

Japan Test Report

Equipment : 45 Series Pluggable module
Model No. : MSD45N
Brand Name : Laird
Applicant : Laird Technologies
Address : W66N220 Commerce Court, Cedarburg,
Wisconsin 53012, USA
Standard : Article 2 Paragraph 1 Item 19
Article 2 Paragraph 1 Item 19-2
Received Date : Nov. 13, 2018
Tested Date : Nov. 22, 2018

Measurement was conducted by the following test method:
the test method of Ordinance Concerning Technical Regulations Conformity Certification
etc. of Specified Radio Equipment in Annex 1, the Ministry of Internal Affairs and
Communication notification in Annex "43" and "44" of Article 88, Paragraph 1 and ARIB
STD-T66 / RCR STD-33

We, International Certification Corp., would like to declare that the tested sample has been
evaluated and in compliance with the requirement of the above standards. The test results
contained in this report refer exclusively to the product. It may be duplicated completely for
legal use with the approval of the applicant. It shall not be reproduced except in full without
the written approval of our laboratory.

Reviewed by:


James Fan / Assistant Manager

Approved by:


Gary Chang / Manager



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APPENDIX C. TEST RESULTS FOR OCCUPIED BANDWIDTH

APPENDIX D. TEST RESULTS FOR SPREADING BANDWIDTH AND FACTOR

APPENDIX E. TEST RESULTS FOR TRANSMITTER SPURIOUS EMISSIONS

APPENDIX F. TEST RESULTS FOR INTERFERENCE PREVENTION FUNCTION

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APPENDIX H.1 TEST RESULTS FOR ANTENNA POWER

APPENDIX H.2 TEST RESULTS FOR ANTENNA POWER

APPENDIX I. TEST RESULTS FOR FREQUENCY TOLERANCE

APPENDIX J. TEST RESULTS FOR OCCUPIED BANDWIDTH

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APPENDIX N. TEST RESULTS FOR INTERFERENCE PREVENTION FUNCTION

APPENDIX O. TEST RESULTS FOR RECEIVER SPURIOUS EMISSIONS

Release Record

Report No.	Version	Description	Issued Date
JR371704-06AC	Rev. 01	Initial issue	Dec. 20, 2018

Summary of Test Results

Ref. Std. Clause (STD-66)	Description	Result
3.2(2)(3)	Antenna Power	Pass
3.2(4)	Frequency Tolerance	Pass
3.2(6)	Transmitter Spurious Emission	Pass
3.2(7)	Occupied Bandwidth	Pass
3.2(8)	Spreading Bandwidth	Pass
3.2(9)	Spreading Factor	Pass
3.3(1)	Receiver Emission	Pass
3.4.1	Interference prevention function	Pass
3.4.1(3)	Carrier Sense	Note
Note: This item is not required since the device does not support 802.11n HT 40 function.		

Ref. Std. Clause (STD-33)	Description	Result
3.2(1)(2)	Antenna Power	Pass
3.2(1)(3)	Frequency Tolerance	Pass
3.2(6)	Transmitter Spurious Emission	Pass
3.2(7)	Occupied Bandwidth	Pass
3.2(8)	Spreading Bandwidth	Pass
3.2(9)	Spreading Factor	Pass
3.3(1)	Receiver Emission	Pass
3.4.1	Interference prevention function	Pass
3.4.3	Carrier Sense	Pass

Declaration of Conformity:
The judgement of conformity in the report is based on the measurement results excluding the measurement uncertainty.
Comments and Explanations:
None

1 General Description

1.1 Information

1.1.1 Specification of the Equipment under Test (EUT)

Power Type	3.3Vdc from host
Type(s) of Modulation / Technology	DBPSK, DQPSK, CCK / DSSS 64QAM, 16QAM, QPSK, BPSK / OFDM
Frequency Range (MHz)	2412~2472MHz, 2484MHz
Total Channel Number	802.11b: 14 802.11g / n HT20: 13
Operating Mode: IEEE Std. 802.11 / Data Rate (Mbps)	802.11b: Up to 11 Mbps 802.11g: Up to 54 Mbps 802.11n HT 20 (MCS 0~7)
HW Version	1.0
SW Version	23.3.3.5

1.1.2 Antenna Details

Ant. No.	Brand /Model	Type	Connector	Operating Frequencies (MHz) / Antenna Gain (dBi)				
				2400~2483.5	5150~5250	5250~5350	5470~5725	5725~5850
1	MAGLAYERS EDA-1513-25GR2-B2-CY	Dipole	SMA Jack Reverse	2	2	2	2	2
2	Laird NanoBlade-IP04	PCB Dipole	UFL	2	3.9	3.9	4	4
3	Laird MAF95310 Mini NanoBlade Flex	PCB Dipole	UFL	2.79	3.38	3.38	3.38	3.38
4	Laird NanoBlue-IP04	PCB Dipole	UFL	2	---	---	---	---
5	Ethertronics WLAN_1000146	PIFA	UFL	2.5	3.5	3.5	3.5	3.5
6	SAA MG7018-41-000-R	Dipole	UFL	1.87	0.85	0.6	0.94	0.92
7	SAA MG7324-41-000-R	Dipole	UFL	1.32	1.04	1.6	2.75	2.24
8	EMF2449A1-33UFL	PCB Dipole	UFL	0.8	3.3	3.3	3.3	3.3
9	MAGLAYERS PCA-4606-2G4C1-A13-CY	PCB Dipole	UFL	2.21	---	---	---	---
10	Laird / EMF2449A2-8UFL	PCB Dipole	UFL	2.79	3.38	3.38	3.38	3.38
11	Laird / EMF2449A1-36MHF1	PCB Dipole	UFL	2.6	3.1	3.1	3.1	3.1

Note: Please refer to antenna report for more details about antenna pattern and other information.

1.1.3 Antenna Power

Operating Mode	Rated Power (mW/MHz)	Measured Conducted Power (mW/MHz)	Radiated Power (mW/MHz)
11b (CH 1~13)	8.50	8.55067	16.25549
11b (CH 14)	4.00	3.81944	7.26106
11g	4.00	3.94457	7.49894
11n HT20	4.00	3.74111	7.11214

1.1.4 Channel List

Frequency band (MHz)	
802.11b / g / n HT 20	
Channel	Frequency(MHz)
1	2412
2	2417
3	2422
4	2427
5	2432
6	2437
7	2442
8	2447
9	2452
10	2457
11	2462
12	2467
13	2472
Frequency band (MHz)	
802.11b	
Channel	Frequency(MHz)
14	2484

1.1.5 Test Tool and Power Setting

Test Tool
ART, V0.2

Power Setting				
Channel	Frequency (MHz)	802.11b	802.11g	802.11n HT20
1	2412	17.5	17	17
7	2442	17.5	17	17
13	2472	18	16	16
14	2484	17.5	---	---

1.1.6 Protection Method for High Frequency and Modulation Section

Protected Method	Description
Shielded case	RF and Modulation components are covered with shielding case and this shielding case is soldered

1.2 Test Equipment and Calibration Data

Test Item	RF Conducted				
Test Site	(TH01-WS)				
Tested Date	Nov. 22, 2018				
Instrument	Manufacturer	Model No.	Serial No.	Calibration Date	Calibration Until
Spectrum Analyzer	R&S	FSV40	101063	Apr. 16, 2018	Apr. 15, 2019
Spectrum Analyzer	R&S	FSV40	101499	Jan. 03, 2018	Jan. 02, 2019
Power Meter	Anritsu	ML2495A	1241002	Oct. 09, 2018	Oct. 08, 2019
Power Sensor	Anritsu	MA2411B	1207366	Oct. 09, 2018	Oct. 08, 2019
DC POWER SOURCE	GW INSTEK	GPC-6030D	EM892433	Oct. 25, 2018	Oct. 24, 2019
Measurement Software	Sporton	Sporton_1	1.3.30	NA	NA
Note: Calibration Interval of instruments listed above is one year.					

1.3 Testing Applied Standards

According to the specifications of the manufacturer, the EUT must comply with the requirements of the following standards:

Article 2 Paragraph 1 Item 19
Article 2 Paragraph 1 Item 19-2

1.4 Measurement Uncertainty

ISO/IEC 17025 requires that an estimate of the measurement uncertainties associated with the emissions test results be included in the report. The measurement uncertainties given below are based on a 95% confidence level (based on a coverage factor (k=2))

Measurement Uncertainty	
Parameters	Uncertainty
Frequency error	±33.988 Hz
Bandwidth	±33.988 Hz
Conducted power	±0.537 dB
TX Conducted emission	±2.308 dB
RX Conducted emission	±2.525 dB

2 Test Configuration

2.1 Testing Location and Conditions

Test Site	Site Category	Ambient Condition	Tested By
TH01-WS	OVEN Room	25°C / 65%	Chris Zeng

2.2 Supporting Units

Support Unit	Brand	Model	FCC ID
Notebook	DELL	Inspiron 3000	DoC

2.3 The Worst Test Modes and Channel Details

Test item	Mode	Test channel
Antenna Power Frequency Tolerance Transmitter Spurious Emission Occupied Bandwidth Spreading Bandwidth Collateral Emission of Receiver Interference prevention function	11b,	1 / 7 / 13 / 14
	11g, 11n HT20	1 / 7 / 13
Spreading Factor	11b	1 / 7 / 13 / 14
Carrier Sense Capability	11b	14

3 Transmitter Test Results

3.1 Antenna Power

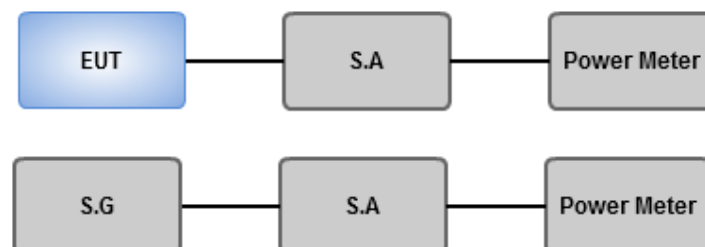
3.1.1 Limit of Antenna Power

Mode	Limit	Tolerance
1) FH, FH+DS, FH+OFDM	3 mW / MHz	+20 % , -80 %
2) OFDM(Narrow- bandwidht), DS	10 mW / MHz	
3) Other than 1) & 2)	10mW	
4) OFDM (Wide-band)	5 mW / MHz	

3.1.2 Test Procedures

1. A power meter is connected on the IF output port of the spectrum analyzer. Adjust the spectrum analyzer to have the center frequency the same with the measured carrier. RBW=VBW=1MHz, detector mode is positive peak. Turn off the averaging function and use zero span.
2. The calibrating signal power shall be reduced to 0 dBm and it shall be verified that the power meter reading also reduces by 10 dB. Connect the equipment to be measured. Using the following settings of the spectrum analyzer in combination with "max hold" function, find the frequency of highest power output in the power envelope: center frequency equal to operating frequency; RBW & VBW: 1 MHz; detector mode: positive peak; averaging: off; span: 3 times the spectrum width; amplitude: adjust for middle of the instrument's range. The frequency found shall be recorded.
3. Set the center frequency of the spectrum analyzer to the found frequency and switch to zero span. The power meter indicates the measured power density "E". Remove the EUT and put the replacing standard signal generator (SSG). Set the standard signal generator (SSG) at same frequency and transmit on, then set SSG output power at Pt to give the equivalent output level of "E".
4. Calculate antenna power density by the formula below $PD = Pt + 10 \cdot \log(1/x)$.
x: The duty cycle of the EUT in continuously transmitting mode.
Pt: Output power of the SSG.
5. Antenna Power Error is definition that actual measure antenna power tolerance between + 20% to - 80% power range that base on manufacturer declare the conducted power density.

3.1.3 Test Setup



3.1.4 Test Result of Maximum Transmit Power

Reference Documents	Test Mode
Appendix A1, A2	11b (20MHz), CH1-13
Appendix H1, H2	11b (20MHz), CH14
Appendix A1, A2	11g (20MHz)
Appendix A1, A2	11n (20MHz)

3.2 Frequency Tolerance

3.2.1 Limit of Frequency Tolerance

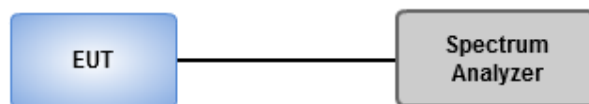
Frequency tolerance shall be +/- 50ppm.

3.2.2 Test Procedures

1. Set Span = 150kHz, RBW = 1kHz, VBW = 30kHz, Sweep time = Auto, detector = Peak.
2. Use Peak search function to find the max peak value and record this value (RF).
3. Calculate frequency tolerance by below formula

$$FT(ppm) = \{ (RF) - (MF) / (MF) \} \times 1000000$$
 (FT: Frequency Tolerance, RF: Reading Frequency, MF: Measurement Frequency.)

3.2.3 Test Setup



3.2.4 Test Result of Frequency Tolerance

Reference Documents	Test Mode
Appendix B	11b (20MHz), CH1-13
Appendix I	11b (20MHz), CH14
Appendix B	11g (20MHz)
Appendix B	11n (20MHz)

3.3 Occupied Bandwidth

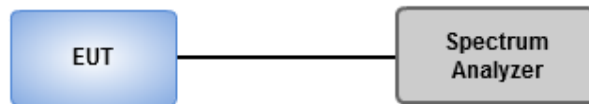
3.3.1 Limit of Occupied Bandwidth

Mode	Limit (MHz)
FH	83.5
FH+DS	83.5
FH+OFDM	83.5
OFDM(Narrow- bandwidth), DS	26
Others	26
OFDM (Wide-band)	38

3.3.2 Test Procedures

1. Set Span = 40MHz, RBW = VBW = 300kHz, detector = Peak, Sweep time = Auto.
2. Enable OBW function of spectrum analyzer to measure OBW and capture test plot.

3.3.3 Test Setup



3.3.4 Test Result of Occupied Bandwidth

Reference Documents	Test Mode
Appendix C	11b (20MHz), CH1-13
Appendix J	11b (20MHz), CH14
Appendix C	11g (20MHz)
Appendix C	11n (20MHz)

3.4 Spreading Bandwidth and Factor

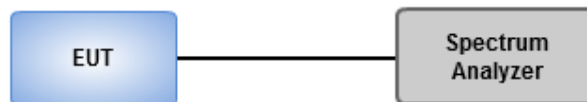
3.4.1 Limit of Spreading Bandwidth and Factor

Item	Limit
Spreading bandwidth	$\geq 500\text{kHz}$
Spreading factor for DSSS (operates at 2400~2483.5 MHz)	≥ 5
Spreading factor for DSSS (operates at 2471~2497 MHz)	≥ 10

3.4.2 Test Procedures

1. Set Span = 20MHz, RBW = VBW = 300kHz, detector = Peak, Sweep time = Auto.
2. Enable OBW (90%) function of spectrum analyzer to measure OBW (90%) and capture test plot.

3.4.3 Test Setup



3.4.4 Test Result of Spreading Bandwidth and Factor

Reference Documents	Test Mode
Appendix D	11b (20MHz), CH1-13
Appendix K	11b (20MHz), CH14
Appendix D	11g (20MHz)
Appendix D	11n (20MHz)

3.5 Transmitter Spurious Emissions

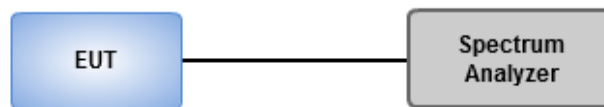
3.5.1 Limit of Transmitter Spurious Emissions

Item	Limits
Tx Spurious Emission	$\leq 2.5 \mu\text{W}$ ($2387\text{MHz} > f$; $2496.5\text{MHz} < f$).
	$\leq 25 \mu\text{W}$. ($2387\text{MHz} \leq f < 2400\text{MHz}$) and ($2483.5\text{MHz} < f \leq 2496.5\text{MHz}$).

3.5.2 Test Procedures

1. Set EUT to transmit at rated power and channel to perform test.
2. Set RBW = VBW = 1MHz, Detector type = Peak, Sweep time = Auto.
3. Following above setting of spectrum analyzer to measure spurious emission of 30~12500 MHz.

3.5.3 Test Setup



3.5.4 Test Result of Transmitter Spurious Emissions

Reference Documents	Test Mode
Appendix E	11b (20MHz), CH1-13
Appendix L	11b (20MHz), CH14
Appendix E	11g (20MHz)
Appendix E	11n (20MHz)

3.6 Carrier Sense Measurement

3.6.1 Limit of Carrier Sense Measurement

Limits
EUT shall not transmit any waves when carrier wave inject into EUT

3.6.2 Test Procedures

1. Set RBW = VBW = 1MHz, Detector type = Peak, Sweep time = Auto, Span = 50 MHz.
2. Set EUT to normal operating mode and link up with companion equipment
3. Turn off the EUT transmission
4. Turn on the Signal Generator output to send carrier wave to EUT then turn on the EUT transmission

Power level of carrier wave at EUT is as below

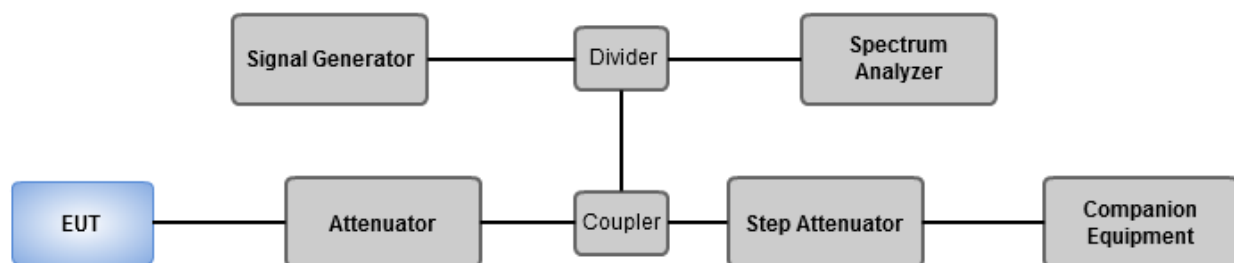
$$P_{cs} \text{ (dBm)} = 22.79 + G_r - 20\log(F)$$

G_r : Antenna gain (dBi)

F : Transmission Frequency (MHz)

5. Check the EUT does not transmit any waves

3.6.3 Test Setup



3.6.4 Test Result of Carrier Sense

Reference Documents	Test Mode
Appendix M	11b (20MHz), CH14

3.7 Interference prevention function

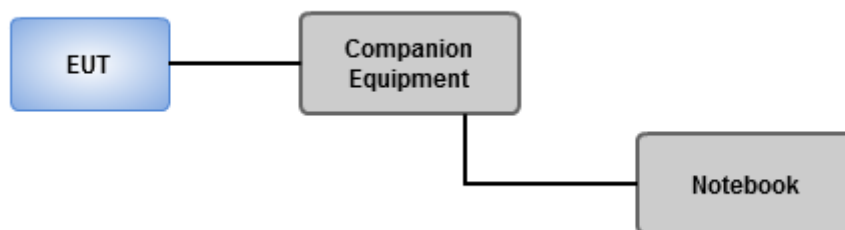
3.7.1 Limit of Interference Prevention Function

Limits
The identification code shall be 48 bits long

3.7.2 Test Procedures

1. Set EUT under operating mode and link up with companion equipment
2. Check communication status between EUT and companion equipment is normal
3. Confirm the MAC address of EUT

3.7.3 Test Setup



3.7.4 Test Result of Interference Prevention Function

Reference Documents	Test Mode
Appendix G	11b (20MHz), CH1-13
Appendix N	11b (20MHz), CH14
Appendix G	11g (20MHz)
Appendix G	11n (20MHz)

4 Receiver Test Results

4.1 Receiver Spurious Emissions

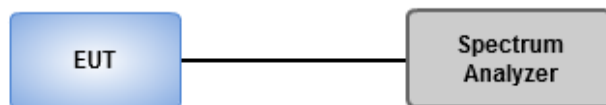
4.1.1 Limit of Receiver Spurious Emissions

Item	Limits
Rx Spurious Emission	$\leq 4\text{nW}$ ($f < 1\text{GHz}$).
	$\leq 20\text{nW}$ ($1\text{GHz} \leq f$).

4.1.2 Test Procedures

1. Set EUT under receiving condition to perform test
2. Set RBW = VBW = 100kHz, detector = Peak, Sweep time = Auto for emission measurement below 1GHz.
3. Set RBW = VBW=1MHz, detector = Peak, Sweep time = Auto for emission measurement above 1GHz.

4.1.3 Test Setup



4.1.4 Test Result of Receiver Spurious Emissions

Reference Documents	Test Mode
Appendix H	11b (20MHz), CH1-13
Appendix O	11b (20MHz), CH14
Appendix H	11g (20MHz)
Appendix H	11n (20MHz)

5 Test laboratory information

Established in 2012, ICC provides foremost EMC & RF Testing and advisory consultation services by our skilled engineers and technicians. Our services employ a wide variety of advanced edge test equipment and one of the widest certification extents in the business.

International Certification Corp (EMC and Wireless Communication Laboratory), it is our definitive objective is to institute long term, trust-based associations with our clients. The expectation we set up with our clients is based on outstanding service, practical expertise and devotion to a certified value structure. Our passion is to grant our clients with best EMC / RF services by oriented knowledgeable and accommodating staff.

Our Test sites are located at Linkou District and Kwei Shan District. Location map can be found on our website <http://www.icertifi.com.tw>.

Linkou

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Kwei Shan

Tel: 886-3-271-8666

No. 3-1, Lane 6, Wen San 3rd
St., Kwei Shan District, Tao Yuan
City 333, Taiwan, R.O.C.

Kwei Shan Site II

Tel: 886-3-271-8640

No. 14-1, Lane 19, Wen San 3rd
St., Kwei Shan District, Tao Yuan
City 333, Taiwan, R.O.C.

If you have any suggestion, please feel free to contact us as below information

Tel: 886-3-271-8666

Fax: 886-3-318-0155

Email: ICC_Service@icertifi.com.tw

==END==



Power Result

Appendix A.1

Summary

Mode	Power (dBm/MHz)	Power (mW/MHz)	EIRP (dBm/MHz)	EIRP (mW/MHz)
2.4-2.4835GHz	-	-	-	-
802.11b_Nss1_1TX	9.32	8.55067	12.11	16.25549
802.11g_Nss1_1TX	5.96	3.94457	8.75	7.49894
802.11n HT20_Nss1,(MCS0)_1TX	5.73	3.74111	8.52	7.11214

PD = Antenna Power (Power Density)sum by P1;

P1 = Port 1 PD; ENBF = Equivalent Noise Bandwidth Factor;

Result

Mode	Result	Gain (dBi)	ENBF (dB)	P1 (dBm/MHz)	Power (dBm/MHz)	Power (mW/MHz)	Power Lim. (mW/MHz)	EIRP (dBm/MHz)	EIRP (mW/MHz)	EIRP Lim. (mW/MHz)
802.11b_Nss1_1TX	-	-	-	-	-	-	-	-	-	-
2412MHz_TnomVnom	Pass	2.79	0.49	9.32	9.32	8.55067	10	12.11	16.25549	16.368
2412MHz_TnomVmin	Pass	2.79	0.49	9.13	9.13	8.18465	10	11.92	15.55966	16.368
2412MHz_TnomVmax	Pass	2.79	0.49	9.22	9.22	8.35603	10	12.01	15.88547	16.368
2442MHz_TnomVnom	Pass	2.79	0.49	8.92	8.92	7.79830	10	11.71	14.82518	16.368
2442MHz_TnomVmin	Pass	2.79	0.49	8.94	8.94	7.83430	10	11.73	14.89361	16.368
2442MHz_TnomVmax	Pass	2.79	0.49	8.89	8.89	7.74462	10	11.68	14.72313	16.368
2472MHz_TnomVnom	Pass	2.79	0.49	8.72	8.72	7.44732	10	11.51	14.15794	16.368
2472MHz_TnomVmin	Pass	2.79	0.49	8.57	8.57	7.19449	10	11.36	13.67729	16.368
2472MHz_TnomVmax	Pass	2.79	0.49	8.61	8.61	7.26106	10	11.40	13.80384	16.368
802.11g_Nss1_1TX	-	-	-	-	-	-	-	-	-	-
2412MHz_TnomVnom	Pass	2.79	0.49	5.80	5.80	3.80189	10	8.59	7.22770	16.368
2412MHz_TnomVmin	Pass	2.79	0.49	5.96	5.96	3.94457	10	8.75	7.49894	16.368
2412MHz_TnomVmax	Pass	2.79	0.49	5.85	5.85	3.84592	10	8.64	7.31139	16.368
2442MHz_TnomVnom	Pass	2.79	0.49	5.81	5.81	3.81066	10	8.60	7.24436	16.368
2442MHz_TnomVmin	Pass	2.79	0.49	5.74	5.74	3.74973	10	8.53	7.12853	16.368
2442MHz_TnomVmax	Pass	2.79	0.49	5.73	5.73	3.74111	10	8.52	7.11214	16.368
2472MHz_TnomVnom	Pass	2.79	0.49	4.67	4.67	2.93089	10	7.46	5.57186	16.368
2472MHz_TnomVmin	Pass	2.79	0.49	4.67	4.67	2.93089	10	7.46	5.57186	16.368
2472MHz_TnomVmax	Pass	2.79	0.49	4.65	4.65	2.91743	10	7.44	5.54626	16.368
802.11n HT20_Nss1,(MCS0)_1TX	-	-	-	-	-	-	-	-	-	-
2412MHz_TnomVnom	Pass	2.79	0.49	5.69	5.69	3.70681	10	8.48	7.04693	16.368
2412MHz_TnomVmin	Pass	2.79	0.49	5.67	5.67	3.68978	10	8.46	7.01455	16.368
2412MHz_TnomVmax	Pass	2.79	0.49	5.73	5.73	3.74111	10	8.52	7.11214	16.368
2442MHz_TnomVnom	Pass	2.79	0.49	5.57	5.57	3.60579	10	8.36	6.85488	16.368



Power Result

Appendix A.1

Mode	Result	Gain (dBi)	ENBF (dB)	P1 (dBm/MHz)	Power (dBm/MHz)	Power (mW/MHz)	Power Lim. (mW/MHz)	EIRP (dBm/MHz)	EIRP (mW/MHz)	EIRP Lim. (mW/MHz)
2442MHz_TnomVmin	Pass	2.79	0.49	5.59	5.59	3.62243	10	8.38	6.88652	16.368
2442MHz_TnomVmax	Pass	2.79	0.49	5.50	5.50	3.54813	10	8.29	6.74528	16.368
2472MHz_TnomVnom	Pass	2.79	0.49	4.39	4.39	2.74789	10	7.18	5.22396	16.368
2472MHz_TnomVmin	Pass	2.79	0.49	4.45	4.45	2.78612	10	7.24	5.29663	16.368
2472MHz_TnomVmax	Pass	2.79	0.49	4.33	4.33	2.71019	10	7.12	5.15229	16.368

PD = Antenna Power (Power Density)sum by **P1**;

P1 = Port 1 PD; **ENBF** = Equivalent Noise Bandwidth Factor;



Power Tolerance Result

Appendix A.2

Summary

Mode	Result	Power (dBm/MHz)	Power (mW/MHz)	Declare (mW/MHz)	Tolerance (%)	Limit+ (%)	Limit- (%)
2.4-2.4835GHz	-	-	-	-	-	-	-
802.11b_Nss1_1TX	Pass	9.32	8.55067	8.50	0.60	20	-80
802.11g_Nss1_1TX	Pass	5.96	3.94457	4.00	-1.39	20	-80
802.11n HT20_Nss1,(MCS0)_1TX	Pass	5.73	3.74111	4.00	-6.47	20	-80

Result

Mode	Result	Power (dBm/MHz)	Power (mW/MHz)	Declare (mW/MHz)	Tolerance (%)	Limit+ (%)	Limit- (%)
802.11b_Nss1_1TX	-	-	-	-	-	-	-
2412MHz_TnomVnom	Pass	9.32	8.55067	8.50	0.60	20	-80
2412MHz_TnomVmin	Pass	9.13	8.18465	8.50	-3.71	20	-80
2412MHz_TnomVmax	Pass	9.22	8.35603	8.50	-1.69	20	-80
2442MHz_TnomVnom	Pass	8.92	7.79830	8.50	-8.26	20	-80
2442MHz_TnomVmin	Pass	8.94	7.83430	8.50	-7.83	20	-80
2442MHz_TnomVmax	Pass	8.89	7.74462	8.50	-8.89	20	-80
2472MHz_TnomVnom	Pass	8.72	7.44732	8.50	-12.38	20	-80
2472MHz_TnomVmin	Pass	8.57	7.19449	8.50	-15.36	20	-80
2472MHz_TnomVmax	Pass	8.61	7.26106	8.50	-14.58	20	-80
802.11g_Nss1_1TX	-	-	-	-	-	-	-
2412MHz_TnomVnom	Pass	5.80	3.80189	4.00	-4.95	20	-80
2412MHz_TnomVmin	Pass	5.96	3.94457	4.00	-1.39	20	-80
2412MHz_TnomVmax	Pass	5.85	3.84592	4.00	-3.85	20	-80
2442MHz_TnomVnom	Pass	5.81	3.81066	4.00	-4.73	20	-80
2442MHz_TnomVmin	Pass	5.74	3.74973	4.00	-6.26	20	-80
2442MHz_TnomVmax	Pass	5.73	3.74111	4.00	-6.47	20	-80
2472MHz_TnomVnom	Pass	4.67	2.93089	4.00	-26.73	20	-80
2472MHz_TnomVmin	Pass	4.67	2.93089	4.00	-26.73	20	-80
2472MHz_TnomVmax	Pass	4.65	2.91743	4.00	-27.06	20	-80
802.11n HT20_Nss1,(MCS0)_1TX	-	-	-	-	-	-	-
2412MHz_TnomVnom	Pass	5.69	3.70681	4.00	-7.33	20	-80
2412MHz_TnomVmin	Pass	5.67	3.68978	4.00	-7.76	20	-80
2412MHz_TnomVmax	Pass	5.73	3.74111	4.00	-6.47	20	-80
2442MHz_TnomVnom	Pass	5.57	3.60579	4.00	-9.86	20	-80



Power Tolerance Result

Appendix A.2

Mode	Result	Power (dBm/MHz)	Power (mW/MHz)	Declare (mW/MHz)	Tolerance (%)	Limit+ (%)	Limit- (%)
2442MHz_TnomVmin	Pass	5.59	3.62243	4.00	-9.44	20	-80
2442MHz_TnomVmax	Pass	5.50	3.54813	4.00	-11.30	20	-80
2472MHz_TnomVnom	Pass	4.39	2.74789	4.00	-31.30	20	-80
2472MHz_TnomVmin	Pass	4.45	2.78612	4.00	-30.35	20	-80
2472MHz_TnomVmax	Pass	4.33	2.71019	4.00	-32.25	20	-80



Frequency Tolerance Result

Appendix B

Summary

Mode	Result	Ch (Hz)	Center (Hz)	ppm	Limit (ppm)	Port	Remark
2.4-2.4835GHz	-	-	-	-	-	-	-
802.11b_Nss1_1TX	Pass	2.412G	2.41200409G	1.697	±50	1	-
802.11g_Nss1_1TX	Pass	2.412G	2.41200385G	1.597	±50	1	-
802.11n HT20_Nss1,(MCS0)_1TX	Pass	2.412G	2.41200362G	1.502	±50	1	-



Frequency Tolerance Result

Appendix B

Result

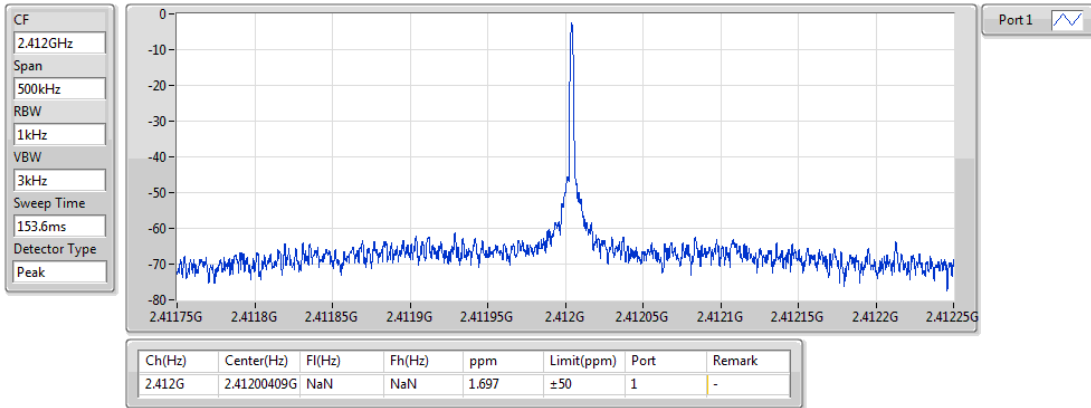
Mode	Result	Ch (Hz)	Center (Hz)	ppm	Limit (ppm)	Port	Remark
802.11b_Nss1_1TX	-	-	-	-	-	-	-
2412MHz_TnomVnom	Pass	2.412G	2.41200409G	1.697	±50	1	-
2412MHz_TnomVmin	Pass	2.412G	2.41200399G	1.653	±50	1	-
2412MHz_TnomVmax	Pass	2.412G	2.4120039G	1.619	±50	1	-
2442MHz_TnomVnom	Pass	2.442G	2.44200347G	1.42	±50	1	-
2442MHz_TnomVmin	Pass	2.442G	2.44200342G	1.4	±50	1	-
2442MHz_TnomVmax	Pass	2.442G	2.44200336G	1.374	±50	1	-
2472MHz_TnomVnom	Pass	2.472G	2.47200361G	1.459	±50	1	-
2472MHz_TnomVmin	Pass	2.472G	2.47200346G	1.398	±50	1	-
2472MHz_TnomVmax	Pass	2.472G	2.47200335G	1.355	±50	1	-
802.11g_Nss1_1TX	-	-	-	-	-	-	-
2412MHz_TnomVnom	Pass	2.412G	2.41200385G	1.597	±50	1	-
2412MHz_TnomVmin	Pass	2.412G	2.41200378G	1.568	±50	1	-
2412MHz_TnomVmax	Pass	2.412G	2.4120037G	1.536	±50	1	-
2442MHz_TnomVnom	Pass	2.442G	2.44200331G	1.357	±50	1	-
2442MHz_TnomVmin	Pass	2.442G	2.4420033G	1.35	±50	1	-
2442MHz_TnomVmax	Pass	2.442G	2.44200329G	1.347	±50	1	-
2472MHz_TnomVnom	Pass	2.472G	2.47200332G	1.345	±50	1	-
2472MHz_TnomVmin	Pass	2.472G	2.47200331G	1.34	±50	1	-
2472MHz_TnomVmax	Pass	2.472G	2.4720033G	1.335	±50	1	-
802.11n HT20_Nss1,(MCS0)_1TX	-	-	-	-	-	-	-
2412MHz_TnomVnom	Pass	2.412G	2.41200362G	1.502	±50	1	-
2412MHz_TnomVmin	Pass	2.412G	2.41200359G	1.488	±50	1	-
2412MHz_TnomVmax	Pass	2.412G	2.41200355G	1.473	±50	1	-
2442MHz_TnomVnom	Pass	2.442G	2.44200328G	1.343	±50	1	-
2442MHz_TnomVmin	Pass	2.442G	2.44200324G	1.327	±50	1	-
2442MHz_TnomVmax	Pass	2.442G	2.4420032G	1.309	±50	1	-
2472MHz_TnomVnom	Pass	2.472G	2.47200329G	1.333	±50	1	-
2472MHz_TnomVmin	Pass	2.472G	2.47200329G	1.332	±50	1	-
2472MHz_TnomVmax	Pass	2.472G	2.47200329G	1.331	±50	1	-



