



FCC RADIO TEST REPORT

FCC ID : QXO-AP510E
Equipment : 802.11ax Access Point
Brand Name : Extreme Networks
Model Name : AP510e
Applicant : Extreme Networks, Inc.
6480 Via Del Oro, San Jose, CA 95119
Manufacturer : Extreme Networks, Inc.
6480 Via Del Oro, San Jose, CA 95119
Standard : 47 CFR FCC Part 15.247

The product was received on Nov. 09, 2018, and testing was started from Nov. 22, 2018 and completed on Mar. 15, 2019. We, SPORTON INTERNATIONAL INC. EMC & Wireless Communications Laboratory, 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 report must not be used by the client to claim product certification, approval, or endorsement by TAF or any agency of government.

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


Approved by: Sam Chen

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Photographs of EUT v01



TEL : 886-3-656-9065
FAX : 886-3-656-9085
Report Template No.: CB Ver1.0



Summary of Test Result

Report Clause	Ref Std. Clause	Test Items	Result (PASS/FAIL)	Remark
1.1.2	15.203	Antenna Requirement	PASS	-
3.1	15.207	AC Power-line Conducted Emissions	PASS	-
3.2	15.247(a)	DTS Bandwidth	PASS	-
3.3	15.247(b)	Maximum Conducted Output Power	PASS	-
3.4	15.247(e)	Power Spectral Density	PASS	-
3.5	15.247(d)	Emissions in Non-restricted Frequency Bands	PASS	-
3.6	15.247(d)	Emissions in Restricted Frequency Bands	PASS	-

Declaration of Conformity:

The test results with all measurement uncertainty excluded are presented in accordance with the regulation limits or requirements declared by manufacturers.

Comments and Explanations:

1. The test configuration, test mode and test software were written in this test report are declared by the manufacturer.
2. The declared of product specification for EUT presented in the report are provided by the manufacturer, and the manufacturer takes all the responsibilities for the accuracy of product specification.

Reviewed by: Sam Chen

Report Producer: Vicky Huang



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), ax(HEW20)	2412-2462	1-11 [11]
2400-2483.5	n (HT40), ax(HEW40)	2422-2452	3-9 [7]

Band	Mode	BWch (MHz)	Nant
2.4-2.4835GHz	802.11b	20	1TX, 2TX, 4TX
2.4-2.4835GHz	802.11g	20	1TX, 2TX, 4TX
2.4-2.4835GHz	802.11n HT20	20	1TX, 2TX, 4TX
2.4-2.4835GHz	802.11ax HEW20	20	1TX, 2TX, 4TX
2.4-2.4835GHz	802.11ax HEW20-BF	20	2TX, 4TX
2.4-2.4835GHz	802.11n HT40	40	1TX, 2TX, 4TX
2.4-2.4835GHz	802.11ax HEW40	40	1TX, 2TX, 4TX
2.4-2.4835GHz	802.11ax HEW40-BF	40	2TX, 4TX

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.
- HEW20, HEW40 use a combination of OFDMA-BPSK, QPSK, 16QAM, 64QAM, 256QAM, 1024QAM 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	Model Name	Antenna Type	Connector	Radio	Elevation angle above 30 degree Max Gain (dBi)
1	Extreme Networks	ML-2452-APA2-01	Omni	RP SMA male	1, 2	-
2	Extreme Networks	ML-2452-APA2-02	Omni	RP SMA male	1, 2	-
3	Extreme Networks	ML-2452-HPA5-036	Omni	RP SMA male	1, 2	-
4	Extreme Networks	ML-2452-HPAG4A6-01	Omni	N Male	1, 2	5.7
5	Extreme Networks	ML-2452-PNA5-01R	Panel	N Male	1, 2	5.26
6	Extreme Networks	ML-2452-HPAG5A8-01	Omni	N Male	1, 2	-6.05
7	Extreme Networks	ML-2452-PTA4M4-036	Omni	RP SMA male	1, 2	-
8	Extreme Networks	WS-AO-DQ04360N	Omni	N Male	1, 2	-
9	Extreme Networks	ML-2452-SEC6M4-036	Panel	RP SMA male	1, 2	-
10	Extreme Networks	WS-AI-DQ05120	Panel	RP SMA male	1, 2	-
11	Extreme Networks	ML-2452-PNA7-01R	Panel	RP SMA male	1, 2, 3	7.9
12	Extreme Networks	ML-2499-HPA8-01	Omni	N Male	3	-
13	Extreme Networks	AI-DQ04360S	Omni	RP SMA male	1, 2	-

Note1:

Ant.	Antenna Gain(dBi)				Cable loss(dB)				True Gain(dBi)			
	WLAN 2.4GHz	WLAN 5GHz	Bluetooth	Thread	WLAN 2.4GHz	WLAN 5GHz	Bluetooth	Thread	WLAN 2.4GHz	WLAN 5GHz	Bluetooth	Thread
1	3.17	4.85	-	-	1	2	-	-	2.17	2.85	-	-
2	3.17	4.85	-	-	1	2	-	-	2.17	2.85	-	-
3	3.9	5.7	-	-	1	2	-	-	2.9	3.7	-	-
4	4	7.3	-	-	1	2	-	-	3	5.3	-	-
5	4.5	5	-	-	1	2	-	-	3.5	3	-	-
6	5	8	-	-	1	2	-	-	4	6	-	-
7	5	6.6	-	-	1	2	-	-	4	4.6	-	-
8	5.5	6	-	-	1	2	-	-	4.5	4	-	-
9	6.92	7.23	-	-	1	2	-	-	5.92	5.23	-	-
10	6.92	7.23	-	-	1	2	-	-	5.92	5.23	-	-
11	7.8	10.7	7.8	7.8	1	2	1	1	6.8	8.7	6.8	6.8
12	-	-	8	8	-	-	1	1	-	-	7	7
13	5.5	6	-	-	1	2	-	-	4.5	4	-	-

Note2: The above information was declared by manufacturer.

Note3:

For 2.4GHz function:

For IEEE 802.11b/g/n/ax mode (1TX, 2TX, 4TX/4RX):

For 1TX

Only Port 1 can be use as transmitting antenna.

For 2TX

Port 1 and Port 2 can be use as transmitting antenna.

Port 1 and Port 2 could transmit simultaneously.

For 4TX

Port 1, Port 2, Port 3 and Port 4 can be use as transmitting antenna.

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

For 4RX

Port 1, Port 2, Port 3 and Port 4 can be used as receiving antennas.

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

For 5GHz function:

For IEEE 802.11a/n/ac/ax mode (1TX, 2TX, 4TX/4RX):

For 1TX

Only Port 1 can be use as transmitting antenna.

For 2TX

Port 1 and Port 2 can be use as transmitting antenna.

Port 1 and Port 2 could transmit simultaneously.

For 4TX

Port 1, Port 2, Port 3 and Port 4 can be use as transmitting antenna.

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

For 4RX

Port 1, Port 2, Port 3 and Port 4 can be used as receiving antennas.

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

For Bluetooth and Thread mode (1TX/1RX):

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

**1.1.3 Mode Test Duty Cycle****For 1T1S Mode:**

Mode	DC	DCF(dB)	T(s)	VBW(Hz) $\geq 1/T$
802.11b	0.949	0.227	12.418m	100
802.11g	0.934	0.297	2.065m	1k
802.11ax HEW20	0.969	0.137	1.749m	1k
802.11ax HEW40	0.943	0.255	908.333u	3k

For 2T2S Mode:

Mode	DC	DCF(dB)	T(s)	VBW(Hz) $\geq 1/T$
802.11ax HEW20	0.95	0.223	779.733u	3k
802.11ax HEW40	0.919	0.367	421.867u	3k

For 4T1S Mode:

Mode	DC	DCF(dB)	T(s)	VBW(Hz) $\geq 1/T$
802.11b	0.952	0.214	12.416m	100
802.11g	0.946	0.241	2.065m	1k
802.11ax HEW20	0.976	0.106	1.749m	1k
802.11ax HEW40	0.946	0.241	908.333u	3k
802.11ax HEW20-BF	0.963	0.164	2.93m	1k
802.11ax HEW40-BF	0.929	0.32	1.494m	1k

For 4T4S Mode:

Mode	DC	DCF(dB)	T(s)	VBW(Hz) $\geq 1/T$
802.11ax HEW20	0.946	0.241	536.167u	3k
802.11ax HEW40	0.885	0.531	259.333u	10k

Note:

- ♦ DC is Duty Cycle.
- ♦ DCF is Duty Cycle Factor.

1.1.4 EUT Operational Condition

EUT Power Type	From Power adapter or PoE			
Beamforming Function	☒	With beamforming	☐	Without beamforming
	For 802.11ax in 2.4GHz and 802.11n/ac/ax in 5GHz.			
Function	☒	Point-to-multipoint	☐	Point-to-point
Test Software Version	accessMtool 3.0.0.6			

Note: The above information was declared by manufacturer.

1.1.5 Table for EUT support function

The EUT has three radios, the information as following table:

Radio	Function		
	WLAN 2.4GHz	WLAN 5GHz	Bluetooth/Thread
1	V	V	-
2	-	V	-
3	-	-	V

Function	Radio	Support Type	Support Band
AP	1,2,3	Master	WLAN 2.4GHz/Bluetooth/Thread/WLAN 5GHz Band 1~4
Client	1	Slave without Radar Detection (Sensor Mode)	WLAN 2.4GHz/WLAN 5GHz Band 1+4
Bridge	1,2,3	Master	WLAN 2.4GHz/Bluetooth/Thread/WLAN 5GHz Band 1+4
Mesh	1,2,3	Master	WLAN 2.4GHz/Bluetooth/Thread/WLAN 5GHz Band 1+4

Note: The above information was declared by manufacturer.

1.1.6 Table for EUT operation function

Mode	Radio 1	Radio 2	Radio 3
1	2.4G(Master-AP)	5G-Full Band(Master-AP)	Bluetooth/Thread
2	5G Band 1+4 / 2.4G Slave without Radar Detection (Sensor Mode)	5G-Full Band(Master-AP)	Bluetooth/Thread
3	5G-Low Band(Master-AP)	5G-High Band(Master-AP)	Bluetooth/Thread

Note: 1. The above information was declared by manufacturer.

2. The Mode 2 was same as client function of section 1.1.5.



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 v05r01
- ◆ FCC KDB 662911 D01 v02r01

1.3 Testing Location Information

Testing Location		
☐	HWA YA	ADD : No. 52, Huaya 1st Rd., Guishan Dist., Taoyuan City, Taiwan (R.O.C.) TEL : 886-3-327-3456 FAX : 886-3-327-0973
☒	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	Jay Luo	20~23°C / 55~60%	Jan. 25, 2019~Mar. 04, 2019
Radiated (Below 1GHz)	03CH01-CB	Stim Sung	22~24°C / 54~58%	Nov. 22, 2018~Mar. 04, 2019
Radiated (Above 1GHz for Co-location)	03CH01-CB	Stim Sung	22~24°C / 54~58%	Nov. 22, 2018
Radiated (Above 1GHz for other tests)	03CH01-CB	Jay Luo	20~22°C / 55~60%	Jan. 22, 2019~Mar. 15, 2019
AC Conduction	CO02-CB	Deven Huang	23°C / 60%	Nov. 26, 2018

Test site Designation No. TW0006 with FCC.

Test site registered number IC 4086B 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)	2.0 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 x10 ⁻⁸	Confidence levels of 95%



2 Test Configuration of EUT

2.1 Test Channel Mode

For Mode 1: (Ant. 4 Omni antenna / 3 dBi)

For 1T1S Mode:

For Conducted measurement and Band Edge Emission test:

Mode	Power Setting	Power Setting (dBm)
802.11b_Nss1,(1Mbps)_1TX	-	-
2412MHz	81	20.25
2417MHz	86	21.5
2422MHz	87	21.75
2427MHz	88	22
2432MHz	89	22.25
2437MHz	89	22.25
2442MHz	88	22
2447MHz	85	21.25
2452MHz	84	21
2457MHz	81	20.25
2462MHz	79	19.75
802.11g_Nss1,(6Mbps)_1TX	-	-
2412MHz	58	14.5
2417MHz	68	17
2422MHz	69	17.25
2427MHz	73	18.25
2432MHz	74	18.5
2437MHz	79	19.75
2442MHz	75	18.75
2447MHz	71	17.75
2452MHz	68	17
2457MHz	65	16.25
2462MHz	58	14.5
802.11ax HEW20_Nss1,(MCS0)_1TX	-	-
2412MHz	58	14.5
2417MHz	64	16
2422MHz	65	16.25
2427MHz	72	18
2432MHz	75	18.75
2437MHz	77	19.25
2442MHz	72	18
2447MHz	64	16



Mode	Power Setting	Power Setting (dBm)
2452MHz	62	15.5
2457MHz	60	15
2462MHz	49	12.25
802.11ax HEW40_Nss1,(MCS0)_1TX	-	-
2422MHz	57	14.25
2427MHz	58	14.5
2432MHz	59	14.75
2437MHz	61	15.25
2442MHz	61	15.25
2447MHz	57	14.25
2452MHz	56	14

**For 2T2S Mode:****For Conducted measurement and Band Edge Emission test:**

Mode	Power Setting	Power Setting (dBm)
802.11ax HEW20_Nss2,(MCS0)_2TX	-	-
2412MHz	61	15.25
2417MHz	66	16.5
2422MHz	71	17.75
2427MHz	73	18.25
2437MHz	73	18.25
2442MHz	71	17.75
2447MHz	70	17.5
2452MHz	66	16.5
2457MHz	60	15
2462MHz	55	13.75
802.11ax HEW40_Nss2,(MCS0)_2TX	-	-
2422MHz	51	12.75
2427MHz	55	13.75
2432MHz	56	14
2437MHz	56	14
2442MHz	56	14
2447MHz	54	13.5
2452MHz	47	11.75

**For 4T1S Mode:****For Radiated Emission:**

Mode	Power Setting
802.11b_Nss1,(1Mbps)_4TX	-
2412MHz	110
2437MHz	89
2462MHz	97
802.11g_Nss1,(6Mbps)_4TX	-
2412MHz	110
2437MHz	110
2462MHz	110
802.11ax HEW20_Nss1,(MCS0)_4TX	-
2412MHz	110
2437MHz	110
2462MHz	110
802.11ax HEW40_Nss1,(MCS0)_4TX	
2422MHz	110
2437MHz	110
2452MHz	110

**For Conducted measurement and Band Edge Emission test:**

Mode	Power Setting	Power Setting (dBm)
802.11b_Nss1,(1Mbps)_4TX	-	-
2412MHz	78	19.5
2417MHz	78	19.5
2422MHz	82	20.5
2427MHz	84	21
2432MHz	85	21.25
2437MHz	86	21.5
2442MHz	83	20.75
2447MHz	82	20.5
2452MHz	81	20.25
2457MHz	78	19.5
2462MHz	78	19.5
802.11g_Nss1,(6Mbps)_4TX	-	-
2412MHz	50	12.5
2417MHz	57	14.25
2422MHz	63	15.75
2427MHz	67	16.75
2432MHz	68	17
2437MHz	68	17
2442MHz	68	17
2447MHz	64	16
2452MHz	62	15.5
2457MHz	59	14.75
2462MHz	49	12.25
802.11ax HEW20_Nss1,(MCS0)_4TX	-	-
2412MHz	49	12.25
2417MHz	54	13.5
2422MHz	59	14.75
2427MHz	60	15
2432MHz	64	16
2437MHz	64	16
2442MHz	64	16
2447MHz	57	14.25
2452MHz	57	14.25
2457MHz	49	12.25
2462MHz	44	11
802.11ax HEW40_Nss1,(MCS0)_4TX	-	-
2422MHz	49	12.25
2427MHz	51	12.75



Mode	Power Setting	Power Setting (dBm)
2432MHz	52	13
2437MHz	52	13
2442MHz	50	12.5
2447MHz	49	12.25
2452MHz	47	11.75
802.11ax HEW20-BF_Nss1,(MCS0)_4TX	-	-
2412MHz	56	14
2417MHz	60	15
2422MHz	69	17.25
2427MHz	73	18.25
2437MHz	73	18.25
2442MHz	68	17
2447MHz	60	15
2452MHz	64	16
2457MHz	56	14
2462MHz	50	12.5
802.11ax HEW40-BF_Nss1,(MCS0)_4TX	-	-
2422MHz	52	13
2437MHz	52	13
2452MHz	52	13

**For 4T4S Mode:****For Conducted measurement and Band Edge Emission test:**

Mode	Power Setting	Power Setting (dBm)
802.11ax HEW20_Nss4,(MCS0)_4TX	-	-
2412MHz	54	13.5
2417MHz	61	15.25
2422MHz	64	16
2427MHz	69	17.25
2437MHz	69	17.25
2442MHz	68	17
2447MHz	65	16.25
2452MHz	62	15.5
2457MHz	58	14.5
2462MHz	52	13
802.11ax HEW40_Nss4,(MCS0)_4TX	-	-
2422MHz	46	11.5
2427MHz	48	12
2432MHz	51	12.75
2437MHz	51	12.75
2442MHz	50	12.5
2447MHz	47	11.75
2452MHz	45	11.25

**For Mode 2: (Ant. 7 Omni antenna / 4 dBi)****For 1T1S Mode:****For Conducted measurement and Band Edge Emission test:**

Mode	Power Setting	Power Setting (dBm)
802.11b_Nss1,(1Mbps)_1TX	-	-
2412MHz	83	20.75
2417MHz	88	22
2422MHz	88	22
2427MHz	89	22.25
2432MHz	90	22.5
2437MHz	90	22.5
2442MHz	89	22.25
2447MHz	86	21.5
2452MHz	86	21.5
2457MHz	83	20.75
2462MHz	81	20.25
802.11g_Nss1,(6Mbps)_1TX	-	-
2412MHz	66	16.5
2417MHz	72	18
2422MHz	76	19
2427MHz	79	19.75
2432MHz	82	20.5
2437MHz	82	20.5
2442MHz	80	20
2447MHz	77	19.25
2452MHz	73	18.25
2457MHz	68	17
2462MHz	61	15.25
802.11ax HEW20_Nss1,(MCS0)_1TX	-	-
2412MHz	60	15
2417MHz	70	17.5
2422MHz	70	17.5
2427MHz	76	19
2432MHz	79	19.75
2437MHz	79	19.75
2442MHz	78	19.5
2447MHz	75	18.75
2452MHz	65	16.25
2457MHz	63	15.75
2462MHz	52	13
802.11ax HEW40_Nss1,(MCS0)_1TX	-	-
2422MHz	60	15



Mode	Power Setting	Power Setting (dBm)
2427MHz	61	15.25
2432MHz	62	15.5
2437MHz	64	16
2442MHz	62	15.5
2447MHz	60	15
2452MHz	59	14.75

**For 2T2S Mode:****For Conducted measurement and Band Edge Emission test:**

Mode	Power Setting	Power Setting (dBm)
802.11ax HEW20_Nss2,(MCS0)_2TX	-	-
2412MHz	59	14.75
2417MHz	64	16
2422MHz	68	17
2427MHz	72	18
2432MHz	75	18.75
2437MHz	76	19
2442MHz	73	18.25
2447MHz	70	17.5
2452MHz	68	17
2457MHz	62	15.5
2462MHz	56	14
802.11ax HEW40_Nss2,(MCS0)_2TX	-	-
2422MHz	58	14.5
2427MHz	58	14.5
2432MHz	59	14.75
2437MHz	61	15.25
2442MHz	60	15
2447MHz	57	14.25
2452MHz	56	14

**For 4T1S Mode:****For Radiated Emission:**

Mode	Power Setting
802.11b_Nss1,(1Mbps)_4TX	-
2412MHz	110
2437MHz	110
2462MHz	110
802.11g_Nss1,(6Mbps)_4TX	-
2412MHz	110
2437MHz	110
2462MHz	110
802.11ax HEW20_Nss1,(MCS0)_4TX	-
2412MHz	110
2437MHz	110
2462MHz	110
802.11ax HEW40_Nss1,(MCS0)_4TX	-
2422MHz	110
2437MHz	110
2452MHz	110

**For Conducted measurement and Band Edge Emission test:**

Mode	Power Setting	Power Setting (dBm)
802.11b_Nss1,(1Mbps)_4TX	-	-
2412MHz	78	19.5
2417MHz	80	20
2422MHz	85	21.25
2427MHz	86	21.5
2437MHz	86	21.5
2442MHz	85	21.25
2447MHz	85	21.25
2452MHz	82	20.5
2457MHz	80	20
2462MHz	78	19.5
802.11g_Nss1,(6Mbps)_4TX	-	-
2412MHz	52	13
2417MHz	61	15.25
2422MHz	64	16
2427MHz	67	16.75
2432MHz	68	17
2437MHz	74	18.5
2442MHz	70	17.5
2447MHz	68	17
2452MHz	62	15.5
2457MHz	58	14.5
2462MHz	52	13
802.11ax HEW20_Nss1,(MCS0)_4TX	-	-
2412MHz	52	13
2417MHz	56	14
2422MHz	62	15.5
2427MHz	62	15.5
2432MHz	67	16.75
2437MHz	67	16.75
2442MHz	62	15.5
2447MHz	59	14.75
2452MHz	58	14.5
2457MHz	50	12.5
2462MHz	44	11
802.11ax HEW40_Nss1,(MCS0)_4TX	-	-
2422MHz	53	13.25
2427MHz	53	13.25
2432MHz	54	13.5



Mode	Power Setting	Power Setting (dBm)
2437MHz	56	14
2442MHz	54	13.5
2447MHz	52	13
2452MHz	49	12.25
802.11ax HEW20-BF_Nss1,(MCS0)_4TX	-	-
2412MHz	57	14.25
2417MHz	61	15.25
2422MHz	66	16.5
2427MHz	72	18
2437MHz	72	18
2442MHz	70	17.5
2447MHz	68	17
2452MHz	61	15.25
2457MHz	54	13.5
2462MHz	49	12.25
802.11ax HEW40-BF_Nss1,(MCS0)_4TX	-	-
2422MHz	50	12.5
2427MHz	51	12.75
2432MHz	55	13.75
2437MHz	60	15
2442MHz	54	13.5
2447MHz	54	13.5
2452MHz	50	12.5

**For 4T4S Mode:****For Conducted measurement and Band Edge Emission test:**

Mode	Power Setting	Power Setting (dBm)
802.11ax HEW20_Nss4,(MCS0)_4TX	-	-
2412MHz	57	14.25
2417MHz	62	15.5
2422MHz	65	16.25
2427MHz	69	17.25
2432MHz	72	18
2437MHz	72	18
2442MHz	71	17.75
2447MHz	67	16.75
2452MHz	64	16
2457MHz	59	14.75
2462MHz	55	13.75
802.11ax HEW40_Nss4,(MCS0)_4TX	-	-
2422MHz	46	11.5
2427MHz	47	11.75
2432MHz	51	12.75
2437MHz	55	13.75
2442MHz	50	12.5
2447MHz	50	12.5
2452MHz	47	11.75

**For Mode 3: (Ant. 11 Panel antenna / 6.8 dBi)****For 1T1S Mode:****For Conducted measurement and Band Edge Emission test:**

Mode	Power Setting	Power Setting (dBm)
802.11b_Nss1,(1Mbps)_1TX	-	-
2412MHz	79	19.75
2417MHz	85	21.25
2437MHz	85	21.25
2452MHz	85	21.25
2457MHz	83	20.75
2462MHz	79	19.75
802.11g_Nss1,(6Mbps)_1TX	-	-
2412MHz	57	14.25
2417MHz	67	16.75
2422MHz	65	16.25
2427MHz	72	18
2432MHz	72	18
2437MHz	78	19.5
2442MHz	74	18.5
2447MHz	73	18.25
2452MHz	70	17.5
2457MHz	66	16.5
2462MHz	58	14.5
802.11ax HEW20_Nss1,(MCS0)_1TX	-	-
2412MHz	54	13.5
2417MHz	65	16.25
2422MHz	65	16.25
2427MHz	72	18
2437MHz	72	18
2442MHz	72	18
2447MHz	65	16.25
2452MHz	63	15.75
2457MHz	62	15.5
2462MHz	50	12.5
802.11ax HEW40_Nss1,(MCS0)_1TX	-	-
2422MHz	56	14
2427MHz	59	14.75
2432MHz	60	15
2437MHz	60	15
2442MHz	60	15
2447MHz	58	14.5
2452MHz	55	13.75

**For 2T2S Mode:****For Conducted measurement and Band Edge Emission test:**

Mode	Power Setting	Power Setting (dBm)
802.11ax HEW20_Nss2,(MCS0)_2TX	-	-
2412MHz	56	14
2417MHz	61	15.25
2422MHz	66	16.5
2427MHz	69	17.25
2432MHz	72	18
2437MHz	73	18.25
2442MHz	71	17.75
2447MHz	69	17.25
2452MHz	64	16
2457MHz	61	15.25
2462MHz	56	14
802.11ax HEW40_Nss2,(MCS0)_2TX	-	-
2422MHz	54	13.5
2427MHz	56	14
2432MHz	57	14.25
2437MHz	59	14.75
2442MHz	57	14.25
2447MHz	55	13.75
2452MHz	53	13.25

**For 4T1S Mode:****For Radiated Emission:**

Mode	Power Setting
802.11b_Nss1,(1Mbps)_4TX	-
2412MHz	110
2437MHz	85
2462MHz	87
802.11g_Nss1,(6Mbps)_4TX	-
2412MHz	110
2437MHz	110
2462MHz	110
802.11ax HEW20_Nss1,(MCS0)_4TX	-
2412MHz	110
2437MHz	110
2462MHz	110
802.11ax HEW40_Nss1,(MCS0)_4TX	
2422MHz	110
2437MHz	110
2452MHz	110

**For Conducted measurement and Band Edge Emission test:**

Mode	Power Setting	Power Setting (dBm)
802.11b_Nss1,(1Mbps)_4TX	-	-
2412MHz	77	19.25
2417MHz	78	19.5
2422MHz	81	20.25
2427MHz	85	21.25
2437MHz	85	21.25
2442MHz	85	21.25
2447MHz	77	19.25
2452MHz	74	18.5
2457MHz	74	18.5
2462MHz	73	18.25
802.11g_Nss1,(6Mbps)_4TX	-	-
2412MHz	49	12.25
2417MHz	58	14.5
2422MHz	60	15
2427MHz	66	16.5
2432MHz	67	16.75
2437MHz	69	17.25
2442MHz	68	17
2447MHz	65	16.25
2452MHz	63	15.75
2457MHz	59	14.75
2462MHz	48	12
802.11ax HEW20_Nss1,(MCS0)_4TX	-	-
2412MHz	45	11.25
2417MHz	52	13
2422MHz	60	15
2427MHz	60	15
2432MHz	60	15
2437MHz	64	16
2442MHz	59	14.75
2447MHz	58	14.5
2452MHz	56	14
2457MHz	50	12.5
2462MHz	40	10
802.11ax HEW40_Nss1,(MCS0)_4TX	-	-
2422MHz	47	11.75
2427MHz	49	12.25
2432MHz	50	12.5



Mode	Power Setting	Power Setting (dBm)
2437MHz	52	13
2442MHz	49	12.25
2447MHz	47	11.75
2452MHz	45	11.25
802.11ax HEW20-BF_Nss1,(MCS0)_4TX	-	-
2412MHz	47	11.75
2417MHz	51	12.75
2422MHz	57	14.25
2427MHz	64	16
2437MHz	64	16
2442MHz	64	16
2447MHz	57	14.25
2452MHz	56	14
2457MHz	52	13
2462MHz	48	12
802.11ax HEW40-BF_Nss1,(MCS0)_4TX	-	-
2422MHz	51	12.75
2427MHz	52	13
2437MHz	52	13
2442MHz	52	13
2447MHz	47	11.75
2452MHz	47	11.75

**For 4T4S Mode:****For Conducted measurement and Band Edge Emission test:**

Mode	Power Setting	Power Setting (dBm)
802.11ax HEW20_Nss4,(MCS0)_4TX	-	-
2412MHz	54	13.5
2417MHz	58	14.5
2422MHz	61	15.25
2427MHz	66	16.5
2432MHz	69	17.25
2437MHz	69	17.25
2442MHz	67	16.75
2447MHz	64	16
2452MHz	59	14.75
2457MHz	54	13.5
2462MHz	50	12.5
802.11ax HEW40_Nss4,(MCS0)_4TX	-	-
2422MHz	40	10
2427MHz	41	10.25
2432MHz	47	11.75
2437MHz	49	12.25
2442MHz	48	12
2447MHz	41	10.25
2452MHz	40	10

2.2 The Worst Case Measurement Configuration

The Worst Case Mode for Following Conformance Tests											
Tests Item	AC power-line conducted emissions										
Condition	AC power-line conducted measurement for line and neutral										
Operating Mode	Normal Link										
	There are 13 antennas in the antenna table list, antenna 11 for WLAN and antenna 12 for Bluetooth, Thread were selected for EUT respectively to perform the test and recorded in this report.										
	Radio 1 with 2.4GHz function	Radio 1 with 5GHz function	Radio 2 with 5GHz function	Radio 3 with Bluetooth	Radio 3 with Thread	Ant.	EUT GE1	EUT GE2	Adapter	PoE connect with EUT GE1	PoE connect with EUT GE2
1	●	-	●	●	-	Ant.11-12	●	●	●	-	-
2	-	●	●	●	-	Ant.11-12	●	●	●	-	-
3	●	-	●	-	●	Ant.11-12	●	●	●	-	-
4	-	●	●	-	●	Ant.11-12	●	●	●	-	-
5 Note	●	-	●	-	●	Ant.11-12	●	●	-	●	-
6 Note	●	-	●	-	●	Ant.11-12	●	●	-	-	●
Note: Mode 3 has been evaluated to be the worst case among Mode 1~4, thus measurement for Mode 5 ~6 will follow this same test mode.											
Mode 5 generated the worst test result, so it was recorded in this report.											

The Worst Case Mode for Following Conformance Tests	
Tests Item	DTS Bandwidth Maximum Conducted Output Power Power Spectral Density Emissions in Non-restricted Frequency Bands
Test Condition	Conducted measurement at transmit chains
Operating Mode	CTX
There are 13 antennas in the antenna table list, antenna 4、7 and antenna 11 for WLAN-2.4GHz were selected for EUT respectively to perform the test and recorded in this report.	
1	EUT + Ant. 4 Omni antenna / 3 dBi (Refer to note 1)
2	EUT + Ant. 7 Omni antenna / 4 dBi (Refer to note 1)
3	EUT + Ant. 11 Panel antenna / 6.8 dBi (Refer to note 1)

The Worst Case Mode for Following Conformance Tests												
Tests Item	Emissions in Restricted Frequency Bands											
Test Condition	Radiated measurement If EUT consist of multiple antenna assembly (multiple antenna are used in EUT regardless of spatial multiplexing MIMO configuration), the radiated test should be performed with highest antenna gain of each antenna type.											
Operating Mode < 1GHz	Normal Link											
	There are 13 antennas in the antenna table list, antenna 11 for WLAN and antenna 12 for Bluetooth, Thread were selected for EUT respectively to perform the test and recorded in this report.											
	Axis	Radio 1 with 2.4GHz function	Radio 1 with 5GHz function	Radio 2 with 5GHz function	Radio 3 with Bluetooth	Radio 3 with Thread	Ant.	EUT GE1	EUT GE2	Adapter	PoE connect with EUT GE1	PoE connect with EUT GE2
1	Z axis		-			-	Ant.11-12				-	-
2	Y axis		-			-	Ant.11-12				-	-
3	X axis		-			-	Ant.11-12				-	-
4 Note1	Z axis	-				-	Ant.11-12				-	-
5 Note1	Z axis		-		-		Ant.11-12				-	-
6 Note1	Z axis	-			-		Ant.11-12				-	-
7 Note2	Z axis		-			-	Ant.11-12			-		-
8 Note2	Z axis		-			-	Ant.11-12			-	-	
Note1: Mode 1 has been evaluated to be the worst case among Mode 1~3, thus measurement for Mode 4~6 will follow this same test mode.												
Note2: Mode 1 has been evaluated to be the worst case among Mode 1~6, thus measurement for Mode 7~8 will follow this same test mode												
Mode 7 generated the worst test result, so it was recorded in this report.												



Operating Mode > 1GHz	CTX (Refer to note 1)
There are 13 antennas in the antenna table list, antenna 4、7 and antenna 11 for WLAN-2.4GHz were selected for EUT respectively to perform the test and recorded in this report.	
For Ant. 4 Omni antenna / 3 dBi: For Radiated Emission 4T1S Mode: The EUT was performed at X、Y axis and Z axis and the worst case was found at Y axis. So the measurement will follow this same test configuration. For Band Edge Emission 1T1S Mode: The EUT was performed at X、Y axis and Z axis and the worst case was found at X axis. So the measurement will follow this same test configuration. 2T2S, 4T1S, 4T4S Mode: The EUT was performed at X、Y axis and Z axis and the worst case was found at Z axis. So the measurement will follow this same test configuration. For Ant. 7 Omni antenna / 4 dBi: The EUT was performed at X、Y axis and Z axis and the worst case was found at Y axis. So the measurement will follow this same test configuration. For Ant. 11 Panel antenna / 6.8 dBi: For Radiated Emission 4T1S Mode: The EUT was performed at X、Y axis and Z axis and the worst case was found at Y axis. So the measurement will follow this same test configuration. For Band Edge Emission 1T1S, 2T2S, 4T1S, 4T4S Mode: The EUT was performed at X、Y axis and Z axis and the worst case was found at X axis. So the measurement will follow this same test configuration.	
1	(Ant. 4 Omni antenna / 3 dBi) Harmonic: EUT in Y axis Bandedge: EUT in X axis (1T1S) EUT in Z axis (2T2S, 4T1S, 4T4S)
2	(Ant. 7 Omni antenna / 4 dBi) Harmonic: EUT in Y axis Bandedge: EUT in Y axis
3	(Ant. 11 Panel antenna / 6.8 dBi) Harmonic: EUT in Y axis Bandedge: EUT in X axis

The Worst Case Mode for Following Conformance Tests	
Tests Item	Simultaneous Transmission Analysis - Radiated Emission Co-location
Test Condition	Radiated measurement
Operating Mode	Normal Link
1	WLAN 2.4GHz (Radio 1) + WLAN 5GHz (Radio 2)
Refer to Appendix G for Radiated Emission Co-location.	



The Worst Case Mode for Following Conformance Tests	
Tests Item	Simultaneous Transmission Analysis - Co-location RF Exposure Evaluation
Operating Mode	
1	WLAN 2.4GHz (Radio 1) + WLAN 5GHz (Radio 2) + Bluetooth (Radio 3)
2	WLAN 5GHz (Radio 1) + WLAN 5GHz (Radio 2) + Bluetooth (Radio 3)
3	WLAN 2.4GHz (Radio 1) + WLAN 5GHz (Radio 2) + Thread (Radio 3)
4	WLAN 5GHz (Radio 1) + WLAN 5GHz (Radio 2) + Thread (Radio 3)
Refer to Sporton Test Report No.: FA801739-03 for Co-location RF Exposure Evaluation.	

Note:

1. Test Mode:

Test Item	Test Mode										
	802.11b		802.11g		802.11ax HEW20/40						
	1T1S	4T1S	1T1S	4T1S	CDD 1T1S	SDM 2T2S	CDD 4T1S	SDM 4T4S	TxBF 2T2S	TxBF 4T1S	TxBF 4T4S
Maximum Conducted Output Power	V	V	V	V	V	V	V	V	-	V	-
DTS Bandwidth	V	V	V	V	V	V	V	V	-	V	-
Power Spectral Density	V	V	V	V	V	V	V	V	-	V	-
Emissions in Non-restricted Frequency Bands	V	V	V	V	V	V	V	V	-	V	-
Radiated Emission	Cover by CDD 4T1S Max setting	V	Cover by CDD 4T1S Max setting	V	Cover by CDD 4T1S Max setting	Cover by CDD 4T1S Max setting	Max setting	Cover by CDD 4T1S Max setting	-	Cover by CDD 4T1S Max setting	-
Band Edge Emission	V	V	V	V	V	V	V	V	-	V	-

2. 802.11ax modulation and bandwidth are similar for 802.11n mode for 20MHz / 40MHz, therefore investigated worst case to representative mode in test report.

3. The Adapter and PoE was for measurement only, would not be marketed.

The detail information as below:

Power	Brand	Model
Adapter	Powertron Electronics Corp	PA1045-120HIB300
PoE	Microsemi	PD-9001GR/AT/AC



2.3 EUT Operation during Test

For CTX Mode:

non-beamforming mode:

The EUT was programmed to be in continuously transmitting mode.

beamforming mode:

For Conducted Mode:

The EUT was programmed to be in continuously transmitting mode.

For Radiated 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 "Telnet.exe" to link with the remote workstation to transmit and receive packet by WLAN AP and transmit duty cycle no less than 98%.

For Normal Link:

During the test, the EUT operation to normal function.

2.4 Accessories

N/A



2.5 Support Equipment

For Test Site No: CO02-CB

Support Equipment				
No.	Equipment	Brand Name	Model Name	FCC ID
A	Flash disk3.0	Transcend	JetFlash-700	N/A
B	GE1 PC	DELL	T3400	N/A
C	GE2 NB	DELL	E6430	N/A
D	2.4G/5G NB	DELL	E6430	N/A
E	5G NB	DELL	E6430	N/A
F	802.11ax Access Point (Device)	Extreme Networks	AP-510e	N/A
G	Device NB	DELL	E6430	N/A
H	PoE	Microsemi	PD-9001GR/AT/AC	N/A

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

Support Equipment				
No.	Equipment	Brand Name	Model Name	FCC ID
A	CE1 PC	ASUS	N/A	N/A
B	GE2 NB	DELL	E4300	N/A
C	2.4G/5G NB	DELL	E4300	N/A
D	5G NB	DELL	E4300	N/A
E	802.11ax Access Point (Device)	Extreme Networks	AP-510e	N/A
F	Device NB	DELL	E4300	N/A
G	Flash disk3.0	Transcend	JetFlash-700	N/A
H	PoE	Microsemi	PD-9001GR/AT/AC	N/A

For Test Site No: 03CH01-CB (above 1GHz, Non-Beamforming Mode)

Support Equipment				
No.	Equipment	Brand Name	Model Name	FCC ID
A	NB	DELL	E4300	N/A
E	Adapter	Powertron Electronics Corp	PA1045-120HIB300	N/A

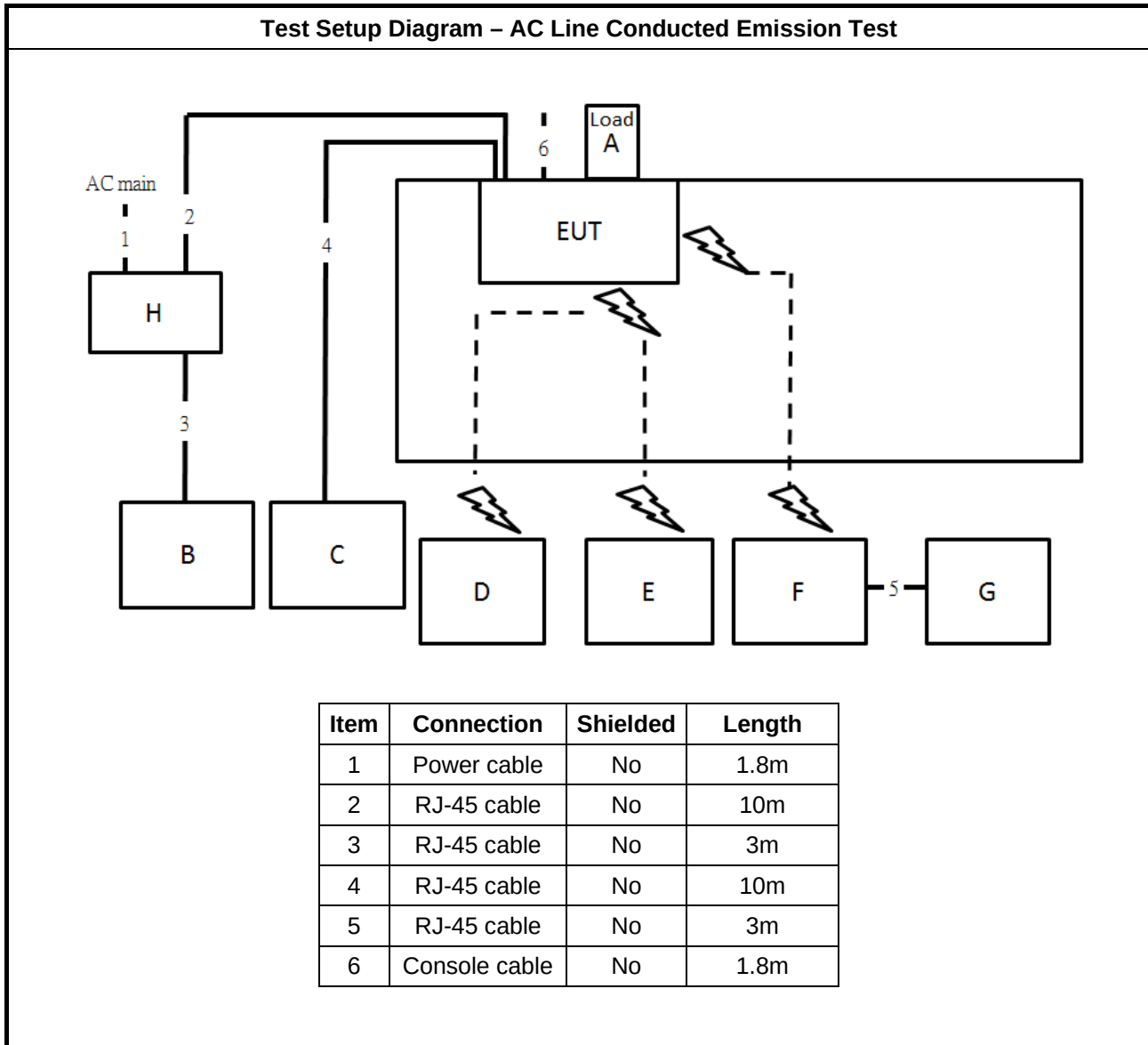
**For Test Site No: 03CH01-CB (above 1GHz, Beamforming Mode)**

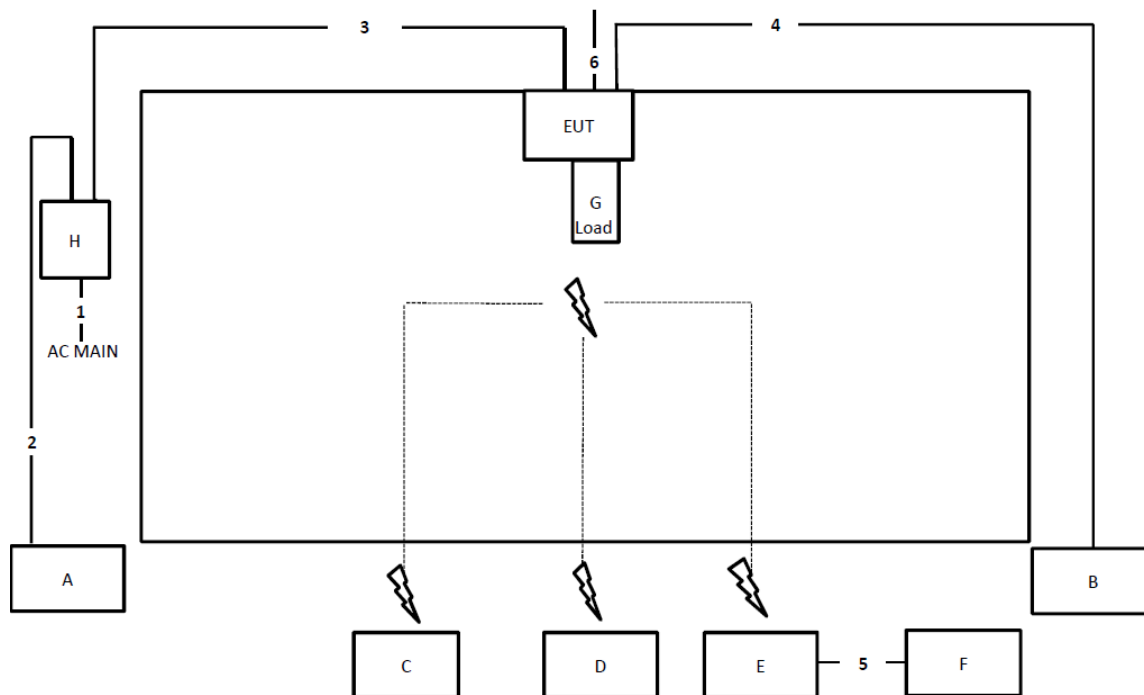
Support Equipment				
No.	Equipment	Brand Name	Model Name	FCC ID
A	NB	DELL	E4300	N/A
B	WLAN AP	Extreme Networks	AP510i	QXO-AP510I
C	NB	DELL	E4300	N/A
E	Adapter	Powertron Electronics Corp	PA1045-120HIB300	N/A

For Test Site No: TH01-CB

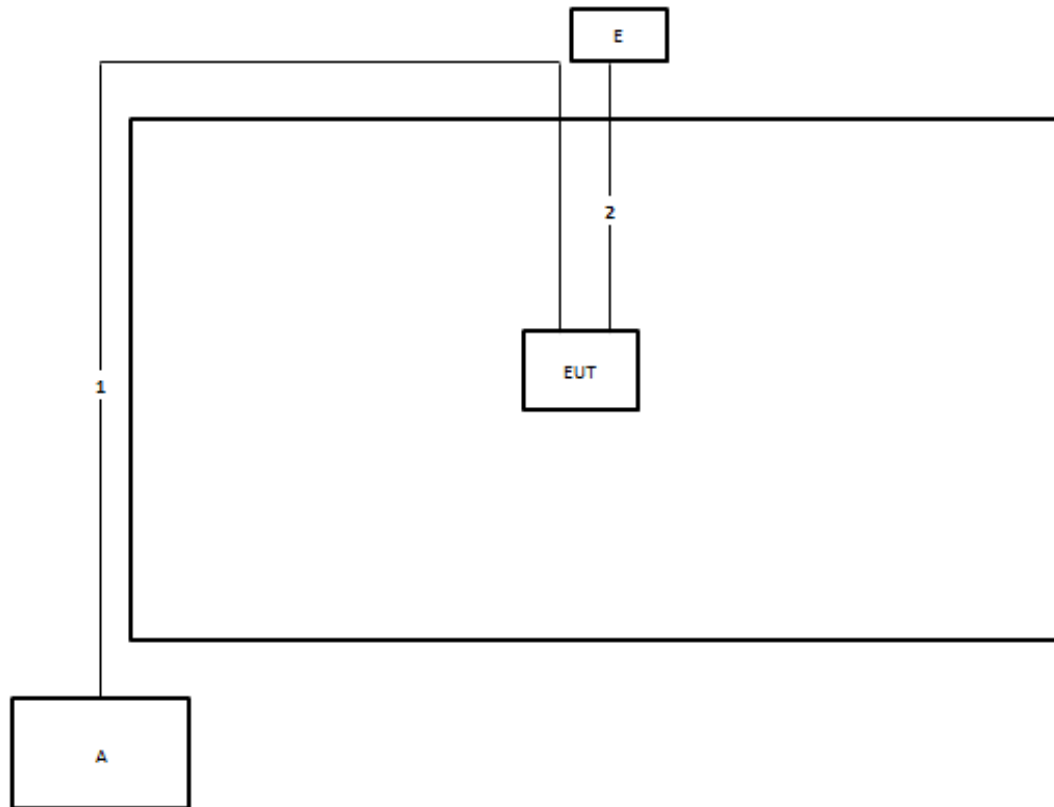
Support Equipment				
No.	Equipment	Brand Name	Model Name	FCC ID
A	NB	DELL	E4300	N/A
B	Adapter	Powertron Electronics Corp	PA1045-120HIB300	N/A

2.6 Test Setup Diagram

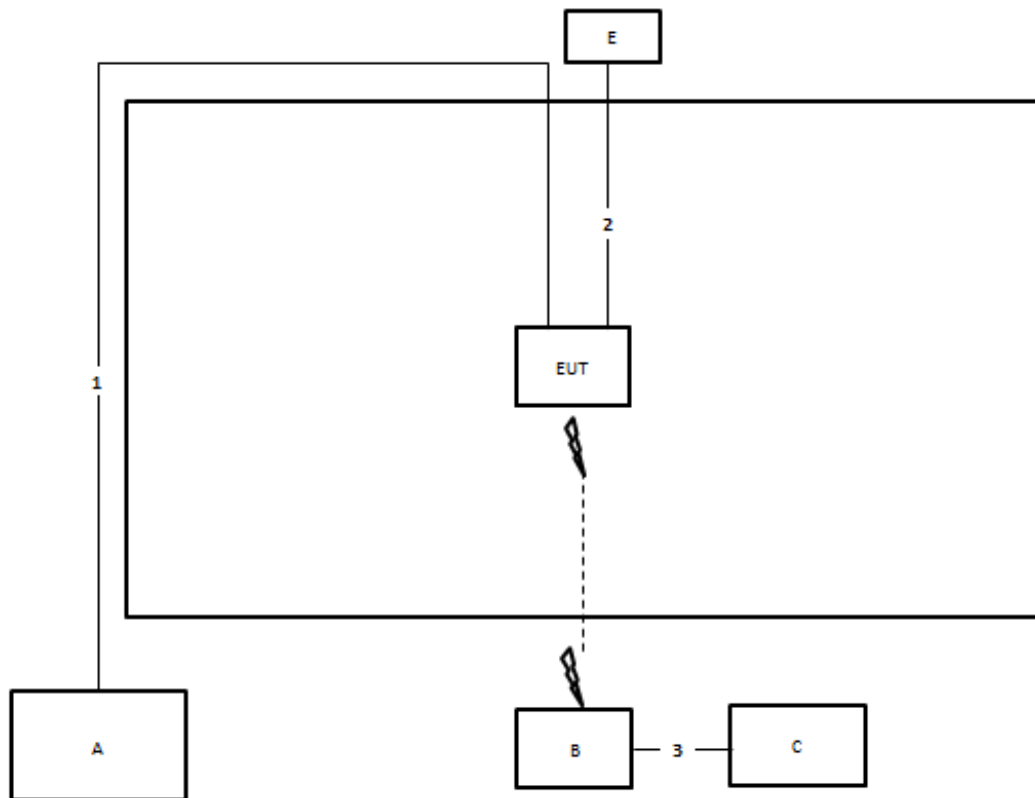




Item	Connection	Shielded	Length
1	Power cable	No	1.5m
2	RJ-45 cable	No	1.5m
3	RJ-45 cable	No	10m
4	RJ-45 cable	No	10m
5	RJ-45 cable	No	10m
6	Console cable	No	1.5m

Test Setup Diagram - Radiated Test > 1GHz, 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, Beamforming Mode


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



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.

