Japan Test Report

Equipment	:	**802.11 ac/a/b/g/n M.2 2230 + Bluetooth 4.2 module**
Model No.	:	**ST60-2230C** **(Please refer to section 1.1.1 for more details)**
Brand Name	:	**Laird Technologies**
Applicant	:	**Laird Technologies**
Address	:	**W66N220 Commerce Court, Cedarburg, Wisconsin 53012, USA**
Standard	:	**ARIB STD-T66 Ver. 3.7 / RCR STD-33 Ver. 5.4**
Received Date	:	**Apr. 19, 2017**
Tested Date	:	**Jun. 09 ~ Jun. 15, 2017**

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: **Approved by:**

James Fan / Assistant Manager **Gary Chang / Manager**

Testing Laboratory 2732

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APPENDIX Q. ANTENNA INFORMATION

Release Record

Report No.	Version	Description	Issued Date
JR740701-01AC	Rev. 01	Initial issue	Jul. 25, 2017

Summary of Test Results

Ref. Std. Clause (STD-T66)	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	N/A*

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

1 General Description

1.1 Information

1.1.1 Product Details

The following models are provided to this EUT.

Brand Name	Model Name	Product Name	Description
Laird Technologies	ST60-2230C	802.11 ac/a/b/g/n M.2 2230 + Bluetooth 4.2 module	For marketing purpose
	SU60-2230C		
✦ The above models, model ST60-2230C was selected as a representative one for the final test and only its data was recorded in this report.			

1.1.2 Specification of the Equipment under Test (EUT)

Power Type	DC 3.3V 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/MCS)**	802.11b: Up to 11 Mbps 802.11g: Up to 54 Mbps 802.11n HT 20 (MCS 0~15) 802.11n HT 40 (MCS 0~15)
HW Version	1.0
SW Version	SD-UAPSTA-8997-U14-MMC-16.68.1.p95-C3X16219_V4-MGPL-src

1.1.3 Antenna Details

Ant. No.	Band/ Model	Type	Connector	Operating Frequencies (MHz) / Antenna Gain (dBi)				
				2400~2483.5	5150~5250	5250~5350	5470~5725	5725~5850
1	LSR / 001-0009	Dipole	IPEX U.FL	2	2	2	2	2
2	Laird / NanoBlade-IP04	PCB Dipole	IPEX U.FL	2	3.9	3.9	4	4
3	Laird / MAF95310 Mini NanoBlade Flex	PCB Dipole	IPEX U.FL	2.79	3.38	3.38	3.38	3.38
4	LSR / FlexPIFA 001-0016	PIFA	IPEX U.FL	2.5	3	3	3	3
5	Ethertronics / WLAN_1000146	Isolated Magnetic Dipole	IPEX U.FL	2.5	3.5	3.5	3.5	3.5

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

1.1.4 Antenna Power

Operating Mode	Rated Power (mW/MHz)	Measured Conducted Power (mW/MHz)	Radiated Power (mW/MHz)
11b (CH 1~13)	9	8.53	16.22
11b (CH 14)	8	7.68	14.60
11g	9	8.61	16.37
11n HT20	9	8.48	16.10
11n HT40	4	3.65	6.93

1.1.5 Channel List

Frequency band (MHz)		2400~2483.5	
802.11b / g / n HT 20		802.11n HT 40	
Channel	Frequency(MHz)	Channel	Frequency(MHz)
1	2412	3	2422
2	2417	4	2427
3	2422	5	2432
4	2427	6	2437
5	2432	7	2442
6	2437	8	2447
7	2442	9	2452
8	2447	10	2457
9	2452	11	2462
10	2457	-	-
11	2462	-	-
12	2467	-	-
13	2472	-	-
Frequency band (MHz)			
802.11b			
Channel		Frequency(MHz)	
14		2484	

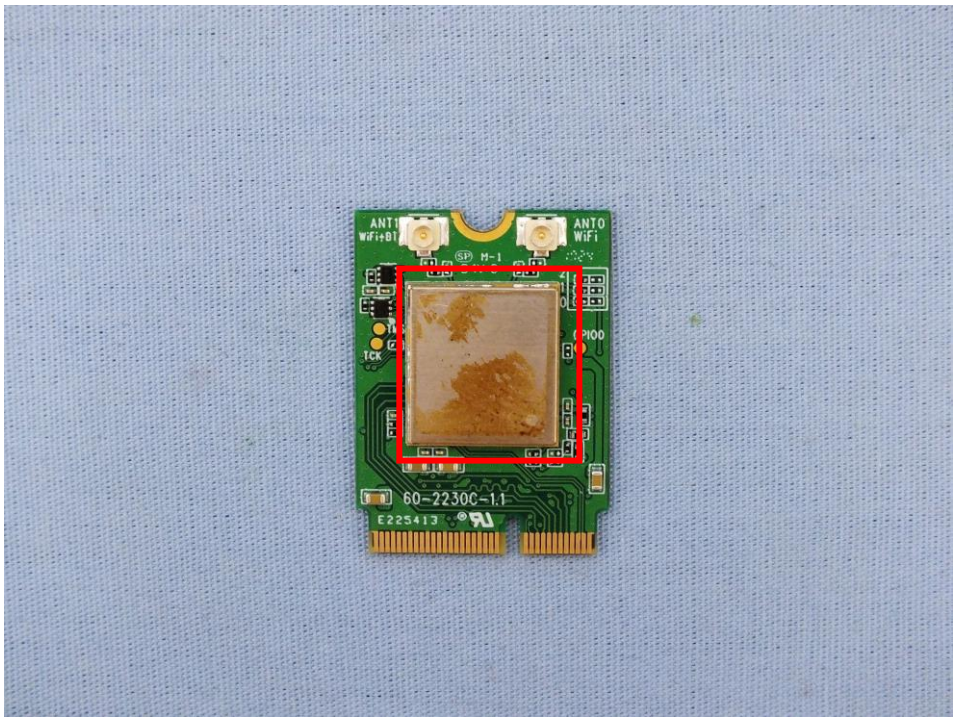
1.1.6 Test Tool and Power Setting

Test Tool
Hardware v. 2.10

Power Setting							
Channel	Frequency (MHz)	802.11b	802.11g	802.11n HT20	Channel	Frequency (MHz)	802.11n HT40
1	2412	17	19	19	3	2422	19
7	2442	17	19	19	7	2442	19
13	2472	17	19	19	11	2462	19
14	2484	16	---	---	---	---	---

1.1.7 Protection Method for High Frequency and Modulation Section

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

Photo	

1.2 Test Equipment and Calibration Data

Test Item	RF Conducted				
Test Site	(TH01-WS)				
Instrument	**Manufacturer**	**Model No.**	**Serial No.**	**Calibration Date**	**Calibration Until**
Spectrum Analyzer	R&S	FSV40	101063	Mar. 15, 2017	Mar. 14, 2018
Power Meter	Anritsu	ML2495A	1241002	Oct. 06, 2016	Oct. 05, 2017
Power Sensor	Anritsu	MA2411B	1207366	Oct. 06, 2016	Oct. 05, 2017
DC POWER SOURCE	GW INSTEK	GPC-6030D	EM892433	Oct. 20, 2016	Oct. 19, 2017
Measurement Software	Sporton	Sporton_1	1.3.30	NA	NA
Note 1: Calibration Interval of instruments listed above is one year. Note 2: Above instruments are calibrated by Electronics Testing Center					

1.3 Testing Applied Standards

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

ARIB STD-T66 Ver. 3.7 / RCR STD-33 Ver. 5.4

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	23.1℃ / 58%	Chris Zeng

2.2 Supporting Units

Support Unit	Brand	Model	FCC ID
Notebook	DELL	Latitude E5420	DoC
Notebook	DELL	Insprion 3000	DoC
Bluetooth Tester	ROHDE&SCHWARZ	CBT	---

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	11g, 11n HT20	1 / 7 / 13
	11b	1 / 7 / 13 / 14
	11n HT40	3 / 7 / 11
Spreading Factor	11b	1 / 7 / 13 / 14
Carrier Sense Capability	11b	14
	11n HT40	3 / 7 / 11

3 Transmitter Test Results

3.1 Antenna Power

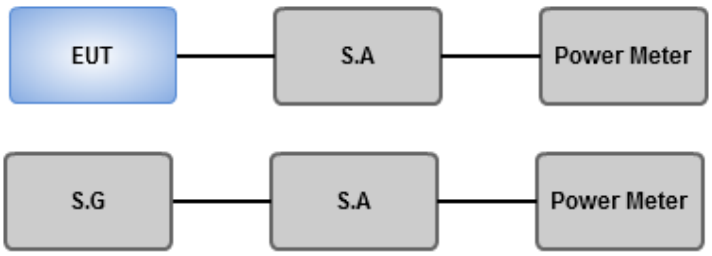
3.1.1 Limit of Antenna Power

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*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, A3	11b (20MHz), CH1-13
Appendix I1, I2, I3	11b (20MHz), CH14
Appendix A1, A2, A3	11g (20MHz)
Appendix A1, A2, A3	11n (20MHz)
Appendix A1, A2, A3	11n (40MHz)

3.2 Frequency Tolerance

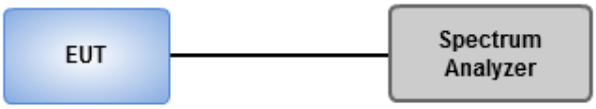
3.2.1 Limit of Frequency Tolerance

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) } × 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 J	11b (20MHz), CH14
Appendix B	11g (20MHz)
Appendix B	11n (20MHz)
Appendix B	11n (40MHz)

3.3 Occupied Bandwidth

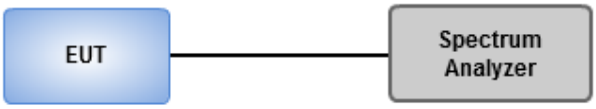
3.3.1 Limit of Occupied Bandwidth

Mode	Limit (MHz)
FH	83.5
FH+DS	83.5
FH+OFDM	83.5
OFDM(Narrow- bandwidht), 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 K	11b (20MHz), CH14
Appendix C	11g (20MHz)
Appendix C	11n (20MHz)
Appendix C	11n (40MHz)

3.4 Spreading Bandwidth and Factor

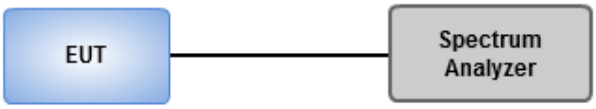
3.4.1 Limit of Spreading Bandwidth and Factor

Item	Limit
Spreading bandwidth	≥ 500kHz
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 L	11b (20MHz), CH14
Appendix D	11g (20MHz)
Appendix D	11n (20MHz)
Appendix D	11n (40MHz)

3.5 Transmitter Spurious Emissions

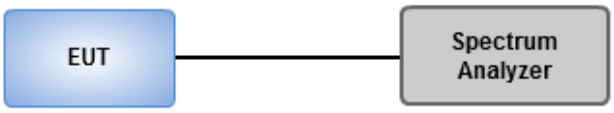
3.5.1 Limit of Transmitter Spurious Emissions

Item	Limits
Tx Spurious Emission	≤ 2.5 μW (2387MHz > f ; 2496.5MHz < f).
	≤ 25 μW. (2387MHz ≤ f < 2400MHz) and (2483.5MHz < f ≤ 2496.5MHz).

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 M	11b (20MHz), CH14
Appendix E	11g (20MHz)
Appendix E	11n (20MHz)
Appendix E	11n (40MHz)

3.6 Carrier Sense Measurement

3.6.1 Limit of Carrier Sense Measurement

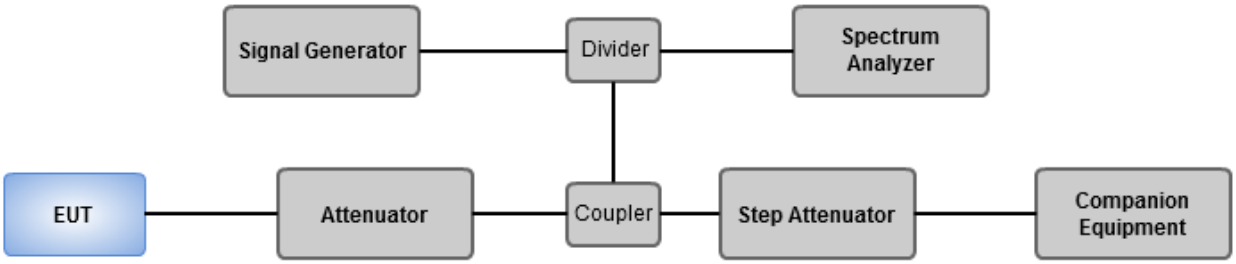
Limits
EUT shall not transmit any waves when carrier wave inject into EUT

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
   Pcs (dBm) = 22.79 + Gr – 20log(F)
   Gr: 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 N	11b (20MHz), CH14
Appendix F	11n (40MHz)

3.7 Interference Prevention Function

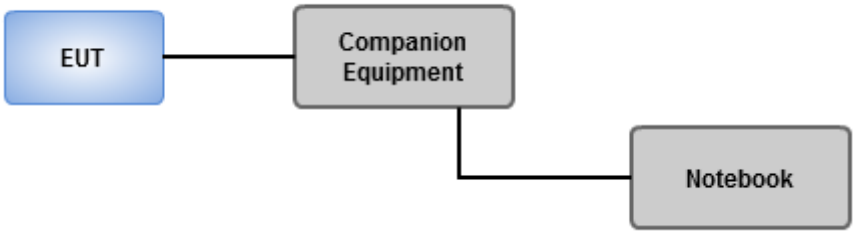
3.7.1 Limit of Interference Prevention Function

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 O	11b (20MHz), CH14
Appendix G	11g (20MHz)
Appendix G	11n (20MHz)
Appendix G	11n (40MHz)

4 Receiver Test Results

4.1 Receiver Spurious Emissions

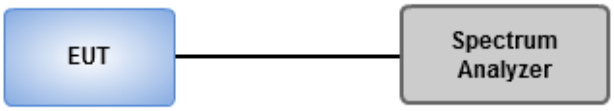
4.1.1 Limit of Receiver Spurious Emissions

Item	Limits
Rx Spurious Emission	≤ 4nW (f < 1GHz).
	≤ 20nW (1GHz ≤ 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.

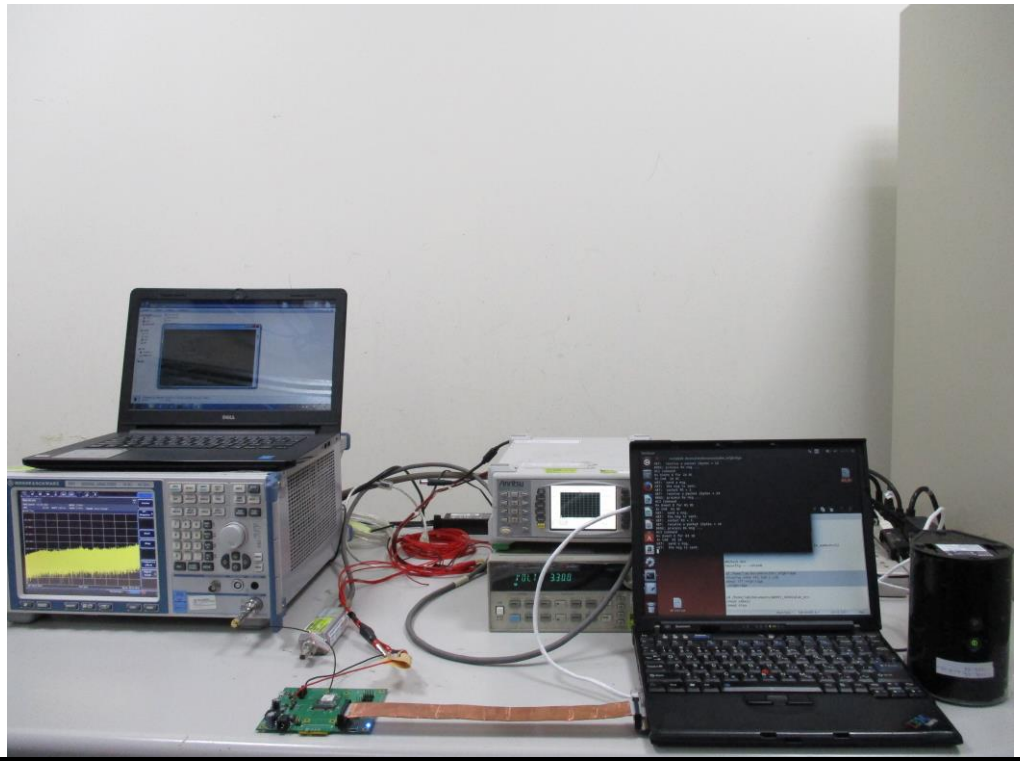
4.1.3 Test Setup



4.1.4 Test Result of Receiver Spurious Emissions

Reference Documents	Test Mode
Appendix H	11b (20MHz), CH1-13
Appendix P	11b (20MHz), CH14
Appendix H	11g (20MHz)
Appendix H	11n (20MHz)
Appendix H	11n (40MHz)

5 Photographs of the Test Configuration



6 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	**Kwei Shan**	**Kwei Shan Site II**
Tel: 886-2-2601-1640	Tel: 886-3-271-8666	Tel: 886-3-271-8640
No. 30-2, Ding Fwu Tsuen, Lin Kou District, New Taipei City, Taiwan, R.O.C.	No. 3-1, Lane 6, Wen San 3rd St., Kwei Shan District, Tao Yuan City 333, Taiwan, R.O.C.	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═

Summary

Mode	Power (dBm/MHz)	Power (mW/MHz)	EIRP (dBm/MHz)	EIRP (mW/MHz)
802.11b_Nss1_2TX	-	-	-	-
2.4-2.4835GHz	9.31	8.53364	12.10	16.22311
802.11g_Nss1_2TX	-	-	-	-
2.4-2.4835GHz	9.35	8.60845	12.14	16.36533
802.11n HT20_Nss1,(MCS0)_2TX	-	-	-	-
2.4-2.4835GHz	9.28	8.46501	12.07	16.09266
802.11n HT40_Nss1,(MCS0)_2TX	-	-	-	-
2.4-2.4835GHz	5.62	3.64754	8.41	6.93425

PD = Antenna Power (Power Density)sum by **P1**~**PN**;
P1 = Port 1 PD; **P2** = Port 2 PD; **P3** = Port 3 PD; **P4** = Port 4 PD; **ENBF** = Equivalent Noise Bandwidth Factor;

Result

Mode	Result	Gain (dBi)	ENBF (dB)	Power (dBm/MHz)	Power (mW/MHz)	Power Lim. (mW/MHz)	EIRP (dBm/MHz)	EIRP (mW/MHz)	EIRP Lim. (mW/MHz)	P1 (dBm/MHz)	P2 (dBm/MHz)
802.11b_Nss1_2TX	-	-	-	-	-	-	-	-	-	-	-
2412MHz_Vnom	Pass	2.79	0.49	9.31	8.53364	10	12.10	16.22311	16.368	6.21	6.39
2412MHz_Vmin	Pass	2.79	0.49	9.16	8.23899	10	11.95	15.66297	16.368	6.12	6.18
2412MHz_Vmax	Pass	2.79	0.49	9.13	8.17744	10	11.92	15.54596	16.368	6.06	6.17
2442MHz_Vnom	Pass	2.79	0.49	9.10	8.12754	10	11.89	15.45109	16.368	6.13	6.04
2442MHz_Vmin	Pass	2.79	0.49	9.06	8.04710	10	11.85	15.29816	16.368	6.07	6.02
2442MHz_Vmax	Pass	2.79	0.49	8.96	7.86178	10	11.75	14.94587	16.368	5.99	5.90
2472MHz_Vnom	Pass	2.79	0.49	8.60	7.24758	10	11.39	13.77822	16.368	5.65	5.53
2472MHz_Vmin	Pass	2.79	0.49	8.53	7.12742	10	11.32	13.54978	16.368	5.58	5.45
2472MHz_Vmax	Pass	2.79	0.49	8.48	7.03927	10	11.27	13.38219	16.368	5.60	5.32
802.11g_Nss1_2TX	-	-	-	-	-	-	-	-	-	-	-
2412MHz_Vnom	Pass	2.79	0.49	8.65	7.33519	10	11.44	13.94478	16.368	5.78	5.51
2412MHz_Vmin	Pass	2.79	0.49	8.73	7.47187	10	11.52	14.20462	16.368	5.81	5.64
2412MHz_Vmax	Pass	2.79	0.49	8.68	7.38131	10	11.47	14.03245	16.368	5.70	5.64
2442MHz_Vnom	Pass	2.79	0.49	8.65	7.32421	10	11.44	13.92390	16.368	5.68	5.60
2442MHz_Vmin	Pass	2.79	0.49	8.67	7.36558	10	11.46	14.00254	16.368	5.70	5.63
2442MHz_Vmax	Pass	2.79	0.49	8.70	7.41466	10	11.49	14.09585	16.368	5.79	5.59
2472MHz_Vnom	Pass	2.79	0.49	9.30	8.52075	10	12.09	16.19861	16.368	6.48	6.10
2472MHz_Vmin	Pass	2.79	0.49	9.35	8.60845	10	12.14	16.36533	16.368	6.44	6.23
2472MHz_Vmax	Pass	2.79	0.49	9.25	8.41215	10	12.04	15.99216	16.368	6.37	6.10
802.11n HT20_Nss1,(MCS0)_2TX	-	-	-	-	-	-	-	-	-	-	-
2412MHz_Vnom	Pass	2.79	0.49	9.06	8.04778	10	11.85	15.29947	16.368	6.15	5.94
2412MHz_Vmin	Pass	2.79	0.49	9.08	8.09276	10	11.87	15.38497	16.368	6.15	5.99
2412MHz_Vmax	Pass	2.79	0.49	9.03	7.99107	10	11.82	15.19165	16.368	6.11	5.91
2442MHz_Vnom	Pass	2.79	0.49	9.25	8.42161	10	12.04	16.01014	16.368	6.35	6.13
2442MHz_Vmin	Pass	2.79	0.49	9.22	8.35722	10	12.01	15.88774	16.368	6.31	6.10
2442MHz_Vmax	Pass	2.79	0.49	9.28	8.46501	10	12.07	16.09266	16.368	6.35	6.18
2472MHz_Vnom	Pass	2.79	0.49	9.27	8.45370	10	12.06	16.07114	16.368	6.39	6.12
2472MHz_Vmin	Pass	2.79	0.49	9.28	8.47881	10	12.07	16.11889	16.368	6.42	6.12
2472MHz_Vmax	Pass	2.79	0.49	9.25	8.40855	10	12.04	15.98531	16.368	6.37	6.10
802.11n HT40_Nss1,(MCS0)_2TX	-	-	-	-	-	-	-	-	-	-	-

Mode	Result	Gain (dBi)	ENBF (dB)	Power (dBm/MHz)	Power (mW/MHz)	Power Lim. (mW/MHz)	EIRP (dBm/MHz)	EIRP (mW/MHz)	EIRP Lim. (mW/MHz)	P1 (dBm/MHz)	P2 (dBm/MHz)
2422MHz_Vnom	Pass	2.79	0.49	5.55	3.58884	5	8.34	6.82266	8.184	2.59	2.49
2422MHz_Vmin	Pass	2.79	0.49	5.48	3.53234	5	8.27	6.71525	8.184	2.28	2.65
2422MHz_Vmax	Pass	2.79	0.49	5.51	3.55795	5	8.30	6.76394	8.184	2.34	2.65
2442MHz_Vnom	Pass	2.79	0.49	5.53	3.57422	5	8.32	6.79487	8.184	2.47	2.57
2442MHz_Vmin	Pass	2.79	0.49	5.52	3.56488	5	8.31	6.77712	8.184	2.50	2.52
2442MHz_Vmax	Pass	2.79	0.49	5.46	3.51463	5	8.25	6.68159	8.184	2.36	2.54
2462MHz_Vnom	Pass	2.79	0.49	5.60	3.63472	5	8.39	6.90989	8.184	2.54	2.65
2462MHz_Vmin	Pass	2.79	0.49	5.59	3.61845	5	8.38	6.87896	8.184	2.53	2.62
2462MHz_Vmax	Pass	2.79	0.49	5.62	3.64754	5	8.41	6.93425	8.184	2.55	2.67

PD = Antenna Power (Power Density)sum by **P1**~**PN**;
P1 = Port 1 PD; **P2** = Port 2 PD; **P3** = Port 3 PD; **P4** = Port 4 PD; **ENBF** = Equivalent Noise Bandwidth Factor;

Summary

Mode	Result	Power (dBm/MHz)	Power (mW/MHz)	Declare (dBm/MHz)	Declare (mW/MHz)	Tolerance (%)	Limit+ (%)	Limit- (%)
802.11b_Nss1_2TX	-	-	-	-	-	-	-	-
2.4-2.4835GHz	Pass	9.31	8.53100	9.29	8.50	0.36	20	-80
802.11g_Nss1_2TX	-	-	-	-	-	-	-	-
2.4-2.4835GHz	Pass	9.35	8.60994	9.54	8.50	1.29	20	-80
802.11n HT20_Nss1,(MCS0)_2TX	-	-	-	-	-	-	-	-
2.4-2.4835GHz	Pass	9.28	8.47227	9.54	8.50	-0.33	20	-80
802.11n HT40_Nss1,(MCS0)_2TX	-	-	-	-	-	-	-	-
2.4-2.4835GHz	Pass	5.62	3.64754	6.02	4.00	-8.81	20	-80

Result

Mode	Result	Power (dBm/MHz)	Power (mW/MHz)	(dBm/MHz)	Declare (mW/MHz)	Tolerance (%)	Limit+ (%)	Limit- (%)
802.11b_Nss1_2TX	-	-	-	-	-	-	-	-
2412MHz_Vnom	Pass	9.31	8.53100	9.29	8.50	0.36	20	-80
2412MHz_Vmin	Pass	9.16	8.24138	9.29	8.50	-3.04	20	-80
2412MHz_Vmax	Pass	9.13	8.18465	9.29	8.50	-3.71	20	-80
2442MHz_Vnom	Pass	9.10	8.12831	9.29	8.50	-4.37	20	-80
2442MHz_Vmin	Pass	9.06	8.05378	9.29	8.50	-5.25	20	-80
2442MHz_Vmax	Pass	8.96	7.87046	9.29	8.50	-7.41	20	-80
2472MHz_Vnom	Pass	8.60	7.24436	9.29	8.50	-14.77	20	-80
2472MHz_Vmin	Pass	8.53	7.12853	9.29	8.50	-16.13	20	-80
2472MHz_Vmax	Pass	8.48	7.04693	9.29	8.50	-17.09	20	-80
802.11g_Nss1_2TX	-	-	-	-	-	-	-	-
2412MHz_Vnom	Pass	8.65	7.32825	9.29	8.50	-13.79	20	-80
2412MHz_Vmin	Pass	8.73	7.46449	9.29	8.50	-12.18	20	-80
2412MHz_Vmax	Pass	8.68	7.37904	9.29	8.50	-13.19	20	-80
2442MHz_Vnom	Pass	8.65	7.32825	9.29	8.50	-13.79	20	-80
2442MHz_Vmin	Pass	8.67	7.36207	9.29	8.50	-13.39	20	-80
2442MHz_Vmax	Pass	8.70	7.41310	9.29	8.50	-12.79	20	-80
2472MHz_Vnom	Pass	9.30	8.51138	9.29	8.50	0.13	20	-80
2472MHz_Vmin	Pass	9.35	8.60994	9.29	8.50	1.29	20	-80
2472MHz_Vmax	Pass	9.25	8.41395	9.29	8.50	-1.01	20	-80
802.11n HT20_Nss1,(MCS0)_2TX	-	-	-	-	-	-	-	-
2412MHz_Vnom	Pass	9.06	8.05378	9.29	8.50	-5.25	20	-80
2412MHz_Vmin	Pass	9.08	8.09096	9.29	8.50	-4.81	20	-80
2412MHz_Vmax	Pass	9.03	7.99834	9.29	8.50	-5.90	20	-80
2442MHz_Vnom	Pass	9.25	8.41395	9.29	8.50	-1.01	20	-80
2442MHz_Vmin	Pass	9.22	8.35603	9.29	8.50	-1.69	20	-80
2442MHz_Vmax	Pass	9.28	8.47227	9.29	8.50	-0.33	20	-80
2472MHz_Vnom	Pass	9.27	8.45279	9.29	8.50	-0.56	20	-80

Mode	Result	Power (dBm/MHz)	Power (mW/MHz)	(dBm/MHz)	Declare (mW/MHz)	Tolerance (%)	Limit+ (%)	Limit- (%)
2472MHz_Vmin	Pass	9.28	8.47227	9.29	8.50	-0.33	20	-80
2472MHz_Vmax	Pass	9.25	8.41395	9.29	8.50	-1.01	20	-80
802.11n HT40_Nss1,(MCS0)_2TX	-	-	-	-	-	-	-	-
2422MHz_Vnom	Pass	5.55	3.58922	6.02	4.00	-10.27	20	-80
2422MHz_Vmin	Pass	5.48	3.53183	6.02	4.00	-11.70	20	-80
2422MHz_Vmax	Pass	5.51	3.55631	6.02	4.00	-11.09	20	-80
2442MHz_Vnom	Pass	5.53	3.57273	6.02	4.00	-10.68	20	-80
2442MHz_Vmin	Pass	5.52	3.56451	6.02	4.00	-10.89	20	-80
2442MHz_Vmax	Pass	5.46	3.51560	6.02	4.00	-12.11	20	-80
2462MHz_Vnom	Pass	5.60	3.63078	6.02	4.00	-9.23	20	-80
2462MHz_Vmin	Pass	5.59	3.62243	6.02	4.00	-9.44	20	-80
2462MHz_Vmax	Pass	5.62	3.64754	6.02	4.00	-8.81	20	-80

Summary

Mode	Power (dBm)	Power (mW)	EIRP (dBm)	EIRP (mW)
802.11b_Nss1_2TX	-	-	-	-
2.4-2.4835GHz	19.21	83.37	22.00	158.49
802.11g_Nss1_2TX	-	-	-	-
2.4-2.4835GHz	21.94	156.31	24.73	297.17
802.11n HT20_Nss1,(MCS0)_2TX	-	-	-	-
2.4-2.4835GHz	22.20	165.96	24.99	315.50
802.11n HT40_Nss1,(MCS0)_2TX	-	-	-	-
2.4-2.4835GHz	21.01	126.18	23.80	239.88

P1 = Port 1 output power; **P2** = Port 2 output power; **P3** = Port 3 output power; **P4** = Port 4 output power;
Power = Total power sum by **P1**~**PN**;

Result

Mode	Result	Gain (dBi)	Power (dBm)	Power (mW)	Power Lim. (mW)	EIRP (dBm)	EIRP (mW)	EIRP Lim. (dBm)	P1 (dBm)	P2 (dBm)
802.11b_Nss1_2TX	-	-	-	-	-	-	-	-	-	-
2412MHz_Vnom	Pass	2.79	19.03	79.931	Inf	21.82	151.955	Inf	15.80	16.22
2412MHz_Vmin	Pass	2.79	19.01	79.628	Inf	21.80	151.379	Inf	15.79	16.20
2412MHz_Vmax	Pass	2.79	18.99	79.336	Inf	21.78	150.824	Inf	15.76	16.19
2442MHz_Vnom	Pass	2.79	18.93	78.130	Inf	21.72	148.531	Inf	15.77	16.06
2442MHz_Vmin	Pass	2.79	18.92	78.073	Inf	21.71	148.422	Inf	15.77	16.06
2442MHz_Vmax	Pass	2.79	18.92	77.974	Inf	21.71	148.234	Inf	15.76	16.05
2472MHz_Vnom	Pass	2.79	19.21	83.372	Inf	22.00	158.496	Inf	16.13	16.27
2472MHz_Vmin	Pass	2.79	19.20	83.161	Inf	21.99	158.096	Inf	16.12	16.26
2472MHz_Vmax	Pass	2.79	19.19	83.069	Inf	21.98	157.921	Inf	16.11	16.25
802.11g_Nss1_2TX	-	-	-	-	-	-	-	-	-	-
2412MHz_Vnom	Pass	2.79	21.80	151.403	Inf	24.59	287.829	Inf	18.70	18.88
2412MHz_Vmin	Pass	2.79	21.77	150.422	Inf	24.56	285.964	Inf	18.67	18.85
2412MHz_Vmax	Pass	2.79	21.75	149.558	Inf	24.54	284.322	Inf	18.64	18.84
2442MHz_Vnom	Pass	2.79	21.84	152.903	Inf	24.63	290.680	Inf	18.78	18.89
2442MHz_Vmin	Pass	2.79	21.84	152.594	Inf	24.63	290.093	Inf	18.77	18.88
2442MHz_Vmax	Pass	2.79	21.81	151.738	Inf	24.60	288.465	Inf	18.74	18.86
2472MHz_Vnom	Pass	2.79	21.94	156.405	Inf	24.73	297.339	Inf	18.92	18.95
2472MHz_Vmin	Pass	2.79	21.93	156.133	Inf	24.72	296.821	Inf	18.91	18.94
2472MHz_Vmax	Pass	2.79	21.91	155.349	Inf	24.70	295.331	Inf	18.89	18.91
802.11n HT20_Nss1,(MCS0)_2TX	-	-	-	-	-	-	-	-	-	-
2412MHz_Vnom	Pass	2.79	22.04	159.800	Inf	24.83	303.793	Inf	18.95	19.10
2412MHz_Vmin	Pass	2.79	22.01	158.906	Inf	24.80	302.093	Inf	18.92	19.08
2412MHz_Vmax	Pass	2.79	21.99	158.229	Inf	24.78	300.806	Inf	18.91	19.06
2442MHz_Vnom	Pass	2.79	22.07	161.249	Inf	24.86	306.548	Inf	19.04	19.09
2442MHz_Vmin	Pass	2.79	22.06	160.598	Inf	24.85	305.309	Inf	19.02	19.07
2442MHz_Vmax	Pass	2.79	22.04	159.863	Inf	24.83	303.913	Inf	19.00	19.06

Mode	Result	Gain (dBi)	Power (dBm)	Power (mW)	Power Lim. (mW)	EIRP (dBm)	EIRP (mW)	EIRP Lim. (dBm)	P1 (dBm)	P2 (dBm)
2472MHz_Vnom	Pass	2.79	22.20	166.021	Inf	24.99	315.618	Inf	19.20	19.18
2472MHz_Vmin	Pass	2.79	22.18	165.148	Inf	24.97	313.960	Inf	19.18	19.15
2472MHz_Vmax	Pass	2.79	22.17	164.921	Inf	24.96	313.528	Inf	19.18	19.15
802.11n HT40_Nss1,(MCS0)_2TX	-	-	-	-	-	-	-	-	-	-
2422MHz_Vnom	Pass	2.79	20.98	125.207	Inf	23.77	238.029	Inf	17.81	18.11
2422MHz_Vmin	Pass	2.79	20.94	124.274	Inf	23.73	236.255	Inf	17.78	18.08
2422MHz_Vmax	Pass	2.79	20.93	123.758	Inf	23.72	235.274	Inf	17.75	18.08
2442MHz_Vnom	Pass	2.79	20.79	119.987	Inf	23.58	228.104	Inf	17.88	17.67
2442MHz_Vmin	Pass	2.79	20.78	119.707	Inf	23.57	227.573	Inf	17.86	17.68
2442MHz_Vmax	Pass	2.79	20.76	119.100	Inf	23.55	226.418	Inf	17.84	17.66
2462MHz_Vnom	Pass	2.79	21.01	126.166	Inf	23.80	239.852	Inf	17.91	18.09
2462MHz_Vmin	Pass	2.79	21.01	126.058	Inf	23.80	239.646	Inf	17.89	18.09
2462MHz_Vmax	Pass	2.79	21.00	125.770	Inf	23.79	239.099	Inf	17.89	18.08

P1 = Port 1 output power; **P2** = Port 2 output power; **P3** = Port 3 output power; **P4** = Port 4 output power;
Power = Total power sum by **P1**~**PN**;

Summary

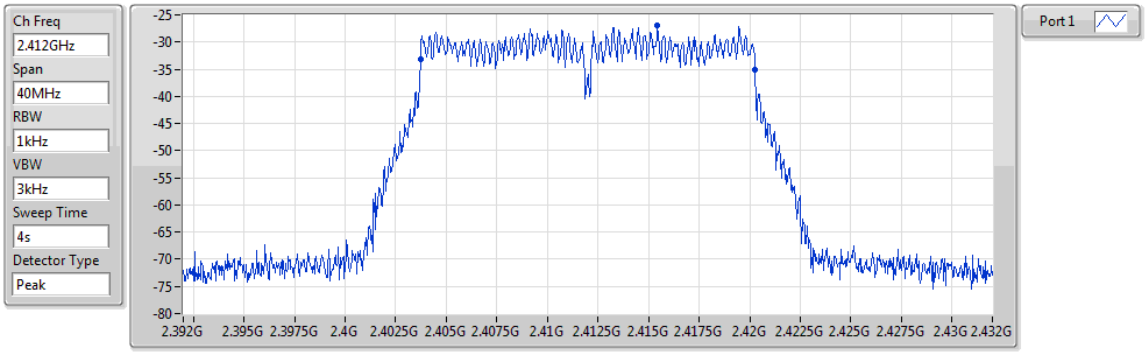
Mode	Result	Ch (MHz)	Center (MHz)	Fl (Hz)	Fh (Hz)	ppm	Limit (ppm)	Port	Remark
802.11n HT40_Nss1,(MCS0)_2TX	-	-	-	-	-	-	-	-	-
2.4-2.4835GHz	Pass	2422	2422.04	2.40376G	2.44032G	16.515	50	1	-

Result

Mode	Result	Ch (MHz)	Center (MHz)	Fl (Hz)	Fh (Hz)	ppm	Limit (ppm)	Port	Remark
802.11b_Nss1_2TX	-	-	-	-	-	-	-	-	-
2412MHz_Vnom	Pass	2412	2412	2.40372G	2.42028G	0	50	1	-
2412MHz_Vmin	Pass	2412	2411.98	2.40368G	2.42028G	8.292	50	1	-
2412MHz_Vmax	Pass	2412	2411.98	2.40368G	2.42028G	8.292	50	1	-
2442MHz_Vnom	Pass	2442	2441.98	2.43368G	2.45028G	8.19	50	1	-
2442MHz_Vmin	Pass	2442	2442	2.43372G	2.45028G	0	50	1	-
2442MHz_Vmax	Pass	2442	2442	2.43372G	2.45028G	0	50	1	-
2472MHz_Vnom	Pass	2472	2471.98	2.46368G	2.48028G	8.091	50	1	-
2472MHz_Vmin	Pass	2472	2472	2.46372G	2.48028G	0	50	1	-
2472MHz_Vmax	Pass	2472	2472	2.46372G	2.48028G	0	50	1	-
802.11g_Nss1_2TX	-	-	-	-	-	-	-	-	-
2412MHz_Vnom	Pass	2412	2412	2.40372G	2.42028G	0	50	1	-
2412MHz_Vmin	Pass	2412	2412	2.40372G	2.42028G	0	50	1	-
2412MHz_Vmax	Pass	2412	2411.98	2.40368G	2.42028G	8.292	50	1	-
2442MHz_Vnom	Pass	2442	2441.98	2.43368G	2.45028G	8.19	50	1	-
2442MHz_Vmin	Pass	2442	2441.98	2.43368G	2.45028G	8.19	50	1	-
2442MHz_Vmax	Pass	2442	2441.98	2.43368G	2.45028G	8.19	50	1	-
2472MHz_Vnom	Pass	2472	2472	2.46372G	2.48028G	0	50	1	-
2472MHz_Vmin	Pass	2472	2471.98	2.46368G	2.48028G	8.091	50	1	-
2472MHz_Vmax	Pass	2472	2471.98	2.46368G	2.48028G	8.091	50	1	-
802.11n HT20_Nss1,(MCS0)_2TX	-	-	-	-	-	-	-	-	-
2412MHz_Vnom	Pass	2412	2412	2.40372G	2.42028G	0	50	1	-
2412MHz_Vmin	Pass	2412	2411.98	2.40368G	2.42028G	8.292	50	1	-
2412MHz_Vmax	Pass	2412	2412	2.40372G	2.42028G	0	50	1	-
2442MHz_Vnom	Pass	2442	2442	2.43372G	2.45028G	0	50	1	-
2442MHz_Vmin	Pass	2442	2442	2.43372G	2.45028G	0	50	1	-
2442MHz_Vmax	Pass	2442	2442	2.43372G	2.45028G	0	50	1	-
2472MHz_Vnom	Pass	2472	2472	2.46372G	2.48028G	0	50	1	-
2472MHz_Vmin	Pass	2472	2472	2.46372G	2.48028G	0	50	1	-
2472MHz_Vmax	Pass	2472	2472	2.46372G	2.48028G	0	50	1	-
802.11n HT40_Nss1,(MCS0)_2TX	-	-	-	-	-	-	-	-	-
2422MHz_Vnom	Pass	2422	2422.04	2.40376G	2.44032G	16.515	50	1	-
2422MHz_Vmin	Pass	2422	2422.04	2.40376G	2.44032G	16.515	50	1	-
2422MHz_Vmax	Pass	2422	2422.04	2.40376G	2.44032G	16.515	50	1	-
2442MHz_Vnom	Pass	2442	2442	2.43372G	2.45028G	0	50	1	-
2442MHz_Vmin	Pass	2442	2441.98	2.43368G	2.45028G	8.19	50	1	-
2442MHz_Vmax	Pass	2442	2441.98	2.43368G	2.45028G	8.19	50	1	-
2462MHz_Vnom	Pass	2462	2462	2.44368G	2.48032G	0	50	1	-
2462MHz_Vmin	Pass	2462	2462.04	2.44376G	2.48032G	16.247	50	1	-
2462MHz_Vmax	Pass	2462	2462	2.44368G	2.48032G	0	50	1	-

802.11b_Nss1_2TX **Freq. Stability**

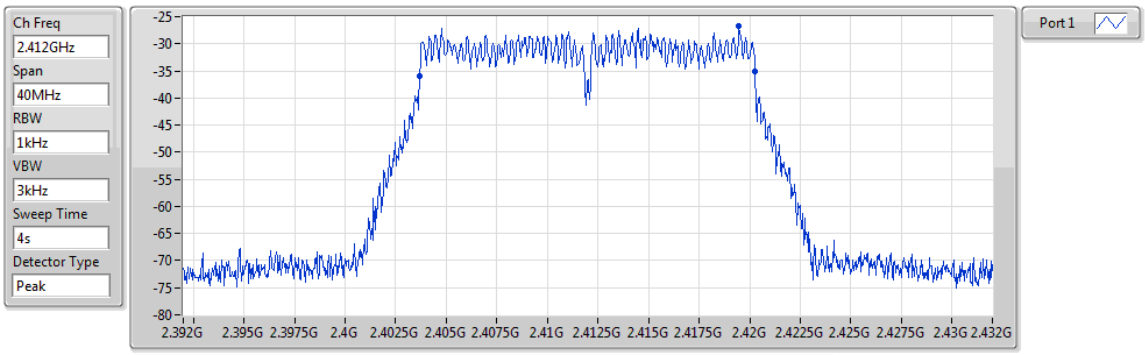
2412MHz_



Ch(MHz)	Center(MHz)	Fl(Hz)	Fh(Hz)	ppm	Limit(ppm)	Port	Remark
2412	2412	2.40372G	2.42028G	0	50	1	-

802.11b_Nss1_2TX **Freq. Stability**

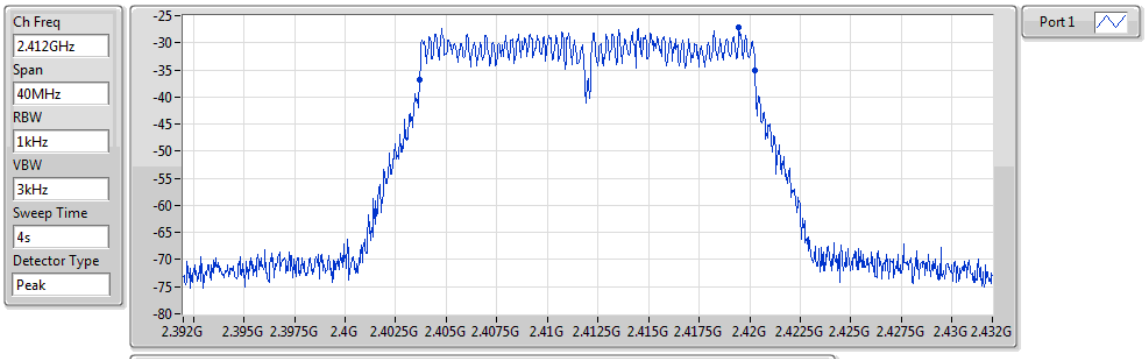
2412MHz_



Ch(MHz)	Center(MHz)	Fl(Hz)	Fh(Hz)	ppm	Limit(ppm)	Port	Remark
2412	2411.98	2.40368G	2.42028G	8.292	50	1	-

802.11b_Nss1_2TX **Freq. Stability**

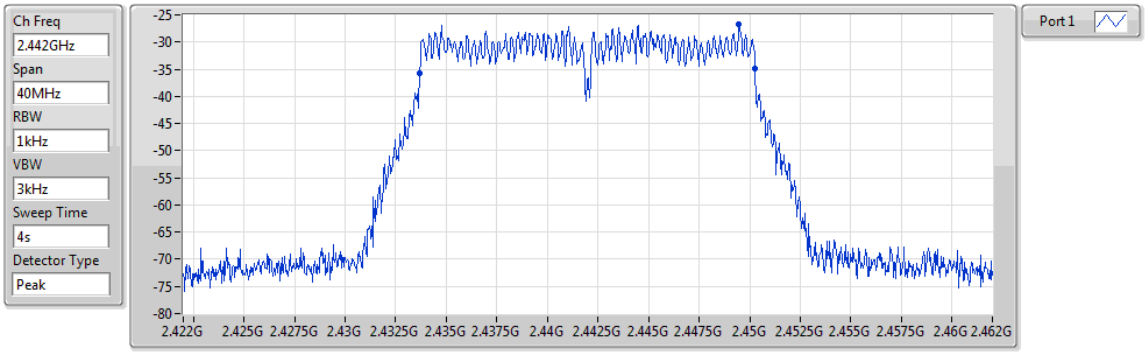
2412MHz_



Ch(MHz)	Center(MHz)	Fl(Hz)	Fh(Hz)	ppm	Limit(ppm)	Port	Remark
2412	2411.98	2.40368G	2.42028G	8.292	50	1	-

802.11b_Nss1_2TX **Freq. Stability**

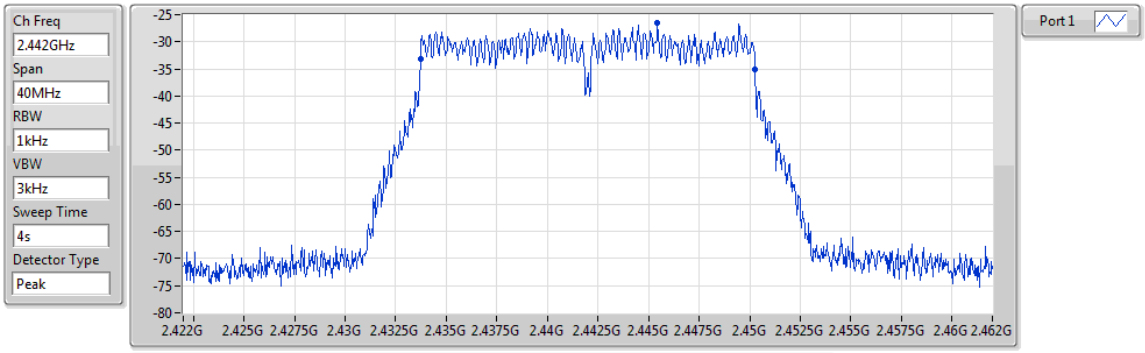
2442MHz_



Ch(MHz)	Center(MHz)	Fl(Hz)	Fh(Hz)	ppm	Limit(ppm)	Port	Remark
2442	2441.98	2.43368G	2.45028G	8.19	50	1	-

802.11b_Nss1_2TX **Freq. Stability**

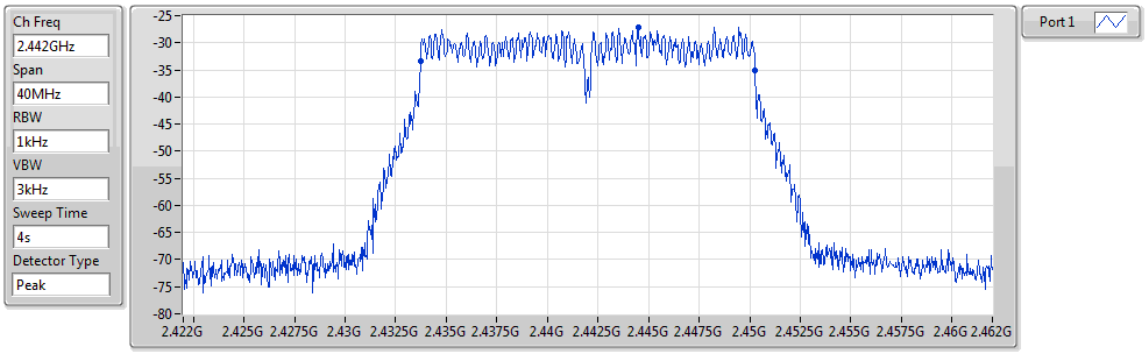
2442MHz_



Ch(MHz)	Center(MHz)	Fl(Hz)	Fh(Hz)	ppm	Limit(ppm)	Port	Remark
2442	2442	2.43372G	2.45028G	0	50	1	-

802.11b_Nss1_2TX **Freq. Stability**

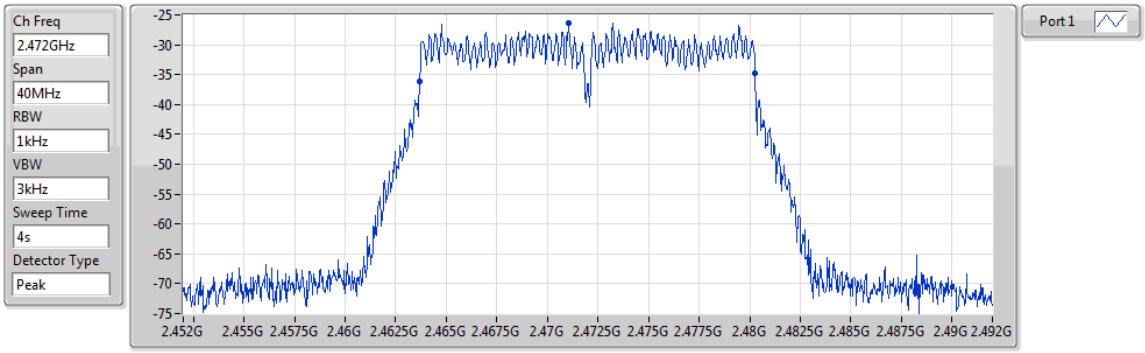
2442MHz_



Ch(MHz)	Center(MHz)	Fl(Hz)	Fh(Hz)	ppm	Limit(ppm)	Port	Remark
2442	2442	2.43372G	2.45028G	0	50	1	-

802.11b_Nss1_2TX **Freq. Stability**

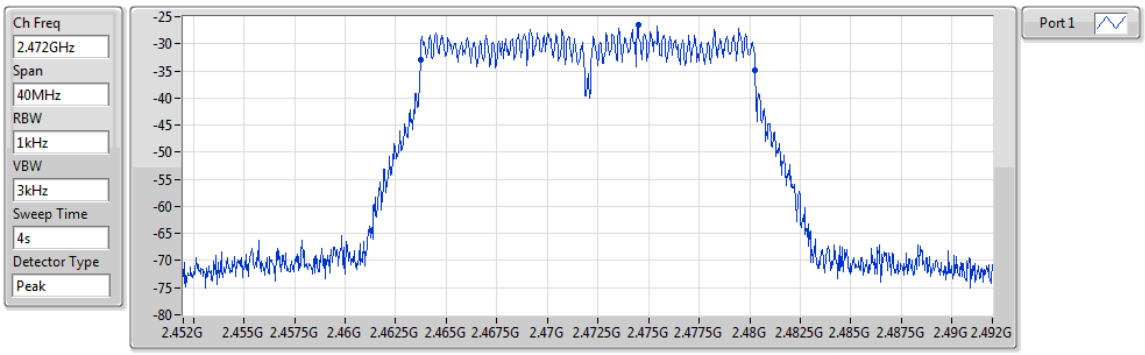
2472MHz_



Ch(MHz)	Center(MHz)	Fl(Hz)	Fh(Hz)	ppm	Limit(ppm)	Port	Remark
2472	2471.98	2.46368G	2.48028G	8.091	50	1	-

802.11b_Nss1_2TX **Freq. Stability**

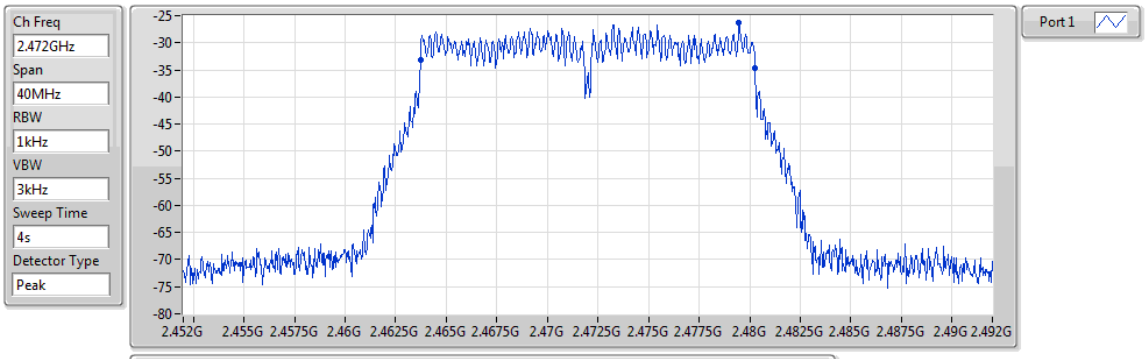
2472MHz_



Ch(MHz)	Center(MHz)	Fl(Hz)	Fh(Hz)	ppm	Limit(ppm)	Port	Remark
2472	2472	2.46372G	2.48028G	0	50	1	-

802.11b_Nss1_2TX **Freq. Stability**

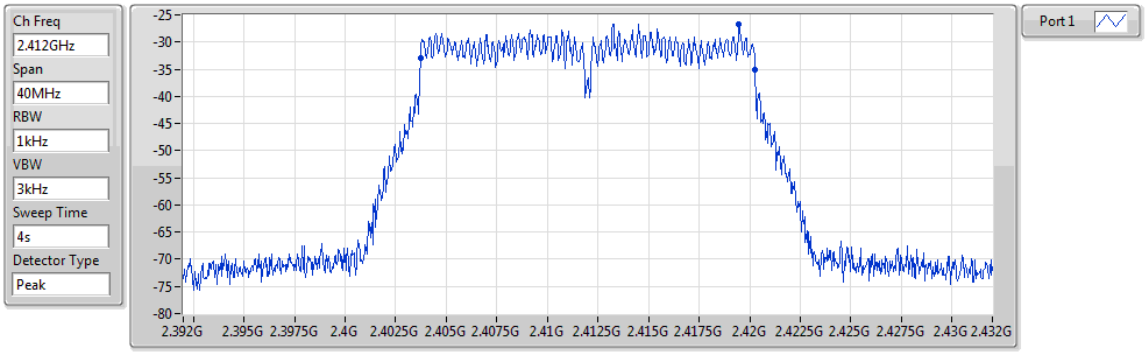
2472MHz_



Ch(MHz)	Center(MHz)	Fl(Hz)	Fh(Hz)	ppm	Limit(ppm)	Port	Remark
2472	2472	2.46372G	2.48028G	0	50	1	-

802.11g_Nss1_2TX **Freq. Stability**

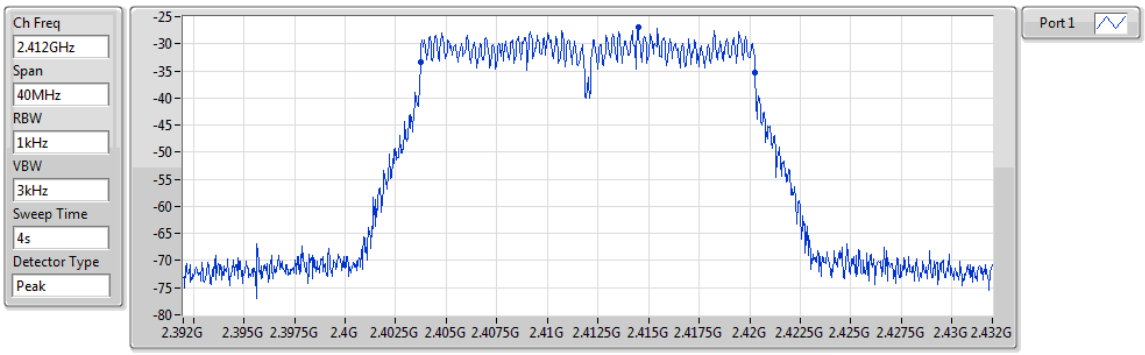
2412MHz_



Ch(MHz)	Center(MHz)	Fl(Hz)	Fh(Hz)	ppm	Limit(ppm)	Port	Remark
2412	2412	2.40372G	2.42028G	0	50	1	-

802.11g_Nss1_2TX **Freq. Stability**

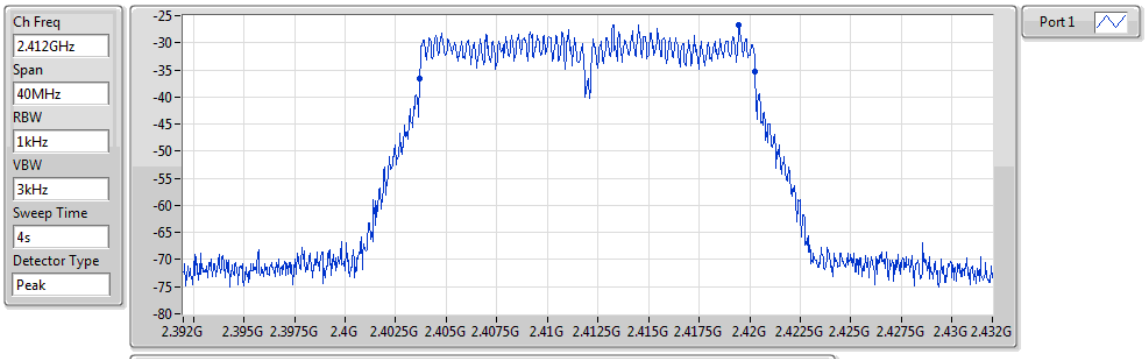
2412MHz_



Ch(MHz)	Center(MHz)	Fl(Hz)	Fh(Hz)	ppm	Limit(ppm)	Port	Remark
2412	2412	2.40372G	2.42028G	0	50	1	-

802.11g_Nss1_2TX **Freq. Stability**

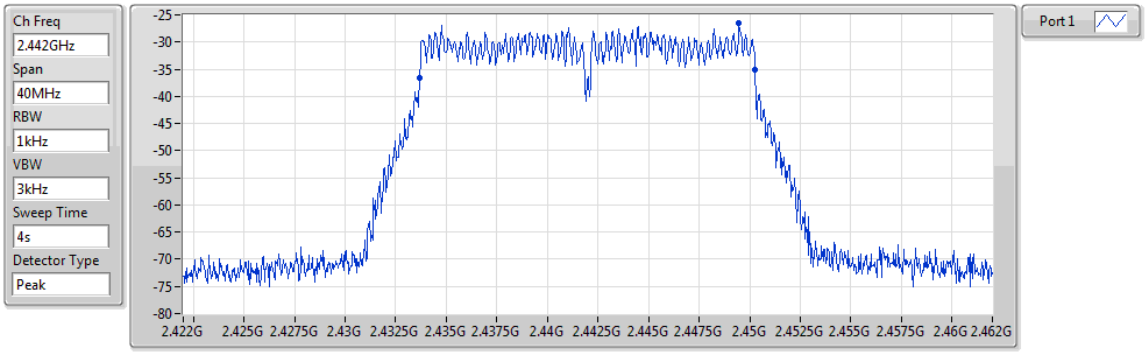
2412MHz_



Ch(MHz)	Center(MHz)	Fl(Hz)	Fh(Hz)	ppm	Limit(ppm)	Port	Remark
2412	2411.98	2.40368G	2.42028G	8.292	50	1	-

802.11g_Nss1_2TX **Freq. Stability**

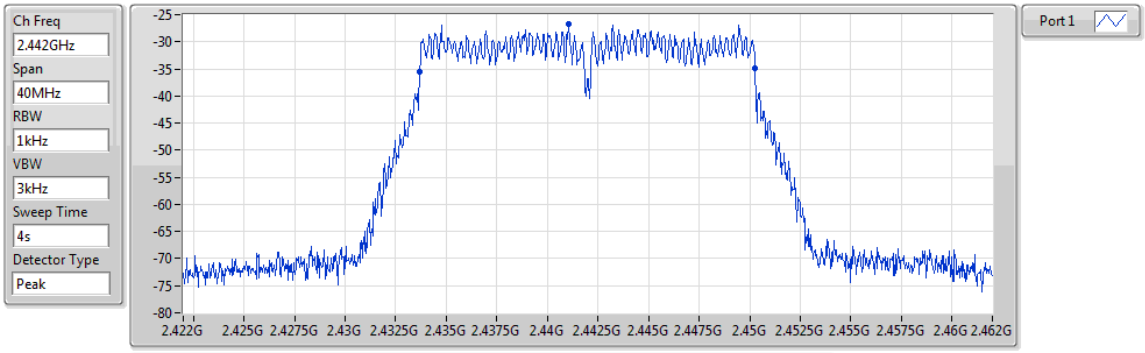
2442MHz_



Ch(MHz)	Center(MHz)	Fl(Hz)	Fh(Hz)	ppm	Limit(ppm)	Port	Remark
2442	2441.98	2.43368G	2.45028G	8.19	50	1	-

