

FCC/IC - TEST REPORT

Report Number	: 68.950.22.1143.01	Date of Issue:	2023-03-02
Model / HVIN	: 20-20444		
Product Type	: TV Pro 300		
Applicant	: Teladoc Health		
Address	: 7406 Hollister Ave, Goleta, California, United States, 93117		
Manufacturer	: Teladoc Health		
Address	: 7406 Hollister Ave, Goleta, California, United States, 93117		
Test Result	: ☒ Positive ☐ Negative		
Total pages including Appendices	: 101		

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2 Details about the Test Laboratory

Details about the Test Laboratory

Test Site 1

Company name: TÜV SÜD Certification and Testing (China) Co., Ltd. Shenzhen Branch
Building 12 & 13, Zhiheng Wisdomland Business Park, Guankou Erlu,
Nantou, Nanshan District,
Shenzhen, Guangdong, China

Telephone: 86 755 8828 6998

Fax: 86 755 8828 5299

FCC Registration No.: 514049

FCC Designation Number: CN5009

IC Registration No.: 10320A

3 Description of the Equipment Under Test

Product:	TV Pro 300
Model no.:	20-20444
Hardware Version Identification No. (HVIN)	20-20444
Brand name:	Teladoc Health
FCC ID:	2A9VE2020444
IC:	29989-2020444
Options and accessories:	N/A
Rating:	100-240VAC, 50/60Hz, 2.0A Max
RF Transmission Frequency:	2412MHz-2462MHz for 802.11b/g/n20/n40 (WiFi)
No. of Operated Channel:	11 for 802.11b/g/n20/n40 (WiFi)
Modulation:	DSSS, OFDM
Antenna Type:	Integrated antenna
Antenna 1	-3.49dBi
Antenna 2	-3.49dBi
Description of the EUT:	The Equipment Under Test (EUT) is a TV Pro 300 which support Bluetooth function and Wi-Fi operated at 5GHz and 2.4GHz. Only 2.4GWiFi included in this report.

NOTE 1: The above EUT's information is declared by manufacturer. Please refer to the specifications or user's manual for more detailed description.

4 Summary of Test Standards

Test Standards	
FCC Part 15 Subpart C 10-1-2020 Edition	PART 15 - RADIO FREQUENCY DEVICES Subpart C - Intentional Radiators
RSS-Gen Issue 5 April 2018 + A1 + A2	General Requirements for Compliance of Radio Apparatus
RSS-247 Issue 2 February 2017	Digital Transmission Systems (DTSS), Frequency Hopping Systems (FHSS) and License-Exempt Local Area Network (LE-LAN) Devices

All the test methods were according to KDB 558074 D01 15.247 Meas Guidance v05r02 Measurement Guidance and ANSI C63.10 (2013).

5 Summary of Test Results

Technical Requirements						
FCC Part 15 Subpart C/ RSS-247 Issue 2/RSS-Gen Issue 5						
Test Condition		Pages	Test Site	Test Result		
				Pass	Fail	N/A
§15.207 & RSS-GEN 8.8	Conducted emission AC power port	10	Site 1	☒	☐	☐
§15.247 (b) (1) & RSS-247 5.4(d)	Conducted peak output power	13	Site 1	☒	☐	☐
RSS-247 5.4(d)	Equivalent Isotropic Radiated Power	13	Site 1	☒	☐	☐
§15.247(a)(1) & RSS-247 5.1(b)	20dB bandwidth	---	---	☐	☐	☒
§15.247(a)(1) & RSS-247 5.1(b)	Carrier frequency separation	---	---	☐	☐	☒
§15.247(a)(1)(iii) & RSS-247 5.1(d)	Number of hopping frequencies	---	---	☐	☐	☒
§15.247(a)(1)(iii) & RSS-247 5.1(d)	Dwell Time	---	---	☐	☐	☒
§15.247(a)(2) & RSS-247 5.2(a) & RSS-GEN 6.7	6dB bandwidth and 99% Occupied Bandwidth	15	Site 1	☒	☐	☐
§15.247(e) & RSS-247 5.2(b)	Power spectral density	24	Site 1	☒	☐	☐
§15.247(d) & RSS-247 5.5	Spurious RF conducted emissions	25	Site 1	☒	☐	☐
§15.247(d) & RSS-247 5.5	Band edge	36	Site 1	☒	☐	☐
§15.247(d) & §15.209 & RSS-247 5.5 & RSS-Gen 6.13	Spurious radiated emissions for transmitter	40	Site 1	☒	☐	☐
§15.203 & RSS-Gen 6.8	Antenna requirement	See note 2		☒	☐	☐

Note 1: N/A=Not Applicable.

Note 2: The EUT uses an external antenna and manufacturer will stick it down with glue, which gain are -3.49dBi and -3.49dBi. In accordance to §15.203 & RSS-Gen 6.8, it is considered sufficiently to comply with the provisions of this section.

6 General Remarks

Remarks

This submittal(s) (test report) is intended for FCC ID: 2A9VE2020444, IC: 29989-2020444, complies with Section 15.207, 15.209, 15.247 of the FCC Part 15, Subpart C rules and RSS-247, RSS-GEN.

SUMMARY:

All tests according to the regulations cited on page 5 were

■ - Performed

□ - **Not** Performed

The Equipment Under Test

■ - **Fulfills** the general approval requirements.

□ - **Does not** fulfill the general approval requirements.

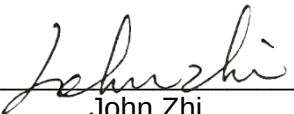
Sample Received Date: 2022-12-20

Testing Start Date: 2022-12-20

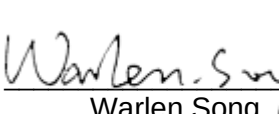
Testing End Date: 2023-02-14

TÜV SÜD Certification and Testing (China) Co., Ltd. Shenzhen Branch

Reviewed by:

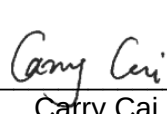

John Zhi
Section Manager

Prepared by:


Warlen Song
Project Engineer

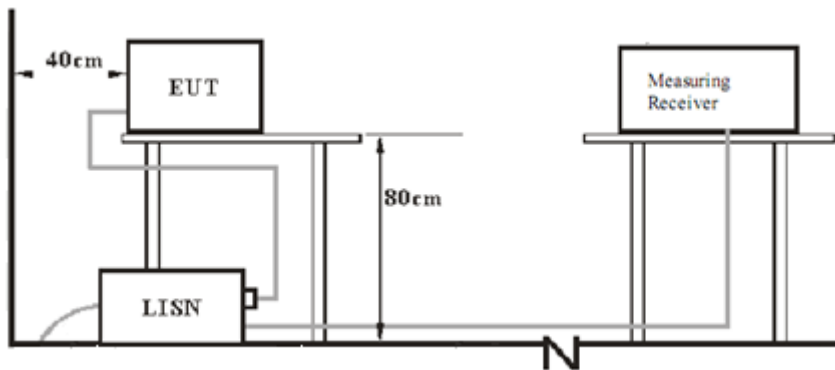


Tested by:

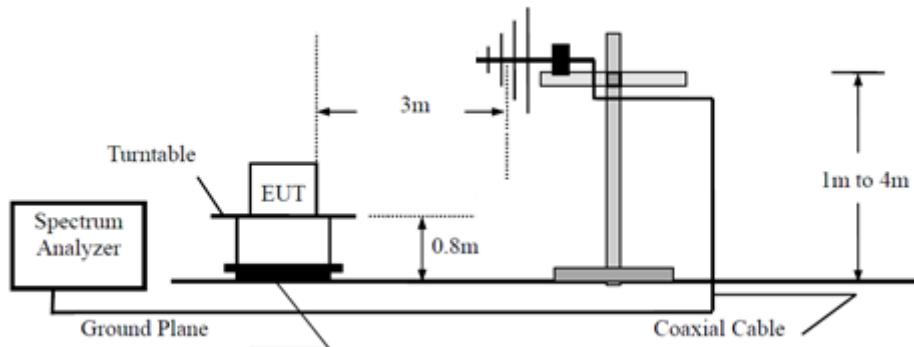

Carry Cai
Test Engineer

7 Test Setups

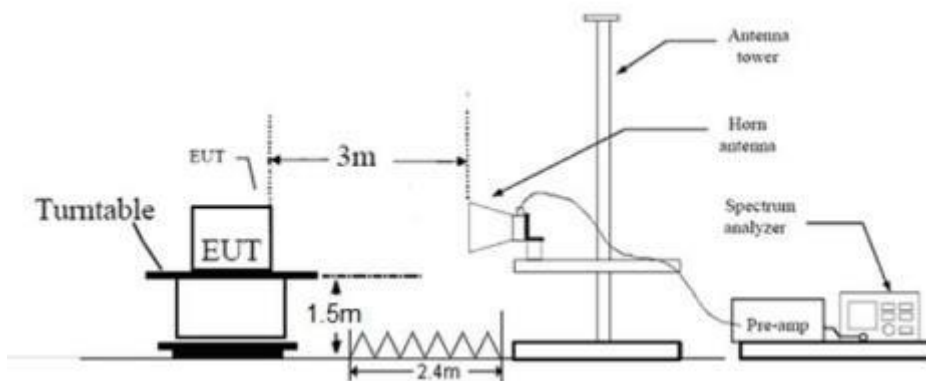
7.1 AC Power Line Conducted Emission test setups



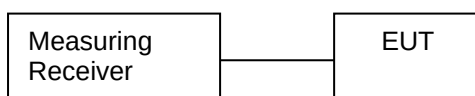
7.2 Radiated test setups Below 1GHz



Above 1GHz



7.3 Conducted RF test setups



8 Systems Test Configuration

Auxiliary Equipment Used during Test:

Description	Manufacturer	Model NO.	S/N
Display	LENOVO	---	---

Cables Used During Test:

Cable	Length	Shielded/unshielded	With / without ferrite
HDMI Cable	1.0m	Unshielded	Without ferrite

The system was configured to non-hopping mode.

Non-hopping mode: The system was configured to operate at a signal channel transmitting. The test software allows the configuration and operation at the worst-case duty and the highest transmit power.

Through pre-scan all kind of modulation and all kind of rates, find the 1Mbps of rate is the worst case of 802.11b; the 6Mbps of rate is the worst case of 802.11g; the 6.5Mbps of rate is the worst case of 802.11n20 and 802.11n40, only the worst case transmitter rate data mode is recorded in the report.

9 Technical Requirement

9.1 Conducted Emission

Test Method

1. The EUT was placed 0.4 meter from the conducting wall of the shielding room was kept at least 80 centimeters from any other grounded conducting surface.
2. Connect EUT to the power mains through a line impedance stabilization network (LISN).
3. All the support units are connecting to the other LISN.
4. The LISN provides 50 ohm coupling impedance for the measuring instrument.
5. Both sides of AC line were checked for maximum conducted interference.
6. The frequency range from 150 kHz to 30 MHz was searched.
7. Set the test-receiver system to Peak Detect Function and specified bandwidth (IF Bandwidth = 9kHz) with Maximum Hold Mode. Then measurement is also conducted by Average Detector and Quasi-Peak Detector Function respectively.

Limit

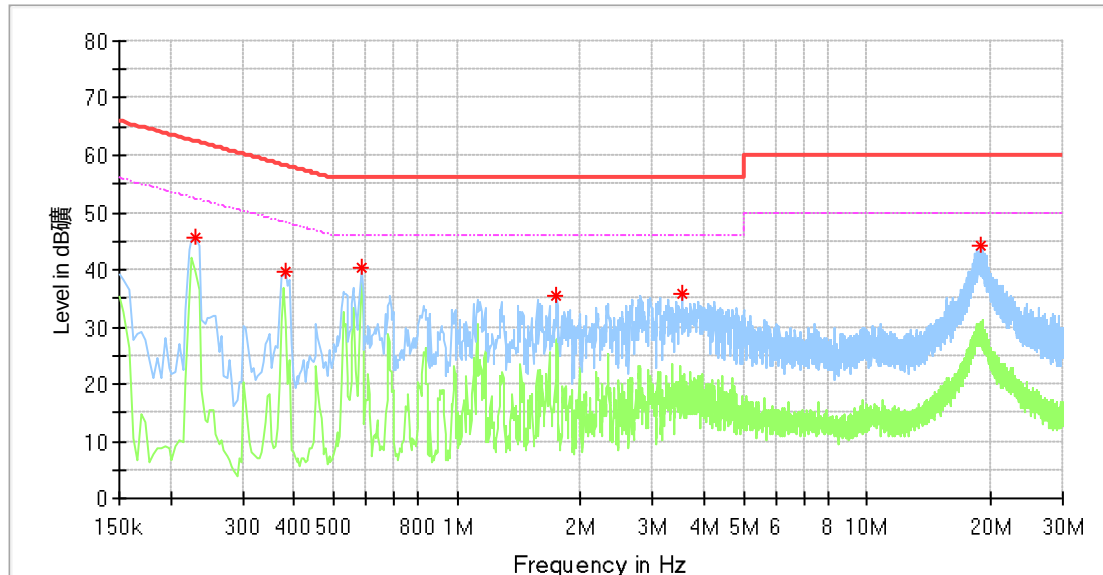
According to §15.207 & RSS-GEN 8.8, Conducted emissions limit as below:

Frequency MHz	QP Limit dB μ V	AV Limit dB μ V
0.150-0.500	66-56*	56-46*
0.500-5	56	46
5-30	60	50

Decreasing linearly with logarithm of the frequency

Conducted Emission

Product Type : TV Pro 300
 M/N : 20-20444
 Operating Condition : Transmit
 Test Specification : Line
 Comment : AC 120V/60Hz



Frequency (MHz)	Max Peak (dBμV)	Average (dBμV)	Limit (dBμV)	Margin (dB)	Line	Corr. (dB)
0.230000	45.71	---	62.45	16.74	L1	10.33
0.382000	39.71	---	58.24	18.53	L1	10.35
0.586000	40.49	---	56.00	15.51	L1	10.36
1.750000	35.51	---	56.00	20.49	L1	10.40
3.534000	35.79	---	56.00	20.21	L1	10.49
18.870000	44.24	---	60.00	15.76	L1	11.20