802.11b_Nss1_1TX

Freq. Stability

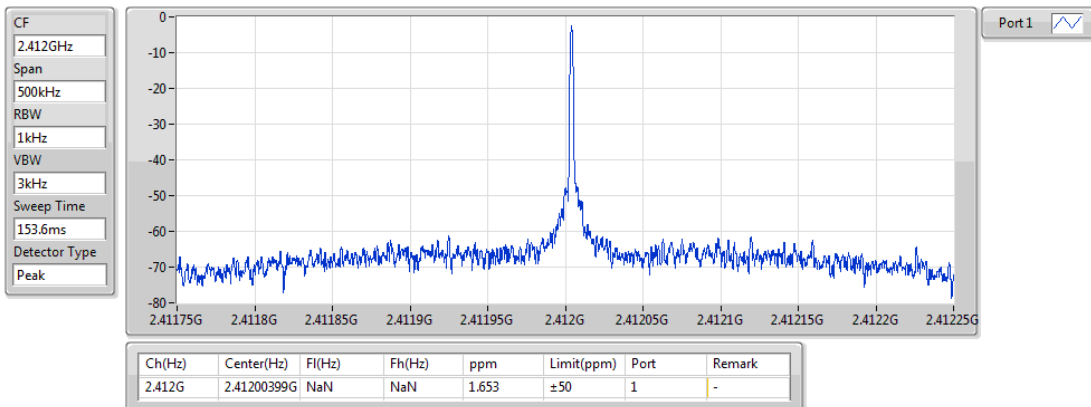
2412MHz_TnomVnom



802.11b_Nss1_1TX

Freq. Stability

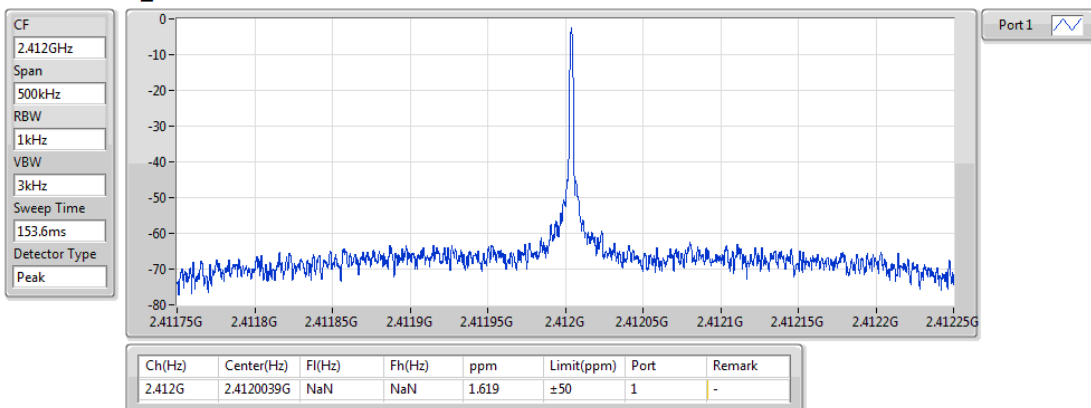
2412MHz_TnomVmin



802.11b_Nss1_1TX

Freq. Stability

2412MHz_TnomVmax

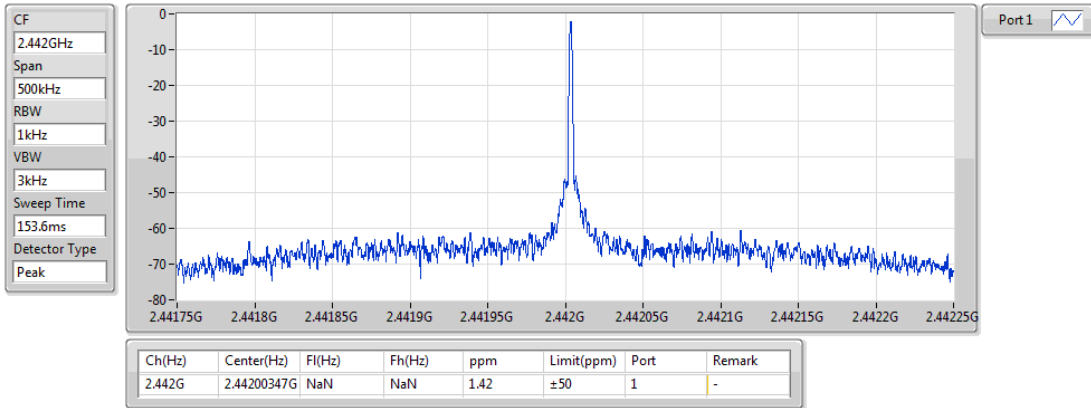




802.11b_Nss1_1TX

Freq. Stability

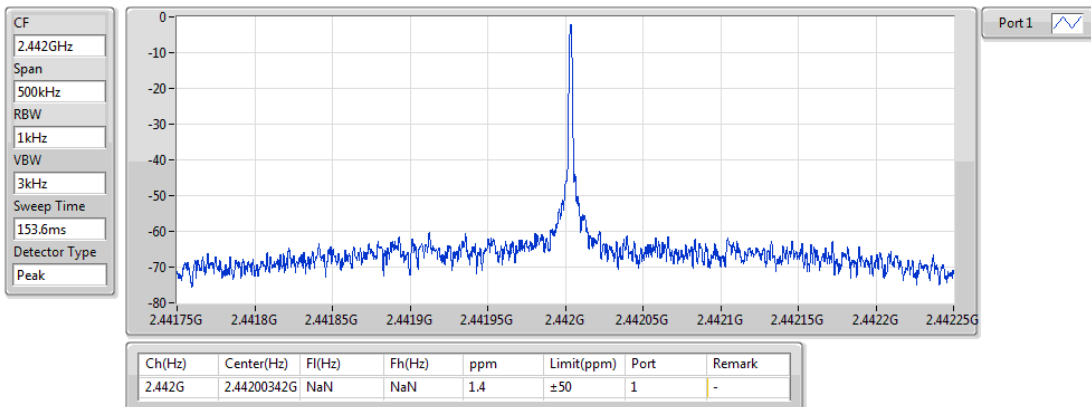
2442MHz_TnomVnom



802.11b_Nss1_1TX

Freq. Stability

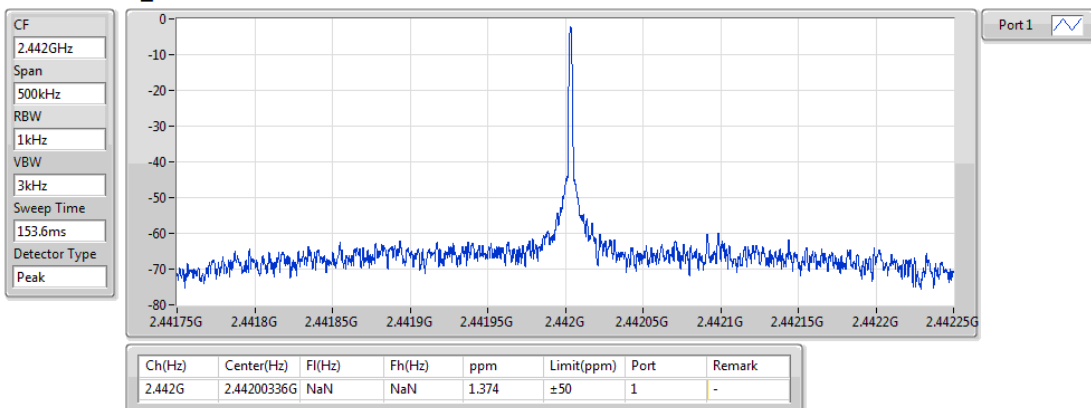
2442MHz_TnomVmin



802.11b_Nss1_1TX

Freq. Stability

2442MHz_TnomVmax





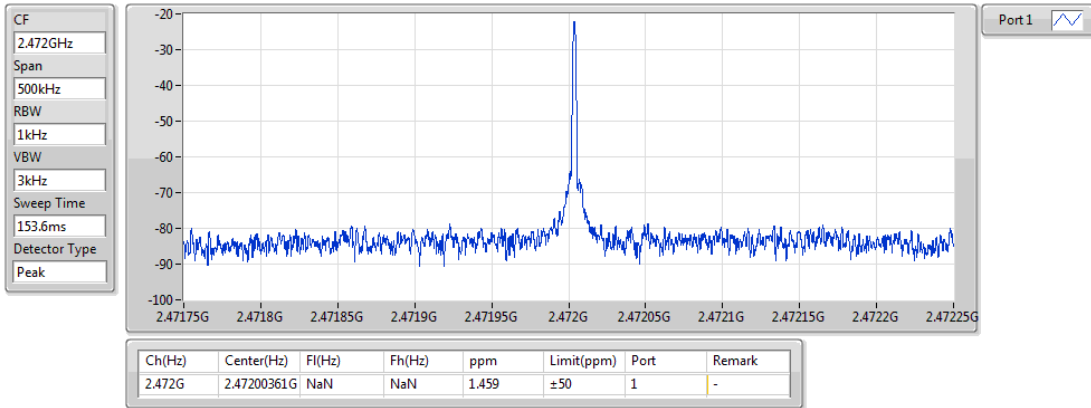
Frequency Tolerance Result

Appendix B

802.11b_Nss1_1TX

Freq. Stability

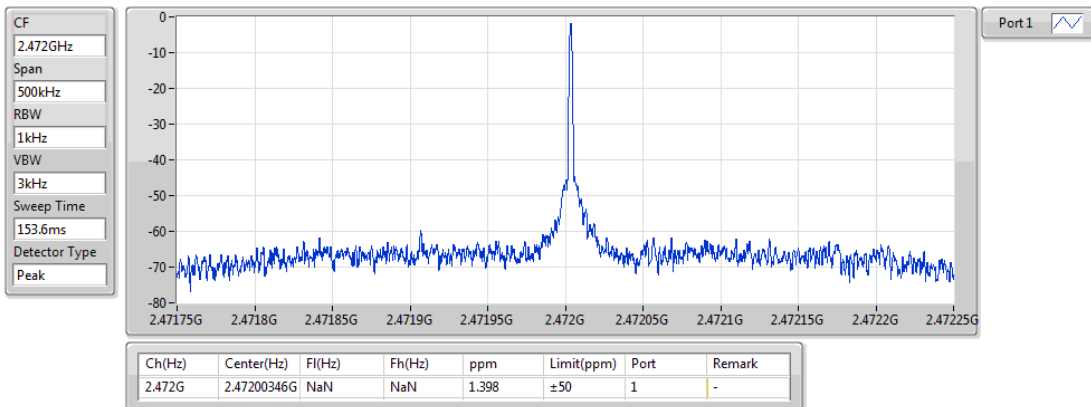
2472MHz_TnomVnom



802.11b_Nss1_1TX

Freq. Stability

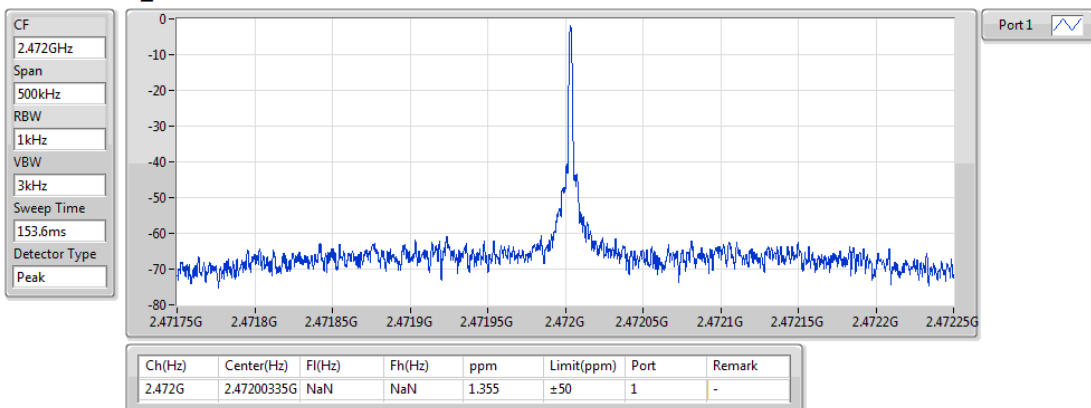
2472MHz_TnomVmin



802.11b_Nss1_1TX

Freq. Stability

2472MHz_TnomVmax





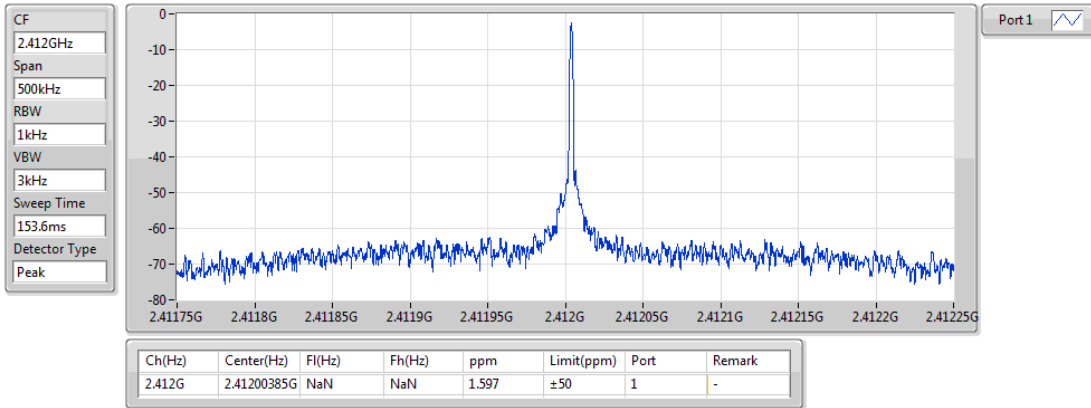
Frequency Tolerance Result

Appendix B

802.11g_Nss1_1TX

Freq. Stability

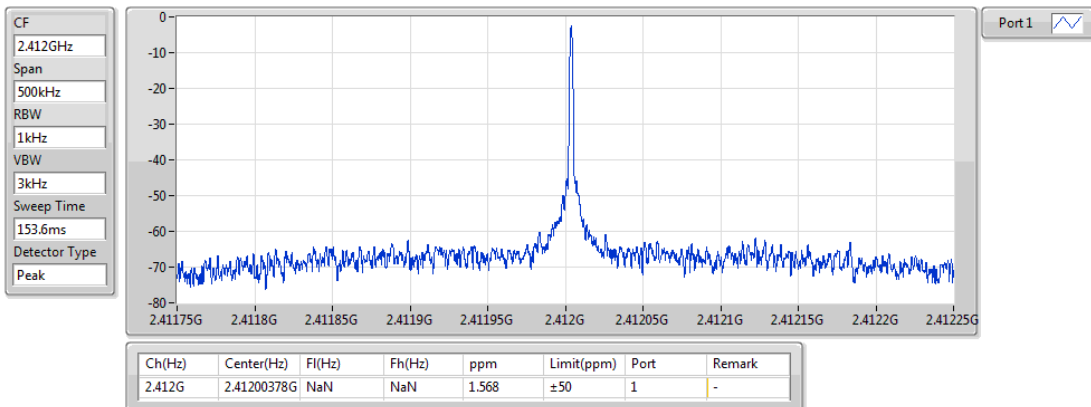
2412MHz_TnomVnom



802.11g_Nss1_1TX

Freq. Stability

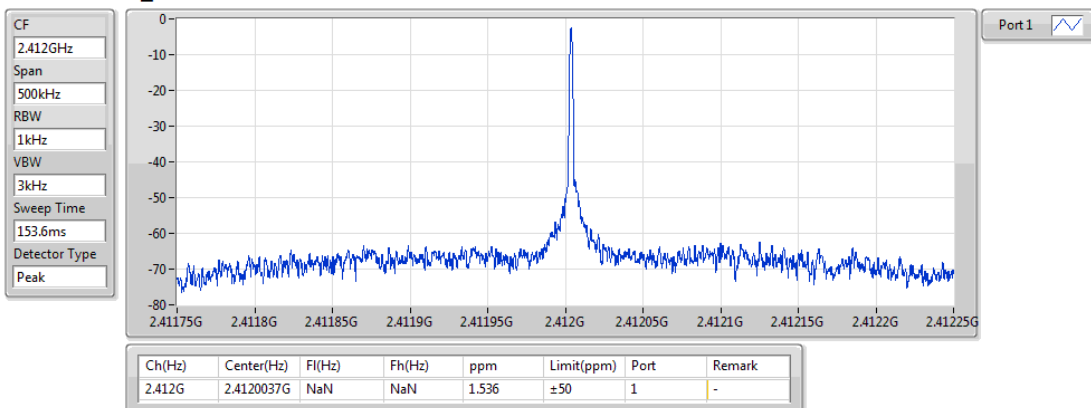
2412MHz_TnomVmin



802.11g_Nss1_1TX

Freq. Stability

2412MHz_TnomVmax

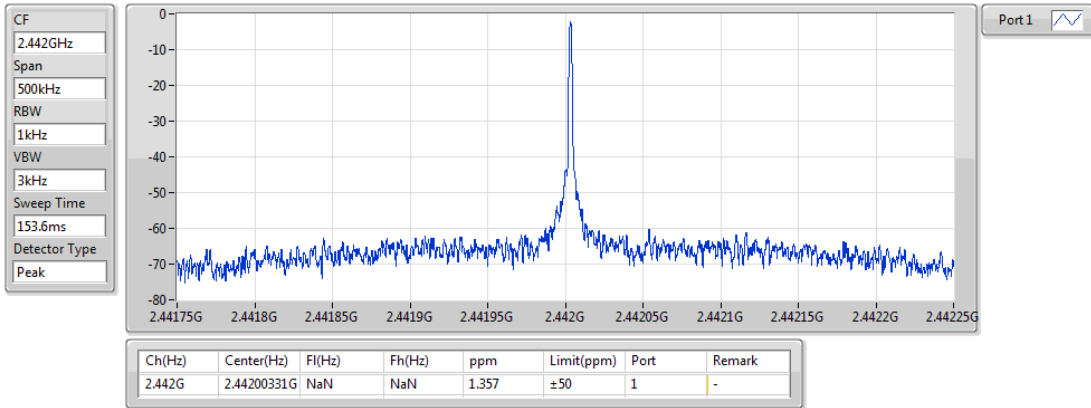




802.11g_Nss1_1TX

Freq. Stability

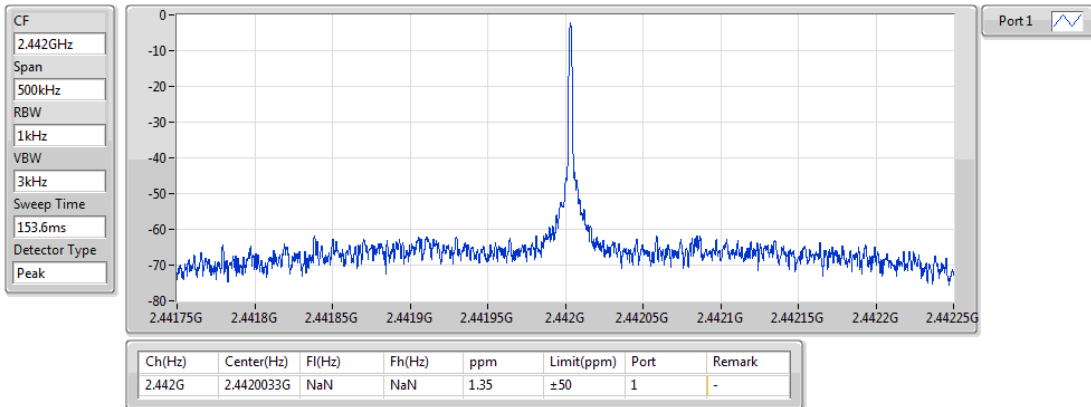
2442MHz_TnomVnom



802.11g_Nss1_1TX

Freq. Stability

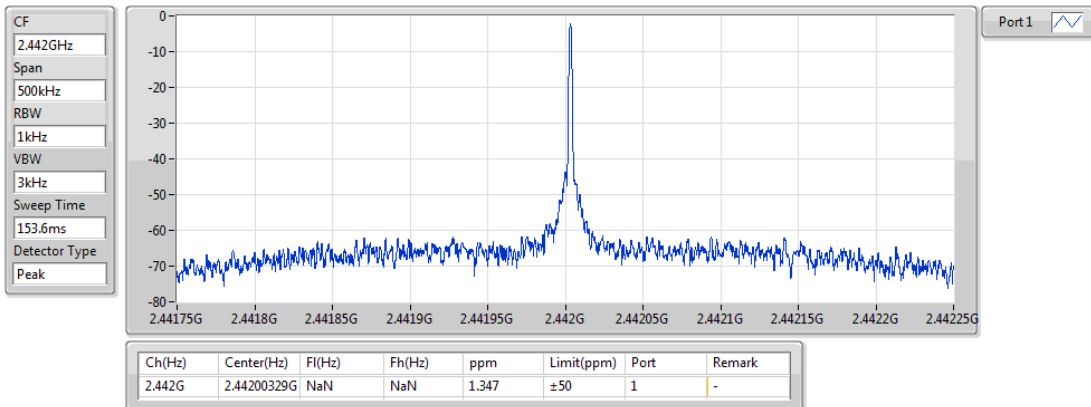
2442MHz_TnomVmin



802.11g_Nss1_1TX

Freq. Stability

2442MHz_TnomVmax

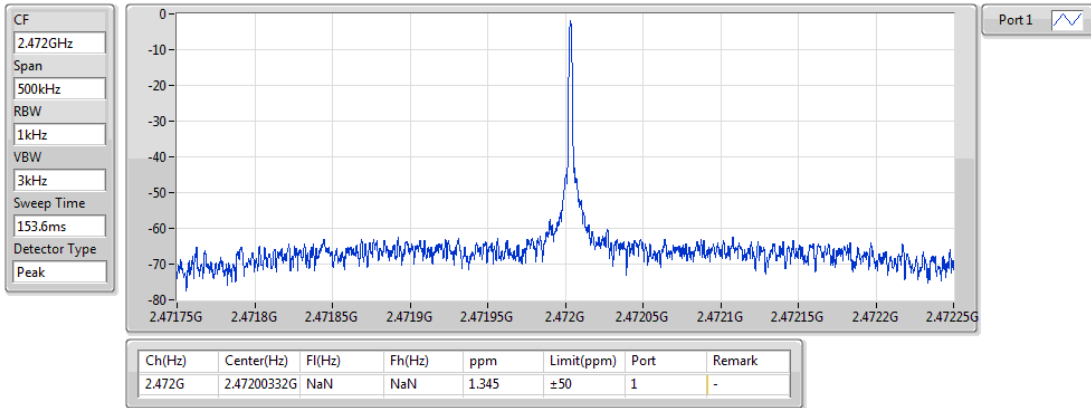




802.11g_Nss1_1TX

Freq. Stability

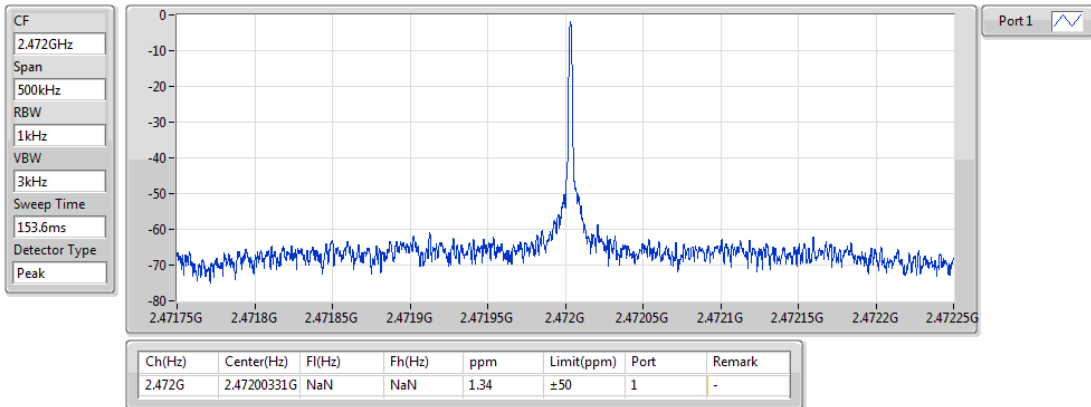
2472MHz_TnomVnom



802.11g_Nss1_1TX

Freq. Stability

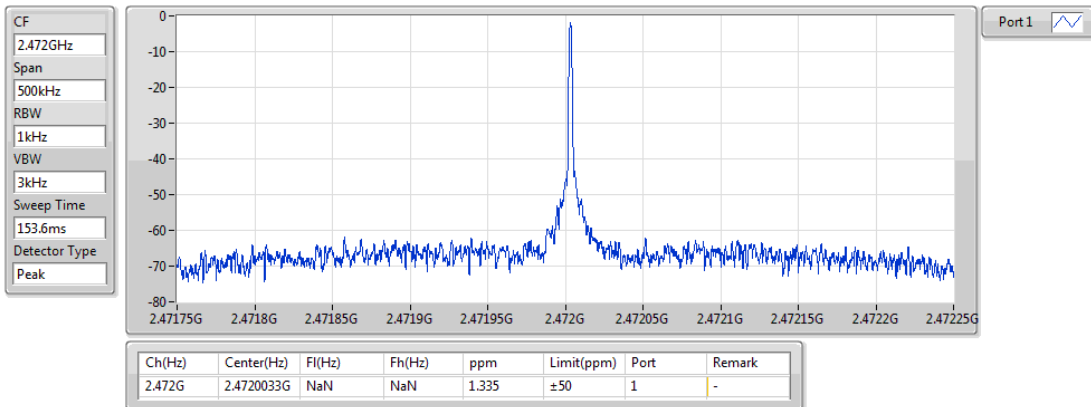
2472MHz_TnomVmin



802.11g_Nss1_1TX

Freq. Stability

2472MHz_TnomVmax

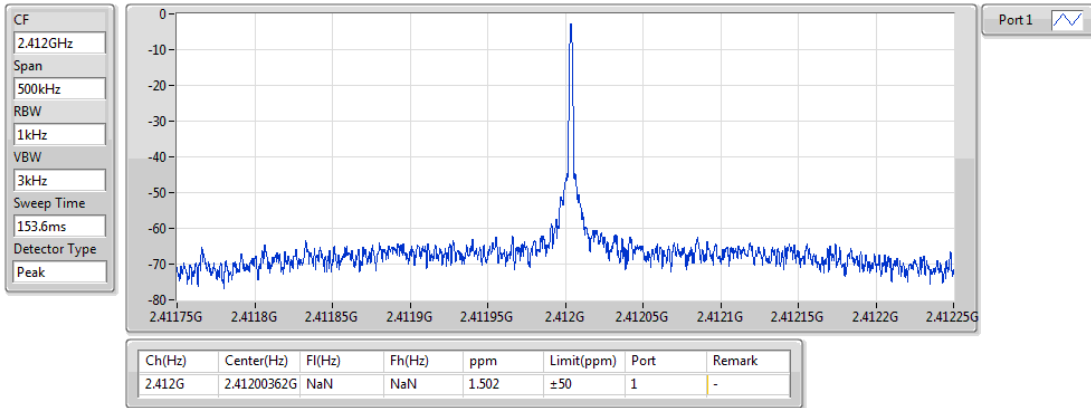




802.11n HT20_Nss1,(MCS0)_1TX

Freq. Stability

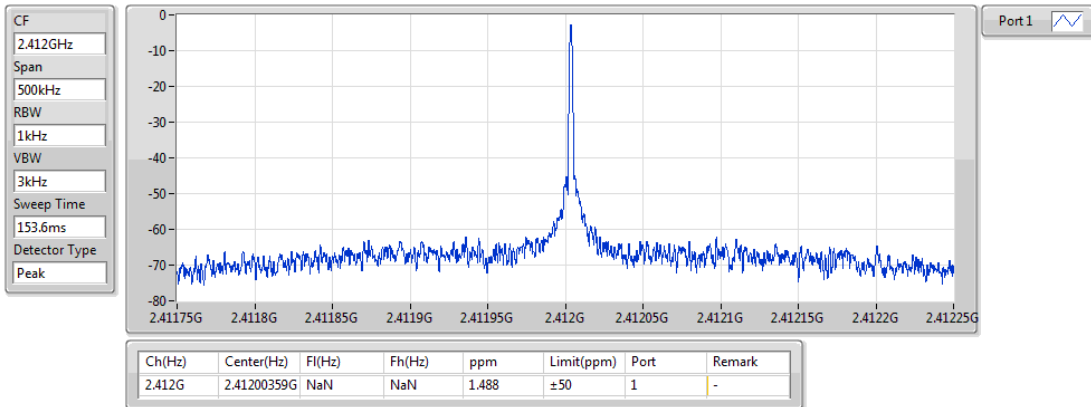
2412MHz_TnomVnom



802.11n HT20_Nss1,(MCS0)_1TX

Freq. Stability

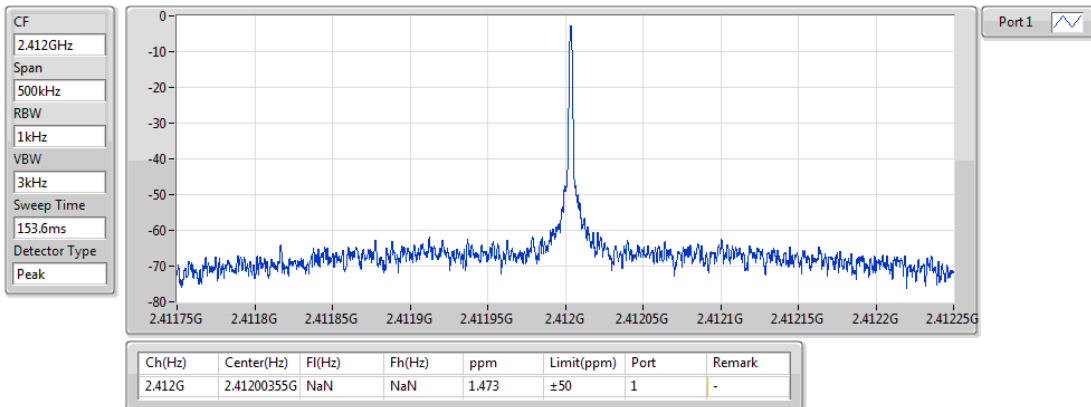
2412MHz_TnomVmin



802.11n HT20_Nss1,(MCS0)_1TX

Freq. Stability

2412MHz_TnomVmax





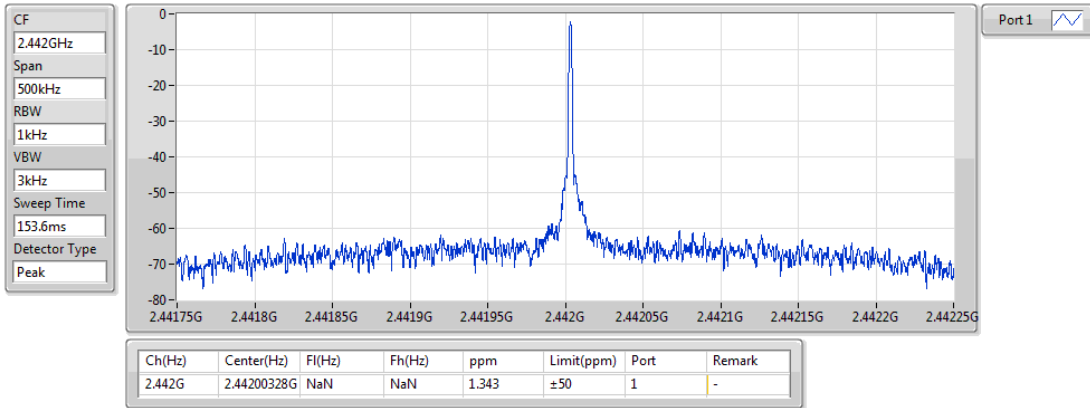
Frequency Tolerance Result

Appendix B

802.11n HT20_Nss1,(MCS0)_1TX

Freq. Stability

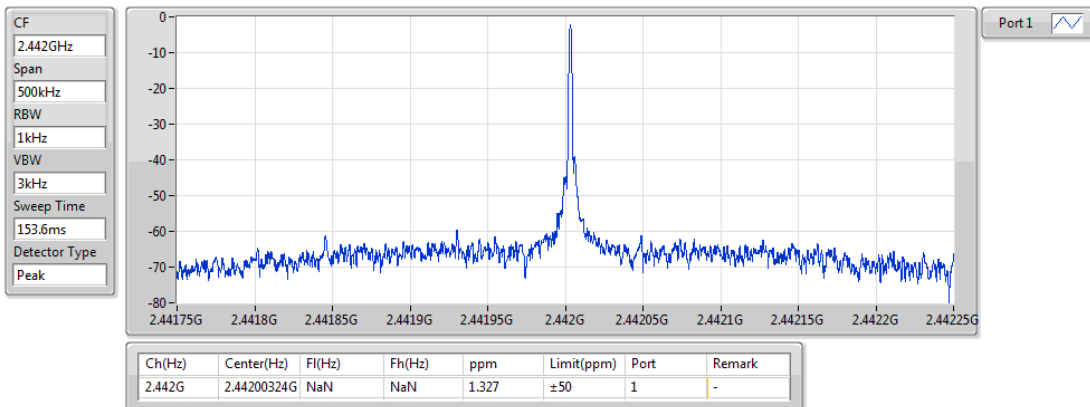
2442MHz_TnomVnom



802.11n HT20_Nss1,(MCS0)_1TX

Freq. Stability

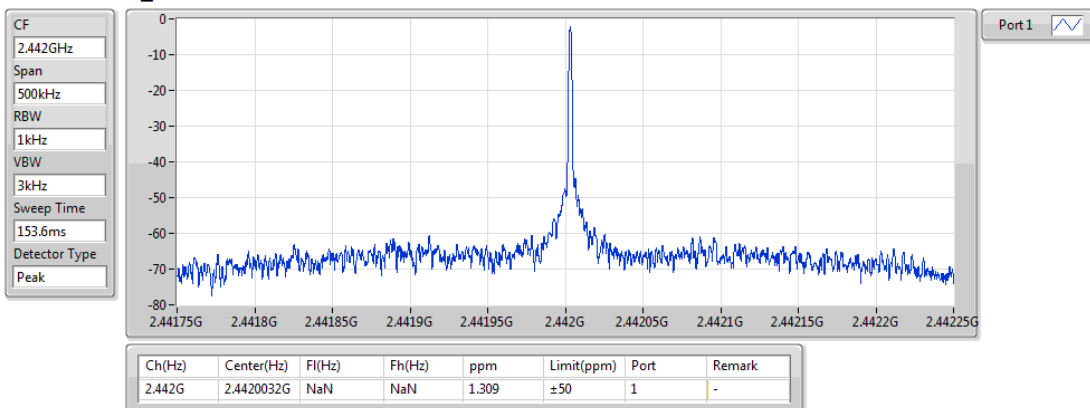
2442MHz_TnomVmin



802.11n HT20_Nss1,(MCS0)_1TX

Freq. Stability

2442MHz_TnomVmax





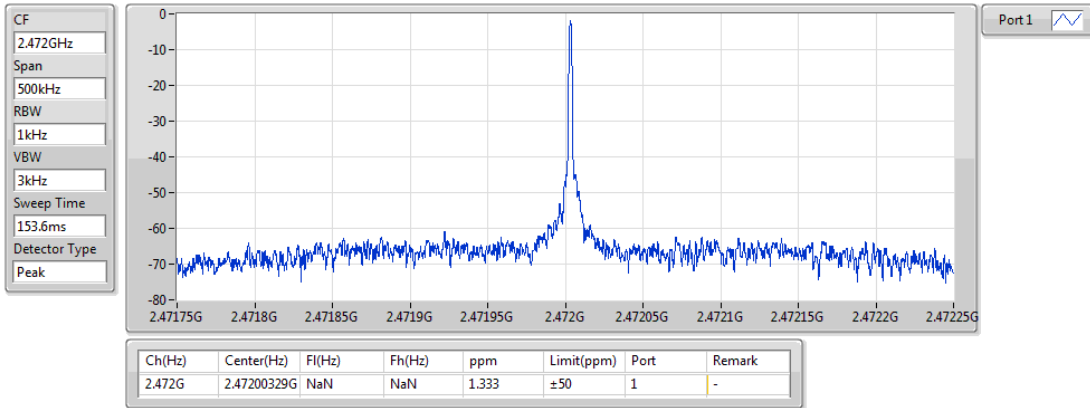
Frequency Tolerance Result

Appendix B

802.11n HT20_Nss1,(MCS0)_1TX

Freq. Stability

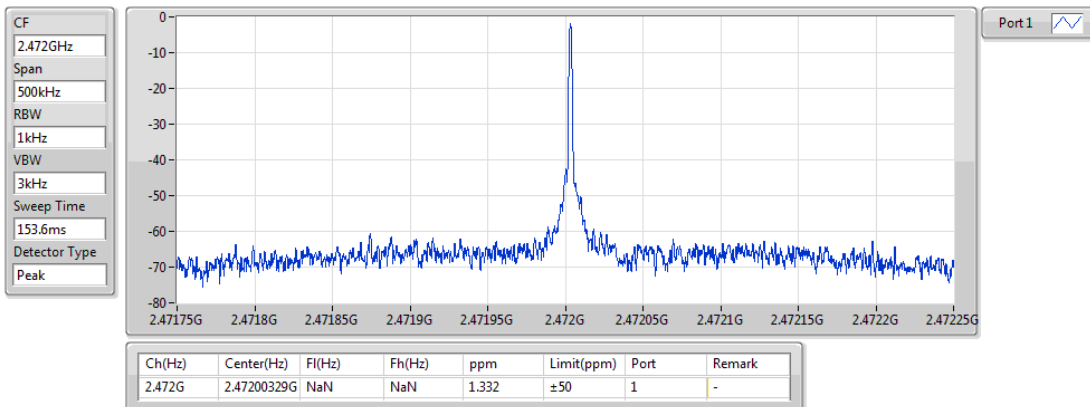
2472MHz_TnomVnom



802.11n HT20_Nss1,(MCS0)_1TX

Freq. Stability

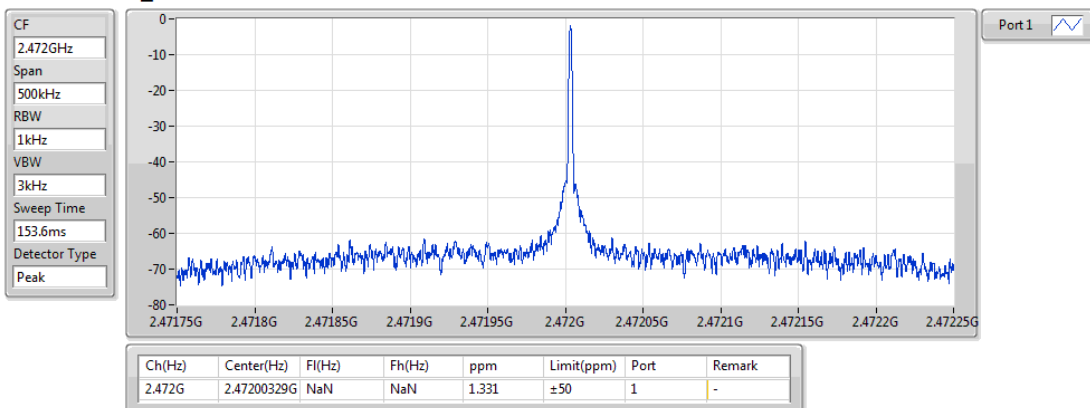
2472MHz_TnomVmin



802.11n HT20_Nss1,(MCS0)_1TX

Freq. Stability

2472MHz_TnomVmax





Occupied Bandwidth Result

Appendix C

Summary

Mode	Max-OBW (Hz)	ITU-Code	Min-OBW (Hz)
2.4-2.4835GHz	-	-	-
802.11b_Nss1_1TX	14.073M	14M1G1D	13.853M
802.11g_Nss1_1TX	18.751M	18M8D1D	17.991M
802.11n HT20_Nss1,(MCS0)_1TX	19.45M	19M4D1D	18.831M

Max-OBW = Maximum 99% occupied bandwidth; **Min-OBW** = Minimum 99% occupied bandwidth;

Result

Mode	Result	Limit (Hz)	P1-OBW (Hz)
802.11b_Nss1_1TX	-	-	-
2412MHz_TnomVnom	Pass	26M	13.873M
2412MHz_TnomVmin	Pass	26M	13.853M
2412MHz_TnomVmax	Pass	26M	13.853M
2442MHz_TnomVnom	Pass	26M	13.913M
2442MHz_TnomVmin	Pass	26M	13.933M
2442MHz_TnomVmax	Pass	26M	13.913M
2472MHz_TnomVnom	Pass	26M	14.073M
2472MHz_TnomVmin	Pass	26M	14.053M
2472MHz_TnomVmax	Pass	26M	14.033M
802.11g_Nss1_1TX	-	-	-
2412MHz_TnomVnom	Pass	26M	18.051M
2412MHz_TnomVmin	Pass	26M	17.991M
2412MHz_TnomVmax	Pass	26M	17.991M
2442MHz_TnomVnom	Pass	26M	18.751M
2442MHz_TnomVmin	Pass	26M	18.671M
2442MHz_TnomVmax	Pass	26M	18.571M
2472MHz_TnomVnom	Pass	26M	18.051M
2472MHz_TnomVmin	Pass	26M	18.071M
2472MHz_TnomVmax	Pass	26M	18.071M
802.11n HT20_Nss1,(MCS0)_1TX	-	-	-
2412MHz_TnomVnom	Pass	26M	18.871M
2412MHz_TnomVmin	Pass	26M	18.831M
2412MHz_TnomVmax	Pass	26M	18.871M
2442MHz_TnomVnom	Pass	26M	19.45M
2442MHz_TnomVmin	Pass	26M	19.39M



Occupied Bandwidth Result

Appendix C

Mode	Result	Limit (Hz)	P1-OBW (Hz)
2442MHz_TnomVmax	Pass	26M	19.29M
2472MHz_TnomVnom	Pass	26M	18.831M
2472MHz_TnomVmin	Pass	26M	18.891M
2472MHz_TnomVmax	Pass	26M	18.831M

P1-OBW = Port 1 99% occupied bandwidth;