802.11g_Nss1_2TX **Freq. Stability**

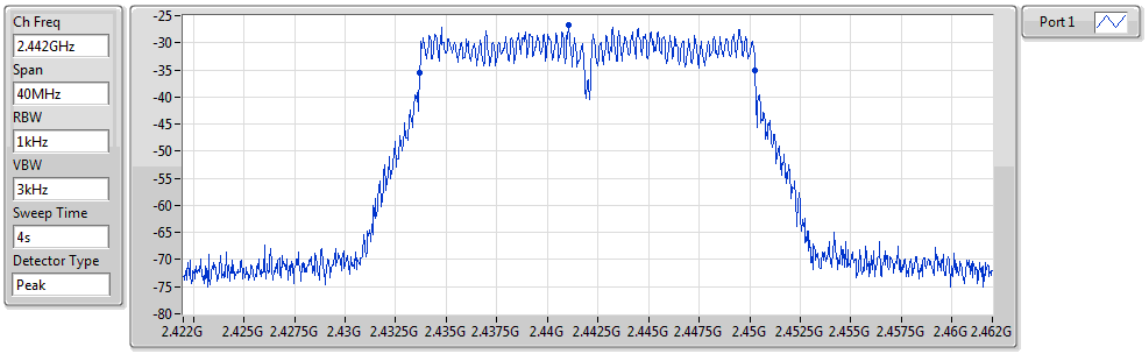
2442MHz_



Ch(MHz)	Center(MHz)	Fl(Hz)	Fh(Hz)	ppm	Limit(ppm)	Port	Remark
2442	2441.98	2.43368G	2.45028G	8.19	50	1	-

802.11g_Nss1_2TX **Freq. Stability**

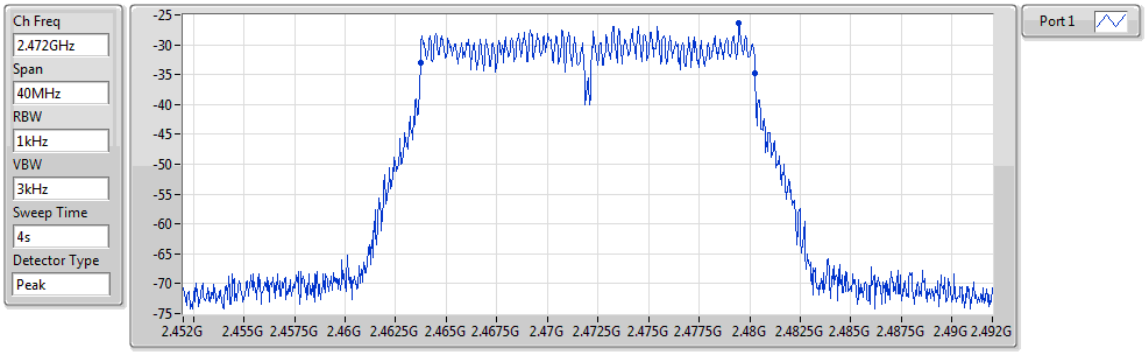
2442MHz_



Ch(MHz)	Center(MHz)	Fl(Hz)	Fh(Hz)	ppm	Limit(ppm)	Port	Remark
2442	2441.98	2.43368G	2.45028G	8.19	50	1	-

802.11g_Nss1_2TX **Freq. Stability**

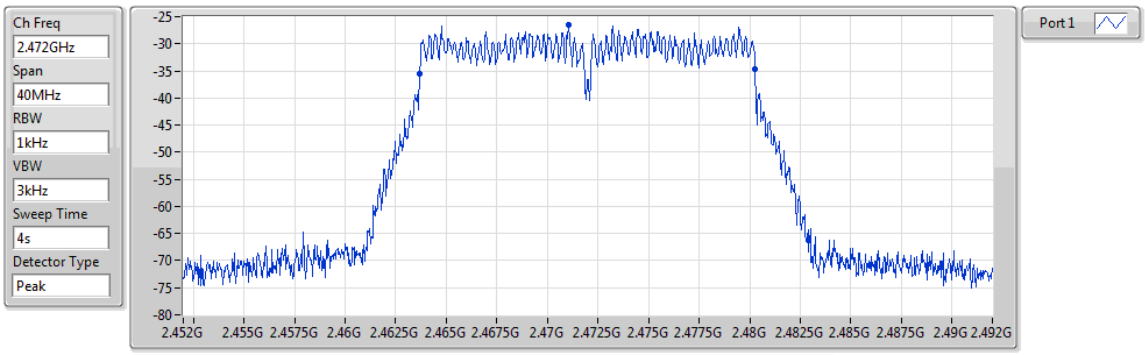
2472MHz_



Ch(MHz)	Center(MHz)	Fl(Hz)	Fh(Hz)	ppm	Limit(ppm)	Port	Remark
2472	2472	2.46372G	2.48028G	0	50	1	-

802.11g_Nss1_2TX **Freq. Stability**

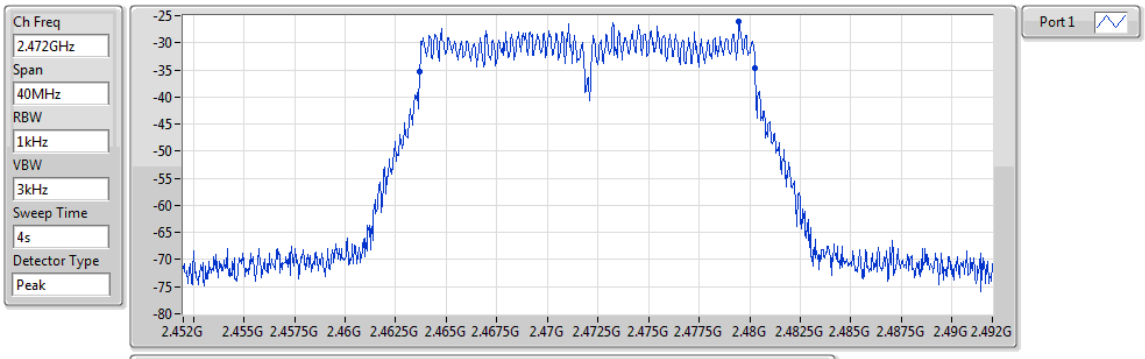
2472MHz_



Ch(MHz)	Center(MHz)	Fl(Hz)	Fh(Hz)	ppm	Limit(ppm)	Port	Remark
2472	2471.98	2.46368G	2.48028G	8.091	50	1	-

802.11g_Nss1_2TX **Freq. Stability**

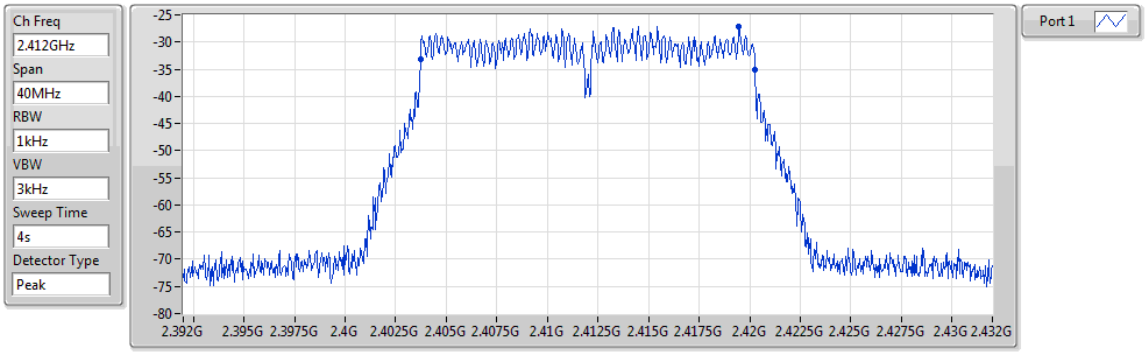
2472MHz_



Ch(MHz)	Center(MHz)	Fl(Hz)	Fh(Hz)	ppm	Limit(ppm)	Port	Remark
2472	2471.98	2.46368G	2.48028G	8.091	50	1	-

802.11n HT20_Nss1,(MCS0)_2TX **Freq. Stability**

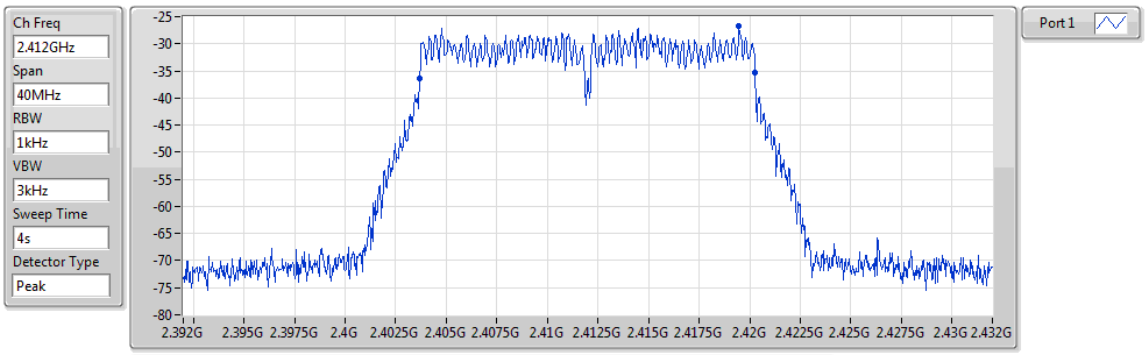
2412MHz_



Ch(MHz)	Center(MHz)	Fl(Hz)	Fh(Hz)	ppm	Limit(ppm)	Port	Remark
2412	2412	2.40372G	2.42028G	0	50	1	-

802.11n HT20_Nss1,(MCS0)_2TX **Freq. Stability**

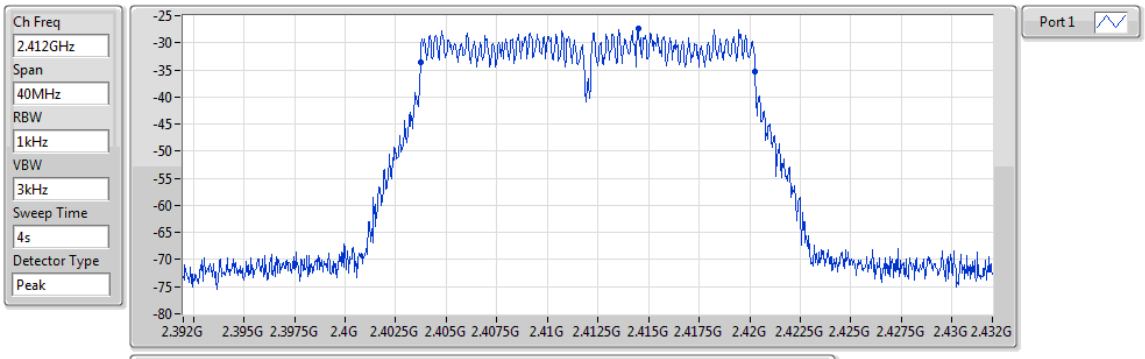
2412MHz_



Ch(MHz)	Center(MHz)	Fl(Hz)	Fh(Hz)	ppm	Limit(ppm)	Port	Remark
2412	2411.98	2.40368G	2.42028G	8.292	50	1	-

802.11n HT20_Nss1,(MCS0)_2TX **Freq. Stability**

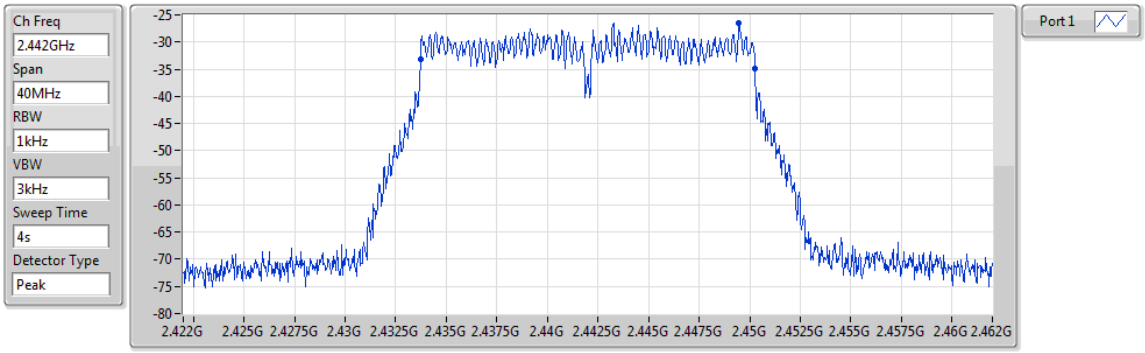
2412MHz_



Ch(MHz)	Center(MHz)	Fl(Hz)	Fh(Hz)	ppm	Limit(ppm)	Port	Remark
2412	2412	2.40372G	2.42028G	0	50	1	-

802.11n HT20_Nss1,(MCS0)_2TX **Freq. Stability**

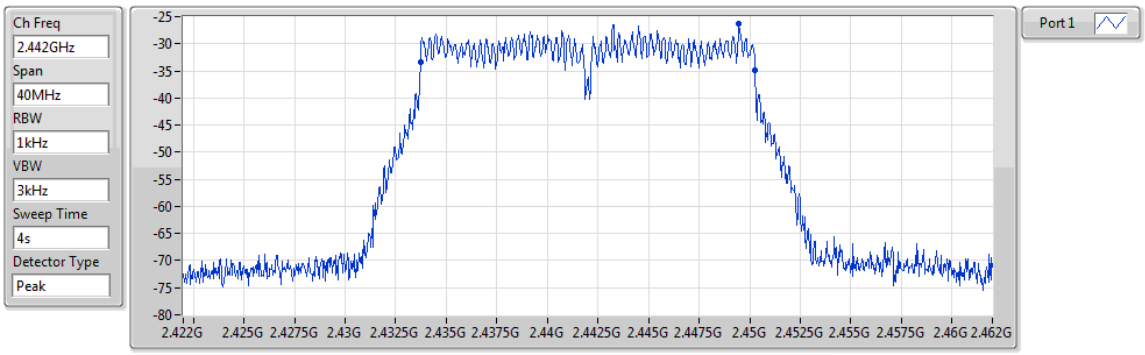
2442MHz_



Ch(MHz)	Center(MHz)	Fl(Hz)	Fh(Hz)	ppm	Limit(ppm)	Port	Remark
2442	2442	2.43372G	2.45028G	0	50	1	-

802.11n HT20_Nss1,(MCS0)_2TX **Freq. Stability**

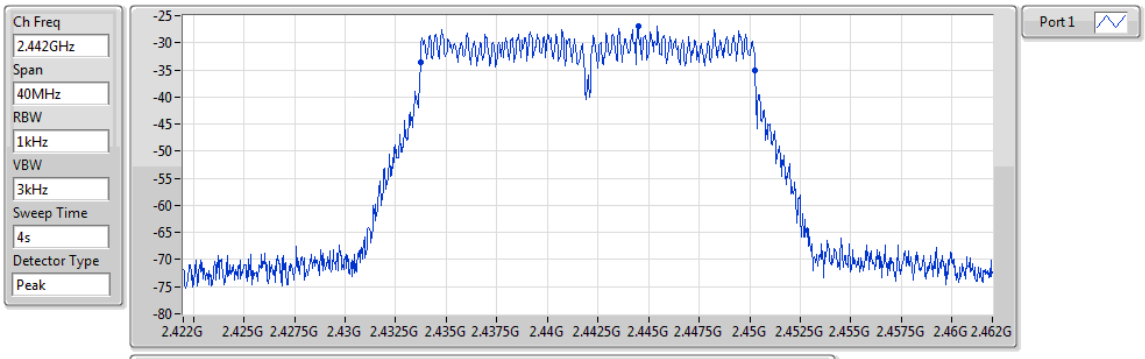
2442MHz_



Ch(MHz)	Center(MHz)	Fl(Hz)	Fh(Hz)	ppm	Limit(ppm)	Port	Remark
2442	2442	2.43372G	2.45028G	0	50	1	-

802.11n HT20_Nss1,(MCS0)_2TX **Freq. Stability**

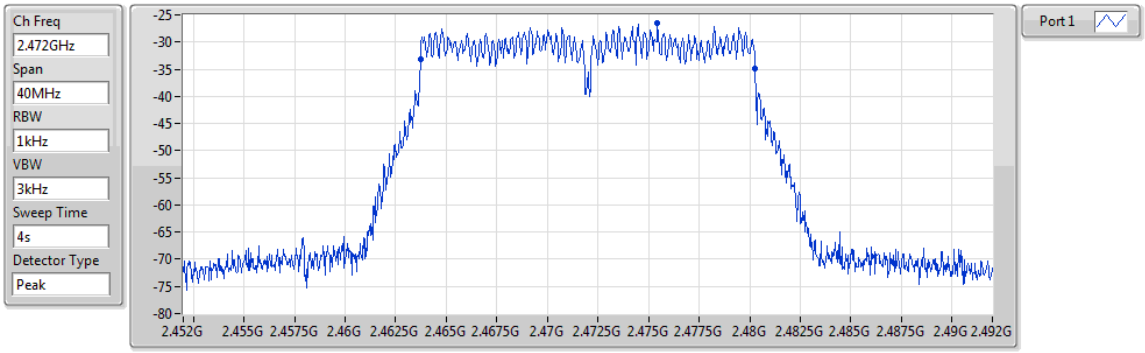
2442MHz_



Ch(MHz)	Center(MHz)	Fl(Hz)	Fh(Hz)	ppm	Limit(ppm)	Port	Remark
2442	2442	2.43372G	2.45028G	0	50	1	-

802.11n HT20_Nss1,(MCS0)_2TX **Freq. Stability**

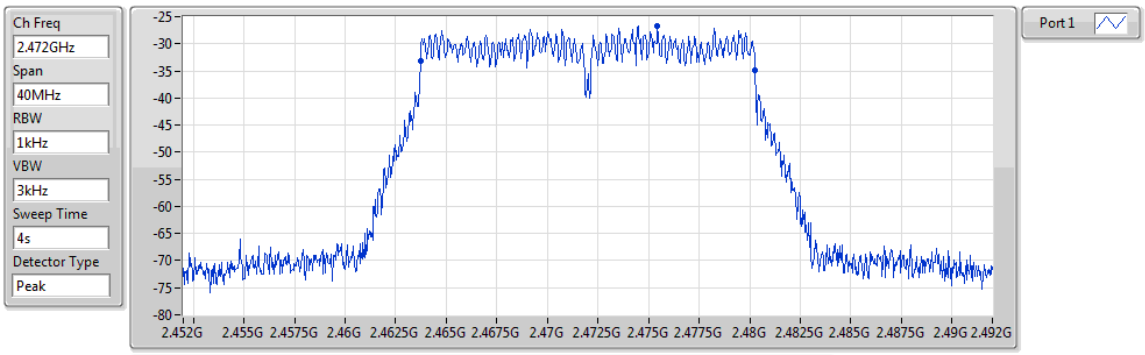
2472MHz_



Ch(MHz)	Center(MHz)	Fl(Hz)	Fh(Hz)	ppm	Limit(ppm)	Port	Remark
2472	2472	2.46372G	2.48028G	0	50	1	-

802.11n HT20_Nss1,(MCS0)_2TX **Freq. Stability**

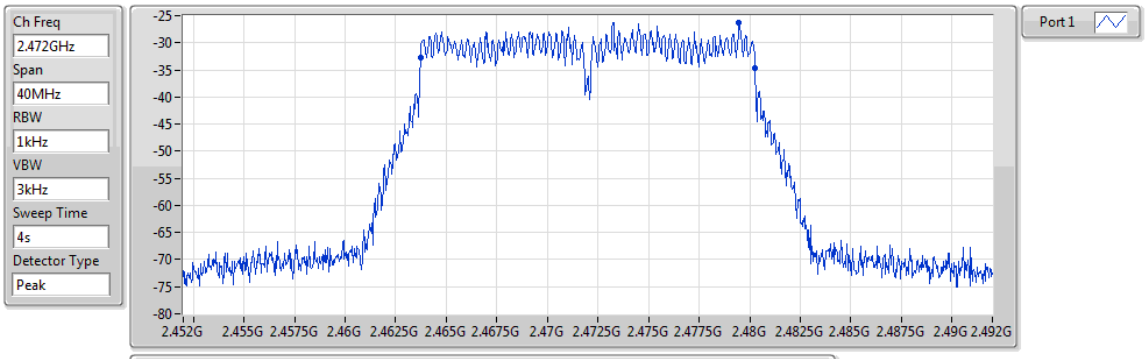
2472MHz_



Ch(MHz)	Center(MHz)	Fl(Hz)	Fh(Hz)	ppm	Limit(ppm)	Port	Remark
2472	2472	2.46372G	2.48028G	0	50	1	-

802.11n HT20_Nss1,(MCS0)_2TX **Freq. Stability**

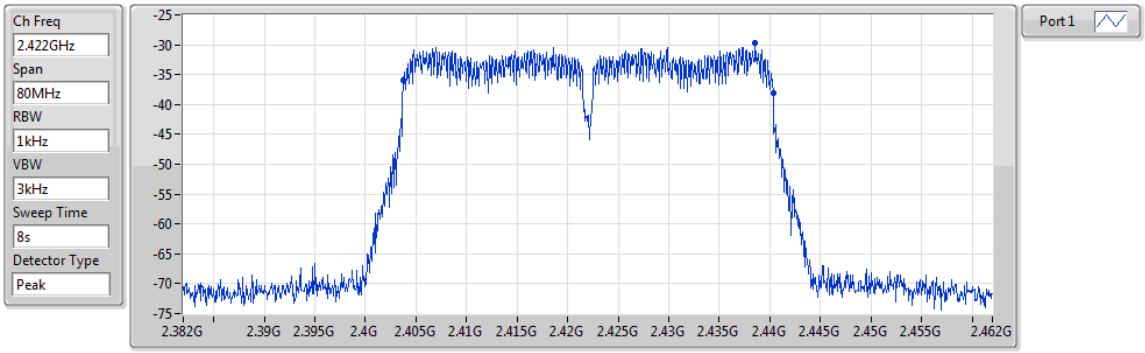
2472MHz_



Ch(MHz)	Center(MHz)	Fl(Hz)	Fh(Hz)	ppm	Limit(ppm)	Port	Remark
2472	2472	2.46372G	2.48028G	0	50	1	-

802.11n HT40_Nss1,(MCS0)_2TX **Freq. Stability**

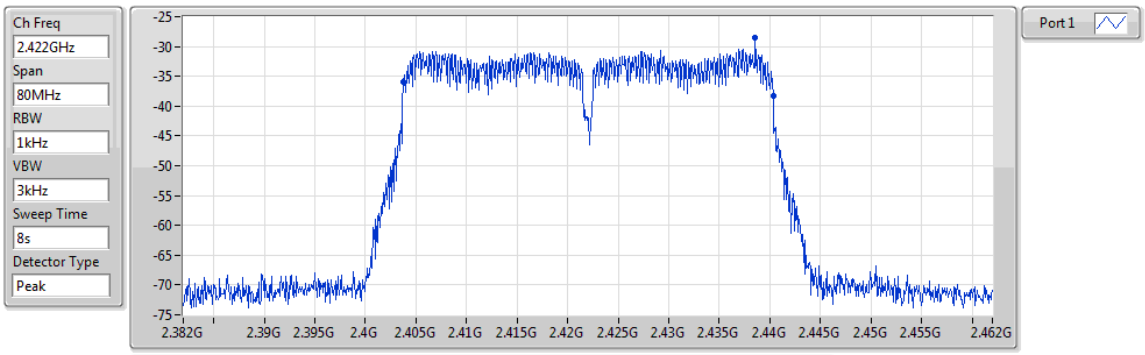
2422MHz_



Ch(MHz)	Center(MHz)	Fl(Hz)	Fh(Hz)	ppm	Limit(ppm)	Port	Remark
2422	2422.04	2.40376G	2.44032G	16.515	50	1	-

802.11n HT40_Nss1,(MCS0)_2TX **Freq. Stability**

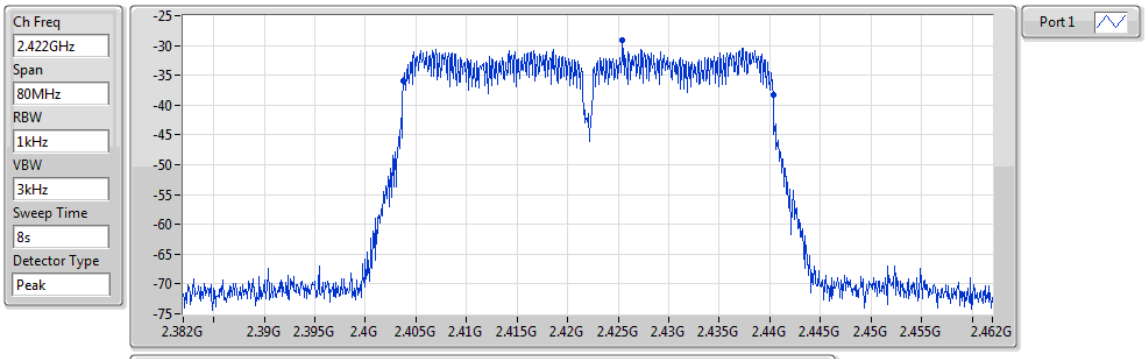
2422MHz_



Ch(MHz)	Center(MHz)	Fl(Hz)	Fh(Hz)	ppm	Limit(ppm)	Port	Remark
2422	2422.04	2.40376G	2.44032G	16.515	50	1	-

802.11n HT40_Nss1,(MCS0)_2TX **Freq. Stability**

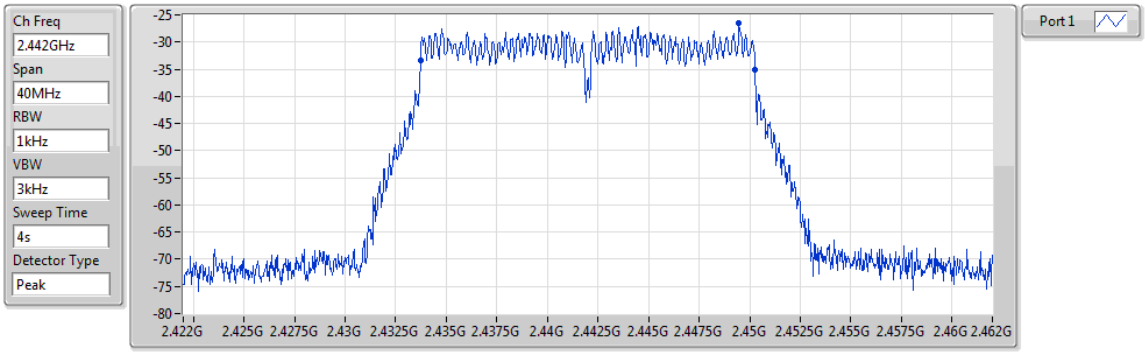
2422MHz_



Ch(MHz)	Center(MHz)	Fl(Hz)	Fh(Hz)	ppm	Limit(ppm)	Port	Remark
2422	2422.04	2.40376G	2.44032G	16.515	50	1	-

802.11n HT40_Nss1,(MCS0)_2TX **Freq. Stability**

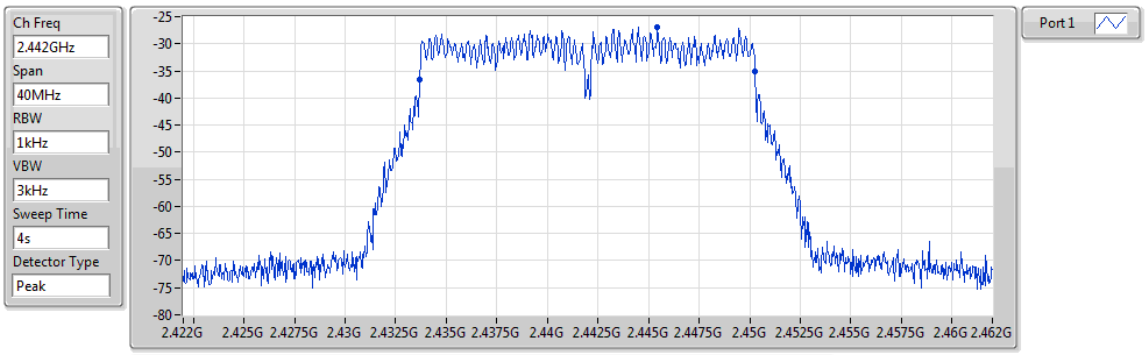
2442MHz_



Ch(MHz)	Center(MHz)	Fl(Hz)	Fh(Hz)	ppm	Limit(ppm)	Port	Remark
2442	2442	2.43372G	2.45028G	0	50	1	-

802.11n HT40_Nss1,(MCS0)_2TX **Freq. Stability**

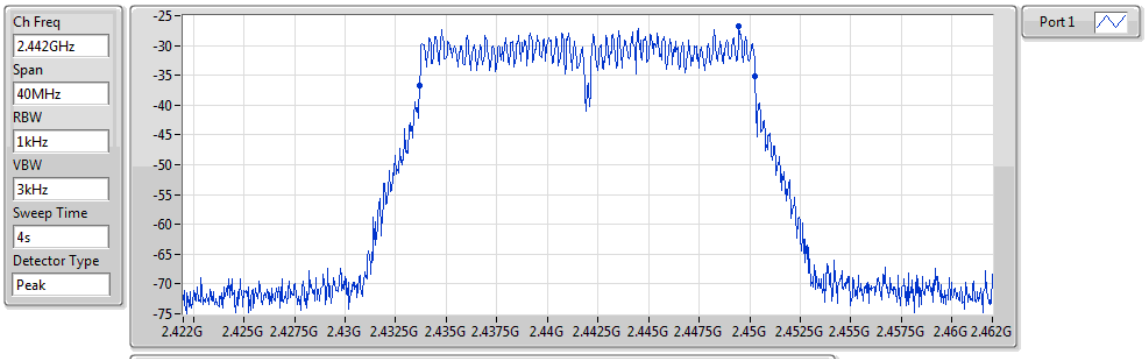
2442MHz_



Ch(MHz)	Center(MHz)	Fl(Hz)	Fh(Hz)	ppm	Limit(ppm)	Port	Remark
2442	2441.98	2.43368G	2.45028G	8.19	50	1	-

802.11n HT40_Nss1,(MCS0)_2TX **Freq. Stability**

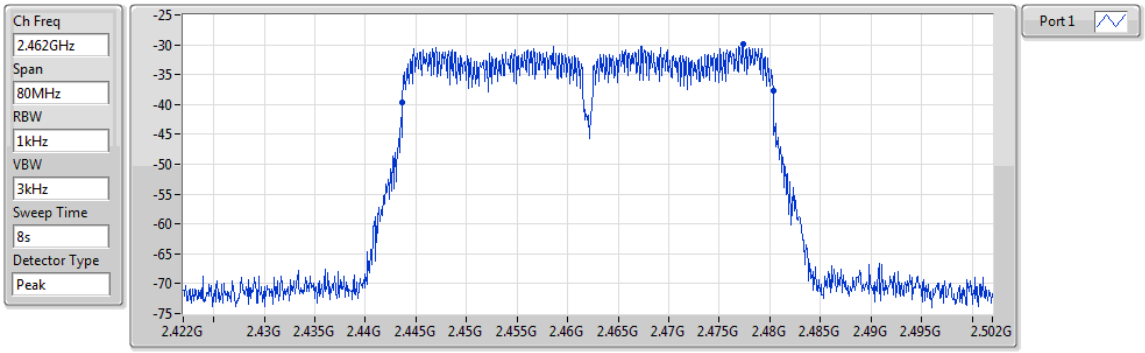
2442MHz_



Ch(MHz)	Center(MHz)	Fl(Hz)	Fh(Hz)	ppm	Limit(ppm)	Port	Remark
2442	2441.98	2.43368G	2.45028G	8.19	50	1	-

802.11n HT40_Nss1,(MCS0)_2TX **Freq. Stability**

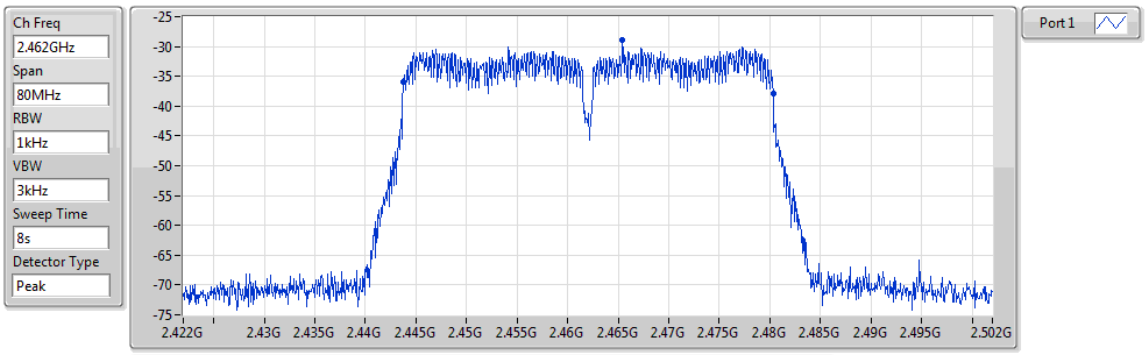
2462MHz_



Ch(MHz)	Center(MHz)	Fl(Hz)	Fh(Hz)	ppm	Limit(ppm)	Port	Remark
2462	2462	2.44368G	2.48032G	0	50	1	-

802.11n HT40_Nss1,(MCS0)_2TX **Freq. Stability**

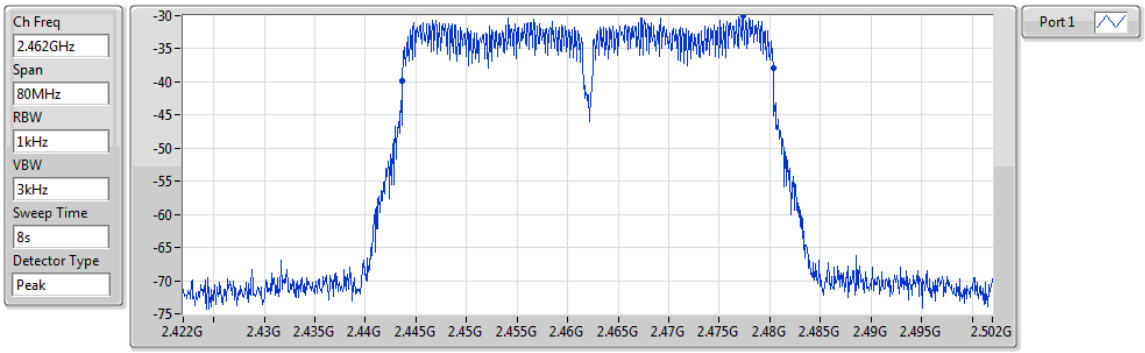
2462MHz_



Ch(MHz)	Center(MHz)	Fl(Hz)	Fh(Hz)	ppm	Limit(ppm)	Port	Remark
2462	2462.04	2.44376G	2.48032G	16.247	50	1	-

802.11n HT40_Nss1,(MCS0)_2TX **Freq. Stability**

2462MHz_



Ch(MHz)	Center(MHz)	Fl(Hz)	Fh(Hz)	ppm	Limit(ppm)	Port	Remark
2462	2462	2.44368G	2.48032G	0	50	1	-

Summary

Mode	Max-OBW (MHz)	ITU-Code	Min-OBW (MHz)
802.11b_Nss1_2TX	-	-	-
2.4-2.4835GHz	13.373	13H4G1D	13.313
802.11g_Nss1_2TX	-	-	-
2.4-2.4835GHz	16.852	16H9D1D	16.752
802.11n HT20_Nss1,(MCS0)_2TX	-	-	-
2.4-2.4835GHz	17.711	17H7D1D	17.691
802.11n HT40_Nss1,(MCS0)_2TX	-	-	-
2.4-2.4835GHz	36.622	36H6D1D	36.422

Max-OBW = Maximum99% occupied bandwidth; **Min-OBW** = Minimum99% occupied bandwidth;

Result

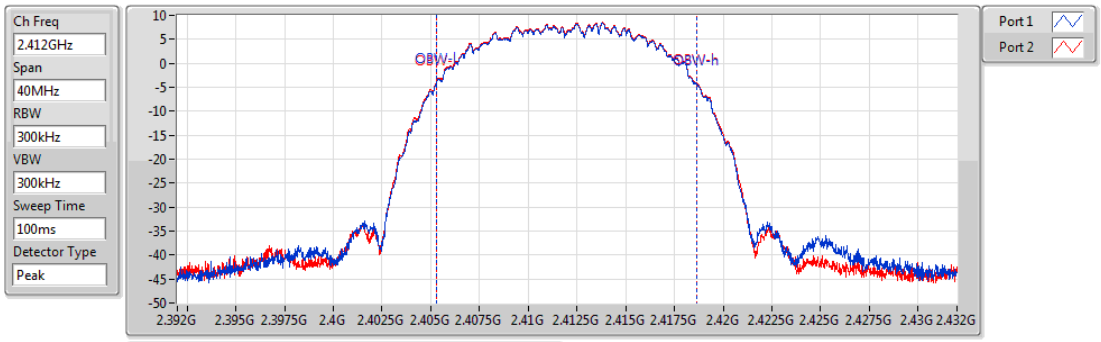
Mode	Result	Limit (MHz)	P1-OBW (MHz)	P2-OBW (MHz)
802.11b_Nss1_2TX	-	-	-	-
2412MHz_Vnom	Pass	26	13.313	13.373
2412MHz_Vmin	Pass	26	13.333	13.373
2412MHz_Vmax	Pass	26	13.313	13.373
2442MHz_Vnom	Pass	26	13.333	13.353
2442MHz_Vmin	Pass	26	13.333	13.333
2442MHz_Vmax	Pass	26	13.353	13.333
2472MHz_Vnom	Pass	26	13.373	13.373
2472MHz_Vmin	Pass	26	13.373	13.353
2472MHz_Vmax	Pass	26	13.373	13.373
802.11g_Nss1_2TX	-	-	-	-
2412MHz_Vnom	Pass	26	16.772	16.852
2412MHz_Vmin	Pass	26	16.772	16.852
2412MHz_Vmax	Pass	26	16.772	16.852
2442MHz_Vnom	Pass	26	16.752	16.852
2442MHz_Vmin	Pass	26	16.752	16.852
2442MHz_Vmax	Pass	26	16.772	16.852
2472MHz_Vnom	Pass	26	16.792	16.832
2472MHz_Vmin	Pass	26	16.792	16.852
2472MHz_Vmax	Pass	26	16.752	16.832
802.11n HT20_Nss1,(MCS0)_2TX	-	-	-	-
2412MHz_Vnom	Pass	26	17.691	17.711
2412MHz_Vmin	Pass	26	17.691	17.711

Mode	Result	Limit (MHz)	P1-OBW (MHz)	P2-OBW (MHz)
2412MHz_Vmax	Pass	26	17.691	17.711
2442MHz_Vnom	Pass	26	17.691	17.711
2442MHz_Vmin	Pass	26	17.691	17.711
2442MHz_Vmax	Pass	26	17.691	17.711
2472MHz_Vnom	Pass	26	17.691	17.711
2472MHz_Vmin	Pass	26	17.691	17.711
2472MHz_Vmax	Pass	26	17.691	17.711
802.11n HT40_Nss1,(MCS0)_2TX	-	-	-	-
2422MHz_Vnom	Pass	38	36.422	36.582
2422MHz_Vmin	Pass	38	36.422	36.542
2422MHz_Vmax	Pass	38	36.502	36.582
2442MHz_Vnom	Pass	38	36.462	36.542
2442MHz_Vmin	Pass	38	36.462	36.542
2442MHz_Vmax	Pass	38	36.462	36.542
2462MHz_Vnom	Pass	38	36.502	36.622
2462MHz_Vmin	Pass	38	36.462	36.622
2462MHz_Vmax	Pass	38	36.462	36.622

P1-OBW = Port 1 99% occupied bandwidth;**P2-OBW** = Port 299% occupied bandwidth;**P3-OBW** = Port 399% occupied bandwidth;**P4-OBW** = Port 499% occupied bandwidth;

802.11b_Nss1_2TX **OBW**

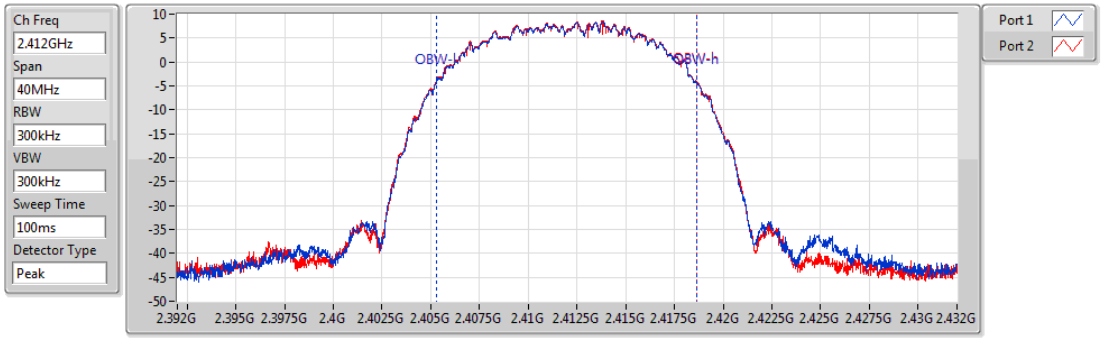
2412MHz_Vnom



OBW(MHz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(MHz)	Port
13.313	2.405323G	2.418637G	26	1
13.373	2.405283G	2.418657G	26	2

802.11b_Nss1_2TX **OBW**

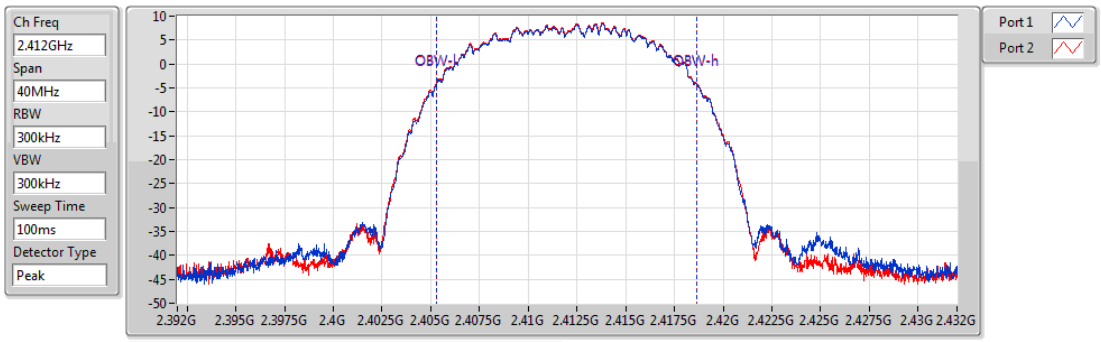
2412MHz_Vmin



OBW(MHz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(MHz)	Port
13.333	2.405303G	2.418637G	26	1
13.373	2.405283G	2.418657G	26	2

802.11b_Nss1_2TX **OBW**

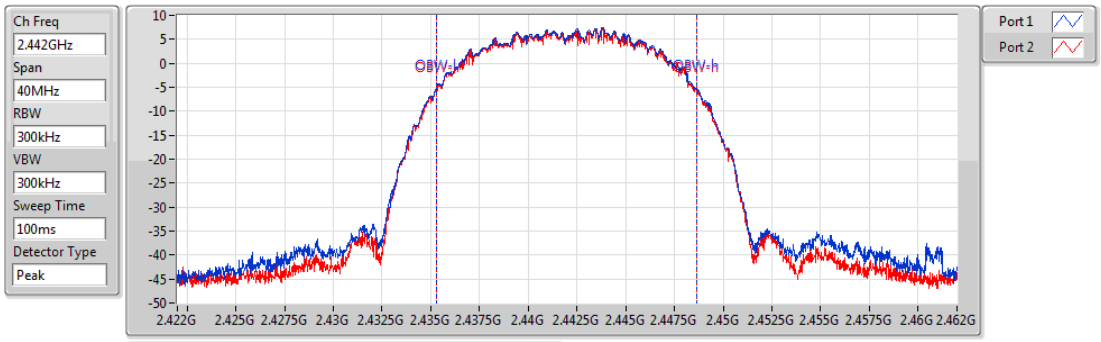
2412MHz_Vmax



OBW(MHz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(MHz)	Port
13.313	2.405323G	2.418637G	26	1
13.373	2.405283G	2.418657G	26	2

802.11b_Nss1_2TX **OBW**

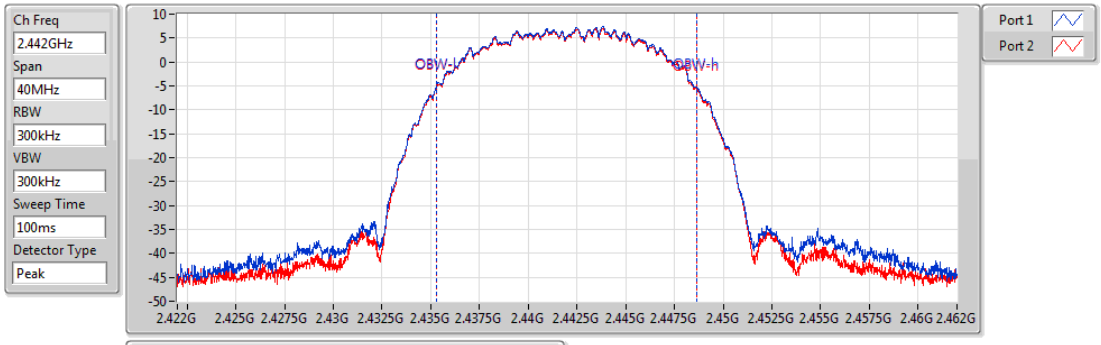
2442MHz_Vnom



OBW(MHz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(MHz)	Port
13.333	2.435303G	2.448637G	26	1
13.353	2.435283G	2.448637G	26	2

802.11b_Nss1_2TX **OBW**

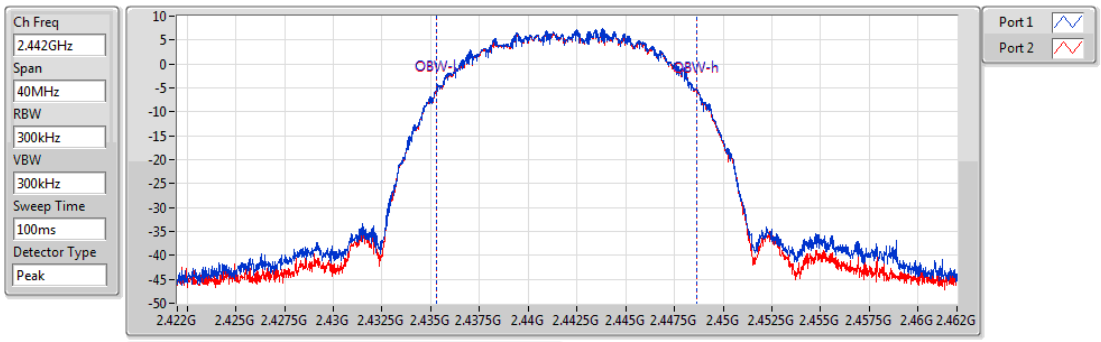
2442MHz_Vmin



OBW(MHz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(MHz)	Port
13.333	2.435303G	2.448637G	26	1
13.333	2.435303G	2.448637G	26	2

802.11b_Nss1_2TX **OBW**

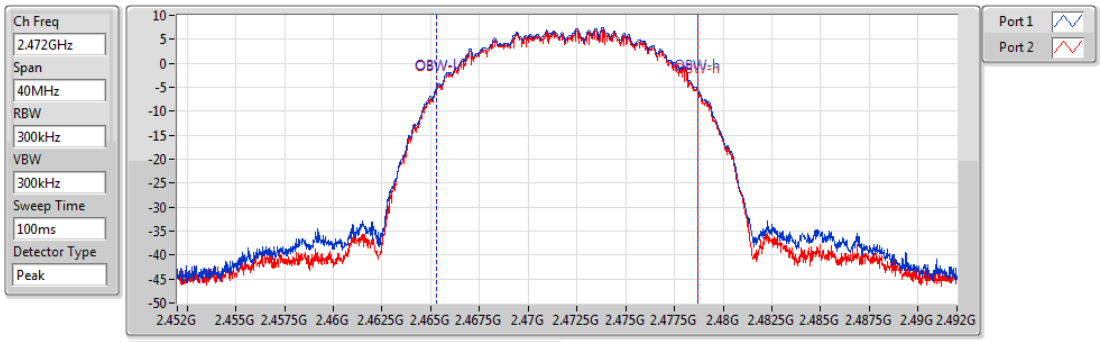
2442MHz_Vmax



OBW(MHz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(MHz)	Port
13.353	2.435303G	2.448657G	26	1
13.333	2.435303G	2.448637G	26	2

802.11b_Nss1_2TX **OBW**

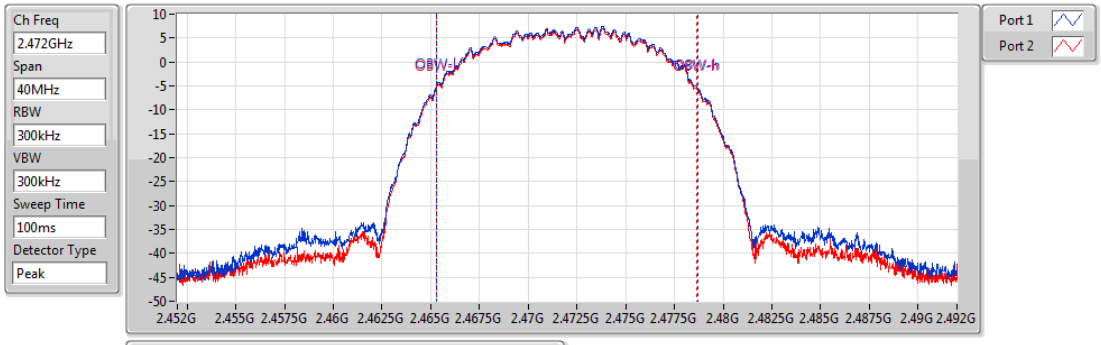
2472MHz_Vnom



OBW(MHz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(MHz)	Port
13.373	2.465303G	2.478677G	26	1
13.373	2.465303G	2.478677G	26	2

802.11b_Nss1_2TX **OBW**

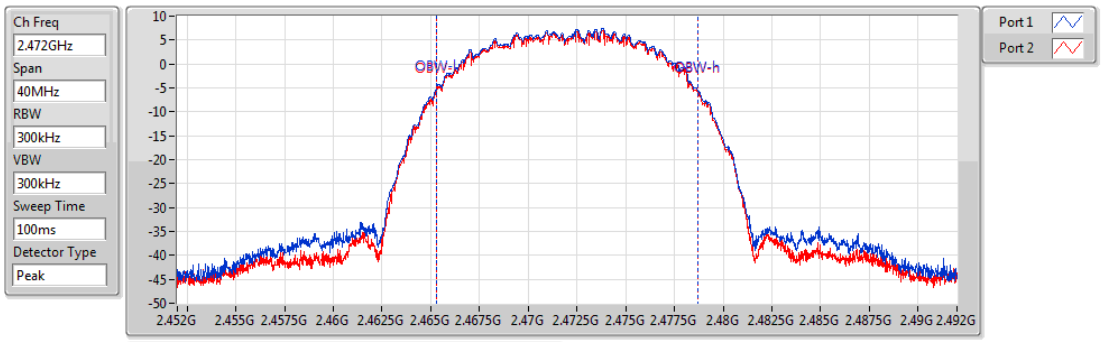
2472MHz_Vmin



OBW(MHz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(MHz)	Port
13.373	2.465303G	2.478677G	26	1
13.353	2.465303G	2.478657G	26	2

802.11b_Nss1_2TX **OBW**

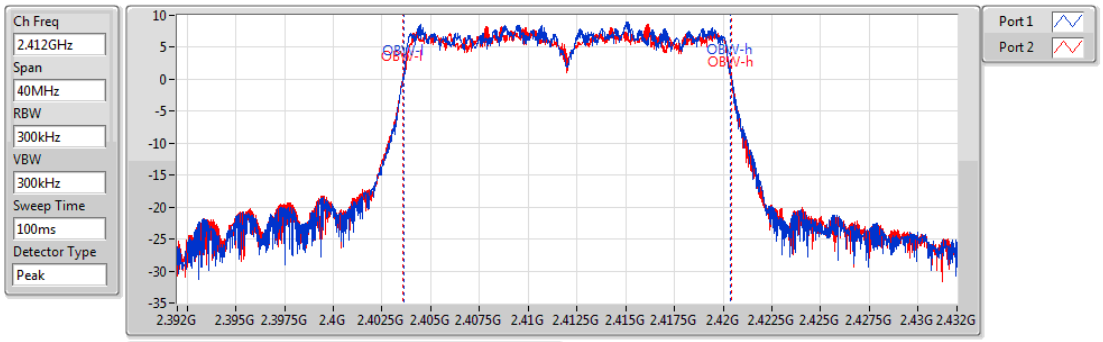
2472MHz_Vmax



OBW(MHz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(MHz)	Port
13.373	2.465303G	2.478677G	26	1
13.373	2.465303G	2.478677G	26	2

802.11g_Nss1_2TX **OBW**

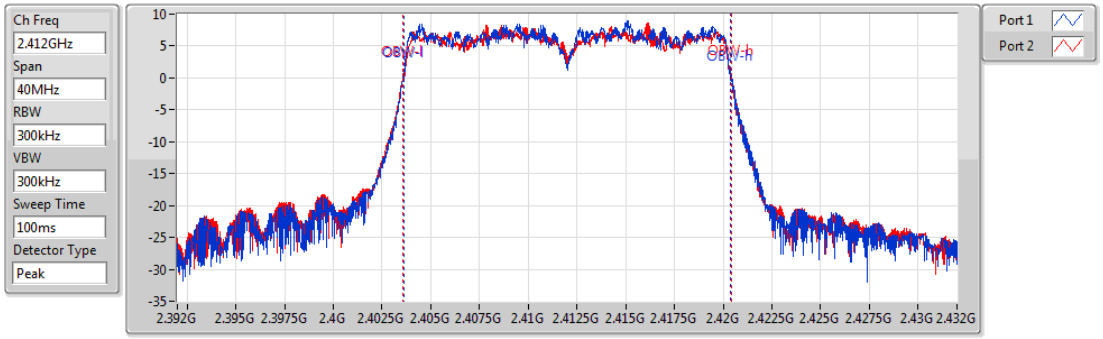
2412MHz_Vnom



OBW(MHz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(MHz)	Port
16.772	2.403624G	2.420396G	26	1
16.852	2.403564G	2.420416G	26	2

802.11g_Nss1_2TX **OBW**

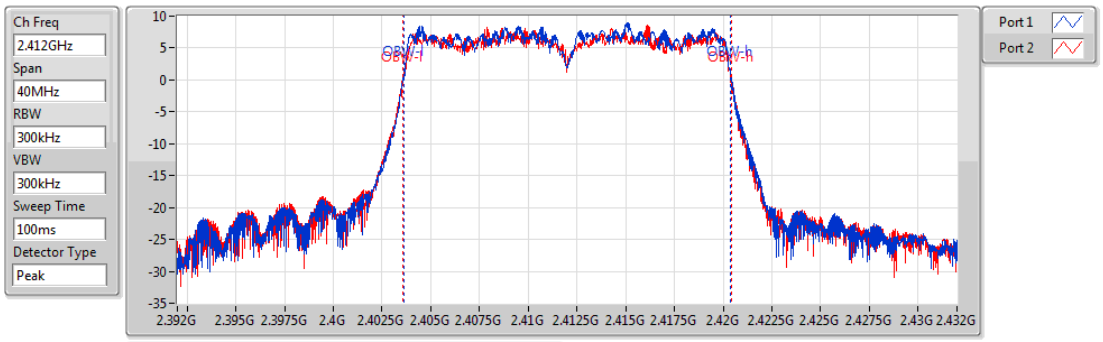
2412MHz_Vmin



OBW(MHz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(MHz)	Port
16.772	2.403624G	2.420396G	26	1
16.852	2.403564G	2.420416G	26	2

802.11g_Nss1_2TX **OBW**

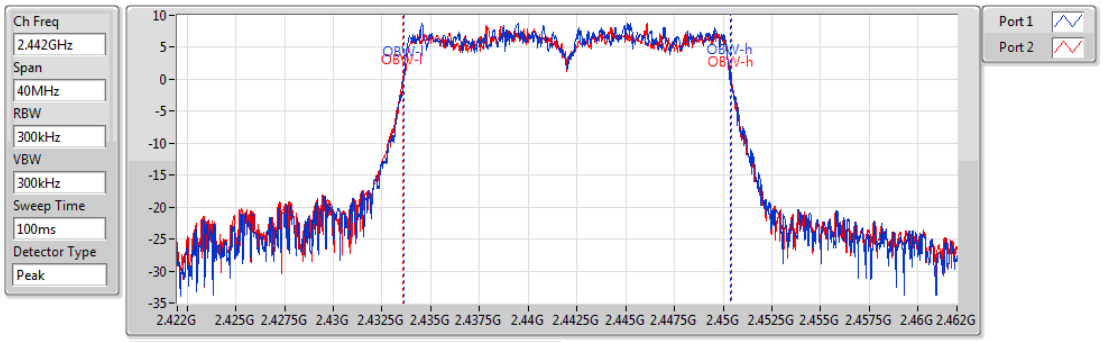
2412MHz_Vmax



OBW(MHz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(MHz)	Port
16.772	2.403624G	2.420396G	26	1
16.852	2.403564G	2.420416G	26	2

802.11g_Nss1_2TX **OBW**

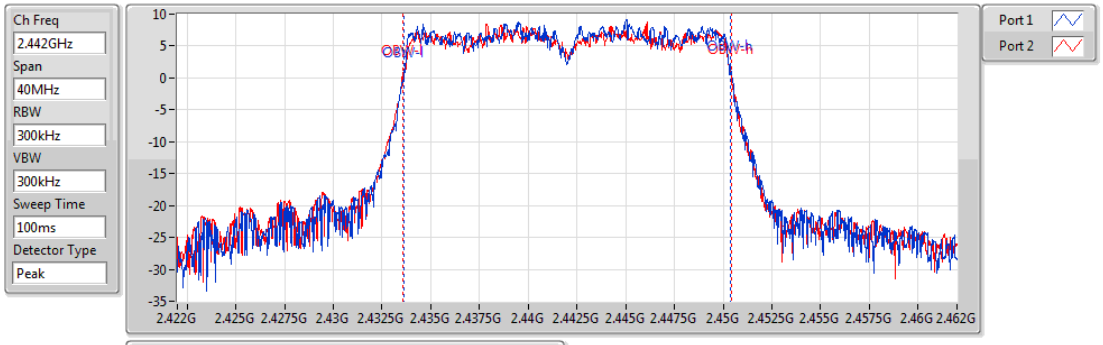
2442MHz_Vnom



OBW(MHz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(MHz)	Port
16.752	2.433644G	2.450396G	26	1
16.852	2.433564G	2.450416G	26	2

802.11g_Nss1_2TX **OBW**

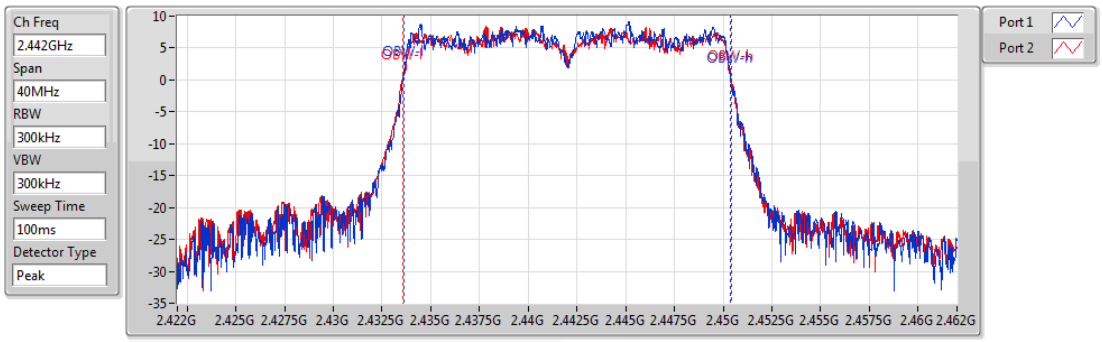
2442MHz_Vmin



OBW(MHz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(MHz)	Port
16.752	2.433644G	2.450396G	26	1
16.852	2.433564G	2.450416G	26	2

