

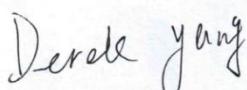
Report No.: AR/2020/C000804  
Page: 1 of 133**FCC TEST REPORT**

**Application No.:** AR/2020/C0008  
**Applicant:** FIH CO., LTD  
**Address of Applicant:** No.4, Mingsheng St., Tu-Cheng Dist., New Taipei City 23679, Taiwan  
**Manufacturer:** FIH CO., LTD  
**Address of Manufacturer:** No.4, Mingsheng St., Tu-Cheng Dist., New Taipei City 23679, Taiwan  
**EUT Description:** WCDMA/LTE Mobile Phone  
**Model No.:** EA1002, EC1002  
**Trade Mark:** FIH  
**FCC ID:** RYQEC1002  
**Standards:** 47 CFR FCC Part 2, Subpart J  
47 CFR Part 15, Subpart C  
**Date of Receipt:** 2020/12/18  
**Date of Test:** 2020/12/18 to 2021/1/8  
**Date of Issue:** 2021/1/8

<b>Test Result :</b>	<b>PASS *</b>
----------------------	---------------

\* In the configuration tested, the EUT detailed in this report complied with the standards specified above.

Authorized Signature:



Derek Yang  
Wireless Laboratory Manager



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## 1 Version

**Revision Record**

Version	Chapter	Date	Modifier	Remark
01		2021/1/8		Original

Authorized for issue by:			
Tested By		<i>Mike Hu</i>	
		(Mike Hu) /Project Engineer	
Checked By		<i>David Chen</i>	
		(David Chen) /Reviewer	

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## 2 Test Summary

Test Item	Test Requirement	Test Method	Test Result	Result
<b>AC Power Line Conducted Emission</b>	15.207	ANSI C63.10 2013	Clause 4.2	PASS
<b>Duty Cycle</b>	--	--	Clause 4.3	PASS
<b>Conducted Output Power</b>	15.247 (b)(3)	ANSI C63.10 2013	Clause 4.4	PASS
<b>DTS (6 dB) Bandwidth &amp; 99% Occupied Bandwidth</b>	15.247 (a)(2)	ANSI C63.10 2013	Clause 4.5	PASS
<b>Power Spectral Density</b>	15.247 (e)	ANSI C63.10 2013	Clause 4.6	PASS
<b>Band-edge for RF Conducted Emissions</b>	15.247(d)	ANSI C63.10 2013	Clause 4.7	PASS
<b>RF Conducted Spurious Emissions</b>	15.247(d)	ANSI C63.10 2013	Clause 4.8	PASS
<b>Radiated Spurious Emissions</b>	15.247(d);15.205/15.209	ANSI C63.10 2013	Clause 4.9	PASS
<b>Restricted bands around fundamental frequency (Radiated Emission)</b>	15.247(d);15.205/15.209	ANSI C63.10 2013	Clause 4.10	PASS

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**Remark:**

According to the declaration letter from manufacturer, for EC1002 is all test, and for EA1002 shares the same test data of EC1002 in this report.



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### 3 General Information

#### 3.1 Details of Client

Applicant:	FIH CO., LTD
Address of Applicant	No.4, Mingsheng St., Tu-Cheng Dist., New Taipei City 23679, Taiwan
Manufacturer:	FIH CO., LTD
Address of Manufacturer	No.4, Mingsheng St., Tu-Cheng Dist., New Taipei City 23679, Taiwan

#### 3.2 Test Location

Company:	SGS-CSTC Standards Technical Services Co., Ltd. Shenzhen Branch
Address:	No. 1 Workshop, M-10, Middle section, Science & Technology Park, Shenzhen, Guangdong, China
Post code:	518057

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### 3.3 Test Facility

The test facility is recognized, certified, or accredited by the following organizations:

- **A2LA (Certificate No. 3816.01)**

SGS-CSTC Standards Technical Services Co., Ltd., Shenzhen EMC Laboratory is accredited by the American Association for Laboratory Accreditation(A2LA). Certificate No. 3816.01.

- **VCCI**

The 3m Fully-anechoic chamber for above 1GHz, 10m Semi-anechoic chamber for below 1GHz, Shielded Room for Mains Port Conducted Interference Measurement and Telecommunication Port Conducted Interference Measurement of SGS-CSTC Standards Technical Services Co., Ltd. have been registered in accordance with the Regulations for Voluntary Control Measures with Registration No.: G-20026, R-14188, C-12383 and T-11153 respectively.

- **FCC –Designation Number: CN1178**

SGS-CSTC Standards Technical Services Co., Ltd., Shenzhen EMC Laboratory has been recognized as an accredited testing laboratory.

Designation Number: CN1178. Test Firm Registration Number: 406779.

- **Innovation, Science and Economic Development Canada**

SGS-CSTC Standards Technical Services Co., Ltd., Shenzhen EMC Laboratory has been recognized by ISED as an accredited testing laboratory.

CAB identifier: CN0006.

IC#: 4620C.

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## 3.4 General Description of EUT

EUT Description:	WCDMA/LTE Mobile Phone
Model No.:	EA1002, EC1002
Trade Mark:	FIH
Hardware Version:	HW 3.0
Software Version:	EA1002_01N0_1_180, EC1002_00N0_1_180
IEEE 802.11 WLAN Mode Supported	<input checked="" type="checkbox"/> 802.11B (20 MHz channel bandwidth), <input checked="" type="checkbox"/> 802.11G (20 MHz channel bandwidth) <input checked="" type="checkbox"/> 802.11N (20 MHz channel bandwidth), <input checked="" type="checkbox"/> 802.11N (40 MHz channel bandwidth)
Operation Frequency:	2400 MHz -2483.5MHz fc = 2407 MHz + N * 5 MHz, where: -fc = "Operating Frequency" in MHz, -N = "Channel Number" with the range from 1 to 11 for the 20 MHz channel bandwidth, or 3 to 9 for the 40 MHz channel bandwidth.
Type of Modulation:	IEEE for 802.11B: DSSS IEEE for 802.11G : OFDM IEEE for 802.11N(HT20) : OFDM IEEE for 802.11N(HT40) : OFDM
Sample Type:	<input checked="" type="checkbox"/> Portable Device, <input type="checkbox"/> Module
Antenna Type:	<input type="checkbox"/> External, <input checked="" type="checkbox"/> Integrated
Antenna Ports	<input checked="" type="checkbox"/> Ant 1, <input type="checkbox"/> Ant 2, <input type="checkbox"/> Ant 3
Smart System	<input checked="" type="checkbox"/> SISO (for 802.11B/G/N), <input type="checkbox"/> MIMO (for 802.11N): 2 Tx & 2 Rx, <input type="checkbox"/> Diversity (for 802.11B/G) : Tx & Rx
Antenna Gain:	3.32dBi

Operation Frequency of each channel (802.11B/G/N HT20)							
Channel	Frequency	Channel	Frequency	Channel	Frequency	Channel	Frequency
1	2412MHz	4	2427MHz	7	2442MHz	10	2457MHz
2	2417MHz	5	2432MHz	8	2447MHz	11	2462MHz
3	2422MHz	6	2437MHz	9	2452MHz		
Operation Frequency of each channel (802.11N HT40)							
Channel	Frequency	Channel	Frequency	Channel	Frequency	Channel	Frequency
3	2422MHz	6	2437MHz	9	2452MHz		
4	2427MHz	7	2442MHz				
5	2432MHz	8	2447MHz				

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Report No.: AR/2020/C000804  
Page: 9 of 133**Remark:**

In section 15.31(m), regards to the operating frequency range over 10 MHz, the Lowest frequency, the middle frequency, and the highest frequency of channel were selected to perform the test, and the selected channel see below:

Channel	Frequency for 802.11B/G/N (HT20)	Frequency for 802.11N (HT40)
The Lowest channel	2412MHz	2422MHz
The Middle channel	2437MHz	2437MHz
The Highest channel	2462MHz	2452MHz

### 3.5 Test Environment and Mode

<b>Operating Environment:</b>	
Temperature:	25.0 °C
Humidity:	50 % RH
Atmospheric Pressure:	101.30 KPa
<b>Test mode:</b>	
Transmitting mode:	Keep the EUT in transmitting mode with all kind of modulation and all kind of data rate.

### 3.6 Description of Support Units

The EUT has been tested independent unit.

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## 4 Test results and Measurement Data

### 4.1 Antenna Requirement

<b>Standard requirement:</b>	47 CFR Part 15C Section 15.203 /247(c)
15.203 requirement: An intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator, the manufacturer may design the unit so that a broken antenna can be replaced by the user, but the use of a standard antenna jack or electrical connector is prohibited.	
15.247(b) (4) requirement: The conducted output power limit specified in paragraph (b) of this section is based on the use of antennas with directional gains that do not exceed 6 dBi. Except as shown in paragraph (c) of this section, if transmitting antennas of directional gain greater than 6 dBi are used, the conducted output power from the intentional radiator shall be reduced below the stated values in paragraphs (b)(1), (b)(2), and (b)(3) of this section, as appropriate, by the amount in dB that the directional gain of the antenna exceeds 6 dBi.	
The antenna is integrated on the main PCB and no consideration of replacement. The best case gain of the antenna is 3.32dBi.	

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## 4.2 AC Power Line Conducted Emissions

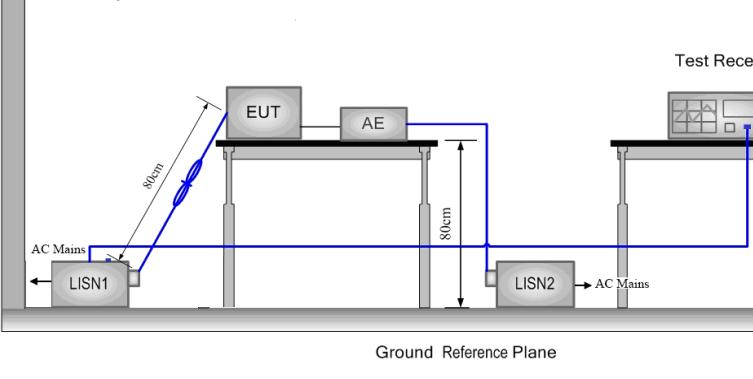
Test Requirement:	47 CFR Part 15C Section 15.207		
Test Method:	ANSI C63.10: 2013		
Test Frequency Range:	150kHz to 30MHz		
Limit:	Frequency range (MHz)		Limit (dBuV)
			Quasi-peak
	0.15-0.5	66 to 56*	56 to 46*
	0.5-5	56	46
	5-30	60	50
* Decreases with the logarithm of the frequency.			
Test Procedure:	<ol style="list-style-type: none"> <li>1) The mains terminal disturbance voltage test was conducted in a shielded room.</li> <li>2) The EUT was connected to AC power source through a LISN 1 (Line Impedance Stabilization Network) which provides a <math>50\Omega/50\mu\text{H} + 5\Omega</math> linear impedance. The power cables of all other units of the EUT were connected to a second LISN 2, which was bonded to the ground reference plane in the same way as the LISN 1 for the unit being measured. A multiple socket outlet strip was used to connect multiple power cables to a single LISN provided the rating of the LISN was not exceeded.</li> <li>3) The tabletop EUT was placed upon a non-metallic table 0.8m above the ground reference plane. And for floor-standing arrangement, the EUT was placed on the horizontal ground reference plane,</li> <li>4) The test was performed with a vertical ground reference plane. The rear of the EUT shall be 0.4 m from the vertical ground reference plane. The vertical ground reference plane was bonded to the horizontal ground reference plane. The LISN 1 was placed 0.8 m from the boundary of the unit under test and bonded to a ground reference plane for LISNs mounted on top of the ground reference plane. This distance was between the closest points of the LISN 1 and the EUT. All other units of the EUT and associated equipment was at least 0.8 m from the LISN 2. In order to find the maximum emission, the relative positions of equipment and all of the interface cables must be changed according to ANSI C63.10: 2013 on conducted measurement.</li> </ol>		

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<b>Test Setup:</b>	
<b>Exploratory Test Mode:</b>	<p>Transmitting with all kind of modulations, data rates at lowest, middle and highest channel.</p> <p>Charge + Transmitting mode.</p>
<b>Final Test Mode:</b>	<p>Through Pre-scan, find the 1Mbps of rate of 802.11B at lowest channel is the worst case.</p> <p>Charge + Transmitting mode.</p> <p>Only the worst case is recorded in the report.</p>
<b>Instruments Used:</b>	<p>Refer to section 5.10 for details</p>
<b>Test Results:</b>	<p>Pass</p>

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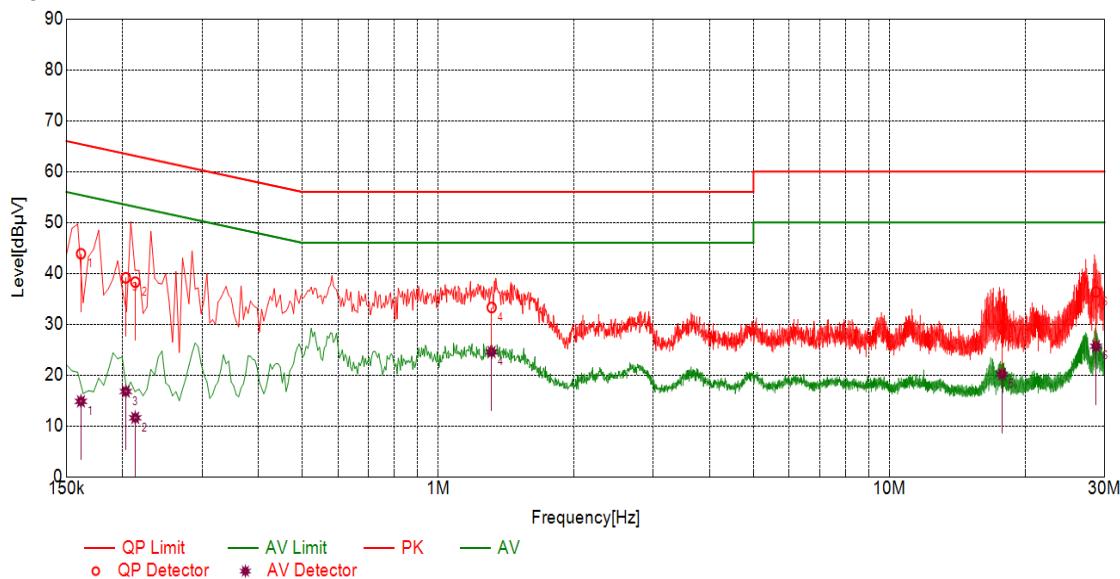


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## Measurement Data

An initial pre-scan was performed on the live and neutral lines with peak detector.  
 Quasi-Peak and Average measurement were performed at the frequencies with maximized peak emission were detected.

## Live Line:



## Test Graph

Final Data List									
NO.	Freq. [MHz]	Factor [dB]	QP Value [dBμV]	QP Limit [dBμV]	QP Margin [dB]	AV Value [dBμV]	AV Limit [dBμV]	AV Margin [dB]	Type
1	0.1617	10.10	43.85	65.37	21.52	14.84	55.37	40.53	L
2	0.2133	10.10	38.27	63.08	24.81	11.60	53.08	41.48	L
3	0.2033	10.10	39.12	63.47	24.35	16.77	53.47	36.70	L
4	1.3143	10.10	33.28	56.00	22.72	24.54	46.00	21.46	L
5	17.7661	10.11	29.27	60.00	30.73	20.19	50.00	29.81	L
6	28.7041	10.11	36.34	60.00	23.66	25.67	50.00	24.33	L

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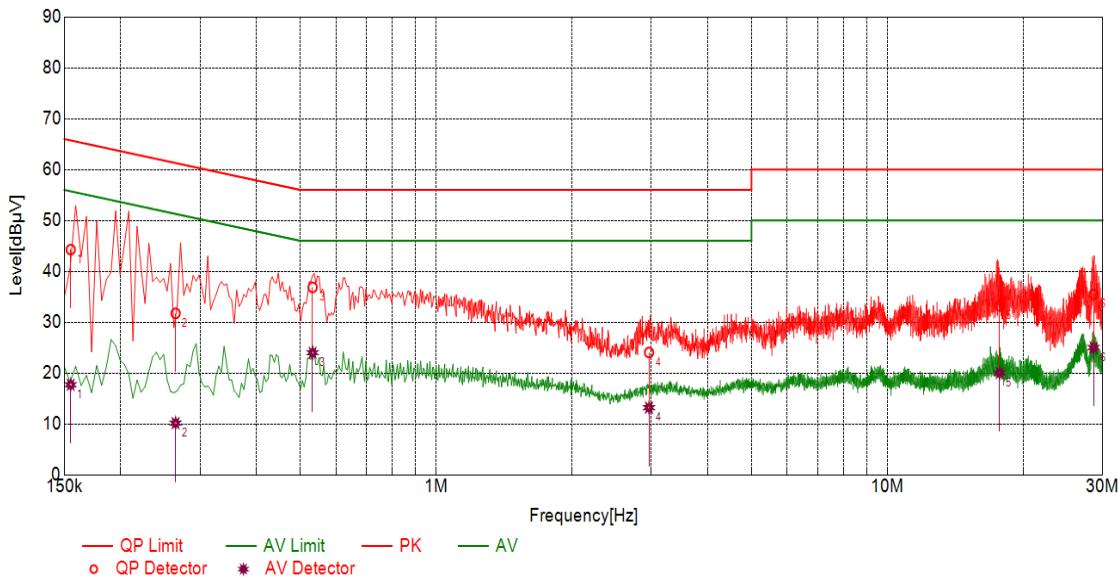
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Neutral Line:



## Test Graph

Final Data List									
NO.	Freq. [MHz]	Factor [dB]	QP Value [dBμV]	QP Limit [dBμV]	QP Margin [dB]	AV Value [dBμV]	AV Limit [dBμV]	AV Margin [dB]	Type
1	0.1550	10.10	44.28	65.73	21.45	17.70	55.73	38.03	N
2	0.2647	10.10	31.74	61.28	29.54	10.16	51.28	41.12	N
3	0.5326	10.10	36.85	56.00	19.15	24.00	46.00	22.00	N
4	2.9636	10.10	24.05	56.00	31.95	13.20	46.00	32.80	N
5	17.7347	10.11	33.18	60.00	26.82	20.01	50.00	29.99	N
6	28.6422	10.11	35.46	60.00	24.54	25.02	50.00	24.98	N

## Remarks:

1. The following Quasi-Peak and Average measurements were performed on the EUT:
2. Final Test Level =Receiver Reading + LISN Factor + Cable Loss.

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## 4.3 Duty Cycle

The detailed test data see: **Appendix**



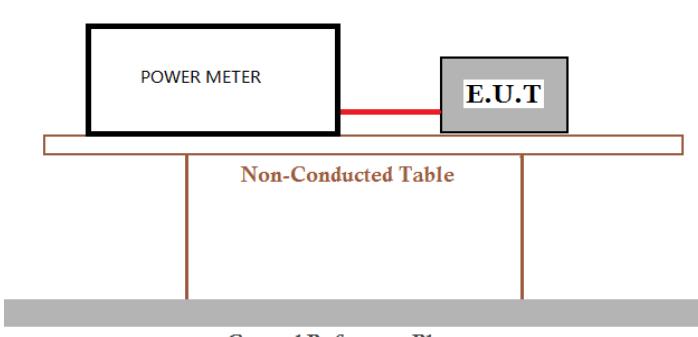
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## 4.4 Conducted Output Power

Test Requirement:	47 CFR Part 15C Section 15.247 (b)(3)
Test Method:	ANSI C63.10 :2013 Section 11.9.1.3
Test Setup:	
Test Instruments:	Refer to section 5.10 for details
Exploratory Test Mode:	Transmitting with all kind of modulations, data rates
Final Test Mode:	Through Pre-scan, find the 1Mbps of rate is the worst case of 802.11B; 6Mbps of rate is the worst case of 802.11G ; 6.5Mbps of rate is the worst case of 802.11N(HT20); 13.5Mbps of rate is the worst case of 802.11N(HT40).
Limit:	30dBm
Test Results:	Pass

The detailed test data see: **Appendix**

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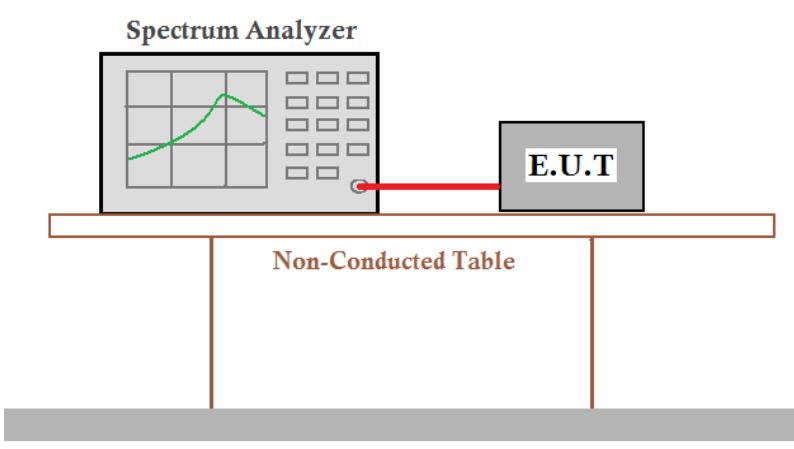
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## 4.5 DTS (6 dB) Bandwidth & 99% Occupied Bandwidth

Test Requirement:	47 CFR Part 15C Section 15.247 (a)(2)
Test Method:	ANSI C63.10: 2013 Section 11.8.1 Option 1
Test Setup:	<p style="text-align: center;"><b>Spectrum Analyzer</b></p>  <p style="text-align: center;">Non-Conducted Table</p> <p style="text-align: center;">Ground Reference Plane</p>
Instruments Used:	Refer to section 5.10 for details
Exploratory Test Mode:	Transmitting with all kind of modulations, data rates
Final Test Mode:	Through Pre-scan, find the 1Mbps of rate is the worst case of 802.11B; 6Mbps of rate is the worst case of 802.11G ; 6.5Mbps of rate is the worst case of 802.11N(HT20); 13.5Mbps of rate is the worst case of 802.11N(HT40).
Limit:	$\geq 500$ kHz
Test Results:	Pass

The detailed test data see: **Appendix**

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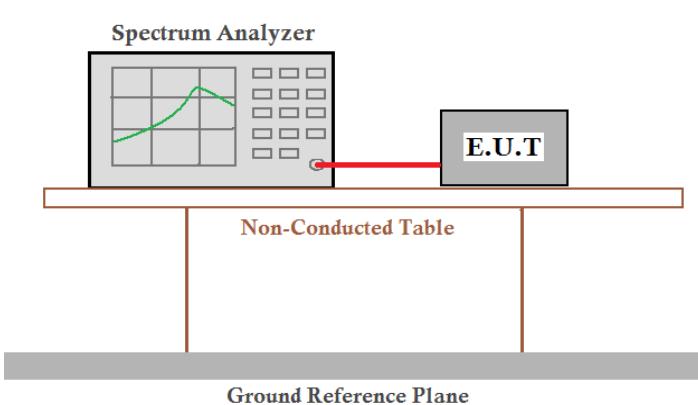
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## 4.6 Power Spectral Density

Test Requirement:	47 CFR Part 15C Section 15.247 (e)
Test Method:	ANSI C63.10 :2013 Section 11.10.2
Test Setup:	
Test Instruments:	Refer to section 5.10 for details
Exploratory Test Mode:	Transmitting with all kind of modulations, data rates
Final Test Mode:	Through Pre-scan, find the 1Mbps of rate is the worst case of 802.11B; 6Mbps of rate is the worst case of 802.11G ; 6.5Mbps of rate is the worst case of 802.11N(HT20); 13.5Mbps of rate is the worst case of 802.11N(HT40).
Limit:	≤8.00dBm/3kHz
Test Results:	Pass

The detailed test data see: **Appendix**

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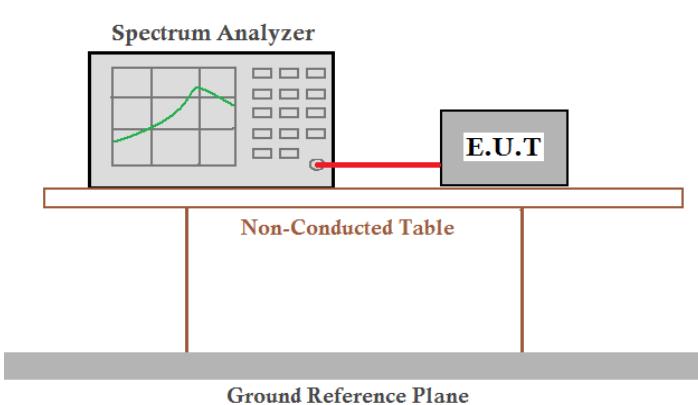
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## 4.7 Band-edge for RF Conducted Emissions

Test Requirement:	47 CFR Part 15C Section 15.247 (d)
Test Method:	ANSI C63.10: 2013 Section 11.13
Test Setup:	
Instruments Used:	Refer to section 5.10 for details
Exploratory Test Mode:	Transmitting with all kind of modulations, data rates
Final Test Mode:	Through Pre-scan, find the 1Mbps of rate is the worst case of 802.11B; 6Mbps of rate is the worst case of 802.11G ; 6.5Mbps of rate is the worst case of 802.11N(HT20); 13.5Mbps of rate is the worst case of 802.11N(HT40).
Limit:	In any 100 kHz bandwidth outside the frequency band in which the spread spectrum intentional radiator is 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.
Test Results:	Pass

The detailed test data see: **Appendix**

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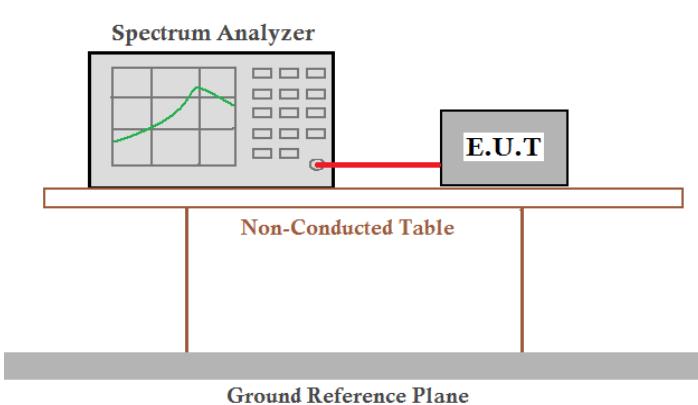
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## 4.8 RF Conducted Spurious Emissions

Test Requirement:	47 CFR Part 15C Section 15.247 (d)
Test Method:	ANSI C63.10: 2013 Section 11.11
Test Setup:	
Instruments Used:	Refer to section 5.10 for details
Exploratory Test Mode:	Transmitting with all kind of modulations, data rates
Final Test Mode:	Through Pre-scan, find the 1Mbps of rate is the worst case of 802.11B; 6Mbps of rate is the worst case of 802.11G ; 6.5Mbps of rate is the worst case of 802.11N(HT20); 13.5Mbps of rate is the worst case of 802.11N(HT40).
Limit:	In any 100 kHz bandwidth outside the frequency band in which the spread spectrum intentional radiator is 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.
Test Results:	Pass

The detailed test data see: **Appendix**

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## 4.9 Radiated Spurious Emissions

Test Requirement:	47 CFR Part 15C Section 15.209 and 15.205				
Test Method:	ANSI C63.10 :2013 Section 11.12				
Test Site:	Measurement Distance: 3m or 10m (Semi-Anechoic Chamber)				
Receiver Setup:	Frequency	Detector	RBW	VBW	Remark
	0.009MHz-0.090MHz	Peak	10kHz	30kHz	Peak
	0.009MHz-0.090MHz	Average	10kHz	30kHz	Average
	0.090MHz-0.110MHz	Quasi-peak	10kHz	30kHz	Quasi-peak
	0.110MHz-0.490MHz	Peak	10kHz	30kHz	Peak
	0.110MHz-0.490MHz	Average	10kHz	30kHz	Average
	0.490MHz -30MHz	Quasi-peak	10kHz	30kHz	Quasi-peak
	30MHz-1GHz	Quasi-peak	100kHz	30kHz	Quasi-peak
	Above 1GHz	Peak	1MHz	3MHz	Peak
		Peak	1MHz	10Hz	Average
Limit:	Frequency	Field strength (microvolt/meter)	Limit (dBuV/m)	Remark	Measurement distance (m)
	0.009MHz-0.490MHz	2400/F(kHz)	-	-	300
	0.490MHz-1.705MHz	24000/F(kHz)	-	-	30
	1.705MHz-30MHz	30	-	-	30
	30MHz-88MHz	100	40.0	Quasi-peak	3
	88MHz-216MHz	150	43.5	Quasi-peak	3
	216MHz-960MHz	200	46.0	Quasi-peak	3
	960MHz-1GHz	500	54.0	Quasi-peak	3
	Above 1GHz	500	54.0	Average	3
	Remark: 15.35(b), Unless otherwise specified, the limit on peak radio frequency emissions is 20dB above the maximum permitted average emission limit applicable to the equipment under test. This peak limit applies to the total peak emission level radiated by the device.				

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## Test Setup:

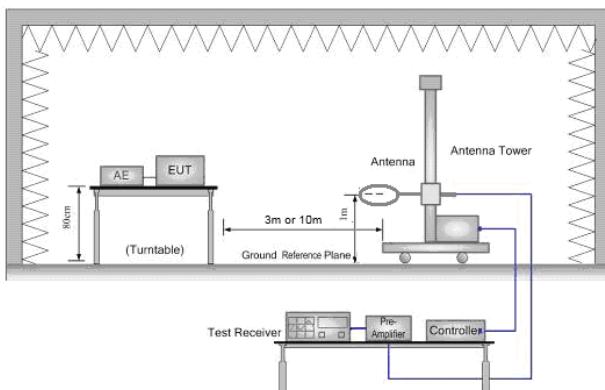


Figure 1. Below 30MHz

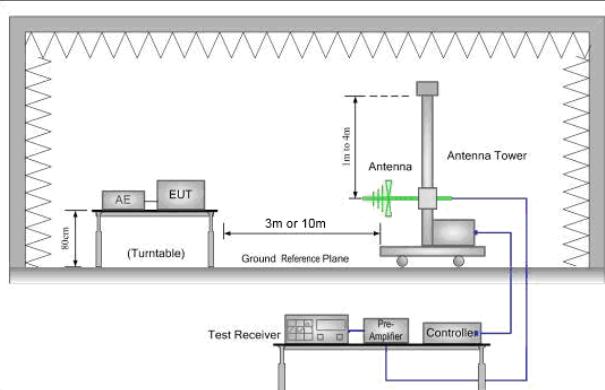


Figure 2. 30MHz to 1GHz

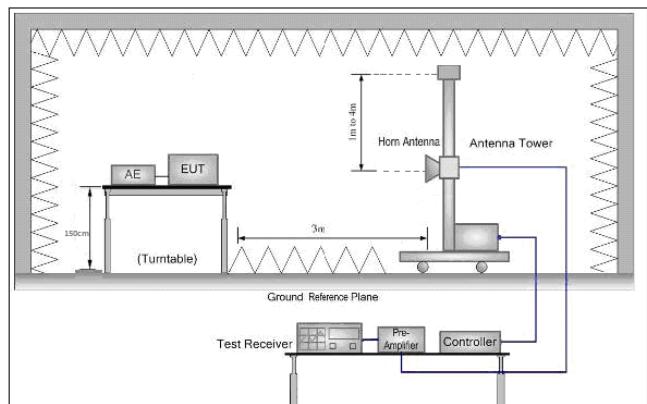


Figure 3. Above 1 GHz

## Test Procedure:

- For below 1GHz, the EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 or 10 meter semi-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.
- For above 1GHz, the EUT was placed on the top of a rotating table 1.5 meters above the ground at a 3 meter semi-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation
- The EUT was set 3 or 10 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.
- The antenna height is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
- Use the following spectrum analyzer settings:
  - Span shall wide enough to fully capture the emission being measured;
  - Set RBW=100 kHz for  $f < 1$  GHz, RBW=1MHz for  $f > 1$  GHz ;  
 $VBW \geq RBW$ ; Sweep = auto;  
 Detector function = peak; Trace = max hold for peak
  - For average measurement: use duty cycle correction factor method per 15.35(c).

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	<p>Duty cycle = On time/100 milliseconds</p> <p>On time = <math>N_1 * L_1 + N_2 * L_2 + \dots + N_{n-1} * L_{n-1} + N_n * L_n</math></p> <p>Where <math>N_1</math> is number of type 1 pulses, <math>L_1</math> is length of type 1 pulses, etc.</p> <p>Average Emission Level = Peak Emission Level + <math>20 * \log(\text{Duty cycle})</math></p> <p>f. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters(for the test frequency of below 30MHz, the antenna was tuned to heights 1 meter) and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.</p> <p>g. The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.</p> <p>h. If the emission level of the EUT in peak mode was 10dB lower than the limit specified, then testing could be stopped and the peak values of the EUT would be reported. Otherwise the emissions that did not have 10dB margin would be re-tested one by one using peak, quasi-peak or average method as specified and then reported in a data sheet.</p> <p>i. Test the EUT in the lowest channel, the middle channel ,the Highest channel.</p> <p>j. The radiation measurements are performed in X, Y, Z axis positioning for Transmitting mode, And found the X axis positioning which it is worse case.</p> <p>k. Repeat above procedures until all frequencies measured was complete.</p>
Exploratory Test Mode:	Transmitting with all kind of modulations, data rates. Charge + Transmitting mode.
Final Test Mode:	Pretest the EUT at Charge + Transmitting mode. Through Pre-scan, find the 1Mbps of rate is the worst case of 802.11B; 6Mbps of rate is the worst case of 802.11G; 6.5Mbps of rate is the worst case of 802.11N(HT20); 13.5Mbps of rate is the worst case of 802.11N(HT40); For below 1GHz, through Pre-scan, find the 1Mbps of rate of 802.11B at lowest channel is the worst case. Only the worst case is recorded in the report.
Instruments Used:	Refer to section 5.10 for details
Test Results:	Pass

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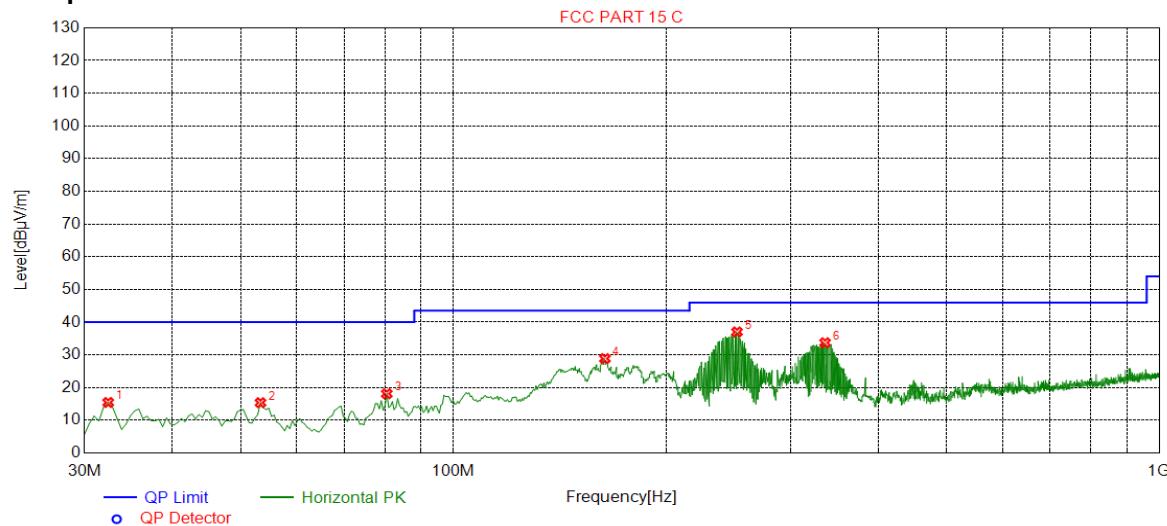
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## 4.9.1 Radiated emission below 1GHz

## 4.9.1.1 Charge + Transmitting

## Test Graph



## Suspected List

Suspected List							
NO.	Freq. [MHz]	Level [dB $\mu$ V/m]	Limit [dB $\mu$ V/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	32.4262	15.46	40.00	24.54	150	256	Horizontal
2	53.2016	15.30	40.00	24.61	150	213	Horizontal
3	80.4652	18.13	40.00	21.87	150	278	Horizontal
4	163.9270	28.87	43.50	14.63	150	131	Horizontal
5	252.2411	37.02	46.00	8.98	150	210	Horizontal
6	336.1881	33.73	46.00	12.27	150	213	Horizontal

## Final Data List

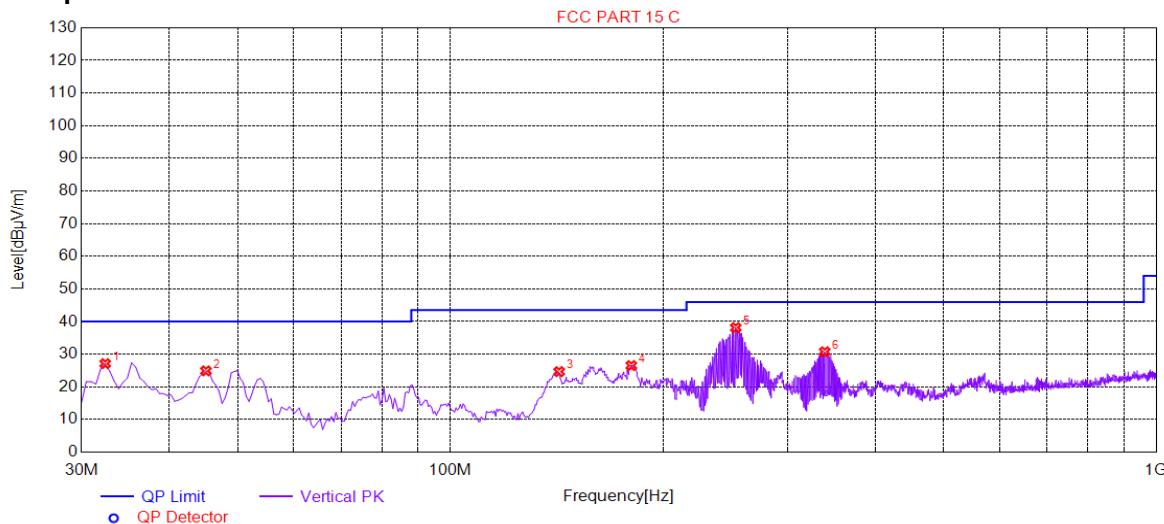


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## Test Graph



## Suspected List

Suspected List							
NO.	Freq. [MHz]	Level [dB $\mu$ V/m]	Limit [dB $\mu$ V/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	32.4262	27.12	40.00	12.88	150	155	Vertical
2	45.0425	24.91	40.00	15.09	150	320	Vertical
3	142.5763	24.68	43.50	18.82	150	80	Vertical
4	180.4252	26.53	43.50	16.07	150	16	Vertical
5	253.6068	38.16	46.00	7.84	150	348	Vertical
6	339.0996	30.77	46.00	15.23	150	310	Vertical

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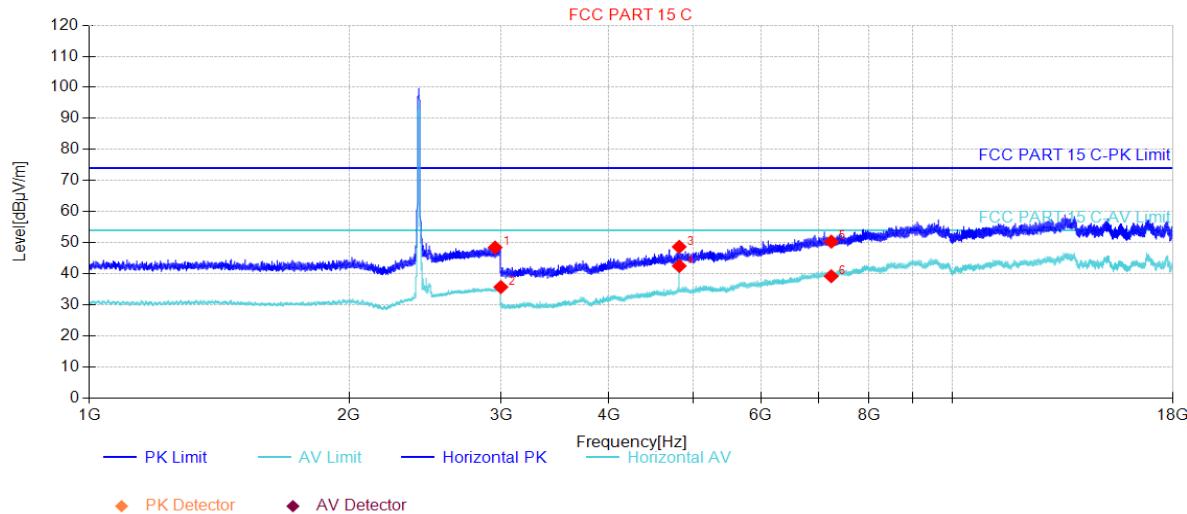
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## 4.9.2 Transmitter emission above 1GHz

## 4.9.2.1 802.11B\_Channel 1

## Test Graph



## Suspected List

Suspected List							
NO.	Freq. [MHz]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Polarity
1	2952.195	48.43	7.19	74.00	25.57	150	Horizontal
2	2997.799	35.69	7.40	54.00	18.31	150	Horizontal
3	4824.000	48.65	-10.56	74.00	25.35	150	Horizontal
4	4824.560	42.47	-10.56	54.00	11.53	150	Horizontal
5	7236.000	50.32	-2.59	74.00	23.68	150	Horizontal
6	7236.000	39.18	-2.59	54.00	14.82	150	Horizontal

## Final Data List



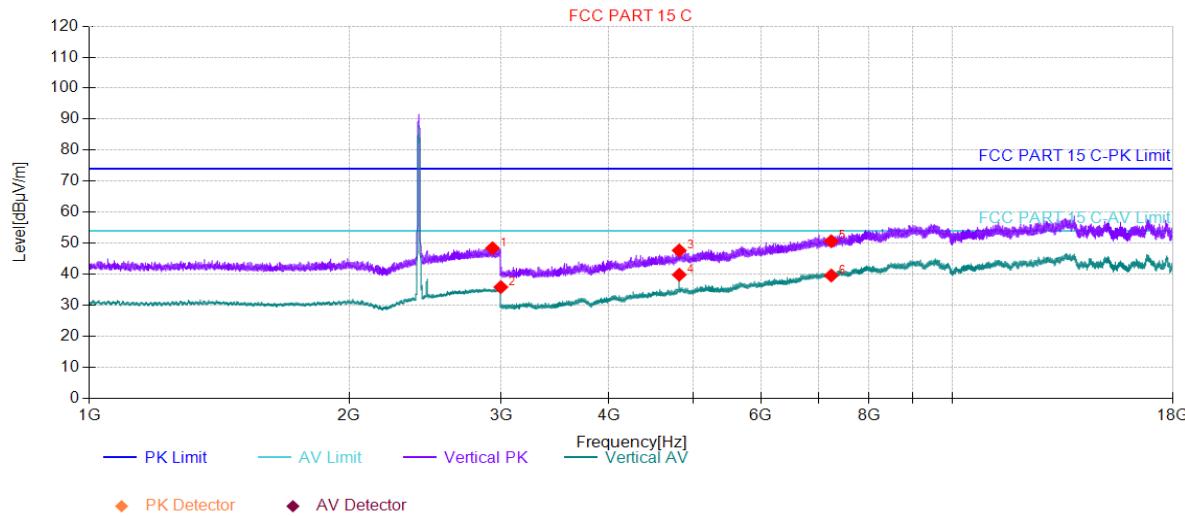
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## 4.9.2.2 802.11B\_Channel 1

## Test Graph



## Suspected List

Suspected List							
NO.	Freq. [MHz]	Level [dB $\mu$ V/m]	Factor [dB]	Limit [dB $\mu$ V/m]	Margin [dB]	Height [cm]	Polarity
1	2931.793	48.36	7.10	74.00	25.64	150	Vertical
2	2997.599	35.82	7.40	54.00	18.18	150	Vertical
3	4824.000	47.64	-10.56	74.00	26.36	150	Vertical
4	4824.560	39.82	-10.56	54.00	14.18	150	Vertical
5	7236.000	50.62	-2.59	74.00	23.38	150	Vertical
6	7236.000	39.56	-2.59	54.00	14.44	150	Vertical

