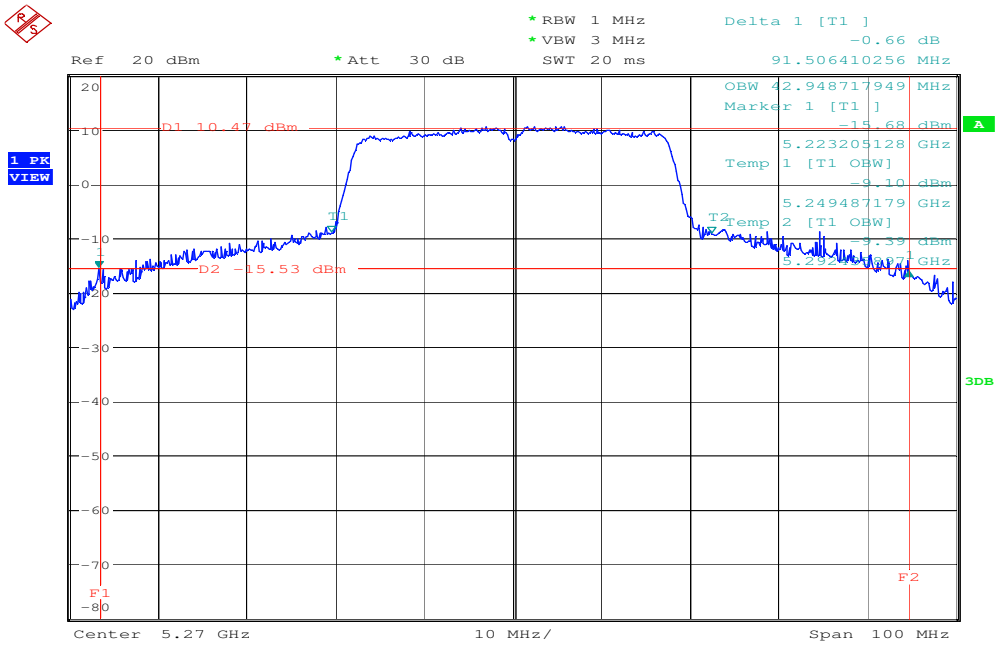
5310 MHz



Date: 6.JAN.2016 10:12:30

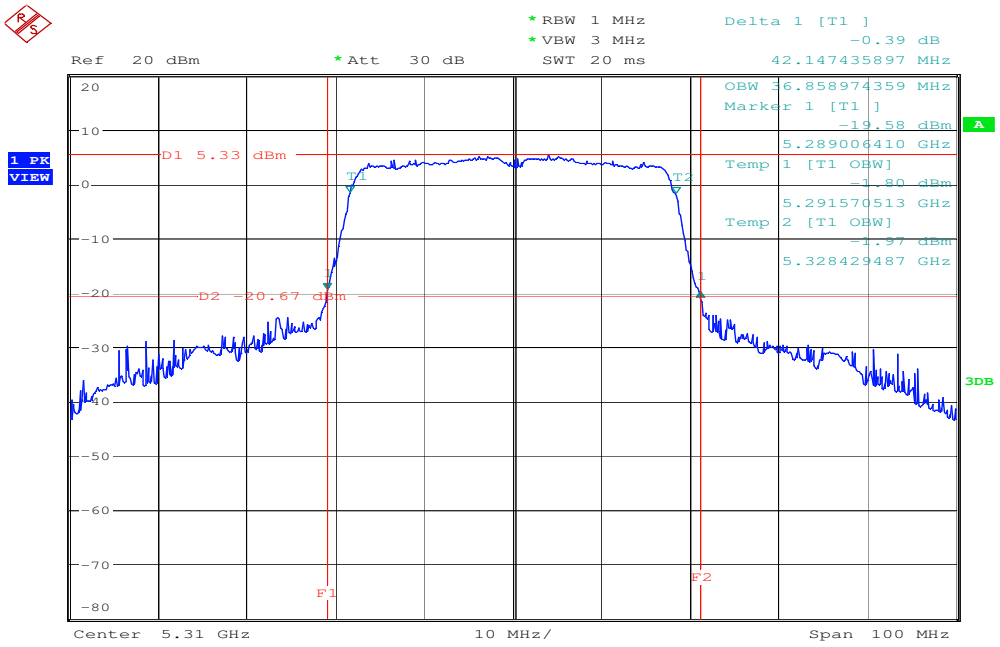
IEEE 802.11n HT 40 MHz mode / 5270 ~ 5310MHz / Chain 1

5270 MHz



Date: 6.JAN.2016 11:19:09

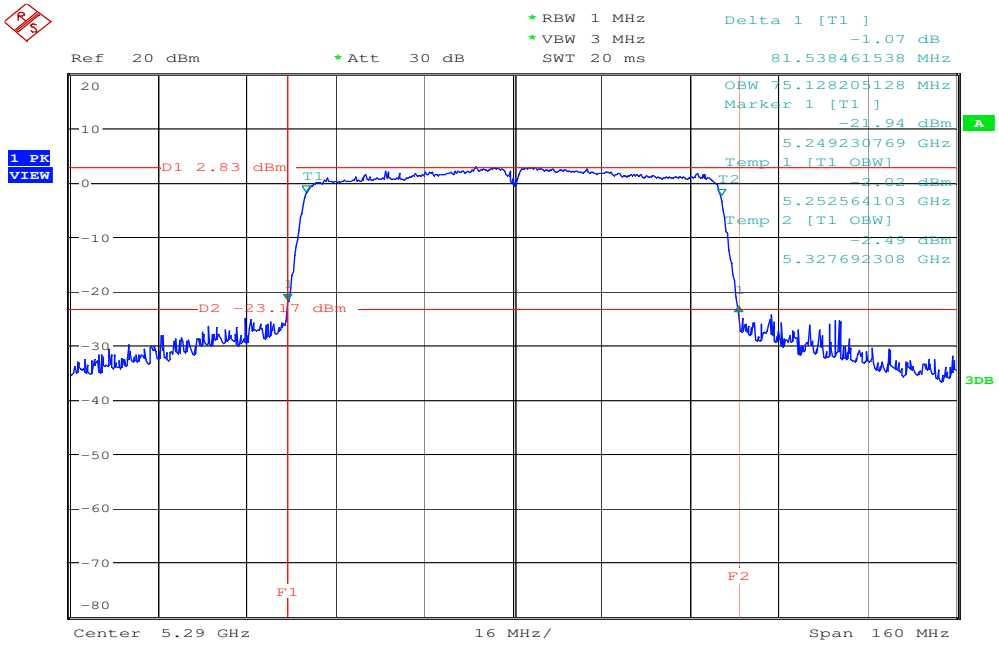
5310 MHz



Date: 6.JAN.2016 11:22:01

IEEE 802.11ac VHT 80 MHz mode / 5290MHz / Chain 0

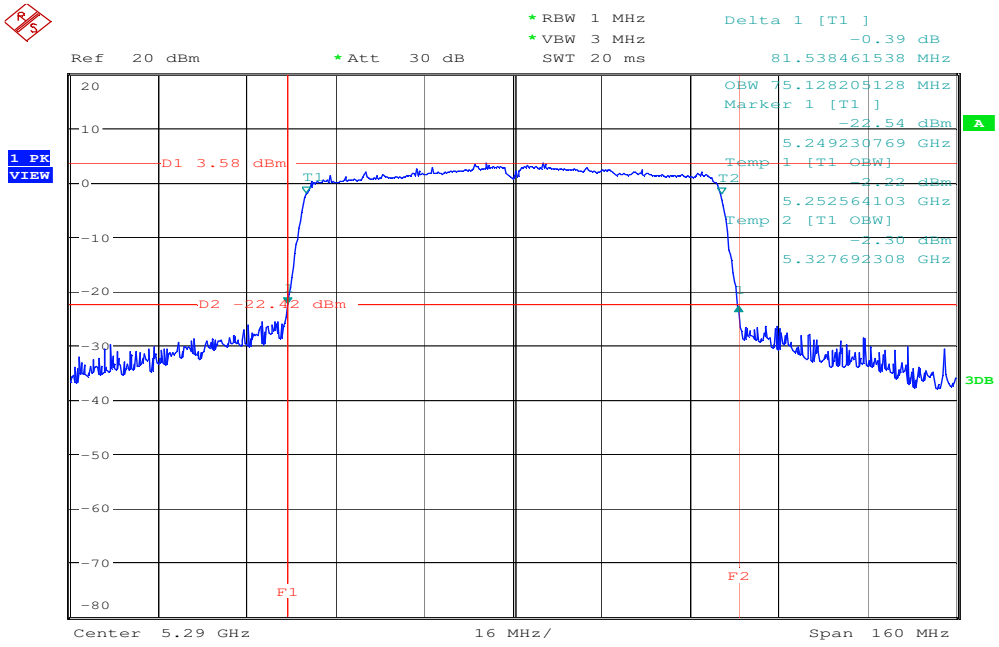
5290 MHz



Date: 6.JAN.2016 13:37:30

IEEE 802.11ac VHT 80 MHz mode / 5290MHz / Chain 1

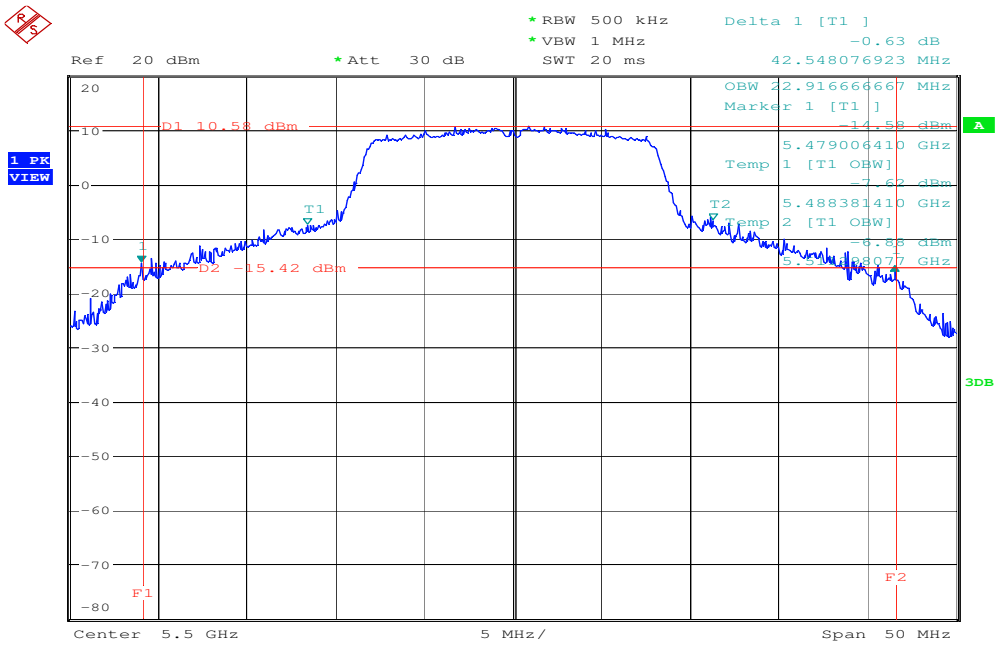
5290 MHz



Date: 6.JAN.2016 14:11:45

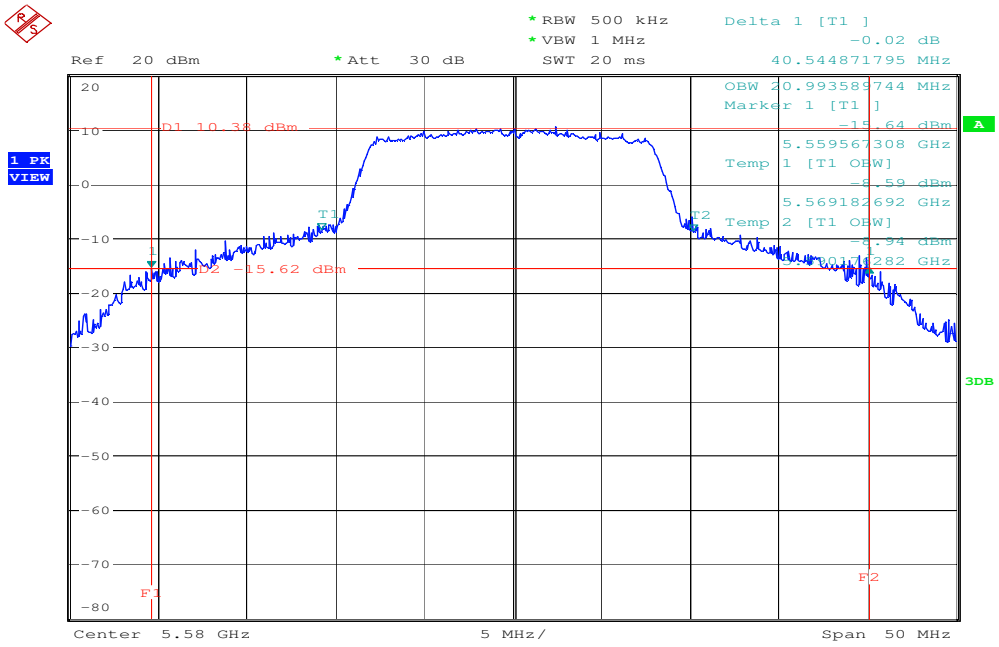
Test mode: IEEE 802.11a mode / 5500 ~ 5700MHz

5500 MHz



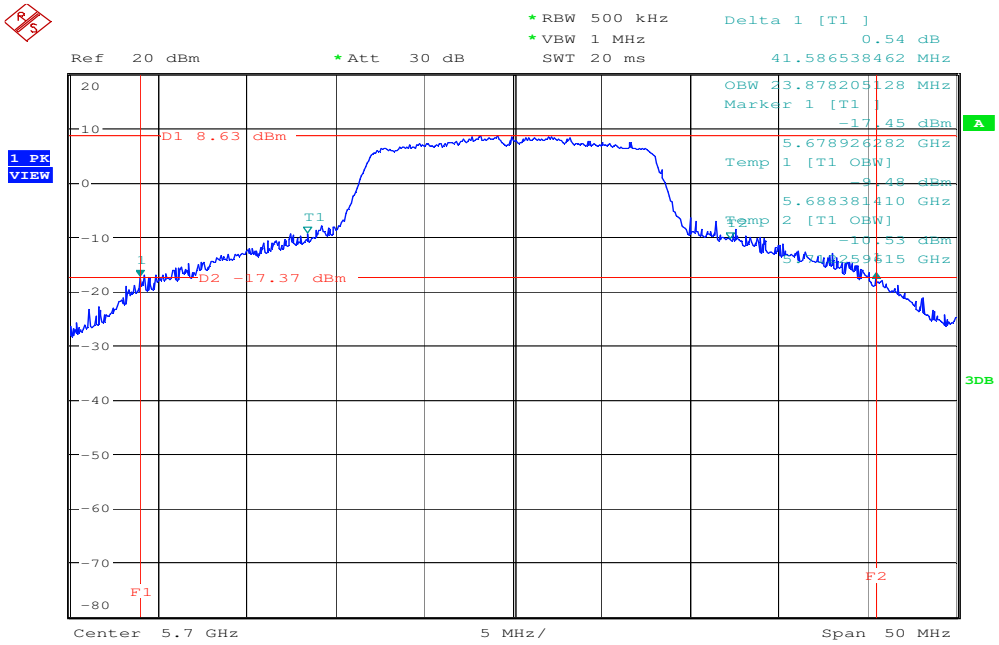
Date: 5.JAN.2016 20:54:19

5580 MHz



Date: 5.JAN.2016 20:55:48

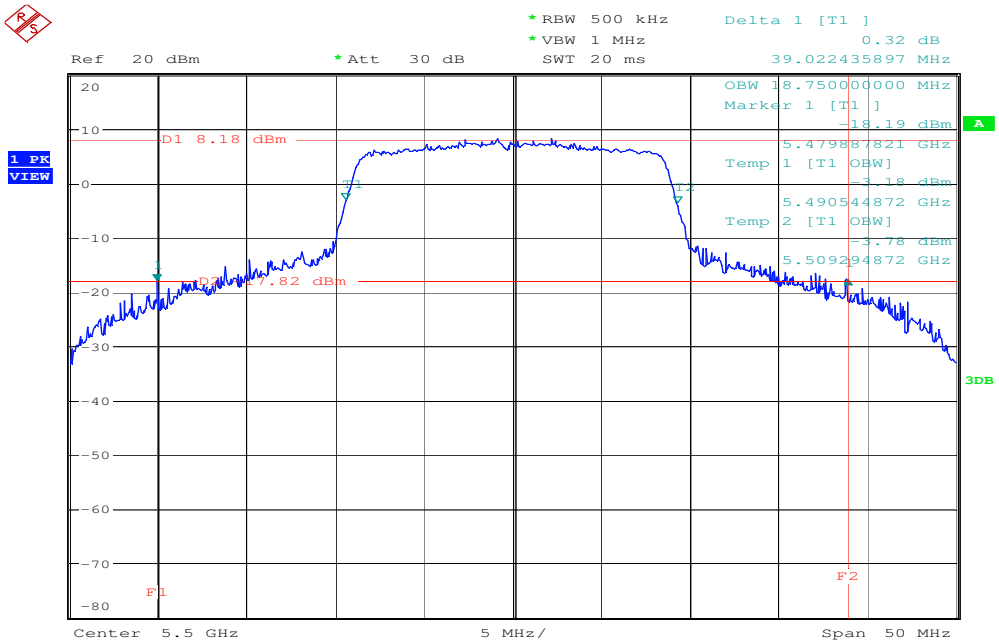
5700 MHz



Date: 5.JAN.2016 20:57:49

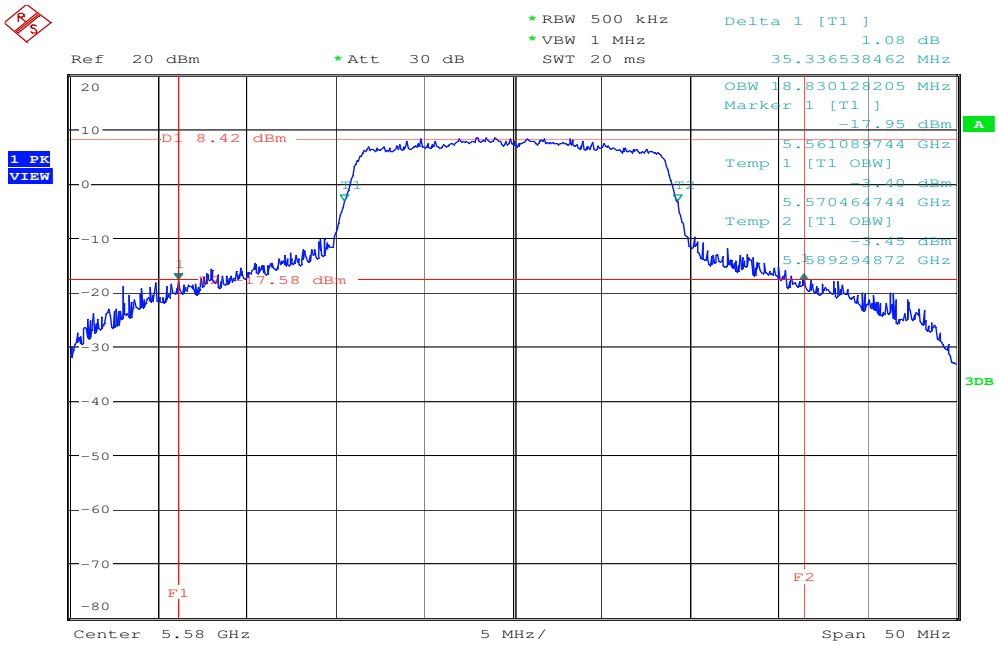
IEEE 802.11n HT 20 MHz mode / 5500 ~ 5720MHz / Chain 0

5500 MHz



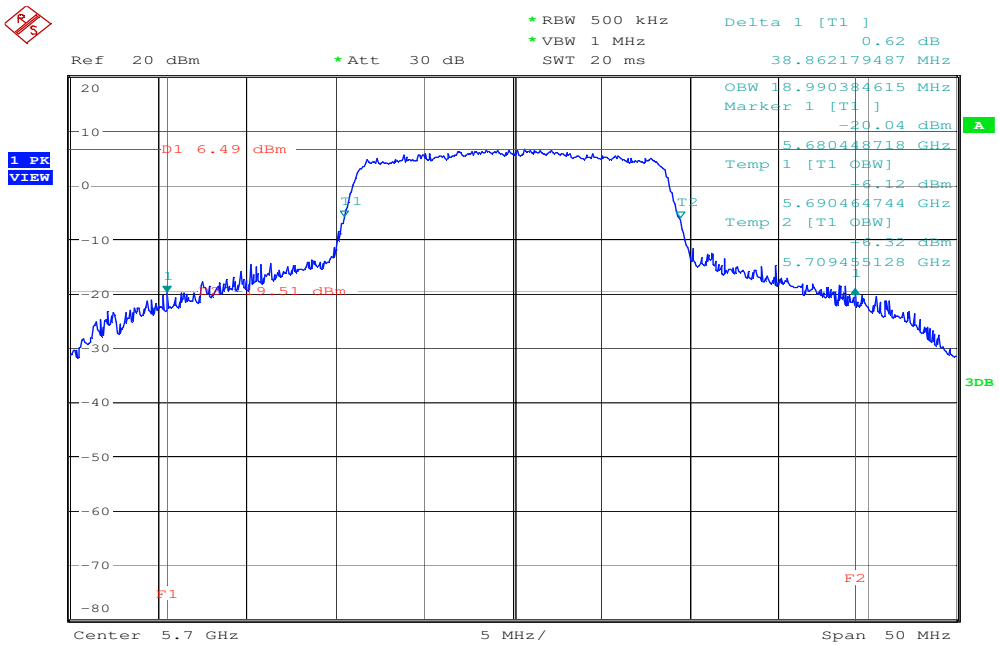
Date: 5.JAN.2016 21:46:55

5580 MHz



Date: 5.JAN.2016 21:48:20

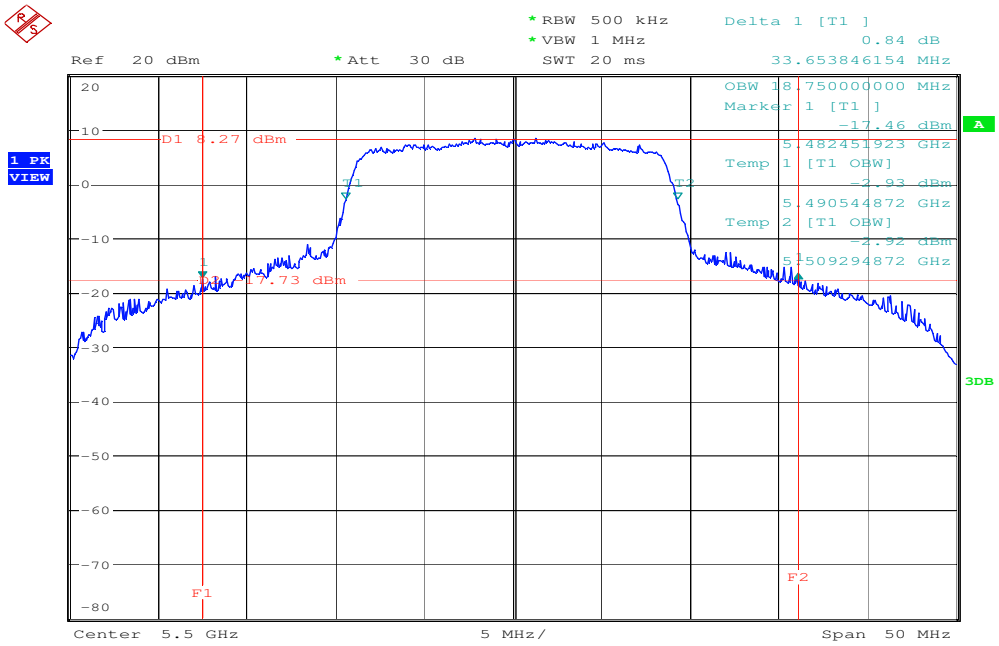
5700 MHz



Date: 5.JAN.2016 21:50:17

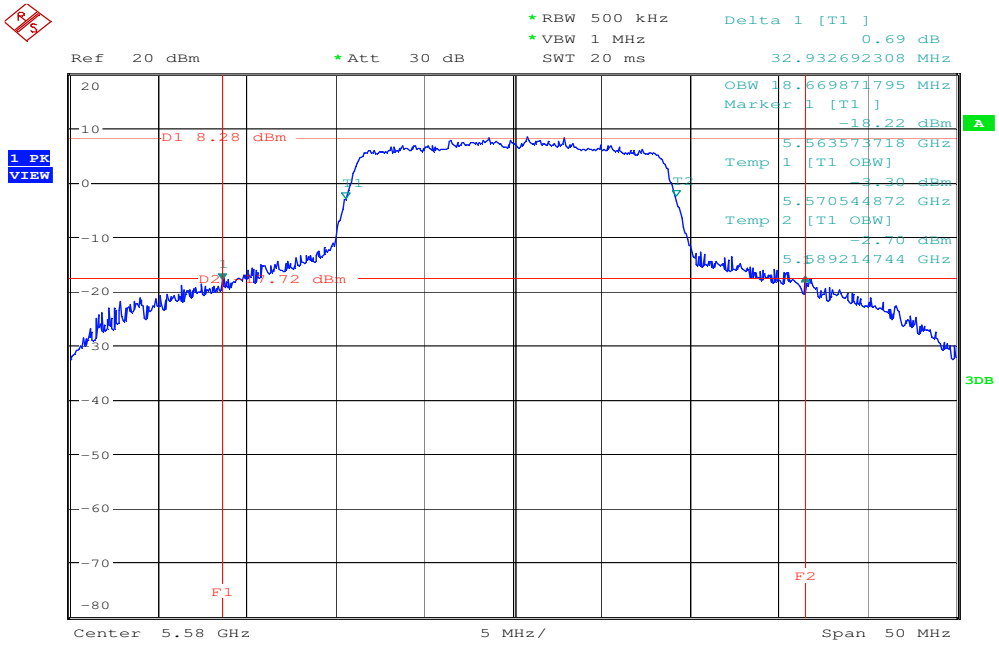
IEEE 802.11n HT 20 MHz mode / 5500 ~ 5700MHz / Chain 1

5500 MHz



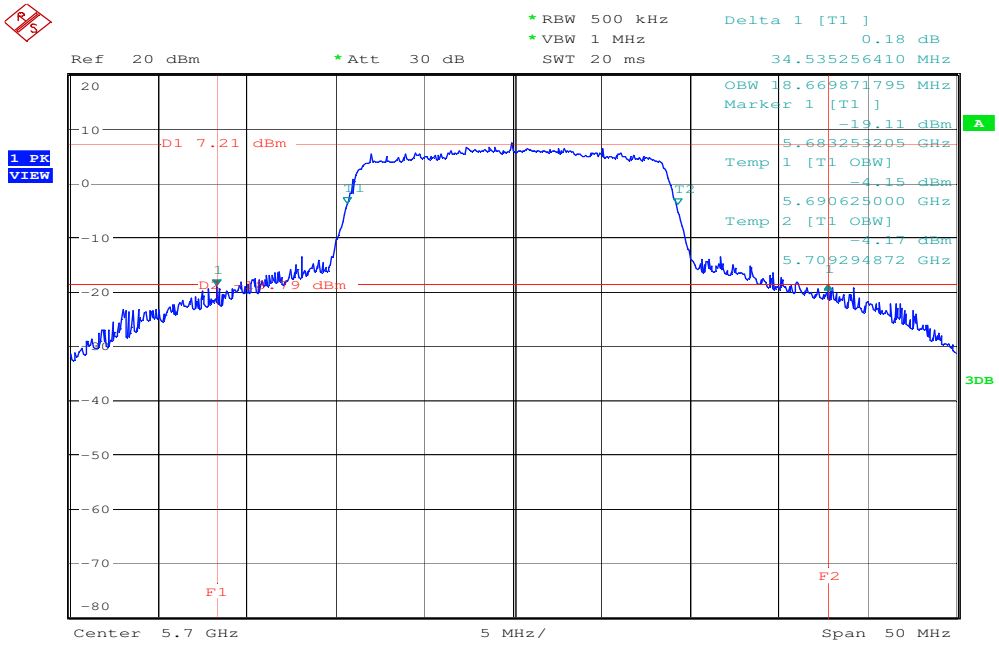
Date: 5.JAN.2016 22:24:41

5580 MHz



Date: 5.JAN.2016 22:26:36

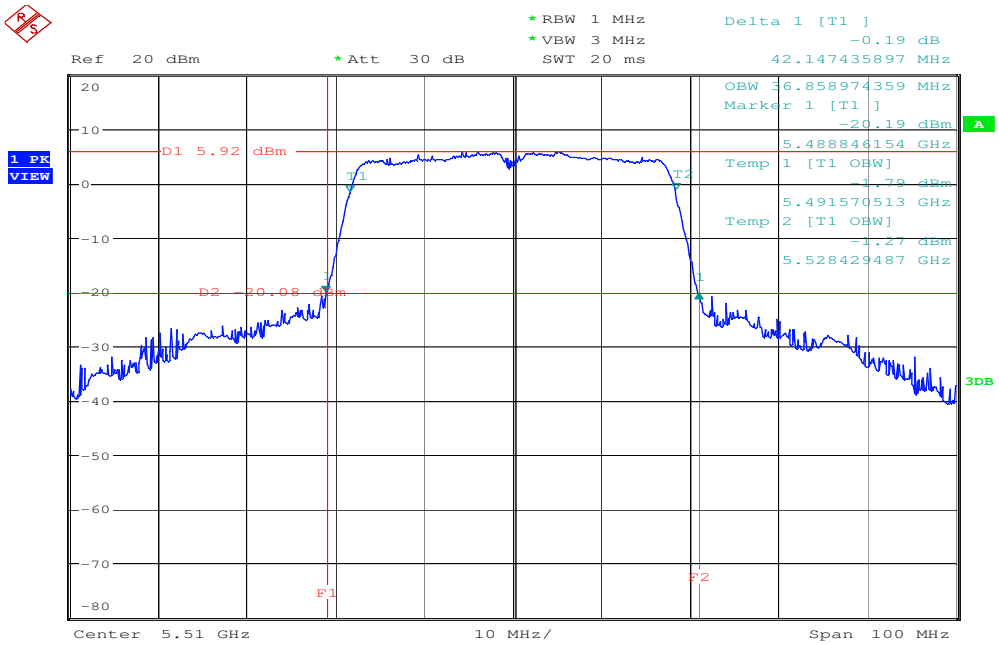
5700 MHz



Date: 5.JAN.2016 22:28:11

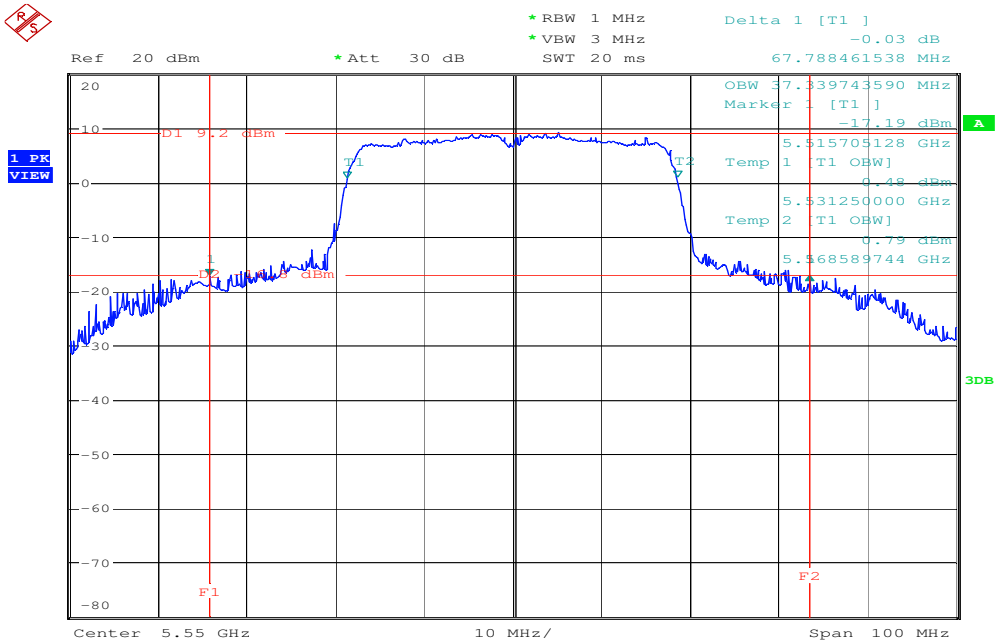
IEEE 802.11n HT 40 MHz mode / 5510 ~ 5670MHz / Chain 0

5510 MHz



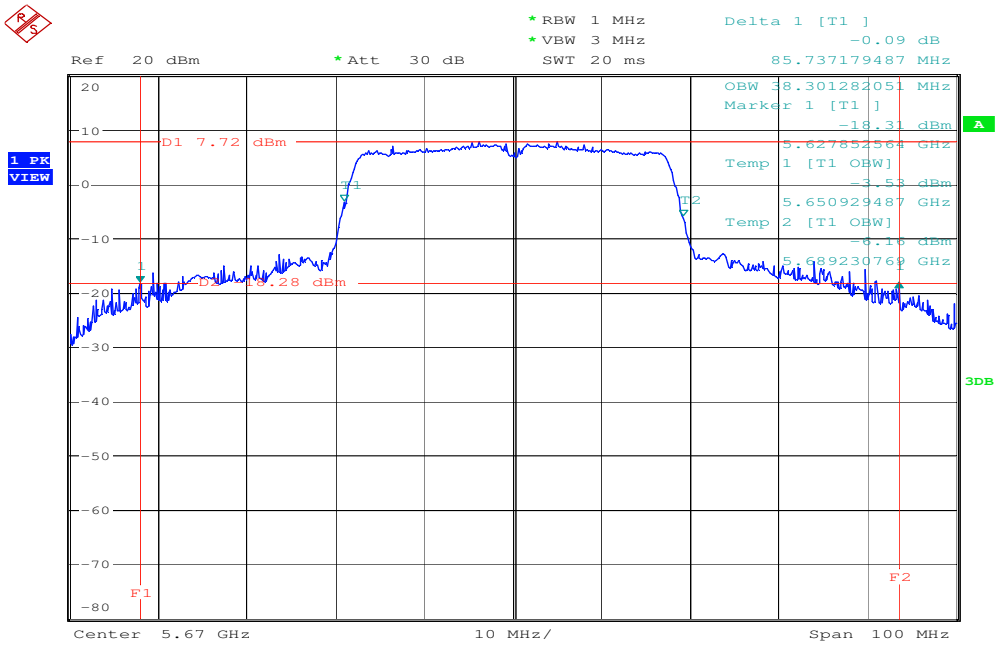
Date: 6.JAN.2016 10:14:14

5550 MHz



Date: 6.JAN.2016 10:24:15

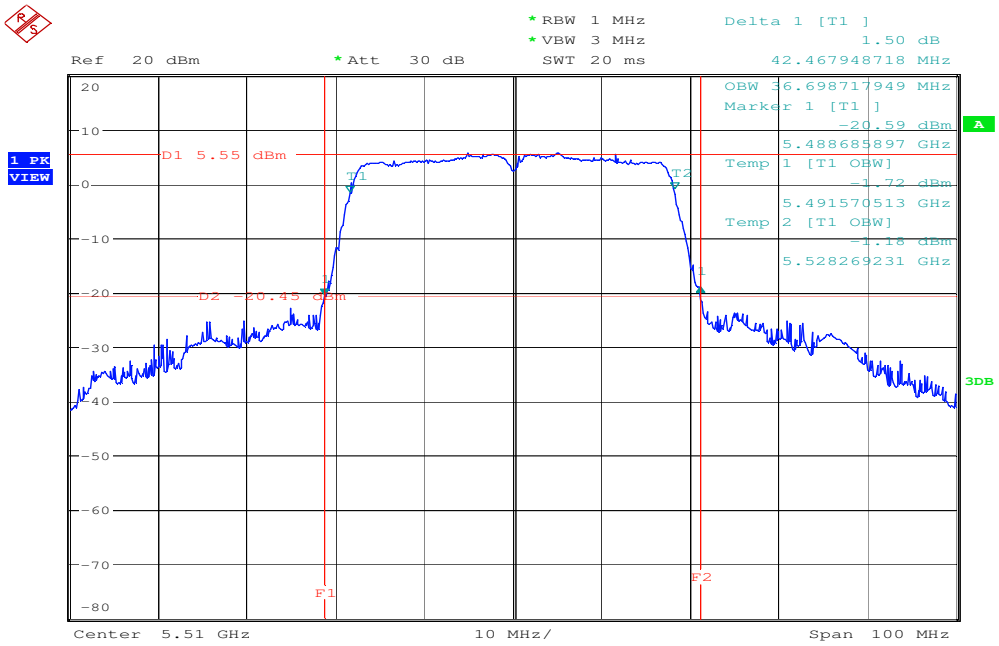
5670 MHz



Date: 6.JAN.2016 10:29:20

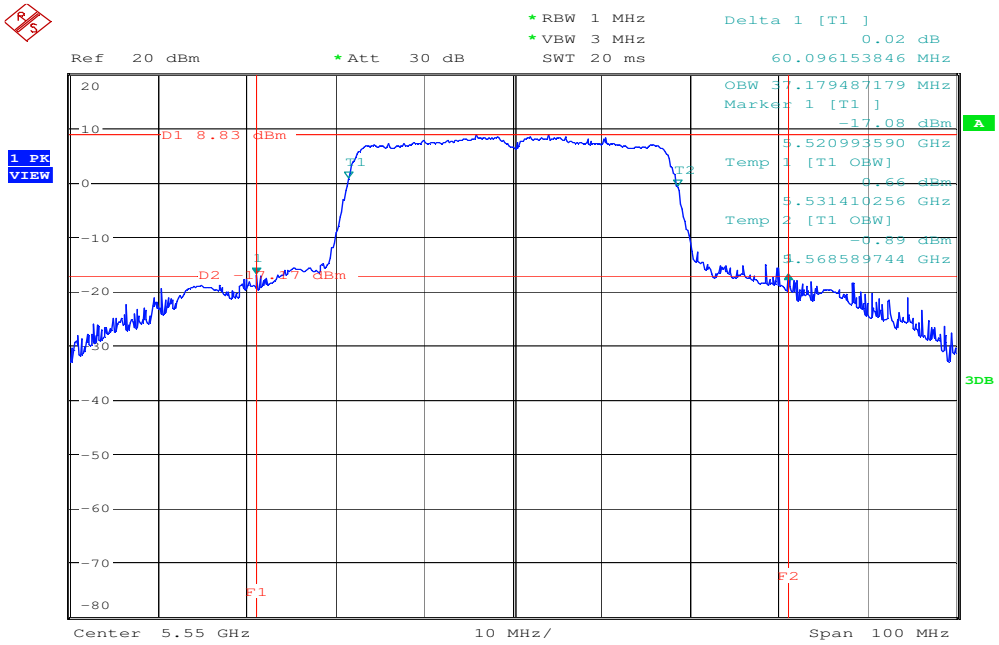
IEEE 802.11n HT 40 MHz mode / 5510 ~ 5670MHz / Chain 1

5510 MHz



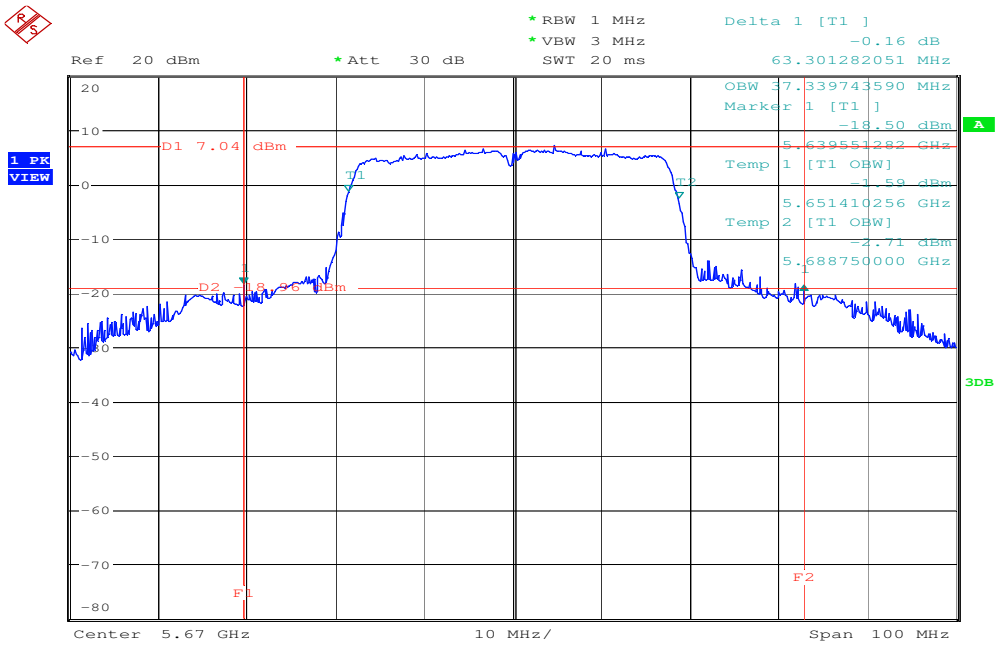
Date: 6.JAN.2016 11:23:36

5550 MHz



Date: 6.JAN.2016 11:25:20

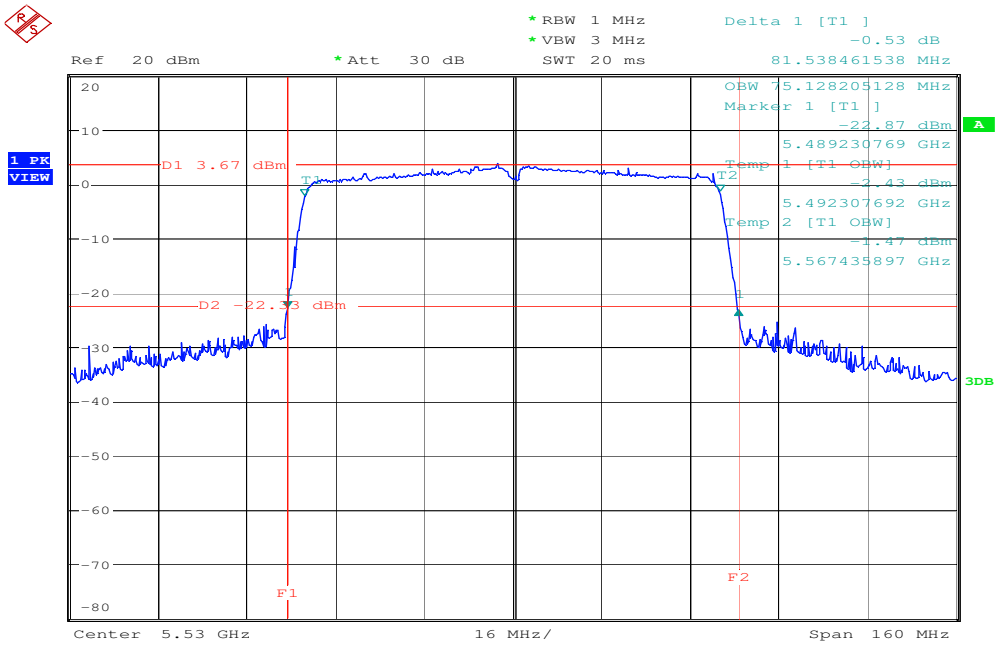
5670 MHz



Date: 6.JAN.2016 11:34:06

IEEE 802.11ac VHT 80 MHz mode / 5530MHz/ Chain 0

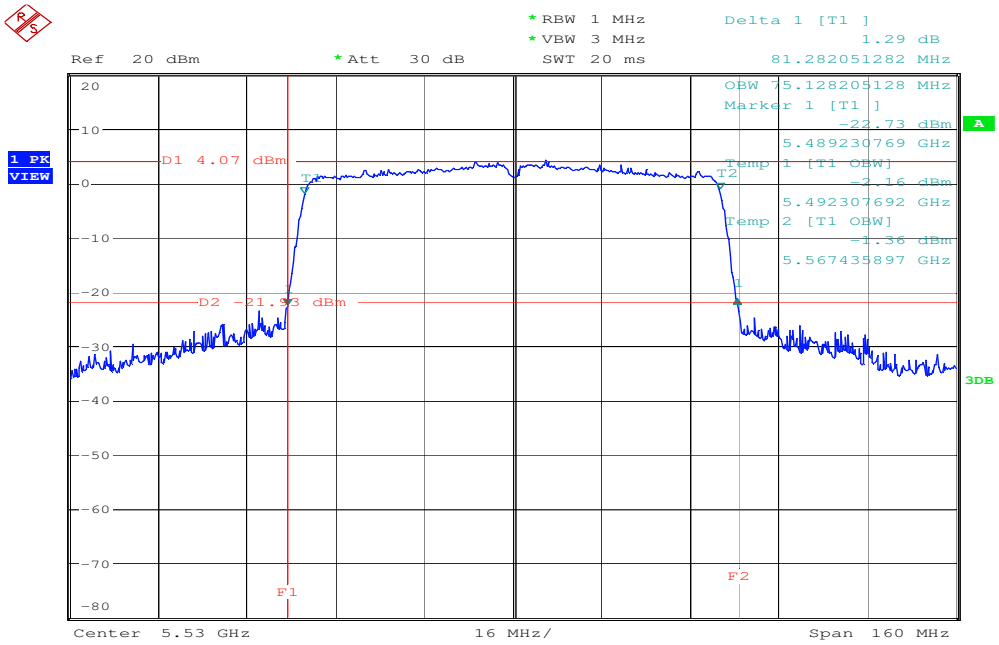
5530 MHz



Date: 6.JAN.2016 13:39:03

IEEE 802.11ac VHT 80 MHz mode / 5530MHz/ Chain 1

5530 MHz



Date: 6.JAN.2016 14:13:22

7.3 MAXIMUM CONDUCTED OUTPUT POWER

LIMIT

According to §15.407(a)

For the band 5.15-5.25 GHz, 5.25-5.35 GHz and 5.47-5.725 GHz bands, the maximum conducted output power over the frequency band of operation shall not exceed the lesser of 250 mW or 11 dBm + 10log B, where B is the 26 dB emission bandwidth in MHz.

If transmitting antennas of directional gain greater than 6dBi are used, both the peak transmit power and the peak power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6dBi

According to RSS-247,

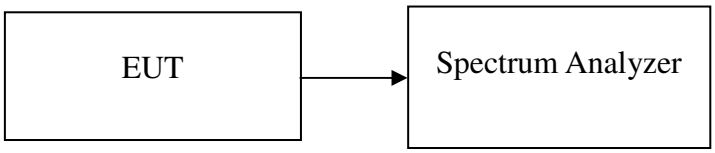
(1) For the band 5150-5250 MHz, the maximum equivalent isotropically radiated power (e.i.r.p.) shall not exceed 200 mW or 10 + 10 Log10 B, dBm, whichever power is less. B is the 99% emission bandwidth in MHz. The e.i.r.p. spectral density shall not exceed 10 dBm in any 1.0 MHz band.

(2) For the band 5250-5350 MHz and 5470-5725 MHz, the maximum conducted output power shall not exceed 250 mW or 11 + 10 Log10 B, dBm, whichever power is less. The power spectral density shall not exceed 11 dBm in any 1.0 MHz band. The maximum e.i.r.p. shall not exceed 1.0 W or 17 + 10 Log10 B, dBm, whichever power is less. B is the 99% emission bandwidth in MHz.

In addition, devices with maximum e.i.r.p. greater than 500 mW shall implement TPC in order to have the capability to operate at least 6 dB below the maximum permitted e.i.r.p. of 1 W.
The peak power shall not exceed the limit as follow:

Test Configuration

The EUT was connected to a spectrum analyzer through a 50Ω RF cable.



TEST PROCEDURE

Set span to encompass the entire emission bandwidth (EBW) of the signal.

Set RBW = 1 MHz / Set VBW = 3 MHz.

Use sample detector mode if bin width (i.e., span/number of points in spectrum display) < 0.5 RBW. Otherwise use peak detector mode. Use a video trigger with the trigger level set to enable triggering only on full power pulses. Transmitter must operate at full control power for entire sweep of every sweep. If the device transmits continuously, with no off intervals or reduced power intervals, the trigger may be set to “free run”.·Trace average 100 traces in power averaging mode. Compute power by integrating the spectrum across the 26 dB EBW of the signal. The integration can be performed using the spectrum analyzer’s band power measurement function with band limits set equal to the EBW band edges or by summing power levels in each 1 MHz band in linear power terms. The 1 MHz band power levels to be summed can be obtained by averaging, in linear power terms, power levels in each frequency bin across the 1 MHz.

TEST RESULTS

No non-compliance noted

Test Data

Test mode: IEEE 802.11a mode / 5180 ~ 5240MHz

Channel	Frequency (MHz)	Maximum Conducted Output Power (dBm)	Limit (dBm)
36	5180	14.32	24.00
44	5220	14.71	24.00
48	5240	***14.94**	24.00

Test mode: IEEE 802.11n HT 20 MHz mode / 5180 ~ 5240MHz

Channel	Frequency (MHz)	Chain 0 Output Power (dBm)	Chain 1 Output Power (dBm)	Total Maximum Conducted Output Power (dBm)	Limit (dBm)
36	5180	14.67	14.08	17.40	20.88
44	5220	14.95	14.13	***17.57**	20.88
48	5240	14.87	13.92	17.43	20.88

Test mode: IEEE 802.11n HT 40 MHz mode / 5190 ~ 5230MHz

Channel	Frequency (MHz)	Chain 0 Output Power (dBm)	Chain 1 Output Power (dBm)	Total Maximum Conducted Output Power (dBm)	Limit (dBm)
38	5190	11.56	11.39	14.49	20.88
46	5230	15.21	14.27	***17.78**	20.88

Test mode: IEEE 802.11ac VHT 80 MHz mode / 5210MHz

Channel	Frequency (MHz)	Chain 0 Output Power (dBm)	Chain 1 Output Power (dBm)	Total Maximum Conducted Output Power (dBm)	Limit (dBm)
42	5210	11.87	11.11	***14.52**	20.88

Remark:
1. Total Output Power (w) = Chain 0 (10^(Output Power /10)/1000)+ Chain 1 (10^(Output Power /10)/1000)
2. The maximum antenna gain is 9.12dBi; therefore the reduction due to antenna gain is 3.12dBi, so the limit is 20.88dBm.

Test mode: IEEE 802.11a mode / 5260 ~ 5320MHz

Channel	Frequency (MHz)	Maximum Conducted Output Power (dBm)	Limit (dBm)
52	5260	15.10	24.00
56	5280	***15.25**	24.00
64	5320	12.30	24.00

Test mode: IEEE 802.11n HT 20 MHz Channel mode / 5260 ~ 5320MHz

Channel	Frequency (MHz)	Chain 0 Output Power (dBm)	Chain 1 Output Power (dBm)	Total Maximum Conducted Output Power (dBm)	Limit (dBm)
52	5260	12.50	12.03	15.28	20.88
56	5280	12.73	12.67	***15.71**	20.88
64	5320	12.46	11.95	15.23	20.88

Test mode: IEEE 802.11n HT 40 MHz mode / 5270 ~ 5310MHz

Channel	Frequency (MHz)	Chain 0 Output Power (dBm)	Chain 1 Output Power (dBm)	Total Maximum Conducted Output Power (dBm)	Limit (dBm)
54	5270	15.14	15.04	***18.10**	20.88
62	5310	11.04	11.01	14.03	20.88

Test mode: IEEE 802.11ac VHT 80 MHz mode / 5290MHz

Channel	Frequency (MHz)	Chain 0 Output Power (dBm)	Chain 1 Output Power (dBm)	Total Maximum Conducted Output Power (dBm)	Limit (dBm)
58	5290	12.55	12.42	***15.50**	20.88

Remark:

1. Total Output Power (w) = Chain 0 (10^(Output Power /10)/1000)+ Chain 1 (10^(Output Power /10)/1000)

2. The maximum antenna gain is 9.12dBi; therefore the reduction due to antenna gain is 3.12dBi, so the limit is 20.88Bm.

Test mode: IEEE 802.11a mode / 5500 ~ 5720MHz

Channel	Frequency (MHz)	Maximum Conducted Output Power (dBm)	Limit (dBm)
100	5500	11.63	24.00
116	5580	12.96	24.00
140	5700	***14.31**	24.00

Test mode: IEEE 802.11n HT 20 MHz Channel mode / 5500 ~ 5720MHz

Channel	Frequency (MHz)	Chain 0 Output Power (dBm)	Chain 1 Output Power (dBm)	Total Maximum Conducted Output Power (dBm)	Limit (dBm)
100	5500	11.64	11.99	14.83	20.88
116	5580	13.00	12.31	15.68	20.88
140	5700	14.84	14.87	***17.87**	20.88

Test mode: IEEE 802.11n HT 40 MHz mode / 5510 ~ 5710MHz

Channel	Frequency (MHz)	Chain 0 Output Power (dBm)	Chain 1 Output Power (dBm)	Total Maximum Conducted Output Power (dBm)	Limit (dBm)
102	5510	12.51	12.21	15.37	20.88
110	5550	14.41	14.40	17.41	20.88
134	5670	14.50	14.31	***17.42**	20.88

Test mode: IEEE 802.11ac VHT 80 MHz mode / 5530 ~ 5690MHz

Channel	Frequency (MHz)	Chain 0 Output Power (dBm)	Chain 1 Output Power (dBm)	Total Maximum Conducted Output Power (dBm)	Limit (dBm)
106	5530	12.15	12.74	***15.47**	20.88

Remark:

1. Total Output Power (w) = Chain 0 (10^(Output Power /10)/1000)+ Chain 1 (10^(Output Power /10)/1000)

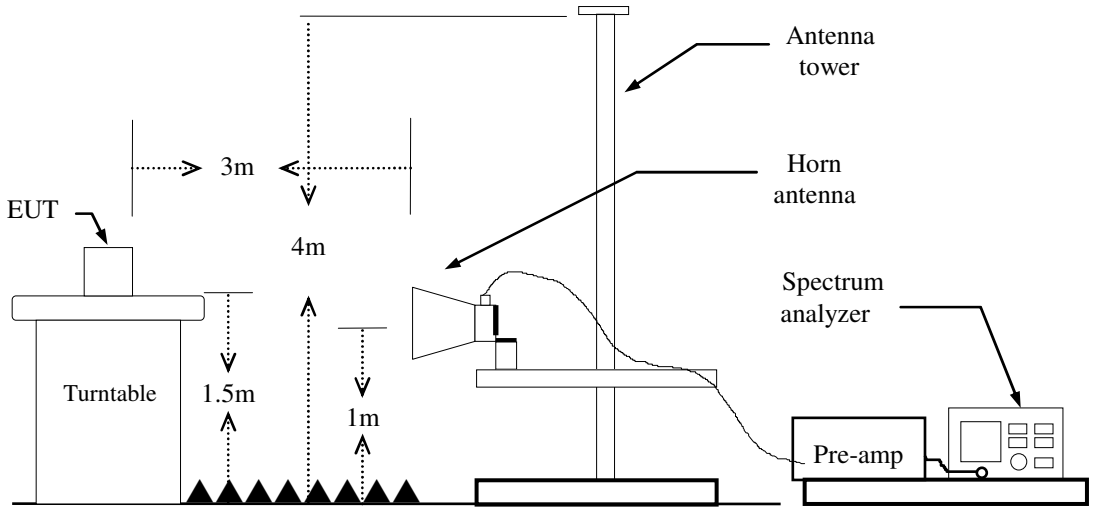
2. The maximum antenna gain is 9.12dBi; therefore the reduction due to antenna gain is 3.12dBi, so the limit is 20.88dBm.

7.4 BAND EDGES MEASUREMENT

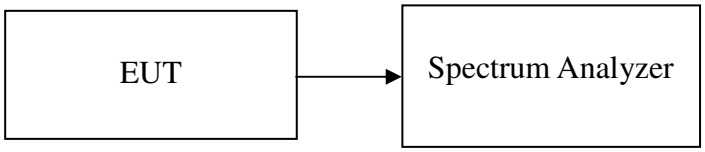
LIMIT

According to §15.407 & RSS-247 §, in any 100 kHz bandwidth outside the frequency bands in which the spread spectrum intentional radiator in operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB 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, provided the transmitter demonstrates compliance with the peak conducted power limits. 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 Section 15.205(c)).

Test Configuration



For Conducted



TEST PROCEDURE

1. The EUT is placed on a turntable, which is 1.5m above the ground plane.
2. The turntable shall be rotated for 360 degrees to determine the position of maximum emission level.
3. EUT is set 3m away from the receiving antenna, which is varied from 1m to 4m to find out the highest emission.
4. Set the spectrum analyzer in the following setting in order to capture the lower and upper band-edges of the emission:
   (a) PEAK: RBW=VBW=1MHz / Sweep=AUTO
   (b) AVERAGE: RBW=1MHz,
   if duty cycle≧98%, VBW=10Hz.
   if duty cycle<98% VBW=1/T.

   For PIFA Antenna
   IEEE 802.11a mode: = 89%, VBW= 680Hz
   IEEE 802.11n HT 20 MHz mode: = 90%, VBW= 750Hz
   IEEE 802.11n HT 40 MHz mode: = 80%, VBW= 1.5KHz
   IEEE 802.11ac VHT 80 MHz mode: = 66%, VBW= 3KHz
   For Dipole Antenna
   IEEE 802.11a mode: = 89%, VBW= 680Hz
   IEEE 802.11n HT 20 MHz mode: = 89%, VBW= 680Hz
   IEEE 802.11n HT 40 MHz mode: = 82%, VBW= 1.5KHz
   IEEE 802.11ac VHT 80 MHz mode: = 69%, VBW= 2.7KHz
5. Repeat the procedures until all the PEAK and AVERAGE versus POLARIZATION are measured.
6. Result = Spectrum Reading + cable loss(spectrum to Amp) - Amp Gain + Cable loss(Amp to receive Ant)+ Receive Ant

For Conducted
Conducted RF measurements of the transmitter output were made to confirm that the EUT antenna port conducted emissions meet the specified limit and to identify any spurious signals that require further investigation or measurements on the radiated emissions site.

The transmitter output is connected to the spectrum analyzer. The resolution bandwidth is set to 100 kHz. The video bandwidth is set to 100 kHz.

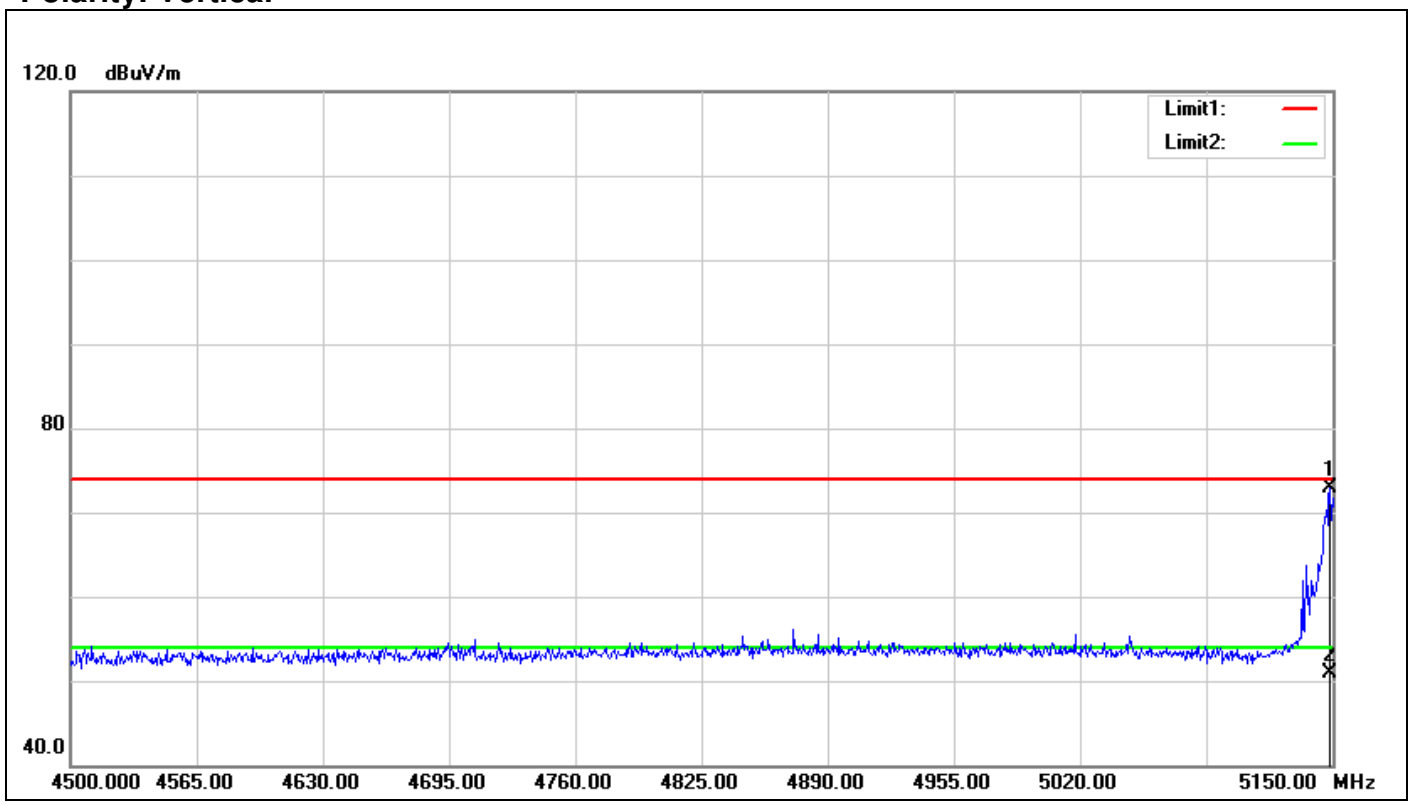
TEST RESULTS

Refer to attach spectrum analyzer data chart.

For PIFA Antenna

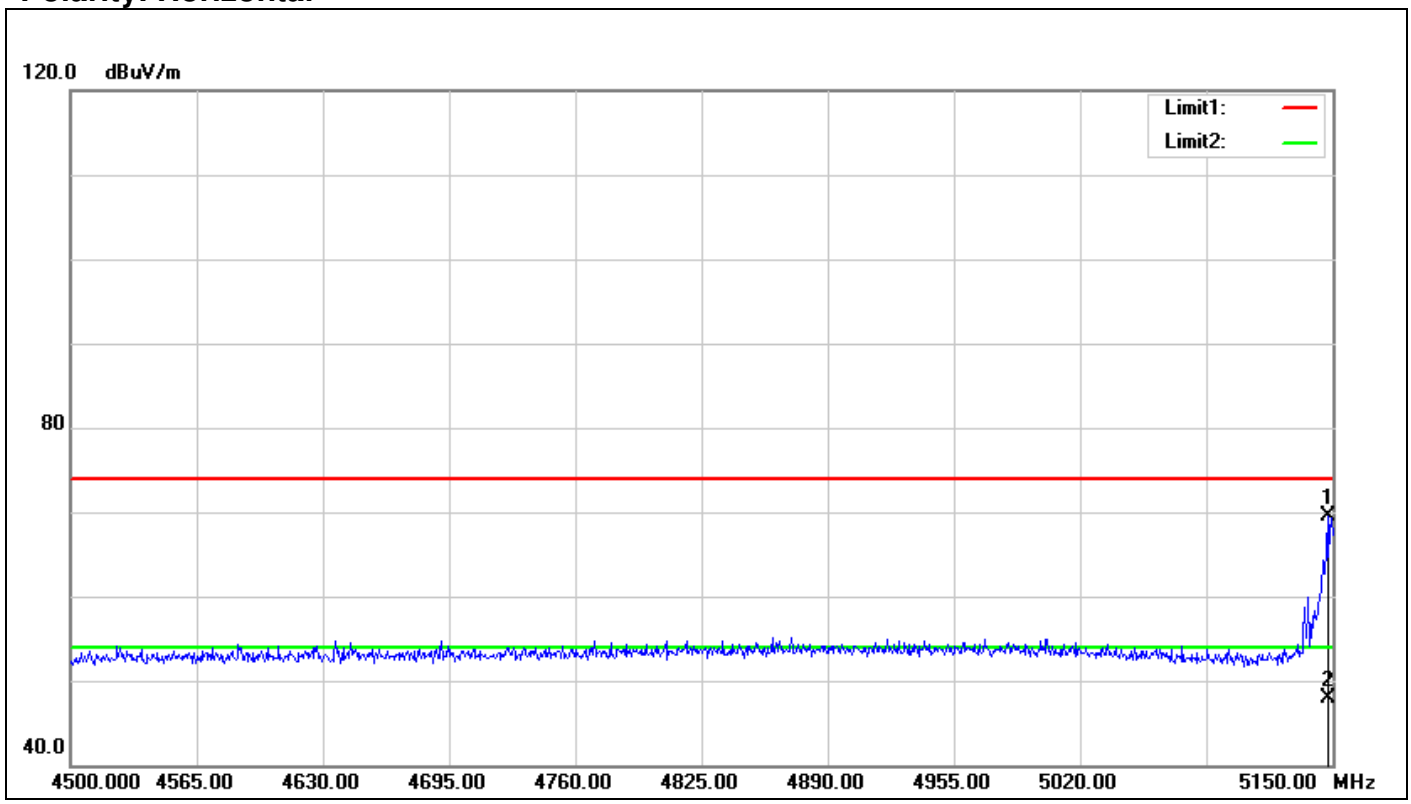
Band Edges (IEEE 802.11a mode / CH 5180 MHz)

Polarity: Vertical



No.	Frequency	Reading	Correct	Result	Limit	Margin	Height	Degree	Remark
	(MHz)	(dBuV)	Factor(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	(cm)	(°)	
1	5148.700	69.92	3.03	72.95	74.00	-1.05	150	254	peak
2	5148.700	47.87	3.03	50.90	54.00	-3.10	150	254	AVG

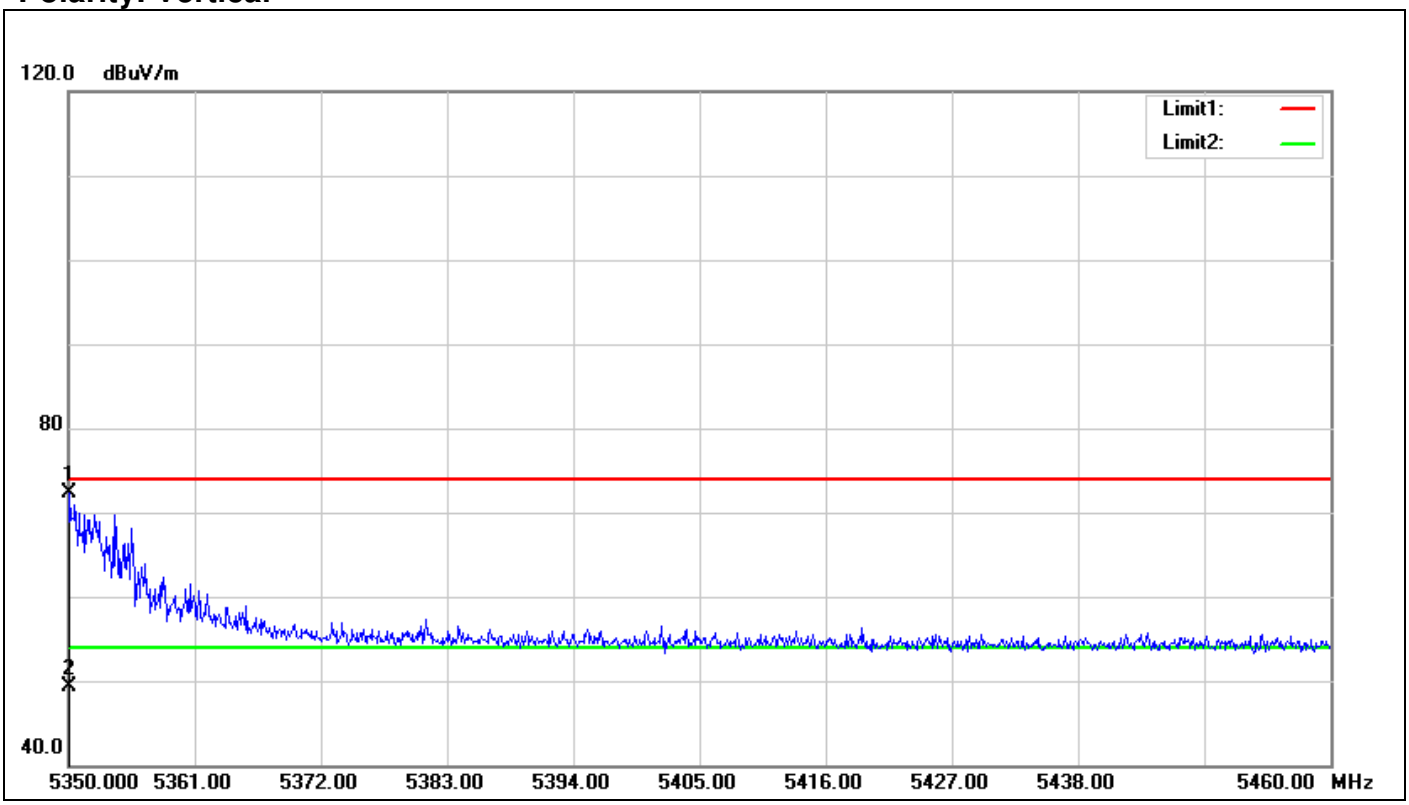
Polarity: Horizontal



No.	Frequency	Reading	Correct	Result	Limit	Margin	Height	Degree	Remark
	(MHz)	(dBuV)	Factor(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	(cm)	(°)	
1	5147.400	66.55	3.02	69.57	74.00	-4.43	150	204	peak
2	5147.400	44.97	3.02	47.99	54.00	-6.01	150	204	AVG

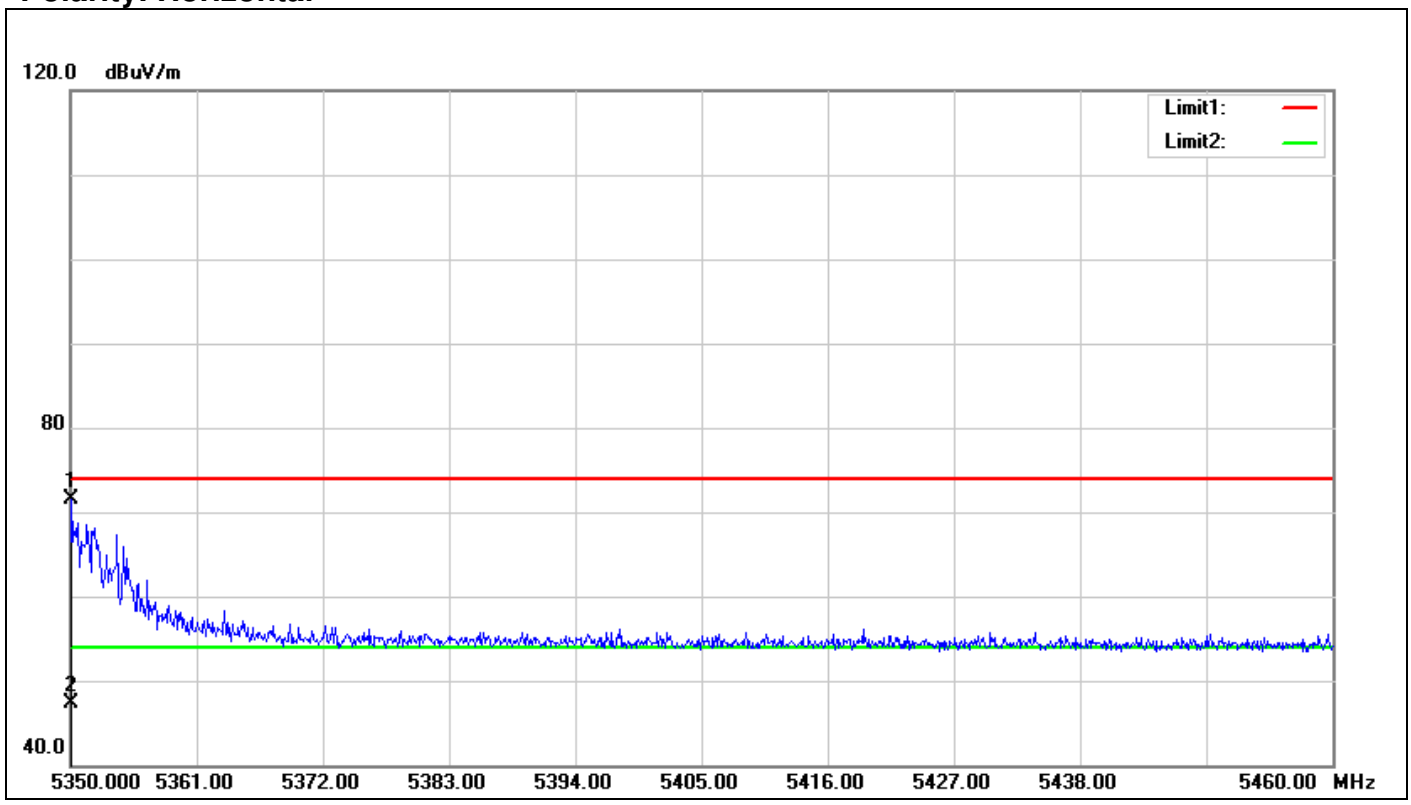
Band Edges (IEEE 802.11a mode / CH 5320 MHz)

Polarity: Vertical



No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Degree (°)	Remark
1	5350.110	66.95	5.31	72.26	74.00	-1.74	150	337	peak
2	5350.110	44.02	5.31	49.33	54.00	-4.67	150	337	AVG

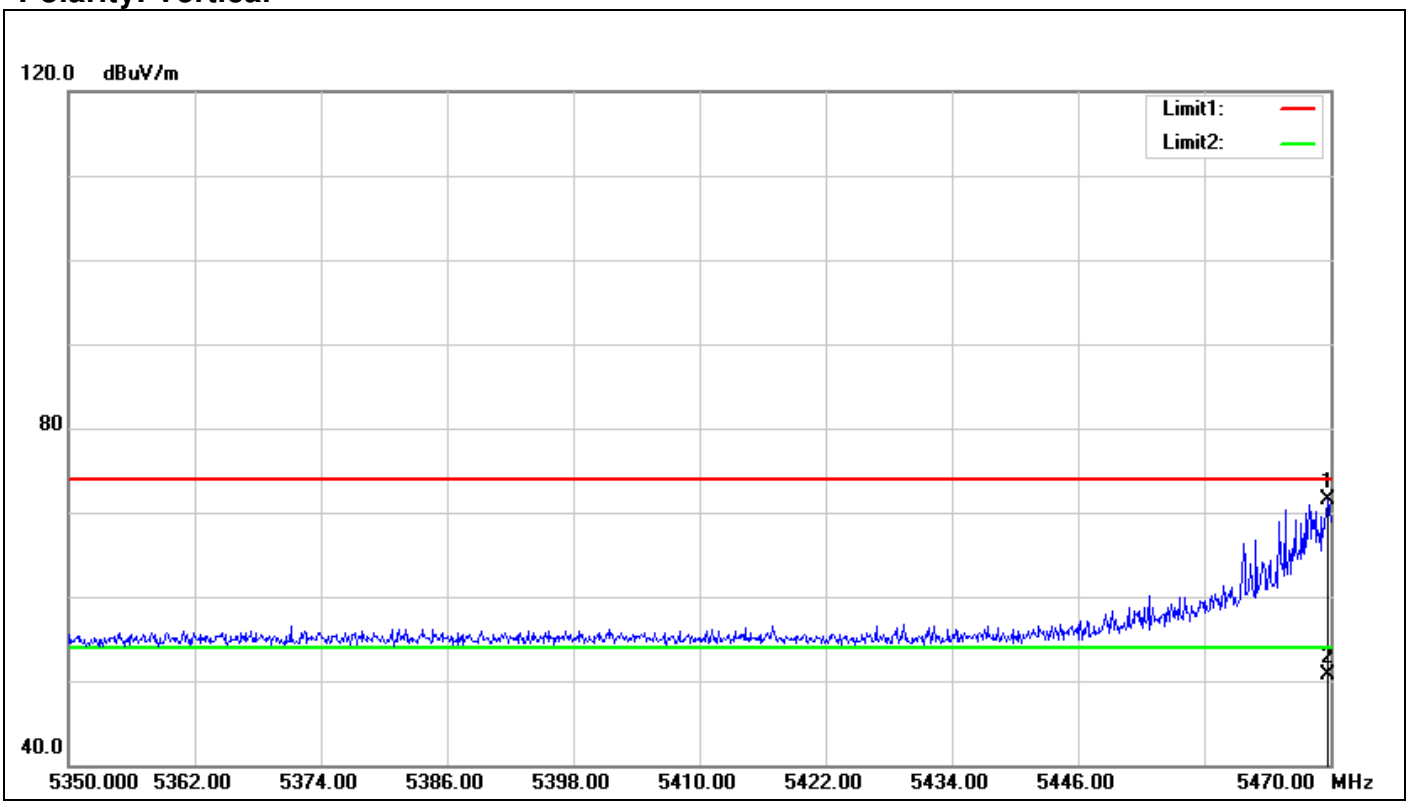
Polarity: Horizontal



No.	Frequency	Reading	Correct	Result	Limit	Margin	Height	Degree	Remark
	(MHz)	(dBuV)	Factor(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	(cm)	(°)	
1	5350.110	66.20	5.31	71.51	74.00	-2.49	150	337	peak
2	5350.110	41.98	5.31	47.29	54.00	-6.71	150	337	AVG

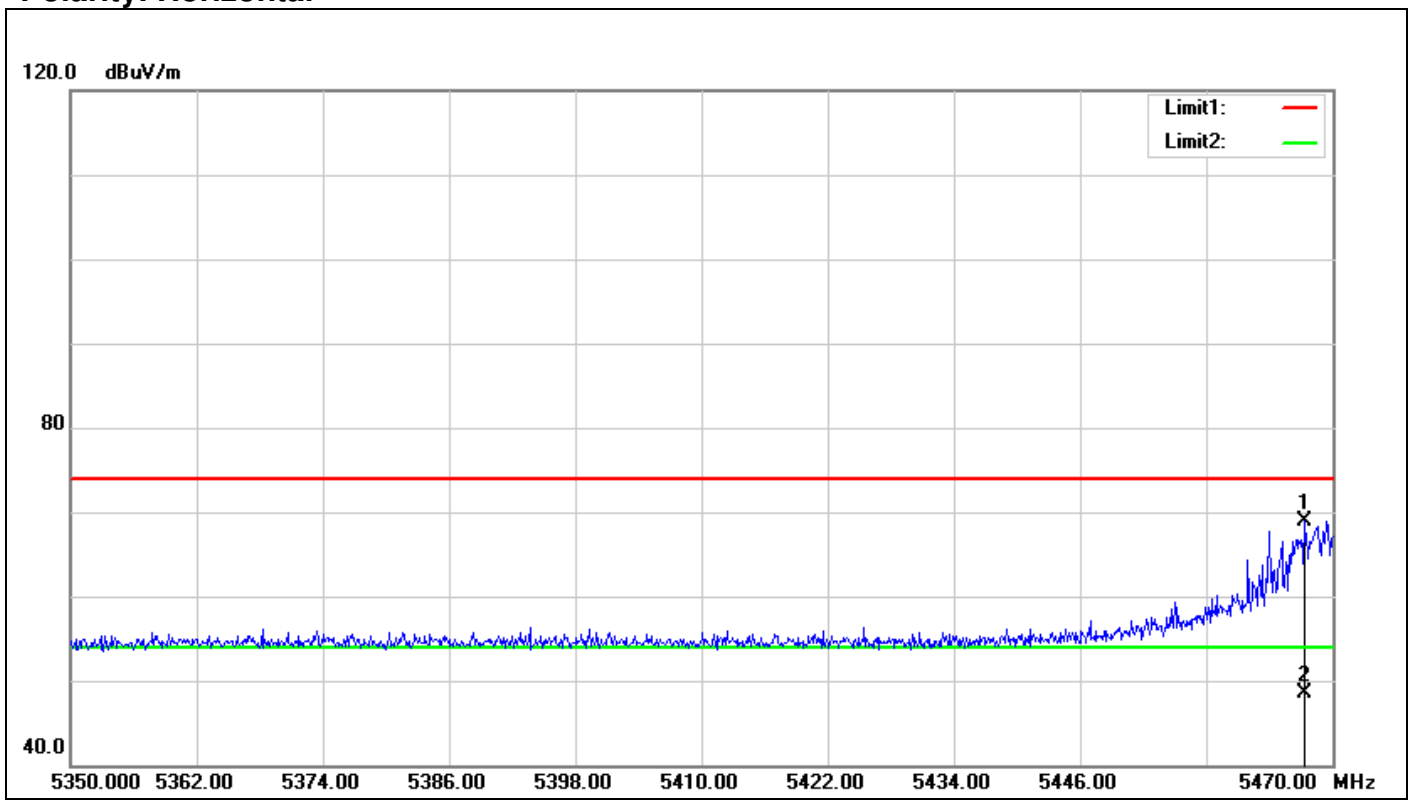
Band Edges (IEEE 802.11a mode / CH 5500 MHz)

Polarity: Vertical



No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Degree (°)	Remark
1	5469.760	66.20	5.39	71.59	74.00	-2.41	150	344	peak
2	5469.760	45.27	5.39	50.66	54.00	-3.34	150	344	AVG

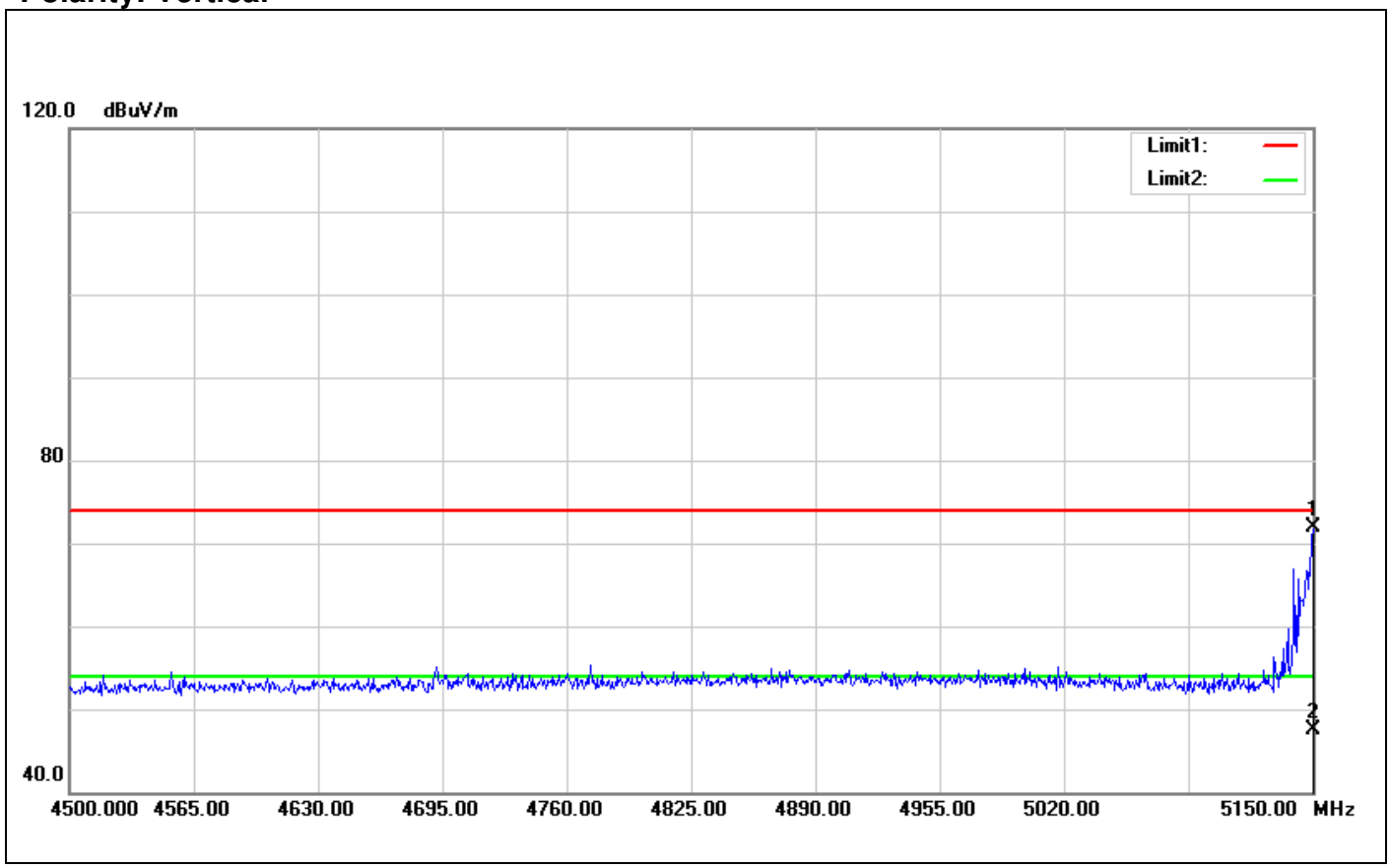
Polarity: Horizontal



No.	Frequency	Reading	Correct	Result	Limit	Margin	Height	Degree	Remark
	(MHz)	(dBuV)	Factor(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	(cm)	(°)	
1	5467.360	63.58	5.40	68.98	74.00	-5.02	150	256	peak
2	5467.360	43.04	5.40	48.44	54.00	-5.56	150	256	AVG

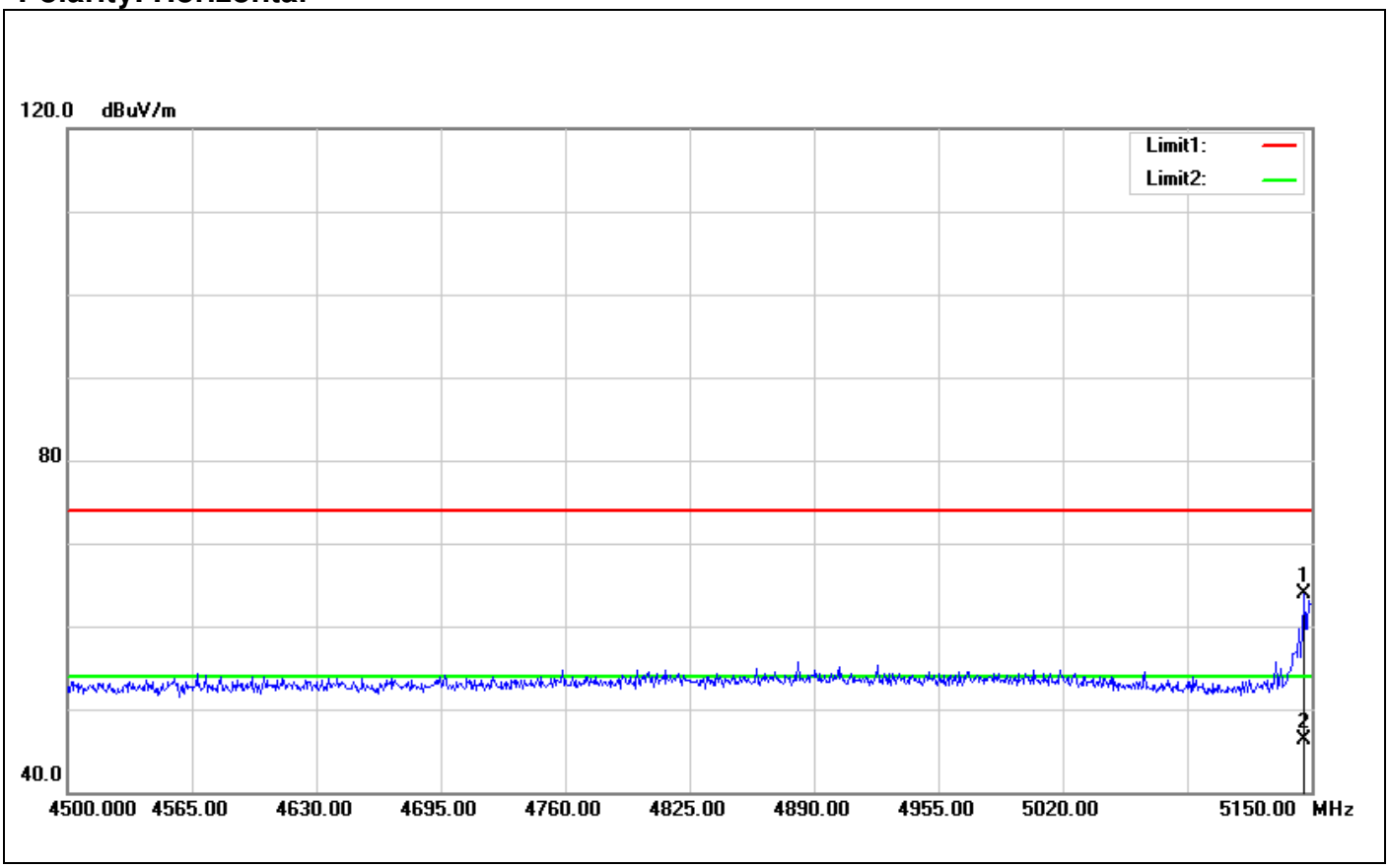
Band Edges (IEEE 802.11n HT 20 MHz Channel mode / CH 5180 MHz)

Polarity: Vertical



No.	Frequency	Reading	Correct	Result	Limit	Margin	Height	Degree	Remark
	(MHz)	(dBuV)	Factor(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	(cm)	(°)	
1	5150.000	68.79	3.04	71.83	74.00	-2.17	150	221	peak
2	5150.000	44.54	3.04	47.58	54.00	-6.42	150	221	AVG

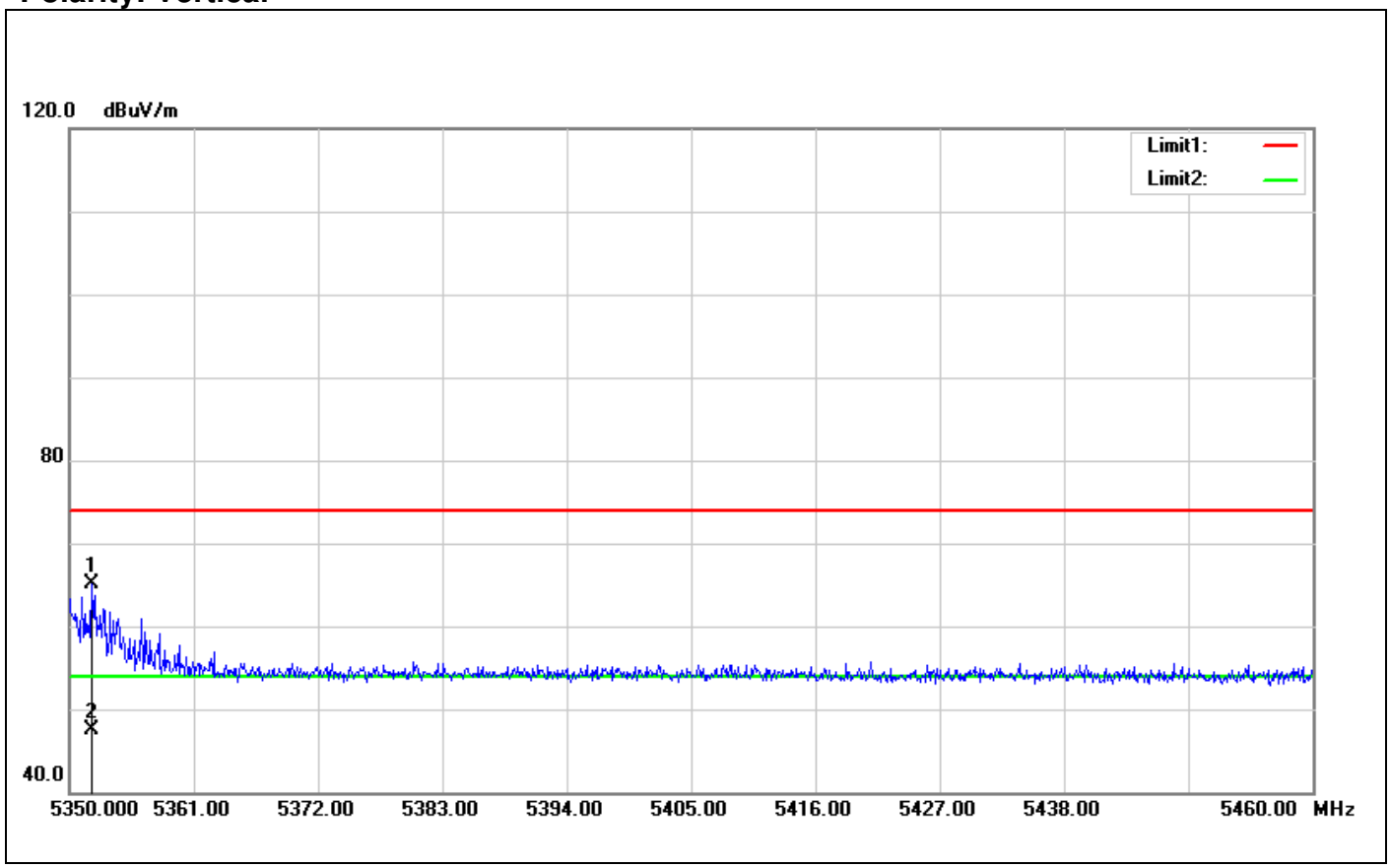
Polarity: Horizontal



No.	Frequency	Reading	Correct	Result	Limit	Margin	Height	Degree	Remark
	(MHz)	(dBuV)	Factor(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	(cm)	(°)	
1	5146.100	60.93	3.01	63.94	74.00	-10.06	150	112	peak
2	5146.100	43.20	3.01	46.21	54.00	-7.79	150	112	AVG

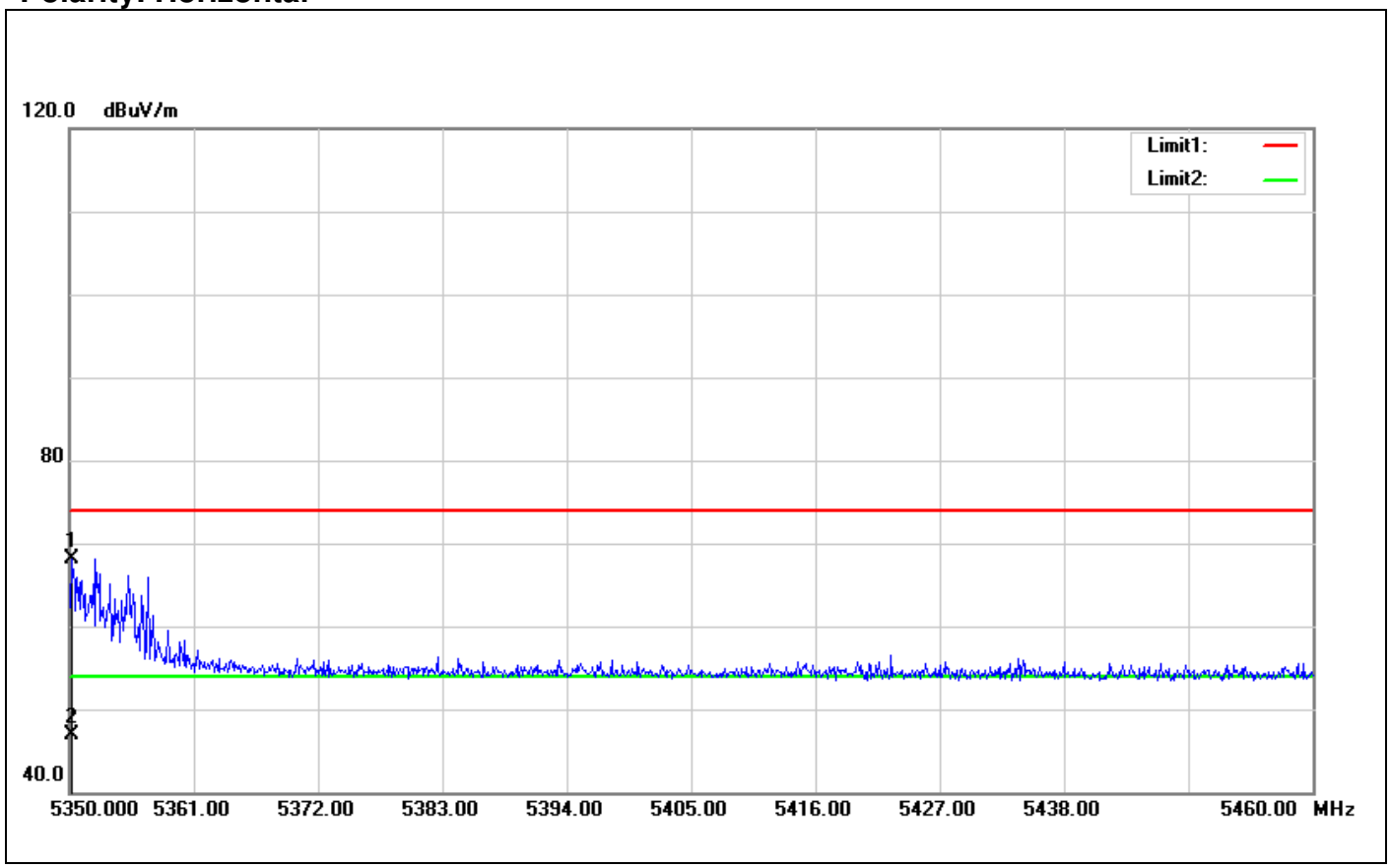
Band Edges (IEEE 802.11n HT 20 MHz mode / CH 5320 MHz)

Polarity: Vertical



No.	Frequency	Reading	Correct	Result	Limit	Margin	Height	Degree	Remark
	(MHz)	(dBuV)	Factor(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	(cm)	(°)	
1	5351.980	59.82	5.33	65.15	74.00	-8.85	150	276	peak
2	5351.980	42.10	5.33	47.43	54.00	-6.57	150	276	AVG

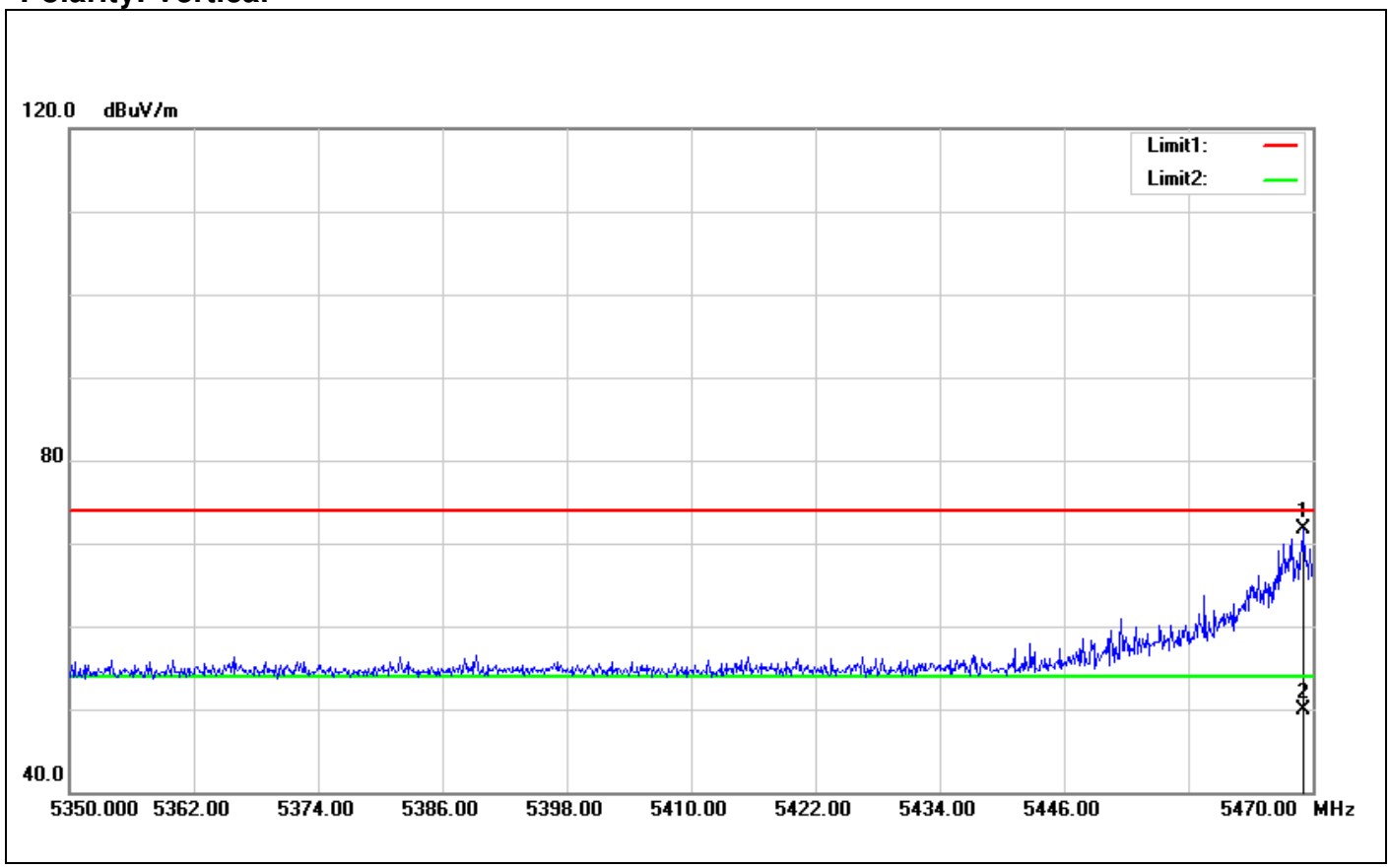
Polarity: Horizontal



No.	Frequency	Reading	Correct	Result	Limit	Margin	Height	Degree	Remark
	(MHz)	(dBuV)	Factor(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	(cm)	(°)	
1	5350.220	62.86	5.31	68.17	74.00	-5.83	150	15	peak
2	5350.220	41.61	5.31	46.92	54.00	-7.08	150	15	AVG

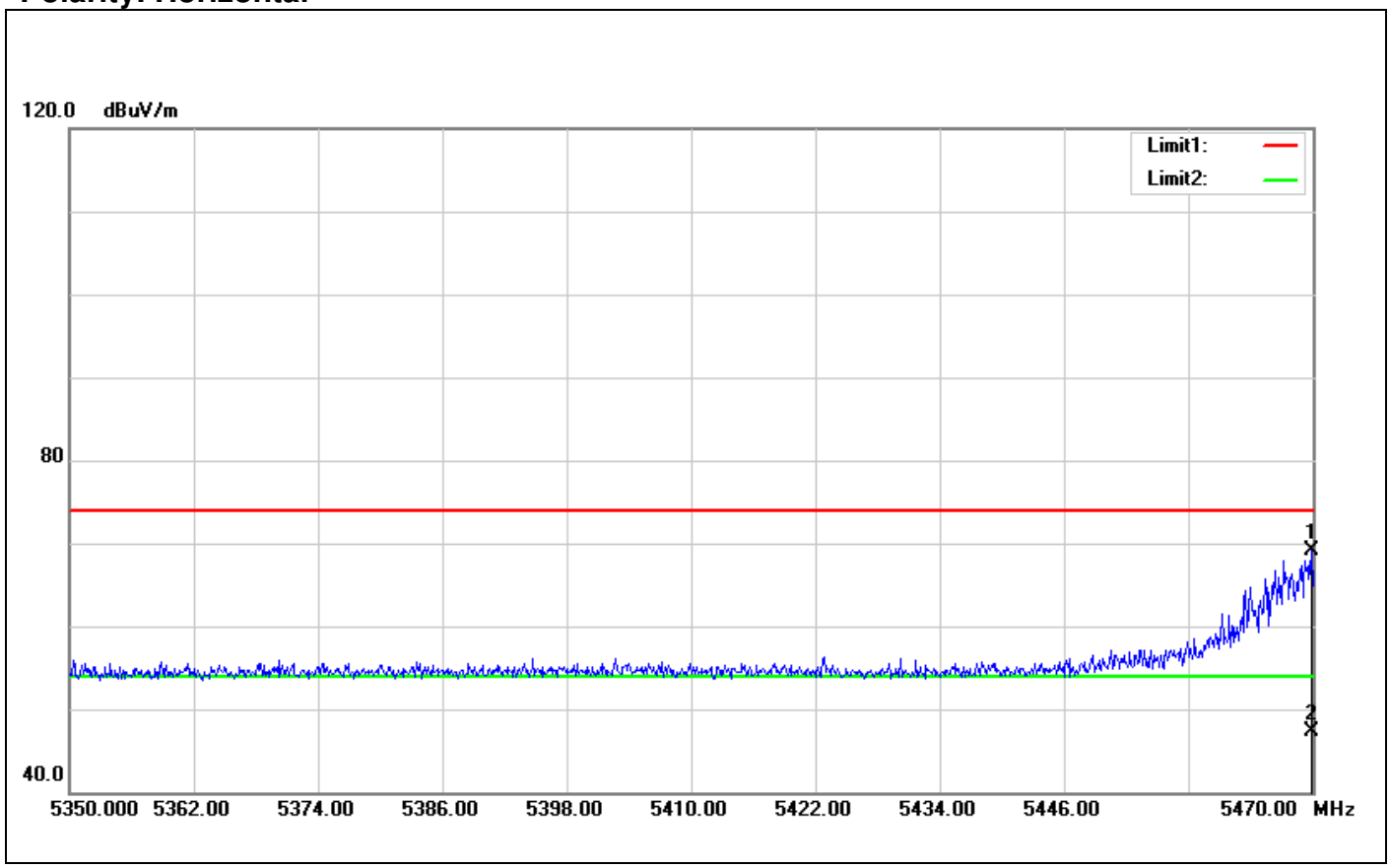
Band Edges (IEEE 802.11n HT 20 MHz Channel mode / CH 5500 MHz)

Polarity: Vertical



No.	Frequency	Reading	Correct	Result	Limit	Margin	Height	Degree	Remark
	(MHz)	(dBuV)	Factor(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	(cm)	(°)	
1	5469.160	66.32	5.39	71.71	74.00	-2.29	150	114	peak
2	5469.160	44.47	5.39	49.86	54.00	-4.14	150	114	AVG

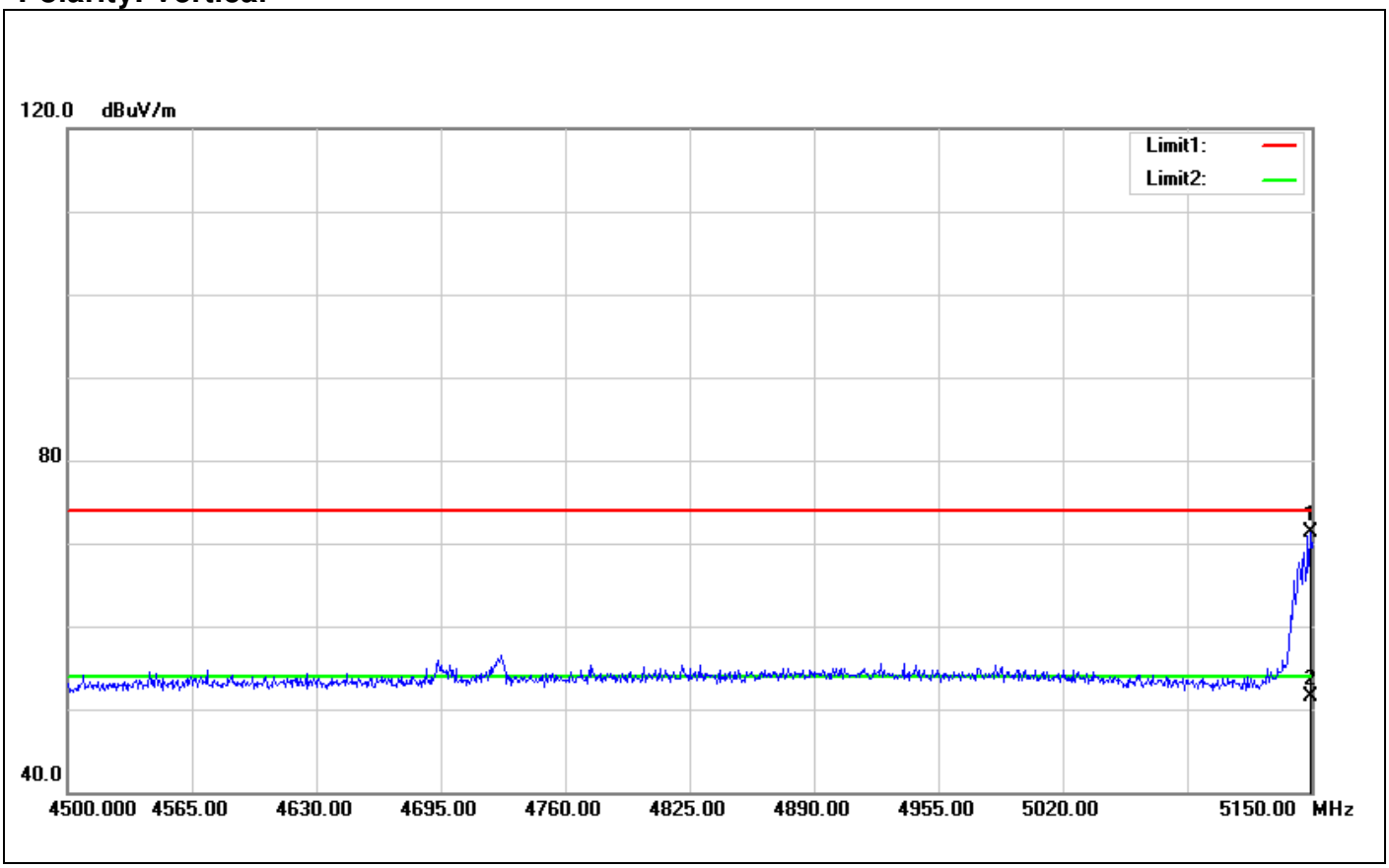
Polarity: Horizontal



No.	Frequency	Reading	Correct	Result	Limit	Margin	Height	Degree	Remark
	(MHz)	(dBuV)	Factor(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	(cm)	(°)	
1	5469.880	63.78	5.39	69.17	74.00	-4.83	150	251	peak
2	5469.880	42.00	5.39	47.39	54.00	-6.61	150	251	AVG

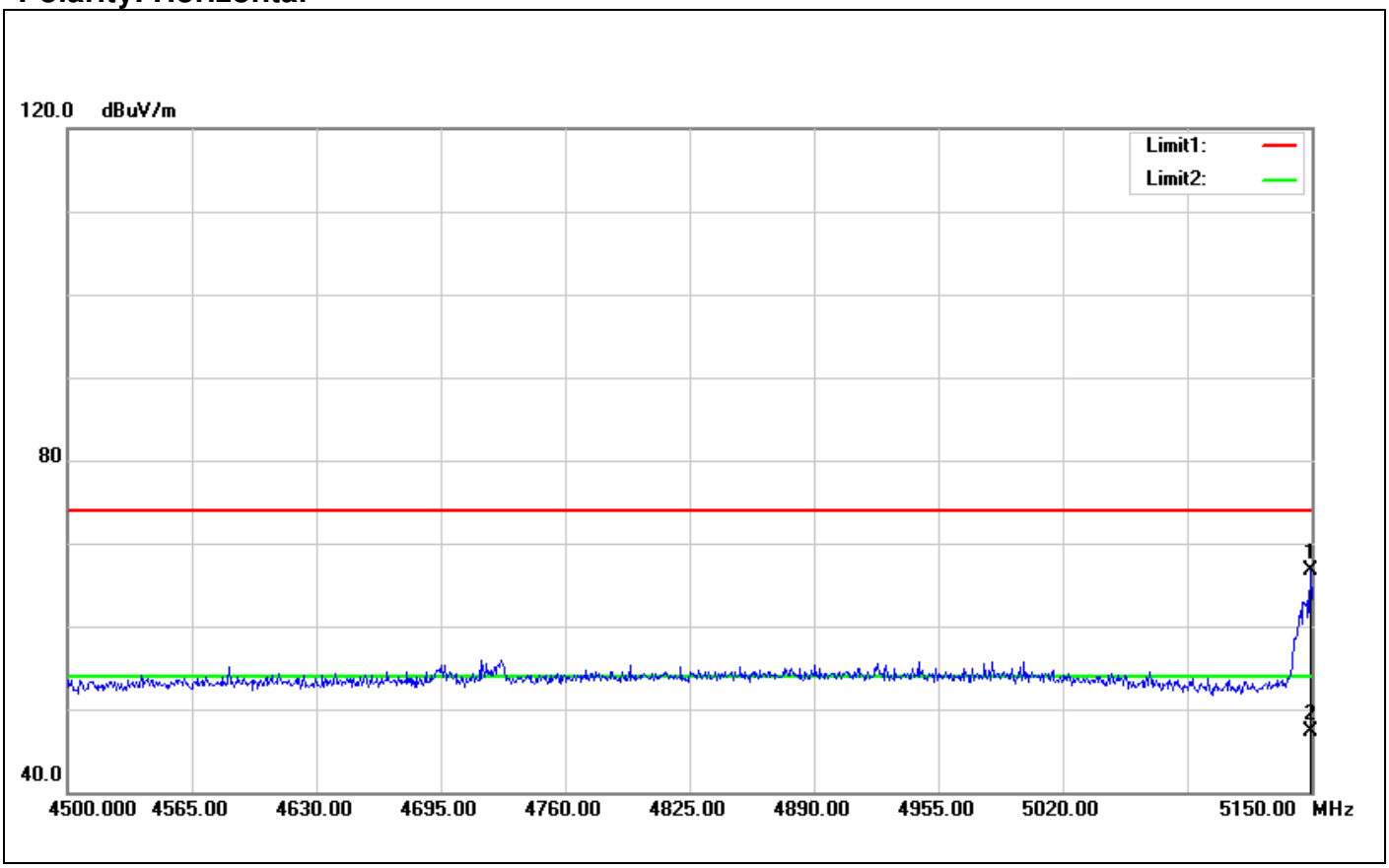
Band Edges (IEEE 802.11n HT 40 MHz mode / CH 5190 MHz)

Polarity: Vertical



No.	Frequency	Reading	Correct	Result	Limit	Margin	Height	Degree	Remark
	(MHz)	(dBuV)	Factor(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	(cm)	(°)	
1	5149.350	68.27	3.04	71.31	74.00	-2.69	110	202	peak
2	5149.350	48.41	3.04	51.45	54.00	-2.55	110	202	AVG

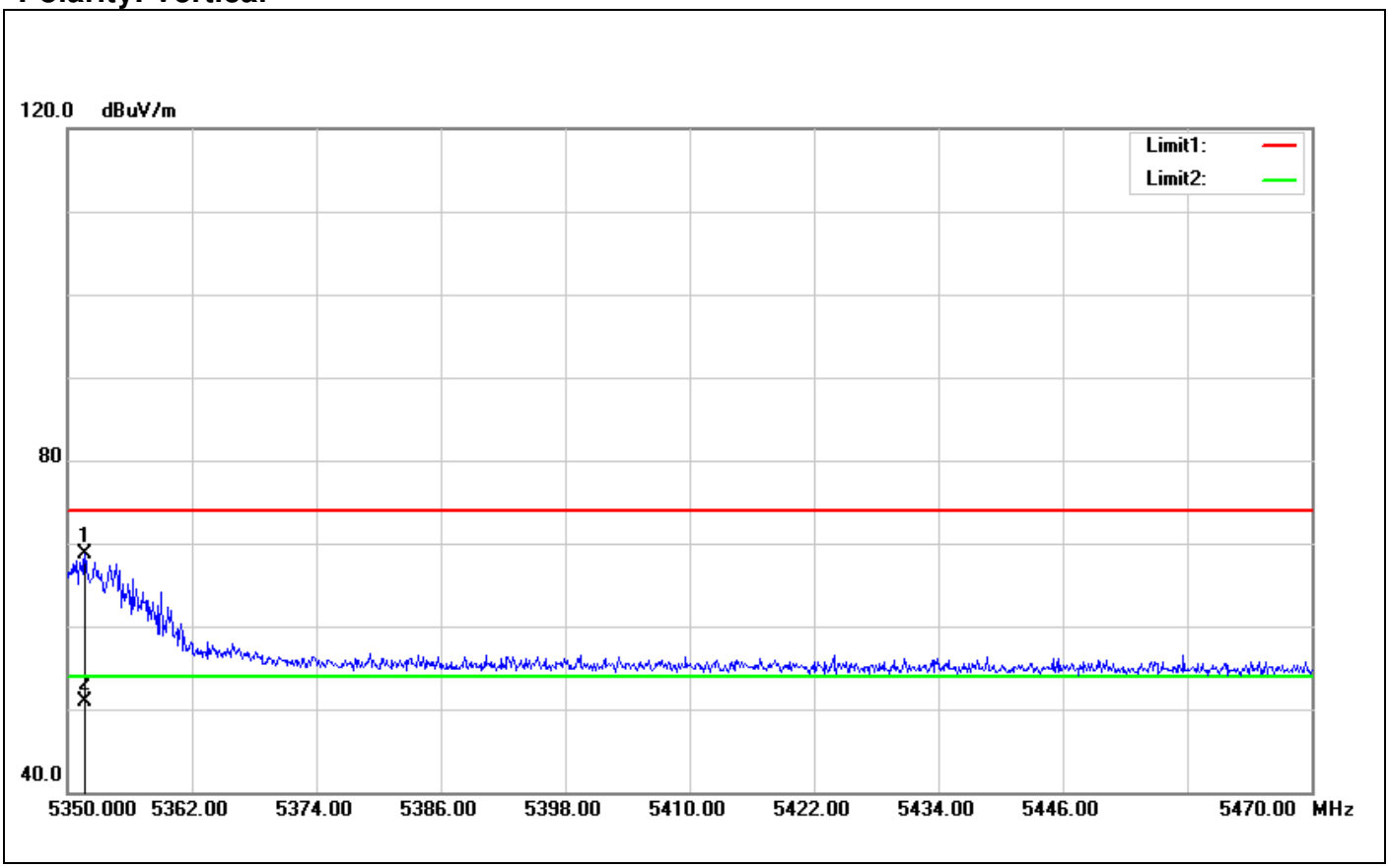
Polarity: Horizontal



No.	Frequency	Reading	Correct	Result	Limit	Margin	Height	Degree	Remark
	(MHz)	(dBuV)	Factor(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	(cm)	(°)	
1	5149.350	63.65	3.04	66.69	74.00	-7.31	150	184	peak
2	5149.350	44.22	3.04	47.26	54.00	-6.74	150	184	AVG

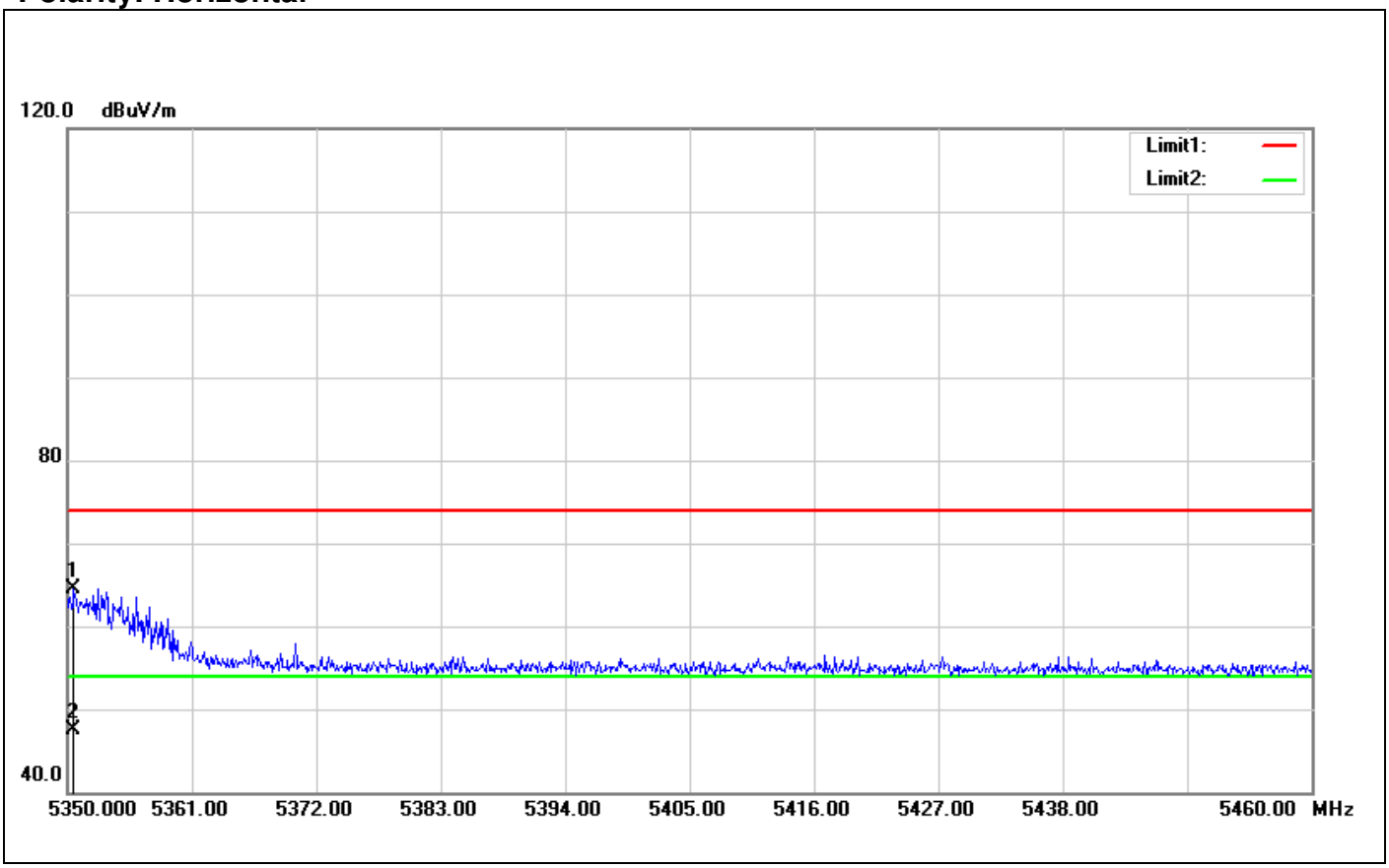
Band Edges (IEEE 802.11n HT 40 MHz mode / CH 5310 MHz)

Polarity: Vertical



No.	Frequency	Reading	Correct	Result	Limit	Margin	Height	Degree	Remark
	(MHz)	(dBuV)	Factor(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	(cm)	(°)	
1	5351.680	63.44	5.32	68.76	74.00	-5.24	130	209	peak
2	5351.680	45.54	5.32	50.86	54.00	-3.14	130	209	AVG

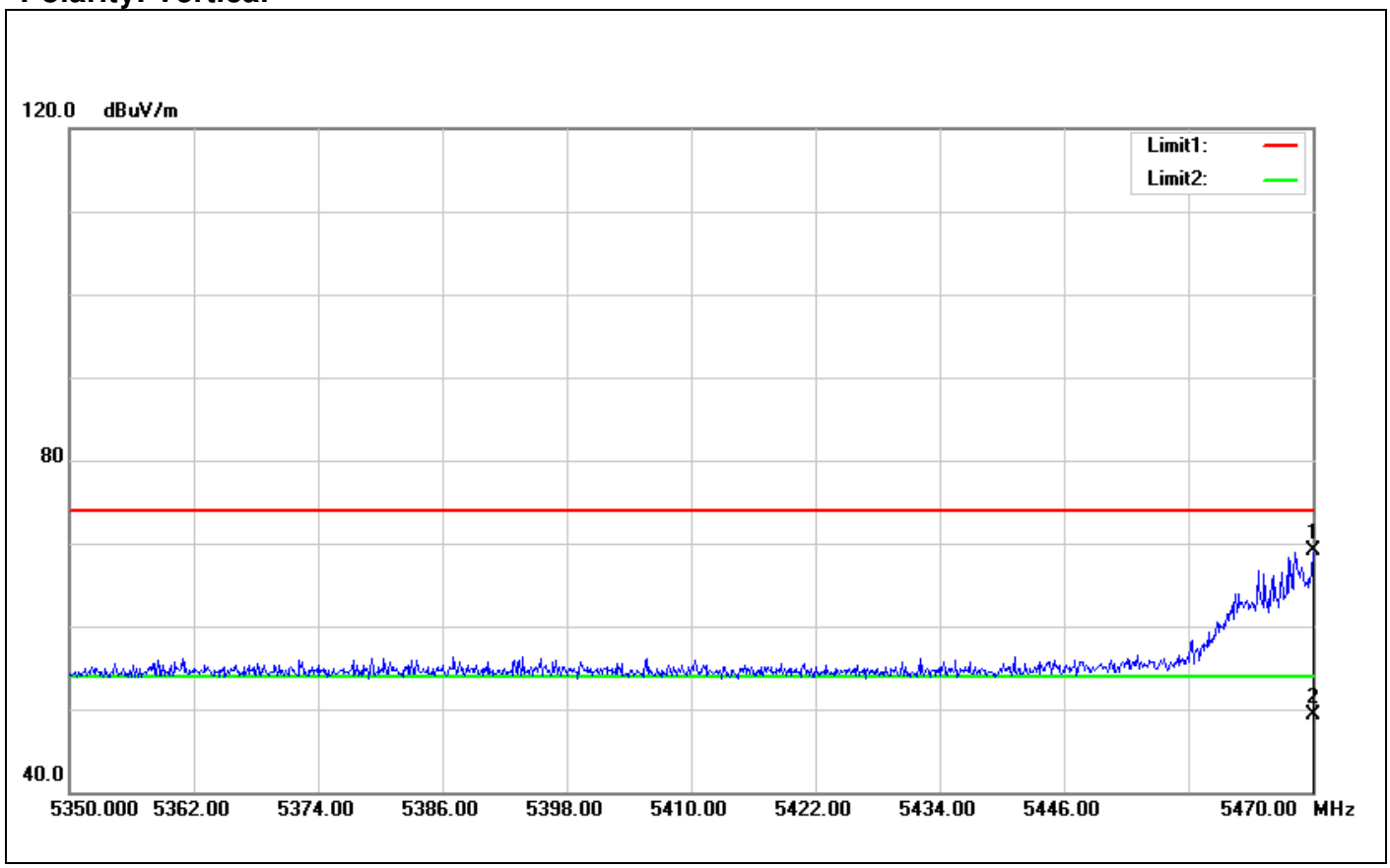
Polarity: Horizontal



No.	Frequency	Reading	Correct	Result	Limit	Margin	Height	Degree	Remark
	(MHz)	(dBuV)	Factor(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	(cm)	(°)	
1	5350.550	59.25	5.31	64.56	74.00	-9.44	130	156	peak
2	5350.550	42.10	5.31	47.41	54.00	-6.59	130	156	AVG

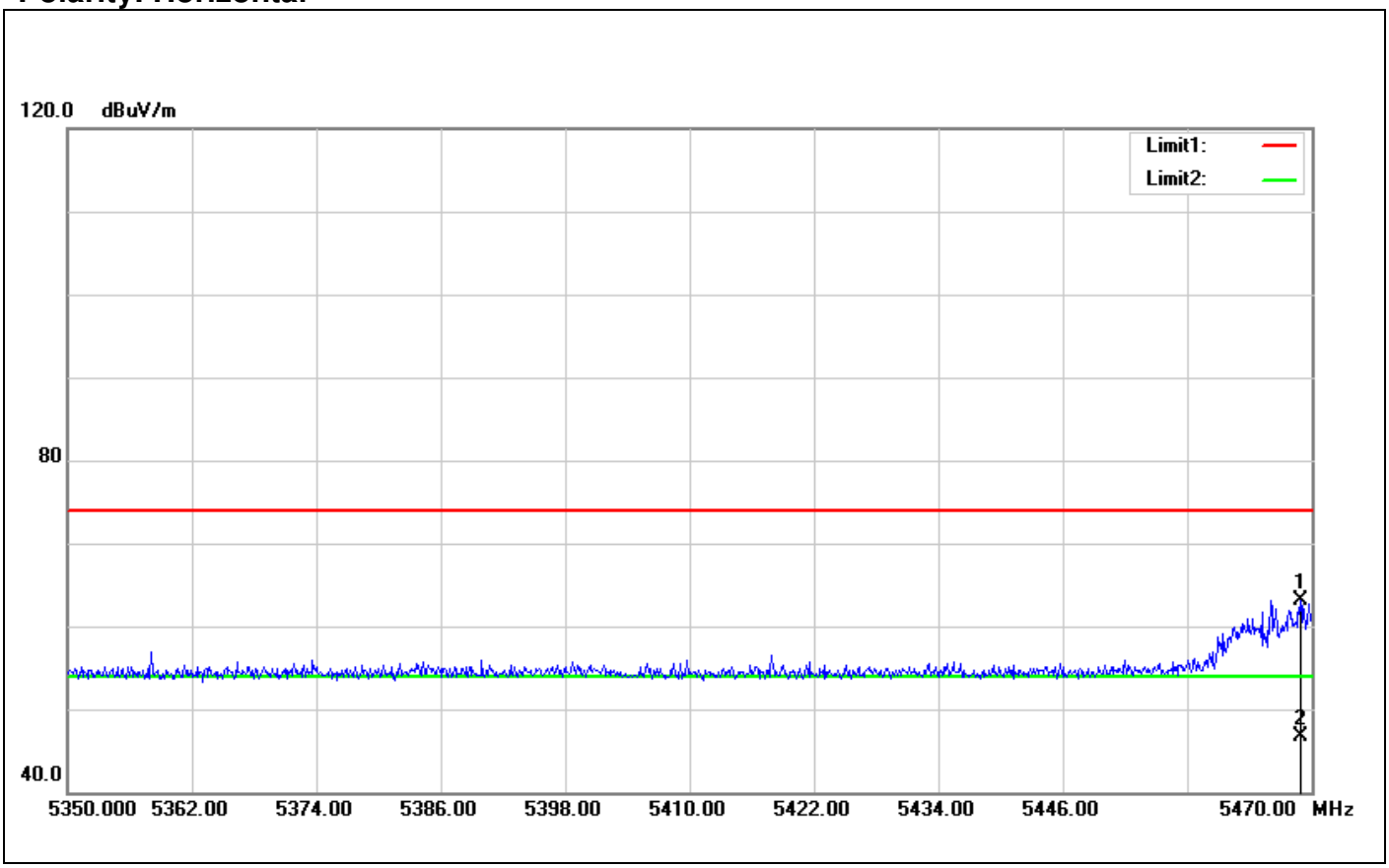
Band Edges (IEEE 802.11n HT 40 MHz mode / CH 5510 MHz)

Polarity: Vertical



No.	Frequency	Reading	Correct	Result	Limit	Margin	Height	Degree	Remark
	(MHz)	(dBuV)	Factor(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	(cm)	(°)	
1	5470.000	63.75	5.39	69.14	74.00	-4.86	150	299	peak
2	5470.000	43.84	5.39	49.23	54.00	-4.77	150	299	AVG

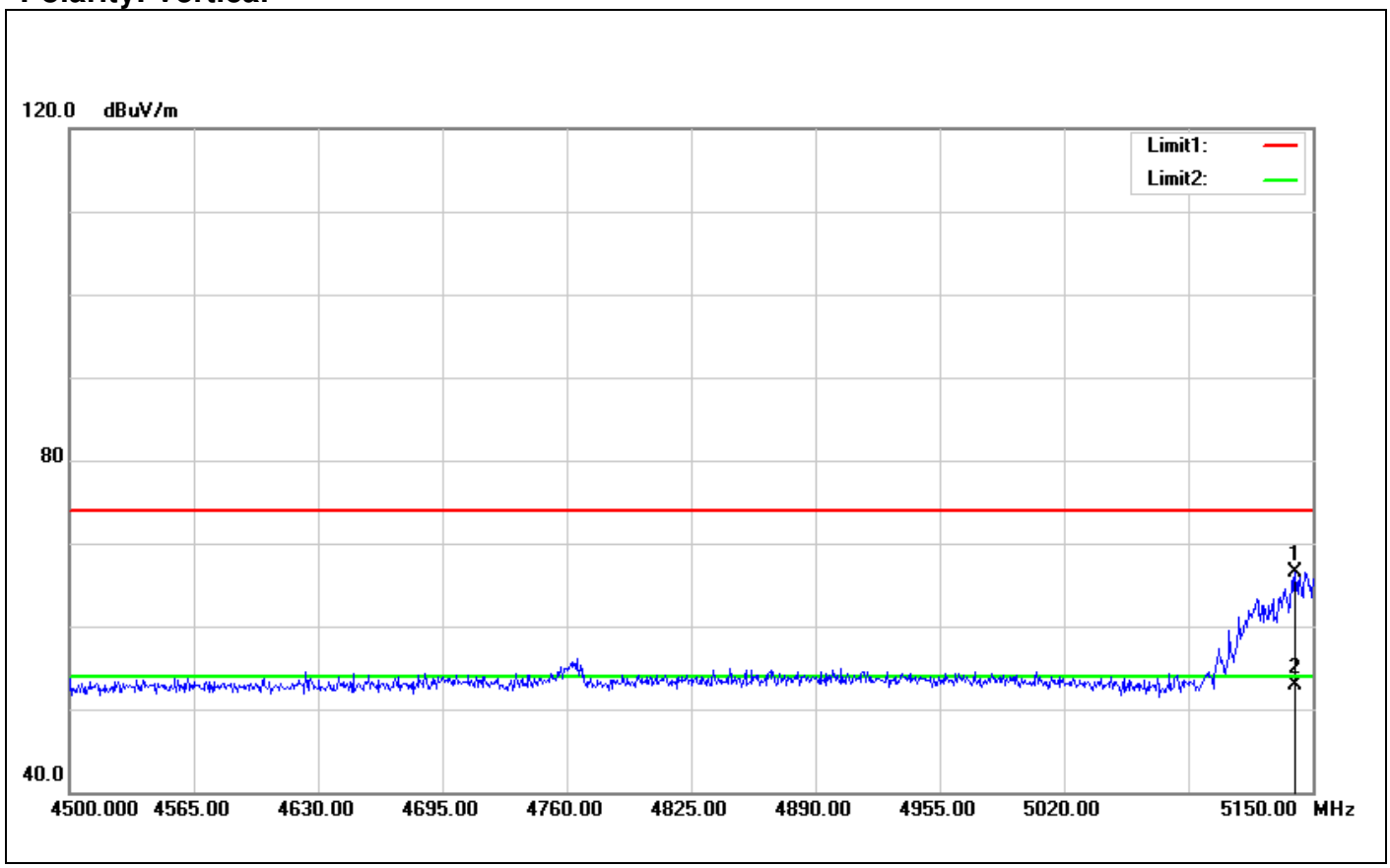
Polarity: Horizontal



No.	Frequency	Reading	Correct	Result	Limit	Margin	Height	Degree	Remark
	(MHz)	(dBuV)	Factor(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	(cm)	(°)	
1	5468.920	57.74	5.40	63.14	74.00	-10.86	150	270	peak
2	5468.920	41.37	5.40	46.77	54.00	-7.23	150	270	AVG

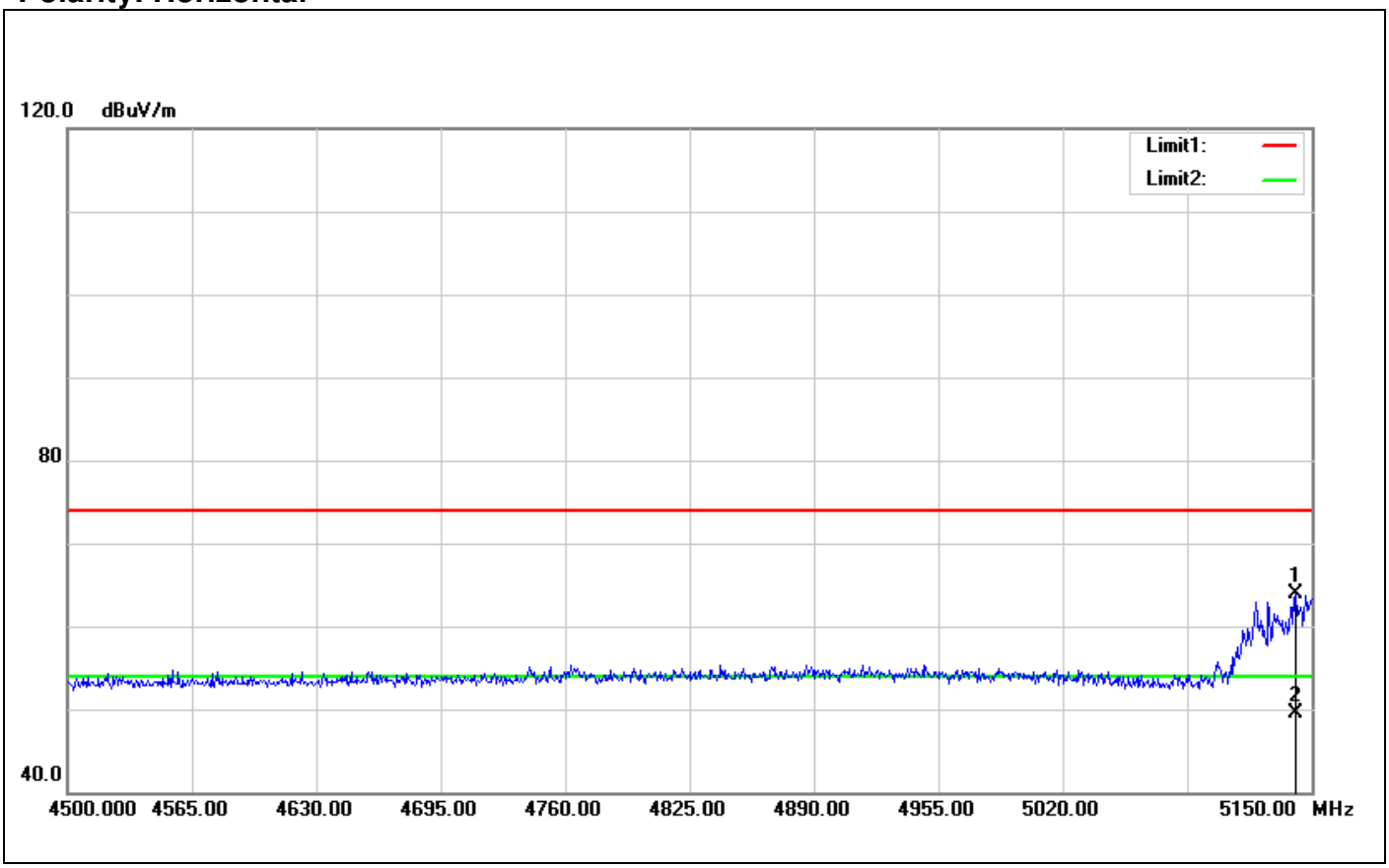
Band Edges (IEEE 802.11ac VHT 80 MHz mode / CH 5210 MHz)

Polarity: Vertical



No.	Frequency	Reading	Correct	Result	Limit	Margin	Height	Degree	Remark
	(MHz)	(dBuV)	Factor(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	(cm)	(°)	
1	5140.900	63.56	2.98	66.54	74.00	-7.46	150	151	peak
2	5140.900	50.00	2.98	52.98	54.00	-1.02	150	151	AVG

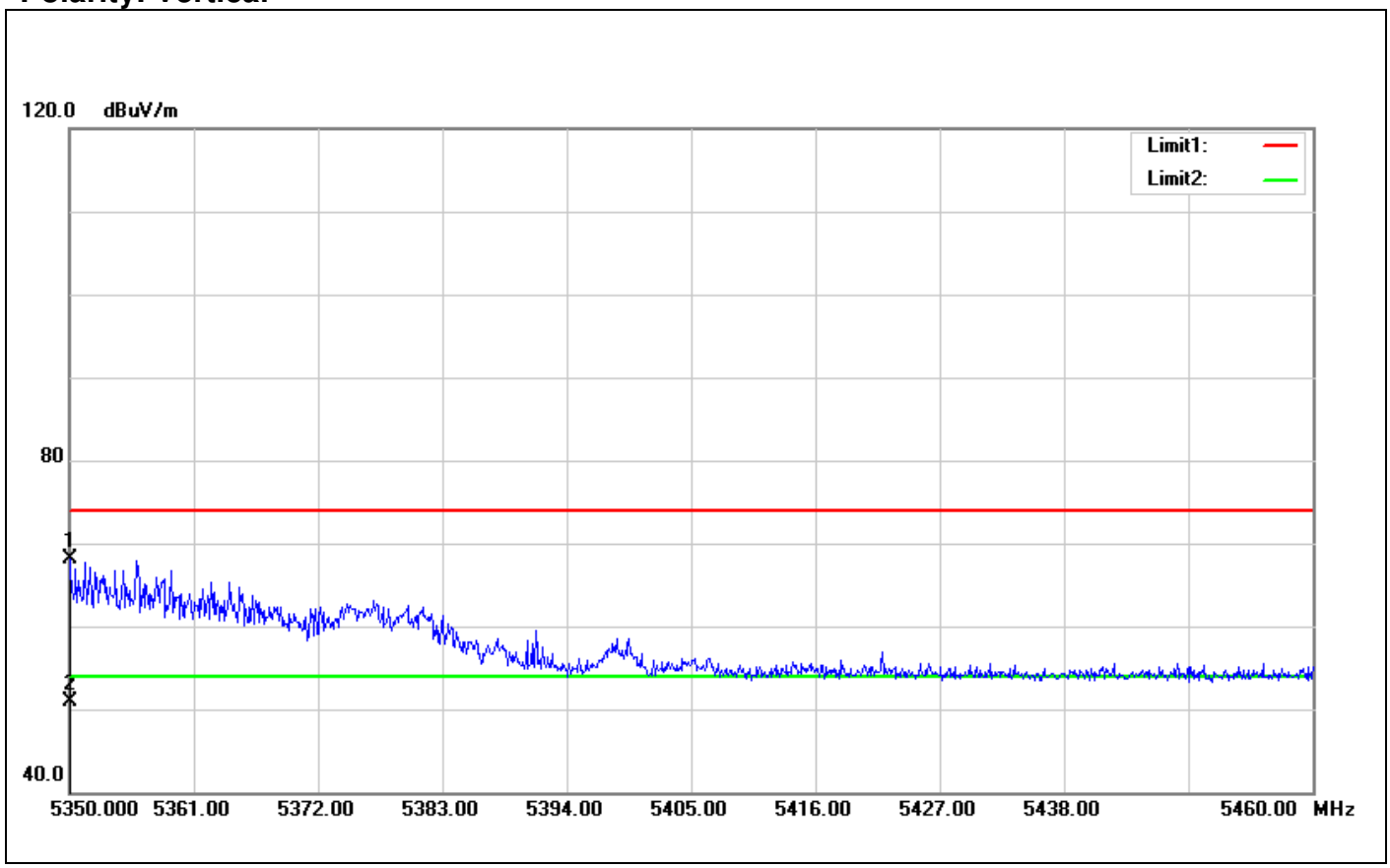
Polarity: Horizontal



No.	Frequency	Reading	Correct	Result	Limit	Margin	Height	Degree	Remark
	(MHz)	(dBuV)	Factor(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	(cm)	(°)	
1	5141.550	60.89	2.98	63.87	74.00	-10.13	150	293	peak
2	5141.550	46.47	2.98	49.45	54.00	-4.55	150	293	AVG

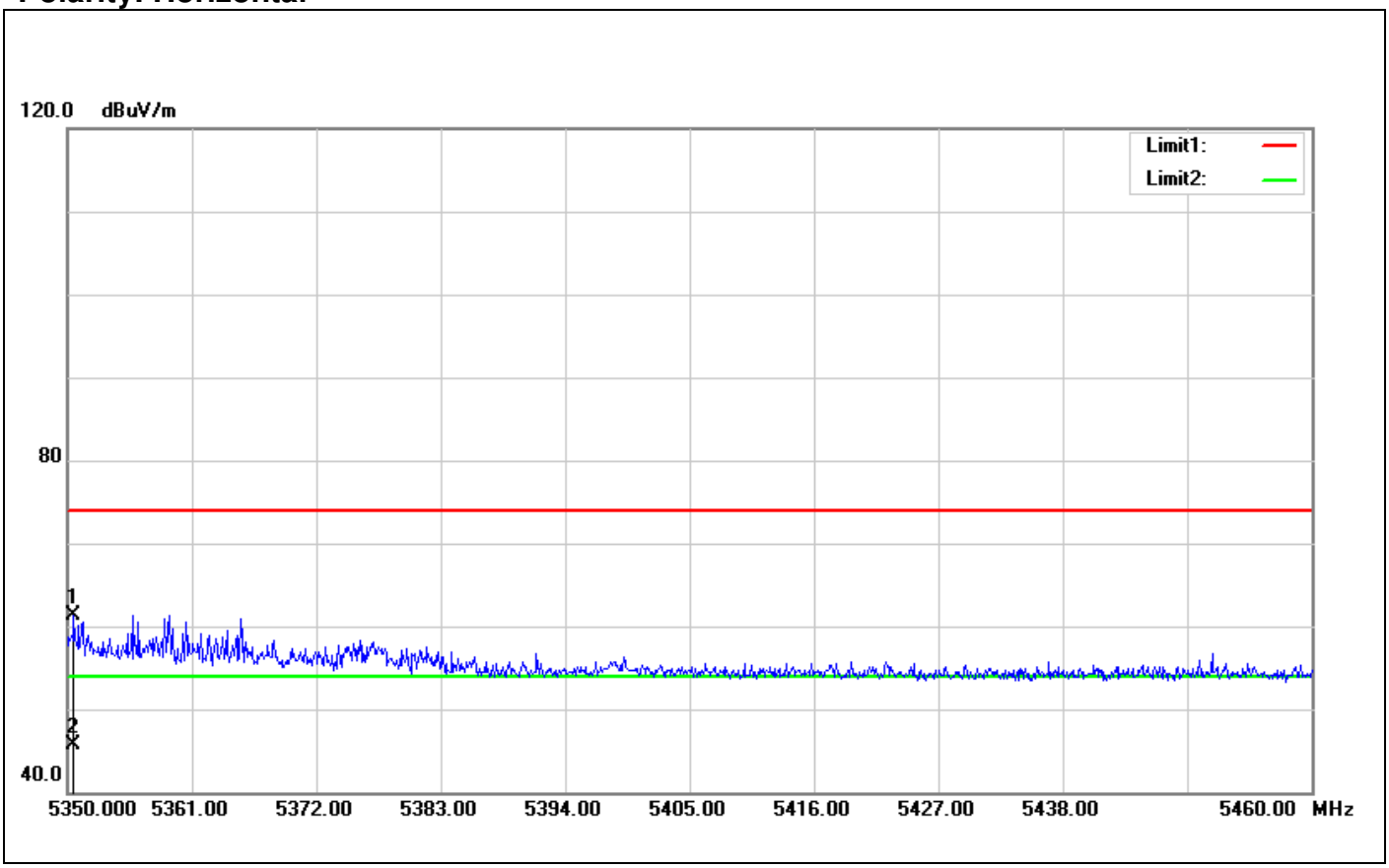
Band Edges (IEEE 802.11ac VHT 80 MHz mode / CH 5290 MHz)

Polarity: Vertical



No.	Frequency	Reading	Correct	Result	Limit	Margin	Height	Degree	Remark
	(MHz)	(dBuV)	Factor(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	(cm)	(°)	
1	5350.000	62.89	5.31	68.20	74.00	-5.80	150	214	peak
2	5350.000	45.59	5.31	50.90	54.00	-3.10	150	214	AVG

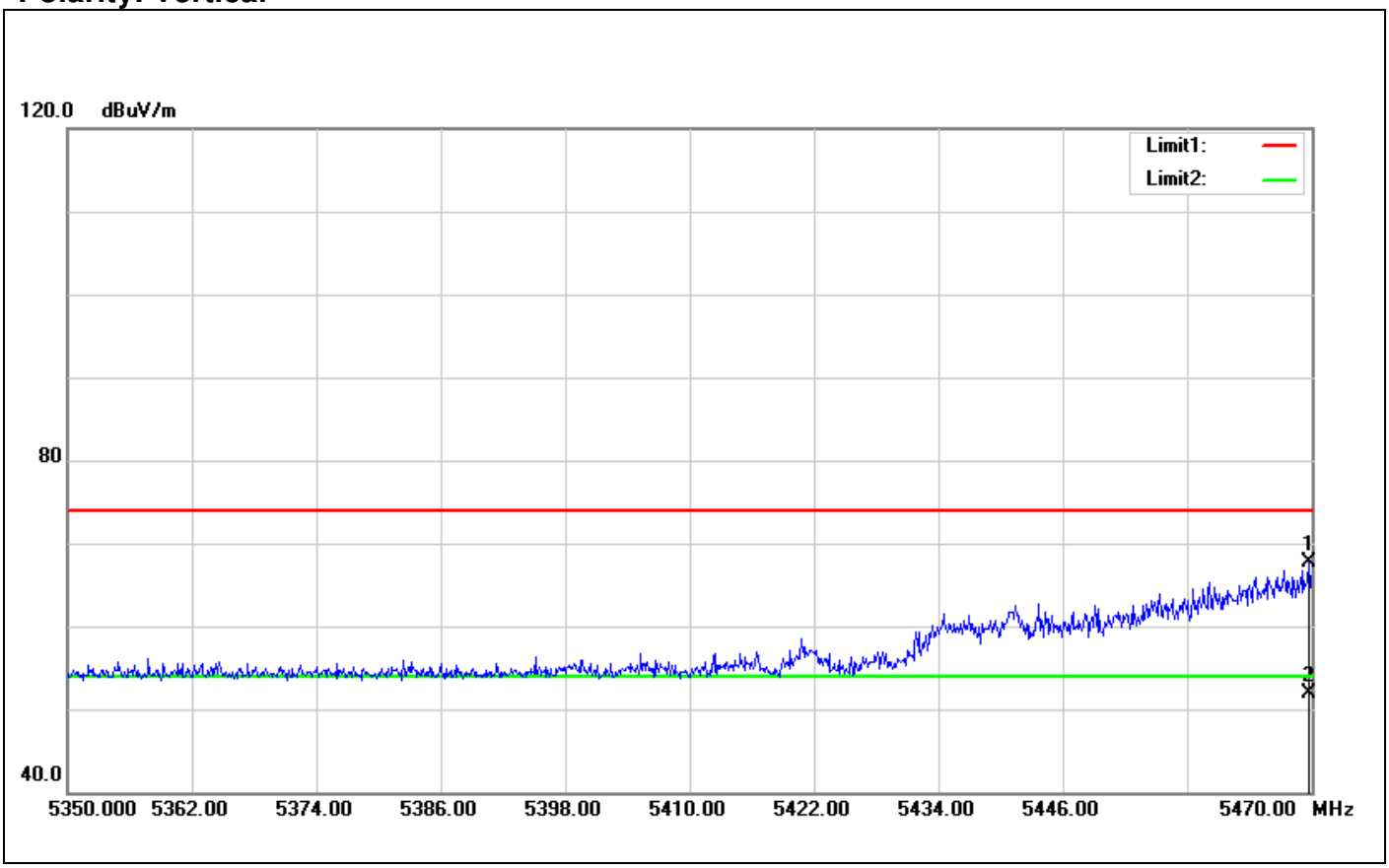
Polarity: Horizontal



No.	Frequency	Reading	Correct	Result	Limit	Margin	Height	Degree	Remark
	(MHz)	(dBuV)	Factor(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	(cm)	(°)	
1	5350.550	56.04	5.31	61.35	74.00	-12.65	150	296	peak
2	5350.550	40.48	5.31	45.79	54.00	-8.21	150	296	AVG

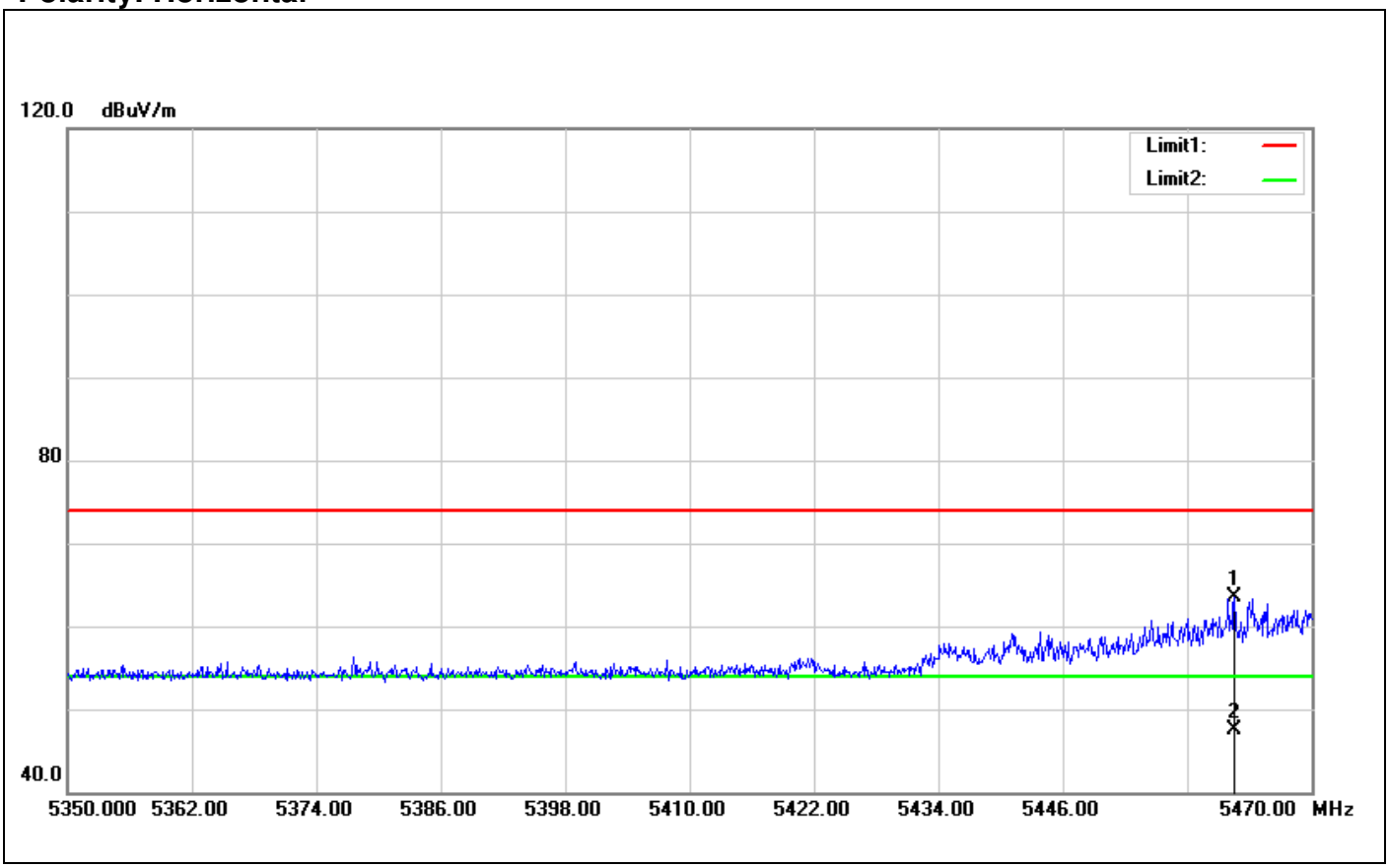
Band Edges (IEEE 802.11ac VHT 80 MHz mode / CH 5530 MHz)

Polarity: Vertical



No.	Frequency	Reading	Correct	Result	Limit	Margin	Height	Degree	Remark
	(MHz)	(dBuV)	Factor(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	(cm)	(°)	
1	5469.760	62.29	5.39	67.68	74.00	-6.32	150	331	peak
2	5469.760	46.46	5.39	51.85	54.00	-2.15	150	331	AVG

Polarity: Horizontal

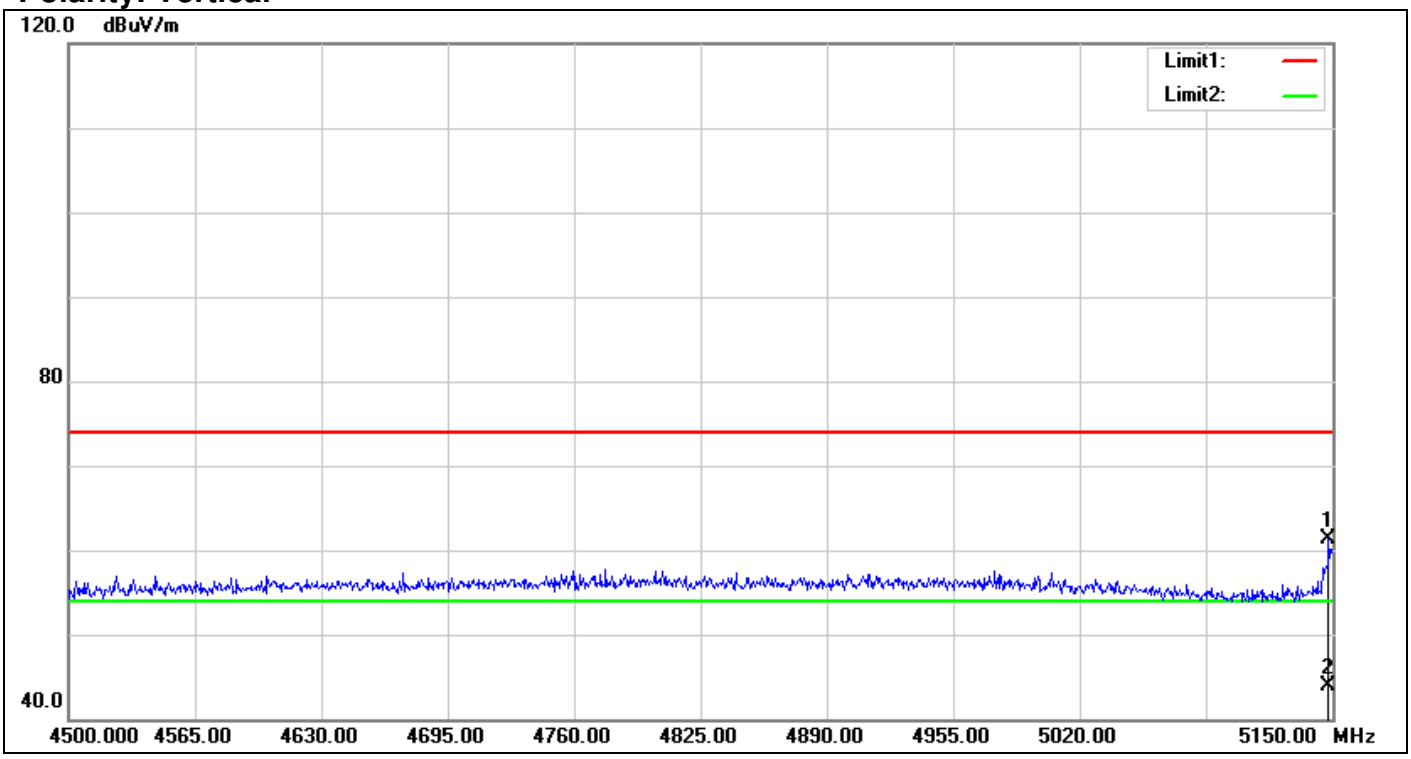


No.	Frequency	Reading	Correct	Result	Limit	Margin	Height	Degree	Remark
	(MHz)	(dBuV)	Factor(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	(cm)	(°)	
1	5462.560	58.10	5.43	63.53	74.00	-10.47	150	69	peak
2	5462.560	42.03	5.43	47.46	54.00	-6.54	150	69	AVG

For Dipole Antenna

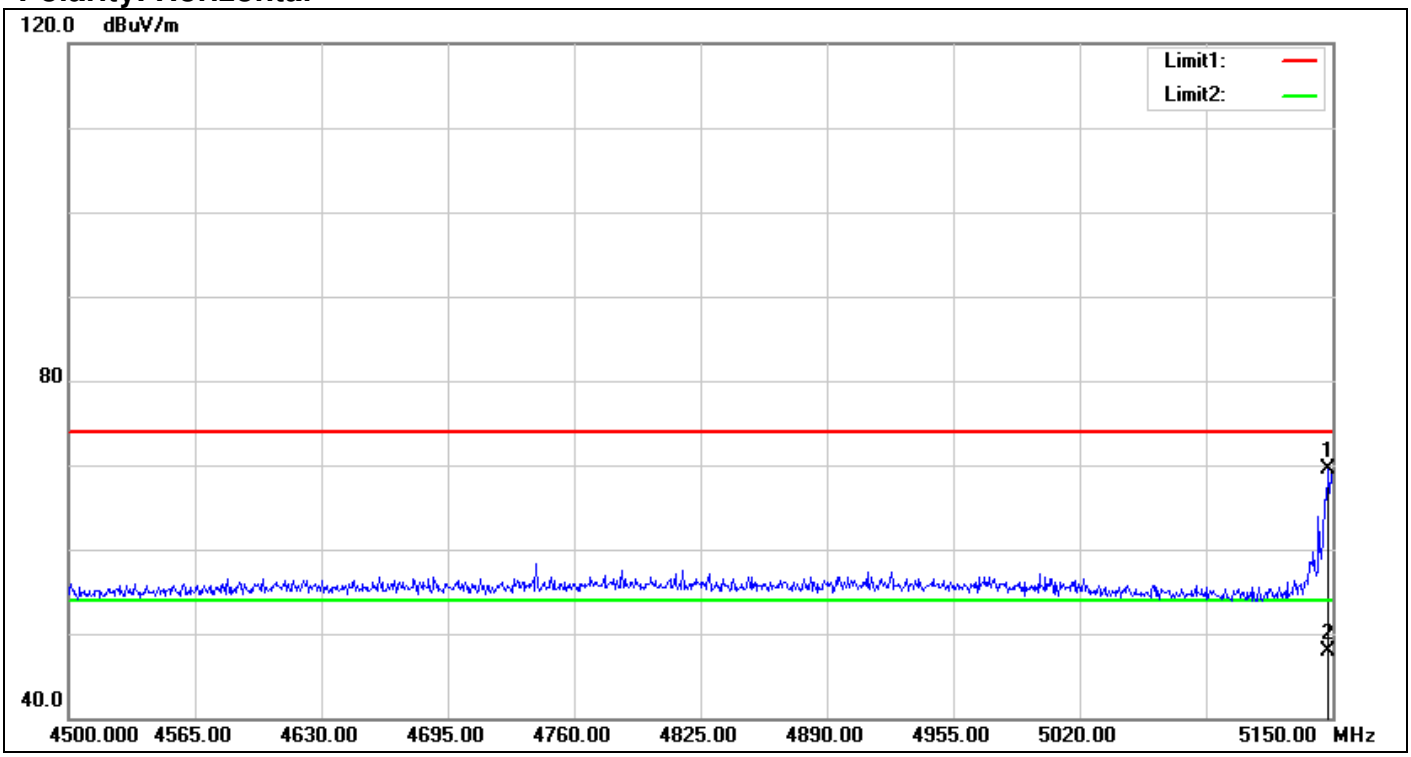
Band Edges (IEEE 802.11a mode / CH 5180 MHz)

Polarity: Vertical



No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Degree (°)	Remark
1	5148.050	58.18	3.03	61.21	74.00	-12.79	150	295	peak
2	5148.050	40.92	3.03	43.95	54.00	-10.05	150	295	AVG