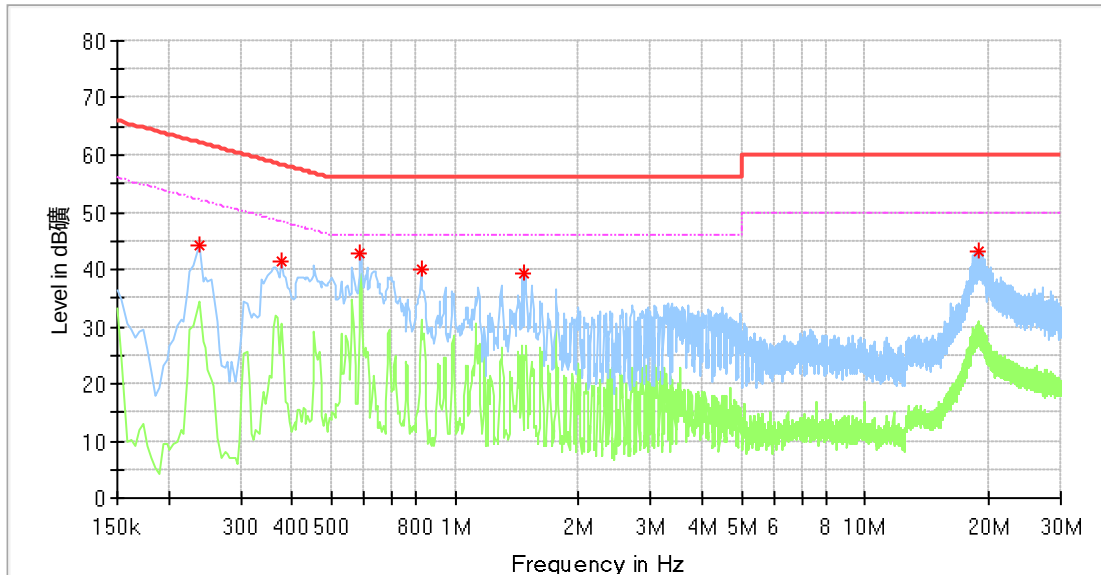
Remark:

Max Peak= Read level + Corrector factor

Correct factor=cable loss + LISN factor

Conducted Emission

Product Type : TV Pro 300
 M/N : 20-20444
 Operating Condition : Transmit
 Test Specification : Neutral
 Comment : AC 120V/60Hz



Frequency (MHz)	Max Peak (dBμV)	Average (dBμV)	Limit (dBμV)	Margin (dB)	Line	Corr. (dB)
0.238000	44.19	---	62.17	17.98	N	10.40
0.378000	41.30	---	58.32	17.03	N	10.44
0.586000	42.88	---	56.00	13.12	N	10.48
0.826000	40.11	---	56.00	15.89	N	10.50
1.478000	39.40	---	56.00	16.60	N	10.52
18.858000	43.28	---	60.00	16.72	N	11.47

Remark:

Max Peak= Read level + Corrector factor

Correct factor=cable loss + LISN factor

9.2 Conducted Peak Output Power & EIRP

Test Method

1. The RF output of EUT was connected to the test receiver by RF cable. The path loss was compensated to the results for each measurement.
2. Set to the maximum power setting and enable the EUT transmit continuously
3. Use the following test receiver settings:
Span = approximately 5 times the 20dB bandwidth, centered on a hopping channel
RBW > the 20dB bandwidth of the emission being measured, VBW ≥ RBW,
Sweep = auto, Detector function = peak, Trace = max hold
4. Allow the trace to stabilize. Use the marker-to-peak function to set the marker to the peak of the emission. The indicated level is the peak output power and record the results in the test report.
5. Repeat above procedures until all frequencies measured were complete.

Limits

According to §15.247 (b) (1) & RSS-247 5.4(d), conducted peak output power limit as below:

Frequency Range MHz	Limit W	Limit dBm
2400-2483.5	≤1	≤30

According to & RSS-247 5.4(d), EIRP limit as below:

Frequency Range MHz	Limit W	Limit dBm
2400-2483.5	≤4	≤36

Test result as below table

802.11b SISO modulation Test Result

Frequency (MHz)	Conducted Peak Output Power (dBm)		Antenna Gain (dBi)		EIRP (dBm)		Result
	Ant 1	Ant 2	Ant 1	Ant 2	Ant 1	Ant 2	
Low channel 2412MHz	14.3	15.2	-3.49	-3.49	10.81	11.71	Pass
Middle channel 2437MHz	14.9	15.4	-3.49	-3.49	11.41	11.91	Pass
High channel 2462MHz	14.9	15.5	-3.49	-3.49	11.41	12.01	Pass

802.11g_SISO modulation Test Result

Frequency (MHz)	Conducted Peak Output Power (dBm)		Antenna Gain (dBi)		EIRP (dBm)		Result
	Ant 1	Ant 2	Ant 1	Ant 2	Ant 1	Ant 2	
Low channel 2412MHz	15.0	14.8	-3.49	-3.49	11.51	11.31	Pass
Middle channel 2437MHz	15.5	15.9	-3.49	-3.49	12.01	12.41	Pass
High channel 2462MHz	15.5	15.8	-3.49	-3.49	12.01	12.31	Pass

802.11n20_MIMO modulation Test Result

Frequency (MHz)	Conducted Peak Output Power (dBm)			Antenna Gain (dBi)		EIRP (dBm)			Result
	Ant 1	Ant 2	SUM	Ant 1	Ant 2	Ant 1	Ant 2	SUM	
Low channel 2412MHz	14.8	15.2	18.0	-3.49	-3.49	11.31	11.71	14.51	Pass
Middle channel 2437MHz	15.1	15.8	18.5	-3.49	-3.49	11.61	12.31	15.01	Pass
High channel 2462MHz	15.0	15.7	18.4	-3.49	-3.49	11.51	12.21	14.91	Pass

802.11n40_MIMO modulation Test Result

Frequency (MHz)	Conducted Peak Output Power (dBm)			Antenna Gain (dBi)		EIRP (dBm)			Result
	Ant 1	Ant 2	SUM	Ant 1	Ant 2	Ant 1	Ant 2	SUM	
Low channel 2422MHz	15.2	15.3	18.3	-3.49	-3.49	11.71	11.81	14.81	Pass
Middle channel 2437MHz	15.7	16.2	18.9	-3.49	-3.49	12.21	12.71	15.41	Pass
High channel 2452MHz	15.7	15.3	18.5	-3.49	-3.49	12.21	11.81	15.01	Pass

$$\text{Power}^{\text{SUM}} = 10 * \log(10^{(\text{Power}^{\text{Ant0}}/10)} + 10^{(\text{Power}^{\text{Ant1}}/10)})$$

9.3 6dB Bandwidth and 99% Occupied Bandwidth

Test Method for 6 dB Bandwidth

1. Use the following spectrum analyzer settings:
RBW=100K, VBW $\geq$ 3RBW, Sweep = auto, Detector function = peak, Trace = max hold
2. Use the automatic bandwidth measurement capability of an instrument, may be employed using the X dB bandwidth mode with X set to 6 dB, care shall be taken so that the bandwidth measurement is not influenced by any intermediate power nulls in the fundamental emission that might be $\geq$ 6 dB.
3. Allow the trace to stabilize, record the X dB Bandwidth value.

Test Method for 99 % Bandwidth

1. Use the following spectrum analyzer settings:
RBW=1% to 5% of the actual occupied, VBW $\geq$ 3RBW, Sweep = auto, Detector function = peak, Trace = max hold
2. Use the automatic bandwidth measurement capability of an instrument, care shall be taken so that the bandwidth measurement is not influenced by any intermediate power nulls in the fundamental emission that might be $\geq$ 6 dB.
3. Allow the trace to stabilize, record the X dB Bandwidth value.

Limit

Limit [kHz]

≥ 500

802.11b modulation Test Result

Frequency (MHz)	Antenna	6dB bandwidth (MHz)	99% bandwidth (MHz)	Limit (MHz)	Result
Low channel 2412MHz	Ant0	10.160	13.387	0.5	Pass
Middle channel 2437MHz	Ant0	10.160	13.467	0.5	Pass
High channel 2462MHz	Ant0	10.160	13.427	0.5	Pass

Frequency (MHz)	Antenna	6dB bandwidth (MHz)	99% bandwidth (MHz)	Limit (MHz)	Result
Low channel 2412MHz	Ant1	10.160	13.427	0.5	Pass
Middle channel 2437MHz	Ant1	10.160	13.467	0.5	Pass
High channel 2462MHz	Ant1	10.160	13.467	0.5	Pass

802.11g modulation Test Result

Frequency (MHz)	Antenna	6dB bandwidth (MHz)	99% bandwidth (MHz)	Limit (MHz)	Result
Low channel 2412MHz	Ant0	15.200	17.423	0.5	Pass
Middle channel 2437MHz	Ant0	15.200	17.502	0.5	Pass
High channel 2462MHz	Ant0	15.200	17.423	0.5	Pass

Frequency (MHz)	Antenna	6dB bandwidth (MHz)	99% bandwidth (MHz)	Limit (MHz)	Result
Low channel 2412MHz	Ant1	15.200	17.383	0.5	Pass
Middle channel 2437MHz	Ant1	15.200	17.502	0.5	Pass
High channel 2462MHz	Ant1	15.200	17.463	0.5	Pass

802.11n-HT20 modulation Test Result

Frequency (MHz)	Antenna	6dB bandwidth (MHz)	99% bandwidth (MHz)	Limit (MHz)	Result
Low channel 2412MHz	Ant0	15.200	18.342	0.5	Pass
Middle channel 2437MHz	Ant0	15.200	18.342	0.5	Pass
High channel 2462MHz	Ant0	15.200	18.342	0.5	Pass

Frequency (MHz)	Antenna	6dB bandwidth (MHz)	99% bandwidth (MHz)	Limit (MHz)	Result
Low channel 2412MHz	Ant1	15.200	18.342	0.5	Pass
Middle channel 2437MHz	Ant1	15.200	18.422	0.5	Pass
High channel 2462MHz	Ant1	15.200	18.302	0.5	Pass

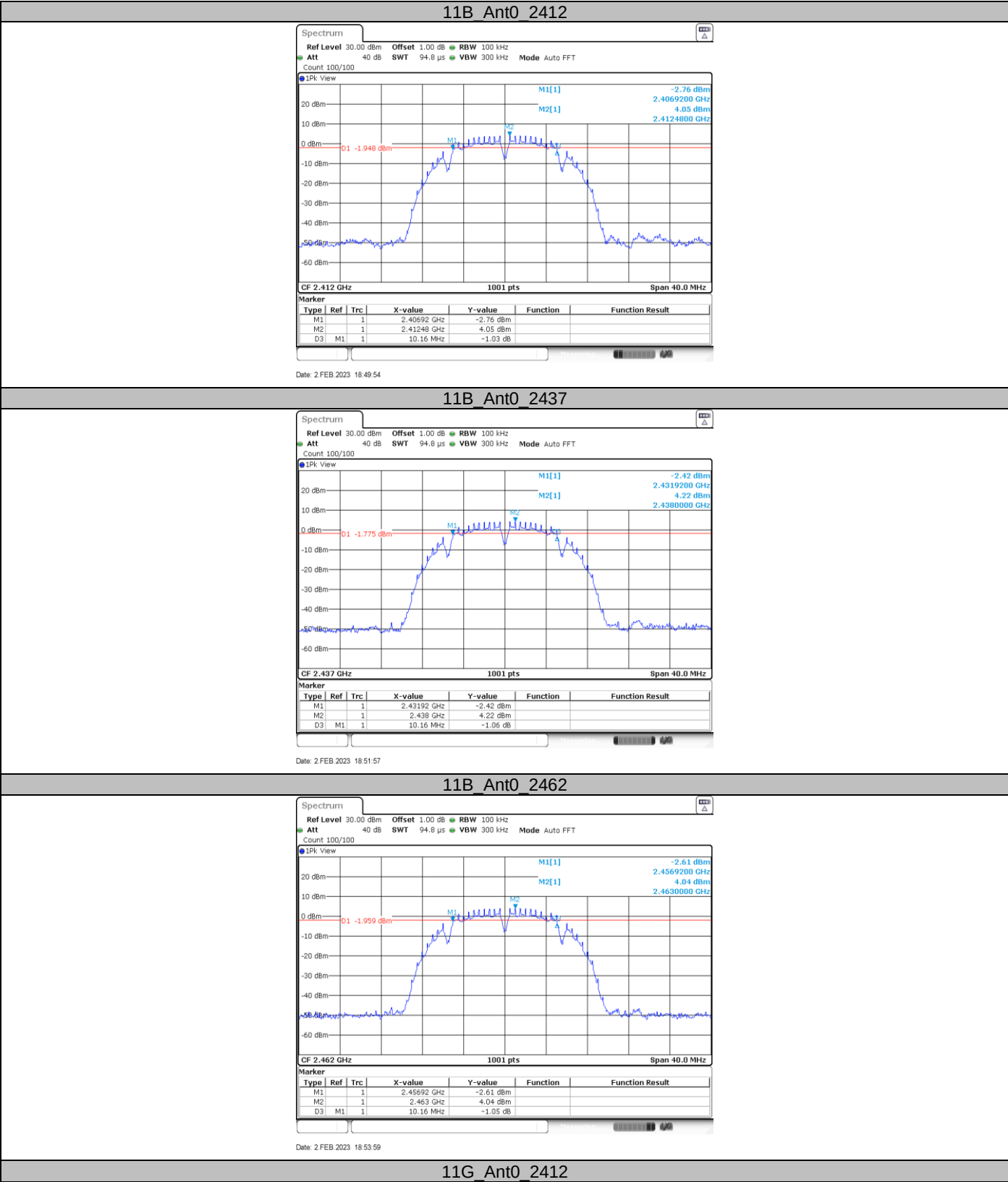
802.11n-HT40 modulation Test Result

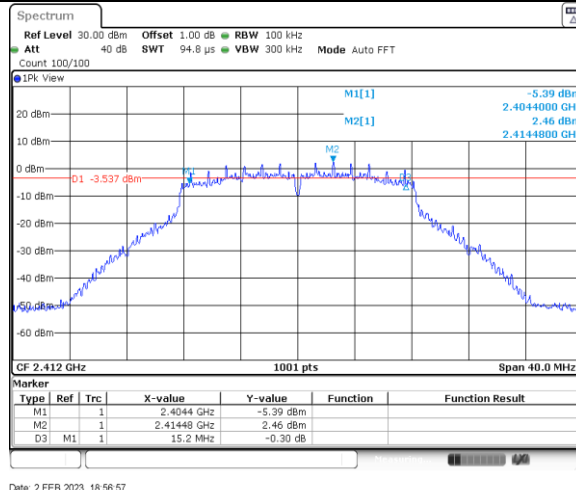
Frequency (MHz)	Antenna	6dB bandwidth (MHz)	99% bandwidth (MHz)	Limit (MHz)	Result
Low channel 2412MHz	Ant0	35.280	36.124	0.5	Pass
Middle channel 2437MHz	Ant0	35.280	36.284	0.5	Pass
High channel 2462MHz	Ant0	35.280	36.284	0.5	Pass

Frequency (MHz)	Antenna	6dB bandwidth (MHz)	99% bandwidth (MHz)	Limit (MHz)	Result
Low channel 2412MHz	Ant1	35.280	36.204	0.5	Pass
Middle channel 2437MHz	Ant1	35.280	36.284	0.5	Pass
High channel 2462MHz	Ant1	35.280	36.204	0.5	Pass

