



FCC Test Report

Equipment : 802.11a/b/g/n/ac Wireless Access Point
Brand Name : CISCO
Model No. : MR53E-HW
FCC ID : UDX-60064010
Standard : 47 CFR FCC Part 15.247
Operating Band : 2400 MHz – 2483.5 MHz
Function : Point-to-multipoint; Point-to-point
Applicant : Cisco Systems, Inc.
170 West Tasman Drive San Jose, CA 95134 USA
Manufacturer : Cisco Systems, Inc.
170 West Tasman Drive San Jose, CA 95134 USA

The product sample received on Jun. 16, 2017 and completely tested on Sep. 01, 2017. We, SPORTON, would like to declare that the tested sample has been evaluated in accordance with the procedures given in ANSI C63.10-2013 and shown compliance with the applicable technical standards.

The test results in this report apply exclusively to the tested model / sample. Without written approval of SPORTON INTERNATIONAL INC., the test report shall not be reproduced except in full.


Cliff Chang
SPORTON INTERNATIONAL INC.





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APPENDIX A. TEST RESULTS OF RADIATED EMISSION CO-LOCATION**APPENDIX B. TEST PHOTOS****PHOTOGRAPHS OF EUT V02**



Summary of Test Result

Conformance Test Specifications				
Report Clause	Ref. Std. Clause	Description	Limit	Result
1.1.2	15.203	Antenna Requirement	FCC 15.203	Complied
3.1	15.207	AC Power-line Conducted Emissions	FCC 15.207	Complied
3.2	15.247(a)	DTS Bandwidth	$\geq 500\text{kHz}$	Complied
3.3	15.247(b)	Maximum Conducted Output Power	Power [dBm]:30	Complied
3.4	15.247(e)	Power Spectral Density	PSD [dBm/3kHz]:8	Complied
3.5	15.247(d)	Emissions in Non-restricted Frequency Bands	Non-Restricted Bands: $> 30\text{ dBc}$	Complied
3.6	15.247(d)	Emissions in Restricted Frequency Bands	Restricted Bands: FCC 15.209	Complied



Revision History



1 General Description

1.1 Information

1.1.1 RF General Information

Frequency Range (MHz)	IEEE Std. 802.11	Ch. Frequency (MHz)	Channel Number
2400-2483.5	b, g, n (HT20), ac (VHT20)	2412-2462	1-11 [11]
2400-2483.5	n (HT40), ac (VHT40)	2422-2452	3-9 [7]

For Radio 1

Band	Mode	BWch (MHz)	Nant
2.4-2.4835GHz	802.11b	20	4TX
2.4-2.4835GHz	802.11g	20	4TX
2.4-2.4835GHz	802.11n HT20	20	4TX
2.4-2.4835GHz	802.11n HT20-BF	20	4TX
2.4-2.4835GHz	802.11ac VHT20	20	4TX
2.4-2.4835GHz	802.11ac VHT20-BF	20	4TX
2.4-2.4835GHz	802.11n HT40	40	4TX
2.4-2.4835GHz	802.11n HT40-BF	40	4TX
2.4-2.4835GHz	802.11ac VHT40	40	4TX
2.4-2.4835GHz	802.11ac VHT40-BF	40	4TX

For Radio 3

Band	Mode	BWch (MHz)	Nant
2.4-2.4835GHz	802.11b	20	1TX
2.4-2.4835GHz	802.11g	20	1TX
2.4-2.4835GHz	802.11n HT20	20	1TX
2.4-2.4835GHz	802.11ac VHT20	20	1TX
2.4-2.4835GHz	802.11n HT40	40	1TX
2.4-2.4835GHz	802.11ac VHT40	40	1TX

Note:

- 11b mode uses a combination of DSSS-DBPSK, DQPSK, CCK modulation.
- 11g, HT20 and HT40 use a combination of OFDM-BPSK, QPSK, 16QAM, 64QAM modulation.
- VHT20, VHT40 use a combination of OFDM-BPSK, QPSK, 16QAM, 64QAM, 256QAM modulation.
- BWch is the nominal channel bandwidth.
- Nss-Min is the minimum number of spatial streams.
- Nant is the number of outputs. e.g., 2(2,3) means have 2 outputs for port 2 and port 3. 2 means have 2 outputs for port 1 and port 2.



1.1.2 Antenna Information

Ant.	Brand	Official Model Number	Antenna Type	Connector	Gain (dBi)
1	Cisco	MA-ANT-3-A	Dipole Antenna	I-PEX	Note
2	Cisco	MA-ANT-3-B	Dipole Antenna	I-PEX	
3	Cisco	MA-ANT-3-F	Patch Antenna	I-PEX	
4	Cisco	MA-ANT-3-E	Patch Antenna	I-PEX	
5	Cisco	MA-ANT-3-C	Omni Antenna	I-PEX	
6	Cisco	MA-ANT-3-D	Omni Antenna	I-PEX	

Note:

Radio 1 (2.4GHz)													
Set	Antenna Gain (dBi)				Cable Loss (dB)				True Gain (dBi)				
	Port 1	Port 2	Port 3	Port 4	Port 1 (175mm)	Port 2 (280mm)	Port 3 (285mm)	Port 4 (205mm)	Port 1	Port 2	Port 3	Port 4	
1	5	5	5	5	0.77	0.93	0.92	0.75	4.23	4.07	4.08	4.25	
2	3.7	3.7	3.7	3.7	0.77	0.93	0.92	0.75	2.93	2.77	2.78	2.95	
3	11.55	11.55	11.55	11.55	0.77	0.93	0.92	0.75	10.78	10.62	10.63	10.8	
4	6.7	6.7	6.7	6.7	0.77	0.93	0.92	0.75	5.93	5.77	5.78	5.95	
5	5.1	5.1	5.1	5.1	0.77	0.93	0.92	0.75	4.33	4.17	4.18	4.35	
6	3.16	3.16	3.16	3.16	0.77	0.93	0.92	0.75	2.39	2.23	2.24	2.41	

Radio 2 (5GHz)													
Set	Antenna Gain (dBi)				Cable Loss (dB)				True Gain (dBi)				
	Port 1	Port 2	Port 3	Port 4	Port 1 (175mm)	Port 2 (280mm)	Port 3 (285mm)	Port 4 (205mm)	Port 1	Port 2	Port 3	Port 4	
1	6.3	6.3	6.3	6.3	1.47	1.65	1.69	1.52	4.83	4.65	4.61	4.78	
2	7.2	7.2	7.2	7.2	1.47	1.65	1.69	1.52	5.73	5.55	5.51	5.68	
3	10.94	10.94	10.94	10.94	1.47	1.65	1.69	1.52	9.47	9.29	9.25	9.42	
4	6.93	6.93	6.93	6.93	1.47	1.65	1.69	1.52	5.46	5.28	5.24	5.41	
5	5.4	5.4	5.4	5.4	1.47	1.65	1.69	1.52	3.93	3.75	3.71	3.88	
6	3.95	3.95	3.95	3.95	1.47	1.65	1.69	1.52	2.48	2.3	2.26	2.43	



Radio 3 (2.4GHz + 5GHz)						
Set	Antenna Gain (dBi)		Cable Loss (dB)		True Gain (dBi)	
	Port 1		Port 1 (100mm)		Port 1	
	2.4GHz	5GHz	2.4GHz	5GHz	2.4GHz	5GHz
1	5	6.3	0.54	0.83	4.46	5.47
2	3.7	7.2	0.54	0.83	3.16	6.37
3	11.55	10.94	0.54	0.83	11.01	10.11
4	6.7	6.93	0.54	0.83	6.16	6.1
5	5.1	5.4	0.54	0.83	4.56	4.57
6	3.16	3.95	0.54	0.83	2.62	3.12

Radio 4 (Bluetooth)			
Set	Antenna Gain (dBi)	Cable Loss (dB)	True Gain (dBi)
	Port 1	Port 1 (100mm)	Port 1
1	5	0.53	4.47
2	3.7	0.53	3.17
3	11.55	0.53	11.02
4	6.7	0.53	6.17
5	5.1	0.53	4.57
6	3.16	0.53	2.63



Correlated Composite Gain(dBi) for Radio 1 and Radio 2						
Set	Frequency (MHz)	4T1S Composite Gain(dBi)	4T2S Composite Gain(dBi)	Cable Loss (dB)	4T1S True Gain (dBi)	4T2S True Gain (dBi)
1	2.4GHz	6.47	3.48	0	6.47	3.48
3	2.4GHz	12.73	9.72	0.75	11.98	8.97
	5GHz Band 1	11.74	8.80	1.47	10.27	7.33
	5GHz Band 2	11.87	8.86	1.47	10.4	7.39
	5GHz Band 3	11.19	8.18	1.47	9.72	6.71
	5GHz Band 4	12.57	9.85	1.47	11.1	8.38
	80+80	-	-	-	-	8.38
4	2.4GHz	9.37	6.47	0.75	8.62	5.72
	5GHz Band 1	10.11	7.1	1.47	8.64	5.63
	5GHz Band 2	10.8	7.81	1.47	9.33	6.34
	5GHz Band 3	11.2	8.21	1.47	9.73	6.74
	5GHz Band 4	10.17	7.23	1.47	8.7	5.76
	80+80	-	-	-	-	6.74
5	2.4GHz	7.41	4.42	0.75	6.66	3.67
	5GHz Band 1	9.55	6.54	1.47	8.08	5.07
	5GHz Band 2	9.71	6.7	1.47	8.24	5.23
	5GHz Band 3	9.67	6.68	1.47	8.2	5.21
	5GHz Band 4	8.89	6.09	1.47	7.42	4.62
	80+80	-	-	-	-	5.23
6	2.4GHz	4.07	1.33	0.75	3.32	0.58
	5GHz Band 1	5.6	2.72	1.47	4.13	1.25
	5GHz Band 2	5.5	2.57	1.47	4.03	1.1
	5GHz Band 3	5.42	2.43	1.47	3.95	0.96
	5GHz Band 4	6.8	3.87	1.47	5.33	2.4
	80+80	-	-	-	-	2.4

Directional Gain(dBi) for Radio 2		
Set	4T1S	4T2S
2	11.64	8.63



Note: The EUT has six sets of antennas, and each set contains six antennas.

The EUT has four radios, Radio 1 supports WLAN 2.4GHz, Radio 2 supports WLAN 5GHz, Radio 3 supports WLAN 2.4GHz + 5GHz (scanning radio) and Radio 4 supports Bluetooth function.

Set 1 and Set 2 antennas are the same type antennas; only the higher gain antennas Set 1 for 2.4GHz, Set 2 for 5GHz were tested.

< Radio 1 (2.4GHz Functions) >

For 4TX/4RX:

Port 1, Port 2, Port 3 and Port 4 can be use as transmitting/receive antennas.

Port 1, Port 2, Port 3 and Port 4 could transmit/receive simultaneously.

< Radio 2 (5GHz Functions) >

For 4TX/4RX:

Port 1, Port 2, Port 3 and Port 4 can be use as transmitting/receive antennas.

Port 1, Port 2, Port 3 and Port 4 could transmit/receive simultaneously.

<For Radio 3 / 2.4GHz + 5GHz Functions>

Only Port 1 can be use as transmitting/receiving antenna.

<For Radio 4 / Bluetooth Functions>

Only Port 1 can be use as transmitting/receiving antenna.

1.1.3 Mode Test Duty Cycle

For Radio 1

Mode	DC	DCF(dB)	T(s)	VBW(Hz) ≥ 1/T
802.11b	0.994	0.026	n/a (DC≥=0.98)	n/a (DC≥=0.98)
802.11ac VHT20	0.985	0.066	n/a (DC≥=0.98)	n/a (DC≥=0.98)
802.11ac VHT40	0.97	0.132	2.44m	1k
802.11ac VHT20-BF-NSS1	0.936	0.287	1.898m	1k
802.11ac VHT40-BF-NSS1	0.762	1.18	1.758m	1k
802.11ac VHT20-BF-NSS2	0.865	0.63	1.823m	1k
802.11ac VHT40-BF-NSS2	0.879	0.56	1.765m	1k

For Radio 3

Mode	DC	DCF(dB)	T(s)	VBW(Hz) ≥ 1/T
802.11b	0.992	0.035	n/a (DC≥=0.98)	n/a (DC≥=0.98)
802.11ac VHT20	0.754	1.226	1.935m	1k
802.11ac VHT40	0.926	0.334	955u	3k

1.1.4 EUT Operational Condition

EUT Power Type	From Power Adapter or PoE			
Beamforming Function	<input checked="" type="checkbox"/>	With beamforming For radio 1 and radio 2 802.11n/ac in 2.4GHz/5GHz.	<input type="checkbox"/>	Without beamforming



1.2 Testing Applied Standards

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

- 47 CFR FCC Part 15
- ANSI C63.10-2013
- FCC KDB 558074 D01 v04
- FCC KDB 662911 D01 v02r01
- FCC KDB 644545 D01 v01r02
- FCC KDB 412172 D01 v01r01

1.3 Testing Location Information

Testing Location				
<input type="checkbox"/>	HWA YA	ADD : No. 52, Hwa Ya 1st Rd., Kwei-Shan Hsiang, Tao Yuan Hsien, Taiwan, R.O.C. TEL : 886-3-327-3456	FAX : 886-3-318-0055	
<input checked="" type="checkbox"/>	JHUBEI	ADD : No.8, Lane 724, Bo-ai St., Jhubei City, HsinChu County 302, Taiwan, R.O.C. TEL : 886-3-656-9065	FAX : 886-3-656-9085	

Test Condition	Test Site No.	Test Engineer	Test Environment	Test Date
RF Conducted	TH01-CB	Eddie Weng	22°C / 54%	Jul. 25, 2017
Radiated below 1GHz	03CH01-CB	Mars Lin & Joy Tseng & Paul Chen	22°C / 54%	Jul. 27, 2017
Radiated above 1GHz	03CH01-CB	Mars Lin & Joy Tseng & Paul Chen	22°C / 54%	Jun. 19, 2017 ~ Sep. 01, 2017
AC Conduction	CO01-CB	GN Hou	21°C / 62%	Jul. 20, 2017

Test site Designation No. TW0006 with FCC.

Test site registered number IC 4086D with Industry Canada.

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)

Test Items	Uncertainty	Remark
Conducted Emission (150kHz ~ 30MHz)	3.2 dB	Confidence levels of 95%
Radiated Emission (30MHz ~ 1,000MHz)	3.6 dB	Confidence levels of 95%
Radiated Emission (1GHz ~ 18GHz)	3.7 dB	Confidence levels of 95%
Radiated Emission (18GHz ~ 40GHz)	3.5 dB	Confidence levels of 95%
Conducted Emission	1.7 dB	Confidence levels of 95%
Output Power Measurement	1.33 dB	Confidence levels of 95%
Power Density Measurement	1.27 dB	Confidence levels of 95%
Bandwidth Measurement	9.74×10^{-8}	Confidence levels of 95%



2 Test Configuration of EUT

2.1 Test Channel Mode

For Radio 1

For set 1 antenna / 4T1S

Mode	Power Setting
802.11b_(1Mbps)_4TX	-
2412MHz	20.5
2437MHz	23
2462MHz	16.5
802.11g_(6Mbps)_4TX	-
2412MHz	16
2437MHz	21.5
2462MHz	16
802.11ac VHT20_Nss1,(MCS0)_4TX	-
2412MHz	16.5
2437MHz	22
2462MHz	16.5
802.11ac VHT40_Nss1,(MCS0)_4TX	-
2422MHz	12.5
2437MHz	16.5
2452MHz	16
802.11ac VHT20-BF_Nss1,(MCS0)_4TX	-
2412MHz	24
2437MHz	25
2462MHz	24
802.11ac VHT40-BF_Nss1,(MCS0)_4TX	-
2422MHz	21
2437MHz	23.5
2452MHz	22.5

For set 1 antenna / 4T2S

Mode	Power Setting
802.11ac VHT20-BF_Nss2,(MCS0)_4TX	-
2412MHz	23
2437MHz	25
2462MHz	24
802.11ac VHT40-BF_Nss2,(MCS0)_4TX	-
2422MHz	21
2437MHz	23
2452MHz	21



For set 3 antenna / 4T1S

Mode	Power Setting
802.11b_(1Mbps)_4TX	-
2412MHz	19
2437MHz	18.5
2462MHz	18.5
802.11g_(6Mbps)_4TX	-
2412MHz	13
2437MHz	18
2462MHz	15
802.11ac VHT20_Nss1,(MCS0)_4TX	-
2412MHz	13.5
2437MHz	18.5
2462MHz	15.5
802.11ac VHT40_Nss1,(MCS0)_4TX	-
2422MHz	8.5
2437MHz	12.5
2452MHz	10
802.11ac VHT20-BF_Nss1,(MCS0)_4TX	-
2412MHz	20
2437MHz	22
2462MHz	21
802.11ac VHT40-BF_Nss1,(MCS0)_4TX	-
2422MHz	16
2437MHz	16
2452MHz	17

**For set 3 antenna****For Harmonic / 4T1S**

Mode	Power Setting
802.11b_(1Mbps)_4TX	-
2412MHz	25
2437MHz	25
2462MHz	25
802.11g_(6Mbps)_4TX	-
2412MHz	25
2437MHz	25
2462MHz	25
802.11ac VHT20_Nss1,(MCS0)_4TX	-
2412MHz	25
2437MHz	25
2462MHz	25
802.11ac VHT40_Nss1,(MCS0)_4TX	-
2422MHz	25
2437MHz	25
2452MHz	25
802.11ac VHT20-BF_Nss1,(MCS0)_4TX	-
2412MHz	29
2437MHz	29
2462MHz	29
802.11ac VHT40-BF_Nss1,(MCS0)_4TX	-
2422MHz	29
2437MHz	29
2452MHz	29



For set 3 antenna / 4T2S

Mode	Power Setting
802.11ac VHT20-BF_Nss2,(MCS0)_4TX	-
2412MHz	20
2437MHz	26
2462MHz	21
802.11ac VHT40-BF_Nss2,(MCS0)_4TX	-
2422MHz	15
2437MHz	20
2452MHz	17

For set 3 antenna

For Harmonic / 4T2S

Mode	Power Setting
802.11ac VHT20-BF_Nss2,(MCS0)_4TX	-
2412MHz	29
2437MHz	29
2462MHz	29
802.11ac VHT40-BF_Nss2,(MCS0)_4TX	-
2422MHz	29
2437MHz	29
2452MHz	29



For set 4 antenna / 4T1S

Mode	Power Setting
802.11b_(1Mbps)_4TX	-
2412MHz	20.5
2437MHz	23
2462MHz	20
802.11g_(6Mbps)_4TX	-
2412MHz	15
2437MHz	20.5
2462MHz	16
802.11ac VHT20_Nss1,(MCS0)_4TX	-
2412MHz	15.5
2437MHz	21
2462MHz	16.5
802.11ac VHT40_Nss1,(MCS0)_4TX	-
2422MHz	11.5
2437MHz	16
2452MHz	15.5
802.11ac VHT20-BF_Nss1,(MCS0)_4TX	-
2412MHz	22
2437MHz	25
2462MHz	22
802.11ac VHT40-BF_Nss1,(MCS0)_4TX	-
2422MHz	19
2437MHz	22
2452MHz	19

For set 4 antenna / 4T2S

Mode	Power Setting
802.11ac VHT20-BF_Nss2,(MCS0)_4TX	-
2412MHz	22
2437MHz	25
2462MHz	22
802.11ac VHT40-BF_Nss2,(MCS0)_4TX	-
2422MHz	19
2437MHz	22
2452MHz	19



For set 5 antenna / 4T1S

Mode	Power Setting
802.11b_(1Mbps)_4TX	-
2412MHz	20.5
2437MHz	23
2462MHz	19
802.11g_(6Mbps)_4TX	-
2412MHz	13.5
2437MHz	22.5
2462MHz	16.5
802.11ac VHT20_Nss1,(MCS0)_4TX	-
2412MHz	14
2437MHz	22.5
2462MHz	16.5
802.11ac VHT40_Nss1,(MCS0)_4TX	-
2422MHz	11.5
2437MHz	16.5
2452MHz	16.5
802.11ac VHT20-BF_Nss1,(MCS0)_4TX	-
2412MHz	21
2437MHz	26.5
2462MHz	23
802.11ac VHT40-BF_Nss1,(MCS0)_4TX	-
2422MHz	18
2437MHz	23
2452MHz	21

For set 5 antenna / 4T2S

Mode	Power Setting
802.11ac VHT20-BF_Nss2,(MCS0)_4TX	-
2412MHz	22
2437MHz	27
2462MHz	23
802.11ac VHT40-BF_Nss2,(MCS0)_4TX	-
2422MHz	18
2437MHz	23
2452MHz	22



For set 6 antenna / 4T1S

Mode	Power Setting
802.11b_(1Mbps)_4TX	-
2412MHz	20.5
2437MHz	23
2462MHz	19.5
802.11g_(6Mbps)_4TX	-
2412MHz	15
2437MHz	21
2462MHz	17.5
802.11ac VHT20_Nss1,(MCS0)_4TX	-
2412MHz	15.5
2437MHz	21.5
2462MHz	18
802.11ac VHT40_Nss1,(MCS0)_4TX	-
2422MHz	12.5
2437MHz	15.5
2452MHz	16
802.11ac VHT20-BF_Nss1,(MCS0)_4TX	-
2412MHz	24
2437MHz	27
2462MHz	23
802.11ac VHT40-BF_Nss1,(MCS0)_4TX	-
2422MHz	22
2437MHz	23
2452MHz	22

**For set 6 antenna****For Harmonic / 4T1S**

Mode	Power Setting
802.11b_(1Mbps)_4TX	-
2412MHz	25
2437MHz	25
2462MHz	25
802.11g_(6Mbps)_4TX	-
2412MHz	25
2437MHz	25
2462MHz	25
802.11ac VHT20_Nss1,(MCS0)_4TX	-
2412MHz	25
2437MHz	25
2462MHz	25
802.11ac VHT40_Nss1,(MCS0)_4TX	-
2422MHz	25
2437MHz	25
2452MHz	25
802.11ac VHT20-BF_Nss1,(MCS0)_4TX	-
2412MHz	29
2437MHz	29
2462MHz	29
802.11ac VHT40-BF_Nss1,(MCS0)_4TX	-
2422MHz	29
2437MHz	29
2452MHz	29

**For set 6 antenna / 4T2S**

Mode	Power Setting
802.11ac VHT20-BF_Nss2,(MCS0)_4TX	-
2412MHz	24
2437MHz	27
2462MHz	24
802.11ac VHT40-BF_Nss2,(MCS0)_4TX	-
2422MHz	23
2437MHz	24
2452MHz	22

For set 6 antenna**For Harmonic / 4T2S**

Mode	Power Setting
802.11ac VHT20-BF_Nss2,(MCS0)_4TX	-
2412MHz	29
2437MHz	29
2462MHz	29
802.11ac VHT40-BF_Nss2,(MCS0)_4TX	-
2422MHz	29
2437MHz	29
2452MHz	29

**For Radio 3****For set 1 antenna**

Mode	Power Setting
802.11b_(1Mbps)_1TX	-
2412MHz	23
2437MHz	27
2462MHz	22
802.11g_(6Mbps)_1TX	-
2412MHz	17.5
2437MHz	24
2462MHz	14.5
802.11ac VHT20_Nss1,(MCS0)_1TX	-
2412MHz	18
2437MHz	24.5
2462MHz	15
802.11ac VHT40_Nss1,(MCS0)_1TX	-
2422MHz	13
2437MHz	18
2452MHz	10.5

For set 1 antenna**For Harmonic**

Mode	Power Setting
802.11b_(1Mbps)_1TX	-
2412MHz	23
2437MHz	27
2462MHz	22

**For set 3 antenna**

Mode	Power Setting
802.11b_(1Mbps)_1TX	-
2412MHz	21
2437MHz	26
2462MHz	21
802.11g_(6Mbps)_1TX	-
2412MHz	12
2437MHz	16
2462MHz	11.5
802.11ac VHT20_Nss1,(MCS0)_1TX	-
2412MHz	12
2437MHz	16
2462MHz	12
802.11ac VHT40_Nss1,(MCS0)_1TX	-
2422MHz	7.5
2437MHz	13.5
2452MHz	7

For set 3 antenna**For Harmonic**

Mode	Power Setting
802.11b_(1Mbps)_1TX	-
2412MHz	30
2437MHz	30
2462MHz	29
802.11g_(6Mbps)_1TX	-
2412MHz	30
2437MHz	30
2462MHz	30
802.11ac VHT20_Nss1,(MCS0)_1TX	-
2412MHz	30
2437MHz	30
2462MHz	30
802.11ac VHT40_Nss1,(MCS0)_1TX	-
2422MHz	30
2437MHz	30
2452MHz	30

**For set 4 antenna**

Mode	Power Setting
802.11b_(1Mbps)_1TX	-
2412MHz	22.5
2437MHz	27
2462MHz	23
802.11g_(6Mbps)_1TX	-
2412MHz	18
2437MHz	23.5
2462MHz	14.5
802.11ac VHT20_Nss1,(MCS0)_1TX	-
2412MHz	18.5
2437MHz	24
2462MHz	15
802.11ac VHT40_Nss1,(MCS0)_1TX	-
2422MHz	14
2437MHz	17
2452MHz	10.5

For set 4 antenna**For Harmonic**

Mode	Power Setting
802.11b_(1Mbps)_1TX	-
2412MHz	29
2437MHz	28
2462MHz	25



For set 5 antenna

Mode	Power Setting
802.11b_(1Mbps)_1TX	-
2412MHz	21.5
2437MHz	27
2462MHz	20.5
802.11g_(6Mbps)_1TX	-
2412MHz	13
2437MHz	22
2462MHz	13.5
802.11ac VHT20_Nss1,(MCS0)_1TX	-
2412MHz	13.5
2437MHz	22.5
2462MHz	14
802.11ac VHT40_Nss1,(MCS0)_1TX	-
2422MHz	11
2437MHz	17
2452MHz	10

For set 5 antenna

For Harmonic

Mode	Power Setting
802.11b_(1Mbps)_1TX	-
2412MHz	27.5
2437MHz	27
2462MHz	24



For set 6 antenna / 4T1S

Mode	Power Setting
802.11b_(1Mbps)_1TX	-
2412MHz	21.5
2437MHz	25
2462MHz	22.5
802.11g_(6Mbps)_1TX	-
2412MHz	13
2437MHz	22.5
2462MHz	16.5
802.11ac VHT20_Nss1,(MCS0)_1TX	-
2412MHz	13.5
2437MHz	23
2462MHz	17
802.11ac VHT40_Nss1,(MCS0)_1TX	-
2422MHz	12
2437MHz	18
2452MHz	11

For set 6 antenna

For Harmonic / 4T1S

Mode	Power Setting
802.11b_(1Mbps)_1TX	-
2412MHz	30
2437MHz	27
2462MHz	26
802.11g_(6Mbps)_1TX	-
2412MHz	30
2437MHz	30
2462MHz	30
802.11ac VHT20_Nss1,(MCS0)_1TX	-
2412MHz	30
2437MHz	30
2462MHz	30
802.11ac VHT40_Nss1,(MCS0)_1TX	-
2422MHz	30
2437MHz	30
2452MHz	30



2.2 The Worst Case Measurement Configuration

For Radio 1:

The Worst Case Mode for Following Conformance Tests					
Test Item	Antenna	Test Condition	Mode	Data Rate	TX No.
AC power-line conducted emissions	Set 3	AC power-line conducted measurement for line and neutral	CTX	-	4TX
DTS Bandwidth	Set 1 Set 3 Set 4 Set 5 Set 6	Conducted measurement at transmit chains	Non-Beamforming Mode		
			11b/CCK	1 Mbps	4TX
			11g/BPSK	6 Mbps	4TX
			11ac VHT20	MCS0 NSS1	4TX
			11ac VHT40	MCS0 NSS1	4TX
			Beamforming Mode		
			11ac VHT20	MCS0 NSS1	4TX
			11ac VHT40	MCS0 NSS1	4TX
			11ac VHT20	MCS0 NSS2	4TX
			11ac VHT40	MCS0 NSS2	4TX
Maximum Conducted Output Power	Set 1 Set 3 Set 4 Set 5 Set 6	Conducted measurement at transmit chains	Non-Beamforming Mode		
			11b/CCK	1 Mbps	4TX
			11g/BPSK	6 Mbps	4TX
			11ac VHT20	MCS0 NSS1	4TX
			11ac VHT40	MCS0 NSS1	4TX
			Beamforming Mode		
			11ac VHT20	MCS0 NSS1	4TX
			11ac VHT40	MCS0 NSS1	4TX
			11ac VHT20	MCS0 NSS2	4TX
			11ac VHT40	MCS0 NSS2	4TX
Power Spectral Density	Set 1 Set 3 Set 4 Set 5 Set 6	Conducted measurement at transmit chains	Non-Beamforming Mode		
			11b/CCK	1 Mbps	4TX
			11g/BPSK	6 Mbps	4TX
			11ac VHT20	MCS0 NSS1	4TX
			11ac VHT40	MCS0 NSS1	4TX
			Beamforming Mode		
			11ac VHT20	MCS0 NSS1	4TX
			11ac VHT40	MCS0 NSS1	4TX
			11ac VHT20	MCS0 NSS2	4TX
			11ac VHT40	MCS0 NSS2	4TX



		Non-Beamforming Mode			
Emissions in Non-restricted Frequency Bands	Set 1 Set 3 Set 4 Set 5 Set 6	Conducted measurement at transmit chains	11b/CCK	1 Mbps	
			11g/BPSK	6 Mbps	
			11ac VHT20	MCS0 NSS1	
			11ac VHT40	MCS0 NSS1	
			Beamforming Mode		
			11ac VHT20	MCS0 NSS1	4TX
Emissions in Restricted Frequency Bands < 1GHz	Set 3	Radiated measurement	11ac VHT40	MCS0 NSS1	4TX
			11ac VHT20	MCS0 NSS2	4TX
Emissions in Restricted Frequency Bands > 1GHz (Harmonic) (see the Note)	Set 3 Set 6	Radiated measurement	Non-Beamforming Mode		
			11b/CCK	1 Mbps	4TX
			11ac VHT20	MCS0 NSS1	4TX
			11ac VHT40	MCS0 NSS1	4TX
			Beamforming Mode		
			11ac VHT20	MCS0 NSS1	4TX
			11ac VHT40	MCS0 NSS1	4TX
			11ac VHT20	MCS0 NSS2	4TX
			11ac VHT40	MCS0 NSS2	4TX
			Non-Beamforming Mode		
Emissions in Restricted Frequency Bands > 1GHz (Band Edge Emission)	Set 1 Set 3 Set 4 Set 5 Set 6	Radiated measurement	11b/CCK	1 Mbps	4TX
			11ac VHT20	MCS0 NSS1	4TX
			11ac VHT40	MCS0 NSS1	4TX
			Beamforming Mode		
			11ac VHT20	MCS0 NSS1	4TX
			11ac VHT40	MCS0 NSS1	4TX
			11ac VHT20	MCS0 NSS2	4TX
			11ac VHT40	MCS0 NSS2	4TX
			Non-Beamforming Mode		
			11b/CCK	1 Mbps	4TX

Note: 1. VHT20/VHT40 covers HT20/HT40, due to same modulation. The power setting for 802.11n HT20 and HT40 are the same or lower than 802.11ac VHT20 and VHT40.
2. For emissions in restricted frequency bands > 1GHz 11g mode were exempted from testing because they're covered by 11ac VHT20 mode.
3. For Emissions in Restricted Frequency Bands > 1GHz (Harmonic) used higher gain and lowest gain antenna set collocate with maximum power setting to evaluated.
4. There are two modes of EUT, one is beamforming mode, and the other is non-beamforming mode for 802.11n/ac. All test results were recorded in the report.



For Radio 3:

The Worst Case Mode for Following Conformance Tests					
Test Item	Antenna	Test Condition	Mode	Data Rate	TX No.
AC power-line conducted emissions	Set 3	AC power-line conducted measurement for line and neutral	CTX	-	1TX
DTS Bandwidth	Set 1 Set 3 Set 4 Set 5 Set 6	Conducted measurement at transmit chains	11b/CCK	1 Mbps	1TX
			11g/BPSK	6 Mbps	1TX
			11ac VHT20	MCS0 NSS1	1TX
			11ac VHT40	MCS0 NSS1	1TX
Maximum Conducted Output Power	Set 1 Set 3 Set 4 Set 5 Set 6	Conducted measurement at transmit chains	11b/CCK	1 Mbps	1TX
			11g/BPSK	6 Mbps	1TX
			11ac VHT20	MCS0 NSS1	1TX
			11ac VHT40	MCS0 NSS1	1TX
Power Spectral Density	Set 1 Set 3 Set 4 Set 5 Set 6	Conducted measurement at transmit chains	11b/CCK	1 Mbps	1TX
			11g/BPSK	6 Mbps	1TX
			11ac VHT20	MCS0 NSS1	1TX
			11ac VHT40	MCS0 NSS1	1TX
Emissions in Non-restricted Frequency Bands	Set 1 Set 3 Set 4 Set 5 Set 6	Conducted measurement at transmit chains	11b/CCK	1 Mbps	1TX
			11g/BPSK	6 Mbps	1TX
			11ac VHT20	MCS0 NSS1	1TX
			11ac VHT40	MCS0 NSS1	1TX
Emissions in Restricted Frequency Bands < 1GHz	Set 3	Radiated measurement	CTX	-	1TX
Emissions in Restricted Frequency Bands > 1GHz (Harmonic) (see the Note)	Set 1 Set 4 Set 5	Radiated measurement	11b/CCK	1 Mbps	1TX
	11b/CCK		1 Mbps	1TX	
	11ac VHT20		MCS0 NSS1	1TX	
	Set 3 Set 6		11ac VHT40	MCS0 NSS1	1TX



Emissions in Restricted Frequency Bands > 1GHz (Band Edge Emission)	Set 1 Set 3 Set 4 Set 5 Set 6	Radiated measurement	11b/CCK	1 Mbps	1TX
			11ac VHT20	MCS0 NSS1	1TX
			11ac VHT40	MCS0 NSS1	1TX

Note: 1. VHT20/VHT40 covers HT20/HT40, due to same modulation. The power setting for 802.11n HT20 and HT40 are the same or lower than 802.11ac VHT20 and VHT40.
2. For emissions in restricted frequency bands > 1GHz 11g mode were exempted from testing because they're covered by 11ac VHT20 mode.
3. For emissions in restricted frequency bands > 1GHz (Harmonic) used higher gain and lowest gain antenna set collocate with maximum power setting to evaluated at 11b, 11ac VHT20 MHz and 11ac VHT40 MHz mode only.
4. After evaluating, the worst case is found 11b mode emissions in restricted frequency bands > 1GHz (Harmonic). It's necessary to use all antennas set to test and all test results in this report.

The following test modes were performed all tests:

For Conducted Emission test:

Mode 1. CTX-Radio 1 (2.4G) + Adapter + set 3

Mode 2. CTX-Radio 2 (5G) + Adapter + set 3

Mode 3. CTX-Radio 3 (2.4G) + Adapter + set 3

Mode 4. CTX-Radio 3 (5G) + Adapter + set 3

Mode 5. CTX-Radio 4 (BT) + Adapter + set 3

Mode 4 is the worst case, so it was selected to record in this test report.

For Radiated Emission test below 1GHz:

The EUT was performed at X axis and Z axis position for Radiated emission above 1GHz test, and the worst case was found for Radio 1 / Radio 2 / Radio 3 (5GHz) / Radio 4 at X axis and for Radio 3 (2.4GHz) at Z axis. So the measurement will follow this same test configuration.

Mode 1. CTX- EUT in X axis Radio 1 (2.4G) + Adapter + set 3

Mode 2. CTX- EUT in X axis Radio 2 (5G) + Adapter + set 3

Mode 3. CTX- EUT in Z axis Radio 3 (2.4G) + Adapter + set 3

Mode 4. CTX- EUT in X axis Radio 3 (5G) + Adapter + set 3

Mode 5. CTX- EUT in X axis Radio 4 (BT) + Adapter + set 3

Mode 2 is the worst case, so it was selected to record in this test report.

**For Radiated Emission test above 1GHz:**

The EUT was performed at X axis and Z axis position for Radiated emission test, and the worst case was found for Radio 1 at X axis and for Radio 3 at Z axis.

So the measurement will follow this same test configuration.

Mode 1. EUT in X axis (Radio 1, 4TX) + EUT in Z axis (Radio 3, 1TX) with Dipole antenna (Set 1)

Mode 2. EUT in X axis (Radio 1, 4TX) + EUT in Z axis (Radio 3, 1TX) with Patch antenna (Set 3)

Mode 3. EUT in X axis (Radio 1, 4TX) + EUT in Z axis (Radio 3, 1TX) with Patch antenna (Set 4)

Mode 4. EUT in X axis (Radio 1, 4TX) + EUT in Z axis (Radio 3, 1TX) with Omni antenna (Set 5)

Mode 5. EUT in X axis (Radio 1, 4TX) + EUT in Z axis (Radio 3, 1TX) with Omni antenna (Set 6)

For Radiated Emission Co-location Test:

The EUT was performed at X axis and Z axis position for Radiated emission above 1GHz test, and the worst case was found for Radio 1 / Radio 2 at X axis.

So the measurement will follow this same test configuration.

Mode 1. EUT in X axis (Radio 1, 4TX) + EUT in X axis (Radio 2, 4TX) with Patch antenna (Set 3)

For Co-location MPE test mode

Mode 1. Radio 1 (2.4G) + Radio 2 (5G) + Radio 3 (2.4G)+ Radio 4 (BT) + Adapter

Mode 2. Radio 1 (2.4G) + Radio 2 (5G) + Radio 3 (5G)+ Radio 4 (BT) + Adapter

The Co-location Maximum Permissible Exposure result, please refer to FA760624

Note: The Adapter and PoE are for measurement only, would not be marketed.

Adapter and PoE information as below:

Power	Brand	Model
Adapter	CISCO	KSAS0361200250HU
PoE	CISCO	MA-INJ4
PoE	CISCO	MA-INJ5

2.3 EUT Operation during Test

For CTX Mode:

non-beamforming mode:

The EUT was programmed to be in continuously transmitting mode.

beamforming mode:

During the test, the following programs under WIN 7 were executed.

The program was executed as follows:

1. During the test, the EUT operation to normal function.
2. Executed command fixed test channel under Telnet.
3. Executed "Lantest.exe" to link with the remote workstation to transmit and receive packet by RX Device and transmit duty cycle no less than 98%.



2.4 Accessories

Wall-mounted rack*1

2.5 Support Equipment

For Test Site No: CO01-CB

Support Equipment				
No.	Equipment	Brand Name	Model Name	FCC ID
1	NB	DELL	E6430	DoC
2	Adapter	CISCO	KSAS0361200250HU	DoC

For Test Site No: 03CH01-CB (below 1GHz)

Support Equipment				
No.	Equipment	Brand Name	Model Name	FCC ID
1	NB	DELL	E4300	DoC
2	Adapter	CISCO	KSAS0361200250HU	DoC

For Test Site No: 03CH01-CB (above 1GHz)

For non-beamforming mode

Support Equipment				
No.	Equipment	Brand Name	Model Name	FCC ID
1	NB	DELL	E4300	DoC
2	Adapter	CISCO	KSAS0361200250HU	DoC

For beamforming mode

Support Equipment				
No.	Equipment	Brand Name	Model Name	FCC ID
1	NB*2	DELL	E4300	DoC
2	RX Device	CISCO	MR53E-HW	UDX-60064010
3	Adapter	CISCO	KSAS0361200250HU	DoC

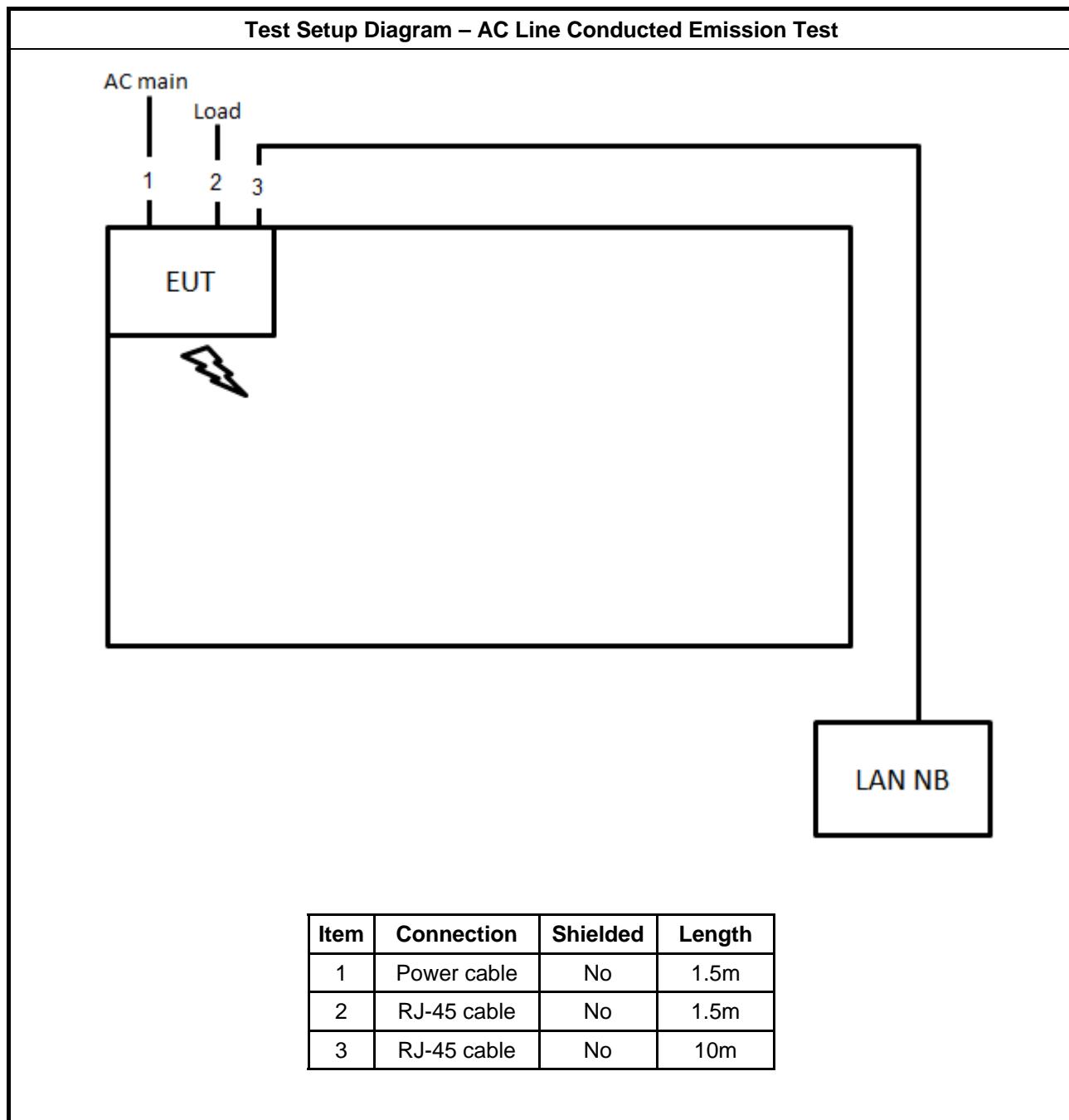
**For Test Site No: TH01-CB****For non-beamforming mode**

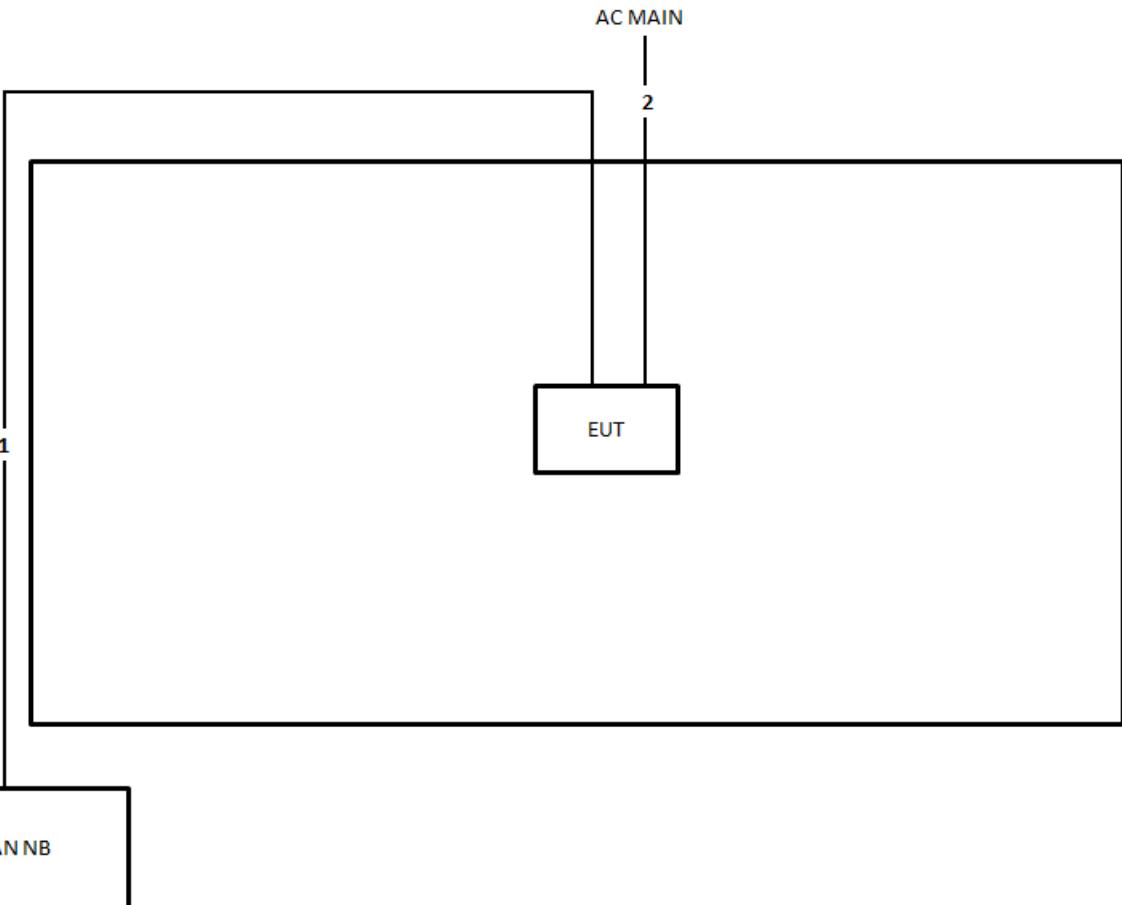
Support Equipment				
No.	Equipment	Brand Name	Model Name	FCC ID
1	NB	DELL	E4300	DoC
3	Adapter	CISCO	KSAS0361200250HU	DoC

For beamforming mode

Support Equipment				
No.	Equipment	Brand Name	Model Name	FCC ID
1	NB*2	DELL	E4300	DoC
2	RX Device	CISCO	MR53E-HW	UDX-60064010
3	Adapter	CISCO	KSAS0361200250HU	DoC

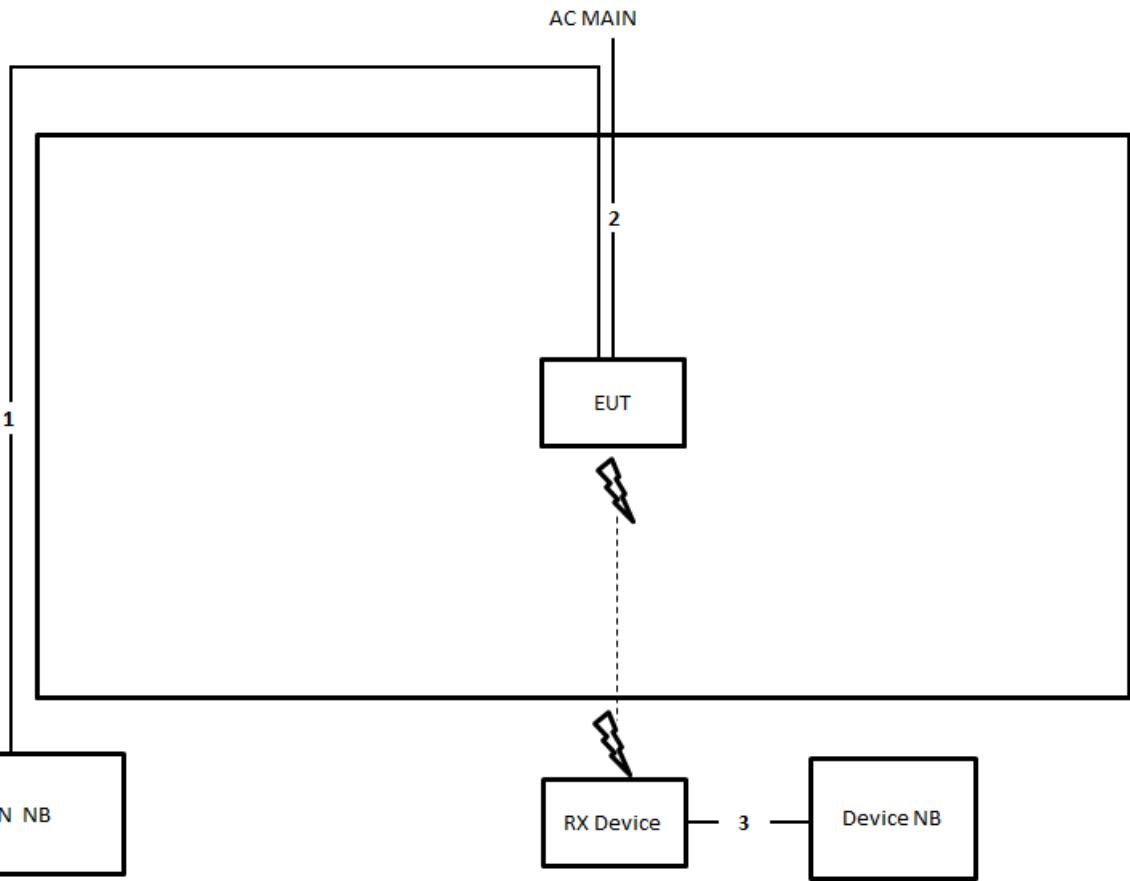
2.6 Test Setup Diagram



**Test Setup Diagram - Radiated Test < 1GHz and Radiated Test > 1GHz / For non-beamforming mode**

Item	Connection	Shielded	Length
1	RJ-45 cable	No	10m
2	Power cable	No	1.5m

Test Setup Diagram - Radiated Test > 1GHz / For beamforming mode



Item	Connection	Shielded	Length
1	RJ-45 cable	No	10m
2	Power cable	No	1.5m
3	RJ-45 cable	No	1.5m

3 Transmitter Test Result

3.1 AC Power-line Conducted Emissions

3.1.1 AC Power-line Conducted Emissions Limit

AC Power-line Conducted Emissions Limit		
Frequency Emission (MHz)	Quasi-Peak	Average
0.15-0.5	66 - 56 *	56 - 46 *
0.5-5	56	46
5-30	60	50

Note 1: * Decreases with the logarithm of the frequency.

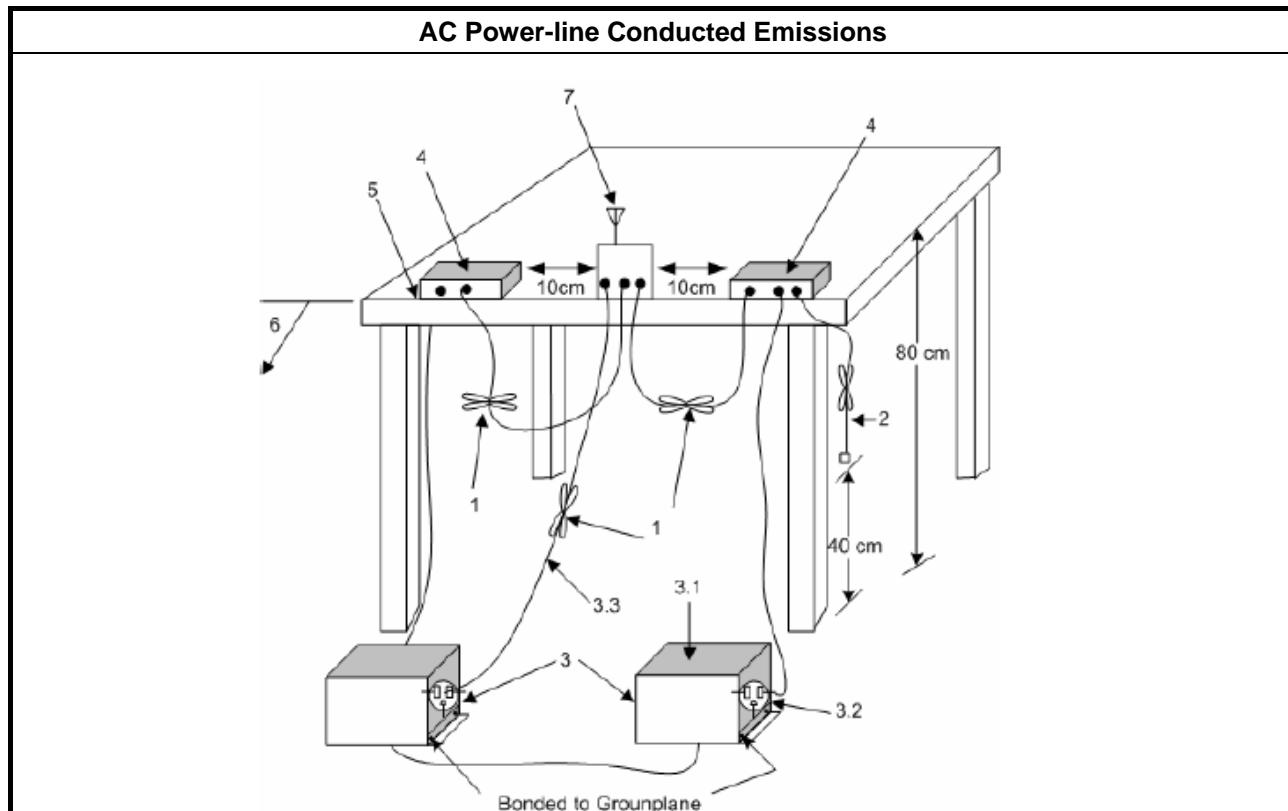
3.1.2 Measuring Instruments

Refer a test equipment and calibration data table in this test report.

3.1.3 Test Procedures

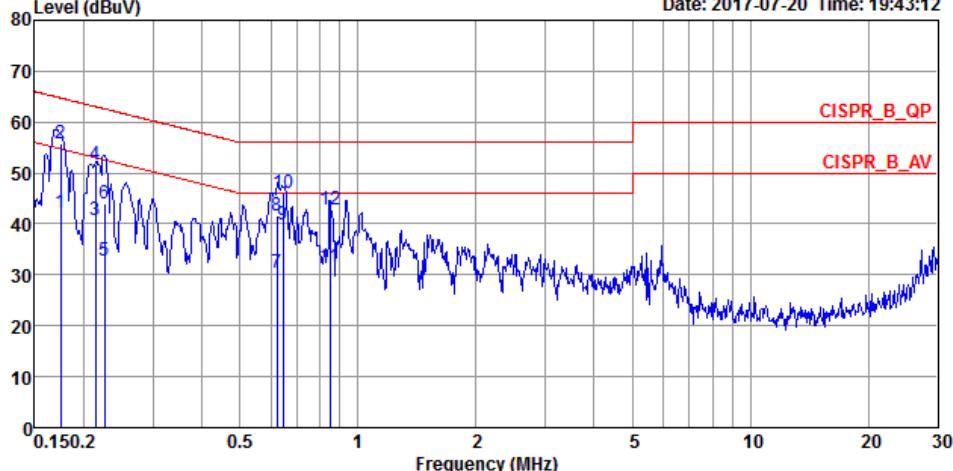
Test Method
<input checked="" type="checkbox"/> Refer as ANSI C63.10-2013, clause 6.2 for AC power-line conducted emissions.

3.1.4 Test Setup



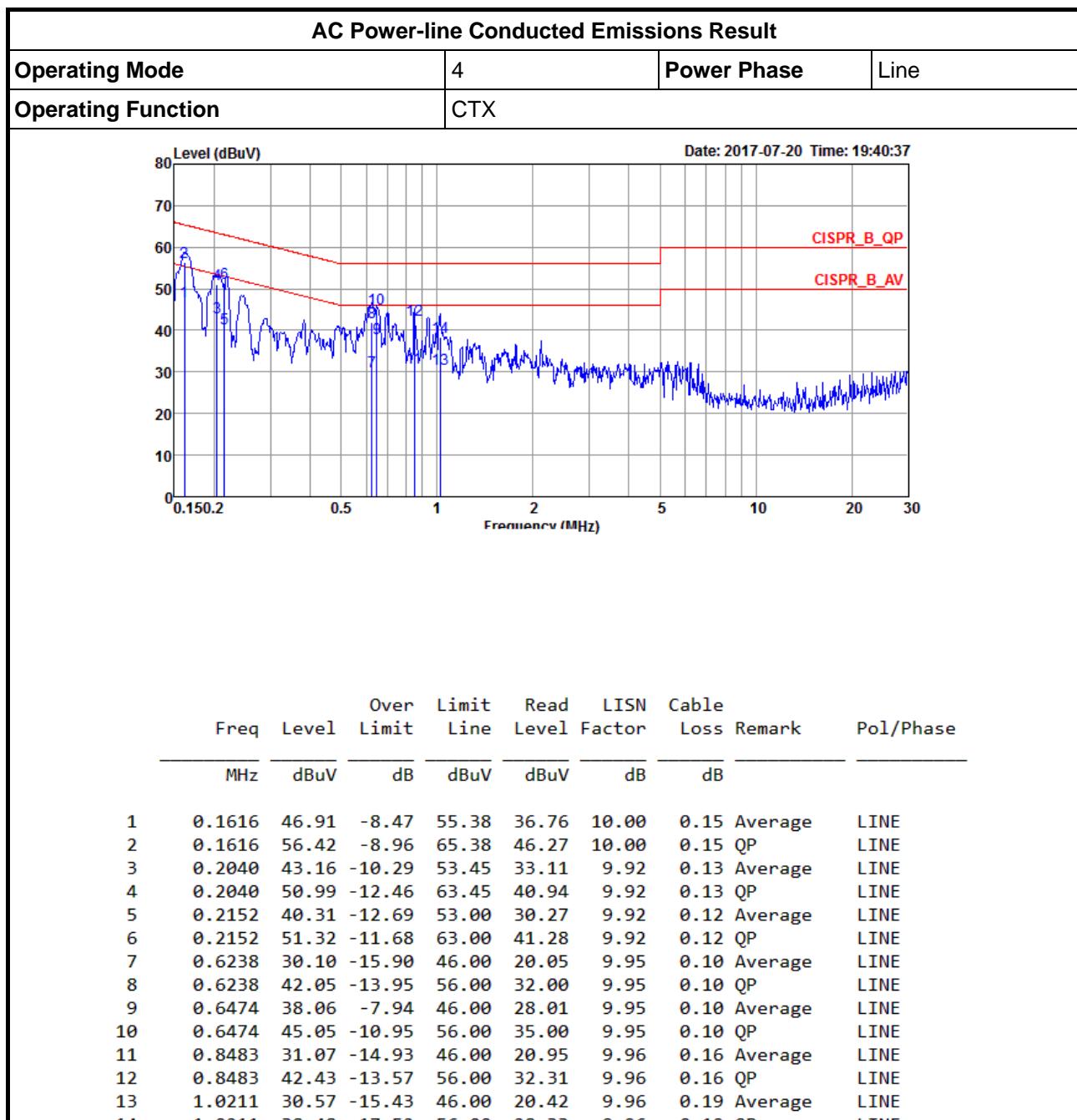


3.1.5 Test Result of AC Power-line Conducted Emissions

AC Power-line Conducted Emissions Result											
Operating Mode		4	Power Phase		Neutral						
Operating Function		CTX									
Date: 2017-07-20 Time: 19:43:12											
Level (dBuV)		CISPR_B_QP CISPR_B_AV									
		0.150.2 0.5 1 2 5 10 20 30									
Emissions Data Log											
Freq		Over Limit	Line	Read Level	LISN Factor	Cable Loss	Remark		Pol/Phase		
MHz		dBuV	dB	dBuV	dBuV	dB					
1	0.1749	42.30	-12.42	54.72	32.15	10.01	0.14	Average	NEUTRAL		
2	0.1749	55.69	-9.03	64.72	45.54	10.01	0.14	QP	NEUTRAL		
3	0.2139	40.60	-12.45	53.05	30.43	10.05	0.12	Average	NEUTRAL		
4	0.2139	51.71	-11.34	63.05	41.54	10.05	0.12	QP	NEUTRAL		
5	0.2256	32.77	-19.84	52.61	22.61	10.05	0.11	Average	NEUTRAL		
6	0.2256	44.11	-18.50	62.61	33.95	10.05	0.11	QP	NEUTRAL		
7	0.6205	30.54	-15.46	46.00	20.25	10.19	0.10	Average	NEUTRAL		
8	0.6205	41.70	-14.30	56.00	31.41	10.19	0.10	QP	NEUTRAL		
9	0.6440	39.88	-6.12	46.00	29.60	10.18	0.10	Average	NEUTRAL		
10	0.6440	46.08	-9.92	56.00	35.80	10.18	0.10	QP	NEUTRAL		
11	0.8483	31.48	-14.52	46.00	21.22	10.10	0.16	Average	NEUTRAL		
12	0.8483	42.95	-13.05	56.00	32.69	10.10	0.16	QP	NEUTRAL		

Note 1: ">20dB" means emission levels that exceed the level of 20 dB below the applicable limit.

Note 2: "N/F" means Nothing Found emissions (No emissions were detected.)



Note 1: ">20dB" means emission levels that exceed the level of 20 dB below the applicable limit.

Note 2: "N/F" means Nothing Found emissions (No emissions were detected.)



3.2 DTS Bandwidth

3.2.1 6dB Bandwidth Limit

6dB Bandwidth Limit
Systems using digital modulation techniques:
▪ 6 dB bandwidth \geq 500 kHz.

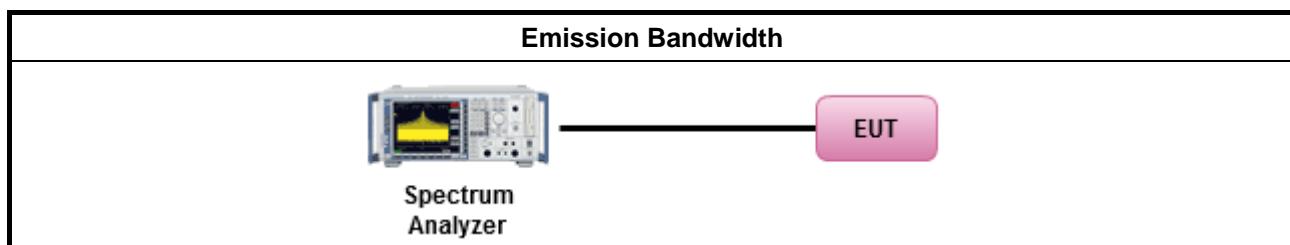
3.2.2 Measuring Instruments

Refer a test equipment and calibration data table in this test report.

3.2.3 Test Procedures

Test Method
▪ For the emission bandwidth shall be measured using one of the options below:
<input checked="" type="checkbox"/> Refer as FCC KDB 558074, clause 8.1 Option 1 for 6 dB bandwidth measurement.
<input type="checkbox"/> Refer as FCC KDB 558074, clause 8.2 Option 2 for 6 dB bandwidth measurement.
<input type="checkbox"/> Refer as ANSI C63.10, clause 6.9.1 for occupied bandwidth testing.