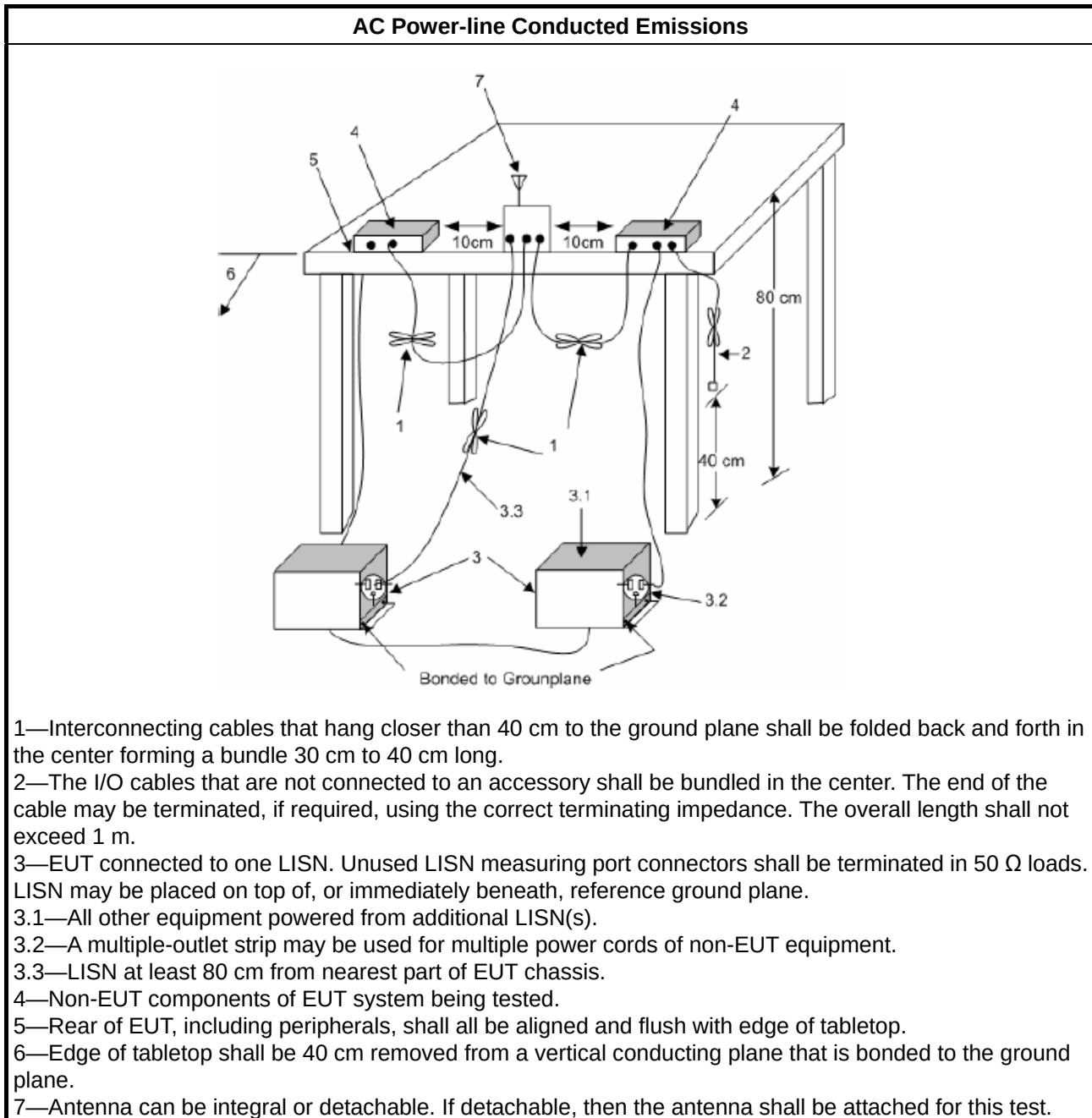
3.1.2 Measuring Instruments

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

3.1.3 Test Procedures

Test Method
☒ 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

Refer as Appendix A

3.2 DTS Bandwidth

3.2.1 6dB Bandwidth Limit

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

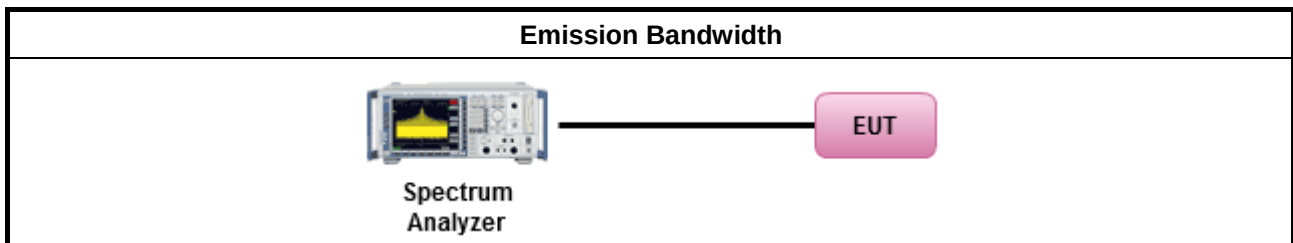
3.2.2 Measuring Instruments

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:
☒	Refer as FCC KDB 558074, clause 8.2 & C63.10 clause 11.8.1 Option 1 for 6 dB bandwidth measurement.
☐	Refer as FCC KDB 558074, clause 8.2 & C63.10 clause 11.8.2 Option 2 for 6 dB bandwidth measurement.
☐	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

Refer as Appendix B

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 $P_{Out} = 30 - (G_{TX} - 6)/3 + 8$ dB 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.	

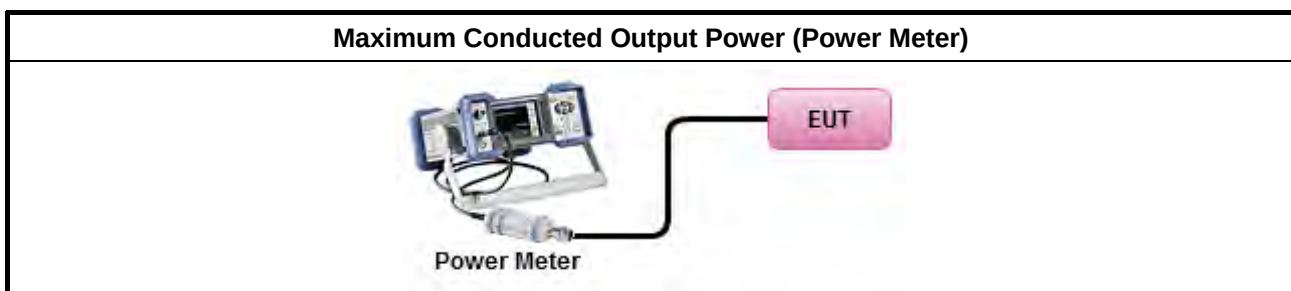
3.3.2 Measuring Instruments

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

3.3.3 Test Procedures

Test Method	
Maximum Peak Conducted Output Power	
☐	Refer as FCC KDB 558074, clause 8.3.1.1 & C63.10 clause 11.9.1.1 (RBW ≥ EBW method).
☐	Refer as FCC KDB 558074, clause 8.3.1.3 & C63.10 clause 11.9.1.3 (peak power meter).
Maximum Conducted Output Power	
[duty cycle ≥ 98% or external video / power trigger]	
☐	Refer as FCC KDB 558074, clause 8.3.2.2 & C63.10 clause 11.9.2.2.2 Method AVGSA-1.
☐	Refer as FCC KDB 558074, clause 8.3.2.2 & C63.10 clause 11.9.2.2.3 Method AVGSA-1A. (alternative)
duty cycle < 98% and average over on/off periods with duty factor	
☐	Refer as FCC KDB 558074, clause 8.3.2.2 & C63.10 clause 11.9.2.2.4 Method AVGSA-2.
☐	Refer as FCC KDB 558074, clause 8.3.2.2 & C63.10 clause 11.9.2.2.5 Method AVGSA-2A (alternative)
☐	Refer as FCC KDB 558074, clause 8.3.2.2 & C63.10 clause 11.9.2.2.6 Method AVGSA-3
☐	Refer as FCC KDB 558074, clause 8.3.2.2 & C63.10 clause 11.9.2.2.7 Method AVGSA-3A (alternative)
Measurement using a power meter (PM)	
☒	Refer as FCC KDB 558074, clause 8.3.2.3 & C63.10 clause 11.9.2.3.1 Method AVGPM (using an RF average power meter).
☐	Refer as FCC KDB 558074, clause 8.3.2.3 & C63.10 clause 11.9.2.3.2 Method AVGPM-G (using an gate RF average power meter).
For conducted measurement.	
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

Refer as Appendix C



3.4 Power Spectral Density

3.4.1 Power Spectral Density Limit

Power Spectral Density Limit
▪ Power Spectral Density (PSD) ≤ 8 dBm/3kHz

3.4.2 Measuring Instruments

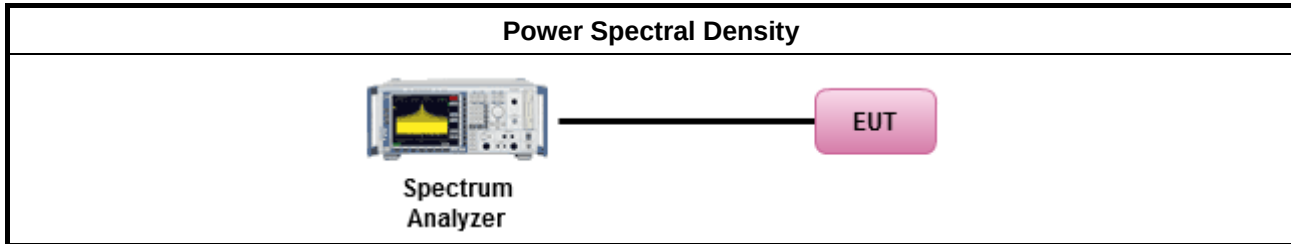
Refer a test equipment and calibration data table in this test report.

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).	
☒	Refer as FCC KDB 558074, clause 8.4 & C63.10 clause 11.10.2 Method PKPSD. [duty cycle $\geq 98\%$ or external video / power trigger]
☐	Refer as FCC KDB 558074, clause 8.4 & C63.10 clause 11.10.3 Method AVGPS-1.
☐	Refer as FCC KDB 558074, clause 8.4 & C63.10 clause 11.10.5 Method AVGPS-2.
☐	Refer as FCC KDB 558074, clause 8.4 & C63.10 clause 11.10.7 Method AVGPS-3.
duty cycle $< 98\%$ and average over on/off periods with duty factor	
☐	Refer as FCC KDB 558074, clause 8.4 & C63.10 clause 11.10.4 Method AVGPS-1A. (alternative).
☐	Refer as FCC KDB 558074, clause 8.4 & C63.10 clause 11.10.6 Method AVGPS-2A. (alternative)
☐	Refer as FCC KDB 558074, clause 8.4 & C63.10 clause 11.10.8 Method AVGPS-3A. (alternative)
▪ For conducted measurement.	
▪ If The EUT supports multiple transmit chains using options given below:	
☒	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.
☐	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,

- | | |
|--|--|
| | ☐ Option 3: Measure and add $10 \log(N)$ 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

Refer as Appendix D

3.5 Emissions in Non-restricted Frequency Bands

3.5.1 Emissions in Non-restricted Frequency Bands Limit

Un-restricted Band Emissions Limit	
RF output power procedure	Limit (dBc)
Peak output power procedure	20
Average output power procedure	30
Note 1: If the peak output power procedure is used to measure the fundamental emission power to demonstrate compliance to requirements, then the peak conducted output power measured within any 100 kHz outside the authorized frequency band shall be attenuated by at least 20 dB relative to the maximum measured in-band peak PSD level. Note 2: If the average output power procedure is used to measure the fundamental emission power to demonstrate compliance to requirements, then the power in any 100 kHz outside of the authorized frequency band shall be attenuated by at least 30 dB relative to the maximum measured in-band average PSD level.	

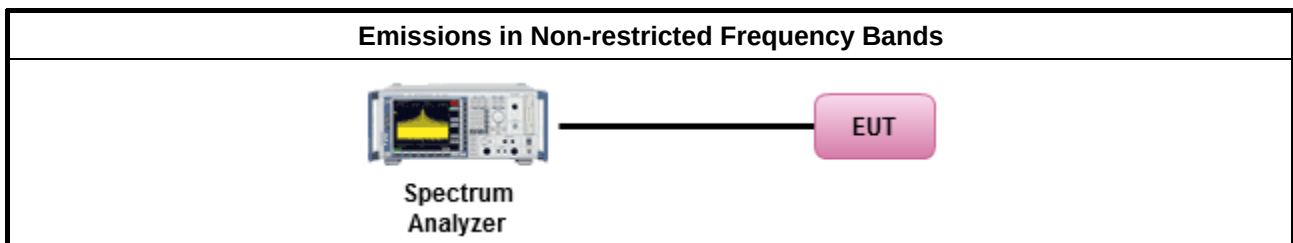
3.5.2 Measuring Instruments

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

3.5.3 Test Procedures

Test Method
Refer as FCC KDB 558074, clause 8.5 for unwanted emissions into non-restricted bands.

3.5.4 Test Setup



3.5.5 Test Result of Emissions in Non-restricted Frequency Bands

Refer as Appendix E

3.6 Emissions in Restricted Frequency Bands

3.6.1 Emissions in Restricted Frequency Bands Limit

Restricted Band Emissions Limit			
Frequency Range (MHz)	Field Strength (uV/m)	Field Strength (dBuV/m)	Measure Distance (m)
0.009~0.490	2400/F(kHz)	48.5 - 13.8	300
0.490~1.705	24000/F(kHz)	33.8 - 23	30
1.705~30.0	30	29	30
30~88	100	40	3
88~216	150	43.5	3
216~960	200	46	3
Above 960	500	54	3

Note 1: Test distance for frequencies at or above 30 MHz, measurements may be performed at a distance other than the limit distance provided they are not performed in the near field and the emissions to be measured can be detected by the measurement equipment. When performing measurements at a distance other than that specified, the results shall be extrapolated to the specified distance using an extrapolation factor of 20 dB/decade (inverse of linear distance for field-strength measurements, inverse of linear distance-squared for power-density measurements).

Note 2: Test distance for frequencies at below 30 MHz, measurements may be performed at a distance closer than the EUT limit distance; however, an attempt should be made to avoid making measurements in the near field. When performing measurements below 30 MHz at a closer distance than the limit distance, the results shall be extrapolated to the specified distance by either making measurements at a minimum of two or more distances on at least one radial to determine the proper extrapolation factor or by using the square of an inverse linear distance extrapolation factor (40 dB/decade). The test report shall specify the extrapolation method used to determine compliance of the EUT.

Note 3: Using the distance of 1m during the test for above 18 GHz, and the test value to correct for the distance factor at 3m.

3.6.2 Measuring Instruments

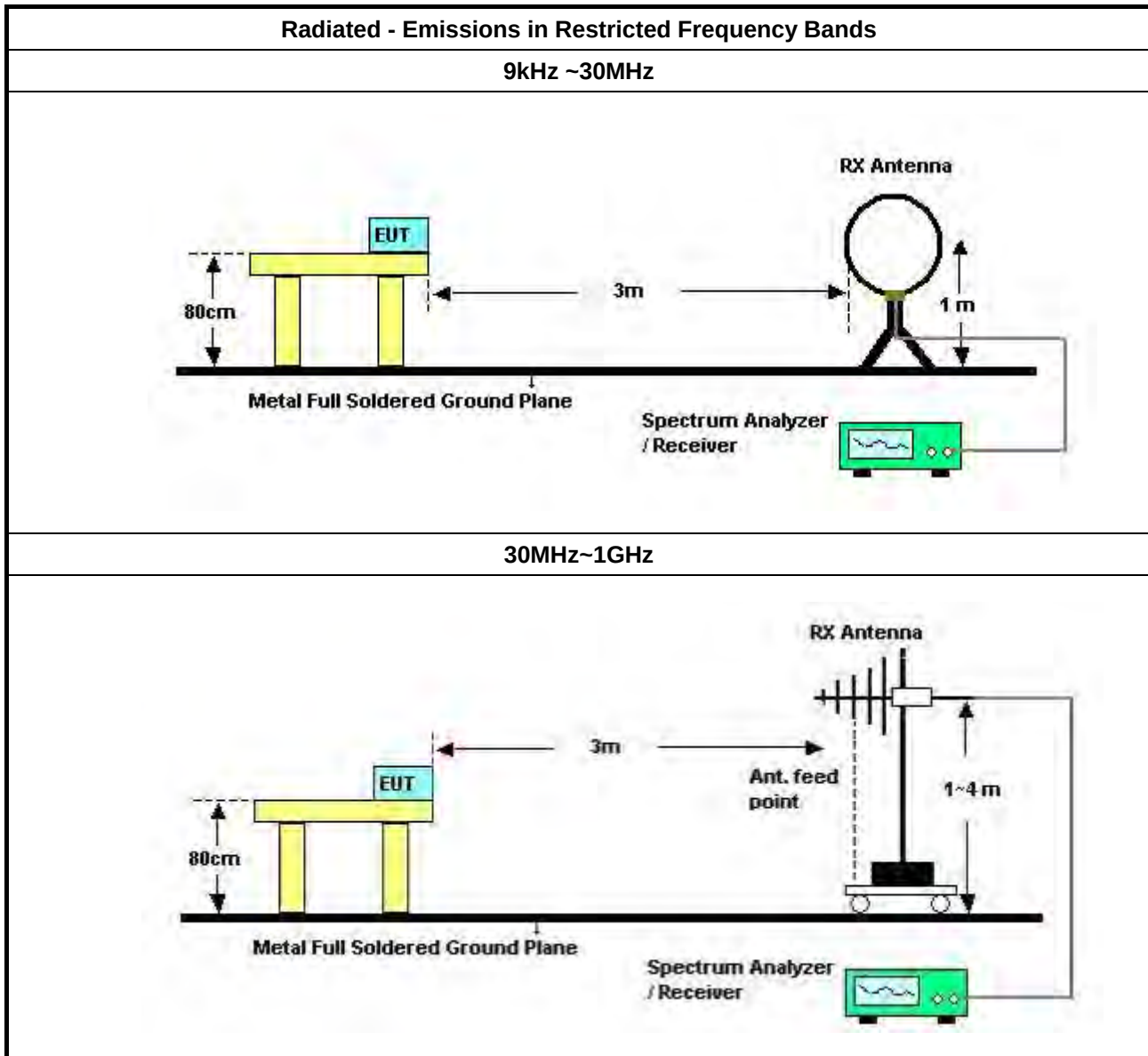
Refer a test equipment and calibration data table in this test report.

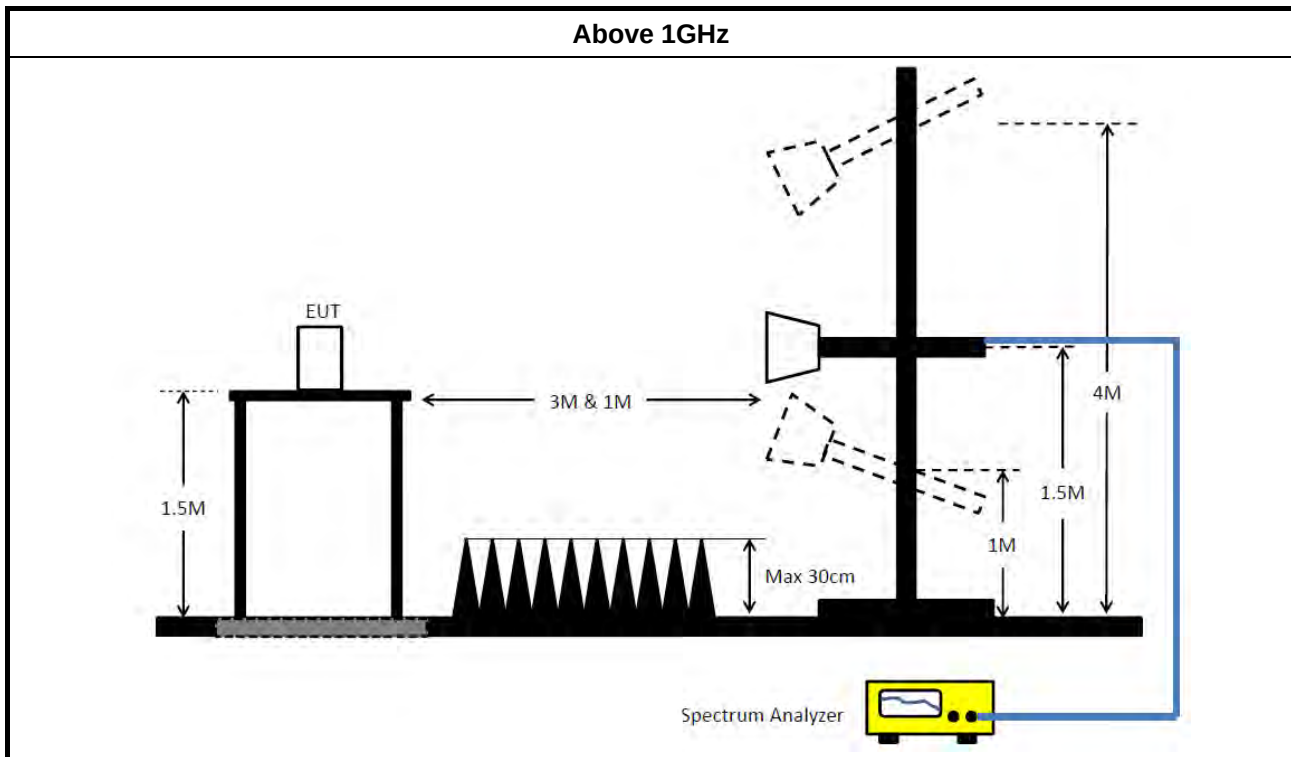


3.6.3 Test Procedures

Test Method	
The average emission levels shall be measured in [duty cycle ≥ 98 or duty factor].	
Refer as ANSI C63.10, clause 6.10.3 band-edge testing shall be performed at the lowest frequency channel and highest frequency channel within the allowed operating band.	
For the transmitter unwanted emissions shall be measured using following options below:	
	Refer as FCC KDB 558074, clause 8.6 for unwanted emissions into restricted bands.
☐	Refer as FCC KDB 558074, clause 8.6 & C63.10 clause 11.12.2.5.1(trace averaging for duty cycle $\geq 98\%$).
☐	Refer as FCC KDB 558074, clause 8.6 & C63.10 clause 11.12.2.5.2(trace averaging + duty factor).
☒	Refer as FCC KDB 558074, clause 8.6 & C63.10 clause 11.12.2.5.3(Reduced VBW $\geq 1/T$).
☐	Refer as ANSI C63.10, clause 11.12.2.5.3 (Reduced VBW). VBW $\geq 1/T$, where T is pulse time.
☐	Refer as ANSI C63.10, clause 7.5 average value of pulsed emissions.
☒	Refer as FCC KDB 558074, clause 8.6 & C63.10 clause 11.12.2.4 measurement procedure peak limit.
For the transmitter band-edge emissions shall be measured using following options below:	
	Refer as FCC KDB 558074 clause 8.7 & C63.10 clause 11.13.1, When the performing peak or average radiated measurements, emissions within 2 MHz of the authorized band edge may be measured using the marker-delta method described below.
	Refer as FCC KDB 558074, clause 8.7 (ANSI C63.10, clause 6.10.6) for marker-delta method for band-edge measurements.
	Refer as FCC KDB 558074, clause 8.7 for narrower resolution bandwidth (100kHz) using the band power and summing the spectral levels (i.e., 1 MHz).
	For conducted unwanted emissions into restricted bands (absolute emission limits). Devices with multiple transmit chains using options given below: (1) Measure and sum the spectra across the outputs or (2) Measure and add 10 log(N) dB
	For FCC KDB 662911 The methodology described here may overestimate array gain, thereby resulting in apparent failures to satisfy the out-of-band limits even if the device is actually compliant. In such cases, compliance may be demonstrated by performing radiated tests around the frequencies at which the apparent failures occurred.

3.6.4 Test Setup





3.6.5 Emissions in Restricted Frequency Bands (Below 30MHz)

All amplitude of spurious emissions that are attenuated by more than 20 dB below the permissible value has no need to be reported.

The radiated emissions were investigated from 9 kHz or the lowest frequency generated within the device, up to the 10 harmonic or 40 GHz, whichever is appropriate.

3.6.6 Test Result of Emissions in Restricted Frequency Bands

Refer as Appendix F



4 Test Equipment and Calibration Data

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Calibration Due Date	Remark
LISN	Schwarzbeck	NSLK 8127	8127650	9kHz ~ 30MHz	Nov. 21, 2018	Nov. 20, 2019	Conduction (CO02-CB)
LISN	Schwarzbeck	NSLK 8127	8127478	9kHz ~ 30MHz	Nov. 05, 2018	Nov. 04, 2019	Conduction (CO02-CB)
EMI Receiver	Agilent	N9038A	MY52260140	9kHz ~ 8.4GHz	Jan. 17, 2018	Jan. 16, 2019	Conduction (CO02-CB)
COND Cable	Woken	Cable	2	0.15MHz ~ 30MHz	Nov. 06, 2018	Nov. 05, 2019	Conduction (CO02-CB)
Software	Audix	E3	6.120210n	-	N.C.R.	N.C.R.	Conduction (CO02-CB)
BILOG ANTENNA with 6dB Attenuator	TESEQ & EMCI	CBL6112D & N-6-06	37880 & AT-N0609	20MHz ~ 2GHz	Aug. 27, 2018	Aug. 26, 2019	Radiation (03CH01-CB)
Loop Antenna	Teseq	HLA 6120	24155	9kHz - 30 MHz	Mar. 16, 2018	Mar. 15, 2019	Radiation (03CH01-CB)
Horn Antenna	EMCO	3115	00075790	750MHz ~ 18GHz	Nov. 13, 2018	Nov. 12, 2019	Radiation (03CH01-CB)
Horn Antenna	Schwarzbeck	BBHA 9170	BBHA9170252	15GHz ~ 40GHz	Jun. 28, 2018	Jun. 27, 2019	Radiation (03CH01-CB)
Pre-Amplifier	EMCI	EMC330N	980332	20MHz ~ 3GHz	May 02, 2018	May 01, 2019	Radiation (03CH01-CB)
Pre-Amplifier	Agilent	8449B	3008A02310	1GHz ~ 26.5GHz	Jan. 09, 2018	Jan. 08, 2019	Radiation (03CH01-CB)
Pre-Amplifier	Agilent	8449B	3008A02310	1GHz ~ 26.5GHz	Jan. 08, 2019	Jan. 07, 2020	Radiation (03CH01-CB)
Pre-Amplifier	MITEQ	TTA1840-35-H G	1864479	18GHz ~ 40GHz	Jul. 04, 2018	Jul. 03, 2019	Radiation (03CH01-CB)
Spectrum Analyzer	R&S	FSP40	100080	9kHz~40GHz	Oct. 03, 2018	Oct. 02, 2019	Radiation (03CH01-CB)
EMI Test Receiver	R&S	ESCS	100359	9kHz ~ 2.75GHz	Jul. 03, 2018	Jul. 02, 2019	Radiation (03CH01-CB)
RF Cable-low	Woken	Low Cable-16+17	N/A	30 MHz ~ 1 GHz	Oct. 08, 2018	Oct. 07, 2019	Radiation (03CH01-CB)
RF Cable-high	Woken	High Cable-16	N/A	1 GHz ~ 18 GHz	Oct. 08, 2018	Oct. 07, 2019	Radiation (03CH01-CB)
RF Cable-high	Woken	High Cable-16+17	N/A	1 GHz ~ 18 GHz	Oct. 08, 2018	Oct. 07, 2019	Radiation (03CH01-CB)



Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Calibration Due Date	Remark
RF Cable-high	Woken	High Cable-40G#1	N/A	18GHz ~ 40 GHz	Jul. 27, 2018	Jul. 26, 2019	Radiation (03CH01-CB)
RF Cable-high	Woken	High Cable-40G#2	N/A	18GHz ~ 40 GHz	Jul. 27, 2018	Jul. 26, 2019	Radiation (03CH01-CB)
Spectrum Analyzer	R&S	FSP40	100080	9kHz~40GHz	Oct. 03, 2018	Oct. 02, 2019	Conducted (TH01-CB)
RF Cable-high	Woken	RG402	High Cable-06	1 GHz – 26.5 GHz	Oct. 08, 2018	Oct. 07, 2019	Conducted (TH01-CB)
RF Cable-high	Woken	RG402	High Cable-07	1 GHz –26.5 GHz	Oct. 08, 2018	Oct. 07, 2019	Conducted (TH01-CB)
RF Cable-high	Woken	RG402	High Cable-08	1 GHz –26.5 GHz	Oct. 08, 2018	Oct. 07, 2019	Conducted (TH01-CB)
RF Cable-high	Woken	RG402	High Cable-09	1 GHz –26.5 GHz	Oct. 08, 2018	Oct. 07, 2019	Conducted (TH01-CB)
RF Cable-high	Woken	RG402	High Cable-10	1 GHz –26.5 GHz	Oct. 08, 2018	Oct. 07, 2019	Conducted (TH01-CB)
RF Cable-high	Woken	RG402	High Cable-28	1 GHz –26.5 GHz	Nov. 19, 2018	Nov. 18, 2019	Conducted (TH01-CB)
Power Sensor	Agilent	U2021XA	MY53410001	50MHz~18GHz	Nov. 05, 2018	Nov. 04, 2019	Conducted (TH01-CB)

Note: Calibration Interval of instruments listed above is one year.

NCR means Non-Calibration required.

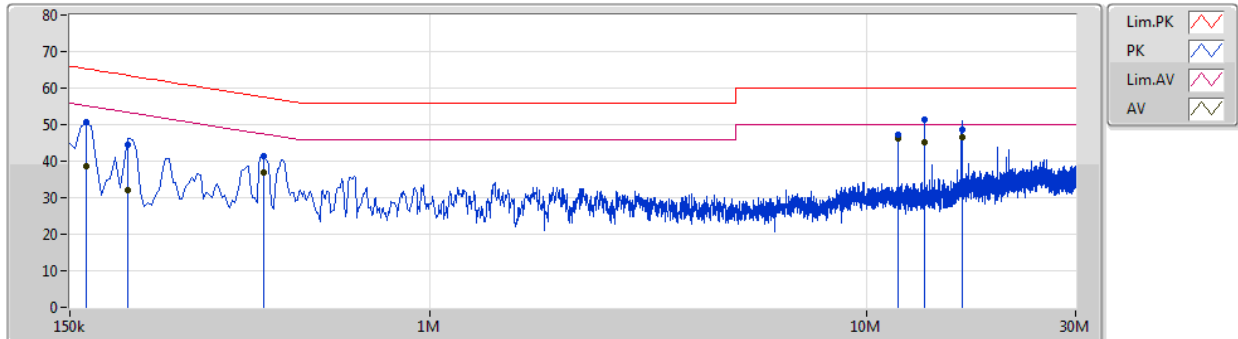


AC Power Port Conducted Emission Result

Appendix A

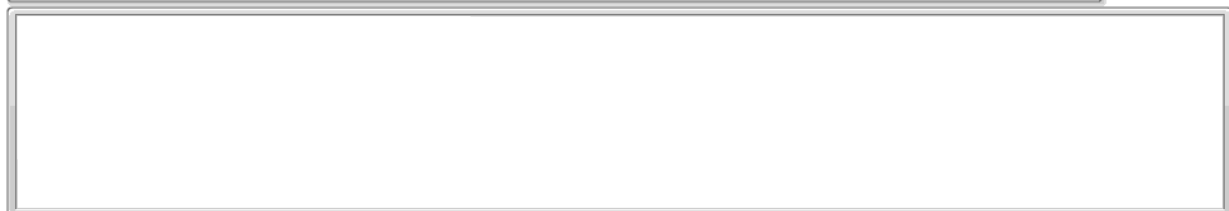
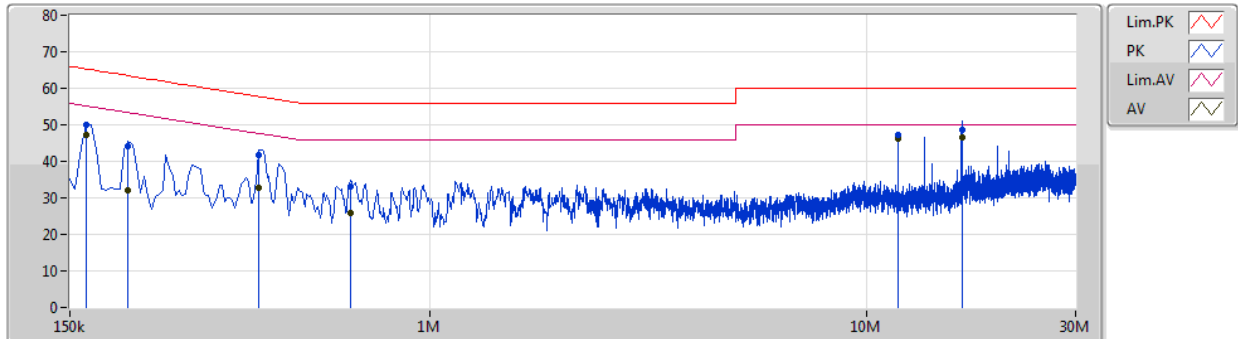
Test Mode	Mode 5	Frequency Range	0.15 MHz to 30 MHz
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Line



Type	Freq (Hz)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Factor (dB)	Condition	Comment	Raw (dBuV)	AF (dB)	CL (dB)	AT (dB)			
QP	163.5k	50.57	65.27	-14.70	10.18	Line	-	40.39	10.16	0.02	-			
AV	163.5k	38.48	55.27	-16.79	10.18	Line	-	28.30	10.16	0.02	-			
QP	204k	44.47	63.44	-18.97	10.18	Line	-	34.29	10.16	0.02	-			
AV	204k	32.09	53.44	-21.35	10.18	Line	-	21.91	10.16	0.02	-			
QP	415.5k	41.28	57.53	-16.25	10.18	Line	-	31.10	10.16	0.02	-			
AV	415.5k	36.85	47.53	-10.68	10.18	Line	-	26.67	10.16	0.02	-			
QP	11.76M	47.14	60.00	-12.86	10.43	Line	-	36.71	10.34	0.09	-			
AV	11.76M	46.28	50.00	-3.72	10.43	Line	-	35.85	10.34	0.09	-			
QP	13.56M	51.50	60.00	-8.50	10.46	Line	-	41.04	10.36	0.10	-			
AV	13.56M	45.23	50.00	-4.77	10.46	Line	-	34.77	10.36	0.10	-			
QP	16.467M	48.54	60.00	-11.46	10.49	Line	-	38.05	10.38	0.11	-			
AV	16.467M	46.51	50.00	-3.49	10.49	Line	"Worst"	36.02	10.38	0.11	-			

Neutral



Type	Freq (Hz)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Factor (dB)	Condition	Comment	Raw (dBuV)	AF (dB)	CL (dB)	AT (dB)			
QP	163.5k	50.12	65.27	-15.15	10.19	Neutral	-	39.93	10.17	0.02	-			
AV	163.5k	47.23	55.27	-8.04	10.19	Neutral	-	37.04	10.17	0.02	-			
QP	204k	44.04	63.44	-19.40	10.19	Neutral	-	33.85	10.17	0.02	-			
AV	204k	32.15	53.44	-21.29	10.19	Neutral	-	21.96	10.17	0.02	-			
QP	406.5k	41.68	57.72	-16.04	10.19	Neutral	-	31.49	10.17	0.02	-			
AV	406.5k	32.86	47.72	-14.86	10.19	Neutral	-	22.67	10.17	0.02	-			
QP	658.5k	33.03	56.00	-22.97	10.20	Neutral	-	22.83	10.18	0.02	-			
AV	658.5k	25.83	46.00	-20.17	10.20	Neutral	-	15.63	10.18	0.02	-			
QP	11.76M	47.17	60.00	-12.83	10.43	Neutral	-	36.74	10.34	0.09	-			
AV	11.76M	46.29	50.00	-3.71	10.43	Neutral	-	35.86	10.34	0.09	-			
QP	16.467M	48.60	60.00	-11.40	10.48	Neutral	-	38.12	10.37	0.11	-			
AV	16.467M	46.59	50.00	-3.41	10.48	Neutral	"Worst"	36.11	10.37	0.11	-			

For Mode 1: (Ant. 4 Omni antenna / 3 dBi)
For Non-beamforming / 1T1S mode
Summary

Mode	Max-N dB (Hz)	Max-OBW (Hz)	ITU-Code	Min-N dB (Hz)	Min-OBW (Hz)
2.4-2.4835GHz	-	-	-	-	-
802.11b_Nss1,(1Mbps)_1TX	8.5M	14.018M	14M0G1D	7.05M	11.669M
802.11g_Nss1,(6Mbps)_1TX	16.325M	18.266M	18M3D1D	16.3M	16.542M
802.11ax HEW20_Nss1,(MCS0)_1TX	18.975M	19.14M	19M1D1D	18.875M	18.916M
802.11ax HEW40_Nss1,(MCS0)_1TX	37.55M	37.531M	37M5D1D	37.2M	37.531M

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_Nss1,(1Mbps)_1TX	-	-	-	-
2412MHz	Pass	500k	7.05M	11.969M
2437MHz	Pass	500k	8.5M	14.018M
2462MHz	Pass	500k	7.05M	11.669M
802.11g_Nss1,(6Mbps)_1TX	-	-	-	-
2412MHz	Pass	500k	16.325M	16.567M
2437MHz	Pass	500k	16.3M	18.266M
2462MHz	Pass	500k	16.325M	16.542M
802.11ax HEW20_Nss1,(MCS0)_1TX	-	-	-	-
2412MHz	Pass	500k	18.975M	18.941M
2437MHz	Pass	500k	18.875M	19.14M
2462MHz	Pass	500k	18.975M	18.916M
802.11ax HEW40_Nss1,(MCS0)_1TX	-	-	-	-
2422MHz	Pass	500k	37.45M	37.531M
2437MHz	Pass	500k	37.55M	37.531M
2452MHz	Pass	500k	37.2M	37.531M

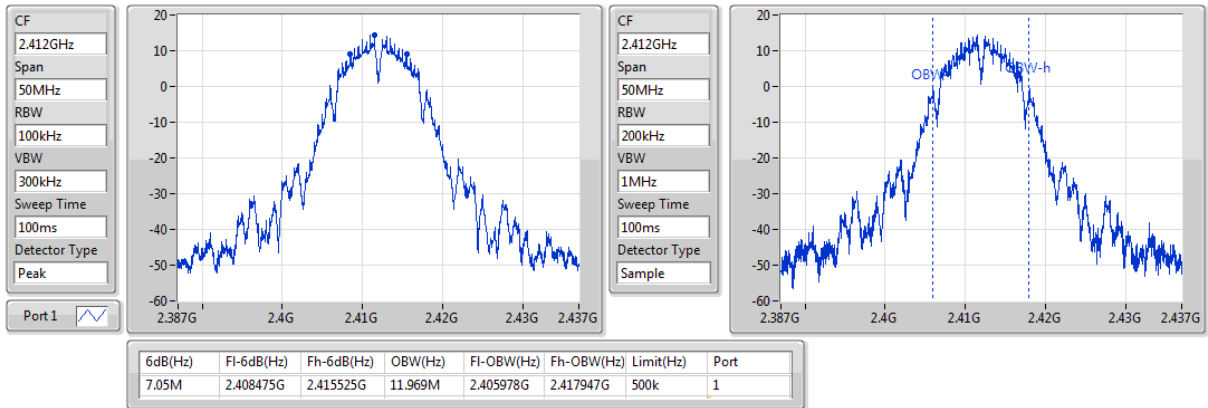
Port X-N dB = Port X 6dB down bandwidth; **Port X-OBW** = Port X 99% occupied bandwidth;