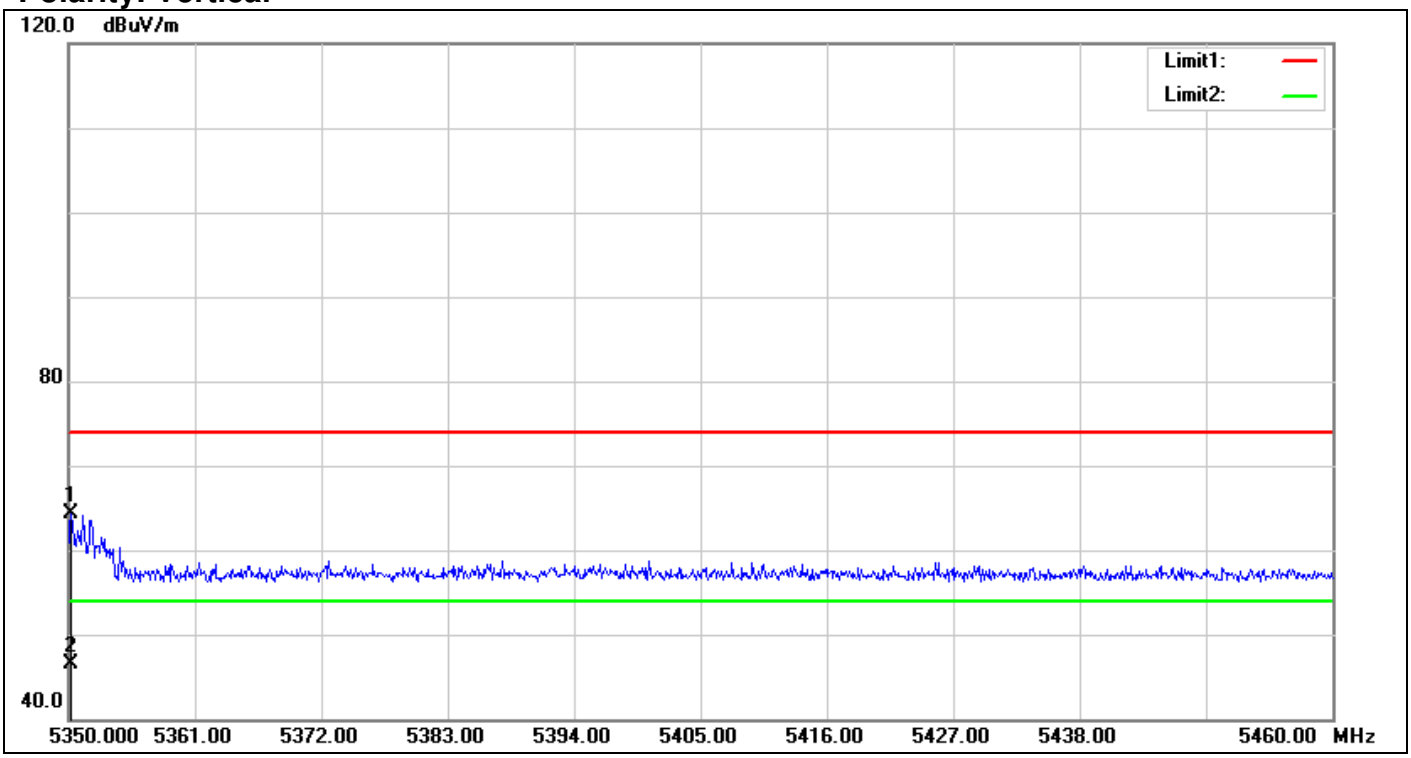
Polarity: Horizontal



No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Degree (°)	Remark
1	5148.050	66.42	3.03	69.45	74.00	-4.55	150	295	peak
2	5148.050	44.86	3.03	47.89	54.00	-6.11	150	295	AVG

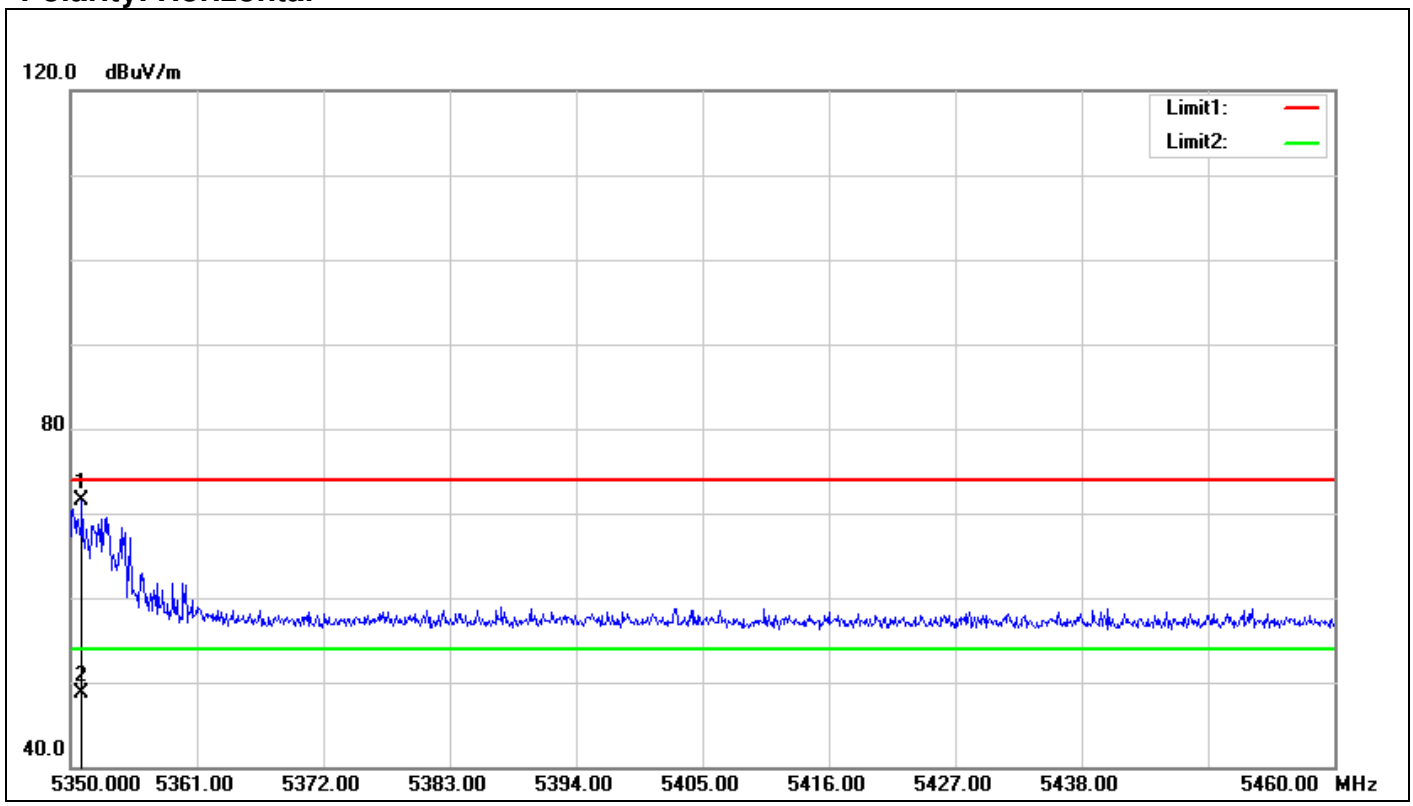
Band Edges (IEEE 802.11a mode / CH 5320 MHz)

Polarity: Vertical



No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Degree (°)	Remark
1	5350.220	59.03	5.31	64.34	74.00	-9.66	150	1	peak
2	5350.220	41.12	5.31	46.43	54.00	-7.57	150	3	AVG

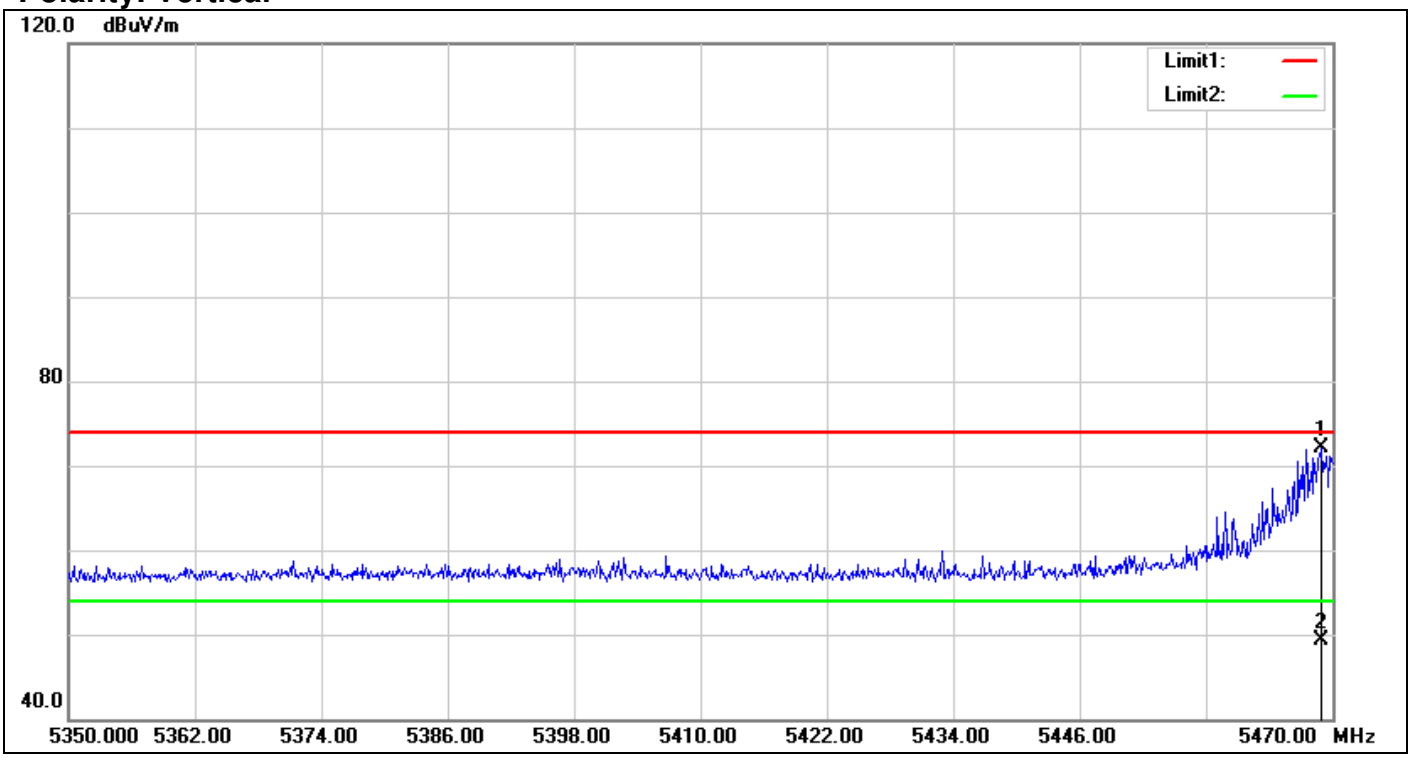
Polarity: Horizontal



No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Degree (°)	Remark
1	5350.990	66.08	5.32	71.40	74.00	-2.60	150	261	peak
2	5350.990	43.34	5.32	48.66	54.00	-5.34	150	261	AVG

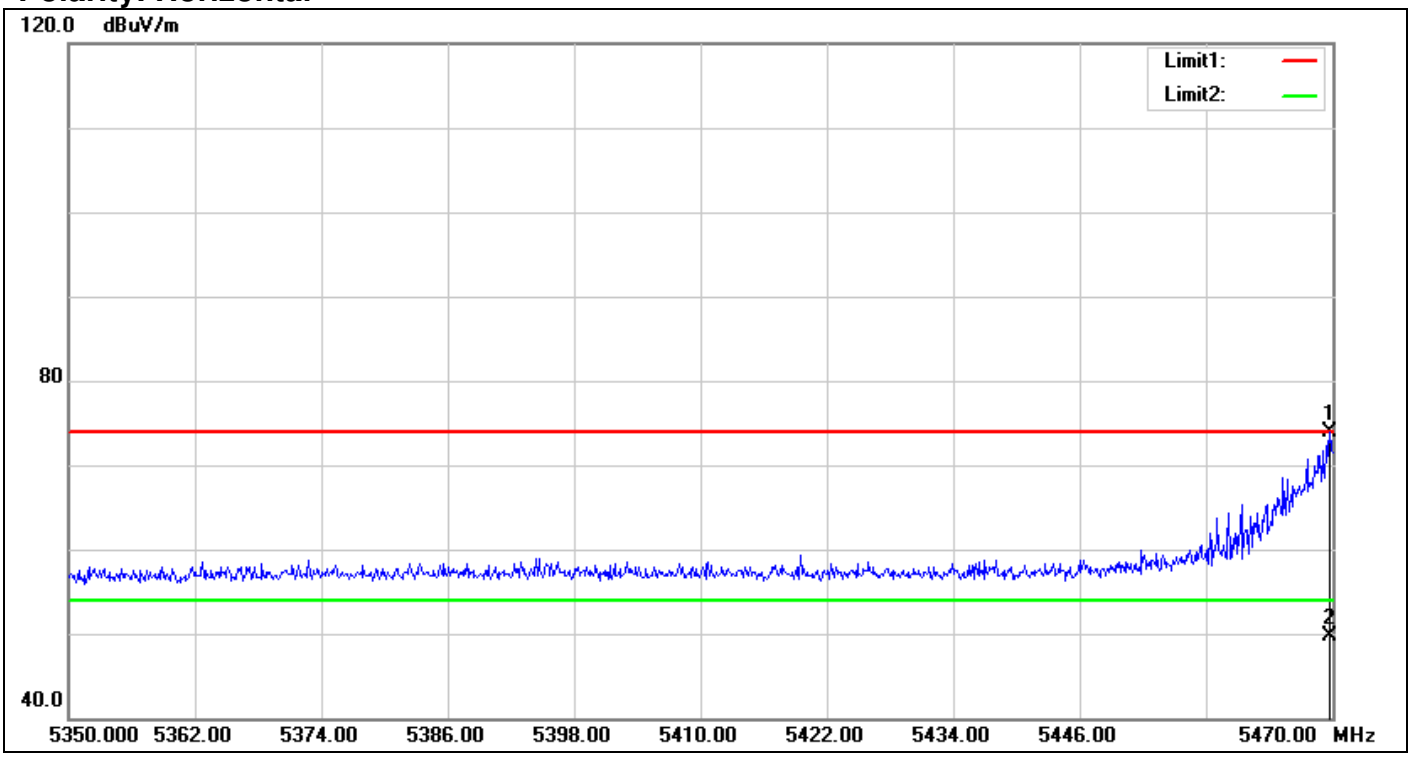
Band Edges (IEEE 802.11a mode / CH 5500 MHz)

Polarity: Vertical



No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Degree (°)	Remark
1	5468.920	66.63	5.40	72.03	74.00	-1.97	150	18	peak
2	5468.920	43.80	5.40	49.20	54.00	-4.80	150	18	AVG

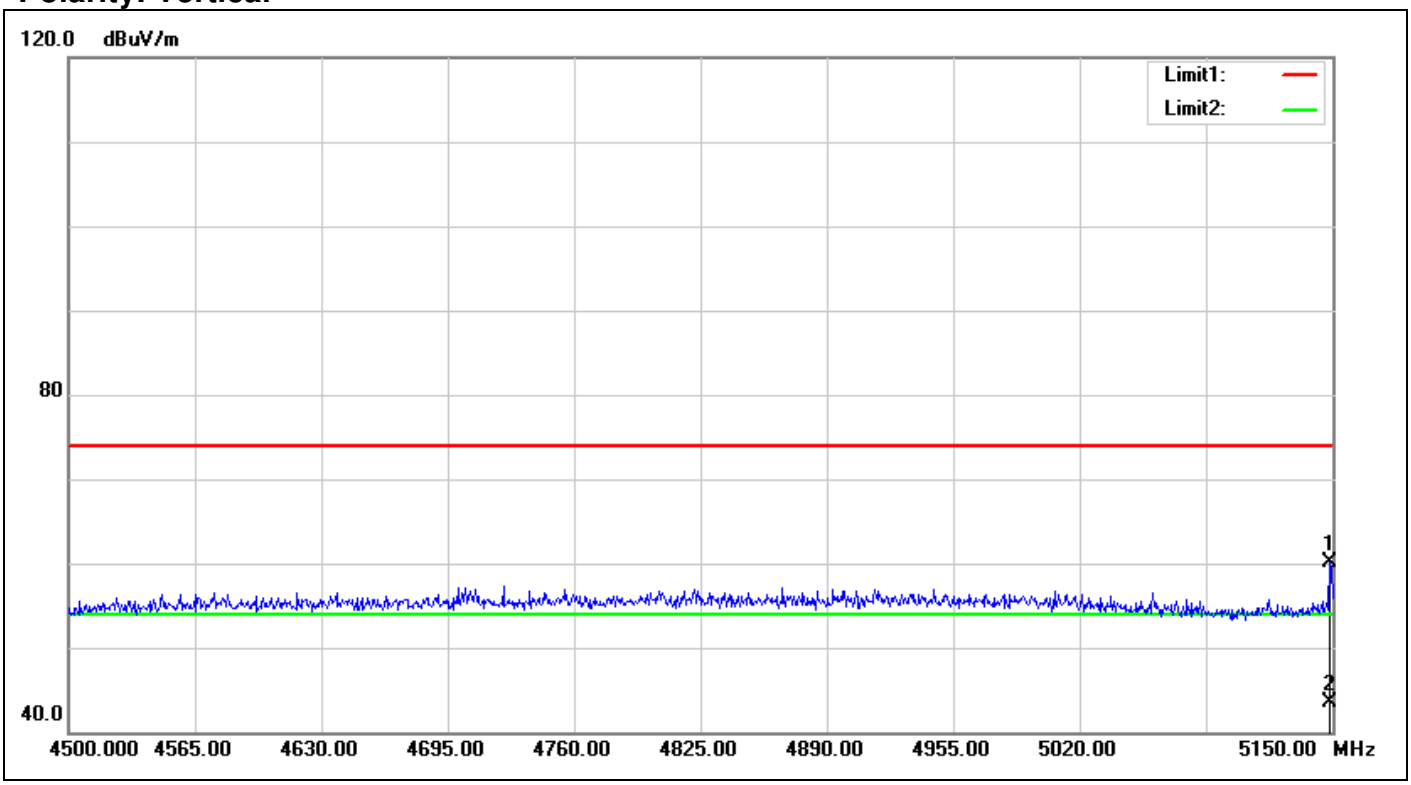
Polarity: Horizontal



No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Degree (°)	Remark
1	5469.760	68.45	5.39	73.84	74.00	-0.16	150	242	peak
2	5469.760	44.23	5.39	49.62	54.00	-4.38	150	242	AVG

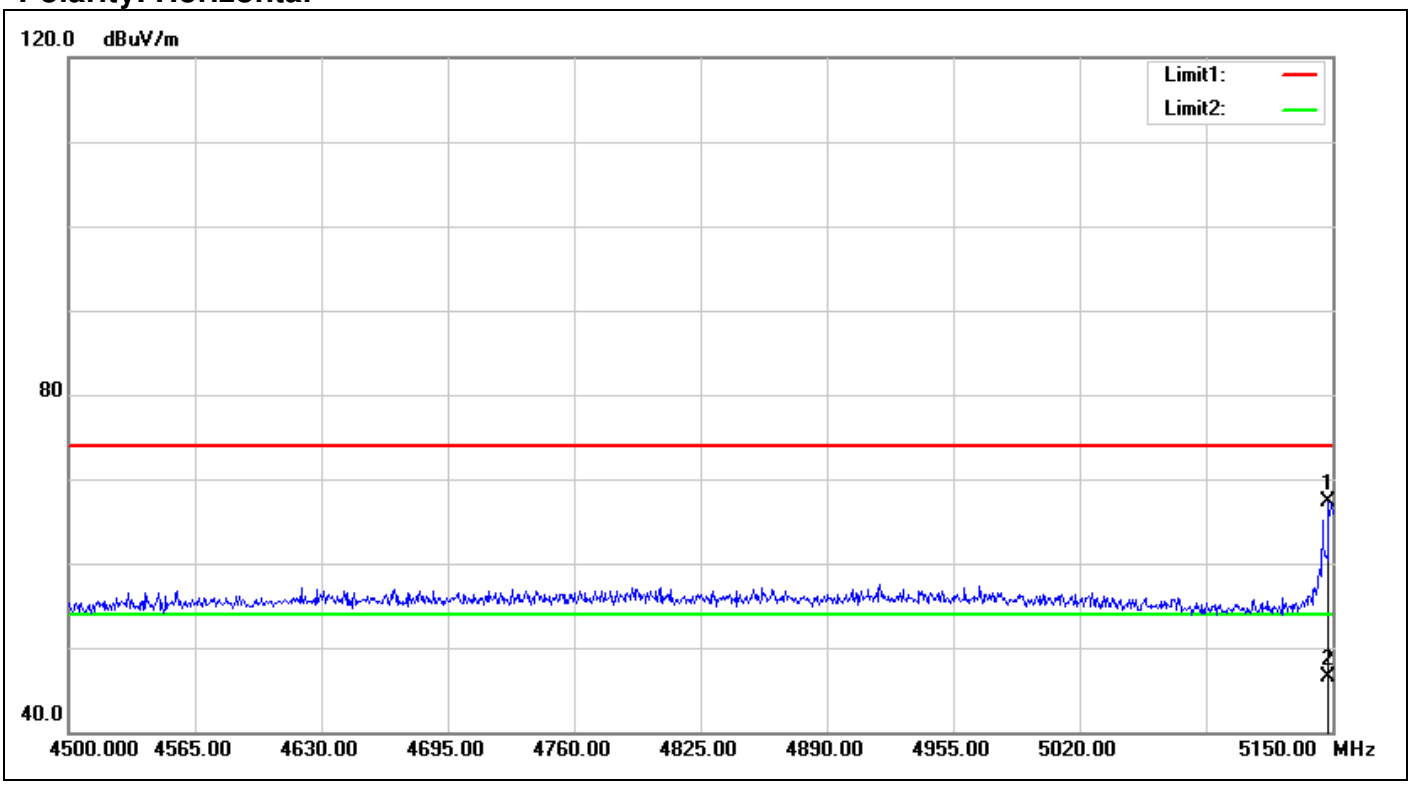
Band Edges (IEEE 802.11n HT 20 MHz Channel mode / CH 5180 MHz)

Polarity: Vertical



No.	Frequency	Reading	Correct	Result	Limit	Margin	Height	Degree	Remark
	(MHz)	(dBuV)	Factor(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	(cm)	(°)	
1	5148.700	57.05	3.03	60.08	74.00	-13.92	150	350	peak
2	5148.700	40.48	3.03	43.51	54.00	-10.49	150	350	AVG

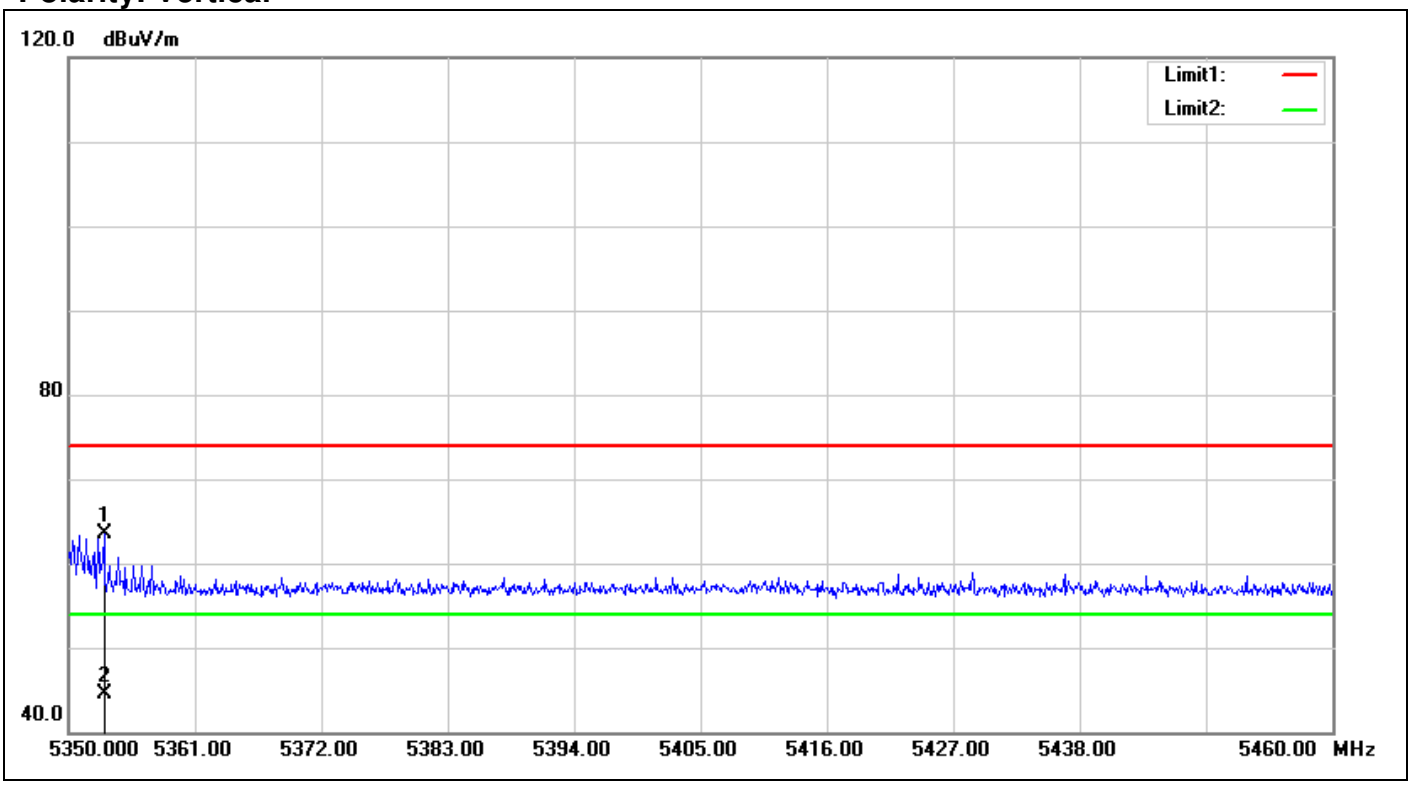
Polarity: Horizontal



No.	Frequency	Reading	Correct	Result	Limit	Margin	Height	Degree	Remark
	(MHz)	(dBuV)	Factor(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	(cm)	(°)	
1	5148.050	64.28	3.03	67.31	74.00	-6.69	150	235	peak
2	5148.050	43.53	3.03	46.56	54.00	-7.44	150	235	AVG

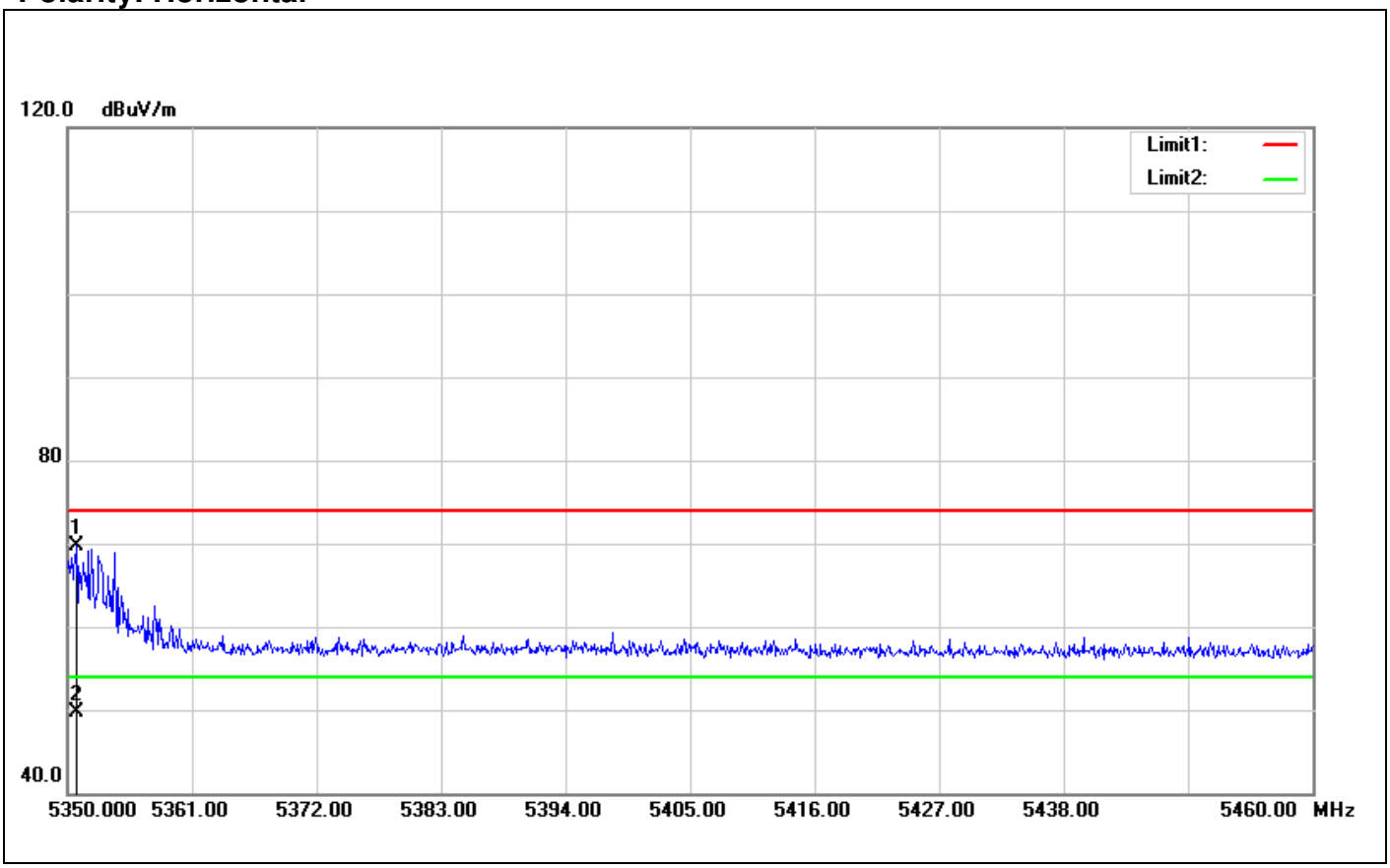
Band Edges (IEEE 802.11n HT 20 MHz mode / CH 5320 MHz)

Polarity: Vertical



No.	Frequency	Reading	Correct	Result	Limit	Margin	Height	Degree	Remark
	(MHz)	(dBuV)	Factor(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	(cm)	(°)	
1	5353.080	58.25	5.34	63.59	74.00	-10.41	150	35	peak
2	5353.080	39.08	5.34	44.42	54.00	-9.58	150	12	AVG

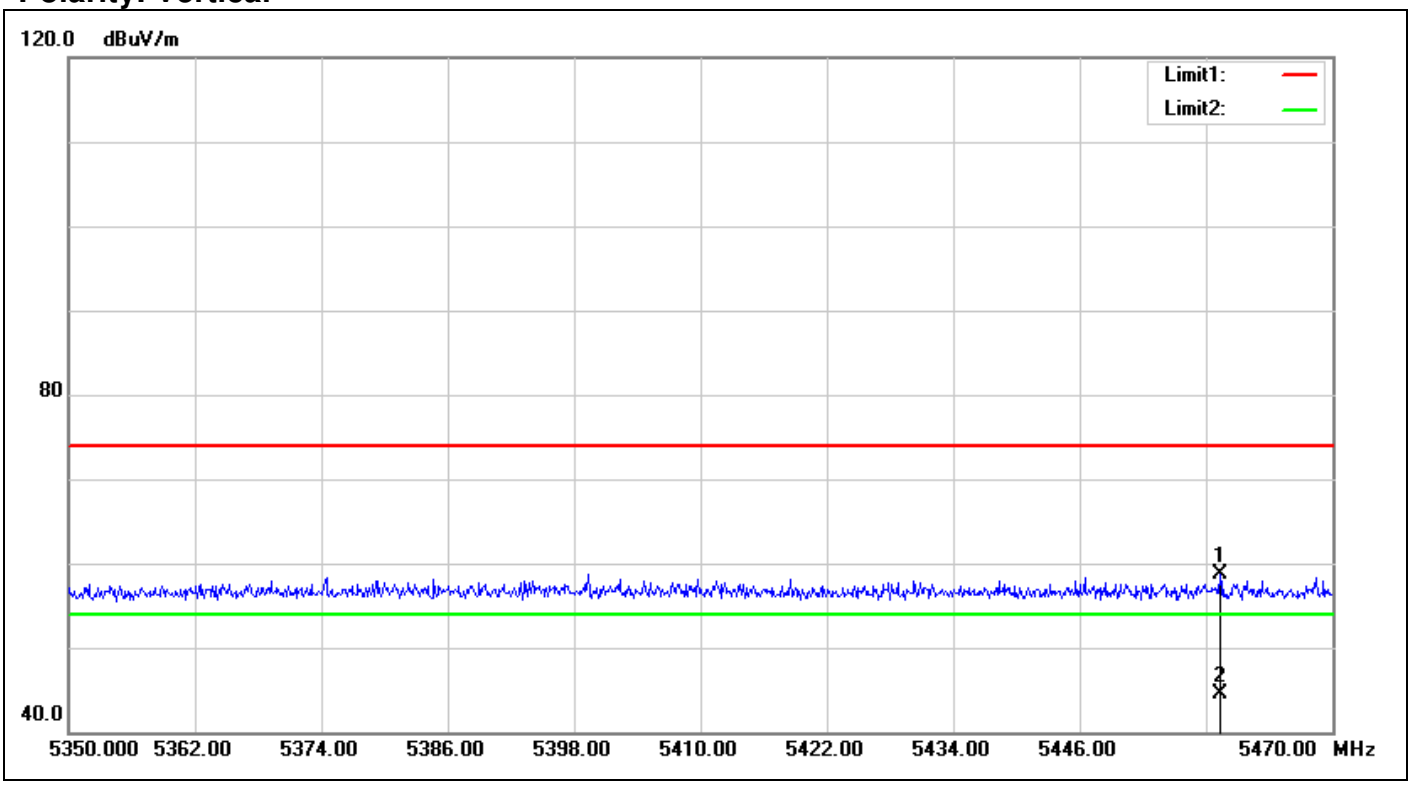
Polarity: Horizontal



No.	Frequency	Reading	Correct	Result	Limit	Margin	Height	Degree	Remark
	(MHz)	(dBuV)	Factor(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	(cm)	(°)	
1	5350.770	64.36	5.32	69.68	74.00	-4.32	150	355	peak
2	5350.770	44.45	5.32	49.77	54.00	-4.23	150	355	AVG

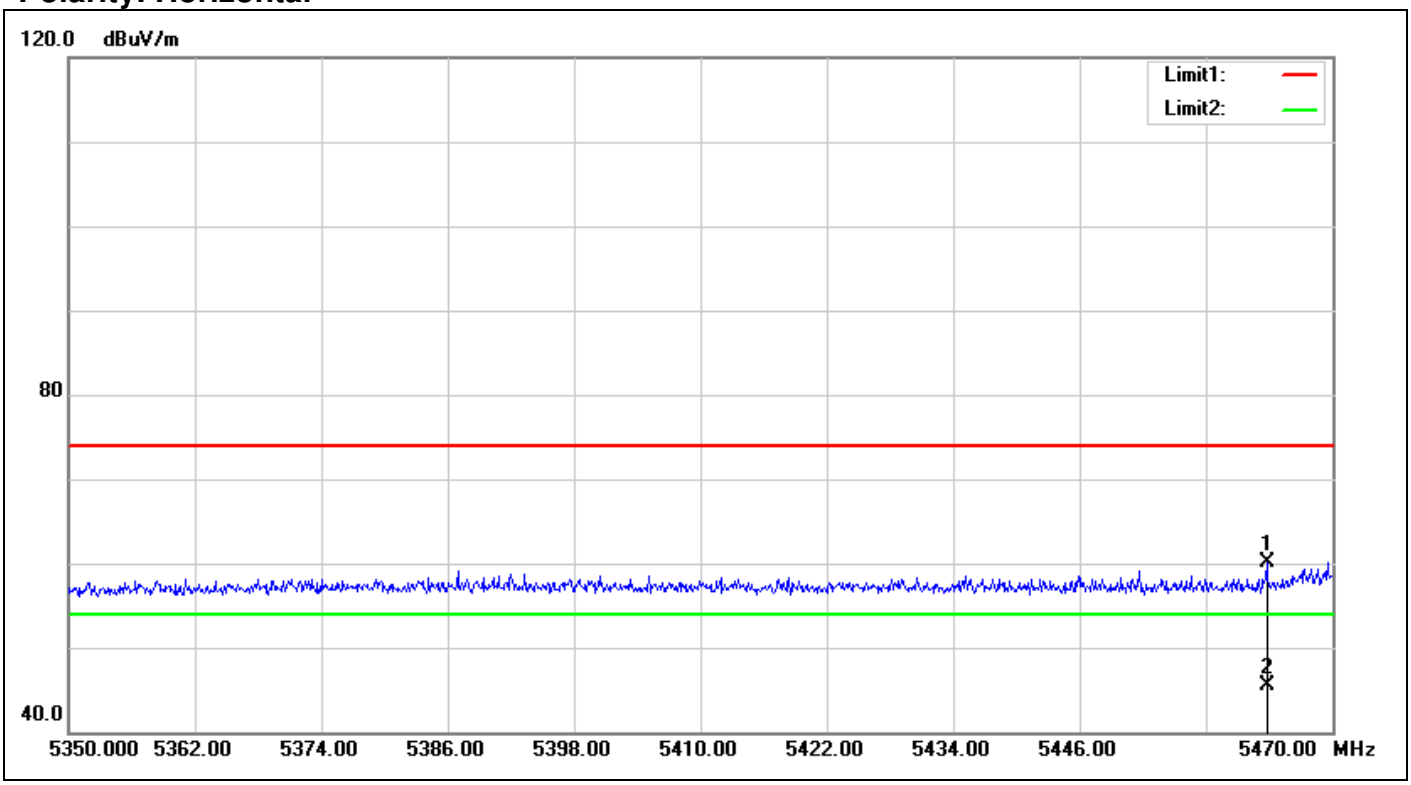
Band Edges (IEEE 802.11n HT 20 MHz Channel mode / CH 5500 MHz)

Polarity: Vertical



No.	Frequency	Reading	Correct	Result	Limit	Margin	Height	Degree	Remark
	(MHz)	(dBuV)	Factor(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	(cm)	(°)	
1	5459.320	53.19	5.44	58.63	74.00	-15.37	150	100	peak
2	5459.320	39.12	5.44	44.56	54.00	-9.44	150	235	AVG

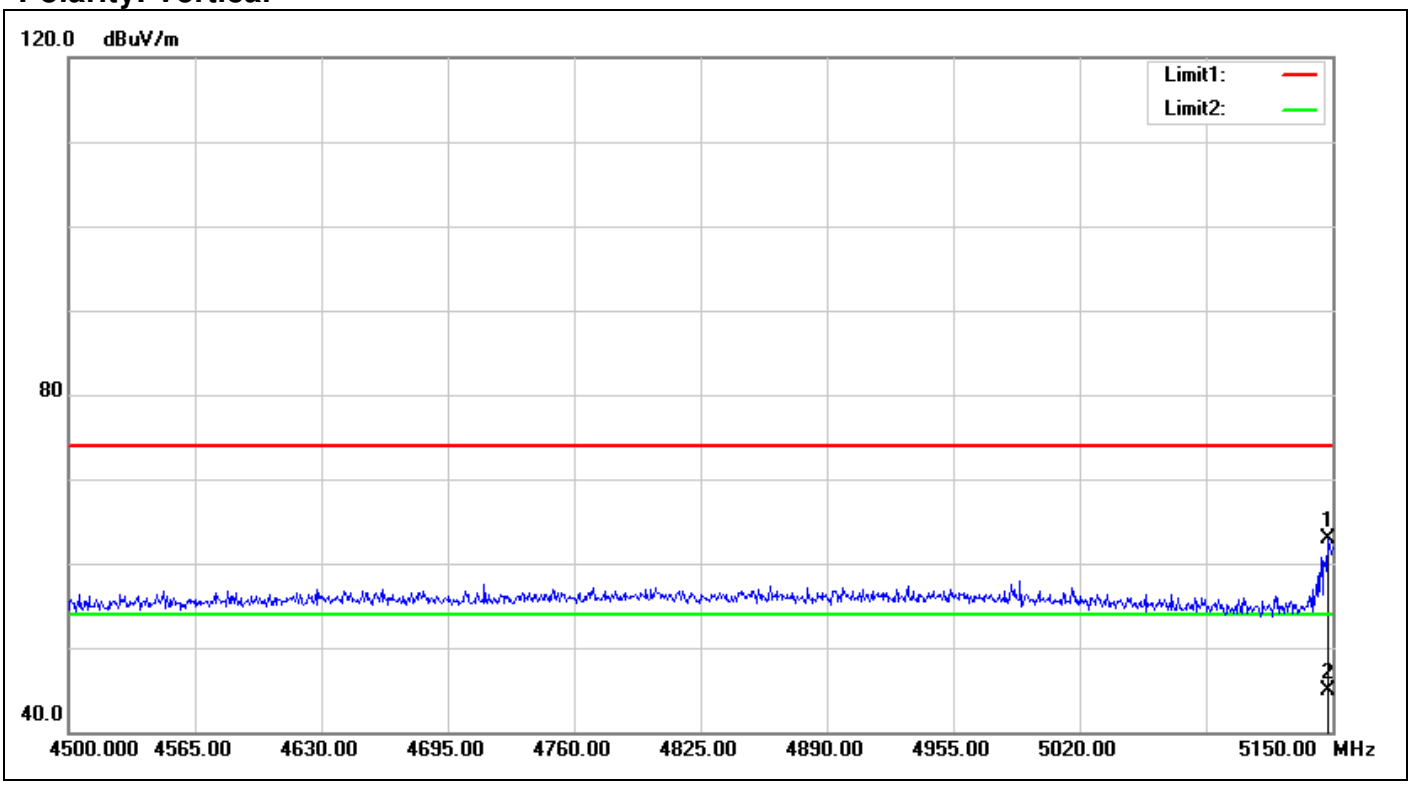
Polarity: Horizontal



No.	Frequency	Reading	Correct	Result	Limit	Margin	Height	Degree	Remark
	(MHz)	(dBuV)	Factor(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	(cm)	(°)	
1	5463.760	54.69	5.42	60.11	74.00	-13.89	150	181	peak
2	5463.760	40.14	5.42	45.56	54.00	-8.44	150	181	AVG

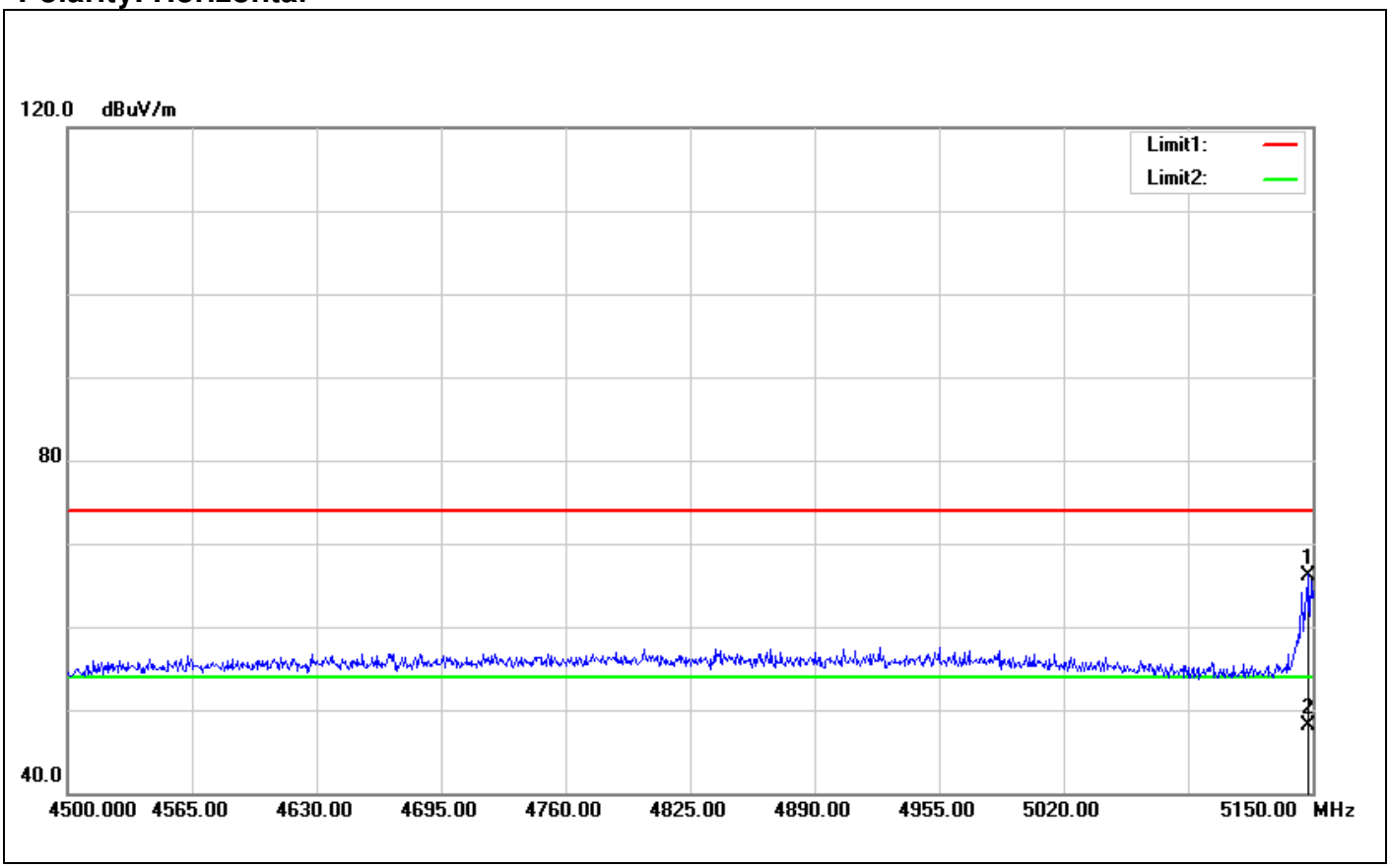
Band Edges (IEEE 802.11n HT 40 MHz mode / CH 5190 MHz)

Polarity: Vertical



No.	Frequency	Reading	Correct	Result	Limit	Margin	Height	Degree	Remark
	(MHz)	(dBuV)	Factor(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	(cm)	(°)	
1	5147.400	59.82	3.02	62.84	74.00	-11.16	150	32	peak
2	5147.400	41.86	3.02	44.88	54.00	-9.12	150	33	AVG

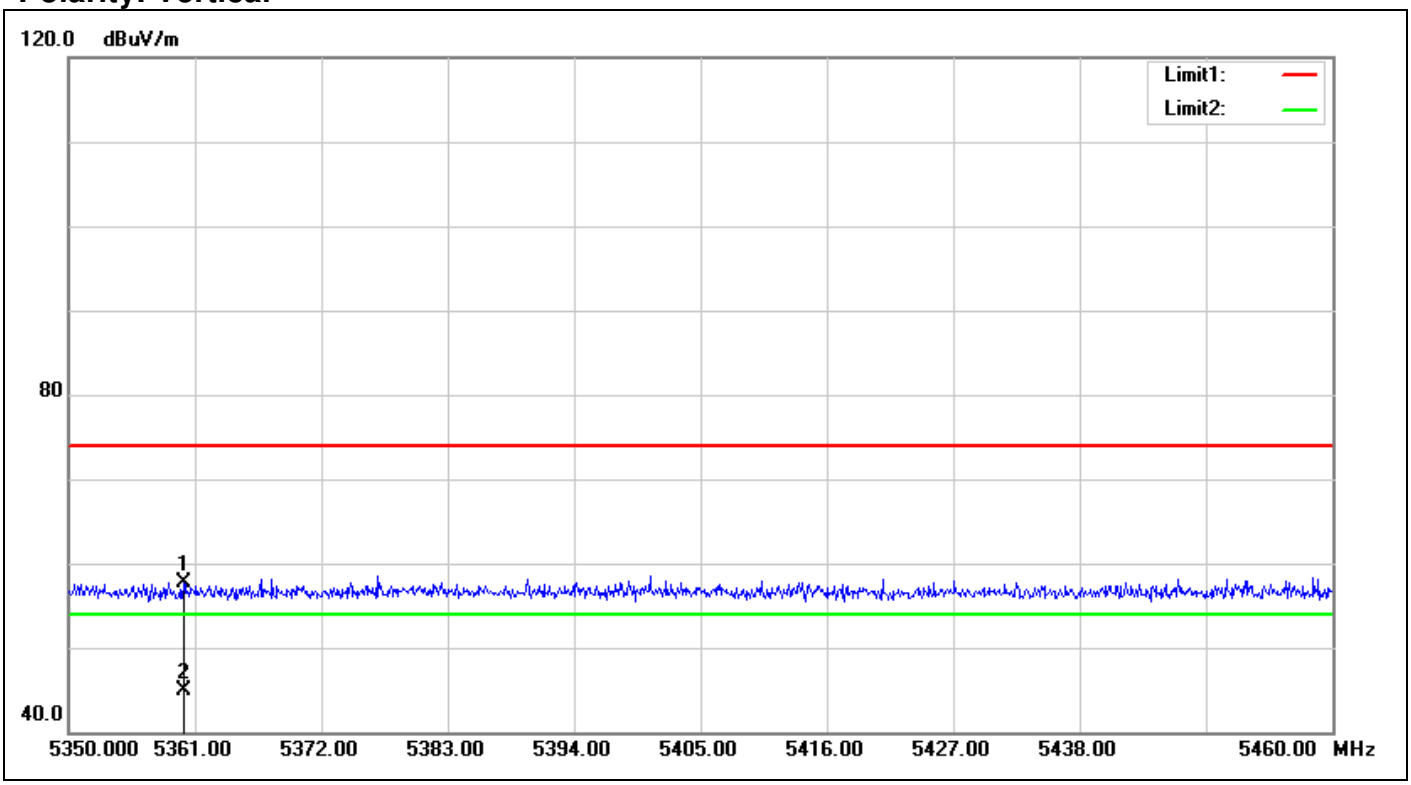
Polarity: Horizontal



No.	Frequency	Reading	Correct	Result	Limit	Margin	Height	Degree	Remark
	(MHz)	(dBuV)	Factor(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	(cm)	(°)	
1	5148.050	63.17	3.03	66.20	74.00	-7.80	150	117	peak
2	5148.050	45.01	3.03	48.04	54.00	-5.96	150	117	AVG

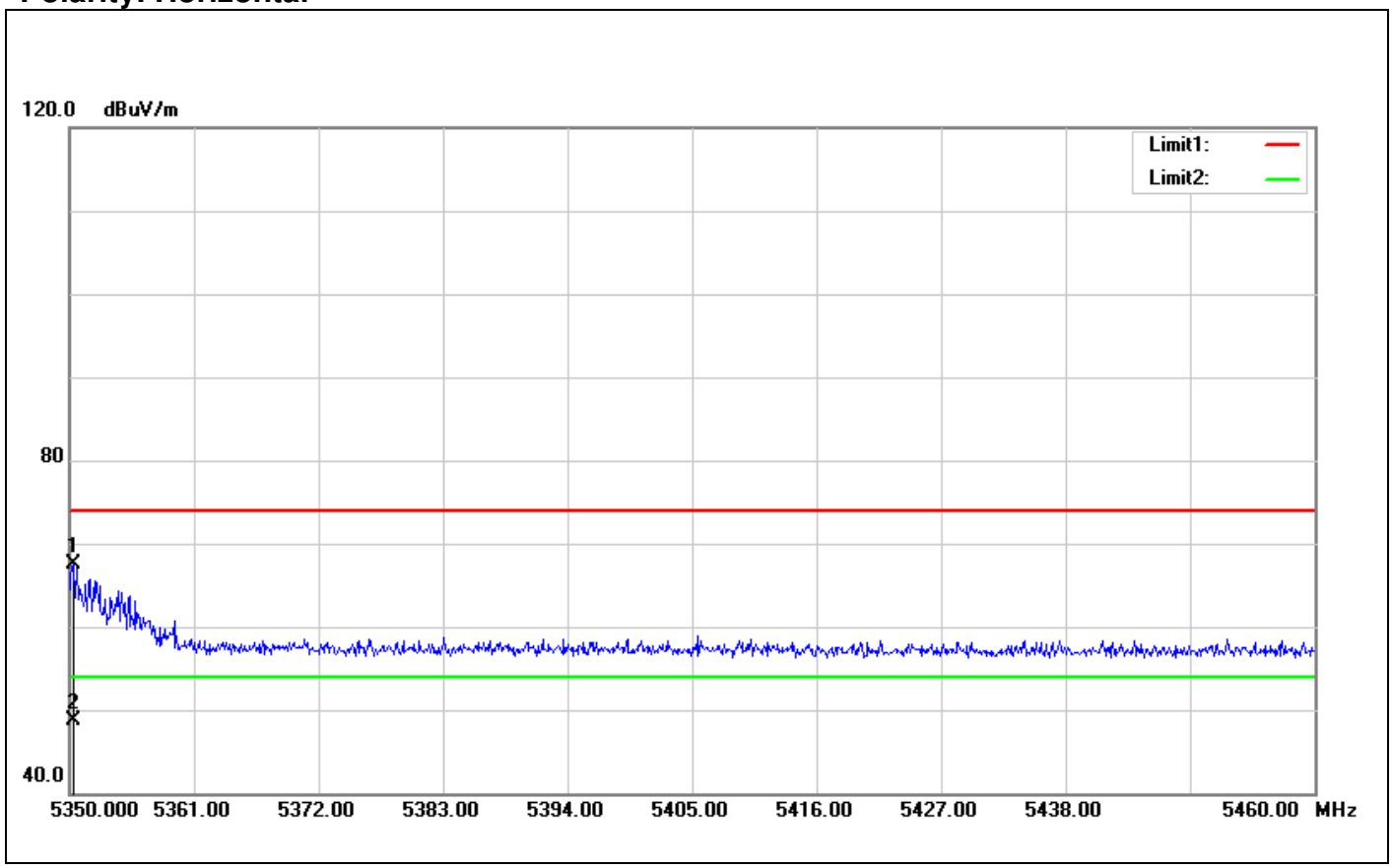
Band Edges (IEEE 802.11n HT 40 MHz mode / CH 5310 MHz)

Polarity: Vertical



No.	Frequency	Reading	Correct	Result	Limit	Margin	Height	Degree	Remark
	(MHz)	(dBuV)	Factor(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	(cm)	(°)	
1	5360.010	52.34	5.39	57.73	74.00	-16.27	150	99	peak
2	5360.010	39.61	5.39	45.00	54.00	-9.00	150	99	AVG

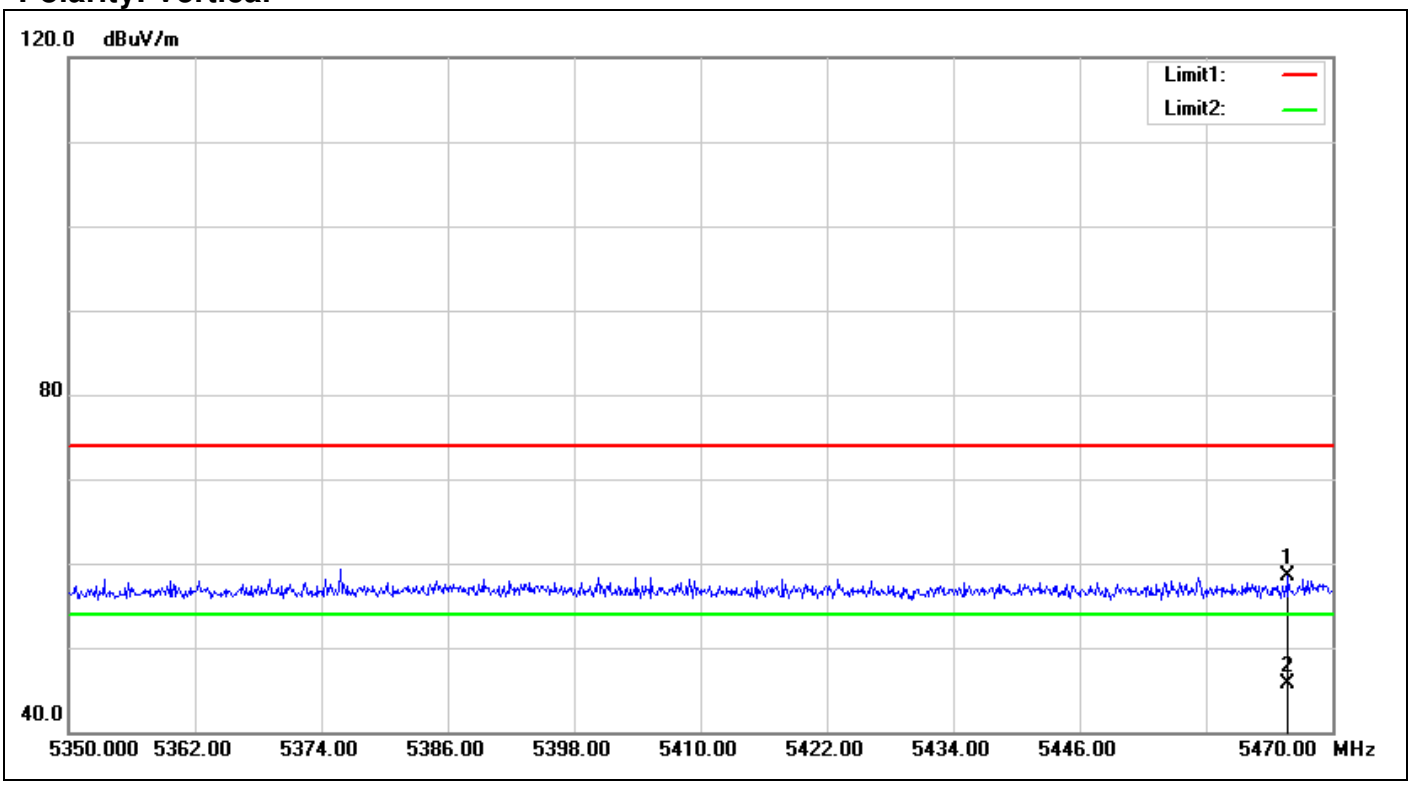
Polarity: Horizontal



No.	Frequency	Reading	Correct	Result	Limit	Margin	Height	Degree	Remark
	(MHz)	(dBuV)	Factor(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	(cm)	(°)	
1	5350.330	62.21	5.31	67.52	74.00	-6.48	150	117	peak
2	5350.330	43.44	5.31	48.75	54.00	-5.25	150	117	AVG

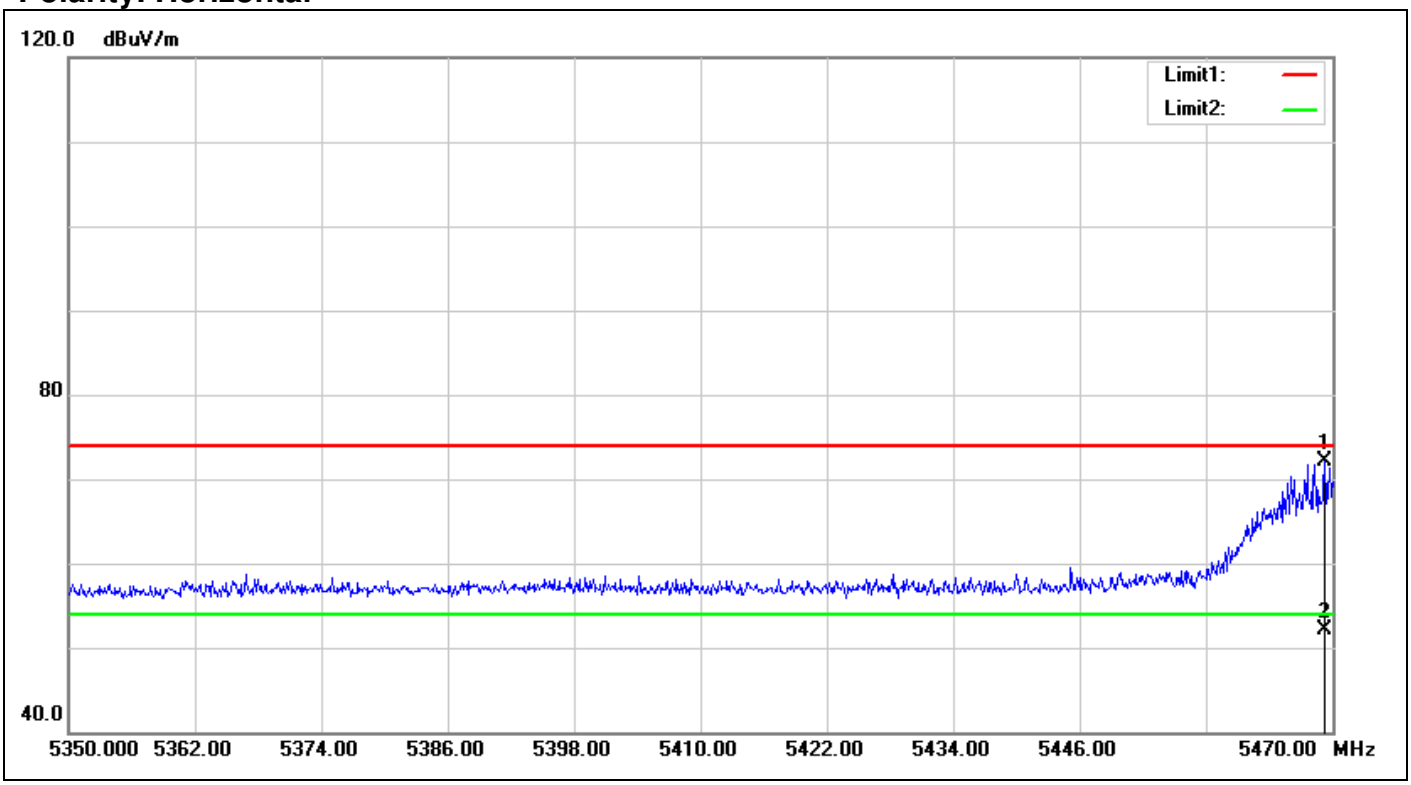
Band Edges (IEEE 802.11n HT 40 MHz mode / CH 5510 MHz)

Polarity: Vertical



No.	Frequency	Reading	Correct	Result	Limit	Margin	Height	Degree	Remark
	(MHz)	(dBuV)	Factor(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	(cm)	(°)	
1	5465.800	53.15	5.41	58.56	74.00	-15.44	150	272	peak
2	5465.800	40.20	5.41	45.61	54.00	-8.39	150	272	AVG

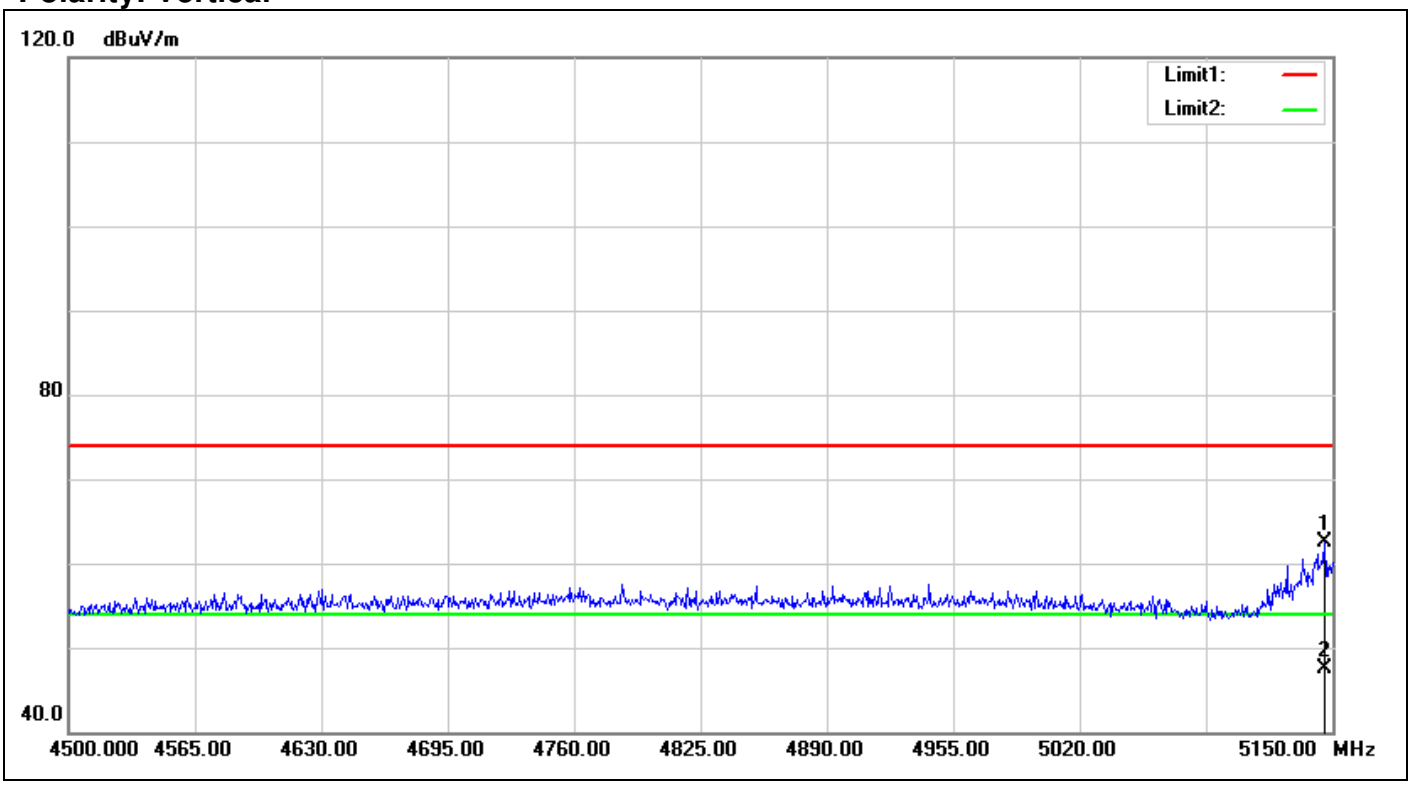
Polarity: Horizontal



No.	Frequency	Reading	Correct	Result	Limit	Margin	Height	Degree	Remark
	(MHz)	(dBuV)	Factor(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	(cm)	(°)	
1	5469.280	66.62	5.39	72.01	74.00	-1.99	150	334	peak
2	5469.280	46.70	5.39	52.09	54.00	-1.91	150	334	AVG

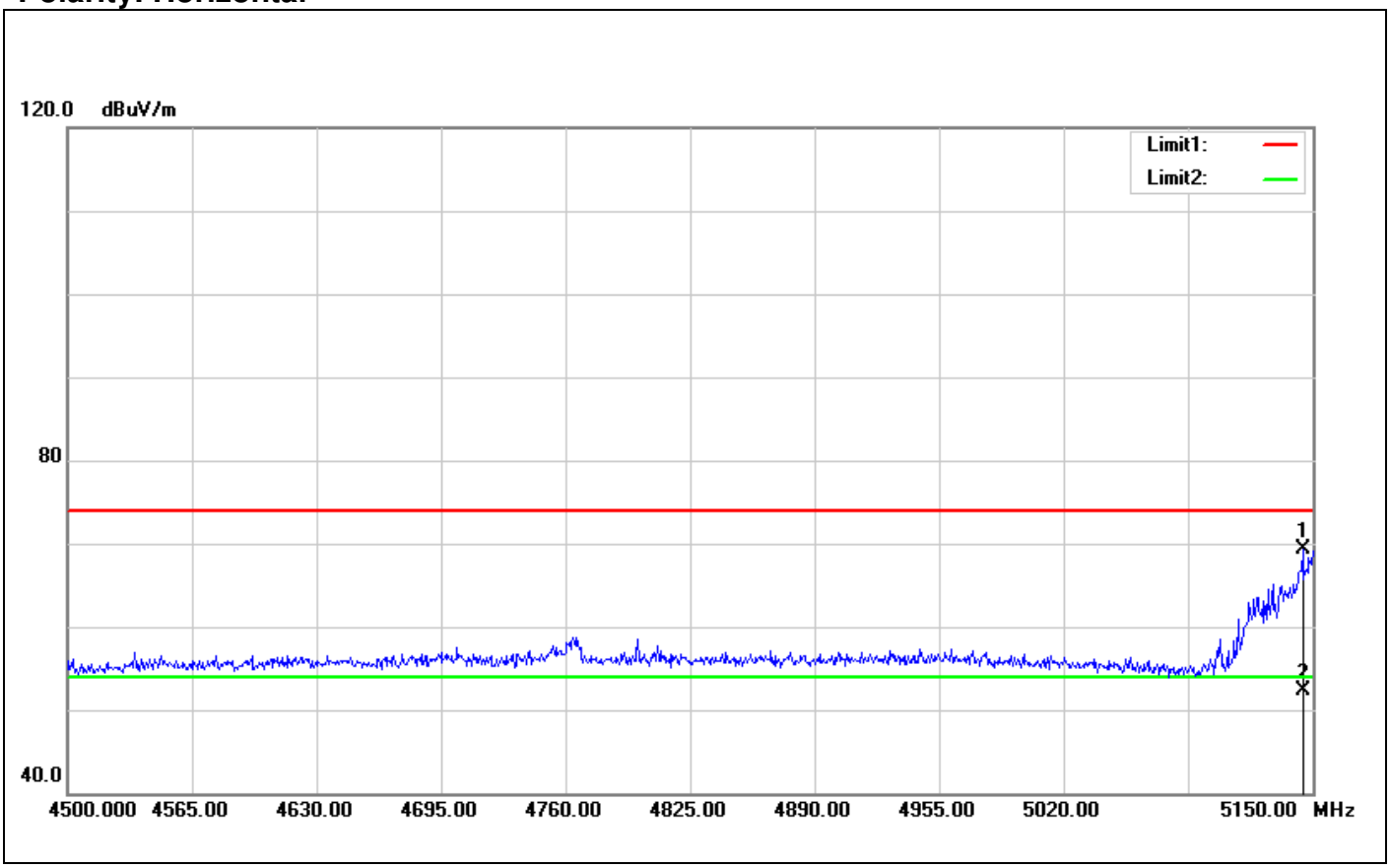
Band Edges (IEEE 802.11ac VHT 80 MHz mode / CH 5210 MHz)

Polarity: Vertical



No.	Frequency	Reading	Correct	Result	Limit	Margin	Height	Degree	Remark
	(MHz)	(dBuV)	Factor(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	(cm)	(°)	
1	5146.100	59.58	3.01	62.59	74.00	-11.41	150	131	peak
2	5146.100	44.43	3.01	47.44	54.00	-6.56	150	131	AVG

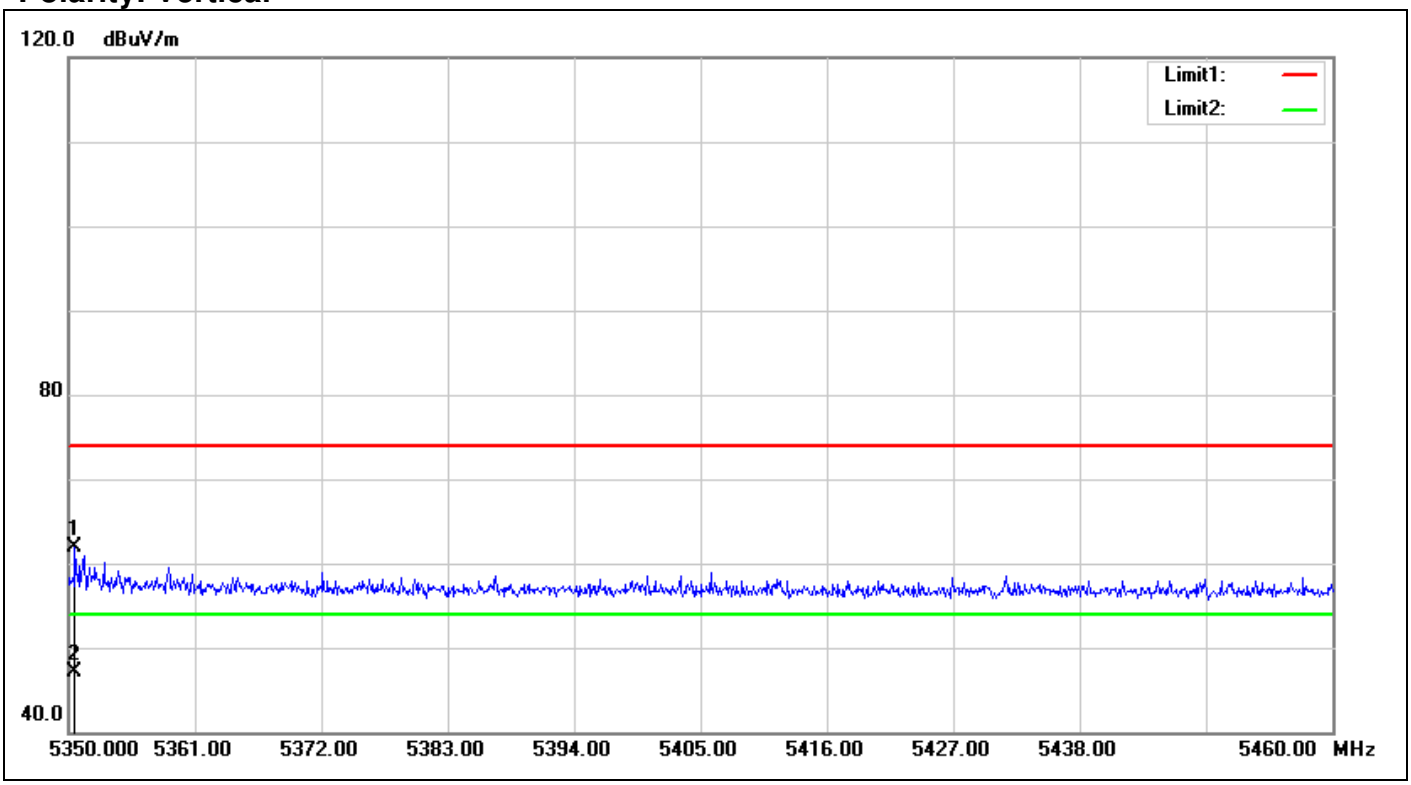
Polarity: Horizontal



No.	Frequency	Reading	Correct	Result	Limit	Margin	Height	Degree	Remark
	(MHz)	(dBuV)	Factor(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	(cm)	(°)	
1	5144.800	66.35	3.00	69.35	74.00	-4.65	150	169	peak
2	5144.800	49.32	3.00	52.32	54.00	-1.68	150	169	AVG

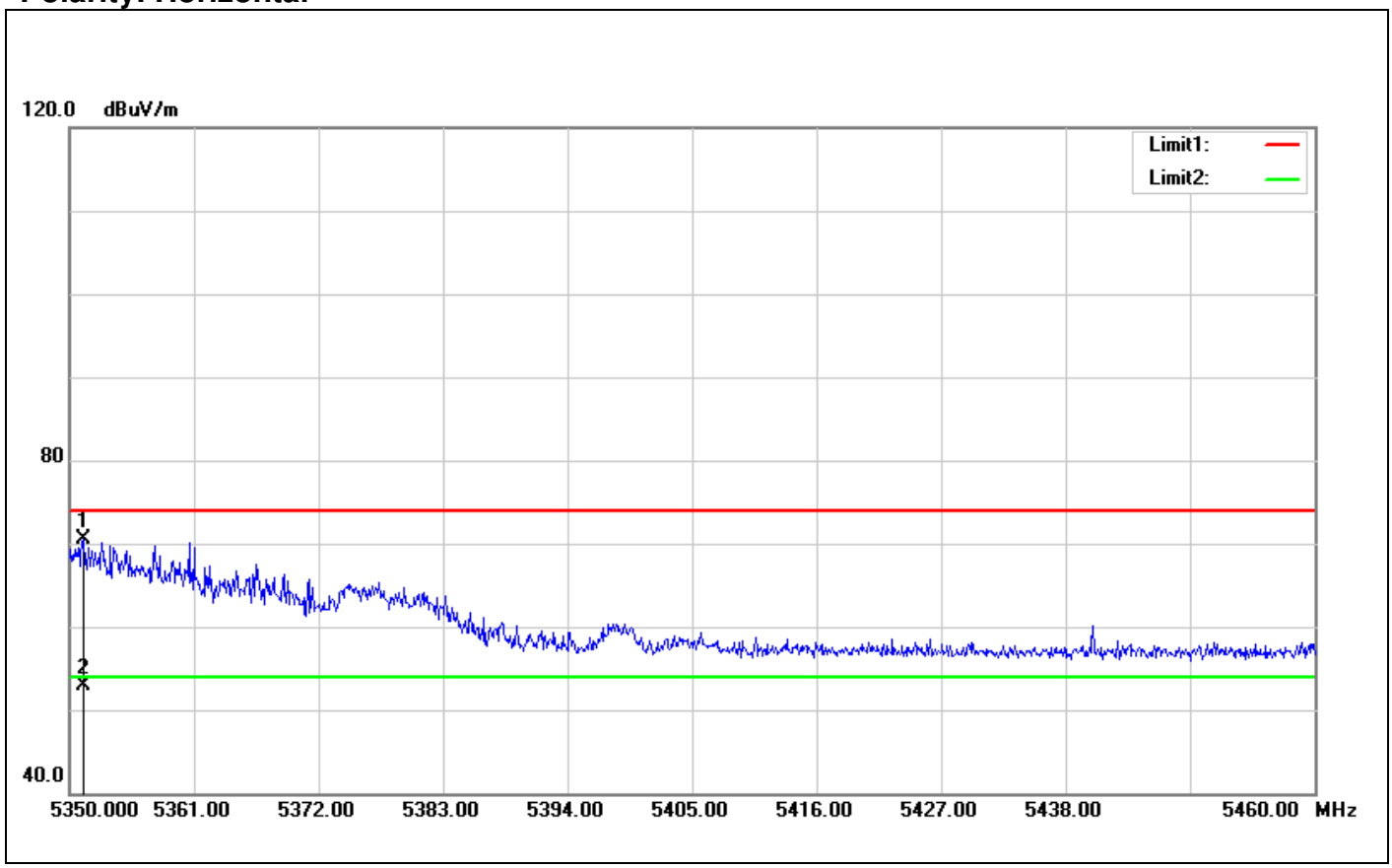
Band Edges (IEEE 802.11ac VHT 80 MHz mode / CH 5290 MHz)

Polarity: Vertical



No.	Frequency	Reading	Correct	Result	Limit	Margin	Height	Degree	Remark
	(MHz)	(dBuV)	Factor(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	(cm)	(°)	
1	5350.550	56.60	5.31	61.91	74.00	-12.09	150	49	peak
2	5350.550	41.75	5.31	47.06	54.00	-6.94	150	49	AVG

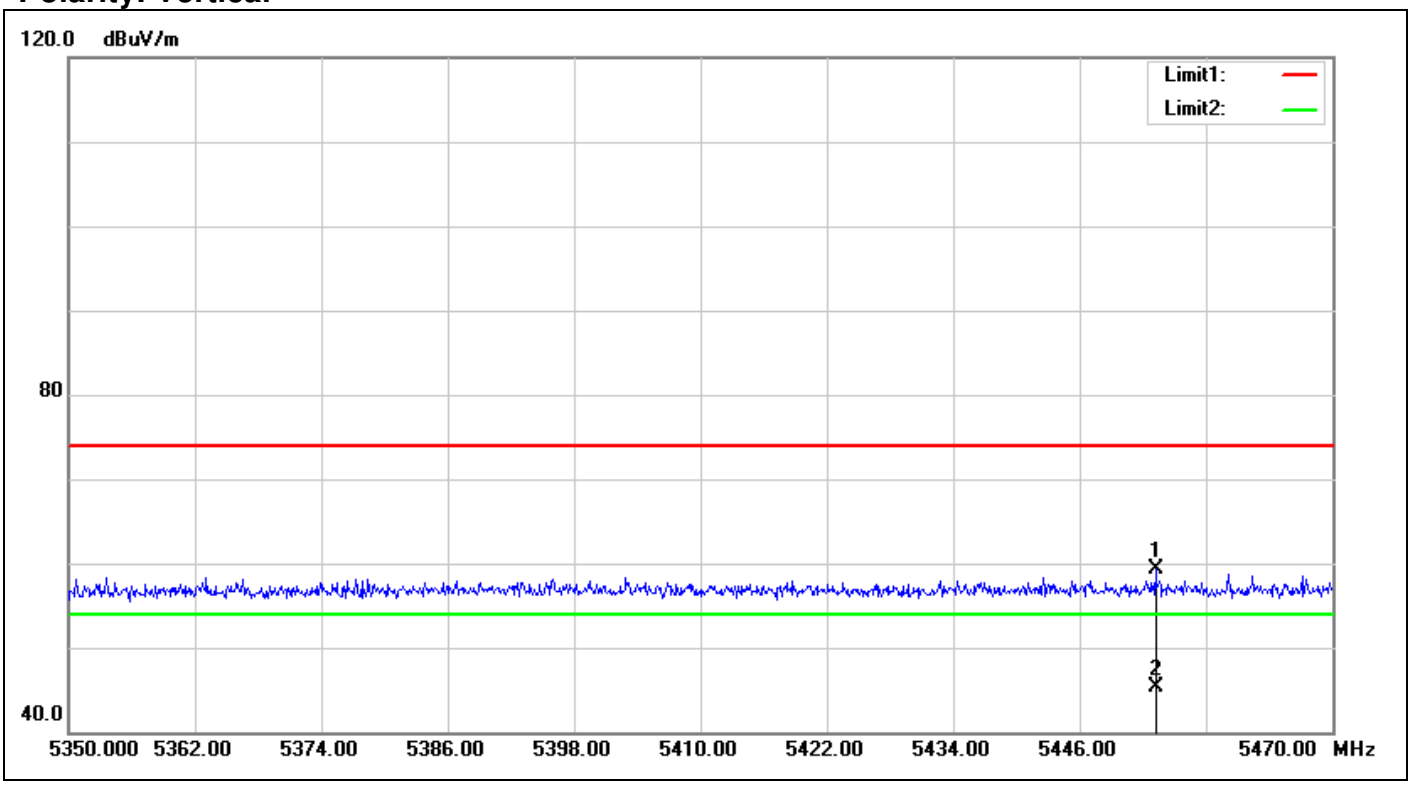
Polarity: Horizontal



No.	Frequency	Reading	Correct	Result	Limit	Margin	Height	Degree	Remark
	(MHz)	(dBuV)	Factor(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	(cm)	(°)	
1	5351.210	65.15	5.32	70.47	74.00	-3.53	150	131	peak
2	5351.210	47.62	5.32	52.94	54.00	-1.06	150	131	AVG

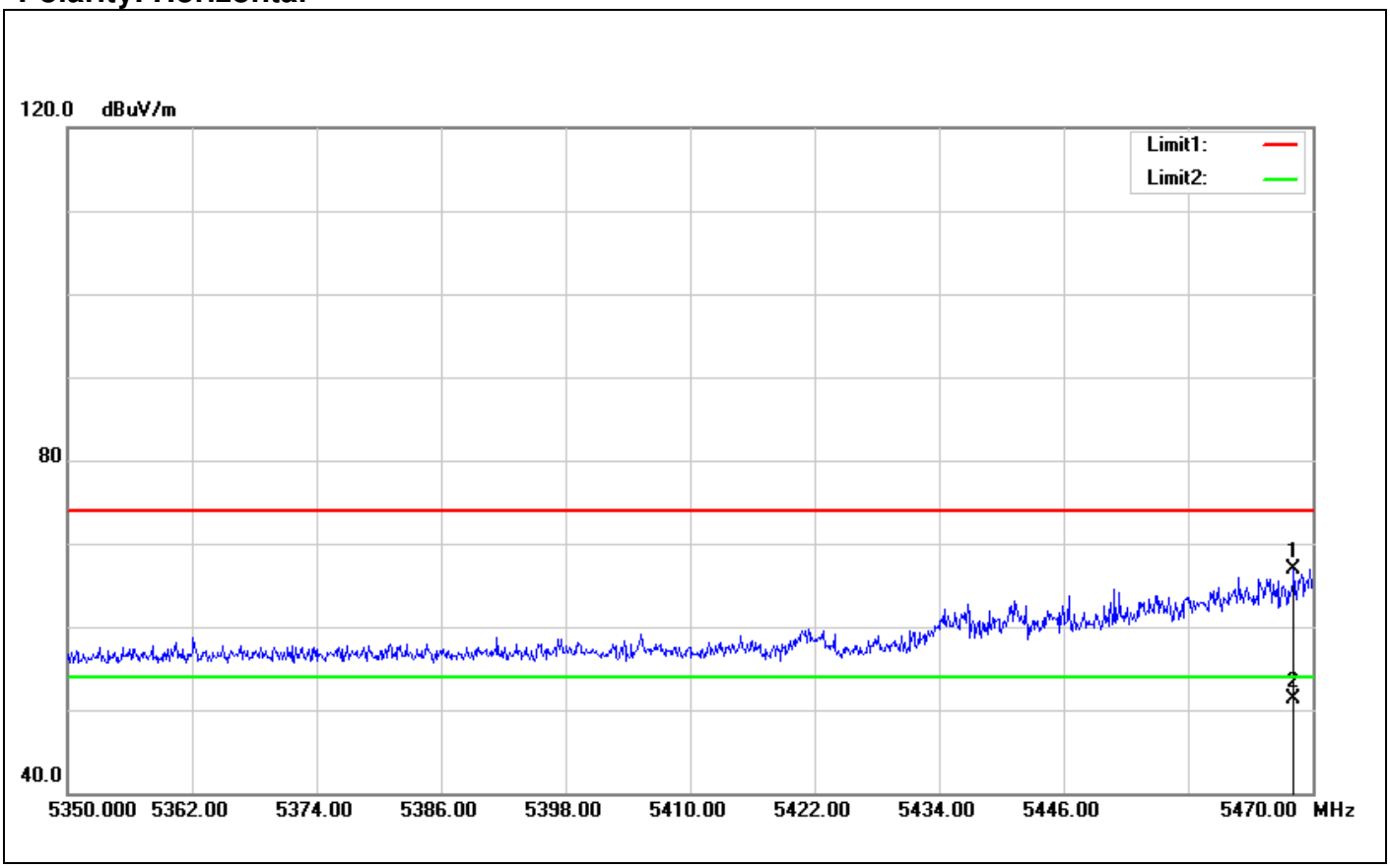
Band Edges (IEEE 802.11ac VHT 80 MHz mode / CH 5530 MHz)

Polarity: Vertical



No.	Frequency	Reading	Correct	Result	Limit	Margin	Height	Degree	Remark
	(MHz)	(dBuV)	Factor(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	(cm)	(°)	
1	5453.200	53.85	5.47	59.32	74.00	-14.68	150	240	peak
2	5453.200	39.93	5.47	45.40	54.00	-8.60	150	240	AVG

Polarity: Horizontal



No.	Frequency	Reading	Correct	Result	Limit	Margin	Height	Degree	Remark
	(MHz)	(dBuV)	Factor(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	(cm)	(°)	
1	5468.200	61.59	5.40	66.99	74.00	-7.01	150	175	peak
2	5468.200	45.83	5.40	51.23	54.00	-2.77	150	175	AVG

7.5 PEAK POWER SPECTRAL DENSITY

LIMIT

According to §15.407(a)

(1) For the band 5.15-5.25 GHz, the peak power spectral density shall not exceed 11dBm in any 1MHz band.

(2) For the band 5.25-5.35 GHz, the peak power spectral density shall not exceed 11dBm in any 1MHz band.

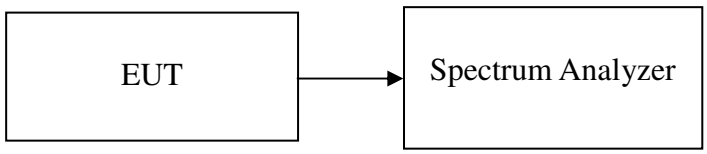
According to RSS-247,

(1) The e.i.r.p. spectral density shall not exceed 10 dBm in any 1.0 MHz band.

(2) The power spectral density shall not exceed 11 dBm in any 1.0 MHz band.

If transmitting antennas of directional gain greater than 6dBi are used, both the peak transmit power and the peak power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6dBi.

Test Configuration



TEST PROCEDURE

1. Place the EUT on the table and set it in transmitting mode.
   Remove the antenna from the EUT and then connect a low loss RF cable from the antenna port to the spectrum analyzer.
2. Set the spectrum analyzer as RBW = 1MHz, VBW = 3MHz, Span = Sweep= AUTO
3. Record the max. reading.
4. Repeat the above procedure until the measurements for all frequencies are completed

TEST RESULTS

No non-compliance noted

Test Data

Test mode: IEEE 802.11a mode / 5180 ~ 5240MHz

Channel	Frequency (MHz)	PPSD (dBm)	Limit (dBm)	Result
36	5180	1.49	11.00	PASS
44	5220	2.68	11.00	PASS
48	5240	2.87	11.00	PASS

Test mode: IEEE 802.11n HT 20 MHz mode / 5180 ~ 5240MHz

Channel	Frequency (MHz)	Chain 0 PPSD (dBm)	Chain 1 PPSD (dBm)	PPSD (dBm)	Limit (dBm)	Result
36	5180	4.26	3.44	6.88	7.88	PASS
44	5220	5.35	4.60	8.00	7.88	PASS
48	5240	5.34	4.85	8.11	7.88	PASS

Test mode: IEEE 802.11n HT 40 MHz mode / 5190 ~ 5230MHz

Channel	Frequency (MHz)	Chain 0 PPSD (dBm)	Chain 1 PPSD (dBm)	PPSD (dBm)	Limit (dBm)	Result
38	5190	-3.35	-3.82	-0.57	7.88	PASS
46	5230	1.92	1.53	4.74	7.88	PASS

Test mode: IEEE 802.11ac VHT 80 MHz mode / 5210MHz

Channel	Frequency (MHz)	Chain 0 PPSD (dBm)	Chain 1 PPSD (dBm)	PPSD (dBm)	Limit (dBm)	Result
42	5210	-7.03	-7.33	-4.17	7.88	PASS

Remark:
*1. Total PPSD (dBm) = 10*LOG(10^(Chain 0 PPSD / 10)+10^(Chain 1 PPSD /10))*
2. The maximum antenna gain is 9.12dBi; therefore the reduction due to antenna gain is 3.12dBi, so the limit is 7.88dBm.

Test mode: IEEE 802.11a mode/ 5260 ~ 5320MHz

Channel	Frequency (MHz)	PPSD (dBm)	Limit (dBm)	Result
52	5260	2.62	11.00	PASS
56	5280	1.87	11.00	PASS
64	5320	0.94	11.00	PASS

Test mode: IEEE 802.11n HT 20 MHz mode / 5260 ~ 5320MHz

Channel	Frequency (MHz)	Chain 0 PPSD (dBm)	Chain 1 PPSD (dBm)	PPSD (dBm)	Limit (dBm)	Result
52	5260	4.16	2.94	6.60	7.88	PASS
56	5280	3.45	3.53	6.50	7.88	PASS
64	5320	3.29	3.47	6.39	7.88	PASS

Test mode: IEEE 802.11n HT 40 MHz mode / 5270 ~ 5310MHz

Channel	Frequency (MHz)	Chain 0 PPSD (dBm)	Chain 1 PPSD (dBm)	PPSD (dBm)	Limit (dBm)	Result
54	5270	2.79	2.58	5.70	7.88	PASS
62	5310	-3.02	-3.54	-0.26	7.88	PASS

Test mode: IEEE 802.11ac VHT 80 MHz mode / 5290MHz

Channel	Frequency (MHz)	Chain 0 PPSD (dBm)	Chain 1 PPSD (dBm)	PPSD (dBm)	Limit (dBm)	Result
58	5290	-6.15	-6.36	-3.24	7.88	PASS

Remark:
*1. Total PPSD (dBm) = 10*LOG(10^(Chain 0 PPSD / 10)+10^(Chain 1 PPSD /10))*
2. The maximum antenna gain is 9.12dBi; therefore the reduction due to antenna gain is 3.12dBi, so the limit is 7.88dBm.

Test mode: IEEE 802.11a mode / 5500 ~ 5700MHz

Channel	Frequency (MHz)	PPSD (dBm)	Limit (dBm)	Result
100	5500	0.24	11.00	PASS
116	5580	0.05	11.00	PASS
140	5700	1.41	11.00	PASS

Test mode: IEEE 802.11n HT 20 MHz mode / 5500 ~ 5700MHz

Channel	Frequency (MHz)	Chain 0 PPSD (dBm)	Chain 1 PPSD (dBm)	PPSD (dBm)	Limit (dBm)	Result
100	5500	2.31	3.05	5.71	7.88	PASS
116	5580	2.15	1.70	4.94	7.88	PASS
140	5700	3.98	3.73	6.87	7.88	PASS

Test mode: IEEE 802.11n HT 40 MHz mode / 5510 ~ 5670MHz

Channel	Frequency (MHz)	Chain 0 PPSD (dBm)	Chain 1 PPSD (dBm)	PPSD (dBm)	Limit (dBm)	Result
102	5510	-0.07	-0.87	2.56	7.88	PASS
110	5550	0.41	0.84	3.64	7.88	PASS
134	5670	0.80	0.40	3.61	7.88	PASS

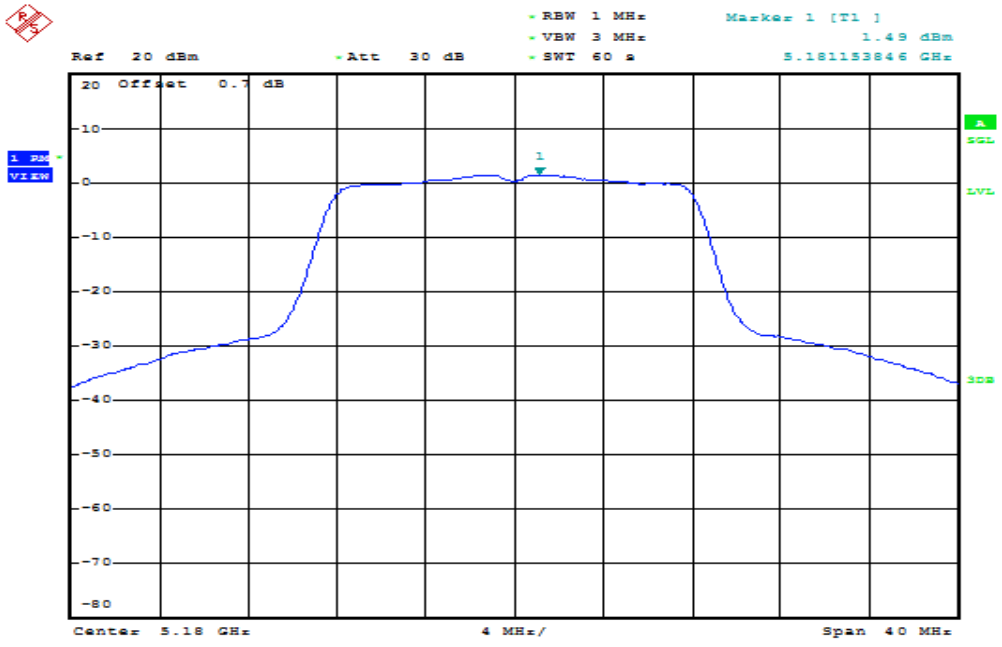
Test mode: IEEE 802.11ac VHT 80 MHz mode / 5530MHz

Channel	Frequency (MHz)	Chain 0 PPSD (dBm)	Chain 1 PPSD (dBm)	PPSD (dBm)	Limit (dBm)	Result
106	5530	-6.51	-5.79	-3.12	7.88	PASS

Remark:
*1. Total PPSD (dBm) = 10*LOG(10^(Chain 0 PPSD / 10)+10^(Chain 1 PPSD /10))*
2. The maximum antenna gain is 9.12dBi; therefore the reduction due to antenna gain is 3.12dBi, so the limit is 7.88dBm.

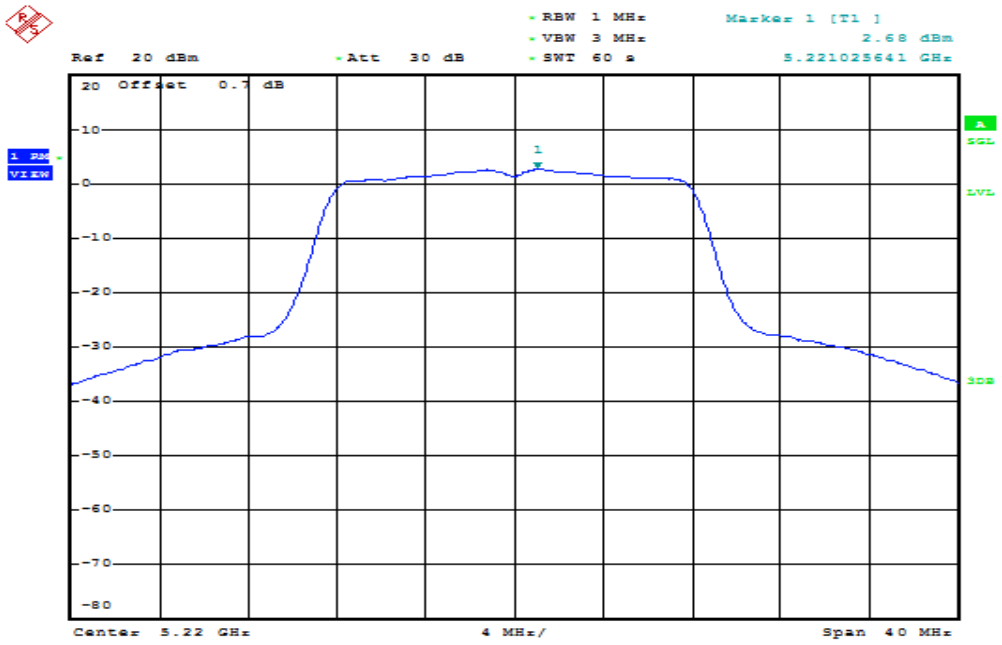
Test Plot
IEEE 802.11a mode / 5180 ~ 5240MHz

5180 MHz



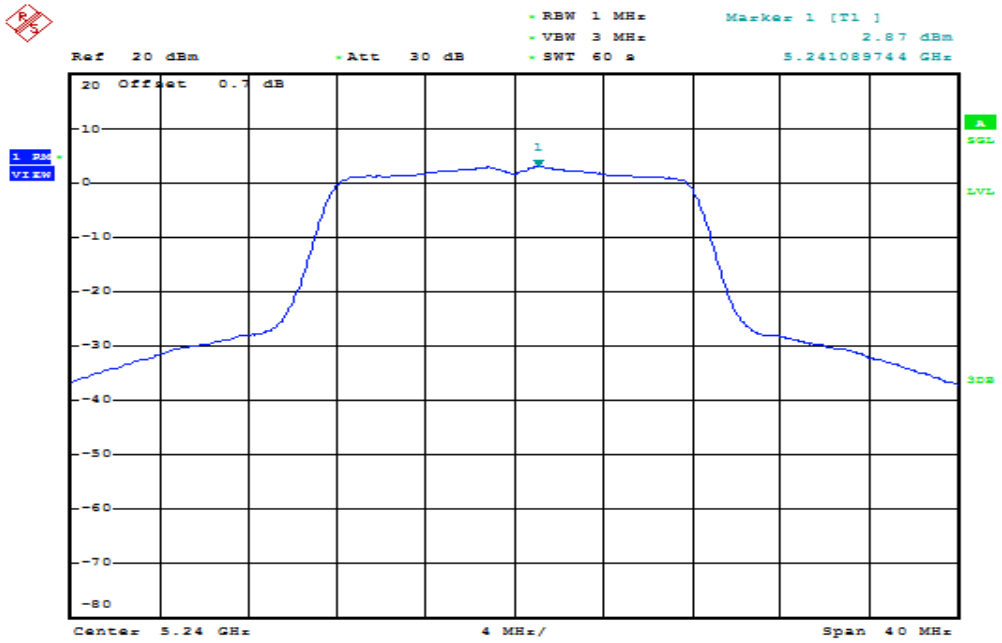
Date: 19.JAN.2016 16:55:57

5220 MHz



Date: 19.JAN.2016 17:02:11

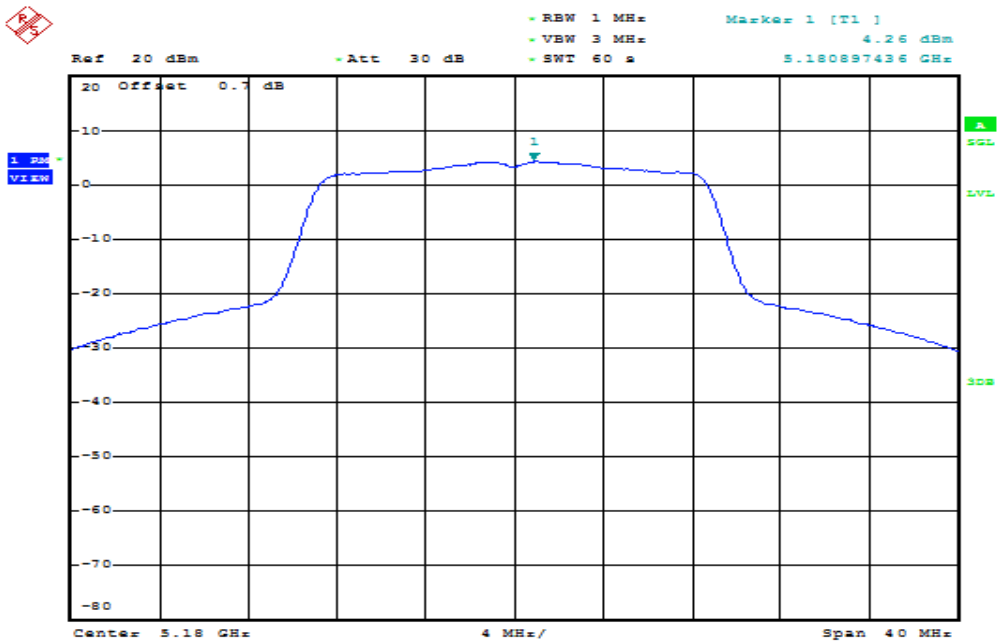
5240 MHz



Date: 19.JAN.2016 17:04:39

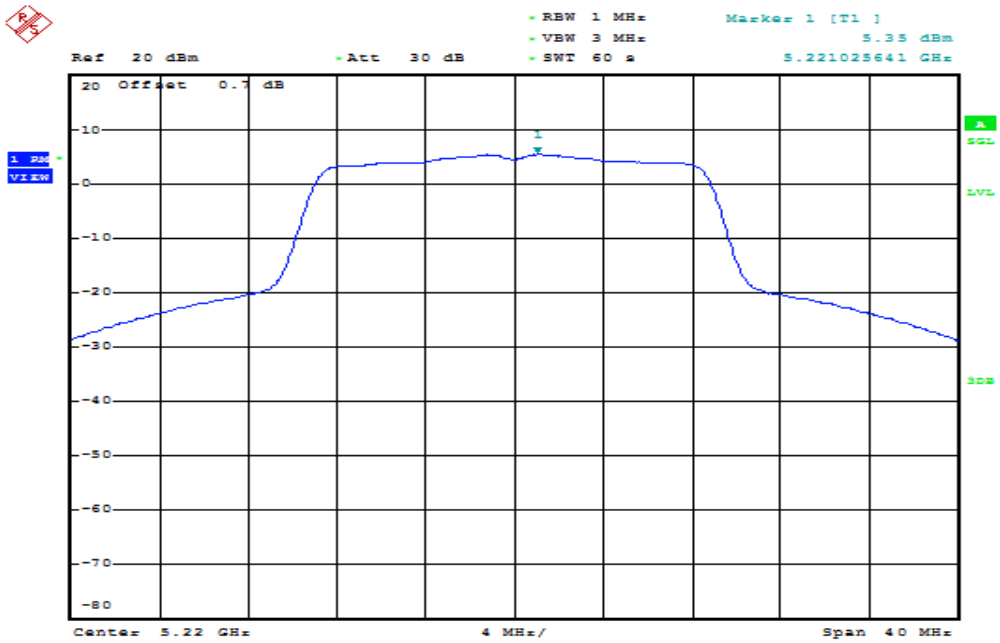
IEEE 802.11n HT 20 MHz mode / 5180 ~ 5240MHz / Chain 0

5180 MHz



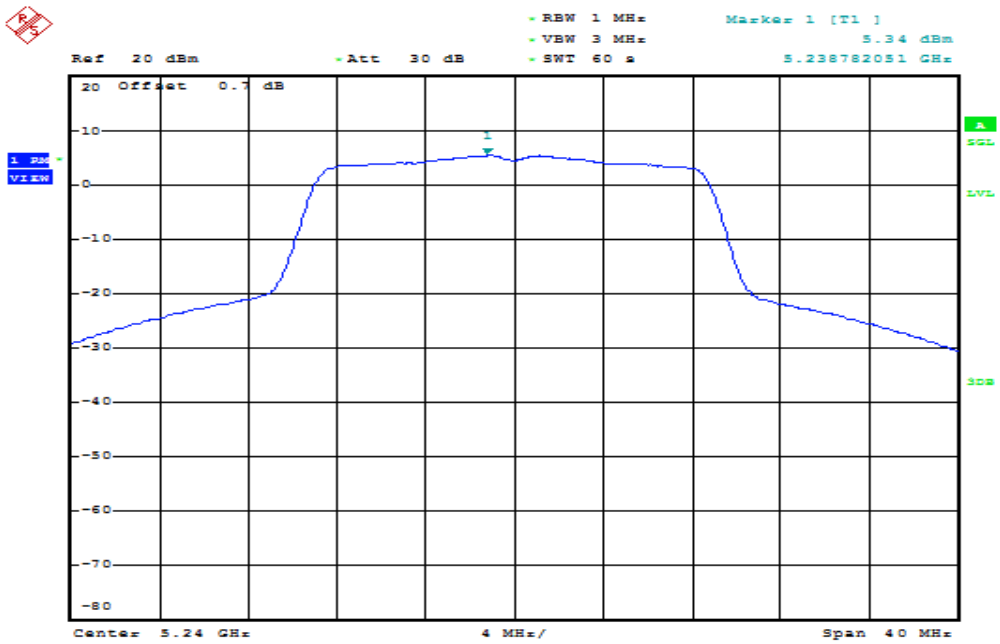
Date: 19.JAN.2016 17:38:45

5220 MHz



Date: 19.JAN.2016 17:53:14

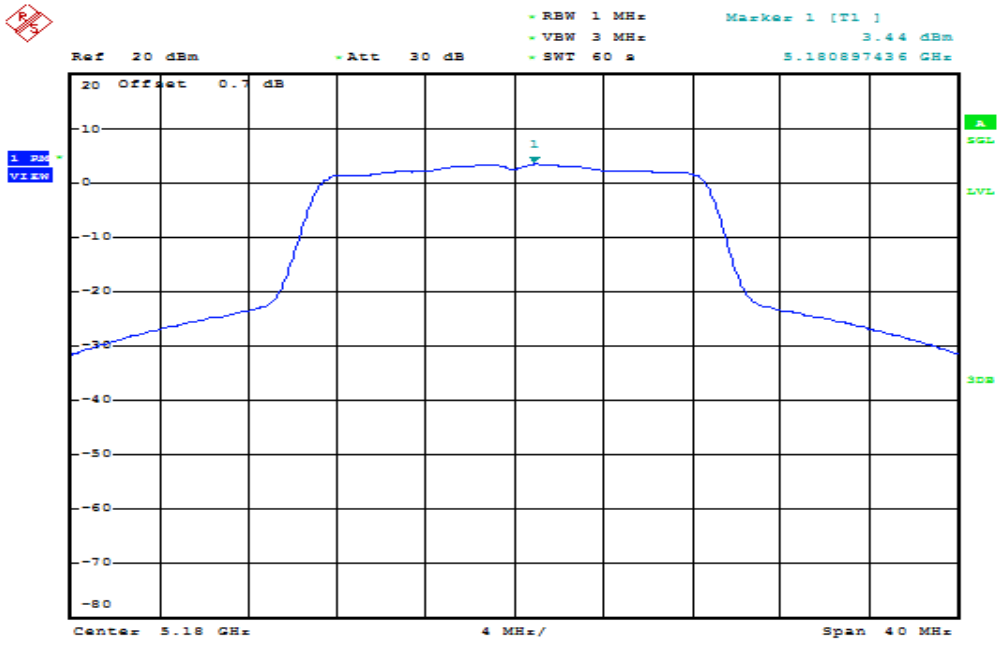
5240 MHz



Date: 19.JAN.2016 17:55:46

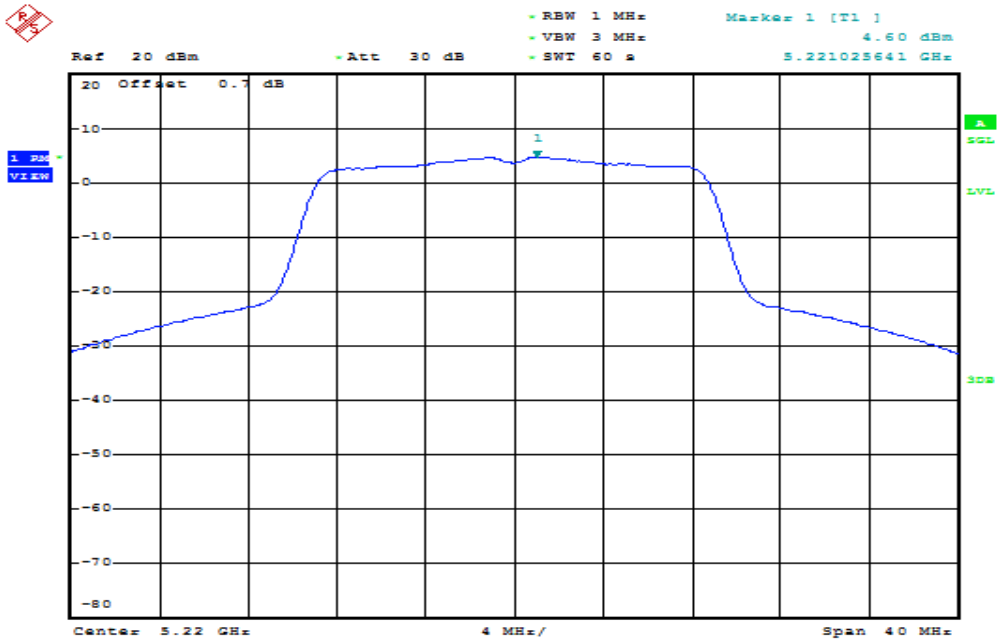
IEEE 802.11n HT 20 MHz mode / 5180 ~ 5240MHz / Chain 1

5180 MHz



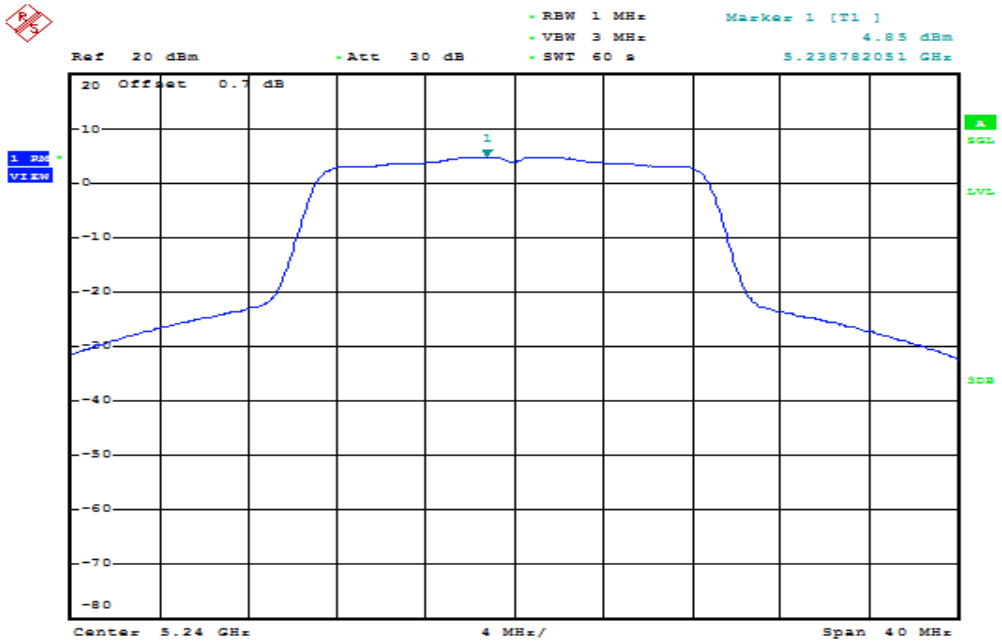
Date: 19.JAN.2016 17:49:16

5220 MHz



Date: 19.JAN.2016 17:51:24

5240 MHz



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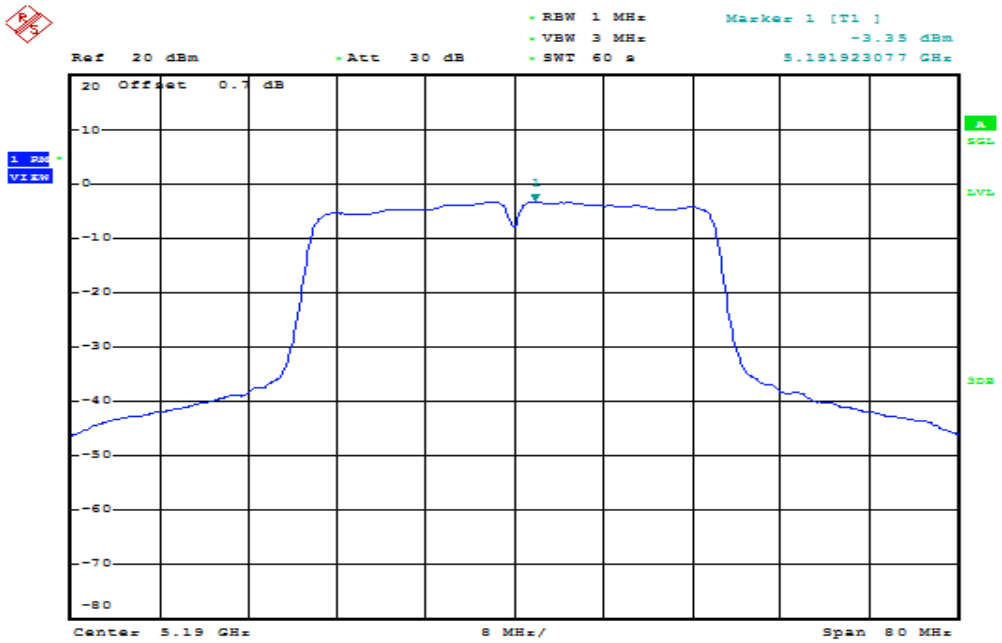
IEEE 802.11n HT 40 MHz mode / 5190 ~ 5230MHz / Chain 0

5190 MHz



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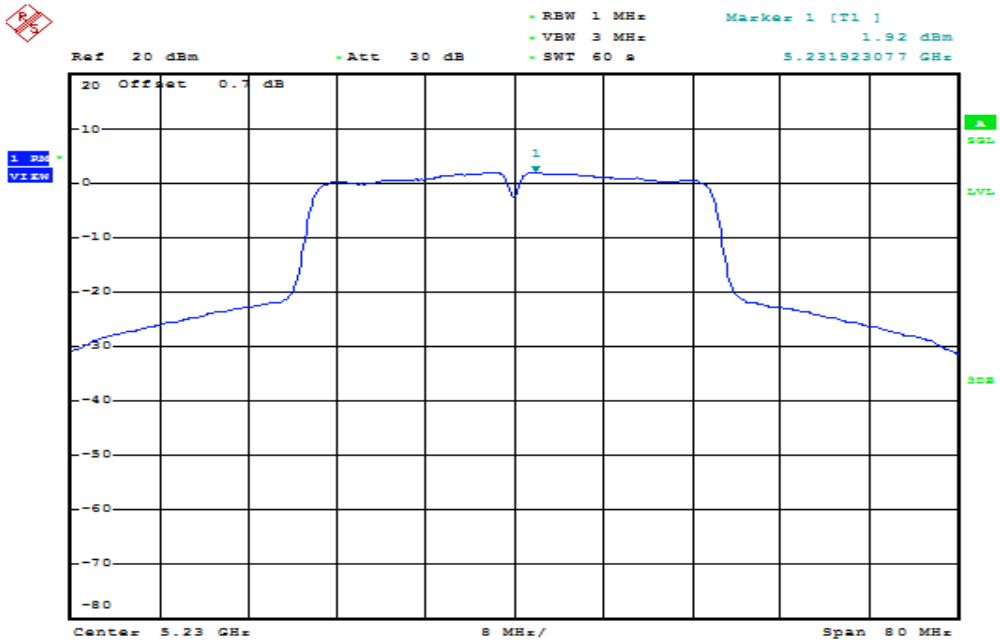
5230 MHz



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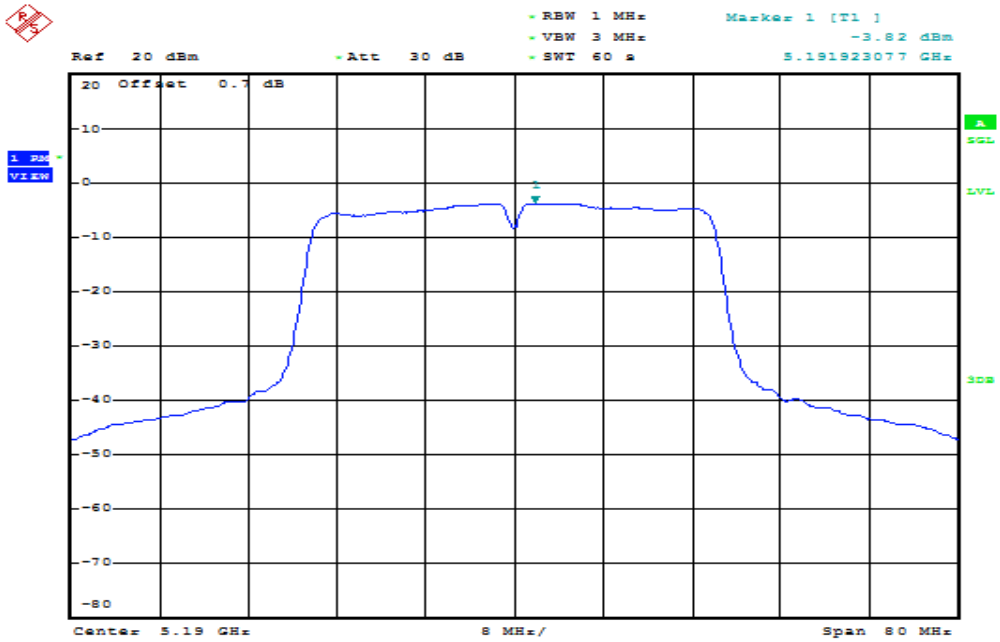
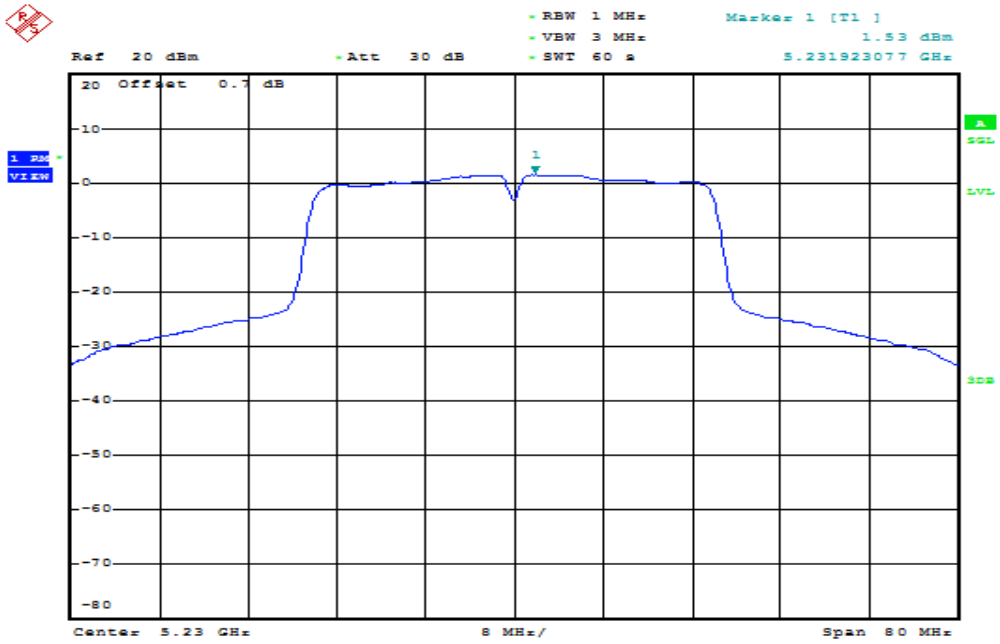
IEEE 802.11n HT 40 MHz mode / 5190 ~ 5230MHz / Chain 1

5190 MHz



Date: 19.JAN.2016 20:00:44

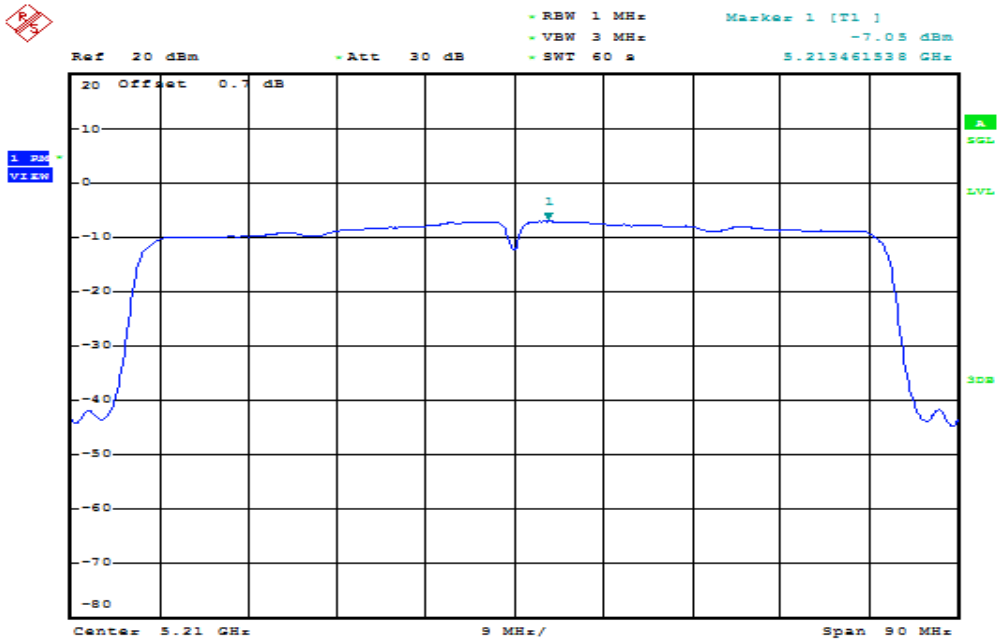
5230 MHz



Date: 19.JAN.2016 19:55:24

IEEE 802.11ac VHT 80 MHz mode / 5210MHz/ Chain 0

5210 MHz



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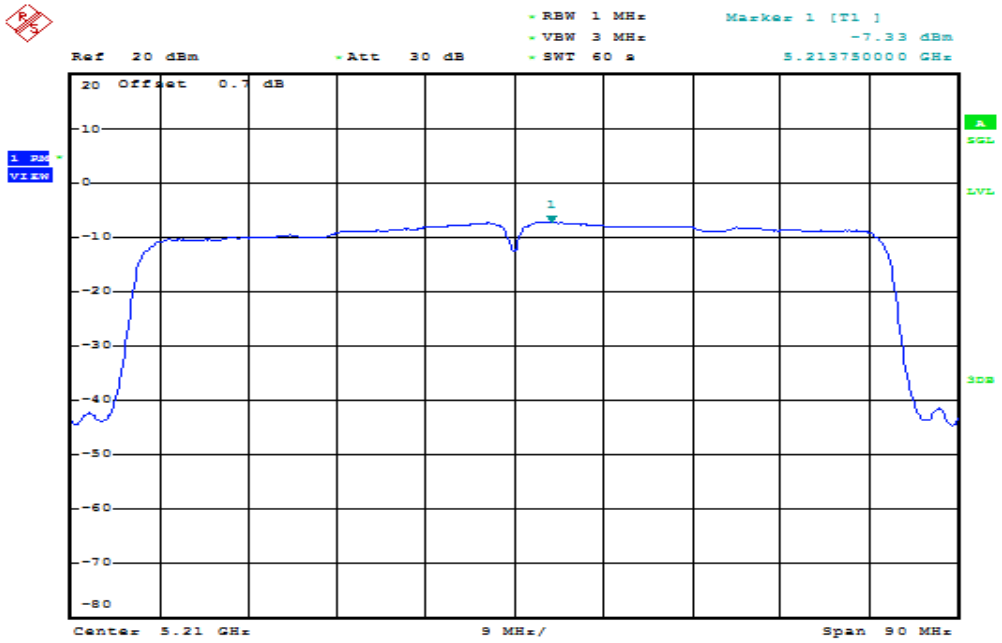
IEEE 802.11ac VHT 80 MHz mode / 5210MHz/ Chain 1

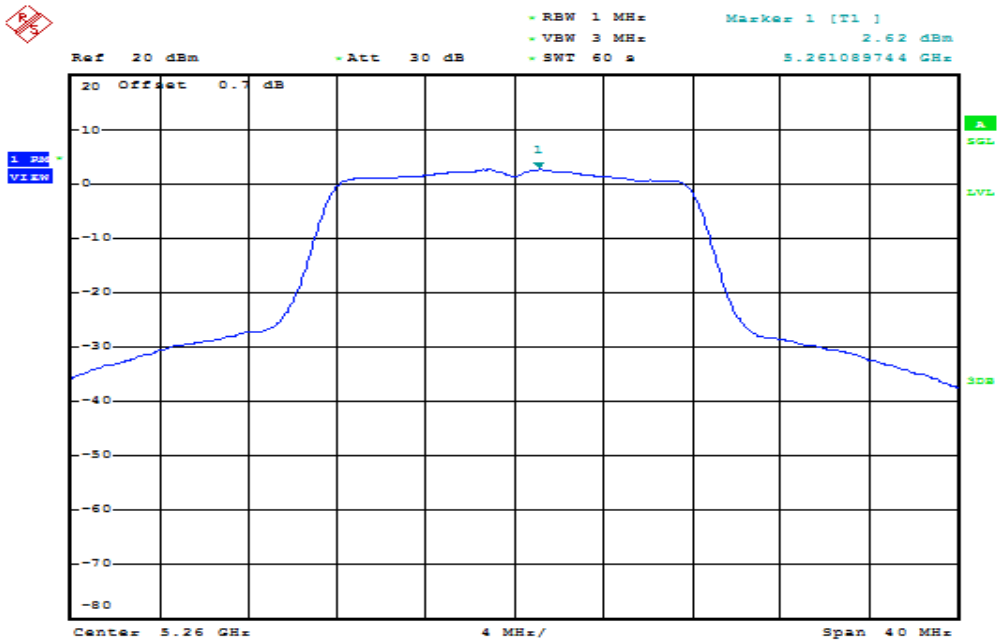
5210 MHz



Date: 19.JAN.2016 21:55:46

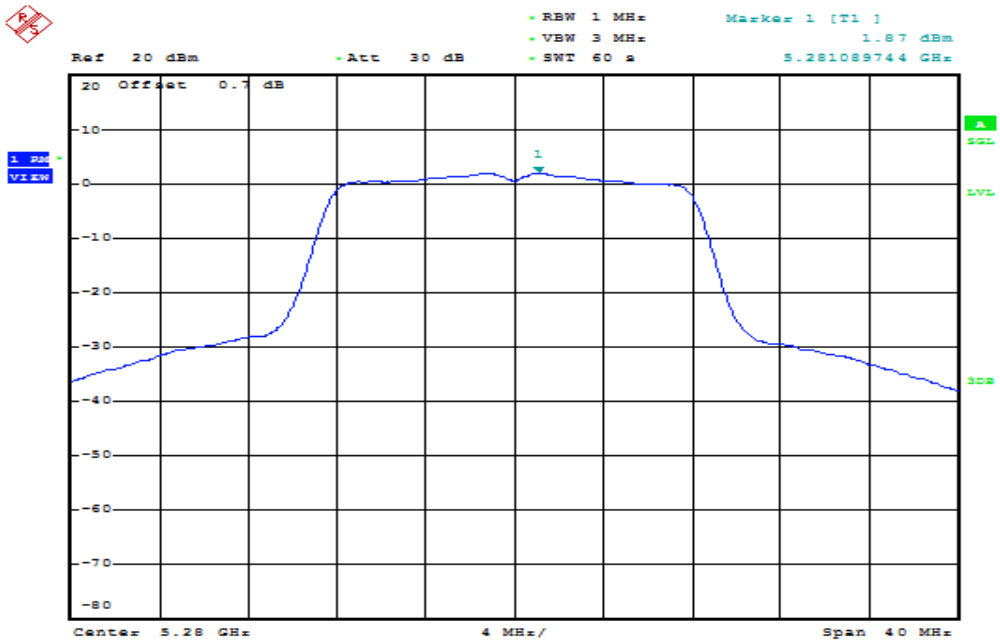
IEEE 802.11a mode / 5260 ~ 5320MHz

5260 MHz



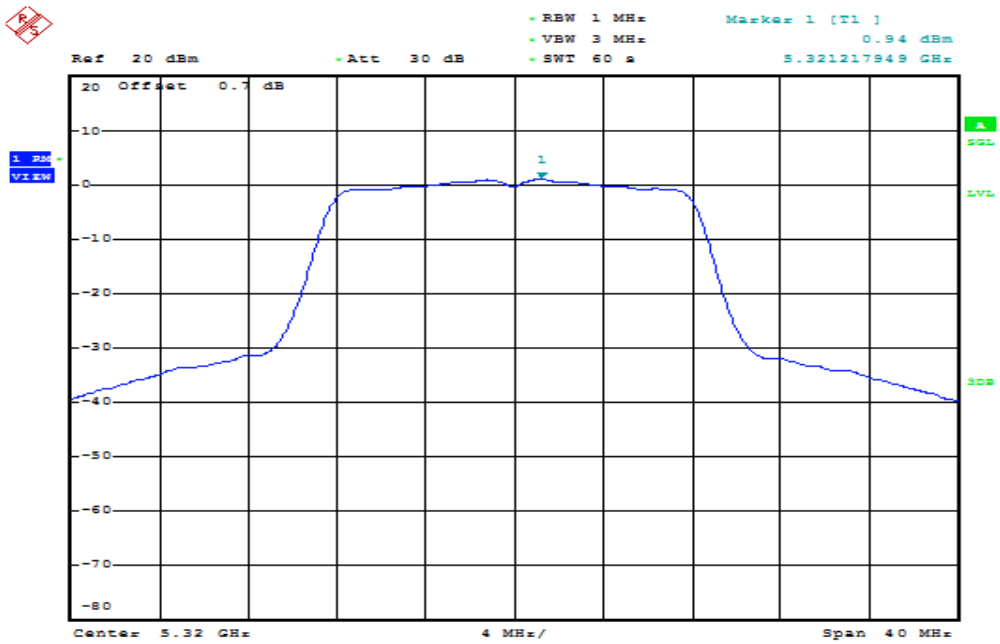
Date: 19.JAN.2016 17:07:39

5280 MHz



Date: 19.JAN.2016 17:13:17

5320 MHz



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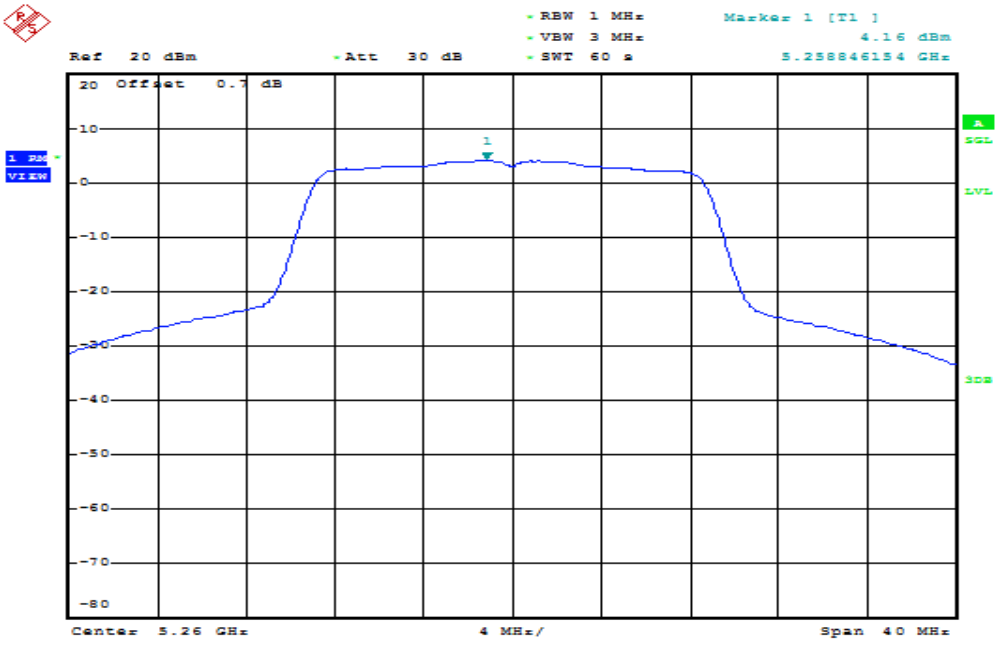
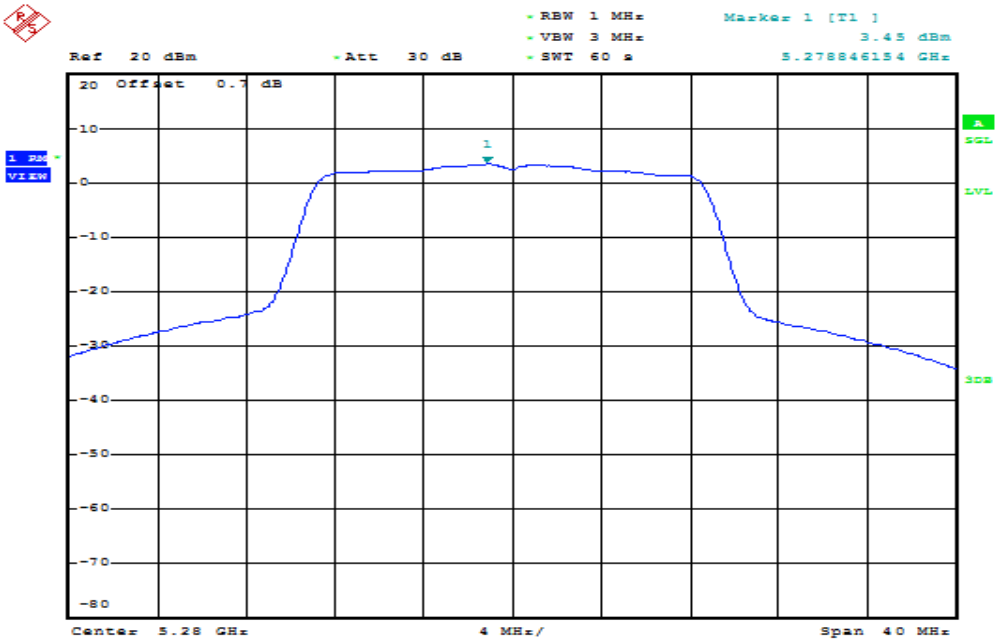
IEEE 802.11n HT 20 MHz mode / 5260 ~ 5320MHz / Chain 0

5260 MHz



Date: 19.JAN.2016 19:02:27

5280 MHz



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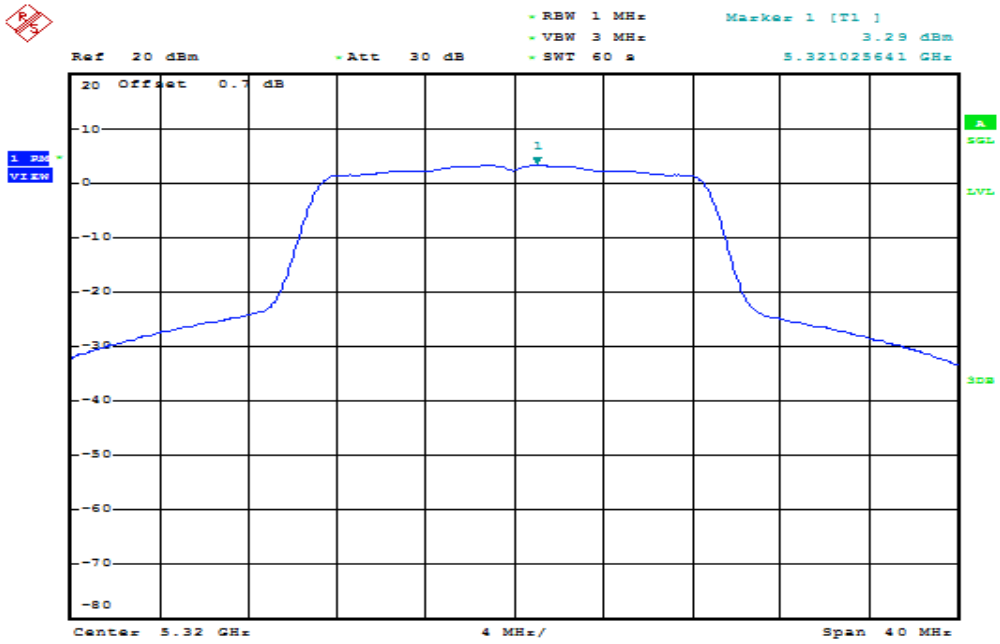
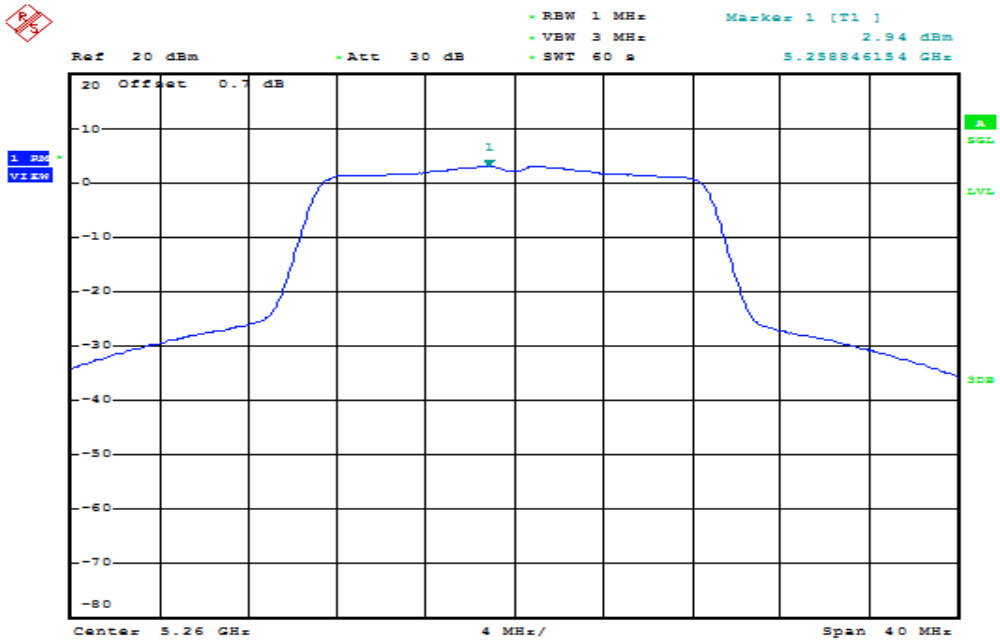
5320 MHz



Date: 19.JAN.2016 18:29:35

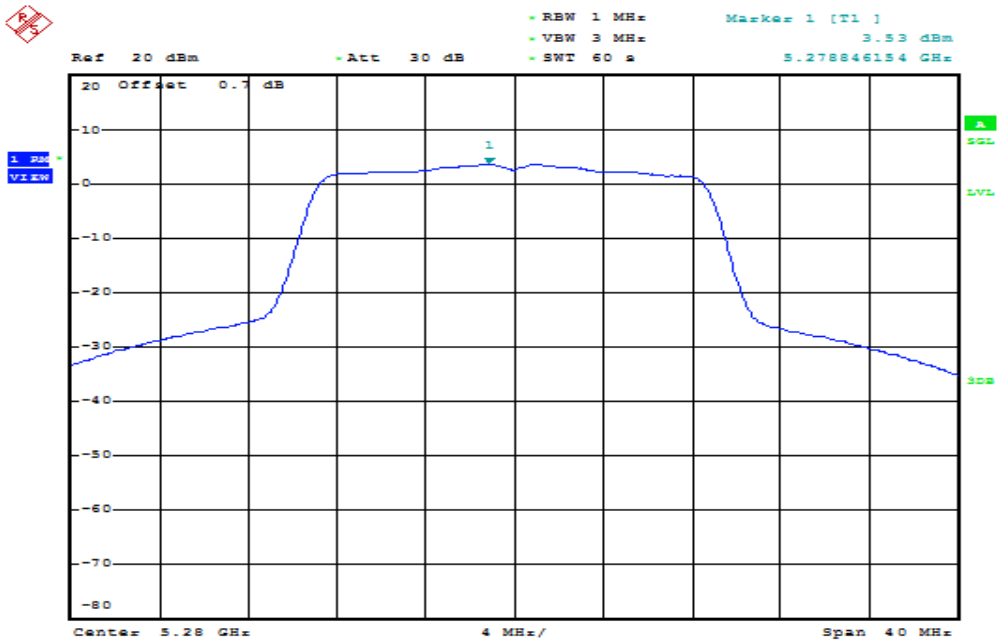
IEEE 802.11n HT 20 MHz mode / 5260 ~ 5320MHz / Chain 1

5260 MHz



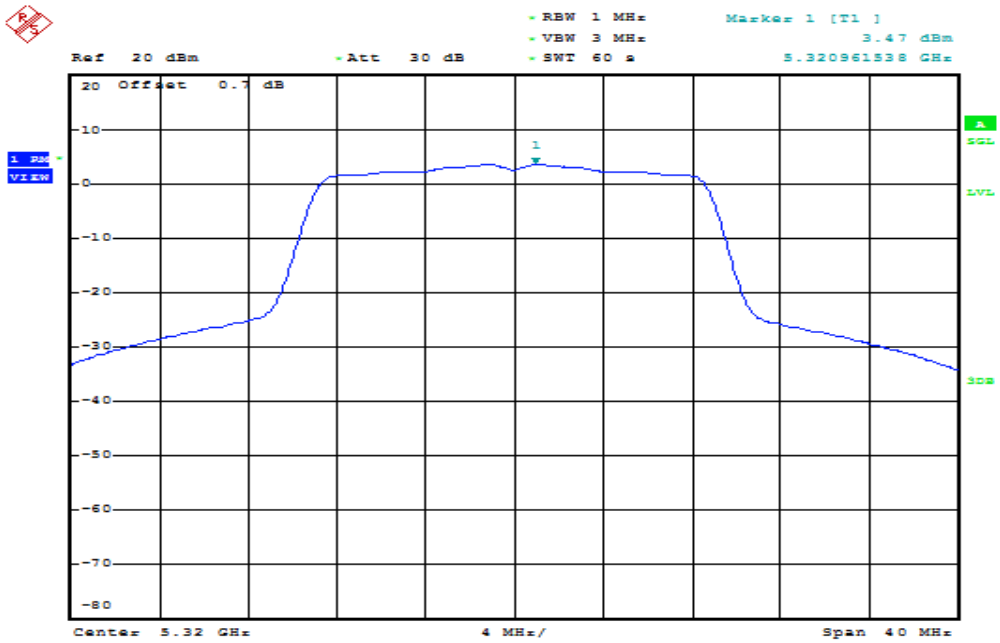
Date: 19.JAN.2016 18:53:09

5280 MHz



Date: 19.JAN.2016 19:07:39

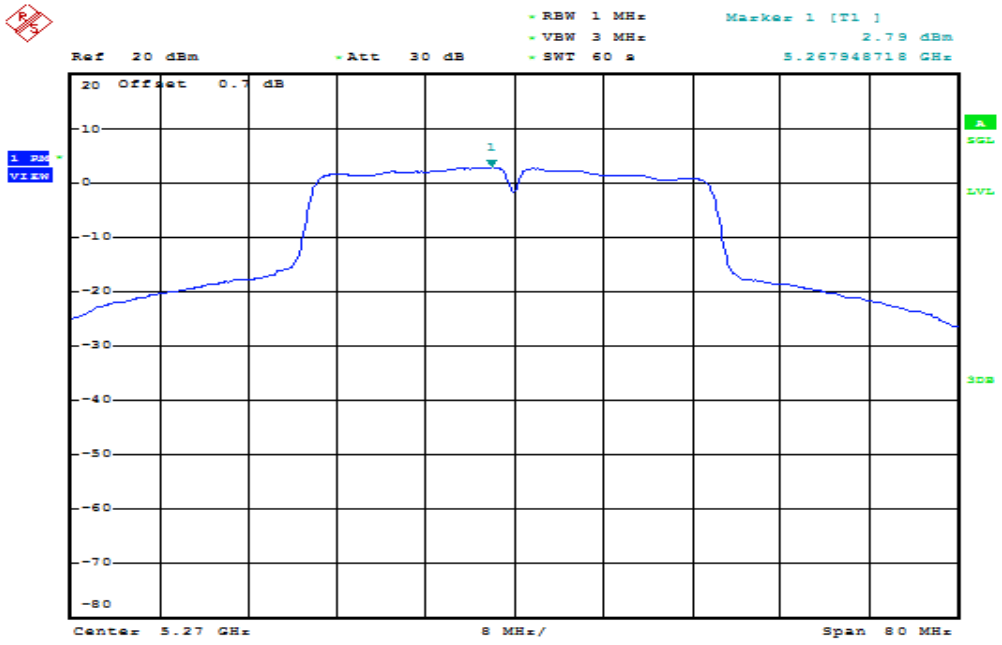
5320 MHz



Date: 19.JAN.2016 18:31:58

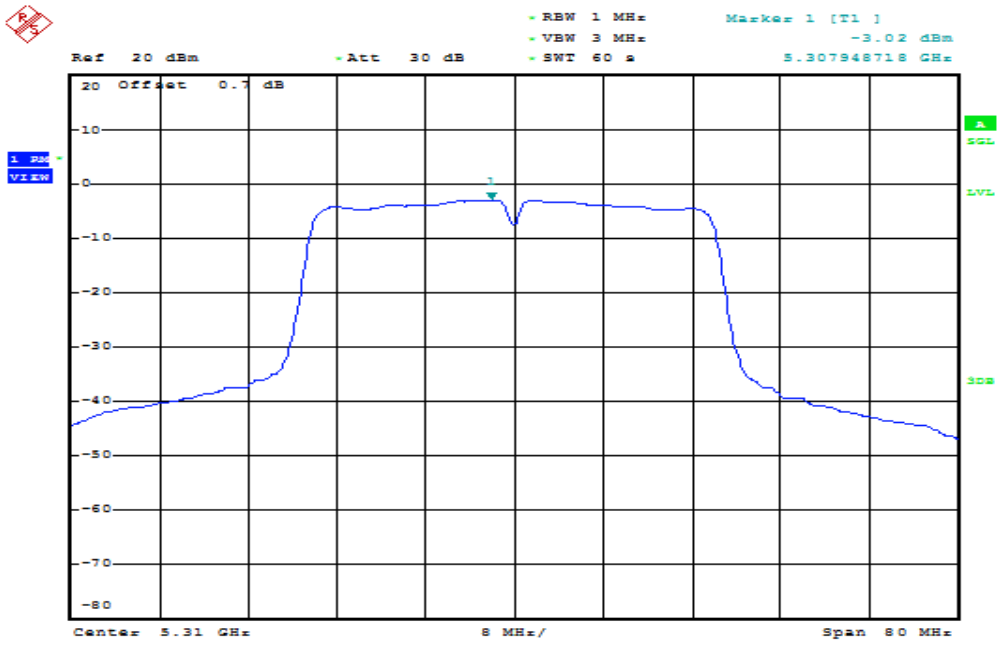
IEEE 802.11n HT 40 MHz mode / 5270 ~ 5310MHz / Chain 0

5270 MHz



Date: 19.JAN.2016 20:05:27

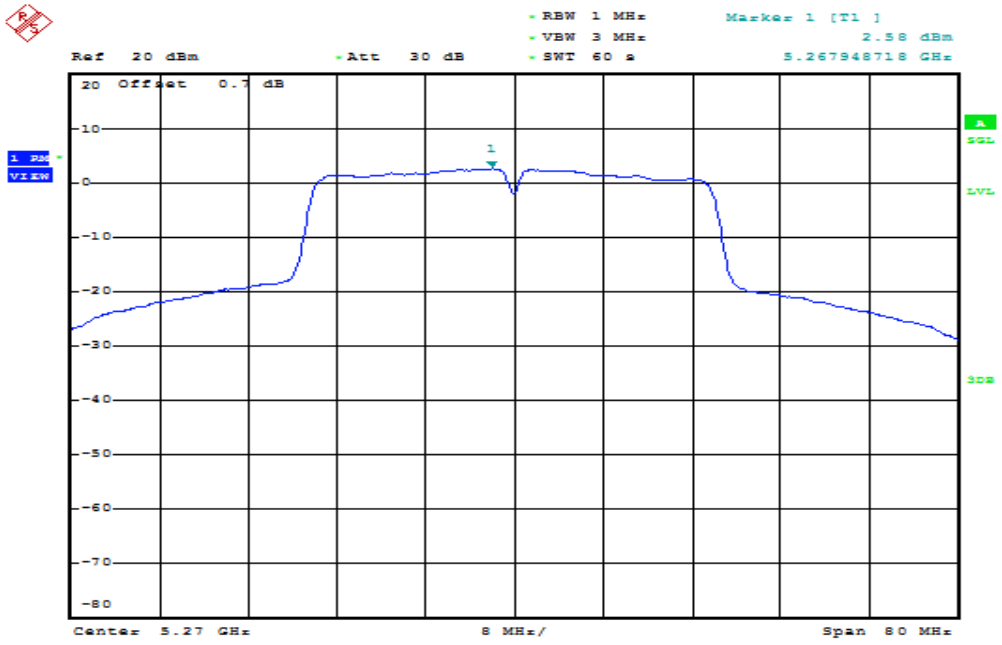
5310 MHz



Date: 19.JAN.2016 20:14:04

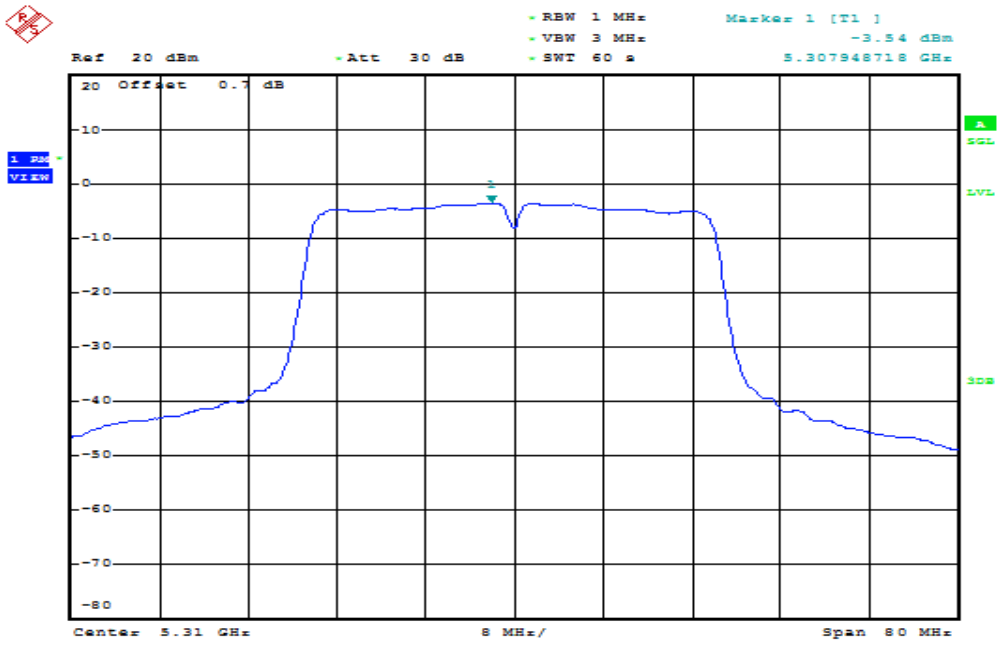
IEEE 802.11n HT 40 MHz mode / 5270 ~ 5310MHz / Chain 1

5270 MHz



Date: 19.JAN.2016 20:09:26

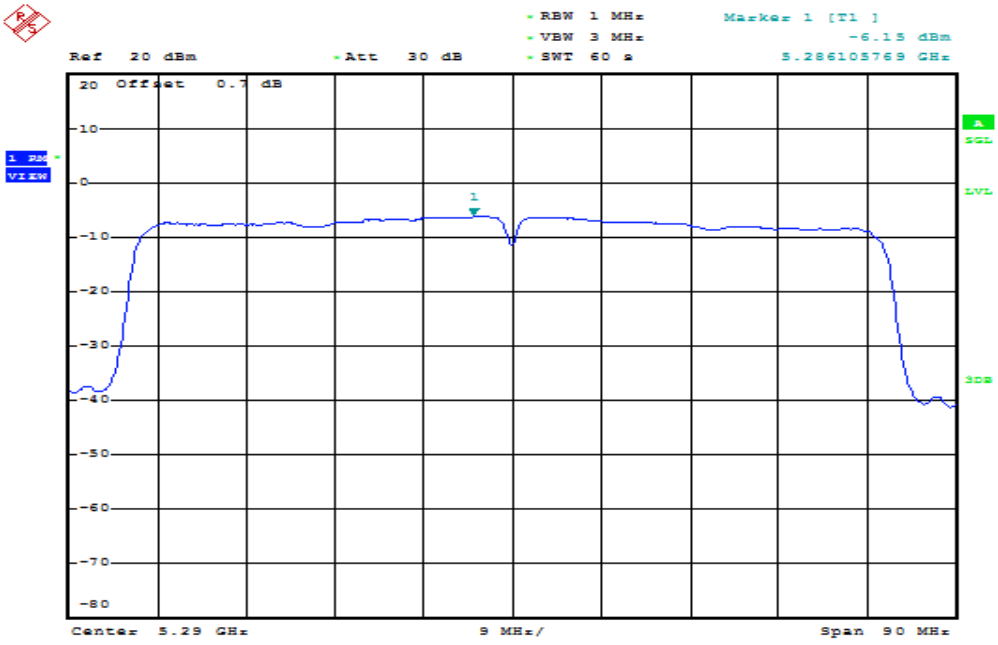
5310 MHz



Date: 19.JAN.2016 20:11:42

IEEE 802.11ac VHT 80 MHz mode / 5290MHz / Chain 0

5290 MHz



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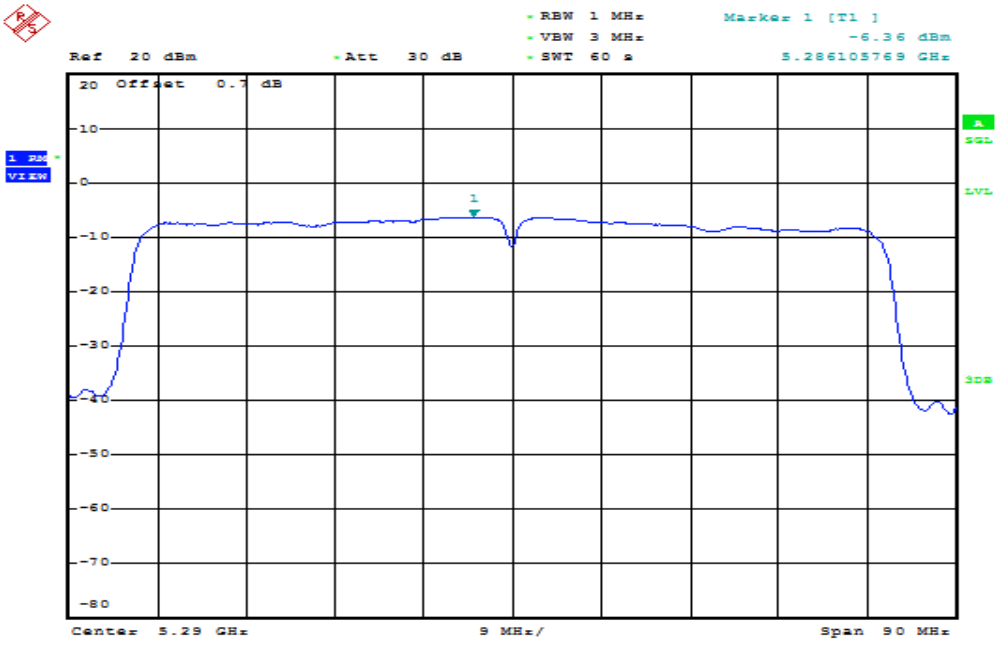
IEEE 802.11ac VHT 80 MHz mode / 5290MHz / Chain 1

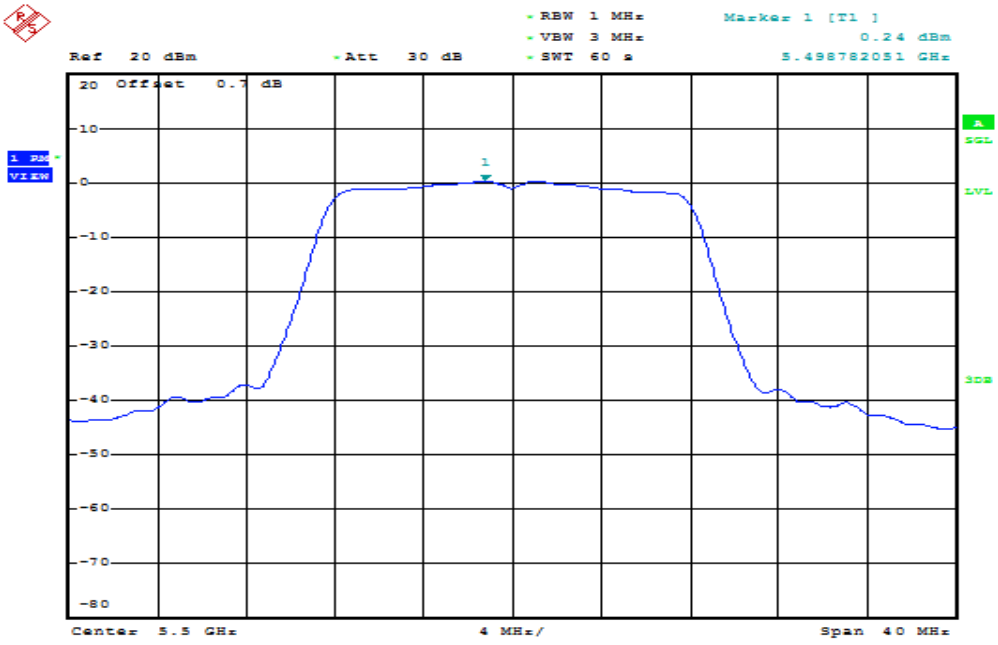
5290 MHz



Date: 19.JAN.2016 21:49:33

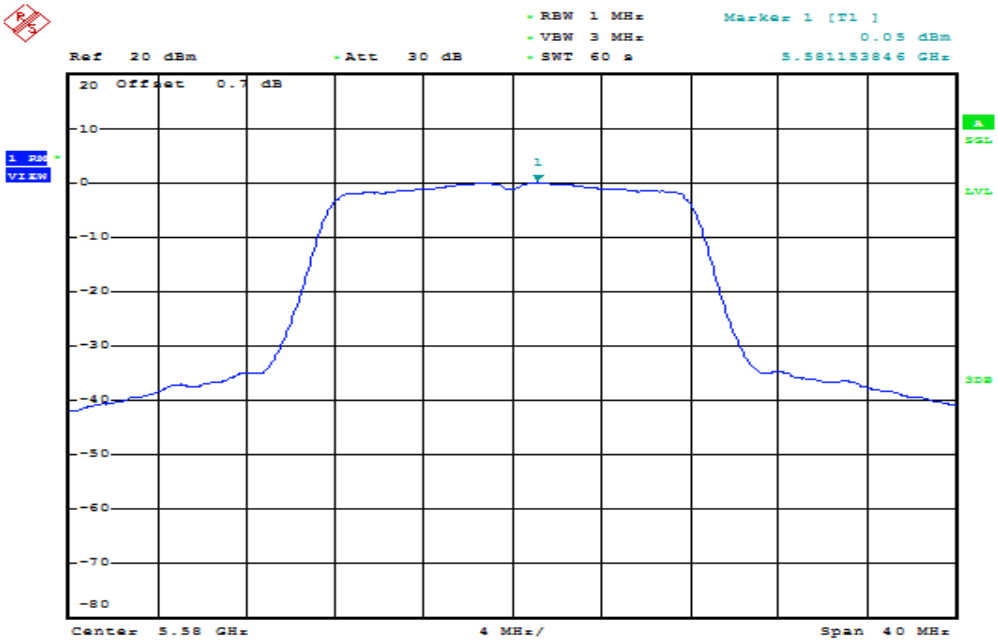
Test mode: IEEE 802.11a mode / 5500 ~ 5700MHz