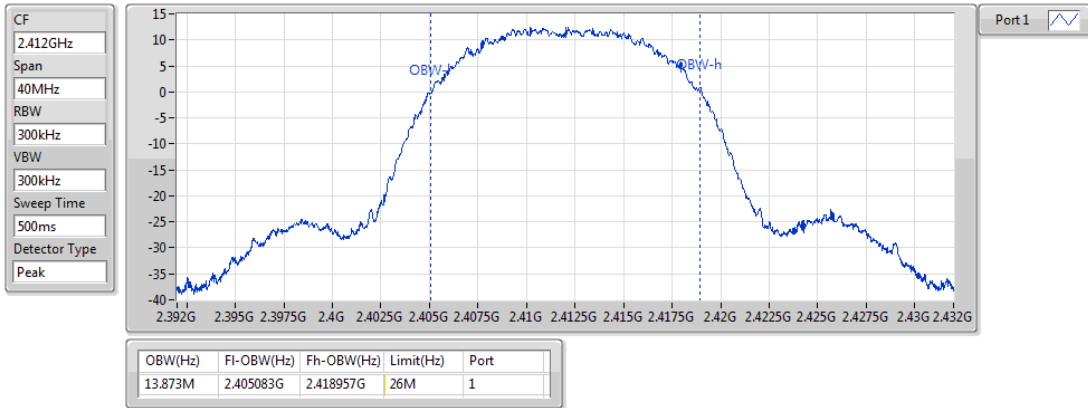
Occupied Bandwidth Result

Appendix C

802.11b_Nss1_1TX

OBW

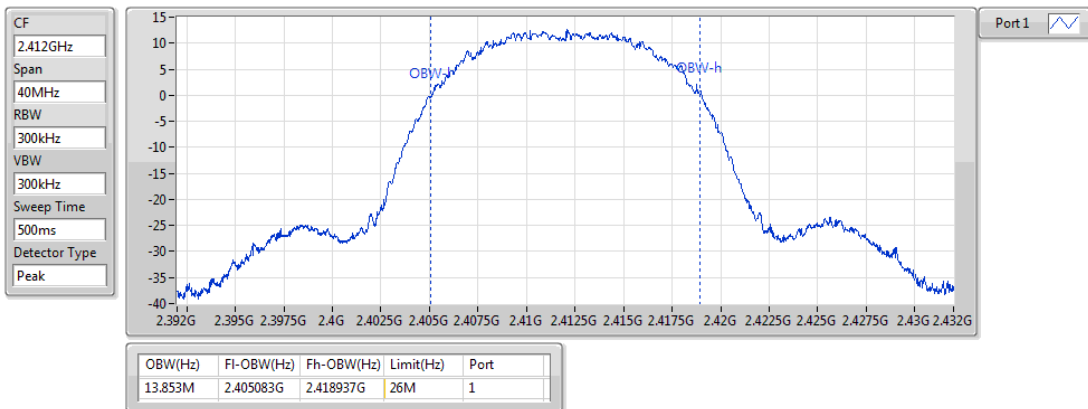
2412MHz_TnomVnom



802.11b_Nss1_1TX

OBW

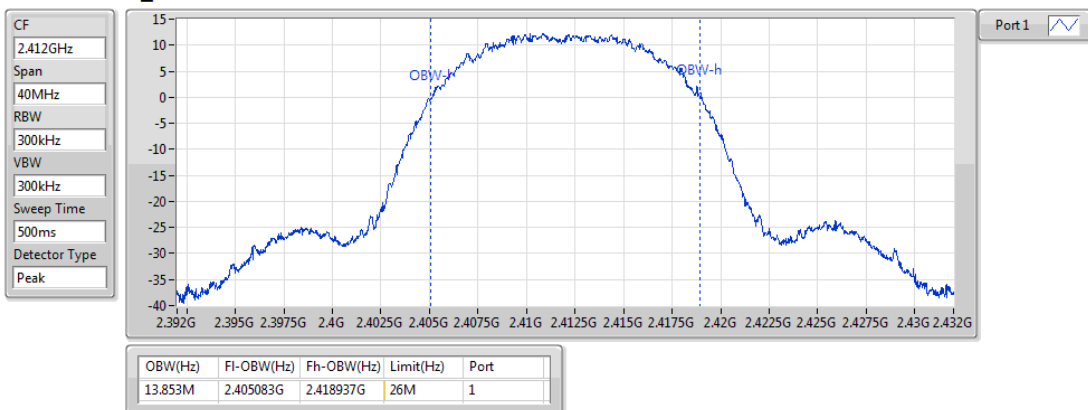
2412MHz_TnomVmin



802.11b_Nss1_1TX

OBW

2412MHz_TnomVmax





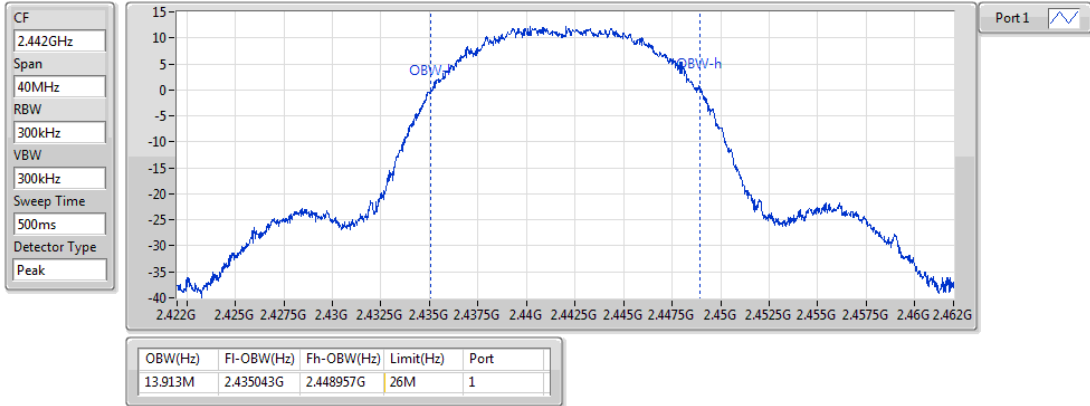
Occupied Bandwidth Result

Appendix C

802.11b_Nss1_1TX

OBW

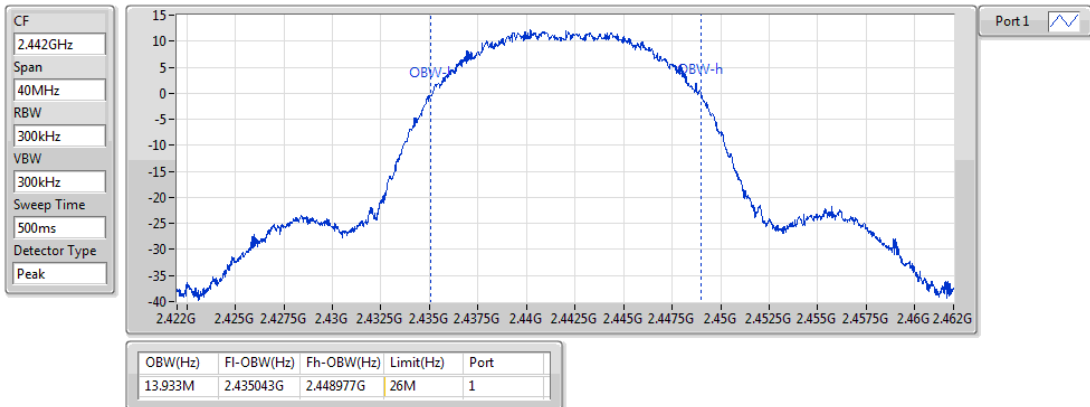
2442MHz_TnomVnom



802.11b_Nss1_1TX

OBW

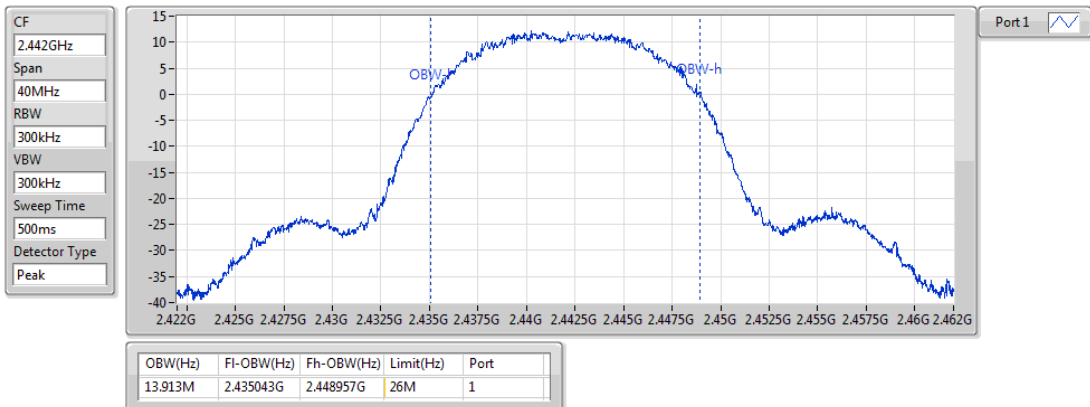
2442MHz_TnomVmin



802.11b_Nss1_1TX

OBW

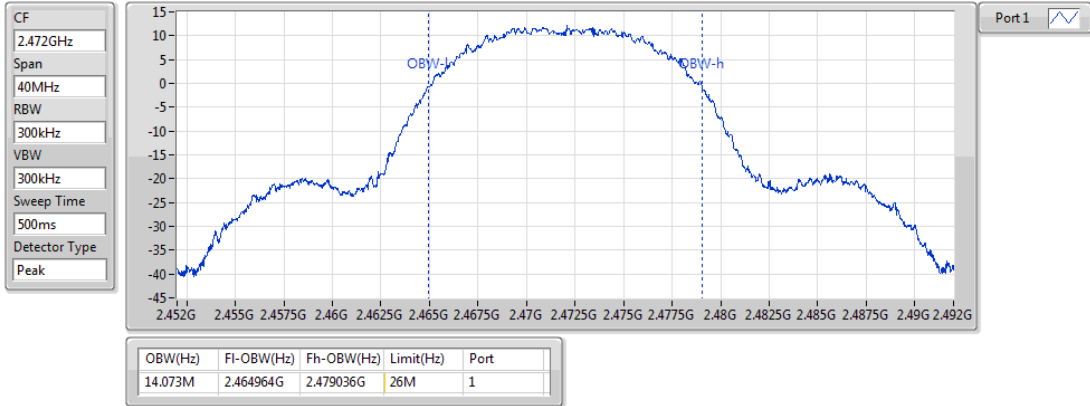
2442MHz_TnomVmax



802.11b_Nss1_1TX

OBW

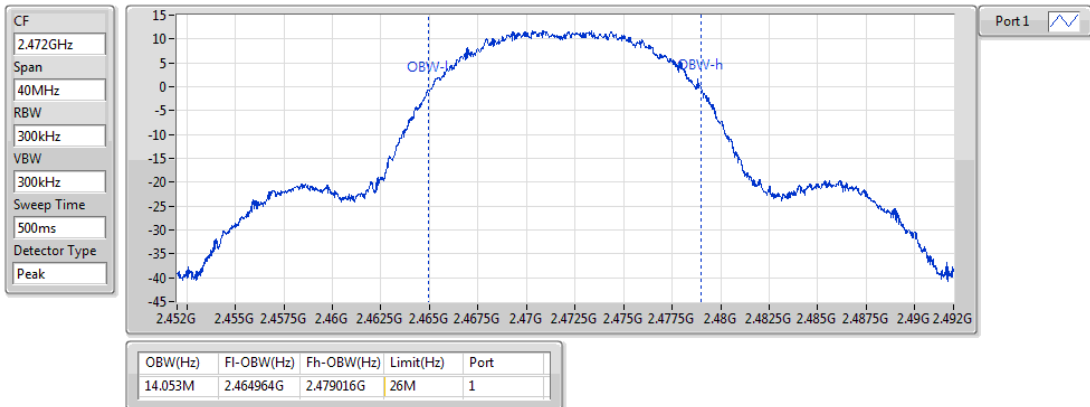
2472MHz_TnomVnom



802.11b_Nss1_1TX

OBW

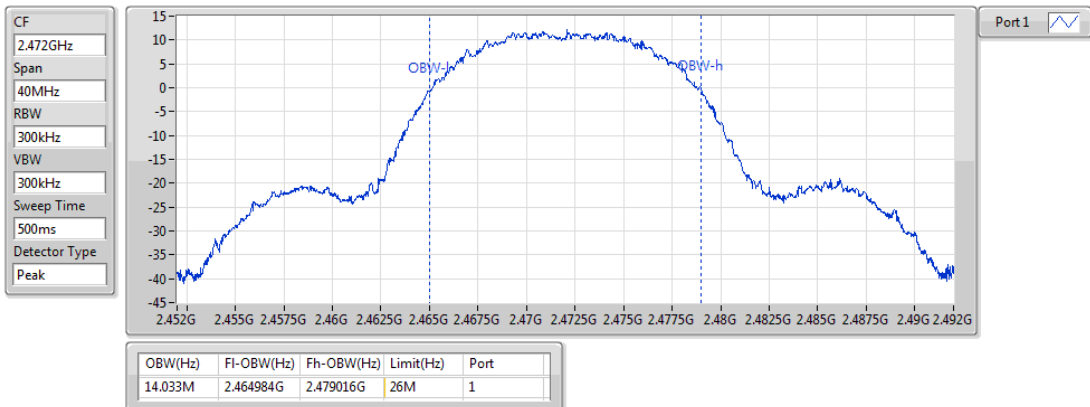
2472MHz_TnomVmin



802.11b_Nss1_1TX

OBW

2472MHz_TnomVmax





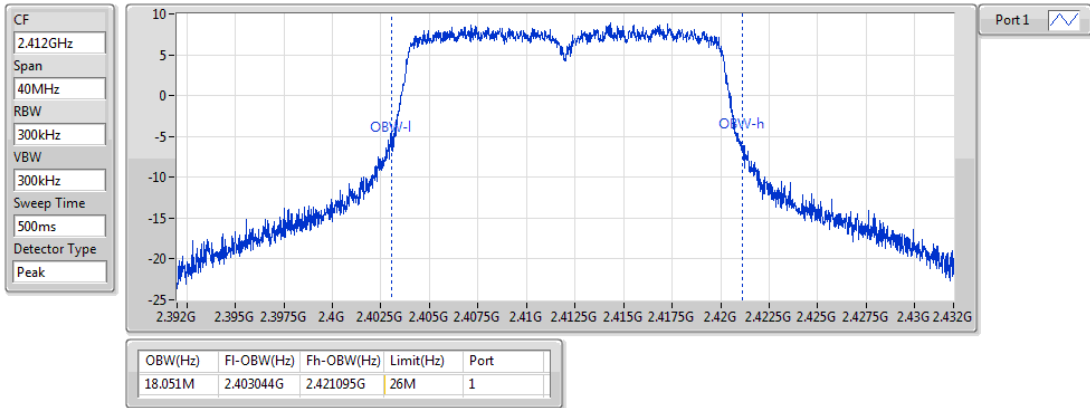
Occupied Bandwidth Result

Appendix C

802.11g_Nss1_1TX

OBW

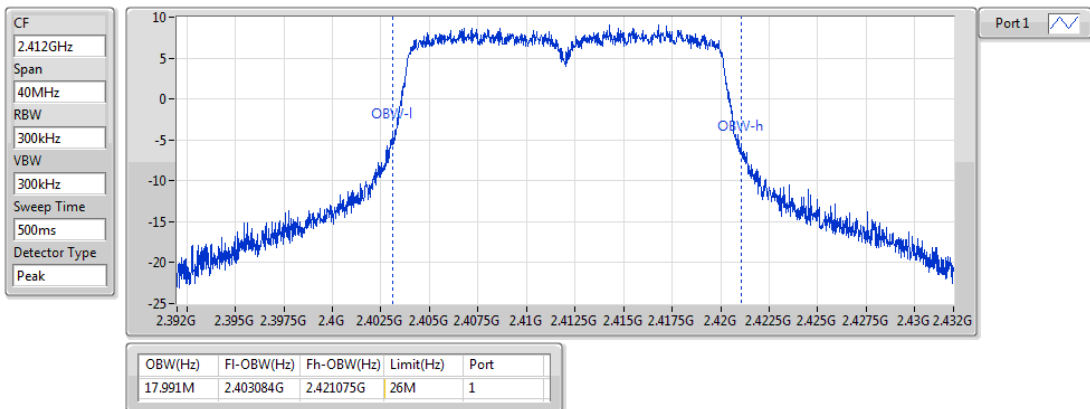
2412MHz_TnomVnom



802.11g_Nss1_1TX

OBW

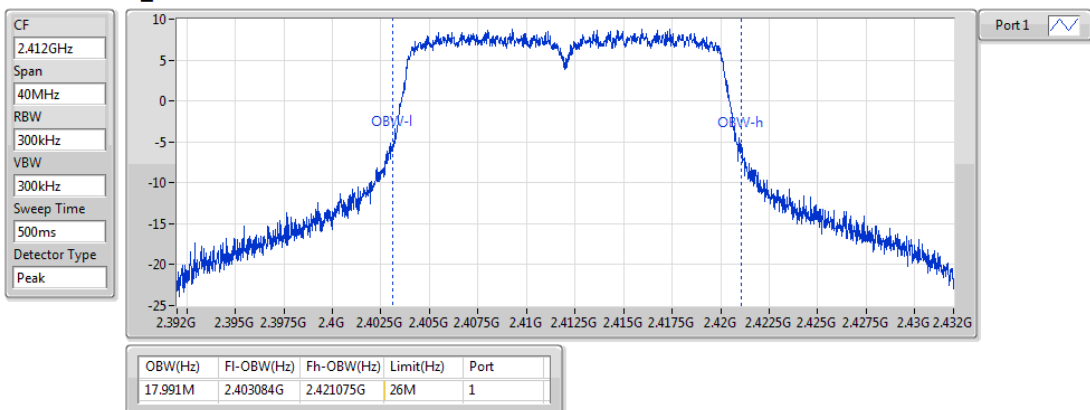
2412MHz_TnomVmin



802.11g_Nss1_1TX

OBW

2412MHz_TnomVmax





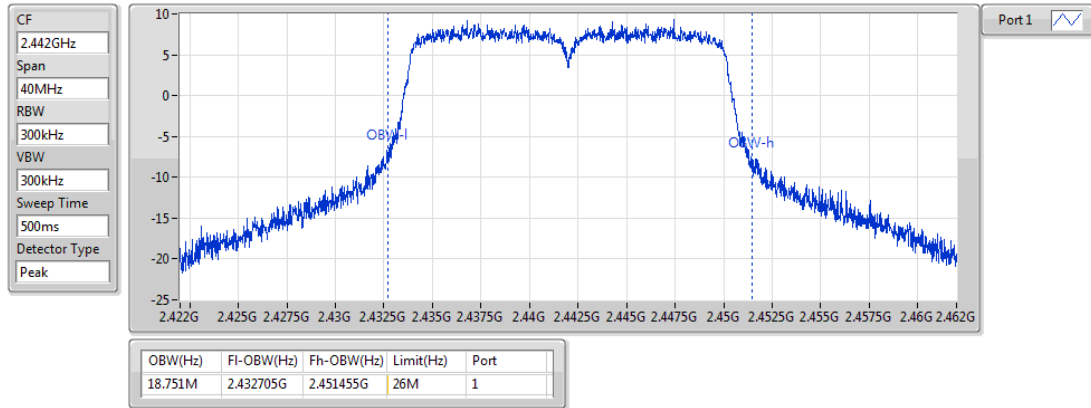
Occupied Bandwidth Result

Appendix C

802.11g_Nss1_1TX

OBW

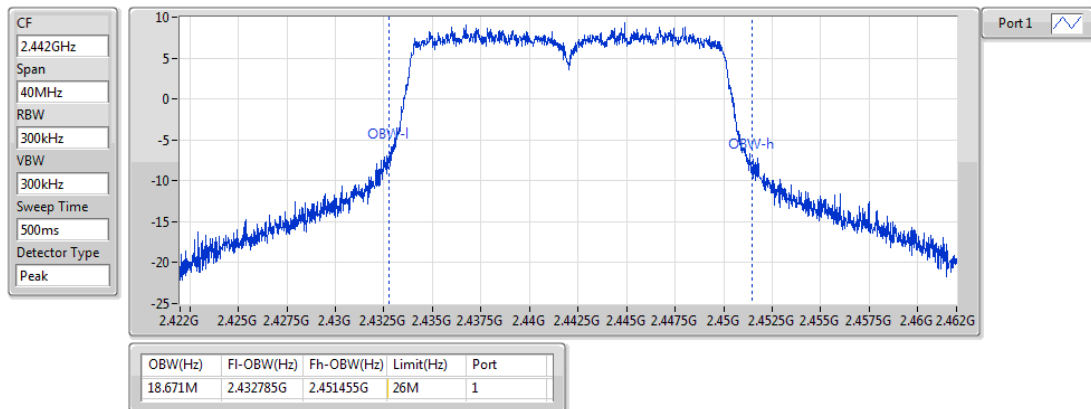
2442MHz_TnomVnom



802.11g_Nss1_1TX

OBW

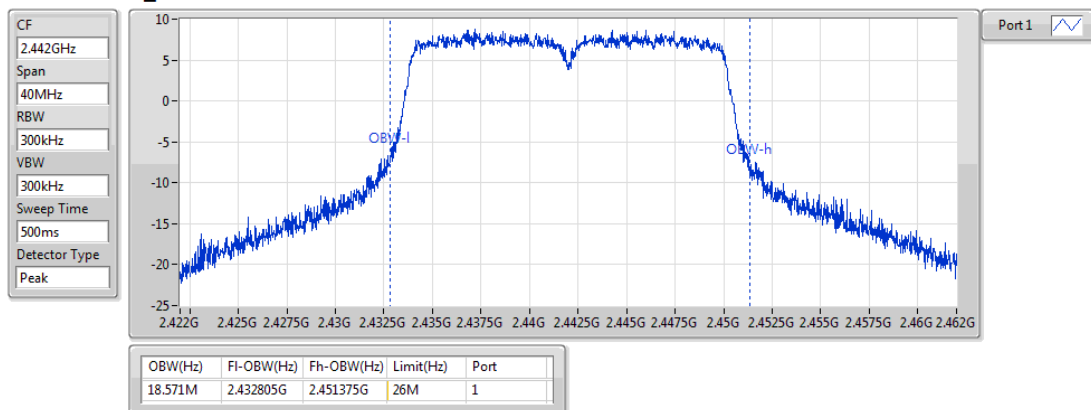
2442MHz_TnomVmin



802.11g_Nss1_1TX

OBW

2442MHz_TnomVmax





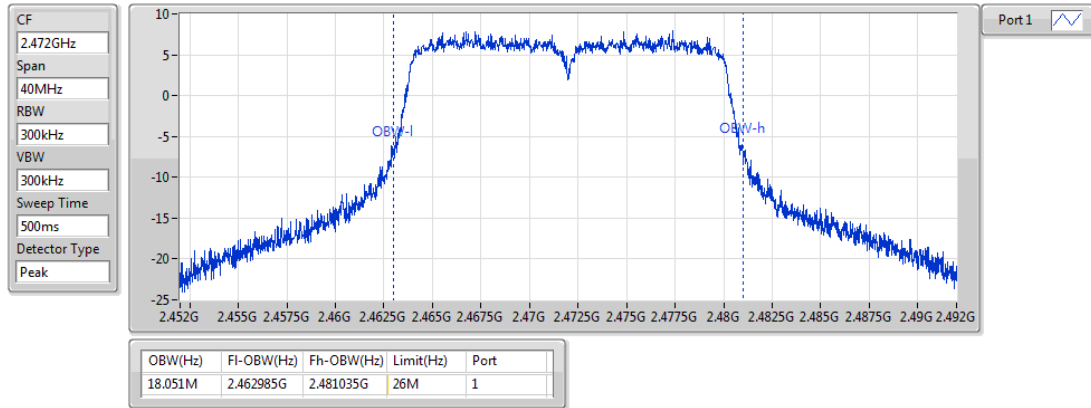
Occupied Bandwidth Result

Appendix C

802.11g_Nss1_1TX

OBW

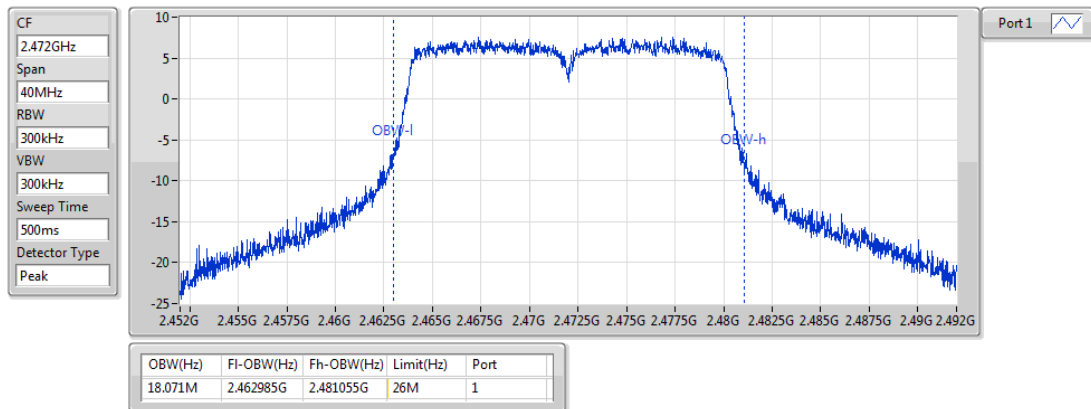
2472MHz_TnomVnom



802.11g_Nss1_1TX

OBW

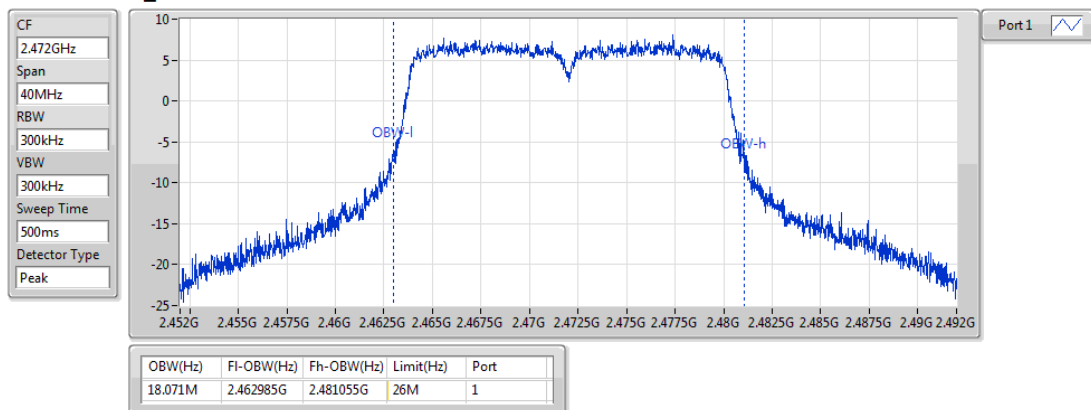
2472MHz_TnomVmin



802.11g_Nss1_1TX

OBW

2472MHz_TnomVmax





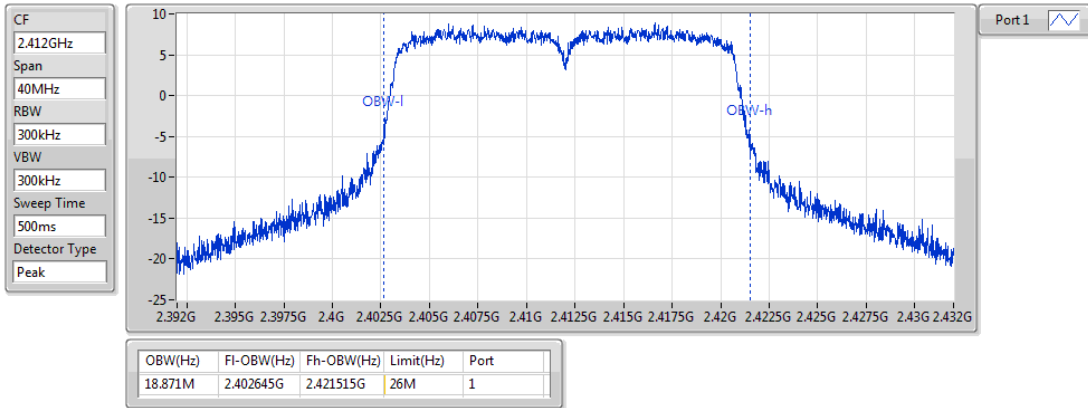
Occupied Bandwidth Result

Appendix C

802.11n HT20_Nss1,(MCS0)_1TX

OBW

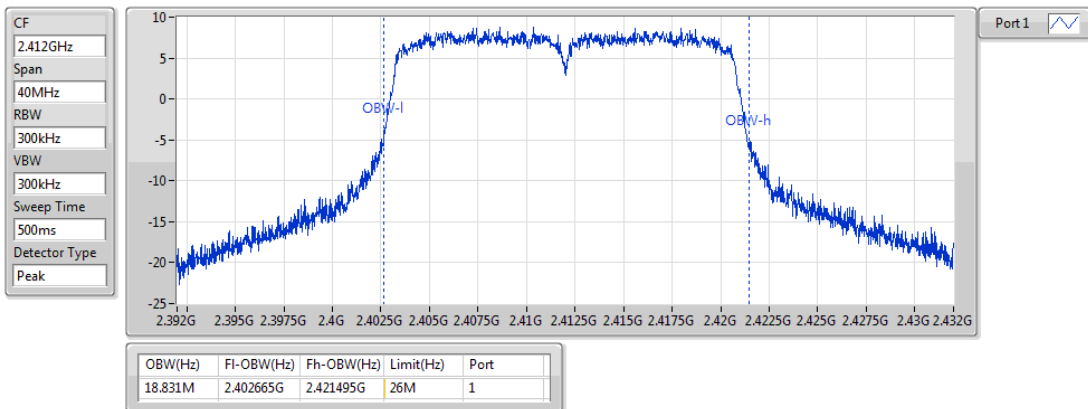
2412MHz_TnomVnom



802.11n HT20_Nss1,(MCS0)_1TX

OBW

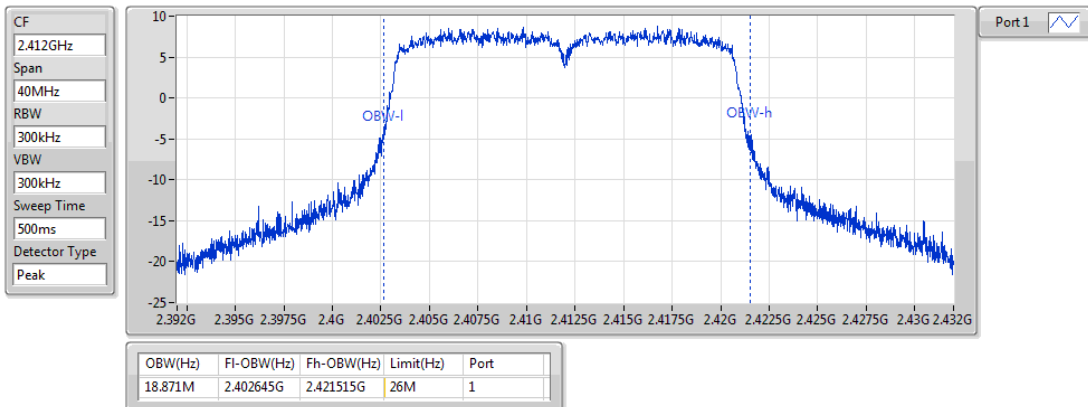
2412MHz_TnomVmin



802.11n HT20_Nss1,(MCS0)_1TX

OBW

2412MHz_TnomVmax





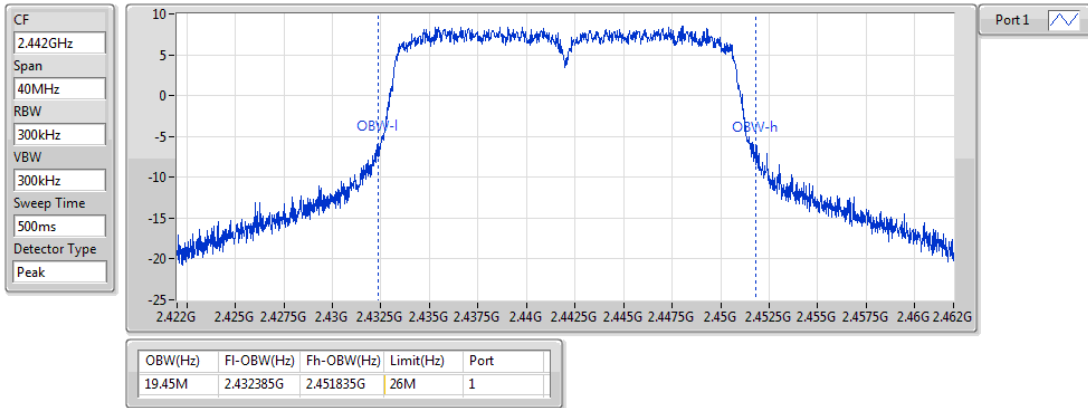
Occupied Bandwidth Result

Appendix C

802.11n HT20_Nss1,(MCS0)_1TX

OBW

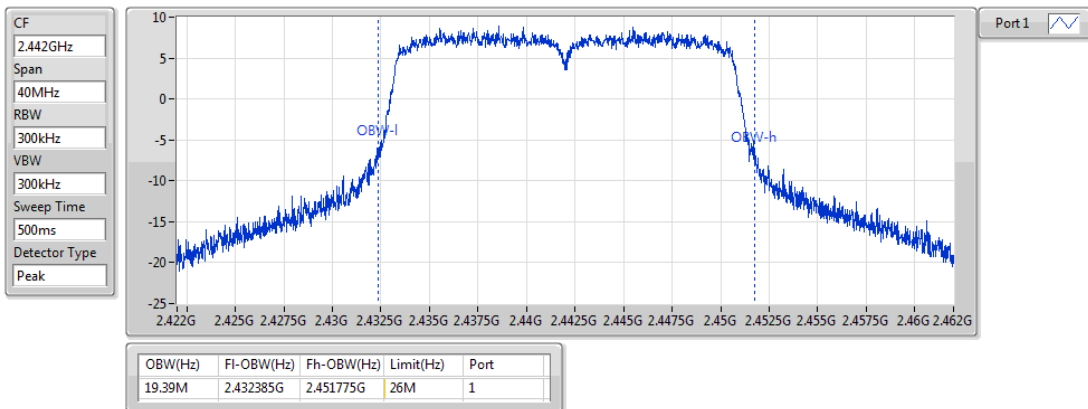
2442MHz_TnomVnom



802.11n HT20_Nss1,(MCS0)_1TX

OBW

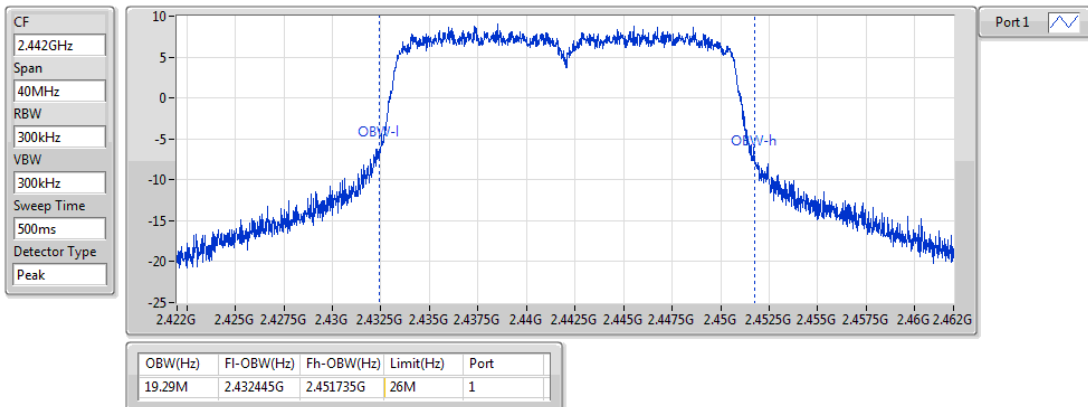
2442MHz_TnomVmin



802.11n HT20_Nss1,(MCS0)_1TX

OBW

2442MHz_TnomVmax





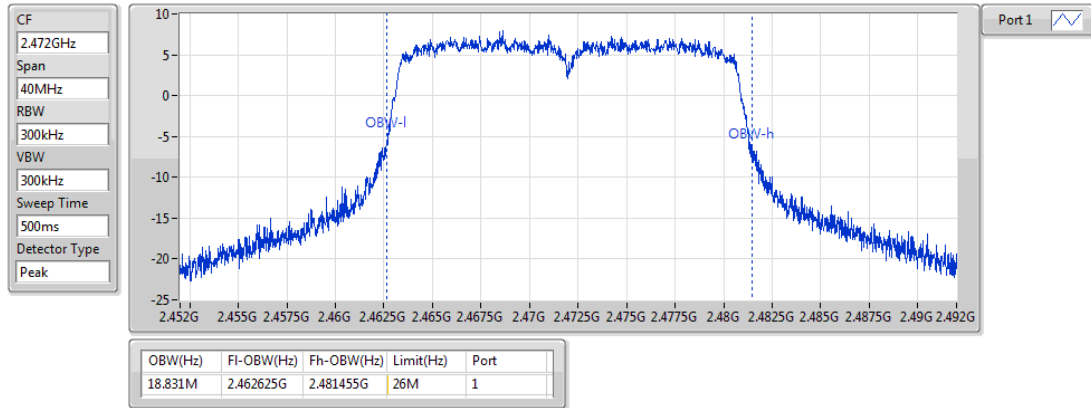
Occupied Bandwidth Result

Appendix C

802.11n HT20_Nss1,(MCS0)_1TX

OBW