3.2.4 Test Setup





3.2.5 Test Result of Emission Bandwidth

For Radio 1

For set 1 antenna / 4T1S

Summary

Mode	Max-N dB (Hz)	Max-OBW (Hz)	ITU-Code	Min-N dB (Hz)	Min-OBW (Hz)
802.11b_(1Mbps)_4TX	-	-	-	-	-
2.4-2.4835GHz	9.1M	15.217M	15M2G1D	7.075M	12.519M
802.11g_(6Mbps)_4TX	-	-	-	-	-
2.4-2.4835GHz	16.325M	25.187M	25M2D1D	15.275M	16.367M
802.11ac VHT20_Nss1,(MCS0)_4TX	-	-	-	-	-
2.4-2.4835GHz	17.575M	19.79M	19M8D1D	15.675M	17.566M
802.11ac VHT40_Nss1,(MCS0)_4TX	-	-	-	-	-
2.4-2.4835GHz	35.65M	36.032M	36M0D1D	27.55M	35.782M
802.11ac VHT20-BF_Nss1,(MCS0)_4TX	-	-	-	-	-
2.4-2.4835GHz	17.575M	17.666M	17M7D1D	15.325M	17.591M
802.11ac VHT40-BF_Nss1,(MCS0)_4TX	-	-	-	-	-
2.4-2.4835GHz	36.05M	36.682M	36M7D1D	27.5M	35.732M

Max-N dB = Maximum 6dB down bandwidth; **Max-OBW** = Maximum 99% occupied bandwidth;

Min-N dB = Minimum 6dB down bandwidth; **Min-OBW** = Minimum 99% occupied bandwidth;

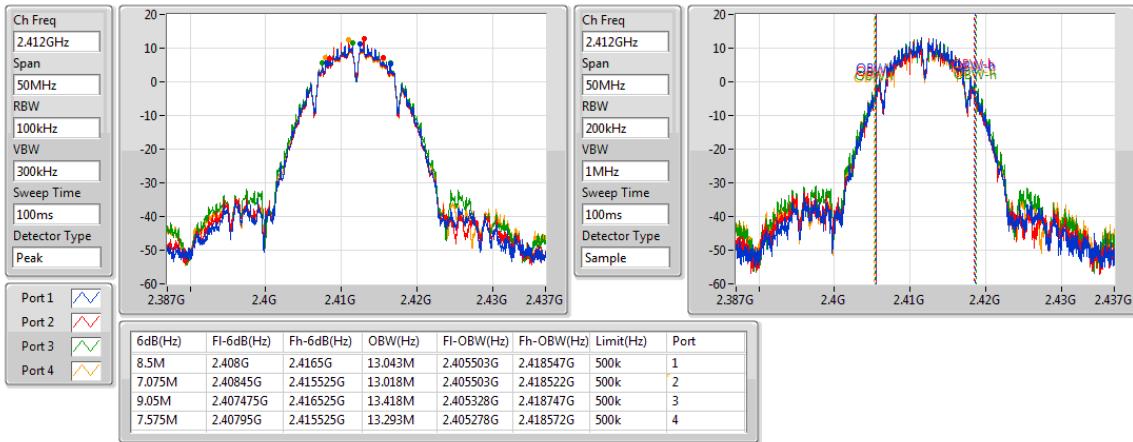
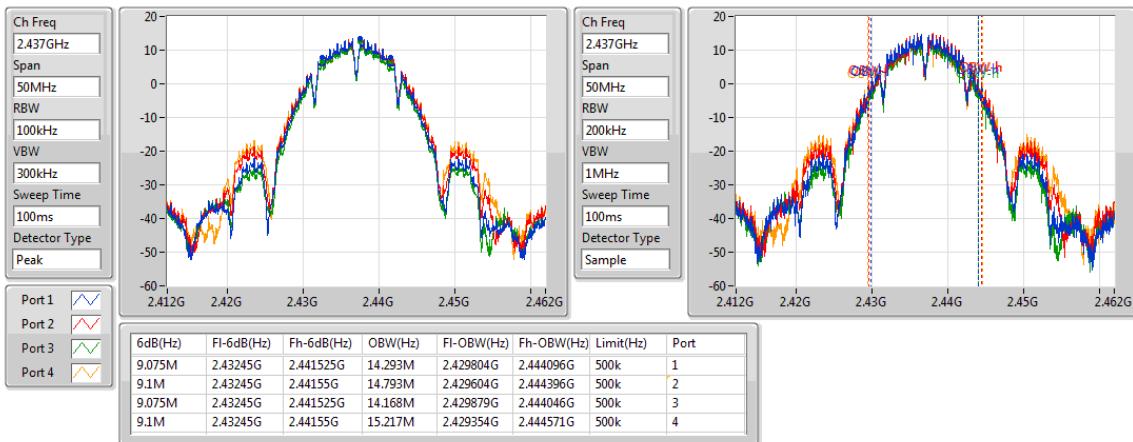
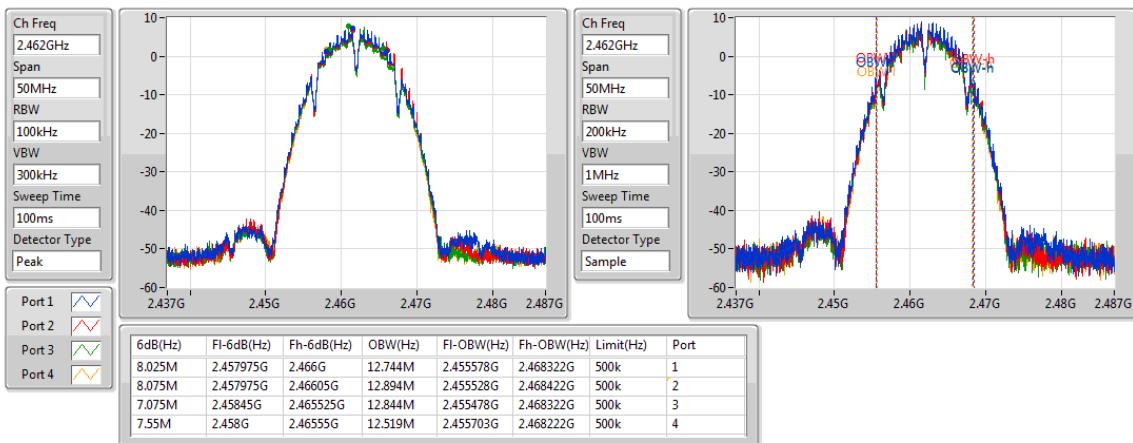
Result

Mode	Result	Limit (Hz)	Port 1-N dB (Hz)	Port 1-OBW (Hz)	Port 2-N dB (Hz)	Port 2-OBW (Hz)	Port 3-N dB (Hz)	Port 3-OBW (Hz)	Port 4-N dB (Hz)	Port 4-OBW (Hz)
802.11b_(1Mbps)_4TX	-	-	-	-	-	-	-	-	-	-
2412MHz	Pass	500k	8.5M	13.043M	7.075M	13.018M	9.05M	13.418M	7.575M	13.293M
2437MHz	Pass	500k	9.075M	14.293M	9.1M	14.793M	9.075M	14.168M	9.1M	15.217M
2462MHz	Pass	500k	8.025M	12.744M	8.075M	12.894M	7.075M	12.844M	7.55M	12.519M
802.11g_(6Mbps)_4TX	-	-	-	-	-	-	-	-	-	-
2412MHz	Pass	500k	15.65M	16.492M	15.275M	16.492M	15.875M	16.592M	16.3M	16.642M
2437MHz	Pass	500k	16M	18.266M	15.9M	21.689M	16.3M	23.288M	16.325M	25.187M
2462MHz	Pass	500k	16.275M	16.417M	16.3M	16.367M	16.275M	16.392M	16.275M	16.417M
802.11ac VHT20_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-	-	-
2412MHz	Pass	500k	17.55M	17.616M	15.675M	17.566M	17.1M	17.591M	17.525M	17.616M
2437MHz	Pass	500k	17.55M	17.866M	17.575M	18.141M	17.175M	18.516M	17.575M	19.79M
2462MHz	Pass	500k	16.775M	17.566M	15.725M	17.566M	17.175M	17.591M	17.525M	17.616M
802.11ac VHT40_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-	-	-
2422MHz	Pass	500k	32.8M	35.882M	27.55M	35.782M	35M	35.882M	32.6M	35.782M
2437MHz	Pass	500k	34.65M	35.882M	34.4M	36.032M	35.3M	35.982M	35.05M	35.882M
2452MHz	Pass	500k	33.45M	35.882M	35.25M	35.982M	35.65M	35.982M	35M	35.832M
802.11ac VHT20-BF_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-	-	-
2412MHz	Pass	500k	15.625M	17.591M	17.55M	17.616M	17.575M	17.616M	17.1M	17.641M
2437MHz	Pass	500k	17.525M	17.641M	17.225M	17.666M	17.2M	17.666M	17.55M	17.666M
2462MHz	Pass	500k	17.525M	17.641M	15.325M	17.591M	17.5M	17.616M	17.525M	17.591M
802.11ac VHT40-BF_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-	-	-
2422MHz	Pass	500k	32.25M	35.882M	28.95M	36.682M	28.8M	35.832M	31.55M	35.732M

**FCC Test Report****Report No. : FR760624AA**

Mode	Result	Limit (Hz)	Port 1-N dB (Hz)	Port 1-OBW (Hz)	Port 2-N dB (Hz)	Port 2-OBW (Hz)	Port 3-N dB (Hz)	Port 3-OBW (Hz)	Port 4-N dB (Hz)	Port 4-OBW (Hz)
2437MHz	Pass	500k	27.5M	36.582M	31.3M	35.882M	30M	35.882M	34.8M	35.832M
2452MHz	Pass	500k	29.35M	35.982M	35.1M	35.882M	35.2M	35.782M	36.05M	35.832M

Port X-N dB = Port X 6dB down bandwidth; **Port X-OBW** = Port X 99% occupied bandwidth;

**802.11b_(1Mbps)_4TX****EBW****2412MHz****802.11b_(1Mbps)_4TX****EBW****2437MHz****802.11b_(1Mbps)_4TX****EBW****2462MHz**



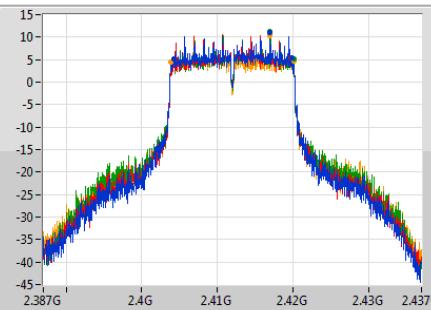
802.11g_(6Mbps)_4TX

EBW

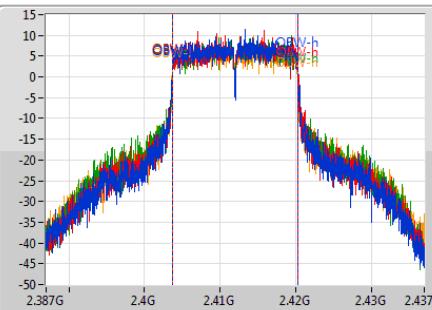
2412MHz

Ch Freq
2.412GHz
Span
50MHz
RBW
100kHz
VBW
300kHz
Sweep Time
100ms
Detector Type
Peak

Port 1 Port 2 Port 3 Port 4



Ch Freq
2.412GHz
Span
50MHz
RBW
200kHz
VBW
1MHz
Sweep Time
100ms
Detector Type
Sample



6dB(Hz)	FI-6dB(Hz)	Fh-6dB(Hz)	OBW(Hz)	FI-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
15.65M	2.404225G	2.419875G	16.492M	2.403729G	2.420221G	500k	1
15.275M	2.404475G	2.41975G	16.492M	2.403754G	2.420246G	500k	2
15.875M	2.40425G	2.420125G	16.592M	2.403704G	2.420296G	500k	3
16.3M	2.403825G	2.420125G	16.642M	2.403654G	2.420296G	500k	4

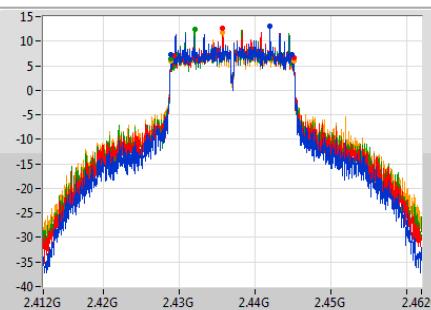
802.11g_(6Mbps)_4TX

EBW

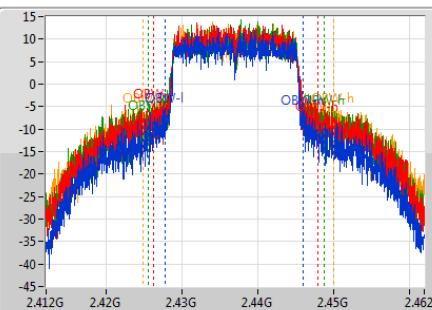
2437MHz

Ch Freq
2.437GHz
Span
50MHz
RBW
100kHz
VBW
300kHz
Sweep Time
100ms
Detector Type
Peak

Port 1 Port 2 Port 3 Port 4



Ch Freq
2.437GHz
Span
50MHz
RBW
300kHz
VBW
1MHz
Sweep Time
100ms
Detector Type
Sample



6dB(Hz)	FI-6dB(Hz)	Fh-6dB(Hz)	OBW(Hz)	FI-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
16M	2.428875G	2.444875G	18.266M	2.42773G	2.445996G	500k	1
15.9M	2.42925G	2.44515G	21.689M	2.42623G	2.44792G	500k	2
16.3M	2.428875G	2.445175G	23.288M	2.425531G	2.448819G	500k	3
16.325M	2.428825G	2.44515G	25.187M	2.424831G	2.450018G	500k	4

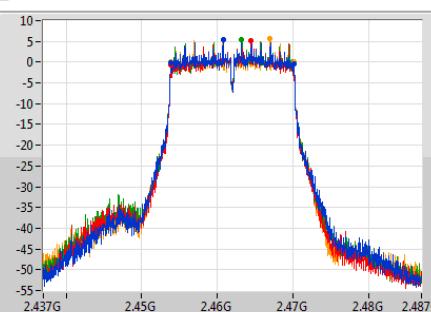
802.11g_(6Mbps)_4TX

EBW

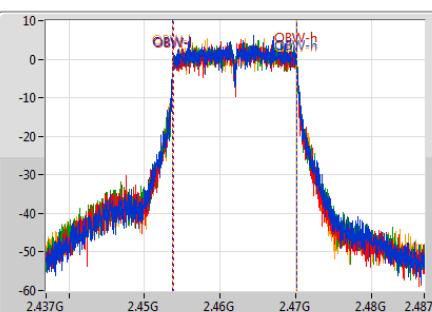
2462MHz

Ch Freq
2.462GHz
Span
50MHz
RBW
100kHz
VBW
300kHz
Sweep Time
100ms
Detector Type
Peak

Port 1 Port 2 Port 3 Port 4



Ch Freq
2.462GHz
Span
50MHz
RBW
200kHz
VBW
1MHz
Sweep Time
100ms
Detector Type
Sample



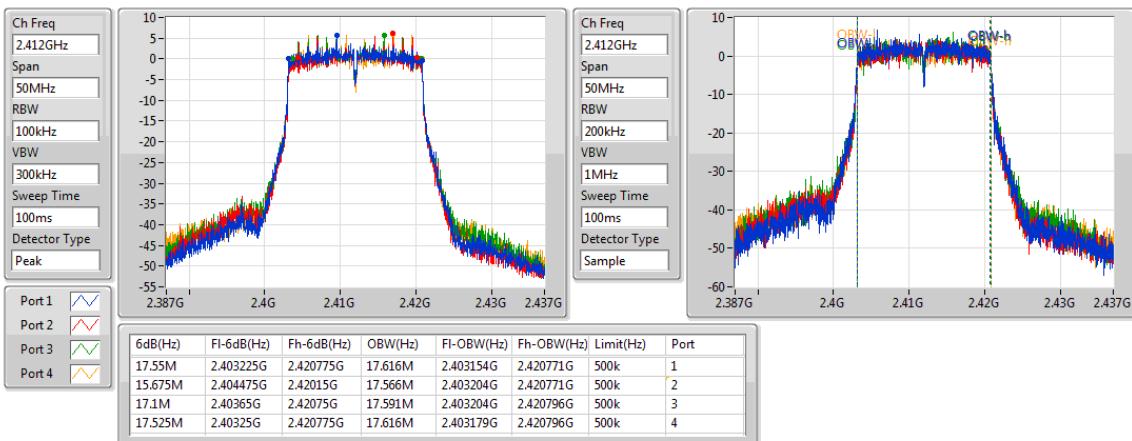
6dB(Hz)	FI-6dB(Hz)	Fh-6dB(Hz)	OBW(Hz)	FI-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
16.275M	2.45385G	2.470125G	16.417M	2.453779G	2.470196G	500k	1
16.3M	2.45385G	2.47015G	16.367M	2.453804G	2.470171G	500k	2
16.275M	2.45385G	2.470125G	16.392M	2.453804G	2.470196G	500k	3
16.275M	2.45385G	2.470125G	16.417M	2.453779G	2.470196G	500k	4



802.11ac VHT20_Nss1,(MCS0)_4TX

EBW

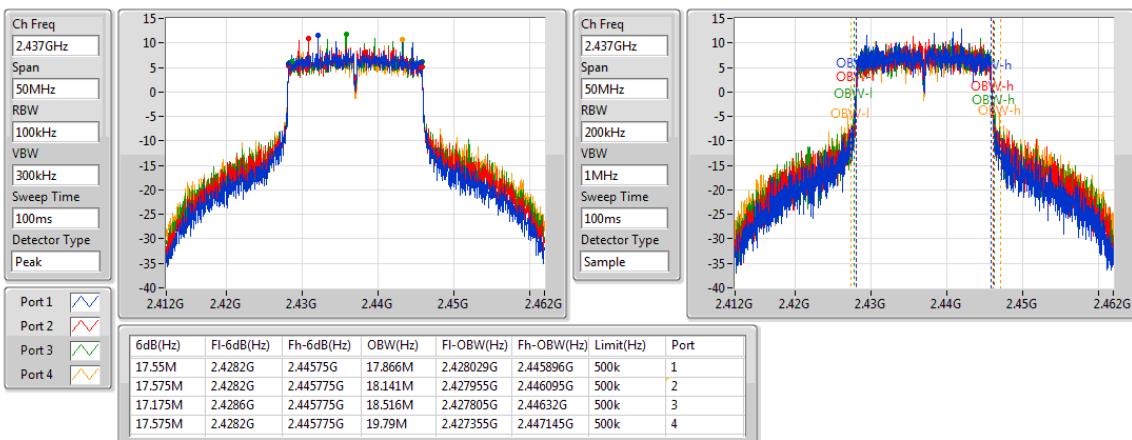
2412MHz



802.11ac VHT20_Nss1,(MCS0)_4TX

EBW

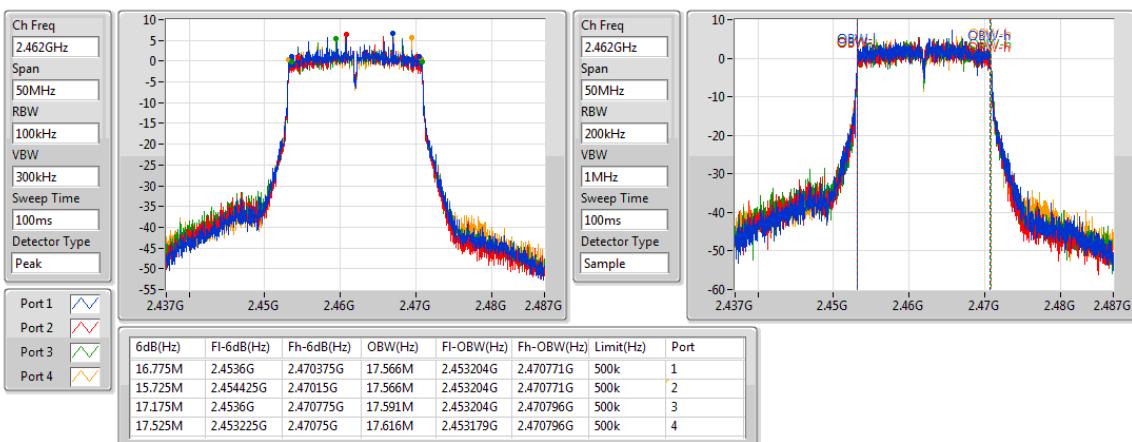
2437MHz



802.11ac VHT20_Nss1,(MCS0)_4TX

EBW

2462MHz

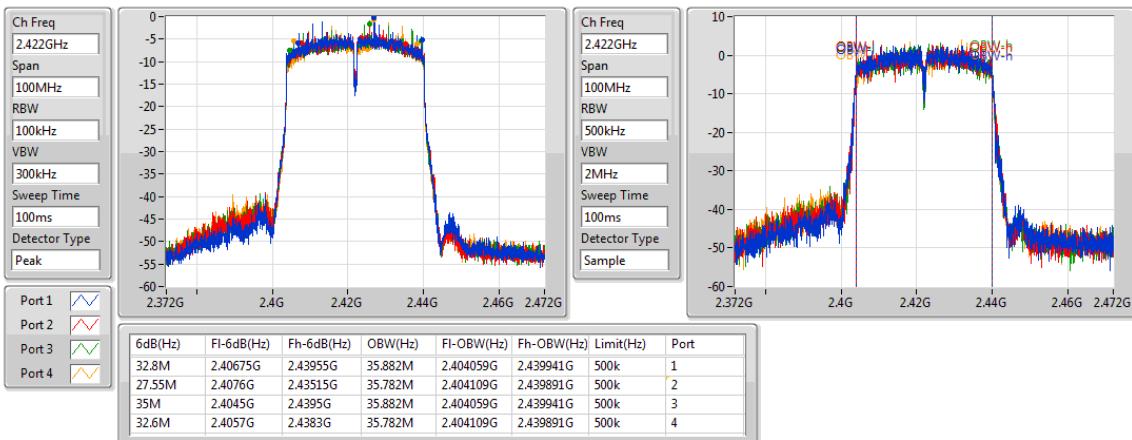




802.11ac VHT40_Nss1,(MCS0)_4TX

EBW

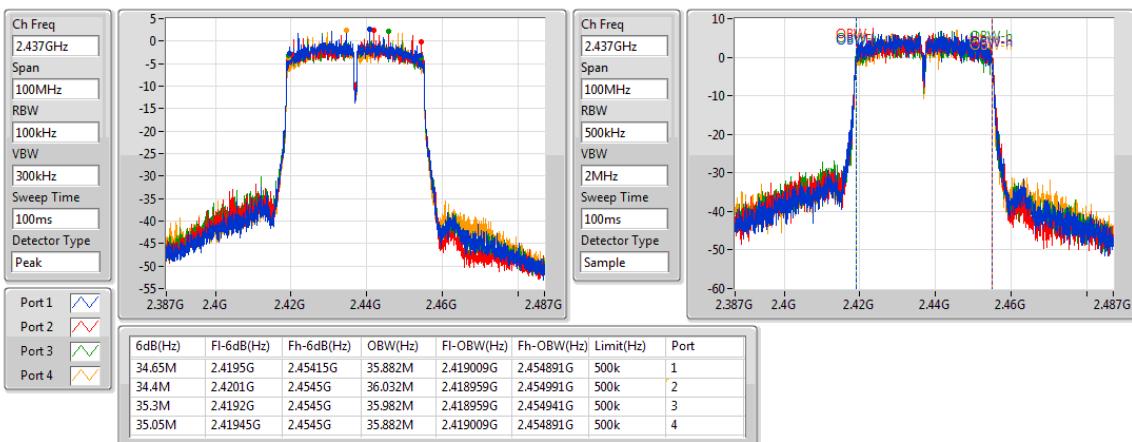
2422MHz



802.11ac VHT40_Nss1,(MCS0)_4TX

EBW

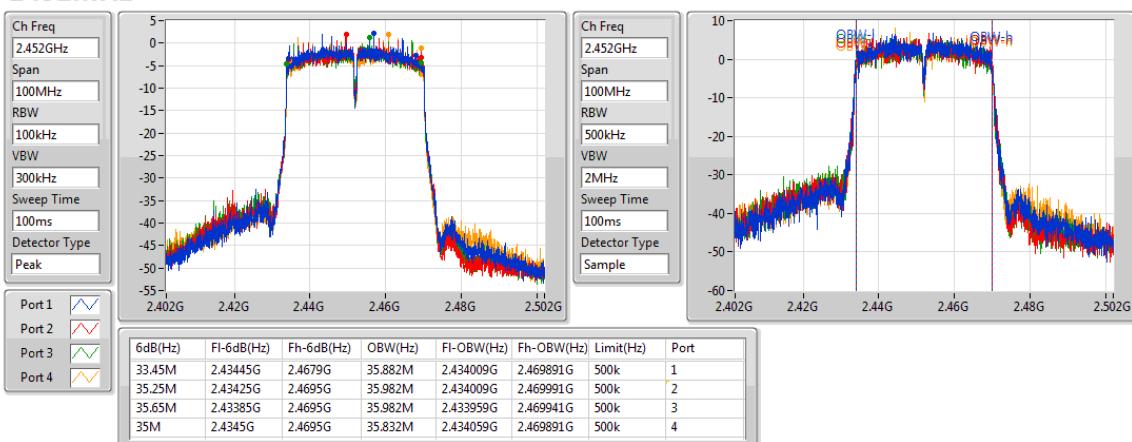
2437MHz



802.11ac VHT40_Nss1,(MCS0)_4TX

EBW

2452MHz

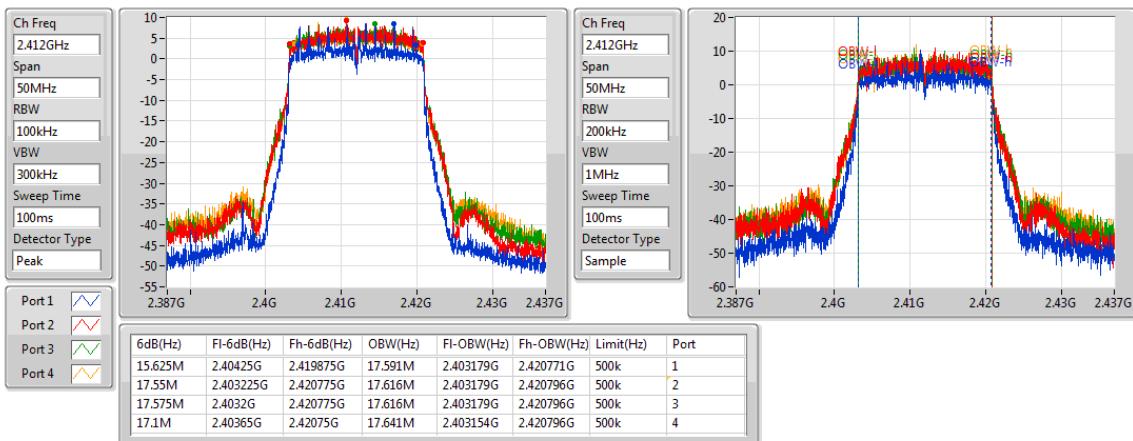




802.11ac VHT20-BF_Nss1,(MCS0)_4TX

EBW

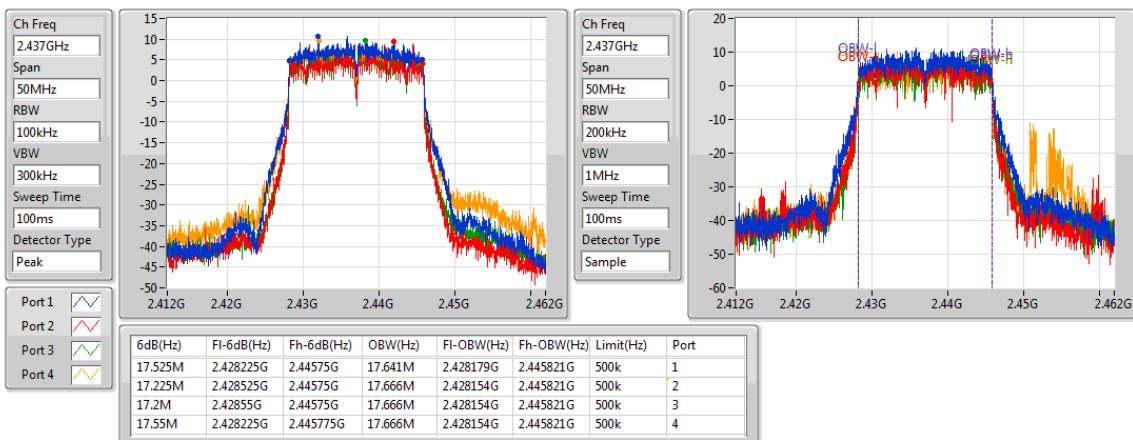
2412MHz



802.11ac VHT20-BF_Nss1,(MCS0)_4TX

EBW

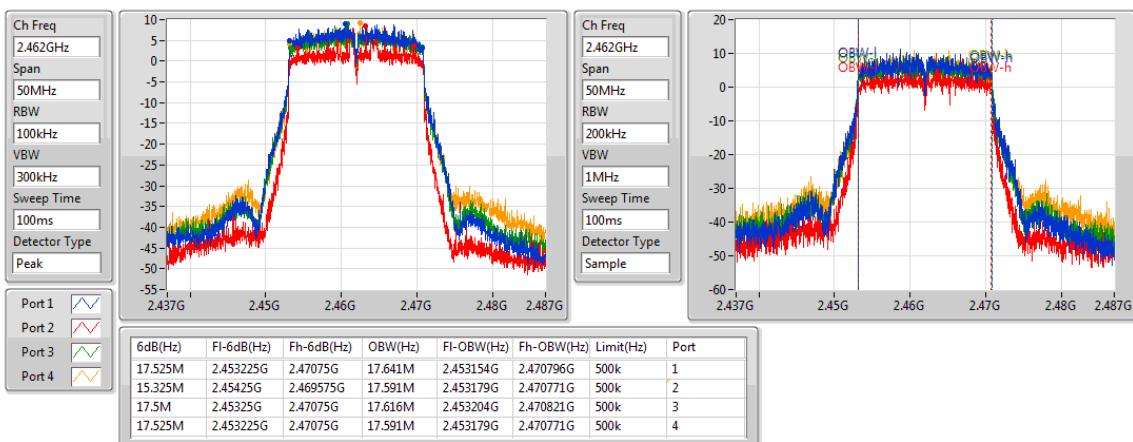
2437MHz



802.11ac VHT20-BF_Nss1,(MCS0)_4TX

EBW

2462MHz



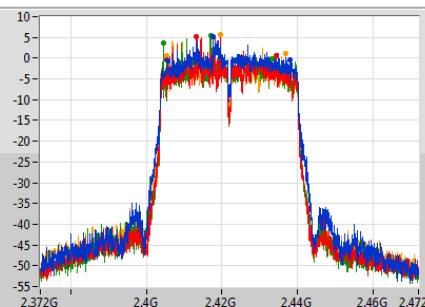


802.11ac VHT40-BF_Nss1,(MCS0)_4TX

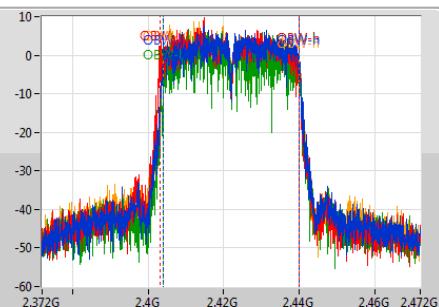
EBW

2422MHz

Ch Freq	2.422GHz
Span	100MHz
RBW	100kHz
VBW	300kHz
Sweep Time	100ms
Detector Type	Peak



Ch Freq	2.422GHz
Span	100MHz
RBW	500kHz
VBW	2MHz
Sweep Time	100ms
Detector Type	Sample



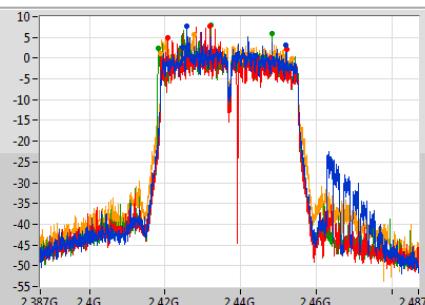
6dB(Hz)	FI-6dB(Hz)	Fh-6dB(Hz)	OBW(Hz)	FI-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
32.25M	2.40575G	2.438G	35.882M	2.404059G	2.439941G	500k	1
28.95M	2.4055G	2.43445G	36.682M	2.403209G	2.439891G	500k	2
28.8M	2.4045G	2.4333G	35.832M	2.404109G	2.439941G	500k	3
31.55M	2.40545G	2.437G	35.732M	2.404109G	2.439841G	500k	4

802.11ac VHT40-BF_Nss1,(MCS0)_4TX

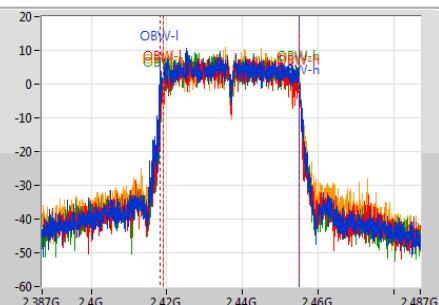
EBW

2437MHz

Ch Freq	2.437GHz
Span	100MHz
RBW	100kHz
VBW	300kHz
Sweep Time	100ms
Detector Type	Peak



Ch Freq	2.437GHz
Span	100MHz
RBW	500kHz
VBW	2MHz
Sweep Time	100ms
Detector Type	Sample



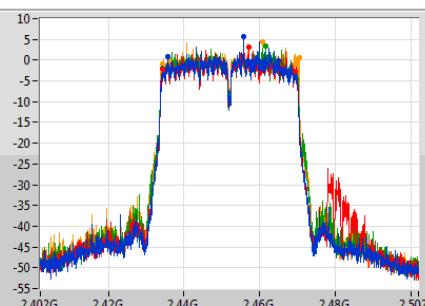
6dB(Hz)	FI-6dB(Hz)	Fh-6dB(Hz)	OBW(Hz)	FI-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
27.5M	2.42425G	2.452G	36.582M	2.418309G	2.454891G	500k	1
31.3M	2.42075G	2.45205G	35.882M	2.419009G	2.454891G	500k	2
30M	2.41825G	2.44825G	35.882M	2.419059G	2.454941G	500k	3
34.8M	2.41885G	2.45365G	35.832M	2.419059G	2.454891G	500k	4

802.11ac VHT40-BF_Nss1,(MCS0)_4TX

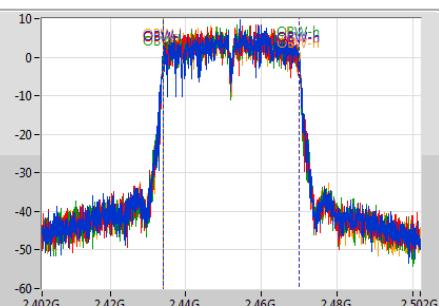
EBW

2452MHz

Ch Freq	2.452GHz
Span	100MHz
RBW	100kHz
VBW	300kHz
Sweep Time	100ms
Detector Type	Peak



Ch Freq	2.452GHz
Span	100MHz
RBW	500kHz
VBW	2MHz
Sweep Time	100ms
Detector Type	Sample



6dB(Hz)	FI-6dB(Hz)	Fh-6dB(Hz)	OBW(Hz)	FI-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
29.35M	2.4357G	2.46505G	35.982M	2.433959G	2.469941G	500k	1
35.1M	2.43425G	2.46935G	35.882M	2.434009G	2.469891G	500k	2
35.2M	2.4343G	2.4695G	35.782M	2.434109G	2.469891G	500k	3
36.05M	2.43445G	2.4705G	35.832M	2.434059G	2.469891G	500k	4



For set 1 antenna / 4T2S

Summary

Mode	Max-N dB (Hz)	Max-OBW (Hz)	ITU-Code	Min-N dB (Hz)	Min-OBW (Hz)
802.11ac VHT20-BF_Nss2,(MCS0)_4TX	-	-	-	-	-
2.4-2.4835GHz	17.6M	17.666M	17M7D1D	13.375M	17.591M
802.11ac VHT40-BF_Nss2,(MCS0)_4TX	-	-	-	-	-
2.4-2.4835GHz	36.3M	36.732M	36M7D1D	28.6M	35.782M

Max-N dB = Maximum 6dB down bandwidth; **Max-OBW** = Maximum 99% occupied bandwidth;
Min-N dB = Minimum 6dB down bandwidth; **Min-OBW** = Minimum 99% occupied bandwidth;

Result

Mode	Result	Limit (Hz)	Port 1-N dB (Hz)	Port 1-OBW (Hz)	Port 2-N dB (Hz)	Port 2-OBW (Hz)	Port 3-N dB (Hz)	Port 3-OBW (Hz)	Port 4-N dB (Hz)	Port 4-OBW (Hz)
802.11ac VHT20-BF_Nss2,(MCS0)_4TX	-	-	-	-	-	-	-	-	-	-
2412MHz	Pass	500k	13.375M	17.616M	17.15M	17.591M	17.45M	17.616M	17.375M	17.666M
2437MHz	Pass	500k	17.55M	17.616M	17.5M	17.616M	17.575M	17.641M	17.025M	17.641M
2462MHz	Pass	500k	17.6M	17.641M	17.55M	17.641M	17.525M	17.616M	15.75M	17.591M
802.11ac VHT40-BF_Nss2,(MCS0)_4TX	-	-	-	-	-	-	-	-	-	-
2422MHz	Pass	500k	34.1M	36.682M	30.1M	36.682M	30.95M	36.282M	33.75M	36.682M
2437MHz	Pass	500k	35.2M	36.732M	28.6M	35.882M	33.5M	36.682M	30M	35.932M
2452MHz	Pass	500k	35.55M	35.882M	36.3M	35.882M	35.35M	35.832M	35M	35.782M

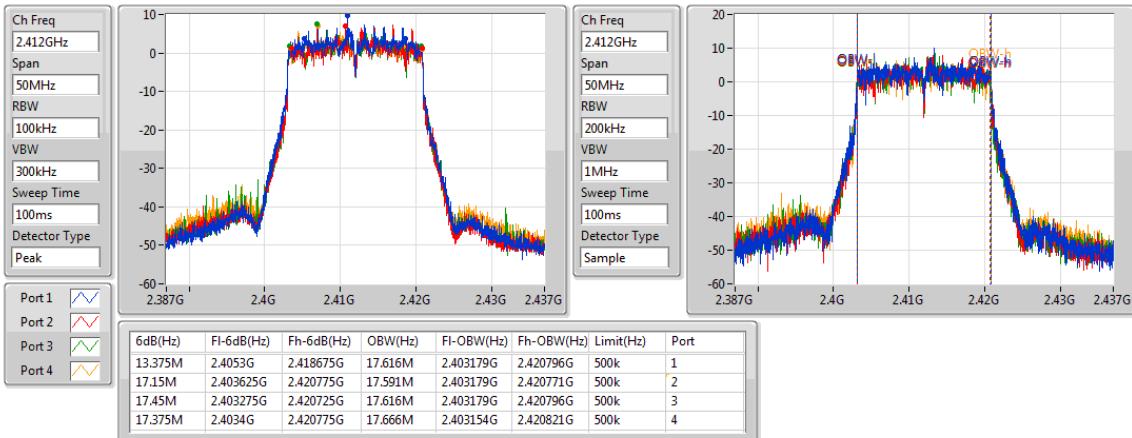
Port X-N dB = Port X 6dB down bandwidth; **Port X-OBW** = Port X 99% occupied bandwidth;



802.11ac VHT20-BF_Nss2,(MCS0)_4TX

EBW

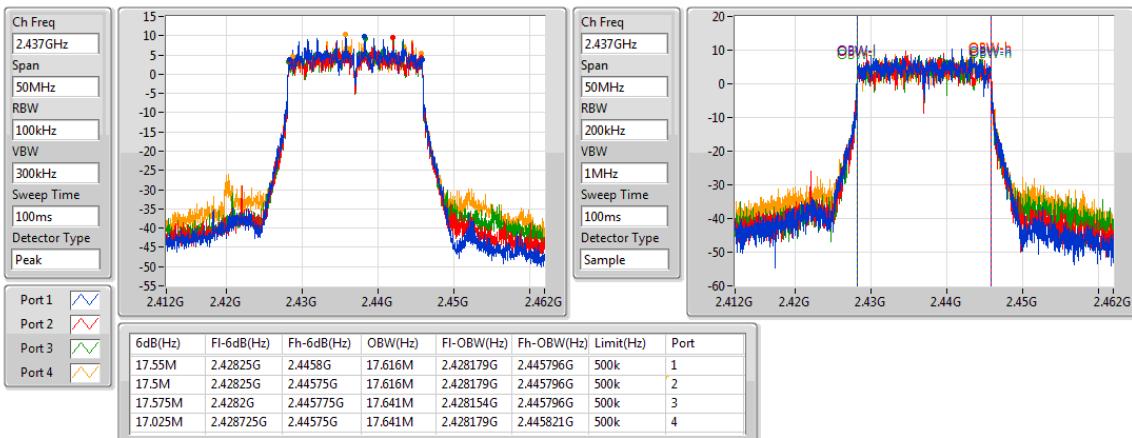
2412MHz



802.11ac VHT20-BF_Nss2,(MCS0)_4TX

EBW

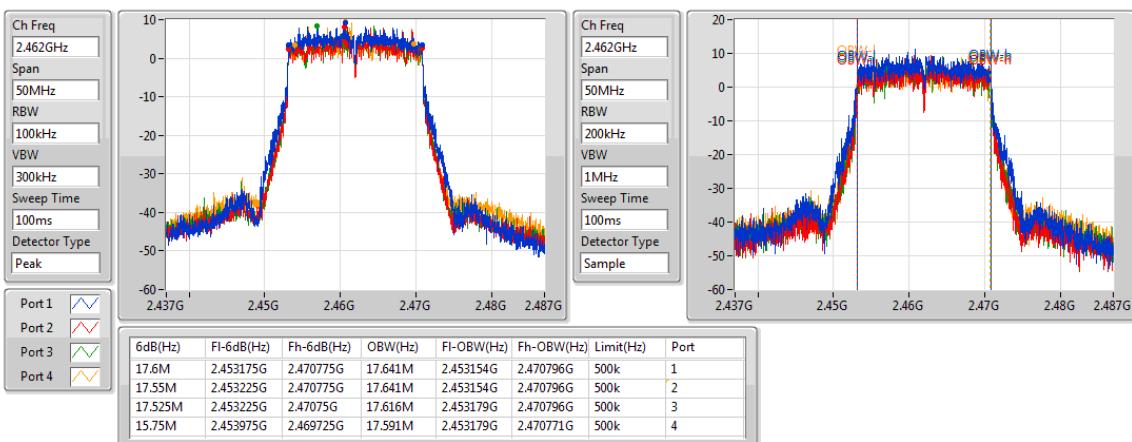
2437MHz



802.11ac VHT20-BF_Nss2,(MCS0)_4TX

EBW

2462MHz





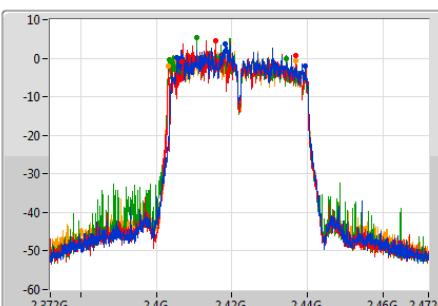
802.11ac VHT40-BF_Nss2,(MCS0)_4TX

EBW

2422MHz

Ch Freq	2.422GHz
Span	100MHz
RBW	100kHz
VBW	300kHz
Sweep Time	100ms
Detector Type	Peak

Port 1 Port 2 Port 3 Port 4



Ch Freq	2.422GHz
Span	100MHz
RBW	500kHz
VBW	2MHz
Sweep Time	100ms
Detector Type	Sample



dB(Hz)	FI-6dB(Hz)	Fh-6dB(Hz)	OBW(Hz)	FI-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
34.1M	2.40535G	2.43945G	36.682M	2.403209G	2.439891G	500k	1
30.1M	2.4069G	2.437G	36.682M	2.403159G	2.439841G	500k	2
30.95M	2.40355G	2.4345G	36.282M	2.403609G	2.439891G	500k	3
33.75M	2.4032G	2.43695G	36.682M	2.403209G	2.439891G	500k	4

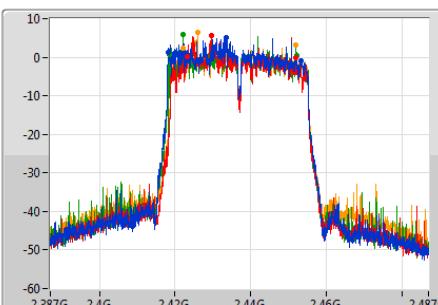
802.11ac VHT40-BF_Nss2,(MCS0)_4TX

EBW

2437MHz

Ch Freq	2.437GHz
Span	100MHz
RBW	100kHz
VBW	300kHz
Sweep Time	100ms
Detector Type	Peak

Port 1 Port 2 Port 3 Port 4



Ch Freq	2.437GHz
Span	100MHz
RBW	500kHz
VBW	2MHz
Sweep Time	100ms
Detector Type	Sample



dB(Hz)	FI-6dB(Hz)	Fh-6dB(Hz)	OBW(Hz)	FI-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
35.2M	2.4182G	2.4534G	36.732M	2.418109G	2.454841G	500k	1
28.6M	2.42335G	2.45195G	35.882M	2.419059G	2.454941G	500k	2
33.5M	2.41855G	2.45205G	36.682M	2.418259G	2.454941G	500k	3
30M	2.422G	2.452G	35.932M	2.419009G	2.454941G	500k	4

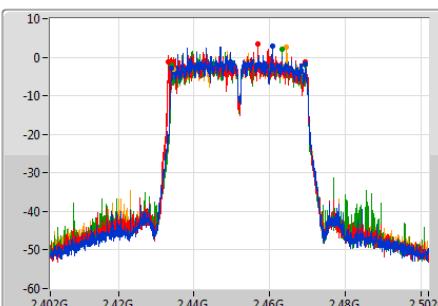
802.11ac VHT40-BF_Nss2,(MCS0)_4TX

EBW

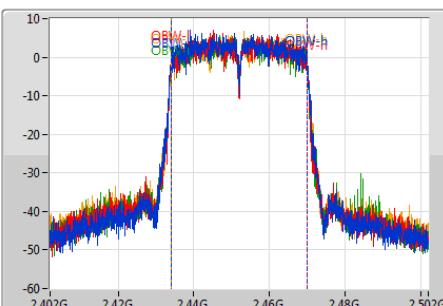
2452MHz

Ch Freq	2.452GHz
Span	100MHz
RBW	100kHz
VBW	300kHz
Sweep Time	100ms
Detector Type	Peak

Port 1 Port 2 Port 3 Port 4



Ch Freq	2.452GHz
Span	100MHz
RBW	500kHz
VBW	2MHz
Sweep Time	100ms
Detector Type	Sample



dB(Hz)	FI-6dB(Hz)	Fh-6dB(Hz)	OBW(Hz)	FI-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
35.55M	2.43395G	2.4695G	35.882M	2.434009G	2.469891G	500k	1
36.3M	2.4332G	2.4695G	35.882M	2.434009G	2.469891G	500k	2
35.35M	2.43415G	2.4695G	35.832M	2.434059G	2.469891G	500k	3
35M	2.4345G	2.4695G	35.782M	2.434109G	2.469891G	500k	4



For set 3 antenna / 4T1S

Summary

Mode	Max-N dB (Hz)	Max-OBW (Hz)	ITU-Code	Min-N dB (Hz)	Min-OBW (Hz)
802.11b_(1Mbps)_4TX	-	-	-	-	-
2.4-2.4835GHz	9.025M	13.018M	13M0G1D	7.125M	12.569M
802.11g_(6Mbps)_4TX	-	-	-	-	-
2.4-2.4835GHz	16.325M	16.442M	16M4D1D	15.375M	16.342M
802.11ac VHT20_Nss1,(MCS0)_4TX	-	-	-	-	-
2.4-2.4835GHz	17.575M	17.641M	17M6D1D	16.25M	17.541M
802.11ac VHT40_Nss1,(MCS0)_4TX	-	-	-	-	-
2.4-2.4835GHz	35.05M	36.032M	36M0D1D	26.3M	35.732M
802.11ac VHT20-BF_Nss1,(MCS0)_4TX	-	-	-	-	-
2.4-2.4835GHz	17.575M	17.641M	17M6D1D	15.7M	17.566M
802.11ac VHT40-BF_Nss1,(MCS0)_4TX	-	-	-	-	-
2.4-2.4835GHz	35.55M	36.032M	36M0D1D	31.2M	35.782M

Max-N dB = Maximum 6dB down bandwidth; **Max-OBW** = Maximum 99% occupied bandwidth;**Min-N dB** = Minimum 6dB down bandwidth; **Min-OBW** = Minimum 99% occupied bandwidth;

Result

Mode	Result	Limit (Hz)	Port 1-N dB (Hz)	Port 1-OBW (Hz)	Port 2-N dB (Hz)	Port 2-OBW (Hz)	Port 3-N dB (Hz)	Port 3-OBW (Hz)	Port 4-N dB (Hz)	Port 4-OBW (Hz)
802.11b_(1Mbps)_4TX	-	-	-	-	-	-	-	-	-	-
2412MHz	Pass	500k	7.575M	12.769M	8.075M	12.994M	7.575M	12.894M	7.575M	12.644M
2437MHz	Pass	500k	9.025M	12.944M	7.125M	12.669M	8.025M	12.919M	8.075M	12.894M
2462MHz	Pass	500k	8.05M	12.869M	7.55M	12.569M	8.025M	12.919M	8.55M	13.018M
802.11g_(6Mbps)_4TX	-	-	-	-	-	-	-	-	-	-
2412MHz	Pass	500k	16.25M	16.417M	15.875M	16.392M	15.875M	16.392M	16.325M	16.417M
2437MHz	Pass	500k	16.3M	16.417M	15.675M	16.367M	15.375M	16.417M	16.325M	16.442M
2462MHz	Pass	500k	16.275M	16.392M	16.025M	16.342M	16.275M	16.367M	16.325M	16.417M
802.11ac VHT20_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-	-	-
2412MHz	Pass	500k	16.825M	17.616M	16.525M	17.541M	16.275M	17.566M	17.55M	17.641M
2437MHz	Pass	500k	17.175M	17.616M	16.9M	17.591M	17.55M	17.616M	17.275M	17.641M
2462MHz	Pass	500k	16.775M	17.616M	16.25M	17.566M	17.525M	17.591M	17.575M	17.616M
802.11ac VHT40_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-	-	-
2422MHz	Pass	500k	33.8M	35.932M	31.35M	35.932M	32.55M	35.932M	33.75M	35.782M
2437MHz	Pass	500k	33.45M	35.882M	35M	35.982M	31.25M	35.982M	26.3M	35.782M
2452MHz	Pass	500k	34.05M	35.882M	35.05M	36.032M	31.3M	35.982M	33.75M	35.732M
802.11ac VHT20-BF_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-	-	-
2412MHz	Pass	500k	17.1M	17.641M	16.525M	17.566M	15.7M	17.566M	17.55M	17.591M
2437MHz	Pass	500k	17.525M	17.641M	17.575M	17.591M	16.15M	17.566M	16.775M	17.641M
2462MHz	Pass	500k	16.9M	17.616M	17.15M	17.566M	17.125M	17.566M	17.2M	17.591M
802.11ac VHT40-BF_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-	-	-
2422MHz	Pass	500k	31.2M	35.832M	34.65M	35.882M	35.05M	35.982M	31.25M	35.982M
2437MHz	Pass	500k	35M	35.832M	35.05M	35.982M	33.8M	35.932M	35M	35.882M
2452MHz	Pass	500k	31.35M	35.782M	35.05M	36.032M	35.55M	35.982M	32.55M	35.882M

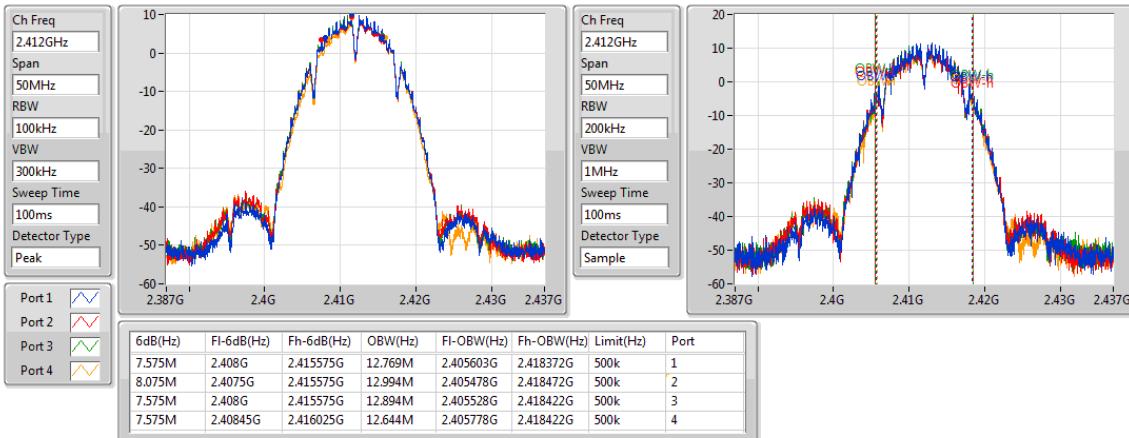
Port X-N dB = Port X 6dB down bandwidth; **Port X-OBW** = Port X 99% occupied bandwidth;



802.11b_(1Mbps)_4TX

EBW

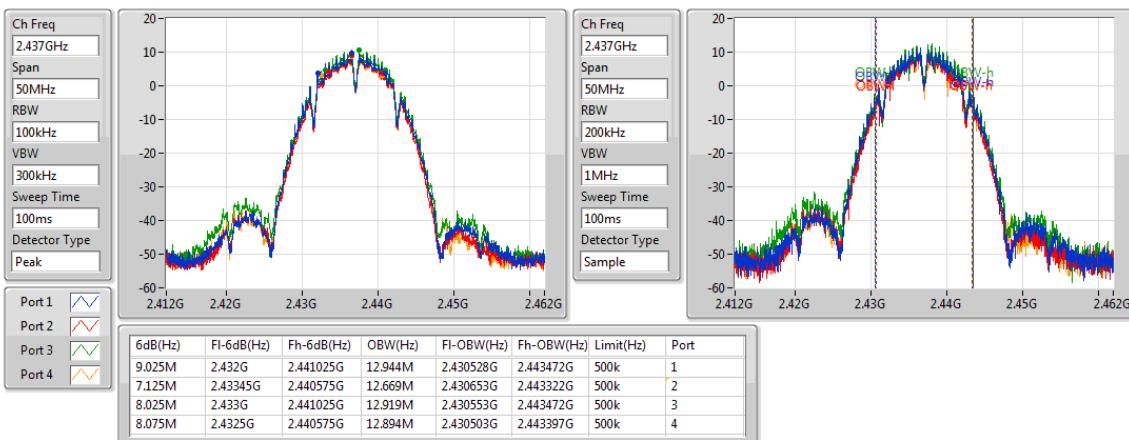
2412MHz



802.11b_(1Mbps)_4TX

EBW

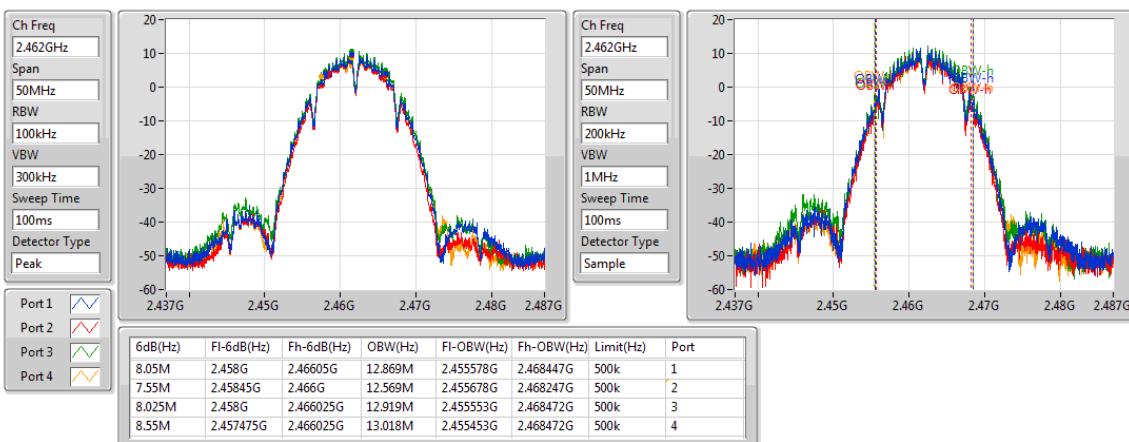
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802.11b_(1Mbps)_4TX

EBW

2462MHz





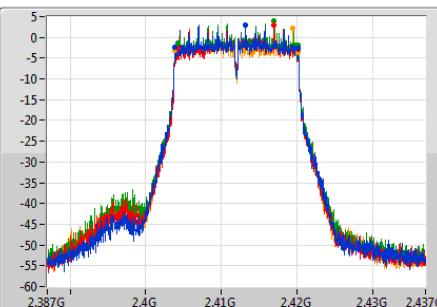
802.11g_(6Mbps)_4TX

EBW

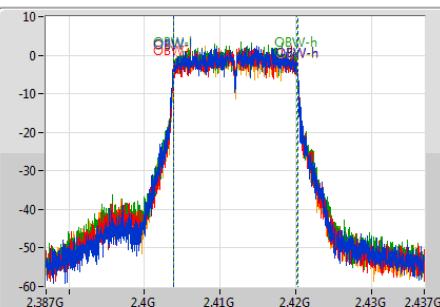
2412MHz

Ch Freq
2.412GHz
Span
50MHz
RBW
100kHz
VBW
300kHz
Sweep Time
100ms
Detector Type
Peak

Port 1 Port 2 Port 3 Port 4



Ch Freq
2.412GHz
Span
50MHz
RBW
200kHz
VBW
1MHz
Sweep Time
100ms
Detector Type
Sample



6dB(Hz)	FI-6dB(Hz)	Fh-6dB(Hz)	OBW(Hz)	FI-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
16.25M	2.4039G	2.42015G	16.417M	2.403804G	2.420221G	500k	1
15.875M	2.404275G	2.42015G	16.392M	2.403829G	2.420221G	500k	2
15.875M	2.40425G	2.420125G	16.392M	2.403804G	2.420196G	500k	3
16.325M	2.40385G	2.420175G	16.417M	2.403804G	2.420221G	500k	4

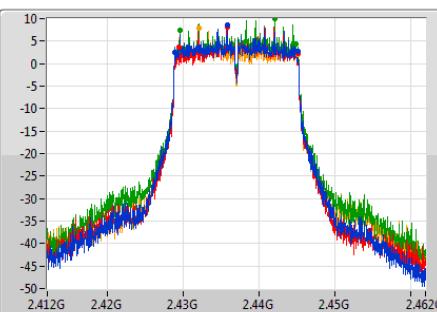
802.11g_(6Mbps)_4TX

EBW

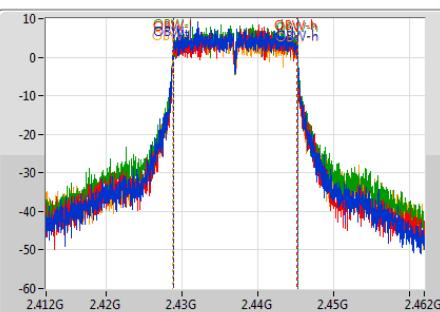
2437MHz

Ch Freq
2.437GHz
Span
50MHz
RBW
100kHz
VBW
300kHz
Sweep Time
100ms
Detector Type
Peak

Port 1 Port 2 Port 3 Port 4



Ch Freq
2.437GHz
Span
50MHz
RBW
200kHz
VBW
1MHz
Sweep Time
100ms
Detector Type
Sample



6dB(Hz)	FI-6dB(Hz)	Fh-6dB(Hz)	OBW(Hz)	FI-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
16.3M	2.42885G	2.44515G	16.417M	2.428804G	2.445221G	500k	1
15.675M	2.42945G	2.445125G	16.367M	2.428829G	2.445196G	500k	2
15.375M	2.4295G	2.444875G	16.417M	2.428804G	2.445221G	500k	3
16.325M	2.42885G	2.445175G	16.442M	2.428779G	2.445221G	500k	4

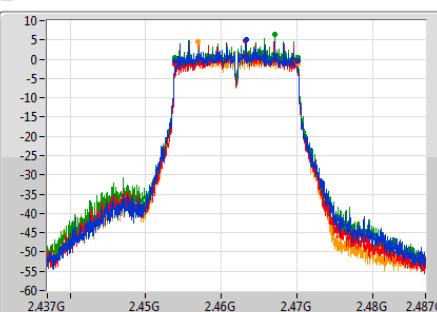
802.11g_(6Mbps)_4TX

EBW

2462MHz

Ch Freq
2.462GHz
Span
50MHz
RBW
100kHz
VBW
300kHz
Sweep Time
100ms
Detector Type
Peak

Port 1 Port 2 Port 3 Port 4



Ch Freq
2.462GHz
Span
50MHz
RBW
200kHz
VBW
1MHz
Sweep Time
100ms
Detector Type
Sample



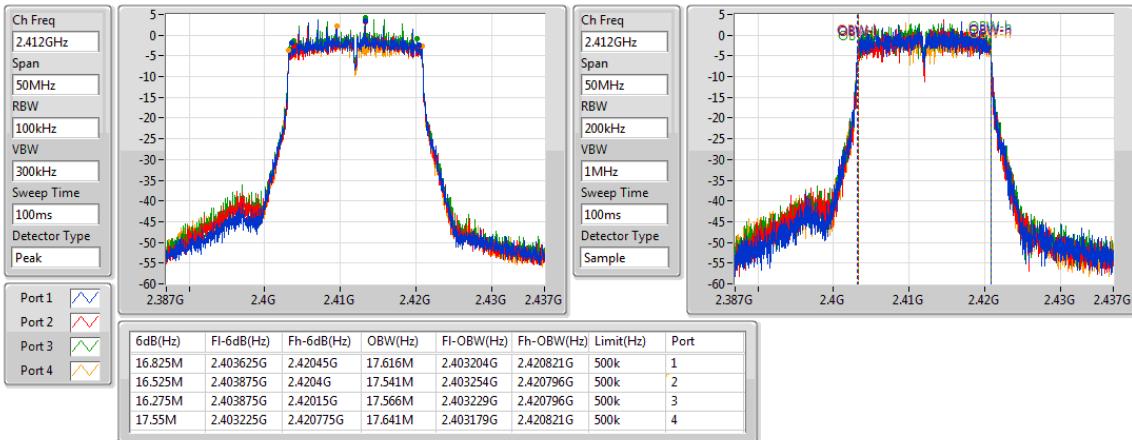
6dB(Hz)	FI-6dB(Hz)	Fh-6dB(Hz)	OBW(Hz)	FI-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
16.275M	2.453875G	2.47015G	16.392M	2.453779G	2.470171G	500k	1
16.025M	2.453875G	2.4699G	16.342M	2.453829G	2.470171G	500k	2
16.275M	2.453875G	2.47015G	16.367M	2.453829G	2.470196G	500k	3
16.325M	2.45385G	2.470175G	16.417M	2.453804G	2.470221G	500k	4



802.11ac VHT20_Nss1,(MCS0)_4TX

EBW

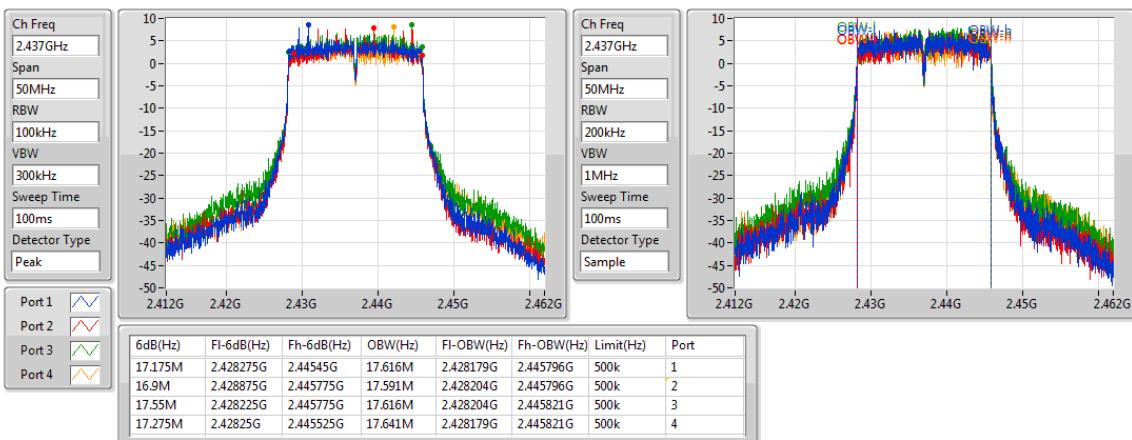
2412MHz



802.11ac VHT20_Nss1,(MCS0)_4TX

EBW

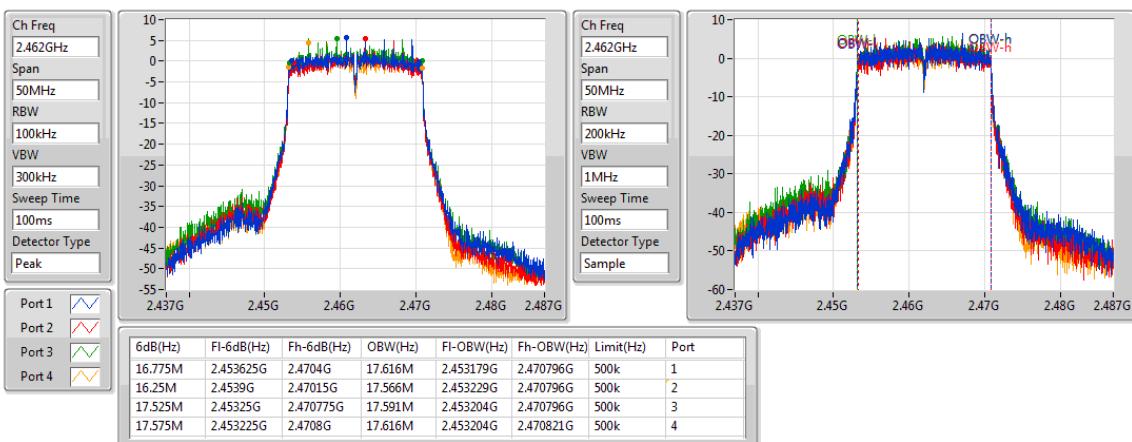
2437MHz



802.11ac VHT20_Nss1,(MCS0)_4TX

EBW

2462MHz

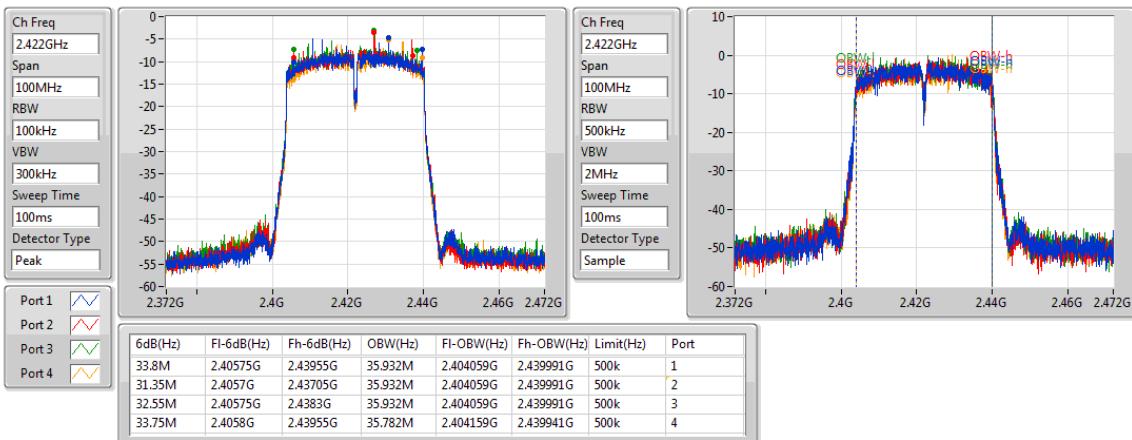




802.11ac VHT40_Nss1,(MCS0)_4TX

EBW

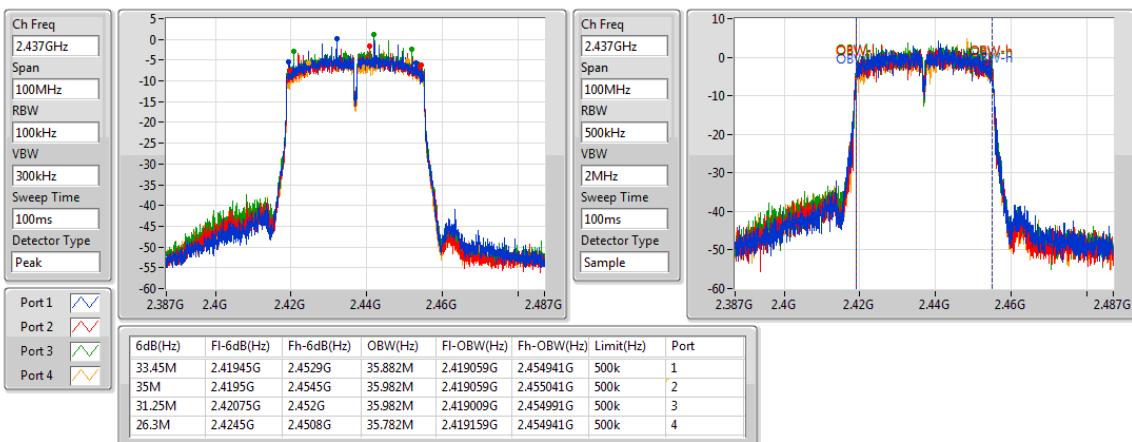
2422MHz



802.11ac VHT40_Nss1,(MCS0)_4TX

EBW

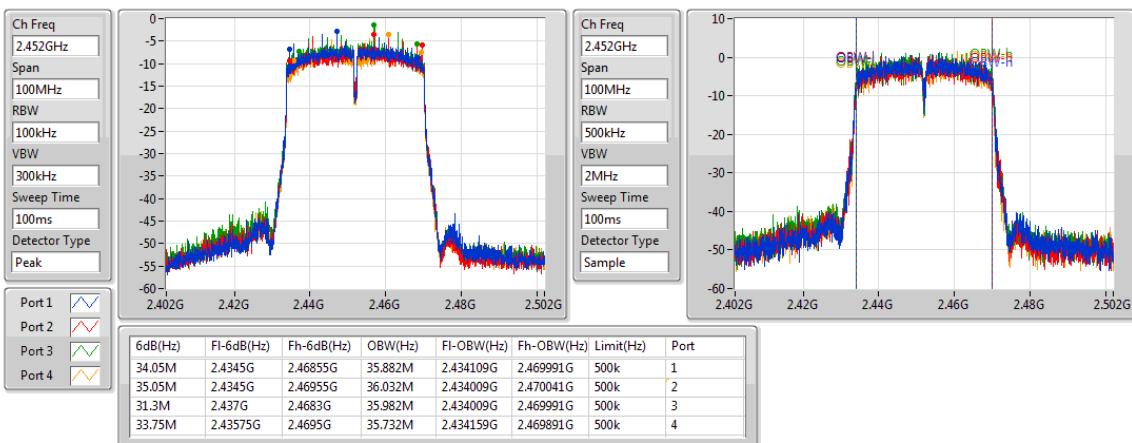
2437MHz



802.11ac VHT40_Nss1,(MCS0)_4TX

EBW

2452MHz

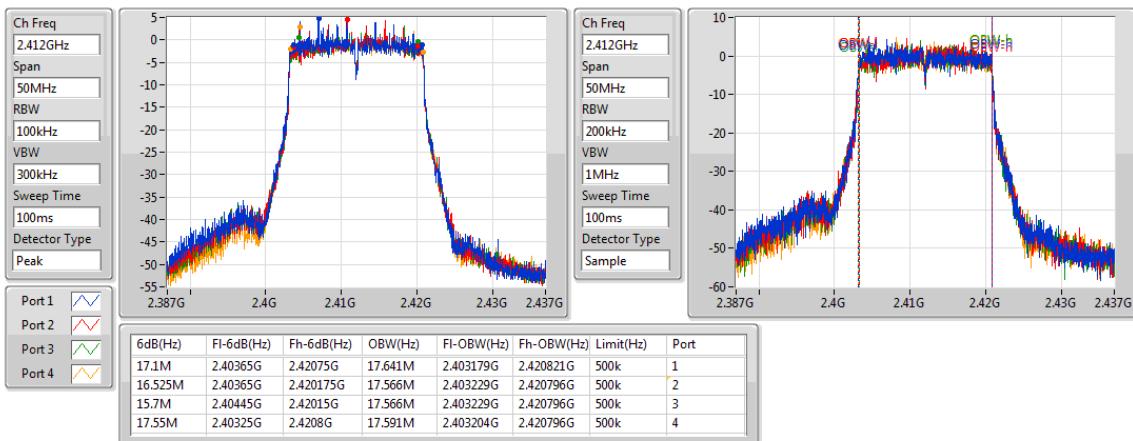




802.11ac VHT20-BF_Nss1,(MCS0)_4TX

EBW

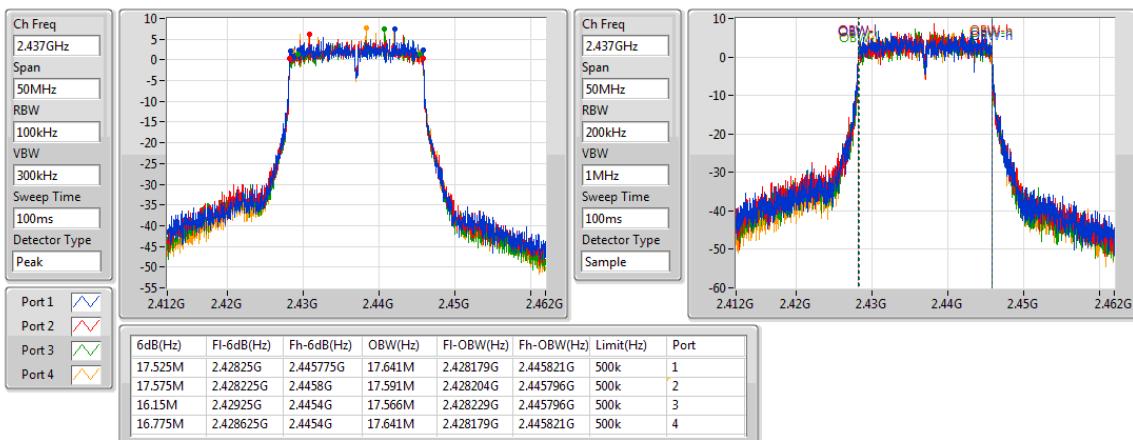
2412MHz



802.11ac VHT20-BF_Nss1,(MCS0)_4TX

EBW

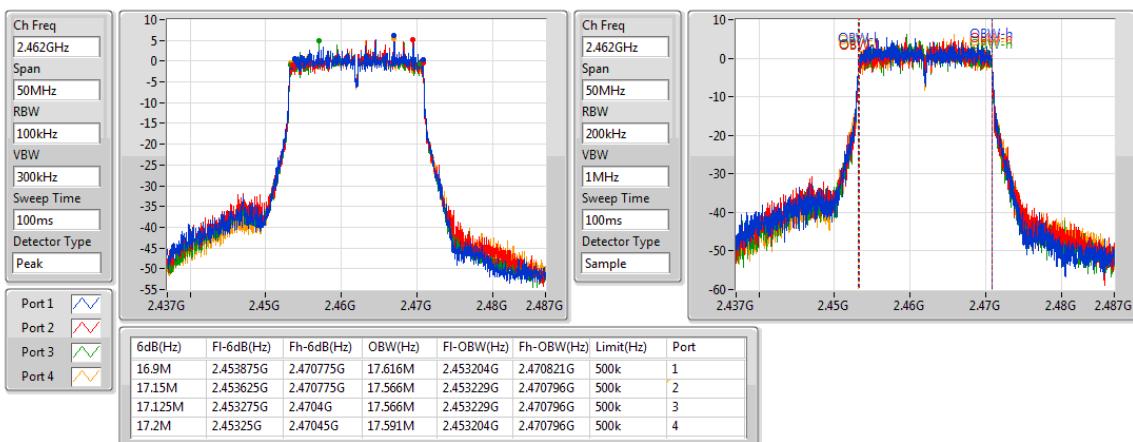
2437MHz



802.11ac VHT20-BF_Nss1,(MCS0)_4TX

EBW

2462MHz

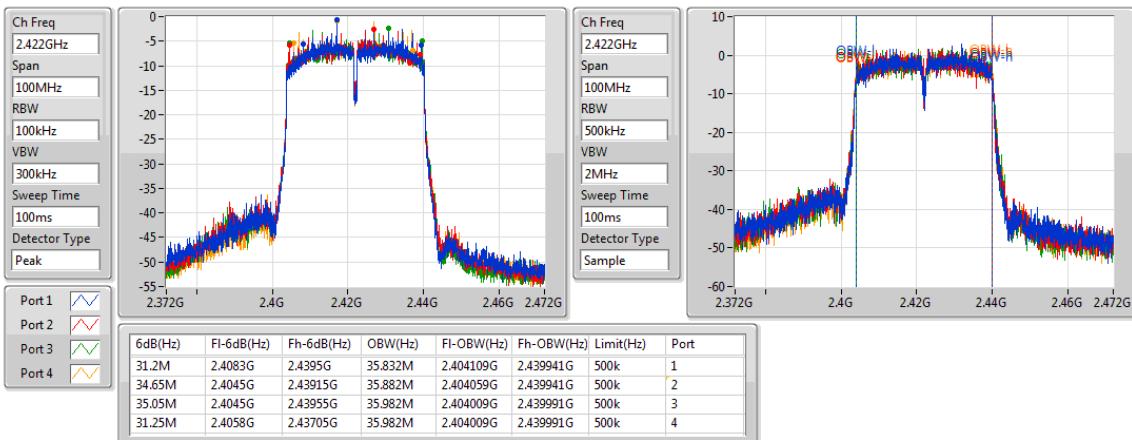




802.11ac VHT40-BF_Nss1,(MCS0)_4TX

EBW

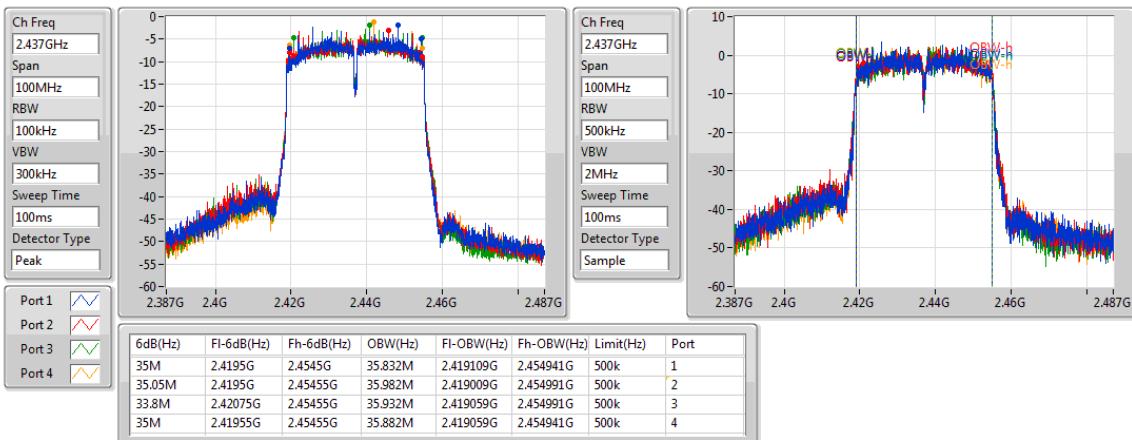
2422MHz



802.11ac VHT40-BF_Nss1,(MCS0)_4TX

EBW

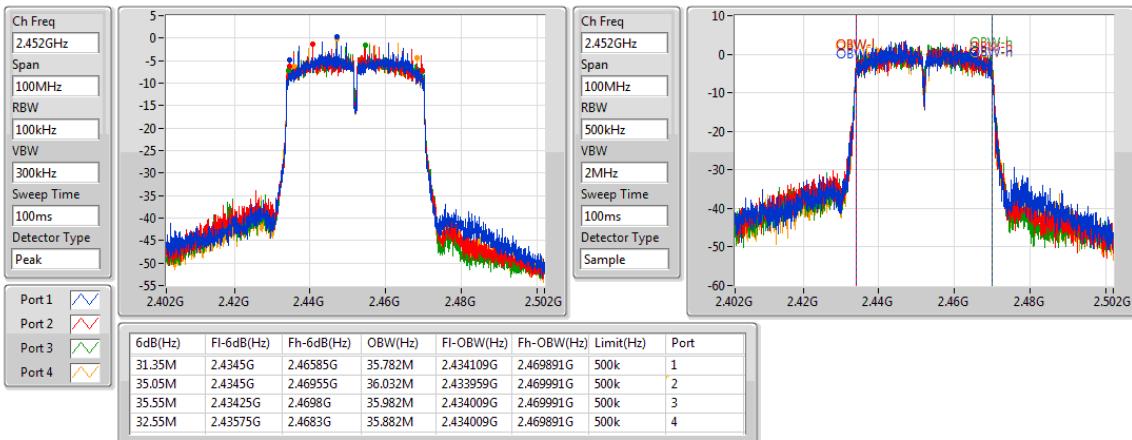
2437MHz



802.11ac VHT40-BF_Nss1,(MCS0)_4TX

EBW

2452MHz





For set 3 antenna / 4T2S

Summary

Mode	Max-N dB (Hz)	Max-OBW (Hz)	ITU-Code	Min-N dB (Hz)	Min-OBW (Hz)
802.11ac VHT20-BF_Nss2,(MCS0)_4TX	-	-	-	-	-
2.4-2.4835GHz	17.625M	39.855M	39M9D1D	16.525M	17.641M
802.11ac VHT40-BF_Nss2,(MCS0)_4TX	-	-	-	-	-
2.4-2.4835GHz	35.05M	36.132M	36M1D1D	30.05M	35.732M

Max-N dB = Maximum 6dB down bandwidth; **Max-OBW** = Maximum 99% occupied bandwidth;
Min-N dB = Minimum 6dB down bandwidth; **Min-OBW** = Minimum 99% occupied bandwidth;

Result

Mode	Result	Limit (Hz)	Port 1-N dB (Hz)	Port 1-OBW (Hz)	Port 2-N dB (Hz)	Port 2-OBW (Hz)	Port 3-N dB (Hz)	Port 3-OBW (Hz)	Port 4-N dB (Hz)	Port 4-OBW (Hz)
802.11ac VHT20-BF_Nss2,(MCS0)_4TX	-	-	-	-	-	-	-	-	-	-
2412MHz	Pass	500k	17.575M	17.666M	17.55M	17.691M	17.2M	17.641M	17.325M	17.641M
2437MHz	Pass	500k	17.55M	39.855M	17.625M	39.655M	17.15M	38.556M	17.6M	34.583M
2462MHz	Pass	500k	17.525M	17.966M	16.55M	17.766M	16.525M	17.666M	16.775M	17.666M
802.11ac VHT40-BF_Nss2,(MCS0)_4TX	-	-	-	-	-	-	-	-	-	-
2422MHz	Pass	500k	30.05M	35.732M	34.95M	35.882M	33.85M	35.982M	31.15M	35.882M
2437MHz	Pass	500k	35.05M	36.032M	35M	36.132M	33.85M	36.082M	33.8M	36.032M
2452MHz	Pass	500k	33.75M	35.832M	34.6M	35.982M	35M	35.982M	35.05M	35.932M