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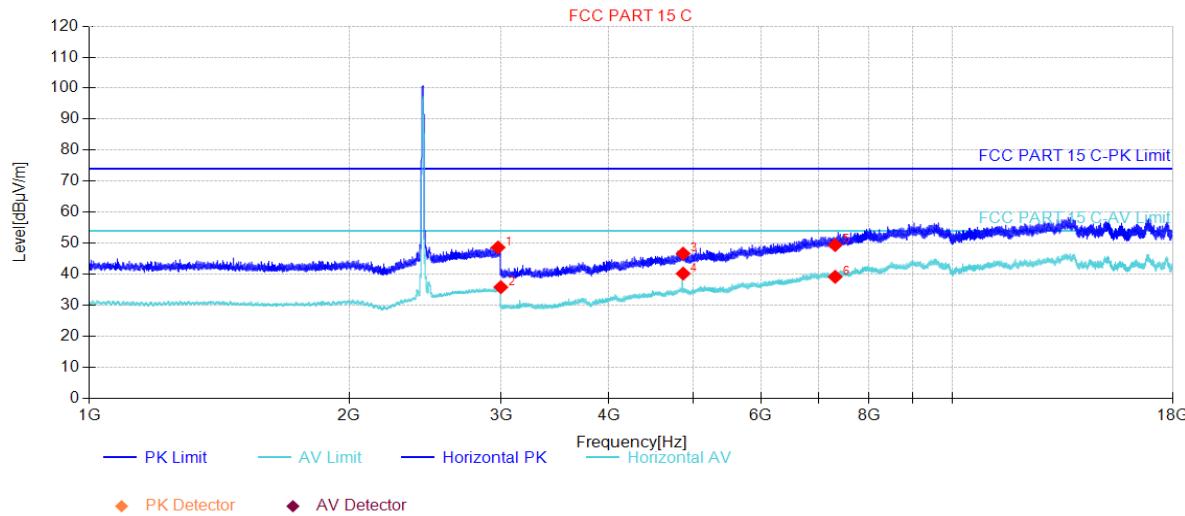
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## 4.9.2.3 802.11B\_Channel 6

## Test Graph



## Suspected List

Suspected List							
NO.	Freq. [MHz]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Polarity
1	2975.197	48.61	7.30	74.00	25.39	150	Horizontal
2	2997.599	35.80	7.40	54.00	18.20	150	Horizontal
3	4874.000	46.64	-10.40	74.00	27.36	150	Horizontal
4	4874.562	40.18	-10.40	54.00	13.82	150	Horizontal
5	7311.000	49.39	-2.58	74.00	24.61	150	Horizontal
6	7311.000	39.13	-2.58	54.00	14.87	150	Horizontal

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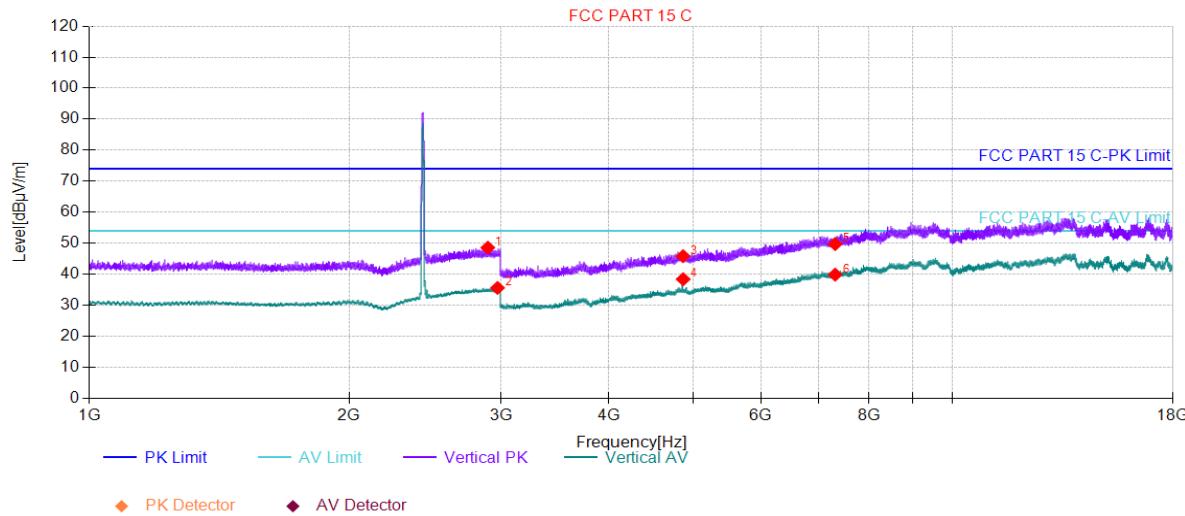
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## 4.9.2.4

## 802.11B\_Channel 6

## Test Graph



## Suspected List

Suspected List							
NO.	Freq. [MHz]	Level [dB $\mu$ V/m]	Factor [dB]	Limit [dB $\mu$ V/m]	Margin [dB]	Height [cm]	Polarity
1	2894.989	48.54	6.94	74.00	25.46	150	Vertical
2	2970.997	35.56	7.28	54.00	18.44	150	Vertical
3	4874.000	45.79	-10.40	74.00	28.21	150	Vertical
4	4874.562	38.37	-10.40	54.00	15.63	150	Vertical
5	7311.000	49.71	-2.58	74.00	24.29	150	Vertical
6	7311.000	39.85	-2.58	54.00	14.15	150	Vertical

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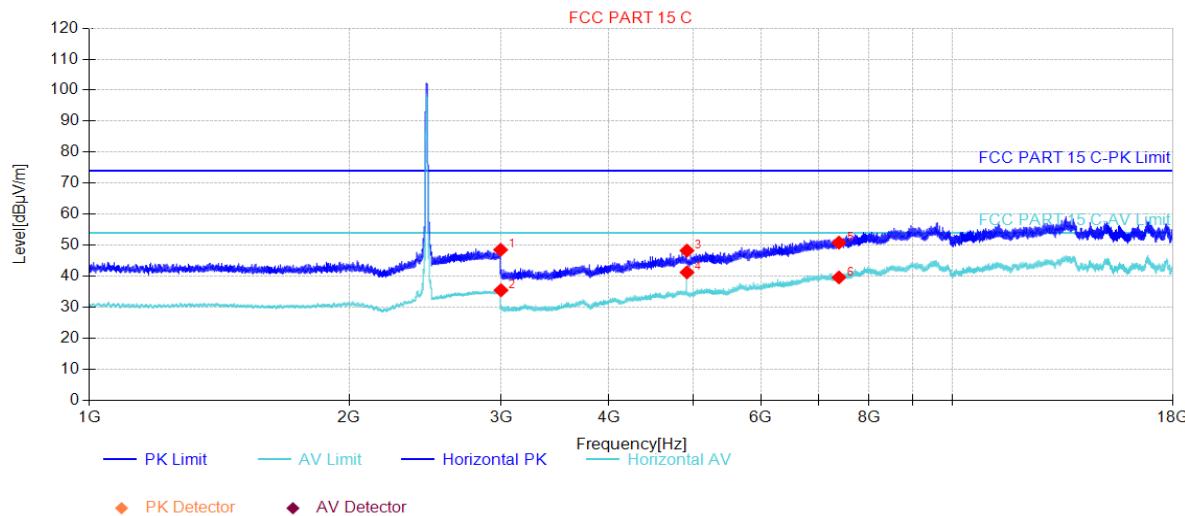
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## 4.9.2.5 802.11B\_Channel 11

## Test Graph



## Suspected List

Suspected List							
NO.	Freq. [MHz]	Level [dB $\mu$ V/m]	Factor [dB]	Limit [dB $\mu$ V/m]	Margin [dB]	Height [cm]	Polarity
1	2995.399	48.50	7.39	74.00	25.50	150	Horizontal
2	2998.599	35.46	7.40	54.00	18.54	150	Horizontal
3	4924.000	48.25	-10.22	74.00	25.75	150	Horizontal
4	4924.564	41.22	-10.22	54.00	12.78	150	Horizontal
5	7386.000	50.80	-2.06	74.00	23.20	150	Horizontal
6	7386.000	39.59	-2.06	54.00	14.41	150	Horizontal

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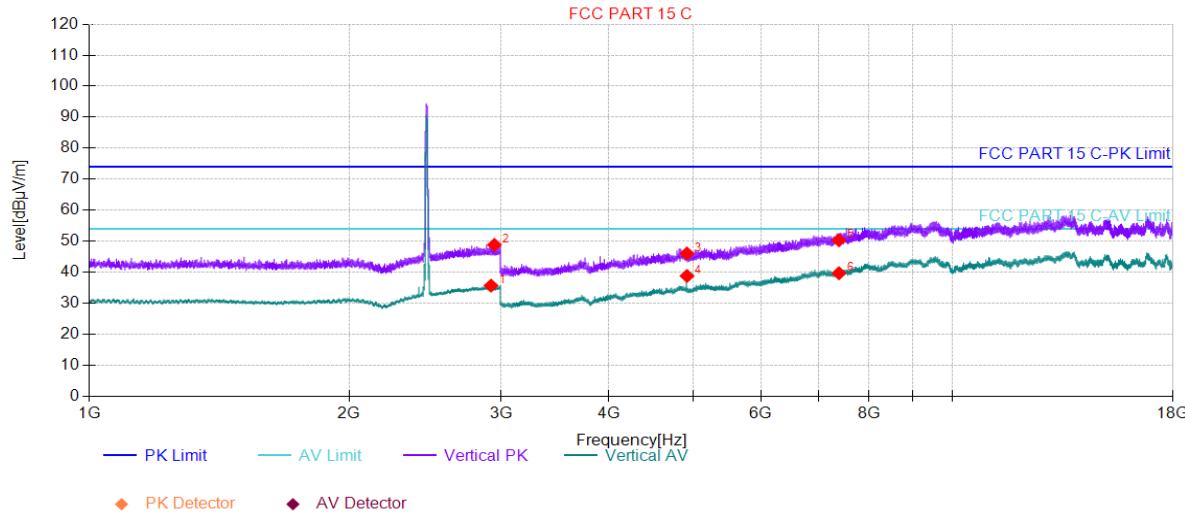
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## 4.9.2.6 802.11B\_Channel 11

## Test Graph



## Suspected List

Suspected List							
NO.	Freq. [MHz]	Level [dBµV/m]	Factor [dB]	Limit [dBµV/m]	Margin [dB]	Height [cm]	Polarity
1	2919.792	35.65	7.04	54.00	18.35	150	Vertical
2	2946.594	48.82	7.16	74.00	25.18	150	Vertical
3	4924.000	46.02	-10.22	74.00	27.98	150	Vertical
4	4924.564	38.78	-10.22	54.00	15.22	150	Vertical
5	7386.000	50.27	-2.06	74.00	23.73	150	Vertical
6	7386.000	39.65	-2.06	54.00	14.35	150	Vertical

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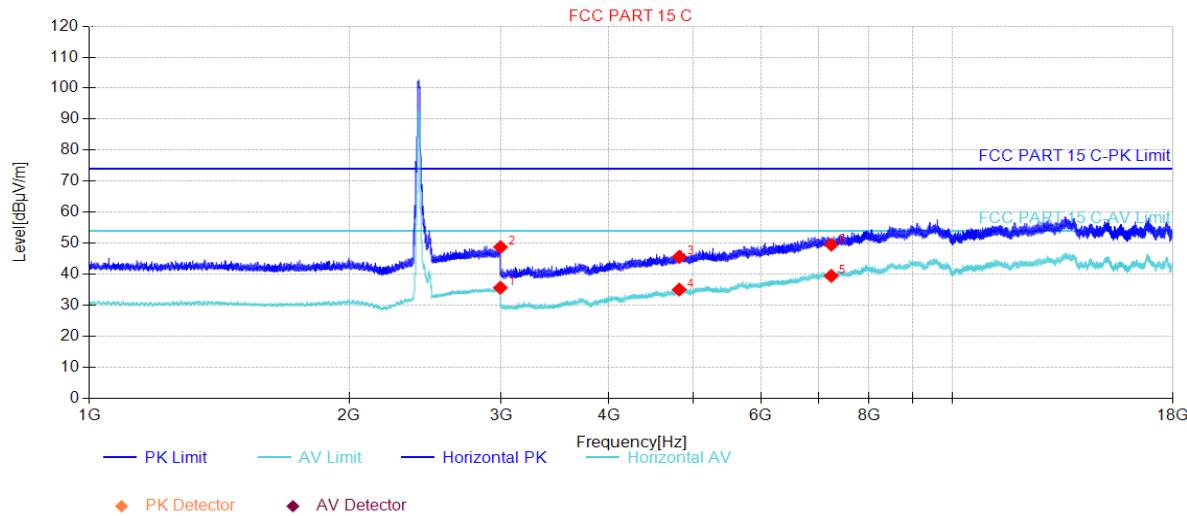
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## 4.9.2.7

## 802.11G\_Channel 1

## Test Graph



## Suspected List

Suspected List							
NO.	Freq. [MHz]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Polarity
1	2993.999	35.61	7.38	54.00	18.39	150	Horizontal
2	2995.199	48.74	7.39	74.00	25.26	150	Horizontal
3	4824.000	45.58	-10.56	74.00	28.42	150	Horizontal
4	4824.000	35.02	-10.56	54.00	18.98	150	Horizontal
5	7236.000	39.44	-2.59	54.00	14.56	150	Horizontal
6	7236.000	49.49	-2.59	74.00	24.51	150	Horizontal

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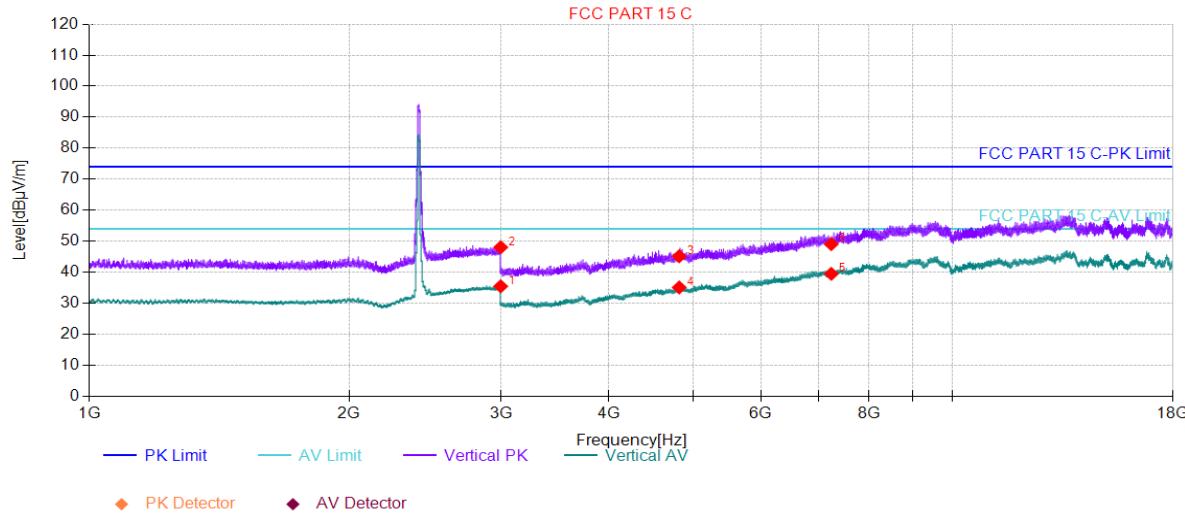
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## 4.9.2.8 802.11G\_Channel 1

## Test Graph



## Suspected List

Suspected List							
NO.	Freq. [MHz]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Polarity
1	2996.399	35.44	7.39	54.00	18.56	150	Vertical
2	2996.799	48.03	7.40	74.00	25.97	150	Vertical
3	4824.000	45.13	-10.56	74.00	28.87	150	Vertical
4	4824.000	35.06	-10.56	54.00	18.94	150	Vertical
5	7236.000	39.46	-2.59	54.00	14.54	150	Vertical
6	7236.000	49.03	-2.59	74.00	24.97	150	Vertical

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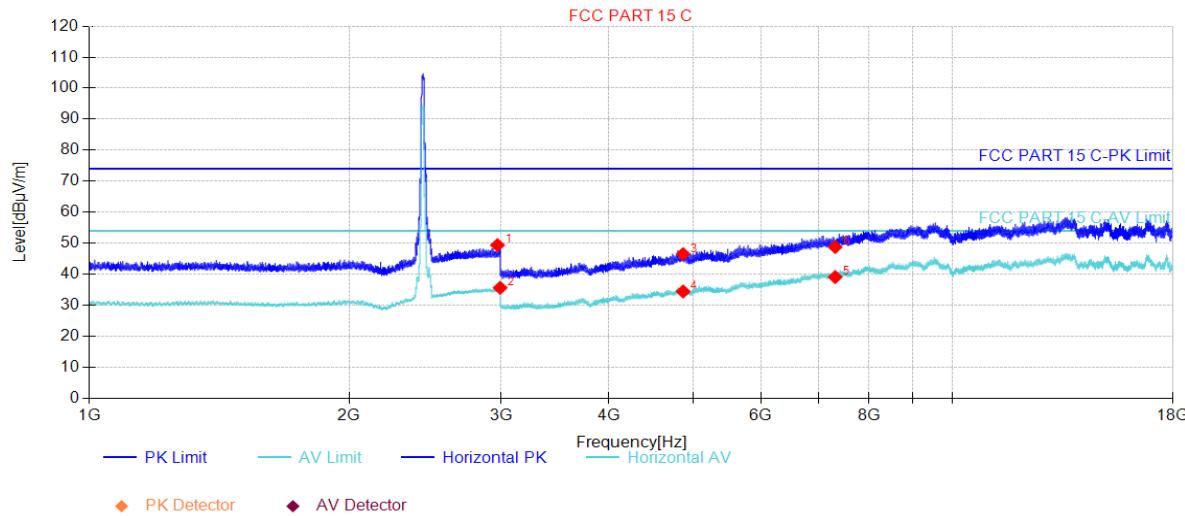
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## 4.9.2.9 802.11G\_Channel 6

## Test Graph



## Suspected List

Suspected List							
NO.	Freq. [MHz]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Polarity
1	2970.597	49.36	7.27	74.00	24.64	150	Horizontal
2	2992.199	35.59	7.37	54.00	18.41	150	Horizontal
3	4874.000	46.49	-10.40	74.00	27.51	150	Horizontal
4	4874.000	34.40	-10.40	54.00	19.60	150	Horizontal
5	7311.000	39.07	-2.58	54.00	14.93	150	Horizontal
6	7311.000	48.76	-2.58	74.00	25.24	150	Horizontal

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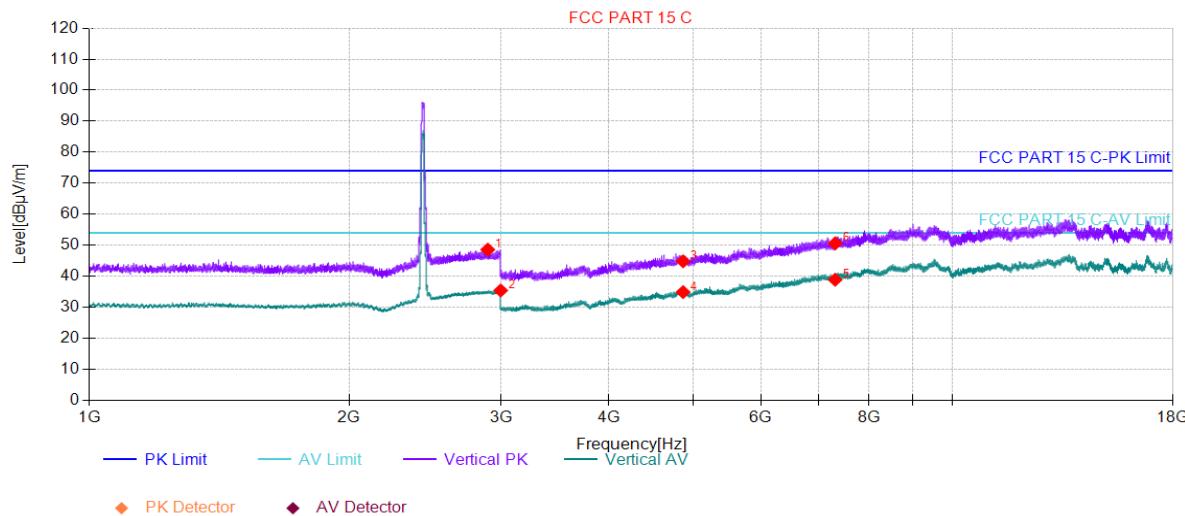
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## 4.9.2.10 802.11G\_Channel 6

## Test Graph



## Suspected List

Suspected List							
NO.	Freq. [MHz]	Level [dB $\mu$ V/m]	Factor [dB]	Limit [dB $\mu$ V/m]	Margin [dB]	Height [cm]	Polarity
1	2894.589	48.56	6.94	74.00	25.44	150	Vertical
2	2996.399	35.38	7.39	54.00	18.62	150	Vertical
3	4874.000	44.80	-10.40	74.00	29.20	150	Vertical
4	4874.000	34.86	-10.40	54.00	19.14	150	Vertical
5	7311.000	38.85	-2.58	54.00	15.15	150	Vertical
6	7311.000	50.58	-2.58	74.00	23.42	150	Vertical

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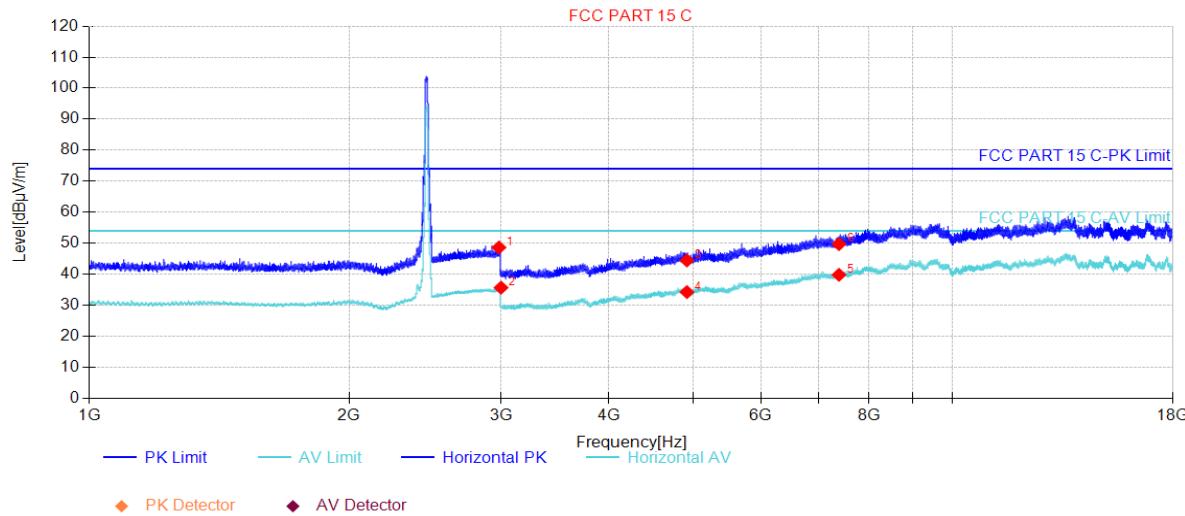
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## 4.9.2.11 802.11G\_Channel 11

## Test Graph



## Suspected List

Suspected List							
NO.	Freq. [MHz]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Polarity
1	2982.398	48.60	7.33	74.00	25.40	150	Horizontal
2	2999.199	35.65	7.41	54.00	18.35	150	Horizontal
3	4924.000	44.42	-10.22	74.00	29.58	150	Horizontal
4	4924.000	34.21	-10.22	54.00	19.79	150	Horizontal
5	7386.000	39.78	-2.06	54.00	14.22	150	Horizontal
6	7386.000	49.70	-2.06	74.00	24.30	150	Horizontal

## Final Data List



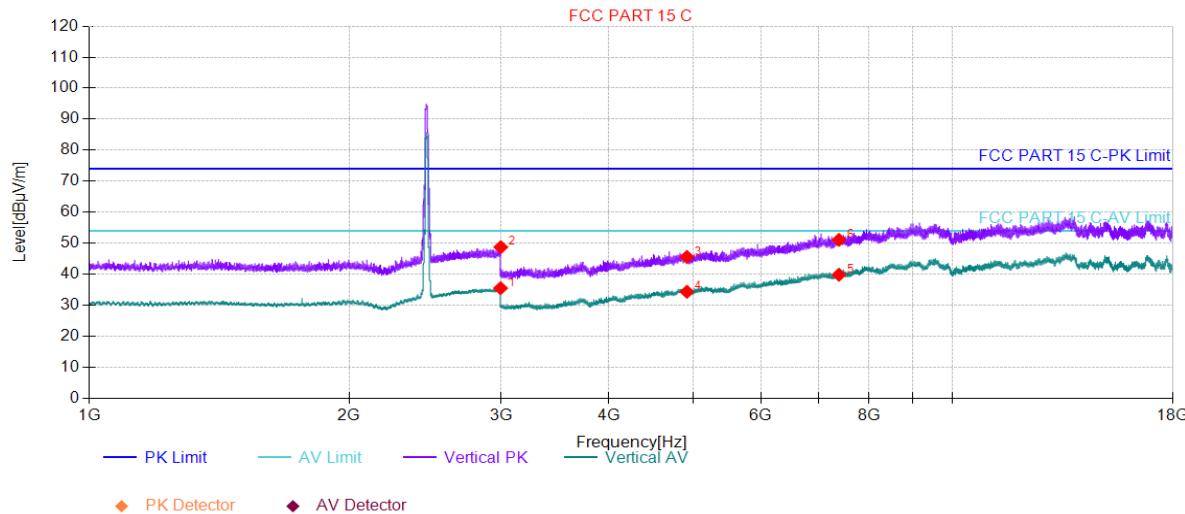
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## 4.9.2.12 802.11G\_Channel 11

## Test Graph



## Suspected List

Suspected List							
NO.	Freq. [MHz]	Level [dB $\mu$ V/m]	Factor [dB]	Limit [dB $\mu$ V/m]	Margin [dB]	Height [cm]	Polarity
1	2994.999	35.48	7.39	54.00	18.52	150	Vertical
2	2997.199	48.71	7.40	74.00	25.29	150	Vertical
3	4924.000	45.56	-10.22	74.00	28.44	150	Vertical
4	4924.000	34.30	-10.22	54.00	19.70	150	Vertical
5	7386.000	39.81	-2.06	54.00	14.19	150	Vertical
6	7386.000	51.06	-2.06	74.00	22.94	150	Vertical

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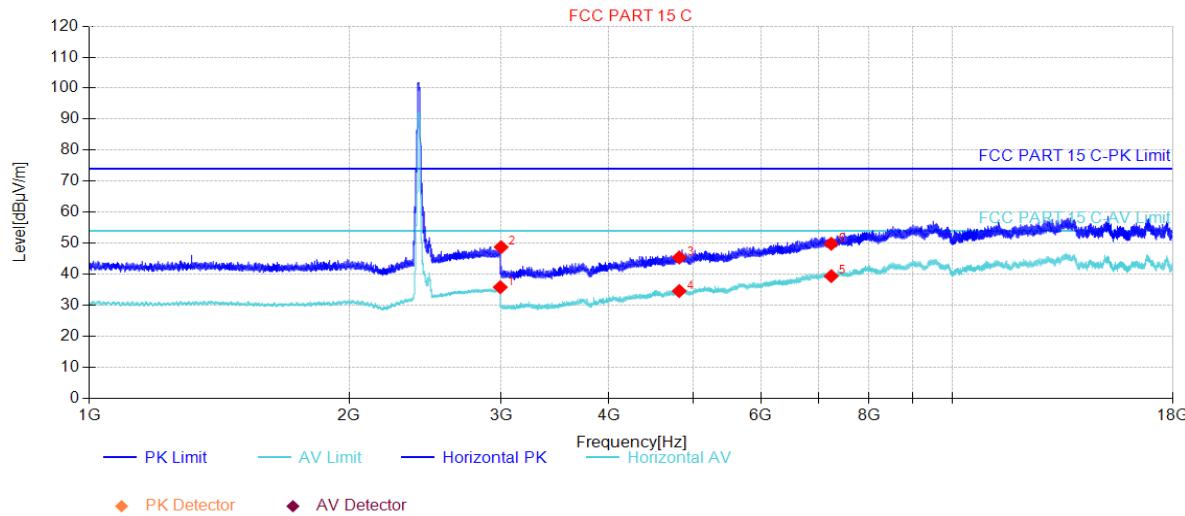
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## 4.9.2.13 802.11N20\_Channel 1

## Test Graph



## Suspected List

Suspected List							
NO.	Freq. [MHz]	Level [dB $\mu$ V/m]	Factor [dB]	Limit [dB $\mu$ V/m]	Margin [dB]	Height [cm]	Polarity
1	2992.999	35.79	7.38	54.00	18.21	150	Horizontal
2	2999.600	48.72	7.41	74.00	25.28	150	Horizontal
3	4824.000	45.38	-10.56	74.00	28.62	150	Horizontal
4	4824.000	34.55	-10.56	54.00	19.45	150	Horizontal
5	7236.000	39.36	-2.59	54.00	14.64	150	Horizontal
6	7236.000	49.79	-2.59	74.00	24.21	150	Horizontal

## Final Data List



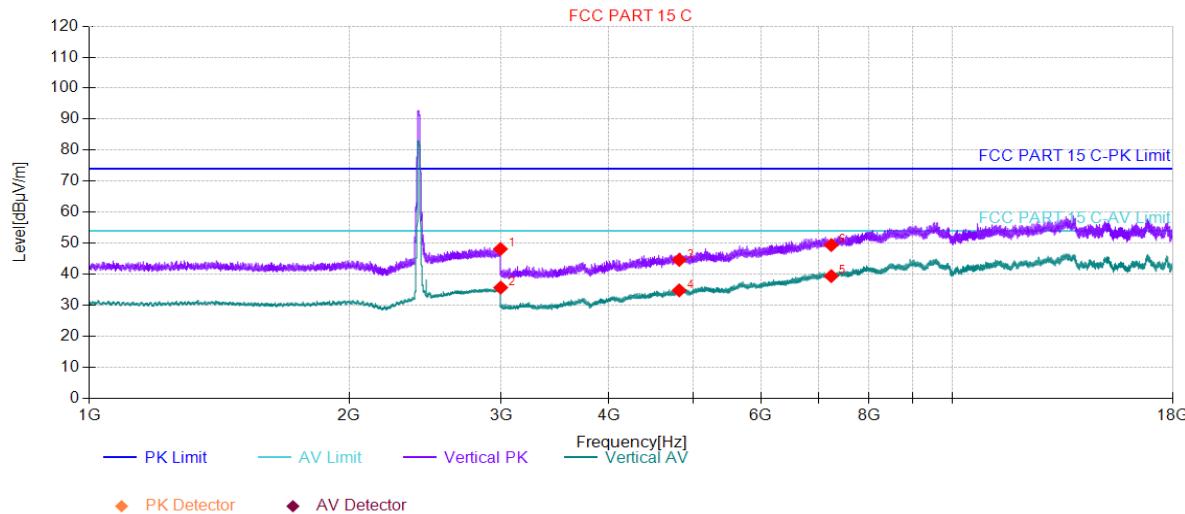
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## 4.9.2.14 802.11N20\_Channel 1

## Test Graph



## Suspected List

Suspected List							
NO.	Freq. [MHz]	Level [dB $\mu$ V/m]	Factor [dB]	Limit [dB $\mu$ V/m]	Margin [dB]	Height [cm]	Polarity
1	2994.399	48.11	7.38	74.00	25.89	150	Vertical
2	2996.599	35.66	7.39	54.00	18.34	150	Vertical
3	4824.000	44.60	-10.56	74.00	29.40	150	Vertical
4	4824.000	34.76	-10.56	54.00	19.24	150	Vertical
5	7236.000	39.36	-2.59	54.00	14.64	150	Vertical
6	7236.000	49.39	-2.59	74.00	24.61	150	Vertical

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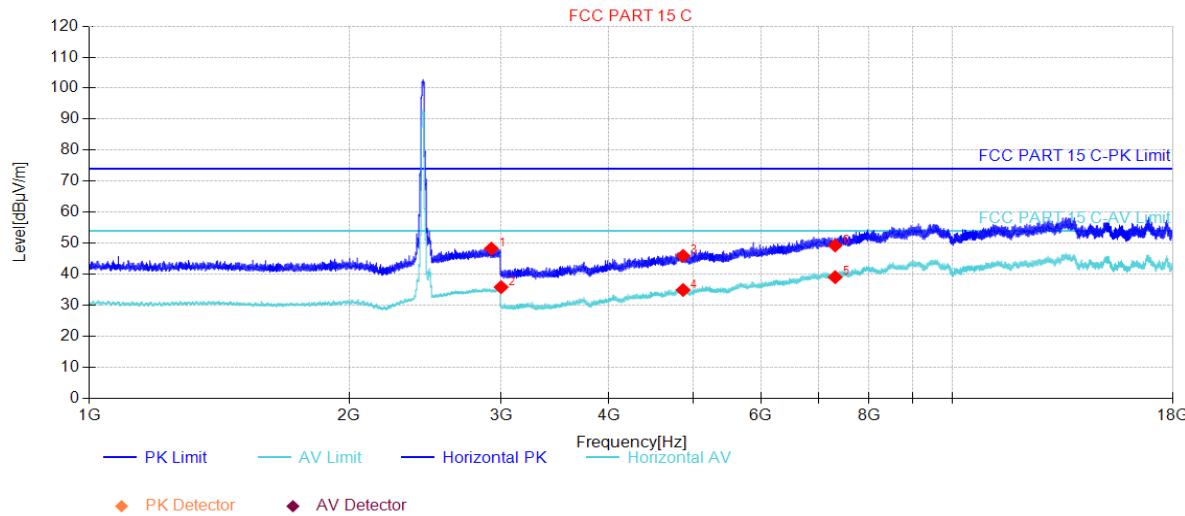
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## 4.9.2.15 802.11N20\_Channel 6

## Test Graph



## Suspected List

Suspected List							
NO.	Freq. [MHz]	Level [dB $\mu$ V/m]	Factor [dB]	Limit [dB $\mu$ V/m]	Margin [dB]	Height [cm]	Polarity
1	2922.792	48.23	7.05	74.00	25.77	150	Horizontal
2	3000.000	35.81	7.41	54.00	18.19	150	Horizontal
3	4874.000	45.90	-10.40	74.00	28.10	150	Horizontal
4	4874.000	34.89	-10.40	54.00	19.11	150	Horizontal
5	7311.000	39.03	-2.58	54.00	14.97	150	Horizontal
6	7311.000	49.27	-2.58	74.00	24.73	150	Horizontal

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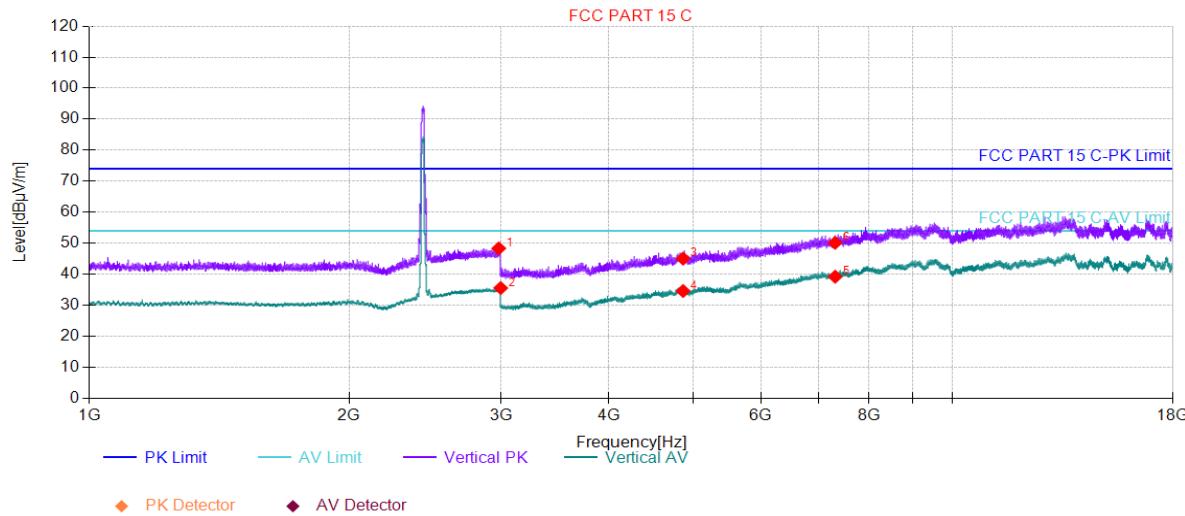
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## 4.9.2.16 802.11N20\_Channel 6

## Test Graph



## Suspected List

Suspected List							
NO.	Freq. [MHz]	Level [dB $\mu$ V/m]	Factor [dB]	Limit [dB $\mu$ V/m]	Margin [dB]	Height [cm]	Polarity
1	2980.798	48.31	7.32	74.00	25.69	150	Vertical
2	2996.599	35.53	7.39	54.00	18.47	150	Vertical
3	4874.000	45.02	-10.40	74.00	28.98	150	Vertical
4	4874.000	34.56	-10.40	54.00	19.44	150	Vertical
5	7311.000	39.18	-2.58	54.00	14.82	150	Vertical
6	7311.000	50.12	-2.58	74.00	23.88	150	Vertical

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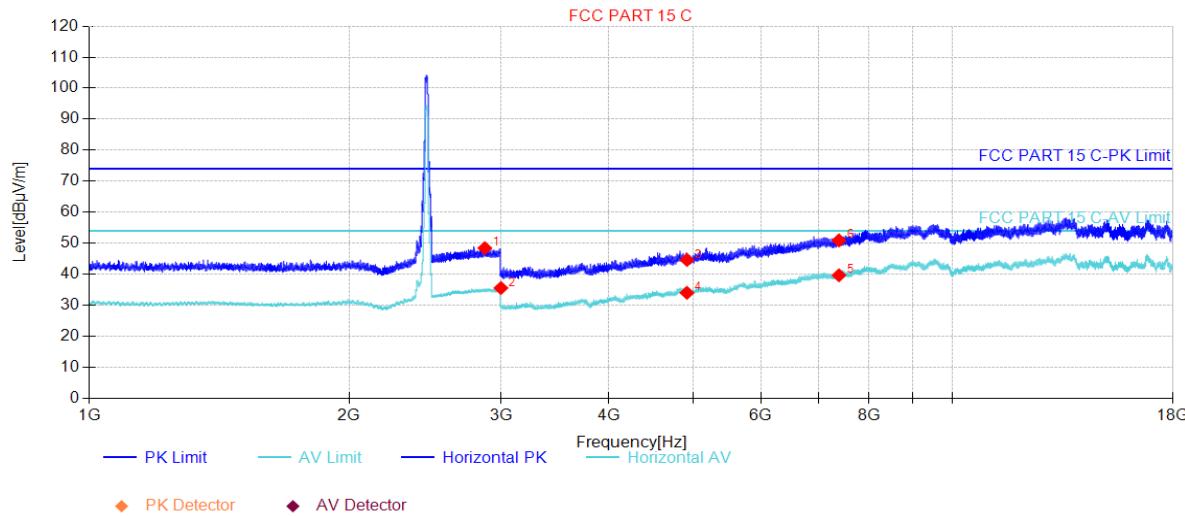
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## 4.9.2.17 802.11N20\_Channel 11

## Test Graph



## Suspected List

Suspected List							
NO.	Freq. [MHz]	Level [dB $\mu$ V/m]	Factor [dB]	Limit [dB $\mu$ V/m]	Margin [dB]	Height [cm]	Polarity
1	2872.187	48.40	6.89	74.00	25.60	150	Horizontal
2	2997.999	35.53	7.40	54.00	18.47	150	Horizontal
3	4924.000	44.61	-10.22	74.00	29.39	150	Horizontal
4	4924.000	33.98	-10.22	54.00	20.02	150	Horizontal
5	7386.000	39.63	-2.06	54.00	14.37	150	Horizontal
6	7386.000	50.89	-2.06	74.00	23.11	150	Horizontal

## Final Data List



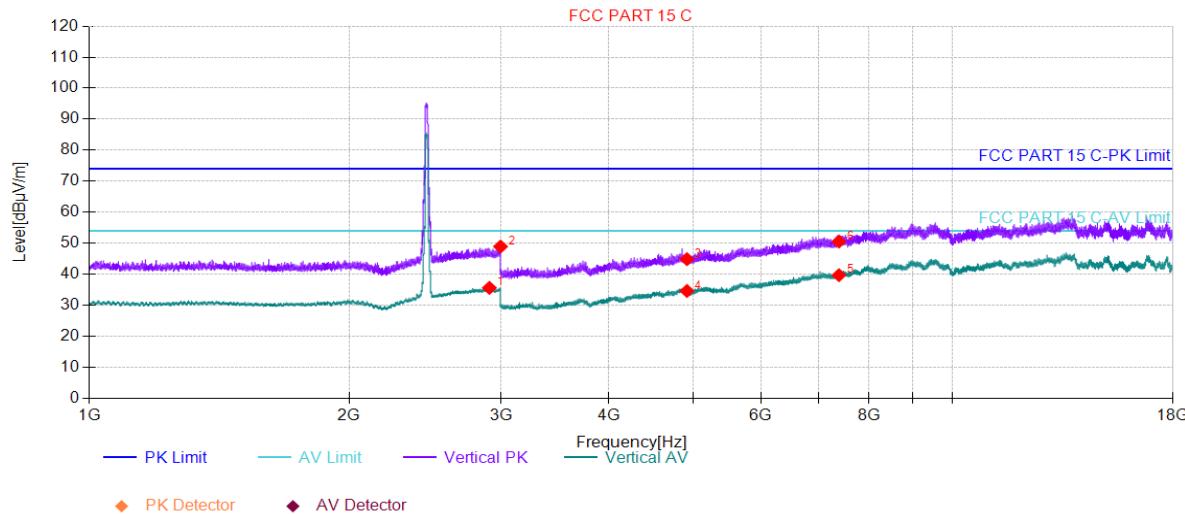
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## 4.9.2.18 802.11N20\_Channel 11

## Test Graph



## Suspected List

Suspected List							
NO.	Freq. [MHz]	Level [dB $\mu$ V/m]	Factor [dB]	Limit [dB $\mu$ V/m]	Margin [dB]	Height [cm]	Polarity
1	2907.390	35.58	6.98	54.00	18.42	150	Vertical
2	2995.199	48.90	7.39	74.00	25.10	150	Vertical
3	4924.000	44.84	-10.22	74.00	29.16	150	Vertical
4	4924.000	34.58	-10.22	54.00	19.42	150	Vertical
5	7386.000	39.67	-2.06	54.00	14.33	150	Vertical
6	7386.000	50.53	-2.06	74.00	23.47	150	Vertical