802.11g_Nss1_2TX **OBW**

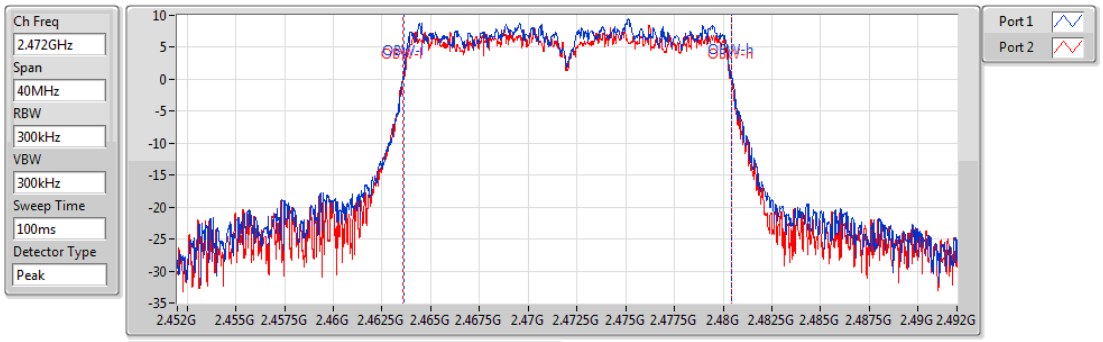
2442MHz_Vmax



OBW(MHz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(MHz)	Port
16.772	2.433624G	2.450396G	26	1
16.852	2.433564G	2.450416G	26	2

802.11g_Nss1_2TX **OBW**

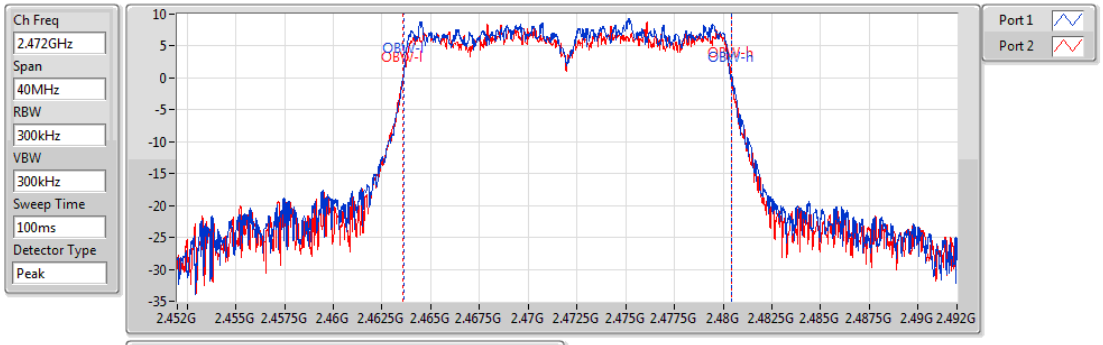
2472MHz_Vnom



OBW(MHz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(MHz)	Port
16.792	2.463624G	2.480416G	26	1
16.832	2.463584G	2.480416G	26	2

802.11g_Nss1_2TX **OBW**

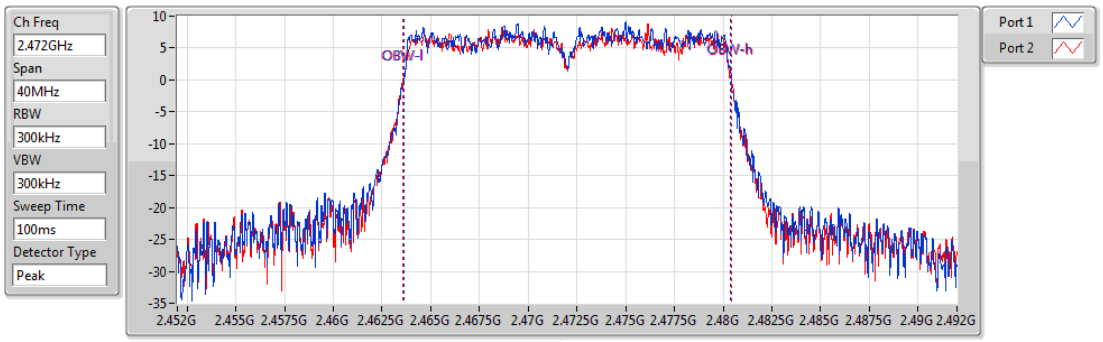
2472MHz_Vmin



OBW(MHz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(MHz)	Port
16.792	2.463624G	2.480416G	26	1
16.852	2.463564G	2.480416G	26	2

802.11g_Nss1_2TX **OBW**

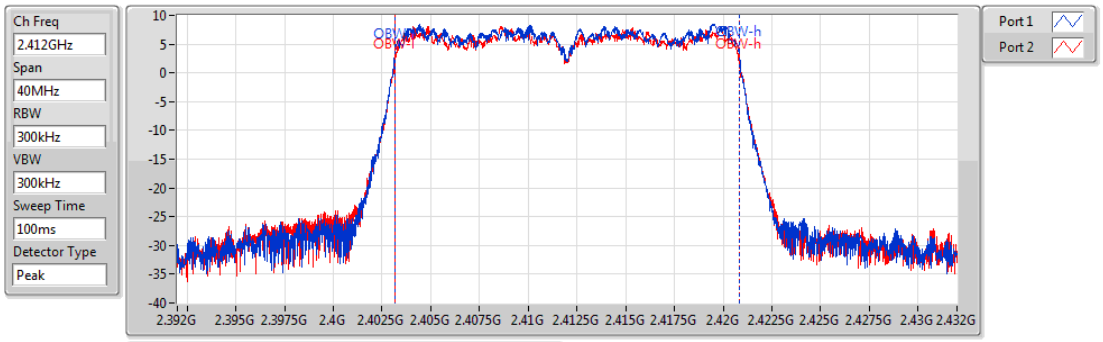
2472MHz_Vmax



OBW(MHz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(MHz)	Port
16.752	2.463644G	2.480396G	26	1
16.832	2.463584G	2.480416G	26	2

802.11n HT20_Nss1,(MCS0)_2TX **OBW**

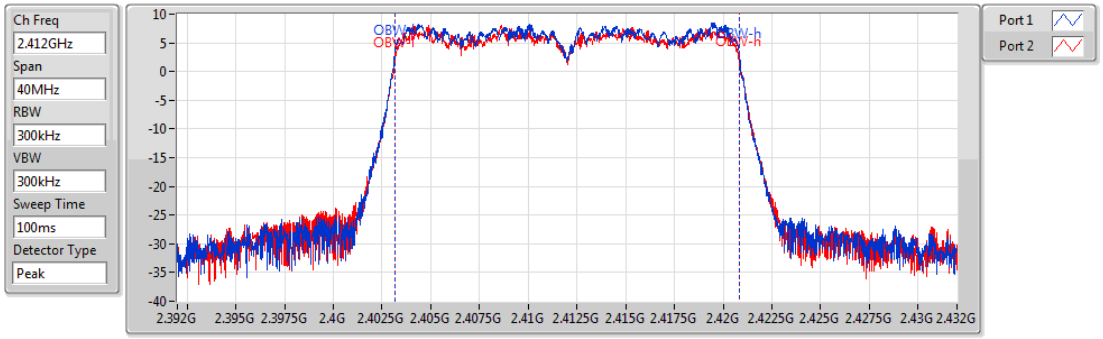
2412MHz_Vnom



OBW(MHz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(MHz)	Port
17.691	2.403144G	2.420836G	26	1
17.711	2.403144G	2.420856G	26	2

802.11n HT20_Nss1,(MCS0)_2TX **OBW**

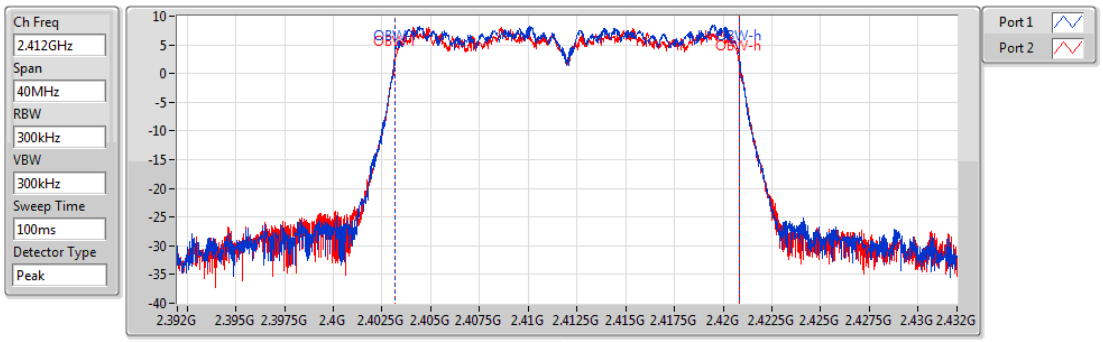
2412MHz_Vmin



OBW(MHz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(MHz)	Port
17.691	2.403144G	2.420836G	26	1
17.711	2.403144G	2.420856G	26	2

802.11n HT20_Nss1,(MCS0)_2TX **OBW**

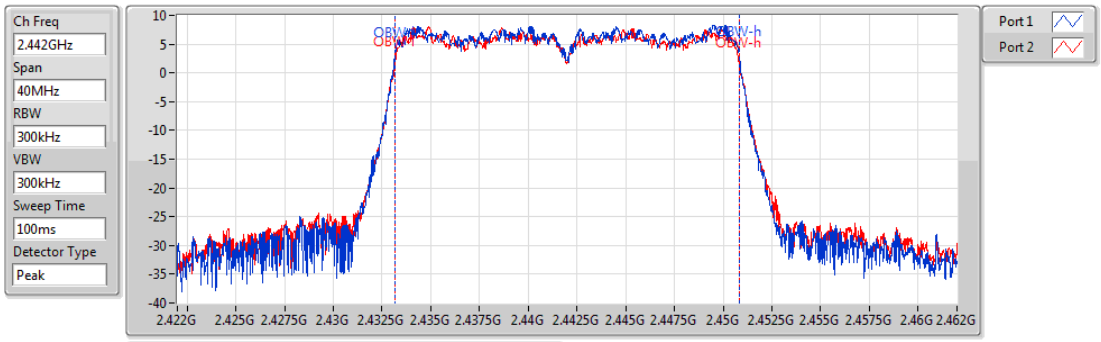
2412MHz_Vmax



OBW(MHz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(MHz)	Port
17.691	2.403144G	2.420836G	26	1
17.711	2.403144G	2.420856G	26	2

802.11n HT20_Nss1,(MCS0)_2TX **OBW**

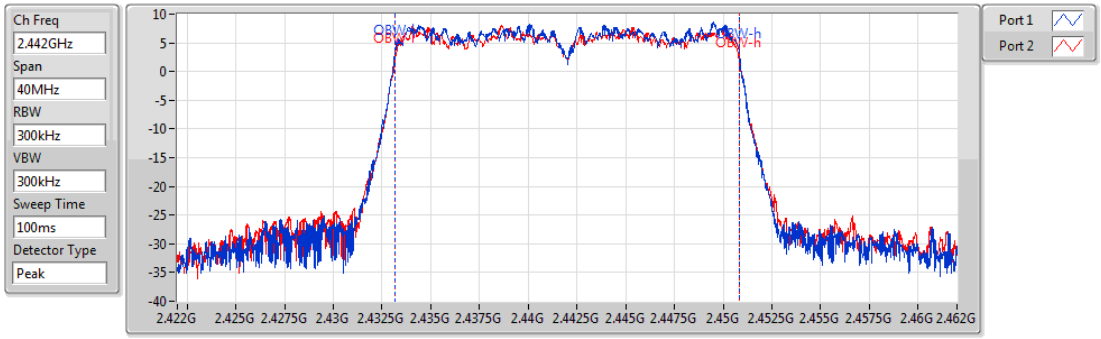
2442MHz_Vnom



OBW(MHz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(MHz)	Port
17.691	2.433144G	2.450836G	26	1
17.711	2.433144G	2.450856G	26	2

802.11n HT20_Nss1,(MCS0)_2TX **OBW**

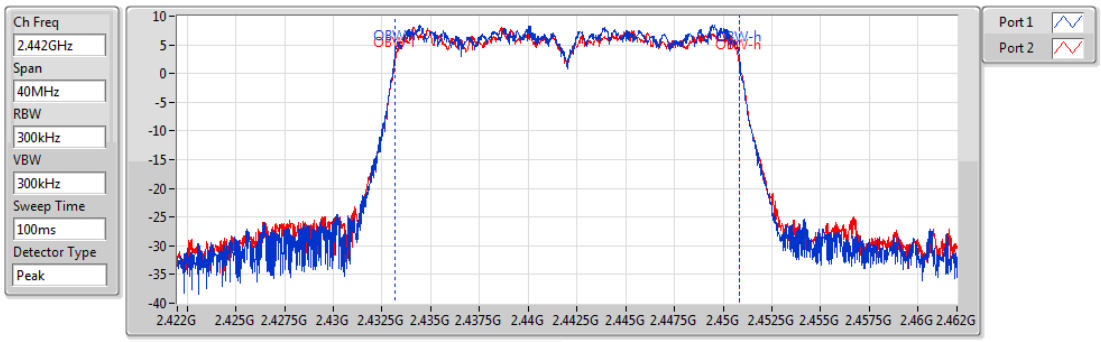
2442MHz_Vmin



OBW(MHz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(MHz)	Port
17.691	2.433144G	2.450836G	26	1
17.711	2.433144G	2.450856G	26	2

802.11n HT20_Nss1,(MCS0)_2TX **OBW**

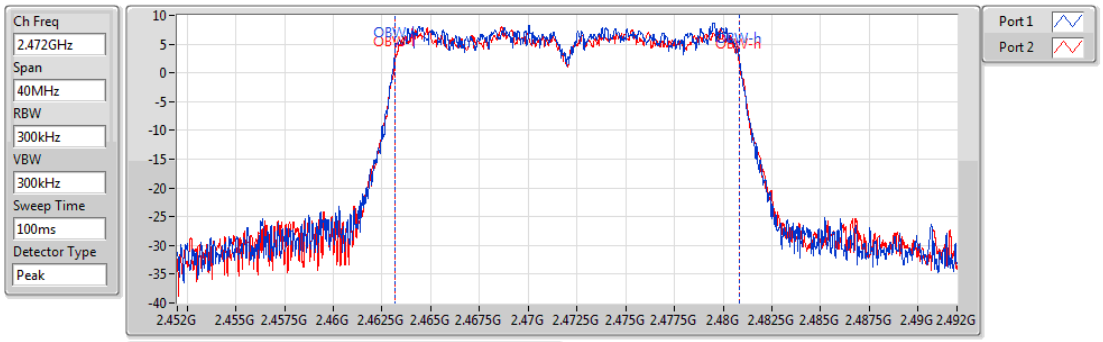
2442MHz_Vmax



OBW(MHz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(MHz)	Port
17.691	2.433144G	2.450836G	26	1
17.711	2.433144G	2.450856G	26	2

802.11n HT20_Nss1,(MCS0)_2TX **OBW**

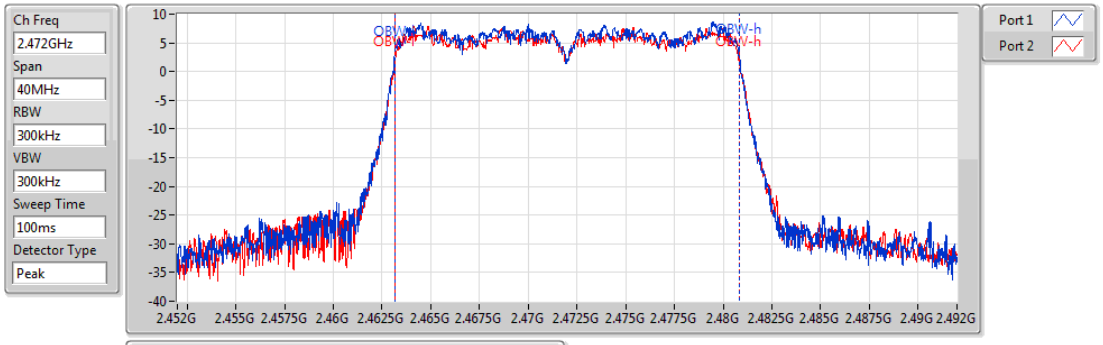
2472MHz_Vnom



OBW(MHz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(MHz)	Port
17.691	2.463144G	2.480836G	26	1
17.711	2.463144G	2.480856G	26	2

802.11n HT20_Nss1,(MCS0)_2TX **OBW**

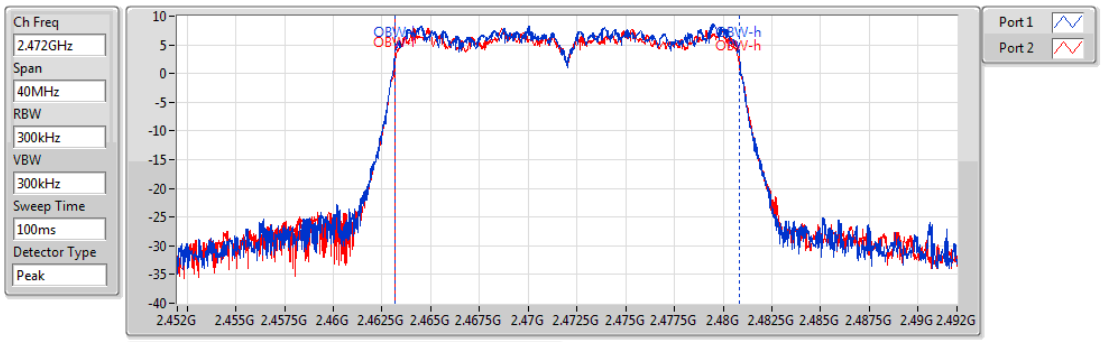
2472MHz_Vmin



OBW(MHz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(MHz)	Port
17.691	2.463144G	2.480836G	26	1
17.711	2.463144G	2.480856G	26	2

802.11n HT20_Nss1,(MCS0)_2TX **OBW**

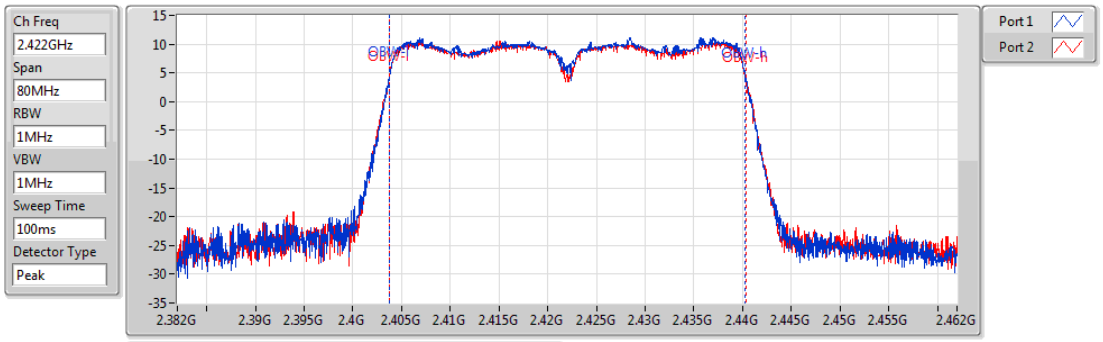
2472MHz_Vmax



OBW(MHz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(MHz)	Port
17.691	2.463144G	2.480836G	26	1
17.711	2.463144G	2.480856G	26	2

802.11n HT40_Nss1,(MCS0)_2TX **OBW**

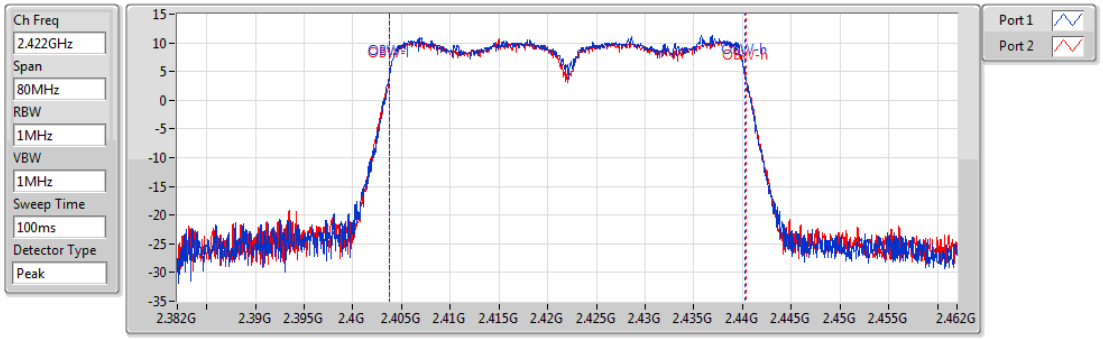
2422MHz_Vnom



OBW(MHz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(MHz)	Port
36.422	2.403809G	2.440231G	38	1
36.582	2.403729G	2.440311G	38	2

802.11n HT40_Nss1,(MCS0)_2TX **OBW**

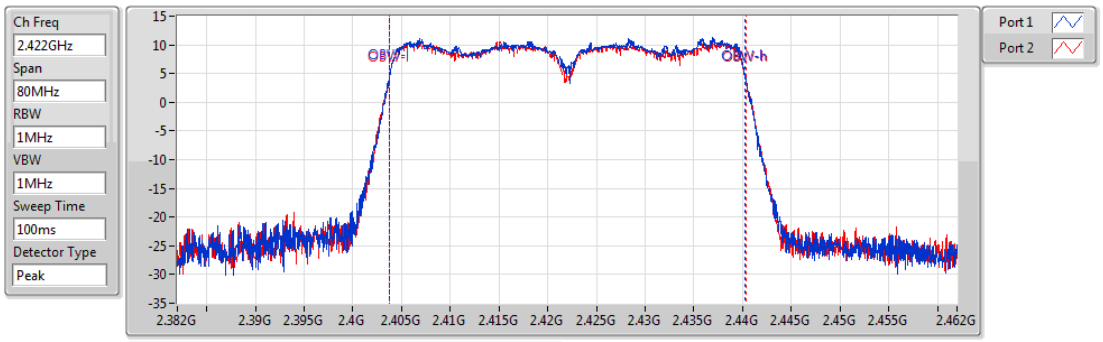
2422MHz_Vmin



OBW(MHz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(MHz)	Port
36.422	2.403809G	2.440231G	38	1
36.542	2.403769G	2.440311G	38	2

802.11n HT40_Nss1,(MCS0)_2TX **OBW**

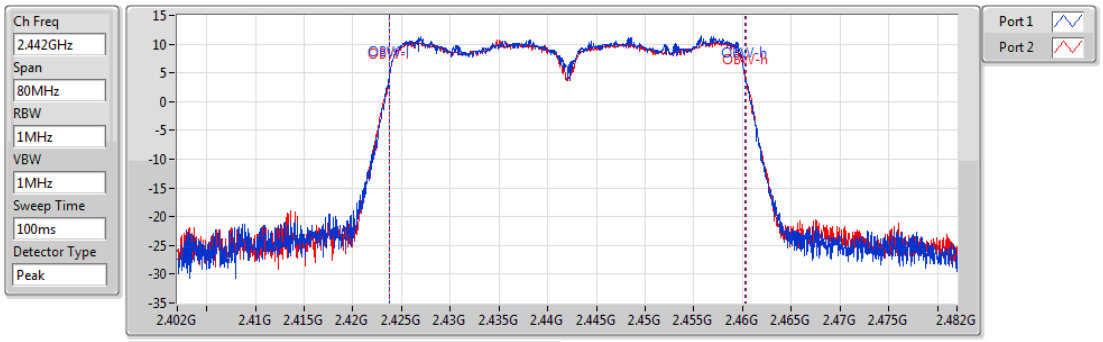
2422MHz_Vmax



OBW(MHz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(MHz)	Port
36.502	2.403769G	2.440271G	38	1
36.582	2.403729G	2.440311G	38	2

802.11n HT40_Nss1,(MCS0)_2TX **OBW**

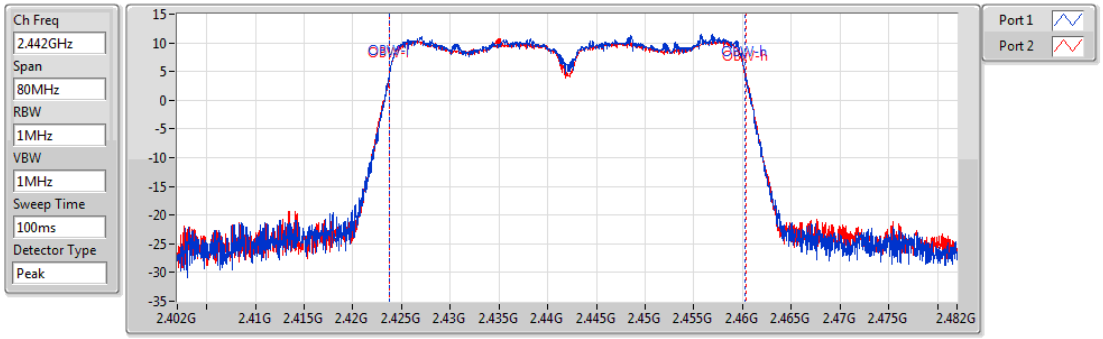
2442MHz_Vnom



OBW(MHz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(MHz)	Port
36.462	2.423809G	2.460271G	38	1
36.542	2.423769G	2.460311G	38	2

802.11n HT40_Nss1,(MCS0)_2TX **OBW**

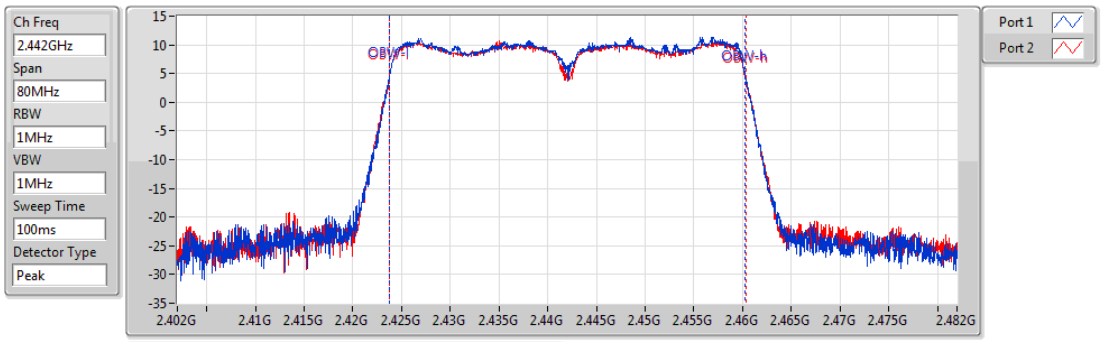
2442MHz_Vmin



OBW(MHz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(MHz)	Port
36.462	2.423809G	2.460271G	38	1
36.542	2.423769G	2.460311G	38	2

802.11n HT40_Nss1,(MCS0)_2TX **OBW**

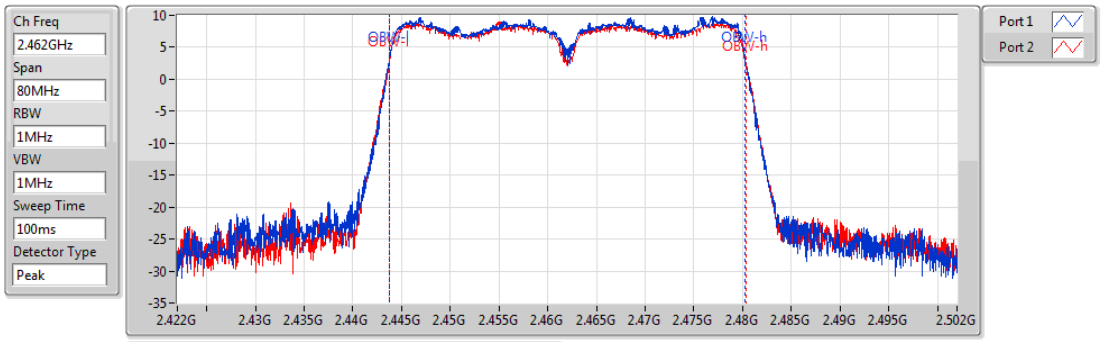
2442MHz_Vmax



OBW(MHz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(MHz)	Port
36.462	2.423809G	2.460271G	38	1
36.542	2.423769G	2.460311G	38	2

802.11n HT40_Nss1,(MCS0)_2TX **OBW**

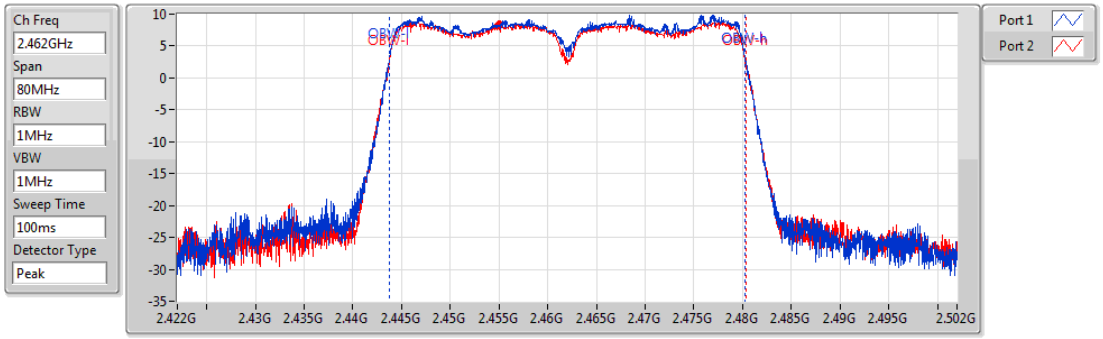
2462MHz_Vnom



OBW(MHz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(MHz)	Port
36.502	2.443769G	2.480271G	38	1
36.622	2.443729G	2.480351G	38	2

802.11n HT40_Nss1,(MCS0)_2TX **OBW**

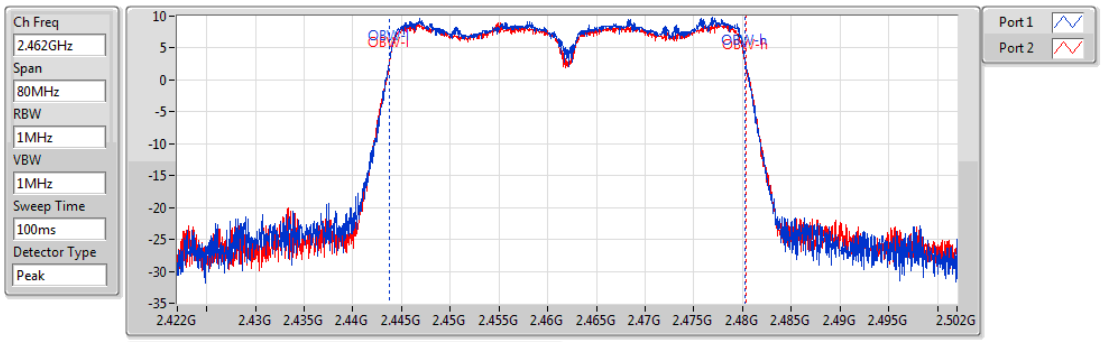
2462MHz_Vmin



OBW(MHz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(MHz)	Port
36.462	2.443809G	2.480271G	38	1
36.622	2.443729G	2.480351G	38	2

802.11n HT40_Nss1,(MCS0)_2TX **OBW**

2462MHz_Vmax



OBW(MHz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(MHz)	Port
36.462	2.443809G	2.480271G	38	1
36.622	2.443729G	2.480351G	38	2

Summary

Mode	Max-SBW (Hz)	Min-SBW (Hz)	Max-SF	Min-SF
802.11b_Nss1_2TX	-	-	-	-
2.4-2.4835GHz	9.695	9.655	7.051	7.022

Max-SBW = Maximumspreading bandwidth; **Min-SBW** = Minimumspreading bandwidth;
Max-SF = Maximumspreading factor; **Min-SF** = Minimumspreading factor;

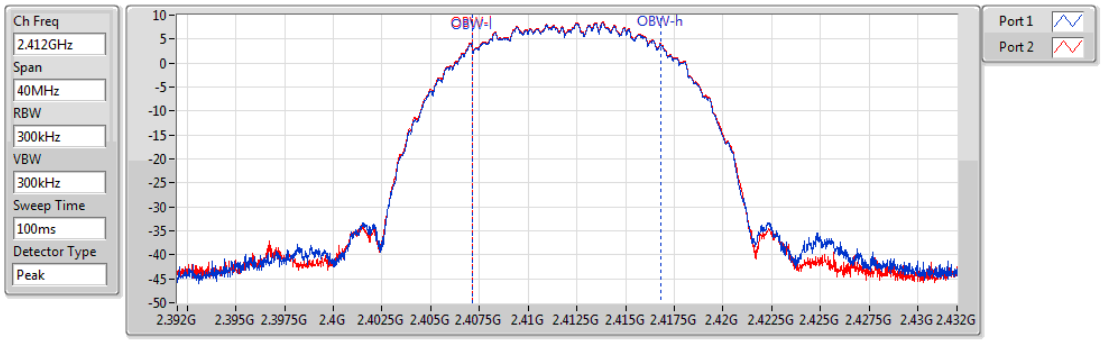
Result

Mode	Result	SBW Limit (MHz)	Symbol Rate (Msps)	SF Limit	P1-SBW (MHz)	P1-SF	P2-SBW (MHz)	P2-SF
802.11b_Nss1_2TX	-	-	-	-	-	-	-	-
2412MHz_Vnom	Pass	0.5	1.375	5	9.675	7.036	9.675	7.036
2412MHz_Vmin	Pass	0.5	1.375	5	9.675	7.036	9.675	7.036
2412MHz_Vmax	Pass	0.5	1.375	5	9.655	7.022	9.675	7.036
2442MHz_Vnom	Pass	0.5	1.375	5	9.655	7.022	9.675	7.036
2442MHz_Vmin	Pass	0.5	1.375	5	9.675	7.036	9.675	7.036
2442MHz_Vmax	Pass	0.5	1.375	5	9.675	7.036	9.675	7.036
2472MHz_Vnom	Pass	0.5	1.375	5	9.675	7.036	9.695	7.051
2472MHz_Vmin	Pass	0.5	1.375	5	9.675	7.036	9.675	7.036
2472MHz_Vmax	Pass	0.5	1.375	5	9.675	7.036	9.675	7.036

P1-SBW = Port 1 spreading bandwidth;**P2-SBW** = Port 2spreading bandwidth;**P3-SBW** = Port 3spreading bandwidth;
P4-OBW = Port 4spreading bandwidth;
P1-SF = Port 1 spreading factor;**P2-SF** = Port 2spreading factor;**P3-SF** = Port 3spreading factor;**P4-SF** = Port 4spreading factor;

802.11b_Nss1_2TX **SBW**

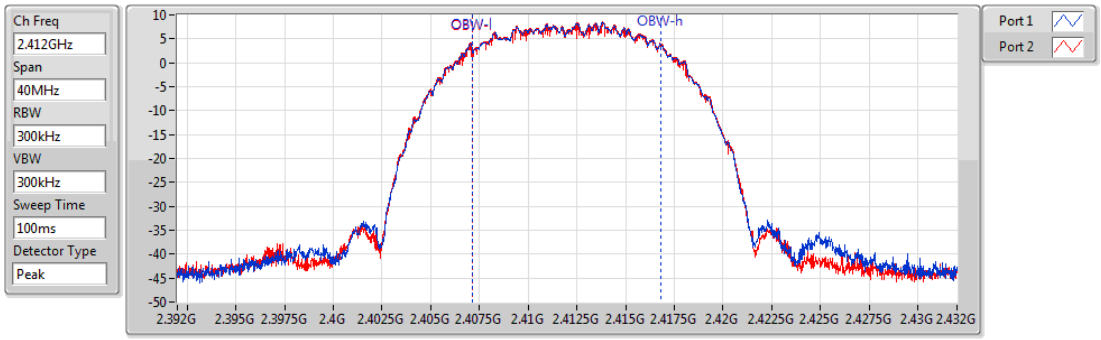
2412MHz_Vnom



SBW(Hz)	Fl-SBW(Hz)	Fh-SBW(Hz)	SBW Limit(H	Symbol Rate	SF	SF Limit	Port
9.675	2.407122G	2.416798G	0.5	1.375	7.036	5	1
9.675	2.407122G	2.416798G	0.5	1.375	7.036	5	2

802.11b_Nss1_2TX **SBW**

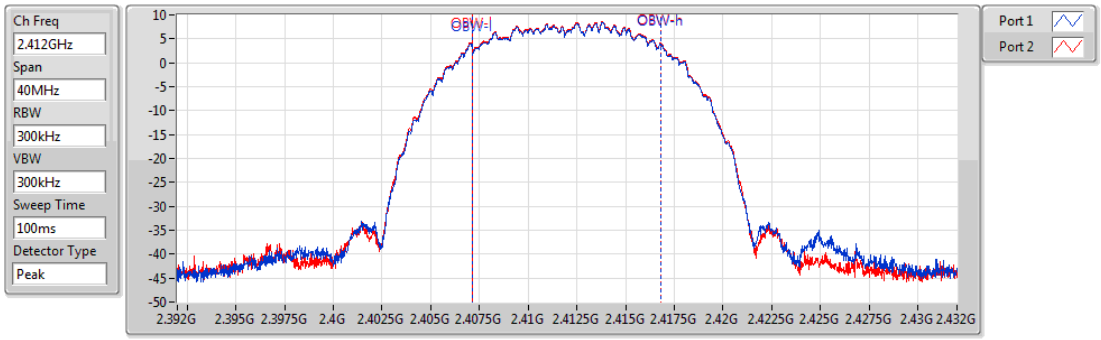
2412MHz_Vmin



SBW(Hz)	Fl-SBW(Hz)	Fh-SBW(Hz)	SBW Limit(H	Symbol Rate	SF	SF Limit	Port
9.675	2.407122G	2.416798G	0.5	1.375	7.036	5	1
9.675	2.407142G	2.416818G	0.5	1.375	7.036	5	2

802.11b_Nss1_2TX **SBW**

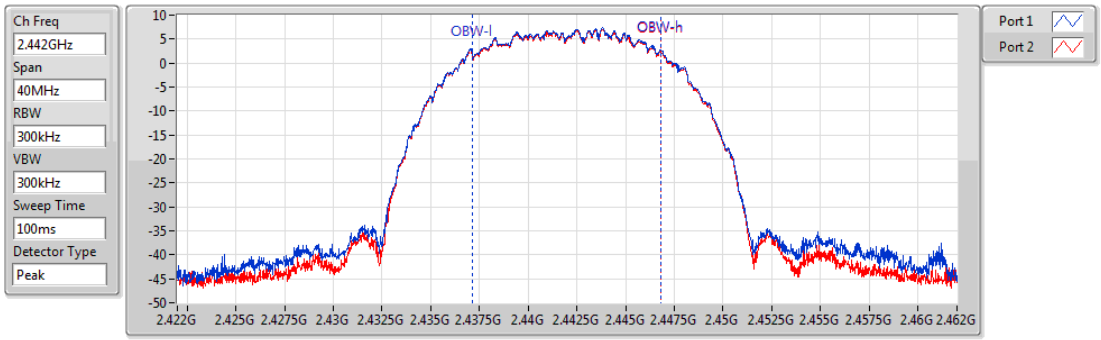
2412MHz_Vmax



SBW(Hz)	Fl-SBW(Hz)	Fh-SBW(Hz)	SBW Limit(H	Symbol Rate	SF	SF Limit	Port
9.655	2.407142G	2.416798G	0.5	1.375	7.022	5	1
9.675	2.407122G	2.416798G	0.5	1.375	7.036	5	2

802.11b_Nss1_2TX **SBW**

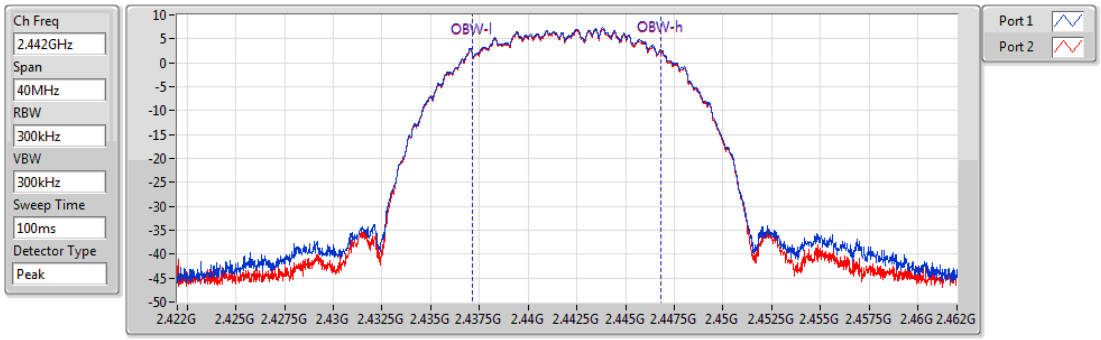
2442MHz_Vnom



SBW(Hz)	Fl-SBW(Hz)	Fh-SBW(Hz)	SBW Limit(H	Symbol Rate	SF	SF Limit	Port
9.655	2.437142G	2.446798G	0.5	1.375	7.022	5	1
9.675	2.437122G	2.446798G	0.5	1.375	7.036	5	2

802.11b_Nss1_2TX **SBW**

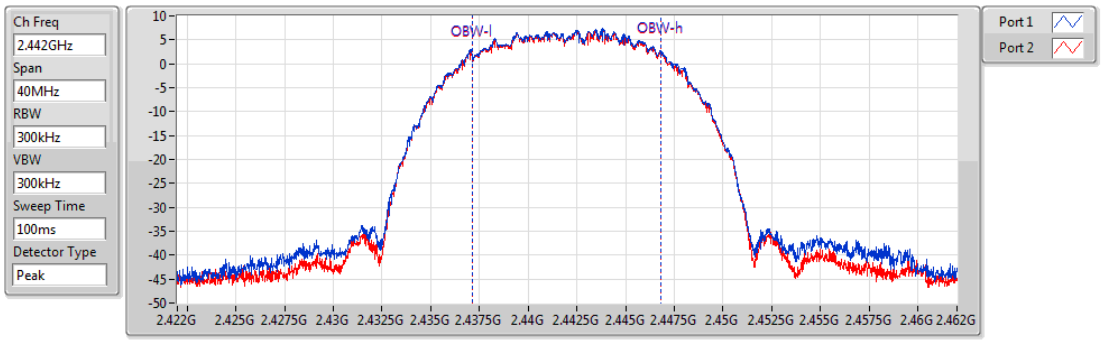
2442MHz_Vmin



SBW(Hz)	Fl-SBW(Hz)	Fh-SBW(Hz)	SBW Limit(H	Symbol Rate	SF	SF Limit	Port
9.675	2.437122G	2.446798G	0.5	1.375	7.036	5	1
9.675	2.437122G	2.446798G	0.5	1.375	7.036	5	2

802.11b_Nss1_2TX **SBW**

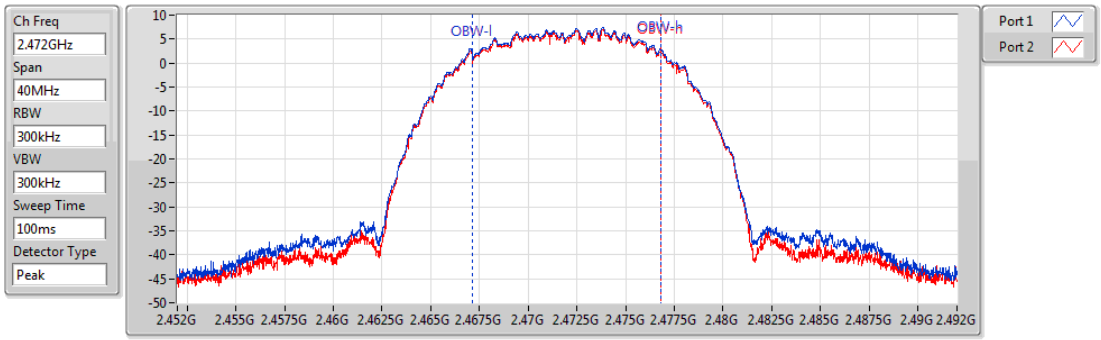
2442MHz_Vmax



SBW(Hz)	Fl-SBW(Hz)	Fh-SBW(Hz)	SBW Limit(H	Symbol Rate	SF	SF Limit	Port
9.675	2.437122G	2.446798G	0.5	1.375	7.036	5	1
9.675	2.437122G	2.446798G	0.5	1.375	7.036	5	2

802.11b_Nss1_2TX **SBW**

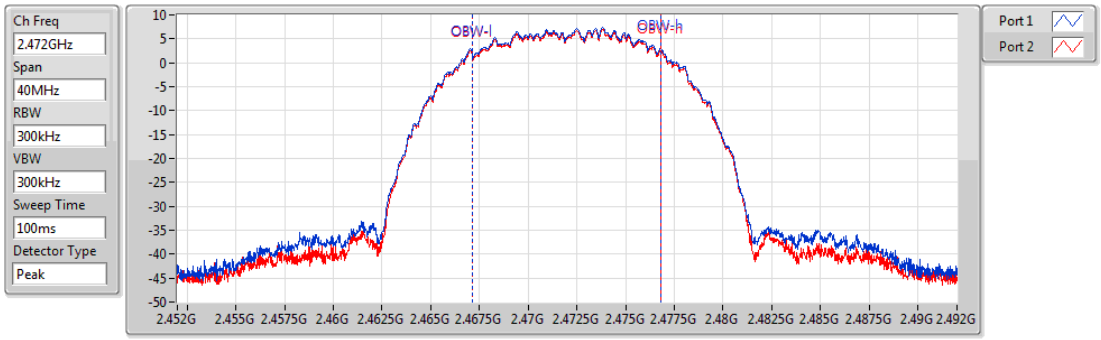
2472MHz_Vnom



SBW(Hz)	Fl-SBW(Hz)	Fh-SBW(Hz)	SBW Limit(H	Symbol Rate	SF	SF Limit	Port
9.675	2.467142G	2.476818G	0.5	1.375	7.036	5	1
9.695	2.467122G	2.476818G	0.5	1.375	7.051	5	2

802.11b_Nss1_2TX **SBW**

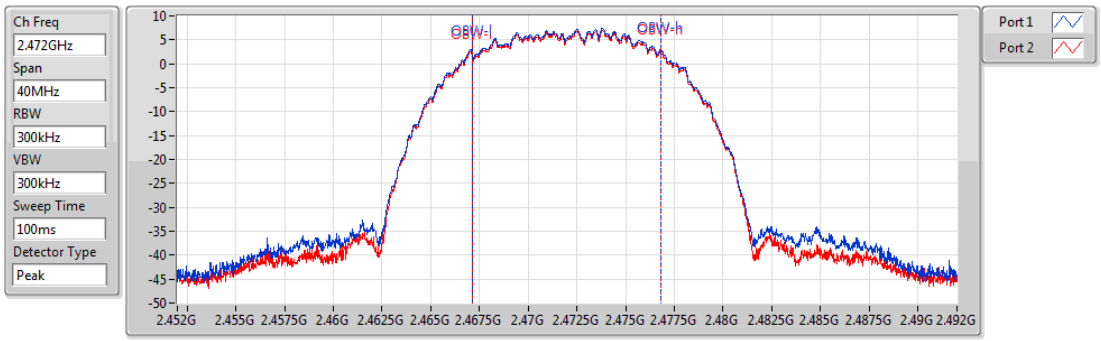
2472MHz_Vmin



SBW(Hz)	Fl-SBW(Hz)	Fh-SBW(Hz)	SBW Limit(H	Symbol Rate	SF	SF Limit	Port
9.675	2.467142G	2.476818G	0.5	1.375	7.036	5	1
9.675	2.467142G	2.476818G	0.5	1.375	7.036	5	2

802.11b_Nss1_2TX **SBW**

2472MHz_Vmax



SBW(Hz)	Fl-SBW(Hz)	Fh-SBW(Hz)	SBW Limit(H	Symbol Rate	SF	SF Limit	Port
9.675	2.467142G	2.476818G	0.5	1.375	7.036	5	1
9.675	2.467142G	2.476818G	0.5	1.375	7.036	5	2

Summary

Mode	Result	F-Start (MHz)	F-Stop (MHz)	RBW (Hz)	Freq (MHz)	Psum (dBm)	Psum (uW)	Limit (dBm)	Limit (uW)	Margin (dB)	Loss (dB)	P1 (dBm)	P1 (uW)	P2 (dBm)	P2 (uW)
802.11n HT40_Nss1,(MCS0)_2TX	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2.4-2.4835GHz	Pass	2496.5	12500	1M	2497.75	-32.51	0.56047	-26.02	2.5	-6.49	1.50	-36.42	0.22827	-34.79	0.3322

Result

Mode	Result	F-Start (MHz)	F-Stop (MHz)	RBW (Hz)	Freq (MHz)	Psum (dBm)	Psum (uW)	Limit (dBm)	Limit (uW)	Margin (dB)	Loss (dB)	P1 (dBm)	P1 (uW)	P2 (dBm)	P2 (uW)
802.11b_Nss1_2TX	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2412MHz_Vnom	Pass	30	2387	1M	2387	-41.50	0.07082	-26.02	2.5	-15.48	1.53	-44.58	0.03481	-44.44	0.03601
2412MHz_Vnom	Pass	2387	2400	1M	2399.974	-37.64	0.17235	-16.02	25	-21.62	1.54	-40.02	0.0996	-41.38	0.07275
2412MHz_Vnom	Pass	2483.5	2496.5	1M	2485.814	-41.88	0.06493	-16.02	25	-25.85	1.56	-44.88	0.03253	-44.89	0.0324
2412MHz_Vnom	Pass	2496.5	12500	1M	4814.811	-39.17	0.12111	-26.02	2.5	-13.15	1.79	-42.67	0.05403	-41.73	0.06708
2412MHz_Vnom	Pass	2496.5	12500	1M	12498.75	-33.82	0.41542	-26.02	2.5	-7.79	5.75	-37.44	0.18043	-36.29	0.23499
2412MHz_Vmin	Pass	30	2387	1M	2387	-41.14	0.07684	-26.02	2.5	-15.12	1.53	-44.59	0.03478	-43.76	0.04206
2412MHz_Vmin	Pass	2387	2400	1M	2399.974	-37.60	0.17386	-16.02	25	-21.58	1.54	-39.99	0.10029	-41.33	0.07357
2412MHz_Vmin	Pass	2483.5	2496.5	1M	2490.338	-41.87	0.06494	-16.02	25	-25.85	1.56	-44.83	0.03286	-44.94	0.03209
2412MHz_Vmin	Pass	2496.5	12500	1M	4814.811	-38.92	0.12817	-26.02	2.5	-12.90	1.79	-41.88	0.06487	-41.99	0.0633
2412MHz_Vmin	Pass	2496.5	12500	1M	10534.312	-33.88	0.4093	-26.02	2.5	-7.86	4.69	-36.85	0.20666	-36.93	0.20265
2412MHz_Vmax	Pass	30	2387	1M	2387	-41.54	0.0701	-26.02	2.5	-15.52	1.53	-45.21	0.03014	-43.98	0.03995
2412MHz_Vmax	Pass	2387	2400	1M	2399.948	-37.65	0.17177	-16.02	25	-21.63	1.54	-40.02	0.09953	-41.41	0.07223
2412MHz_Vmax	Pass	2483.5	2496.5	1M	2485.424	-41.92	0.06423	-16.02	25	-25.90	1.56	-44.84	0.03278	-45.02	0.03145
2412MHz_Vmax	Pass	2496.5	12500	1M	4826.065	-38.96	0.12717	-26.02	2.5	-12.94	1.79	-42.07	0.0621	-41.87	0.06507
2412MHz_Vmax	Pass	2496.5	12500	1M	12462.487	-33.89	0.40827	-26.02	2.5	-7.87	5.73	-37.11	0.19469	-36.70	0.21358
2442MHz_Vnom	Pass	30	2387	1M	2306.862	-41.81	0.06587	-26.02	2.5	-15.79	1.50	-44.84	0.03281	-44.81	0.03305
2442MHz_Vnom	Pass	2387	2400	1M	2394.02	-42.03	0.06267	-16.02	25	-26.01	1.54	-44.94	0.03206	-45.14	0.03061
2442MHz_Vnom	Pass	2483.5	2496.5	1M	2483.89	-41.64	0.06852	-16.02	25	-25.62	1.56	-44.71	0.03378	-44.59	0.03474
2442MHz_Vnom	Pass	2496.5	12500	1M	4878.583	-38.98	0.12638	-26.02	2.5	-12.96	1.79	-41.83	0.06562	-42.16	0.06076
2442MHz_Vnom	Pass	2496.5	12500	1M	12491.247	-33.68	0.42836	-26.02	2.5	-7.66	5.75	-36.57	0.22019	-36.82	0.20816
2442MHz_Vmin	Pass	30	2387	1M	2357.537	-41.86	0.06515	-26.02	2.5	-15.84	1.52	-44.89	0.03246	-44.86	0.03269
2442MHz_Vmin	Pass	2387	2400	1M	2393.968	-42.00	0.06305	-16.02	25	-25.98	1.54	-45.01	0.03152	-45.01	0.03153
2442MHz_Vmin	Pass	2483.5	2496.5	1M	2483.994	-41.67	0.06804	-16.02	25	-25.65	1.56	-44.57	0.03494	-44.80	0.03311
2442MHz_Vmin	Pass	2496.5	12500	1M	4884.836	-39.33	0.11666	-26.02	2.5	-13.31	1.79	-42.57	0.05536	-42.13	0.06129
2442MHz_Vmin	Pass	2496.5	12500	1M	12467.489	-33.59	0.43729	-26.02	2.5	-7.57	5.73	-36.48	0.22474	-36.73	0.21255
2442MHz_Vmax	Pass	30	2387	1M	2346.931	-41.68	0.0679	-26.02	2.5	-15.66	1.52	-44.72	0.03371	-44.66	0.03419
2442MHz_Vmax	Pass	2387	2400	1M	2394.202	-41.99	0.06327	-16.02	25	-25.97	1.54	-44.90	0.03236	-45.10	0.03091
2442MHz_Vmax	Pass	2483.5	2496.5	1M	2484.02	-41.68	0.06788	-16.02	25	-25.66	1.56	-44.69	0.03395	-44.69	0.03392
2442MHz_Vmax	Pass	2496.5	12500	1M	4884.836	-39.02	0.12545	-26.02	2.5	-12.99	1.79	-42.07	0.06208	-41.98	0.06337
2442MHz_Vmax	Pass	2496.5	12500	1M	12494.998	-33.65	0.4312	-26.02	2.5	-7.63	5.75	-36.47	0.22518	-36.86	0.20602
2472MHz_Vnom	Pass	30	2387	1M	1235.605	-41.74	0.06696	-26.02	2.5	-15.72	1.05	-44.58	0.03481	-44.93	0.03215
2472MHz_Vnom	Pass	2387	2400	1M	2392.434	-42.36	0.05804	-16.02	25	-26.34	1.54	-45.34	0.02926	-45.41	0.02878
2472MHz_Vnom	Pass	2483.5	2496.5	1M	2484.93	-33.90	0.40781	-16.02	25	-17.87	1.56	-36.61	0.21837	-37.23	0.18944
2472MHz_Vnom	Pass	2496.5	12500	1M	4936.104	-38.79	0.13208	-26.02	2.5	-12.77	1.80	-42.38	0.05782	-41.29	0.07426
2472MHz_Vnom	Pass	2496.5	12500	1M	10511.804	-33.83	0.41446	-26.02	2.5	-7.80	4.68	-36.77	0.21018	-36.90	0.20427
2472MHz_Vmin	Pass	30	2387	1M	2325.718	-41.73	0.06715	-26.02	2.5	-15.71	1.51	-45.25	0.02983	-44.28	0.03732
2472MHz_Vmin	Pass	2387	2400	1M	2388.976	-42.35	0.05818	-16.02	25	-26.33	1.53	-45.44	0.02856	-45.28	0.02962
2472MHz_Vmin	Pass	2483.5	2496.5	1M	2483.526	-33.81	0.41558	-16.02	25	-17.79	1.56	-36.41	0.2287	-37.28	0.18688
2472MHz_Vmin	Pass	2496.5	12500	1M	4936.104	-39.17	0.12116	-26.02	2.5	-13.15	1.80	-42.68	0.054	-41.73	0.06715
2472MHz_Vmin	Pass	2496.5	12500	1M	10548.067	-33.89	0.40821	-26.02	2.5	-7.87	4.69	-36.91	0.20382	-36.90	0.20439
2472MHz_Vmax	Pass	30	2387	1M	2343.396	-41.74	0.06705	-26.02	2.5	-15.72	1.52	-44.37	0.0366	-45.16	0.03045
2472MHz_Vmax	Pass	2387	2400	1M	2388.716	-42.39	0.05769	-16.02	25	-26.37	1.53	-45.57	0.02774	-45.24	0.02995
2472MHz_Vmax	Pass	2483.5	2496.5	1M	2484.982	-33.77	0.4193	-16.02	25	-17.75	1.56	-36.44	0.22699	-37.16	0.19231
2472MHz_Vmax	Pass	2496.5	12500	1M	4947.358	-39.14	0.12187	-26.02	2.5	-13.12	1.80	-41.89	0.06477	-42.43	0.0571
2472MHz_Vmax	Pass	2496.5	12500	1M	12497.499	-33.93	0.40454	-26.02	2.5	-7.91	5.75	-37.16	0.1924	-36.73	0.21215
802.11g_Nss1_2TX	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2412MHz_Vnom	Pass	30	2387	1M	2387	-36.94	0.20221	-26.02	2.5	-10.92	1.54	-39.07	0.12385	-41.06	0.07835
2412MHz_Vnom	Pass	2387	2400	1M	2399.974	-26.61	2.18406	-16.02	25	-10.59	1.55	-30.19	0.95616	-29.11	1.22789
2412MHz_Vnom	Pass	2483.5	2496.5	1M	2484.8	-41.60	0.06921	-16.02	25	-25.58	1.57	-44.47	0.03572	-44.75	0.03349
2412MHz_Vnom	Pass	2496.5	12500	1M	4813.561	-38.84	0.13077	-26.02	2.5	-12.81	1.80	-42.26	0.05946	-41.47	0.07131
2412MHz_Vnom	Pass	2496.5	12500	1M	10519.307	-34.07	0.39177	-26.02	2.5	-8.05	4.69	-37.12	0.194	-37.04	0.19777
2412MHz_Vmin	Pass	30	2387	1M	2387	-36.19	0.2403	-26.02	2.5	-10.17	1.54	-37.84	0.16443	-41.20	0.07587