5500 MHz



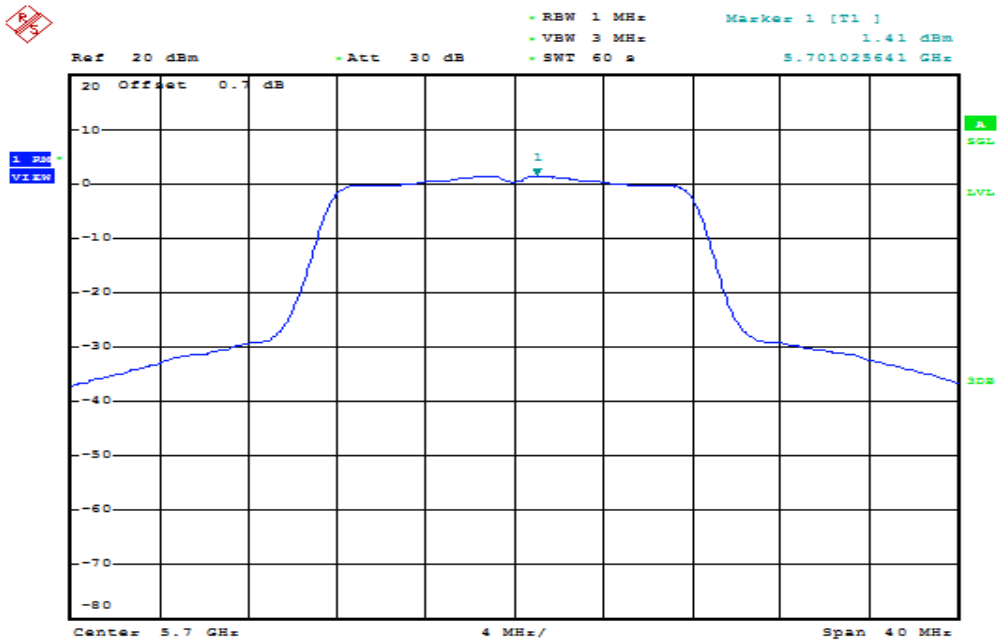
Date: 19.JAN.2016 17:17:20

5580 MHz



Date: 19.JAN.2016 17:19:33

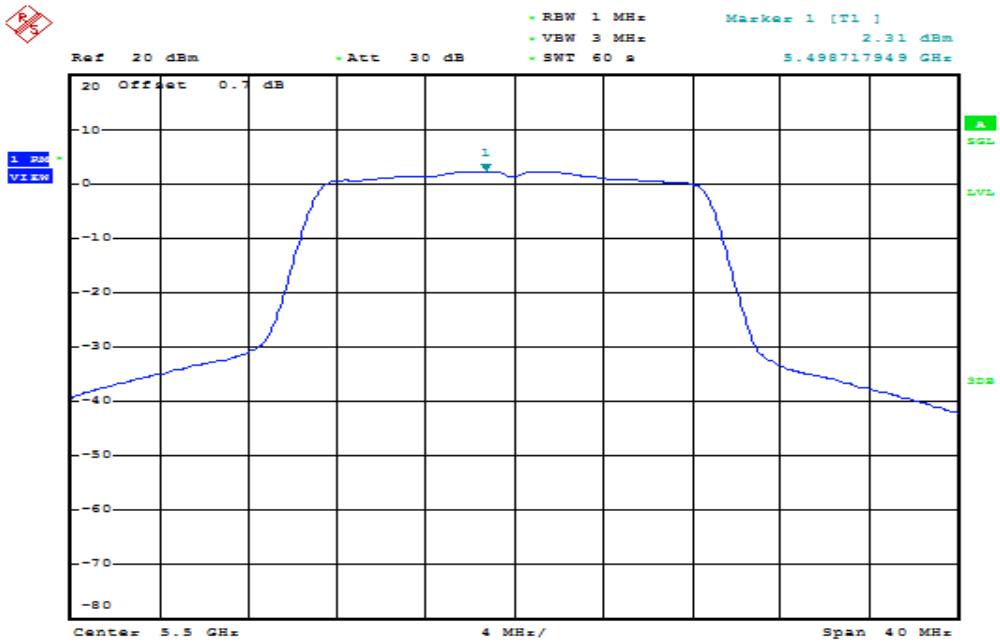
5700 MHz



Date: 19.JAN.2016 17:21:33

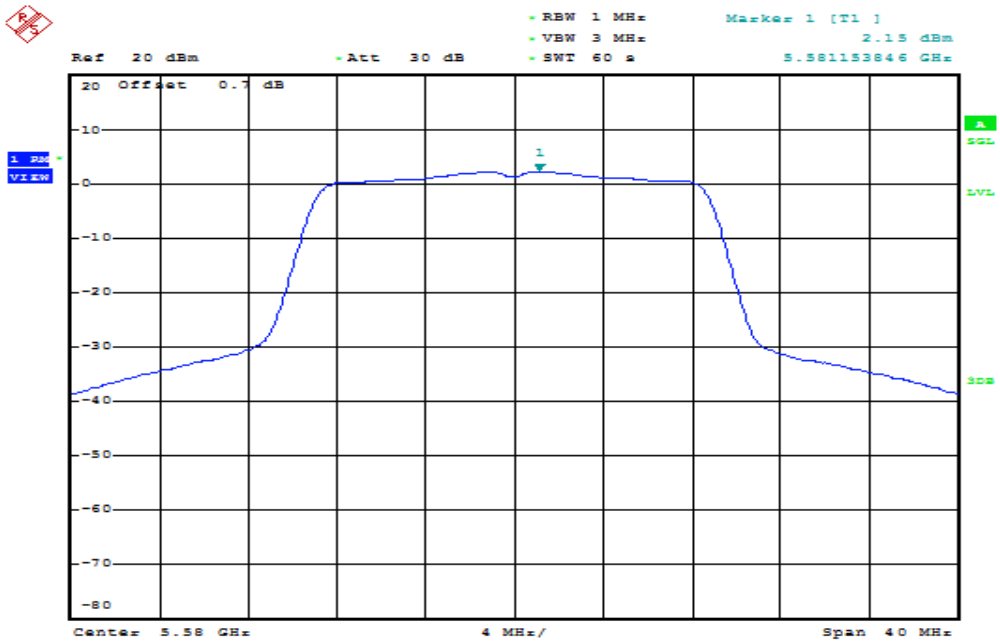
IEEE 802.11n HT 20 MHz mode / 5500 ~ 5700MHz / Chain 0

5500 MHz



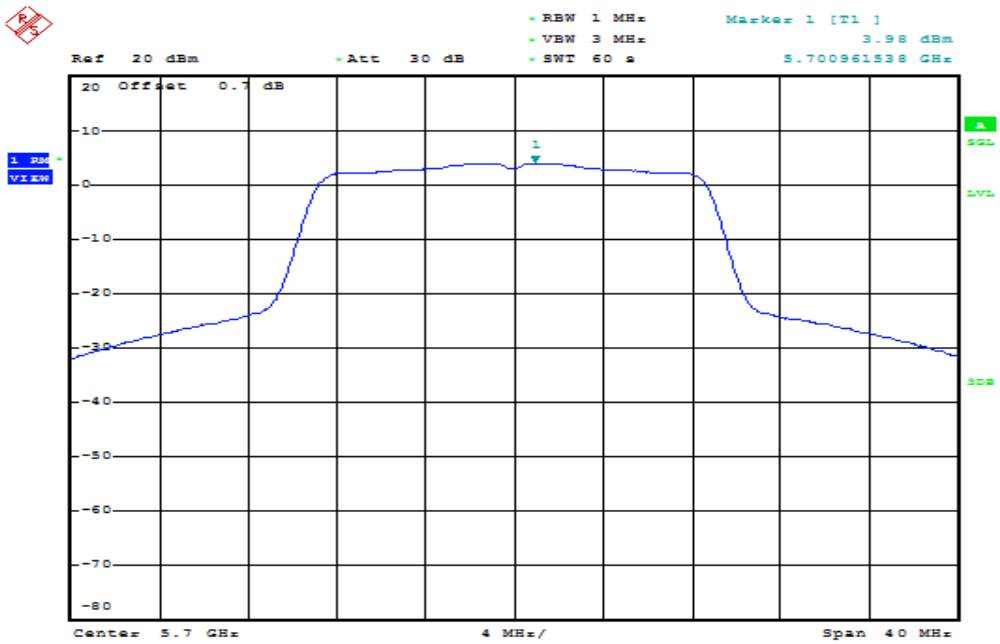
Date: 19.JAN.2016 19:14:05

5580 MHz



Date: 19.JAN.2016 19:17:11

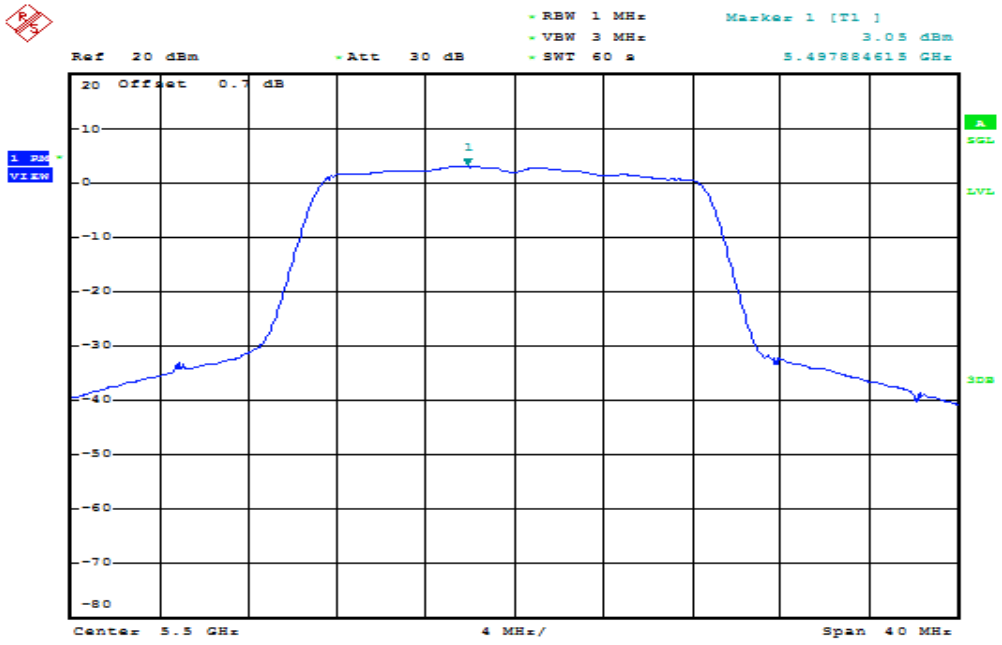
5700 MHz



Date: 19.JAN.2016 19:35:11

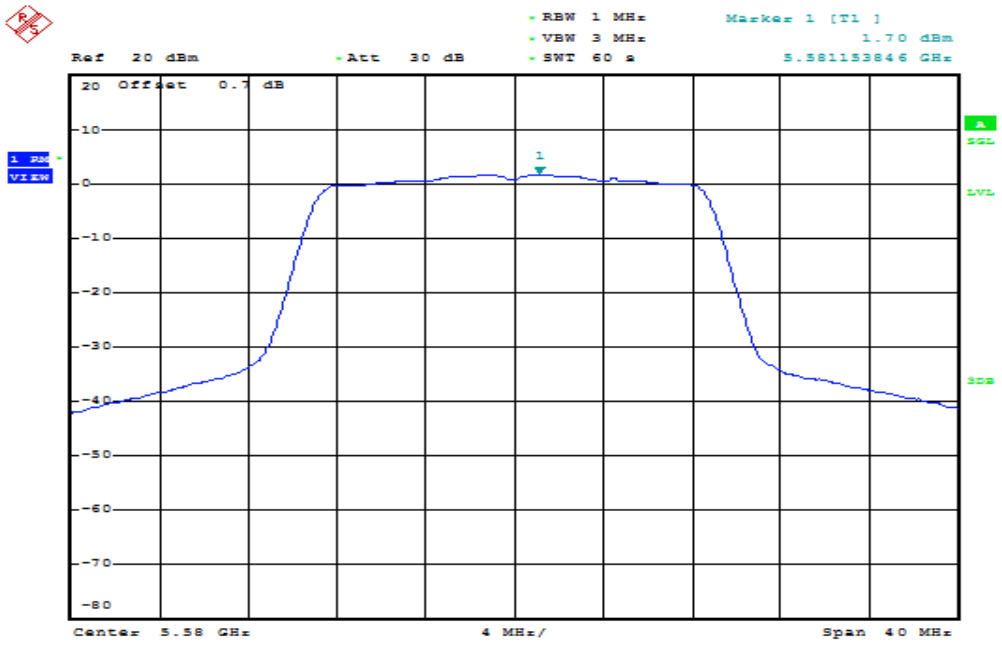
IEEE 802.11n HT 20 MHz mode / 5500 ~ 5700MHz / Chain 1

5500 MHz



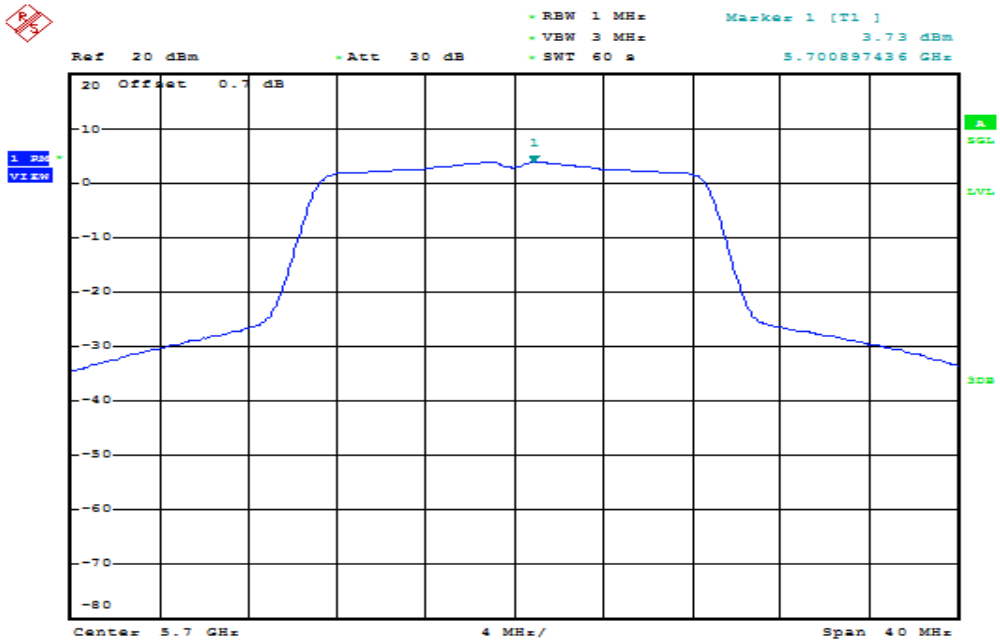
Date: 19.JAN.2016 19:11:21

5580 MHz



Date: 19.JAN.2016 19:23:12

5700 MHz



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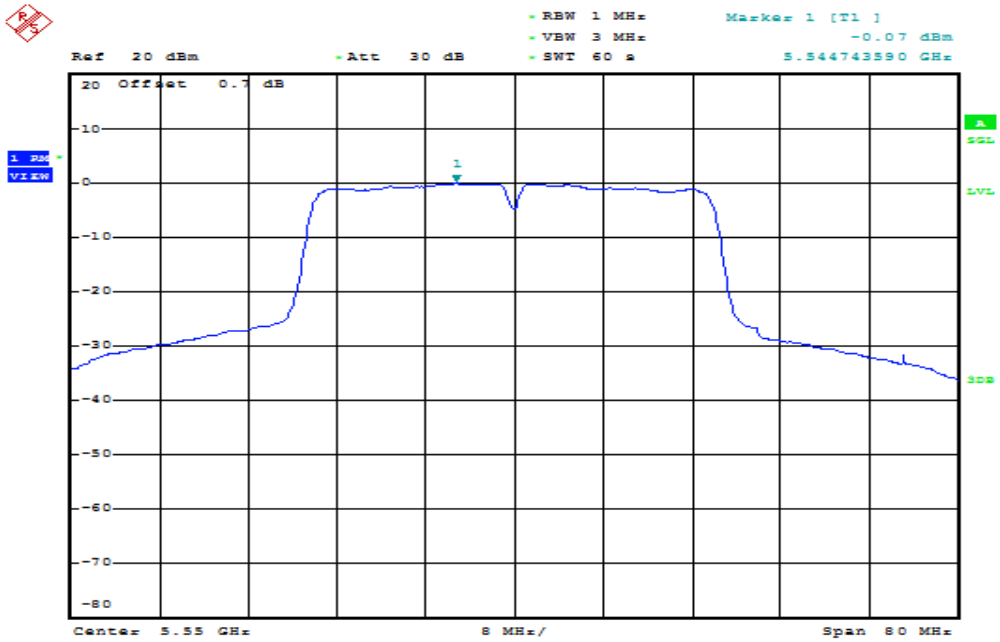
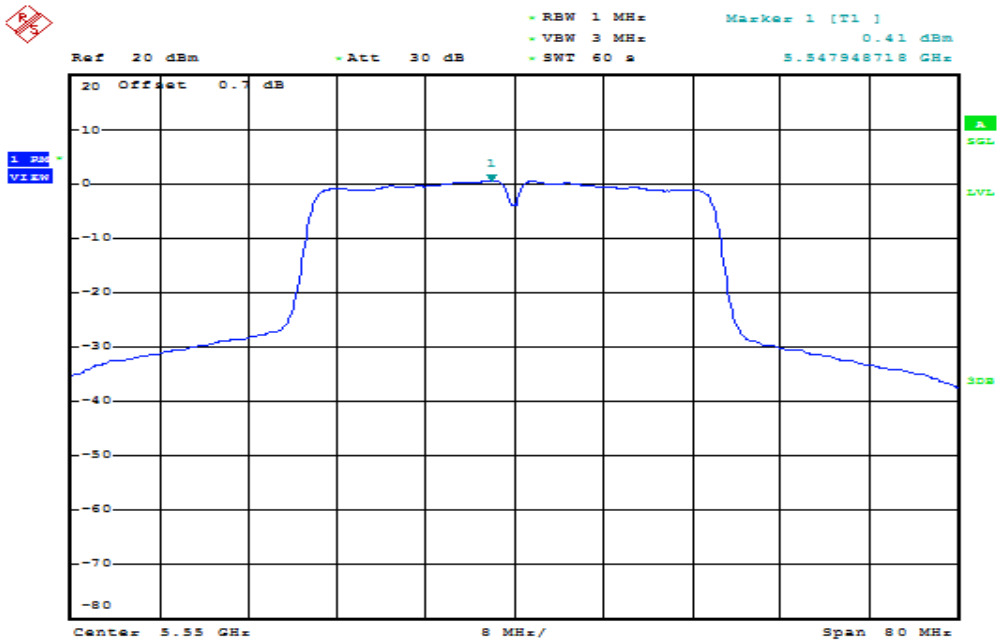
IEEE 802.11n HT 40 MHz mode / 5510 ~ 5670MHz / Chain 0

5510 MHz



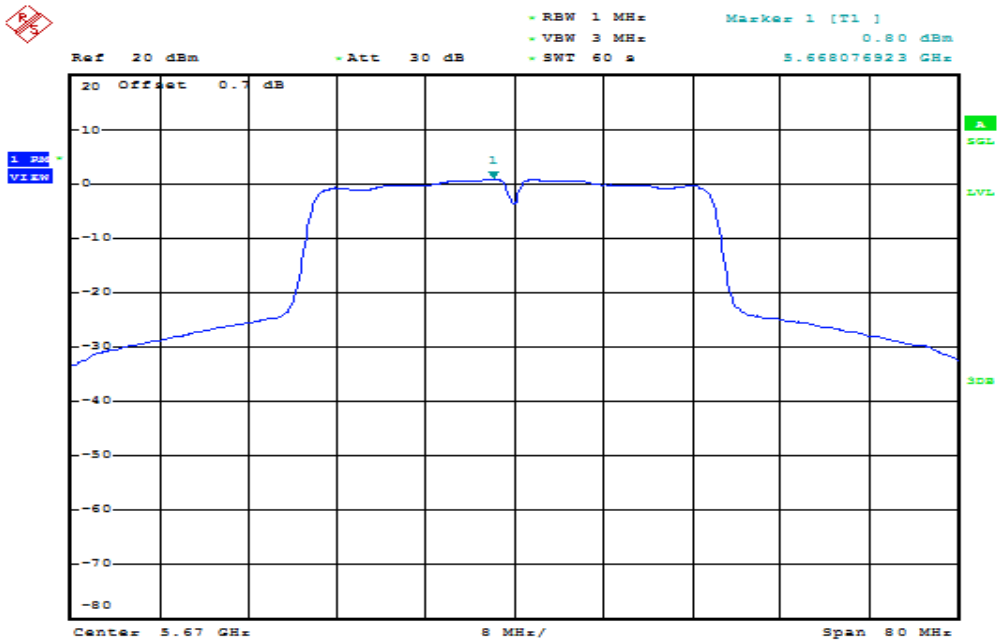
Date: 19.JAN.2016 20:23:20

5550 MHz



Date: 19.JAN.2016 20:21:16

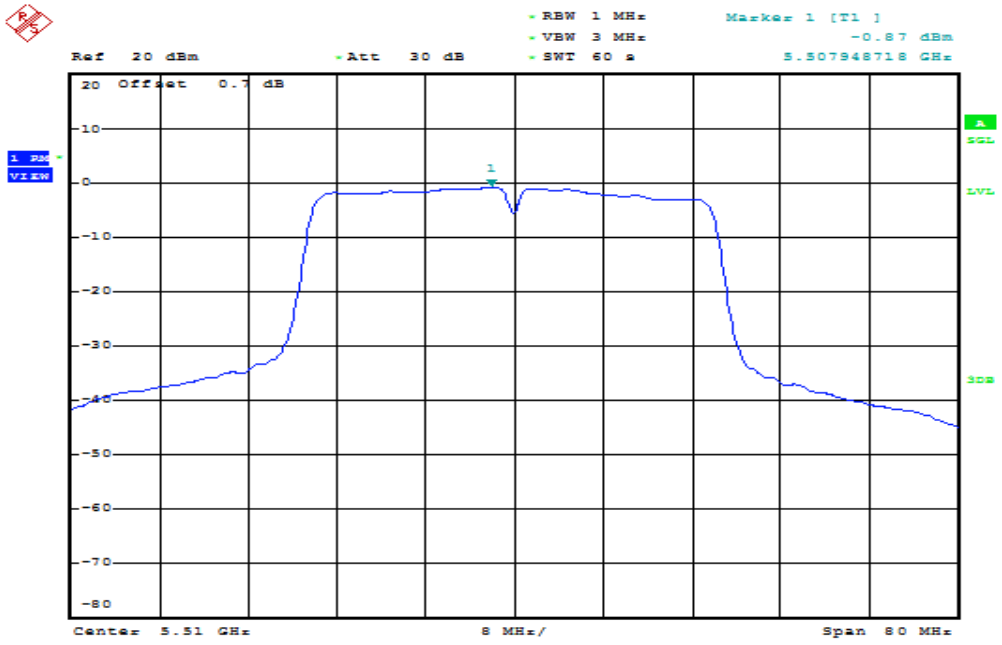
5670 MHz



Date: 19.JAN.2016 20:35:12

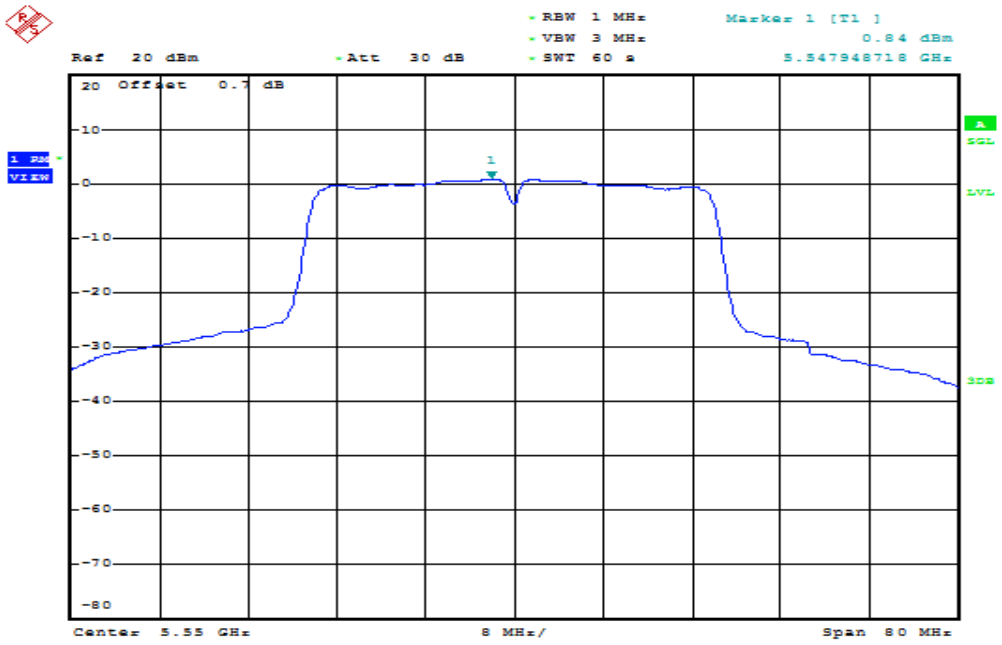
IEEE 802.11n HT 40 MHz mode / 5510 ~ 5670MHz / Chain 1

5510 MHz



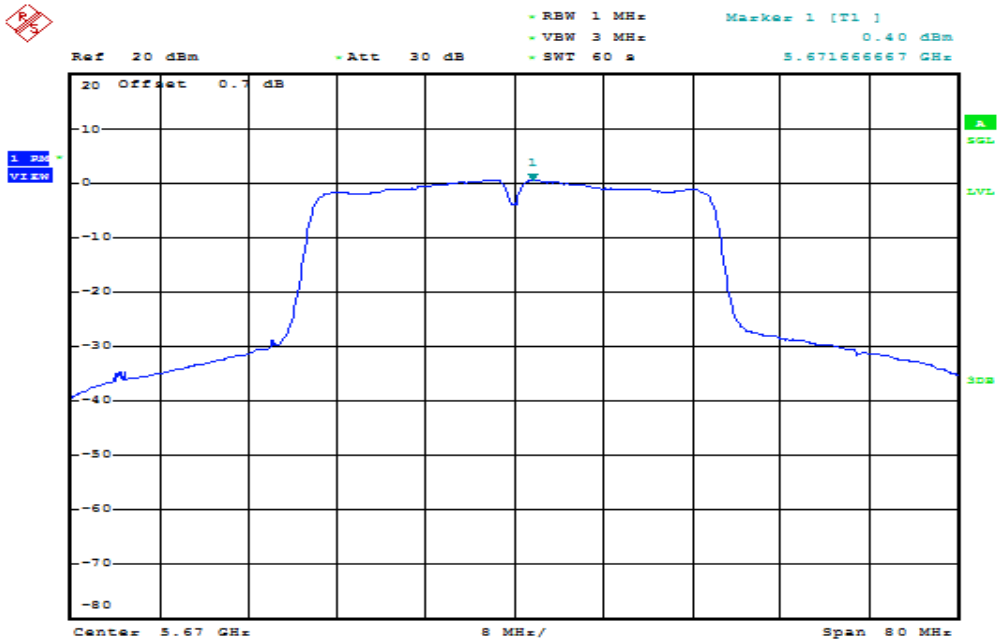
Date: 19.JAN.2016 20:18:49

5550 MHz



Date: 19.JAN.2016 20:26:55

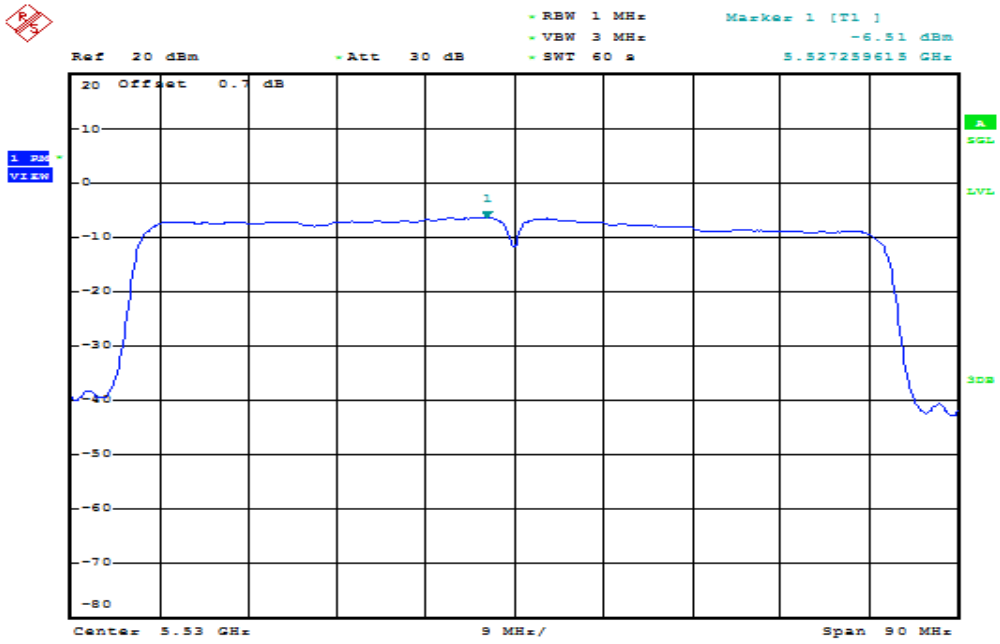
5670 MHz



Date: 19.JAN.2016 20:32:17

IEEE 802.11ac VHT 80 MHz mode / 5530MHz / Chain 0

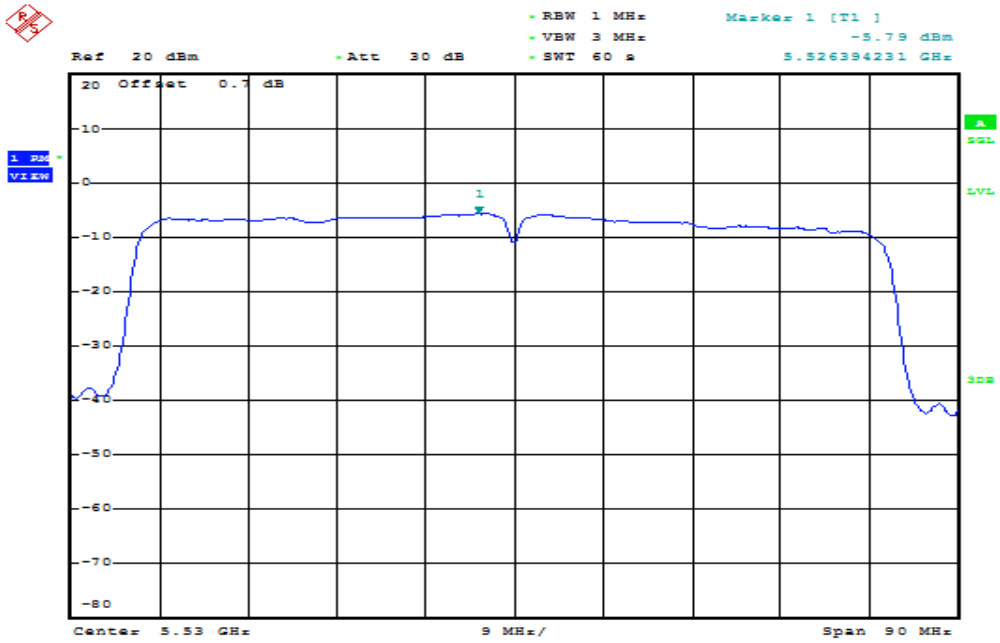
5530 MHz



Date: 19.JAN.2016 21:45:27

IEEE 802.11ac VHT 80 MHz mode / 5530 MHz / Chain 1

5530 MHz



7.6 RADIATED UNDESIRABLE EMISSION

1. According to §15.209(a) & RSS-247, except as provided elsewhere in this Subpart, the emissions from an intentional radiator shall not exceed the field strength levels specified in the following table:

Frequency (MHz)	Field Strength (μV/m)	Measurement Distance (m)
30-88	100*	3
88-216	150*	3
216-960	200*	3
Above 960	500	3

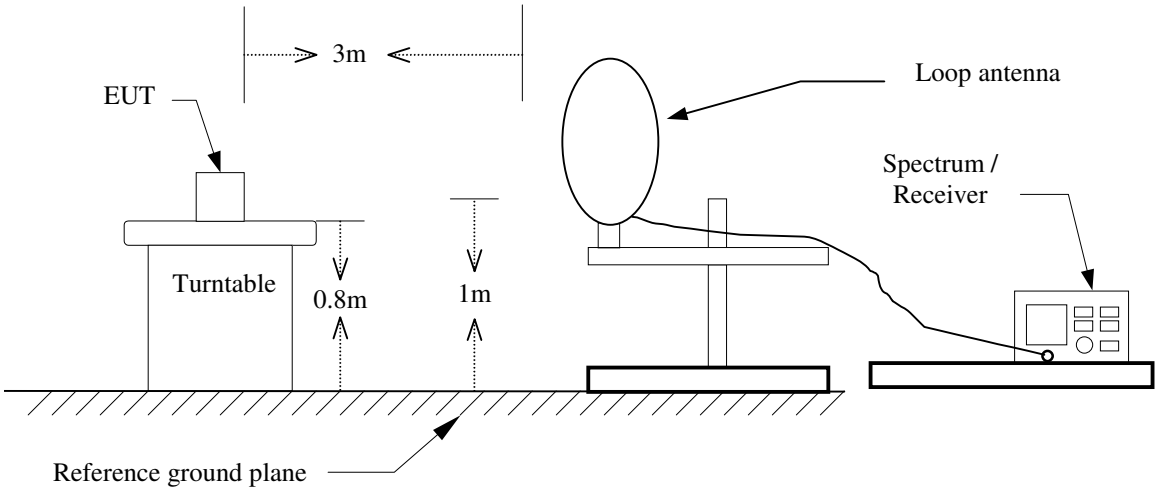
Remark: *Except as provided in paragraph (g), fundamental emissions from intentional radiators operating under this Section shall not be located in the frequency bands 54-72 MHz, 76-88 MHz, 174-216 MHz or 470-806 MHz. However, operation within these frequency bands is permitted under other sections of this Part, e.g., Sections 15.231 and 15.241.*

2. In the emission table above, the tighter limit applies at the band edges.

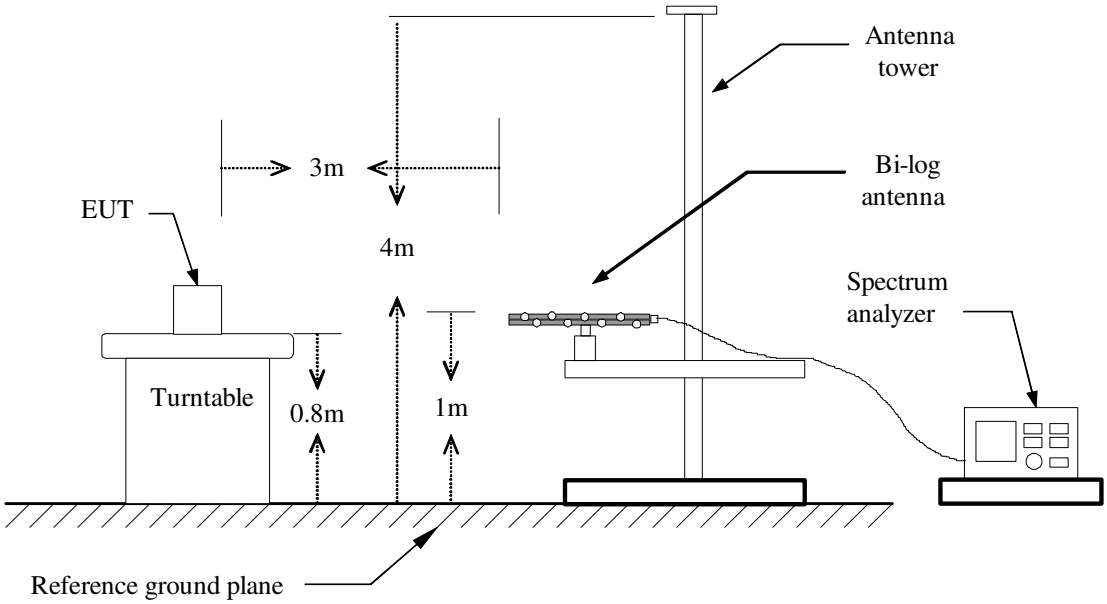
Frequency (MHz)	Field Strength (μV/m at 3-meter)	Field Strength (dBμV/m at 3-meter)
30-88	100	40
88-216	150	43.5
216-960	200	46
Above 960	500	54

Test Configuration

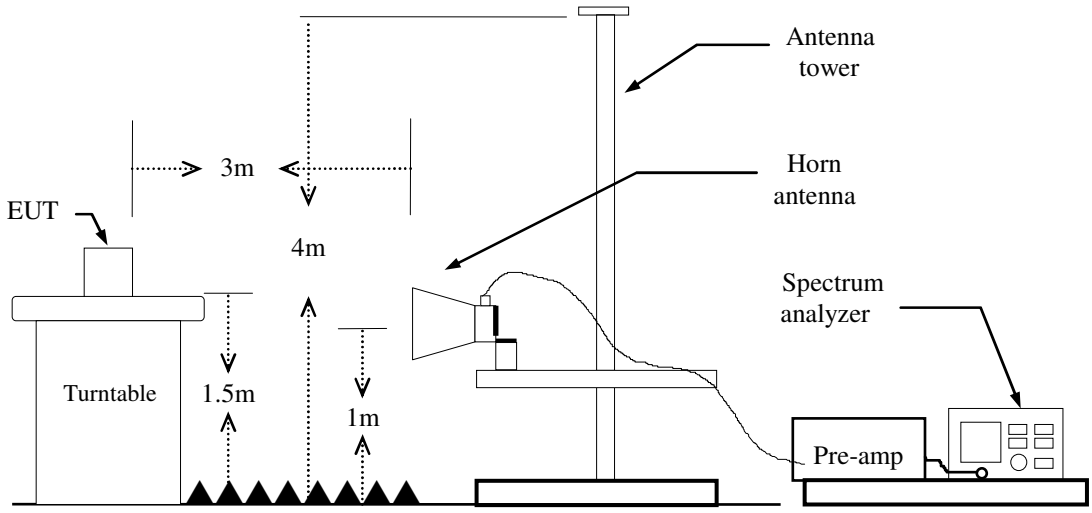
9kHz ~ 30MHz



30MHz ~ 1GHz



Above 1 GHz



TEST PROCEDURE

1. The EUT is placed on a turntable, Above 1 GHz is 1.5m high and below 1 GHz is 0.8m high above ground plane.
2. The turntable shall be rotated for 360 degrees to determine the position of maximum emission level.
3. EUT is set 3m away from the receiving antenna, which is varied from 1m to 4m to find out the highest emissions.
4. Maximum procedure was performed on the six highest emissions to ensure EUT compliance.
5. And also, each emission was to be maximized by changing the polarization of receiving antenna both horizontal and vertical.
6. Set the spectrum analyzer in the following setting as:

   Below 1GHz:

   RBW=100kHz / VBW=300kHz / Sweep=AUTO

   Above 1GHz:

   (a) PEAK: RBW=VBW=1MHz / Sweep=AUTO
   (b)AVERAGE: RBW=1MHz,
   if duty cycle≧98%, VBW=10Hz.
   if duty cycle<98% VBW=1/T.

   For PIFA Antenna
   IEEE 802.11a mode: = 89%, VBW= 680Hz
   IEEE 802.11n HT 20 MHz mode: = 90%, VBW= 750Hz
   IEEE 802.11n HT 40 MHz mode: = 80%, VBW= 1.5KHz
   IEEE 802.11ac VHT 80 MHz mode: = 66%, VBW= 3KHz
   For Dipole Antenna
   IEEE 802.11a mode: = 89%, VBW= 680Hz
   IEEE 802.11n HT 20 MHz mode: = 89%, VBW= 680Hz
   IEEE 802.11n HT 40 MHz mode: = 82%, VBW= 1.5KHz
   IEEE 802.11ac VHT 80 MHz mode: = 69%, VBW= 2.7KHz

7. Repeat above procedures until the measurements for all frequencies are complete.
8. Result = Spectrum Reading + cable loss(spectrum to Amp) - Amp Gain + Cable loss(Amp to receive Ant)+ Receive Ant

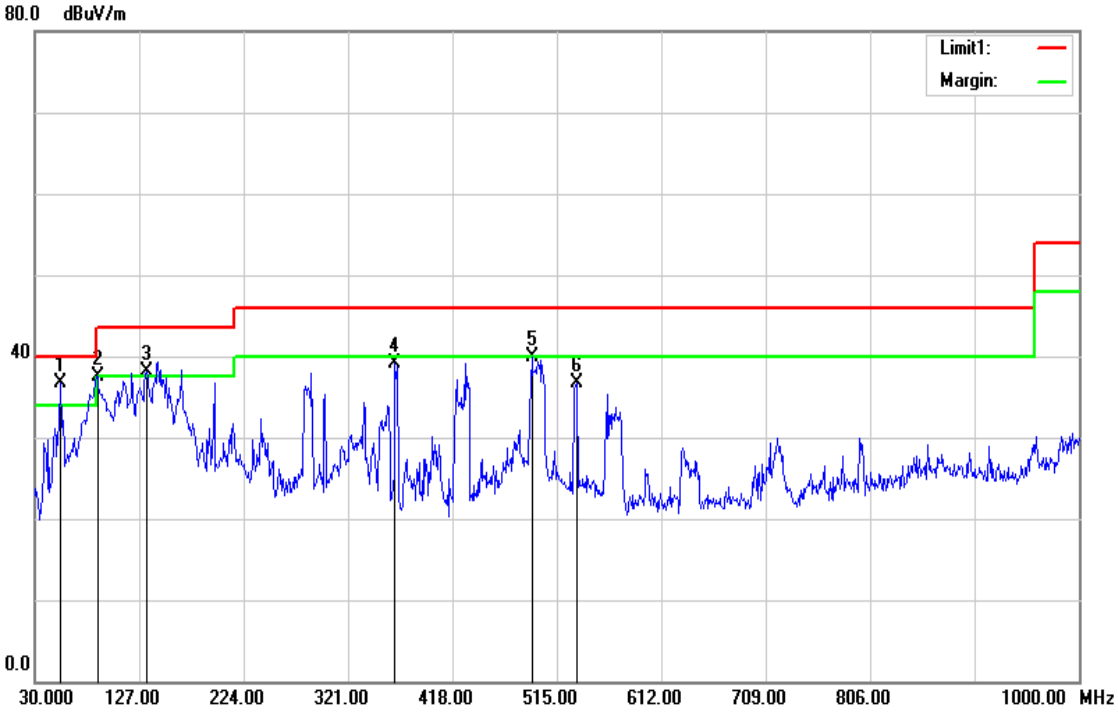
For PIFA Antenna

Below 1 GHz

Operation Mode: Normal Link **Test Date:** December 22, 2015

Temperature: 27℃ **Tested by:** Jason Lu

Humidity: 53% RH **Polarity:** Ver. / Hor.



Frequency (MHz)	Reading (dBuV)	Correction Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark	Ant.Pol. (H/V)
54.2500	58.28	-21.51	36.77	40.00	-3.23	peak	V
88.2000	58.92	-21.45	37.47	43.50	-6.03	peak	V
133.7900	53.85	-15.69	38.16	43.50	-5.34	peak	V
364.6500	51.59	-12.54	39.05	46.00	-6.95	peak	V
491.7200	49.23	-9.40	39.83	46.00	-6.17	peak	V
533.4300	45.40	-8.74	36.66	46.00	-9.34	peak	V

Remark:

1 *Measuring frequencies from 30 MHz to the 1GHz.*

2 *Radiated emissions measured in frequency range from 30 MHz to 1000MHz were made with an instrument using peak/quasi-peak detector mode.*

3 *Quasi-peak test would be performed if the peak result were greater than the quasi-peak limit or as required by the applicant.*

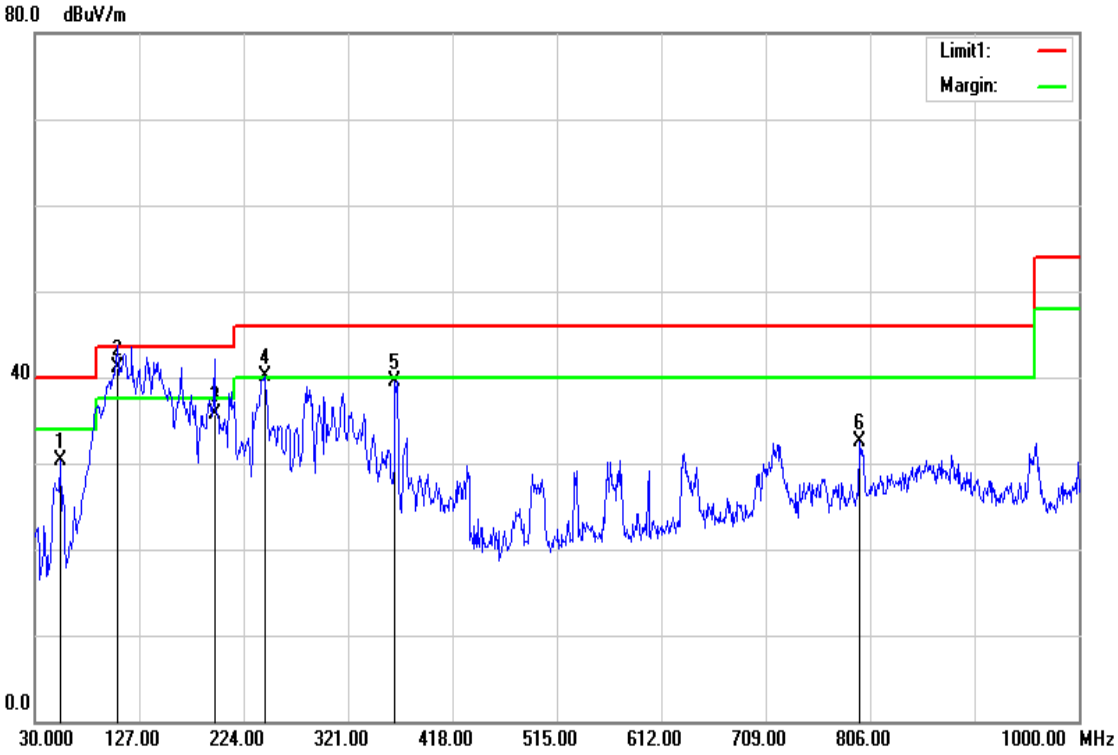
4 *Measurements above show only up to 6 maximum emissions noted, or would be lesser, with " N/A " remark, if no specific emissions from the EUT are recorded (ie: margin>20dB from the applicable limit) and considered that's already beyond the background noise floor.*

5 *Margin (dB) = Remark result (dBuV/m) – Quasi-peak limit (dBuV/m).*

Operation Mode: Normal Link **Test Date:** December 22, 2015

Temperature: 27℃ **Tested by:** Jason Lu

Humidity: 53% RH **Polarity:** Hor.



Frequency (MHz)	Reading (dBuV)	Correction Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark	Ant.Pol. (H/V)
54.2500	51.74	-21.51	30.23	40.00	-9.77	peak	H
106.6300	59.06	-17.86	41.20	43.50	-2.30	QP	H
196.8400	51.59	-15.83	35.76	43.50	-7.74	QP	H
243.4000	56.60	-16.43	40.17	46.00	-5.83	peak	H
364.6500	52.09	-12.54	39.55	46.00	-6.45	peak	H
796.3000	37.09	-4.53	32.56	46.00	-13.44	peak	H

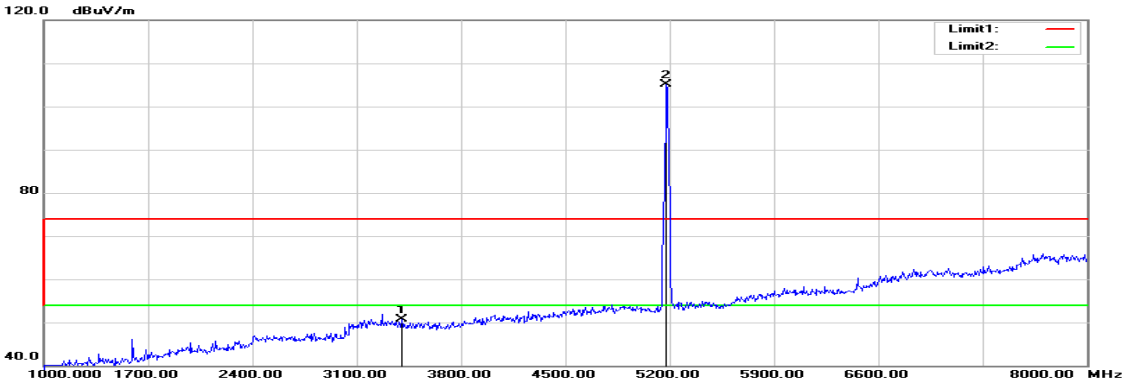
Remark:

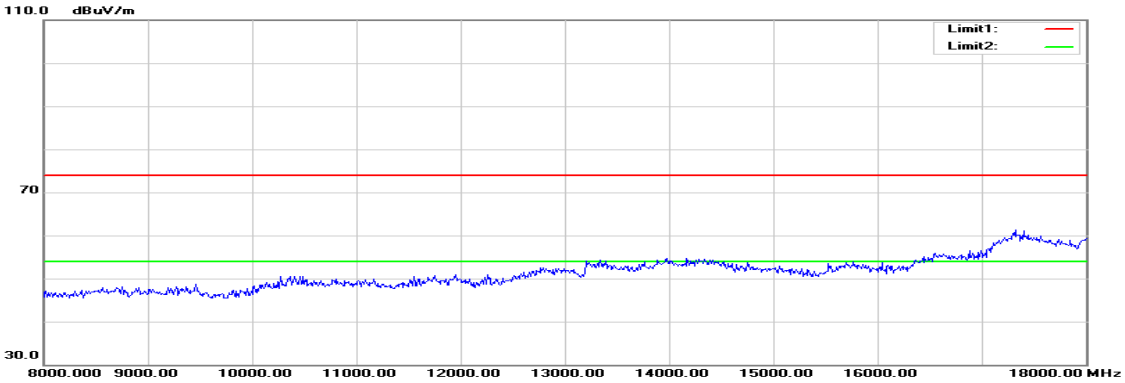
1. *No emission found between lowest internal used/generated frequency to 30MHz (9kHz~30MHz).*
2. *Radiated emissions measured in frequency range from 30 MHz to 1000MHz were made with an instrument using peak/quasi-peak detector mode.*
3. *Quasi-peak test would be performed if the peak result were greater than the quasi-peak limit or as required by the applicant.*
4. *Measurements above show only up to 6 maximum emissions noted, or would be lesser, with " N/A " remark, if no specific emissions from the EUT are recorded (ie: margin>20dB from the applicable limit) and considered that's already beyond the background noise floor.*
5. *Margin (dB) = Remark result (dBuV/m) – Quasi-peak limit (dBuV/m).*

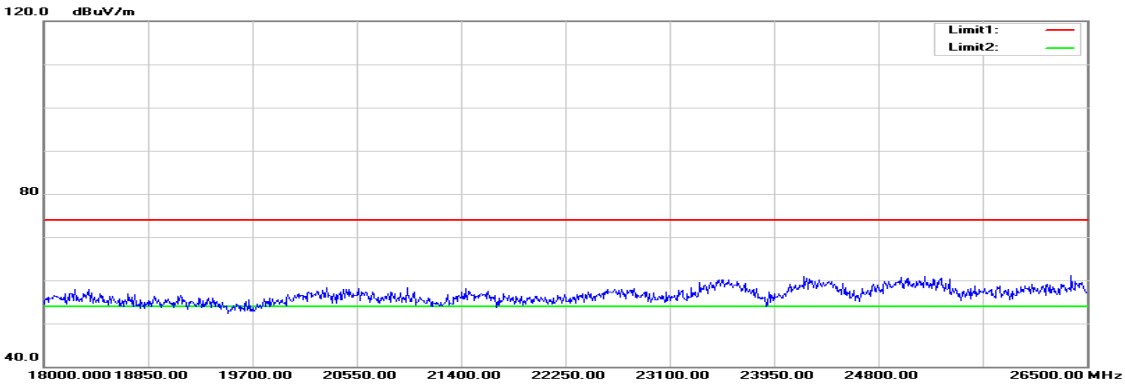
Above 1 GHz

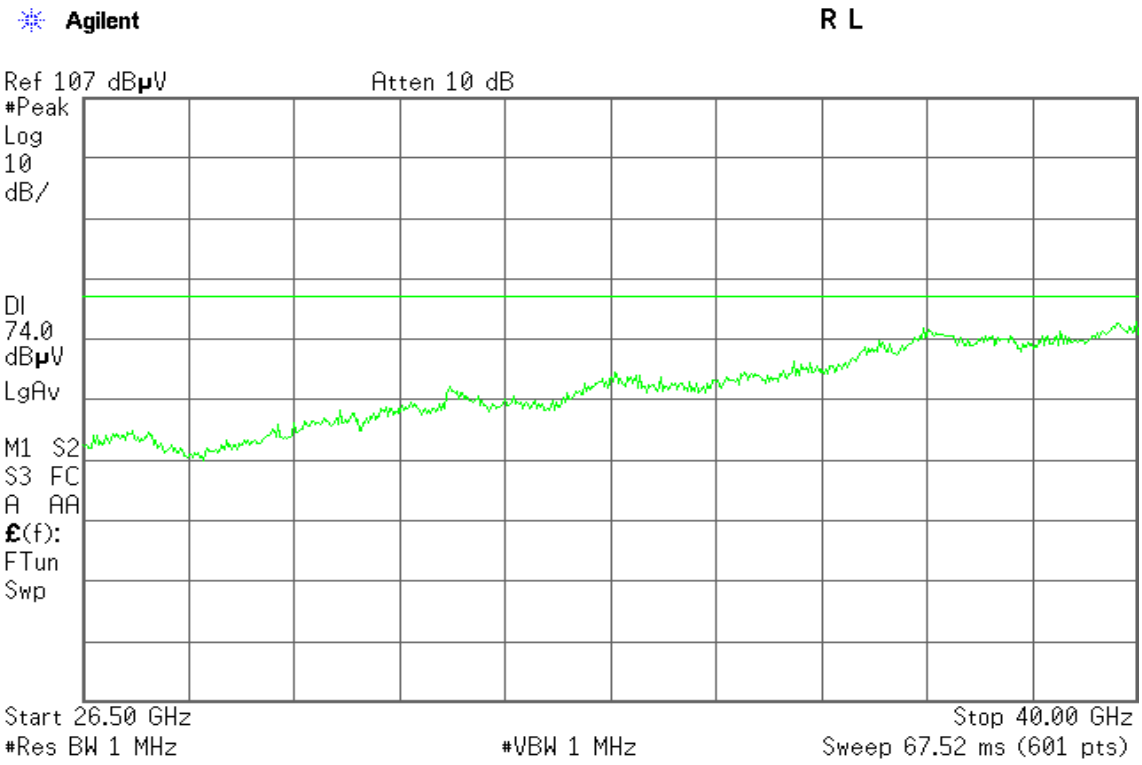
Tx / IEEE 802.11a mode / 5180 MHz

Polarity: Vertical

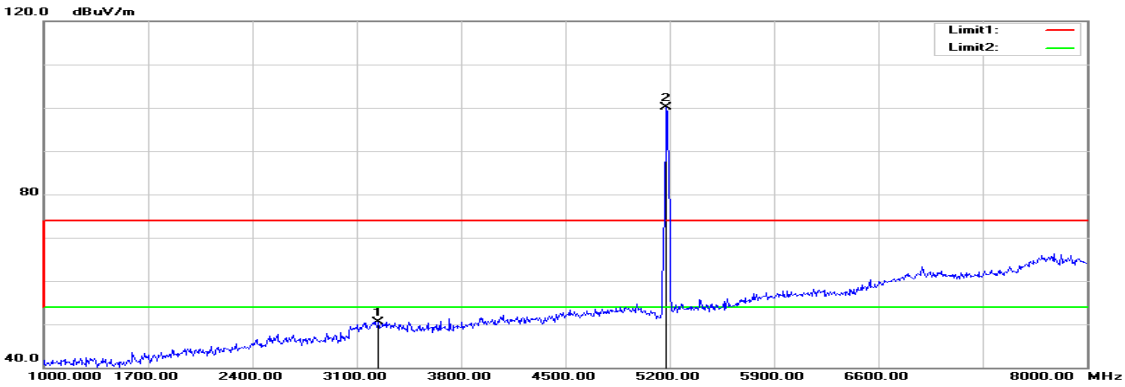


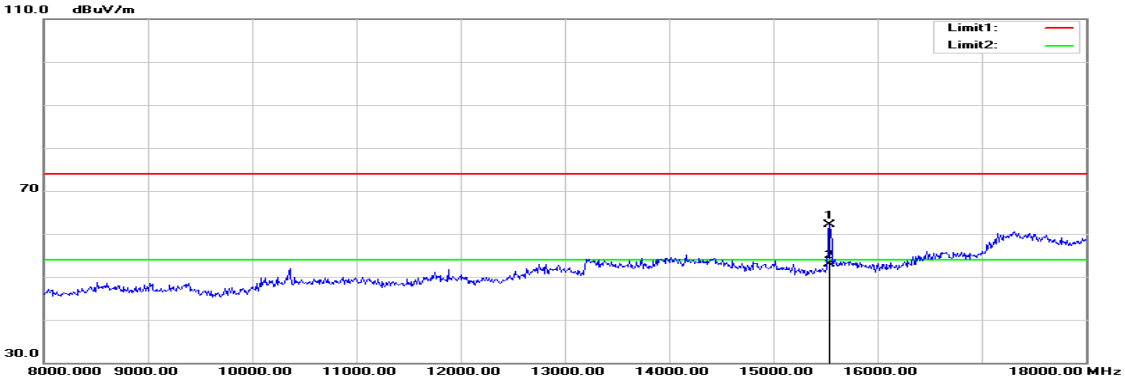


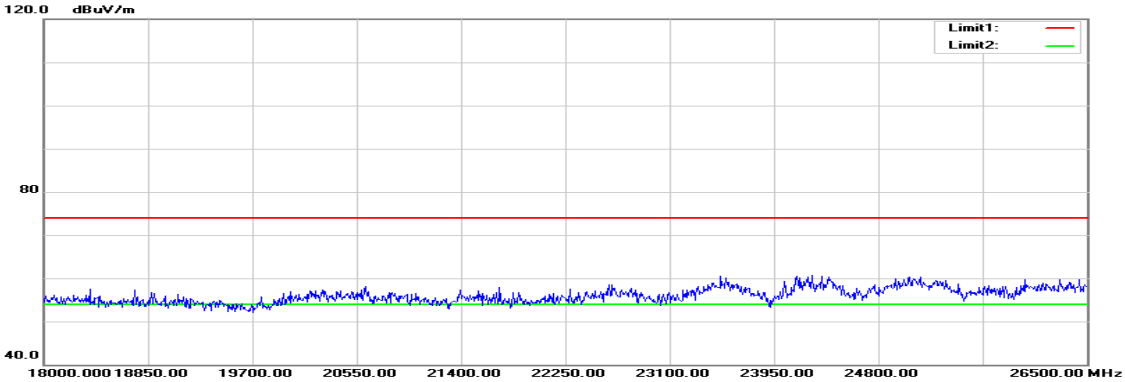


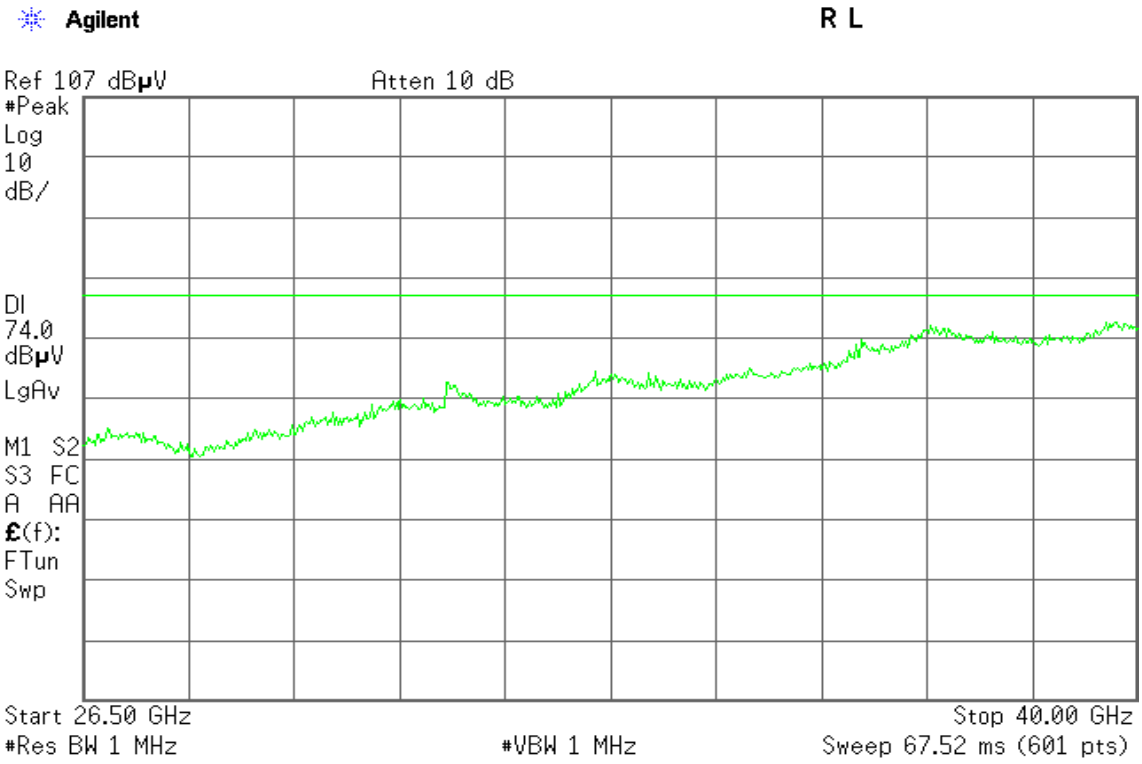

Agilent
R L
Ref 107 dBµV
Atten 10 dB
#Peak
Log
10
dB/
Dl
74.0
dBµV
LgAv
M1 S2
S3 FC
A AA
£(f):
FTun
Swp
Start 26.50 GHz
#Res BW 1 MHz
#VBW 1 MHz
Stop 40.00 GHz
Sweep 67.52 ms (601 pts)

Polarity: Horizontal








Agilent
R L
Ref 107 dBµV
Atten 10 dB
#Peak
Log
10
dB/
Dl
74.0
dBµV
LgAv
M1 S2
S3 FC
A AA
£(f):
FTun
Swp
Start 26.50 GHz
Stop 40.00 GHz
#Res BW 1 MHz
#VBW 1 MHz
Sweep 67.52 ms (601 pts)

Operation Mode: Tx / IEEE 802.11a mode / 5180 MHz **Test Date:** December 8, 2015

Temperature: 27℃ **Tested by:** Jason Lu

Humidity: 53% RH **Polarity:** Ver. / Hor.

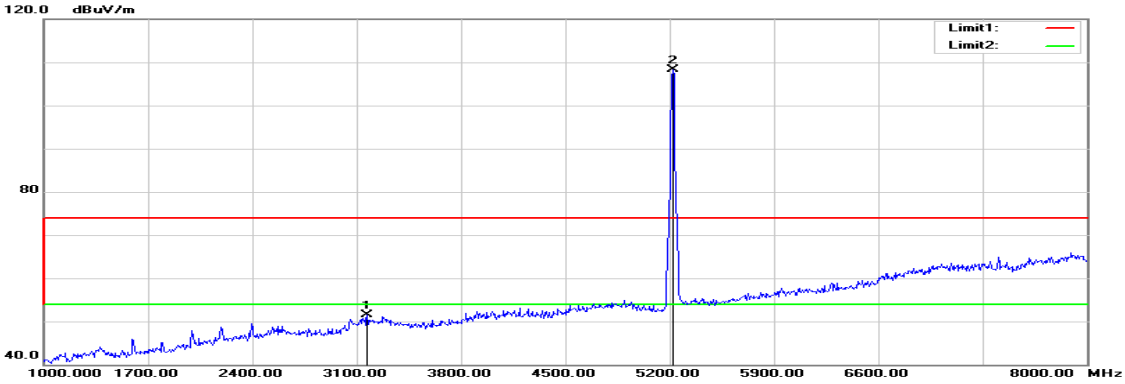
Frequency (MHz)	Reading (dBuV)	Correction (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark	Ant.Pol. (H/V)
3401.000	51.90	-1.15	50.75	74.00	-23.25	peak	V
N/A							
3247.000	52.11	-1.52	50.59	74.00	-23.41	peak	H
15540.000	43.01	19.04	62.05	74.00	-11.95	peak	H
15540.000	33.89	19.04	52.93	54.00	-1.07	AVG	H
N/A							

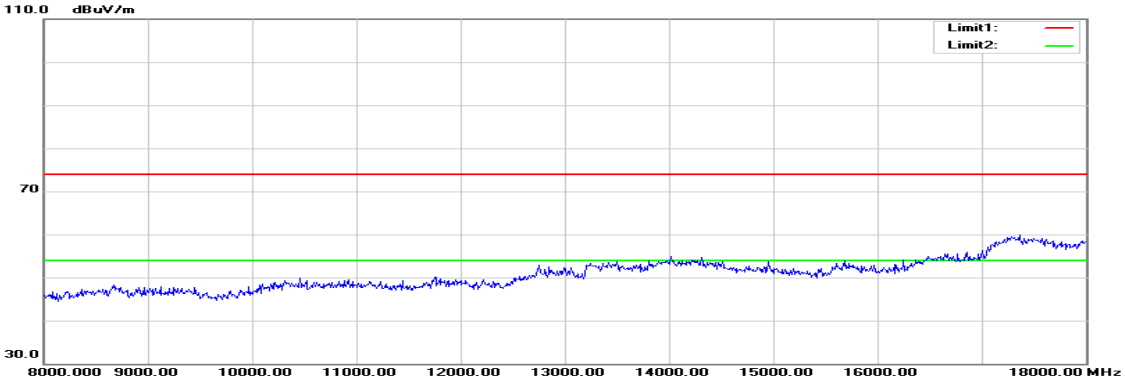
Remark:

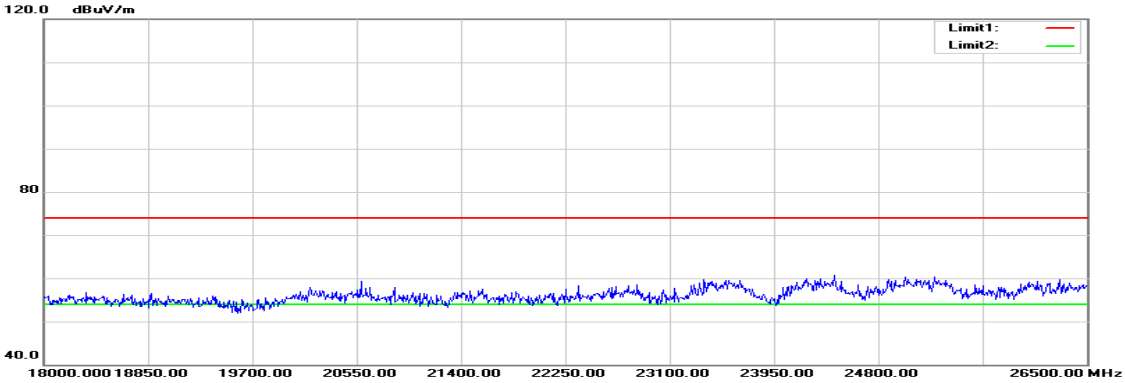
1. *Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.*
2. *Radiated emissions measured in frequency above 1000MHz were made with an instrument using peak/average detector mode.*
3. *Average test would be performed if the peak result were greater than the average limit.*
4. *Data of measurement within this frequency range shown " --- " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.*
5. *Measurements above show only up to 6 maximum emissions noted, or would be lesser, with " N/A " remark, if no specific emissions from the EUT are recorded (ie: margin>20dB from the applicable limit) and considered that's already beyond the background noise floor.*
6. *Margin (dB) = Remark result (dBuV/m) – Average limit (dBuV/m).*

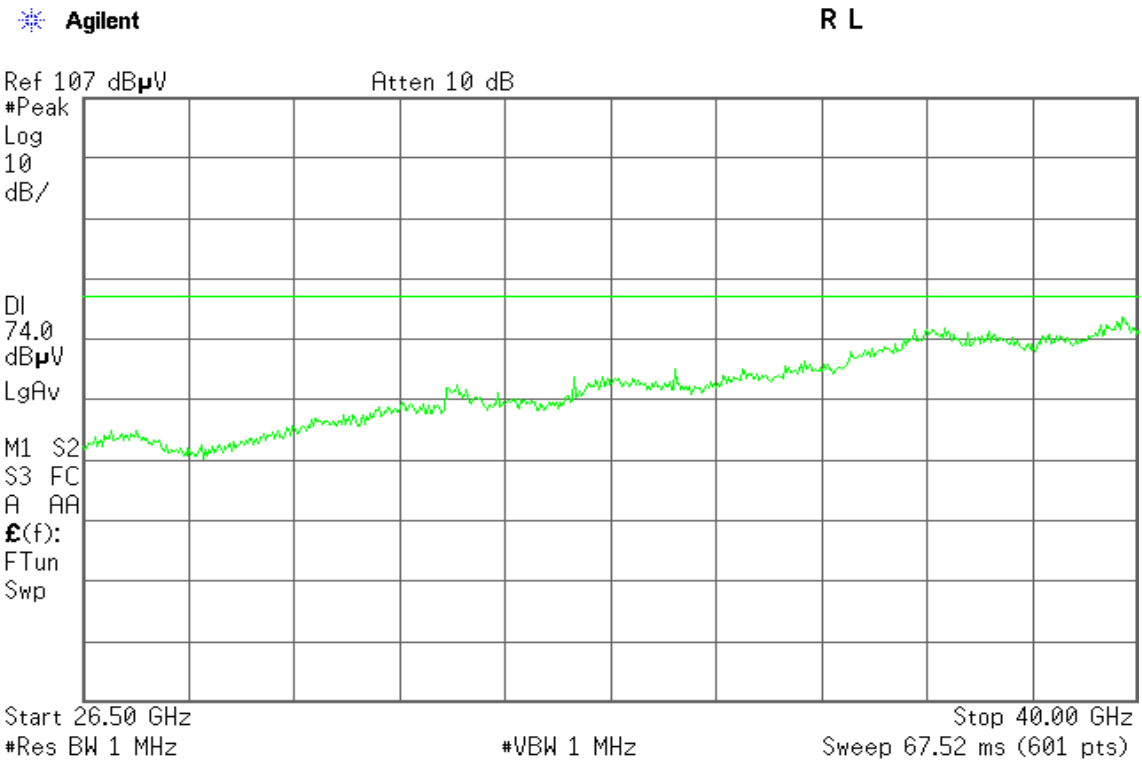
Tx / IEEE 802.11a mode / 5220 MHz

Polarity: Vertical

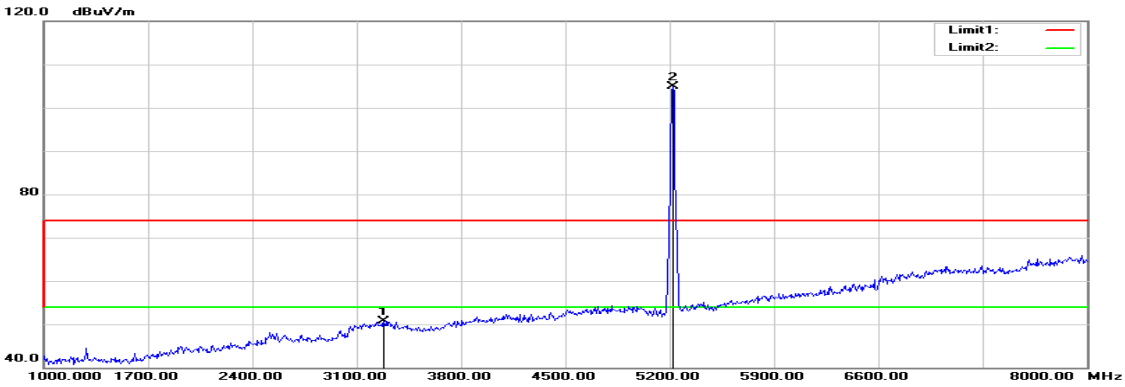


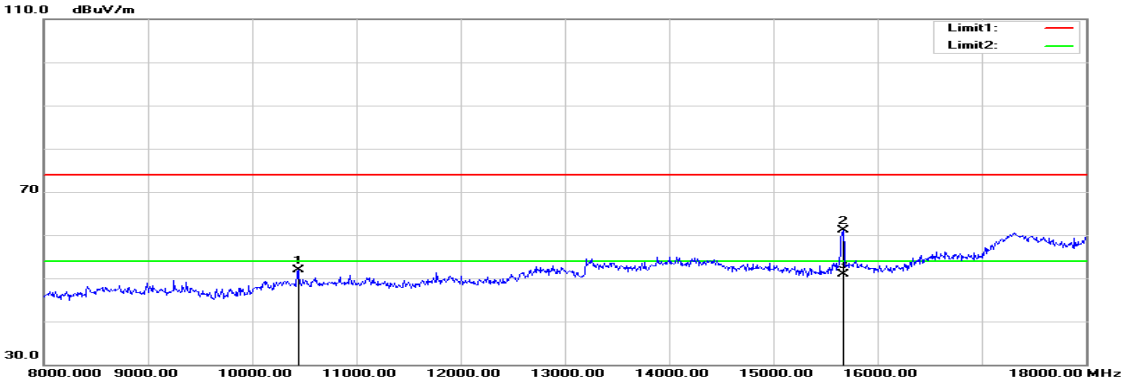


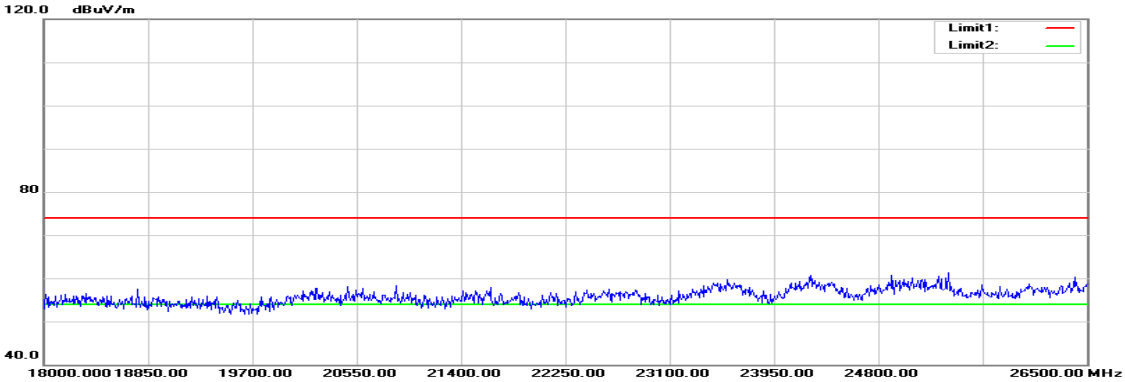


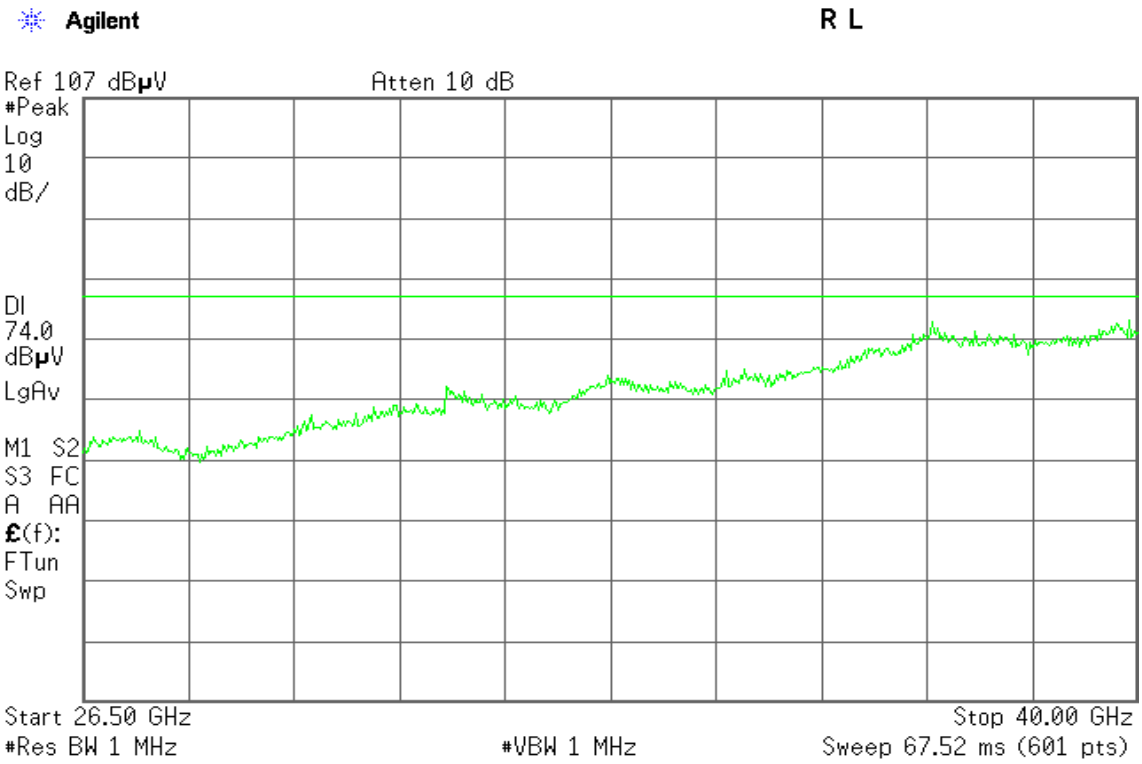

Agilent
R L
Ref 107 dBµV
Atten 10 dB
#Peak
Log
10
dB/
Dl
74.0
dBµV
LgAv
M1 S2
S3 FC
A AA
£(f):
FTun
Swp
Start 26.50 GHz
Stop 40.00 GHz
#Res BW 1 MHz
#VBW 1 MHz
Sweep 67.52 ms (601 pts)

Polarity: Horizontal








Agilent
R L
Ref 107 dBµV
Atten 10 dB
#Peak
Log
10
dB/
Dl
74.0
dBµV
LgAv
M1 S2
S3 FC
A AA
£(f):
FTun
Swp
Start 26.50 GHz
Stop 40.00 GHz
#Res BW 1 MHz
#VBW 1 MHz
Sweep 67.52 ms (601 pts)

Operation Mode: Tx / IEEE 802.11a mode / 5220 MHz **Test Date:** December 12, 2015

Temperature: 27℃ **Tested by:** Jason Lu

Humidity: 53% RH **Polarity:** Ver. / Hor.

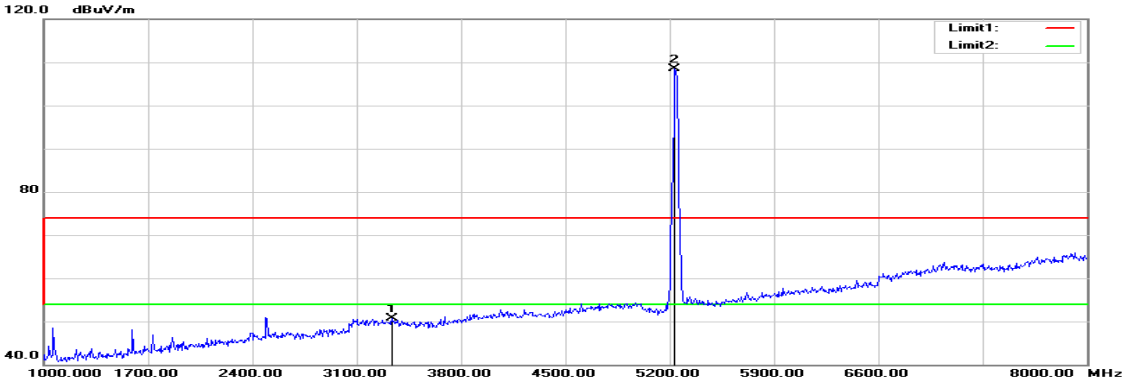
Frequency (MHz)	Reading (dBuV)	Correction (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark	Ant.Pol. (H/V)
3170.000	53.23	-1.70	51.53	74.00	-22.47	peak	V
N/A							
3282.000	52.18	-1.43	50.75	74.00	-23.25	peak	H
10440.000	35.09	16.89	51.98	74.00	-22.02	peak	H
15670.000	42.03	19.15	61.18	74.00	-12.82	peak	H
15670.000	31.73	19.15	50.88	54.00	-3.12	AVG	H
N/A							

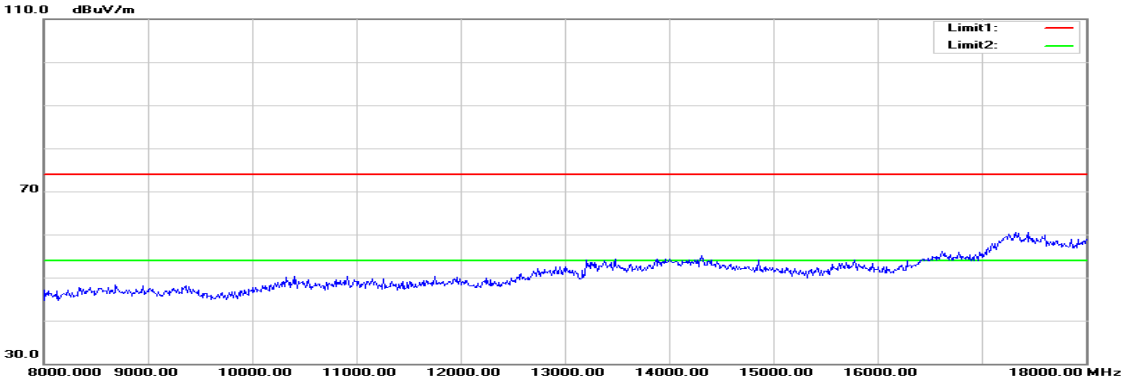
Remark:

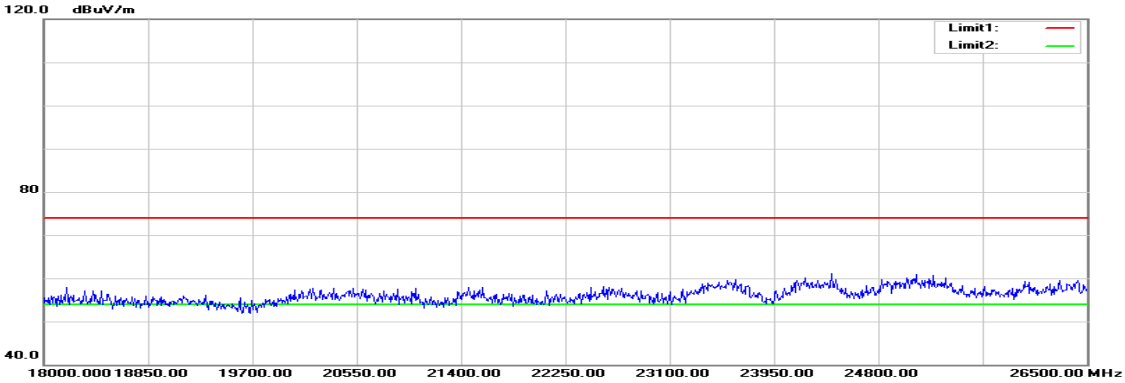
1. *Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.*
2. *Radiated emissions measured in frequency above 1000MHz were made with an instrument using peak/average detector mode.*
3. *Average test would be performed if the peak result were greater than the average limit.*
4. *Data of measurement within this frequency range shown " --- " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.*
5. *Measurements above show only up to 6 maximum emissions noted, or would be lesser, with " N/A " remark, if no specific emissions from the EUT are recorded (ie: margin>20dB from the applicable limit) and considered that's already beyond the background noise floor.*
6. *Margin (dB) = Remark result (dBuV/m) – Average limit (dBuV/m).*

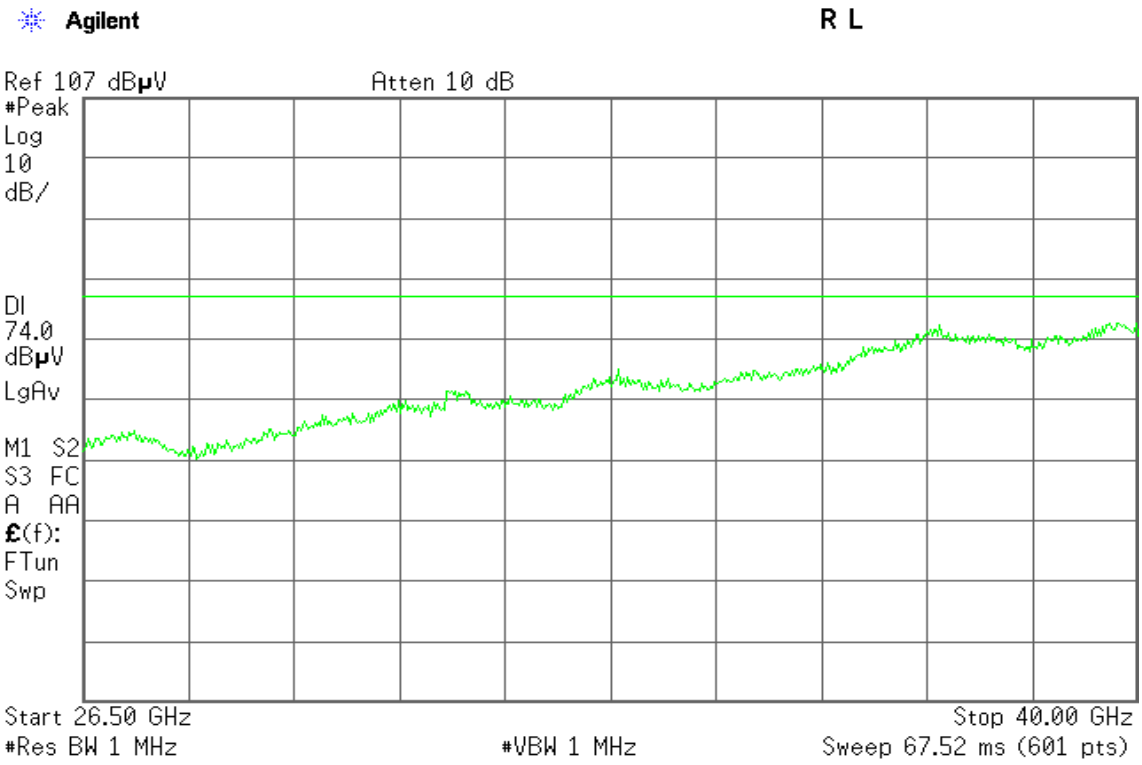
Tx / IEEE 802.11a mode / 5240 MHz

Polarity: Vertical

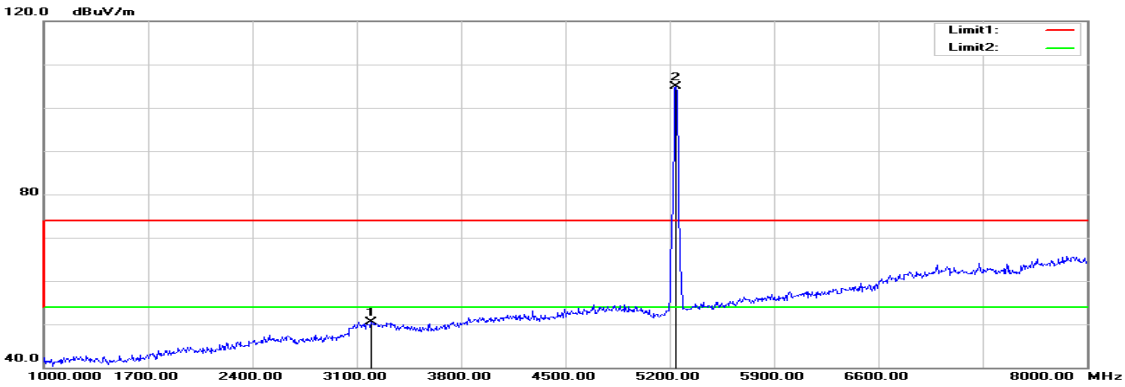


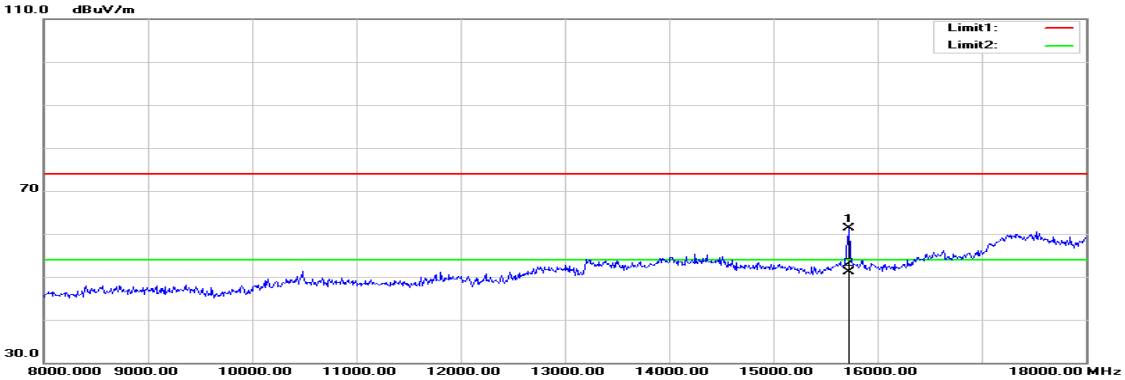


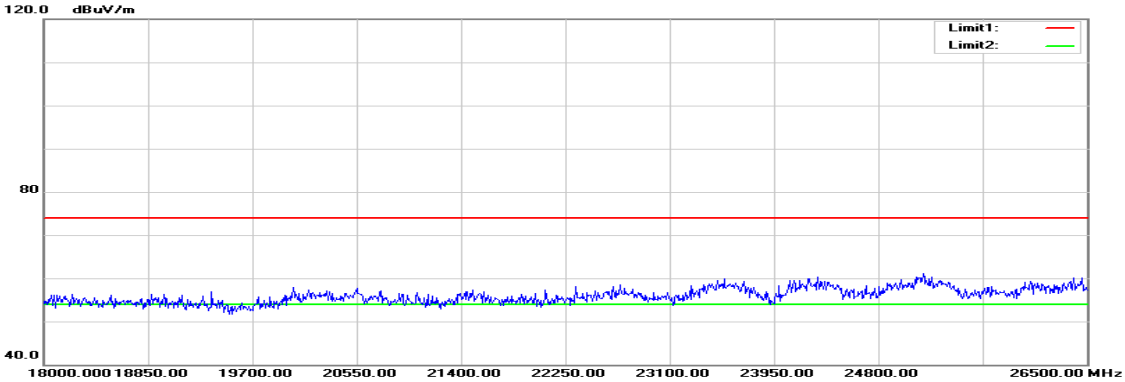


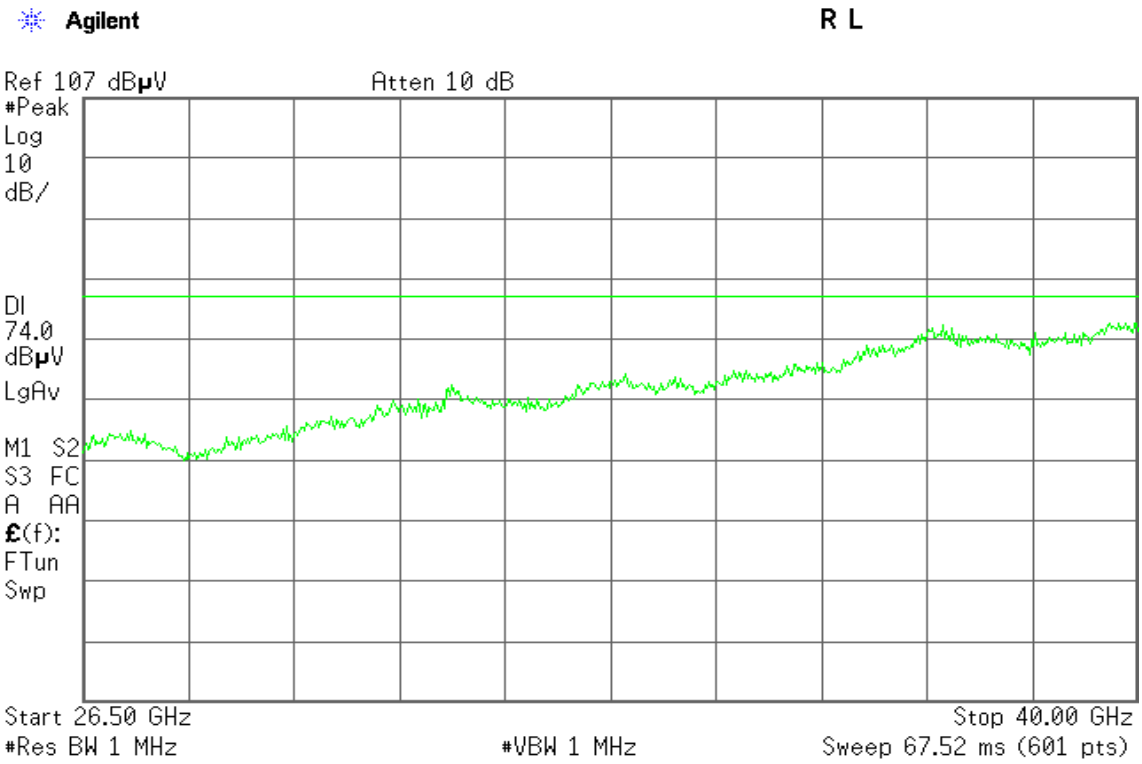

Agilent
R L
Ref 107 dBµV
Atten 10 dB
#Peak
Log
10
dB/
Dl
74.0
dBµV
LgAv
M1 S2
S3 FC
A AA
£(f):
FTun
Swp
Start 26.50 GHz
Stop 40.00 GHz
#Res BW 1 MHz
#VBW 1 MHz
Sweep 67.52 ms (601 pts)

Polarity: Horizontal








Agilent
R L
Ref 107 dBµV
Atten 10 dB
#Peak
Log
10
dB/
Dl
74.0
dBµV
LgAv
M1 S2
S3 FC
A AA
£(f):
FTun
Swp
Start 26.50 GHz
Stop 40.00 GHz
#Res BW 1 MHz
#VBW 1 MHz
Sweep 67.52 ms (601 pts)

Operation Mode:	Tx / IEEE 802.11a mode / 5240 MHz	**Test Date:**	December 12, 2015
Temperature:	27℃	**Tested by:**	Jason Lu
Humidity:	53% RH	**Polarity:**	Ver. / Hor.

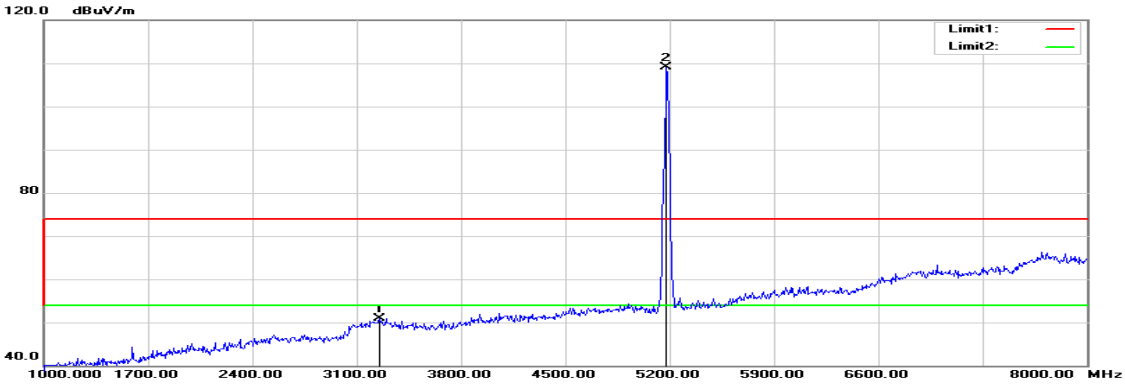
Frequency (MHz)	Reading (dBuV)	Correction (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark	Ant.Pol. (H/V)
3338.000	52.02	-1.30	50.72	74.00	-23.28	peak	V
N/A							
3198.000	52.07	-1.63	50.44	74.00	-23.56	peak	H
15730.000	42.18	19.20	61.38	74.00	-12.62	peak	H
15730.000	31.87	19.20	51.07	54.00	-2.93	AVG	H
N/A							

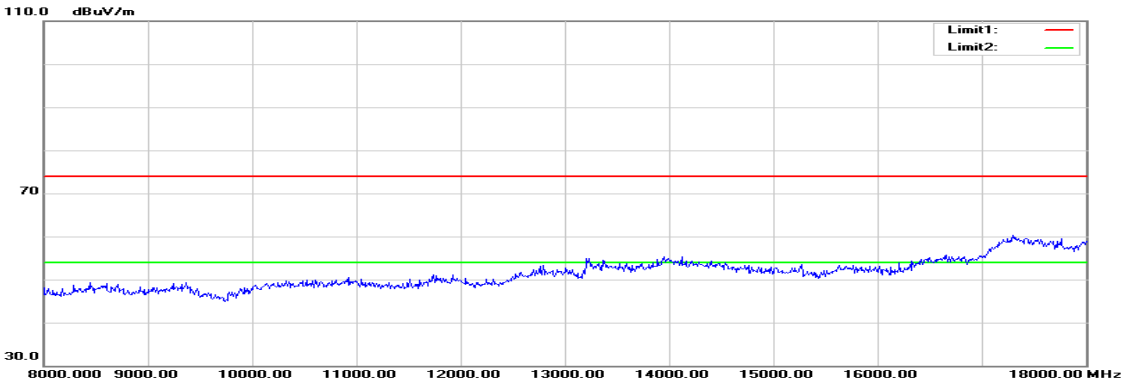
Remark:

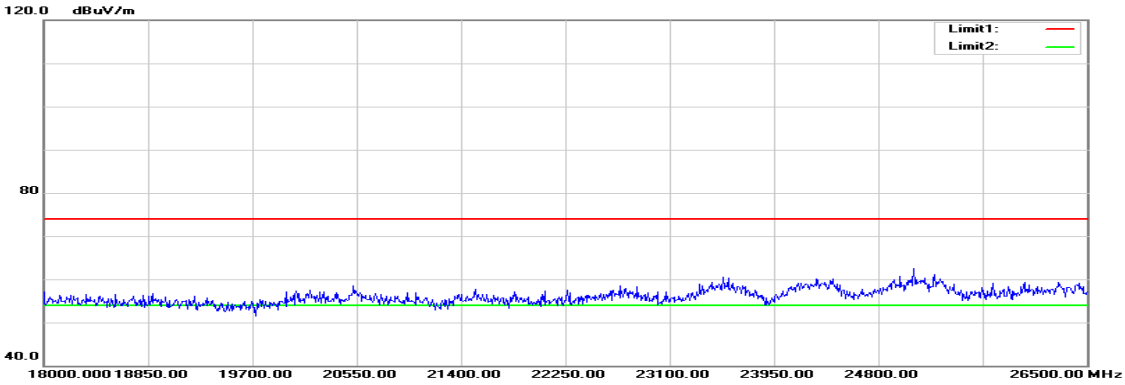
1. *Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.*
2. *Radiated emissions measured in frequency above 1000MHz were made with an instrument using peak/average detector mode.*
3. *Average test would be performed if the peak result were greater than the average limit.*
4. *Data of measurement within this frequency range shown " --- " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.*
5. *Measurements above show only up to 6 maximum emissions noted, or would be lesser, with " N/A " remark, if no specific emissions from the EUT are recorded (ie: margin>20dB from the applicable limit) and considered that's already beyond the background noise floor.*
6. *Margin (dB) = Remark result (dBuV/m) – Average limit (dBuV/m).*

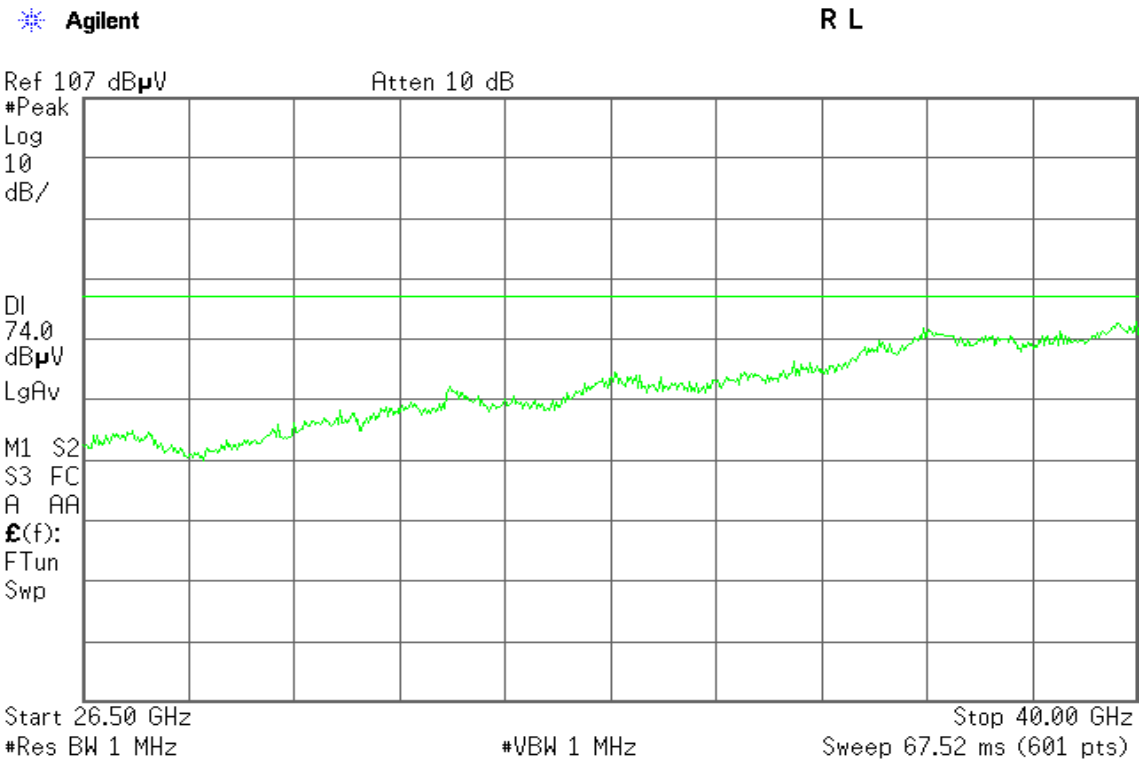
Tx / IEEE 802.11n HT 20 MHz Channel mode / 5180 MHz

Polarity: Vertical

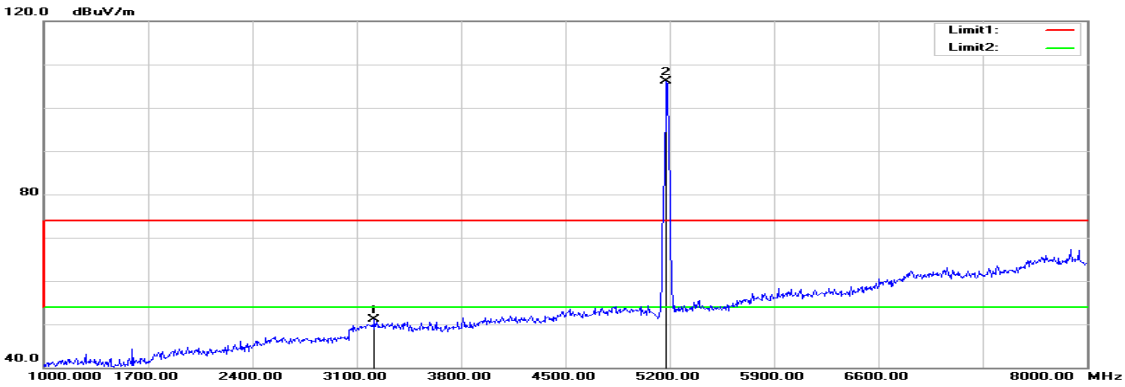


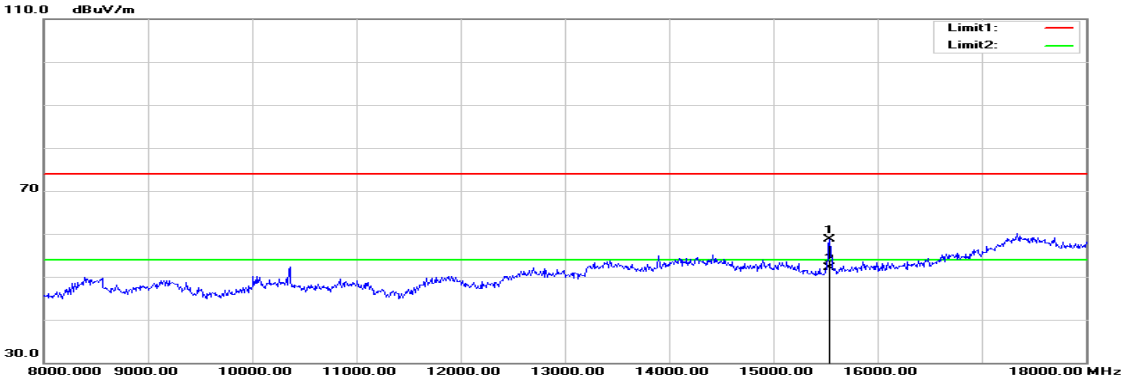


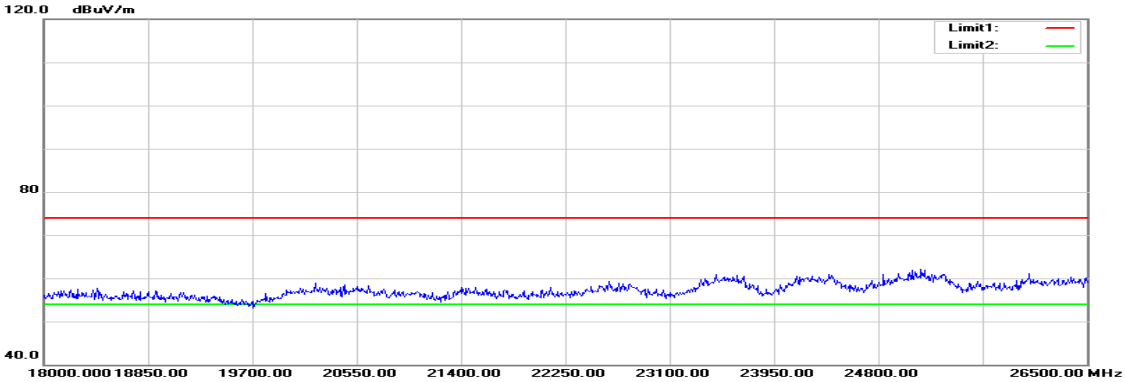


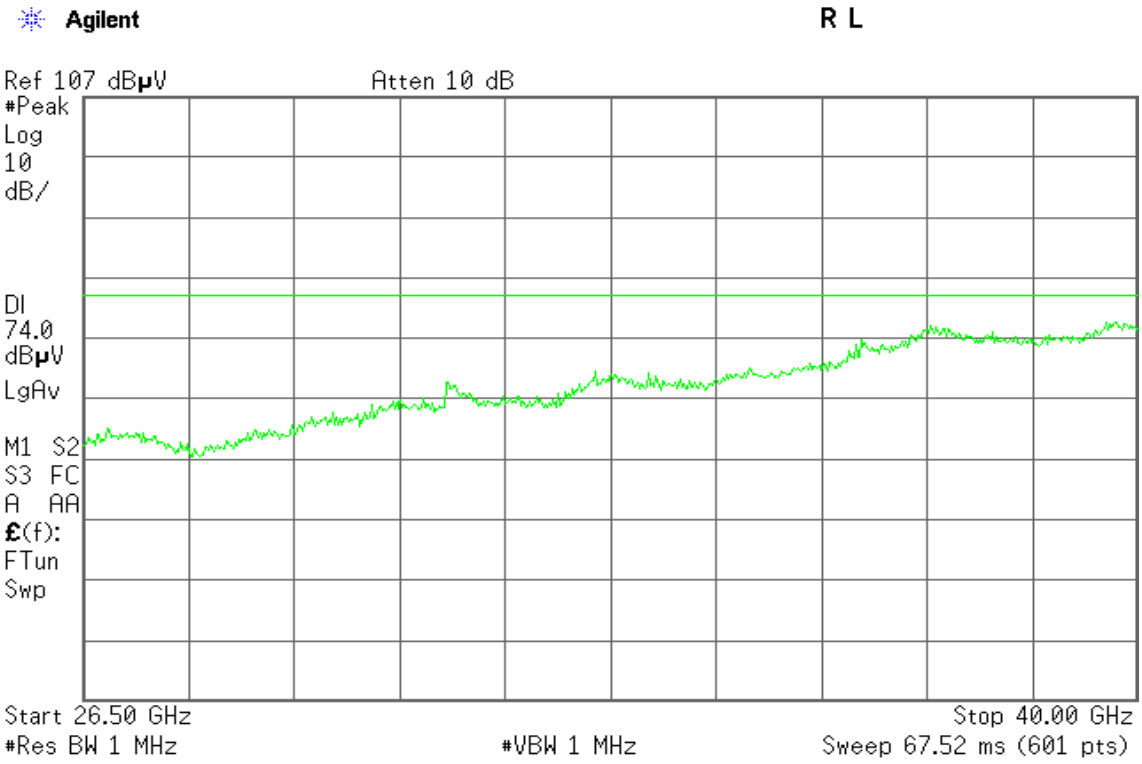

Agilent
R L
Ref 107 dBµV
Atten 10 dB
#Peak
Log
10
dB/
Dl
74.0
dBµV
LgAv
M1 S2
S3 FC
A AA
£(f):
FTun
Swp
Start 26.50 GHz
#Res BW 1 MHz
#VBW 1 MHz
Stop 40.00 GHz
Sweep 67.52 ms (601 pts)

Polarity: Horizontal








Agilent
R L
Ref 107 dBµV
Atten 10 dB
#Peak
Log
10
dB/
Dl
74.0
dBµV
LgAv
M1 S2
S3 FC
A AA
£(f):
FTun
Swp
Start 26.50 GHz
Stop 40.00 GHz
#Res BW 1 MHz
#VBW 1 MHz
Sweep 67.52 ms (601 pts)

Operation Mode:	Tx / IEEE 802.11n HT 20 MHz mode / 5180 MHz	**Test Date:**	December 8, 2015
Temperature:	27℃	**Tested by:**	Jason Lu
Humidity:	53% RH	**Polarity:**	Ver. / Hor.

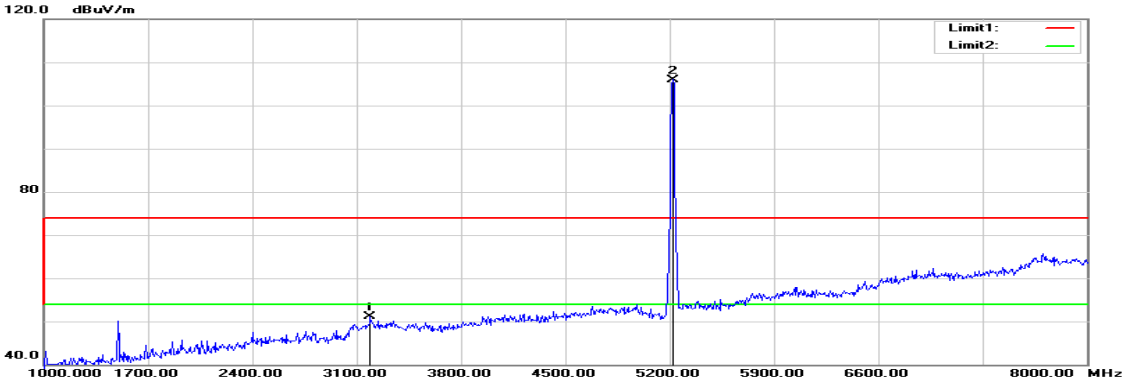
Frequency (MHz)	Reading (dBuV)	Correction (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark	Ant.Pol. (H/V)
3254.000	52.38	-1.50	50.88	74.00	-23.12	peak	V
N/A							
3219.000	52.73	-1.58	51.15	74.00	-22.85	peak	H
15540.000	39.68	19.04	58.72	74.00	-15.28	peak	H
15540.000	33.14	19.04	52.18	54.00	-1.82	AVG	H
N/A							

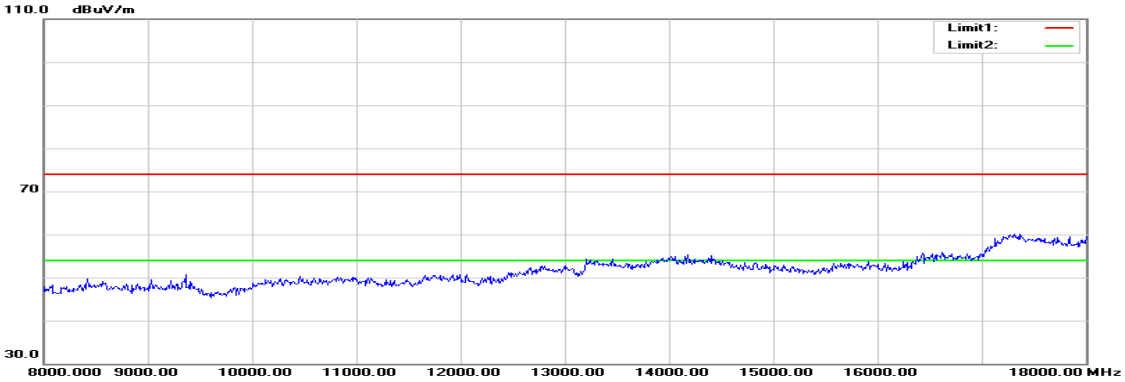
Remark:

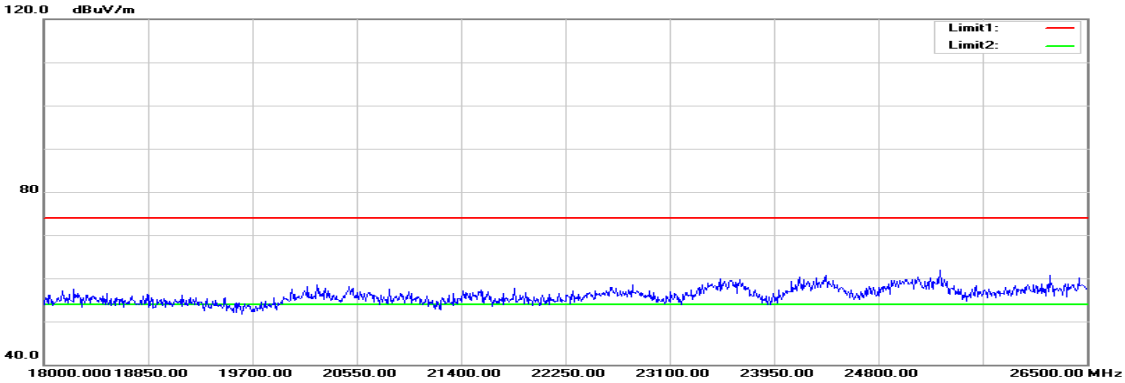
1. *Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.*
2. *Radiated emissions measured in frequency above 1000MHz were made with an instrument using peak/average detector mode.*
3. *Average test would be performed if the peak result were greater than the average limit.*
4. *Data of measurement within this frequency range shown " --- " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.*
5. *Measurements above show only up to 6 maximum emissions noted, or would be lesser, with " N/A " remark, if no specific emissions from the EUT are recorded (ie: margin>20dB from the applicable limit) and considered that's already beyond the background noise floor.*
6. *Margin (dB) = Remark result (dBuV/m) – Average limit (dBuV/m).*

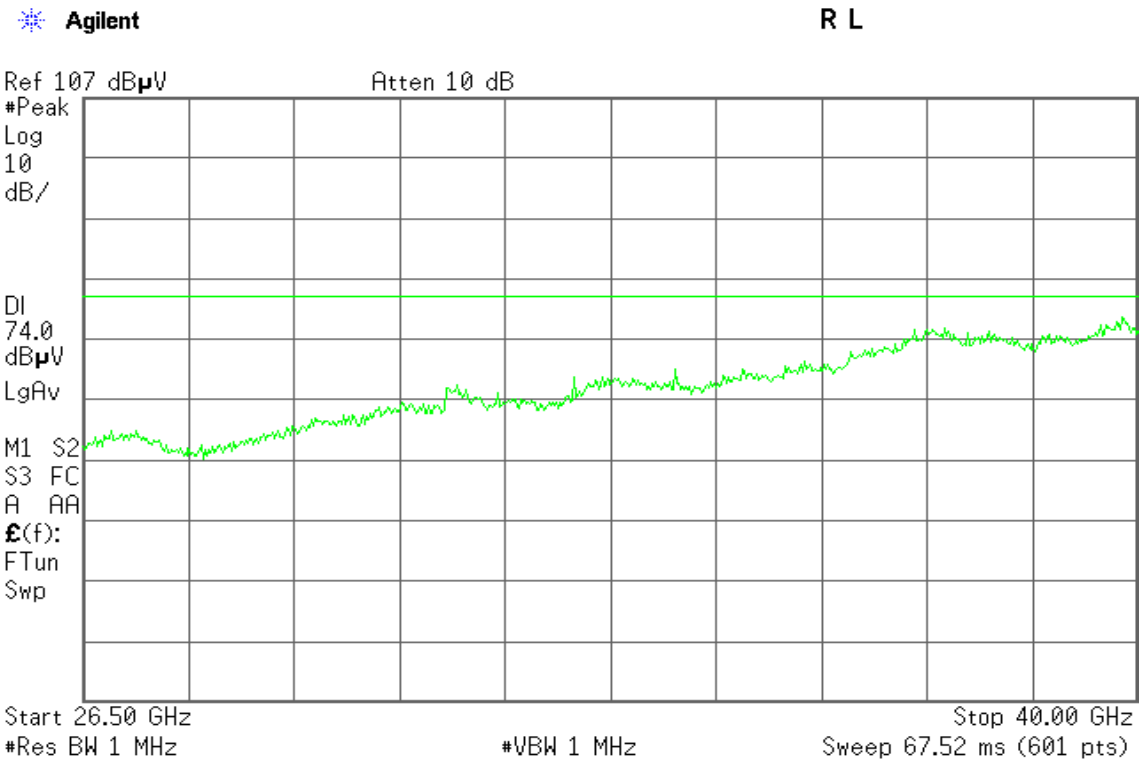
Tx / IEEE 802.11n HT 20 MHz Channel mode / 5220 MHz

Polarity: Vertical

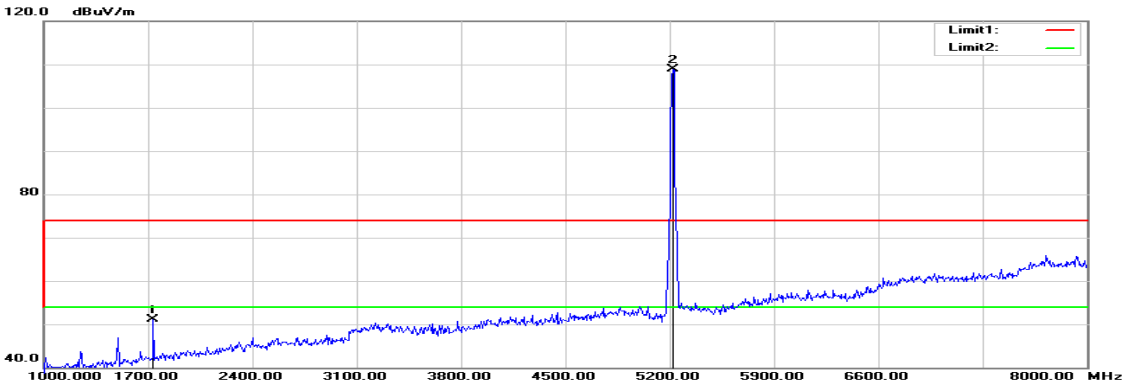


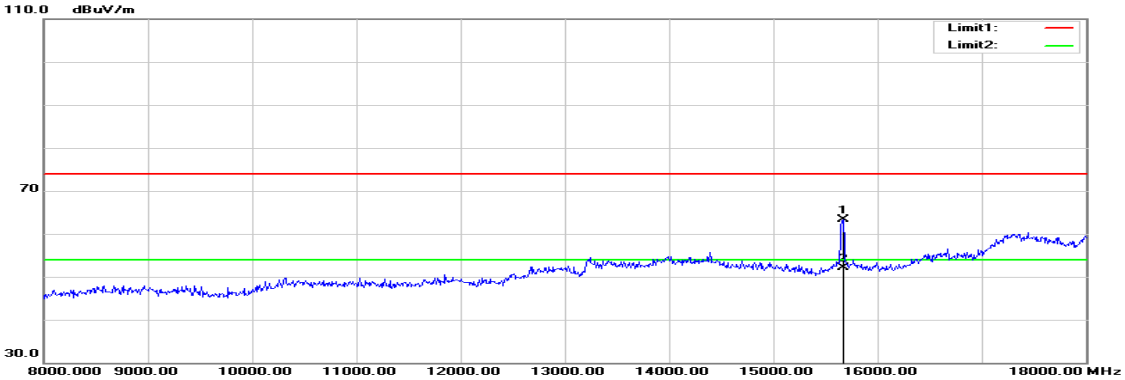


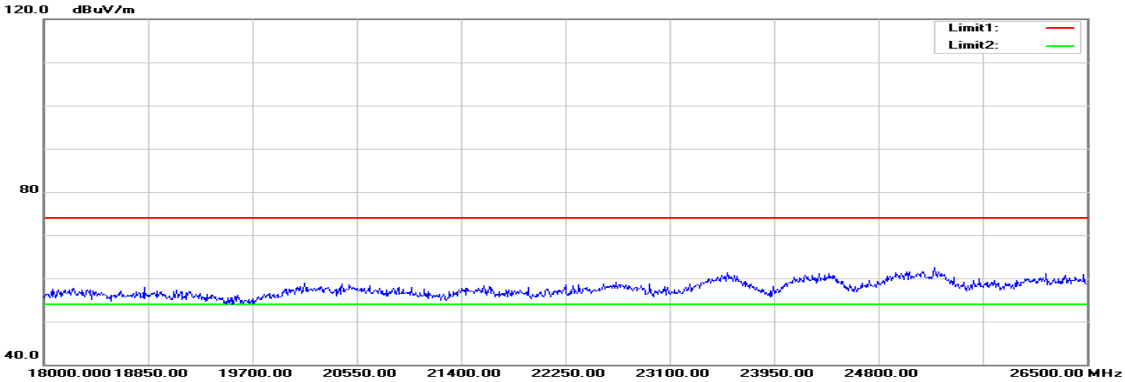


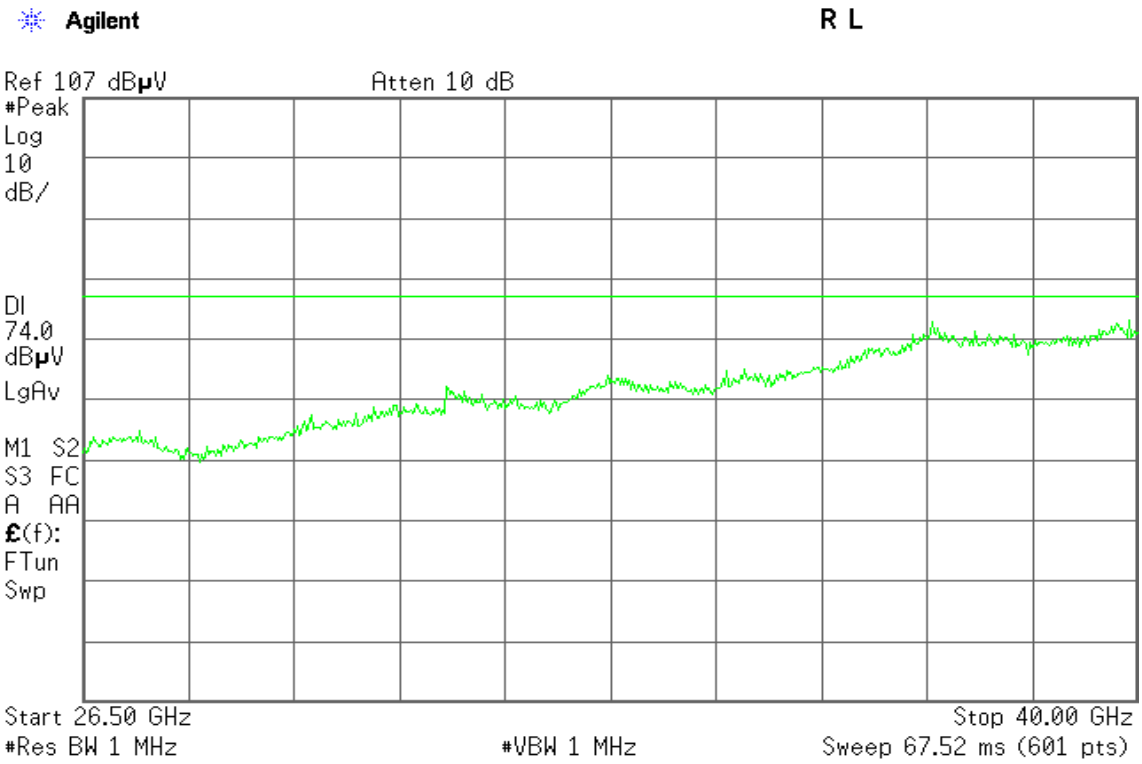

Agilent
R L
Ref 107 dBµV
Atten 10 dB
#Peak
Log
10
dB/
Dl
74.0
dBµV
LgAv
M1 S2
S3 FC
A AA
£(f):
FTun
Swp
Start 26.50 GHz
#Res BW 1 MHz
#VBW 1 MHz
Stop 40.00 GHz
Sweep 67.52 ms (601 pts)

Polarity: Horizontal








Agilent
R L
Ref 107 dBµV
Atten 10 dB
#Peak
Log
10
dB/
Dl
74.0
dBµV
LgAv
M1 S2
S3 FC
A AA
£(f):
FTun
Swp
Start 26.50 GHz
Stop 40.00 GHz
#Res BW 1 MHz
#VBW 1 MHz
Sweep 67.52 ms (601 pts)

Operation Mode:	Tx / IEEE 802.11n HT 20 MHz mode / 5220 MHz	**Test Date:**	December 8, 2015
Temperature:	27℃	**Tested by:**	Jason Lu
Humidity:	53% RH	**Polarity:**	Ver. / Hor.

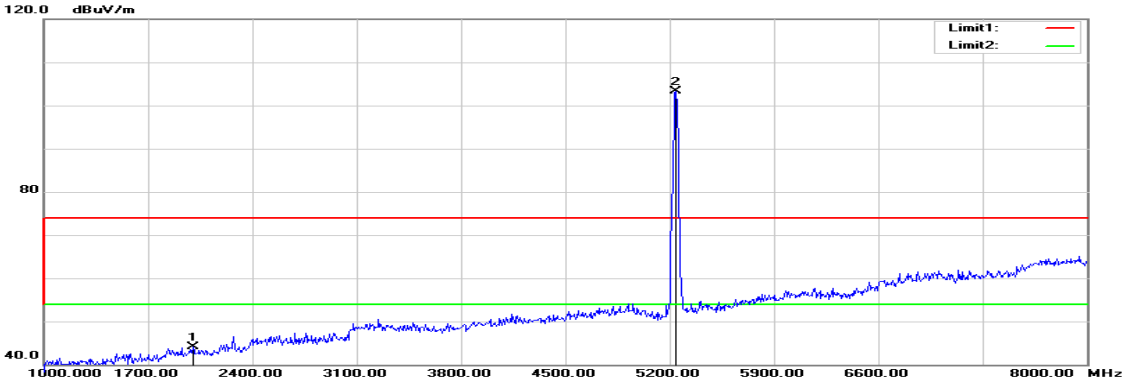
Frequency (MHz)	Reading (dBuV)	Correction (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark	Ant.Pol. (H/V)
3191.000	52.74	-1.65	51.09	74.00	-22.91	peak	V
N/A							
1735.000	57.39	-6.28	51.11	74.00	-22.89	peak	H
15670.000	44.23	19.15	63.38	74.00	-10.62	peak	H
15670.000	32.90	19.15	52.05	54.00	-1.95	AVG	H
N/A							

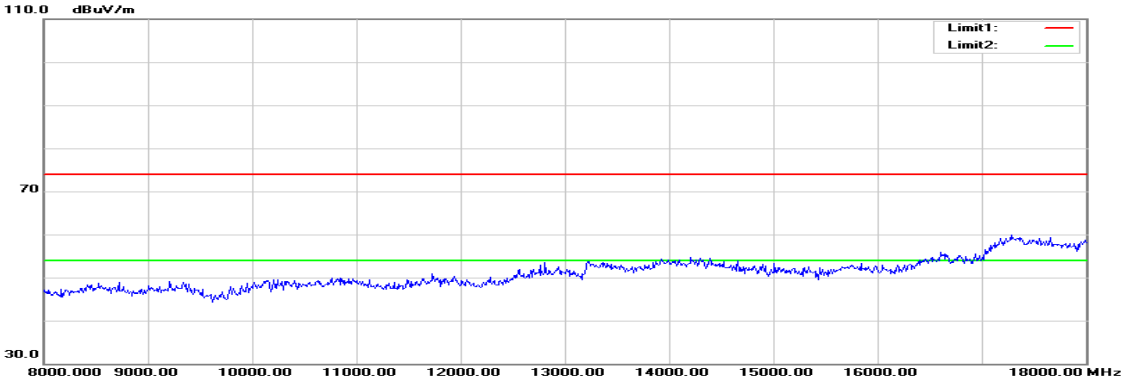
Remark:

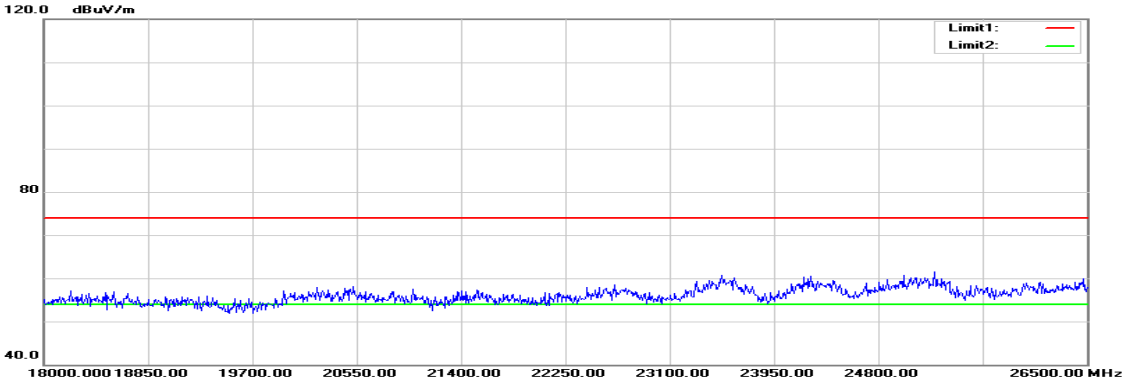
1. *Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.*
2. *Radiated emissions measured in frequency above 1000MHz were made with an instrument using peak/average detector mode.*
3. *Average test would be performed if the peak result were greater than the average limit.*
4. *Data of measurement within this frequency range shown " --- " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.*
5. *Measurements above show only up to 6 maximum emissions noted, or would be lesser, with " N/A " remark, if no specific emissions from the EUT are recorded (ie: margin>20dB from the applicable limit) and considered that's already beyond the background noise floor.*
6. *Margin (dB) = Remark result (dBuV/m) – Average limit (dBuV/m).*

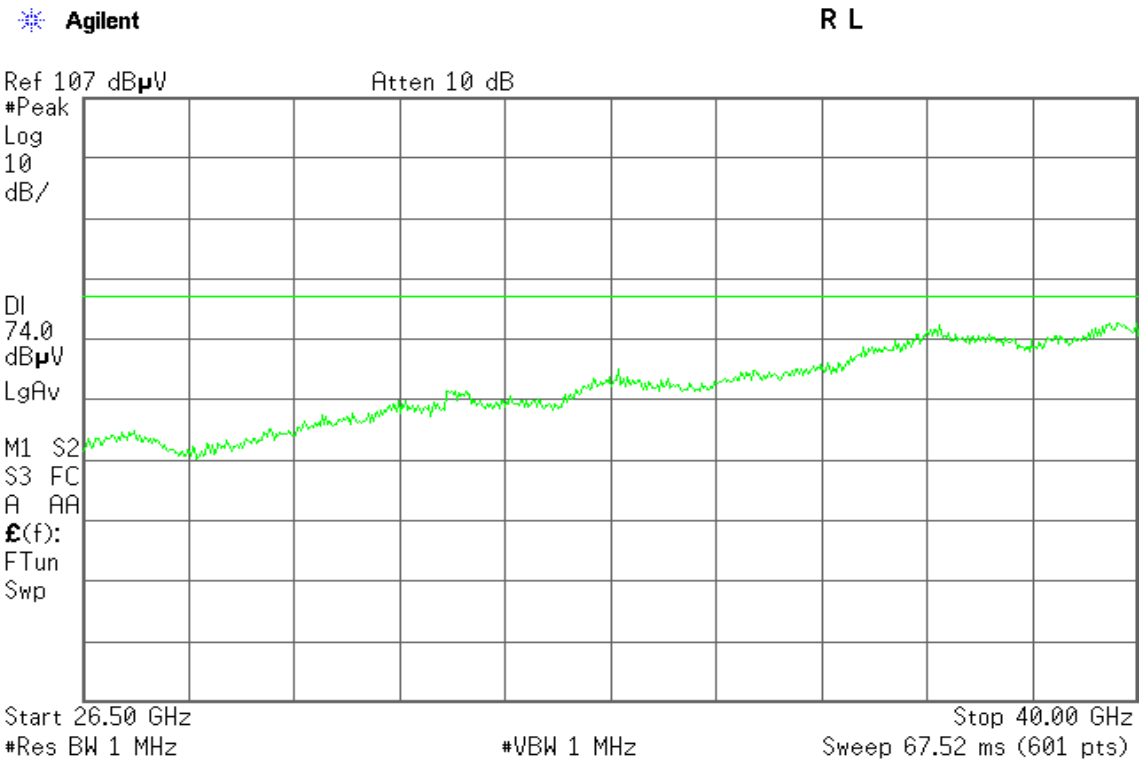
Tx / IEEE 802.11n HT 20 MHz Channel mode / 5240 MHz

Polarity: Vertical

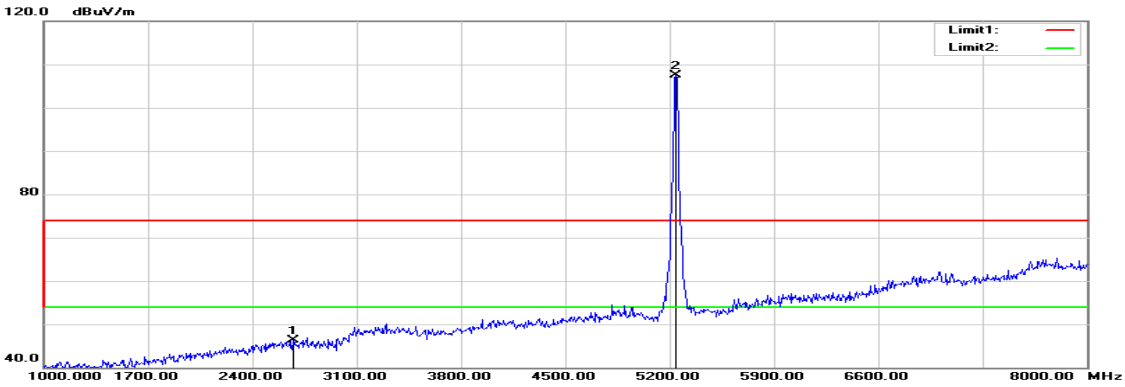


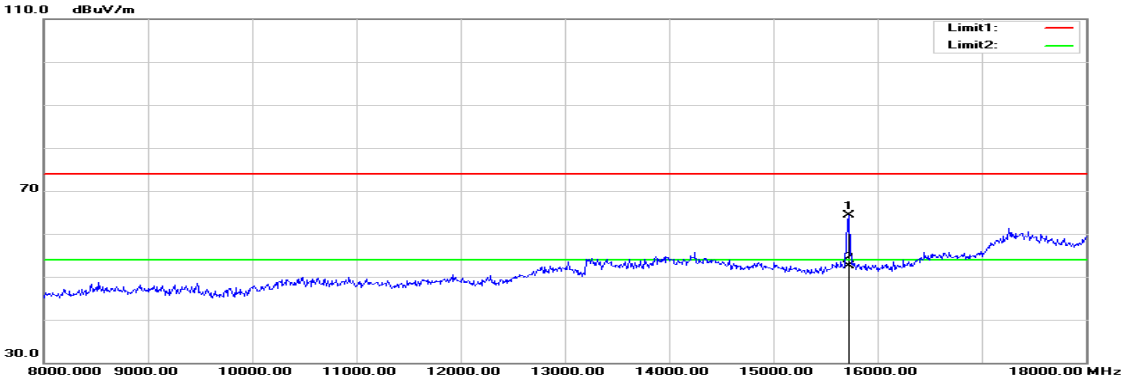


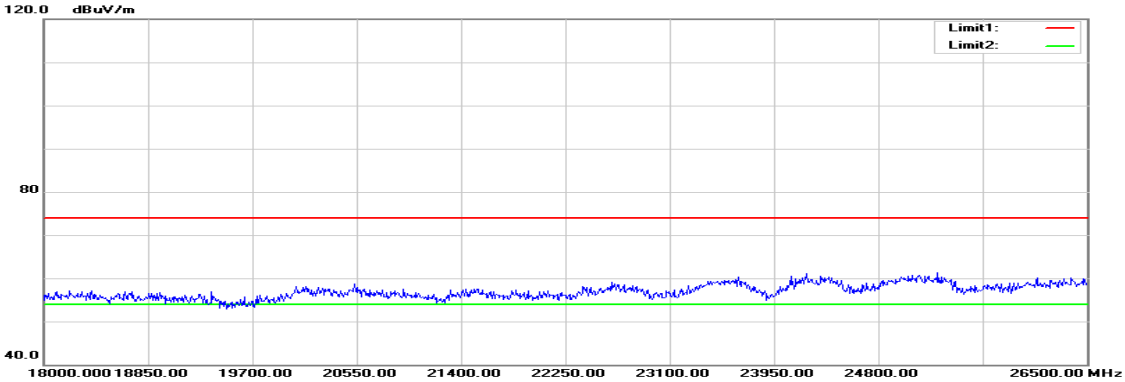


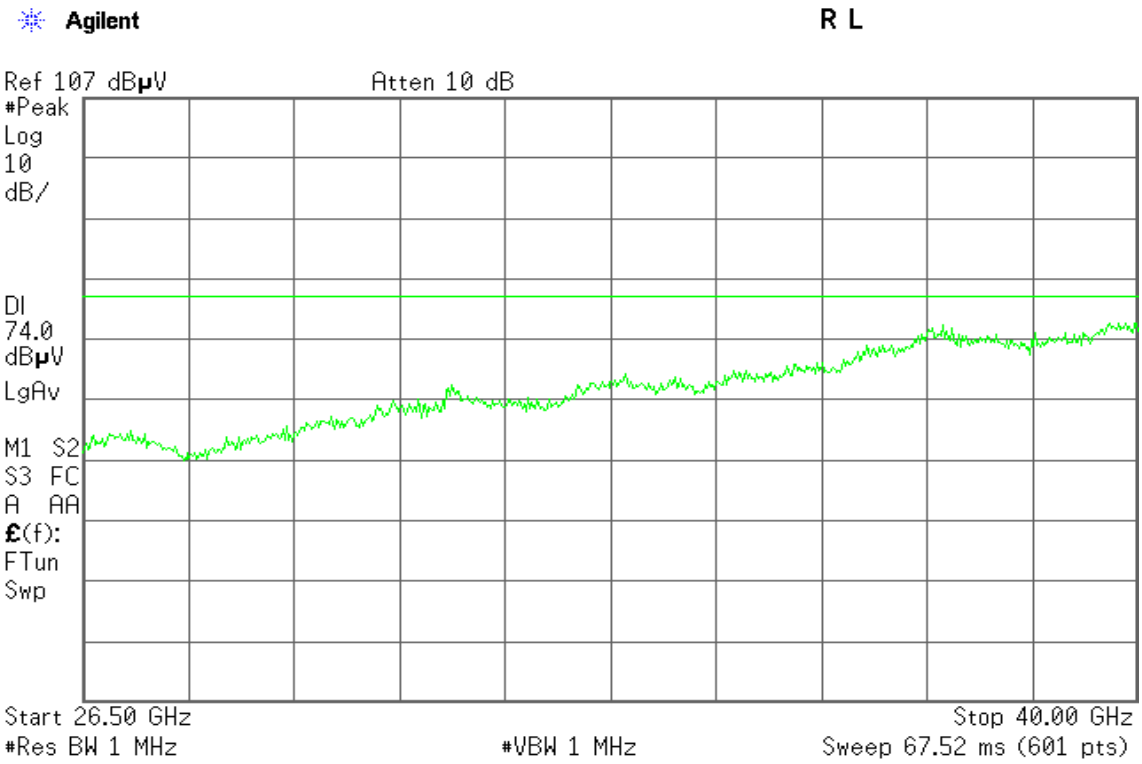

Agilent
R L
Ref 107 dBµV
Atten 10 dB
#Peak
Log
10
dB/
Dl
74.0
dBµV
LgAv
M1 S2
S3 FC
A AA
£(f):
FTun
Swp
Start 26.50 GHz
Stop 40.00 GHz
#Res BW 1 MHz
#VBW 1 MHz
Sweep 67.52 ms (601 pts)

Polarity: Horizontal








Agilent
R L
Ref 107 dBµV
Atten 10 dB
#Peak
Log
10
dB/
Dl
74.0
dBµV
LgAv
M1 S2
S3 FC
A AA
£(f):
FTun
Swp
Start 26.50 GHz
Stop 40.00 GHz
#Res BW 1 MHz
#VBW 1 MHz
Sweep 67.52 ms (601 pts)

Operation Mode:	Tx / IEEE 802.11n HT 20 MHz mode / 5240 MHz	**Test Date:**	December 8, 2015
Temperature:	27℃	**Tested by:**	Jason Lu
Humidity:	53% RH	**Polarity:**	Ver. / Hor.

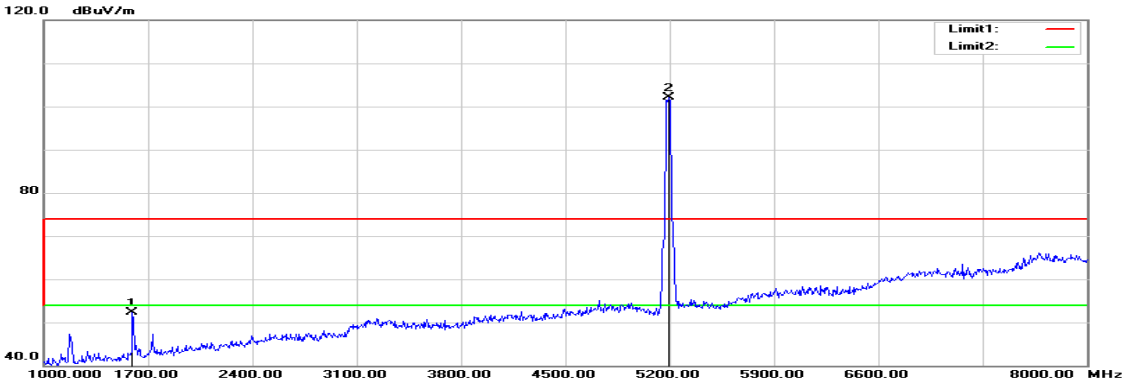
Frequency (MHz)	Reading (dBuV)	Correction (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark	Ant.Pol. (H/V)
2001.000	49.04	-4.88	44.16	74.00	-29.84	peak	V
N/A							
2673.000	49.11	-2.77	46.34	74.00	-27.66	peak	H
15720.000	45.11	19.19	64.30	74.00	-9.70	peak	H
15720.000	33.27	19.19	52.46	54.00	-1.54	AVG	H
N/A							

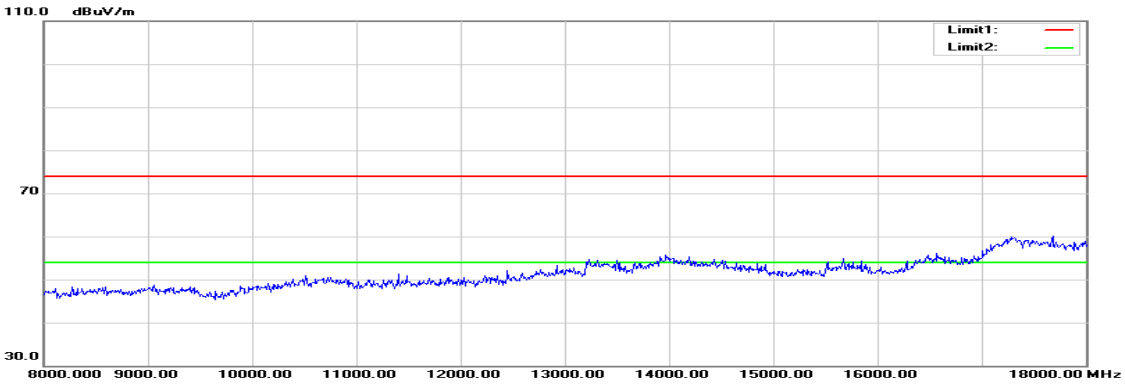
Remark:

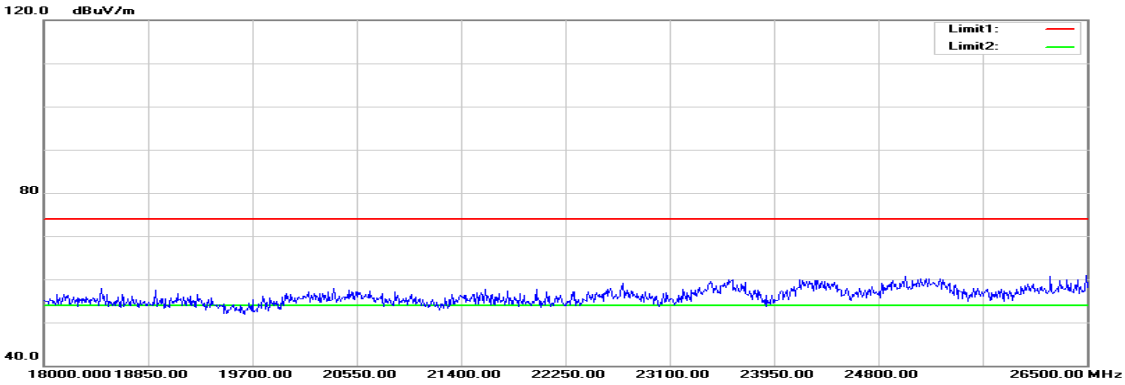
1. *Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.*
2. *Radiated emissions measured in frequency above 1000MHz were made with an instrument using peak/average detector mode.*
3. *Average test would be performed if the peak result were greater than the average limit.*
4. *Data of measurement within this frequency range shown " --- " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.*
5. *Measurements above show only up to 6 maximum emissions noted, or would be lesser, with " N/A " remark, if no specific emissions from the EUT are recorded (ie: margin>20dB from the applicable limit) and considered that's already beyond the background noise floor.*
6. *Margin (dB) = Remark result (dBuV/m) – Average limit (dBuV/m).*

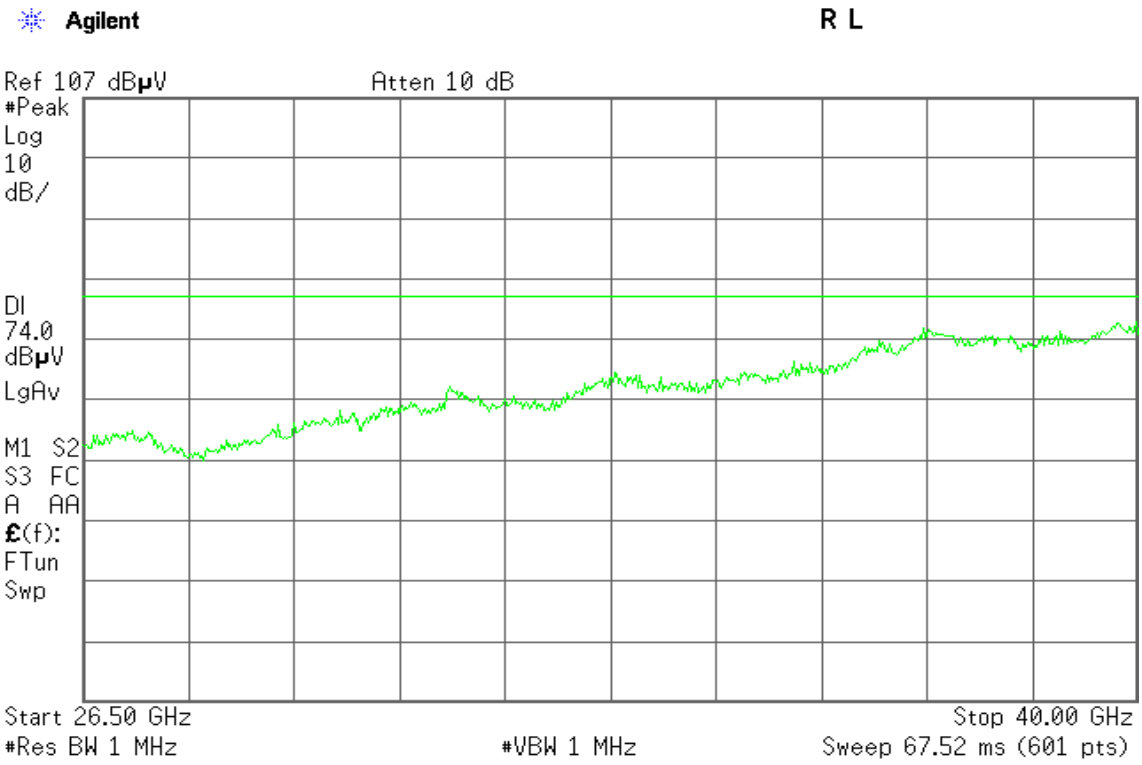
Tx / IEEE 802.11n HT 40 MHz mode / 5190 MHz

Polarity: Vertical

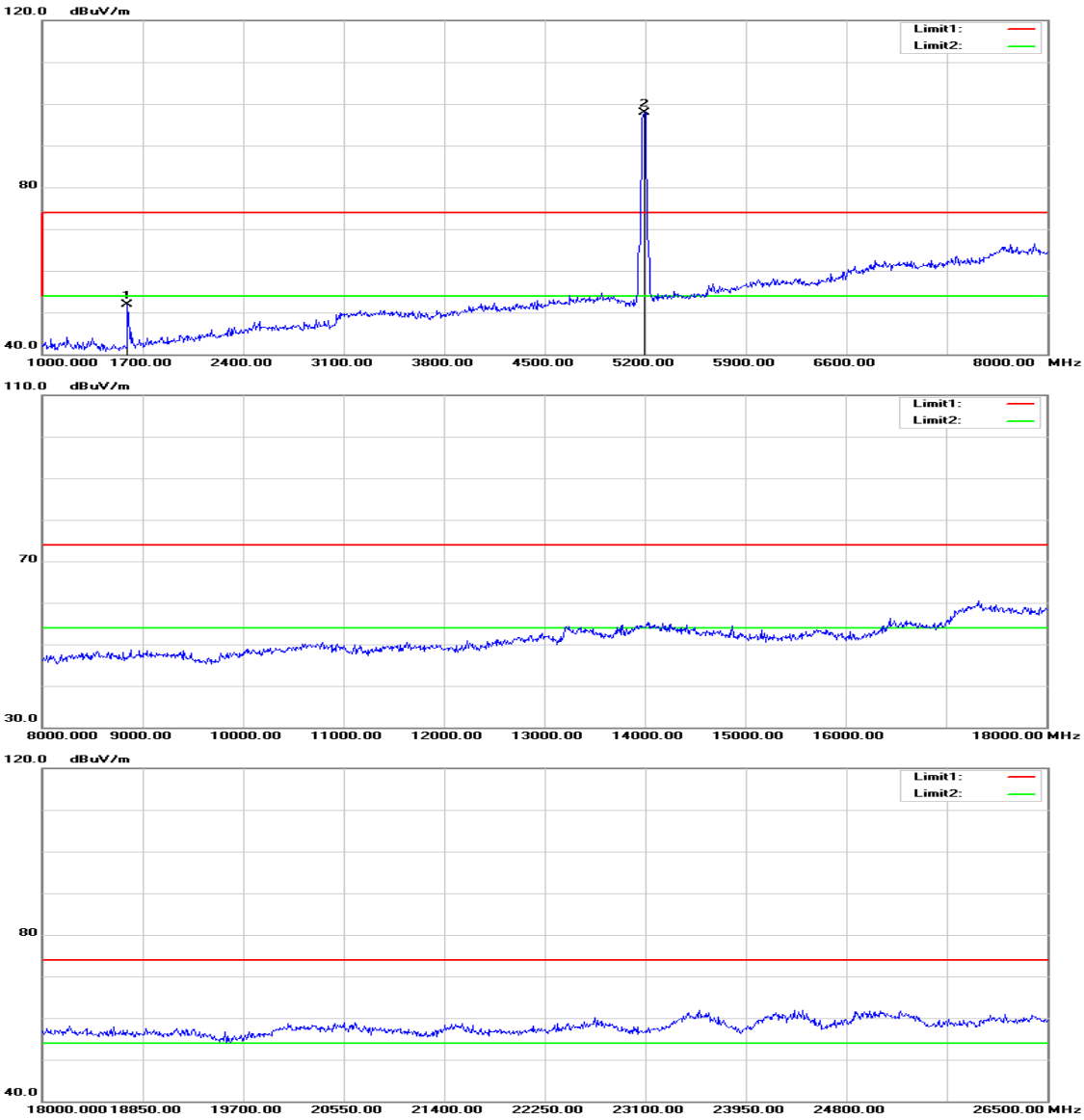


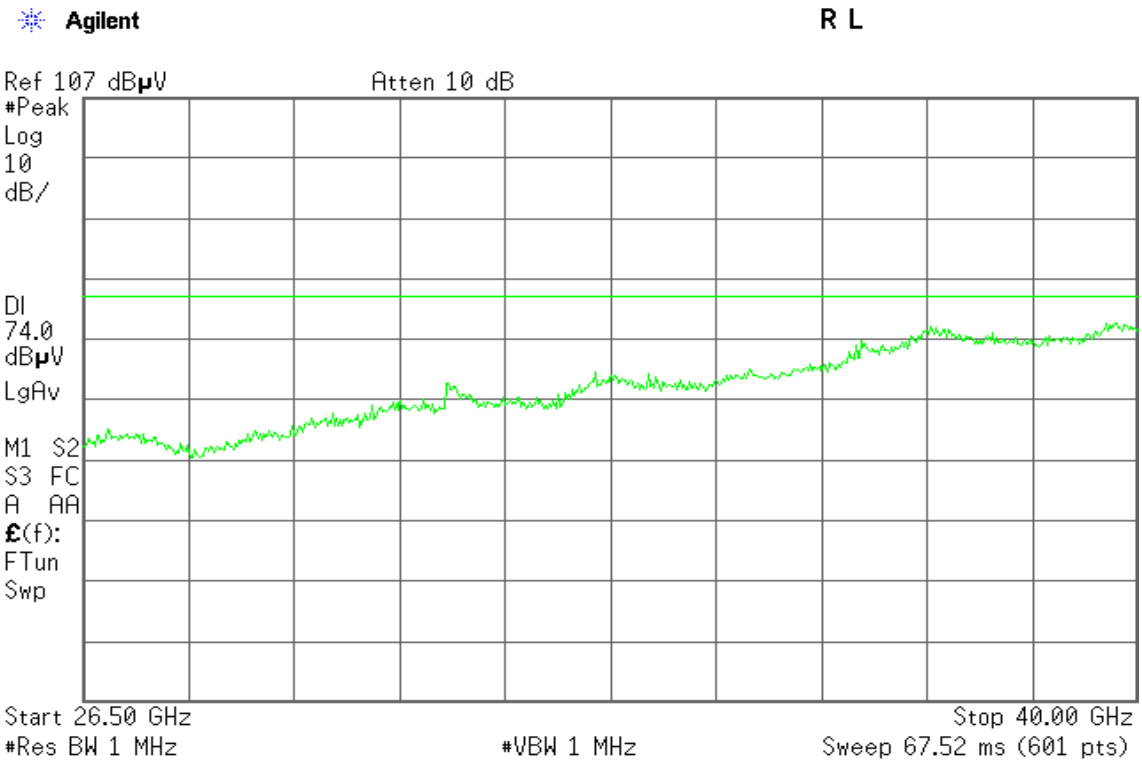





Agilent
R L
Ref 107 dBµV
Atten 10 dB
#Peak
Log
10
dB/
Dl
74.0
dBµV
LgAv
M1 S2
S3 FC
A AA
£(f):
FTun
Swp
Start 26.50 GHz
#Res BW 1 MHz
#VBW 1 MHz
Stop 40.00 GHz
Sweep 67.52 ms (601 pts)

Polarity: Horizontal




Agilent
R L
Ref 107 dBµV
Atten 10 dB
#Peak
Log
10
dB/
Dl
74.0
dBµV
LgAv
M1 S2
S3 FC
A AA
£(f):
FTun
Swp
Start 26.50 GHz
Stop 40.00 GHz
#Res BW 1 MHz
#VBW 1 MHz
Sweep 67.52 ms (601 pts)

Operation Mode:	Tx / IEEE 802.11n HT 40 MHz mode / 5190 MHz	**Test Date:**	December 8, 2015
Temperature:	27℃	**Tested by:**	Jason Lu
Humidity:	53% RH	**Polarity:**	Ver. / Hor.