802.11b_Nss1,(1Mbps)_1TX

EBW

2412MHz

25/01/2019

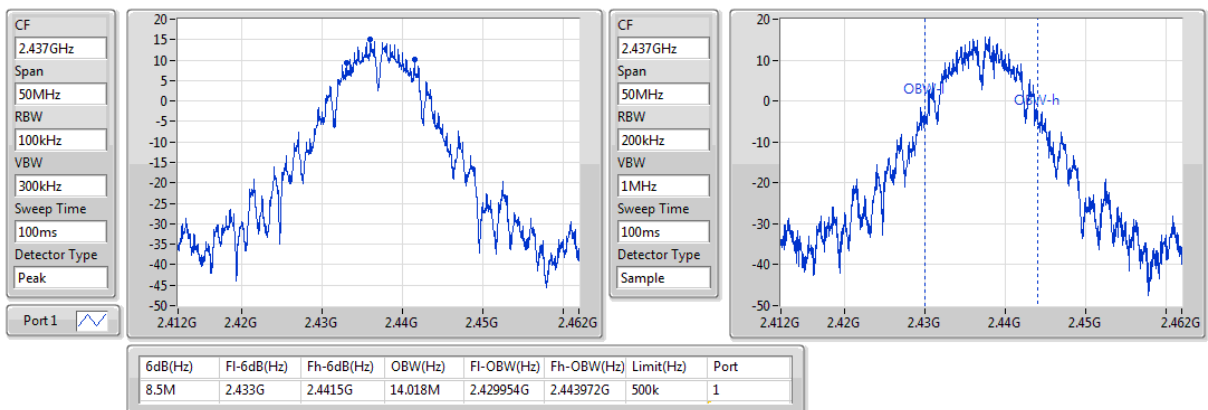


802.11b_Nss1,(1Mbps)_1TX

EBW

2437MHz

25/01/2019

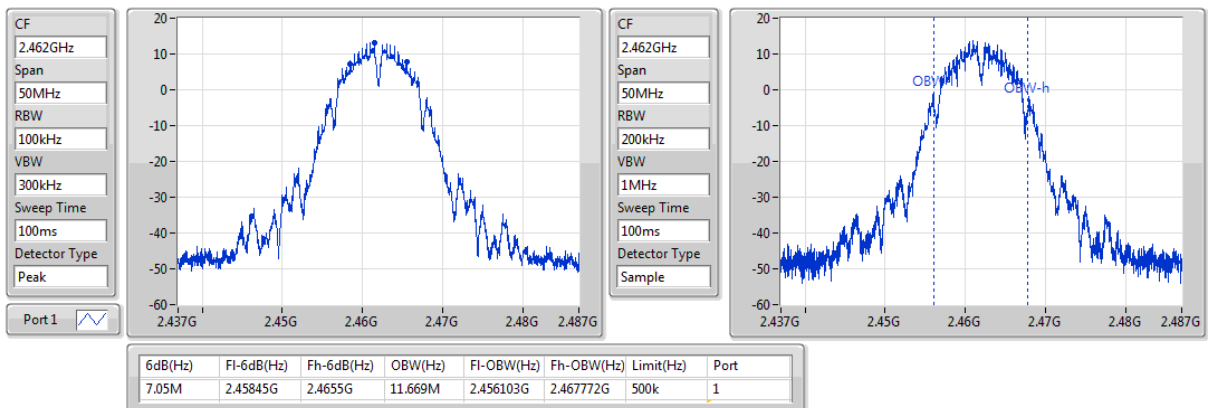


802.11b_Nss1,(1Mbps)_1TX

EBW

2462MHz

25/01/2019

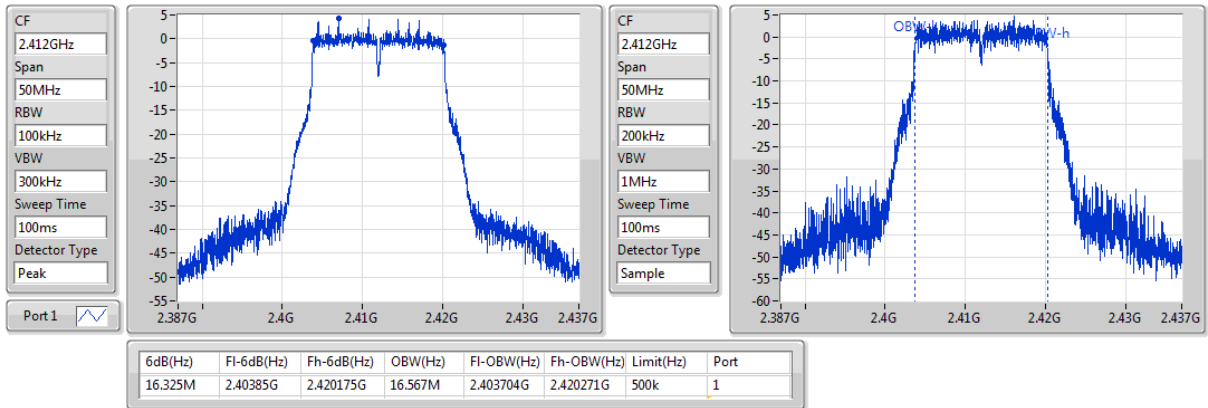


802.11g_Nss1,(6Mbps)_1TX

EBW

2412MHz

25/01/2019

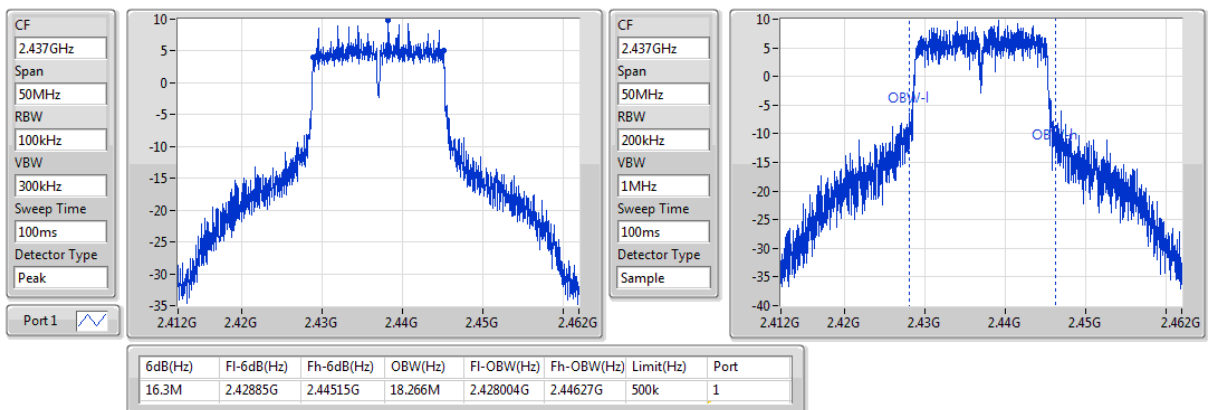


802.11g_Nss1,(6Mbps)_1TX

EBW

2437MHz

25/01/2019

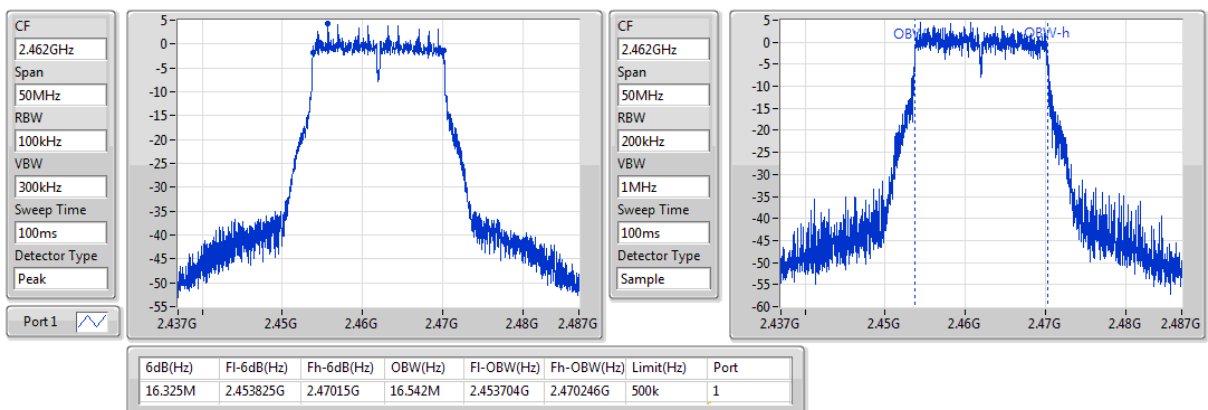


802.11g_Nss1,(6Mbps)_1TX

EBW

2462MHz

25/01/2019

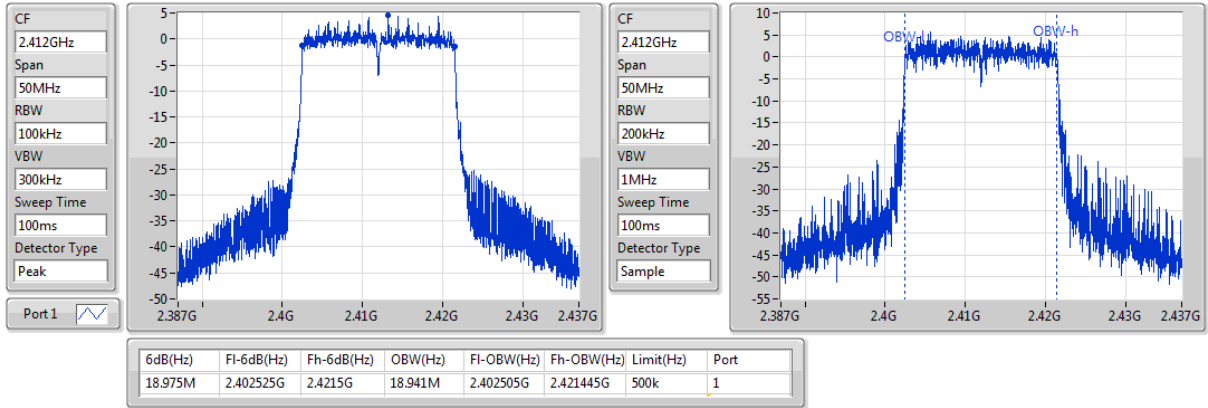


802.11ax HEW20_Nss1,(MCS0)_1TX

EBW

2412MHz

25/01/2019

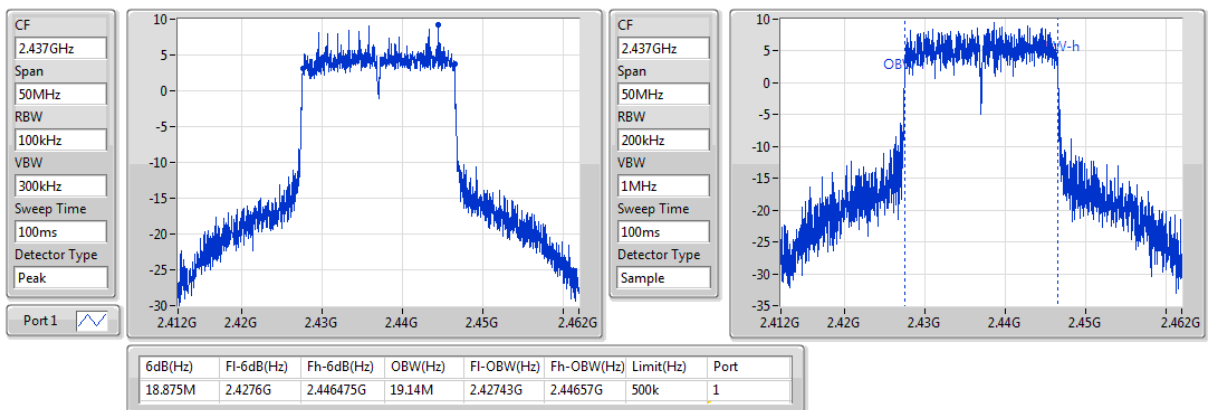


802.11ax HEW20_Nss1,(MCS0)_1TX

EBW

2437MHz

25/01/2019

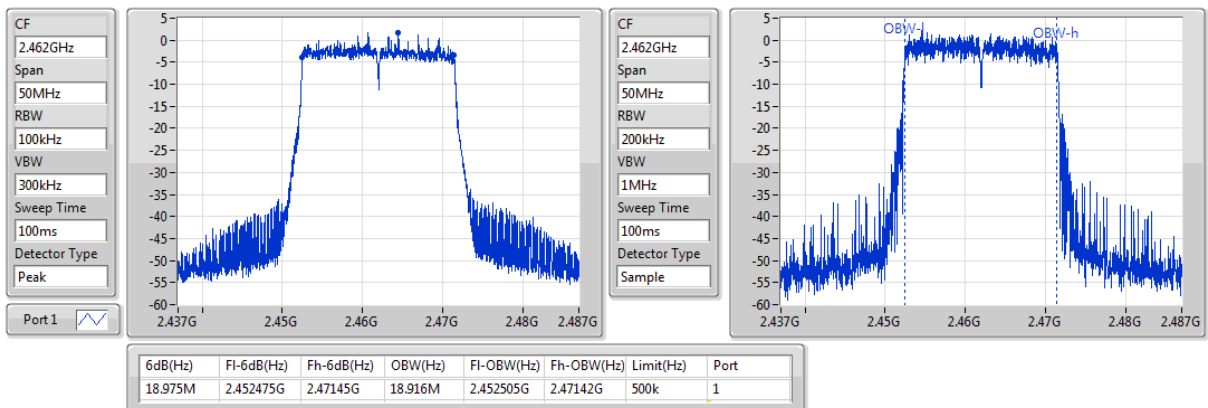


802.11ax HEW20_Nss1,(MCS0)_1TX

EBW

2462MHz

25/01/2019

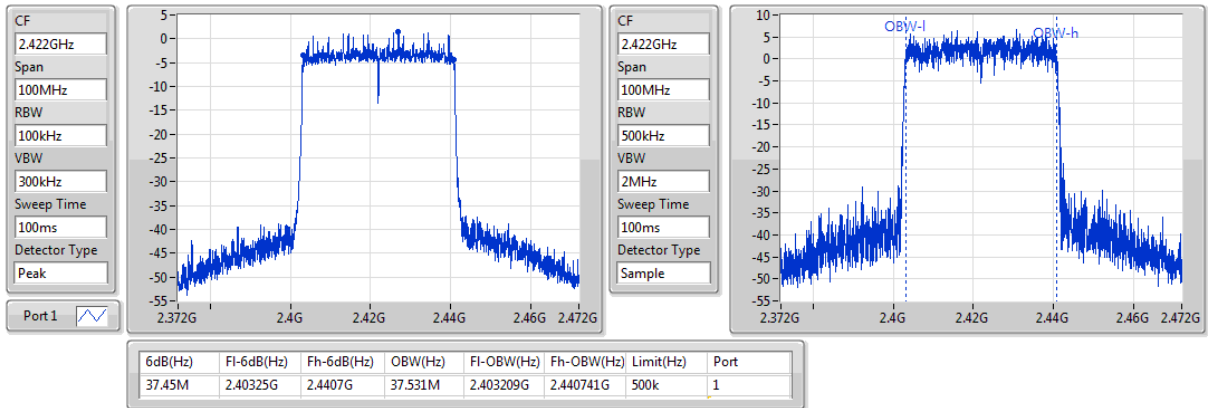


802.11ax HEW40_Nss1,(MCS0)_1TX

EBW

2422MHz

25/01/2019

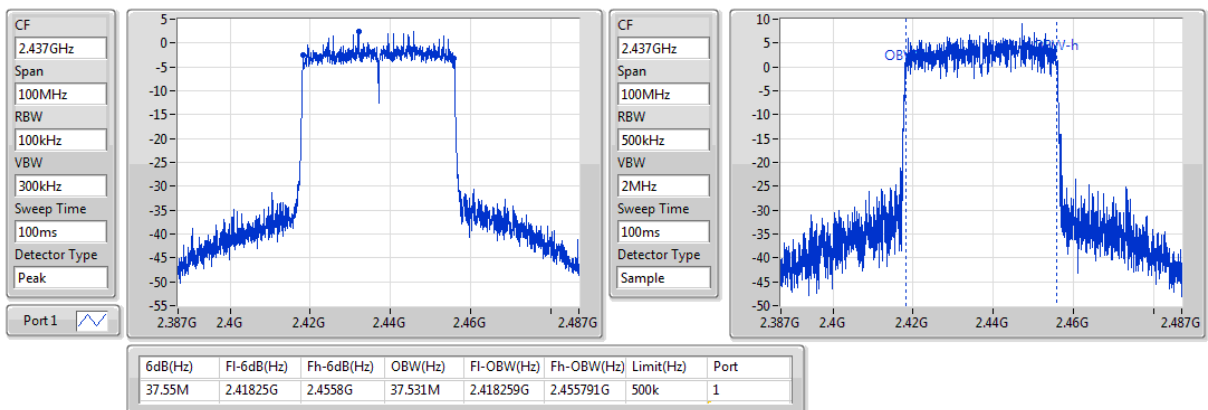


802.11ax HEW40_Nss1,(MCS0)_1TX

EBW

2437MHz

25/01/2019

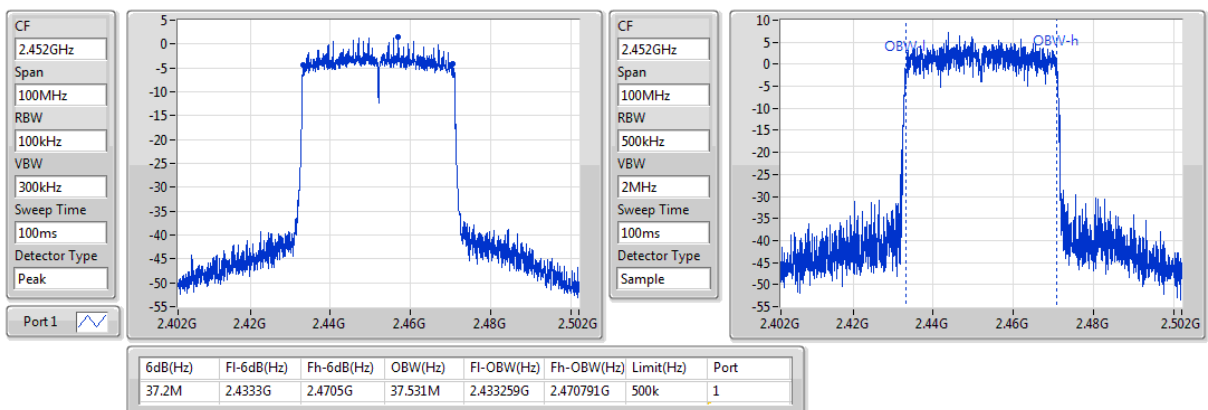


802.11ax HEW40_Nss1,(MCS0)_1TX

EBW

2452MHz

25/01/2019





EBW Result

Appendix B.2

For Non-beamforming / 2T2S mode Summary

Mode	Max-N dB (Hz)	Max-OBW (Hz)	ITU-Code	Min-N dB (Hz)	Min-OBW (Hz)
2.4-2.4835GHz	-	-	-	-	-
802.11ax HEW20_Nss2,(MCS0)_2TX	18.975M	19.04M	19M0D1D	18.25M	18.916M
802.11ax HEW40_Nss2,(MCS0)_2TX	37.55M	37.581M	37M6D1D	35.15M	37.431M

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)
802.11ax HEW20_Nss2,(MCS0)_2TX	-	-	-	-	-	-
2412MHz	Pass	500k	18.975M	18.941M	18.25M	18.916M
2437MHz	Pass	500k	18.8M	18.991M	18.925M	19.04M
2462MHz	Pass	500k	18.85M	18.991M	18.75M	18.941M
802.11ax HEW40_Nss2,(MCS0)_2TX	-	-	-	-	-	-
2422MHz	Pass	500k	37M	37.481M	35.15M	37.431M
2437MHz	Pass	500k	36.85M	37.531M	37.25M	37.531M
2452MHz	Pass	500k	36.5M	37.581M	37.55M	37.581M

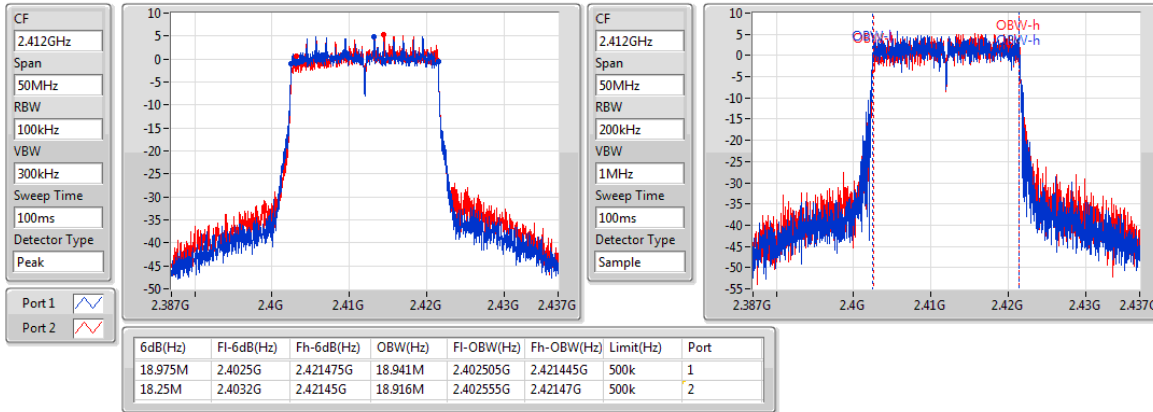
Port X-N dB = Port X 6dB down bandwidth; **Port X-OBW** = Port X 99% occupied bandwidth;

802.11ax HEW20_Nss2,(MCS0)_2TX

EBW

2412MHz

25/01/2019

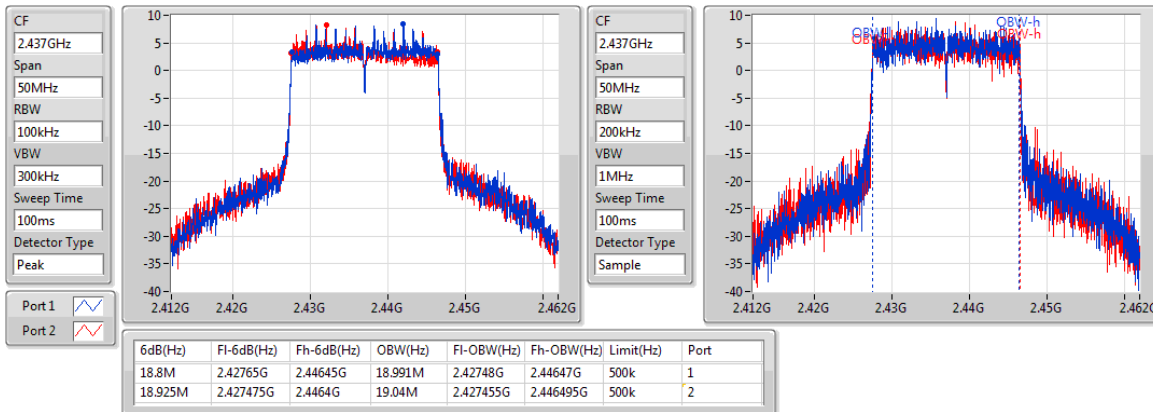


802.11ax HEW20_Nss2,(MCS0)_2TX

EBW

2437MHz

25/01/2019

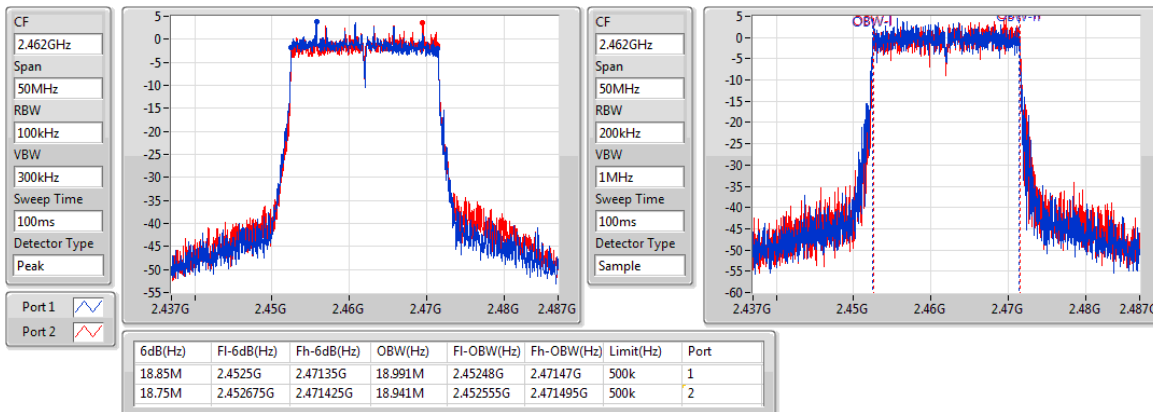


802.11ax HEW20_Nss2,(MCS0)_2TX

EBW

2462MHz

25/01/2019

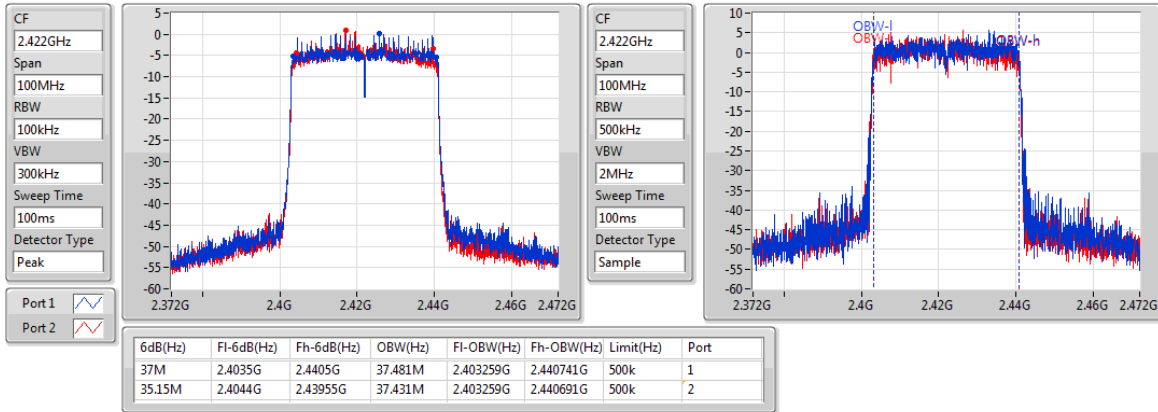


802.11ax HEW40_Nss2,(MCS0)_2TX

EBW

2422MHz

25/01/2019

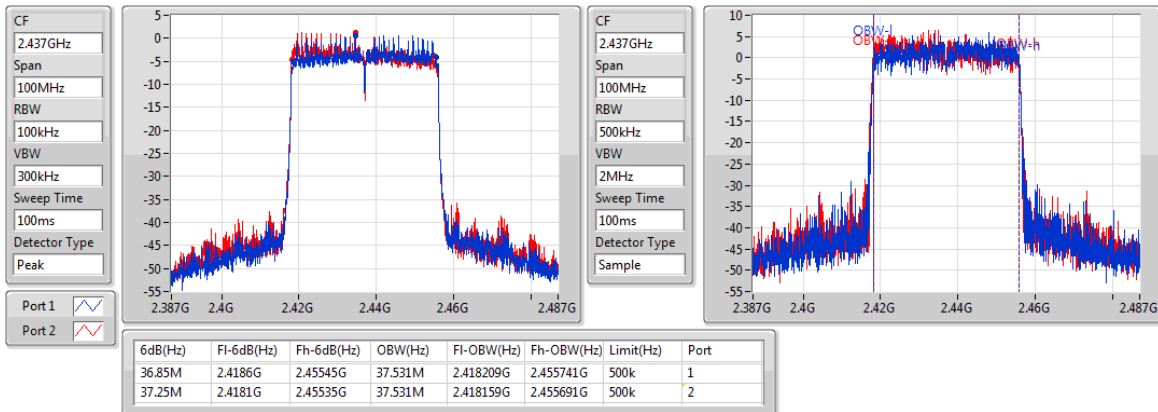


802.11ax HEW40_Nss2,(MCS0)_2TX

EBW

2437MHz

25/01/2019

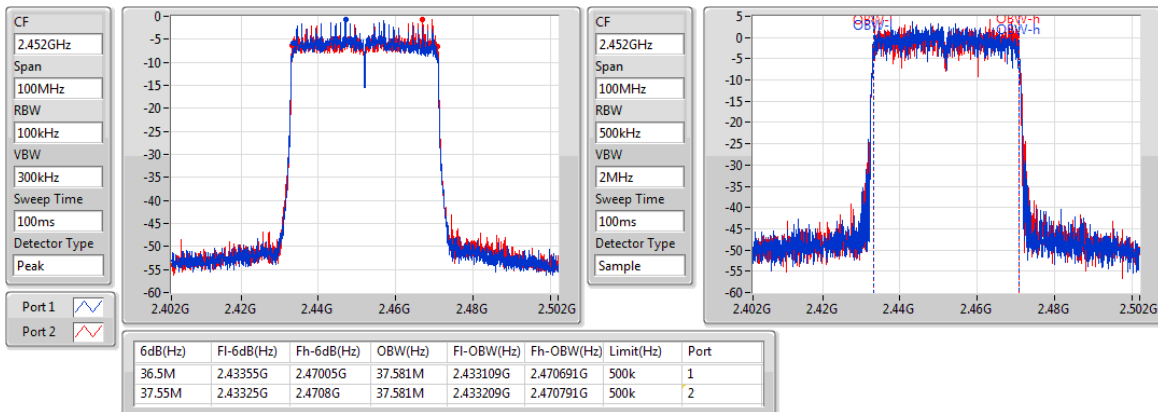


802.11ax HEW40_Nss2,(MCS0)_2TX

EBW

2452MHz

25/01/2019





EBW Result

Appendix B.3

For Non-beamforming / 4T1S mode Summary

Mode	Max-N dB (Hz)	Max-OBW (Hz)	ITU-Code	Min-N dB (Hz)	Min-OBW (Hz)
2.4-2.4835GHz	-	-	-	-	-
802.11b_Nss1,(1Mbps)_4TX	7.525M	13.193M	13M2G1D	6.525M	11.244M
802.11g_Nss1,(6Mbps)_4TX	16.375M	16.667M	16M7D1D	16.275M	16.517M
802.11ax HEW20_Nss1,(MCS0)_4TX	19.025M	18.991M	19M0D1D	18.7M	18.916M
802.11ax HEW40_Nss1,(MCS0)_4TX	37.65M	37.631M	37M6D1D	35.75M	37.381M

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_Nss1,(1Mbps)_4TX	-	-	-	-	-	-	-	-	-	-
2412MHz	Pass	500k	7.5M	11.444M	7M	11.344M	6.575M	11.244M	7M	11.769M
2437MHz	Pass	500k	7.05M	12.819M	6.575M	12.644M	7.025M	12.969M	7.525M	13.193M
2462MHz	Pass	500k	7.05M	11.519M	7.5M	11.619M	7.525M	11.319M	6.525M	11.944M
802.11g_Nss1,(6Mbps)_4TX	-	-	-	-	-	-	-	-	-	-
2412MHz	Pass	500k	16.325M	16.517M	16.325M	16.542M	16.325M	16.517M	16.325M	16.567M
2437MHz	Pass	500k	16.325M	16.642M	16.3M	16.667M	16.325M	16.592M	16.325M	16.617M
2462MHz	Pass	500k	16.325M	16.542M	16.3M	16.592M	16.275M	16.542M	16.375M	16.542M
802.11ax HEW20_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-	-	-
2412MHz	Pass	500k	19M	18.991M	18.775M	18.941M	18.7M	18.941M	18.95M	18.991M
2437MHz	Pass	500k	18.925M	18.966M	18.825M	18.966M	18.975M	18.966M	19.025M	18.991M
2462MHz	Pass	500k	18.975M	18.941M	18.95M	18.966M	18.975M	18.916M	19M	18.966M
802.11ax HEW40_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-	-	-
2422MHz	Pass	500k	37.45M	37.531M	36.4M	37.431M	35.75M	37.381M	36.55M	37.431M
2437MHz	Pass	500k	37.25M	37.481M	37.3M	37.631M	37.15M	37.531M	37.15M	37.431M
2452MHz	Pass	500k	36.9M	37.481M	37.4M	37.631M	37.65M	37.631M	37.35M	37.631M

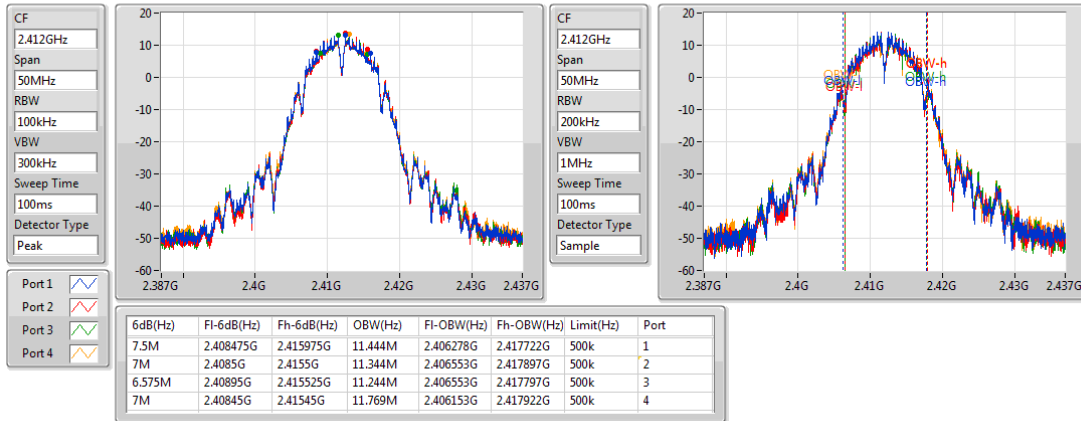
Port X-N dB = Port X 6dB down bandwidth; **Port X-OBW** = Port X 99% occupied bandwidth;

802.11b_Nss1,(1Mbps)_4TX

EBW

2412MHz

25/01/2019

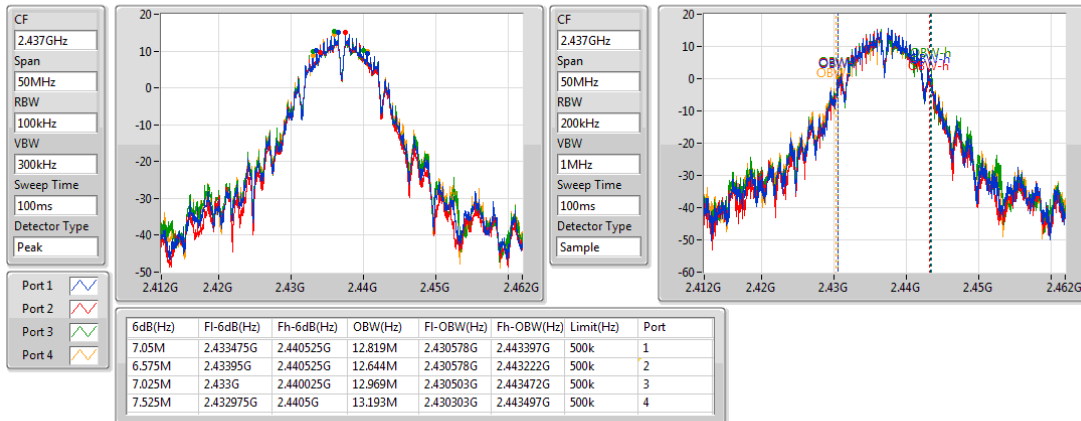


802.11b_Nss1,(1Mbps)_4TX

EBW

2437MHz

25/01/2019

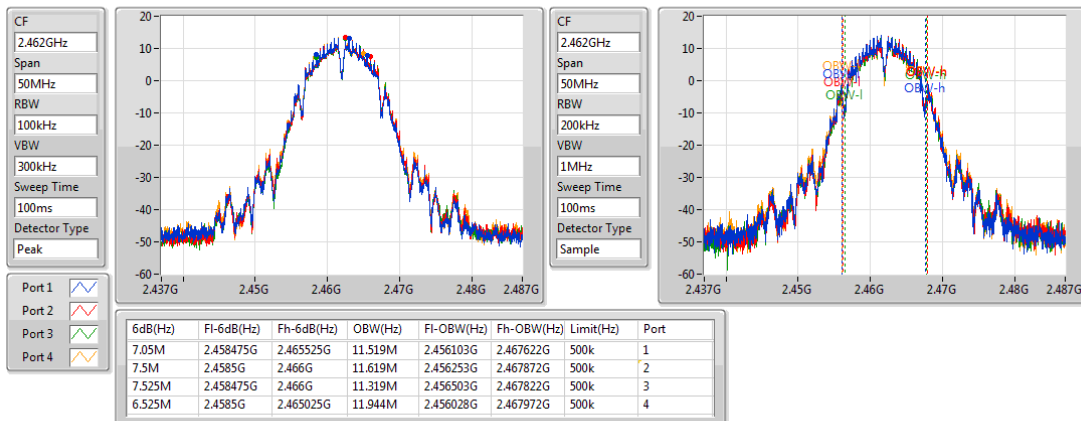


802.11b_Nss1,(1Mbps)_4TX

EBW

2462MHz

25/01/2019

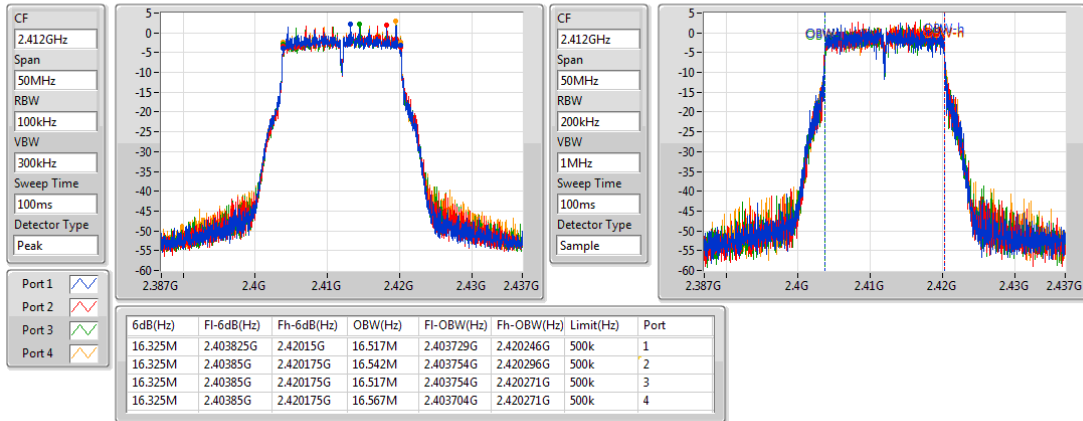


802.11g_Nss1,(6Mbps)_4TX

EBW

2412MHz

25.01/2019

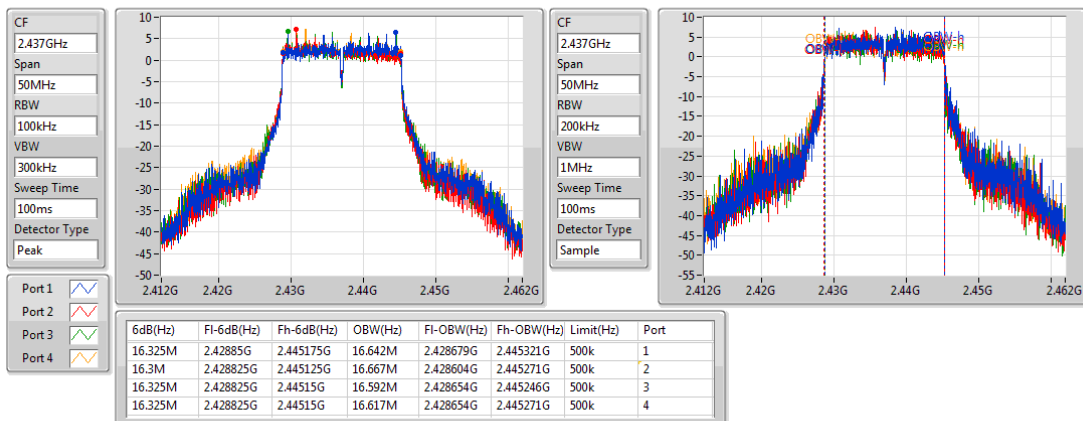


802.11g_Nss1,(6Mbps)_4TX

EBW

2437MHz

25.01/2019

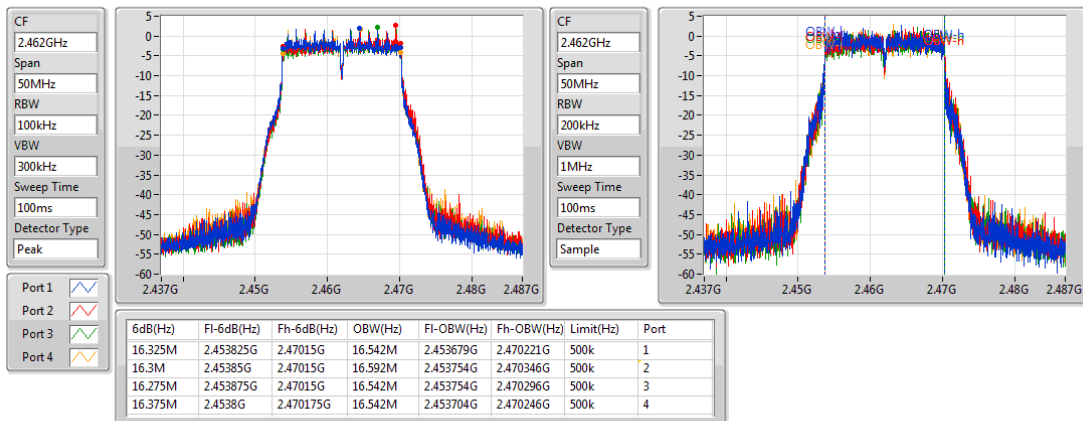


802.11g_Nss1,(6Mbps)_4TX

EBW

2462MHz

25.01/2019

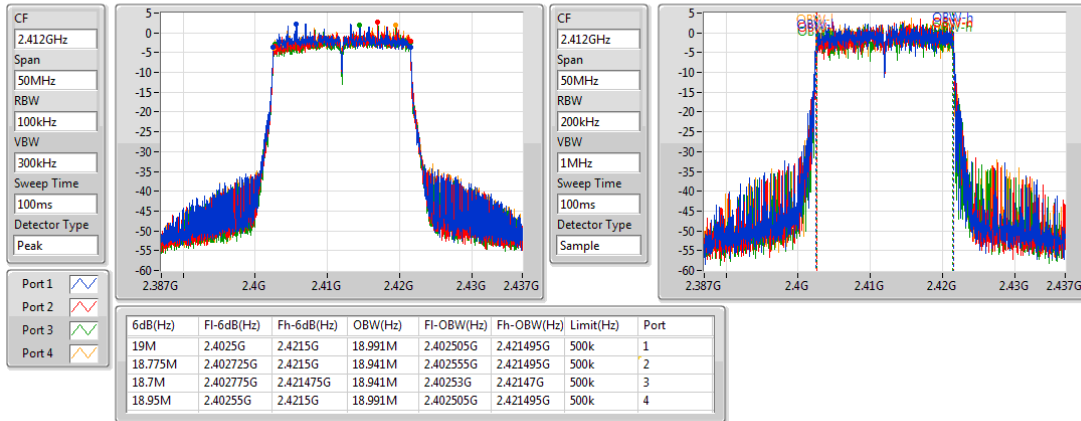


802.11ax HEW20_Nss1,(MCS0)_4TX

EBW

2412MHz

25.01.2019

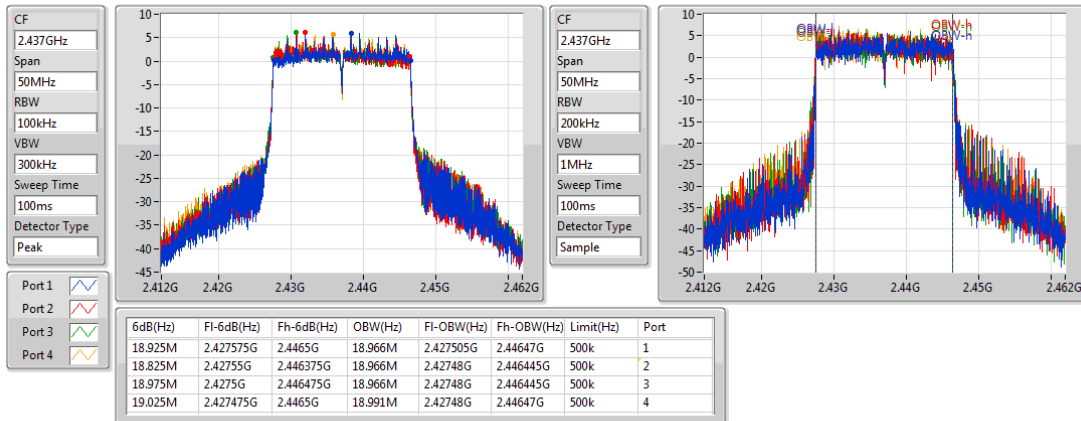


802.11ax HEW20_Nss1,(MCS0)_4TX

EBW

2437MHz

25.01.2019

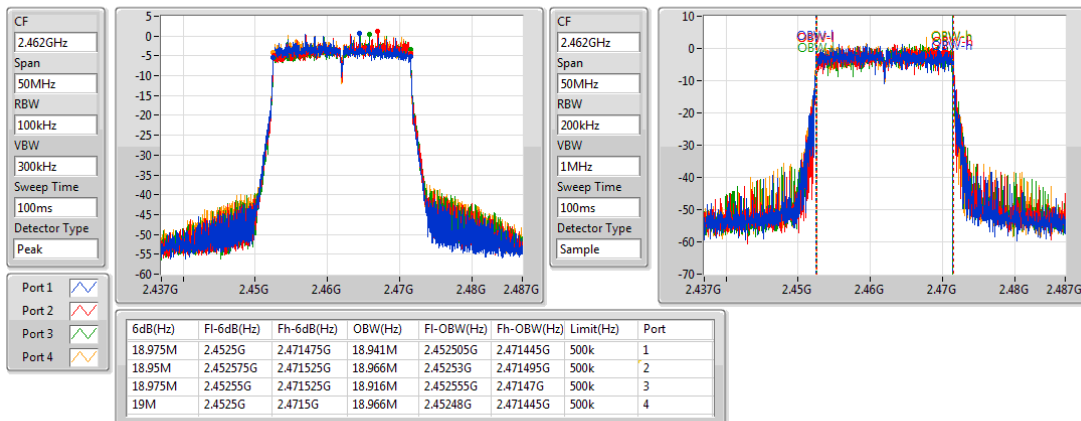


802.11ax HEW20_Nss1,(MCS0)_4TX

EBW

2462MHz

25.01.2019

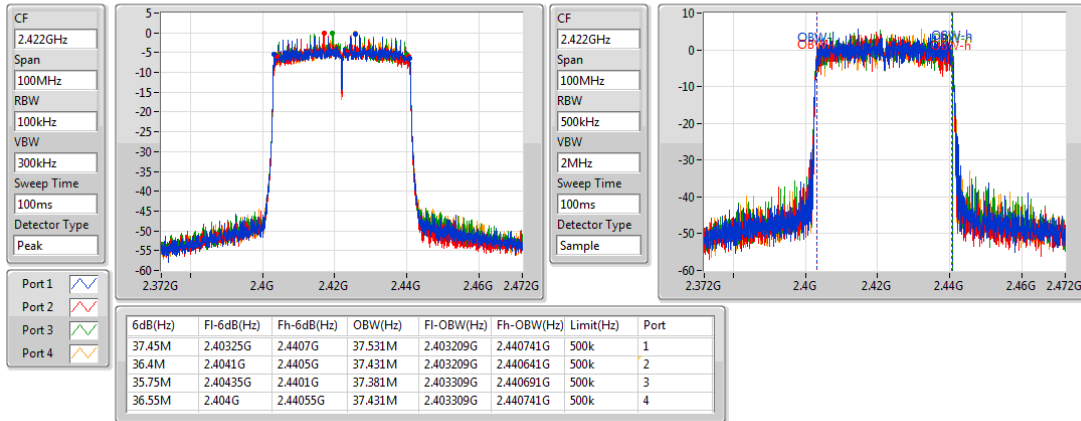


802.11ax HEW40_Nss1,(MCS0)_4TX

EBW

2422MHz

25.01.2019

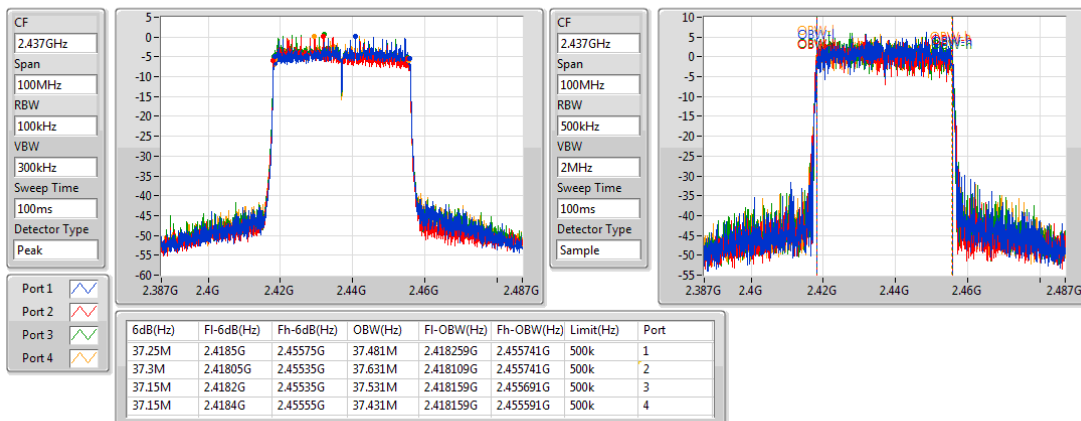


802.11ax HEW40_Nss1,(MCS0)_4TX

EBW

2437MHz

25.01.2019

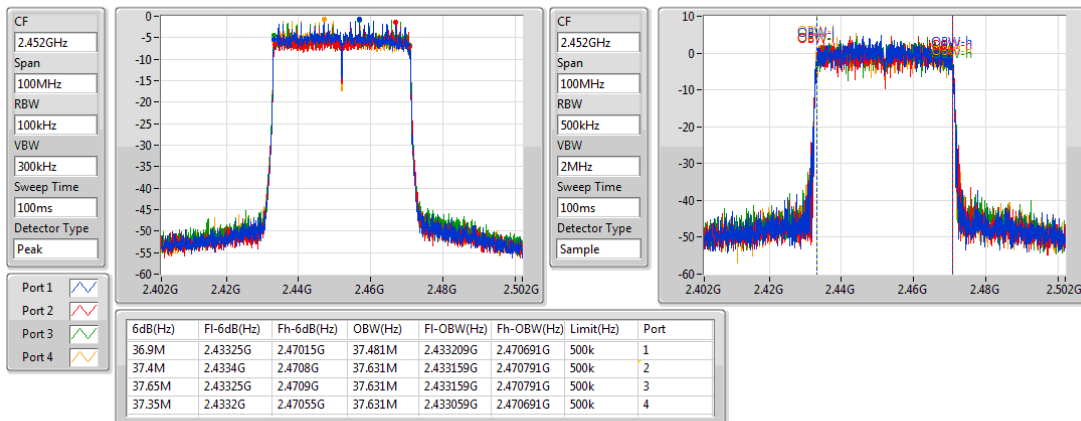


802.11ax HEW40_Nss1,(MCS0)_4TX

EBW

2452MHz

25.01.2019



**For Beamforming / 4T1S mode
Summary**

Mode	Max-N dB (Hz)	Max-OBW (Hz)	ITU-Code	Min-N dB (Hz)	Min-OBW (Hz)
2.4-2.4835GHz	-	-	-	-	-
802.11ax HEW20-BF_Nss1,(MCS0)_4TX	19.075M	19.14M	19M1D1D	18.575M	18.916M
802.11ax HEW40-BF_Nss1,(MCS0)_4TX	37.7M	37.681M	37M7D1D	35.1M	37.381M