Mode	Result	F-Start (MHz)	F-Stop (MHz)	RBW (Hz)	Freq (MHz)	Psum (dBm)	Psum (uW)	Limit (dBm)	Limit (uW)	Margin (dB)	Loss (dB)	P1 (dBm)	P1 (uW)	P2 (dBm)	P2 (uW)
2412MHz_Vmin	Pass	2387	2400	1M	2399.974	-26.68	2.1466	-16.02	25	-10.66	1.55	-30.20	0.95553	-29.24	1.19107
2412MHz_Vmin	Pass	2483.5	2496.5	1M	2484.072	-41.61	0.06901	-16.02	25	-25.59	1.57	-44.51	0.03537	-44.73	0.03364
2412MHz_Vmin	Pass	2496.5	12500	1M	4821.063	-39.09	0.12337	-26.02	2.5	-13.07	1.80	-41.90	0.06458	-42.31	0.0588
2412MHz_Vmin	Pass	2496.5	12500	1M	10528.06	-33.62	0.43468	-26.02	2.5	-7.60	4.69	-37.15	0.19297	-36.17	0.24171
2412MHz_Vmax	Pass	30	2387	1M	2387	-35.44	0.28597	-26.02	2.5	-9.42	1.54	-37.11	0.19434	-40.38	0.09163
2412MHz_Vmax	Pass	2387	2400	1M	2399.87	-26.69	2.14466	-16.02	25	-10.67	1.55	-30.35	0.9219	-29.13	1.22277
2412MHz_Vmax	Pass	2483.5	2496.5	1M	2485.58	-41.61	0.06906	-16.02	25	-25.59	1.57	-44.52	0.0353	-44.72	0.03376
2412MHz_Vmax	Pass	2496.5	12500	1M	4814.811	-38.80	0.13191	-26.02	2.5	-12.78	1.80	-42.02	0.06281	-41.61	0.0691
2412MHz_Vmax	Pass	2496.5	12500	1M	10535.563	-33.66	0.4307	-26.02	2.5	-7.64	4.70	-36.56	0.22056	-36.78	0.21013
2442MHz_Vnom	Pass	30	2387	1M	1221.464	-41.58	0.06955	-26.02	2.5	-15.56	1.05	-44.85	0.0327	-44.34	0.03685
2442MHz_Vnom	Pass	2387	2400	1M	2399.818	-41.20	0.07586	-16.02	25	-25.18	1.55	-44.18	0.03822	-44.24	0.03764
2442MHz_Vnom	Pass	2483.5	2496.5	1M	2483.734	-40.29	0.09358	-16.02	25	-24.27	1.57	-43.10	0.04898	-43.51	0.0446
2442MHz_Vnom	Pass	2496.5	12500	1M	4887.337	-39.13	0.12214	-26.02	2.5	-13.11	1.81	-42.66	0.0542	-41.68	0.06794
2442MHz_Vnom	Pass	2496.5	12500	1M	10528.06	-33.72	0.42496	-26.02	2.5	-7.70	4.69	-36.62	0.21757	-36.83	0.20739
2442MHz_Vmin	Pass	30	2387	1M	2385.822	-41.16	0.07658	-26.02	2.5	-15.14	1.54	-44.09	0.03901	-44.25	0.03757
2442MHz_Vmin	Pass	2387	2400	1M	2399.922	-41.17	0.0764	-16.02	25	-25.15	1.55	-44.07	0.03914	-44.29	0.03726
2442MHz_Vmin	Pass	2483.5	2496.5	1M	2483.812	-40.44	0.09042	-16.02	25	-24.42	1.57	-43.43	0.04537	-43.46	0.04504
2442MHz_Vmin	Pass	2496.5	12500	1M	4879.834	-38.93	0.12783	-26.02	2.5	-12.91	1.80	-41.66	0.06828	-42.25	0.05955
2442MHz_Vmin	Pass	2496.5	12500	1M	12497.499	-33.82	0.41479	-26.02	2.5	-7.80	5.76	-36.44	0.22695	-37.26	0.18784
2442MHz_Vmax	Pass	30	2387	1M	2349.288	-41.60	0.0692	-26.02	2.5	-15.58	1.53	-44.60	0.03465	-44.62	0.03455
2442MHz_Vmax	Pass	2387	2400	1M	2399.402	-41.26	0.07483	-16.02	25	-25.24	1.55	-44.07	0.03918	-44.48	0.03565
2442MHz_Vmax	Pass	2483.5	2496.5	1M	2483.734	-40.38	0.09164	-16.02	25	-24.36	1.57	-43.41	0.04557	-43.37	0.04606
2442MHz_Vmax	Pass	2496.5	12500	1M	4883.585	-38.94	0.12758	-26.02	2.5	-12.92	1.80	-41.67	0.06815	-42.26	0.05943
2442MHz_Vmax	Pass	2496.5	12500	1M	12496.249	-33.81	0.41613	-26.02	2.5	-7.79	5.76	-36.32	0.23355	-37.39	0.18258
2472MHz_Vnom	Pass	30	2387	1M	2313.933	-41.70	0.06761	-26.02	2.5	-15.68	1.51	-45.01	0.03155	-44.43	0.03606
2472MHz_Vnom	Pass	2387	2400	1M	2398.648	-42.12	0.06138	-16.02	25	-26.10	1.55	-45.04	0.0313	-45.22	0.03007
2472MHz_Vnom	Pass	2483.5	2496.5	1M	2483.864	-25.98	2.52324	-16.02	25	-9.96	1.57	-28.66	1.36106	-29.35	1.16218
2472MHz_Vnom	Pass	2496.5	12500	1M	2496.5	-33.59	0.43712	-26.02	2.5	-7.57	1.57	-34.84	0.32773	-39.61	0.10939
2472MHz_Vnom	Pass	2496.5	12500	1M	4952.359	-39.21	0.11995	-26.02	2.5	-13.19	1.81	-41.94	0.06397	-42.52	0.05598
2472MHz_Vmin	Pass	30	2387	1M	1235.605	-41.65	0.06835	-26.02	2.5	-15.63	1.06	-44.84	0.03278	-44.49	0.03557
2472MHz_Vmin	Pass	2387	2400	1M	2396.1	-42.11	0.06147	-16.02	25	-26.09	1.55	-45.10	0.03093	-45.15	0.03054
2472MHz_Vmin	Pass	2483.5	2496.5	1M	2483.526	-26.02	2.50181	-16.02	25	-10.00	1.57	-28.85	1.30319	-29.21	1.19862
2472MHz_Vmin	Pass	2496.5	12500	1M	4936.104	-39.09	0.12324	-26.02	2.5	-13.07	1.81	-42.07	0.0621	-42.14	0.06114
2472MHz_Vmin	Pass	2496.5	12500	1M	12500	-33.90	0.40717	-26.02	2.5	-7.88	5.76	-36.74	0.21196	-37.09	0.19521
2472MHz_Vmax	Pass	30	2387	1M	2308.041	-41.64	0.0686	-26.02	2.5	-15.62	1.51	-44.27	0.03745	-45.06	0.03116
2472MHz_Vmax	Pass	2387	2400	1M	2390.588	-42.11	0.06157	-16.02	25	-26.09	1.55	-45.07	0.03113	-45.17	0.03043
2472MHz_Vmax	Pass	2483.5	2496.5	1M	2483.526	-26.05	2.48533	-16.02	25	-10.03	1.57	-28.80	1.31836	-29.33	1.16697
2472MHz_Vmax	Pass	2496.5	12500	1M	4953.61	-38.89	0.12911	-26.02	2.5	-12.87	1.81	-42.33	0.05847	-41.51	0.07064
2472MHz_Vmax	Pass	2496.5	12500	1M	12500	-33.83	0.41436	-26.02	2.5	-7.81	5.76	-36.66	0.21596	-37.02	0.1984
802.11n HT20_Nss1,(MCS0)_2TX	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2412MHz_Vnom	Pass	30	2387	1M	2385.822	-37.70	0.17001	-26.02	2.5	-11.67	1.53	-40.08	0.09812	-41.43	0.07189
2412MHz_Vnom	Pass	2387	2400	1M	2399.974	-29.62	1.09188	-16.02	25	-13.60	1.54	-33.34	0.46371	-32.02	0.62817
2412MHz_Vnom	Pass	2483.5	2496.5	1M	2486.724	-41.60	0.06916	-16.02	25	-25.58	1.56	-44.53	0.03523	-44.69	0.03393
2412MHz_Vnom	Pass	2496.5	12500	1M	4818.562	-38.81	0.13166	-26.02	2.5	-12.78	1.79	-41.93	0.0641	-41.70	0.06756
2412MHz_Vnom	Pass	2496.5	12500	1M	10535.563	-33.95	0.40234	-26.02	2.5	-7.93	4.69	-37.38	0.183	-36.59	0.21934
2412MHz_Vmin	Pass	30	2387	1M	2385.822	-37.74	0.16812	-26.02	2.5	-11.72	1.53	-40.39	0.09135	-41.15	0.07677
2412MHz_Vmin	Pass	2387	2400	1M	2399.922	-29.75	1.05822	-16.02	25	-13.73	1.54	-33.45	0.45195	-32.17	0.60627
2412MHz_Vmin	Pass	2483.5	2496.5	1M	2484.696	-41.61	0.06901	-16.02	25	-25.59	1.56	-44.61	0.03463	-44.64	0.03439
2412MHz_Vmin	Pass	2496.5	12500	1M	4824.815	-38.62	0.13751	-26.02	2.5	-12.60	1.79	-41.39	0.07264	-41.88	0.06486
2412MHz_Vmin	Pass	2496.5	12500	1M	12483.744	-33.86	0.41104	-26.02	2.5	-7.84	5.74	-36.54	0.22203	-37.24	0.18901
2412MHz_Vmax	Pass	30	2387	1M	2387	-37.41	0.18149	-26.02	2.5	-11.39	1.53	-40.02	0.09955	-40.87	0.08194
2412MHz_Vmax	Pass	2387	2400	1M	2399.662	-29.73	1.06426	-16.02	25	-13.71	1.54	-33.54	0.44214	-32.06	0.62212
2412MHz_Vmax	Pass	2483.5	2496.5	1M	2483.708	-41.63	0.06875	-16.02	25	-25.61	1.56	-44.65	0.03427	-44.62	0.03448
2412MHz_Vmax	Pass	2496.5	12500	1M	4824.815	-38.62	0.13729	-26.02	2.5	-12.60	1.79	-41.98	0.06341	-41.31	0.07389

Mode	Result	F-Start (MHz)	F-Stop (MHz)	RBW (Hz)	Freq (MHz)	Psum (dBm)	Psum (uW)	Limit (dBm)	Limit (uW)	Margin (dB)	Loss (dB)	P1 (dBm)	P1 (uW)	P2 (dBm)	P2 (uW)
2412MHz_Vmax	Pass	2496.5	12500	1M	10540.564	-33.80	0.41659	-26.02	2.5	-7.78	4.69	-36.95	0.2018	-36.68	0.21479
2442MHz_Vnom	Pass	30	2387	1M	2350.466	-41.68	0.06795	-26.02	2.5	-15.66	1.52	-44.40	0.0363	-45.00	0.03165
2442MHz_Vnom	Pass	2387	2400	1M	2399.792	-41.20	0.07581	-16.02	25	-25.18	1.54	-44.05	0.03936	-44.38	0.03646
2442MHz_Vnom	Pass	2483.5	2496.5	1M	2484.566	-40.72	0.08475	-16.02	25	-24.70	1.56	-43.50	0.04463	-43.97	0.04012
2442MHz_Vnom	Pass	2496.5	12500	1M	4891.088	-39.26	0.11857	-26.02	2.5	-13.24	1.80	-41.85	0.06529	-42.73	0.05328
2442MHz_Vnom	Pass	2496.5	12500	1M	12467.489	-33.89	0.40869	-26.02	2.5	-7.87	5.73	-37.55	0.17586	-36.33	0.23284
2442MHz_Vmin	Pass	30	2387	1M	2323.361	-41.64	0.06861	-26.02	2.5	-15.62	1.51	-44.89	0.03243	-44.42	0.03618
2442MHz_Vmin	Pass	2387	2400	1M	2399.428	-41.22	0.07543	-16.02	25	-25.20	1.54	-44.14	0.03857	-44.33	0.03686
2442MHz_Vmin	Pass	2483.5	2496.5	1M	2483.76	-40.75	0.08414	-16.02	25	-24.73	1.56	-43.69	0.04274	-43.83	0.04139
2442MHz_Vmin	Pass	2496.5	12500	1M	4877.333	-39.21	0.12006	-26.02	2.5	-13.19	1.79	-41.66	0.06817	-42.85	0.05189
2442MHz_Vmin	Pass	2496.5	12500	1M	10536.813	-33.47	0.45001	-26.02	2.5	-7.45	4.69	-36.74	0.21184	-36.23	0.23817
2442MHz_Vmax	Pass	30	2387	1M	2332.789	-41.71	0.06749	-26.02	2.5	-15.69	1.51	-44.73	0.03365	-44.71	0.03384
2442MHz_Vmax	Pass	2387	2400	1M	2399.974	-41.25	0.075	-16.02	25	-25.23	1.54	-44.07	0.03914	-44.45	0.03586
2442MHz_Vmax	Pass	2483.5	2496.5	1M	2483.76	-40.75	0.0842	-16.02	25	-24.73	1.56	-43.60	0.04365	-43.92	0.04055
2442MHz_Vmax	Pass	2496.5	12500	1M	4889.837	-39.30	0.11759	-26.02	2.5	-13.28	1.80	-42.28	0.05917	-42.33	0.05842
2442MHz_Vmax	Pass	2496.5	12500	1M	12463.737	-33.72	0.42462	-26.02	2.5	-7.70	5.73	-36.66	0.216	-36.81	0.20862
2472MHz_Vnom	Pass	30	2387	1M	2318.647	-41.74	0.06702	-26.02	2.5	-15.72	1.50	-44.92	0.03223	-44.59	0.03479
2472MHz_Vnom	Pass	2387	2400	1M	2399.74	-42.08	0.06201	-16.02	25	-26.05	1.54	-44.96	0.03193	-45.22	0.03008
2472MHz_Vnom	Pass	2483.5	2496.5	1M	2483.552	-28.04	1.56964	-16.02	25	-12.02	1.56	-32.20	0.60248	-30.15	0.96715
2472MHz_Vnom	Pass	2496.5	12500	1M	4937.354	-38.88	0.12931	-26.02	2.5	-12.86	1.80	-42.18	0.06049	-41.62	0.06882
2472MHz_Vnom	Pass	2496.5	12500	1M	10545.566	-33.80	0.41668	-26.02	2.5	-7.78	4.69	-36.90	0.2041	-36.72	0.21258
2472MHz_Vmin	Pass	30	2387	1M	2381.108	-41.59	0.06933	-26.02	2.5	-15.57	1.53	-44.53	0.03524	-44.67	0.03409
2472MHz_Vmin	Pass	2387	2400	1M	2392.772	-42.12	0.06135	-16.02	25	-26.10	1.54	-45.07	0.03114	-45.20	0.0302
2472MHz_Vmin	Pass	2483.5	2496.5	1M	2483.552	-28.06	1.5638	-16.02	25	-12.04	1.56	-32.29	0.59024	-30.12	0.97356
2472MHz_Vmin	Pass	2496.5	12500	1M	4948.608	-39.16	0.1213	-26.02	2.5	-13.14	1.80	-41.88	0.0648	-42.48	0.0565
2472MHz_Vmin	Pass	2496.5	12500	1M	10529.31	-33.51	0.44576	-26.02	2.5	-7.49	4.68	-37.09	0.19525	-36.01	0.25051
2472MHz_Vmax	Pass	30	2387	1M	2341.039	-41.62	0.06881	-26.02	2.5	-15.60	1.51	-44.66	0.03417	-44.60	0.03464
2472MHz_Vmax	Pass	2387	2400	1M	2395.944	-42.05	0.06244	-16.02	25	-26.02	1.54	-45.23	0.03001	-44.89	0.03243
2472MHz_Vmax	Pass	2483.5	2496.5	1M	2483.526	-28.18	1.52103	-16.02	25	-12.16	1.56	-32.40	0.57491	-30.24	0.94612
2472MHz_Vmax	Pass	2496.5	12500	1M	4944.857	-38.87	0.12962	-26.02	2.5	-12.85	1.80	-42.15	0.0609	-41.63	0.06872
2472MHz_Vmax	Pass	2496.5	12500	1M	10521.808	-33.66	0.43056	-26.02	2.5	-7.64	4.68	-36.83	0.20754	-36.52	0.22302
802.11n HT40_Nss1,(MCS0)_2TX	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2422MHz_Vnom	Pass	30	2387	1M	2384.643	-34.48	0.35681	-26.02	2.5	-8.45	1.47	-38.63	0.1371	-36.58	0.21971
2422MHz_Vnom	Pass	2387	2400	1M	2399.948	-31.21	0.75615	-16.02	25	-15.19	1.48	-35.09	0.30966	-33.50	0.44649
2422MHz_Vnom	Pass	2483.5	2496.5	1M	2483.968	-39.81	0.10446	-16.02	25	-23.79	1.50	-42.77	0.05283	-42.87	0.05162
2422MHz_Vnom	Pass	2496.5	12500	1M	4852.324	-38.90	0.12892	-26.02	2.5	-12.88	1.73	-42.19	0.06044	-41.64	0.06848
2422MHz_Vnom	Pass	2496.5	12500	1M	12453.734	-33.86	0.41107	-26.02	2.5	-7.84	5.66	-36.78	0.21	-36.97	0.20108
2422MHz_Vmin	Pass	30	2387	1M	2384.643	-34.67	0.34084	-26.02	2.5	-8.65	1.47	-38.10	0.15501	-37.31	0.18583
2422MHz_Vmin	Pass	2387	2400	1M	2399.974	-31.32	0.73791	-16.02	25	-15.30	1.48	-35.16	0.30458	-33.63	0.43332
2422MHz_Vmin	Pass	2483.5	2496.5	1M	2484.748	-39.85	0.1034	-16.02	25	-23.83	1.50	-42.98	0.05039	-42.76	0.05301
2422MHz_Vmin	Pass	2496.5	12500	1M	4856.076	-39.19	0.12044	-26.02	2.5	-13.17	1.73	-41.94	0.06394	-42.48	0.0565
2422MHz_Vmin	Pass	2496.5	12500	1M	12487.496	-33.87	0.41062	-26.02	2.5	-7.85	5.68	-37.11	0.19433	-36.65	0.21629
2422MHz_Vmax	Pass	30	2387	1M	2385.822	-34.47	0.35722	-26.02	2.5	-8.45	1.47	-39.36	0.11595	-36.18	0.24127
2422MHz_Vmax	Pass	2387	2400	1M	2399.974	-31.45	0.71671	-16.02	25	-15.43	1.48	-35.56	0.27769	-33.58	0.43902
2422MHz_Vmax	Pass	2483.5	2496.5	1M	2483.812	-39.94	0.10135	-16.02	25	-23.92	1.50	-42.96	0.05058	-42.94	0.05077
2422MHz_Vmax	Pass	2496.5	12500	1M	4832.317	-38.91	0.12857	-26.02	2.5	-12.89	1.73	-41.70	0.06754	-42.14	0.06103
2422MHz_Vmax	Pass	2496.5	12500	1M	12484.995	-33.88	0.4091	-26.02	2.5	-7.86	5.68	-36.60	0.21872	-37.20	0.19038
2442MHz_Vnom	Pass	30	2387	1M	2385.822	-40.06	0.09859	-26.02	2.5	-14.04	1.47	-42.95	0.05074	-43.20	0.04785
2442MHz_Vnom	Pass	2387	2400	1M	2399.792	-36.31	0.23388	-16.02	25	-20.29	1.48	-40.39	0.09136	-38.46	0.14252
2442MHz_Vnom	Pass	2483.5	2496.5	1M	2483.604	-34.86	0.32655	-16.02	25	-18.84	1.50	-38.44	0.14336	-37.37	0.1832
2442MHz_Vnom	Pass	2496.5	12500	1M	4872.331	-39.24	0.11901	-26.02	2.5	-13.22	1.73	-41.75	0.06677	-42.82	0.05225
2442MHz_Vnom	Pass	2496.5	12500	1M	12500	-33.88	0.4097	-26.02	2.5	-7.85	5.69	-36.93	0.20281	-36.84	0.20689
2442MHz_Vmin	Pass	30	2387	1M	2387	-40.12	0.0973	-26.02	2.5	-14.10	1.47	-42.56	0.05545	-43.78	0.04184
2442MHz_Vmin	Pass	2387	2400	1M	2399.922	-36.46	0.22579	-16.02	25	-20.44	1.48	-40.38	0.09164	-38.72	0.13415

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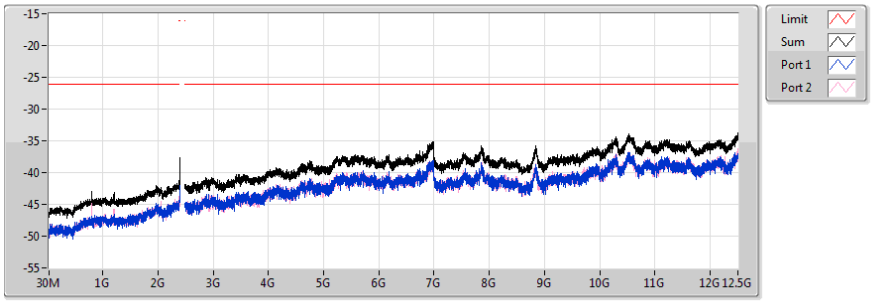
Mode	Result	F-Start (MHz)	F-Stop (MHz)	RBW (Hz)	Freq (MHz)	Psum (dBm)	Psum (uW)	Limit (dBm)	Limit (uW)	Margin (dB)	Loss (dB)	P1 (dBm)	P1 (uW)	P2 (dBm)	P2 (uW)
2442MHz_Vmin	Pass	2483.5	2496.5	1M	2483.578	-34.88	0.32479	-16.02	25	-18.86	1.50	-38.27	0.14893	-37.55	0.17586
2442MHz_Vmin	Pass	2496.5	12500	1M	4876.083	-39.17	0.12113	-26.02	2.5	-13.15	1.73	-41.98	0.06342	-42.39	0.05771
2442MHz_Vmin	Pass	2496.5	12500	1M	10529.31	-33.51	0.44544	-26.02	2.5	-7.49	4.62	-36.50	0.22385	-36.54	0.22159
2442MHz_Vmax	Pass	30	2387	1M	2387	-40.08	0.09818	-26.02	2.5	-14.06	1.47	-42.93	0.05096	-43.26	0.04722
2442MHz_Vmax	Pass	2387	2400	1M	2399.558	-36.42	0.22792	-16.02	25	-20.40	1.48	-40.40	0.09129	-38.64	0.13663
2442MHz_Vmax	Pass	2483.5	2496.5	1M	2483.656	-34.95	0.3201	-16.02	25	-18.93	1.50	-38.63	0.13703	-37.37	0.18308
2442MHz_Vmax	Pass	2496.5	12500	1M	4901.091	-39.09	0.12329	-26.02	2.5	-13.07	1.74	-41.86	0.06515	-42.36	0.05814
2442MHz_Vmax	Pass	2496.5	12500	1M	10560.571	-33.79	0.41736	-26.02	2.5	-7.77	4.64	-37.09	0.19536	-36.54	0.222
2462MHz_Vnom	Pass	30	2387	1M	2376.394	-41.69	0.06777	-26.02	2.5	-15.67	1.47	-44.36	0.03664	-45.07	0.03113
2462MHz_Vnom	Pass	2387	2400	1M	2399.818	-40.70	0.0851	-16.02	25	-24.68	1.48	-43.96	0.0402	-43.48	0.0449
2462MHz_Vnom	Pass	2483.5	2496.5	1M	2483.526	-28.65	1.36593	-16.02	25	-12.63	1.50	-32.38	0.57825	-31.04	0.78768
2462MHz_Vnom	Pass	2496.5	12500	1M	2497.75	-32.60	0.54891	-26.02	2.5	-6.58	1.50	-37.42	0.18128	-34.35	0.36763
2462MHz_Vnom	Pass	2496.5	12500	1M	4903.592	-39.11	0.1227	-26.02	2.5	-13.09	1.74	-41.97	0.06352	-42.28	0.05918
2462MHz_Vmin	Pass	30	2387	1M	2382.286	-41.61	0.06909	-26.02	2.5	-15.59	1.47	-45.18	0.03031	-44.11	0.03878
2462MHz_Vmin	Pass	2387	2400	1M	2399.454	-40.73	0.08458	-16.02	25	-24.71	1.48	-43.81	0.04157	-43.66	0.04301
2462MHz_Vmin	Pass	2483.5	2496.5	1M	2483.526	-28.57	1.38857	-16.02	25	-12.55	1.50	-32.31	0.58808	-30.97	0.80049
2462MHz_Vmin	Pass	2496.5	12500	1M	2497.75	-32.51	0.56047	-26.02	2.5	-6.49	1.50	-36.42	0.22827	-34.79	0.3322
2462MHz_Vmin	Pass	2496.5	12500	1M	4924.85	-39.06	0.12422	-26.02	2.5	-13.04	1.74	-41.44	0.07179	-42.80	0.05243
2462MHz_Vmax	Pass	30	2387	1M	1230.891	-41.44	0.07181	-26.02	2.5	-15.42	0.99	-44.46	0.03583	-44.44	0.03598
2462MHz_Vmax	Pass	2387	2400	1M	2399.818	-40.69	0.08532	-16.02	25	-24.67	1.48	-43.80	0.04166	-43.60	0.04367
2462MHz_Vmax	Pass	2483.5	2496.5	1M	2483.526	-28.64	1.3684	-16.02	25	-12.62	1.50	-32.34	0.58305	-31.05	0.78535
2462MHz_Vmax	Pass	2496.5	12500	1M	2496.5	-32.52	0.55993	-26.02	2.5	-6.50	1.50	-37.05	0.19742	-34.41	0.36251
2462MHz_Vmax	Pass	2496.5	12500	1M	4904.843	-39.07	0.12387	-26.02	2.5	-13.05	1.74	-42.08	0.06201	-42.09	0.06186

802.11b_Nss1_2TX **CSE-TX**

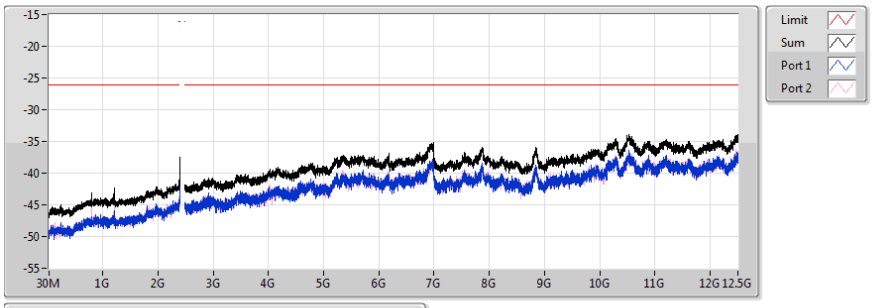
2412MHz_Vnom



Freq(MHz)	Psum(dBm)	Limit(dBm)	Margin(dB)	P1(dBm)	P2(dBm)
2387	-41.50	-26.02	-15.48	-44.58	-44.44
2399.974	-37.64	-16.02	-21.62	-40.02	-41.38
2485.814	-41.88	-16.02	-25.85	-44.88	-44.89
4814.811	-39.17	-26.02	-13.15	-42.67	-41.73
12498.75	-33.82	-26.02	-7.79	-37.44	-36.29

802.11b_Nss1_2TX **CSE-TX**

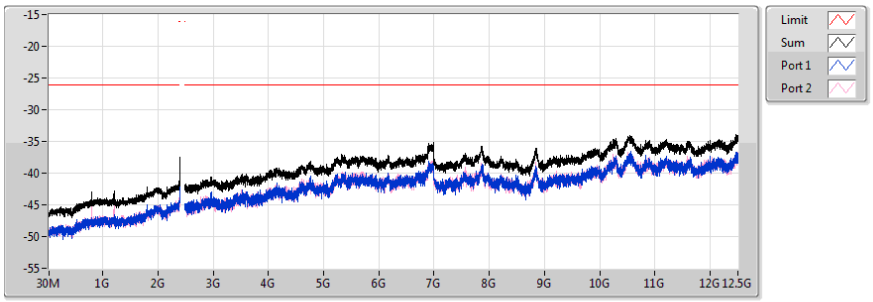
2412MHz_Vmin



Freq(MHz)	Psum(dBm)	Limit(dBm)	Margin(dB)	P1(dBm)	P2(dBm)
2387	-41.14	-26.02	-15.12	-44.59	-43.76
2399.974	-37.60	-16.02	-21.58	-39.99	-41.33
2490.338	-41.87	-16.02	-25.85	-44.83	-44.94
4814.811	-38.92	-26.02	-12.90	-41.88	-41.99
10534.312	-33.88	-26.02	-7.86	-36.85	-36.93

802.11b_Nss1_2TX **CSE-TX**

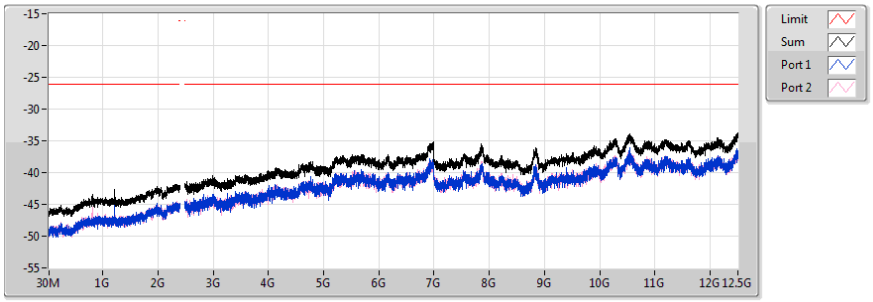
2412MHz_Vmax



Freq(MHz)	Psum(dBm)	Limit(dBm)	Margin(dB)	P1(dBm)	P2(dBm)
2387	-41.54	-26.02	-15.52	-45.21	-43.98
2399.948	-37.65	-16.02	-21.63	-40.02	-41.41
2485.424	-41.92	-16.02	-25.90	-44.84	-45.02
4826.065	-38.96	-26.02	-12.94	-42.07	-41.87
12462.487	-33.89	-26.02	-7.87	-37.11	-36.70

802.11b_Nss1_2TX **CSE-TX**

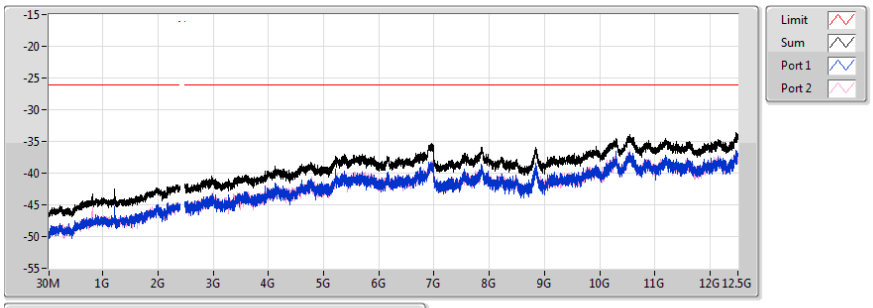
2442MHz_Vnom



Freq(MHz)	Psum(dBm)	Limit(dBm)	Margin(dB)	P1(dBm)	P2(dBm)
2306.862	-41.81	-26.02	-15.79	-44.84	-44.81
2394.02	-42.03	-16.02	-26.01	-44.94	-45.14
2483.89	-41.64	-16.02	-25.62	-44.71	-44.59
4878.583	-38.98	-26.02	-12.96	-41.83	-42.16
12491.247	-33.68	-26.02	-7.66	-36.57	-36.82

802.11b_Nss1_2TX **CSE-TX**

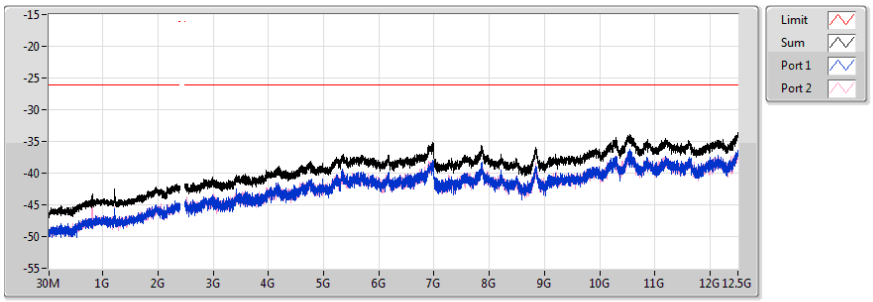
2442MHz_Vmin



Freq(MHz)	Psum(dBm)	Limit(dBm)	Margin(dB)	P1(dBm)	P2(dBm)
2357.537	-41.86	-26.02	-15.84	-44.89	-44.86
2393.968	-42.00	-16.02	-25.98	-45.01	-45.01
2483.994	-41.67	-16.02	-25.65	-44.57	-44.80
4884.836	-39.33	-26.02	-13.31	-42.57	-42.13
12467.489	-33.59	-26.02	-7.57	-36.48	-36.73

802.11b_Nss1_2TX **CSE-TX**

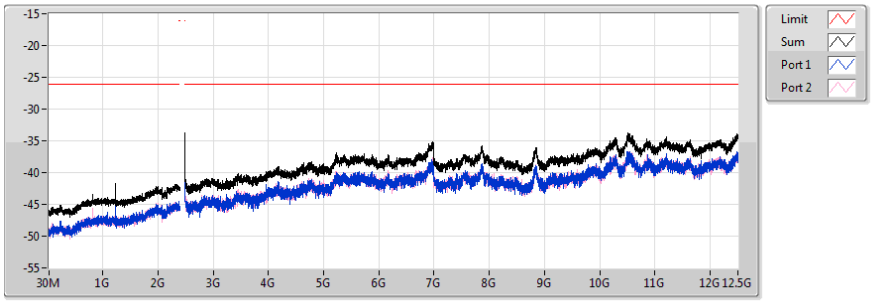
2442MHz_Vmax



Freq(MHz)	Psum(dBm)	Limit(dBm)	Margin(dB)	P1(dBm)	P2(dBm)
2346.931	-41.68	-26.02	-15.66	-44.72	-44.66
2394.202	-41.99	-16.02	-25.97	-44.90	-45.10
2484.02	-41.68	-16.02	-25.66	-44.69	-44.69
4884.836	-39.02	-26.02	-12.99	-42.07	-41.98
12494.998	-33.65	-26.02	-7.63	-36.47	-36.86

802.11b_Nss1_2TX **CSE-TX**

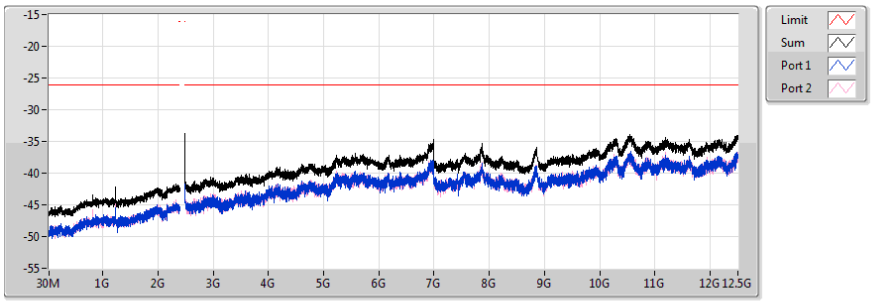
2472MHz_Vnom



Freq(MHz)	Psum(dBm)	Limit(dBm)	Margin(dB)	P1(dBm)	P2(dBm)
1235.605	-41.74	-26.02	-15.72	-44.58	-44.93
2392.434	-42.36	-16.02	-26.34	-45.34	-45.41
2484.93	-33.90	-16.02	-17.87	-36.61	-37.23
4936.104	-38.79	-26.02	-12.77	-42.38	-41.29
10511.804	-33.83	-26.02	-7.80	-36.77	-36.90

802.11b_Nss1_2TX **CSE-TX**

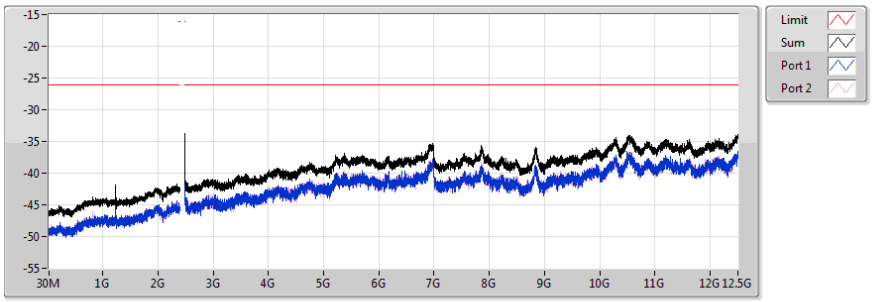
2472MHz_Vmin



Freq(MHz)	Psum(dBm)	Limit(dBm)	Margin(dB)	P1(dBm)	P2(dBm)
2325.718	-41.73	-26.02	-15.71	-45.25	-44.28
2388.976	-42.35	-16.02	-26.33	-45.44	-45.28
2483.526	-33.81	-16.02	-17.79	-36.41	-37.28
4936.104	-39.17	-26.02	-13.15	-42.68	-41.73
10548.067	-33.89	-26.02	-7.87	-36.91	-36.90

802.11b_Nss1_2TX **CSE-TX**

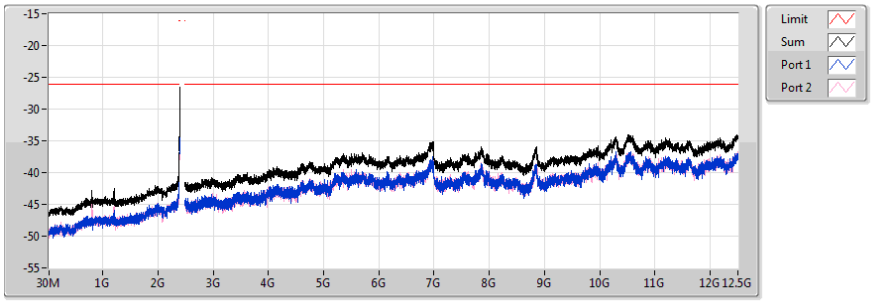
2472MHz_Vmax



Freq(MHz)	Psum(dBm)	Limit(dBm)	Margin(dB)	P1(dBm)	P2(dBm)
2343.396	-41.74	-26.02	-15.72	-44.37	-45.16
2388.716	-42.39	-16.02	-26.37	-45.57	-45.24
2484.982	-33.77	-16.02	-17.75	-36.44	-37.16
4947.358	-39.14	-26.02	-13.12	-41.89	-42.43
12497.499	-33.93	-26.02	-7.91	-37.16	-36.73

802.11g_Nss1_2TX **CSE-TX**

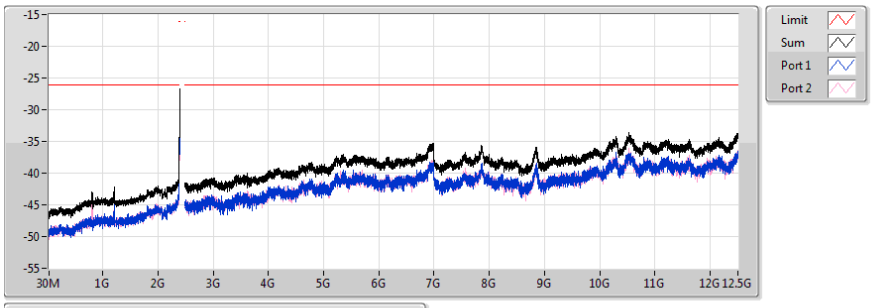
2412MHz_Vnom



Freq(MHz)	Psum(dBm)	Limit(dBm)	Margin(dB)	P1(dBm)	P2(dBm)
2387	-36.94	-26.02	-10.92	-39.07	-41.06
2399.974	-26.61	-16.02	-10.59	-30.19	-29.11
2484.8	-41.60	-16.02	-25.58	-44.47	-44.75
4813.561	-38.84	-26.02	-12.81	-42.26	-41.47
10519.307	-34.07	-26.02	-8.05	-37.12	-37.04

802.11g_Nss1_2TX **CSE-TX**

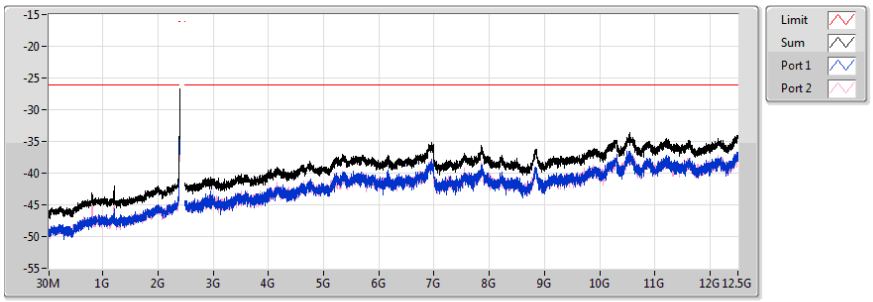
2412MHz_Vmin



Freq(MHz)	Psum(dBm)	Limit(dBm)	Margin(dB)	P1(dBm)	P2(dBm)
2387	-36.19	-26.02	-10.17	-37.84	-41.20
2399.974	-26.68	-16.02	-10.66	-30.20	-29.24
2484.072	-41.61	-16.02	-25.59	-44.51	-44.73
4821.063	-39.09	-26.02	-13.07	-41.90	-42.31
10528.06	-33.62	-26.02	-7.60	-37.15	-36.17

802.11g_Nss1_2TX **CSE-TX**

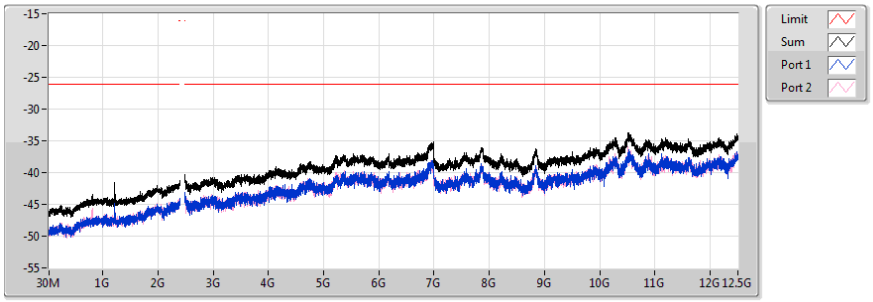
2412MHz_Vmax



Freq(MHz)	Psum(dBm)	Limit(dBm)	Margin(dB)	P1(dBm)	P2(dBm)
2387	-35.44	-26.02	-9.42	-37.11	-40.38
2399.87	-26.69	-16.02	-10.67	-30.35	-29.13
2485.58	-41.61	-16.02	-25.59	-44.52	-44.72
4814.811	-38.80	-26.02	-12.78	-42.02	-41.61
10535.563	-33.66	-26.02	-7.64	-36.56	-36.78

802.11g_Nss1_2TX **CSE-TX**

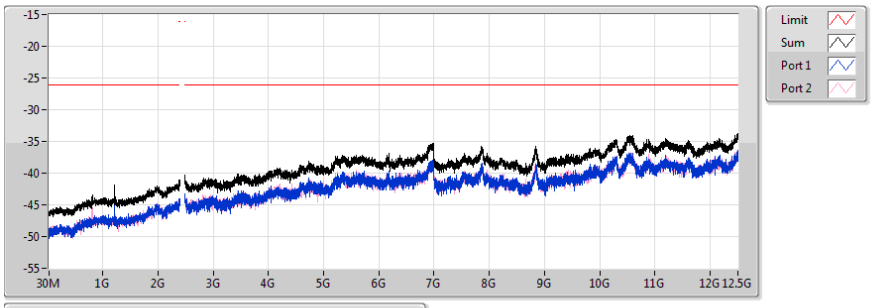
2442MHz_Vnom



Freq(MHz)	Psum(dBm)	Limit(dBm)	Margin(dB)	P1(dBm)	P2(dBm)
1221.464	-41.58	-26.02	-15.56	-44.85	-44.34
2399.818	-41.20	-16.02	-25.18	-44.18	-44.24
2483.734	-40.29	-16.02	-24.27	-43.10	-43.51
4887.337	-39.13	-26.02	-13.11	-42.66	-41.68
10528.06	-33.72	-26.02	-7.70	-36.62	-36.83

802.11g_Nss1_2TX **CSE-TX**

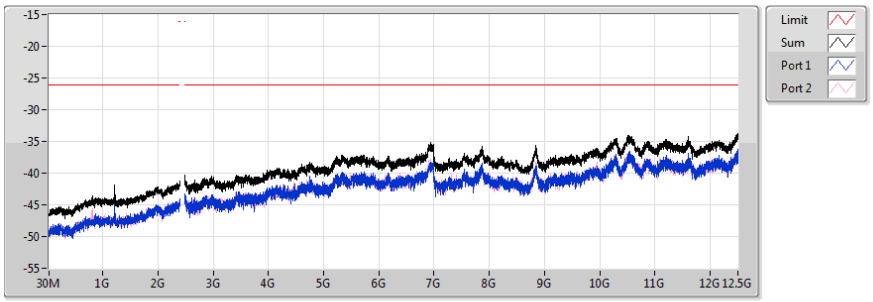
2442MHz_Vmin



Freq(MHz)	Psum(dBm)	Limit(dBm)	Margin(dB)	P1(dBm)	P2(dBm)
2385.822	-41.16	-26.02	-15.14	-44.09	-44.25
2399.922	-41.17	-16.02	-25.15	-44.07	-44.29
2483.812	-40.44	-16.02	-24.42	-43.43	-43.46
4879.834	-38.93	-26.02	-12.91	-41.66	-42.25
12497.499	-33.82	-26.02	-7.80	-36.44	-37.26

802.11g_Nss1_2TX **CSE-TX**

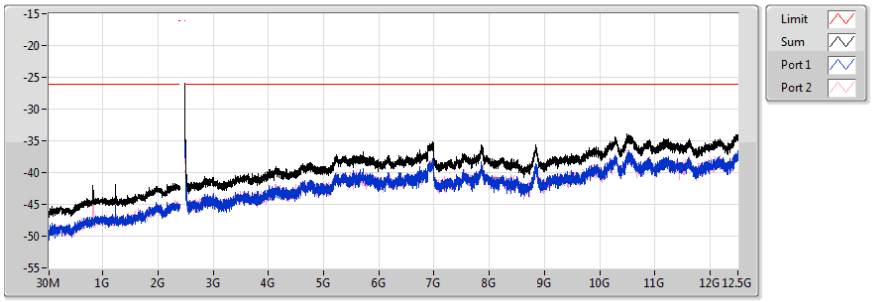
2442MHz_Vmax



Freq(MHz)	Psum(dBm)	Limit(dBm)	Margin(dB)	P1(dBm)	P2(dBm)
2349.288	-41.60	-26.02	-15.58	-44.60	-44.62
2399.402	-41.26	-16.02	-25.24	-44.07	-44.48
2483.734	-40.38	-16.02	-24.36	-43.41	-43.37
4883.585	-38.94	-26.02	-12.92	-41.67	-42.26
12496.249	-33.81	-26.02	-7.79	-36.32	-37.39

802.11g_Nss1_2TX **CSE-TX**

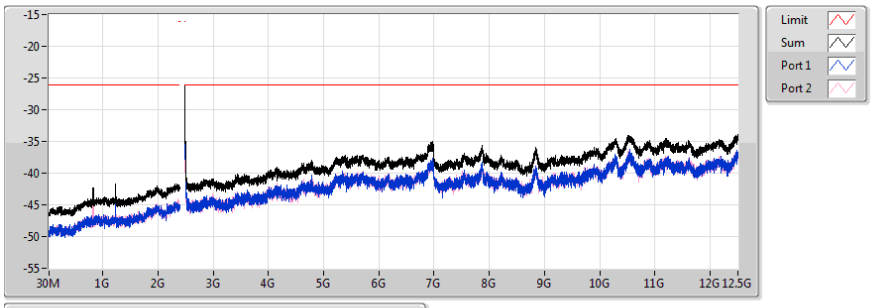
2472MHz_Vnom



Freq(MHz)	Psum(dBm)	Limit(dBm)	Margin(dB)	P1(dBm)	P2(dBm)
2313.933	-41.70	-26.02	-15.68	-45.01	-44.43
2398.648	-42.12	-16.02	-26.10	-45.04	-45.22
2483.864	-25.98	-16.02	-9.96	-28.66	-29.35
2496.5	-33.59	-26.02	-7.57	-34.84	-39.61
4952.359	-39.21	-26.02	-13.19	-41.94	-42.52

802.11g_Nss1_2TX **CSE-TX**

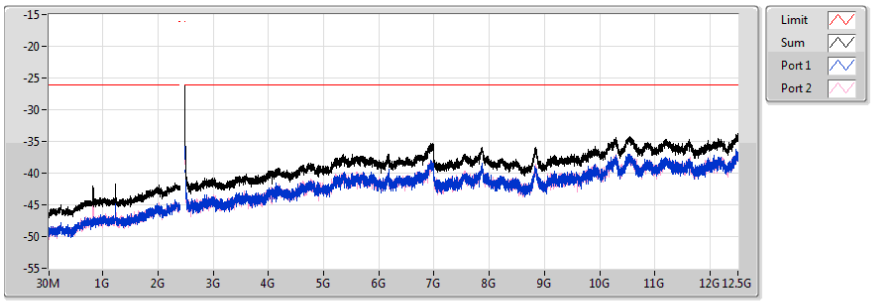
2472MHz_Vmin



Freq(MHz)	Psum(dBm)	Limit(dBm)	Margin(dB)	P1(dBm)	P2(dBm)
1235.605	-41.65	-26.02	-15.63	-44.84	-44.49
2396.1	-42.11	-16.02	-26.09	-45.10	-45.15
2483.526	-26.02	-16.02	-10.00	-28.85	-29.21
4936.104	-39.09	-26.02	-13.07	-42.07	-42.14
12500	-33.90	-26.02	-7.88	-36.74	-37.09

802.11g_Nss1_2TX **CSE-TX**

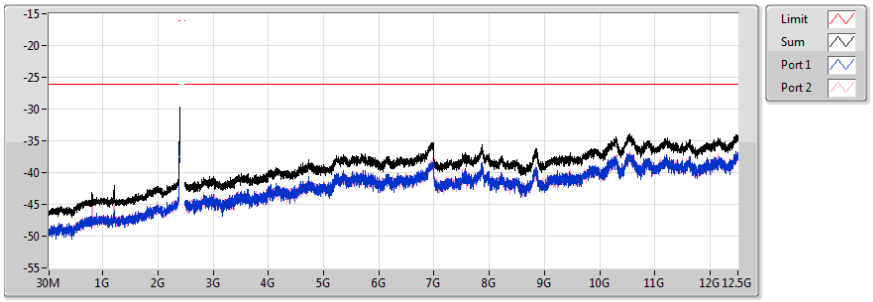
2472MHz_Vmax



Freq(MHz)	Psum(dBm)	Limit(dBm)	Margin(dB)	P1(dBm)	P2(dBm)
2308.041	-41.64	-26.02	-15.62	-44.27	-45.06
2390.588	-42.11	-16.02	-26.09	-45.07	-45.17
2483.526	-26.05	-16.02	-10.03	-28.80	-29.33
4953.61	-38.89	-26.02	-12.87	-42.33	-41.51
12500	-33.83	-26.02	-7.81	-36.66	-37.02

802.11n HT20_Nss1,(MCS0)_2TX **CSE-TX**

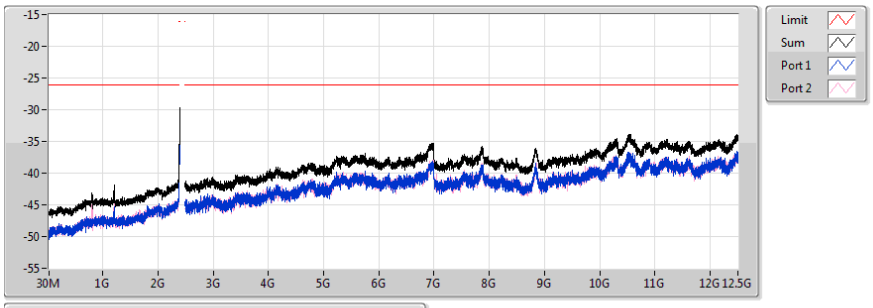
2412MHz_Vnom



Freq(MHz)	Psum(dBm)	Limit(dBm)	Margin(dB)	P1(dBm)	P2(dBm)
2385.822	-37.70	-26.02	-11.67	-40.08	-41.43
2399.974	-29.62	-16.02	-13.60	-33.34	-32.02
2486.724	-41.60	-16.02	-25.58	-44.53	-44.69
4818.562	-38.81	-26.02	-12.78	-41.93	-41.70
10535.563	-33.95	-26.02	-7.93	-37.38	-36.59

802.11n HT20_Nss1,(MCS0)_2TX **CSE-TX**

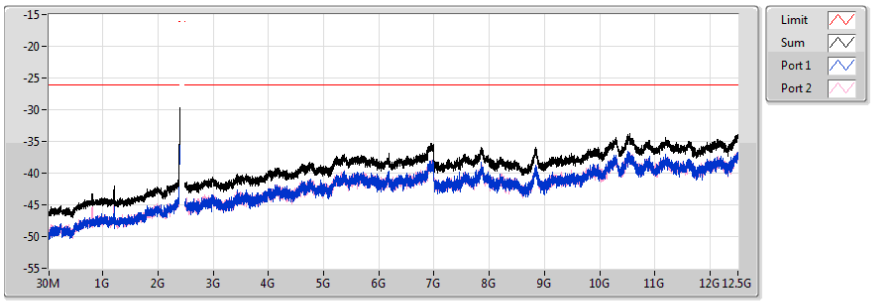
2412MHz_Vmin



Freq(MHz)	Psum(dBm)	Limit(dBm)	Margin(dB)	P1(dBm)	P2(dBm)
2385.822	-37.74	-26.02	-11.72	-40.39	-41.15
2399.922	-29.75	-16.02	-13.73	-33.45	-32.17
2484.696	-41.61	-16.02	-25.59	-44.61	-44.64
4824.815	-38.62	-26.02	-12.60	-41.39	-41.88
12483.744	-33.86	-26.02	-7.84	-36.54	-37.24

802.11n HT20_Nss1,(MCS0)_2TX **CSE-TX**

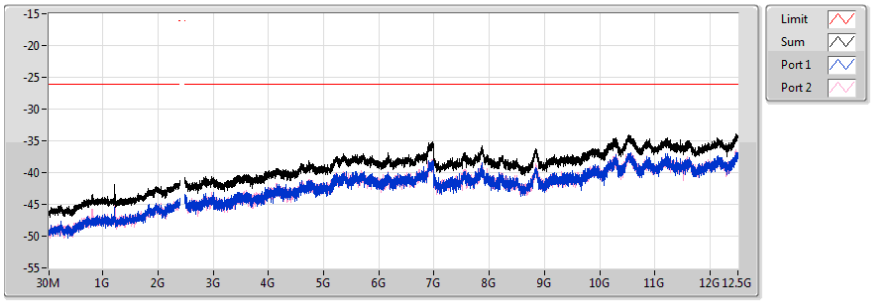
2412MHz_Vmax



Freq(MHz)	Psum(dBm)	Limit(dBm)	Margin(dB)	P1(dBm)	P2(dBm)
2387	-37.41	-26.02	-11.39	-40.02	-40.87
2399.662	-29.73	-16.02	-13.71	-33.54	-32.06
2483.708	-41.63	-16.02	-25.61	-44.65	-44.62
4824.815	-38.62	-26.02	-12.60	-41.98	-41.31
10540.564	-33.80	-26.02	-7.78	-36.95	-36.68

802.11n HT20_Nss1,(MCS0)_2TX **CSE-TX**

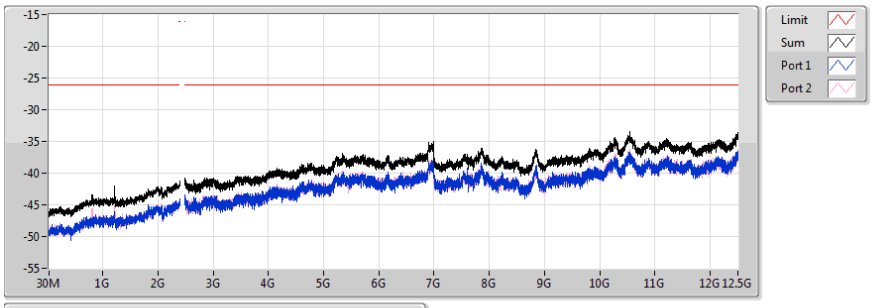
2442MHz_Vnom



Freq(MHz)	Psum(dBm)	Limit(dBm)	Margin(dB)	P1(dBm)	P2(dBm)
2350.466	-41.68	-26.02	-15.66	-44.40	-45.00
2399.792	-41.20	-16.02	-25.18	-44.05	-44.38
2484.566	-40.72	-16.02	-24.70	-43.50	-43.97
4891.088	-39.26	-26.02	-13.24	-41.85	-42.73
12467.489	-33.89	-26.02	-7.87	-37.55	-36.33

802.11n HT20_Nss1,(MCS0)_2TX **CSE-TX**

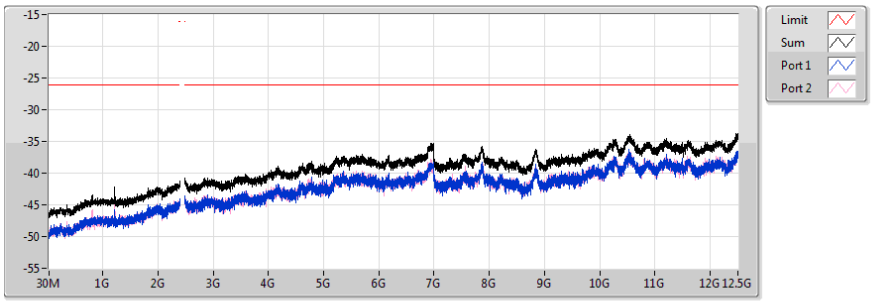
2442MHz_Vmin



Freq(MHz)	Psum(dBm)	Limit(dBm)	Margin(dB)	P1(dBm)	P2(dBm)
2323.361	-41.64	-26.02	-15.62	-44.89	-44.42
2399.428	-41.22	-16.02	-25.20	-44.14	-44.33
2483.76	-40.75	-16.02	-24.73	-43.69	-43.83
4877.333	-39.21	-26.02	-13.19	-41.66	-42.85
10536.813	-33.47	-26.02	-7.45	-36.74	-36.23

802.11n HT20_Nss1,(MCS0)_2TX **CSE-TX**

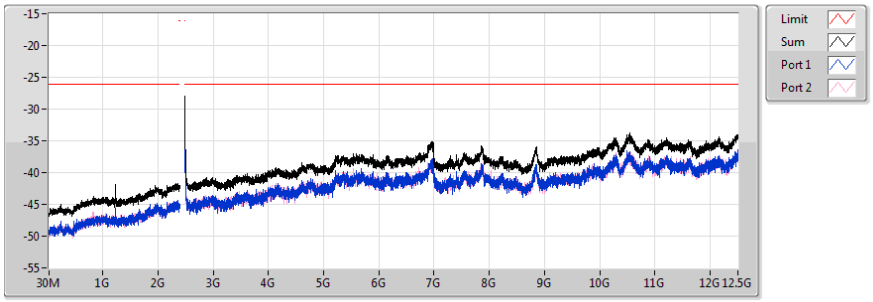
2442MHz_Vmax



Freq(MHz)	Psum(dBm)	Limit(dBm)	Margin(dB)	P1(dBm)	P2(dBm)
2332.789	-41.71	-26.02	-15.69	-44.73	-44.71
2399.974	-41.25	-16.02	-25.23	-44.07	-44.45
2483.76	-40.75	-16.02	-24.73	-43.60	-43.92
4889.837	-39.30	-26.02	-13.28	-42.28	-42.33
12463.737	-33.72	-26.02	-7.70	-36.66	-36.81

802.11n HT20_Nss1,(MCS0)_2TX **CSE-TX**

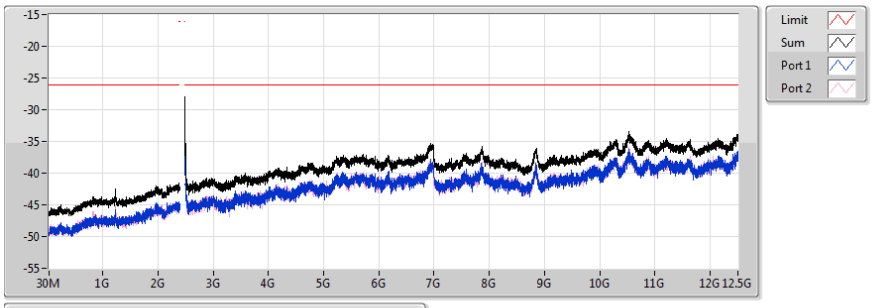
2472MHz_Vnom



Freq(MHz)	Psum(dBm)	Limit(dBm)	Margin(dB)	P1(dBm)	P2(dBm)
2318.647	-41.74	-26.02	-15.72	-44.92	-44.59
2399.74	-42.08	-16.02	-26.05	-44.96	-45.22
2483.552	-28.04	-16.02	-12.02	-32.20	-30.15
4937.354	-38.88	-26.02	-12.86	-42.18	-41.62
10545.566	-33.80	-26.02	-7.78	-36.90	-36.72

802.11n HT20_Nss1,(MCS0)_2TX **CSE-TX**

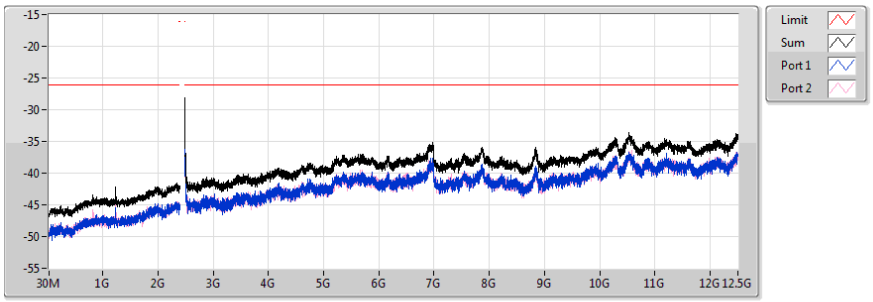
2472MHz_Vmin



Freq(MHz)	Psum(dBm)	Limit(dBm)	Margin(dB)	P1(dBm)	P2(dBm)
2381.108	-41.59	-26.02	-15.57	-44.53	-44.67
2392.772	-42.12	-16.02	-26.10	-45.07	-45.20
2483.552	-28.06	-16.02	-12.04	-32.29	-30.12
4948.608	-39.16	-26.02	-13.14	-41.88	-42.48
10529.31	-33.51	-26.02	-7.49	-37.09	-36.01

802.11n HT20_Nss1,(MCS0)_2TX **CSE-TX**

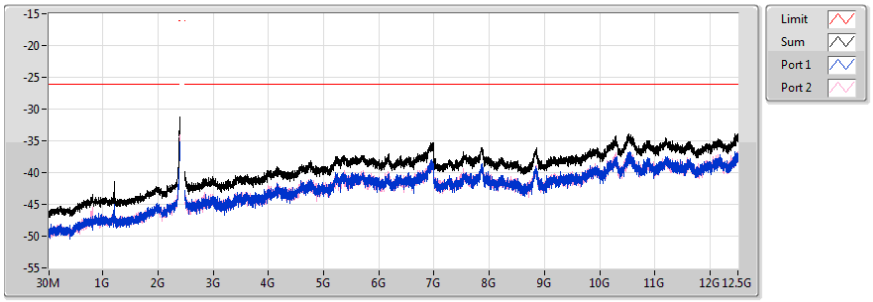
2472MHz_Vmax



Freq(MHz)	Psum(dBm)	Limit(dBm)	Margin(dB)	P1(dBm)	P2(dBm)
2341.039	-41.62	-26.02	-15.60	-44.66	-44.60
2395.944	-42.05	-16.02	-26.02	-45.23	-44.89
2483.526	-28.18	-16.02	-12.16	-32.40	-30.24
4944.857	-38.87	-26.02	-12.85	-42.15	-41.63
10521.808	-33.66	-26.02	-7.64	-36.83	-36.52