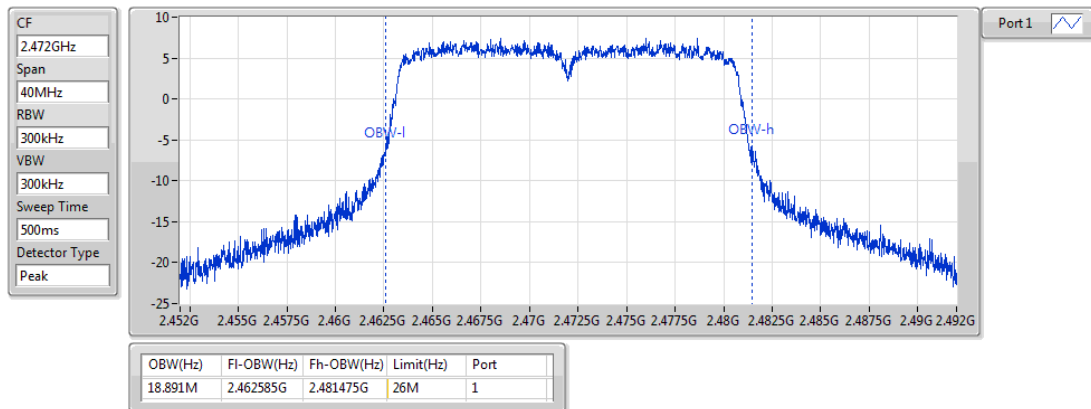
2472MHz_TnomVnom



802.11n HT20_Nss1,(MCS0)_1TX

OBW

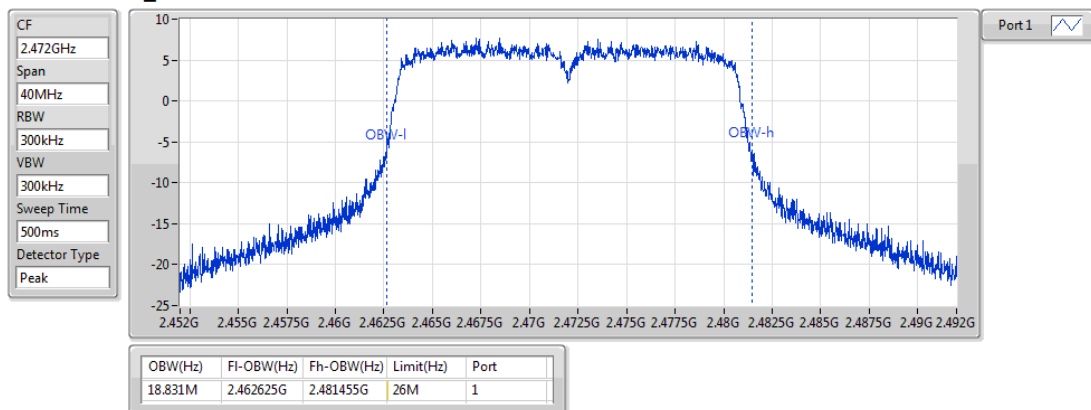
2472MHz_TnomVmin



802.11n HT20_Nss1,(MCS0)_1TX

OBW

2472MHz_TnomVmax





Spread Bandwidth Result

Appendix D

Summary

Mode	Max-SBW (Hz)	Min-SBW (Hz)	Max-SF	Min-SF
2.4-2.4835GHz	-	-	-	-
802.11b_Nss1_1TX	9.925M	9.837M	7.218	7.154

Max-SBW = Maximum spreading bandwidth; **Min-SBW** = Minimum spreading bandwidth;

Max-SF = Maximum spreading factor; **Min-SF** = Minimum spreading factor;



Spread Bandwidth Result

Appendix D

Result

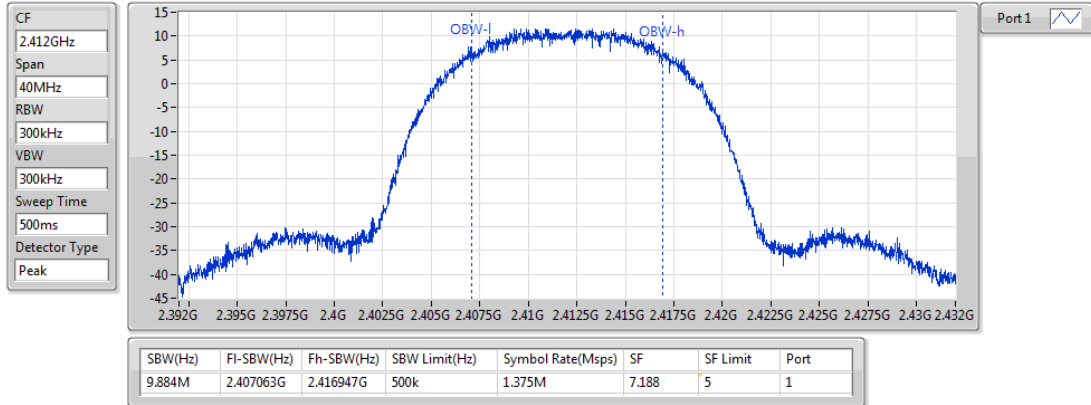
Mode	Result	SBW Limit (Hz)	Symbol Rate (Msps)	SF Limit	P1-SBW (Hz)	P1-SF
802.11b_Nss1_1TX	-	-	-	-	-	-
2412MHz_TnomVnom	Pass	500k	1.375M	5	9.884M	7.188
2412MHz_TnomVmin	Pass	500k	1.375M	5	9.85M	7.164
2412MHz_TnomVmax	Pass	500k	1.375M	5	9.837M	7.154
2442MHz_TnomVnom	Pass	500k	1.375M	5	9.925M	7.218
2442MHz_TnomVmin	Pass	500k	1.375M	5	9.869M	7.177
2442MHz_TnomVmax	Pass	500k	1.375M	5	9.859M	7.17
2472MHz_TnomVnom	Pass	500k	1.375M	5	9.912M	7.209
2472MHz_TnomVmin	Pass	500k	1.375M	5	9.921M	7.216
2472MHz_TnomVmax	Pass	500k	1.375M	5	9.903M	7.202

P1-SBW = Port 1 spreading bandwidth; **P1-SF** = Port 1 spreading factor;

802.11b_Nss1_1TX

SBW

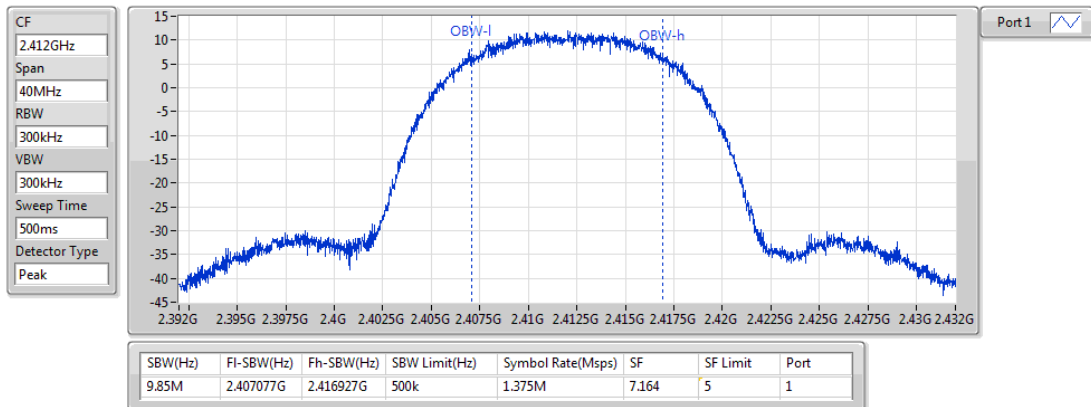
2412MHz_TnomVnom



802.11b_Nss1_1TX

SBW

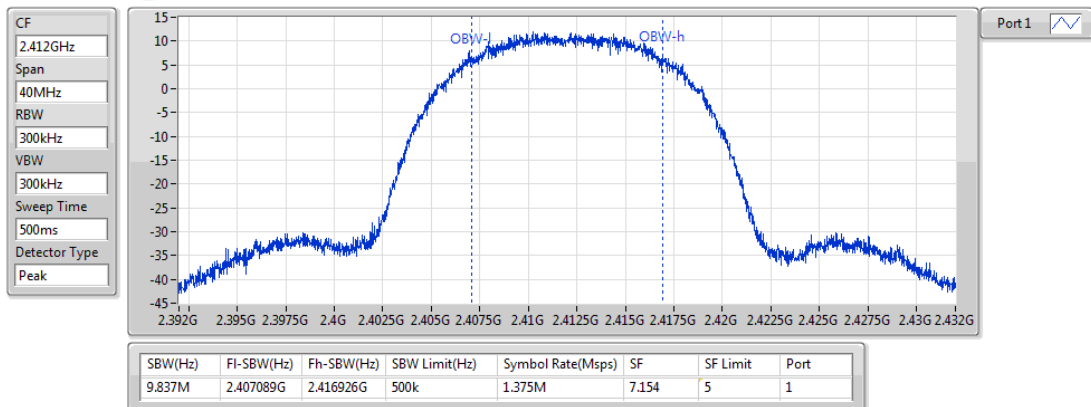
2412MHz_TnomVmin



802.11b_Nss1_1TX

SBW

2412MHz_TnomVmax





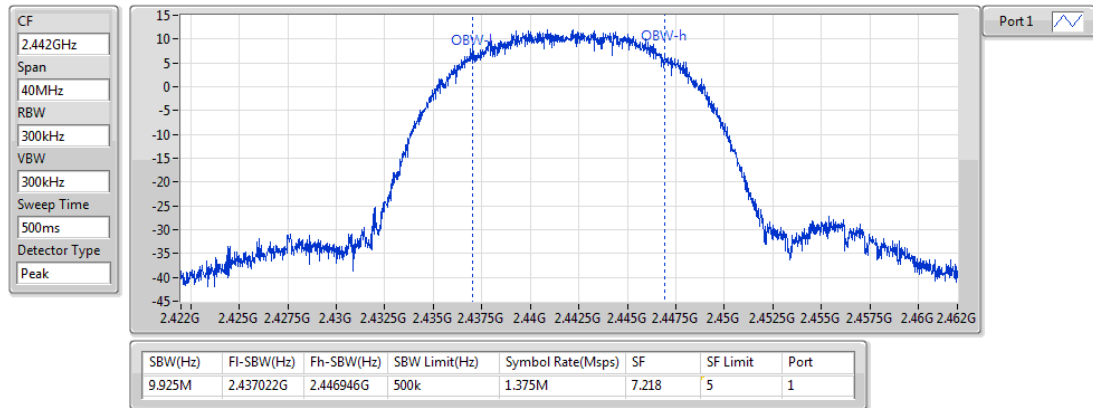
Spread Bandwidth Result

Appendix D

802.11b_Nss1_1TX

SBW

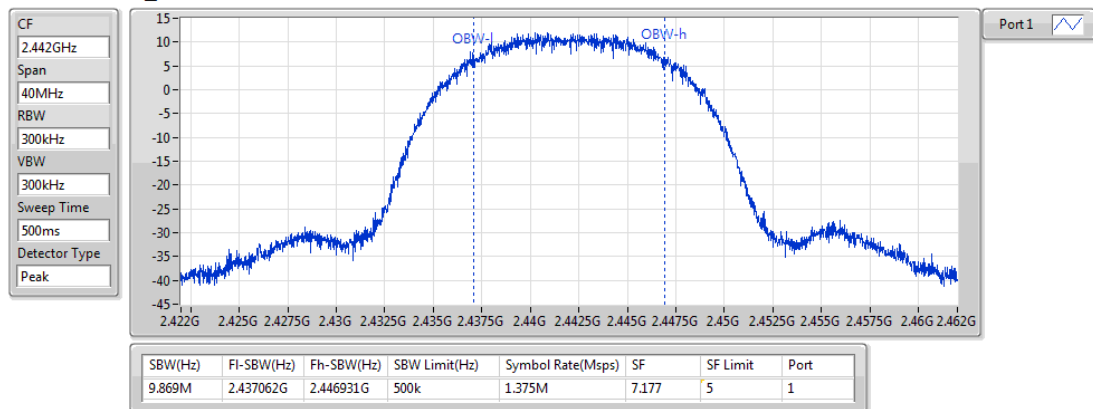
2442MHz_TnomVnom



802.11b_Nss1_1TX

SBW

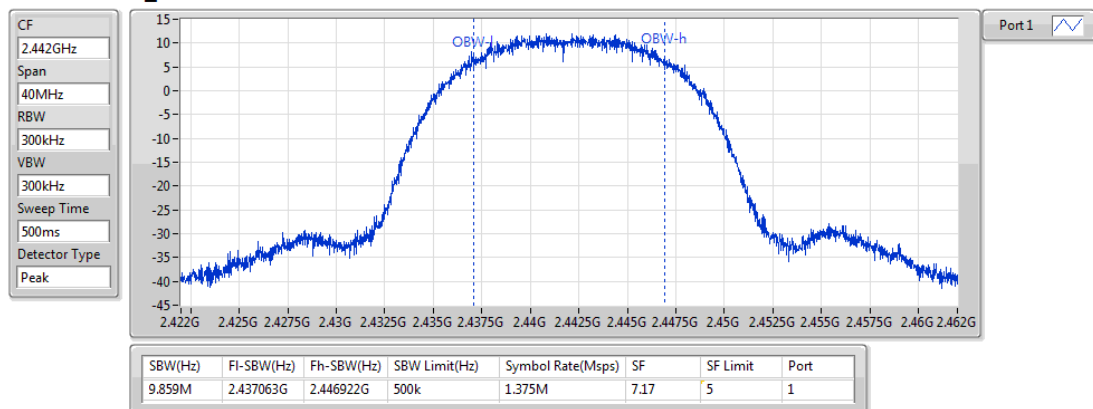
2442MHz_TnomVmin



802.11b_Nss1_1TX

SBW

2442MHz_TnomVmax





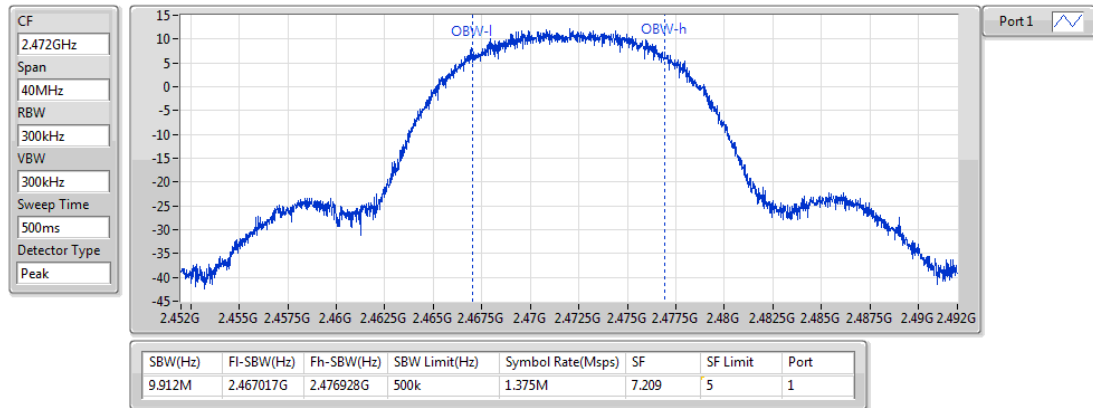
Spread Bandwidth Result

Appendix D

802.11b_Nss1_1TX

SBW

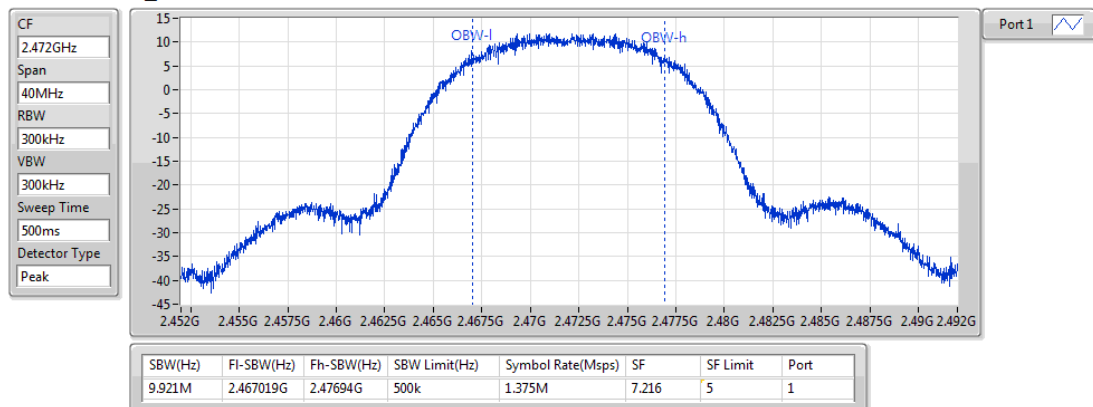
2472MHz_TnomVnom



802.11b_Nss1_1TX

SBW

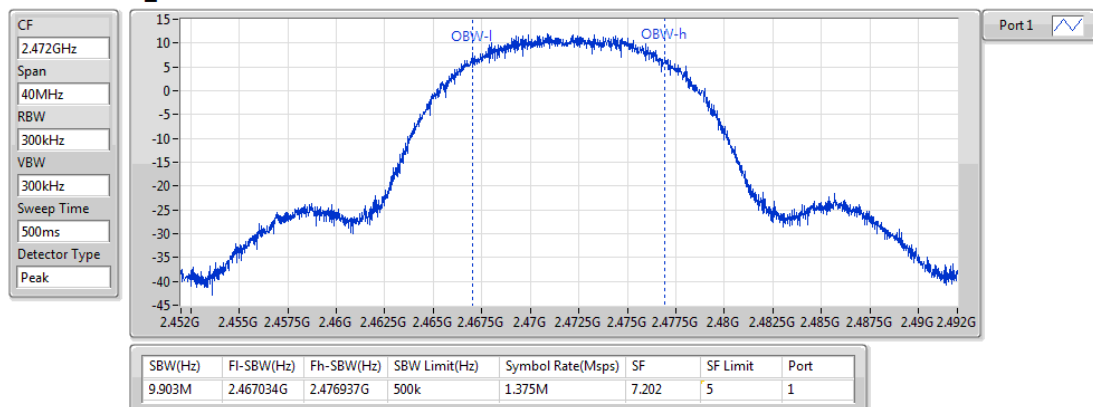
2472MHz_TnomVmin



802.11b_Nss1_1TX

SBW

2472MHz_TnomVmax



**CSE-TX Unwanted Emission Strength Result****Appendix E****Summary**

Mode	Result	F-Start (Hz)	F-Stop (Hz)	RBW (Hz)	Freq (MHz)	Psum (dBm)	Psum (uW/MHz)	Limit (uW/MHz)	Margin (dB)	P1 (dBm)
2.4-2.4835GHz	-	-	-	-	-	-	-	-	-	-
802.11b_Nss1_1TX	Pass	2.4965G	12.5G	1M	2.49775G	-32.47	0.56624	2.5	-6.45	-32.47
802.11g_Nss1_1TX	Pass	2.4835G	2.4965G	1M	2.48363G	-17.62	17.29816	25	-1.60	-17.62
802.11n HT20_Nss1,(MCS0)_1TX	Pass	2.4835G	2.4965G	1M	2.48366G	-17.40	18.19701	25	-1.38	-17.40