## Final Data List



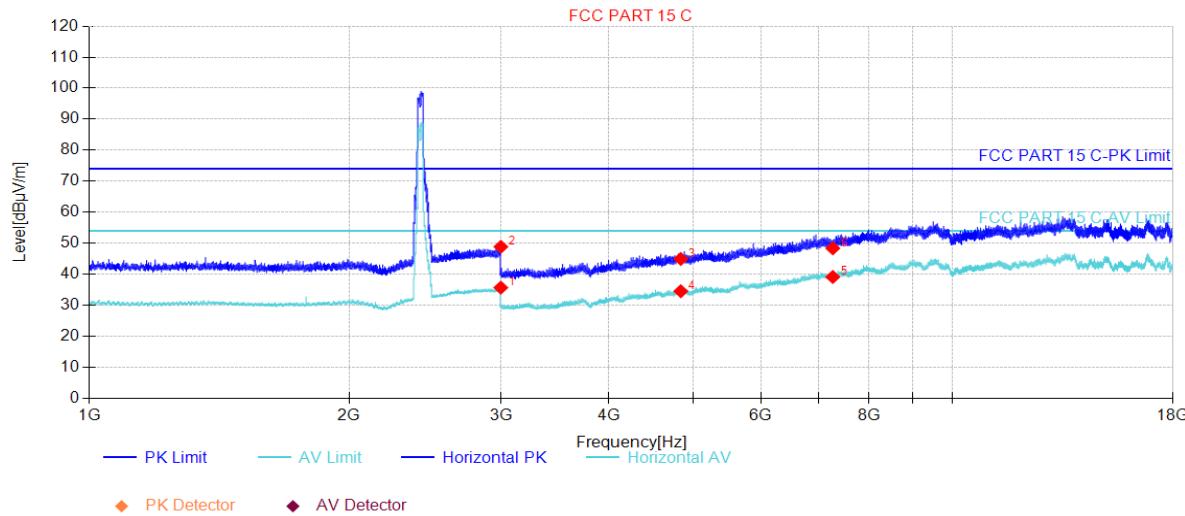
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## 4.9.2.19 802.11N40\_Channel 3

## Test Graph



## Suspected List

Suspected List							
NO.	Freq. [MHz]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Polarity
1	2997.399	35.65	7.40	54.00	18.35	150	Horizontal
2	2997.799	48.83	7.40	74.00	25.17	150	Horizontal
3	4844.000	44.90	-10.50	74.00	29.10	150	Horizontal
4	4844.000	34.49	-10.50	54.00	19.51	150	Horizontal
5	7266.000	39.10	-2.62	54.00	14.90	150	Horizontal
6	7266.000	48.34	-2.62	74.00	25.66	150	Horizontal

## Final Data List



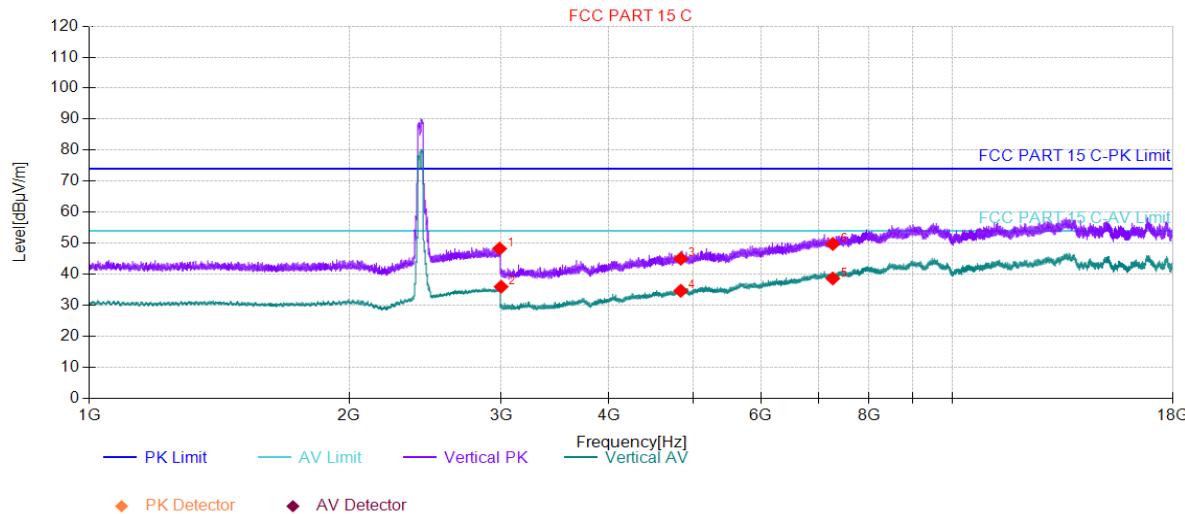
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## 4.9.2.20 802.11N40\_Channel 3

## Test Graph



## Suspected List

Suspected List							
NO.	Freq. [MHz]	Level [dB $\mu$ V/m]	Factor [dB]	Limit [dB $\mu$ V/m]	Margin [dB]	Height [cm]	Polarity
1	2987.598	48.23	7.35	74.00	25.77	150	Vertical
2	3000.000	35.95	7.41	54.00	18.05	150	Vertical
3	4844.000	44.99	-10.50	74.00	29.01	150	Vertical
4	4844.000	34.63	-10.50	54.00	19.37	150	Vertical
5	7266.000	38.62	-2.62	54.00	15.38	150	Vertical
6	7266.000	49.75	-2.62	74.00	24.25	150	Vertical

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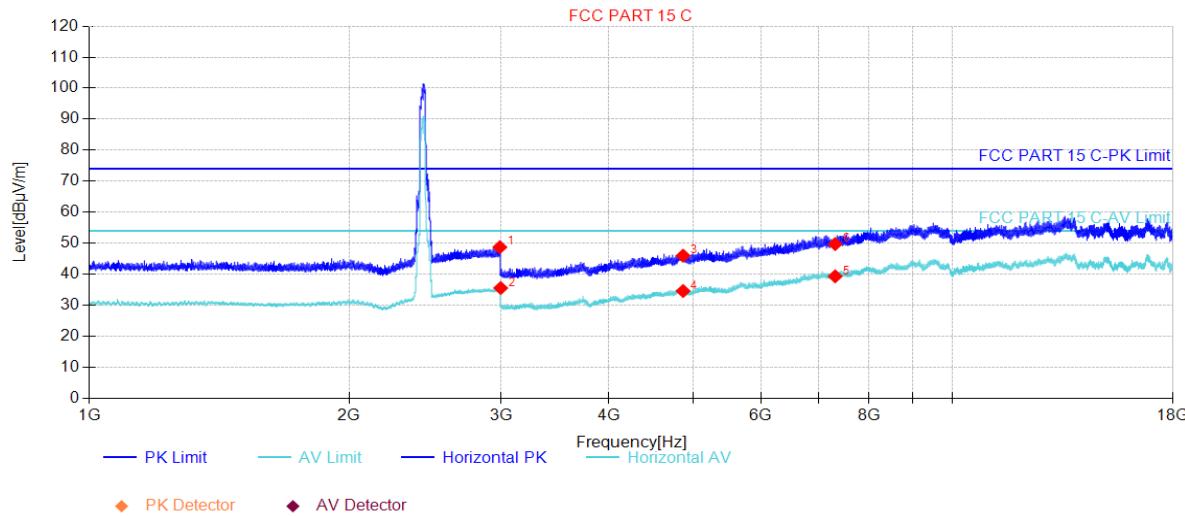
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## 4.9.2.21 802.11N40\_Channel 6

## Test Graph



## Suspected List

Suspected List							
NO.	Freq. [MHz]	Level [dB $\mu$ V/m]	Factor [dB]	Limit [dB $\mu$ V/m]	Margin [dB]	Height [cm]	Polarity
1	2989.398	48.70	7.36	74.00	25.30	150	Horizontal
2	2996.599	35.52	7.39	54.00	18.48	150	Horizontal
3	4874.000	45.95	-10.40	74.00	28.05	150	Horizontal
4	4874.000	34.56	-10.40	54.00	19.44	150	Horizontal
5	7311.000	39.29	-2.58	54.00	14.71	150	Horizontal
6	7311.000	49.70	-2.58	74.00	24.30	150	Horizontal

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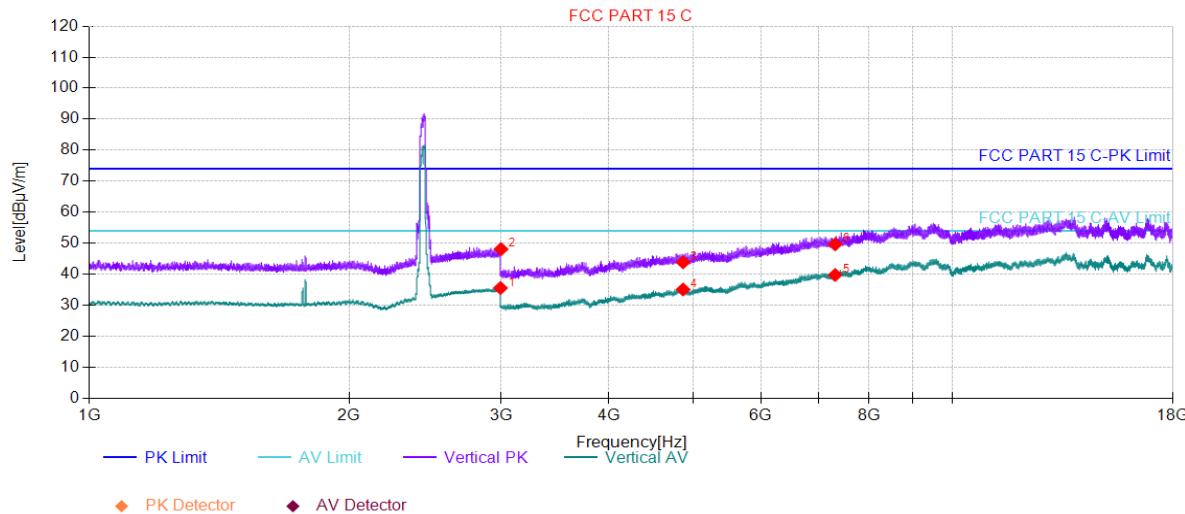
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## 4.9.2.22 802.11N40\_Channel 6

## Test Graph



## Suspected List

Suspected List							
NO.	Freq. [MHz]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Polarity
1	2994.599	35.52	7.39	54.00	18.48	150	Vertical
2	2999.199	48.07	7.41	74.00	25.93	150	Vertical
3	4874.000	43.84	-10.40	74.00	30.16	150	Vertical
4	4874.000	35.04	-10.40	54.00	18.96	150	Vertical
5	7311.000	39.74	-2.58	54.00	14.26	150	Vertical
6	7311.000	49.64	-2.58	74.00	24.36	150	Vertical

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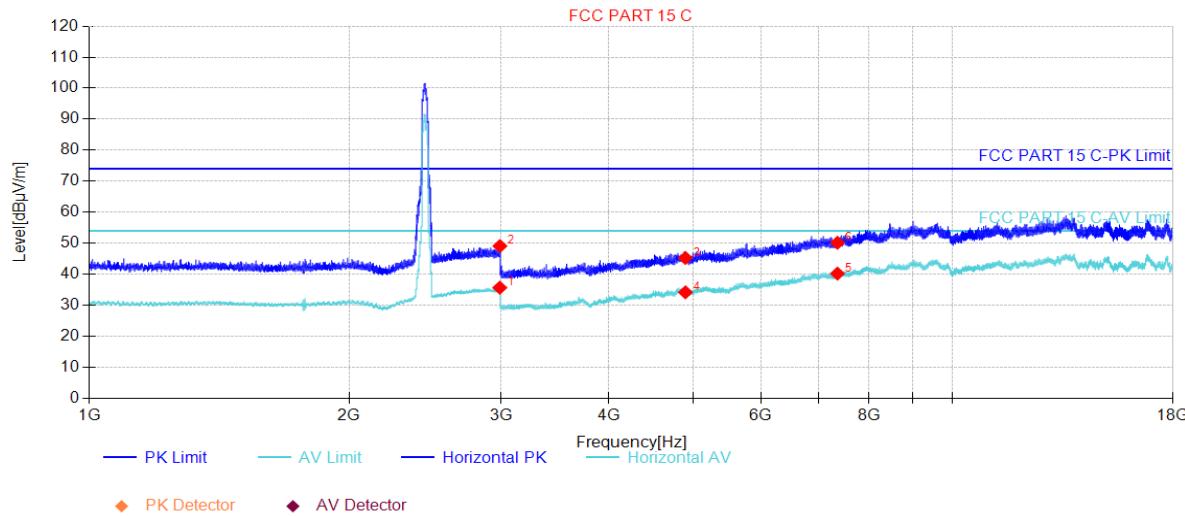
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## 4.9.2.23 802.11N40\_Channel 9

## Test Graph



## Suspected List

Suspected List							
NO.	Freq. [MHz]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Polarity
1	2988.998	35.63	7.36	54.00	18.37	150	Horizontal
2	2989.999	49.07	7.36	74.00	24.93	150	Horizontal
3	4904.000	45.22	-10.30	74.00	28.78	150	Horizontal
4	4904.000	34.14	-10.30	54.00	19.86	150	Horizontal
5	7356.000	40.17	-2.27	54.00	13.83	150	Horizontal
6	7356.000	50.13	-2.27	74.00	23.87	150	Horizontal

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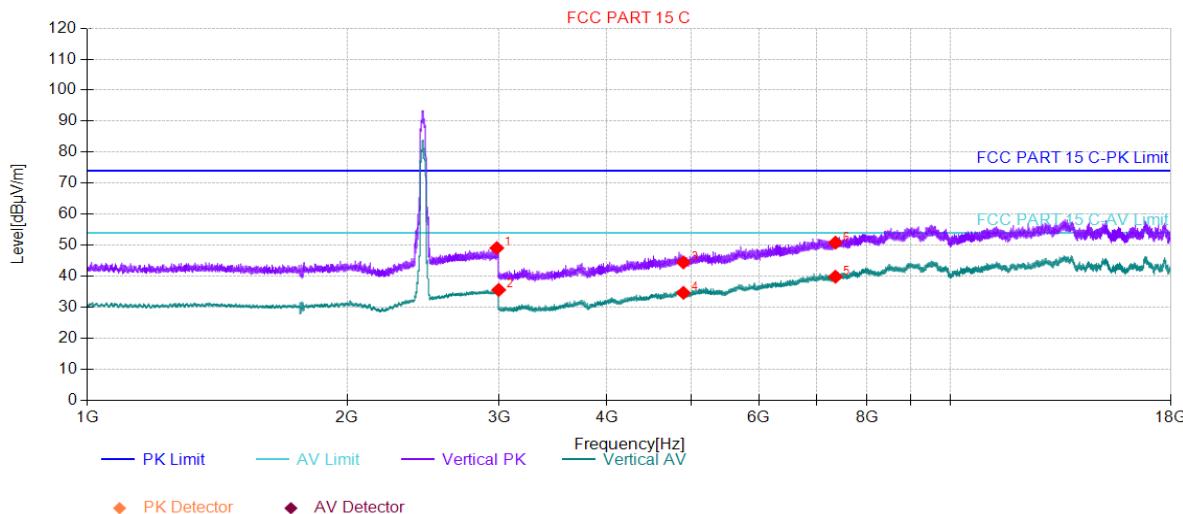
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## 4.9.2.24 802.11N40\_Channel 9

## Test Graph



## Suspected List

Suspected List							
NO.	Freq. [MHz]	Level [dB $\mu$ V/m]	Factor [dB]	Limit [dB $\mu$ V/m]	Margin [dB]	Height [cm]	Polarity
1	2980.798	49.05	7.32	74.00	24.95	150	Vertical
2	2996.399	35.55	7.39	54.00	18.45	150	Vertical
3	4904.000	44.44	-10.30	74.00	29.56	150	Vertical
4	4904.000	34.62	-10.30	54.00	19.38	150	Vertical
5	7356.000	39.81	-2.27	54.00	14.19	150	Vertical
6	7356.000	50.80	-2.27	74.00	23.20	150	Vertical

## Final Data List

## Remark:

- 1) The field strength is calculated by adding the Antenna Factor, Cable Factor & Preamplifier. The basic equation with a sample calculation is as follows:  
Final Test Level = Receiver Reading + Antenna Factor + Cable Factor – Preamplifier Factor
- 2) Scan from 9kHz to 25GHz, the disturbance between 9kHz to 30MHz and 18GHz to 25GHz was very low, and the above harmonics were the highest point could be found when testing, The amplitude of spurious emissions from the radiator which are attenuated more than 20dB below the limit need not be reported.
- 3) As shown in this section, for frequencies above 1GHz, the field strength limits are based on average limits. However, the peak field strength of any emission shall not exceed the maximum permitted average limits specified above by more than 20 dB under any condition of modulation. So, only the peak measurements were shown in the report.
- 4) All Modes have been tested, but only the worst case data displayed in this report.

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## 4.10 Restricted bands around fundamental frequency

Test Requirement:	47 CFR Part 15C Section 15.209 and 15.205		
Test Method:	ANSI C63.10: 2013 Section 11.12		
Test Site:	Measurement Distance: 3m or 10m (Semi-Anechoic Chamber)		
Limit:	Frequency	Limit (dBuV/m)	Remark
	30MHz-88MHz	40.0	Quasi-peak
	88MHz-216MHz	43.5	Quasi-peak
	216MHz-960MHz	46.0	Quasi-peak
	960MHz-1GHz	54.0	Quasi-peak
	Above 1GHz	54.0	Average Value
		74.0	Peak Value
Test Setup:			

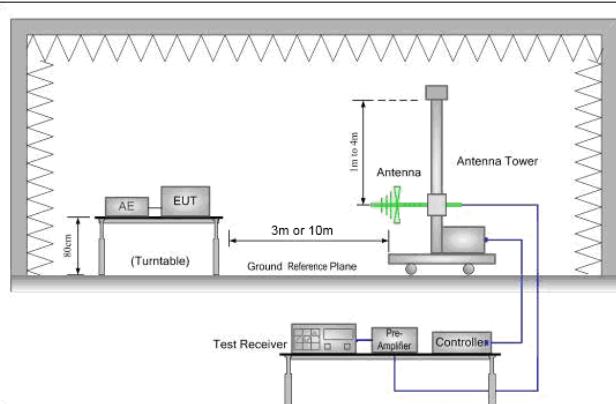


Figure 1. 30MHz to 1GHz

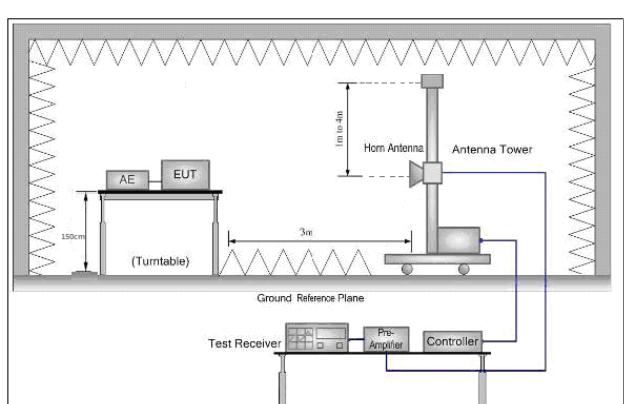


Figure 2. Above 1 GHz

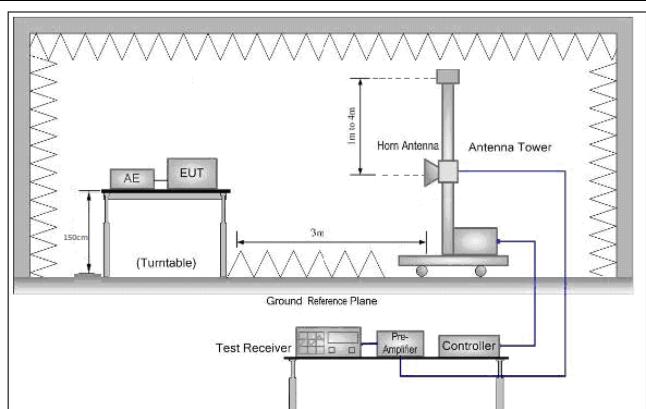


Figure 3. Above 1 GHz

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Report No.: AR/2020/C000804  
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Test Procedure:	<ol style="list-style-type: none"> <li>For below 1GHz, the EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 or 10 meter semi-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.</li> <li>For above 1GHz, the EUT was placed on the top of a rotating table 1.5 meters above the ground at a 3 meter semi-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.</li> <li>The EUT was set 3 or 10 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.</li> <li>The antenna height is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.</li> <li>For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.</li> <li>The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.</li> <li>Place a marker at the end of the restricted band closest to the transmit frequency to show compliance. Also measure any emissions in the restricted bands. Save the spectrum analyzer plot. Repeat for each power and modulation for lowest and highest channel</li> <li>Test the EUT in the lowest channel, the Highest channel</li> <li>The radiation measurements are performed in X, Y, Z axis positioning for Transmitting mode, And found the X axis positioning which it is worse case.</li> <li>Repeat above procedures until all frequencies measured was complete.</li> </ol>
Exploratory Test Mode:	Transmitting with all kind of modulations, data rates. Charge + Transmitting mode.
Final Test Mode:	Pretest the EUT at Charge + Transmitting mode. Through Pre-scan, find the 1Mbps of rate is the worst case of 802.11B; 6Mbps of rate is the worst case of 802.11G; 6.5Mbps of rate is the worst case of 802.11N(HT20); 13.5Mbps of rate is the worst case of 802.11N(HT40); Only the worst case is recorded in the report.
Instruments Used:	Refer to section 5.10 for details
Test Results:	Pass

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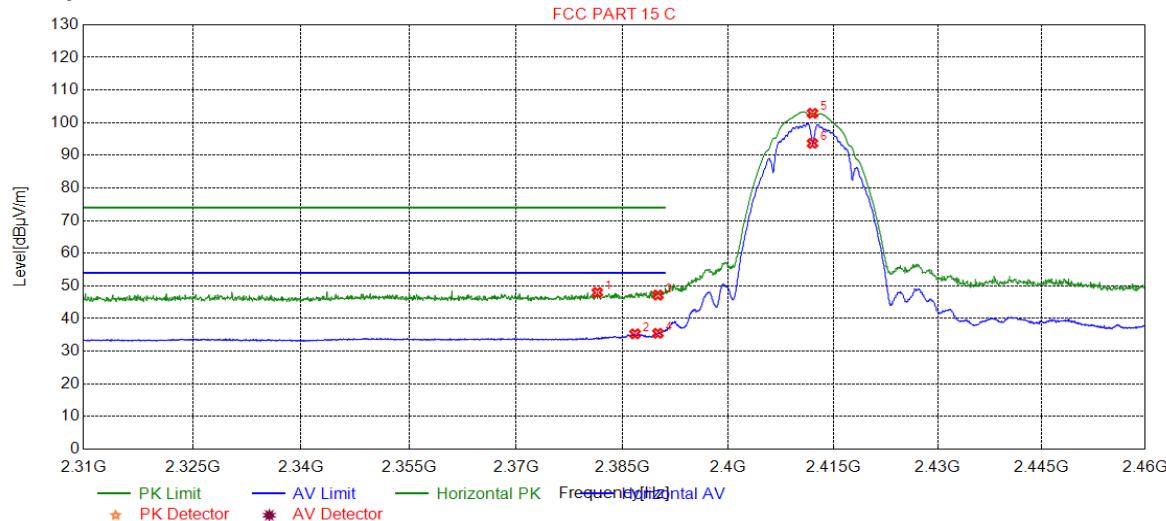
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## 4.10.1 Test Plots

## 4.10.1.1 802.11B\_Channel 1

## Test Graph



## Suspected List

Suspected List							
NO.	Freq. [MHz]	Level [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	2381.435	48.02	74.00	25.98	150	352	Horizontal
2	2386.763	35.32	54.00	18.68	150	329	Horizontal
3	2390.000	47.21	74.00	26.79	150	314	Horizontal
4	2390.000	35.50	54.00	18.50	150	358	Horizontal
5	2412.000	102.89	0.00	-102.89	150	329	Horizontal
6	2412.000	93.69	0.00	-93.69	150	326	Horizontal

## Final Data List

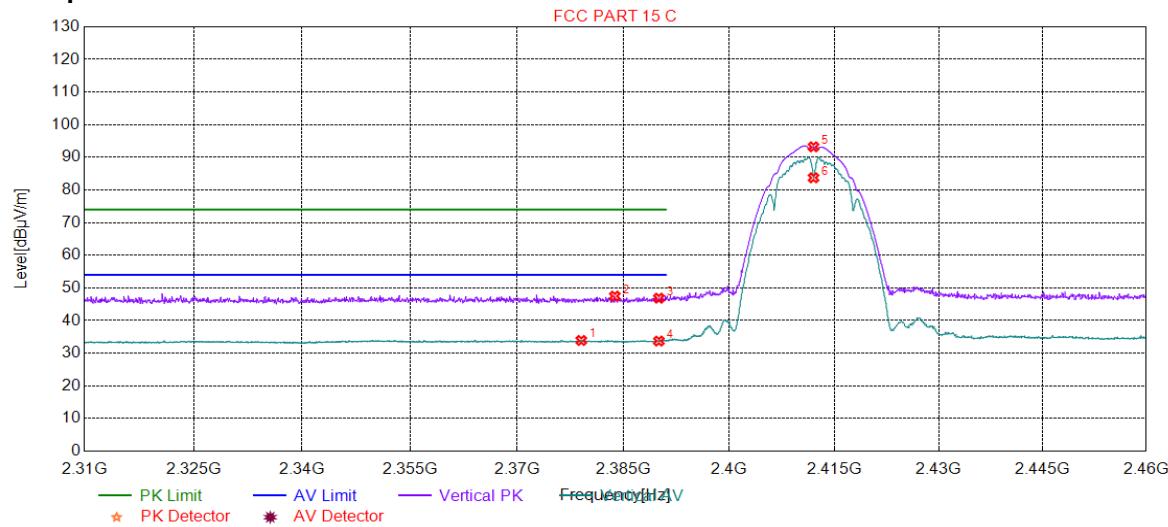


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#### 4.10.1.2 802.11B\_Channel 1

## Test Graph



## Suspected List

Suspected List							
NO.	Freq. [MHz]	Level [dB $\mu$ V/m]	Limit [dB $\mu$ V/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	2379.034	33.92	54.00	20.08	150	56	Vertical
2	2383.761	47.50	74.00	26.50	150	0	Vertical
3	2390.000	46.88	74.00	27.12	150	245	Vertical
4	2390.000	33.73	54.00	20.27	150	199	Vertical
5	2412.000	93.23	0.00	-93.23	150	162	Vertical
6	2412.000	83.74	0.00	-83.74	150	158	Vertical

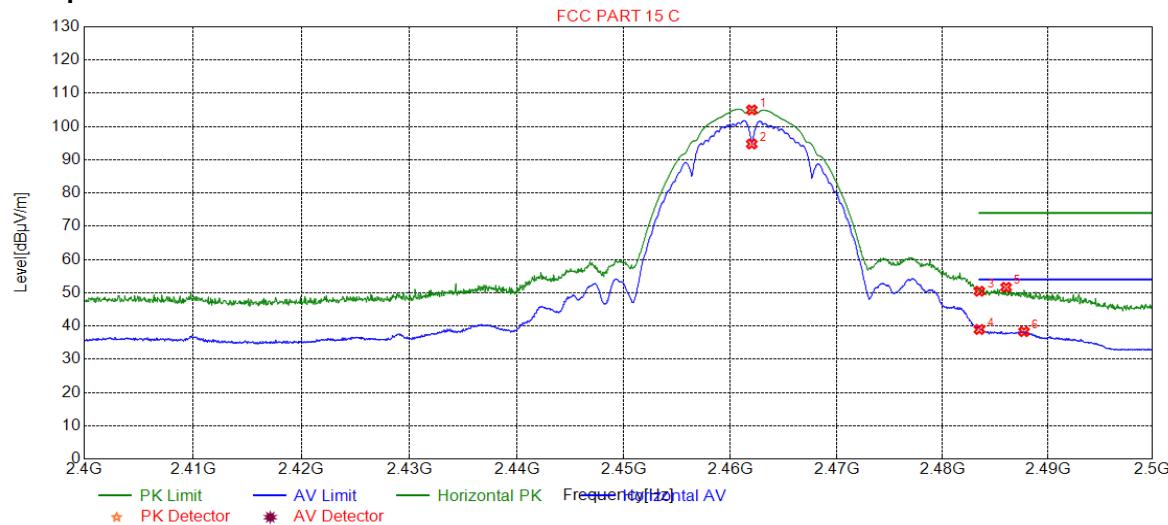
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#### 4.10.1.3 802.11B\_Channel 11

## Test Graph



## Suspected List

Suspected List							
NO.	Freq. [MHz]	Level [dB $\mu$ V/m]	Limit [dB $\mu$ V/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	2462.000	105.01	0.00	-105.01	150	322	Horizontal
2	2462.000	94.76	0.00	-94.76	150	322	Horizontal
3	2483.500	50.48	74.00	23.52	150	304	Horizontal
4	2483.500	38.99	54.00	15.01	150	322	Horizontal
5	2486.043	51.67	74.00	22.33	150	326	Horizontal
6	2487.743	38.33	54.00	15.67	150	322	Horizontal

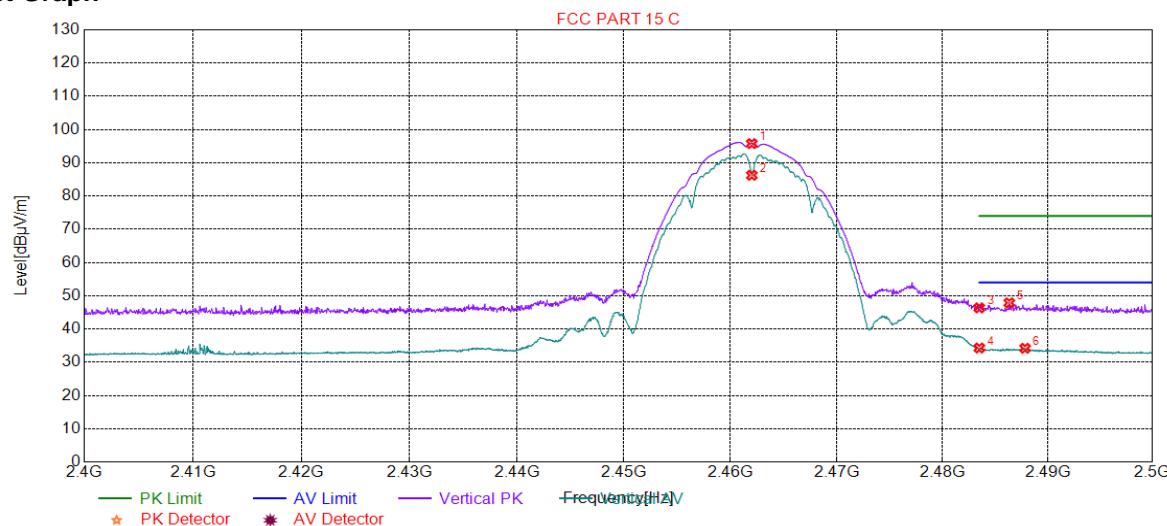
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## 4.10.1.4 802.11B\_Channel 11

## Test Graph



## Suspected List

Suspected List							
NO.	Freq. [MHz]	Level [dB $\mu$ V/m]	Limit [dB $\mu$ V/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	2462.000	95.77	0.00	-95.77	150	4	Vertical
2	2462.000	86.25	0.00	-86.25	150	4	Vertical
3	2483.500	46.38	74.00	27.62	150	60	Vertical
4	2483.500	34.31	54.00	19.69	150	135	Vertical
5	2486.343	47.89	74.00	26.11	150	135	Vertical
6	2487.843	34.23	54.00	19.77	150	34	Vertical

## Final Data List

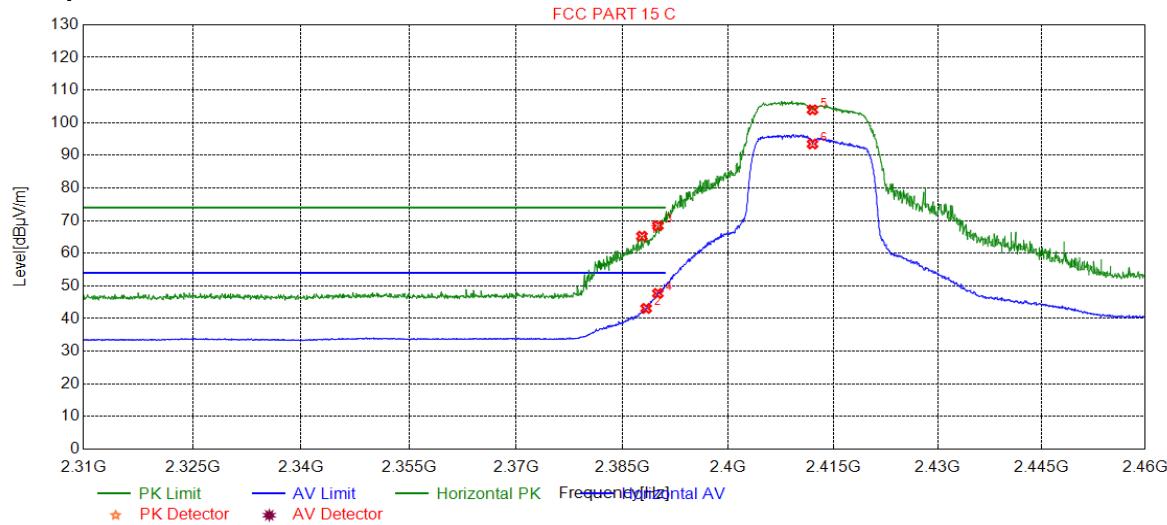


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#### 4.10.1.5 802.11G\_Channel 1

## Test Graph



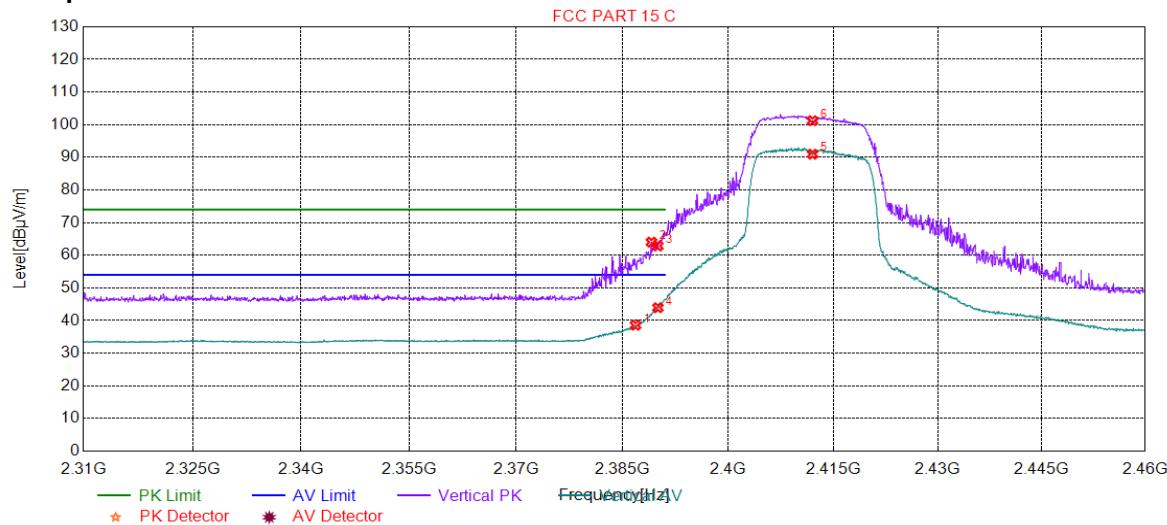
## Suspected List

Suspected List							
NO.	Freq. [MHz]	Level [dB $\mu$ V/m]	Limit [dB $\mu$ V/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	2387.738	65.24	74.00	8.76	400	346	Horizontal
2	2388.339	43.12	54.00	10.88	100	328	Horizontal
3	2390.000	68.43	74.00	5.57	100	346	Horizontal
4	2390.000	47.72	54.00	6.28	100	343	Horizontal
5	2412.000	103.95	0.00	-103.95	100	328	Horizontal
6	2412.000	93.49	0.00	-93.49	200	324	Horizontal

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**4.10.1.6 802.11G\_Channel 1****Test Graph****Suspected List**

<b>Suspected List</b>							
NO.	Freq. [MHz]	Level [dB $\mu$ V/m]	Limit [dB $\mu$ V/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	2386.838	38.58	54.00	15.42	400	145	Vertical
2	2389.089	64.03	74.00	9.97	300	142	Vertical
3	2390.000	62.85	74.00	11.15	400	218	Vertical
4	2390.000	43.95	54.00	10.05	400	145	Vertical
5	2412.000	90.98	0.00	-90.98	400	233	Vertical
6	2412.000	101.24	0.00	-101.24	400	229	Vertical

**Final Data List**

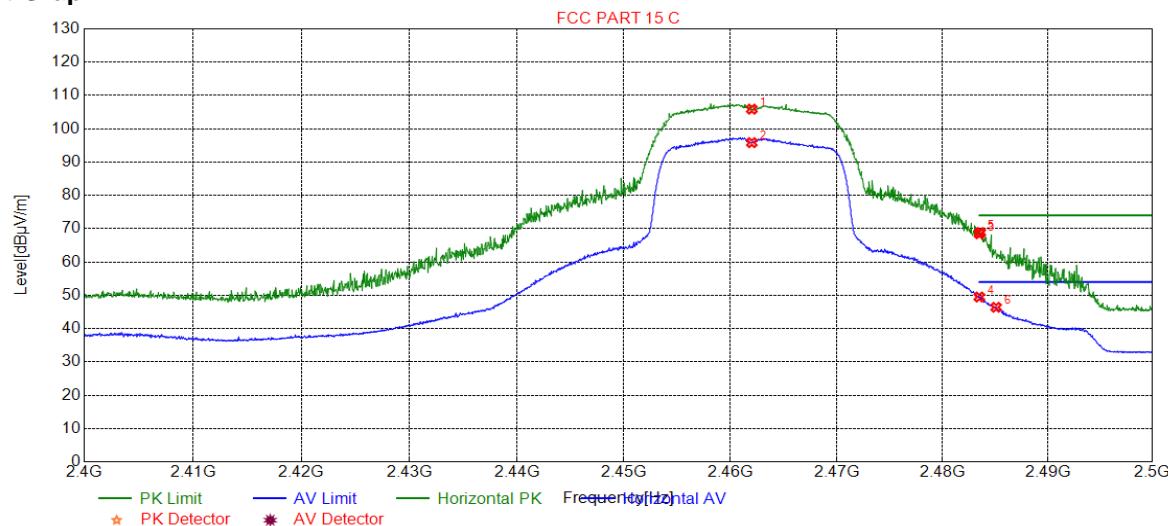
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## 4.10.1.7 802.11G\_Channel 11

## Test Graph



## Suspected List

Suspected List							
NO.	Freq. [MHz]	Level [dB $\mu$ V/m]	Limit [dB $\mu$ V/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	2462.000	105.89	0.00	-105.89	100	351	Horizontal
2	2462.000	95.84	0.00	-95.84	100	355	Horizontal
3	2483.500	68.46	74.00	5.54	100	336	Horizontal
4	2483.500	49.51	54.00	4.49	100	309	Horizontal
5	2483.591	68.89	74.00	5.11	100	302	Horizontal
6	2485.092	46.43	54.00	7.57	100	351	Horizontal

## Final Data List

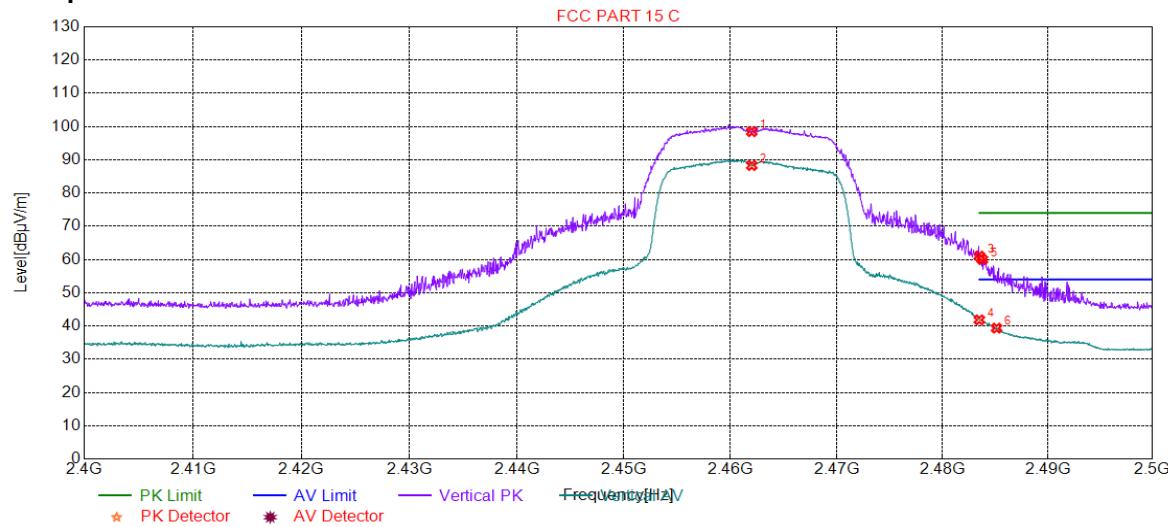


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#### 4.10.1.8 802.11G\_Channel 11

## Test Graph



## Suspected List

Suspected List							
NO.	Freq. [MHz]	Level [dB $\mu$ V/m]	Limit [dB $\mu$ V/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	2462.000	98.47	0.00	-98.47	300	208	Vertical
2	2462.000	88.29	0.00	-88.29	200	137	Vertical
3	2483.500	61.04	74.00	12.96	200	137	Vertical
4	2483.500	41.87	54.00	12.13	300	208	Vertical
5	2483.791	60.00	74.00	14.00	300	0	Vertical
6	2485.142	39.39	54.00	14.61	200	137	Vertical

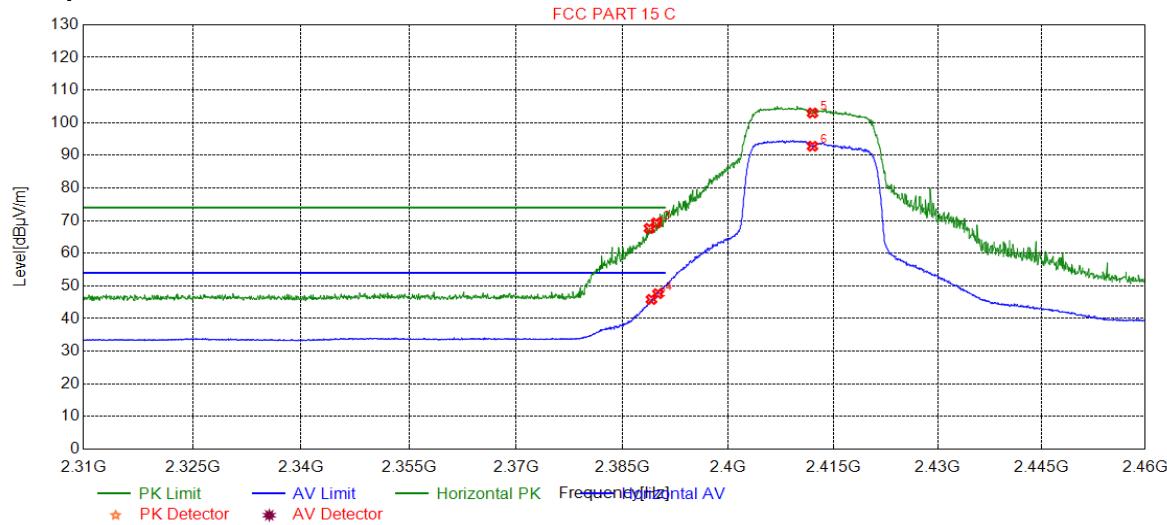
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#### 4.10.1.9 802.11N20\_Channel 1

## Test Graph



## Suspected List

Suspected List							
NO.	Freq. [MHz]	Level [dB $\mu$ V/m]	Limit [dB $\mu$ V/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	2388.789	67.64	74.00	6.36	100	344	Horizontal
2	2389.089	45.87	54.00	8.13	100	337	Horizontal
3	2389.764	69.32	74.00	4.68	200	335	Horizontal
4	2390.000	47.64	54.00	6.36	100	344	Horizontal
5	2412.000	102.98	0.00	-102.98	100	341	Horizontal
6	2412.000	92.79	0.00	-92.79	100	318	Horizontal