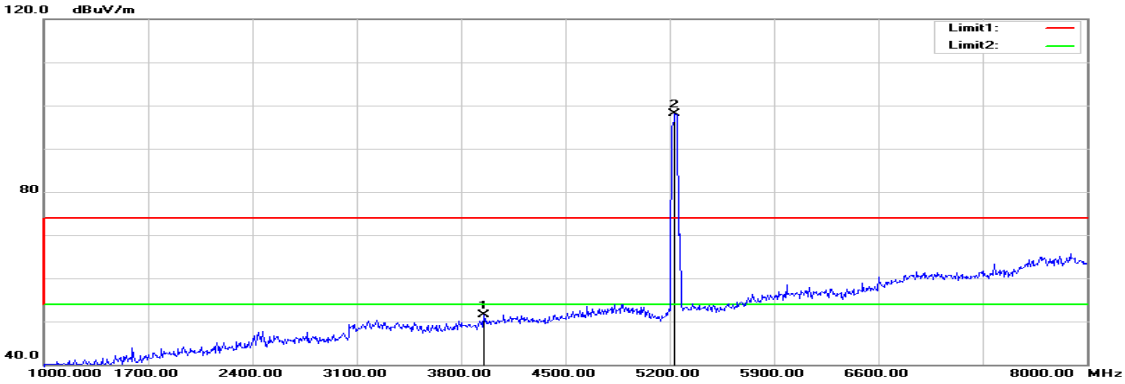
Frequency (MHz)	Reading (dBuV)	Correction (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark	Ant.Pol. (H/V)
1595.000	59.30	-7.03	52.27	74.00	-21.73	peak	V
N/A							
1595.000	58.85	-7.03	51.82	74.00	-22.18	peak	H
N/A							

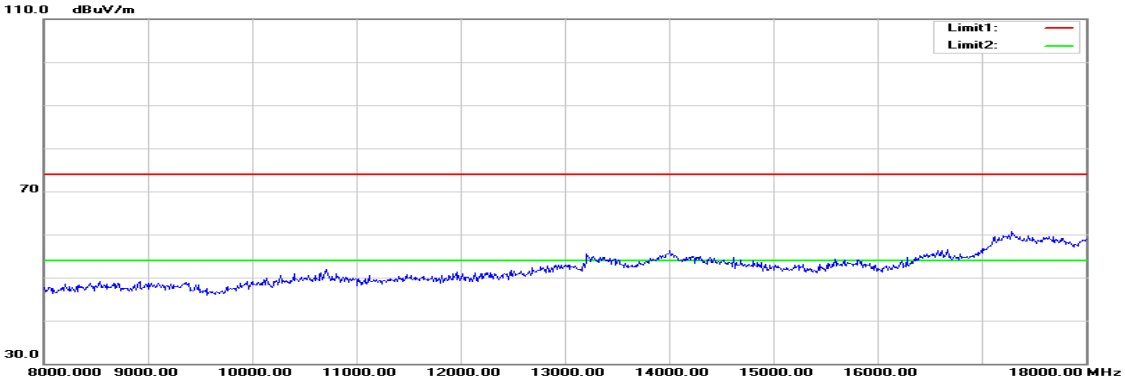
Remark:

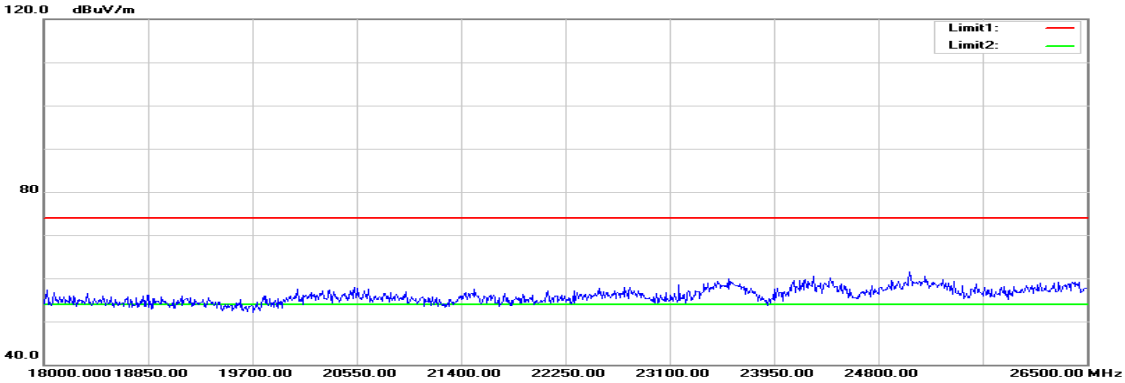
1. *Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.*
2. *Radiated emissions measured in frequency above 1000MHz were made with an instrument using peak/average detector mode.*
3. *Average test would be performed if the peak result were greater than the average limit.*
4. *Data of measurement within this frequency range shown " --- " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.*
5. *Measurements above show only up to 6 maximum emissions noted, or would be lesser, with " N/A " remark, if no specific emissions from the EUT are recorded (ie: margin>20dB from the applicable limit) and considered that's already beyond the background noise floor.*
6. *Margin (dB) = Remark result (dBuV/m) – Average limit (dBuV/m).*

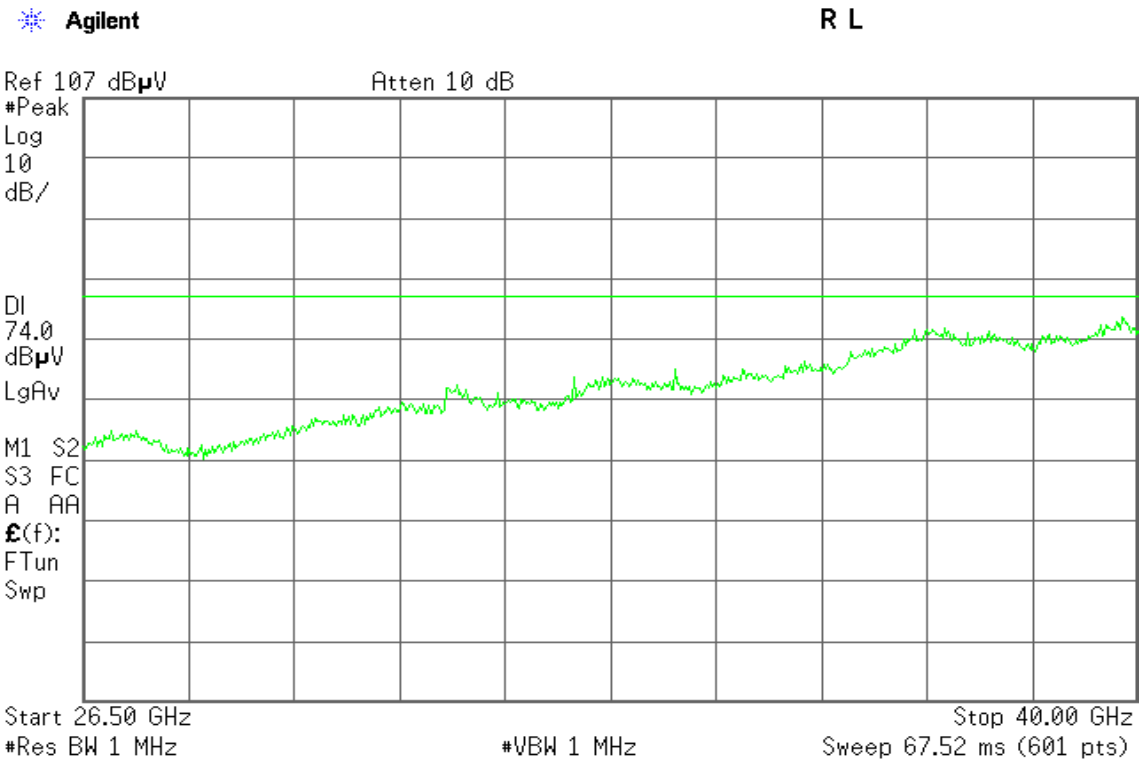
Tx / IEEE 802.11n HT 40 MHz mode / 5230 MHz

Polarity: Vertical

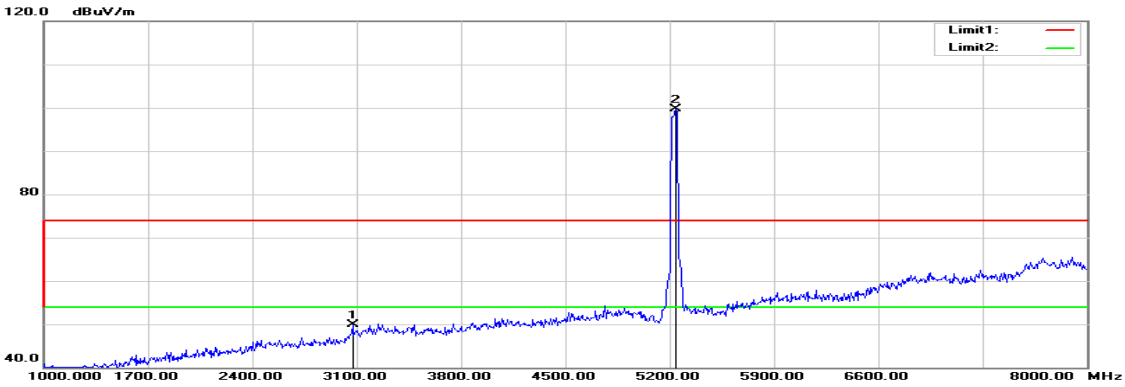


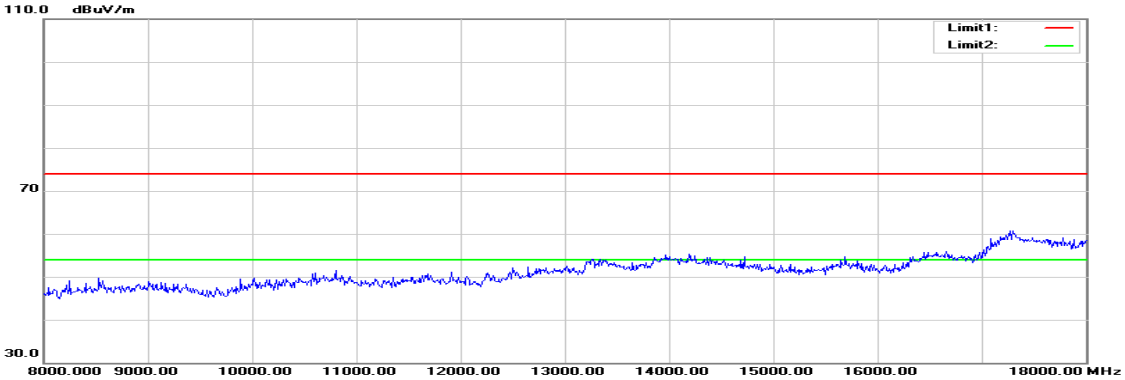


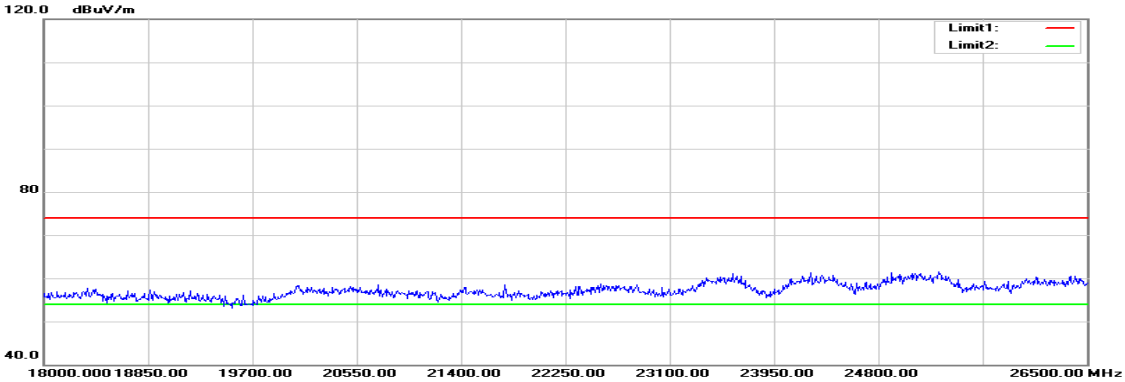


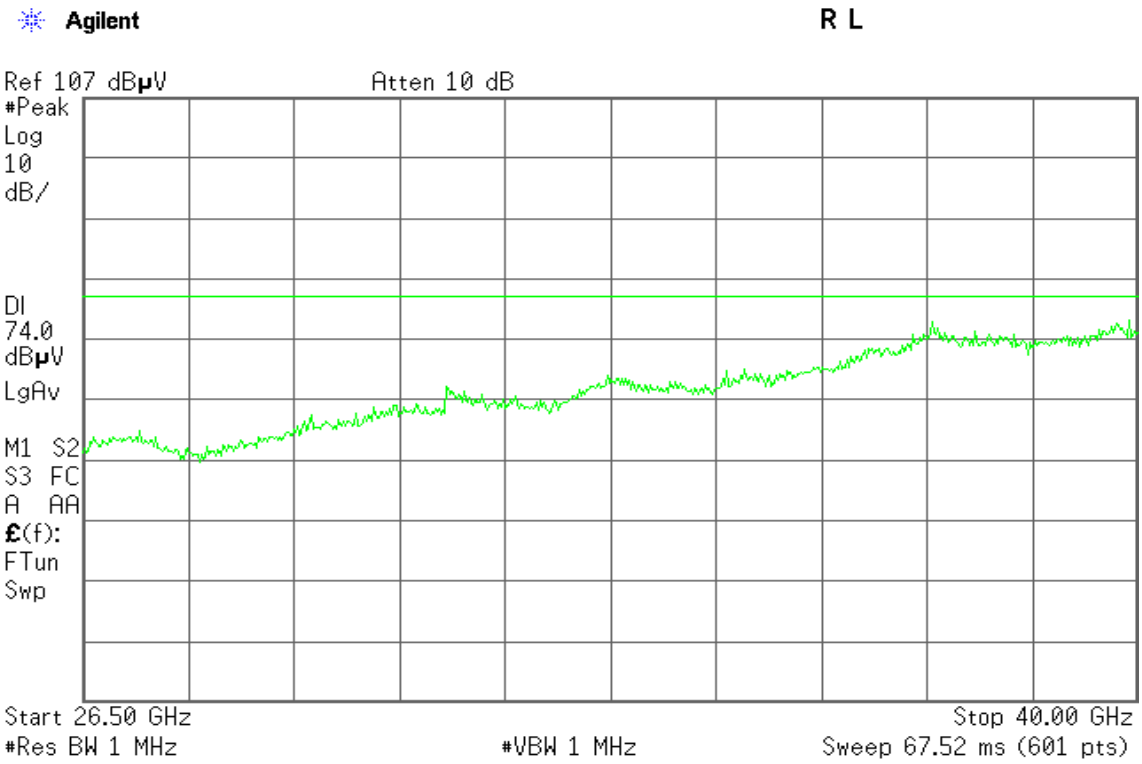

Agilent
R L
Ref 107 dBµV
Atten 10 dB
#Peak
Log
10
dB/
Dl
74.0
dBµV
LgAv
M1 S2
S3 FC
A AA
£(f):
FTun
Swp
Start 26.50 GHz
#Res BW 1 MHz
#VBW 1 MHz
Stop 40.00 GHz
Sweep 67.52 ms (601 pts)

Polarity: Horizontal








Agilent
R L
Ref 107 dBµV
Atten 10 dB
#Peak
Log
10
dB/
Dl
74.0
dBµV
LgAv
M1 S2
S3 FC
A AA
£(f):
FTun
Swp
Start 26.50 GHz
Stop 40.00 GHz
#Res BW 1 MHz
#VBW 1 MHz
Sweep 67.52 ms (601 pts)

Operation Mode:	Tx / IEEE 802.11n HT 40 MHz mode / 5230 MHz	**Test Date:**	December 8, 2015
Temperature:	27℃	**Tested by:**	Jason Lu
Humidity:	53% RH	**Polarity:**	Ver. / Hor.

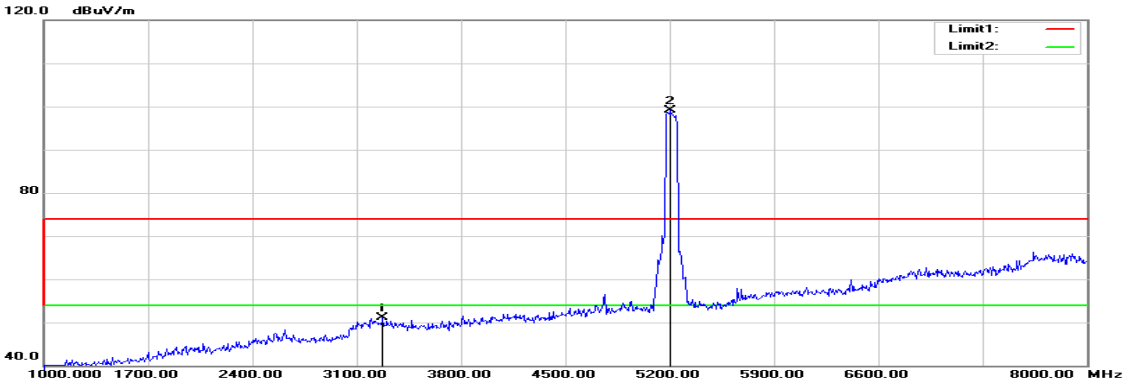
Frequency (MHz)	Reading (dBuV)	Correction (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark	Ant.Pol. (H/V)
3954.000	50.55	1.03	51.58	74.00	-22.42	peak	V
N/A							
3072.000	51.84	-1.94	49.90	74.00	-24.10	peak	H
N/A							

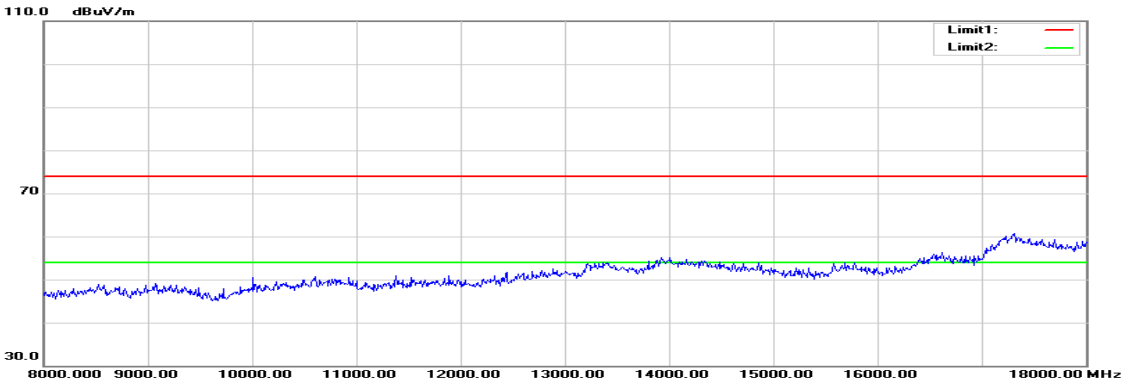
Remark:

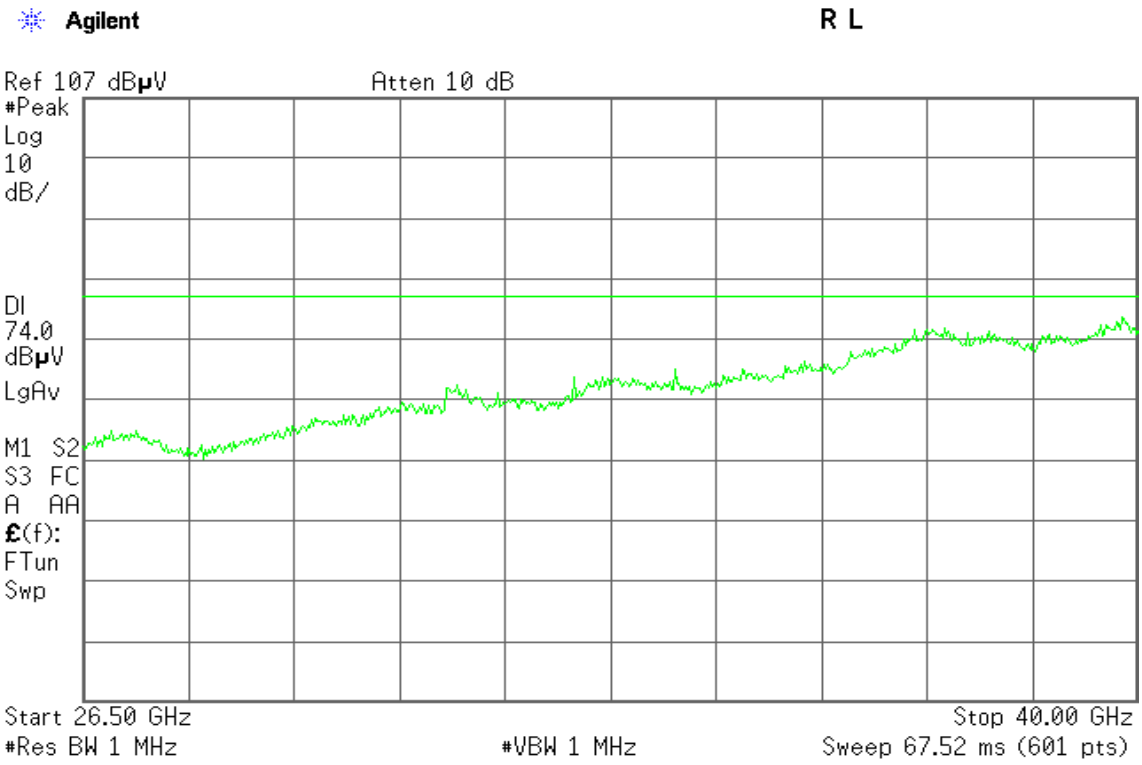
1. *Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.*
2. *Radiated emissions measured in frequency above 1000MHz were made with an instrument using peak/average detector mode.*
3. *Average test would be performed if the peak result were greater than the average limit.*
4. *Data of measurement within this frequency range shown " --- " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.*
5. *Measurements above show only up to 6 maximum emissions noted, or would be lesser, with " N/A " remark, if no specific emissions from the EUT are recorded (ie: margin>20dB from the applicable limit) and considered that's already beyond the background noise floor.*
6. *Margin (dB) = Remark result (dBuV/m) – Average limit (dBuV/m).*

Tx / IEEE 802.11ac VHT 80 MHz mode / 5210MHz

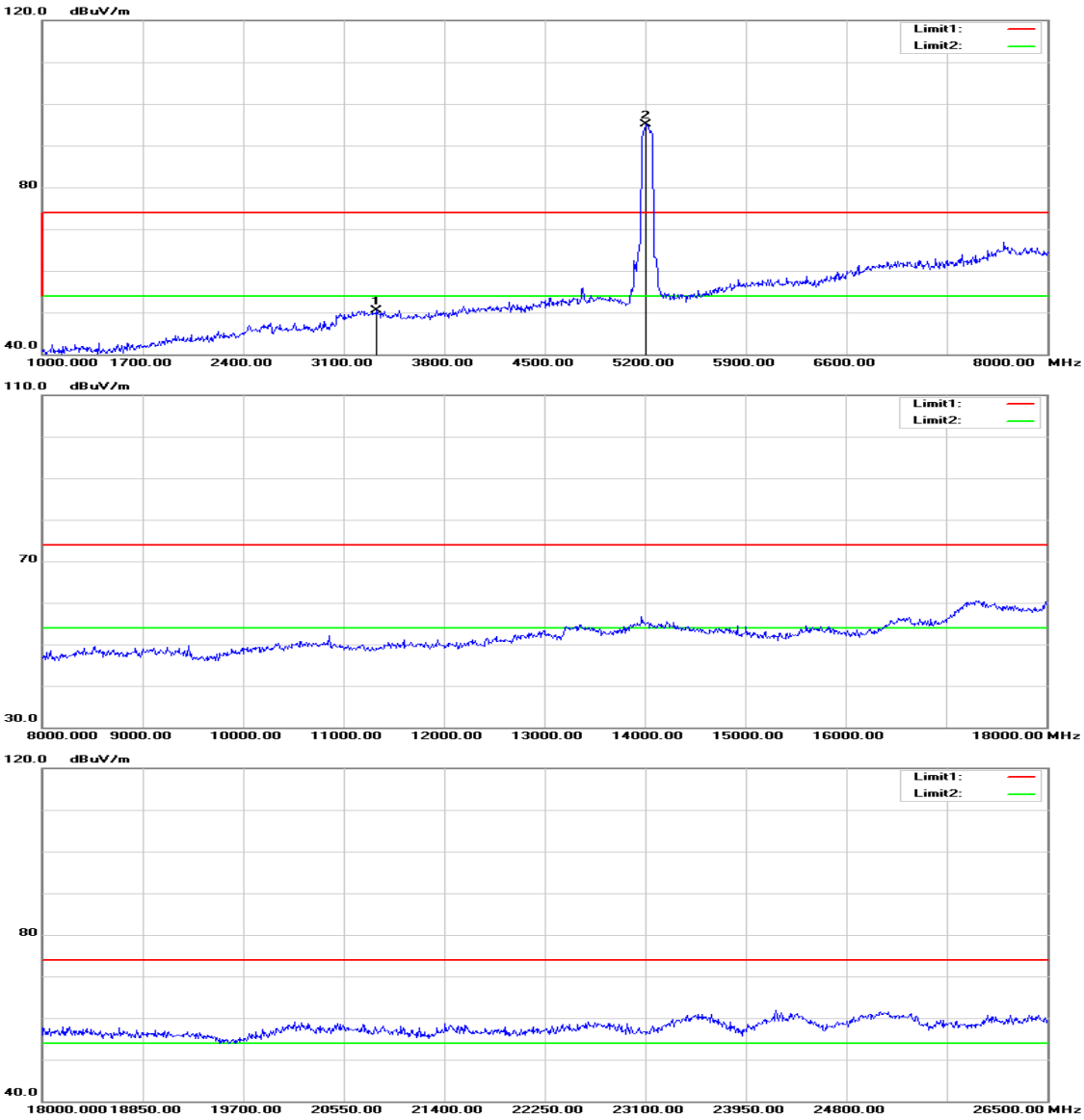
Polarity: Vertical

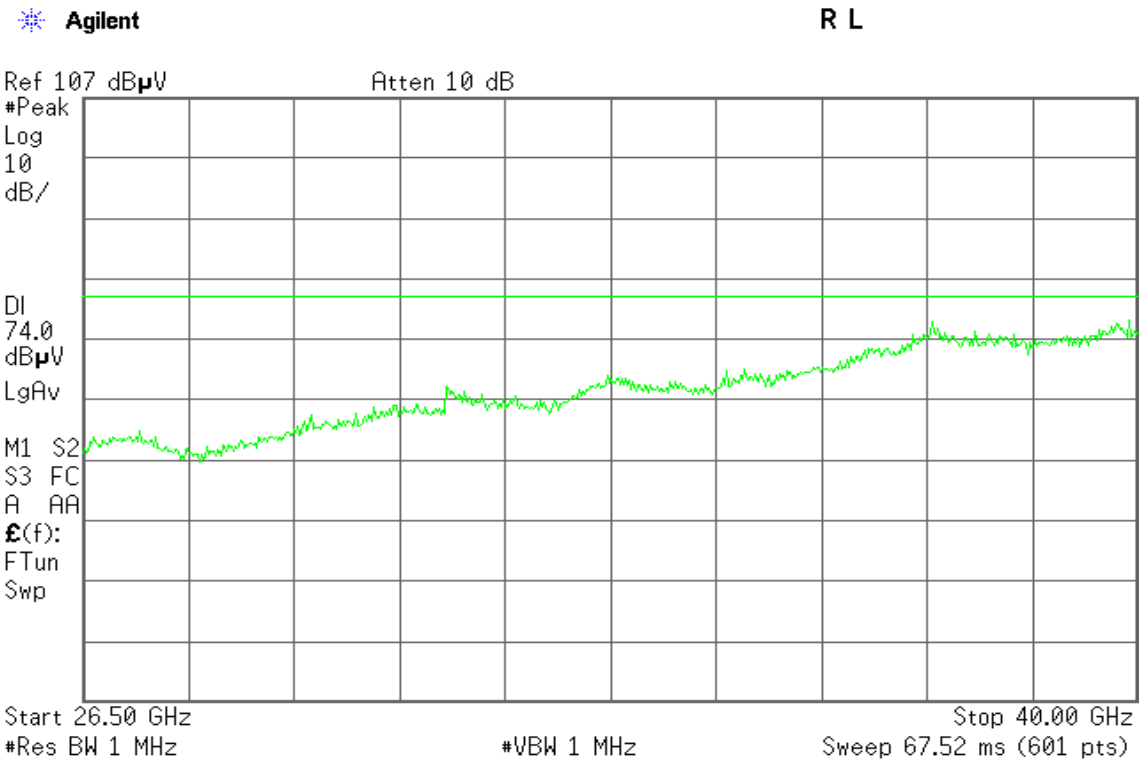





Agilent
R L
Ref 107 dBµV
Atten 10 dB
#Peak
Log
10
dB/
Dl
74.0
dBµV
LgAv
M1 S2
S3 FC
A AA
£(f):
FTun
Swp
Start 26.50 GHz
#Res BW 1 MHz
#VBW 1 MHz
Stop 40.00 GHz
Sweep 67.52 ms (601 pts)

Polarity: Horizontal




Agilent
R L
Ref 107 dBµV
Atten 10 dB
#Peak
Log
10
dB/
Dl
74.0
dBµV
LgAv
M1 S2
S3 FC
A AA
£(f):
FTun
Swp
Start 26.50 GHz
Stop 40.00 GHz
#Res BW 1 MHz
#VBW 1 MHz
Sweep 67.52 ms (601 pts)

Operation Mode:	Tx / IEEE 802.11ac VHT 80 MHz mode / 5210MHz	**Test Date:**	December 12, 2015
Temperature:	27℃	**Tested by:**	Jason Lu
Humidity:	53% RH	**Polarity:**	Ver. / Hor.

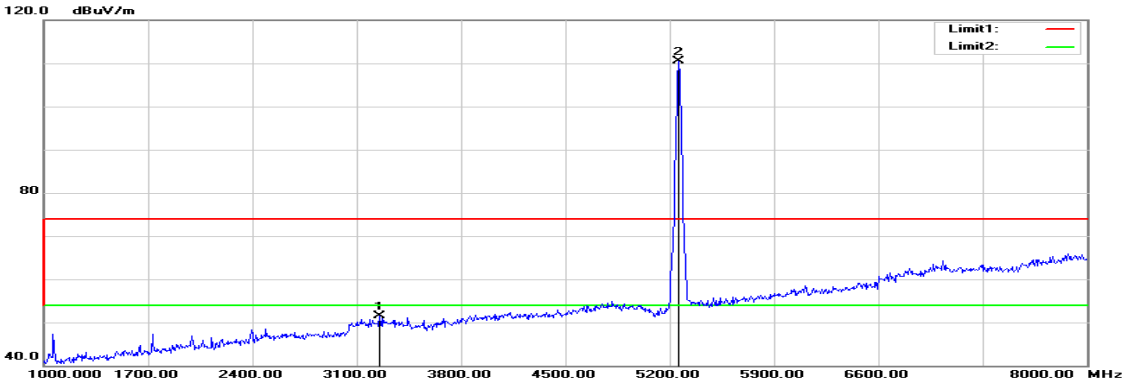
Frequency (MHz)	Reading (dBuV)	Correction (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark	Ant.Pol. (H/V)
3275.000	52.50	-1.45	51.05	74.00	-22.95	peak	V
N/A							
3331.000	51.91	-1.32	50.59	74.00	-23.41	peak	H
N/A							

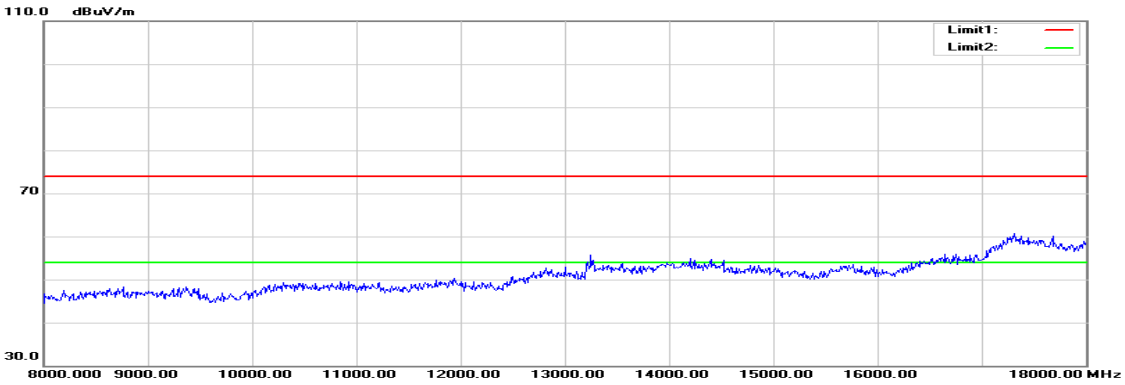
Remark:

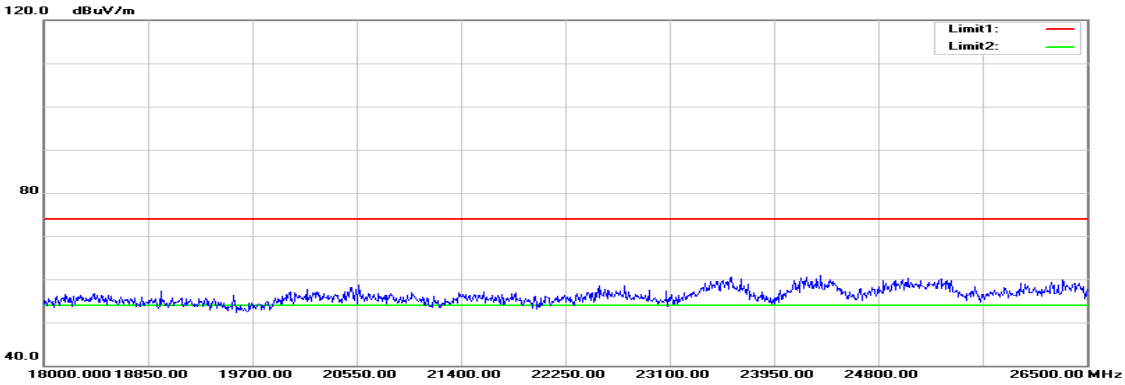
1. *Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.*
2. *Radiated emissions measured in frequency above 1000MHz were made with an instrument using peak/average detector mode.*
3. *Average test would be performed if the peak result were greater than the average limit.*
4. *Data of measurement within this frequency range shown " --- " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.*
5. *Measurements above show only up to 6 maximum emissions noted, or would be lesser, with " N/A " remark, if no specific emissions from the EUT are recorded (ie: margin>20dB from the applicable limit) and considered that's already beyond the background noise floor.*
6. *Margin (dB) = Remark result (dBuV/m) – Average limit (dBuV/m).*

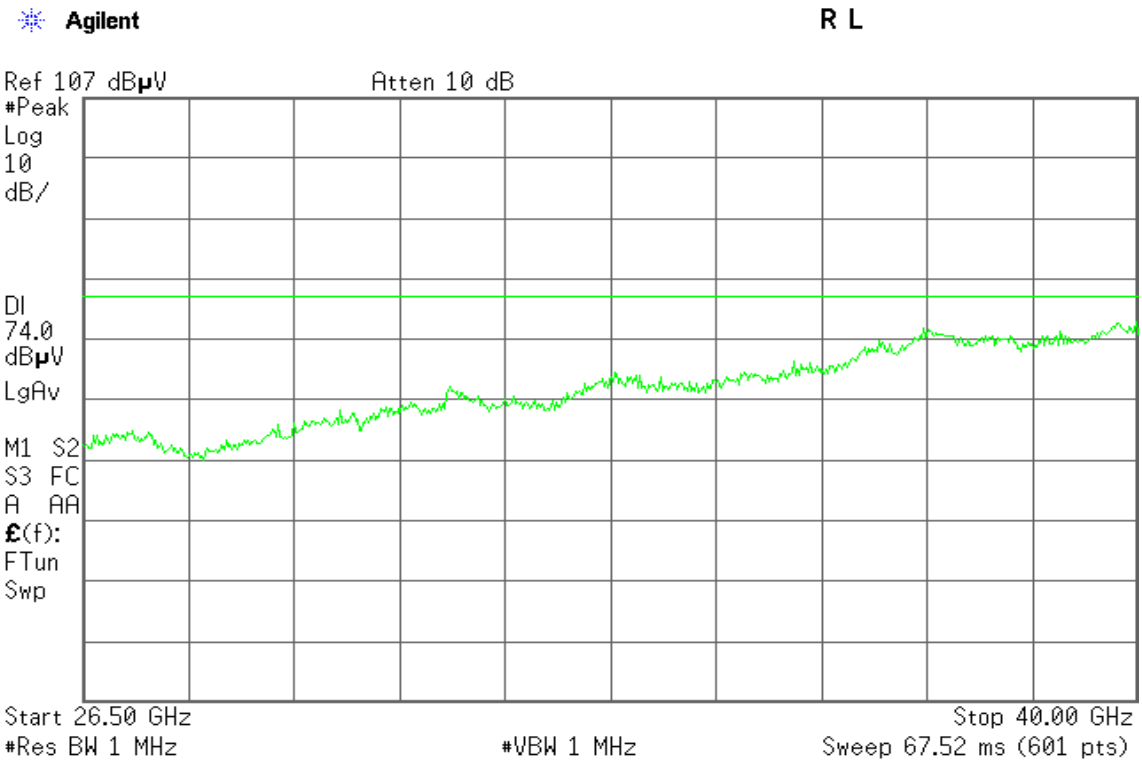
Tx / IEEE 802.11a mode / 5260 MHz

Polarity: Vertical

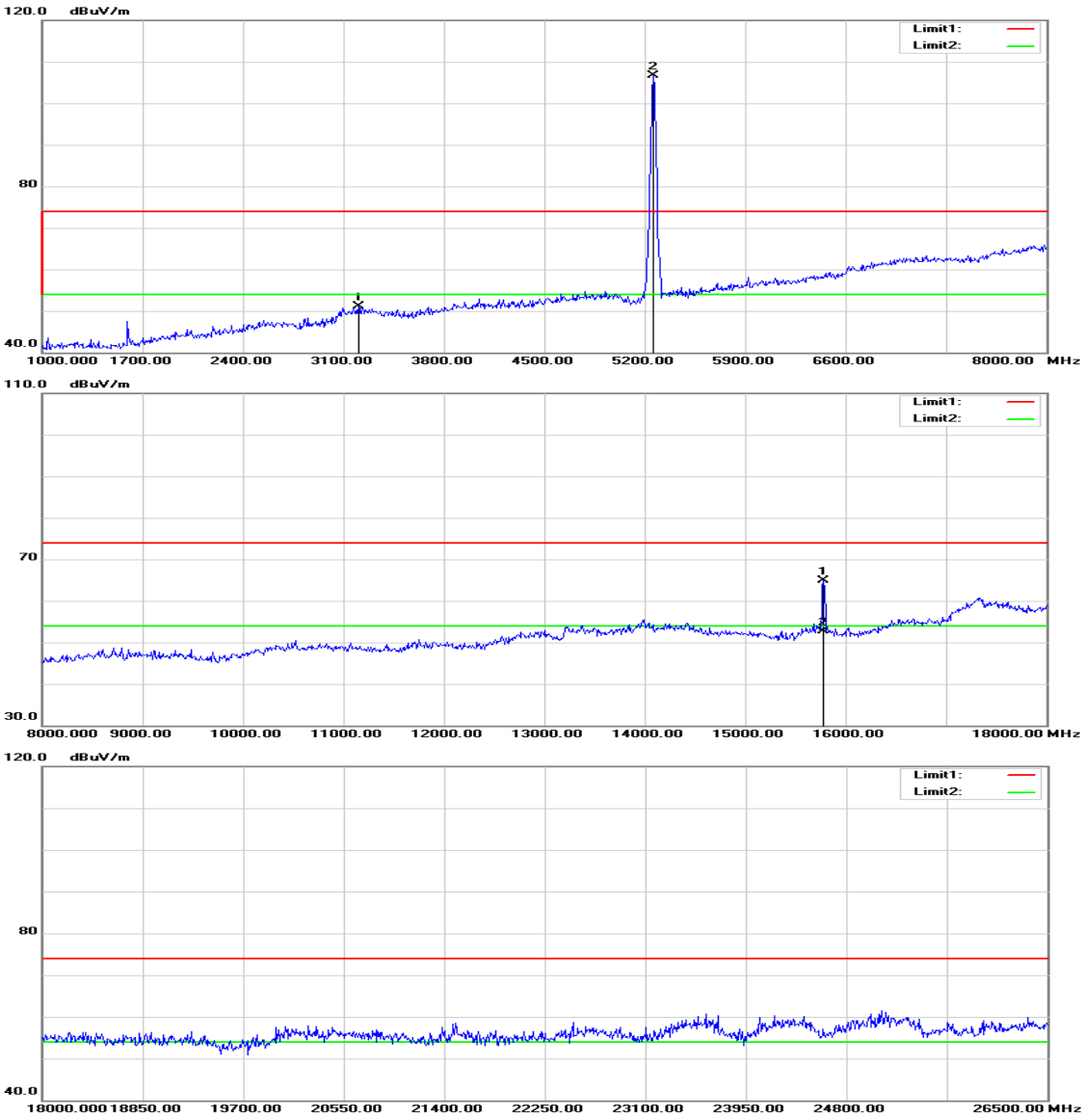


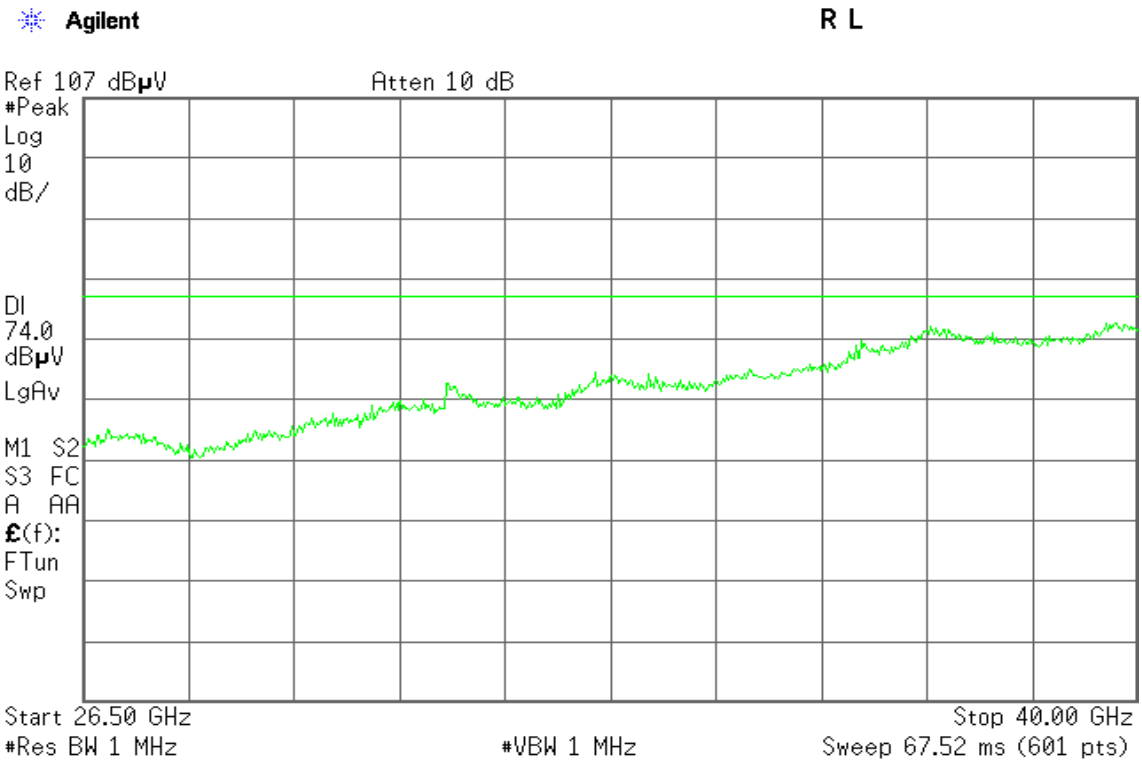





Agilent
R L
Ref 107 dBµV
Atten 10 dB
#Peak
Log
10
dB/
Dl
74.0
dBµV
LgAv
M1 S2
S3 FC
A AA
£(f):
FTun
Swp
Start 26.50 GHz
#Res BW 1 MHz
#VBW 1 MHz
Stop 40.00 GHz
Sweep 67.52 ms (601 pts)

Polarity: Horizontal




Agilent
R L
Ref 107 dBµV
Atten 10 dB
#Peak
Log
10
dB/
Dl
74.0
dBµV
LgAv
M1 S2
S3 FC
A AA
£(f):
FTun
Swp
Start 26.50 GHz
Stop 40.00 GHz
#Res BW 1 MHz
#VBW 1 MHz
Sweep 67.52 ms (601 pts)

Operation Mode: Tx / IEEE 802.11a mode / 5260 MHz **Test Date:** December 12, 2015

Temperature: 27℃ **Tested by:** Jason Lu

Humidity: 53% RH **Polarity:** Ver. / Hor.

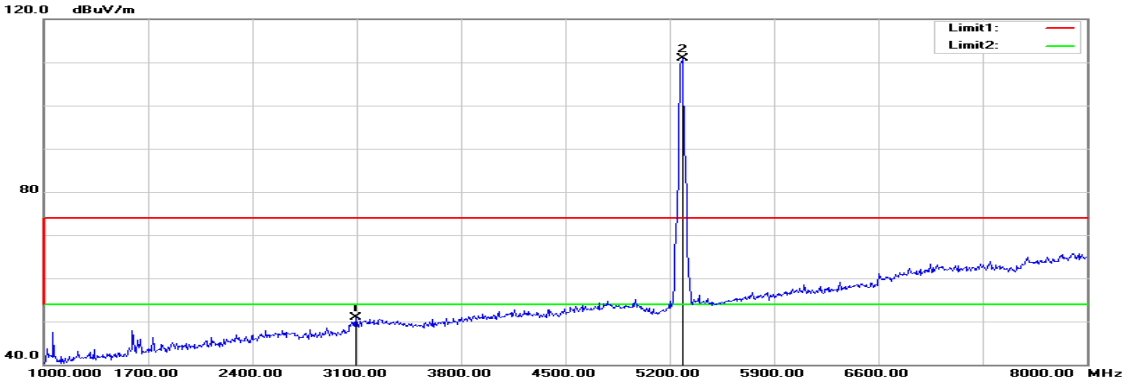
Frequency (MHz)	Reading (dBuV)	Correction (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark	Ant.Pol. (H/V)
3254.000	52.98	-1.50	51.48	74.00	-22.52	peak	V
N/A							
3205.000	52.70	-1.62	51.08	74.00	-22.92	peak	H
15780.000	45.57	19.25	64.82	74.00	-9.18	peak	H
15780.000	33.39	19.25	52.64	54.00	-1.36	AVG	H
N/A							

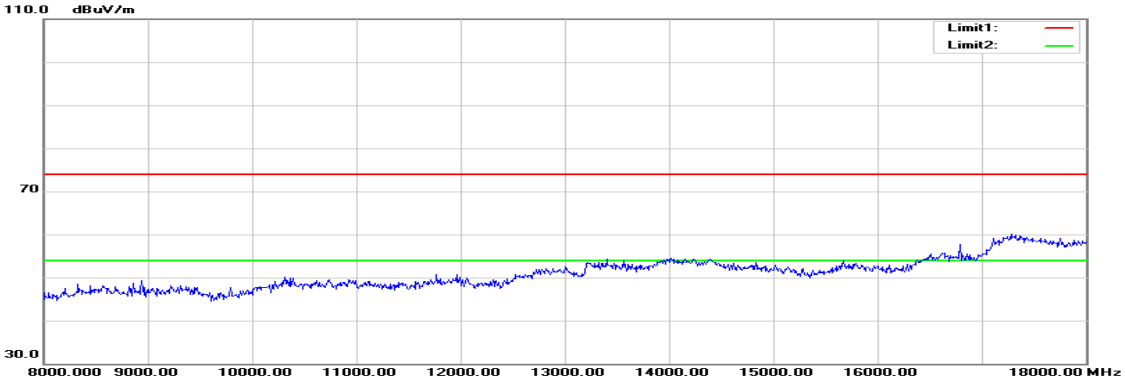
Remark:

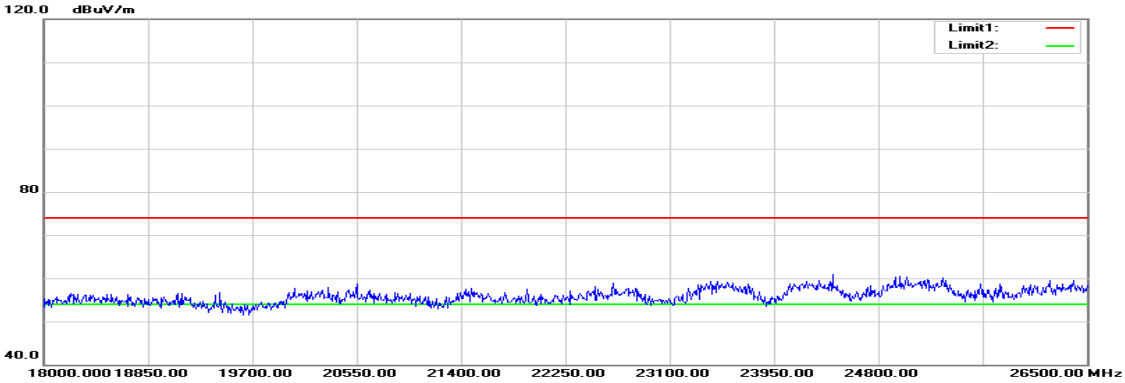
1. *Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.*
2. *Radiated emissions measured in frequency above 1000MHz were made with an instrument using peak/average detector mode.*
3. *Average test would be performed if the peak result were greater than the average limit.*
4. *Data of measurement within this frequency range shown " --- " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.*
5. *Measurements above show only up to 6 maximum emissions noted, or would be lesser, with " N/A " remark, if no specific emissions from the EUT are recorded (ie: margin>20dB from the applicable limit) and considered that's already beyond the background noise floor.*
6. *Margin (dB) = Remark result (dBuV/m) – Average limit (dBuV/m).*

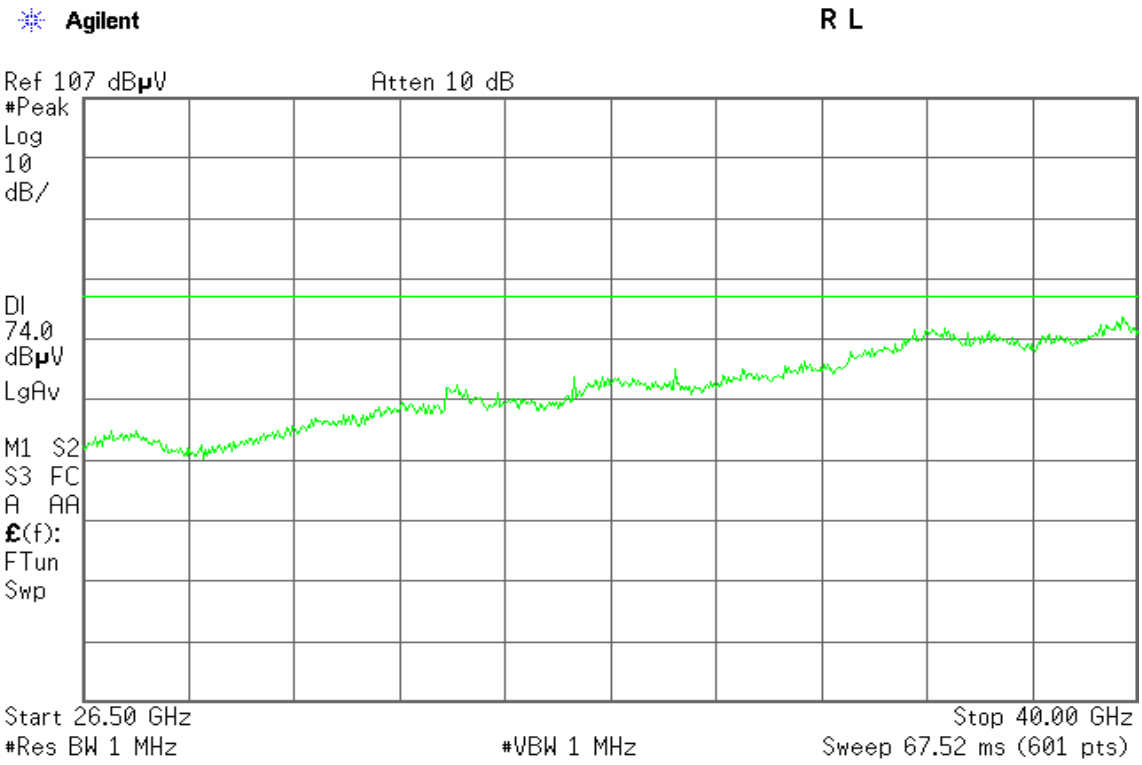
Tx / IEEE 802.11a mode / 5280 MHz

Polarity: Vertical

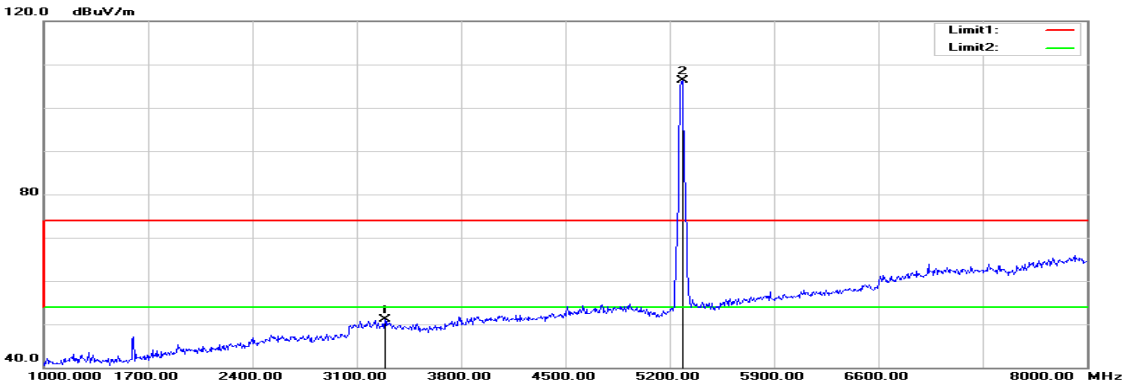


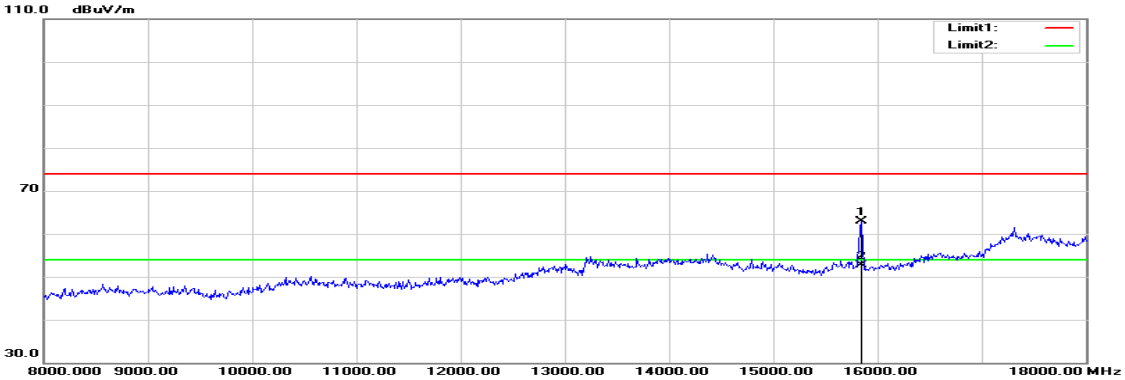


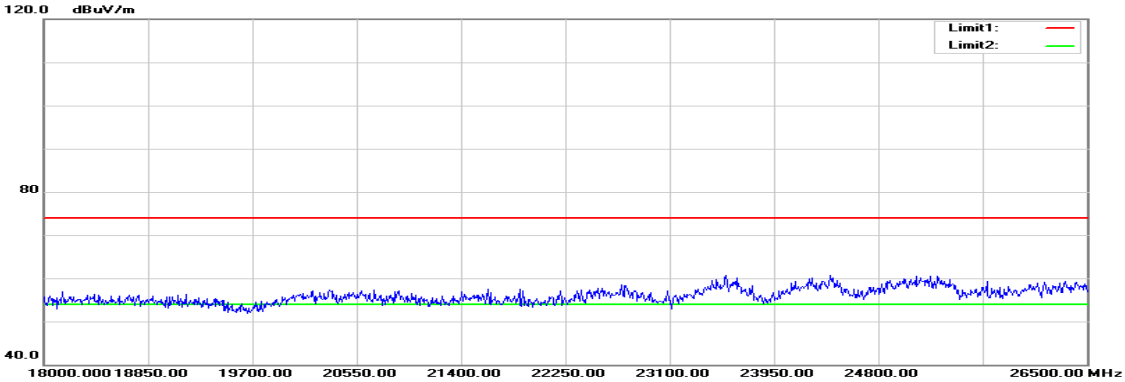


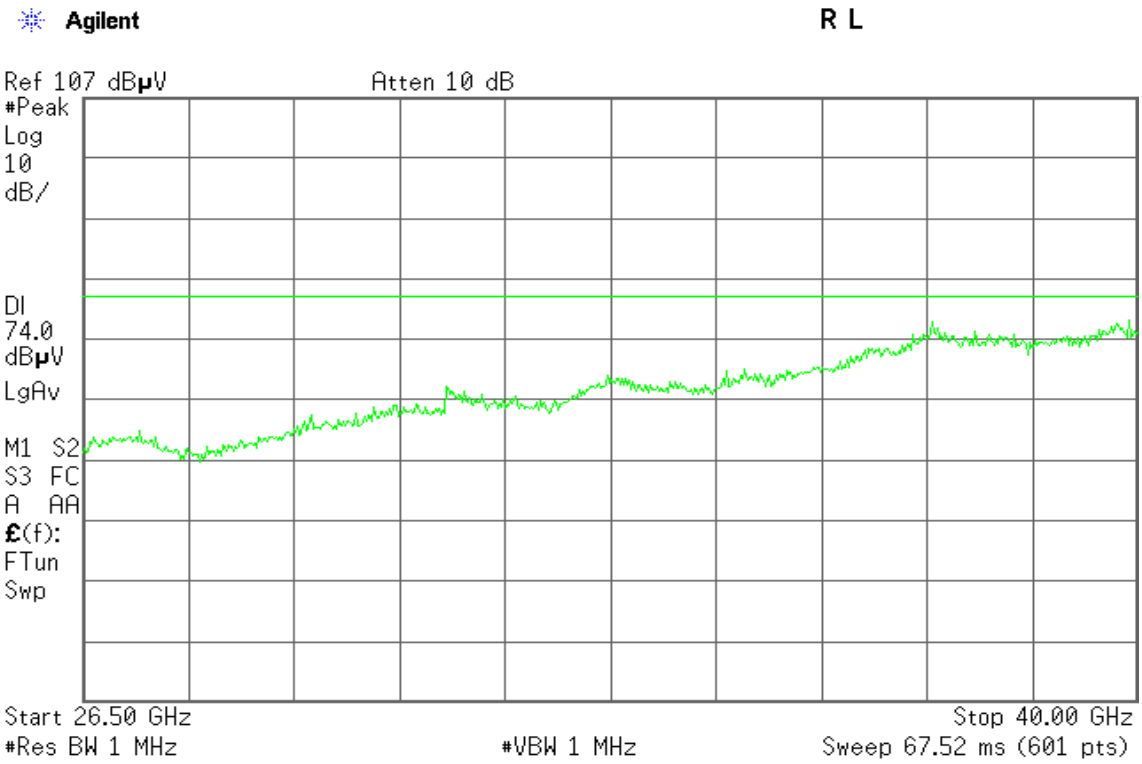

Agilent
R L
Ref 107 dBµV
Atten 10 dB
#Peak
Log
10
dB/
Dl
74.0
dBµV
LgAv
M1 S2
S3 FC
A AA
£(f):
FTun
Swp
Start 26.50 GHz
Stop 40.00 GHz
#Res BW 1 MHz
#VBW 1 MHz
Sweep 67.52 ms (601 pts)

Polarity: Horizontal








Agilent
R L
Ref 107 dBµV
Atten 10 dB
#Peak
Log
10
dB/
Dl
74.0
dBµV
LgAv
M1 S2
S3 FC
A AA
£(f):
FTun
Swp
Start 26.50 GHz
Stop 40.00 GHz
#Res BW 1 MHz
#VBW 1 MHz
Sweep 67.52 ms (601 pts)

Operation Mode: Tx / IEEE 802.11a mode / 5280 MHz **Test Date:** December 12, 2015

Temperature: 27℃ **Tested by:** Jason Lu

Humidity: 53% RH **Polarity:** Ver. / Hor.

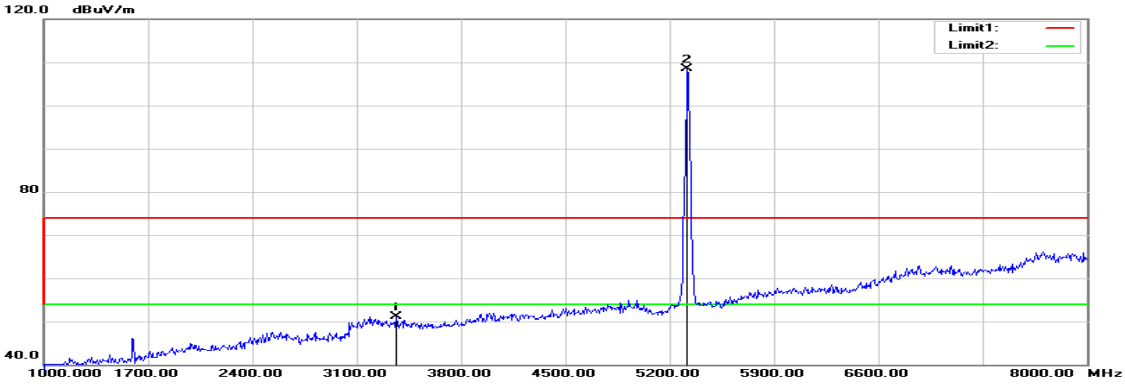
Frequency (MHz)	Reading (dBuV)	Correction (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark	Ant.Pol. (H/V)
3093.000	52.76	-1.89	50.87	74.00	-23.13	peak	V
N/A							
3289.000	52.47	-1.42	51.05	74.00	-22.95	peak	H
15840.000	43.66	19.30	62.96	74.00	-11.04	peak	H
15840.000	33.44	19.30	52.74	54.00	-1.26	AVG	H
N/A							

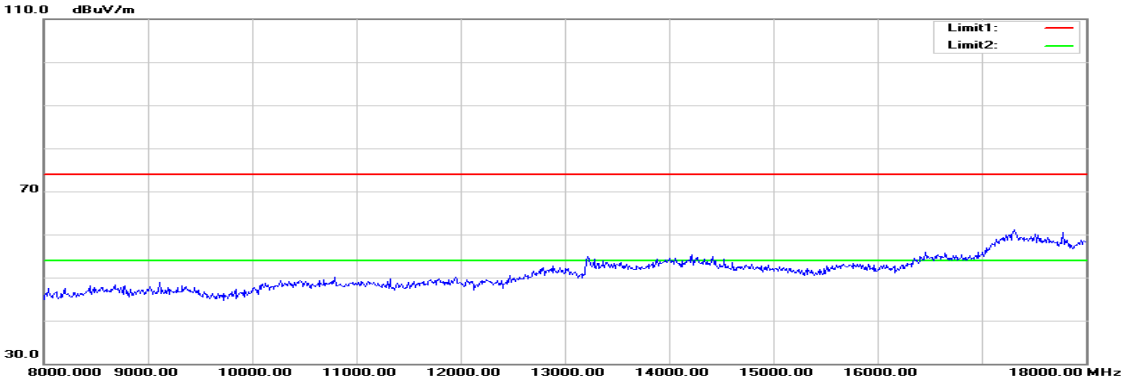
Remark:

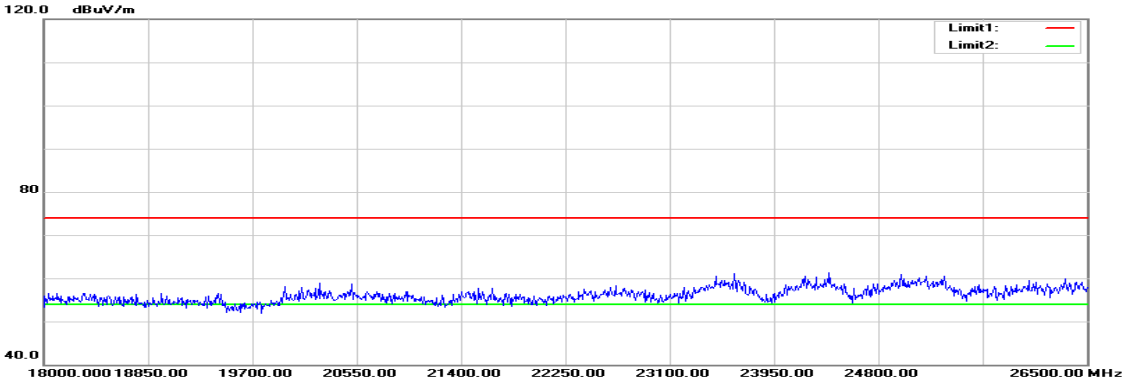
1. *Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.*
2. *Radiated emissions measured in frequency above 1000MHz were made with an instrument using peak/average detector mode.*
3. *Average test would be performed if the peak result were greater than the average limit.*
4. *Data of measurement within this frequency range shown " --- " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.*
5. *Measurements above show only up to 6 maximum emissions noted, or would be lesser, with " N/A " remark, if no specific emissions from the EUT are recorded (ie: margin>20dB from the applicable limit) and considered that's already beyond the background noise floor.*
6. *Margin (dB) = Remark result (dBuV/m) – Average limit (dBuV/m).*

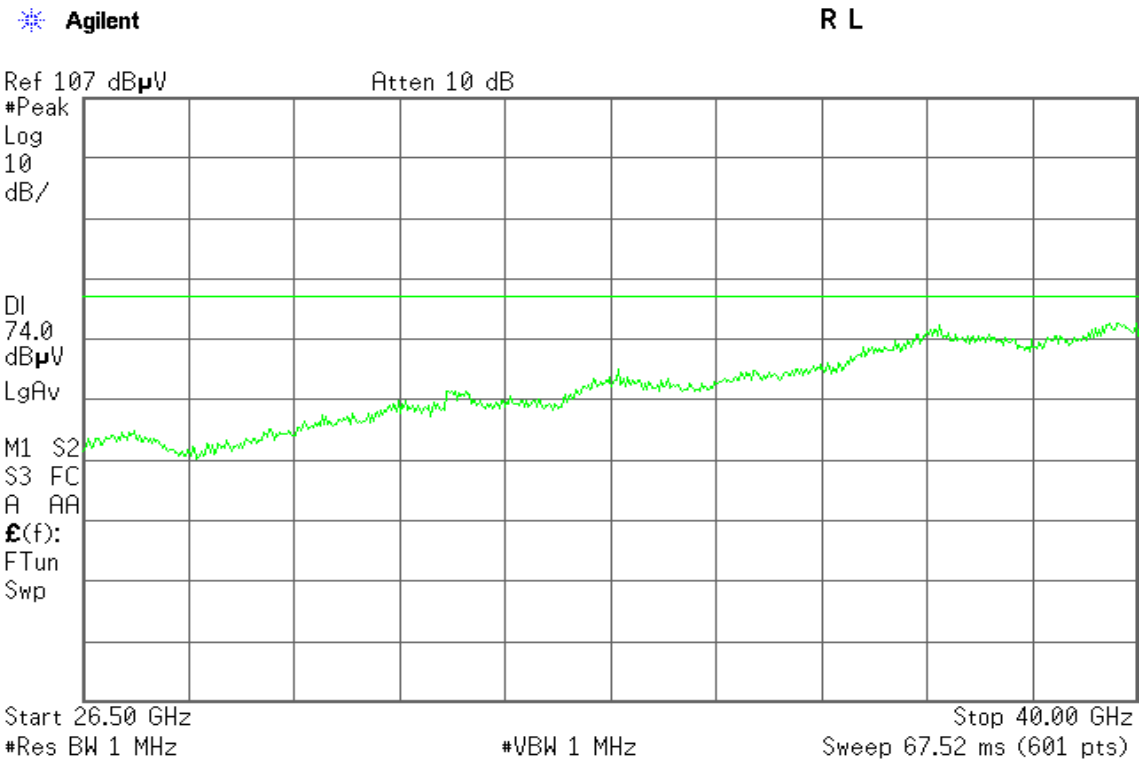
Tx / IEEE 802.11a mode / 5320 MHz

Polarity: Vertical

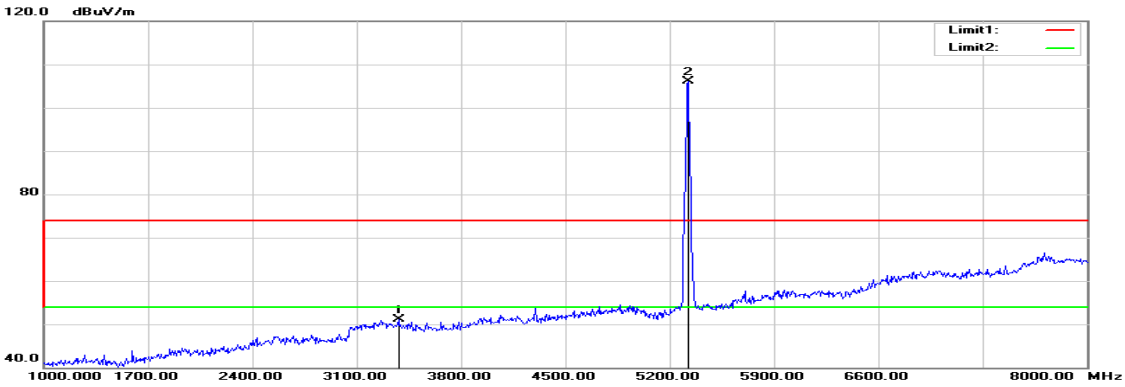


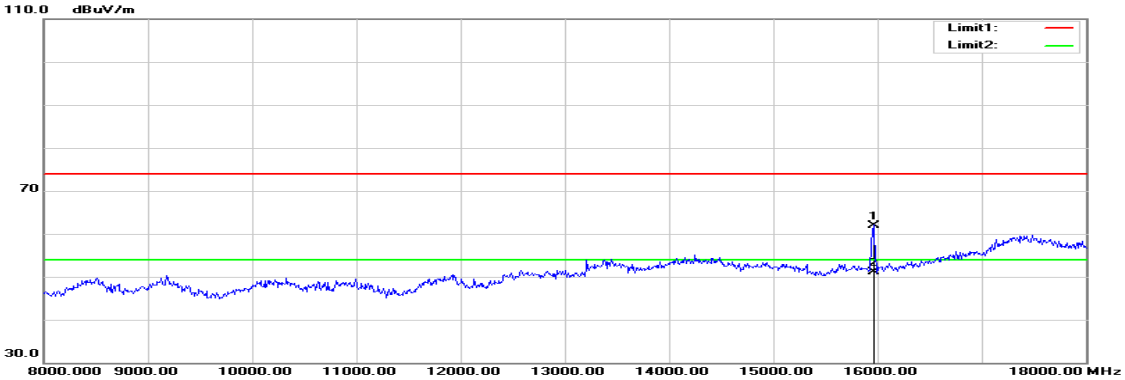


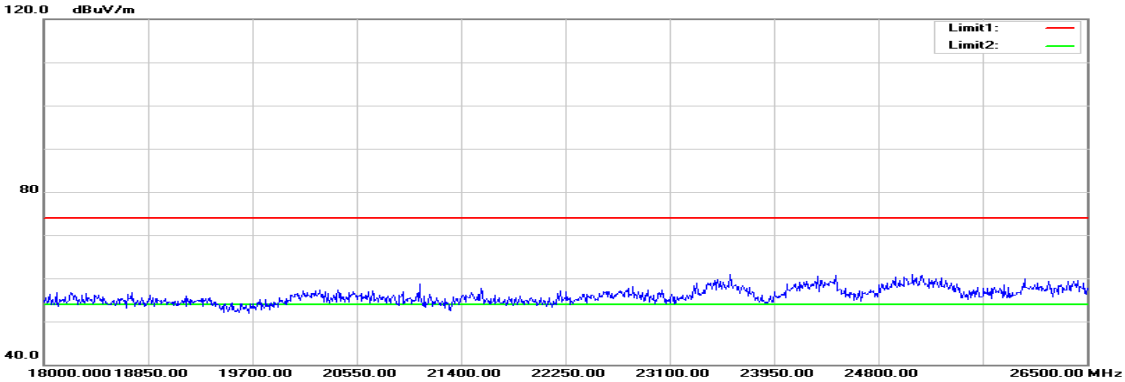


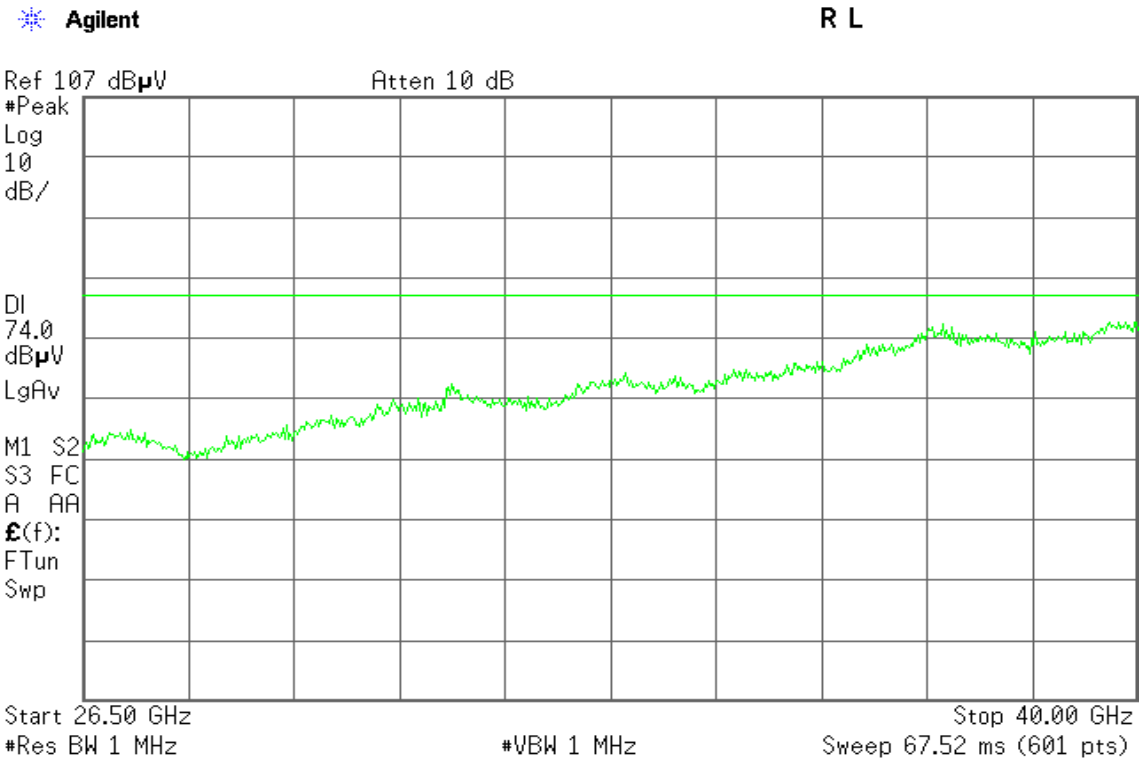

Agilent
R L
Ref 107 dBµV
Atten 10 dB
#Peak
Log
10
dB/
Dl
74.0
dBµV
LgAv
M1 S2
S3 FC
A AA
£(f):
FTun
Swp
Start 26.50 GHz
Stop 40.00 GHz
#Res BW 1 MHz
#VBW 1 MHz
Sweep 67.52 ms (601 pts)

Polarity: Horizontal








Agilent
R L
Ref 107 dBµV
Atten 10 dB
#Peak
Log
10
dB/
Dl
74.0
dBµV
LgAv
M1 S2
S3 FC
A AA
£(f):
FTun
Swp
Start 26.50 GHz
Stop 40.00 GHz
#Res BW 1 MHz
#VBW 1 MHz
Sweep 67.52 ms (601 pts)

Operation Mode:	Tx / IEEE 802.11a mode / 5320 MHz	**Test Date:**	December 8, 2015
Temperature:	27℃	**Tested by:**	Jason Lu
Humidity:	53% RH	**Polarity:**	Ver. / Hor.

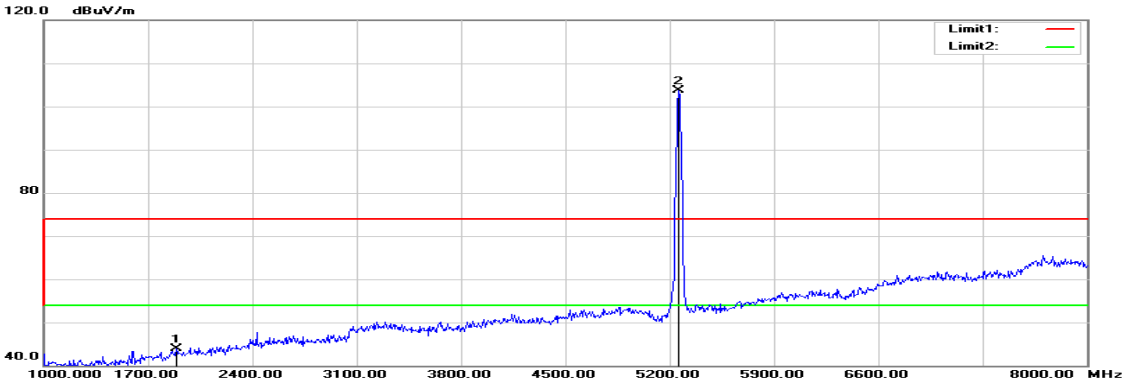
Frequency (MHz)	Reading (dBuV)	Correction (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark	Ant.Pol. (H/V)
3366.000	52.31	-1.23	51.08	74.00	-22.92	peak	V
N/A							
3380.000	52.37	-1.20	51.17	74.00	-22.83	peak	H
15960.000	42.60	19.40	62.00	74.00	-12.00	peak	H
15960.000	31.65	19.40	51.05	74.00	-22.95	peak	H
N/A							

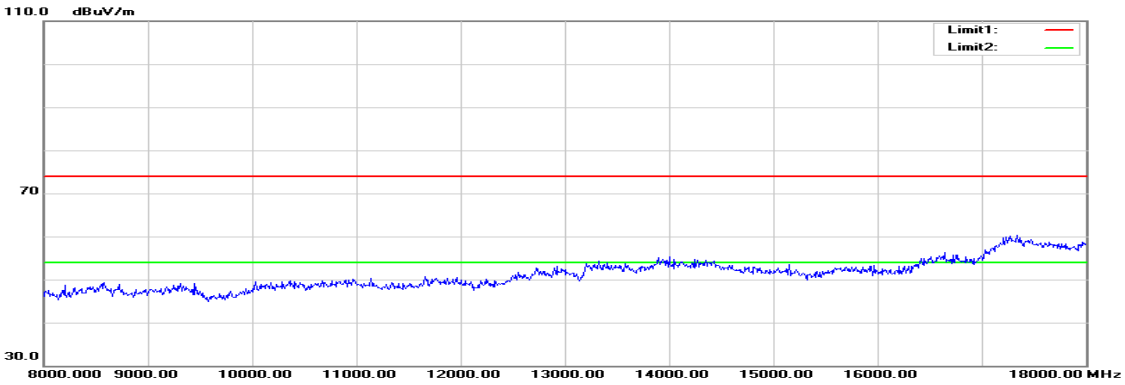
Remark:

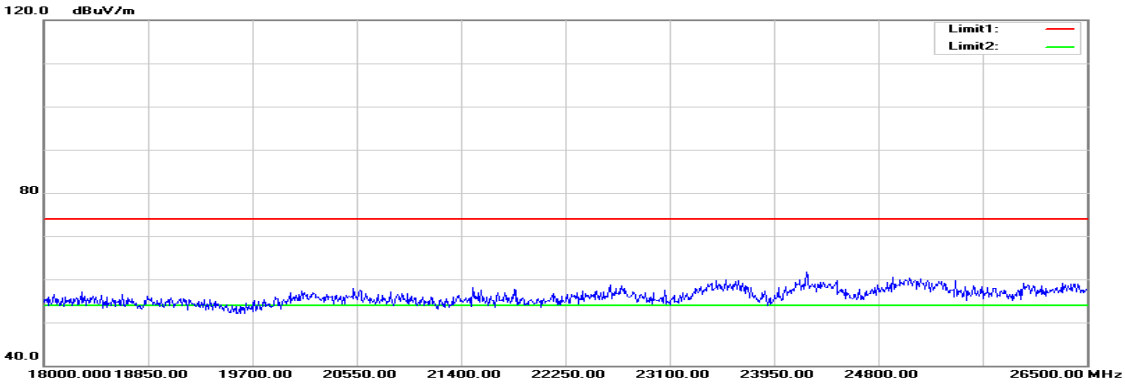
1. *Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.*
2. *Radiated emissions measured in frequency above 1000MHz were made with an instrument using peak/average detector mode.*
3. *Average test would be performed if the peak result were greater than the average limit.*
4. *Data of measurement within this frequency range shown " --- " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.*
5. *Measurements above show only up to 6 maximum emissions noted, or would be lesser, with " N/A " remark, if no specific emissions from the EUT are recorded (ie: margin>20dB from the applicable limit) and considered that's already beyond the background noise floor.*
6. *Margin (dB) = Remark result (dBuV/m) – Average limit (dBuV/m).*

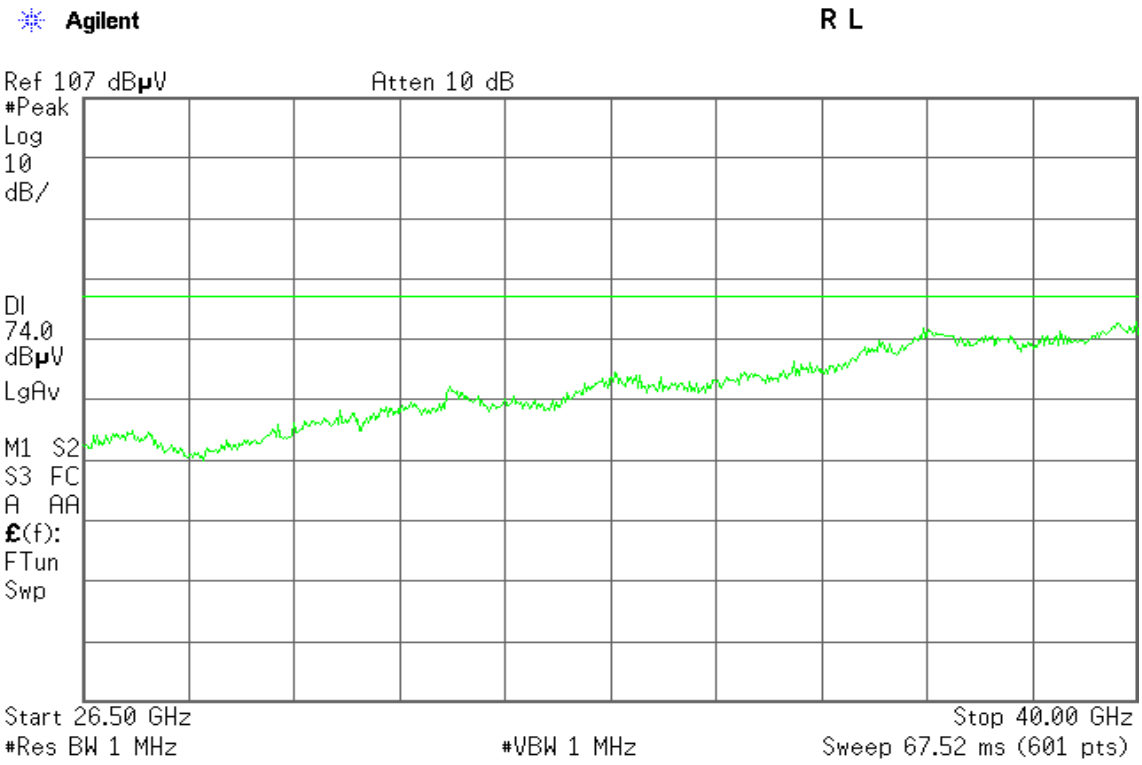
Tx / IEEE 802.11n HT 20 MHz Channel mode / 5260 MHz

Polarity: Vertical

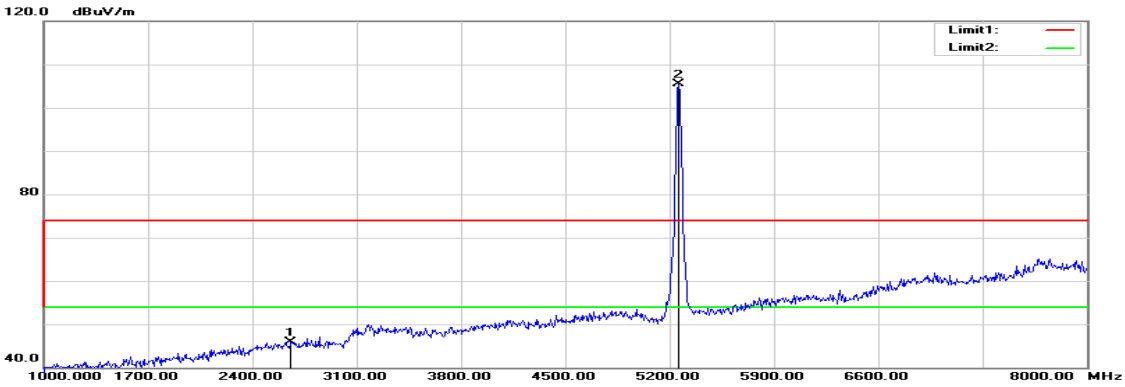


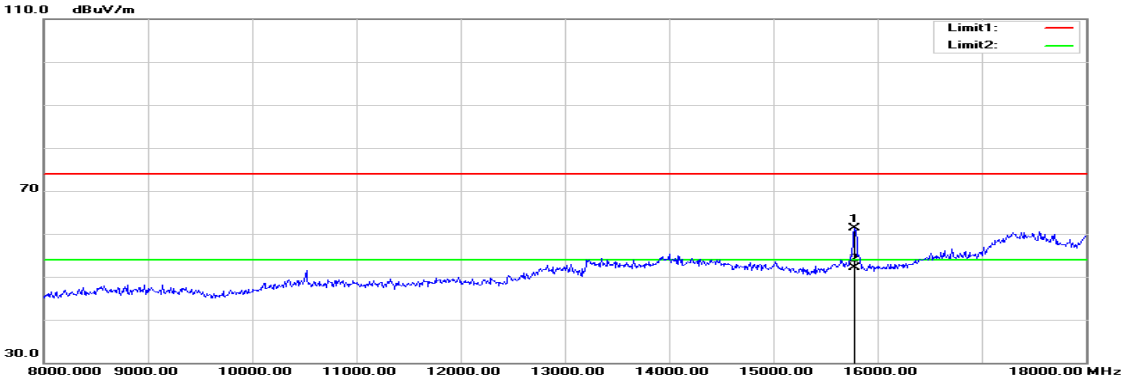


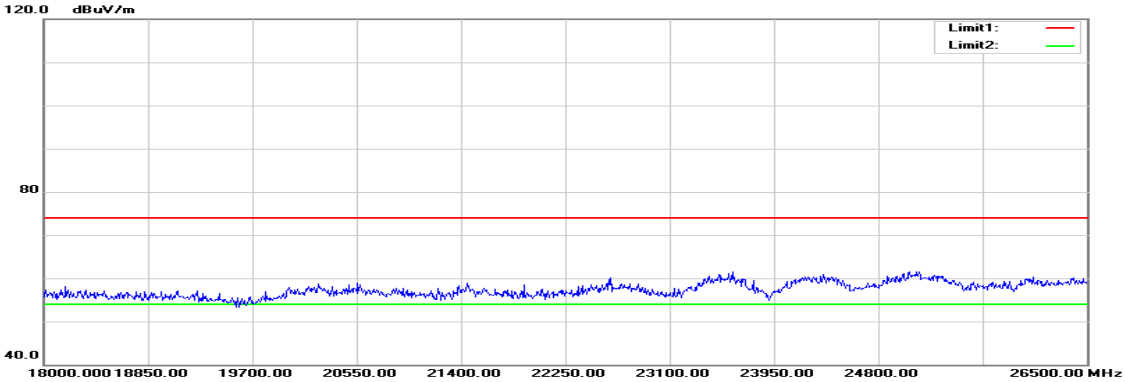


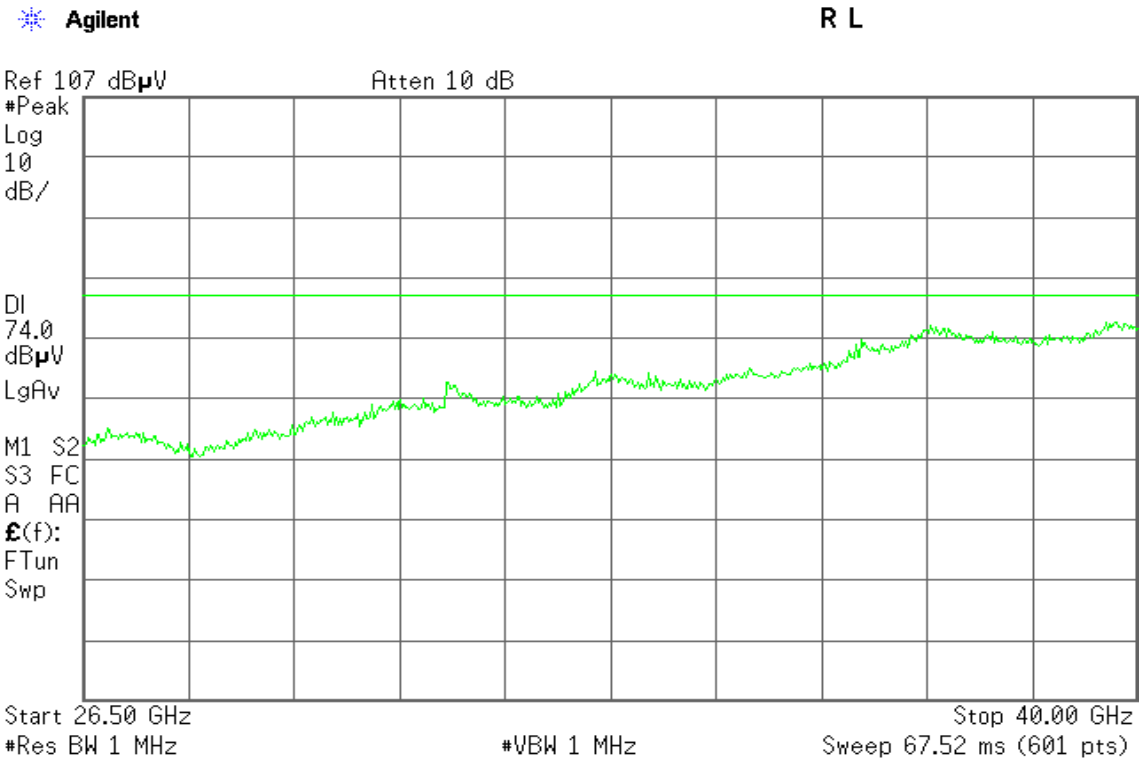

Agilent
R L
Ref 107 dBµV
Atten 10 dB
#Peak
Log
10
dB/
Dl
74.0
dBµV
LgAv
M1 S2
S3 FC
A AA
£(f):
FTun
Swp
Start 26.50 GHz
#Res BW 1 MHz
#VBW 1 MHz
Stop 40.00 GHz
Sweep 67.52 ms (601 pts)

Polarity: Horizontal








Agilent
R L
Ref 107 dBµV
Atten 10 dB
#Peak
Log
10
dB/
Dl
74.0
dBµV
LgAv
M1 S2
S3 FC
A AA
£(f):
FTun
Swp
Start 26.50 GHz
Stop 40.00 GHz
#Res BW 1 MHz
#VBW 1 MHz
Sweep 67.52 ms (601 pts)

Operation Mode:	Tx / IEEE 802.11n HT 20 MHz mode / 5260 MHz	**Test Date:**	December 8, 2015
Temperature:	27℃	**Tested by:**	Jason Lu
Humidity:	53% RH	**Polarity:**	Ver. / Hor.

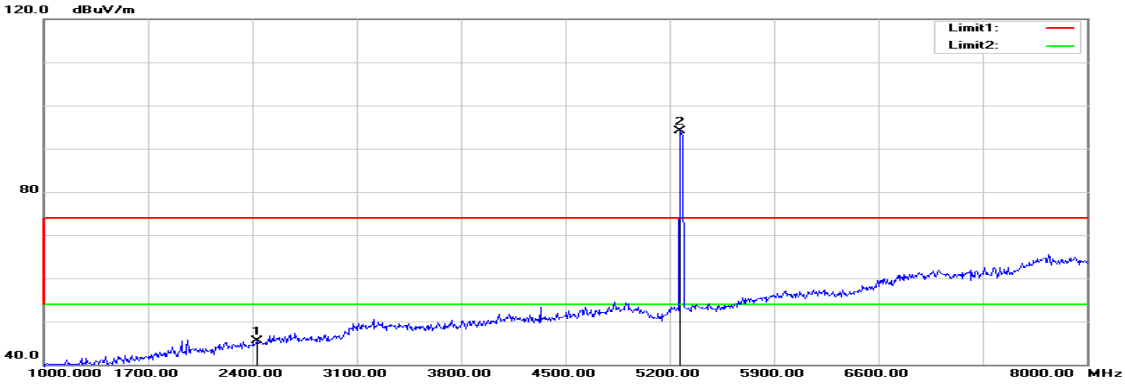
Frequency (MHz)	Reading (dBuV)	Correction (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark	Ant.Pol. (H/V)
1889.000	49.40	-5.47	43.93	74.00	-30.07	peak	V
N/A							
2659.000	48.73	-2.80	45.93	74.00	-28.07	peak	H
15780.000	42.06	19.25	61.31	74.00	-12.69	peak	H
15780.000	32.78	19.25	52.03	54.00	-1.97	AVG	H
N/A							

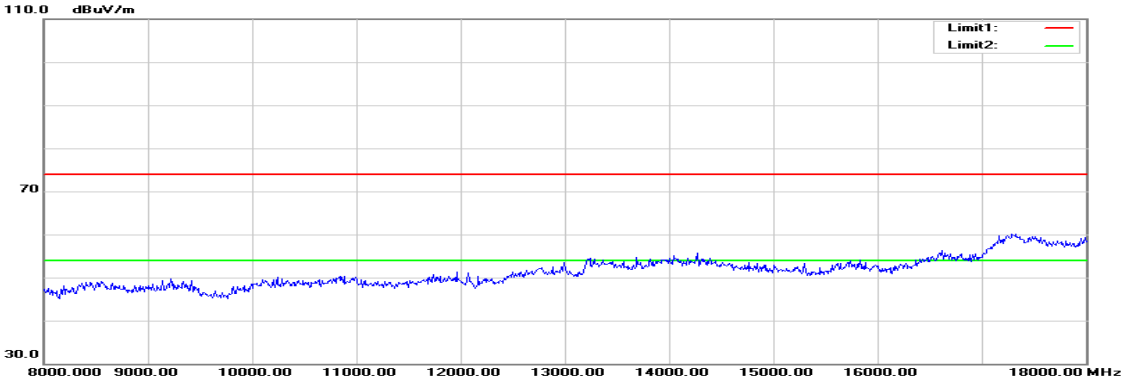
Remark:

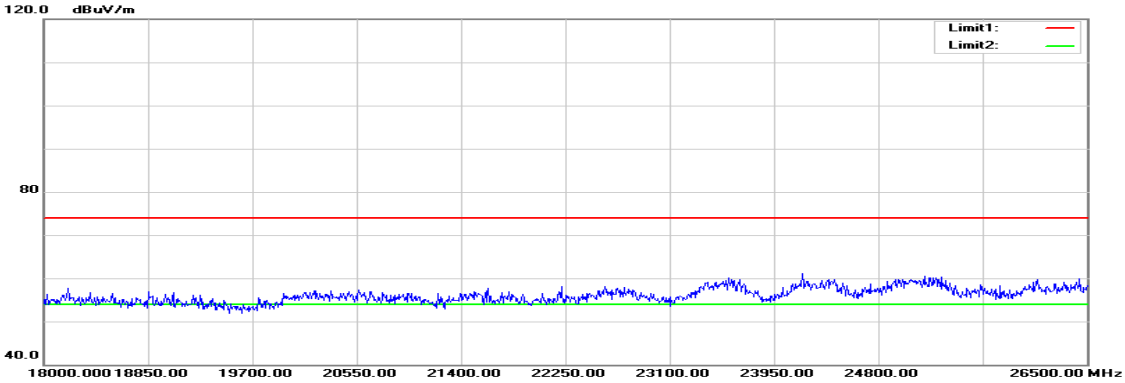
1. *Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.*
2. *Radiated emissions measured in frequency above 1000MHz were made with an instrument using peak/average detector mode.*
3. *Average test would be performed if the peak result were greater than the average limit.*
4. *Data of measurement within this frequency range shown " --- " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.*
5. *Measurements above show only up to 6 maximum emissions noted, or would be lesser, with " N/A " remark, if no specific emissions from the EUT are recorded (ie: margin>20dB from the applicable limit) and considered that's already beyond the background noise floor.*
6. *Margin (dB) = Remark result (dBuV/m) – Average limit (dBuV/m).*

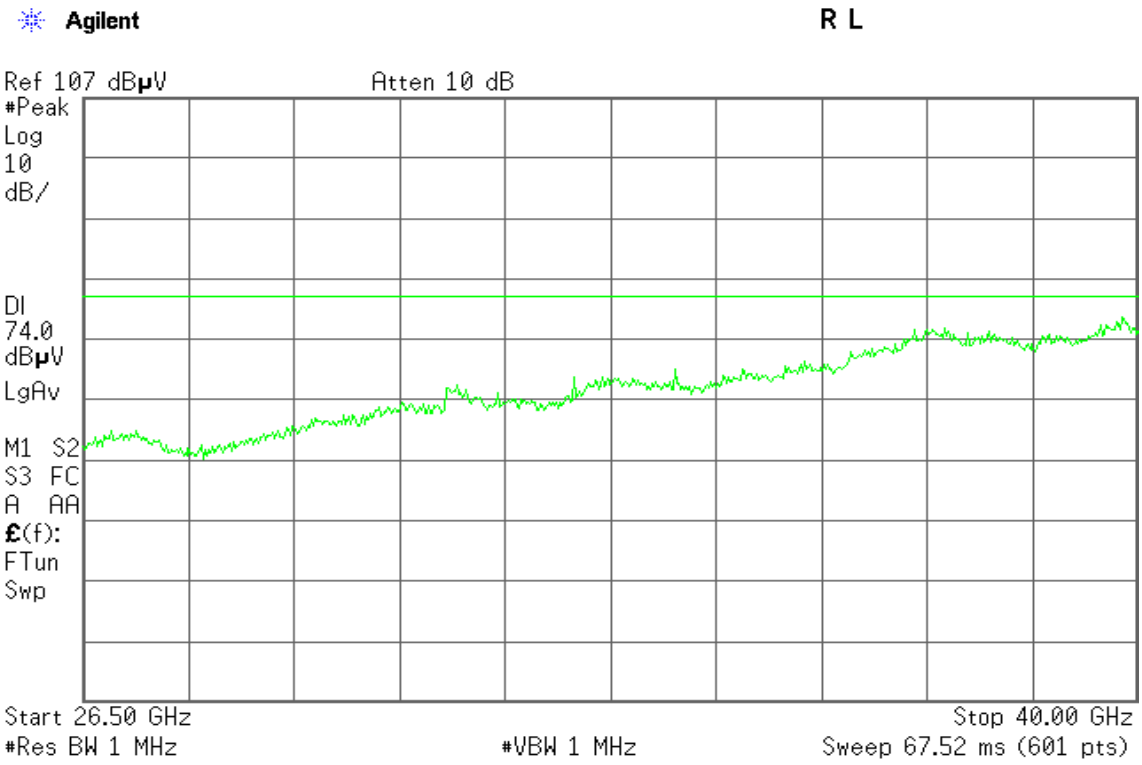
Tx / IEEE 802.11n HT 20 MHz Channel mode / 5280 MHz

Polarity: Vertical

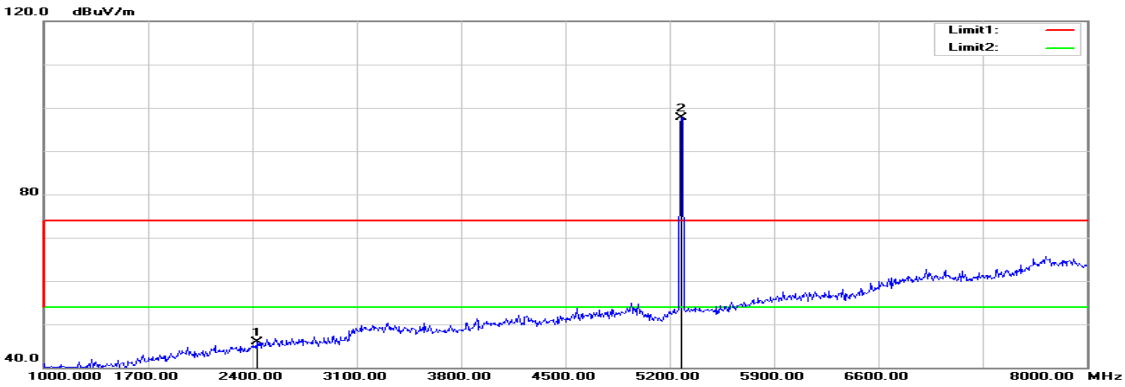


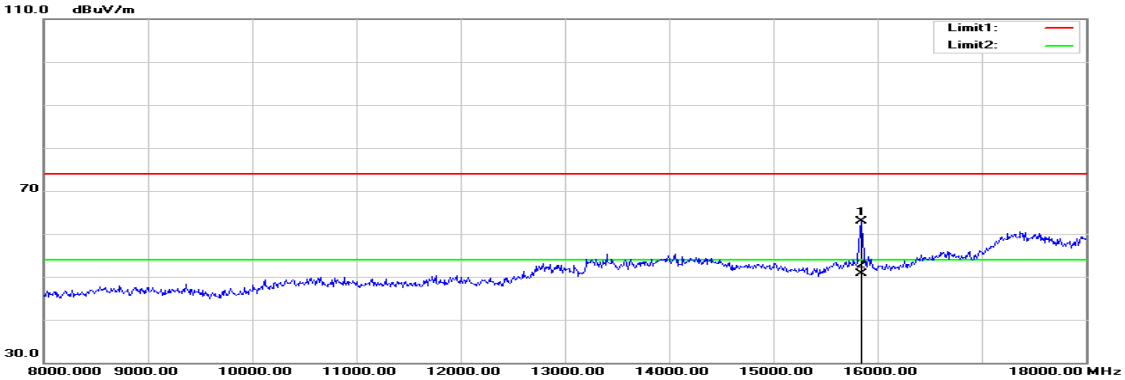


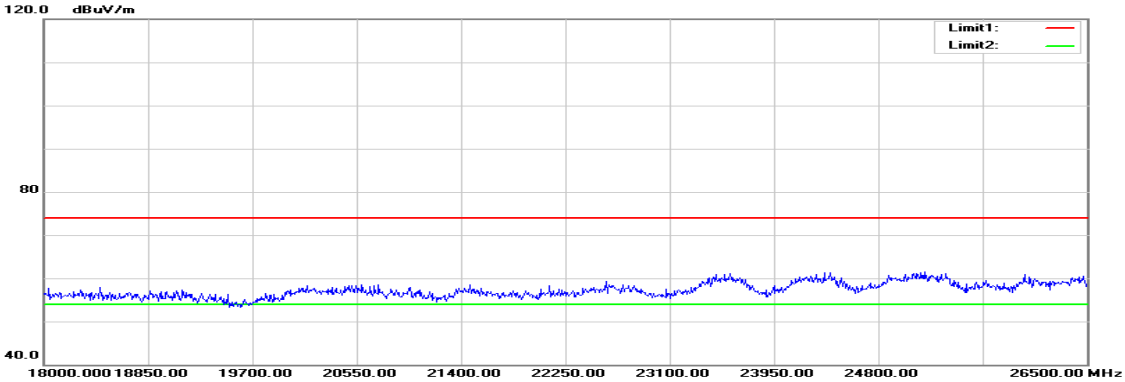


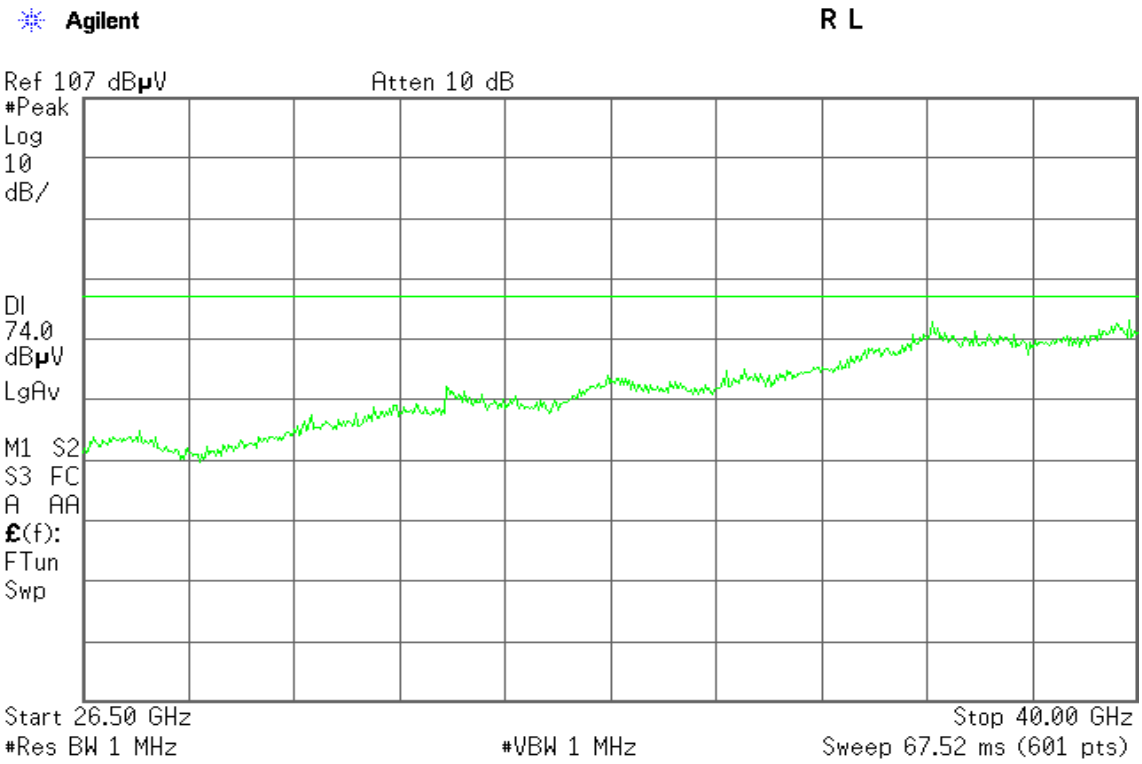

Agilent
R L
Ref 107 dBµV
Atten 10 dB
#Peak
Log
10
dB/
Dl
74.0
dBµV
LgAv
M1 S2
S3 FC
A AA
£(f):
FTun
Swp
Start 26.50 GHz
#Res BW 1 MHz
#VBW 1 MHz
Stop 40.00 GHz
Sweep 67.52 ms (601 pts)

Polarity: Horizontal








Agilent
R L
Ref 107 dBµV
Atten 10 dB
#Peak
Log
10
dB/
Dl
74.0
dBµV
LgAv
M1 S2
S3 FC
A AA
£(f):
FTun
Swp
Start 26.50 GHz
Stop 40.00 GHz
#Res BW 1 MHz
#VBW 1 MHz
Sweep 67.52 ms (601 pts)

Operation Mode:	Tx / IEEE 802.11n HT 20 MHz mode / 5280 MHz	**Test Date:**	December 12, 2015
Temperature:	27℃	**Tested by:**	Jason Lu
Humidity:	53% RH	**Polarity:**	Ver. / Hor.

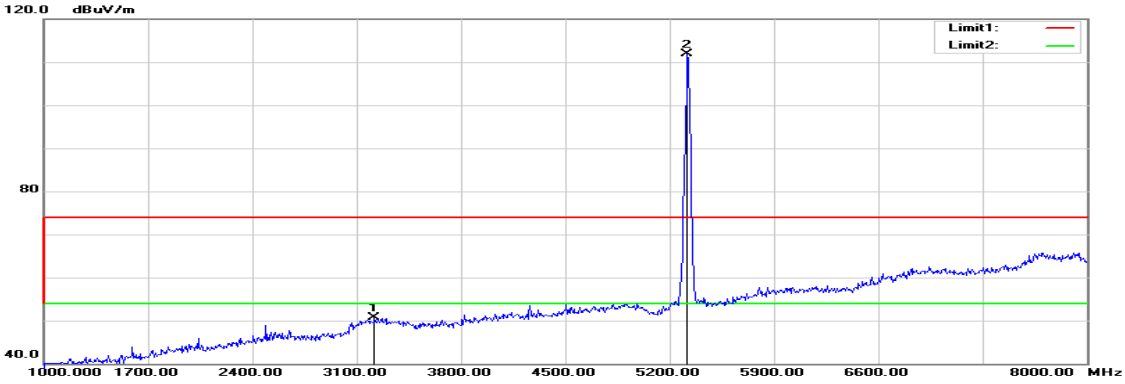
Frequency (MHz)	Reading (dBuV)	Correction (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark	Ant.Pol. (H/V)
2435.000	49.11	-3.53	45.58	74.00	-28.42	peak	V
N/A							
2428.000	49.50	-3.58	45.92	74.00	-28.08	peak	H
15840.000	43.63	19.30	62.93	74.00	-11.07	peak	H
15840.000	31.37	19.30	50.67	54.00	-3.33	AVG	H
N/A							

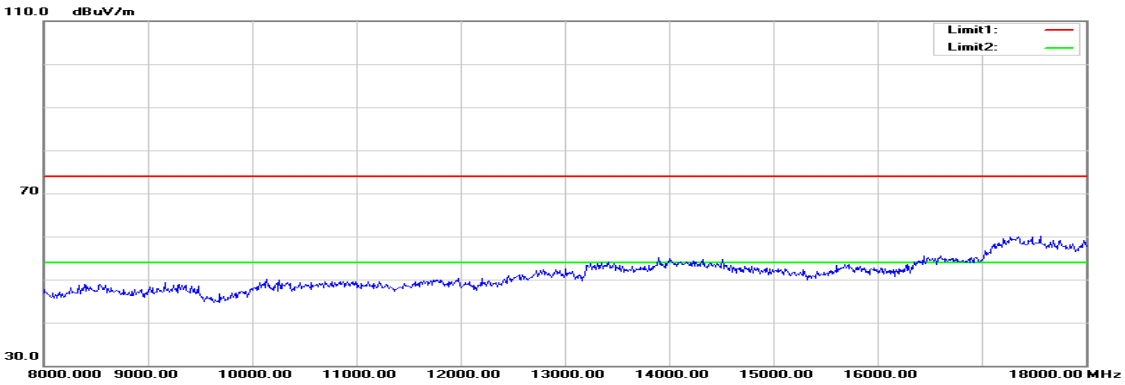
Remark:

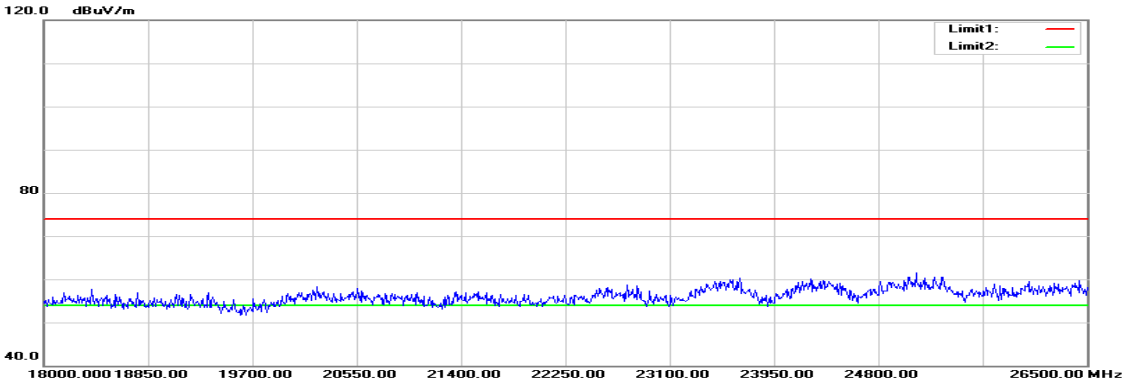
1. *Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.*
2. *Radiated emissions measured in frequency above 1000MHz were made with an instrument using peak/average detector mode.*
3. *Average test would be performed if the peak result were greater than the average limit.*
4. *Data of measurement within this frequency range shown " --- " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.*
5. *Measurements above show only up to 6 maximum emissions noted, or would be lesser, with " N/A " remark, if no specific emissions from the EUT are recorded (ie: margin>20dB from the applicable limit) and considered that's already beyond the background noise floor.*
6. *Margin (dB) = Remark result (dBuV/m) – Average limit (dBuV/m).*

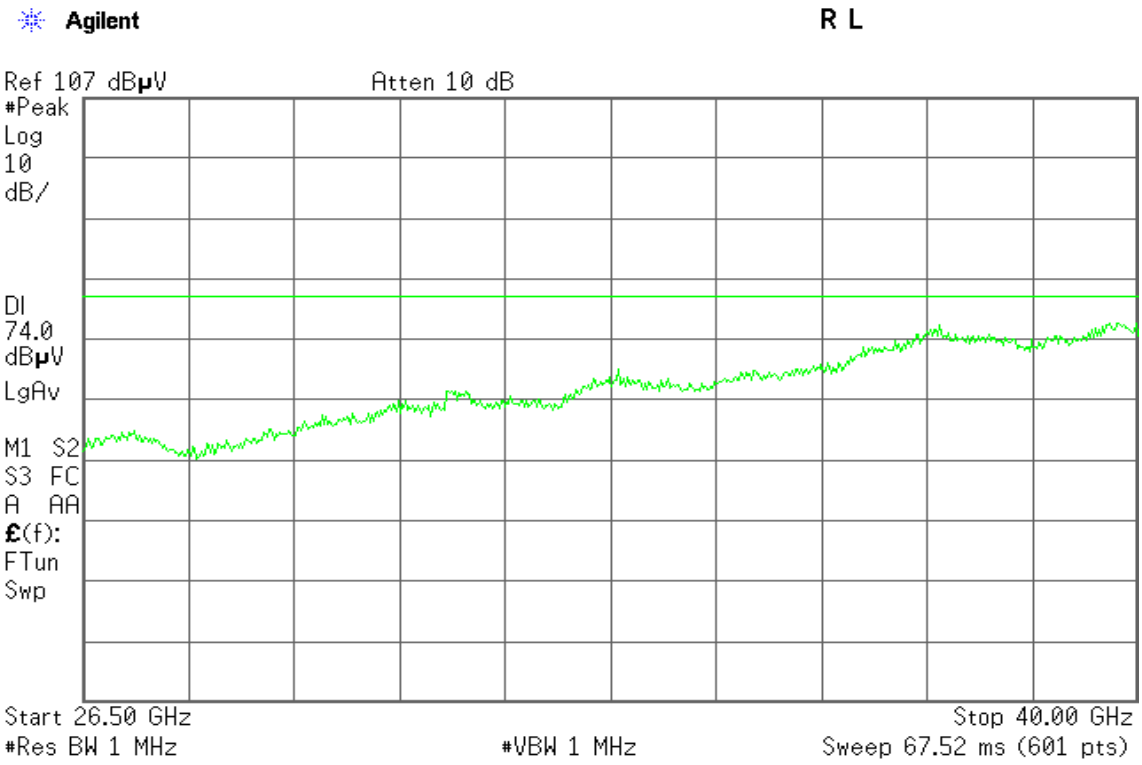
Tx / IEEE 802.11n HT 20 MHz Channel mode / 5320 MHz

Polarity: Vertical

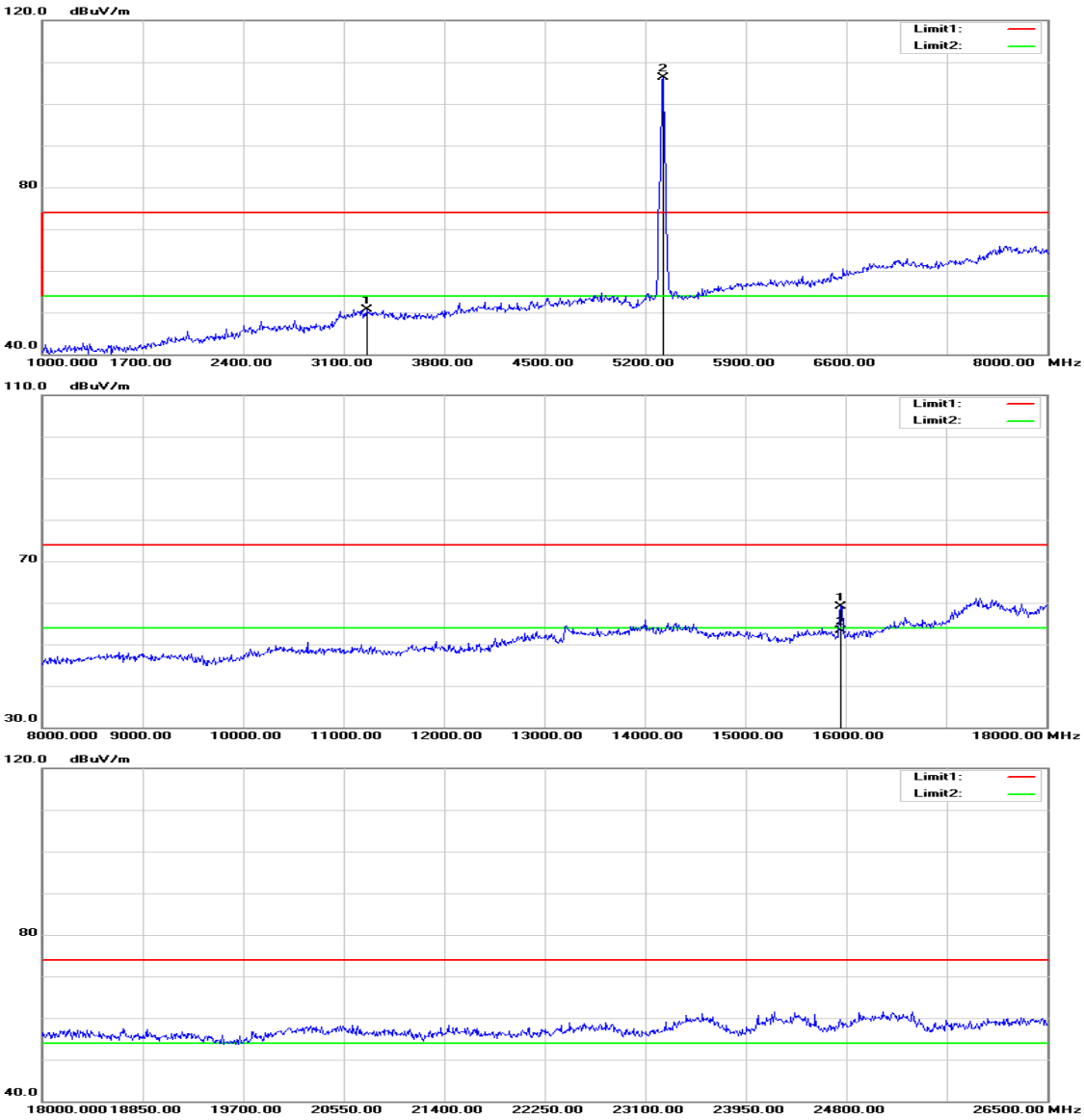


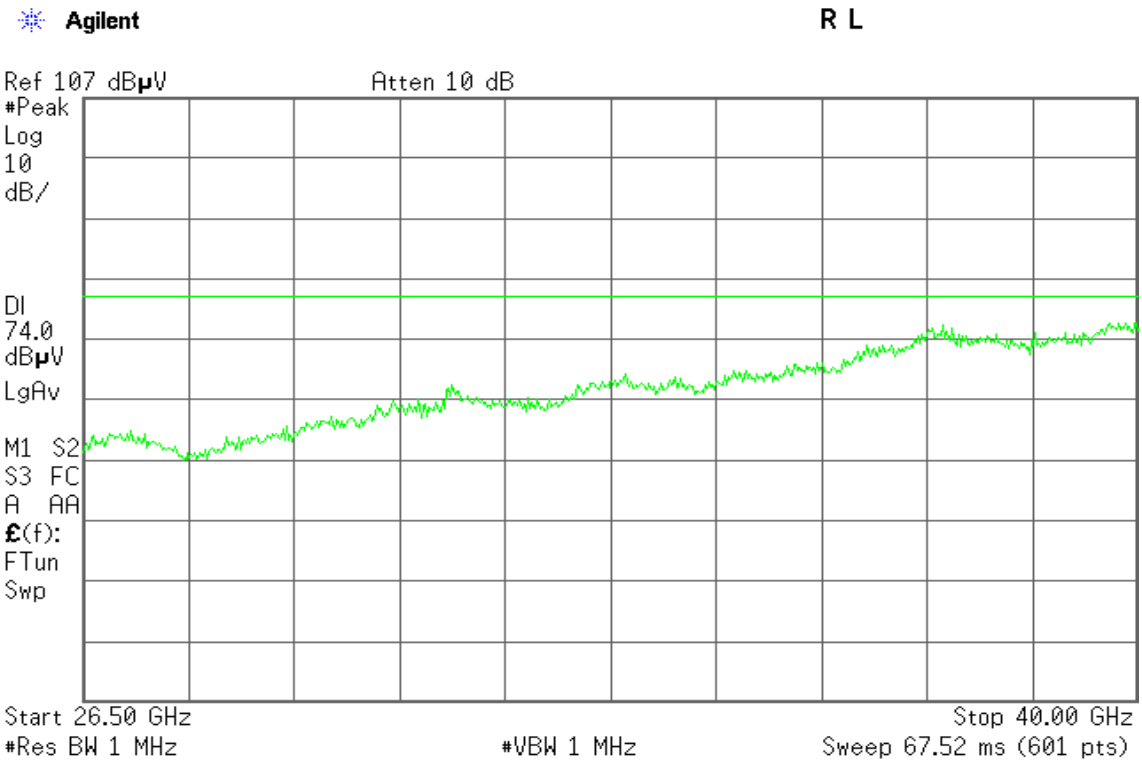





Agilent
R L
Ref 107 dBµV
Atten 10 dB
#Peak
Log
10
dB/
Dl
74.0
dBµV
LgAv
M1 S2
S3 FC
A AA
£(f):
FTun
Swp
Start 26.50 GHz
Stop 40.00 GHz
#Res BW 1 MHz
#VBW 1 MHz
Sweep 67.52 ms (601 pts)

Polarity: Horizontal




Agilent
R L
Ref 107 dBµV
Atten 10 dB
#Peak
Log
10
dB/
Dl
74.0
dBµV
LgAv
M1 S2
S3 FC
A AA
£(f):
FTun
Swp
Start 26.50 GHz
Stop 40.00 GHz
#Res BW 1 MHz
#VBW 1 MHz
Sweep 67.52 ms (601 pts)

Operation Mode:	Tx / IEEE 802.11n HT 20 MHz mode / 5320 MHz	**Test Date:**	December 8, 2015
Temperature:	27℃	**Tested by:**	Jason Lu
Humidity:	53% RH	**Polarity:**	Ver. / Hor.

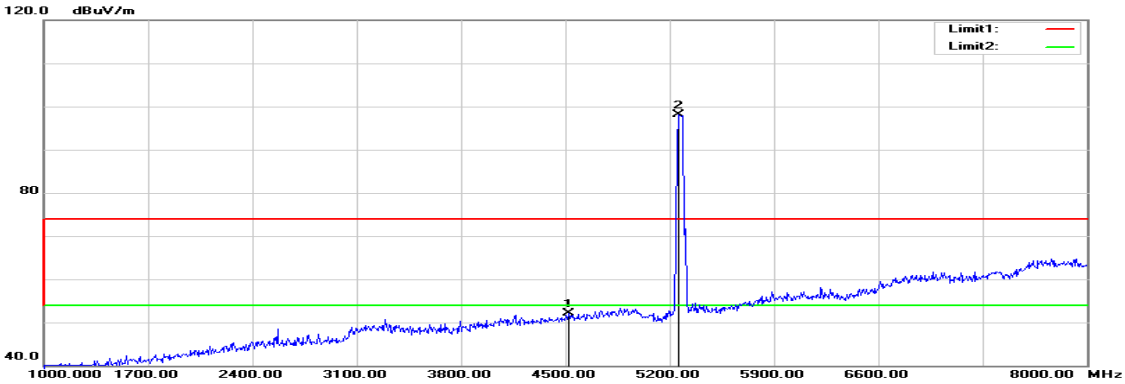
Frequency (MHz)	Reading (dBuV)	Correction (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark	Ant.Pol. (H/V)
3219.000	52.28	-1.58	50.70	74.00	-23.30	peak	V
N/A							
3261.000	52.16	-1.48	50.68	74.00	-23.32	peak	H
15950.000	39.81	19.39	59.20	74.00	-14.80	peak	H
15950.000	33.83	19.39	53.22	54.00	-0.78	AVG	H
N/A							

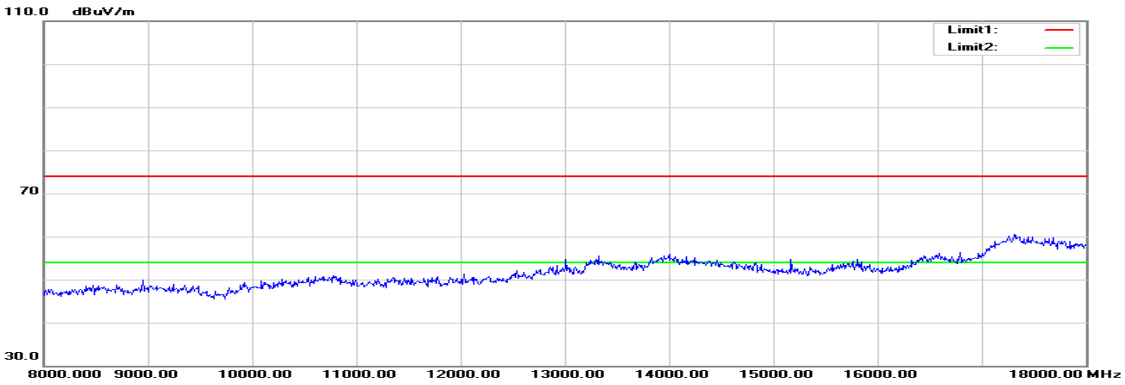
Remark:

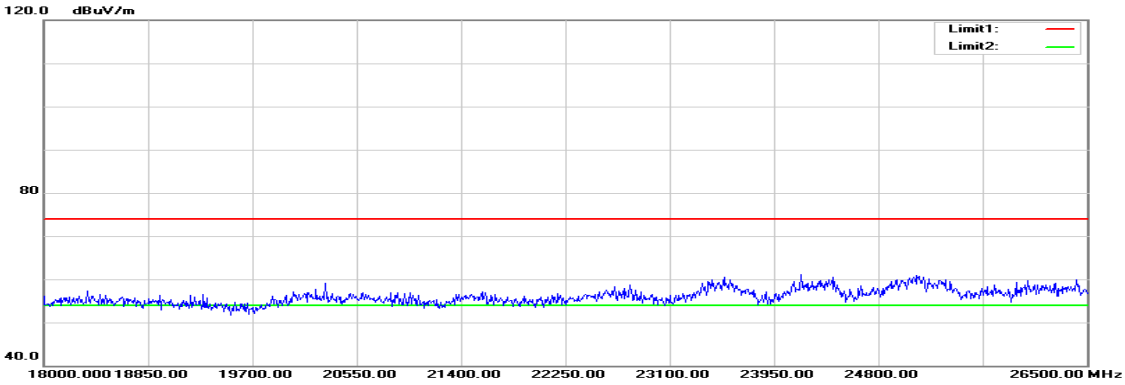
1. *Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.*
2. *Radiated emissions measured in frequency above 1000MHz were made with an instrument using peak/average detector mode.*
3. *Average test would be performed if the peak result were greater than the average limit.*
4. *Data of measurement within this frequency range shown " --- " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.*
5. *Measurements above show only up to 6 maximum emissions noted, or would be lesser, with " N/A " remark, if no specific emissions from the EUT are recorded (ie: margin>20dB from the applicable limit) and considered that's already beyond the background noise floor.*
6. *Margin (dB) = Remark result (dBuV/m) – Average limit (dBuV/m).*

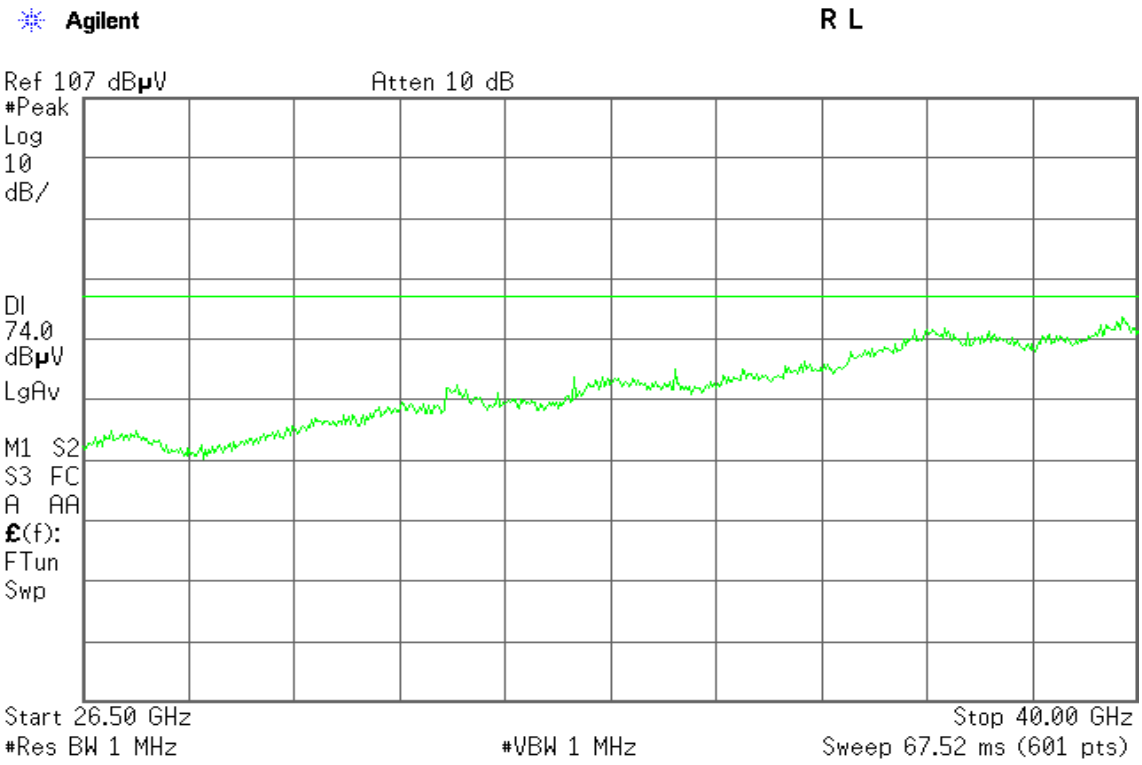
Tx / IEEE 802.11n HT 40 MHz mode / 5270 MHz

Polarity: Vertical

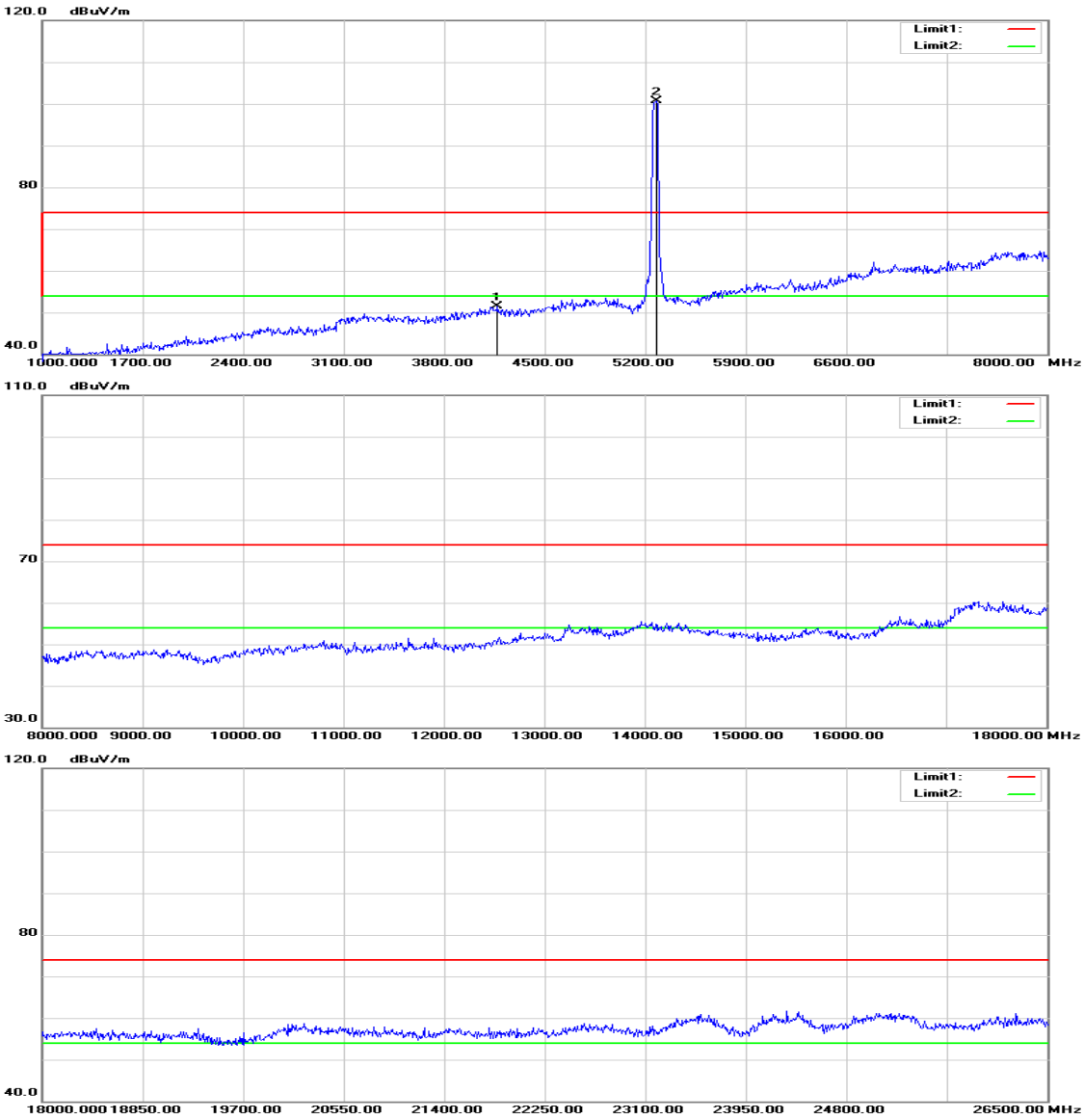


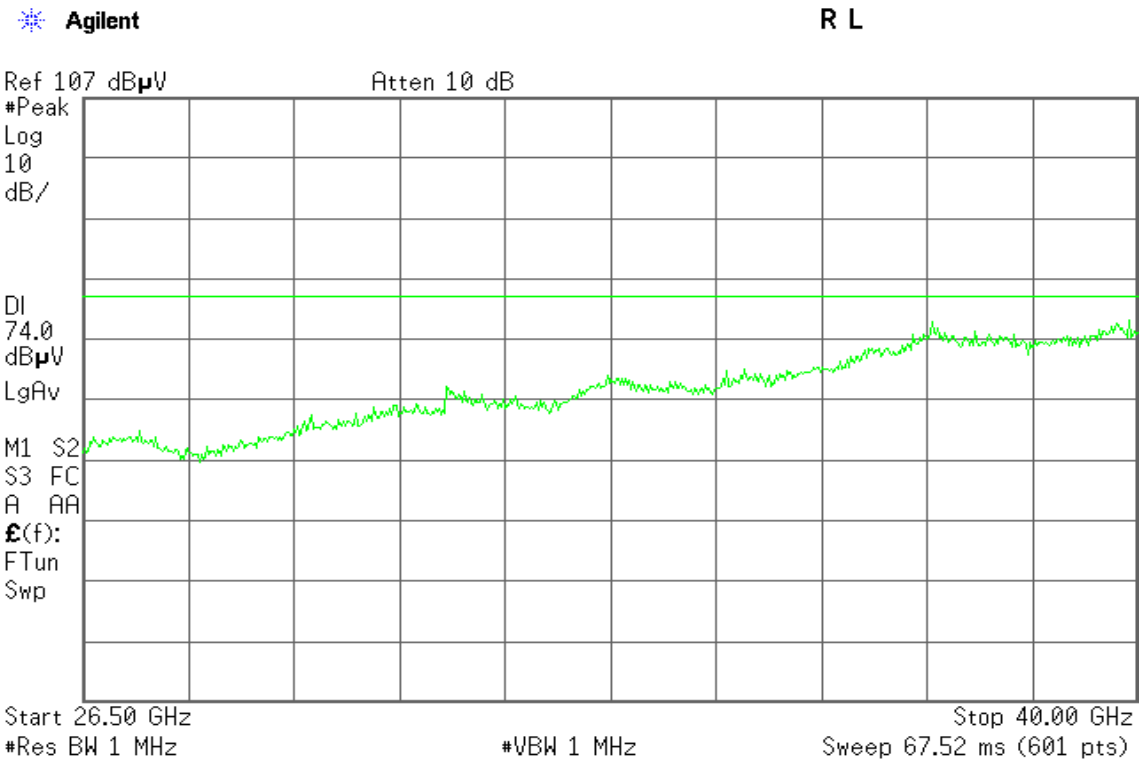





Agilent
R L
Ref 107 dBµV
Atten 10 dB
#Peak
Log
10
dB/
Dl
74.0
dBµV
LgAv
M1 S2
S3 FC
A AA
£(f):
FTun
Swp
Start 26.50 GHz
Stop 40.00 GHz
#Res BW 1 MHz
#VBW 1 MHz
Sweep 67.52 ms (601 pts)

Polarity: Horizontal




Agilent
R L
Ref 107 dBµV
Atten 10 dB
#Peak
Log
10
dB/
Dl
74.0
dBµV
LgAv
M1 S2
S3 FC
A AA
£(f):
FTun
Swp
Start 26.50 GHz
Stop 40.00 GHz
#Res BW 1 MHz
#VBW 1 MHz
Sweep 67.52 ms (601 pts)

Operation Mode:	Tx / IEEE 802.11n HT 40 MHz mode / 5270 MHz	**Test Date:**	December 8, 2015
Temperature:	27℃	**Tested by:**	Jason Lu
Humidity:	53% RH	**Polarity:**	Ver. / Hor.

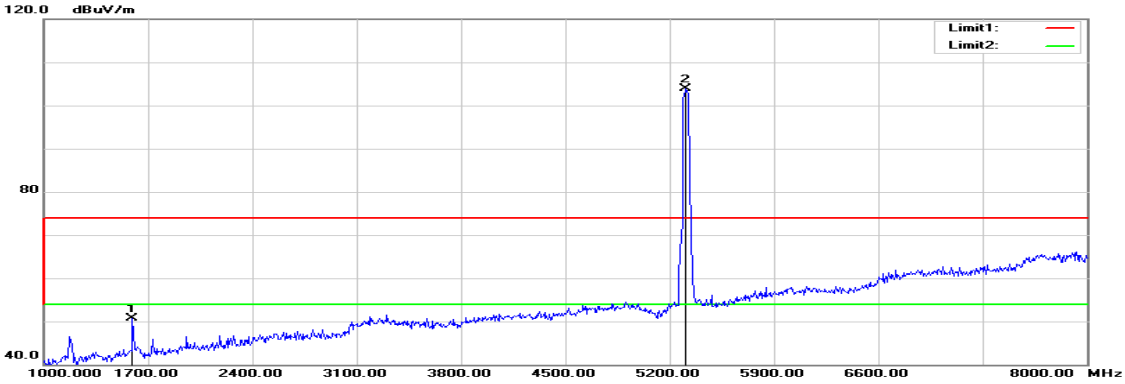
Frequency (MHz)	Reading (dBuV)	Correction (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark	Ant.Pol. (H/V)
4521.000	48.95	3.21	52.16	74.00	-21.84	peak	V
N/A							
4171.000	49.60	1.88	51.48	74.00	-22.52	peak	H
N/A							

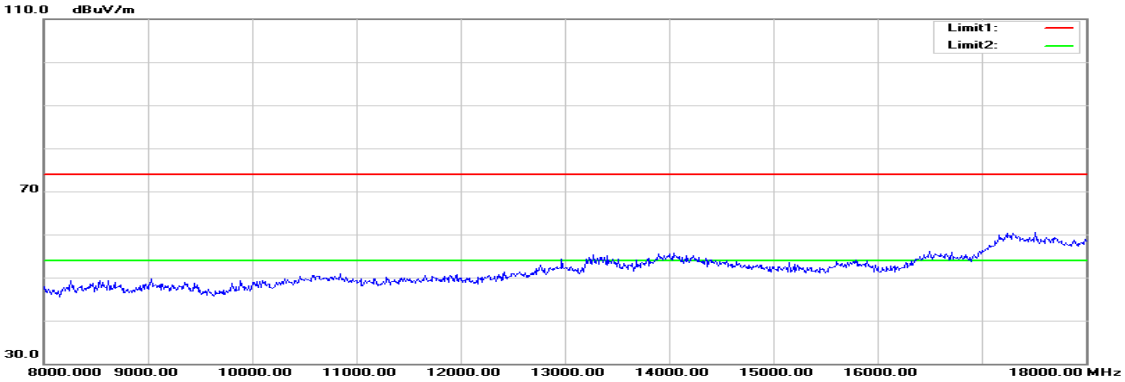
Remark:

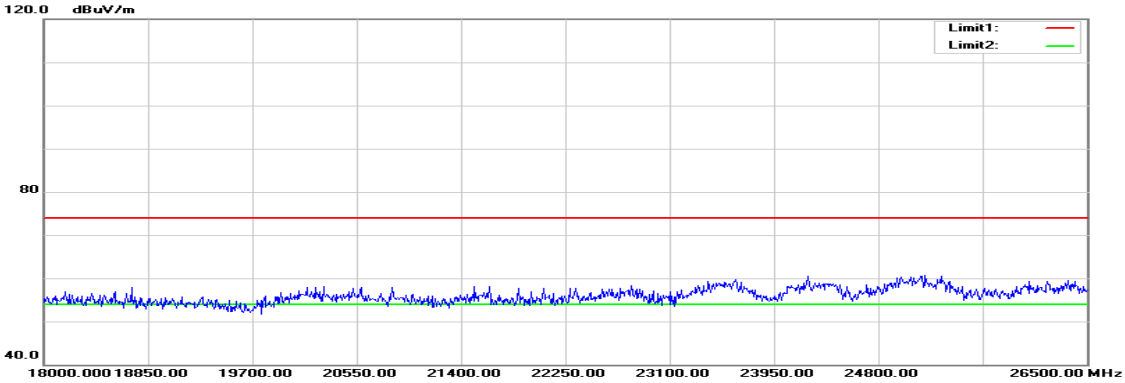
1. *Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.*
2. *Radiated emissions measured in frequency above 1000MHz were made with an instrument using peak/average detector mode.*
3. *Average test would be performed if the peak result were greater than the average limit.*
4. *Data of measurement within this frequency range shown " --- " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.*
5. *Measurements above show only up to 6 maximum emissions noted, or would be lesser, with " N/A " remark, if no specific emissions from the EUT are recorded (ie: margin>20dB from the applicable limit) and considered that's already beyond the background noise floor.*
6. *Margin (dB) = Remark result (dBuV/m) – Average limit (dBuV/m).*

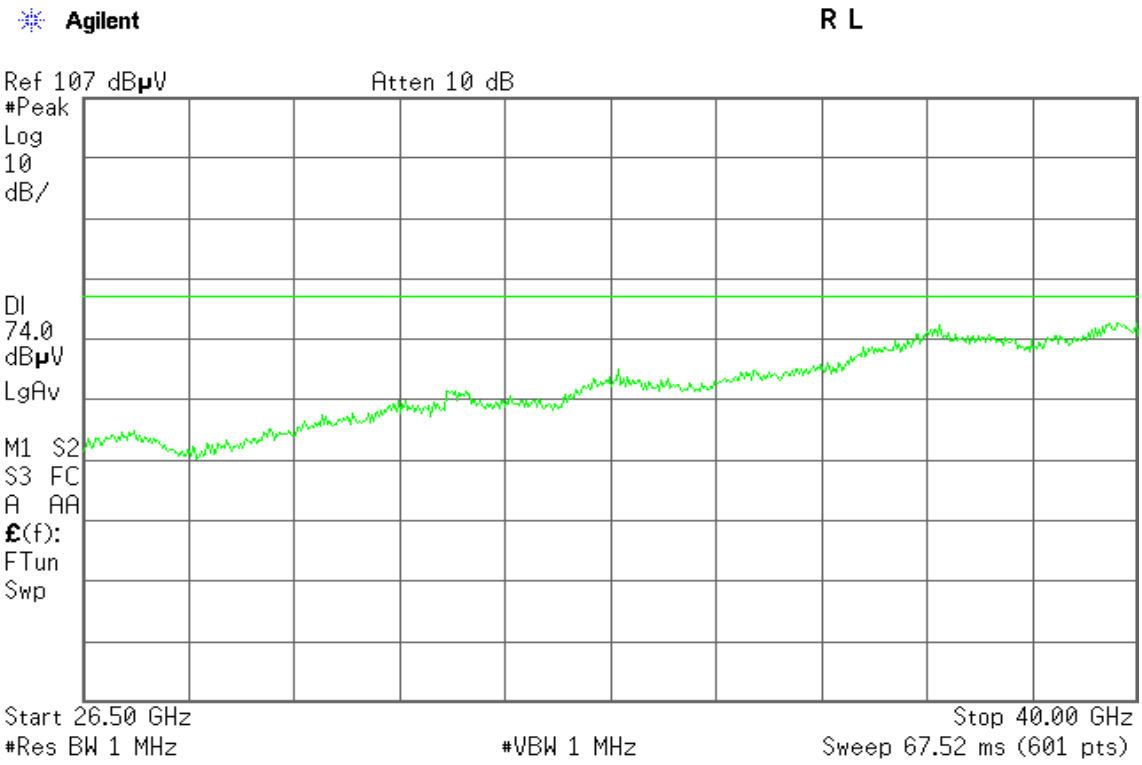
Tx / IEEE 802.11n HT 40 MHz mode / 5310 MHz

Polarity: Vertical

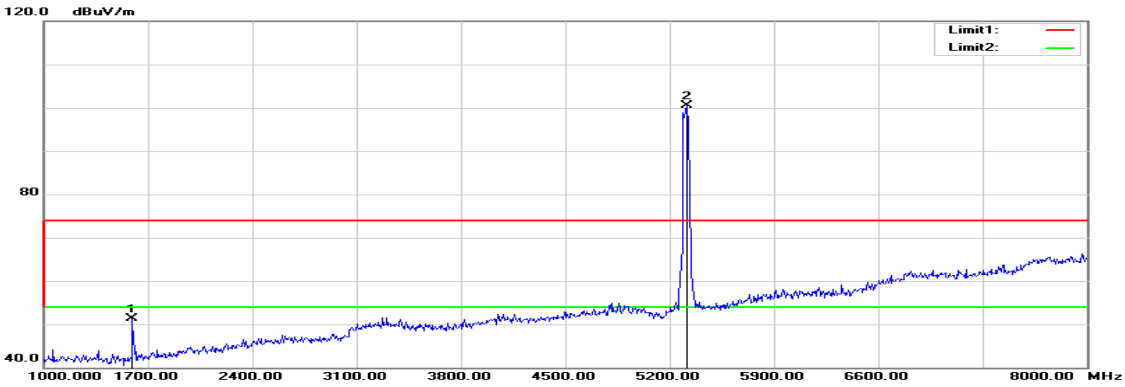


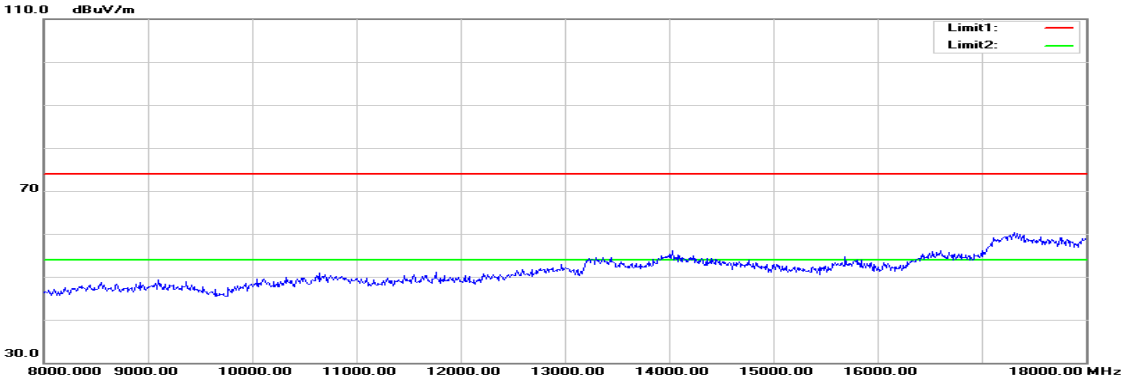


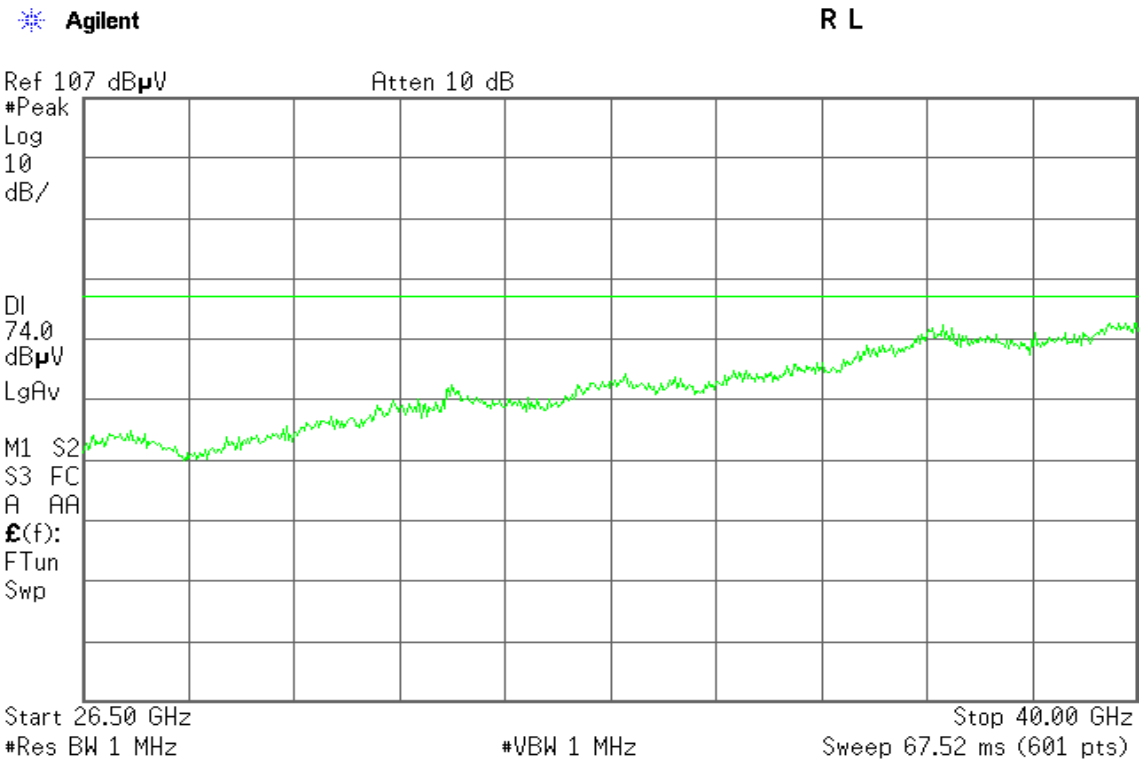



Agilent
R L
Ref 107 dBµV
Atten 10 dB
#Peak
Log
10
dB/
Dl
74.0
dBµV
LgAv
M1 S2
S3 FC
A AA
£(f):
FTun
Swp
Start 26.50 GHz
Stop 40.00 GHz
#Res BW 1 MHz
#VBW 1 MHz
Sweep 67.52 ms (601 pts)

Polarity: Horizontal






Agilent
R L
Ref 107 dBµV
Atten 10 dB
#Peak
Log
10
dB/
Dl
74.0
dBµV
LgAv
M1 S2
S3 FC
A AA
£(f):
FTun
Swp
Start 26.50 GHz
Stop 40.00 GHz
#Res BW 1 MHz
#VBW 1 MHz
Sweep 67.52 ms (601 pts)

Operation Mode:	Tx / IEEE 802.11n HT 40 MHz mode / 5310 MHz	**Test Date:**	December 8, 2015
Temperature:	27℃	**Tested by:**	Jason Lu
Humidity:	53% RH	**Polarity:**	Ver. / Hor.

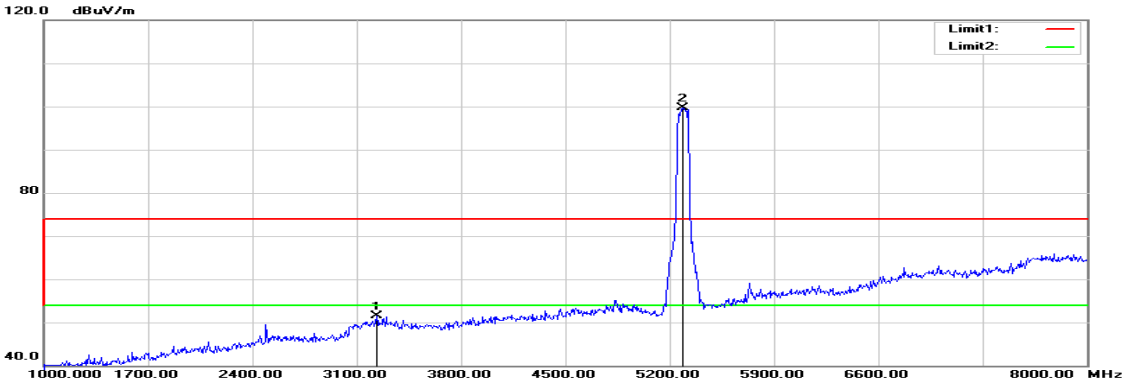
Frequency (MHz)	Reading (dBuV)	Correction (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark	Ant.Pol. (H/V)
1595.000	57.65	-7.03	50.62	74.00	-23.38	peak	V
N/A							
1595.000	58.34	-7.03	51.31	74.00	-22.69	peak	H
N/A							

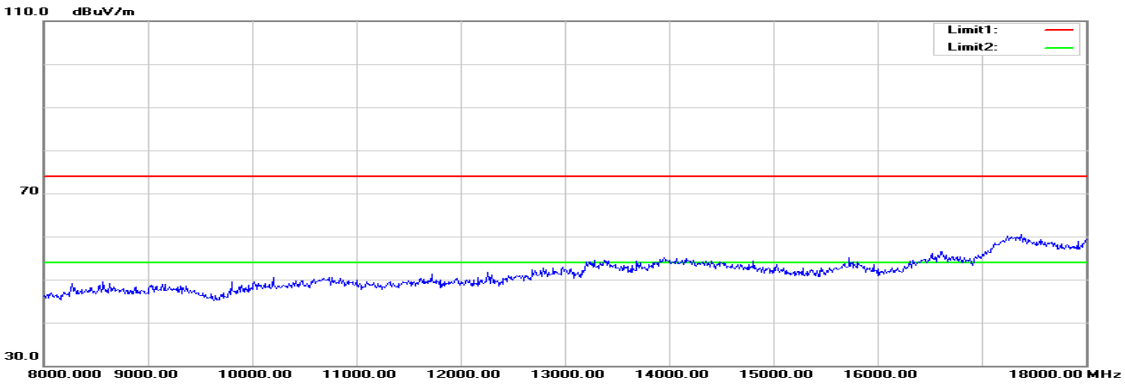
Remark:

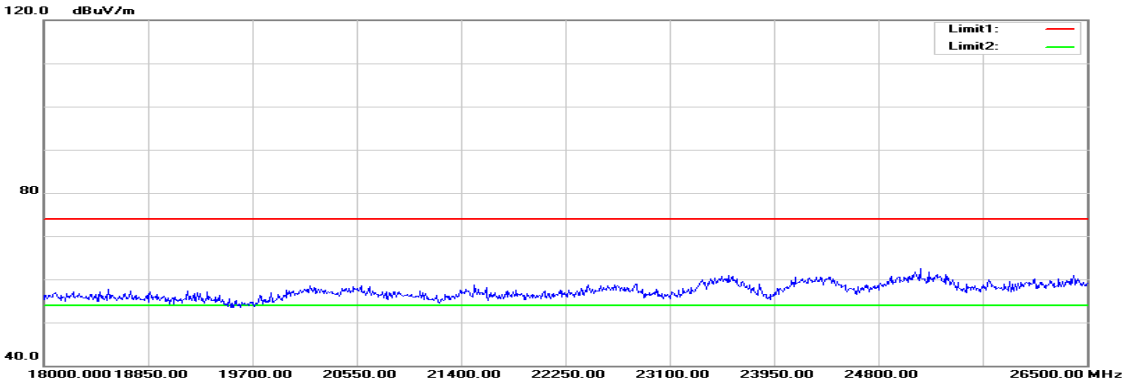
1. *Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.*
2. *Radiated emissions measured in frequency above 1000MHz were made with an instrument using peak/average detector mode.*
3. *Average test would be performed if the peak result were greater than the average limit.*
4. *Data of measurement within this frequency range shown " --- " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.*
5. *Measurements above show only up to 6 maximum emissions noted, or would be lesser, with " N/A " remark, if no specific emissions from the EUT are recorded (ie: margin>20dB from the applicable limit) and considered that's already beyond the background noise floor.*
6. *Margin (dB) = Remark result (dBuV/m) – Average limit (dBuV/m).*

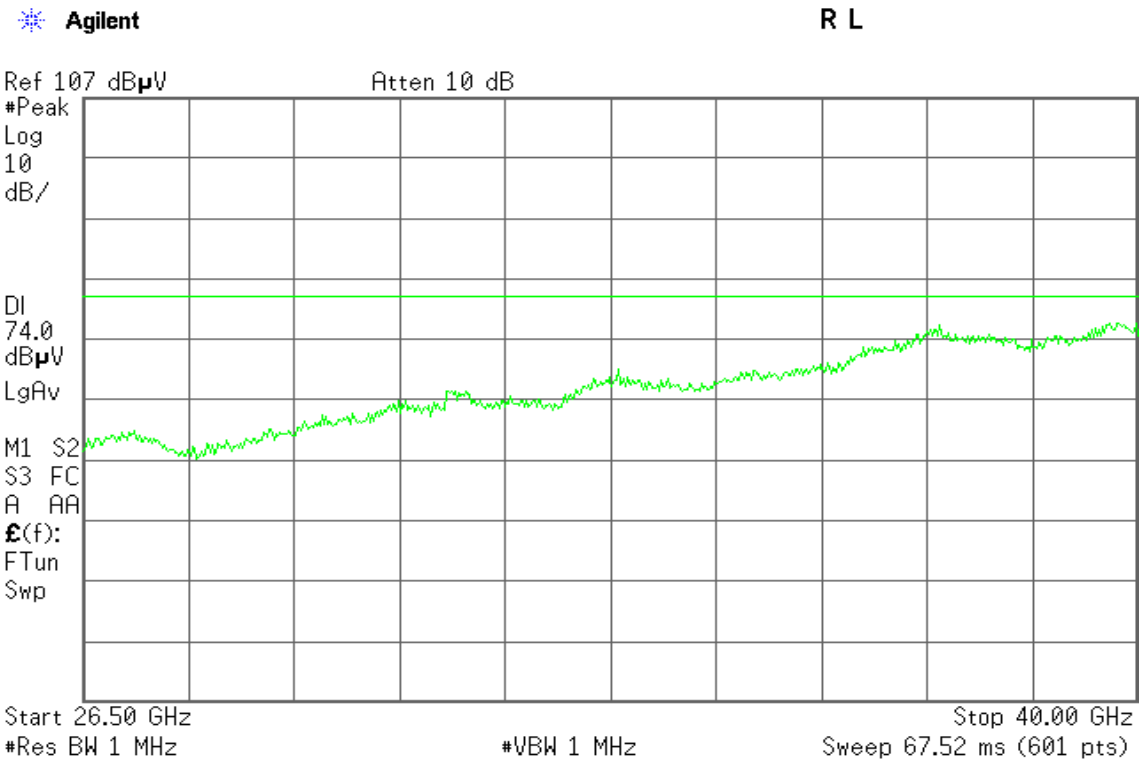
Tx / IEEE 802.11ac VHT 80 MHz mode / 5290 MHz

Polarity: Vertical

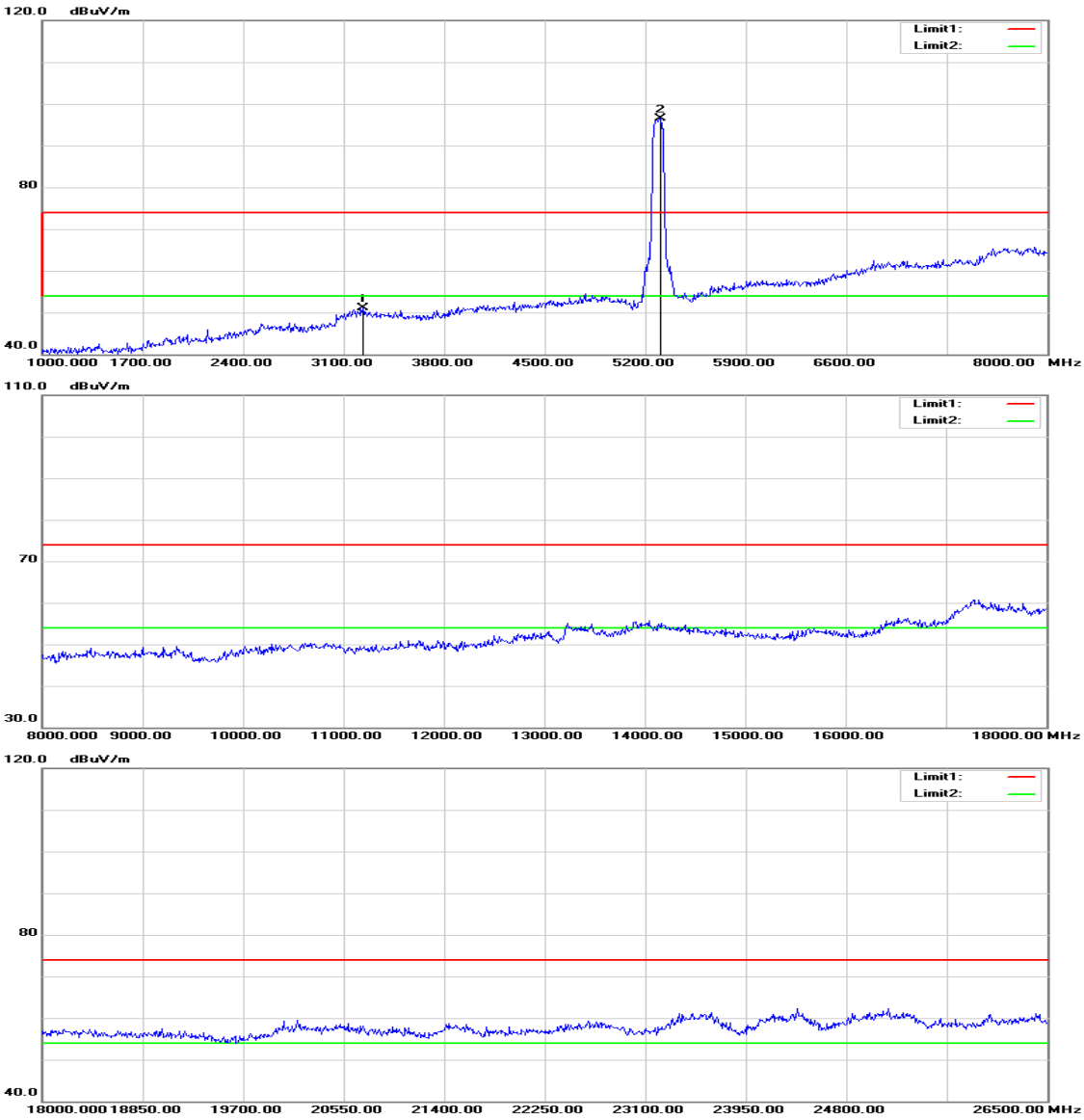


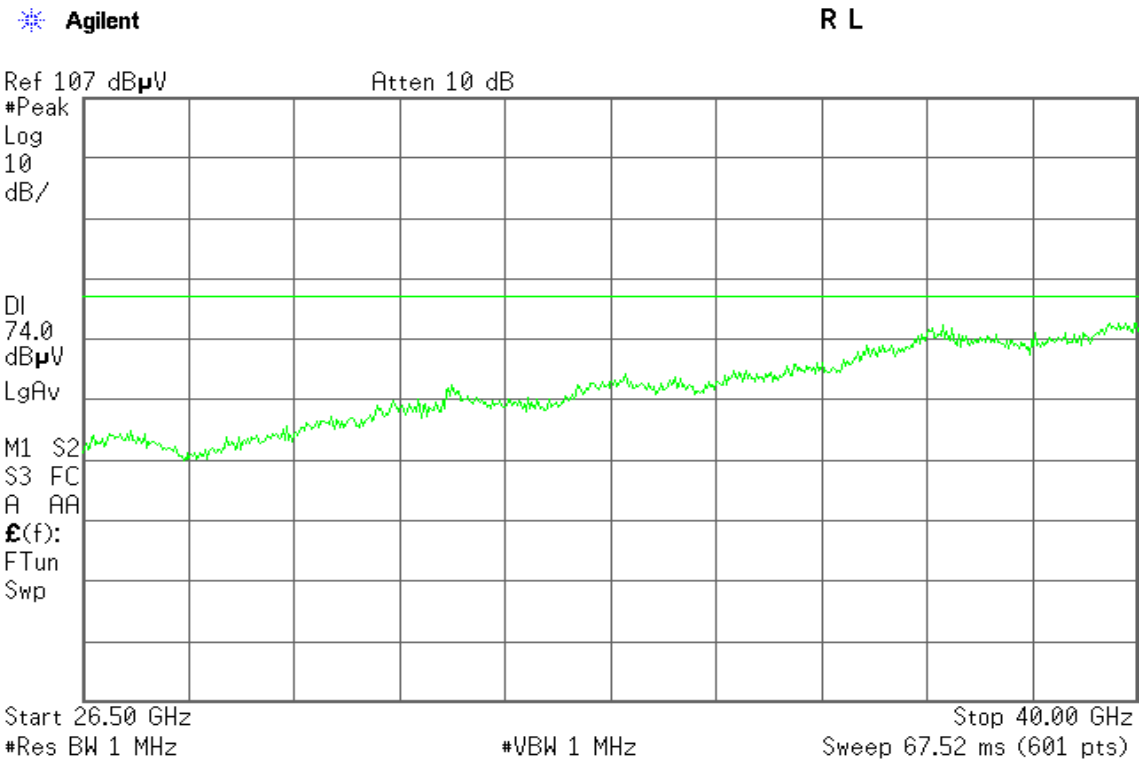





Agilent
R L
Ref 107 dBµV
Atten 10 dB
#Peak
Log
10
dB/
Dl
74.0
dBµV
LgAv
M1 S2
S3 FC
A AA
£(f):
FTun
Swp
Start 26.50 GHz
Stop 40.00 GHz
#Res BW 1 MHz
#VBW 1 MHz
Sweep 67.52 ms (601 pts)

Polarity: Horizontal




Agilent
R L
Ref 107 dBµV
Atten 10 dB
#Peak
Log
10
dB/
Dl
74.0
dBµV
LgAv
M1 S2
S3 FC
A AA
£(f):
FTun
Swp
Start 26.50 GHz
#Res BW 1 MHz
#VBW 1 MHz
Stop 40.00 GHz
Sweep 67.52 ms (601 pts)

Operation Mode:	Tx / IEEE 802.11ac VHT 80 MHz mode / 5290 MHz	**Test Date:**	December 8, 2015
Temperature:	27℃	**Tested by:**	Jason Lu
Humidity:	53% RH	**Polarity:**	Ver. / Hor.