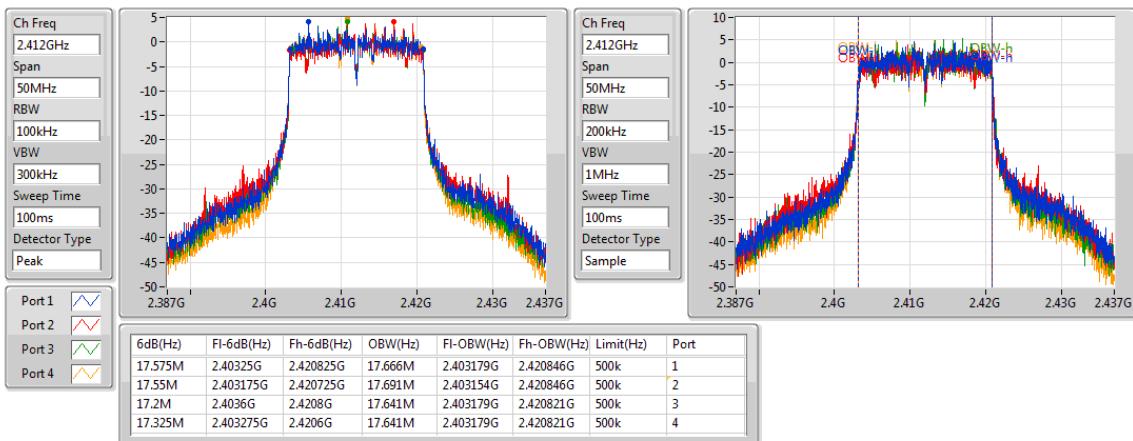
Port X-N dB = Port X 6dB down bandwidth; **Port X-OBW** = Port X 99% occupied bandwidth;



802.11ac VHT20-BF_Nss2,(MCS0)_4TX

EBW

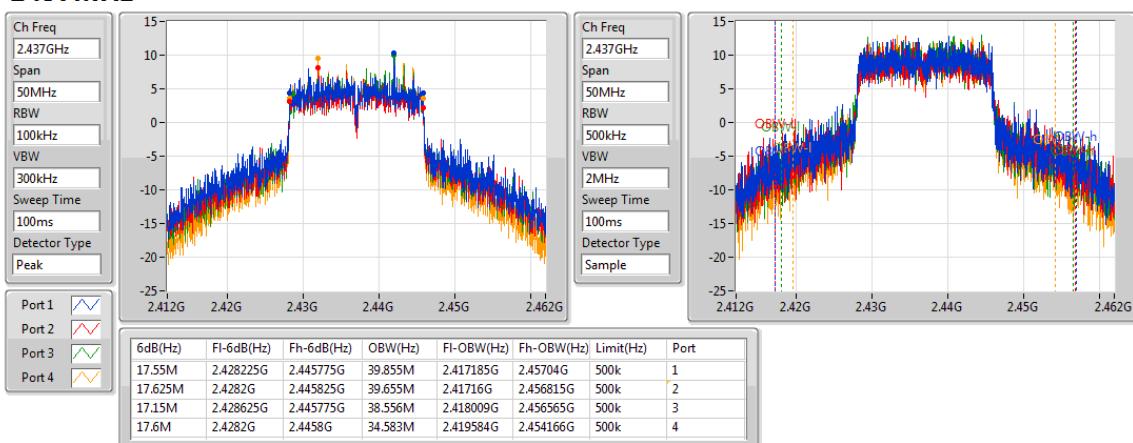
2412MHz



802.11ac VHT20-BF_Nss2,(MCS0)_4TX

EBW

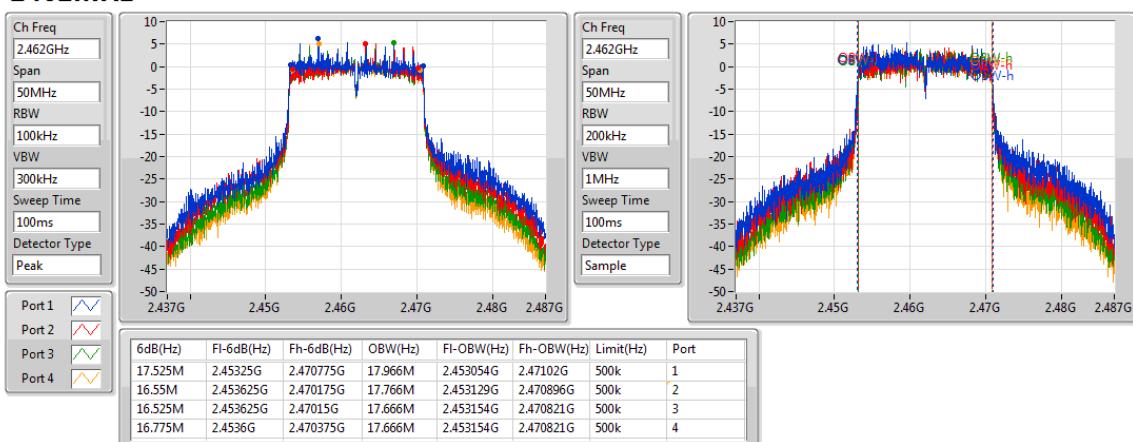
2437MHz



802.11ac VHT20-BF_Nss2,(MCS0)_4TX

EBW

2462MHz

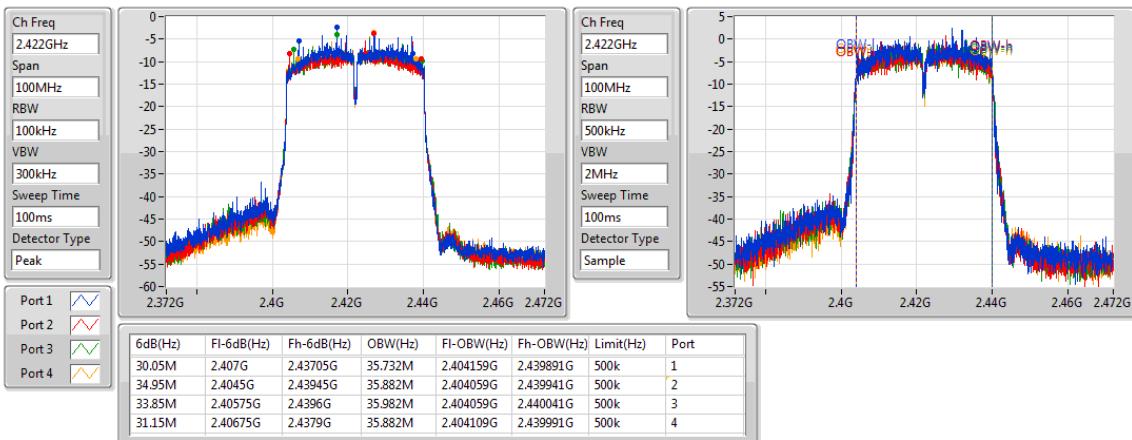




802.11ac VHT40-BF_Nss2,(MCS0)_4TX

EBW

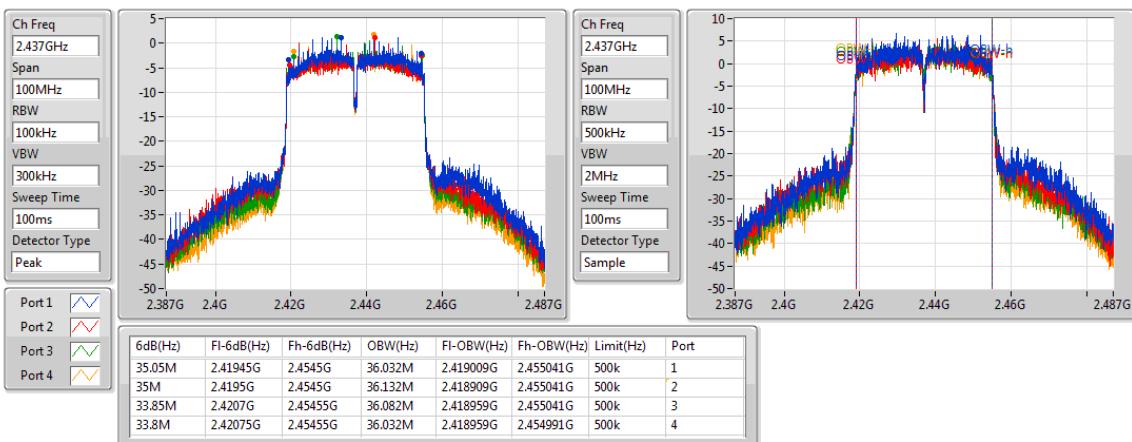
2422MHz



802.11ac VHT40-BF_Nss2,(MCS0)_4TX

EBW

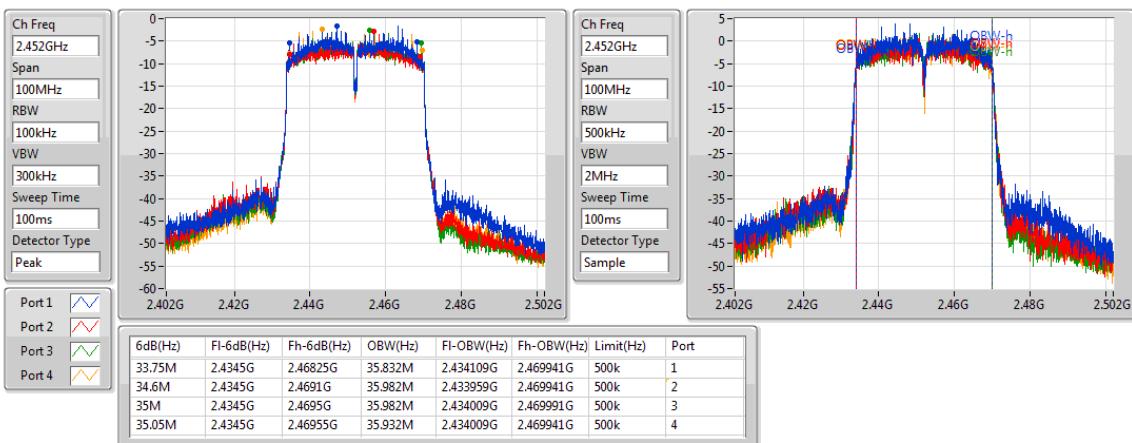
2437MHz



802.11ac VHT40-BF_Nss2,(MCS0)_4TX

EBW

2452MHz





For set 4 antenna / 4T1S

Summary

Mode	Max-N dB (Hz)	Max-OBW (Hz)	ITU-Code	Min-N dB (Hz)	Min-OBW (Hz)
802.11b_(1Mbps)_4TX	-	-	-	-	-
2.4-2.4835GHz	9.1M	15.217M	15M2G1D	7.075M	12.519M
802.11g_(6Mbps)_4TX	-	-	-	-	-
2.4-2.4835GHz	16.325M	25.187M	25M2D1D	15.275M	16.367M
802.11ac VHT20_Nss1,(MCS0)_4TX	-	-	-	-	-
2.4-2.4835GHz	17.575M	17.816M	17M8D1D	15.725M	17.566M
802.11ac VHT40_Nss1,(MCS0)_4TX	-	-	-	-	-
2.4-2.4835GHz	36.25M	35.932M	35M9D1D	30.05M	35.732M
802.11ac VHT20-BF_Nss1,(MCS0)_4TX	-	-	-	-	-
2.4-2.4835GHz	17.55M	19.99M	20M0D1D	16.475M	17.641M
802.11ac VHT40-BF_Nss1,(MCS0)_4TX	-	-	-	-	-
2.4-2.4835GHz	35.45M	39.63M	39M6D1D	30.6M	35.882M

Max-N dB = Maximum 6dB down bandwidth; Max-OBW = Maximum 99% occupied bandwidth;

Min-N dB = Minimum 6dB down bandwidth; Min-OBW = Minimum 99% occupied bandwidth;

Result

Mode	Result	Limit (Hz)	Port 1-N dB (Hz)	Port 1-OBW (Hz)	Port 2-N dB (Hz)	Port 2-OBW (Hz)	Port 3-N dB (Hz)	Port 3-OBW (Hz)	Port 4-N dB (Hz)	Port 4-OBW (Hz)
802.11b_(1Mbps)_4TX	-	-	-	-	-	-	-	-	-	-
2412MHz	Pass	500k	8.5M	13.043M	7.075M	13.018M	9.05M	13.418M	7.575M	13.293M
2437MHz	Pass	500k	9.075M	14.293M	9.1M	14.793M	9.075M	14.168M	9.1M	15.217M
2462MHz	Pass	500k	8.025M	12.744M	8.075M	12.894M	7.075M	12.844M	7.55M	12.519M
802.11g_(6Mbps)_4TX	-	-	-	-	-	-	-	-	-	-
2412MHz	Pass	500k	15.65M	16.492M	15.275M	16.492M	15.875M	16.592M	16.3M	16.642M
2437MHz	Pass	500k	16M	18.266M	15.9M	21.689M	16.3M	23.288M	16.325M	25.187M
2462MHz	Pass	500k	16.275M	16.417M	16.3M	16.367M	16.275M	16.392M	16.275M	16.417M
802.11ac VHT20_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-	-	-
2412MHz	Pass	500k	17.575M	17.591M	16.125M	17.591M	16.875M	17.566M	17.15M	17.616M
2437MHz	Pass	500k	17.575M	17.716M	16.55M	17.691M	15.9M	17.791M	17.5M	17.816M
2462MHz	Pass	500k	16.775M	17.566M	15.725M	17.566M	17.175M	17.591M	17.525M	17.616M
802.11ac VHT40_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-	-	-
2422MHz	Pass	500k	34.65M	35.882M	36.25M	35.932M	30.05M	35.932M	34.9M	35.882M
2437MHz	Pass	500k	35.05M	35.832M	34.45M	35.932M	35M	35.932M	33.7M	35.732M
2452MHz	Pass	500k	34.65M	35.832M	31.9M	35.882M	35.25M	35.932M	32.55M	35.782M
802.11ac VHT20-BF_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-	-	-
2412MHz	Pass	500k	17.55M	18.516M	17.5M	18.291M	17.55M	17.941M	17.275M	17.766M
2437MHz	Pass	500k	17.525M	17.641M	17.225M	17.666M	17.2M	17.666M	17.55M	17.666M
2462MHz	Pass	500k	17.5M	19.99M	16.475M	18.091M	17.325M	17.866M	17.55M	17.791M
802.11ac VHT40-BF_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-	-	-
2422MHz	Pass	500k	35M	35.882M	30.6M	36.032M	34.95M	36.032M	35.05M	36.032M
2437MHz	Pass	500k	32.6M	39.63M	33.8M	38.031M	35.25M	36.632M	34.9M	36.282M
2452MHz	Pass	500k	31.25M	35.882M	33.8M	35.982M	35.45M	36.032M	33.8M	35.932M

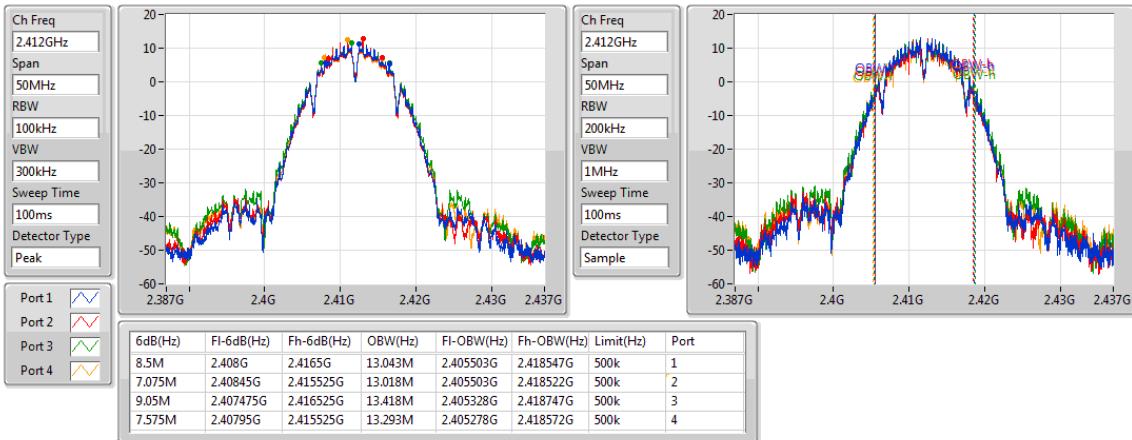
Port X-N dB = Port X 6dB down bandwidth; Port X-OBW = Port X 99% occupied bandwidth;



802.11b_(1Mbps)_4TX

EBW

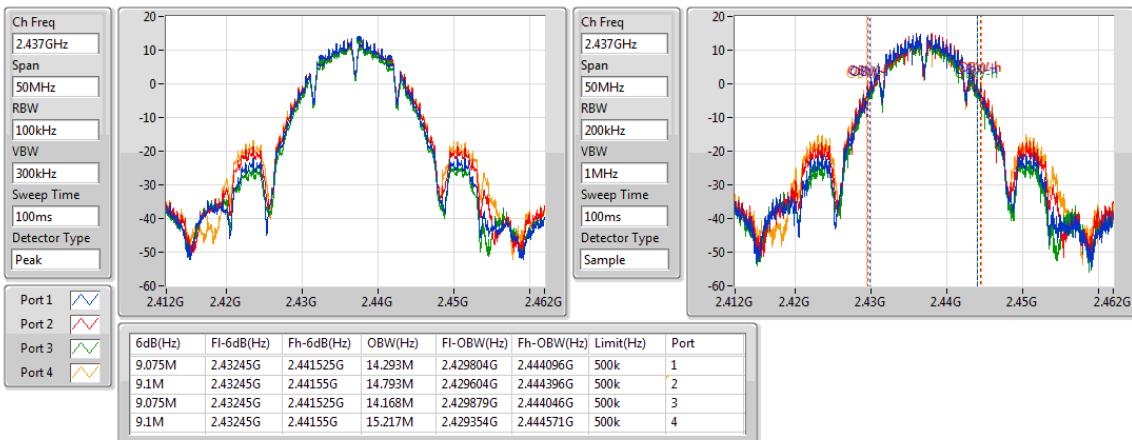
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802.11b_(1Mbps)_4TX

EBW

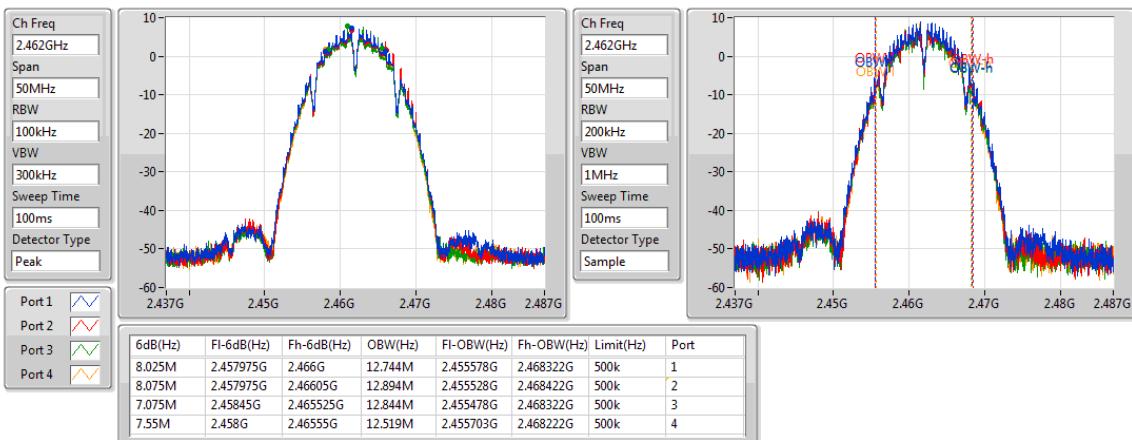
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802.11b_(1Mbps)_4TX

EBW

2462MHz





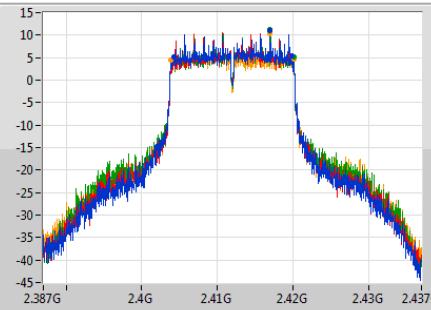
802.11g_(6Mbps)_4TX

EBW

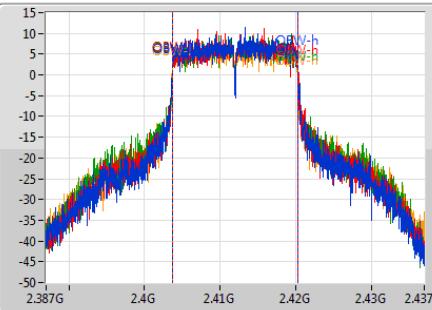
2412MHz

Ch Freq
2.412GHz
Span
50MHz
RBW
100kHz
VBW
300kHz
Sweep Time
100ms
Detector Type
Peak

Port 1 Port 2 Port 3 Port 4



Ch Freq
2.412GHz
Span
50MHz
RBW
200kHz
VBW
1MHz
Sweep Time
100ms
Detector Type
Sample



6dB(Hz)	FI-6dB(Hz)	Fh-6dB(Hz)	OBW(Hz)	FI-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
15.65M	2.404225G	2.419875G	16.492M	2.403729G	2.420221G	500k	1
15.275M	2.404475G	2.41975G	16.492M	2.403754G	2.420246G	500k	2
15.875M	2.40425G	2.420125G	16.592M	2.403704G	2.420296G	500k	3
16.3M	2.403825G	2.420125G	16.642M	2.403654G	2.420296G	500k	4

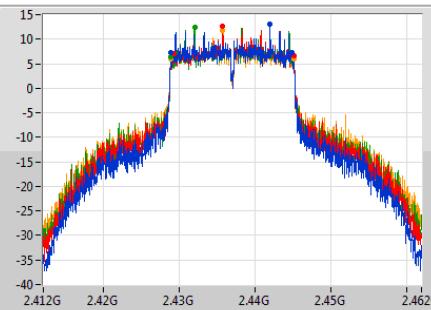
802.11g_(6Mbps)_4TX

EBW

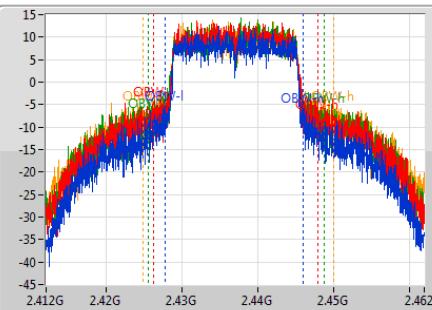
2437MHz

Ch Freq
2.437GHz
Span
50MHz
RBW
100kHz
VBW
300kHz
Sweep Time
100ms
Detector Type
Peak

Port 1 Port 2 Port 3 Port 4



Ch Freq
2.437GHz
Span
50MHz
RBW
300kHz
VBW
1MHz
Sweep Time
100ms
Detector Type
Sample



6dB(Hz)	FI-6dB(Hz)	Fh-6dB(Hz)	OBW(Hz)	FI-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
16M	2.428875G	2.444875G	18.266M	2.42773G	2.445996G	500k	1
15.9M	2.42925G	2.44515G	21.689M	2.42623G	2.44792G	500k	2
16.3M	2.428875G	2.445175G	23.288M	2.425531G	2.448819G	500k	3
16.325M	2.428825G	2.44515G	25.187M	2.424831G	2.450018G	500k	4

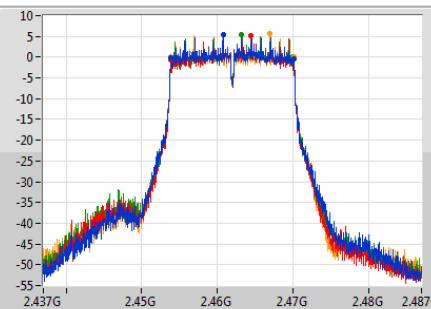
802.11g_(6Mbps)_4TX

EBW

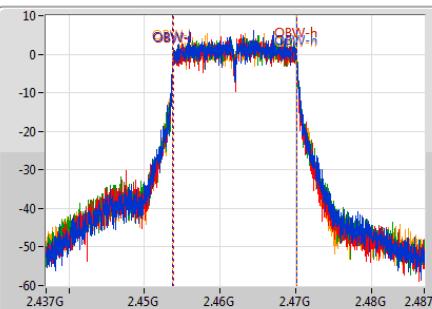
2462MHz

Ch Freq
2.462GHz
Span
50MHz
RBW
100kHz
VBW
300kHz
Sweep Time
100ms
Detector Type
Peak

Port 1 Port 2 Port 3 Port 4



Ch Freq
2.462GHz
Span
50MHz
RBW
200kHz
VBW
1MHz
Sweep Time
100ms
Detector Type
Sample



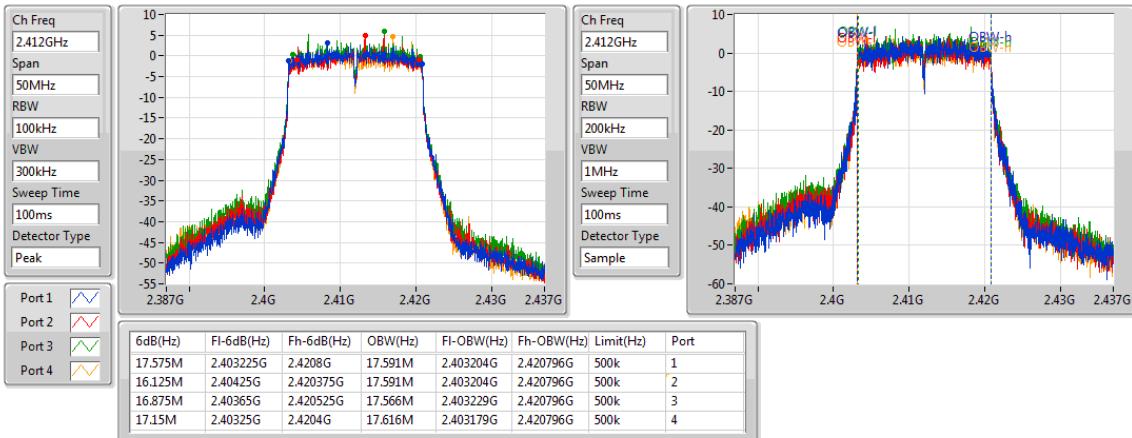
6dB(Hz)	FI-6dB(Hz)	Fh-6dB(Hz)	OBW(Hz)	FI-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
16.275M	2.45385G	2.470125G	16.417M	2.453779G	2.470196G	500k	1
16.3M	2.45385G	2.47015G	16.367M	2.453804G	2.470171G	500k	2
16.275M	2.45385G	2.470125G	16.392M	2.453804G	2.470196G	500k	3
16.275M	2.45385G	2.470125G	16.417M	2.453779G	2.470196G	500k	4



802.11ac VHT20_Nss1,(MCS0)_4TX

EBW

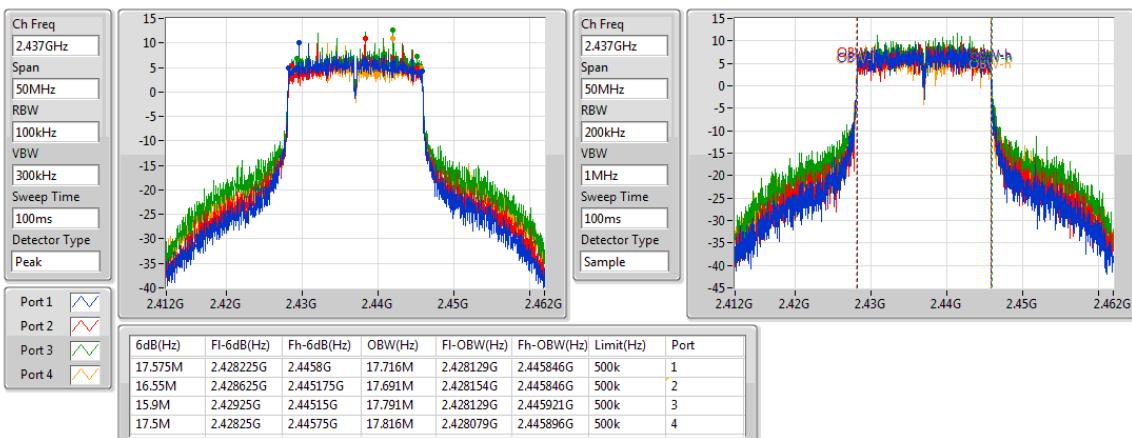
2412MHz



802.11ac VHT20_Nss1,(MCS0)_4TX

EBW

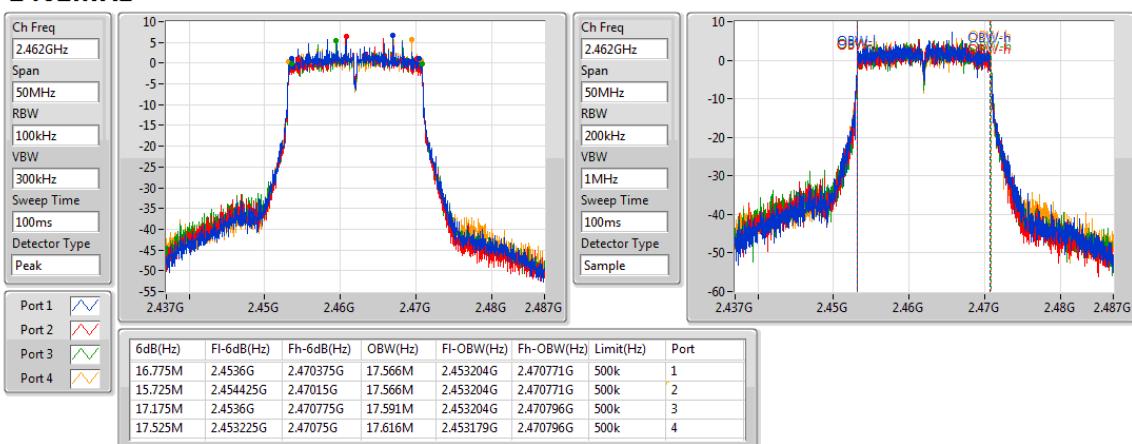
2437MHz



802.11ac VHT20_Nss1,(MCS0)_4TX

EBW

2462MHz

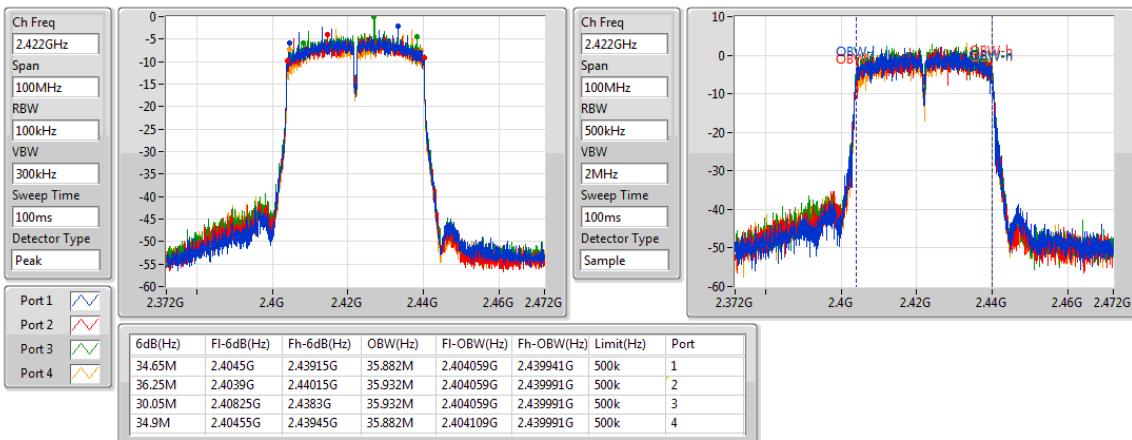




802.11ac VHT40_Nss1,(MCS0)_4TX

EBW

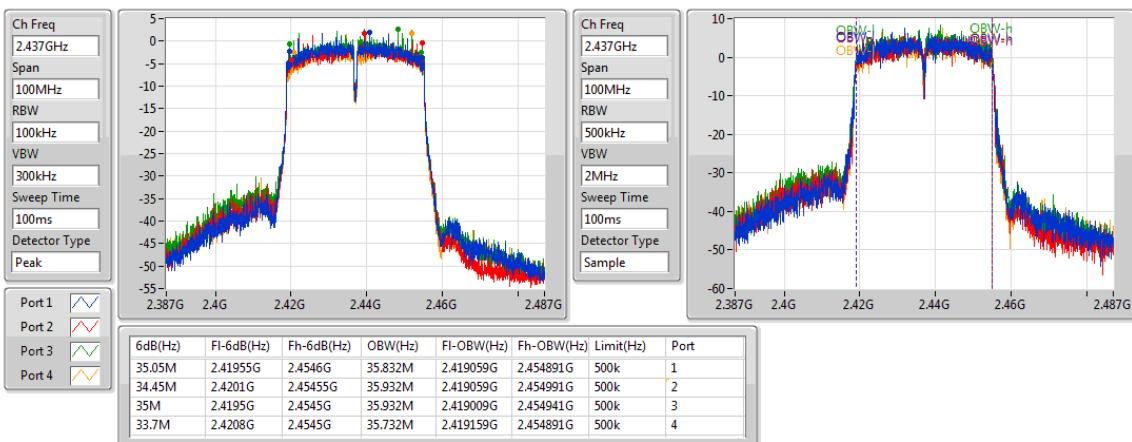
2422MHz



802.11ac VHT40_Nss1,(MCS0)_4TX

EBW

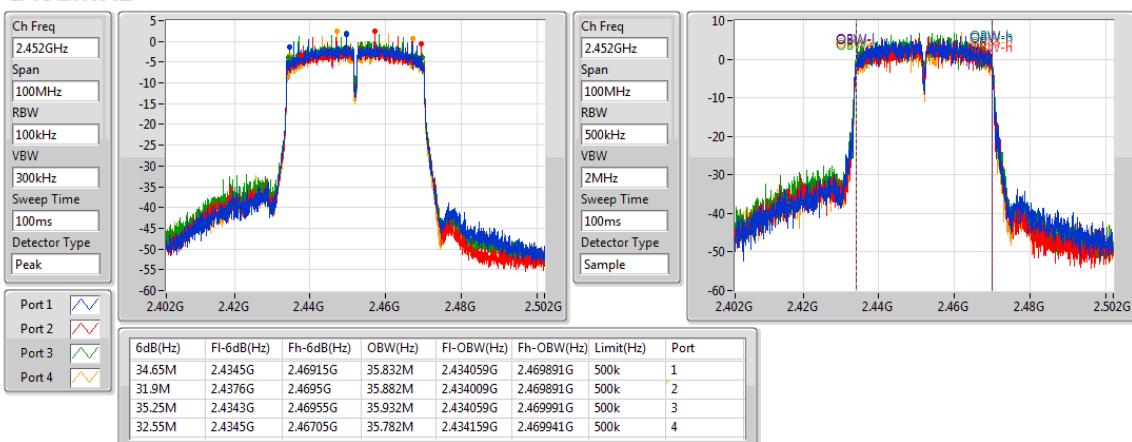
2437MHz



802.11ac VHT40_Nss1,(MCS0)_4TX

EBW

2452MHz





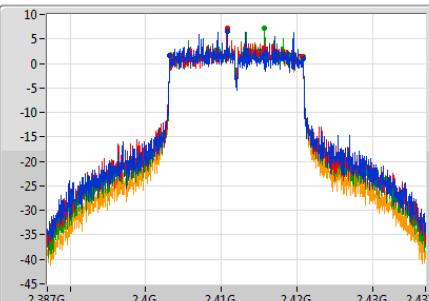
802.11ac VHT20-BF_Nss1,(MCS0)_4TX

EBW

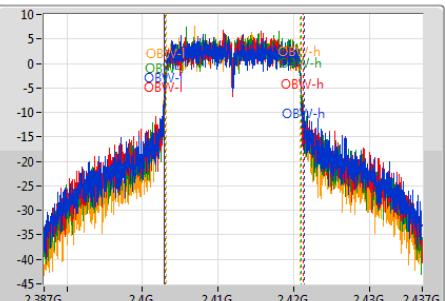
2412MHz

Ch Freq	2.412GHz
Span	50MHz
RBW	100kHz
VBW	300kHz
Sweep Time	100ms
Detector Type	Peak

Port 1 Port 2 Port 3 Port 4



Ch Freq	2.412GHz
Span	50MHz
RBW	200kHz
VBW	1MHz
Sweep Time	100ms
Detector Type	Sample



6dB(Hz)	Fl-6dB(Hz)	Fh-6dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
17.55M	2.403225G	2.42075G	18.516M	2.40288G	2.421395G	500k	1
17.5M	2.40325G	2.42075G	18.291M	2.402905G	2.421195G	500k	2
17.55M	2.40325G	2.4208G	17.941M	2.403079G	2.42102G	500k	3
17.275M	2.40325G	2.420525G	17.766M	2.403129G	2.420896G	500k	4

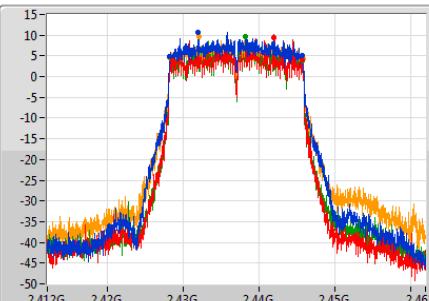
802.11ac VHT20-BF_Nss1,(MCS0)_4TX

EBW

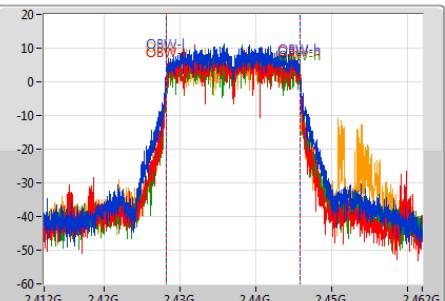
2437MHz

Ch Freq	2.437GHz
Span	50MHz
RBW	100kHz
VBW	300kHz
Sweep Time	100ms
Detector Type	Peak

Port 1 Port 2 Port 3 Port 4



Ch Freq	2.437GHz
Span	50MHz
RBW	200kHz
VBW	1MHz
Sweep Time	100ms
Detector Type	Sample



6dB(Hz)	Fl-6dB(Hz)	Fh-6dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
17.525M	2.428225G	2.44575G	17.641M	2.428179G	2.445821G	500k	1
17.225M	2.42825G	2.44575G	17.666M	2.428154G	2.445821G	500k	2
17.2M	2.42855G	2.44575G	17.666M	2.428154G	2.445821G	500k	3
17.55M	2.428225G	2.445775G	17.666M	2.428154G	2.445821G	500k	4

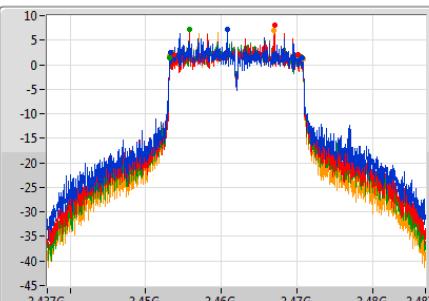
802.11ac VHT20-BF_Nss1,(MCS0)_4TX

EBW

2462MHz

Ch Freq	2.462GHz
Span	50MHz
RBW	100kHz
VBW	300kHz
Sweep Time	100ms
Detector Type	Peak

Port 1 Port 2 Port 3 Port 4



Ch Freq	2.462GHz
Span	50MHz
RBW	200kHz
VBW	1MHz
Sweep Time	100ms
Detector Type	Sample



6dB(Hz)	Fl-6dB(Hz)	Fh-6dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
17.5M	2.45325G	2.47075G	19.99M	2.452505G	2.472495G	500k	1
16.475M	2.45365G	2.470125G	18.091M	2.453004G	2.471095G	500k	2
17.325M	2.453225G	2.47055G	17.866M	2.453054G	2.470921G	500k	3
17.55M	2.453225G	2.470775G	17.791M	2.453104G	2.470896G	500k	4



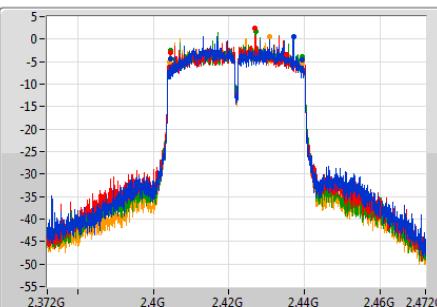
802.11ac VHT40-BF_Nss1,(MCS0)_4TX

EBW

2422MHz

Ch Freq	2.422GHz
Span	100MHz
RBW	100kHz
VBW	300kHz
Sweep Time	100ms
Detector Type	Peak

Port 1 Port 2 Port 3 Port 4



Ch Freq	2.422GHz
Span	100MHz
RBW	500kHz
VBW	2MHz
Sweep Time	100ms
Detector Type	Sample



dB(Hz)	FI-6dB(Hz)	Fh-6dB(Hz)	OBW(Hz)	FI-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
35M	2.40405G	2.4395G	35.882M	2.404109G	2.439991G	500k	1
30.6M	2.404055G	2.43515G	36.032M	2.403959G	2.439991G	500k	2
34.95M	2.404055G	2.4395G	36.032M	2.403959G	2.439991G	500k	3
35.05M	2.404025G	2.4393G	36.032M	2.403959G	2.439991G	500k	4

802.11ac VHT40-BF_Nss1,(MCS0)_4TX

EBW

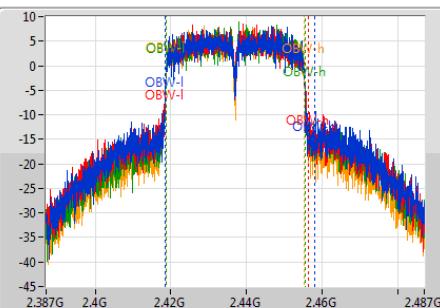
2437MHz

Ch Freq	2.437GHz
Span	100MHz
RBW	100kHz
VBW	300kHz
Sweep Time	100ms
Detector Type	Peak

Port 1 Port 2 Port 3 Port 4



Ch Freq	2.437GHz
Span	100MHz
RBW	500kHz
VBW	2MHz
Sweep Time	100ms
Detector Type	Sample



dB(Hz)	FI-6dB(Hz)	Fh-6dB(Hz)	OBW(Hz)	FI-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
32.6M	2.4195G	2.4521G	39.63M	2.418359G	2.45799G	500k	1
33.8M	2.4195G	2.4533G	38.031M	2.418409G	2.45644G	500k	2
35.25M	2.4193G	2.45455G	36.632M	2.418759G	2.455391G	500k	3
34.9M	2.41925G	2.45415G	36.282M	2.418859G	2.455141G	500k	4

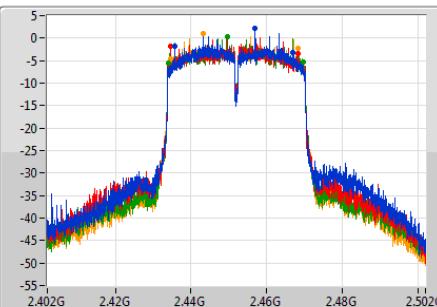
802.11ac VHT40-BF_Nss1,(MCS0)_4TX

EBW

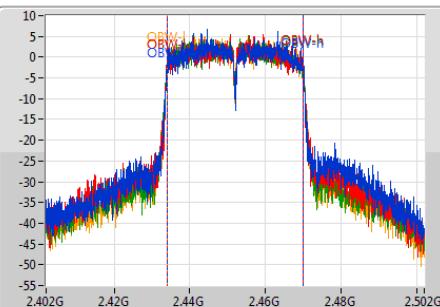
2452MHz

Ch Freq	2.452GHz
Span	100MHz
RBW	100kHz
VBW	300kHz
Sweep Time	100ms
Detector Type	Peak

Port 1 Port 2 Port 3 Port 4



Ch Freq	2.452GHz
Span	100MHz
RBW	500kHz
VBW	2MHz
Sweep Time	100ms
Detector Type	Sample



dB(Hz)	FI-6dB(Hz)	Fh-6dB(Hz)	OBW(Hz)	FI-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
31.25M	2.43575G	2.467G	35.882M	2.434009G	2.469891G	500k	1
33.8M	2.4345G	2.4683G	35.982M	2.433959G	2.469941G	500k	2
35.45M	2.4341G	2.46955G	36.032M	2.433959G	2.469991G	500k	3
33.8M	2.4345G	2.4683G	35.932M	2.434009G	2.469941G	500k	4



For set 4 antenna / 4T2S

Summary

Mode	Max-N dB (Hz)	Max-OBW (Hz)	ITU-Code	Min-N dB (Hz)	Min-OBW (Hz)
802.11ac VHT20-BF_Nss2,(MCS0)_4TX	-	-	-	-	-
2.4-2.4835GHz	17.675M	39.93M	39M9D1D	16.5M	17.791M
802.11ac VHT40-BF_Nss2,(MCS0)_4TX	-	-	-	-	-
2.4-2.4835GHz	35.35M	40.63M	40M6D1D	32.5M	35.832M

Max-N dB = Maximum 6dB down bandwidth; **Max-OBW** = Maximum 99% occupied bandwidth;
Min-N dB = Minimum 6dB down bandwidth; **Min-OBW** = Minimum 99% occupied bandwidth;

Result

Mode	Result	Limit (Hz)	Port 1-N dB (Hz)	Port 1-OBW (Hz)	Port 2-N dB (Hz)	Port 2-OBW (Hz)	Port 3-N dB (Hz)	Port 3-OBW (Hz)	Port 4-N dB (Hz)	Port 4-OBW (Hz)
802.11ac VHT20-BF_Nss2,(MCS0)_4TX	-	-	-	-	-	-	-	-	-	-
2412MHz	Pass	500k	17.55M	19.015M	17.55M	18.491M	17.175M	17.991M	17.525M	17.791M
2437MHz	Pass	500k	17.675M	39.93M	17.575M	39.655M	17.6M	38.356M	17.575M	35.132M
2462MHz	Pass	500k	17.55M	20.59M	17.55M	18.266M	16.5M	17.916M	17.15M	17.816M
802.11ac VHT40-BF_Nss2,(MCS0)_4TX	-	-	-	-	-	-	-	-	-	-
2422MHz	Pass	500k	35.05M	35.882M	35.35M	36.082M	33.4M	35.982M	35.15M	35.982M
2437MHz	Pass	500k	32.5M	40.63M	35.3M	38.681M	33.8M	36.732M	33.75M	36.232M
2452MHz	Pass	500k	33.75M	35.832M	34.6M	35.982M	35M	35.982M	35.05M	35.932M

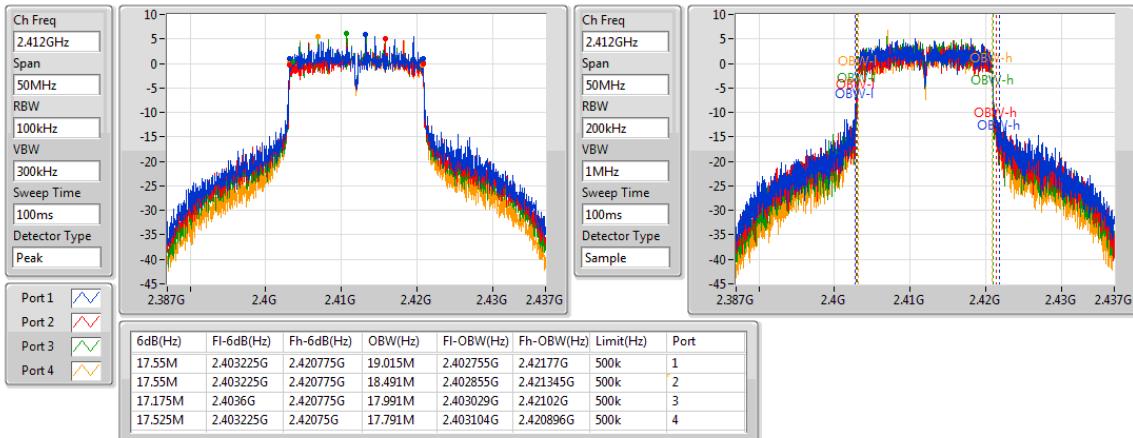
Port X-N dB = Port X 6dB down bandwidth; **Port X-OBW** = Port X 99% occupied bandwidth;



802.11ac VHT20-BF_Nss2,(MCS0)_4TX

EBW

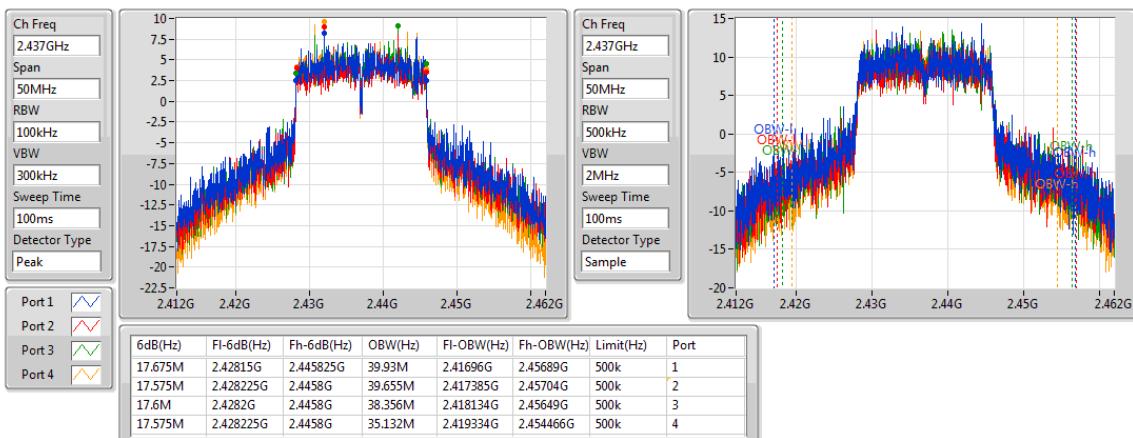
2412MHz



802.11ac VHT20-BF_Nss2,(MCS0)_4TX

EBW

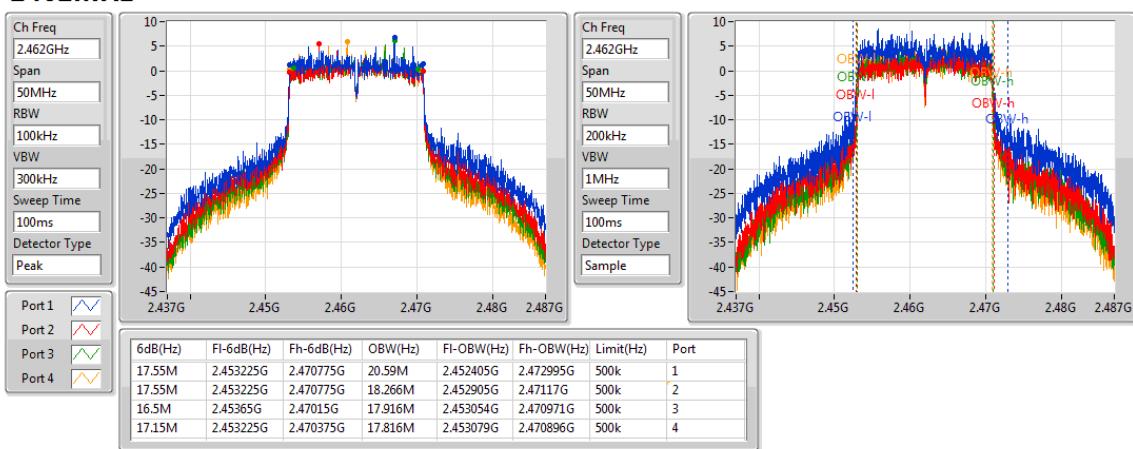
2437MHz



802.11ac VHT20-BF_Nss2,(MCS0)_4TX

EBW

2462MHz

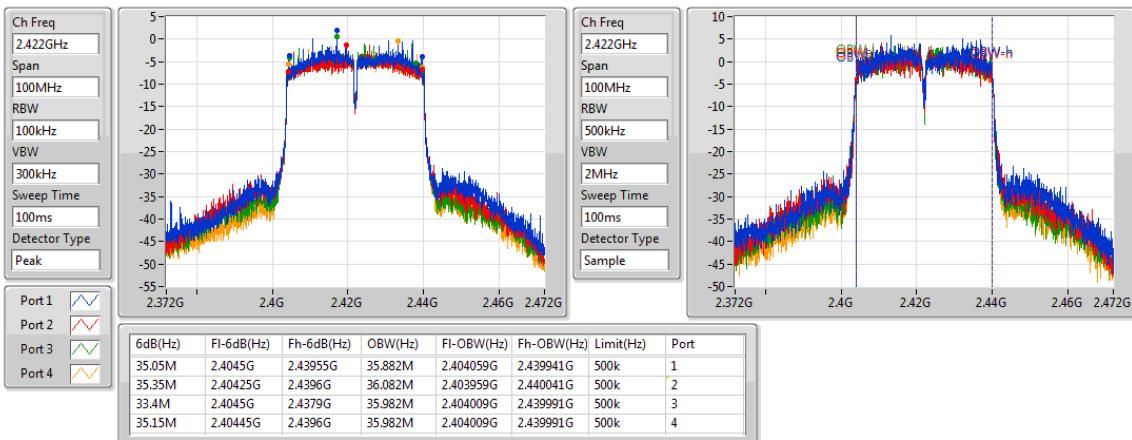




802.11ac VHT40-BF_Nss2,(MCS0)_4TX

EBW

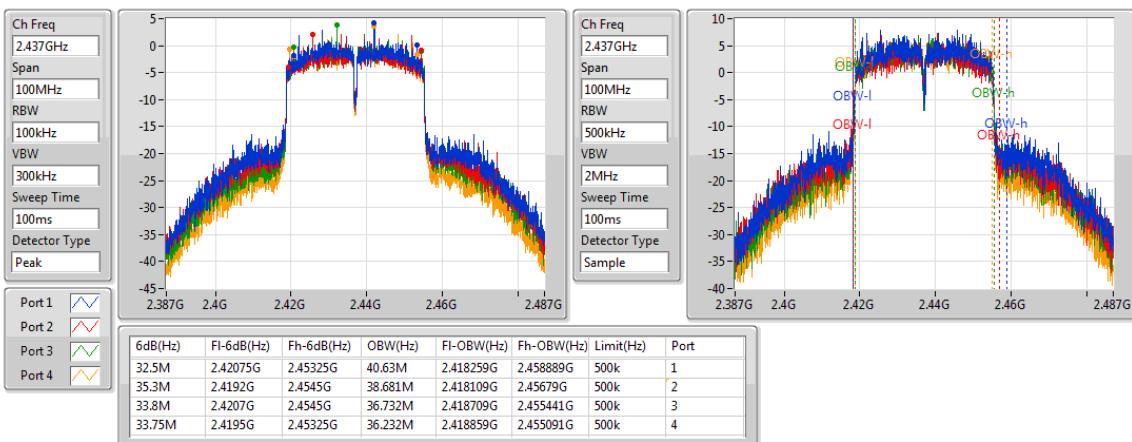
2422MHz



802.11ac VHT40-BF_Nss2,(MCS0)_4TX

EBW

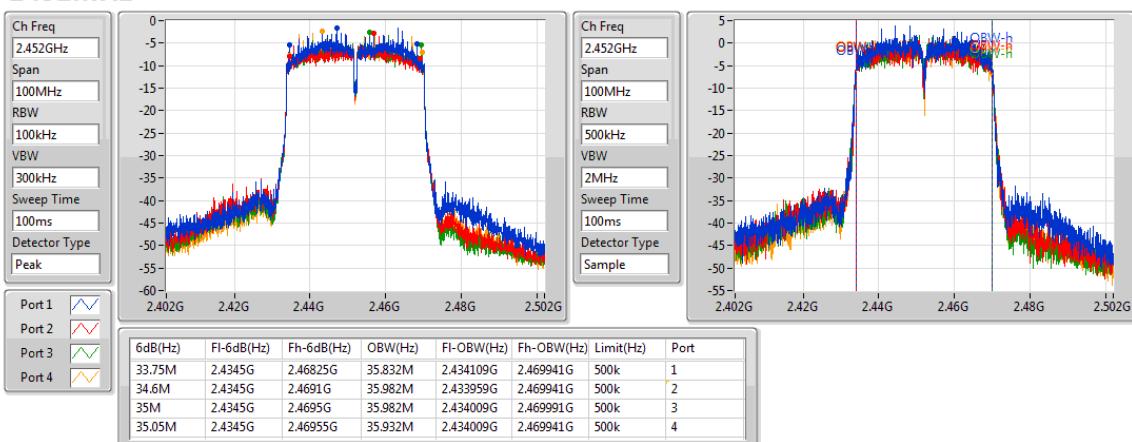
2437MHz



802.11ac VHT40-BF_Nss2,(MCS0)_4TX

EBW

2452MHz





For set 5 antenna / 4T1S

Summary

Mode	Max-N dB (Hz)	Max-OBW (Hz)	ITU-Code	Min-N dB (Hz)	Min-OBW (Hz)
802.11b_(1Mbps)_4TX	-	-	-	-	-
2.4-2.4835GHz	9.525M	15.442M	15M4G1D	7.575M	12.744M
802.11ac VHT20_Nss1,(MCS0)_4TX	-	-	-	-	-
2.4-2.4835GHz	17.575M	28.611M	28M6D1D	15.625M	17.591M
802.11ac VHT40_Nss1,(MCS0)_4TX	-	-	-	-	-
2.4-2.4835GHz	35.3M	35.982M	36M0D1D	31.25M	35.832M
802.11ac VHT20-BF_Nss1,(MCS0)_4TX	-	-	-	-	-
2.4-2.4835GHz	17.625M	39.43M	39M4D1D	15.65M	17.716M
802.11ac VHT40-BF_Nss1,(MCS0)_4TX	-	-	-	-	-
2.4-2.4835GHz	35.3M	56.472M	56M5D1D	29.4M	35.832M

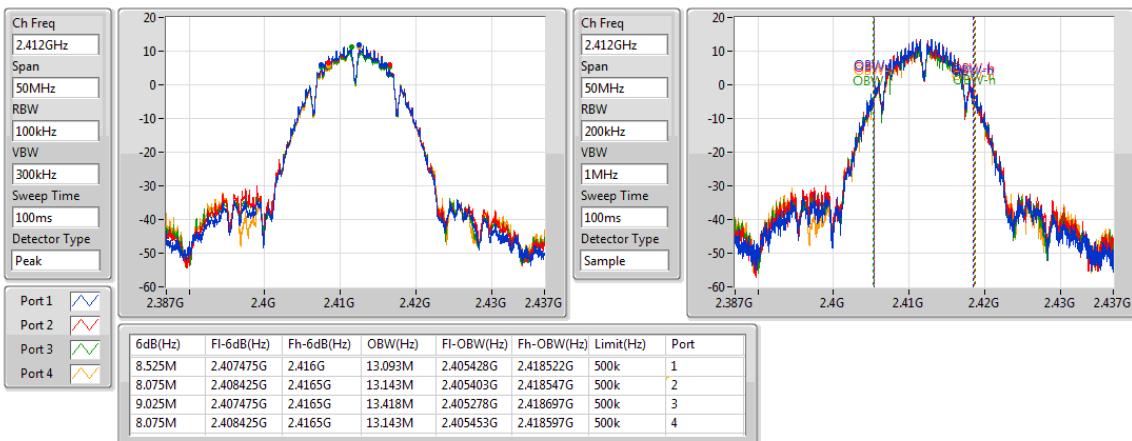
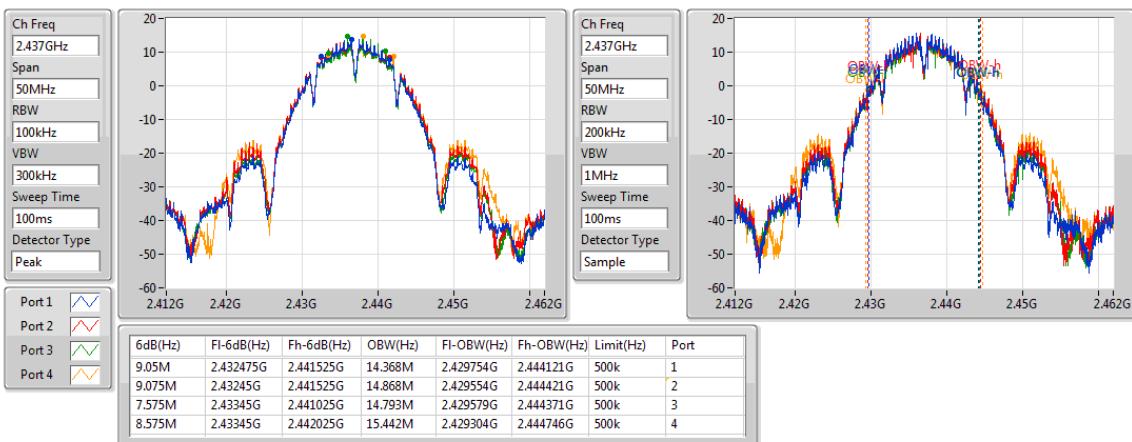
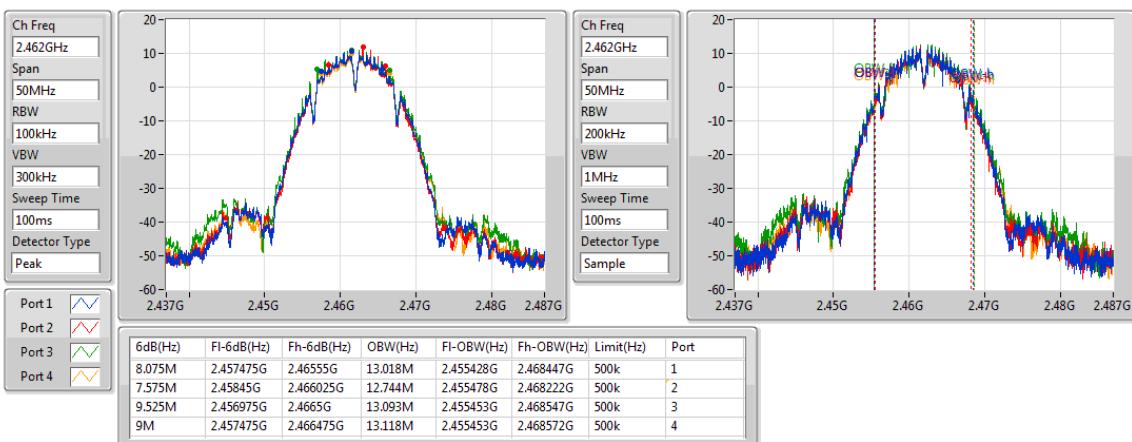
Max-N dB = Maximum 6dB down bandwidth; Max-OBW = Maximum 99% occupied bandwidth;

Min-N dB = Minimum 6dB down bandwidth; Min-OBW = Minimum 99% occupied bandwidth;

Result

Mode	Result	Limit (Hz)	Port 1-N dB (Hz)	Port 1-OBW (Hz)	Port 2-N dB (Hz)	Port 2-OBW (Hz)	Port 3-N dB (Hz)	Port 3-OBW (Hz)	Port 4-N dB (Hz)	Port 4-OBW (Hz)
802.11b_(1Mbps)_4TX	-	-	-	-	-	-	-	-	-	-
2412MHz	Pass	500k	8.525M	13.093M	8.075M	13.143M	9.025M	13.418M	8.075M	13.143M
2437MHz	Pass	500k	9.05M	14.368M	9.075M	14.868M	7.575M	14.793M	8.575M	15.442M
2462MHz	Pass	500k	8.075M	13.018M	7.575M	12.744M	9.525M	13.093M	9M	13.118M
802.11ac VHT20_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-	-	-
2412MHz	Pass	500k	17.15M	17.591M	15.65M	17.591M	15.625M	17.591M	17.575M	17.641M
2437MHz	Pass	500k	16.9M	18.716M	17.55M	22.189M	17.575M	28.611M	17.55M	25.987M
2462MHz	Pass	500k	17.15M	17.616M	16.525M	17.591M	16.475M	17.591M	17.525M	17.616M
802.11ac VHT40_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-	-	-
2422MHz	Pass	500k	35.3M	35.982M	34.45M	35.982M	31.25M	35.932M	35M	35.882M
2437MHz	Pass	500k	33.75M	35.882M	32.8M	35.982M	33.8M	35.882M	35M	35.932M
2452MHz	Pass	500k	35M	35.932M	35.05M	35.982M	35.05M	35.982M	32.4M	35.832M
802.11ac VHT20-BF_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-	-	-
2412MHz	Pass	500k	17.525M	18.016M	17.125M	17.941M	15.65M	17.791M	16.525M	17.716M
2437MHz	Pass	500k	17.5M	39.18M	17.625M	39.43M	17.575M	39.23M	17.575M	32.234M
2462MHz	Pass	500k	17.625M	31.409M	17.575M	29.71M	15.95M	26.912M	16.275M	21.839M
802.11ac VHT40-BF_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-	-	-
2422MHz	Pass	500k	35.05M	35.882M	33.75M	36.032M	33.8M	35.932M	35.1M	35.832M
2437MHz	Pass	500k	33.5M	56.472M	35.3M	55.022M	30.65M	53.423M	33.8M	43.828M
2452MHz	Pass	500k	34.85M	36.732M	32.6M	36.532M	33.15M	36.382M	29.4M	36.082M

Port X-N dB = Port X 6dB down bandwidth; Port X-OBW = Port X 99% occupied bandwidth;

**802.11b_(1Mbps)_4TX****EBW****2412MHz****802.11b_(1Mbps)_4TX****EBW****2437MHz****802.11b_(1Mbps)_4TX****EBW****2462MHz**

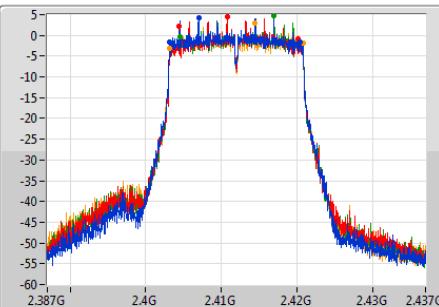


802.11ac VHT20_Nss1,(MCS0)_4TX

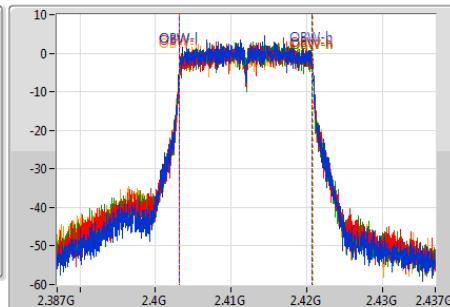
EBW

2412MHz

Ch Freq	2.412GHz
Span	50MHz
RBW	100kHz
VBW	300kHz
Sweep Time	100ms
Detector Type	Peak
Port 1	<input checked="" type="checkbox"/>
Port 2	<input type="checkbox"/>
Port 3	<input checked="" type="checkbox"/>
Port 4	<input checked="" type="checkbox"/>



Ch Freq	2.412GHz
Span	50MHz
RBW	200kHz
VBW	1MHz
Sweep Time	100ms
Detector Type	Sample



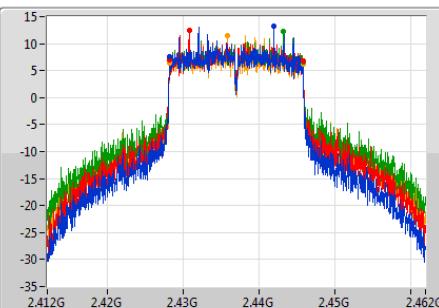
6dB(Hz)	FI-6dB(Hz)	Fh-6dB(Hz)	OBW(Hz)	FI-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
17.15M	2.403225G	2.420375G	17.591M	2.403179G	2.420771G	500k	1
15.65M	2.404475G	2.420125G	17.591M	2.403179G	2.420771G	500k	2
15.625M	2.40445G	2.420125G	17.591M	2.403179G	2.420771G	500k	3
17.575M	2.4032G	2.420775G	17.641M	2.403154G	2.420796G	500k	4

802.11ac VHT20_Nss1,(MCS0)_4TX

EBW

2437MHz

Ch Freq	2.437GHz
Span	50MHz
RBW	100kHz
VBW	300kHz
Sweep Time	100ms
Detector Type	Peak
Port 1	<input checked="" type="checkbox"/>
Port 2	<input type="checkbox"/>
Port 3	<input checked="" type="checkbox"/>
Port 4	<input checked="" type="checkbox"/>



Ch Freq	2.437GHz
Span	50MHz
RBW	300kHz
VBW	1MHz
Sweep Time	100ms
Detector Type	Sample



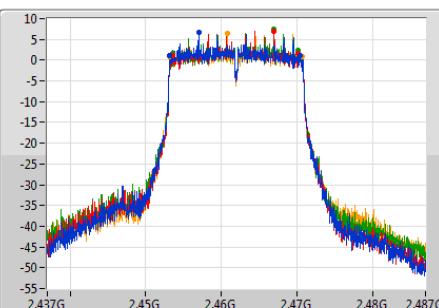
6dB(Hz)	FI-6dB(Hz)	Fh-6dB(Hz)	OBW(Hz)	FI-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
16.9M	2.428225G	2.445125G	18.716M	2.427555G	2.44627G	500k	1
17.55M	2.428225G	2.445775G	22.189M	2.42618G	2.448369G	500k	2
17.575M	2.4282G	2.445775G	28.611M	2.422907G	2.451518G	500k	3
17.55M	2.428225G	2.445775G	25.987M	2.424781G	2.450768G	500k	4

802.11ac VHT20_Nss1,(MCS0)_4TX

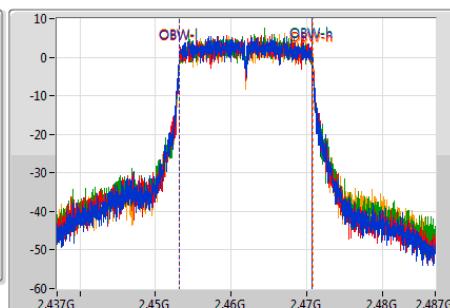
EBW

2462MHz

Ch Freq	2.462GHz
Span	50MHz
RBW	100kHz
VBW	300kHz
Sweep Time	100ms
Detector Type	Peak
Port 1	<input checked="" type="checkbox"/>
Port 2	<input type="checkbox"/>
Port 3	<input checked="" type="checkbox"/>
Port 4	<input checked="" type="checkbox"/>



Ch Freq	2.462GHz
Span	50MHz
RBW	200kHz
VBW	1MHz
Sweep Time	100ms
Detector Type	Sample



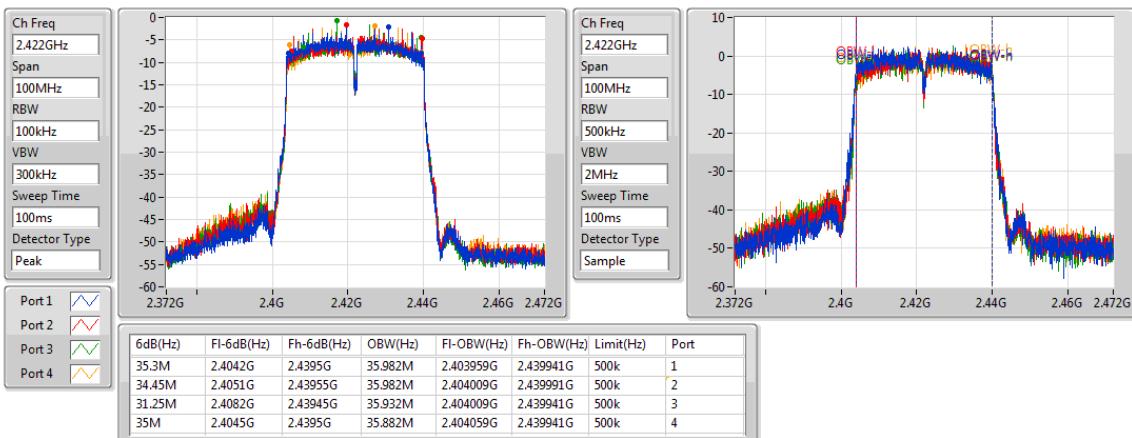
6dB(Hz)	FI-6dB(Hz)	Fh-6dB(Hz)	OBW(Hz)	FI-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
17.15M	2.453225G	2.470375G	17.616M	2.453154G	2.470771G	500k	1
16.525M	2.4536G	2.470125G	17.591M	2.453179G	2.470771G	500k	2
16.475M	2.453625G	2.4701G	17.591M	2.453179G	2.470771G	500k	3
17.525M	2.453225G	2.47075G	17.616M	2.453179G	2.470796G	500k	4