**CSE-TX Unwanted Emission Strength Result****Appendix E****Result**

Mode	Result	F-Start (Hz)	F-Stop (Hz)	RBW (Hz)	Freq (MHz)	Psum (dBm)	Psum (uW/MHz)	Limit (uW/MHz)	Margin (dB)	P1 (dBm)
802.11b_Nss1_1TX	-	-	-	-	-	-	-	-	-	-
2412MHz_TnomVnom	Pass	30M	2.387G	1M	2.387G	-40.51	0.08892	2.5	-14.49	-40.51
2412MHz_TnomVnom	Pass	2.387G	2.4G	1M	2.39795G	-31.77	0.66527	25	-15.75	-31.77
2412MHz_TnomVnom	Pass	2.4835G	2.4965G	1M	2.49588G	-53.94	0.00404	25	-37.92	-53.94
2412MHz_TnomVnom	Pass	2.4965G	12.5G	1M	4.82356G	-45.95	0.02541	2.5	-19.93	-45.95
2412MHz_TnomVmin	Pass	30M	2.387G	1M	2.387G	-41.01	0.07925	2.5	-14.99	-41.01
2412MHz_TnomVmin	Pass	2.387G	2.4G	1M	2.39802G	-31.86	0.65163	25	-15.84	-31.86
2412MHz_TnomVmin	Pass	2.4835G	2.4965G	1M	2.49606G	-53.86	0.00411	25	-37.84	-53.86
2412MHz_TnomVmin	Pass	2.4965G	12.5G	1M	12.0611G	-45.46	0.02844	2.5	-19.44	-45.46
2412MHz_TnomVmax	Pass	30M	2.387G	1M	2.387G	-40.34	0.09247	2.5	-14.32	-40.34
2412MHz_TnomVmax	Pass	2.387G	2.4G	1M	2.39782G	-31.92	0.64269	25	-15.90	-31.92
2412MHz_TnomVmax	Pass	2.4835G	2.4965G	1M	2.49606G	-53.94	0.00404	25	-37.92	-53.94
2412MHz_TnomVmax	Pass	2.4965G	12.5G	1M	12.06235G	-46.07	0.02472	2.5	-20.05	-46.07
2442MHz_TnomVnom	Pass	30M	2.387G	1M	2.28801G	-51.70	0.00676	2.5	-25.68	-51.70
2442MHz_TnomVnom	Pass	2.387G	2.4G	1M	2.39199G	-52.50	0.00562	25	-36.48	-52.50
2442MHz_TnomVnom	Pass	2.4835G	2.4965G	1M	2.49611G	-53.11	0.00489	25	-37.09	-53.11
2442MHz_TnomVnom	Pass	2.4965G	12.5G	1M	12.2074G	-45.96	0.02535	2.5	-19.94	-45.96
2442MHz_TnomVmin	Pass	30M	2.387G	1M	2.28801G	-51.56	0.00698	2.5	-25.54	-51.56
2442MHz_TnomVmin	Pass	2.387G	2.4G	1M	2.39204G	-52.46	0.00568	25	-36.44	-52.46
2442MHz_TnomVmin	Pass	2.4835G	2.4965G	1M	2.49606G	-53.32	0.00466	25	-37.30	-53.32
2442MHz_TnomVmin	Pass	2.4965G	12.5G	1M	12.20865G	-44.75	0.0335	2.5	-18.73	-44.75
2442MHz_TnomVmax	Pass	30M	2.387G	1M	2.28801G	-51.64	0.00685	2.5	-25.62	-51.64
2442MHz_TnomVmax	Pass	2.387G	2.4G	1M	2.39194G	-52.55	0.00556	25	-36.53	-52.55
2442MHz_TnomVmax	Pass	2.4835G	2.4965G	1M	2.49577G	-53.32	0.00466	25	-37.30	-53.32
2442MHz_TnomVmax	Pass	2.4965G	12.5G	1M	9.76779G	-45.77	0.02649	2.5	-19.75	-45.77
2472MHz_TnomVnom	Pass	30M	2.387G	1M	2.28801G	-51.59	0.00693	2.5	-25.57	-51.59
2472MHz_TnomVnom	Pass	2.387G	2.4G	1M	2.39204G	-53.52	0.00445	25	-37.50	-53.52
2472MHz_TnomVnom	Pass	2.4835G	2.4965G	1M	2.48574G	-23.28	4.69894	25	-7.26	-23.28
2472MHz_TnomVnom	Pass	2.4965G	12.5G	1M	2.4965G	-34.73	0.33651	2.5	-8.71	-34.73
2472MHz_TnomVmin	Pass	30M	2.387G	1M	2.28801G	-51.70	0.00676	2.5	-25.68	-51.70
2472MHz_TnomVmin	Pass	2.387G	2.4G	1M	2.39197G	-53.42	0.00455	25	-37.40	-53.42
2472MHz_TnomVmin	Pass	2.4835G	2.4965G	1M	2.48576G	-22.92	5.10505	25	-6.90	-22.92
2472MHz_TnomVmin	Pass	2.4965G	12.5G	1M	2.4965G	-34.73	0.33651	2.5	-8.71	-34.73
2472MHz_TnomVmax	Pass	30M	2.387G	1M	2.28801G	-51.67	0.00681	2.5	-25.65	-51.67



CSE-TX Unwanted Emission Strength Result

Appendix E

Mode	Result	F-Start (Hz)	F-Stop (Hz)	RBW (Hz)	Freq (MHz)	Psum (dBm)	Psum (uW/MHz)	Limit (uW/MHz)	Margin (dB)	P1 (dBm)
2472MHz_TnomVmax	Pass	2.387G	2.4G	1M	2.39207G	-53.56	0.00441	25	-37.54	-53.56
2472MHz_TnomVmax	Pass	2.4835G	2.4965G	1M	2.48579G	-23.14	4.85289	25	-7.12	-23.14
2472MHz_TnomVmax	Pass	2.4965G	12.5G	1M	2.49775G	-32.47	0.56624	2.5	-6.45	-32.47
802.11g_Nss1_1TX	-	-	-	-	-	-	-	-	-	-
2412MHz_TnomVnom	Pass	30M	2.387G	1M	2.387G	-35.73	0.2673	2.5	-9.71	-35.73
2412MHz_TnomVnom	Pass	2.387G	2.4G	1M	2.3999G	-18.81	13.15225	25	-2.79	-18.81
2412MHz_TnomVnom	Pass	2.4835G	2.4965G	1M	2.49593G	-53.66	0.00431	25	-37.64	-53.66
2412MHz_TnomVnom	Pass	2.4965G	12.5G	1M	12.06485G	-45.88	0.02582	2.5	-19.86	-45.88
2412MHz_TnomVmin	Pass	30M	2.387G	1M	2.387G	-35.26	0.29785	2.5	-9.24	-35.26
2412MHz_TnomVmin	Pass	2.387G	2.4G	1M	2.39997G	-18.86	13.0017	25	-2.84	-18.86
2412MHz_TnomVmin	Pass	2.4835G	2.4965G	1M	2.49614G	-53.67	0.0043	25	-37.65	-53.67
2412MHz_TnomVmin	Pass	2.4965G	12.5G	1M	12.0661G	-46.19	0.02404	2.5	-20.17	-46.19
2412MHz_TnomVmax	Pass	30M	2.387G	1M	2.387G	-35.65	0.27227	2.5	-9.63	-35.65
2412MHz_TnomVmax	Pass	2.387G	2.4G	1M	2.39997G	-18.58	13.86756	25	-2.56	-18.58
2412MHz_TnomVmax	Pass	2.4835G	2.4965G	1M	2.48909G	-52.71	0.00536	25	-36.69	-52.71
2412MHz_TnomVmax	Pass	2.4965G	12.5G	1M	12.06485G	-45.84	0.02606	2.5	-19.82	-45.84
2442MHz_TnomVnom	Pass	30M	2.387G	1M	2.38582G	-50.47	0.00897	2.5	-24.45	-50.47
2442MHz_TnomVnom	Pass	2.387G	2.4G	1M	2.39992G	-45.74	0.02667	25	-29.72	-45.74
2442MHz_TnomVnom	Pass	2.4835G	2.4965G	1M	2.48379G	-45.58	0.02767	25	-29.56	-45.58
2442MHz_TnomVnom	Pass	2.4965G	12.5G	1M	12.2099G	-46.59	0.02193	2.5	-20.57	-46.59
2442MHz_TnomVmin	Pass	30M	2.387G	1M	2.387G	-51.13	0.00771	2.5	-25.11	-51.13
2442MHz_TnomVmin	Pass	2.387G	2.4G	1M	2.39956G	-44.07	0.03917	25	-28.05	-44.07
2442MHz_TnomVmin	Pass	2.4835G	2.4965G	1M	2.48355G	-43.65	0.04315	25	-27.63	-43.65
2442MHz_TnomVmin	Pass	2.4965G	12.5G	1M	12.2099G	-45.55	0.02786	2.5	-19.53	-45.55
2442MHz_TnomVmax	Pass	30M	2.387G	1M	2.387G	-49.14	0.01219	2.5	-23.12	-49.14
2442MHz_TnomVmax	Pass	2.387G	2.4G	1M	2.39997G	-43.76	0.04207	25	-27.74	-43.76
2442MHz_TnomVmax	Pass	2.4835G	2.4965G	1M	2.48363G	-43.75	0.04217	25	-27.73	-43.75
2442MHz_TnomVmax	Pass	2.4965G	12.5G	1M	12.2124G	-45.71	0.02685	2.5	-19.69	-45.71
2472MHz_TnomVnom	Pass	30M	2.387G	1M	2.28801G	-52.32	0.00586	2.5	-26.30	-52.32
2472MHz_TnomVnom	Pass	2.387G	2.4G	1M	2.39199G	-53.41	0.00456	25	-37.39	-53.41
2472MHz_TnomVnom	Pass	2.4835G	2.4965G	1M	2.48363G	-17.62	17.29816	25	-1.60	-17.62
2472MHz_TnomVnom	Pass	2.4965G	12.5G	1M	2.4965G	-36.48	0.22491	2.5	-10.46	-36.48
2472MHz_TnomVmin	Pass	30M	2.387G	1M	2.28801G	-51.92	0.00643	2.5	-25.90	-51.92
2472MHz_TnomVmin	Pass	2.387G	2.4G	1M	2.39207G	-53.25	0.00473	25	-37.23	-53.25
2472MHz_TnomVmin	Pass	2.4835G	2.4965G	1M	2.4836G	-17.83	16.48162	25	-1.81	-17.83



CSE-TX Unwanted Emission Strength Result

Appendix E

Mode	Result	F-Start (Hz)	F-Stop (Hz)	RBW (Hz)	Freq (MHz)	Psum (dBm)	Psum (uW/MHz)	Limit (uW/MHz)	Margin (dB)	P1 (dBm)
2472MHz_TnomVmin	Pass	2.4965G	12.5G	1M	2.4965G	-36.02	0.25003	2.5	-10.00	-36.02
2472MHz_TnomVmax	Pass	30M	2.387G	1M	2.28801G	-52.06	0.00622	2.5	-26.04	-52.06
2472MHz_TnomVmax	Pass	2.387G	2.4G	1M	2.39191G	-53.34	0.00463	25	-37.32	-53.34
2472MHz_TnomVmax	Pass	2.4835G	2.4965G	1M	2.48366G	-18.02	15.77611	25	-2.00	-18.02
2472MHz_TnomVmax	Pass	2.4965G	12.5G	1M	2.4965G	-36.71	0.2133	2.5	-10.69	-36.71
802.11n HT20_Nss1,(MCS0)_1TX	-	-	-	-	-	-	-	-	-	-
2412MHz_TnomVnom	Pass	30M	2.387G	1M	2.387G	-33.23	0.47534	2.5	-7.21	-33.23
2412MHz_TnomVnom	Pass	2.387G	2.4G	1M	2.39997G	-17.92	16.14359	25	-1.90	-17.92
2412MHz_TnomVnom	Pass	2.4835G	2.4965G	1M	2.49598G	-53.42	0.00455	25	-37.40	-53.42
2412MHz_TnomVnom	Pass	2.4965G	12.5G	1M	12.05484G	-45.60	0.02754	2.5	-19.58	-45.60
2412MHz_TnomVmin	Pass	30M	2.387G	1M	2.387G	-34.25	0.37584	2.5	-8.23	-34.25
2412MHz_TnomVmin	Pass	2.387G	2.4G	1M	2.39987G	-18.05	15.66751	25	-2.03	-18.05
2412MHz_TnomVmin	Pass	2.4835G	2.4965G	1M	2.49603G	-53.55	0.00442	25	-37.53	-53.55
2412MHz_TnomVmin	Pass	2.4965G	12.5G	1M	12.0586G	-46.01	0.02506	2.5	-19.99	-46.01
2412MHz_TnomVmax	Pass	30M	2.387G	1M	2.387G	-33.53	0.44361	2.5	-7.51	-33.53
2412MHz_TnomVmax	Pass	2.387G	2.4G	1M	2.3999G	-18.20	15.13561	25	-2.18	-18.20
2412MHz_TnomVmax	Pass	2.4835G	2.4965G	1M	2.49598G	-53.48	0.00449	25	-37.46	-53.48
2412MHz_TnomVmax	Pass	2.4965G	12.5G	1M	12.06235G	-46.38	0.02301	2.5	-20.36	-46.38
2442MHz_TnomVnom	Pass	30M	2.387G	1M	2.387G	-50.43	0.00906	2.5	-24.41	-50.43
2442MHz_TnomVnom	Pass	2.387G	2.4G	1M	2.39977G	-44.36	0.03664	25	-28.34	-44.36
2442MHz_TnomVnom	Pass	2.4835G	2.4965G	1M	2.48353G	-44.15	0.03846	25	-28.13	-44.15
2442MHz_TnomVnom	Pass	2.4965G	12.5G	1M	12.2099G	-46.73	0.02123	2.5	-20.71	-46.73
2442MHz_TnomVmin	Pass	30M	2.387G	1M	2.387G	-50.41	0.0091	2.5	-24.39	-50.41
2442MHz_TnomVmin	Pass	2.387G	2.4G	1M	2.39995G	-44.78	0.03327	25	-28.76	-44.78
2442MHz_TnomVmin	Pass	2.4835G	2.4965G	1M	2.48373G	-44.66	0.0342	25	-28.64	-44.66
2442MHz_TnomVmin	Pass	2.4965G	12.5G	1M	12.2074G	-46.87	0.02056	2.5	-20.85	-46.87
2442MHz_TnomVmax	Pass	30M	2.387G	1M	2.387G	-50.13	0.00971	2.5	-24.11	-50.13
2442MHz_TnomVmax	Pass	2.387G	2.4G	1M	2.39995G	-44.81	0.03304	25	-28.79	-44.81
2442MHz_TnomVmax	Pass	2.4835G	2.4965G	1M	2.48371G	-44.45	0.03589	25	-28.43	-44.45
2442MHz_TnomVmax	Pass	2.4965G	12.5G	1M	12.20615G	-47.10	0.0195	2.5	-21.08	-47.10
2472MHz_TnomVnom	Pass	30M	2.387G	1M	2.28801G	-52.11	0.00615	2.5	-26.09	-52.11
2472MHz_TnomVnom	Pass	2.387G	2.4G	1M	2.39194G	-53.29	0.00469	25	-37.27	-53.29
2472MHz_TnomVnom	Pass	2.4835G	2.4965G	1M	2.48358G	-17.50	17.78279	25	-1.48	-17.50
2472MHz_TnomVnom	Pass	2.4965G	12.5G	1M	2.4965G	-34.31	0.37068	2.5	-8.29	-34.31

**CSE-TX Unwanted Emission Strength Result****Appendix E**

Mode	Result	F-Start (Hz)	F-Stop (Hz)	RBW (Hz)	Freq (MHz)	Psum (dBm)	Psum (uW/MHz)	Limit (uW/MHz)	Margin (dB)	P1 (dBm)
2472MHz_TnomVmin	Pass	30M	2.387G	1M	2.28801G	-52.12	0.00614	2.5	-26.10	-52.12
2472MHz_TnomVmin	Pass	2.387G	2.4G	1M	2.39194G	-53.35	0.00462	25	-37.33	-53.35
2472MHz_TnomVmin	Pass	2.4835G	2.4965G	1M	2.48366G	-17.40	18.19701	25	-1.38	-17.40
2472MHz_TnomVmin	Pass	2.4965G	12.5G	1M	2.4965G	-32.94	0.50816	2.5	-6.92	-32.94
2472MHz_TnomVmax	Pass	30M	2.387G	1M	2.28801G	-51.95	0.00638	2.5	-25.93	-51.95
2472MHz_TnomVmax	Pass	2.387G	2.4G	1M	2.39207G	-53.31	0.00467	25	-37.29	-53.31
2472MHz_TnomVmax	Pass	2.4835G	2.4965G	1M	2.48368G	-17.47	17.90606	25	-1.45	-17.47
2472MHz_TnomVmax	Pass	2.4965G	12.5G	1M	2.4965G	-33.79	0.41783	2.5	-7.77	-33.79

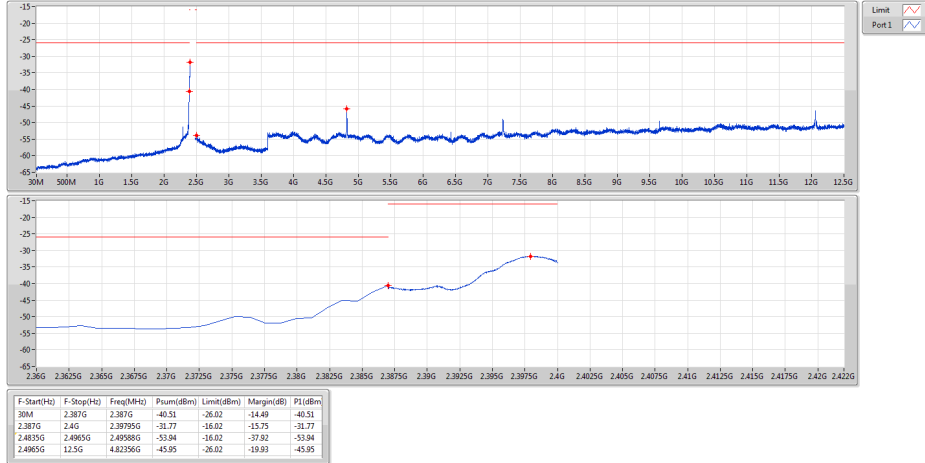


CSE-TX Unwanted Emission Strength Result

Appendix E

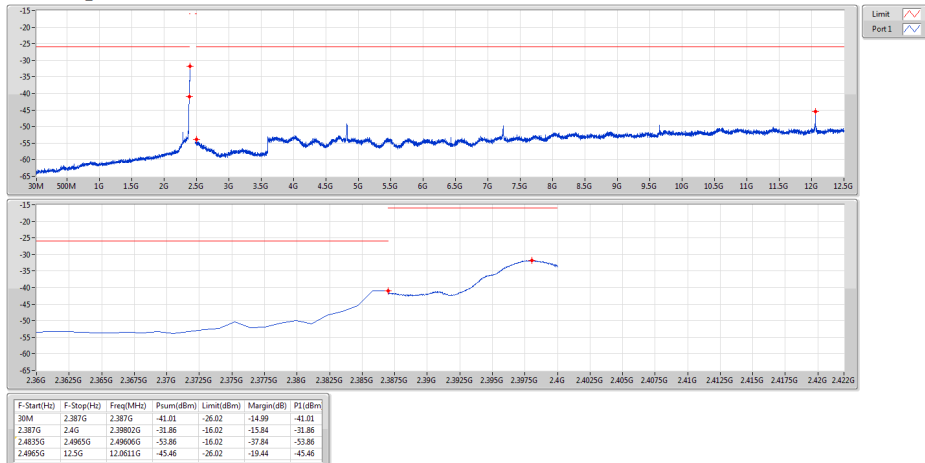
802.11b_Nss1_1TX
2412MHz_TnomVnom

CSE-TX



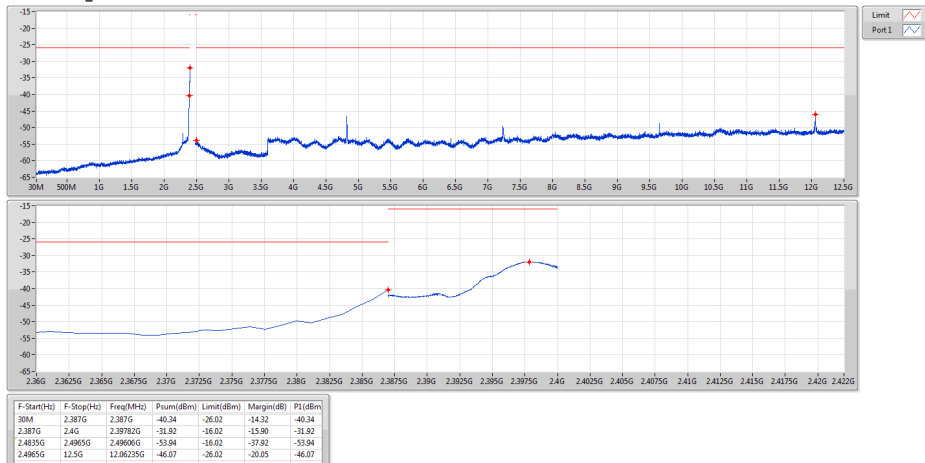
802.11b_Nss1_1TX
2412MHz_TnomVmin

CSE-TX



802.11b_Nss1_1TX
2412MHz_TnomVmax

CSE-TX





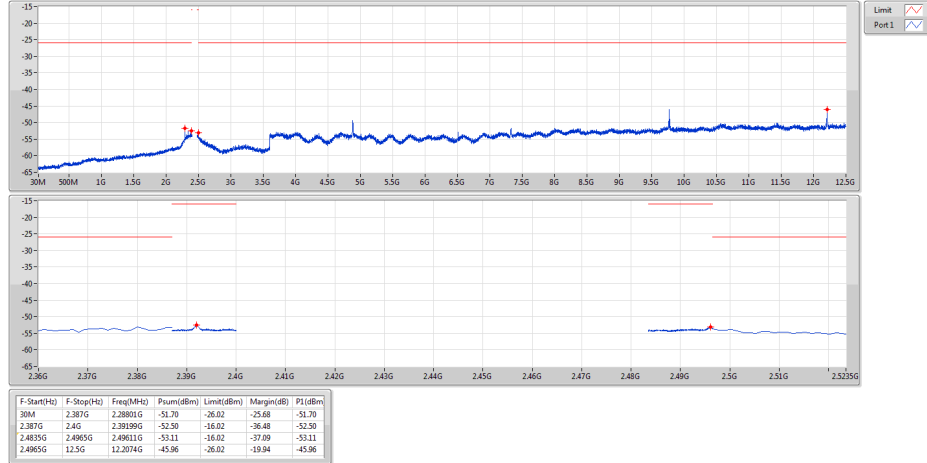
CSE-TX Unwanted Emission Strength Result

Appendix E

802.11b_Nss1_1TX

CSE-TX

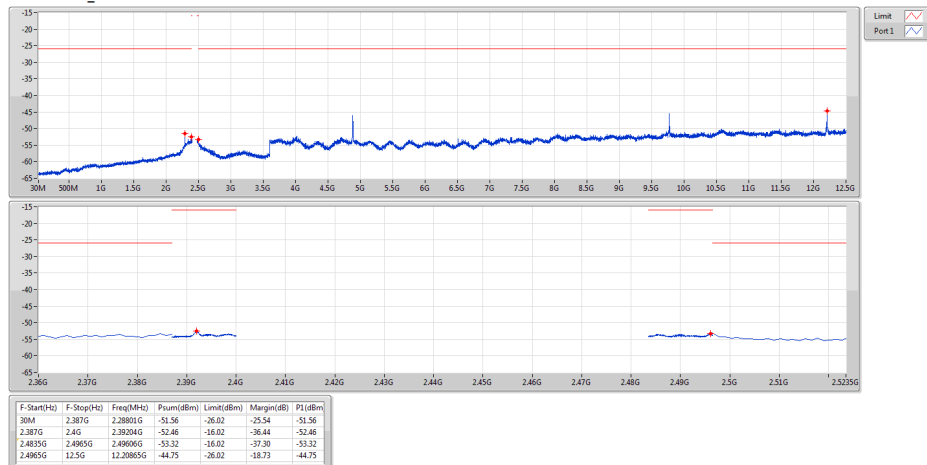
2442MHz_TnomVnom



802.11b_Nss1_1TX

CSE-TX

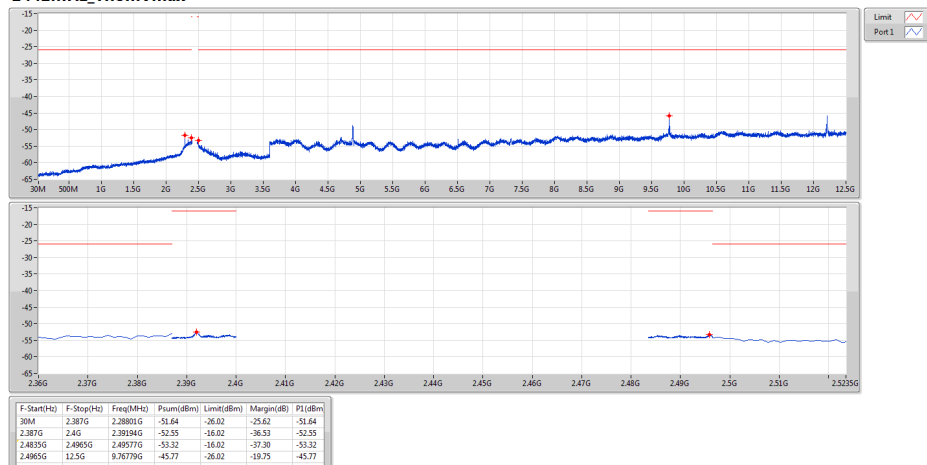
2442MHz_TnomVmin



802.11b_Nss1_1TX

CSE-TX

2442MHz_TnomVmax



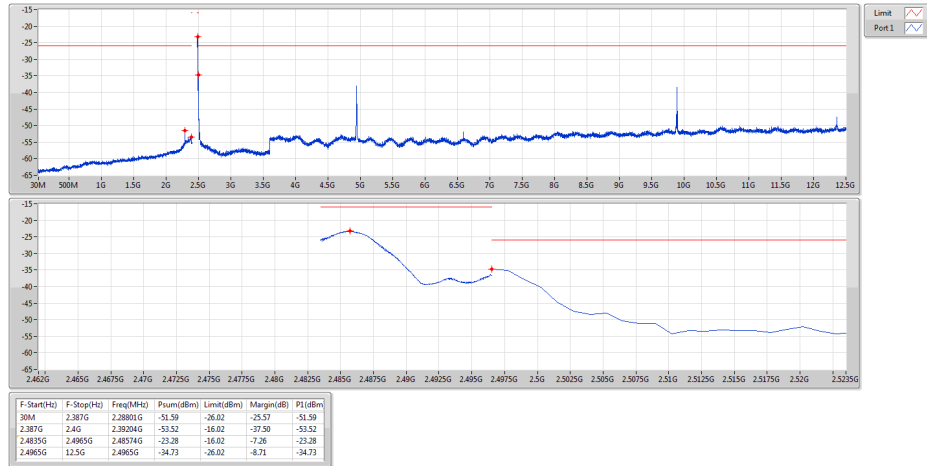


CSE-TX Unwanted Emission Strength Result

Appendix E

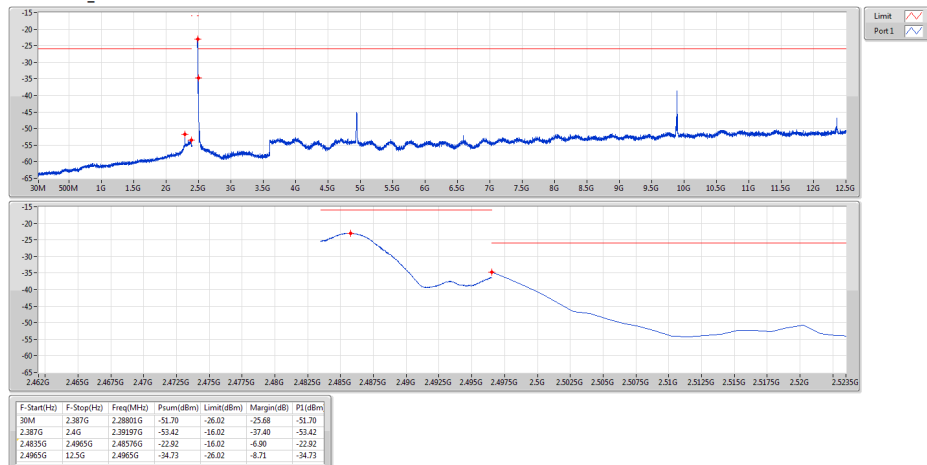
802.11b_Nss1_1TX
2472MHz_TnomVnom

CSE-TX



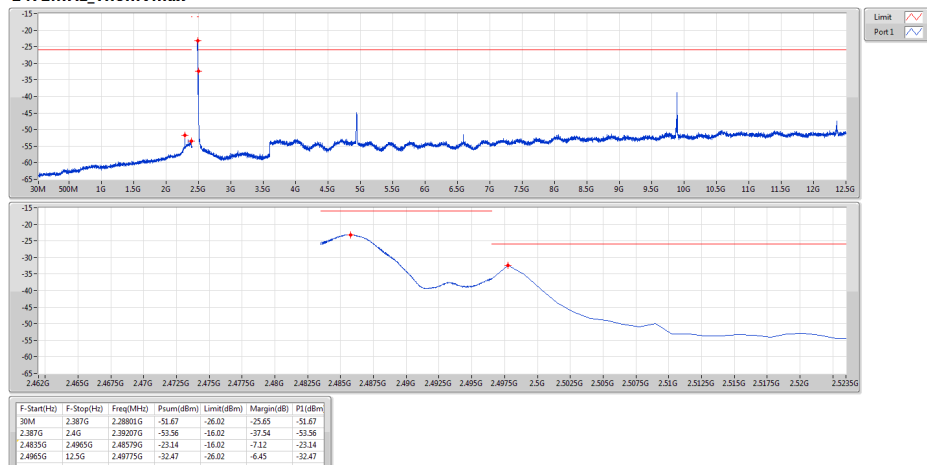
802.11b_Nss1_1TX
2472MHz_TnomVmin

CSE-TX



802.11b_Nss1_1TX
2472MHz_TnomVmax

CSE-TX





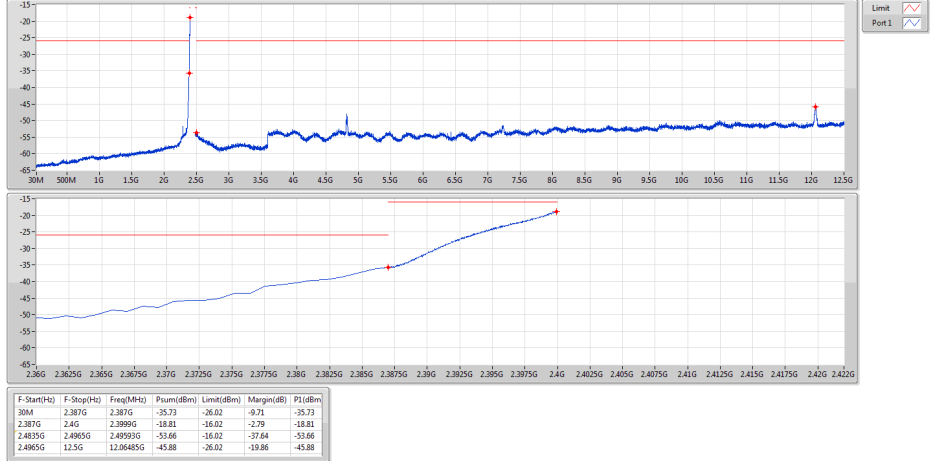
CSE-TX Unwanted Emission Strength Result

Appendix E

802.11g_Nss1_1TX

CSE-TX

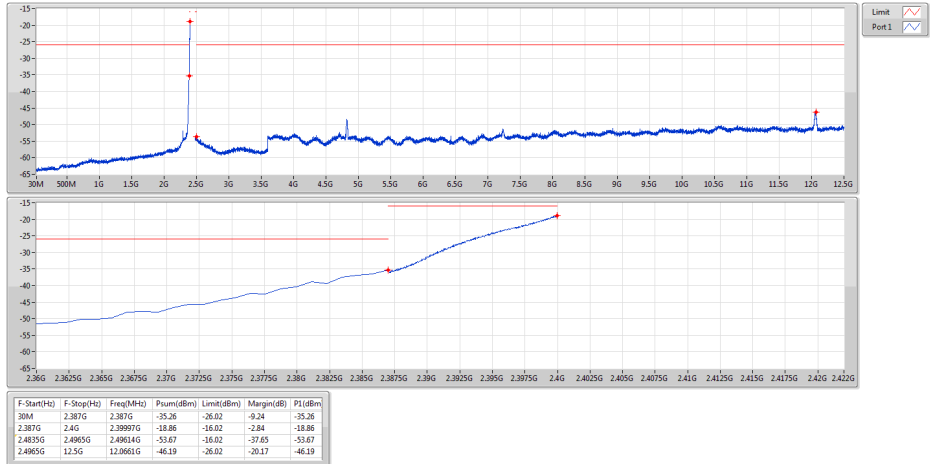
2412MHz_TnomVnom



802.11g_Nss1_1TX

CSE-TX

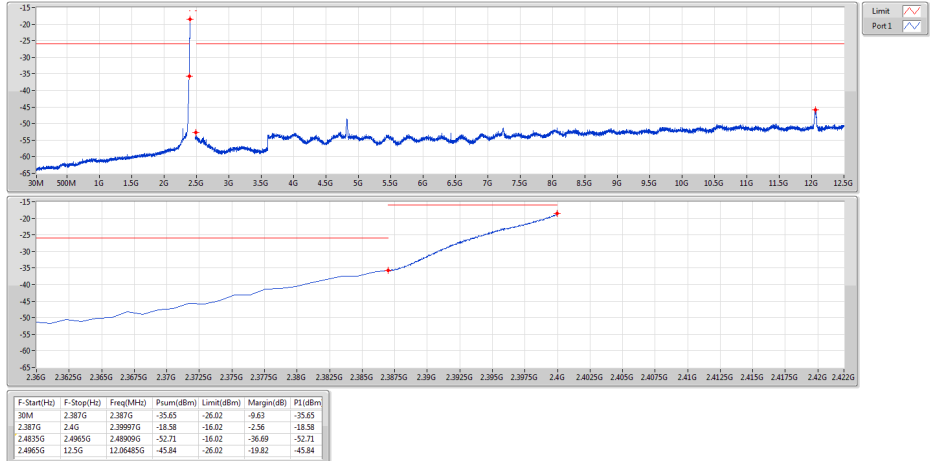
2412MHz_TnomVmin



802.11g_Nss1_1TX

CSE-TX

2412MHz_TnomVmax





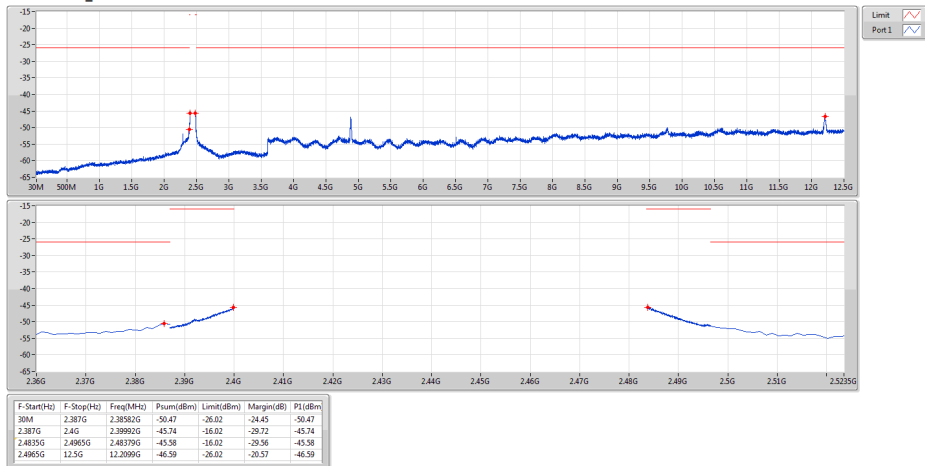
CSE-TX Unwanted Emission Strength Result