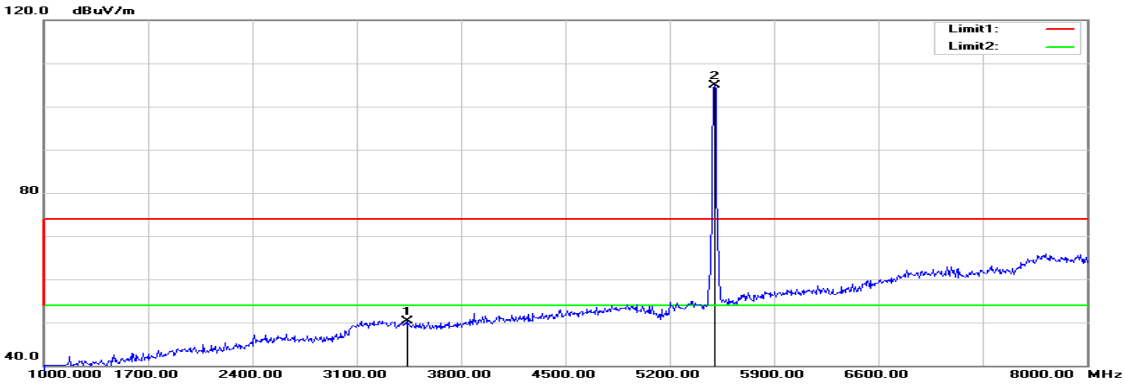
Frequency (MHz)	Reading (dBuV)	Correction (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark	Ant.Pol. (H/V)
3233.000	53.09	-1.55	51.54	74.00	-22.46	peak	V
N/A							
3233.000	52.62	-1.55	51.07	74.00	-22.93	peak	H
N/A							

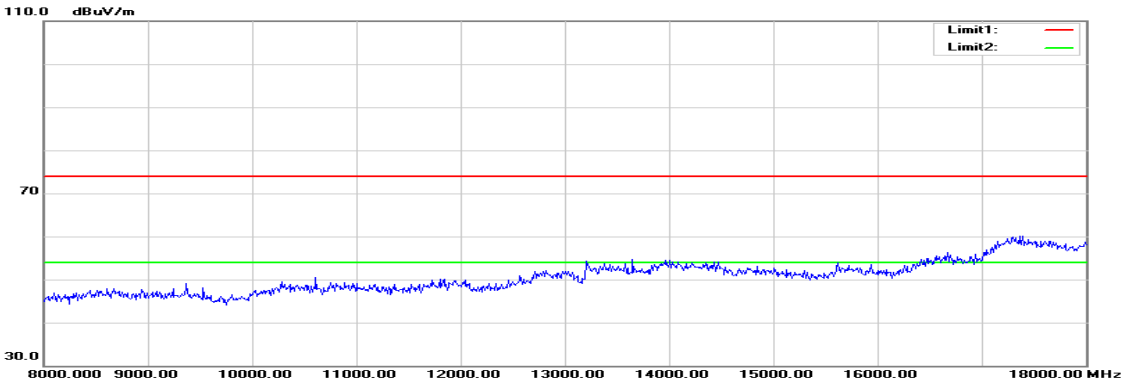
Remark:

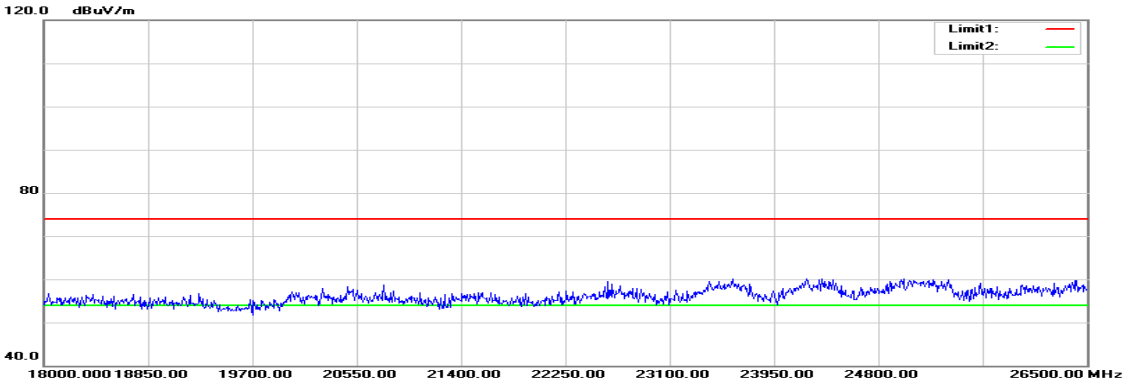
1. *Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.*
2. *Radiated emissions measured in frequency above 1000MHz were made with an instrument using peak/average detector mode.*
3. *Average test would be performed if the peak result were greater than the average limit.*
4. *Data of measurement within this frequency range shown " --- " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.*
5. *Measurements above show only up to 6 maximum emissions noted, or would be lesser, with " N/A " remark, if no specific emissions from the EUT are recorded (ie: margin>20dB from the applicable limit) and considered that's already beyond the background noise floor.*
6. *Margin (dB) = Remark result (dBuV/m) – Average limit (dBuV/m).*

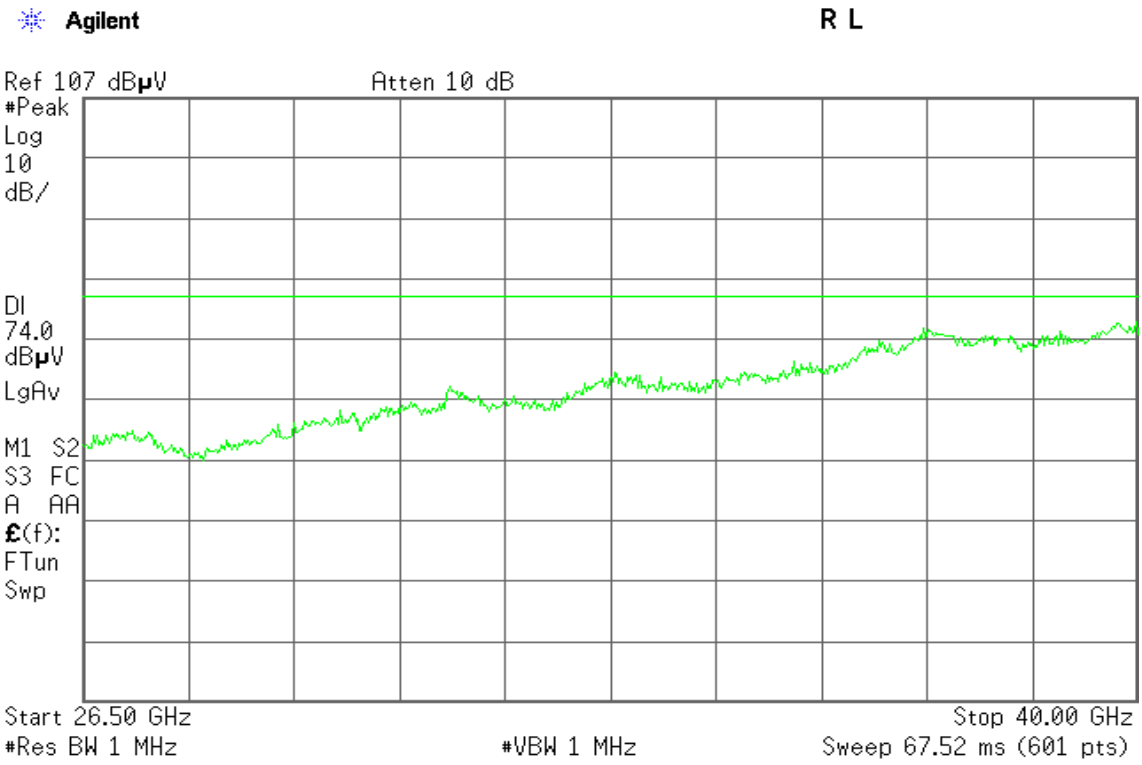
Tx / IEEE 802.11a mode / 5500 MHz

Polarity: Vertical

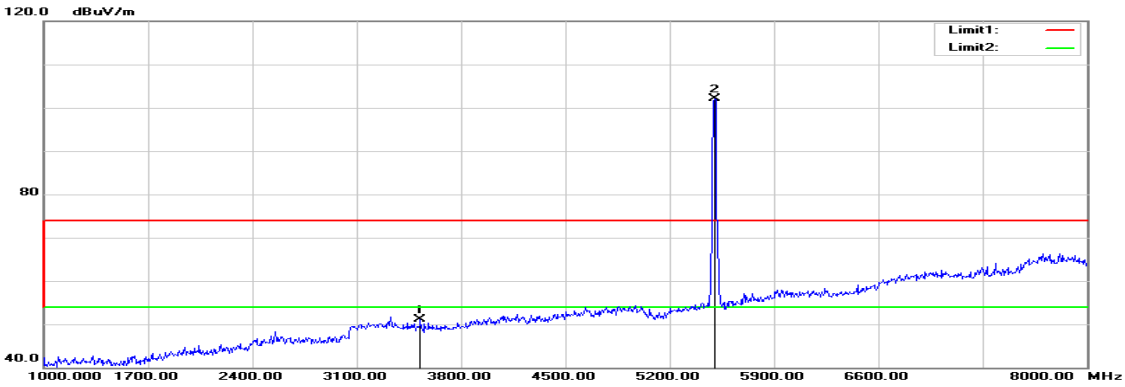


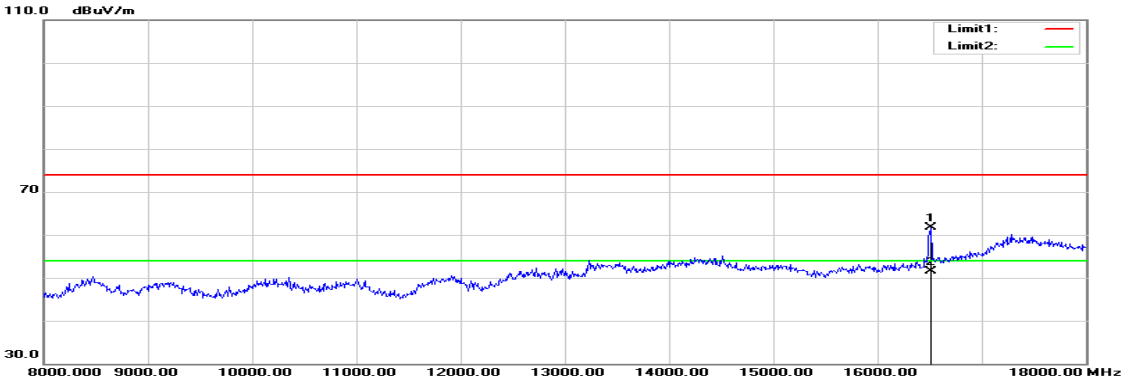


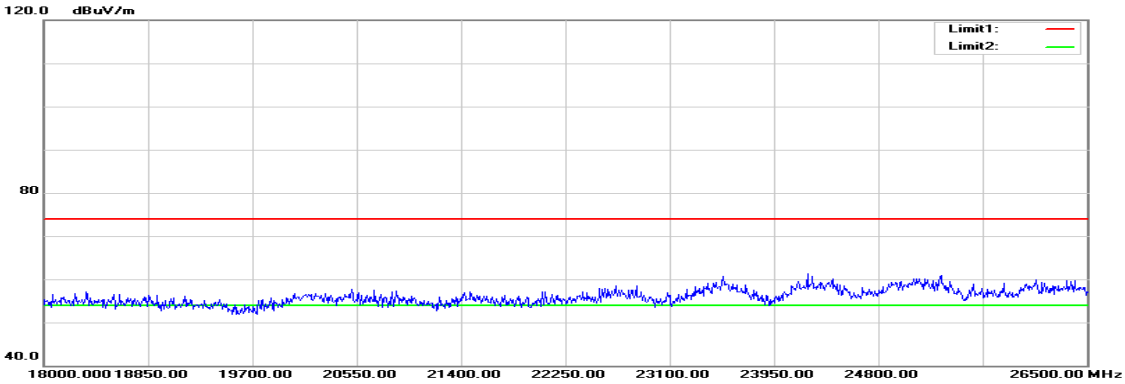


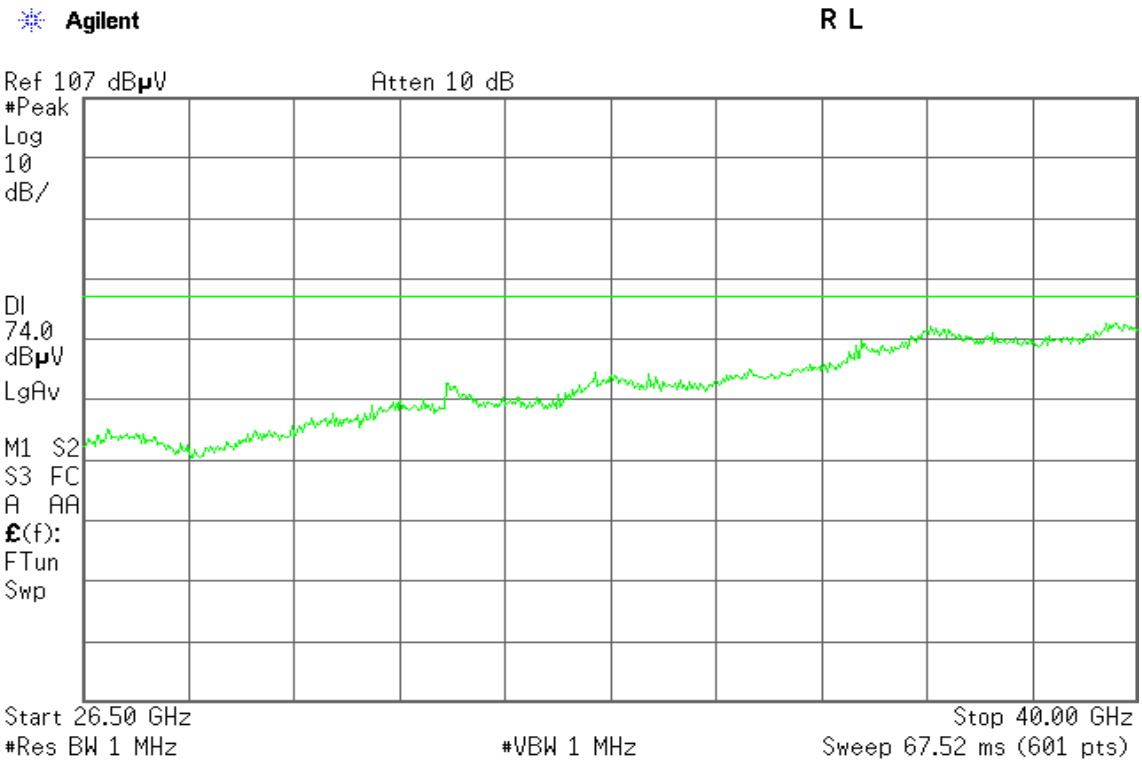

Agilent
R L
Ref 107 dBµV
Atten 10 dB
#Peak
Log
10
dB/
Dl
74.0
dBµV
LgAv
M1 S2
S3 FC
A AA
£(f):
FTun
Swp
Start 26.50 GHz
#Res BW 1 MHz
#VBW 1 MHz
Stop 40.00 GHz
Sweep 67.52 ms (601 pts)

Polarity: Horizontal








Agilent
R L
Ref 107 dBµV
Atten 10 dB
#Peak
Log
10
dB/
Dl
74.0
dBµV
LgAv
M1 S2
S3 FC
A AA
£(f):
FTun
Swp
Start 26.50 GHz
Stop 40.00 GHz
#Res BW 1 MHz
#VBW 1 MHz
Sweep 67.52 ms (601 pts)

Operation Mode: Tx / IEEE 802.11a mode / 5500 MHz **Test Date:** December 8, 2015

Temperature: 27℃ **Tested by:** Jason Lu

Humidity: 53% RH **Polarity:** Ver. / Hor.

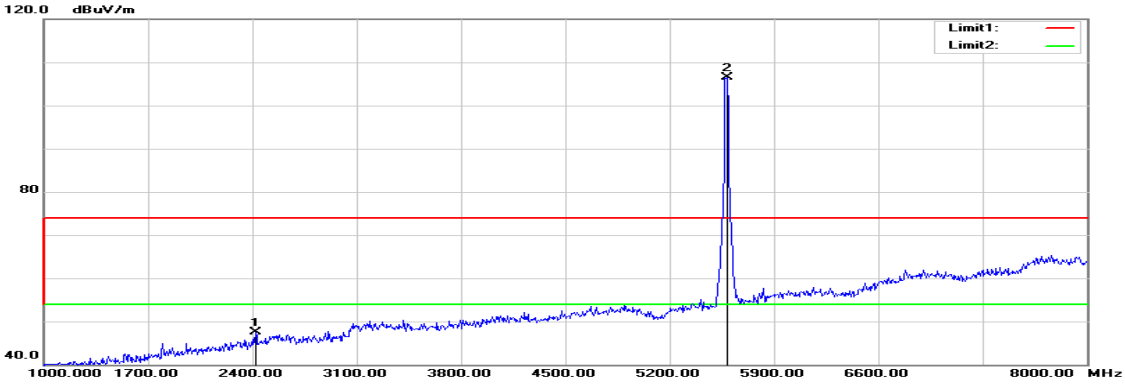
Frequency (MHz)	Reading (dBuV)	Correction (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark	Ant.Pol. (H/V)
3443.000	51.33	-1.05	50.28	74.00	-23.72	peak	V
N/A							
3527.000	51.93	-0.79	51.14	74.00	-22.86	peak	H
16510.000	40.34	21.45	61.79	74.00	-12.21	peak	H
16510.000	30.01	21.45	51.46	54.00	-2.54	AVG	H
N/A							

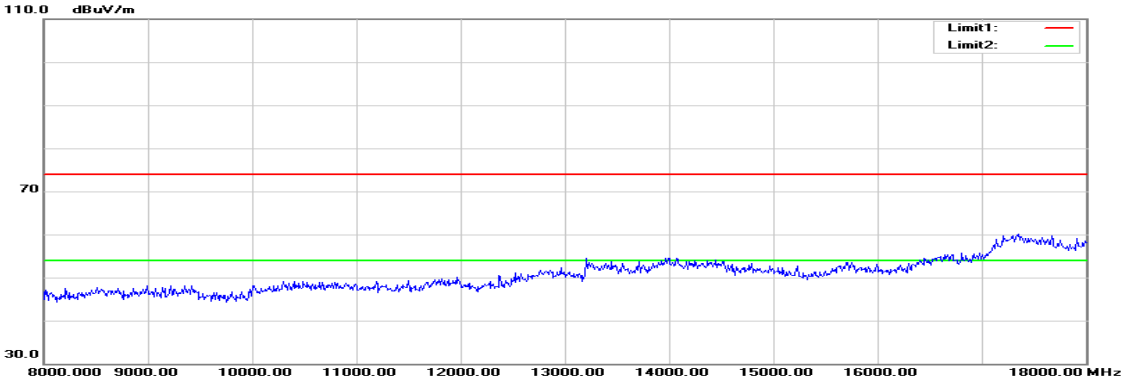
Remark:

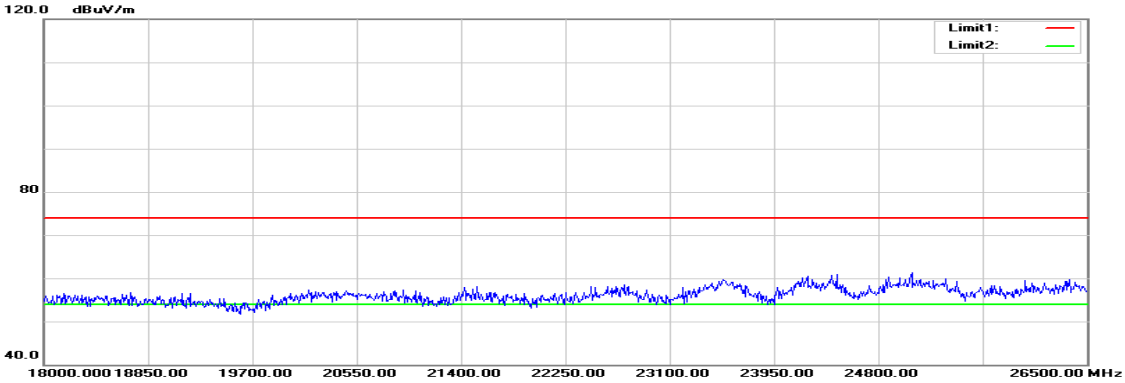
1. *Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.*
2. *Radiated emissions measured in frequency above 1000MHz were made with an instrument using peak/average detector mode.*
3. *Average test would be performed if the peak result were greater than the average limit or as required by the applicant.*
4. *Data of measurement within this frequency range shown " --- " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.*
5. *Measurements above show only up to 6 maximum emissions noted, or would be lesser, with " N/A " remark, if no specific emissions from the EUT are recorded (ie: margin>20dB from the applicable limit) and considered that's already beyond the background noise floor.*
6. *Margin (dB) = Remark result (dBuV/m) – Average limit (dBuV/m).*

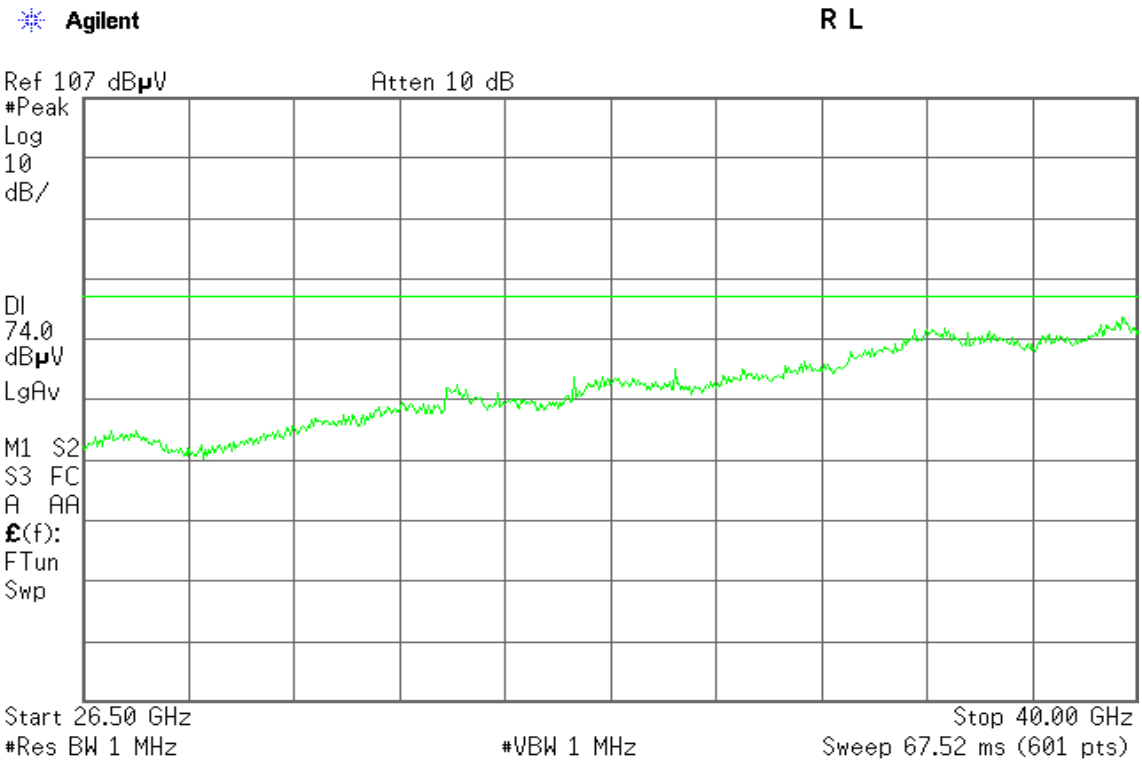
Tx / IEEE 802.11a mode / 5580 MHz

Polarity: Vertical

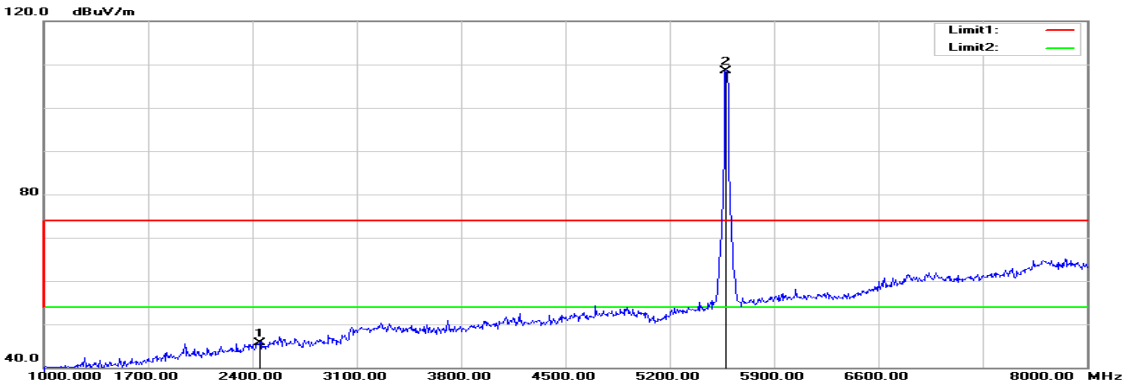


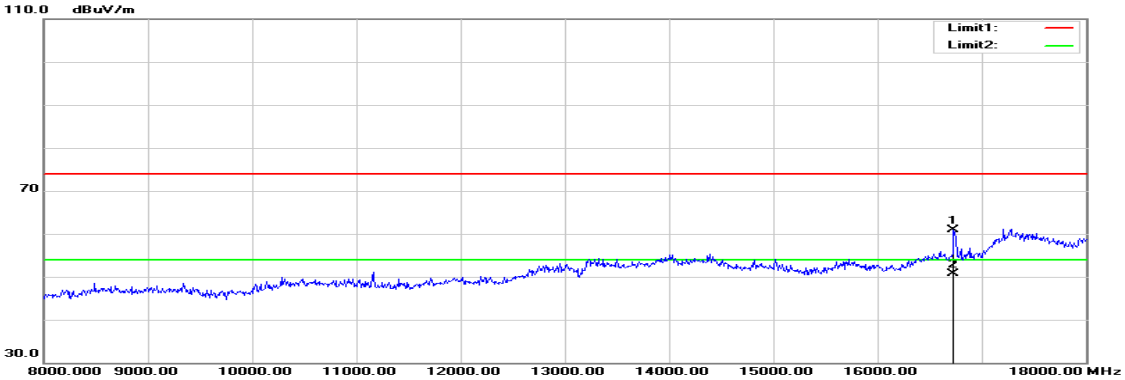


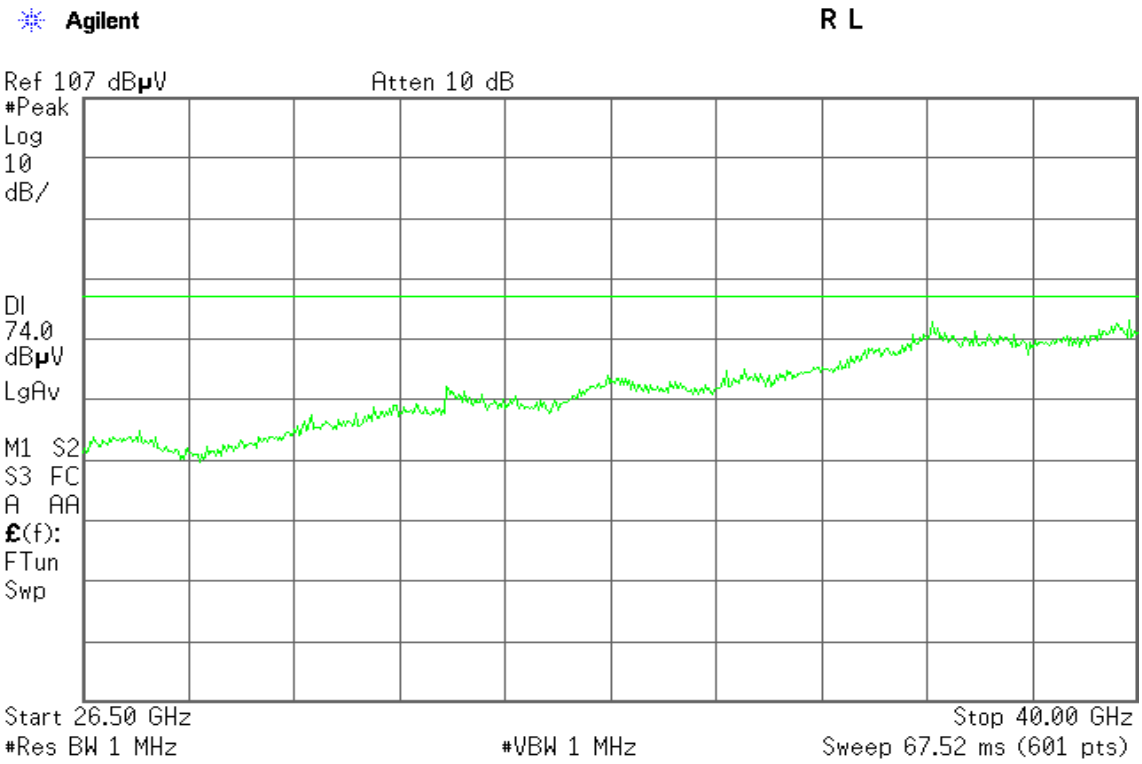



Agilent
R L
Ref 107 dBµV
Atten 10 dB
#Peak
Log
10
dB/
Dl
74.0
dBµV
LgAv
M1 S2
S3 FC
A AA
£(f):
FTun
Swp
Start 26.50 GHz
Stop 40.00 GHz
#Res BW 1 MHz
#VBW 1 MHz
Sweep 67.52 ms (601 pts)

Polarity: Horizontal






Agilent
R L
Ref 107 dBµV
Atten 10 dB
#Peak
Log
10
dB/
Dl
74.0
dBµV
LgAv
M1 S2
S3 FC
A AA
£(f):
FTun
Swp
Start 26.50 GHz
Stop 40.00 GHz
#Res BW 1 MHz
#VBW 1 MHz
Sweep 67.52 ms (601 pts)

Operation Mode: Tx / IEEE 802.11a mode / 5580 MHz **Test Date:** December 8, 2015

Temperature: 27℃ **Tested by:** Jason Lu

Humidity: 53% RH **Polarity:** Ver. / Hor.

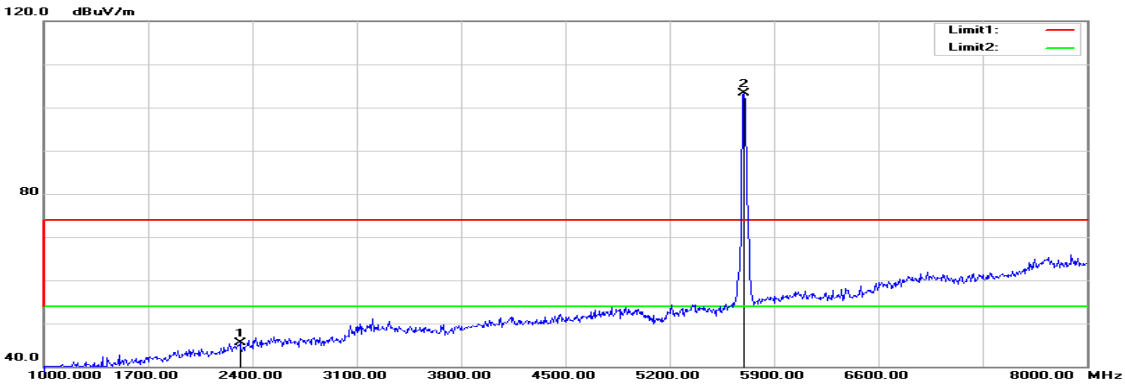
Frequency (MHz)	Reading (dBuV)	Correction (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark	Ant.Pol. (H/V)
2421.000	51.13	-3.63	47.50	74.00	-26.50	peak	V
N/A							
2449.000	49.10	-3.43	45.67	74.00	-28.33	peak	H
16730.000	38.24	22.76	61.00	74.00	-13.00	peak	H
16730.000	27.87	22.76	50.63	54.00	-3.37	AVG	H
N/A							

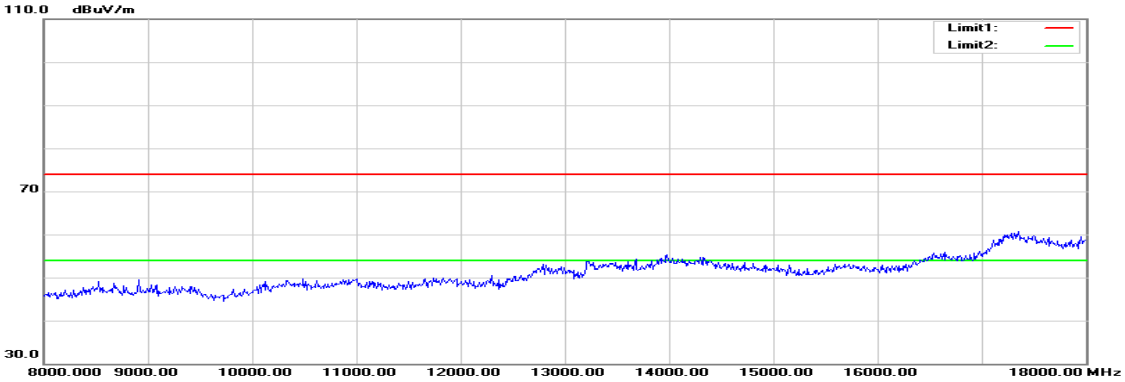
Remark:

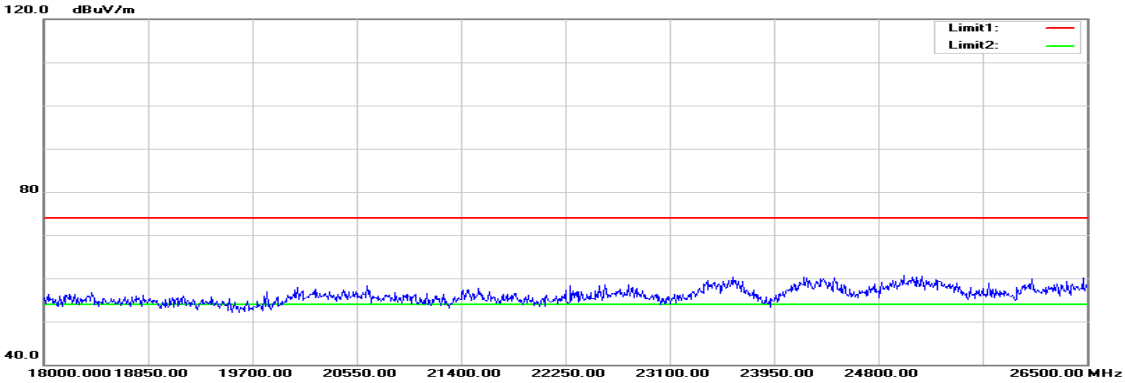
1. *Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.*
2. *Radiated emissions measured in frequency above 1000MHz were made with an instrument using peak/average detector mode.*
3. *Average test would be performed if the peak result were greater than the average limit or as required by the applicant.*
4. *Data of measurement within this frequency range shown " --- " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.*
5. *Measurements above show only up to 6 maximum emissions noted, or would be lesser, with " N/A " remark, if no specific emissions from the EUT are recorded (ie: margin>20dB from the applicable limit) and considered that's already beyond the background noise floor.*
6. *Margin (dB) = Remark result (dBuV/m) – Average limit (dBuV/m).*

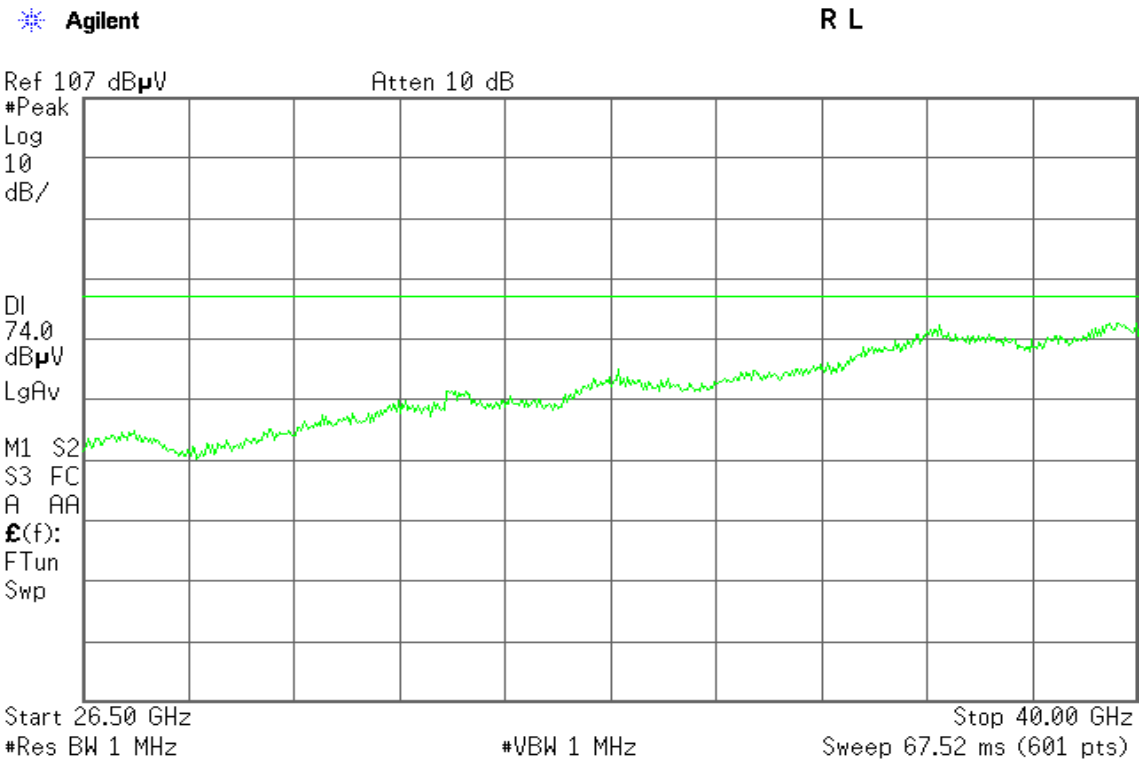
Tx / IEEE 802.11a mode / 5700 MHz

Polarity: Vertical

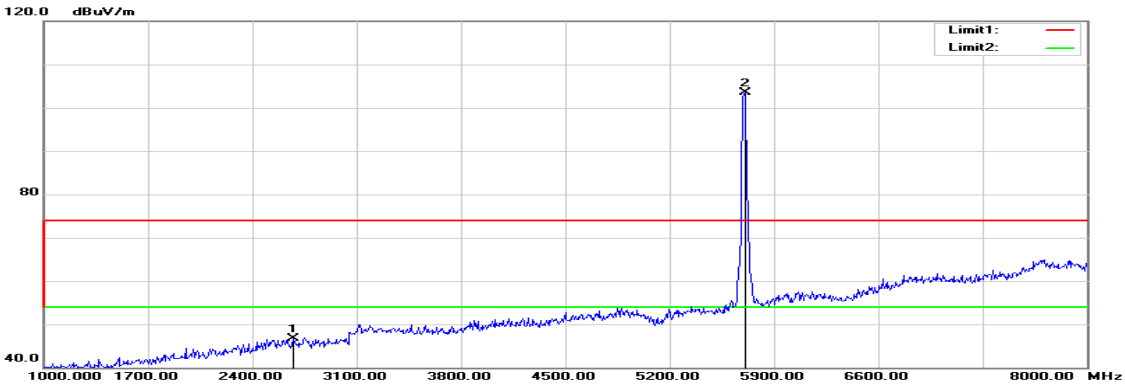


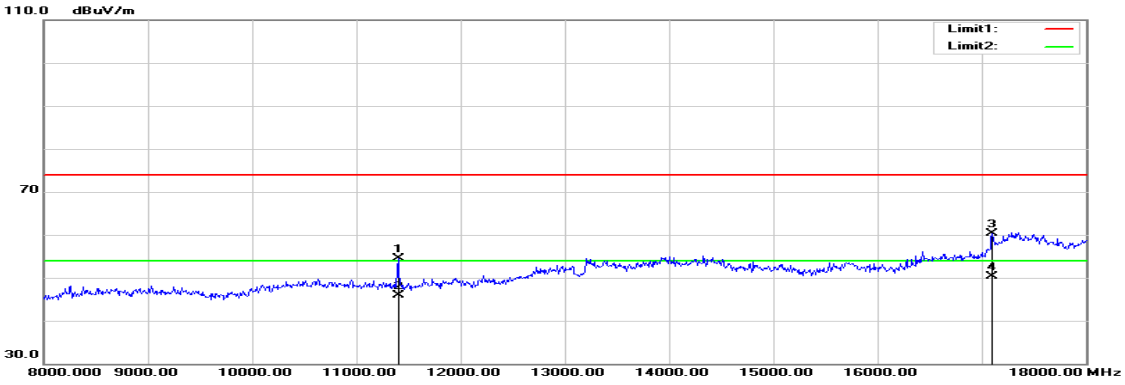


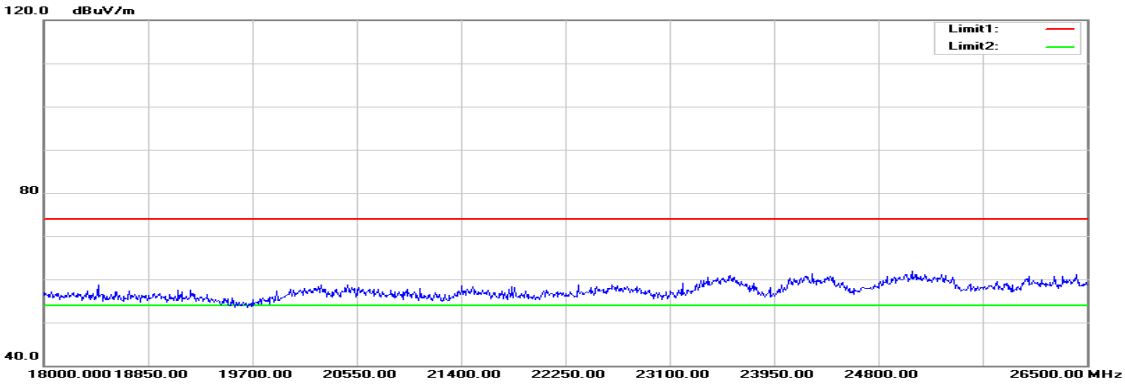


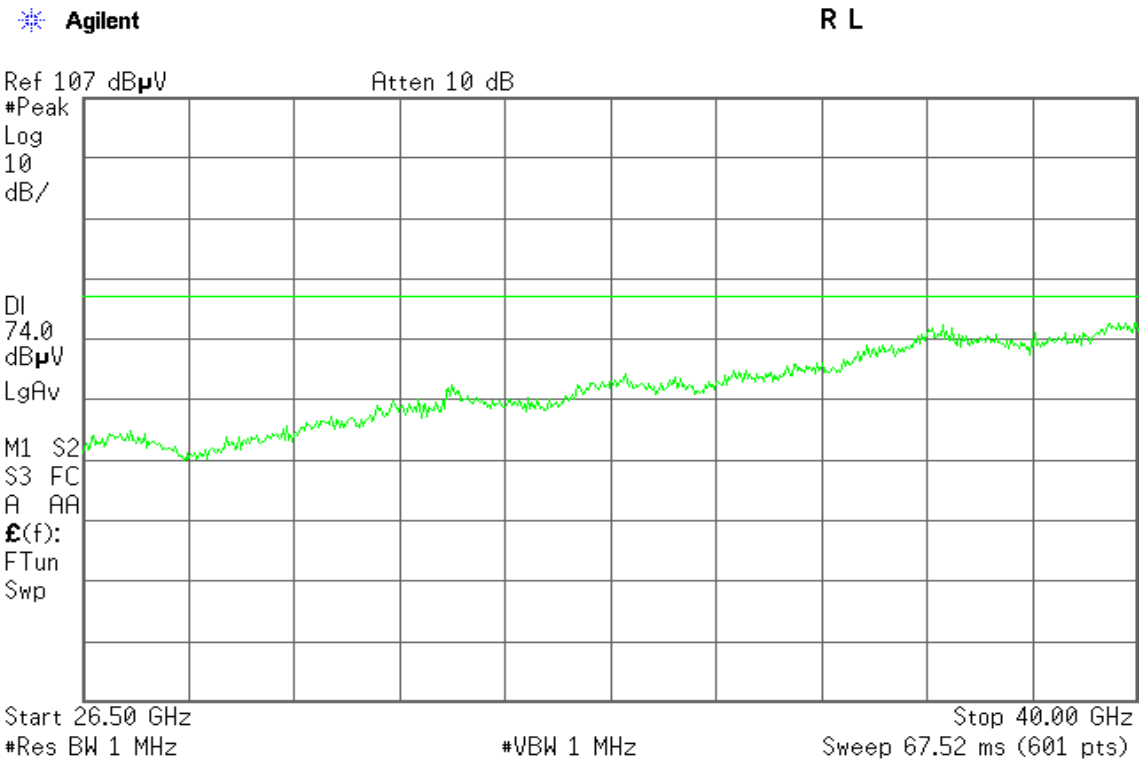

Agilent
R L
Ref 107 dBµV
Atten 10 dB
#Peak
Log
10
dB/
Dl
74.0
dBµV
LgAv
M1 S2
S3 FC
A AA
£(f):
FTun
Swp
Start 26.50 GHz
Stop 40.00 GHz
#Res BW 1 MHz
#VBW 1 MHz
Sweep 67.52 ms (601 pts)

Polarity: Horizontal








Agilent
R L
Ref 107 dBµV
Atten 10 dB
#Peak
Log
10
dB/
Dl
74.0
dBµV
LgAv
M1 S2
S3 FC
A AA
£(f):
FTun
Swp
Start 26.50 GHz
#Res BW 1 MHz
#VBW 1 MHz
Stop 40.00 GHz
Sweep 67.52 ms (601 pts)

Operation Mode: Tx / IEEE 802.11a mode / 5700 MHz **Test Date:** December 8, 2015

Temperature: 27℃ **Tested by:** Jason Lu

Humidity: 53% RH **Polarity:** Ver. / Hor.

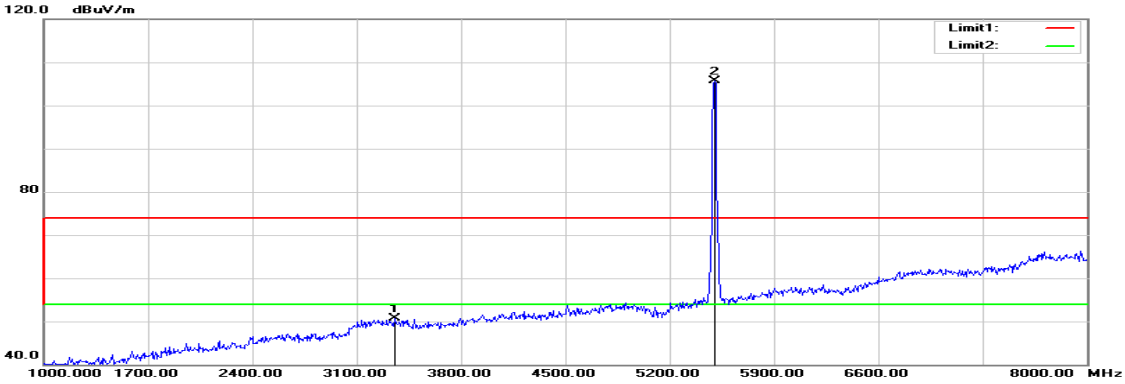
Frequency (MHz)	Reading (dBuV)	Correction (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark	Ant.Pol. (H/V)
2316.000	49.79	-4.26	45.53	74.00	-28.47	peak	V
N/A							
2673.000	49.39	-2.77	46.62	74.00	-27.38	peak	H
11400.000	37.74	16.77	54.51	74.00	-19.49	peak	H
11400.000	29.10	16.77	45.87	54.00	-8.13	AVG	H
17100.000	35.51	24.75	60.26	74.00	-13.74	peak	H
17100.000	25.47	24.75	50.22	54.00	-3.78	AVG	H
N/A							

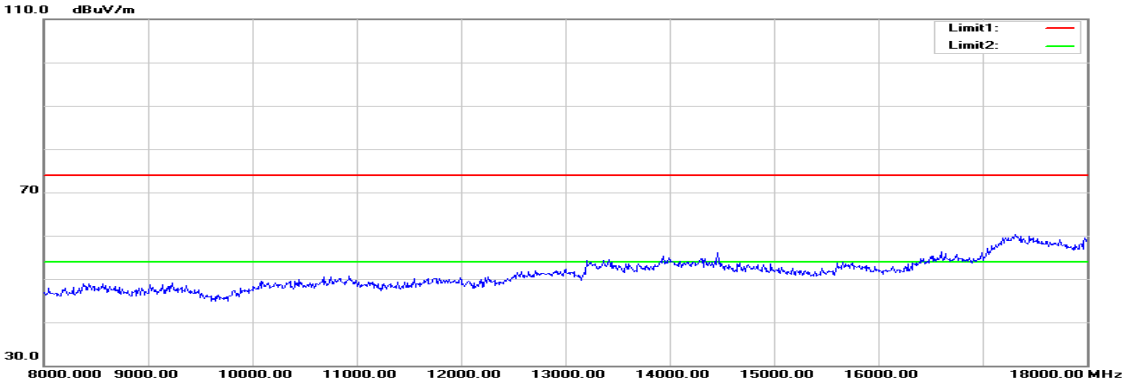
Remark:

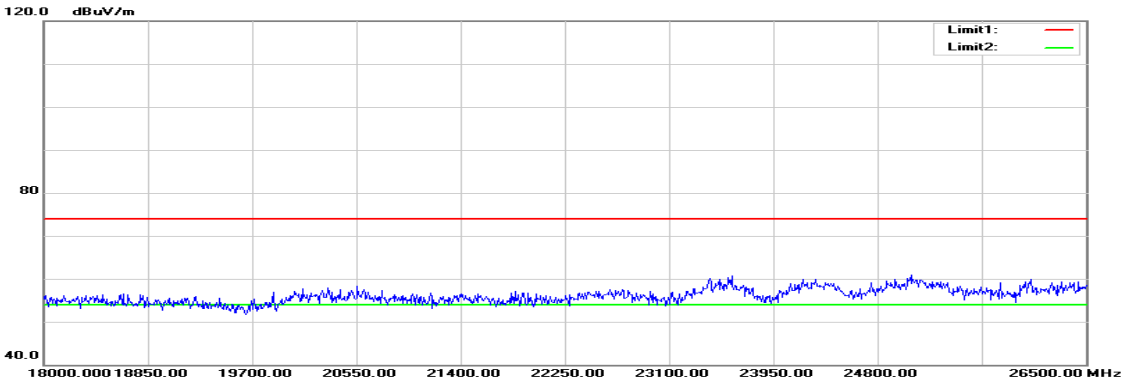
1. *Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.*
2. *Radiated emissions measured in frequency above 1000MHz were made with an instrument using peak/average detector mode.*
3. *Average test would be performed if the peak result were greater than the average limit or as required by the applicant.*
4. *Data of measurement within this frequency range shown " --- " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.*
5. *Measurements above show only up to 6 maximum emissions noted, or would be lesser, with " N/A " remark, if no specific emissions from the EUT are recorded (ie: margin>20dB from the applicable limit) and considered that's already beyond the background noise floor.*
6. *Margin (dB) = Remark result (dBuV/m) – Average limit (dBuV/m).*

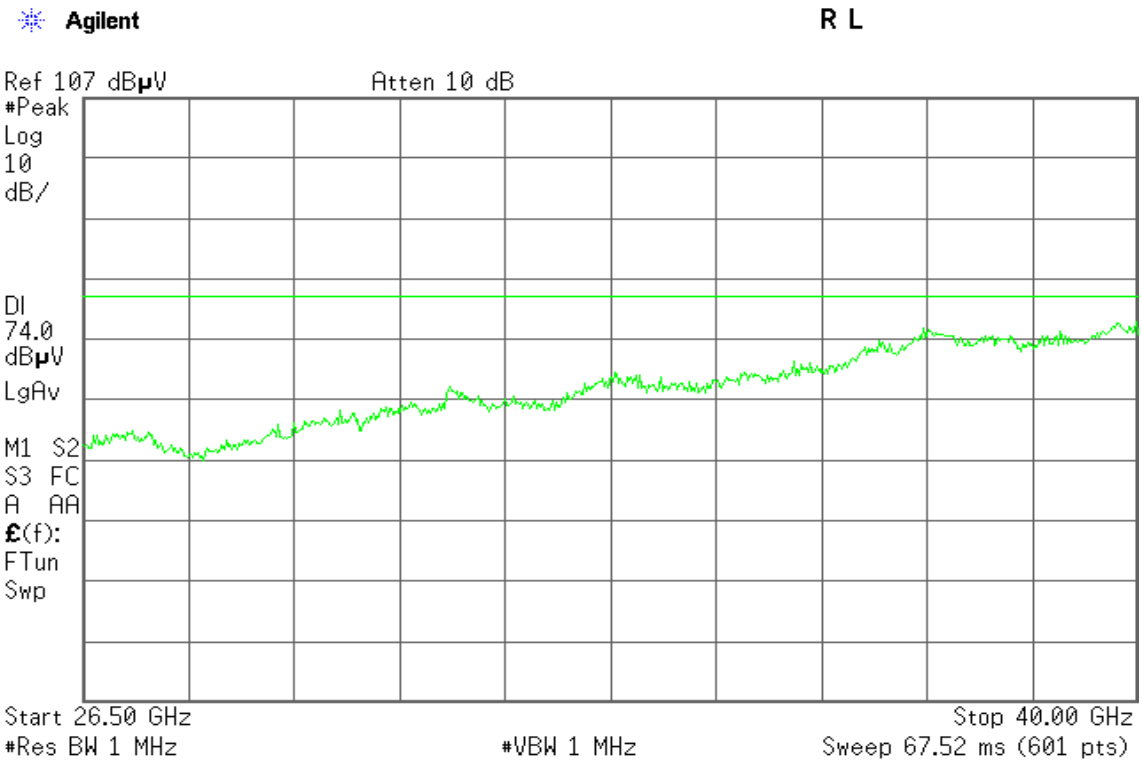
Tx / IEEE 802.11n HT 20 MHz Channel mode / 5500 MHz

Polarity: Vertical

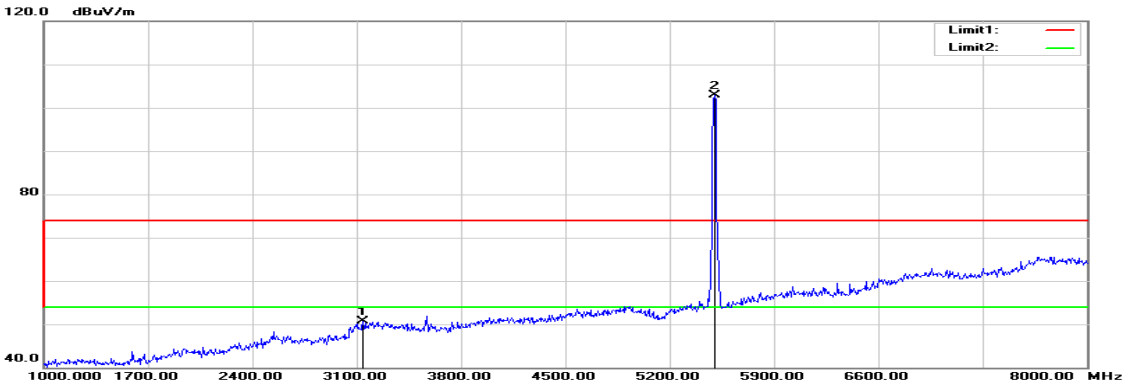


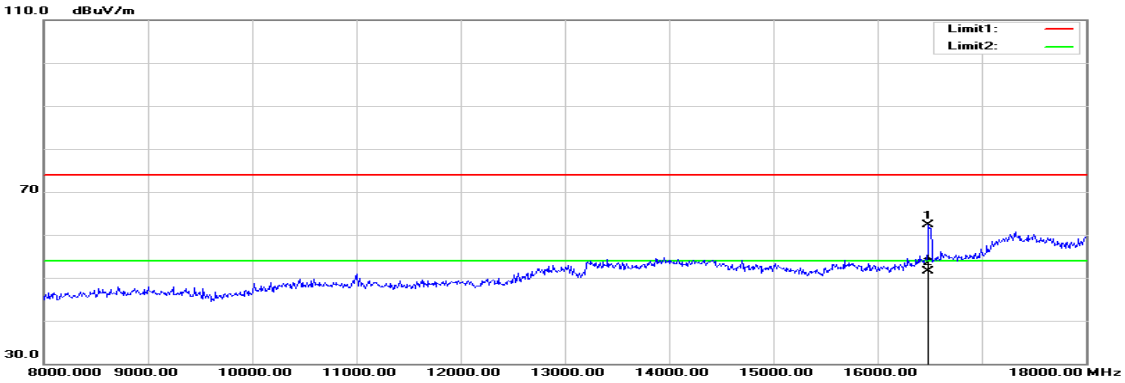


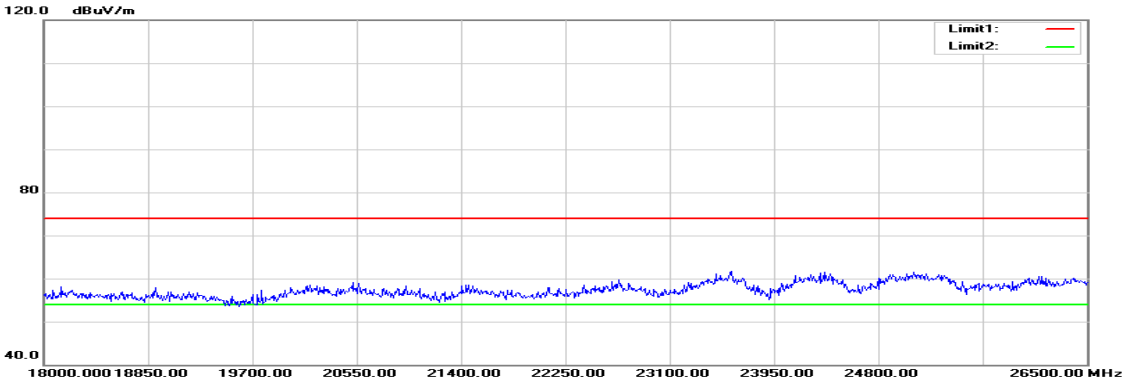


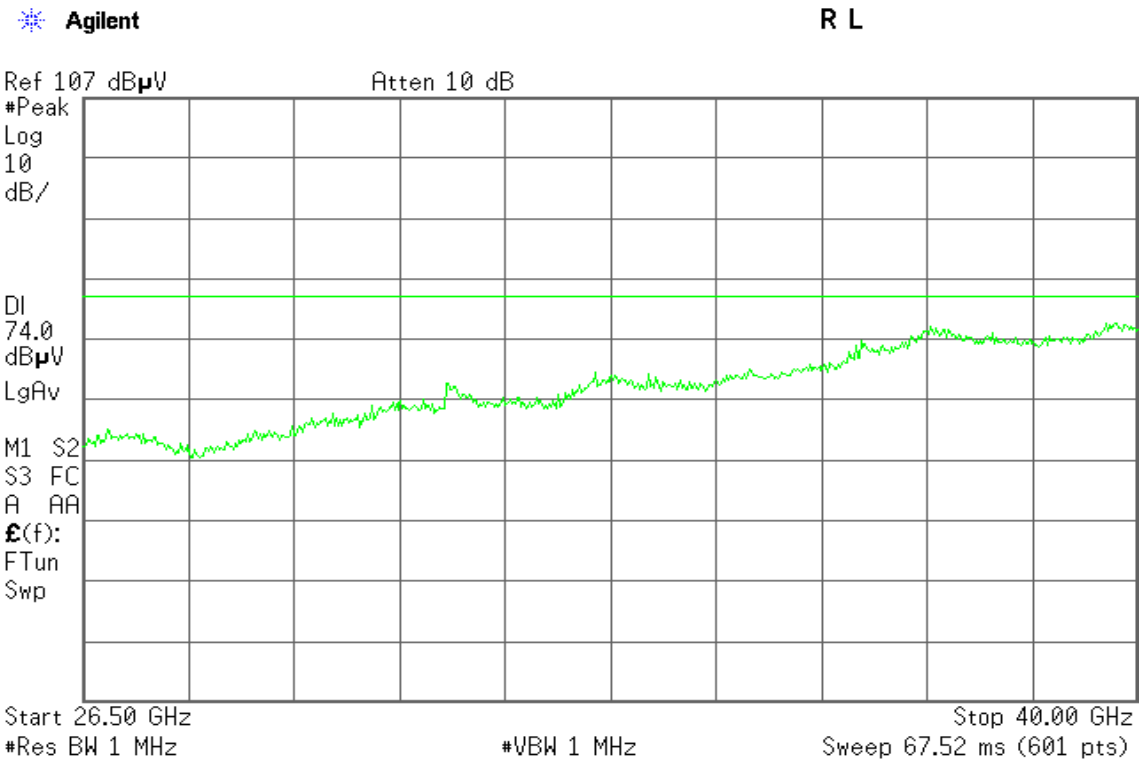

Agilent
R L
Ref 107 dBµV
Atten 10 dB
#Peak
Log
10
dB/
Dl
74.0
dBµV
LgAv
M1 S2
S3 FC
A AA
£(f):
FTun
Swp
Start 26.50 GHz
#Res BW 1 MHz
#VBW 1 MHz
Stop 40.00 GHz
Sweep 67.52 ms (601 pts)

Polarity: Horizontal








Agilent
R L
Ref 107 dBµV
Atten 10 dB
#Peak
Log
10
dB/
Dl
74.0
dBµV
LgAv
M1 S2
S3 FC
A AA
£(f):
FTun
Swp
Start 26.50 GHz
Stop 40.00 GHz
#Res BW 1 MHz
#VBW 1 MHz
Sweep 67.52 ms (601 pts)

Operation Mode:	Tx / IEEE 802.11n HT 20 MHz mode / 5500 MHz	**Test Date:**	December 8, 2015
Temperature:	27℃	**Tested by:**	Jason Lu
Humidity:	53% RH	**Polarity:**	Ver. / Hor.

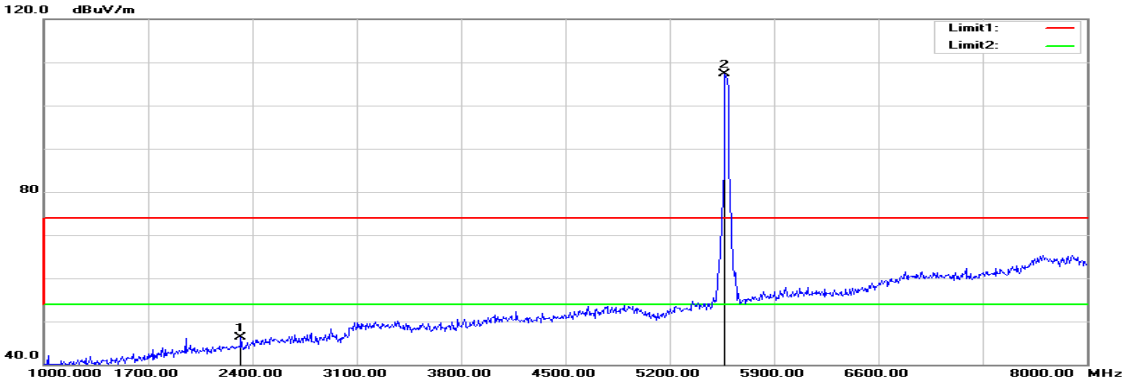
Frequency (MHz)	Reading (dBuV)	Correction (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark	Ant.Pol. (H/V)
3352.000	51.97	-1.27	50.70	74.00	-23.30	peak	V
N/A							
3142.000	52.48	-1.77	50.71	74.00	-23.29	peak	H
16490.000	40.94	21.35	62.29	74.00	-11.71	peak	H
16490.000	30.07	21.35	51.42	54.00	-2.58	AVG	H
N/A							

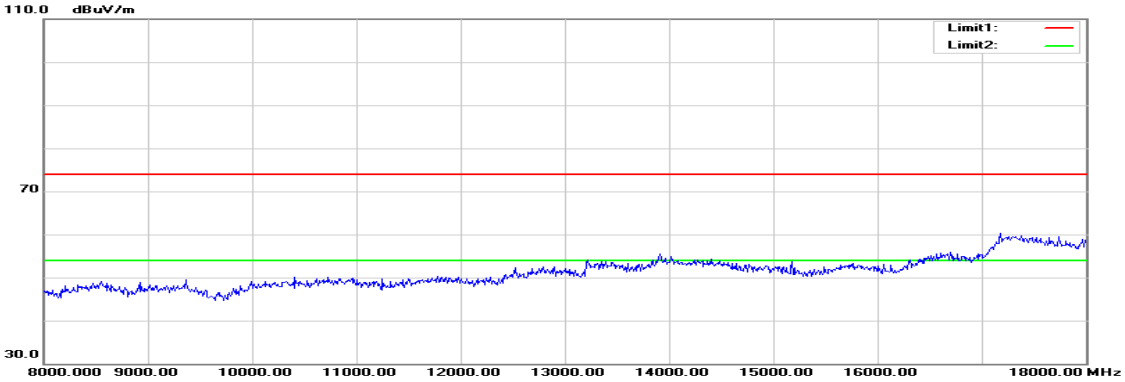
Remark:

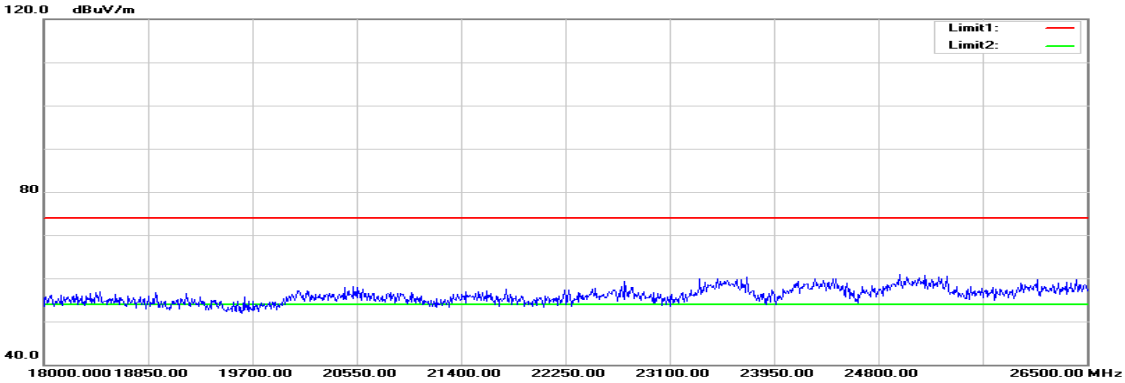
1. *Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.*
2. *Radiated emissions measured in frequency above 1000MHz were made with an instrument using peak/average detector mode.*
3. *Average test would be performed if the peak result were greater than the average limit or as required by the applicant.*
4. *Data of measurement within this frequency range shown " --- " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.*
5. *Measurements above show only up to 6 maximum emissions noted, or would be lesser, with " N/A " remark, if no specific emissions from the EUT are recorded (ie: margin>20dB from the applicable limit) and considered that's already beyond the background noise floor.*
6. *Margin (dB) = Remark result (dBuV/m) – Average limit (dBuV/m).*

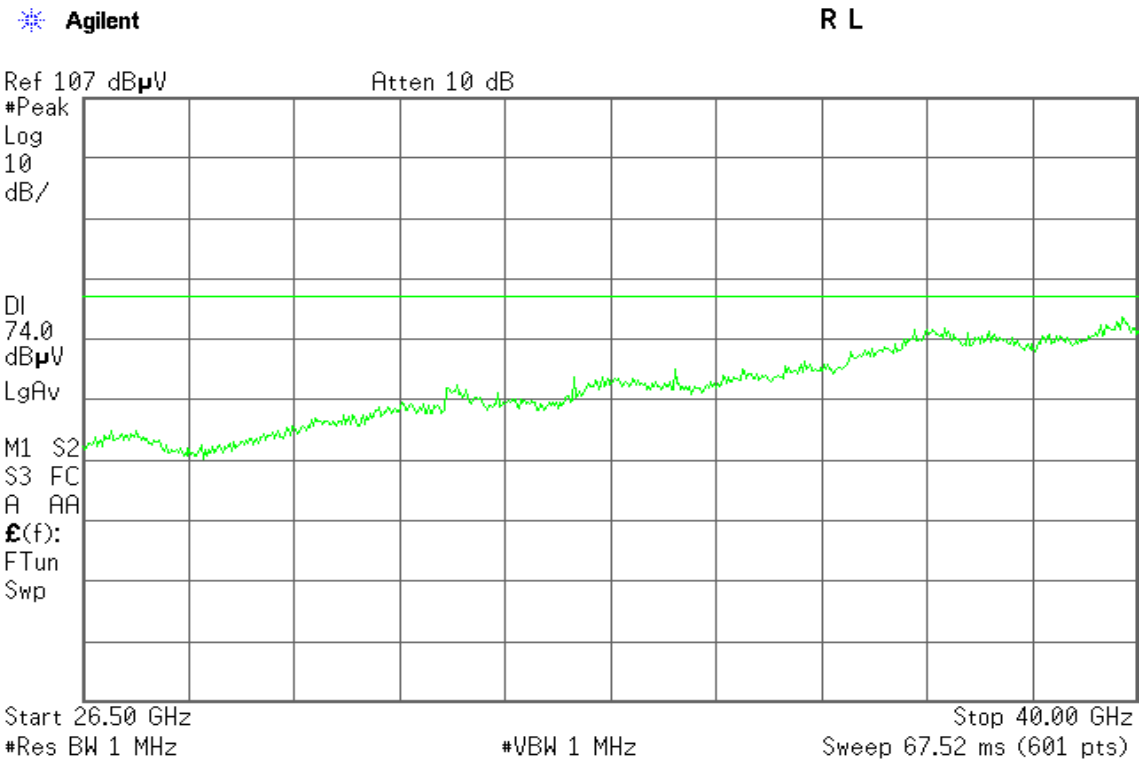
Tx / IEEE 802.11n HT 20 MHz Channel mode / 5580 MHz

Polarity: Vertical

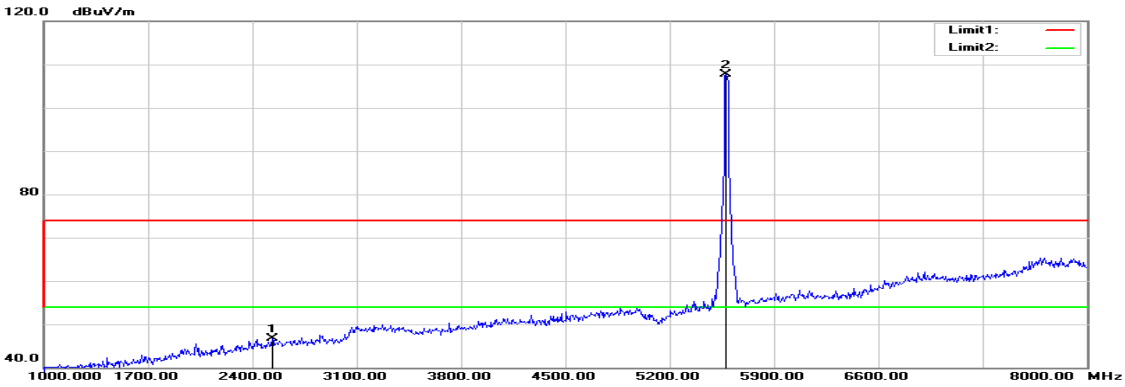


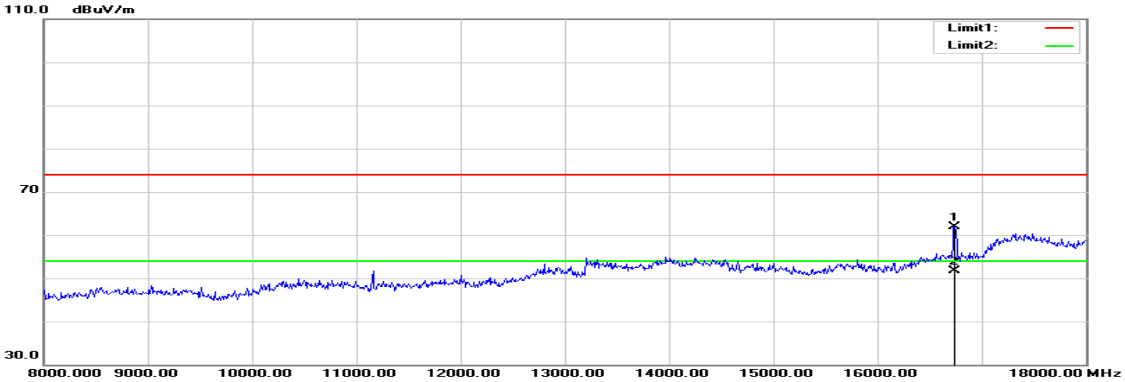


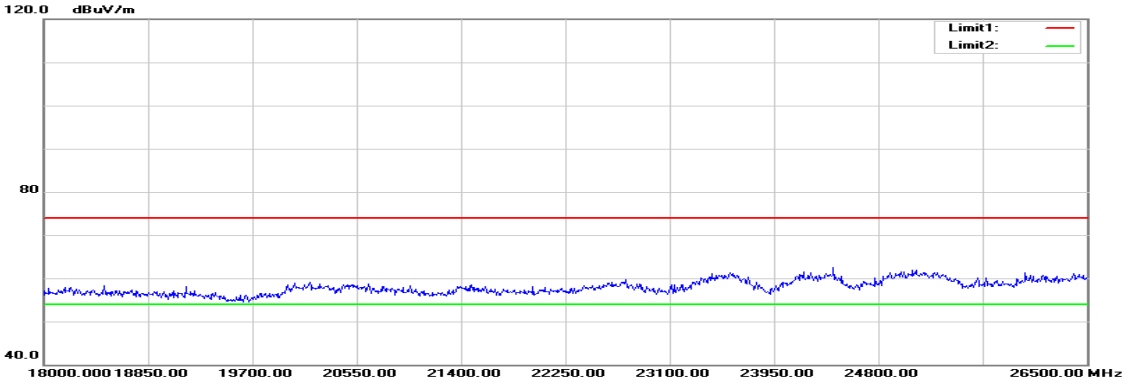


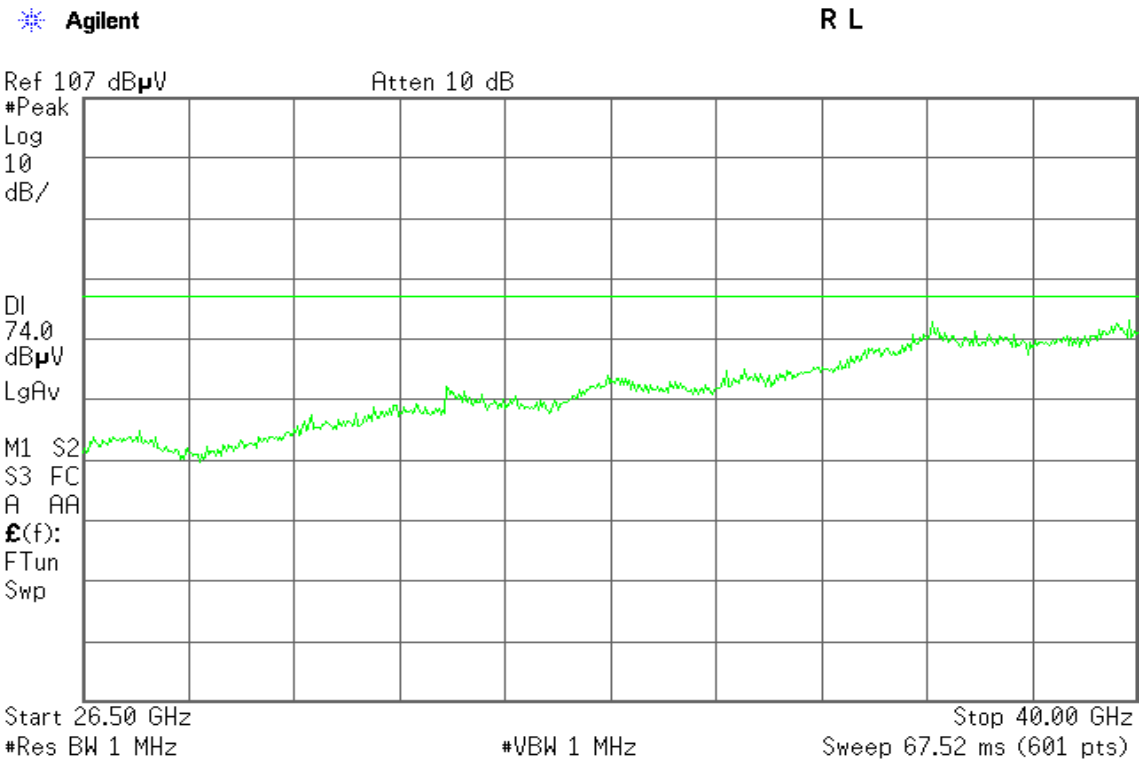

Agilent
R L
Ref 107 dBµV
Atten 10 dB
#Peak
Log
10
dB/
Dl
74.0
dBµV
LgAv
M1 S2
S3 FC
A AA
£(f):
FTun
Swp
Start 26.50 GHz
#Res BW 1 MHz
#VBW 1 MHz
Stop 40.00 GHz
Sweep 67.52 ms (601 pts)

Polarity: Horizontal








Agilent
R L
Ref 107 dBµV
Atten 10 dB
#Peak
Log
10
dB/
Dl
74.0
dBµV
LgAv
M1 S2
S3 FC
A AA
£(f):
FTun
Swp
Start 26.50 GHz
Stop 40.00 GHz
#Res BW 1 MHz
#VBW 1 MHz
Sweep 67.52 ms (601 pts)

Operation Mode:	Tx / IEEE 802.11n HT 20 MHz mode / 5580 MHz	**Test Date:**	December 8, 2015
Temperature:	27℃	**Tested by:**	Jason Lu
Humidity:	53% RH	**Polarity:**	Ver. / Hor.

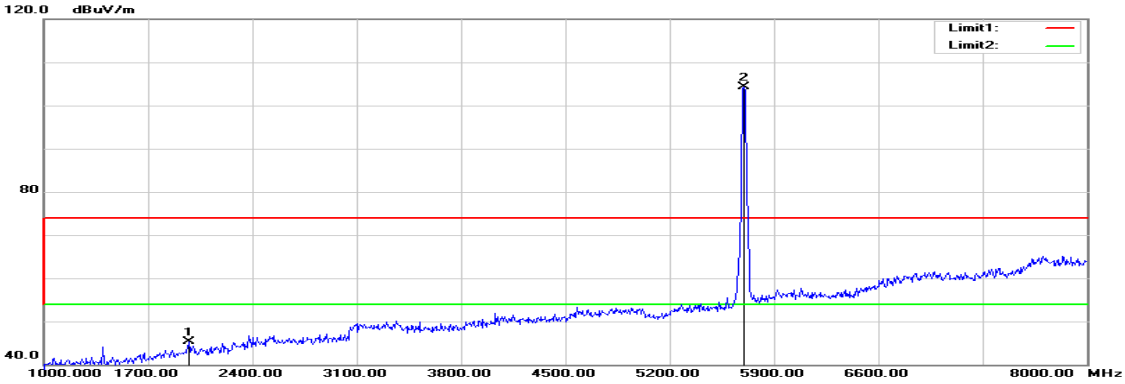
Frequency (MHz)	Reading (dBuV)	Correction (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark	Ant.Pol. (H/V)
2323.000	50.52	-4.24	46.28	74.00	-27.72	peak	V
N/A							
2533.000	49.73	-3.05	46.68	74.00	-27.32	peak	H
16740.000	39.16	22.82	61.98	74.00	-12.02	peak	H
16740.000	28.83	22.82	51.65	54.00	-2.35	AVG	H
N/A							

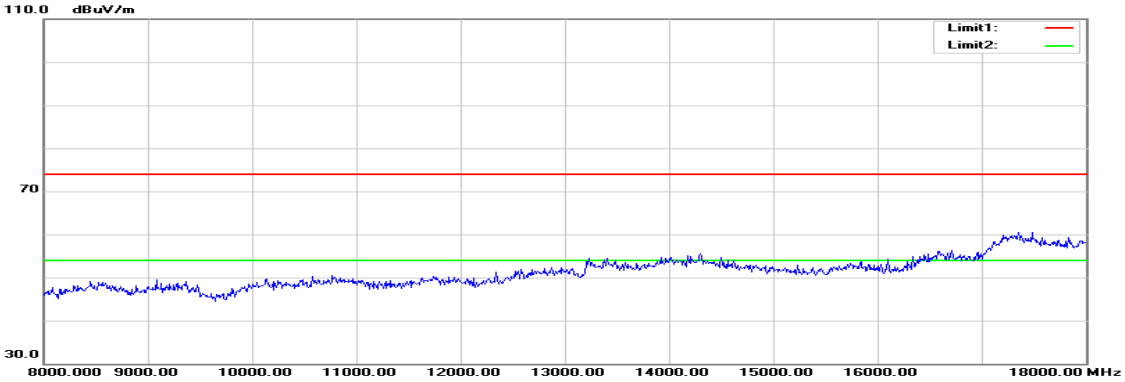
Remark:

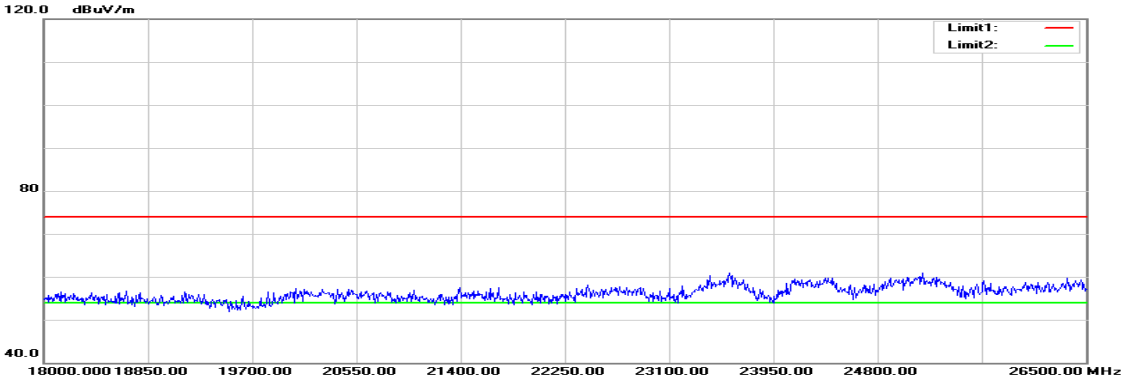
1. *Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.*
2. *Radiated emissions measured in frequency above 1000MHz were made with an instrument using peak/average detector mode.*
3. *Average test would be performed if the peak result were greater than the average limit or as required by the applicant.*
4. *Data of measurement within this frequency range shown " --- " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.*
5. *Measurements above show only up to 6 maximum emissions noted, or would be lesser, with " N/A " remark, if no specific emissions from the EUT are recorded (ie: margin>20dB from the applicable limit) and considered that's already beyond the background noise floor.*
6. *Margin (dB) = Remark result (dBuV/m) – Average limit (dBuV/m).*

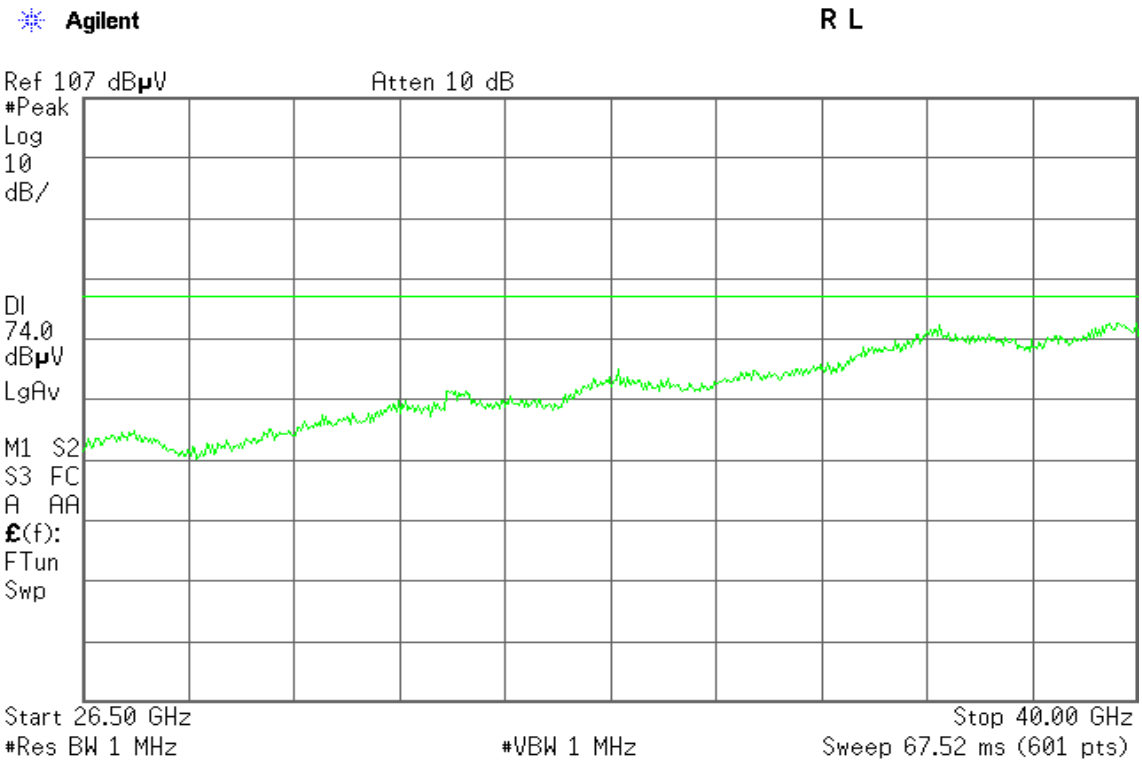
Tx / IEEE 802.11n HT 20 MHz mode / 5700 MHz

Polarity: Vertical

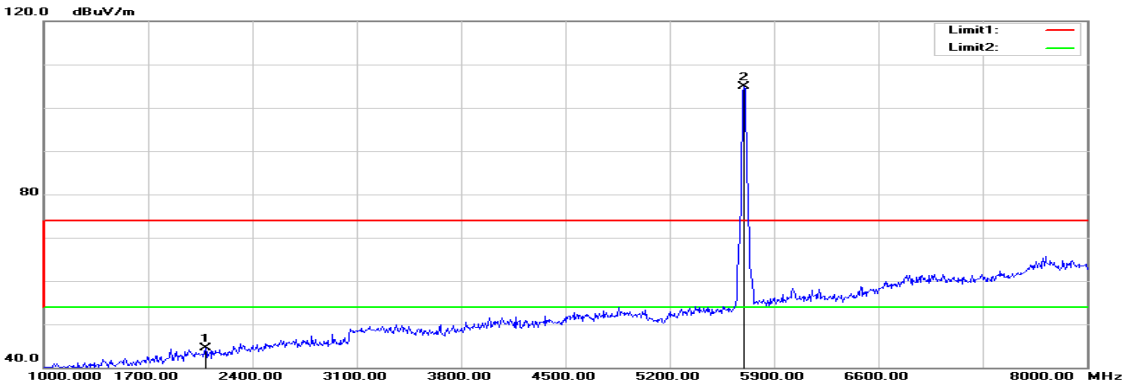


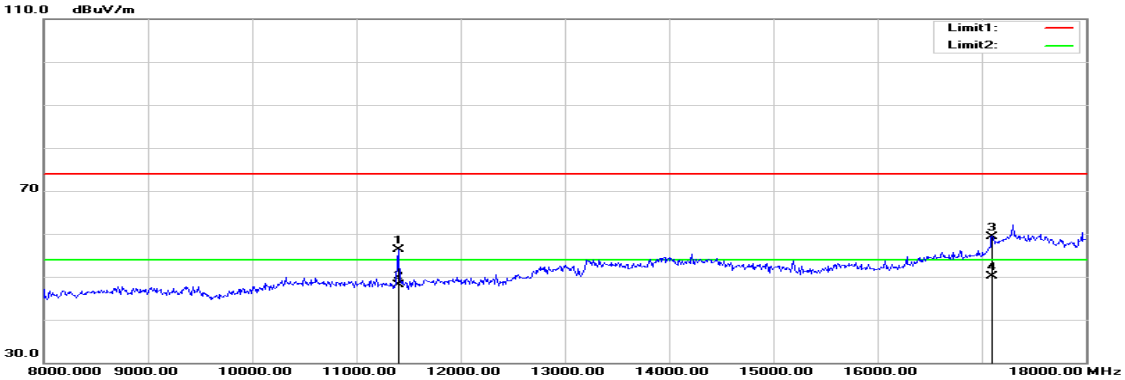


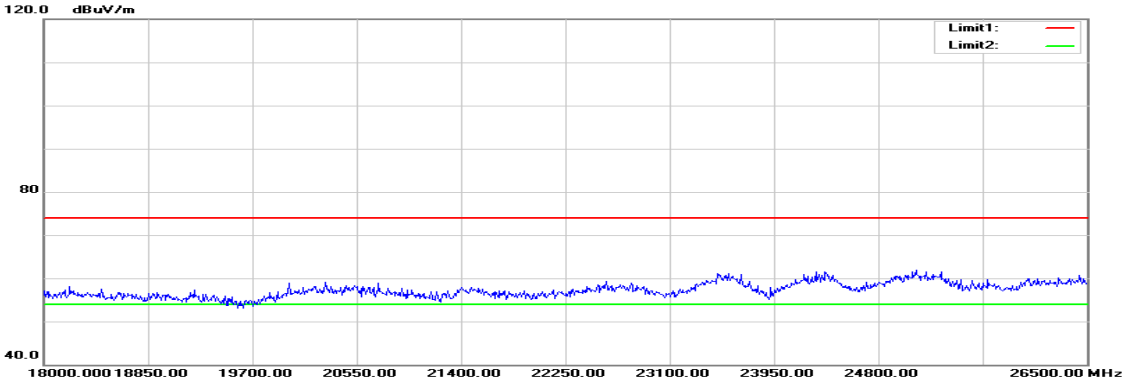


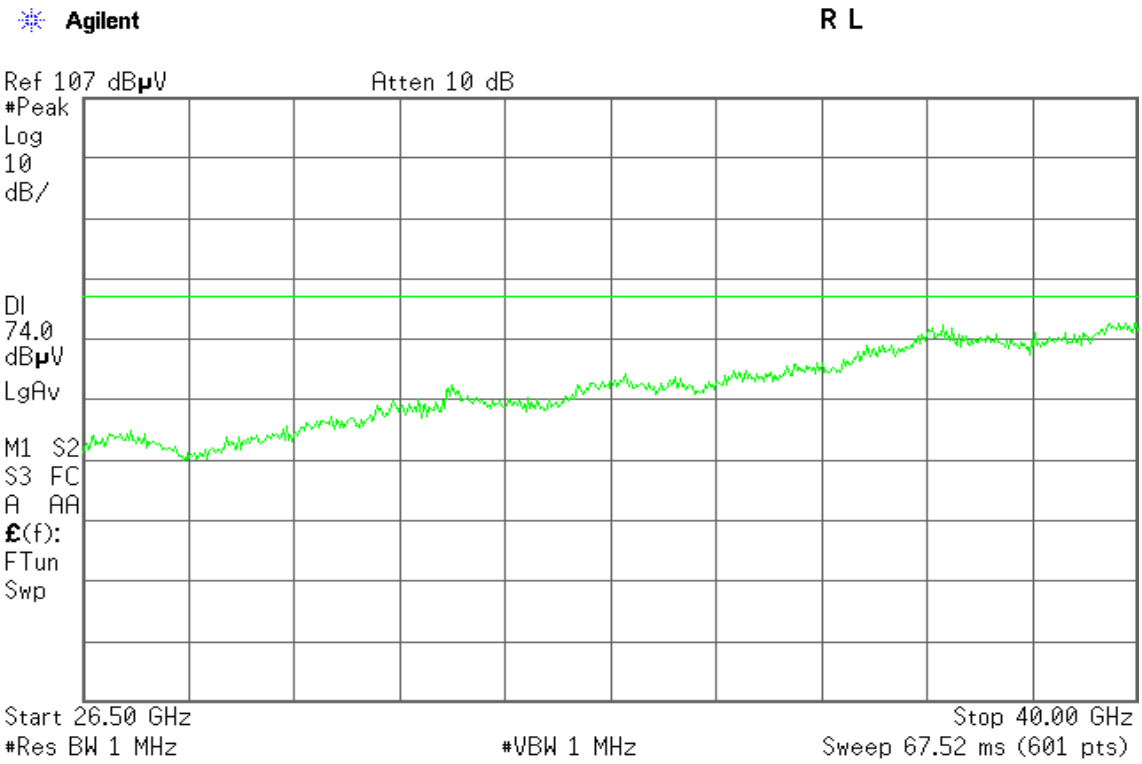

Agilent
R L
Ref 107 dBµV
Atten 10 dB
#Peak
Log
10
dB/
Dl
74.0
dBµV
LgAv
M1 S2
S3 FC
A AA
£(f):
FTun
Swp
Start 26.50 GHz
Stop 40.00 GHz
#Res BW 1 MHz
#VBW 1 MHz
Sweep 67.52 ms (601 pts)

Polarity: Horizontal








Agilent
R L
Ref 107 dBµV
Atten 10 dB
#Peak
Log
10
dB/
Dl
74.0
dBµV
LgAv
M1 S2
S3 FC
A AA
£(f):
FTun
Swp
Start 26.50 GHz
Stop 40.00 GHz
#Res BW 1 MHz
#VBW 1 MHz
Sweep 67.52 ms (601 pts)

Operation Mode:	Tx / IEEE 802.11n HT 20 MHz mode / 5700 MHz	**Test Date:**	December 8, 2015
Temperature:	27℃	**Tested by:**	Jason Lu
Humidity:	53% RH	**Polarity:**	Ver. / Hor.

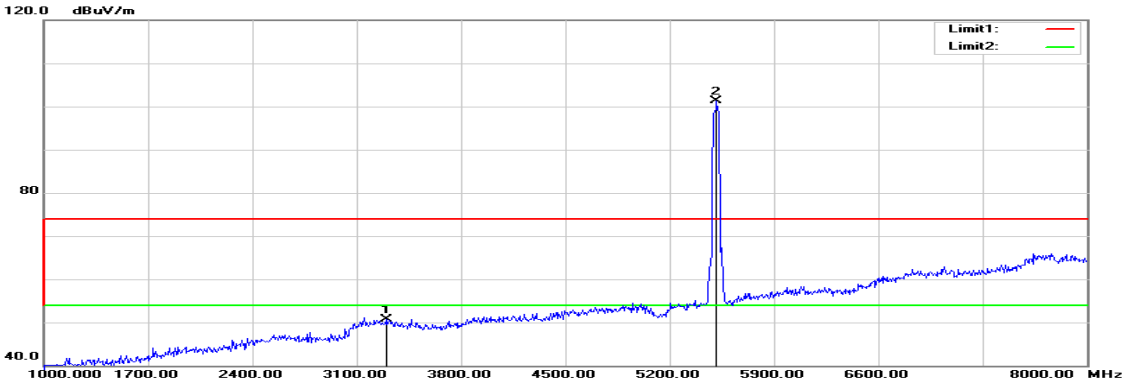
Frequency (MHz)	Reading (dBuV)	Correction (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark	Ant.Pol. (H/V)
1973.000	50.36	-5.02	45.34	74.00	-28.66	peak	V
N/A							
2085.000	49.46	-4.97	44.49	74.00	-29.51	peak	H
11400.000	39.49	16.77	56.26	74.00	-17.74	peak	H
11400.000	31.34	16.77	48.11	54.00	-5.89	AVG	H
17100.000	34.65	24.75	59.40	74.00	-14.60	peak	H
17100.000	25.40	24.75	50.15	54.00	-3.85	AVG	H
N/A							

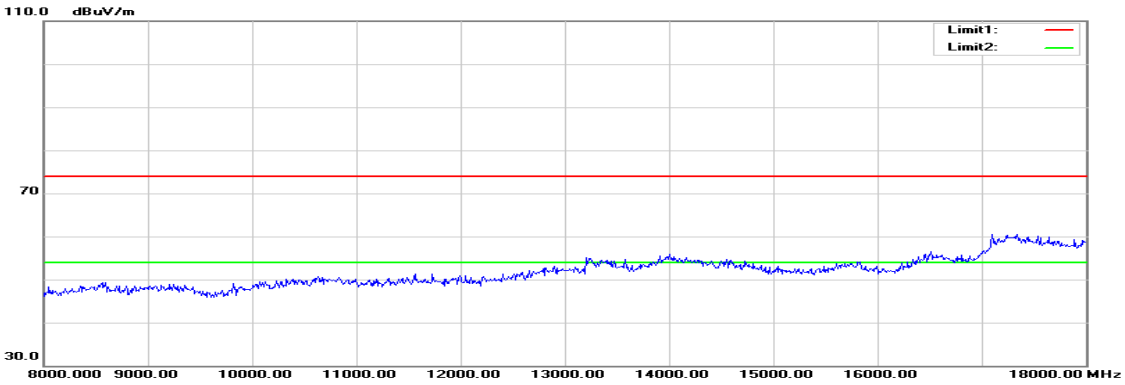
Remark:

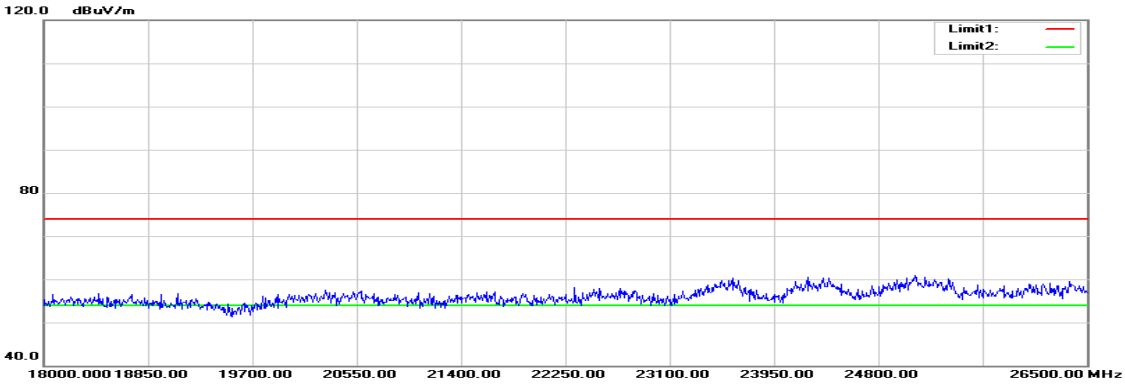
1. *Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.*
2. *Radiated emissions measured in frequency above 1000MHz were made with an instrument using peak/average detector mode.*
3. *Average test would be performed if the peak result were greater than the average limit or as required by the applicant.*
4. *Data of measurement within this frequency range shown " --- " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.*
5. *Measurements above show only up to 6 maximum emissions noted, or would be lesser, with " N/A " remark, if no specific emissions from the EUT are recorded (ie: margin>20dB from the applicable limit) and considered that's already beyond the background noise floor.*
6. *Margin (dB) = Remark result (dBuV/m) – Average limit (dBuV/m).*

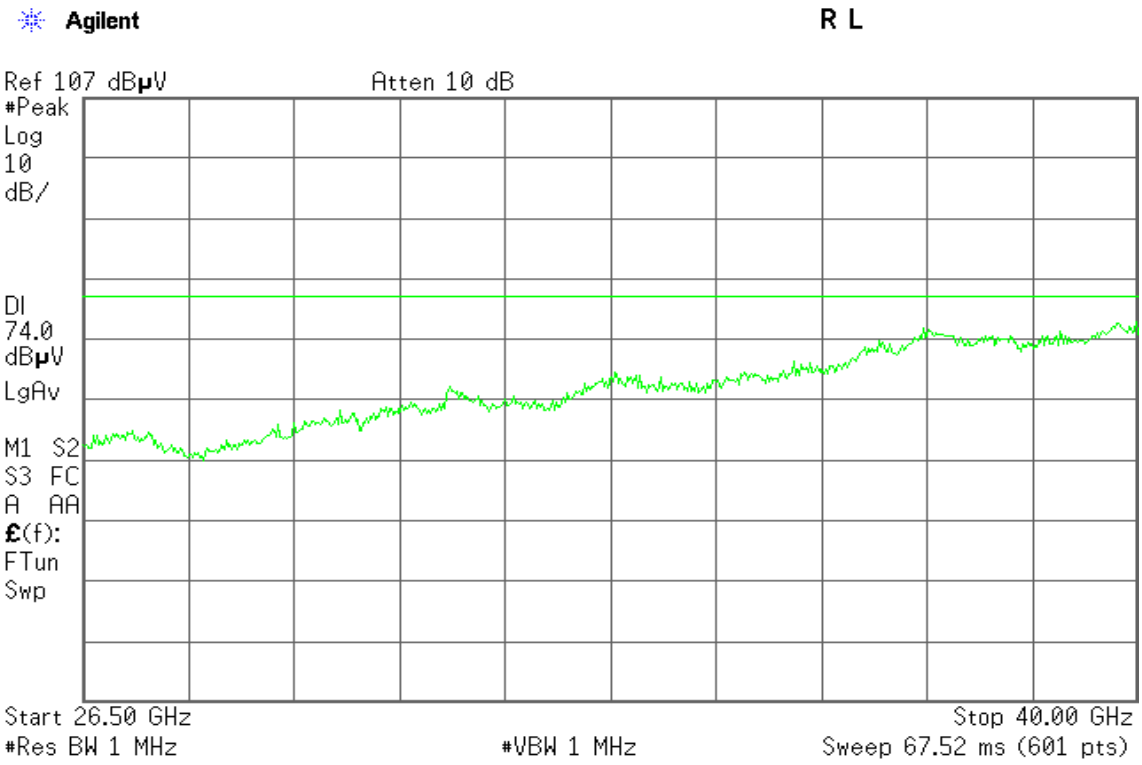
Tx / IEEE 802.11n HT 40 MHz mode / 5510 MHz

Polarity: Vertical

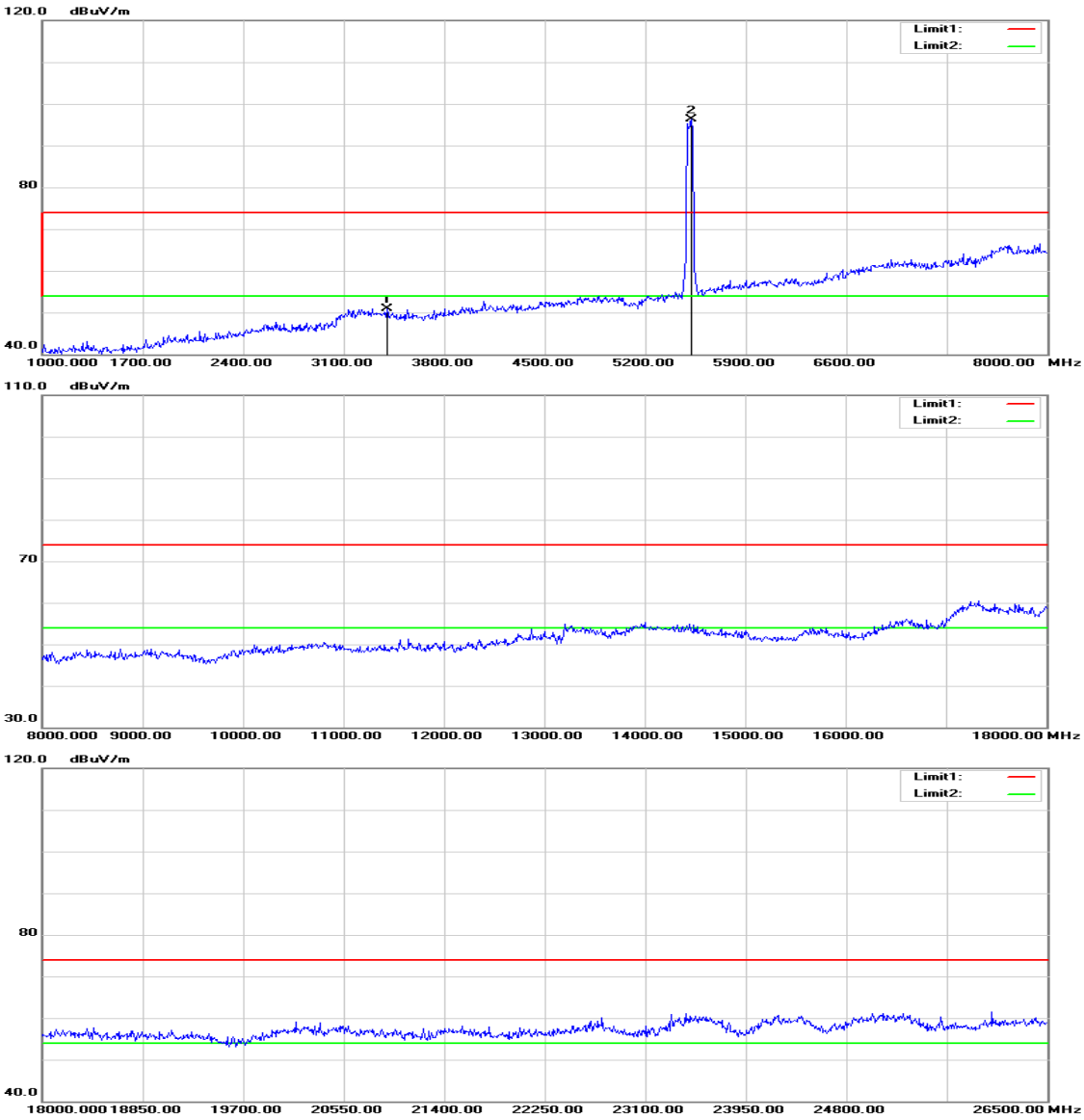


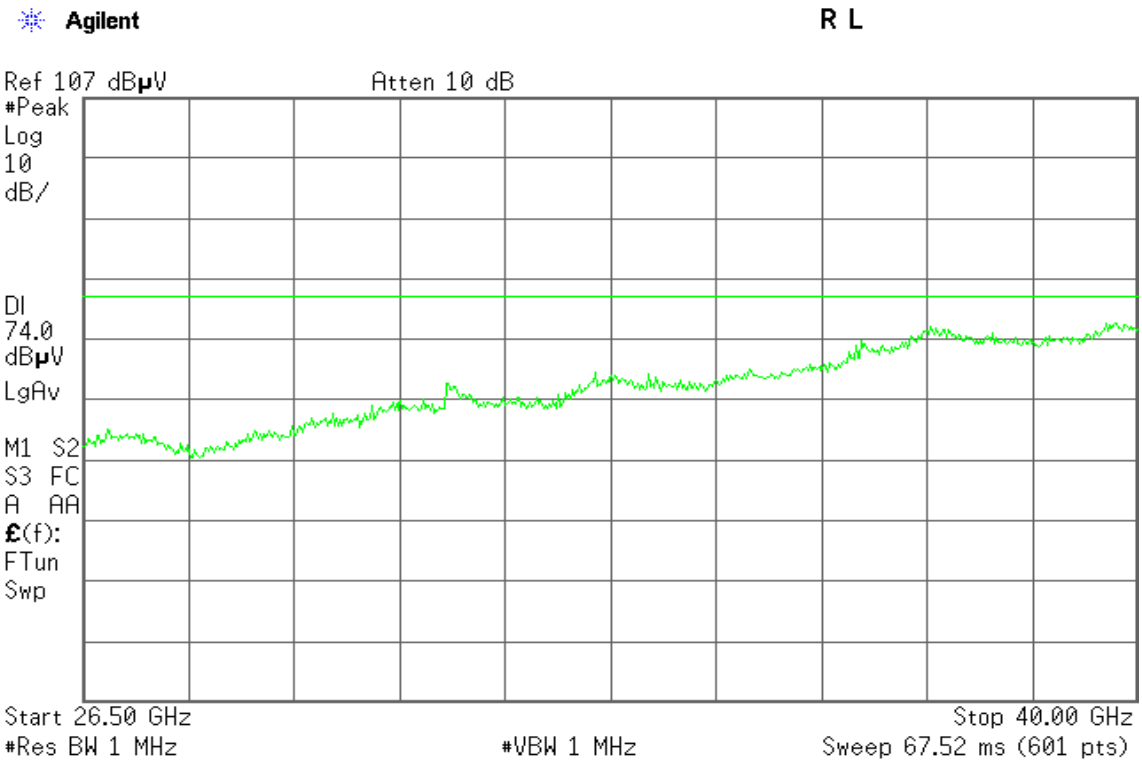





Agilent
R L
Ref 107 dBµV
Atten 10 dB
#Peak
Log
10
dB/
Dl
74.0
dBµV
LgAv
M1 S2
S3 FC
A AA
£(f):
FTun
Swp
Start 26.50 GHz
#Res BW 1 MHz
#VBW 1 MHz
Stop 40.00 GHz
Sweep 67.52 ms (601 pts)

Polarity: Horizontal




Agilent
R L
Ref 107 dBµV
Atten 10 dB
#Peak
Log
10
dB/
Dl
74.0
dBµV
LgAv
M1 S2
S3 FC
A AA
£(f):
FTun
Swp
Start 26.50 GHz
Stop 40.00 GHz
#Res BW 1 MHz
#VBW 1 MHz
Sweep 67.52 ms (601 pts)

Operation Mode:	Tx / IEEE 802.11n HT 40 MHz mode / 5510 MHz	**Test Date:**	December 8, 2015
Temperature:	27℃	**Tested by:**	Jason Lu
Humidity:	53% RH	**Polarity:**	Ver. / Hor.

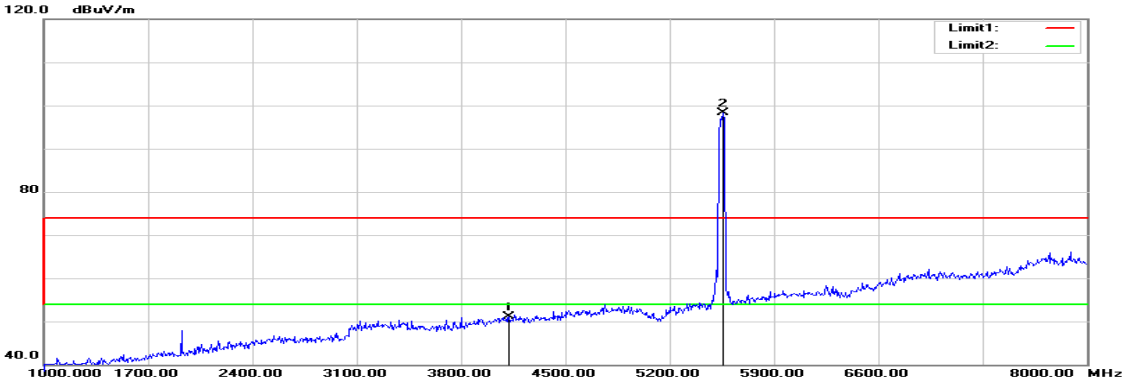
Frequency (MHz)	Reading (dBuV)	Correction (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark	Ant.Pol. (H/V)
3296.000	52.12	-1.40	50.72	74.00	-23.28	peak	V
N/A							
3401.000	52.14	-1.15	50.99	74.00	-23.01	peak	H
N/A							

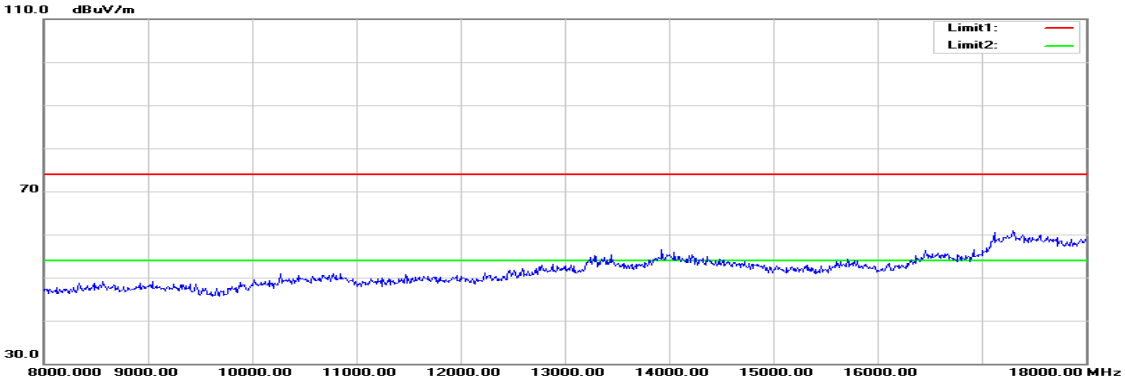
Remark:

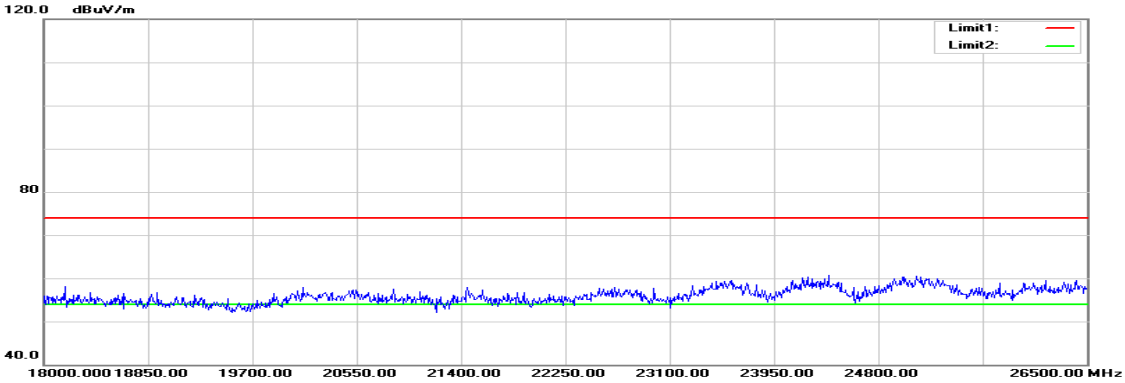
1. *Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.*
2. *Radiated emissions measured in frequency above 1000MHz were made with an instrument using peak/average detector mode.*
3. *Average test would be performed if the peak result were greater than the average limit or as required by the applicant.*
4. *Data of measurement within this frequency range shown " --- " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.*
5. *Measurements above show only up to 6 maximum emissions noted, or would be lesser, with " N/A " remark, if no specific emissions from the EUT are recorded (ie: margin>20dB from the applicable limit) and considered that's already beyond the background noise floor.*
6. *Margin (dB) = Remark result (dBuV/m) – Average limit (dBuV/m).*

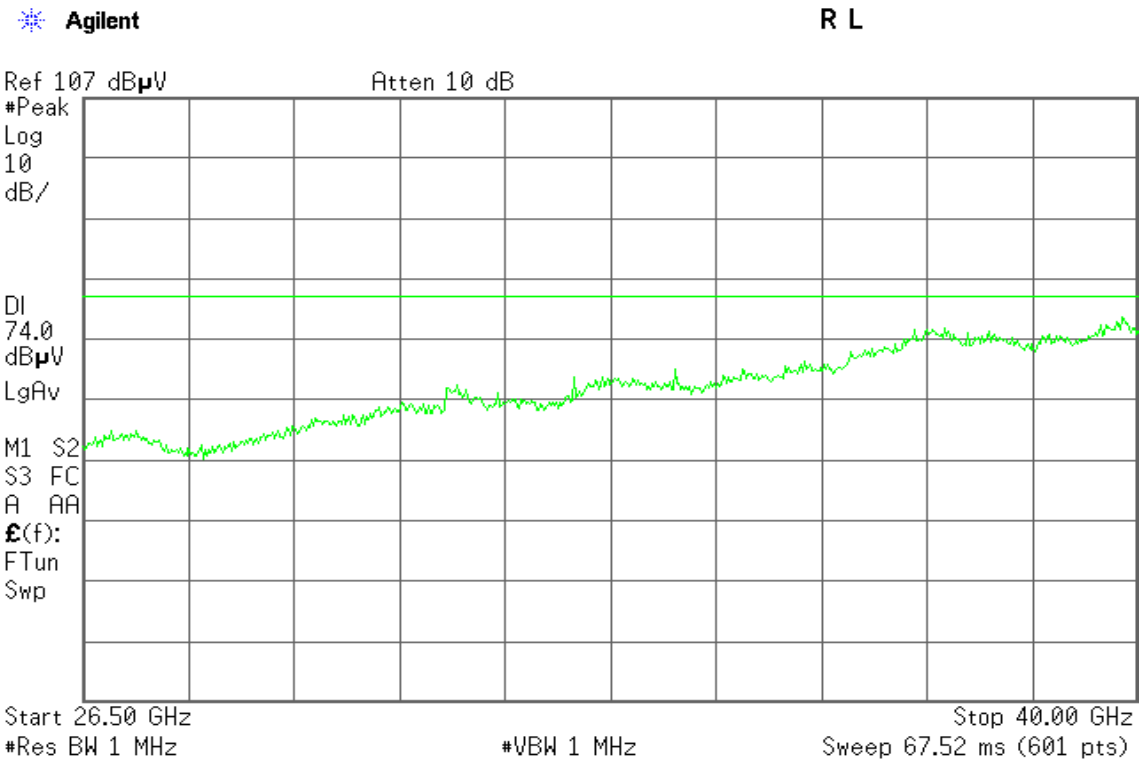
Tx / IEEE 802.11n HT 40 MHz mode / 5550 MHz

Polarity: Vertical

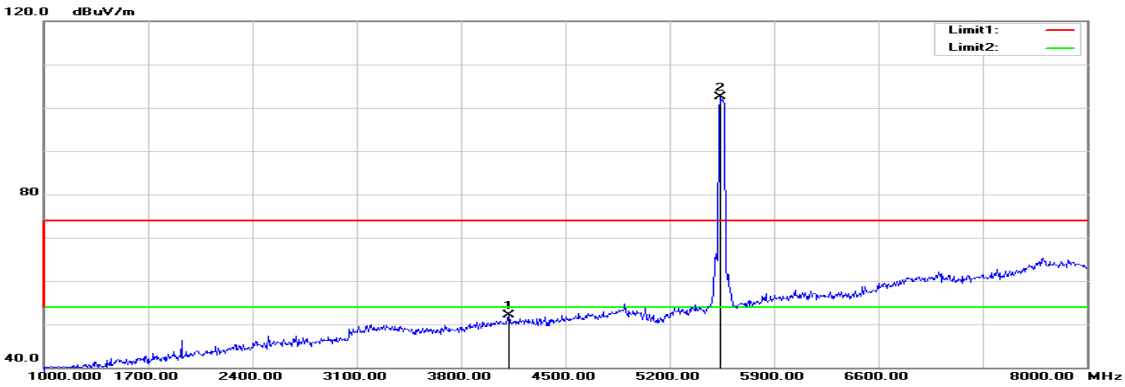


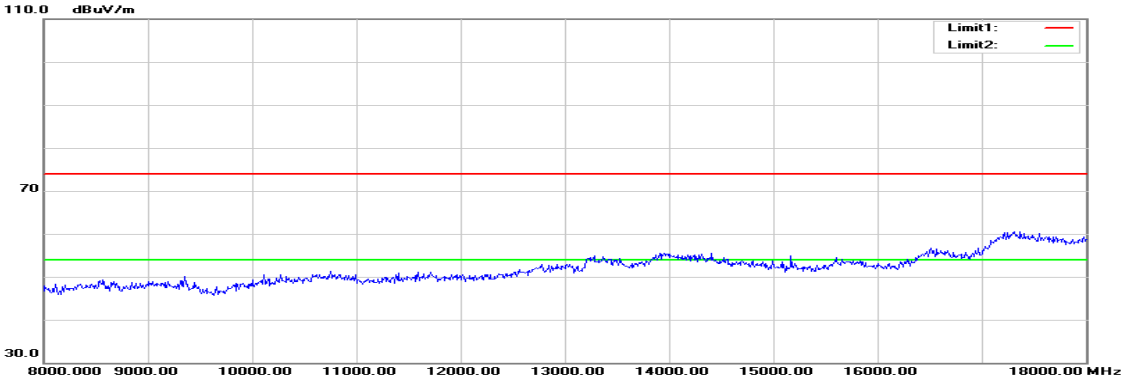


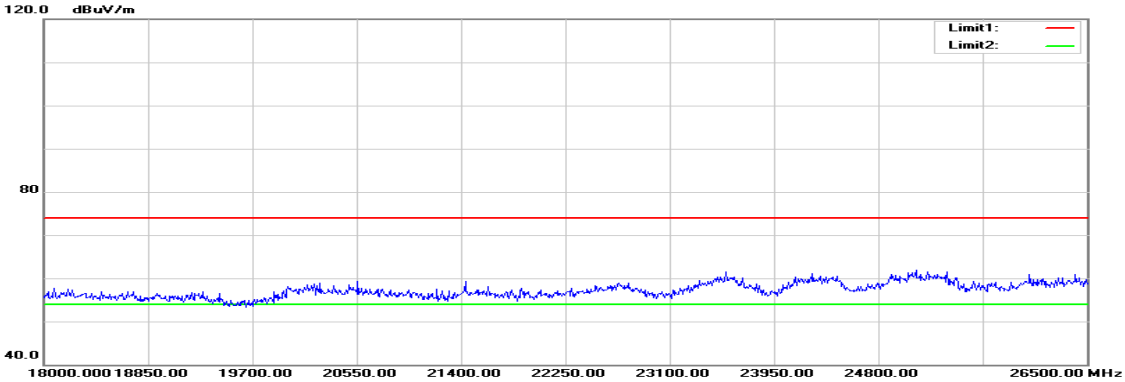


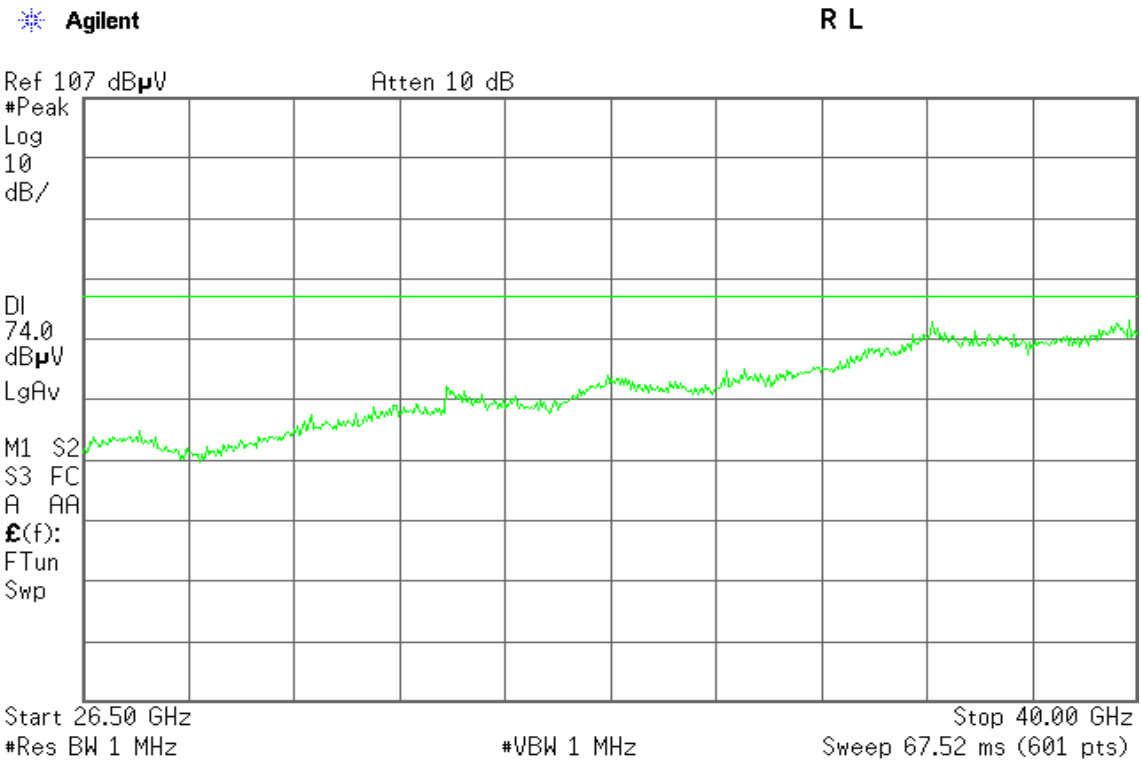

Agilent
R L
Ref 107 dBµV
Atten 10 dB
#Peak
Log
10
dB/
Dl
74.0
dBµV
LgAv
M1 S2
S3 FC
A AA
£(f):
FTun
Swp
Start 26.50 GHz
Stop 40.00 GHz
#Res BW 1 MHz
#VBW 1 MHz
Sweep 67.52 ms (601 pts)

Polarity: Horizontal








Agilent
R L
Ref 107 dBµV
Atten 10 dB
#Peak
Log
10
dB/
Dl
74.0
dBµV
LgAv
M1 S2
S3 FC
A AA
£(f):
FTun
Swp
Start 26.50 GHz
Stop 40.00 GHz
#Res BW 1 MHz
#VBW 1 MHz
Sweep 67.52 ms (601 pts)

Operation Mode:	Tx / IEEE 802.11n HT 40 MHz mode / 5590 MHz	**Test Date:**	December 8, 2015
Temperature:	27℃	**Tested by:**	Jason Lu
Humidity:	53% RH	**Polarity:**	Ver. / Hor.

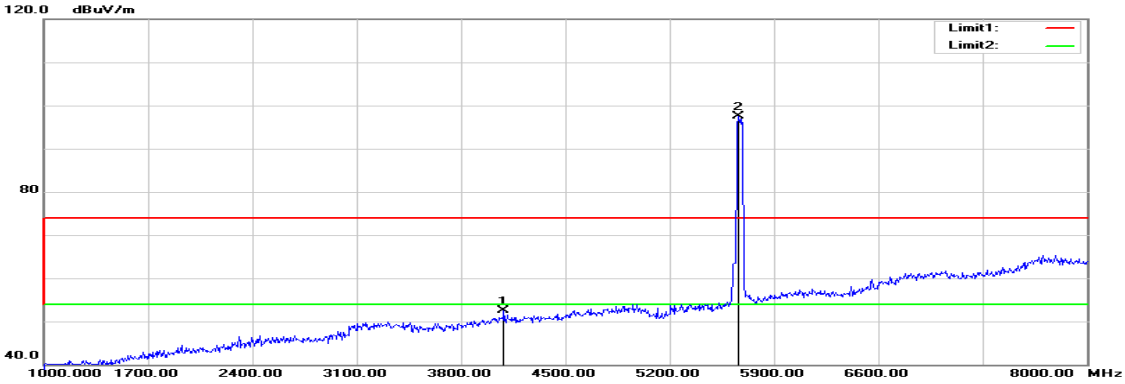
Frequency (MHz)	Reading (dBuV)	Correction (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark	Ant.Pol. (H/V)
4122.000	49.42	1.69	51.11	74.00	-22.89	peak	V
N/A							
4122.000	50.40	1.69	52.09	74.00	-21.91	peak	H
N/A							

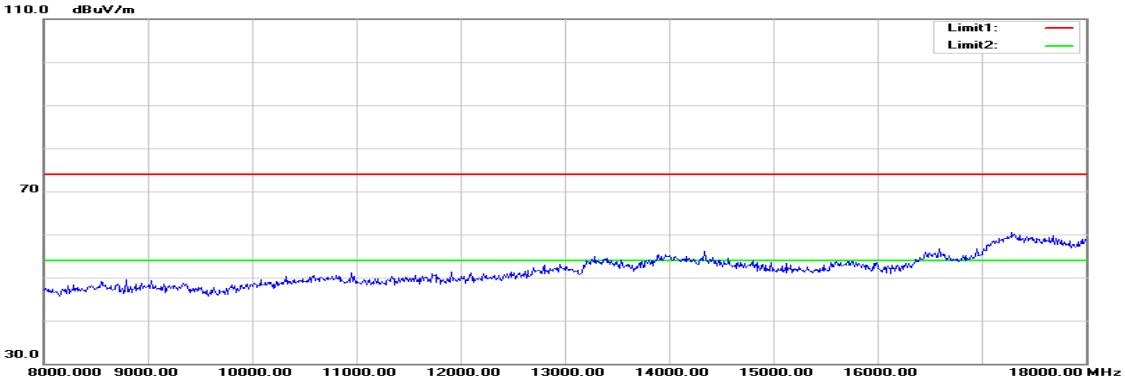
Remark:

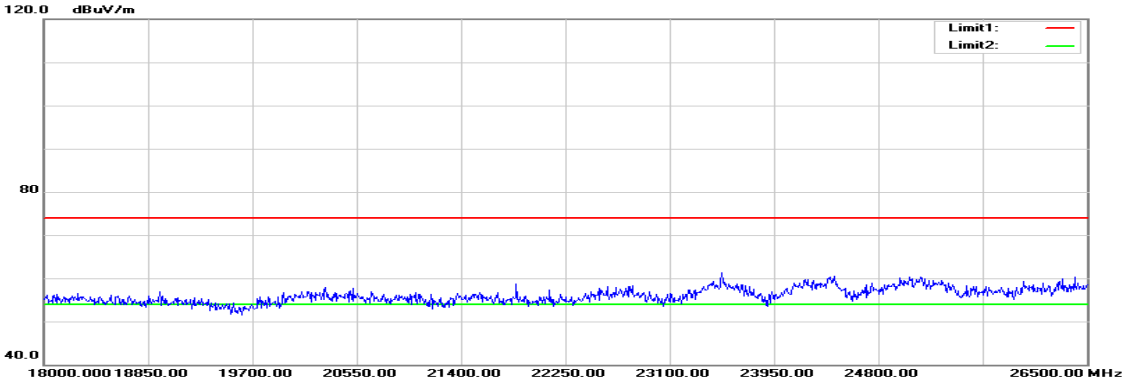
1. *Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.*
2. *Radiated emissions measured in frequency above 1000MHz were made with an instrument using peak/average detector mode.*
3. *Average test would be performed if the peak result were greater than the average limit or as required by the applicant.*
4. *Data of measurement within this frequency range shown " --- " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.*
5. *Measurements above show only up to 6 maximum emissions noted, or would be lesser, with " N/A " remark, if no specific emissions from the EUT are recorded (ie: margin>20dB from the applicable limit) and considered that's already beyond the background noise floor.*
6. *Margin (dB) = Remark result (dBuV/m) – Average limit (dBuV/m).*

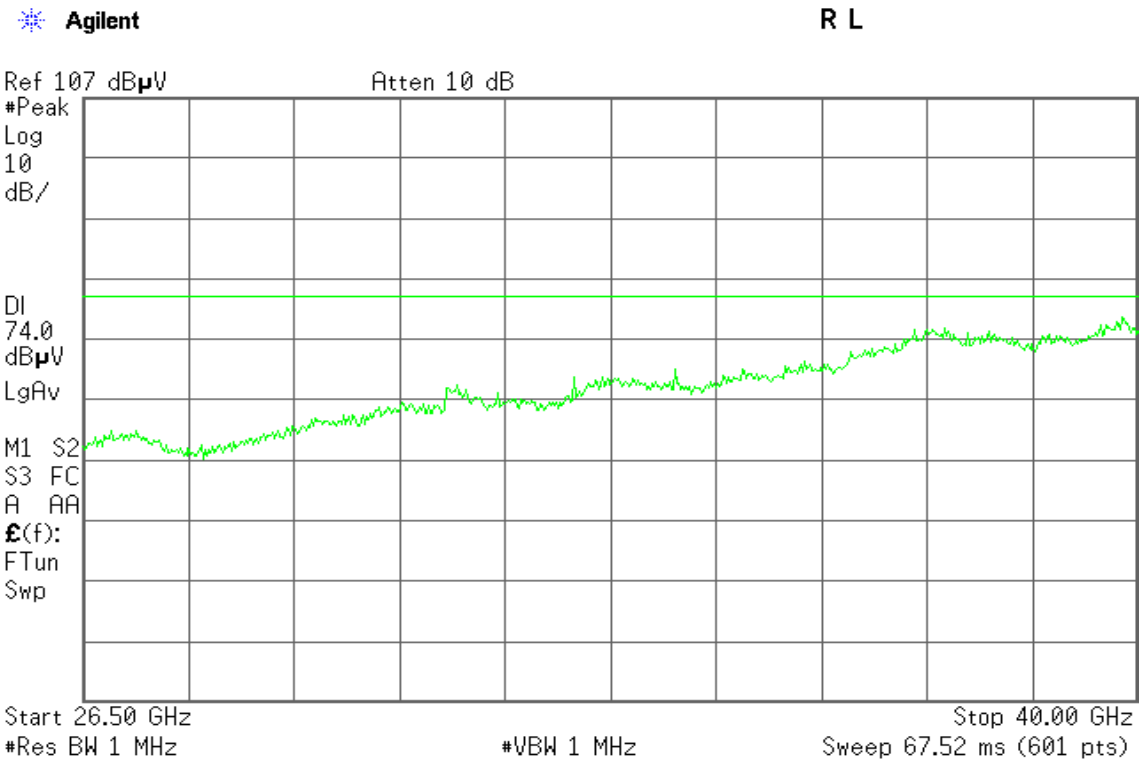
Tx / IEEE 802.11n HT 40 MHz mode / 5670 MHz

Polarity: Vertical

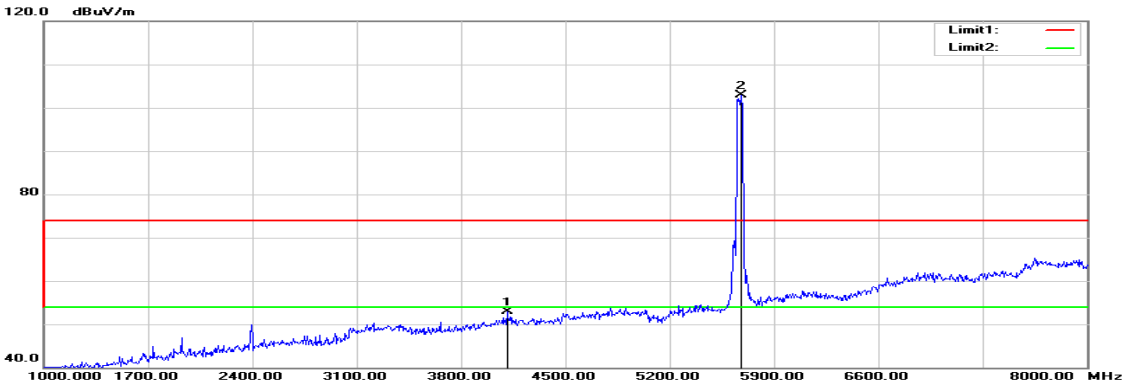


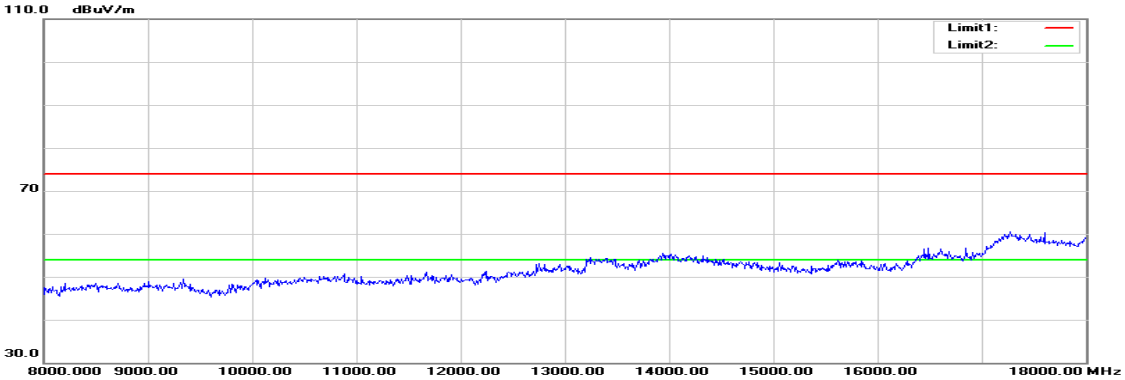


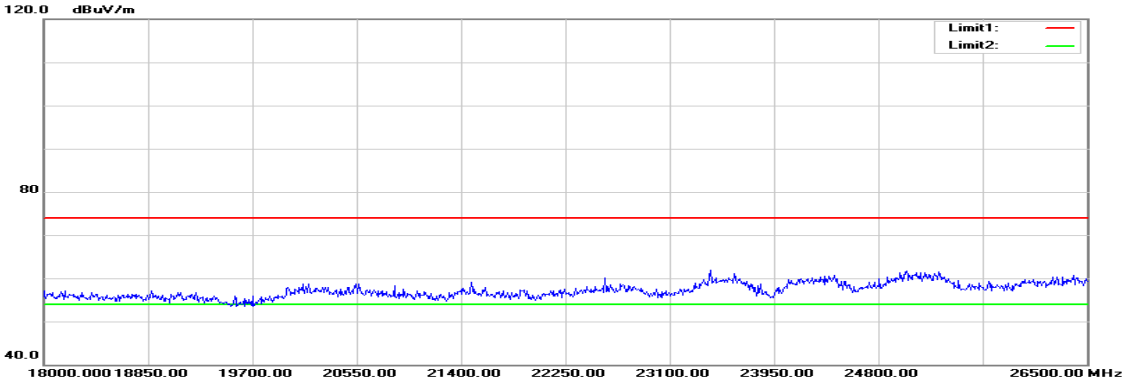


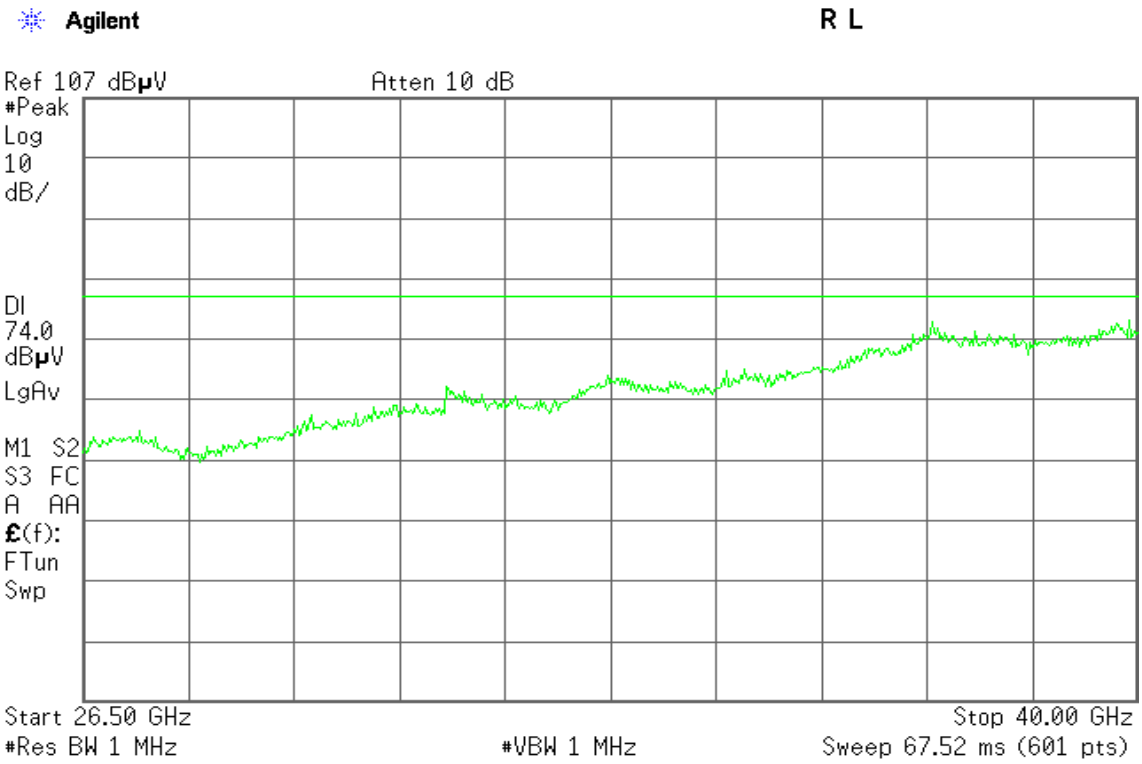

Agilent
R L
Ref 107 dBµV
Atten 10 dB
#Peak
Log
10
dB/
Dl
74.0
dBµV
LgAv
M1 S2
S3 FC
A AA
£(f):
FTun
Swp
Start 26.50 GHz
#Res BW 1 MHz
#VBW 1 MHz
Stop 40.00 GHz
Sweep 67.52 ms (601 pts)

Polarity: Horizontal








Agilent
R L
Ref 107 dBµV
Atten 10 dB
#Peak
Log
10
dB/
Dl
74.0
dBµV
LgAv
M1 S2
S3 FC
A AA
£(f):
FTun
Swp
Start 26.50 GHz
Stop 40.00 GHz
#Res BW 1 MHz
#VBW 1 MHz
Sweep 67.52 ms (601 pts)

Operation Mode:	Tx / IEEE 802.11n HT 40 MHz mode / 5670 MHz	**Test Date:**	December 8, 2015
Temperature:	27℃	**Tested by:**	Jason Lu
Humidity:	53% RH	**Polarity:**	Ver. / Hor.

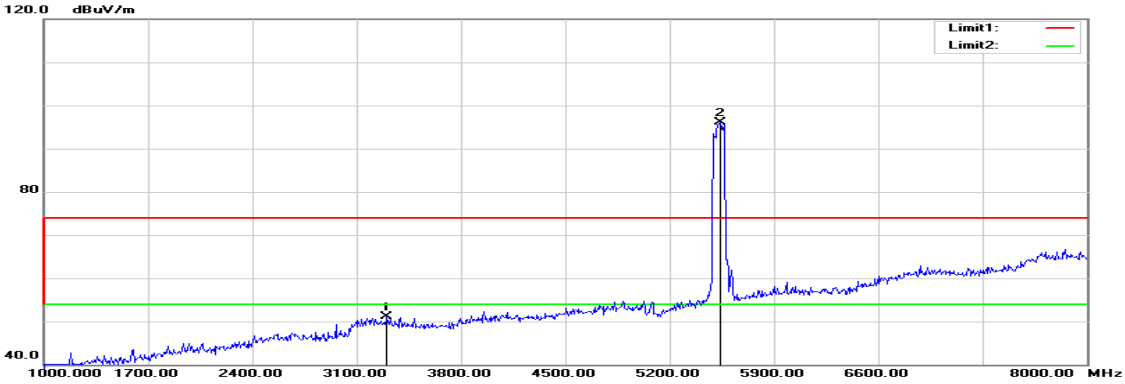
Frequency (MHz)	Reading (dBuV)	Correction (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark	Ant.Pol. (H/V)
4087.000	50.97	1.56	52.53	74.00	-21.47	peak	V
N/A							
4108.000	51.19	1.64	52.83	74.00	-21.17	peak	H
N/A							

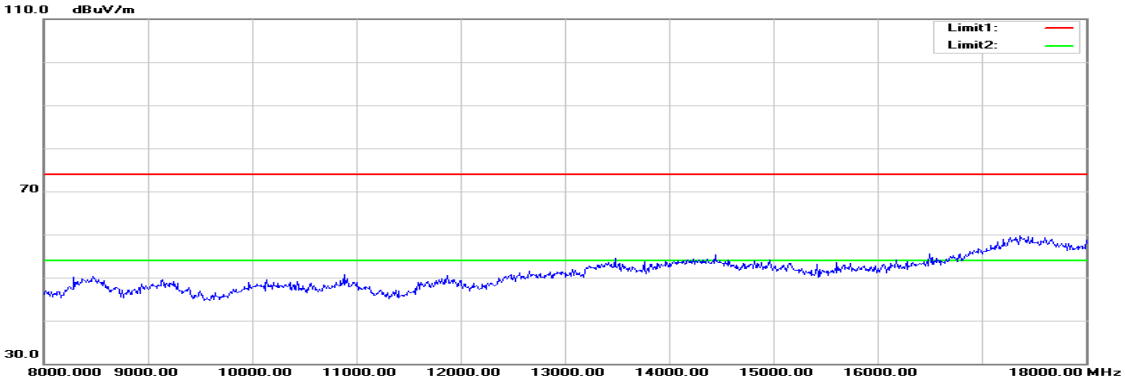
Remark:

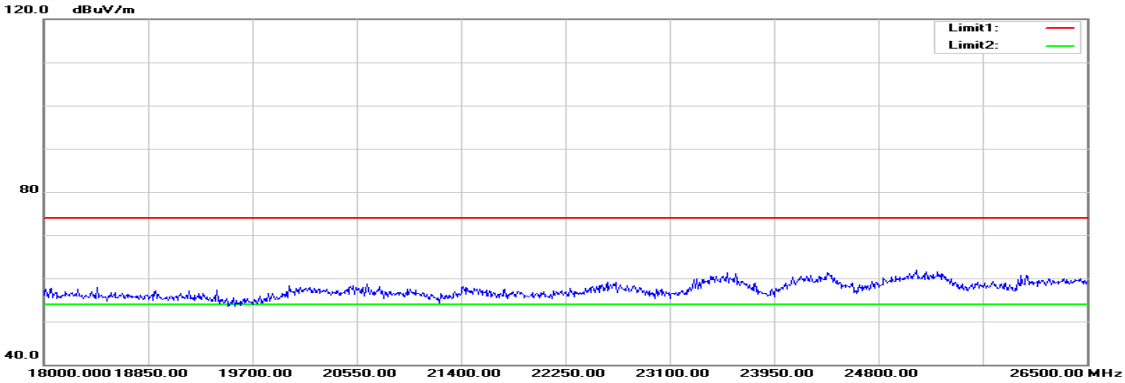
1. *Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.*
2. *Radiated emissions measured in frequency above 1000MHz were made with an instrument using peak/average detector mode.*
3. *Average test would be performed if the peak result were greater than the average limit or as required by the applicant.*
4. *Data of measurement within this frequency range shown " --- " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.*
5. *Measurements above show only up to 6 maximum emissions noted, or would be lesser, with " N/A " remark, if no specific emissions from the EUT are recorded (ie: margin>20dB from the applicable limit) and considered that's already beyond the background noise floor.*
6. *Margin (dB) = Remark result (dBuV/m) – Average limit (dBuV/m).*

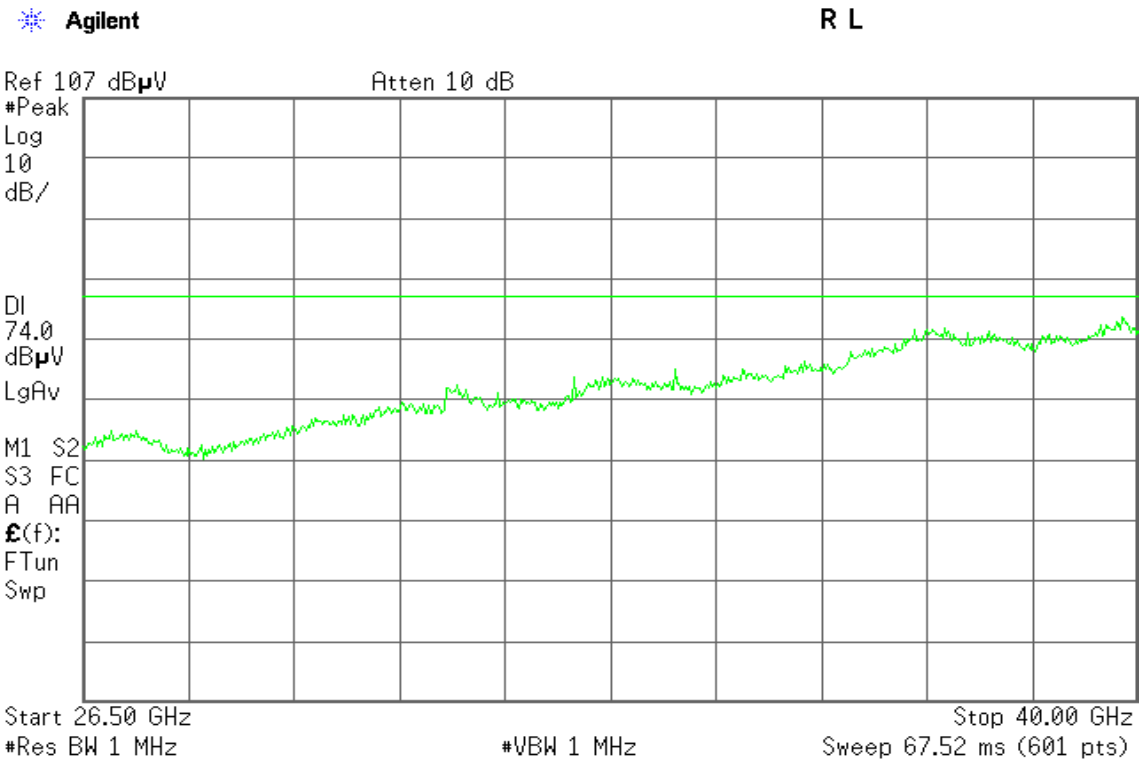
Tx / IEEE 802.11ac VHT 80 MHz mode / 5530 MHz

Polarity: Vertical

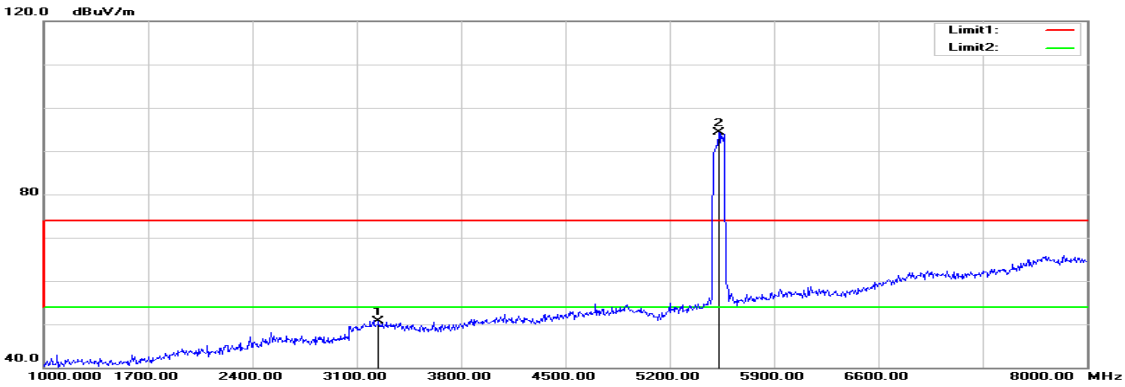


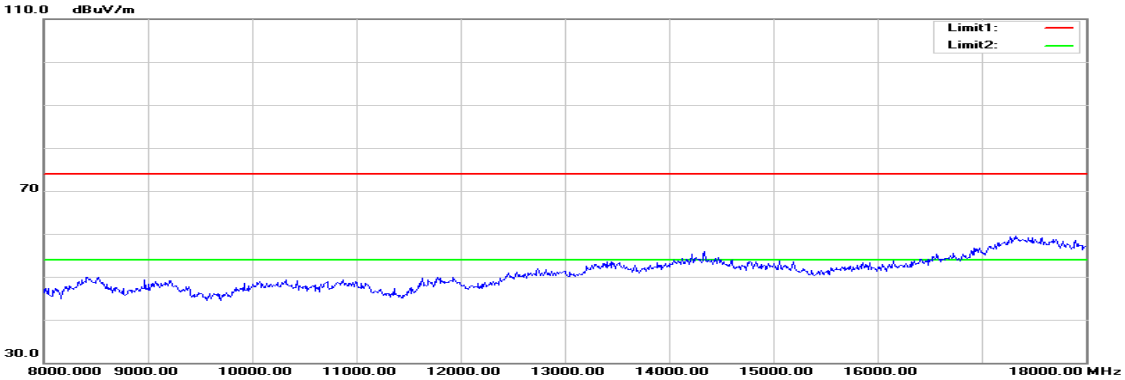


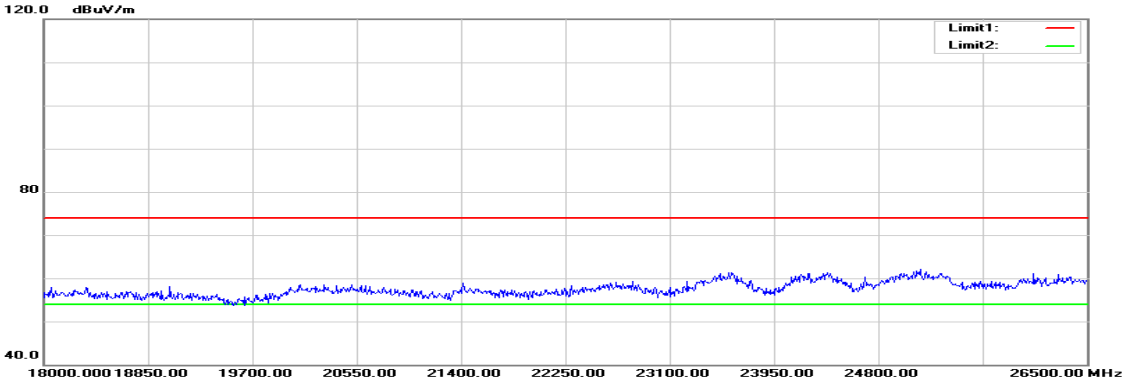


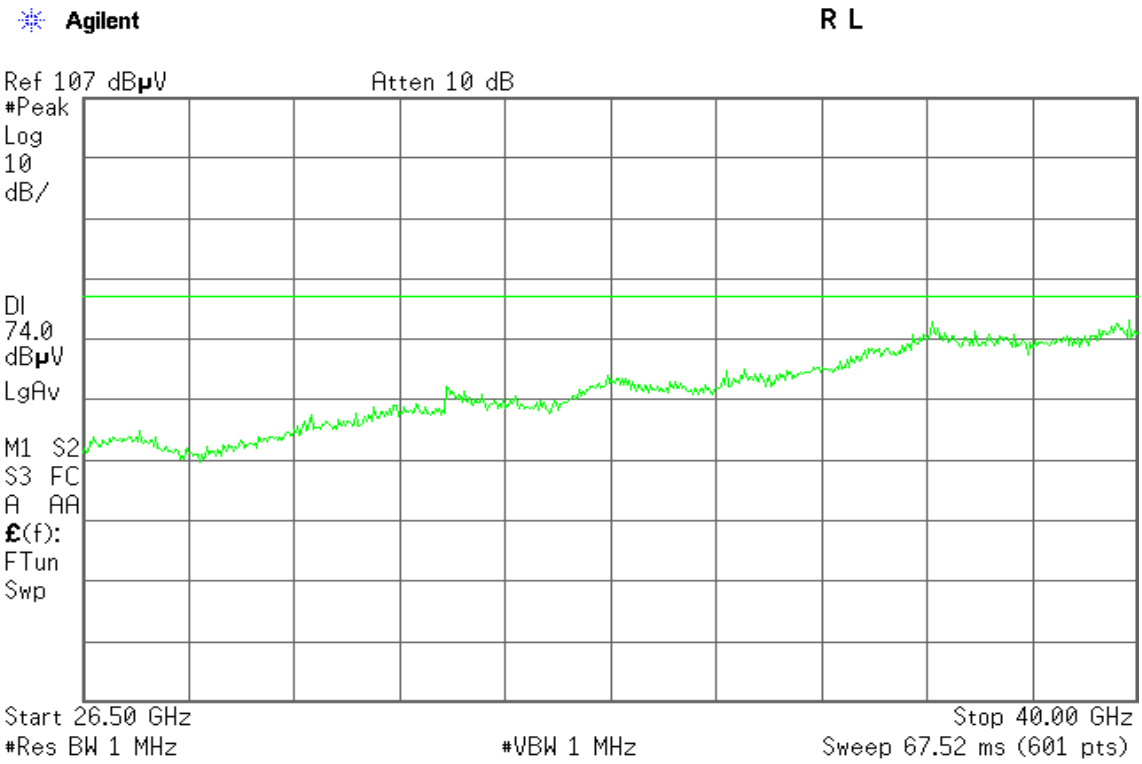

Agilent
R L
Ref 107 dBµV
Atten 10 dB
#Peak
Log
10
dB/
Dl
74.0
dBµV
LgAv
M1 S2
S3 FC
A AA
£(f):
FTun
Swp
Start 26.50 GHz
Stop 40.00 GHz
#Res BW 1 MHz
#VBW 1 MHz
Sweep 67.52 ms (601 pts)

Polarity: Horizontal








Agilent
R L
Ref 107 dBµV
Atten 10 dB
#Peak
Log
10
dB/
Dl
74.0
dBµV
LgAv
M1 S2
S3 FC
A AA
£(f):
FTun
Swp
Start 26.50 GHz
Stop 40.00 GHz
#Res BW 1 MHz
#VBW 1 MHz
Sweep 67.52 ms (601 pts)

Operation Mode:	Tx / IEEE 802.11ac VHT 80 MHz mode / 5530 MHz	**Test Date:**	December 8, 2015
Temperature:	27℃	**Tested by:**	Jason Lu
Humidity:	53% RH	**Polarity:**	Ver. / Hor.

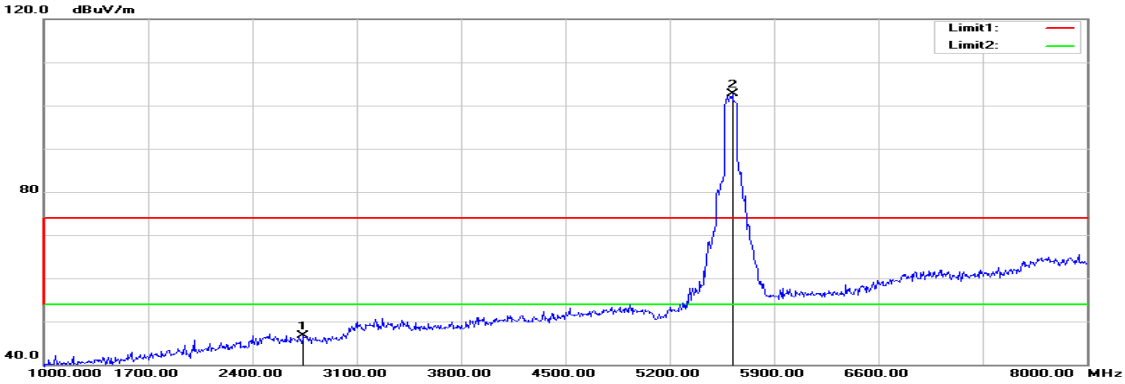
Frequency (MHz)	Reading (dBuV)	Correction (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark	Ant.Pol. (H/V)
3303.000	52.39	-1.38	51.01	74.00	-22.99	peak	V
N/A							
3247.000	52.18	-1.52	50.66	74.00	-23.34	peak	H
N/A							

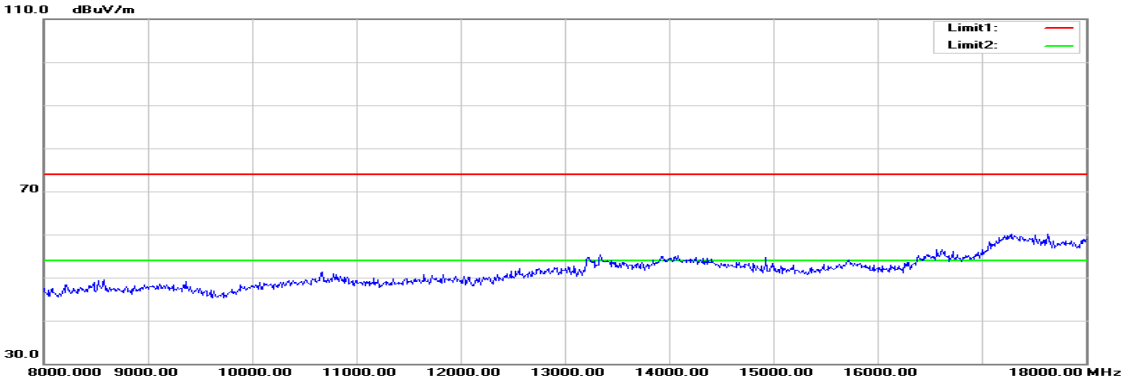
Remark:

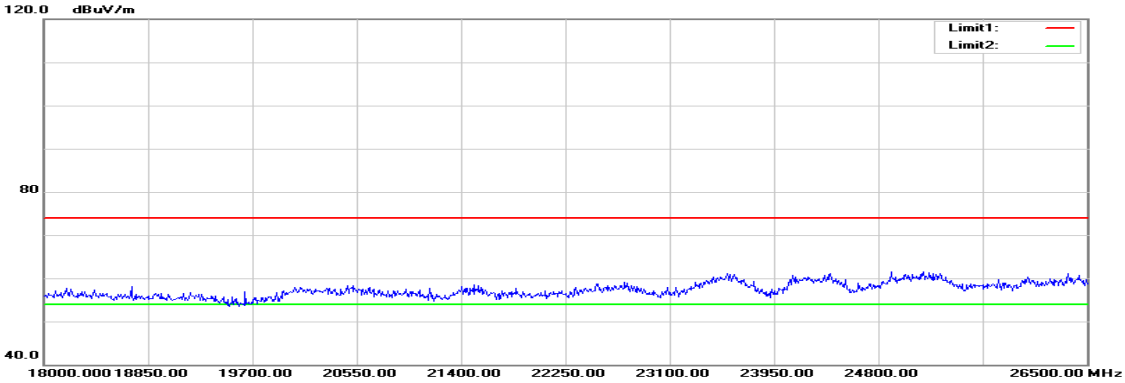
1. *Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.*
2. *Radiated emissions measured in frequency above 1000MHz were made with an instrument using peak/average detector mode.*
3. *Average test would be performed if the peak result were greater than the average limit or as required by the applicant.*
4. *Data of measurement within this frequency range shown " --- " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.*
5. *Measurements above show only up to 6 maximum emissions noted, or would be lesser, with " N/A " remark, if no specific emissions from the EUT are recorded (ie: margin>20dB from the applicable limit) and considered that's already beyond the background noise floor.*
6. *Margin (dB) = Remark result (dBuV/m) – Average limit (dBuV/m).*

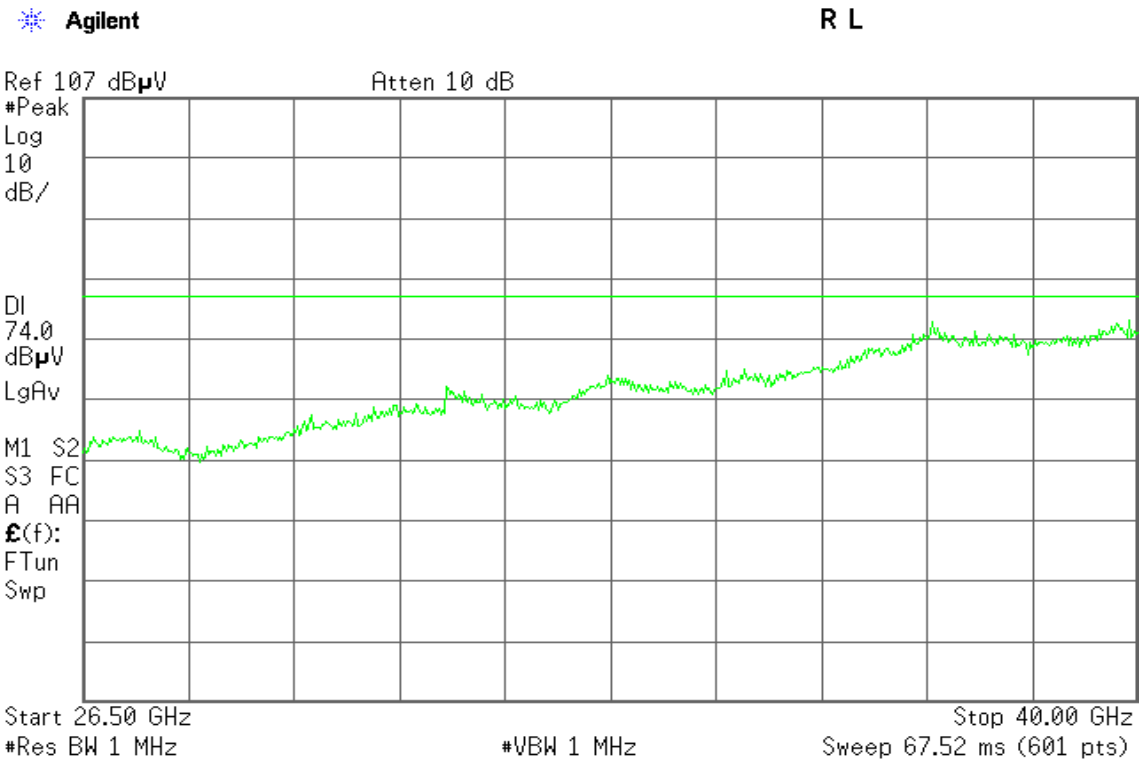
Tx / IEEE 802.11ac VHT 80 MHz mode / 5610 MHz

Polarity: Vertical

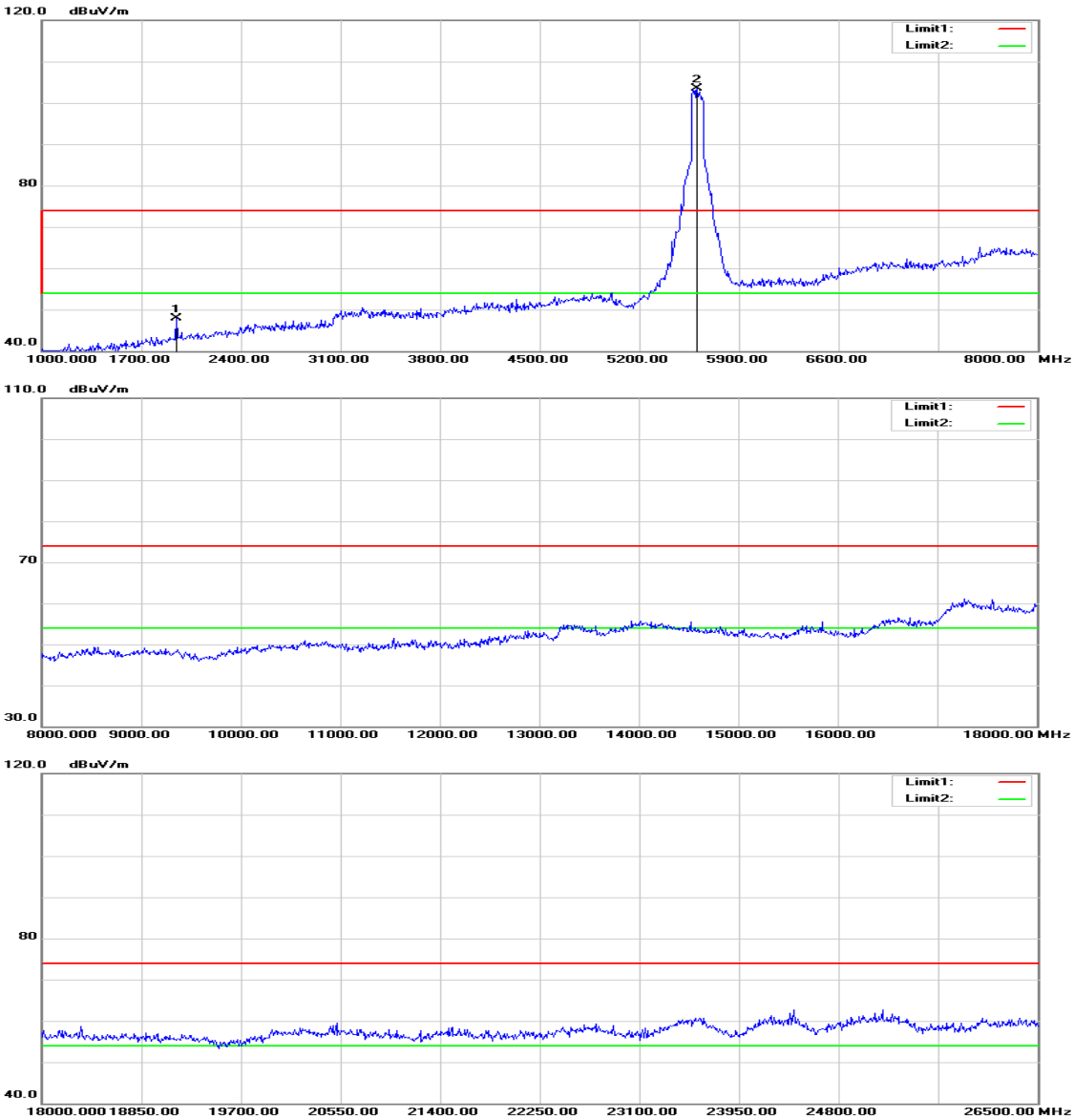


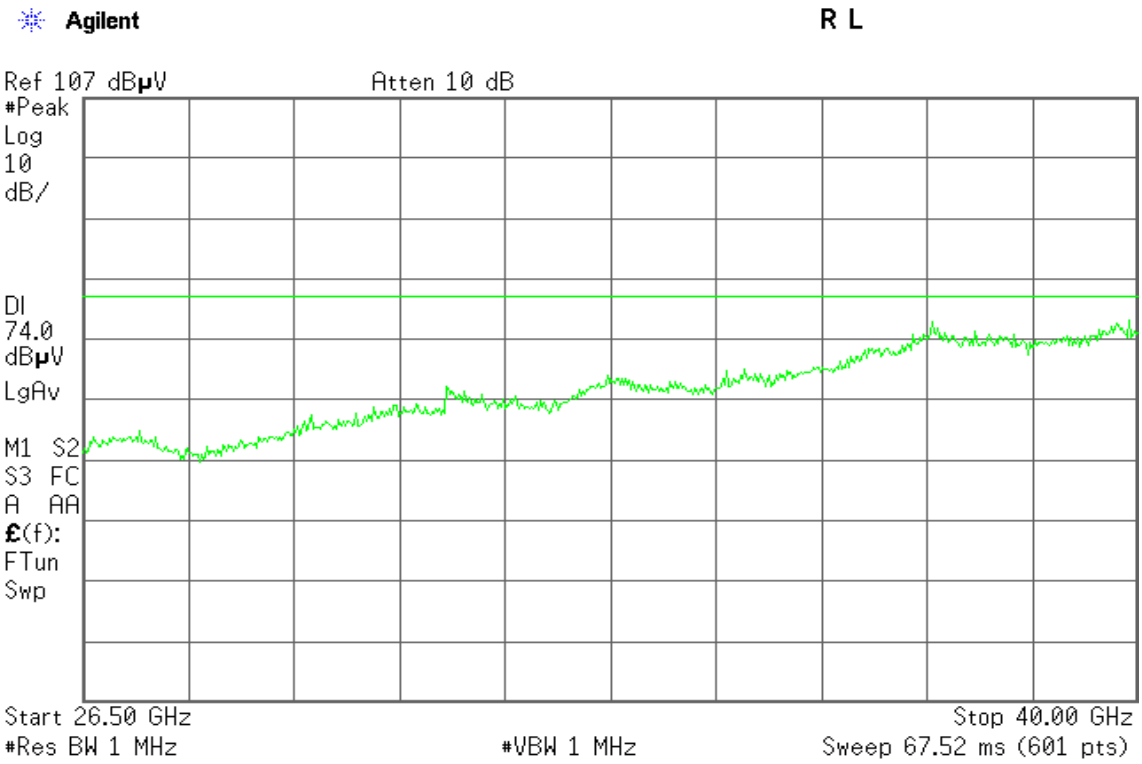





Agilent
R L
Ref 107 dBµV
Atten 10 dB
#Peak
Log
10
dB/
Dl
74.0
dBµV
LgAv
M1 S2
S3 FC
A AA
£(f):
FTun
Swp
Start 26.50 GHz
#Res BW 1 MHz
#VBW 1 MHz
Stop 40.00 GHz
Sweep 67.52 ms (601 pts)

Polarity: Horizontal




Agilent
R L
Ref 107 dBµV
Atten 10 dB
#Peak
Log
10
dB/
Dl
74.0
dBµV
LgAv
M1 S2
S3 FC
A AA
£(f):
FTun
Swp
Start 26.50 GHz
Stop 40.00 GHz
#Res BW 1 MHz
#VBW 1 MHz
Sweep 67.52 ms (601 pts)

Operation Mode:	Tx / IEEE 802.11ac VHT 80 MHz mode / 5610 MHz	**Test Date:**	December 8, 2015
Temperature:	27℃	**Tested by:**	Jason Lu
Humidity:	53% RH	**Polarity:**	Ver. / Hor.