802.11ac VHT40_Nss1,(MCS0)_4TX

EBW

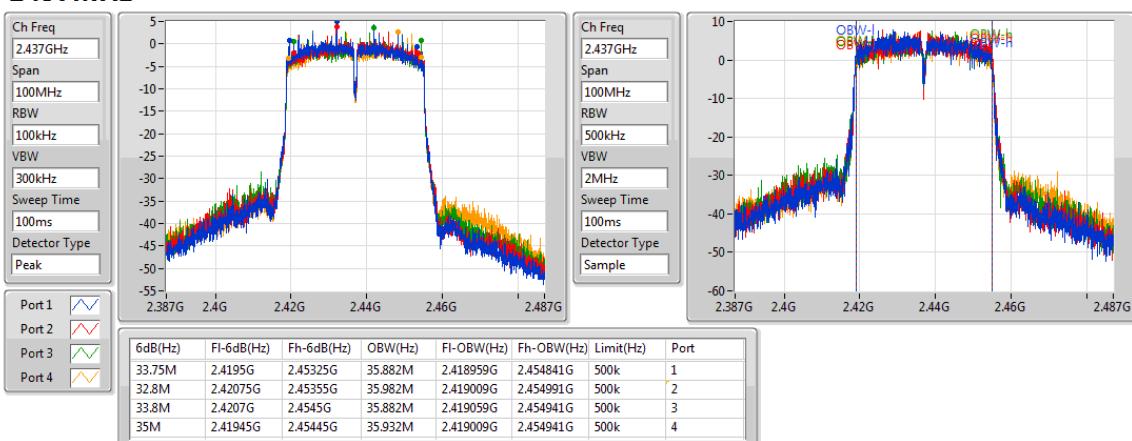
2422MHz



802.11ac VHT40_Nss1,(MCS0)_4TX

EBW

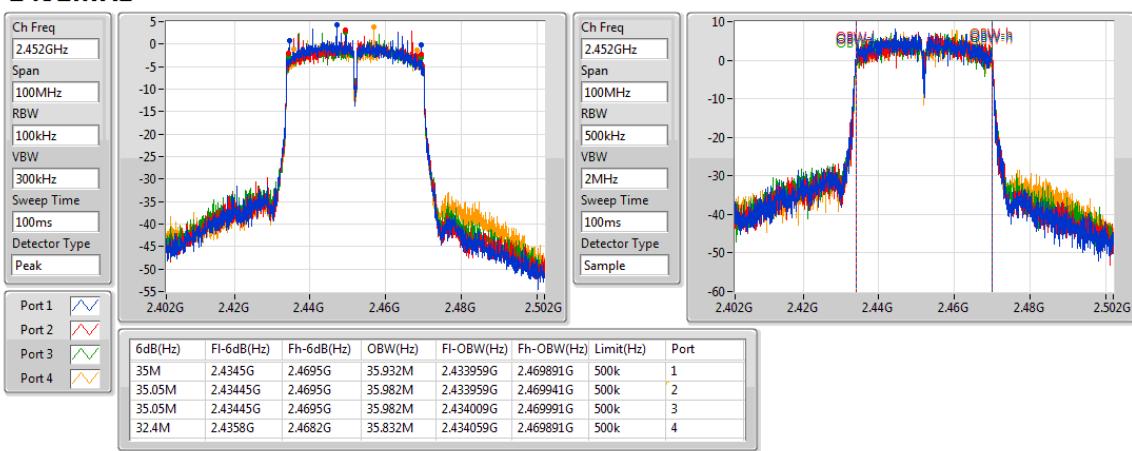
2437MHz



802.11ac VHT40_Nss1,(MCS0)_4TX

EBW

2452MHz





For set 5 antenna / 4T2S

Summary

Mode	Max-N dB (Hz)	Max-OBW (Hz)	ITU-Code	Min-N dB (Hz)	Min-OBW (Hz)
802.11ac VHT20-BF_Nss2,(MCS0)_4TX	-	-	-	-	-
2.4-2.4835GHz	17.525M	32.434M	32M4D1D	15.85M	17.716M
802.11ac VHT40-BF_Nss2,(MCS0)_4TX	-	-	-	-	-
2.4-2.4835GHz	35.55M	47.676M	47M7D1D	31.2M	35.882M

Max-N dB = Maximum 6dB down bandwidth; **Max-OBW** = Maximum 99% occupied bandwidth;
Min-N dB = Minimum 6dB down bandwidth; **Min-OBW** = Minimum 99% occupied bandwidth;

Result

Mode	Result	Limit (Hz)	Port 1-N dB (Hz)	Port 1-OBW (Hz)	Port 2-N dB (Hz)	Port 2-OBW (Hz)	Port 3-N dB (Hz)	Port 3-OBW (Hz)	Port 4-N dB (Hz)	Port 4-OBW (Hz)
802.11ac VHT20-BF_Nss2,(MCS0)_4TX	-	-	-	-	-	-	-	-	-	-
2412MHz	Pass	500k	17.125M	21.614M	15.85M	21.814M	17.525M	18.416M	16.875M	17.941M
2437MHz	Pass	500k	17.275M	18.016M	15.875M	17.966M	16.9M	17.816M	17.15M	17.716M
2462MHz	Pass	500k	17.125M	32.434M	16.925M	29.56M	16.975M	26.862M	17.525M	22.014M
802.11ac VHT40-BF_Nss2,(MCS0)_4TX	-	-	-	-	-	-	-	-	-	-
2422MHz	Pass	500k	35.05M	35.932M	35.25M	36.032M	35.55M	35.982M	34.1M	35.882M
2437MHz	Pass	500k	35.05M	36.632M	33.15M	36.832M	34.95M	36.482M	31.2M	36.132M
2452MHz	Pass	500k	34.65M	47.676M	33.2M	41.879M	33.75M	40.43M	34.45M	36.482M

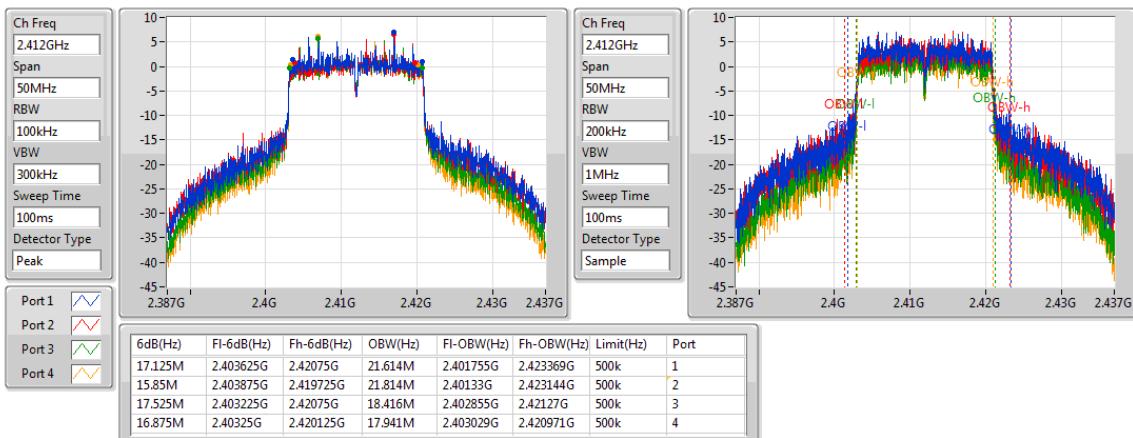
Port X-N dB = Port X 6dB down bandwidth; **Port X-OBW** = Port X 99% occupied bandwidth;



802.11ac VHT20-BF_Nss2,(MCS0)_4TX

EBW

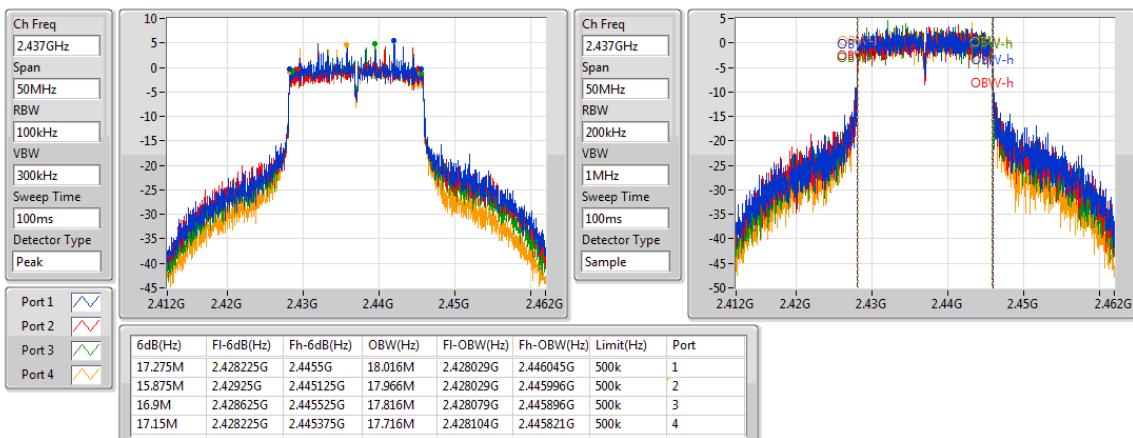
2412MHz



802.11ac VHT20-BF_Nss2,(MCS0)_4TX

EBW

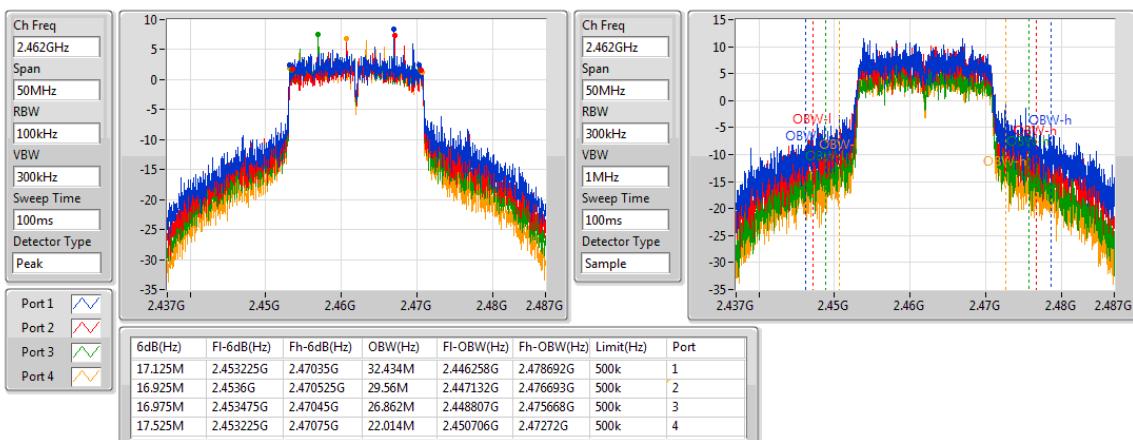
2437MHz



802.11ac VHT20-BF_Nss2,(MCS0)_4TX

EBW

2462MHz



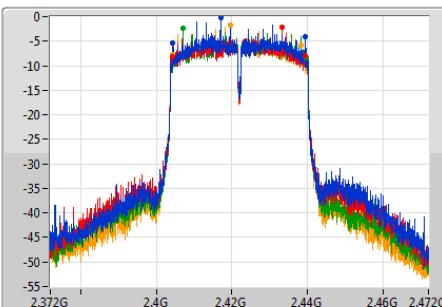


802.11ac VHT40-BF_Nss2,(MCS0)_4TX

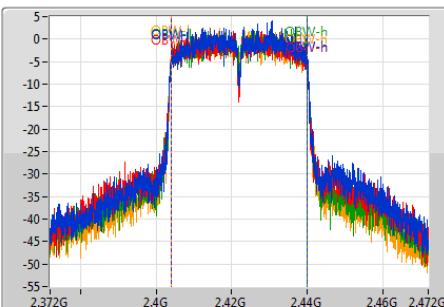
EBW

2422MHz

Ch Freq	2.422GHz
Span	100MHz
RBW	100kHz
VBW	300kHz
Sweep Time	100ms
Detector Type	Peak



Ch Freq	2.422GHz
Span	100MHz
RBW	500kHz
VBW	2MHz
Sweep Time	100ms
Detector Type	Sample



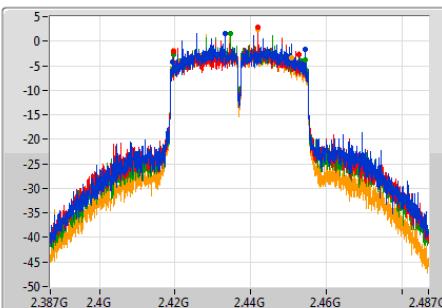
dB(Hz)	FI-6dB(Hz)	Fh-6dB(Hz)	OBW(Hz)	FI-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
35.05M	2.40445G	2.4395G	35.932M	2.404009G	2.439941G	500k	1
35.25M	2.40425G	2.4395G	36.032M	2.403959G	2.439991G	500k	2
35.55M	2.40442G	2.43975G	35.982M	2.404009G	2.439991G	500k	3
34.1M	2.4042G	2.4383G	35.882M	2.404009G	2.439891G	500k	4

802.11ac VHT40-BF_Nss2,(MCS0)_4TX

EBW

2437MHz

Ch Freq	2.437GHz
Span	100MHz
RBW	100kHz
VBW	300kHz
Sweep Time	100ms
Detector Type	Peak



Ch Freq	2.437GHz
Span	100MHz
RBW	500kHz
VBW	2MHz
Sweep Time	100ms
Detector Type	Sample



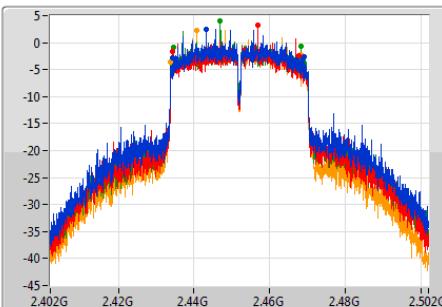
dB(Hz)	FI-6dB(Hz)	Fh-6dB(Hz)	OBW(Hz)	FI-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
35.05M	2.41945G	2.4545G	36.632M	2.418709G	2.455341G	500k	1
33.15M	2.4195G	2.45265G	36.832M	2.418609G	2.455441G	500k	2
34.95M	2.41955G	2.4545G	36.482M	2.418759G	2.455241G	500k	3
31.2M	2.4195G	2.4507G	36.132M	2.418859G	2.454991G	500k	4

802.11ac VHT40-BF_Nss2,(MCS0)_4TX

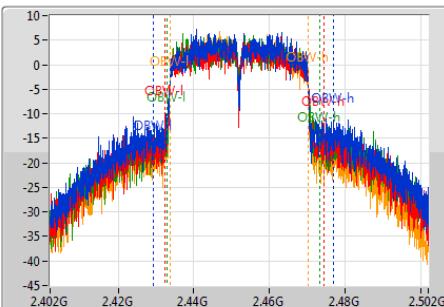
EBW

2452MHz

Ch Freq	2.452GHz
Span	100MHz
RBW	100kHz
VBW	300kHz
Sweep Time	100ms
Detector Type	Peak



Ch Freq	2.452GHz
Span	100MHz
RBW	500kHz
VBW	2MHz
Sweep Time	100ms
Detector Type	Sample



dB(Hz)	FI-6dB(Hz)	Fh-6dB(Hz)	OBW(Hz)	FI-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
34.65M	2.43445G	2.4691G	47.676M	2.429261G	2.476938G	500k	1
33.2M	2.43445G	2.46765G	41.879M	2.43241G	2.474289G	500k	2
33.75M	2.4345G	2.46825G	40.43M	2.43291G	2.473339G	500k	3
34.45M	2.43385G	2.4683G	36.482M	2.433659G	2.470141G	500k	4



For set 6 antenna / 4T1S

Summary

Mode	Max-N dB (Hz)	Max-OBW (Hz)	ITU-Code	Min-N dB (Hz)	Min-OBW (Hz)
802.11b_(1Mbps)_4TX	-	-	-	-	-
2.4-2.4835GHz	9.075M	15.442M	15M4G1D	7.125M	12.744M
802.11g_(6Mbps)_4TX	-	-	-	-	-
2.4-2.4835GHz	16.325M	17.016M	17M0D1D	15.35M	16.367M
802.11ac VHT20_Nss1,(MCS0)_4TX	-	-	-	-	-
2.4-2.4835GHz	17.575M	18.416M	18M4D1D	15.675M	17.591M
802.11ac VHT40_Nss1,(MCS0)_4TX	-	-	-	-	-
2.4-2.4835GHz	35.55M	36.032M	36M0D1D	31.3M	35.832M
802.11ac VHT20-BF_Nss1,(MCS0)_4TX	-	-	-	-	-
2.4-2.4835GHz	17.575M	36.982M	37M0D1D	15.9M	17.866M
802.11ac VHT40-BF_Nss1,(MCS0)_4TX	-	-	-	-	-
2.4-2.4835GHz	36M	56.672M	56M7D1D	27.15M	36.132M

Max-N dB = Maximum 6dB down bandwidth; Max-OBW = Maximum 99% occupied bandwidth;

Min-N dB = Minimum 6dB down bandwidth; Min-OBW = Minimum 99% occupied bandwidth;

Result

Mode	Result	Limit (Hz)	Port 1-N dB (Hz)	Port 1-OBW (Hz)	Port 2-N dB (Hz)	Port 2-OBW (Hz)	Port 3-N dB (Hz)	Port 3-OBW (Hz)	Port 4-N dB (Hz)	Port 4-OBW (Hz)
802.11b_(1Mbps)_4TX	-	-	-	-	-	-	-	-	-	-
2412MHz	Pass	500k	8.525M	13.093M	8.075M	13.143M	9.025M	13.418M	8.075M	13.143M
2437MHz	Pass	500k	9.05M	14.368M	9.075M	14.868M	7.575M	14.793M	8.575M	15.442M
2462MHz	Pass	500k	8.05M	13.018M	7.55M	12.744M	8.1M	13.043M	7.125M	12.994M
802.11g_(6Mbps)_4TX	-	-	-	-	-	-	-	-	-	-
2412MHz	Pass	500k	16.275M	16.417M	15.775M	16.367M	16M	16.392M	16.3M	16.417M
2437MHz	Pass	500k	16.275M	16.542M	15.35M	16.667M	16.325M	17.016M	16.275M	16.967M
2462MHz	Pass	500k	16.025M	16.392M	16.025M	16.392M	16.3M	16.417M	16.3M	16.442M
802.11ac VHT20_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-	-	-
2412MHz	Pass	500k	17.525M	17.616M	16.25M	17.591M	16.025M	17.591M	17.525M	17.616M
2437MHz	Pass	500k	17.575M	17.716M	15.675M	17.941M	17.175M	18.391M	17.55M	18.416M
2462MHz	Pass	500k	17.15M	17.641M	15.7M	17.591M	17.575M	17.616M	16.5M	17.666M
802.11ac VHT40_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-	-	-
2422MHz	Pass	500k	34.95M	35.932M	32.55M	35.932M	35.05M	35.982M	31.35M	35.832M
2437MHz	Pass	500k	35.55M	35.932M	31.3M	36.032M	34.45M	35.932M	34M	35.832M
2452MHz	Pass	500k	33.85M	35.932M	33.8M	35.982M	34.05M	35.932M	35M	35.832M
802.11ac VHT20-BF_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-	-	-
2412MHz	Pass	500k	17.525M	19.54M	16.9M	19.765M	17.175M	17.966M	17.475M	17.866M
2437MHz	Pass	500k	17.275M	36.282M	17.5M	36.982M	17.575M	33.733M	17.55M	26.587M
2462MHz	Pass	500k	17.55M	30.085M	15.9M	28.661M	16.5M	25.237M	17.2M	21.239M
802.11ac VHT40-BF_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-	-	-
2422MHz	Pass	500k	35.1M	36.732M	33.75M	37.231M	35.05M	36.532M	34.95M	36.132M
2437MHz	Pass	500k	35.25M	56.672M	27.15M	55.922M	36M	51.574M	35.2M	44.928M
2452MHz	Pass	500k	34.4M	47.526M	35.3M	40.83M	33.8M	39.13M	33.75M	36.382M

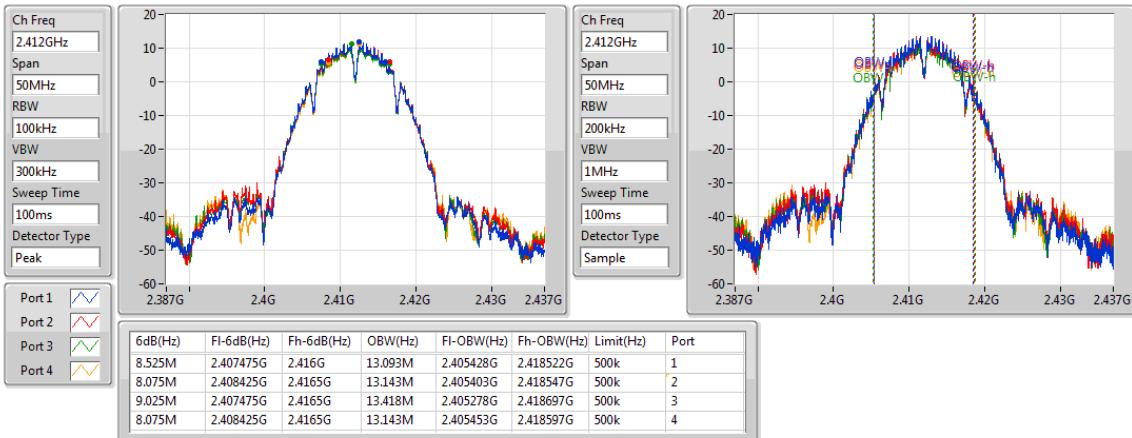
Port X-N dB = Port X 6dB down bandwidth; Port X-OBW = Port X 99% occupied bandwidth;



802.11b_(1Mbps)_4TX

EBW

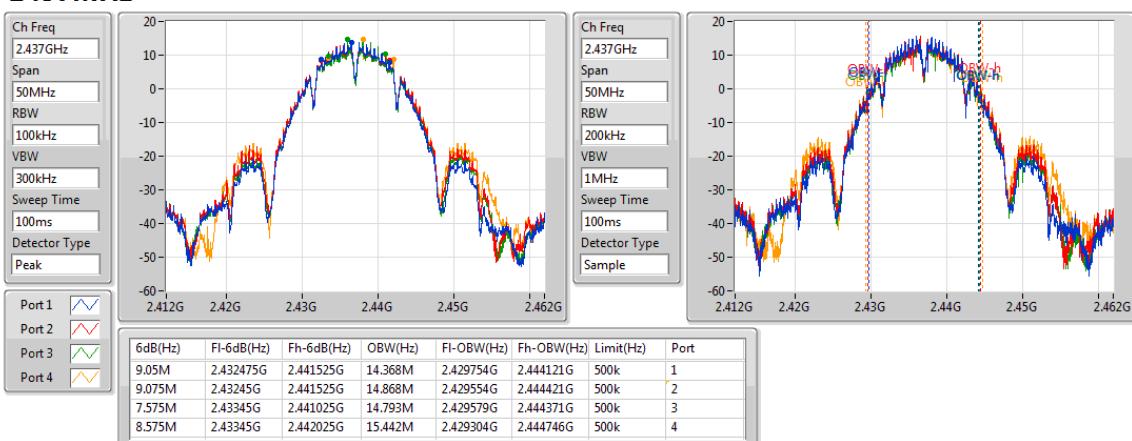
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802.11b_(1Mbps)_4TX

EBW

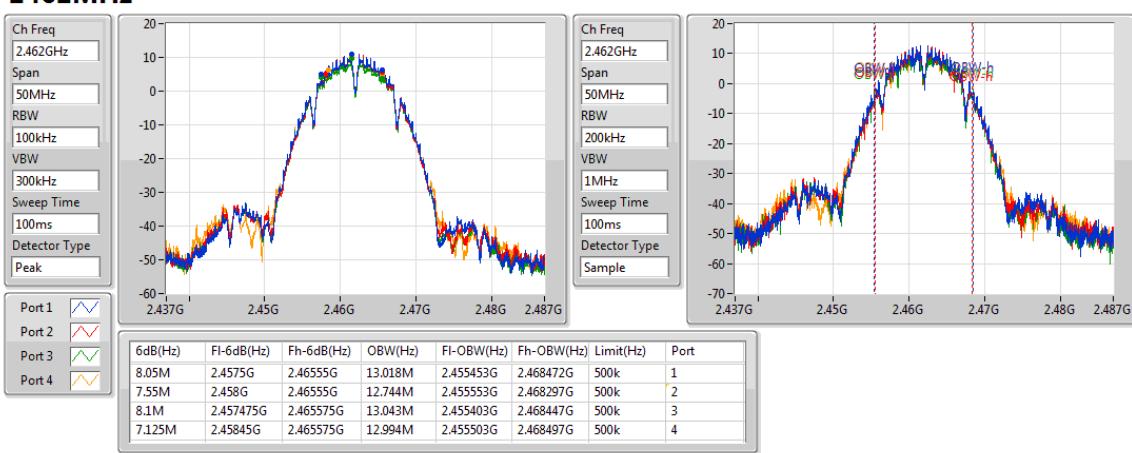
2437MHz



802.11b_(1Mbps)_4TX

EBW

2462MHz

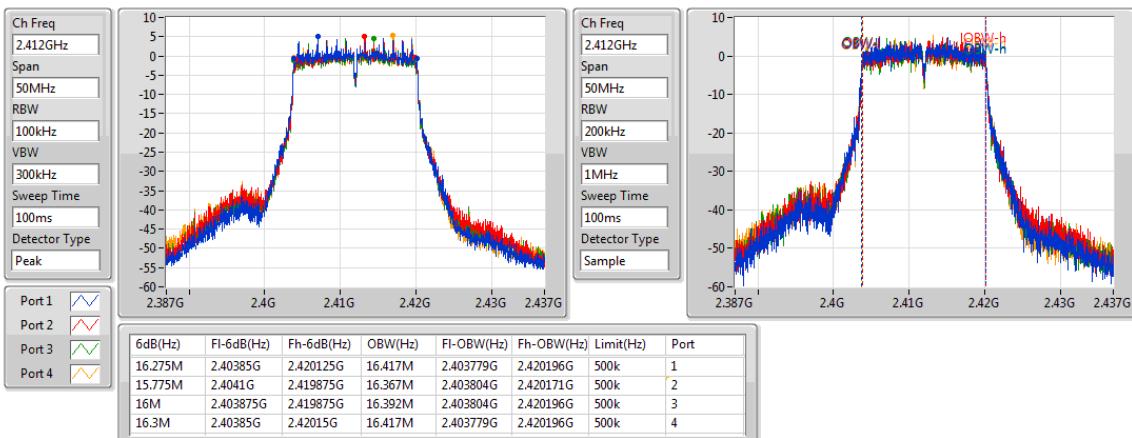




802.11g_(6Mbps)_4TX

EBW

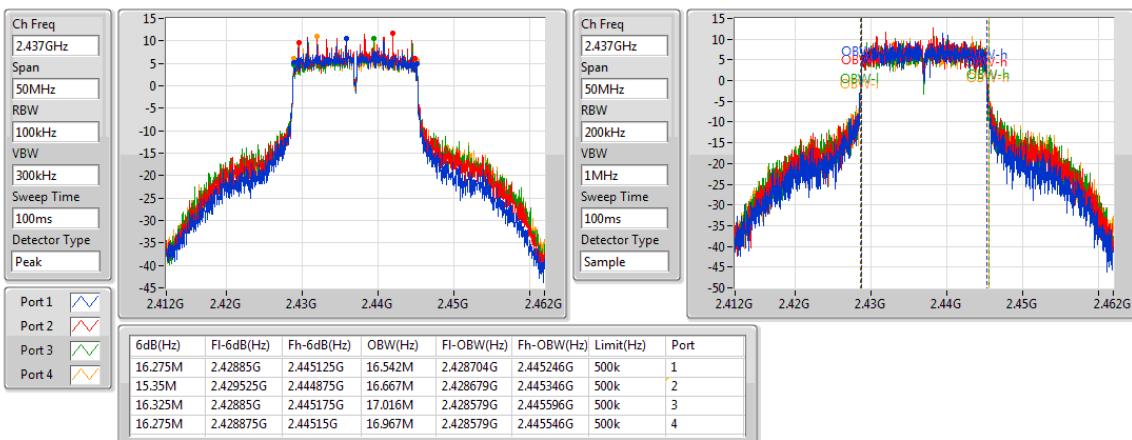
2412MHz



802.11g_(6Mbps)_4TX

EBW

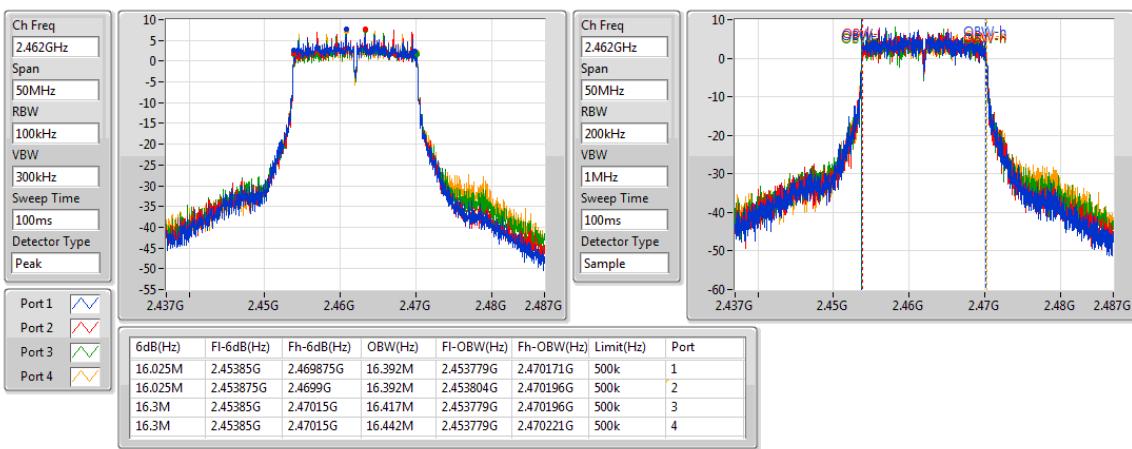
2437MHz



802.11g_(6Mbps)_4TX

EBW

2462MHz



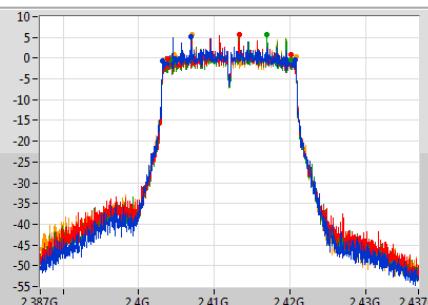


802.11ac VHT20_Nss1,(MCS0)_4TX

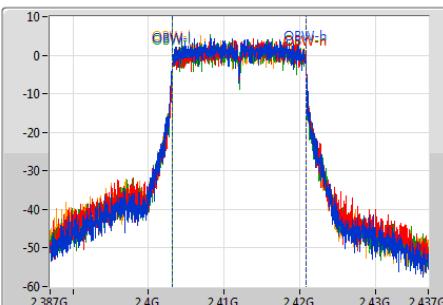
EBW

2412MHz

Ch Freq	2.412GHz
Span	50MHz
RBW	100kHz
VBW	300kHz
Sweep Time	100ms
Detector Type	Peak



Ch Freq	2.412GHz
Span	50MHz
RBW	200kHz
VBW	1MHz
Sweep Time	100ms
Detector Type	Sample



dB(Hz)	FI-6dB(Hz)	Fh-6dB(Hz)	OBW(Hz)	FI-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
17.525M	2.403225G	2.42075G	17.616M	2.403179G	2.420796G	500k	1
16.25M	2.403875G	2.420125G	17.591M	2.403204G	2.420796G	500k	2
16.025M	2.404125G	2.42015G	17.591M	2.403204G	2.420796G	500k	3
17.525M	2.40325G	2.420775G	17.616M	2.403179G	2.420796G	500k	4

802.11ac VHT20_Nss1,(MCS0)_4TX

EBW

2437MHz

Ch Freq	2.437GHz
Span	50MHz
RBW	100kHz
VBW	300kHz
Sweep Time	100ms
Detector Type	Peak



Ch Freq	2.437GHz
Span	50MHz
RBW	200kHz
VBW	1MHz
Sweep Time	100ms
Detector Type	Sample



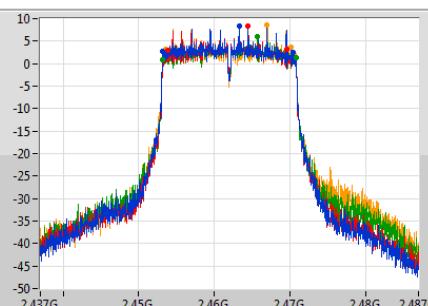
dB(Hz)	FI-6dB(Hz)	Fh-6dB(Hz)	OBW(Hz)	FI-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
17.575M	2.4282G	2.445775G	17.716M	2.428104G	2.445821G	500k	1
15.675M	2.42945G	2.445125G	17.941M	2.428029G	2.445971G	500k	2
17.175M	2.4286G	2.445775G	18.391M	2.42788G	2.44627G	500k	3
17.55M	2.428225G	2.445775G	18.416M	2.42798G	2.446395G	500k	4

802.11ac VHT20_Nss1,(MCS0)_4TX

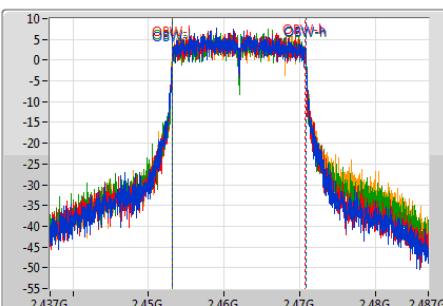
EBW

2462MHz

Ch Freq	2.462GHz
Span	50MHz
RBW	100kHz
VBW	300kHz
Sweep Time	100ms
Detector Type	Peak



Ch Freq	2.462GHz
Span	50MHz
RBW	200kHz
VBW	1MHz
Sweep Time	100ms
Detector Type	Sample



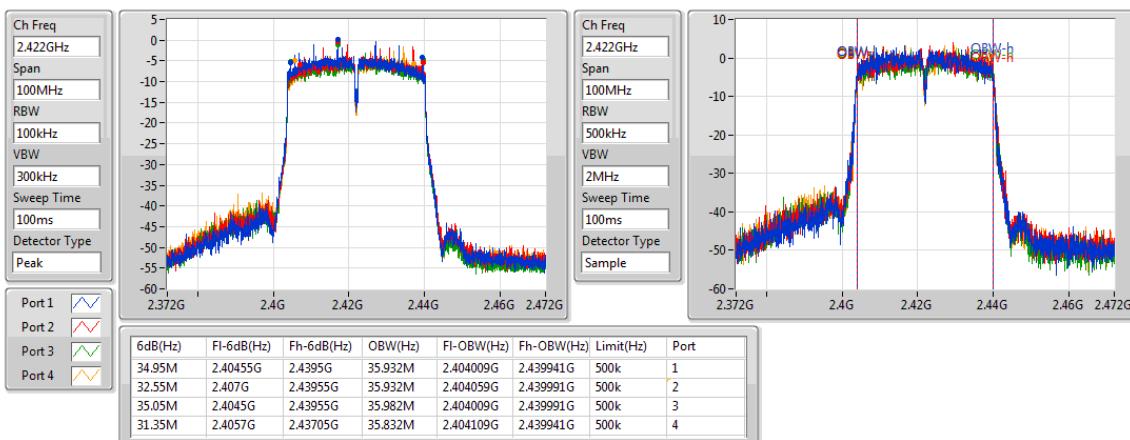
dB(Hz)	FI-6dB(Hz)	Fh-6dB(Hz)	OBW(Hz)	FI-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
17.15M	2.453225G	2.470375G	17.641M	2.453154G	2.470796G	500k	1
15.7M	2.453875G	2.469575G	17.591M	2.453179G	2.470771G	500k	2
17.575M	2.4532G	2.470775G	17.616M	2.453179G	2.470796G	500k	3
16.5M	2.453625G	2.470125G	17.666M	2.453154G	2.470821G	500k	4



802.11ac VHT40_Nss1,(MCS0)_4TX

EBW

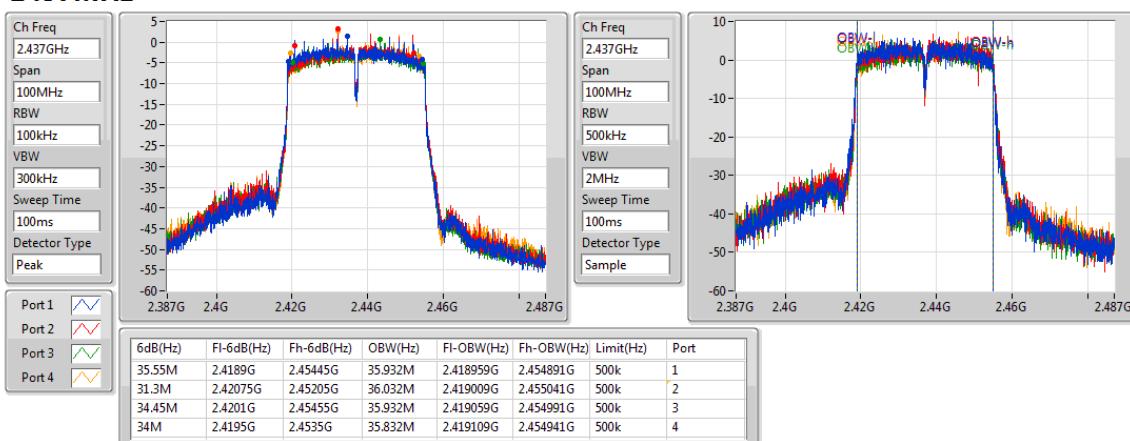
2422MHz



802.11ac VHT40_Nss1,(MCS0)_4TX

EBW

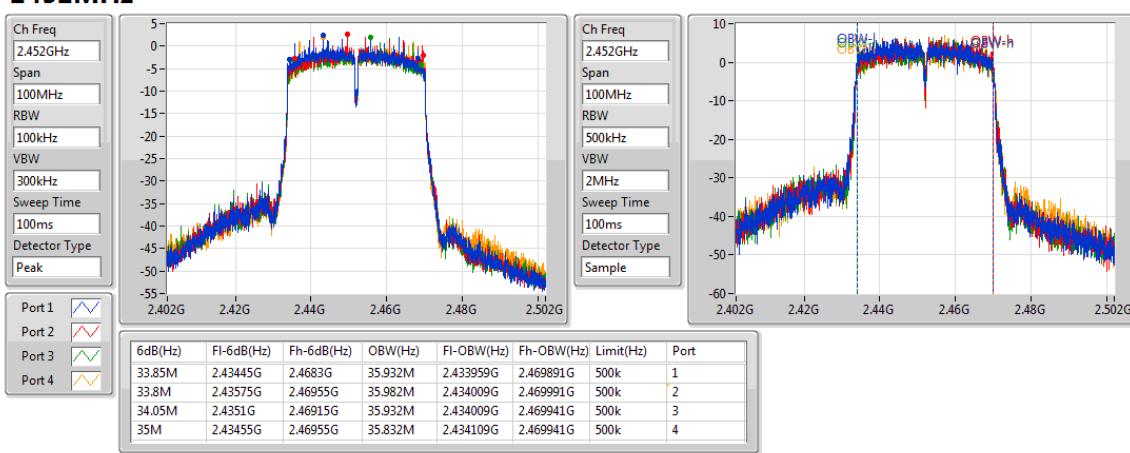
2437MHz



802.11ac VHT40_Nss1,(MCS0)_4TX

EBW

2452MHz





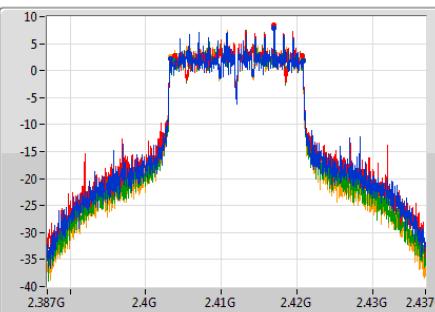
802.11ac VHT20-BF_Nss1,(MCS0)_4TX

EBW

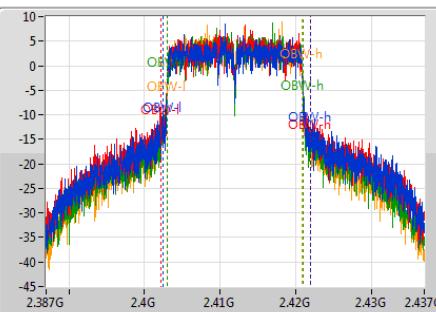
2412MHz

Ch Freq
2.412GHz
Span
50MHz
RBW
100kHz
VBW
300kHz
Sweep Time
100ms
Detector Type
Peak

Port 1 Port 2 Port 3 Port 4



Ch Freq
2.412GHz
Span
50MHz
RBW
200kHz
VBW
1MHz
Sweep Time
100ms
Detector Type
Sample



6dB(Hz)	FI-6dB(Hz)	Fh-6dB(Hz)	OBW(Hz)	FI-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
17.525M	2.403275G	2.4208G	19.54M	2.40248G	2.42202G	500k	1
16.9M	2.4038G	2.4207G	19.765M	2.402155G	2.42192G	500k	2
17.175M	2.4036G	2.420775G	17.966M	2.403029G	2.420996G	500k	3
17.475M	2.40325G	2.420725G	17.866M	2.403029G	2.420896G	500k	4

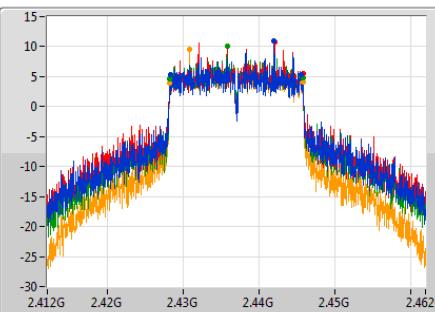
802.11ac VHT20-BF_Nss1,(MCS0)_4TX

EBW

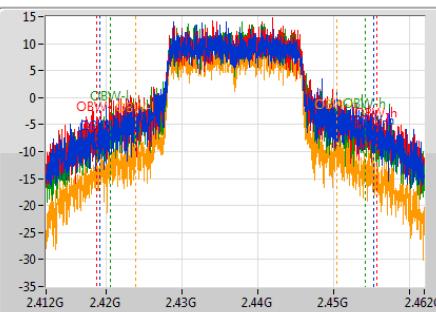
2437MHz

Ch Freq
2.437GHz
Span
50MHz
RBW
100kHz
VBW
300kHz
Sweep Time
100ms
Detector Type
Peak

Port 1 Port 2 Port 3 Port 4



Ch Freq
2.437GHz
Span
50MHz
RBW
300kHz
VBW
1MHz
Sweep Time
100ms
Detector Type
Sample



6dB(Hz)	FI-6dB(Hz)	Fh-6dB(Hz)	OBW(Hz)	FI-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
17.275M	2.42825G	2.445525G	36.282M	2.419059G	2.455341G	500k	1
17.5M	2.428275G	2.445775G	36.982M	2.418709G	2.455691G	500k	2
17.575M	2.428225G	2.4458G	33.733M	2.420458G	2.454191G	500k	3
17.55M	2.428225G	2.445775G	26.587M	2.423857G	2.450443G	500k	4

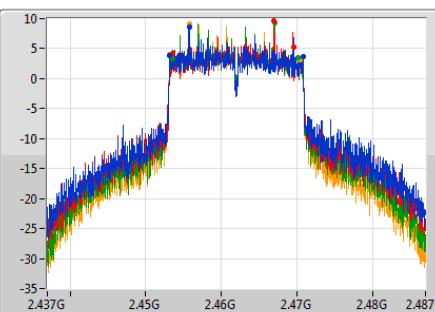
802.11ac VHT20-BF_Nss1,(MCS0)_4TX

EBW

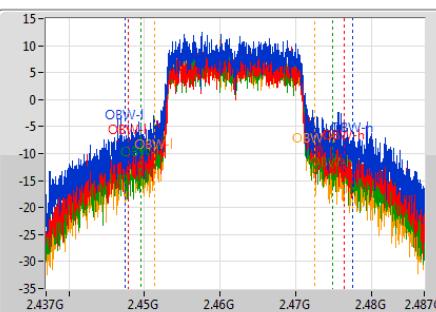
2462MHz

Ch Freq
2.462GHz
Span
50MHz
RBW
100kHz
VBW
300kHz
Sweep Time
100ms
Detector Type
Peak

Port 1 Port 2 Port 3 Port 4



Ch Freq
2.462GHz
Span
50MHz
RBW
300kHz
VBW
1MHz
Sweep Time
100ms
Detector Type
Sample



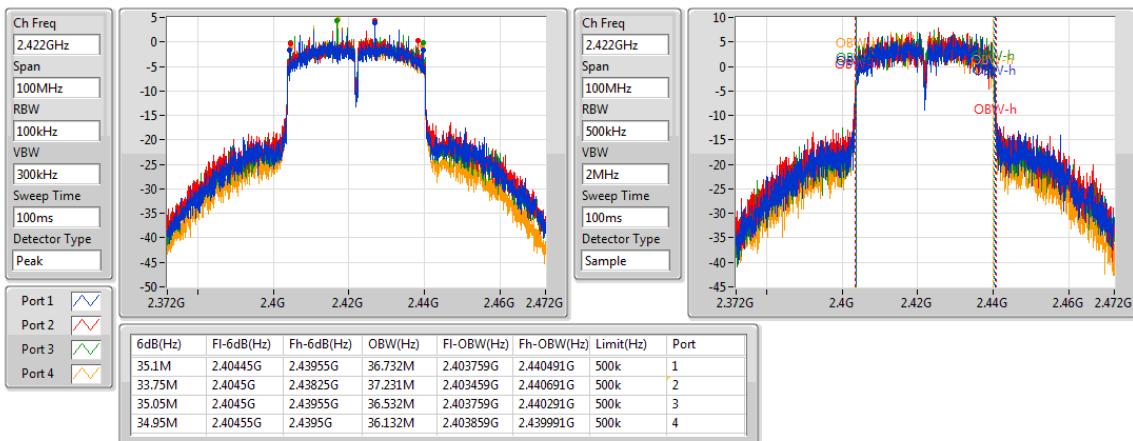
6dB(Hz)	FI-6dB(Hz)	Fh-6dB(Hz)	OBW(Hz)	FI-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
17.55M	2.453225G	2.470775G	30.085M	2.447382G	2.477467G	500k	1
15.9M	2.453625G	2.469525G	28.661M	2.447807G	2.476468G	500k	2
16.5M	2.453625G	2.470125G	25.237M	2.449581G	2.474819G	500k	3
17.2M	2.453225G	2.470425G	21.239M	2.45133G	2.47257G	500k	4



802.11ac VHT40-BF_Nss1,(MCS0)_4TX

EBW

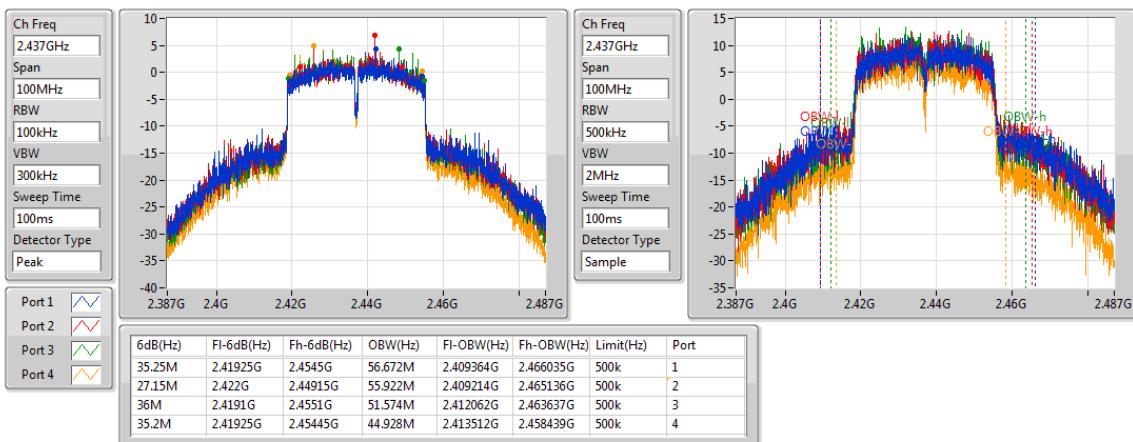
2422MHz



802.11ac VHT40-BF_Nss1,(MCS0)_4TX

EBW

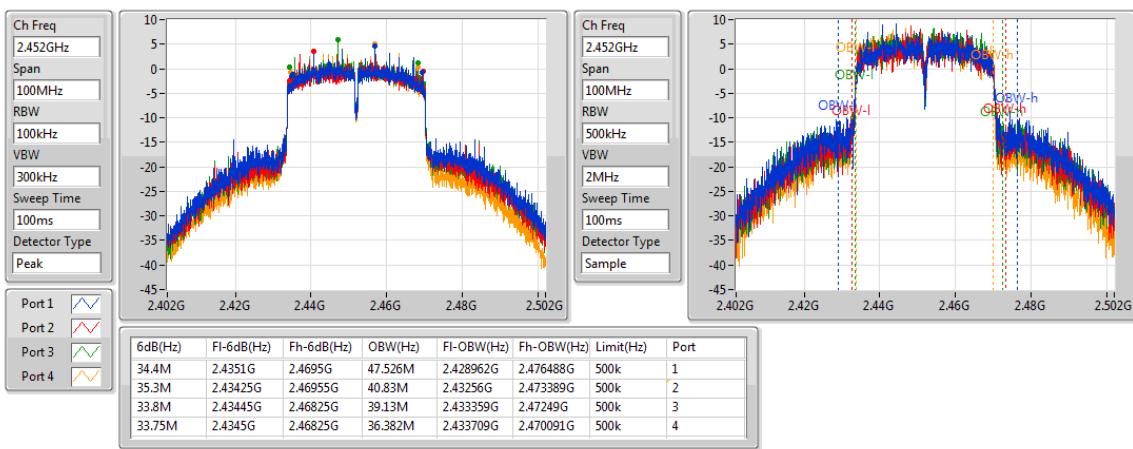
2437MHz



802.11ac VHT40-BF_Nss1,(MCS0)_4TX

EBW

2452MHz





For set 6 antenna / 4T2S

Summary

Mode	Max-N dB (Hz)	Max-OBW (Hz)	ITU-Code	Min-N dB (Hz)	Min-OBW (Hz)
802.11ac VHT20-BF_Nss2,(MCS0)_4TX	-	-	-	-	-
2.4-2.4835GHz	17.775M	39.73M	39M7D1D	17.525M	17.866M
802.11ac VHT40-BF_Nss2,(MCS0)_4TX	-	-	-	-	-
2.4-2.4835GHz	35.65M	70.065M	70M1D1D	25.05M	36.132M

Max-N dB = Maximum 6dB down bandwidth; **Max-OBW** = Maximum 99% occupied bandwidth;
Min-N dB = Minimum 6dB down bandwidth; **Min-OBW** = Minimum 99% occupied bandwidth;

Result

Mode	Result	Limit (Hz)	Port 1-N dB (Hz)	Port 1-OBW (Hz)	Port 2-N dB (Hz)	Port 2-OBW (Hz)	Port 3-N dB (Hz)	Port 3-OBW (Hz)	Port 4-N dB (Hz)	Port 4-OBW (Hz)
802.11ac VHT20-BF_Nss2,(MCS0)_4TX	-	-	-	-	-	-	-	-	-	-
2412MHz	Pass	500k	17.625M	21.089M	17.625M	20.615M	17.575M	18.516M	17.575M	17.866M
2437MHz	Pass	500k	17.625M	39.38M	17.725M	39.73M	17.775M	38.906M	17.55M	28.561M
2462MHz	Pass	500k	17.525M	38.831M	17.6M	39.505M	17.6M	38.856M	17.55M	29.56M
802.11ac VHT40-BF_Nss2,(MCS0)_4TX	-	-	-	-	-	-	-	-	-	-
2422MHz	Pass	500k	32.55M	36.732M	32.5M	37.031M	32.1M	36.632M	33.8M	36.132M
2437MHz	Pass	500k	34.65M	70.065M	33.45M	67.966M	25.05M	65.667M	32.5M	55.522M
2452MHz	Pass	500k	34.05M	47.326M	31.2M	40.43M	35.65M	39.68M	32.55M	36.432M

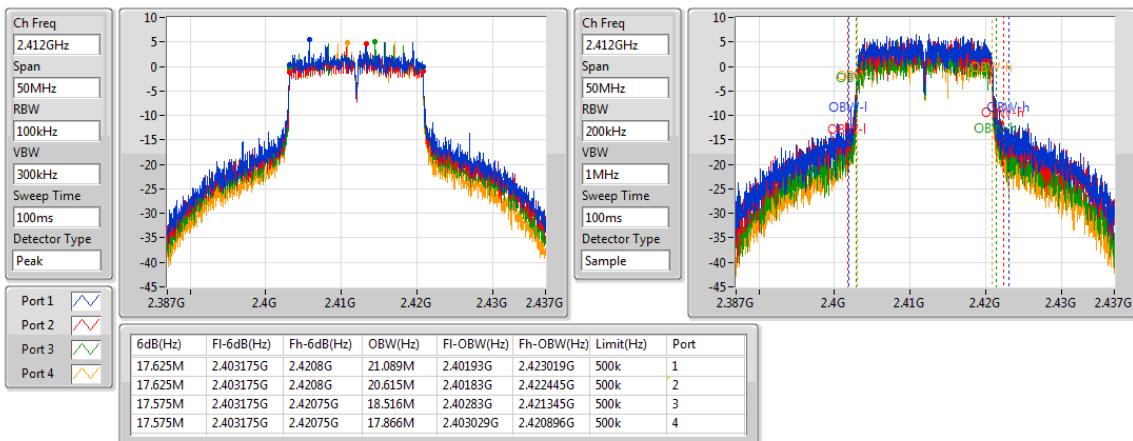
Port X-N dB = Port X 6dB down bandwidth; **Port X-OBW** = Port X 99% occupied bandwidth;



802.11ac VHT20-BF_Nss2,(MCS0)_4TX

EBW

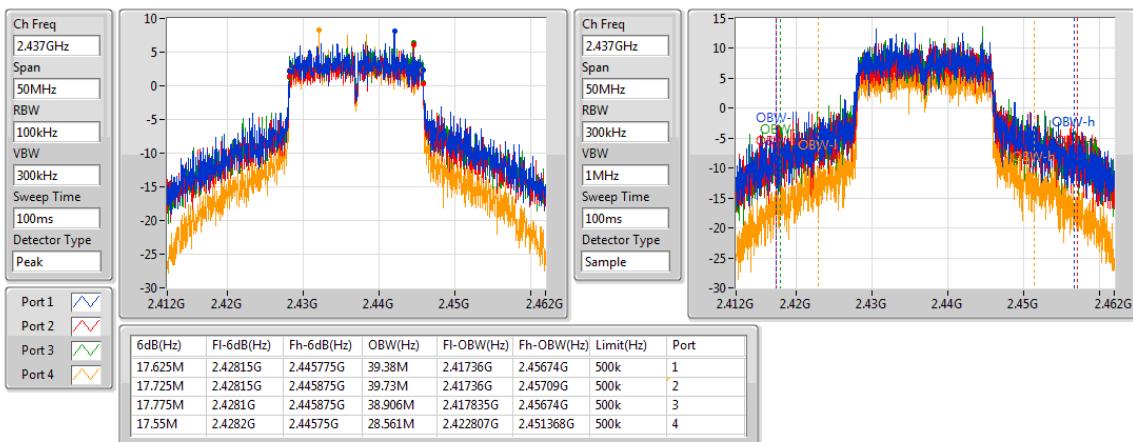
2412MHz



802.11ac VHT20-BF_Nss2,(MCS0)_4TX

EBW

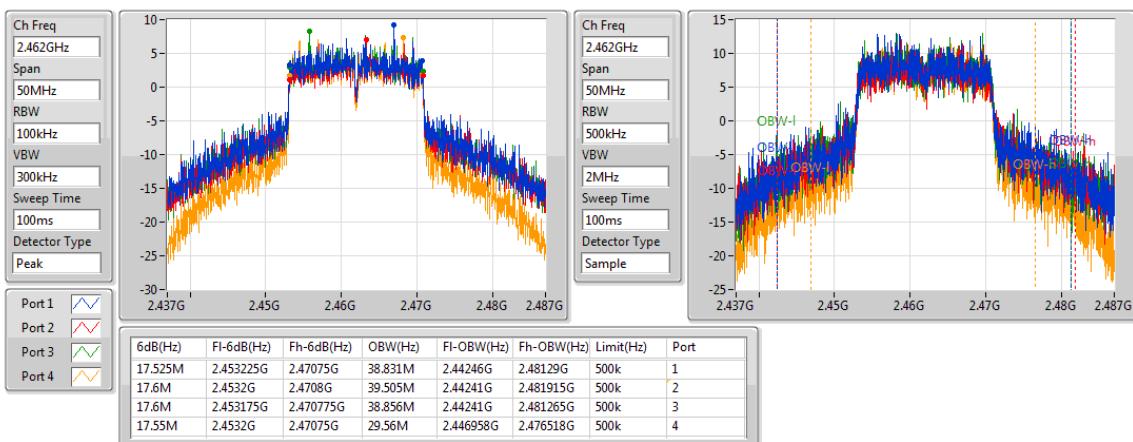
2437MHz



802.11ac VHT20-BF_Nss2,(MCS0)_4TX

EBW

2462MHz





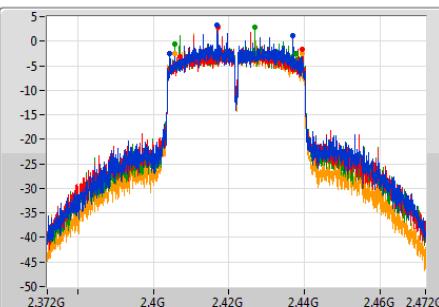
802.11ac VHT40-BF_Nss2,(MCS0)_4TX

EBW

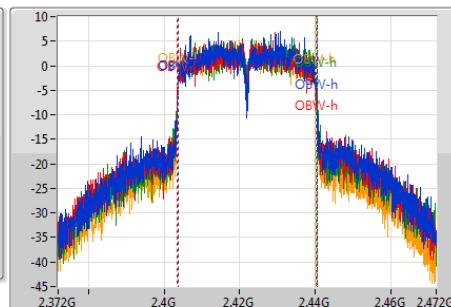
2422MHz

Ch Freq	2.422GHz
Span	100MHz
RBW	100kHz
VBW	300kHz
Sweep Time	100ms
Detector Type	Peak

Port 1 Port 2 Port 3 Port 4



Ch Freq	2.422GHz
Span	100MHz
RBW	500kHz
VBW	2MHz
Sweep Time	100ms
Detector Type	Sample



dB(Hz)	FI-6dB(Hz)	Fh-6dB(Hz)	OBW(Hz)	FI-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
32.55M	2.40445G	2.437G	36.732M	2.403709G	2.440441G	500k	1
32.5M	2.407G	2.4395G	37.031M	2.403609G	2.440641G	500k	2
32.1M	2.40575G	2.43785G	36.632M	2.403709G	2.440341G	500k	3
33.8M	2.4057G	2.4395G	36.132M	2.403859G	2.439991G	500k	4

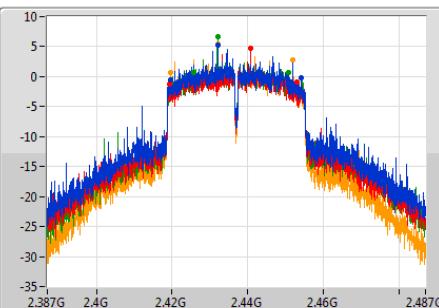
802.11ac VHT40-BF_Nss2,(MCS0)_4TX

EBW

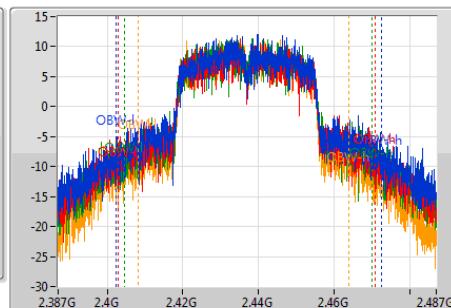
2437MHz

Ch Freq	2.437GHz
Span	100MHz
RBW	100kHz
VBW	300kHz
Sweep Time	100ms
Detector Type	Peak

Port 1 Port 2 Port 3 Port 4



Ch Freq	2.437GHz
Span	100MHz
RBW	1MHz
VBW	3MHz
Sweep Time	100ms
Detector Type	Sample



dB(Hz)	FI-6dB(Hz)	Fh-6dB(Hz)	OBW(Hz)	FI-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
34.65M	2.41955G	2.4542G	70.065M	2.402367G	2.472432G	500k	1
33.45M	2.41945G	2.4529G	67.966M	2.402767G	2.470733G	500k	2
25.05M	2.4257G	2.45075G	65.667M	2.404466G	2.470133G	500k	3
32.5M	2.4195G	2.452G	55.522M	2.408264G	2.463787G	500k	4

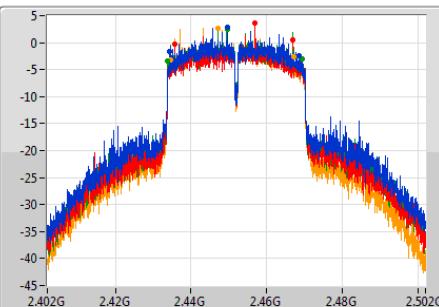
802.11ac VHT40-BF_Nss2,(MCS0)_4TX

EBW

2452MHz

Ch Freq	2.452GHz
Span	100MHz
RBW	100kHz
VBW	300kHz
Sweep Time	100ms
Detector Type	Peak

Port 1 Port 2 Port 3 Port 4



Ch Freq	2.452GHz
Span	100MHz
RBW	500kHz
VBW	2MHz
Sweep Time	100ms
Detector Type	Sample



dB(Hz)	FI-6dB(Hz)	Fh-6dB(Hz)	OBW(Hz)	FI-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
34.05M	2.43445G	2.4685G	47.326M	2.429611G	2.476938G	500k	1
31.2M	2.43575G	2.46695G	40.43M	2.43271G	2.473139G	500k	2
35.65M	2.43385G	2.4695G	39.68M	2.43296G	2.47264G	500k	3
32.55M	2.4345G	2.46705G	36.432M	2.433709G	2.470141G	500k	4

For Radio 3

SPORTON INTERNATIONAL INC.

TEL : 886-3-3273456

FAX : 886-3-3270973

FCC ID: UDX-60064010

Page No. : 86 of 733

Report Version : Rev. 02

Issued Date : Oct. 25, 2017



For set 1 antenna / 4T1S

Summary

Mode	Max-N dB (Hz)	Max-OBW (Hz)	ITU-Code	Min-N dB (Hz)	Min-OBW (Hz)
802.11b_(1Mbps)_1TX	-	-	-	-	-
2.4-2.4835GHz	8.55M	15.142M	15M1G1D	6.05M	12.744M
802.11g_(6Mbps)_1TX	-	-	-	-	-
2.4-2.4835GHz	16.3M	19.64M	19M6D1D	15.525M	16.542M
802.11ac VHT20_Nss1,(MCS0)_1TX	-	-	-	-	-
2.4-2.4835GHz	16.525M	20.64M	20M6D1D	15.775M	16.542M
802.11ac VHT40_Nss1,(MCS0)_1TX	-	-	-	-	-
2.4-2.4835GHz	35.7M	36.232M	36M2D1D	35.35M	36.132M

Max-N dB = Maximum 6dB down bandwidth; **Max-OBW** = Maximum 99% occupied bandwidth;**Min-N dB** = Minimum 6dB down bandwidth; **Min-OBW** = Minimum 99% occupied bandwidth;

Result

Mode	Result	Limit (Hz)	Port 1-N dB (Hz)	Port 1-OBW (Hz)
802.11b_(1Mbps)_1TX	-	-	-	-
2412MHz	Pass	500k	6.05M	12.744M
2437MHz	Pass	500k	8.55M	15.142M
2462MHz	Pass	500k	7.1M	12.794M
802.11g_(6Mbps)_1TX	-	-	-	-
2412MHz	Pass	500k	15.7M	16.542M
2437MHz	Pass	500k	15.525M	19.64M
2462MHz	Pass	500k	16.3M	16.567M
802.11ac VHT20_Nss1,(MCS0)_1TX	-	-	-	-
2412MHz	Pass	500k	16.525M	17.766M
2437MHz	Pass	500k	16.5M	20.64M
2462MHz	Pass	500k	15.775M	16.542M
802.11ac VHT40_Nss1,(MCS0)_1TX	-	-	-	-
2422MHz	Pass	500k	35.7M	36.132M
2437MHz	Pass	500k	35.35M	36.182M
2452MHz	Pass	500k	35.65M	36.232M

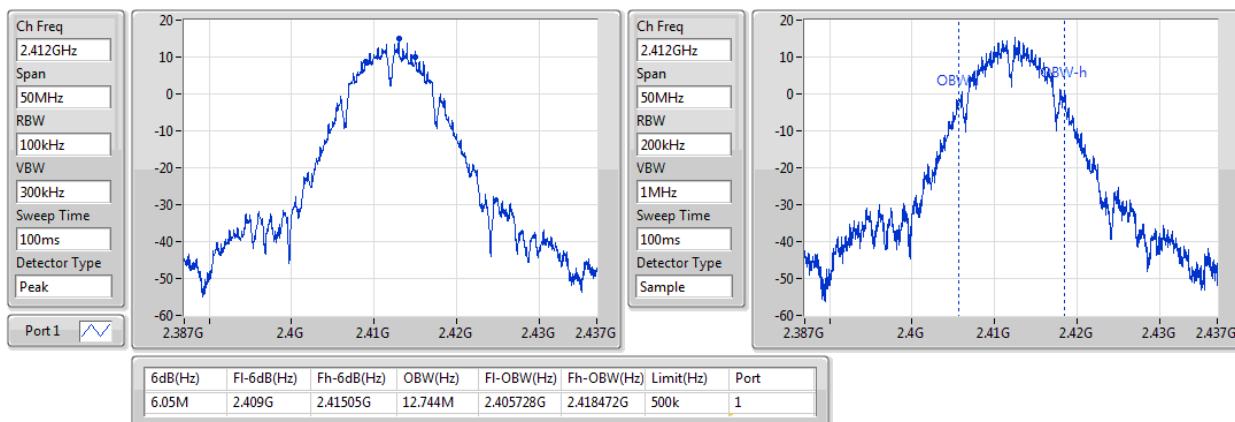
Port X-N dB = Port X 6dB down bandwidth; **Port X-OBW** = Port X 99% occupied bandwidth;



802.11b_(1Mbps)_1TX

EBW

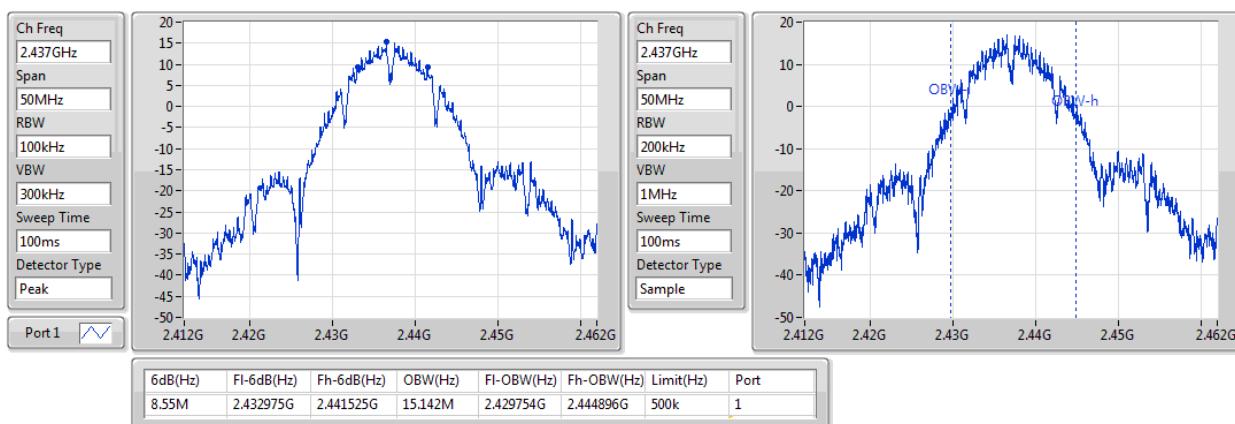
2412MHz



802.11b_(1Mbps)_1TX

EBW

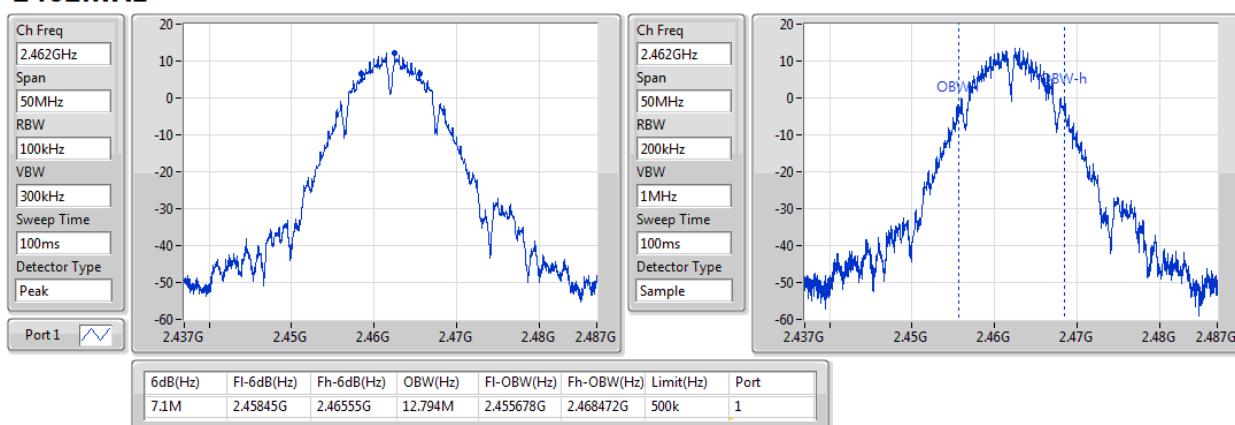
2437MHz

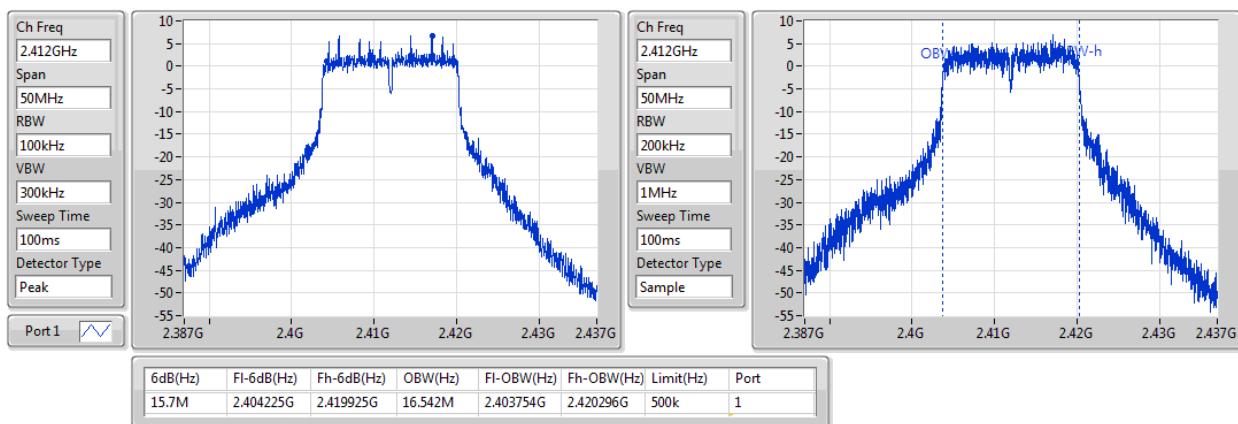
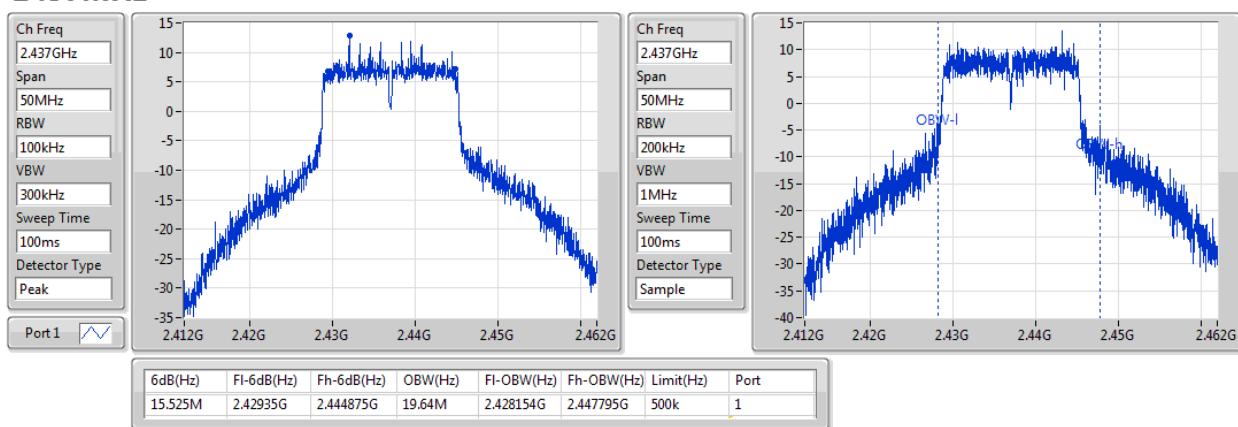
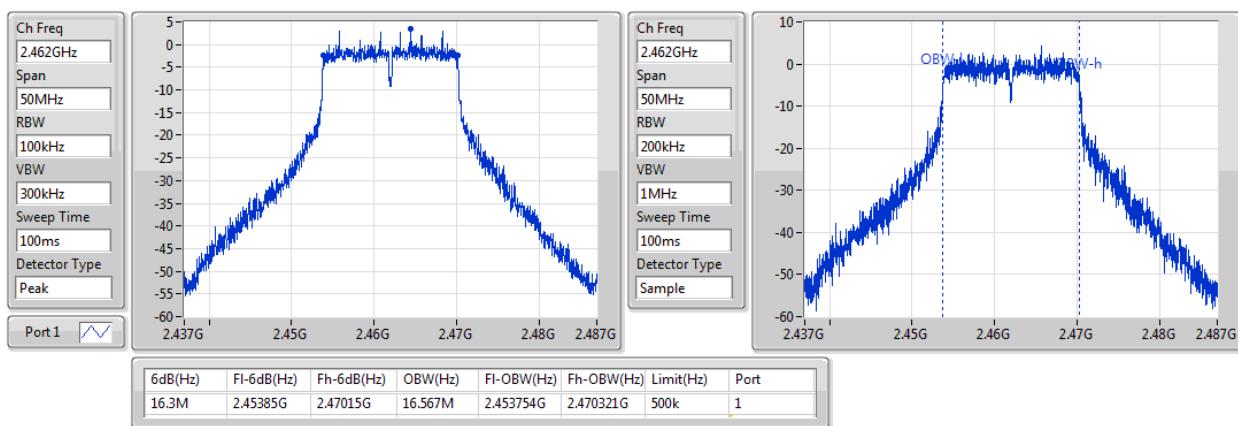