Appendix E

802.11g_Nss1_1TX

CSE-TX

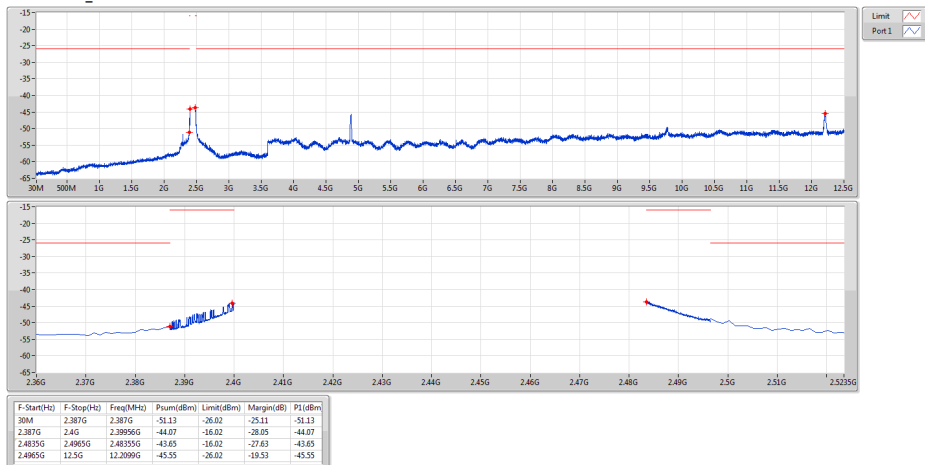
2442MHz_TnomVnom



802.11g_Nss1_1TX

CSE-TX

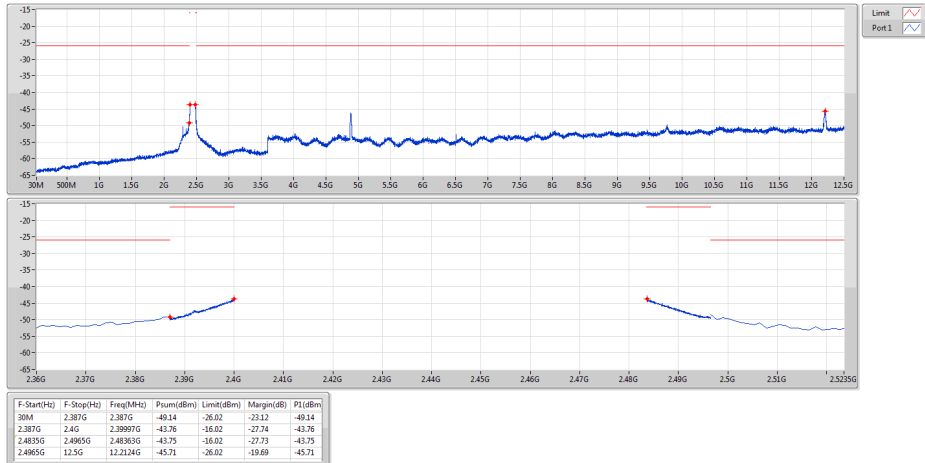
2442MHz_TnomVmin



802.11g_Nss1_1TX

CSE-TX

2442MHz_TnomVmax



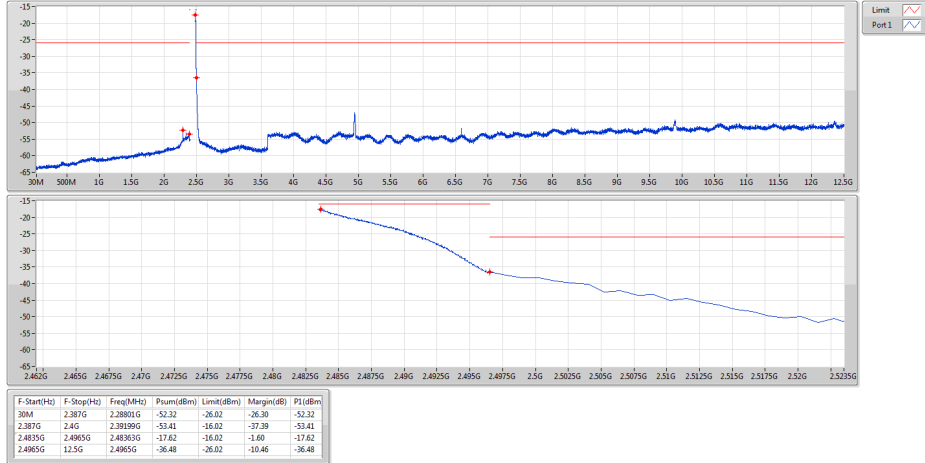


CSE-TX Unwanted Emission Strength Result

Appendix E

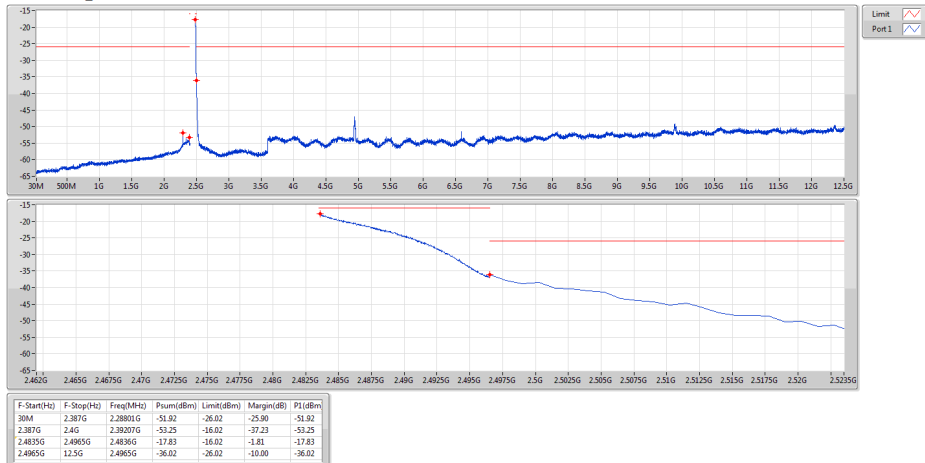
802.11g_Nss1_1TX
2472MHz_TnomVnom

CSE-TX



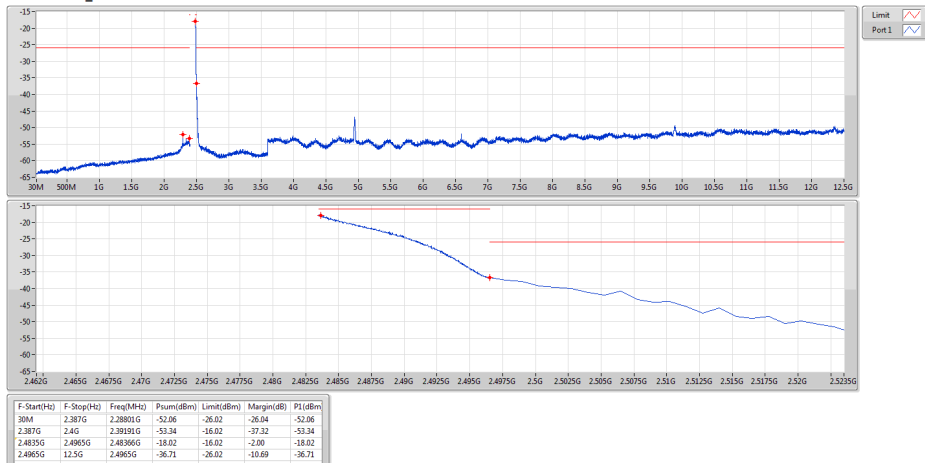
802.11g_Nss1_1TX
2472MHz_TnomVmin

CSE-TX



802.11g_Nss1_1TX
2472MHz_TnomVmax

CSE-TX





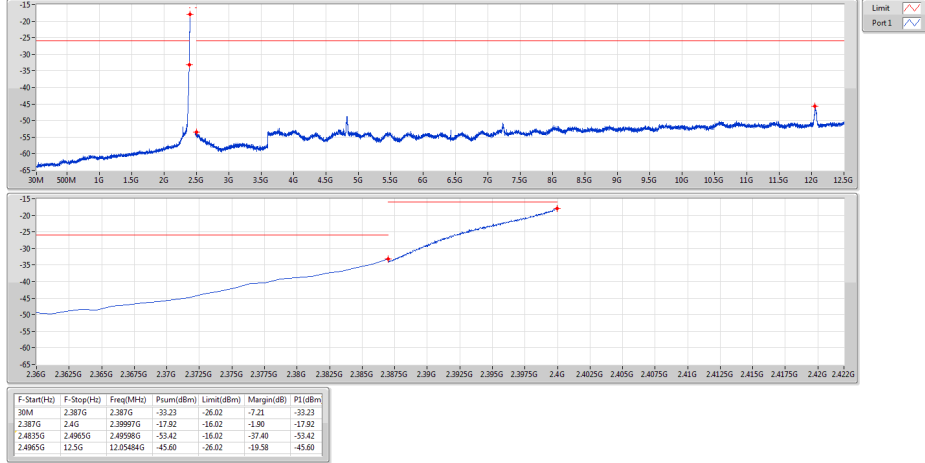
CSE-TX Unwanted Emission Strength Result

Appendix E

802.11n HT20_Nss1,(MCS0)_1TX

CSE-TX

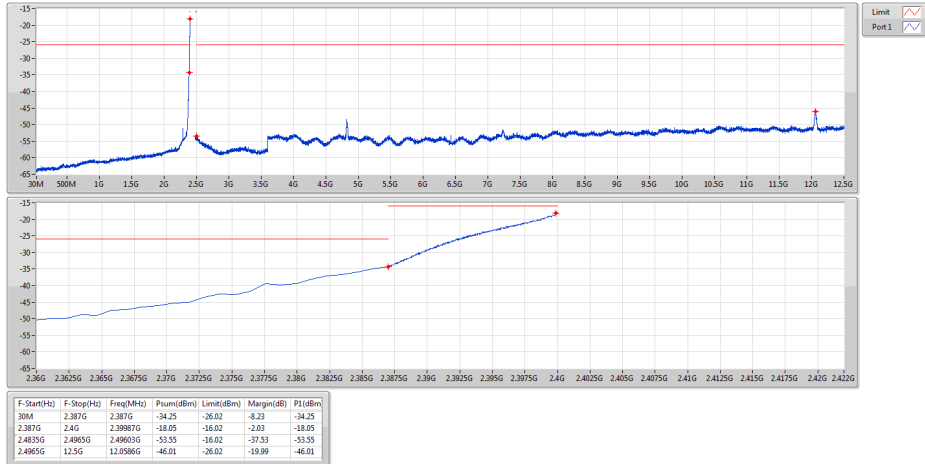
2412MHz_TnomVnom



802.11n HT20_Nss1,(MCS0)_1TX

CSE-TX

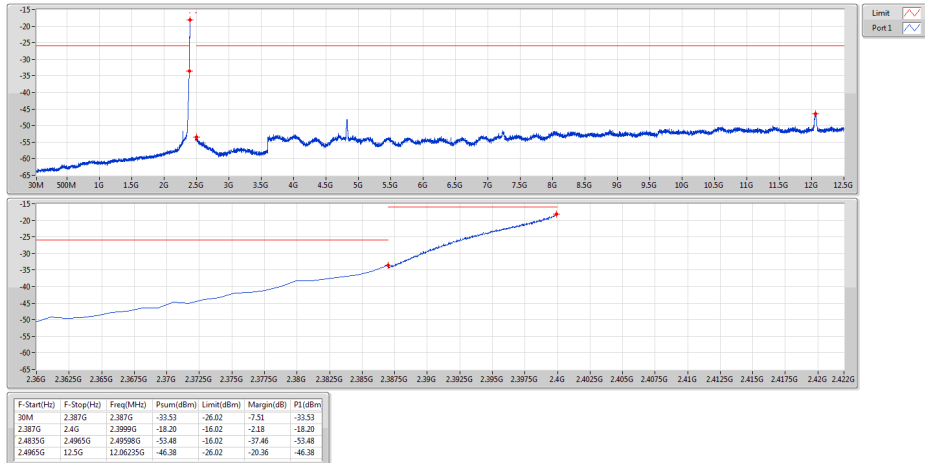
2412MHz_TnomVmin



802.11n HT20_Nss1,(MCS0)_1TX

CSE-TX

2412MHz_TnomVmax





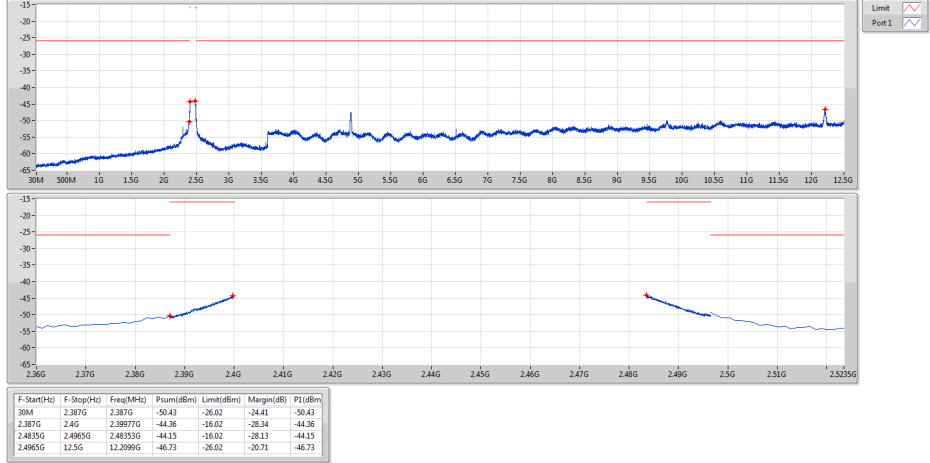
CSE-TX Unwanted Emission Strength Result

Appendix E

802.11n HT20_Nss1,(MCS0)_1TX

CSE-TX

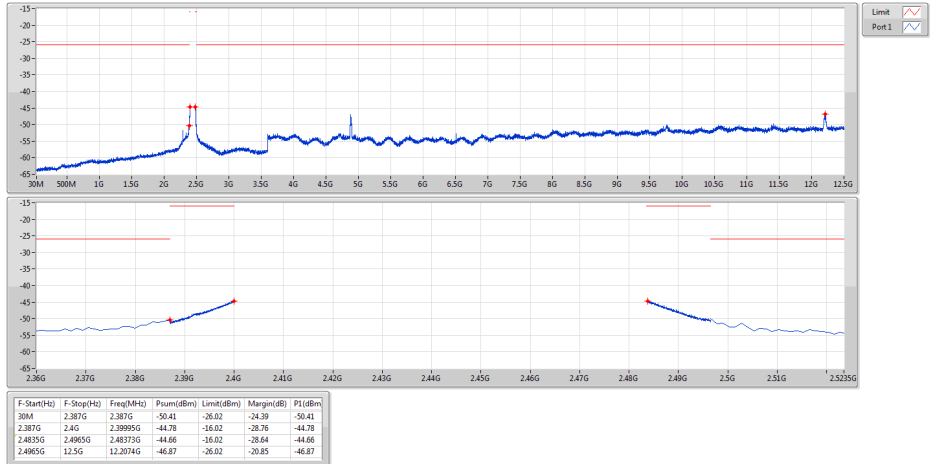
2442MHz_TnomVnom



802.11n HT20_Nss1,(MCS0)_1TX

CSE-TX

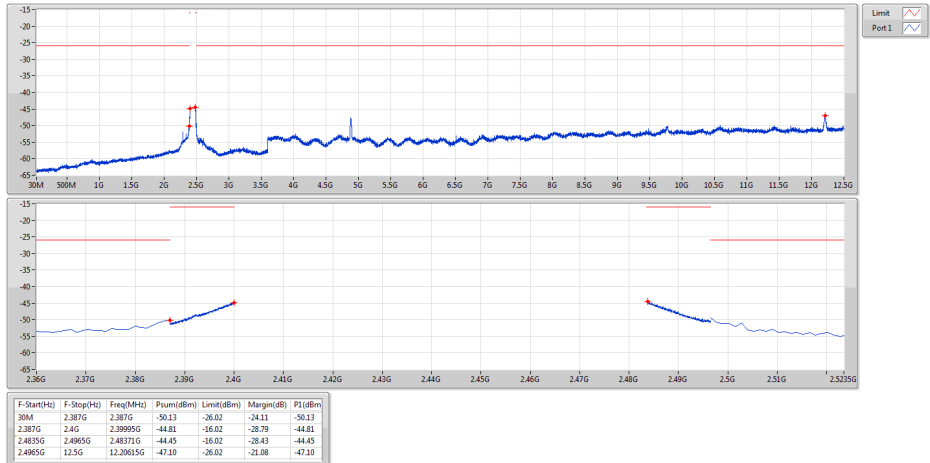
2442MHz_TnomVmin



802.11n HT20_Nss1,(MCS0)_1TX

CSE-TX

2442MHz_TnomVmax





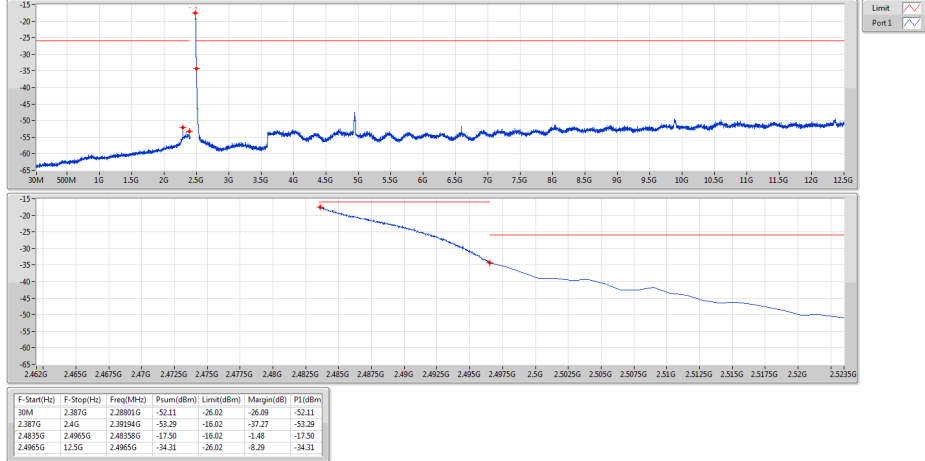
CSE-TX Unwanted Emission Strength Result

Appendix E

802.11n HT20_Nss1,(MCS0)_1TX

CSE-TX

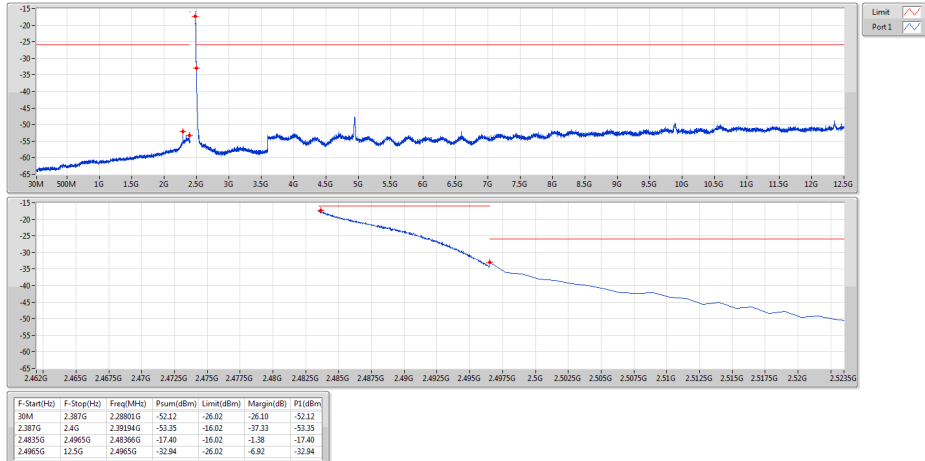
2472MHz_TnomVnom



802.11n HT20_Nss1,(MCS0)_1TX

CSE-TX

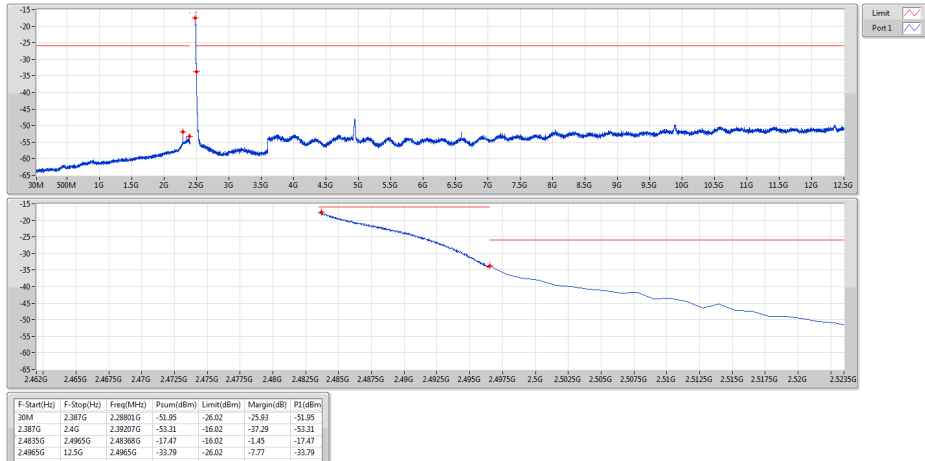
2472MHz_TnomVmin



802.11n HT20_Nss1,(MCS0)_1TX

CSE-TX

2472MHz_TnomVmax





Interference Prevention Function Result

Appendix F

Summary

Mode	Result	ID Length	ID Limit	Function
2.4-2.4835GHz	-	-	-	-
802.11b_Nss1_1TX	Pass	00:17:23:E0:09:10	48 bits	Good
802.11g_Nss1_1TX	Pass	00:17:23:E0:09:10	48 bits	Good
802.11n HT20_Nss1,(MCS0)_1TX	Pass	00:17:23:E0:09:10	48 bits	Good



Interference Prevention Function Result

Appendix F

Result

Mode	Result	ID Length	ID Limit	Function
802.11b_Nss1_1TX	-	-	-	-
2412MHz_TnomVnom	Pass	00:17:23:E0:09:10	48 bits	Good
2412MHz_TnomVmin	Pass	00:17:23:E0:09:10	48 bits	Good
2412MHz_TnomVmax	Pass	00:17:23:E0:09:10	48 bits	Good
2442MHz_TnomVnom	Pass	00:17:23:E0:09:10	48 bits	Good
2442MHz_TnomVmin	Pass	00:17:23:E0:09:10	48 bits	Good
2442MHz_TnomVmax	Pass	00:17:23:E0:09:10	48 bits	Good
2472MHz_TnomVnom	Pass	00:17:23:E0:09:10	48 bits	Good
2472MHz_TnomVmin	Pass	00:17:23:E0:09:10	48 bits	Good
2472MHz_TnomVmax	Pass	00:17:23:E0:09:10	48 bits	Good
802.11g_Nss1_1TX	-	-	-	-
2412MHz_TnomVnom	Pass	00:17:23:E0:09:10	48 bits	Good
2412MHz_TnomVmin	Pass	00:17:23:E0:09:10	48 bits	Good
2412MHz_TnomVmax	Pass	00:17:23:E0:09:10	48 bits	Good
2442MHz_TnomVnom	Pass	00:17:23:E0:09:10	48 bits	Good
2442MHz_TnomVmin	Pass	00:17:23:E0:09:10	48 bits	Good
2442MHz_TnomVmax	Pass	00:17:23:E0:09:10	48 bits	Good
2472MHz_TnomVnom	Pass	00:17:23:E0:09:10	48 bits	Good
2472MHz_TnomVmin	Pass	00:17:23:E0:09:10	48 bits	Good
2472MHz_TnomVmax	Pass	00:17:23:E0:09:10	48 bits	Good
802.11n HT20_Nss1,(MCS0)_1TX	-	-	-	-
2412MHz_TnomVnom	Pass	00:17:23:E0:09:10	48 bits	Good
2412MHz_TnomVmin	Pass	00:17:23:E0:09:10	48 bits	Good
2412MHz_TnomVmax	Pass	00:17:23:E0:09:10	48 bits	Good
2442MHz_TnomVnom	Pass	00:17:23:E0:09:10	48 bits	Good
2442MHz_TnomVmin	Pass	00:17:23:E0:09:10	48 bits	Good
2442MHz_TnomVmax	Pass	00:17:23:E0:09:10	48 bits	Good
2472MHz_TnomVnom	Pass	00:17:23:E0:09:10	48 bits	Good
2472MHz_TnomVmin	Pass	00:17:23:E0:09:10	48 bits	Good
2472MHz_TnomVmax	Pass	00:17:23:E0:09:10	48 bits	Good



CSE-RX Secondary Radiated Emissions Result

Appendix G

Summary

Mode	Result	F-Start (Hz)	F-Stop (Hz)	RBW (Hz)	Freq (MHz)	Psum (dBm)	Psum (nW/MHz)	Limit (nW/MHz)	Margin (dB)	P1 (dBm)
2.4-2.4835GHz	-	-	-	-	-	-	-	-	-	-
802.11b_Nss1_1TX	Pass	1G	12.5G	1M	6.59188G	-54.84	3.28095	20	-7.85	-54.84
802.11g_Nss1_1TX	Pass	1G	12.5G	1M	6.59188G	-54.84	3.28095	20	-7.85	-54.84
802.11n HT20_Nss1,(MCS0)_1TX	Pass	1G	12.5G	1M	6.59188G	-54.85	3.27341	20	-7.86	-54.85



CSE-RX Secondary Radiated Emissions Result

Appendix G

Result

Mode	Result	F-Start (Hz)	F-Stop (Hz)	RBW (Hz)	Freq (MHz)	Psum (dBm)	Psum (nW/MHz)	Limit (nW/MHz)	Margin (dB)	P1 (dBm)
802.11b_Nss1_1TX	-	-	-	-	-	-	-	-	-	-
2412MHz_TnomVnom	Pass	30M	1G	100k	770.11M	-89.08	0.00124	4	-35.10	-89.08
2412MHz_TnomVnom	Pass	1G	12.5G	1M	6.43231G	-55.64	2.72898	20	-8.65	-55.64
2412MHz_TnomVmin	Pass	30M	1G	100k	776.9M	-89.99	0.001	4	-36.01	-89.99
2412MHz_TnomVmin	Pass	1G	12.5G	1M	6.43231G	-55.65	2.7227	20	-8.66	-55.65
2412MHz_TnomVmax	Pass	30M	1G	100k	770.11M	-89.29	0.00118	4	-35.31	-89.29
2412MHz_TnomVmax	Pass	1G	12.5G	1M	6.43231G	-55.61	2.74789	20	-8.62	-55.61
2442MHz_TnomVnom	Pass	30M	1G	100k	774.96M	-88.32	0.00147	4	-34.34	-88.32
2442MHz_TnomVnom	Pass	1G	12.5G	1M	6.51138G	-57.13	1.93642	20	-10.14	-57.13
2442MHz_TnomVmin	Pass	30M	1G	100k	953.93M	-89.71	0.00107	4	-35.73	-89.71
2442MHz_TnomVmin	Pass	1G	12.5G	1M	6.51138G	-57.12	1.94089	20	-10.13	-57.12
2442MHz_TnomVmax	Pass	30M	1G	100k	774.96M	-90.09	0.00098	4	-36.11	-90.09
2442MHz_TnomVmax	Pass	1G	12.5G	1M	6.51138G	-57.10	1.94984	20	-10.11	-57.10
2472MHz_TnomVnom	Pass	30M	1G	100k	774.96M	-86.88	0.00205	4	-32.90	-86.88
2472MHz_TnomVnom	Pass	1G	12.5G	1M	6.59188G	-54.86	3.26588	20	-7.87	-54.86
2472MHz_TnomVmin	Pass	30M	1G	100k	774.96M	-86.23	0.00238	4	-32.25	-86.23
2472MHz_TnomVmin	Pass	1G	12.5G	1M	6.59188G	-54.84	3.28095	20	-7.85	-54.84
2472MHz_TnomVmax	Pass	30M	1G	100k	953.93M	-88.49	0.00142	4	-34.51	-88.49
2472MHz_TnomVmax	Pass	1G	12.5G	1M	6.59188G	-54.87	3.25837	20	-7.88	-54.87
802.11g_Nss1_1TX	-	-	-	-	-	-	-	-	-	-
2412MHz_TnomVnom	Pass	30M	1G	100k	770.11M	-89.45	0.00114	4	-35.47	-89.45
2412MHz_TnomVnom	Pass	1G	12.5G	1M	6.43231G	-55.64	2.72898	20	-8.65	-55.64
2412MHz_TnomVmin	Pass	30M	1G	100k	759.93M	-89.71	0.00107	4	-35.73	-89.71
2412MHz_TnomVmin	Pass	1G	12.5G	1M	6.43231G	-55.64	2.72898	20	-8.65	-55.64
2412MHz_TnomVmax	Pass	30M	1G	100k	953.93M	-90.56	0.00088	4	-36.58	-90.56
2412MHz_TnomVmax	Pass	1G	12.5G	1M	6.43231G	-55.61	2.74789	20	-8.62	-55.61
2442MHz_TnomVnom	Pass	30M	1G	100k	774.96M	-88.42	0.00144	4	-34.44	-88.42
2442MHz_TnomVnom	Pass	1G	12.5G	1M	6.51138G	-57.10	1.94984	20	-10.11	-57.10
2442MHz_TnomVmin	Pass	30M	1G	100k	774.96M	-89.66	0.00108	4	-35.68	-89.66
2442MHz_TnomVmin	Pass	1G	12.5G	1M	6.51138G	-57.11	1.94536	20	-10.12	-57.11
2442MHz_TnomVmax	Pass	30M	1G	100k	953.93M	-92.53	0.00056	4	-38.55	-92.53
2442MHz_TnomVmax	Pass	1G	12.5G	1M	6.51138G	-57.11	1.94536	20	-10.12	-57.11
2472MHz_TnomVnom	Pass	30M	1G	100k	774.96M	-85.52	0.00281	4	-31.54	-85.52
2472MHz_TnomVnom	Pass	1G	12.5G	1M	6.59188G	-54.86	3.26588	20	-7.87	-54.86



CSE-RX Secondary Radiated Emissions Result

Appendix G

Mode	Result	F-Start (Hz)	F-Stop (Hz)	RBW (Hz)	Freq (MHz)	Psum (dBm)	Psum (nW/MHz)	Limit (nW/MHz)	Margin (dB)	P1 (dBm)
2472MHz_TnomVmin	Pass	30M	1G	100k	774.96M	-87.32	0.00185	4	-33.34	-87.32
2472MHz_TnomVmin	Pass	1G	12.5G	1M	6.59188G	-54.84	3.28095	20	-7.85	-54.84
2472MHz_TnomVmax	Pass	30M	1G	100k	953.93M	-89.71	0.00107	4	-35.73	-89.71
2472MHz_TnomVmax	Pass	1G	12.5G	1M	6.59188G	-54.85	3.27341	20	-7.86	-54.85
802.11n HT20_Nss1,(MCS0)_1TX	-	-	-	-	-	-	-	-	-	-
2412MHz_TnomVnom	Pass	30M	1G	100k	760.41M	-89.19	0.00121	4	-35.21	-89.19
2412MHz_TnomVnom	Pass	1G	12.5G	1M	6.43231G	-55.60	2.75423	20	-8.61	-55.60
2412MHz_TnomVmin	Pass	30M	1G	100k	953.93M	-89.66	0.00108	4	-35.68	-89.66
2412MHz_TnomVmin	Pass	1G	12.5G	1M	6.43231G	-55.64	2.72898	20	-8.65	-55.64
2412MHz_TnomVmax	Pass	30M	1G	100k	953.93M	-89.00	0.00126	4	-35.02	-89.00
2412MHz_TnomVmax	Pass	1G	12.5G	1M	6.43231G	-55.61	2.74789	20	-8.62	-55.61
2442MHz_TnomVnom	Pass	30M	1G	100k	953.93M	-91.54	0.0007	4	-37.56	-91.54
2442MHz_TnomVnom	Pass	1G	12.5G	1M	6.51138G	-57.11	1.94536	20	-10.12	-57.11
2442MHz_TnomVmin	Pass	30M	1G	100k	774.96M	-88.28	0.00149	4	-34.30	-88.28
2442MHz_TnomVmin	Pass	1G	12.5G	1M	6.51138G	-57.10	1.94984	20	-10.11	-57.10
2442MHz_TnomVmax	Pass	30M	1G	100k	760.41M	-90.65	0.00086	4	-36.67	-90.65
2442MHz_TnomVmax	Pass	1G	12.5G	1M	6.51138G	-57.08	1.95884	20	-10.09	-57.08
2472MHz_TnomVnom	Pass	30M	1G	100k	774.96M	-89.98	0.001	4	-36.00	-89.98
2472MHz_TnomVnom	Pass	1G	12.5G	1M	6.59188G	-54.87	3.25837	20	-7.88	-54.87
2472MHz_TnomVmin	Pass	30M	1G	100k	770.11M	-89.11	0.00123	4	-35.13	-89.11
2472MHz_TnomVmin	Pass	1G	12.5G	1M	6.59188G	-54.86	3.26588	20	-7.87	-54.86
2472MHz_TnomVmax	Pass	30M	1G	100k	770.11M	-88.69	0.00135	4	-34.71	-88.69
2472MHz_TnomVmax	Pass	1G	12.5G	1M	6.59188G	-54.85	3.27341	20	-7.86	-54.85



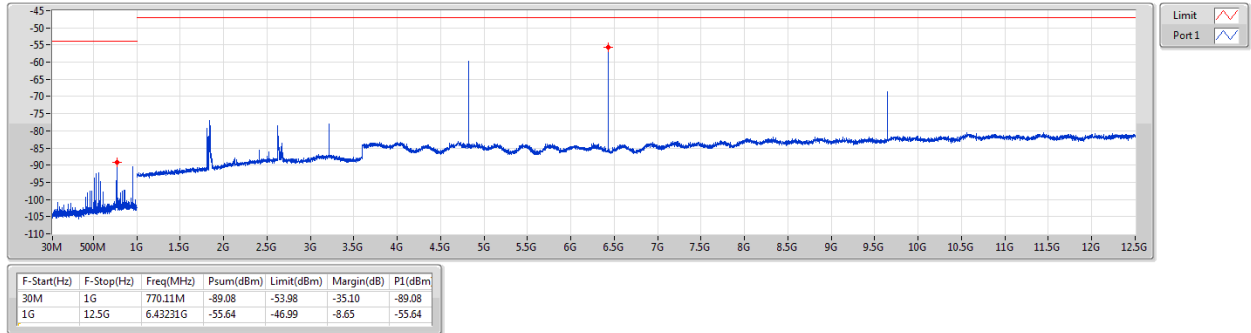
CSE-RX Secondary Radiated Emissions Result