Frequency (MHz)	Reading (dBuV)	Correction (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark	Ant.Pol. (H/V)
2743.000	49.35	-2.63	46.72	74.00	-27.28	peak	V
N/A							
1945.000	53.02	-5.17	47.85	74.00	-26.15	peak	H
N/A							

Remark:

1. *Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.*
2. *Radiated emissions measured in frequency above 1000MHz were made with an instrument using peak/average detector mode.*
3. *Average test would be performed if the peak result were greater than the average limit or as required by the applicant.*
4. *Data of measurement within this frequency range shown " --- " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.*
5. *Measurements above show only up to 6 maximum emissions noted, or would be lesser, with " N/A " remark, if no specific emissions from the EUT are recorded (ie: margin>20dB from the applicable limit) and considered that's already beyond the background noise floor.*
6. *Margin (dB) = Remark result (dBuV/m) – Average limit (dBuV/m).*

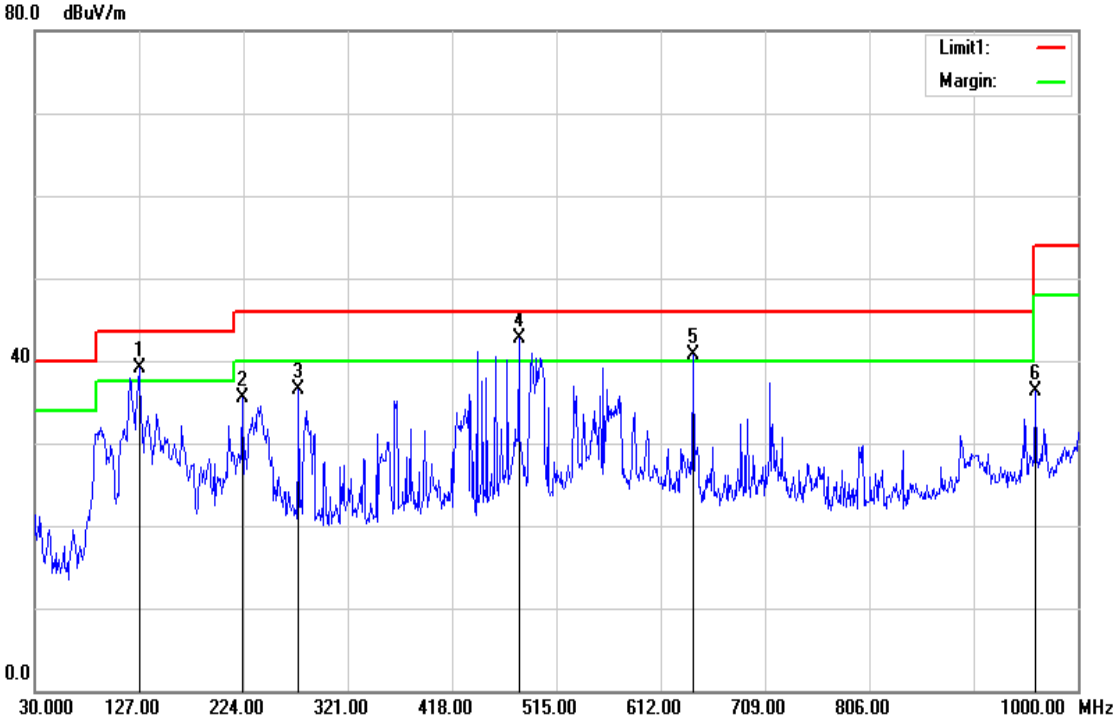
For Dipole Antenna

Below 1 GHz

Operation Mode: Normal Link **Test Date:** January 20, 2016

Temperature: 27℃ **Tested by:** Jason Lu

Humidity: 53% RH **Polarity:** Ver. / Hor.



Frequency (MHz)	Reading (dBuV)	Correction Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark	Ant.Pol. (H/V)
127.0000	54.71	-15.60	39.11	43.50	-4.39	peak	V
223.0300	52.45	-16.89	35.56	46.00	-10.44	peak	V
275.4100	51.27	-14.70	36.57	46.00	-9.43	peak	V
480.0800	52.39	-9.62	42.77	46.00	-3.23	peak	V
642.0700	47.54	-6.76	40.78	46.00	-5.22	peak	V
960.2300	38.45	-2.23	36.22	54.00	-17.78	peak	V

Remark:

1 *Measuring frequencies from 30 MHz to the 1GHz.*

2 *Radiated emissions measured in frequency range from 30 MHz to 1000MHz were made with an instrument using peak/quasi-peak detector mode.*

3 *Quasi-peak test would be performed if the peak result were greater than the quasi-peak limit or as required by the applicant.*

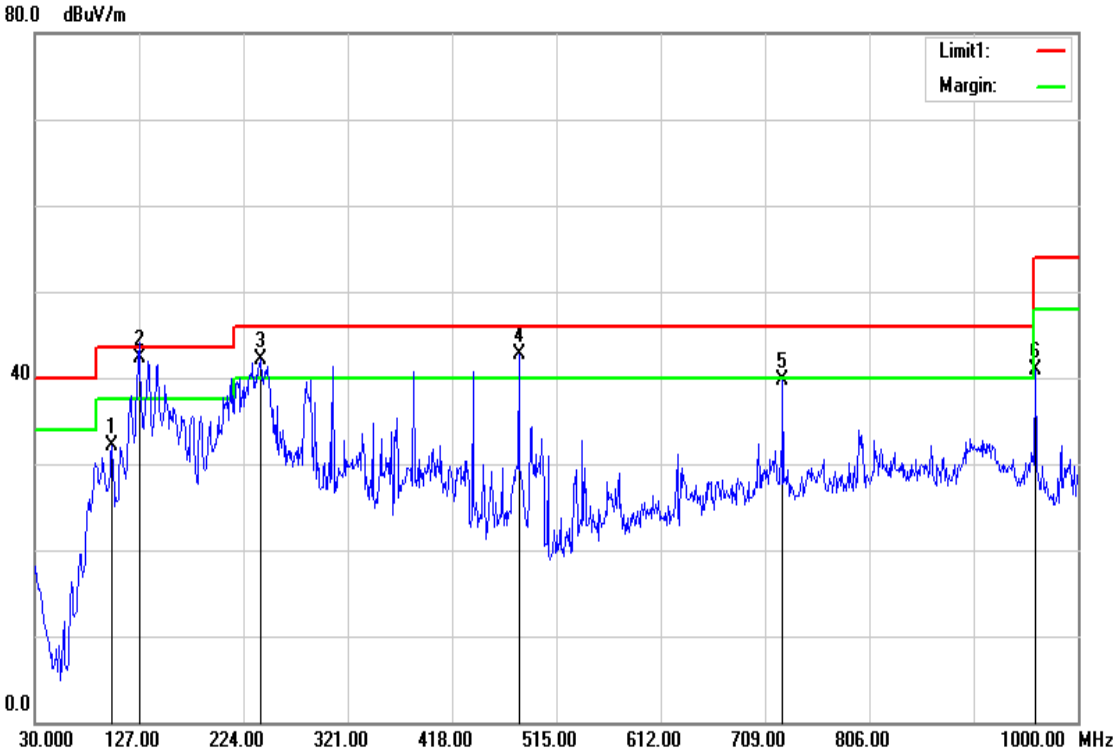
4 *Measurements above show only up to 6 maximum emissions noted, or would be lesser, with " N/A " remark, if no specific emissions from the EUT are recorded (ie: margin>20dB from the applicable limit) and considered that's already beyond the background noise floor.*

5 *Margin (dB) = Remark result (dBuV/m) – Quasi-peak limit (dBuV/m).*

Operation Mode: Normal Link **Test Date:** January 20, 2016

Temperature: 27℃ **Tested by:** Jason Lu

Humidity: 53% RH **Polarity:** Hor.



Frequency (MHz)	Reading (dBuV)	Correction Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark	Ant.Pol. (H/V)
101.7800	50.88	-18.72	32.16	43.50	-11.34	peak	H
127.0000	57.98	-15.60	42.38	43.50	-1.12	QP	H
240.4900	58.69	-16.50	42.19	46.00	-3.81	peak	H
480.0800	52.27	-9.62	42.65	46.00	-3.35	peak	H
725.4900	45.21	-5.48	39.73	46.00	-6.27	peak	H
960.2300	43.17	-2.23	40.94	54.00	-13.06	peak	H

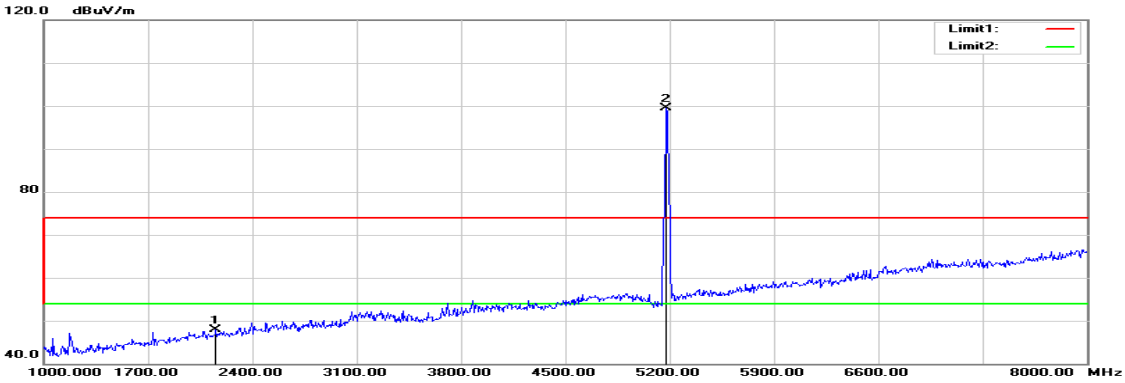
Remark:

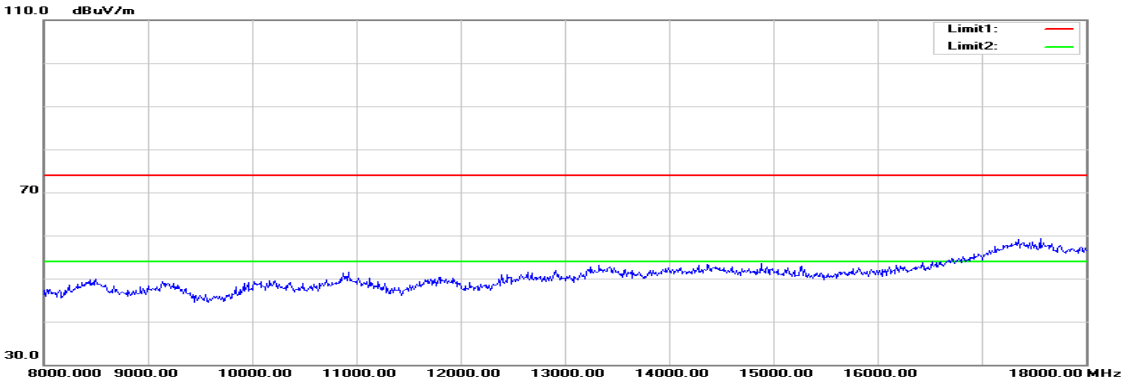
1. *No emission found between lowest internal used/generated frequency to 30MHz (9kHz~30MHz).*
2. *Radiated emissions measured in frequency range from 30 MHz to 1000MHz were made with an instrument using peak/quasi-peak detector mode.*
3. *Quasi-peak test would be performed if the peak result were greater than the quasi-peak limit or as required by the applicant.*
4. *Measurements above show only up to 6 maximum emissions noted, or would be lesser, with " N/A " remark, if no specific emissions from the EUT are recorded (ie: margin>20dB from the applicable limit) and considered that's already beyond the background noise floor.*
5. *Margin (dB) = Remark result (dBuV/m) – Quasi-peak limit (dBuV/m).*

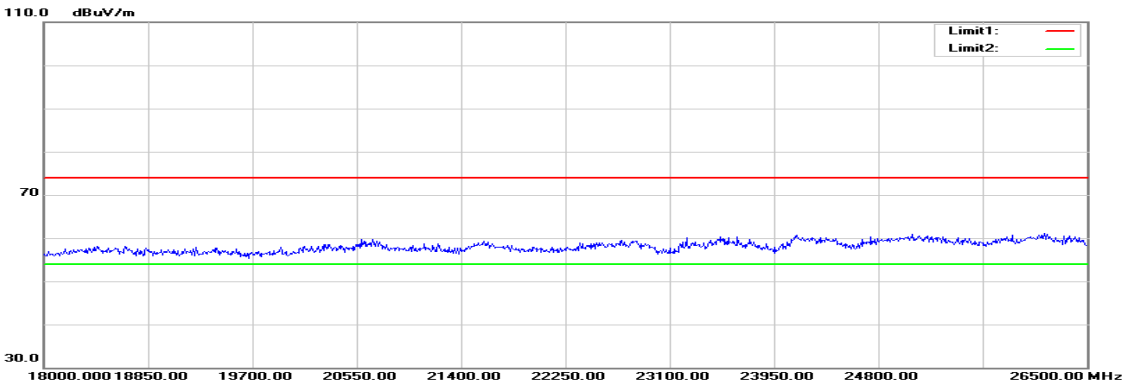
Above 1 GHz

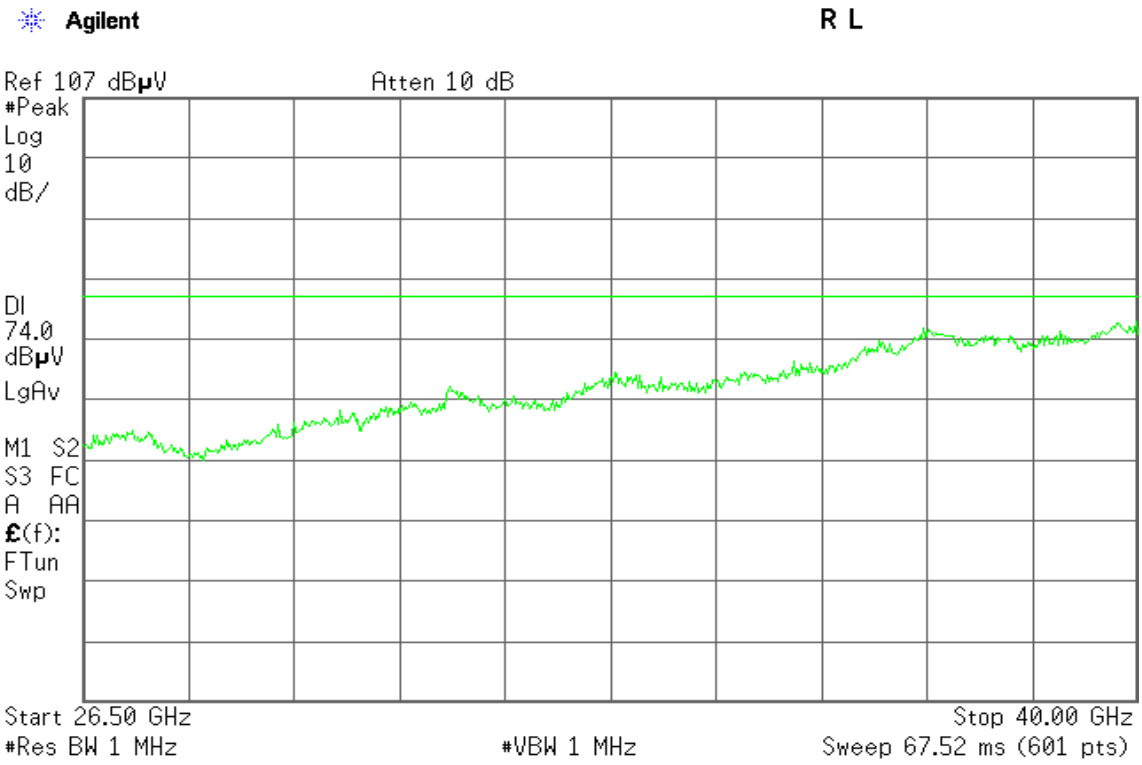
Tx / IEEE 802.11a mode / 5180 MHz

Polarity: Vertical

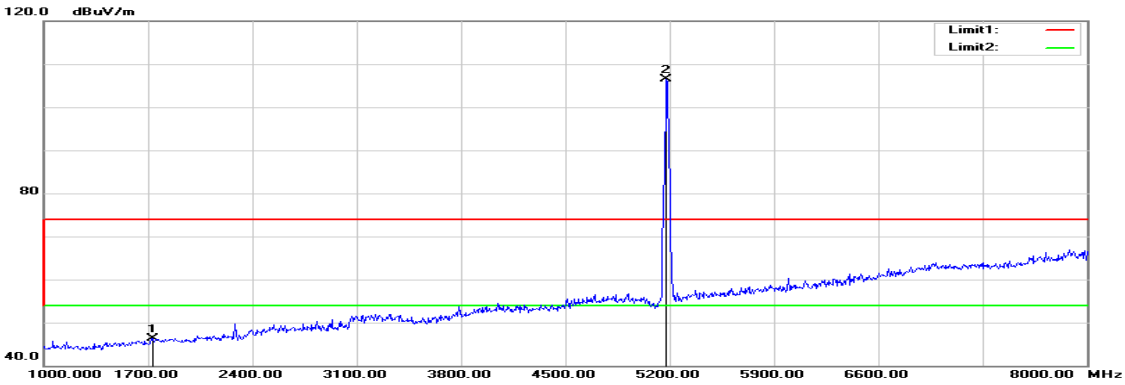


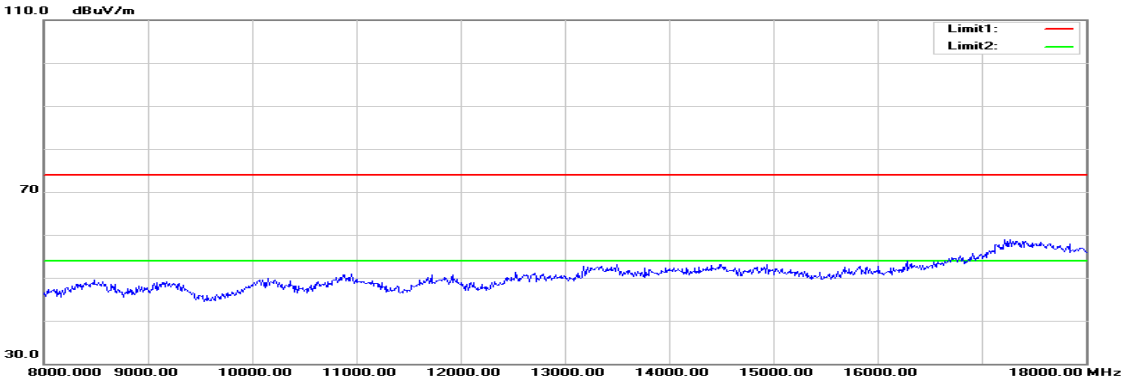


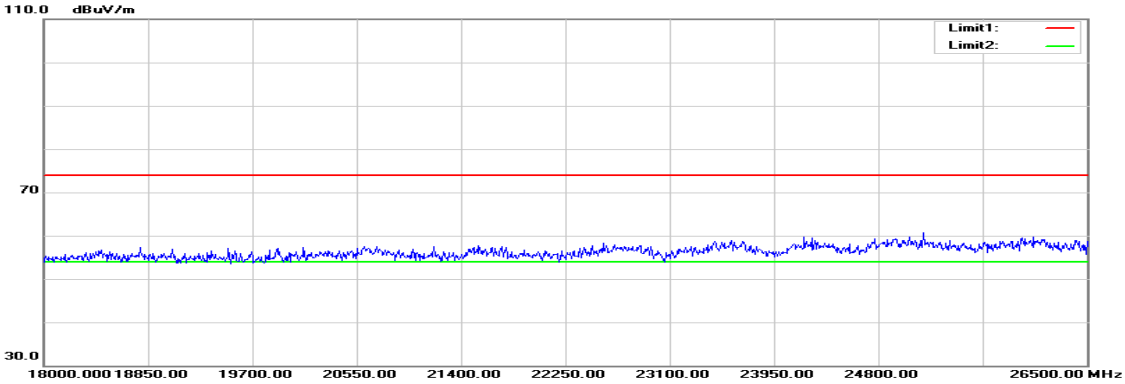


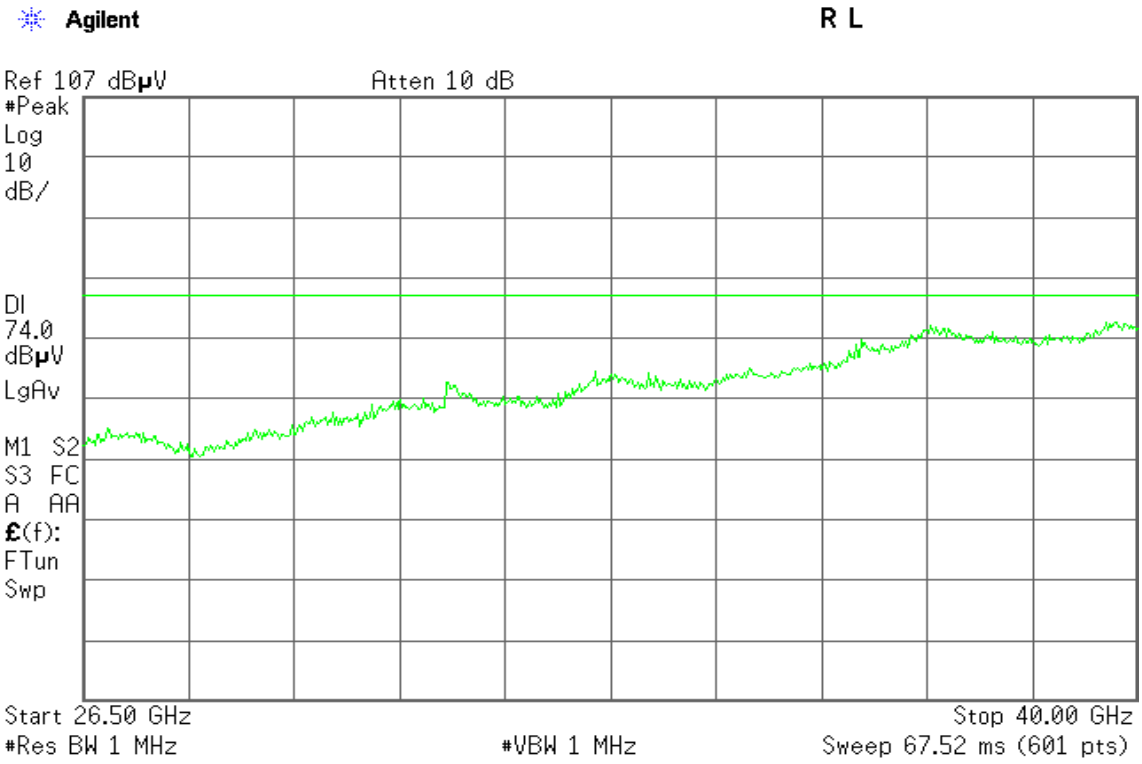

Agilent
R L
Ref 107 dBµV
Atten 10 dB
#Peak
Log
10
dB/
Dl
74.0
dBµV
LgAv
M1 S2
S3 FC
A AA
£(f):
FTun
Swp
Start 26.50 GHz
#Res BW 1 MHz
#VBW 1 MHz
Stop 40.00 GHz
Sweep 67.52 ms (601 pts)

Polarity: Horizontal








Agilent
R L
Ref 107 dBµV
Atten 10 dB
#Peak
Log
10
dB/
Dl
74.0
dBµV
LgAv
M1 S2
S3 FC
A AA
£(f):
FTun
Swp
Start 26.50 GHz
Stop 40.00 GHz
#Res BW 1 MHz
#VBW 1 MHz
Sweep 67.52 ms (601 pts)

Operation Mode: Tx / IEEE 802.11a mode / 5180 MHz **Test Date:** January 18, 2016

Temperature: 27℃ **Tested by:** Jason Lu

Humidity: 53% RH **Polarity:** Ver. / Hor.

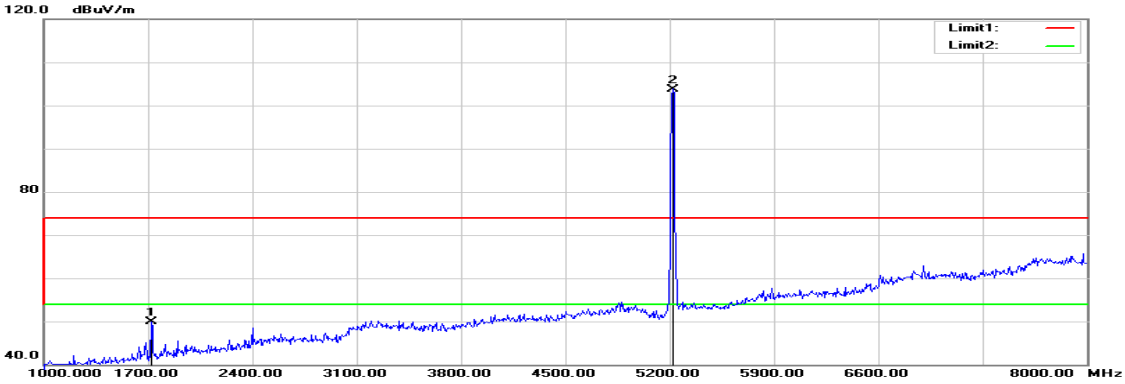
Frequency (MHz)	Reading (dBuV)	Correction (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark	Ant.Pol. (H/V)
2155.000	52.67	-4.68	47.99	74.00	-26.01	peak	V
N/A							
1735.000	52.59	-6.28	46.31	74.00	-27.69	peak	H
N/A							

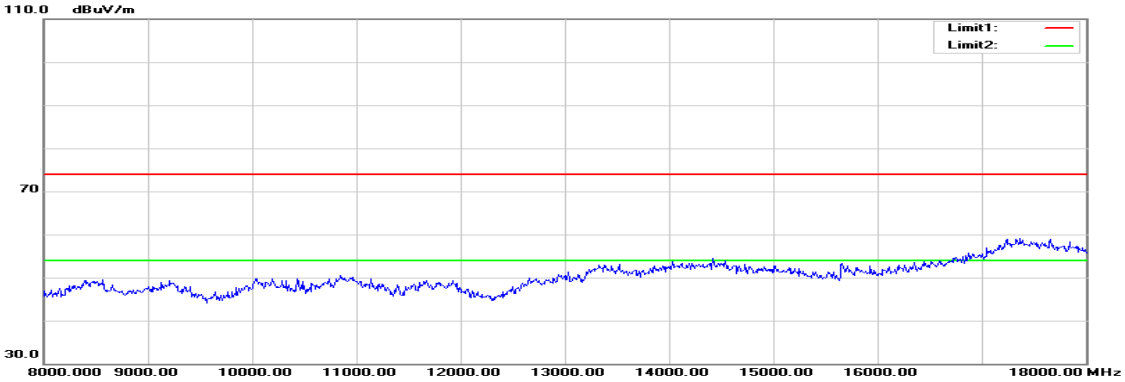
Remark:

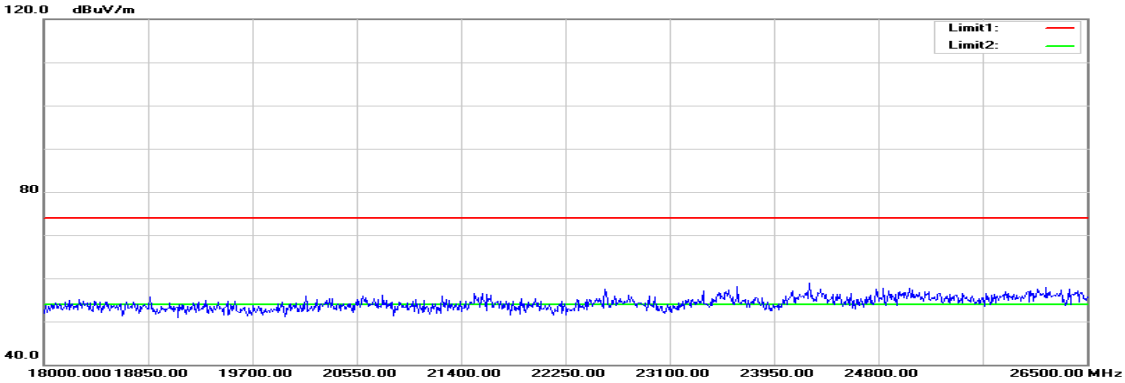
1. *Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.*
2. *Radiated emissions measured in frequency above 1000MHz were made with an instrument using peak/average detector mode.*
3. *Average test would be performed if the peak result were greater than the average limit.*
4. *Data of measurement within this frequency range shown " --- " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.*
5. *Measurements above show only up to 6 maximum emissions noted, or would be lesser, with " N/A " remark, if no specific emissions from the EUT are recorded (ie: margin>20dB from the applicable limit) and considered that's already beyond the background noise floor.*
6. *Margin (dB) = Remark result (dBuV/m) – Average limit (dBuV/m).*

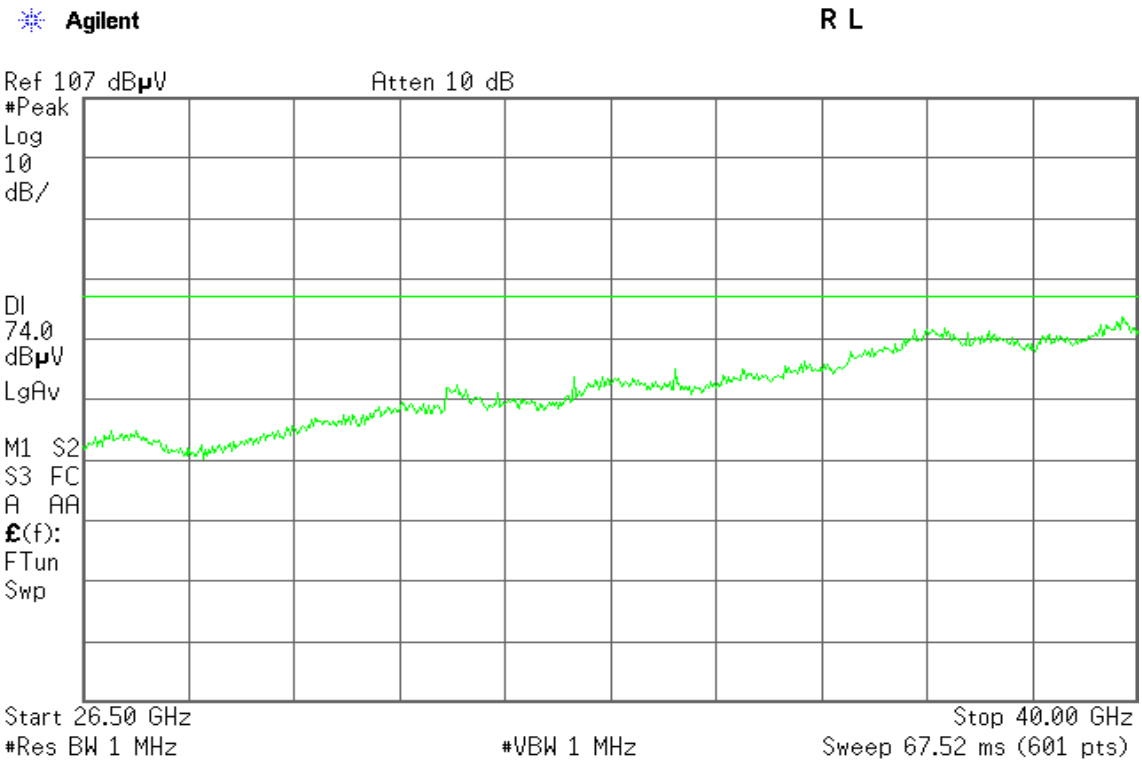
Tx / IEEE 802.11a mode / 5220 MHz

Polarity: Vertical

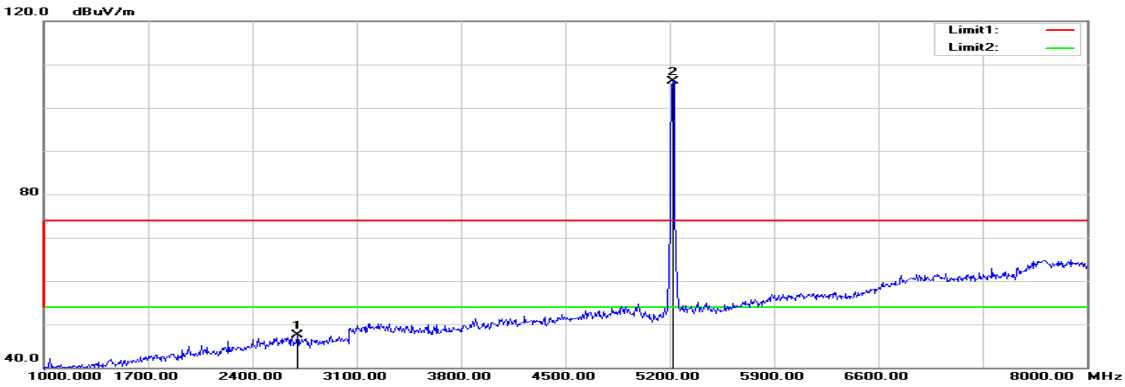


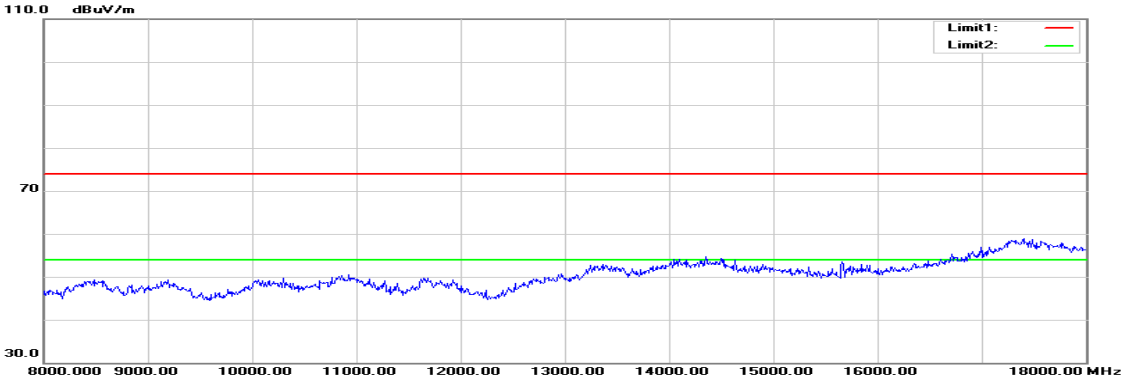


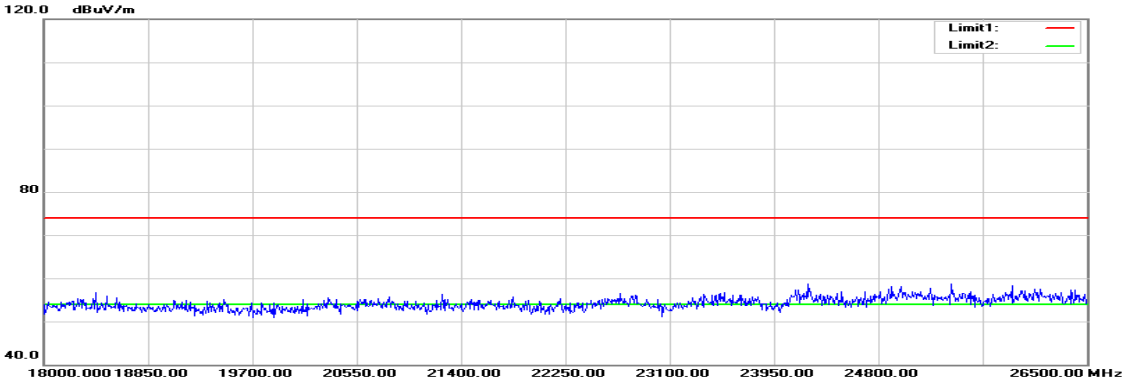


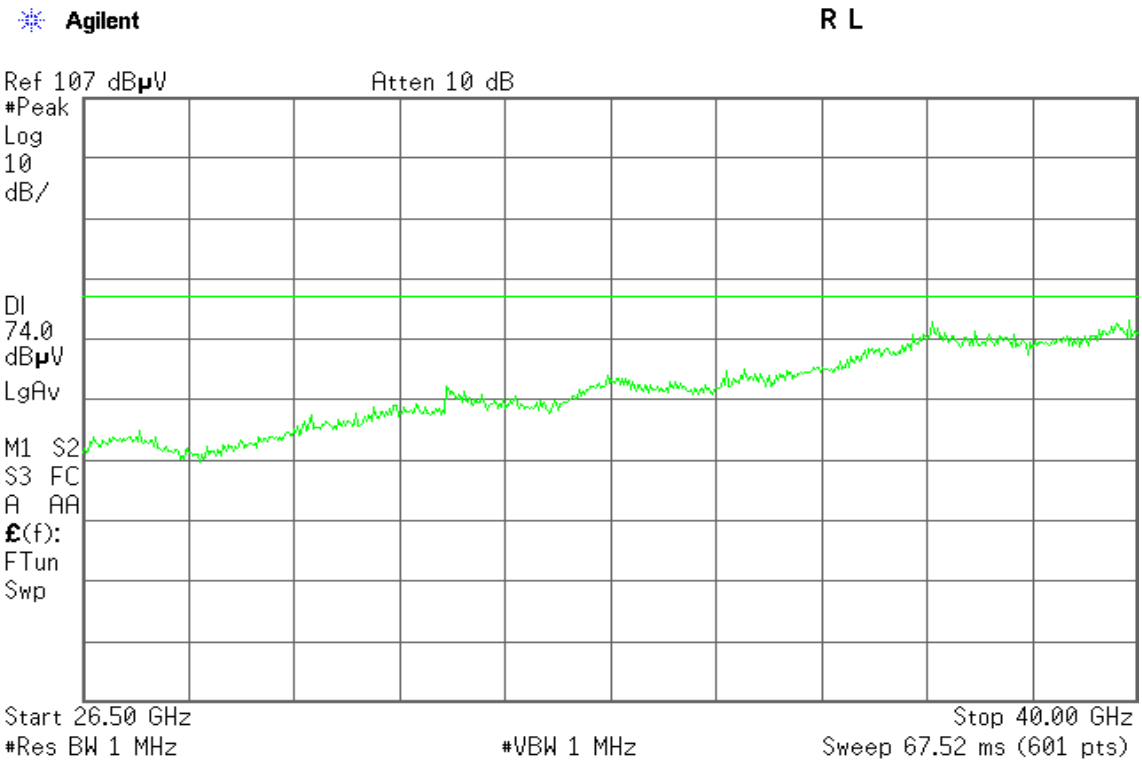

Agilent
R L
Ref 107 dBµV
Atten 10 dB
#Peak
Log
10
dB/
Dl
74.0
dBµV
LgAv
M1 S2
S3 FC
A AA
£(f):
FTun
Swp
Start 26.50 GHz
Stop 40.00 GHz
#Res BW 1 MHz
#VBW 1 MHz
Sweep 67.52 ms (601 pts)

Polarity: Horizontal








Agilent
R L
Ref 107 dBµV
Atten 10 dB
#Peak
Log
10
dB/
Dl
74.0
dBµV
LgAv
M1 S2
S3 FC
A AA
£(f):
FTun
Swp
Start 26.50 GHz
Stop 40.00 GHz
#Res BW 1 MHz
#VBW 1 MHz
Sweep 67.52 ms (601 pts)

Operation Mode: Tx / IEEE 802.11a mode / 5220 MHz **Test Date:** January 18, 2016

Temperature: 27℃ **Tested by:** Jason Lu

Humidity: 53% RH **Polarity:** Ver. / Hor.

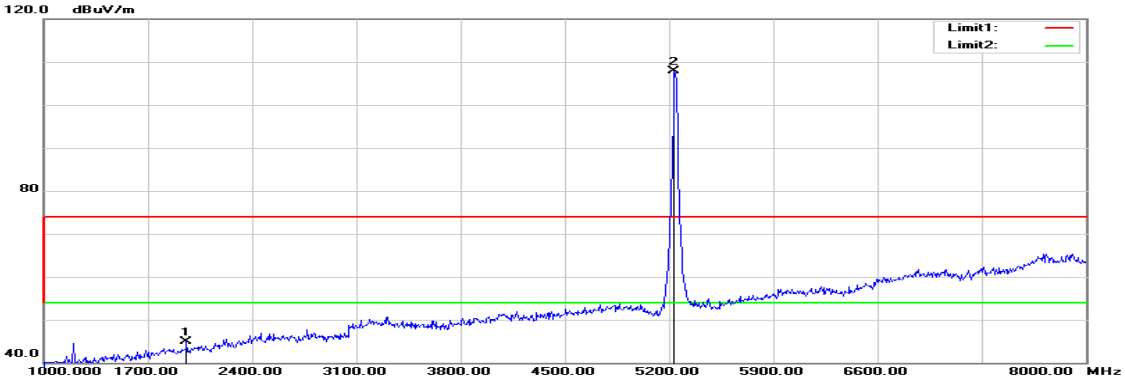
Frequency (MHz)	Reading (dBuV)	Correction (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark	Ant.Pol. (H/V)
1721.000	56.24	-6.36	49.88	74.00	-24.12	peak	V
N/A							
2701.000	50.15	-2.71	47.44	74.00	-26.56	peak	H
N/A							

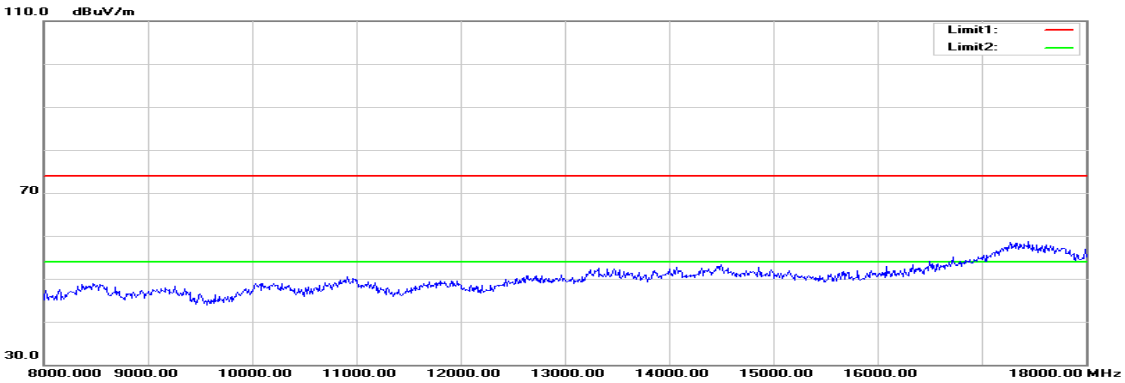
Remark:

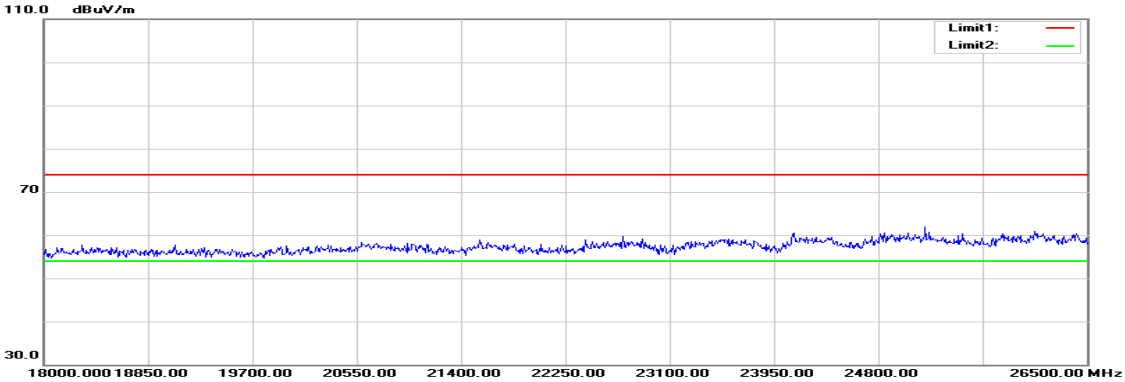
1. *Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.*
2. *Radiated emissions measured in frequency above 1000MHz were made with an instrument using peak/average detector mode.*
3. *Average test would be performed if the peak result were greater than the average limit.*
4. *Data of measurement within this frequency range shown " --- " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.*
5. *Measurements above show only up to 6 maximum emissions noted, or would be lesser, with " N/A " remark, if no specific emissions from the EUT are recorded (ie: margin>20dB from the applicable limit) and considered that's already beyond the background noise floor.*
6. *Margin (dB) = Remark result (dBuV/m) – Average limit (dBuV/m).*

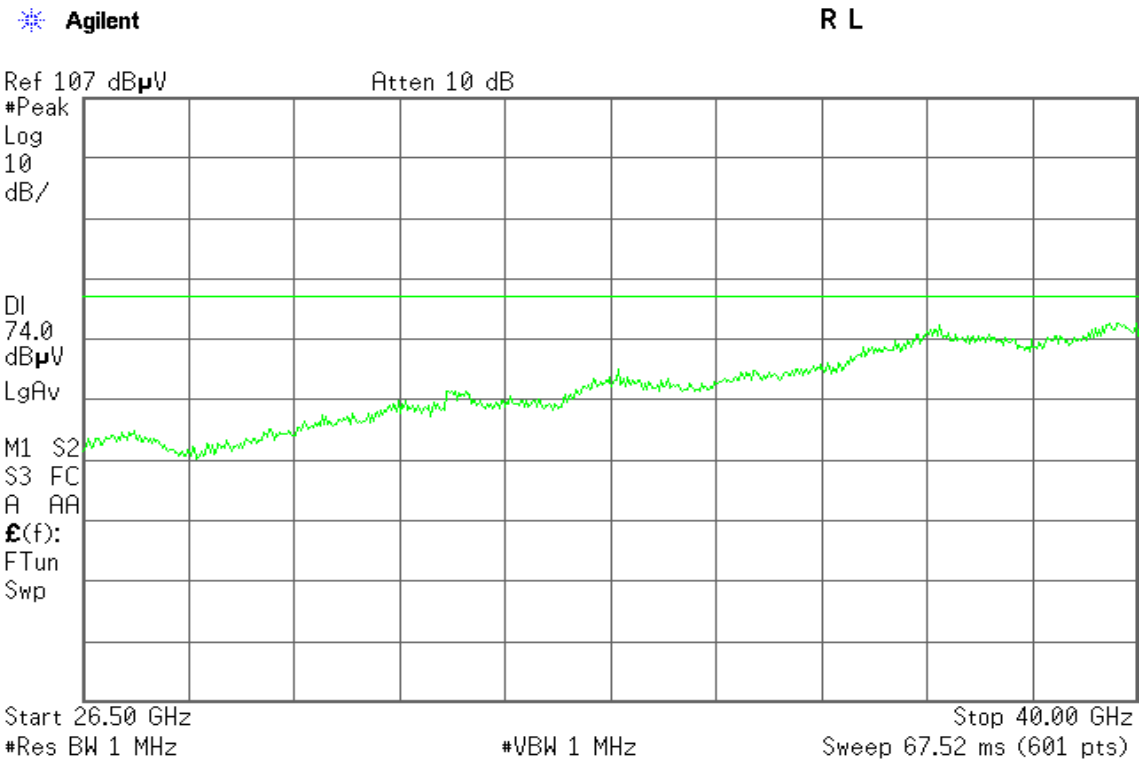
Tx / IEEE 802.11a mode / 5240 MHz

Polarity: Vertical

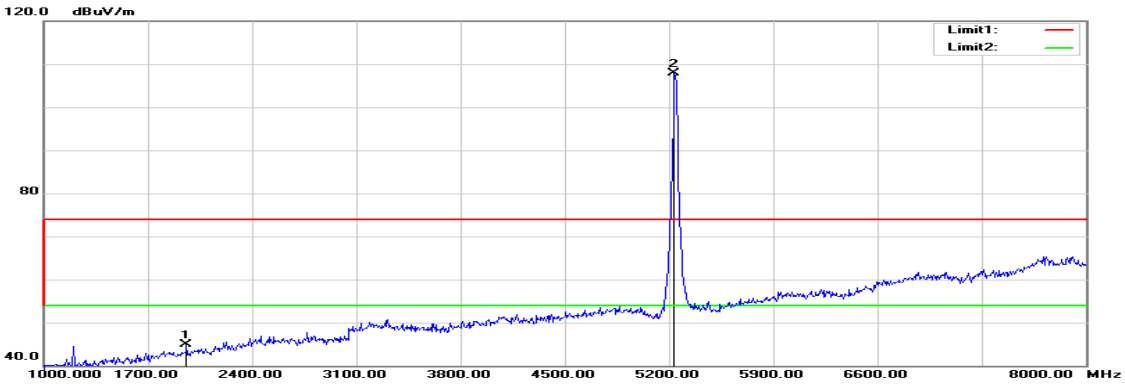


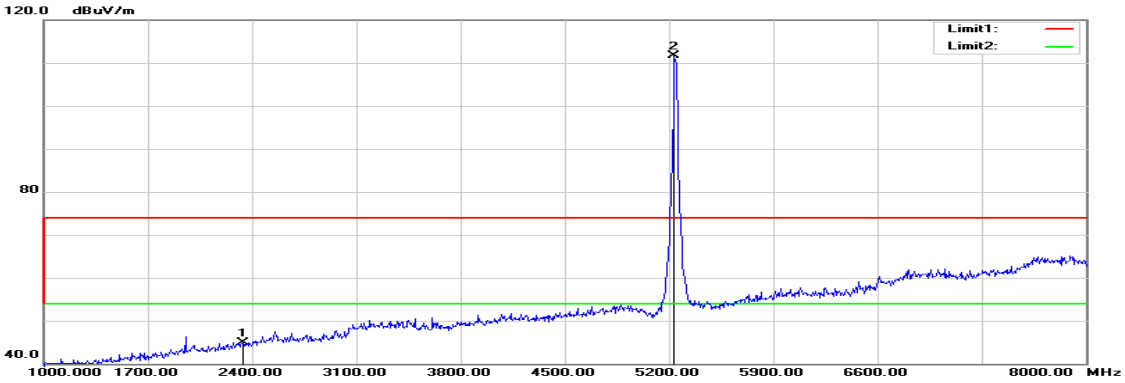


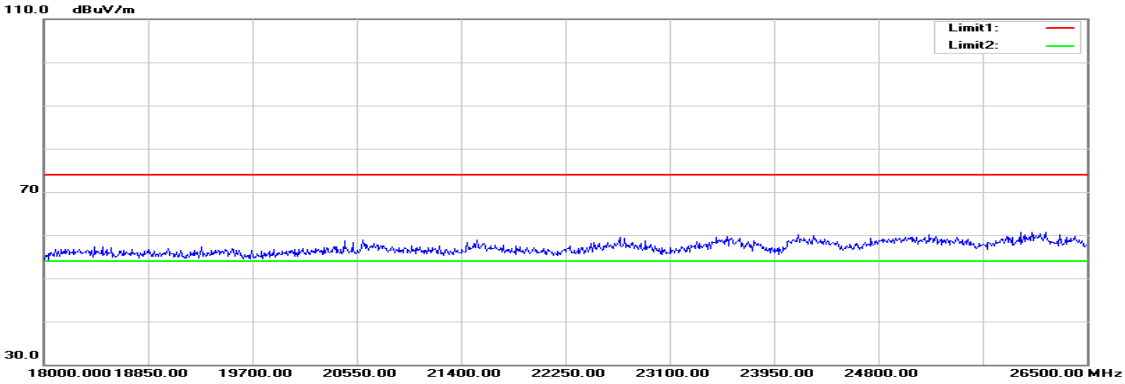


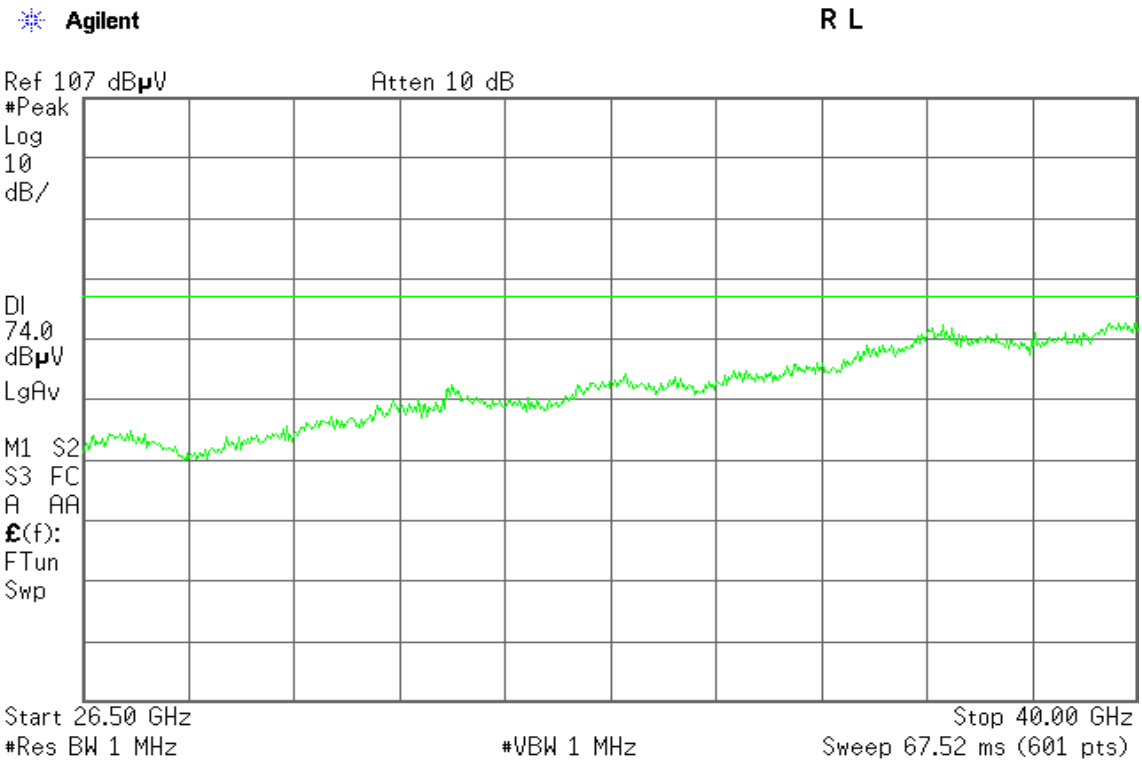

Agilent
R L
Ref 107 dBµV
Atten 10 dB
#Peak
Log
10
dB/
Dl
74.0
dBµV
LgAv
M1 S2
S3 FC
A AA
£(f):
FTun
Swp
Start 26.50 GHz
#Res BW 1 MHz
#VBW 1 MHz
Stop 40.00 GHz
Sweep 67.52 ms (601 pts)

Polarity: Horizontal








Agilent
R L
Ref 107 dBµV
Atten 10 dB
#Peak
Log
10
dB/
Dl
74.0
dBµV
LgAv
M1 S2
S3 FC
A AA
£(f):
FTun
Swp
Start 26.50 GHz
Stop 40.00 GHz
#Res BW 1 MHz
#VBW 1 MHz
Sweep 67.52 ms (601 pts)

Operation Mode:	Tx / IEEE 802.11a mode / 5240 MHz	**Test Date:**	January 18, 2016
Temperature:	27℃	**Tested by:**	Jason Lu
Humidity:	53% RH	**Polarity:**	Ver. / Hor.

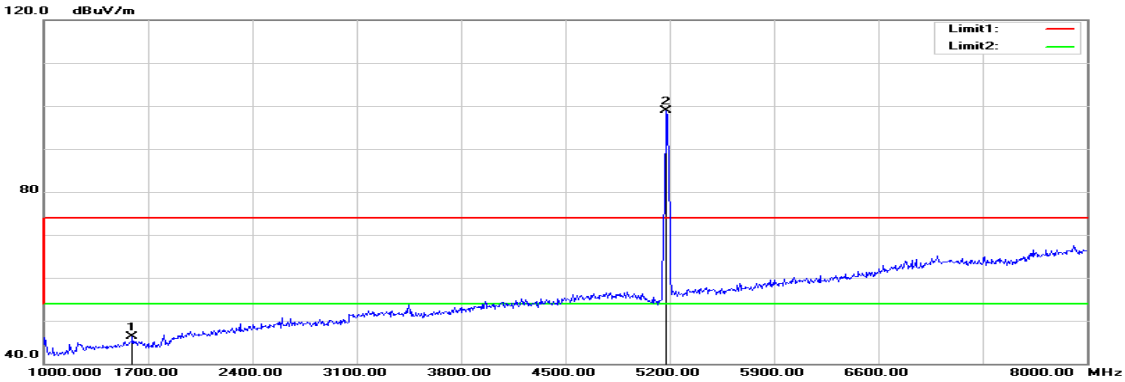
Frequency (MHz)	Reading (dBuV)	Correction (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark	Ant.Pol. (H/V)
1959.000	49.95	-5.10	44.85	74.00	-29.15	peak	V
N/A							
2337.000	49.22	-4.23	44.99	74.00	-29.01	peak	H
N/A							

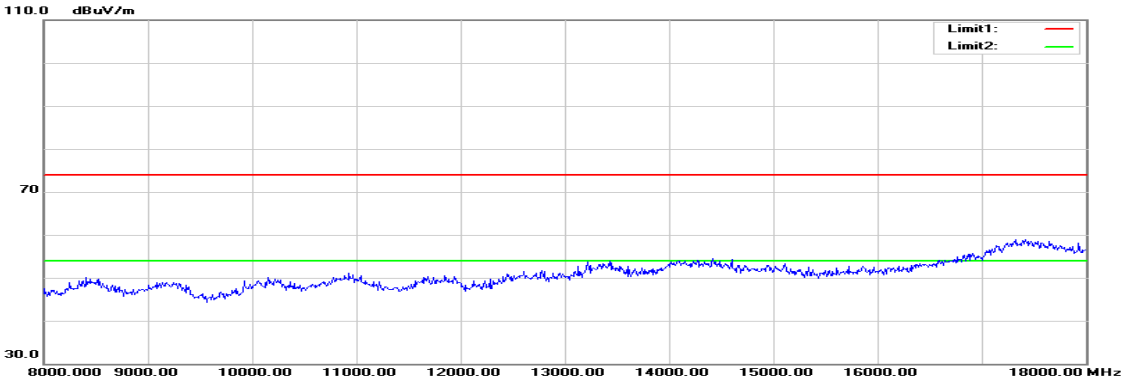
Remark:

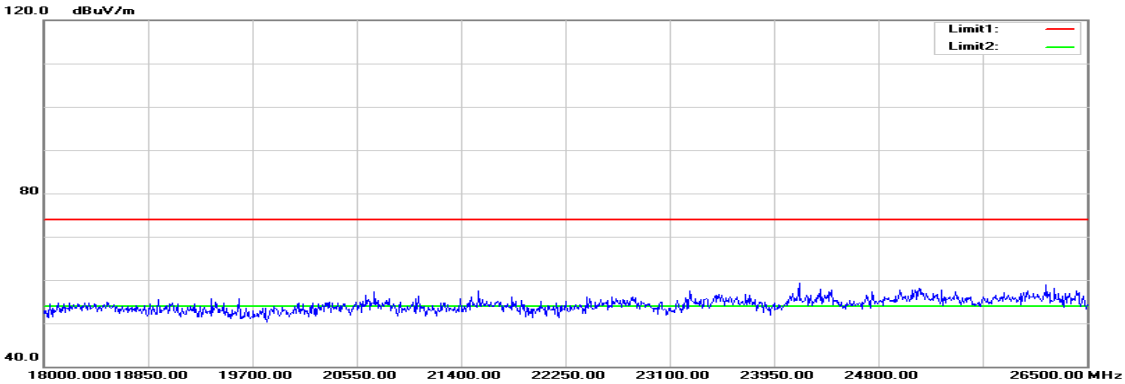
1. *Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.*
2. *Radiated emissions measured in frequency above 1000MHz were made with an instrument using peak/average detector mode.*
3. *Average test would be performed if the peak result were greater than the average limit.*
4. *Data of measurement within this frequency range shown " --- " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.*
5. *Measurements above show only up to 6 maximum emissions noted, or would be lesser, with " N/A " remark, if no specific emissions from the EUT are recorded (ie: margin>20dB from the applicable limit) and considered that's already beyond the background noise floor.*
6. *Margin (dB) = Remark result (dBuV/m) – Average limit (dBuV/m).*

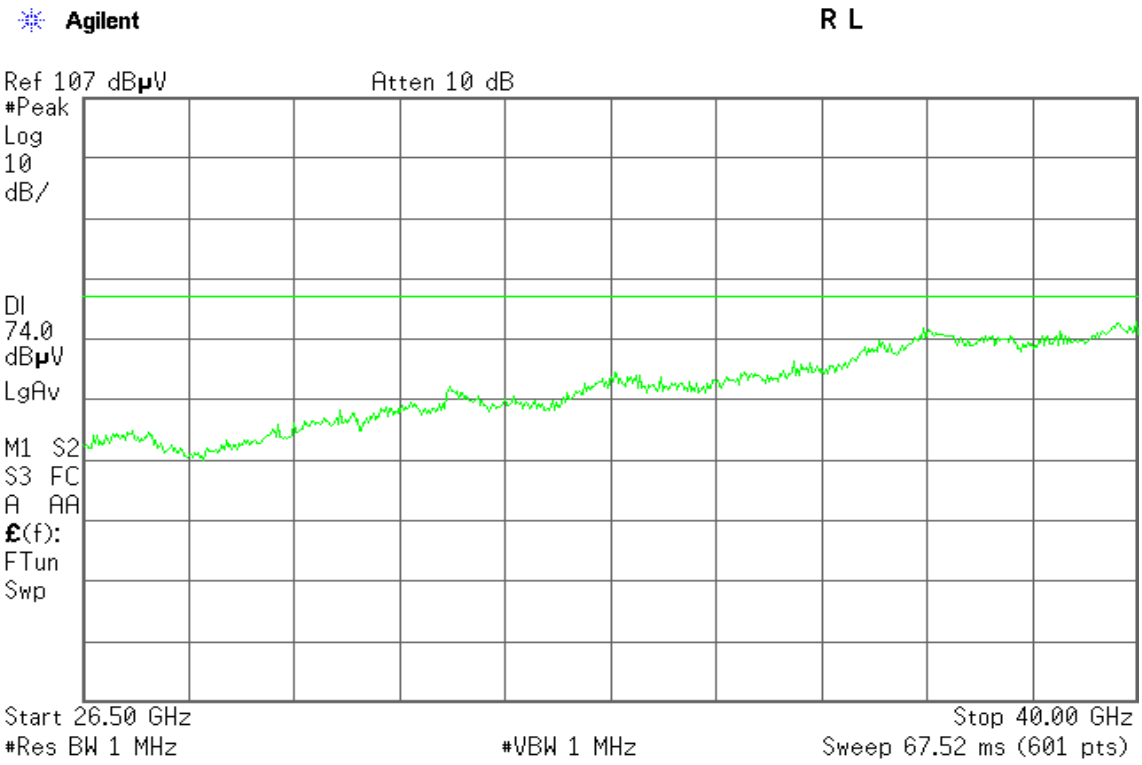
Tx / IEEE 802.11n HT 20 MHz Channel mode / 5180 MHz

Polarity: Vertical

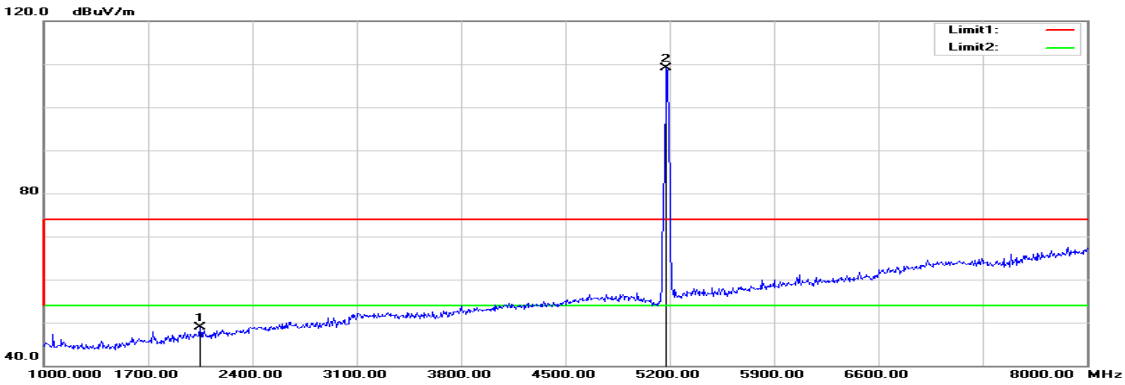


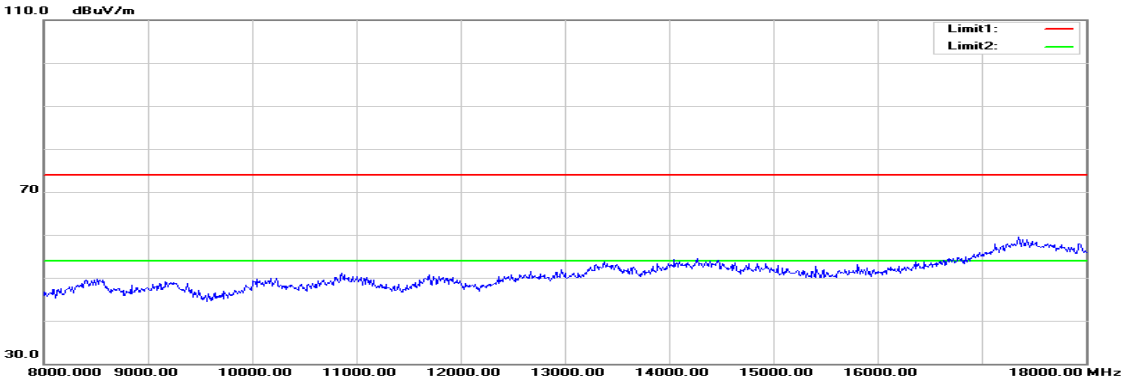


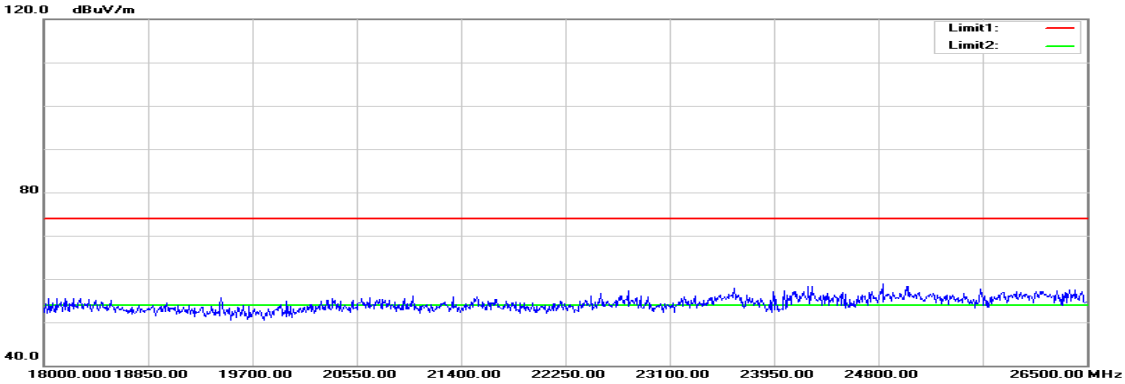


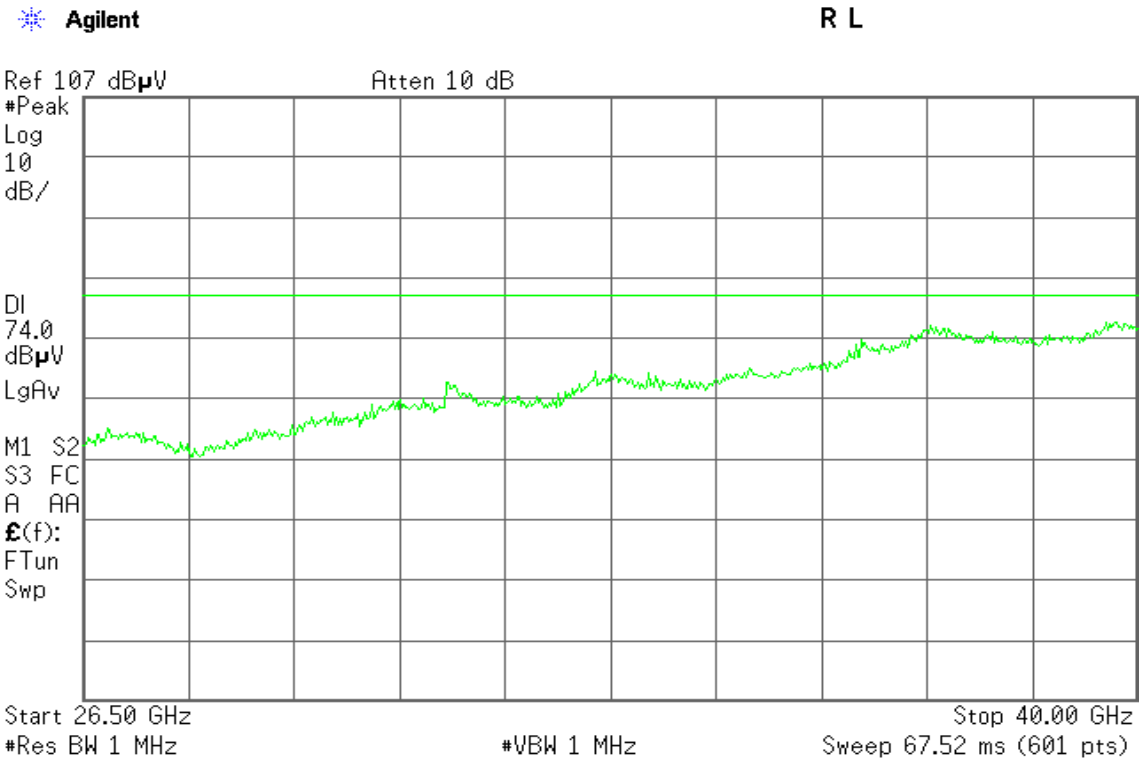

Agilent
R L
Ref 107 dBµV
Atten 10 dB
#Peak
Log
10
dB/
Dl
74.0
dBµV
LgAv
M1 S2
S3 FC
A AA
£(f):
FTun
Swp
Start 26.50 GHz
#Res BW 1 MHz
#VBW 1 MHz
Stop 40.00 GHz
Sweep 67.52 ms (601 pts)

Polarity: Horizontal








Agilent
R L
Ref 107 dBµV
Atten 10 dB
#Peak
Log
10
dB/
Dl
74.0
dBµV
LgAv
M1 S2
S3 FC
A AA
£(f):
FTun
Swp
Start 26.50 GHz
Stop 40.00 GHz
#Res BW 1 MHz
#VBW 1 MHz
Sweep 67.52 ms (601 pts)

Operation Mode:	Tx / IEEE 802.11n HT 20 MHz mode / 5180 MHz	**Test Date:**	January 18, 2016
Temperature:	27℃	**Tested by:**	Jason Lu
Humidity:	53% RH	**Polarity:**	Ver. / Hor.

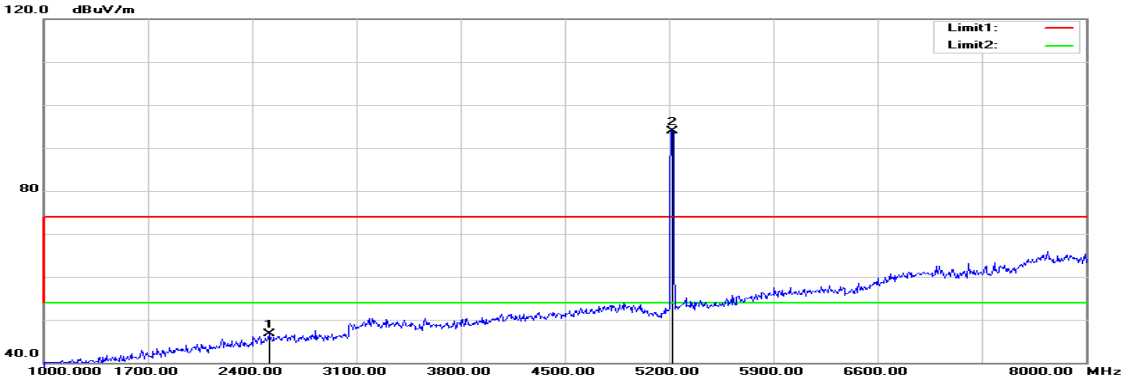
Frequency (MHz)	Reading (dBuV)	Correction (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark	Ant.Pol. (H/V)
1595.000	53.25	-7.03	46.22	74.00	-27.78	peak	V
N/A							
2050.000	53.75	-4.93	48.82	74.00	-25.18	peak	H
N/A							

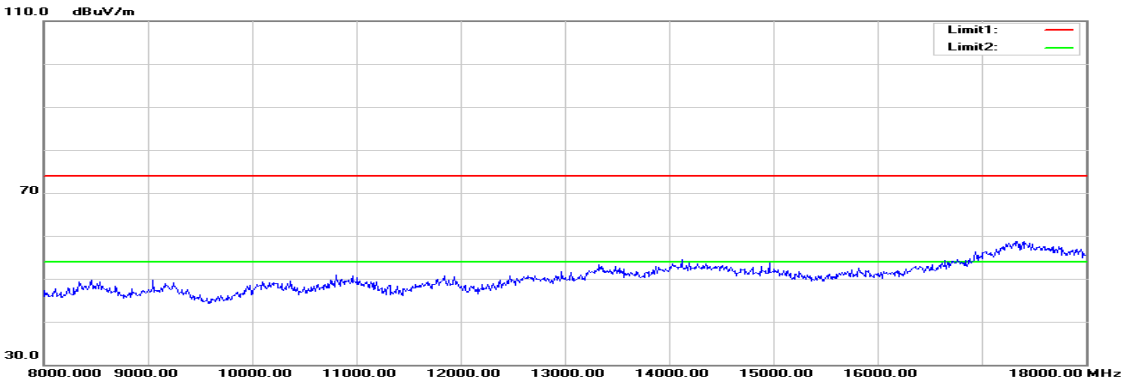
Remark:

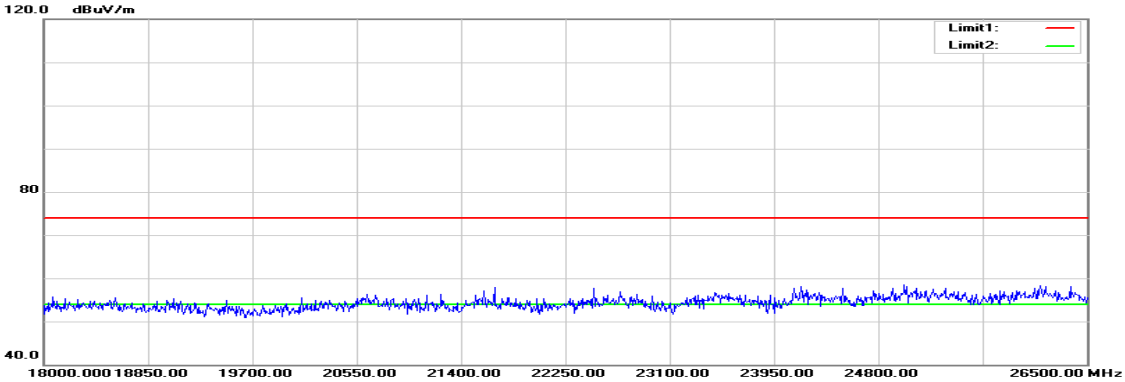
1. *Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.*
2. *Radiated emissions measured in frequency above 1000MHz were made with an instrument using peak/average detector mode.*
3. *Average test would be performed if the peak result were greater than the average limit.*
4. *Data of measurement within this frequency range shown " --- " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.*
5. *Measurements above show only up to 6 maximum emissions noted, or would be lesser, with " N/A " remark, if no specific emissions from the EUT are recorded (ie: margin>20dB from the applicable limit) and considered that's already beyond the background noise floor.*
6. *Margin (dB) = Remark result (dBuV/m) – Average limit (dBuV/m).*

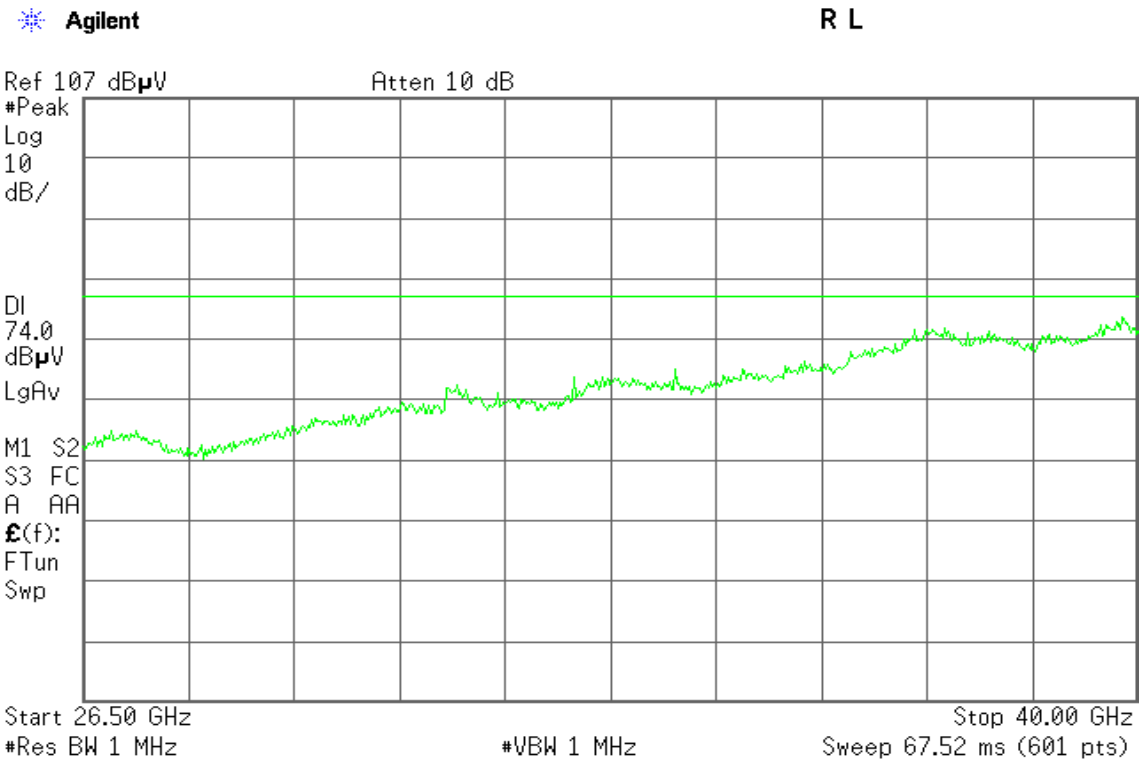
Tx / IEEE 802.11n HT 20 MHz Channel mode / 5220 MHz

Polarity: Vertical

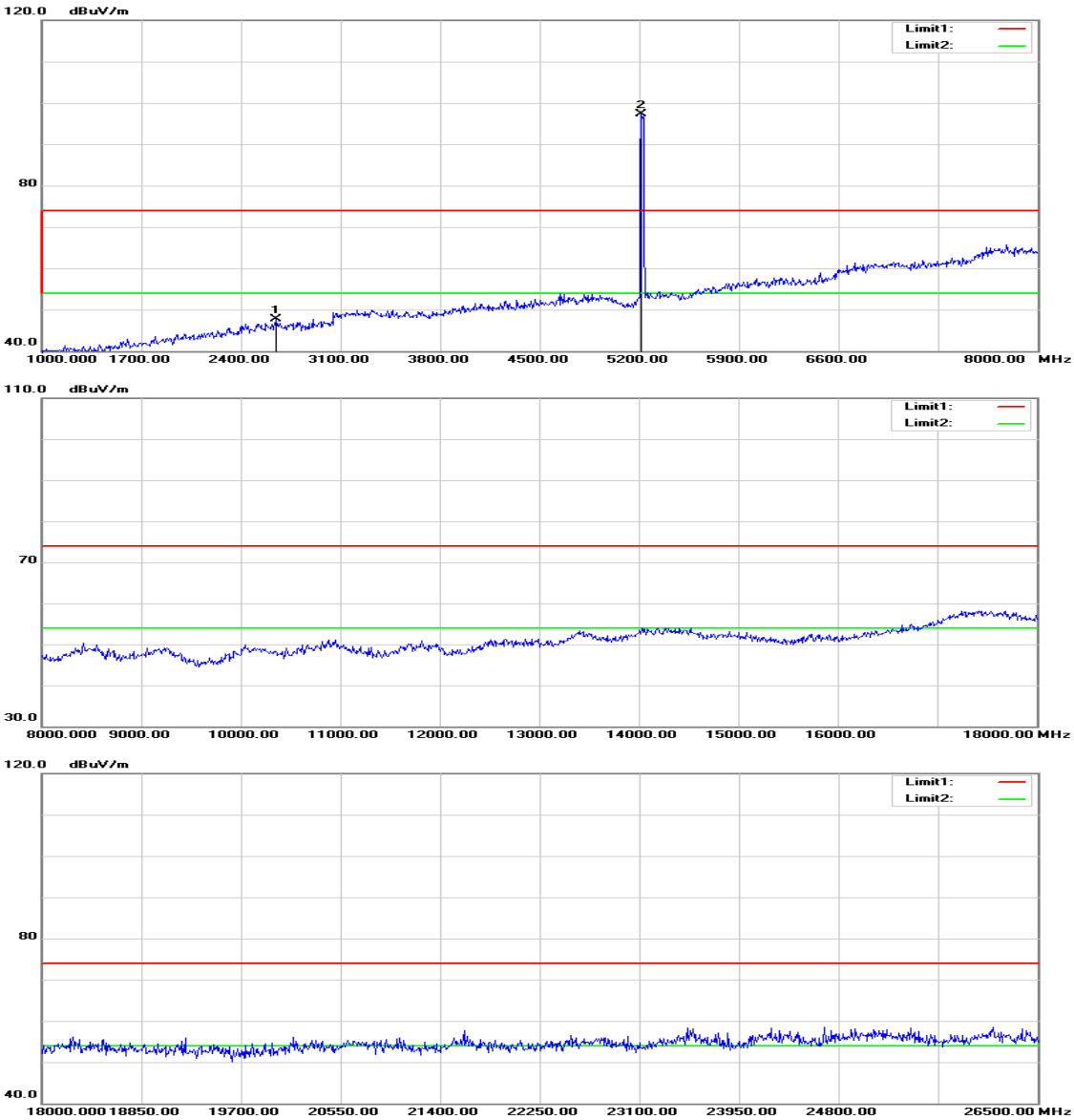


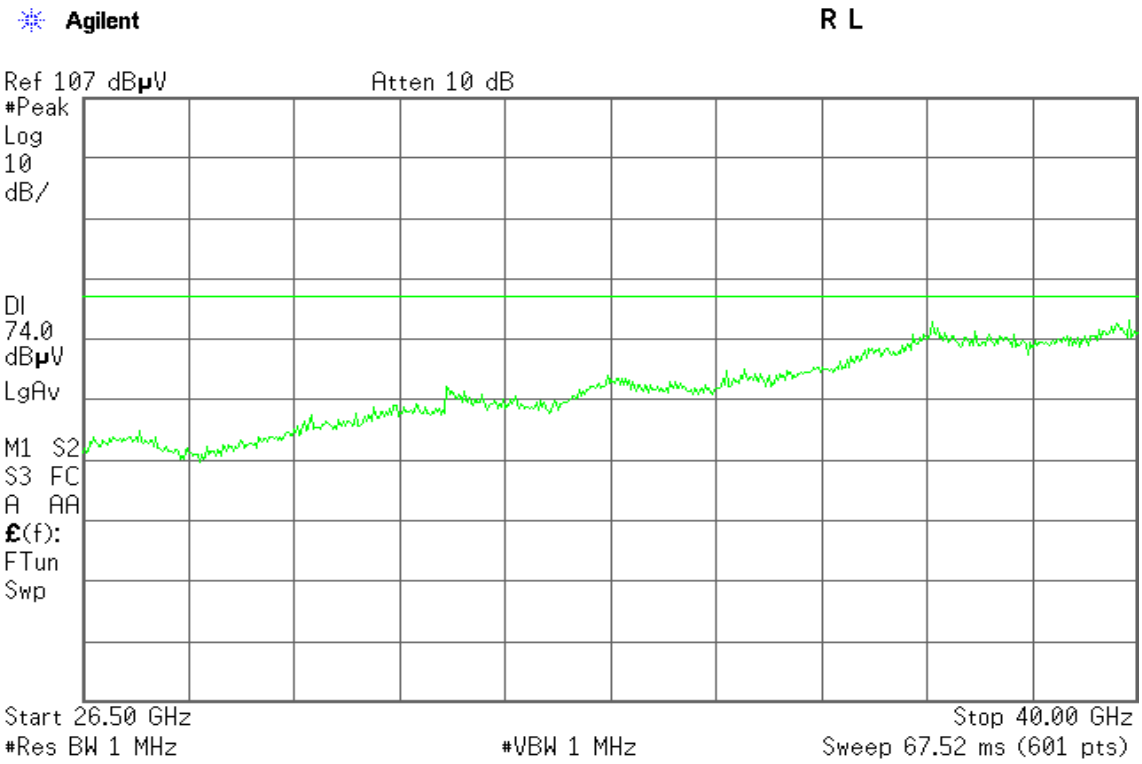





Agilent
R L
Ref 107 dBµV
Atten 10 dB
#Peak
Log
10
dB/
Dl
74.0
dBµV
LgAv
M1 S2
S3 FC
A AA
£(f):
FTun
Swp
Start 26.50 GHz
#Res BW 1 MHz
#VBW 1 MHz
Stop 40.00 GHz
Sweep 67.52 ms (601 pts)

Polarity: Horizontal




Agilent
R L
Ref 107 dBµV
Atten 10 dB
#Peak
Log
10
dB/
Dl
74.0
dBµV
LgAv
M1 S2
S3 FC
A AA
£(f):
FTun
Swp
Start 26.50 GHz
Stop 40.00 GHz
#Res BW 1 MHz
#VBW 1 MHz
Sweep 67.52 ms (601 pts)

Operation Mode:	Tx / IEEE 802.11n HT 20 MHz mode / 5220 MHz	**Test Date:**	January 18, 2016
Temperature:	27℃	**Tested by:**	Jason Lu
Humidity:	53% RH	**Polarity:**	Ver. / Hor.

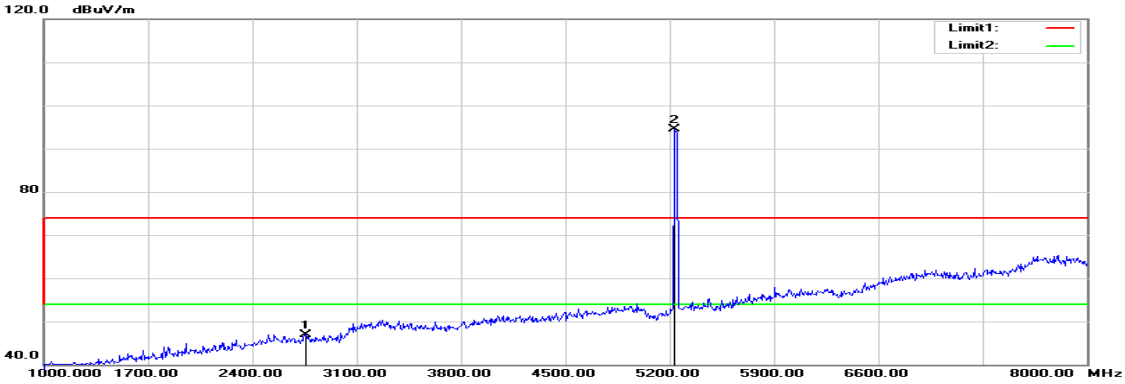
Frequency (MHz)	Reading (dBuV)	Correction (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark	Ant.Pol. (H/V)
2512.000	49.71	-3.10	46.61	74.00	-27.39	peak	V
N/A							
2645.000	50.52	-2.83	47.69	74.00	-26.31	peak	H
N/A							

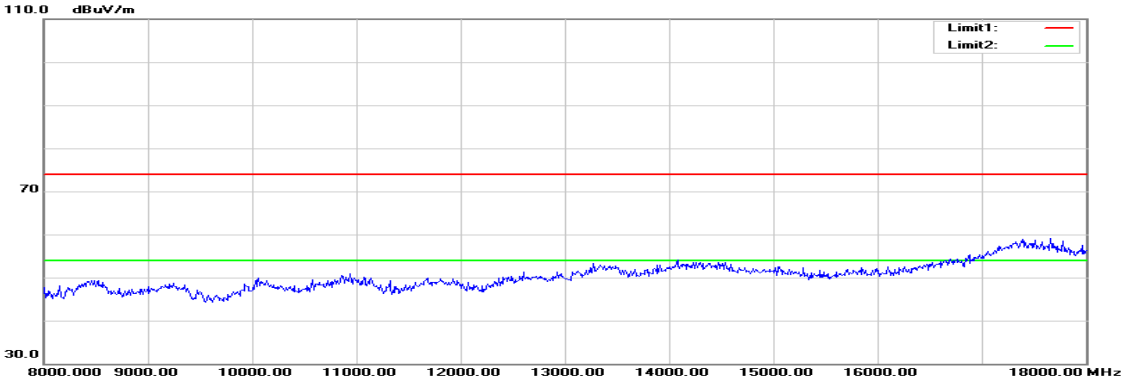
Remark:

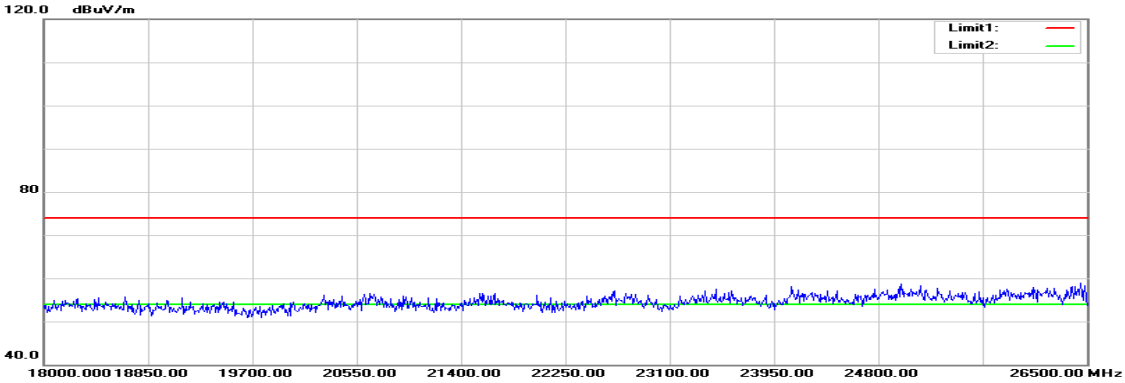
1. *Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.*
2. *Radiated emissions measured in frequency above 1000MHz were made with an instrument using peak/average detector mode.*
3. *Average test would be performed if the peak result were greater than the average limit.*
4. *Data of measurement within this frequency range shown " --- " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.*
5. *Measurements above show only up to 6 maximum emissions noted, or would be lesser, with " N/A " remark, if no specific emissions from the EUT are recorded (ie: margin>20dB from the applicable limit) and considered that's already beyond the background noise floor.*
6. *Margin (dB) = Remark result (dBuV/m) – Average limit (dBuV/m).*

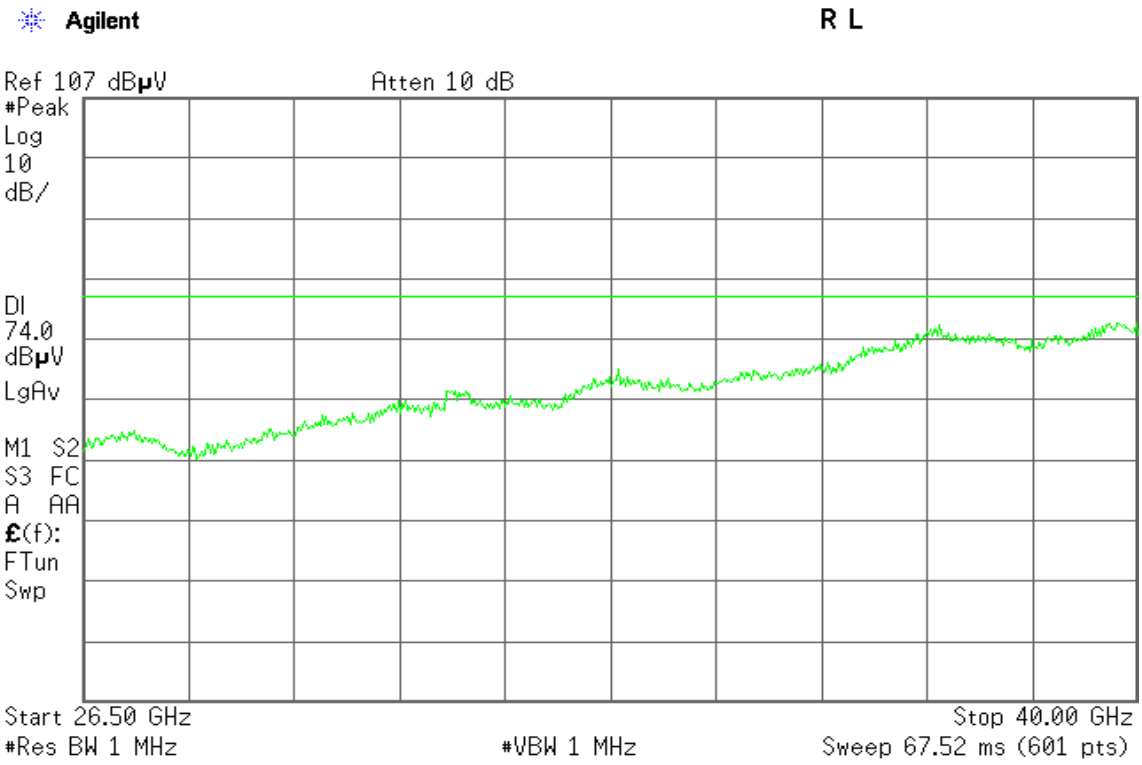
Tx / IEEE 802.11n HT 20 MHz mode / 5240 MHz

Polarity: Vertical

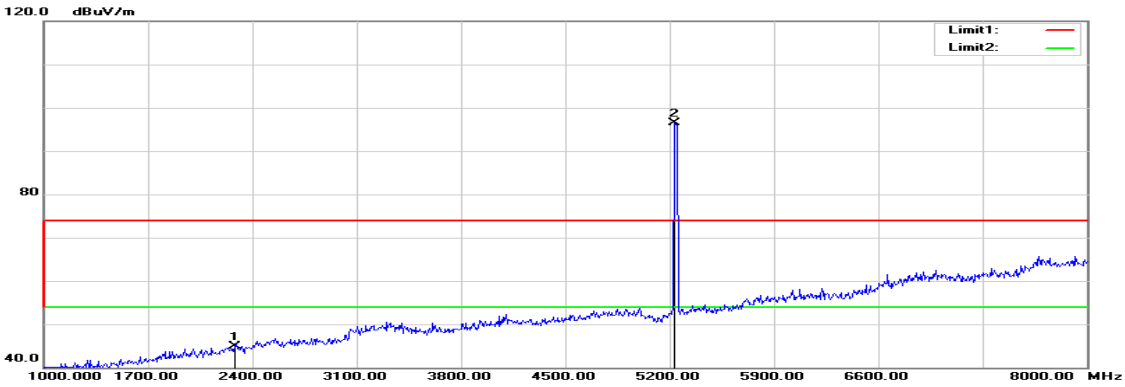


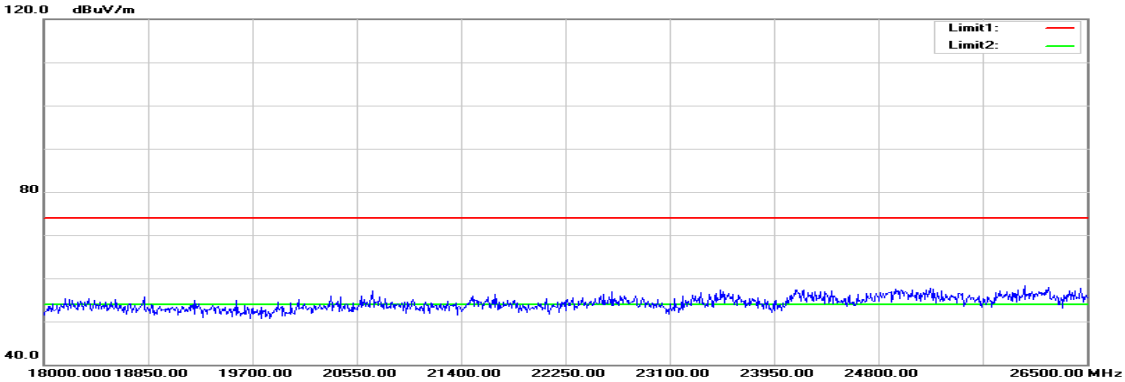


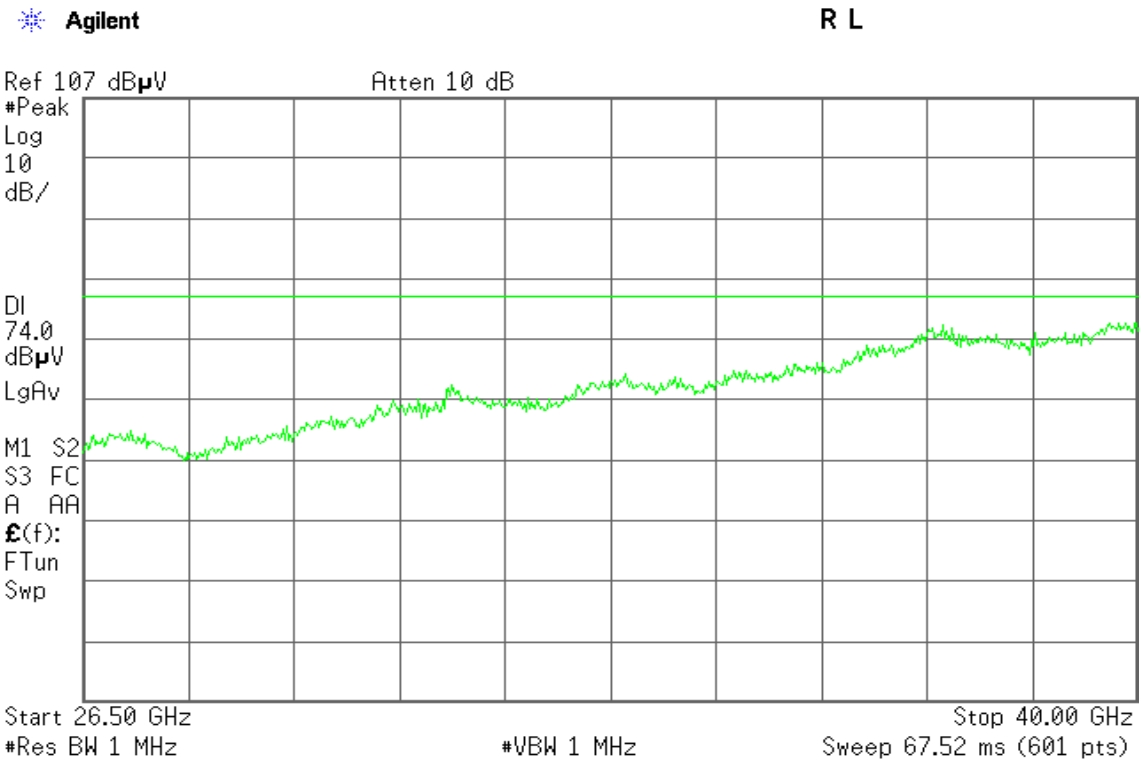



Agilent
R L
Ref 107 dBµV
Atten 10 dB
#Peak
Log
10
dB/
Dl
74.0
dBµV
LgAv
M1 S2
S3 FC
A AA
£(f):
FTun
Swp
Start 26.50 GHz
Stop 40.00 GHz
#Res BW 1 MHz
#VBW 1 MHz
Sweep 67.52 ms (601 pts)

Polarity: Horizontal






Agilent
R L
Ref 107 dBµV
Atten 10 dB
#Peak
Log
10
dB/
Dl
74.0
dBµV
LgAv
M1 S2
S3 FC
A AA
£(f):
FTun
Swp
Start 26.50 GHz
Stop 40.00 GHz
#Res BW 1 MHz
#VBW 1 MHz
Sweep 67.52 ms (601 pts)

Operation Mode:	Tx / IEEE 802.11n HT 20 MHz mode / 5240 MHz	**Test Date:**	January 18, 2016
Temperature:	27℃	**Tested by:**	Jason Lu
Humidity:	53% RH	**Polarity:**	Ver. / Hor.

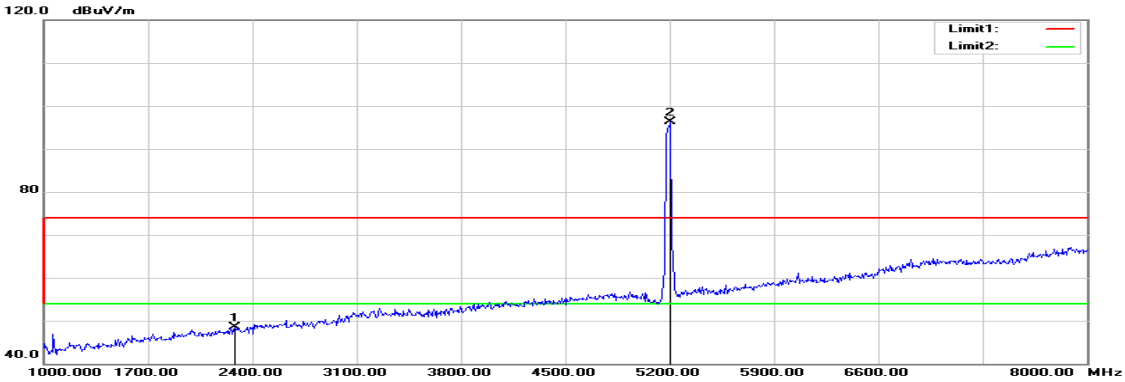
Frequency (MHz)	Reading (dBuV)	Correction (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark	Ant.Pol. (H/V)
2757.000	49.51	-2.60	46.91	74.00	-27.09	peak	V
N/A							
2281.000	49.23	-4.32	44.91	74.00	-29.09	peak	H
N/A							

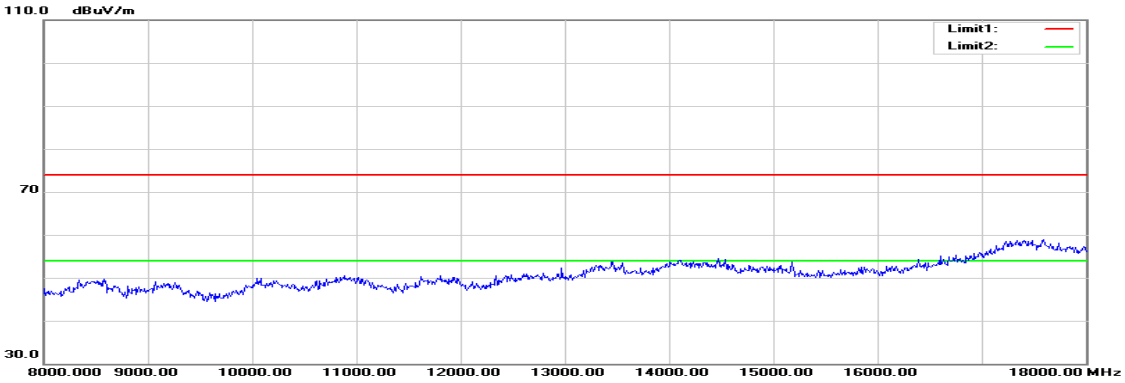
Remark:

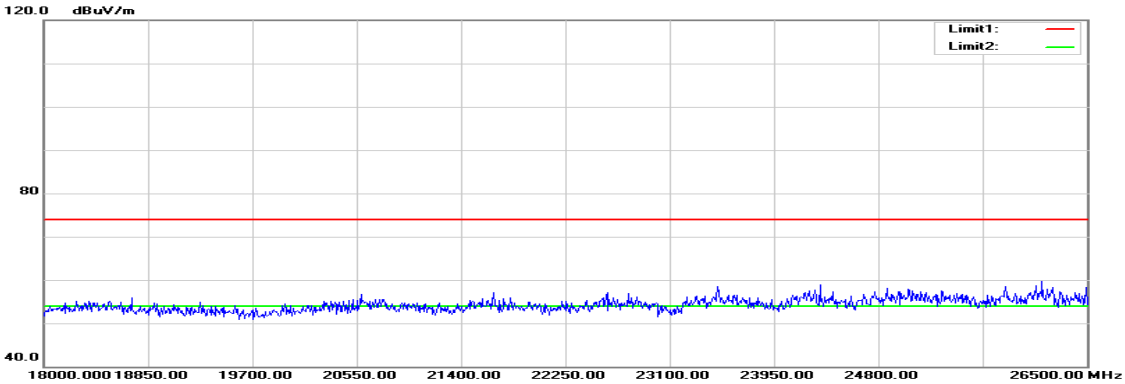
1. *Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.*
2. *Radiated emissions measured in frequency above 1000MHz were made with an instrument using peak/average detector mode.*
3. *Average test would be performed if the peak result were greater than the average limit.*
4. *Data of measurement within this frequency range shown " --- " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.*
5. *Measurements above show only up to 6 maximum emissions noted, or would be lesser, with " N/A " remark, if no specific emissions from the EUT are recorded (ie: margin>20dB from the applicable limit) and considered that's already beyond the background noise floor.*
6. *Margin (dB) = Remark result (dBuV/m) – Average limit (dBuV/m).*

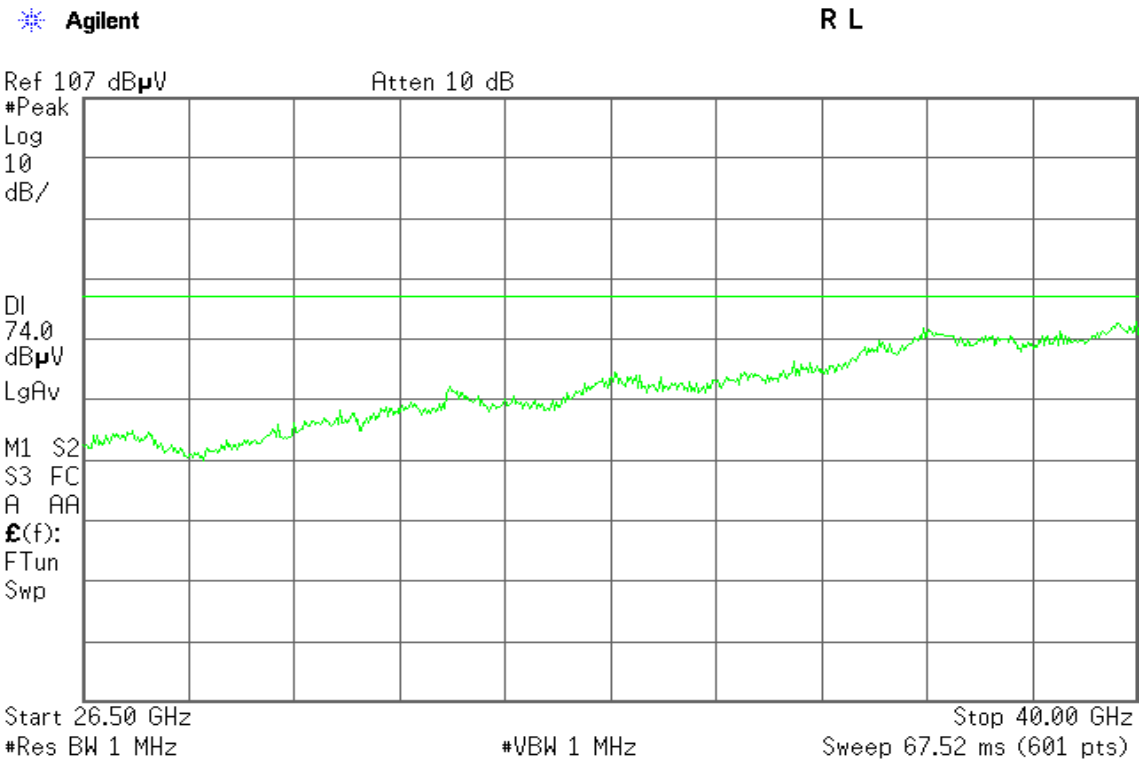
Tx / IEEE 802.11n HT 40 MHz mode / 5190 MHz

Polarity: Vertical

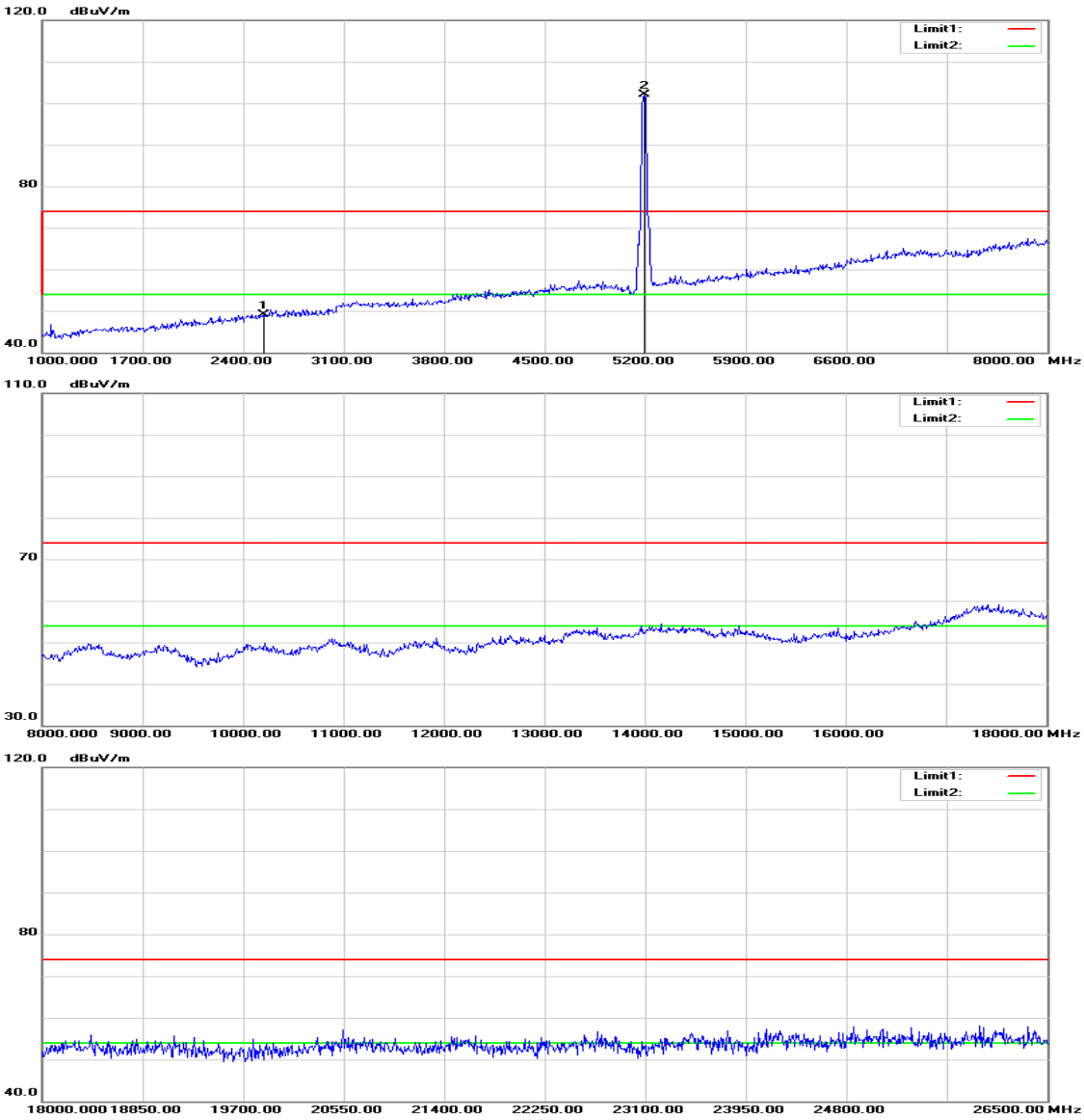


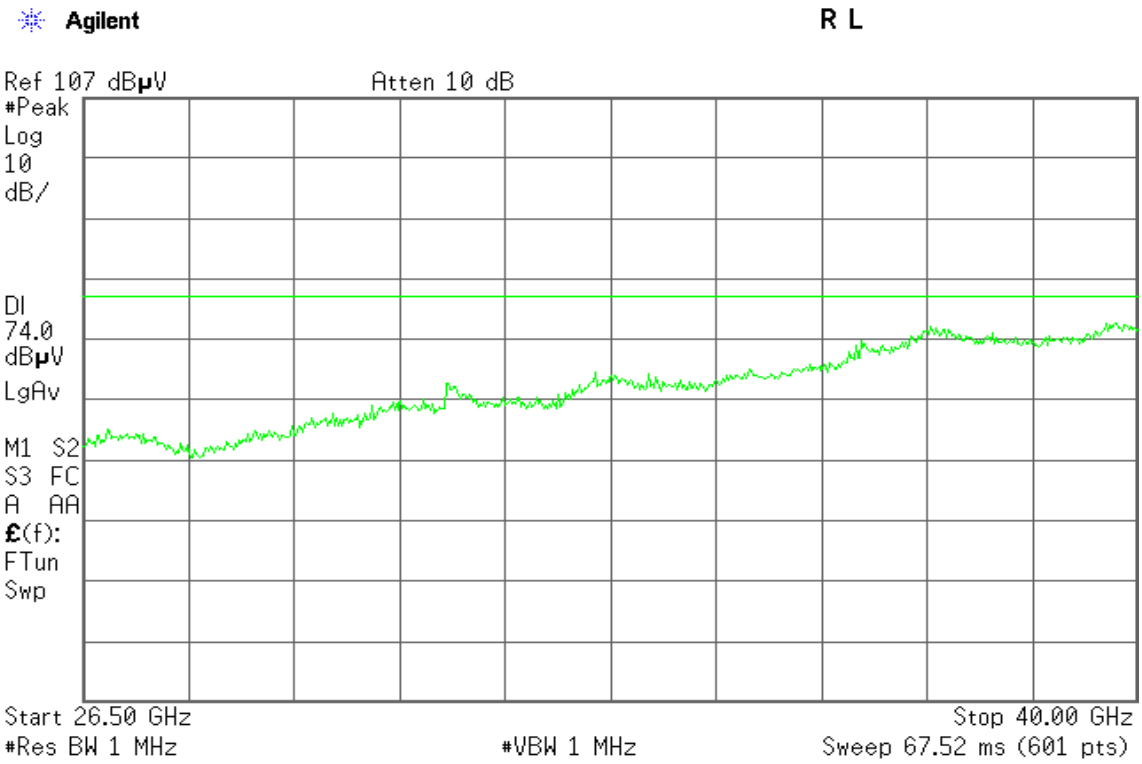





Agilent
R L
Ref 107 dBµV
Atten 10 dB
#Peak
Log
10
dB/
Dl
74.0
dBµV
LgAv
M1 S2
S3 FC
A AA
£(f):
FTun
Swp
Start 26.50 GHz
#Res BW 1 MHz
#VBW 1 MHz
Stop 40.00 GHz
Sweep 67.52 ms (601 pts)

Polarity: Horizontal




Agilent
R L
Ref 107 dBµV
Atten 10 dB
#Peak
Log
10
dB/
Dl
74.0
dBµV
LgAv
M1 S2
S3 FC
A AA
£(f):
FTun
Swp
Start 26.50 GHz
Stop 40.00 GHz
#Res BW 1 MHz
#VBW 1 MHz
Sweep 67.52 ms (601 pts)

Operation Mode:	Tx / IEEE 802.11n HT 40 MHz mode / 5190 MHz	**Test Date:**	January 18, 2016
Temperature:	27℃	**Tested by:**	Jason Lu
Humidity:	53% RH	**Polarity:**	Ver. / Hor.

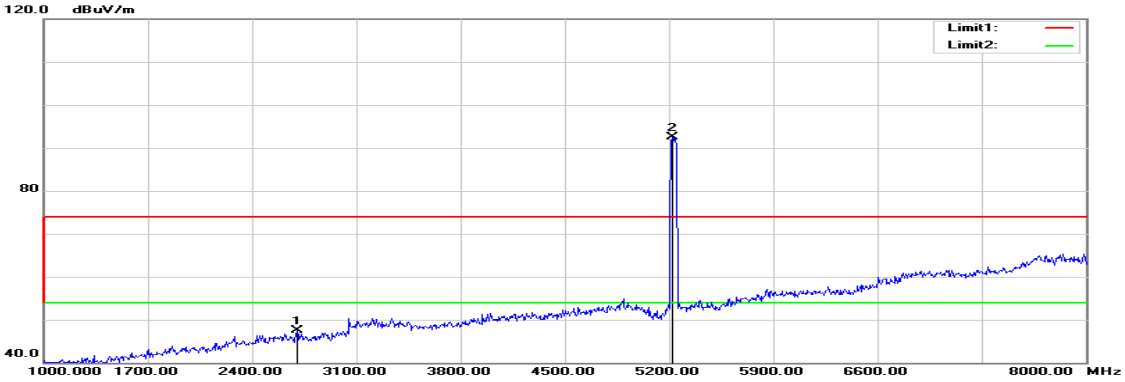
Frequency (MHz)	Reading (dBuV)	Correction (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark	Ant.Pol. (H/V)
2281.000	52.79	-4.32	48.47	74.00	-25.53	peak	V
N/A							
2547.000	52.18	-3.03	49.15	74.00	-24.85	peak	H
N/A							

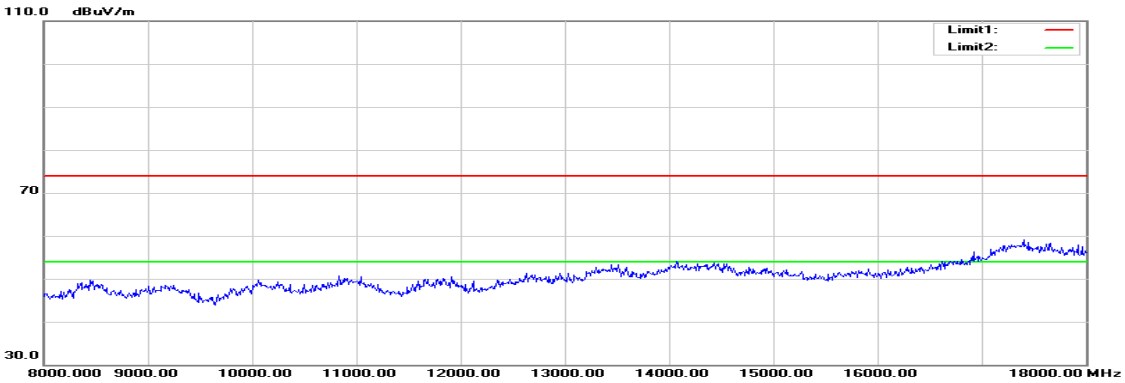
Remark:

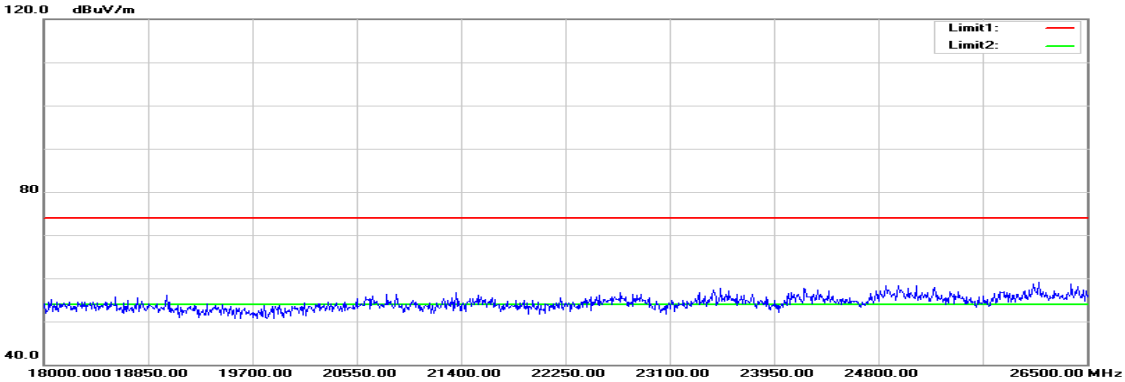
1. *Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.*
2. *Radiated emissions measured in frequency above 1000MHz were made with an instrument using peak/average detector mode.*
3. *Average test would be performed if the peak result were greater than the average limit.*
4. *Data of measurement within this frequency range shown " --- " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.*
5. *Measurements above show only up to 6 maximum emissions noted, or would be lesser, with " N/A " remark, if no specific emissions from the EUT are recorded (ie: margin>20dB from the applicable limit) and considered that's already beyond the background noise floor.*
6. *Margin (dB) = Remark result (dBuV/m) – Average limit (dBuV/m).*

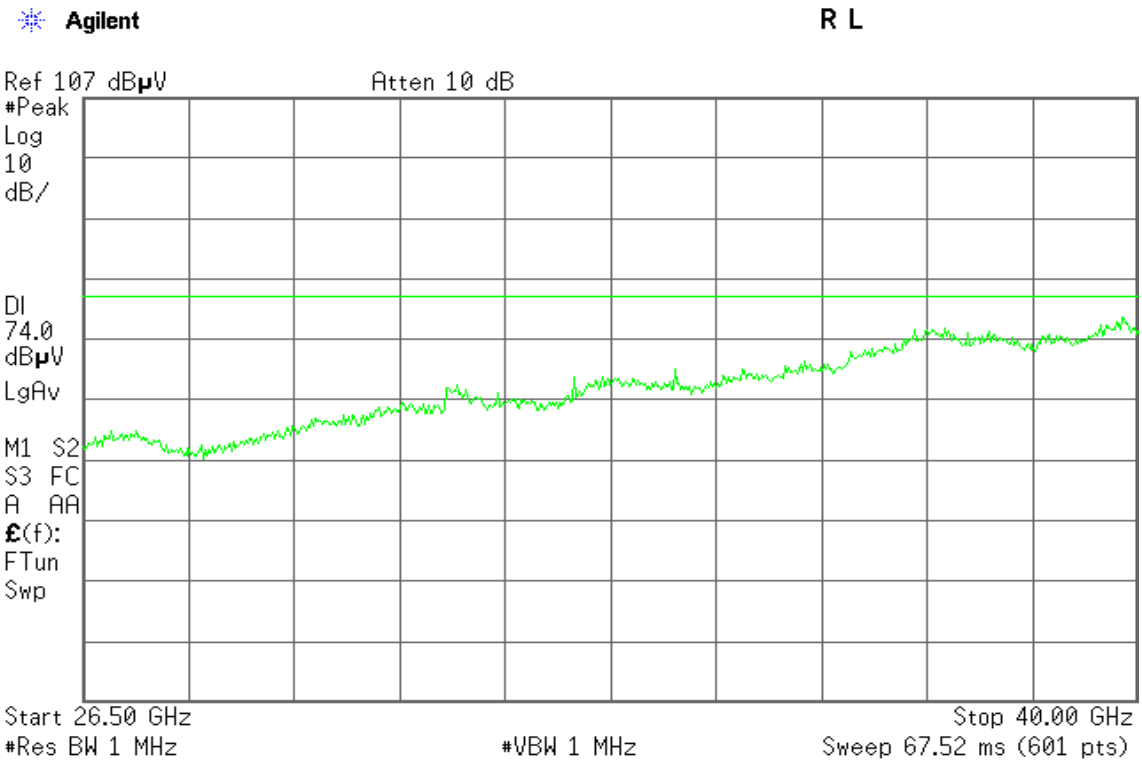
Tx / IEEE 802.11n HT 40 MHz mode / 5230 MHz

Polarity: Vertical

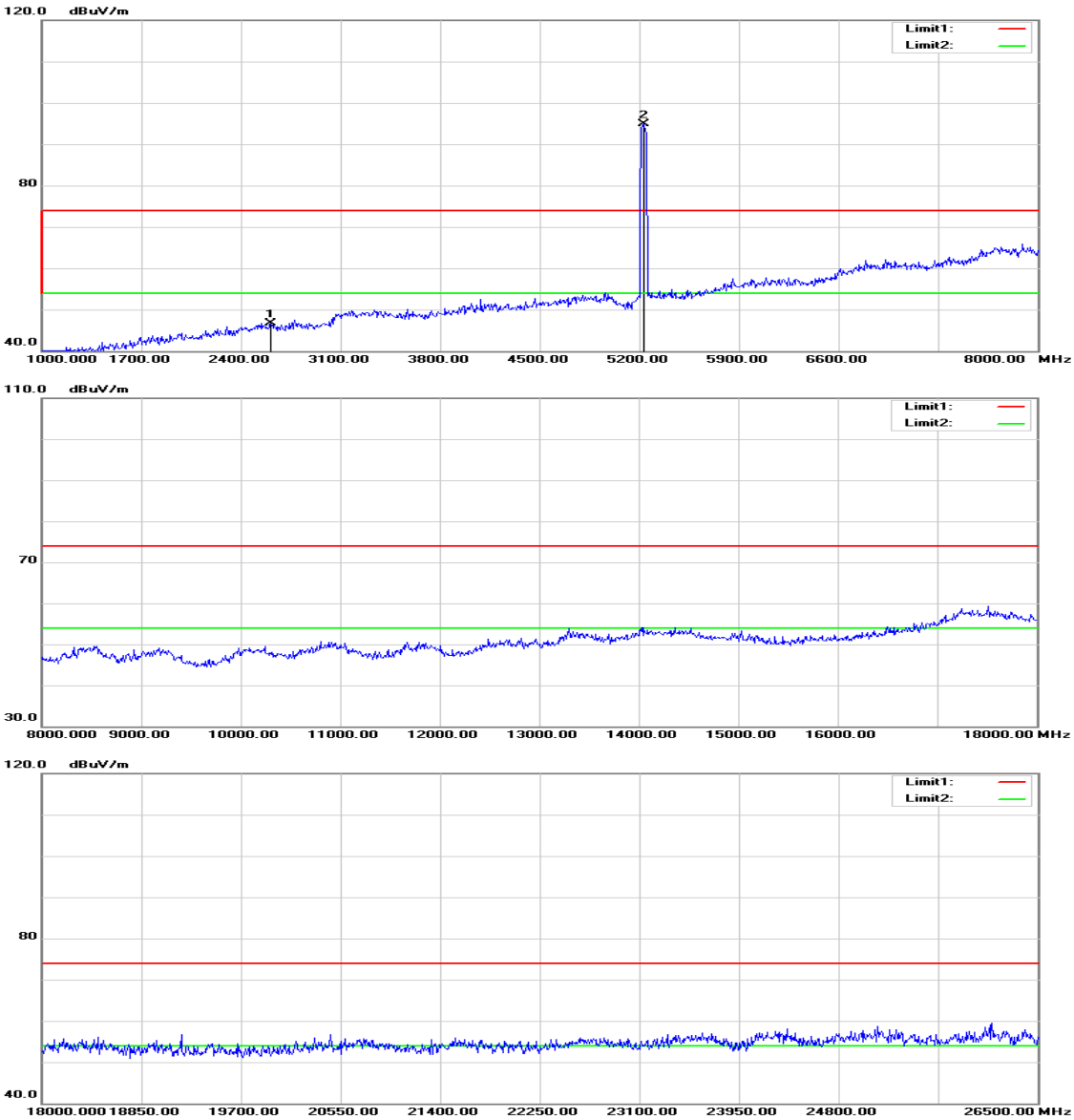


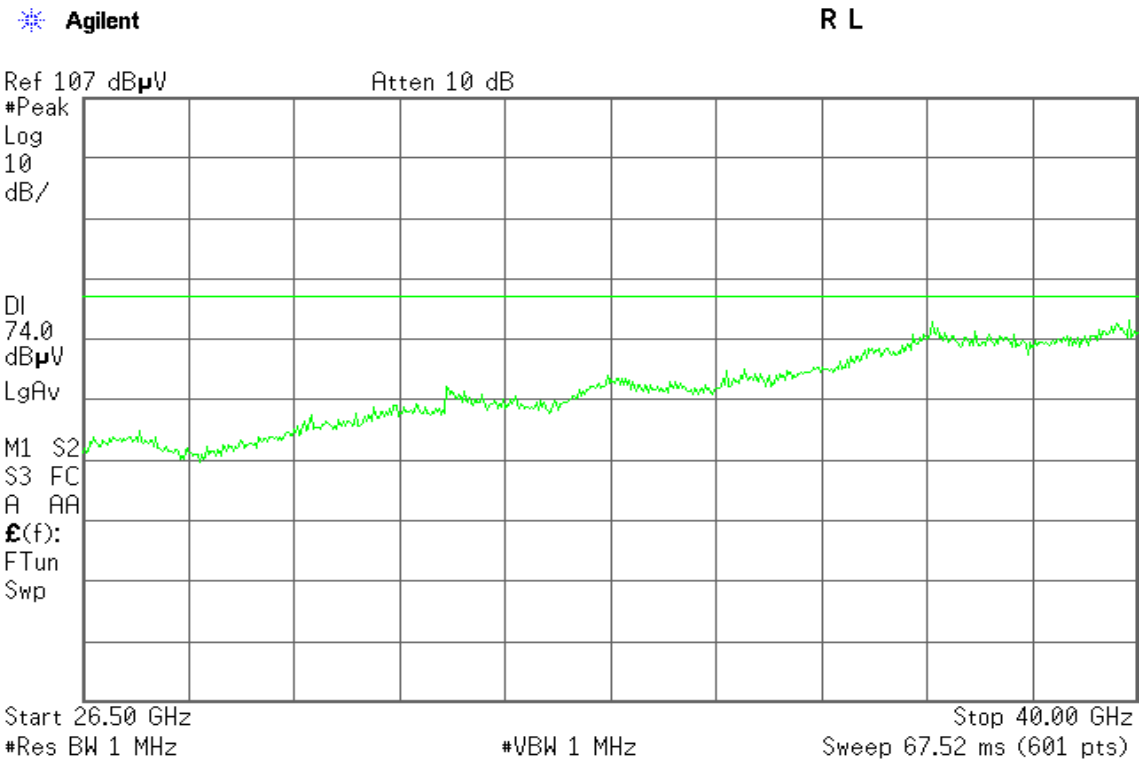





Agilent
R L
Ref 107 dBµV
Atten 10 dB
#Peak
Log
10
dB/
Dl
74.0
dBµV
LgAv
M1 S2
S3 FC
A AA
£(f):
FTun
Swp
Start 26.50 GHz
Stop 40.00 GHz
#Res BW 1 MHz
#VBW 1 MHz
Sweep 67.52 ms (601 pts)

Polarity: Horizontal




Agilent
R L
Ref 107 dBµV
Atten 10 dB
#Peak
Log
10
dB/
Dl
74.0
dBµV
LgAv
M1 S2
S3 FC
A AA
£(f):
FTun
Swp
Start 26.50 GHz
Stop 40.00 GHz
#Res BW 1 MHz
#VBW 1 MHz
Sweep 67.52 ms (601 pts)

Operation Mode:	Tx / IEEE 802.11n HT 40 MHz mode / 5230 MHz	**Test Date:**	January 18, 2016
Temperature:	27℃	**Tested by:**	Jason Lu
Humidity:	53% RH	**Polarity:**	Ver. / Hor.

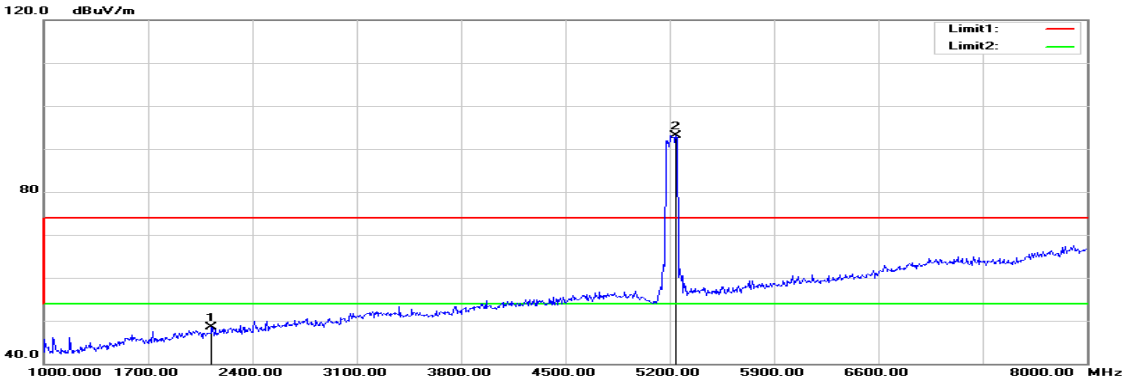
Frequency (MHz)	Reading (dBuV)	Correction (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark	Ant.Pol. (H/V)
2701.000	50.15	-2.71	47.44	74.00	-26.56	peak	V
N/A							
2610.000	49.60	-2.90	46.70	74.00	-27.30	peak	H
N/A							

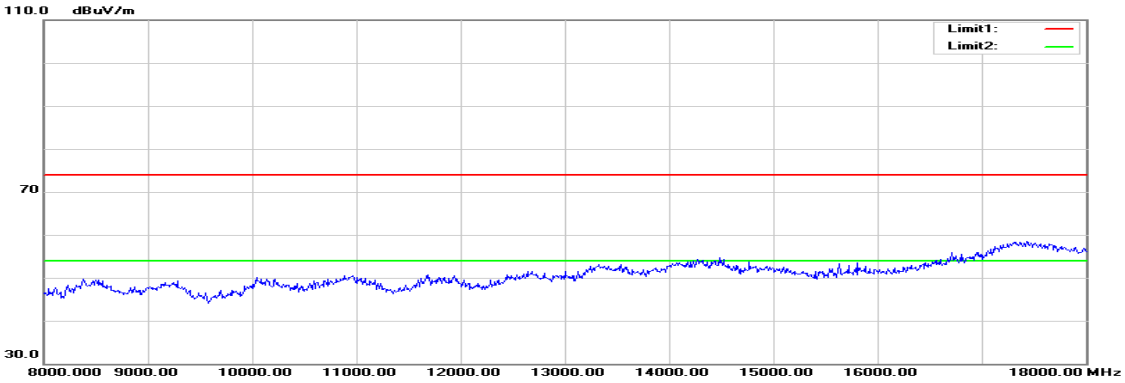
Remark:

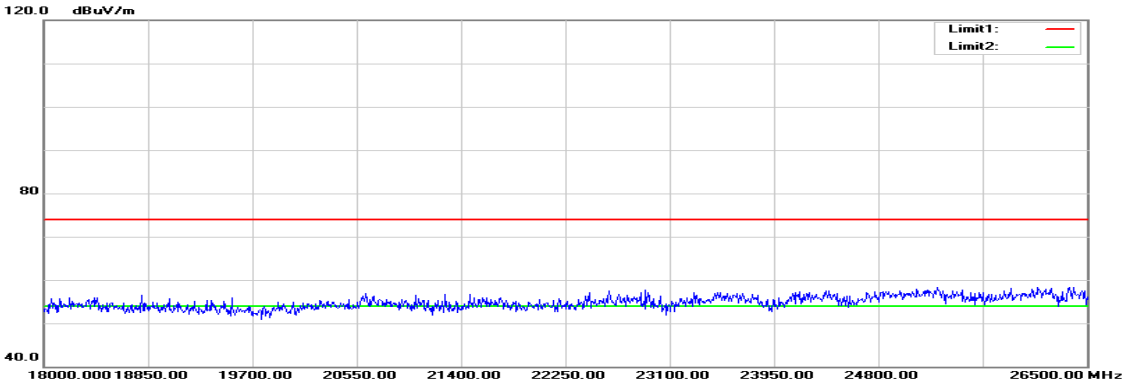
1. *Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.*
2. *Radiated emissions measured in frequency above 1000MHz were made with an instrument using peak/average detector mode.*
3. *Average test would be performed if the peak result were greater than the average limit.*
4. *Data of measurement within this frequency range shown " --- " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.*
5. *Measurements above show only up to 6 maximum emissions noted, or would be lesser, with " N/A " remark, if no specific emissions from the EUT are recorded (ie: margin>20dB from the applicable limit) and considered that's already beyond the background noise floor.*
6. *Margin (dB) = Remark result (dBuV/m) – Average limit (dBuV/m).*

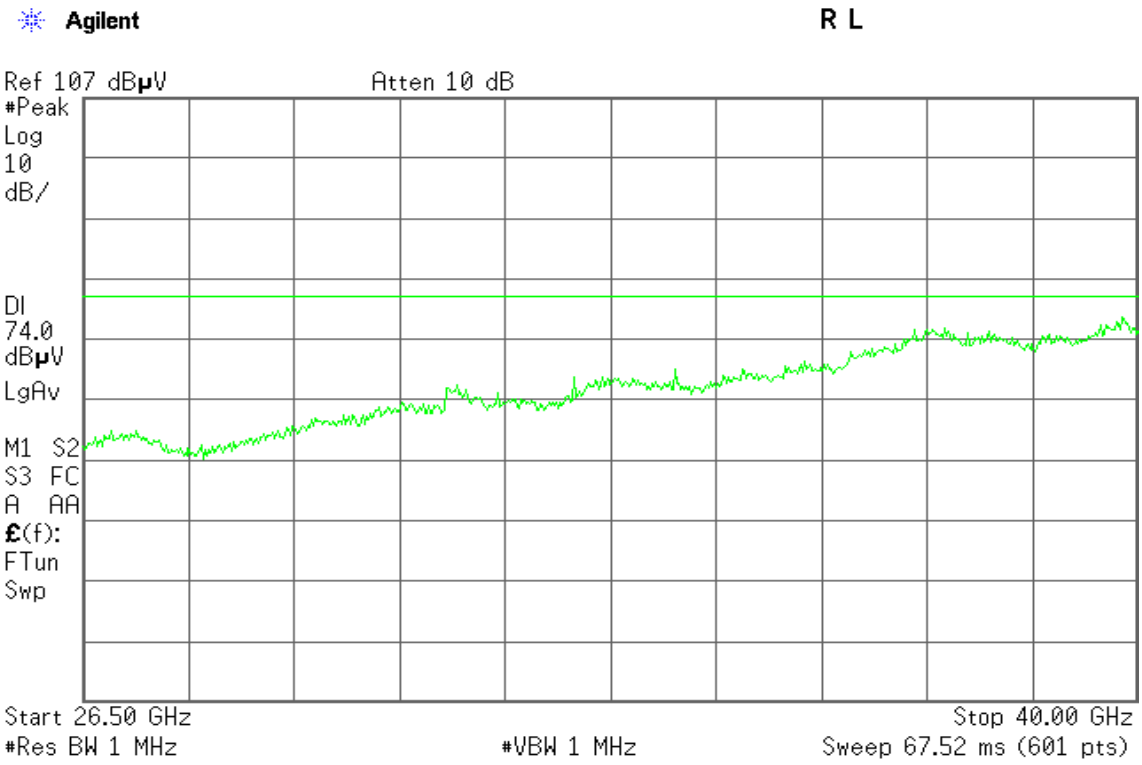
Tx / IEEE 802.11ac VHT 80 MHz mode / 5210MHz

Polarity: Vertical

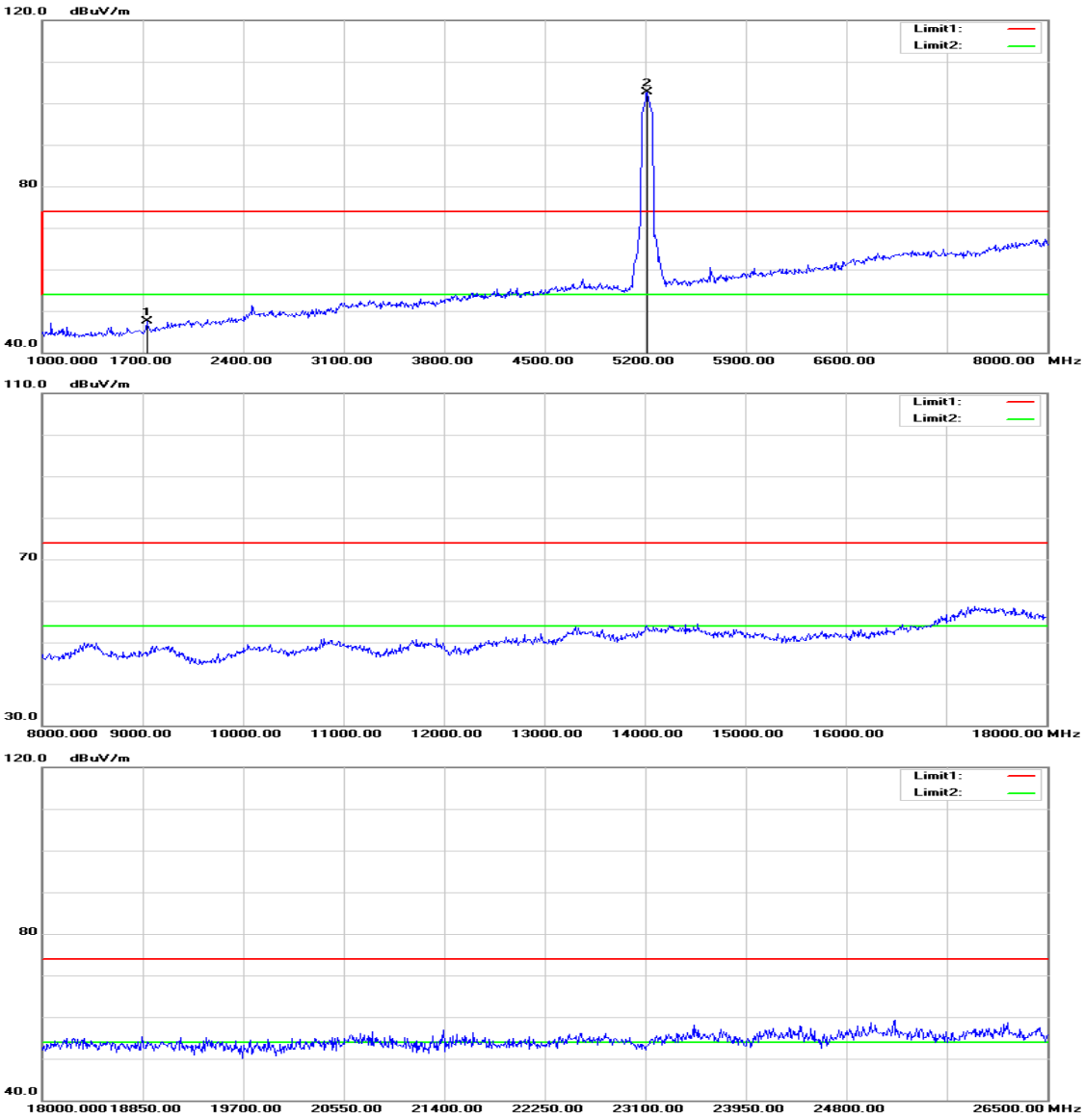


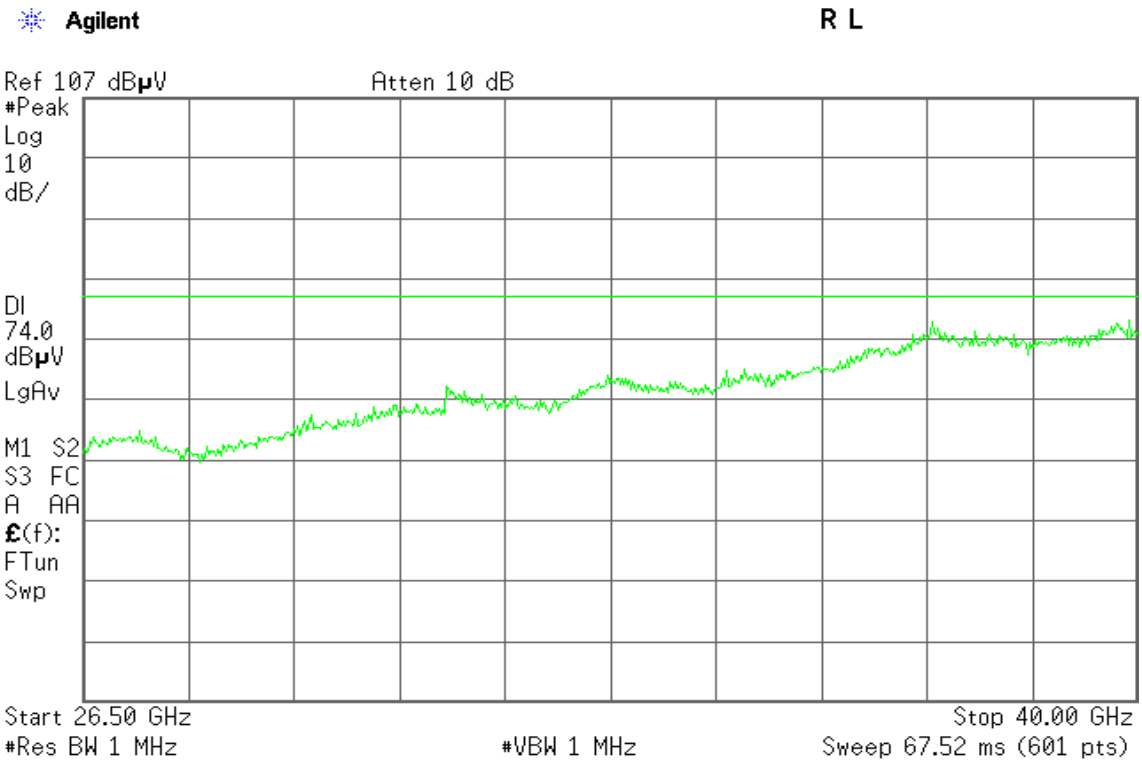





Agilent
R L
Ref 107 dBµV
Atten 10 dB
#Peak
Log
10
dB/
Dl
74.0
dBµV
LgAv
M1 S2
S3 FC
A AA
£(f):
FTun
Swp
Start 26.50 GHz
#Res BW 1 MHz
#VBW 1 MHz
Stop 40.00 GHz
Sweep 67.52 ms (601 pts)

Polarity: Horizontal




Agilent
R L
Ref 107 dBµV
Atten 10 dB
#Peak
Log
10
dB/
Dl
74.0
dBµV
LgAv
M1 S2
S3 FC
A AA
£(f):
FTun
Swp
Start 26.50 GHz
Stop 40.00 GHz
#Res BW 1 MHz
#VBW 1 MHz
Sweep 67.52 ms (601 pts)

Operation Mode:	Tx / IEEE 802.11ac VHT 80 MHz mode / 5210MHz	**Test Date:**	January 18, 2016
Temperature:	27℃	**Tested by:**	Jason Lu
Humidity:	53% RH	**Polarity:**	Ver. / Hor.

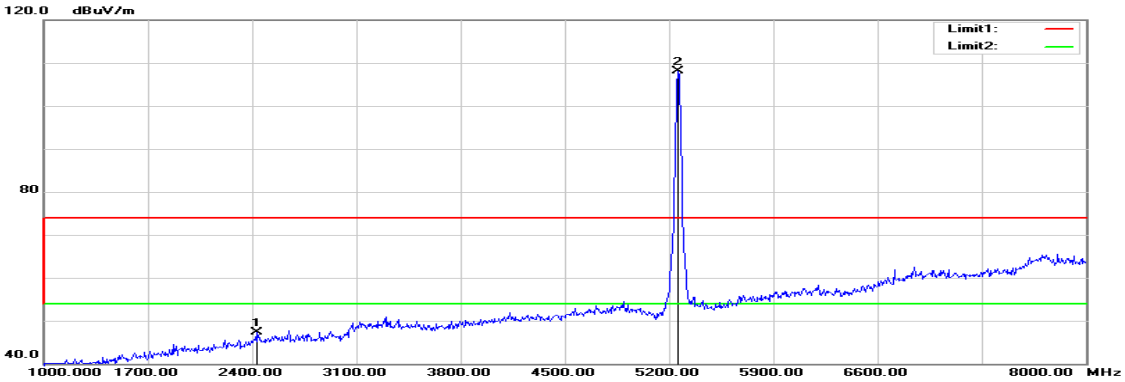
Frequency (MHz)	Reading (dBuV)	Correction (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark	Ant.Pol. (H/V)
2127.000	53.33	-4.83	48.50	74.00	-25.50	peak	V
N/A							
1728.000	53.79	-6.32	47.47	74.00	-26.53	peak	H
N/A							

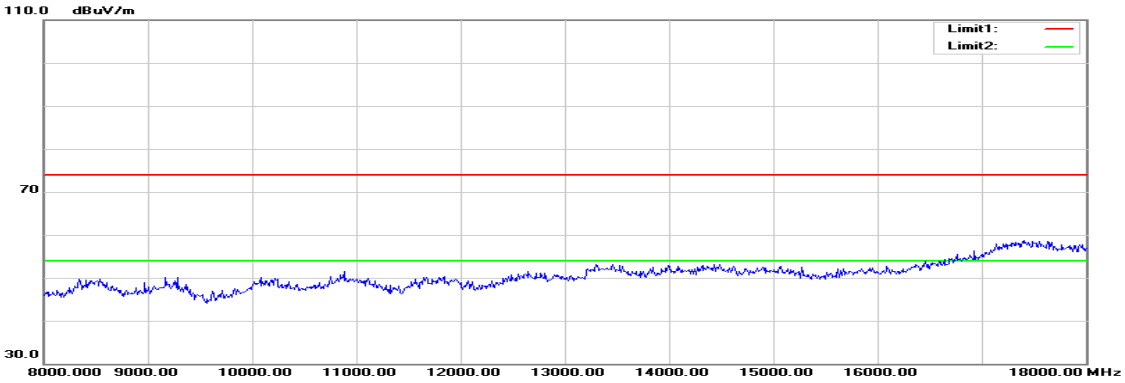
Remark:

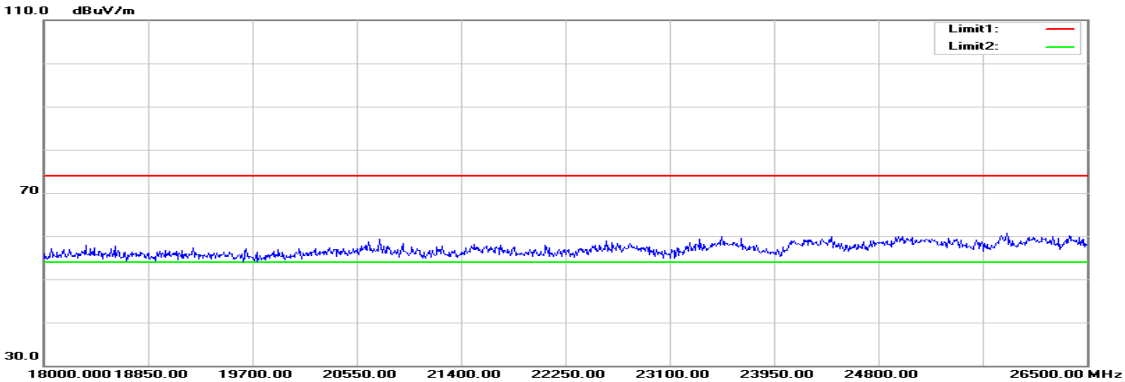
1. *Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.*
2. *Radiated emissions measured in frequency above 1000MHz were made with an instrument using peak/average detector mode.*
3. *Average test would be performed if the peak result were greater than the average limit.*
4. *Data of measurement within this frequency range shown " --- " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.*
5. *Measurements above show only up to 6 maximum emissions noted, or would be lesser, with " N/A " remark, if no specific emissions from the EUT are recorded (ie: margin>20dB from the applicable limit) and considered that's already beyond the background noise floor.*
6. *Margin (dB) = Remark result (dBuV/m) – Average limit (dBuV/m).*

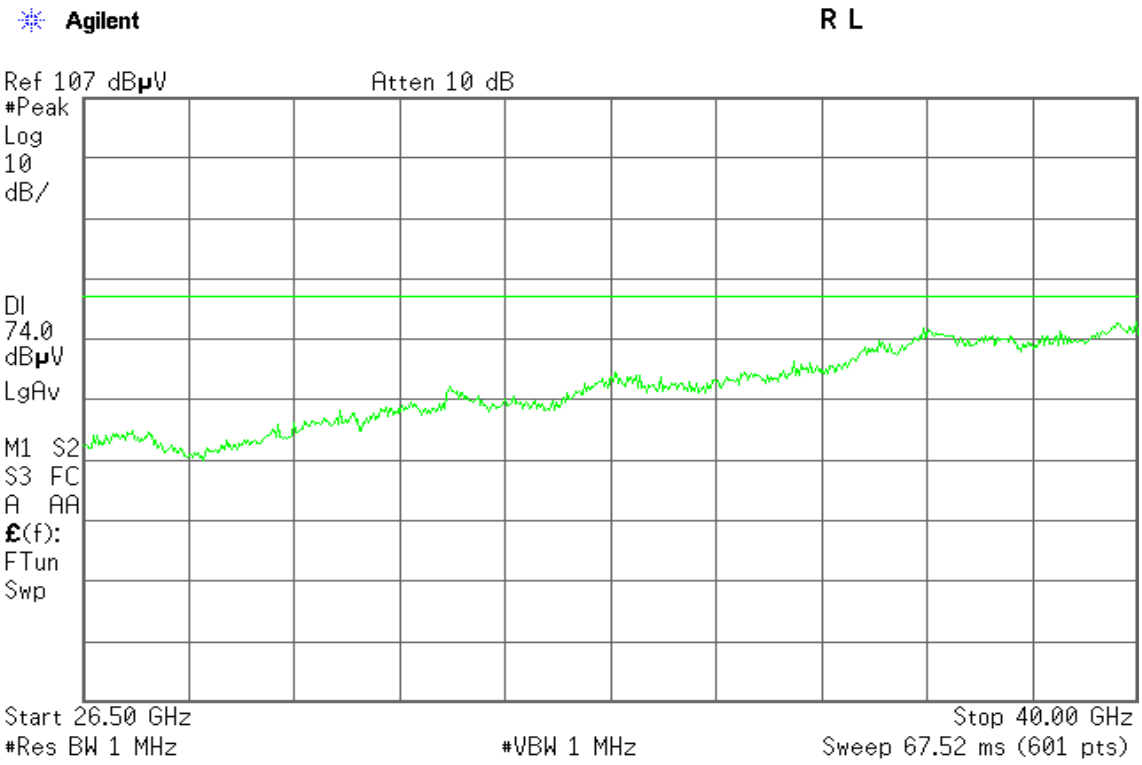
Tx / IEEE 802.11a mode / 5260 MHz

Polarity: Vertical

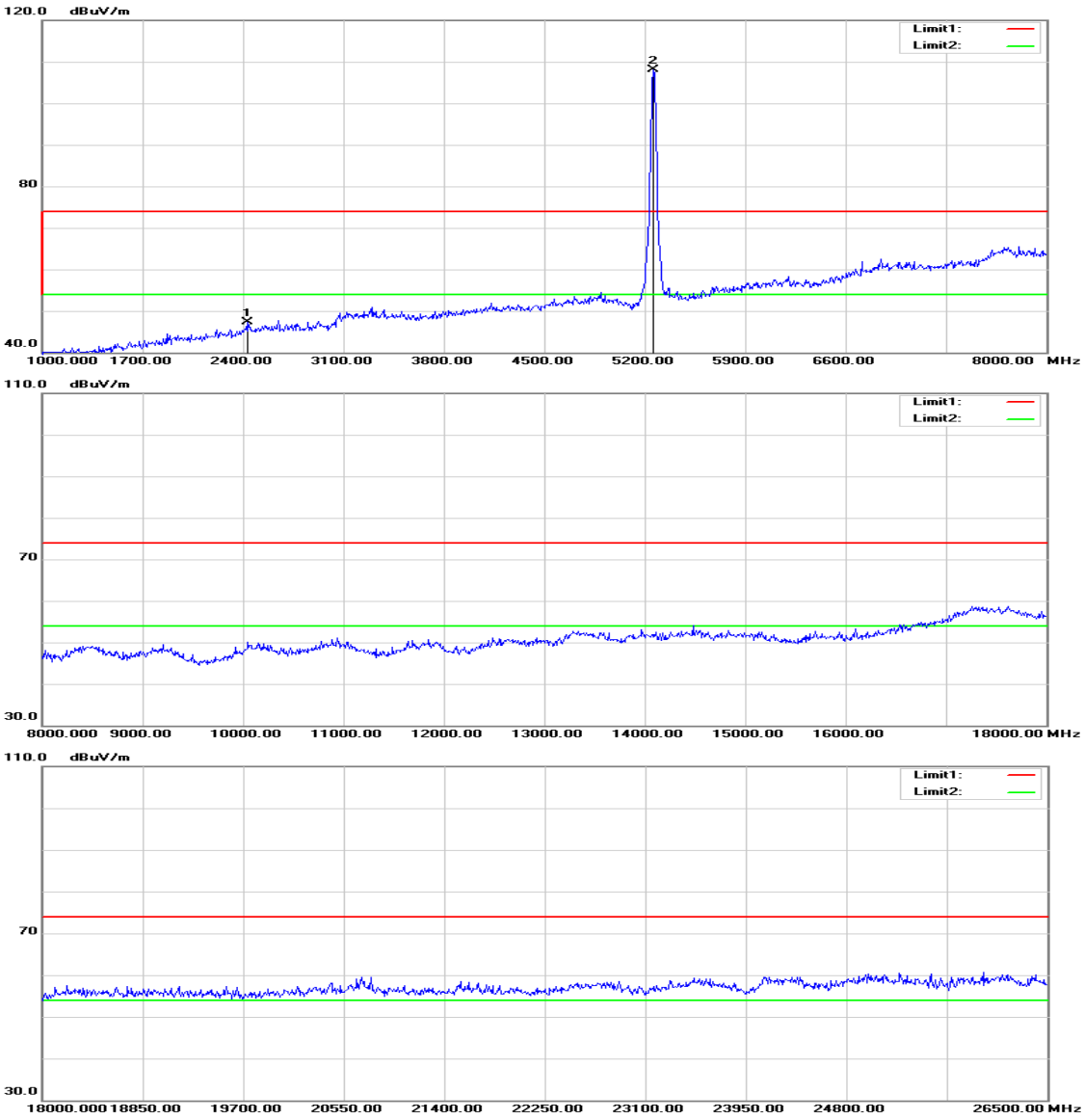


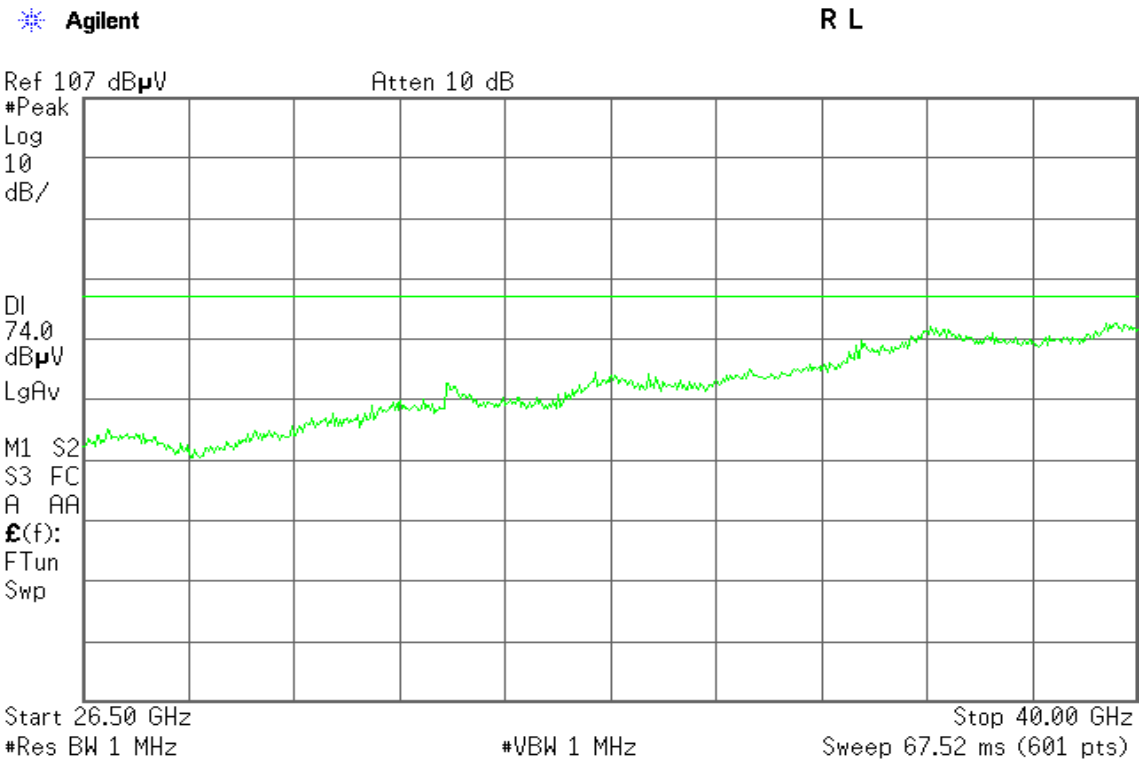





Agilent
R L
Ref 107 dBµV
Atten 10 dB
#Peak
Log
10
dB/
Dl
74.0
dBµV
LgAv
M1 S2
S3 FC
A AA
£(f):
FTun
Swp
Start 26.50 GHz
#Res BW 1 MHz
#VBW 1 MHz
Stop 40.00 GHz
Sweep 67.52 ms (601 pts)

Polarity: Horizontal




Agilent
R L
Ref 107 dBµV
Atten 10 dB
#Peak
Log
10
dB/
Dl
74.0
dBµV
LgAv
M1 S2
S3 FC
A AA
£(f):
FTun
Swp
Start 26.50 GHz
Stop 40.00 GHz
#Res BW 1 MHz
#VBW 1 MHz
Sweep 67.52 ms (601 pts)

Operation Mode: Tx / IEEE 802.11a mode / 5260 MHz **Test Date:** January 18, 2016

Temperature: 27℃ **Tested by:** Jason Lu

Humidity: 53% RH **Polarity:** Ver. / Hor.