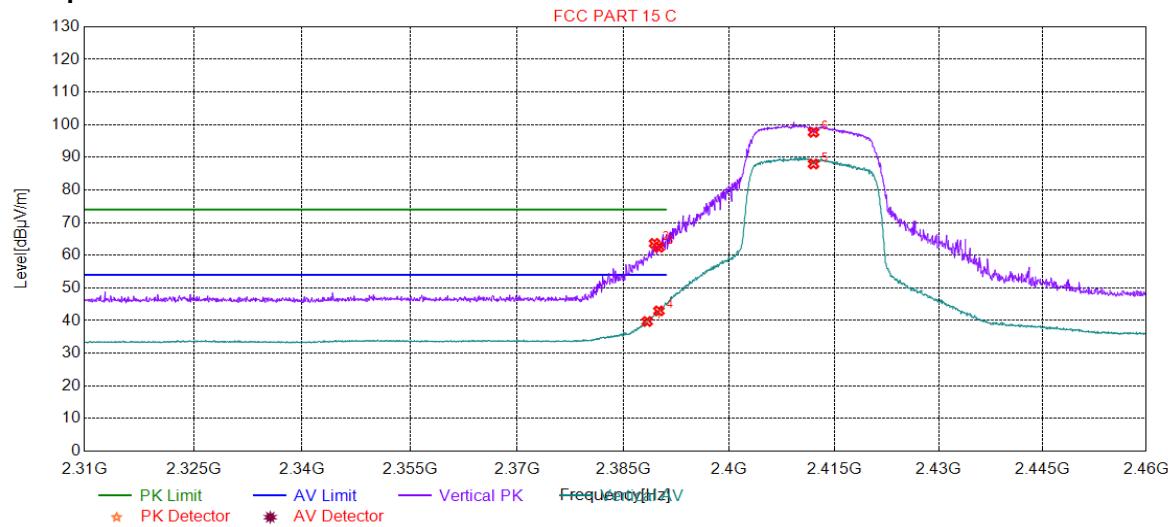
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#### 4.10.1.10 802.11N20\_Channel 1

## Test Graph



## Suspected List

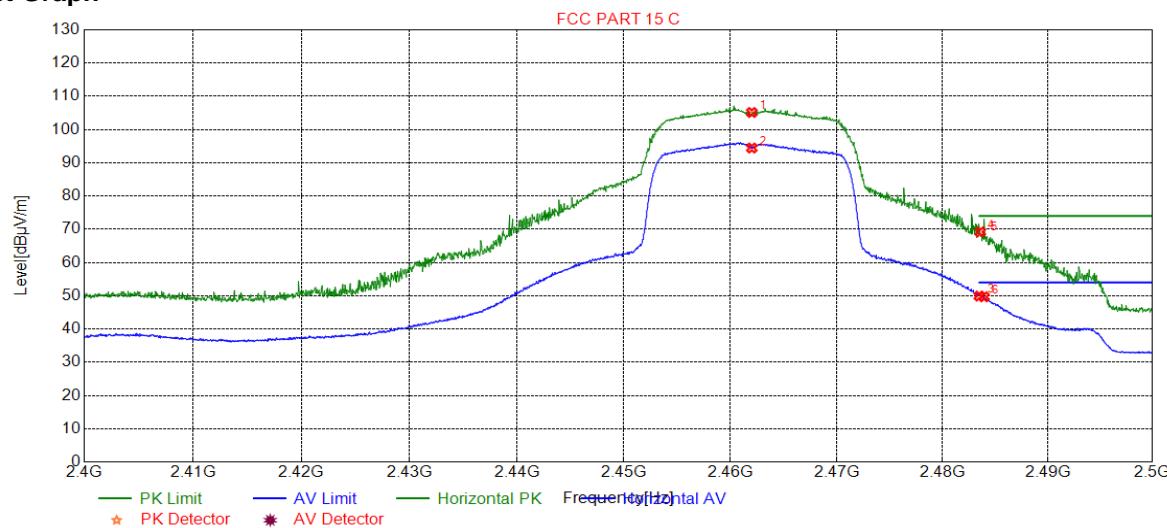
Suspected List							
NO.	Freq. [MHz]	Level [dB $\mu$ V/m]	Limit [dB $\mu$ V/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	2388.339	39.73	54.00	14.27	300	139	Vertical
2	2389.389	63.64	74.00	10.36	300	109	Vertical
3	2390.000	62.45	74.00	11.55	300	143	Vertical
4	2390.000	42.97	54.00	11.03	300	132	Vertical
5	2412.000	87.99	0.00	-87.99	300	135	Vertical
6	2412.000	97.68	0.00	-97.68	300	132	Vertical

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## 4.10.1.11 802.11N20\_Channel 11

**Test Graph****Suspected List**

<b>Suspected List</b>							
NO.	Freq. [MHz]	Level [dB $\mu$ V/m]	Limit [dB $\mu$ V/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	2462.000	105.13	0.00	-105.13	100	319	Horizontal
2	2462.000	94.45	0.00	-94.45	100	353	Horizontal
3	2483.500	49.95	54.00	4.05	100	304	Horizontal
4	2483.591	69.24	74.00	4.76	100	349	Horizontal
5	2483.841	68.81	74.00	5.19	100	356	Horizontal
6	2483.942	49.71	54.00	4.29	100	353	Horizontal

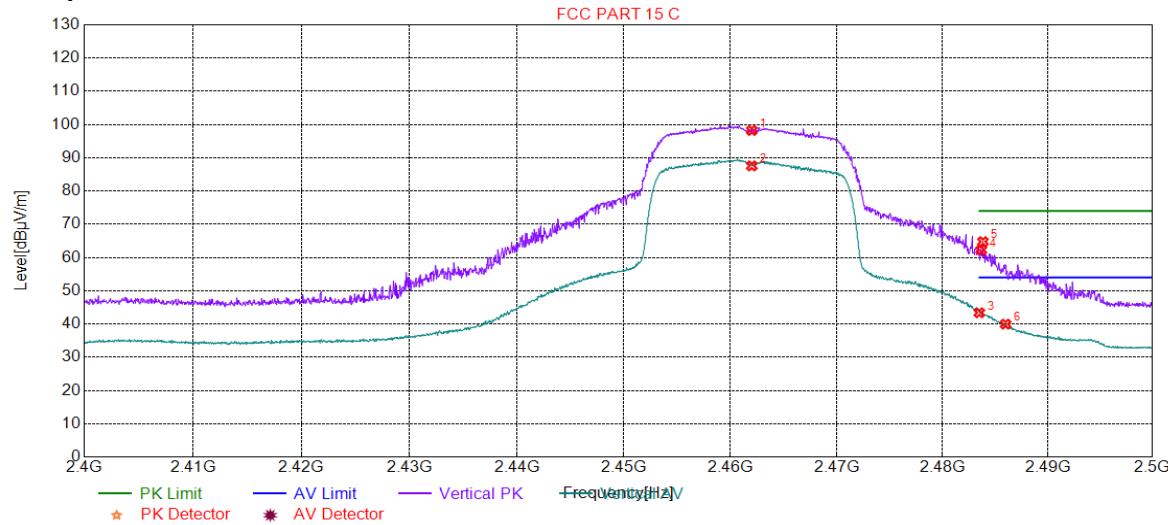
**Final Data List**

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#### 4.10.1.12 802.11N20\_Channel 11

## Test Graph



## Suspected List

Suspected List							
NO.	Freq. [MHz]	Level [dB $\mu$ V/m]	Limit [dB $\mu$ V/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	2462.000	98.22	0.00	-98.22	300	144	Vertical
2	2462.000	87.57	0.00	-87.57	300	137	Vertical
3	2483.500	43.41	54.00	10.59	300	201	Vertical
4	2483.691	62.29	74.00	11.71	300	96	Vertical
5	2483.841	64.78	74.00	9.22	200	141	Vertical
6	2485.993	39.99	54.00	14.01	300	201	Vertical

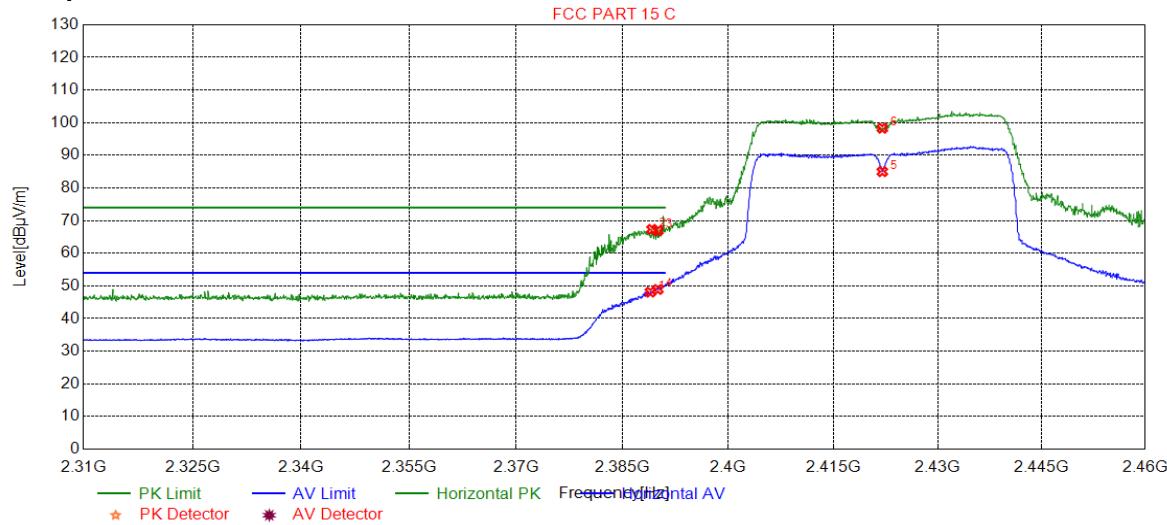
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4.10.1.13 802.11N40\_Channel 3

## Test Graph



## Suspected List

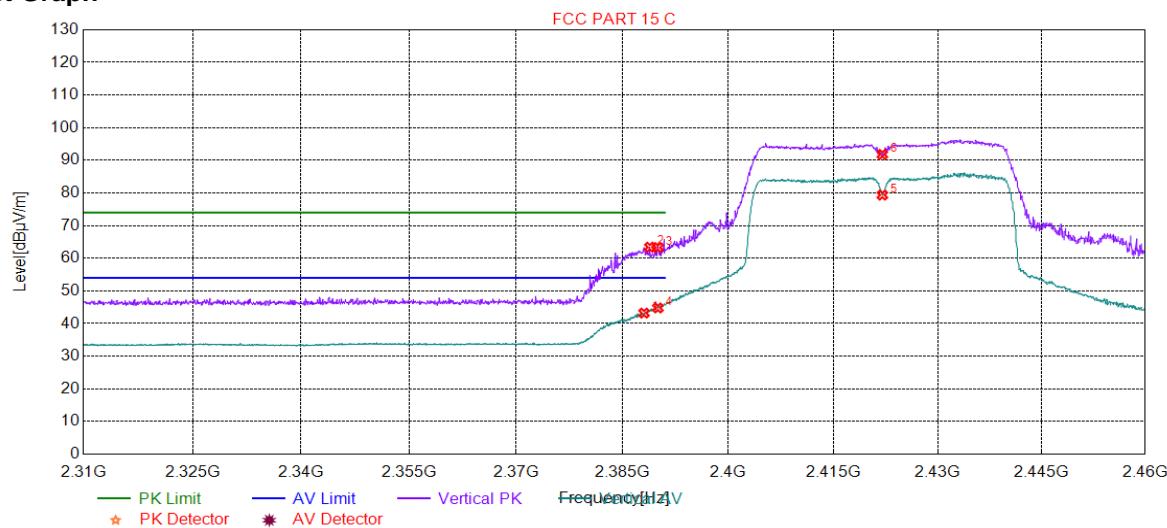
Suspected List							
NO.	Freq. [MHz]	Level [dB $\mu$ V/m]	Limit [dB $\mu$ V/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	2388.939	48.11	54.00	5.89	100	349	Horizontal
2	2389.164	67.33	74.00	6.67	100	66	Horizontal
3	2390.000	66.92	74.00	7.08	100	334	Horizontal
4	2390.000	48.94	54.00	5.06	200	331	Horizontal
5	2422.000	85.01	0.00	-85.01	100	334	Horizontal
6	2422.000	98.32	0.00	-98.32	100	330	Horizontal

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## 4.10.1.14 802.11N40\_Channel 3

**Test Graph****Suspected List**

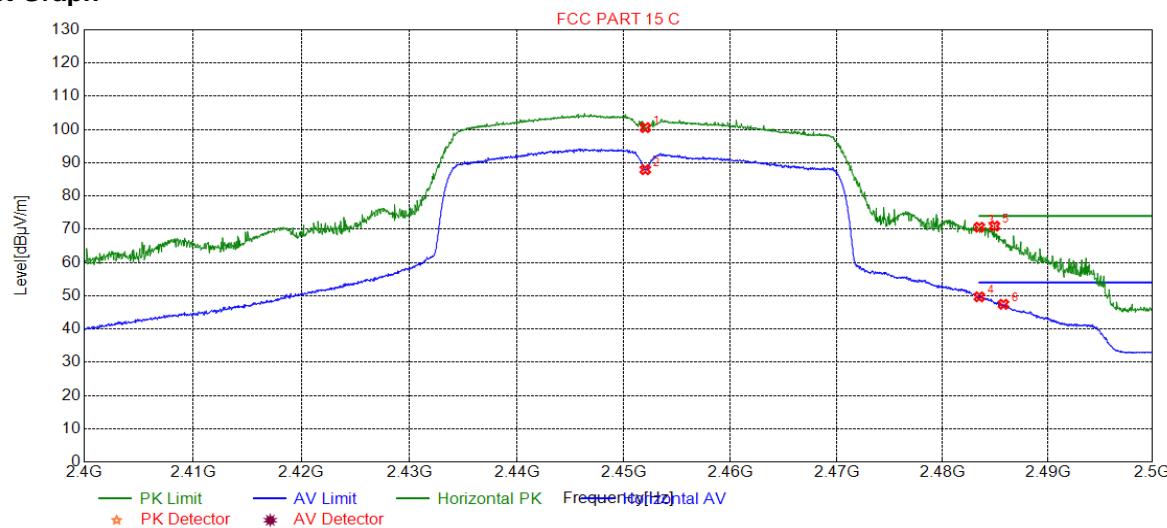
<b>Suspected List</b>							
NO.	Freq. [MHz]	Level [dB $\mu$ V/m]	Limit [dB $\mu$ V/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	2388.039	43.22	54.00	10.78	300	144	Vertical
2	2388.864	63.42	74.00	10.58	300	208	Vertical
3	2390.000	63.30	74.00	10.70	300	129	Vertical
4	2390.000	44.79	54.00	9.21	300	136	Vertical
5	2422.000	79.37	0.00	-79.37	300	212	Vertical
6	2422.000	91.83	0.00	-91.83	300	208	Vertical

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## 4.10.1.15 802.11N40\_Channel 9

**Test Graph****Suspected List**

<b>Suspected List</b>							
NO.	Freq. [MHz]	Level [dB $\mu$ V/m]	Limit [dB $\mu$ V/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	2452.000	100.58	0.00	-100.58	200	320	Horizontal
2	2452.000	87.93	0.00	-87.93	100	314	Horizontal
3	2483.500	70.62	74.00	3.38	100	314	Horizontal
4	2483.500	49.70	54.00	4.30	100	352	Horizontal
5	2484.942	70.96	74.00	3.04	100	296	Horizontal
6	2485.792	47.45	54.00	6.55	100	311	Horizontal

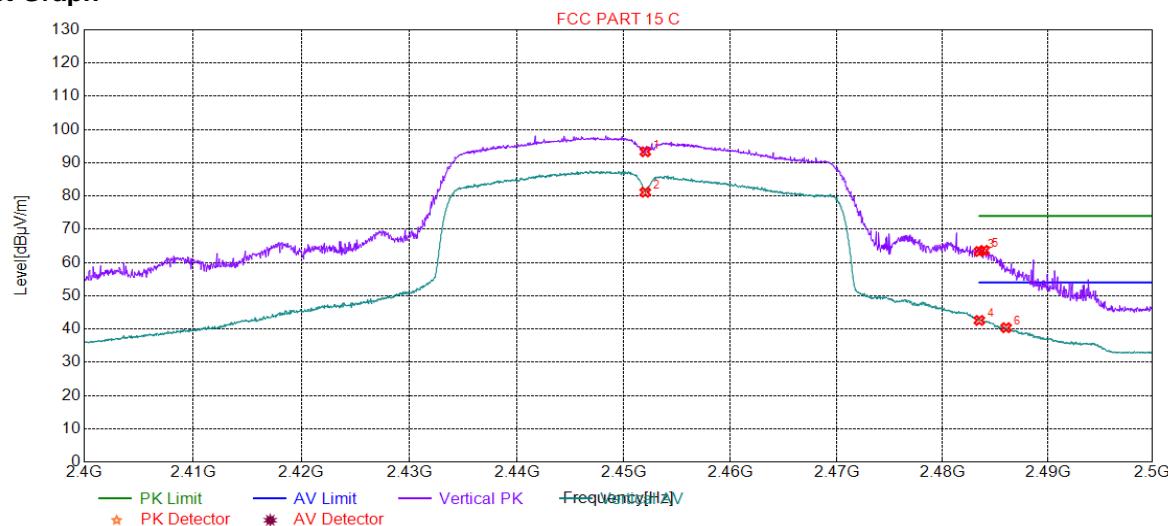
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## 4.10.1.16 802.11N40\_Channel 9

## Test Graph



## Suspected List

Suspected List							
NO.	Freq. [MHz]	Level [dB $\mu$ V/m]	Limit [dB $\mu$ V/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	2452.000	93.31	0.00	-93.31	300	219	Vertical
2	2452.000	81.15	0.00	-81.15	300	219	Vertical
3	2483.500	63.33	74.00	10.67	300	219	Vertical
4	2483.500	42.60	54.00	11.40	300	211	Vertical
5	2483.942	63.66	74.00	10.34	300	215	Vertical
6	2486.043	40.42	54.00	13.58	200	141	Vertical

## Final Data List

## Remark:

The field strength is calculated by adding the Antenna Factor, Cable Factor & Preamplifier. The basic equation with a sample calculation is as follows:

Final Test Level = Receiver Reading + Antenna Factor + Cable Factor - Preamplifier Factor

All Modes have been tested, but only the worst case data displayed in this report.

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## 5 Measurement Uncertainty (95% confidence levels, k=2)

No.	Item	Measurement Uncertainty
1	Total RF power, conducted	±0.75dB
2	RF power density, conducted	±2.84dB
3	Spurious emissions, conducted	±0.75dB
4	Radiated Spurious emission test	±4.5dB (30MHz-1GHz)
		±4.8dB (1GHz-25GHz)
5	Conduct emission test	±3.12 dB (9KHz- 30MHz)
6	Temperature test	±1°C
7	Humidity test	±3%
8	DC and low frequency voltages	±0.5%

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## 6 Equipment List

Conducted Emission					
Test Equipment	Manufacturer	Model No.	Inventory No	Cal. date	Cal.Duedate
				(yyyy-mm-dd)	(yyyy-mm-dd)
Shielding Room	ZhongYu Electron	GB-88	SEM001-06	2020/5/10	2023/5/9
LISN	Rohde & Schwarz	ENV216	SEM007-01	2020/7/14	2021/7/14
LISN	ETS-LINDGREN	Feb-16	SEM007-02	2020/4/1	2021/3/31
Measurement Software	AUDIX	e3 V5.4.1221d	N/A	N/A	N/A
Coaxial Cable	SGS	N/A	SEM024-01	2020/6/12	2021/6/11
2 Line ISN	Fischer Custom Communications Inc	FCC-TLISN-T2-02	EMC0122	2020/2/11	2021/2/10
EMI Test Receiver	Rohde & Schwarz	ESCI	SEM004-02	2020/3/2	2021/3/1

RF conducted test					
Test Equipment	Manufacturer	Model No.	Inventory No	Cal. date	Cal.Duedate
				(yyyy-mm-dd)	(yyyy-mm-dd)
DC Power Supply	Agilent Technologies Inc	66311B	W009-09	2020/7/15	2021/7/15
Signal Analyzer	Rohde & Schwarz	FSV	W025-05	2021/1/3	2022/1/2
Coaxial Cable	SGS	N/A	SEM031-01	2020/6/12	2021/6/11
Attenuator	Weinschel Associates	WA41	SEM021-09	N/A	N/A
Signal Generator	KEYSIGHT	N5173B	SEM006-05	2020/7/14	2021/7/14
Temperature Chamber	GIANT FORCE	ICT-150-40-CP-AR	W027-03	2020/10/27	2021/10/27
Power Meter	Rohde & Schwarz	NRVS	SEM014-02	2020/7/14	2021/7/14

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RE in Chamber					
Test Equipment	Manufacturer	Model No.	Inventory No.	Cal. date	Cal.Due date
				(yyyy-mm-dd)	(yyyy-mm-dd)
3m Semi-Anechoic Chamber	AUDIX	N/A	SEM001-02	2018/3/13	2021/3/12
Measurement Software	AUDIX	e3V8.2014-6-2	N/A	N/A	N/A
Coaxial Cable	SGS	N/A	SEM026-01	2020/6/12	2021/6/11
EXA Signal Analyzer (10Hz-26.5GHz)	Agilent Technologies Inc	N9010A	SEM004-09	2020/3/12	2021/3/11
BiConiLog Antenna (26-3000MHz)	ETS-Lindgren	3142C	SEM003-01	2020/6/27	2023/6/26
Horn Antenna (0.8-18GHz)	Rohde & Schwarz	HF907	SEM003-07	2018/4/13	2021/4/12
Pre-amplifier(0.1-1.3GHz)	HP	8447D	SEM005-02	2020/7/14	2021/7/14
Low Noise Amplifier(100MHz-18GHz)	Black Diamond Series	BDLNA-0118-352810	SEM005-05	2020/9/3	2021/9/2
Horn Antenna (15-40GHz)	Schwarzbeck	BBHA 9170	SEM003-15	2020/10/17	2023/10/16
Pre-amplifier(18-26GHz)	Rohde & Schwarz	CH14-H052	SEM005-17	2020/3/2	2021/3/1
Band filter	N/A	N/A	SEM023-01	N/A	N/A
RE in Chamber					
Test Equipment	Manufacturer	Model No.	Inventory No.	Cal. date	Cal.Due date
				(yyyy-mm-dd)	(yyyy-mm-dd)
3m Semi-Anechoic Chamber	ETS-LINDGREN	N/A	SEM001-01	2020/8/5	2023/8/4
Measurement Software	AUDIX	e3 V8.2014-6-27	N/A	N/A	N/A
Coaxial Cable	SGS	N/A	SEM025-01	2020/6/12	2021/6/11
MXE EMI Receiver (20Hz-8.4GHz)	Agilent Technologies	N9038A	SEM004-05	2020/7/14	2021/7/14
BiConiLog Antenna (26-3000MHz)	ETS-LINDGREN	3142C	SEM003-01	2020/6/27	2023/6/26
Pre-amplifier (0.1-1.3GHz)	Agilent Technologies	8447D	SEM005-01	2020/3/2	2021/3/1

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RE in Chamber					
Test Equipment	Manufacturer	Model No.	Inventory No	Cal. Date (yyyy-mm-dd)	Cal. Due date (yyyy-mm-dd)
10m Semi-Anechoic Chamber	SAEMC	FSAC1018	SEM001-03	2018/3/31	2021/3/30
EMI Test Receiver (9k-7GHz)	Rohde & Schwarz	ESR	SEM004-03	2020/3/2	2021/3/1
Trilog-Broadband Antenna(25M-2GHz)	Schwarzbeck	VULB9168	SEM003-18	2020/3/15	2022/3/14
Pre-amplifier (9k-1GHz)	Sonoma	310N	SEM005-03	2020/3/12	2021/3/11
Loop Antenna (9kHz-30MHz)	ETS-Lindgren	6502	SEM003-08	2020/8/22	2023/8/21
Measurement Software	AUDIX	e3 V8.2014-6-27	N/A	N/A	N/A
Coaxial Cable	SGS	N/A	SEM029-01	2020/6/12	2021/6/11

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## 7 Photographs - EUT Constructional Details

Refer to Appendix A PCE Setup Photos.



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# Appendix



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## DTS Bandwidth

## Test Result

TestMode	Antenna	Channel	DTS BW [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
11B	Ant1	2412	8.100	2407.950	2416.050	0.5	PASS
		2437	8.100	2432.950	2441.050	0.5	PASS
		2462	8.100	2457.950	2466.050	0.5	PASS
11G	Ant1	2412	15.120	2404.410	2419.530	0.5	PASS
		2437	15.390	2429.410	2444.800	0.5	PASS
		2462	15.120	2454.470	2469.590	0.5	PASS
11N20SISO	Ant1	2412	15.180	2404.410	2419.590	0.5	PASS
		2437	15.150	2429.440	2444.590	0.5	PASS
		2462	15.510	2454.080	2469.590	0.5	PASS
11N40SISO	Ant1	2422	35.280	2404.360	2439.640	0.5	PASS
		2437	35.280	2419.360	2454.640	0.5	PASS
		2452	35.280	2434.360	2469.640	0.5	PASS

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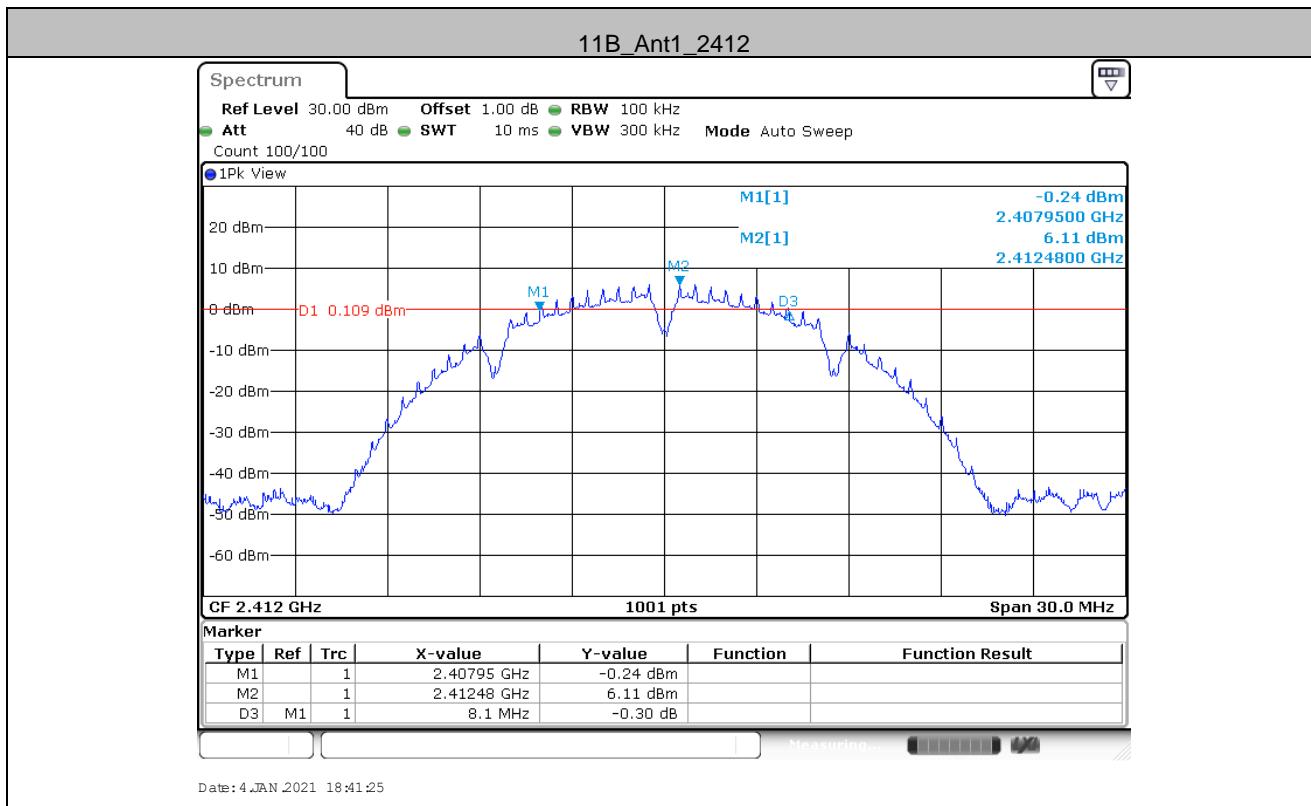


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## Test Graphs



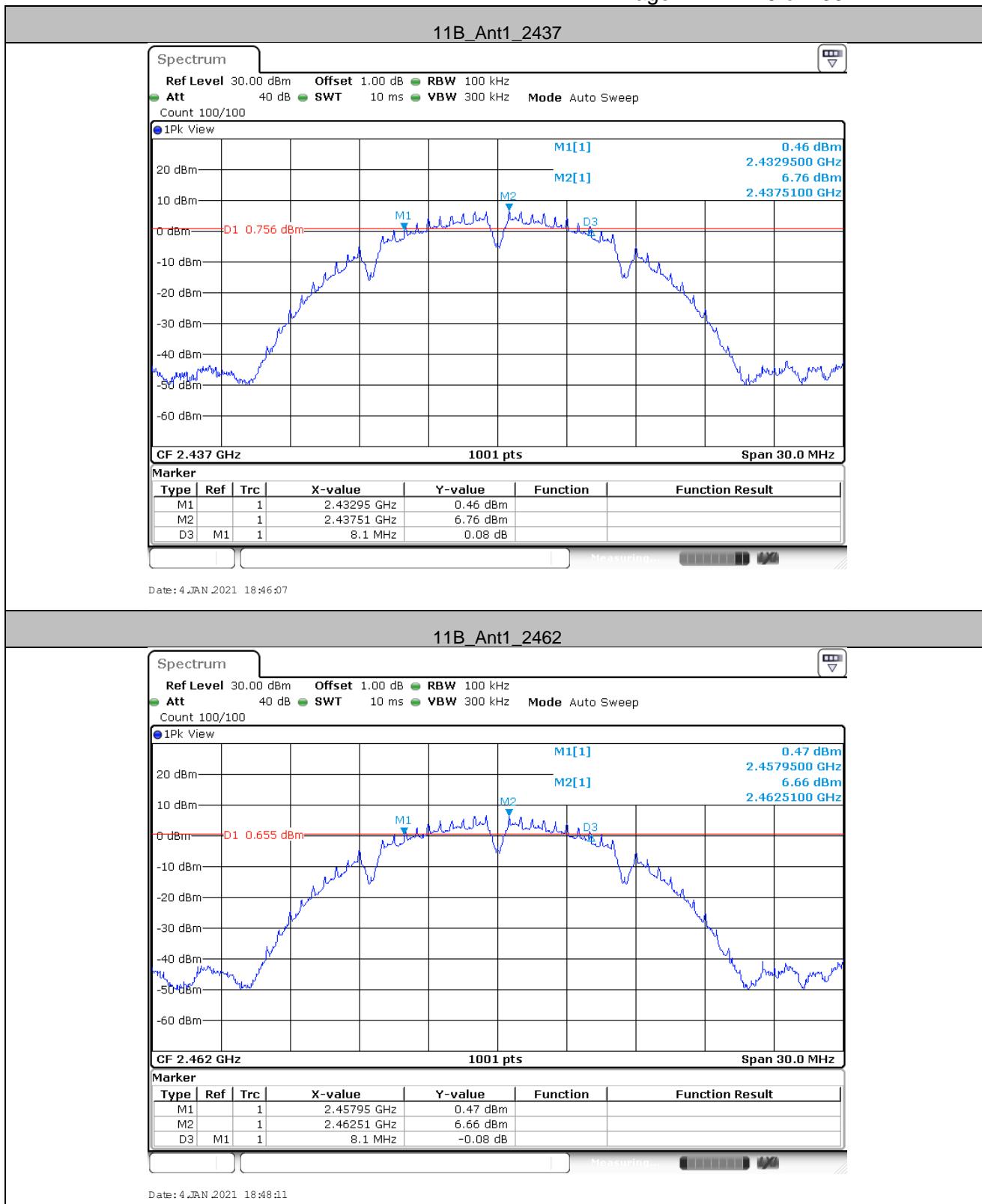
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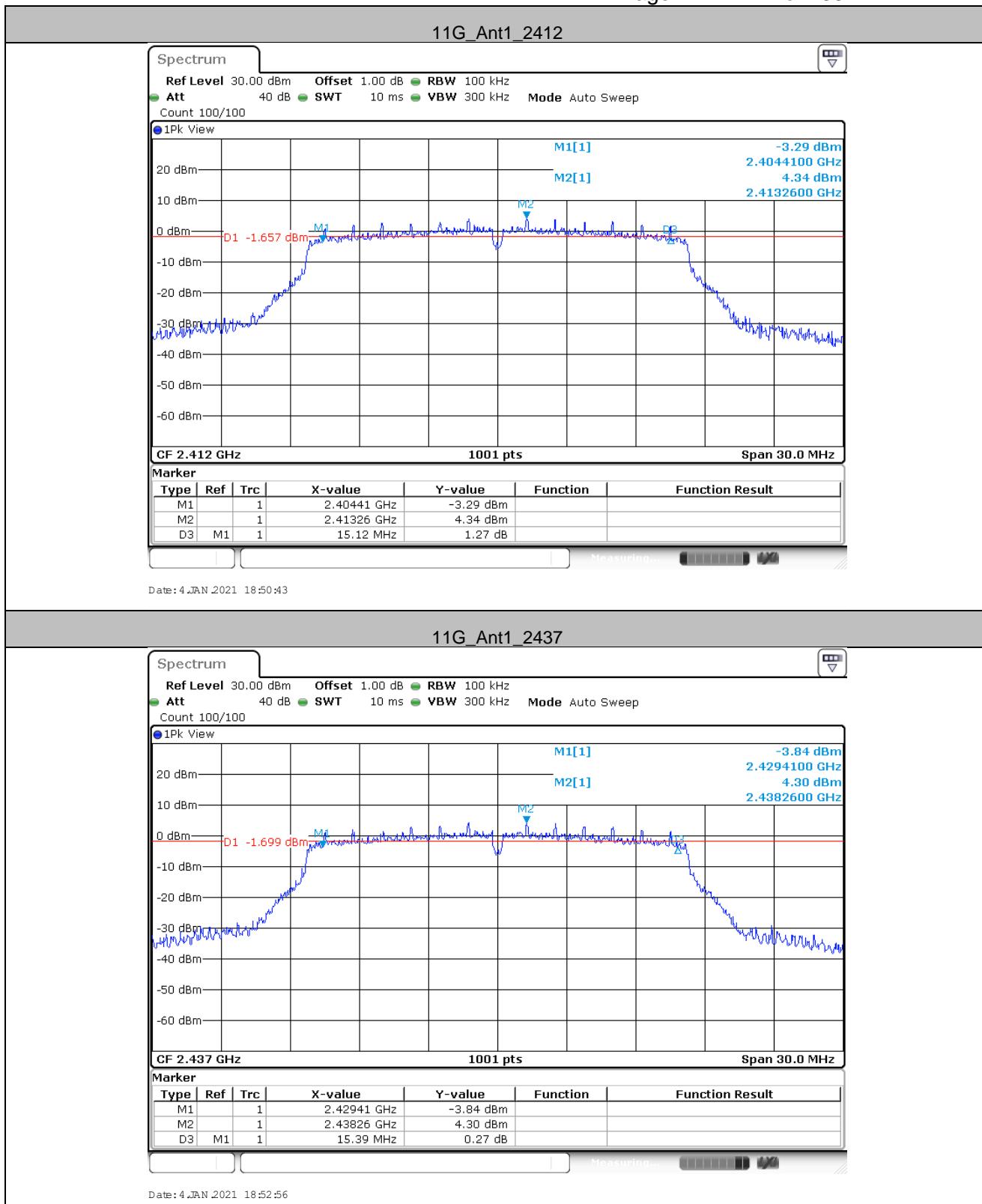
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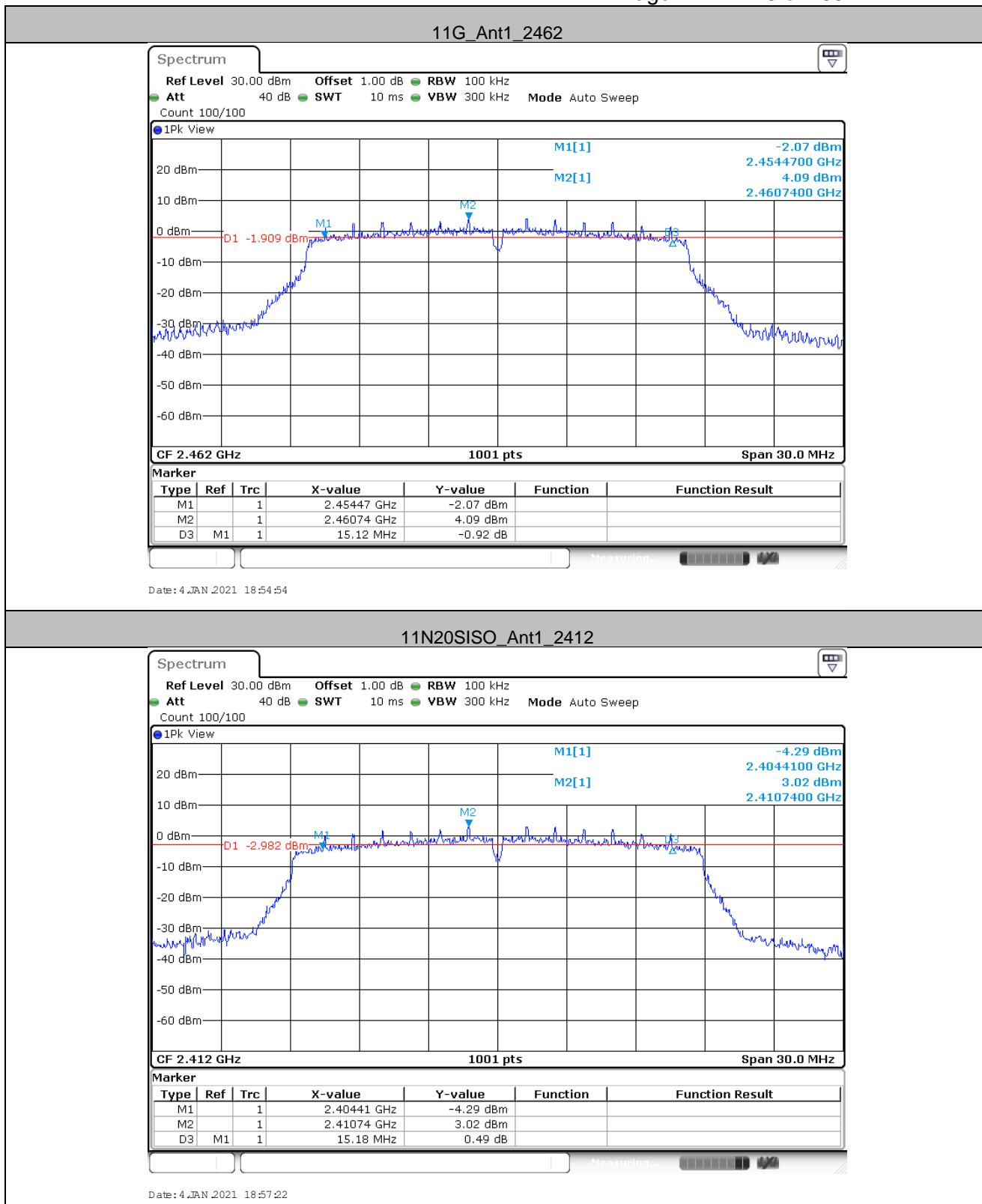
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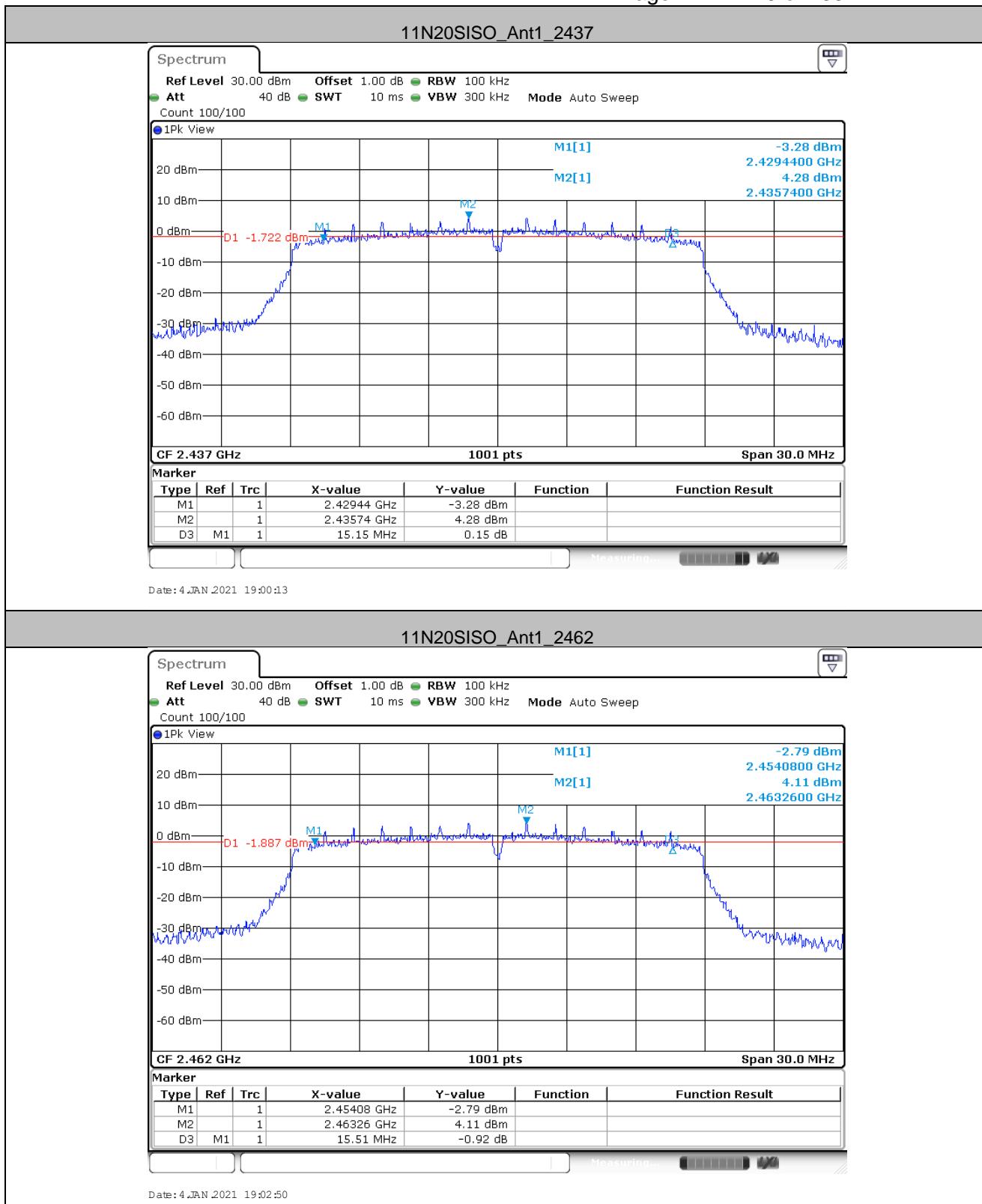
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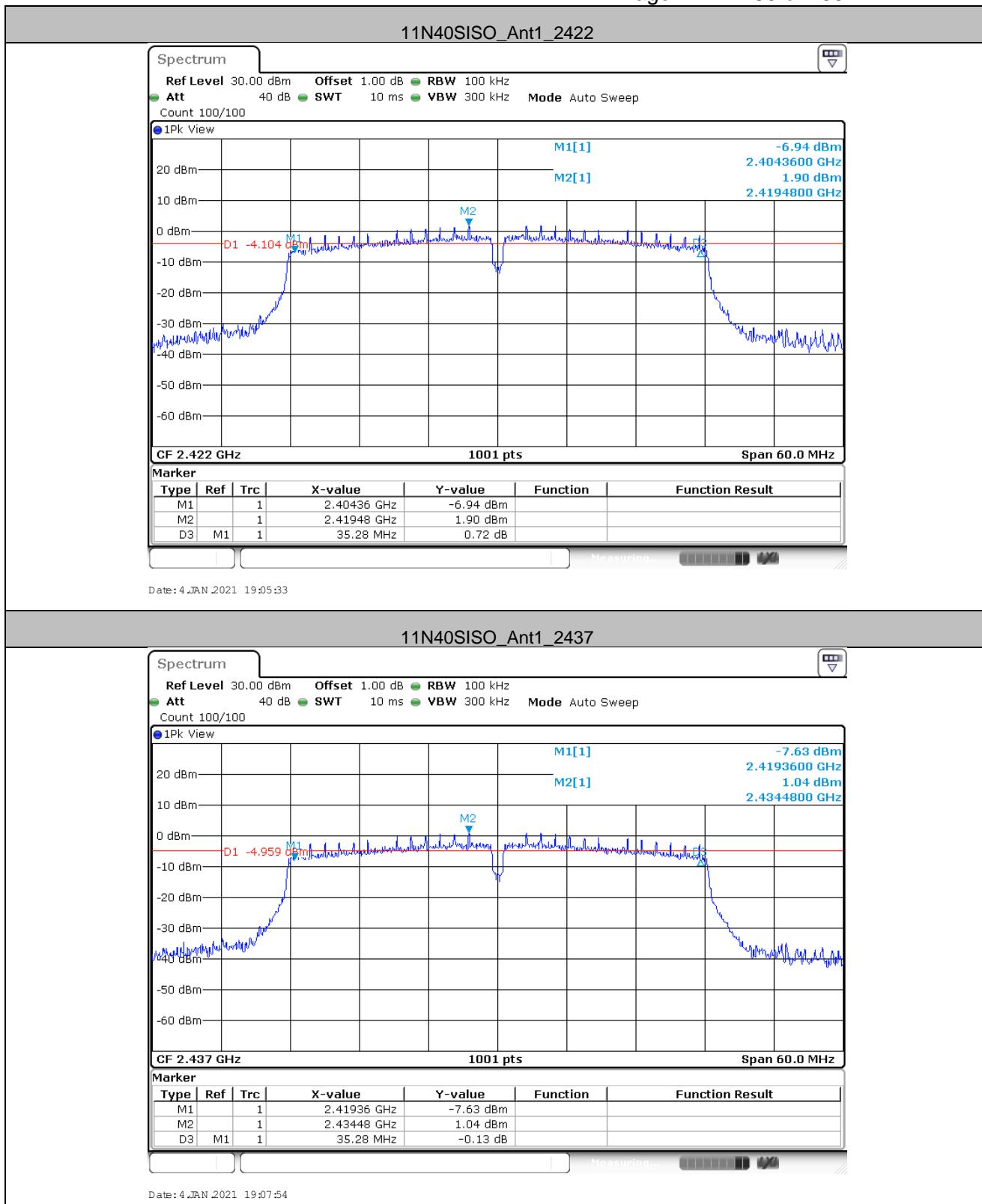
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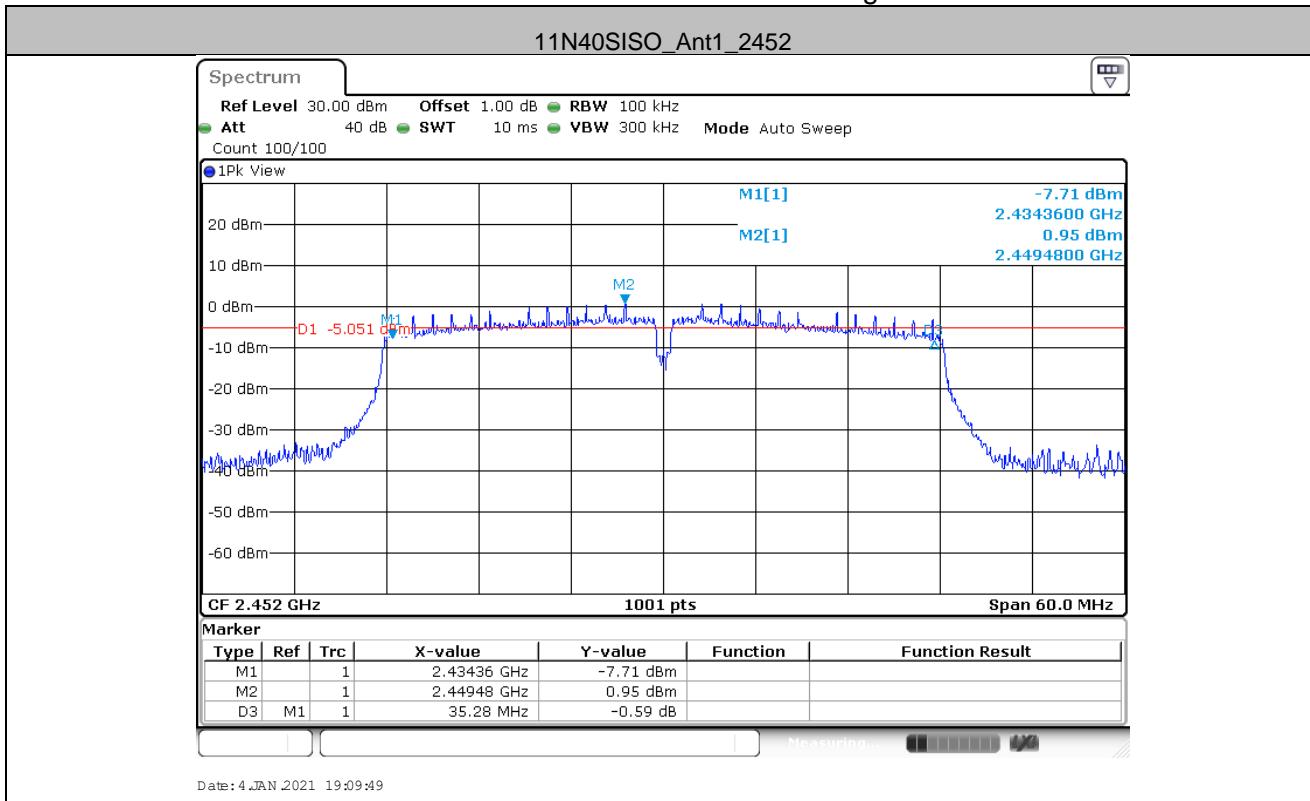
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## Occupied Channel Bandwidth