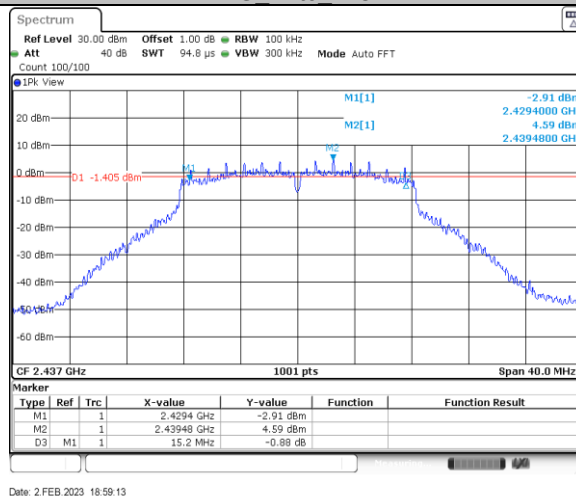


6 dB Bandwidth

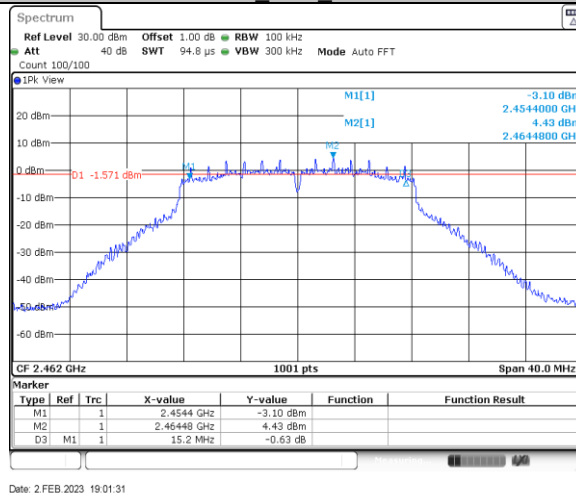




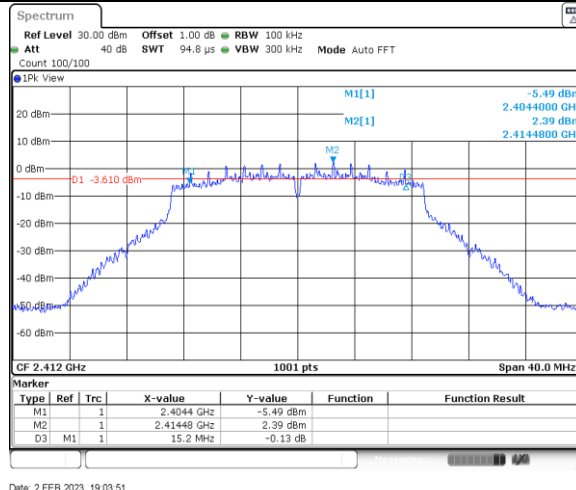
11G Ant0 2437



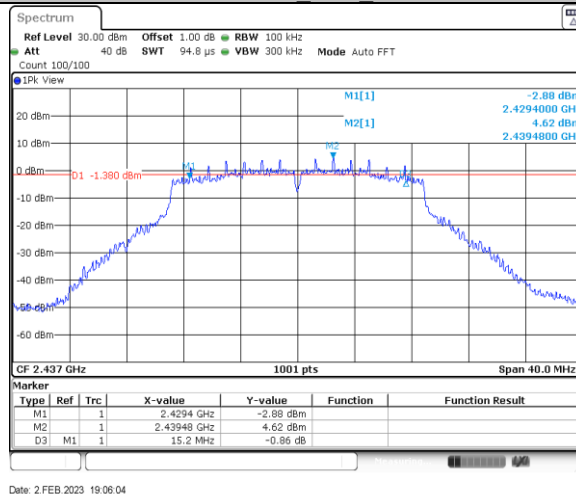
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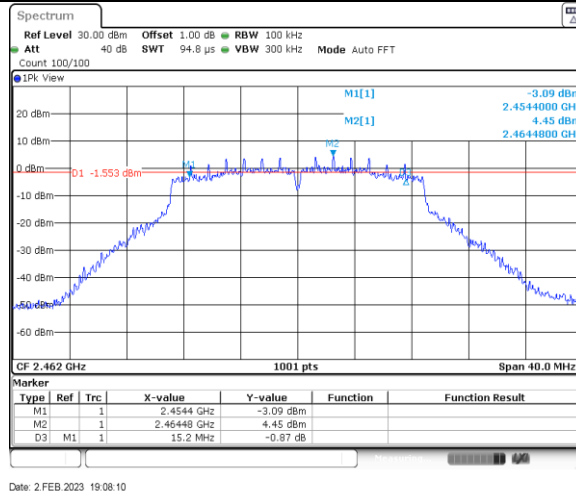
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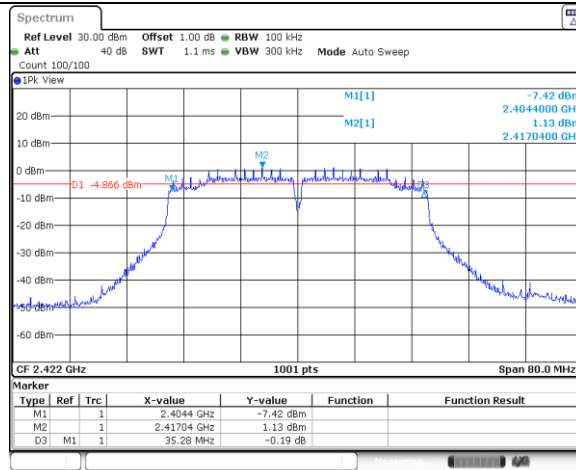
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11N20SISO Ant0 2462

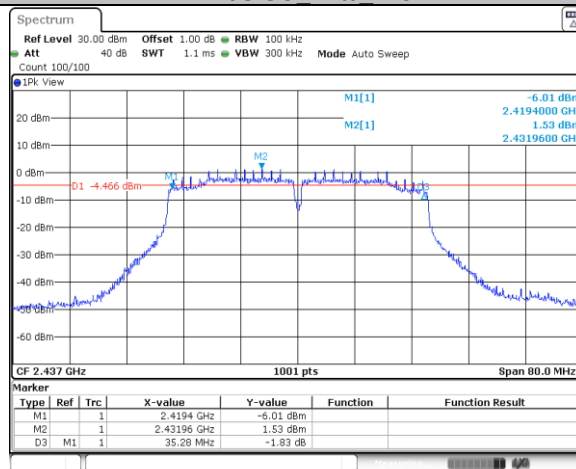


11N40SISO Ant0 2422



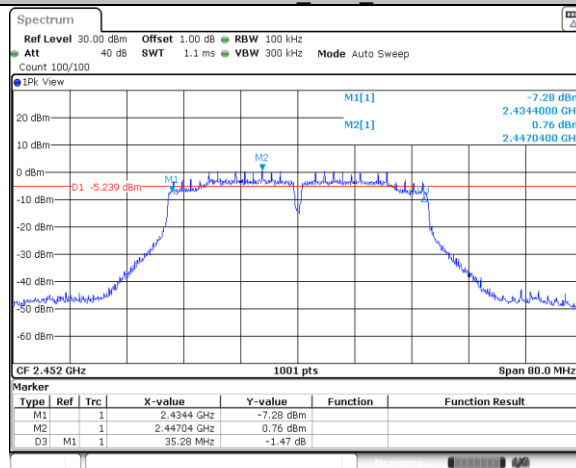
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11N40SISO Ant0 2437



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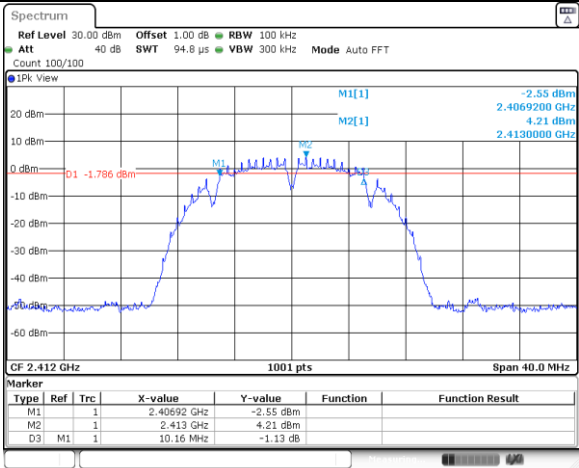
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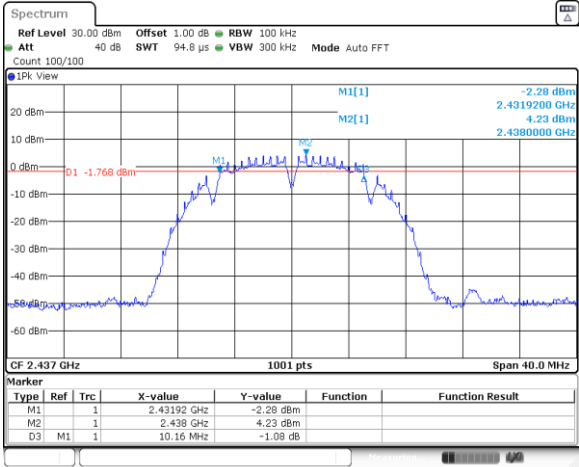


11B_Ant1_2412



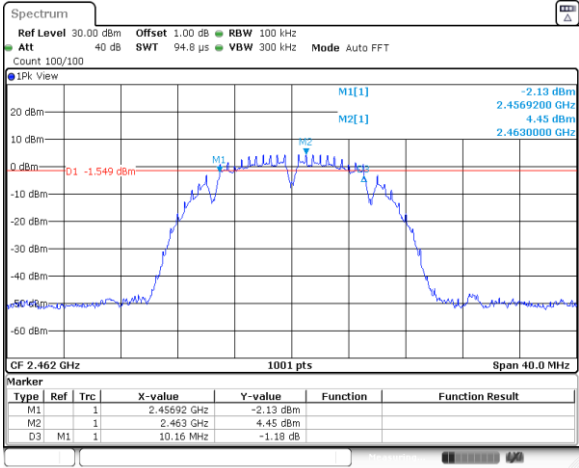
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11B_Ant1_2437



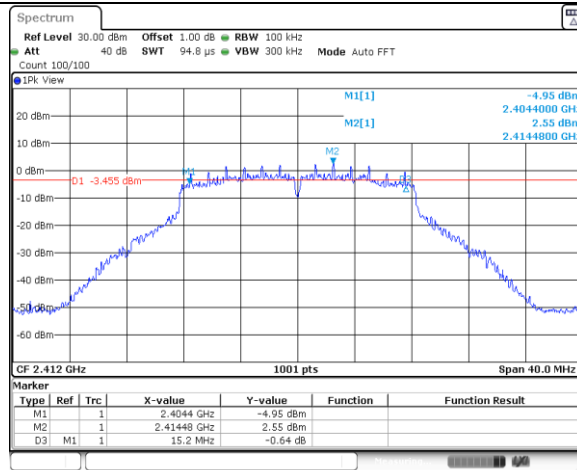
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11B_Ant1_2462

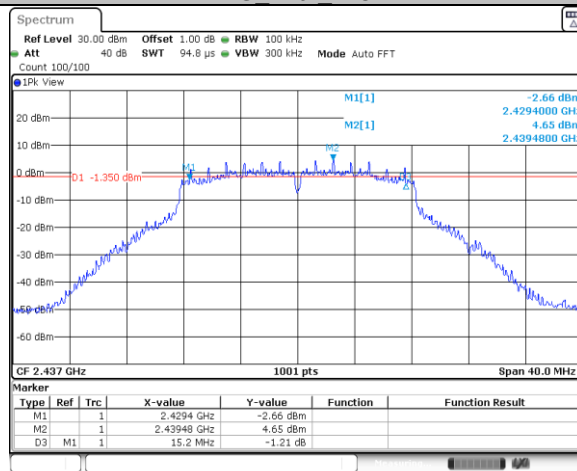


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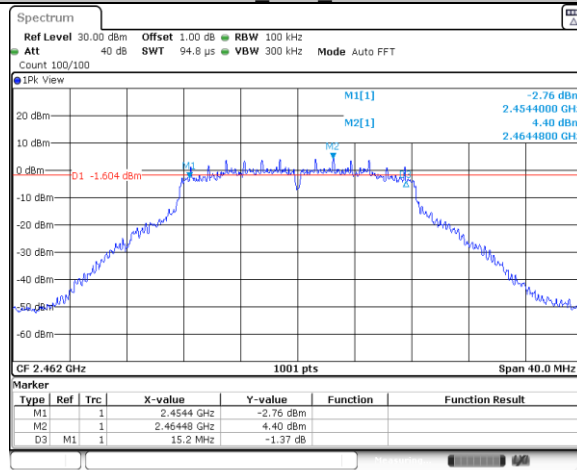
11G_Ant1_2412



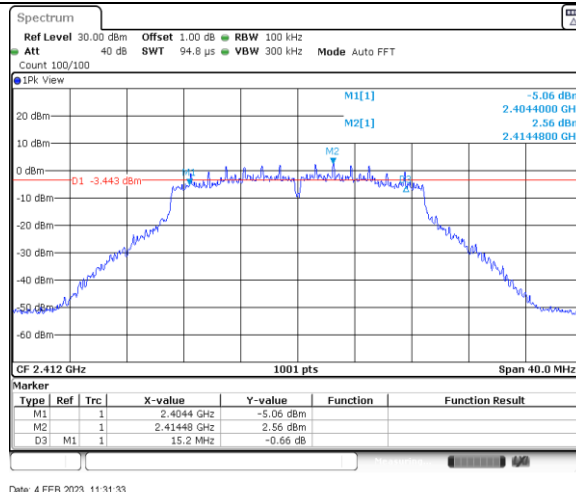
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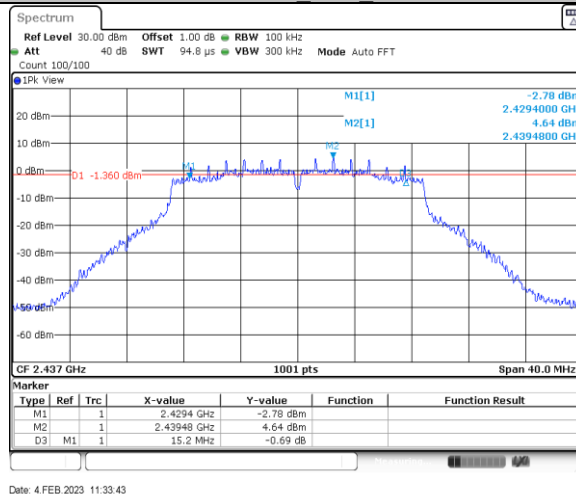
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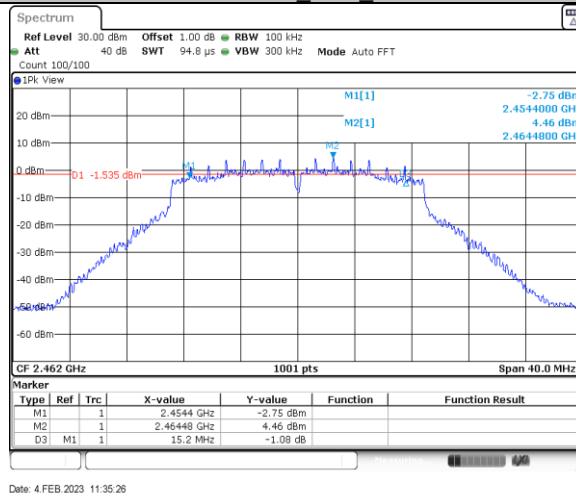
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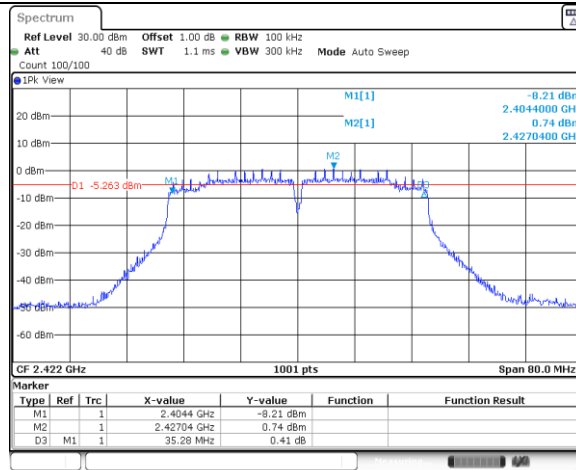
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11N20SISO Ant1 2462