802.11b_(1Mbps)_1TX

EBW

2462MHz



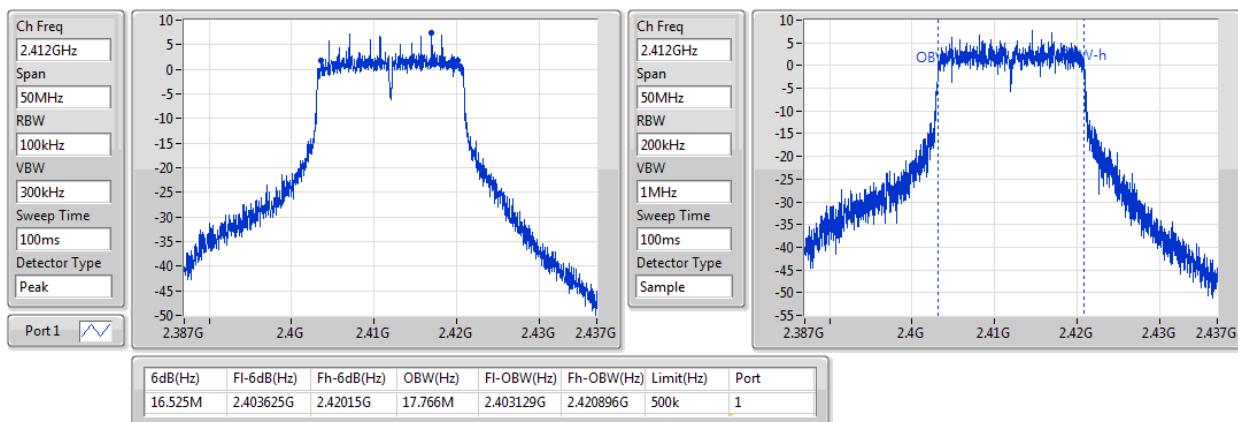
**802.11g_(6Mbps)_1TX****EBW****2412MHz****802.11g_(6Mbps)_1TX****EBW****2437MHz****802.11g_(6Mbps)_1TX****EBW****2462MHz**



802.11ac VHT20_Nss1,(MCS0)_1TX

EBW

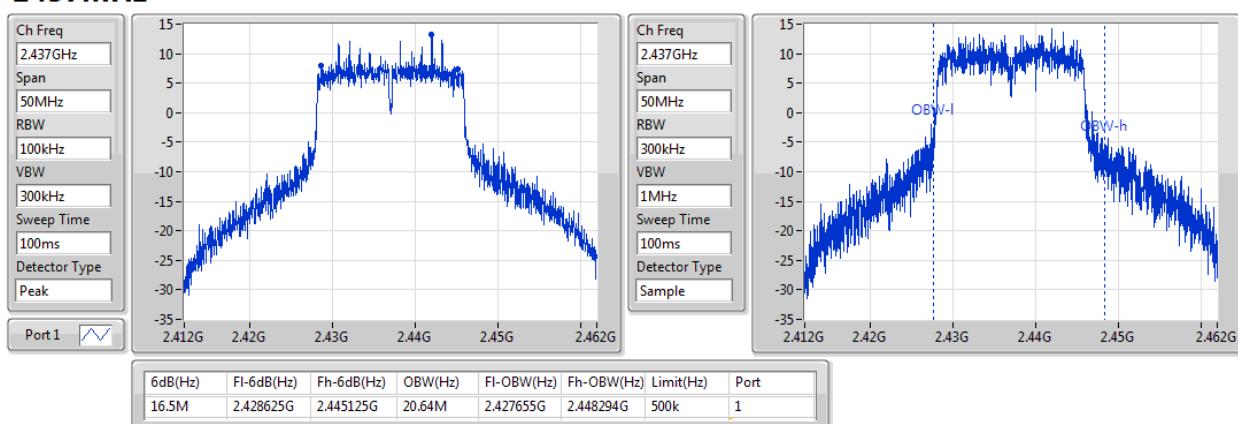
2412MHz



802.11ac VHT20_Nss1,(MCS0)_1TX

EBW

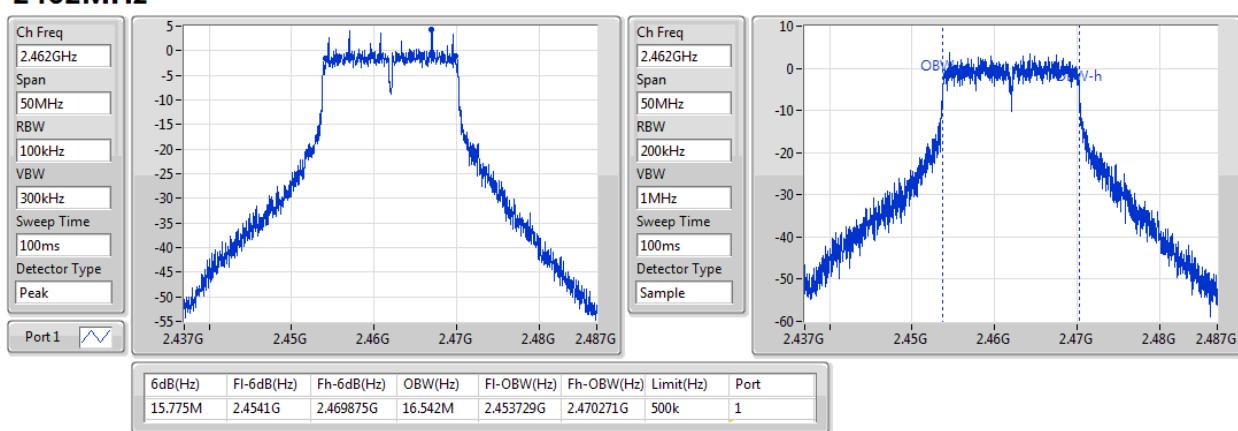
2437MHz

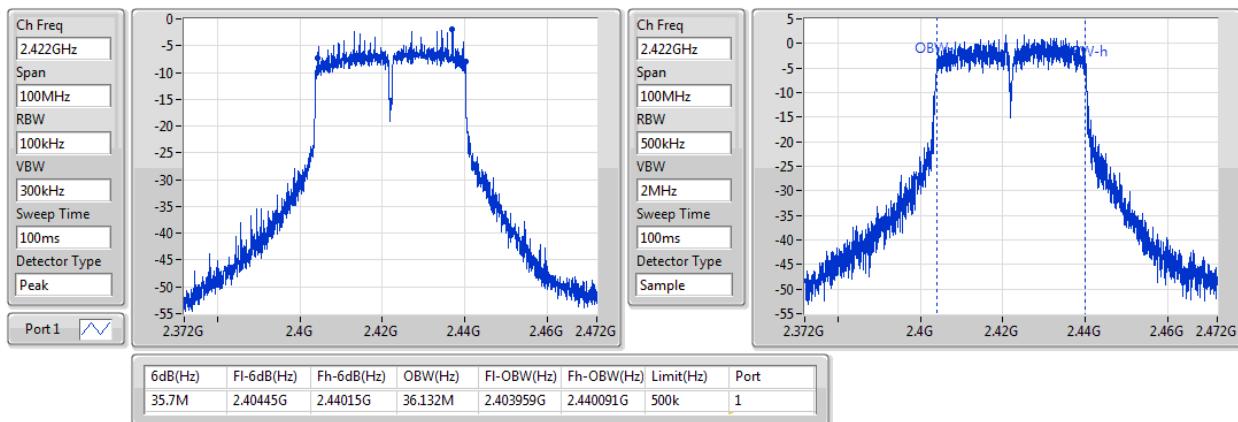
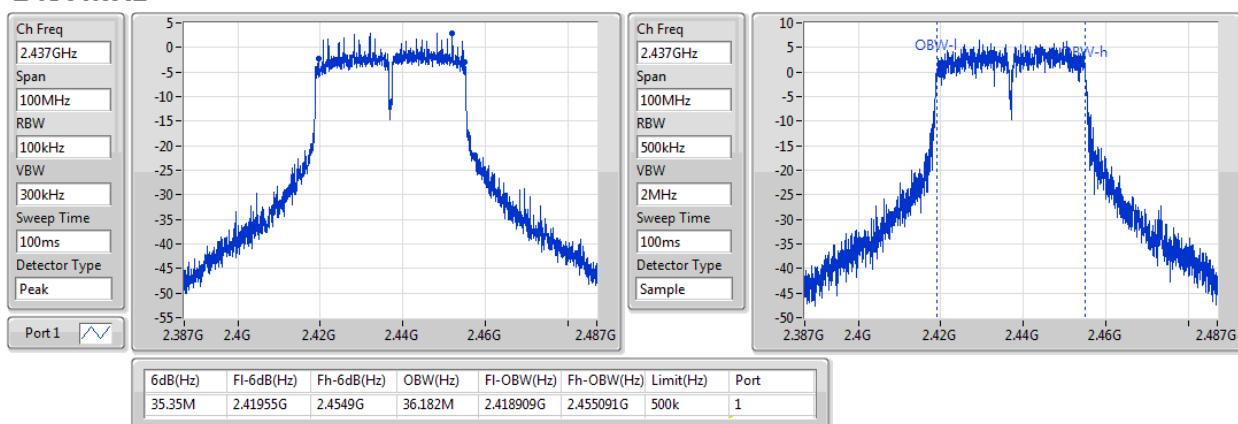
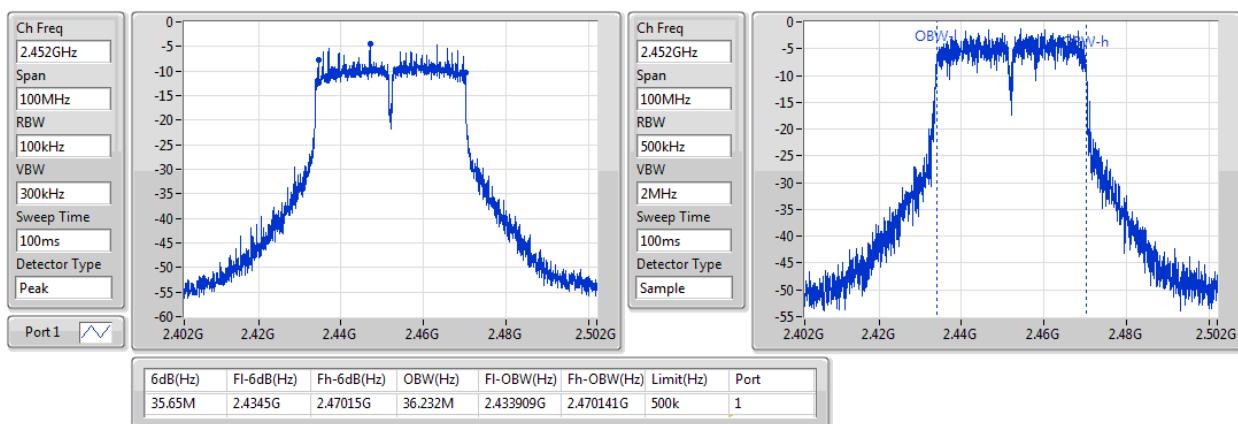


802.11ac VHT20_Nss1,(MCS0)_1TX

EBW

2462MHz



**802.11ac VHT40_Nss1,(MCS0)_1TX****EBW****2422MHz****802.11ac VHT40_Nss1,(MCS0)_1TX****EBW****2437MHz****802.11ac VHT40_Nss1,(MCS0)_1TX****EBW****2452MHz**



For set 3 antenna / 4T1S

Summary

Mode	Max-N dB (Hz)	Max-OBW (Hz)	ITU-Code	Min-N dB (Hz)	Min-OBW (Hz)
802.11b_(1Mbps)_1TX	-	-	-	-	-
2.4-2.4835GHz	7.575M	14.318M	14M3G1D	7.1M	12.019M
802.11g_(6Mbps)_1TX	-	-	-	-	-
2.4-2.4835GHz	16.275M	16.542M	16M5D1D	15.8M	16.517M
802.11ac VHT20_Nss1,(MCS0)_1TX	-	-	-	-	-
2.4-2.4835GHz	16.85M	17.716M	17M7D1D	15.9M	16.517M
802.11ac VHT40_Nss1,(MCS0)_1TX	-	-	-	-	-
2.4-2.4835GHz	35.45M	36.232M	36M2D1D	34M	36.132M

Max-N dB = Maximum 6dB down bandwidth; **Max-OBW** = Maximum 99% occupied bandwidth;**Min-N dB** = Minimum 6dB down bandwidth; **Min-OBW** = Minimum 99% occupied bandwidth;

Result

Mode	Result	Limit (Hz)	Port 1-N dB (Hz)	Port 1-OBW (Hz)
802.11b_(1Mbps)_1TX	-	-	-	-
2412MHz	Pass	500k	7.1M	12.019M
2437MHz	Pass	500k	7.1M	14.318M
2462MHz	Pass	500k	7.575M	12.319M
802.11g_(6Mbps)_1TX	-	-	-	-
2412MHz	Pass	500k	16.275M	16.542M
2437MHz	Pass	500k	16M	16.517M
2462MHz	Pass	500k	15.8M	16.542M
802.11ac VHT20_Nss1,(MCS0)_1TX	-	-	-	-
2412MHz	Pass	500k	16.75M	17.691M
2437MHz	Pass	500k	16.85M	17.716M
2462MHz	Pass	500k	15.9M	16.517M
802.11ac VHT40_Nss1,(MCS0)_1TX	-	-	-	-
2422MHz	Pass	500k	35.1M	36.132M
2437MHz	Pass	500k	35.45M	36.232M
2452MHz	Pass	500k	34M	36.232M

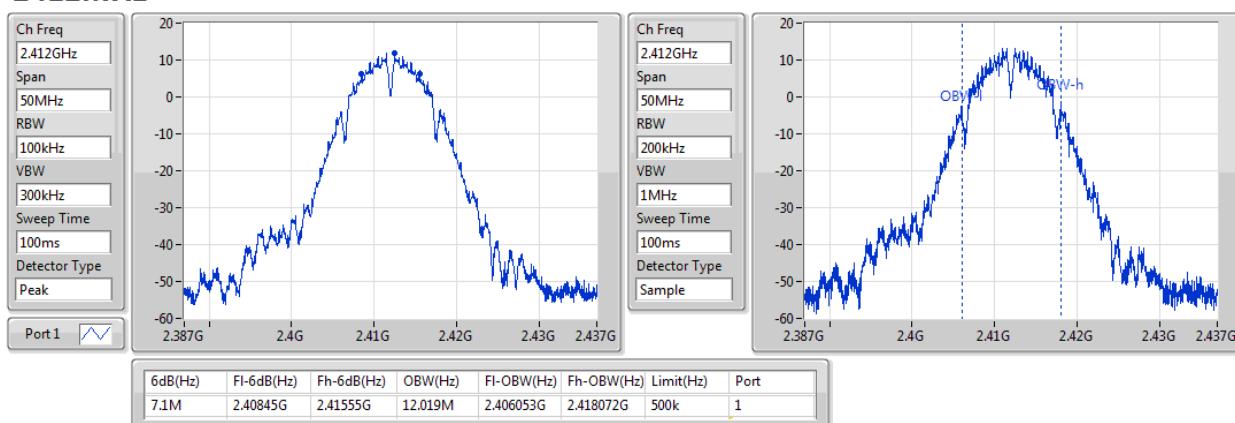
Port X-N dB = Port X 6dB down bandwidth; **Port X-OBW** = Port X 99% occupied bandwidth;



802.11b_(1Mbps)_1TX

EBW

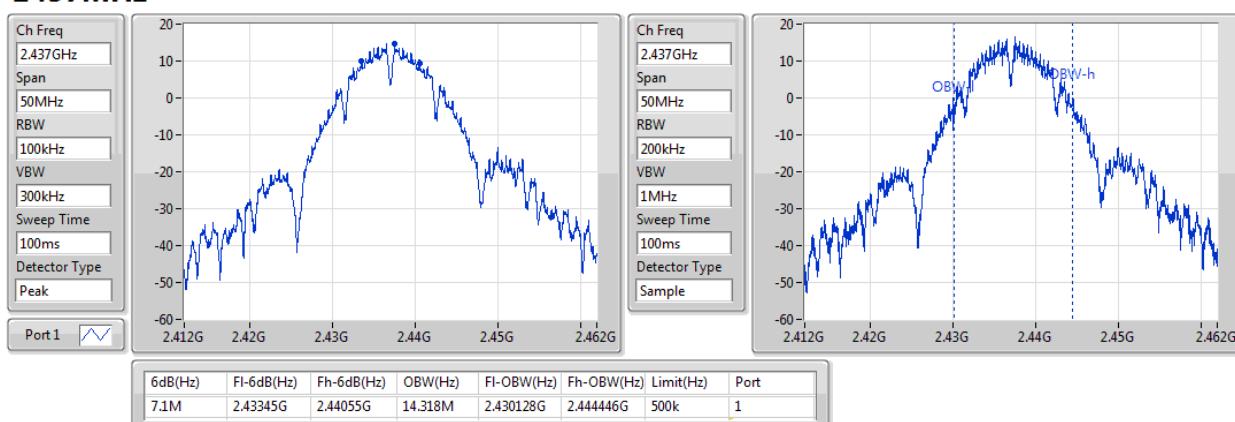
2412MHz



802.11b_(1Mbps)_1TX

EBW

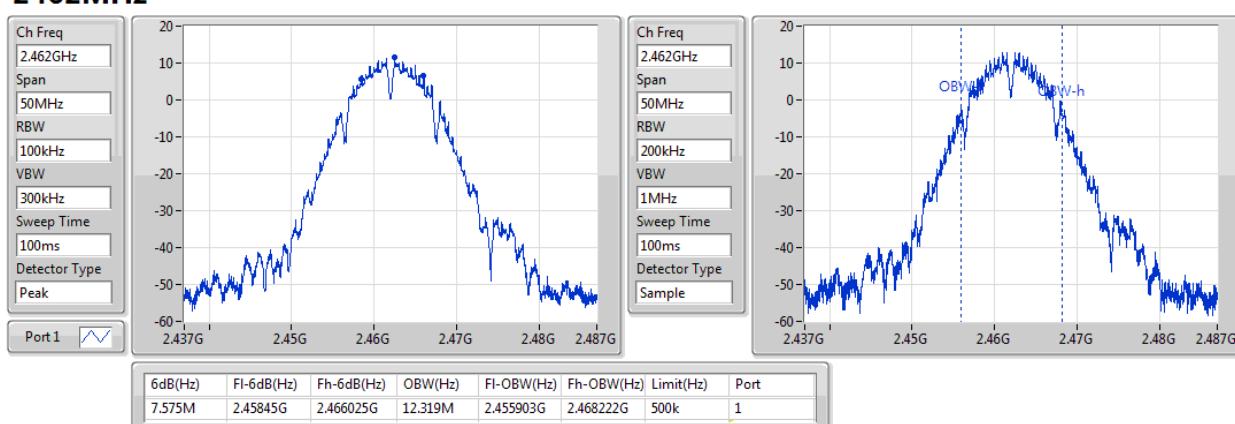
2437MHz



802.11b_(1Mbps)_1TX

EBW

2462MHz

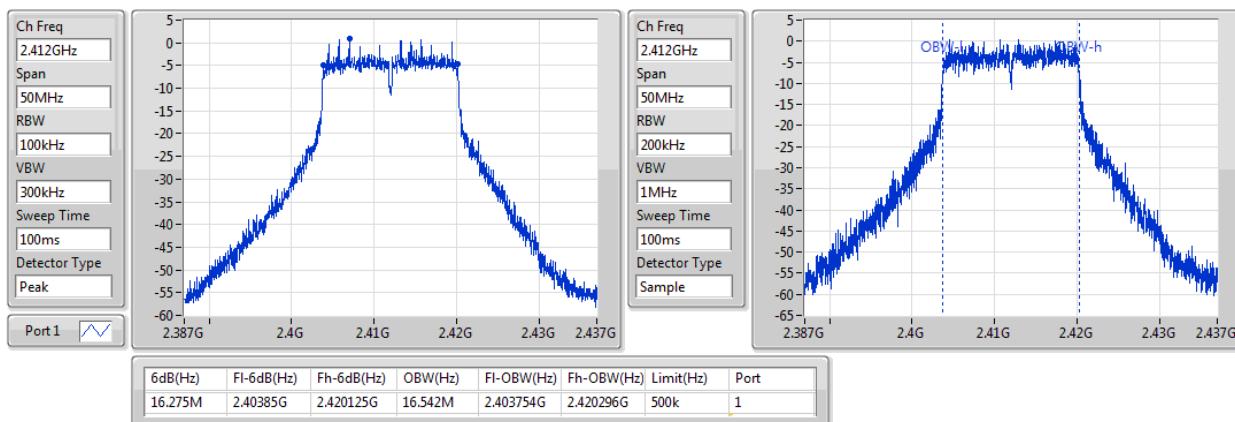




802.11g_(6Mbps)_1TX

EBW

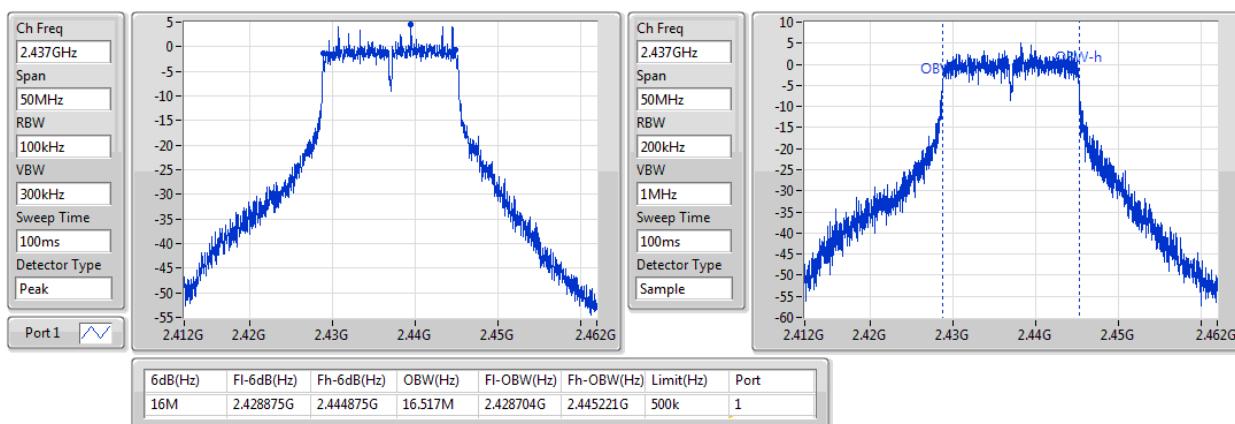
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802.11g_(6Mbps)_1TX

EBW

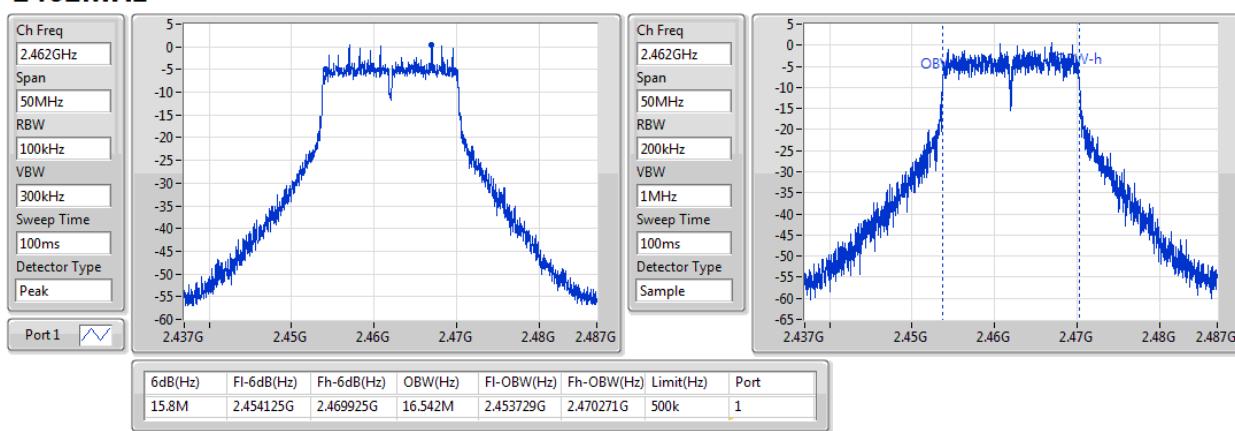
2437MHz



802.11g_(6Mbps)_1TX

EBW

2462MHz

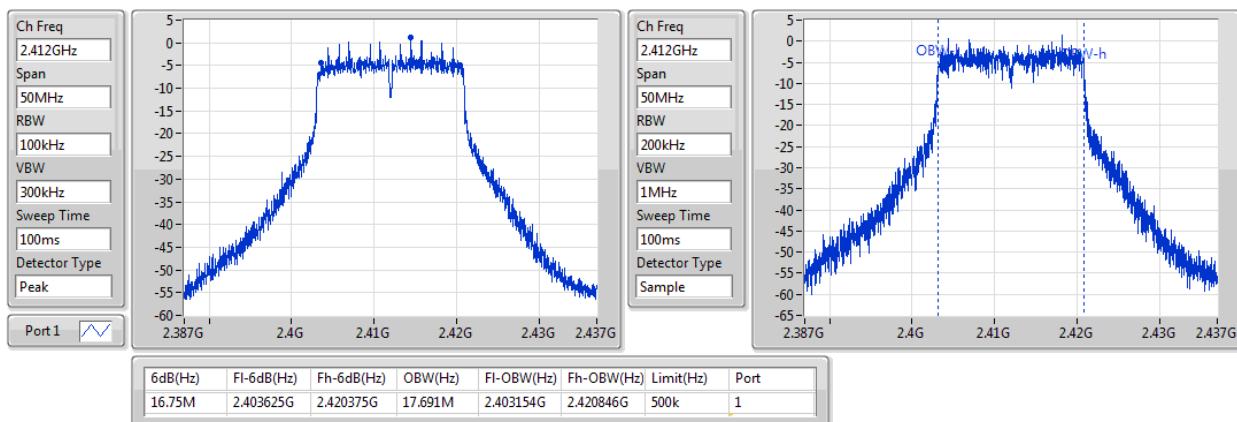




802.11ac VHT20_Nss1,(MCS0)_1TX

EBW

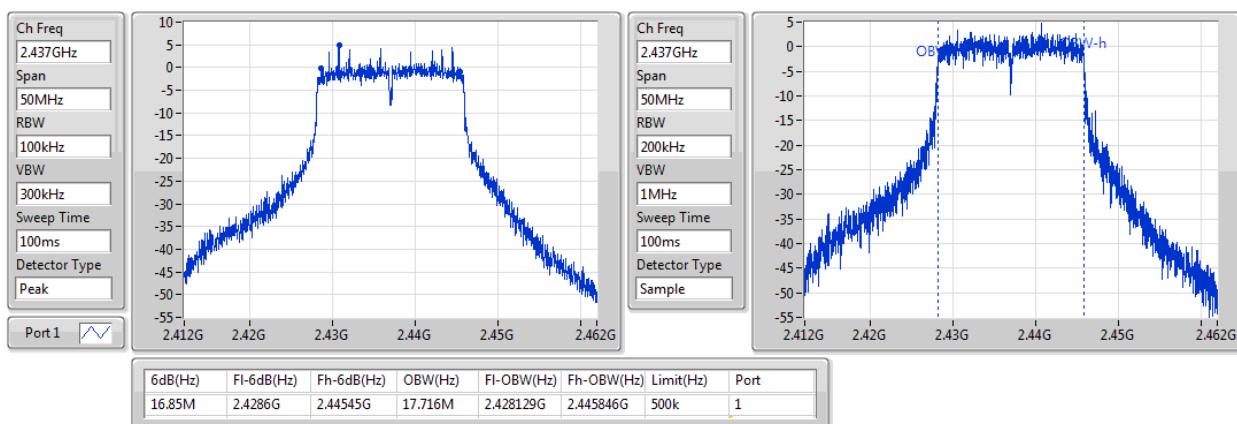
2412MHz



802.11ac VHT20_Nss1,(MCS0)_1TX

EBW

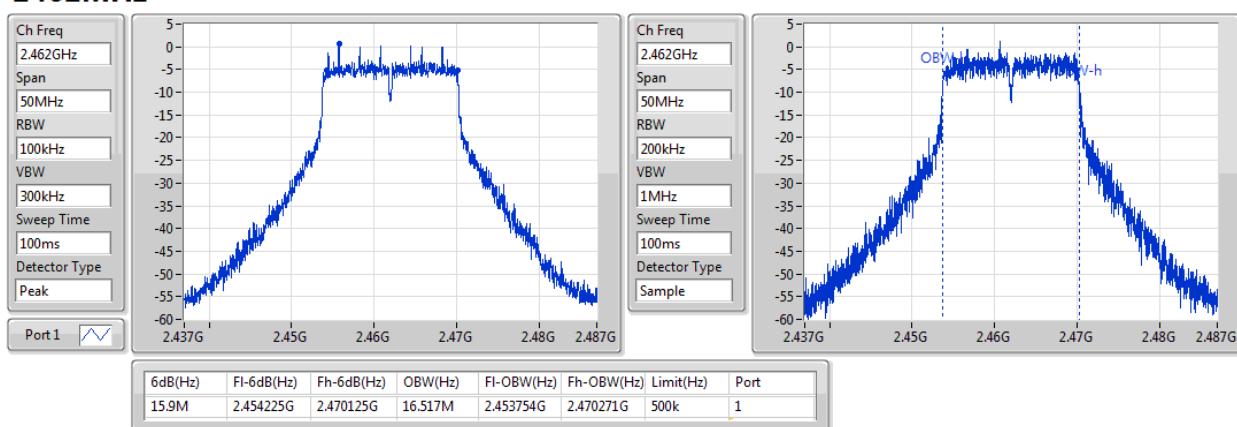
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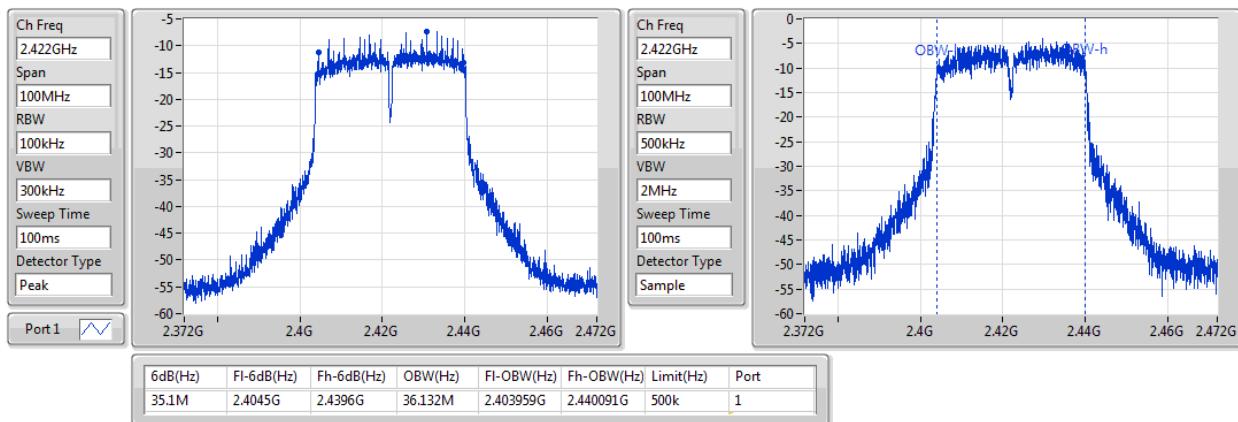
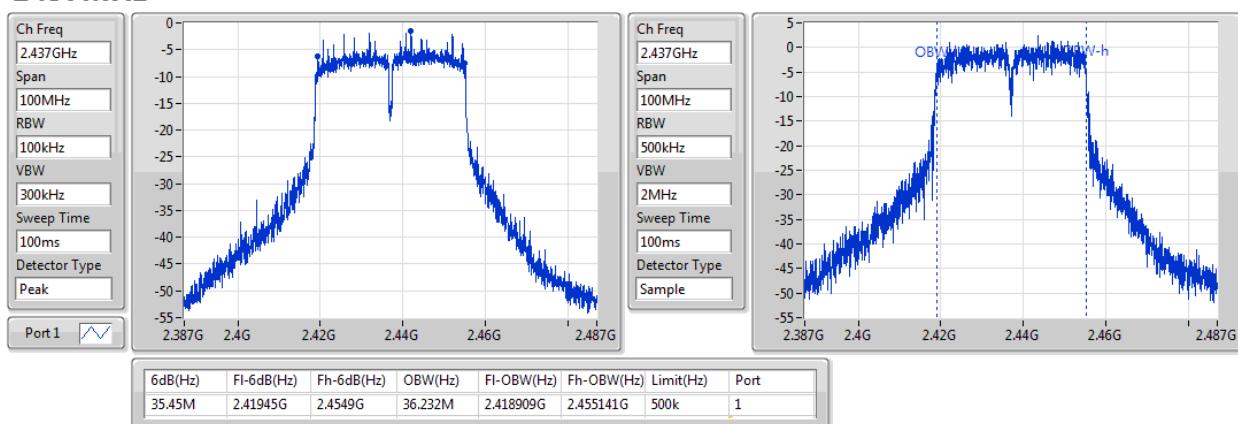
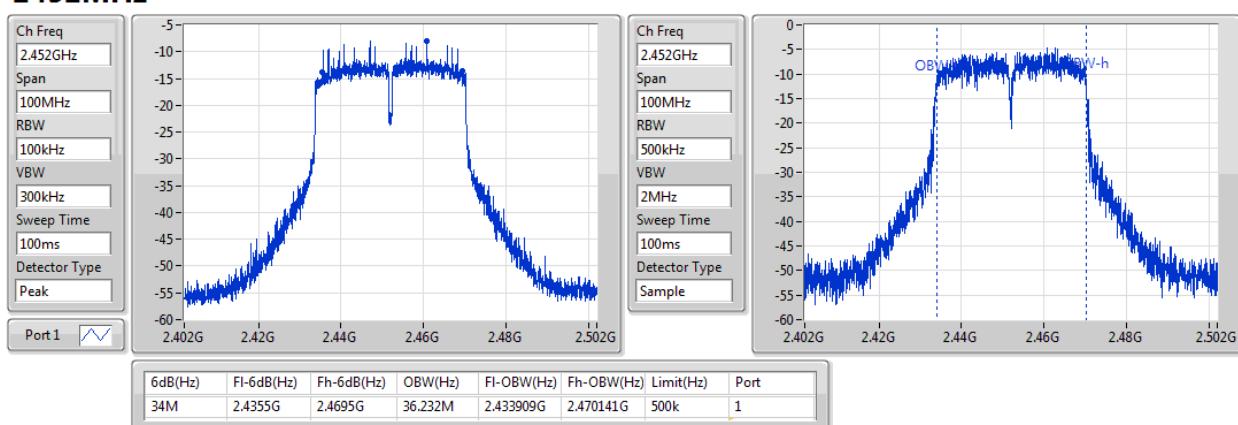


802.11ac VHT20_Nss1,(MCS0)_1TX

EBW

2462MHz



**802.11ac VHT40_Nss1,(MCS0)_1TX****EBW****2422MHz****802.11ac VHT40_Nss1,(MCS0)_1TX****EBW****2437MHz****802.11ac VHT40_Nss1,(MCS0)_1TX****EBW****2452MHz**



For set 4 antenna / 4T1S

Summary

Mode	Max-N dB (Hz)	Max-OBW (Hz)	ITU-Code	Min-N dB (Hz)	Min-OBW (Hz)
802.11b_(1Mbps)_1TX	-	-	-	-	-
2.4-2.4835GHz	8.525M	15.217M	15M2G1D	7.1M	12.494M
802.11g_(6Mbps)_1TX	-	-	-	-	-
2.4-2.4835GHz	15.9M	19.215M	19M2D1D	15.65M	16.517M
802.11ac VHT20_Nss1,(MCS0)_1TX	-	-	-	-	-
2.4-2.4835GHz	16.95M	20.09M	20M1D1D	16.75M	17.691M
802.11ac VHT40_Nss1,(MCS0)_1TX	-	-	-	-	-
2.4-2.4835GHz	35.7M	36.232M	36M2D1D	35.05M	36.182M

Max-N dB = Maximum 6dB down bandwidth; **Max-OBW** = Maximum 99% occupied bandwidth;**Min-N dB** = Minimum 6dB down bandwidth; **Min-OBW** = Minimum 99% occupied bandwidth;

Result

Mode	Result	Limit (Hz)	Port 1-N dB (Hz)	Port 1-OBW (Hz)
802.11b_(1Mbps)_1TX	-	-	-	-
2412MHz	Pass	500k	7.1M	12.494M
2437MHz	Pass	500k	8.525M	15.217M
2462MHz	Pass	500k	7.1M	13.193M
802.11g_(6Mbps)_1TX	-	-	-	-
2412MHz	Pass	500k	15.65M	16.517M
2437MHz	Pass	500k	15.875M	19.215M
2462MHz	Pass	500k	15.9M	16.567M
802.11ac VHT20_Nss1,(MCS0)_1TX	-	-	-	-
2412MHz	Pass	500k	16.95M	17.691M
2437MHz	Pass	500k	16.875M	20.09M
2462MHz	Pass	500k	16.75M	17.716M
802.11ac VHT40_Nss1,(MCS0)_1TX	-	-	-	-
2422MHz	Pass	500k	35.7M	36.182M
2437MHz	Pass	500k	35.05M	36.232M
2452MHz	Pass	500k	35.35M	36.232M

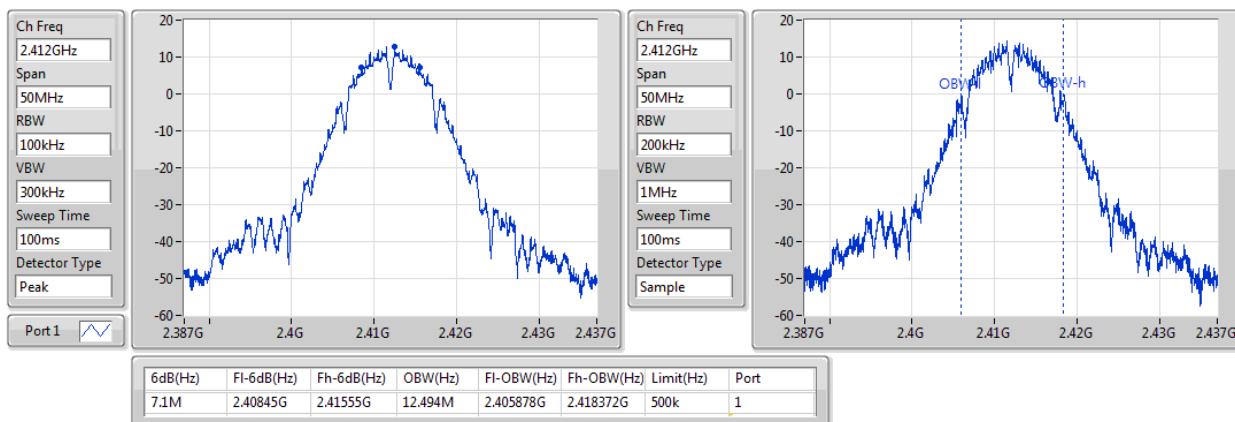
Port X-N dB = Port X 6dB down bandwidth; **Port X-OBW** = Port X 99% occupied bandwidth;



802.11b_(1Mbps)_1TX

EBW

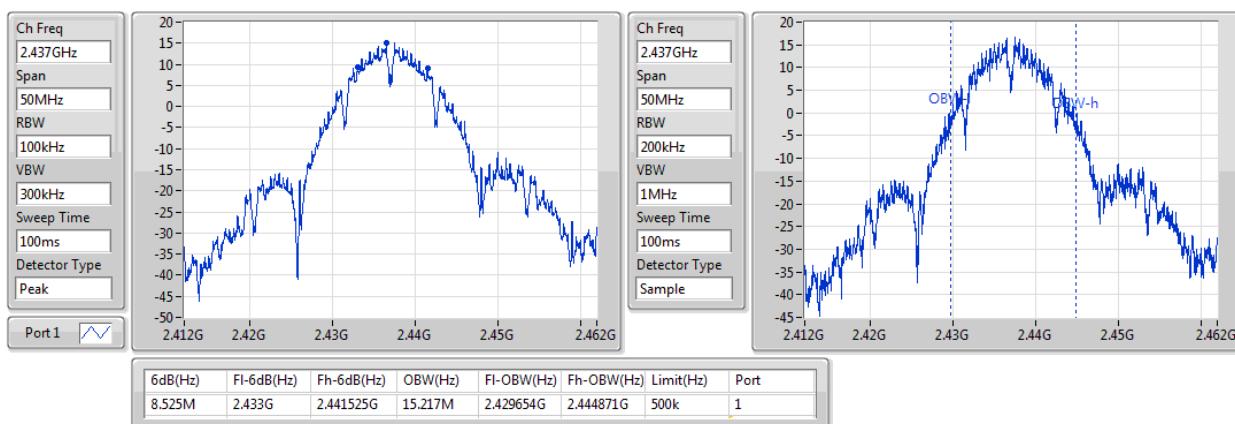
2412MHz



802.11b_(1Mbps)_1TX

EBW

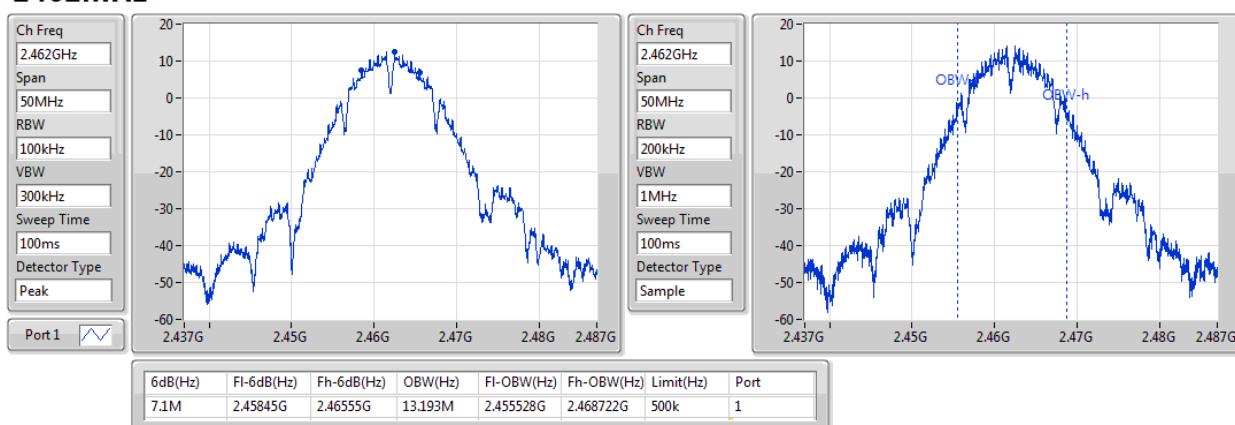
2437MHz



802.11b_(1Mbps)_1TX

EBW

2462MHz

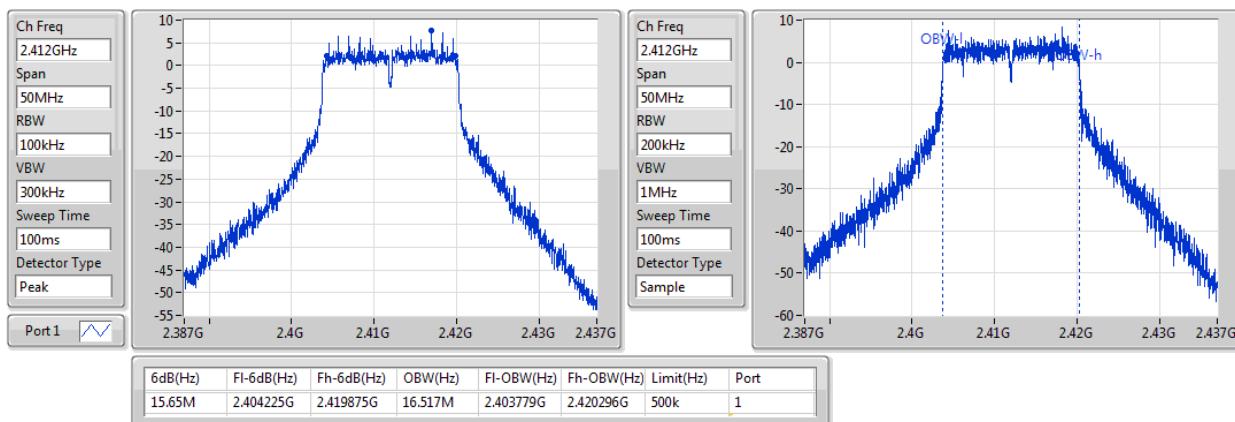




802.11g_(6Mbps)_1TX

EBW

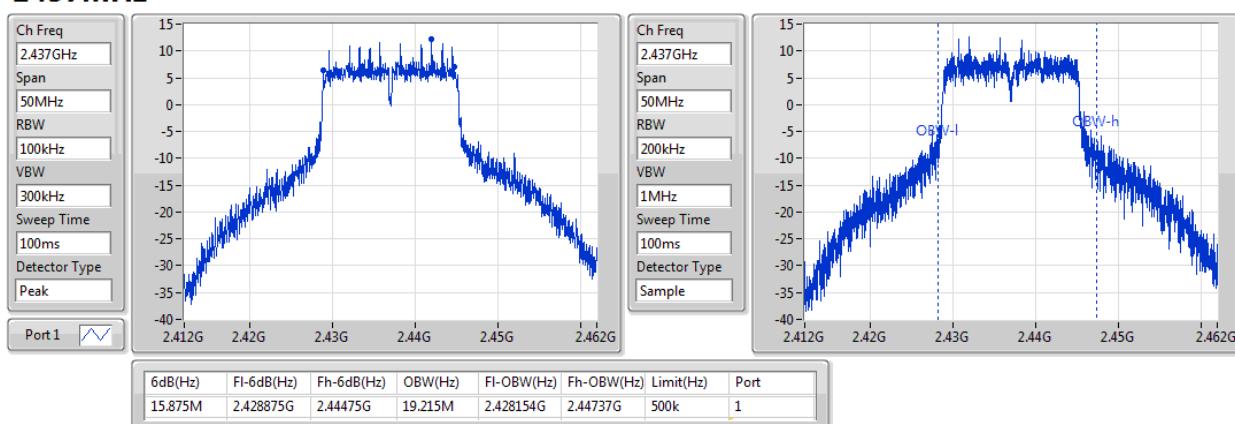
2412MHz



802.11g_(6Mbps)_1TX

EBW

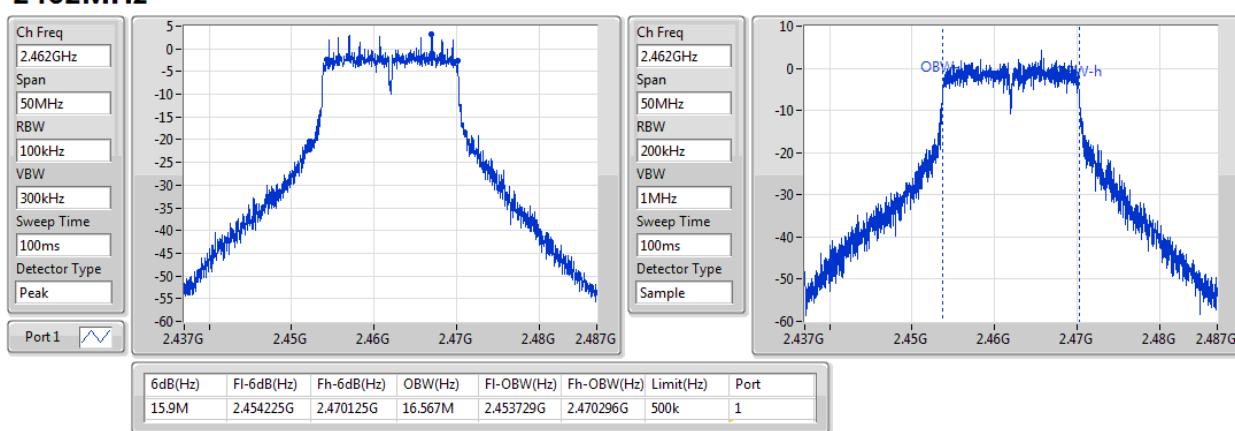
2437MHz

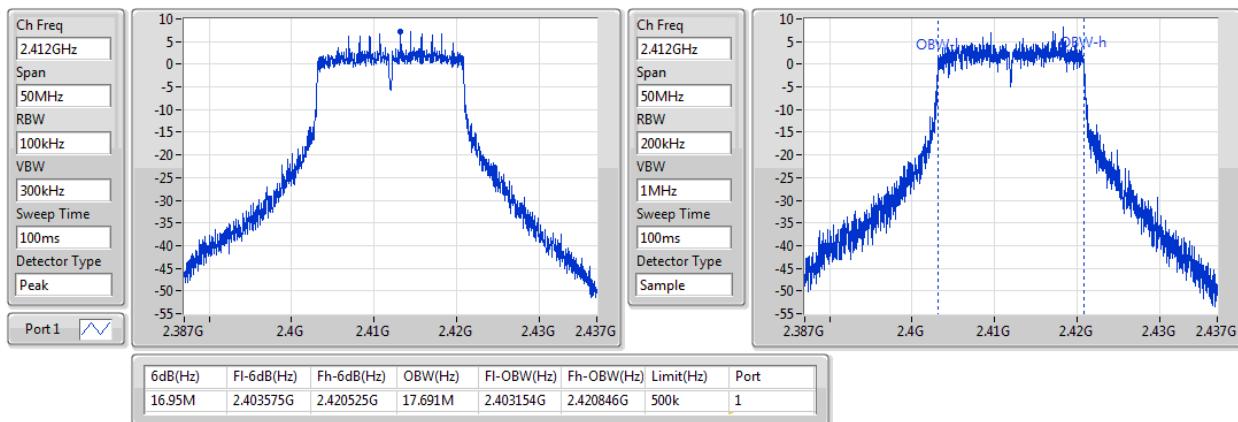
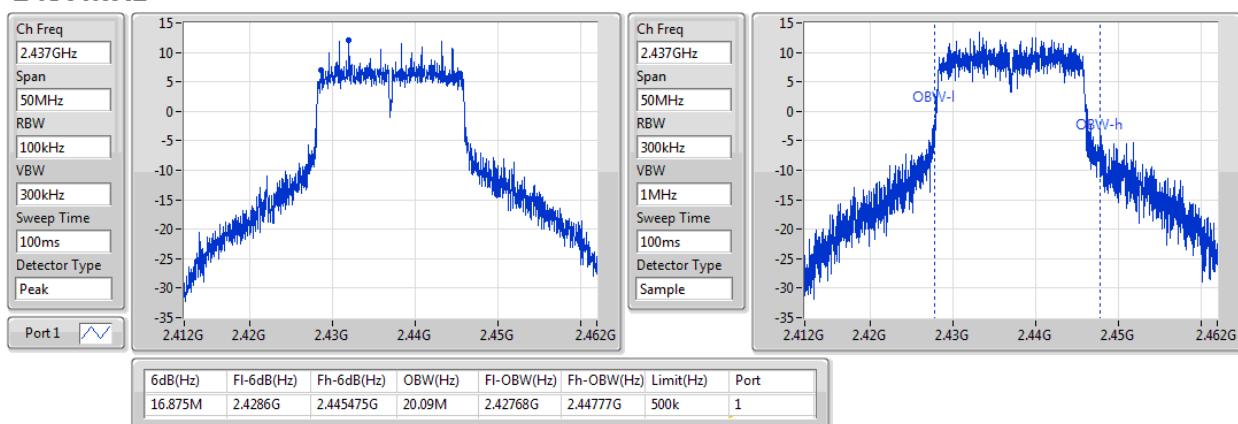
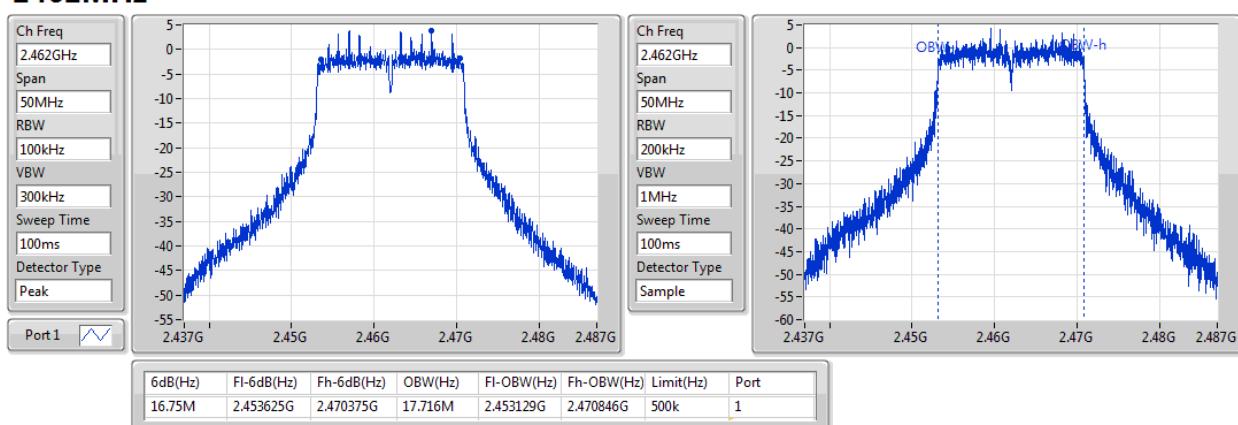


802.11g_(6Mbps)_1TX

EBW

2462MHz



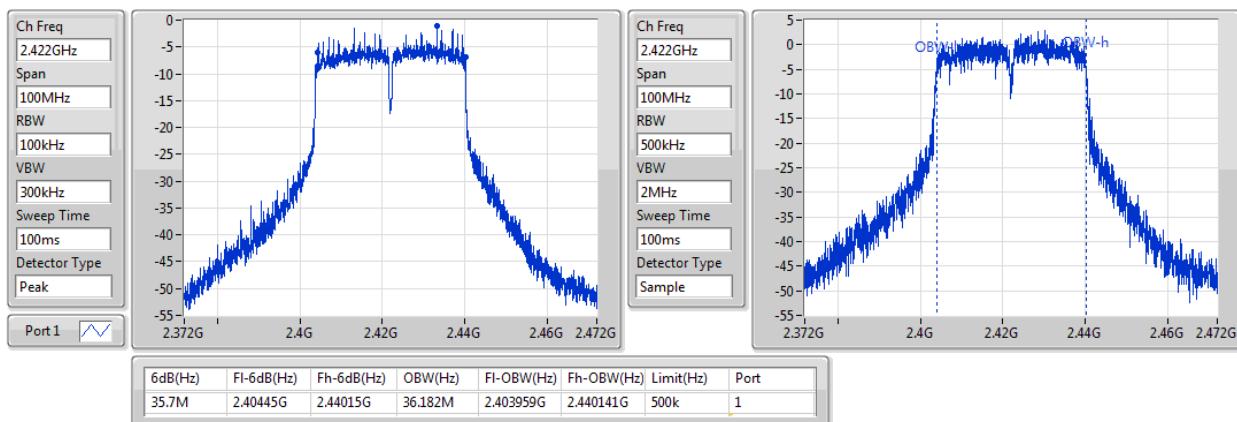
**802.11ac VHT20_Nss1,(MCS0)_1TX****EBW****2412MHz****802.11ac VHT20_Nss1,(MCS0)_1TX****EBW****2437MHz****802.11ac VHT20_Nss1,(MCS0)_1TX****EBW****2462MHz**



802.11ac VHT40_Nss1,(MCS0)_1TX

EBW

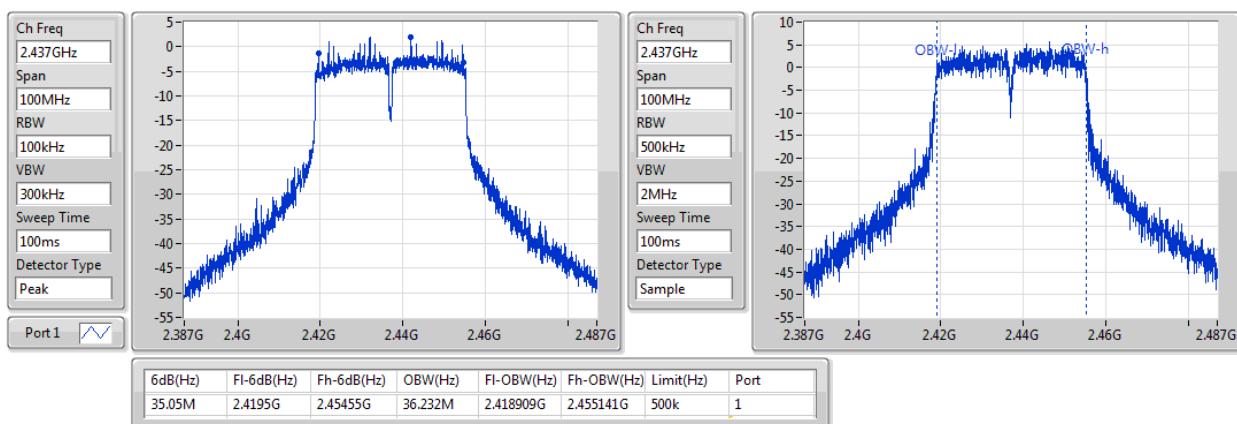
2422MHz



802.11ac VHT40_Nss1,(MCS0)_1TX

EBW

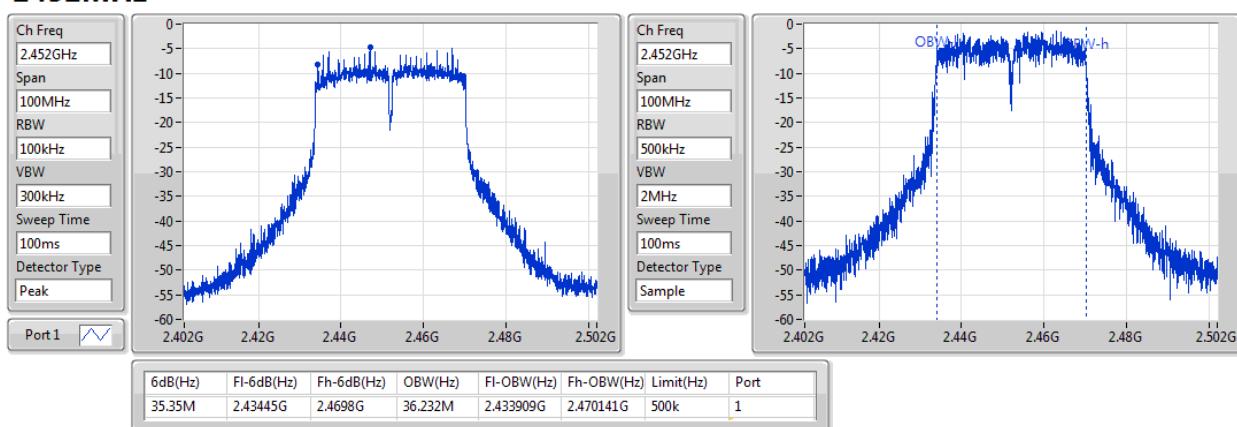
2437MHz



802.11ac VHT40_Nss1,(MCS0)_1TX

EBW

2452MHz





For set 5 antenna / 4T1S

Summary

Mode	Max-N dB (Hz)	Max-OBW (Hz)	ITU-Code	Min-N dB (Hz)	Min-OBW (Hz)
802.11b_(1Mbps)_1TX	-	-	-	-	-
2.4-2.4835GHz	9.025M	15.417M	15M4G1D	7.075M	12.444M
802.11g_(6Mbps)_1TX	-	-	-	-	-
2.4-2.4835GHz	16.275M	17.666M	17M7D1D	15.9M	16.517M
802.11ac VHT20_Nss1,(MCS0)_1TX	-	-	-	-	-
2.4-2.4835GHz	16.925M	18.891M	18M9D1D	16.8M	17.716M
802.11ac VHT40_Nss1,(MCS0)_1TX	-	-	-	-	-
2.4-2.4835GHz	35.7M	36.282M	36M3D1D	35.6M	36.182M

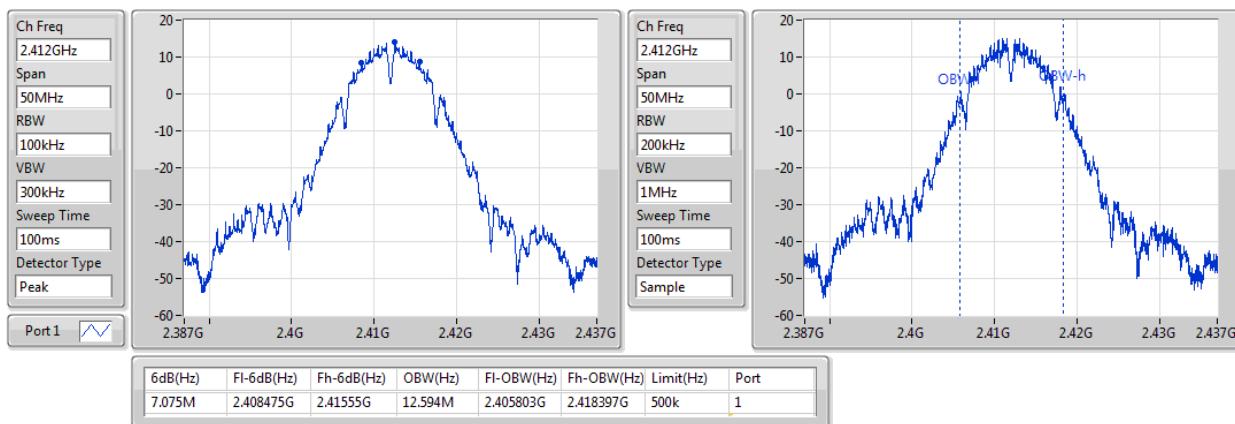
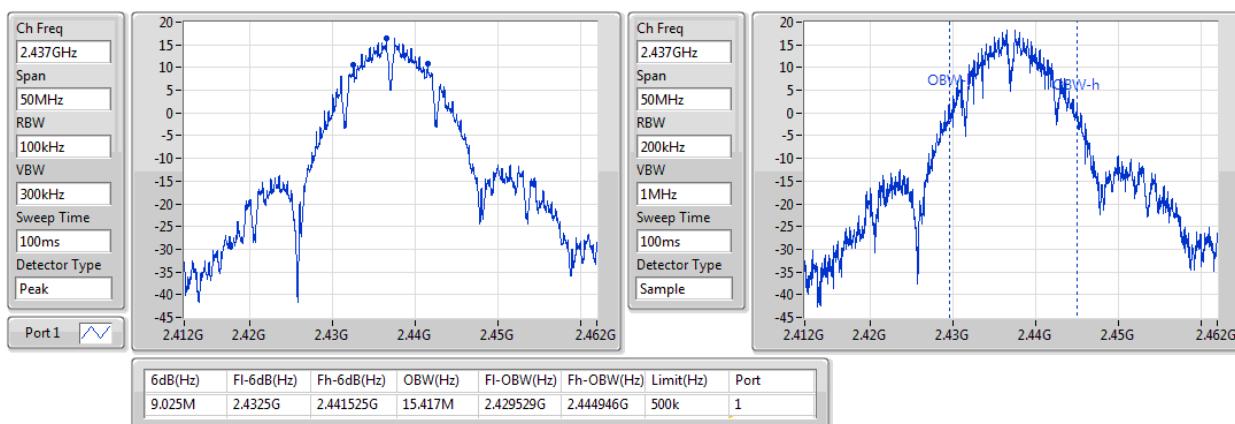
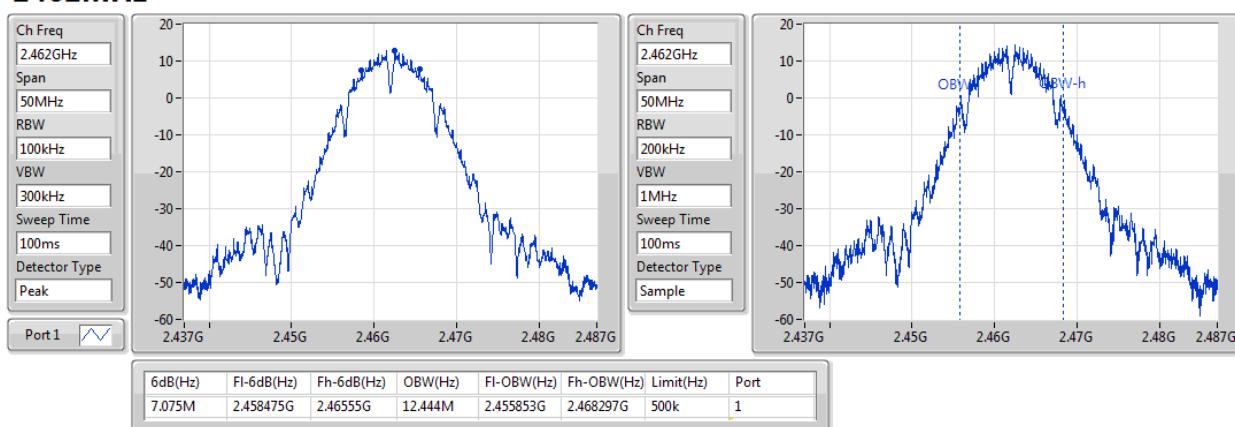
Max-N dB = Maximum 6dB down bandwidth; Max-OBW = Maximum 99% occupied bandwidth;

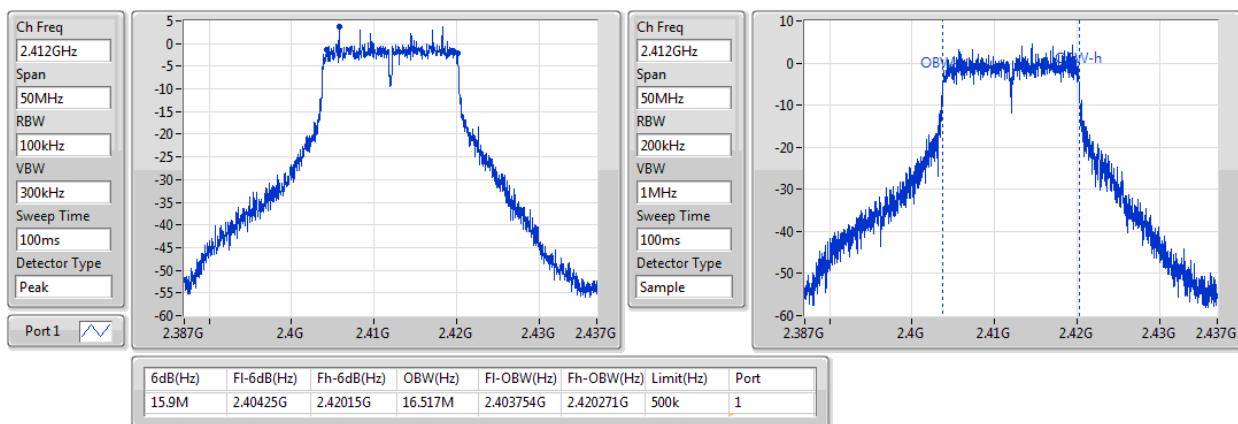
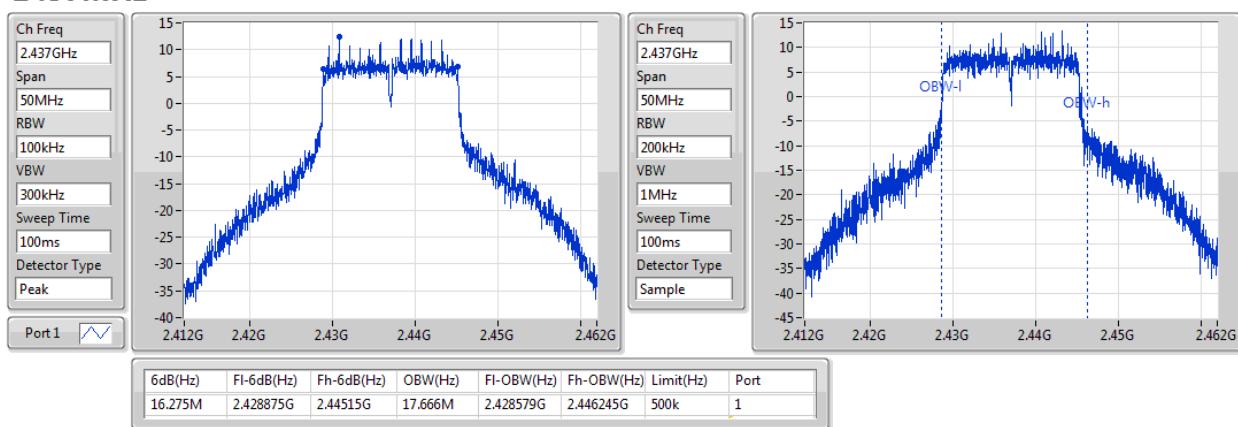
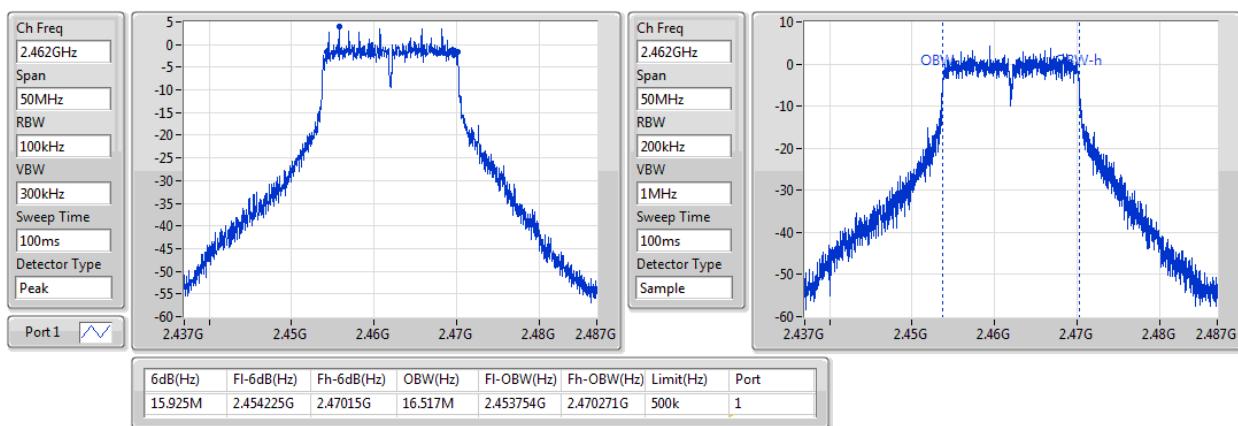
Min-N dB = Minimum 6dB down bandwidth; Min-OBW = Minimum 99% occupied bandwidth;

Result

Mode	Result	Limit (Hz)	Port 1-N dB (Hz)	Port 1-OBW (Hz)
802.11b_(1Mbps)_1TX	-	-	-	-
2412MHz	Pass	500k	7.075M	12.594M
2437MHz	Pass	500k	9.025M	15.417M
2462MHz	Pass	500k	7.075M	12.444M
802.11g_(6Mbps)_1TX	-	-	-	-
2412MHz	Pass	500k	15.9M	16.517M
2437MHz	Pass	500k	16.275M	17.666M
2462MHz	Pass	500k	15.925M	16.517M
802.11ac VHT20_Nss1,(MCS0)_1TX	-	-	-	-
2412MHz	Pass	500k	16.925M	17.766M
2437MHz	Pass	500k	16.8M	18.891M
2462MHz	Pass	500k	16.925M	17.716M
802.11ac VHT40_Nss1,(MCS0)_1TX	-	-	-	-
2422MHz	Pass	500k	35.7M	36.182M
2437MHz	Pass	500k	35.6M	36.282M
2452MHz	Pass	500k	35.6M	36.282M

Port X-N dB = Port X 6dB down bandwidth; Port X-OBW = Port X 99% occupied bandwidth;

**802.11b_(1Mbps)_1TX****EBW****2412MHz****802.11b_(1Mbps)_1TX****EBW****2437MHz****802.11b_(1Mbps)_1TX****EBW****2462MHz**

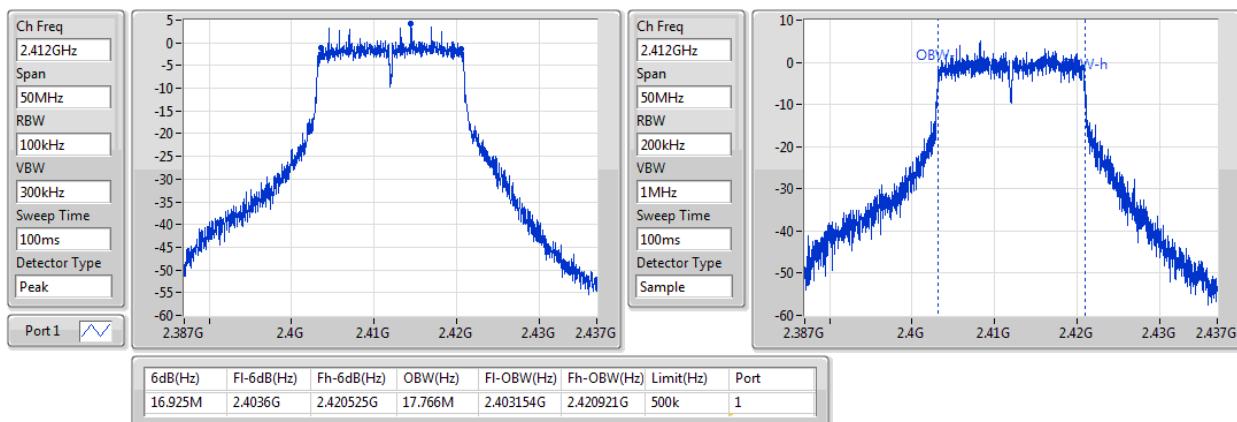
**802.11g_(6Mbps)_1TX****EBW****2412MHz****802.11g_(6Mbps)_1TX****EBW****2437MHz****802.11g_(6Mbps)_1TX****EBW****2462MHz**