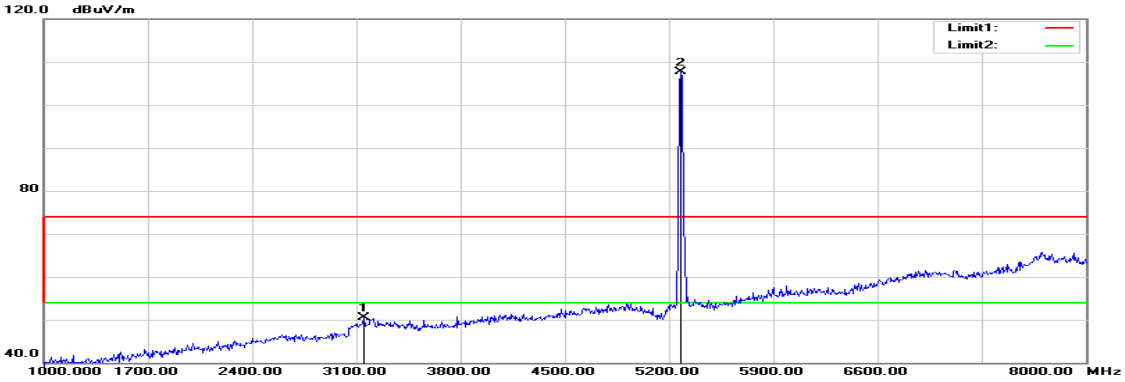
Frequency (MHz)	Reading (dBuV)	Correction (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark	Ant.Pol. (H/V)
2428.000	50.85	-3.58	47.27	74.00	-26.73	peak	V
N/A							
2491.000	49.66	-3.20	46.46	74.00	-27.54	peak	H
N/A							

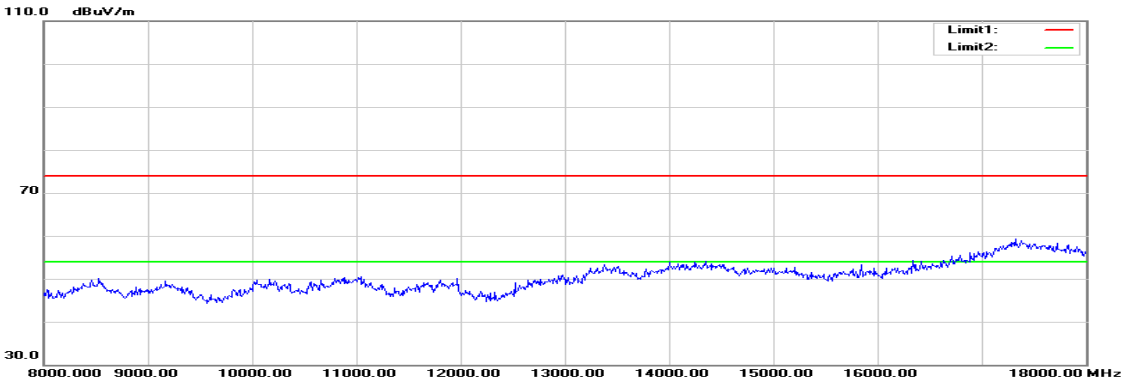
Remark:

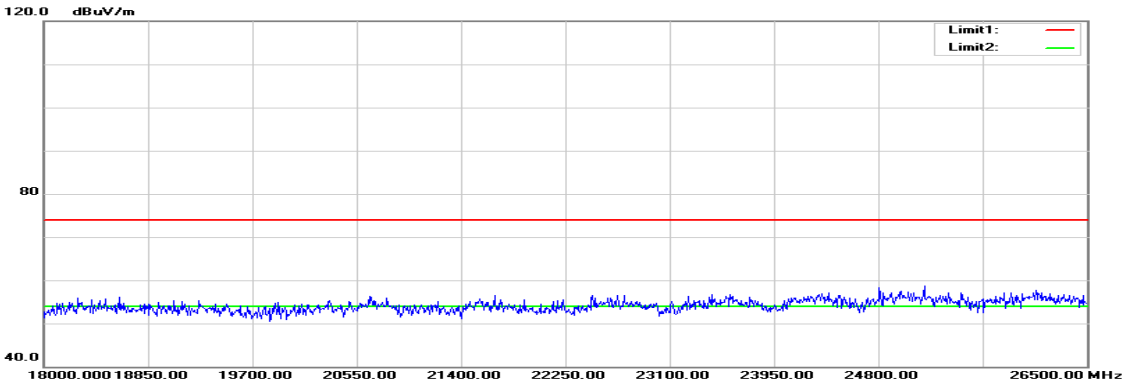
1. *Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.*
2. *Radiated emissions measured in frequency above 1000MHz were made with an instrument using peak/average detector mode.*
3. *Average test would be performed if the peak result were greater than the average limit.*
4. *Data of measurement within this frequency range shown " --- " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.*
5. *Measurements above show only up to 6 maximum emissions noted, or would be lesser, with " N/A " remark, if no specific emissions from the EUT are recorded (ie: margin>20dB from the applicable limit) and considered that's already beyond the background noise floor.*
6. *Margin (dB) = Remark result (dBuV/m) – Average limit (dBuV/m).*

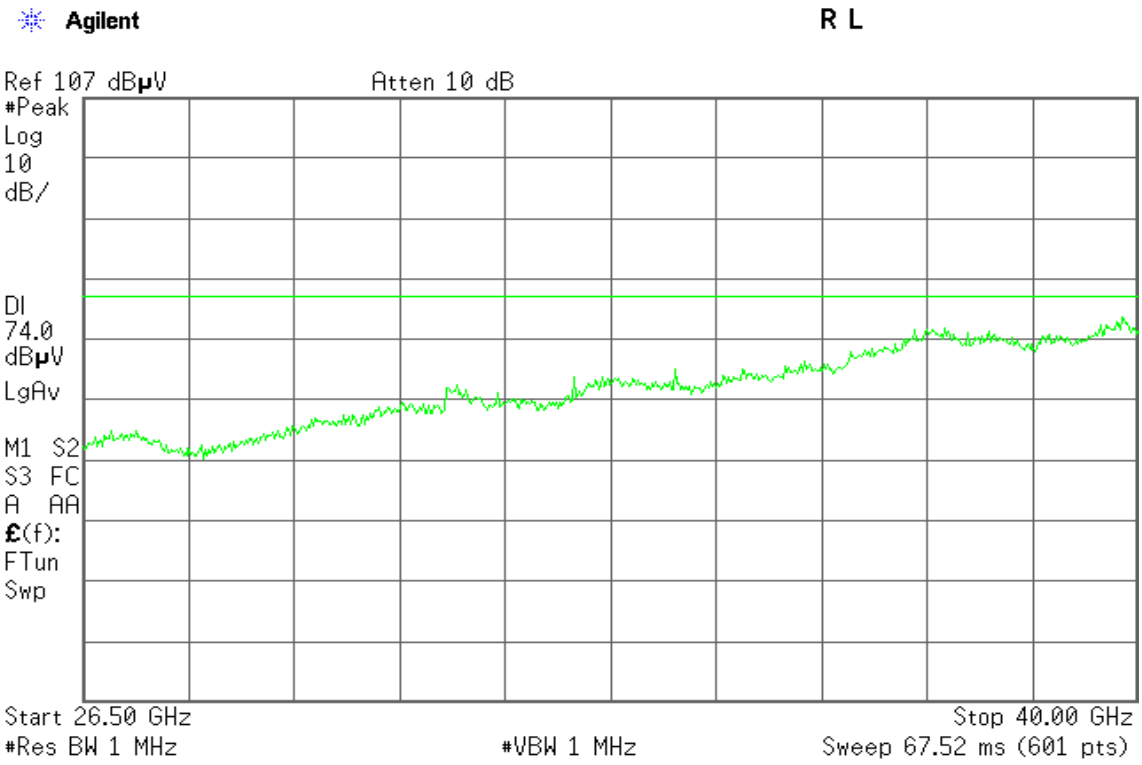
Tx / IEEE 802.11a mode / 5280 MHz

Polarity: Vertical

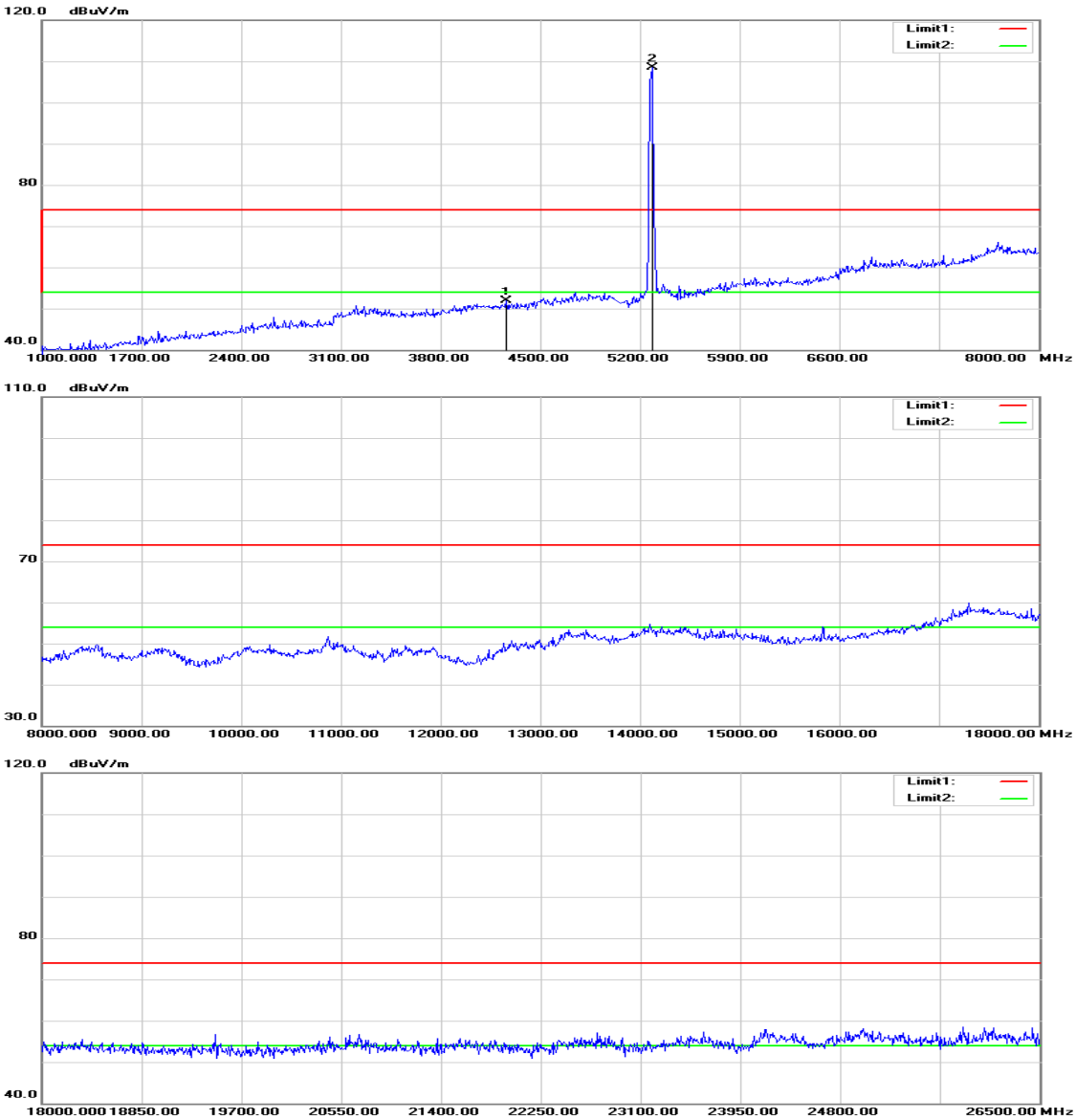


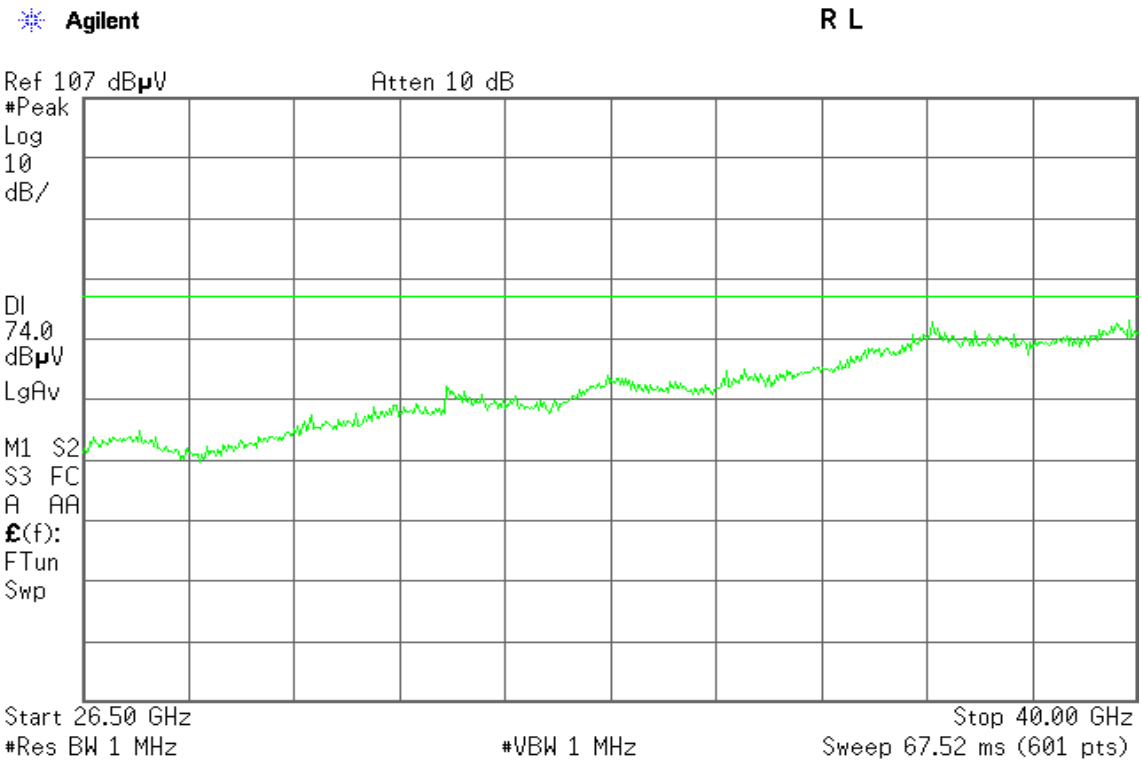





Agilent
R L
Ref 107 dBµV
Atten 10 dB
#Peak
Log
10
dB/
Dl
74.0
dBµV
LgAv
M1 S2
S3 FC
A AA
£(f):
FTun
Swp
Start 26.50 GHz
Stop 40.00 GHz
#Res BW 1 MHz
#VBW 1 MHz
Sweep 67.52 ms (601 pts)

Polarity: Horizontal




Agilent
R L
Ref 107 dBµV
Atten 10 dB
#Peak
Log
10
dB/
Dl
74.0
dBµV
LgAv
M1 S2
S3 FC
A AA
£(f):
FTun
Swp
Start 26.50 GHz
Stop 40.00 GHz
#Res BW 1 MHz
#VBW 1 MHz
Sweep 67.52 ms (601 pts)

Operation Mode: Tx / IEEE 802.11a mode / 5280 MHz **Test Date:** January 18, 2016

Temperature: 27℃ **Tested by:** Jason Lu

Humidity: 53% RH **Polarity:** Ver. / Hor.

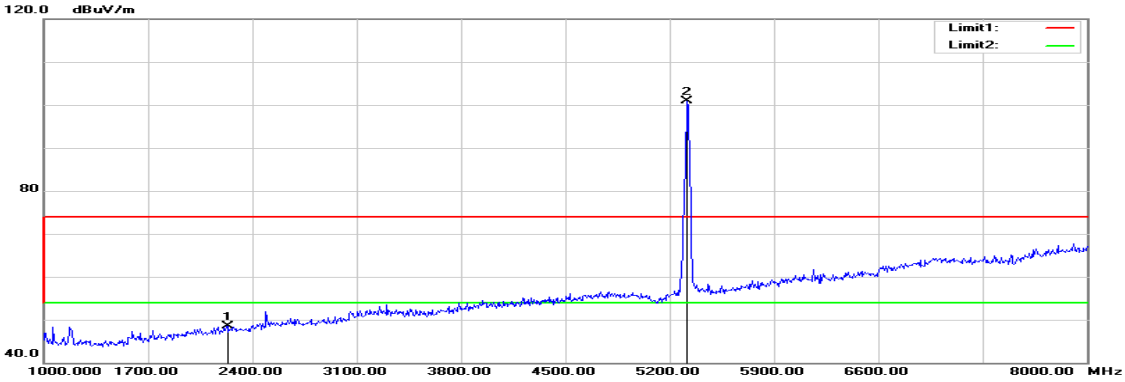
Frequency (MHz)	Reading (dBuV)	Correction (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark	Ant.Pol. (H/V)
3149.000	52.34	-1.75	50.59	74.00	-23.41	peak	V
N/A							
4262.000	49.63	2.22	51.85	74.00	-22.15	peak	H
N/A							

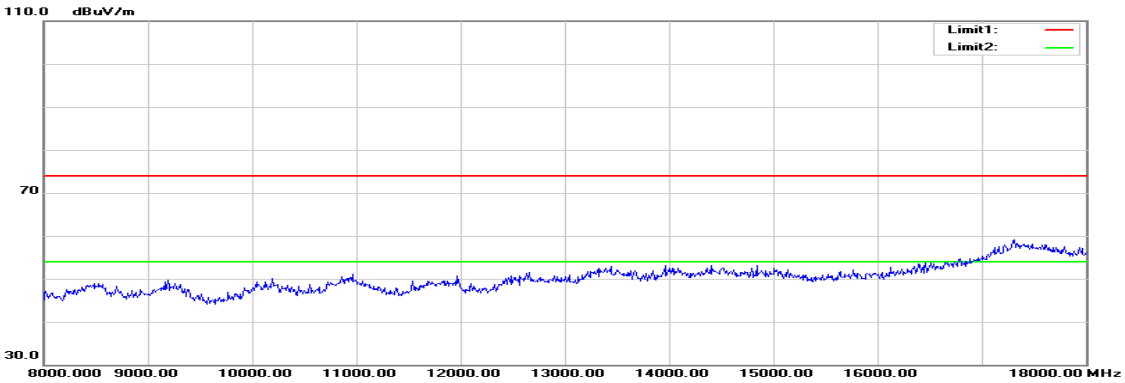
Remark:

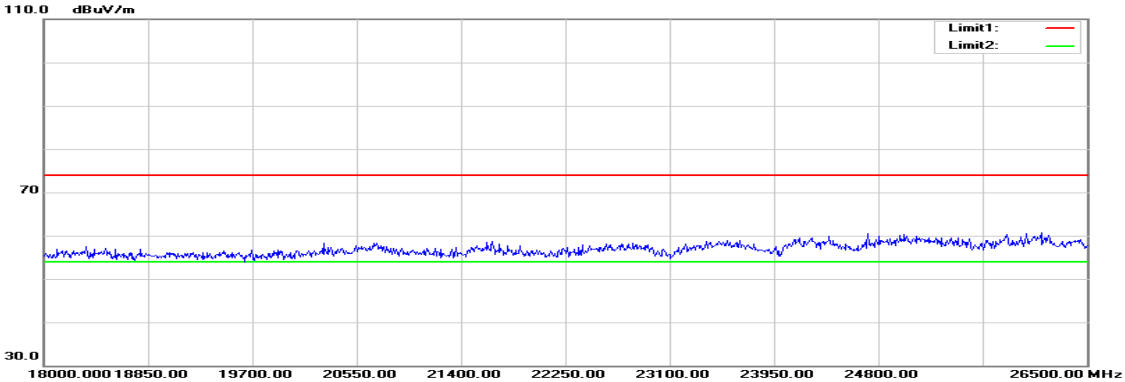
1. *Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.*
2. *Radiated emissions measured in frequency above 1000MHz were made with an instrument using peak/average detector mode.*
3. *Average test would be performed if the peak result were greater than the average limit.*
4. *Data of measurement within this frequency range shown " --- " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.*
5. *Measurements above show only up to 6 maximum emissions noted, or would be lesser, with " N/A " remark, if no specific emissions from the EUT are recorded (ie: margin>20dB from the applicable limit) and considered that's already beyond the background noise floor.*
6. *Margin (dB) = Remark result (dBuV/m) – Average limit (dBuV/m).*

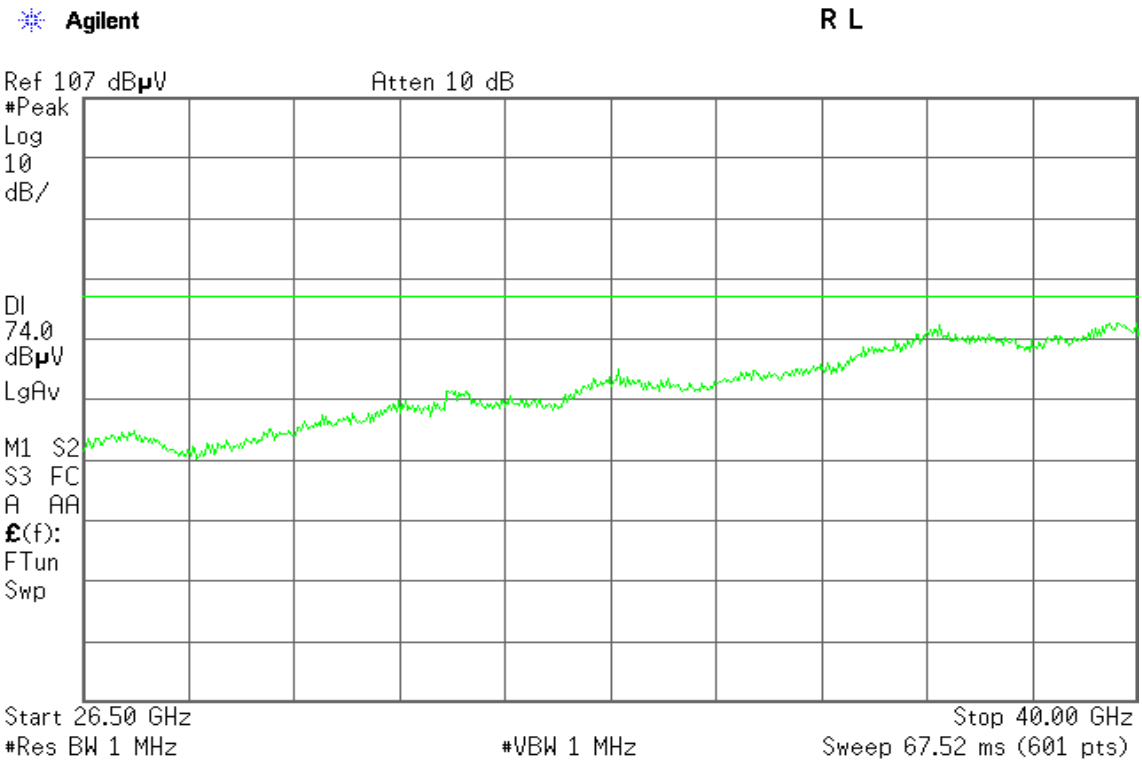
Tx / IEEE 802.11a mode / 5320 MHz

Polarity: Vertical

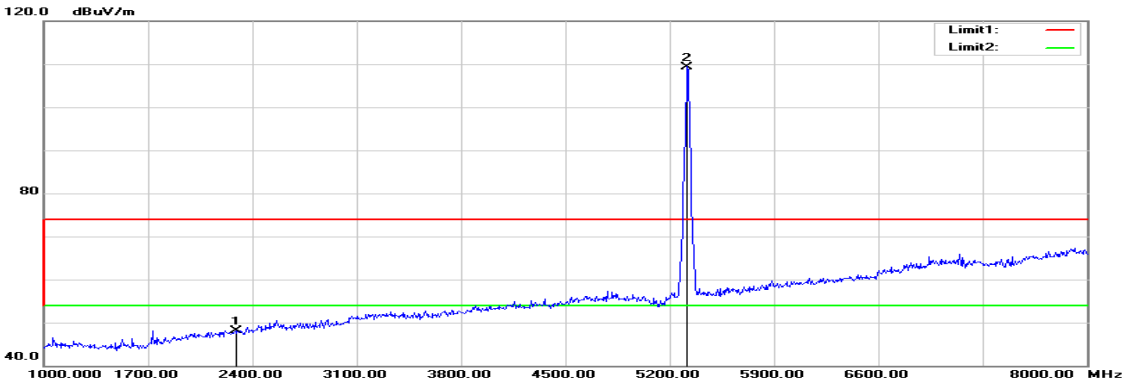


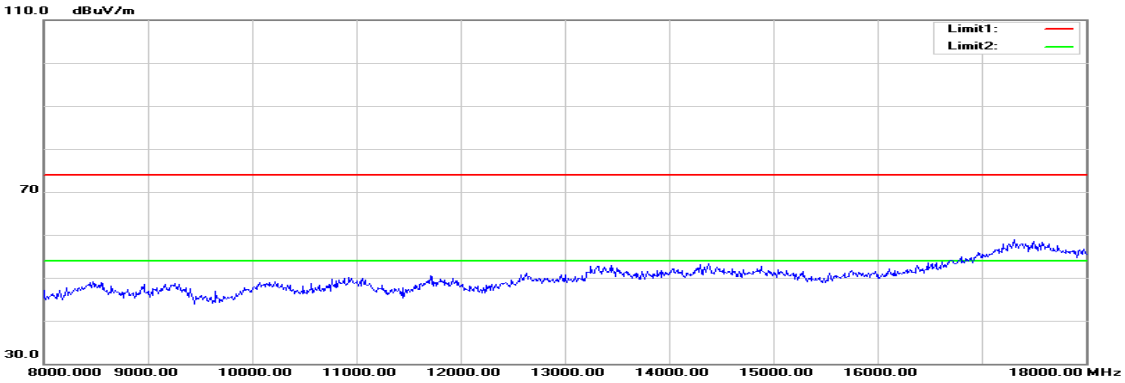


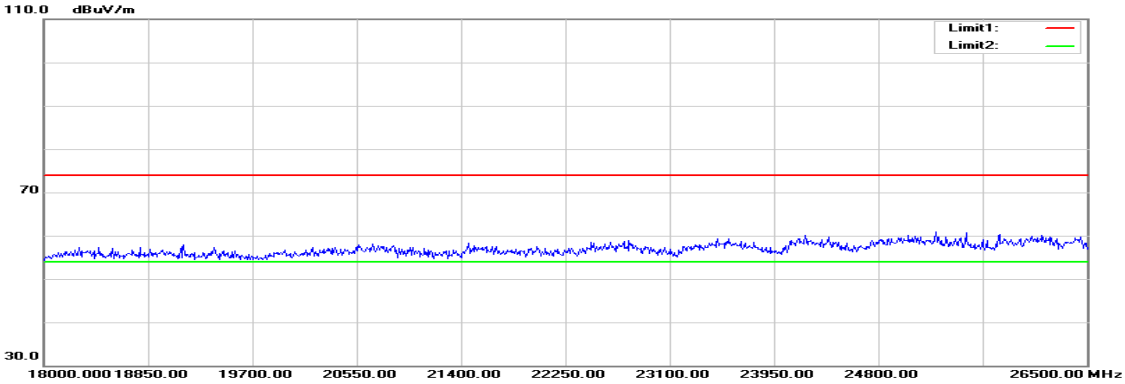


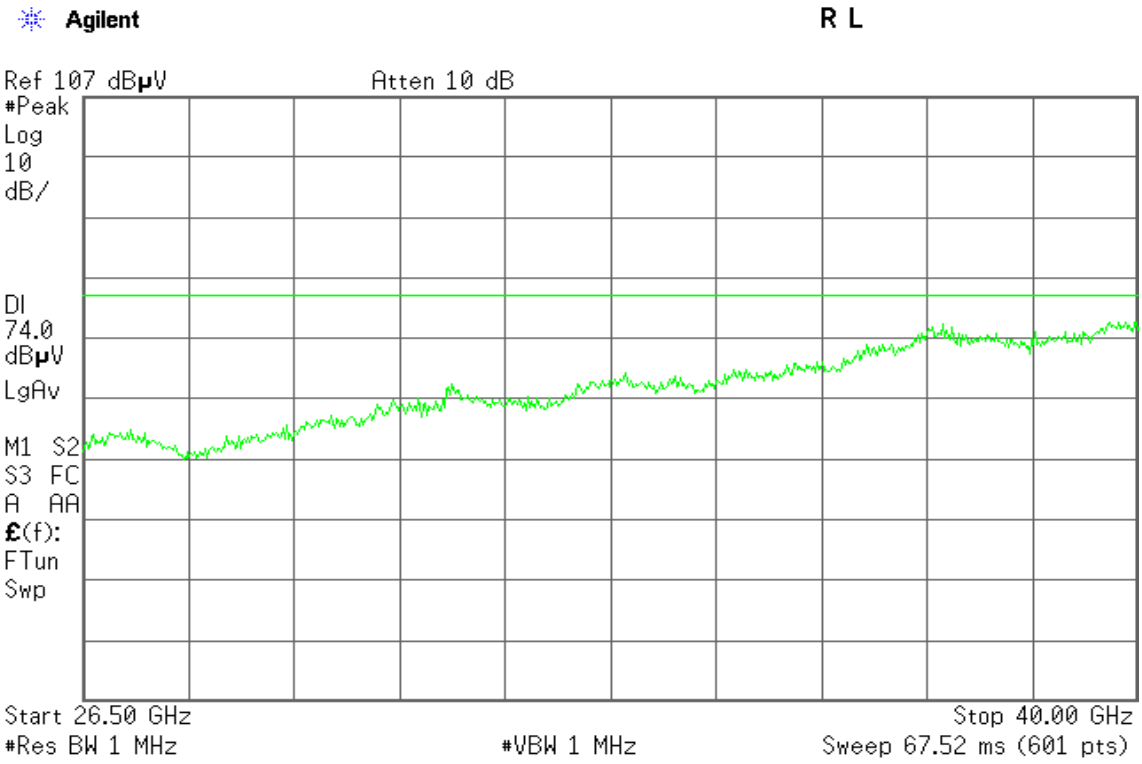

Agilent
R L
Ref 107 dBµV
Atten 10 dB
#Peak
Log
10
dB/
Dl
74.0
dBµV
LgAv
M1 S2
S3 FC
A AA
£(f):
FTun
Swp
Start 26.50 GHz
Stop 40.00 GHz
#Res BW 1 MHz
#VBW 1 MHz
Sweep 67.52 ms (601 pts)

Polarity: Horizontal








Agilent
R L
Ref 107 dBµV
Atten 10 dB
#Peak
Log
10
dB/
Dl
74.0
dBµV
LgAv
M1 S2
S3 FC
A AA
£(f):
FTun
Swp
Start 26.50 GHz
Stop 40.00 GHz
#Res BW 1 MHz
#VBW 1 MHz
Sweep 67.52 ms (601 pts)

Operation Mode:	Tx / IEEE 802.11a mode / 5320 MHz	**Test Date:**	January 18, 2016
Temperature:	27℃	**Tested by:**	Jason Lu
Humidity:	53% RH	**Polarity:**	Ver. / Hor.

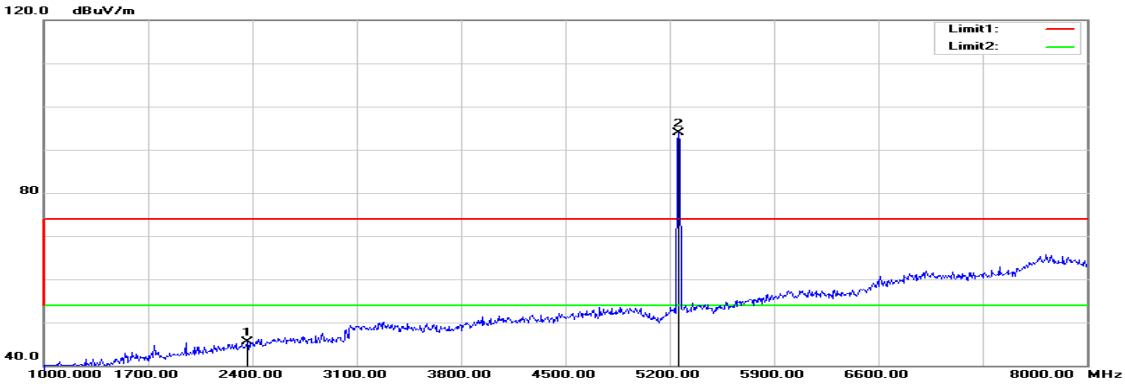
Frequency (MHz)	Reading (dBuV)	Correction (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark	Ant.Pol. (H/V)
2232.000	52.87	-4.39	48.48	74.00	-25.52	peak	V
N/A							
2288.000	52.49	-4.31	48.18	74.00	-25.82	peak	H
N/A							

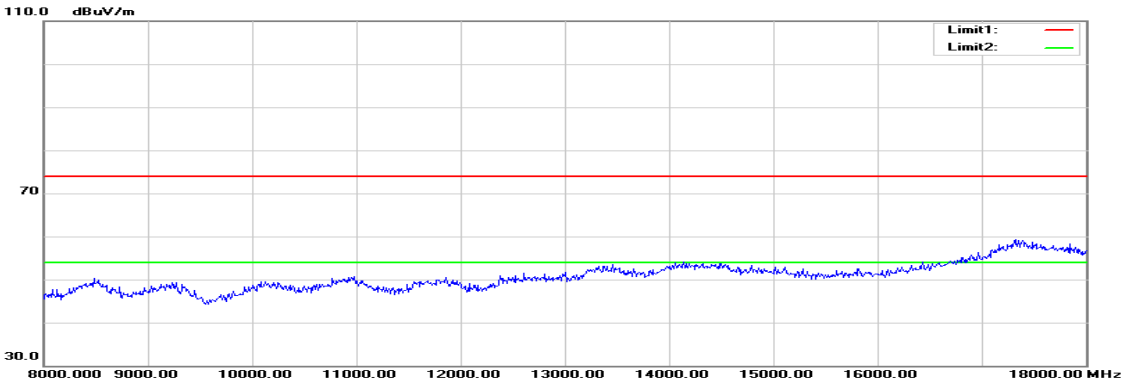
Remark:

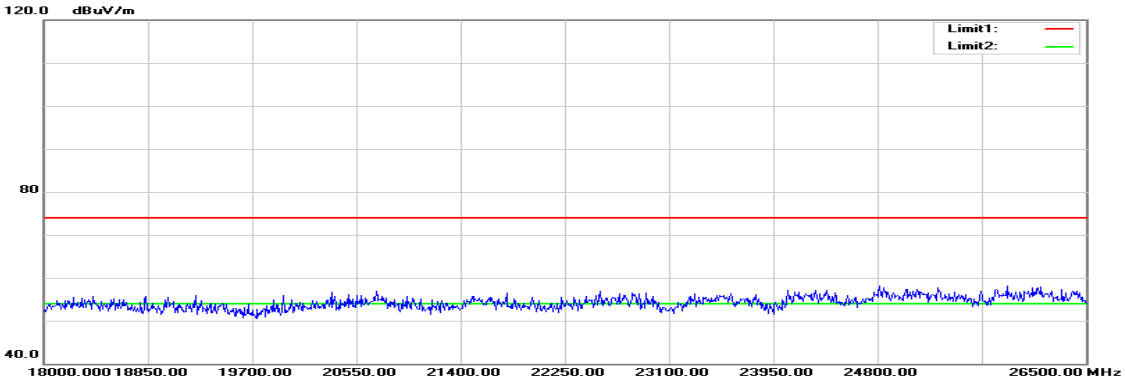
1. *Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.*
2. *Radiated emissions measured in frequency above 1000MHz were made with an instrument using peak/average detector mode.*
3. *Average test would be performed if the peak result were greater than the average limit.*
4. *Data of measurement within this frequency range shown " --- " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.*
5. *Measurements above show only up to 6 maximum emissions noted, or would be lesser, with " N/A " remark, if no specific emissions from the EUT are recorded (ie: margin>20dB from the applicable limit) and considered that's already beyond the background noise floor.*
6. *Margin (dB) = Remark result (dBuV/m) – Average limit (dBuV/m).*

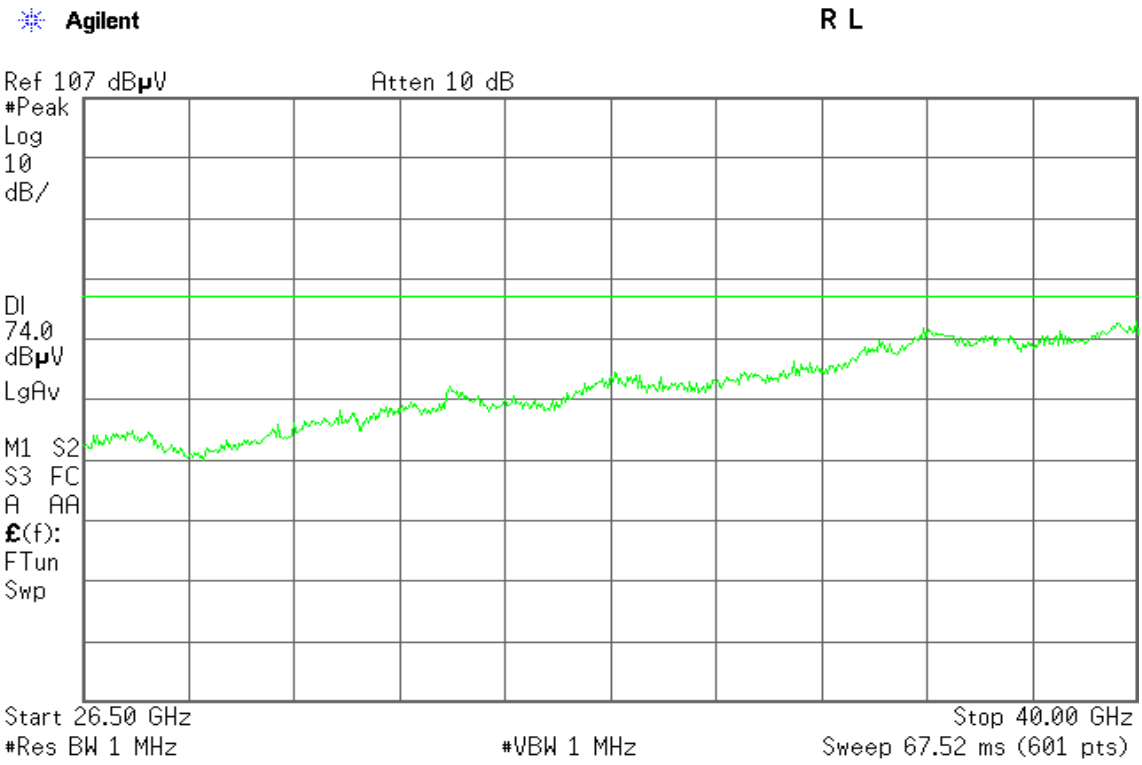
Tx / IEEE 802.11n HT 20 MHz Channel mode / 5260 MHz

Polarity: Vertical

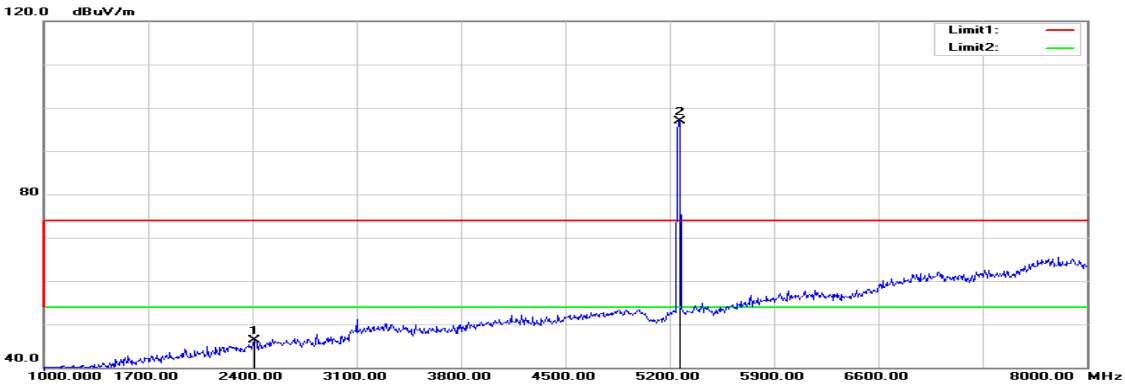


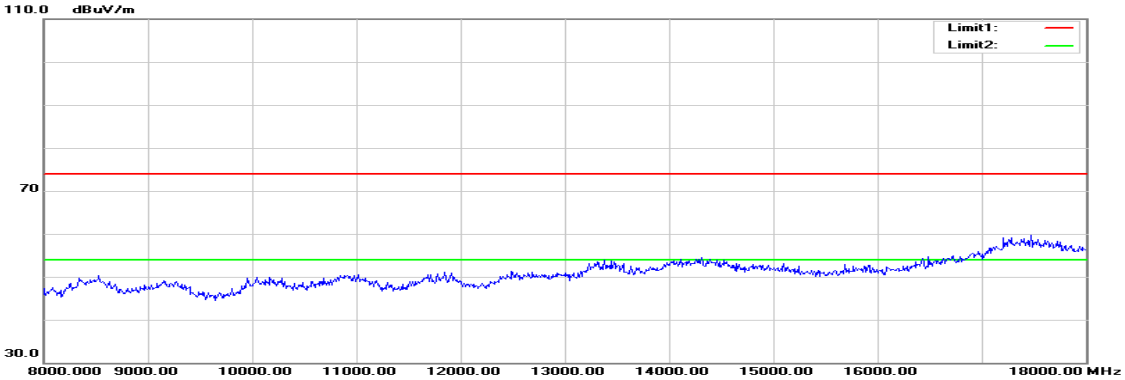


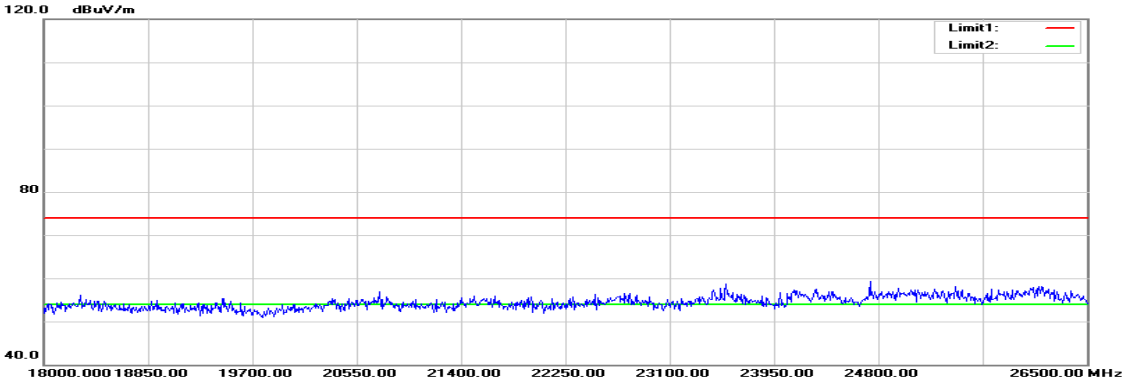


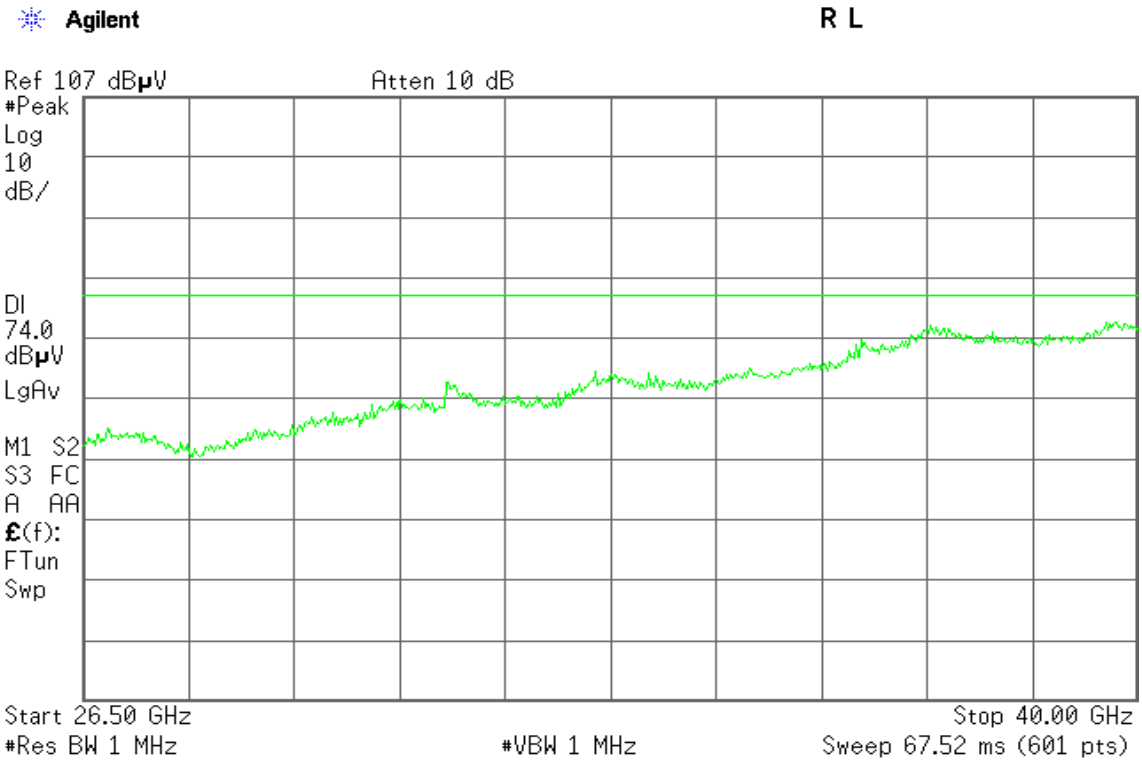

Agilent
R L
Ref 107 dBµV
Atten 10 dB
#Peak
Log
10
dB/
Dl
74.0
dBµV
LgAv
M1 S2
S3 FC
A AA
£(f):
FTun
Swp
Start 26.50 GHz
Stop 40.00 GHz
#Res BW 1 MHz
#VBW 1 MHz
Sweep 67.52 ms (601 pts)

Polarity: Horizontal








Agilent
R L
Ref 107 dBµV
Atten 10 dB
#Peak
Log
10
dB/
Dl
74.0
dBµV
LgAv
M1 S2
S3 FC
A AA
£(f):
FTun
Swp
Start 26.50 GHz
Stop 40.00 GHz
#Res BW 1 MHz
#VBW 1 MHz
Sweep 67.52 ms (601 pts)

Operation Mode:	Tx / IEEE 802.11n HT 20 MHz mode / 5260 MHz	**Test Date:**	January 18, 2016
Temperature:	27℃	**Tested by:**	Jason Lu
Humidity:	53% RH	**Polarity:**	Ver. / Hor.

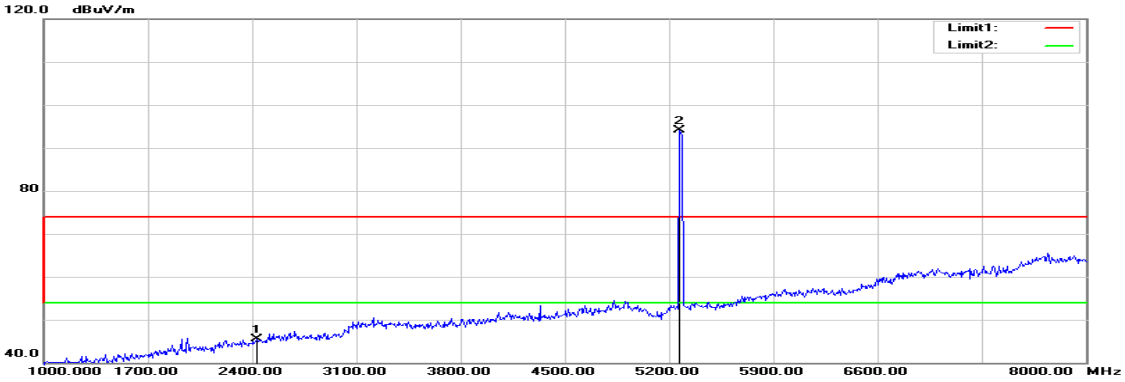
Frequency (MHz)	Reading (dBuV)	Correction (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark	Ant.Pol. (H/V)
2365.000	49.47	-4.01	45.46	74.00	-28.54	peak	V
N/A							
2414.000	50.07	-3.68	46.39	74.00	-27.61	peak	H
N/A							

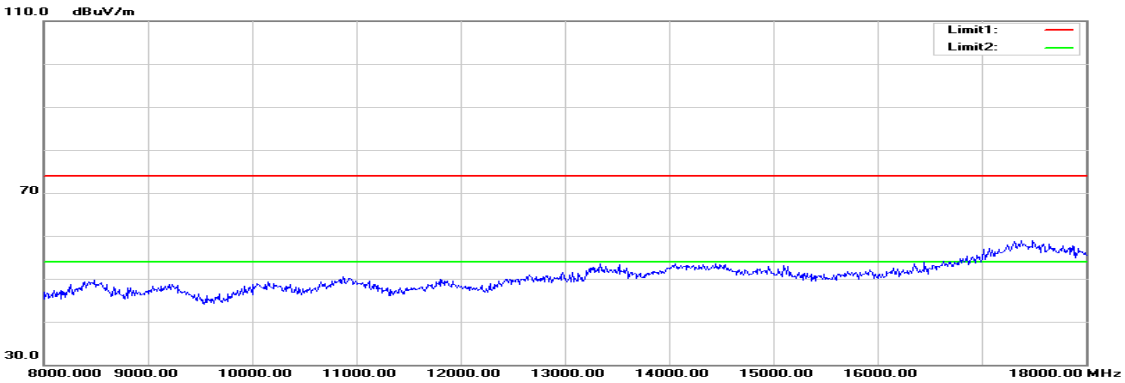
Remark:

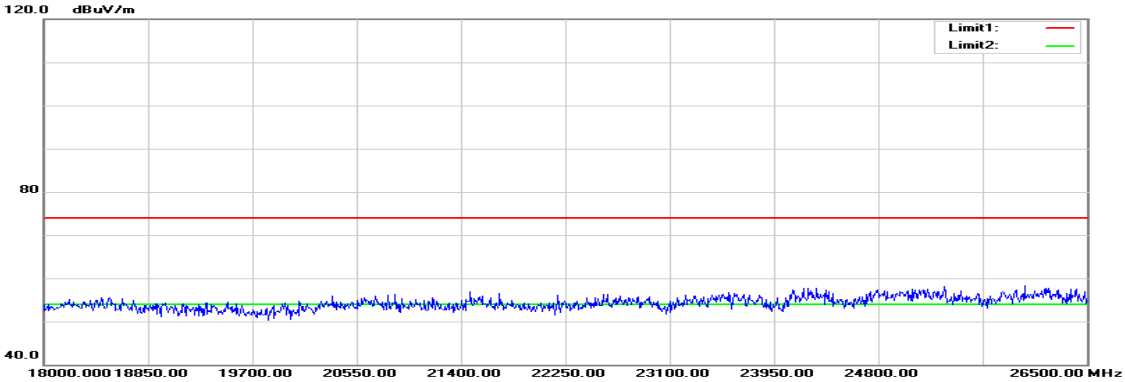
1. *Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.*
2. *Radiated emissions measured in frequency above 1000MHz were made with an instrument using peak/average detector mode.*
3. *Average test would be performed if the peak result were greater than the average limit.*
4. *Data of measurement within this frequency range shown " --- " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.*
5. *Measurements above show only up to 6 maximum emissions noted, or would be lesser, with " N/A " remark, if no specific emissions from the EUT are recorded (ie: margin>20dB from the applicable limit) and considered that's already beyond the background noise floor.*
6. *Margin (dB) = Remark result (dBuV/m) – Average limit (dBuV/m).*

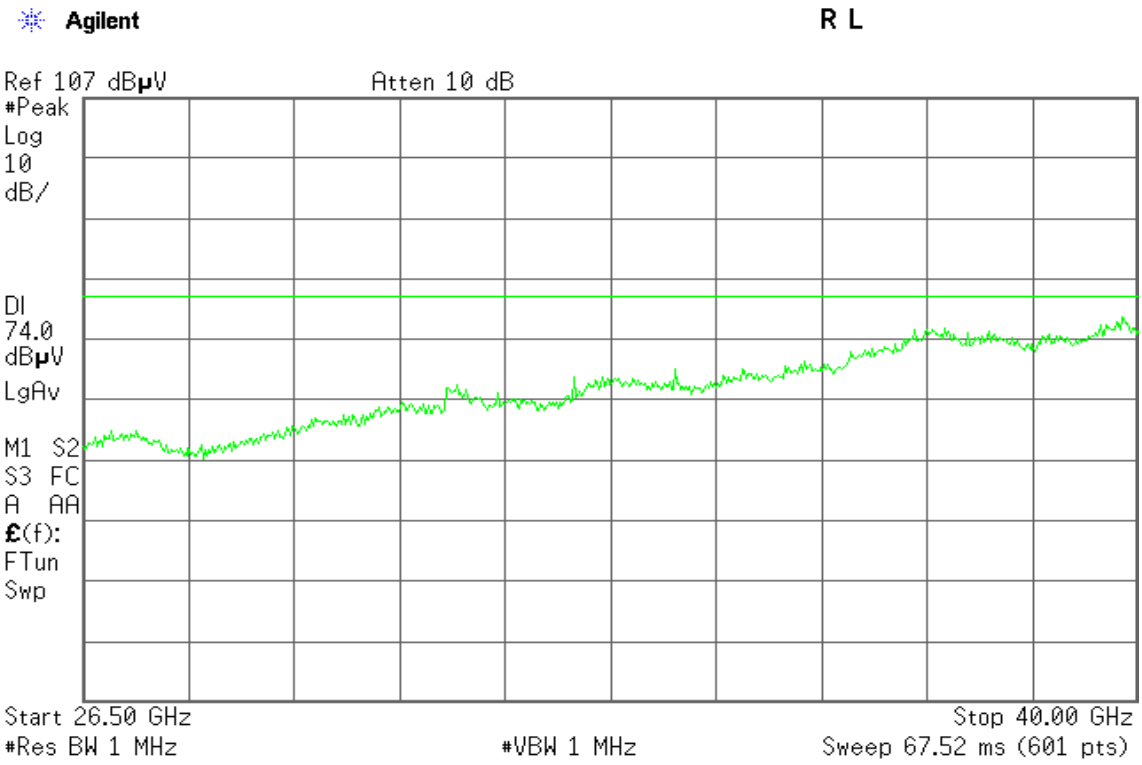
Tx / IEEE 802.11n HT 20 MHz Channel mode / 5280 MHz

Polarity: Vertical

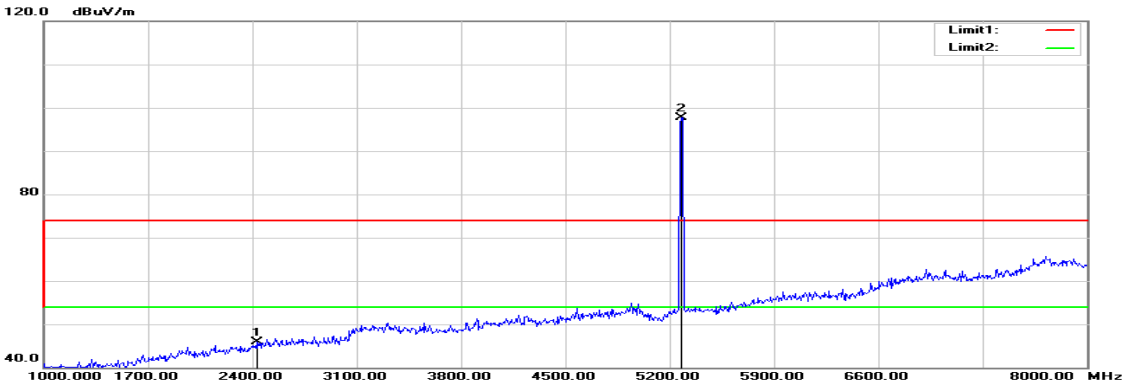


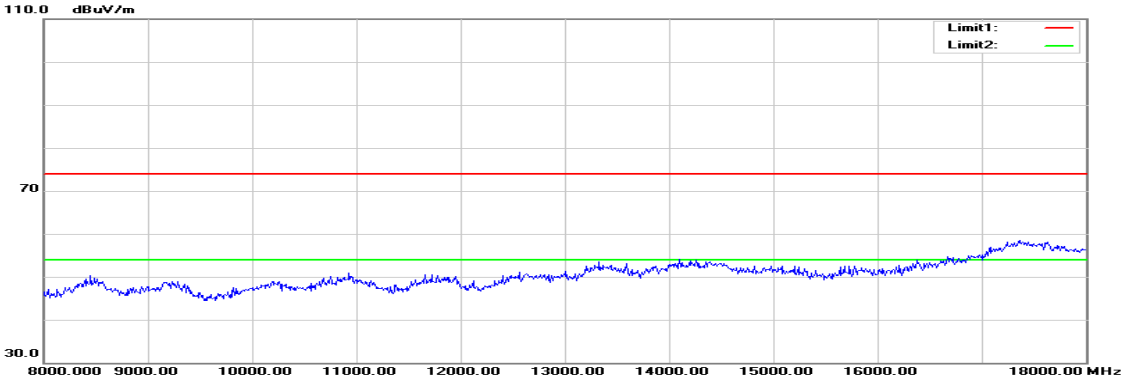


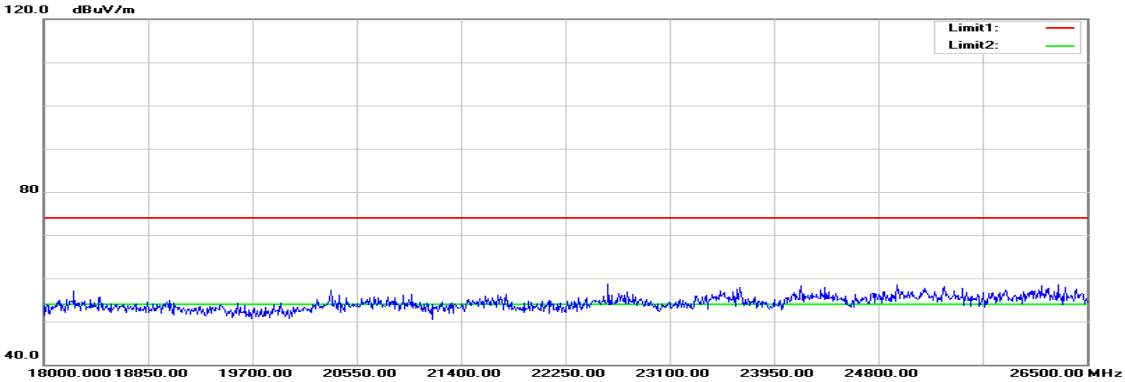


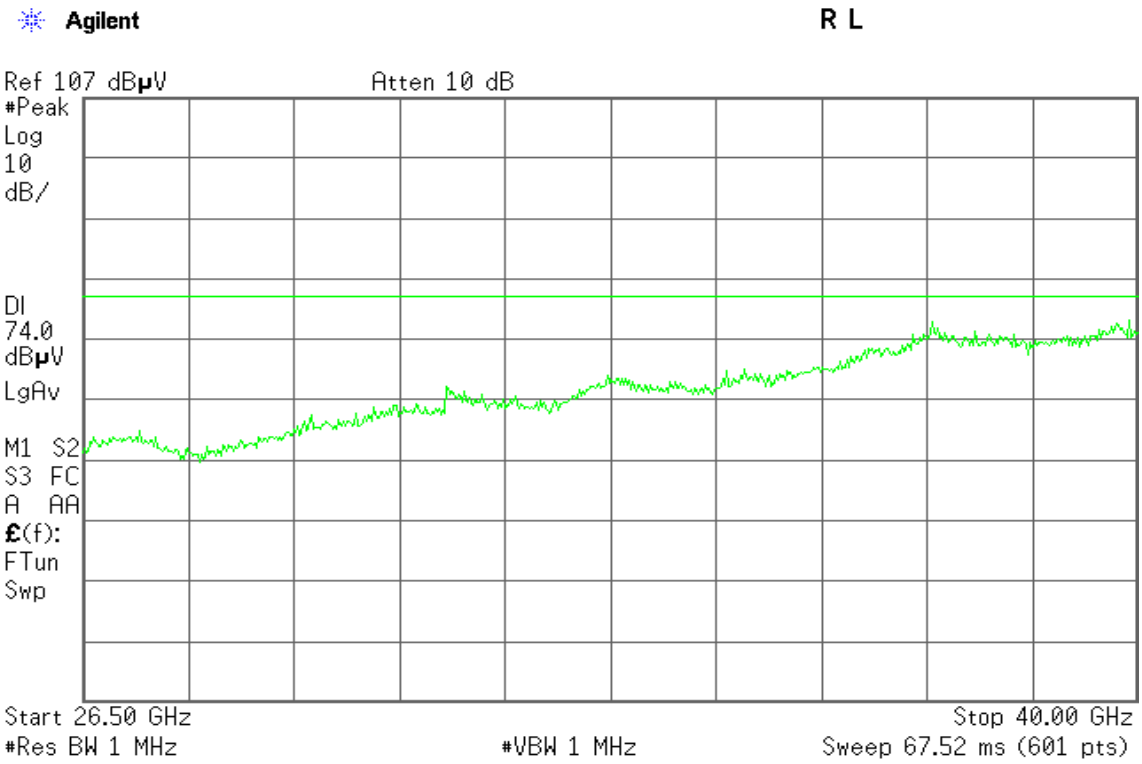

Agilent
R L
Ref 107 dBµV
Atten 10 dB
#Peak
Log
10
dB/
Dl
74.0
dBµV
LgAv
M1 S2
S3 FC
A AA
£(f):
FTun
Swp
Start 26.50 GHz
Stop 40.00 GHz
#Res BW 1 MHz
#VBW 1 MHz
Sweep 67.52 ms (601 pts)

Polarity: Horizontal








Agilent
R L
Ref 107 dBµV
Atten 10 dB
#Peak
Log
10
dB/
Dl
74.0
dBµV
LgAv
M1 S2
S3 FC
A AA
£(f):
FTun
Swp
Start 26.50 GHz
Stop 40.00 GHz
#Res BW 1 MHz
#VBW 1 MHz
Sweep 67.52 ms (601 pts)

Operation Mode:	Tx / IEEE 802.11n HT 20 MHz mode / 5280 MHz	**Test Date:**	January 18, 2016
Temperature:	27℃	**Tested by:**	Jason Lu
Humidity:	53% RH	**Polarity:**	Ver. / Hor.

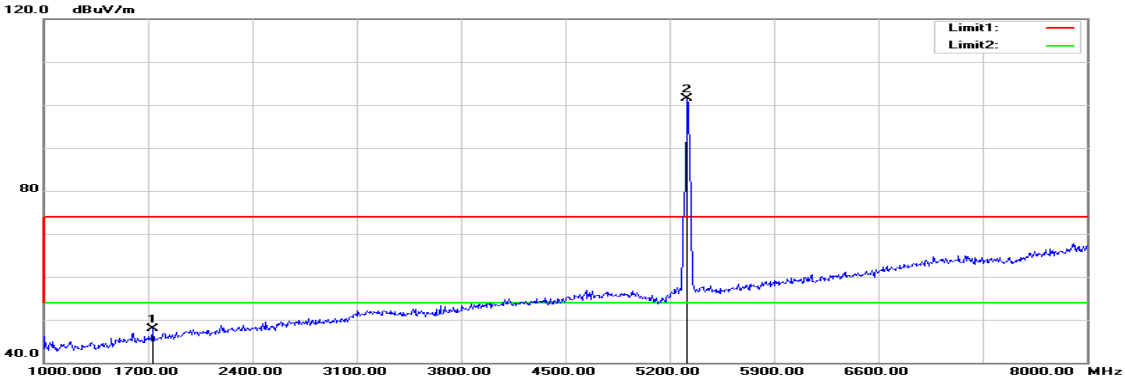
Frequency (MHz)	Reading (dBuV)	Correction (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark	Ant.Pol. (H/V)
2435.000	49.11	-3.53	45.58	74.00	-28.42	peak	V
N/A							
2428.000	49.50	-3.58	45.92	74.00	-28.08	peak	H
N/A							

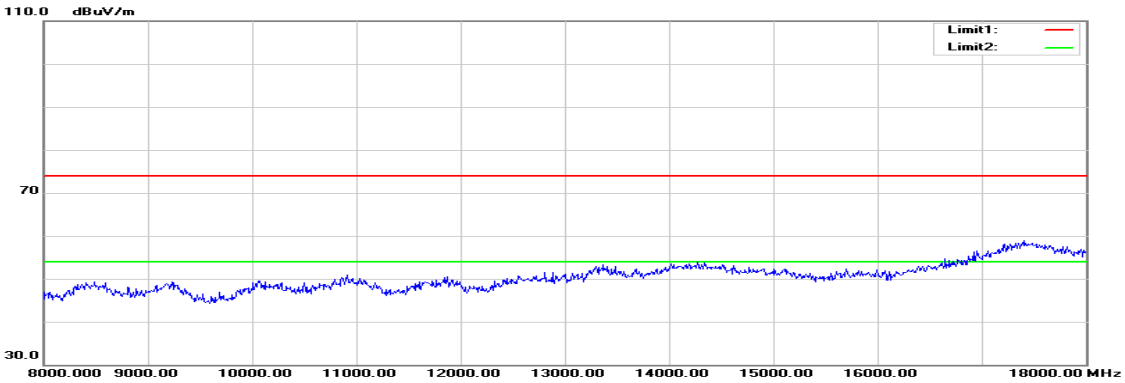
Remark:

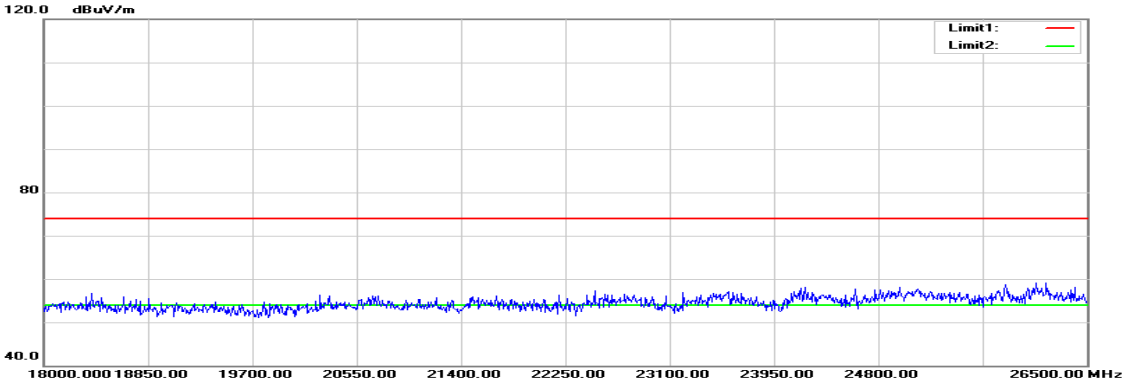
1. *Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.*
2. *Radiated emissions measured in frequency above 1000MHz were made with an instrument using peak/average detector mode.*
3. *Average test would be performed if the peak result were greater than the average limit.*
4. *Data of measurement within this frequency range shown " --- " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.*
5. *Measurements above show only up to 6 maximum emissions noted, or would be lesser, with " N/A " remark, if no specific emissions from the EUT are recorded (ie: margin>20dB from the applicable limit) and considered that's already beyond the background noise floor.*
6. *Margin (dB) = Remark result (dBuV/m) – Average limit (dBuV/m).*

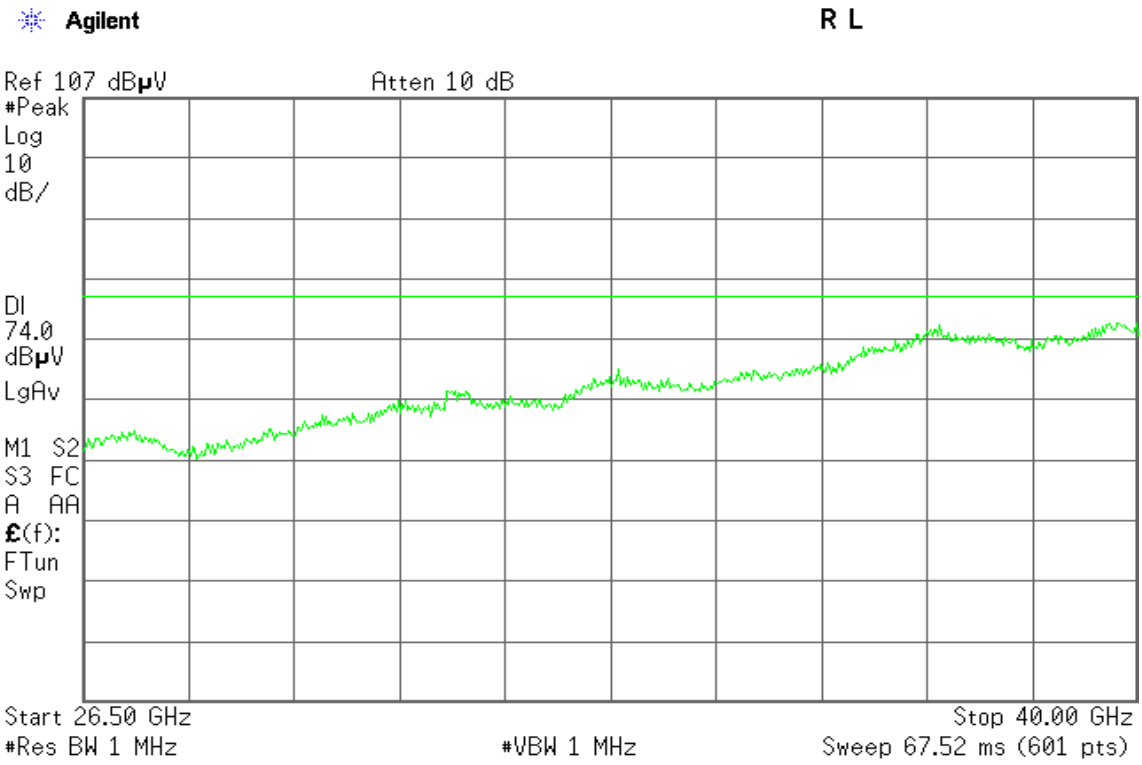
Tx / IEEE 802.11n HT 20 MHz Channel mode / 5320 MHz

Polarity: Vertical

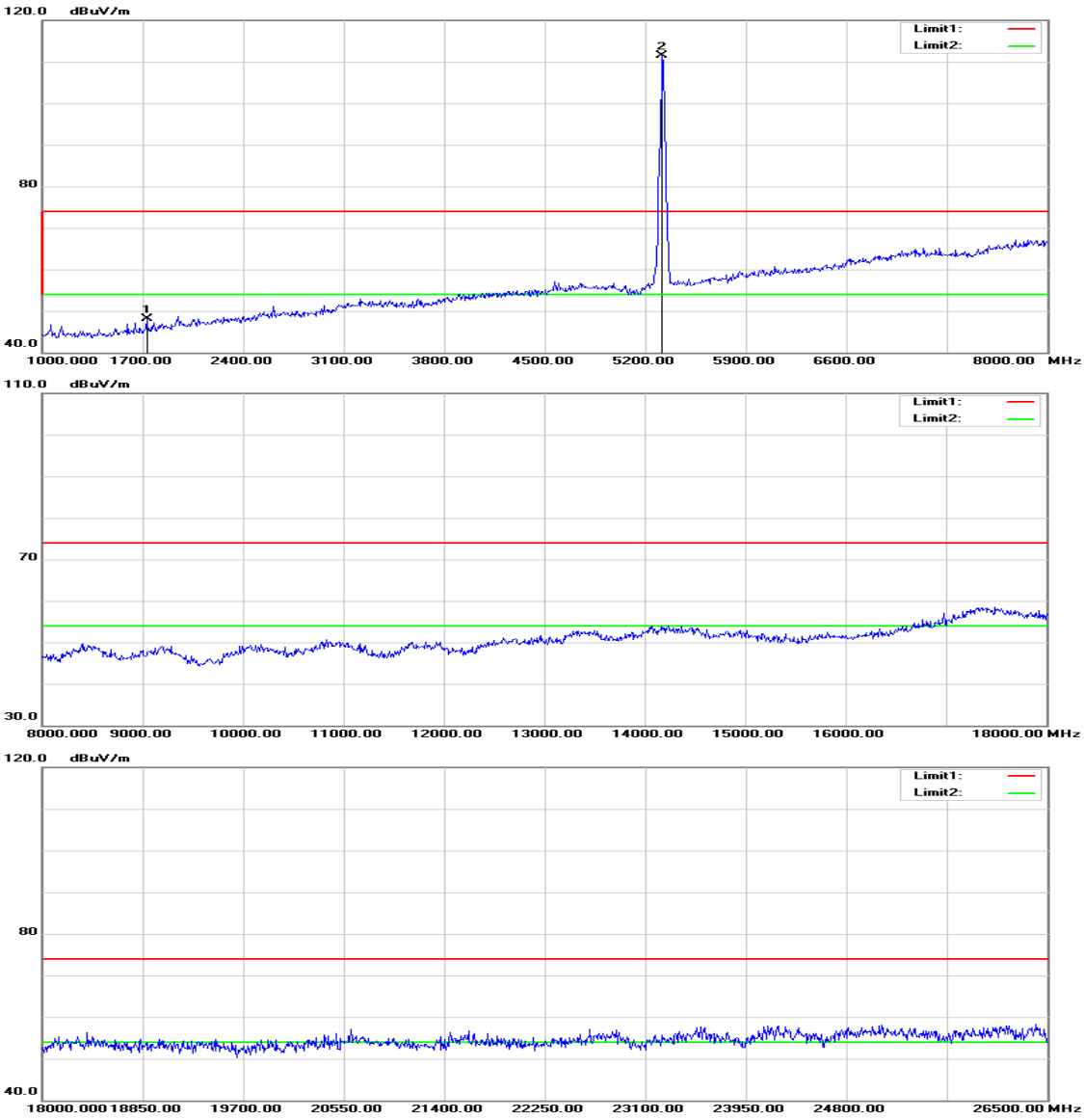


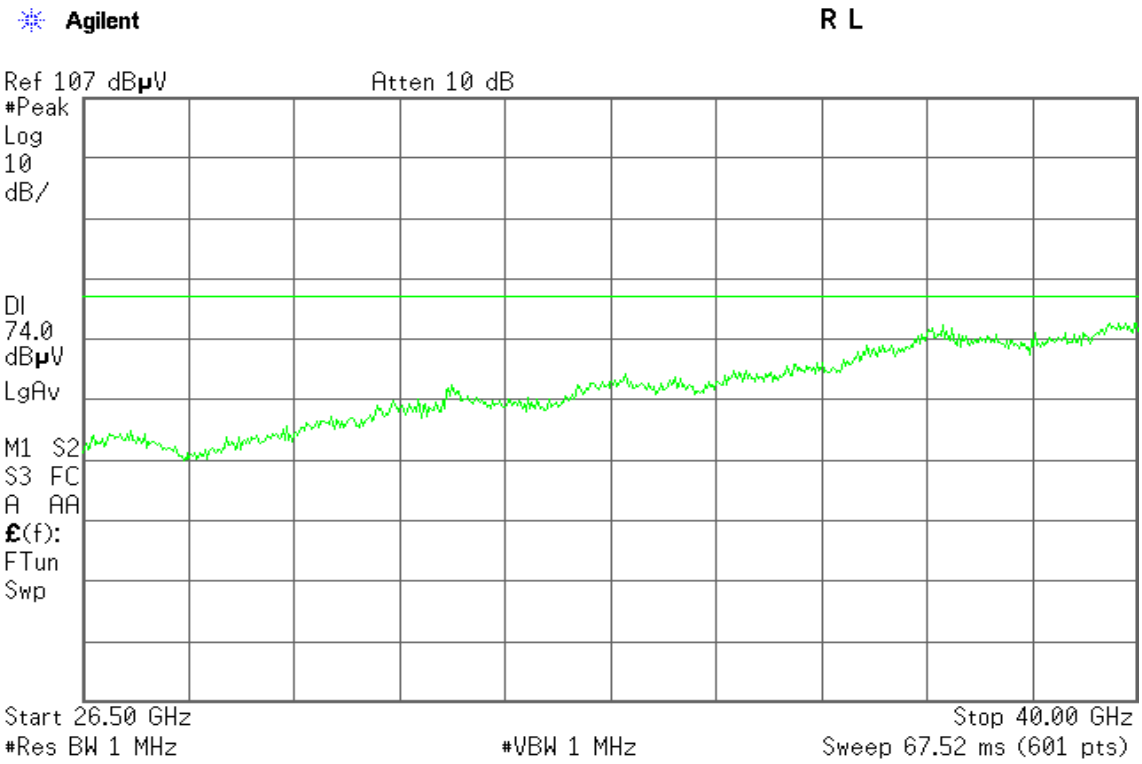





Agilent
R L
Ref 107 dBµV
Atten 10 dB
#Peak
Log
10
dB/
Dl
74.0
dBµV
LgAv
M1 S2
S3 FC
A AA
£(f):
FTun
Swp
Start 26.50 GHz
Stop 40.00 GHz
#Res BW 1 MHz
#VBW 1 MHz
Sweep 67.52 ms (601 pts)

Polarity: Horizontal




Agilent
R L
Ref 107 dBµV
Atten 10 dB
#Peak
Log
10
dB/
Dl
74.0
dBµV
LgAv
M1 S2
S3 FC
A AA
£(f):
FTun
Swp
Start 26.50 GHz
Stop 40.00 GHz
#Res BW 1 MHz
#VBW 1 MHz
Sweep 67.52 ms (601 pts)

Operation Mode:	Tx / IEEE 802.11n HT 20 MHz mode / 5320 MHz	**Test Date:**	January 18, 2016
Temperature:	27℃	**Tested by:**	Jason Lu
Humidity:	53% RH	**Polarity:**	Ver. / Hor.

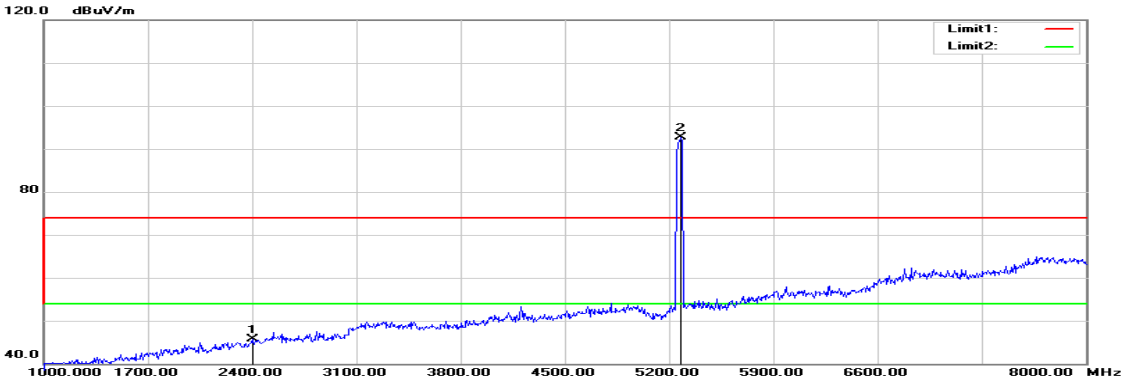
Frequency (MHz)	Reading (dBuV)	Correction (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark	Ant.Pol. (H/V)
1728.000	54.28	-6.32	47.96	74.00	-26.04	peak	V
N/A							
1728.000	54.44	-6.32	48.12	74.00	-25.88	peak	H
N/A							

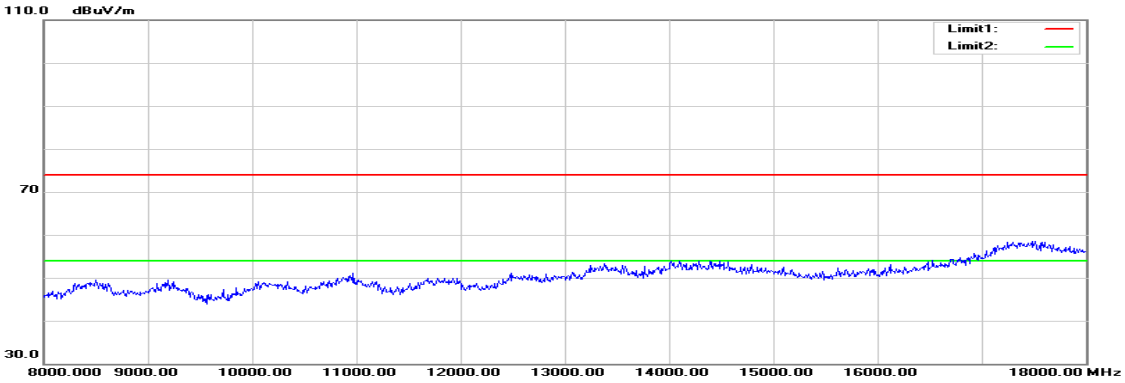
Remark:

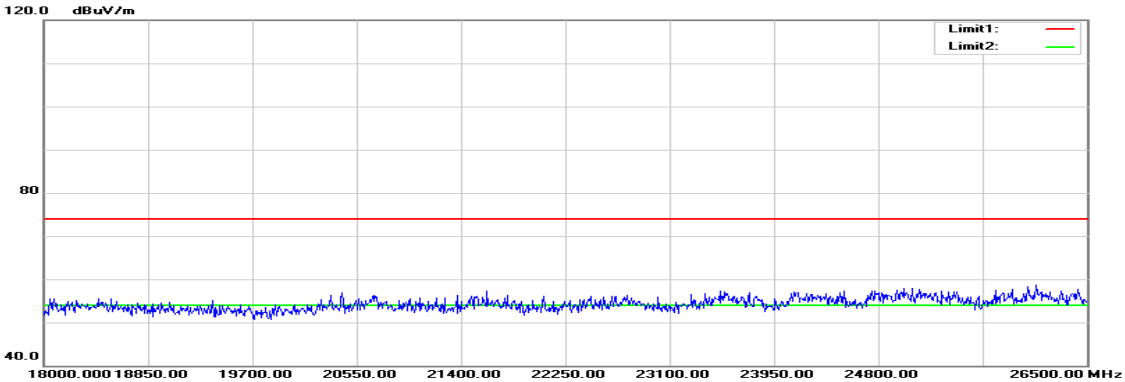
1. *Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.*
2. *Radiated emissions measured in frequency above 1000MHz were made with an instrument using peak/average detector mode.*
3. *Average test would be performed if the peak result were greater than the average limit.*
4. *Data of measurement within this frequency range shown " --- " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.*
5. *Measurements above show only up to 6 maximum emissions noted, or would be lesser, with " N/A " remark, if no specific emissions from the EUT are recorded (ie: margin>20dB from the applicable limit) and considered that's already beyond the background noise floor.*
6. *Margin (dB) = Remark result (dBuV/m) – Average limit (dBuV/m).*

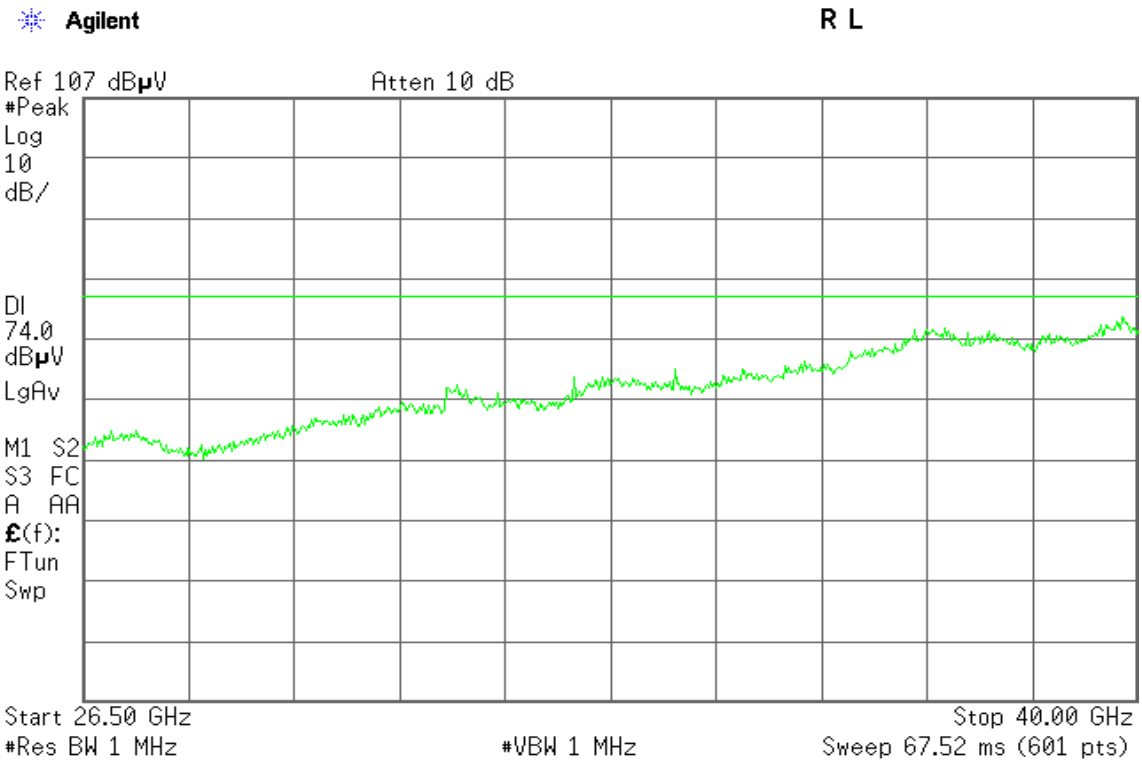
Tx / IEEE 802.11n HT 40 MHz mode / 5270 MHz

Polarity: Vertical

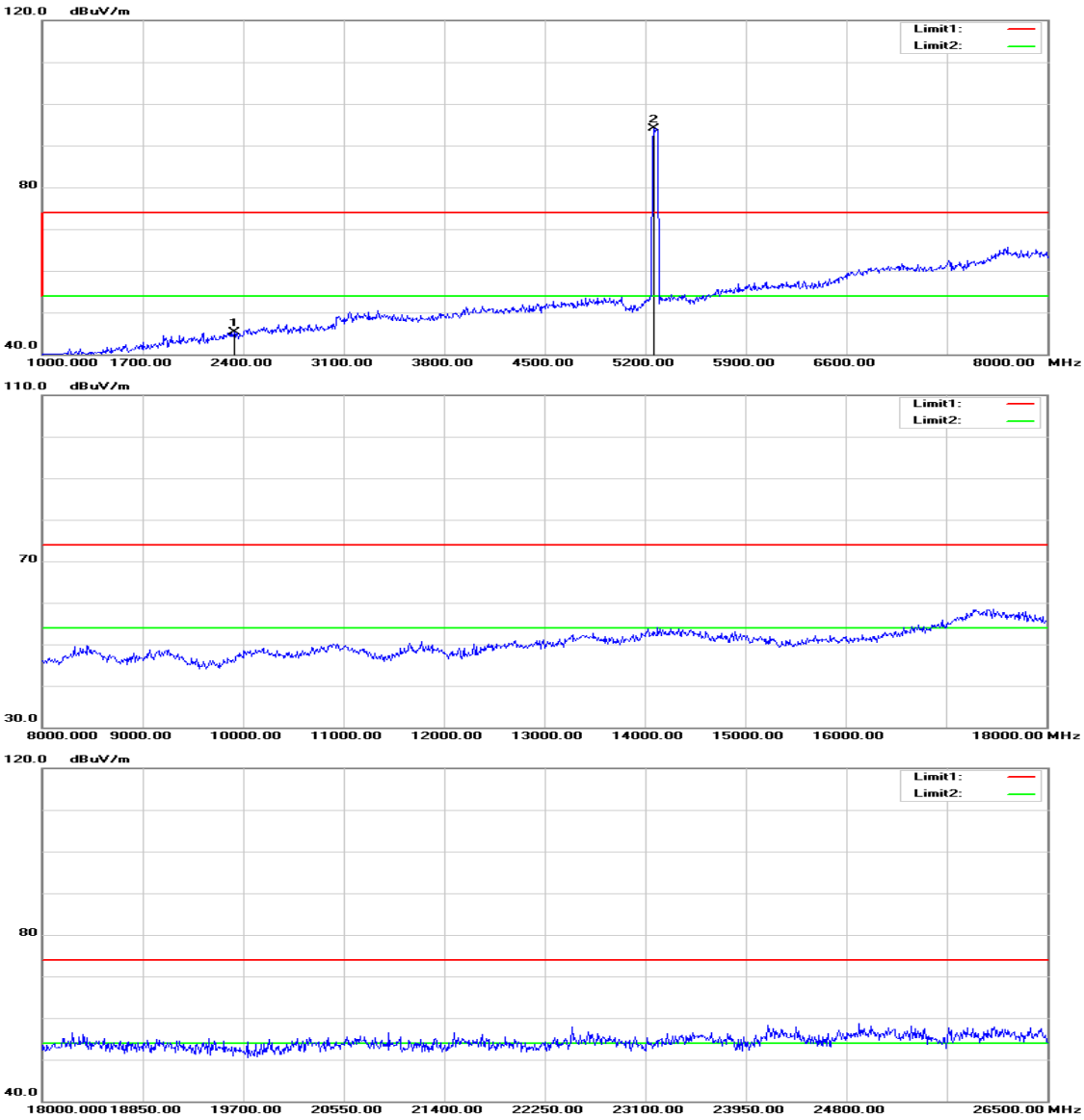


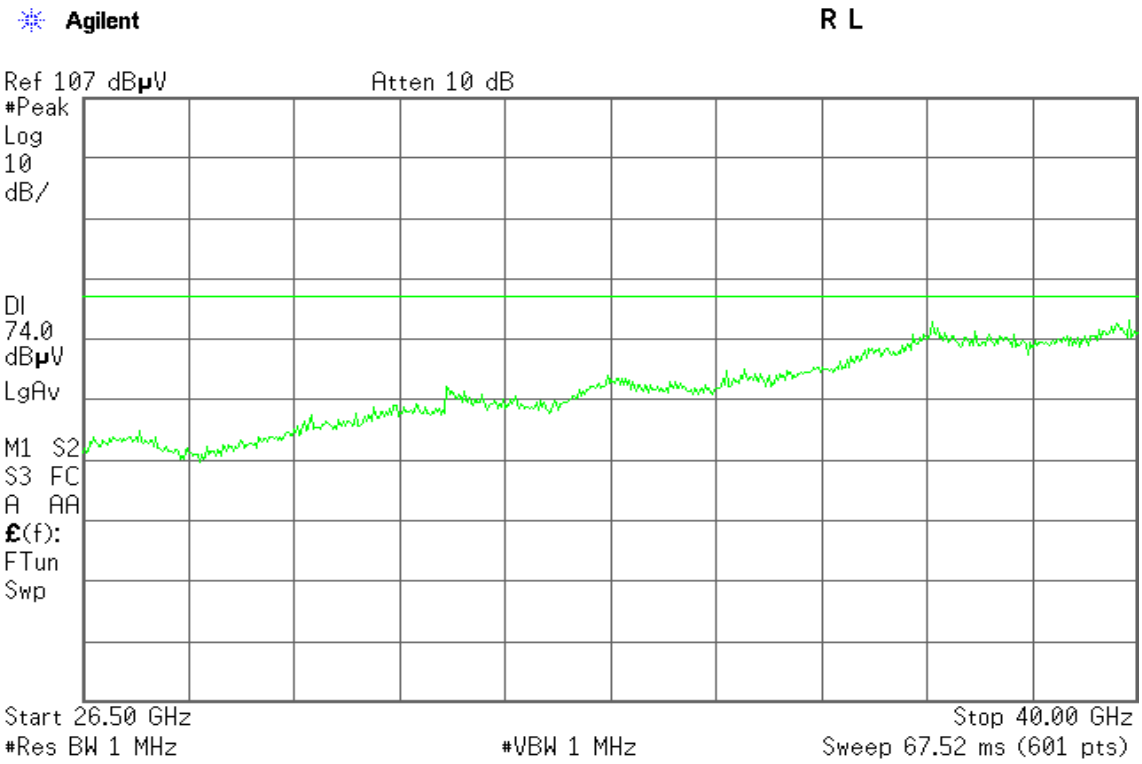





Agilent
R L
Ref 107 dBµV
Atten 10 dB
#Peak
Log
10
dB/
Dl
74.0
dBµV
LgAv
M1 S2
S3 FC
A AA
£(f):
FTun
Swp
Start 26.50 GHz
#Res BW 1 MHz
#VBW 1 MHz
Stop 40.00 GHz
Sweep 67.52 ms (601 pts)

Polarity: Horizontal




Agilent
R L
Ref 107 dBµV
Atten 10 dB
#Peak
Log
10
dB/
Dl
74.0
dBµV
LgAv
M1 S2
S3 FC
A AA
£(f):
FTun
Swp
Start 26.50 GHz
Stop 40.00 GHz
#Res BW 1 MHz
#VBW 1 MHz
Sweep 67.52 ms (601 pts)

Operation Mode:	Tx / IEEE 802.11n HT 40 MHz mode / 5270 MHz	**Test Date:**	January 18, 2016
Temperature:	27℃	**Tested by:**	Jason Lu
Humidity:	53% RH	**Polarity:**	Ver. / Hor.

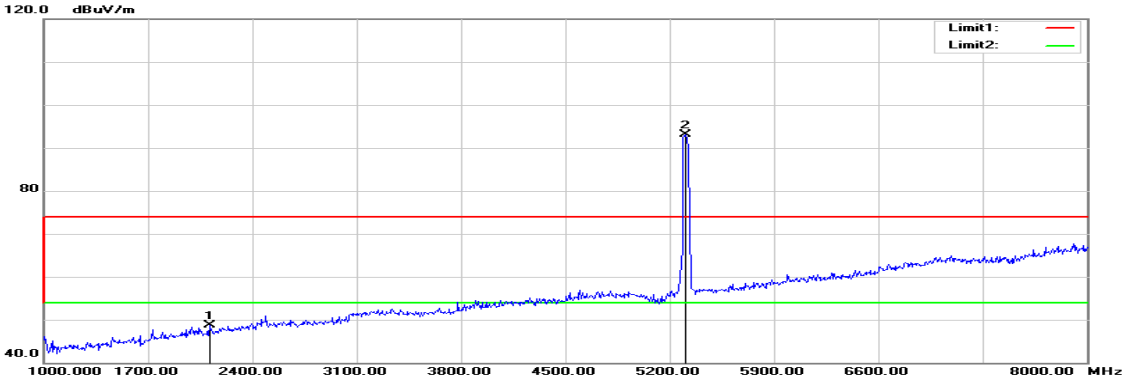
Frequency (MHz)	Reading (dBuV)	Correction (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark	Ant.Pol. (H/V)
2400.000	49.34	-3.69	45.65	74.00	-28.35	peak	V
N/A							
2337.000	49.47	-4.23	45.24	74.00	-28.76	peak	H
N/A							

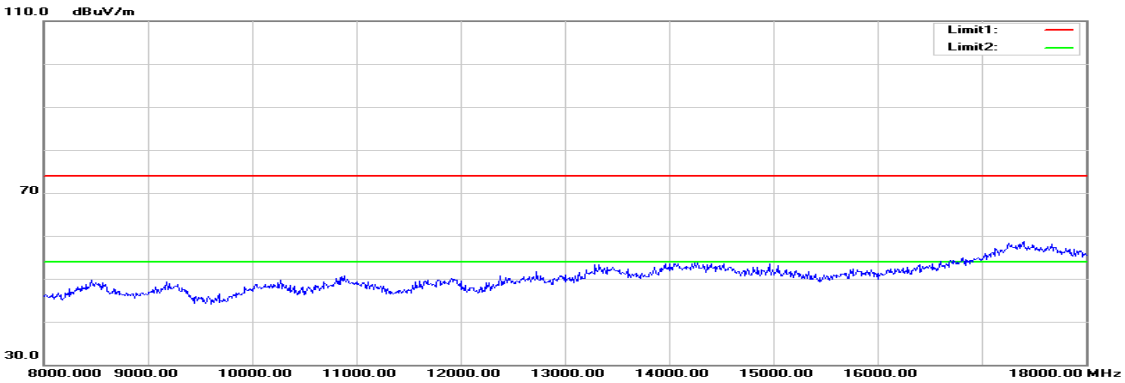
Remark:

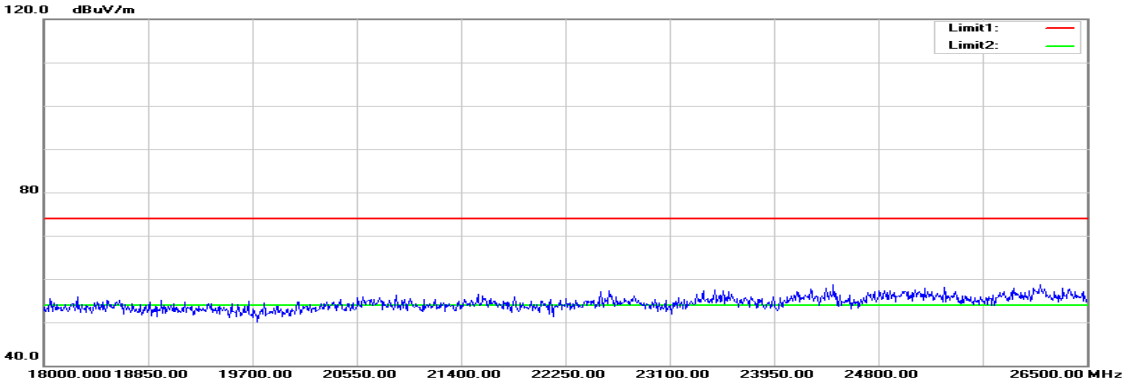
1. *Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.*
2. *Radiated emissions measured in frequency above 1000MHz were made with an instrument using peak/average detector mode.*
3. *Average test would be performed if the peak result were greater than the average limit.*
4. *Data of measurement within this frequency range shown " --- " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.*
5. *Measurements above show only up to 6 maximum emissions noted, or would be lesser, with " N/A " remark, if no specific emissions from the EUT are recorded (ie: margin>20dB from the applicable limit) and considered that's already beyond the background noise floor.*
6. *Margin (dB) = Remark result (dBuV/m) – Average limit (dBuV/m).*

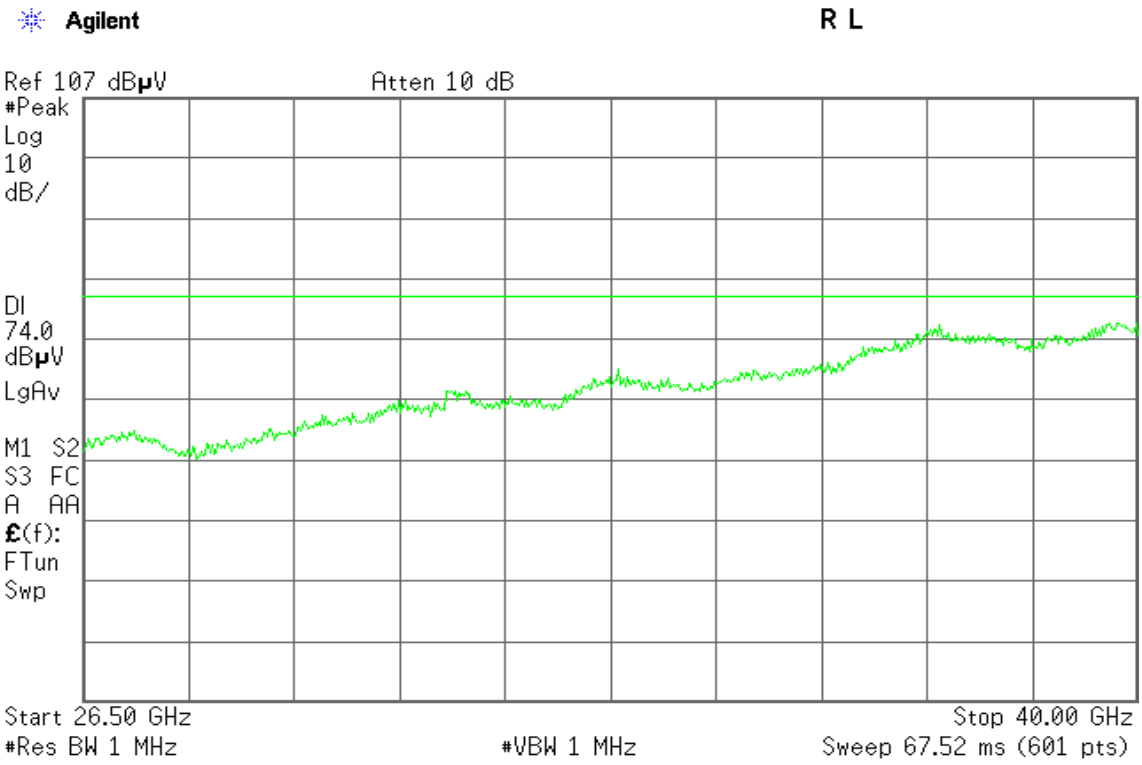
Tx / IEEE 802.11n HT 40 MHz mode / 5310 MHz

Polarity: Vertical

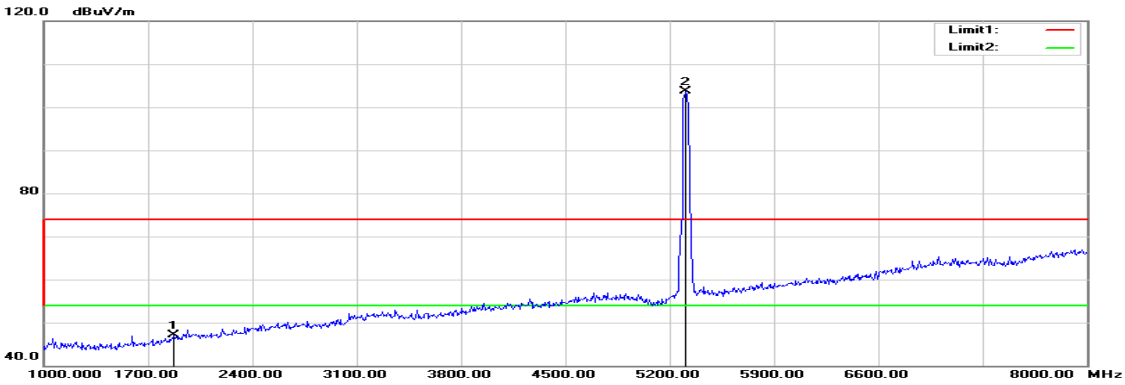


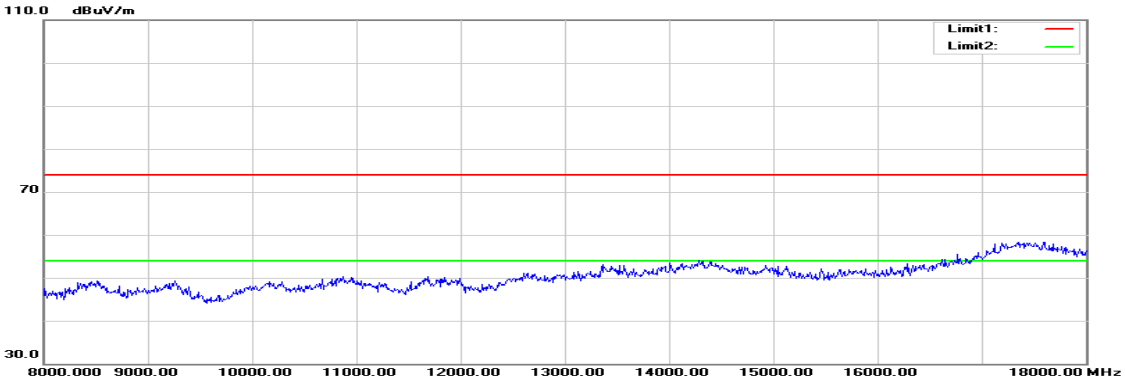


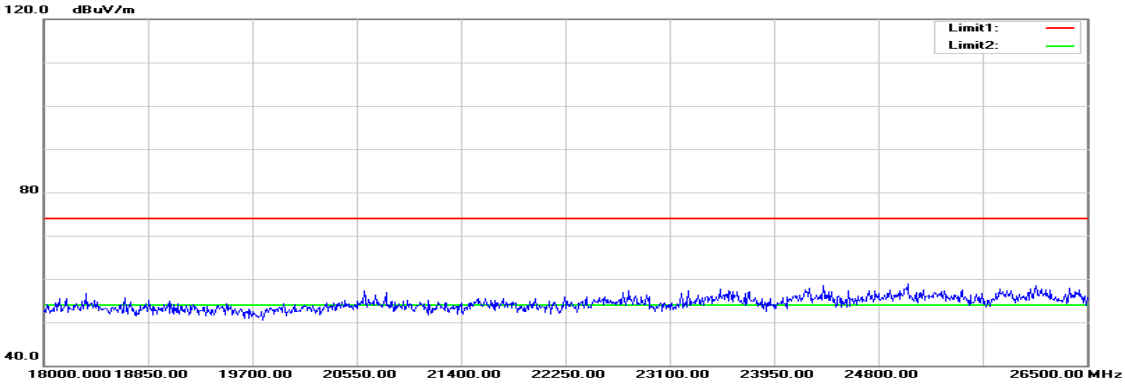


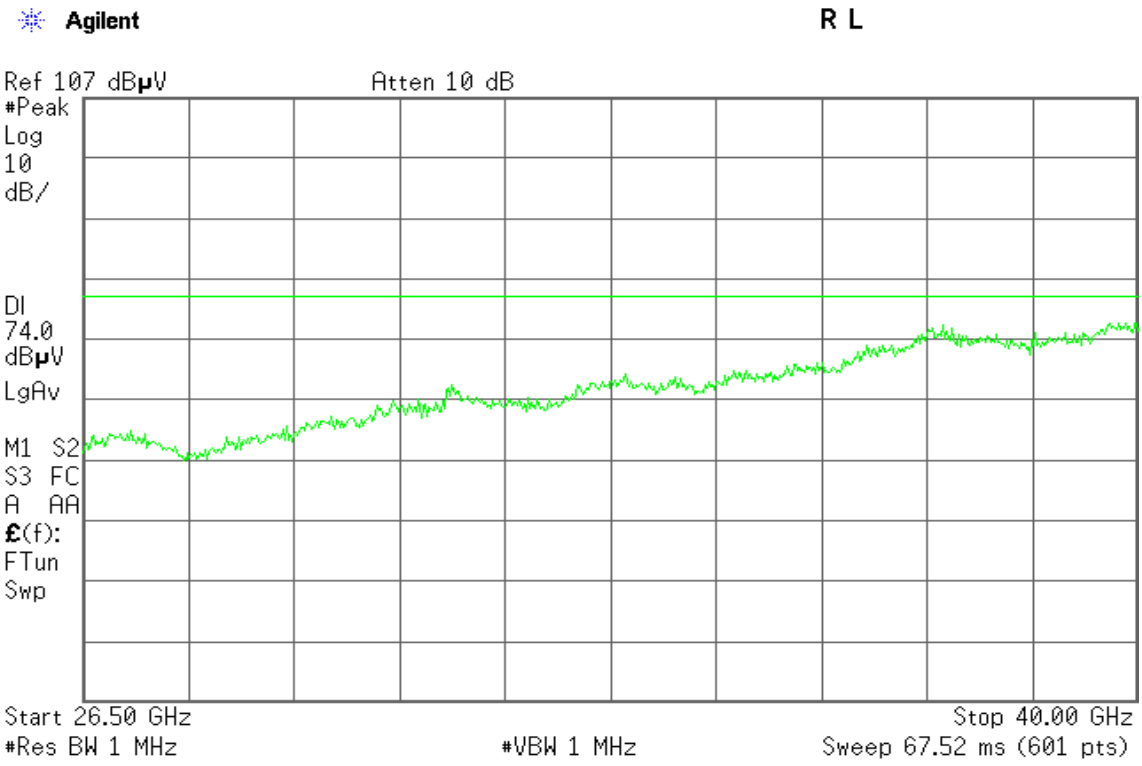

Agilent
R L
Ref 107 dBµV
Atten 10 dB
#Peak
Log
10
dB/
Dl
74.0
dBµV
LgAv
M1 S2
S3 FC
A AA
£(f):
FTun
Swp
Start 26.50 GHz
Stop 40.00 GHz
#Res BW 1 MHz
#VBW 1 MHz
Sweep 67.52 ms (601 pts)

Polarity: Horizontal








Agilent
R L
Ref 107 dBµV
Atten 10 dB
#Peak
Log
10
dB/
Dl
74.0
dBµV
LgAv
M1 S2
S3 FC
A AA
£(f):
FTun
Swp
Start 26.50 GHz
Stop 40.00 GHz
#Res BW 1 MHz
#VBW 1 MHz
Sweep 67.52 ms (601 pts)

Operation Mode:	Tx / IEEE 802.11n HT 40 MHz mode / 5310 MHz	**Test Date:**	January 18, 2016
Temperature:	27℃	**Tested by:**	Jason Lu
Humidity:	53% RH	**Polarity:**	Ver. / Hor.

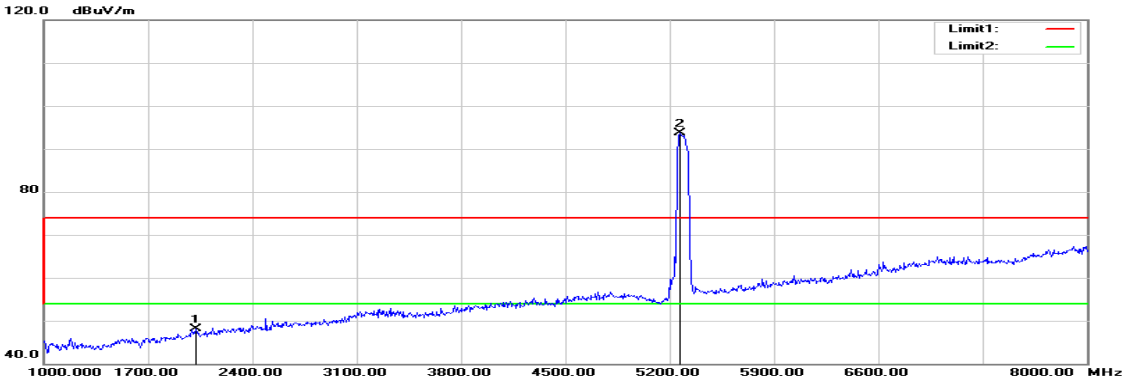
Frequency (MHz)	Reading (dBuV)	Correction (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark	Ant.Pol. (H/V)
2113.000	53.52	-4.91	48.61	74.00	-25.39	peak	V
N/A							
1875.000	52.70	-5.54	47.16	74.00	-26.84	peak	H
N/A							

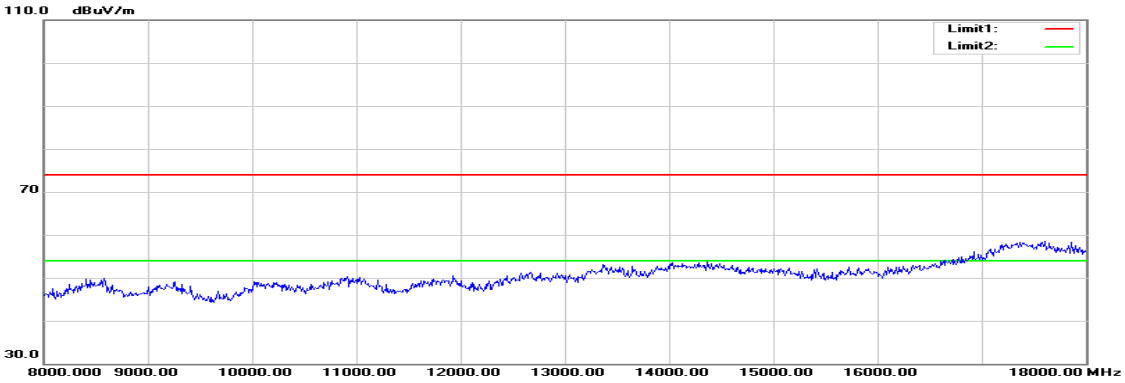
Remark:

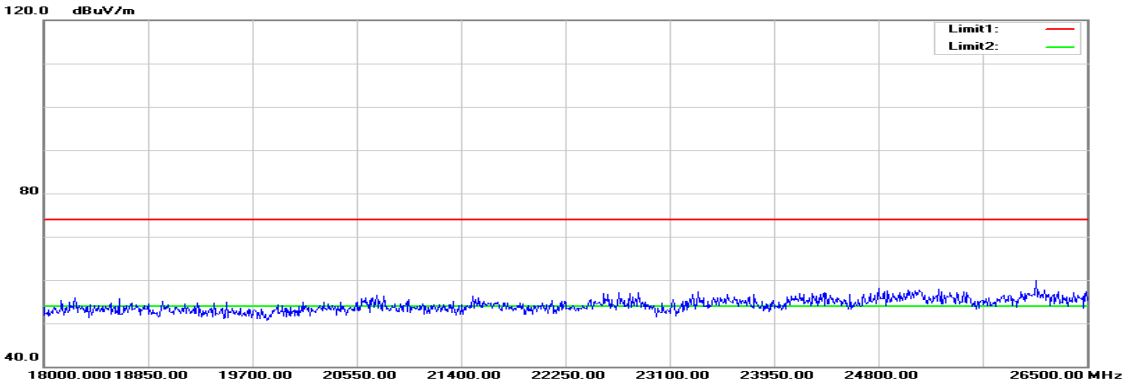
1. *Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.*
2. *Radiated emissions measured in frequency above 1000MHz were made with an instrument using peak/average detector mode.*
3. *Average test would be performed if the peak result were greater than the average limit.*
4. *Data of measurement within this frequency range shown " --- " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.*
5. *Measurements above show only up to 6 maximum emissions noted, or would be lesser, with " N/A " remark, if no specific emissions from the EUT are recorded (ie: margin>20dB from the applicable limit) and considered that's already beyond the background noise floor.*
6. *Margin (dB) = Remark result (dBuV/m) – Average limit (dBuV/m).*

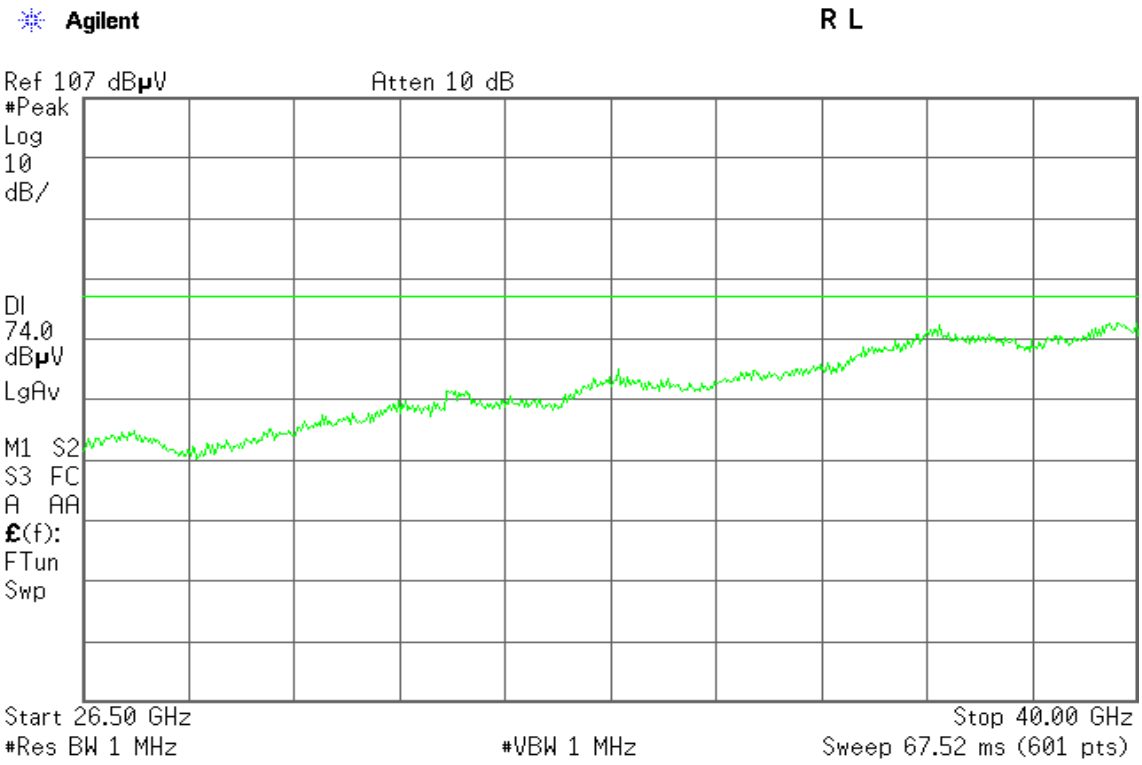
Tx / IEEE 802.11ac VHT 80 MHz mode / 5290 MHz

Polarity: Vertical

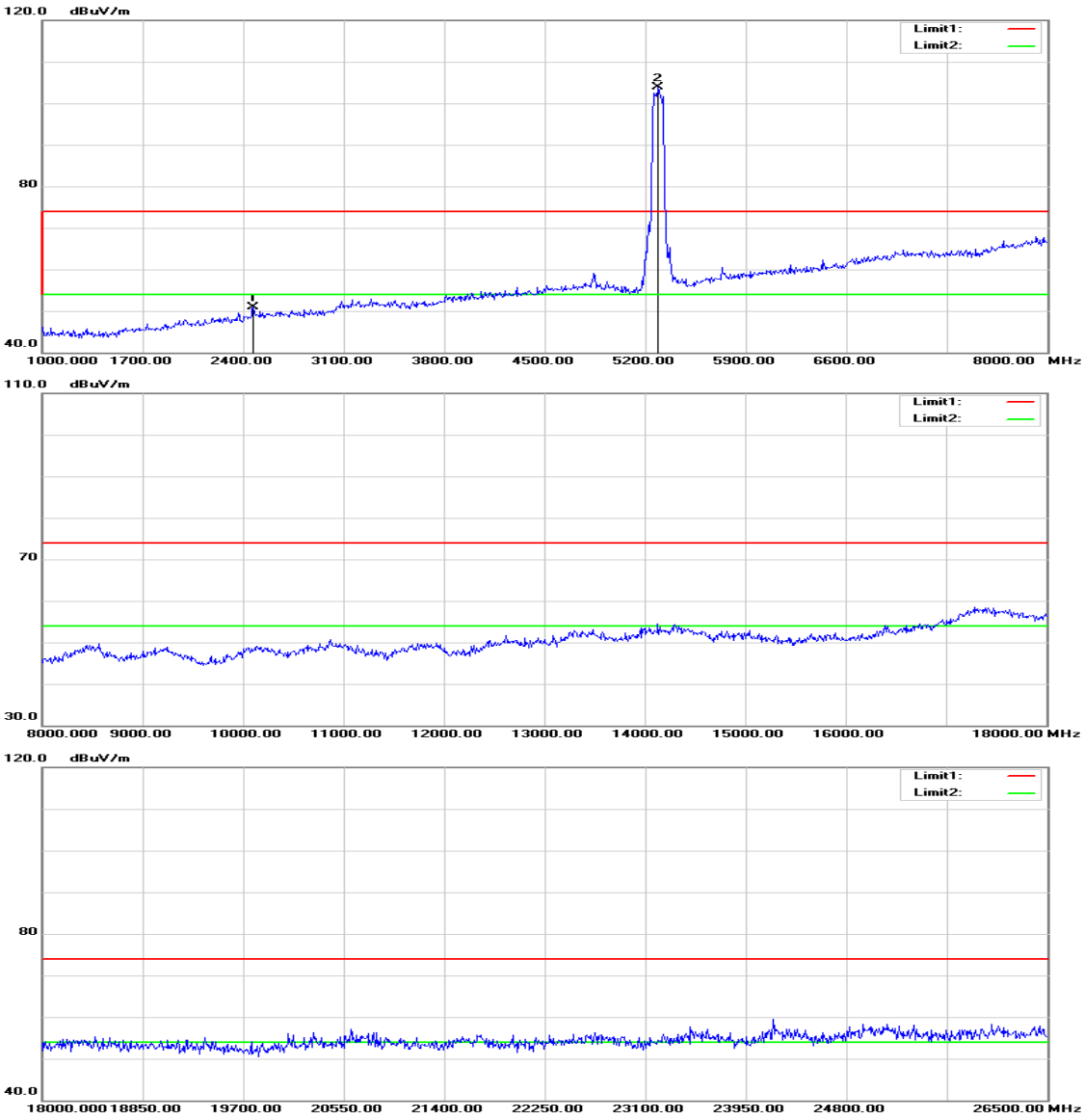


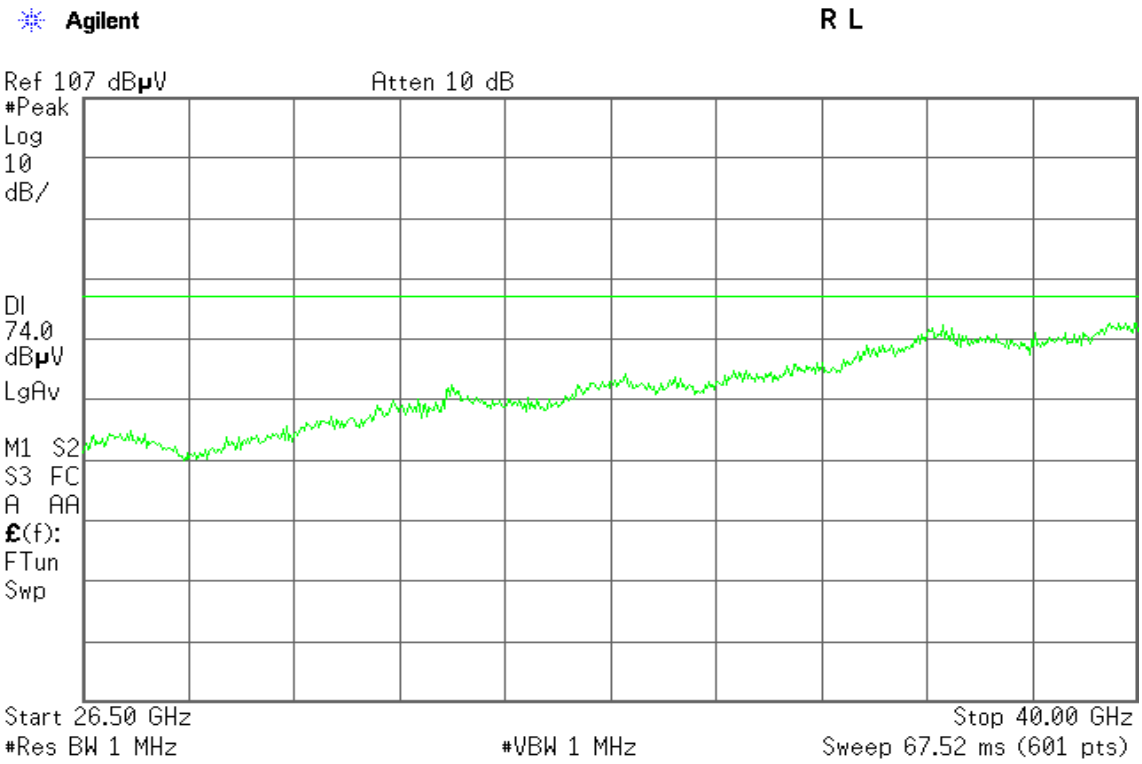





Agilent
R L
Ref 107 dBµV
Atten 10 dB
#Peak
Log
10
dB/
Dl
74.0
dBµV
LgAv
M1 S2
S3 FC
A AA
£(f):
FTun
Swp
Start 26.50 GHz
Stop 40.00 GHz
#Res BW 1 MHz
#VBW 1 MHz
Sweep 67.52 ms (601 pts)

Polarity: Horizontal




Agilent
R L
Ref 107 dBµV
Atten 10 dB
#Peak
Log
10
dB/
Dl
74.0
dBµV
LgAv
M1 S2
S3 FC
A AA
£(f):
FTun
Swp
Start 26.50 GHz
#Res BW 1 MHz
#VBW 1 MHz
Stop 40.00 GHz
Sweep 67.52 ms (601 pts)

Operation Mode:	Tx / IEEE 802.11ac VHT 80 MHz mode / 5290 MHz	**Test Date:**	January 18, 2016
Temperature:	27℃	**Tested by:**	Jason Lu
Humidity:	53% RH	**Polarity:**	Ver. / Hor.

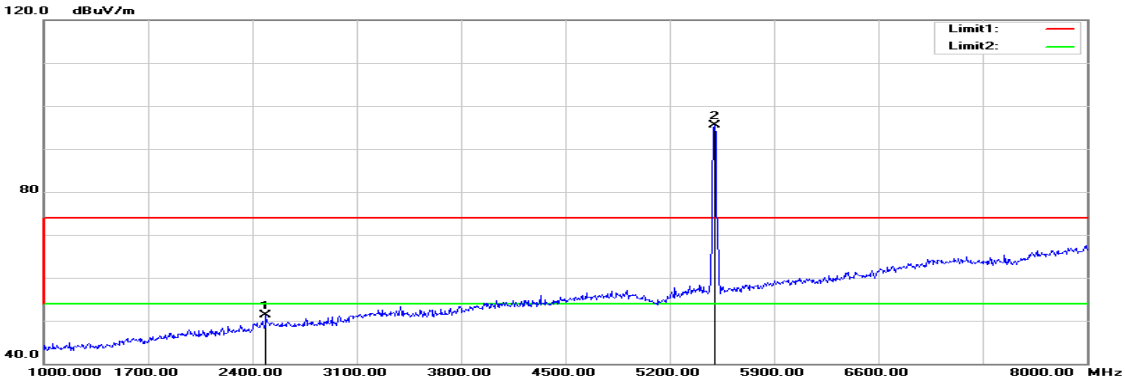
Frequency (MHz)	Reading (dBuV)	Correction (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark	Ant.Pol. (H/V)
2022.000	52.92	-4.90	48.02	74.00	-25.98	peak	V
N/A							
2470.000	54.17	-3.35	50.82	74.00	-23.18	peak	H
N/A							

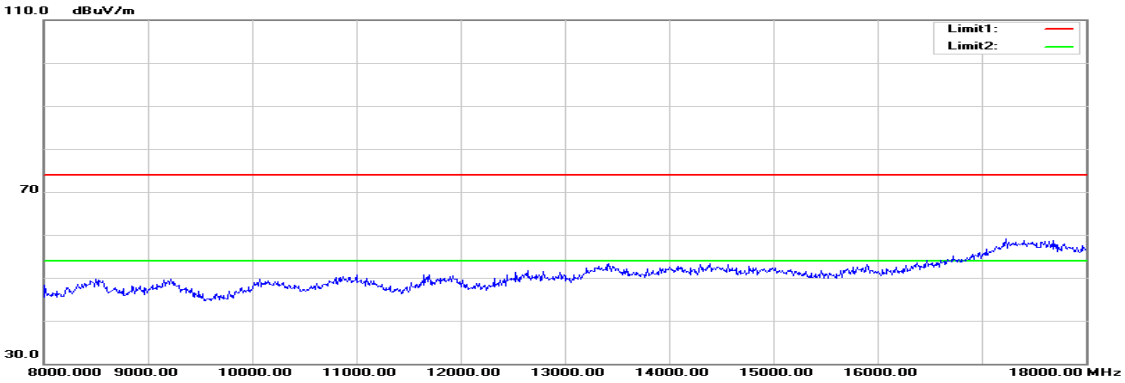
Remark:

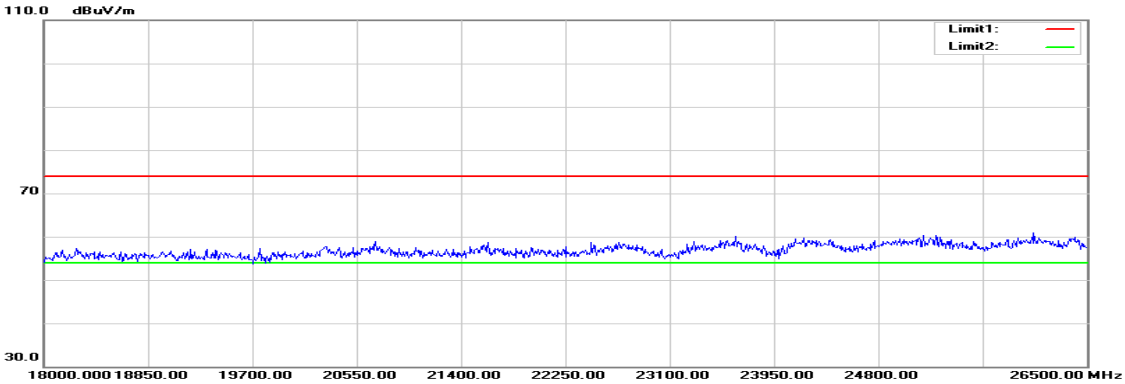
1. *Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.*
2. *Radiated emissions measured in frequency above 1000MHz were made with an instrument using peak/average detector mode.*
3. *Average test would be performed if the peak result were greater than the average limit.*
4. *Data of measurement within this frequency range shown " --- " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.*
5. *Measurements above show only up to 6 maximum emissions noted, or would be lesser, with " N/A " remark, if no specific emissions from the EUT are recorded (ie: margin>20dB from the applicable limit) and considered that's already beyond the background noise floor.*
6. *Margin (dB) = Remark result (dBuV/m) – Average limit (dBuV/m).*

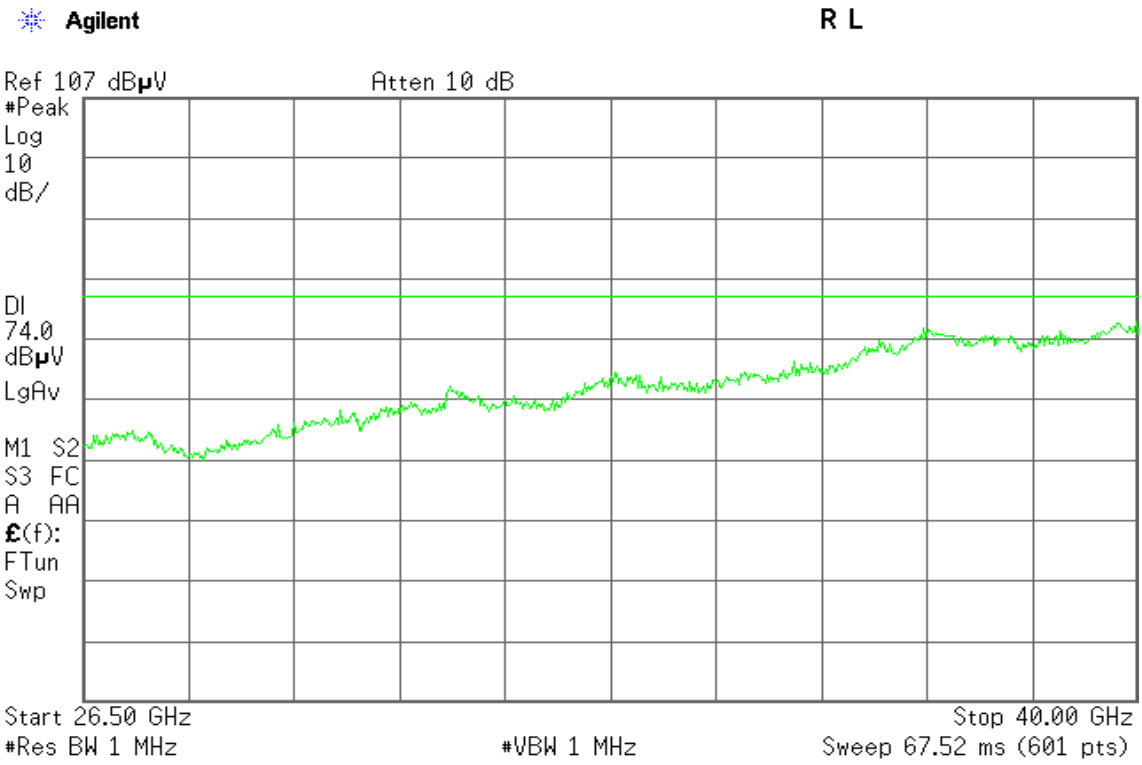
Tx / IEEE 802.11a mode / 5500 MHz

Polarity: Vertical

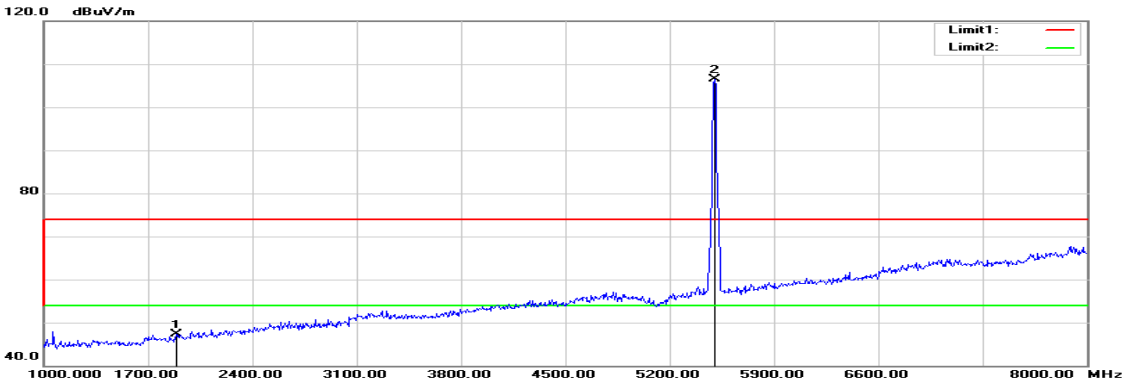


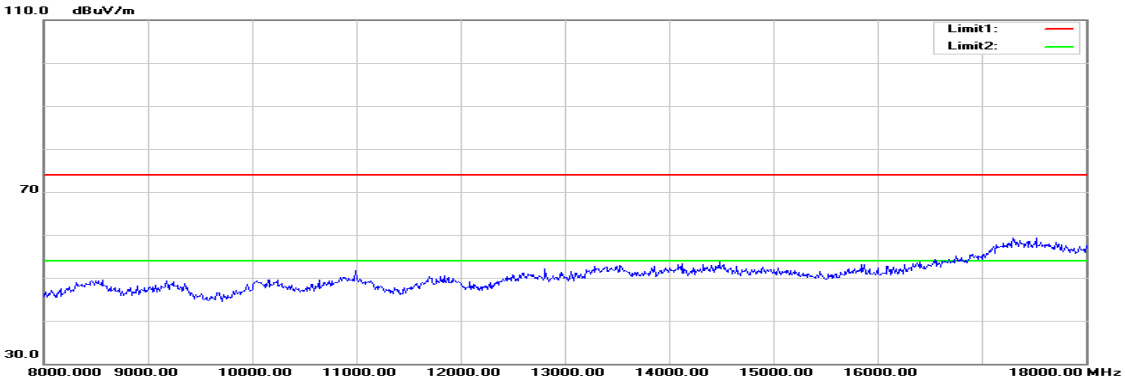


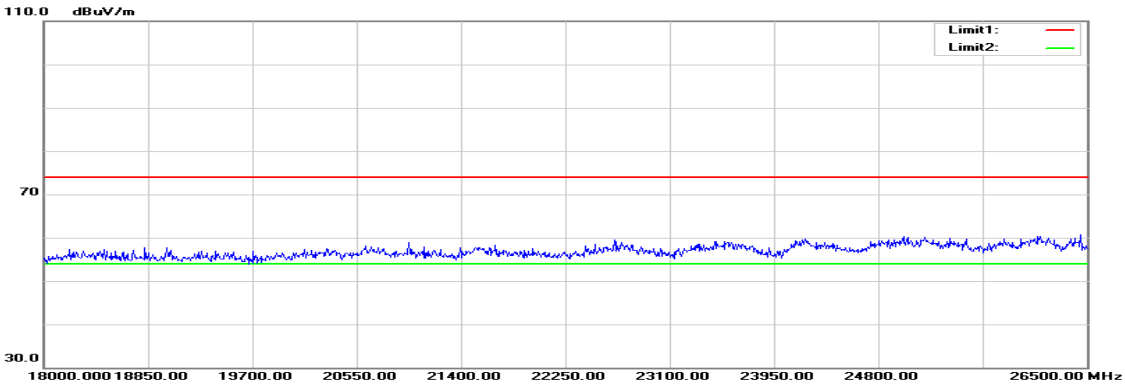


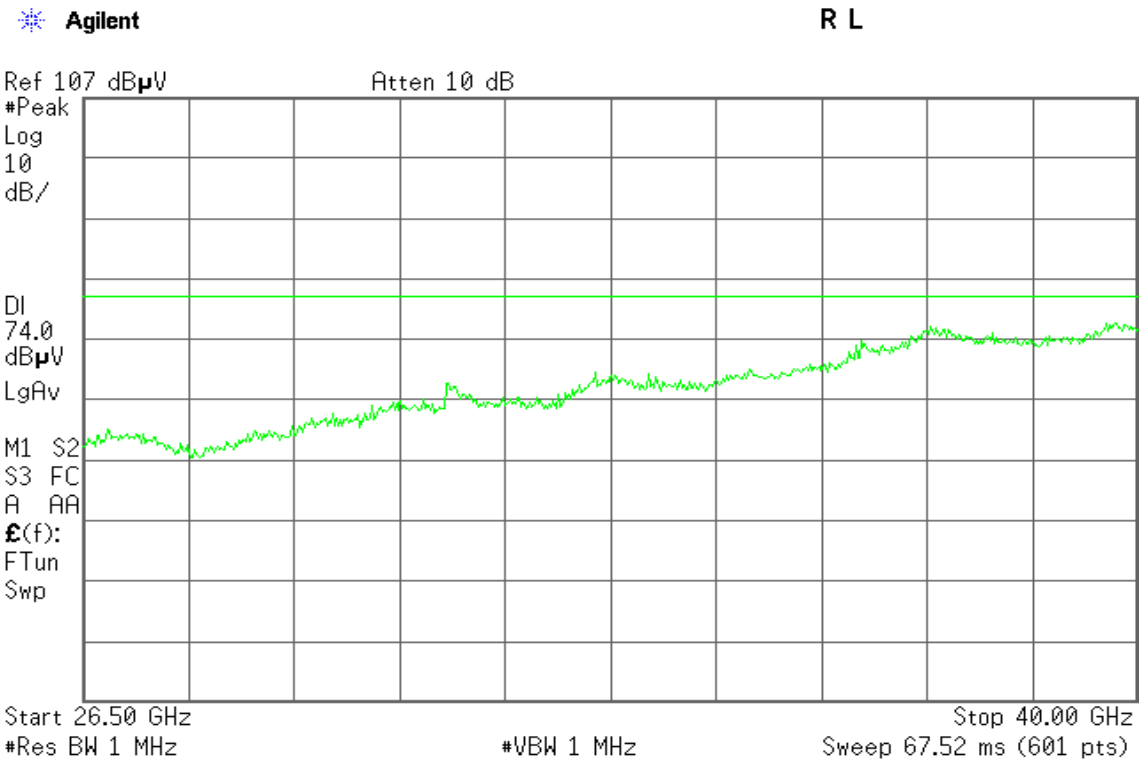

Agilent
R L
Ref 107 dBµV
Atten 10 dB
#Peak
Log
10
dB/
Dl
74.0
dBµV
LgAv
M1 S2
S3 FC
A AA
£(f):
FTun
Swp
Start 26.50 GHz
#Res BW 1 MHz
#VBW 1 MHz
Stop 40.00 GHz
Sweep 67.52 ms (601 pts)

Polarity: Horizontal








Agilent
R L
Ref 107 dBµV
Atten 10 dB
#Peak
Log
10
dB/
Dl
74.0
dBµV
LgAv
M1 S2
S3 FC
A AA
£(f):
FTun
Swp
Start 26.50 GHz
Stop 40.00 GHz
#Res BW 1 MHz
#VBW 1 MHz
Sweep 67.52 ms (601 pts)

Operation Mode: Tx / IEEE 802.11a mode / 5500 MHz **Test Date:** January 18, 2016

Temperature: 27℃ **Tested by:** Jason Lu

Humidity: 53% RH **Polarity:** Ver. / Hor.

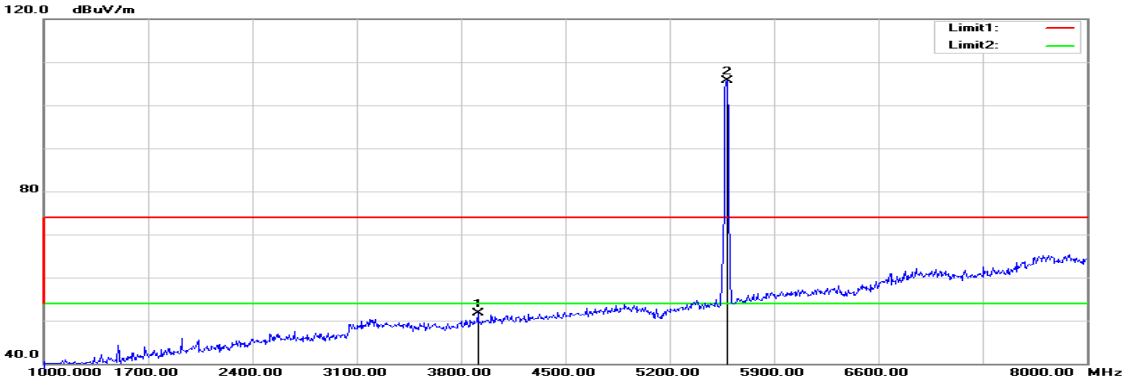
Frequency (MHz)	Reading (dBuV)	Correction (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark	Ant.Pol. (H/V)
2491.000	54.48	-3.20	51.28	74.00	-22.72	peak	V
N/A							
1889.000	52.75	-5.47	47.28	74.00	-26.72	peak	H
N/A							

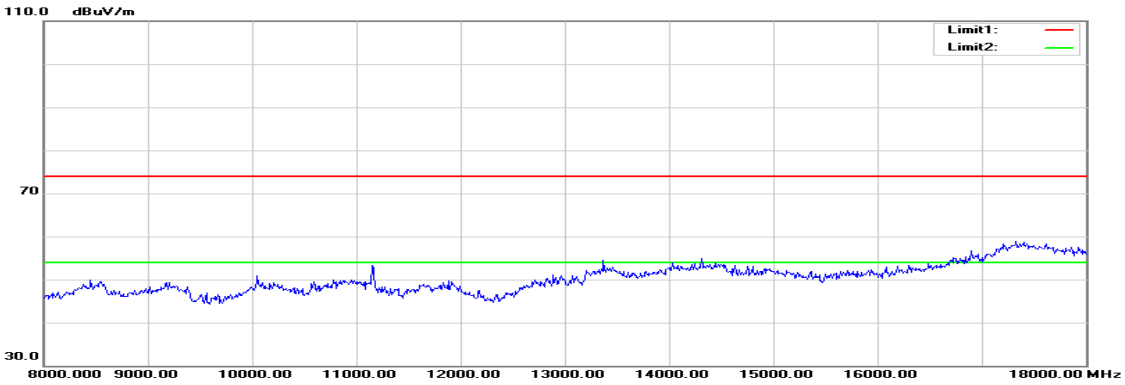
Remark:

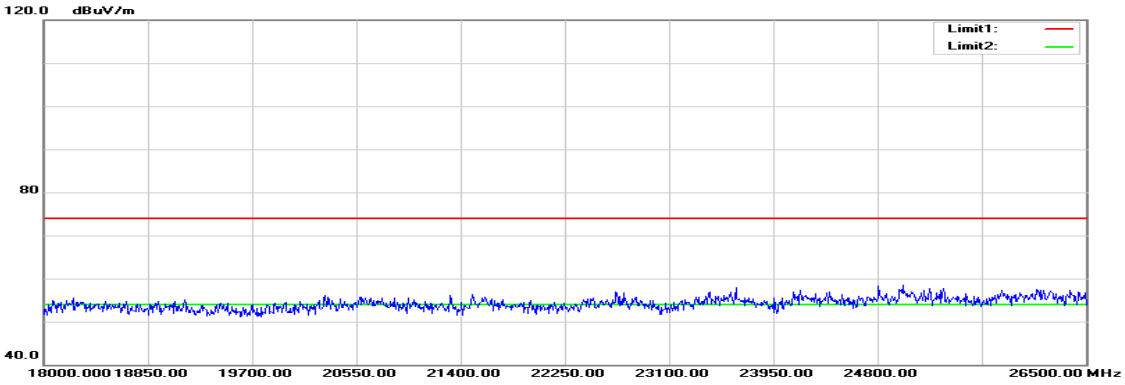
1. *Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.*
2. *Radiated emissions measured in frequency above 1000MHz were made with an instrument using peak/average detector mode.*
3. *Average test would be performed if the peak result were greater than the average limit or as required by the applicant.*
4. *Data of measurement within this frequency range shown " --- " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.*
5. *Measurements above show only up to 6 maximum emissions noted, or would be lesser, with " N/A " remark, if no specific emissions from the EUT are recorded (ie: margin>20dB from the applicable limit) and considered that's already beyond the background noise floor.*
6. *Margin (dB) = Remark result (dBuV/m) – Average limit (dBuV/m).*

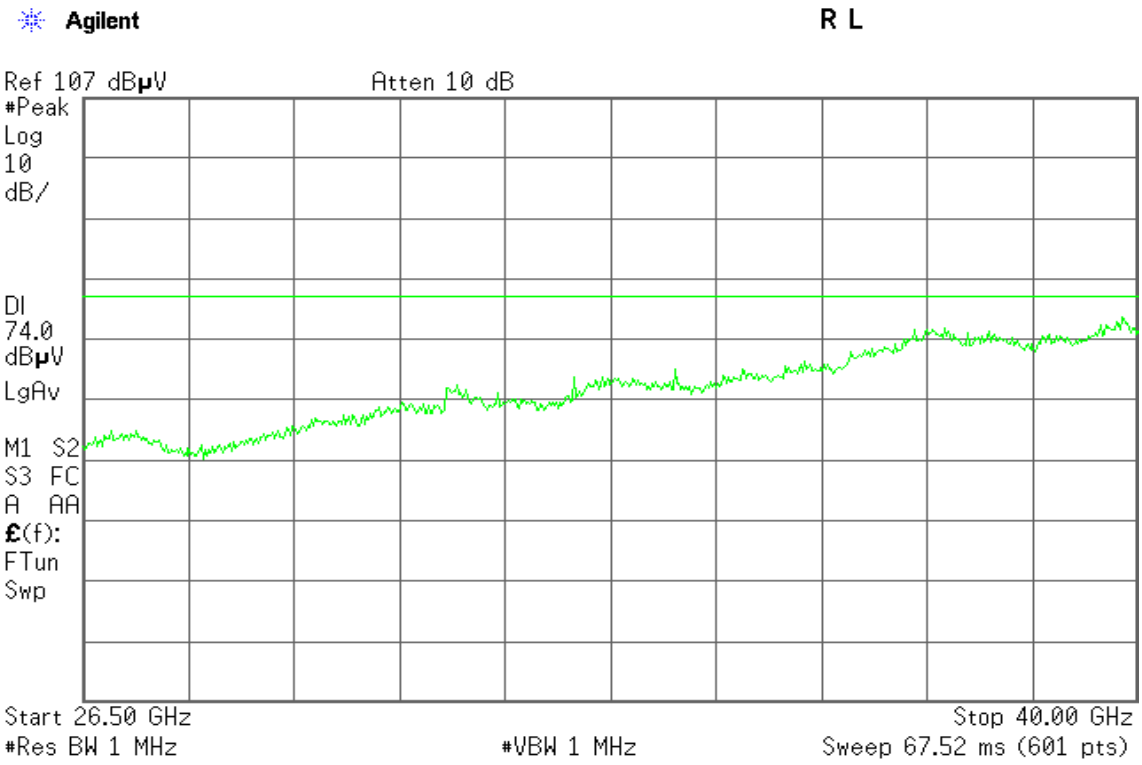
Tx / IEEE 802.11a mode / 5580 MHz

Polarity: Vertical

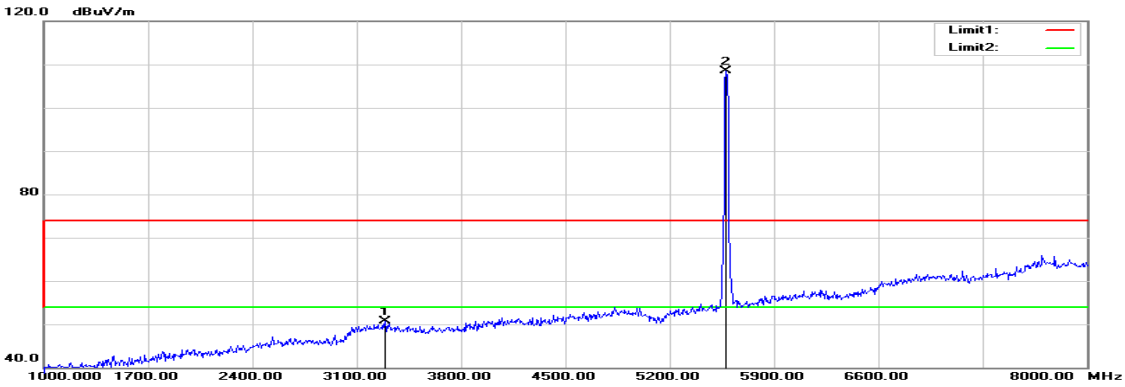


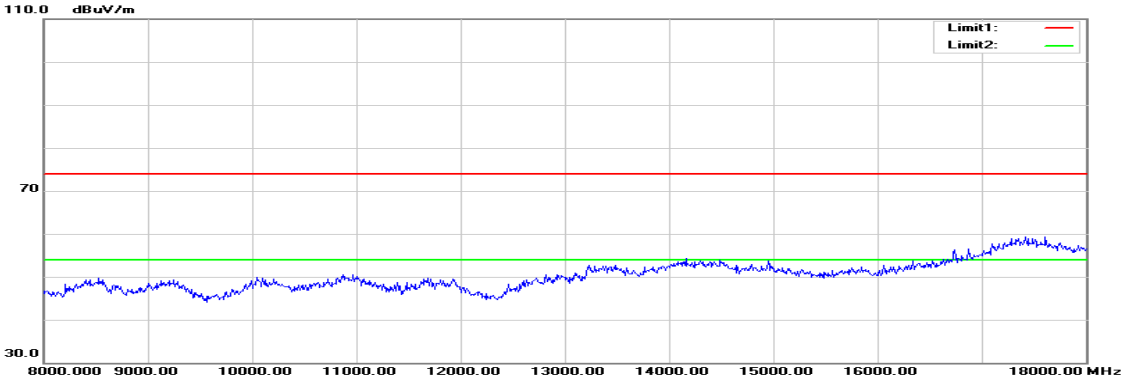


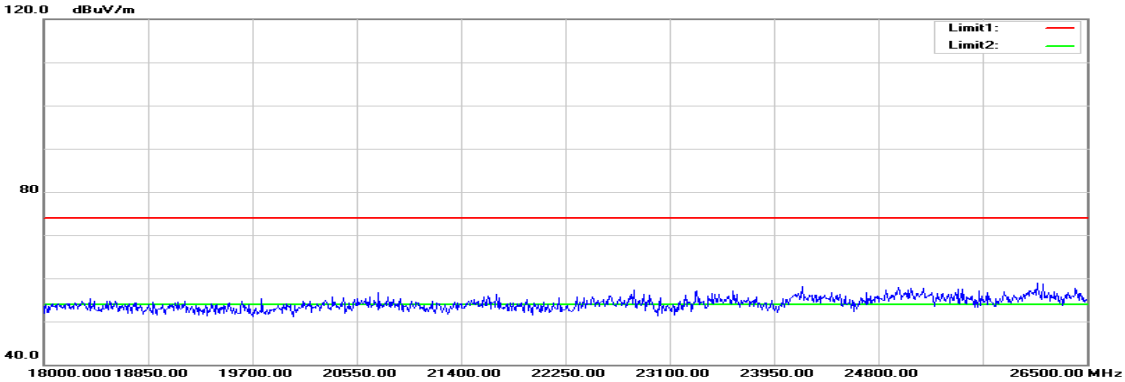


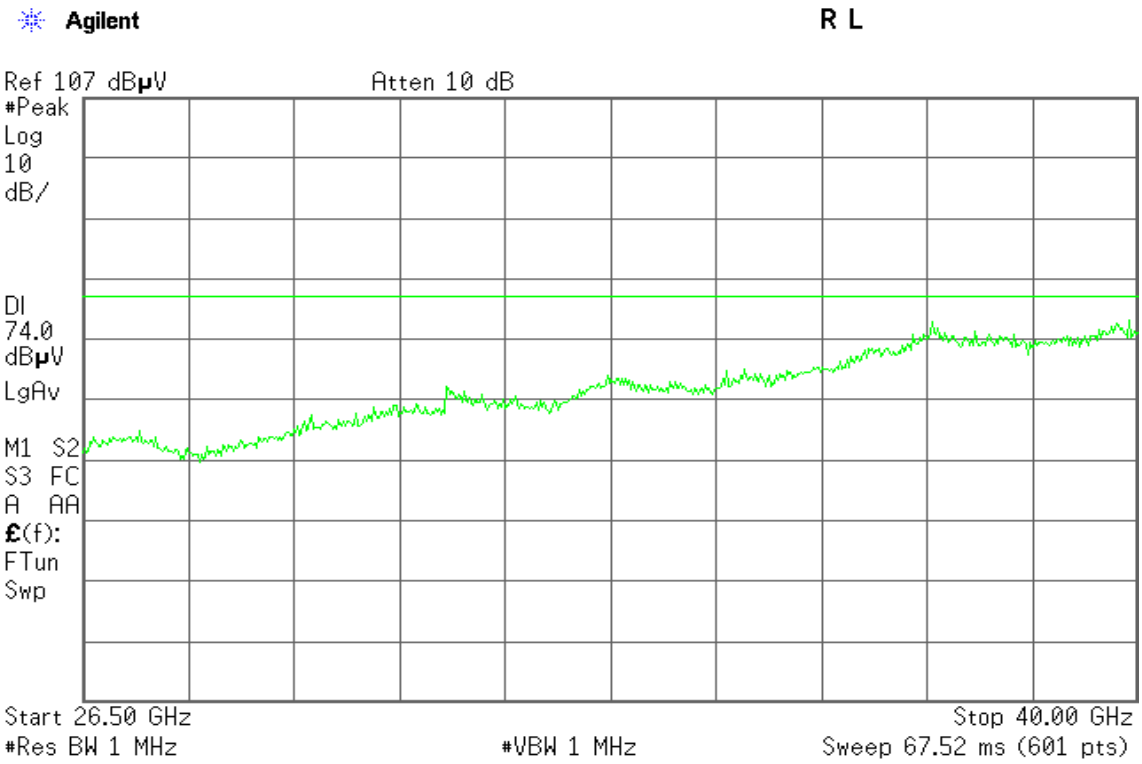

Agilent
R L
Ref 107 dBµV
Atten 10 dB
#Peak
Log
10
dB/
Dl
74.0
dBµV
LgAv
M1 S2
S3 FC
A AA
£(f):
FTun
Swp
Start 26.50 GHz
#Res BW 1 MHz
#VBW 1 MHz
Stop 40.00 GHz
Sweep 67.52 ms (601 pts)

Polarity: Horizontal








Agilent
R L
Ref 107 dBµV
Atten 10 dB
#Peak
Log
10
dB/
Dl
74.0
dBµV
LgAv
M1 S2
S3 FC
A AA
£(f):
FTun
Swp
Start 26.50 GHz
Stop 40.00 GHz
#Res BW 1 MHz
#VBW 1 MHz
Sweep 67.52 ms (601 pts)

Operation Mode: Tx / IEEE 802.11a mode / 5580 MHz **Test Date:** January 18, 2016

Temperature: 27℃ **Tested by:** Jason Lu

Humidity: 53% RH **Polarity:** Ver. / Hor.