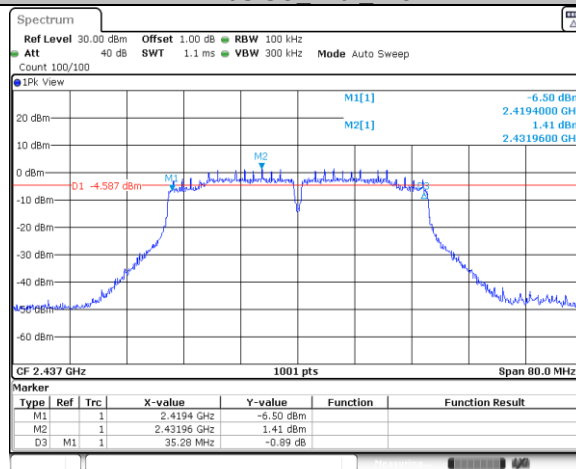


11N40SISO Ant1 2422



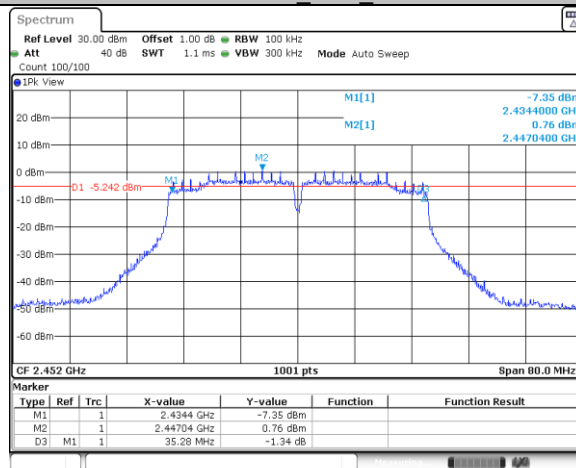
Date: 4 FEB 2023 11:37:28

11N40SISO Ant1 2437

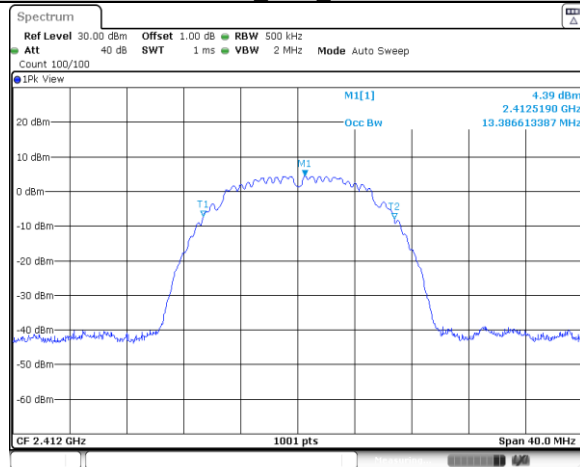


Date: 4 FEB 2023 11:40:38

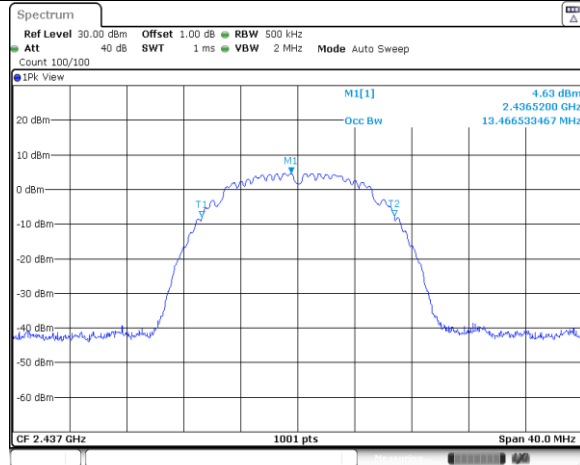
11N40SISO Ant1 2452



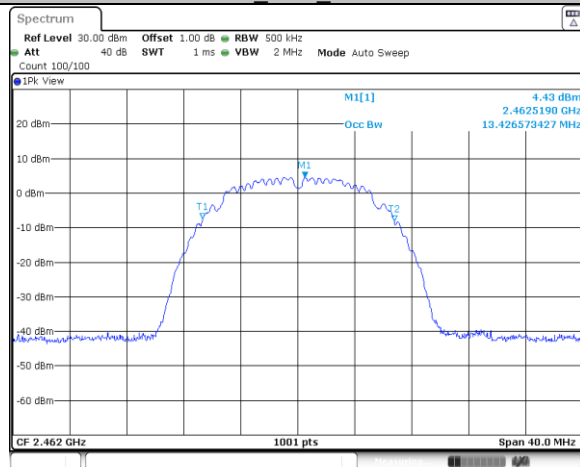
Date: 4 FEB 2023 11:42:45

99% Bandwidth**11B_Ant0_2412**

Date: 2 FEB 2023 18:50:05

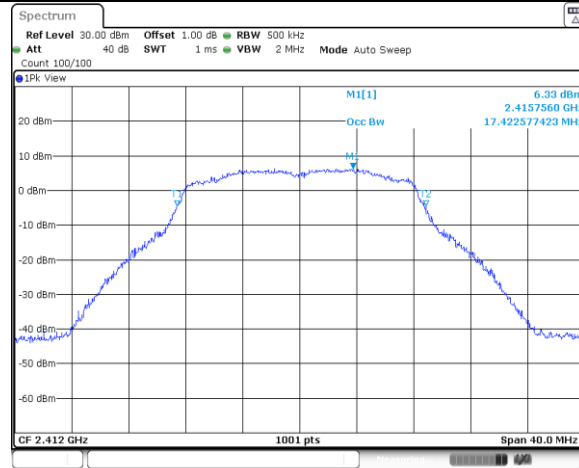
11B_Ant0_2437

Date: 2 FEB 2023 18:52:08

11B_Ant0_2462

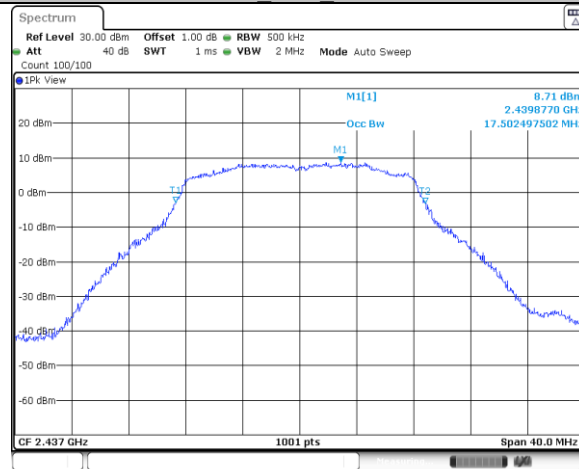
Date: 2 FEB 2023 18:54:09

11G_Ant0_2412



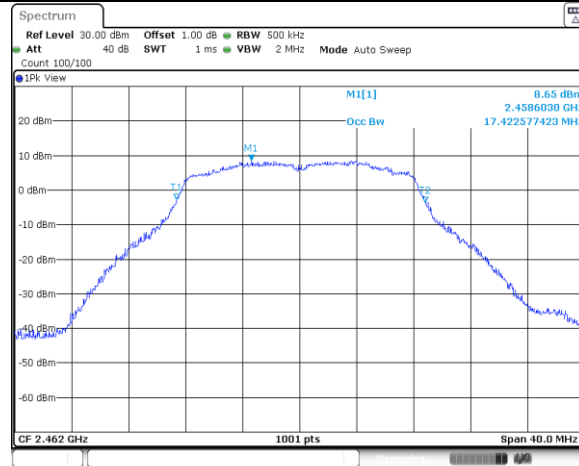
Date: 2 FEB 2023 18:57:08

11G Ant0 2437



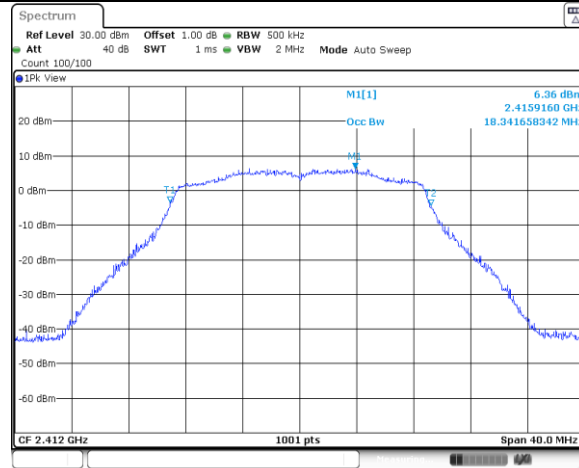
Date: 2 FEB 2023 18:59:23

11G Ant0 2462



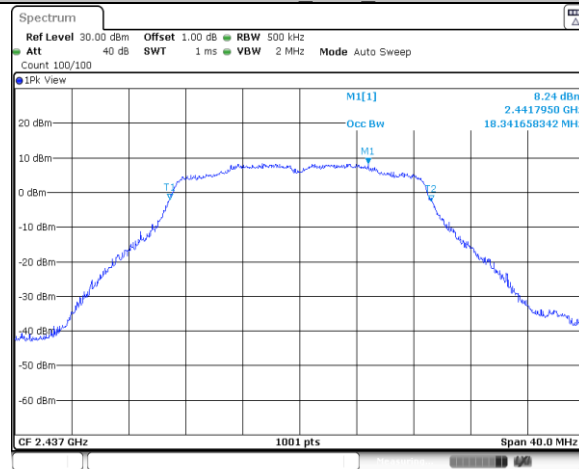
Date: 2 FEB 2023 19:01:42

11N20SISO Ant0 2412



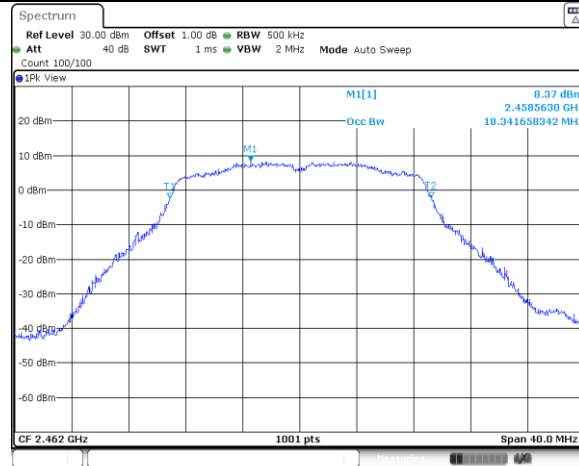
Date: 2 FEB 2023 19:04:02

11N20SISO Ant0 2437



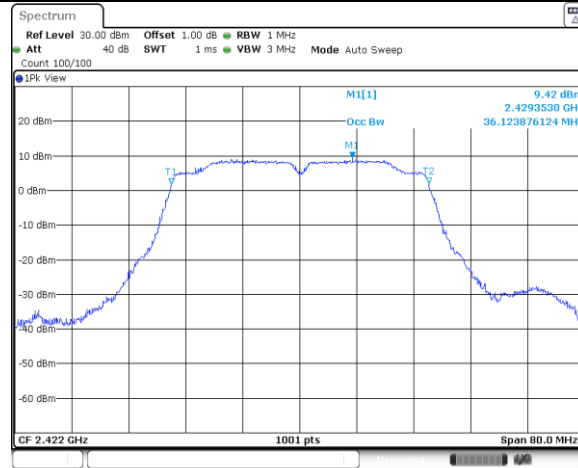
Date: 2 FEB 2023 19:06:15

11N20SISO Ant0 2462



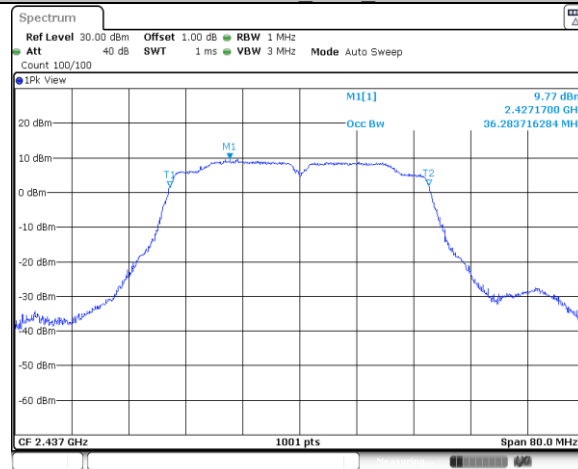
Date: 2 FEB 2023 19:06:21

11N40SISO Ant0 2422



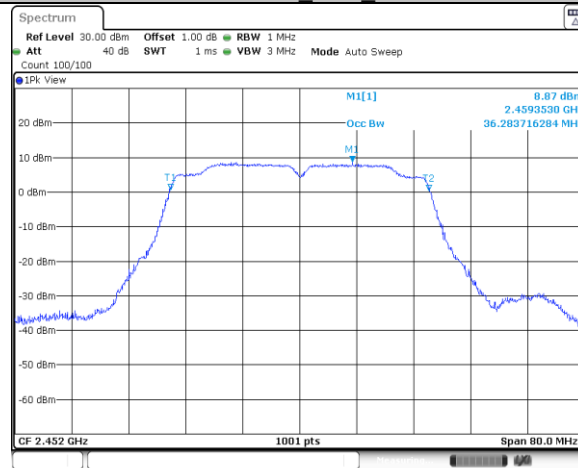
Date: 2 FEB 2023 19:10:20

11N40SISO Ant0 2437



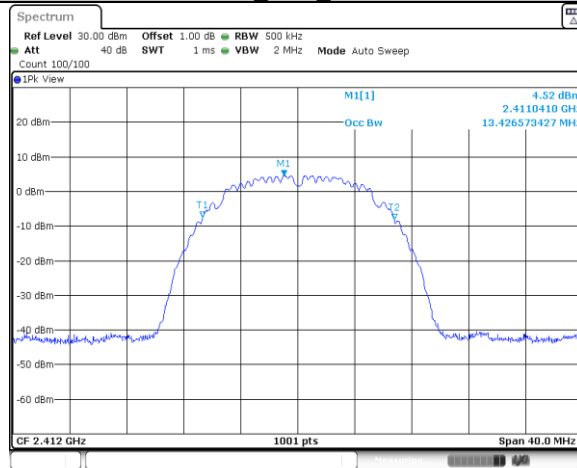
Date: 2 FEB 2023 19:13:34

11N40SISO Ant0 2452



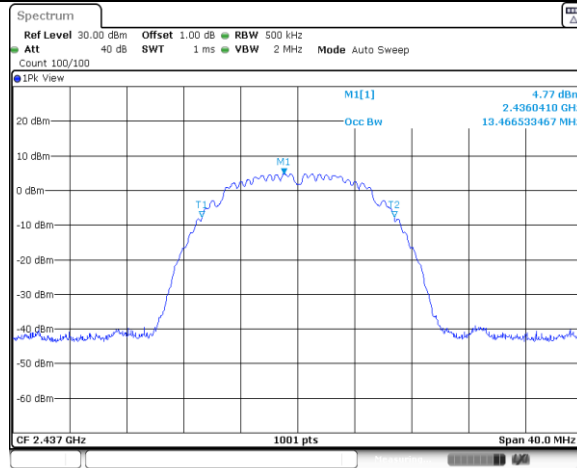
Date: 2 FEB 2023 19:16:03

11B_Ant1_2412



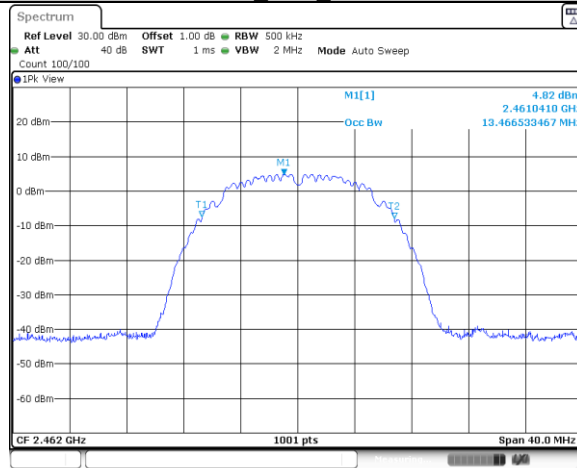
Date: 4 FEB 2023 11:29:22

11B_Ant1_2437



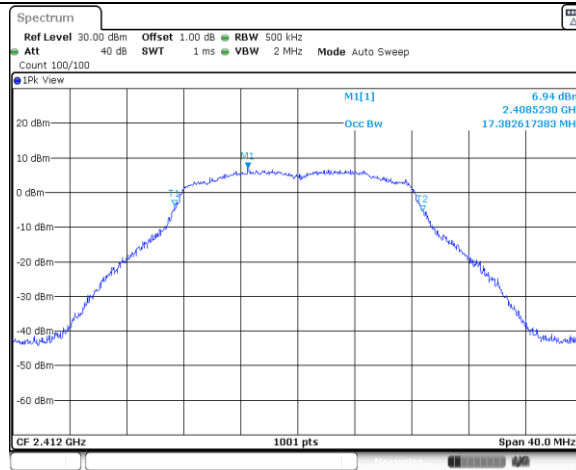
Date: 4 FEB 2023 11:18:57

11B_Ant1_2462

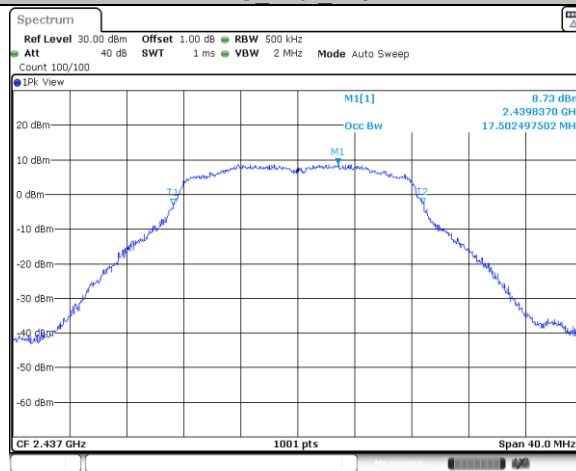


Date: 4 FEB 2023 11:20:44

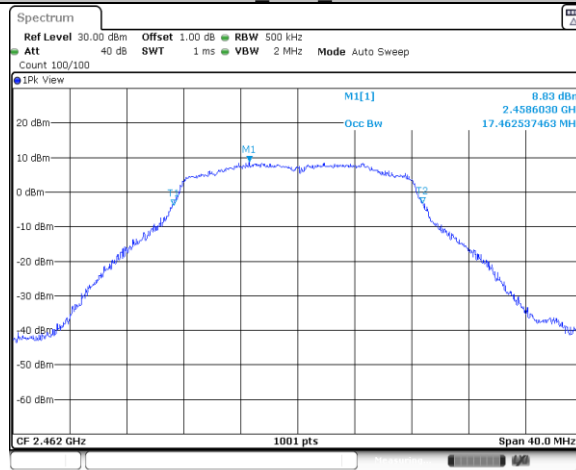
11G_Ant1_2412



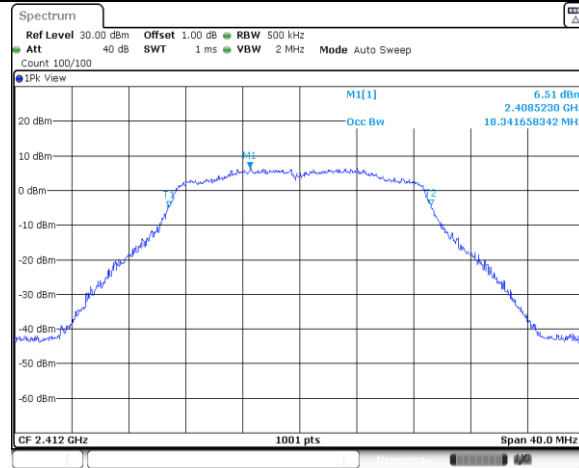
11G Ant1 2437



11G Ant1 2462

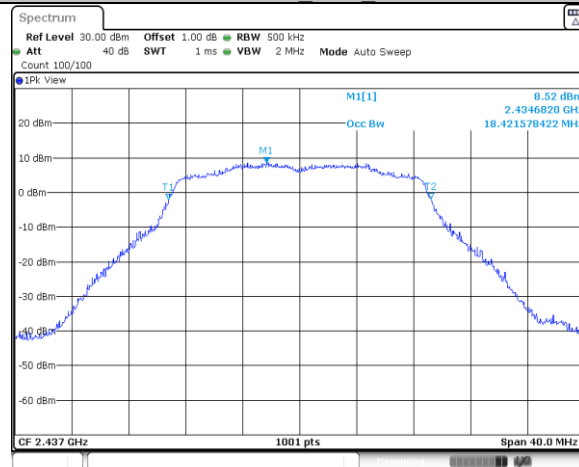


11N20SISO Ant1 2412



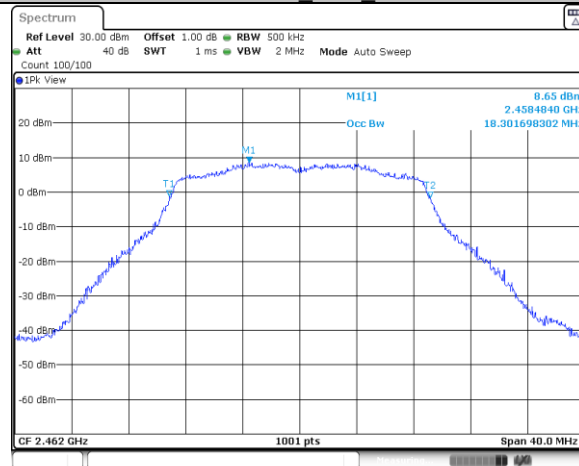
Date: 4 FEB 2023 11:31:44

11N20SISO Ant1 2437



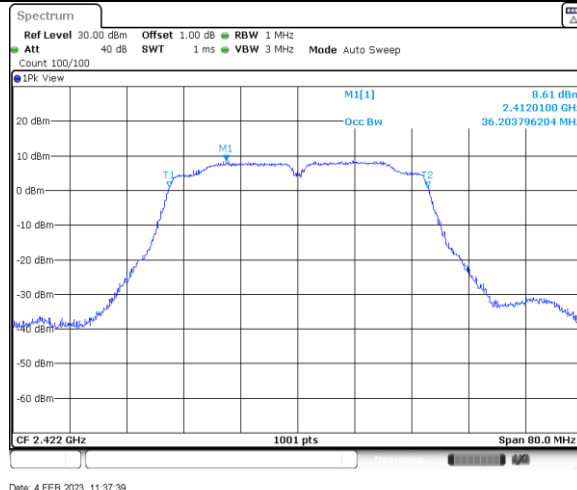
Date: 4 FEB 2023 11:31:54

11N20SISO Ant1 2462