802.11ac VHT20_Nss1,(MCS0)_1TX

EBW

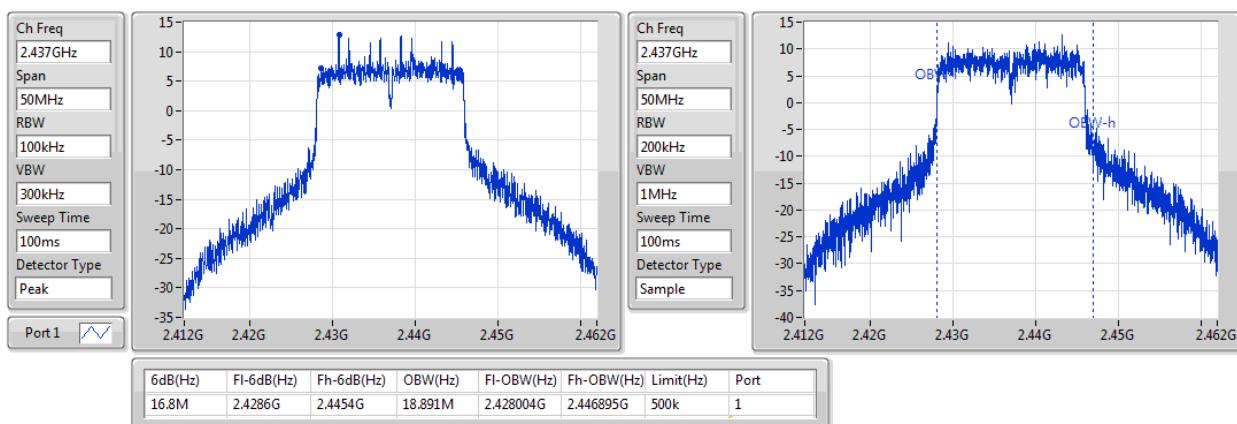
2412MHz



802.11ac VHT20_Nss1,(MCS0)_1TX

EBW

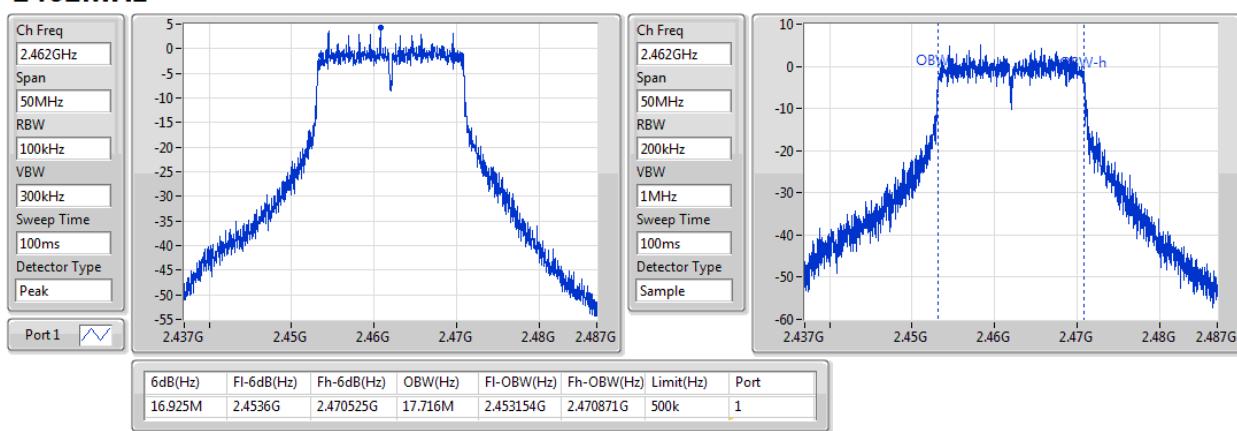
2437MHz

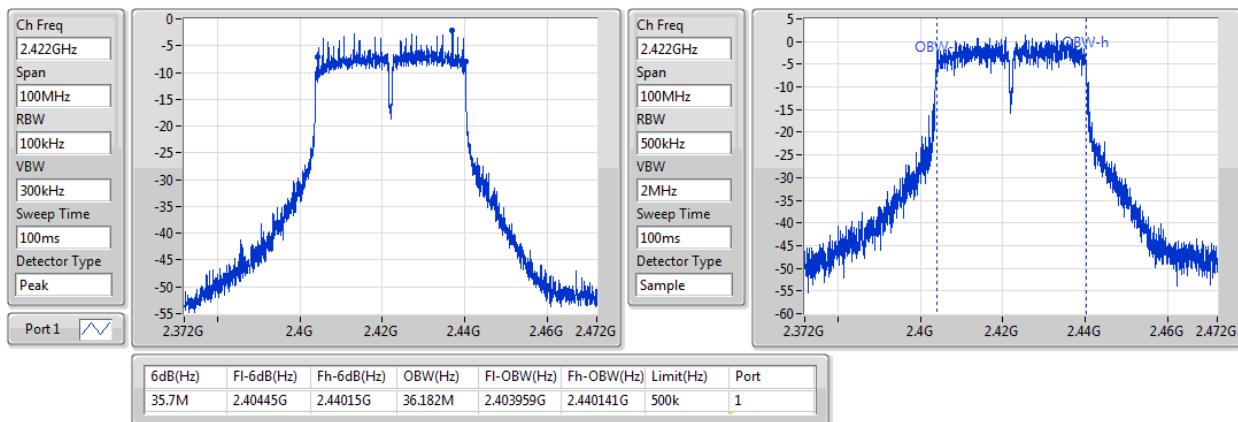
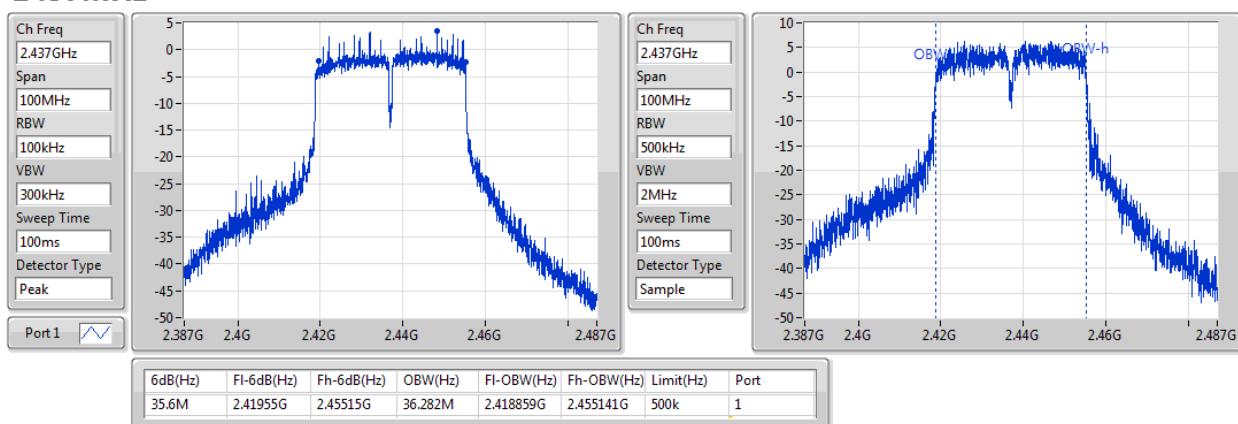
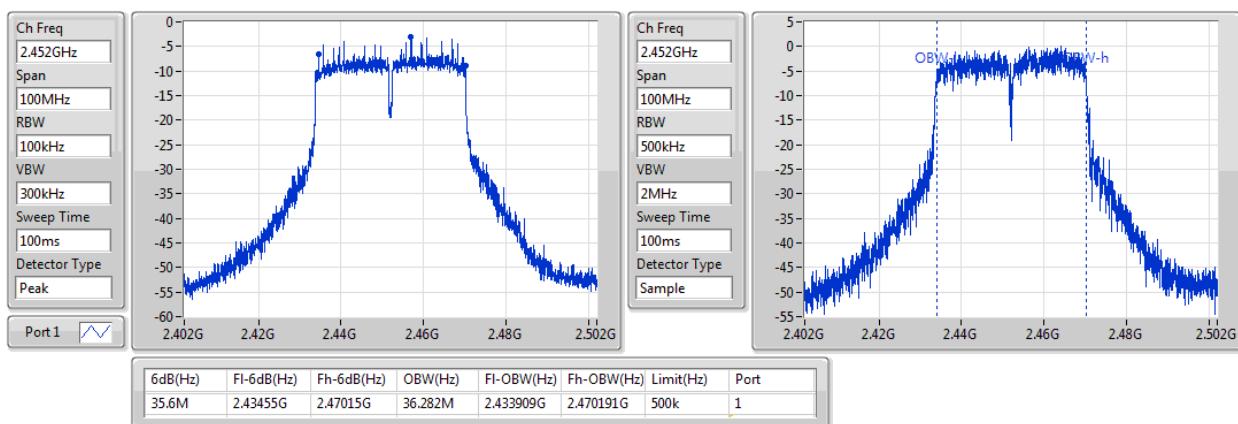


802.11ac VHT20_Nss1,(MCS0)_1TX

EBW

2462MHz



**802.11ac VHT40_Nss1,(MCS0)_1TX****EBW****2422MHz****802.11ac VHT40_Nss1,(MCS0)_1TX****EBW****2437MHz****802.11ac VHT40_Nss1,(MCS0)_1TX****EBW****2452MHz**



For set 6 antenna / 4T1S

Summary

Mode	Max-N dB (Hz)	Max-OBW (Hz)	ITU-Code	Min-N dB (Hz)	Min-OBW (Hz)
802.11b_(1Mbps)_1TX	-	-	-	-	-
2.4-2.4835GHz	7.125M	13.918M	13M9G1D	7.075M	12.469M
802.11g_(6Mbps)_1TX	-	-	-	-	-
2.4-2.4835GHz	16.275M	18.466M	18M5D1D	16M	16.492M
802.11ac VHT20_Nss1,(MCS0)_1TX	-	-	-	-	-
2.4-2.4835GHz	17.525M	19.64M	19M6D1D	16.8M	17.716M
802.11ac VHT40_Nss1,(MCS0)_1TX	-	-	-	-	-
2.4-2.4835GHz	35.35M	36.282M	36M3D1D	33.85M	36.182M

Max-N dB = Maximum 6dB down bandwidth; **Max-OBW** = Maximum 99% occupied bandwidth;**Min-N dB** = Minimum 6dB down bandwidth; **Min-OBW** = Minimum 99% occupied bandwidth;

Result

Mode	Result	Limit (Hz)	Port 1-N dB (Hz)	Port 1-OBW (Hz)
802.11b_(1Mbps)_1TX	-	-	-	-
2412MHz	Pass	500k	7.075M	12.469M
2437MHz	Pass	500k	7.125M	13.918M
2462MHz	Pass	500k	7.075M	13.243M
802.11g_(6Mbps)_1TX	-	-	-	-
2412MHz	Pass	500k	16.275M	16.492M
2437MHz	Pass	500k	16.275M	18.466M
2462MHz	Pass	500k	16M	16.567M
802.11ac VHT20_Nss1,(MCS0)_1TX	-	-	-	-
2412MHz	Pass	500k	16.925M	17.716M
2437MHz	Pass	500k	17.525M	19.64M
2462MHz	Pass	500k	16.8M	17.791M
802.11ac VHT40_Nss1,(MCS0)_1TX	-	-	-	-
2422MHz	Pass	500k	35.35M	36.182M
2437MHz	Pass	500k	33.85M	36.282M
2452MHz	Pass	500k	34.65M	36.182M

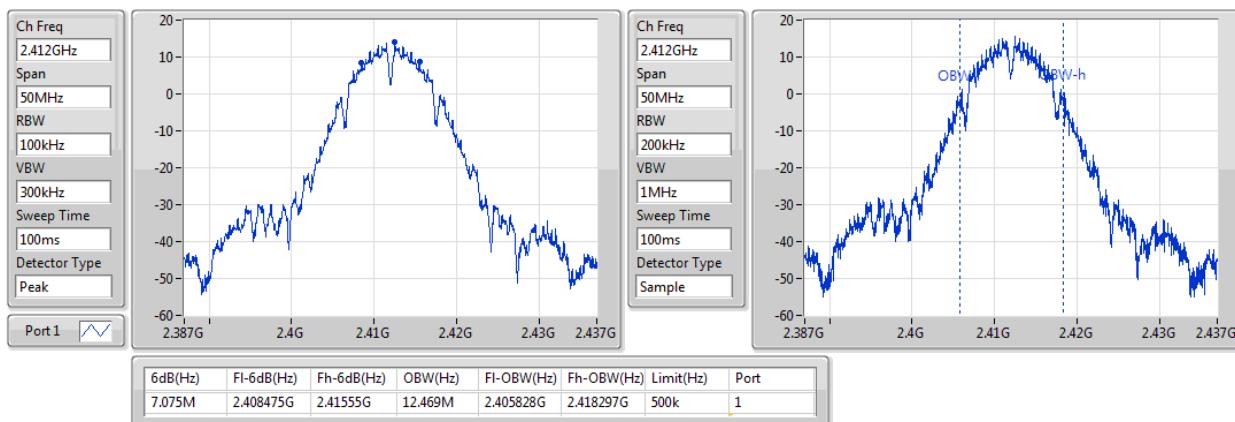
Port X-N dB = Port X 6dB down bandwidth; **Port X-OBW** = Port X 99% occupied bandwidth;



802.11b_(1Mbps)_1TX

EBW

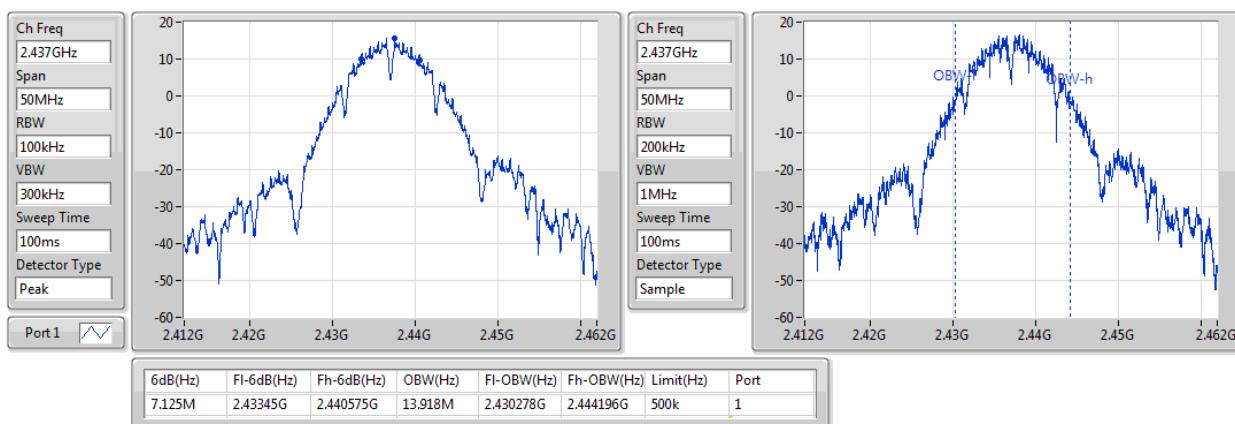
2412MHz



802.11b_(1Mbps)_1TX

EBW

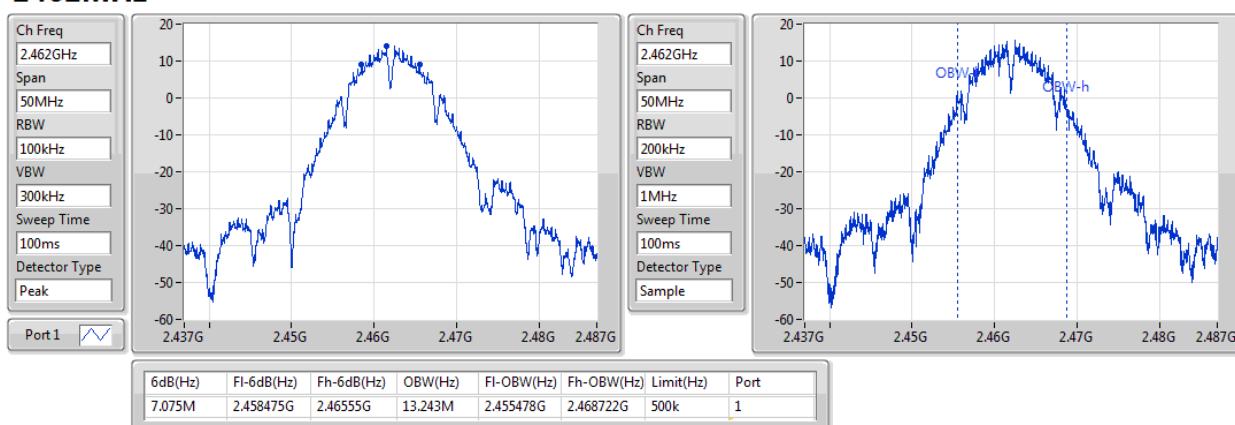
2437MHz



802.11b_(1Mbps)_1TX

EBW

2462MHz

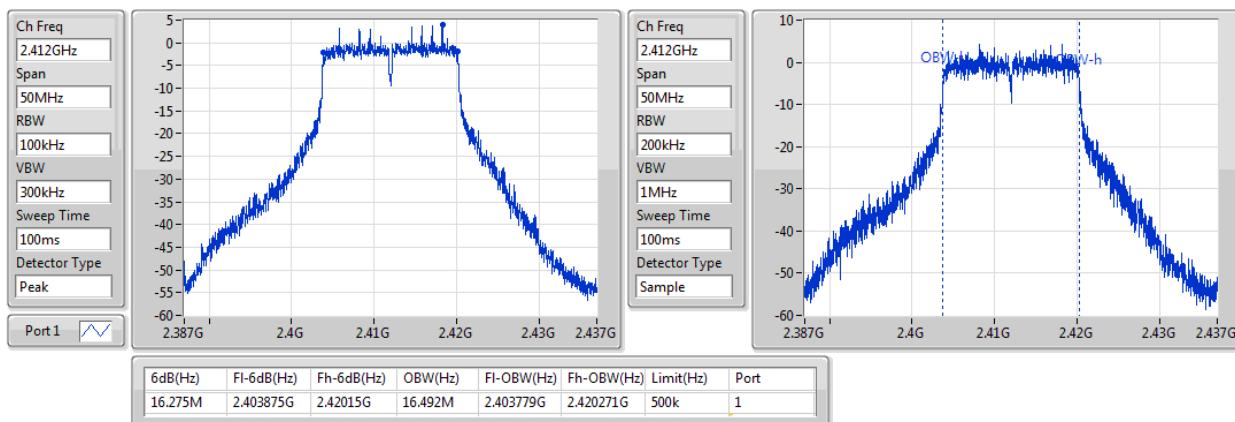




802.11g_(6Mbps)_1TX

EBW

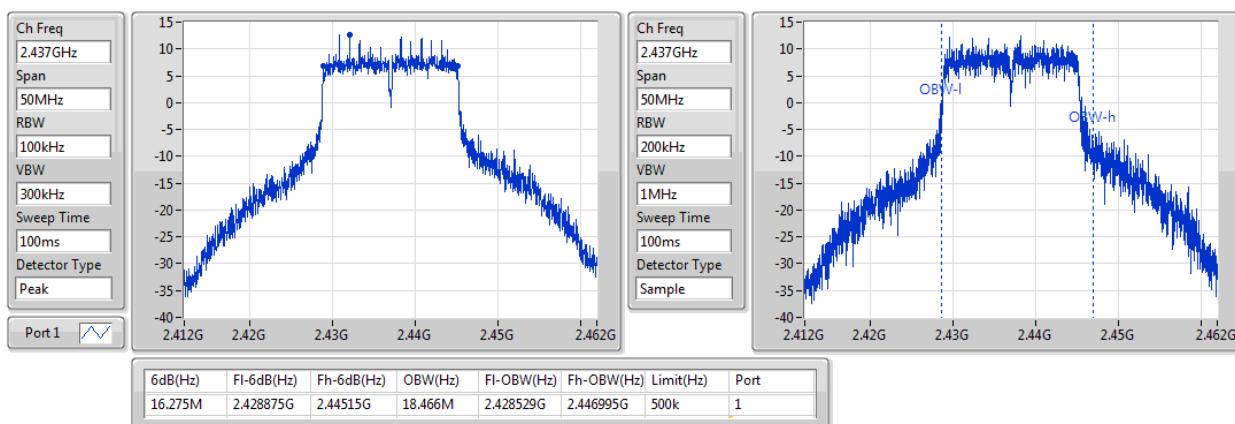
2412MHz



802.11g_(6Mbps)_1TX

EBW

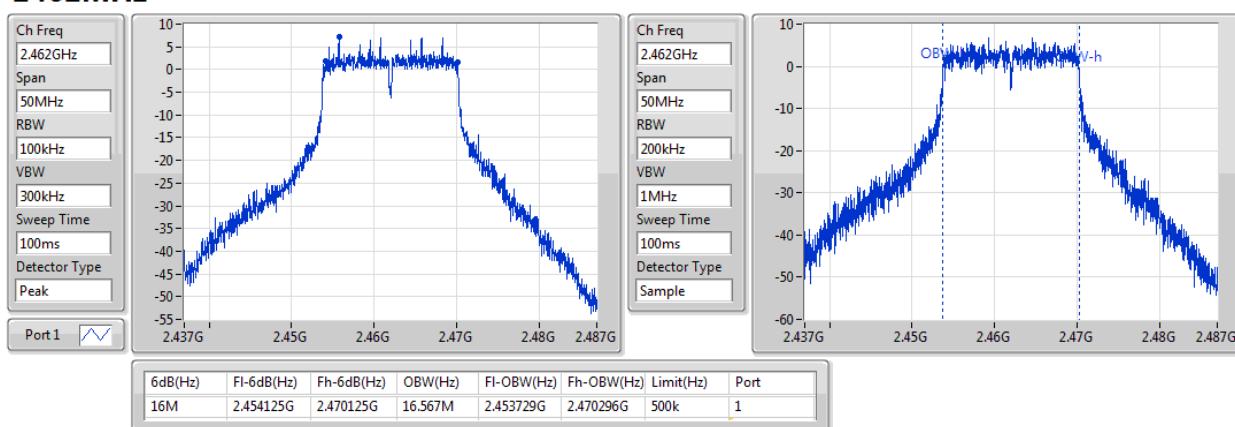
2437MHz



802.11g_(6Mbps)_1TX

EBW

2462MHz

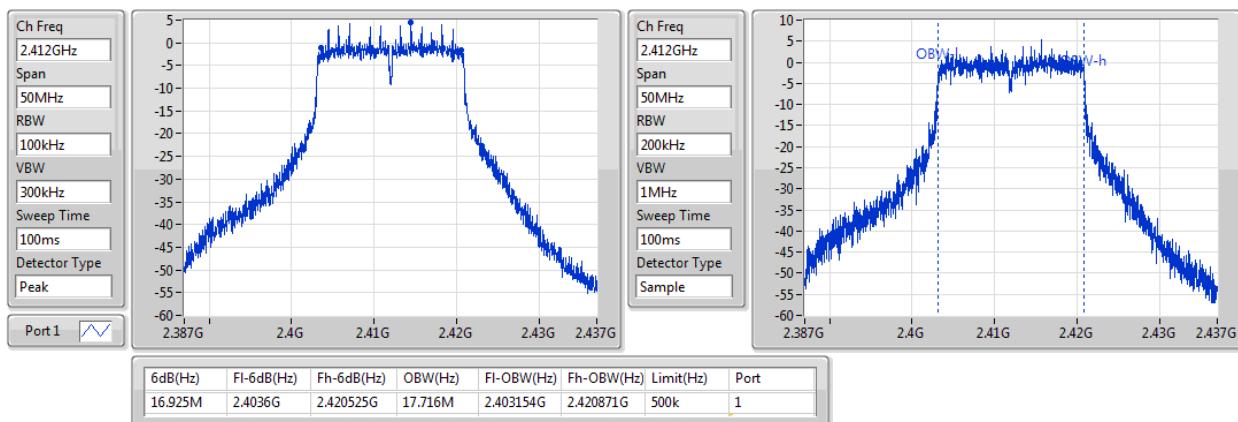




802.11ac VHT20_Nss1,(MCS0)_1TX

EBW

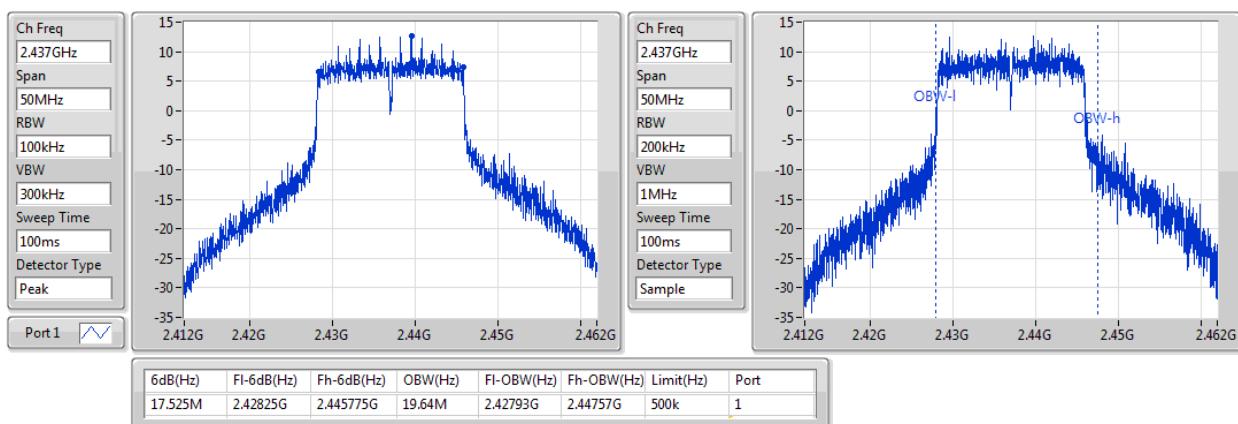
2412MHz



802.11ac VHT20_Nss1,(MCS0)_1TX

EBW

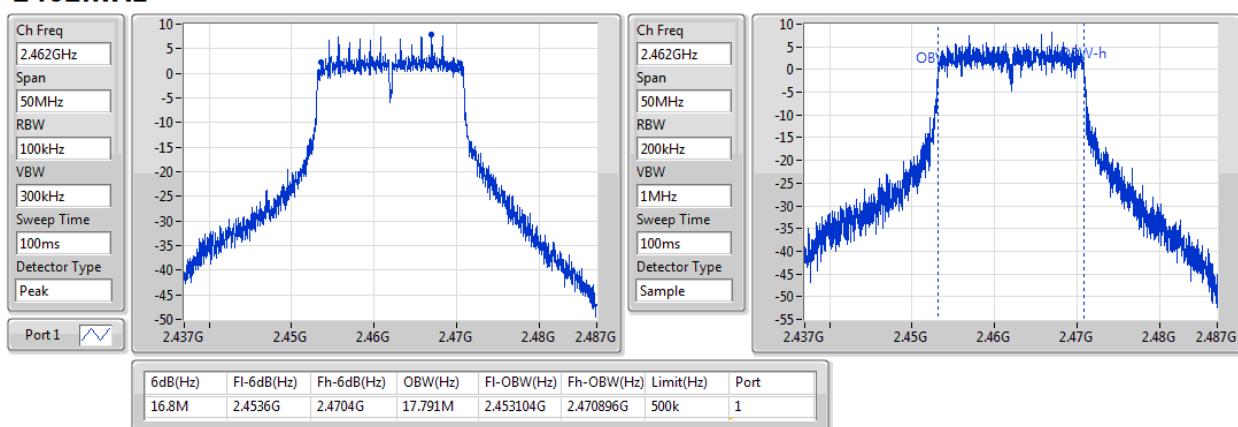
2437MHz

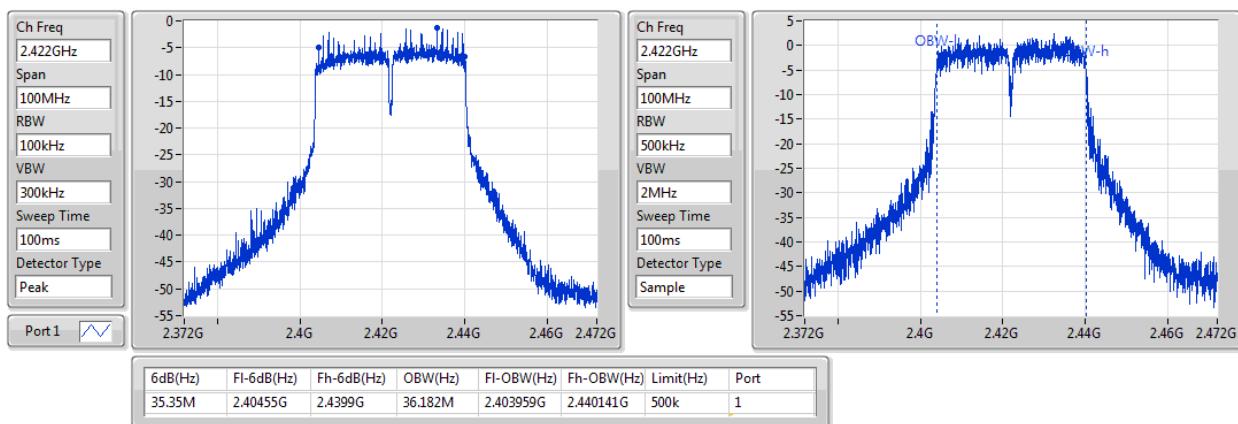
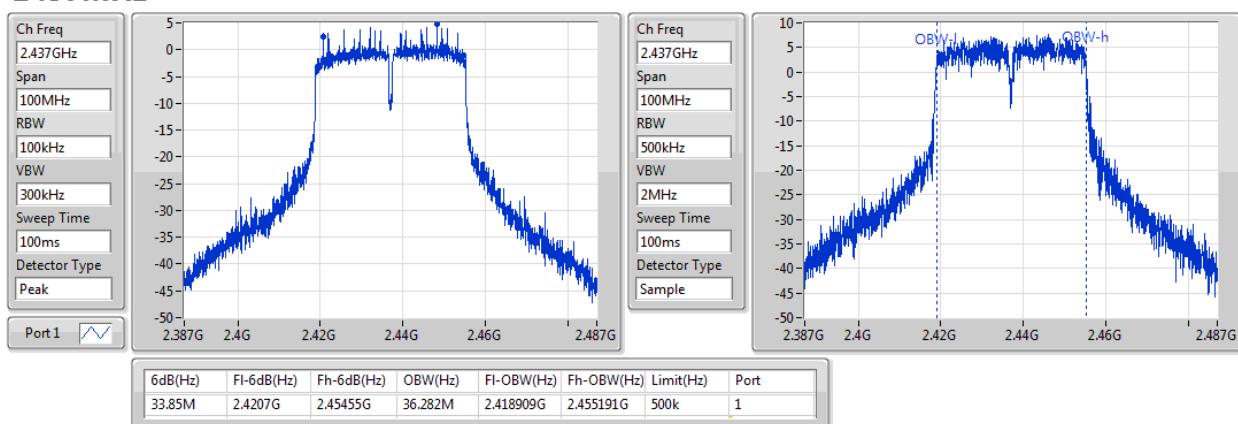
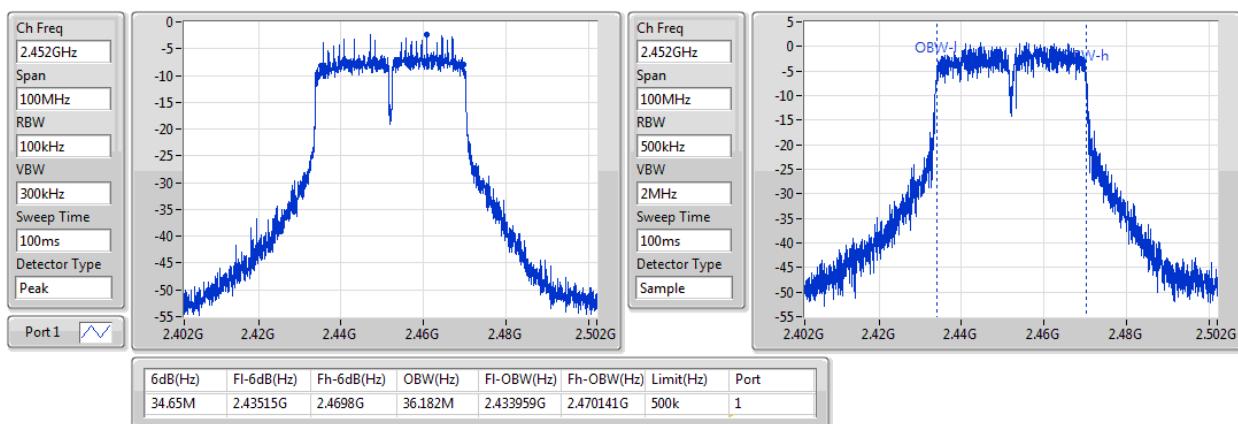


802.11ac VHT20_Nss1,(MCS0)_1TX

EBW

2462MHz



**802.11ac VHT40_Nss1,(MCS0)_1TX****EBW****2422MHz****802.11ac VHT40_Nss1,(MCS0)_1TX****EBW****2437MHz****802.11ac VHT40_Nss1,(MCS0)_1TX****EBW****2452MHz**



3.3 Maximum Conducted Output Power

3.3.1 Maximum Conducted Output Power Limit

Maximum Conducted Output Power Limit

- | |
|---|
| ▪ If $G_{TX} \leq 6$ dBi, then $P_{Out} \leq 30$ dBm (1 W) |
| ▪ Point-to-multipoint systems (P2M): If $G_{TX} > 6$ dBi, then $P_{Out} = 30 - (G_{TX} - 6)$ dBm |
| ▪ Point-to-point systems (P2P): If $G_{TX} > 6$ dBi, then $P_{Out} = 30 - (G_{TX} - 6)/3$ dBm |
| ▪ Smart antenna system (SAS): |
| - Single beam: If $G_{TX} > 6$ dBi, then $P_{Out} = 30 - (G_{TX} - 6)/3$ dBm |
| - Overlap beam: If $G_{TX} > 6$ dBi, then $P_{Out} = 30 - (G_{TX} - 6)/3$ dBm |
| - Aggregate power on all beams: If $G_{TX} > 6$ dBi, then $P_{Out} = 30 - (G_{TX} - 6)/3 + 8dB$ dBm |

P_{Out} = maximum peak conducted output power or maximum conducted output power in dBm,
 G_{TX} = the maximum transmitting antenna directional gain in dBi.

3.3.2 Measuring Instruments

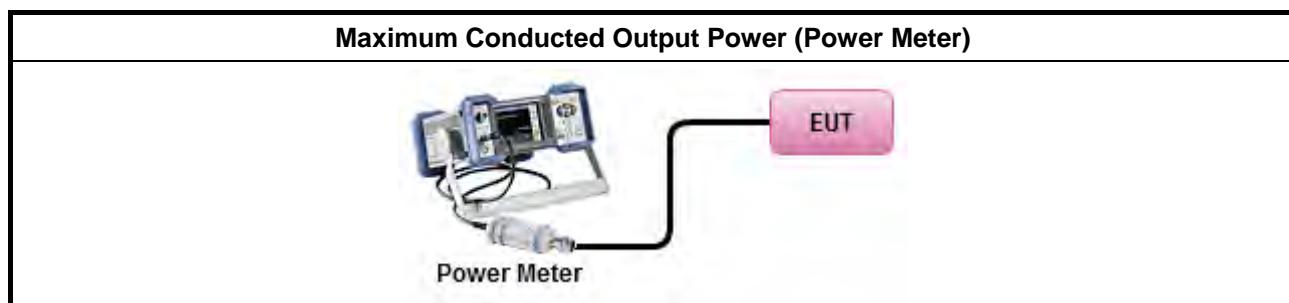
Refer a test equipment and calibration data table in this test report.



3.3.3 Test Procedures

Test Method	
▪ Maximum Peak Conducted Output Power	<input type="checkbox"/> Refer as FCC KDB 558074, clause 9.1.1 Option 1 (RBW \geq EBW method). <input type="checkbox"/> Refer as FCC KDB 558074, clause 9.1.2 Option 2 (peak power meter for VBW \geq DTS BW)
▪ Maximum Conducted Output Power	[duty cycle \geq 98% or external video / power trigger] <input type="checkbox"/> Refer as FCC KDB 558074, clause 9.2.2.2 Method AVGSA-1 (spectral trace averaging). <input type="checkbox"/> Refer as FCC KDB 558074, clause 9.2.2.3 Method AVGSA-1 Alt. (slow sweep speed) duty cycle < 98% and average over on/off periods with duty factor <input type="checkbox"/> Refer as FCC KDB 558074, clause 9.2.2.4 Method AVGSA-2 (spectral trace averaging). <input type="checkbox"/> Refer as FCC KDB 558074, clause 9.2.2.5 Method AVGSA-2 Alt. (slow sweep speed) RF power meter and average over on/off periods with duty factor or gated trigger <input checked="" type="checkbox"/> Refer as FCC KDB 558074, clause 9.2.3 Method AVGPM-G (using an RF average power meter). <input type="checkbox"/> Refer as FCC KDB 558074, clause 9.1.2 PKPM1 Peak power meter method.
▪ For conducted measurement.	<ul style="list-style-type: none">▪ If the EUT supports multiple transmit chains using options given below: Refer as FCC KDB 662911, In-band power measurements. Using the measure-and-sum approach, measured all transmit ports individually. Sum the power (in linear power units e.g., mW) of all ports for each individual sample and save them.▪ If multiple transmit chains, EIRP calculation could be following as methods: $P_{total} = P_1 + P_2 + \dots + P_n$ (calculated in linear unit [mW] and transfer to log unit [dBm]) $EIRP_{total} = P_{total} + DG$

3.3.4 Test Setup





3.3.5 Test Result of Maximum Conducted Output Power

For Radio 1

For set 1 antenna / 4T1S

Summary

Mode	Total Power (dBm)	Total Power (W)
802.11b_(1Mbps)_4TX	-	-
2.4-2.4835GHz	28.81	0.76033
802.11g_(6Mbps)_4TX	-	-
2.4-2.4835GHz	28.63	0.72946
802.11ac VHT20_Nss1,(MCS0)_4TX	-	-
2.4-2.4835GHz	28.04	0.63680
802.11ac VHT40_Nss1,(MCS0)_4TX	-	-
2.4-2.4835GHz	22.48	0.17701
802.11ac VHT20-BF_Nss1,(MCS0)_4TX	-	-
2.4-2.4835GHz	27.06	0.50816
802.11ac VHT40-BF_Nss1,(MCS0)_4TX	-	-
2.4-2.4835GHz	24.77	0.29992

Result

Mode	Result	DG (dBi)	Port 1 (dBm)	Port 2 (dBm)	Port 3 (dBm)	Port 4 (dBm)	Total Power (dBm)	Power Limit (dBm)
802.11b_(1Mbps)_4TX	-	-	-	-	-	-	-	-
2412MHz	Pass	4.25	20.84	20.47	20.96	20.33	26.68	30.00
2437MHz	Pass	4.25	23.20	23.18	22.01	22.66	28.81	30.00
2462MHz	Pass	4.25	16.52	16.27	15.40	16.25	22.15	30.00
802.11g_(6Mbps)_4TX	-	-	-	-	-	-	-	-
2412MHz	Pass	4.25	20.96	20.76	20.68	20.11	26.66	30.00
2437MHz	Pass	4.25	22.68	22.87	22.62	22.24	28.63	30.00
2462MHz	Pass	4.25	15.98	15.71	15.81	15.61	21.80	30.00
802.11ac VHT20_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-
2412MHz	Pass	4.25	16.77	16.27	16.67	16.26	22.52	30.00
2437MHz	Pass	4.25	22.09	22.24	22.01	21.71	28.04	30.00
2462MHz	Pass	4.25	16.69	16.46	16.56	16.51	22.58	30.00
802.11ac VHT40_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-
2422MHz	Pass	4.25	12.77	12.51	12.52	12.48	18.59	30.00
2437MHz	Pass	4.25	16.75	16.34	16.40	16.32	22.48	30.00
2452MHz	Pass	4.25	16.19	15.93	15.79	15.83	21.96	30.00
802.11ac VHT20-BF_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-
2412MHz	Pass	6.47	19.96	19.88	19.99	19.79	25.93	29.53
2437MHz	Pass	6.47	21.37	20.95	21.04	20.79	27.06	29.53
2462MHz	Pass	6.47	20.45	20.00	19.77	20.05	26.10	29.53
802.11ac VHT40-BF_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-
2422MHz	Pass	6.47	15.47	15.24	15.24	15.13	21.29	29.53
2437MHz	Pass	6.47	18.49	18.57	19.00	18.90	24.77	29.53
2452MHz	Pass	6.47	16.14	16.31	15.96	16.77	22.33	29.53

DG = Directional Gain; **Port X** = Port X output power



For set 1 antenna / 4T2S

Summary

Mode	Total Power (dBm)	Total Power (W)
802.11ac VHT20-BF_Nss2,(MCS0)_4TX	-	-
2.4-2.4835GHz	25.74	0.37497
802.11ac VHT40-BF_Nss2,(MCS0)_4TX	-	-
2.4-2.4835GHz	23.40	0.21878

Result

Mode	Result	DG (dBi)	Port 1 (dBm)	Port 2 (dBm)	Port 3 (dBm)	Port 4 (dBm)	Total Power (dBm)	Power Limit (dBm)
802.11ac VHT20-BF_Nss2,(MCS0)_4TX	-	-	-	-	-	-	-	-
2412MHz	Pass	3.48	17.60	17.07	17.24	17.05	23.27	30.00
2437MHz	Pass	3.48	19.88	19.67	19.68	19.64	25.74	30.00
2462MHz	Pass	3.48	18.70	18.39	18.46	18.35	24.50	30.00
802.11ac VHT40-BF_Nss2,(MCS0)_4TX	-	-	-	-	-	-	-	-
2422MHz	Pass	3.48	15.72	15.29	15.12	15.52	21.44	30.00
2437MHz	Pass	3.48	17.67	17.34	17.25	17.25	23.40	30.00
2452MHz	Pass	3.48	15.65	15.34	15.21	15.11	21.35	30.00

DG = Directional Gain; Port X = Port X output power



For set 3 antenna / 4T1S

Summary

Mode	Total Power (dBm)	Total Power (W)
802.11b_(1Mbps)_4TX	-	-
2.4-2.4835GHz	25.08	0.32211
802.11g_(6Mbps)_4TX	-	-
2.4-2.4835GHz	24.71	0.29580
802.11ac VHT20_Nss1,(MCS0)_4TX	-	-
2.4-2.4835GHz	25.02	0.31769
802.11ac VHT40_Nss1,(MCS0)_4TX	-	-
2.4-2.4835GHz	18.94	0.07834
802.11ac VHT20-BF_Nss1,(MCS0)_4TX	-	-
2.4-2.4835GHz	23.82	0.24099
802.11ac VHT40-BF_Nss1,(MCS0)_4TX	-	-
2.4-2.4835GHz	18.78	0.07551

Result

Mode	Result	DG (dBi)	Port 1 (dBm)	Port 2 (dBm)	Port 3 (dBm)	Port 4 (dBm)	Total Power (dBm)	Power Limit (dBm)
802.11b_(1Mbps)_4TX	-	-	-	-	-	-	-	-
2412MHz	Pass	10.80	19.34	18.96	19.35	18.54	25.08	25.20
2437MHz	Pass	10.80	19.06	17.53	20.11	18.39	24.90	25.20
2462MHz	Pass	10.80	19.08	18.44	20.05	18.43	25.07	25.20
802.11g_(6Mbps)_4TX	-	-	-	-	-	-	-	-
2412MHz	Pass	10.80	13.47	13.21	14.30	12.87	19.52	25.20
2437MHz	Pass	10.80	18.76	18.32	19.57	17.93	24.71	25.20
2462MHz	Pass	10.80	15.75	15.06	16.46	14.93	21.61	25.20
802.11ac VHT20_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-
2412MHz	Pass	10.80	13.49	13.28	14.36	13.23	19.64	25.20
2437MHz	Pass	10.80	19.10	18.67	19.79	18.31	25.02	25.20
2462MHz	Pass	10.80	16.02	15.37	16.67	15.42	21.92	25.20
802.11ac VHT40_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-
2422MHz	Pass	10.80	9.13	9.16	9.52	8.54	15.12	25.20
2437MHz	Pass	10.80	13.02	12.69	13.51	12.36	18.94	25.20
2452MHz	Pass	10.80	10.77	10.23	11.10	9.86	16.54	25.20
802.11ac VHT20-BF_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-
2412MHz	Pass	11.98	15.46	15.83	15.89	15.84	21.78	24.02
2437MHz	Pass	11.98	17.59	17.80	18.03	17.79	23.82	24.02
2462MHz	Pass	11.98	16.66	16.97	16.56	16.71	22.75	24.02
802.11ac VHT40-BF_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-
2422MHz	Pass	11.98	11.67	11.64	11.72	11.73	17.71	24.02
2437MHz	Pass	11.98	11.65	11.72	11.66	11.76	17.72	24.02
2452MHz	Pass	11.98	12.80	12.58	12.77	12.87	18.78	24.02

DG = Directional Gain; Port X = Port X output power



For set 3 antenna / 4T2S

Summary

Mode	Total Power (dBm)	Total Power (W)
802.11ac VHT20-BF_Nss2,(MCS0)_4TX	-	-
2.4-2.4835GHz	26.60	0.45709
802.11ac VHT40-BF_Nss2,(MCS0)_4TX	-	-
2.4-2.4835GHz	20.62	0.11535

Result

Mode	Result	DG (dBi)	Port 1 (dBm)	Port 2 (dBm)	Port 3 (dBm)	Port 4 (dBm)	Total Power (dBm)	Power Limit (dBm)
802.11ac VHT20-BF_Nss2,(MCS0)_4TX	-	-	-	-	-	-	-	-
2412MHz	Pass	8.97	14.56	14.13	14.31	14.22	20.33	27.03
2437MHz	Pass	8.97	20.79	20.25	20.72	20.54	26.60	27.03
2462MHz	Pass	8.97	15.87	15.25	15.20	15.11	21.39	27.03
802.11ac VHT40-BF_Nss2,(MCS0)_4TX	-	-	-	-	-	-	-	-
2422MHz	Pass	8.97	9.86	8.88	9.13	9.22	15.31	27.03
2437MHz	Pass	8.97	15.06	14.28	14.52	14.51	20.62	27.03
2452MHz	Pass	8.97	11.99	10.56	10.49	11.29	17.15	27.03

DG = Directional Gain; Port X = Port X output power



For set 4 antenna / 4T1S

Summary

Mode	Total Power (dBm)	Total Power (W)
802.11b_(1Mbps)_4TX	-	-
2.4-2.4835GHz	28.81	0.76033
802.11g_(6Mbps)_4TX	-	-
2.4-2.4835GHz	27.24	0.52966
802.11ac VHT20_Nss1,(MCS0)_4TX	-	-
2.4-2.4835GHz	27.24	0.52966
802.11ac VHT40_Nss1,(MCS0)_4TX	-	-
2.4-2.4835GHz	22.44	0.17539
802.11ac VHT20-BF_Nss1,(MCS0)_4TX	-	-
2.4-2.4835GHz	27.06	0.50816
802.11ac VHT40-BF_Nss1,(MCS0)_4TX	-	-
2.4-2.4835GHz	24.02	0.25235

Result

Mode	Result	DG (dBi)	Port 1 (dBm)	Port 2 (dBm)	Port 3 (dBm)	Port 4 (dBm)	Total Power (dBm)	Power Limit (dBm)
802.11b_(1Mbps)_4TX	-	-	-	-	-	-	-	-
2412MHz	Pass	5.95	20.84	20.62	20.90	20.31	26.69	30.00
2437MHz	Pass	5.95	23.20	23.18	22.01	22.66	28.81	30.00
2462MHz	Pass	5.95	20.66	20.19	20.41	19.86	26.31	30.00
802.11g_(6Mbps)_4TX	-	-	-	-	-	-	-	-
2412MHz	Pass	5.95	15.16	14.83	15.80	14.37	21.09	30.00
2437MHz	Pass	5.95	21.40	20.99	22.05	20.26	27.24	30.00
2462MHz	Pass	5.95	16.47	16.09	16.20	15.80	22.17	30.00
802.11ac VHT20_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-
2412MHz	Pass	5.95	15.63	15.25	16.39	14.83	21.58	30.00
2437MHz	Pass	5.95	21.38	21.01	22.03	20.29	27.24	30.00
2462MHz	Pass	5.95	16.69	16.46	16.56	16.51	22.58	30.00
802.11ac VHT40_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-
2422MHz	Pass	5.95	12.14	11.74	12.67	11.52	18.06	30.00
2437MHz	Pass	5.95	16.61	16.12	17.00	15.84	22.44	30.00
2452MHz	Pass	5.95	16.13	15.23	16.22	15.37	21.78	30.00
802.11ac VHT20-BF_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-
2412MHz	Pass	8.62	17.52	17.72	17.93	17.69	23.74	27.38
2437MHz	Pass	8.62	21.37	20.95	21.04	20.79	27.06	27.38
2462MHz	Pass	8.62	17.79	17.69	17.92	17.75	23.81	27.38
802.11ac VHT40-BF_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-
2422MHz	Pass	8.62	14.72	14.70	14.99	14.98	20.87	27.38
2437MHz	Pass	8.62	17.79	17.97	18.23	18.02	24.02	27.38
2452MHz	Pass	8.62	14.88	14.74	14.89	15.08	20.92	27.38

DG = Directional Gain; Port X = Port X output power



For set 4 antenna / 4T2S

Summary

Mode	Total Power (dBm)	Total Power (W)
802.11ac VHT20-BF_Nss2,(MCS0)_4TX	-	-
2.4-2.4835GHz	25.74	0.37497
802.11ac VHT40-BF_Nss2,(MCS0)_4TX	-	-
2.4-2.4835GHz	22.59	0.18155

Result

Mode	Result	DG (dBi)	Port 1 (dBm)	Port 2 (dBm)	Port 3 (dBm)	Port 4 (dBm)	Total Power (dBm)	Power Limit (dBm)
802.11ac VHT20-BF_Nss2,(MCS0)_4TX	-	-	-	-	-	-	-	-
2412MHz	Pass	5.72	16.69	16.08	16.37	16.06	22.33	30.00
2437MHz	Pass	5.72	19.88	19.67	19.68	19.64	25.74	30.00
2462MHz	Pass	5.72	16.88	15.98	16.27	16.15	22.35	30.00
802.11ac VHT40-BF_Nss2,(MCS0)_4TX	-	-	-	-	-	-	-	-
2422MHz	Pass	5.72	13.95	13.07	13.40	13.43	19.49	30.00
2437MHz	Pass	5.72	16.97	16.31	16.56	16.40	22.59	30.00
2452MHz	Pass	5.72	13.94	12.99	12.95	13.35	19.35	30.00

DG = Directional Gain; Port X = Port X output power



For set 5 antenna / 4T1S

Summary

Mode	Total Power (dBm)	Total Power (W)
802.11b_(1Mbps)_4TX	-	-
2.4-2.4835GHz	29.36	0.86298
802.11g_(6Mbps)_4TX	-	-
2.4-2.4835GHz	29.20	0.83176
802.11ac VHT20_Nss1,(MCS0)_4TX	-	-
2.4-2.4835GHz	29.25	0.84140
802.11ac VHT40_Nss1,(MCS0)_4TX	-	-
2.4-2.4835GHz	23.16	0.20701
802.11ac VHT20-BF_Nss1,(MCS0)_4TX	-	-
2.4-2.4835GHz	28.62	0.72778
802.11ac VHT40-BF_Nss1,(MCS0)_4TX	-	-
2.4-2.4835GHz	25.23	0.33343

Result

Mode	Result	DG (dBi)	Port 1 (dBm)	Port 2 (dBm)	Port 3 (dBm)	Port 4 (dBm)	Total Power (dBm)	Power Limit (dBm)
802.11b_(1Mbps)_4TX	-	-	-	-	-	-	-	-
2412MHz	Pass	4.35	21.47	21.49	20.80	20.73	27.16	30.00
2437MHz	Pass	4.35	23.64	23.72	22.94	23.02	29.36	30.00
2462MHz	Pass	4.35	20.02	19.82	20.41	19.53	25.98	30.00
802.11g_(6Mbps)_4TX	-	-	-	-	-	-	-	-
2412MHz	Pass	4.35	14.76	14.35	14.52	14.02	20.44	30.00
2437MHz	Pass	4.35	23.11	23.42	23.60	22.52	29.20	30.00
2462MHz	Pass	4.35	17.67	17.46	16.94	17.19	23.34	30.00
802.11ac VHT20_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-
2412MHz	Pass	4.35	14.76	14.71	14.89	14.44	20.72	30.00
2437MHz	Pass	4.35	23.13	23.48	23.62	22.60	29.25	30.00
2462MHz	Pass	4.35	17.51	17.31	17.51	17.06	23.37	30.00
802.11ac VHT40_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-
2422MHz	Pass	4.35	12.37	12.33	12.04	12.04	18.22	30.00
2437MHz	Pass	4.35	17.40	16.57	17.05	16.96	23.03	30.00
2452MHz	Pass	4.35	17.38	17.24	17.10	16.82	23.16	30.00
802.11ac VHT20-BF_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-
2412MHz	Pass	6.66	16.74	17.20	17.44	17.24	23.19	29.34
2437MHz	Pass	6.66	22.35	22.47	22.95	22.59	28.62	29.34
2462MHz	Pass	6.66	19.13	19.34	19.34	19.41	25.33	29.34
802.11ac VHT40-BF_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-
2422MHz	Pass	6.66	13.96	14.23	14.41	14.41	20.28	29.34
2437MHz	Pass	6.66	18.88	19.15	19.41	19.36	25.23	29.34
2452MHz	Pass	6.66	16.83	17.09	17.38	17.30	23.17	29.34

DG = Directional Gain; Port X = Port X output power



For set 5 antenna / 4T2S

Summary

Mode	Total Power (dBm)	Total Power (W)
802.11ac VHT20-BF_Nss2,(MCS0)_4TX	-	-
2.4-2.4835GHz	28.56	0.71779
802.11ac VHT40-BF_Nss2,(MCS0)_4TX	-	-
2.4-2.4835GHz	23.80	0.23988

Result

Mode	Result	DG (dBi)	Port 1 (dBm)	Port 2 (dBm)	Port 3 (dBm)	Port 4 (dBm)	Total Power (dBm)	Power Limit (dBm)
802.11ac VHT20-BF_Nss2,(MCS0)_4TX	-	-	-	-	-	-	-	-
2412MHz	Pass	3.67	16.90	16.58	16.56	16.48	22.65	30.00
2437MHz	Pass	3.67	22.33	22.79	22.34	22.67	28.56	30.00
2462MHz	Pass	3.67	18.29	17.52	17.79	17.68	23.85	30.00
802.11ac VHT40-BF_Nss2,(MCS0)_4TX	-	-	-	-	-	-	-	-
2422MHz	Pass	3.67	13.14	12.64	12.80	12.80	18.87	30.00
2437MHz	Pass	3.67	18.12	17.44	17.85	17.68	23.80	30.00
2452MHz	Pass	3.67	17.12	16.17	16.84	16.60	22.72	30.00

DG = Directional Gain; Port X = Port X output power



For set 6 antenna / 4T1S

Summary

Mode	Total Power (dBm)	Total Power (W)
802.11b_(1Mbps)_4TX	-	-
2.4-2.4835GHz	29.36	0.86298
802.11g_(6Mbps)_4TX	-	-
2.4-2.4835GHz	27.34	0.54200
802.11ac VHT20_Nss1,(MCS0)_4TX	-	-
2.4-2.4835GHz	27.80	0.60256
802.11ac VHT40_Nss1,(MCS0)_4TX	-	-
2.4-2.4835GHz	22.22	0.16672
802.11ac VHT20-BF_Nss1,(MCS0)_4TX	-	-
2.4-2.4835GHz	29.43	0.87700
802.11ac VHT40-BF_Nss1,(MCS0)_4TX	-	-
2.4-2.4835GHz	25.22	0.33266

Result

Mode	Result	DG (dBi)	Port 1 (dBm)	Port 2 (dBm)	Port 3 (dBm)	Port 4 (dBm)	Total Power (dBm)	Power Limit (dBm)
802.11b_(1Mbps)_4TX	-	-	-	-	-	-	-	-
2412MHz	Pass	2.41	21.47	21.49	20.80	20.73	27.16	30.00
2437MHz	Pass	2.41	23.64	23.72	22.94	23.02	29.36	30.00
2462MHz	Pass	2.41	20.09	20.07	18.95	19.85	25.78	30.00
802.11g_(6Mbps)_4TX	-	-	-	-	-	-	-	-
2412MHz	Pass	2.41	15.76	15.56	15.05	15.40	21.47	30.00
2437MHz	Pass	2.41	21.33	21.76	21.15	20.99	27.34	30.00
2462MHz	Pass	2.41	18.04	18.28	17.99	18.08	24.12	30.00
802.11ac VHT20_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-
2412MHz	Pass	2.41	16.09	15.82	15.52	15.86	21.85	30.00
2437MHz	Pass	2.41	21.68	22.21	21.70	21.49	27.80	30.00
2462MHz	Pass	2.41	18.58	18.54	18.34	18.07	24.41	30.00
802.11ac VHT40_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-
2422MHz	Pass	2.41	13.18	12.99	12.21	12.80	18.83	30.00
2437MHz	Pass	2.41	15.96	15.86	15.25	15.73	21.73	30.00
2452MHz	Pass	2.41	16.49	16.36	15.75	16.15	22.22	30.00
802.11ac VHT20-BF_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-
2412MHz	Pass	3.32	20.22	20.69	20.63	20.37	26.50	30.00
2437MHz	Pass	3.32	23.18	23.59	23.70	23.14	29.43	30.00
2462MHz	Pass	3.32	19.13	19.34	19.34	19.41	25.32	30.00
802.11ac VHT40-BF_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-
2422MHz	Pass	3.32	18.11	18.22	18.68	18.39	24.38	30.00
2437MHz	Pass	3.32	18.88	19.15	19.41	19.36	25.22	30.00
2452MHz	Pass	3.32	18.06	17.97	18.47	18.31	24.23	30.00

DG = Directional Gain; Port X = Port X output power



For set 6 antenna / 4T2S

Summary

Mode	Total Power (dBm)	Total Power (W)
802.11ac VHT20-BF_Nss2,(MCS0)_4TX	-	-
2.4-2.4835GHz	28.56	0.71779
802.11ac VHT40-BF_Nss2,(MCS0)_4TX	-	-
2.4-2.4835GHz	24.84	0.30479

Result

Mode	Result	DG (dBi)	Port 1 (dBm)	Port 2 (dBm)	Port 3 (dBm)	Port 4 (dBm)	Total Power (dBm)	Power Limit (dBm)
802.11ac VHT20-BF_Nss2,(MCS0)_4TX	-	-	-	-	-	-	-	-
2412MHz	Pass	0.58	19.32	18.64	18.45	18.29	24.71	30.00
2437MHz	Pass	0.58	22.33	22.79	22.34	22.67	28.56	30.00
2462MHz	Pass	0.58	19.35	18.84	19.41	18.84	25.14	30.00
802.11ac VHT40-BF_Nss2,(MCS0)_4TX	-	-	-	-	-	-	-	-
2422MHz	Pass	0.58	18.23	17.56	17.87	17.84	23.90	30.00
2437MHz	Pass	0.58	19.16	18.42	18.91	18.75	24.84	30.00
2452MHz	Pass	0.58	17.24	16.28	16.92	16.76	22.84	30.00

DG = Directional Gain; Port X = Port X output power



For Radio 3
For set 1 antenna / 4T1S
Summary

Mode	Total Power (dBm)	Total Power (W)
802.11b_(1Mbps)_1TX	-	-
2.4-2.4835GHz	24.72	0.29648
802.11g_(6Mbps)_1TX	-	-
2.4-2.4835GHz	22.56	0.18030
802.11ac VHT20_Nss1,(MCS0)_1TX	-	-
2.4-2.4835GHz	22.86	0.19320
802.11ac VHT40_Nss1,(MCS0)_1TX	-	-
2.4-2.4835GHz	16.72	0.04699

Result

Mode	Result	DG (dBi)	Port 1 (dBm)	Total Power (dBm)	Power Limit (dBm)
802.11b_(1Mbps)_1TX	-	-	-	-	-
2412MHz	Pass	4.46	22.42	22.42	30.00
2437MHz	Pass	4.46	24.72	24.72	30.00
2462MHz	Pass	4.46	21.09	21.09	30.00
802.11g_(6Mbps)_1TX	-	-	-	-	-
2412MHz	Pass	4.46	17.04	17.04	30.00
2437MHz	Pass	4.46	22.56	22.56	30.00
2462MHz	Pass	4.46	13.88	13.88	30.00
802.11ac VHT20_Nss1,(MCS0)_1TX	-	-	-	-	-
2412MHz	Pass	4.46	17.44	17.44	30.00
2437MHz	Pass	4.46	22.86	22.86	30.00
2462MHz	Pass	4.46	13.96	13.96	30.00
802.11ac VHT40_Nss1,(MCS0)_1TX	-	-	-	-	-
2422MHz	Pass	4.46	11.97	11.97	30.00
2437MHz	Pass	4.46	16.72	16.72	30.00
2452MHz	Pass	4.46	9.27	9.27	30.00

DG = Directional Gain; **Port X** = Port X output power



For set 3 antenna / 4T1S

Summary

Mode	Total Power (dBm)	Total Power (W)
802.11b_(1Mbps)_1TX	-	-
2.4-2.4835GHz	24.08	0.25586
802.11g_(6Mbps)_1TX	-	-
2.4-2.4835GHz	15.14	0.03266
802.11ac VHT20_Nss1,(MCS0)_1TX	-	-
2.4-2.4835GHz	15.20	0.03311
802.11ac VHT40_Nss1,(MCS0)_1TX	-	-
2.4-2.4835GHz	12.27	0.01687

Result

Mode	Result	DG (dBi)	Port 1 (dBm)	Total Power (dBm)	Power Limit (dBm)
802.11b_(1Mbps)_1TX	-	-	-	-	-
2412MHz	Pass	11.01	20.51	20.51	24.99
2437MHz	Pass	11.01	24.08	24.08	24.99
2462MHz	Pass	11.01	20.15	20.15	24.99
802.11g_(6Mbps)_1TX	-	-	-	-	-
2412MHz	Pass	11.01	11.41	11.41	24.99
2437MHz	Pass	11.01	15.14	15.14	24.99
2462MHz	Pass	11.01	11.01	11.01	24.99
802.11ac VHT20_Nss1,(MCS0)_1TX	-	-	-	-	-
2412MHz	Pass	11.01	11.42	11.42	24.99
2437MHz	Pass	11.01	15.20	15.20	24.99
2462MHz	Pass	11.01	11.03	11.03	24.99
802.11ac VHT40_Nss1,(MCS0)_1TX	-	-	-	-	-
2422MHz	Pass	11.01	6.42	6.42	24.99
2437MHz	Pass	11.01	12.27	12.27	24.99
2452MHz	Pass	11.01	5.76	5.76	24.99

DG = Directional Gain; Port X = Port X output power



For set 4 antenna / 4T1S

Summary

Mode	Total Power (dBm)	Total Power (W)
802.11b_(1Mbps)_1TX	-	-
2.4-2.4835GHz	24.72	0.29648
802.11g_(6Mbps)_1TX	-	-
2.4-2.4835GHz	21.97	0.15740
802.11ac VHT20_Nss1,(MCS0)_1TX	-	-
2.4-2.4835GHz	22.37	0.17258
802.11ac VHT40_Nss1,(MCS0)_1TX	-	-
2.4-2.4835GHz	15.76	0.03767

Result

Mode	Result	DG (dBi)	Port 1 (dBm)	Total Power (dBm)	Power Limit (dBm)
802.11b_(1Mbps)_1TX	-	-	-	-	-
2412MHz	Pass	6.16	21.94	21.94	29.84
2437MHz	Pass	6.16	24.72	24.72	29.84
2462MHz	Pass	6.16	22.13	22.13	29.84
802.11g_(6Mbps)_1TX	-	-	-	-	-
2412MHz	Pass	6.16	17.63	17.63	29.84
2437MHz	Pass	6.16	21.97	21.97	29.84
2462MHz	Pass	6.16	13.88	13.88	29.84
802.11ac VHT20_Nss1,(MCS0)_1TX	-	-	-	-	-
2412MHz	Pass	6.16	18.11	18.11	29.84
2437MHz	Pass	6.16	22.37	22.37	29.84
2462MHz	Pass	6.16	13.96	13.96	29.84
802.11ac VHT40_Nss1,(MCS0)_1TX	-	-	-	-	-
2422MHz	Pass	6.16	12.84	12.84	29.84
2437MHz	Pass	6.16	15.76	15.76	29.84
2452MHz	Pass	6.16	9.27	9.27	29.84

DG = Directional Gain; Port X = Port X output power



For set 5 antenna / 4T1S

Summary

Mode	Total Power (dBm)	Total Power (W)
802.11b_(1Mbps)_1TX	-	-
2.4-2.4835GHz	25.65	0.36728
802.11g_(6Mbps)_1TX	-	-
2.4-2.4835GHz	22.38	0.17298
802.11ac VHT20_Nss1,(MCS0)_1TX	-	-
2.4-2.4835GHz	22.69	0.18578
802.11ac VHT40_Nss1,(MCS0)_1TX	-	-
2.4-2.4835GHz	16.93	0.04932

Result

Mode	Result	DG (dBi)	Port 1 (dBm)	Total Power (dBm)	Power Limit (dBm)
802.11b_(1Mbps)_1TX	-	-	-	-	-
2412MHz	Pass	4.56	22.67	22.67	30.00
2437MHz	Pass	4.56	25.65	25.65	30.00
2462MHz	Pass	4.56	21.52	21.52	30.00
802.11g_(6Mbps)_1TX	-	-	-	-	-
2412MHz	Pass	4.56	13.87	13.87	30.00
2437MHz	Pass	4.56	22.38	22.38	30.00
2462MHz	Pass	4.56	14.32	14.32	30.00
802.11ac VHT20_Nss1,(MCS0)_1TX	-	-	-	-	-
2412MHz	Pass	4.56	14.17	14.17	30.00
2437MHz	Pass	4.56	22.69	22.69	30.00
2462MHz	Pass	4.56	14.69	14.69	30.00
802.11ac VHT40_Nss1,(MCS0)_1TX	-	-	-	-	-
2422MHz	Pass	4.56	11.34	11.34	30.00
2437MHz	Pass	4.56	16.93	16.93	30.00
2452MHz	Pass	4.56	10.34	10.34	30.00

DG = Directional Gain; Port X = Port X output power



For set 6 antenna / 4T1S

Summary

Mode	Total Power (dBm)	Total Power (W)
802.11b_(1Mbps)_1TX	-	-
2.4-2.4835GHz	24.57	0.28642
802.11g_(6Mbps)_1TX	-	-
2.4-2.4835GHz	22.72	0.18707
802.11ac VHT20_Nss1,(MCS0)_1TX	-	-
2.4-2.4835GHz	23.02	0.20045
802.11ac VHT40_Nss1,(MCS0)_1TX	-	-
2.4-2.4835GHz	18.11	0.06471

Result

Mode	Result	DG (dBi)	Port 1 (dBm)	Total Power (dBm)	Power Limit (dBm)
802.11b_(1Mbps)_1TX	-	-	-	-	-
2412MHz	Pass	2.62	22.67	22.67	30.00
2437MHz	Pass	2.62	24.57	24.57	30.00
2462MHz	Pass	2.62	22.85	22.85	30.00
802.11g_(6Mbps)_1TX	-	-	-	-	-
2412MHz	Pass	2.62	13.87	13.87	30.00
2437MHz	Pass	2.62	22.72	22.72	30.00
2462MHz	Pass	2.62	17.40	17.40	30.00
802.11ac VHT20_Nss1,(MCS0)_1TX	-	-	-	-	-
2412MHz	Pass	2.62	14.17	14.17	30.00
2437MHz	Pass	2.62	23.02	23.02	30.00
2462MHz	Pass	2.62	17.74	17.74	30.00
802.11ac VHT40_Nss1,(MCS0)_1TX	-	-	-	-	-
2422MHz	Pass	2.62	12.43	12.43	30.00
2437MHz	Pass	2.62	18.11	18.11	30.00
2452MHz	Pass	2.62	11.36	11.36	30.00

DG = Directional Gain; Port X = Port X output power



3.4 Power Spectral Density

3.4.1 Power Spectral Density Limit

Power Spectral Density Limit
▪ Power Spectral Density (PSD) $\leq 8 \text{ dBm}/3\text{kHz}$

3.4.2 Measuring Instruments

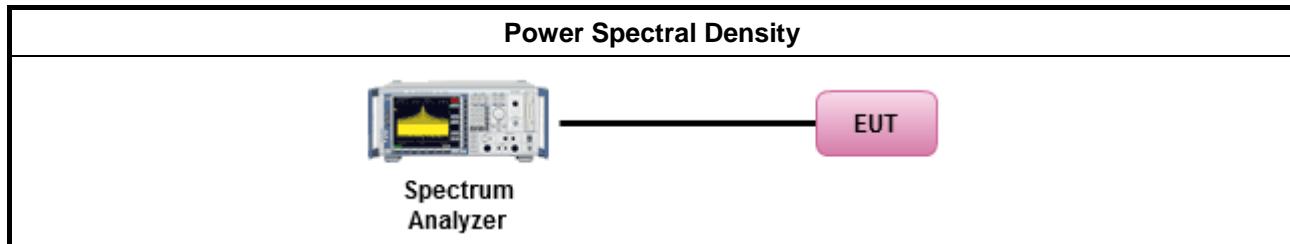
Refer a test equipment and calibration data table in this test report.

3.4.3 Test Procedures

Test Method
▪ Peak power spectral density procedures that the same method as used to determine the conducted output power. If maximum peak conducted output power was measured to demonstrate compliance to the output power limit, then the peak PSD procedure below (Method PKPSD) shall be used. If maximum conducted output power was measured to demonstrate compliance to the output power limit, then one of the average PSD procedures shall be used, as applicable based on the following criteria (the peak PSD procedure is also an acceptable option).
<input checked="" type="checkbox"/> Refer as FCC KDB 558074, clause 10.2 Method PKPSD (RBW=3-100kHz; Detector=peak). [duty cycle $\geq 98\%$ or external video / power trigger]
<input type="checkbox"/> Refer as FCC KDB 558074, clause 10.3 Method AVGPSD-1 (spectral trace averaging).
<input type="checkbox"/> Refer as FCC KDB 558074, clause 10.4 Method AVGPSD-2 (slow sweep speed)
duty cycle $< 98\%$ and average over on/off periods with duty factor
<input type="checkbox"/> Refer as FCC KDB 558074, clause 10.5 Method AVGPSD-1 Alt (spectral trace averaging).
<input type="checkbox"/> Refer as FCC KDB 558074, clause 10.6 Method AVGPSD-2 Alt. (slow sweep speed)
▪ For conducted measurement.
▪ If The EUT supports multiple transmit chains using options given below:
<input checked="" type="checkbox"/> Option 1: Measure and sum the spectra across the outputs. Refer as FCC KDB 662911, In-band power spectral density (PSD). Sample all transmit ports simultaneously using a spectrum analyzer for each transmit port. Where the trace bin-by-bin of each transmit port summing can be performed. (i.e., in the first spectral bin of output 1 is summed with that in the first spectral bin of output 2 and that from the first spectral bin of output 3, and so on up to the NTX output to obtain the value for the first frequency bin of the summed spectrum.). Add up the amplitude (power) values for the different transmit chains and use this as the new data trace.
<input type="checkbox"/> Option 2: Measure and sum spectral maxima across the outputs. With this technique, spectra are measured at each output of the device at the required resolution bandwidth. The maximum value (peak) of each spectrum is determined. These maximum values are then summed mathematically in linear power units across the outputs. These operations shall be performed separately over frequency spans that have different out-of-band or spurious emission limits,
<input type="checkbox"/> Option 3: Measure and add $10 \log(N) \text{ dB}$, where N is the number of transmit chains. Refer as FCC KDB 662911, In-band power spectral density (PSD). Performed at each transmit chains and each transmit chains shall be compared with the limit have been reduced with $10 \log(N)$. Or each transmit chains shall be add $10 \log(N)$ to compared with the limit.