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)
802.11ax HEW20-BF_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-	-	-
2412MHz	Pass	500k	19.025M	18.941M	18.8M	18.916M	18.575M	18.991M	19.05M	18.966M
2437MHz	Pass	500k	18.85M	19.14M	18.95M	19.09M	18.65M	19.09M	18.9M	19.09M
2462MHz	Pass	500k	19.025M	18.966M	18.725M	18.966M	19.075M	18.941M	18.925M	18.941M
802.11ax HEW40-BF_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-	-	-
2422MHz	Pass	500k	36.55M	37.531M	36.05M	37.431M	35.1M	37.381M	37.2M	37.581M
2437MHz	Pass	500k	36.5M	37.531M	37.4M	37.631M	37.35M	37.631M	37.55M	37.531M
2452MHz	Pass	500k	37.7M	37.581M	37.45M	37.681M	37.55M	37.581M	36.65M	37.531M

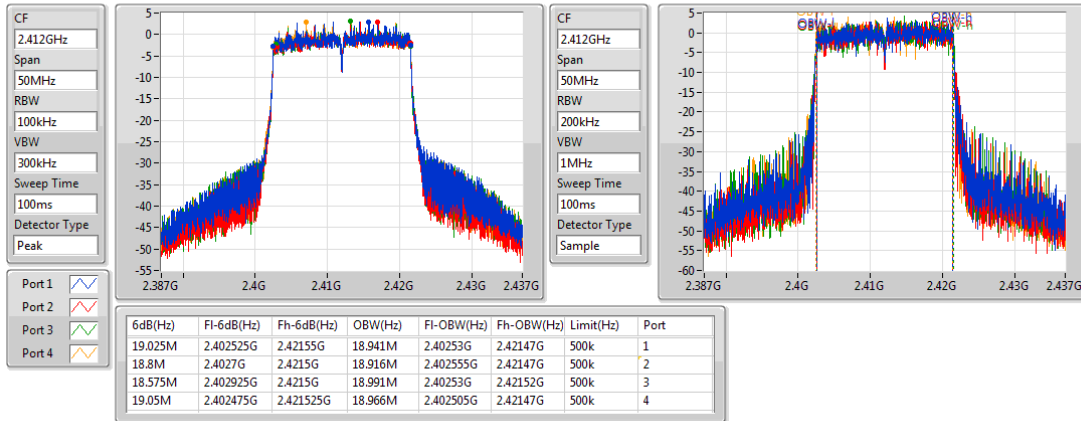
Port X-N dB = Port X 6dB down bandwidth; **Port X-OBW** = Port X 99% occupied bandwidth;

802.11ax HEW20-BF_Nss1,(MCS0)_4TX

EBW

2412MHz

26/01/2019

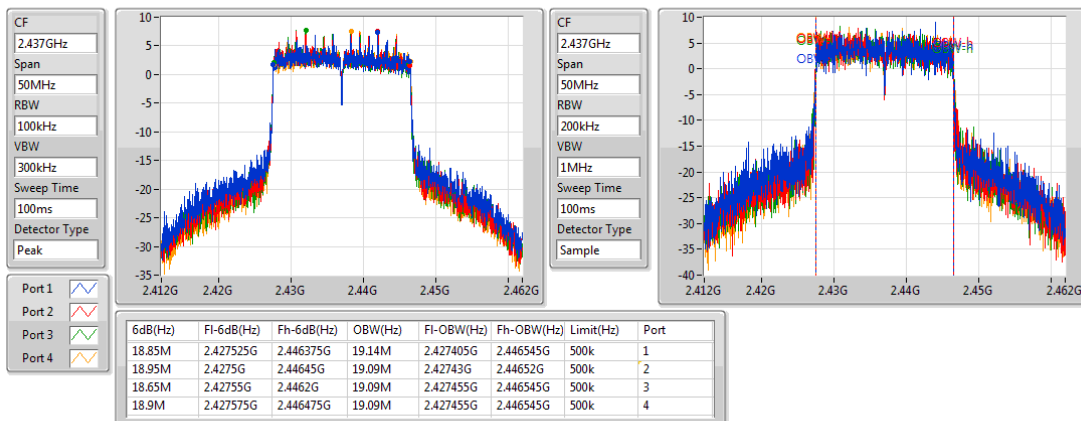


802.11ax HEW20-BF_Nss1,(MCS0)_4TX

EBW

2437MHz

26/01/2019

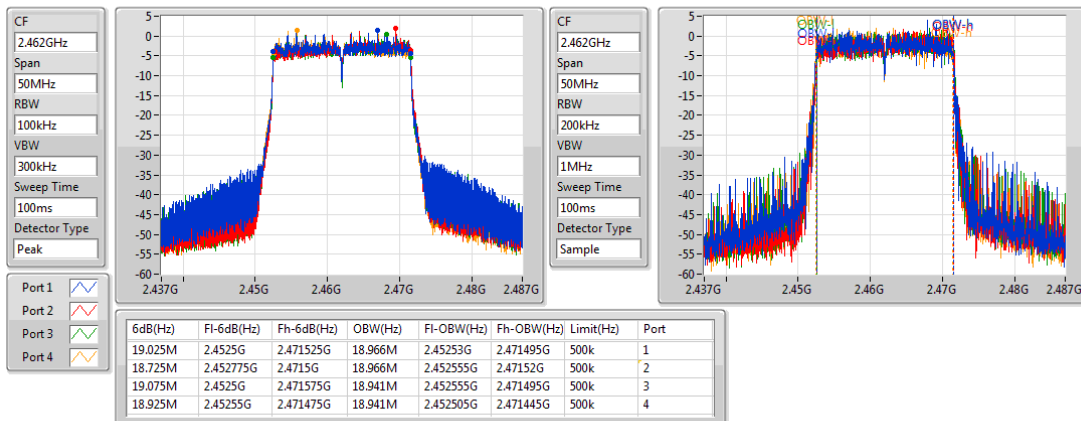


802.11ax HEW20-BF_Nss1,(MCS0)_4TX

EBW

2462MHz

26/01/2019

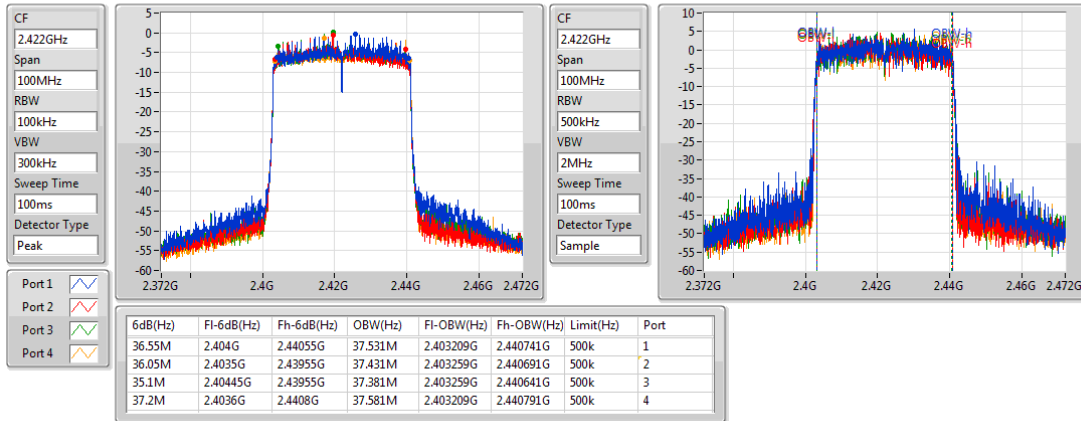


802.11ax HEW40-BF_Nss1,(MCS0)_4TX

EBW

2422MHz

26/01/2019

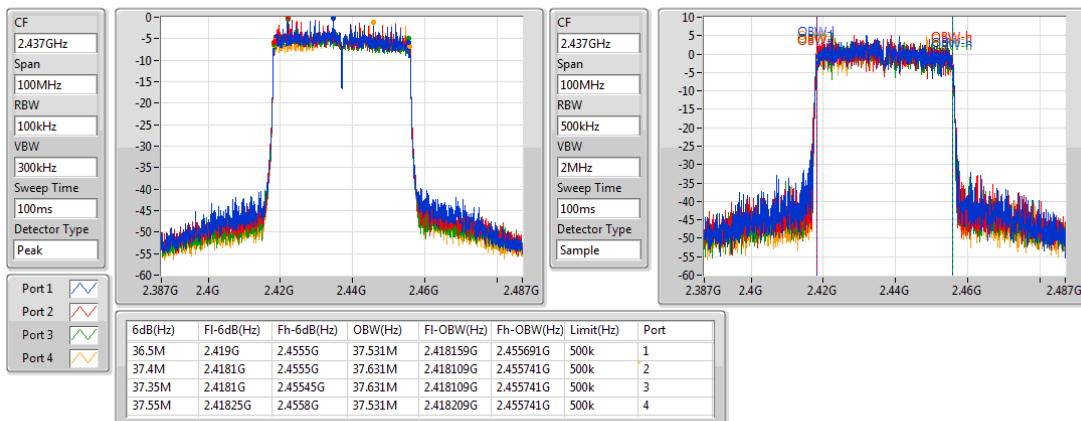


802.11ax HEW40-BF_Nss1,(MCS0)_4TX

EBW

2437MHz

26/01/2019

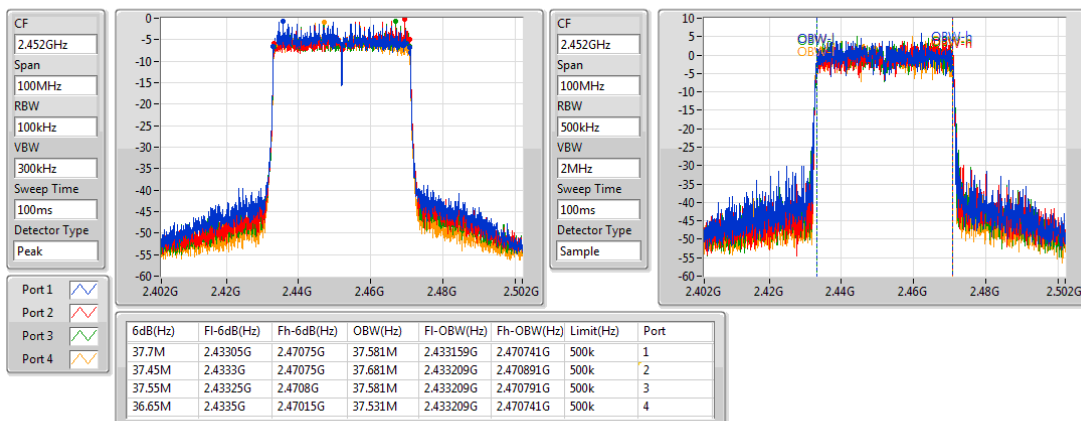


802.11ax HEW40-BF_Nss1,(MCS0)_4TX

EBW

2452MHz

26/01/2019





EBW Result

Appendix B.5

For Non-beamforming / 4T4S mode Summary

Mode	Max-N dB (Hz)	Max-OBW (Hz)	ITU-Code	Min-N dB (Hz)	Min-OBW (Hz)
2.4-2.4835GHz	-	-	-	-	-
802.11ax HEW20_Nss4,(MCS0)_4TX	19.075M	19.015M	19M0D1D	18.125M	18.891M
802.11ax HEW40_Nss4,(MCS0)_4TX	37.85M	37.731M	37M7D1D	35.65M	37.281M

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)
802.11ax HEW20_Nss4,(MCS0)_4TX	-	-	-	-	-	-	-	-	-	-
2412MHz	Pass	500k	18.925M	18.966M	18.575M	18.916M	18.125M	18.891M	18.725M	18.916M
2437MHz	Pass	500k	18.8M	18.916M	18.6M	19.015M	18.875M	18.991M	19.075M	18.941M
2462MHz	Pass	500k	18.875M	18.941M	18.95M	18.991M	18.85M	18.916M	19M	18.916M
802.11ax HEW40_Nss4,(MCS0)_4TX	-	-	-	-	-	-	-	-	-	-
2422MHz	Pass	500k	36.85M	37.581M	35.7M	37.431M	35.65M	37.281M	36.7M	37.481M
2437MHz	Pass	500k	37.1M	37.481M	36.65M	37.681M	36.75M	37.581M	37.1M	37.531M
2452MHz	Pass	500k	36.85M	37.481M	37.55M	37.731M	37.85M	37.581M	37.65M	37.631M

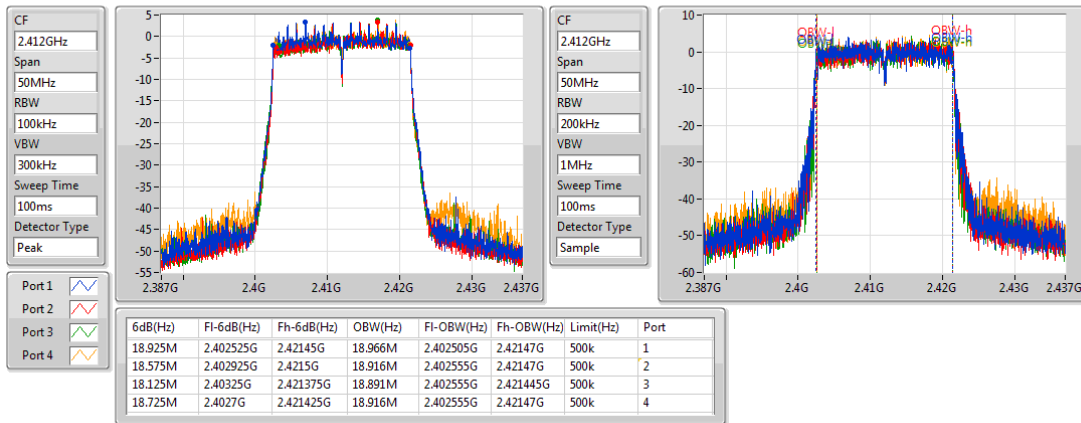
Port X-N dB = Port X 6dB down bandwidth; **Port X-OBW** = Port X 99% occupied bandwidth;

802.11ax HEW20_Nss4,(MCS0)_4TX

EBW

2412MHz

25/01/2019

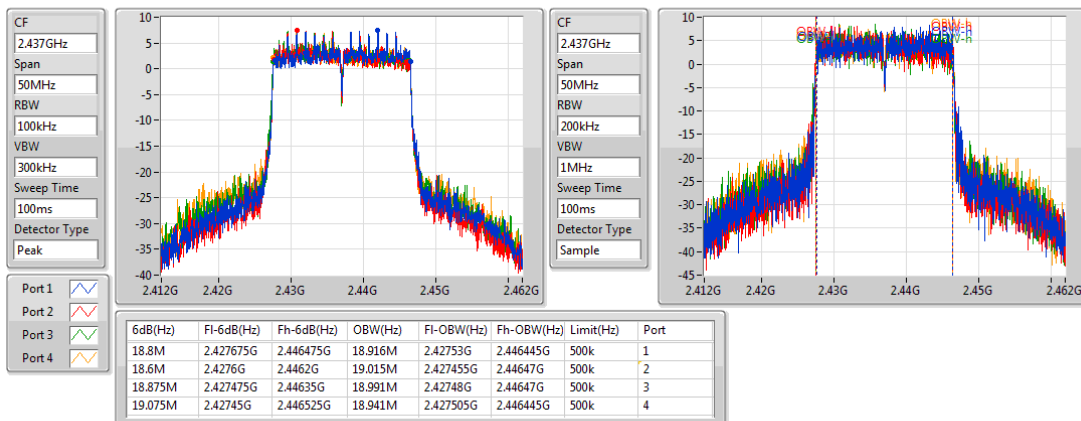


802.11ax HEW20_Nss4,(MCS0)_4TX

EBW

2437MHz

25/01/2019

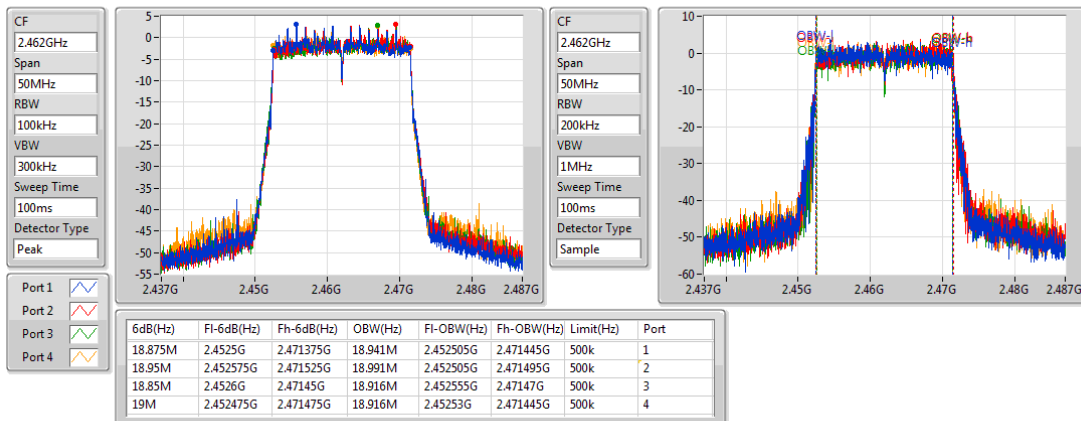


802.11ax HEW20_Nss4,(MCS0)_4TX

EBW

2462MHz

25/01/2019

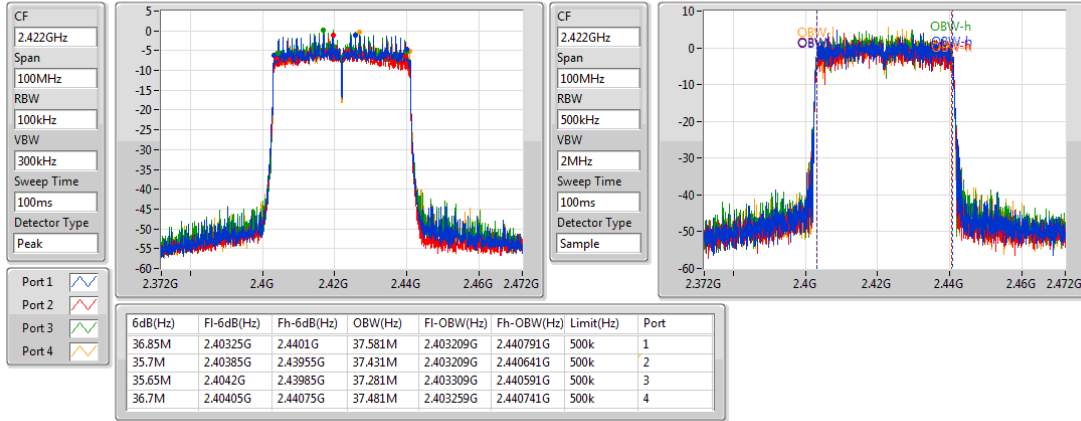


802.11ax HEW40_Nss4,(MCS0)_4TX

EBW

2422MHz

25/01/2019

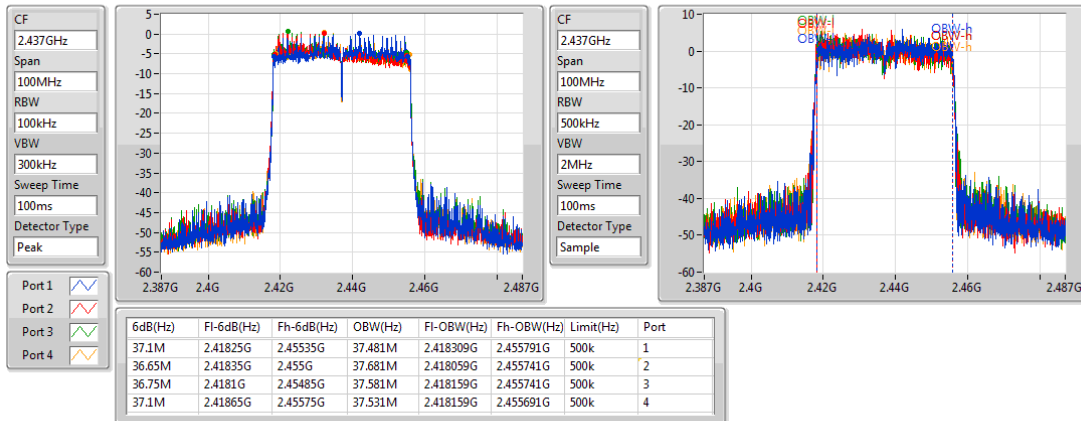


802.11ax HEW40_Nss4,(MCS0)_4TX

EBW

2437MHz

25/01/2019

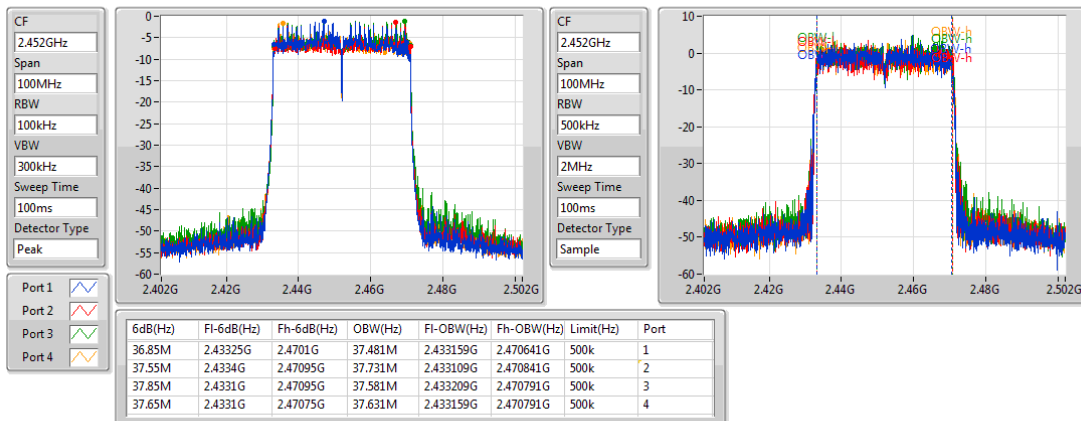


802.11ax HEW40_Nss4,(MCS0)_4TX

EBW

2452MHz

25/01/2019



For Mode 2: (Ant. 7 Omni antenna / 4 dBi)
For Non-beamforming / 1T1S mode
Summary

Mode	Max-N dB (Hz)	Max-OBW (Hz)	ITU-Code	Min-N dB (Hz)	Min-OBW (Hz)
2.4-2.4835GHz	-	-	-	-	-
802.11b_Nss1,(1Mbps)_1TX	8.975M	15.517M	15M5G1D	6.575M	11.919M
802.11g_Nss1,(6Mbps)_1TX	16.35M	21.564M	21M6D1D	16.325M	16.542M
802.11ax HEW20_Nss1,(MCS0)_1TX	19M	19.74M	19M7D1D	18.875M	18.941M
802.11ax HEW40_Nss1,(MCS0)_1TX	37.5M	37.581M	37M6D1D	36.95M	37.481M

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_Nss1,(1Mbps)_1TX	-	-	-	-
2412MHz	Pass	500k	7.025M	12.169M
2437MHz	Pass	500k	8.975M	15.517M
2462MHz	Pass	500k	6.575M	11.919M
802.11g_Nss1,(6Mbps)_1TX	-	-	-	-
2412MHz	Pass	500k	16.35M	16.567M
2437MHz	Pass	500k	16.325M	21.564M
2462MHz	Pass	500k	16.35M	16.542M
802.11ax HEW20_Nss1,(MCS0)_1TX	-	-	-	-
2412MHz	Pass	500k	18.95M	18.966M
2437MHz	Pass	500k	18.875M	19.74M
2462MHz	Pass	500k	19M	18.941M
802.11ax HEW40_Nss1,(MCS0)_1TX	-	-	-	-
2422MHz	Pass	500k	37.5M	37.581M
2437MHz	Pass	500k	37.5M	37.581M
2452MHz	Pass	500k	36.95M	37.481M

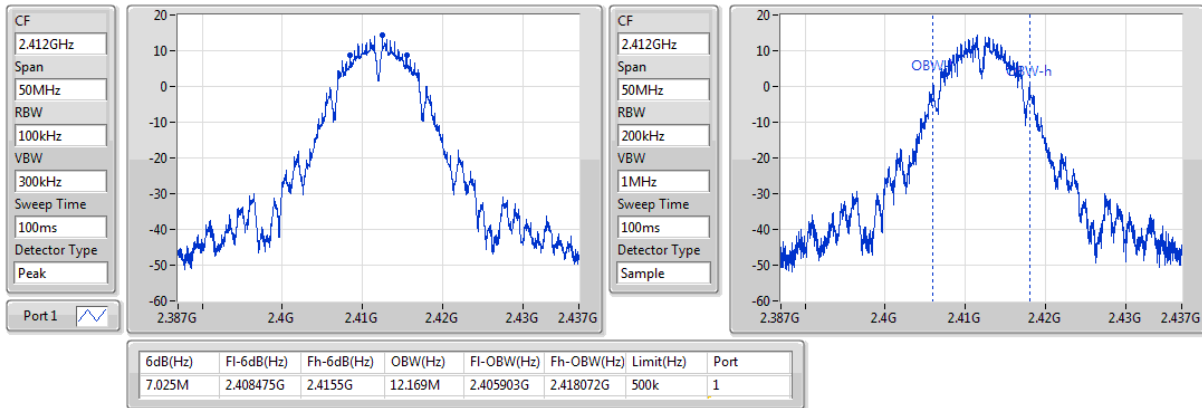
Port X-N dB = Port X 6dB down bandwidth; **Port X-OBW** = Port X 99% occupied bandwidth;

802.11b_Nss1,(1Mbps)_1TX

EBW

2412MHz

31/01/2019

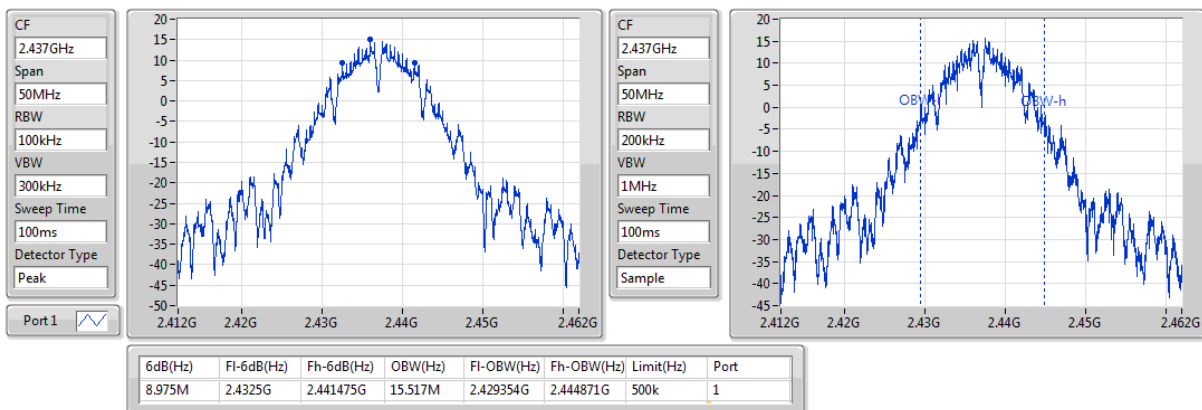


802.11b_Nss1,(1Mbps)_1TX

EBW

2437MHz

31/01/2019

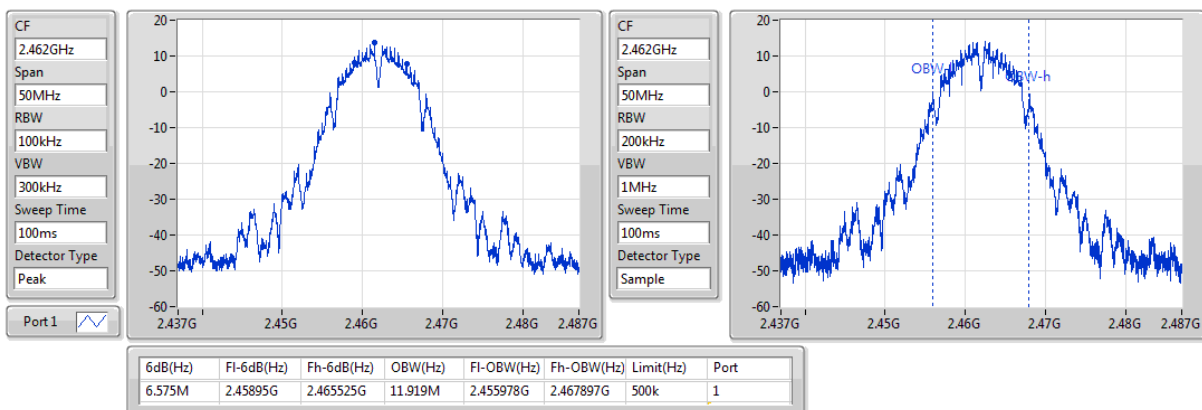


802.11b_Nss1,(1Mbps)_1TX

EBW

2462MHz

31/01/2019

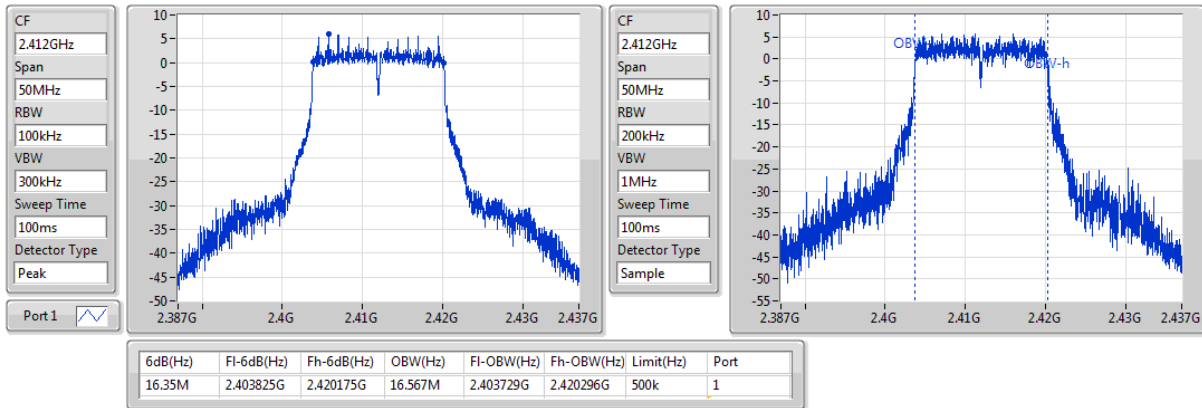


802.11g_Nss1,(6Mbps)_1TX

EBW

2412MHz

31/01/2019

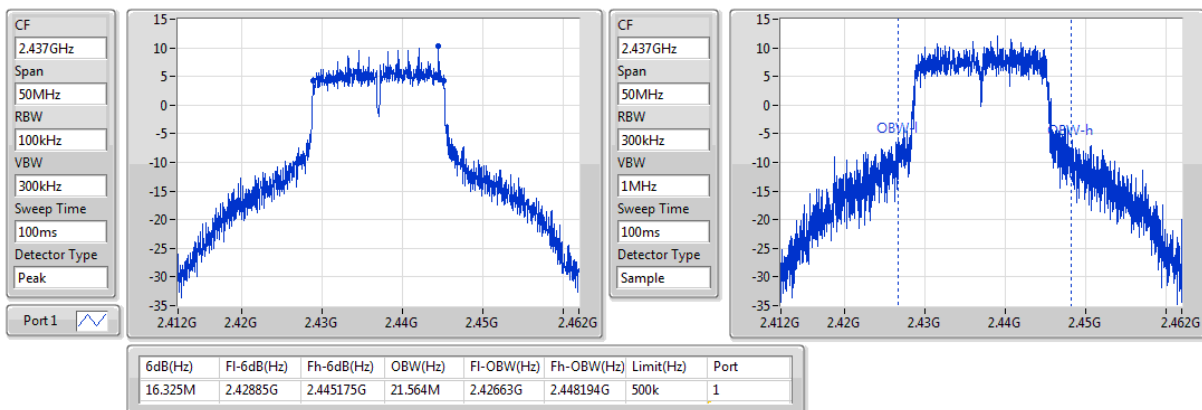


802.11g_Nss1,(6Mbps)_1TX

EBW

2437MHz

31/01/2019

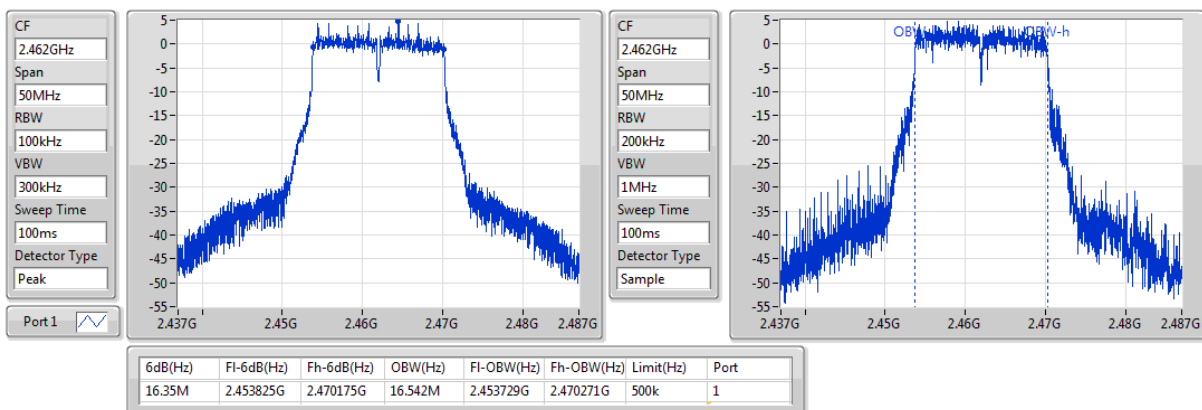


802.11g_Nss1,(6Mbps)_1TX

EBW

2462MHz

31/01/2019

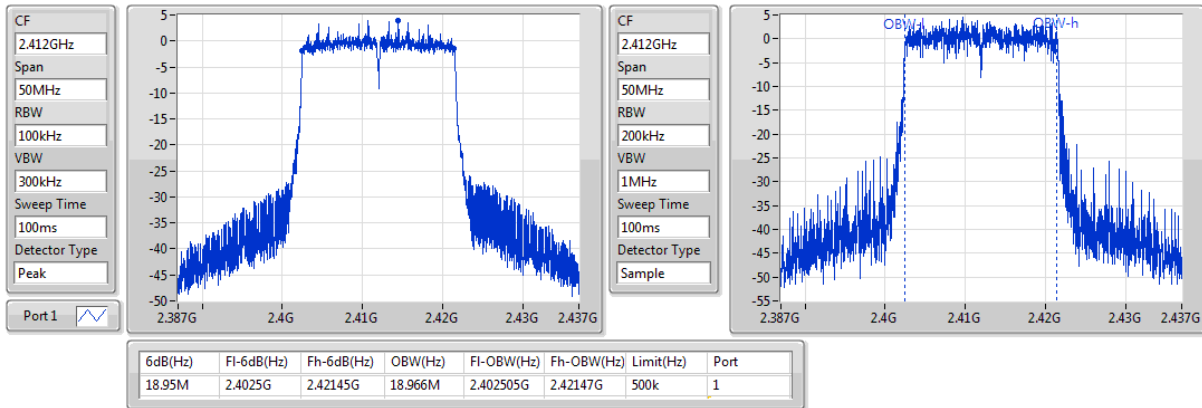


802.11ax HEW20_Nss1,(MCS0)_1TX

EBW

2412MHz

31/01/2019

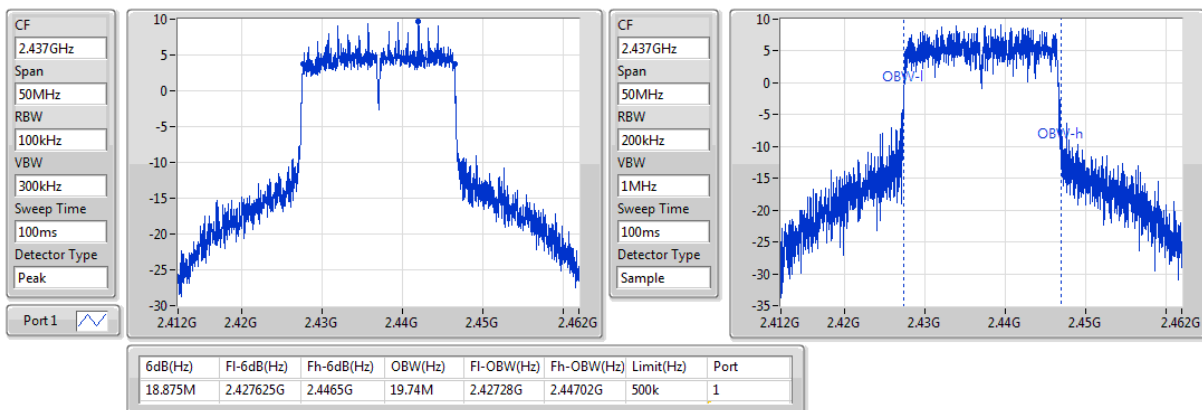


802.11ax HEW20_Nss1,(MCS0)_1TX

EBW

2437MHz

31/01/2019

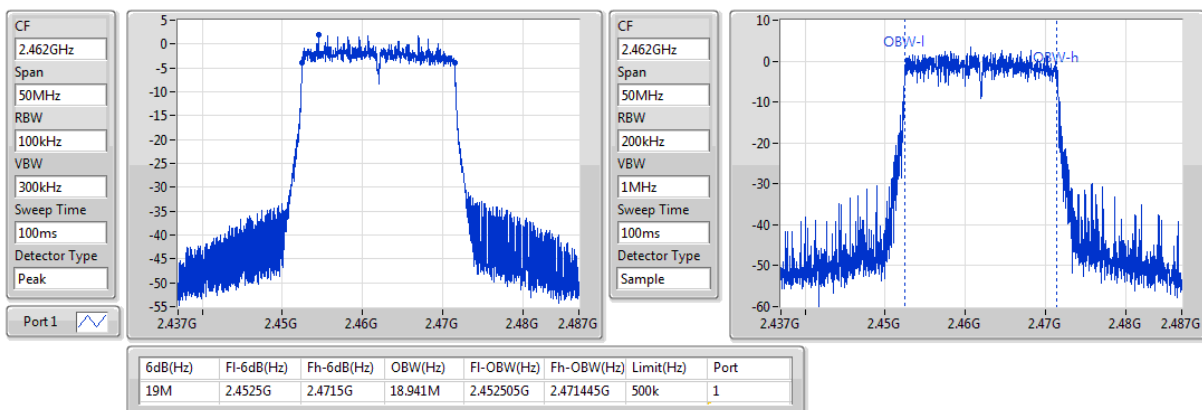


802.11ax HEW20_Nss1,(MCS0)_1TX

EBW

2462MHz

31/01/2019

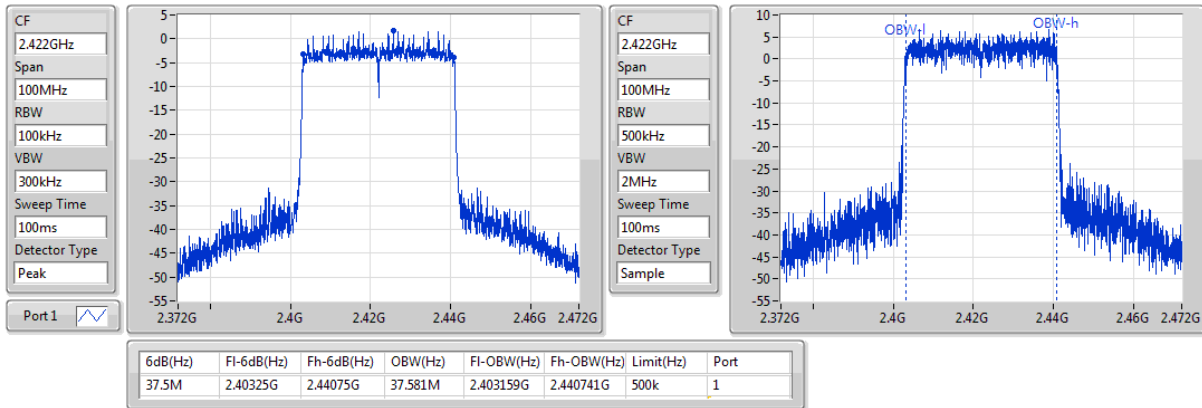


802.11ax HEW40_Nss1,(MCS0)_1TX

EBW

2422MHz

31/01/2019

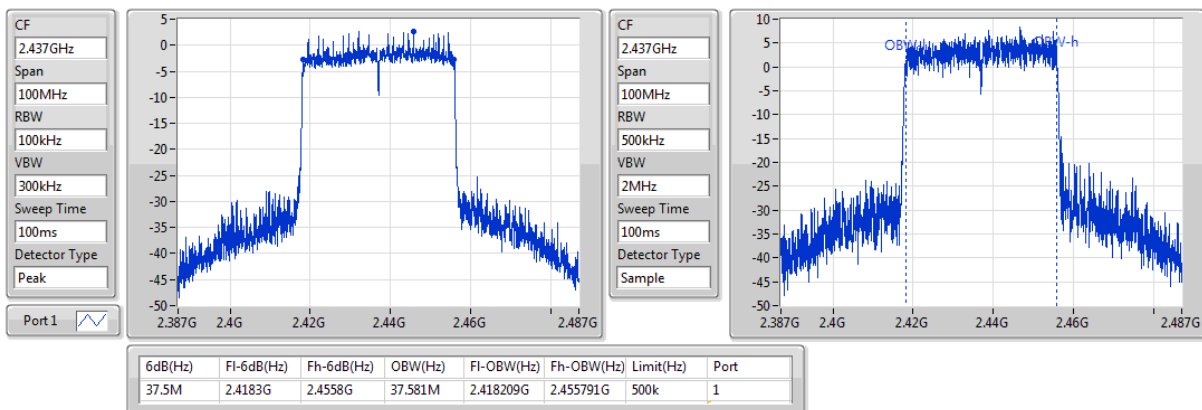


802.11ax HEW40_Nss1,(MCS0)_1TX

EBW

2437MHz

31/01/2019

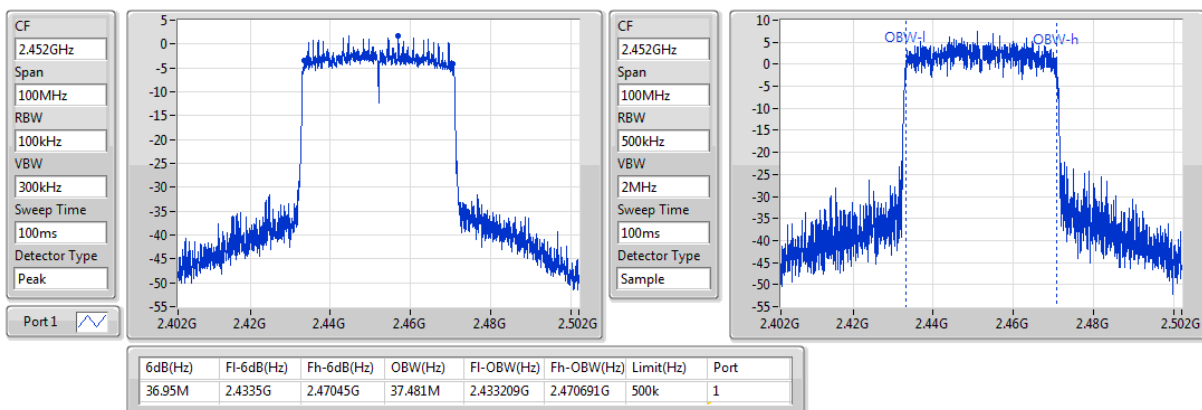


802.11ax HEW40_Nss1,(MCS0)_1TX

EBW

2452MHz

31/01/2019



**For Non-beamforming / 2T2S mode
Summary**

Mode	Max-N dB (Hz)	Max-OBW (Hz)	ITU-Code	Min-N dB (Hz)	Min-OBW (Hz)
2.4-2.4835GHz	-	-	-	-	-
802.11ax HEW20_Nss2,(MCS0)_2TX	18.975M	19.115M	19M1D1D	18.225M	18.866M
802.11ax HEW40_Nss2,(MCS0)_2TX	37.6M	37.581M	37M6D1D	36.35M	37.281M