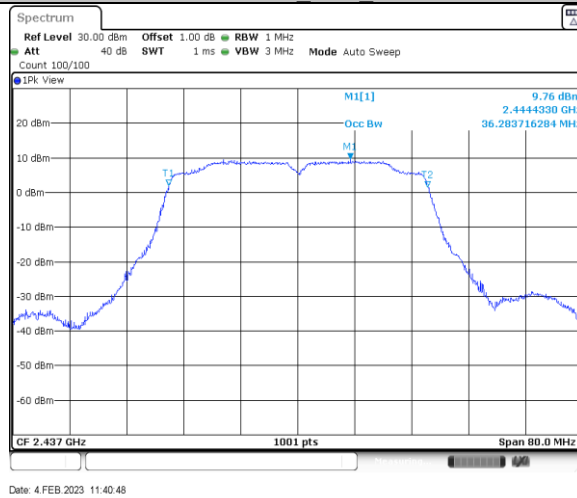


Date: 4 FEB 2023 11:35:36

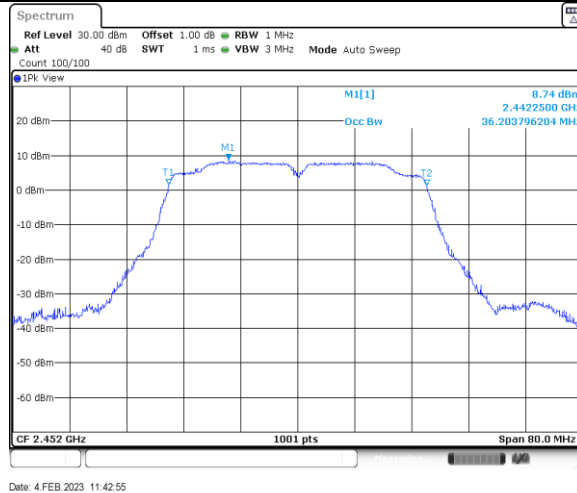
11N40SISO Ant1 2422



11N40SISO Ant1 2437



11N40SISO Ant1 2452



9.4 Power Spectral Density

Test Method

This procedure shall be used if maximum peak conducted output power was used to demonstrate compliance:

1. The RF output of EUT was connected to the test receiver by RF cable. The path loss was compensated to the results for each measurement.
2. Set analyzer center frequency to DTS channel center frequency. RBW=10kHz, VBW=3RBW, Span=1.5 times DTS bandwidth, Detector=Peak, Sweep=auto, Trace= max hold.
3. Allow trace to fully stabilize, use the peak marker function to determine the maximum amplitude level within the RBW.
4. Repeat above procedures until other frequencies measured were completed.

Limit

Limit [dBm/3KHz]
≤8

802.11b modulation Test Result

Frequency (MHz)	Power spectral density (dBm/3KHz)		Limit (dBm)	Result
	Ant0	Ant1		
Low channel 2412MHz	-10.45	-9.77	8	Pass
Middle channel 2437MHz	-10.22	-9.63	8	Pass
High channel 2462MHz	-9.9	-9.59	8	Pass

802.11g modulation Test Result

Frequency (MHz)	Power spectral density (dBm/3KHz)			Limit (dBm)	Result
	Ant0	Ant1	SUM		
Low channel 2412MHz	-12.67	-11.69	-9.14	8	Pass
Middle channel 2437MHz	-10.75	-10.2	-7.45	8	Pass
High channel 2462MHz	-10.45	-9.97	-7.19	8	Pass

802.11n-HT20 modulation Test Result

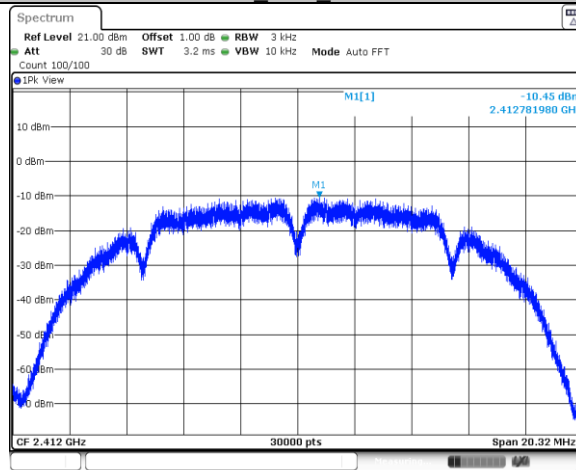
Frequency (MHz)	Power spectral density (dBm/3KHz)			Limit (dBm)	Result
	Ant0	Ant1	SUM		
Low channel 2412MHz	-12.18	-12.7	-9.42	8	Pass
Middle channel 2437MHz	-10.07	-10.41	-7.22	8	Pass
High channel 2462MHz	-10.47	-10.2	-7.32	8	Pass

802.11n-HT40 modulation Test Result

Frequency (MHz)	Power spectral density (dBm/3KHz)			Limit (dBm)	Result
	Ant0	Ant1	SUM		
Low channel 2422MHz	-12.56	-12.96	-9.74	8	Pass
Middle channel 2437MHz	-12.95	-11.93	-9.40	8	Pass
High channel 2452MHz	-13.68	-13.04	-10.33	8	Pass

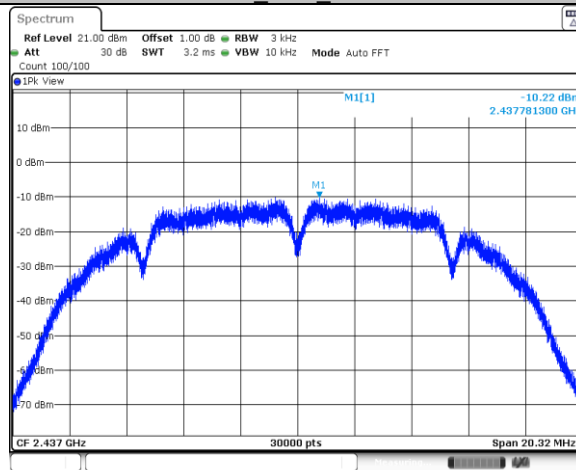
$$PSD^{SUM} = 10 * \log(10^{(PSD^{Ant0}/10)} + 10^{(PSD^{Ant1}/10)})$$