3.4.4 Test Setup





3.4.5 Test Result of Power Spectral Density

For Radio 1

For set 1 antenna / 4T1S

Summary

Mode	PD (dBm/RBW)
802.11b_(1Mbps)_4TX	-
2.4-2.4835GHz	0.43
802.11g_(6Mbps)_4TX	-
2.4-2.4835GHz	-0.37
802.11ac VHT20_Nss1,(MCS0)_4TX	-
2.4-2.4835GHz	-0.48
802.11ac VHT40_Nss1,(MCS0)_4TX	-
2.4-2.4835GHz	-7.97
802.11ac VHT20-BF_Nss1,(MCS0)_4TX	-
2.4-2.4835GHz	4.20
802.11ac VHT40-BF_Nss1,(MCS0)_4TX	-
2.4-2.4835GHz	-4.70

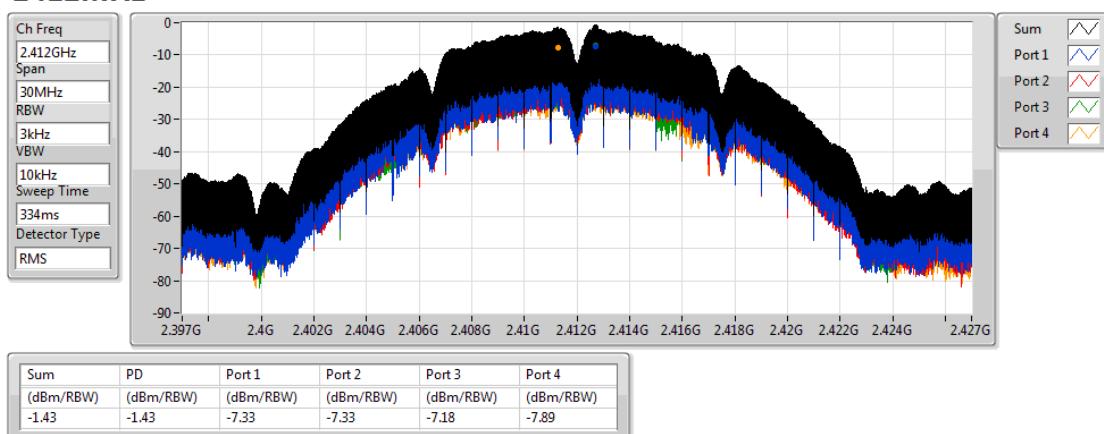
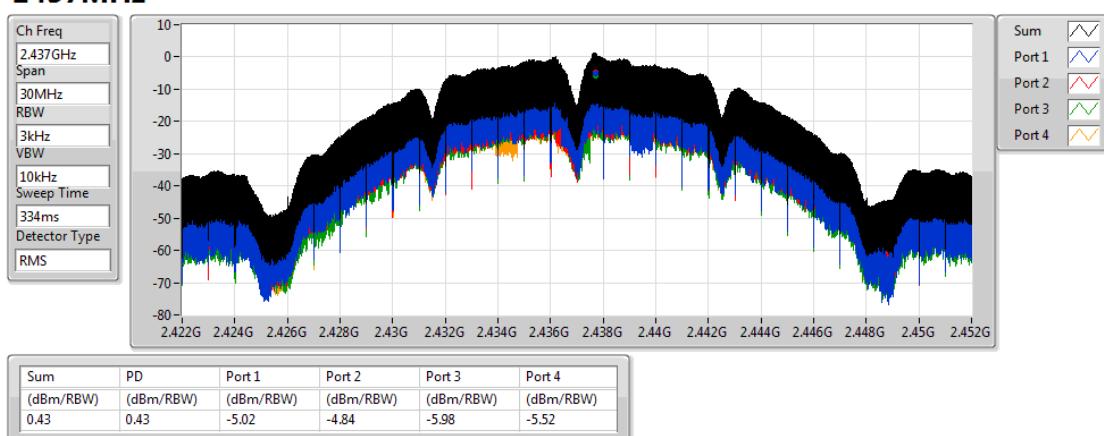
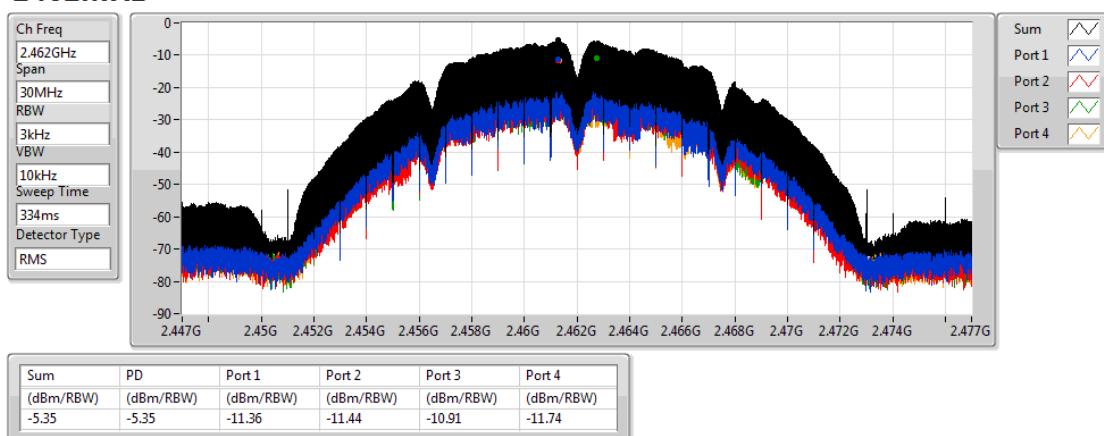
RBW=3kHz.



Result

Mode	Result	DG (dBi)	Port 1 (dBm/RBW)	Port 2 (dBm/RBW)	Port 3 (dBm/RBW)	Port 4 (dBm/RBW)	PD (dBm/RBW)	PD Limit (dBm/RBW)
802.11b_(1Mbps)_4TX	-	-	-	-	-	-	-	-
2412MHz	Pass	6.47	-7.33	-7.33	-7.18	-7.89	-1.43	7.53
2437MHz	Pass	6.47	-5.02	-4.84	-5.98	-5.52	0.43	7.53
2462MHz	Pass	6.47	-11.36	-11.44	-10.91	-11.74	-5.35	7.53
802.11g_(6Mbps)_4TX	-	-	-	-	-	-	-	-
2412MHz	Pass	6.47	-11.17	-11.45	-11.67	-11.86	-6.55	7.53
2437MHz	Pass	6.47	-5.93	-4.55	-5.34	-6.50	-0.37	7.53
2462MHz	Pass	6.47	-10.56	-10.22	-11.16	-11.87	-5.94	7.53
802.11ac VHT20_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-
2412MHz	Pass	6.47	-10.11	-10.41	-10.36	-11.59	-5.59	7.53
2437MHz	Pass	6.47	-5.70	-5.55	-5.59	-6.11	-0.48	7.53
2462MHz	Pass	6.47	-10.26	-10.33	-10.74	-10.99	-5.54	7.53
802.11ac VHT40_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-
2422MHz	Pass	6.47	-16.52	-16.15	-16.92	-16.43	-11.62	7.53
2437MHz	Pass	6.47	-11.65	-13.38	-13.49	-12.47	-7.97	7.53
2452MHz	Pass	6.47	-13.07	-13.33	-13.83	-13.30	-8.53	7.53
802.11ac VHT20-BF_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-
2412MHz	Pass	6.47	-5.77	-5.18	-4.35	-4.72	-1.43	7.53
2437MHz	Pass	6.47	1.14	-0.37	0.83	1.40	4.20	7.53
2462MHz	Pass	6.47	-4.36	-5.12	-5.49	-4.34	-1.87	7.53
802.11ac VHT40-BF_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-
2422MHz	Pass	6.47	-12.11	-7.20	-10.15	-9.82	-6.74	7.53
2437MHz	Pass	6.47	-7.15	-9.05	-7.63	-8.57	-5.45	7.53
2452MHz	Pass	6.47	-8.49	-7.97	-8.48	-6.66	-4.70	7.53

DG = Directional Gain; RBW=3kHz;**PD** = trace bin-by-bin of each transmits port summing can be performed maximum power density; **Port X** = Port X power density;

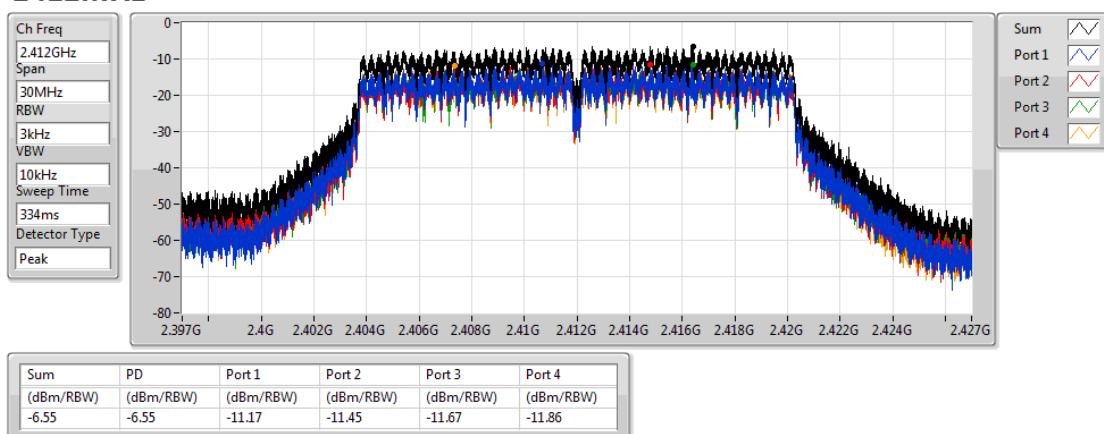
**802.11b_(1Mbps)_4TX****PSD****2412MHz****802.11b_(1Mbps)_4TX****PSD****2437MHz****802.11b_(1Mbps)_4TX****PSD****2462MHz**



802.11g_(6Mbps)_4TX

PSD

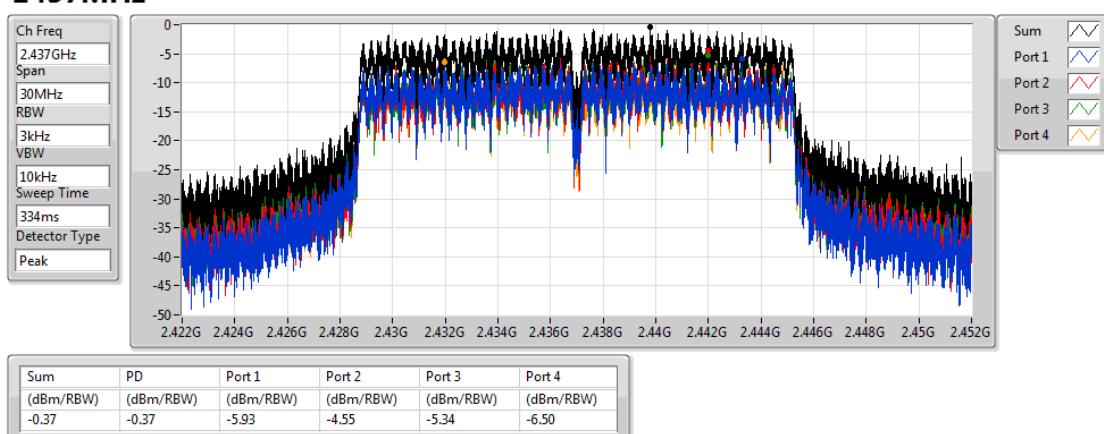
2412MHz



802.11g_(6Mbps)_4TX

PSD

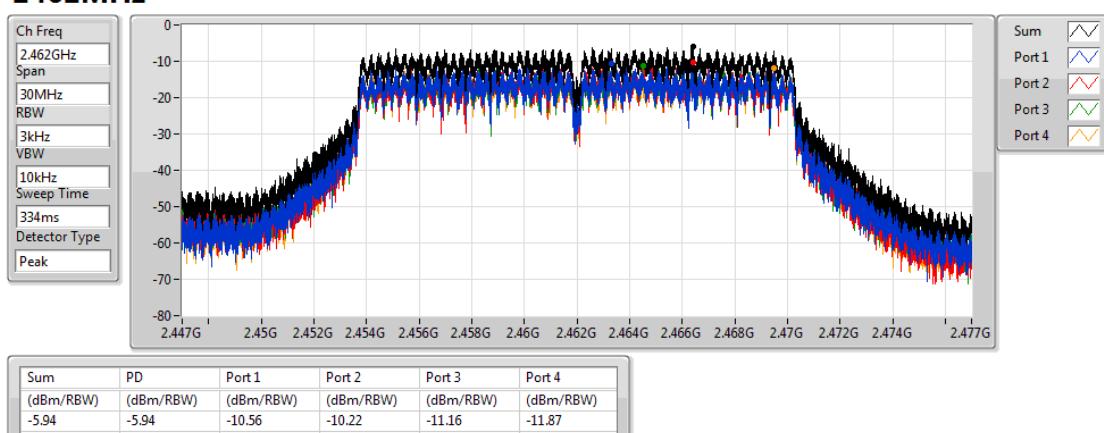
2437MHz



802.11g_(6Mbps)_4TX

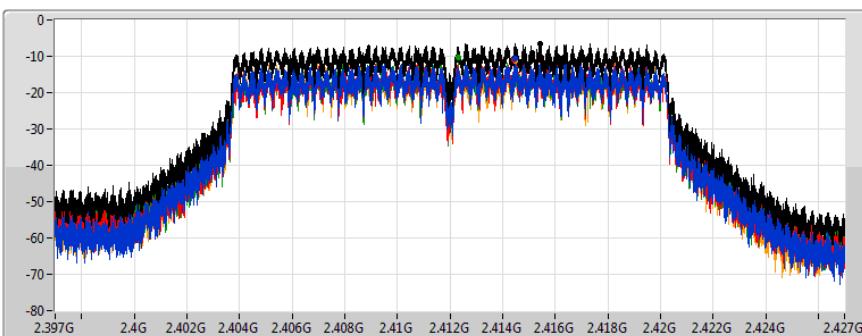
PSD

2462MHz



**802.11ac VHT20_Nss1,(MCS0)_4TX****PSD****2412MHz**

Ch Freq
2.412GHz
Span
30MHz
RBW
3kHz
VBW
10kHz
Sweep Time
334ms
Detector Type
Peak

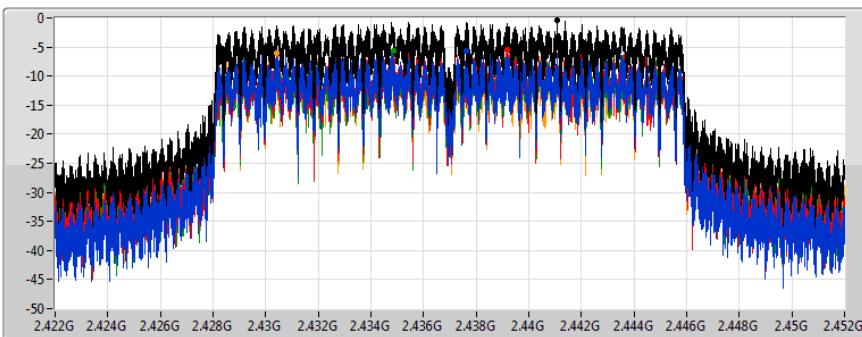


Sum
Port 1
Port 2
Port 3
Port 4

Sum	PD	Port 1	Port 2	Port 3	Port 4
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
-6.45	-6.45	-10.55	-10.79	-10.41	-11.10

802.11ac VHT20_Nss1,(MCS0)_4TX**PSD****2437MHz**

Ch Freq
2.437GHz
Span
30MHz
RBW
3kHz
VBW
10kHz
Sweep Time
334ms
Detector Type
Peak

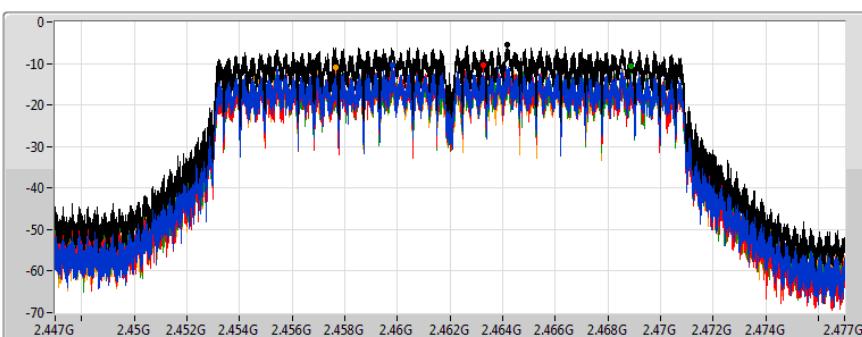


Sum
Port 1
Port 2
Port 3
Port 4

Sum	PD	Port 1	Port 2	Port 3	Port 4
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
-0.48	-0.48	-5.70	-5.55	-5.59	-6.11

802.11ac VHT20_Nss1,(MCS0)_4TX**PSD****2462MHz**

Ch Freq
2.462GHz
Span
30MHz
RBW
3kHz
VBW
10kHz
Sweep Time
334ms
Detector Type
Peak



Sum
Port 1
Port 2
Port 3
Port 4

Sum	PD	Port 1	Port 2	Port 3	Port 4
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
-5.54	-5.54	-10.26	-10.33	-10.74	-10.99

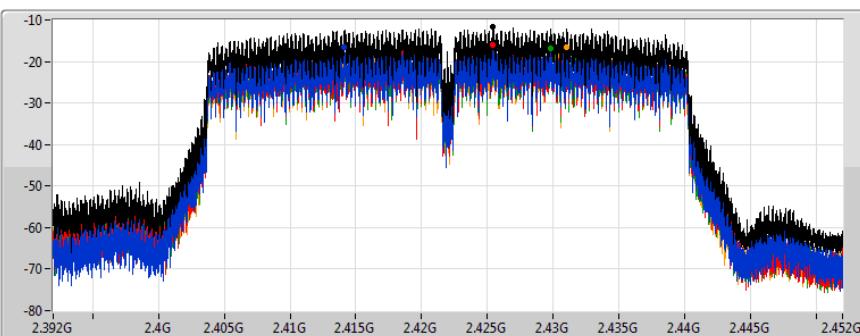


802.11ac VHT40_Nss1,(MCS0)_4TX

PSD

2422MHz

Ch Freq
2.422GHz
Span
60MHz
RBW
3kHz
VBW
10kHz
Sweep Time
667ms
Detector Type
Peak



Sum
Port 1
Port 2
Port 3
Port 4

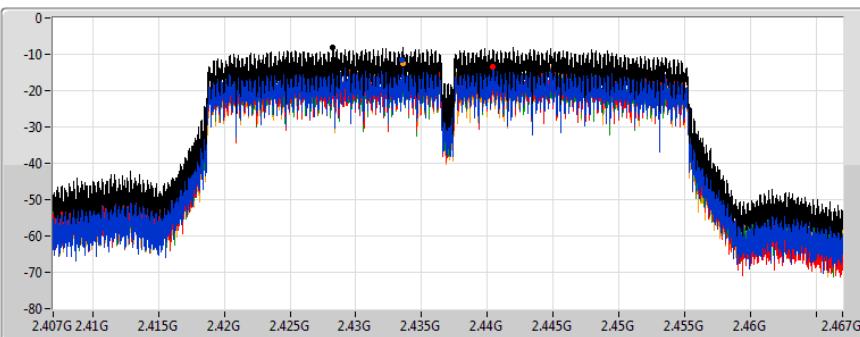
Sum	PD	Port 1	Port 2	Port 3	Port 4
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
-11.62	-11.62	-16.52	-16.15	-16.92	-16.43

802.11ac VHT40_Nss1,(MCS0)_4TX

PSD

2437MHz

Ch Freq
2.437GHz
Span
60MHz
RBW
3kHz
VBW
10kHz
Sweep Time
667ms
Detector Type
Peak



Sum
Port 1
Port 2
Port 3
Port 4

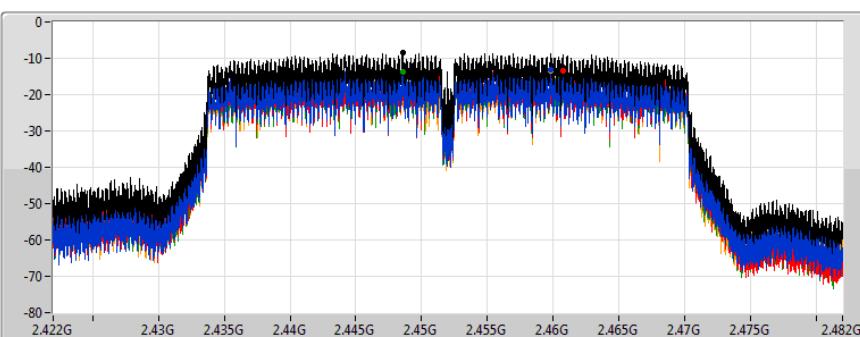
Sum	PD	Port 1	Port 2	Port 3	Port 4
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
-7.97	-7.97	-11.65	-13.38	-13.49	-12.47

802.11ac VHT40_Nss1,(MCS0)_4TX

PSD

2452MHz

Ch Freq
2.452GHz
Span
60MHz
RBW
3kHz
VBW
10kHz
Sweep Time
667ms
Detector Type
Peak



Sum
Port 1
Port 2
Port 3
Port 4

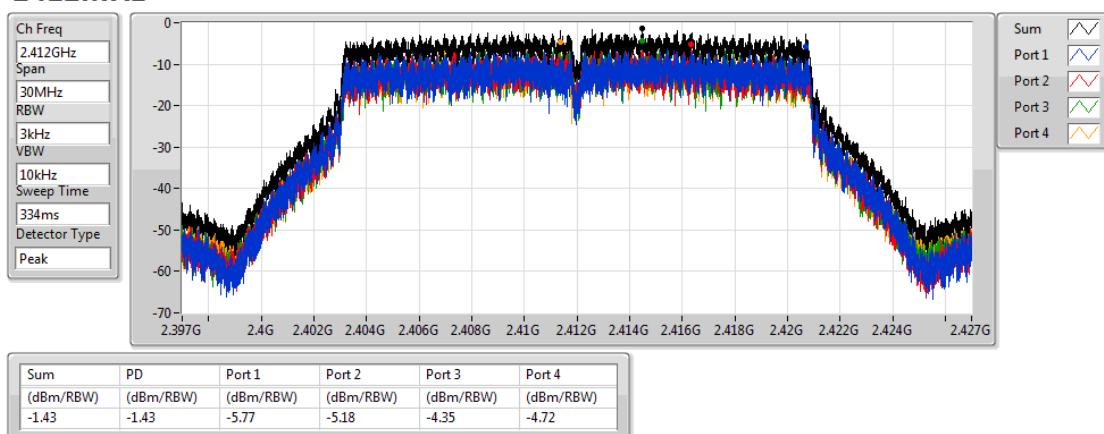
Sum	PD	Port 1	Port 2	Port 3	Port 4
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
-8.53	-8.53	-13.07	-13.33	-13.83	-13.30



802.11ac VHT20-BF_Nss1,(MCS0)_4TX

PSD

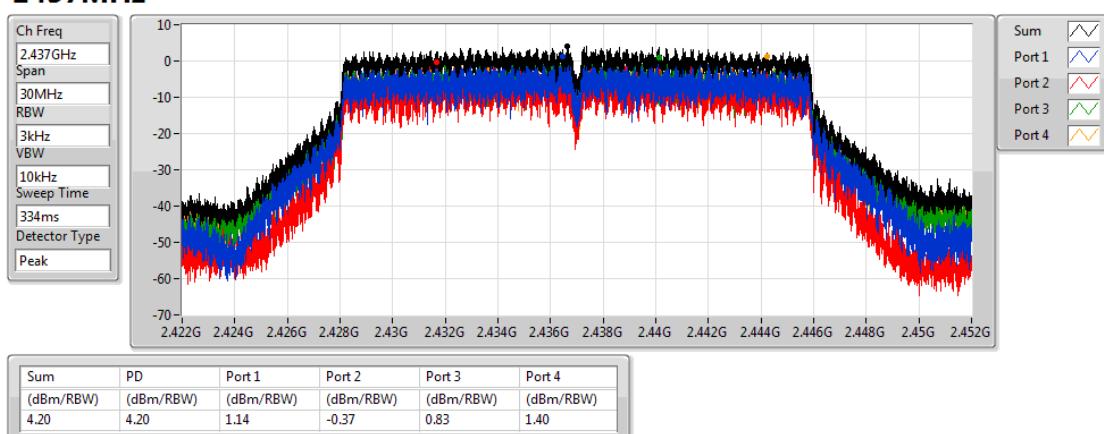
2412MHz



802.11ac VHT20-BF_Nss1,(MCS0)_4TX

PSD

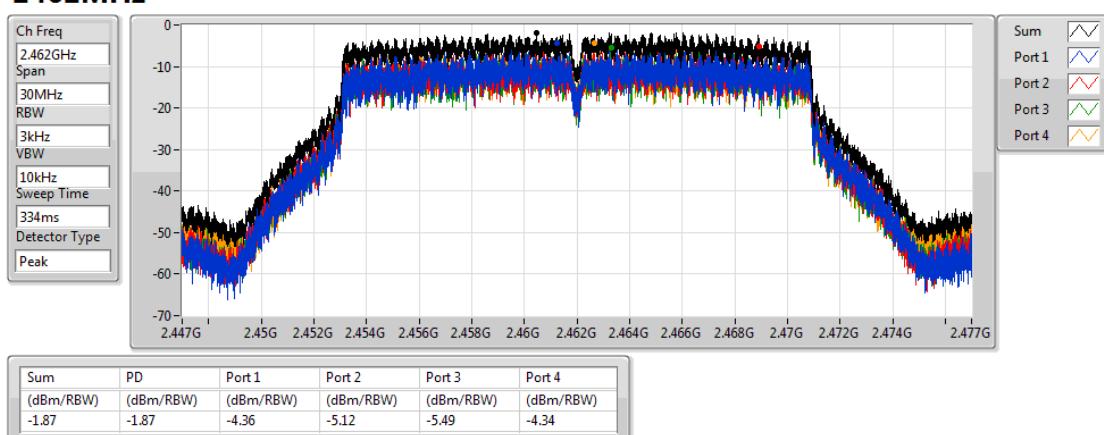
2437MHz



802.11ac VHT20-BF_Nss1,(MCS0)_4TX

PSD

2462MHz

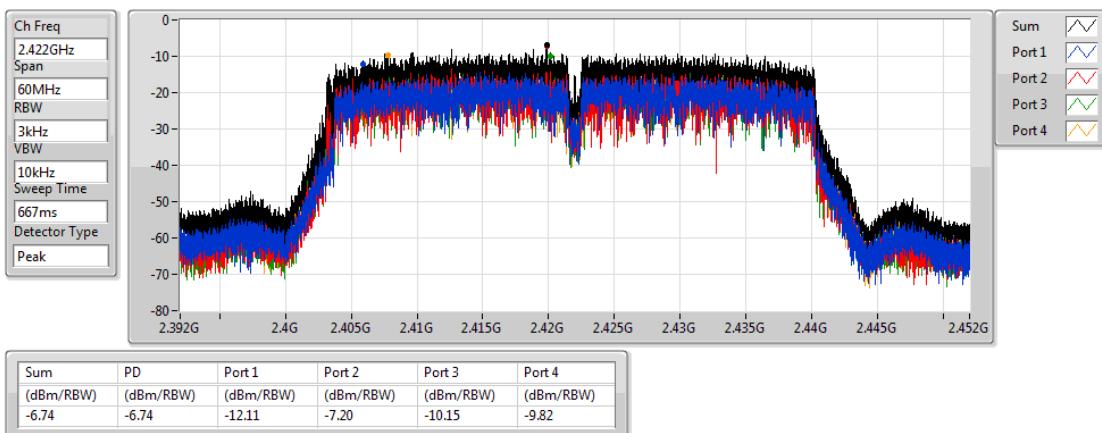




802.11ac VHT40-BF_Nss1,(MCS0)_4TX

PSD

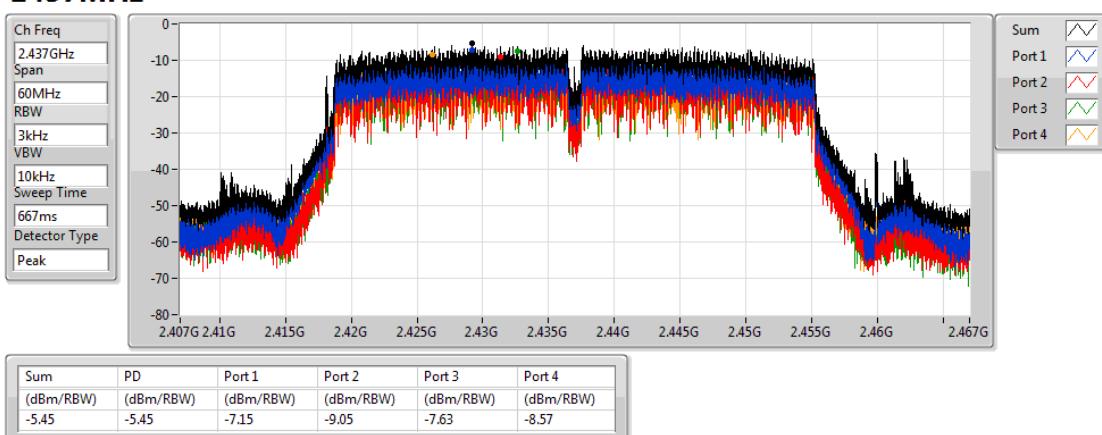
2422MHz



802.11ac VHT40-BF_Nss1,(MCS0)_4TX

PSD

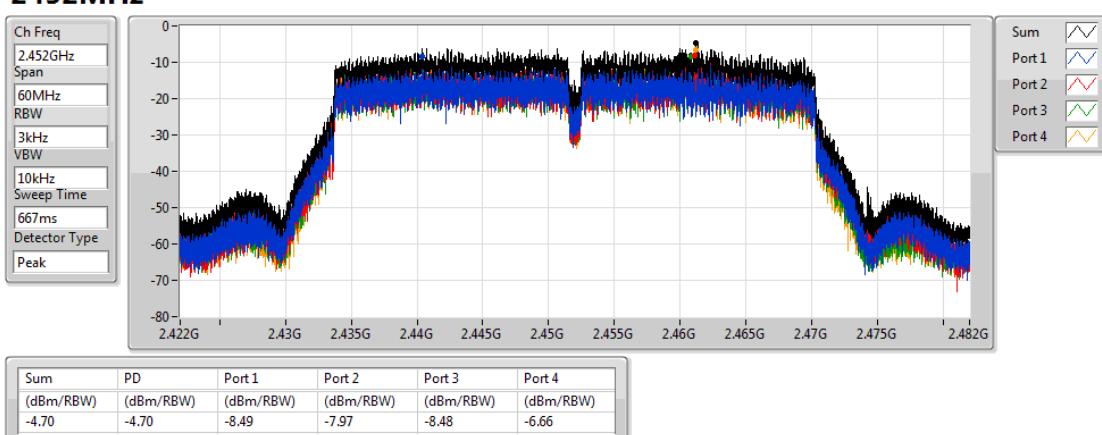
2437MHz



802.11ac VHT40-BF_Nss1,(MCS0)_4TX

PSD

2452MHz





For set 1 antenna / 4T2S

Summary

Mode	PD (dBm/RBW)
802.11ac VHT20-BF_Nss2,(MCS0)_4TX	-
2.4-2.4835GHz	-1.46
802.11ac VHT40-BF_Nss2,(MCS0)_4TX	-
2.4-2.4835GHz	-5.05

RBW=3kHz.

Result

Mode	Result	DG (dBi)	Port 1 (dBm/RBW)	Port 2 (dBm/RBW)	Port 3 (dBm/RBW)	Port 4 (dBm/RBW)	PD (dBm/RBW)	PD Limit (dBm/RBW)
802.11ac VHT20-BF_Nss2,(MCS0)_4TX	-	-	-	-	-	-	-	-
2412MHz	Pass	3.48	-7.28	-6.66	-7.15	-8.51	-4.53	8.00
2437MHz	Pass	3.48	-5.56	-4.97	-2.42	-5.55	-1.46	8.00
2462MHz	Pass	3.48	-5.35	-5.43	-5.06	-7.20	-3.39	8.00
802.11ac VHT40-BF_Nss2,(MCS0)_4TX	-	-	-	-	-	-	-	-
2422MHz	Pass	3.48	-9.93	-10.01	-9.16	-10.56	-7.44	8.00
2437MHz	Pass	3.48	-7.53	-7.55	-6.49	-6.74	-5.05	8.00
2452MHz	Pass	3.48	-10.48	-11.63	-11.52	-12.42	-8.95	8.00

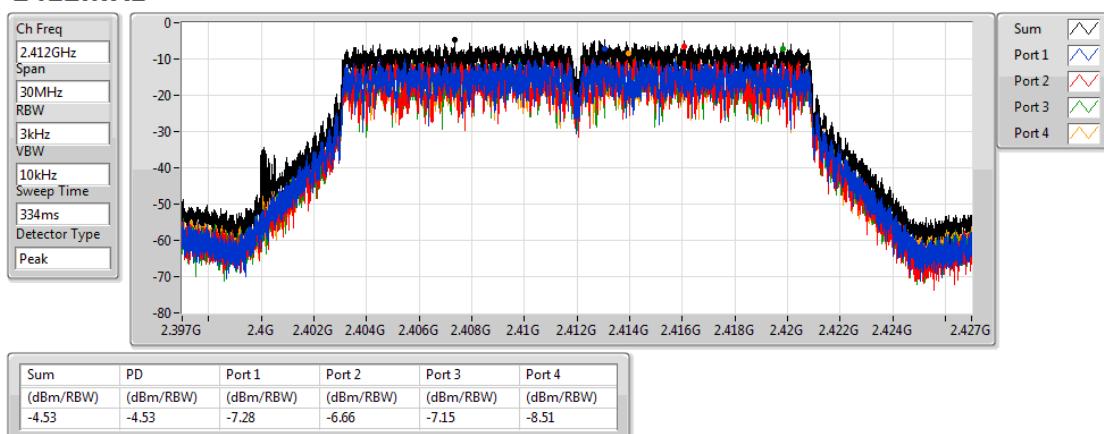
DG = Directional Gain; RBW=3kHz;**PD** = trace bin-by-bin of each transmits port summing can be performed maximum power density; **Port X** = Port X power density;



802.11ac VHT20-BF_Nss2,(MCS0)_4TX

PSD

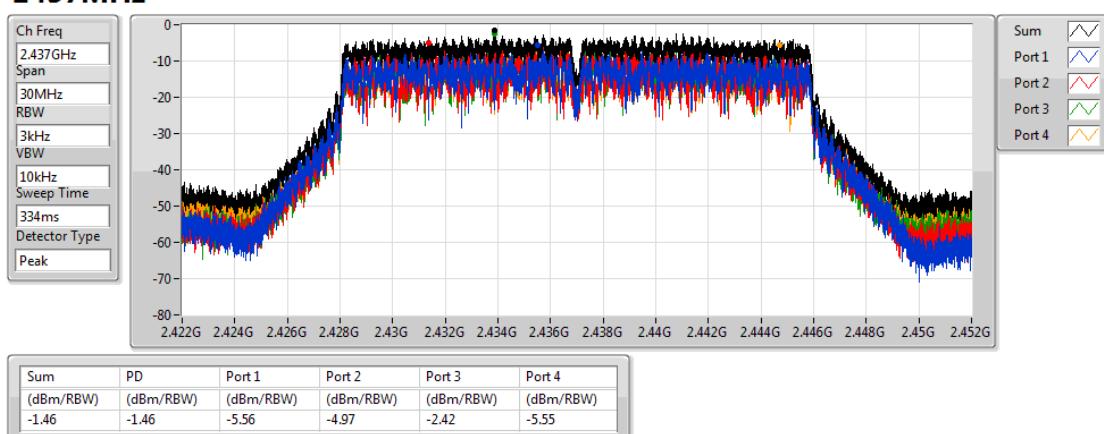
2412MHz



802.11ac VHT20-BF_Nss2,(MCS0)_4TX

PSD

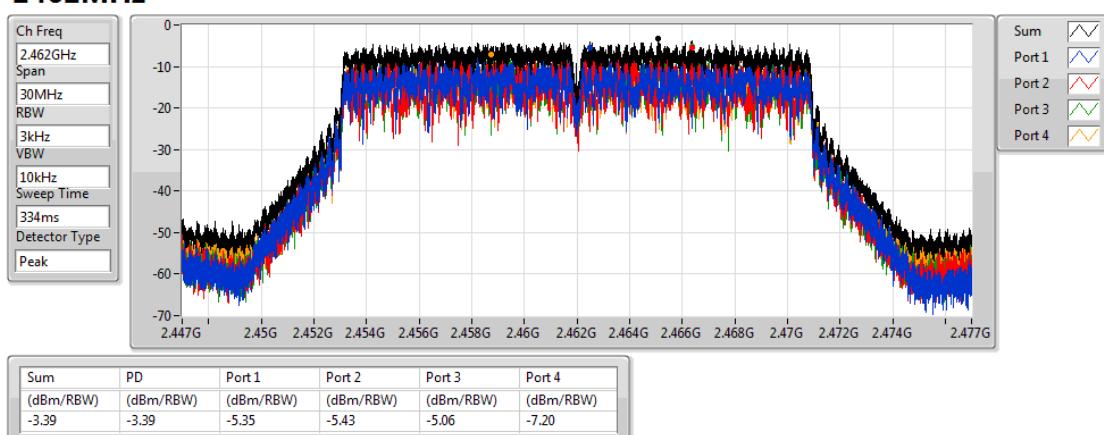
2437MHz



802.11ac VHT20-BF_Nss2,(MCS0)_4TX

PSD

2462MHz

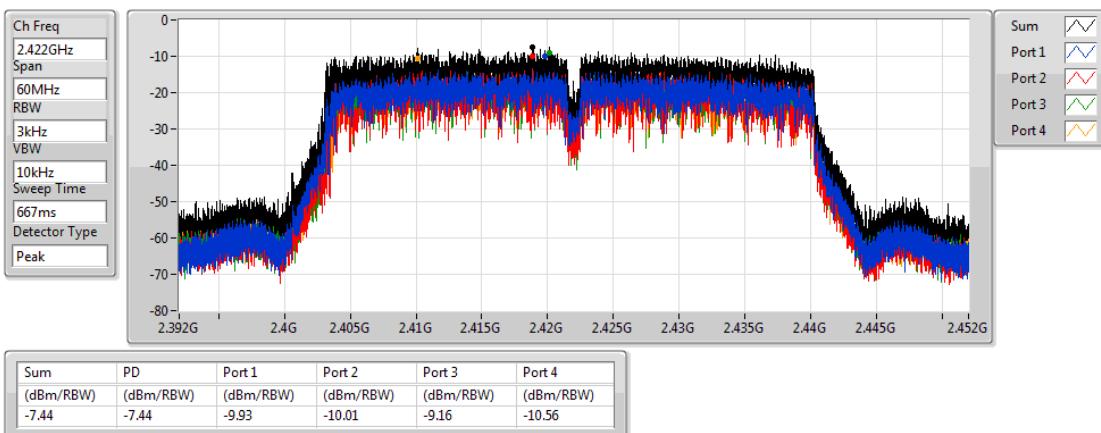




802.11ac VHT40-BF_Nss2,(MCS0)_4TX

PSD

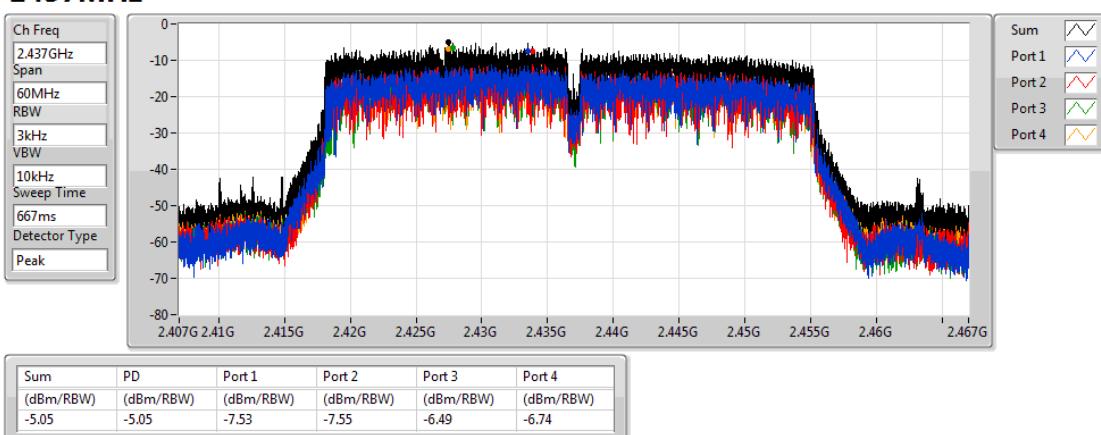
2422MHz



802.11ac VHT40-BF_Nss2,(MCS0)_4TX

PSD

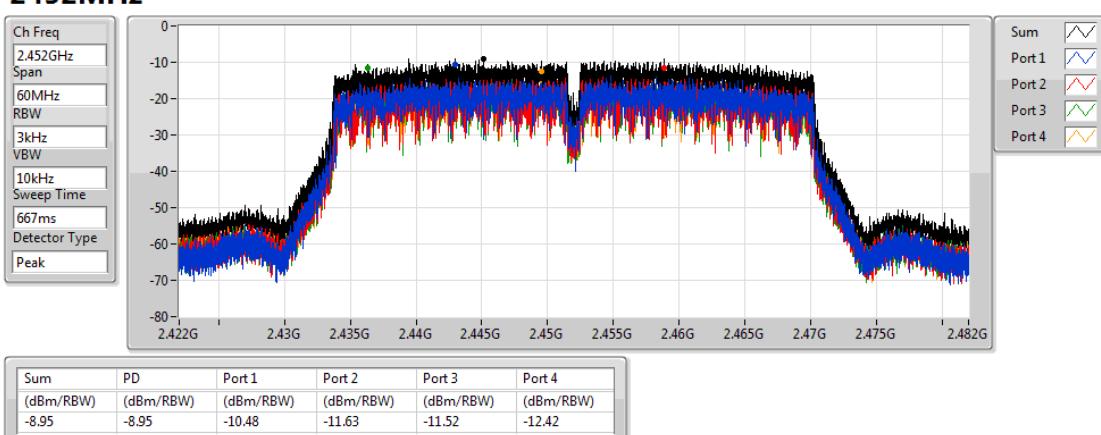
2437MHz



802.11ac VHT40-BF_Nss2,(MCS0)_4TX

PSD

2452MHz





For set 3 antenna / 4T1S

Summary

Mode	PD (dBm/RBW)
802.11b_(1Mbps)_4TX	-
2.4-2.4835GHz	-2.76
802.11g_(6Mbps)_4TX	-
2.4-2.4835GHz	-7.43
802.11ac VHT20_Nss1,(MCS0)_4TX	-
2.4-2.4835GHz	-7.82
802.11ac VHT40_Nss1,(MCS0)_4TX	-
2.4-2.4835GHz	-15.89
802.11ac VHT20-BF_Nss1,(MCS0)_4TX	-
2.4-2.4835GHz	-8.91
802.11ac VHT40-BF_Nss1,(MCS0)_4TX	-
2.4-2.4835GHz	-14.84

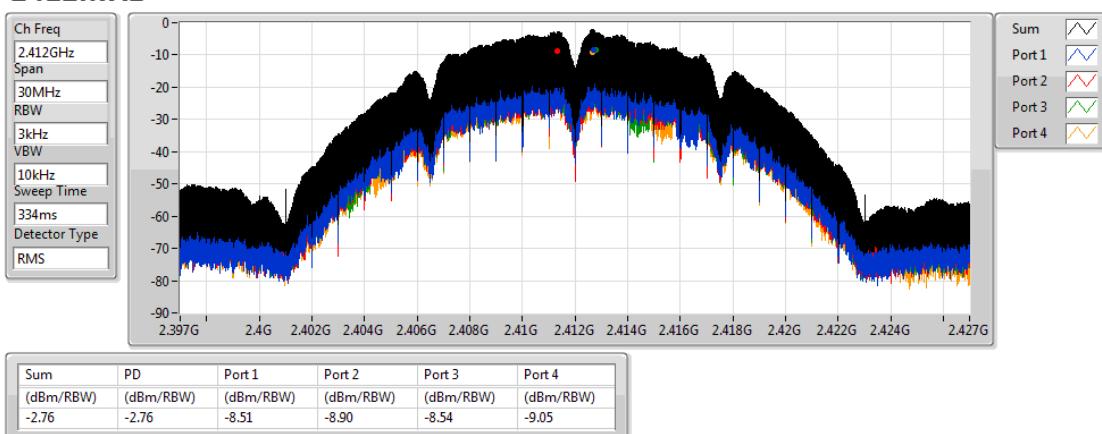
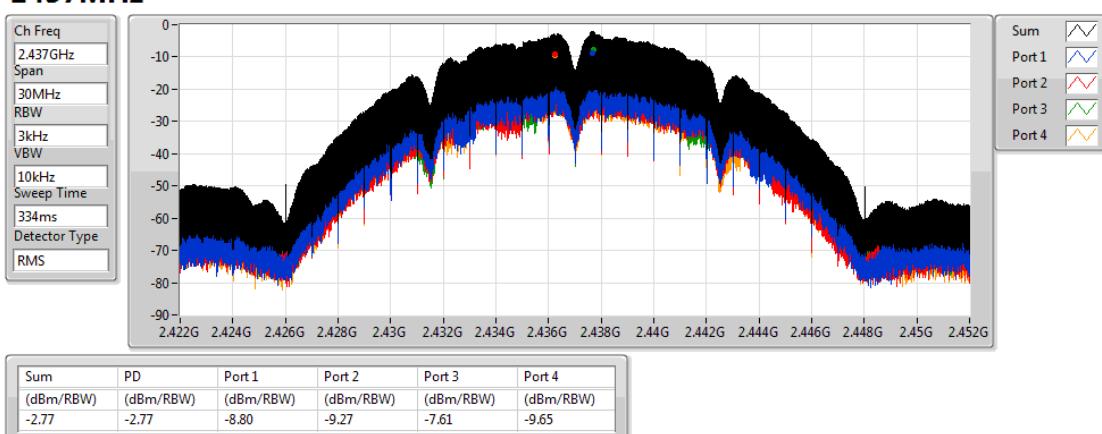
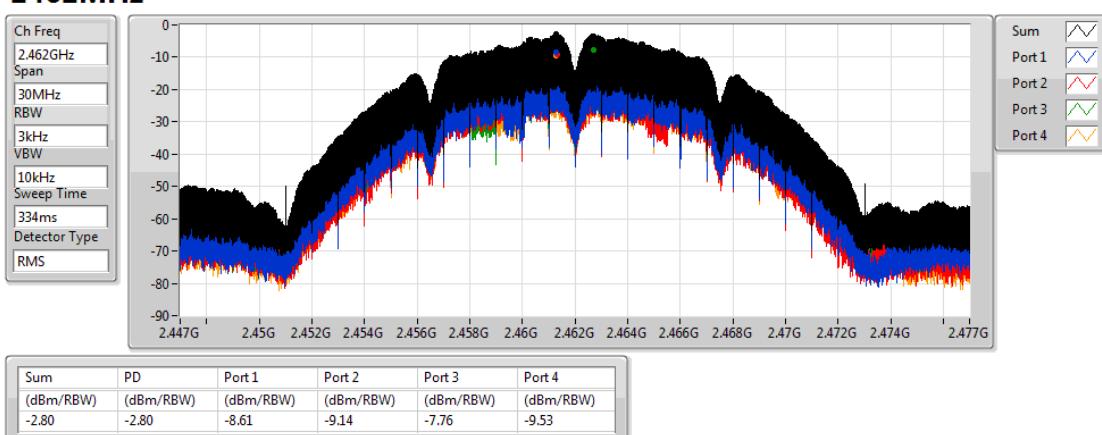
RBW=3kHz.

Result

Mode	Result	DG (dBi)	Port 1 (dBm/RBW)	Port 2 (dBm/RBW)	Port 3 (dBm/RBW)	Port 4 (dBm/RBW)	PD (dBm/RBW)	PD Limit (dBm/RBW)
802.11b_(1Mbps)_4TX	-	-	-	-	-	-	-	-
2412MHz	Pass	11.98	-8.51	-8.90	-8.54	-9.05	-2.76	2.02
2437MHz	Pass	11.98	-8.80	-9.27	-7.61	-9.65	-2.77	2.02
2462MHz	Pass	11.98	-8.61	-9.14	-7.76	-9.53	-2.80	2.02
802.11g_(6Mbps)_4TX	-	-	-	-	-	-	-	-
2412MHz	Pass	11.98	-17.64	-17.77	-16.47	-17.51	-12.22	2.02
2437MHz	Pass	11.98	-12.62	-12.79	-11.47	-13.28	-7.43	2.02
2462MHz	Pass	11.98	-15.25	-15.56	-14.90	-16.05	-10.41	2.02
802.11ac VHT20_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-
2412MHz	Pass	11.98	-18.24	-18.41	-15.58	-18.51	-13.17	2.02
2437MHz	Pass	11.98	-12.72	-13.44	-11.20	-13.63	-7.82	2.02
2462MHz	Pass	11.98	-15.85	-16.00	-14.55	-15.95	-11.04	2.02
802.11ac VHT40_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-
2422MHz	Pass	11.98	-25.08	-24.34	-23.51	-24.47	-18.96	2.02
2437MHz	Pass	11.98	-21.32	-20.90	-19.83	-21.21	-15.89	2.02
2452MHz	Pass	11.98	-22.99	-23.24	-22.27	-23.40	-18.33	2.02
802.11ac VHT20-BF_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-
2412MHz	Pass	11.98	-16.12	-16.20	-15.85	-14.73	-10.98	2.02
2437MHz	Pass	11.98	-14.66	-13.91	-13.28	-14.09	-8.91	2.02
2462MHz	Pass	11.98	-14.71	-14.50	-14.12	-14.70	-9.71	2.02
802.11ac VHT40-BF_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-
2422MHz	Pass	11.98	-21.22	-21.16	-20.65	-20.42	-16.17	2.02
2437MHz	Pass	11.98	-20.89	-20.60	-20.65	-21.11	-16.03	2.02
2452MHz	Pass	11.98	-19.94	-18.82	-19.68	-20.22	-14.84	2.02

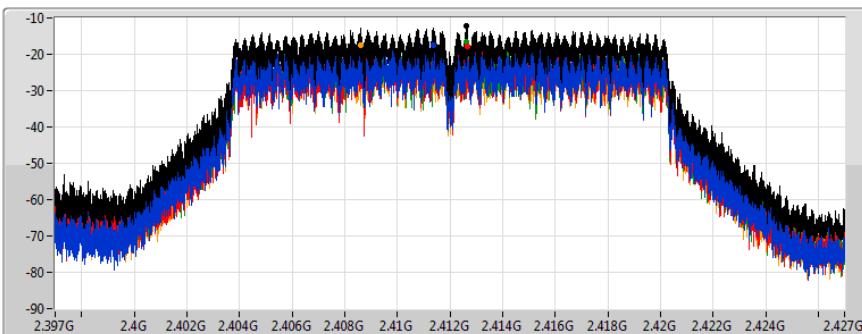
DG = Directional Gain; RBW=3kHz;

PD = trace bin-by-bin of each transmits port summing can be performed maximum power density; Port X = Port X power density;

**802.11b_(1Mbps)_4TX****PSD****2412MHz****802.11b_(1Mbps)_4TX****PSD****2437MHz****802.11b_(1Mbps)_4TX****PSD****2462MHz**

**802.11g_(6Mbps)_4TX****PSD****2412MHz**

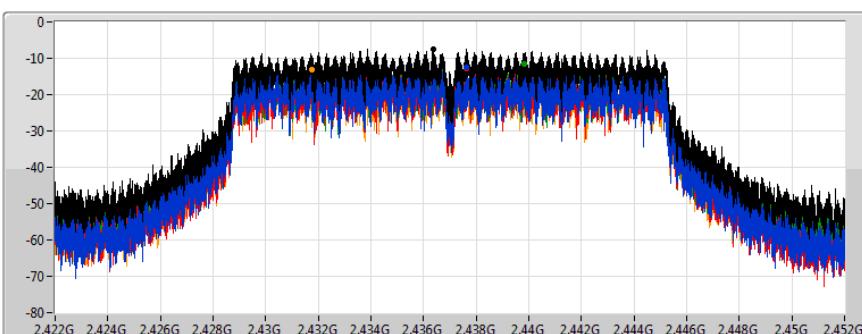
Ch Freq
2.412GHz
Span
30MHz
RBW
3kHz
VBW
10kHz
Sweep Time
334ms
Detector Type
RMS



Sum
Port 1
Port 2
Port 3
Port 4

802.11g_(6Mbps)_4TX**PSD****2437MHz**

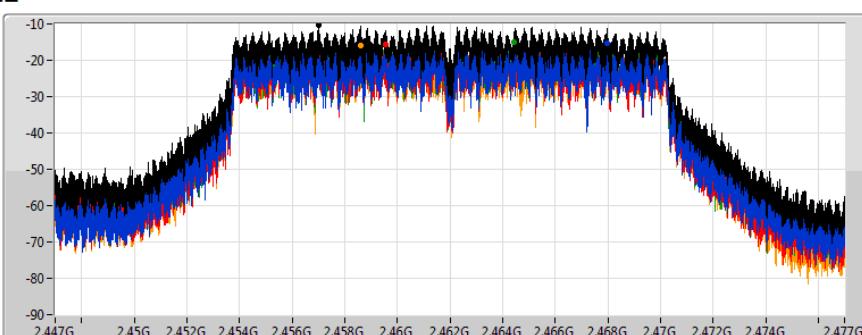
Ch Freq
2.437GHz
Span
30MHz
RBW
3kHz
VBW
10kHz
Sweep Time
334ms
Detector Type
RMS



Sum
Port 1
Port 2
Port 3
Port 4

802.11g_(6Mbps)_4TX**PSD****2462MHz**

Ch Freq
2.462GHz
Span
30MHz
RBW
3kHz
VBW
10kHz
Sweep Time
334ms
Detector Type
RMS



Sum
Port 1
Port 2
Port 3
Port 4

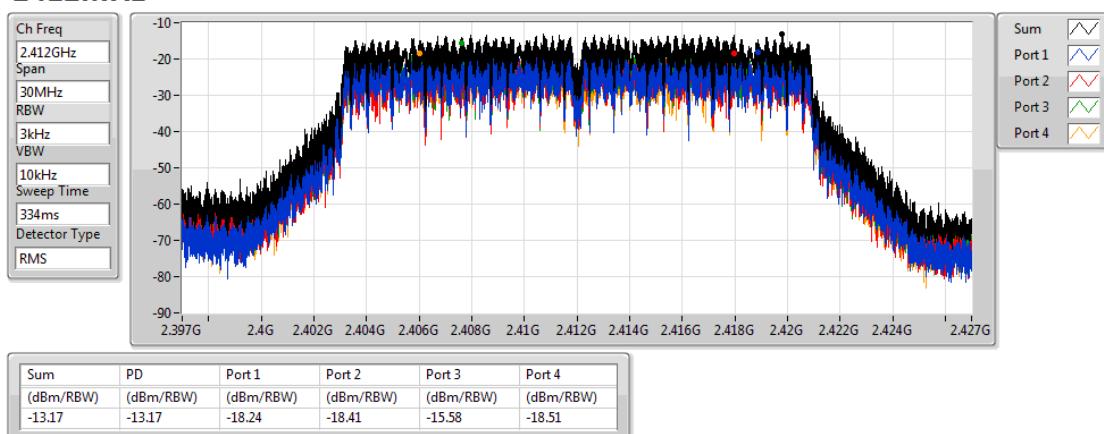
Sum	PD	Port 1	Port 2	Port 3	Port 4
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
-12.22	-12.22	-17.64	-17.77	-16.47	-17.51



802.11ac VHT20_Nss1,(MCS0)_4TX

PSD

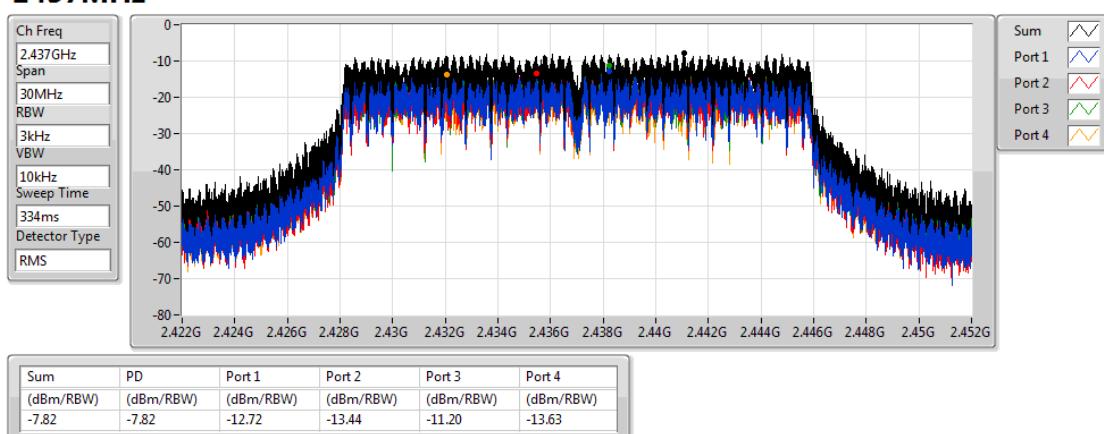
2412MHz



802.11ac VHT20_Nss1,(MCS0)_4TX

PSD

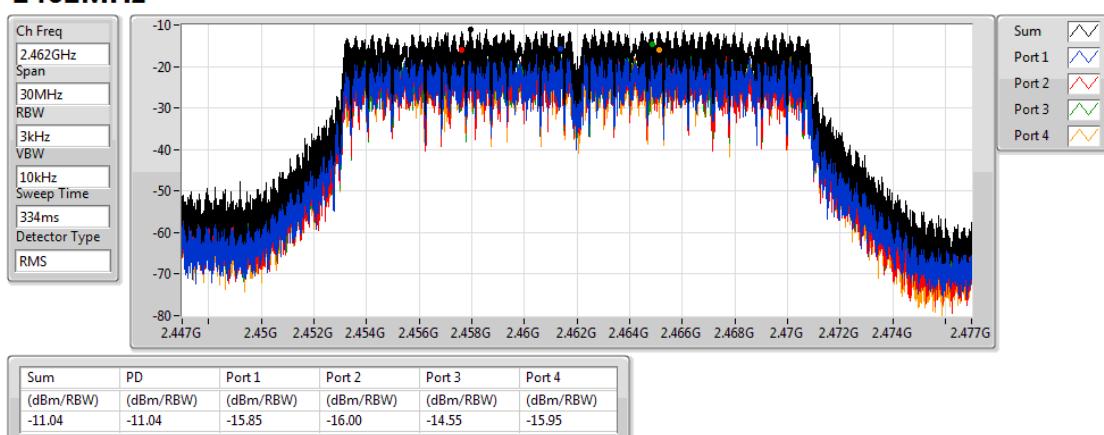
2437MHz



802.11ac VHT20_Nss1,(MCS0)_4TX

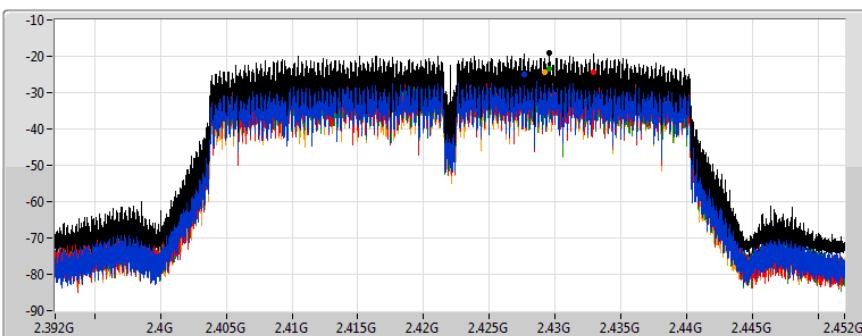
PSD

2462MHz



**802.11ac VHT40_Nss1,(MCS0)_4TX****PSD****2422MHz**

Ch Freq
2.422GHz
Span
60MHz
RBW
3kHz
VBW
10kHz
Sweep Time
667ms
Detector Type
RMS

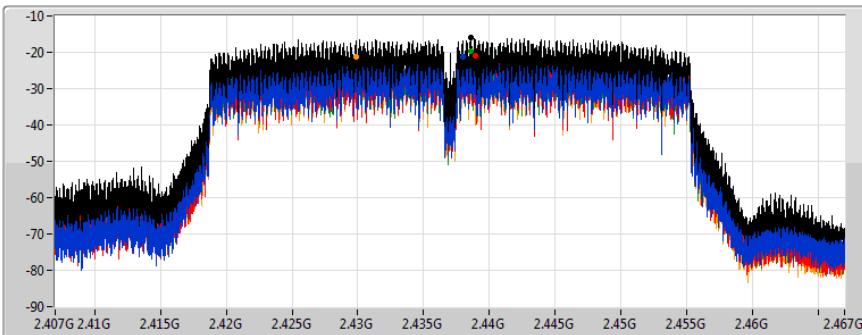


Sum
Port 1
Port 2
Port 3
Port 4

Sum	PD	Port 1	Port 2	Port 3	Port 4
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
-18.96	-18.96	-25.08	-24.34	-23.51	-24.47

802.11ac VHT40_Nss1,(MCS0)_4TX**PSD****2437MHz**

Ch Freq
2.437GHz
Span
60MHz
RBW
3kHz
VBW
10kHz
Sweep Time
667ms
Detector Type
RMS

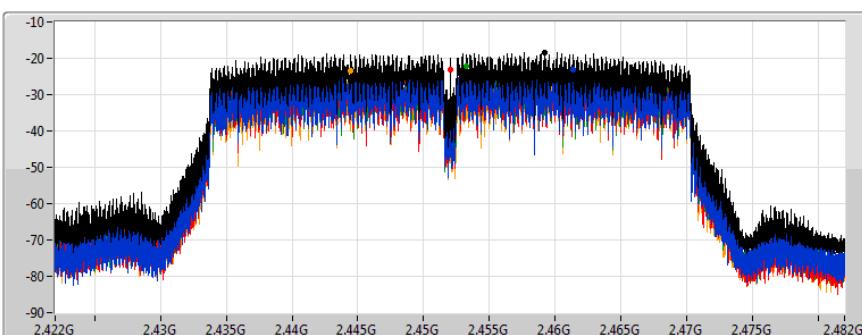


Sum
Port 1
Port 2
Port 3
Port 4

Sum	PD	Port 1	Port 2	Port 3	Port 4
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
-15.89	-15.89	-21.32	-20.90	-19.83	-21.21

802.11ac VHT40_Nss1,(MCS0)_4TX**PSD****2452MHz**

Ch Freq
2.452GHz
Span
60MHz
RBW
3kHz
VBW
10kHz
Sweep Time
667ms
Detector Type
RMS



Sum
Port 1
Port 2
Port 3
Port 4

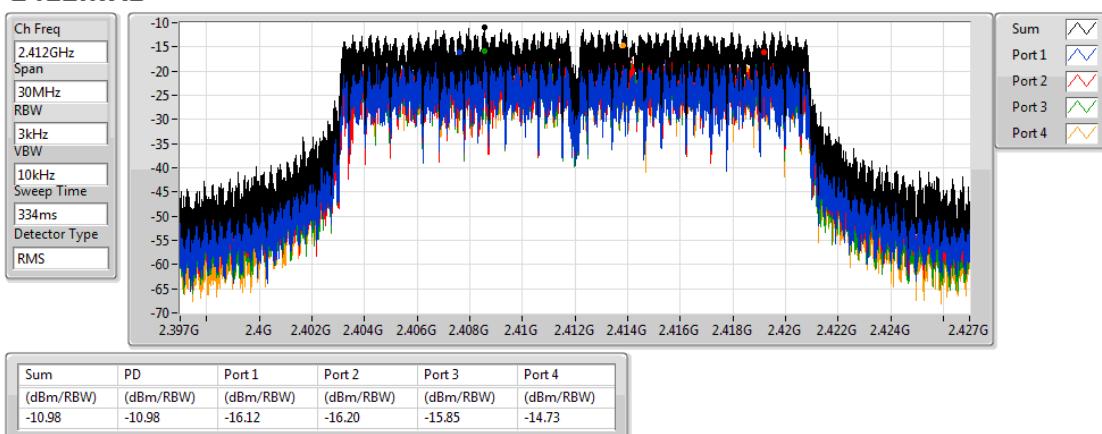
Sum	PD	Port 1	Port 2	Port 3	Port 4
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
-18.33	-18.33	-22.99	-23.24	-22.27	-23.40



802.11ac VHT20-BF_Nss1,(MCS0)_4TX

PSD

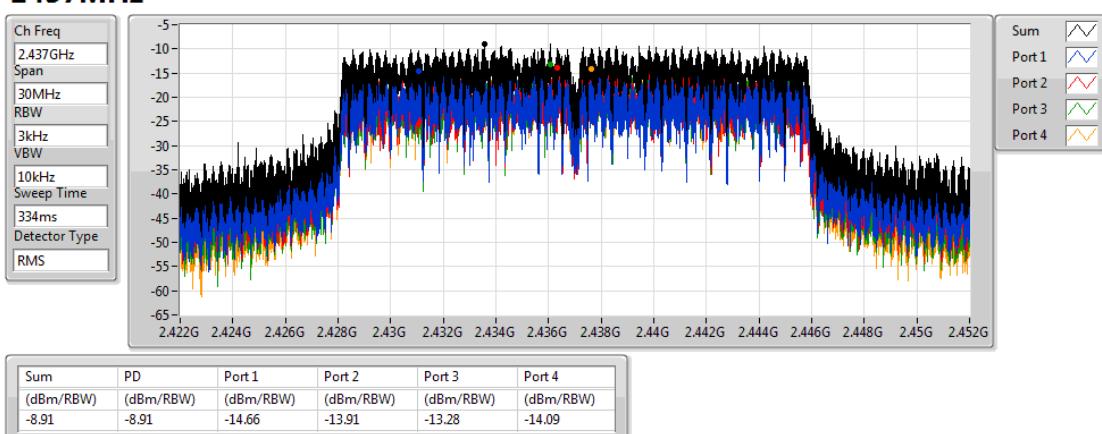
2412MHz



802.11ac VHT20-BF_Nss1,(MCS0)_4TX

PSD

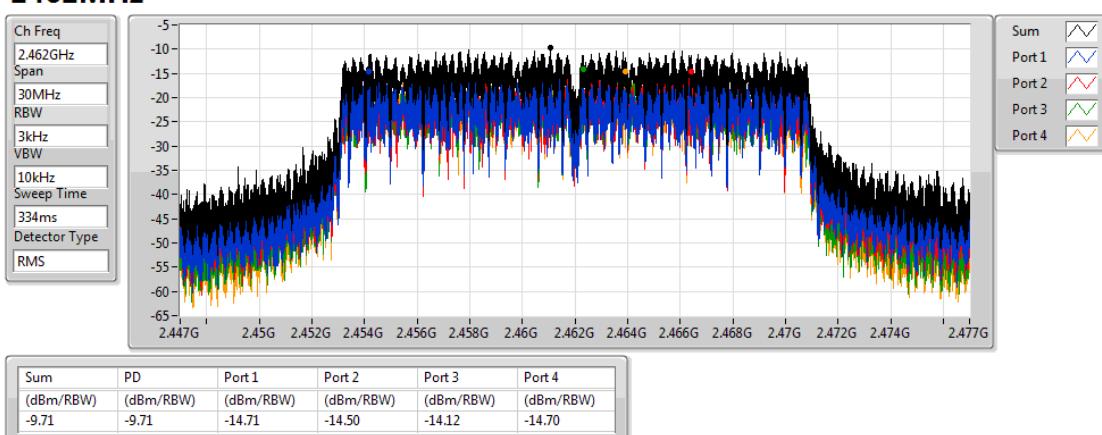
2437MHz



802.11ac VHT20-BF_Nss1,(MCS0)_4TX

PSD

2462MHz



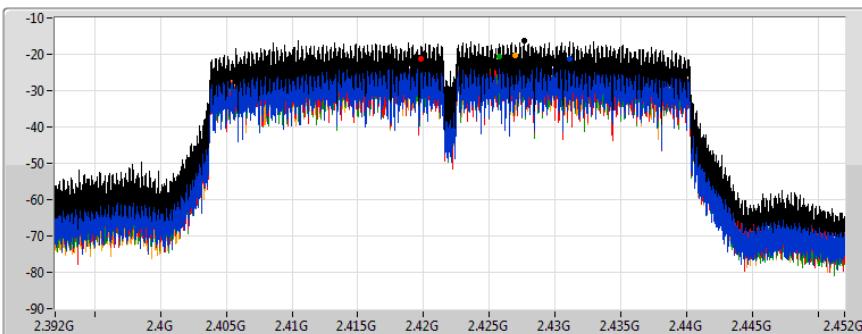


802.11ac VHT40-BF_Nss1,(MCS0)_4TX

PSD

2422MHz

Ch Freq
2.422GHz
Span
60MHz
RBW
3kHz
VBW
10kHz
Sweep Time
667ms
Detector Type
RMS



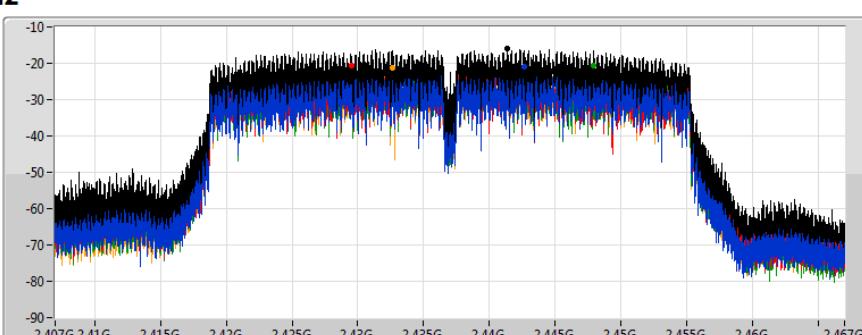
Sum
Port 1
Port 2
Port 3
Port 4

802.11ac VHT40-BF_Nss1,(MCS0)_4TX

PSD

2437MHz

Ch Freq
2.437GHz
Span
60MHz
RBW
3kHz
VBW
10kHz
Sweep Time
667ms
Detector Type
RMS



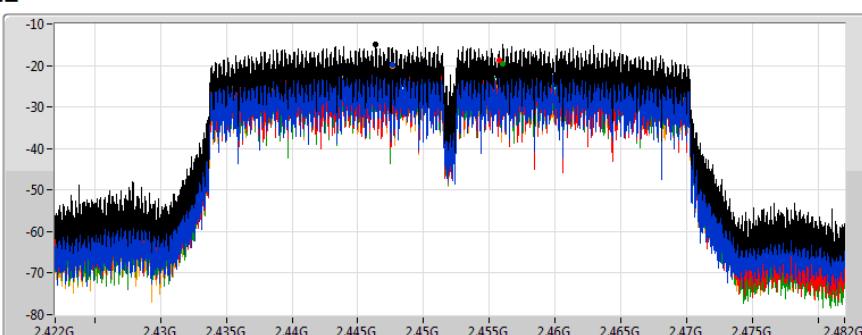
Sum
Port 1
Port 2
Port 3
Port 4

802.11ac VHT40-BF_Nss1,(MCS0)_4TX

PSD

2452MHz

Ch Freq
2.452GHz
Span
60MHz
RBW
3kHz
VBW
10kHz
Sweep Time
667ms
Detector Type
RMS



Sum
Port 1
Port 2
Port 3
Port 4



For set 3 antenna / 4T2S

Summary

Mode	PD (dBm/RBW)
802.11ac VHT20-BF_Nss2,(MCS0)_4TX	-
2.4-2.4835GHz	-2.68
802.11ac VHT40-BF_Nss2,(MCS0)_4TX	-
2.4-2.4835GHz	-9.38

RBW=3kHz.