802.11n HT40_Nss1,(MCS0)_2TX **CSE-TX**

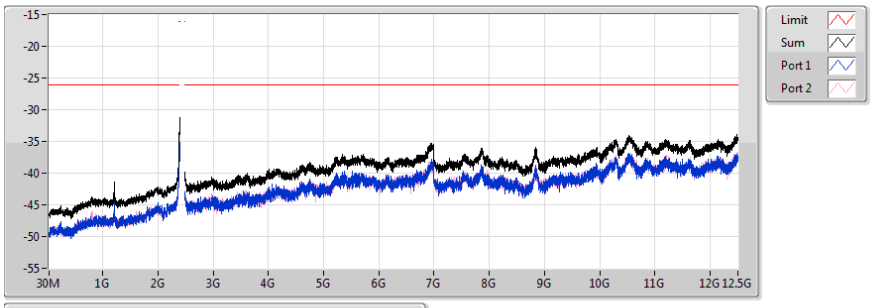
2422MHz_Vnom



Freq(MHz)	Psum(dBm)	Limit(dBm)	Margin(dB)	P1(dBm)	P2(dBm)
2384.643	-34.48	-26.02	-8.45	-38.63	-36.58
2399.948	-31.21	-16.02	-15.19	-35.09	-33.50
2483.968	-39.81	-16.02	-23.79	-42.77	-42.87
4852.324	-38.90	-26.02	-12.88	-42.19	-41.64
12453.734	-33.86	-26.02	-7.84	-36.78	-36.97

802.11n HT40_Nss1,(MCS0)_2TX **CSE-TX**

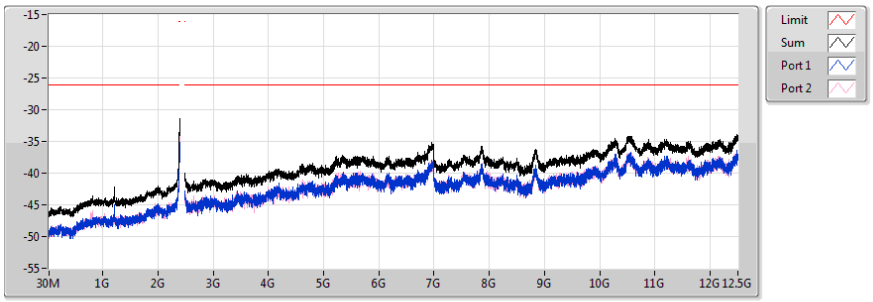
2422MHz_Vmin



Freq(MHz)	Psum(dBm)	Limit(dBm)	Margin(dB)	P1(dBm)	P2(dBm)
2384.643	-34.67	-26.02	-8.65	-38.10	-37.31
2399.974	-31.32	-16.02	-15.30	-35.16	-33.63
2484.748	-39.85	-16.02	-23.83	-42.98	-42.76
4856.076	-39.19	-26.02	-13.17	-41.94	-42.48
12487.496	-33.87	-26.02	-7.85	-37.11	-36.65

802.11n HT40_Nss1,(MCS0)_2TX **CSE-TX**

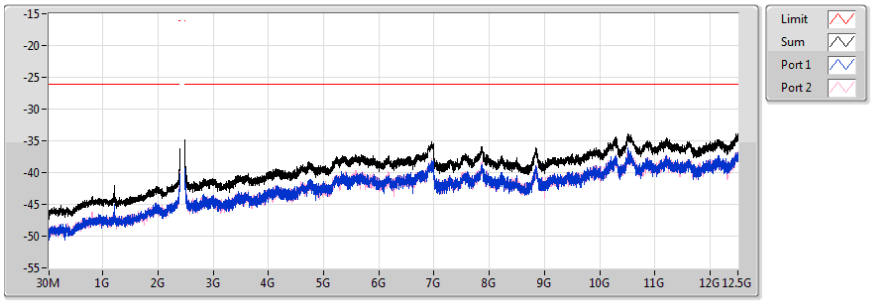
2422MHz_Vmax



Freq(MHz)	Psum(dBm)	Limit(dBm)	Margin(dB)	P1(dBm)	P2(dBm)
2385.822	-34.47	-26.02	-8.45	-39.36	-36.18
2399.974	-31.45	-16.02	-15.43	-35.56	-33.58
2483.812	-39.94	-16.02	-23.92	-42.96	-42.94
4832.317	-38.91	-26.02	-12.89	-41.70	-42.14
12484.995	-33.88	-26.02	-7.86	-36.60	-37.20

802.11n HT40_Nss1,(MCS0)_2TX **CSE-TX**

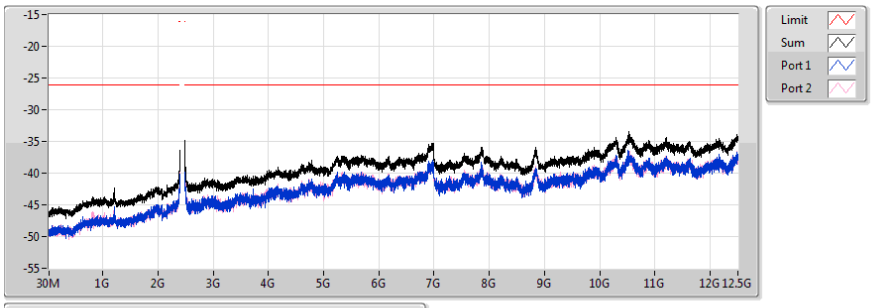
2442MHz_Vnom



Freq(MHz)	Psum(dBm)	Limit(dBm)	Margin(dB)	P1(dBm)	P2(dBm)
2385.822	-40.06	-26.02	-14.04	-42.95	-43.20
2399.792	-36.31	-16.02	-20.29	-40.39	-38.46
2483.604	-34.86	-16.02	-18.84	-38.44	-37.37
4872.331	-39.24	-26.02	-13.22	-41.75	-42.82
12500	-33.88	-26.02	-7.85	-36.93	-36.84

802.11n HT40_Nss1,(MCS0)_2TX **CSE-TX**

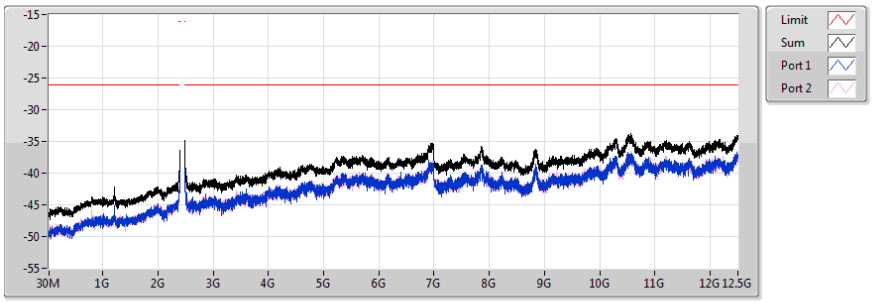
2442MHz_Vmin



Freq(MHz)	Psum(dBm)	Limit(dBm)	Margin(dB)	P1(dBm)	P2(dBm)
2387	-40.12	-26.02	-14.10	-42.56	-43.78
2399.922	-36.46	-16.02	-20.44	-40.38	-38.72
2483.578	-34.88	-16.02	-18.86	-38.27	-37.55
4876.083	-39.17	-26.02	-13.15	-41.98	-42.39
10529.31	-33.51	-26.02	-7.49	-36.50	-36.54

802.11n HT40_Nss1,(MCS0)_2TX **CSE-TX**

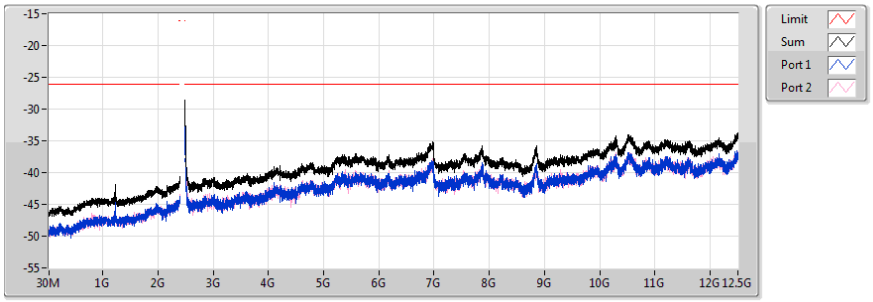
2442MHz_Vmax



Freq(MHz)	Psum(dBm)	Limit(dBm)	Margin(dB)	P1(dBm)	P2(dBm)
2387	-40.08	-26.02	-14.06	-42.93	-43.26
2399.558	-36.42	-16.02	-20.40	-40.40	-38.64
2483.656	-34.95	-16.02	-18.93	-38.63	-37.37
4901.091	-39.09	-26.02	-13.07	-41.86	-42.36
10560.571	-33.79	-26.02	-7.77	-37.09	-36.54

802.11n HT40_Nss1,(MCS0)_2TX **CSE-TX**

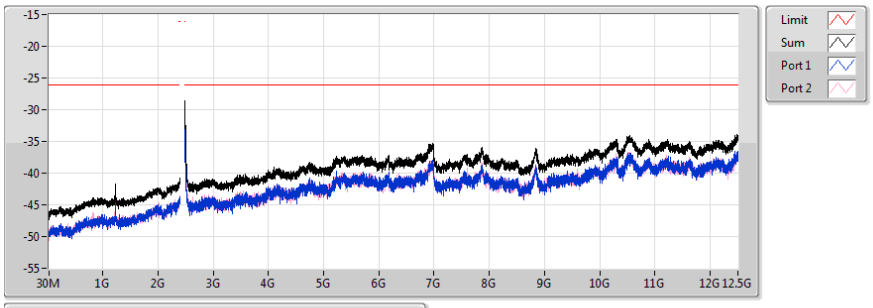
2462MHz_Vnom



Freq(MHz)	Psum(dBm)	Limit(dBm)	Margin(dB)	P1(dBm)	P2(dBm)
2376.394	-41.69	-26.02	-15.67	-44.36	-45.07
2399.818	-40.70	-16.02	-24.68	-43.96	-43.48
2483.526	-28.65	-16.02	-12.63	-32.38	-31.04
2497.75	-32.60	-26.02	-6.58	-37.42	-34.35
4903.592	-39.11	-26.02	-13.09	-41.97	-42.28

802.11n HT40_Nss1,(MCS0)_2TX **CSE-TX**

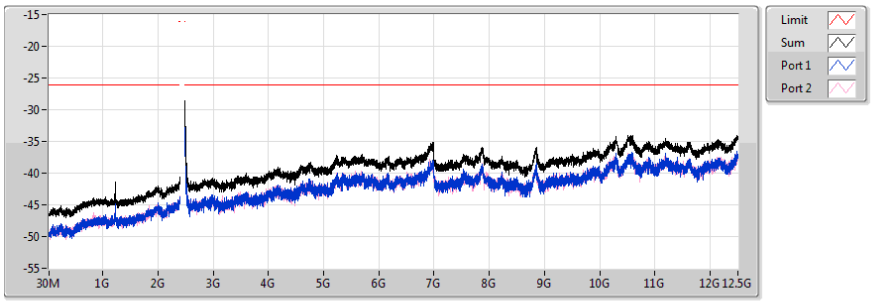
2462MHz_Vmin



Freq(MHz)	Psum(dBm)	Limit(dBm)	Margin(dB)	P1(dBm)	P2(dBm)
2382.286	-41.61	-26.02	-15.59	-45.18	-44.11
2399.454	-40.73	-16.02	-24.71	-43.81	-43.66
2483.526	-28.57	-16.02	-12.55	-32.31	-30.97
2497.75	-32.51	-26.02	-6.49	-36.42	-34.79
4924.85	-39.06	-26.02	-13.04	-41.44	-42.80

802.11n HT40_Nss1,(MCS0)_2TX **CSE-TX**

2462MHz_Vmax



Freq(MHz)	Psum(dBm)	Limit(dBm)	Margin(dB)	P1(dBm)	P2(dBm)
1230.891	-41.44	-26.02	-15.42	-44.46	-44.44
2399.818	-40.69	-16.02	-24.67	-43.80	-43.60
2483.526	-28.64	-16.02	-12.62	-32.34	-31.05
2496.5	-32.52	-26.02	-6.50	-37.05	-34.41
4904.843	-39.07	-26.02	-13.05	-42.08	-42.09

Summary

Mode	Result	Interference Pin (dBm)	Function
802.11b_Nss1_2TX	-	-	-
2.4-2.4835GHz	Pass	OBW<26MHz	w/o test
802.11g_Nss1_2TX	-	-	-
2.4-2.4835GHz	Pass	OBW<26MHz	w/o test
802.11n HT20_Nss1,(MCS0)_2TX	-	-	-
2.4-2.4835GHz	Pass	OBW<26MHz	w/o test
802.11n HT40_Nss1,(MCS0)_2TX	-	-	-
2.4-2.4835GHz	Pass	-42.25	Good

Result

Mode	Result	Interference Pin (dBm)	Function
802.11b_Nss1_2TX	-	-	-
2412MHz_Vnom	Pass	OBW<26MHz	w/o test
2412MHz_Vmin	Pass	OBW<26MHz	w/o test
2412MHz_Vmax	Pass	OBW<26MHz	w/o test
2442MHz_Vnom	Pass	OBW<26MHz	w/o test
2442MHz_Vmin	Pass	OBW<26MHz	w/o test
2442MHz_Vmax	Pass	OBW<26MHz	w/o test
2472MHz_Vnom	Pass	OBW<26MHz	w/o test
2472MHz_Vmin	Pass	OBW<26MHz	w/o test
2472MHz_Vmax	Pass	OBW<26MHz	w/o test
802.11g_Nss1_2TX	-	-	-
2412MHz_Vnom	Pass	OBW<26MHz	w/o test
2412MHz_Vmin	Pass	OBW<26MHz	w/o test
2412MHz_Vmax	Pass	OBW<26MHz	w/o test
2442MHz_Vnom	Pass	OBW<26MHz	w/o test
2442MHz_Vmin	Pass	OBW<26MHz	w/o test
2442MHz_Vmax	Pass	OBW<26MHz	w/o test
2472MHz_Vnom	Pass	OBW<26MHz	w/o test
2472MHz_Vmin	Pass	OBW<26MHz	w/o test
2472MHz_Vmax	Pass	OBW<26MHz	w/o test
802.11n HT20_Nss1,(MCS0)_2TX	-	-	-
2412MHz_Vnom	Pass	OBW<26MHz	w/o test
2412MHz_Vmin	Pass	OBW<26MHz	w/o test
2412MHz_Vmax	Pass	OBW<26MHz	w/o test
2442MHz_Vnom	Pass	OBW<26MHz	w/o test
2442MHz_Vmin	Pass	OBW<26MHz	w/o test
2442MHz_Vmax	Pass	OBW<26MHz	w/o test
2472MHz_Vnom	Pass	OBW<26MHz	w/o test
2472MHz_Vmin	Pass	OBW<26MHz	w/o test
2472MHz_Vmax	Pass	OBW<26MHz	w/o test
802.11n HT40_Nss1,(MCS0)_2TX	-	-	-
2422MHz_Vnom	Pass	-42.10	Good
2422MHz_Vmin	Pass	-42.10	Good
2422MHz_Vmax	Pass	-42.10	Good
2442MHz_Vnom	Pass	-42.17	Good
2442MHz_Vmin	Pass	-42.17	Good
2442MHz_Vmax	Pass	-42.17	Good
2462MHz_Vnom	Pass	-42.25	Good
2462MHz_Vmin	Pass	-42.25	Good
2462MHz_Vmax	Pass	-42.25	Good

Summary

Mode	Result	ID Length	ID Limit	Function
802.11b_Nss1_2TX	-	-	-	-
2.4-2.4835GHz	Pass	C0:EE:40:40:02:7C	48 bits	Good
802.11g_Nss1_2TX	-	-	-	-
2.4-2.4835GHz	Pass	C0:EE:40:40:02:7C	48 bits	Good
802.11n HT20_Nss1,(MCS0)_2TX	-	-	-	-
2.4-2.4835GHz	Pass	C0:EE:40:40:02:7C	48 bits	Good
802.11n HT40_Nss1,(MCS0)_2TX	-	-	-	-
2.4-2.4835GHz	Pass	C0:EE:40:40:02:7C	48 bits	Good

Result

Mode	Result	ID Length	ID Limit	Function
802.11b_Nss1_2TX	-	-	-	-
2412MHz_Vnom	Pass	C0:EE:40:40:02:7C	48 bits	Good
2412MHz_Vmin	Pass	C0:EE:40:40:02:7C	48 bits	Good
2412MHz_Vmax	Pass	C0:EE:40:40:02:7C	48 bits	Good
2442MHz_Vnom	Pass	C0:EE:40:40:02:7C	48 bits	Good
2442MHz_Vmin	Pass	C0:EE:40:40:02:7C	48 bits	Good
2442MHz_Vmax	Pass	C0:EE:40:40:02:7C	48 bits	Good
2472MHz_Vnom	Pass	C0:EE:40:40:02:7C	48 bits	Good
2472MHz_Vmin	Pass	C0:EE:40:40:02:7C	48 bits	Good
2472MHz_Vmax	Pass	C0:EE:40:40:02:7C	48 bits	Good
802.11g_Nss1_2TX	-	-	-	-
2412MHz_Vnom	Pass	C0:EE:40:40:02:7C	48 bits	Good
2412MHz_Vmin	Pass	C0:EE:40:40:02:7C	48 bits	Good
2412MHz_Vmax	Pass	C0:EE:40:40:02:7C	48 bits	Good
2442MHz_Vnom	Pass	C0:EE:40:40:02:7C	48 bits	Good
2442MHz_Vmin	Pass	C0:EE:40:40:02:7C	48 bits	Good
2442MHz_Vmax	Pass	C0:EE:40:40:02:7C	48 bits	Good
2472MHz_Vnom	Pass	C0:EE:40:40:02:7C	48 bits	Good
2472MHz_Vmin	Pass	C0:EE:40:40:02:7C	48 bits	Good
2472MHz_Vmax	Pass	C0:EE:40:40:02:7C	48 bits	Good
802.11n HT20_Nss1,(MCS0)_2TX	-	-	-	-
2412MHz_Vnom	Pass	C0:EE:40:40:02:7C	48 bits	Good
2412MHz_Vmin	Pass	C0:EE:40:40:02:7C	48 bits	Good
2412MHz_Vmax	Pass	C0:EE:40:40:02:7C	48 bits	Good
2442MHz_Vnom	Pass	C0:EE:40:40:02:7C	48 bits	Good
2442MHz_Vmin	Pass	C0:EE:40:40:02:7C	48 bits	Good
2442MHz_Vmax	Pass	C0:EE:40:40:02:7C	48 bits	Good
2472MHz_Vnom	Pass	C0:EE:40:40:02:7C	48 bits	Good
2472MHz_Vmin	Pass	C0:EE:40:40:02:7C	48 bits	Good
2472MHz_Vmax	Pass	C0:EE:40:40:02:7C	48 bits	Good
802.11n HT40_Nss1,(MCS0)_2TX	-	-	-	-
2422MHz_Vnom	Pass	C0:EE:40:40:02:7C	48 bits	Good
2422MHz_Vmin	Pass	C0:EE:40:40:02:7C	48 bits	Good
2422MHz_Vmax	Pass	C0:EE:40:40:02:7C	48 bits	Good
2442MHz_Vnom	Pass	C0:EE:40:40:02:7C	48 bits	Good
2442MHz_Vmin	Pass	C0:EE:40:40:02:7C	48 bits	Good
2442MHz_Vmax	Pass	C0:EE:40:40:02:7C	48 bits	Good
2462MHz_Vnom	Pass	C0:EE:40:40:02:7C	48 bits	Good
2462MHz_Vmin	Pass	C0:EE:40:40:02:7C	48 bits	Good
2462MHz_Vmax	Pass	C0:EE:40:40:02:7C	48 bits	Good

Summary

Mode	Result	F-Start (MHz)	F-Stop (MHz)	RBW (Hz)	Freq (MHz)	Psum (dBm)	Psum (nW)	Limit (dBm)	Limit (nW)	Margin (dB)	Loss (dB)	P1 (dBm)	P1 (nW)	P2 (dBm)	P2 (nW)
802.11n HT40_Nss1,(MCS0)_2TX	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2.4-2.4835GHz	Pass	1000	12500	1M	2460.5	-58.12	1.54016	-46.99	20	-11.13	1.49	-58.13	1.53684	-84.79	0.00332

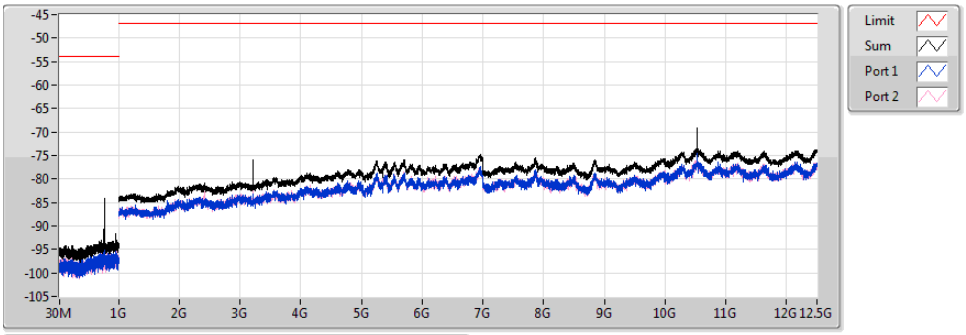
Result

Mode	Result	F-Start (MHz)	F-Stop (MHz)	RBW (Hz)	Freq (MHz)	Psum (dBm)	Psum (nW)	Limit (dBm)	Limit (nW)	Margin (dB)	Loss (dB)	P1 (dBm)	P1 (nW)	P2 (dBm)	P2 (nW)
802.11b_Nss1_2TX	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2412MHz_Vnom	Pass	30	1000	100k	772.05	-84.19	0.00381	-53.98	4	-30.21	0.88	-84.46	0.00358	-96.35	0.00023
2412MHz_Vnom	Pass	1000	12500	1M	10524.875	-69.07	0.12381	-46.99	20	-22.08	4.61	-69.87	0.10309	-76.84	0.02072
2412MHz_Vmin	Pass	30	1000	100k	777.385	-85.25	0.00299	-53.98	4	-31.27	0.88	-85.56	0.00278	-96.90	0.0002
2412MHz_Vmin	Pass	1000	12500	1M	10524.875	-68.10	0.15472	-46.99	20	-21.11	4.61	-68.61	0.13784	-77.73	0.01688
2412MHz_Vmax	Pass	30	1000	100k	771.565	-85.72	0.00268	-53.98	4	-31.74	0.88	-87.02	0.00199	-91.60	0.00069
2412MHz_Vmax	Pass	1000	12500	1M	10526.312	-73.56	0.04408	-46.99	20	-26.57	4.61	-76.51	0.02236	-76.63	0.02172
2442MHz_Vnom	Pass	30	1000	100k	776.9	-85.78	0.00264	-53.98	4	-31.80	0.88	-86.10	0.00245	-97.23	0.00019
2442MHz_Vnom	Pass	1000	12500	1M	12497.125	-73.41	0.04559	-46.99	20	-26.42	5.68	-76.82	0.02077	-76.05	0.02481
2442MHz_Vmin	Pass	30	1000	100k	775.93	-86.20	0.0024	-53.98	4	-32.22	0.88	-86.62	0.00218	-96.62	0.00022
2442MHz_Vmin	Pass	1000	12500	1M	12143.5	-73.40	0.04574	-46.99	20	-26.41	5.49	-76.33	0.02326	-76.48	0.02248
2442MHz_Vmax	Pass	30	1000	100k	774.475	-90.93	0.00081	-53.98	4	-36.95	0.88	-95.53	0.00028	-92.78	0.00053
2442MHz_Vmax	Pass	1000	12500	1M	10506.187	-73.60	0.04368	-46.99	20	-26.61	4.60	-76.23	0.02383	-77.02	0.01985
2472MHz_Vnom	Pass	30	1000	100k	776.9	-84.88	0.00325	-53.98	4	-30.90	0.88	-86.07	0.00247	-91.08	0.00078
2472MHz_Vnom	Pass	1000	12500	1M	10524.875	-71.67	0.06806	-46.99	20	-24.68	4.61	-73.55	0.04416	-76.22	0.02389
2472MHz_Vmin	Pass	30	1000	100k	776.415	-88.60	0.00138	-53.98	4	-34.62	0.88	-90.86	0.00082	-92.52	0.00056
2472MHz_Vmin	Pass	1000	12500	1M	10524.875	-70.20	0.09553	-46.99	20	-23.21	4.61	-76.85	0.02066	-71.26	0.07487
2472MHz_Vmax	Pass	30	1000	100k	775.93	-85.08	0.0031	-53.98	4	-31.10	0.88	-85.40	0.00288	-96.64	0.00022
2472MHz_Vmax	Pass	1000	12500	1M	10530.625	-73.50	0.04466	-46.99	20	-26.51	4.62	-76.75	0.02112	-76.28	0.02354
802.11g_Nss1_2TX	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2412MHz_Vnom	Pass	30	1000	100k	770.11	-89.39	0.00115	-53.98	4	-35.41	0.88	-94.93	0.00032	-90.81	0.00083
2412MHz_Vnom	Pass	1000	12500	1M	10526.312	-73.44	0.04524	-46.99	20	-26.46	4.61	-76.96	0.02013	-76.00	0.0251
2412MHz_Vmin	Pass	30	1000	100k	771.08	-88.17	0.00152	-53.98	4	-34.19	0.88	-95.16	0.0003	-89.14	0.00122
2412MHz_Vmin	Pass	1000	12500	1M	10526.312	-71.49	0.07099	-46.99	20	-24.50	4.61	-74.48	0.03562	-74.51	0.03538
2412MHz_Vmax	Pass	30	1000	100k	772.05	-89.00	0.00126	-53.98	4	-35.02	0.88	-94.53	0.00035	-90.42	0.00091
2412MHz_Vmax	Pass	1000	12500	1M	10553.625	-73.30	0.04679	-46.99	20	-26.31	4.63	-76.64	0.02167	-76.00	0.02512
2442MHz_Vnom	Pass	30	1000	100k	771.565	-84.98	0.00318	-53.98	4	-31.00	0.88	-86.34	0.00233	-90.70	0.00085
2442MHz_Vnom	Pass	1000	12500	1M	10517.687	-73.08	0.04924	-46.99	20	-26.09	4.61	-76.06	0.02478	-76.12	0.02446
2442MHz_Vmin	Pass	30	1000	100k	771.565	-86.18	0.00241	-53.98	4	-32.20	0.88	-86.52	0.00223	-97.39	0.00018
2442MHz_Vmin	Pass	1000	12500	1M	10516.25	-73.30	0.04679	-46.99	20	-26.31	4.61	-76.52	0.02227	-76.10	0.02452
2442MHz_Vmax	Pass	30	1000	100k	772.05	-85.26	0.00298	-53.98	4	-31.28	0.88	-86.50	0.00224	-91.33	0.00074
2442MHz_Vmax	Pass	1000	12500	1M	10550.75	-73.30	0.04679	-46.99	20	-26.31	4.63	-76.63	0.02173	-76.01	0.02506
2472MHz_Vnom	Pass	30	1000	100k	776.9	-88.92	0.00128	-53.98	4	-34.94	0.88	-89.74	0.00106	-96.54	0.00022
2472MHz_Vnom	Pass	1000	12500	1M	10523.437	-72.80	0.05243	-46.99	20	-25.81	4.61	-77.42	0.01812	-74.65	0.03431
2472MHz_Vmin	Pass	30	1000	100k	766.715	-87.03	0.00198	-53.98	4	-33.05	0.88	-87.52	0.00177	-96.80	0.00021
2472MHz_Vmin	Pass	1000	12500	1M	10524.875	-69.01	0.12566	-46.99	20	-22.02	4.61	-77.14	0.01932	-69.73	0.10634
2472MHz_Vmax	Pass	30	1000	100k	772.05	-84.05	0.00393	-53.98	4	-30.07	0.88	-84.77	0.00334	-92.23	0.0006
2472MHz_Vmax	Pass	1000	12500	1M	10524.875	-73.38	0.0459	-46.99	20	-26.39	4.61	-76.52	0.02231	-76.27	0.02359
802.11n HT20_Nss1,(MCS0)_2TX	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2412MHz_Vnom	Pass	30	1000	100k	766.715	-88.15	0.00153	-53.98	4	-34.17	0.88	-88.71	0.00135	-97.35	0.00018
2412MHz_Vnom	Pass	1000	12500	1M	10520.562	-73.56	0.04401	-46.99	20	-26.57	4.61	-76.59	0.0219	-76.55	0.02211
2412MHz_Vmin	Pass	30	1000	100k	766.715	-89.33	0.00117	-53.98	4	-35.36	0.88	-90.00	0.001	-97.82	0.00017
2412MHz_Vmin	Pass	1000	12500	1M	10526.312	-73.52	0.04451	-46.99	20	-26.53	4.61	-77.63	0.01726	-75.65	0.02725
2412MHz_Vmax	Pass	30	1000	100k	774.475	-87.42	0.00181	-53.98	4	-33.44	0.88	-89.87	0.00103	-91.07	0.00078
2412MHz_Vmax	Pass	1000	12500	1M	10520.562	-73.24	0.04737	-46.99	20	-26.26	4.61	-76.47	0.02252	-76.05	0.02485
2442MHz_Vnom	Pass	30	1000	100k	775.445	-86.09	0.00246	-53.98	4	-32.11	0.88	-86.45	0.00227	-97.17	0.00019
2442MHz_Vnom	Pass	1000	12500	1M	12497.125	-73.15	0.04847	-46.99	20	-26.16	5.68	-75.95	0.0254	-76.37	0.02307
2442MHz_Vmin	Pass	30	1000	100k	772.05	-85.59	0.00276	-53.98	4	-31.61	0.88	-85.95	0.00254	-96.49	0.00022
2442MHz_Vmin	Pass	1000	12500	1M	12497.125	-73.07	0.04936	-46.99	20	-26.08	5.68	-76.54	0.0222	-75.66	0.02715
2442MHz_Vmax	Pass	30	1000	100k	772.535	-85.76	0.00265	-53.98	4	-31.79	0.88	-86.10	0.00245	-97.02	0.0002
2442MHz_Vmax	Pass	1000	12500	1M	10524.875	-66.26	0.23645	-46.99	20	-19.27	4.61	-74.17	0.03824	-67.03	0.19821
2472MHz_Vnom	Pass	30	1000	100k	951.985	-90.76	0.00084	-53.98	4	-36.78	0.88	-92.05	0.00062	-96.66	0.00022
2472MHz_Vnom	Pass	1000	12500	1M	10524.875	-72.47	0.05657	-46.99	20	-25.48	4.61	-77.33	0.01847	-74.19	0.0381

Mode	Result	F-Start (MHz)	F-Stop (MHz)	RBW (Hz)	Freq (MHz)	Psum (dBm)	Psum (nW)	Limit (dBm)	Limit (nW)	Margin (dB)	Loss (dB)	P1 (dBm)	P1 (nW)	P2 (dBm)	P2 (nW)
2472MHz_Vmin	Pass	30	1000	100k	776.9	-83.95	0.00403	-53.98	4	-29.97	0.88	-84.50	0.00355	-93.15	0.00048
2472MHz_Vmin	Pass	1000	12500	1M	10524.875	-71.06	0.07826	-46.99	20	-24.08	4.61	-72.16	0.06078	-77.58	0.01747
2472MHz_Vmax	Pass	30	1000	100k	771.565	-83.15	0.00484	-53.98	4	-29.17	0.88	-85.23	0.003	-87.35	0.00184
2472MHz_Vmax	Pass	1000	12500	1M	10524.875	-70.14	0.09676	-46.99	20	-23.15	4.61	-77.21	0.019	-71.09	0.07775
802.11n HT40_Nss1,(MCS0)_2TX	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2422MHz_Vnom	Pass	30	1000	100k	772.535	-83.46	0.00451	-53.98	4	-29.48	0.88	-84.51	0.00354	-90.11	0.00097
2422MHz_Vnom	Pass	1000	12500	1M	10526.312	-72.05	0.06231	-46.99	20	-25.06	4.61	-73.79	0.04175	-76.87	0.02056
2422MHz_Vmin	Pass	30	1000	100k	772.05	-85.29	0.00296	-53.98	4	-31.31	0.88	-86.23	0.00238	-92.40	0.00058
2422MHz_Vmin	Pass	1000	12500	1M	10530.625	-73.36	0.04615	-46.99	20	-26.37	4.62	-76.09	0.02461	-76.67	0.02153
2422MHz_Vmax	Pass	30	1000	100k	770.11	-86.70	0.00214	-53.98	4	-32.72	0.88	-88.12	0.00154	-92.25	0.0006
2422MHz_Vmax	Pass	1000	12500	1M	10539.25	-73.35	0.04621	-46.99	20	-26.36	4.62	-76.53	0.02223	-76.20	0.02398
2442MHz_Vnom	Pass	30	1000	100k	772.05	-90.16	0.00096	-53.98	4	-36.18	0.88	-94.57	0.00035	-92.12	0.00061
2442MHz_Vnom	Pass	1000	12500	1M	10569.437	-73.41	0.04563	-46.99	20	-26.42	4.64	-77.01	0.01991	-75.90	0.02572
2442MHz_Vmin	Pass	30	1000	100k	772.05	-86.90	0.00204	-53.98	4	-32.93	0.88	-87.25	0.00188	-98.02	0.00016
2442MHz_Vmin	Pass	1000	12500	1M	10527.75	-73.53	0.04437	-46.99	20	-26.54	4.61	-76.64	0.02166	-76.44	0.02272
2442MHz_Vmax	Pass	30	1000	100k	766.715	-90.08	0.00098	-53.98	4	-36.10	0.88	-90.92	0.00081	-97.66	0.00017
2442MHz_Vmax	Pass	1000	12500	1M	12487.062	-73.58	0.04389	-46.99	20	-26.59	5.67	-76.93	0.02028	-76.27	0.02361
2462MHz_Vnom	Pass	30	1000	100k	776.9	-86.73	0.00213	-53.98	4	-32.75	0.88	-88.05	0.00157	-92.54	0.00056
2462MHz_Vnom	Pass	1000	12500	1M	10516.25	-73.44	0.04532	-46.99	20	-26.45	4.61	-76.11	0.02452	-76.82	0.02081
2462MHz_Vmin	Pass	30	1000	100k	777.385	-85.31	0.00294	-53.98	4	-31.33	0.88	-86.34	0.00233	-92.09	0.00062
2462MHz_Vmin	Pass	1000	12500	1M	2460.5	-58.12	1.54016	-46.99	20	-11.13	1.49	-58.13	1.53684	-84.79	0.00332
2462MHz_Vmax	Pass	30	1000	100k	775.445	-86.05	0.00248	-53.98	4	-32.07	0.88	-87.40	0.00182	-91.79	0.00066
2462MHz_Vmax	Pass	1000	12500	1M	12155	-73.23	0.04757	-46.99	20	-26.24	5.49	-76.09	0.02461	-76.39	0.02296

802.11b_Nss1_2TX **CSE-RX**

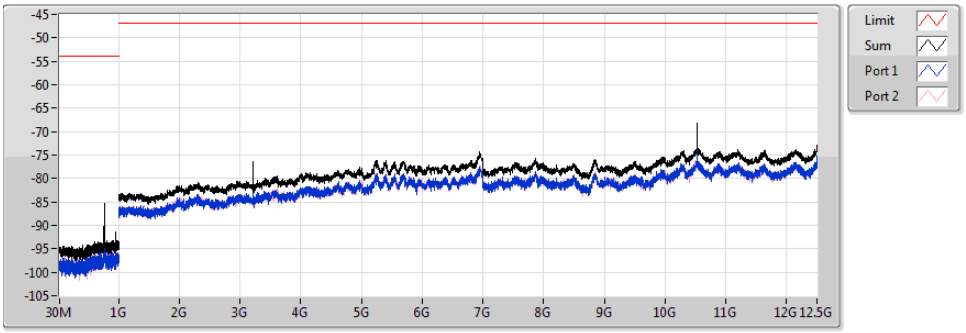
2412MHz_Vnom



Freq(MHz)	Psum(dBm)	Limit(dBm)	Margin(dB)	P1(dBm)	P2(dBm)
772.05	-84.19	-53.98	-30.21	-84.46	-96.35
10524.875	-69.07	-46.99	-22.08	-69.87	-76.84

802.11b_Nss1_2TX **CSE-RX**

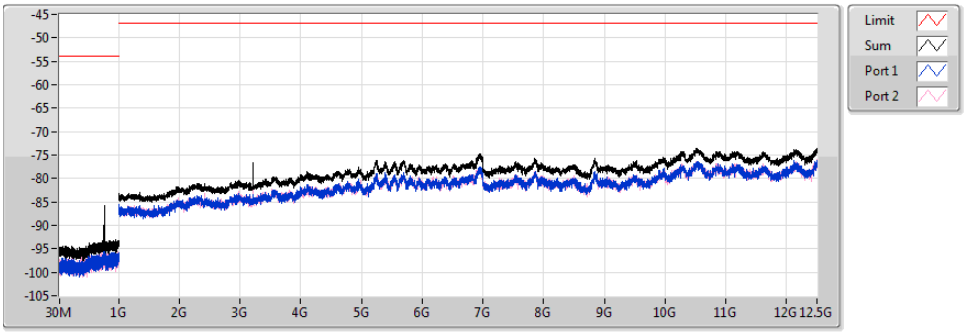
2412MHz_Vmin



Freq(MHz)	Psum(dBm)	Limit(dBm)	Margin(dB)	P1(dBm)	P2(dBm)
777.385	-85.25	-53.98	-31.27	-85.56	-96.90
10524.875	-68.10	-46.99	-21.11	-68.61	-77.73

802.11b_Nss1_2TX **CSE-RX**

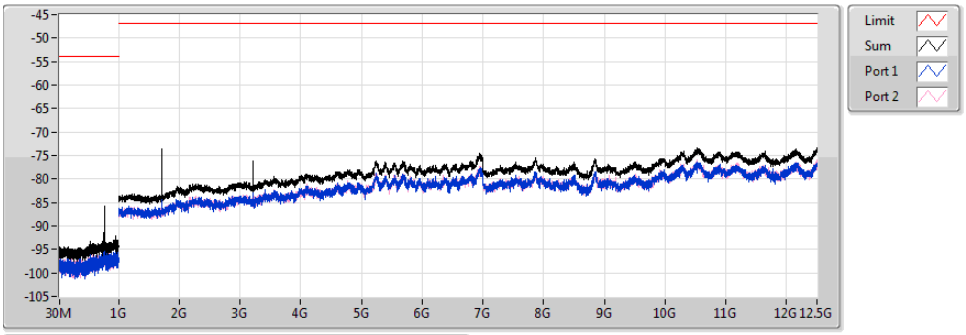
2412MHz_Vmax



Freq(MHz)	Psum(dBm)	Limit(dBm)	Margin(dB)	P1(dBm)	P2(dBm)
771.565	-85.72	-53.98	-31.74	-87.02	-91.60
10526.312	-73.56	-46.99	-26.57	-76.51	-76.63

802.11b_Nss1_2TX **CSE-RX**

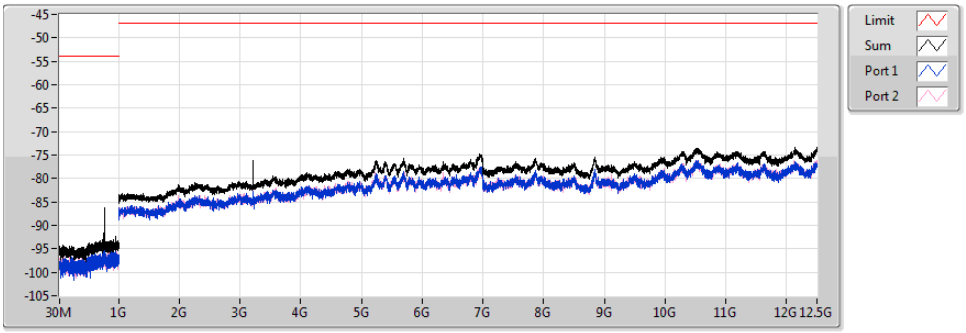
2442MHz_Vnom



Freq(MHz)	Psum(dBm)	Limit(dBm)	Margin(dB)	P1(dBm)	P2(dBm)
776.9	-85.78	-53.98	-31.80	-86.10	-97.23
12497.125	-73.41	-46.99	-26.42	-76.82	-76.05

802.11b_Nss1_2TX **CSE-RX**

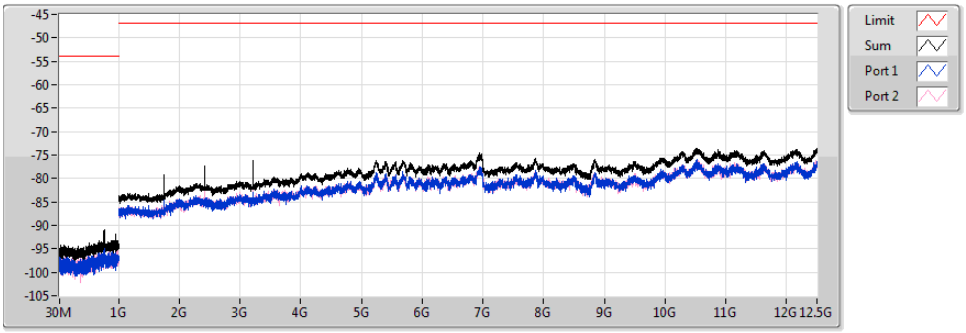
2442MHz_Vmin



Freq(MHz)	Psum(dBm)	Limit(dBm)	Margin(dB)	P1(dBm)	P2(dBm)
775.93	-86.20	-53.98	-32.22	-86.62	-96.62
12143.5	-73.40	-46.99	-26.41	-76.33	-76.48

802.11b_Nss1_2TX **CSE-RX**

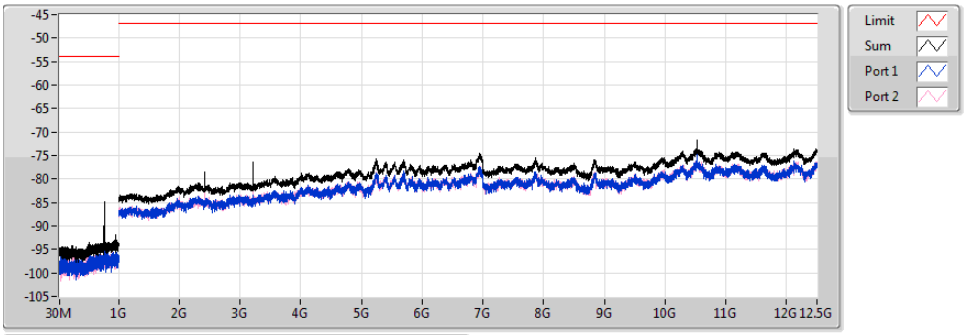
2442MHz_Vmax



Freq(MHz)	Psum(dBm)	Limit(dBm)	Margin(dB)	P1(dBm)	P2(dBm)
774.475	-90.93	-53.98	-36.95	-95.53	-92.78
10506.187	-73.60	-46.99	-26.61	-76.23	-77.02

802.11b_Nss1_2TX **CSE-RX**

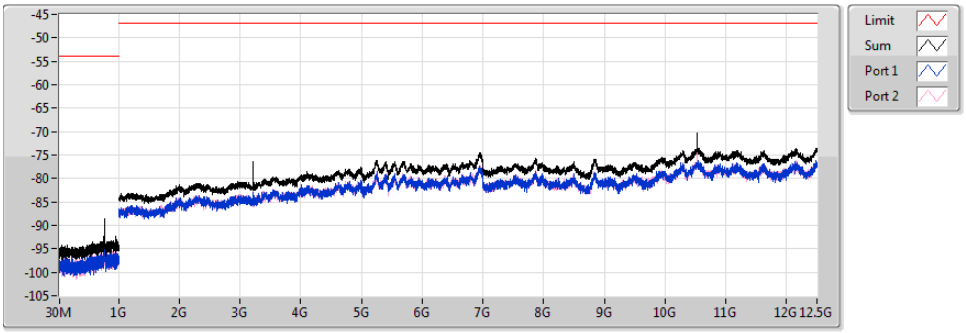
2472MHz_Vnom



Freq(MHz)	Psum(dBm)	Limit(dBm)	Margin(dB)	P1(dBm)	P2(dBm)
776.9	-84.88	-53.98	-30.90	-86.07	-91.08
10524.875	-71.67	-46.99	-24.68	-73.55	-76.22

802.11b_Nss1_2TX **CSE-RX**

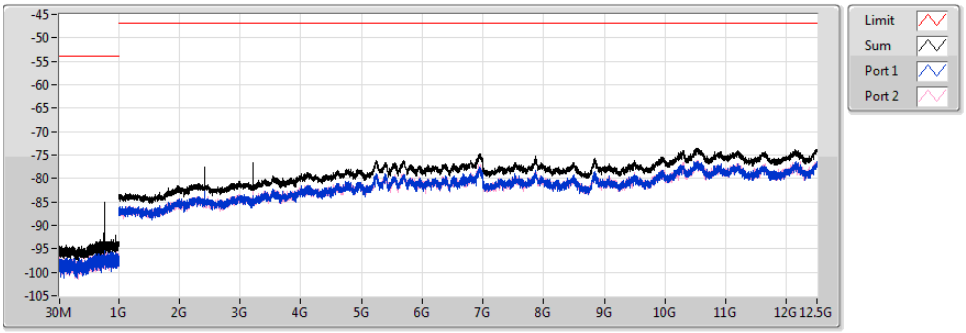
2472MHz_Vmin



Freq(MHz)	Psum(dBm)	Limit(dBm)	Margin(dB)	P1(dBm)	P2(dBm)
776.415	-88.60	-53.98	-34.62	-90.86	-92.52
10524.875	-70.20	-46.99	-23.21	-76.85	-71.26

802.11b_Nss1_2TX **CSE-RX**

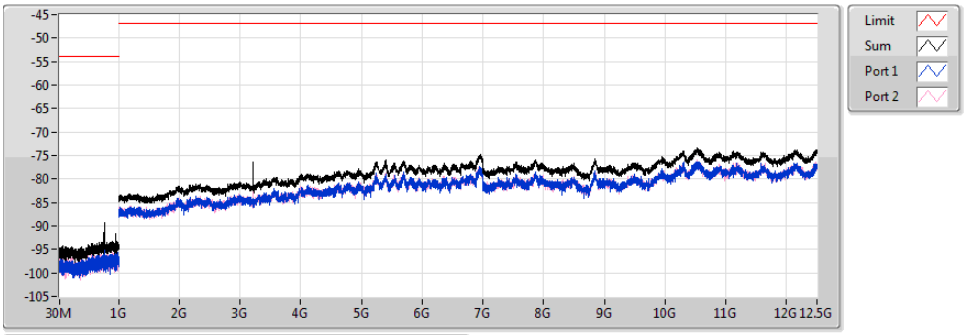
2472MHz_Vmax



Freq(MHz)	Psum(dBm)	Limit(dBm)	Margin(dB)	P1(dBm)	P2(dBm)
775.93	-85.08	-53.98	-31.10	-85.40	-96.64
10530.625	-73.50	-46.99	-26.51	-76.75	-76.28

802.11g_Nss1_2TX **CSE-RX**

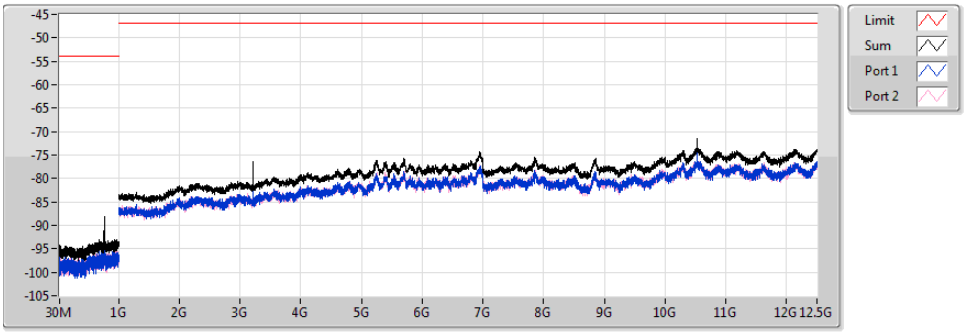
2412MHz_Vnom



Freq(MHz)	Psum(dBm)	Limit(dBm)	Margin(dB)	P1(dBm)	P2(dBm)
770.11	-89.39	-53.98	-35.41	-94.93	-90.81
10526.312	-73.44	-46.99	-26.46	-76.96	-76.00

802.11g_Nss1_2TX **CSE-RX**

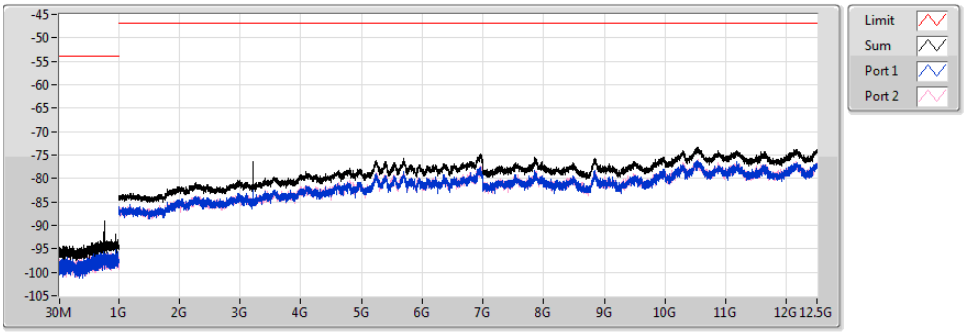
2412MHz_Vmin



Freq(MHz)	Psum(dBm)	Limit(dBm)	Margin(dB)	P1(dBm)	P2(dBm)
771.08	-88.17	-53.98	-34.19	-95.16	-89.14
10526.312	-71.49	-46.99	-24.50	-74.48	-74.51

802.11g_Nss1_2TX **CSE-RX**

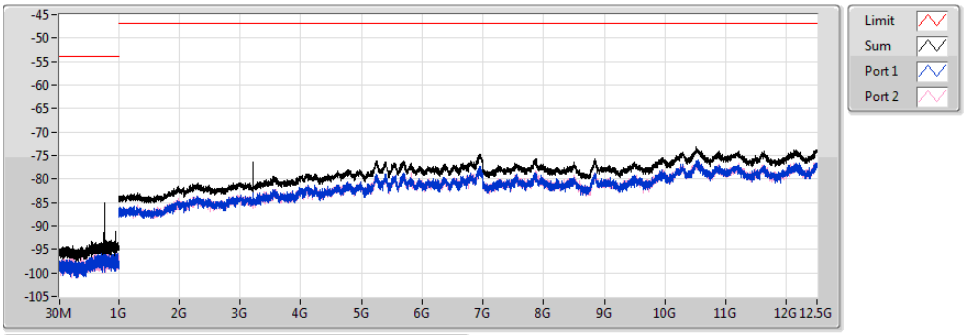
2412MHz_Vmax



Freq(MHz)	Psum(dBm)	Limit(dBm)	Margin(dB)	P1(dBm)	P2(dBm)
772.05	-89.00	-53.98	-35.02	-94.53	-90.42
10553.625	-73.30	-46.99	-26.31	-76.64	-76.00

802.11g_Nss1_2TX **CSE-RX**

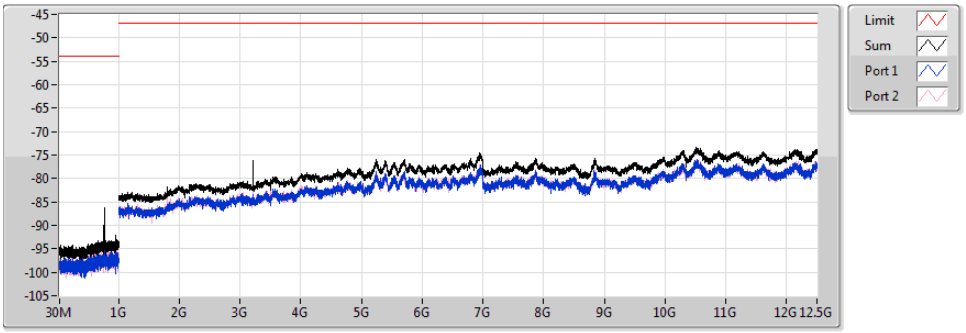
2442MHz_Vnom



Freq(MHz)	Psum(dBm)	Limit(dBm)	Margin(dB)	P1(dBm)	P2(dBm)
771.565	-84.98	-53.98	-31.00	-86.34	-90.70
10517.687	-73.08	-46.99	-26.09	-76.06	-76.12

802.11g_Nss1_2TX **CSE-RX**

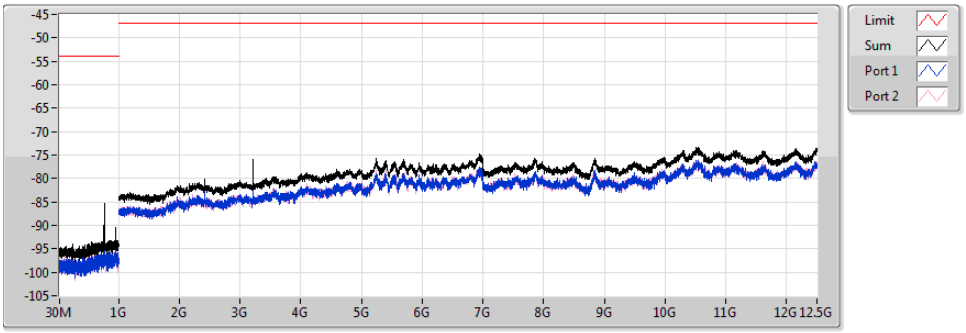
2442MHz_Vmin



Freq(MHz)	Psum(dBm)	Limit(dBm)	Margin(dB)	P1(dBm)	P2(dBm)
771.565	-86.18	-53.98	-32.20	-86.52	-97.39
10516.25	-73.30	-46.99	-26.31	-76.52	-76.10

802.11g_Nss1_2TX **CSE-RX**

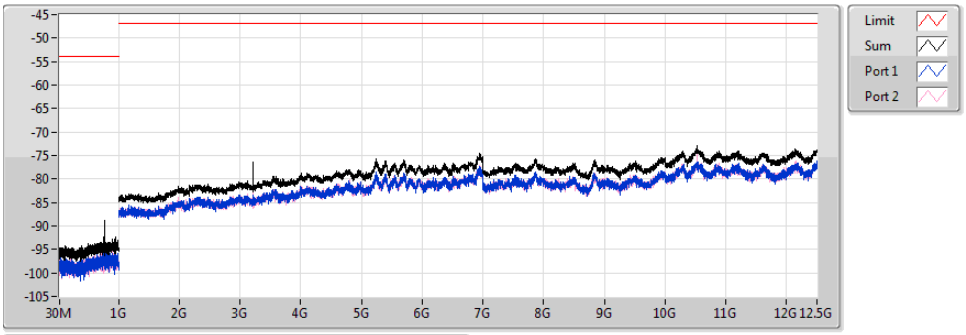
2442MHz_Vmax



Freq(MHz)	Psum(dBm)	Limit(dBm)	Margin(dB)	P1(dBm)	P2(dBm)
772.05	-85.26	-53.98	-31.28	-86.50	-91.33
10550.75	-73.30	-46.99	-26.31	-76.63	-76.01

802.11g_Nss1_2TX **CSE-RX**

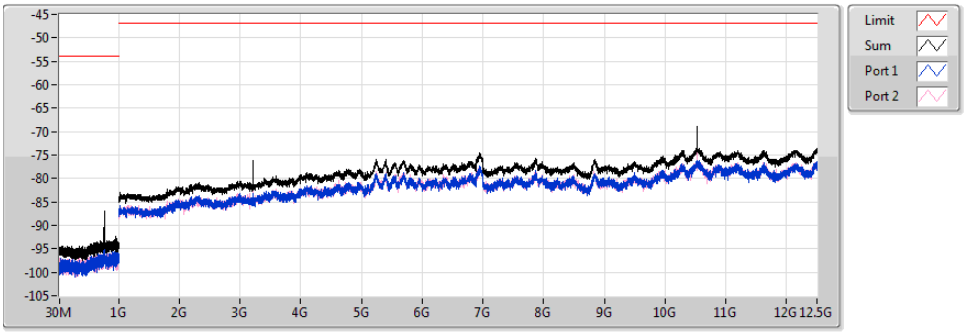
2472MHz_Vnom



Freq(MHz)	Psum(dBm)	Limit(dBm)	Margin(dB)	P1(dBm)	P2(dBm)
776.9	-88.92	-53.98	-34.94	-89.74	-96.54
10523.437	-72.80	-46.99	-25.81	-77.42	-74.65

802.11g_Nss1_2TX **CSE-RX**

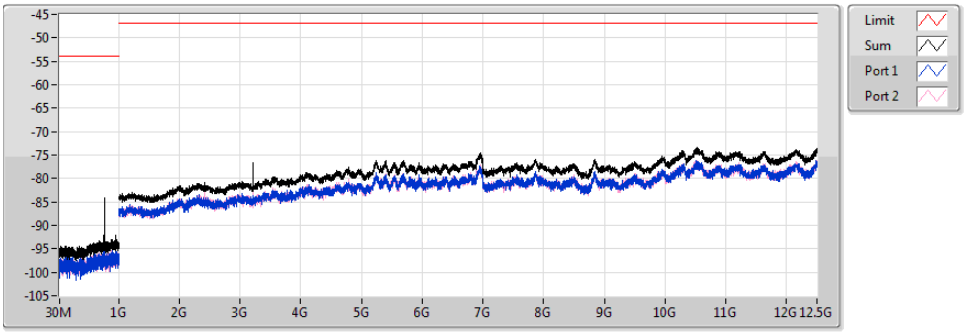
2472MHz_Vmin



Freq(MHz)	Psum(dBm)	Limit(dBm)	Margin(dB)	P1(dBm)	P2(dBm)
766.715	-87.03	-53.98	-33.05	-87.52	-96.80
10524.875	-69.01	-46.99	-22.02	-77.14	-69.73

802.11g_Nss1_2TX **CSE-RX**

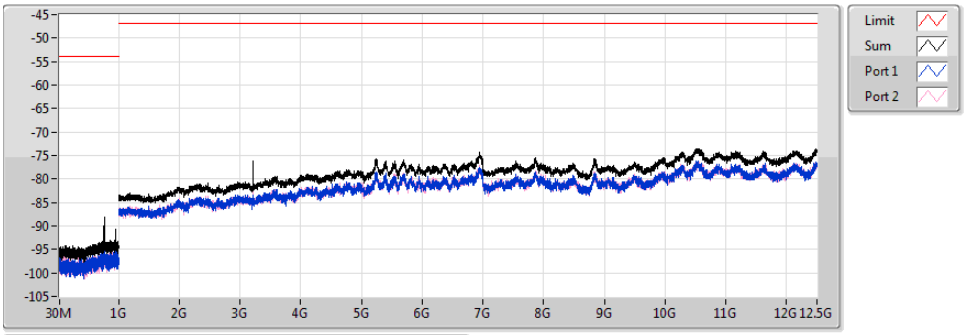
2472MHz_Vmax



Freq(MHz)	Psum(dBm)	Limit(dBm)	Margin(dB)	P1(dBm)	P2(dBm)
772.05	-84.05	-53.98	-30.07	-84.77	-92.23
10524.875	-73.38	-46.99	-26.39	-76.52	-76.27

802.11n HT20_Nss1,(MCS0)_2TX **CSE-RX**

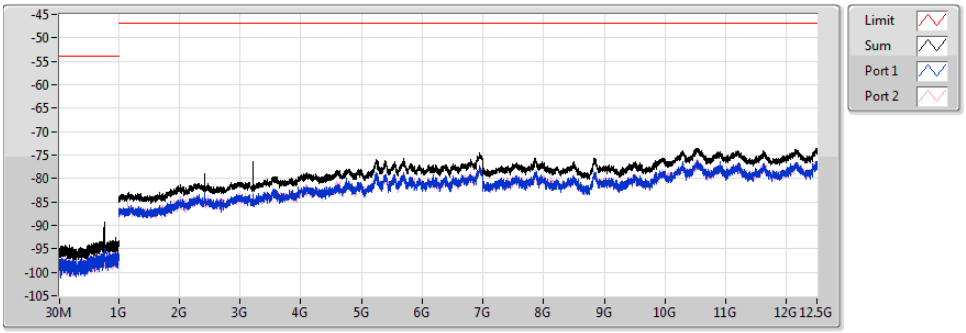
2412MHz_Vnom



Freq(MHz)	Psum(dBm)	Limit(dBm)	Margin(dB)	P1(dBm)	P2(dBm)
766.715	-88.15	-53.98	-34.17	-88.71	-97.35
10520.562	-73.56	-46.99	-26.57	-76.59	-76.55