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)
802.11ax HEW20_Nss2,(MCS0)_2TX	-	-	-	-	-	-
2412MHz	Pass	500k	18.925M	18.966M	18.225M	18.866M
2437MHz	Pass	500k	18.9M	19.115M	18.825M	19.115M
2462MHz	Pass	500k	18.975M	18.941M	18.45M	18.966M
802.11ax HEW40_Nss2,(MCS0)_2TX	-	-	-	-	-	-
2422MHz	Pass	500k	37.4M	37.531M	36.35M	37.281M
2437MHz	Pass	500k	37.6M	37.531M	36.7M	37.581M
2452MHz	Pass	500k	37.25M	37.581M	37.45M	37.581M

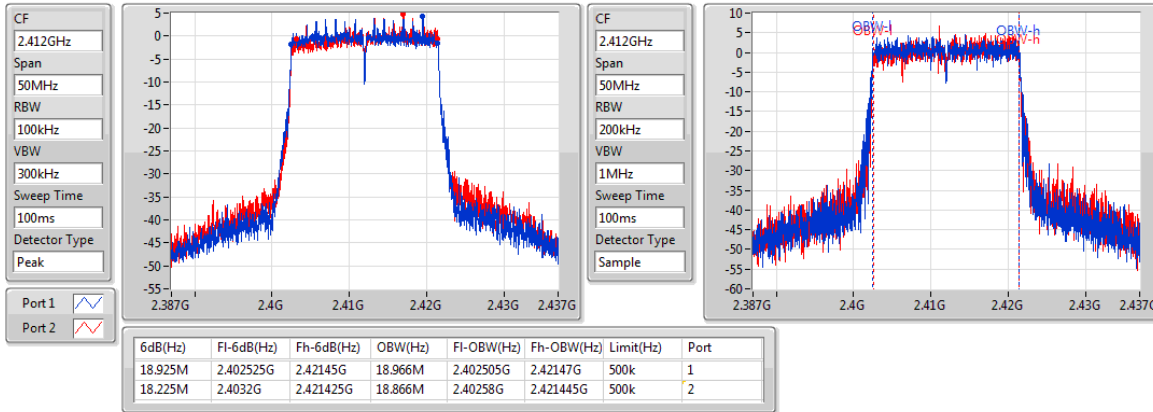
Port X-N dB = Port X 6dB down bandwidth; **Port X-OBW** = Port X 99% occupied bandwidth;

802.11ax HEW20_Nss2,(MCS0)_2TX

EBW

2412MHz

31/01/2019

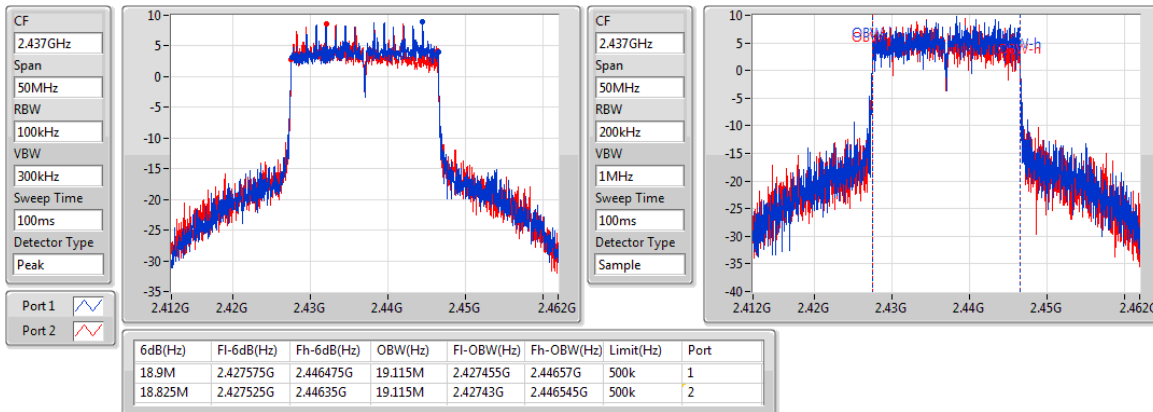


802.11ax HEW20_Nss2,(MCS0)_2TX

EBW

2437MHz

31/01/2019

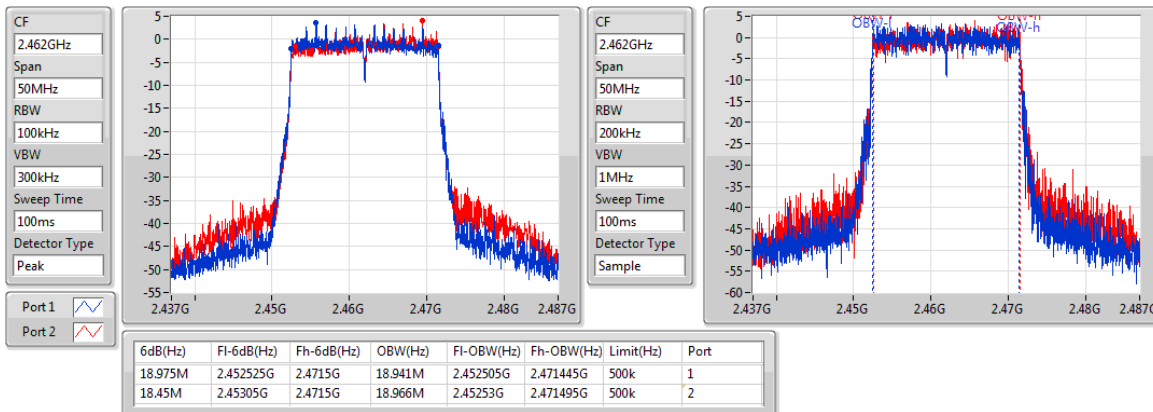


802.11ax HEW20_Nss2,(MCS0)_2TX

EBW

2462MHz

31/01/2019

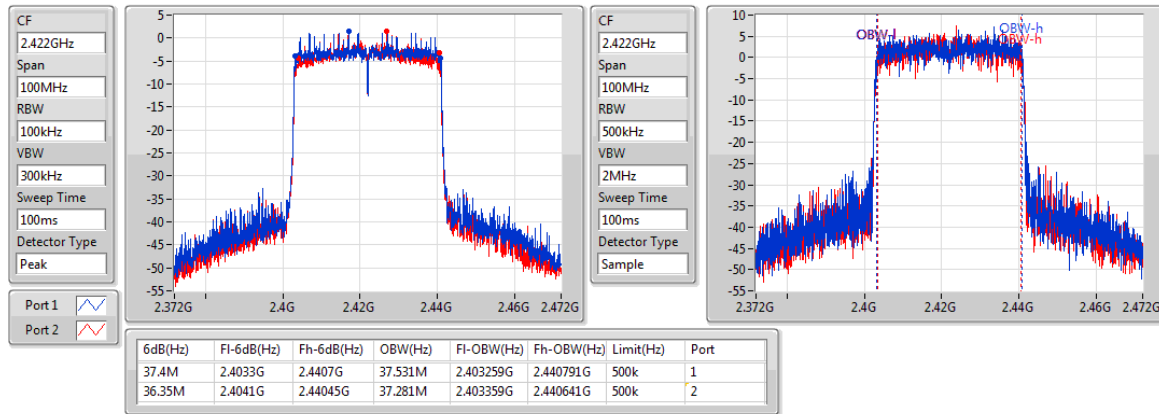


802.11ax HEW40_Nss2,(MCS0)_2TX

EBW

2422MHz

31/01/2019

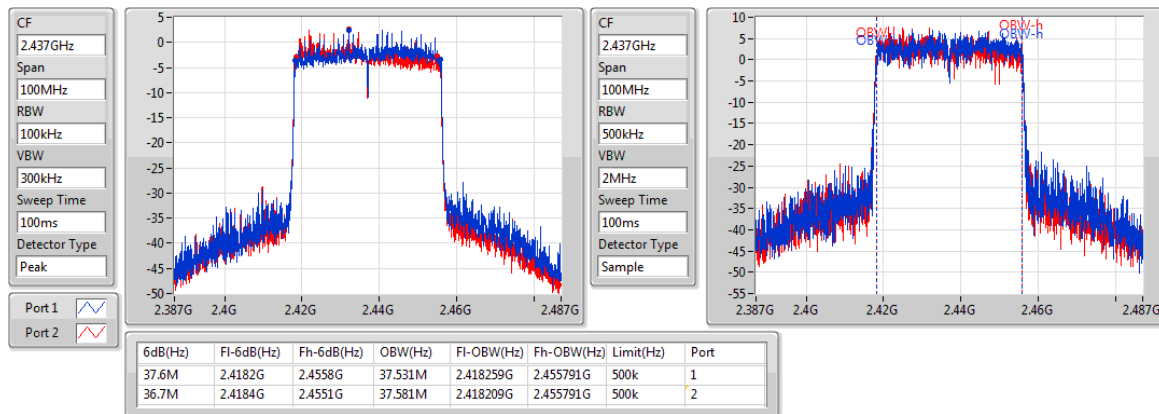


802.11ax HEW40_Nss2,(MCS0)_2TX

EBW

2437MHz

31/01/2019

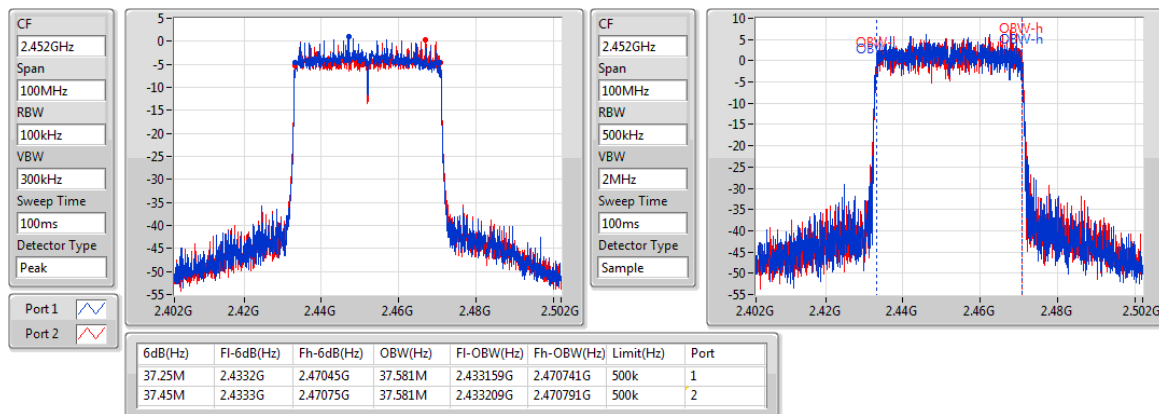


802.11ax HEW40_Nss2,(MCS0)_2TX

EBW

2452MHz

31/01/2019



**For Non-beamforming / 4T1S mode
Summary**

Mode	Max-N dB (Hz)	Max-OBW (Hz)	ITU-Code	Min-N dB (Hz)	Min-OBW (Hz)
2.4-2.4835GHz	-	-	-	-	-
802.11b_Nss1,(1Mbps)_4TX	7.525M	13.343M	13M3G1D	6.55M	11.094M
802.11g_Nss1,(6Mbps)_4TX	16.375M	16.867M	16M9D1D	16.1M	16.517M
802.11ax HEW20_Nss1,(MCS0)_4TX	19.05M	19.015M	19M0D1D	18.725M	18.916M
802.11ax HEW40_Nss1,(MCS0)_4TX	37.75M	37.731M	37M7D1D	36.2M	37.381M

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_Nss1,(1Mbps)_4TX	-	-	-	-	-	-	-	-	-	-
2412MHz	Pass	500k	7.5M	11.569M	7.025M	11.119M	7M	11.094M	7.05M	11.694M
2437MHz	Pass	500k	7.05M	12.669M	7.475M	12.694M	7.525M	13.018M	7.025M	13.343M
2462MHz	Pass	500k	6.55M	11.469M	7.05M	11.794M	7.025M	11.769M	7.025M	11.869M
802.11g_Nss1,(6Mbps)_4TX	-	-	-	-	-	-	-	-	-	-
2412MHz	Pass	500k	16.35M	16.542M	16.1M	16.567M	16.3M	16.567M	16.325M	16.517M
2437MHz	Pass	500k	16.3M	16.817M	16.3M	16.742M	16.35M	16.867M	16.325M	16.817M
2462MHz	Pass	500k	16.325M	16.567M	16.325M	16.592M	16.35M	16.542M	16.375M	16.592M
802.11ax HEW20_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-	-	-
2412MHz	Pass	500k	18.975M	18.966M	18.75M	18.916M	18.75M	18.916M	18.975M	18.966M
2437MHz	Pass	500k	18.725M	18.966M	19.025M	18.966M	19M	19.015M	19M	18.966M
2462MHz	Pass	500k	18.975M	18.966M	18.75M	18.966M	18.75M	18.941M	19.05M	18.941M
802.11ax HEW40_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-	-	-
2422MHz	Pass	500k	37.2M	37.481M	36.35M	37.381M	36.2M	37.381M	36.6M	37.481M
2437MHz	Pass	500k	37.55M	37.531M	37.05M	37.581M	36.8M	37.681M	36.5M	37.531M
2452MHz	Pass	500k	37M	37.531M	37.75M	37.731M	37.5M	37.631M	37.55M	37.631M

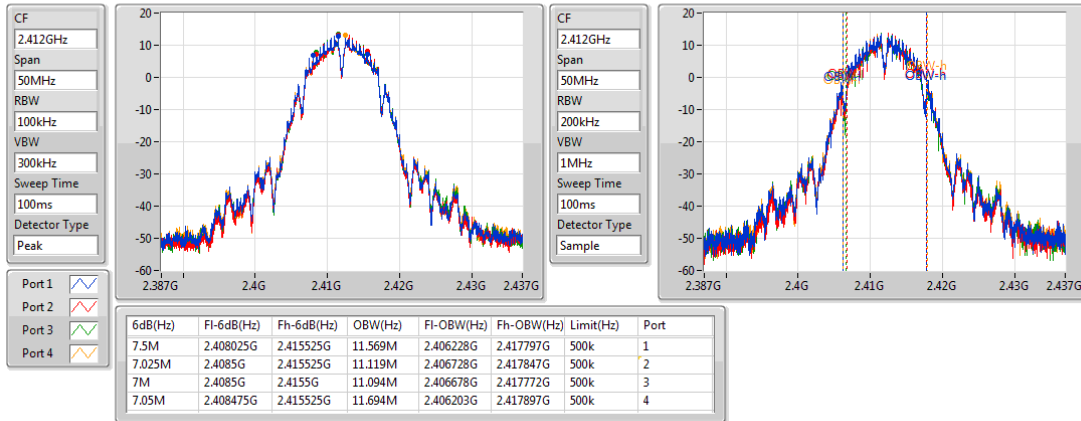
Port X-N dB = Port X 6dB down bandwidth; **Port X-OBW** = Port X 99% occupied bandwidth;

802.11b_Nss1,(1Mbps)_4TX

EBW

2412MHz

31.01.2019

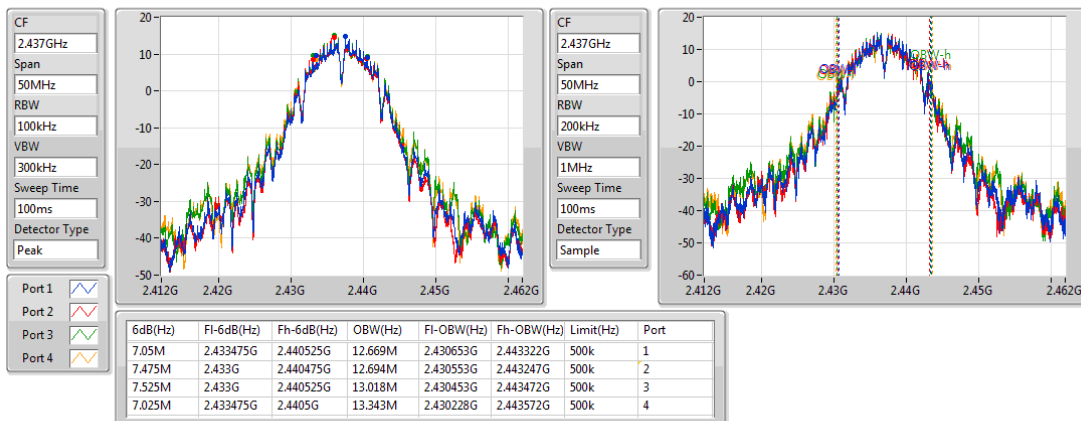


802.11b_Nss1,(1Mbps)_4TX

EBW

2437MHz

31.01.2019

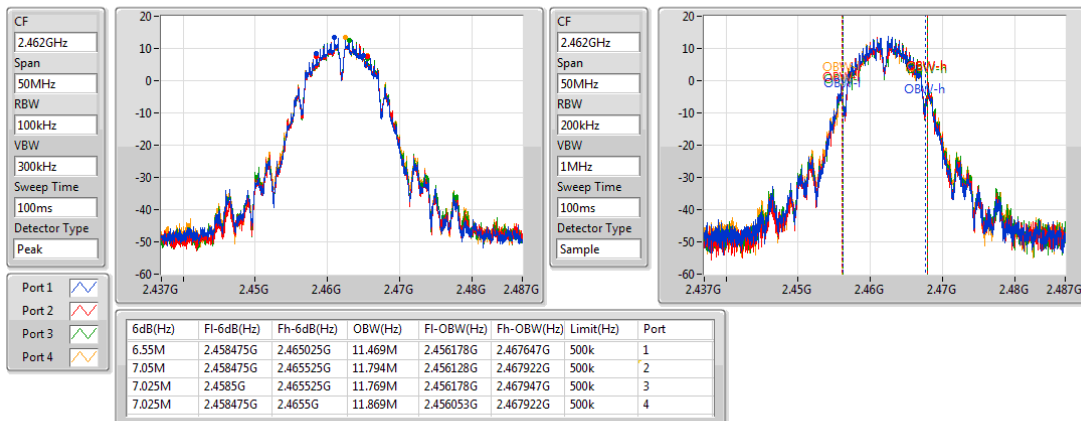


802.11b_Nss1,(1Mbps)_4TX

EBW

2462MHz

31.01.2019

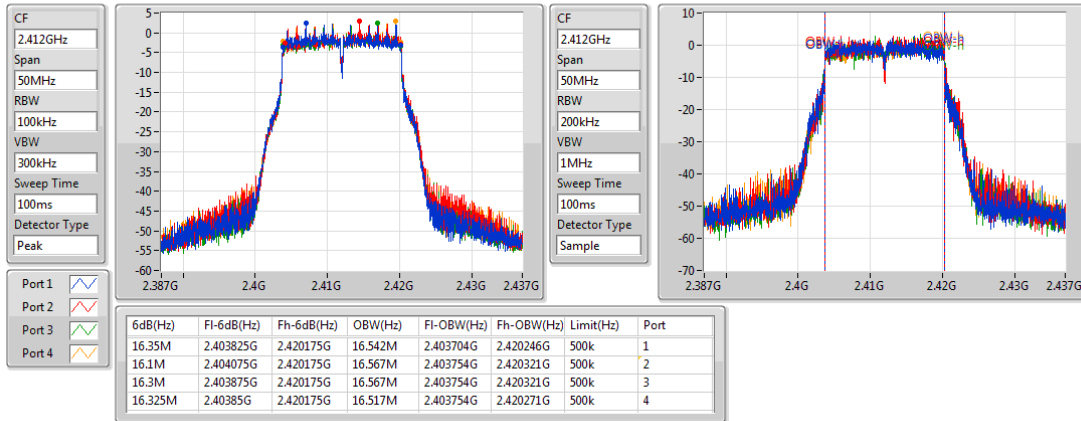


802.11g_Nss1,(6Mbps)_4TX

EBW

2412MHz

31.01.2019

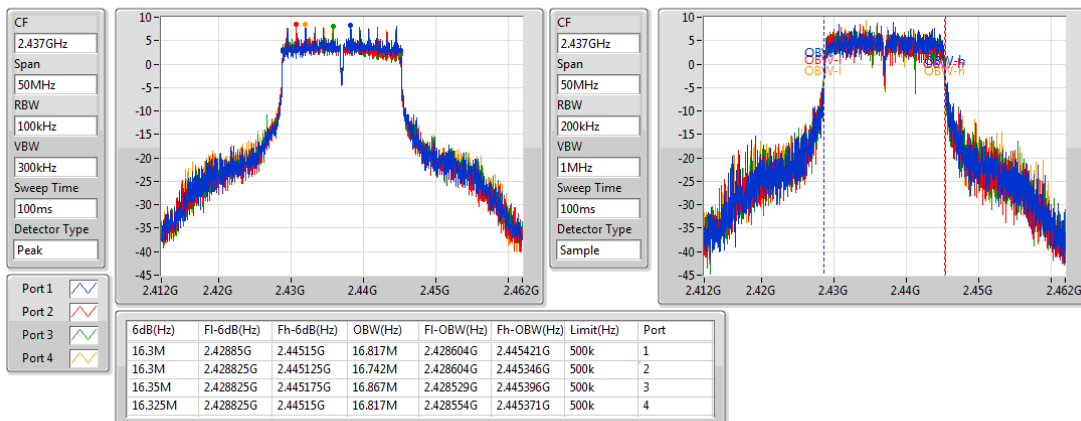


802.11g_Nss1,(6Mbps)_4TX

EBW

2437MHz

31.01.2019

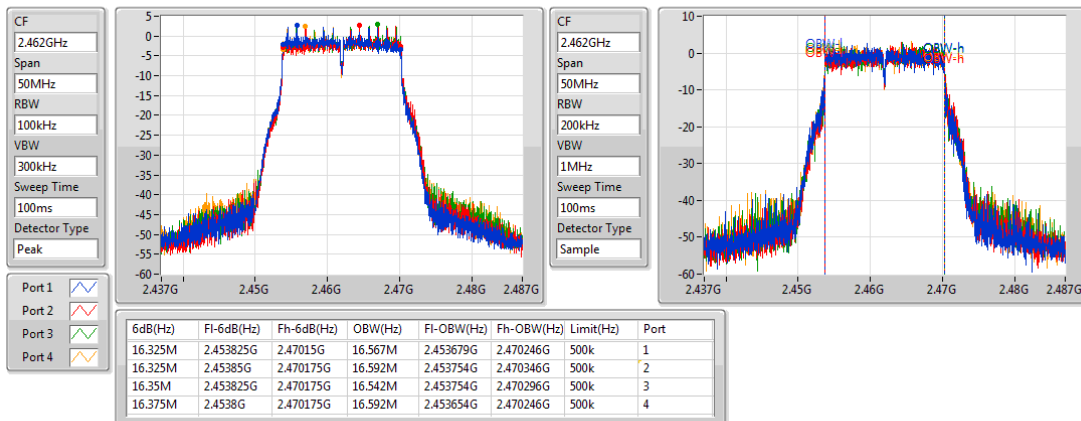


802.11g_Nss1,(6Mbps)_4TX

EBW

2462MHz

31.01.2019

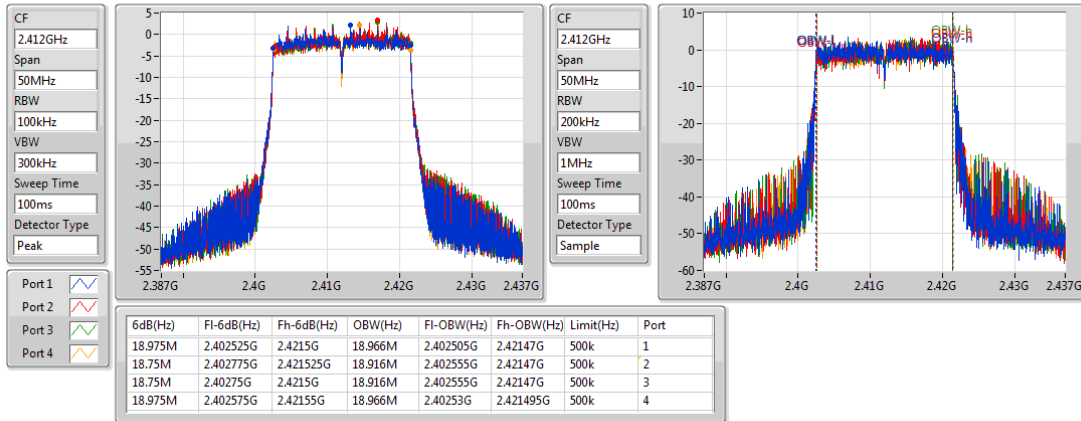


802.11ax HEW20_Nss1,(MCS0)_4TX

EBW

2412MHz

31.01.2019

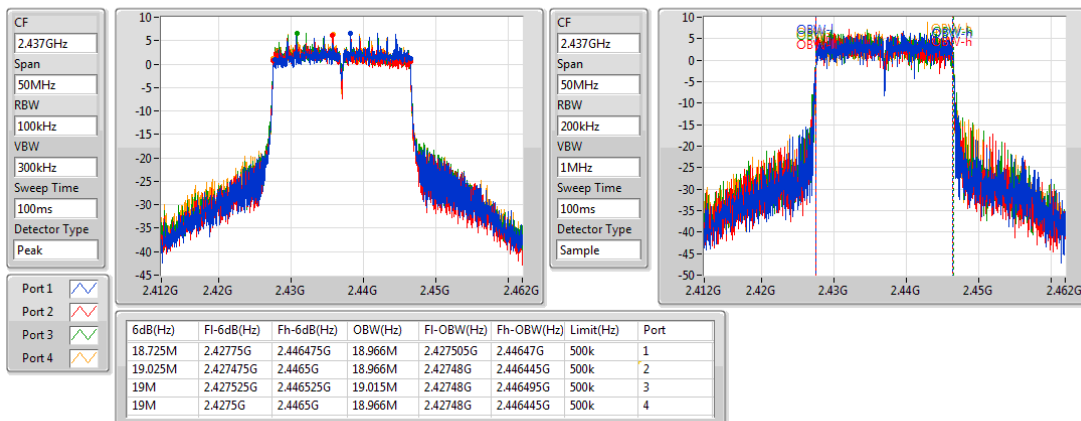


802.11ax HEW20_Nss1,(MCS0)_4TX

EBW

2437MHz

31.01.2019

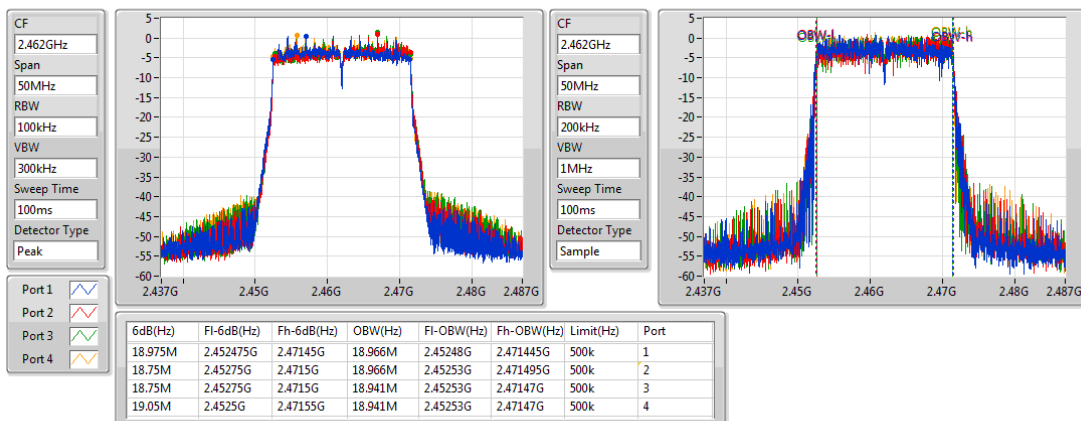


802.11ax HEW20_Nss1,(MCS0)_4TX

EBW

2462MHz

31.01.2019

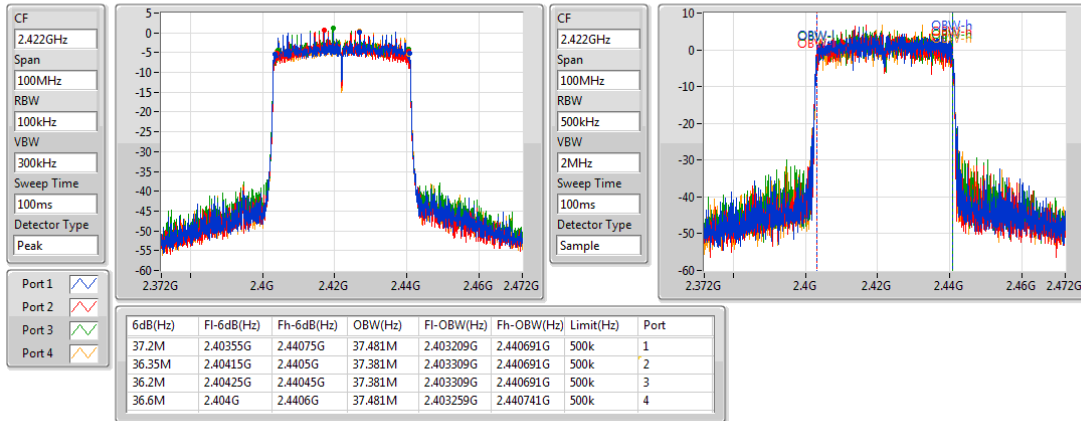


802.11ax HEW40_Nss1,(MCS0)_4TX

EBW

2422MHz

31.01.2019

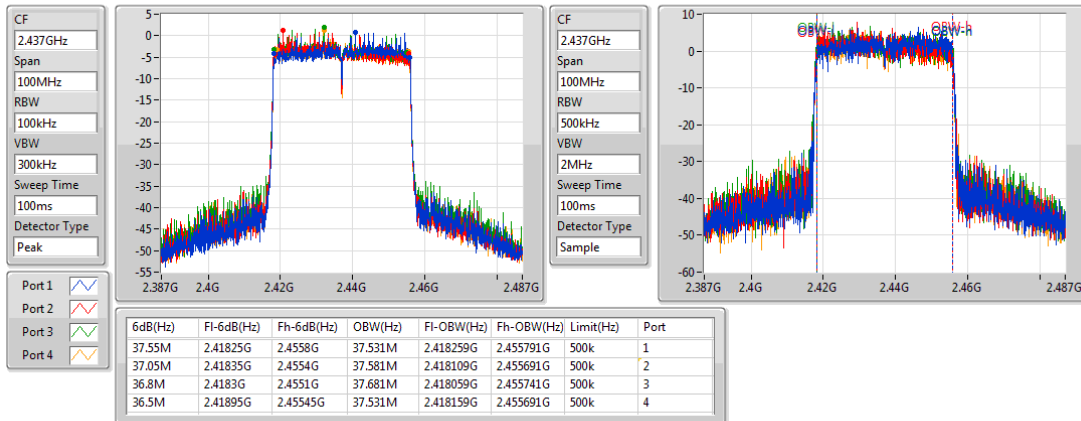


802.11ax HEW40_Nss1,(MCS0)_4TX

EBW

2437MHz

31.01.2019

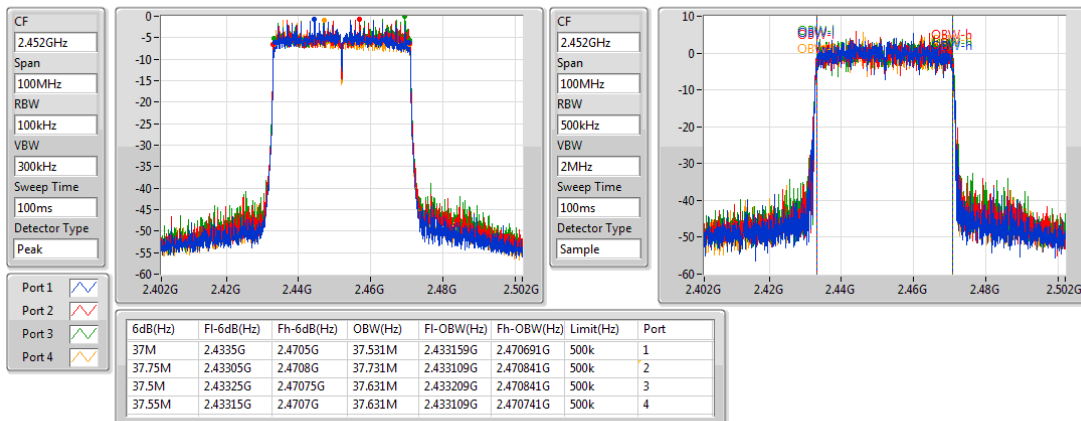


802.11ax HEW40_Nss1,(MCS0)_4TX

EBW

2452MHz

31.01.2019



**For Beamforming / 4T1S mode
Summary**

Mode	Max-N dB (Hz)	Max-OBW (Hz)	ITU-Code	Min-N dB (Hz)	Min-OBW (Hz)
2.4-2.4835GHz	-	-	-	-	-
802.11ax HEW20-BF_Nss1,(MCS0)_4TX	19.025M	19.09M	19M1D1D	18.7M	18.916M
802.11ax HEW40-BF_Nss1,(MCS0)_4TX	37.55M	37.731M	37M7D1D	35.45M	37.331M

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)
802.11ax HEW20-BF_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-	-	-
2412MHz	Pass	500k	18.95M	18.941M	18.9M	18.916M	18.75M	18.916M	18.925M	18.941M
2437MHz	Pass	500k	18.875M	19.04M	18.8M	19.065M	18.875M	19.04M	18.825M	19.09M
2462MHz	Pass	500k	18.7M	18.966M	18.775M	18.966M	18.825M	18.966M	19.025M	18.941M
802.11ax HEW40-BF_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-	-	-
2422MHz	Pass	500k	37.55M	37.531M	36.9M	37.331M	35.45M	37.381M	36.75M	37.481M
2437MHz	Pass	500k	36.8M	37.531M	37.1M	37.631M	37.2M	37.581M	37.4M	37.581M
2452MHz	Pass	500k	36.85M	37.481M	37.35M	37.631M	37.5M	37.731M	37.25M	37.631M

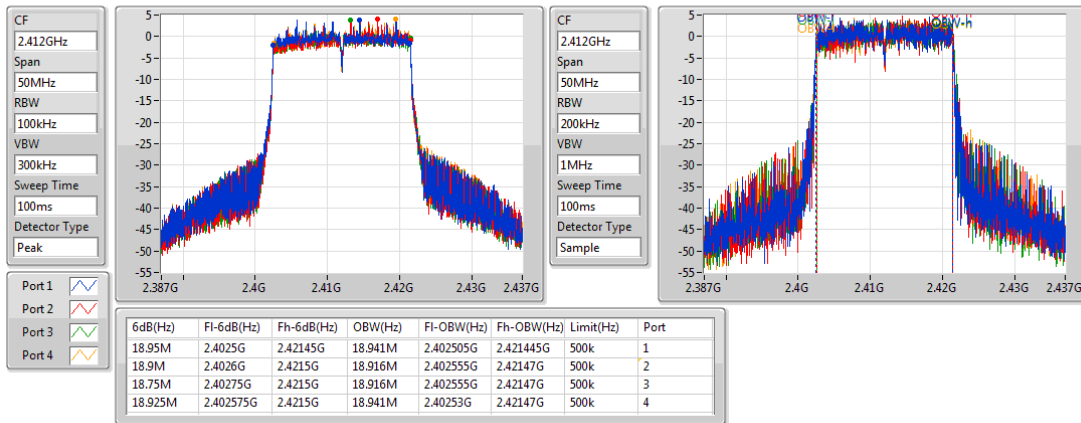
Port X-N dB = Port X 6dB down bandwidth; **Port X-OBW** = Port X 99% occupied bandwidth;

802.11ax HEW20-BF_Nss1,(MCS0)_4TX

EBW

2412MHz

01/02/2019

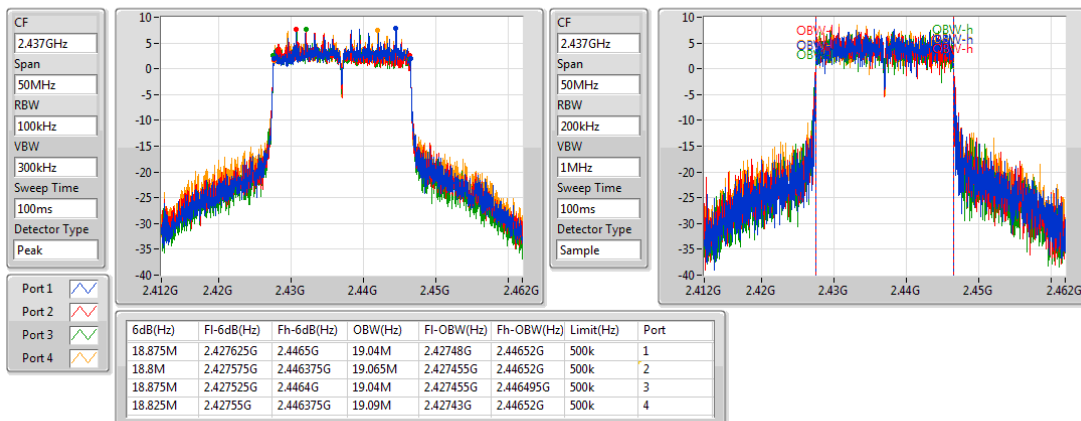


802.11ax HEW20-BF_Nss1,(MCS0)_4TX

EBW

2437MHz

01/02/2019

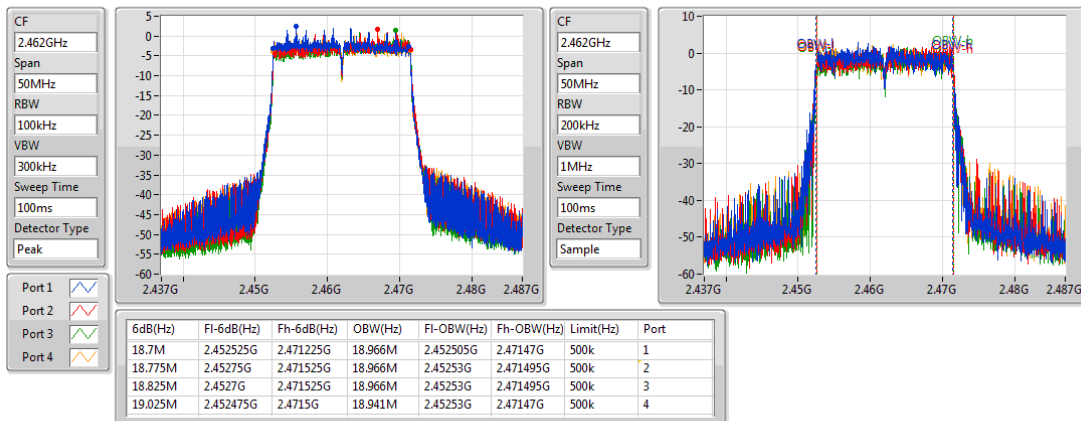


802.11ax HEW20-BF_Nss1,(MCS0)_4TX

EBW

2462MHz

01/02/2019

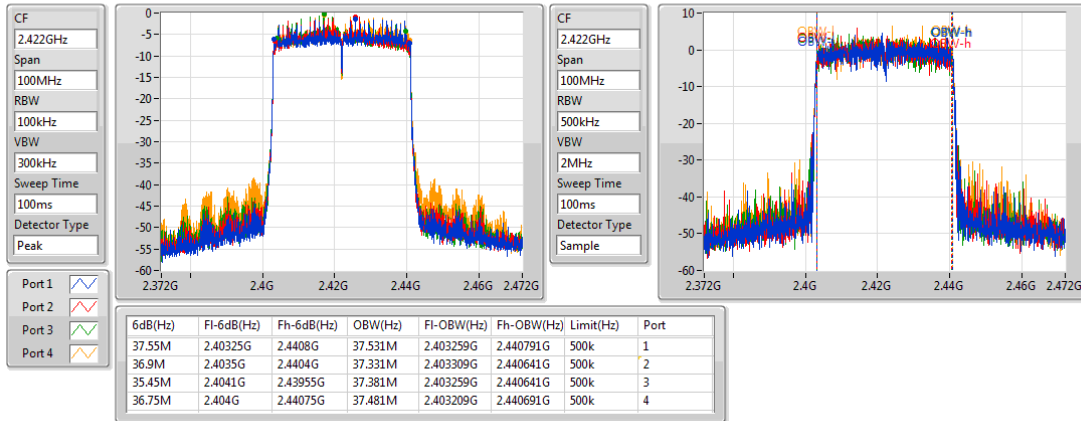


802.11ax HEW40-BF_Nss1,(MCS0)_4TX

EBW

2422MHz

01/02/2019

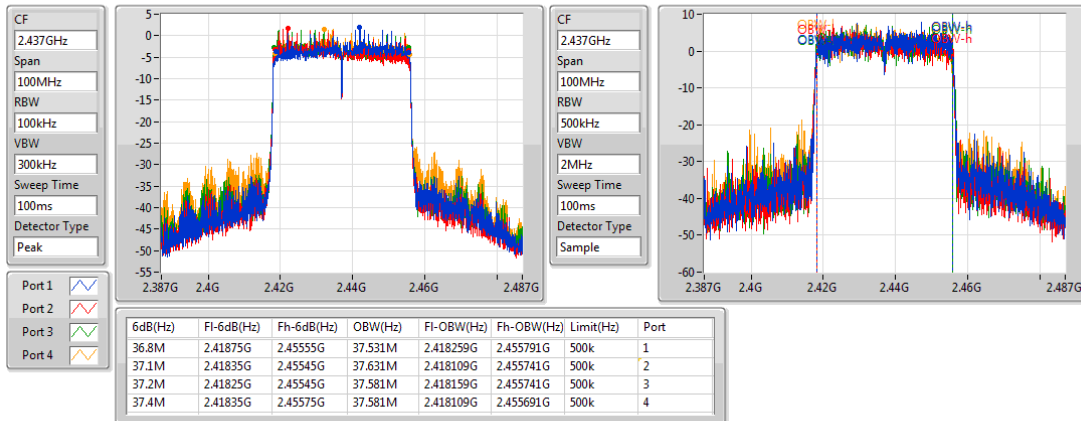


802.11ax HEW40-BF_Nss1,(MCS0)_4TX

EBW

2437MHz

01/02/2019

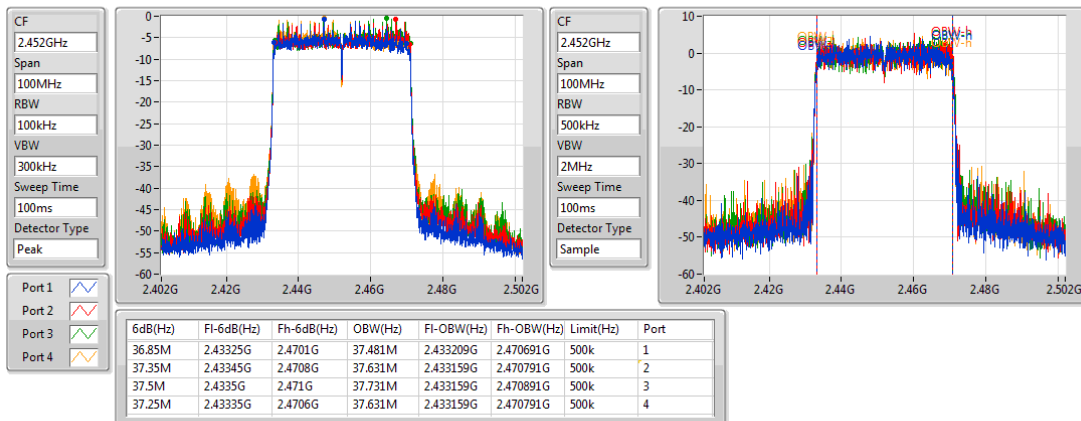


802.11ax HEW40-BF_Nss1,(MCS0)_4TX

EBW

2452MHz

01/02/2019



**For Non-beamforming / 4T4S mode
Summary**

Mode	Max-N dB (Hz)	Max-OBW (Hz)	ITU-Code	Min-N dB (Hz)	Min-OBW (Hz)
2.4-2.4835GHz	-	-	-	-	-
802.11ax HEW20_Nss4,(MCS0)_4TX	19.025M	19.015M	19M0D1D	18.175M	18.916M
802.11ax HEW40_Nss4,(MCS0)_4TX	37.7M	37.631M	37M6D1D	35.35M	37.381M