Result

Mode	Result	DG (dBi)	Port 1 (dBm/RBW)	Port 2 (dBm/RBW)	Port 3 (dBm/RBW)	Port 4 (dBm/RBW)	PD (dBm/RBW)	PD Limit (dBm/RBW)
802.11ac VHT20-BF_Nss2,(MCS0)_4TX	-	-	-	-	-	-	-	-
2412MHz	Pass	8.97	-12.74	-13.18	-12.32	-13.38	-7.96	5.03
2437MHz	Pass	8.97	-6.34	-8.92	-8.05	-8.21	-2.68	5.03
2462MHz	Pass	8.97	-11.32	-12.12	-11.30	-11.66	-7.07	5.03
802.11ac VHT40-BF_Nss2,(MCS0)_4TX	-	-	-	-	-	-	-	-
2422MHz	Pass	8.97	-18.83	-20.53	-19.96	-18.92	-15.07	5.03
2437MHz	Pass	8.97	-14.63	-14.67	-14.28	-13.65	-9.38	5.03
2452MHz	Pass	8.97	-16.91	-18.38	-18.79	-18.34	-13.29	5.03

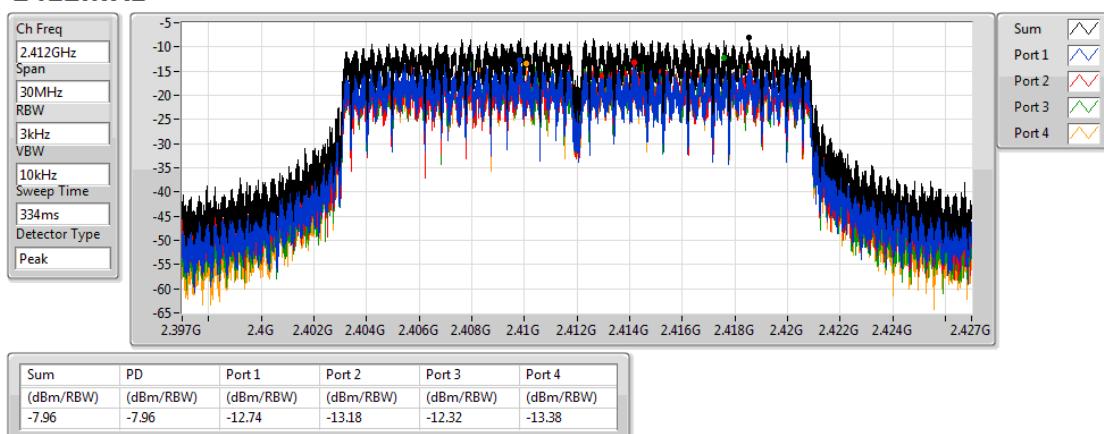
DG = Directional Gain; RBW=3kHz;**PD** = trace bin-by-bin of each transmits port summing can be performed maximum power density; **Port X** = Port X power density;



802.11ac VHT20-BF_Nss2,(MCS0)_4TX

PSD

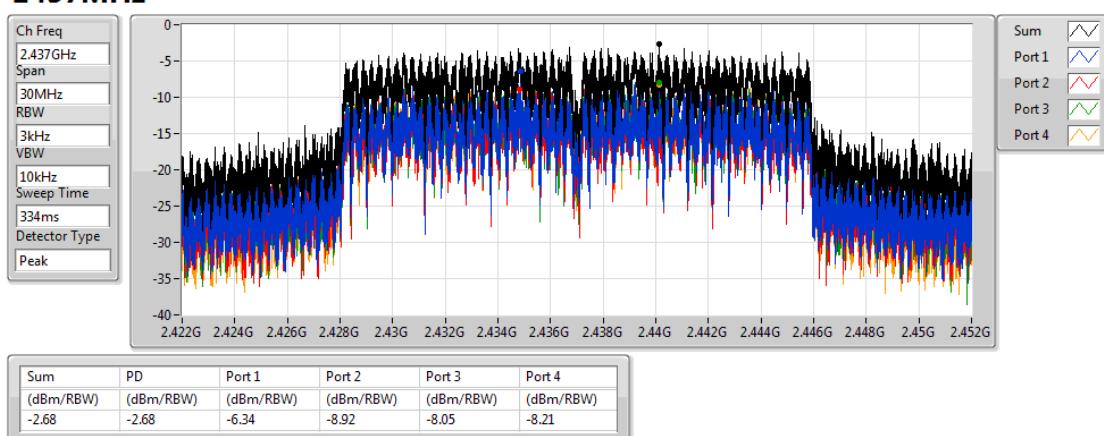
2412MHz



802.11ac VHT20-BF_Nss2,(MCS0)_4TX

PSD

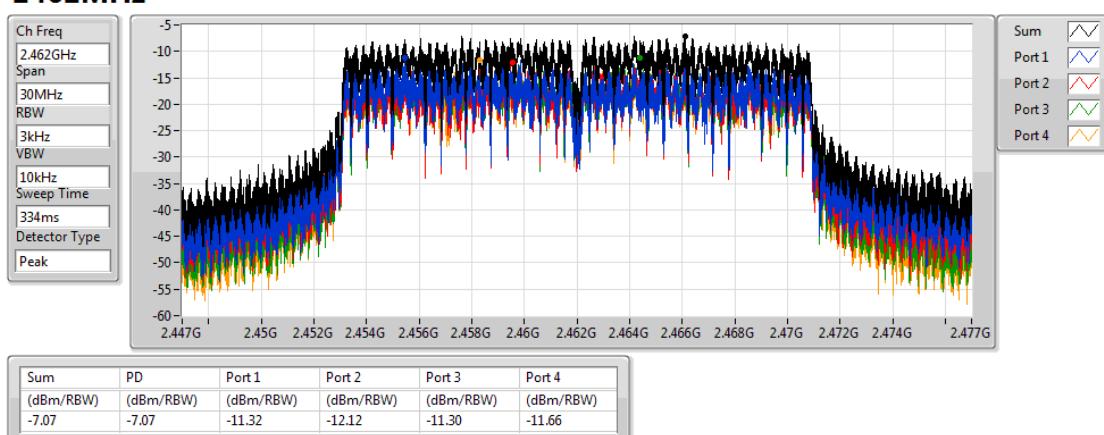
2437MHz



802.11ac VHT20-BF_Nss2,(MCS0)_4TX

PSD

2462MHz



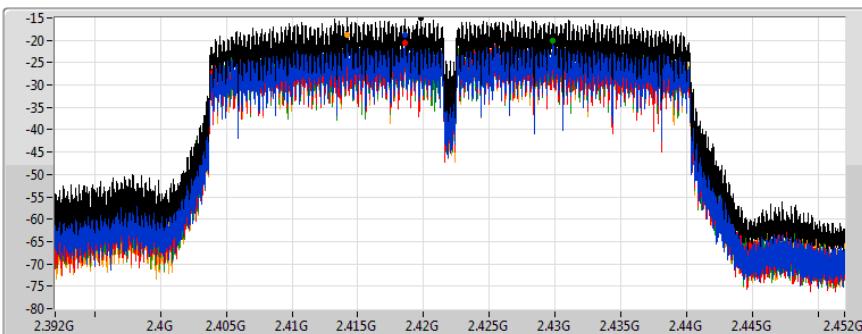


802.11ac VHT40-BF_Nss2,(MCS0)_4TX

PSD

2422MHz

Ch Freq
2.422GHz
Span
60MHz
RBW
3kHz
VBW
10kHz
Sweep Time
667ms
Detector Type
Peak



Sum
Port 1
Port 2
Port 3
Port 4

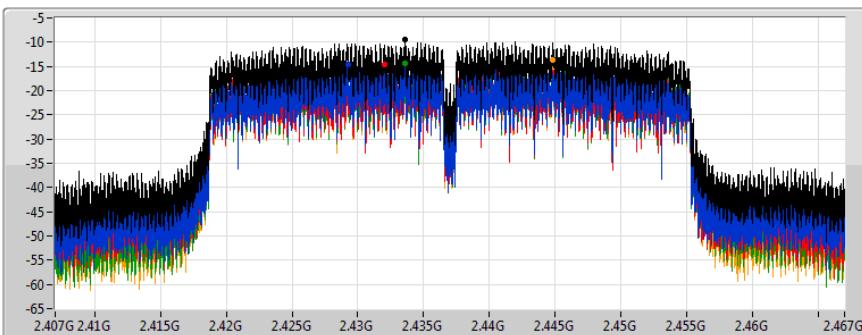
Sum	PD	Port 1	Port 2	Port 3	Port 4
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
-15.07	-15.07	-18.83	-20.53	-19.96	-18.92

802.11ac VHT40-BF_Nss2,(MCS0)_4TX

PSD

2437MHz

Ch Freq
2.437GHz
Span
60MHz
RBW
3kHz
VBW
10kHz
Sweep Time
667ms
Detector Type
Peak



Sum
Port 1
Port 2
Port 3
Port 4

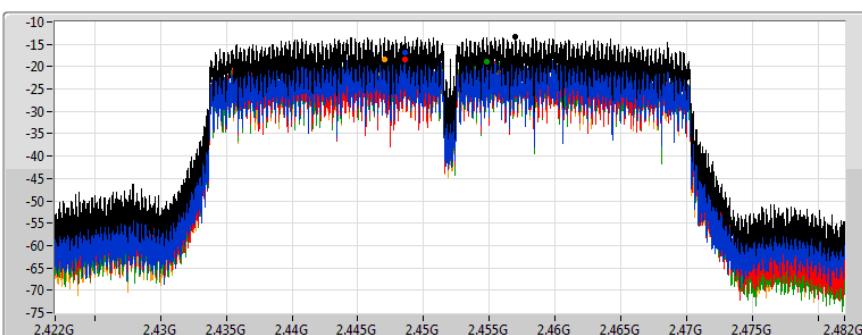
Sum	PD	Port 1	Port 2	Port 3	Port 4
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
-9.38	-9.38	-14.63	-14.67	-14.28	-13.65

802.11ac VHT40-BF_Nss2,(MCS0)_4TX

PSD

2452MHz

Ch Freq
2.452GHz
Span
60MHz
RBW
3kHz
VBW
10kHz
Sweep Time
667ms
Detector Type
Peak



Sum
Port 1
Port 2
Port 3
Port 4

Sum	PD	Port 1	Port 2	Port 3	Port 4
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
-13.29	-13.29	-16.91	-18.38	-18.79	-18.34



For set 4 antenna / 4T1S

Summary

Mode	PD (dBm/RBW)
802.11b_(1Mbps)_4TX	-
2.4-2.4835GHz	0.43
802.11g_(6Mbps)_4TX	-
2.4-2.4835GHz	-1.12
802.11ac VHT20_Nss1,(MCS0)_4TX	-
2.4-2.4835GHz	-0.98
802.11ac VHT40_Nss1,(MCS0)_4TX	-
2.4-2.4835GHz	-7.07
802.11ac VHT20-BF_Nss1,(MCS0)_4TX	-
2.4-2.4835GHz	4.20
802.11ac VHT40-BF_Nss1,(MCS0)_4TX	-
2.4-2.4835GHz	-6.22

RBW=3kHz.

Result

Mode	Result	DG (dBi)	Port 1 (dBm/RBW)	Port 2 (dBm/RBW)	Port 3 (dBm/RBW)	Port 4 (dBm/RBW)	PD (dBm/RBW)	PD Limit (dBm/RBW)
802.11b_(1Mbps)_4TX	-	-	-	-	-	-	-	-
2412MHz	Pass	8.62	-7.33	-7.33	-7.18	-7.89	-1.43	5.38
2437MHz	Pass	8.62	-5.02	-4.84	-5.98	-5.52	0.43	5.38
2462MHz	Pass	8.62	-7.21	-7.59	-7.47	-7.68	-1.54	5.38
802.11g_(6Mbps)_4TX	-	-	-	-	-	-	-	-
2412MHz	Pass	8.62	-11.97	-11.79	-11.19	-12.29	-6.93	5.38
2437MHz	Pass	8.62	-5.60	-5.16	-5.32	-7.24	-1.12	5.38
2462MHz	Pass	8.62	-10.63	-10.90	-10.38	-11.39	-5.66	5.38
802.11ac VHT20_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-
2412MHz	Pass	8.62	-11.68	-10.97	-11.11	-10.58	-6.64	5.38
2437MHz	Pass	8.62	-6.61	-5.77	-5.39	-6.25	-0.98	5.38
2462MHz	Pass	8.62	-10.26	-10.33	-10.74	-10.99	-5.54	5.38
802.11ac VHT40_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-
2422MHz	Pass	8.62	-16.39	-18.06	-16.95	-17.72	-12.61	5.38
2437MHz	Pass	8.62	-12.52	-13.72	-12.02	-12.93	-7.07	5.38
2452MHz	Pass	8.62	-12.99	-13.26	-12.63	-14.31	-8.78	5.38
802.11ac VHT20-BF_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-
2412MHz	Pass	8.62	-9.11	-9.36	-9.73	-8.08	-5.23	5.38
2437MHz	Pass	8.62	1.14	-0.37	0.83	1.40	4.20	5.38
2462MHz	Pass	8.62	-9.24	-9.36	-8.97	-9.22	-4.56	5.38
802.11ac VHT40-BF_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-
2422MHz	Pass	8.62	-14.82	-14.54	-14.64	-14.08	-9.18	5.38
2437MHz	Pass	8.62	-10.75	-11.66	-10.42	-11.10	-6.22	5.38
2452MHz	Pass	8.62	-14.88	-14.62	-14.42	-14.34	-9.44	5.38

DG = Directional Gain; RBW=3kHz;

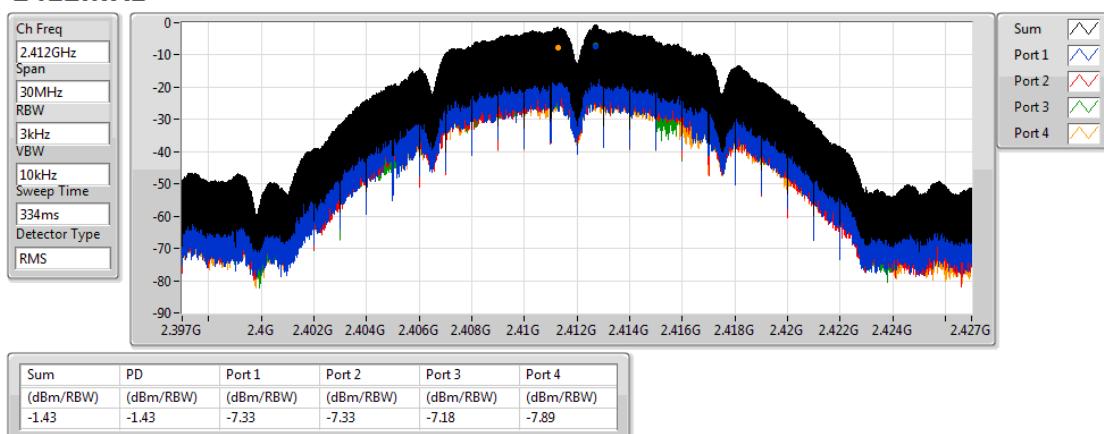
PD = trace bin-by-bin of each transmits port summing can be performed maximum power density; Port X = Port X power density;



802.11b_(1Mbps)_4TX

PSD

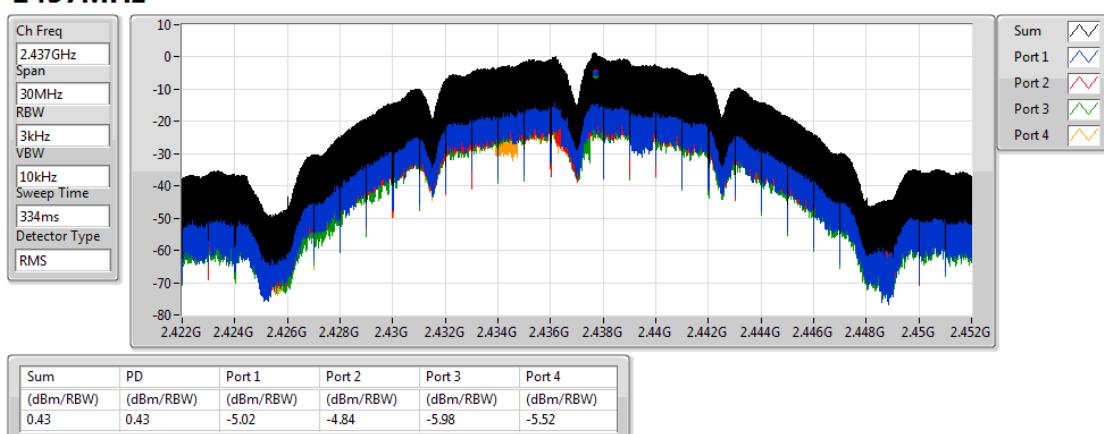
2412MHz



802.11b_(1Mbps)_4TX

PSD

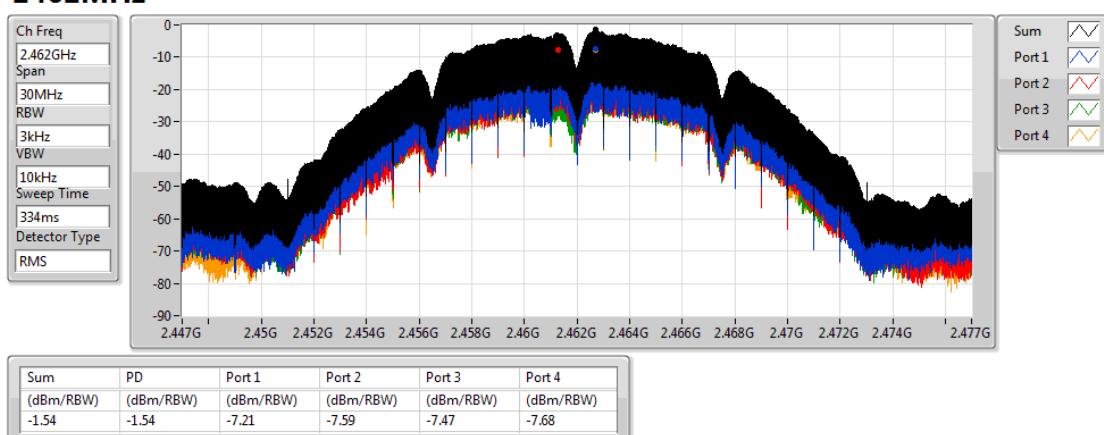
2437MHz



802.11b_(1Mbps)_4TX

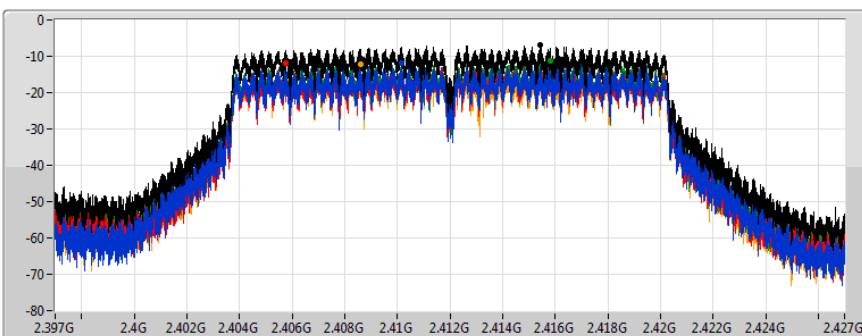
PSD

2462MHz



**802.11g_(6Mbps)_4TX****PSD****2412MHz**

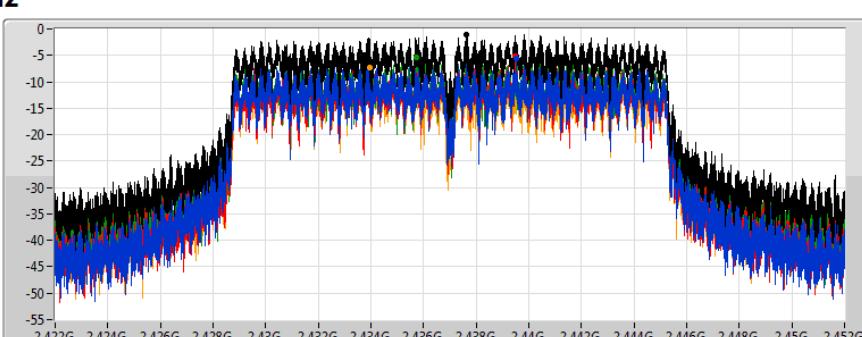
Ch Freq
2.412GHz
Span
30MHz
RBW
3kHz
VBW
10kHz
Sweep Time
334ms
Detector Type
Peak



Sum
Port 1
Port 2
Port 3
Port 4

802.11g_(6Mbps)_4TX**PSD****2437MHz**

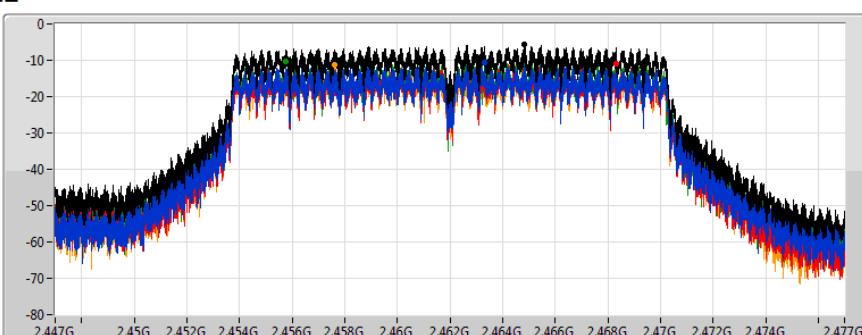
Ch Freq
2.437GHz
Span
30MHz
RBW
3kHz
VBW
10kHz
Sweep Time
334ms
Detector Type
Peak



Sum
Port 1
Port 2
Port 3
Port 4

802.11g_(6Mbps)_4TX**PSD****2462MHz**

Ch Freq
2.462GHz
Span
30MHz
RBW
3kHz
VBW
10kHz
Sweep Time
334ms
Detector Type
Peak



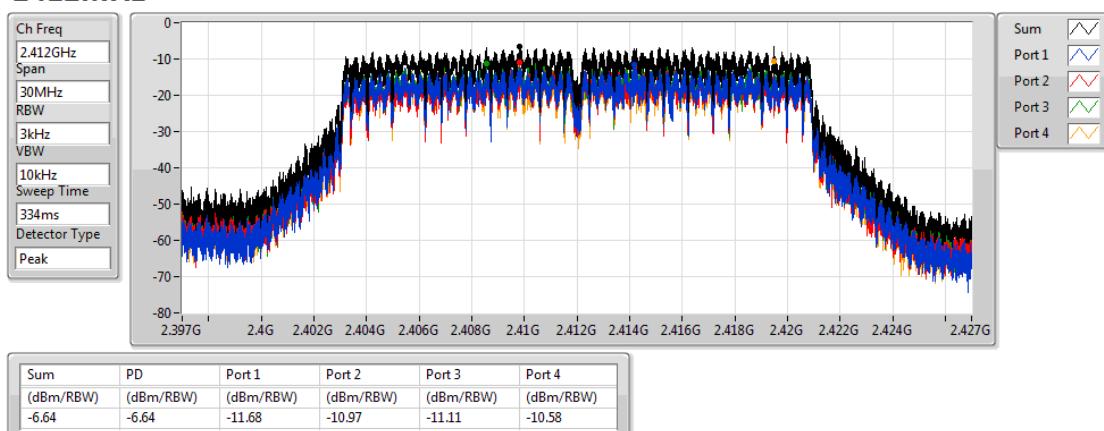
Sum
Port 1
Port 2
Port 3
Port 4



802.11ac VHT20_Nss1,(MCS0)_4TX

PSD

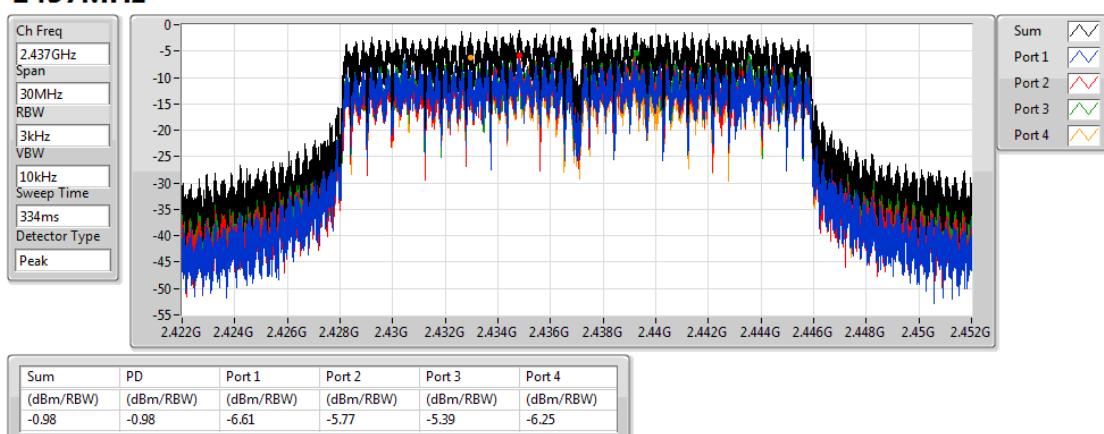
2412MHz



802.11ac VHT20_Nss1,(MCS0)_4TX

PSD

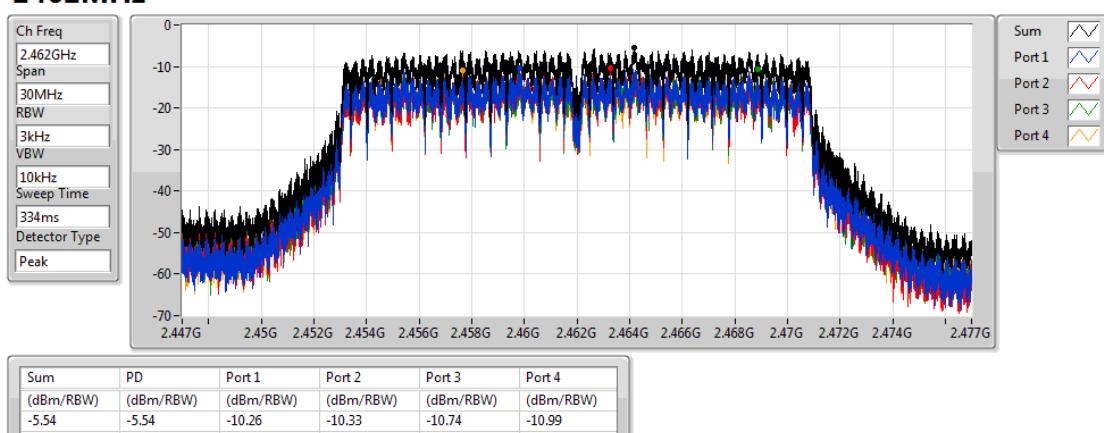
2437MHz



802.11ac VHT20_Nss1,(MCS0)_4TX

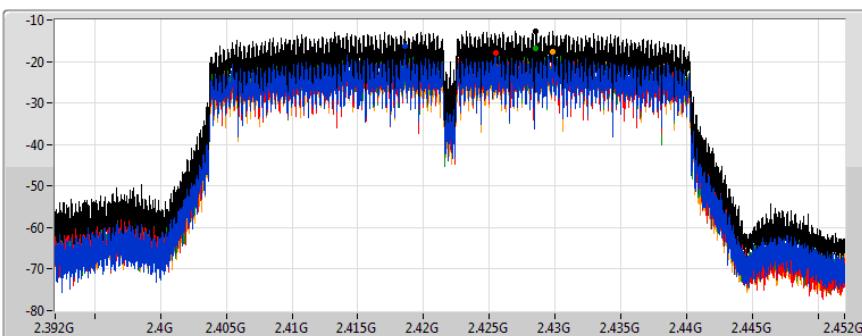
PSD

2462MHz



**802.11ac VHT40_Nss1,(MCS0)_4TX****PSD****2422MHz**

Ch Freq
2.422GHz
Span
60MHz
RBW
3kHz
VBW
10kHz
Sweep Time
667ms
Detector Type
Peak

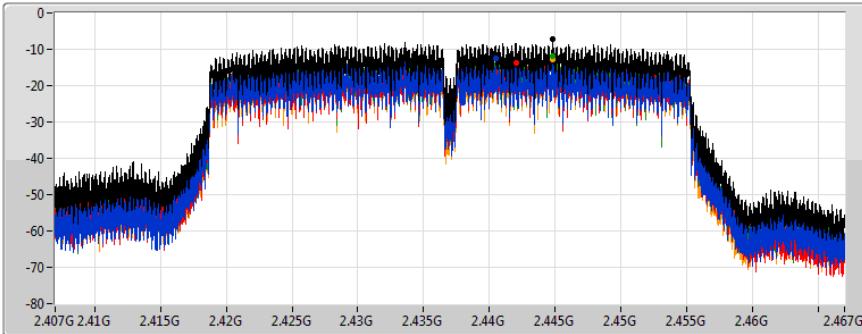


Sum
Port 1
Port 2
Port 3
Port 4

Sum	PD	Port 1	Port 2	Port 3	Port 4
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
-12.61	-12.61	-16.39	-18.06	-16.95	-17.72

802.11ac VHT40_Nss1,(MCS0)_4TX**PSD****2437MHz**

Ch Freq
2.437GHz
Span
60MHz
RBW
3kHz
VBW
10kHz
Sweep Time
667ms
Detector Type
Peak

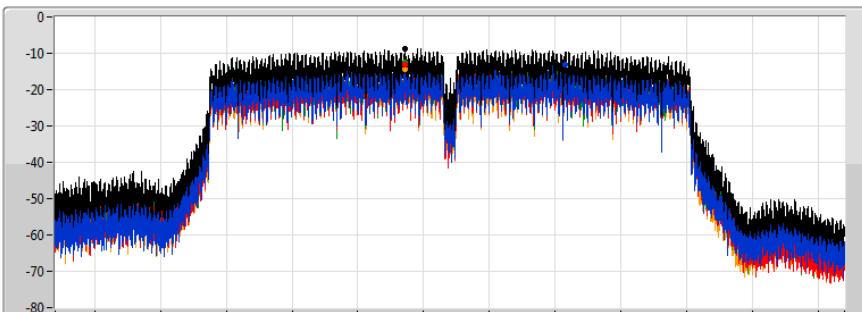


Sum
Port 1
Port 2
Port 3
Port 4

Sum	PD	Port 1	Port 2	Port 3	Port 4
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
-7.07	-7.07	-12.52	-13.72	-12.02	-12.93

802.11ac VHT40_Nss1,(MCS0)_4TX**PSD****2452MHz**

Ch Freq
2.452GHz
Span
60MHz
RBW
3kHz
VBW
10kHz
Sweep Time
667ms
Detector Type
Peak



Sum
Port 1
Port 2
Port 3
Port 4

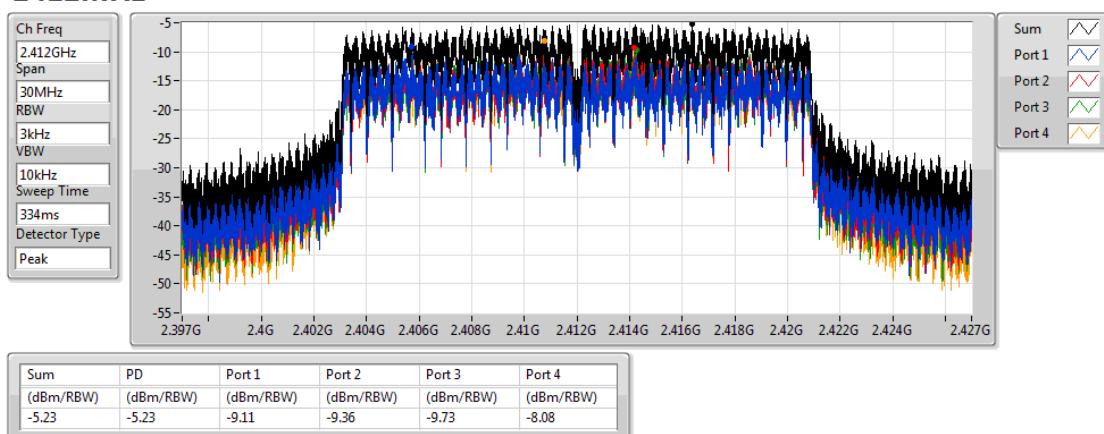
Sum	PD	Port 1	Port 2	Port 3	Port 4
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
-8.78	-8.78	-12.99	-13.26	-12.63	-14.31



802.11ac VHT20-BF_Nss1,(MCS0)_4TX

PSD

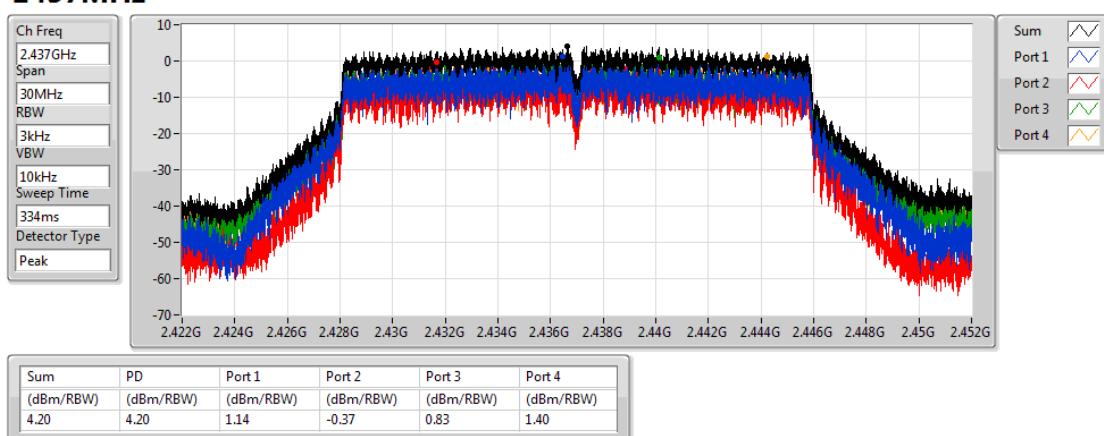
2412MHz



802.11ac VHT20-BF_Nss1,(MCS0)_4TX

PSD

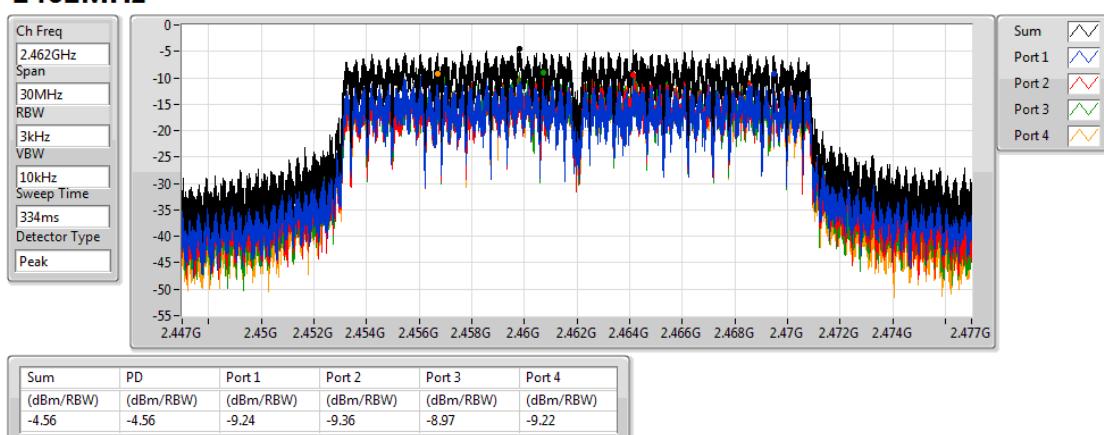
2437MHz



802.11ac VHT20-BF_Nss1,(MCS0)_4TX

PSD

2462MHz



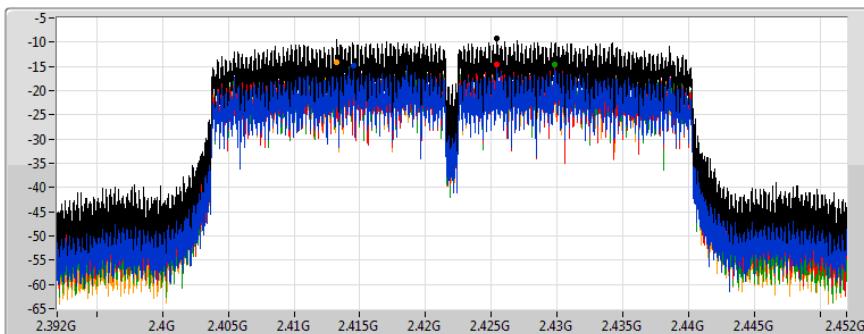


802.11ac VHT40-BF_Nss1,(MCS0)_4TX

PSD

2422MHz

Ch Freq
2.422GHz
Span
60MHz
RBW
3kHz
VBW
10kHz
Sweep Time
667ms
Detector Type
Peak



Sum
Port 1
Port 2
Port 3
Port 4

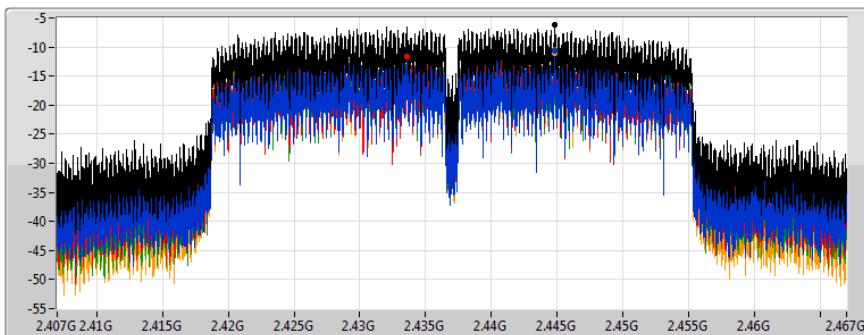
Sum	PD	Port 1	Port 2	Port 3	Port 4
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
-9.18	-9.18	-14.82	-14.54	-14.64	-14.08

802.11ac VHT40-BF_Nss1,(MCS0)_4TX

PSD

2437MHz

Ch Freq
2.437GHz
Span
60MHz
RBW
3kHz
VBW
10kHz
Sweep Time
667ms
Detector Type
Peak



Sum
Port 1
Port 2
Port 3
Port 4

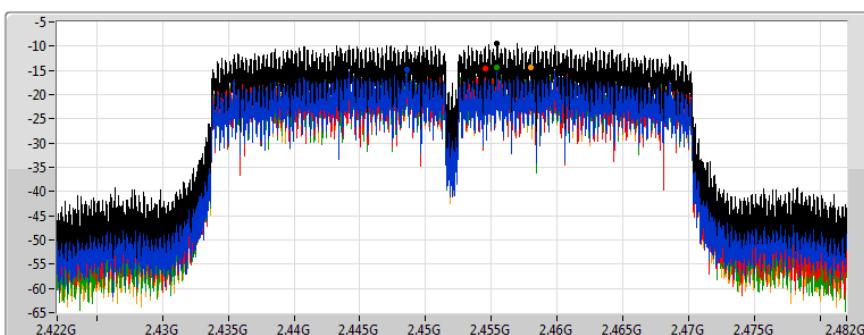
Sum	PD	Port 1	Port 2	Port 3	Port 4
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
-6.22	-6.22	-10.75	-11.66	-10.42	-11.10

802.11ac VHT40-BF_Nss1,(MCS0)_4TX

PSD

2452MHz

Ch Freq
2.452GHz
Span
60MHz
RBW
3kHz
VBW
10kHz
Sweep Time
667ms
Detector Type
Peak



Sum
Port 1
Port 2
Port 3
Port 4

Sum	PD	Port 1	Port 2	Port 3	Port 4
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
-9.44	-9.44	-14.88	-14.62	-14.42	-14.34



For set 4 antenna / 4T2S

Summary

Mode	PD (dBm/RBW)
802.11ac VHT20-BF_Nss2,(MCS0)_4TX	-
2.4-2.4835GHz	-2.80
802.11ac VHT40-BF_Nss2,(MCS0)_4TX	-
2.4-2.4835GHz	-7.74

RBW=3kHz.

Result

Mode	Result	DG (dBi)	Port 1 (dBm/RBW)	Port 2 (dBm/RBW)	Port 3 (dBm/RBW)	Port 4 (dBm/RBW)	PD (dBm/RBW)	PD Limit (dBm/RBW)
802.11ac VHT20-BF_Nss2,(MCS0)_4TX	-	-	-	-	-	-	-	-
2412MHz	Pass	5.72	-11.05	-11.30	-10.74	-11.22	-6.21	8.00
2437MHz	Pass	5.72	-7.91	-8.77	-7.89	-7.57	-2.80	8.00
2462MHz	Pass	5.72	-10.48	-11.08	-11.39	-11.02	-6.16	8.00
802.11ac VHT40-BF_Nss2,(MCS0)_4TX	-	-	-	-	-	-	-	-
2422MHz	Pass	5.72	-15.94	-15.96	-16.68	-15.80	-10.70	8.00
2437MHz	Pass	5.72	-11.32	-13.24	-13.23	-13.39	-7.74	8.00
2452MHz	Pass	5.72	-16.91	-18.38	-18.79	-18.34	-13.29	8.00

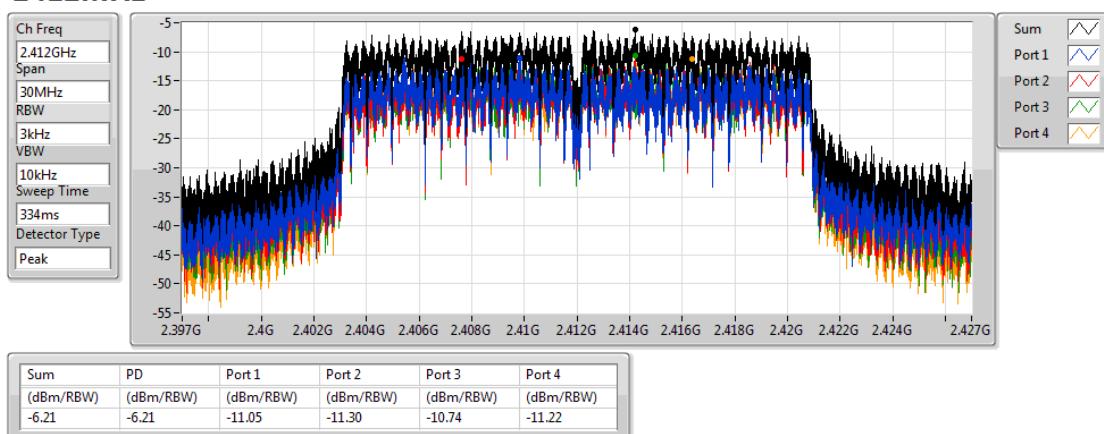
DG = Directional Gain; RBW=3kHz;**PD** = trace bin-by-bin of each transmits port summing can be performed maximum power density; **Port X** = Port X power density;



802.11ac VHT20-BF_Nss2,(MCS0)_4TX

PSD

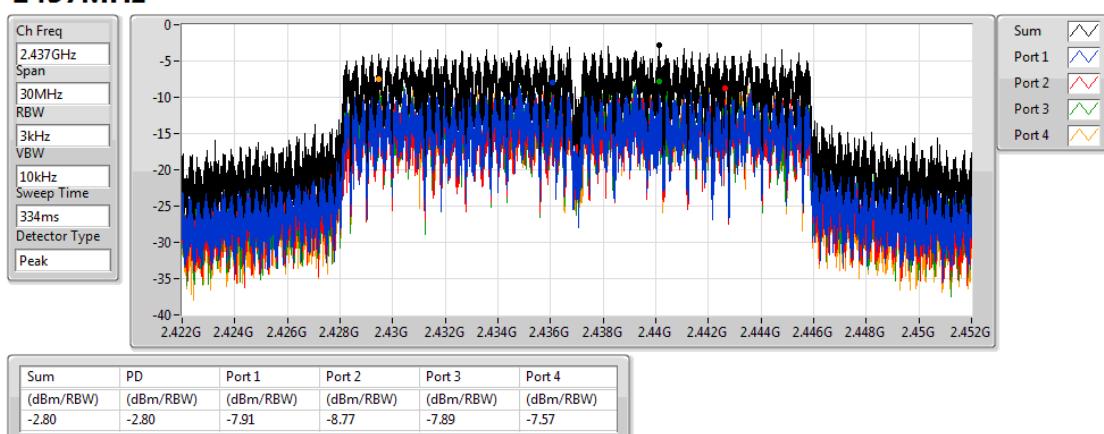
2412MHz



802.11ac VHT20-BF_Nss2,(MCS0)_4TX

PSD

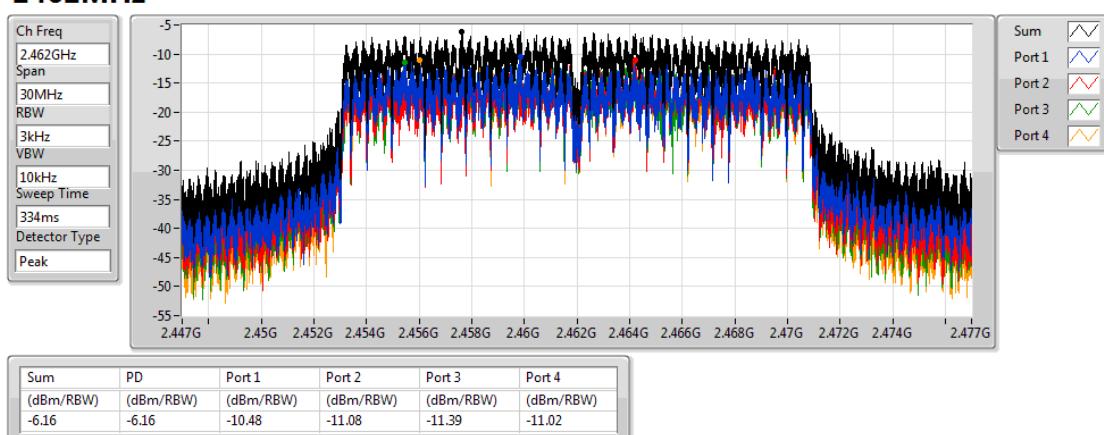
2437MHz



802.11ac VHT20-BF_Nss2,(MCS0)_4TX

PSD

2462MHz



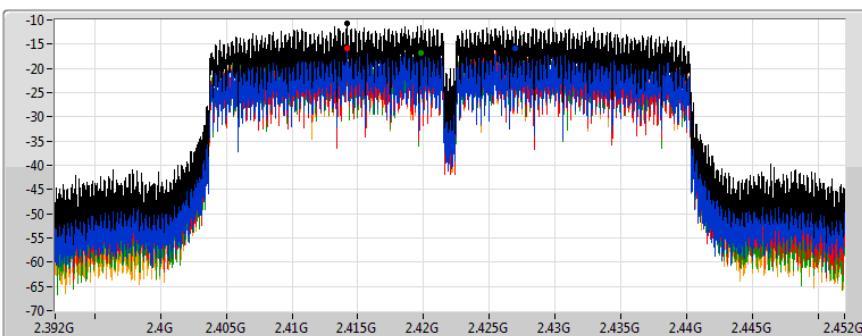


802.11ac VHT40-BF_Nss2,(MCS0)_4TX

PSD

2422MHz

Ch Freq
2.422GHz
Span
60MHz
RBW
3kHz
VBW
10kHz
Sweep Time
667ms
Detector Type
Peak



Sum
Port 1
Port 2
Port 3
Port 4

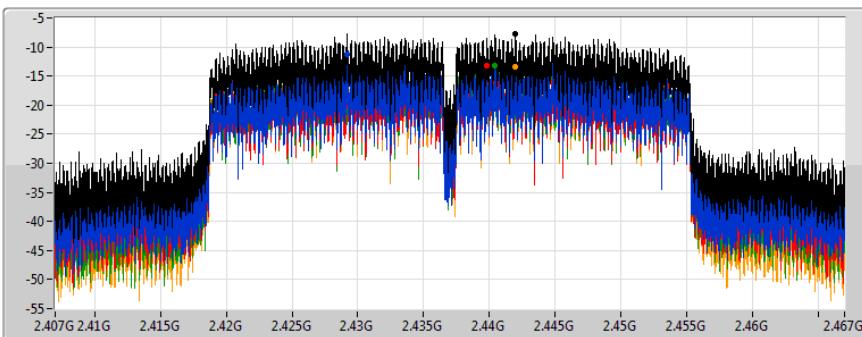
Sum	PD	Port 1	Port 2	Port 3	Port 4
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
-10.70	-10.70	-15.94	-15.96	-16.68	-15.80

802.11ac VHT40-BF_Nss2,(MCS0)_4TX

PSD

2437MHz

Ch Freq
2.437GHz
Span
60MHz
RBW
3kHz
VBW
10kHz
Sweep Time
667ms
Detector Type
Peak



Sum
Port 1
Port 2
Port 3
Port 4

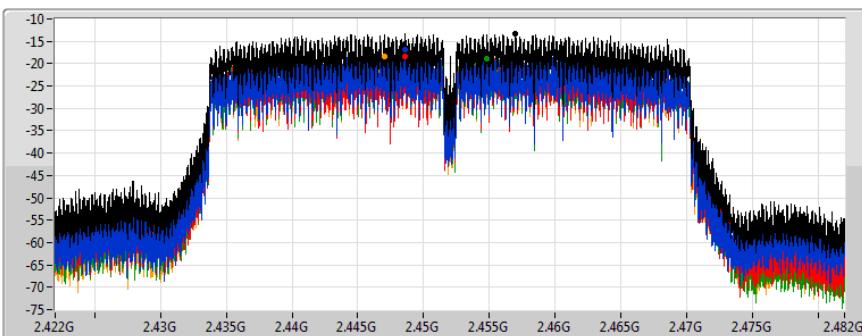
Sum	PD	Port 1	Port 2	Port 3	Port 4
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
-7.74	-7.74	-11.32	-13.24	-13.23	-13.39

802.11ac VHT40-BF_Nss2,(MCS0)_4TX

PSD

2452MHz

Ch Freq
2.452GHz
Span
60MHz
RBW
3kHz
VBW
10kHz
Sweep Time
667ms
Detector Type
Peak



Sum
Port 1
Port 2
Port 3
Port 4

Sum	PD	Port 1	Port 2	Port 3	Port 4
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
-13.29	-13.29	-16.91	-18.38	-18.79	-18.34



For set 5 antenna / 4T1S

Summary

Mode	PD (dBm/RBW)
802.11b_(1Mbps)_4TX	-
2.4-2.4835GHz	-2.59
802.11g_(6Mbps)_4TX	-
2.4-2.4835GHz	0.47
802.11ac VHT20_Nss1,(MCS0)_4TX	-
2.4-2.4835GHz	0.92
802.11ac VHT40_Nss1,(MCS0)_4TX	-
2.4-2.4835GHz	-6.97
802.11ac VHT20-BF_Nss1,(MCS0)_4TX	-
2.4-2.4835GHz	-2.21
802.11ac VHT40-BF_Nss1,(MCS0)_4TX	-
2.4-2.4835GHz	-6.22

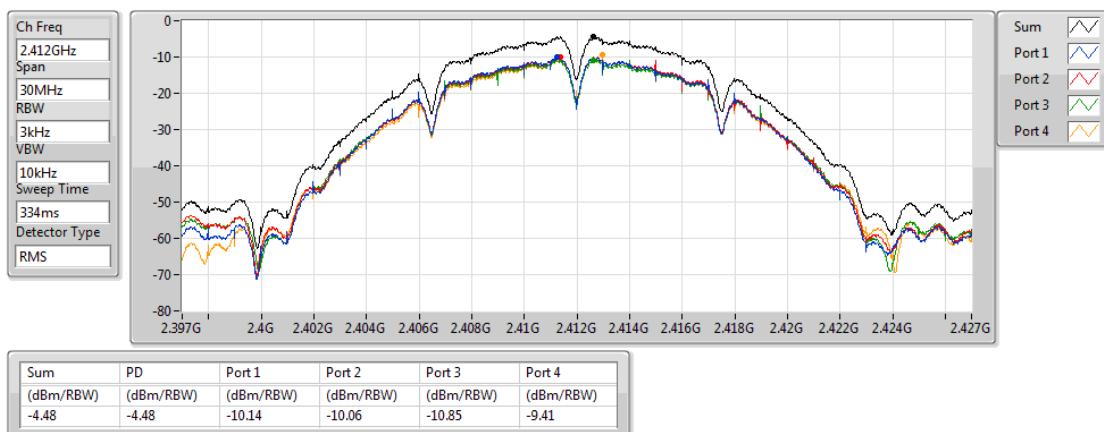
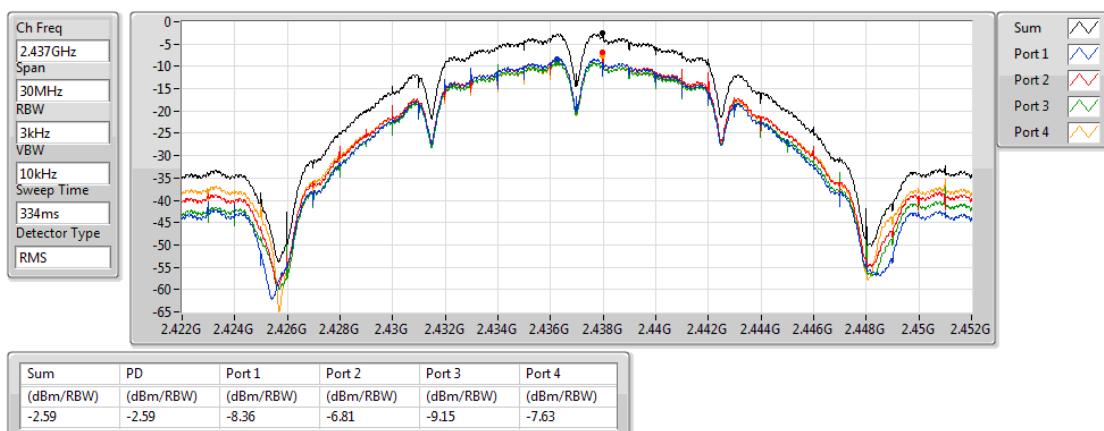
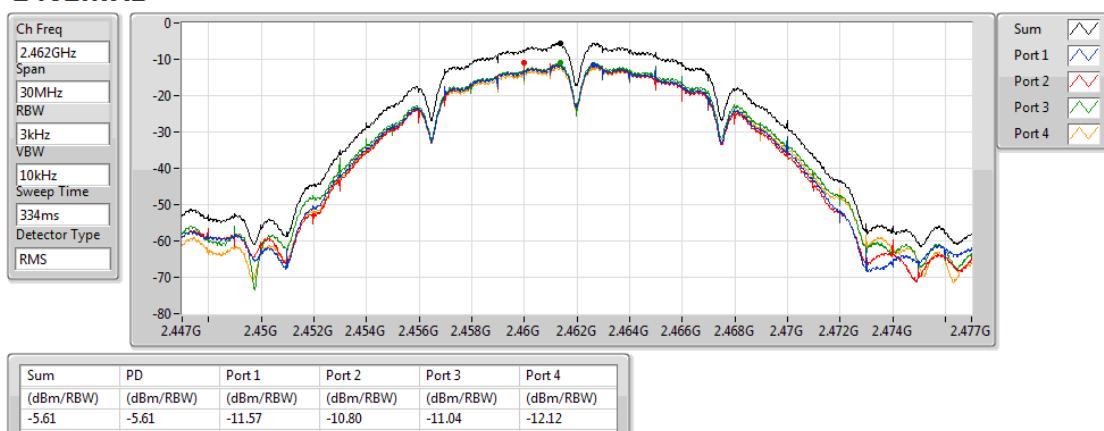
RBW=3kHz.

Result

Mode	Result	DG (dBi)	Port 1 (dBm/RBW)	Port 2 (dBm/RBW)	Port 3 (dBm/RBW)	Port 4 (dBm/RBW)	PD (dBm/RBW)	PD Limit (dBm/RBW)
802.11b_(1Mbps)_4TX	-	-	-	-	-	-	-	-
2412MHz	Pass	6.66	-10.14	-10.06	-10.85	-9.41	-4.48	7.34
2437MHz	Pass	6.66	-8.36	-6.81	-9.15	-7.63	-2.59	7.34
2462MHz	Pass	6.66	-11.57	-10.80	-11.04	-12.12	-5.61	7.34
802.11g_(6Mbps)_4TX	-	-	-	-	-	-	-	-
2412MHz	Pass	6.66	-13.22	-13.44	-11.94	-13.45	-8.63	7.34
2437MHz	Pass	6.66	-5.37	-4.59	-4.01	-5.15	0.47	7.34
2462MHz	Pass	6.66	-10.11	-10.37	-9.32	-10.50	-5.28	7.34
802.11ac VHT20_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-
2412MHz	Pass	6.66	-13.08	-13.47	-11.31	-13.98	-7.90	7.34
2437MHz	Pass	6.66	-4.40	-4.46	-4.05	-5.56	0.92	7.34
2462MHz	Pass	6.66	-10.60	-9.55	-9.41	-10.19	-5.25	7.34
802.11ac VHT40_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-
2422MHz	Pass	6.66	-16.99	-17.61	-17.66	-17.32	-12.36	7.34
2437MHz	Pass	6.66	-11.11	-12.34	-11.75	-12.68	-6.97	7.34
2452MHz	Pass	6.66	-12.57	-12.29	-12.54	-12.58	-7.71	7.34
802.11ac VHT20-BF_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-
2412MHz	Pass	6.66	-11.64	-11.12	-10.59	-8.91	-5.68	7.34
2437MHz	Pass	6.66	-8.54	-7.67	-7.57	-7.49	-2.21	7.34
2462MHz	Pass	6.66	-9.63	-8.95	-8.56	-9.17	-4.14	7.34
802.11ac VHT40-BF_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-
2422MHz	Pass	6.66	-16.26	-14.99	-15.31	-15.73	-10.47	7.34
2437MHz	Pass	6.66	-12.09	-11.37	-11.33	-10.91	-6.22	7.34
2452MHz	Pass	6.66	-12.88	-12.30	-12.08	-12.30	-7.91	7.34

DG = Directional Gain; RBW=3kHz;

PD = trace bin-by-bin of each transmits port summing can be performed maximum power density; Port X = Port X power density;

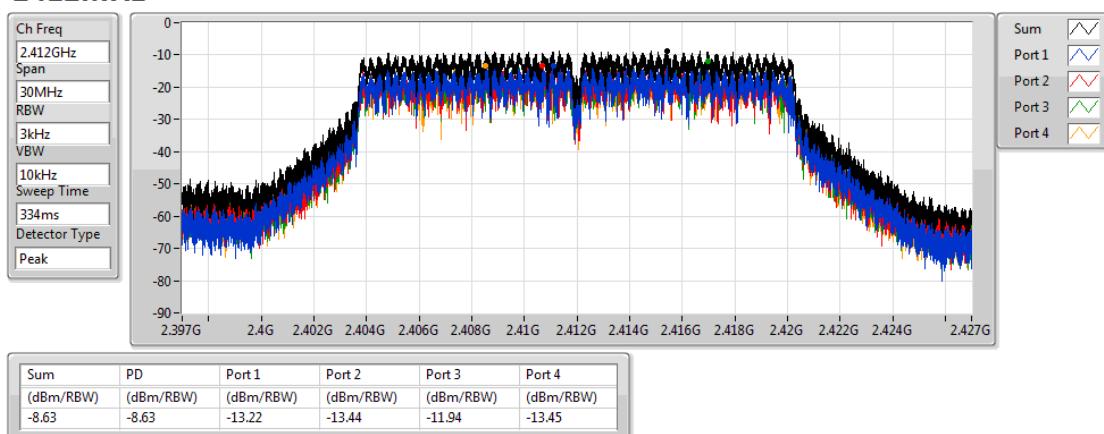
**802.11b_(1Mbps)_4TX****PSD****2412MHz****802.11b_(1Mbps)_4TX****PSD****2437MHz****802.11b_(1Mbps)_4TX****PSD****2462MHz**



802.11g_(6Mbps)_4TX

PSD

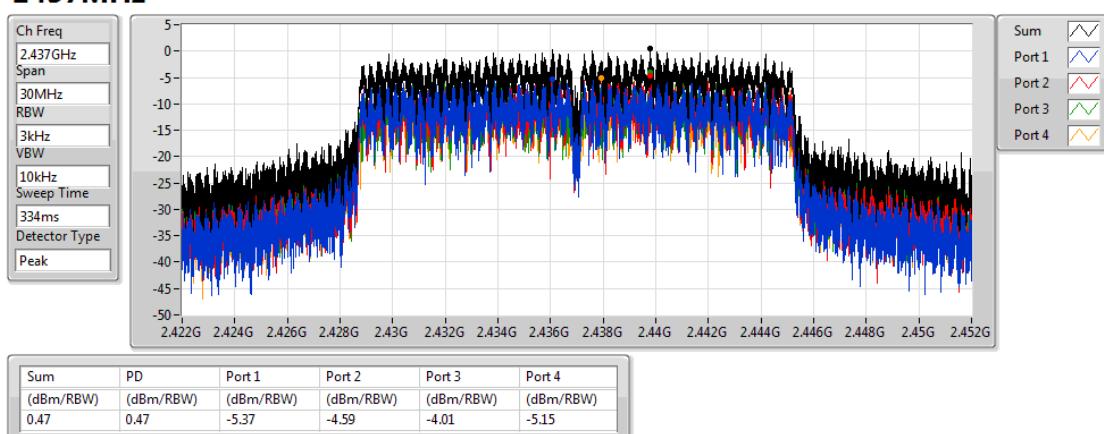
2412MHz



802.11g_(6Mbps)_4TX

PSD

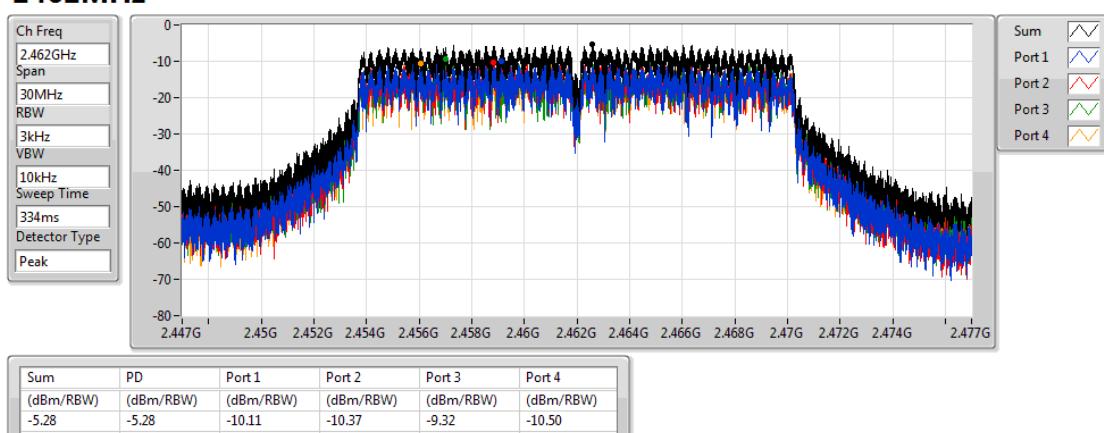
2437MHz



802.11g_(6Mbps)_4TX

PSD

2462MHz

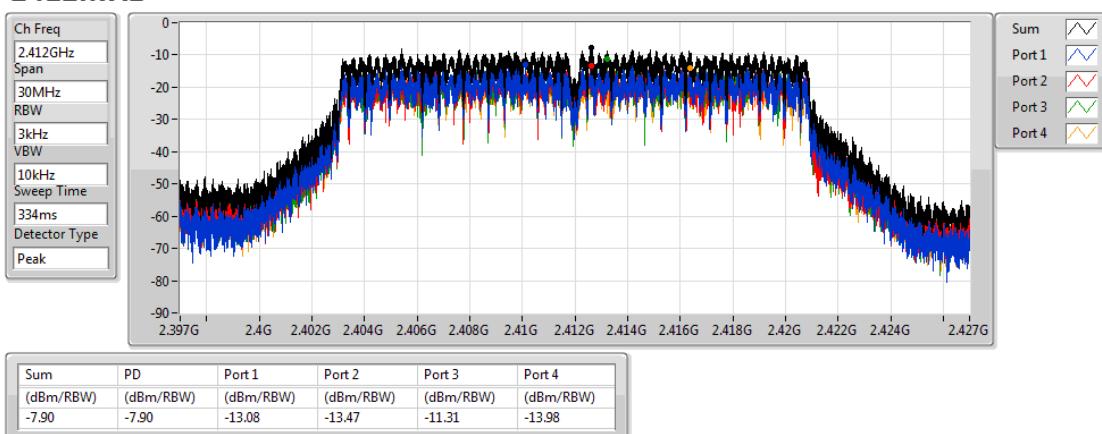




802.11ac VHT20_Nss1,(MCS0)_4TX

PSD

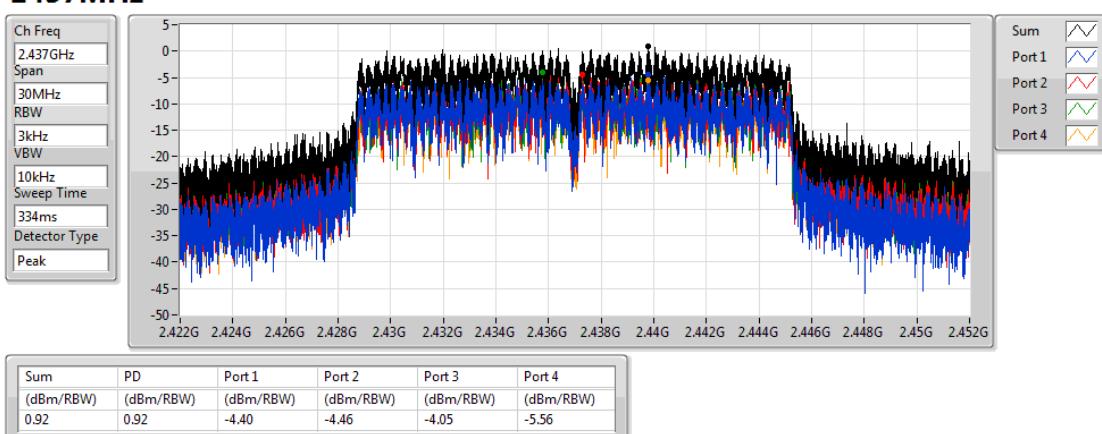
2412MHz



802.11ac VHT20_Nss1,(MCS0)_4TX

PSD

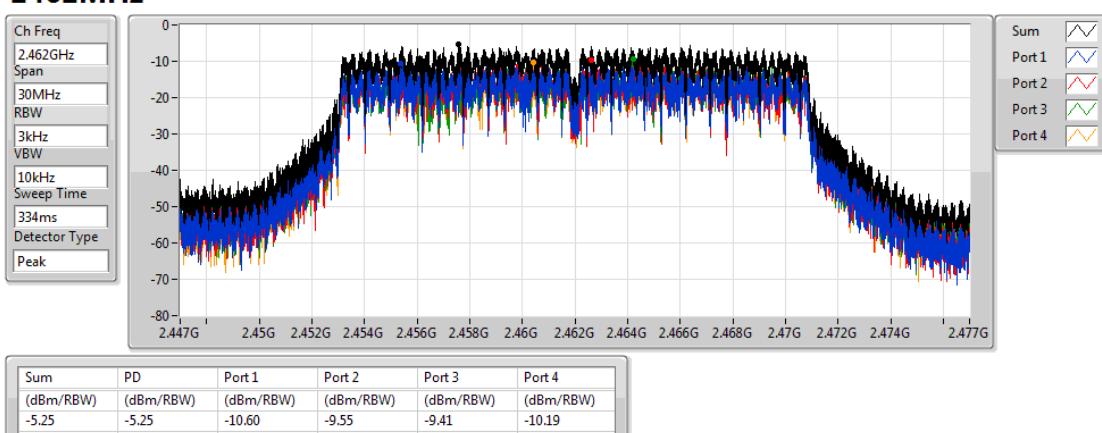
2437MHz



802.11ac VHT20_Nss1,(MCS0)_4TX

PSD

2462MHz



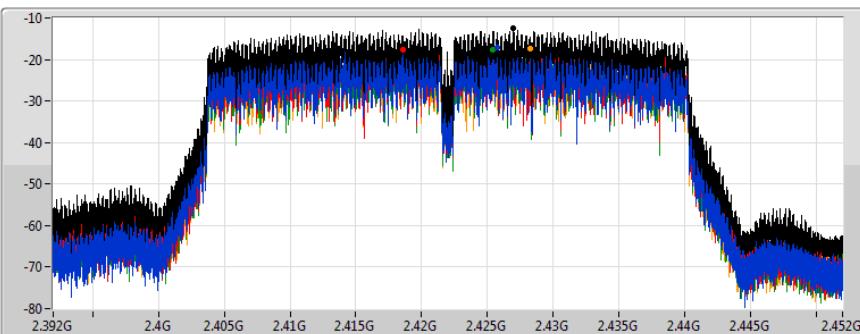


802.11ac VHT40_Nss1,(MCS0)_4TX

PSD

2422MHz

Ch Freq
2.422GHz
Span
60MHz
RBW
3kHz
VBW
10kHz
Sweep Time
667ms
Detector Type
Peak



Sum
Port 1
Port 2
Port 3
Port 4

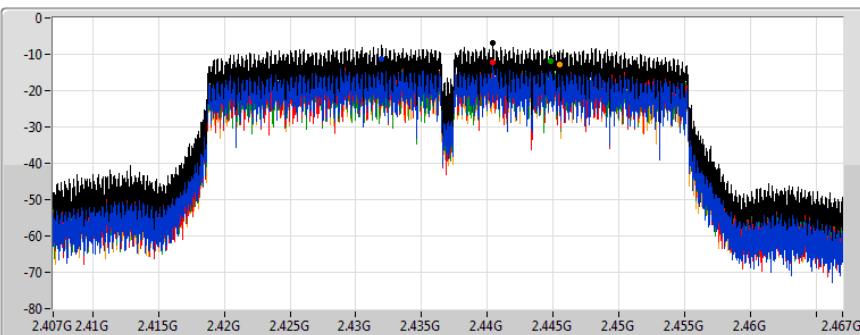
Sum	PD	Port 1	Port 2	Port 3	Port 4
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
-12.36	-12.36	-16.99	-17.61	-17.66	-17.32

802.11ac VHT40_Nss1,(MCS0)_4TX

PSD

2437MHz

Ch Freq
2.437GHz
Span
60MHz
RBW
3kHz
VBW
10kHz
Sweep Time
667ms
Detector Type
Peak



Sum
Port 1
Port 2
Port 3
Port 4

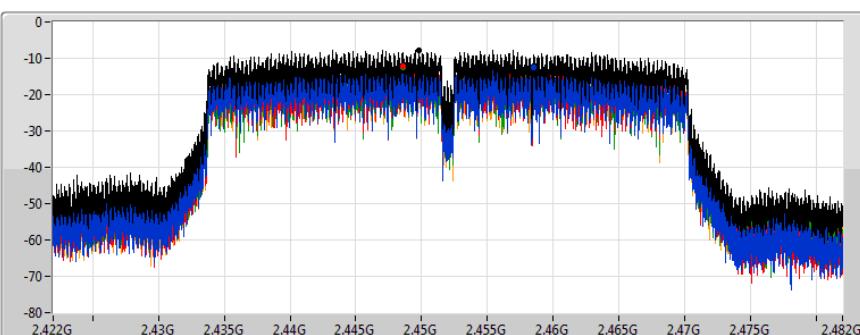
Sum	PD	Port 1	Port 2	Port 3	Port 4
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
-6.97	-6.97	-11.11	-12.34	-11.75	-12.68

802.11ac VHT40_Nss1,(MCS0)_4TX

PSD

2452MHz

Ch Freq
2.452GHz
Span
60MHz
RBW
3kHz
VBW
10kHz
Sweep Time
667ms
Detector Type
Peak



Sum
Port 1
Port 2
Port 3
Port 4

Sum	PD	Port 1	Port 2	Port 3	Port 4
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
-7.71	-7.71	-12.57	-12.29	-12.54	-12.58



For set 5 antenna / 4T2S

Summary

Mode	PD (dBm/RBW)
802.11ac VHT20-BF_Nss2,(MCS0)_4TX	-
2.4-2.4835GHz	-5.41
802.11ac VHT40-BF_Nss2,(MCS0)_4TX	-
2.4-2.4835GHz	-8.79

RBW=3kHz.

Result

Mode	Result	DG (dBi)	Port 1 (dBm/RBW)	Port 2 (dBm/RBW)	Port 3 (dBm/RBW)	Port 4 (dBm/RBW)	PD (dBm/RBW)	PD Limit (dBm/RBW)
802.11ac VHT20-BF_Nss2,(MCS0)_4TX	-	-	-	-	-	-	-	-
2412MHz	Pass	3.67	-11.25	-10.98	-11.85	-9.97	-6.87	8.00
2437MHz	Pass	3.67	-11.98	-11.97	-12.08	-12.14	-7.78	8.00
2462MHz	Pass	3.67	-9.58	-10.82	-10.66	-10.92	-5.41	8.00
802.11ac VHT40-BF_Nss2,(MCS0)_4TX	-	-	-	-	-	-	-	-
2422MHz	Pass	3.67	-17.06	-17.21	-17.99	-16.69	-12.48	8.00
2437MHz	Pass	3.67	-14.53	-15.23	-14.38	-14.50	-9.25	8.00
2452MHz	Pass	3.67	-11.75	-14.50	-13.18	-13.86	-8.79	8.00

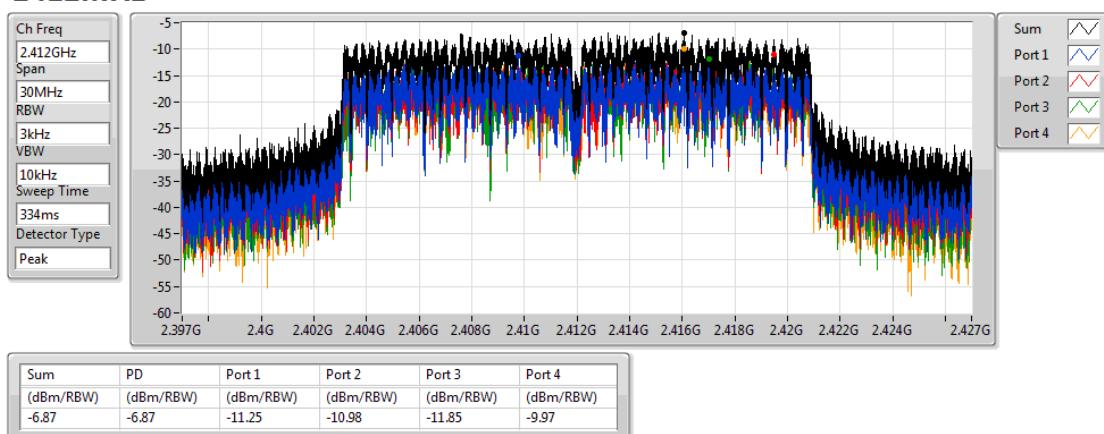
DG = Directional Gain; RBW=3kHz;**PD** = trace bin-by-bin of each transmits port summing can be performed maximum power density; **Port X** = Port X power density;



802.11ac VHT20-BF_Nss2,(MCS0)_4TX

PSD

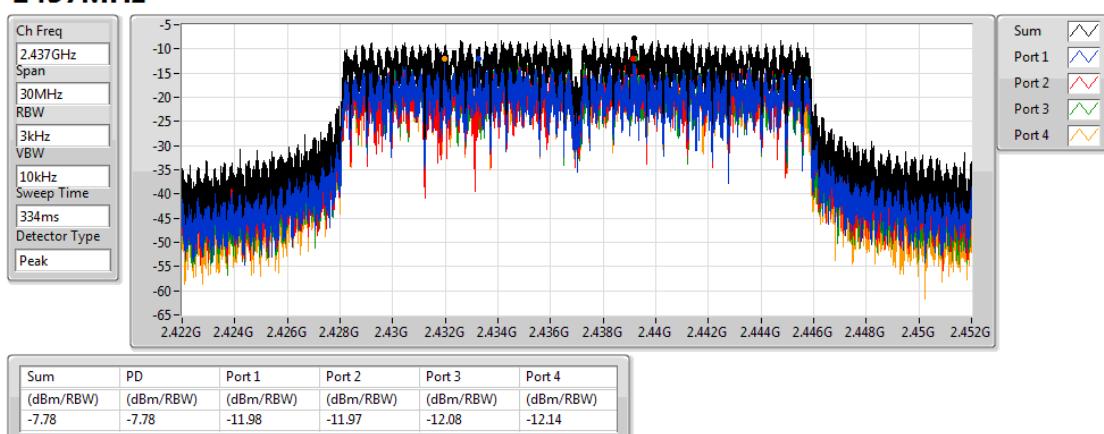
2412MHz



802.11ac VHT20-BF_Nss2,(MCS0)_4TX

PSD

2437MHz



802.11ac VHT20-BF_Nss2,(MCS0)_4TX

PSD

2462MHz