### Test Result

TestMode	Antenna	Channel	OCB [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
11B	Ant1	2412	12.887	2405.556	2418.444	---	PASS
		2437	12.887	2430.556	2443.444	---	PASS
		2462	12.947	2455.497	2468.444	---	PASS
11G	Ant1	2412	16.813	2403.608	2420.422	---	PASS
		2437	16.783	2428.608	2445.392	---	PASS
		2462	16.813	2453.578	2470.392	---	PASS
11N20SISO	Ant1	2412	17.832	2403.099	2420.931	---	PASS
		2437	17.802	2428.069	2445.871	---	PASS
		2462	17.832	2453.069	2470.901	---	PASS
11N40SISO	Ant1	2422	36.683	2403.718	2440.402	---	PASS
		2437	36.563	2418.718	2455.282	---	PASS
		2452	36.623	2433.658	2470.282	---	PASS

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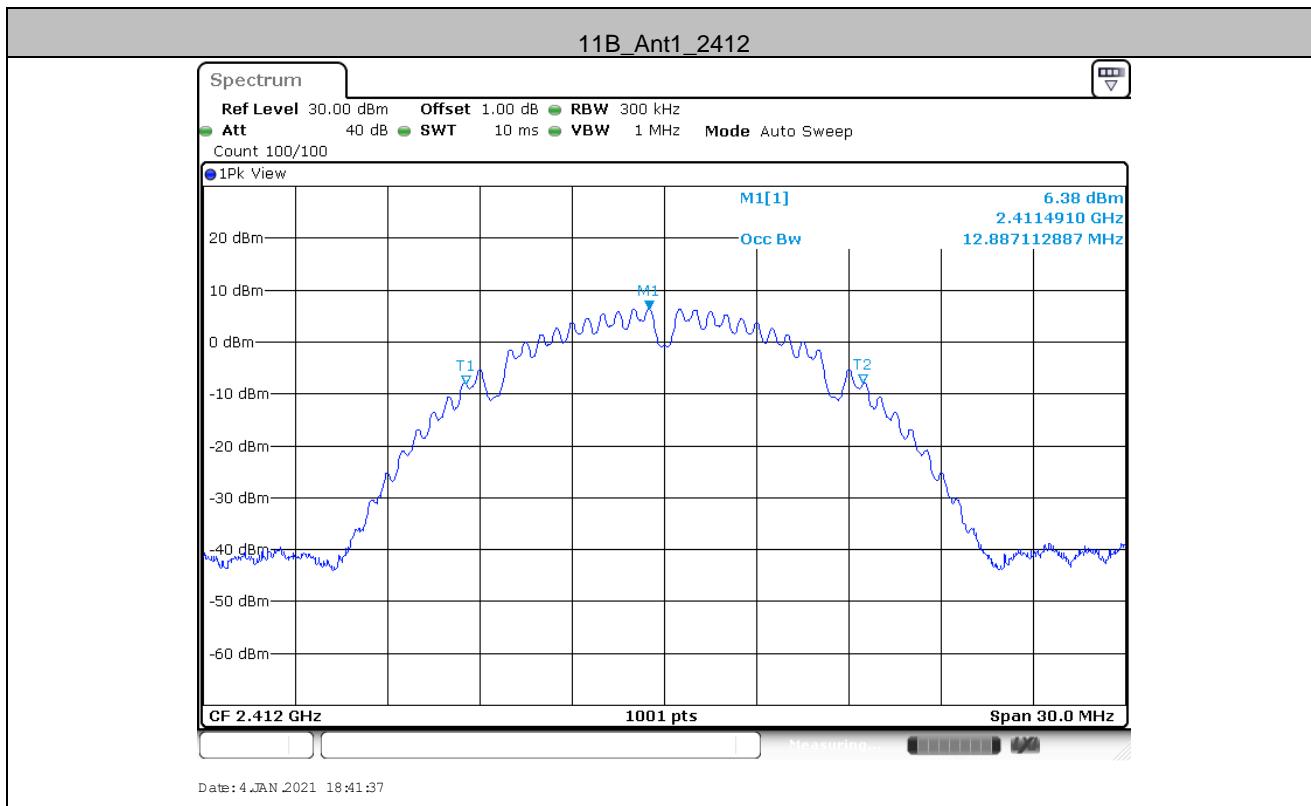


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## Test Graphs



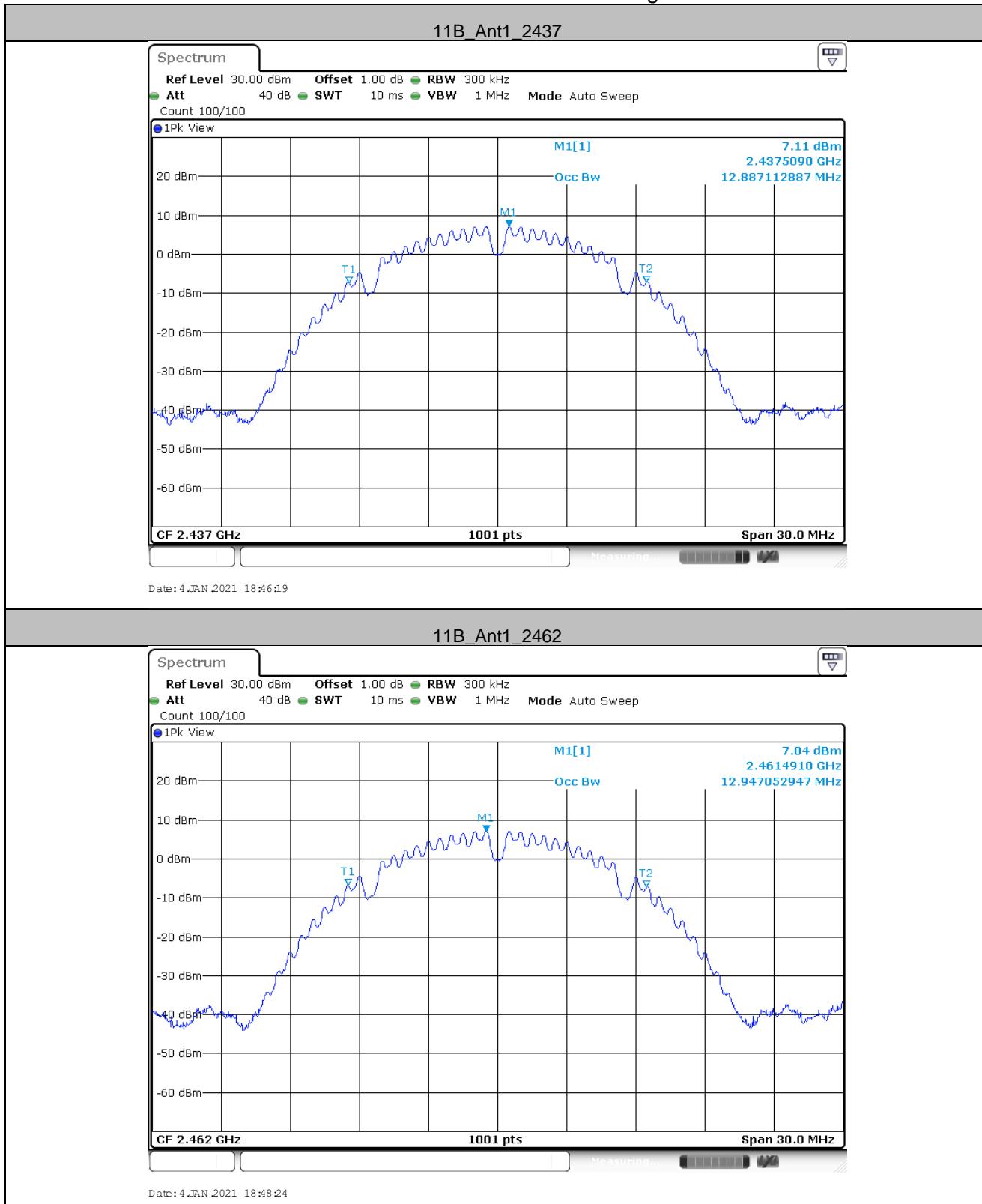
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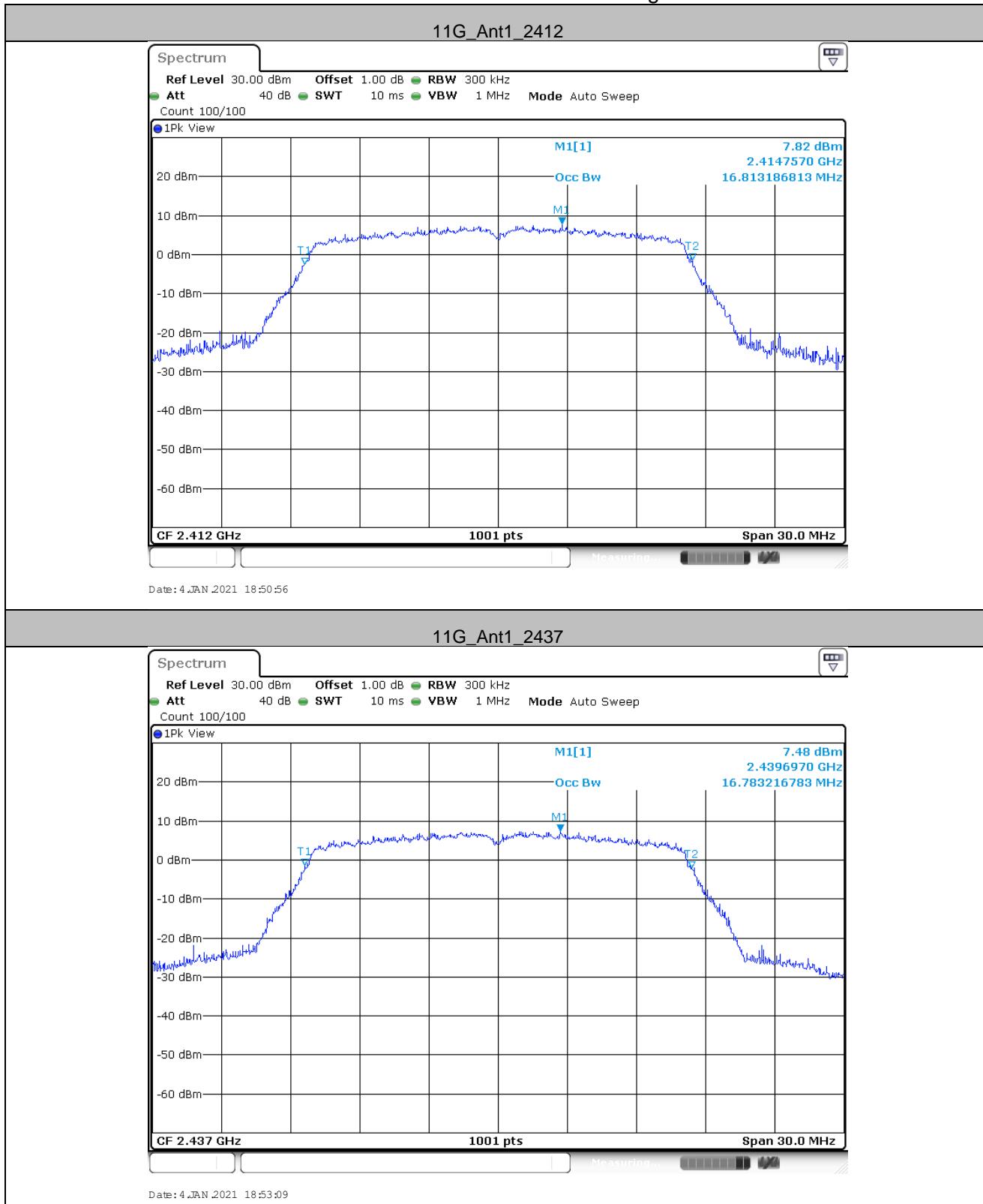
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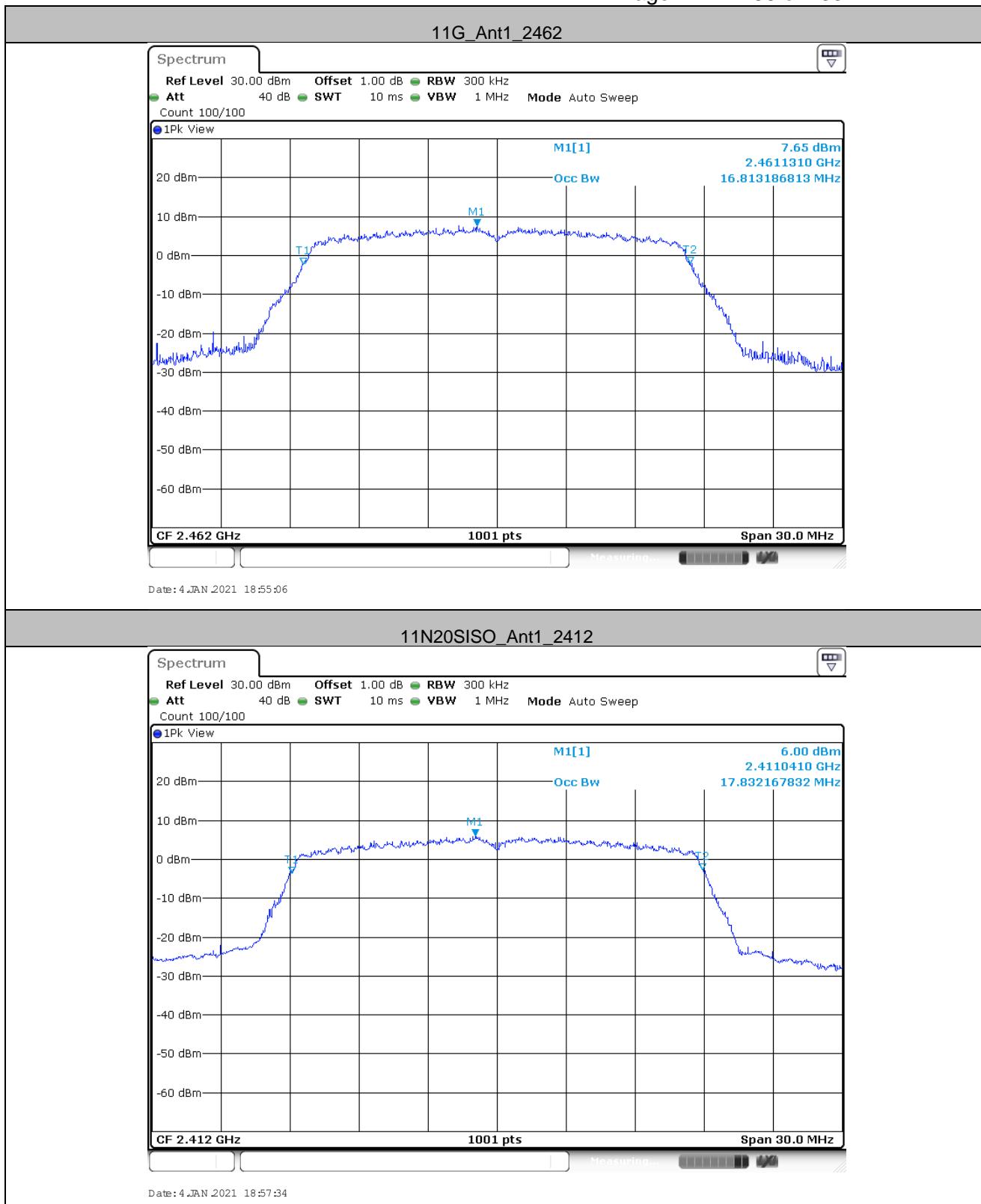
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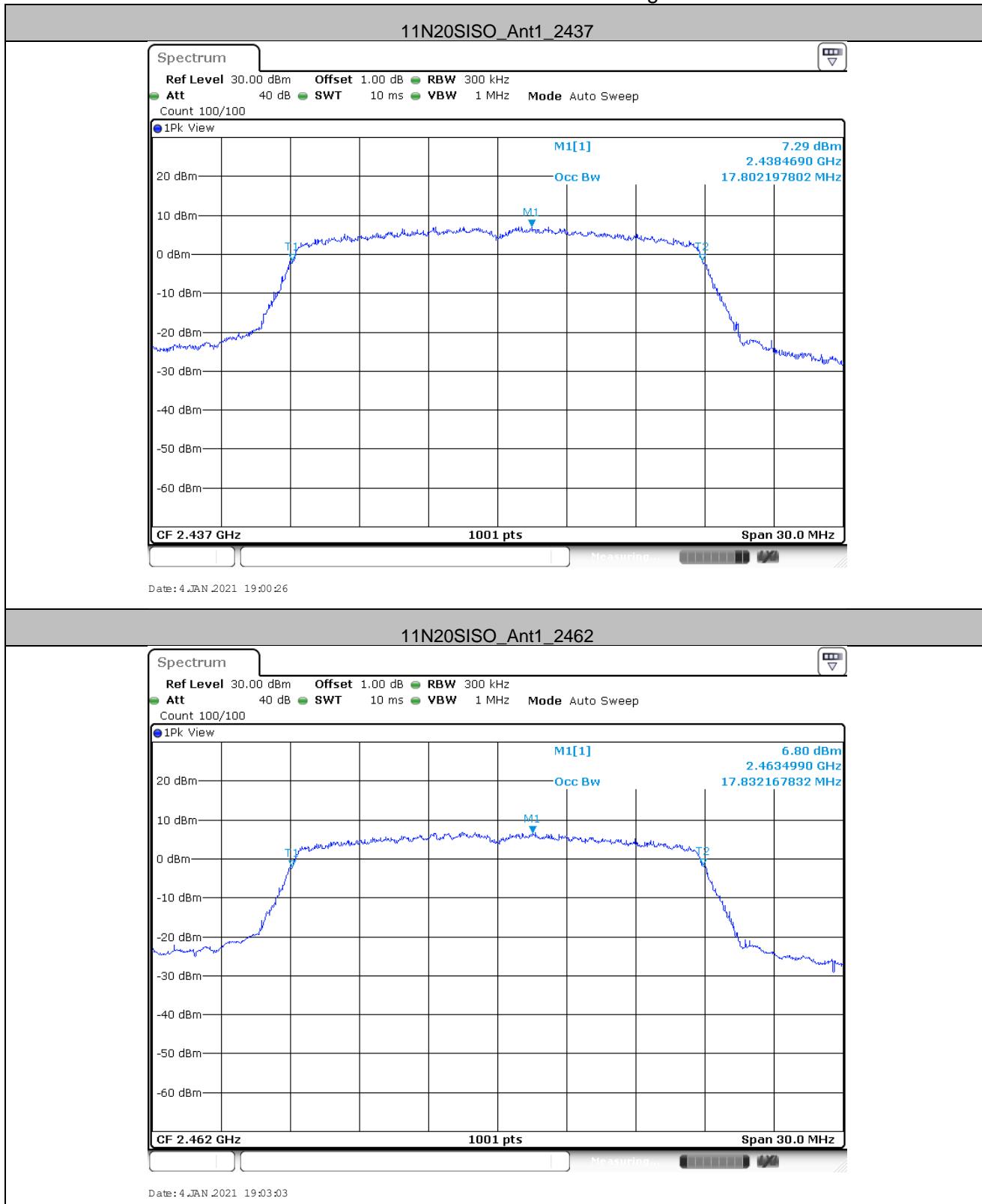


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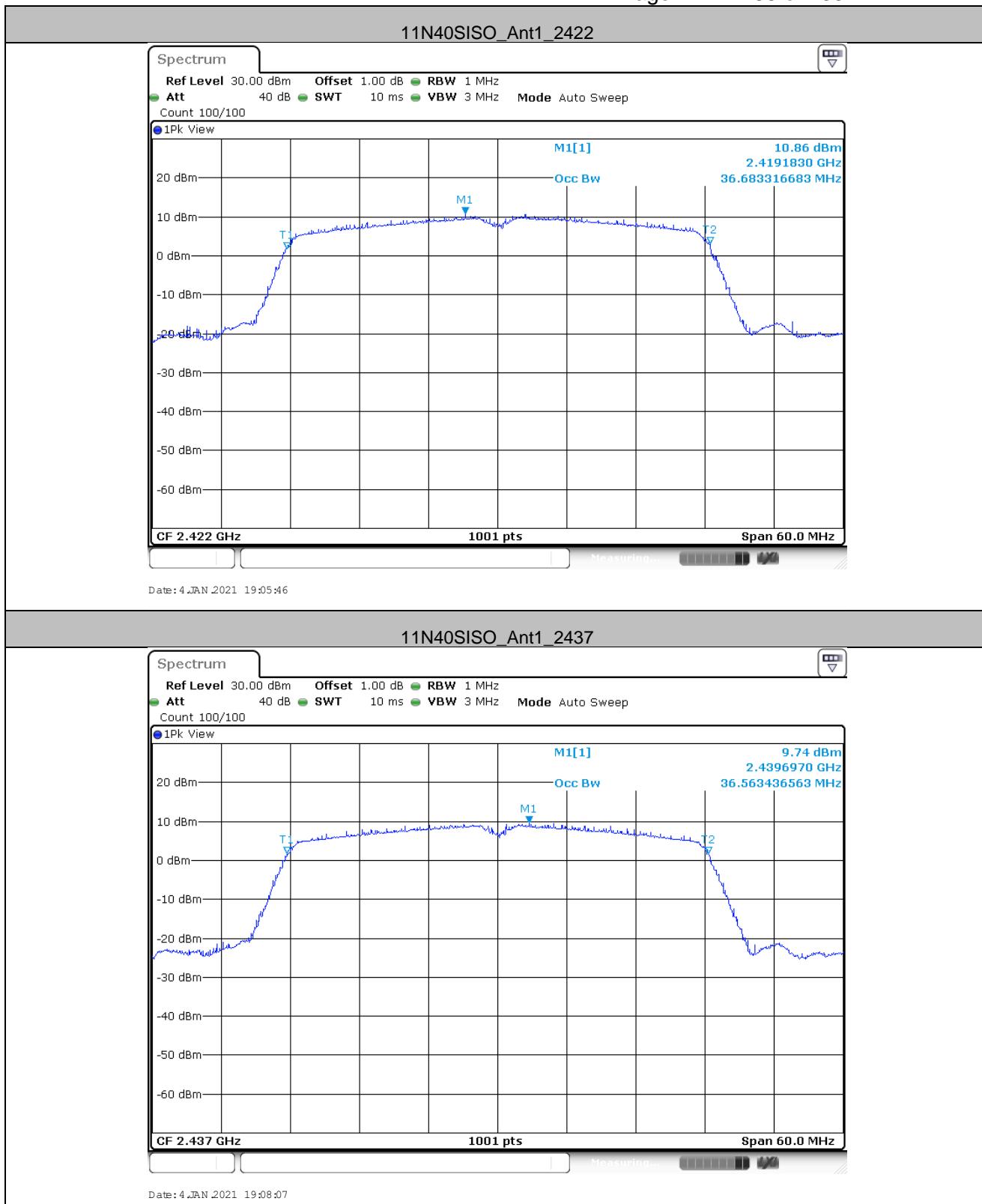
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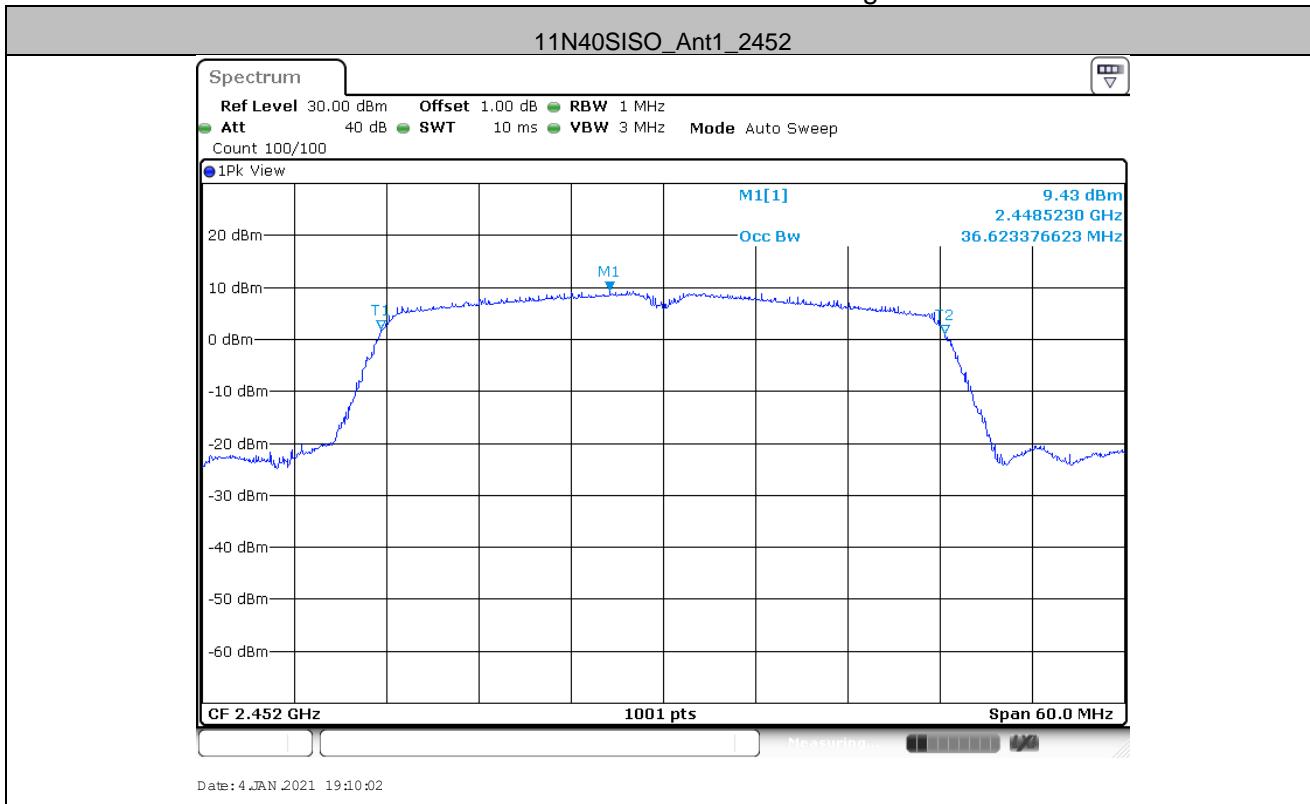
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Report No.: AR/2020/C000804  
Page: 90 of 133**Maximum conducted output power****Test Result**

TestMode	Antenna	Channel	Result[dBm]	Verdict
11B	Ant1	2412	14.77	PASS
		2437	14.93	PASS
		2462	14.92	PASS
11G	Ant1	2412	14.90	PASS
		2437	14.90	PASS
		2462	14.81	PASS
11N20SISO	Ant1	2412	14.77	PASS
		2437	14.78	PASS
		2462	14.66	PASS
11N40SISO	Ant1	2422	14.03	PASS
		2437	14.22	PASS
		2452	14.08	PASS

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Report No.: AR/2020/C000804  
Page: 91 of 133**Maximum power spectral density**  
**Test Result**

TestMode	Antenna	Channel	Result[dBm/3-100kHz]	Limit[dBm/3kHz]	Verdict
11B	Ant1	2412	-6.67	<=8	PASS
		2437	-6.53	<=8	PASS
		2462	-6	<=8	PASS
11G	Ant1	2412	-8.63	<=8	PASS
		2437	-8.08	<=8	PASS
		2462	-8.17	<=8	PASS
11N20SISO	Ant1	2412	-9.2	<=8	PASS
		2437	-8.56	<=8	PASS
		2462	-9.2	<=8	PASS
11N40SISO	Ant1	2422	-12.67	<=8	PASS
		2437	-12.82	<=8	PASS
		2452	-13.37	<=8	PASS

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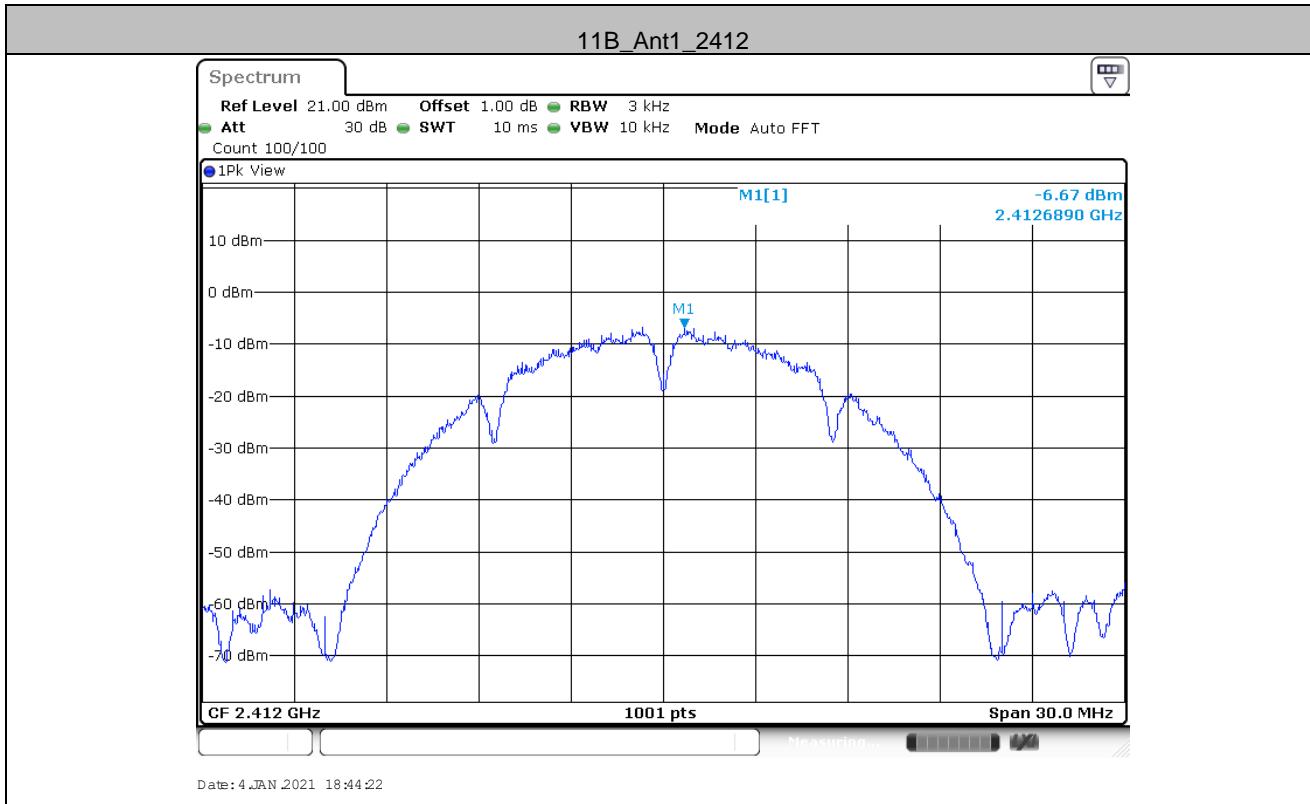