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)
802.11ax HEW20_Nss4,(MCS0)_4TX	-	-	-	-	-	-	-	-	-	-
2412MHz	Pass	500k	18.95M	18.941M	18.25M	18.966M	18.175M	18.916M	19.025M	18.916M
2437MHz	Pass	500k	18.925M	18.991M	18.875M	18.991M	18.8M	19.015M	19.025M	19.015M
2462MHz	Pass	500k	18.825M	18.916M	18.95M	18.941M	18.875M	18.941M	19.025M	18.941M
802.11ax HEW40_Nss4,(MCS0)_4TX	-	-	-	-	-	-	-	-	-	-
2422MHz	Pass	500k	37.2M	37.581M	36.15M	37.431M	35.35M	37.381M	36.7M	37.581M
2437MHz	Pass	500k	37.15M	37.481M	36.2M	37.581M	37M	37.581M	36.85M	37.531M
2452MHz	Pass	500k	36.85M	37.431M	37.45M	37.631M	37.7M	37.531M	37.55M	37.581M

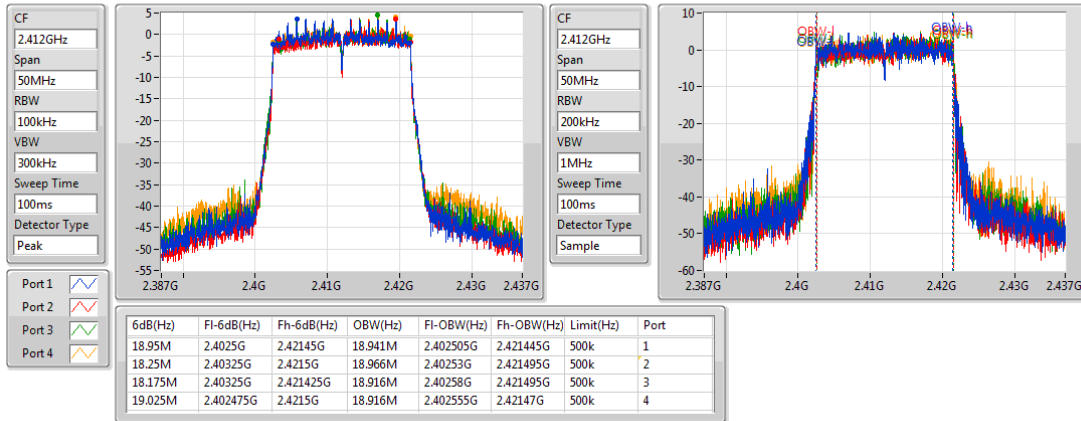
Port X-N dB = Port X 6dB down bandwidth; **Port X-OBW** = Port X 99% occupied bandwidth;

802.11ax HEW20_Nss4,(MCS0)_4TX

EBW

2412MHz

01/02/2019

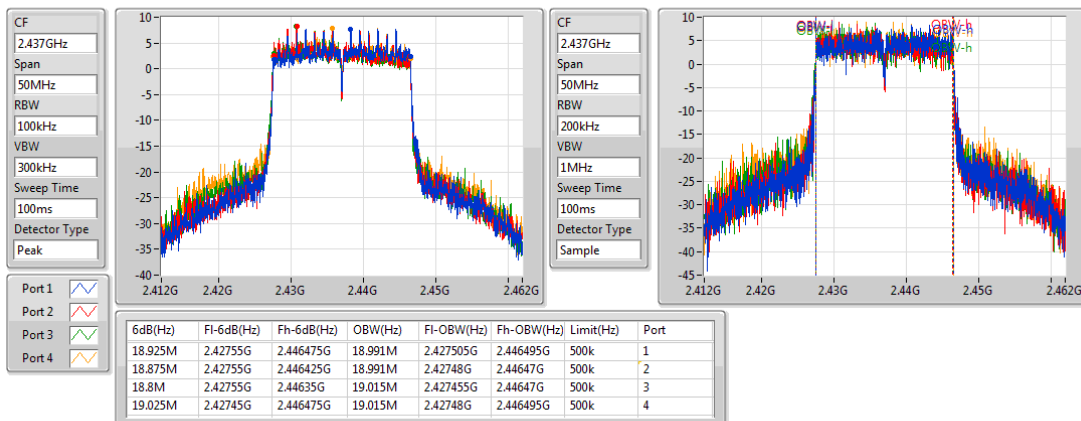


802.11ax HEW20_Nss4,(MCS0)_4TX

EBW

2437MHz

01/02/2019

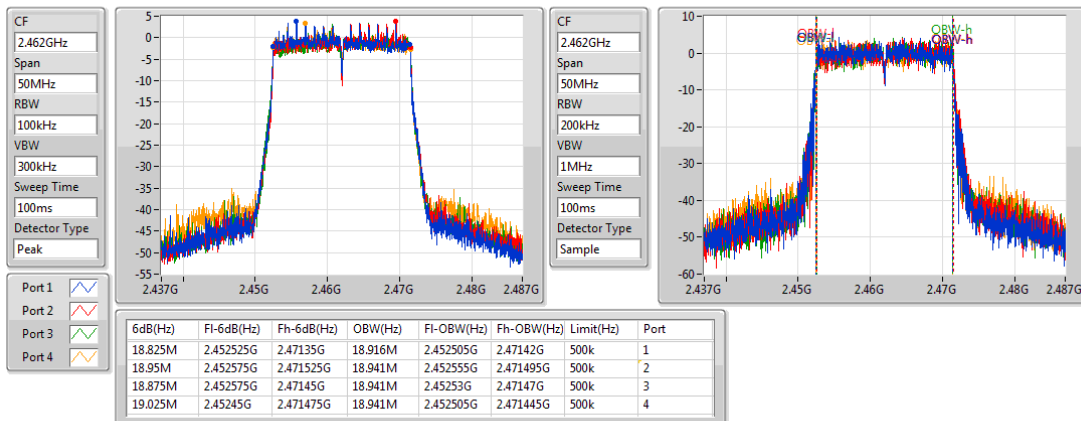


802.11ax HEW20_Nss4,(MCS0)_4TX

EBW

2462MHz

01/02/2019

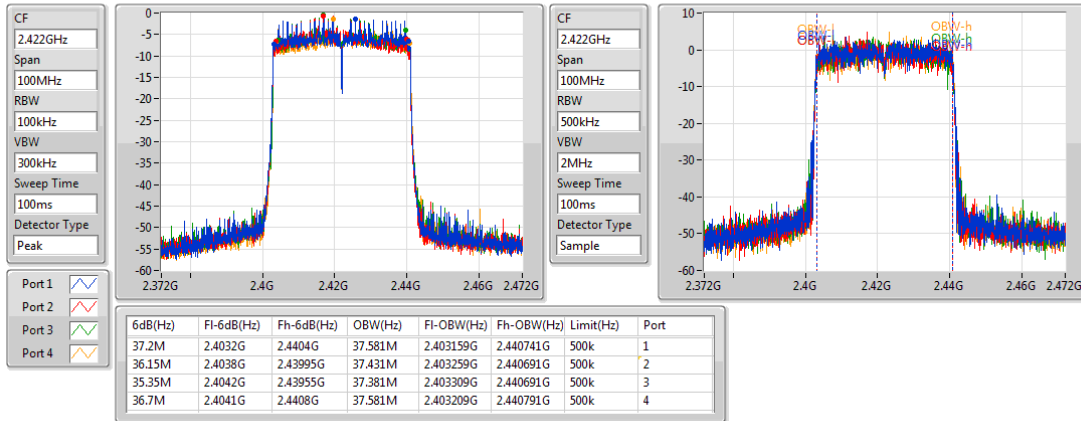


802.11ax HEW40_Nss4,(MCS0)_4TX

EBW

2422MHz

01/02/2019

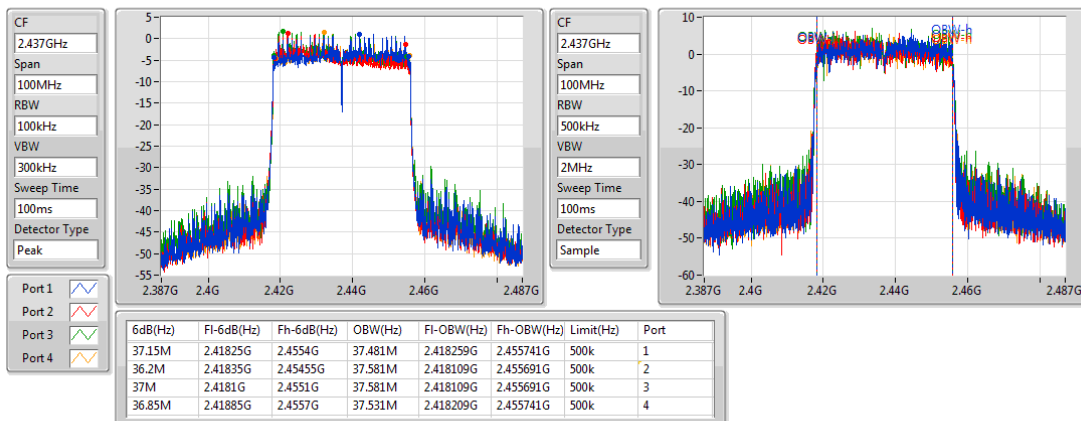


802.11ax HEW40_Nss4,(MCS0)_4TX

EBW

2437MHz

01/02/2019

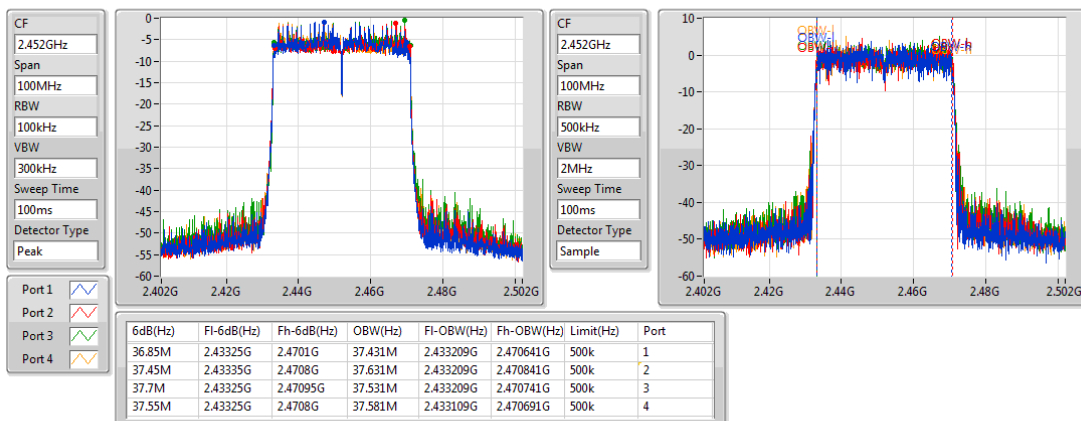


802.11ax HEW40_Nss4,(MCS0)_4TX

EBW

2452MHz

01/02/2019



Mode 3: (Ant. 11 Panel antenna / 6.8 dBi)
For Non-beamforming / 1T1S mode
Summary

Mode	Max-N dB (Hz)	Max-OBW (Hz)	ITU-Code	Min-N dB (Hz)	Min-OBW (Hz)
2.4-2.4835GHz	-	-	-	-	-
802.11b_Nss1,(1Mbps)_1TX	7.05M	12.569M	12M6G1D	6.05M	11.644M
802.11g_Nss1,(6Mbps)_1TX	16.325M	17.991M	18M0D1D	16.3M	16.592M
802.11ax HEW20_Nss1,(MCS0)_1TX	19.025M	19.015M	19M0D1D	18.95M	18.916M
802.11ax HEW40_Nss1,(MCS0)_1TX	37.5M	37.631M	37M6D1D	37.1M	37.531M

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_Nss1,(1Mbps)_1TX	-	-	-	-
2412MHz	Pass	500k	6.55M	11.644M
2437MHz	Pass	500k	7.05M	12.569M
2462MHz	Pass	500k	6.05M	11.844M
802.11g_Nss1,(6Mbps)_1TX	-	-	-	-
2412MHz	Pass	500k	16.325M	16.592M
2437MHz	Pass	500k	16.3M	17.991M
2462MHz	Pass	500k	16.325M	16.592M
802.11ax HEW20_Nss1,(MCS0)_1TX	-	-	-	-
2412MHz	Pass	500k	19M	18.941M
2437MHz	Pass	500k	18.95M	19.015M
2462MHz	Pass	500k	19.025M	18.916M
802.11ax HEW40_Nss1,(MCS0)_1TX	-	-	-	-
2422MHz	Pass	500k	37.5M	37.631M
2437MHz	Pass	500k	37.1M	37.531M
2452MHz	Pass	500k	37.2M	37.531M

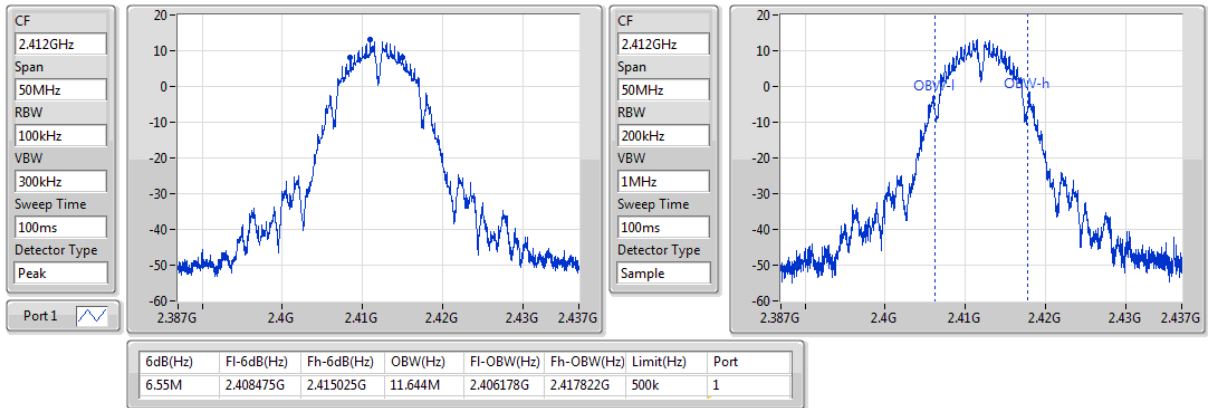
Port X-N dB = Port X 6dB down bandwidth; **Port X-OBW** = Port X 99% occupied bandwidth;

802.11b_Nss1,(1Mbps)_1TX

EBW

2412MHz

16/02/2019

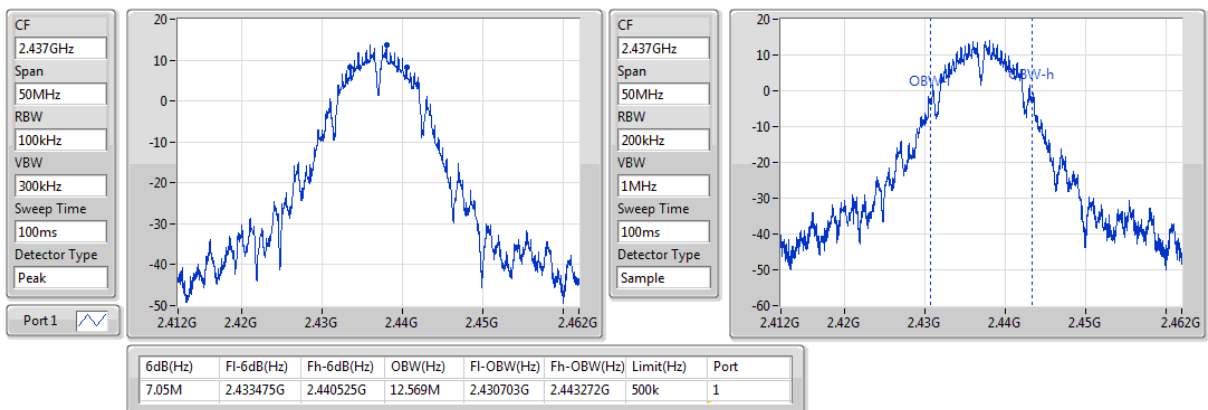


802.11b_Nss1,(1Mbps)_1TX

EBW

2437MHz

16/02/2019

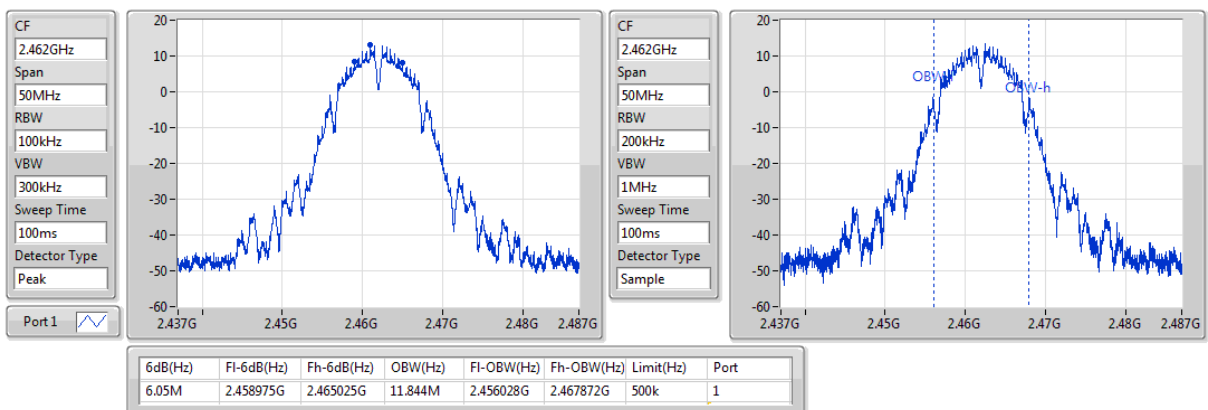


802.11b_Nss1,(1Mbps)_1TX

EBW

2462MHz

16/02/2019

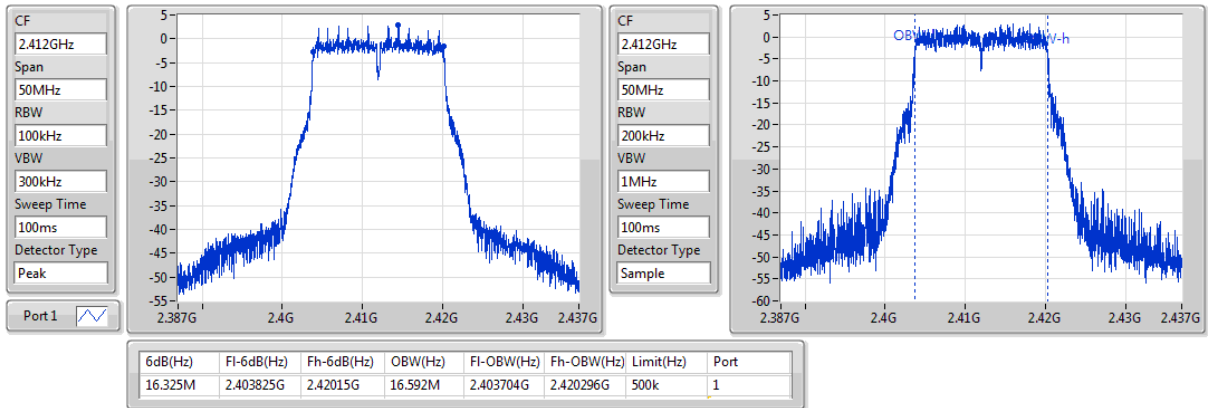


802.11g_Nss1,(6Mbps)_1TX

EBW

2412MHz

16/02/2019

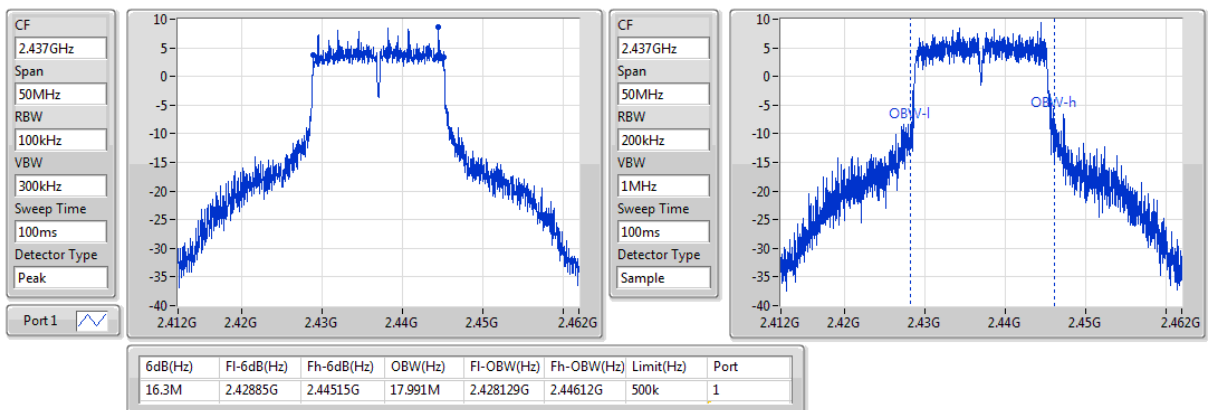


802.11g_Nss1,(6Mbps)_1TX

EBW

2437MHz

16/02/2019

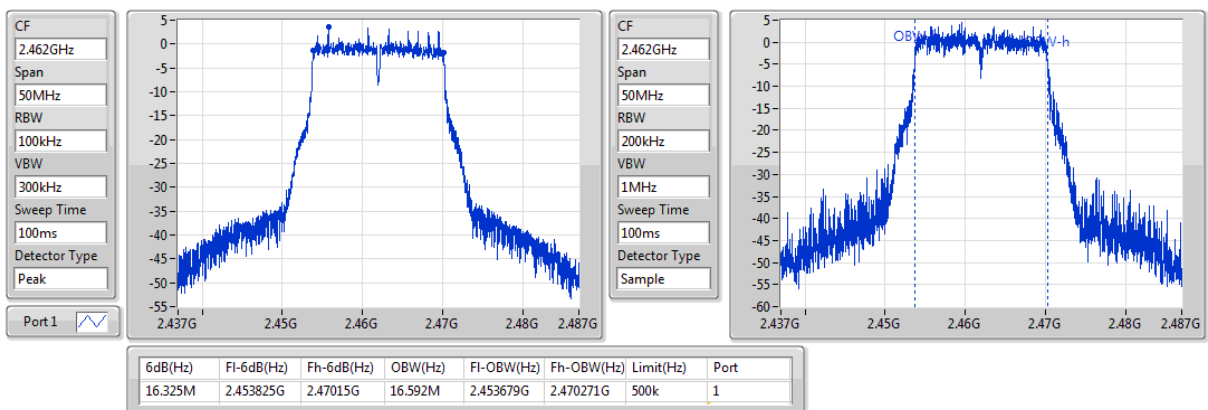


802.11g_Nss1,(6Mbps)_1TX

EBW

2462MHz

16/02/2019

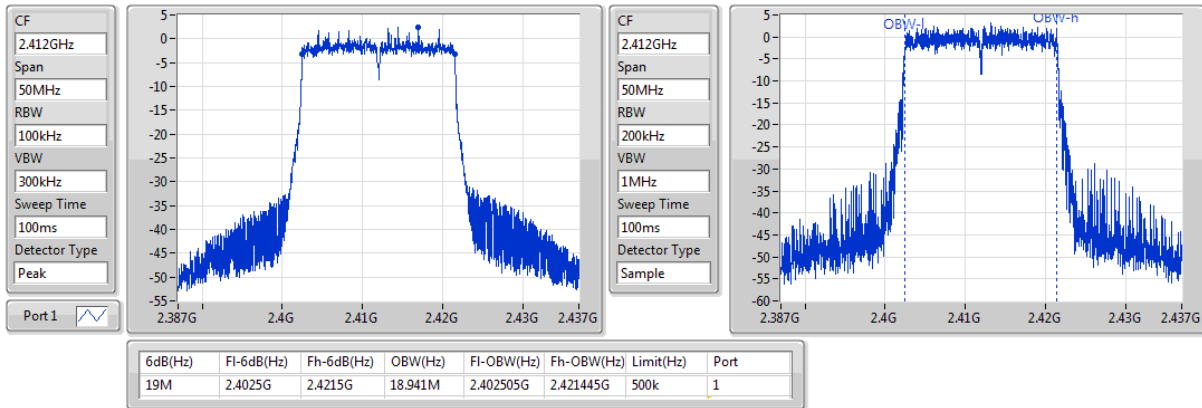


802.11ax HEW20_Nss1,(MCS0)_1TX

EBW

2412MHz

16/02/2019

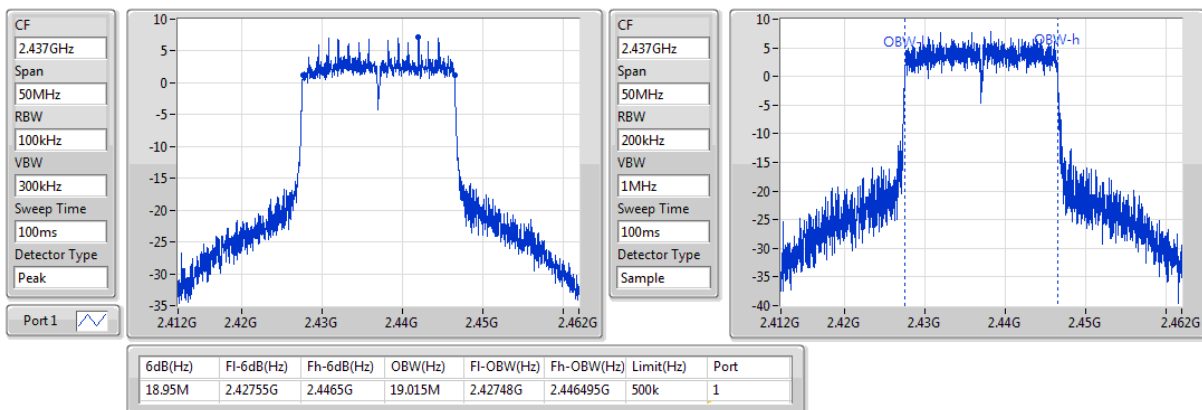


802.11ax HEW20_Nss1,(MCS0)_1TX

EBW

2437MHz

16/02/2019

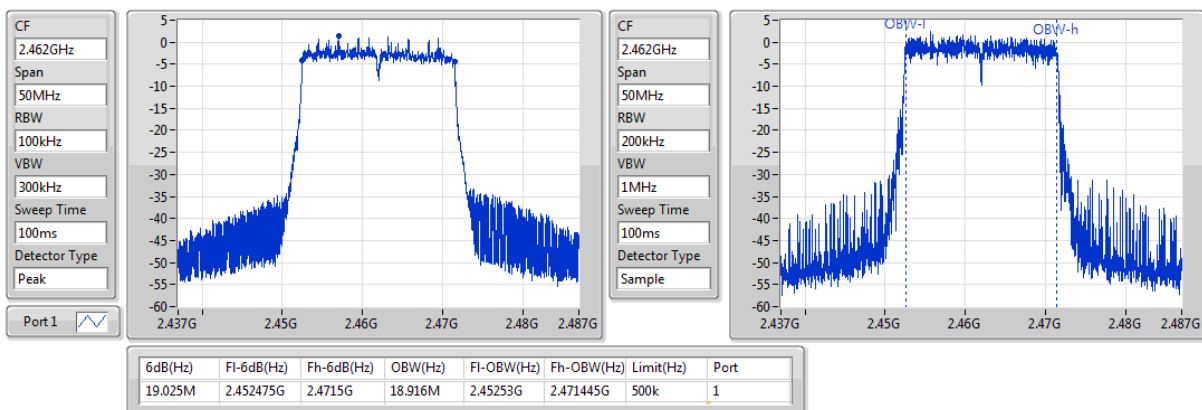


802.11ax HEW20_Nss1,(MCS0)_1TX

EBW

2462MHz

16/02/2019

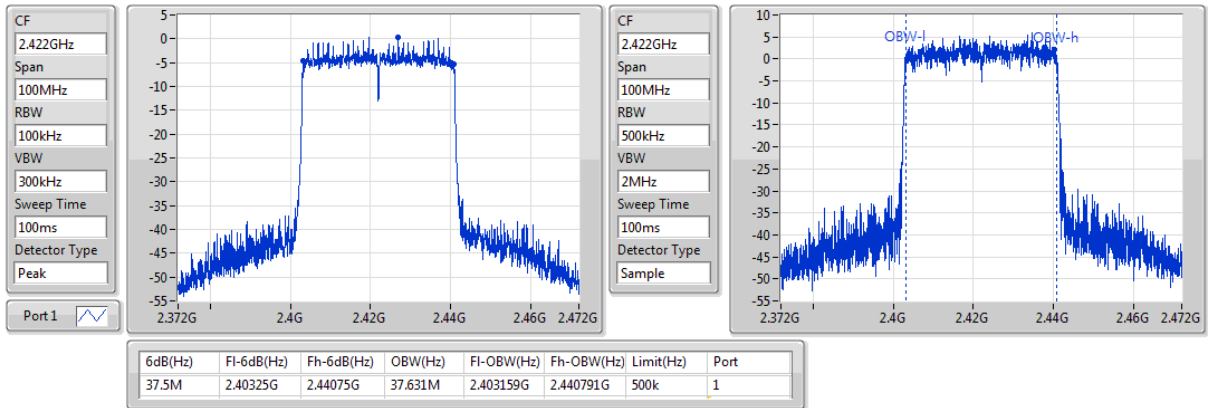


802.11ax HEW40_Nss1,(MCS0)_1TX

EBW

2422MHz

16/02/2019

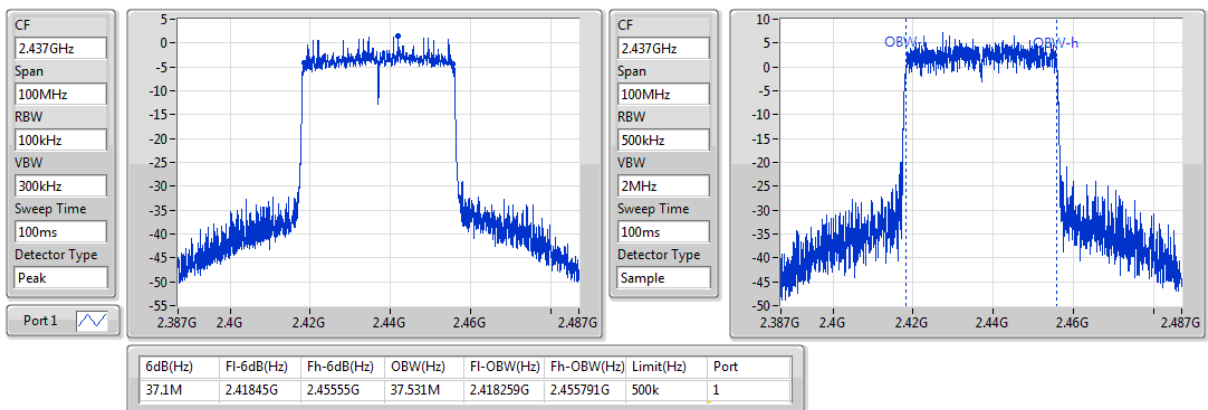


802.11ax HEW40_Nss1,(MCS0)_1TX

EBW

2437MHz

16/02/2019

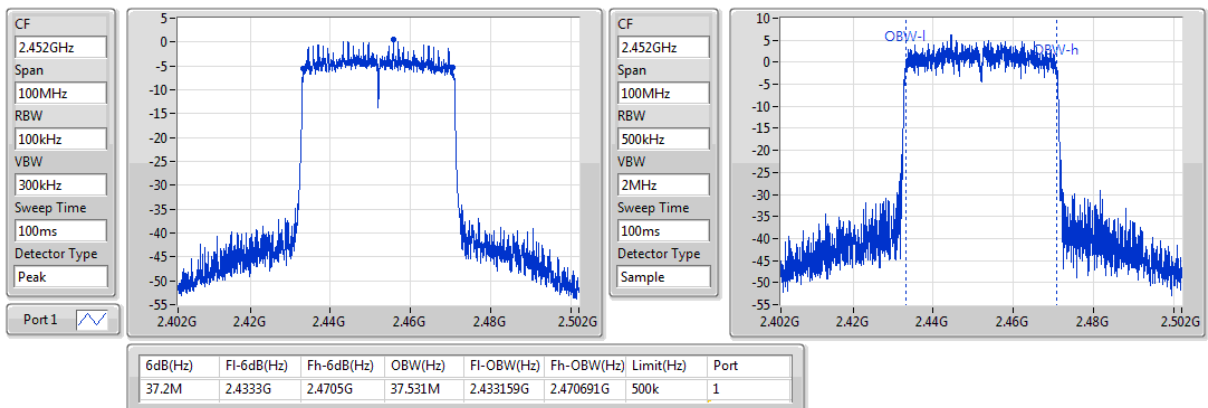


802.11ax HEW40_Nss1,(MCS0)_1TX

EBW

2452MHz

16/02/2019





EBW Result

Appendix B.12

For Non-beamforming / 2T2S mode Summary

Mode	Max-N dB (Hz)	Max-OBW (Hz)	ITU-Code	Min-N dB (Hz)	Min-OBW (Hz)
2.4-2.4835GHz	-	-	-	-	-
802.11ax HEW20_Nss2,(MCS0)_2TX	18.975M	19.115M	19M1D1D	18.675M	18.891M
802.11ax HEW40_Nss2,(MCS0)_2TX	37.7M	37.581M	37M6D1D	36.15M	37.331M

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)
802.11ax HEW20_Nss2,(MCS0)_2TX	-	-	-	-	-	-
2412MHz	Pass	500k	18.95M	18.966M	18.675M	18.891M
2437MHz	Pass	500k	18.825M	19.065M	18.9M	19.115M
2462MHz	Pass	500k	18.975M	18.941M	18.725M	18.941M
802.11ax HEW40_Nss2,(MCS0)_2TX	-	-	-	-	-	-
2422MHz	Pass	500k	36.95M	37.481M	36.15M	37.331M
2437MHz	Pass	500k	36.95M	37.581M	37.15M	37.531M
2452MHz	Pass	500k	36.75M	37.531M	37.7M	37.531M

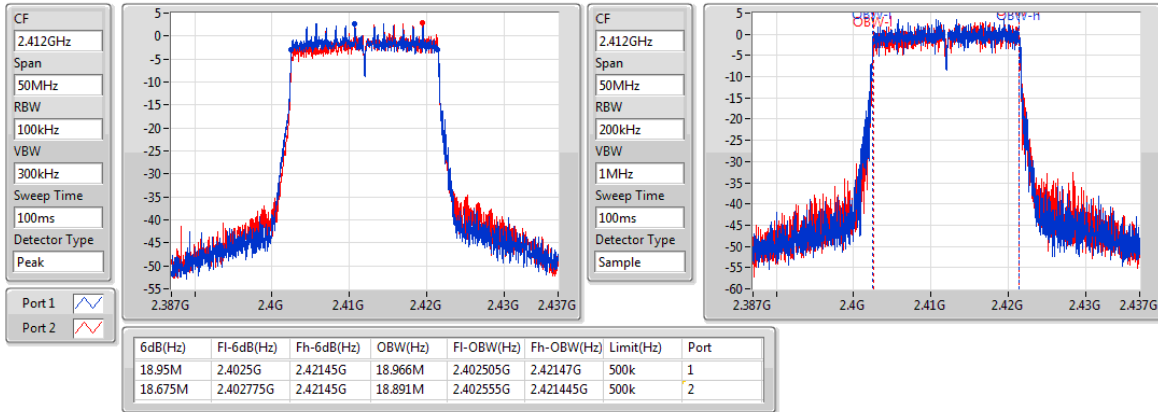
Port X-N dB = Port X 6dB down bandwidth; **Port X-OBW** = Port X 99% occupied bandwidth;

802.11ax HEW20_Nss2,(MCS0)_2TX

EBW

2412MHz

16/02/2019

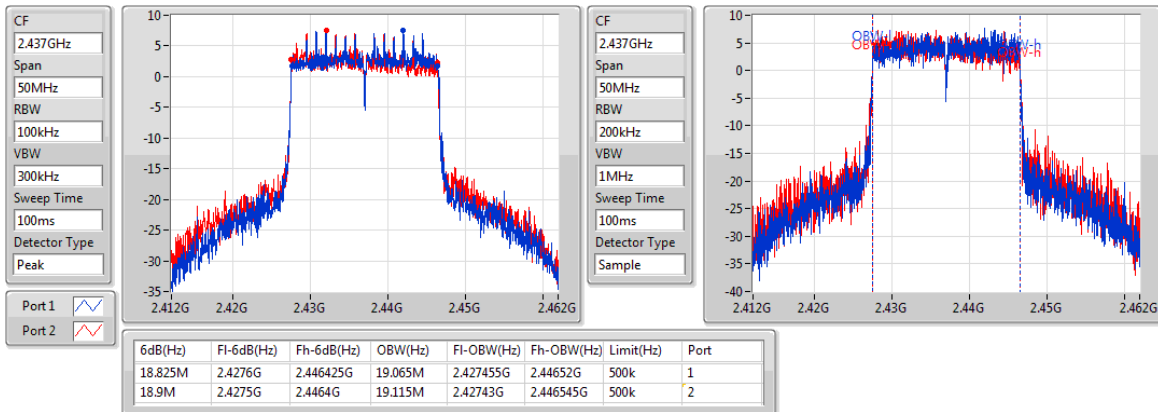


802.11ax HEW20_Nss2,(MCS0)_2TX

EBW

2437MHz

16/02/2019

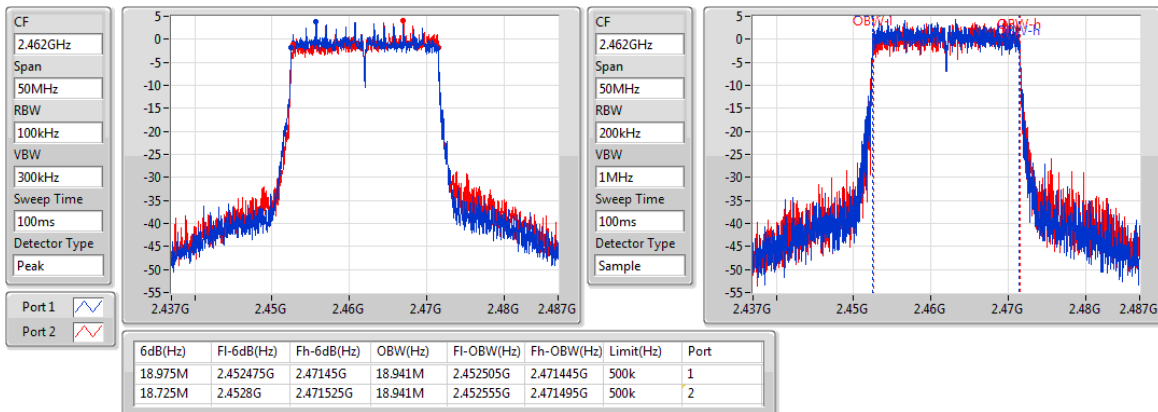


802.11ax HEW20_Nss2,(MCS0)_2TX

EBW

2462MHz

16/02/2019

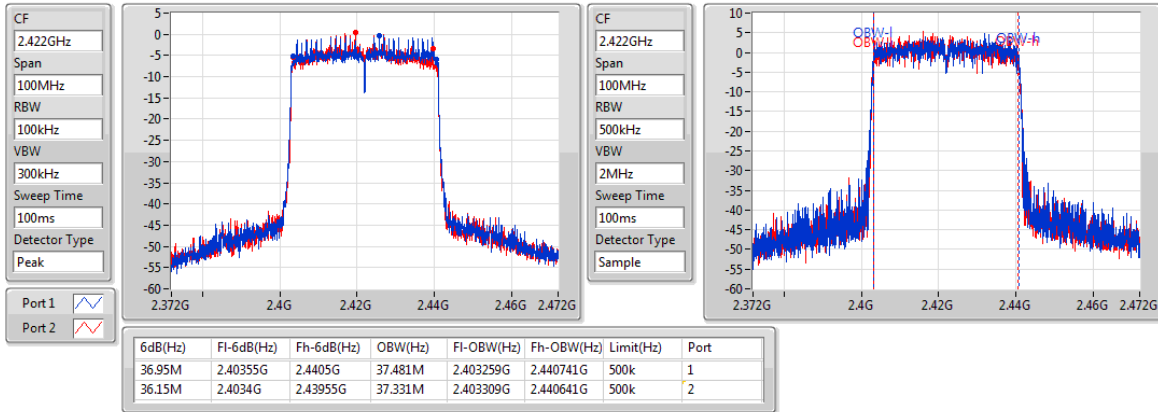


802.11ax HEW40_Nss2,(MCS0)_2TX

EBW

2422MHz

16/02/2019

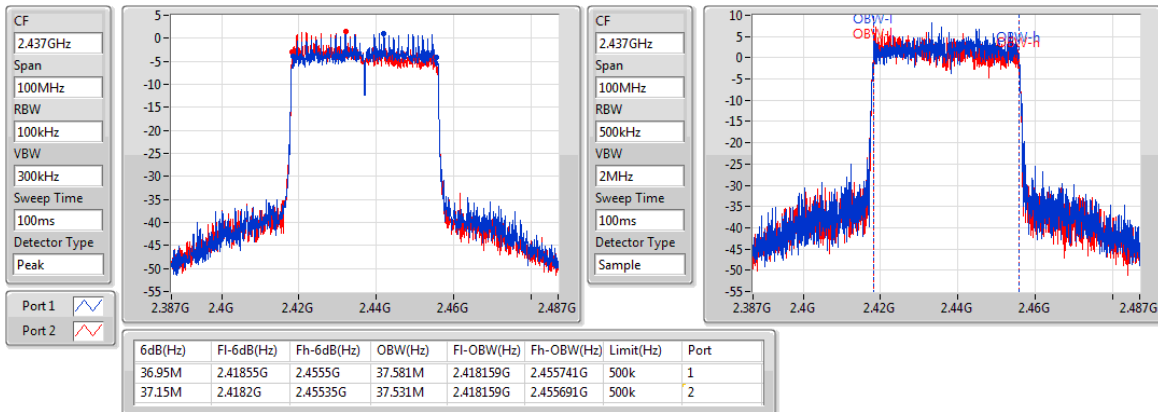


802.11ax HEW40_Nss2,(MCS0)_2TX

EBW

2437MHz

16/02/2019

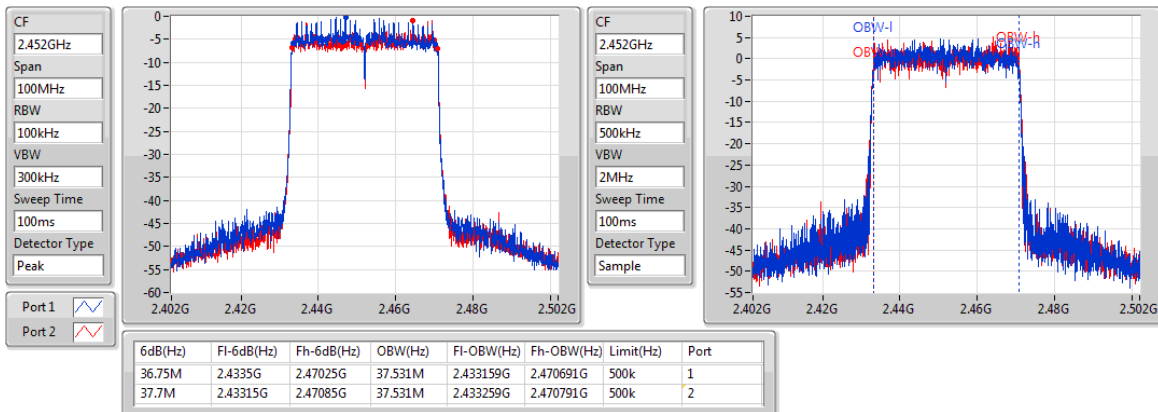


802.11ax HEW40_Nss2,(MCS0)_2TX

EBW

2452MHz

16/02/2019





EBW Result

Appendix B.13

For Non-beamforming / 4T1S mode Summary

Mode	Max-N dB (Hz)	Max-OBW (Hz)	ITU-Code	Min-N dB (Hz)	Min-OBW (Hz)
2.4-2.4835GHz	-	-	-	-	-
802.11b_Nss1,(1Mbps)_4TX	7.55M	13.018M	13M0G1D	6.525M	10.445M
802.11g_Nss1,(6Mbps)_4TX	16.375M	16.692M	16M7D1D	16.275M	16.517M
802.11ax HEW20_Nss1,(MCS0)_4TX	19.05M	19.015M	19M0D1D	18.775M	18.916M
802.11ax HEW40_Nss1,(MCS0)_4TX	37.7M	37.631M	37M6D1D	36.4M	37.431M