Appendix G

802.11b_Nss1_1TX

CSE-RX

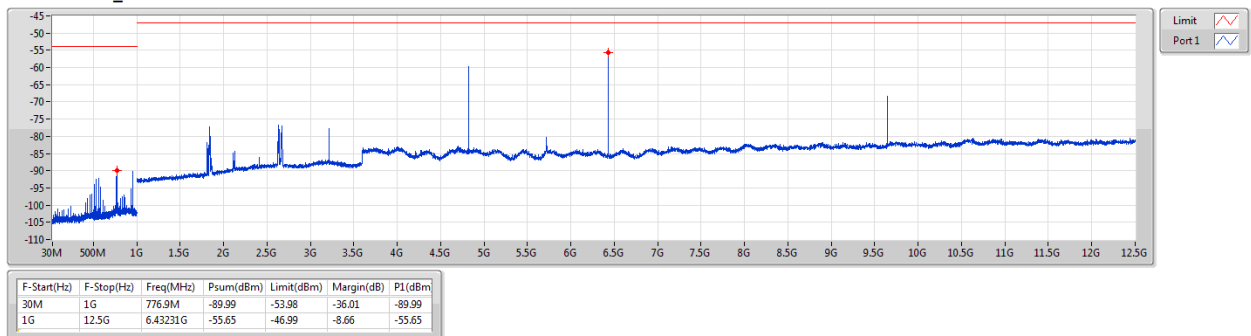
2412MHz_TnomVnom



802.11b_Nss1_1TX

CSE-RX

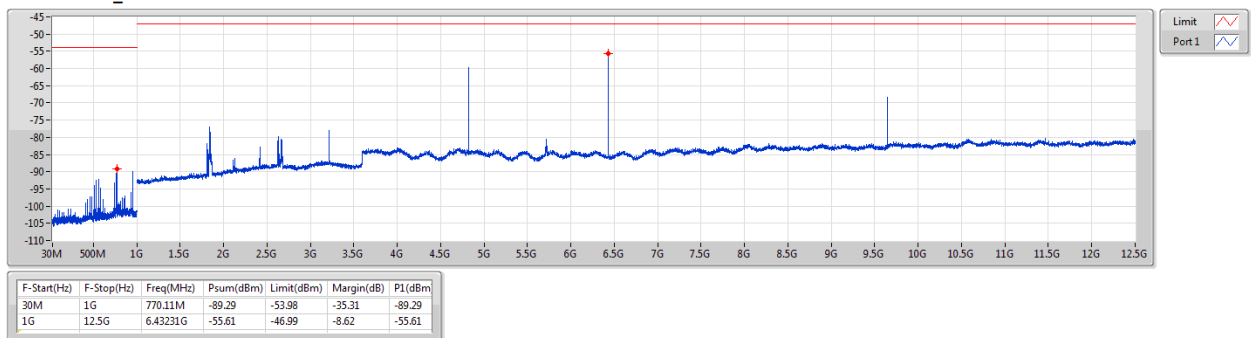
2412MHz_TnomVmin



802.11b_Nss1_1TX

CSE-RX

2412MHz_TnomVmax





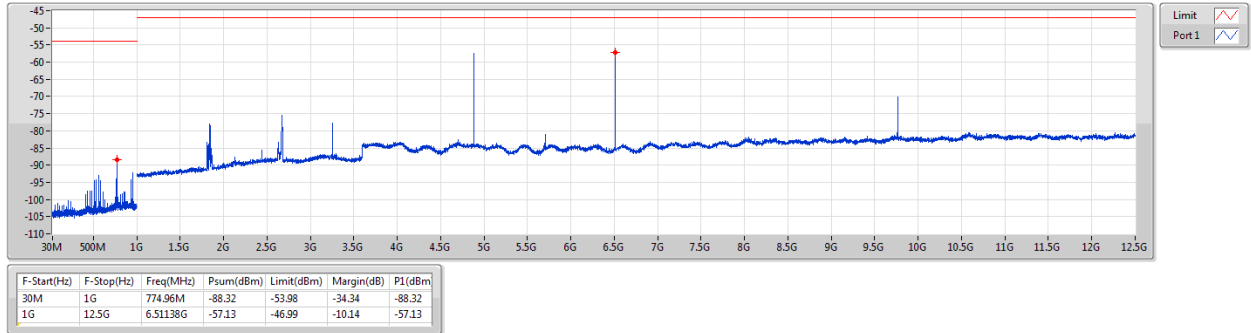
CSE-RX Secondary Radiated Emissions Result

Appendix G

802.11b_Nss1_1TX

CSE-RX

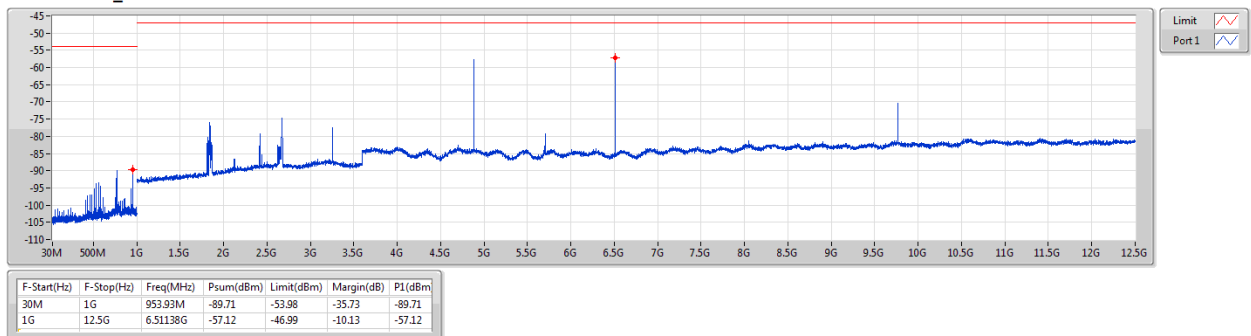
2442MHz_TnomVnom



802.11b_Nss1_1TX

CSE-RX

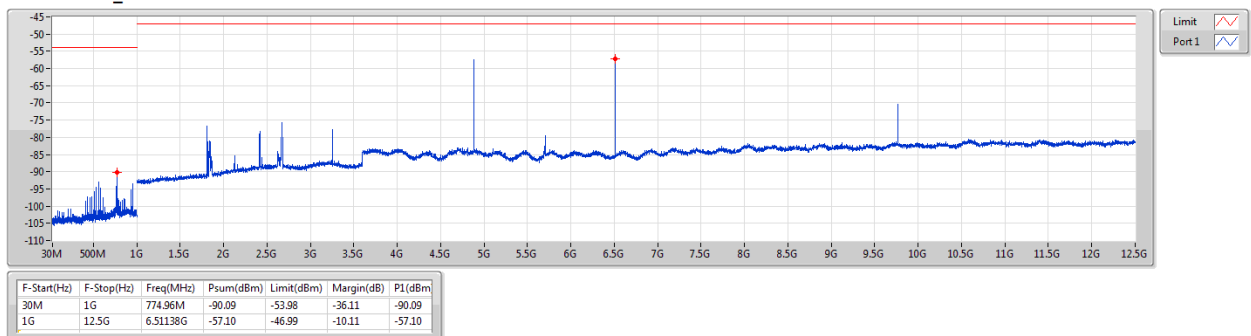
2442MHz_TnomVmin



802.11b_Nss1_1TX

CSE-RX

2442MHz_TnomVmax





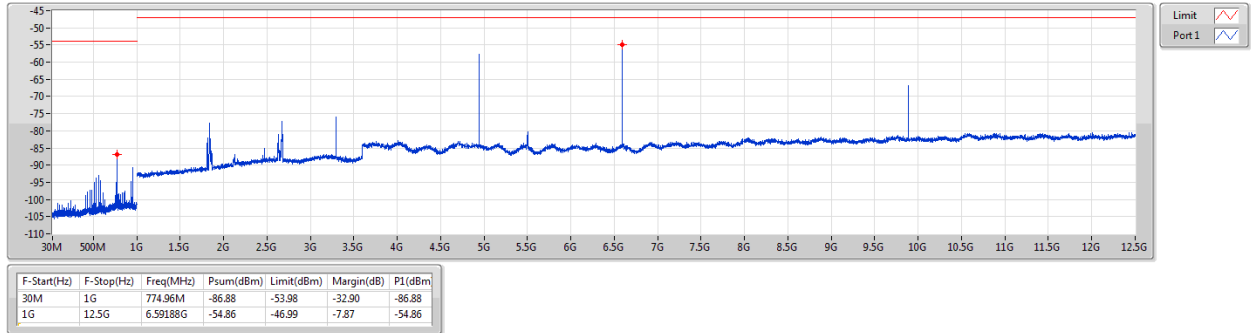
CSE-RX Secondary Radiated Emissions Result

Appendix G

802.11b_Nss1_1TX

CSE-RX

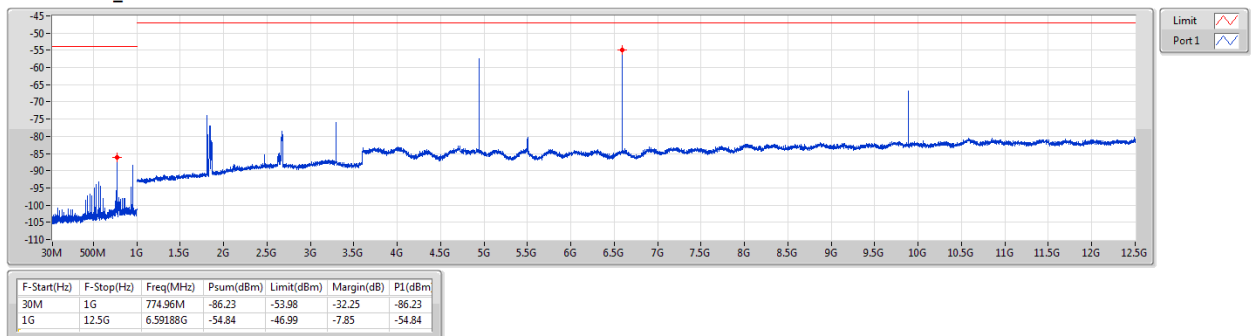
2472MHz_TnomVnom



802.11b_Nss1_1TX

CSE-RX

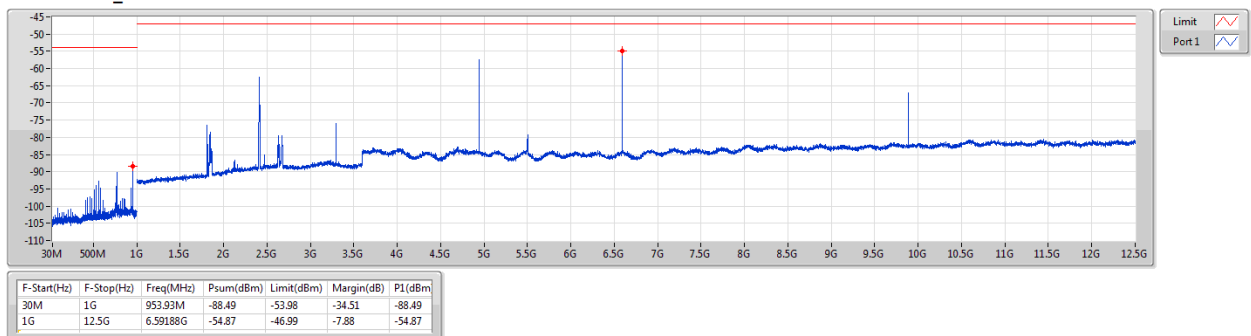
2472MHz_TnomVmin



802.11b_Nss1_1TX

CSE-RX

2472MHz_TnomVmax





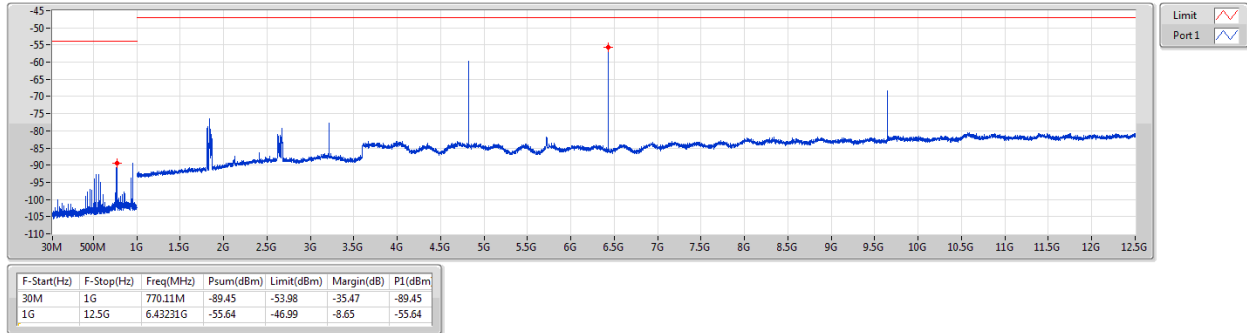
CSE-RX Secondary Radiated Emissions Result

Appendix G

802.11g_Nss1_1TX

CSE-RX

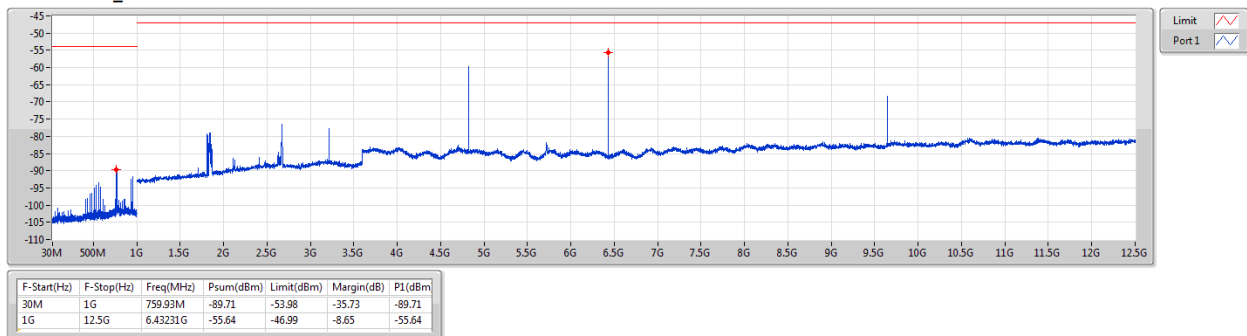
2412MHz_TnomVnom



802.11g_Nss1_1TX

CSE-RX

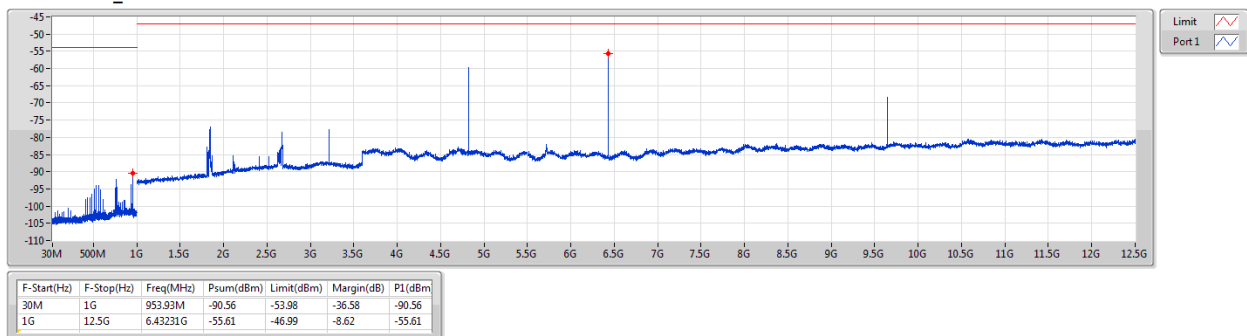
2412MHz_TnomVmin



802.11g_Nss1_1TX

CSE-RX

2412MHz_TnomVmax





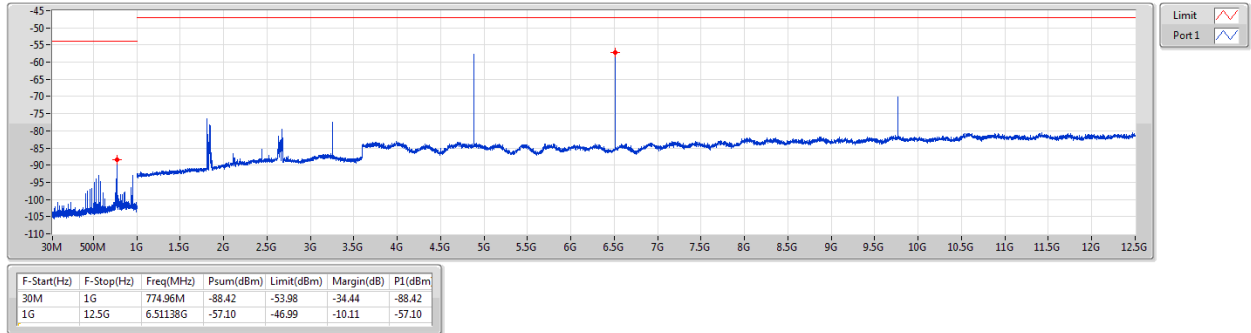
CSE-RX Secondary Radiated Emissions Result

Appendix G

802.11g_Nss1_1TX

CSE-RX

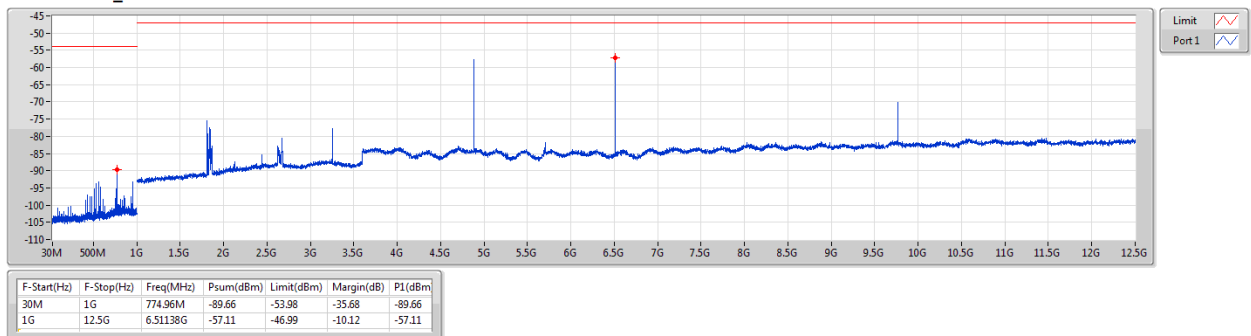
2442MHz_TnomVnom



802.11g_Nss1_1TX

CSE-RX

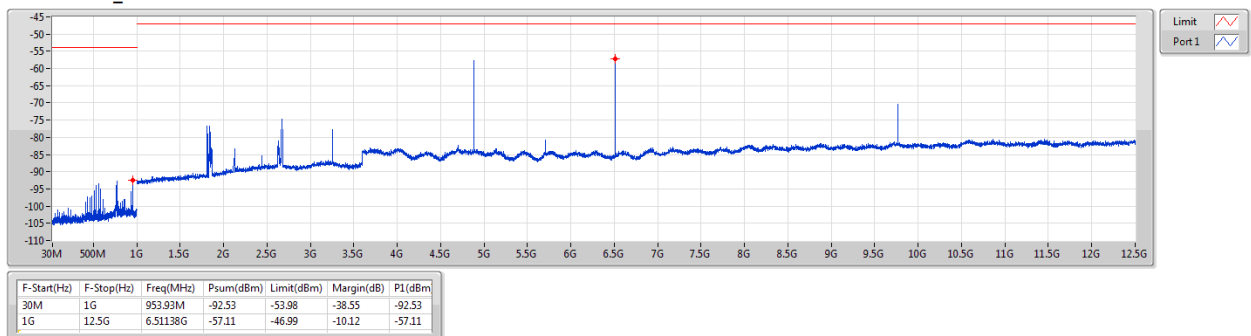
2442MHz_TnomVmin



802.11g_Nss1_1TX

CSE-RX

2442MHz_TnomVmax





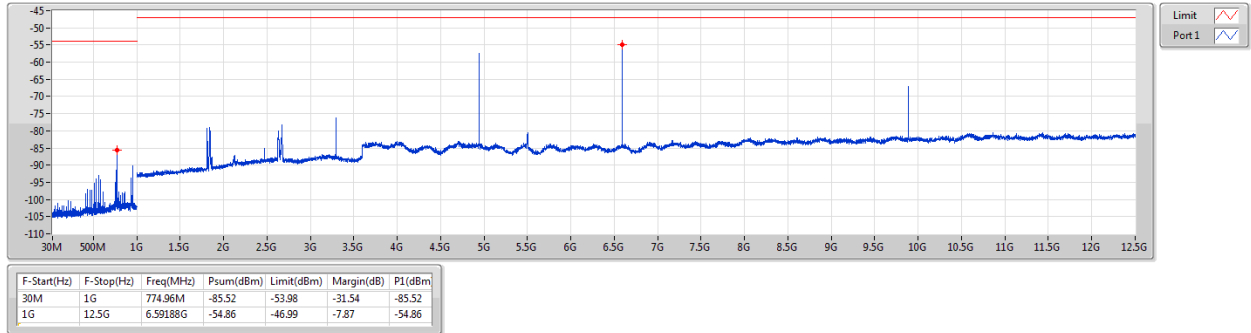
CSE-RX Secondary Radiated Emissions Result

Appendix G

802.11g_Nss1_1TX

CSE-RX

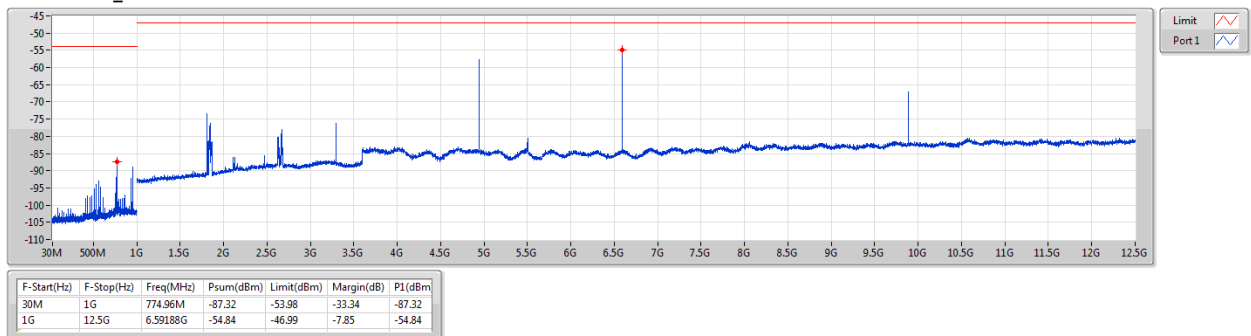
2472MHz_TnomVnom



802.11g_Nss1_1TX

CSE-RX

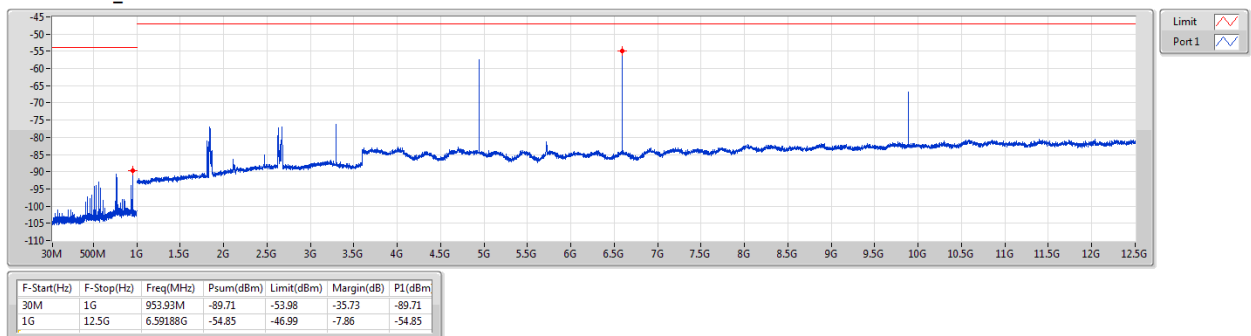
2472MHz_TnomVmin



802.11g_Nss1_1TX

CSE-RX

2472MHz_TnomVmax





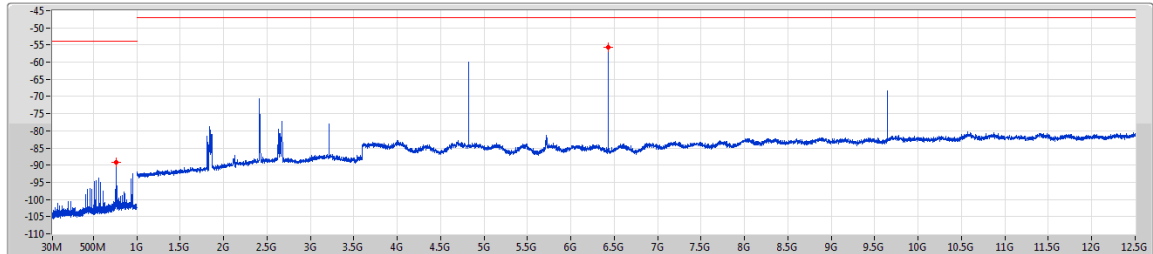
CSE-RX Secondary Radiated Emissions Result

Appendix G

802.11n HT20_Nss1,(MCS0)_1TX

CSE-RX

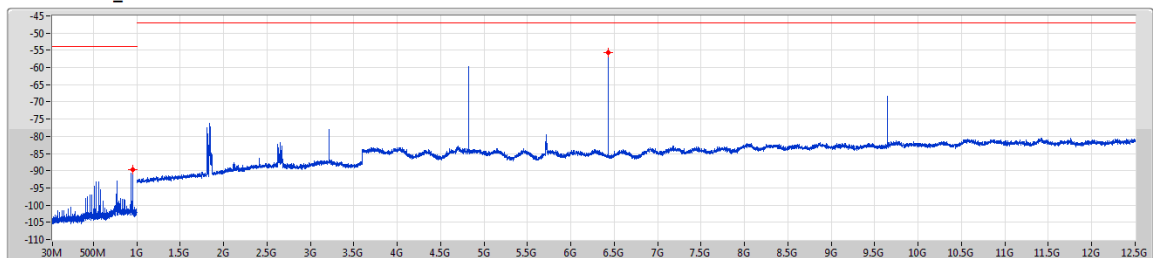
2412MHz_TnomVnom



802.11n HT20_Nss1,(MCS0)_1TX

CSE-RX

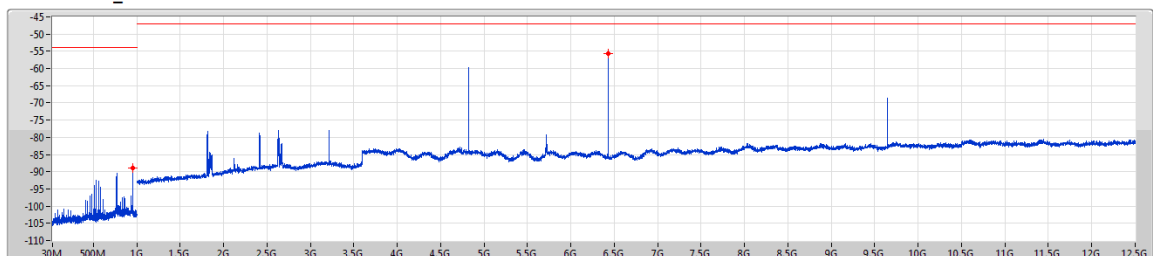
2412MHz_TnomVmin



802.11n HT20_Nss1,(MCS0)_1TX

CSE-RX

2412MHz_TnomVmax





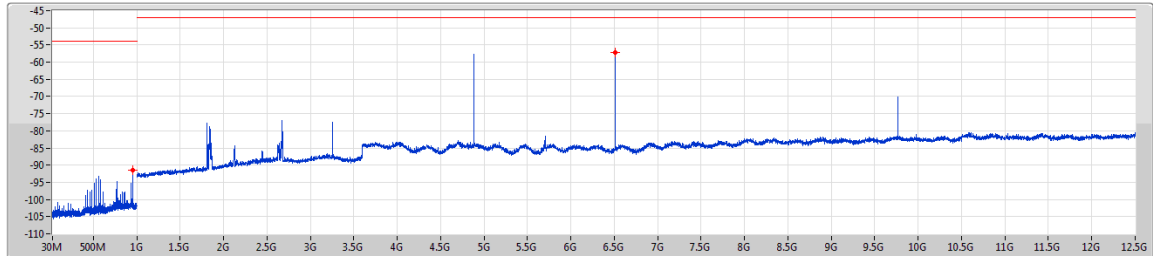
CSE-RX Secondary Radiated Emissions Result

Appendix G

802.11n HT20_Nss1,(MCS0)_1TX

CSE-RX

2442MHz_TnomVnom

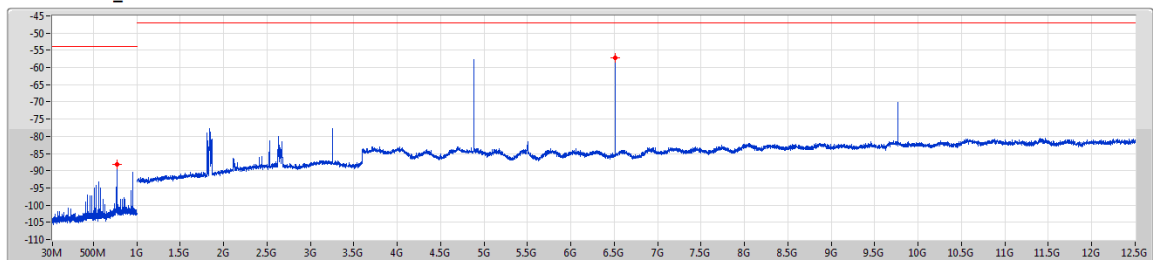


F-Start(Hz)	F-Stop(Hz)	Freq(MHz)	Psum(dBm)	Limit(dBm)	Margin(dB)	P1(dBm)
30M	1G	953.93M	-91.54	-53.98	-37.56	-91.54
1G	12.5G	6.51138G	-57.11	-46.99	-10.12	-57.11

802.11n HT20_Nss1,(MCS0)_1TX

CSE-RX

2442MHz_TnomVmin

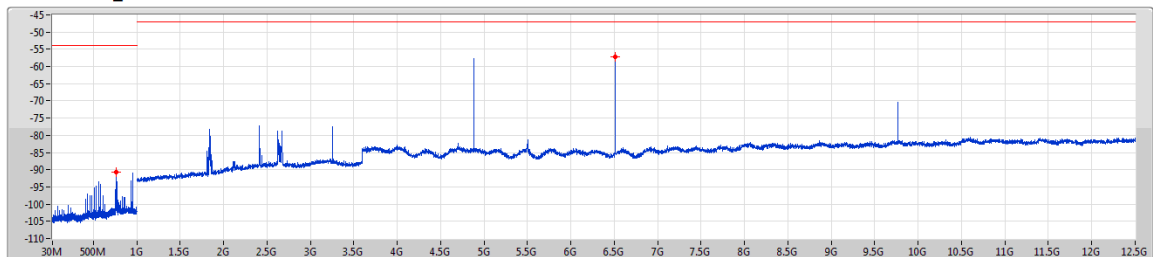


F-Start(Hz)	F-Stop(Hz)	Freq(MHz)	Psum(dBm)	Limit(dBm)	Margin(dB)	P1(dBm)
30M	1G	774.96M	-88.28	-53.98	-34.30	-88.28
1G	12.5G	6.51138G	-57.10	-46.99	-10.11	-57.10

802.11n HT20_Nss1,(MCS0)_1TX

CSE-RX

2442MHz_TnomVmax



F-Start(Hz)	F-Stop(Hz)	Freq(MHz)	Psum(dBm)	Limit(dBm)	Margin(dB)	P1(dBm)
30M	1G	760.41M	-90.65	-53.98	-36.67	-90.65
1G	12.5G	6.51138G	-57.08	-46.99	-10.09	-57.08



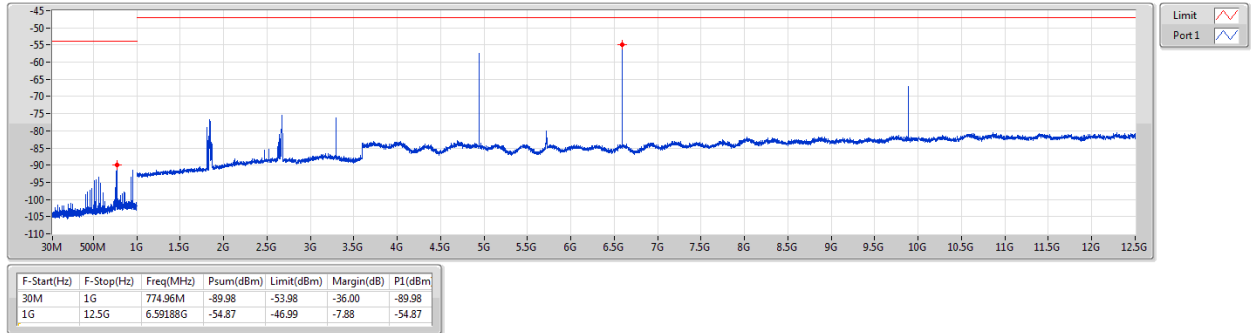
CSE-RX Secondary Radiated Emissions Result