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## Test Graphs



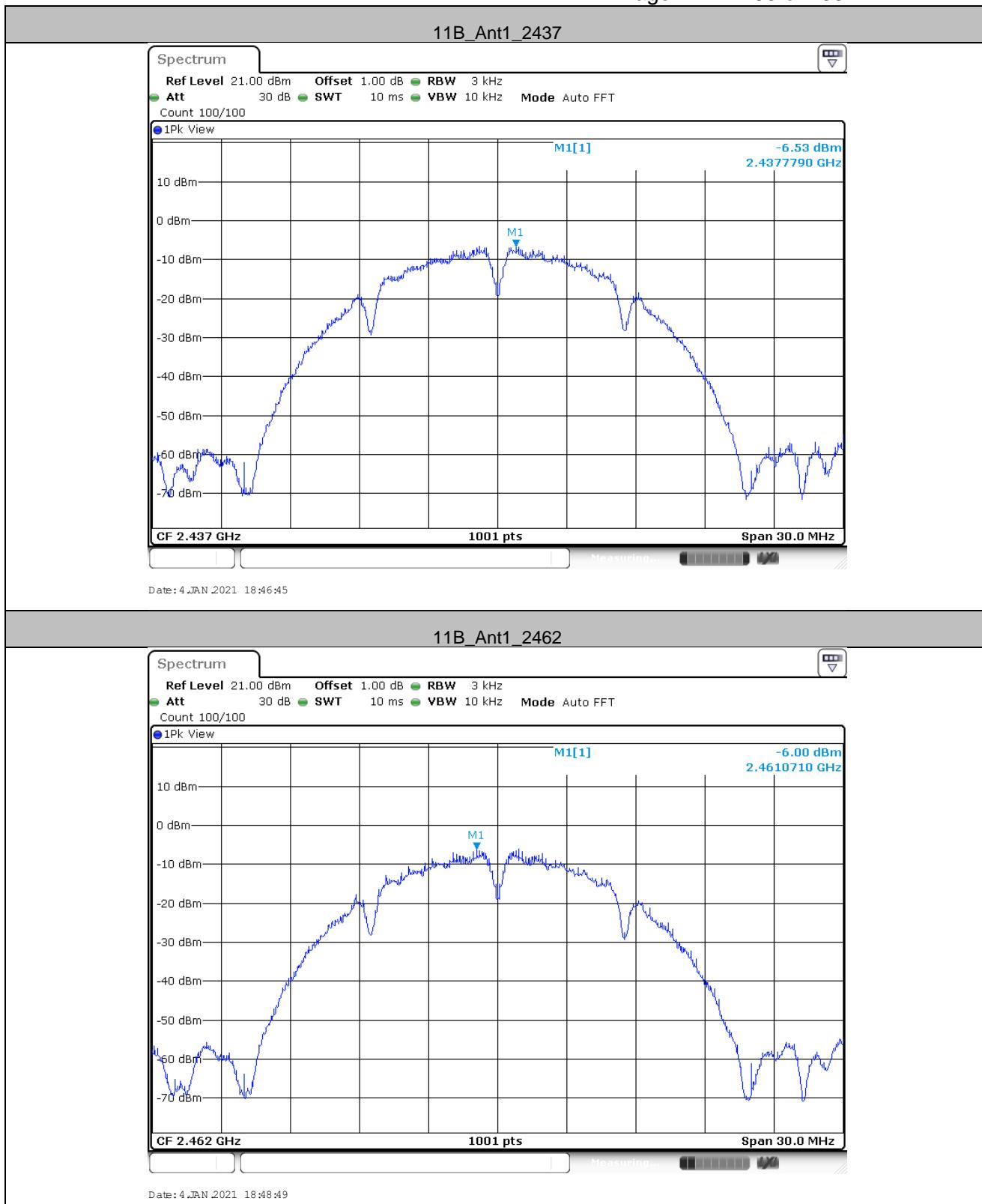
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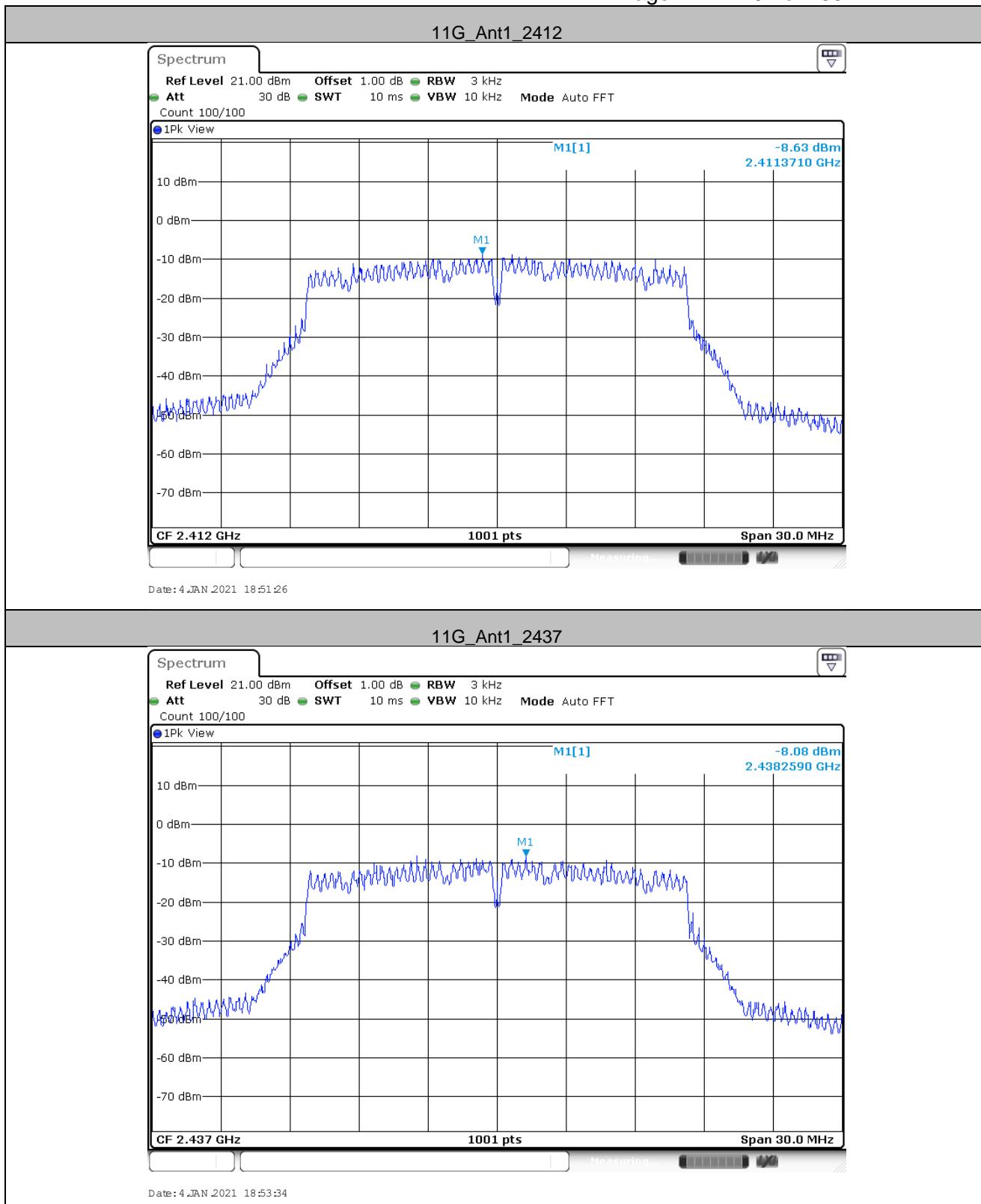
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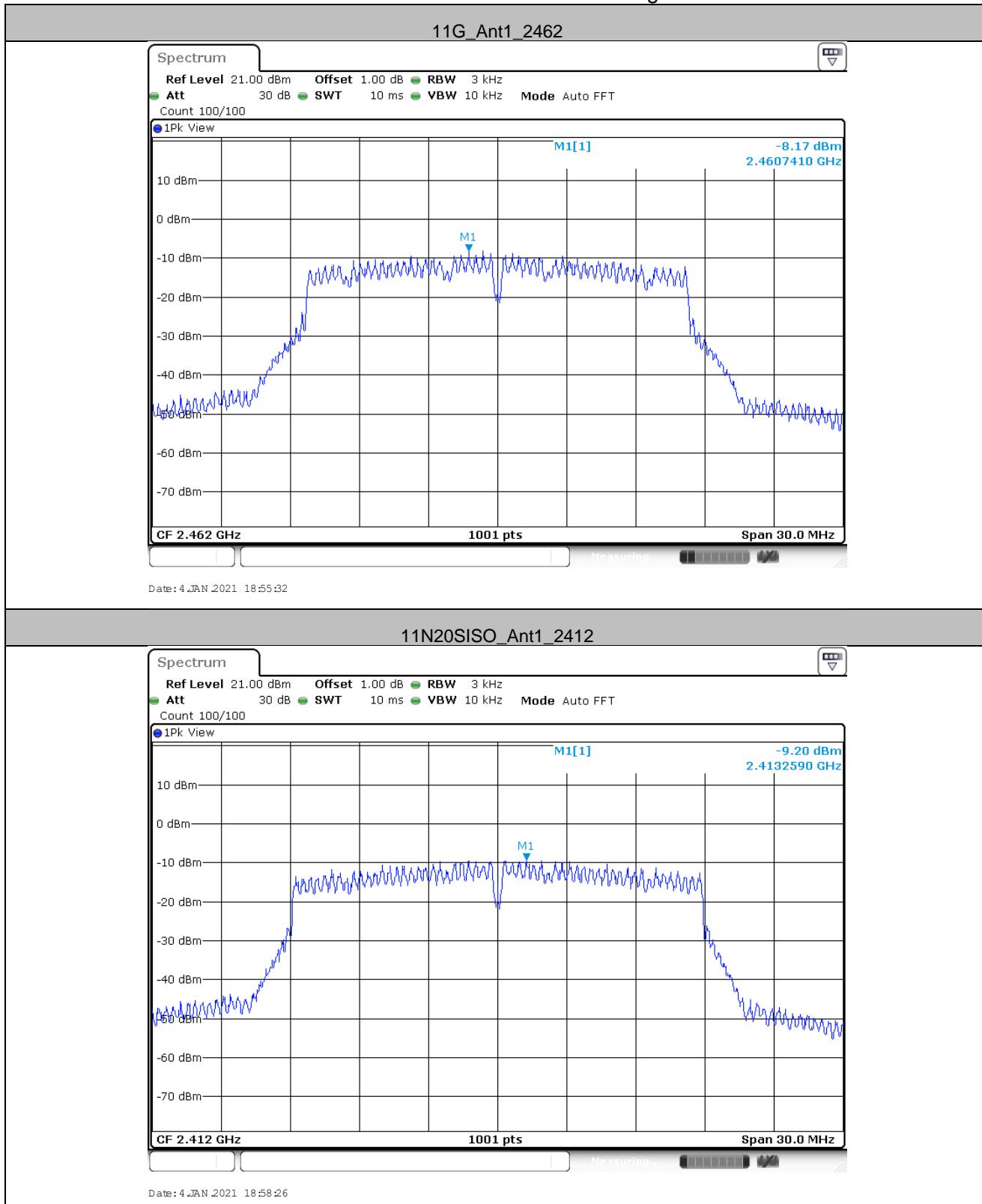
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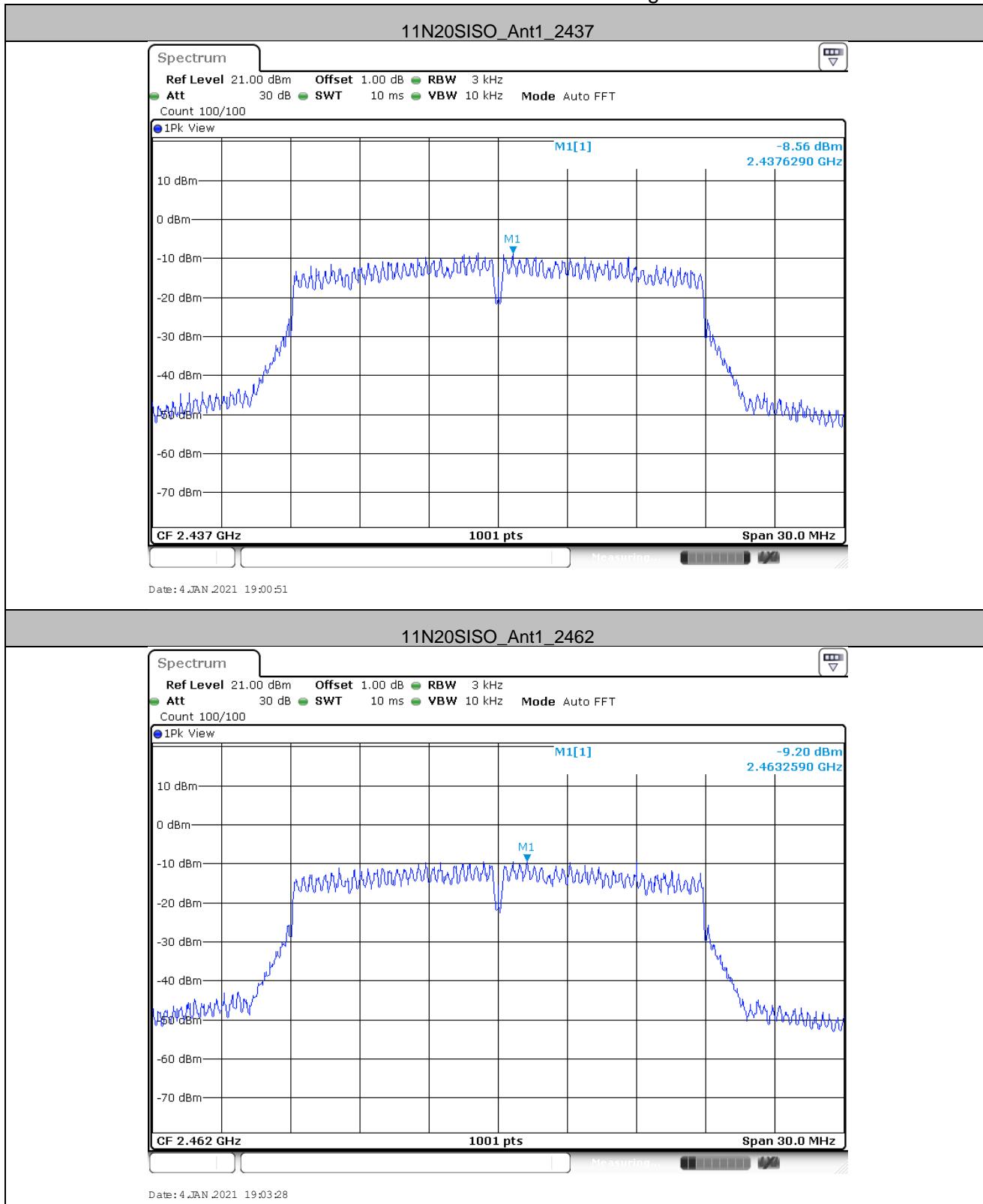
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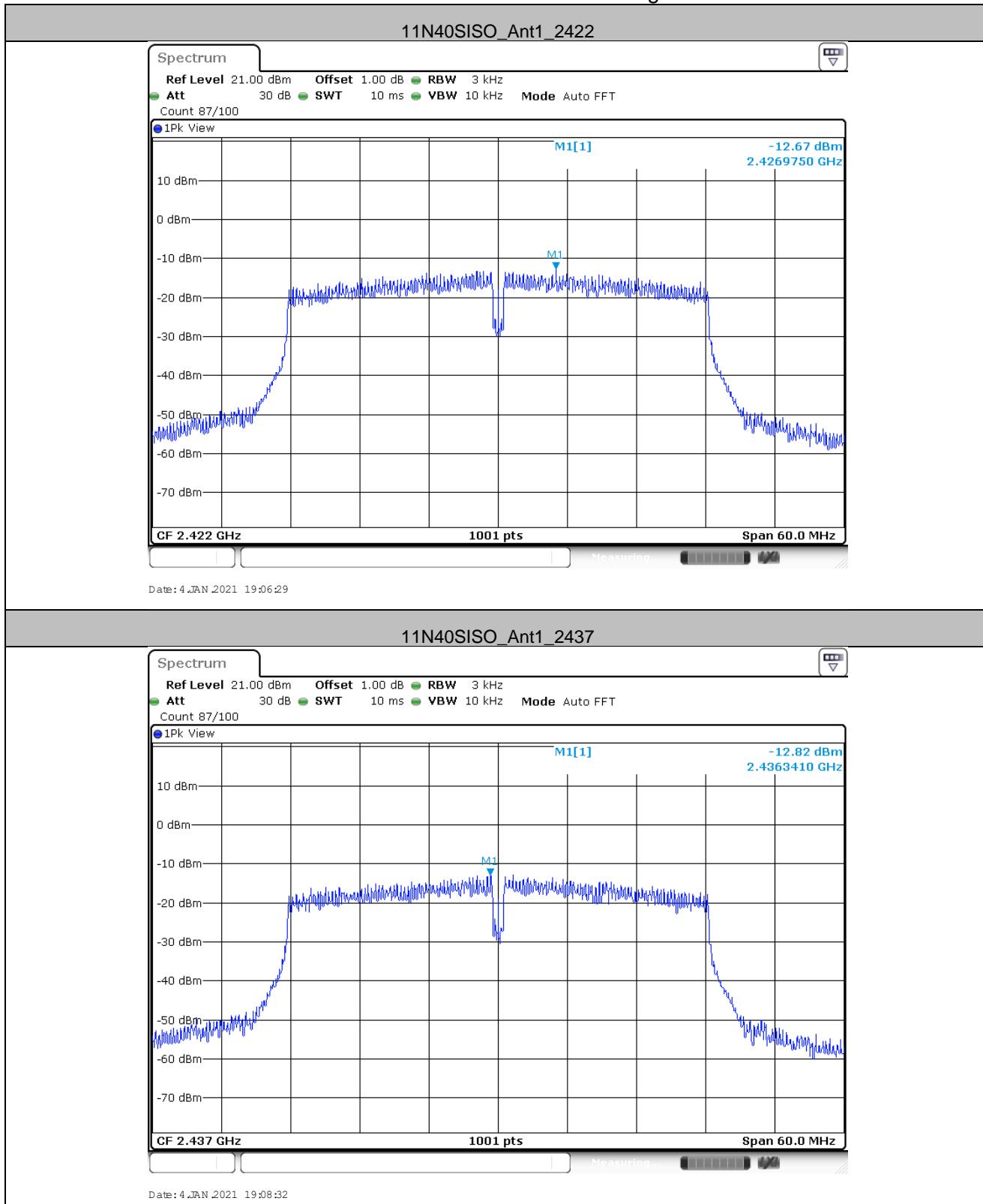
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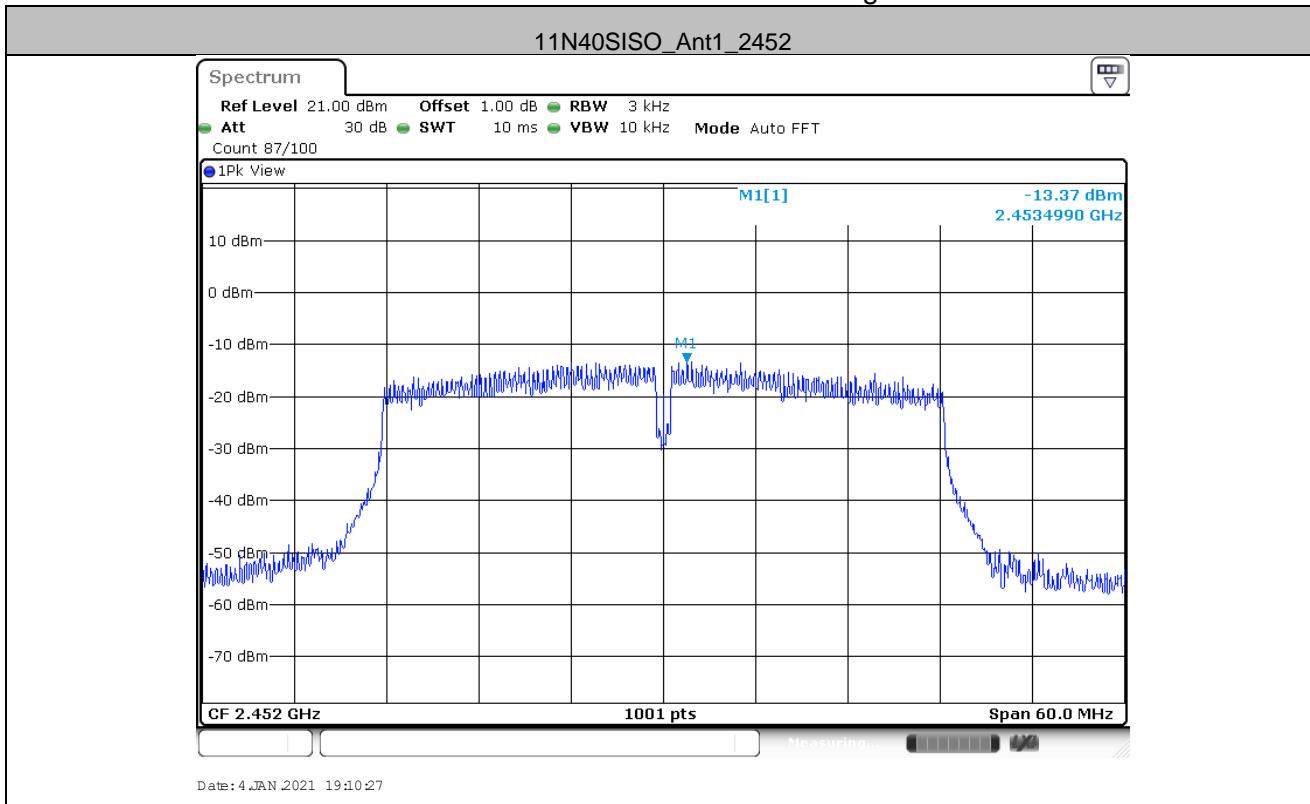


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Report No.: AR/2020/C000804  
Page: 99 of 133**Band edge measurements****Test Result**

TestMode	Antenna	ChName	Channel	RefLevel[dBm]	Result[dBm]	Limit[dBm]	Verdict
11B	Ant1	Low	2412	6.51	-45.34	<=-13.49	PASS
		High	2462	6.43	-52.64	<=-13.57	PASS
11G	Ant1	Low	2412	4.13	-27.67	<=-15.87	PASS
		High	2462	4.13	-44.43	<=-15.87	PASS
11N20SISO	Ant1	Low	2412	4.13	-28.52	<=-15.87	PASS
		High	2462	4.00	-42.59	<=-16	PASS
11N40SISO	Ant1	Low	2422	1.05	-33.09	<=-18.95	PASS
		High	2452	1.12	-36.88	<=-18.88	PASS

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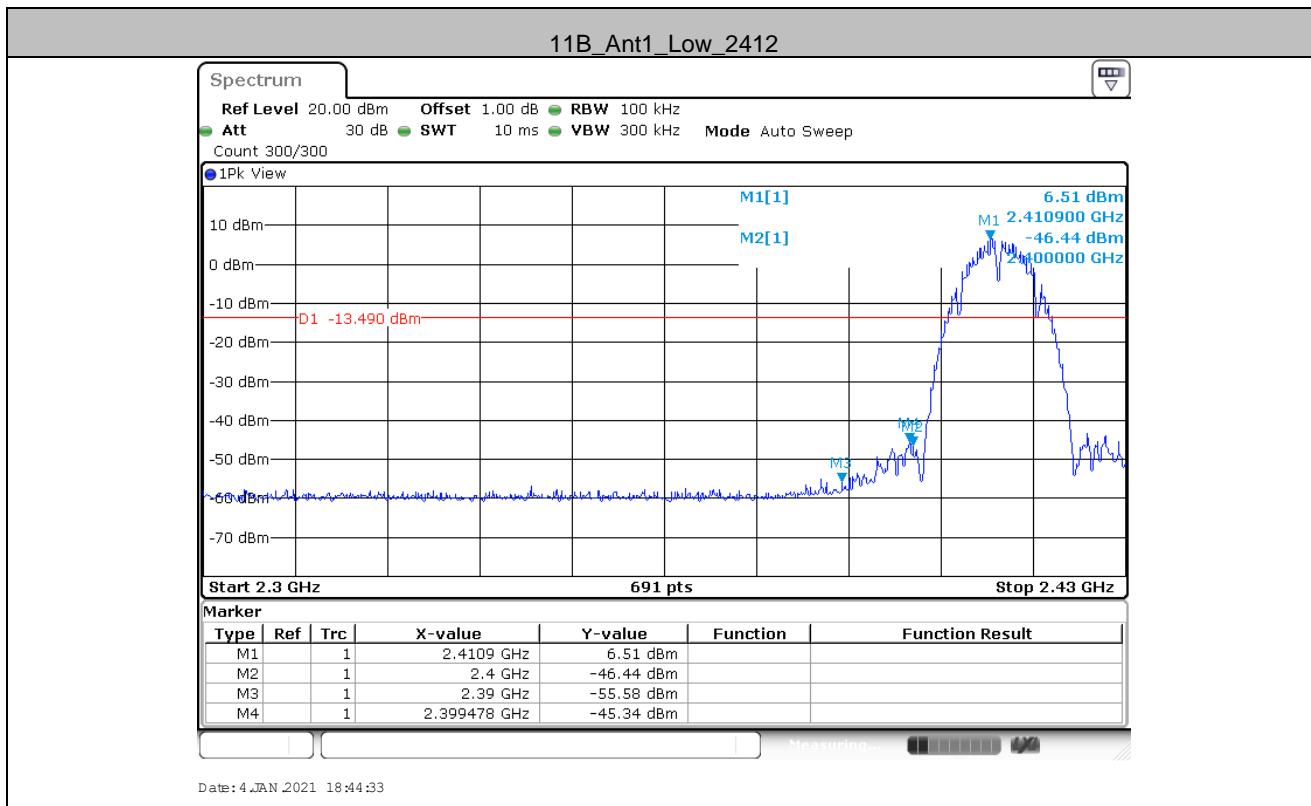


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## Test Graphs



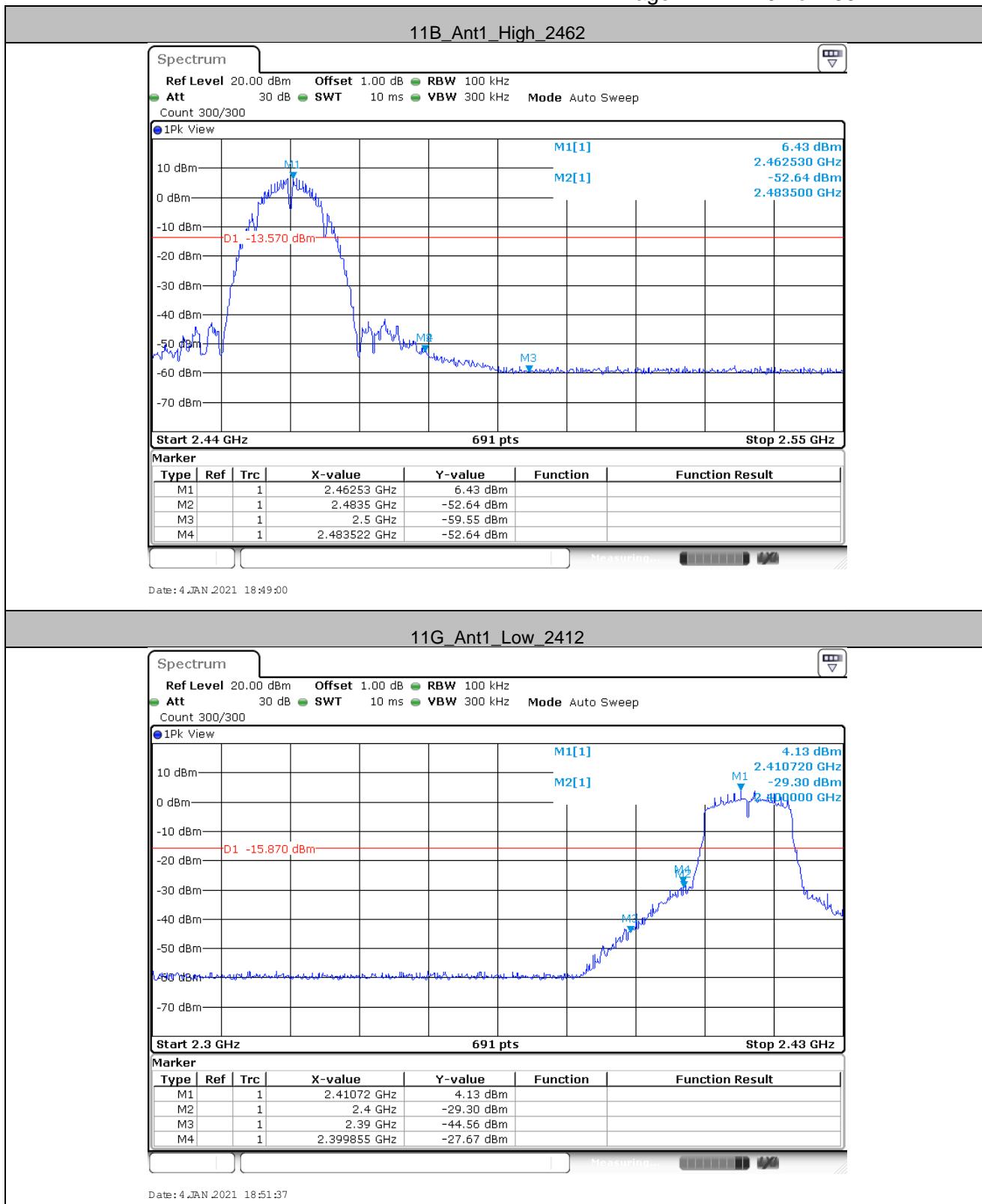
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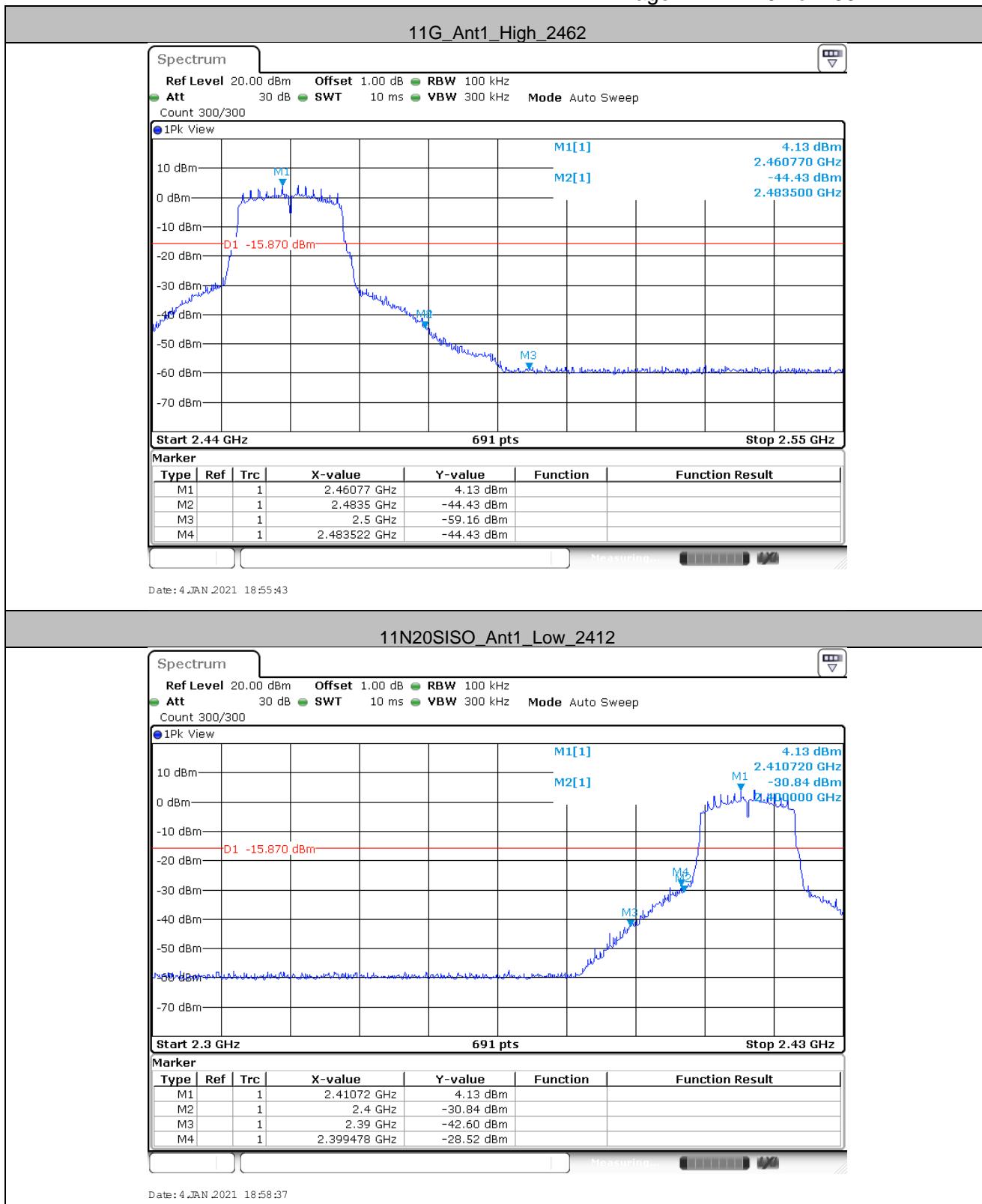
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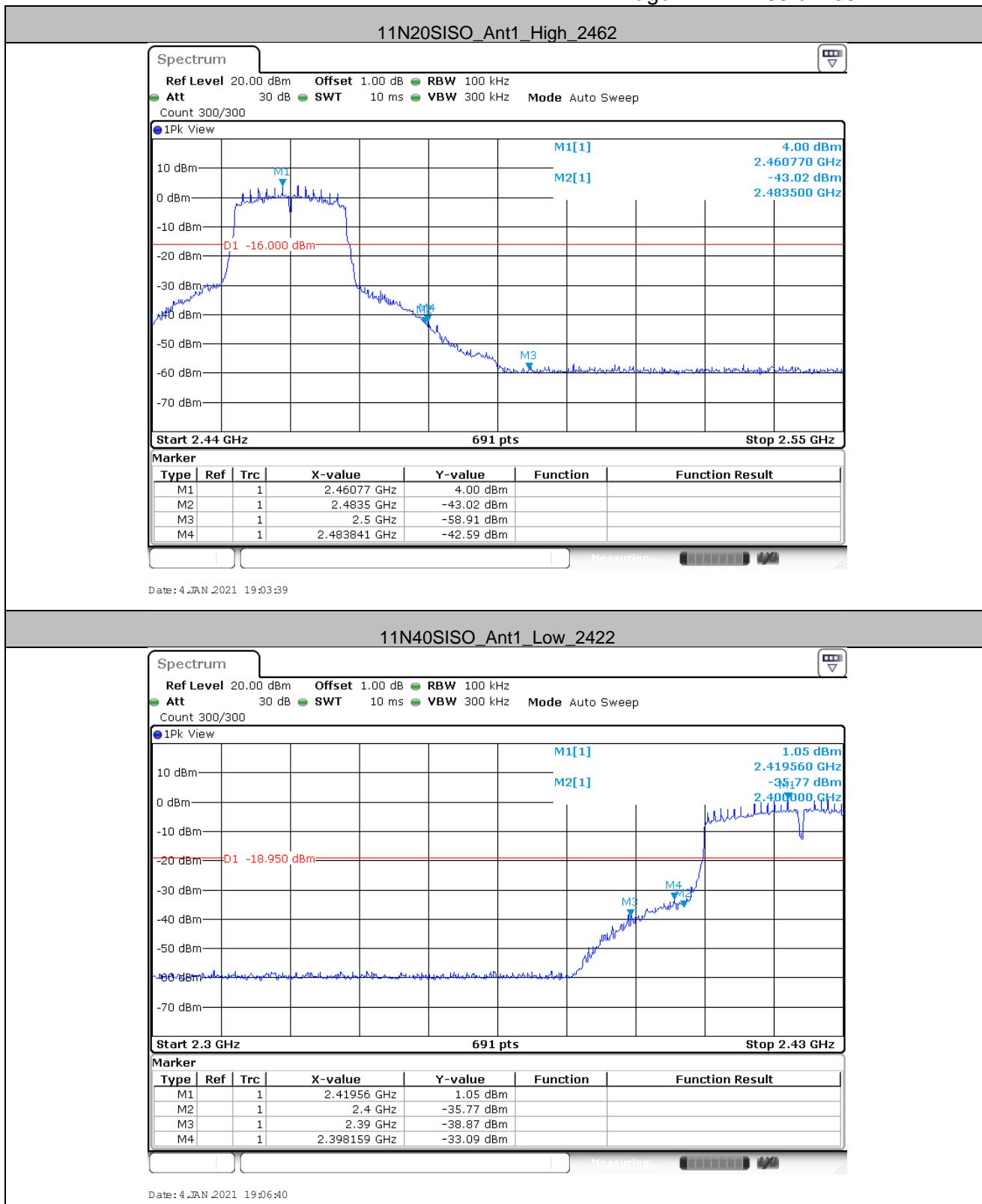
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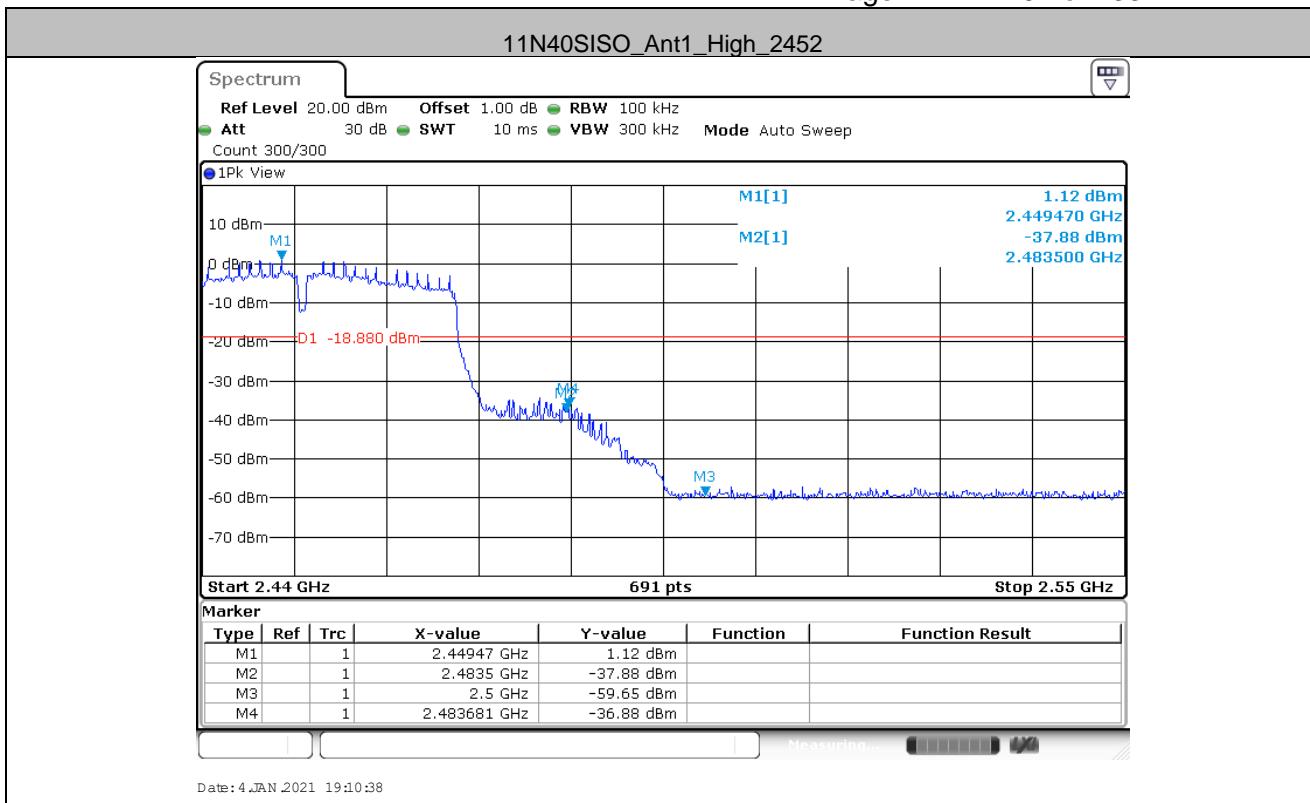
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## Conducted Spurious Emission

## Test Result

TestMode	Antenna	Channel	FreqRange [Mhz]	RefLevel [dBm]	Result [dBm]	Limit [dBm]	Verdict
11B	Ant1	2412	Reference	6.48	6.48	---	PASS
			30~1000	6.48	-45.69	<=-13.52	PASS
			1000~26500	6.48	-31.32	<=-13.52	PASS
		2437	Reference	6.75	6.75	---	PASS
			30~1000	6.75	-44.83	<=-13.25	PASS
			1000~26500	6.75	-30.39	<=-13.25	PASS
		2462	Reference	6.62	6.62	---	PASS
			30~1000	6.62	-45.67	<=-13.38	PASS
			1000~26500	6.62	-30.93	<=-13.38	PASS
11G	Ant1	2412	Reference	3.94	3.94	---	PASS
			30~1000	3.94	-46.26	<=-16.06	PASS
			1000~26500	3.94	-30.6	<=-16.06	PASS
		2437	Reference	4.46	4.46	---	PASS
			30~1000	4.46	-45.12	<=-15.54	PASS
			1000~26500	4.46	-30.26	<=-15.54	PASS
		2462	Reference	4.22	4.22	---	PASS
			30~1000	4.22	-45.92	<=-15.78	PASS
			1000~26500	4.22	-30.92	<=-15.78	PASS
11N20SISO	Ant1	2412	Reference	4.15	4.15	---	PASS
			30~1000	4.15	-45.84	<=-15.85	PASS
			1000~26500	4.15	-30.67	<=-15.85	PASS
		2437	Reference	4.29	4.29	---	PASS
			30~1000	4.29	-45.79	<=-15.71	PASS
			1000~26500	4.29	-29.76	<=-15.71	PASS
		2462	Reference	4.15	4.15	---	PASS
			30~1000	4.15	-45.09	<=-15.85	PASS
			1000~26500	4.15	-31.32	<=-15.85	PASS
11N40SISO	Ant1	2422	Reference	0.96	0.96	---	PASS

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			30~1000	0.96	-46.17	<= -19.04	PASS
			1000~26500	0.96	-30.59	<= -19.04	PASS
		2437	Reference	1.09	1.09	---	PASS
			30~1000	1.09	-44.57	<= -18.91	PASS
			1000~26500	1.09	-30.38	<= -18.91	PASS
			Reference	1.27	1.27	---	PASS
		2452	30~1000	1.27	-45.7	<= -18.73	PASS
			1000~26500	1.27	-29.72	<= -18.73	PASS

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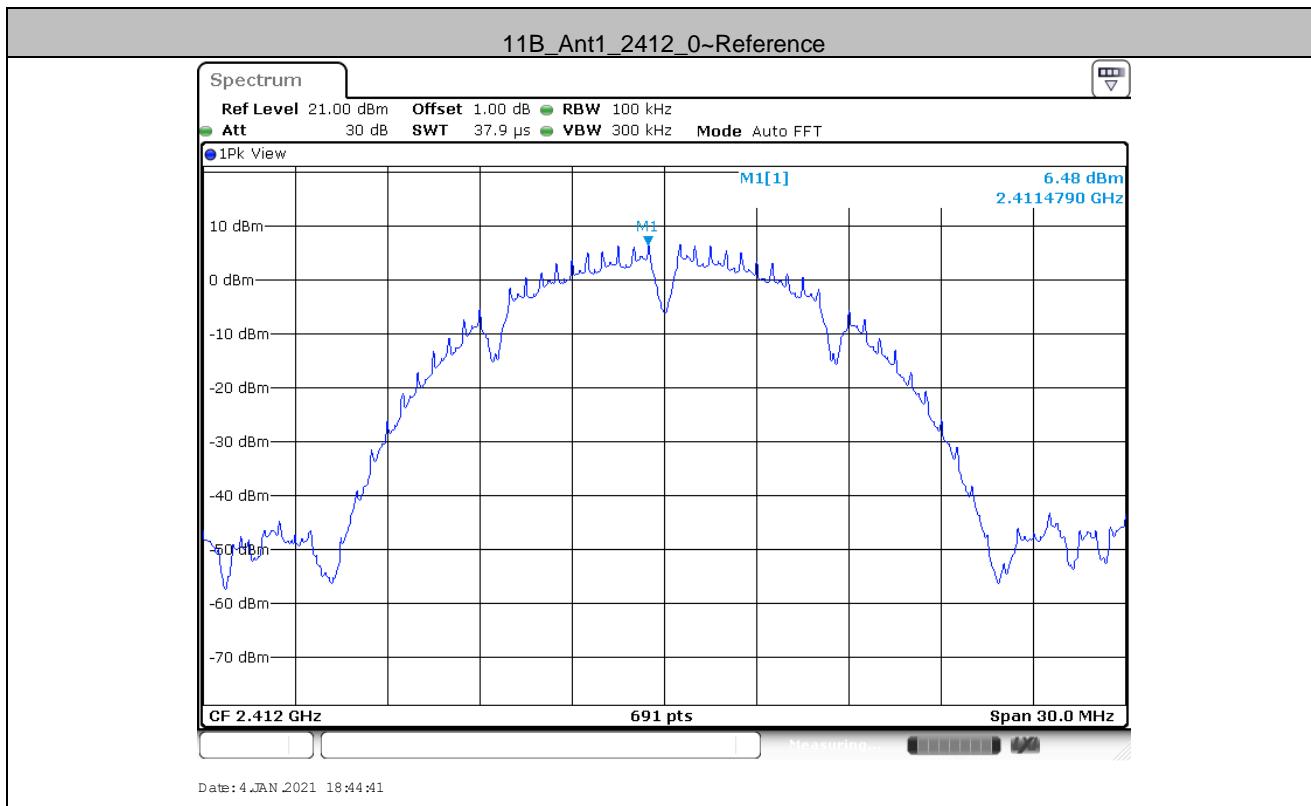