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_Nss1,(1Mbps)_4TX	-	-	-	-	-	-	-	-	-	-
2412MHz	Pass	500k	6.525M	11.319M	7.025M	11.094M	6.575M	10.97M	7M	11.719M
2437MHz	Pass	500k	7.025M	12.669M	7.025M	12.619M	7.025M	12.794M	7.075M	13.018M
2462MHz	Pass	500k	7.05M	10.57M	7.5M	10.77M	7.525M	10.445M	7.55M	10.77M
802.11g_Nss1,(6Mbps)_4TX	-	-	-	-	-	-	-	-	-	-
2412MHz	Pass	500k	16.325M	16.617M	16.275M	16.542M	16.3M	16.517M	16.35M	16.617M
2437MHz	Pass	500k	16.3M	16.642M	16.3M	16.667M	16.35M	16.692M	16.35M	16.692M
2462MHz	Pass	500k	16.325M	16.592M	16.325M	16.567M	16.3M	16.592M	16.375M	16.567M
802.11ax HEW20_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-	-	-
2412MHz	Pass	500k	18.975M	18.966M	18.775M	18.941M	18.95M	18.916M	18.925M	18.916M
2437MHz	Pass	500k	18.95M	18.966M	18.9M	18.991M	19.05M	19.015M	19M	18.966M
2462MHz	Pass	500k	18.975M	18.966M	18.975M	18.991M	18.8M	18.941M	19.05M	18.966M
802.11ax HEW40_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-	-	-
2422MHz	Pass	500k	37.55M	37.581M	36.95M	37.431M	36.4M	37.431M	36.8M	37.431M
2437MHz	Pass	500k	37.35M	37.631M	37.35M	37.631M	37.4M	37.631M	37.15M	37.481M
2452MHz	Pass	500k	37.2M	37.431M	37.45M	37.581M	36.95M	37.631M	37.7M	37.581M

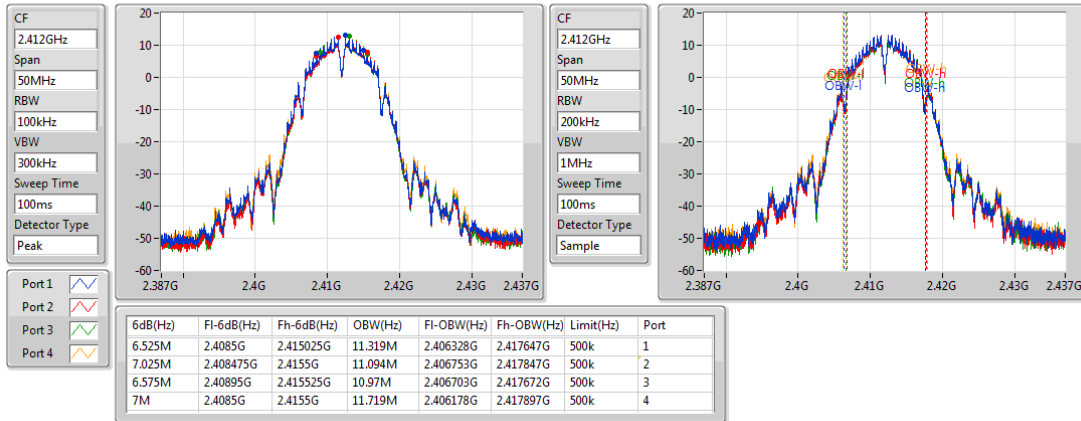
Port X-N dB = Port X 6dB down bandwidth; **Port X-OBW** = Port X 99% occupied bandwidth;

802.11b_Nss1,(1Mbps)_4TX

EBW

2412MHz

15/02/2019

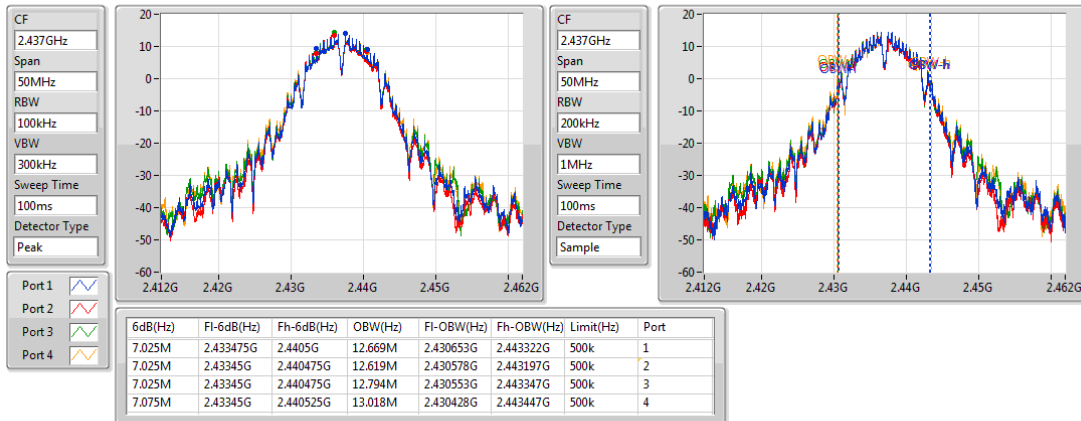


802.11b_Nss1,(1Mbps)_4TX

EBW

2437MHz

15/02/2019

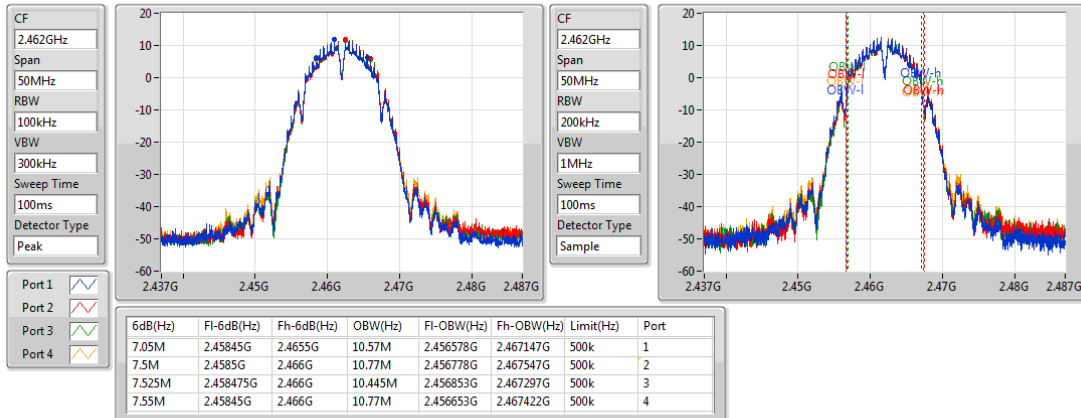


802.11b_Nss1,(1Mbps)_4TX

EBW

2462MHz

15/02/2019

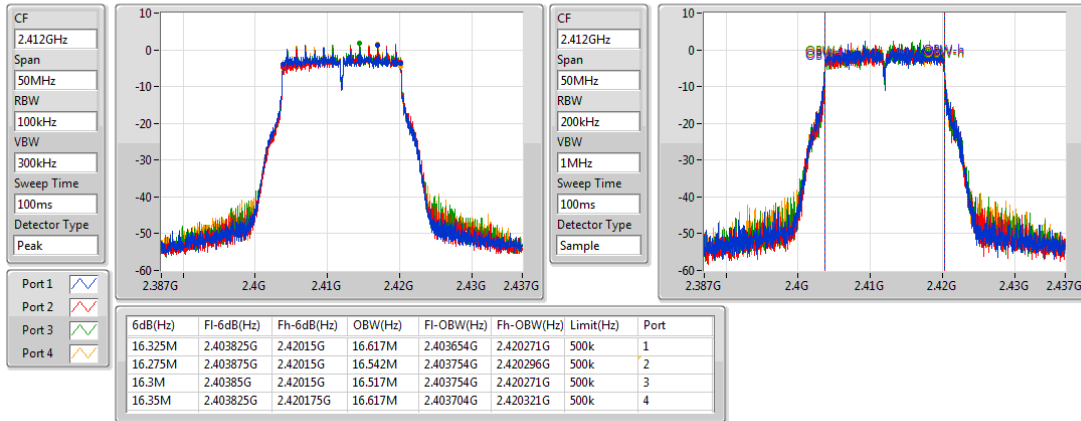


802.11g_Nss1,(6Mbps)_4TX

EBW

2412MHz

15/02/2019

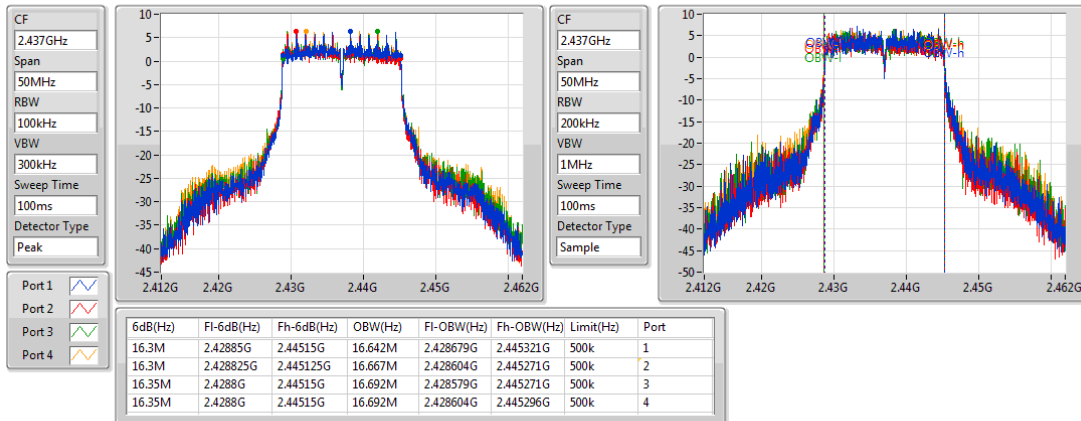


802.11g_Nss1,(6Mbps)_4TX

EBW

2437MHz

15/02/2019

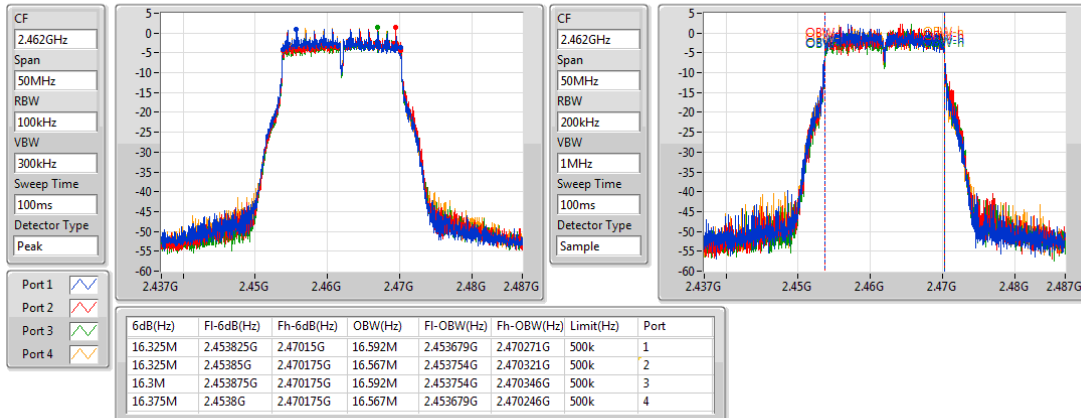


802.11g_Nss1,(6Mbps)_4TX

EBW

2462MHz

15/02/2019

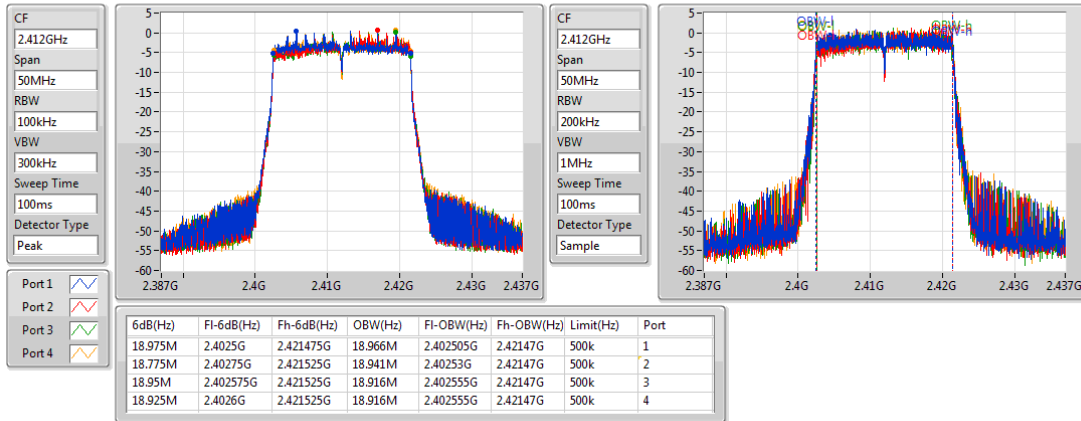


802.11ax HEW20_Nss1,(MCS0)_4TX

EBW

2412MHz

15/02/2019

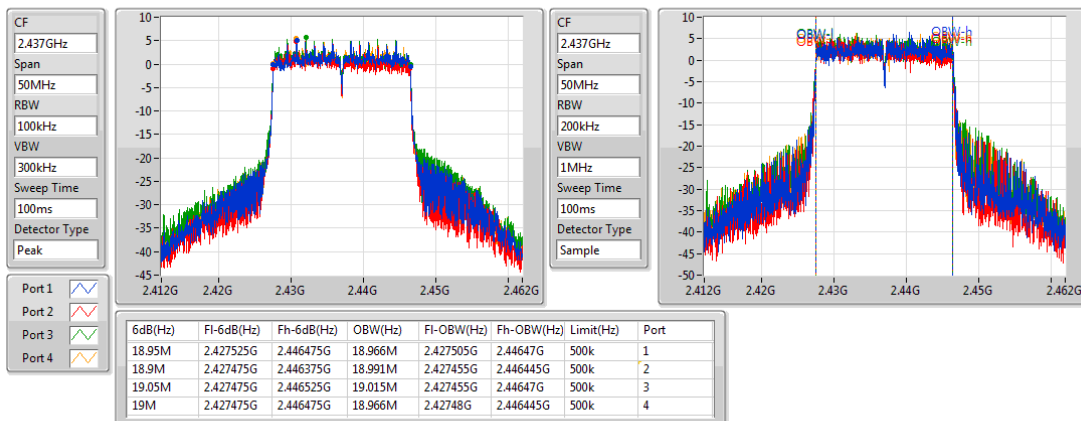


802.11ax HEW20_Nss1,(MCS0)_4TX

EBW

2437MHz

15/02/2019

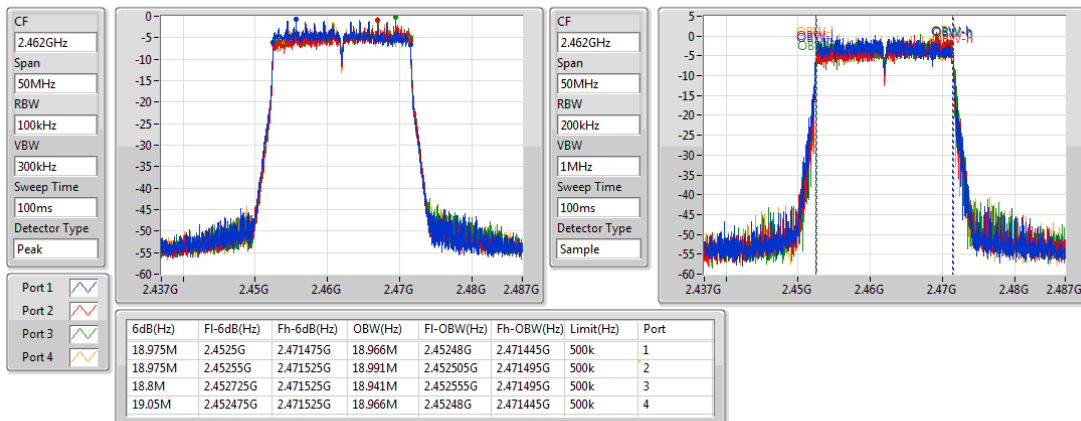


802.11ax HEW20_Nss1,(MCS0)_4TX

EBW

2462MHz

15/02/2019

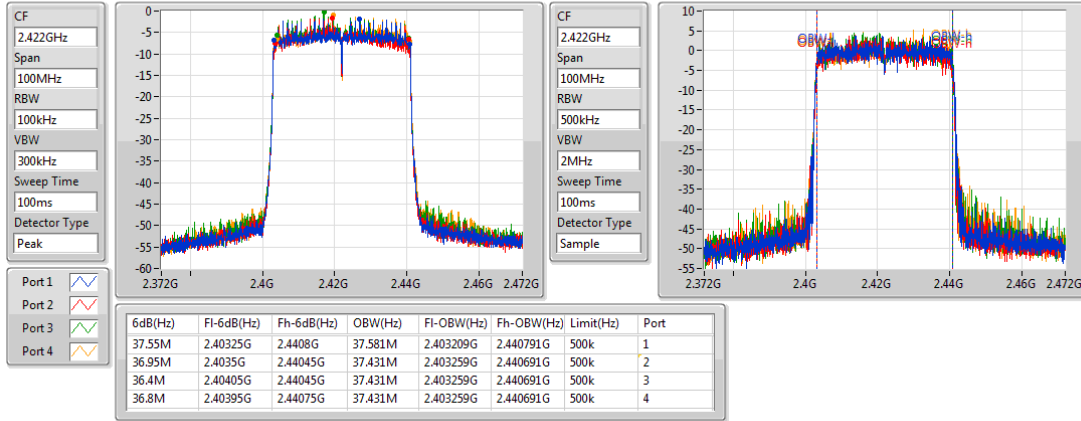


802.11ax HEW40_Nss1,(MCS0)_4TX

EBW

2422MHz

15/02/2019

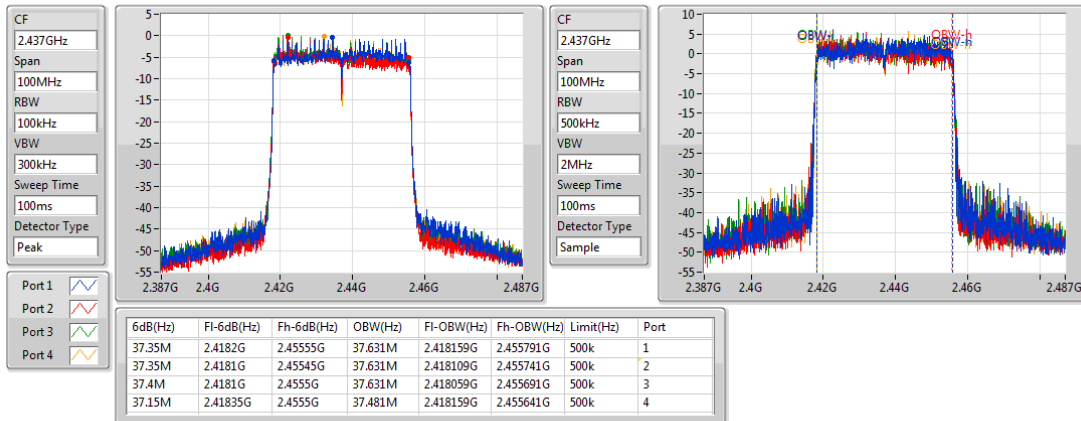


802.11ax HEW40_Nss1,(MCS0)_4TX

EBW

2437MHz

15/02/2019

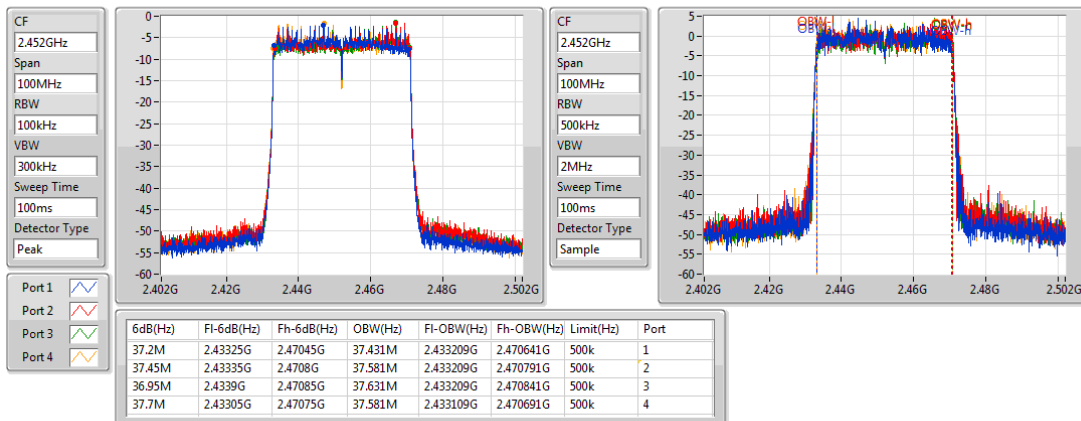


802.11ax HEW40_Nss1,(MCS0)_4TX

EBW

2452MHz

15/02/2019



**For Beamforming / 4T1S mode
Summary**

Mode	Max-N dB (Hz)	Max-OBW (Hz)	ITU-Code	Min-N dB (Hz)	Min-OBW (Hz)
2.4-2.4835GHz	-	-	-	-	-
802.11ax HEW20-BF_Nss1,(MCS0)_4TX	19.025M	19.015M	19M0D1D	18.75M	18.891M
802.11ax HEW40-BF_Nss1,(MCS0)_4TX	37.85M	37.681M	37M7D1D	36.95M	37.381M

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)
802.11ax HEW20-BF_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-	-	-
2412MHz	Pass	500k	18.95M	18.966M	18.75M	18.916M	18.925M	18.891M	18.9M	18.916M
2437MHz	Pass	500k	19M	18.966M	18.9M	18.966M	18.975M	18.991M	19.025M	18.966M
2462MHz	Pass	500k	18.975M	18.966M	18.75M	18.941M	19M	19.015M	19.025M	18.966M
802.11ax HEW40-BF_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-	-	-
2422MHz	Pass	500k	37.5M	37.481M	36.95M	37.481M	37.15M	37.381M	37.05M	37.431M
2437MHz	Pass	500k	37.5M	37.531M	37.35M	37.531M	37.2M	37.631M	37.15M	37.531M
2452MHz	Pass	500k	37.2M	37.381M	37.85M	37.681M	37.45M	37.581M	37.65M	37.631M

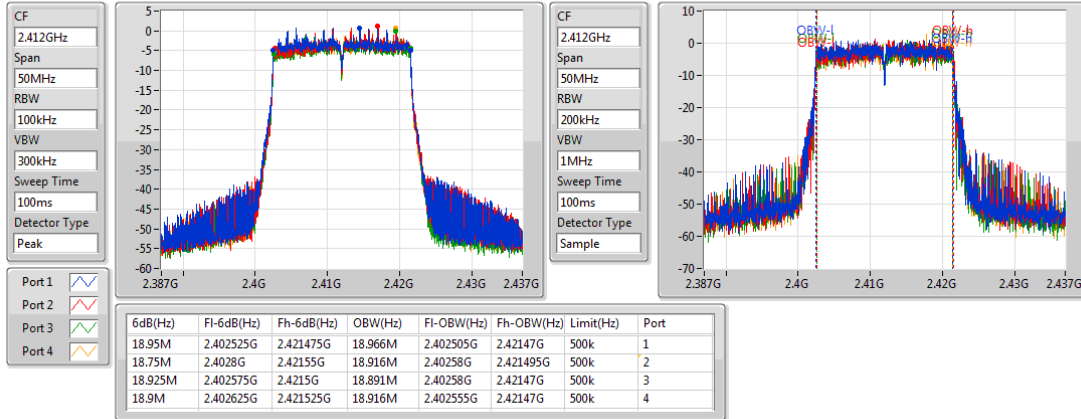
Port X-N dB = Port X 6dB down bandwidth; **Port X-OBW** = Port X 99% occupied bandwidth;

802.11ax HEW20-BF_Nss1,(MCS0)_4TX

EBW

2412MHz

19/02/2019

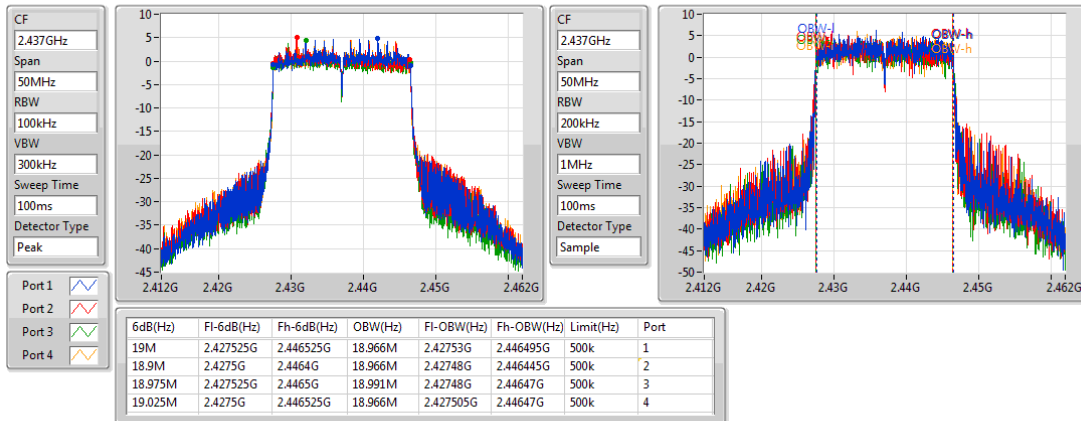


802.11ax HEW20-BF_Nss1,(MCS0)_4TX

EBW

2437MHz

19/02/2019

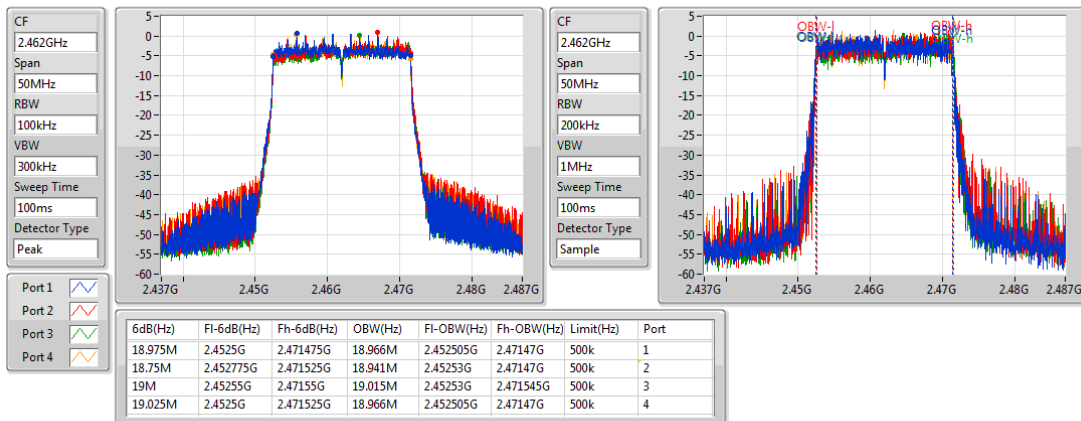


802.11ax HEW20-BF_Nss1,(MCS0)_4TX

EBW

2462MHz

19/02/2019

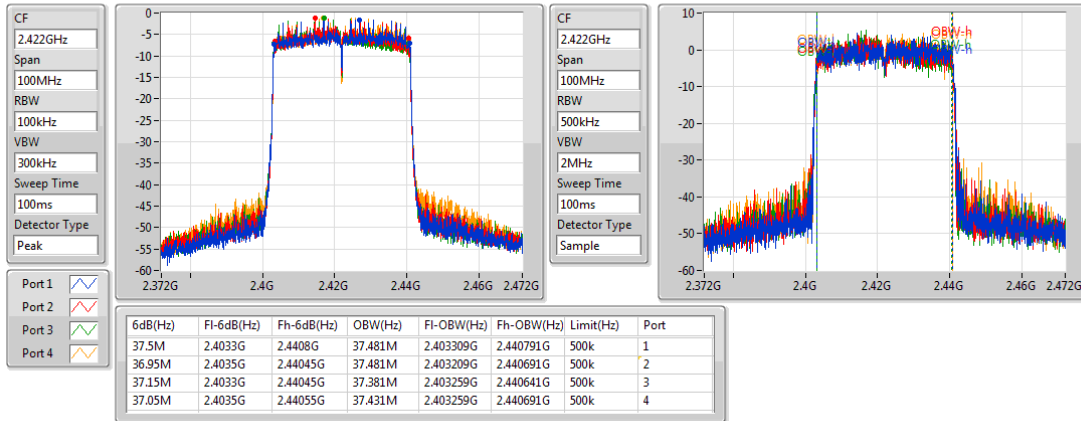


802.11ax HEW40-BF_Nss1,(MCS0)_4TX

EBW

2422MHz

19/02/2019

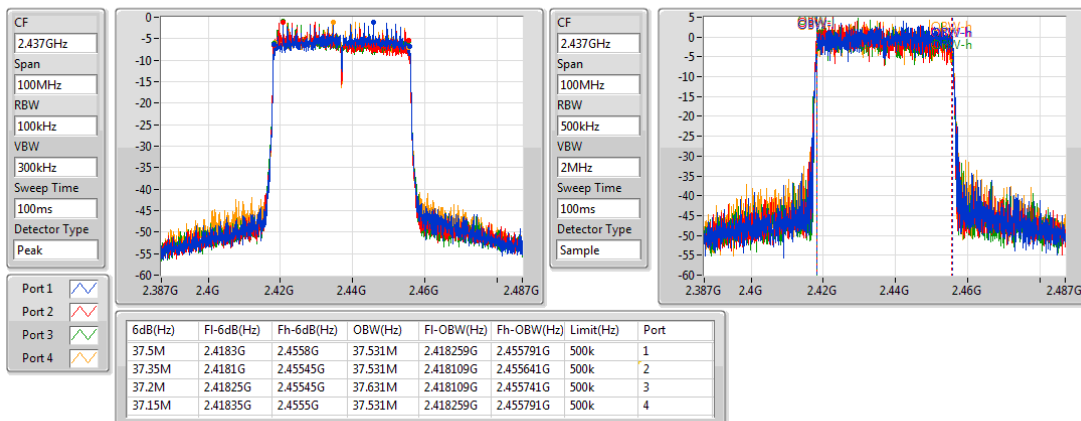


802.11ax HEW40-BF_Nss1,(MCS0)_4TX

EBW

2437MHz

19/02/2019

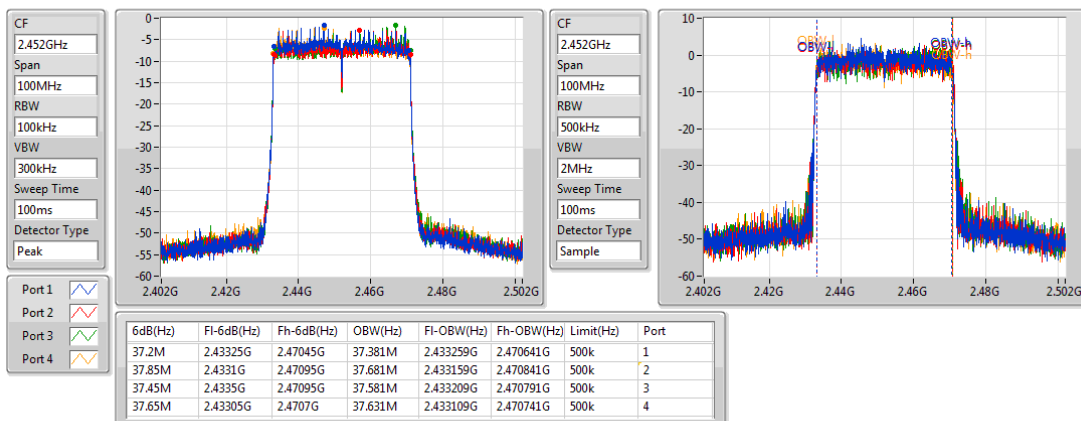


802.11ax HEW40-BF_Nss1,(MCS0)_4TX

EBW

2452MHz

19/02/2019



**For Non-beamforming / 4T4S mode
Summary**

Mode	Max-N dB (Hz)	Max-OBW (Hz)	ITU-Code	Min-N dB (Hz)	Min-OBW (Hz)
2.4-2.4835GHz	-	-	-	-	-
802.11ax HEW20_Nss4,(MCS0)_4TX	19.05M	19.015M	19M0D1D	18.575M	18.916M
802.11ax HEW40_Nss4,(MCS0)_4TX	37.7M	37.731M	37M7D1D	35.1M	37.381M

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)
802.11ax HEW20_Nss4,(MCS0)_4TX	-	-	-	-	-	-	-	-	-	-
2412MHz	Pass	500k	18.975M	18.941M	18.575M	18.941M	18.825M	18.916M	19.05M	18.966M
2437MHz	Pass	500k	18.675M	18.991M	18.75M	18.966M	18.875M	19.015M	18.85M	19.015M
2462MHz	Pass	500k	18.9M	18.966M	18.925M	18.966M	18.85M	18.916M	19M	18.966M
802.11ax HEW40_Nss4,(MCS0)_4TX	-	-	-	-	-	-	-	-	-	-
2422MHz	Pass	500k	37.2M	37.531M	35.1M	37.431M	35.65M	37.381M	36.35M	37.481M
2437MHz	Pass	500k	37.15M	37.481M	36.7M	37.531M	37M	37.631M	37.15M	37.631M
2452MHz	Pass	500k	36.9M	37.431M	37.4M	37.731M	37.7M	37.581M	37.7M	37.681M

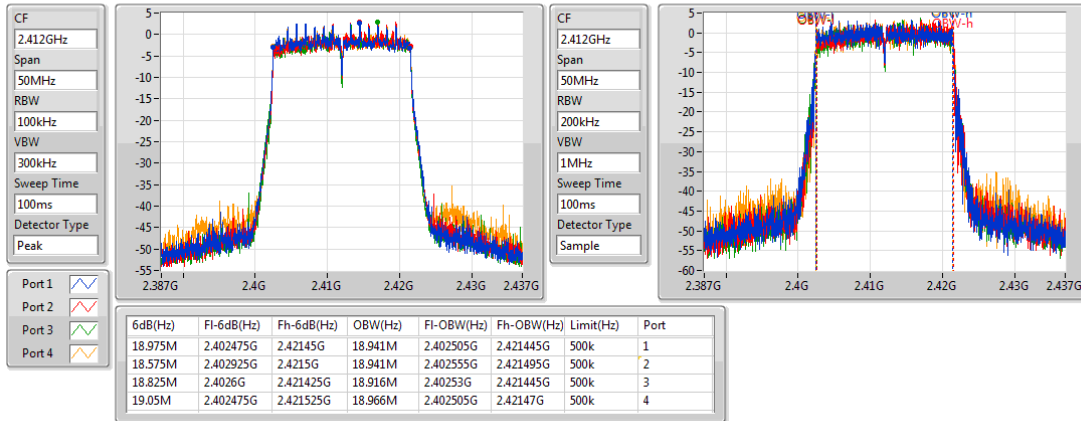
Port X-N dB = Port X 6dB down bandwidth; **Port X-OBW** = Port X 99% occupied bandwidth;

802.11ax HEW20_Nss4,(MCS0)_4TX

EBW

2412MHz

16/02/2019

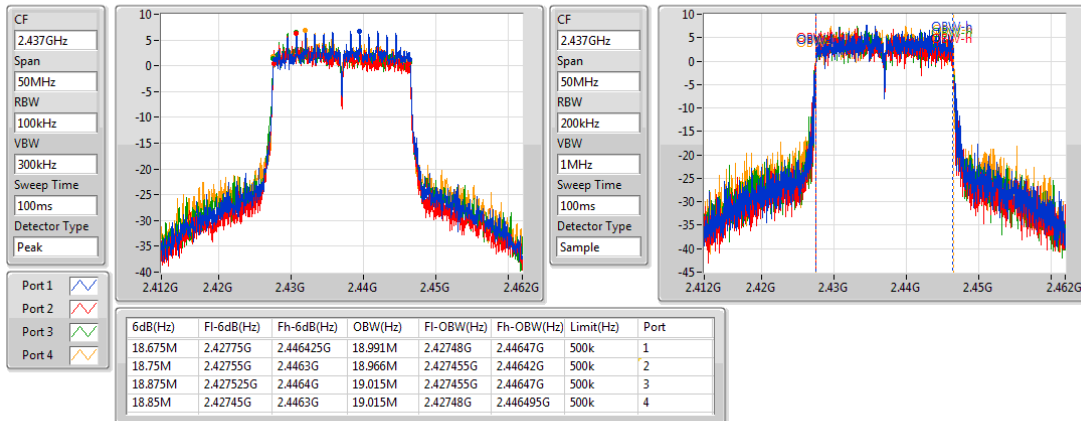


802.11ax HEW20_Nss4,(MCS0)_4TX

EBW

2437MHz

16/02/2019

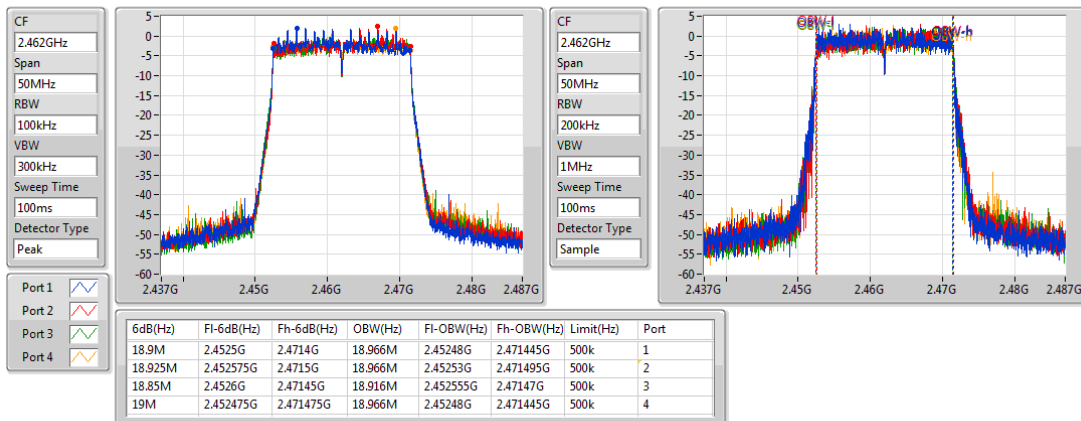


802.11ax HEW20_Nss4,(MCS0)_4TX

EBW

2462MHz

16/02/2019

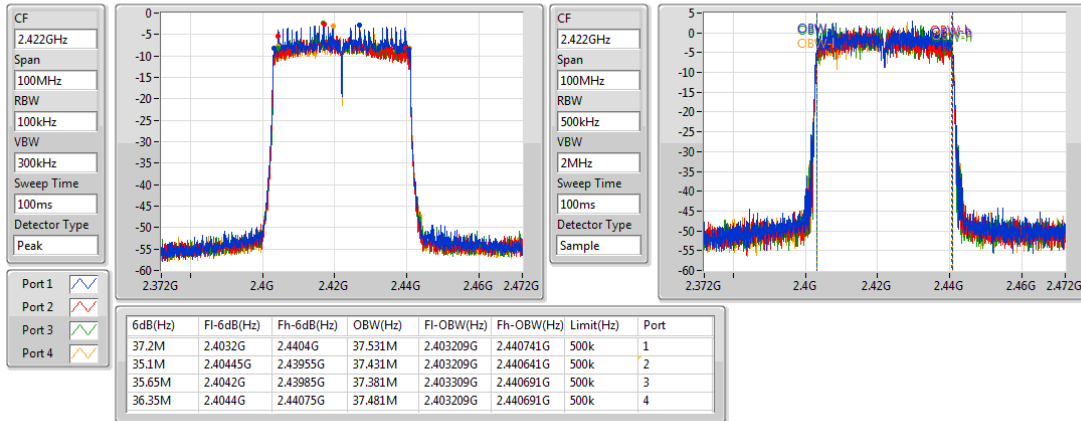


802.11ax HEW40_Nss4,(MCS0)_4TX

EBW

2422MHz

16/02/2019

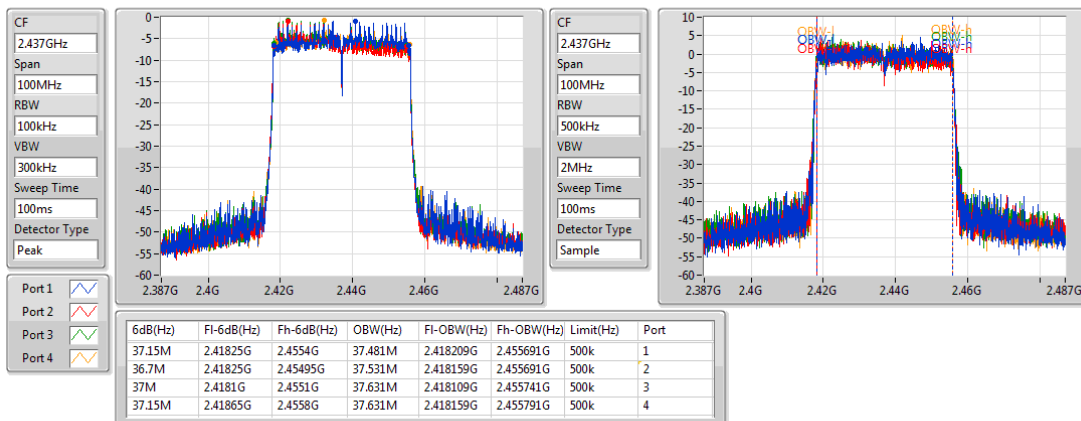


802.11ax HEW40_Nss4,(MCS0)_4TX

EBW

2437MHz

16/02/2019

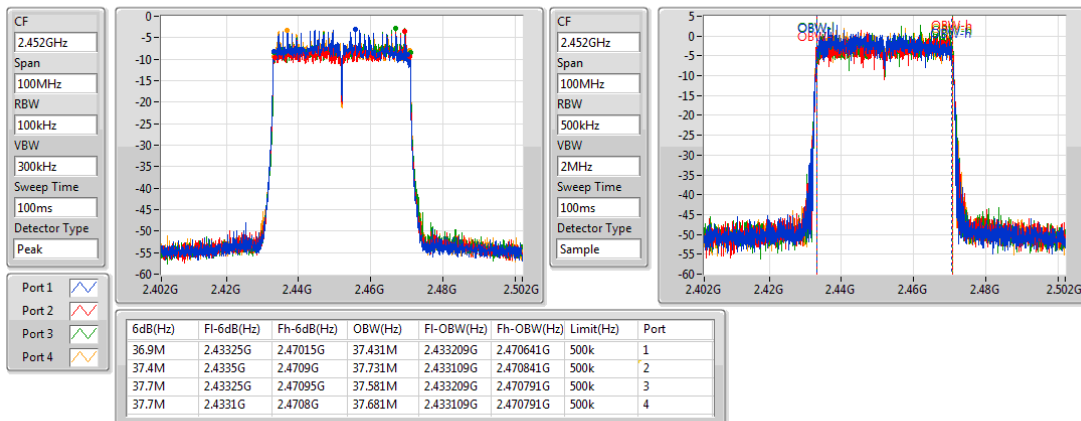


802.11ax HEW40_Nss4,(MCS0)_4TX

EBW

2452MHz

16/02/2019



For Mode 1: (Ant. 4 Omni antenna / 3 dBi)
For Non-beamforming / 1T1S mode
Summary