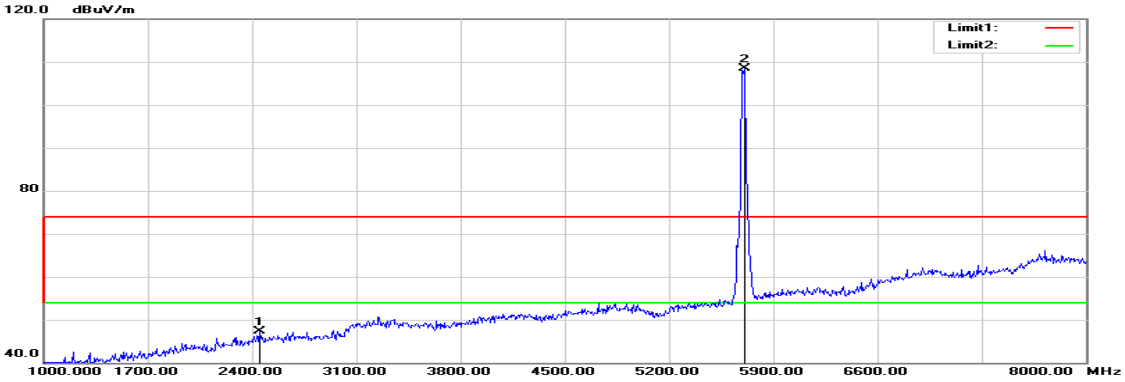
Frequency (MHz)	Reading (dBuV)	Correction (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark	Ant.Pol. (H/V)
3912.000	50.77	0.85	51.62	74.00	-22.38	peak	V
N/A							
3289.000	52.09	-1.42	50.67	74.00	-23.33	peak	H
N/A							

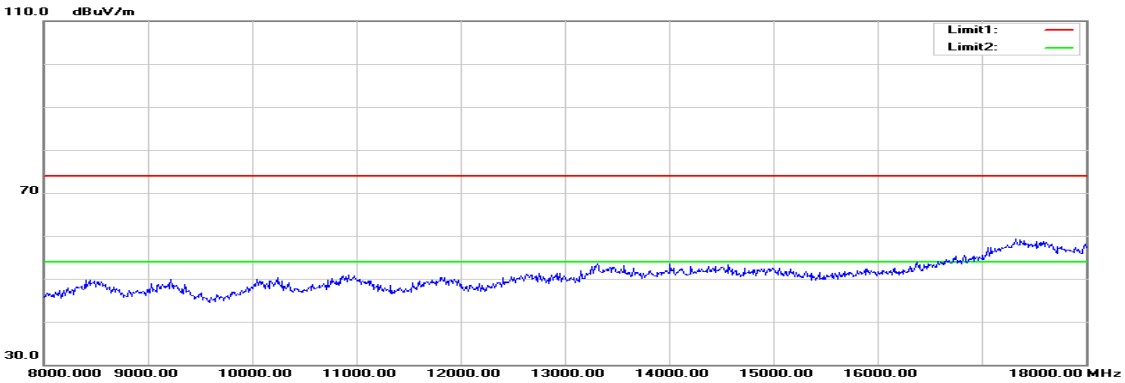
Remark:

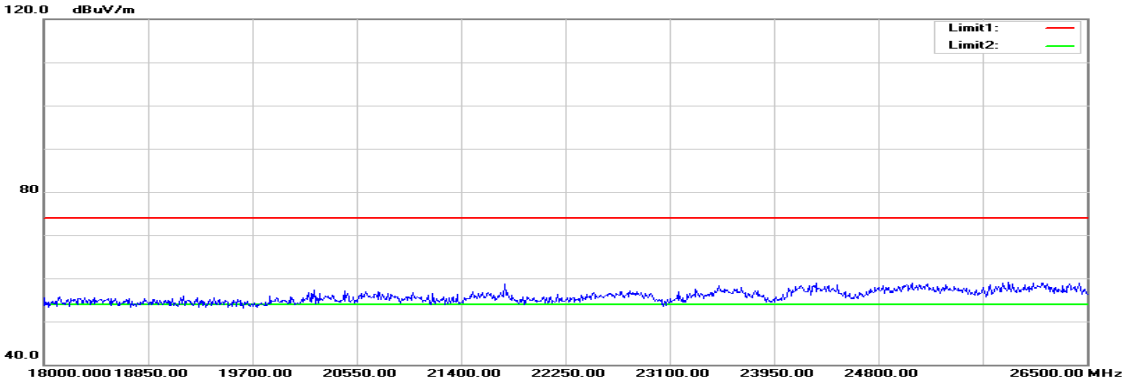
1. *Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.*
2. *Radiated emissions measured in frequency above 1000MHz were made with an instrument using peak/average detector mode.*
3. *Average test would be performed if the peak result were greater than the average limit or as required by the applicant.*
4. *Data of measurement within this frequency range shown " --- " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.*
5. *Measurements above show only up to 6 maximum emissions noted, or would be lesser, with " N/A " remark, if no specific emissions from the EUT are recorded (ie: margin>20dB from the applicable limit) and considered that's already beyond the background noise floor.*
6. *Margin (dB) = Remark result (dBuV/m) – Average limit (dBuV/m).*

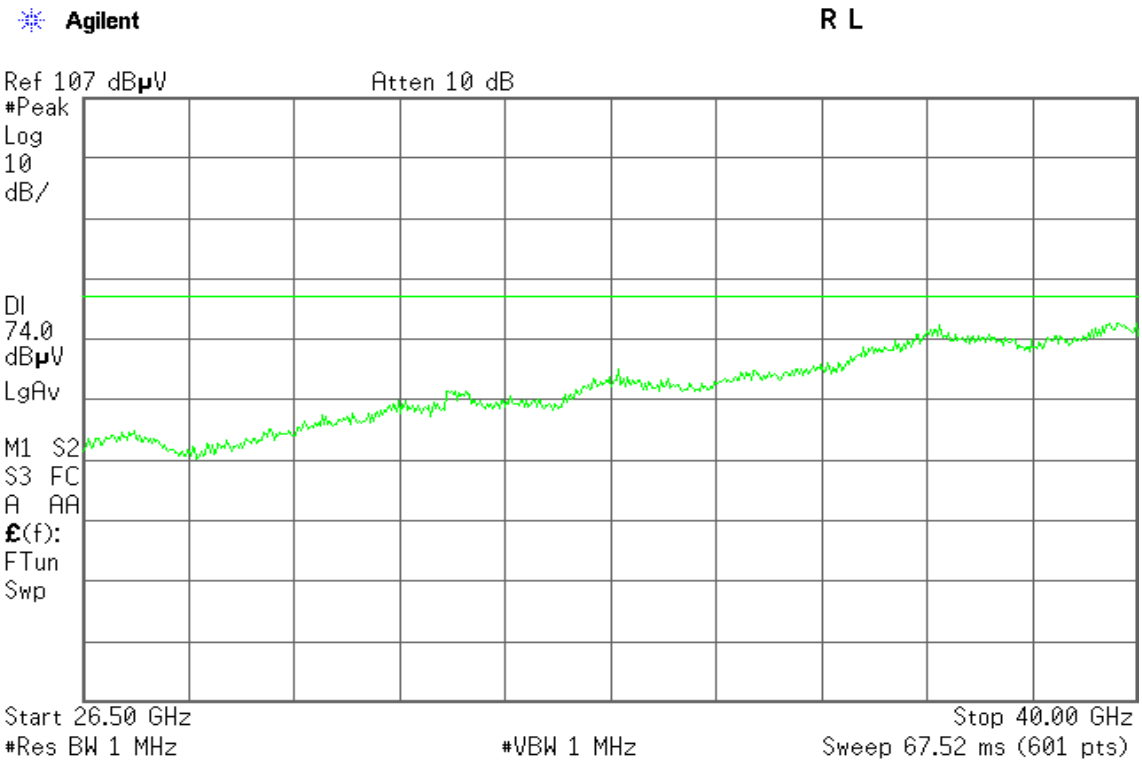
Tx / IEEE 802.11a mode / 5700 MHz

Polarity: Vertical

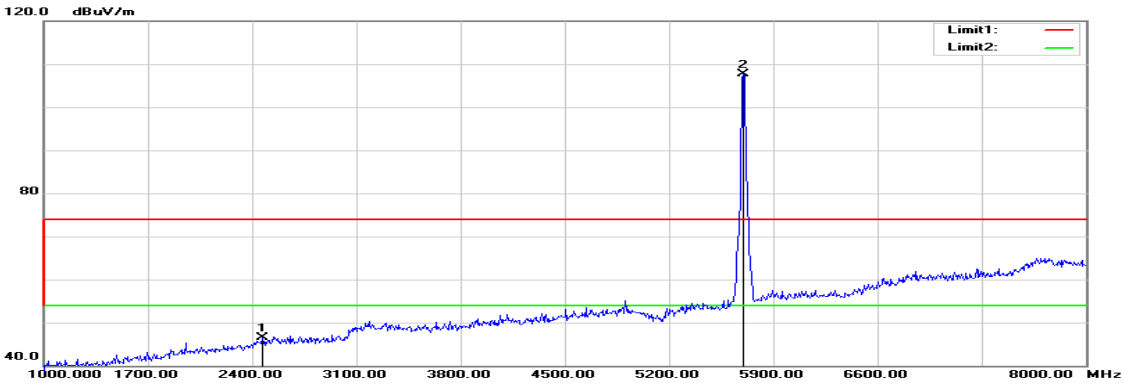


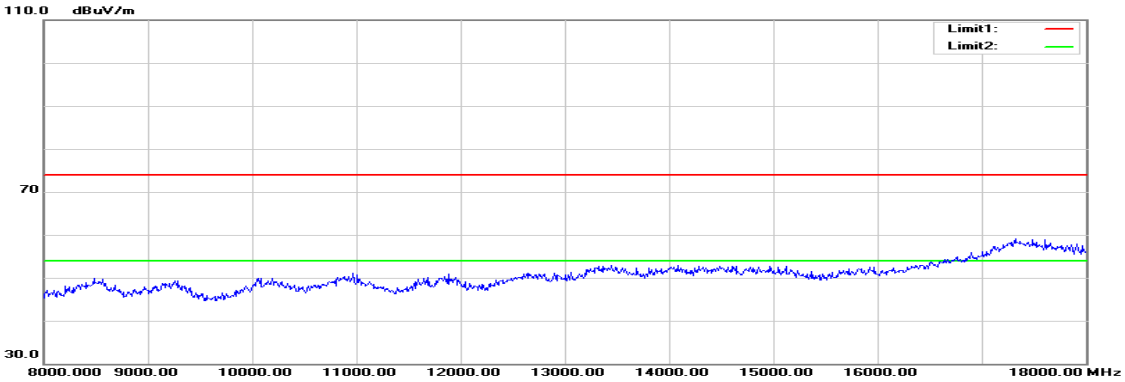


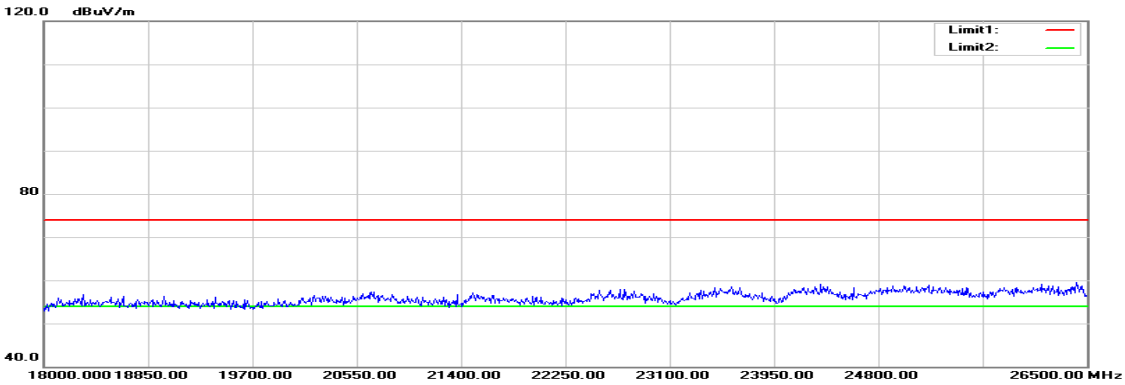


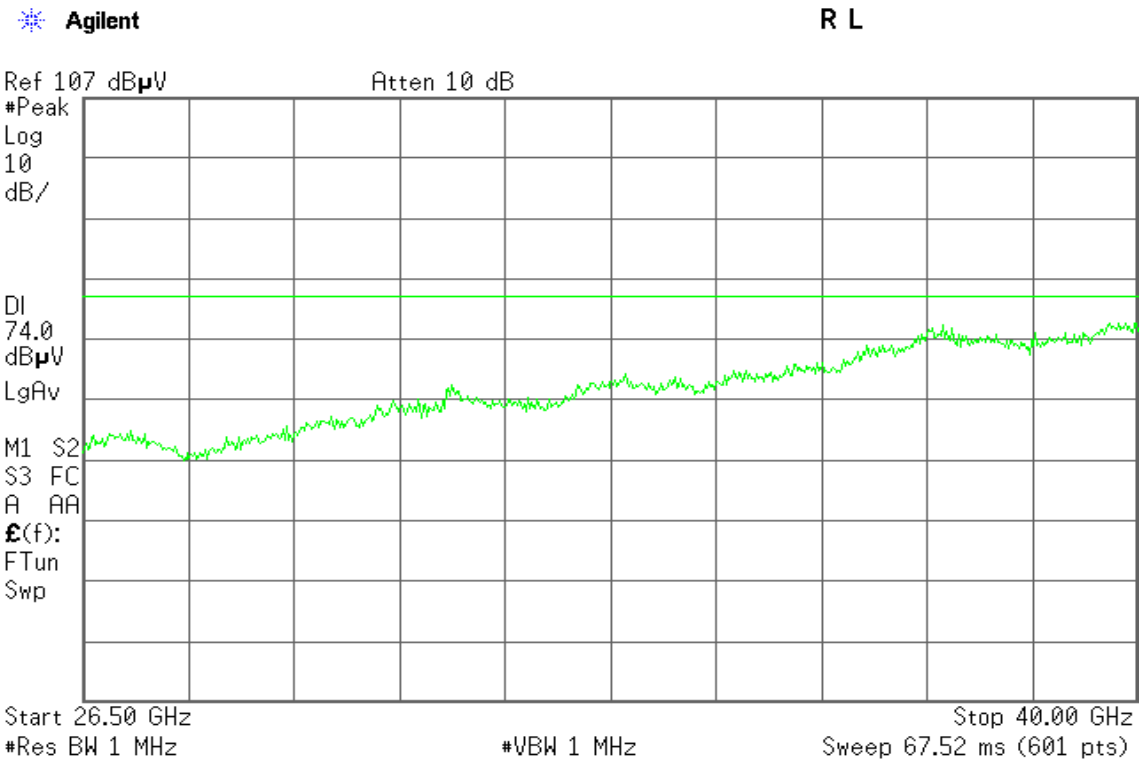

Agilent
R L
Ref 107 dBµV
Atten 10 dB
#Peak
Log
10
dB/
Dl
74.0
dBµV
LgAv
M1 S2
S3 FC
A AA
£(f):
FTun
Swp
Start 26.50 GHz
Stop 40.00 GHz
#Res BW 1 MHz
#VBW 1 MHz
Sweep 67.52 ms (601 pts)

Polarity: Horizontal








Agilent
R L
Ref 107 dBµV
Atten 10 dB
#Peak
Log
10
dB/
Dl
74.0
dBµV
LgAv
M1 S2
S3 FC
A AA
£(f):
FTun
Swp
Start 26.50 GHz
#Res BW 1 MHz
#VBW 1 MHz
Stop 40.00 GHz
Sweep 67.52 ms (601 pts)

Operation Mode: Tx / IEEE 802.11a mode / 5700 MHz **Test Date:** January 18, 2016

Temperature: 27℃ **Tested by:** Jason Lu

Humidity: 53% RH **Polarity:** Ver. / Hor.

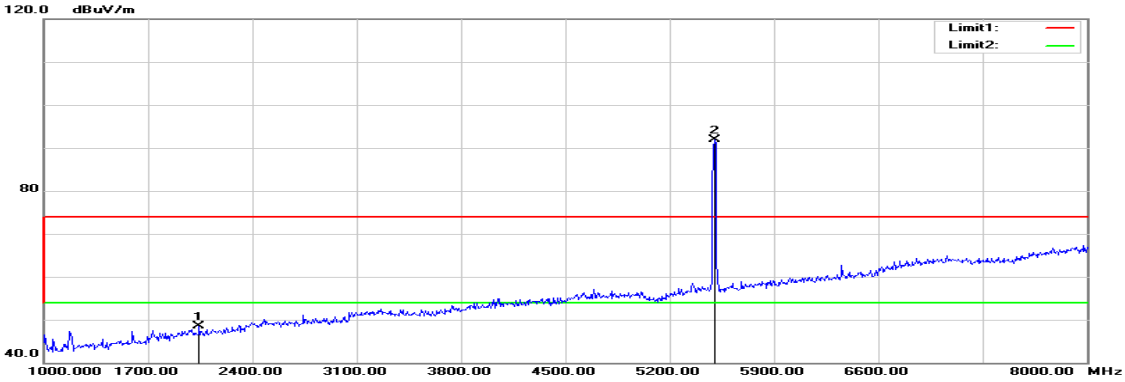
Frequency (MHz)	Reading (dBuV)	Correction (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark	Ant.Pol. (H/V)
2449.000	50.73	-3.43	47.30	74.00	-26.70	peak	V
N/A							
2470.000	49.76	-3.35	46.41	74.00	-27.59	peak	H
N/A							

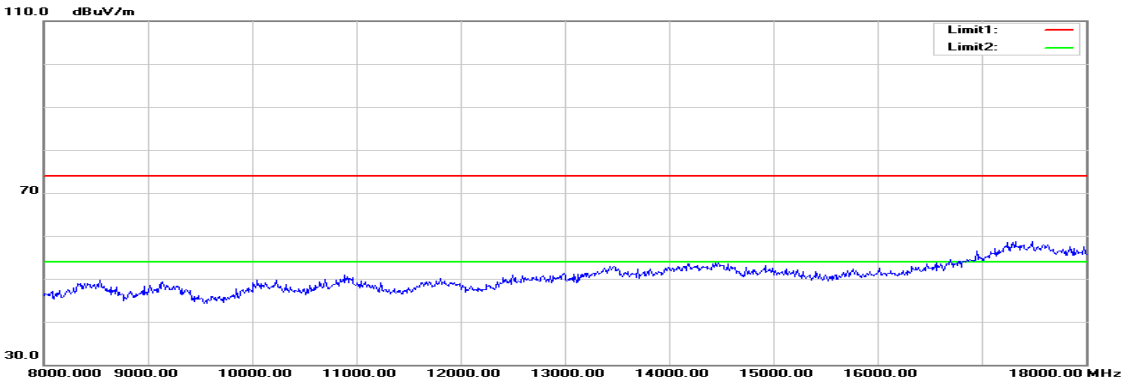
Remark:

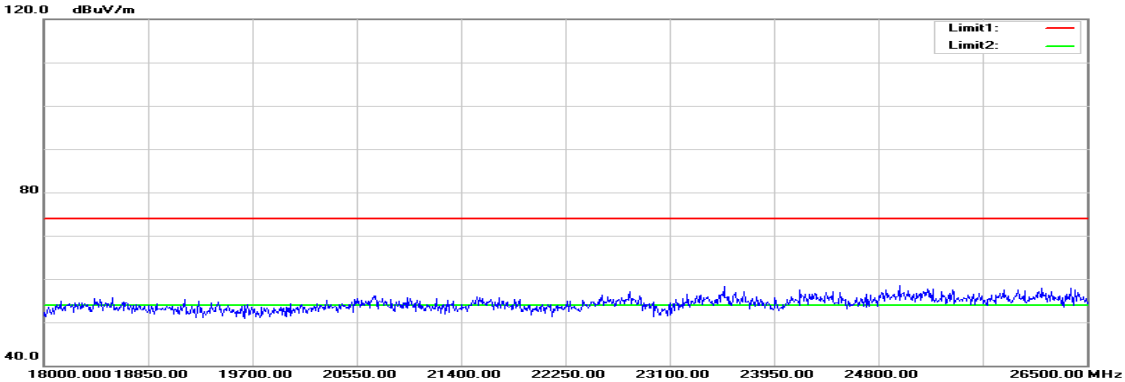
1. *Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.*
2. *Radiated emissions measured in frequency above 1000MHz were made with an instrument using peak/average detector mode.*
3. *Average test would be performed if the peak result were greater than the average limit or as required by the applicant.*
4. *Data of measurement within this frequency range shown " --- " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.*
5. *Measurements above show only up to 6 maximum emissions noted, or would be lesser, with " N/A " remark, if no specific emissions from the EUT are recorded (ie: margin>20dB from the applicable limit) and considered that's already beyond the background noise floor.*
6. *Margin (dB) = Remark result (dBuV/m) – Average limit (dBuV/m).*

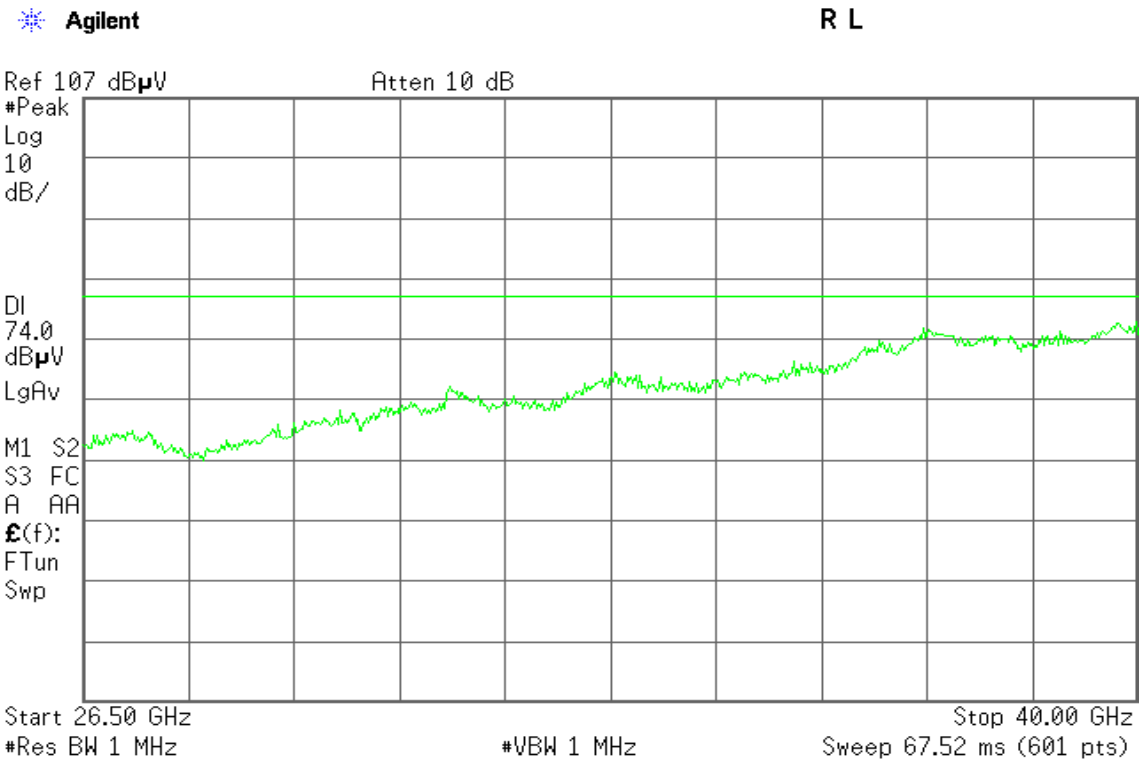
Tx / IEEE 802.11n HT 20 MHz Channel mode / 5500 MHz

Polarity: Vertical

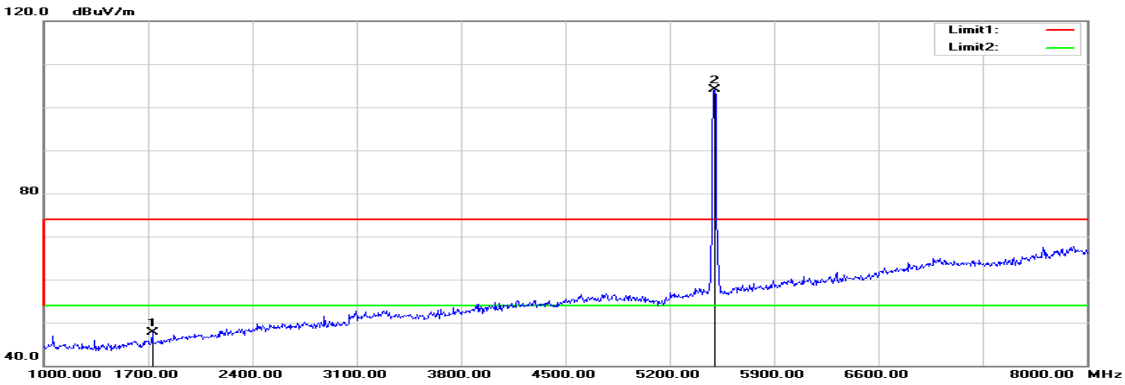


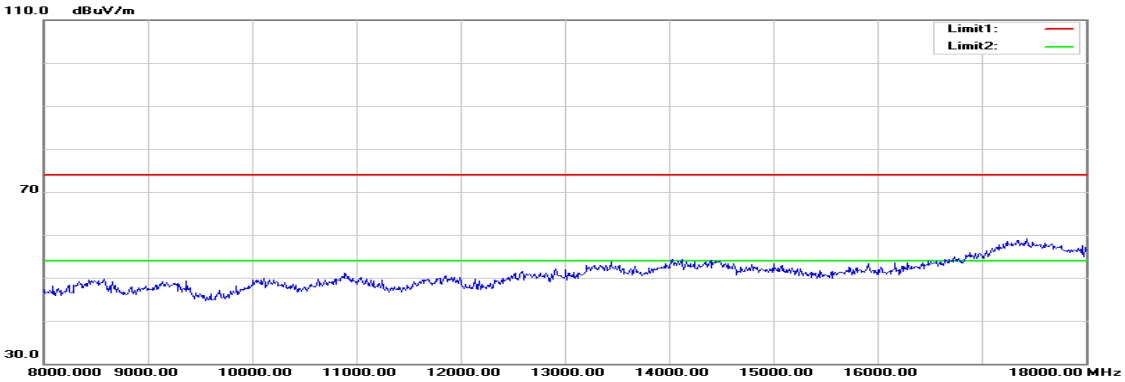


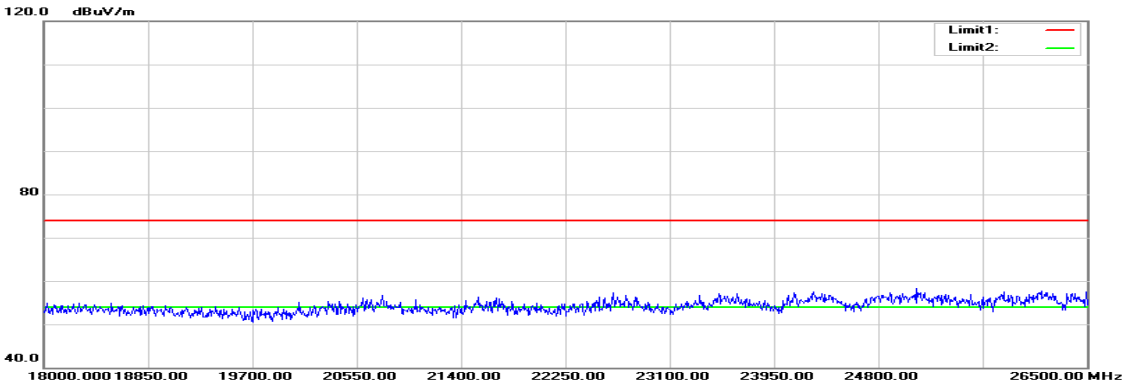


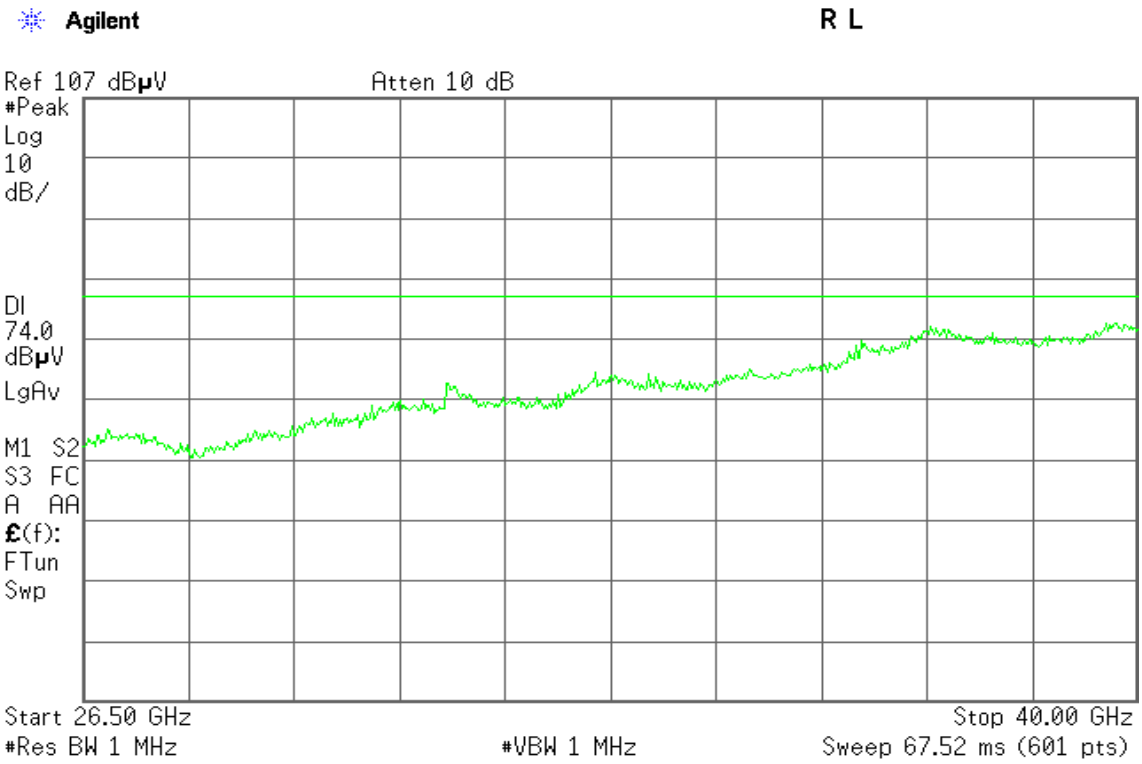

Agilent
R L
Ref 107 dBµV
Atten 10 dB
#Peak
Log
10
dB/
Dl
74.0
dBµV
LgAv
M1 S2
S3 FC
A AA
£(f):
FTun
Swp
Start 26.50 GHz
#Res BW 1 MHz
#VBW 1 MHz
Stop 40.00 GHz
Sweep 67.52 ms (601 pts)

Polarity: Horizontal








Agilent
R L
Ref 107 dBµV
Atten 10 dB
#Peak
Log
10
dB/
Dl
74.0
dBµV
LgAv
M1 S2
S3 FC
A AA
£(f):
FTun
Swp
Start 26.50 GHz
Stop 40.00 GHz
#Res BW 1 MHz
#VBW 1 MHz
Sweep 67.52 ms (601 pts)

Operation Mode:	Tx / IEEE 802.11n HT 20 MHz mode / 5500 MHz	**Test Date:**	January 18, 2016
Temperature:	27℃	**Tested by:**	Jason Lu
Humidity:	53% RH	**Polarity:**	Ver. / Hor.

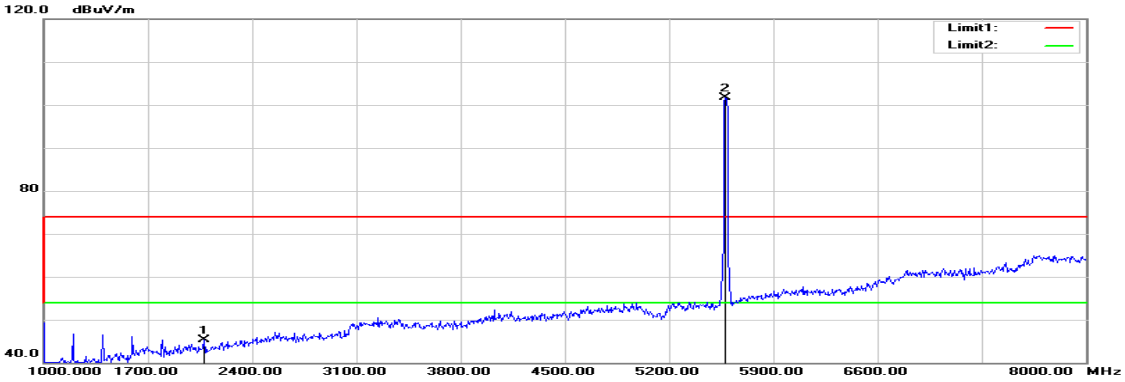
Frequency (MHz)	Reading (dBuV)	Correction (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark	Ant.Pol. (H/V)
2043.000	53.47	-4.92	48.55	74.00	-25.45	peak	V
N/A							
1728.000	54.06	-6.32	47.74	74.00	-26.26	peak	H
N/A							

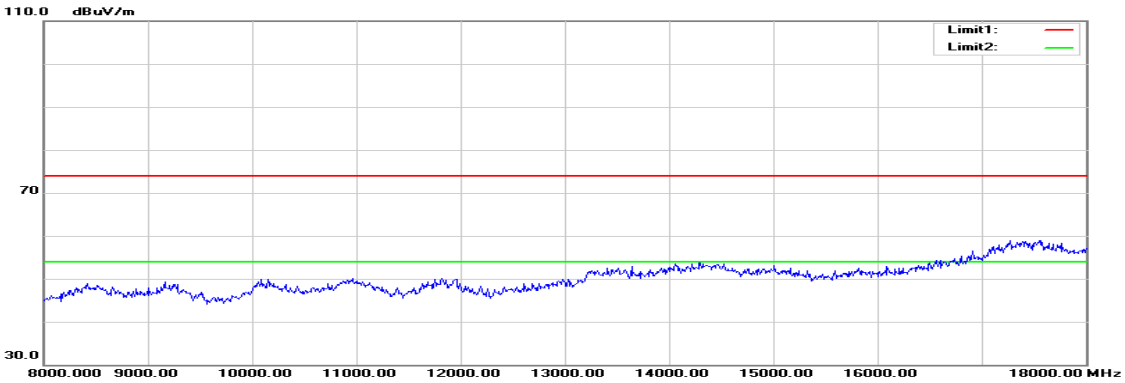
Remark:

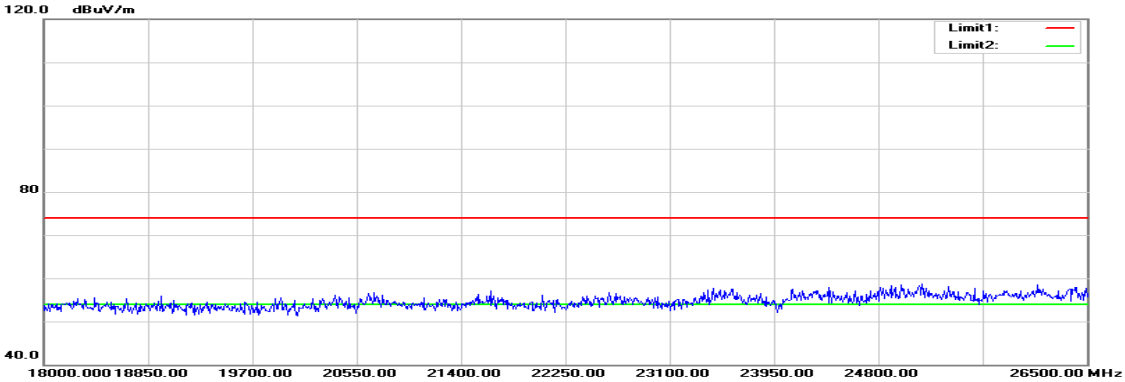
1. *Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.*
2. *Radiated emissions measured in frequency above 1000MHz were made with an instrument using peak/average detector mode.*
3. *Average test would be performed if the peak result were greater than the average limit or as required by the applicant.*
4. *Data of measurement within this frequency range shown " --- " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.*
5. *Measurements above show only up to 6 maximum emissions noted, or would be lesser, with " N/A " remark, if no specific emissions from the EUT are recorded (ie: margin>20dB from the applicable limit) and considered that's already beyond the background noise floor.*
6. *Margin (dB) = Remark result (dBuV/m) – Average limit (dBuV/m).*

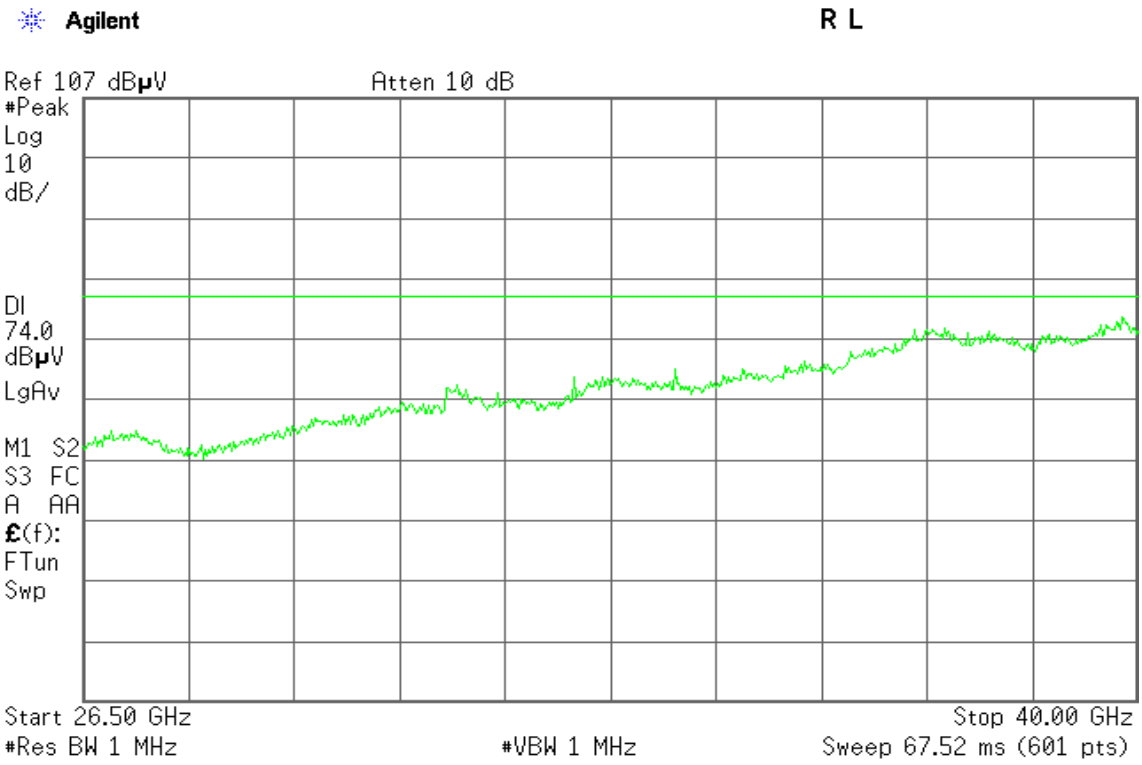
Tx / IEEE 802.11n HT 20 MHz Channel mode / 5580 MHz

Polarity: Vertical

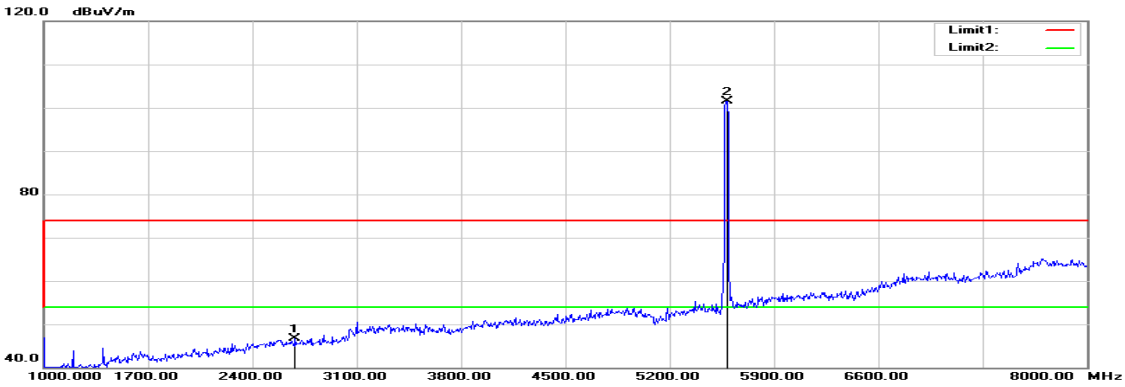


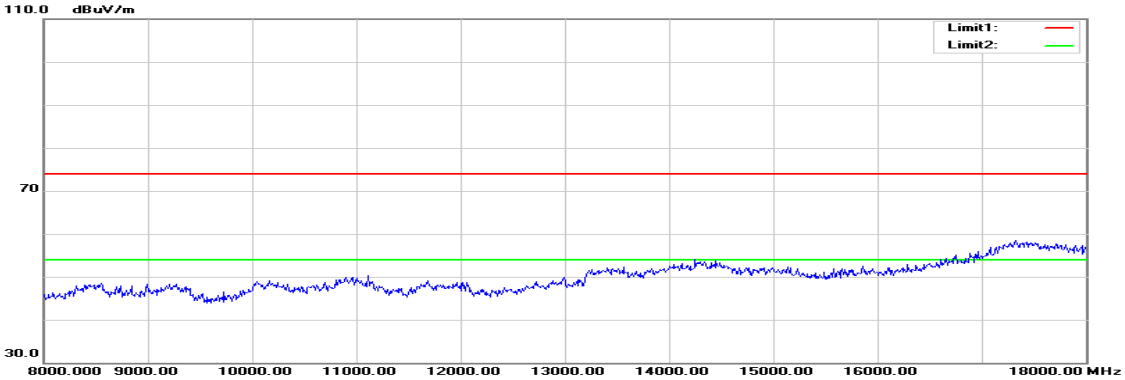


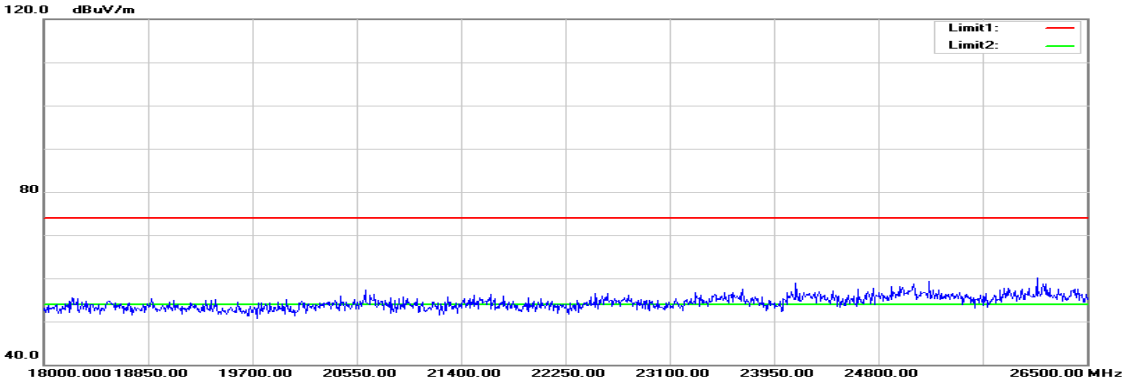


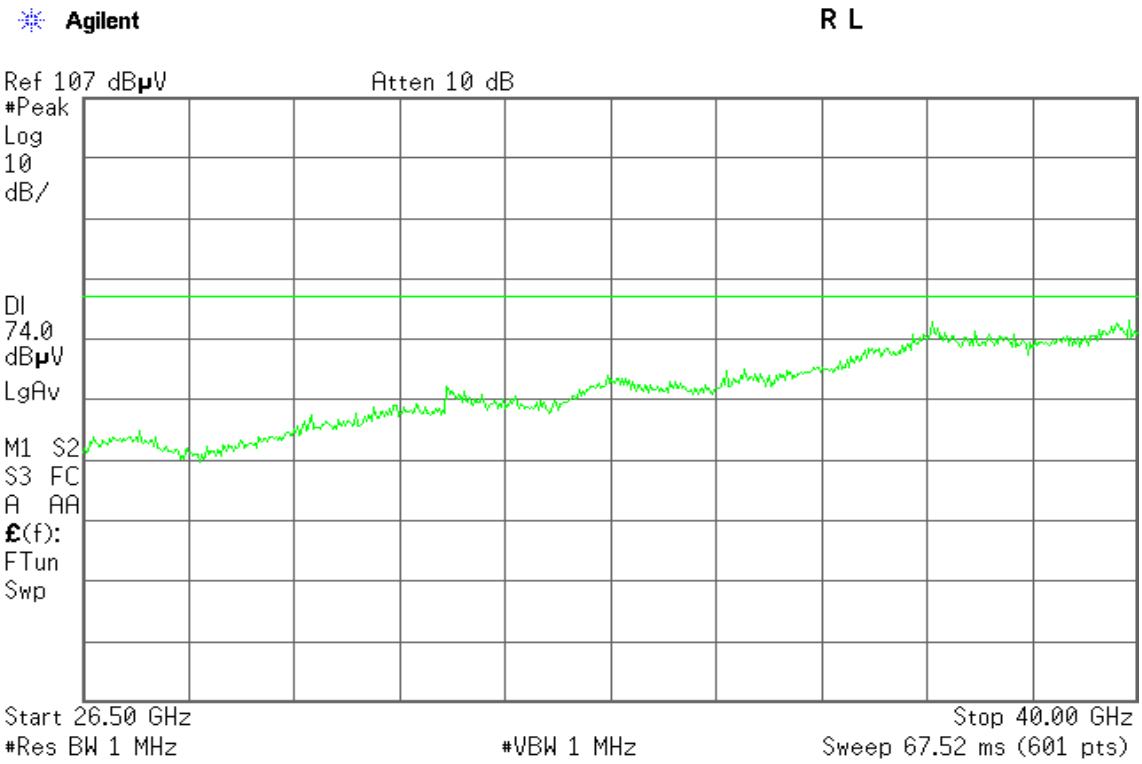

Agilent
R L
Ref 107 dBµV
Atten 10 dB
#Peak
Log
10
dB/
Dl
74.0
dBµV
LgAv
M1 S2
S3 FC
A AA
£(f):
FTun
Swp
Start 26.50 GHz
Stop 40.00 GHz
#Res BW 1 MHz
#VBW 1 MHz
Sweep 67.52 ms (601 pts)

Polarity: Horizontal








Agilent
R L
Ref 107 dBµV
Atten 10 dB
#Peak
Log
10
dB/
Dl
74.0
dBµV
LgAv
M1 S2
S3 FC
A AA
£(f):
FTun
Swp
Start 26.50 GHz
Stop 40.00 GHz
#Res BW 1 MHz
#VBW 1 MHz
Sweep 67.52 ms (601 pts)

Operation Mode:	Tx / IEEE 802.11n HT 20 MHz mode / 5580 MHz	**Test Date:**	January 18, 2016
Temperature:	27℃	**Tested by:**	Jason Lu
Humidity:	53% RH	**Polarity:**	Ver. / Hor.

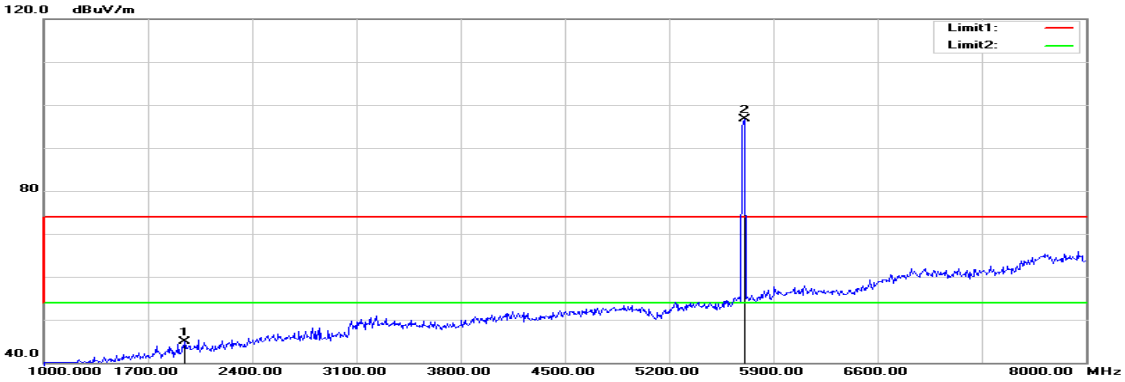
Frequency (MHz)	Reading (dBuV)	Correction (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark	Ant.Pol. (H/V)
2078.000	50.35	-4.96	45.39	74.00	-28.61	peak	V
N/A							
2687.000	49.44	-2.74	46.70	74.00	-27.30	peak	H
N/A							

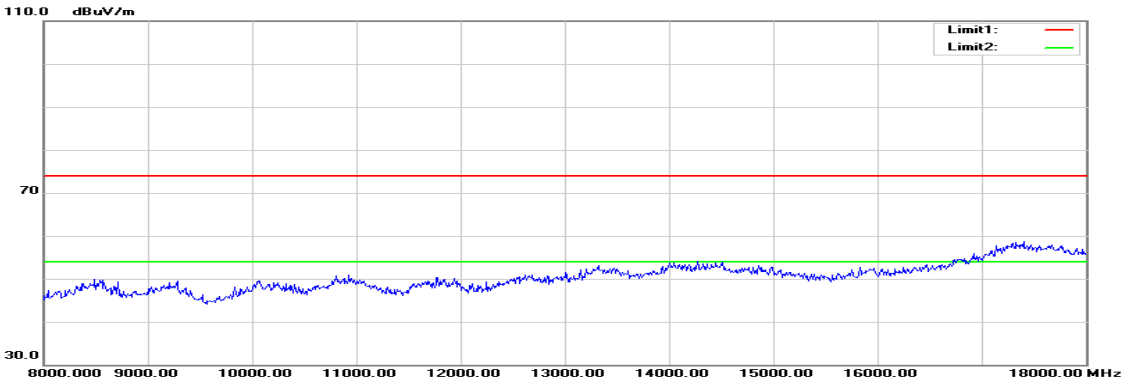
Remark:

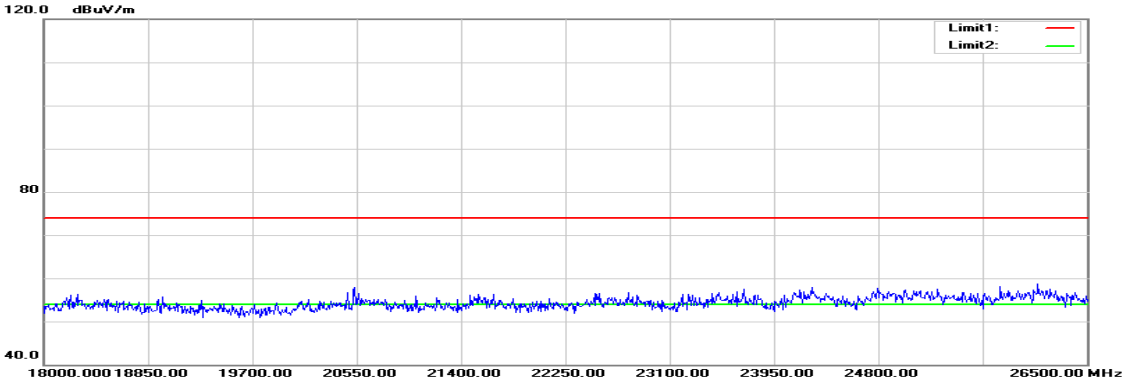
1. *Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.*
2. *Radiated emissions measured in frequency above 1000MHz were made with an instrument using peak/average detector mode.*
3. *Average test would be performed if the peak result were greater than the average limit or as required by the applicant.*
4. *Data of measurement within this frequency range shown " --- " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.*
5. *Measurements above show only up to 6 maximum emissions noted, or would be lesser, with " N/A " remark, if no specific emissions from the EUT are recorded (ie: margin>20dB from the applicable limit) and considered that's already beyond the background noise floor.*
6. *Margin (dB) = Remark result (dBuV/m) – Average limit (dBuV/m).*

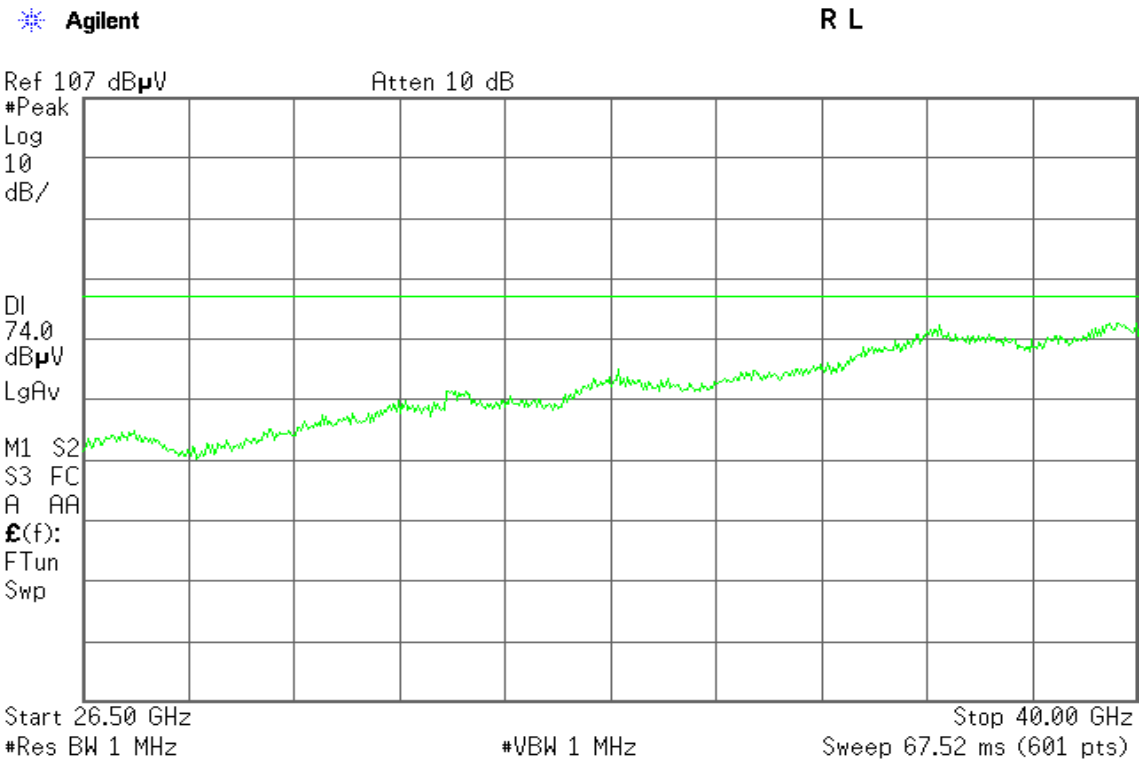
Tx / IEEE 802.11n HT 20 MHz Channel mode / 5700 MHz

Polarity: Vertical

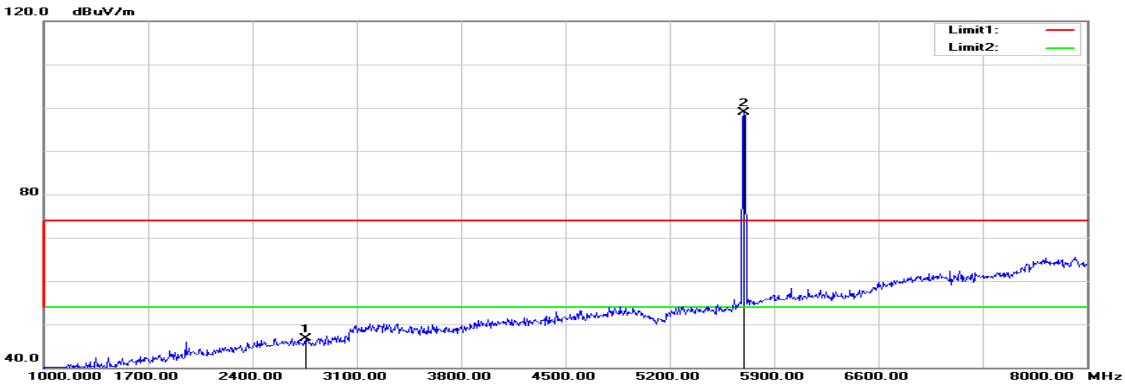


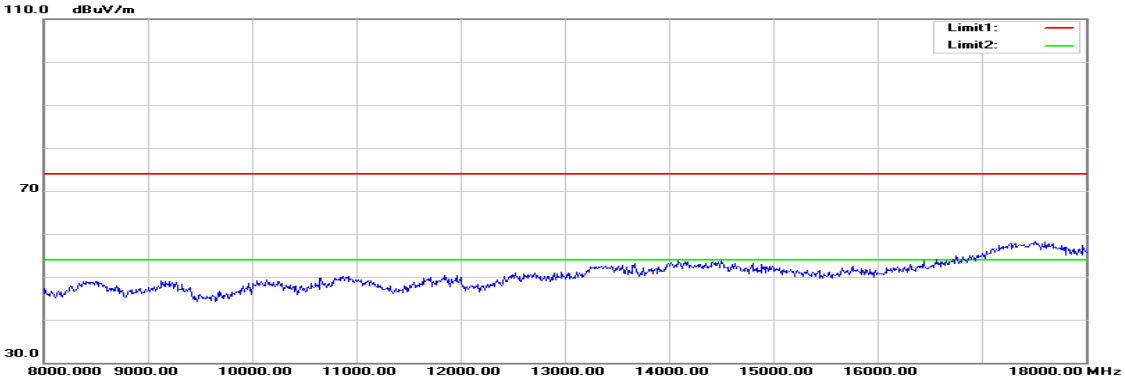


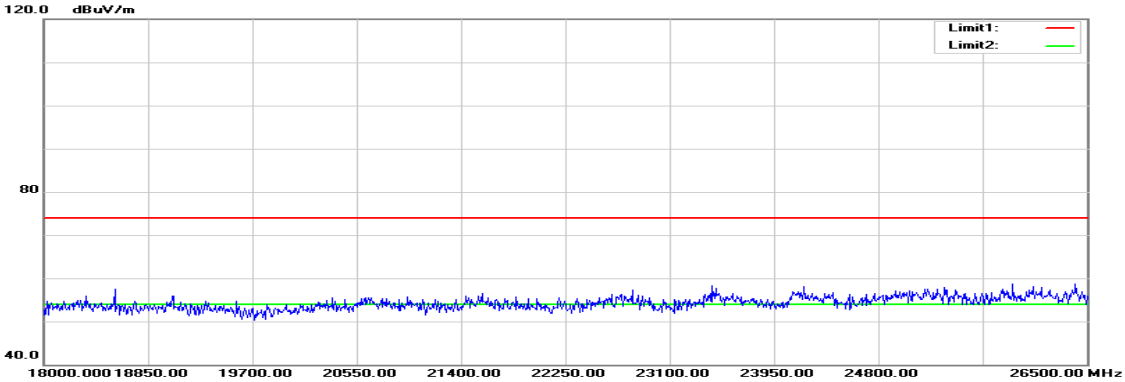


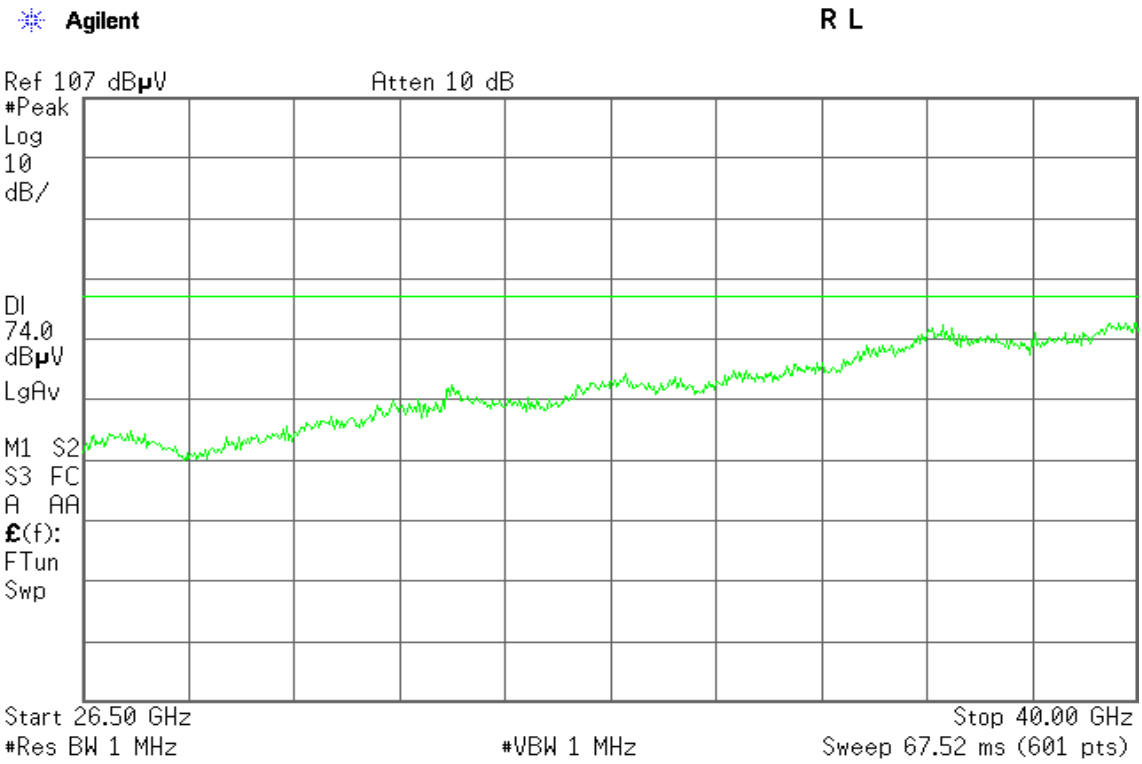

Agilent
R L
Ref 107 dBµV
Atten 10 dB
#Peak
Log
10
dB/
Dl
74.0
dBµV
LgAv
M1 S2
S3 FC
A AA
£(f):
FTun
Swp
Start 26.50 GHz
#Res BW 1 MHz
#VBW 1 MHz
Stop 40.00 GHz
Sweep 67.52 ms (601 pts)

Polarity: Horizontal








Agilent
R L
Ref 107 dBµV
Atten 10 dB
#Peak
Log
10
dB/
Dl
74.0
dBµV
LgAv
M1 S2
S3 FC
A AA
£(f):
FTun
Swp
Start 26.50 GHz
Stop 40.00 GHz
#Res BW 1 MHz
#VBW 1 MHz
Sweep 67.52 ms (601 pts)

Operation Mode:	Tx / IEEE 802.11n HT 20 MHz mode / 5700 MHz	**Test Date:**	January 18, 2016
Temperature:	27℃	**Tested by:**	Jason Lu
Humidity:	53% RH	**Polarity:**	Ver. / Hor.

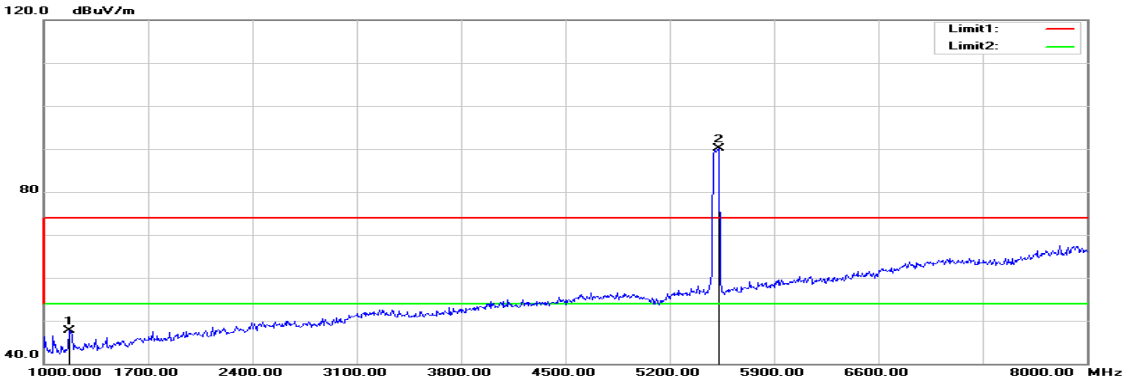
Frequency (MHz)	Reading (dBuV)	Correction (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark	Ant.Pol. (H/V)
1945.000	50.03	-5.17	44.86	74.00	-29.14	peak	V
N/A							
2757.000	49.35	-2.60	46.75	74.00	-27.25	peak	H
N/A							

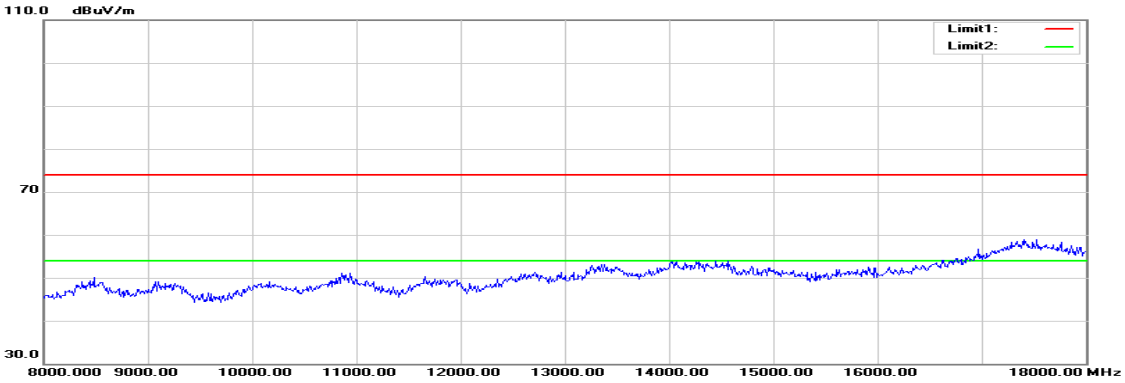
Remark:

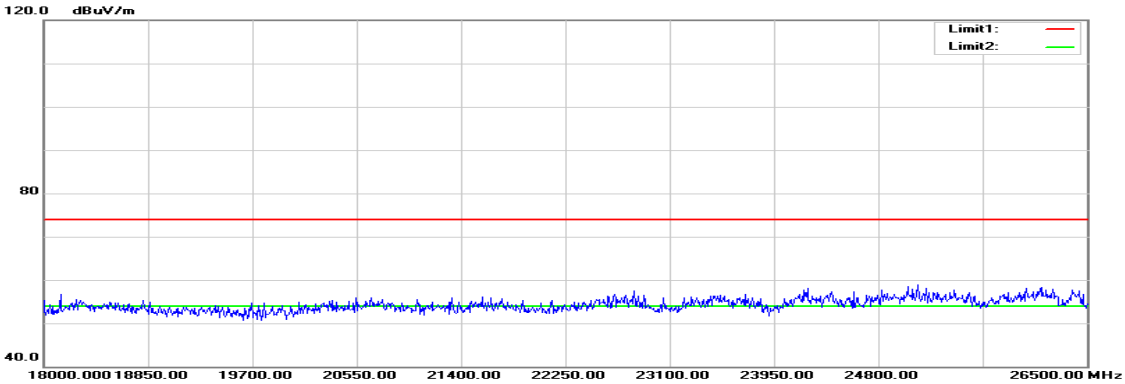
1. *Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.*
2. *Radiated emissions measured in frequency above 1000MHz were made with an instrument using peak/average detector mode.*
3. *Average test would be performed if the peak result were greater than the average limit or as required by the applicant.*
4. *Data of measurement within this frequency range shown " --- " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.*
5. *Measurements above show only up to 6 maximum emissions noted, or would be lesser, with " N/A " remark, if no specific emissions from the EUT are recorded (ie: margin>20dB from the applicable limit) and considered that's already beyond the background noise floor.*
6. *Margin (dB) = Remark result (dBuV/m) – Average limit (dBuV/m).*

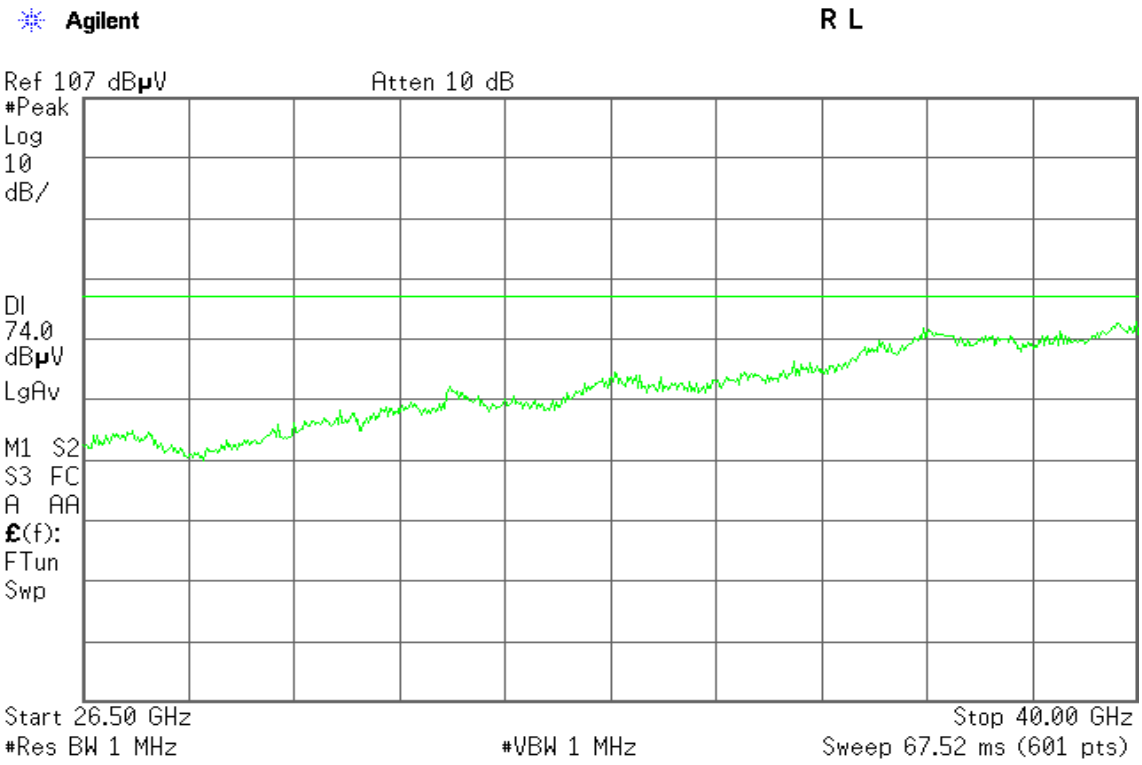
Tx / IEEE 802.11n HT 40 MHz mode / 5510 MHz

Polarity: Vertical

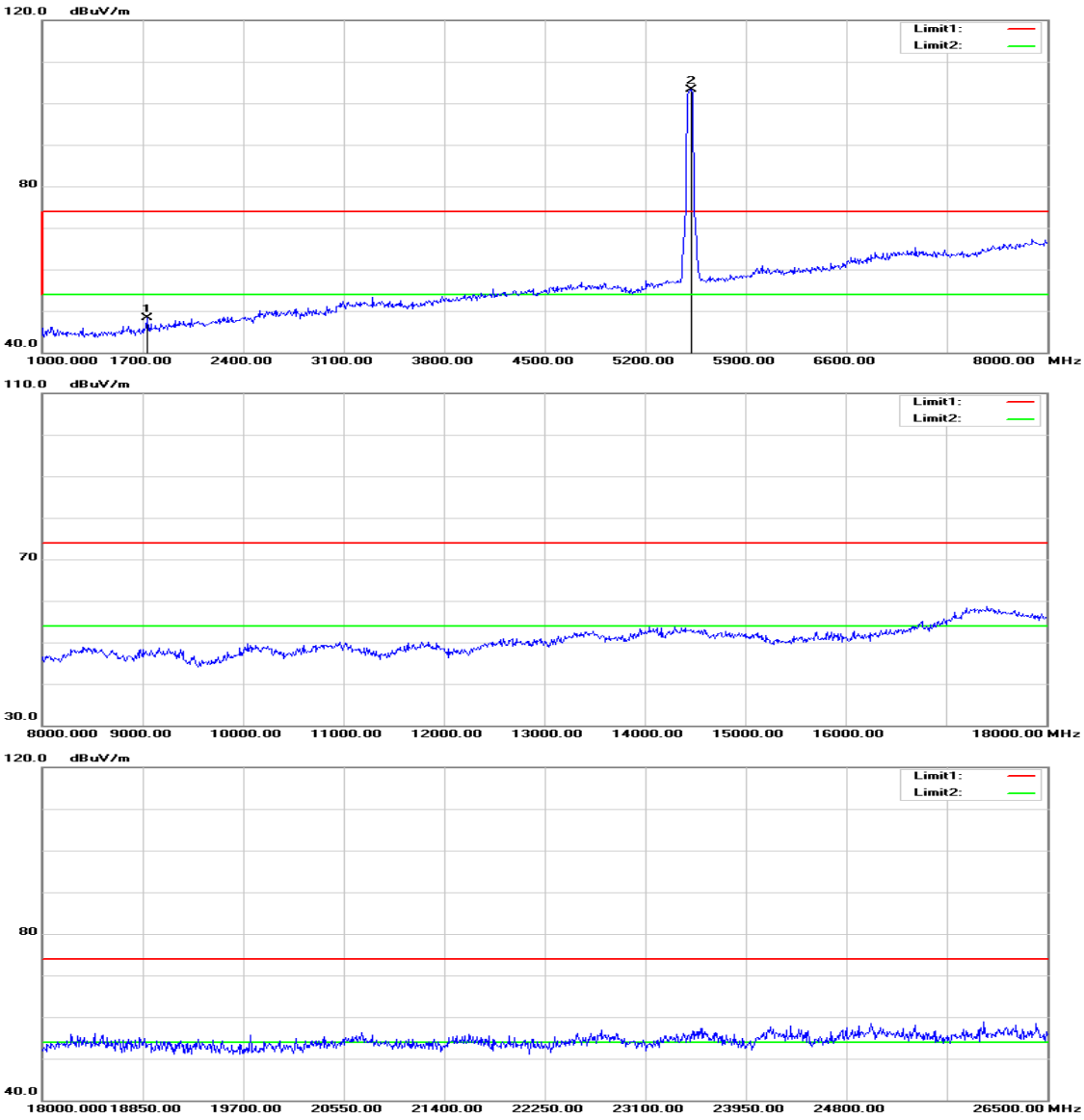


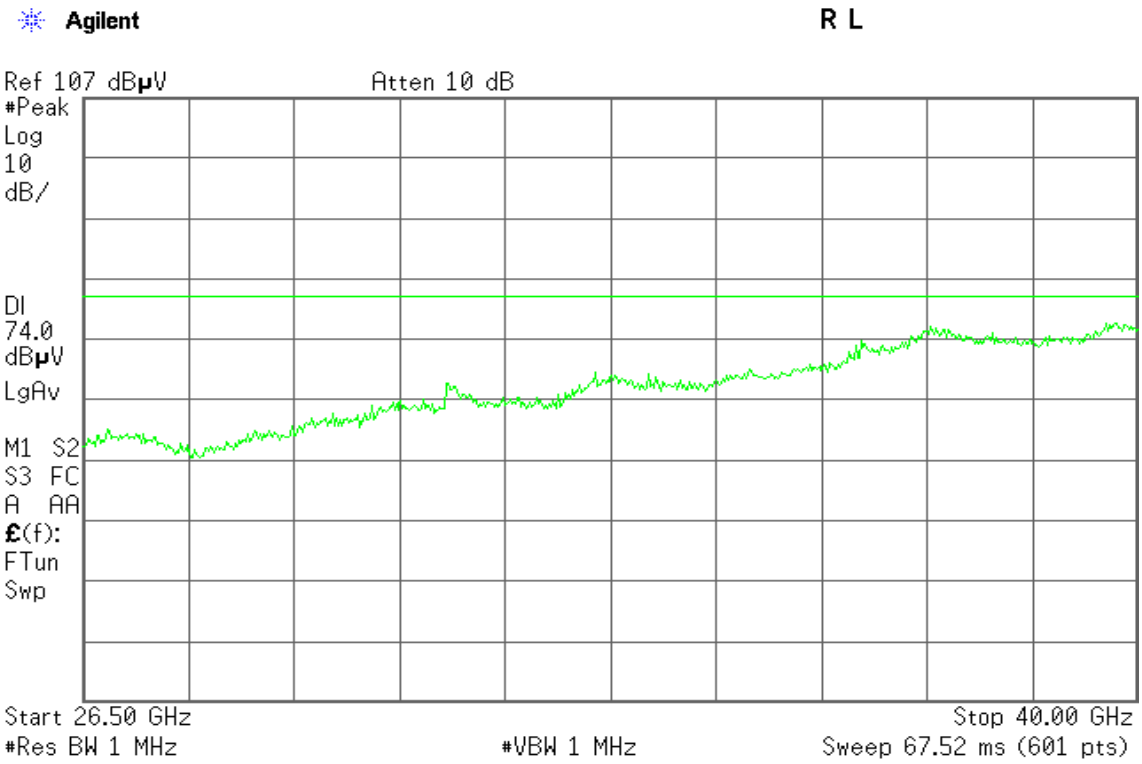





Agilent
R L
Ref 107 dBµV
Atten 10 dB
#Peak
Log
10
dB/
Dl
74.0
dBµV
LgAv
M1 S2
S3 FC
A AA
£(f):
FTun
Swp
Start 26.50 GHz
#Res BW 1 MHz
#VBW 1 MHz
Stop 40.00 GHz
Sweep 67.52 ms (601 pts)

Polarity: Horizontal




Agilent
R L
Ref 107 dBµV
Atten 10 dB
#Peak
Log
10
dB/
Dl
74.0
dBµV
LgAv
M1 S2
S3 FC
A AA
£(f):
FTun
Swp
Start 26.50 GHz
Stop 40.00 GHz
#Res BW 1 MHz
#VBW 1 MHz
Sweep 67.52 ms (601 pts)

Operation Mode:	Tx / IEEE 802.11n HT 40 MHz mode / 5510 MHz	**Test Date:**	January 18, 2016
Temperature:	27℃	**Tested by:**	Jason Lu
Humidity:	53% RH	**Polarity:**	Ver. / Hor.

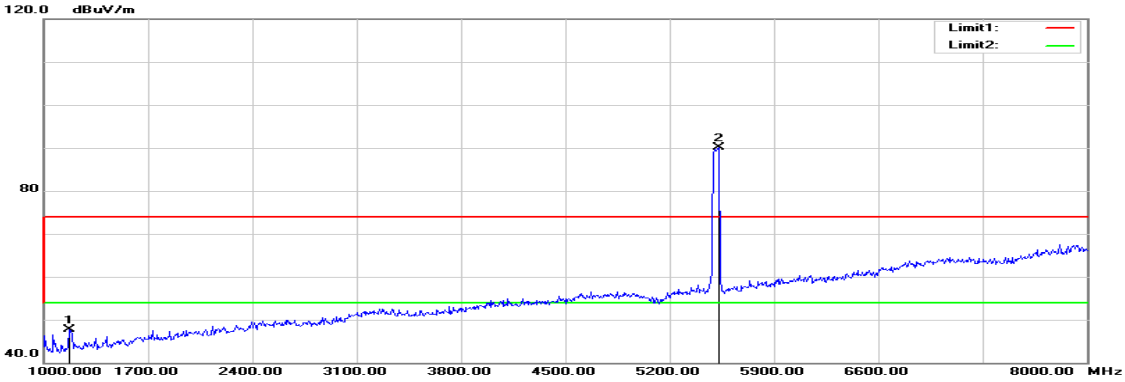
Frequency (MHz)	Reading (dBuV)	Correction (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark	Ant.Pol. (H/V)
1168.000	56.72	-8.99	47.73	74.00	-26.27	peak	V
N/A							
1735.000	54.68	-6.28	48.40	74.00	-25.60	peak	H
N/A							

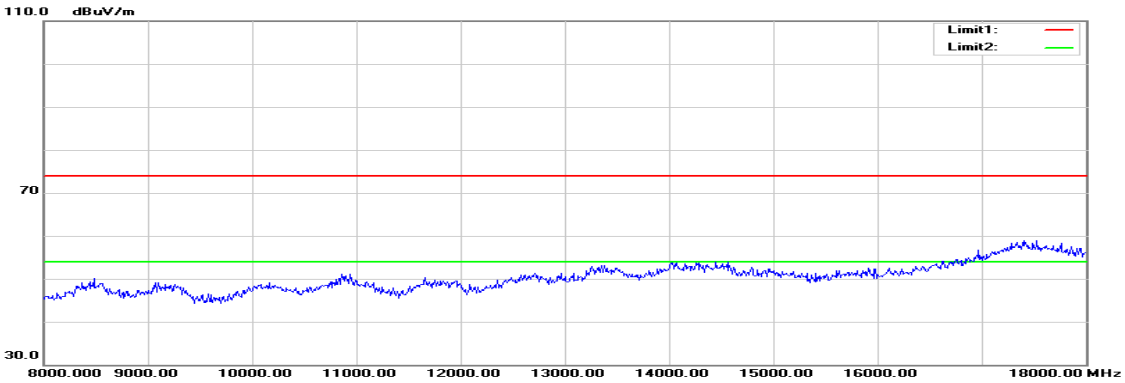
Remark:

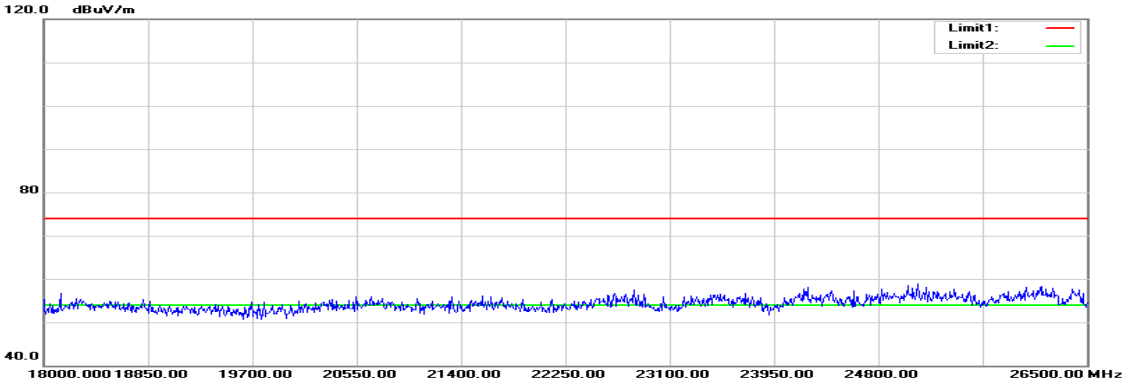
1. *Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.*
2. *Radiated emissions measured in frequency above 1000MHz were made with an instrument using peak/average detector mode.*
3. *Average test would be performed if the peak result were greater than the average limit or as required by the applicant.*
4. *Data of measurement within this frequency range shown " --- " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.*
5. *Measurements above show only up to 6 maximum emissions noted, or would be lesser, with " N/A " remark, if no specific emissions from the EUT are recorded (ie: margin>20dB from the applicable limit) and considered that's already beyond the background noise floor.*
6. *Margin (dB) = Remark result (dBuV/m) – Average limit (dBuV/m).*

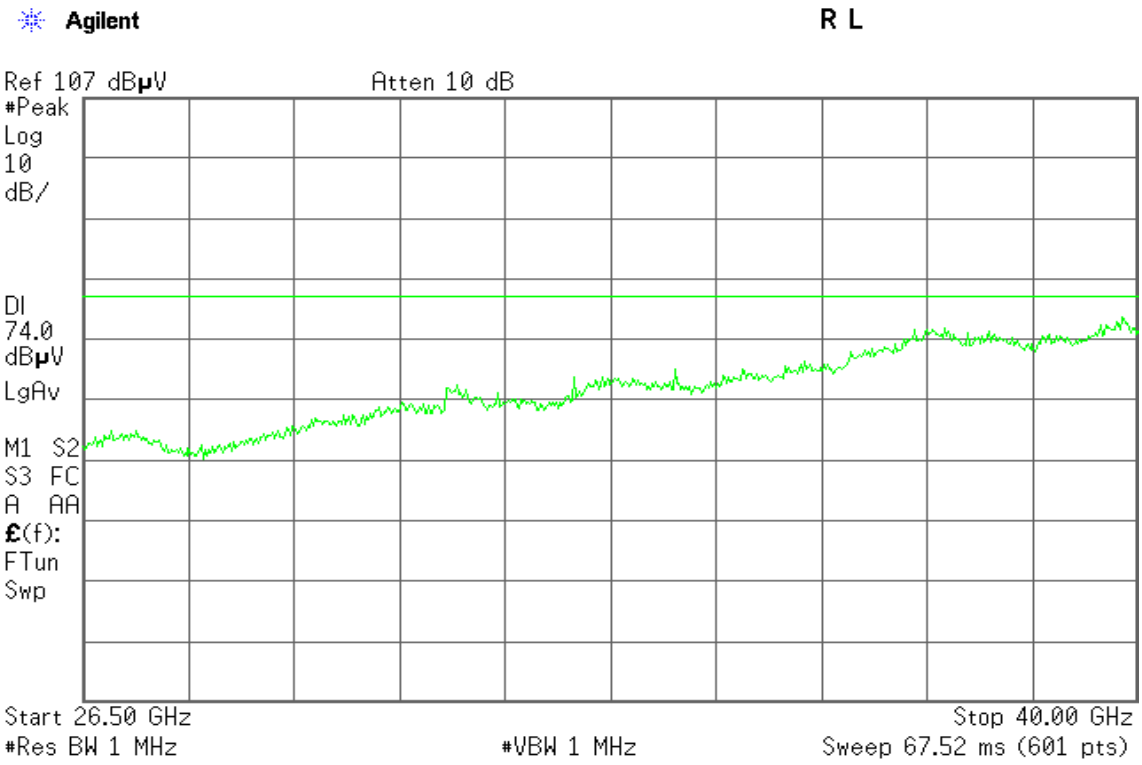
Tx / IEEE 802.11n HT 40 MHz mode / 5510 MHz

Polarity: Vertical

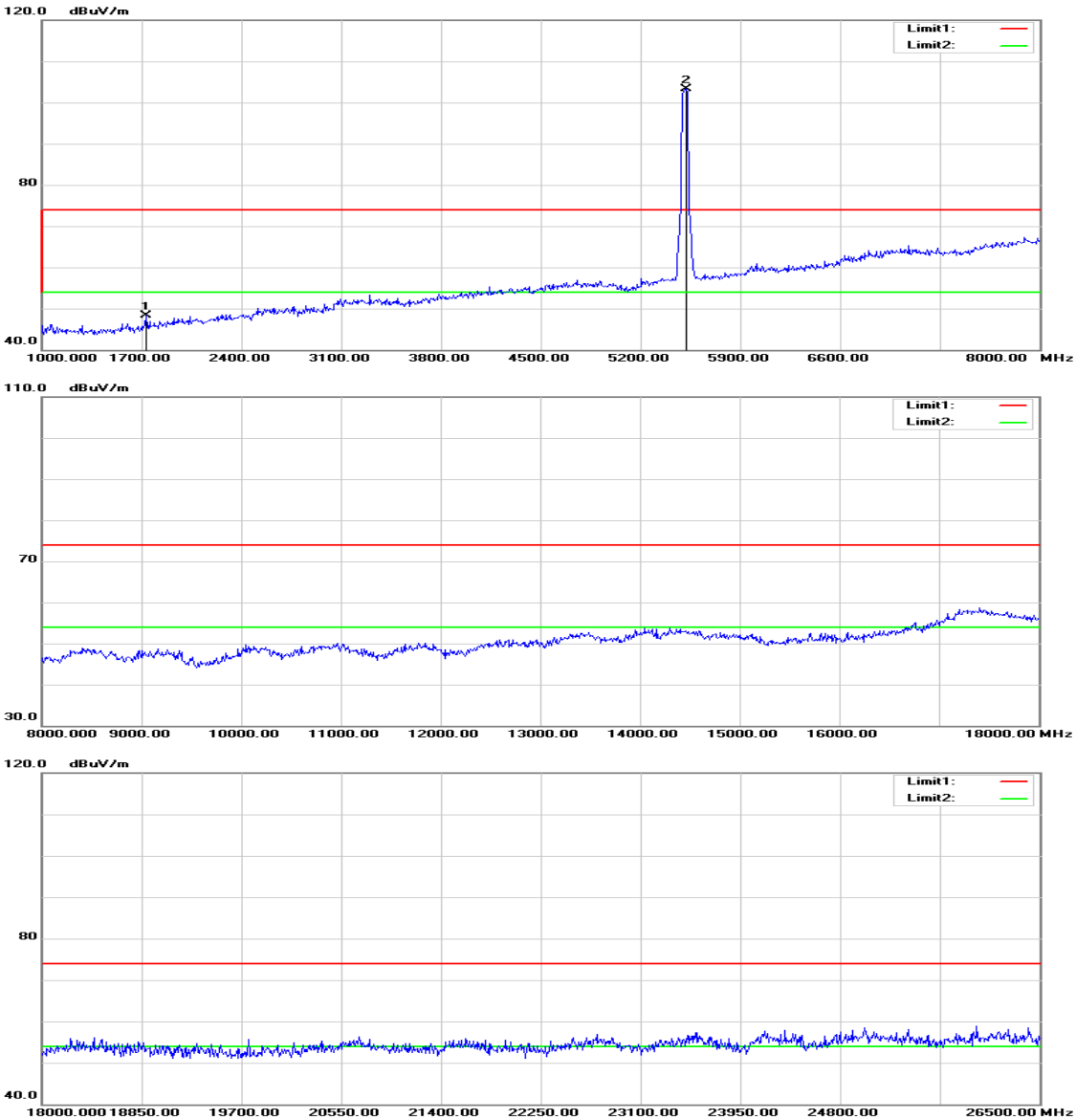


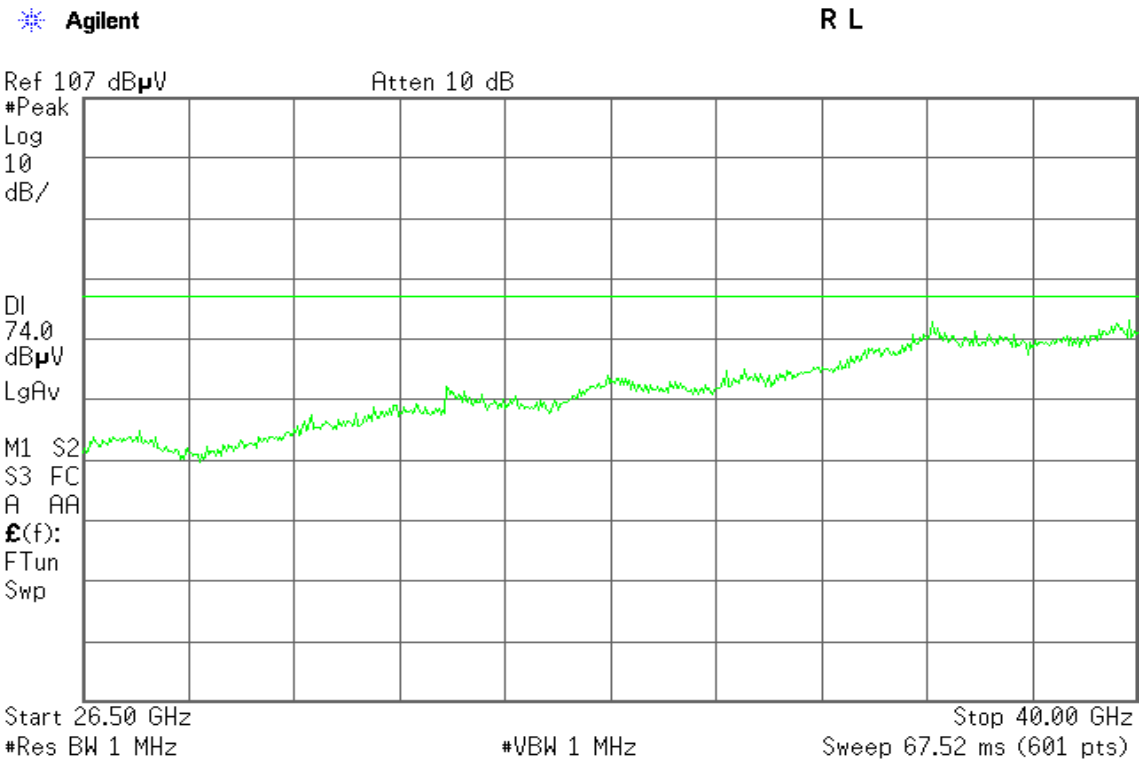





Agilent
R L
Ref 107 dBµV
Atten 10 dB
#Peak
Log
10
dB/
Dl
74.0
dBµV
LgAv
M1 S2
S3 FC
A AA
£(f):
FTun
Swp
Start 26.50 GHz
#Res BW 1 MHz
#VBW 1 MHz
Stop 40.00 GHz
Sweep 67.52 ms (601 pts)

Polarity: Horizontal




Agilent
R L
Ref 107 dBµV
Atten 10 dB
#Peak
Log
10
dB/
Dl
74.0
dBµV
LgAv
M1 S2
S3 FC
A AA
£(f):
FTun
Swp
Start 26.50 GHz
Stop 40.00 GHz
#Res BW 1 MHz
#VBW 1 MHz
Sweep 67.52 ms (601 pts)

Operation Mode:	Tx / IEEE 802.11n HT 40 MHz mode / 5510 MHz	**Test Date:**	January 18, 2016
Temperature:	27℃	**Tested by:**	Jason Lu
Humidity:	53% RH	**Polarity:**	Ver. / Hor.

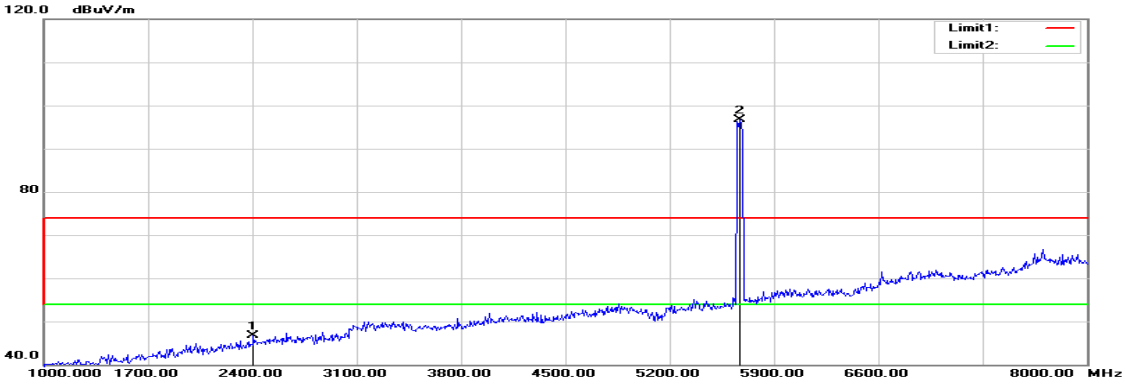
Frequency (MHz)	Reading (dBuV)	Correction (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark	Ant.Pol. (H/V)
1168.000	56.72	-8.99	47.73	74.00	-26.27	peak	V
N/A							
1735.000	54.68	-6.28	48.40	74.00	-25.60	peak	H
N/A							

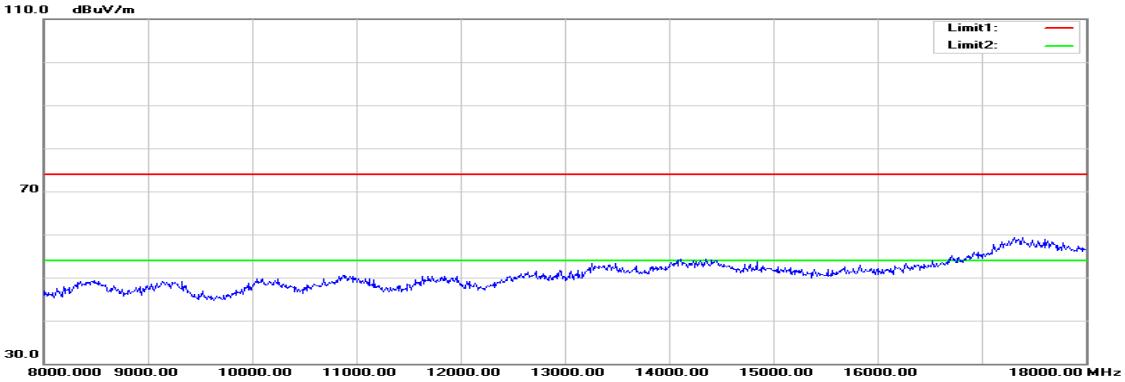
Remark:

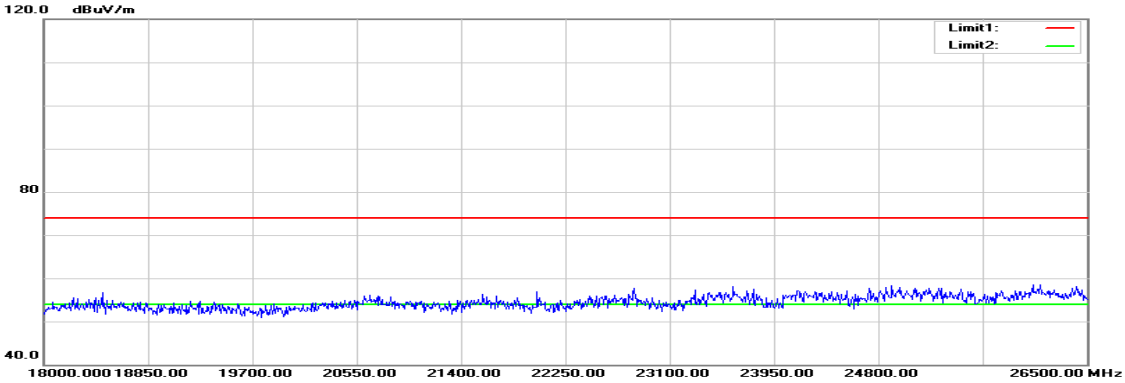
1. *Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.*
2. *Radiated emissions measured in frequency above 1000MHz were made with an instrument using peak/average detector mode.*
3. *Average test would be performed if the peak result were greater than the average limit or as required by the applicant.*
4. *Data of measurement within this frequency range shown " --- " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.*
5. *Measurements above show only up to 6 maximum emissions noted, or would be lesser, with " N/A " remark, if no specific emissions from the EUT are recorded (ie: margin>20dB from the applicable limit) and considered that's already beyond the background noise floor.*
6. *Margin (dB) = Remark result (dBuV/m) – Average limit (dBuV/m).*

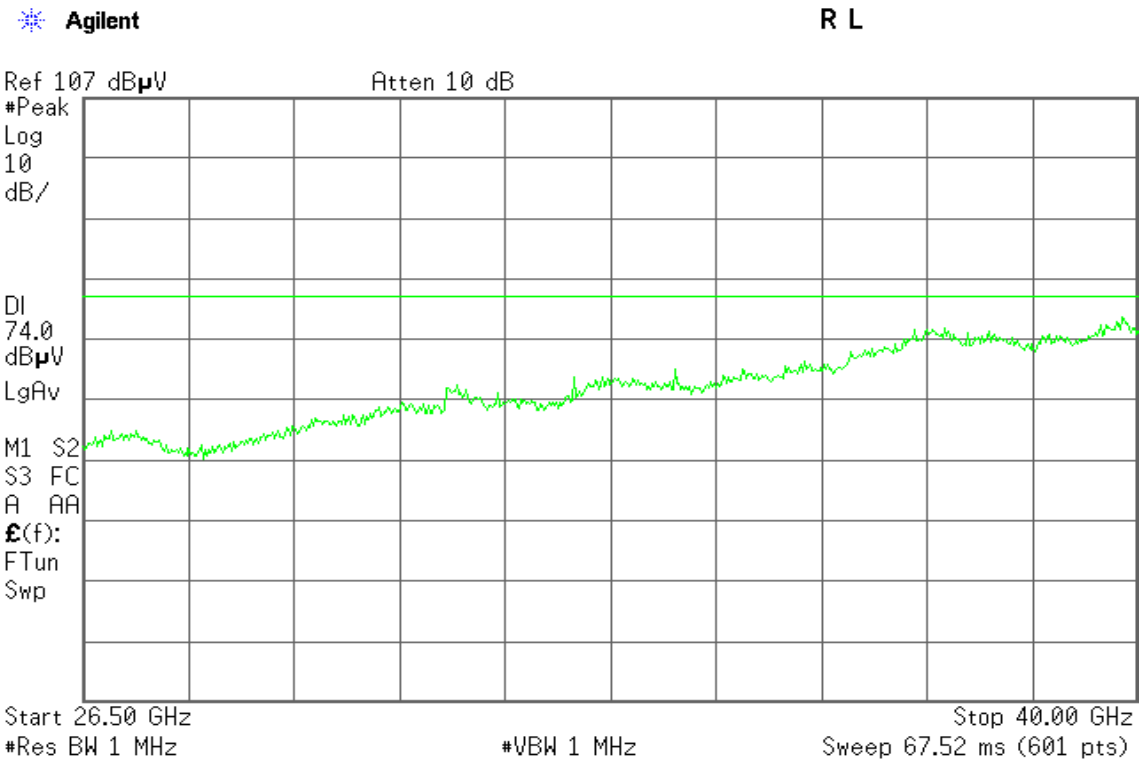
Tx / IEEE 802.11n HT 40 MHz mode / 5670 MHz

Polarity: Vertical

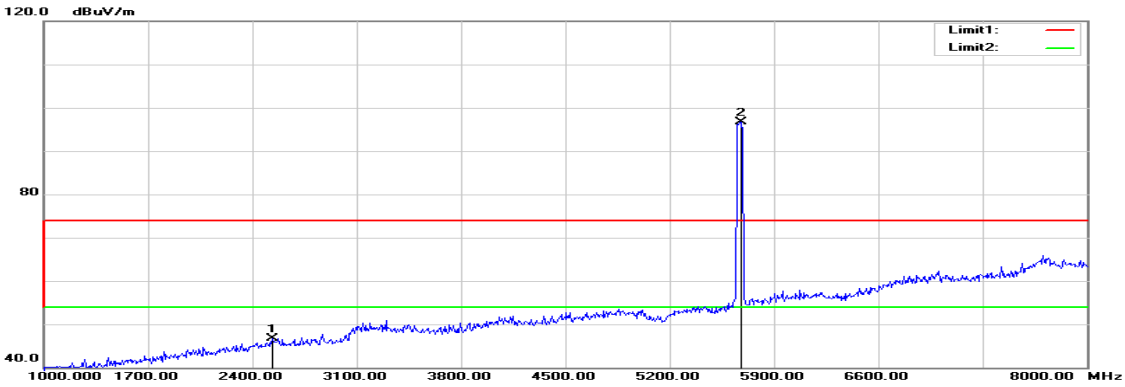


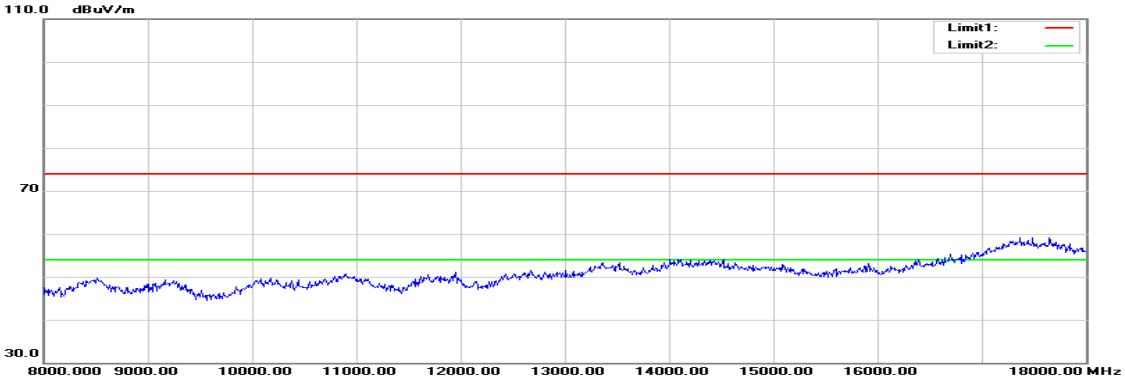


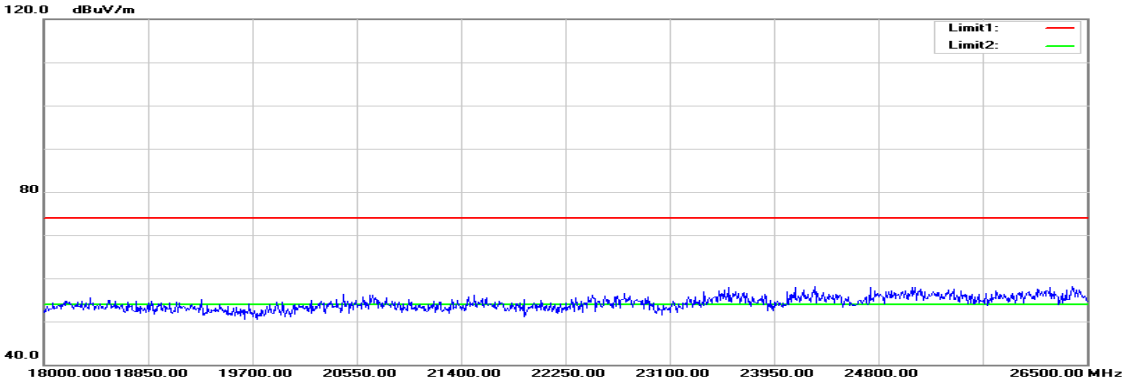


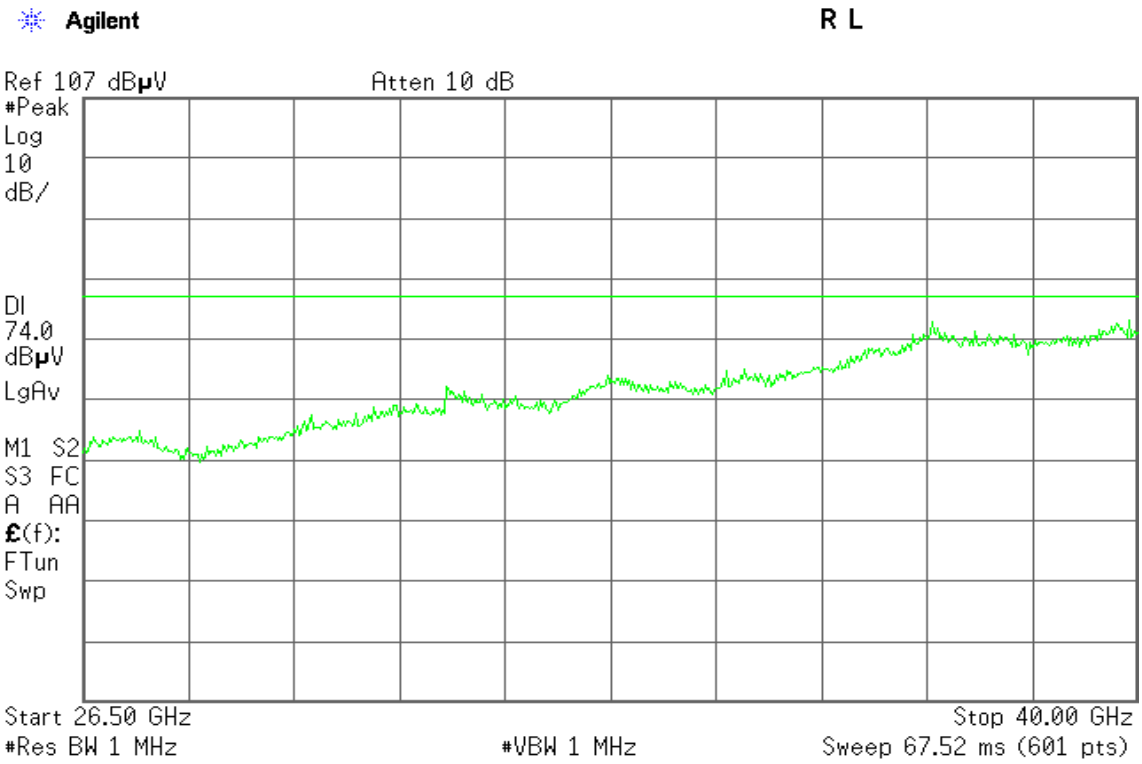

Agilent
R L
Ref 107 dBµV
Atten 10 dB
#Peak
Log
10
dB/
Dl
74.0
dBµV
LgAv
M1 S2
S3 FC
A AA
£(f):
FTun
Swp
Start 26.50 GHz
Stop 40.00 GHz
#Res BW 1 MHz
#VBW 1 MHz
Sweep 67.52 ms (601 pts)

Polarity: Horizontal








Agilent
R L
Ref 107 dBµV
Atten 10 dB
#Peak
Log
10
dB/
Dl
74.0
dBµV
LgAv
M1 S2
S3 FC
A AA
£(f):
FTun
Swp
Start 26.50 GHz
Stop 40.00 GHz
#Res BW 1 MHz
#VBW 1 MHz
Sweep 67.52 ms (601 pts)

Operation Mode:	Tx / IEEE 802.11n HT 40 MHz mode / 5670 MHz	**Test Date:**	January 18, 2016
Temperature:	27℃	**Tested by:**	Jason Lu
Humidity:	53% RH	**Polarity:**	Ver. / Hor.

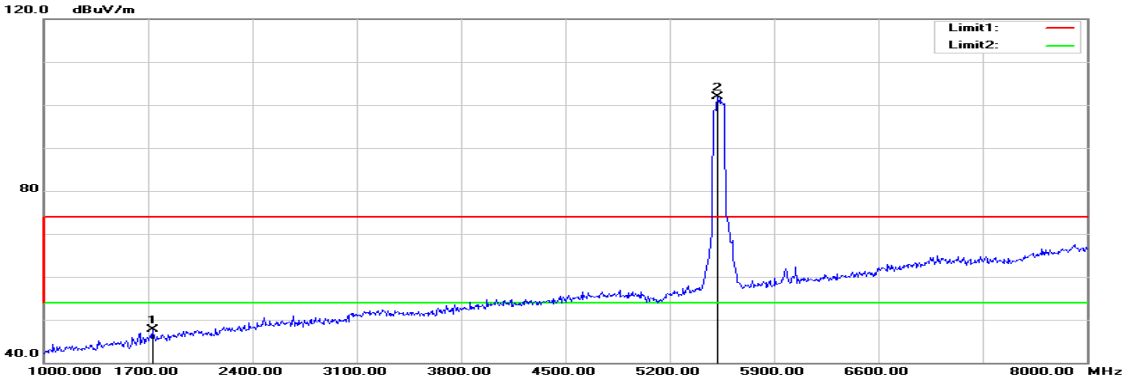
Frequency (MHz)	Reading (dBuV)	Correction (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark	Ant.Pol. (H/V)
2407.000	50.32	-3.70	46.62	74.00	-27.38	peak	V
N/A							
2533.000	49.82	-3.05	46.77	74.00	-27.23	peak	H
N/A							

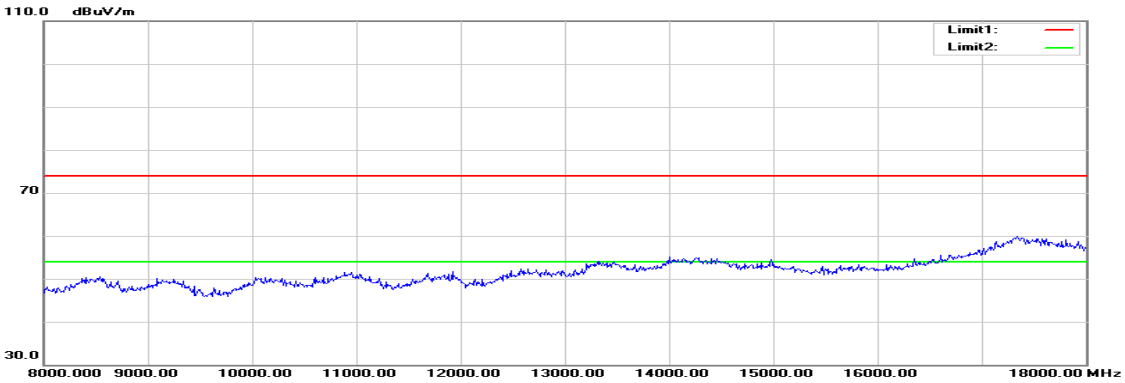
Remark:

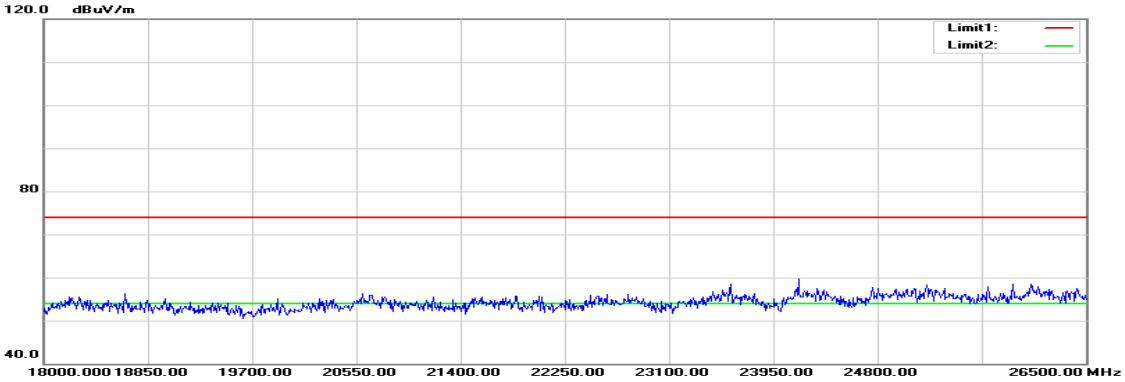
1. *Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.*
2. *Radiated emissions measured in frequency above 1000MHz were made with an instrument using peak/average detector mode.*
3. *Average test would be performed if the peak result were greater than the average limit or as required by the applicant.*
4. *Data of measurement within this frequency range shown " --- " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.*
5. *Measurements above show only up to 6 maximum emissions noted, or would be lesser, with " N/A " remark, if no specific emissions from the EUT are recorded (ie: margin>20dB from the applicable limit) and considered that's already beyond the background noise floor.*
6. *Margin (dB) = Remark result (dBuV/m) – Average limit (dBuV/m).*

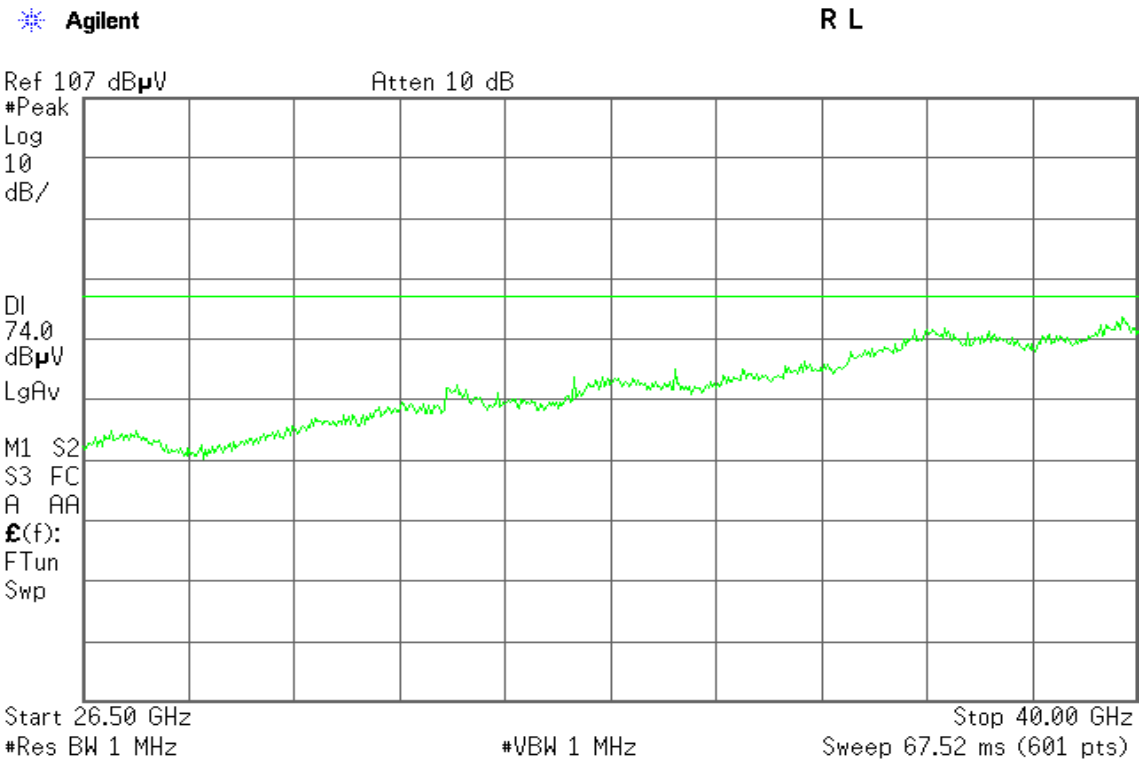
Tx / IEEE 802.11ac VHT 80 MHz mode / 5530 MHz

Polarity: Vertical

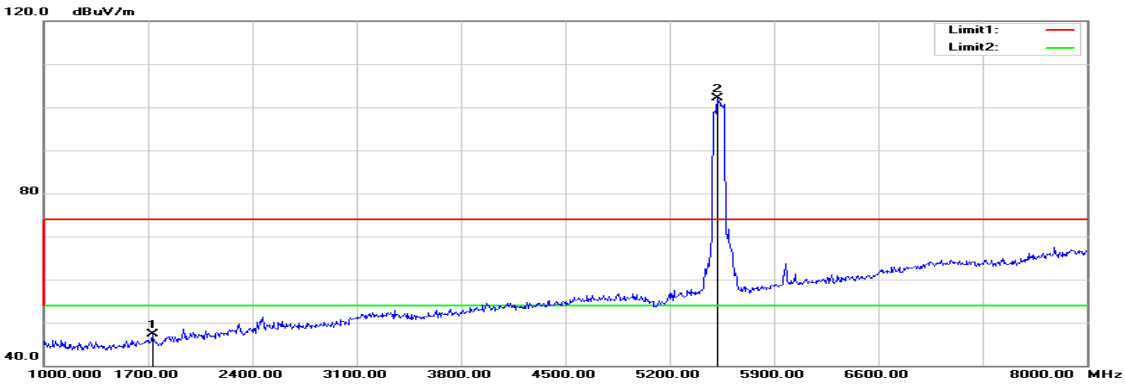


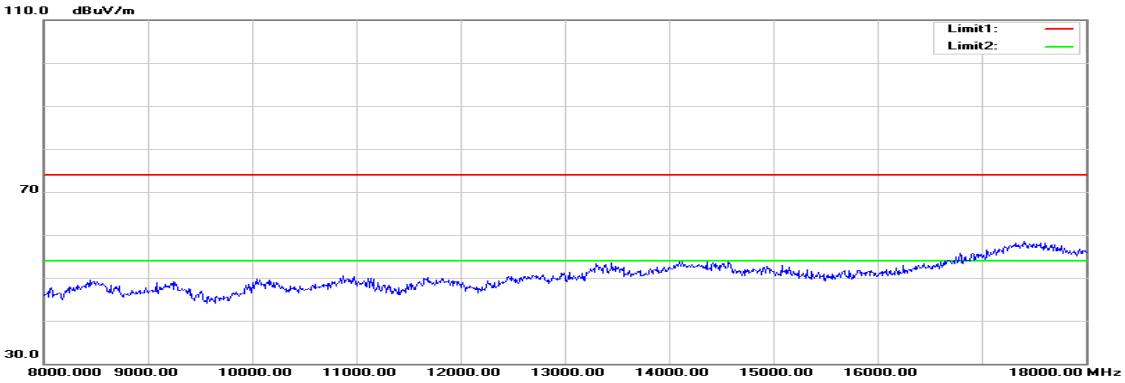


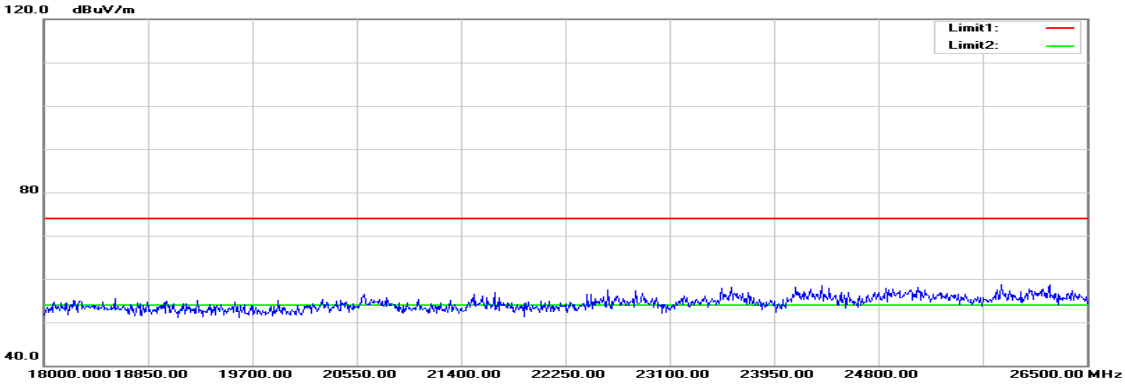


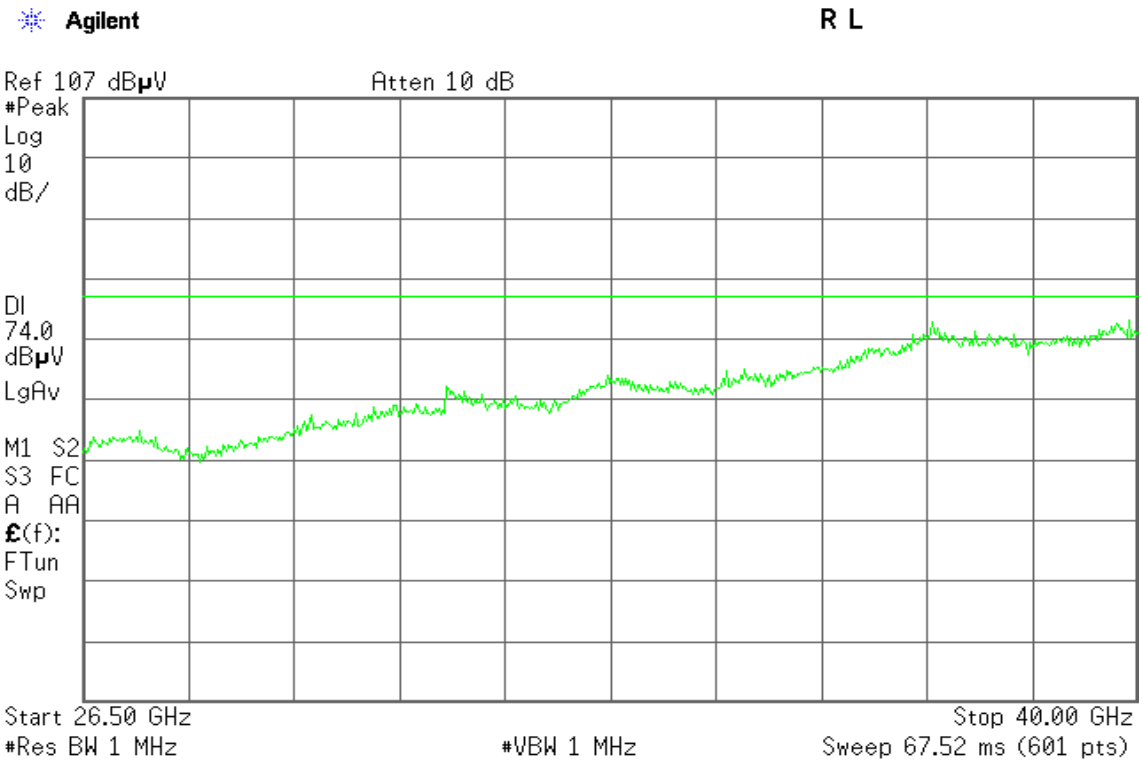

Agilent
R L
Ref 107 dBµV
Atten 10 dB
#Peak
Log
10
dB/
Dl
74.0
dBµV
LgAv
M1 S2
S3 FC
A AA
£(f):
FTun
Swp
Start 26.50 GHz
#Res BW 1 MHz
#VBW 1 MHz
Stop 40.00 GHz
Sweep 67.52 ms (601 pts)

Polarity: Horizontal








Agilent
R L
Ref 107 dBµV
Atten 10 dB
#Peak
Log
10
dB/
Dl
74.0
dBµV
LgAv
M1 S2
S3 FC
A AA
£(f):
FTun
Swp
Start 26.50 GHz
Stop 40.00 GHz
#Res BW 1 MHz
#VBW 1 MHz
Sweep 67.52 ms (601 pts)

Operation Mode:	Tx / IEEE 802.11ac VHT 80 MHz mode / 5530 MHz	**Test Date:**	January 18, 2016
Temperature:	27℃	**Tested by:**	Jason Lu
Humidity:	53% RH	**Polarity:**	Ver. / Hor.

Frequency (MHz)	Reading (dBuV)	Correction (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark	Ant.Pol. (H/V)
1728.000	54.04	-6.32	47.72	74.00	-26.28	peak	V
N/A							
1728.000	53.58	-6.32	47.26	74.00	-26.74	peak	H
N/A							

Remark:

1. *Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.*
2. *Radiated emissions measured in frequency above 1000MHz were made with an instrument using peak/average detector mode.*
3. *Average test would be performed if the peak result were greater than the average limit or as required by the applicant.*
4. *Data of measurement within this frequency range shown " --- " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.*
5. *Measurements above show only up to 6 maximum emissions noted, or would be lesser, with " N/A " remark, if no specific emissions from the EUT are recorded (ie: margin>20dB from the applicable limit) and considered that's already beyond the background noise floor.*
6. *Margin (dB) = Remark result (dBuV/m) – Average limit (dBuV/m).*

7.7 POWERLINE CONDUCTED EMISSIONS

LIMIT

According to §15.207(a) & RSS-Gen §7.2.4, except as shown in paragraphs (b) and (c) of this section, for an intentional radiator that is designed to be connected to the public utility (AC) power line, the radio frequency voltage that is conducted back onto the AC power line on any frequency or frequencies within the band 150 kHz to 30 MHz shall not exceed the limits in the following table, as measured using a 50 µH/50 ohms line impedance stabilization network (LISN). Compliance with the provisions of this paragraph shall be based on the measurement of the radio frequency voltage between each power line and ground at the power terminal. The lower limit applies at the boundary between the frequency ranges.

Frequency Range (MHz)	Limits (dBµV)	
	Quasi-peak	Average
0.15 to 0.50	66 to 56*	56 to 46*
0.50 to 5	56	46
5 to 30	60	50

** Decreases with the logarithm of the frequency.*

Test Configuration

See test photographs attached in Appendix II for the actual connections between EUT and support equipment.

TEST PROCEDURE

1. The EUT was placed on a table, which is 0.8m above ground plane.
2. Maximum procedure was performed on the six highest emissions to ensure EUT compliance.
3. Repeat above procedures until all frequency measured were complete.

TEST RESULTS

The initial step in collecting conducted data is a spectrum analyzer peak scan of the measurement range. Significant peaks are then marked as shown on the following data page, and these signals are then quasi-peaked.

Test Data

Operation Mode:	Normal Link	**Test Date:**	January 5, 2016
Temperature:	24℃	**Tested by:**	Zeus Chen
Humidity:	56% RH		

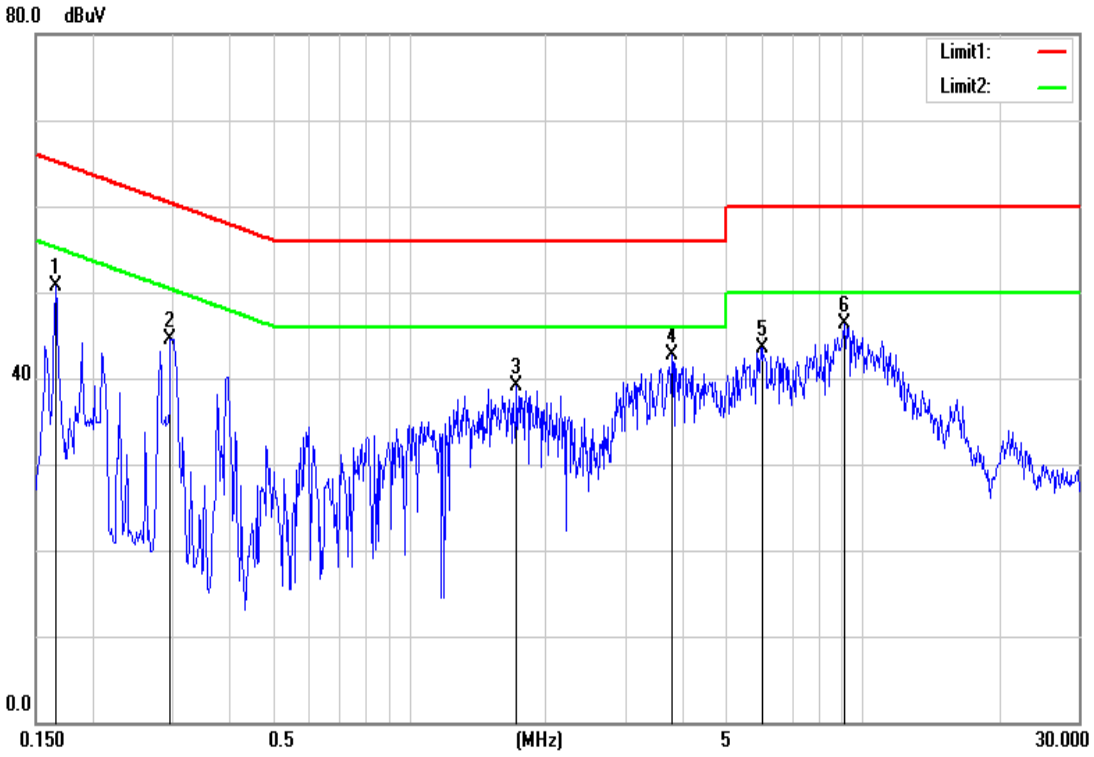
Freq. (MHz)	QP Reading (dBuV)	AV Reading (dBuV)	Corr. factor (dB/m)	QP Result (dBuV/m)	AV Result (dBuV/m)	QP Limit (dBuV)	AV Limit (dBuV)	QP Margin (dB)	AV Margin (dB)	Note
0.1660	41.08	41.08	9.69	50.77	50.77	65.15	55.16	-14.38	-4.39	L1
0.2980	34.85	34.85	9.68	44.53	44.53	60.30	50.30	-15.77	-5.77	L1
1.7340	29.09	29.09	9.96	39.05	39.05	56.00	46.00	-16.95	-6.95	L1
3.8140	32.88	32.88	9.82	42.70	42.70	56.00	46.00	-13.30	-3.30	L1
6.0140	33.71	33.71	9.86	43.57	43.57	60.00	50.00	-16.43	-6.43	L1
9.1340	36.41	36.41	9.92	46.33	46.33	60.00	50.00	-13.67	-3.67	L1
0.1700	40.98	40.98	9.64	50.62	50.62	64.96	54.96	-14.34	-4.34	L2
0.1900	39.24	39.24	9.64	48.88	48.88	64.03	54.04	-15.15	-5.16	L2
0.2980	36.91	36.91	9.64	46.55	46.55	60.30	50.30	-13.75	-3.75	L2
1.7780	29.02	29.02	9.89	38.91	38.91	56.00	46.00	-17.09	-7.09	L2
8.9020	35.95	35.95	9.89	45.84	45.84	60.00	50.00	-14.16	-4.16	L2
9.6500	35.69	35.69	9.91	45.60	45.60	60.00	50.00	-14.40	-4.40	L2

Remark:

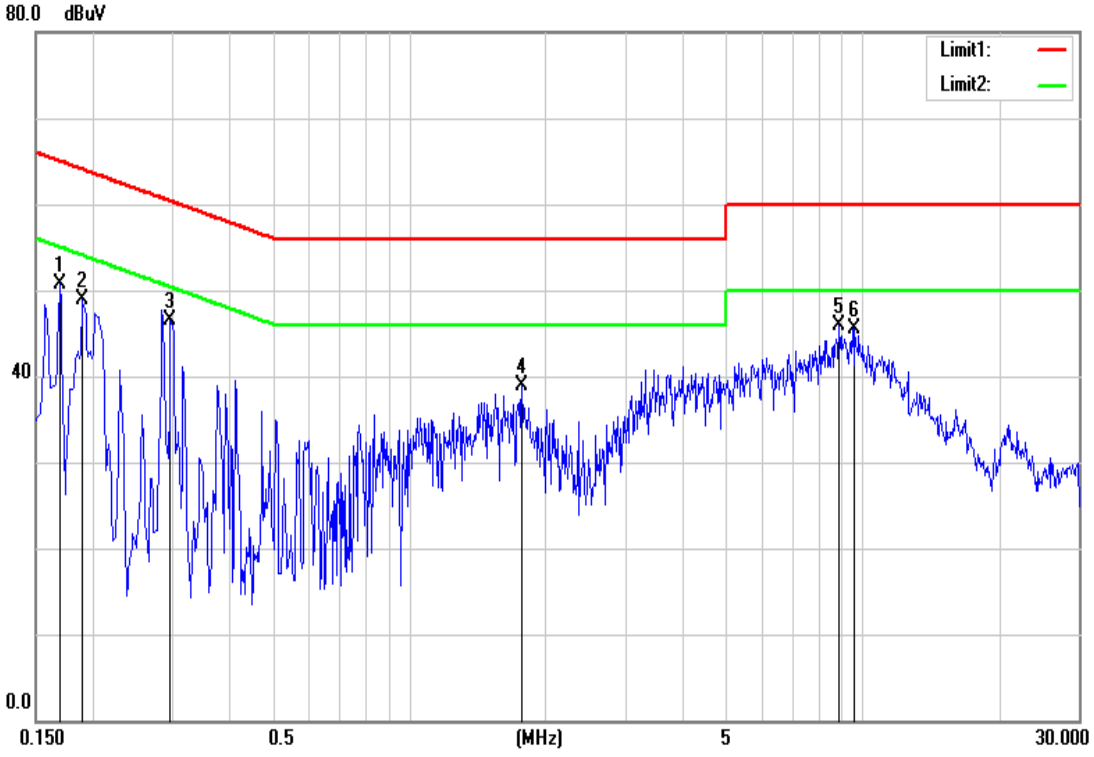
1. *Measuring frequencies from 0.15 MHz to 30MHz.*
2. *The emissions measured in frequency range from 0.15 MHz to 30MHz were made with an instrument using Quasi-peak detector and average detector.*
3. *The IF bandwidth of SPA between 0.15MHz to 30MHz was 10kHz; the IF bandwidth of Test Receiver between 0.15MHz to 30MHz was 9kHz;*
4. *L1 = Line One (Live Line) / L2 = Line Two (Neutral Line)*

Test Plots

Conducted emissions (Line 1)



Conducted emissions (Line 2)

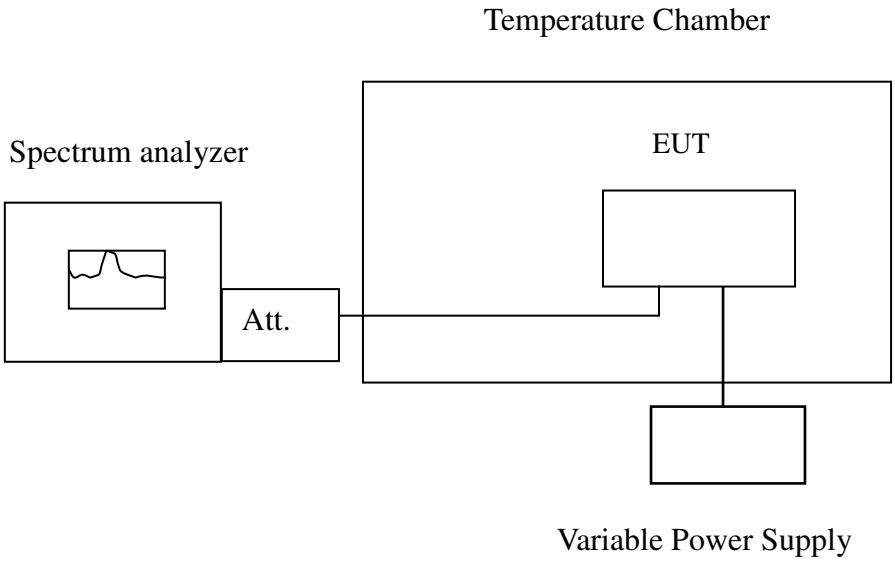


7.8 FREQUENCY STABILITY

LIMIT

According to §15.407(g) & RSS-247, manufacturers of U-NII devices are responsible for ensuring frequency stability such that an emission is maintained within the band of operation under all conditions of normal operation as specified in the operational description.

Test Configuration



Remark: *Measurement setup for testing on Antenna connector*

TEST PROCEDURE

The equipment under test was connected to an external AC or DC power supply and input rated voltage. RF output was connected to a frequency counter or spectrum analyzer via feed through attenuators. The EUT was placed inside the temperature chamber. Set the spectrum analyzer RBW low enough to obtain the desired frequency resolution and measure EUT 20°C operating frequency as reference frequency. Turn EUT off and set the chamber temperature to –20°C. After the temperature stabilized for approximately 30 minutes recorded the frequency. Repeat step measure with 10°C increased per stage until the highest temperature of +50°C reached.

TEST RESULTS

No non-compliance noted.

Operating Frequency: 5280 MHz				
Environment Temperature (°C)	Voltage (V)	Measured Frequency (MHz)	Limit (20ppm)	Test Result
50	5	5279.914040	-16.28030303	Pass
40	5	5279.917950	-15.53977273	Pass
30	5	5279.927050	-13.81628788	Pass
20	5	5279.928360	-13.56818182	Pass
10	5	5279.950070	-9.456439394	Pass
0	5	5279.975250	-4.6875	Pass
-10	5	5279.996960	-0.575757576	Pass
-20	5	5280.023440	4.439393939	Pass

Operating Frequency: 5280 MHz				
Environment Temperature (°C)	Voltage (V)	Measured Frequency (MHz)	Limit (20ppm)	Test Result
20	4.25	5279.928360	-13.56818182	Pass
	5	5279.928360	-13.56818182	Pass
	5.75	5279.928360	-13.56818182	Pass

7.9 DYNAMIC FREQUENCY SELECTION

TEST PROCEDURE

According to “KDB 905462 D02 v01r 02” and “KDB 905462 D03 v01r01”

LIMIT

According to §15.407 (h) and FCC 06-96 appendix “compliance measurement procedures for unlicensed-national information infrastructure devices operating in the 5250-5350 MHz and 5470-5725 MHz bands incorporating dynamic frequency selection”.

***Remark**: IC RSS-247 is closely harmonized with FCC Part 15 DFS rules.*

Table 1: Applicability of DFS requirements prior to use of a channel

Requirement	Operational Mode		
	Master	Client (without radar detection)	Client(with radar detection)
Non-Occupancy Period	Yes	Not required	Yes
DFS Detection Threshold	Yes	Not required	Yes
Channel Availability Check Time	Yes	Not required	Not required
U-NII Detection Bandwidth	Yes	Not required	Yes

Table 2: Applicability of DFS requirements during normal operation

Requirement	Operational Mode	
	Master Device or Client with Radar Detection	Client Without Radar Detection
DFS Detection Threshold	Yes	Not required
Channel Closing Transmission Time	Yes	Yes
Channel Move Time	Yes	Yes
U-NII Detection Bandwidth	Yes	Not required

Table 3: Interference Threshold values, Master or Client incorporating In-Service

Maximum Transmit Power	Value (See Notes 1, 2, and 3)
EIRP ≥ 200 milliwatt	-64 dBm
EIRP < 200 milliwatt and power spectral density < 10 dBm/MHz	-62 dBm
EIRP < 200 milliwatt that do not meet the power spectral density requirement	-64 dBm
Note 1: This is the level at the input of the receiver assuming a 0 dBi receive antenna. **Note 2:** Throughout these test procedures an additional 1 dB has been added to the amplitude of the test transmission waveforms to account for variations in measurement equipment. This will ensure that the test signal is at or above the detection threshold level to trigger a DFS response. **Note3:** EIRP is based on the highest antenna gain. For MIMO devices refer to KDB Publication 662911 D01.	

Table 4: DFS Response requirement values

Parameter	Value
Non-occupancy period	Minimum 30 minutes
Channel Availability Check Time	60 seconds
Channel Move Time	10 seconds See Note 1.
Channel Closing Transmission Time	200 milliseconds + an aggregate of 60 milliseconds over remaining 10 second period. See Notes 1 and 2.
U-NII Detection Bandwidth	Minimum 100% of the U-NII 99% transmission power bandwidth. See Note 3.

Note 1: Channel Move Time and the Channel Closing Transmission Time should be performed with Radar Type 0. The measurement timing begins at the end of the Radar Type 0 burst.
Note 2: The Channel Closing Transmission Time is comprised of 200 milliseconds starting at the beginning of the Channel Move Time plus any additional intermittent control signals required to facilitate a Channel move (an aggregate of 60 milliseconds) during the remainder of the 10 second period. The aggregate duration of control signals will not count quiet periods in between transmissions.
Note 3: During the U-NII Detection Bandwidth detection test, radar type 0 should be used. For each frequency step the minimum percentage of detection is 90 percent. Measurements are performed with no data traffic.

Table 5 – Short Pulse Radar Test Waveforms

Radar Type	Pulse Width (µsec)	PRI (µsec)	Number of Pulses	Minimum Percentage of Successful Detection	Minimum Number of Trials
0	1	1428	18	60%	30
1	1	Test A: 15 unique PRI values randomly selected from the list of 23 PRI values in Table 5a	$\text{Roundup}\left\{\left(\frac{1}{360}\right)\cdot\left(\frac{19\cdot 10^6}{\text{PRI}_{\mu\text{sec}}}\right)\right\}$	60%	30
		Test B: 15 unique PRI values randomly selected within the range of 518-3066 µsec, with a minimum increment of 1 µsec, excluding PRI values selected in Test A			
2	1-5	150-230	23-29	60%	30
3	6-10	200-500	16-18	60%	30
4	11-20	200-500	12-16	60%	30
Aggregate (Radar Types 1-4)				80%	120

Note 1: Short Pulse Radar Type 0 should be used for the detection bandwidth test, channel move time, and channel closing time tests.

Table 6 – Long Pulse Radar Test Signal

Radar Type	Pulse Width (µsec)	Chirp Width (MHz)	PRI (µsec)	Number of Pulses per Burst	Number of Bursts	Minimum Percentage of Successful Detection	Minimum Number of Trials
5	50-100	5-20	1000-2000	1-3	8-20	80%	30

Table 7 – Frequency Hopping Radar Test Signal

Radar Type	Pulse Width (µsec)	PRI (µsec)	Pulses per Hop	Hopping Rate (kHz)	Hopping Sequence Length (msec)	Minimum Percentage of Successful Detection	Minimum Number of Trials
6	1	333	9	0.333	300	70%	30

DESCRIPTION OF EUT

Overview Of EUT With Respect To §15.407 (H) Requirements

The firmware installed in the EUT during testing was:
The EUT operates over the 5250-5350 MHz range as a Client Device that does not have radar detection capability.

The antenna assembly utilized with the EUT has a gain of 5.54dBi.

The EUT uses one transmitter connected to two 50-ohm coaxial antenna ports via a diversity switch. Only one antenna port is connected to the test system since the EUT has one antenna only.

The Slave device associated with the EUT during these tests does not have radar detection capability.

WLAN traffic is generated by streaming the video file TestFile.mp2 “6 ½ Magic Hours” from the Master to the Slave in full motion video mode using the media player with the V2.61 Codec package.

The EUT utilizes the 802.11a architecture, with a nominal channel bandwidth of 20 MHz.

The Master Device is a Data Collection Computer, FCC ID: PPQ-WCBN4510R

The rated output power of the Master unit is < 23dBm (EIRP). Therefore the required interference threshold level is -62 dBm. After correction for antenna gain and procedural adjustments, the required conducted threshold at the antenna port is –62 + 5 = -57dBm.

The calibrated conducted DFS Detection Threshold level is set to -57 dBm. The tested level is lower than the required level hence it provides margin to the limit.

Manufacturer’s Statement Regarding Uniform Channel Spreading

The end product implements an automatic channel selection feature at startup such that operation commences on channels distributed across the entire set of allowed 5GHz channels. This feature will ensure uniform spreading is achieved while avoiding non-allowed channels due to prior radar events.

TEST AND MEASUREMENT SYSTEM

System Overview

The measurement system is based on a conducted test method.

The short pulse and long pulse signal generating system utilizes the NTIA software. The Vector Signal Generator has been validated by the NTIA. The hopping signal generating system utilizes the CCS simulated hopping method and system, which has been validated by the DoD, FCC and NTIA. The software selects waveform parameters from within the bounds of the signal type on a random basis using uniform distribution.

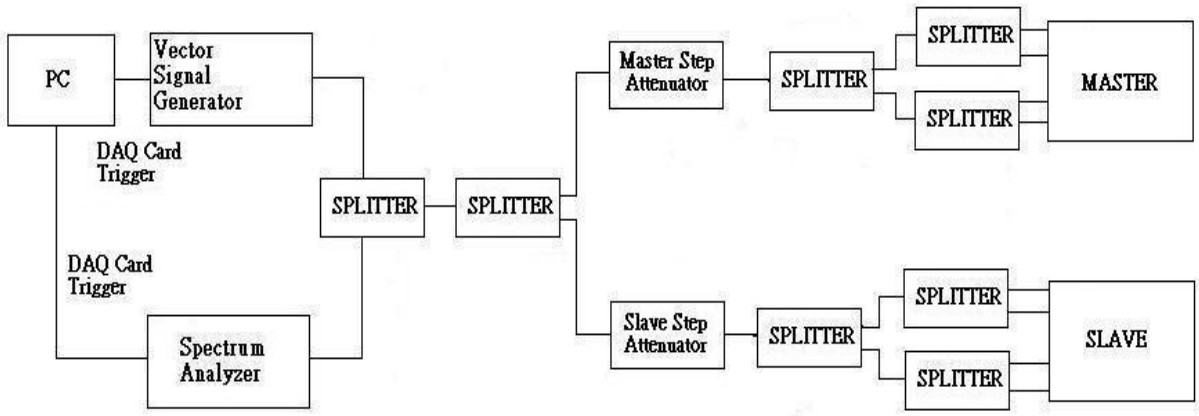
The short pulse types 2, 3 and 4, and the long pulse type 5 parameters are randomized at run-time.

The hopping type 6 pulse parameters are fixed while the hopping sequence is based on the August 2005 NTIA Hopping Frequency List. The initial starting point randomized at run-time and each subsequent starting point is incremented by 475. Each frequency in the 100-length segment is compared to the boundaries of the EUT Detection Bandwidth and the software creates a hopping burst pattern in accordance with Section 7.4.1.3 Method #2 Simulated Frequency Hopping Radar Waveform Generating Subsystem of FCC 06-96 APPENDIX. The frequency of the signal generator is incremented in 1 MHz steps from FL to FH for each successive trial. This incremental sequence is repeated as required to generate a minimum of 30 total trials and to maintain a uniform frequency distribution over the entire Detection Bandwidth.

The signal monitoring equipment consists of a spectrum analyzer set to display 8001 bins on the horizontal axis. The time-domain resolution is 2 msec / bin with a 16 second sweep time, meeting the 10 second short pulse reporting criteria. The aggregate ON time is calculated by multiplying the number of bins above a threshold during a particular observation period by the dwell time per bin, with the analyzer set to peak detection and max hold. The time-domain resolution is 3 msec / bin with a 24 second sweep time, meeting the 22 second long pulse reporting criteria and allowing a minimum of 10 seconds after the end of the long pulse waveform.

Should multiple RF ports be utilized for the Master and/or Slave devices (for example, for diversity or MIMO implementations), 50 ohm termination would be removed from the splitter so that connection can be established between splitter and the Master and/or Slave devices.

Conducted Method System Block Diagram



System Calibration

Connect the spectrum analyzer to the test system in place of the master device. Set the signal generator to CW mode. Adjust the amplitude of the signal generator to yield a measured level of –62 dBm on the spectrum analyzer.

Without changing any of the instrument settings, reconnect the spectrum analyzer to the Common port of the Spectrum Analyzer Combiner/Divider and connect a 50 ohm load to the Master Device port of the test system.

Measure the amplitude and calculate the difference from –62 dBm. Adjust the Reference Level Offset of the spectrum analyzer to this difference. Confirm that the signal is displayed at –62 dBm. Readjust the RBW and VBW to 3 MHz, set the span to 10 MHz, and confirm that the signal is still displayed at –62 dBm.

The spectrum analyzer displays the level of the signal generator as received at the antenna ports of the Master Device. The interference detection threshold may be varied from the calibrated value of –62 dBm and the spectrum analyzer will still indicate the level as received by the Master Device.

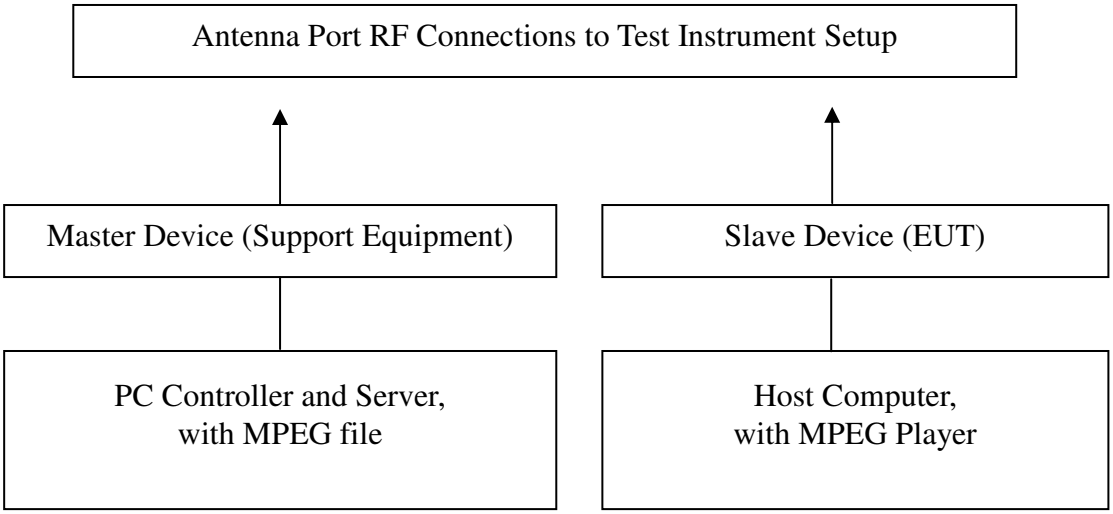
Set the signal generator to produce a radar waveform, trigger a burst manually and measure the level on the spectrum analyzer. Readjust the amplitude of the signal generator as required so that the peak level of the waveform is at a displayed level equal to the required or desired interference detection threshold. Separate signal generator amplitude settings are determined as required for each radar type.

Adjustment Of Displayed Traffic Level

Establish a link between the Master and Slave, adjusting the Link Step Attenuator as needed to provide a suitable received level at the Master and Slave devices. Stream the video test file to generate WLAN traffic. Confirm that the WLAN traffic level, as displayed on the spectrum analyzer, is at lower amplitude than the radar detection threshold. Confirm that the displayed traffic is from the Master Device. For Master Device testing confirm that the displayed traffic does not include Slave Device traffic. For Slave Device testing confirm that the displayed traffic does not include Master Device traffic.

If a different setting of the Master Step Attenuator is required to meet the above conditions, perform a new System Calibration for the new Master Step Attenuator setting.

Test Setup



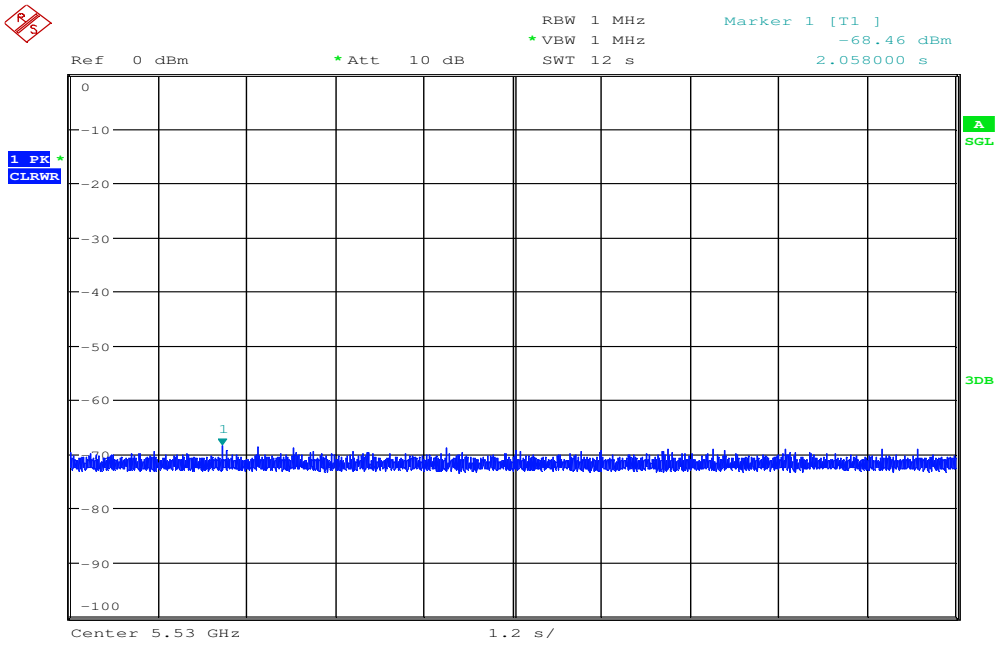
TEST RESULTS

No non-compliance noted

Test Plot

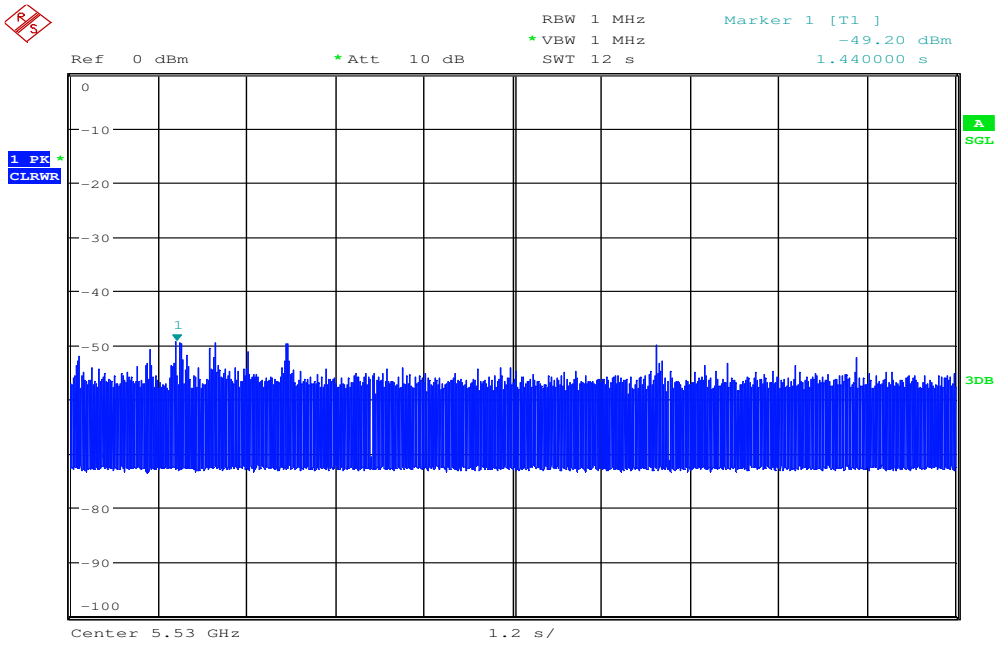
PLOTS OF RADAR WAVEFORMS

Noise Floor



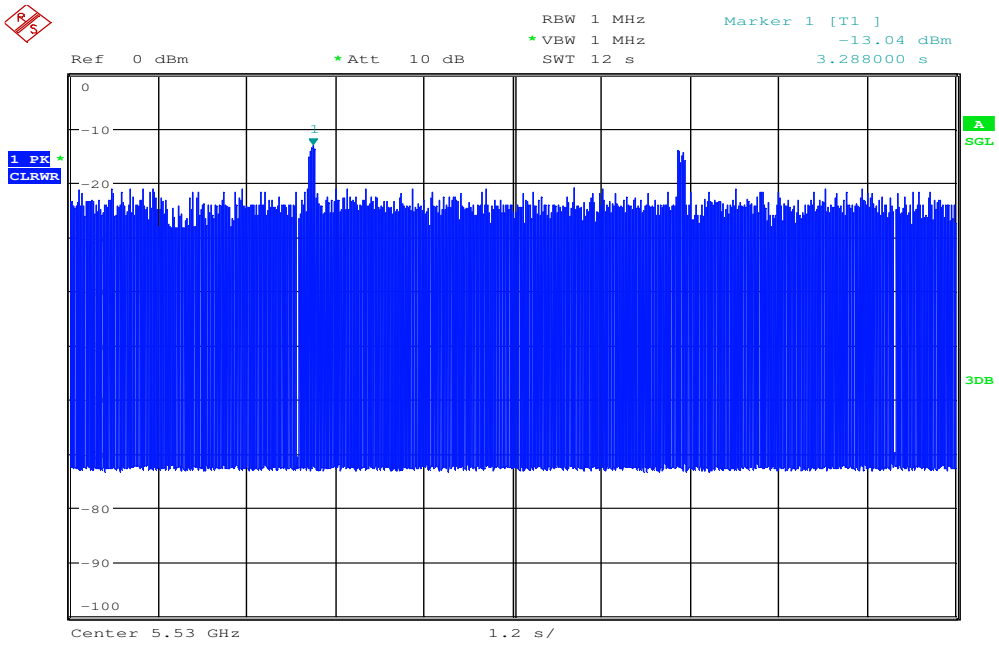
Date: 7.JAN.2016 13:07:45

Master Level



Date: 7.JAN.2016 13:06:35

Slave Level



Date: 7.JAN.2016 11:58:25

TEST CHANNEL AND METHOD

All tests were performed at a channel center frequency of 5530 MHz utilizing a conducted test method.

CHANNEL MOVE TIME AND CHANNEL CLOSING TRANSMISSION TIME

GENERAL REPORTING NOTES

The reference marker is set at the end of last radar pulse.

The delta marker is set at the end of the last WLAN transmission following the radar pulse. This delta is the channel move time.

The aggregate channel closing transmission time is calculated as follows:

Aggregate Transmission Time =

(Number of analyzer bins showing transmission) * (dwell time per bin)

The observation period over which the aggregate time is calculated

Begins at (Reference Marker + 200 msec) and

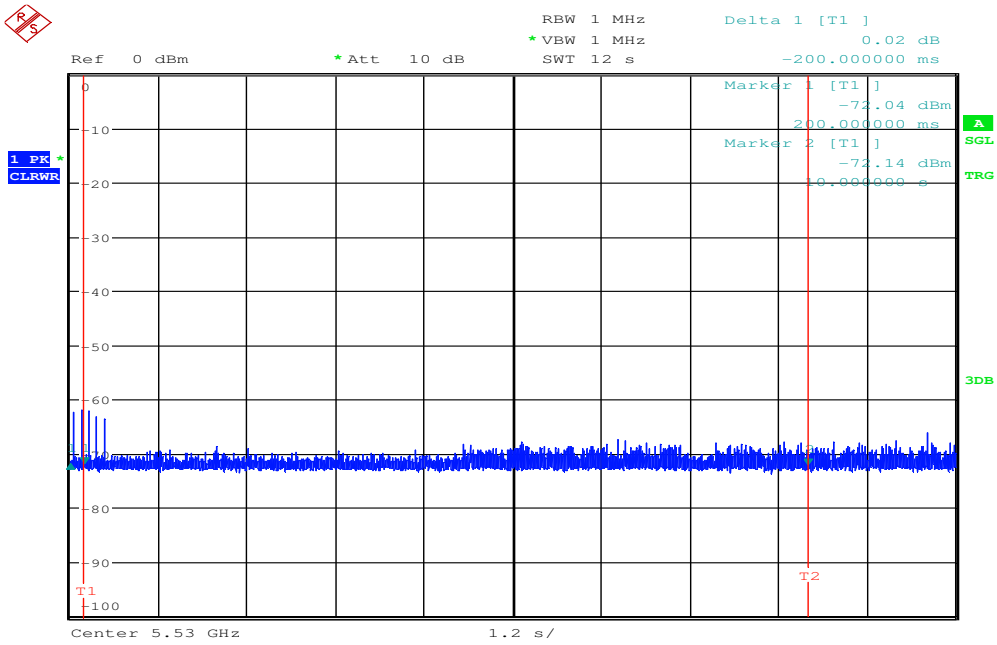
Ends no earlier than (Reference Marker + 10 sec).

IEEE 802.11 ac VHT 80 MHz Channel mode

Type 1 Channel Move Time Results

No non-compliance noted.

Channel Move Time (ms)	Limit (s)
200	10

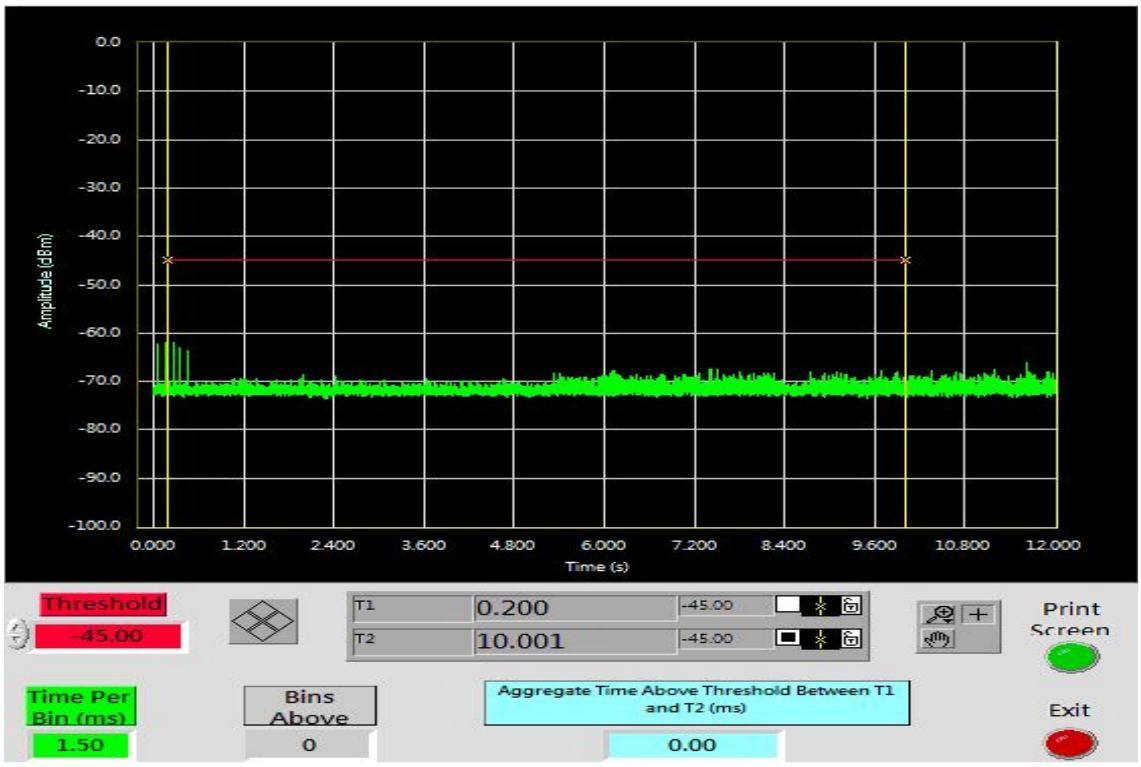


IEEE 802.11 ac VHT 80 MHz Channel mode

Type 1 Channel Closing Transmission Time Results

No non-compliance noted.

Aggregate Transmission Time (ms)	Limit (ms)	Margin (ms)
0	60	-60



NON-OCCUPANCY PERIOD

IEEE 802.11n VHT 80 MHz mode

Type 1 Non-Occupancy Period Test Results

No non-compliance noted.

No EUT transmissions were observed on the test channel during the 30 minute observation time.