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## Test Graphs



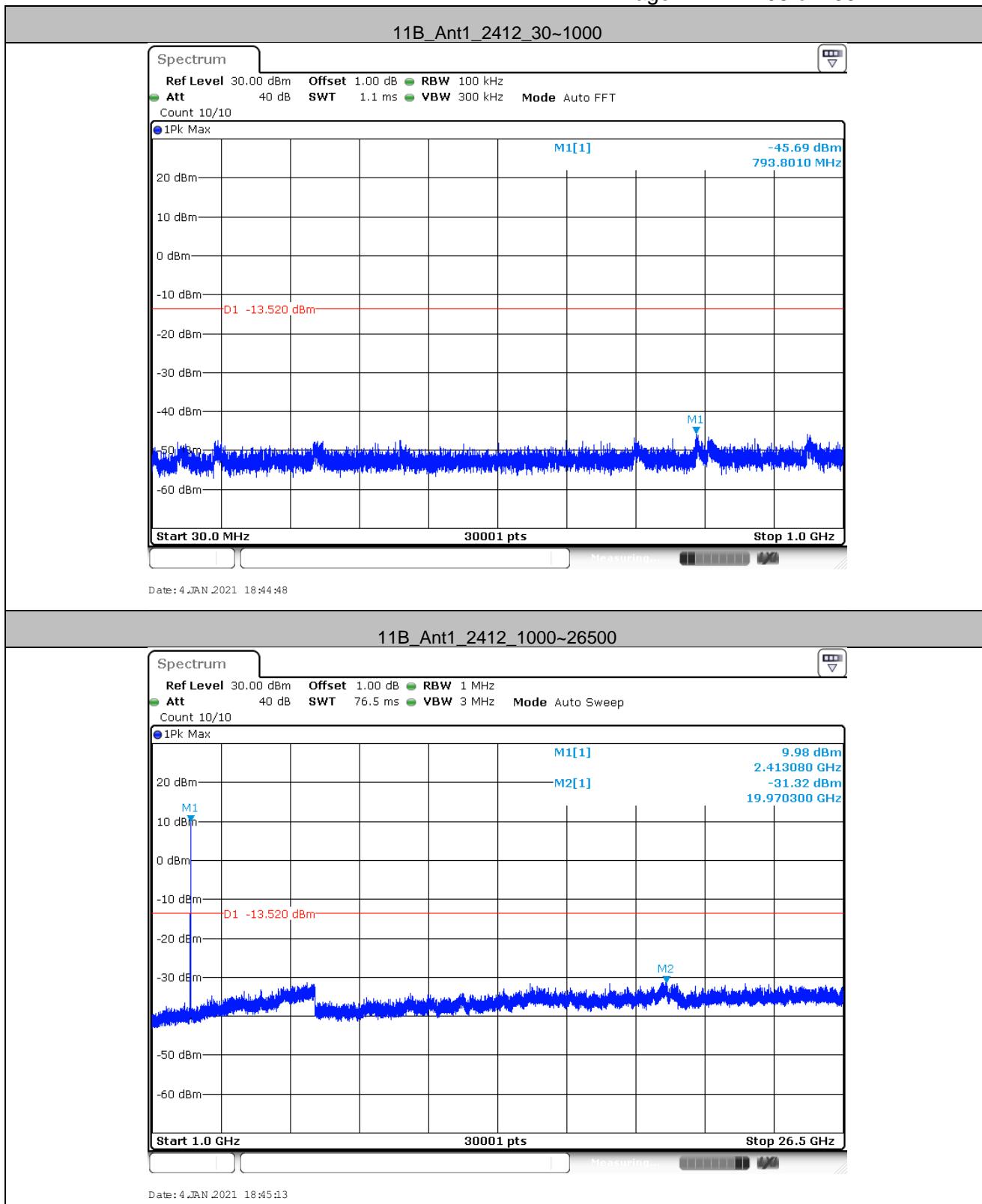
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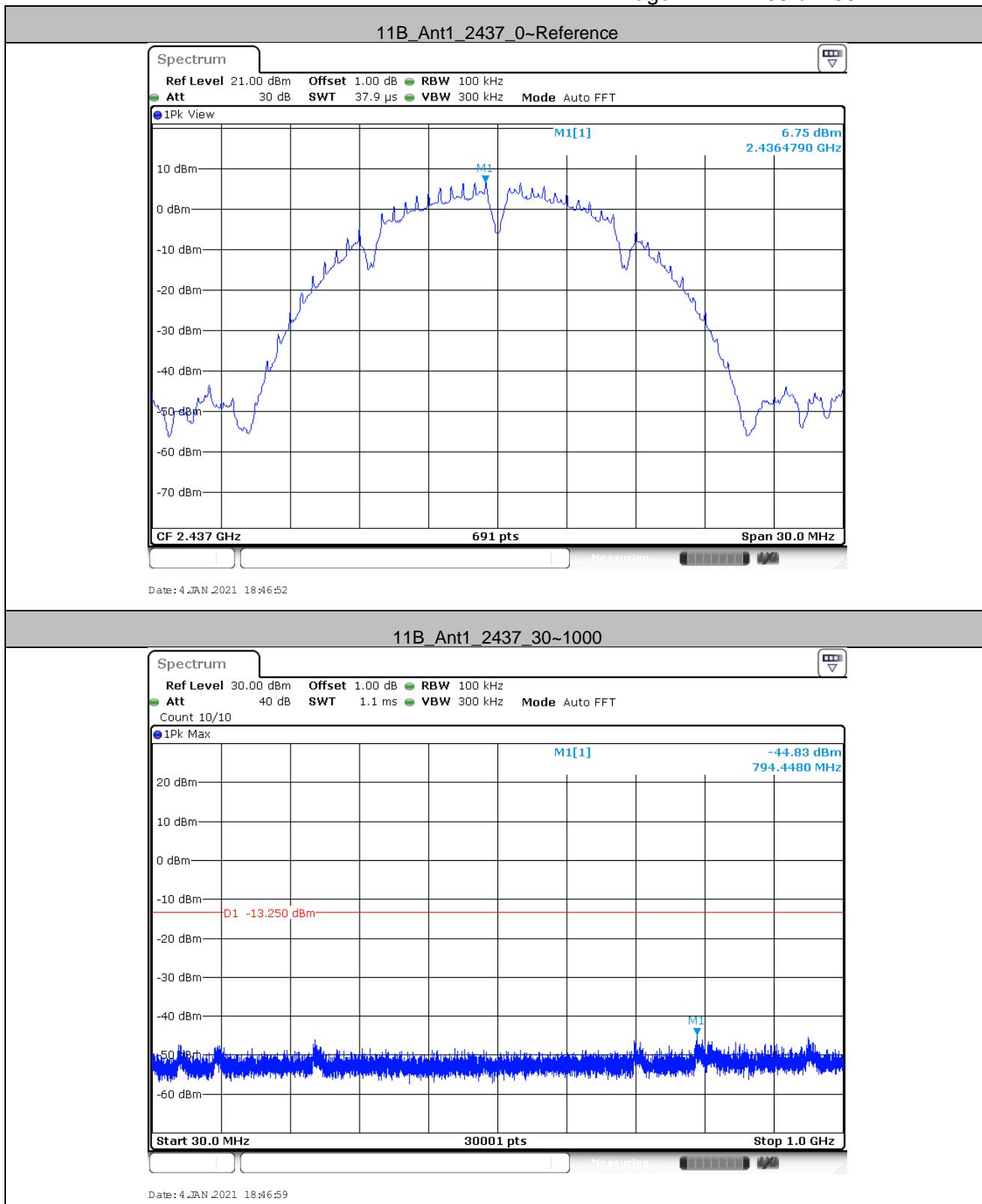
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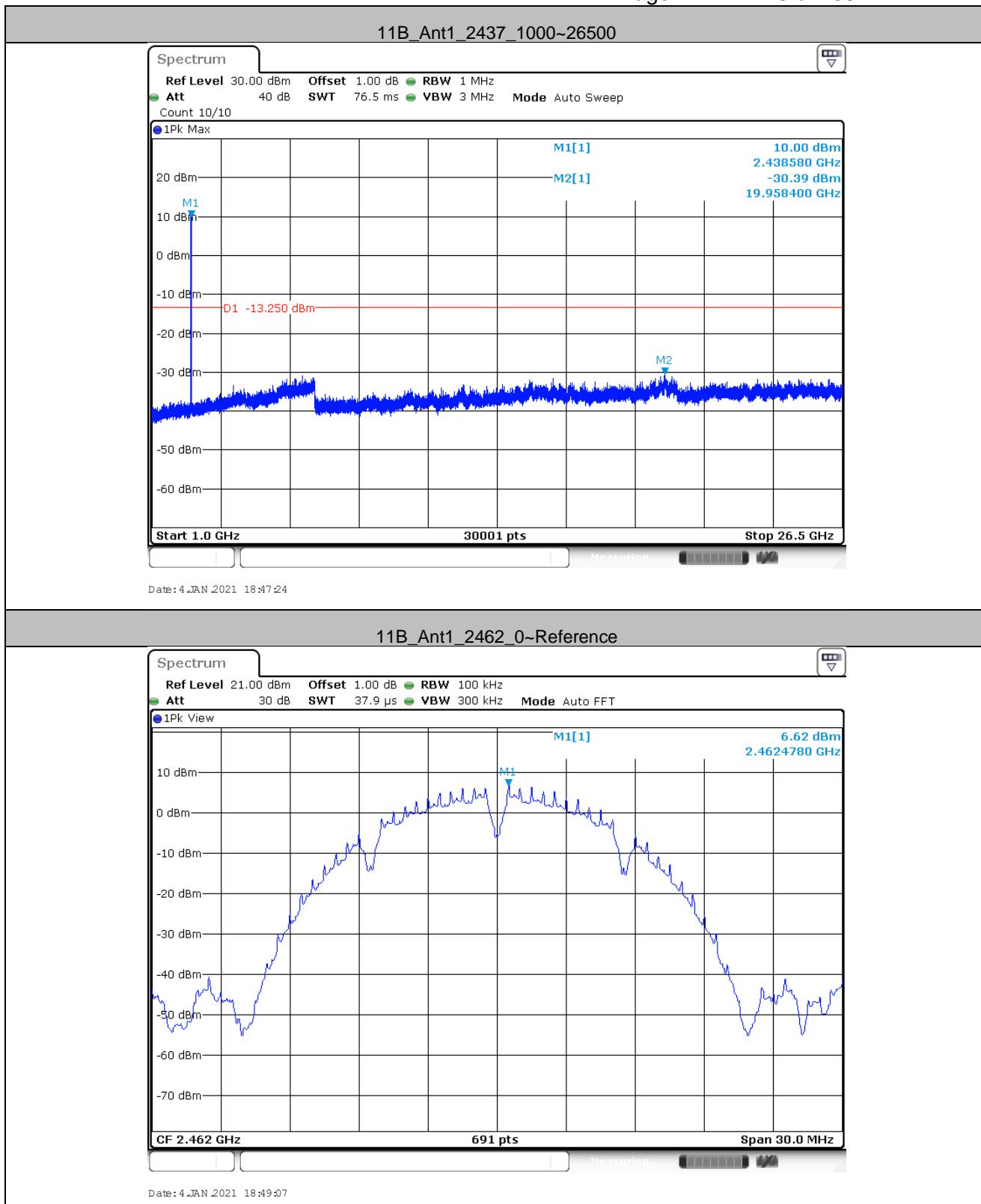
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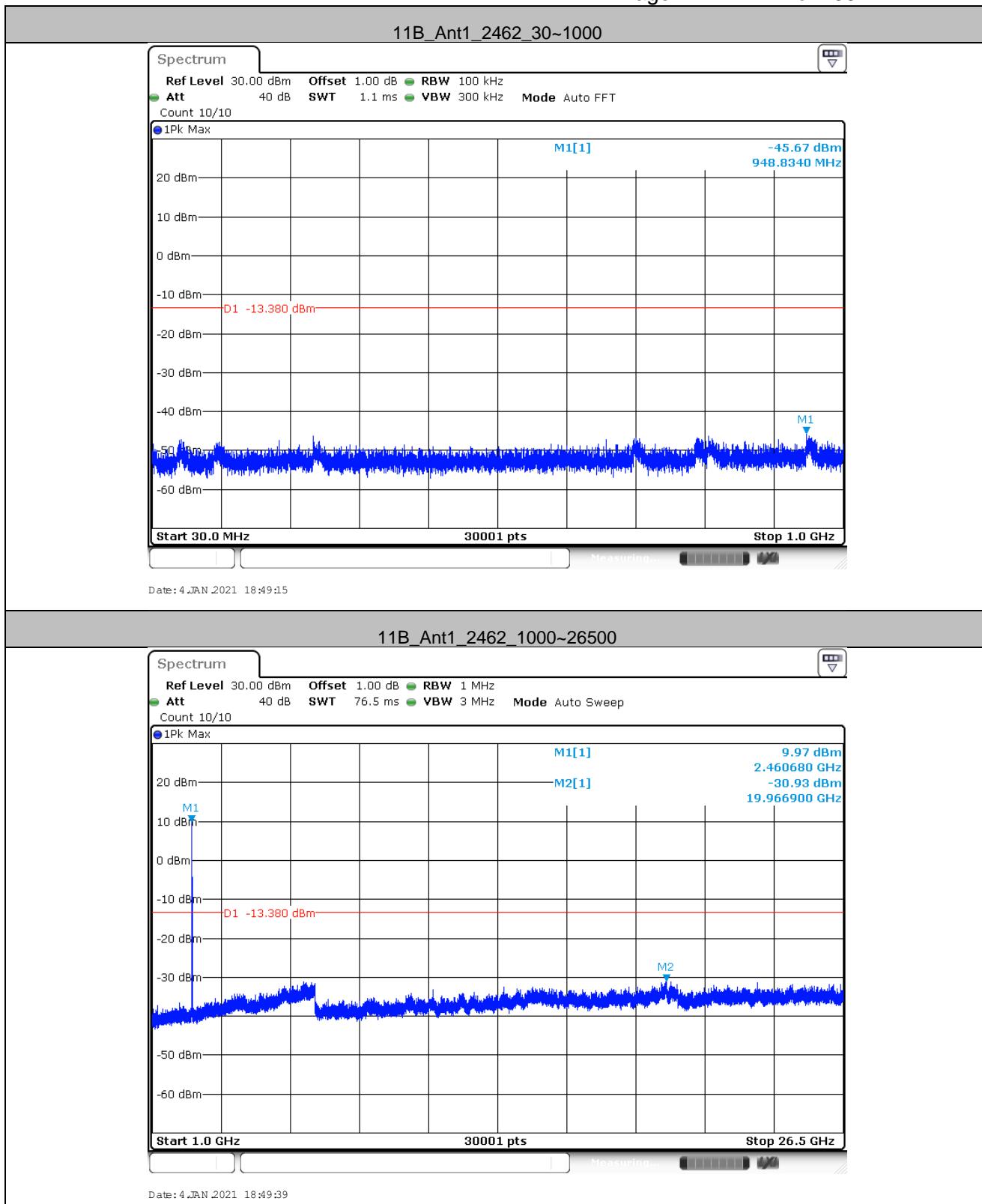
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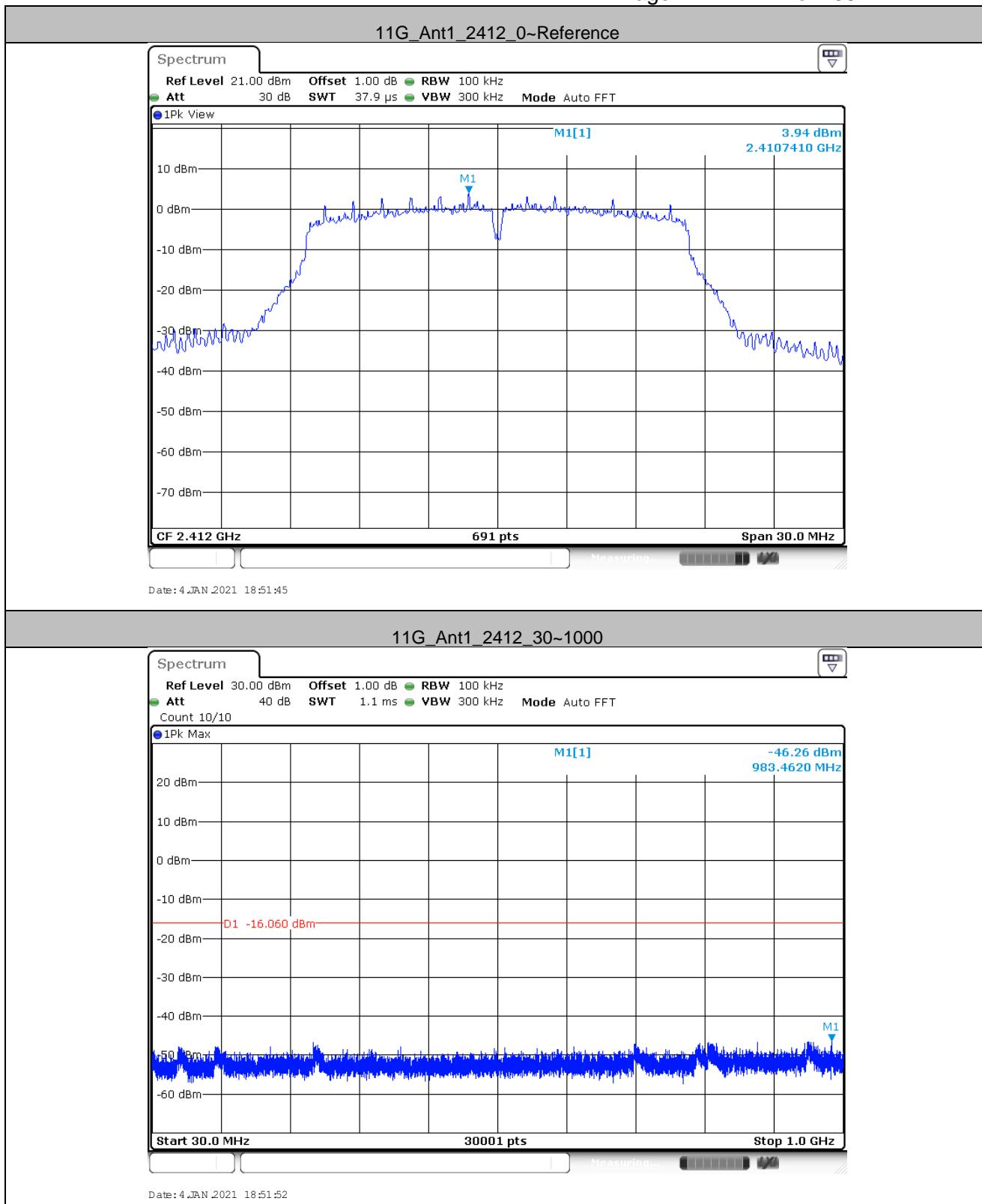
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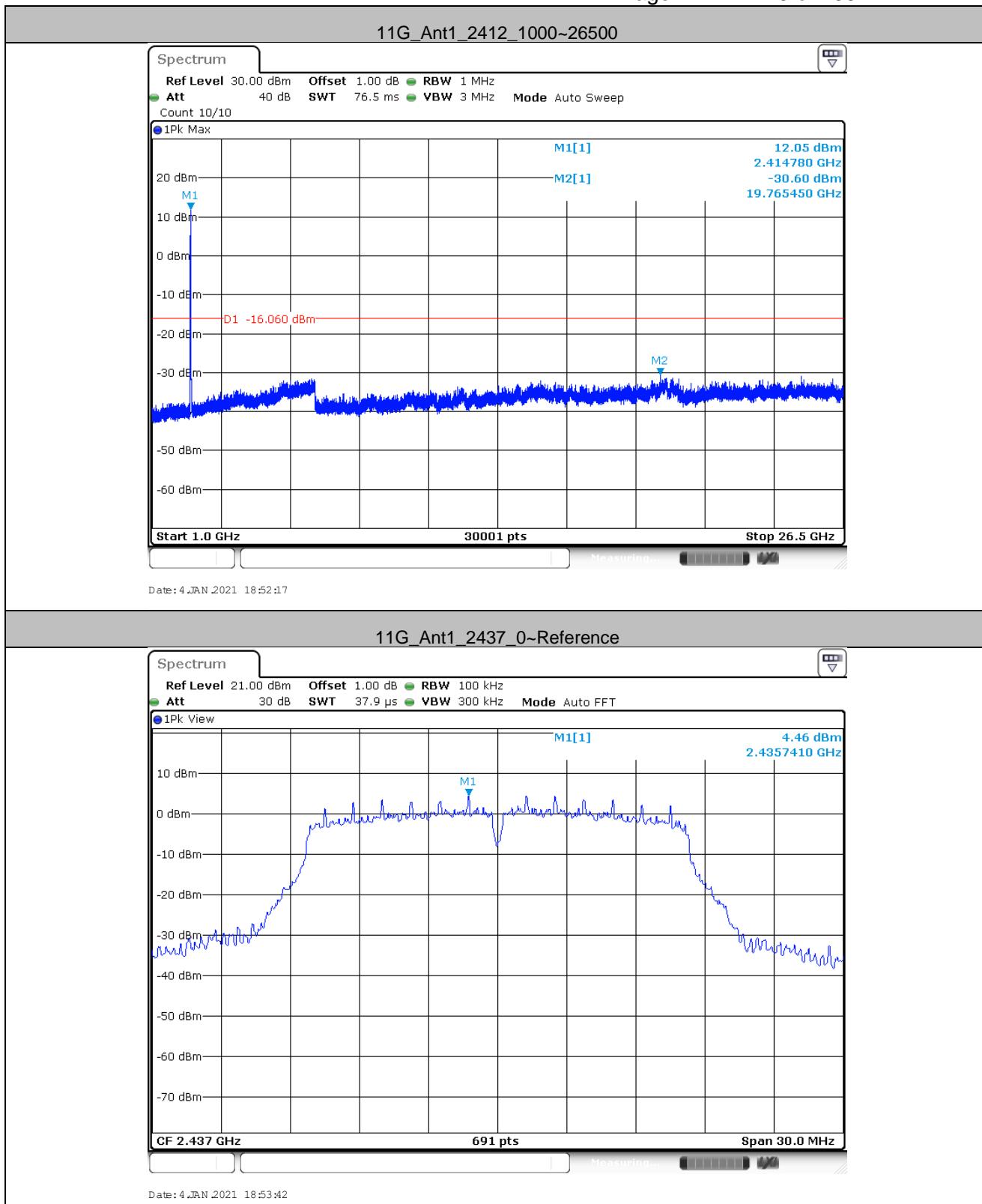
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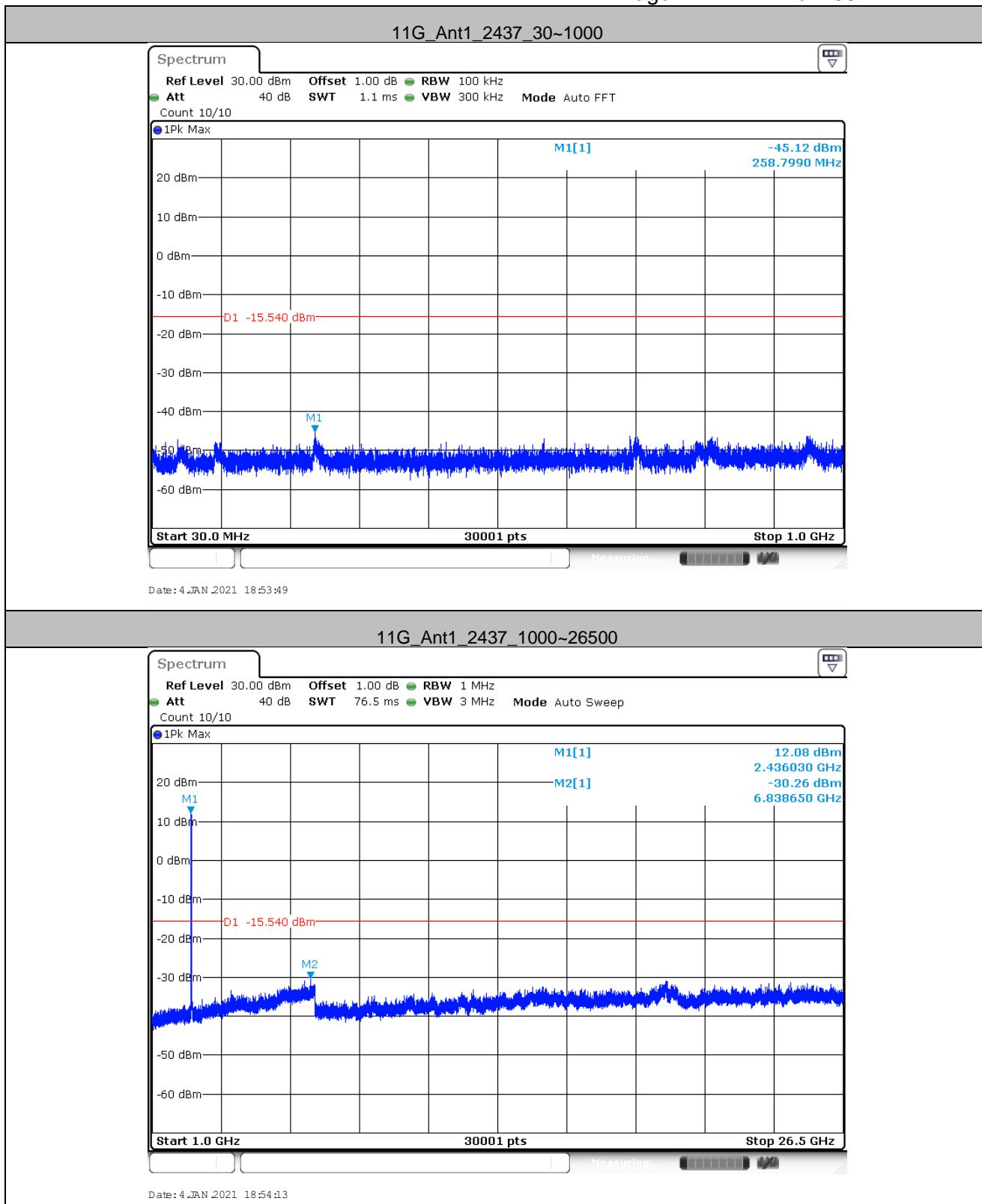
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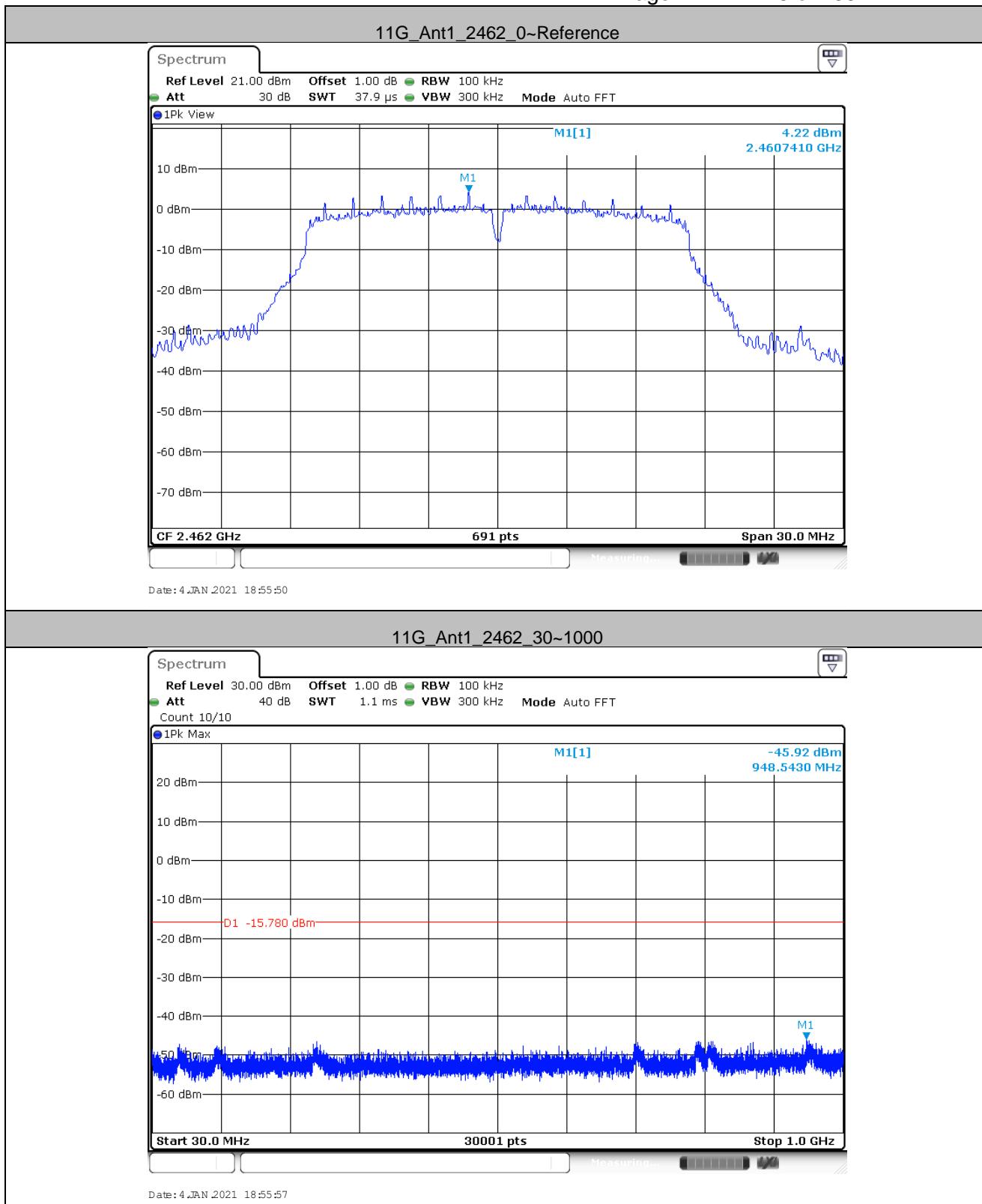
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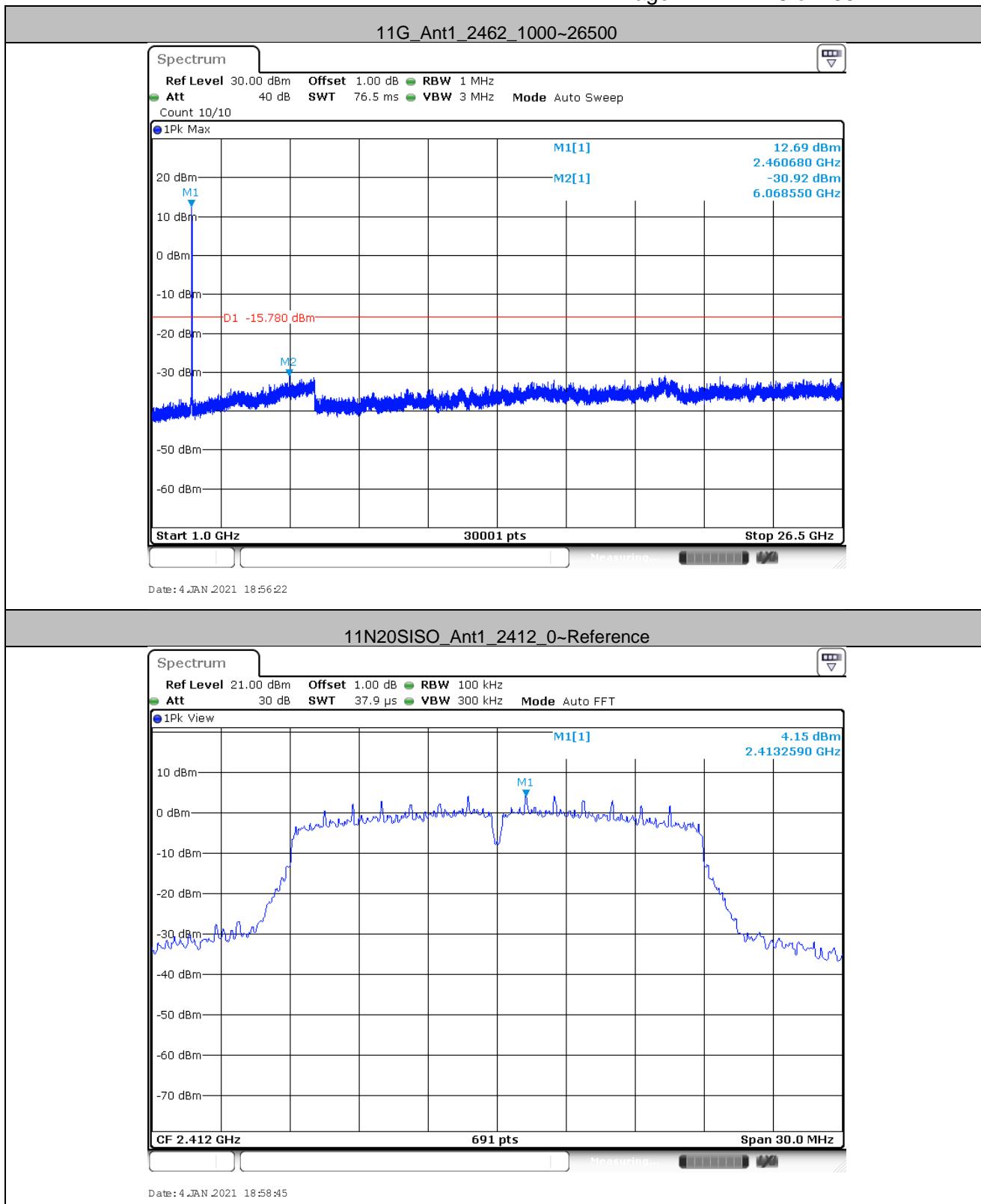
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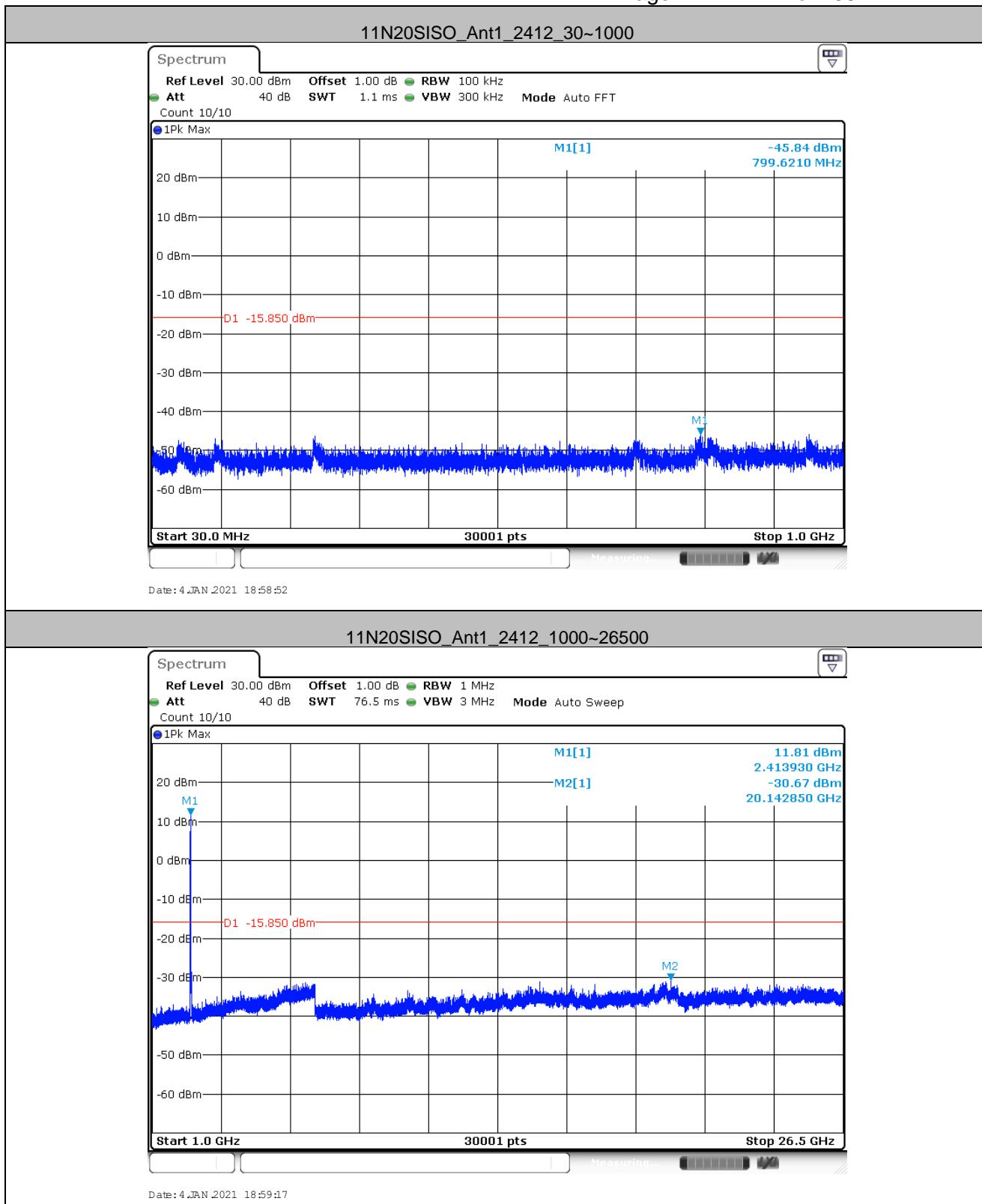
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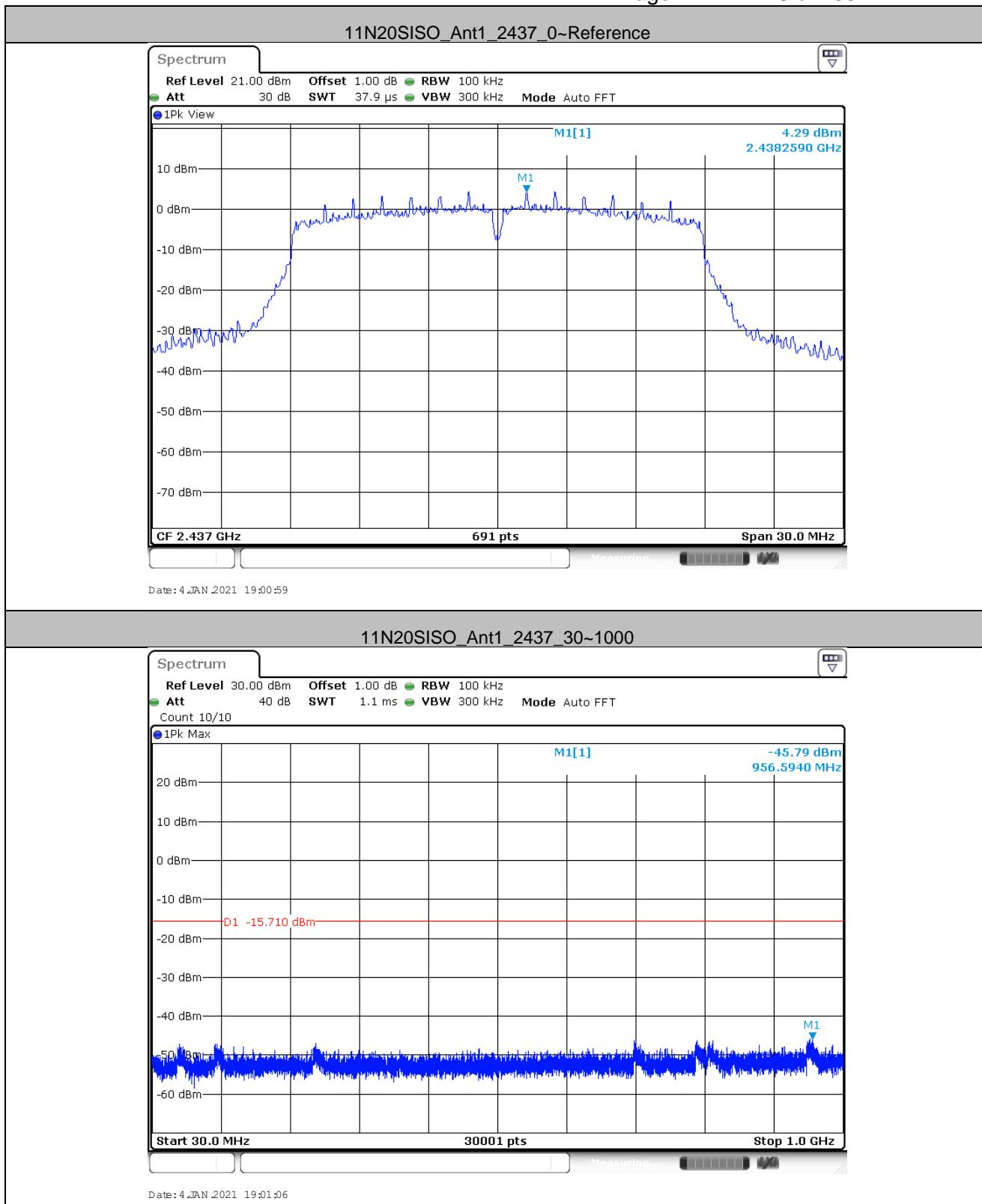
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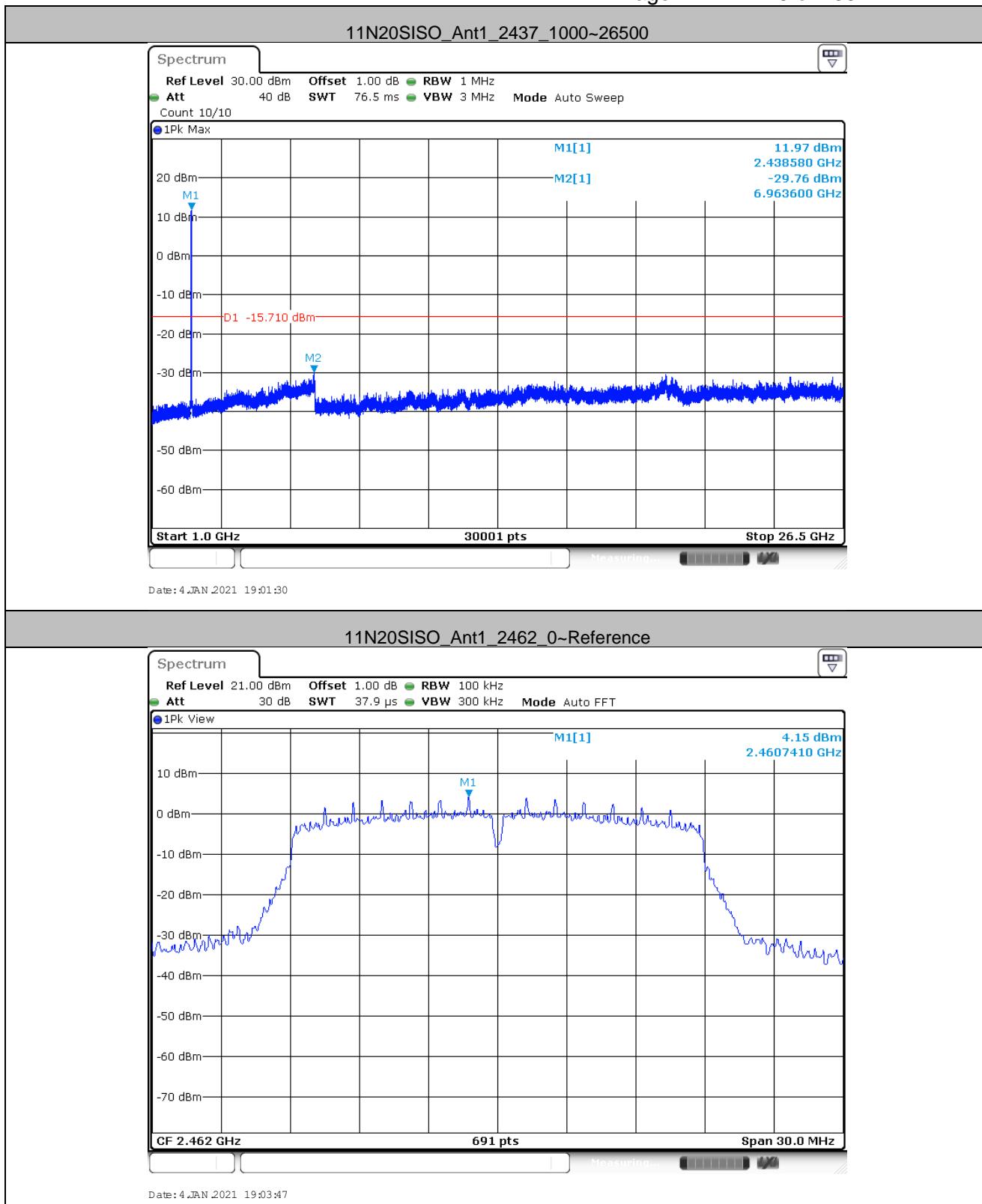
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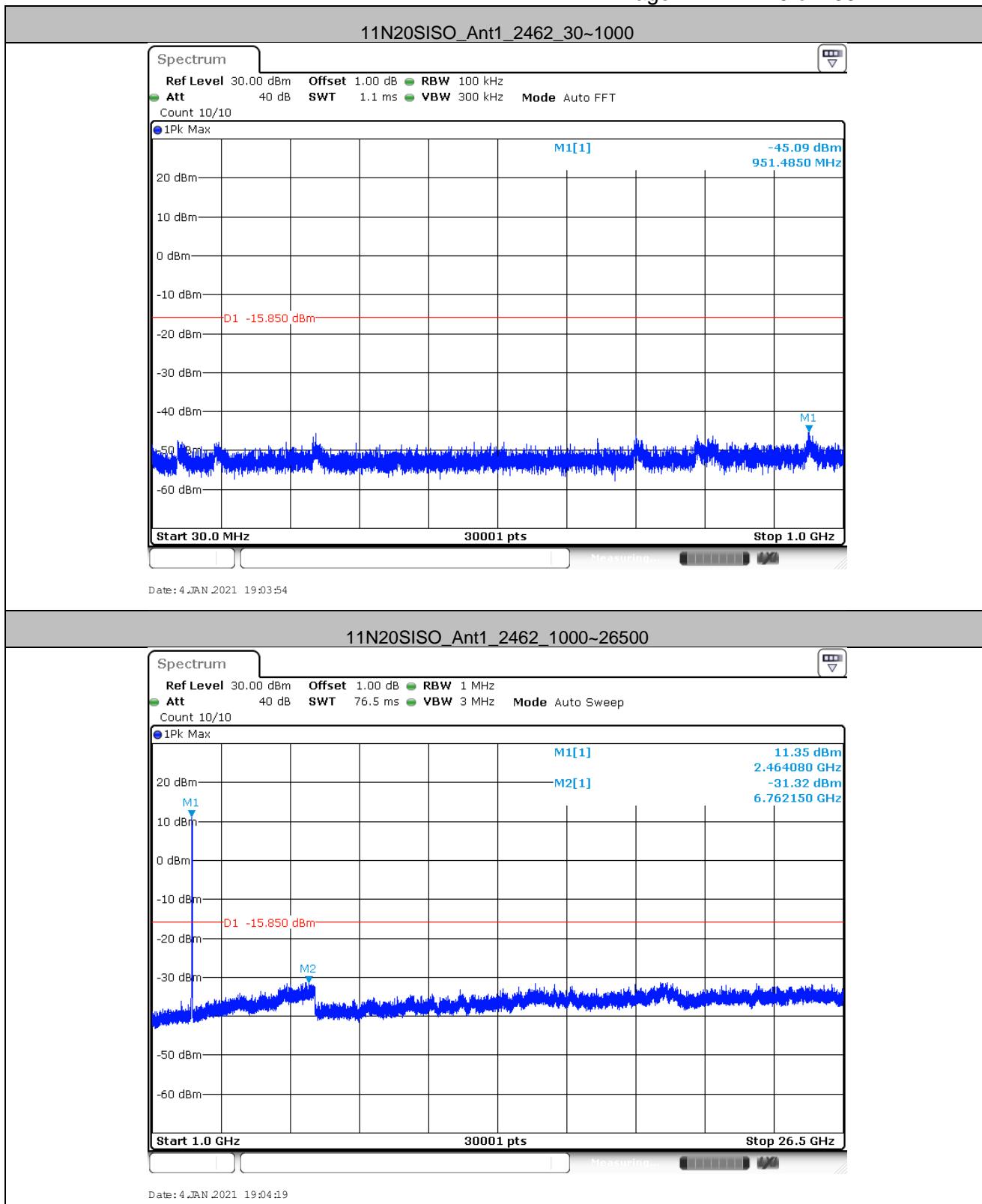
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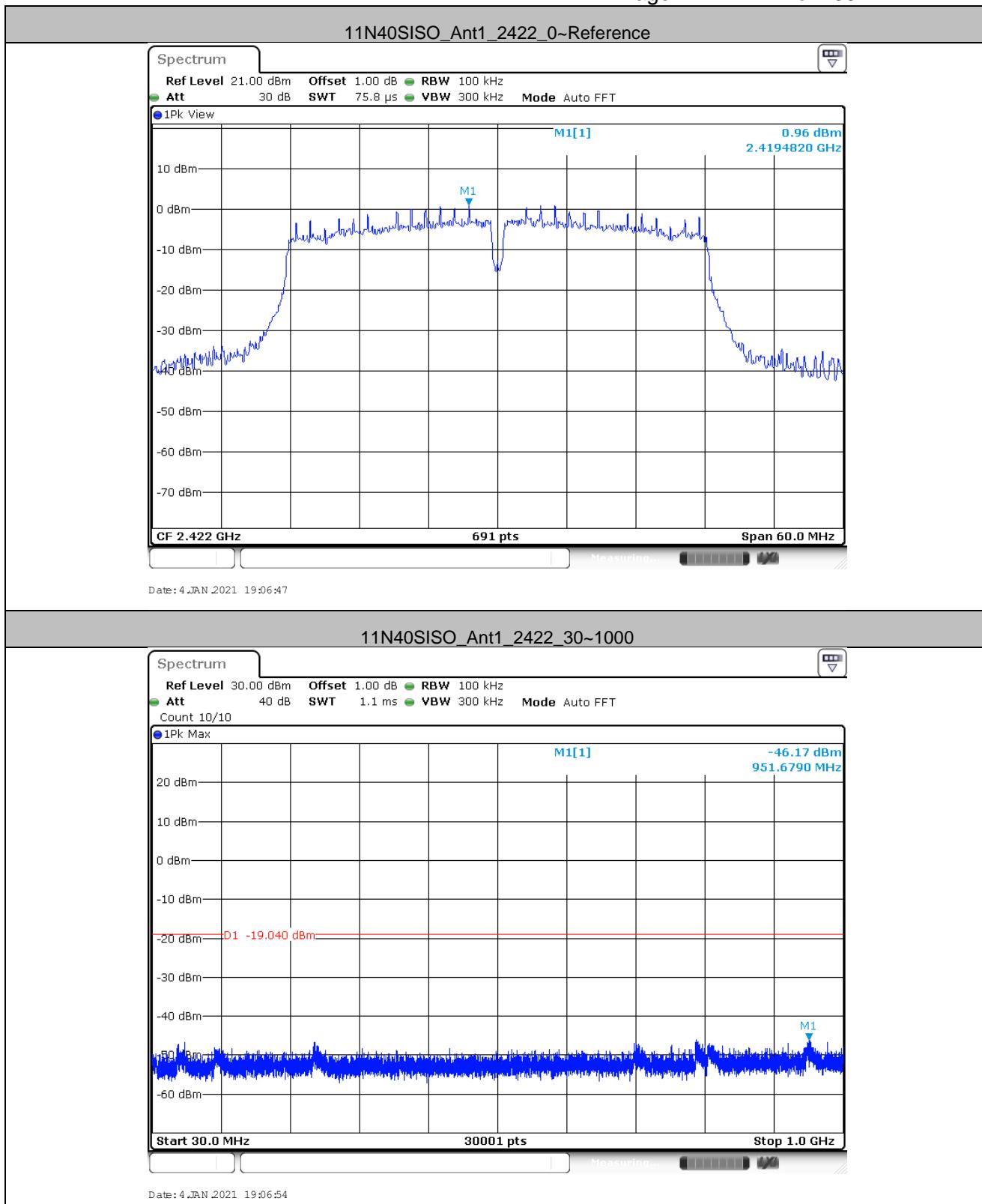
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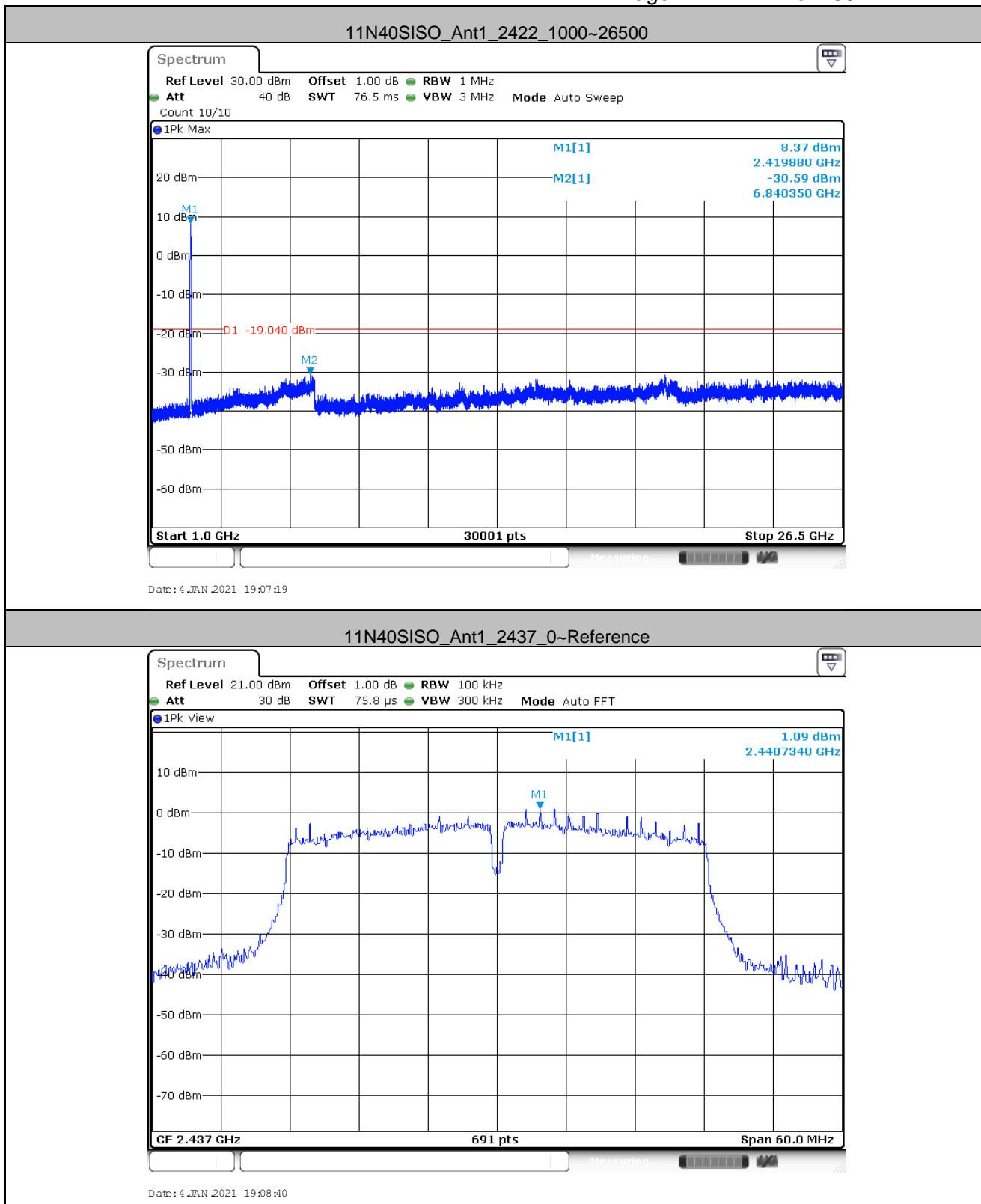
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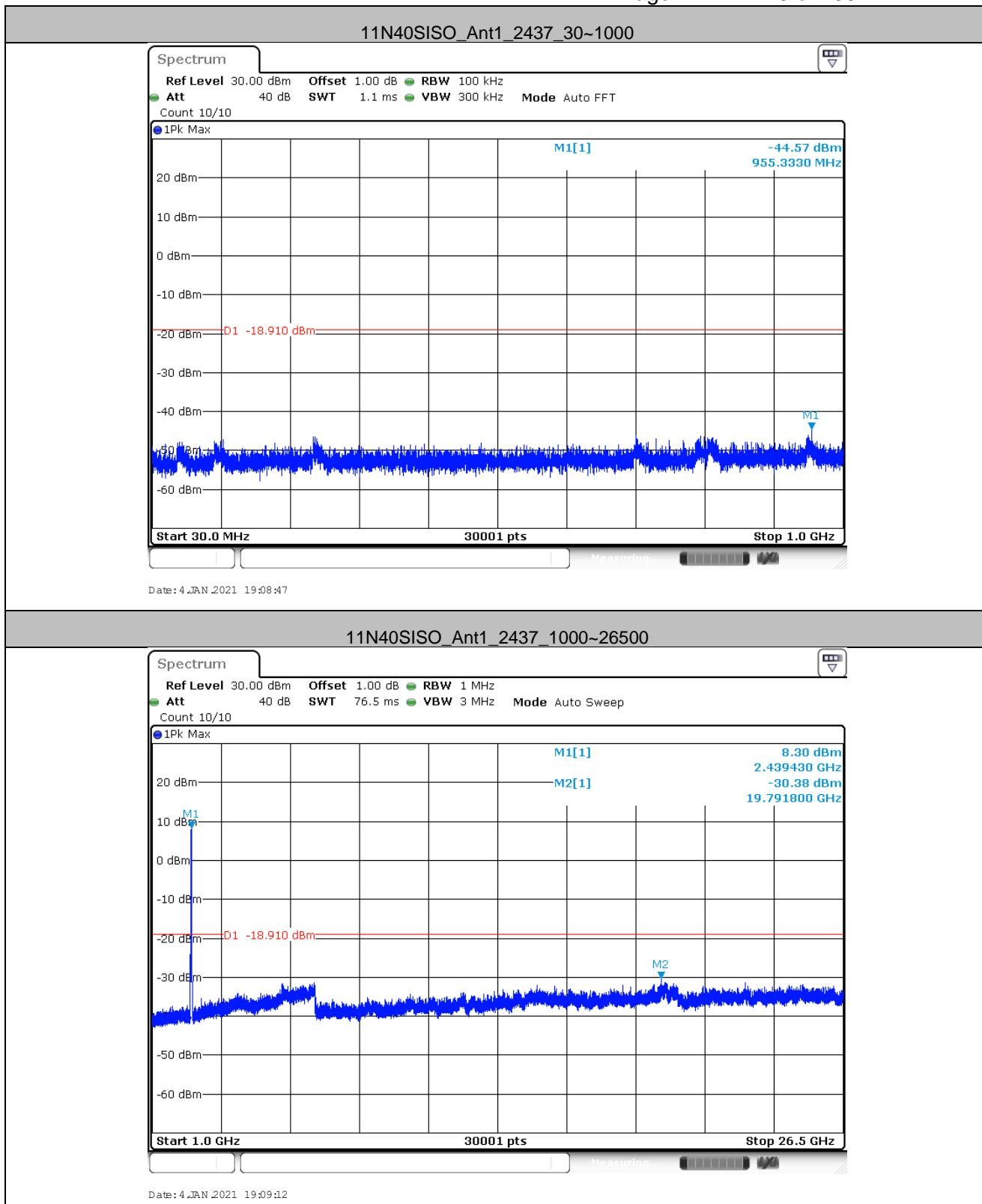
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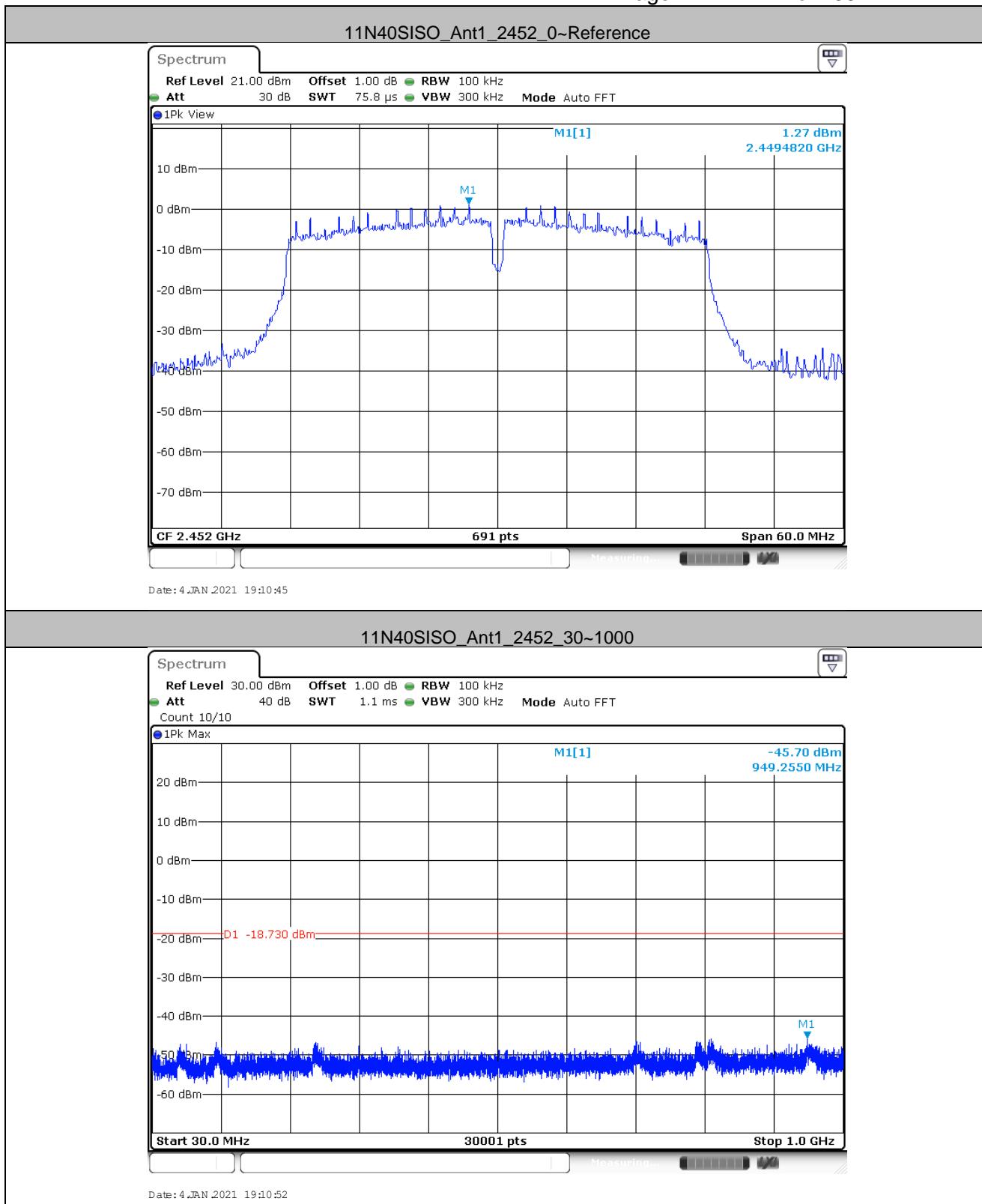
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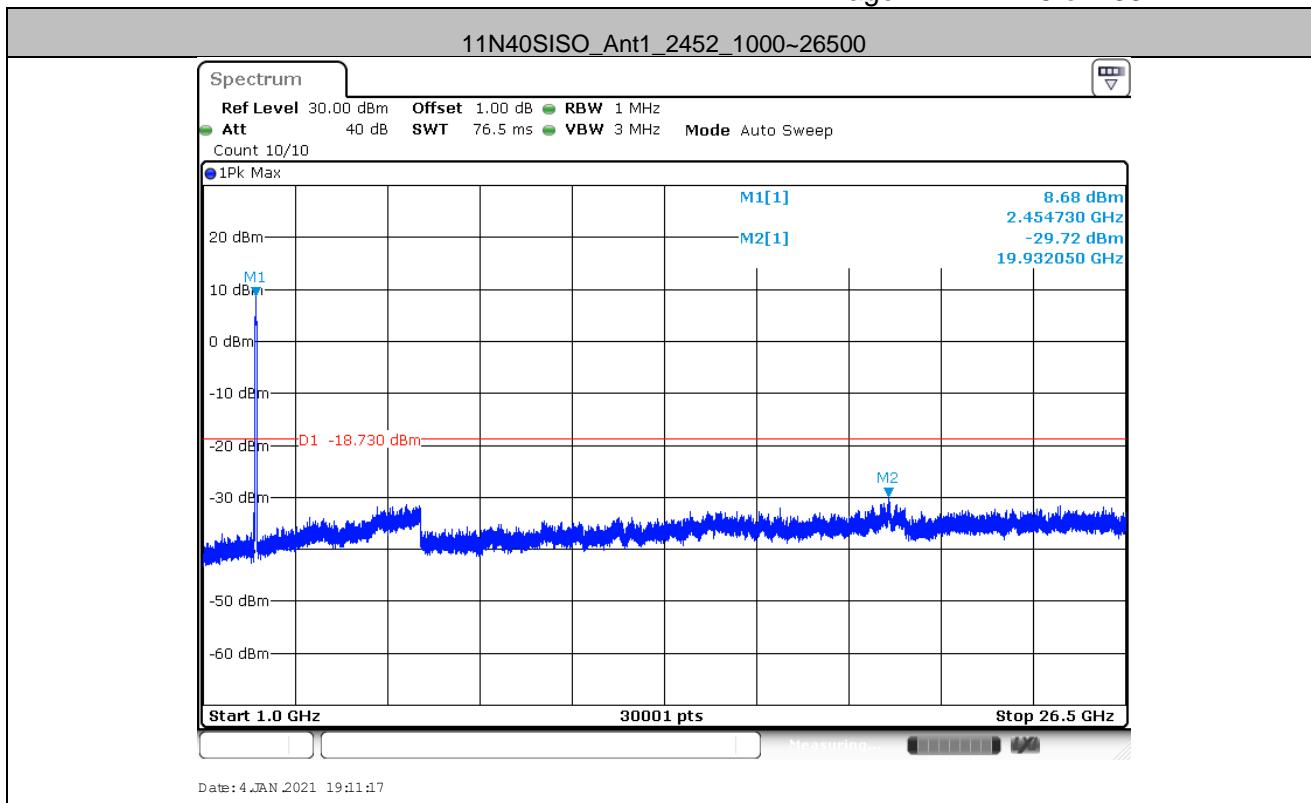
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Report No.: AR/2020/C000804  
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TestMode	Antenna	Channel	Transmission Duration [ms]	Transmission Period [ms]	Duty Cycle [%]	Limit	Verdict
11B	Ant1	2412	8.35	8.40	99.40	---	PASS
		2437	8.35	8.40	99.40	---	PASS
		2462	8.35	8.40	99.40	---	PASS
11G	Ant1	2412	1.38	1.43	96.50	---	PASS
		2437	1.38	1.43	96.50	---	PASS
		2462	1.38	1.43	96.50	---	PASS
11N20SISO	Ant1	2412	1.29	1.34	96.27	---	PASS
		2437	1.29	1.34	96.27	---	PASS
		2462	1.29	1.34	96.27	---	PASS
11N40SISO	Ant1	2422	0.64	0.69	92.75	---	PASS
		2437	0.64	0.69	92.75	---	PASS
		2452	0.64	0.69	92.75	---	PASS