11B_Ant0_2412



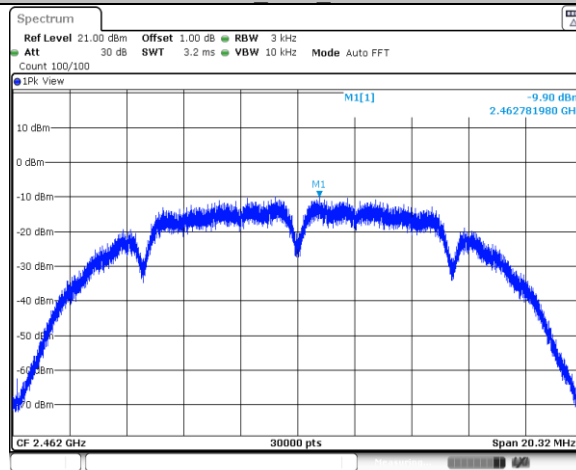
Date: 2 FEB 2023 18:50:16

11B_Ant0_2437



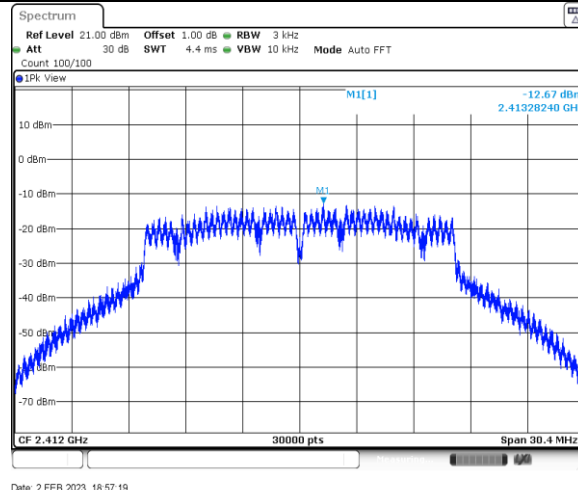
Date: 2 FEB 2023 18:52:19

11B_Ant0_2462

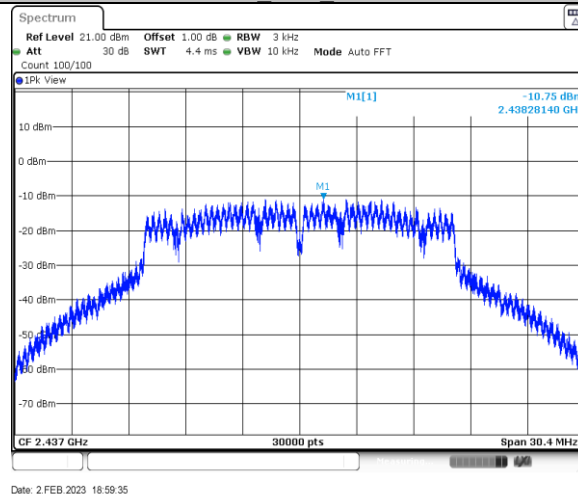


Date: 2 FEB 2023 18:54:21

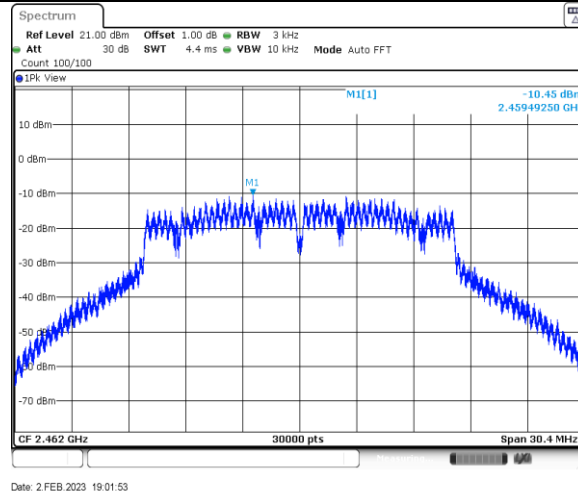
11G_Ant0_2412



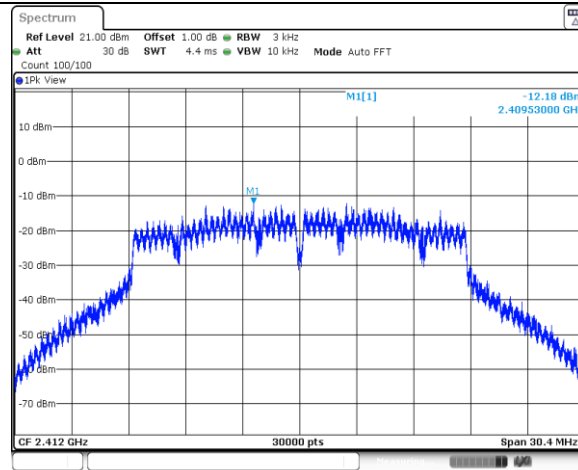
11G Ant0 2437



11G Ant0 2462

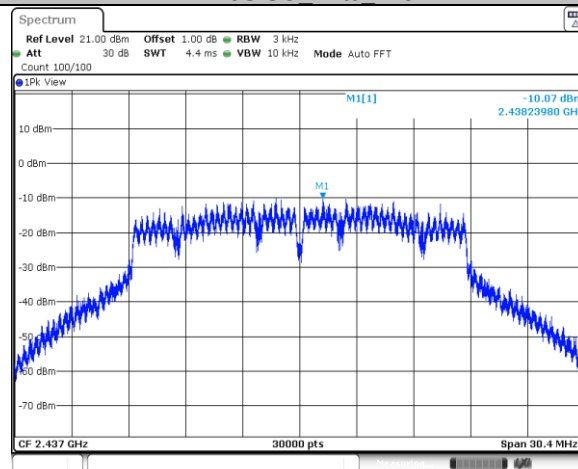


11N20SISO Ant0 2412



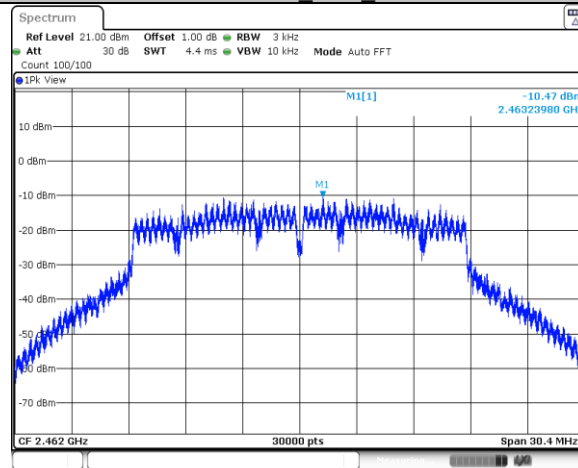
Date: 2 FEB 2023 19:04:13

11N20SISO Ant0 2437



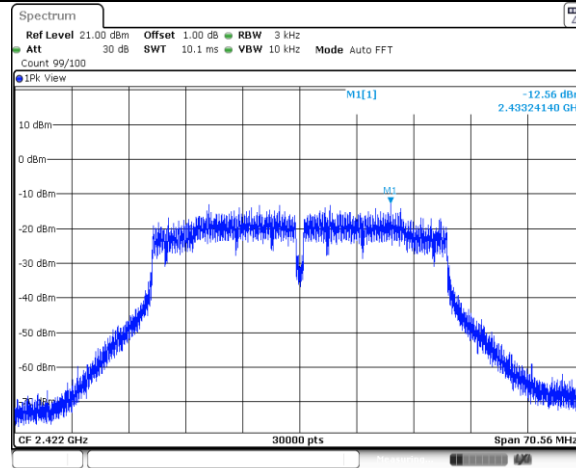
Date: 2 FEB 2023 19:06:26

11N20SISO Ant0 2462



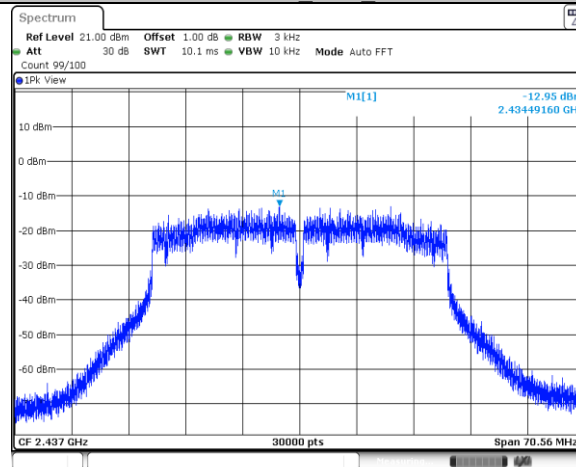
Date: 2 FEB 2023 19:08:32

11N40SISO Ant0 2422



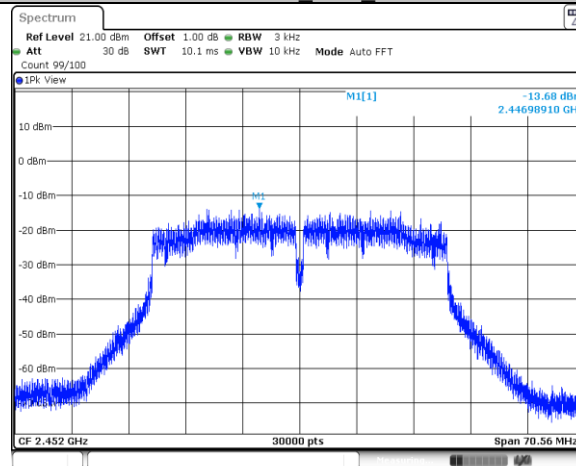
Date: 2 FEB 2023 19:10:31

11N40SISO Ant0 2437



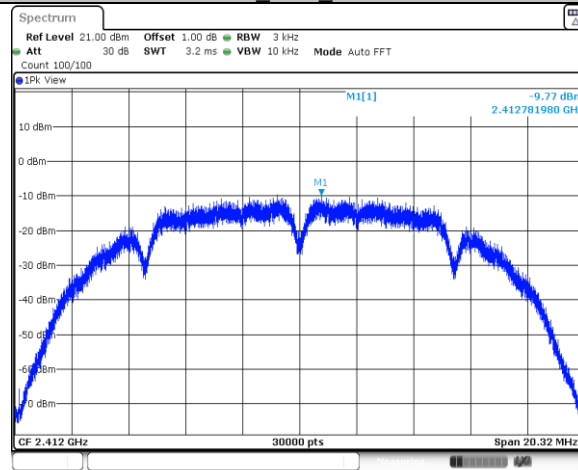
Date: 2 FEB 2023 19:13:45

11N40SISO Ant0 2452



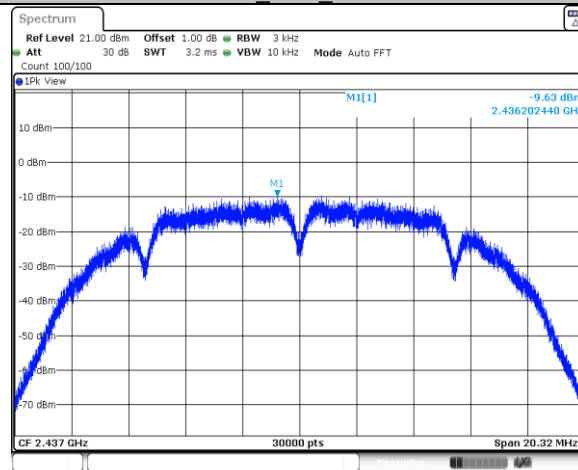
Date: 2 FEB 2023 19:16:14

11B Ant1 2412



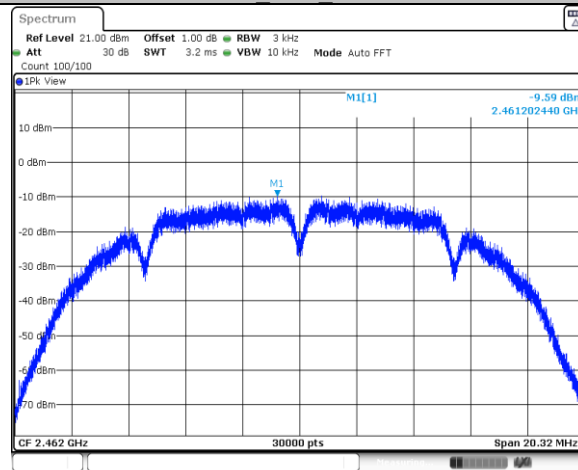
Date: 4 FEB 2023 11:29:34

11B Ant1 2437



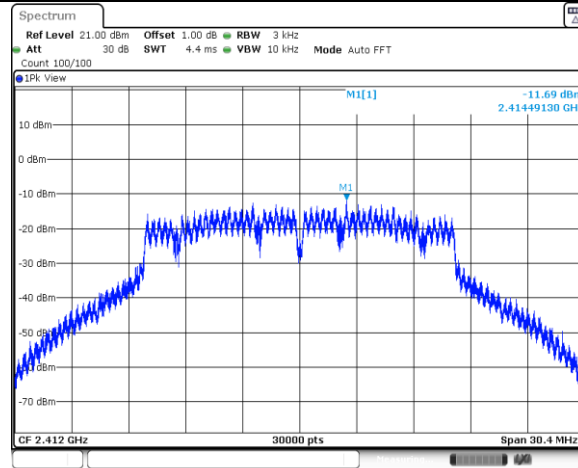
Date: 4 FEB 2023 11:19:08

11B Ant1 2462



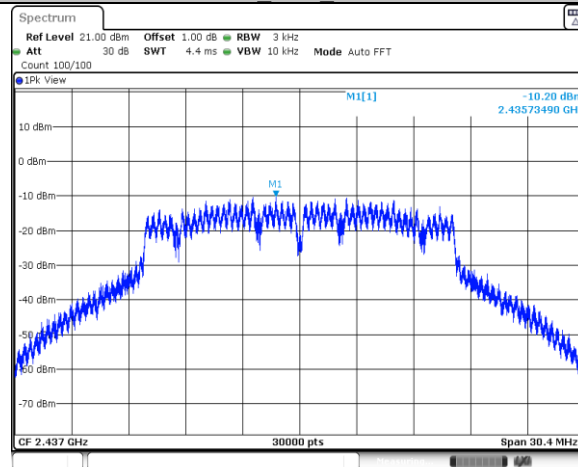
Date: 4 FEB 2023 11:20:56

11G Ant1 2412



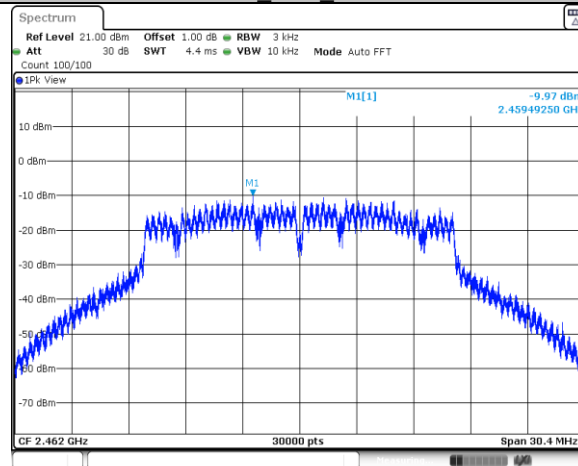
Date: 4 FEB 2023 11:23:00

11G Ant1 2437



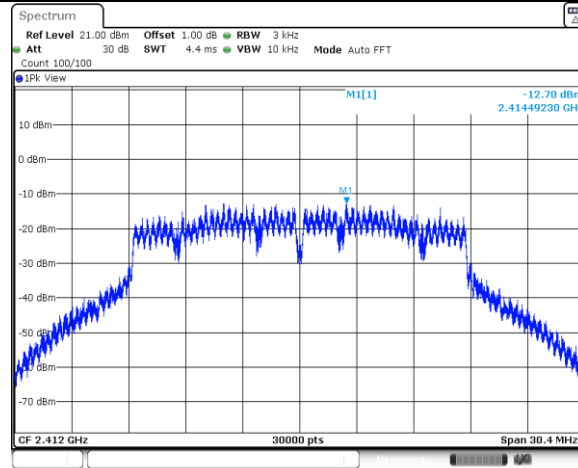
Date: 4 FEB 2023 11:24:51

11G Ant1 2462



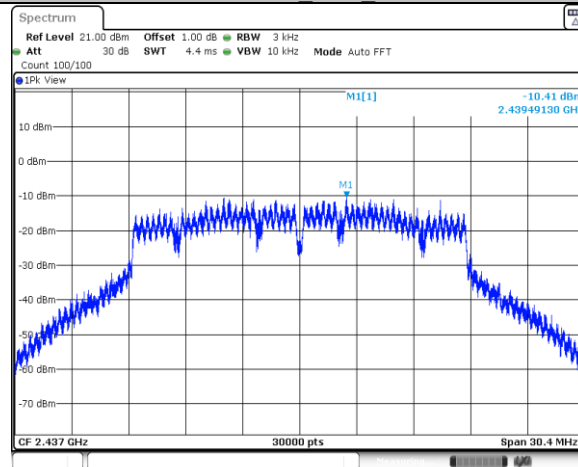
Date: 4 FEB 2023 11:26:30

11N20SISO Ant1 2412



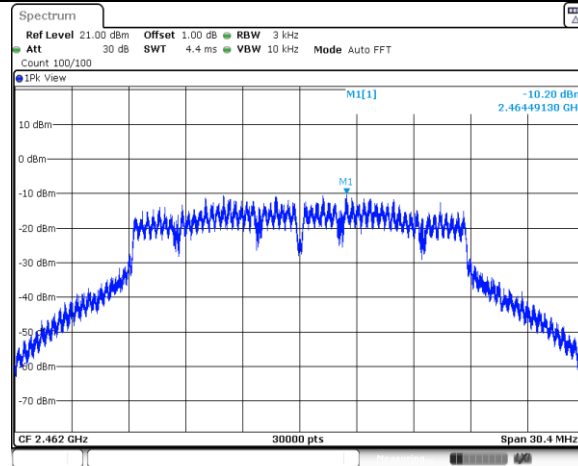
Date: 4 FEB 2023 11:31:56

11N20SISO Ant1 2437



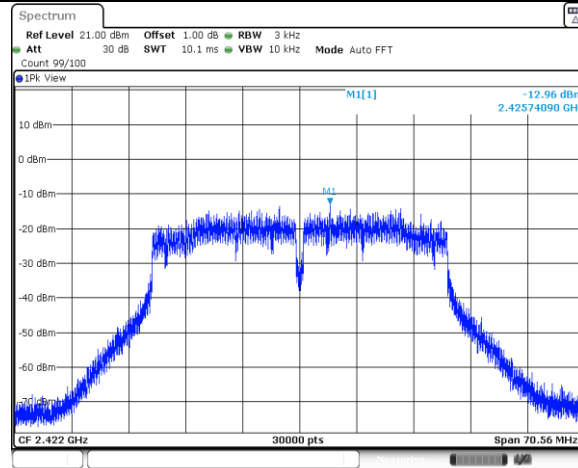
Date: 4 FEB 2023 11:34:05

11N20SISO Ant1 2462



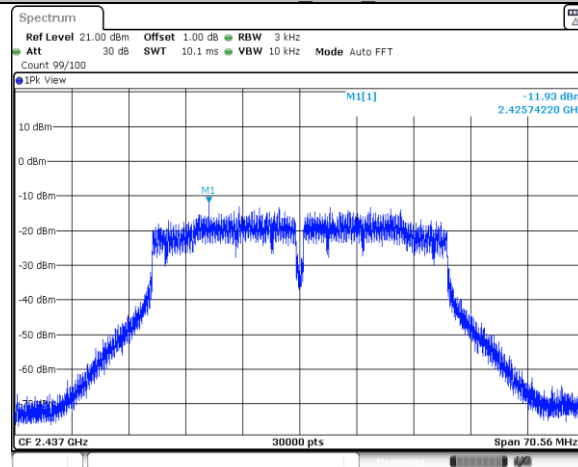
Date: 4 FEB 2023 11:35:48

11N40SISO Ant1 2422



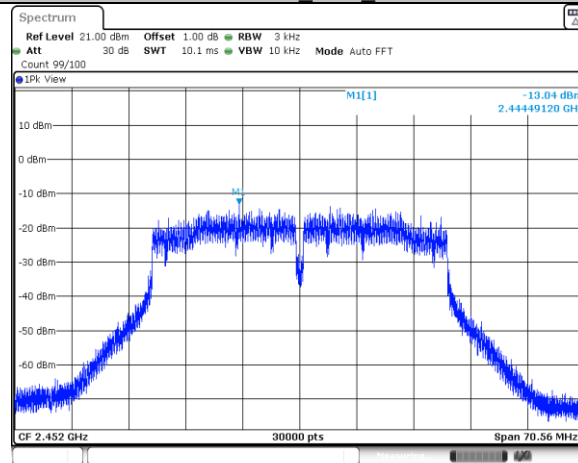
Date: 4 FEB 2023 11:37:50

11N40SISO Ant1 2437



Date: 4 FEB 2023 11:41:00

11N40SISO Ant1 2452



Date: 4 FEB 2023 11:43:07

9.5 Spurious RF Conducted Emissions

Test Method

1. The RF output of EUT was connected to the spectrum analyzer by RF cable. The path loss was compensated to the results for each measurement.
2. Use the following spectrum analyzer settings:
Span = wide enough to capture the peak level of the in-band emission and all spurious emissions (e.g., harmonics) from the lowest frequency generated in the EUT up through the 10th harmonic. Typically, several plots are required to cover this entire span.
RBW = 100 kHz, VBW ≥ RBW, Sweep = auto, Detector function = peak, Trace = max hold
3. Allow the trace to stabilize. Set the marker on the peak of any spurious emission recorded.
4. The level displayed must comply with the limit specified in this Section. Submit these plots.
5. Repeat above procedures until all frequencies measured were complete.

Limit

Frequency Range MHz	Limit (dBc)
30-25000	-20

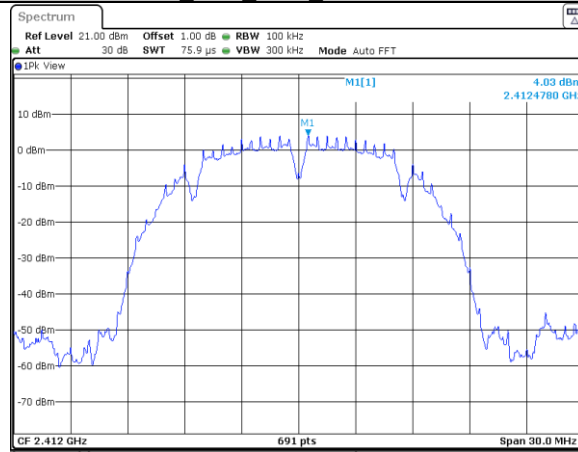
Note: we test Ant0 and Ant1 respectively for 802.11b/g/n20/ n40 mode and only the worst case recorded in this report.

Spurious RF conducted emissions

Test Mode	Antenna	Channel (MHz)	Frequency Range (MHz)	Reference Level	Result (MHz)	Limit (MHz)	Verdict
11B	Ant0	2412	Reference	4.03 dBm	4.03	---	PASS
			30~1000	30~1000 MHz	-67.75	<=-15.97	PASS