802.11n HT20_Nss1,(MCS0)_2TX **CSE-RX**

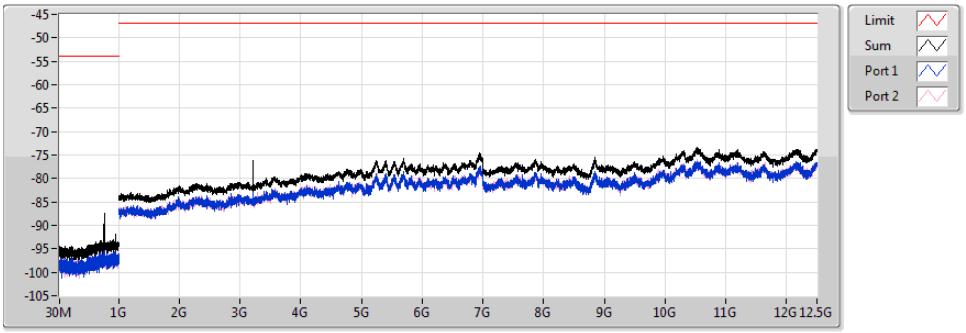
2412MHz_Vmin



Freq(MHz)	Psum(dBm)	Limit(dBm)	Margin(dB)	P1(dBm)	P2(dBm)
766.715	-89.33	-53.98	-35.36	-90.00	-97.82
10526.312	-73.52	-46.99	-26.53	-77.63	-75.65

802.11n HT20_Nss1,(MCS0)_2TX **CSE-RX**

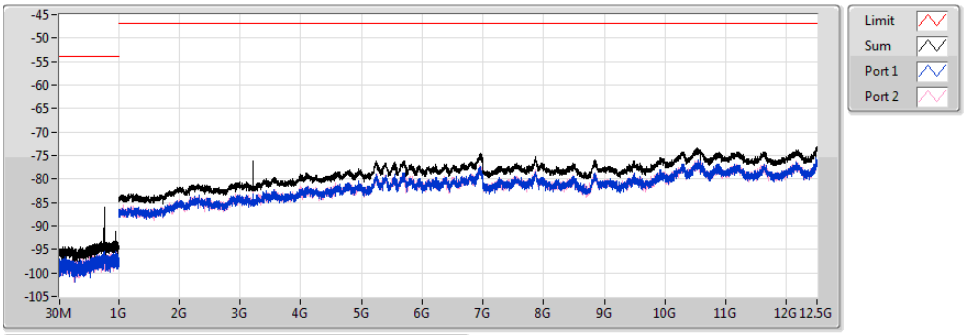
2412MHz_Vmax



Freq(MHz)	Psum(dBm)	Limit(dBm)	Margin(dB)	P1(dBm)	P2(dBm)
774.475	-87.42	-53.98	-33.44	-89.87	-91.07
10520.562	-73.24	-46.99	-26.26	-76.47	-76.05

802.11n HT20_Nss1,(MCS0)_2TX **CSE-RX**

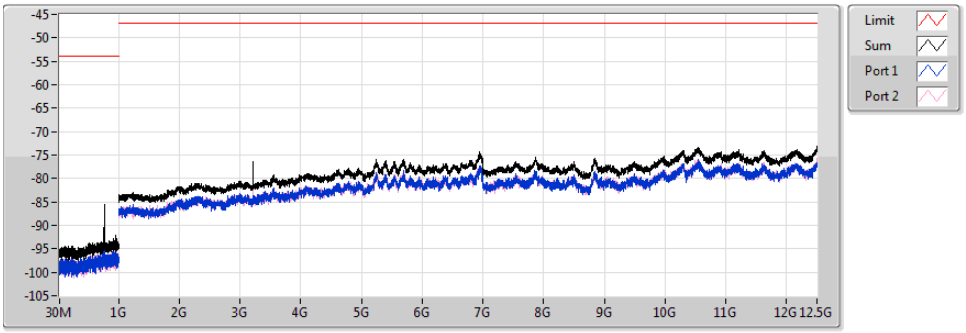
2442MHz_Vnom



Freq(MHz)	Psum(dBm)	Limit(dBm)	Margin(dB)	P1(dBm)	P2(dBm)
775.445	-86.09	-53.98	-32.11	-86.45	-97.17
12497.125	-73.15	-46.99	-26.16	-75.95	-76.37

802.11n HT20_Nss1,(MCS0)_2TX **CSE-RX**

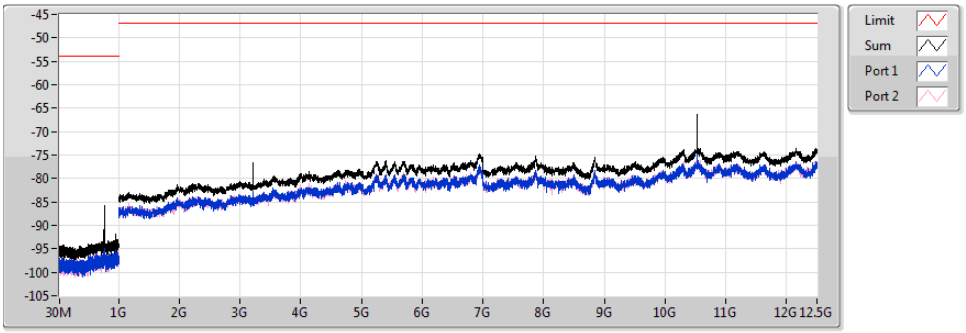
2442MHz_Vmin



Freq(MHz)	Psum(dBm)	Limit(dBm)	Margin(dB)	P1(dBm)	P2(dBm)
772.05	-85.59	-53.98	-31.61	-85.95	-96.49
12497.125	-73.07	-46.99	-26.08	-76.54	-75.66

802.11n HT20_Nss1,(MCS0)_2TX **CSE-RX**

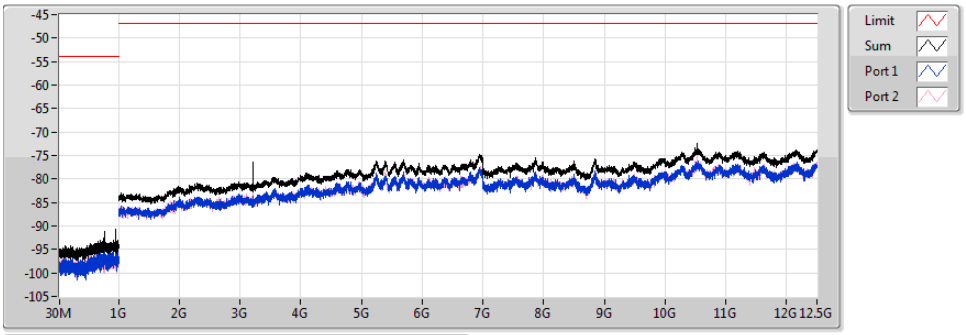
2442MHz_Vmax



Freq(MHz)	Psum(dBm)	Limit(dBm)	Margin(dB)	P1(dBm)	P2(dBm)
772.535	-85.76	-53.98	-31.79	-86.10	-97.02
10524.875	-66.26	-46.99	-19.27	-74.17	-67.03

802.11n HT20_Nss1,(MCS0)_2TX **CSE-RX**

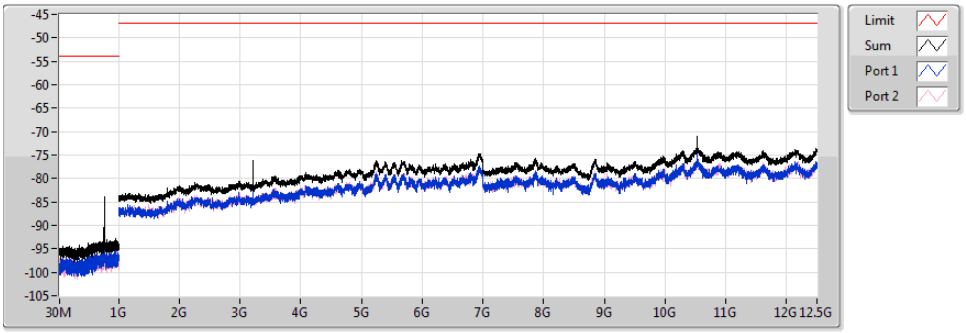
2472MHz_Vnom



Freq(MHz)	Psum(dBm)	Limit(dBm)	Margin(dB)	P1(dBm)	P2(dBm)
951.985	-90.76	-53.98	-36.78	-92.05	-96.66
10524.875	-72.47	-46.99	-25.48	-77.33	-74.19

802.11n HT20_Nss1,(MCS0)_2TX **CSE-RX**

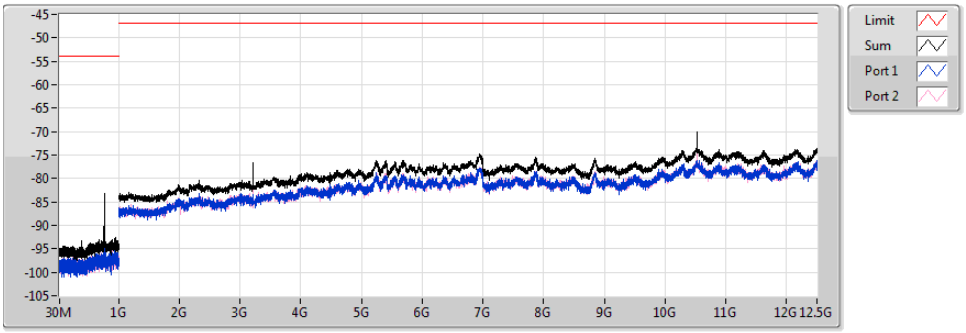
2472MHz_Vmin



Freq(MHz)	Psum(dBm)	Limit(dBm)	Margin(dB)	P1(dBm)	P2(dBm)
776.9	-83.95	-53.98	-29.97	-84.50	-93.15
10524.875	-71.06	-46.99	-24.08	-72.16	-77.58

802.11n HT20_Nss1,(MCS0)_2TX **CSE-RX**

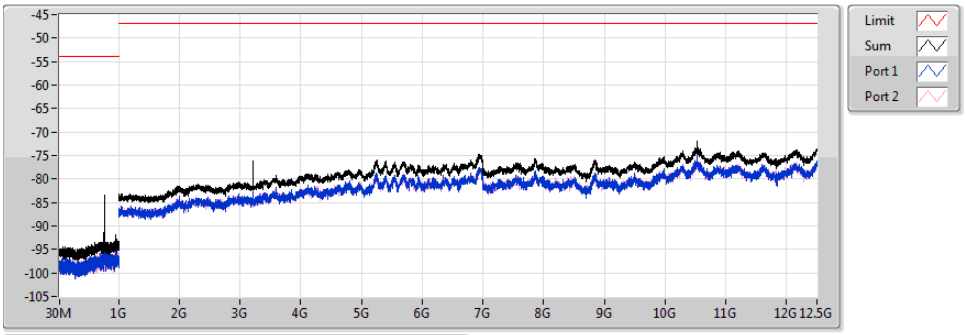
2472MHz_Vmax



Freq(MHz)	Psum(dBm)	Limit(dBm)	Margin(dB)	P1(dBm)	P2(dBm)
771.565	-83.15	-53.98	-29.17	-85.23	-87.35
10524.875	-70.14	-46.99	-23.15	-77.21	-71.09

802.11n HT40_Nss1,(MCS0)_2TX **CSE-RX**

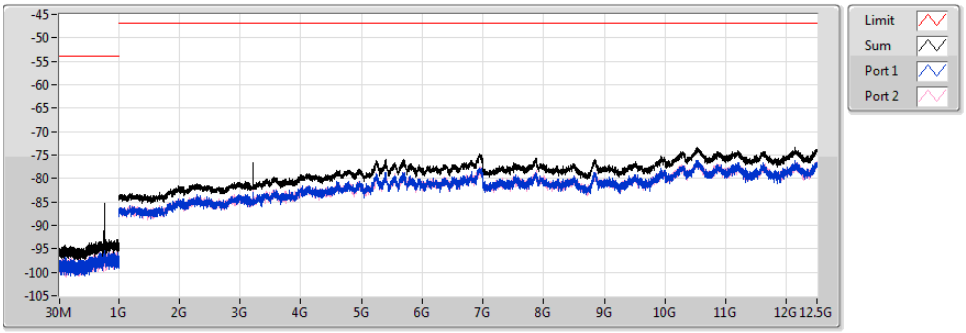
2422MHz_Vnom



Freq(MHz)	Psum(dBm)	Limit(dBm)	Margin(dB)	P1(dBm)	P2(dBm)
772.535	-83.46	-53.98	-29.48	-84.51	-90.11
10526.312	-72.05	-46.99	-25.06	-73.79	-76.87

802.11n HT40_Nss1,(MCS0)_2TX **CSE-RX**

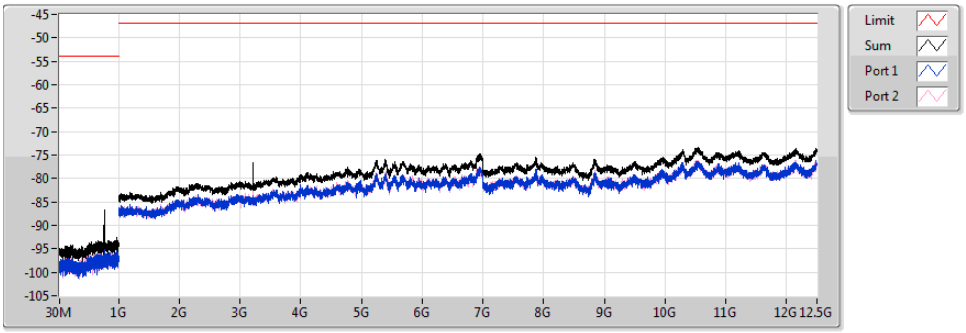
2422MHz_Vmin



Freq(MHz)	Psum(dBm)	Limit(dBm)	Margin(dB)	P1(dBm)	P2(dBm)
772.05	-85.29	-53.98	-31.31	-86.23	-92.40
10530.625	-73.36	-46.99	-26.37	-76.09	-76.67

802.11n HT40_Nss1,(MCS0)_2TX **CSE-RX**

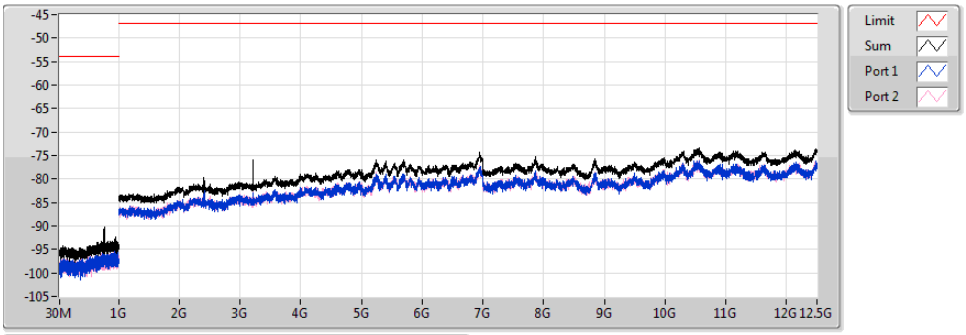
2422MHz_Vmax



Freq(MHz)	Psum(dBm)	Limit(dBm)	Margin(dB)	P1(dBm)	P2(dBm)
770.11	-86.70	-53.98	-32.72	-88.12	-92.25
10539.25	-73.35	-46.99	-26.36	-76.53	-76.20

802.11n HT40_Nss1,(MCS0)_2TX **CSE-RX**

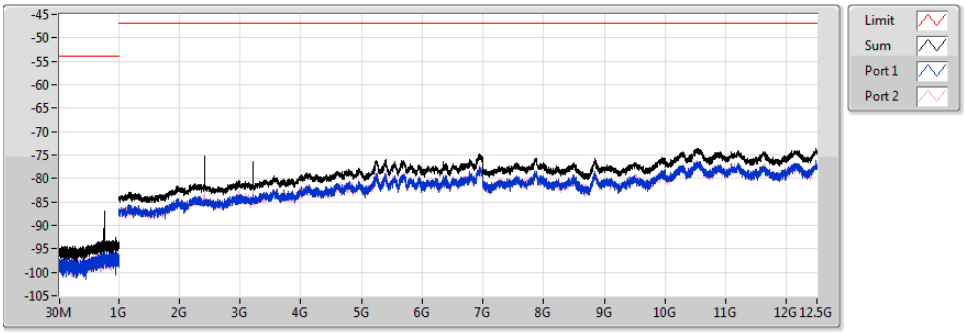
2442MHz_Vnom



Freq(MHz)	Psum(dBm)	Limit(dBm)	Margin(dB)	P1(dBm)	P2(dBm)
772.05	-90.16	-53.98	-36.18	-94.57	-92.12
10569.437	-73.41	-46.99	-26.42	-77.01	-75.90

802.11n HT40_Nss1,(MCS0)_2TX **CSE-RX**

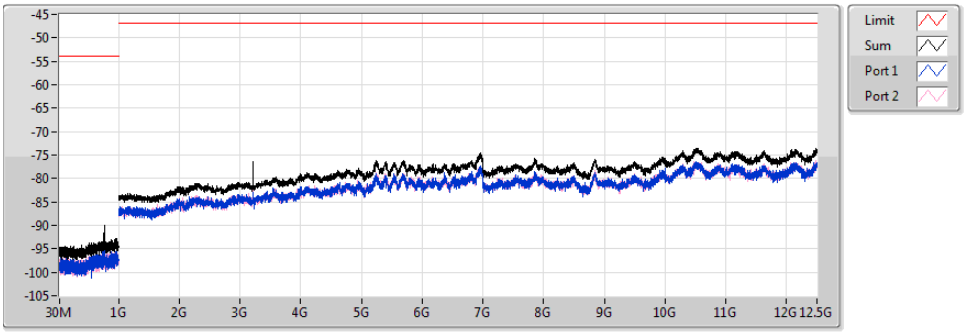
2442MHz_Vmin



Freq(MHz)	Psum(dBm)	Limit(dBm)	Margin(dB)	P1(dBm)	P2(dBm)
772.05	-86.90	-53.98	-32.93	-87.25	-98.02
10527.75	-73.53	-46.99	-26.54	-76.64	-76.44

802.11n HT40_Nss1,(MCS0)_2TX **CSE-RX**

2442MHz_Vmax



Freq(MHz)	Psum(dBm)	Limit(dBm)	Margin(dB)	P1(dBm)	P2(dBm)
766.715	-90.08	-53.98	-36.10	-90.92	-97.66
12487.062	-73.58	-46.99	-26.59	-76.93	-76.27

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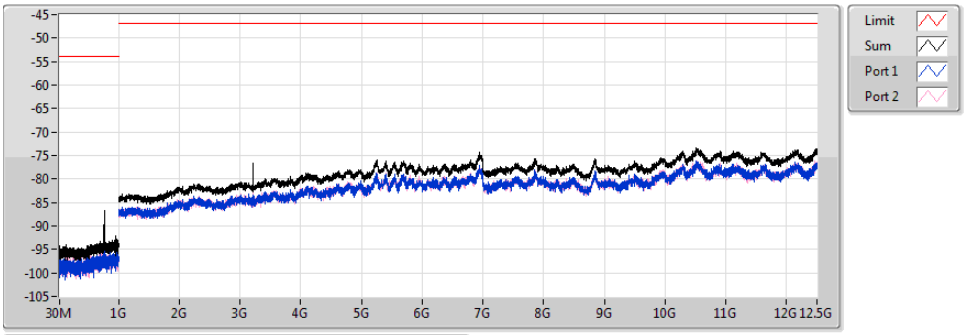
FAX : 886-3-318-0155

802.11n HT40_Nss1,(MCS0)_2TX **CSE-RX**

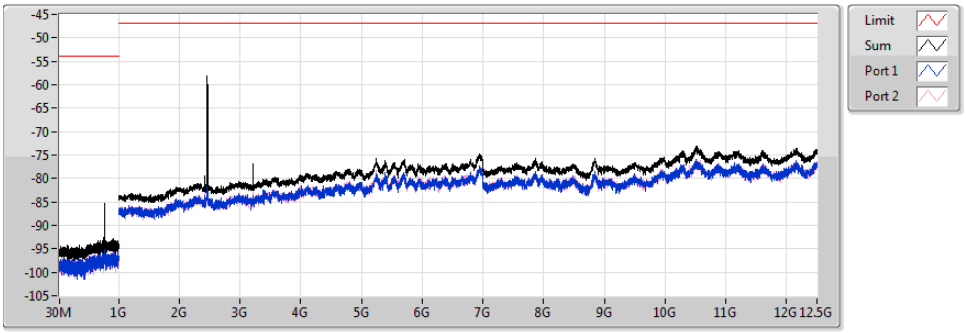
2462MHz_Vnom



Freq(MHz)	Psum(dBm)	Limit(dBm)	Margin(dB)	P1(dBm)	P2(dBm)
776.9	-86.73	-53.98	-32.75	-88.05	-92.54
10516.25	-73.44	-46.99	-26.45	-76.11	-76.82

802.11n HT40_Nss1,(MCS0)_2TX **CSE-RX**

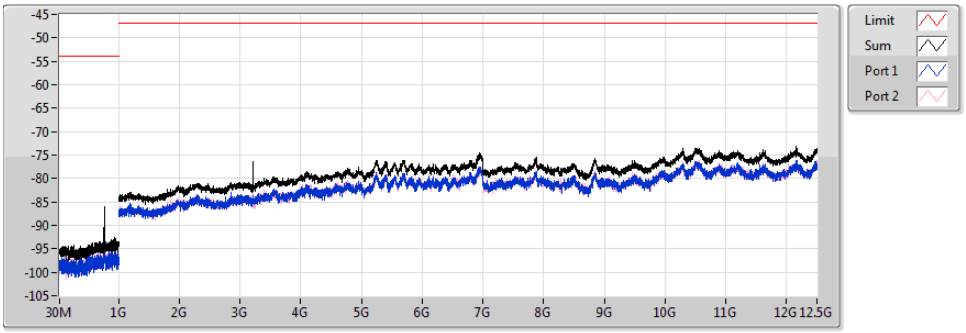
2462MHz_Vmin



Freq(MHz)	Psum(dBm)	Limit(dBm)	Margin(dB)	P1(dBm)	P2(dBm)
777.385	-85.31	-53.98	-31.33	-86.34	-92.09
2460.5	-58.12	-46.99	-11.13	-58.13	-84.79

802.11n HT40_Nss1,(MCS0)_2TX **CSE-RX**

2462MHz_Vmax



Freq(MHz)	Psum(dBm)	Limit(dBm)	Margin(dB)	P1(dBm)	P2(dBm)
775.445	-86.05	-53.98	-32.07	-87.40	-91.79
12155	-73.23	-46.99	-26.24	-76.09	-76.39

Summary

Mode	Power (dBm/MHz)	Power (mW/MHz)	EIRP (dBm/MHz)	EIRP (mW/MHz)
802.11b_Nss1_2TX	-	-	-	-
2.4-2.4835GHz	8.85	7.67846	11.64	14.59735

PD = Antenna Power (Power Density)sum by **P1**~**PN**;
P1 = Port 1 PD; **P2** = Port 2 PD; **P3** = Port 3 PD; **P4** = Port 4 PD; **ENBF** = Equivalent Noise Bandwidth Factor;

Result

Mode	Result	Gain (dBi)	ENBF (dB)	Power (dBm/MHz)	Power (mW/MHz)	Power Lim. (mW/MHz)	EIRP (dBm/MHz)	EIRP (mW/MHz)	EIRP Lim. (mW/MHz)	P1 (dBm/MHz)	P2 (dBm/MHz)
802.11b_Nss1_2TX	-	-	-	-	-	-	-	-	-	-	-
2484MHz_Vnom	Pass	2.79	0.49	8.85	7.67846	10	11.64	14.59735	16.37	5.95	5.73
2484MHz_Vmin	Pass	2.79	0.49	8.83	7.63550	10	11.62	14.51568	16.37	5.88	5.76
2484MHz_Vmax	Pass	2.79	0.49	8.77	7.53223	10	11.56	14.31935	16.37	5.75	5.77

PD = Antenna Power (Power Density)sum by **P1**~**PN**;
P1 = Port 1 PD; **P2** = Port 2 PD; **P3** = Port 3 PD; **P4** = Port 4 PD; **ENBF** = Equivalent Noise Bandwidth Factor;

Summary

Mode	Result	Power (dBm/MHz)	Power (mW/MHz)	Declare (dBm/MHz)	Declare (mW/MHz)	Tolerance (%)	Limit+ (%)	Limit- (%)
802.11b_Nss1_2TX	-	-	-	-	-	-	-	-
2.4-2.4835GHz	Pass	9.48	8.87156	9.54	9.00	-1.43	20	-80

Result

Mode	Result	Power (dBm/MHz)	Power (mW/MHz)	Declare (dBm/MHz)	Declare (mW/MHz)	Tolerance (%)	Limit+ (%)	Limit- (%)
802.11b_Nss1_2TX	-	-	-	-	-	-	-	-
2484MHz_Vnom	Pass	9.28	8.47227	9.54	9.00	-5.86	20	-80
2484MHz_Vmin	Pass	9.48	8.87156	9.54	9.00	-1.43	20	-80
2484MHz_Vmax	Pass	9.27	8.45279	9.54	9.00	-6.08	20	-80

Summary

Mode	Power (dBm)	Power (mW)	EIRP (dBm)	EIRP (mW)
802.11b_Nss1_2TX	-	-	-	-
2.4-2.4835GHz	17.86	61.09	17.86	61.09

P1 = Port 1 output power; **P2** = Port 2 output power; **P3** = Port 3 output power; **P4** = Port 4 output power;
Power = Total power sum by **P1**~**PN**;

Result

Mode	Result	Gain (dBi)	Power (dBm)	Power (mW)	Power Lim. (mW)	EIRP (dBm)	EIRP (mW)	EIRP Lim. (dBm)	P1 (dBm)	P2 (dBm)
802.11b_Nss1_2TX	-	-	-	-	-	-	-	-	-	-
2484MHz_Vnom	Pass	2.79	17.86	61.155	Inf	17.86	61.155	Inf	14.86	14.84
2484MHz_Vmin	Pass	2.79	17.84	60.823	Inf	17.84	60.823	Inf	14.81	14.85
2484MHz_Vmax	Pass	2.79	17.84	60.826	Inf	17.84	60.826	Inf	14.82	14.84

P1 = Port 1 output power; **P2** = Port 2 output power; **P3** = Port 3 output power; **P4** = Port 4 output power;
Power = Total power sum by **P1**~**PN**;

Summary

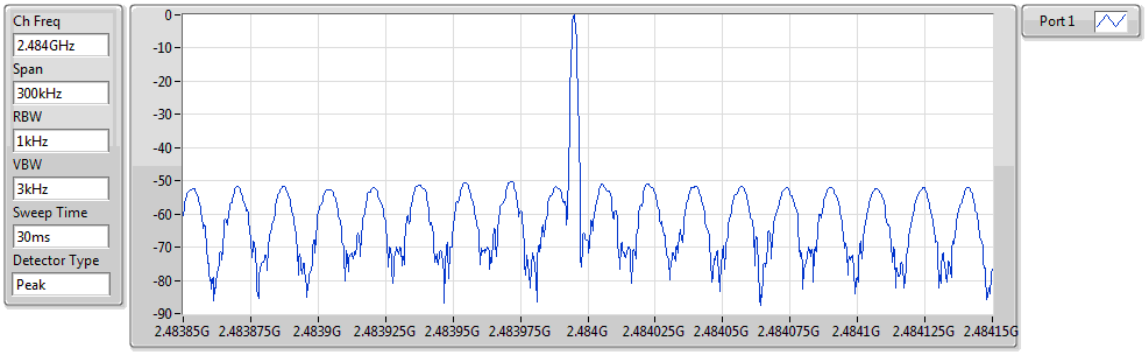
Mode	Result	Ch (MHz)	Center (Hz)	Fl (Hz)	Fh (Hz)	ppm	Limit (ppm)	Port	Remark
802.11b_Nss1_2TX	-	-	-	-	-	-	-	-	-
2.4-2.4835GHz	Pass	2484	2.4839942G	NaN	NaN	2.337	50	1	-

Result

Mode	Result	Ch (MHz)	Center (Hz)	Fl (Hz)	Fh (Hz)	ppm	Limit (ppm)	Port	Remark
802.11b_Nss1_2TX	-	-	-	-	-	-	-	-	-
2484MHz_Vnom	Pass	2484	2.48399496G	NaN	NaN	2.027	50	1	-
2484MHz_Vmin	Pass	2484	2.48399455G	NaN	NaN	2.195	50	1	-
2484MHz_Vmax	Pass	2484	2.4839942G	NaN	NaN	2.337	50	1	-

802.11b_Nss1_2TX **Freq. Stability**

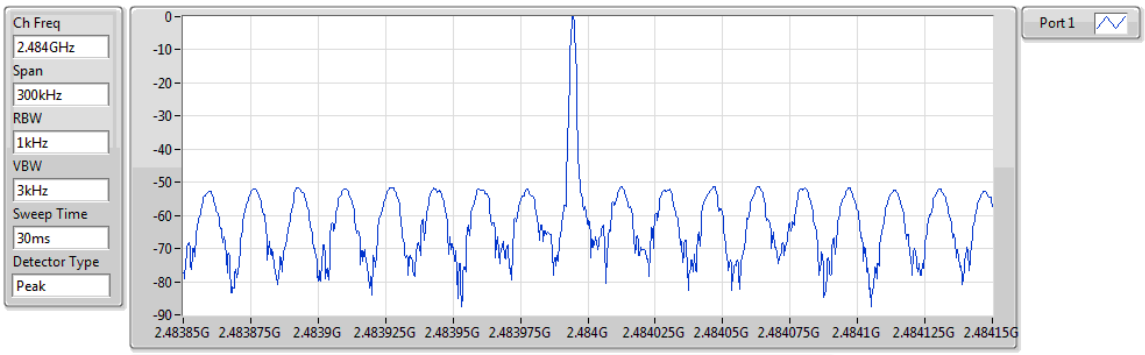
2484MHz_



Ch(MHz)	Center(Hz)	Fl(Hz)	Fh(Hz)	ppm	Limit(ppm)	Port	Remark
2484	2.48399496G	NaN	NaN	2.027	50	1	-

802.11b_Nss1_2TX **Freq. Stability**

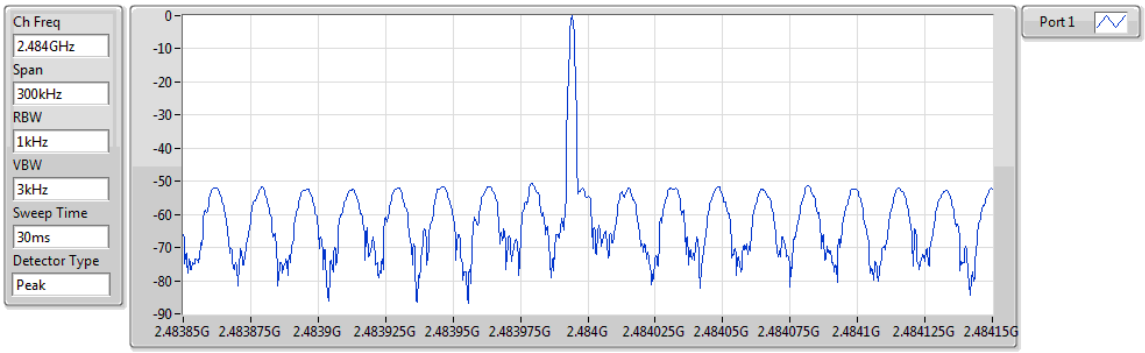
2484MHz_



Ch(MHz)	Center(Hz)	Fl(Hz)	Fh(Hz)	ppm	Limit(ppm)	Port	Remark
2484	2.48399455G	NaN	NaN	2.195	50	1	-

802.11b_Nss1_2TX **Freq. Stability**

2484MHz_



Ch(MHz)	Center(Hz)	Fl(Hz)	Fh(Hz)	ppm	Limit(ppm)	Port	Remark
2484	2.4839942G	NaN	NaN	2.337	50	1	-

Summary

Mode	Max-OBW (MHz)	ITU-Code	Min-OBW (MHz)
802.11b_Nss1_2TX	-	-	-
2.4-2.4835GHz	13.353	13H4G1D	13.333

Max-OBW = Maximum99% occupied bandwidth; **Min-OBW** = Minimum99% occupied bandwidth;

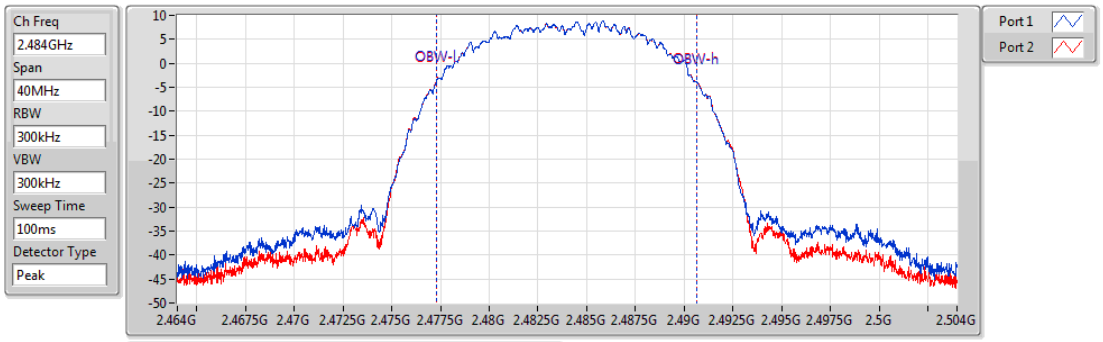
Result

Mode	Result	Limit (MHz)	P1-OBW (MHz)	P2-OBW (MHz)
802.11b_Nss1_2TX	-	-	-	-
2484MHz_Vnom	Pass	26	13.333	13.353
2484MHz_Vmin	Pass	26	13.353	13.353
2484MHz_Vmax	Pass	26	13.333	13.353

P1-OBW = Port 1 99% occupied bandwidth;**P2-OBW** = Port 299% occupied bandwidth;**P3-OBW** = Port 399% occupied bandwidth;**P4-OBW** = Port 499% occupied bandwidth;

802.11b_Nss1_2TX **OBW**

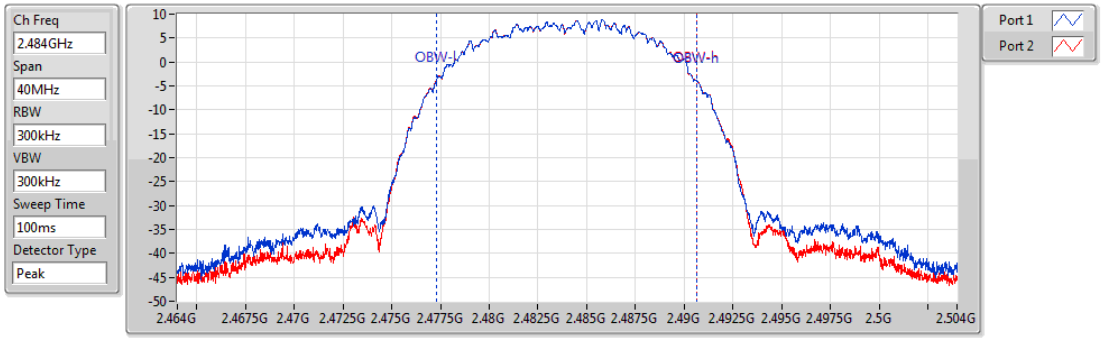
2484MHz_Vnom



OBW(MHz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(MHz)	Port
13.333	2.477323G	2.490657G	26	1
13.353	2.477303G	2.490657G	26	2

802.11b_Nss1_2TX **OBW**

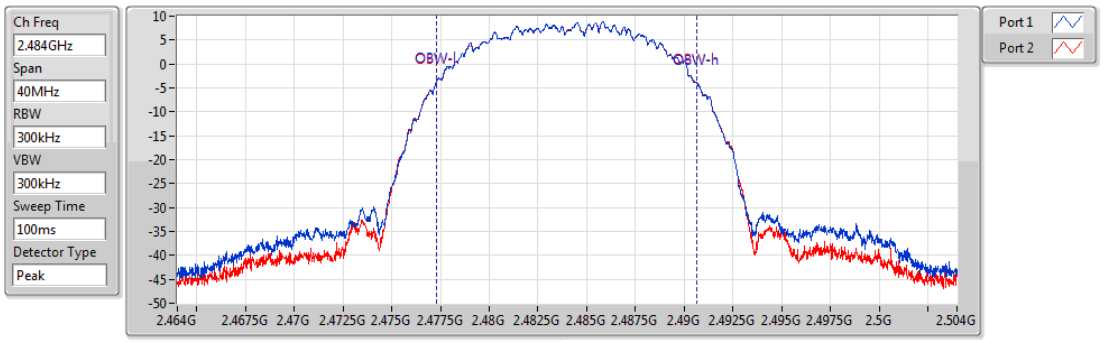
2484MHz_Vmin



OBW(MHz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(MHz)	Port
13.353	2.477303G	2.490657G	26	1
13.353	2.477303G	2.490657G	26	2

802.11b_Nss1_2TX **OBW**

2484MHz_Vmax



OBW(MHz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(MHz)	Port
13.333	2.477323G	2.490657G	26	1
13.353	2.477303G	2.490657G	26	2

Summary

Mode	Max-SBW (Hz)	Min-SBW (Hz)	Max-SF	Min-SF
802.11b_Nss1_2TX	-	-	-	-
2.4-2.4835GHz	13.833	13.813	13.833	13.813

Max-SBW = Maximumspreading bandwidth; **Min-SBW** = Minimumspreading bandwidth;
Max-SF = Maximumspreading factor; **Min-SF** = Minimumspreading factor;

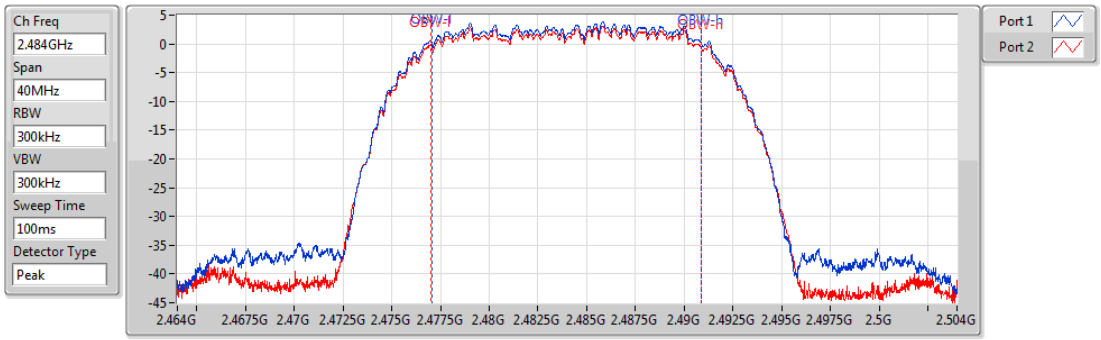
Result

Mode	Result	SBW Limit (MHz)	Symbol Rate (Msps)	SF Limit	P1-SBW (MHz)	P1-SF	P2-SBW (MHz)	P2-SF
802.11b_Nss1_2TX	-	-	-	-	-	-	-	-
2484MHz_Vnom	Pass	0.5	1	10	13.813	13.813	13.833	13.833
2484MHz_Vmin	Pass	0.5	1	10	13.813	13.813	13.833	13.833
2484MHz_Vmax	Pass	0.5	1	10	13.813	13.813	13.833	13.833

P1-SBW = Port 1 spreading bandwidth;**P2-SBW** = Port 2spreading bandwidth;**P3-SBW** = Port 3spreading bandwidth;
P4-OBW = Port 4spreading bandwidth;
P1-SF = Port 1 spreading factor;**P2-SF** = Port 2spreading factor;**P3-SF** = Port 3spreading factor;**P4-SF** = Port 4spreading factor;

802.11b_Nss1_2TX **SBW**

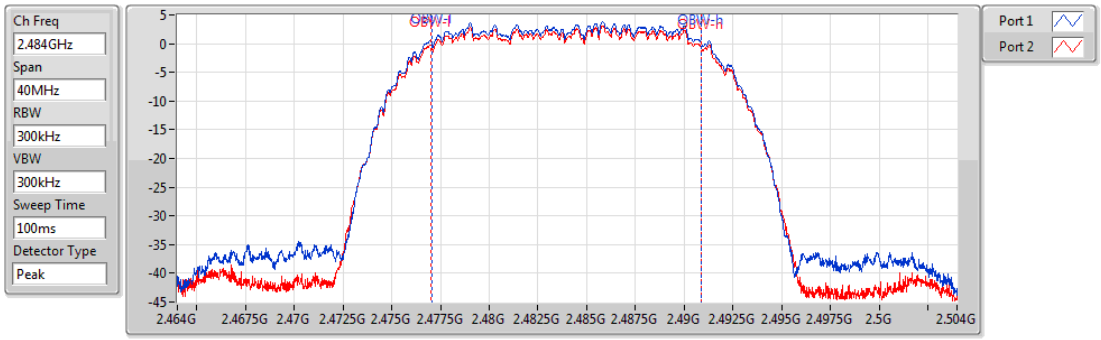
2484MHz_Vnom



SBW(MHz)	Fl-SBW(Hz)	Fh-SBW(Hz)	SBW Limit(M	Symbol Rate	SF	SF Limit	Port
13.813	2.477043G	2.490857G	0.5	1	13.813	10	1
13.833	2.477023G	2.490857G	0.5	1	13.833	10	2

802.11b_Nss1_2TX **SBW**

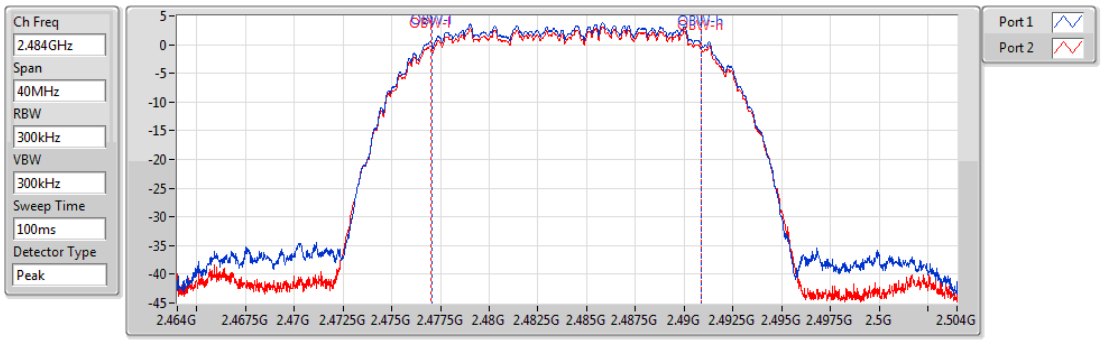
2484MHz_Vmin



SBW(MHz)	Fl-SBW(Hz)	Fh-SBW(Hz)	SBW Limit(M	Symbol Rate	SF	SF Limit	Port
13.813	2.477043G	2.490857G	0.5	1	13.813	10	1
13.833	2.477023G	2.490857G	0.5	1	13.833	10	2

802.11b_Nss1_2TX **SBW**

2484MHz_Vmax



SBW(MHz)	Fl-SBW(Hz)	Fh-SBW(Hz)	SBW Limit(M	Symbol Rate	SF	SF Limit	Port
13.813	2.477043G	2.490857G	0.5	1	13.813	10	1
13.833	2.477023G	2.490857G	0.5	1	13.833	10	2

Summary

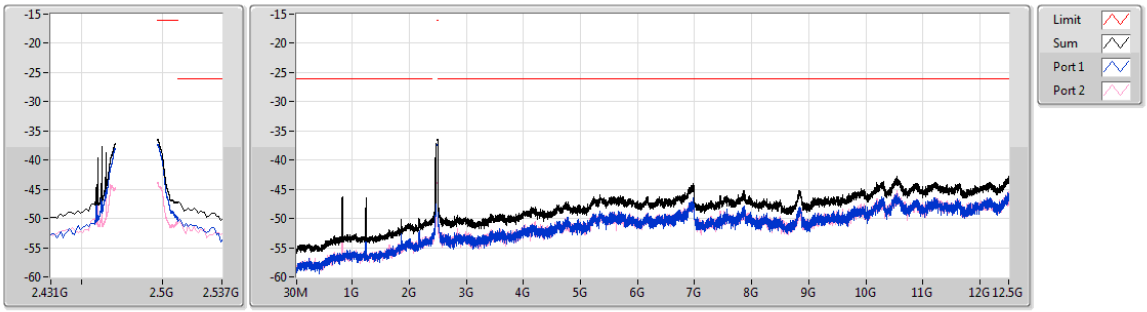
Mode	Result	F-Start (Hz)	F-Stop (Hz)	RBW (Hz)	Freq (MHz)	Psum (dBm)	Psum (uW)	Limit (dBm)	Limit (uW)	Margin (dB)	Loss (dB)	P1 (dBm)	P1 (uW)	P2 (dBm)	P2 (uW)
802.11b_Nss1_2TX	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2.4-2.4835GHz	Pass	2.51G	12.5G	1M	12497.503	-42.61	0.0548	-26.02	2.5	-16.59	5.69	-45.68	0.02706	-45.57	0.02775

Result

Mode	Result	F-Start (Hz)	F-Stop (Hz)	RBW (Hz)	Freq (MHz)	Psum (dBm)	Psum (uW)	Limit (dBm)	Limit (uW)	Margin (dB)	Loss (dB)	P1 (dBm)	P1 (uW)	P2 (dBm)	P2 (uW)
802.11b_Nss1_2TX	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2484MHz_Vnom	Pass	30M	2.458G	1M	828.812	-46.33	0.02327	-26.02	2.5	-20.31	0.89	-56.44	0.00227	-46.78	0.021
2484MHz_Vnom	Pass	2.497G	2.51G	1M	2497.208	-36.40	0.22887	-16.02	25	-20.38	1.50	-37.27	0.18745	-43.83	0.04143
2484MHz_Vnom	Pass	2.51G	12.5G	1M	4965.042	-47.68	0.01708	-26.02	2.5	-21.65	1.74	-50.19	0.00957	-51.25	0.00751
2484MHz_Vnom	Pass	2.51G	12.5G	1M	12500	-42.72	0.05343	-26.02	2.5	-16.70	5.69	-46.16	0.02419	-45.34	0.02924
2484MHz_Vmin	Pass	30M	2.458G	1M	826.384	-46.02	0.02501	-26.02	2.5	-20.00	0.89	-56.44	0.00227	-46.43	0.02274
2484MHz_Vmin	Pass	2.497G	2.51G	1M	2497.078	-36.41	0.22876	-16.02	25	-20.39	1.50	-37.29	0.18673	-43.76	0.04203
2484MHz_Vmin	Pass	2.51G	12.5G	1M	4965.042	-47.94	0.01609	-26.02	2.5	-21.92	1.74	-51.35	0.00732	-50.57	0.00876
2484MHz_Vmin	Pass	2.51G	12.5G	1M	12497.503	-42.61	0.0548	-26.02	2.5	-16.59	5.69	-45.68	0.02706	-45.57	0.02775
2484MHz_Vmax	Pass	30M	2.458G	1M	1241.572	-45.96	0.02537	-26.02	2.5	-19.94	0.99	-49.53	0.01114	-48.47	0.01423
2484MHz_Vmax	Pass	2.497G	2.51G	1M	2497.286	-36.45	0.2266	-16.02	25	-20.43	1.50	-37.29	0.1867	-43.99	0.03991
2484MHz_Vmax	Pass	2.51G	12.5G	1M	4968.789	-47.99	0.01589	-26.02	2.5	-21.97	1.74	-51.22	0.00755	-50.79	0.00833
2484MHz_Vmax	Pass	2.51G	12.5G	1M	10520.731	-42.71	0.05352	-26.02	2.5	-16.69	4.62	-45.27	0.02972	-46.23	0.0238

802.11b_Nss1_2TX **CSE-TX**

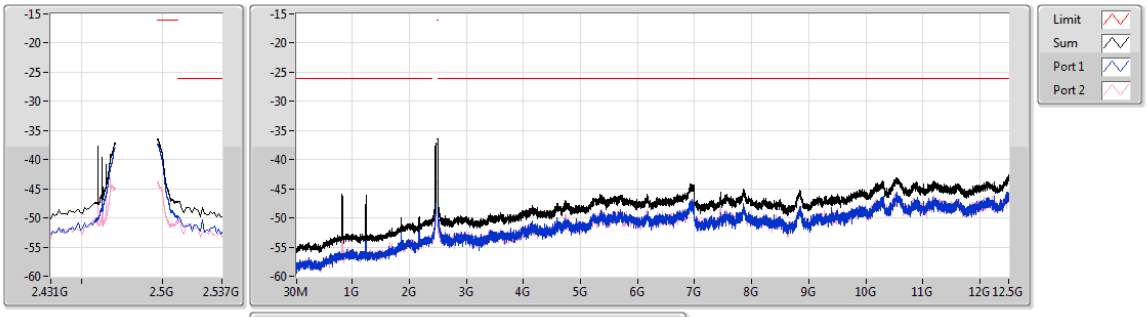
2484MHz_Vnom



Freq(MHz)	Psum(dBm)	Limit(dBm)	Margin(dB)	P1(dBm)	P2(dBm)
828.812	-46.33	-26.02	-20.31	-56.44	-46.78
2497.208	-36.40	-16.02	-20.38	-37.27	-43.83
4965.042	-47.68	-26.02	-21.65	-50.19	-51.25
12500	-42.72	-26.02	-16.70	-46.16	-45.34

802.11b_Nss1_2TX **CSE-TX**

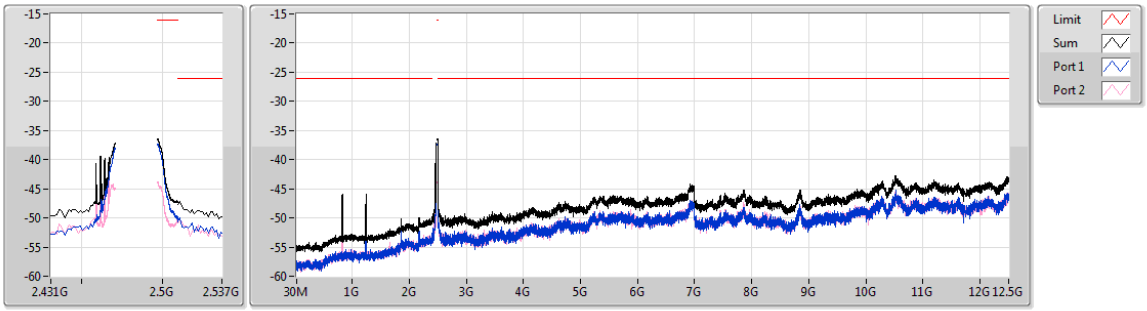
2484MHz_Vmin



Freq(MHz)	Psum(dBm)	Limit(dBm)	Margin(dB)	P1(dBm)	P2(dBm)
826.384	-46.02	-26.02	-20.00	-56.44	-46.43
2497.078	-36.41	-16.02	-20.39	-37.29	-43.76
4965.042	-47.94	-26.02	-21.92	-51.35	-50.57
12497.503	-42.61	-26.02	-16.59	-45.68	-45.57

802.11b_Nss1_2TX **CSE-TX**

2484MHz_Vmax



Freq(MHz)	Psum(dBm)	Limit(dBm)	Margin(dB)	P1(dBm)	P2(dBm)
1241.572	-45.96	-26.02	-19.94	-49.53	-48.47
2497.286	-36.45	-16.02	-20.43	-37.29	-43.99
4968.789	-47.99	-26.02	-21.97	-51.22	-50.79
10520.731	-42.71	-26.02	-16.69	-45.27	-46.23

Summary

Mode	Result	Interference Pin (dBm)	Function
802.11b_Nss1_2TX	-	-	-
2.4-2.4835GHz	Pass	-42.32	Good

Result

Mode	Result	Interference Pin (dBm)	Function
802.11b_Nss1_2TX	-	-	-
2484MHz_Vnom	Pass	-42.32	Good
2484MHz_Vmin	Pass	-42.32	Good
2484MHz_Vmax	Pass	-42.32	Good

Summary

Mode	Result	ID Length	ID Limit	Function
802.11b_Nss1_2TX	-	-	-	-
2.4-2.4835GHz	Pass	CO:EE:40:40:02:7C	48 bits	Good

Result

Mode	Result	ID Length	ID Limit	Function
802.11b_Nss1_2TX	-	-	-	-
2484MHz_Vnom	Pass	CO:EE:40:40:02:7C	48 bits	Good
2484MHz_Vmin	Pass	CO:EE:40:40:02:7C	48 bits	Good
2484MHz_Vmax	Pass	CO:EE:40:40:02:7C	48 bits	Good

Summary

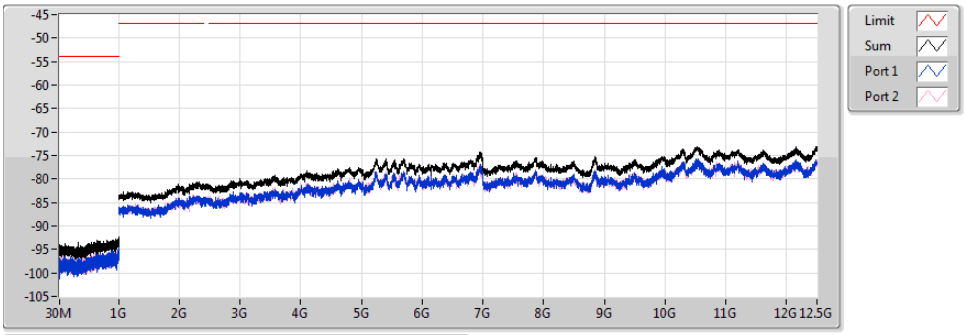
Mode	Result	F-Start (Hz)	F-Stop (Hz)	RBW (Hz)	Freq (MHz)	Psum (dBm)	Psum (nW)	Limit (dBm)	Limit (nW)	Margin (dB)	Loss (dB)	P1 (dBm)	P1 (nW)	P2 (dBm)	P2 (nW)
802.11b_Nss1_2TX	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2.4-2.4835GHz	Pass	1G	12.5G	1M	10556.5	-73.04	0.0497	-46.99	20	-26.05	4.63	-75.39	0.0289	-76.82	0.02081

Result

Mode	Result	F-Start (Hz)	F-Stop (Hz)	RBW (Hz)	Freq (MHz)	Psum (dBm)	Psum (nW)	Limit (dBm)	Limit (nW)	Margin (dB)	Loss (dB)	P1 (dBm)	P1 (nW)	P2 (dBm)	P2 (nW)
802.11b_Nss1_2TX	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2484MHz_Vnom	Pass	30M	1G	100k	998.545	-92.43	0.00057	-53.98	4	-38.45	0.88	-94.53	0.00035	-96.60	0.00022
2484MHz_Vnom	Pass	1G	12.5G	1M	10524.875	-73.05	0.04953	-46.99	20	-26.06	4.61	-75.94	0.02549	-76.19	0.02404
2484MHz_Vmin	Pass	30M	1G	100k	923.37	-92.63	0.00055	-53.98	4	-38.65	0.88	-95.31	0.00029	-96.00	0.00025
2484MHz_Vmin	Pass	1G	12.5G	1M	10556.5	-73.04	0.0497	-46.99	20	-26.05	4.63	-75.39	0.0289	-76.82	0.02081
2484MHz_Vmax	Pass	30M	1G	100k	956.835	-92.52	0.00056	-53.98	4	-38.54	0.88	-95.24	0.0003	-95.83	0.00026
2484MHz_Vmax	Pass	1G	12.5G	1M	10534.937	-73.17	0.04824	-46.99	20	-26.18	4.62	-76.30	0.02346	-76.06	0.02478

802.11b_Nss1_2TX **CSE-RX**

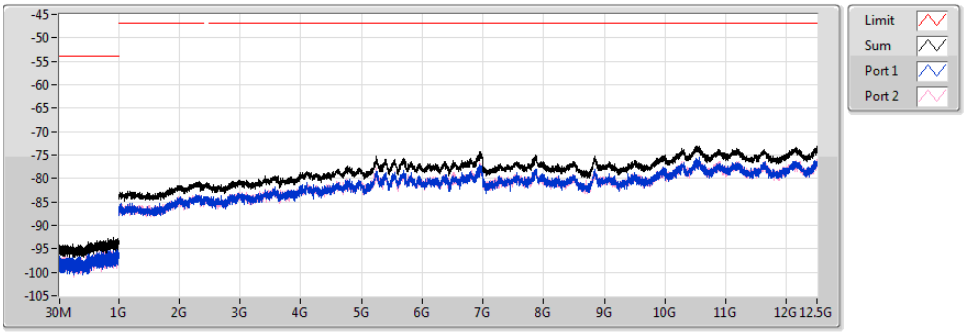
2484MHz_Vnom



Freq(MHz)	Psum(dBm)	Limit(dBm)	Margin(dB)	P1(dBm)	P2(dBm)
998.545	-92.43	-53.98	-38.45	-94.53	-96.60
10524.875	-73.05	-46.99	-26.06	-75.94	-76.19

802.11b_Nss1_2TX **CSE-RX**

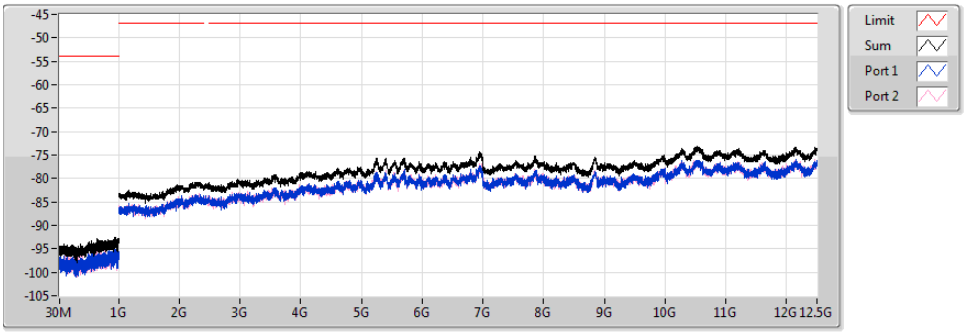
2484MHz_Vmin



Freq(MHz)	Psum(dBm)	Limit(dBm)	Margin(dB)	P1(dBm)	P2(dBm)
923.37	-92.63	-53.98	-38.65	-95.31	-96.00
10556.5	-73.04	-46.99	-26.05	-75.39	-76.82

802.11b_Nss1_2TX **CSE-RX**

2484MHz_Vmax



Freq(MHz)	Psum(dBm)	Limit(dBm)	Margin(dB)	P1(dBm)	P2(dBm)
956.835	-92.52	-53.98	-38.54	-95.24	-95.83
10534.937	-73.17	-46.99	-26.18	-76.30	-76.06

Appendix Q. Antenna Information

2.4 GHz / 5.5 GHz Dipole 2 dBi Antenna for Reverse Polarity SMA

ORDERING INFORMATION

Order Number	Description
001-0009	2.4/5.5GHz Dipole Antenna for Reverse Polarity SMA Connector.
080-0001	U.FL to Reverse Polarity SMA Cable, 105mm

Table 1 Orderable Part Numbers

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SPECIFICATIONS

Specification	Value
2.4Ghz Band Peak Gain	+2 dBi
5 GHz Band Peak Gain	+2 dBi
Impedance	50 ohms, Nominal
Type	Dipole
Polarization	Linear Vertical
VSWR	≤2.0：1, Maximum
Frequency	2400-2500MHz, 5150-5850MHz
Weight	22g
Size	137 × 13 mm
Antenna Color	Black
Operating Temp	－20°C＋65°C
UL Rating	UL 94HB

Table 2 Specifications

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PHYSICAL DIMENSIONS (MM)

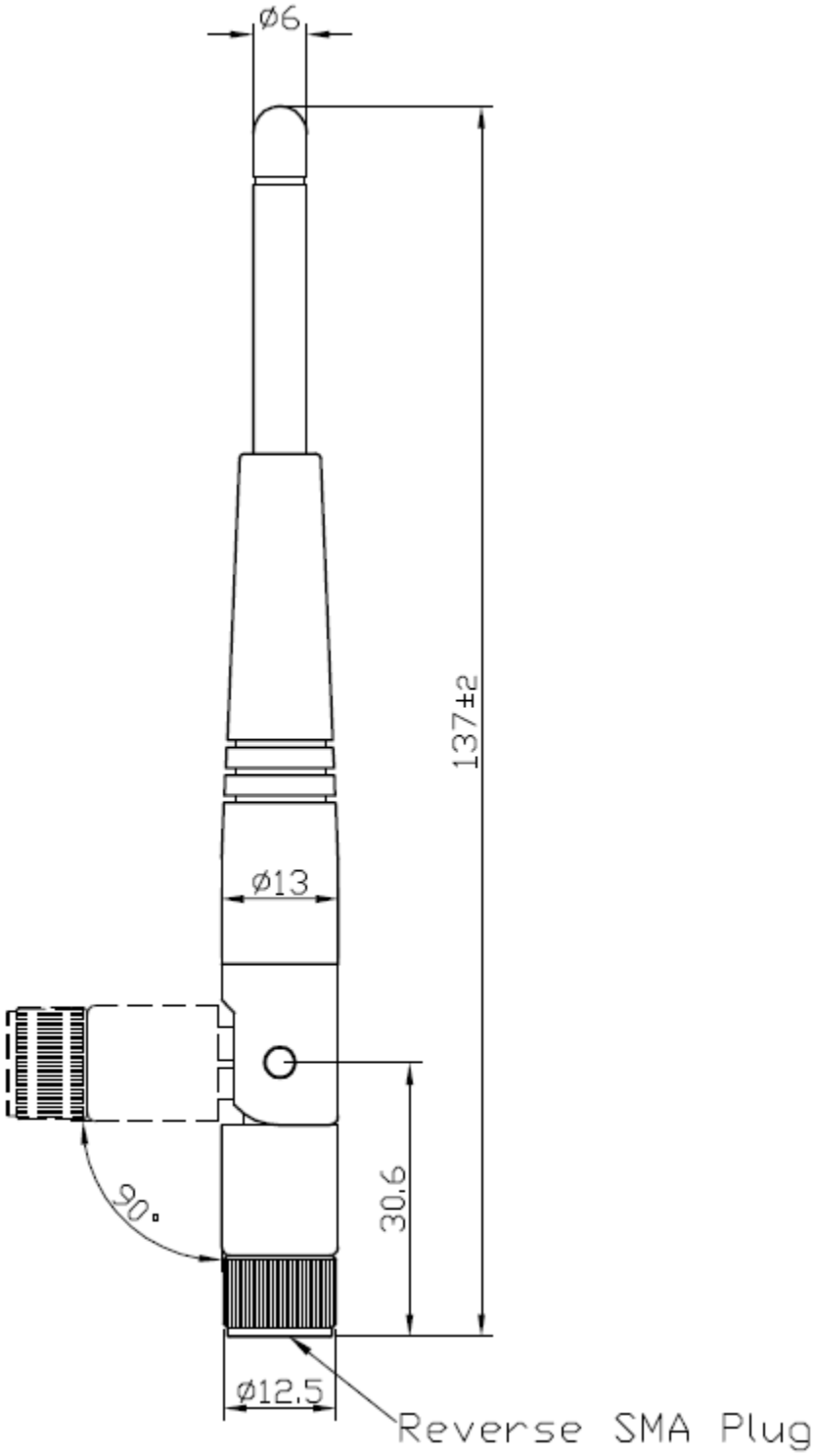

Figure 1 Physical Dimensions

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TYPICAL ANTENNA REFLECTION PERFORMANCE