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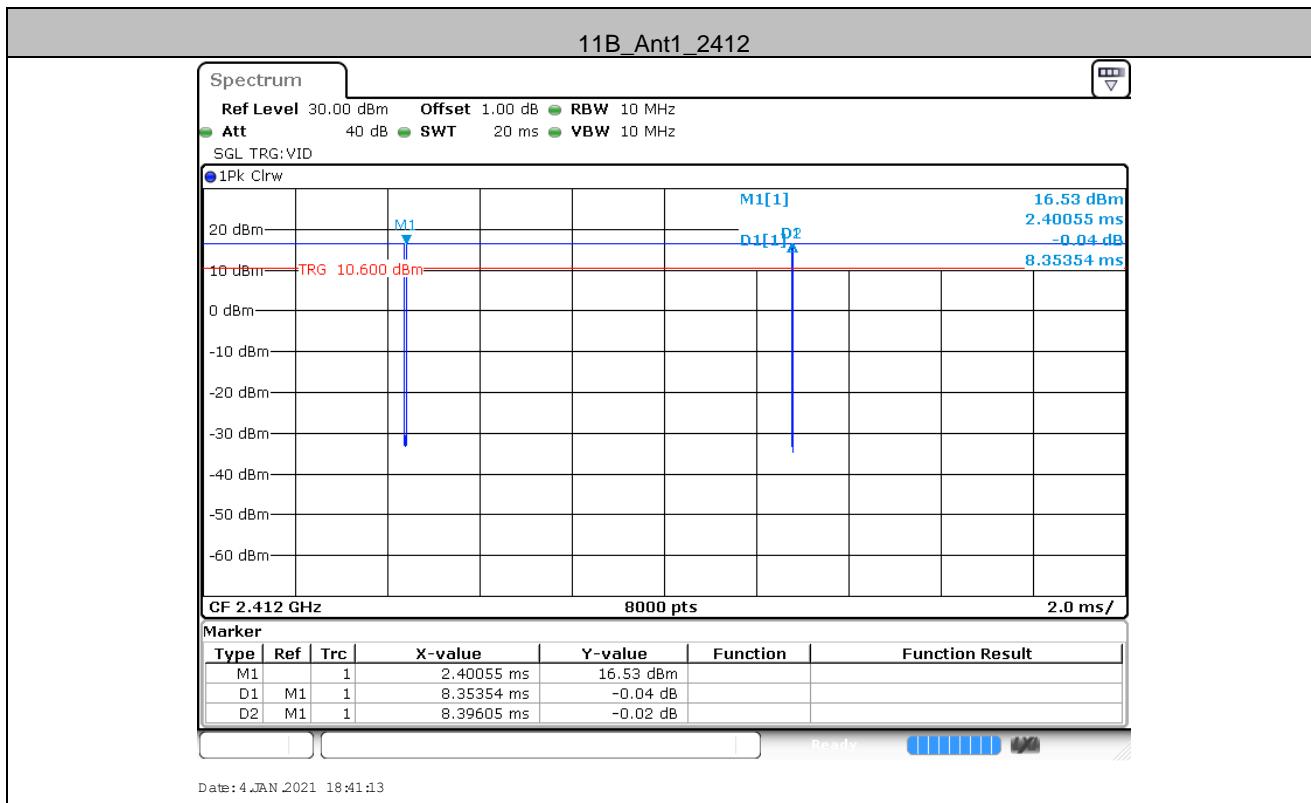


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## Test Graphs



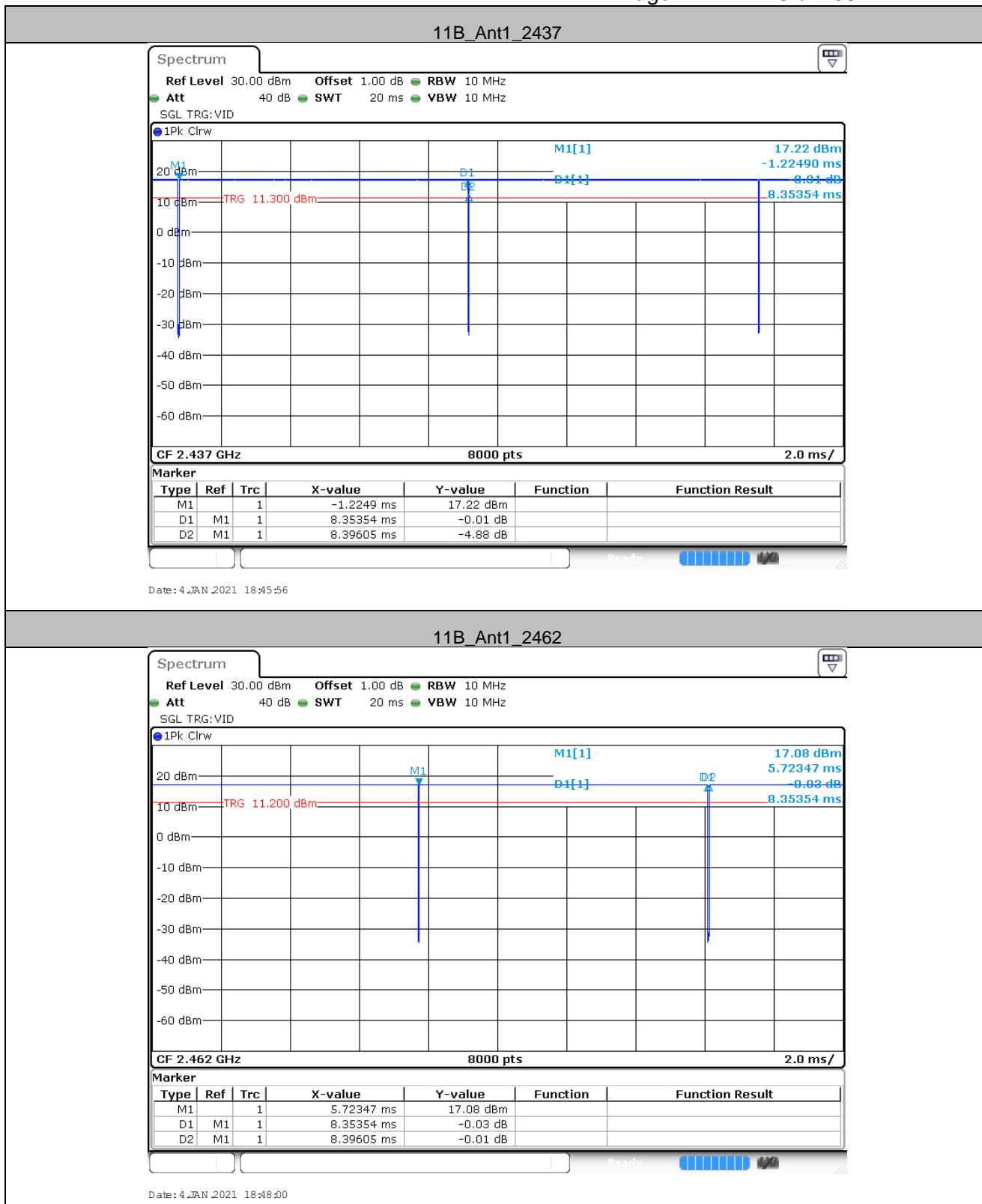
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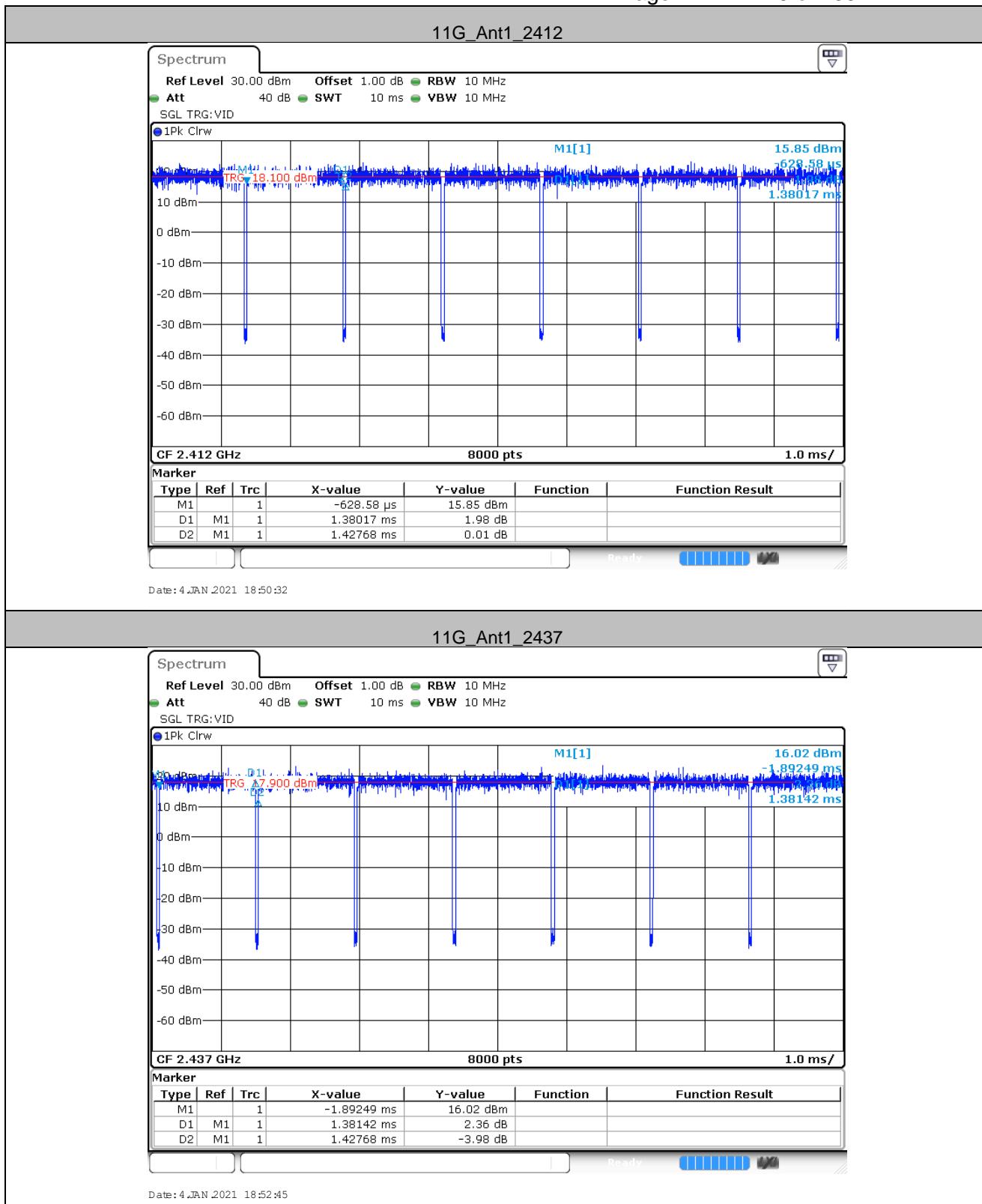
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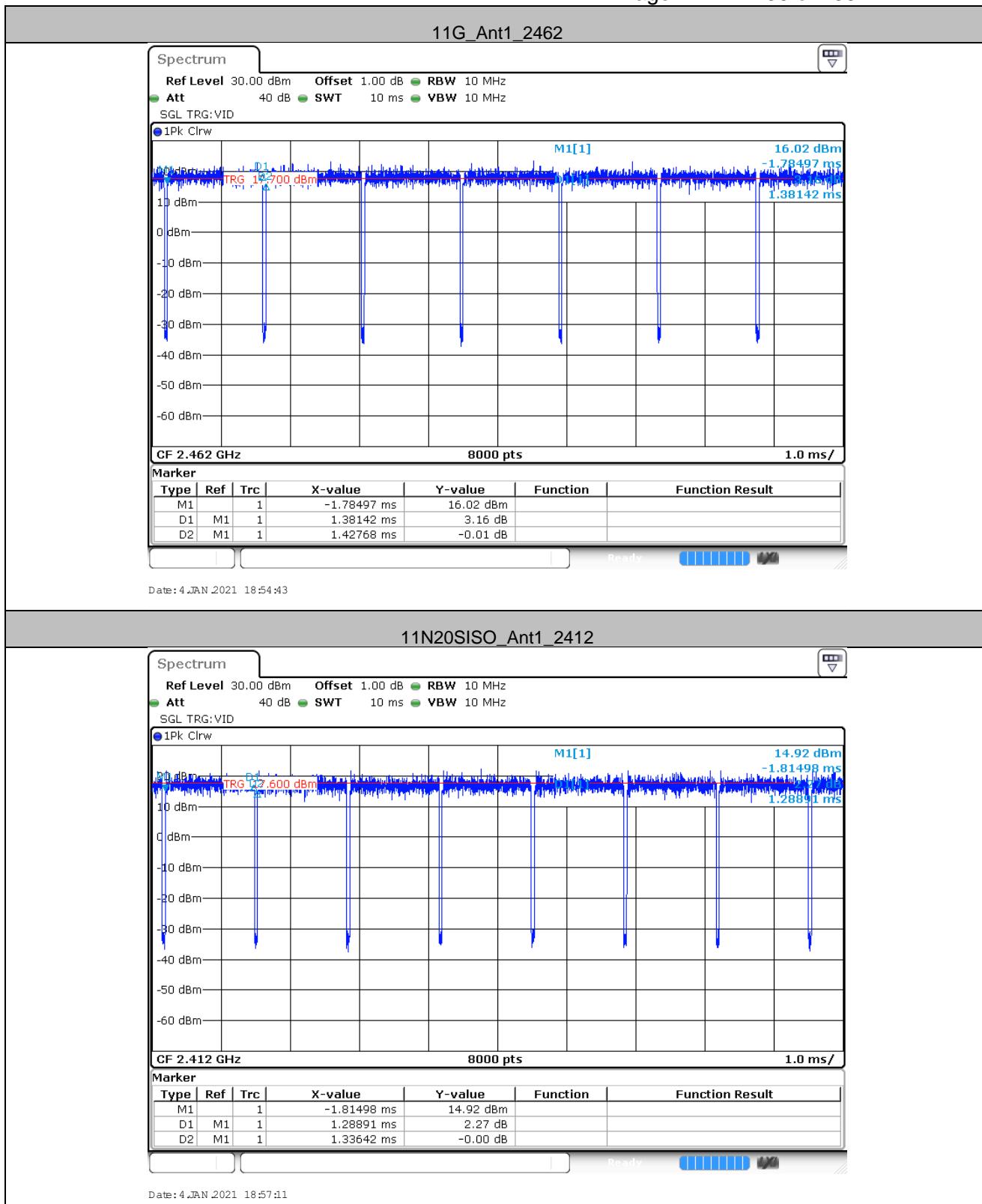
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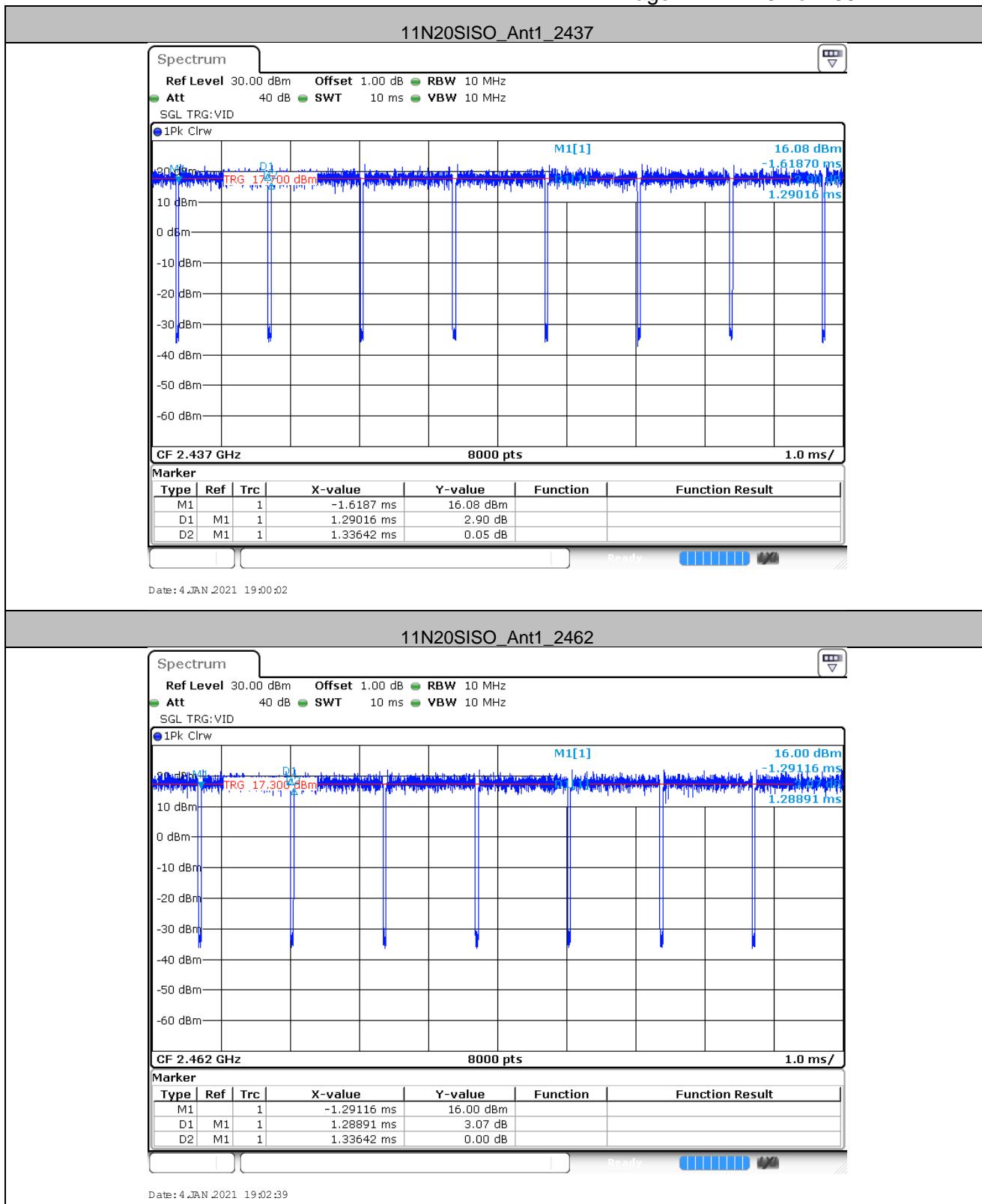
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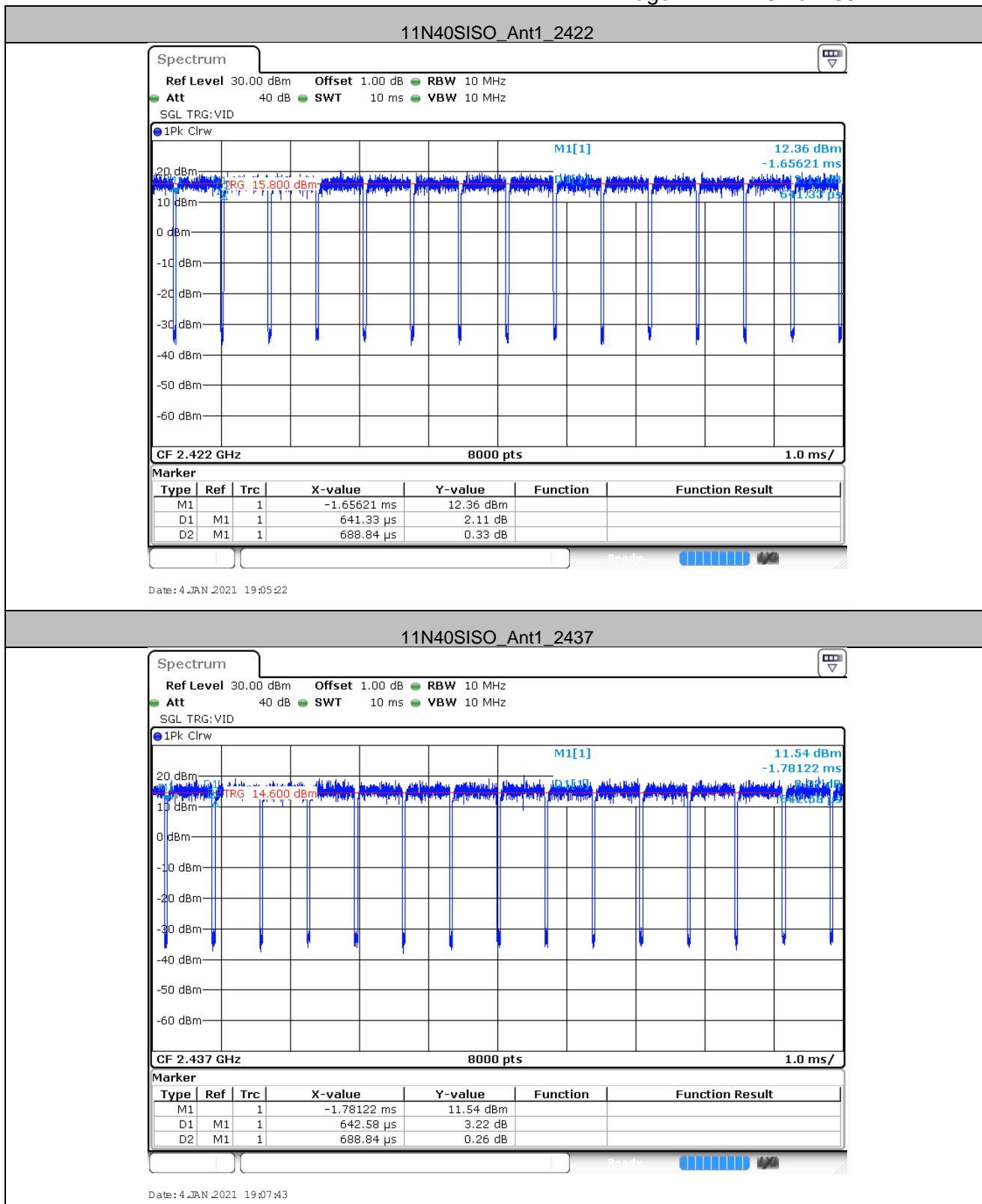
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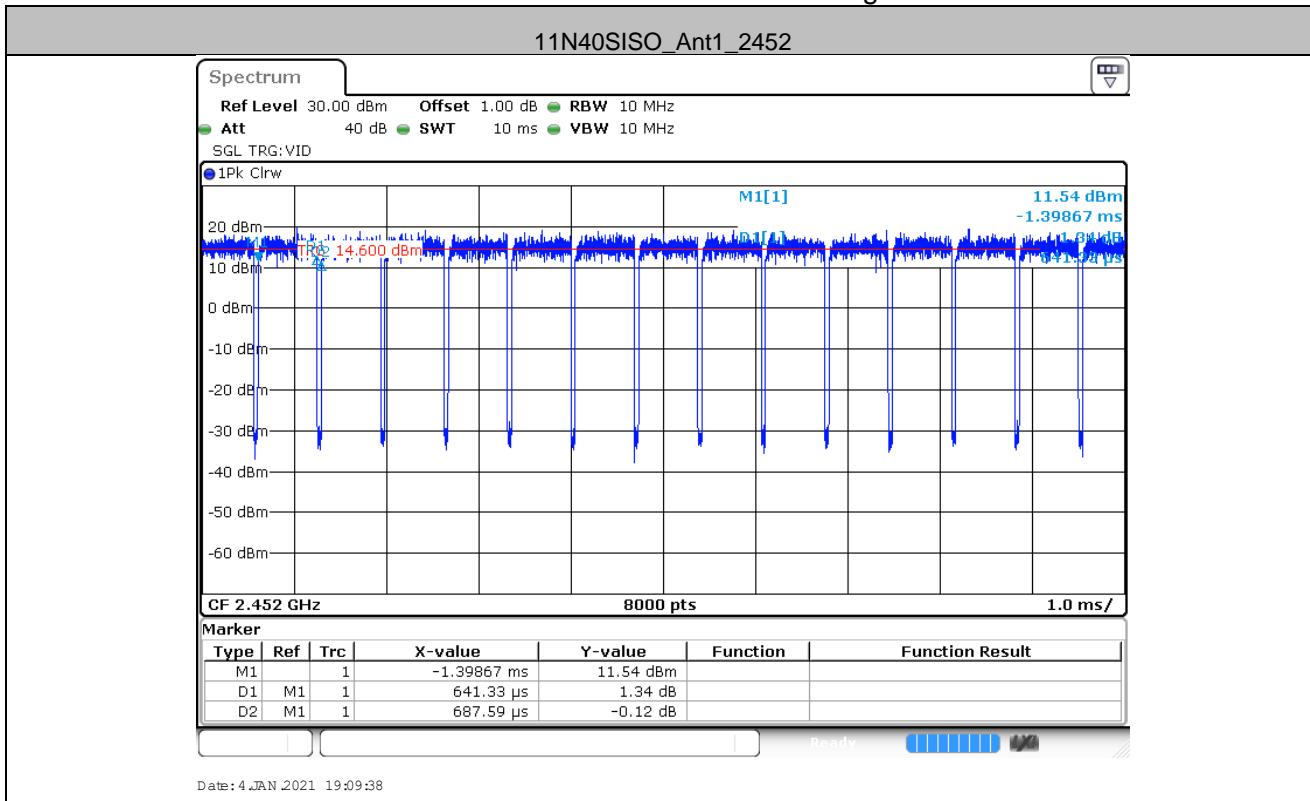
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