			1000~26500	1000~26500 MHz	-51.11	<=-15.97	PASS
		2437	Reference	4.25 dBm	4.25	---	PASS
			30~1000	30~1000 MHz	-66.59	<=-15.75	PASS
			1000~26500	1000~26500 MHz	-52.5	<=-15.75	PASS
		2462	Reference	3.97 dBm	3.97	---	PASS
			30~1000	30~1000 MHz	-68.19	<=-16.03	PASS
			1000~26500	1000~26500 MHz	-51.19	<=-16.03	PASS
11G	Ant0	2412	Reference	2.43 dBm	2.43	---	PASS
			30~1000	30~1000 MHz	-67.92	<=-17.57	PASS
			1000~26500	1000~26500 MHz	-28.12	<=-17.57	PASS
		2437	Reference	4.45 dBm	4.45	---	PASS
			30~1000	30~1000 MHz	-68.08	<=-15.55	PASS
			1000~26500	1000~26500 MHz	-52.56	<=-15.55	PASS
		2462	Reference	4.48 dBm	4.48	---	PASS
			30~1000	30~1000 MHz	-67.78	<=-15.52	PASS
			1000~26500	1000~26500 MHz	-51.75	<=-15.52	PASS
11N20	Ant0	2412	Reference	2.39 dBm	2.39	---	PASS
			30~1000	30~1000 MHz	-66.99	<=-17.61	PASS
			1000~26500	1000~26500 MHz	-26.77	<=-17.61	PASS
		2437	Reference	4.45 dBm	4.45	---	PASS
			30~1000	30~1000 MHz	-68.14	<=-15.55	PASS
			1000~26500	1000~26500 MHz	-52.82	<=-15.55	PASS
		2462	Reference	4.60 dBm	4.60	---	PASS
			30~1000	30~1000 MHz	-68.18	<=-15.4	PASS
			1000~26500	1000~26500 MHz	-51.76	<=-15.4	PASS
11N40	Ant0	2422	Reference	1.02 dBm	1.02	---	PASS
			30~1000	30~1000 MHz	-67.22	<=-18.98	PASS
			1000~26500	1000~26500 MHz	-31.01	<=-18.98	PASS
		2437	Reference	1.03 dBm	1.03	---	PASS
			30~1000	30~1000 MHz	-67.47	<=-18.97	PASS
			1000~26500	1000~26500 MHz	-51.29	<=-18.97	PASS
		2452	Reference	0.43 dBm	0.43	---	PASS
			30~1000	30~1000 MHz	-67.49	<=-19.57	PASS
			1000~26500	1000~26500 MHz	-48.82	<=-19.57	PASS
11B	Ant1	2412	Reference	4.01 dBm	4.01	---	PASS
			30~1000	30~1000 MHz	-67.55	<=-15.99	PASS
			1000~26500	1000~26500 MHz	-52.98	<=-15.99	PASS
		2437	Reference	4.26 dBm	4.26	---	PASS
			30~1000	30~1000 MHz	-67.6	<=-15.74	PASS
			1000~26500	1000~26500 MHz	-52.42	<=-15.74	PASS
		2462	Reference	4.39 dBm	4.39	---	PASS
			30~1000	30~1000 MHz	-68.6	<=-15.61	PASS
			1000~26500	1000~26500 MHz	-52.52	<=-15.61	PASS
11G	Ant1	2412	Reference	2.17 dBm	2.17	---	PASS
			30~1000	30~1000 MHz	-68.26	<=-17.83	PASS
			1000~26500	1000~26500 MHz	-30.2	<=-17.83	PASS
		2437	Reference	4.43 dBm	4.43	---	PASS
			30~1000	30~1000 MHz	-68.03	<=-15.57	PASS
			1000~26500	1000~26500 MHz	-51.78	<=-15.57	PASS
		2462	Reference	4.53 dBm	4.53	---	PASS
			30~1000	30~1000 MHz	-67.74	<=-15.47	PASS
			1000~26500	1000~26500 MHz	-52.57	<=-15.47	PASS
11N20	Ant1	2412	Reference	2.46 dBm	2.46	---	PASS
			30~1000	30~1000 MHz	-68.2	<=-17.54	PASS
			1000~26500	1000~26500 MHz	-27.58	<=-17.54	PASS
		2437	Reference	4.51 dBm	4.51	---	PASS
			30~1000	30~1000 MHz	-68.26	<=-15.49	PASS

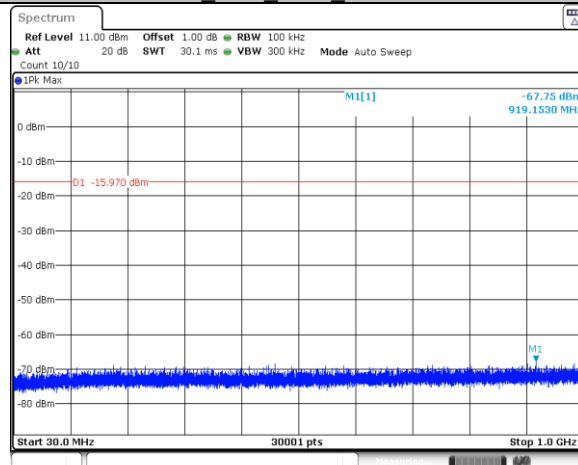
11N40	Ant1	2462	1000~26500	1000~26500 MHz	-52.5	<=-15.49	PASS
			Reference	4.52 dBm	4.52	---	PASS
			30~1000	30~1000 MHz	-67.84	<=-15.48	PASS
		2422	1000~26500	1000~26500 MHz	-51.92	<=-15.48	PASS
			Reference	0.26 dBm	0.26	---	PASS
			30~1000	30~1000 MHz	-68.38	<=-19.74	PASS
		2437	1000~26500	1000~26500 MHz	-34.85	<=-19.74	PASS
			Reference	1.32 dBm	1.32	---	PASS
			30~1000	30~1000 MHz	-68.5	<=-18.68	PASS
		2452	1000~26500	1000~26500 MHz	-52.6	<=-18.68	PASS
			Reference	0.53 dBm	0.53	---	PASS
			30~1000	30~1000 MHz	-68.42	<=-19.47	PASS
		2452	1000~26500	1000~26500 MHz	-51.98	<=-19.47	PASS