Appendix G

802.11n HT20_Nss1,(MCS0)_1TX

CSE-RX

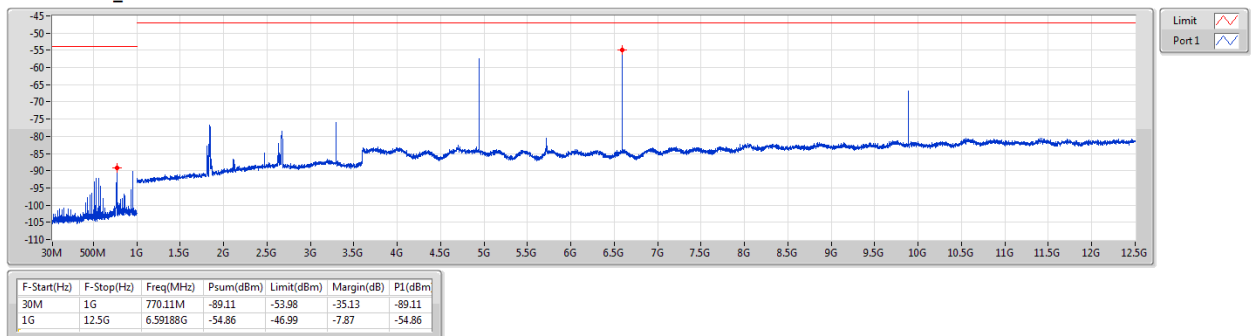
2472MHz_TnomVnom



802.11n HT20_Nss1,(MCS0)_1TX

CSE-RX

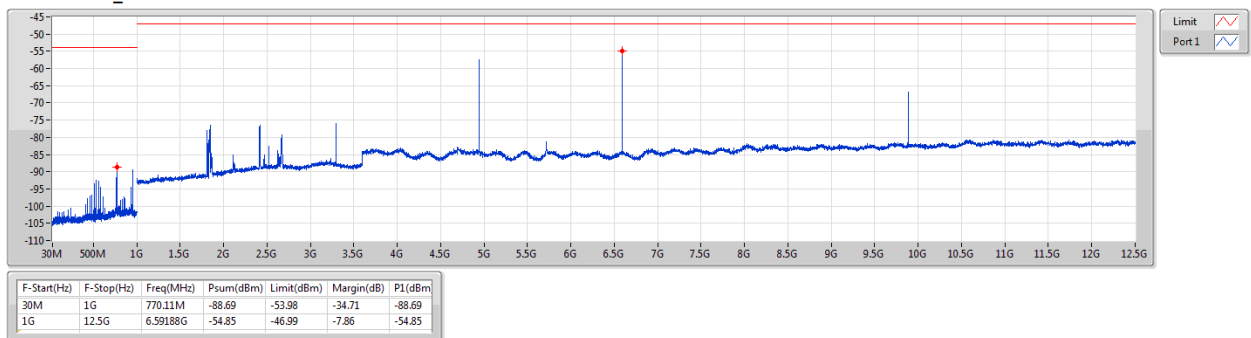
2472MHz_TnomVmin



802.11n HT20_Nss1,(MCS0)_1TX

CSE-RX

2472MHz_TnomVmax





Power Result

Appendix H.1

Summary

Mode	Power (dBm/MHz)	Power (mW/MHz)	EIRP (dBm/MHz)	EIRP (mW/MHz)
2.471-2.497GHz	-	-	-	-
802.11b_Nss1_1TX	5.82	3.81944	8.61	7.26106

PD = Antenna Power (Power Density)sum by P1; P1 = Port 1 PD;

Result

Mode	Result	Gain (dBi)	ENBF (dB)	P1 (dBm/MHz)	Power (dBm/MHz)	Power (mW/MHz)	Power Lim. (mW/MHz)	EIRP (dBm/MHz)	EIRP (mW/MHz)	EIRP Lim. (mW/MHz)
802.11b_Nss1_1TX	-	-	-	-	-	-	-	-	-	-
2484MHz_TnomVnom	Pass	2.79	0.49	5.80	5.80	3.80189	10	8.59	7.22770	16.37
2484MHz_TnomVmin	Pass	2.79	0.49	5.79	5.79	3.79315	10	8.58	7.21107	16.37
2484MHz_TnomVmax	Pass	2.79	0.49	5.82	5.82	3.81944	10	8.61	7.26106	16.37

PD = Antenna Power (Power Density)sum by P1;

P1 = Port 1 PD; ENBF = Equivalent Noise Bandwidth Factor;



Power Tolerance Result

Appendix H.2

Summary

Mode	Result	Power (dBm/MHz)	Power (mW/MHz)	Declare (mW/MHz)	Tolerance (%)	Limit+ (%)	Limit- (%)
2.471-2.497GHz	-	-	-	-	-	-	-
802.11b_Nss1_1TX	Pass	5.82	3.81944	4.00	-4.51	20	-80

Result

Mode	Result	Power (dBm/MHz)	Power (mW/MHz)	Declare (mW/MHz)	Tolerance (%)	Limit+ (%)	Limit- (%)
802.11b_Nss1_1TX	-	-	-	-	-	-	-
2484MHz_TnomVnom	Pass	5.80	3.80189	4.00	-4.95	20	-80
2484MHz_TnomVmin	Pass	5.79	3.79315	4.00	-5.17	20	-80
2484MHz_TnomVmax	Pass	5.82	3.81944	4.00	-4.51	20	-80



Frequency Tolerance Result

Appendix I

Summary

Mode	Result	Ch (Hz)	Center (Hz)	ppm	Limit (ppm)	Port	Remark
2.471-2.497GHz	-	-	-	-	-	-	-
802.11b_Nss1_1TX	Pass	2.484G	2.48400087G	0.352	±50	1	-



Frequency Tolerance Result

Appendix I

Result

Mode	Result	Ch (Hz)	Center (Hz)	ppm	Limit (ppm)	Port	Remark
802.11b_Nss1_1TX	-	-	-	-	-	-	-
2484MHz_TnomVnom	Pass	2.484G	2.48400068G	0.274	±50	1	-
2484MHz_TnomVmin	Pass	2.484G	2.48400079G	0.318	±50	1	-
2484MHz_TnomVmax	Pass	2.484G	2.48400087G	0.352	±50	1	-



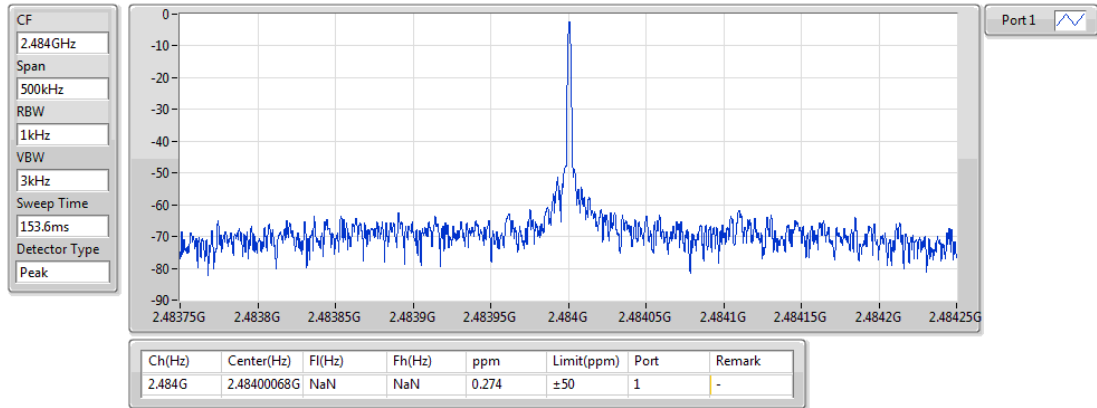
Frequency Tolerance Result

Appendix I

802.11b_Nss1_1TX

Freq. Stability

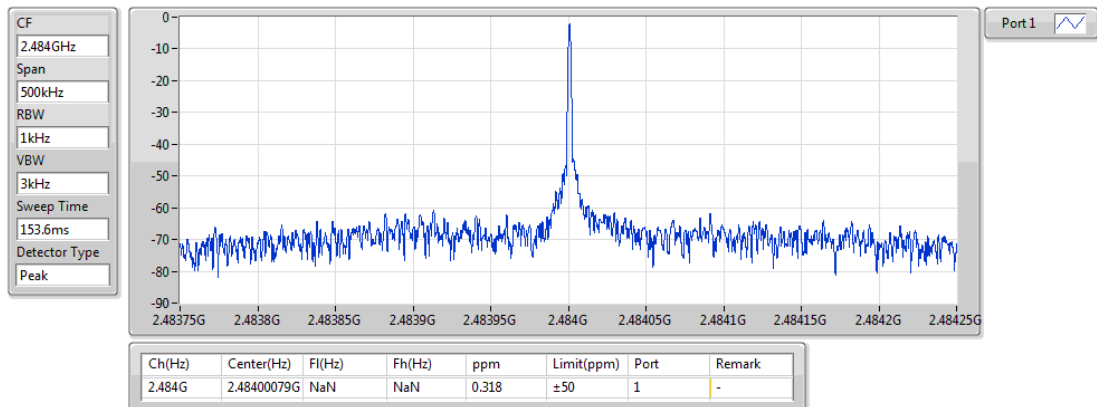
2484MHz_TnomVnom



802.11b_Nss1_1TX

Freq. Stability

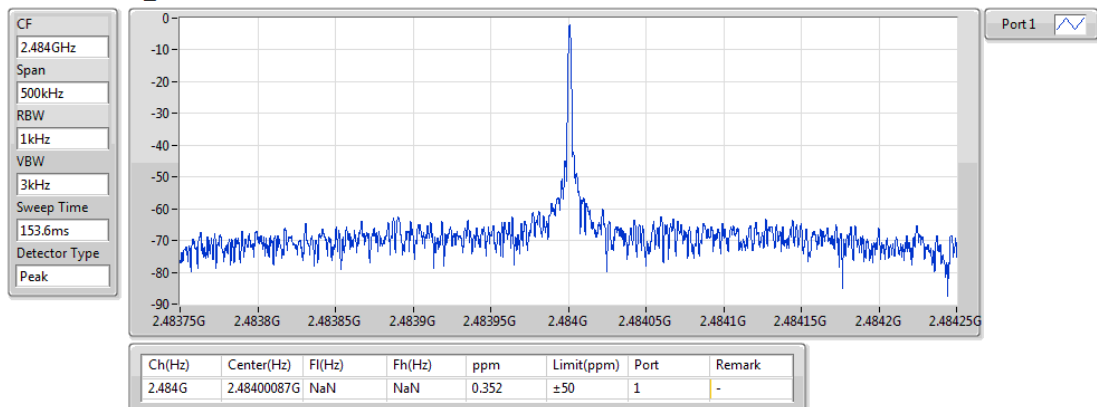
2484MHz_TnomVmin



802.11b_Nss1_1TX

Freq. Stability

2484MHz_TnomVmax





Occupied Bandwidth Result

Appendix J

Summary

Mode	Max-OBW (Hz)	ITU-Code	Min-OBW (Hz)
2.471-2.497GHz	-	-	-
802.11b_Nss1_1TX	20.563M	20M6G1D	20.538M

Max-OBW = Maximum 99% occupied bandwidth; **Min-OBW** = Minimum 99% occupied bandwidth;

Result

Mode	Result	Limit (Hz)	P1-OBW (Hz)
802.11b_Nss1_1TX	-	-	-
2484MHz_TnomVnom	Pass	26M	20.548M
2484MHz_TnomVmin	Pass	26M	20.538M
2484MHz_TnomVmax	Pass	26M	20.563M

P1-OBW = Port 1 99% occupied bandwidth



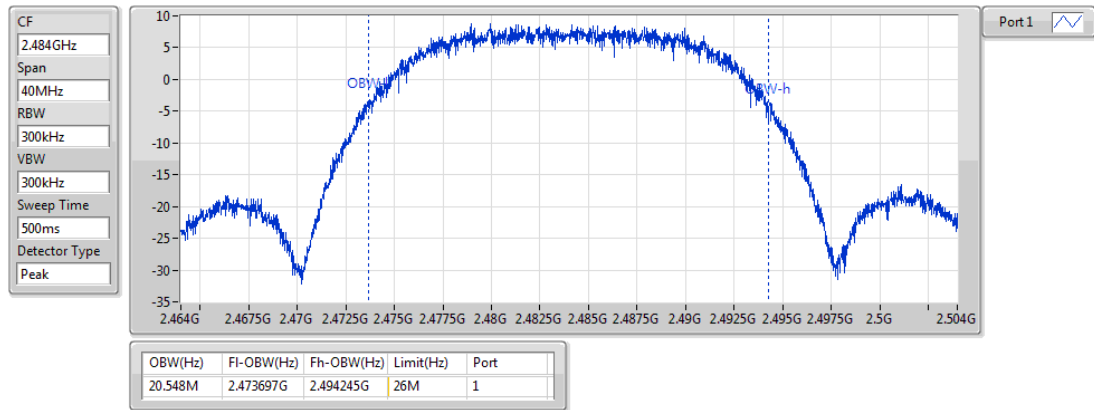
Occupied Bandwidth Result

Appendix J

802.11b_Nss1_1TX

OBW

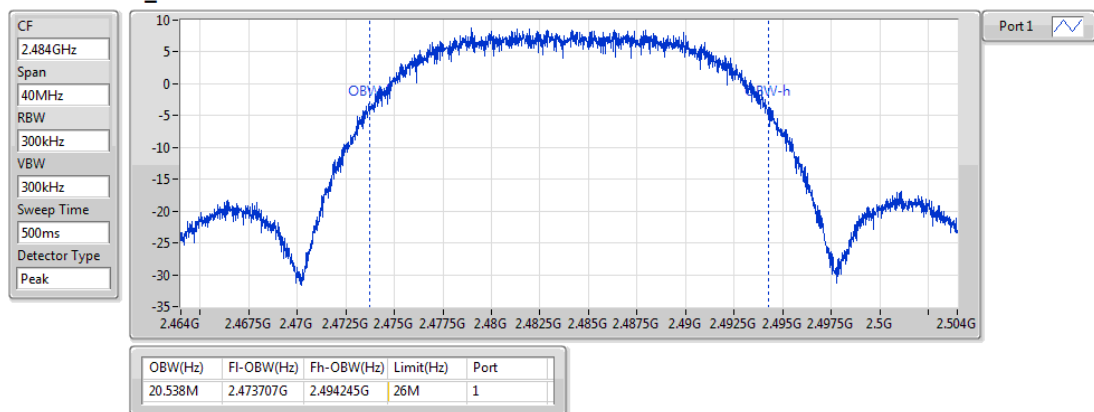
2484MHz_TnomVnom



802.11b_Nss1_1TX

OBW

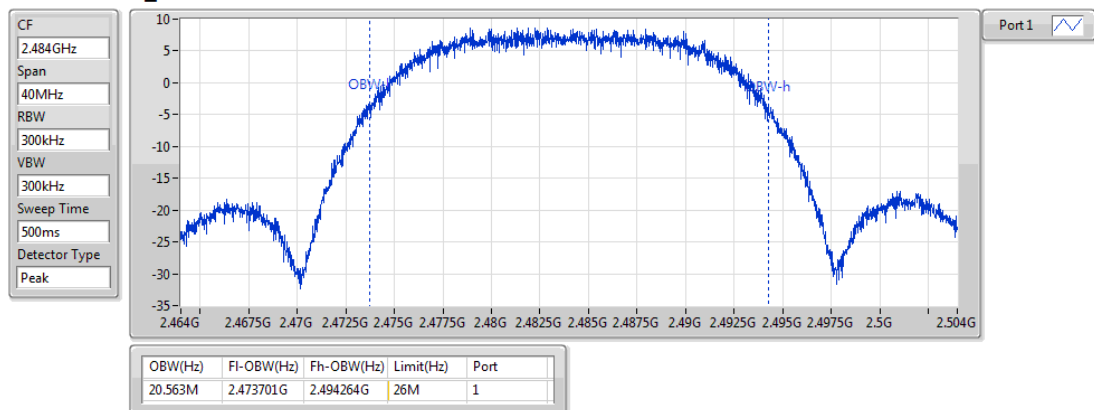
2484MHz_TnomVmin



802.11b_Nss1_1TX

OBW

2484MHz_TnomVmax





Spread Bandwidth Result

Appendix K

Summary

Mode	Max-SBW (Hz)	Min-SBW (Hz)	Max-SF	Min-SF
2.471-2.497GHz	-	-	-	-
802.11b_Nss1_1TX	15.206M	15.166M	11.059	11.03

Max-SBW = Maximum spreading bandwidth; **Min-SBW** = Minimum spreading bandwidth;

Max-SF = Maximum spreading factor; **Min-SF** = Minimum spreading factor;



Spread Bandwidth Result

Appendix K

Result

Mode	Result	SBW Limit (Hz)	Symbol Rate (Msps)	SF Limit	P1-SBW (Hz)	P1-SF
802.11b_Nss1_1TX	-	-	-	-	-	-
2484MHz_TnomVnom	Pass	500k	1.375M	10	15.195M	11.051
2484MHz_TnomVmin	Pass	500k	1.375M	10	15.166M	11.03
2484MHz_TnomVmax	Pass	500k	1.375M	10	15.206M	11.059

P1-SBW = Port 1 spreading bandwidth; **P1-SF** = Port 1 spreading factor;



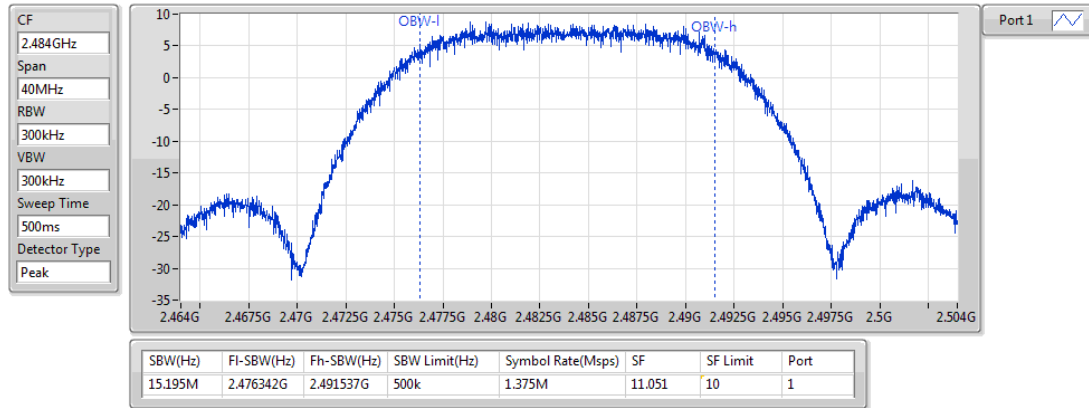
Spread Bandwidth Result

Appendix K

802.11b_Nss1_1TX

SBW

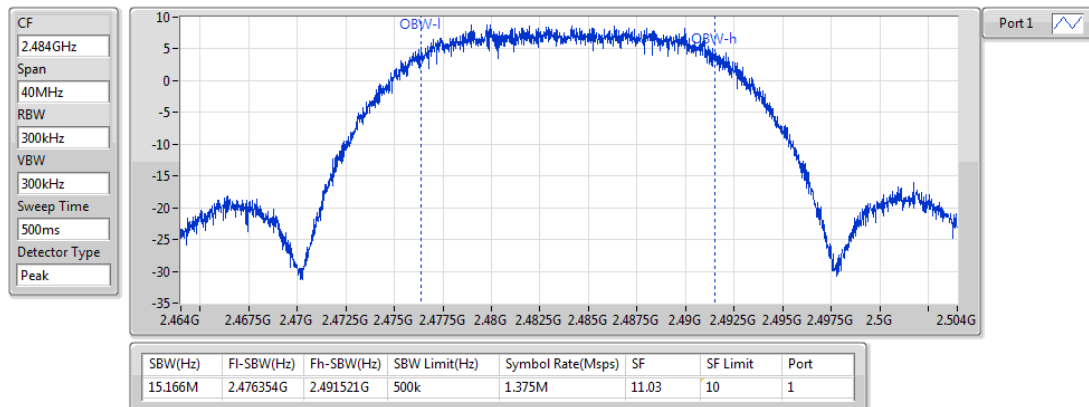
2484MHz_TnomVnom



802.11b_Nss1_1TX

SBW

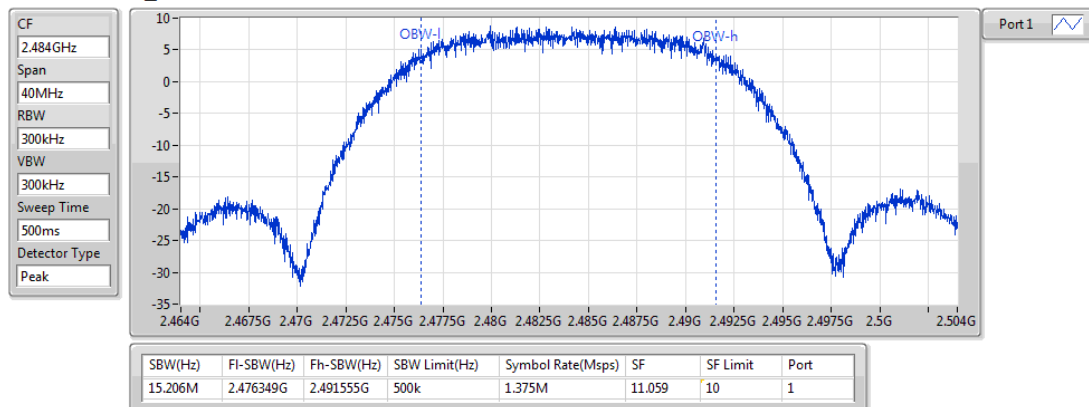
2484MHz_TnomVmin



802.11b_Nss1_1TX

SBW

2484MHz_TnomVmax



**CSE-TXUnwanted Emission StrengthResult**

Appendix L

Summary

Mode	Result	F-Start (Hz)	F-Stop (Hz)	RBW (Hz)	Freq (MHz)	Psum (dBm)	Psum (uW/MHz)	Limit (uW/MHz)	Margin (dB)	P1 (dBm)
2.471-2.497GHz	-	-	-	-	-	-	-	-	-	-
802.11b_Nss1_1TX	Pass	2.497G	2.51G	1M	2.50163G	-17.96	15.99558	25	-1.94	-17.96

**CSE-TXUnwanted Emission StrengthResult**

Appendix L

Result

Mode	Result	F-Start (Hz)	F-Stop (Hz)	RBW (Hz)	Freq (MHz)	Psum (dBm)	Psum (uW/MHz)	Limit (uW/MHz)	Margin (dB)	P1 (dBm)
802.11b_Nss1_1TX	-	-	-	-	-	-	-	-	-	-
2484MHz_TnomVnom	Pass	30M	2.458G	1M	2.45557G	-30.93	0.80724	2.5	-4.91	-30.93
2484MHz_TnomVnom	Pass	2.458G	2.471G	1M	2.46658G	-19.41	11.45513	25	-3.39	-19.41
2484MHz_TnomVnom	Pass	2.497G	2.51G	1M	2.50152G	-17.97	15.95879	25	-1.95	-17.97
2484MHz_TnomVnom	Pass	2.51G	12.5G	1M	2.51125G	-32.22	0.59979	2.5	-6.20	-32.22
2484MHz_TnomVmin	Pass	30M	2.458G	1M	2.45557G	-31.27	0.74645	2.5	-5.25	-31.27
2484MHz_TnomVmin	Pass	2.458G	2.471G	1M	2.46645G	-19.39	11.508	25	-3.37	-19.39
2484MHz_TnomVmin	Pass	2.497G	2.51G	1M	2.50163G	-17.96	15.99558	25	-1.94	-17.96
2484MHz_TnomVmin	Pass	2.51G	12.5G	1M	2.5125G	-32.70	0.53703	2.5	-6.68	-32.70
2484MHz_TnomVmax	Pass	30M	2.458G	1M	2.45557G	-31.15	0.76736	2.5	-5.13	-31.15
2484MHz_TnomVmax	Pass	2.458G	2.471G	1M	2.46666G	-19.39	11.508	25	-3.37	-19.39
2484MHz_TnomVmax	Pass	2.497G	2.51G	1M	2.50147G	-17.96	15.99558	25	-1.94	-17.96
2484MHz_TnomVmax	Pass	2.51G	12.5G	1M	2.51125G	-32.92	0.5105	2.5	-6.90	-32.92

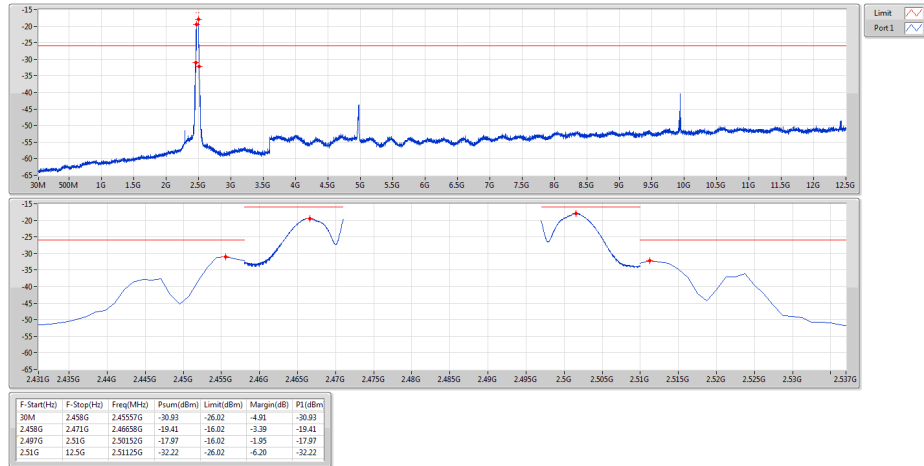


CSE-TXUnwanted Emission StrengthResult

Appendix L

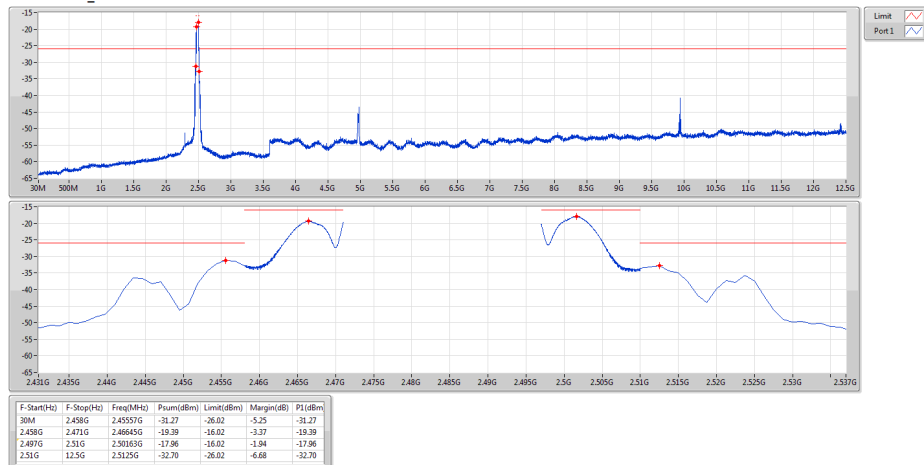
802.11b_Nss1_1TX
2484MHz_TnomVnom

CSE-TX



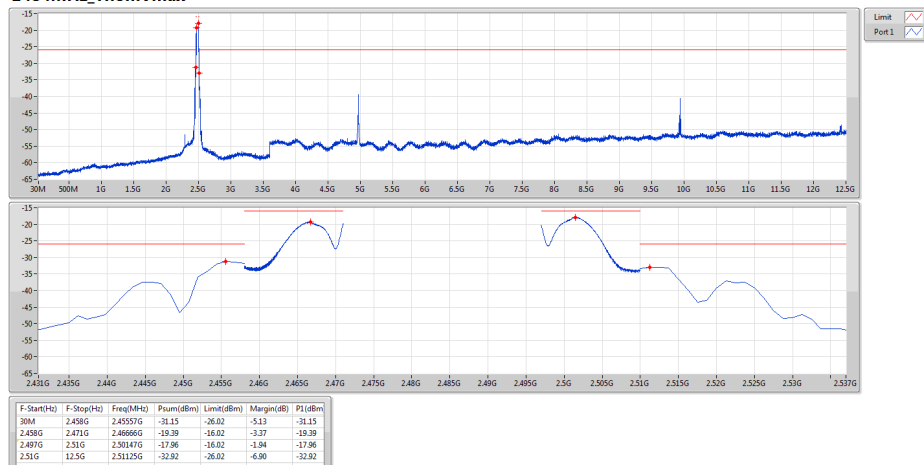
802.11b_Nss1_1TX
2484MHz_TnomVmin

CSE-TX



802.11b_Nss1_1TX
2484MHz_TnomVmax

CSE-TX





Carrier Sensing Function Result

Appendix M

Summary

Mode	Result	Interference Pin (dBm)	Function
2.471-2.497GHz	-	-	-
802.11b_Nss1_1TX	Pass	-42.32	Good



Carrier Sensing Function Result

Appendix M

Result

Mode	Result	Interference Pin (dBm)	Function
802.11b_Nss1_1TX	-	-	-
2484MHz_TnomVnom	Pass	-42.32	Good
2484MHz_TnomVmin	Pass	-42.32	Good
2484MHz_TnomVmax	Pass	-42.32	Good



Interference Prevention Function Result

Appendix N

Summary

Mode	Result	ID Length	ID Limit	Function
2.471-2.497GHz	-	-	-	-
802.11b_Nss1_1TX	Pass	00:17:23:E0:09:10	48 bits	Good



Interference Prevention Function Result

Appendix N

Result

Mode	Result	ID Length	ID Limit	Function
802.11b_Nss1_1TX	-	-	-	-
2484MHz_TnomVnom	Pass	00:17:23:E0:09:10	48 bits	Good
2484MHz_TnomVmin	Pass	00:17:23:E0:09:10	48 bits	Good
2484MHz_TnomVmax	Pass	00:17:23:E0:09:10	48 bits	Good

**CSE-RXSecondary Radiated EmissionsResult**

Appendix O

Summary

Mode	Result	F-Start (Hz)	F-Stop (Hz)	RBW (Hz)	Freq (MHz)	Psum (dBm)	Psum (nW/MHz)	Limit (nW/MHz)	Margin (dB)	P1 (dBm)
2.471-2.497GHz	-	-	-	-	-	-	-	-	-	-
802.11b_Nss1_1TX	Pass	1G	12.5G	1M	6.6235G	-55.61	2.74789	20	-8.62	-55.61

**CSE-RXSecondary Radiated EmissionsResult**

Appendix O

Result

Mode	Result	F-Start (Hz)	F-Stop (Hz)	RBW (Hz)	Freq (MHz)	Psum (dBm)	Psum (nW/MHz)	Limit (nW/MHz)	Margin (dB)	P1 (dBm)
802.11b_Nss1_1TX	-	-	-	-	-	-	-	-	-	-
2484MHz_TnomVnom	Pass	30M	1G	100k	770.11M	-89.23	0.00119	4	-35.25	-89.23
2484MHz_TnomVnom	Pass	1G	12.5G	1M	6.6235G	-55.61	2.74789	20	-8.62	-55.61
2484MHz_TnomVmin	Pass	30M	1G	100k	776.9M	-87.47	0.00179	4	-33.49	-87.47
2484MHz_TnomVmin	Pass	1G	12.5G	1M	6.6235G	-55.62	2.74157	20	-8.63	-55.62
2484MHz_TnomVmax	Pass	30M	1G	100k	769.63M	-87.32	0.00185	4	-33.34	-87.32
2484MHz_TnomVmax	Pass	1G	12.5G	1M	6.6235G	-55.61	2.74789	20	-8.62	-55.61



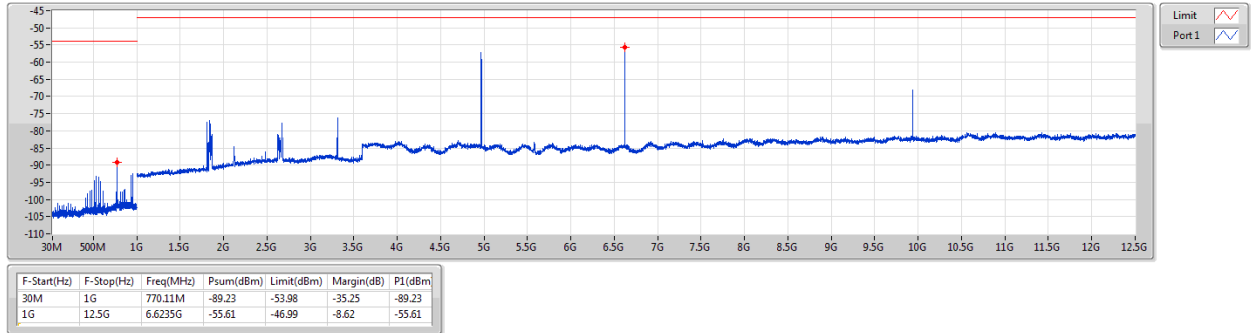
CSE-RXSecondary Radiated EmissionsResult

Appendix O

802.11b_Nss1_1TX

CSE-RX

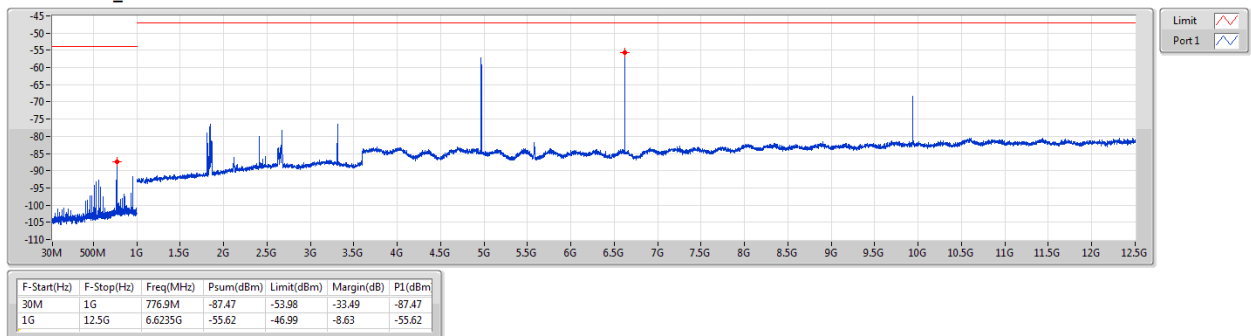
2484MHz_TnomVnom



802.11b_Nss1_1TX

CSE-RX

2484MHz_TnomVmin



802.11b_Nss1_1TX

CSE-RX

2484MHz_TnomVmax