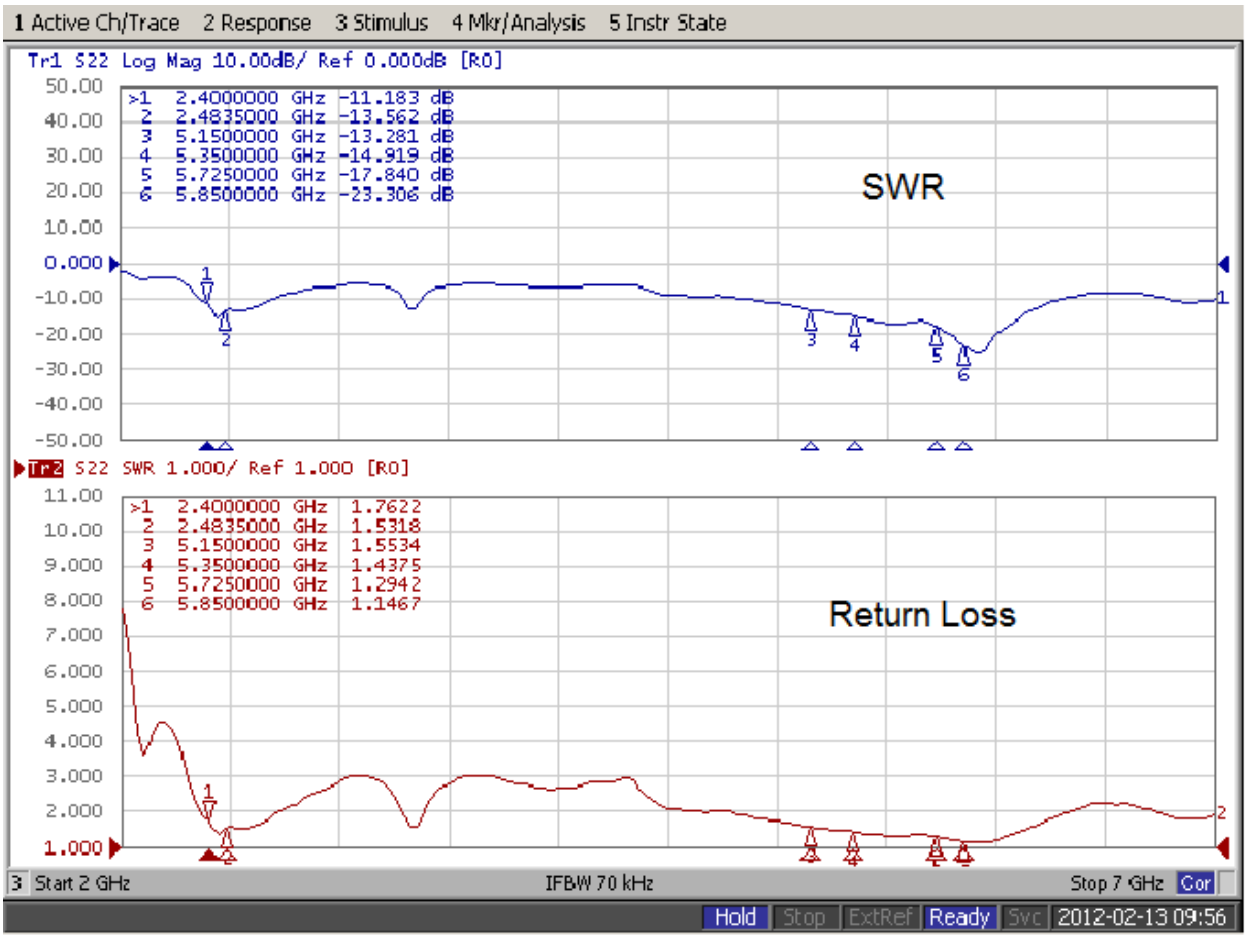

Figure 2 Typical Antenna Reflection Performance

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TYPICAL ANTENNA RADIATION PERFORMANCE

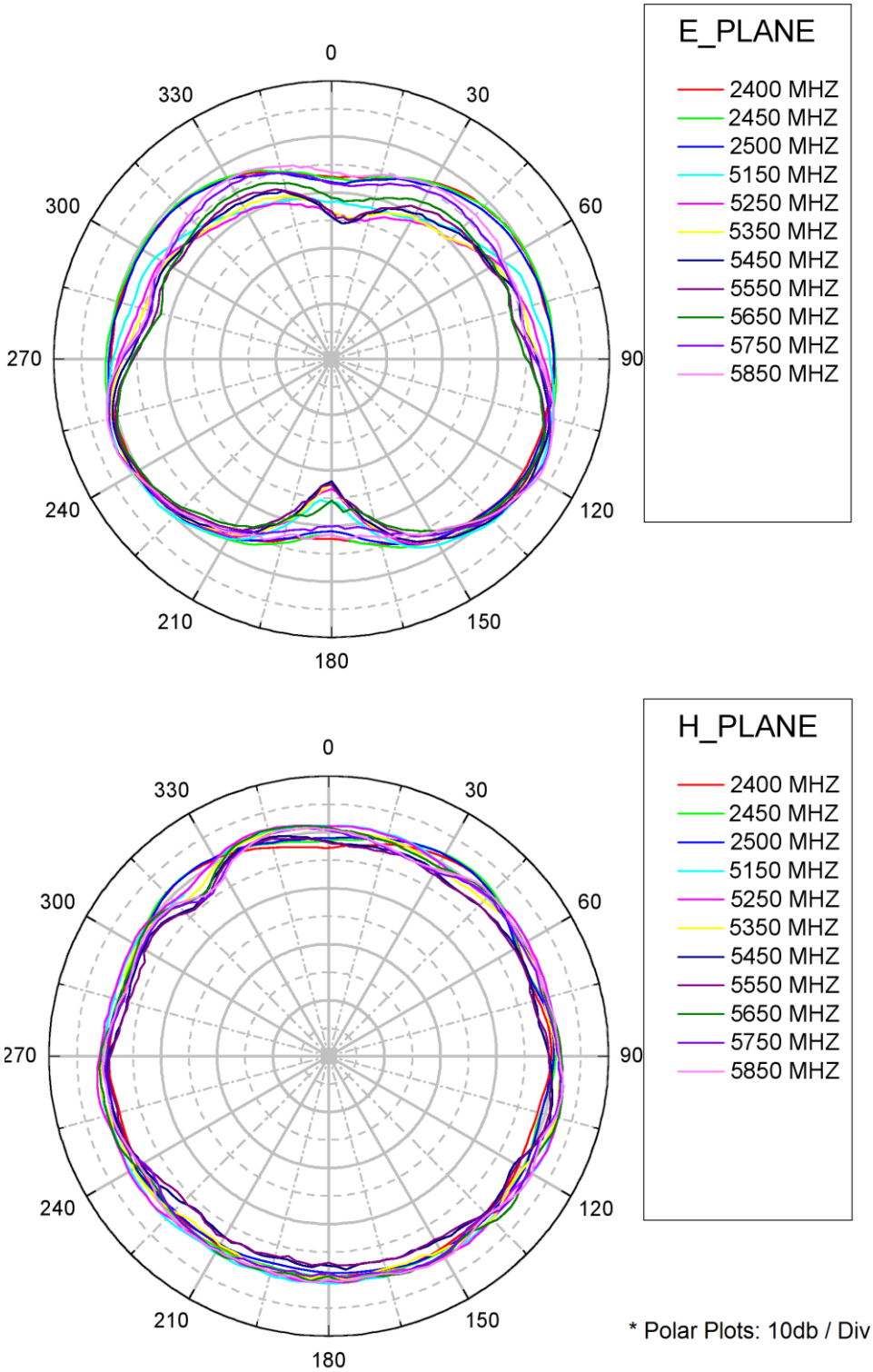

Figure 3 Typical Antenna Radiation Performance

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CONTACTING LS RESEARCH

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2.4 / 5.5 GHz FlexPIFA 3 dBi Antenna w/U.FL Cable, 100mm

ORDERING INFORMATION

Order Number	Description
001-0016	2.4 / 5.5 GHz FlexPIFA Antenna w/U.FL cable, 100mm
001-0021	2.4 / 5.5 GHz FlexPIFA Antenna w/MHF4L cable, 100mm

Table 1 Orderable Part Numbers

KEY FEATURES

- Can be installed on different non-conductive surfaces and thicknesses.
- Can be installed near metals or the human body.
- Dual Band Antenna: 2.4 GHz and 5 GHz
- Can be installed on flat or curved surfaces.
- Quick and easy Installation
- Adhesive holds to surface during humidity exposure and hot/cold cycles.
- RoHS Complaint

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SPECIFICATIONS

Specification	Value
2.4 GHz Band Peak Gain	+2.5 dBi
5 GHz Band Peak Gain	+3 dBi
2.4 GHz Average Gain	> -1.9 dBi
5 GHz Average Gain	> -4.0 dBi
Impedance	50 ohms
Type	Flexible Planar Inverted F Antenna (FlexPIFA)
Polarization	Linear
VSWR	<3.0:1, 2400 – 2480 MHz
	<3.0:1, 4900 – 5900 MHz
Frequency	2400 - 2480 MHz, 4900 - 5900 MHz
Weight	1.13g
Size	38.6mm × 12.7mm × 2.5mm
Antenna Color	Clear Yellow
Adhesive	3M 100MP
Operating Temp	-40°C to +85°C
Connector Mating Height	U.FL: 2.5mm Max
	MHF4L: 1.4mm Max

Table 2 Specifications

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PHYSICAL DIMENSIONS (MM)

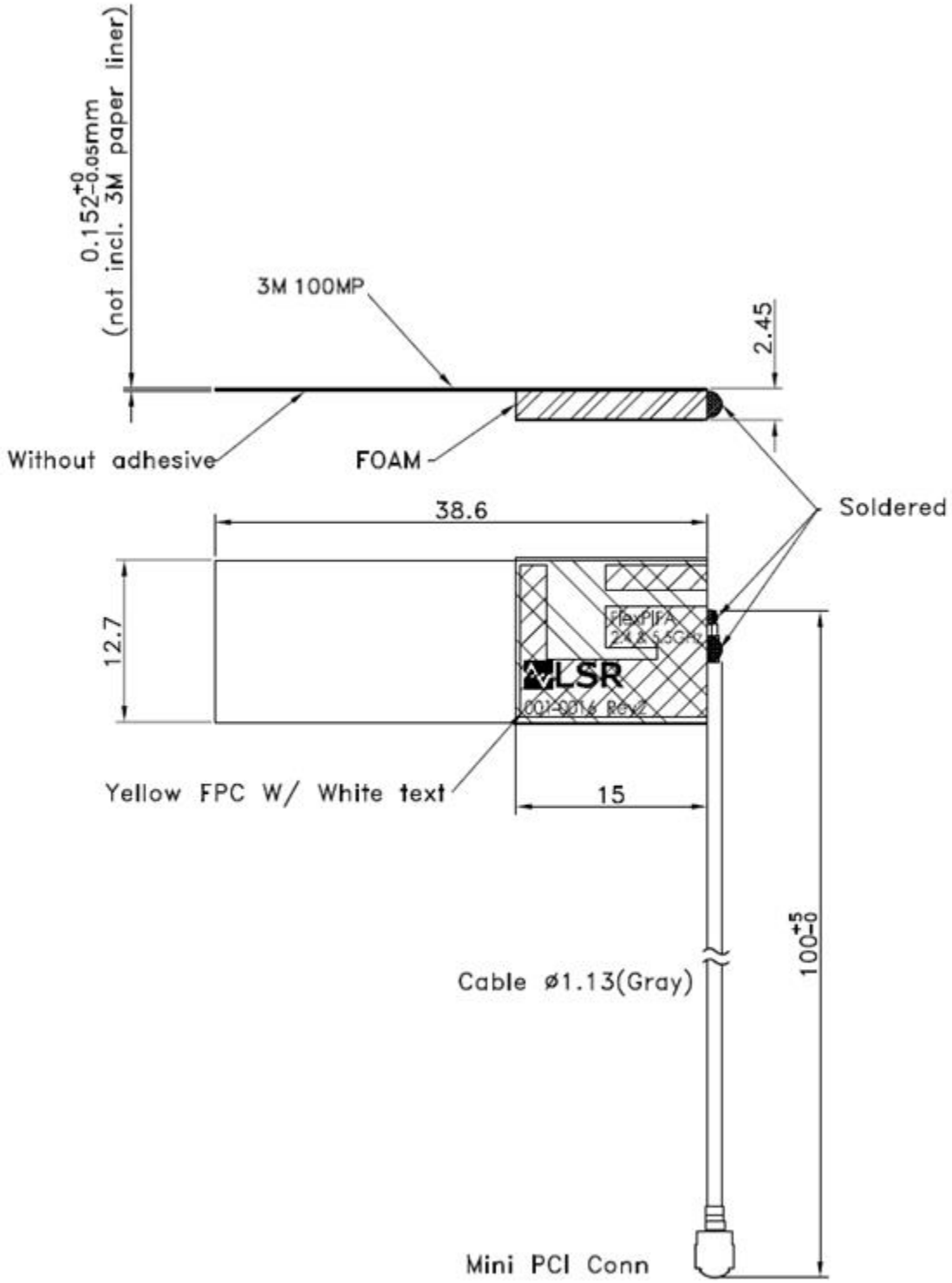

Figure 1 Physical Dimensions

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TEST SETUP

Antenna measurements such as VSWR were measured with an Agilent E5071C Vector Network Analyzer. Radiation patterns were measured with an Agilent 5181A Signal Generator and Agilent E4445A Spectrum Analyzer in a 3 meter Anechoic Chamber.

Flat surface measurements were done with the antenna centered on a 1.5 mm thick plate of Polycarbonate. Curved surface measurements were taken by placing the antenna on the inside and outside of different diameter PVC tubing.

FLAT SURFACE ANTENNA MEASUREMENTS

VSWR

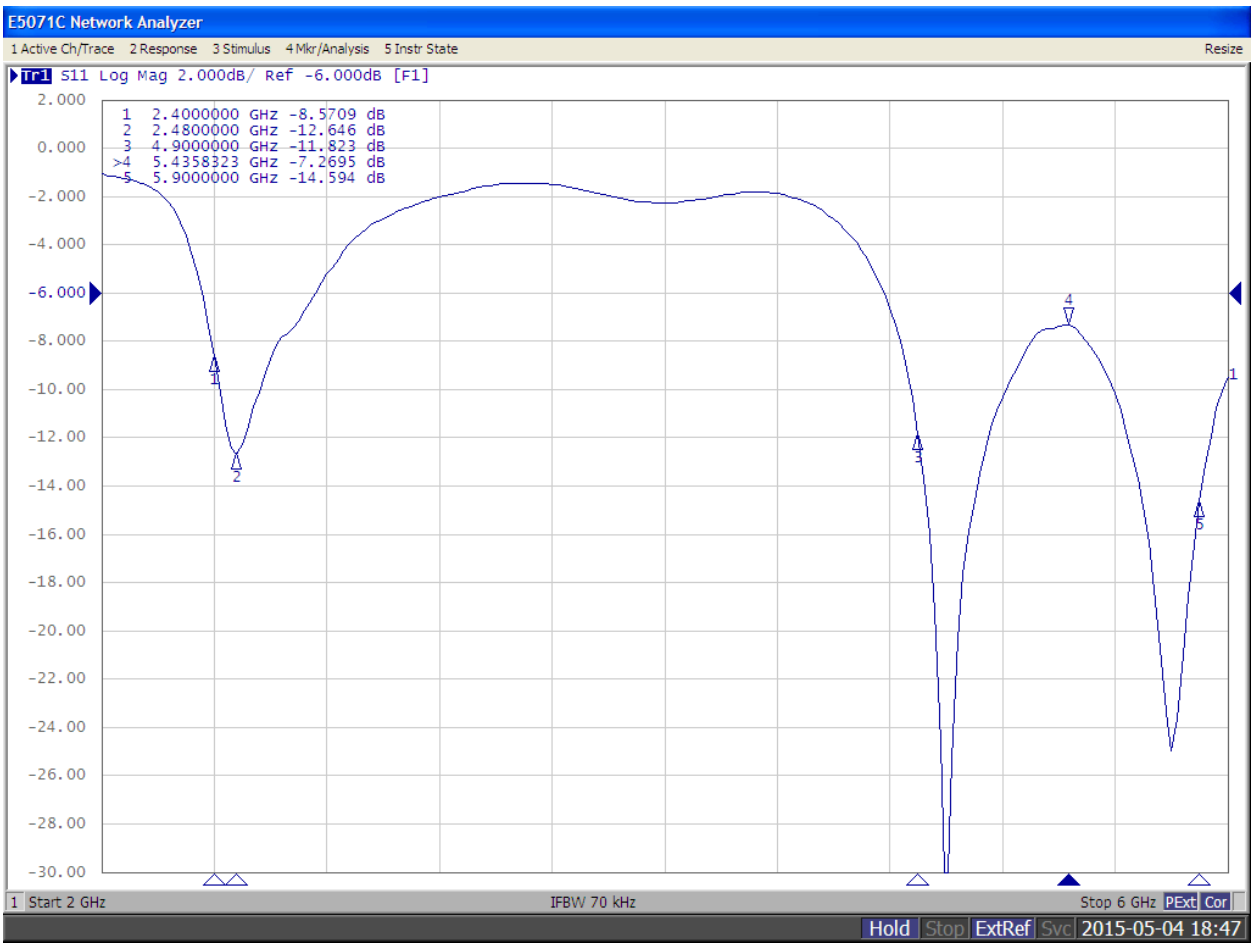

Figure 2 Antenna VSWR measured on a 1.5 mm thick plate of Polycarbonate

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FLAT SURFACE ANTENNA RADIATION PERFORMANCE

FlexPIFA centered on a 1.5 mm thick plate of Polycarbonate

Antenna Measurement Set-Up:

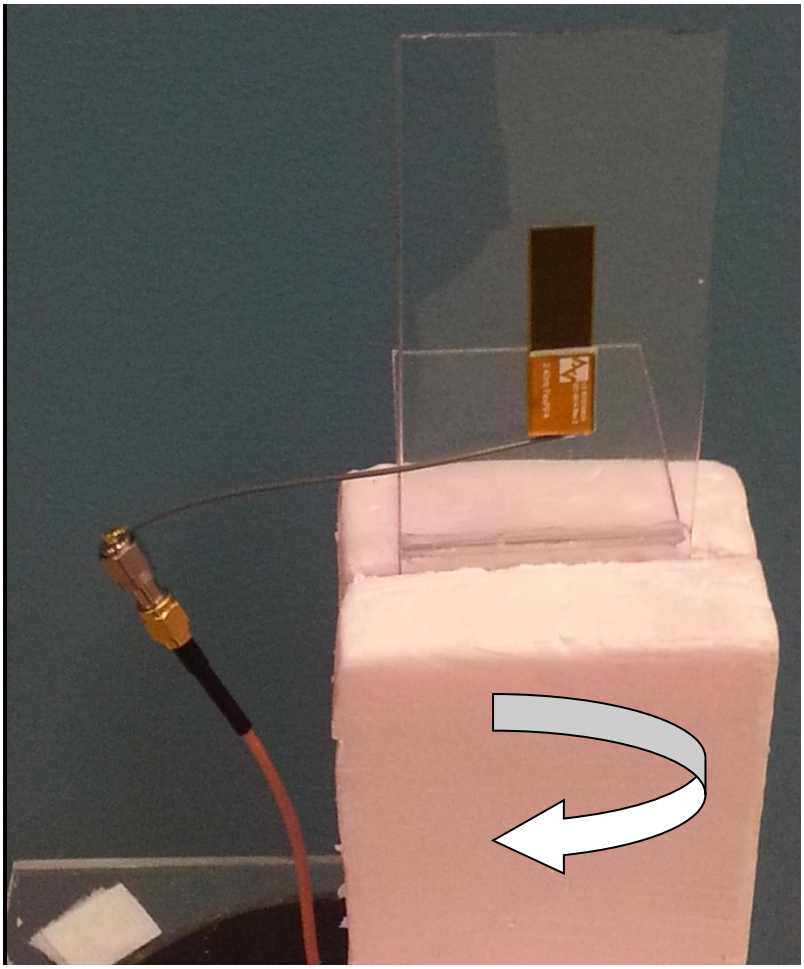

Figure 3 Vertical Orientation Set-Up

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Vertical Orientation at 2440 MHz:

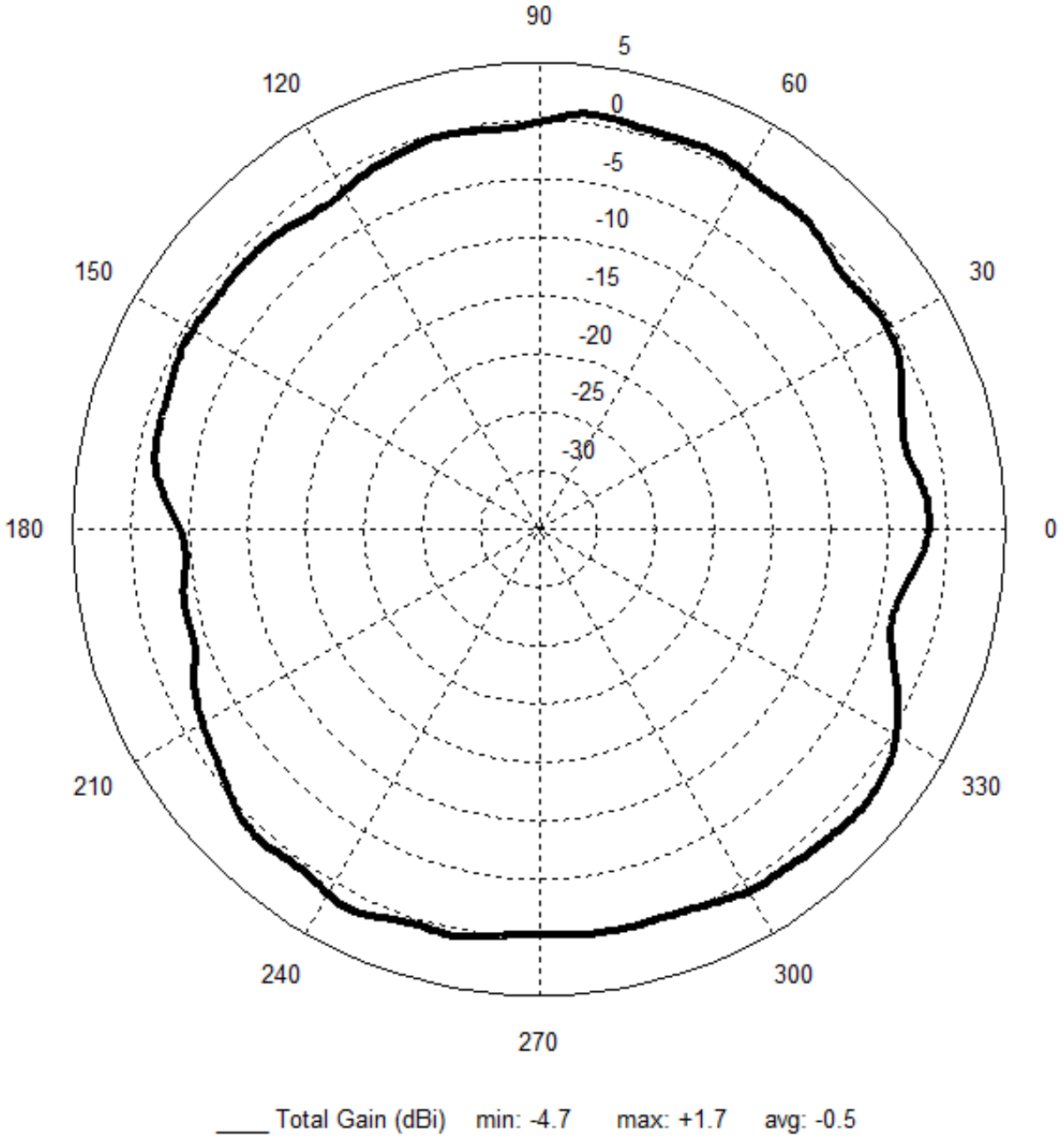

Figure 4 Vertical Orientation Pattern

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Antenna Measurement Set-Up:

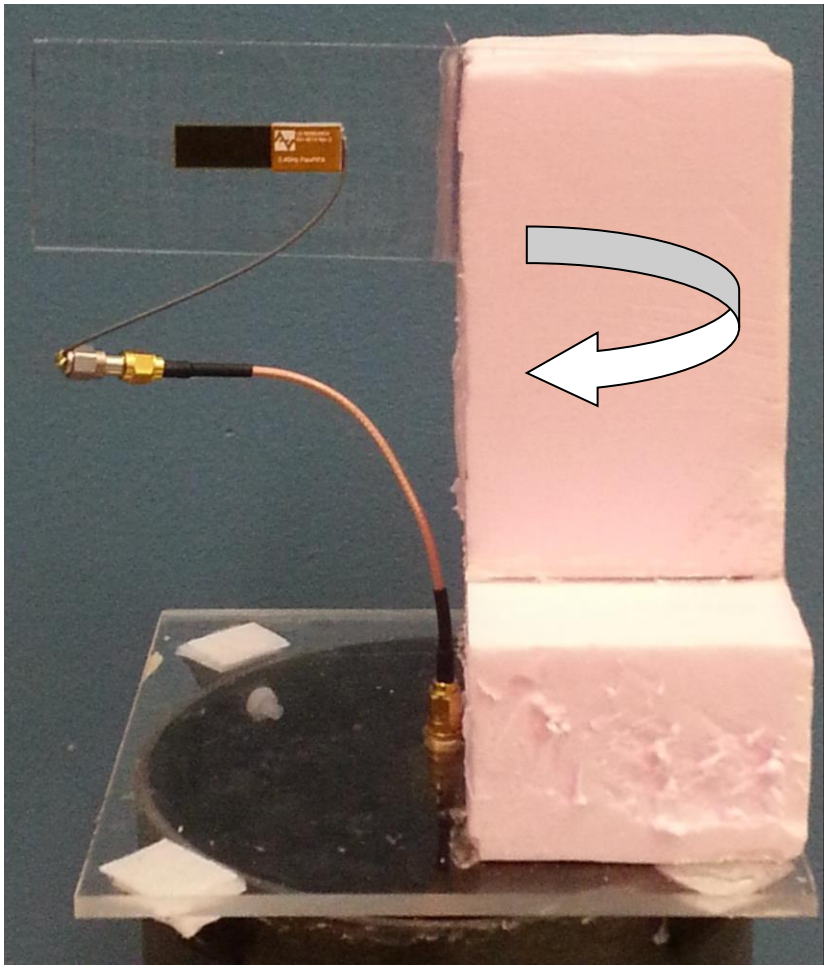

Figure 5 Horizontal Orientation Set-Up

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Horizontal Orientation at 2440 MHz:

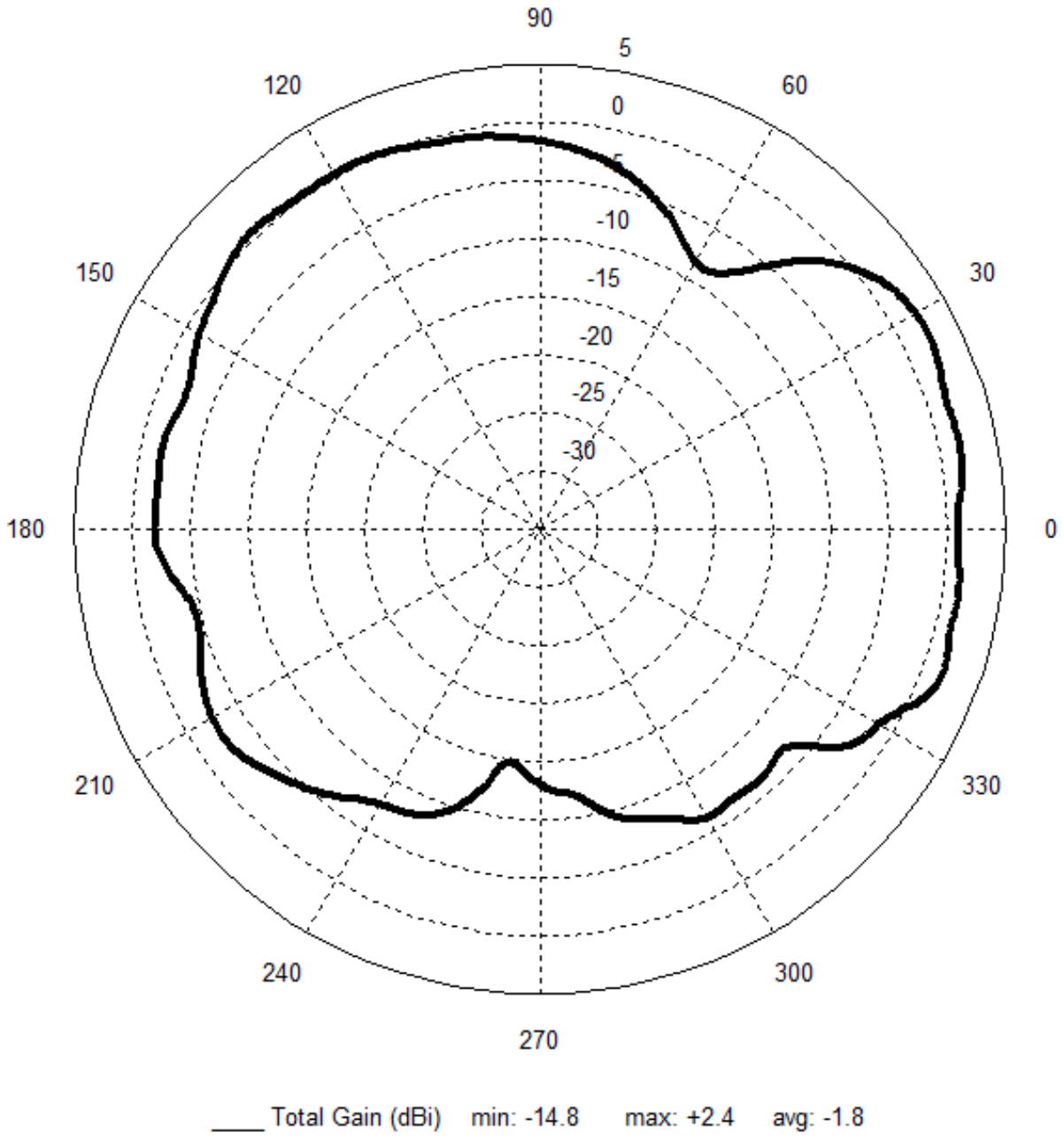

Figure 6 Horizontal Orientation Pattern

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Antenna Measurement Set-Up:

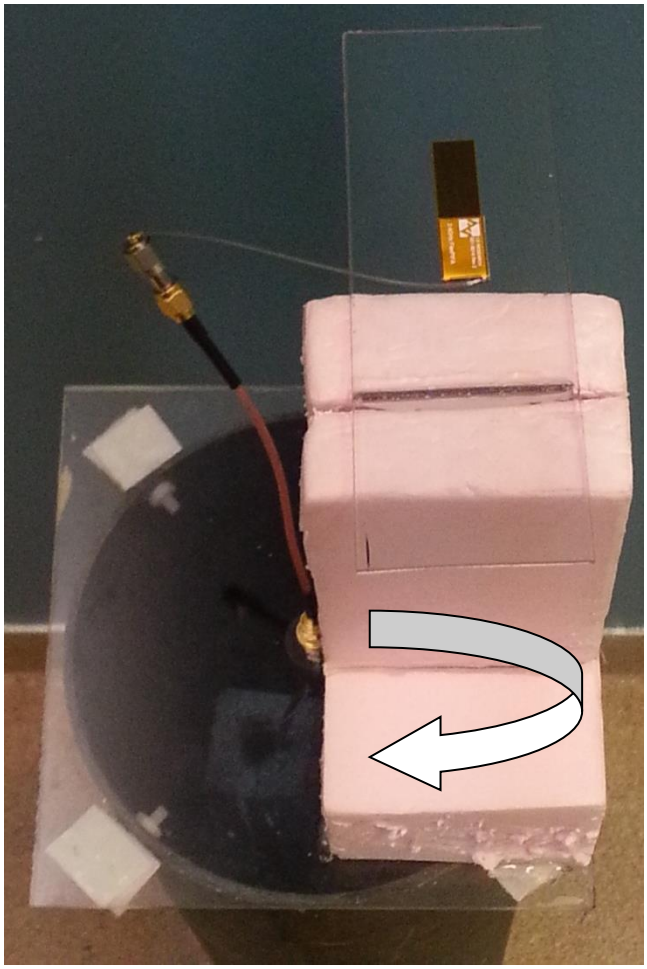

Figure 7 Flat Orientation Set-Up

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Flat Orientation at 2440 MHz:

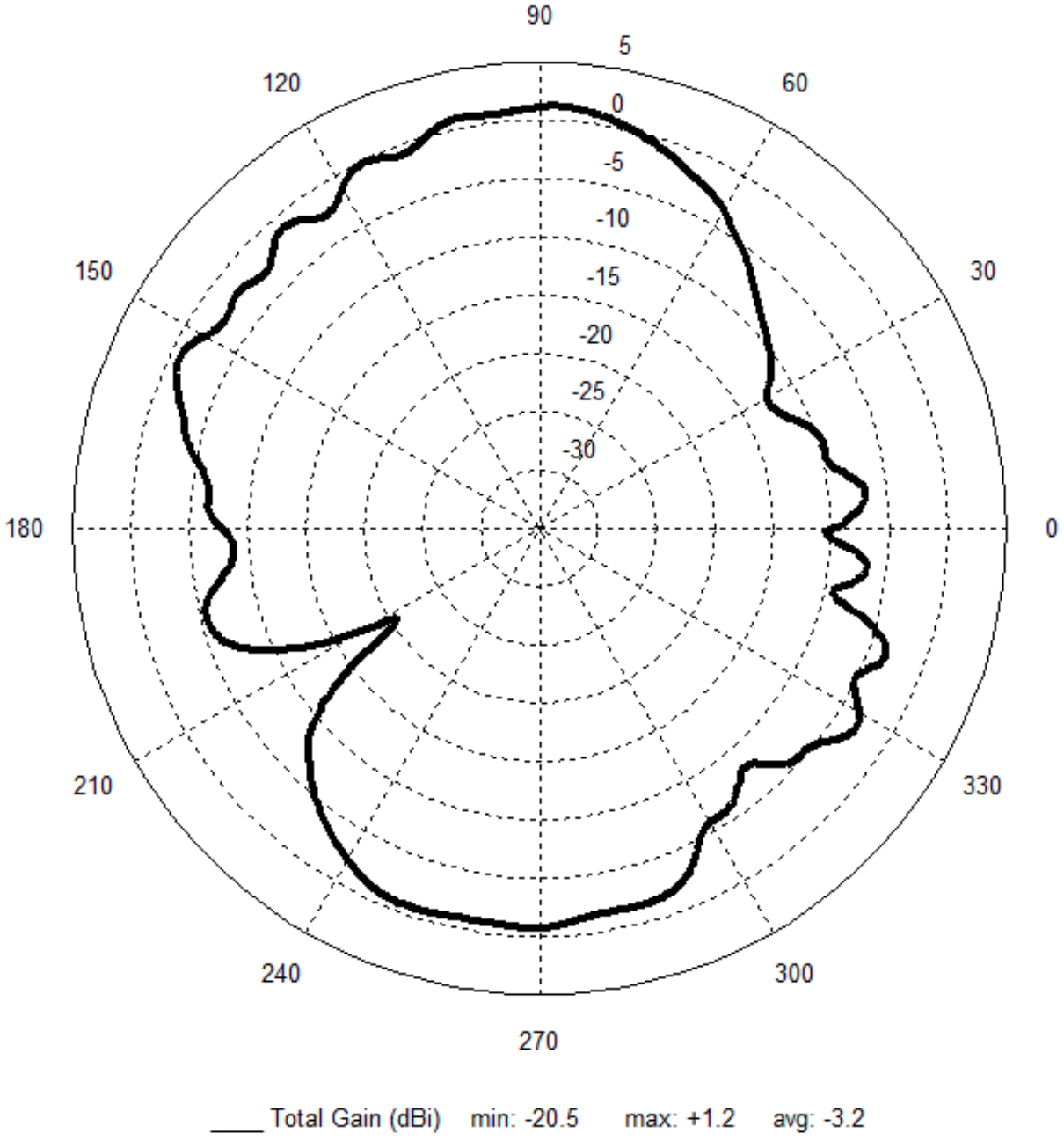

Figure 8 Flat Orientation Pattern

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5 GHz Band

FlexPIFA centered on a 1.5 mm thick plate of Polycarbonate

Antenna Measurement Set-Up:

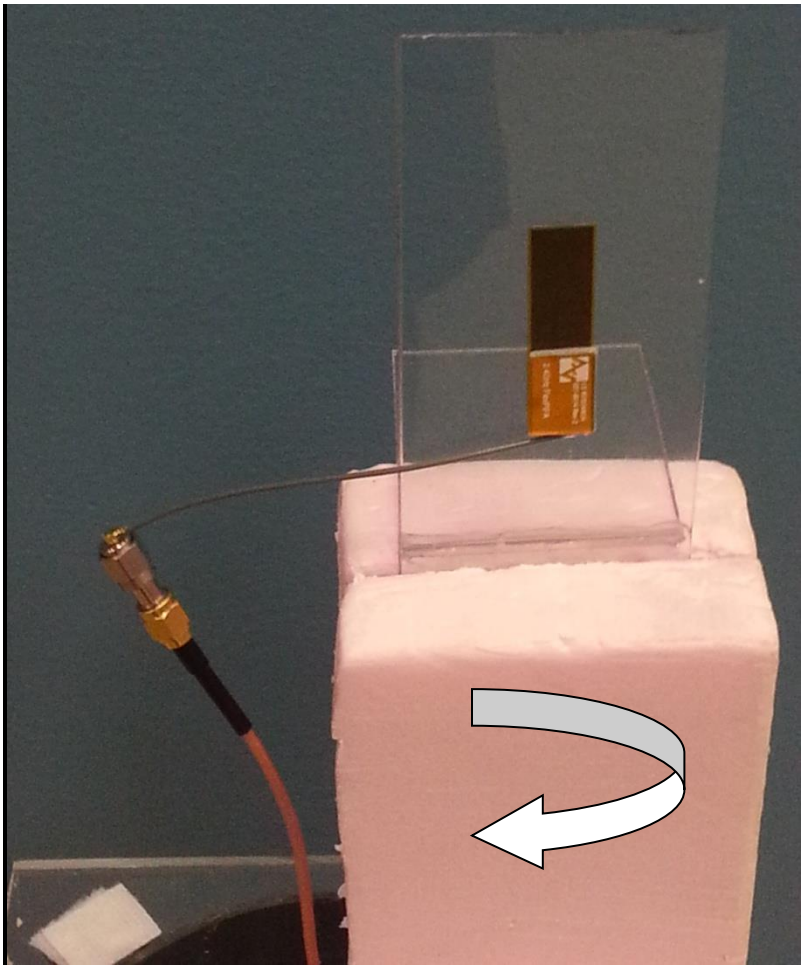

Figure 9 Vertical Orientation Set-Up

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Vertical Orientation at 4900 MHz:

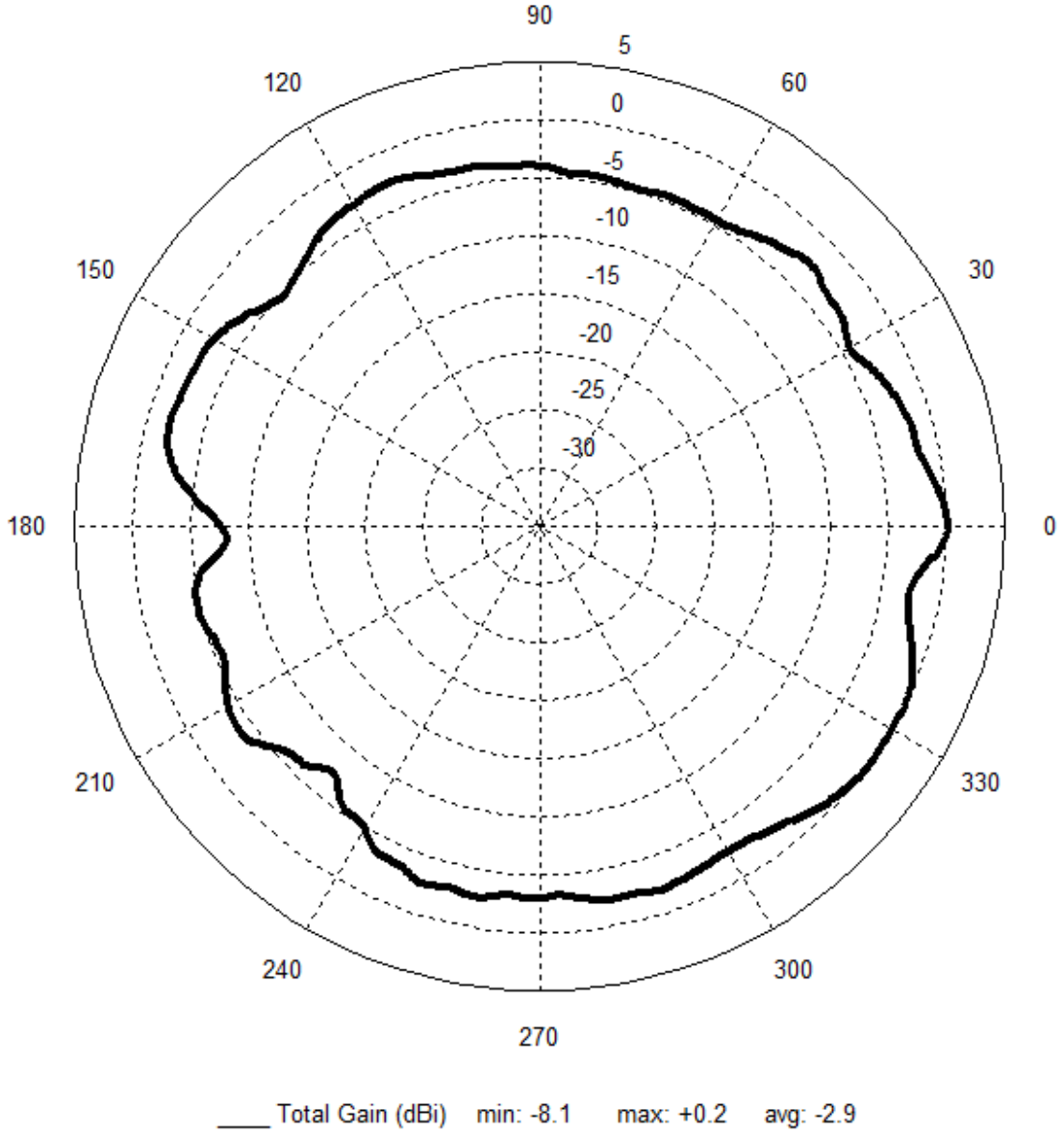

Figure 10 Vertical Orientation Pattern

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Vertical Orientation at 5400 MHz:

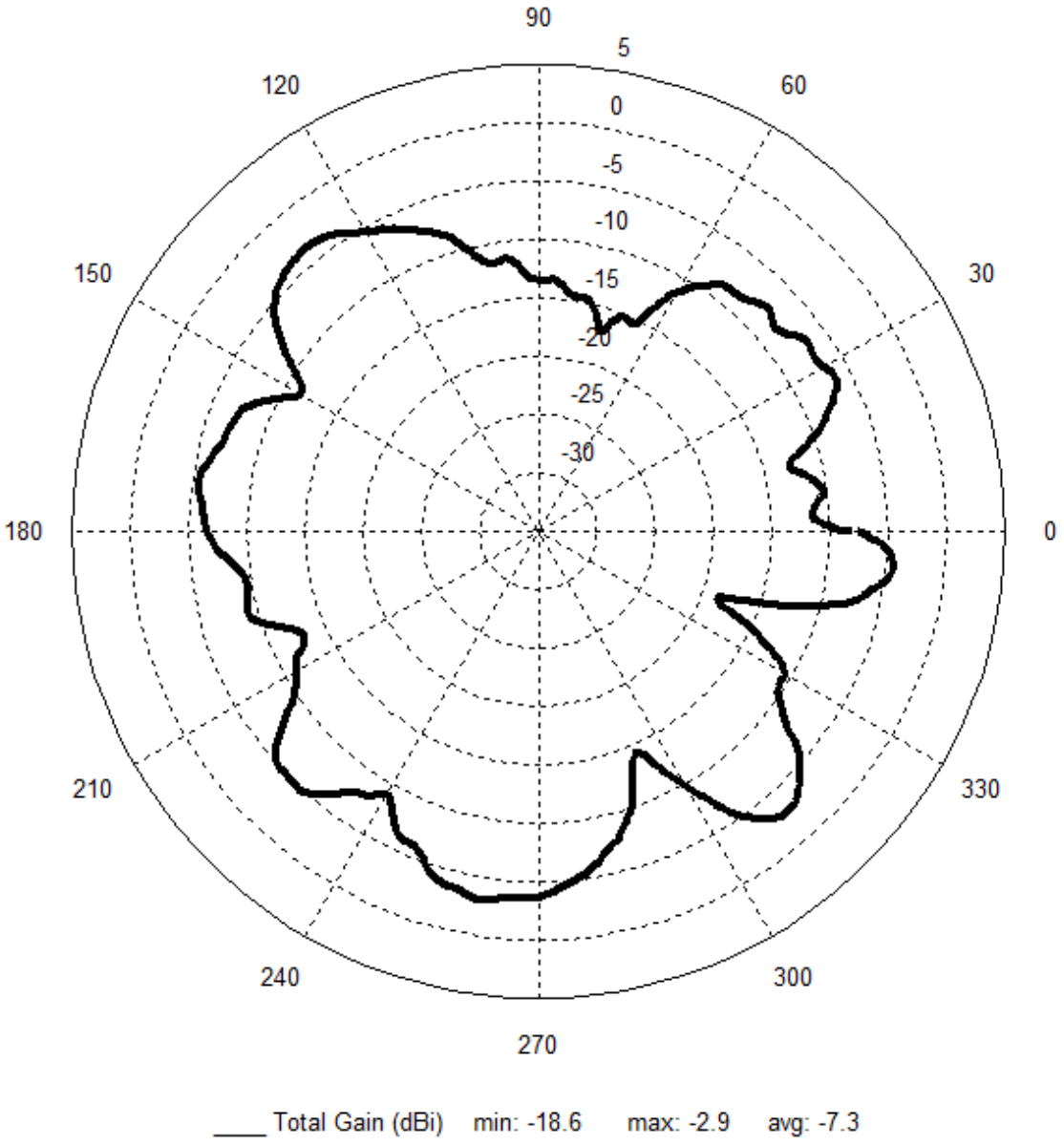

Figure 11 Vertical Orientation Pattern

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Vertical Orientation at 5900 MHz:

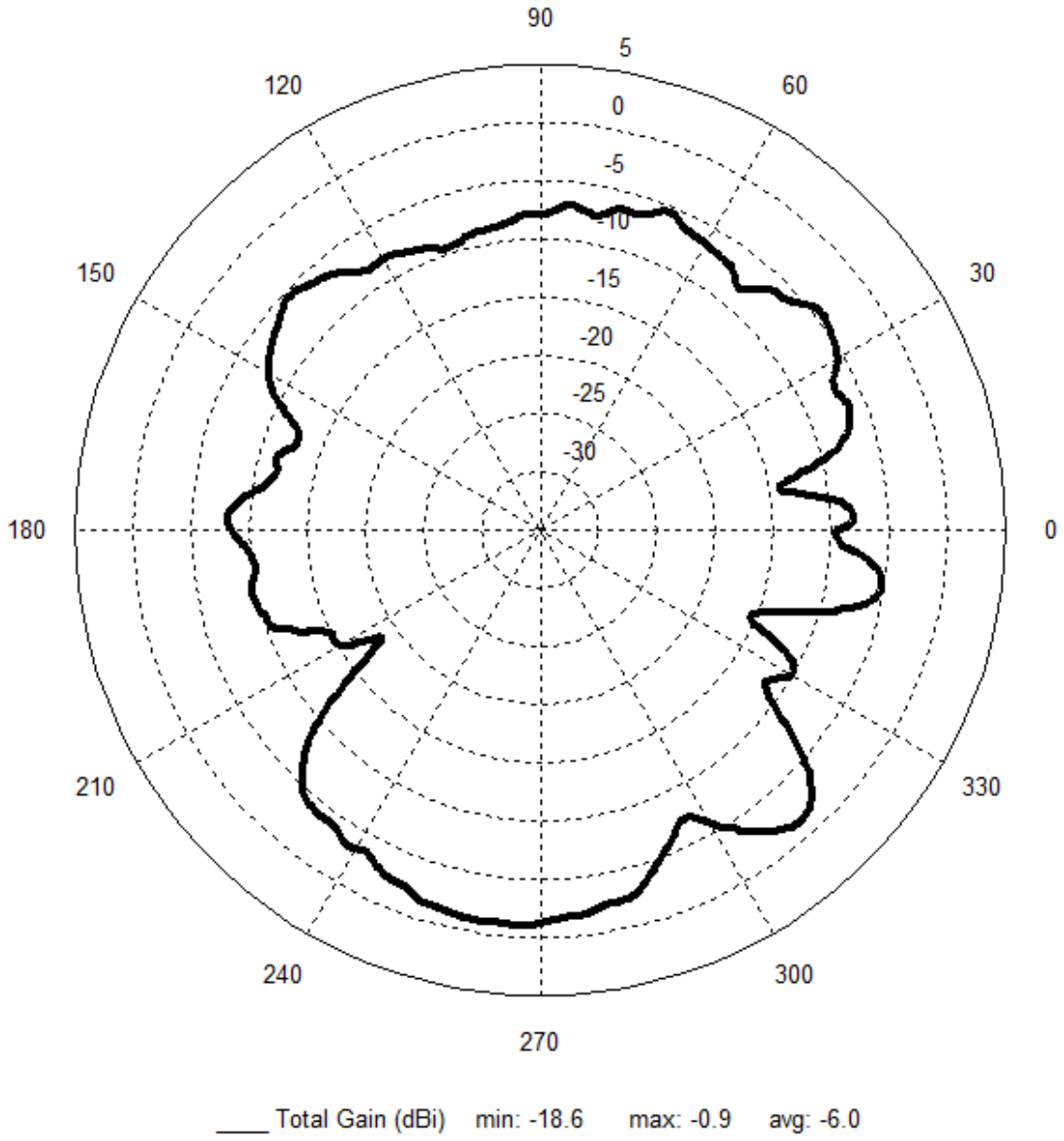

Figure 12 Vertical Orientation Pattern

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Antenna Measurement Set-Up:

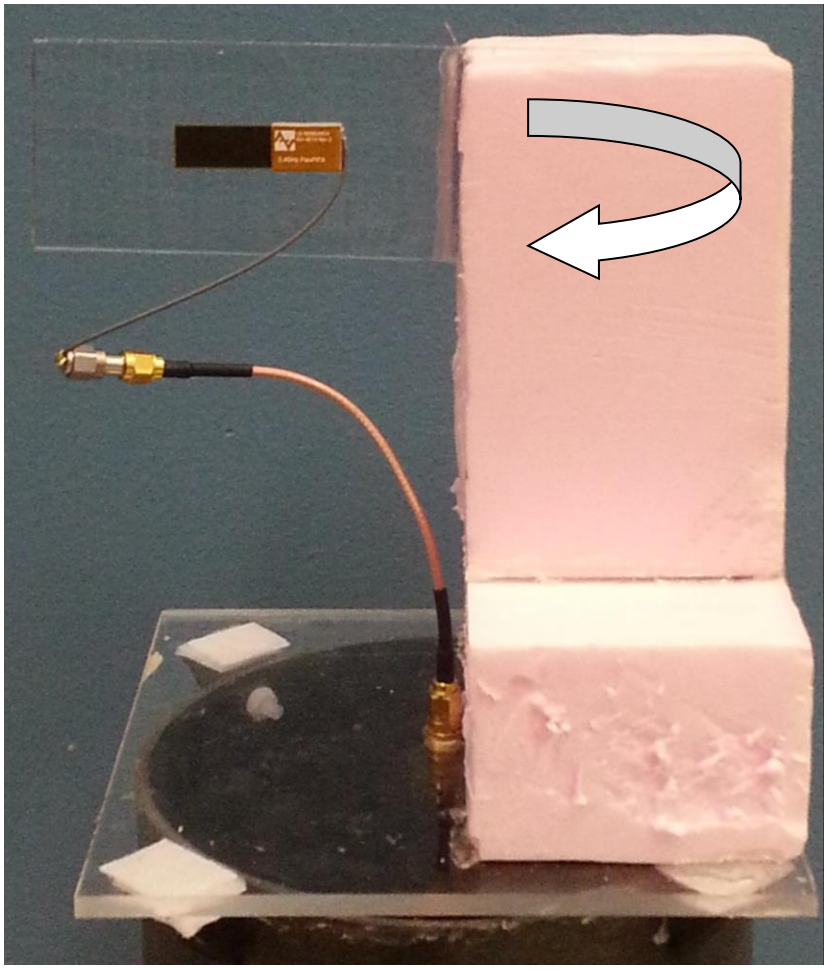

Figure 13 Horizontal Orientation Set-Up

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Horizontal Orientation at 4900 MHz:

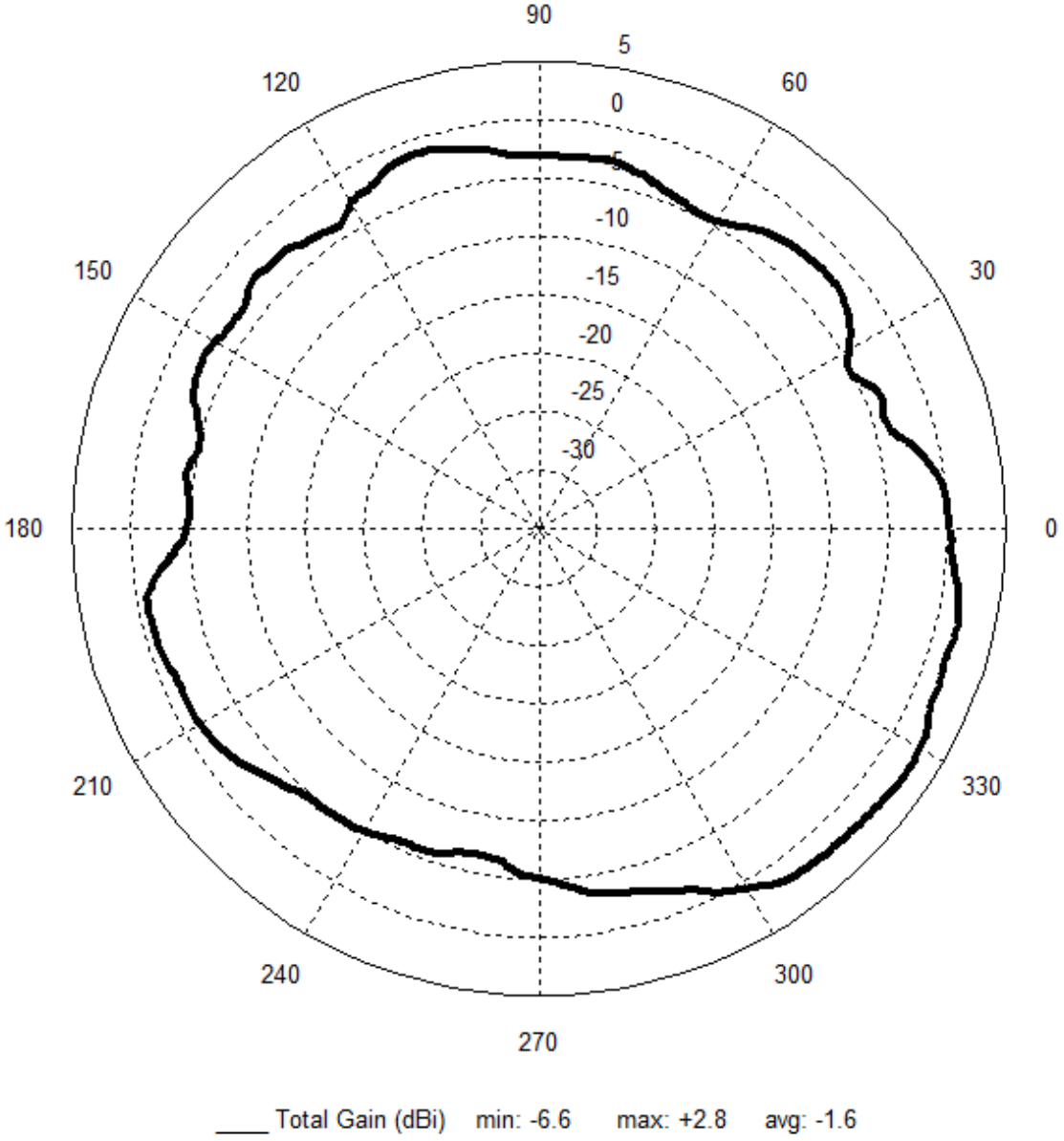

Figure 14 Horizontal Orientation Pattern

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Horizontal Orientation at 5400 MHz:

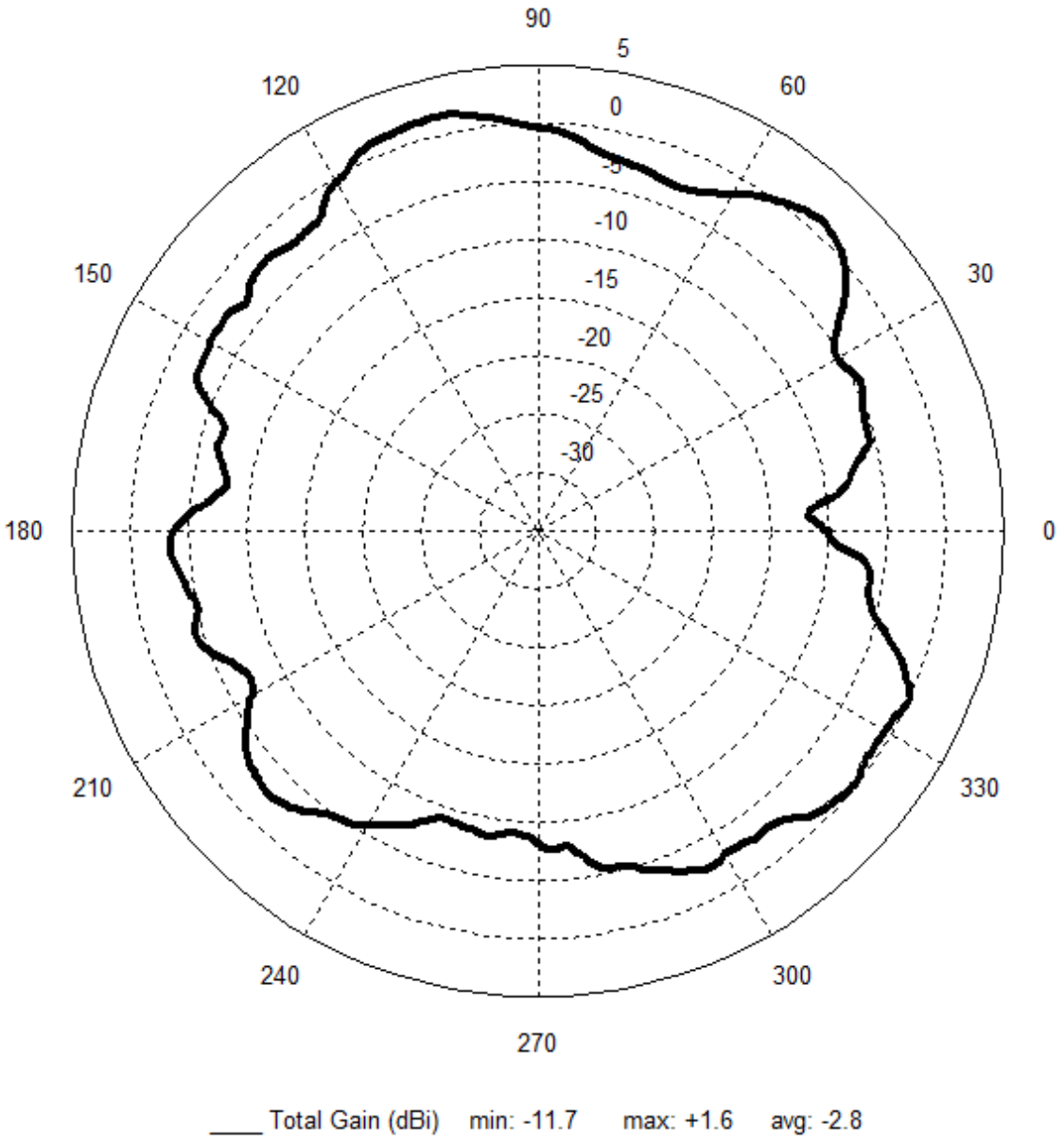

Figure 15 Horizontal Orientation Pattern

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Horizontal Orientation at 5900 MHz:

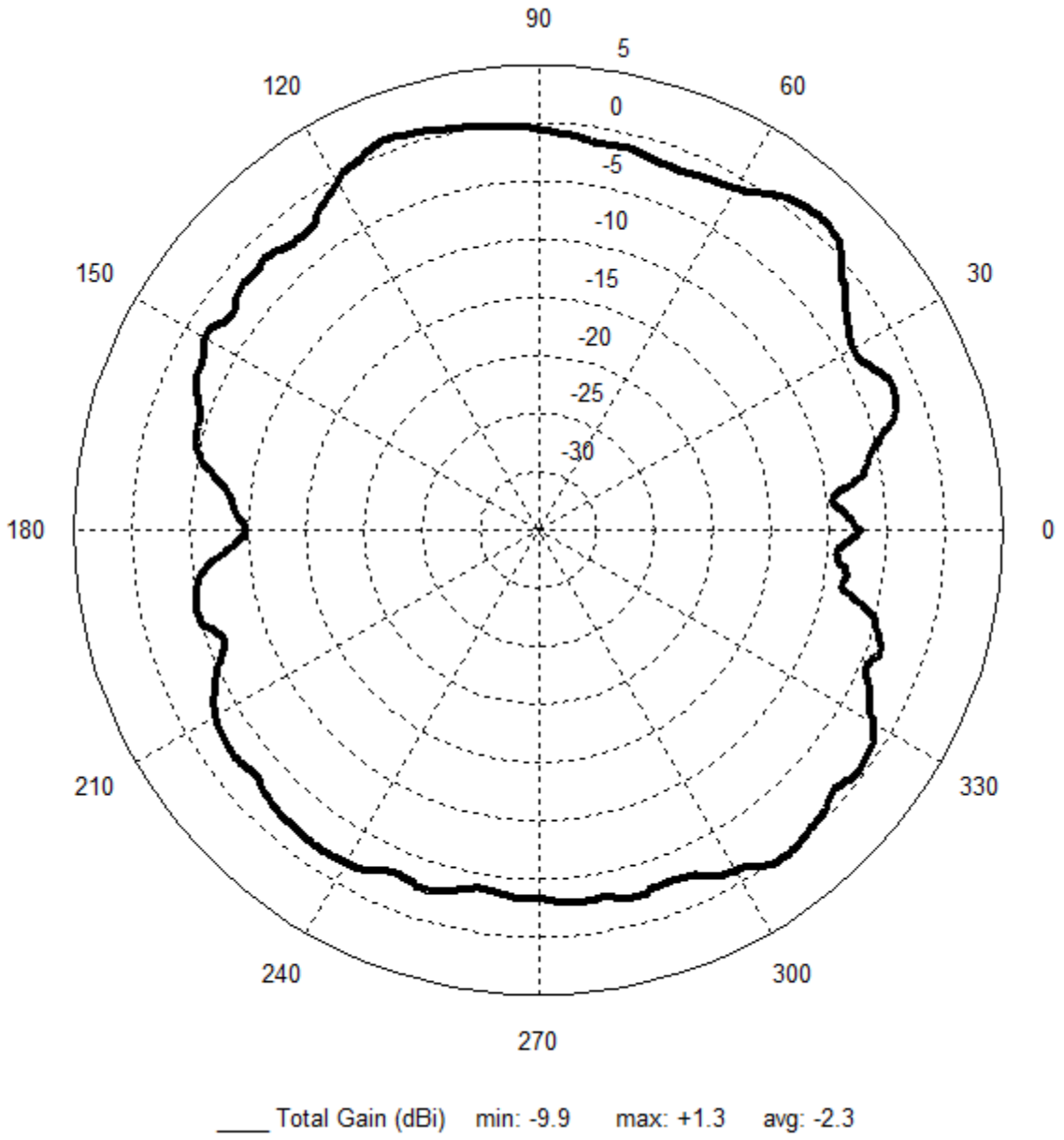

Figure 16 Horizontal Orientation Pattern

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Antenna Measurement Set-Up:

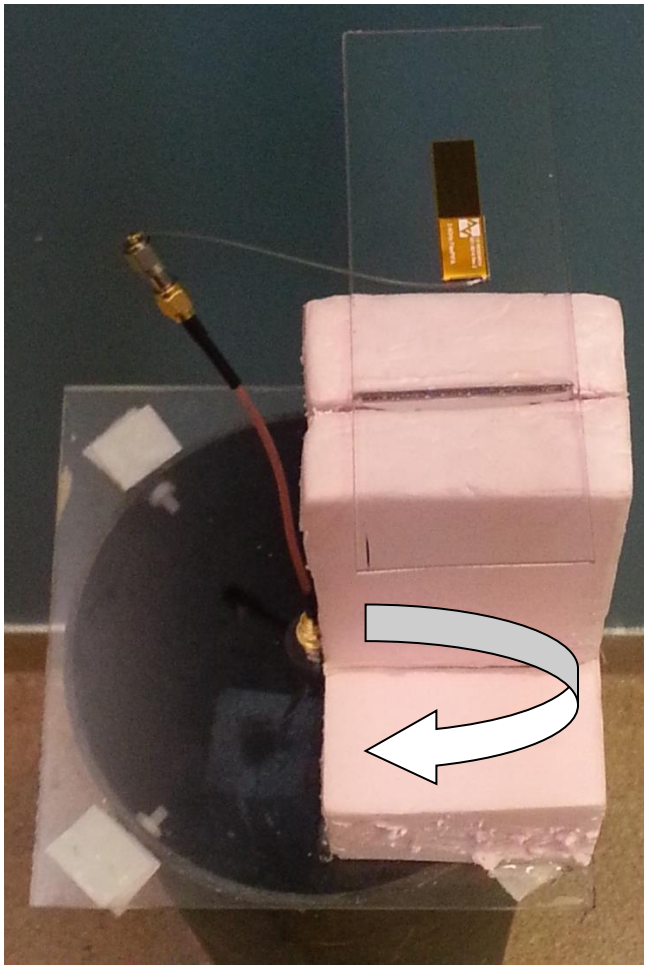

Figure 17 Flat Orientation Set-Up

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Flat Orientation at 4900 MHz:

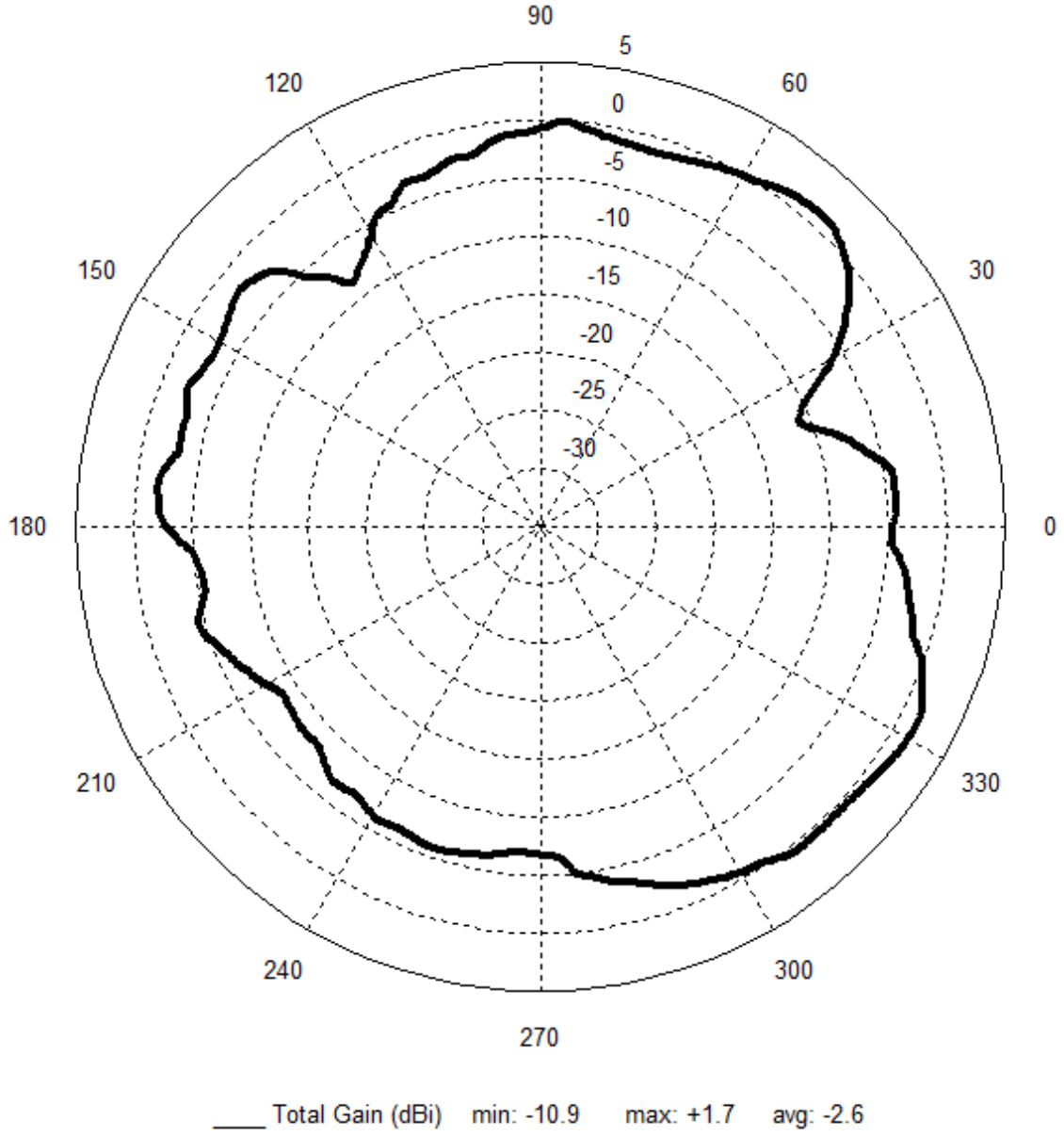

Figure 18 Flat Orientation Pattern

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Flat Orientation at 5400 MHz:

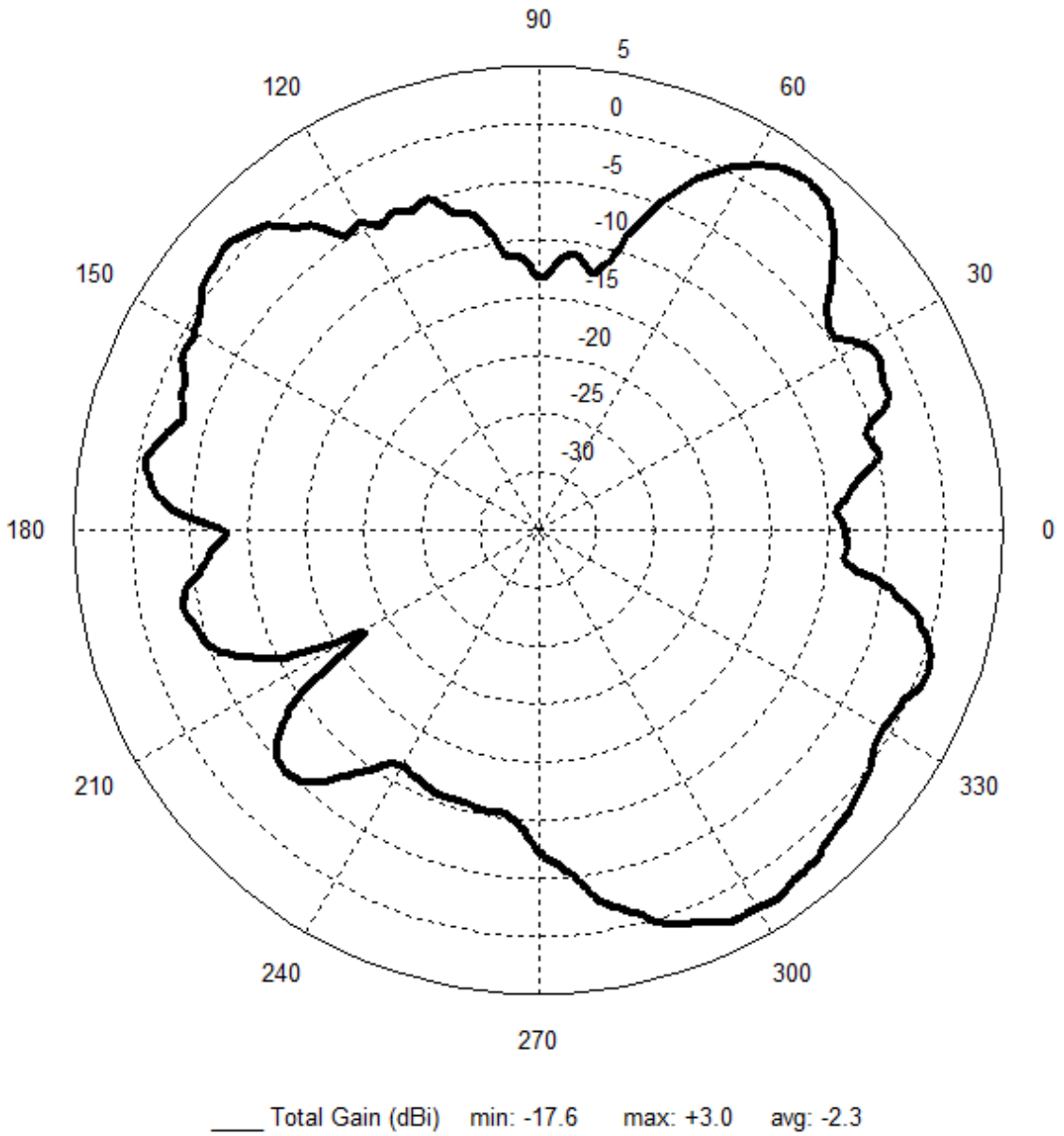

Figure 19 Flat Orientation Pattern

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Flat Orientation at 5900 MHz:

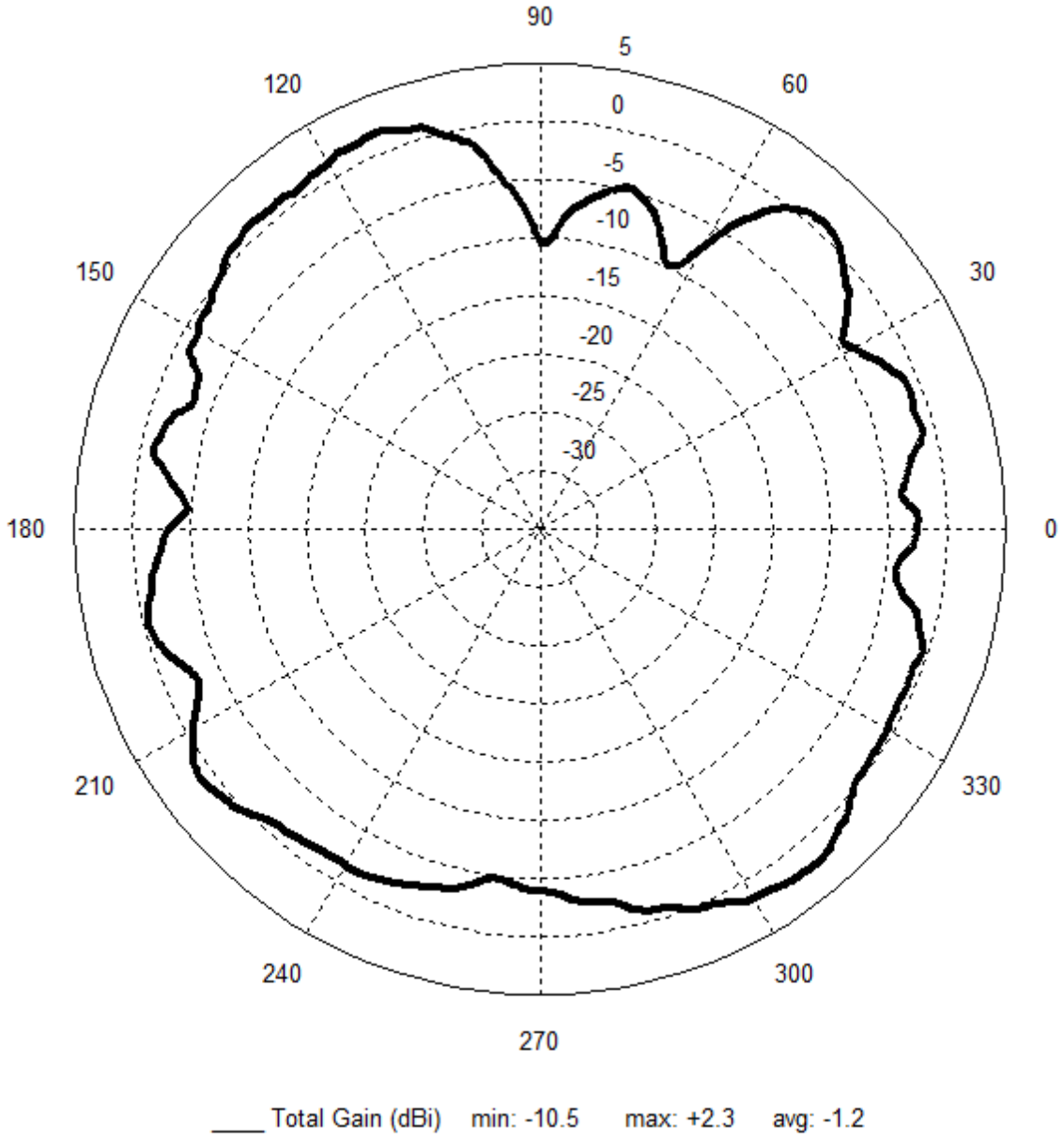

Figure 20 Secondary Elevation Pattern

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OPTIMAL INSTALLATION GUIDE

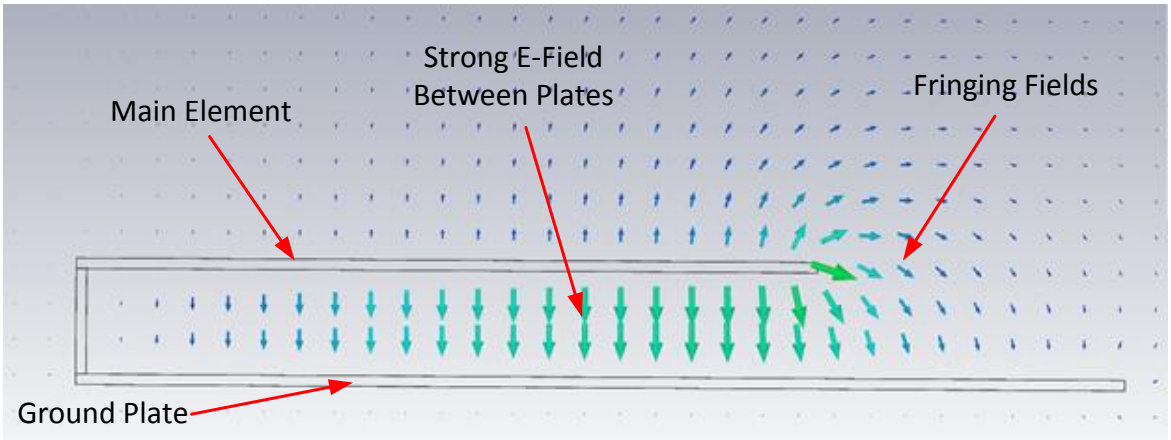

Figure 21 E-Field Radiation from FlexPIFA, Taken from CST Simulation

The main element should be kept clear of any non-metal objects (such as plastics) on top of it by at least 3 mm (see **Figure 22**). Similarly, the two long sides of the FlexPIFA should be kept clear of any non-metal object by at least 2 mm (See **Figure 23**). A 1 mm clearance should be observed from the ground wall to any non-metal object. Mounting the FlexPIFA in a situation that does not allow for these clearance recommendations may change the gain characteristics stated in the datasheet, which could impact overall range of the wireless system.

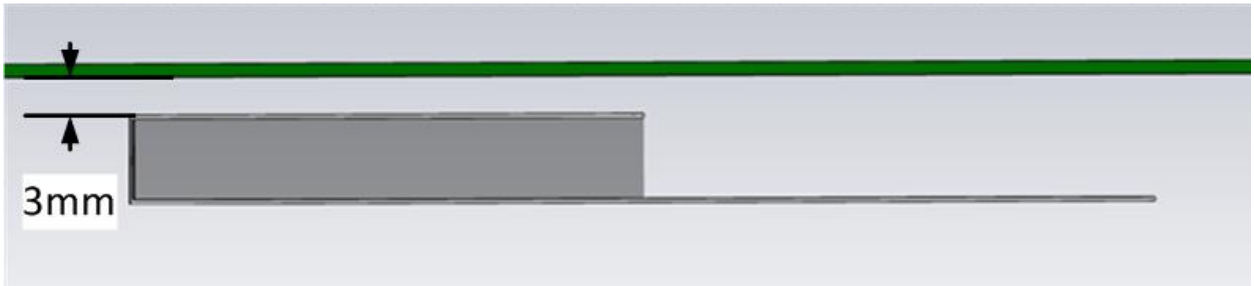

Figure 22 Top Clearance

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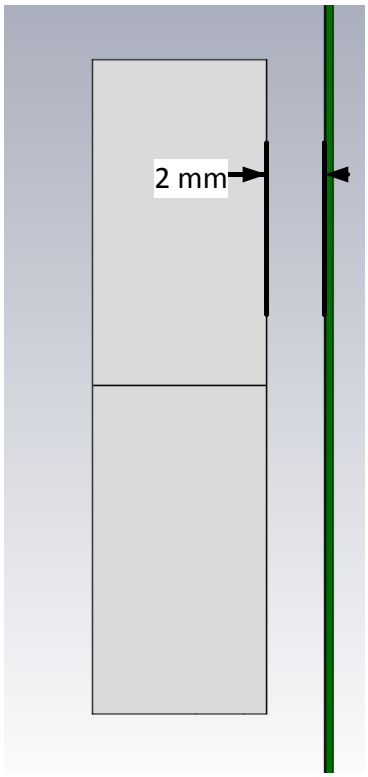

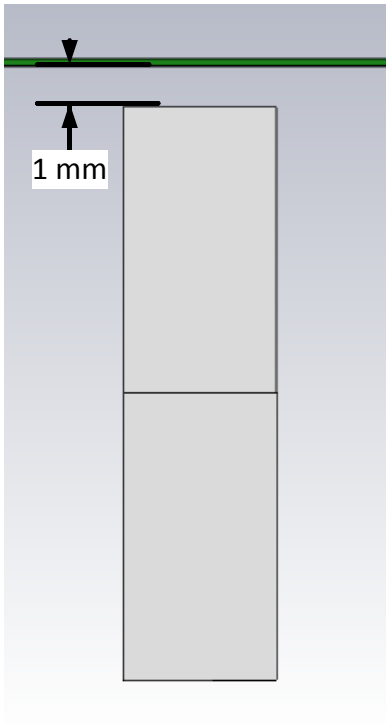

Side Clearance	Ground Wall Clearance

Figure 23 Side and Ground Wall Clearance

The ideal material for the FlexPIFA to be mounted on is 1.5 mm thick polycarbonate for maximum performance. However, as previously mentioned, the FlexPIFA can tolerate other non-metallic surfaces and thicknesses and still radiate effectively. Depending on the type of material, the FlexPIFA may be detuned.

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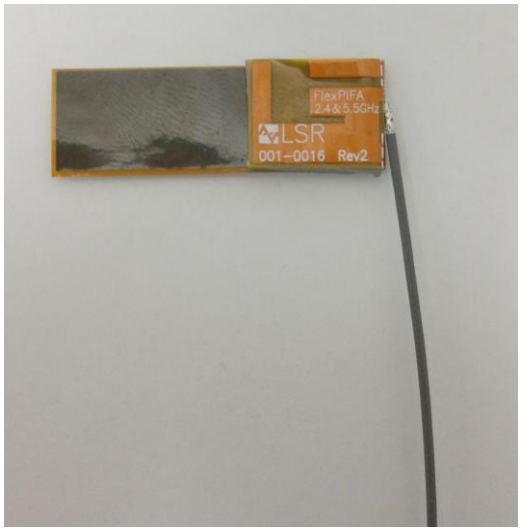
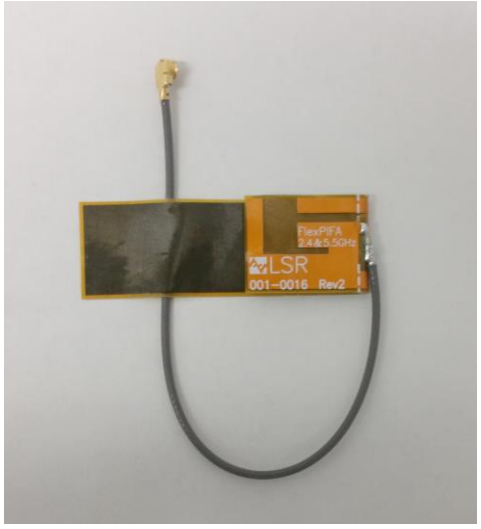
The coaxial cable feeding the FlexPIFA should be routed away from the antenna. Do not run the coaxial cable over the top of the FlexPIFA or near the tip of the main element. The cable should be routed perpendicular to the side of the FlexPIFA (this is the way the cable comes assembled), underneath the ground plate, or away from the ground wall. All three of these options are shown in **Figure 24**.



Perpendicular to the side



Underneath the FlexPIFA

Away from the Ground wall

Figure 24 Recommended Cable Routing

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As with any antenna, care should be taken not to place conductive materials or objects near the antenna (except as described in the next section). The radiated fields from the antenna will induce currents on the surface of the metal; as a result those currents then produce their own radiation. These re-radiating fields from the metal will interfere with the fields radiating from the FlexPIFA (this is true for any antenna). Other objects, such as an LCD display, placed in close proximity to the antenna may not affect its tuning but it can distort the radiation pattern. Materials that absorb electromagnetic fields should be kept away from the antenna to maximize performance. Common things to keep in mind when placing the antenna:

Wire Routing

Speakers – these generate magnetic fields

Metal Chassis and Frames

Battery Location

Proximity to Human Body

Display Screen – these will absorb radiation

Paint – do not use metallic coating or flakes

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Flex Limits of the FlexPIFA

One of the unique features of the FlexPIFA is its ability to flex. However, due to the adhesive there are limits as to how much the antenna can be flexed and remain secured to the device. The FlexPIFA should not be flexed in a convex position with a radius less than 16mm. Going smaller than this may result in the antenna peeling off the surface over time. Should a tighter radius of curvature be required, it is recommended you contact LS Research for assistance.

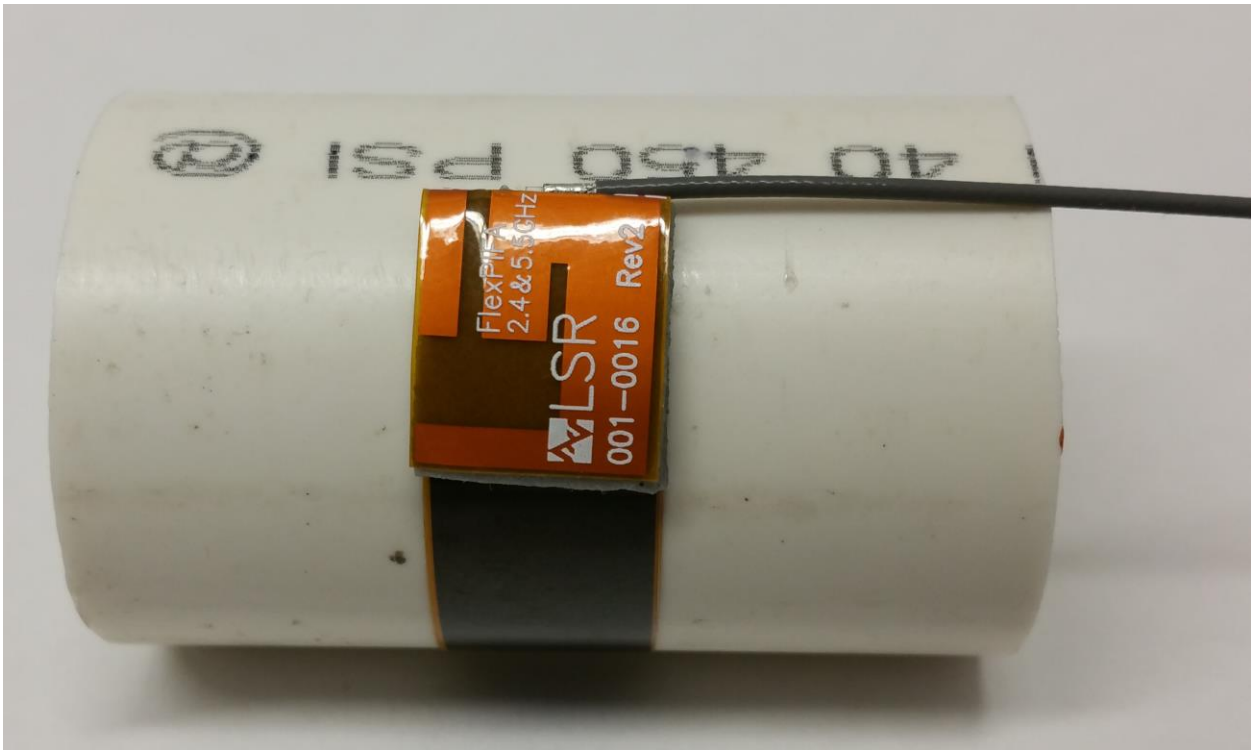

Figure 25 Convex Mounted

The FlexPIFA should not be flexed in a concave position with a radius less than 25mm. In this scenario, the limiting factor is performance. The ground plate of the antenna is pressed closer to the main element. As previously discussed in the introduction of this application note, the fringing fields developing off the end of the element are responsible for most of the radiation. In a concave position with a radius of curvature less than 25mm, the fringing fields are adversely affected and gain suffers. If a tighter radius of curvature is required, it is recommended you contact LS Research for assistance.

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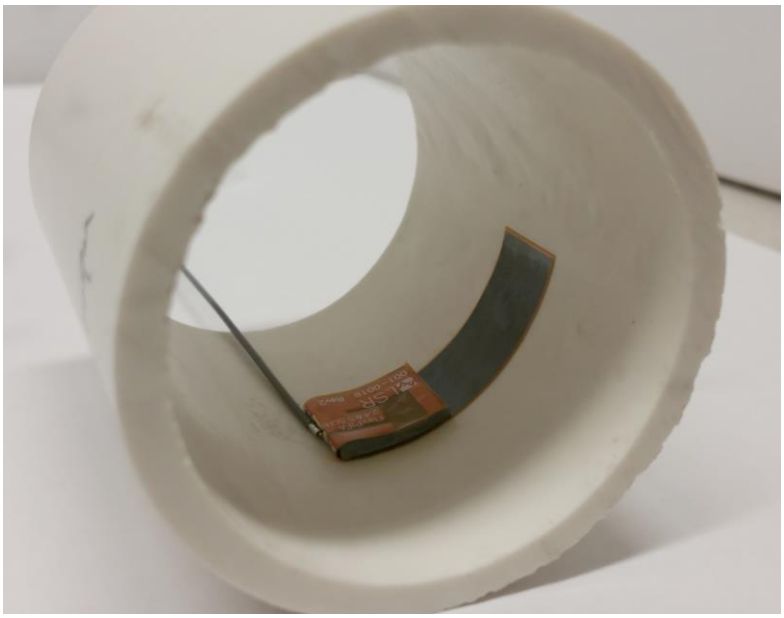

Figure 26 Concave Mounted

The FlexPIFA is not designed to be twisted or crumpled. The adhesive back should lay flush with the surface it is mounted on.

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Mounting on Metal and Body Loaded Applications

The FlexPIFA can tolerate being mounted on conductive surfaces. There will be some detuning of the antenna, which translates into some gain reduction. Even though the FlexPIFA is optimized to work on non-metallic surfaces, it still radiates efficiently due to the fringing fields (Shown in **Figure 21**). The ground plate of the FlexPIFA carries the adhesive backing; placing the antenna onto a metal surface simply enlarges the size of the ground beneath the main element. Previously the fringing fields only interacted with the small ground of the FlexPIFA - however they are now interacting with the much larger ground. The fringing fields still develop and radiate, but the antenna will no longer tune as well to the 2.4 GHz frequency band. Consequently the VSWR increases and there is some loss in radiated power. If the FlexPIFA cannot meet your range requirements after being implemented on a metal surface, contact LSR Design Services for a custom antenna build to help meet your application needs.

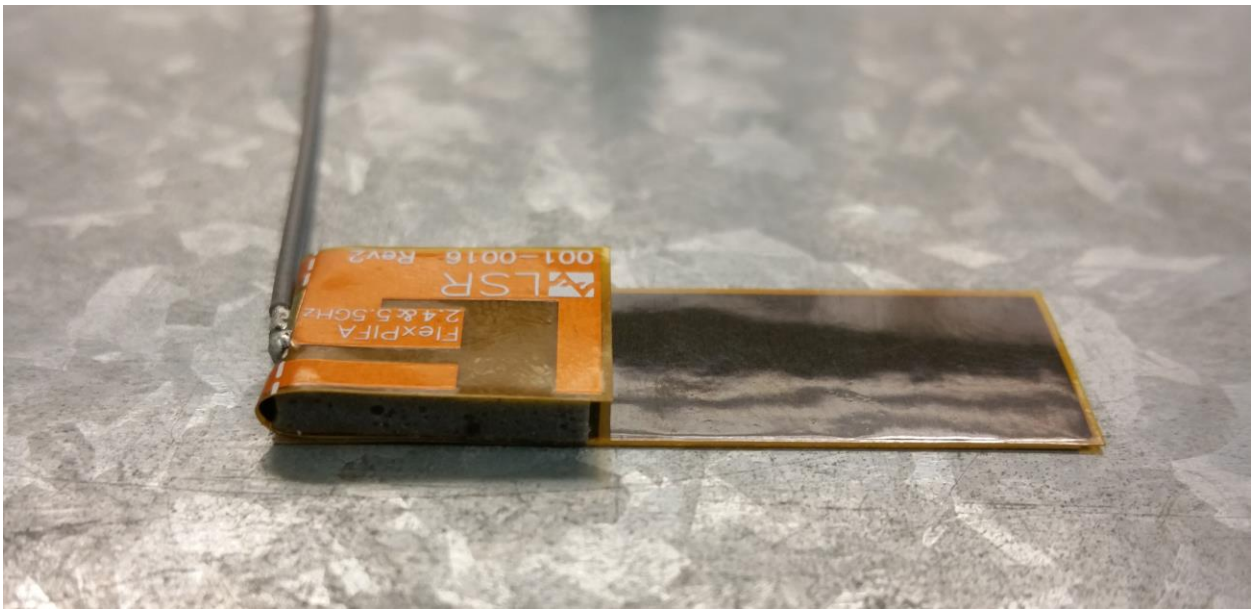

Figure 27 FlexPIFA Mounted on Metal

Do not mount the FlexPIFA where metal is within 10 mm above the main element (see **Figure 29**). Not only will this severely limit the radiation pattern (mainly due to the re-radiation problem previously described) it will detune the antenna inside of this range. Similarly, the two long sides of the FlexPIFA should be kept clear of any metal object by at least 5 mm. These keep out requirements pertain to **conductive** materials only, and are different from those listed in the previous sections which apply to **non-conductive** materials. In general, it is good practice to always keep metals as far away from the antenna as possible.

For the best performance, a spacer should be placed between the FlexPIFA and the conductive surface (see **Figure 28**). The spacer should be 1.5 mm thick polycarbonate. This will significantly improve performance and tuning of the FlexPIFA on a metal surface. Other non-conductive materials such as ABS plastic can be used; however polycarbonate will provide the best results.

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Figure 28 FlexPIFA Mounted on Metal Surface with 1.5mm Thick Polycarbonate Spacer

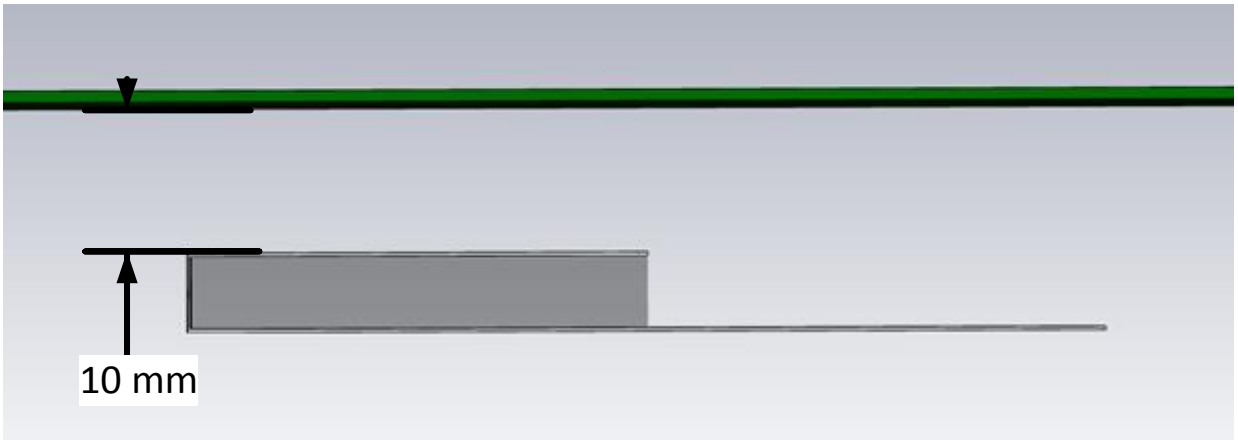

Figure 29 Metal near Main Element

For body worn applications, the FlexPIFA can tolerate the presence of the human body. It is not recommended that the antenna be mounted directly on body tissue, this will detune the FlexPIFA. Additionally the human body is an excellent absorber of 2.4GHz RF signals. As a result of this, expect a reduction in range due to the presence of a body. In a body worn application, the ground plate of the FlexPIFA should be closest to the body tissue. The main element should be pointed away from the body. Additionally, for handheld devices the FlexPIFA should be mounted in a location where it will not be covered by the hand. If the antenna is mounted in a location where the main element will be covered or near a human body, ensure that there is at least a 10mm separation distance between the main element and the body as shown in **Figure 29**.

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Additionally, when the FlexPIFA is mounted very close to body tissue, use a spacer to create separation distance between the body tissue and ground plate. This will ensure maximum performance and prevent the antenna from detuning. As previously mentioned, the ideal spacer material is 1.5 mm thick polycarbonate.

Quite often this separation distance between the body tissue and the FlexPIFA is already provided by the enclosure. **Figure 30** below is an example of a bracelet with the FlexPIFA integrated inside it. The enclosure provides enough spacing between the antenna and body tissue to prevent any major detuning. The enclosure is made of polycarbonate.

Figure 30 FlexPIFA Integrated into Bracelet

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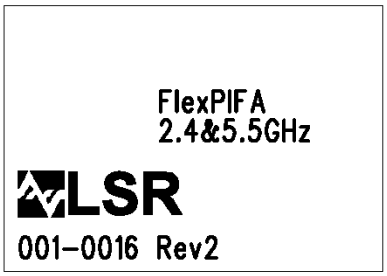
PRODUCT REVISION HISTORY

Rev 1: Initial Production Release

Rev 2:



Updated LSR Logo

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MAF95310 Mini NanoBlade Flex

Embedded Wireless Antenna

MAF95310 MINI NANOBLADE FLEX ANTENNA

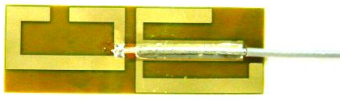
Laird Technologies' internal wireless antennas feature flexible printed circuit board type antenna that is multiband character to support WLAN application. The antennas are specifically designed to be embedded inside devices by adhered the antenna to device housing internally for aesthetically pleasing integration.

FEATURES RoHS

- Covering dual band frequencies: 2.4 GHz to 2.5 GHz and 4.9 GHz to 5.875
- Conformance to RoHS

MARKETS

- 802.11 b/g/n WLAN applications
- Bluetooth®



TYPICAL ELECTRICAL SPECIFICATIONS	
Frequency	2.4 GHz ~ 2.5 GHz, 4.9GHz ~ 5.875 GHz
Gain	2.79 dBi @ 2.4 GHz 3.38 dBi @ 5 GHz
VSWR	2:1
Average Efficiency	68% @ 2.4 GHz 59% @ 5 GHz
Polarization	Vertical, Omni-directional Radiation Pattern
Nominal Impedance	50 Ohms
Mechanical Size	36 mm x 12 mm x 0.1 mm
RoHS	Compliant

* The antenna specification based on the antenna adheres to a plastic housing. It will vary according to customer design environment.

Preliminary

global solution: local support TM

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Asia: +1.65.6.243.8022
IAS-AsiaSales@lairdtech.com

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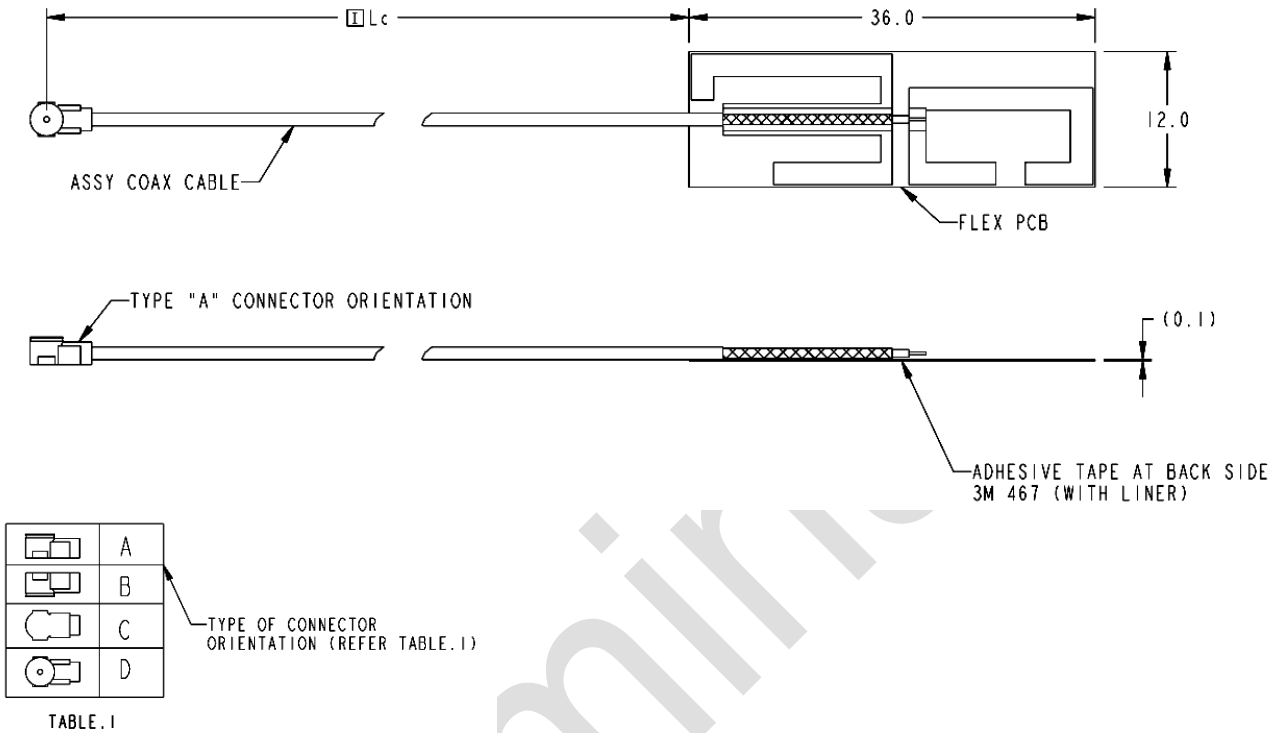
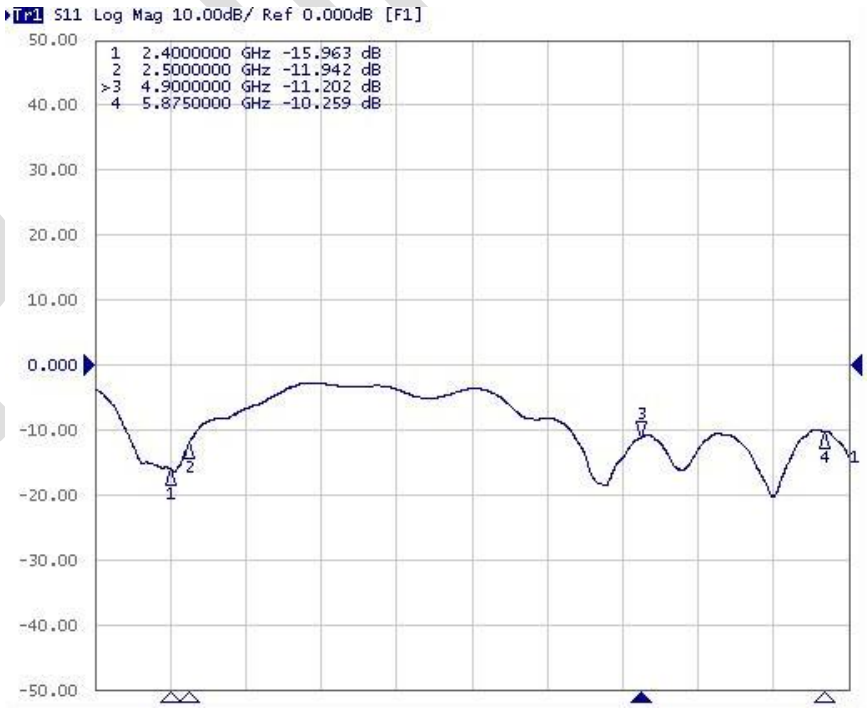
Cables and Connectors

Part No	Cable	Connector	Orientation
MAF95310	1.13 coax cable, Lc = 185±4 mm	IPEX MHF I	A



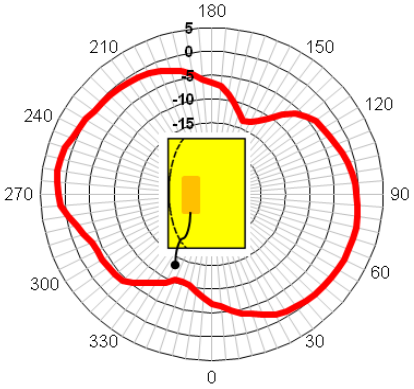
MAF95310 Return Loss



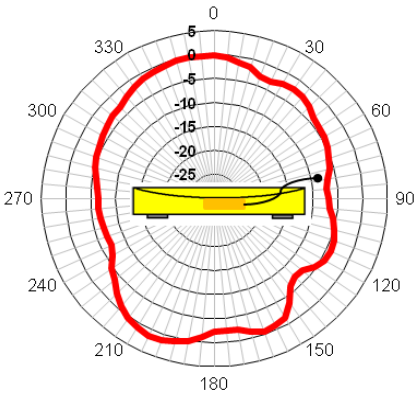
MAF95310 TYPICAL RADIATION PATTERNS

2450 MHz

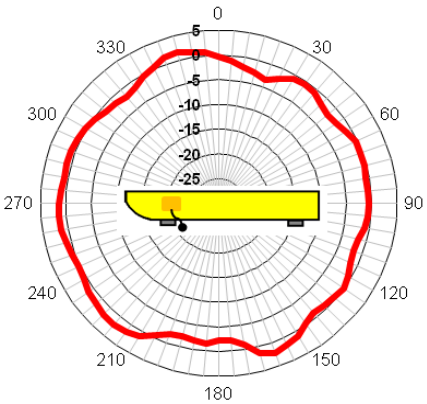
Azimuth Plane



Phi 0 Degree Plane

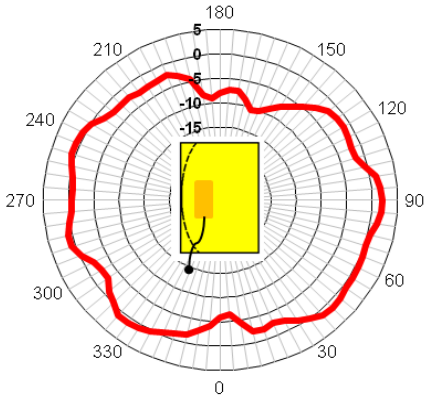


Phi 90 Degree Plane

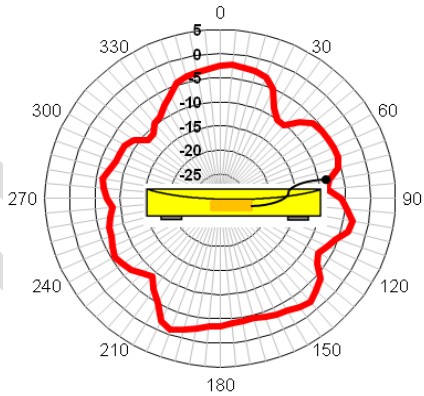


5470 MHz

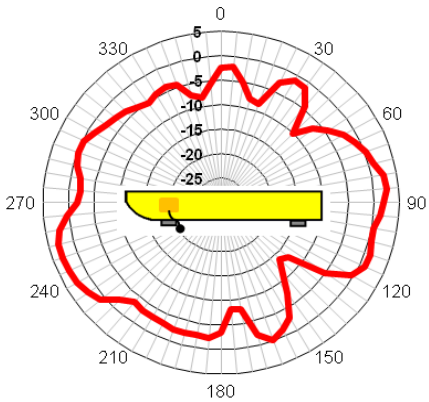
Azimuth Plane



Phi 0 Degree Plane



Phi 90 Degree Plane



MAF95310 Mini NanoBlade Antenna

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Laird TECHNOLOGIES

Innovative **Technology** for a **Connected** World

Nanoblade
Internal Wireless Device Antenna

NANOBLADE INTERNAL EMBEDDED ANTENNA

The evolution of technology has brought the need to communicate everywhere and at all times without being confined to one space. Laird Technologies' internal wireless device antennas feature wide bandwidth to enhance the performance and application of portable wireless devices based on standards such as 802.11 and Bluetooth®. The antennas are specifically designed to be embedded inside devices for aesthetically pleasing integration with high durability.

FEATURES ✔RoHS

- Covers 2.4 to 2.5 GHz for 802.11b, and 4.9 to 6 GHz for 802.11a and all US, European, and Japanese WLAN applications
- Coaxial cable pigtail with various connector choices
- Omnidirectional patterns at all frequencies with increased gain in upper bands for optimal coverage
- Conformance to European RoHS Directive 2002/95/EC

MARKETS

- Bluetooth® devices
- IEEE 802.11 devices

global solutions: local support™

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Asia: +1.65.6.243.8022
IAS-AsiaSales@lairdtech.com

www.lairdtech.com

Innovative **Technology**
for a **Connected** World

Nanoblade
Internal Wireless Device Antenna

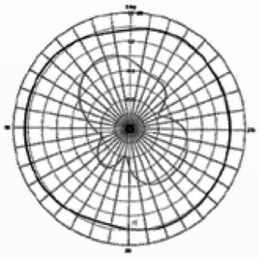
ELECTRICAL SPECIFICATIONS	
Frequency	2.4 - 2.5 GHz, 4.9 - 6 GHz
Gain	2 dBi (2.4-2.5 GHz), 3.9 dBi (5.15-5.35 GHz), 4 dBi (5.6 GHz)
Polarization	Vertical, Omnidirectional
Nominal Impedance	50 ohms
VSWR	2.:1 max across all bands
Size	2" x 0.65"

CABLE AND CONNECTORS

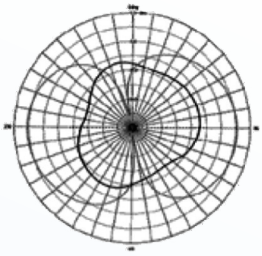
MODEL NUMBER	PART NUMBER	CABLE	CONNECTOR
NanoBlade-MMCX4	CAF94504	100mm, rg-178	RA-MMCX
NanoBlade-IP04	CAF94505	100mm, Ø 1.13mm	IPEX MHF

ELEVATION PATTERNS, PHI=0

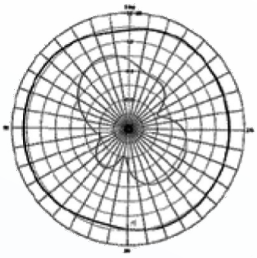
2.45 GHz



5.29 GHz



5582.5 MHz



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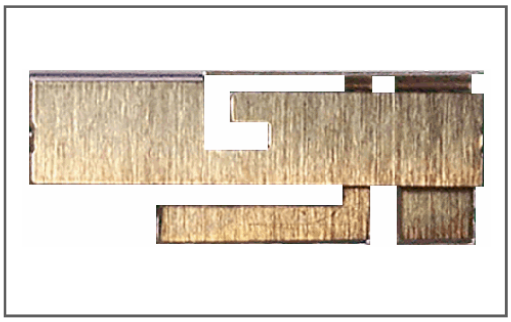
ethertronics
shaping antenna technology™

PRODUCT: WLAN

Part No. 1000146

Prestta™ WLAN Embedded Antenna

2.4/4.9/5.2/5.8 GHz (802.11 a/b/g/n + Japan)



Ethertronics' Prestta series of Isolated Magnetic Dipole™ (IMD) stamped metal antennas address the challenges facing today's product designers. IMD's high performance and isolation characteristics offer better connectivity and minimal interference.
IMD antennas can be used in a variety of devices:

- Access Points, Gateways, Routers
- Industrial Handhelds
- WiFi enabled Televisions & Monitors

TECHNOLOGY ADVANTAGES

Stays in Tune

IMD antenna technology provides superior RF field containment, resulting in less interaction with surrounding components. Ethertronics IMD antennas **resist de-tuning**; providing a robust radio link regardless of the usage position.

Prestta WLAN antennas use patented IMD technology in a stamped metal configuration to provide high performance. IMD antennas requires a smaller design keep-out area, carry lower program development risk which yields a quicker time-to-market, without sacrificing RF performance.

KEY BENEFITS

DESIGN ADVANTAGES

Quicker Time-to-Market

- By optimizing antenna size, performance and emissions, customer and regulatory specifications are more easily met.

Greater Flexibility

- Ethertronics' first-in-class IMD technology enables you to develop concept designs that are more advanced and that deliver superior performance in reception-critical applications.

RoHS Compliant

- Ethertronics' antennas are fully compliant with the European RoHS Directive 2002/95/EC.

END USER ADVANTAGES

Unique Form Factors Support Advanced Industrial Designs

- Smaller, more efficient IMD embedded antennas break through restrictive design rules and provide new freedom in component placement.

Superior Range & Signal Strength

- Better antenna function means longer range and greater sensitivity to critically precise signals—delivering greater customer satisfaction while building brand loyalty.

SERVICE AND SUPPORT

Extensive RF Experience

- Our WLAN antennas are supported by documentation, and when needed, by the expertise of RF engineers who have integrated hundreds of antenna designs into wireless devices.

Global Operations & Design Support

- Ethertronics' global operations supports an integrated network of design centers that can take projects from concept to production.

ETHERTRONICS
9605 Scranton Road, Suite 300 | San Diego, CA 92121 - USA | www.ethertronics.com
tel +(1) 858.550.3820 | fax +(1) 858.550.3821 | contact: info@ethertronics.com

PRODUCT: WLAN a/b/g/n + Japan

Ethertronics' Internal (Embedded) Antenna Specifications.

Below are the typical specs for a WLAN application.

Electrical Specifications

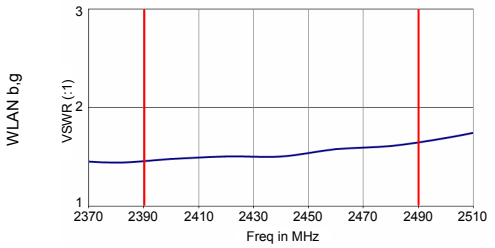
Typical Characteristics

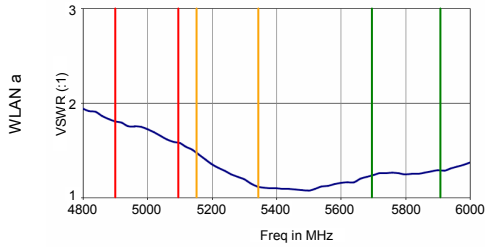
WLAN a/b/g/n + Japan Antenna (GHz)	2.390-2.490 b, g	4.900-5.100 Japan	5.150-5.350 a	5.70-5.900 a
Peak Gain	1.5-2.5 dBi	1.5-3.5 dBi	2-3.5 dBi	2-3.5 dBi
Average Efficiency	81%	70%	75%	72%
VSWR Match	<1.6:1	<1.8:1	<1.5:1	<1.3:1
Feed Point Impedance	50 Ω unbalanced (other if required)			

Mechanical Specifications

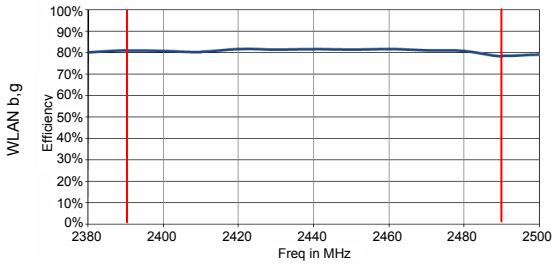
Dimensions	17.9 x 6.9 x 4.3 mm
Weight	.33 g

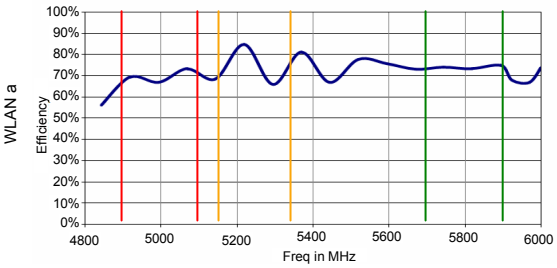
VSWR





Efficiencies

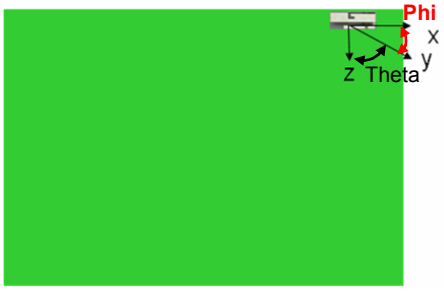


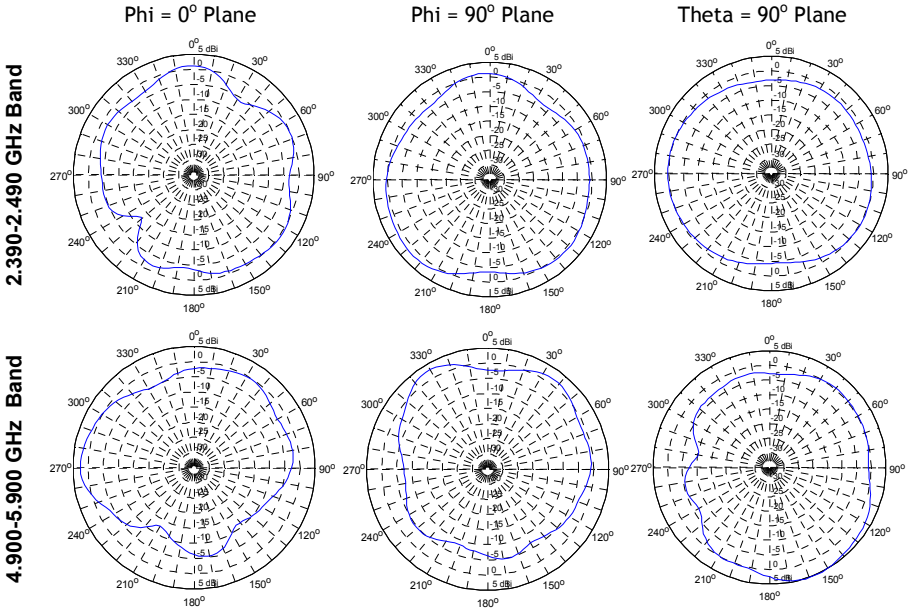


Antenna Radiation Patterns

Typical Performance

Ethertronics' Test Board
PCB: 120 x 180 mm





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Specifications subject to change and are dependent upon actual implementation.