11B_Ant0_2412_0~Reference



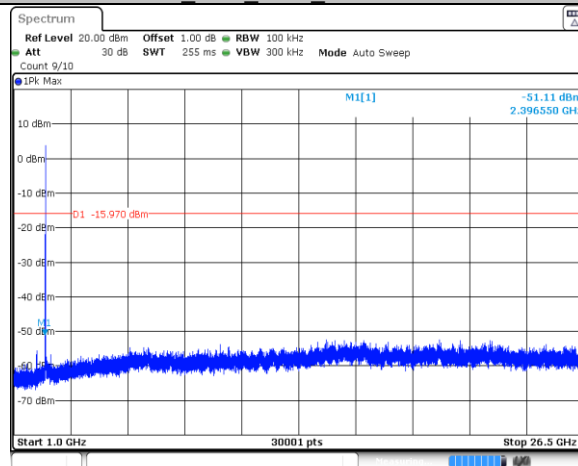
Date: 2 FEB 2023 18:50:31

11B_Ant0_2412_30~1000



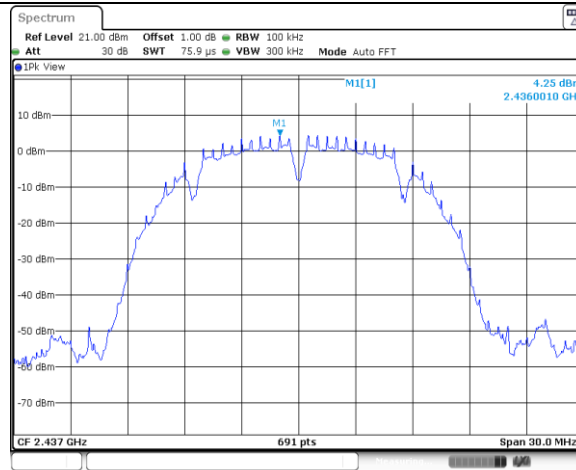
Date: 2 FEB 2023 18:50:37

11B_Ant0_2412_1000~26500



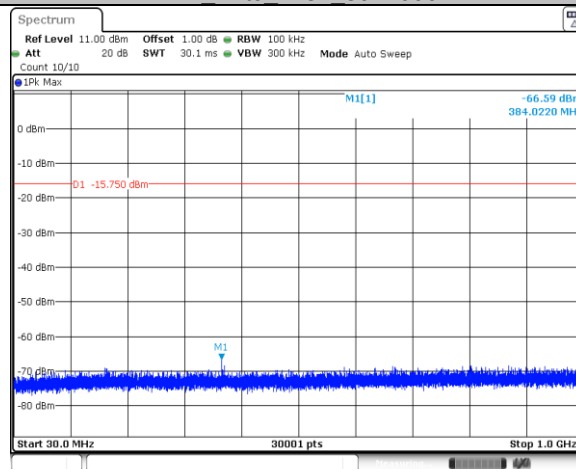
Date: 2 FEB 2023 18:50:44

11B_Ant0_2437_0~Reference



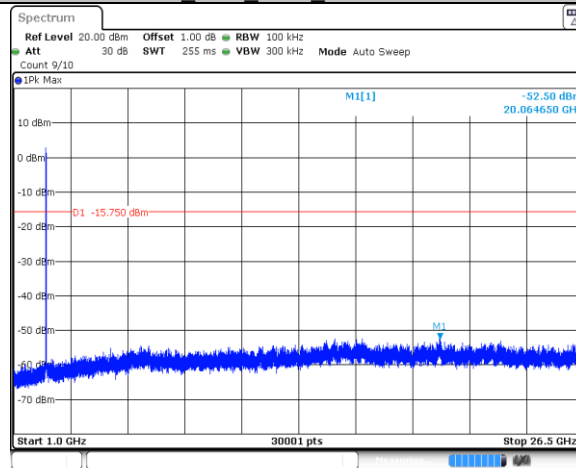
Date: 2 FEB 2023 18:52:25

11B Ant0 2437 30~1000



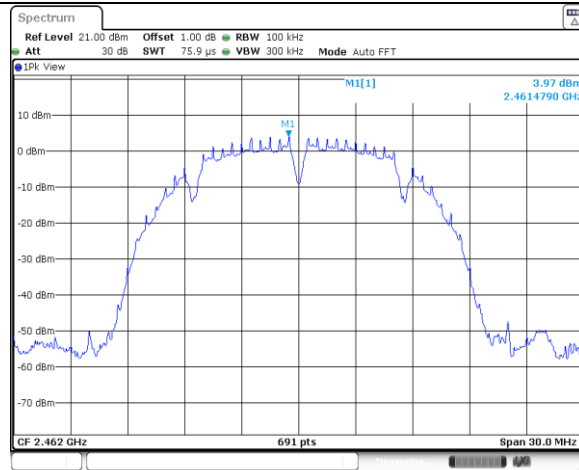
Date: 2 FEB 2023 18:52:31

11B Ant0 2437 1000~26500



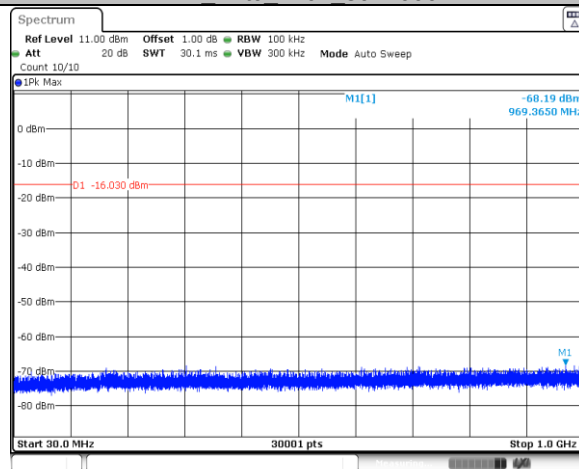
Date: 2 FEB 2023 18:52:39

11B Ant0 2462 0~Reference



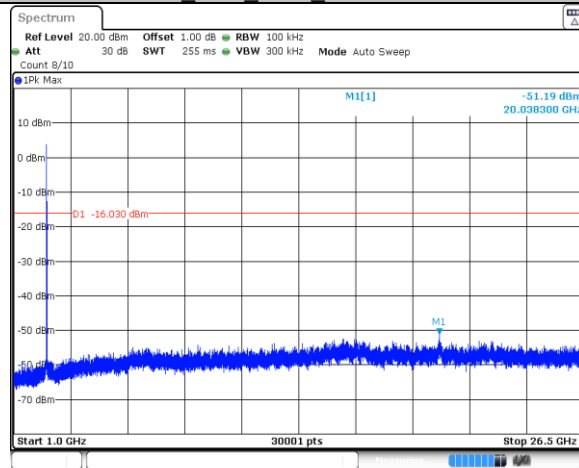
Date: 2 FEB 2023 18:54:35

11B Ant0 2462 30~1000



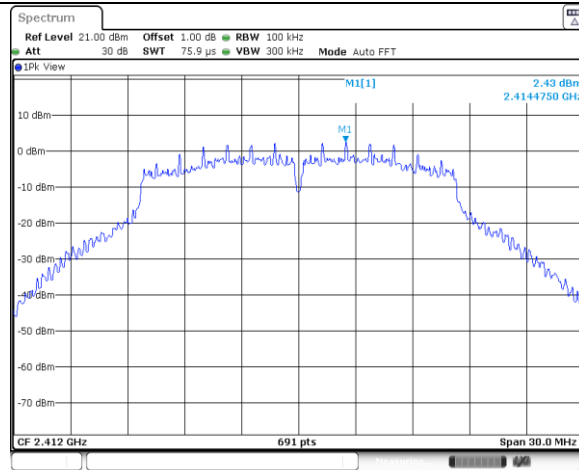
Date: 2 FEB 2023 18:54:41

11B Ant0 2462 1000~26500



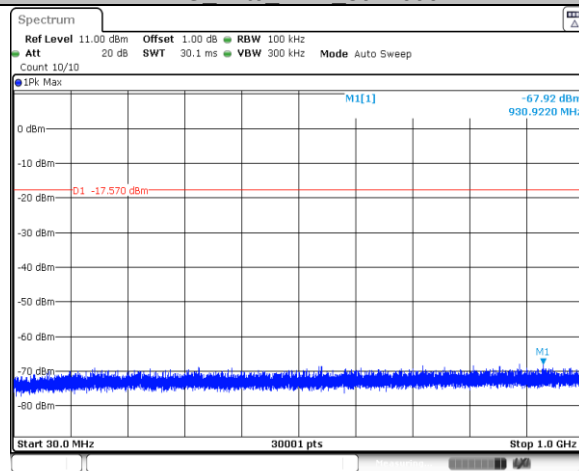
Date: 2 FEB 2023 18:54:49

11G Ant0 2412 0~Reference



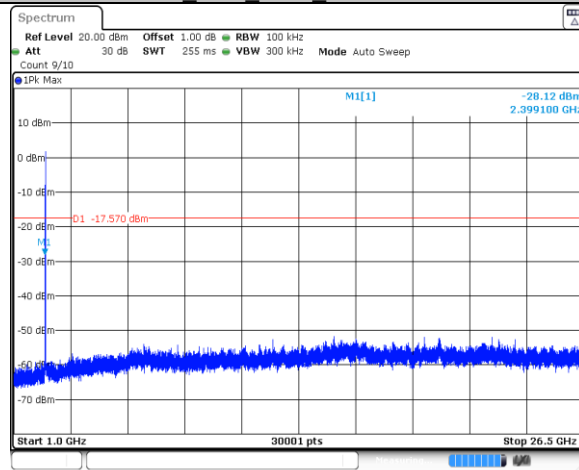
Date: 2 FEB 2023 18:57:34

11G_Ant0_2412_30~1000



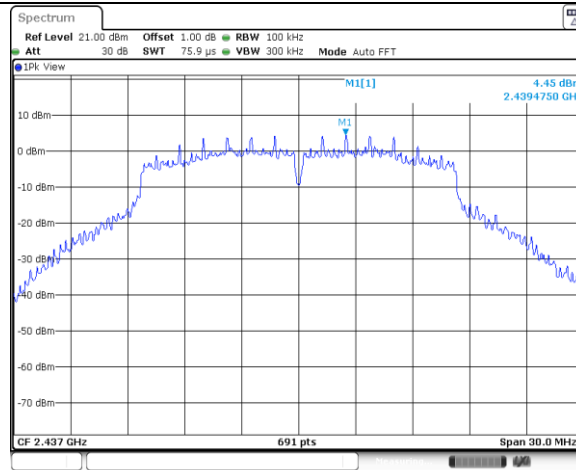
Date: 2 FEB 2023 18:57:40

11G_Ant0_2412_1000~26500



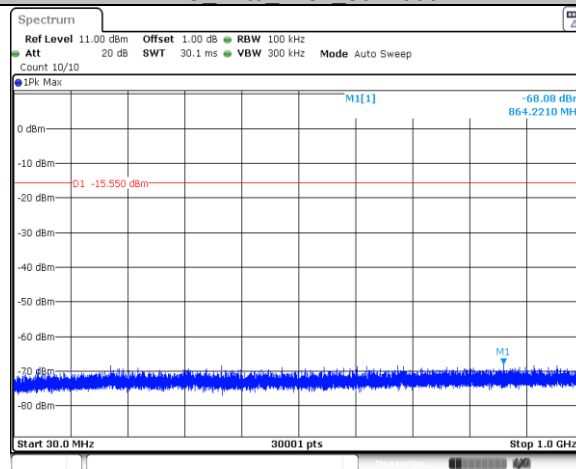
Date: 2 FEB 2023 18:57:48

11G_Ant0_2437_0~Reference



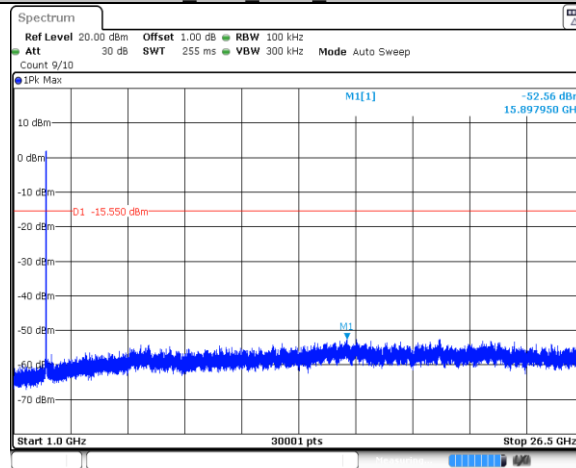
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11G Ant0 2437 30~1000



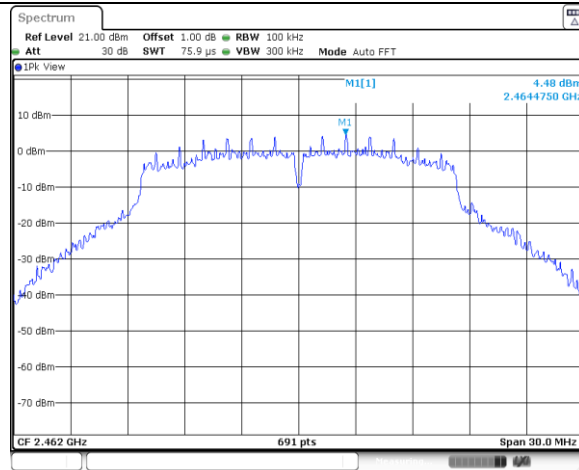
Date: 2 FEB 2023 18:59:46

11G Ant0 2437 1000~26500



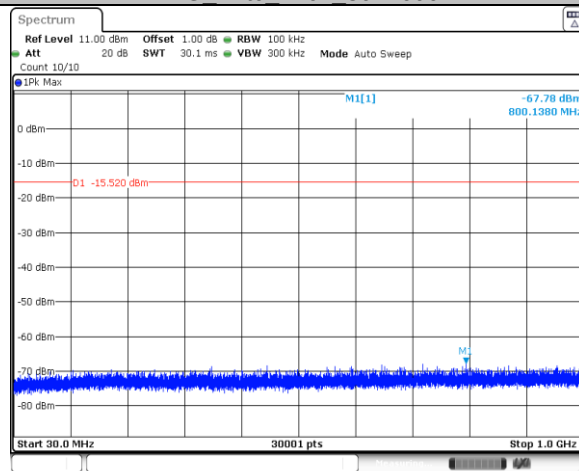
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11G Ant0 2462 0~Reference



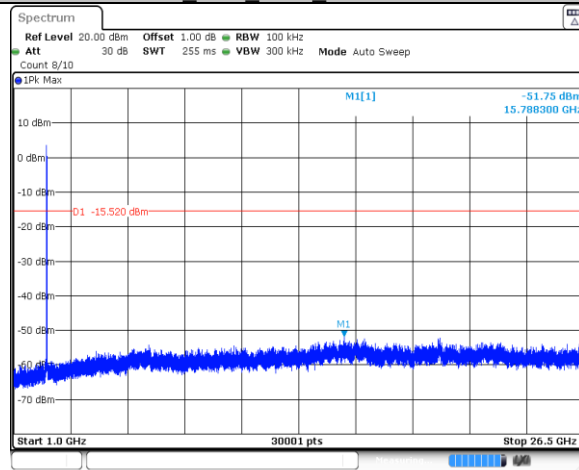
Date: 2 FEB 2023 19:02:08

11G Ant0 2462 30~1000



Date: 2 FEB 2023 19:02:14

11G Ant0 2462 1000~26500



Date: 2 FEB 2023 19:02:22

11N20SISO Ant0 2412 0~Reference