Mode	Total Power (dBm)	Total Power (W)
2.4-2.4835GHz	-	-
802.11b_Nss1,(1Mbps)_1TX	23.34	0.21577
802.11g_Nss1,(6Mbps)_1TX	20.84	0.12134
802.11ax HEW20_Nss1,(MCS0)_1TX	20.51	0.11246
802.11ax HEW40_Nss1,(MCS0)_1TX	16.88	0.04875

Result

Mode	Result	DG (dBi)	Port 1 (dBm)	Total Power (dBm)	Power Limit (dBm)	Conducted setting
802.11b_Nss1,(1Mbps)_1TX	-	-	-	-	-	-
2412MHz	Pass	3.00	21.82	21.82	30.00	20.25
2417MHz	Pass	3.00	22.78	22.78	30.00	21.5
2422MHz	Pass	3.00	22.92	22.92	30.00	21.75
2427MHz	Pass	3.00	23.17	23.17	30.00	22
2432MHz	Pass	3.00	23.31	23.31	30.00	22.25
2437MHz	Pass	3.00	23.34	23.34	30.00	22.25
2442MHz	Pass	3.00	23.11	23.11	30.00	22
2447MHz	Pass	3.00	22.48	22.48	30.00	21.25
2452MHz	Pass	3.00	22.33	22.33	30.00	21
2457MHz	Pass	3.00	21.79	21.79	30.00	20.25
2462MHz	Pass	3.00	21.29	21.29	30.00	19.75
802.11g_Nss1,(6Mbps)_1TX	-	-	-	-	-	-
2412MHz	Pass	3.00	15.78	15.78	30.00	14.5
2417MHz	Pass	3.00	17.99	17.99	30.00	17
2422MHz	Pass	3.00	18.23	18.23	30.00	17.25
2427MHz	Pass	3.00	19.48	19.48	30.00	18.25
2432MHz	Pass	3.00	19.63	19.63	30.00	18.5
2437MHz	Pass	3.00	20.84	20.84	30.00	19.75
2442MHz	Pass	3.00	19.93	19.93	30.00	18.75
2447MHz	Pass	3.00	18.92	18.92	30.00	17.75
2452MHz	Pass	3.00	17.91	17.91	30.00	17
2457MHz	Pass	3.00	17.34	17.34	30.00	16.25
2462MHz	Pass	3.00	15.75	15.75	30.00	14.5
802.11ax HEW20_Nss1,(MCS0)_1TX	-	-	-	-	-	-
2412MHz	Pass	3.00	16.02	16.02	30.00	14.5
2417MHz	Pass	3.00	17.18	17.18	30.00	16
2422MHz	Pass	3.00	17.55	17.55	30.00	16.25
2427MHz	Pass	3.00	19.44	19.44	30.00	18
2432MHz	Pass	3.00	20.09	20.09	30.00	18.75
2437MHz	Pass	3.00	20.51	20.51	30.00	19.25
2442MHz	Pass	3.00	19.35	19.35	30.00	18
2447MHz	Pass	3.00	17.67	17.67	30.00	16

AV Power Result

Appendix C.1

Mode	Result	DG (dBi)	Port 1 (dBm)	Total Power (dBm)	Power Limit (dBm)	Conducted setting
2452MHz	Pass	3.00	16.75	16.75	30.00	15.5
2457MHz	Pass	3.00	16.28	16.28	30.00	15
2462MHz	Pass	3.00	13.49	13.49	30.00	12.25
802.11ax HEW40_Nss1,(MCS0)_1TX	-	-	-	-	-	-
2422MHz	Pass	3.00	15.79	15.79	30.00	14.25
2427MHz	Pass	3.00	15.97	15.97	30.00	14.5
2432MHz	Pass	3.00	16.17	16.17	30.00	14.75
2437MHz	Pass	3.00	16.88	16.88	30.00	15.25
2442MHz	Pass	3.00	16.87	16.87	30.00	15.25
2447MHz	Pass	3.00	15.82	15.82	30.00	14.25
2452MHz	Pass	3.00	15.57	15.57	30.00	14

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

Note : Conducted average output power is for reference only

Note : Conducted setting = Pass conducted setting division 4

For Non-beamforming / 2T2S mode Summary

Mode	Total Power (dBm)	Total Power (W)
2.4-2.4835GHz	-	-
802.11ax HEW20_Nss2,(MCS0)_2TX	22.46	0.17620
802.11ax HEW40_Nss2,(MCS0)_2TX	18.39	0.06902

Result

Mode	Result	DG (dBi)	Port 1 (dBm)	Port 2 (dBm)	Total Power (dBm)	Power Limit (dBm)	Conducted setting
802.11ax HEW20_Nss2,(MCS0)_2TX	-	-	-	-	-	-	-
2412MHz	Pass	3.00	16.50	16.62	19.57	30.00	15.25
2417MHz	Pass	3.00	17.83	17.66	20.76	30.00	16.5
2422MHz	Pass	3.00	19.05	19.02	22.05	30.00	17.75
2427MHz	Pass	3.00	19.54	19.28	22.42	30.00	18.25
2437MHz	Pass	3.00	19.43	19.46	22.46	30.00	18.25
2442MHz	Pass	3.00	19.16	19.15	22.17	30.00	17.75
2447MHz	Pass	3.00	18.89	18.71	21.81	30.00	17.5
2452MHz	Pass	3.00	17.68	17.60	20.65	30.00	16.5
2457MHz	Pass	3.00	16.29	16.26	19.29	30.00	15
2462MHz	Pass	3.00	15.23	15.03	18.14	30.00	13.75
802.11ax HEW40_Nss2,(MCS0)_2TX	-	-	-	-	-	-	-
2422MHz	Pass	3.00	14.42	14.24	17.34	30.00	12.75
2427MHz	Pass	3.00	15.32	15.20	18.27	30.00	13.75
2432MHz	Pass	3.00	15.39	15.32	18.37	30.00	14
2437MHz	Pass	3.00	15.37	15.39	18.39	30.00	14
2442MHz	Pass	3.00	15.42	15.16	18.30	30.00	14
2447MHz	Pass	3.00	15.12	15.06	18.10	30.00	13.5
2452MHz	Pass	3.00	13.29	13.26	16.29	30.00	11.75

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

Note : Conducted average output power is for reference only

Note : Conducted setting = Pass conducted setting division 4



AV Power Result

Appendix C.3

For Non-beamforming / 4T1S mode Summary

Mode	Total Power (dBm)	Total Power (W)
2.4-2.4835GHz	-	-
802.11b_Nss1,(1Mbps)_4TX	28.78	0.75509
802.11g_Nss1,(6Mbps)_4TX	24.28	0.26792
802.11ax HEW20_Nss1,(MCS0)_4TX	23.44	0.22080
802.11ax HEW40_Nss1,(MCS0)_4TX	20.61	0.11508

Result

Mode	Result	DG (dBi)	Port 1 (dBm)	Port 2 (dBm)	Port 3 (dBm)	Port 4 (dBm)	Total Power (dBm)	Power Limit (dBm)	Conducted setting
802.11b_Nss1,(1Mbps)_4TX	-	-	-	-	-	-	-	-	-
2412MHz	Pass	3.00	21.30	21.25	21.24	21.29	27.29	30.00	19.5
2417MHz	Pass	3.00	21.23	21.17	21.06	21.42	27.24	30.00	19.5
2422MHz	Pass	3.00	21.97	22.19	21.90	22.14	28.07	30.00	20.5
2427MHz	Pass	3.00	22.39	22.32	22.32	22.47	28.40	30.00	21
2432MHz	Pass	3.00	22.46	22.38	22.57	22.48	28.49	30.00	21.25
2437MHz	Pass	3.00	22.85	22.71	22.81	22.66	28.78	30.00	21.5
2442MHz	Pass	3.00	22.20	21.99	22.14	22.17	28.15	30.00	20.75
2447MHz	Pass	3.00	22.13	21.99	21.91	21.85	27.99	30.00	20.5
2452MHz	Pass	3.00	21.86	21.74	21.78	21.80	27.82	30.00	20.25
2457MHz	Pass	3.00	21.07	21.09	20.90	21.03	27.04	30.00	19.5
2462MHz	Pass	3.00	21.13	21.25	20.99	21.13	27.15	30.00	19.5
802.11g_Nss1,(6Mbps)_4TX	-	-	-	-	-	-	-	-	-
2412MHz	Pass	3.00	13.67	13.81	13.71	13.94	19.80	30.00	12.5
2417MHz	Pass	3.00	15.63	15.13	15.08	15.97	21.49	30.00	14.25
2422MHz	Pass	3.00	16.93	16.79	16.78	16.99	22.89	30.00	15.75
2427MHz	Pass	3.00	18.03	17.77	17.73	18.03	23.91	30.00	16.75
2432MHz	Pass	3.00	18.15	18.09	18.03	18.40	24.19	30.00	17
2437MHz	Pass	3.00	18.46	18.04	18.29	18.25	24.28	30.00	17
2442MHz	Pass	3.00	18.21	18.35	18.25	17.96	24.22	30.00	17
2447MHz	Pass	3.00	17.22	17.14	17.20	17.30	23.24	30.00	16
2452MHz	Pass	3.00	16.66	16.25	16.08	16.84	22.49	30.00	15.5
2457MHz	Pass	3.00	15.75	16.01	16.08	15.87	21.95	30.00	14.75
2462MHz	Pass	3.00	13.55	13.62	13.01	13.55	19.46	30.00	12.25
802.11ax HEW20_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-	-
2412MHz	Pass	3.00	14.22	13.82	13.41	13.99	19.89	30.00	12.25
2417MHz	Pass	3.00	14.99	14.65	14.86	14.86	20.86	30.00	13.5
2422MHz	Pass	3.00	16.13	15.86	16.11	16.41	22.15	30.00	14.75
2427MHz	Pass	3.00	16.68	16.44	16.66	16.52	22.60	30.00	15
2432MHz	Pass	3.00	17.42	17.09	17.28	17.61	23.37	30.00	16
2437MHz	Pass	3.00	17.55	17.36	17.42	17.35	23.44	30.00	16
2442MHz	Pass	3.00	17.37	17.12	17.30	17.50	23.35	30.00	16
2447MHz	Pass	3.00	15.65	15.50	15.59	15.89	21.68	30.00	14.25
2452MHz	Pass	3.00	15.54	15.73	15.65	15.72	21.68	30.00	14.25

AV Power Result

Appendix C.3

Mode	Result	DG (dBi)	Port 1 (dBm)	Port 2 (dBm)	Port 3 (dBm)	Port 4 (dBm)	Total Power (dBm)	Power Limit (dBm)	Conducted setting
2457MHz	Pass	3.00	13.83	13.83	13.57	13.78	19.77	30.00	12.25
2462MHz	Pass	3.00	12.34	12.32	12.26	12.69	18.43	30.00	11
802.11ax HEW40_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-	-
2422MHz	Pass	3.00	13.92	13.62	13.97	13.84	19.86	30.00	12.25
2427MHz	Pass	3.00	14.52	14.17	15.04	14.28	20.54	30.00	12.75
2432MHz	Pass	3.00	14.23	14.31	14.86	14.70	20.55	30.00	13
2437MHz	Pass	3.00	14.54	14.16	14.94	14.68	20.61	30.00	13
2442MHz	Pass	3.00	13.69	13.55	14.74	14.00	20.04	30.00	12.5
2447MHz	Pass	3.00	13.46	13.65	14.33	13.58	19.79	30.00	12.25
2452MHz	Pass	3.00	13.69	13.23	13.54	13.45	19.50	30.00	11.75

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

Note : Conducted average output power is for reference only

Note : Conducted setting = Pass conducted setting division 4

For Beamforming / 4T1S mode Summary

Mode	Total Power (dBm)	Total Power (W)
2.4-2.4835GHz	-	-
802.11ax HEW20-BF_Nss1,(MCS0)_4TX	25.28	0.33729
802.11ax HEW40-BF_Nss1,(MCS0)_4TX	20.15	0.10351

Result

Mode	Result	DG (dBi)	Port 1 (dBm)	Port 2 (dBm)	Port 3 (dBm)	Port 4 (dBm)	Total Power (dBm)	Power Limit (dBm)	Conducted setting
802.11ax HEW20-BF_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-	-
2412MHz	Pass	9.02	15.23	15.03	15.05	15.44	21.21	26.98	14
2417MHz	Pass	9.02	16.18	15.87	16.22	16.48	22.21	26.98	15
2422MHz	Pass	9.02	18.23	18.10	18.38	18.59	24.35	26.98	17.25
2427MHz	Pass	9.02	19.23	19.13	19.10	19.23	25.19	26.98	18.25
2437MHz	Pass	9.02	19.13	19.40	19.12	19.39	25.28	26.98	18.25
2442MHz	Pass	9.02	17.85	17.69	18.12	18.35	24.03	26.98	17
2447MHz	Pass	9.02	16.09	16.11	16.19	16.51	22.25	26.98	15
2452MHz	Pass	9.02	17.13	16.81	17.00	17.30	23.08	26.98	16
2457MHz	Pass	9.02	14.88	14.62	14.94	15.12	20.91	26.98	14
2462MHz	Pass	9.02	13.48	13.34	13.39	13.60	19.47	26.98	12.5
802.11ax HEW40-BF_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-	-
2422MHz	Pass	9.02	14.51	13.77	14.10	13.72	20.06	26.98	13
2437MHz	Pass	9.02	14.29	14.34	13.96	13.90	20.15	26.98	13
2452MHz	Pass	9.02	14.27	14.17	14.05	13.83	20.10	26.98	13

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

Note : Conducted average output power is for reference only

Note : Conducted setting = Pass conducted setting division 4

For Non-beamforming / 4T4S mode Summary

Mode	Total Power (dBm)	Total Power (W)
2.4-2.4835GHz	-	-
802.11ax HEW20_Nss4,(MCS0)_4TX	24.69	0.29444
802.11ax HEW40_Nss4,(MCS0)_4TX	20.24	0.10568

Result

Mode	Result	DG (dBi)	Port 1 (dBm)	Port 2 (dBm)	Port 3 (dBm)	Port 4 (dBm)	Total Power (dBm)	Power Limit (dBm)	Conducted setting
802.11ax HEW20_Nss4,(MCS0)_4TX	-	-	-	-	-	-	-	-	-
2412MHz	Pass	3.00	14.89	14.66	14.56	15.07	20.82	30.00	13.5
2417MHz	Pass	3.00	16.86	16.47	16.42	16.86	22.68	30.00	15.25
2422MHz	Pass	3.00	17.52	17.19	17.35	17.52	23.42	30.00	16
2427MHz	Pass	3.00	18.46	17.94	18.60	18.67	24.45	30.00	17.25
2437MHz	Pass	3.00	18.77	18.57	18.70	18.64	24.69	30.00	17.25
2442MHz	Pass	3.00	18.46	18.45	18.51	18.16	24.42	30.00	17
2447MHz	Pass	3.00	17.88	17.79	17.54	17.79	23.77	30.00	16.25
2452MHz	Pass	3.00	17.00	16.76	16.56	17.18	22.90	30.00	15.5
2457MHz	Pass	3.00	15.89	15.99	15.76	16.16	21.97	30.00	14.5
2462MHz	Pass	3.00	14.35	14.46	14.13	14.21	20.31	30.00	13
802.11ax HEW40_Nss4,(MCS0)_4TX	-	-	-	-	-	-	-	-	-
2422MHz	Pass	3.00	12.68	12.91	13.40	13.13	19.06	30.00	11.5
2427MHz	Pass	3.00	13.21	13.24	13.59	13.31	19.36	30.00	12
2432MHz	Pass	3.00	14.07	13.79	14.58	14.41	20.24	30.00	12.75
2437MHz	Pass	3.00	14.19	14.11	14.39	14.18	20.24	30.00	12.75
2442MHz	Pass	3.00	14.18	14.09	14.38	13.81	20.14	30.00	12.5
2447MHz	Pass	3.00	13.34	13.14	13.52	13.12	19.30	30.00	11.75
2452MHz	Pass	3.00	12.69	12.72	13.29	12.65	18.87	30.00	11.25

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

Note : Conducted average output power is for reference only

Note : Conducted setting = Pass conducted setting division 4

For Mode 2: (Ant. 7 Omni antenna / 4 dBi)
For Non-beamforming / 1T1S mode
Summary

Mode	Total Power (dBm)	Total Power (W)
2.4-2.4835GHz	-	-
802.11b_Nss1,(1Mbps)_1TX	23.43	0.22029
802.11g_Nss1,(6Mbps)_1TX	21.32	0.13552
802.11ax HEW20_Nss1,(MCS0)_1TX	20.84	0.12134
802.11ax HEW40_Nss1,(MCS0)_1TX	17.34	0.05420

Result

Mode	Result	DG (dBi)	Port 1 (dBm)	Total Power (dBm)	Power Limit (dBm)	Conducted setting
802.11b_Nss1,(1Mbps)_1TX	-	-	-	-	-	-
2412MHz	Pass	4.00	22.21	22.21	30.00	20.75
2417MHz	Pass	4.00	23.09	23.09	30.00	22
2422MHz	Pass	4.00	23.05	23.05	30.00	22
2427MHz	Pass	4.00	23.26	23.26	30.00	22.25
2432MHz	Pass	4.00	23.40	23.40	30.00	22.5
2437MHz	Pass	4.00	23.43	23.43	30.00	22.5
2442MHz	Pass	4.00	23.26	23.26	30.00	22.25
2447MHz	Pass	4.00	22.73	22.73	30.00	21.5
2452MHz	Pass	4.00	22.75	22.75	30.00	21.5
2457MHz	Pass	4.00	22.25	22.25	30.00	20.75
2462MHz	Pass	4.00	21.70	21.70	30.00	20.25
802.11g_Nss1,(6Mbps)_1TX	-	-	-	-	-	-
2412MHz	Pass	4.00	17.66	17.66	30.00	16.5
2417MHz	Pass	4.00	19.15	19.15	30.00	18
2422MHz	Pass	4.00	19.86	19.86	30.00	19
2427MHz	Pass	4.00	20.72	20.72	30.00	19.75
2432MHz	Pass	4.00	21.28	21.28	30.00	20.5
2437MHz	Pass	4.00	21.32	21.32	30.00	20.5
2442MHz	Pass	4.00	20.96	20.96	30.00	20
2447MHz	Pass	4.00	20.25	20.25	30.00	19.25
2452MHz	Pass	4.00	19.36	19.36	30.00	18.25
2457MHz	Pass	4.00	18.04	18.04	30.00	17
2462MHz	Pass	4.00	16.58	16.58	30.00	15.25
802.11ax HEW20_Nss1,(MCS0)_1TX	-	-	-	-	-	-
2412MHz	Pass	4.00	16.55	16.55	30.00	15
2417MHz	Pass	4.00	18.92	18.92	30.00	17.5
2422MHz	Pass	4.00	18.85	18.85	30.00	17.5
2427MHz	Pass	4.00	20.28	20.28	30.00	19
2432MHz	Pass	4.00	20.82	20.82	30.00	19.75
2437MHz	Pass	4.00	20.84	20.84	30.00	19.75
2442MHz	Pass	4.00	20.60	20.60	30.00	19.5
2447MHz	Pass	4.00	20.18	20.18	30.00	18.75

AV Power Result

Appendix C.6

Mode	Result	DG (dBi)	Port 1 (dBm)	Total Power (dBm)	Power Limit (dBm)	Conducted setting
2452MHz	Pass	4.00	17.64	17.64	30.00	16.25
2457MHz	Pass	4.00	17.27	17.27	30.00	15.75
2462MHz	Pass	4.00	14.35	14.35	30.00	13
802.11ax HEW40_Nss1,(MCS0)_1TX	-	-	-	-	-	-
2422MHz	Pass	4.00	16.46	16.46	30.00	15
2427MHz	Pass	4.00	16.79	16.79	30.00	15.25
2432MHz	Pass	4.00	17.05	17.05	30.00	15.5
2437MHz	Pass	4.00	17.34	17.34	30.00	16
2442MHz	Pass	4.00	17.12	17.12	30.00	15.5
2447MHz	Pass	4.00	16.32	16.32	30.00	15
2452MHz	Pass	4.00	16.25	16.25	30.00	14.75

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

Note : Conducted average output power is for reference only

Note : Conducted setting = Pass conducted setting division 4

For Non-beamforming / 2T2S mode Summary

Mode	Total Power (dBm)	Total Power (W)
2.4-2.4835GHz	-	-
802.11ax HEW20_Nss2,(MCS0)_2TX	23.30	0.21380
802.11ax HEW40_Nss2,(MCS0)_2TX	19.64	0.09204

Result

Mode	Result	DG (dBi)	Port 1 (dBm)	Port 2 (dBm)	Total Power (dBm)	Power Limit (dBm)	Conducted setting
802.11ax HEW20_Nss2,(MCS0)_2TX	-	-	-	-	-	-	-
2412MHz	Pass	4.00	16.19	15.99	19.10	30.00	14.75
2417MHz	Pass	4.00	17.68	17.17	20.44	30.00	16
2422MHz	Pass	4.00	18.47	18.17	21.33	30.00	17
2427MHz	Pass	4.00	19.35	19.25	22.31	30.00	18
2432MHz	Pass	4.00	20.13	19.89	23.02	30.00	18.75
2437MHz	Pass	4.00	20.43	20.14	23.30	30.00	19
2442MHz	Pass	4.00	19.73	19.30	22.53	30.00	18.25
2447MHz	Pass	4.00	18.89	18.71	21.81	30.00	17.5
2452MHz	Pass	4.00	18.37	17.84	21.12	30.00	17
2457MHz	Pass	4.00	17.01	16.73	19.88	30.00	15.5
2462MHz	Pass	4.00	15.32	15.37	18.36	30.00	14
802.11ax HEW40_Nss2,(MCS0)_2TX	-	-	-	-	-	-	-
2422MHz	Pass	4.00	16.12	15.88	19.01	30.00	14.5
2427MHz	Pass	4.00	16.05	15.95	19.01	30.00	14.5
2432MHz	Pass	4.00	16.06	16.16	19.12	30.00	14.75
2437MHz	Pass	4.00	16.66	16.59	19.64	30.00	15.25
2442MHz	Pass	4.00	16.48	16.28	19.39	30.00	15
2447MHz	Pass	4.00	15.74	15.71	18.74	30.00	14.25
2452MHz	Pass	4.00	15.62	15.31	18.48	30.00	14

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

Note : Conducted average output power is for reference only

Note : Conducted setting = Pass conducted setting division 4



AV Power Result

Appendix C.8

For Non-beamforming / 4T1S mode Summary

Mode	Total Power (dBm)	Total Power (W)
2.4-2.4835GHz	-	-
802.11b_Nss1,(1Mbps)_4TX	28.78	0.75509
802.11g_Nss1,(6Mbps)_4TX	25.54	0.35810
802.11ax HEW20_Nss1,(MCS0)_4TX	24.34	0.27164
802.11ax HEW40_Nss1,(MCS0)_4TX	21.54	0.14256

Result

Mode	Result	DG (dBi)	Port 1 (dBm)	Port 2 (dBm)	Port 3 (dBm)	Port 4 (dBm)	Total Power (dBm)	Power Limit (dBm)	Conducted setting
802.11b_Nss1,(1Mbps)_4TX	-	-	-	-	-	-	-	-	-
2412MHz	Pass	4.00	21.30	21.25	21.24	21.29	27.29	30.00	19.5
2417MHz	Pass	4.00	21.62	21.59	21.60	21.58	27.62	30.00	20
2422MHz	Pass	4.00	22.75	22.76	22.76	22.71	28.77	30.00	21.25
2427MHz	Pass	4.00	22.76	22.65	22.75	22.78	28.76	30.00	21.5
2437MHz	Pass	4.00	22.85	22.71	22.81	22.66	28.78	30.00	21.5
2442MHz	Pass	4.00	22.60	22.53	22.54	22.45	28.55	30.00	21.25
2447MHz	Pass	4.00	22.53	22.46	22.59	22.48	28.54	30.00	21.25
2452MHz	Pass	4.00	21.95	21.96	21.92	21.73	27.91	30.00	20.5
2457MHz	Pass	4.00	21.62	21.52	21.63	21.47	27.58	30.00	20
2462MHz	Pass	4.00	21.13	21.25	20.99	21.13	27.15	30.00	19.5
802.11g_Nss1,(6Mbps)_4TX	-	-	-	-	-	-	-	-	-
2412MHz	Pass	4.00	14.02	14.35	14.04	14.22	20.18	30.00	13
2417MHz	Pass	4.00	16.50	16.33	16.48	16.63	22.51	30.00	15.25
2422MHz	Pass	4.00	17.22	16.94	16.78	17.33	23.09	30.00	16
2427MHz	Pass	4.00	18.03	17.77	17.73	18.03	23.91	30.00	16.75
2432MHz	Pass	4.00	18.15	18.09	18.03	18.40	24.19	30.00	17
2437MHz	Pass	4.00	19.43	19.41	19.55	19.68	25.54	30.00	18.5
2442MHz	Pass	4.00	18.80	18.64	18.68	18.50	24.68	30.00	17.5
2447MHz	Pass	4.00	18.20	18.10	18.06	18.31	24.19	30.00	17
2452MHz	Pass	4.00	16.66	16.25	16.08	16.84	22.49	30.00	15.5
2457MHz	Pass	4.00	15.68	15.77	15.63	15.73	21.72	30.00	14.5
2462MHz	Pass	4.00	14.40	13.93	14.21	14.30	20.23	30.00	13
802.11ax HEW20_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-	-
2412MHz	Pass	4.00	14.61	14.52	14.72	14.17	20.53	30.00	13
2417MHz	Pass	4.00	15.28	15.31	15.25	15.42	21.34	30.00	14
2422MHz	Pass	4.00	16.86	16.84	16.80	16.96	22.89	30.00	15.5
2427MHz	Pass	4.00	17.08	16.79	16.89	16.89	22.93	30.00	15.5
2432MHz	Pass	4.00	18.22	18.07	18.03	18.39	24.20	30.00	16.75
2437MHz	Pass	4.00	18.37	18.35	18.42	18.15	24.34	30.00	16.75
2442MHz	Pass	4.00	16.92	16.90	16.47	16.95	22.83	30.00	15.5
2447MHz	Pass	4.00	16.39	16.28	16.17	16.11	22.26	30.00	14.75
2452MHz	Pass	4.00	15.81	15.83	16.04	16.02	21.95	30.00	14.5
2457MHz	Pass	4.00	14.00	14.26	14.03	13.96	20.08	30.00	12.5

AV Power Result

Appendix C.8

Mode	Result	DG (dBi)	Port 1 (dBm)	Port 2 (dBm)	Port 3 (dBm)	Port 4 (dBm)	Total Power (dBm)	Power Limit (dBm)	Conducted setting
2462MHz	Pass	4.00	12.34	12.32	12.26	12.69	18.43	30.00	11
802.11ax HEW40_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-	-
2422MHz	Pass	4.00	14.86	14.58	15.32	14.51	20.85	30.00	13.25
2427MHz	Pass	4.00	14.67	14.65	15.21	14.70	20.83	30.00	13.25
2432MHz	Pass	4.00	14.90	15.01	15.44	14.94	21.10	30.00	13.5
2437MHz	Pass	4.00	15.51	15.54	15.67	15.37	21.54	30.00	14
2442MHz	Pass	4.00	15.16	14.90	15.44	14.97	21.14	30.00	13.5
2447MHz	Pass	4.00	14.54	14.62	14.64	14.49	20.59	30.00	13
2452MHz	Pass	4.00	13.84	13.86	14.25	13.74	19.95	30.00	12.25

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

Note : Conducted average output power is for reference only

Note : Conducted setting = Pass conducted setting division 4

For Beamforming / 4T1S mode Summary

Mode	Total Power (dBm)	Total Power (W)
2.4-2.4835GHz	-	-
802.11ax HEW20-BF_Nss1,(MCS0)_4TX	25.09	0.32285
802.11ax HEW40-BF_Nss1,(MCS0)_4TX	22.15	0.16406

Result

Mode	Result	DG (dBi)	Port 1 (dBm)	Port 2 (dBm)	Port 3 (dBm)	Port 4 (dBm)	Total Power (dBm)	Power Limit (dBm)	Conducted setting
802.11ax HEW20-BF_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-	-
2412MHz	Pass	10.02	15.74	15.30	15.38	15.37	21.47	25.98	14.25
2417MHz	Pass	10.02	16.66	16.68	15.83	16.56	22.47	25.98	15.25
2422MHz	Pass	10.02	17.79	17.44	17.48	17.52	23.58	25.98	16.5
2427MHz	Pass	10.02	19.19	18.96	18.82	19.09	25.04	25.98	18
2437MHz	Pass	10.02	19.30	19.14	18.75	19.08	25.09	25.98	18
2442MHz	Pass	10.02	18.71	18.53	18.41	18.41	24.54	25.98	17.5
2447MHz	Pass	10.02	18.41	18.06	18.10	18.13	24.20	25.98	17
2452MHz	Pass	10.02	16.68	16.35	16.20	16.33	22.41	25.98	15.25
2457MHz	Pass	10.02	14.60	14.22	14.56	14.29	20.44	25.98	13.5
2462MHz	Pass	10.02	13.48	13.33	13.20	13.11	19.30	25.98	12.25
802.11ax HEW40-BF_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-	-
2422MHz	Pass	10.02	13.48	13.29	13.65	13.83	19.59	25.98	12.5
2427MHz	Pass	10.02	13.50	13.64	13.72	14.35	19.84	25.98	12.75
2432MHz	Pass	10.02	14.73	14.45	14.83	15.14	20.82	25.98	13.75
2437MHz	Pass	10.02	16.23	15.89	16.24	16.15	22.15	25.98	15
2442MHz	Pass	10.02	14.53	14.37	14.59	14.61	20.55	25.98	13.5
2447MHz	Pass	10.02	14.91	14.15	14.34	14.62	20.54	25.98	13.5
2452MHz	Pass	10.02	13.33	13.48	13.62	13.66	19.55	25.98	12.5

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

Note : Conducted average output power is for reference only

Note : Conducted setting = Pass conducted setting division 4

For Non-beamforming / 4T4S mode Summary

Mode	Total Power (dBm)	Total Power (W)
2.4-2.4835GHz	-	-
802.11ax HEW20_Nss4,(MCS0)_4TX	25.36	0.34356
802.11ax HEW40_Nss4,(MCS0)_4TX	21.24	0.13305

Result

Mode	Result	DG (dBi)	Port 1 (dBm)	Port 2 (dBm)	Port 3 (dBm)	Port 4 (dBm)	Total Power (dBm)	Power Limit (dBm)	Conducted setting
802.11ax HEW20_Nss4,(MCS0)_4TX	-	-	-	-	-	-	-	-	-
2412MHz	Pass	4.00	15.55	15.23	15.61	15.60	21.52	30.00	14.25
2417MHz	Pass	4.00	16.93	16.64	16.79	16.91	22.84	30.00	15.5
2422MHz	Pass	4.00	17.59	17.44	17.32	17.72	23.54	30.00	16.25
2427MHz	Pass	4.00	18.46	17.94	18.60	18.67	24.45	30.00	17.25
2432MHz	Pass	4.00	19.35	19.28	19.22	19.30	25.31	30.00	18
2437MHz	Pass	4.00	19.38	19.36	19.35	19.28	25.36	30.00	18
2442MHz	Pass	4.00	19.18	19.12	19.14	19.11	25.16	30.00	17.75
2447MHz	Pass	4.00	18.21	18.08	18.02	18.05	24.11	30.00	16.75
2452MHz	Pass	4.00	17.59	17.43	17.42	17.26	23.45	30.00	16
2457MHz	Pass	4.00	16.02	16.10	16.20	16.25	22.16	30.00	14.75
2462MHz	Pass	4.00	15.25	15.07	14.82	15.12	21.09	30.00	13.75
802.11ax HEW40_Nss4,(MCS0)_4TX	-	-	-	-	-	-	-	-	-
2422MHz	Pass	4.00	12.68	12.91	13.40	13.13	19.06	30.00	11.5
2427MHz	Pass	4.00	13.15	12.92	13.37	12.74	19.07	30.00	11.75
2432MHz	Pass	4.00	14.07	13.79	14.58	14.41	20.24	30.00	12.75
2437MHz	Pass	4.00	15.13	15.10	15.62	15.01	21.24	30.00	13.75
2442MHz	Pass	4.00	14.18	14.09	14.38	13.81	20.14	30.00	12.5
2447MHz	Pass	4.00	14.15	13.77	14.42	13.95	20.10	30.00	12.5
2452MHz	Pass	4.00	13.22	13.14	13.58	13.28	19.33	30.00	11.75

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

Note : Conducted average output power is for reference only

Note : Conducted setting = Pass conducted setting division 4



AV Power Result

Appendix C.11

Mode 3: (Ant. 11 Panel antenna / 6.8 dBi) For Non-beamforming / 1T1S mode Summary

Mode	Total Power (dBm)	Total Power (W)
2.4-2.4835GHz	-	-
802.11b_Nss1,(1Mbps)_1TX	22.51	0.17824
802.11g_Nss1,(6Mbps)_1TX	20.56	0.11376
802.11ax HEW20_Nss1,(MCS0)_1TX	19.45	0.08810
802.11ax HEW40_Nss1,(MCS0)_1TX	16.56	0.04529

Result

Mode	Result	DG (dBi)	Port 1 (dBm)	Total Power (dBm)	Power Limit (dBm)	Conducted setting
802.11b_Nss1,(1Mbps)_1TX	-	-	-	-	-	-
2412MHz	Pass	6.80	21.30	21.30	29.20	19.75
2417MHz	Pass	6.80	22.50	22.50	29.20	21.25
2437MHz	Pass	6.80	22.51	22.51	29.20	21.25
2452MHz	Pass	6.80	22.50	22.50	29.20	21.25
2457MHz	Pass	6.80	22.24	22.24	29.20	20.75
2462MHz	Pass	6.80	21.29	21.29	29.20	19.75
802.11g_Nss1,(6Mbps)_1TX	-	-	-	-	-	-
2412MHz	Pass	6.80	15.49	15.49	29.20	14.25
2417MHz	Pass	6.80	17.76	17.76	29.20	16.75
2422MHz	Pass	6.80	17.28	17.28	29.20	16.25
2427MHz	Pass	6.80	19.11	19.11	29.20	18
2432MHz	Pass	6.80	19.13	19.13	29.20	18
2437MHz	Pass	6.80	20.56	20.56	29.20	19.5
2442MHz	Pass	6.80	19.55	19.55	29.20	18.5
2447MHz	Pass	6.80	19.39	19.39	29.20	18.25
2452MHz	Pass	6.80	18.53	18.53	29.20	17.5
2457MHz	Pass	6.80	17.61	17.61	29.20	16.5
2462MHz	Pass	6.80	15.75	15.75	29.20	14.5
802.11ax HEW20_Nss1,(MCS0)_1TX	-	-	-	-	-	-
2412MHz	Pass	6.80	14.96	14.96	29.20	13.5
2417MHz	Pass	6.80	17.51	17.51	29.20	16.25
2422MHz	Pass	6.80	17.55	17.55	29.20	16.25
2427MHz	Pass	6.80	19.44	19.44	29.20	18
2437MHz	Pass	6.80	19.45	19.45	29.20	18
2442MHz	Pass	6.80	19.35	19.35	29.20	18
2447MHz	Pass	6.80	17.89	17.89	29.20	16.25
2452MHz	Pass	6.80	16.96	16.96	29.20	15.75
2457MHz	Pass	6.80	16.71	16.71	29.20	15.5
2462MHz	Pass	6.80	13.79	13.79	29.20	12.5
802.11ax HEW40_Nss1,(MCS0)_1TX	-	-	-	-	-	-
2422MHz	Pass	6.80	15.47	15.47	29.20	14
2427MHz	Pass	6.80	16.19	16.19	29.20	14.75



AV Power Result

Appendix C.11

Mode	Result	DG (dBi)	Port 1 (dBm)	Total Power (dBm)	Power Limit (dBm)	Conducted setting
2432MHz	Pass	6.80	16.53	16.53	29.20	15
2437MHz	Pass	6.80	16.56	16.56	29.20	15
2442MHz	Pass	6.80	16.51	16.51	29.20	15
2447MHz	Pass	6.80	16.04	16.04	29.20	14.5
2452MHz	Pass	6.80	15.28	15.28	29.20	13.75

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

Note : Conducted average output power is for reference only

Note : Conducted setting = Pass conducted setting division 4

For Non-beamforming / 2T2S mode Summary

Mode	Total Power (dBm)	Total Power (W)
2.4-2.4835GHz	-	-
802.11ax HEW20_Nss2,(MCS0)_2TX	22.46	0.17620
802.11ax HEW40_Nss2,(MCS0)_2TX	19.06	0.08054

Result

Mode	Result	DG (dBi)	Port 1 (dBm)	Port 2 (dBm)	Total Power (dBm)	Power Limit (dBm)	Conducted setting
802.11ax HEW20_Nss2,(MCS0)_2TX	-	-	-	-	-	-	-
2412MHz	Pass	6.80	15.17	15.14	18.17	29.20	14
2417MHz	Pass	6.80	16.47	16.41	19.45	29.20	15.25
2422MHz	Pass	6.80	17.82	17.66	20.75	29.20	16.5
2427MHz	Pass	6.80	18.35	18.31	21.34	29.20	17.25
2432MHz	Pass	6.80	19.21	18.92	22.08	29.20	18
2437MHz	Pass	6.80	19.43	19.46	22.46	29.20	18.25
2442MHz	Pass	6.80	19.16	19.15	22.17	29.20	17.75
2447MHz	Pass	6.80	18.62	18.43	21.54	29.20	17.25
2452MHz	Pass	6.80	17.21	16.94	20.09	29.20	16
2457MHz	Pass	6.80	16.53	16.48	19.52	29.20	15.25
2462MHz	Pass	6.80	15.45	15.28	18.38	29.20	14
802.11ax HEW40_Nss2,(MCS0)_2TX	-	-	-	-	-	-	-
2422MHz	Pass	6.80	15.04	14.92	17.99	29.20	13.5
2427MHz	Pass	6.80	15.54	15.42	18.49	29.20	14
2432MHz	Pass	6.80	15.68	15.53	18.62	29.20	14.25
2437MHz	Pass	6.80	16.09	16.01	19.06	29.20	14.75
2442MHz	Pass	6.80	15.63	15.43	18.54	29.20	14.25
2447MHz	Pass	6.80	15.35	15.28	18.33	29.20	13.75
2452MHz	Pass	6.80	14.87	14.65	17.77	29.20	13.25

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

Note : Conducted average output power is for reference only

Note : Conducted setting = Pass conducted setting division 4



AV Power Result

Appendix C.13

For Non-beamforming / 4T1S mode Summary

Mode	Total Power (dBm)	Total Power (W)
2.4-2.4835GHz	-	-
802.11b_Nss1,(1Mbps)_4TX	28.50	0.70795
802.11g_Nss1,(6Mbps)_4TX	24.51	0.28249
802.11ax HEW20_Nss1,(MCS0)_4TX	23.44	0.22080
802.11ax HEW40_Nss1,(MCS0)_4TX	20.61	0.11508

Result

Mode	Result	DG (dBi)	Port 1 (dBm)	Port 2 (dBm)	Port 3 (dBm)	Port 4 (dBm)	Total Power (dBm)	Power Limit (dBm)	Conducted setting
802.11b_Nss1,(1Mbps)_4TX	-	-	-	-	-	-	-	-	-
2412MHz	Pass	6.80	21.01	20.98	20.95	21.04	27.02	29.20	19.25
2417MHz	Pass	6.80	21.23	21.17	21.06	21.42	27.24	29.20	19.5
2422MHz	Pass	6.80	21.73	21.75	21.58	21.84	27.75	29.20	20.25
2427MHz	Pass	6.80	22.45	22.37	22.41	22.56	28.47	29.20	21.25
2437MHz	Pass	6.80	22.58	22.37	22.51	22.44	28.50	29.20	21.25
2442MHz	Pass	6.80	22.43	22.22	22.39	22.52	28.41	29.20	21.25
2447MHz	Pass	6.80	21.02	20.77	20.84	20.71	26.86	29.20	19.25
2452MHz	Pass	6.80	20.11	20.18	20.26	20.35	26.25	29.20	18.5
2457MHz	Pass	6.80	20.04	19.98	20.07	20.13	26.08	29.20	18.5
2462MHz	Pass	6.80	20.03	20.01	19.88	20.05	26.01	29.20	18.25
802.11g_Nss1,(6Mbps)_4TX	-	-	-	-	-	-	-	-	-
2412MHz	Pass	6.80	13.41	13.54	13.46	13.66	19.54	29.20	12.25
2417MHz	Pass	6.80	15.85	15.37	15.32	16.19	21.72	29.20	14.5
2422MHz	Pass	6.80	16.01	15.87	15.94	16.21	22.03	29.20	15
2427MHz	Pass	6.80	17.66	17.42	17.46	17.72	23.59	29.20	16.5
2432MHz	Pass	6.80	17.86	17.71	17.66	17.96	23.82	29.20	16.75
2437MHz	Pass	6.80	18.69	18.25	18.52	18.49	24.51	29.20	17.25
2442MHz	Pass	6.80	18.21	18.35	18.25	17.96	24.22	29.20	17
2447MHz	Pass	6.80	17.45	17.39	17.45	17.58	23.49	29.20	16.25
2452MHz	Pass	6.80	16.93	16.55	16.36	17.05	22.75	29.20	15.75
2457MHz	Pass	6.80	15.75	16.01	16.08	15.87	21.95	29.20	14.75
2462MHz	Pass	6.80	13.29	13.34	12.76	13.27	19.19	29.20	12
802.11ax HEW20_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-	-
2412MHz	Pass	6.80	12.91	12.75	12.43	12.75	18.73	29.20	11.25
2417MHz	Pass	6.80	14.53	14.14	14.19	14.37	20.33	29.20	13
2422MHz	Pass	6.80	16.41	16.12	16.37	16.63	22.41	29.20	15
2427MHz	Pass	6.80	16.68	16.44	16.66	16.52	22.60	29.20	15
2432MHz	Pass	6.80	16.23	16.09	16.19	16.64	22.31	29.20	15
2437MHz	Pass	6.80	17.55	17.36	17.42	17.35	23.44	29.20	16
2442MHz	Pass	6.80	16.01	16.03	16.15	16.22	22.12	29.20	14.75
2447MHz	Pass	6.80	15.92	15.76	15.84	16.12	21.93	29.20	14.5
2452MHz	Pass	6.80	15.32	15.48	15.31	15.47	21.42	29.20	14
2457MHz	Pass	6.80	14.08	14.04	13.84	14.02	20.02	29.20	12.5

AV Power Result

Appendix C.13

Mode	Result	DG (dBi)	Port 1 (dBm)	Port 2 (dBm)	Port 3 (dBm)	Port 4 (dBm)	Total Power (dBm)	Power Limit (dBm)	Conducted setting
2462MHz	Pass	6.80	11.70	11.13	11.41	11.38	17.43	29.20	10
802.11ax HEW40_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-	-
2422MHz	Pass	6.80	13.22	12.97	13.45	13.23	19.24	29.20	11.75
2427MHz	Pass	6.80	13.95	13.63	14.32	13.75	19.94	29.20	12.25
2432MHz	Pass	6.80	13.82	13.77	14.43	14.15	20.07	29.20	12.5
2437MHz	Pass	6.80	14.54	14.16	14.94	14.68	20.61	29.20	13
2442MHz	Pass	6.80	13.43	13.28	14.47	13.72	19.77	29.20	12.25
2447MHz	Pass	6.80	13.05	13.09	13.61	13.05	19.23	29.20	11.75
2452MHz	Pass	6.80	13.07	12.66	12.97	12.89	18.92	29.20	11.25

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

Note : Conducted average output power is for reference only

Note : Conducted setting = Pass conducted setting division 4

For Beamforming / 4T1S mode Summary

Mode	Total Power (dBm)	Total Power (W)
2.4-2.4835GHz	-	-
802.11ax HEW20-BF_Nss1,(MCS0)_4TX	23.05	0.20184
802.11ax HEW40-BF_Nss1,(MCS0)_4TX	20.15	0.10351

Result

Mode	Result	DG (dBi)	Port 1 (dBm)	Port 2 (dBm)	Port 3 (dBm)	Port 4 (dBm)	Total Power (dBm)	Power Limit (dBm)	Conducted setting
802.11ax HEW20-BF_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-	-
2412MHz	Pass	12.82	13.36	13.07	12.44	12.79	18.95	23.18	11.75
2417MHz	Pass	12.82	14.35	13.52	13.75	13.84	19.90	23.18	12.75
2422MHz	Pass	12.82	15.62	15.26	15.25	15.33	21.39	23.18	14.25
2427MHz	Pass	12.82	17.14	16.99	16.63	16.95	22.95	23.18	16
2437MHz	Pass	12.82	17.32	17.06	16.59	17.11	23.05	23.18	16
2442MHz	Pass	12.82	17.19	16.98	16.72	17.06	23.01	23.18	16
2447MHz	Pass	12.82	15.89	15.00	15.19	15.55	21.44	23.18	14.25
2452MHz	Pass	12.82	15.10	15.14	14.95	15.10	21.09	23.18	14
2457MHz	Pass	12.82	14.50	13.45	13.70	14.50	20.08	23.18	13
2462MHz	Pass	12.82	13.16	13.13	12.61	12.97	18.99	23.18	12
802.11ax HEW40-BF_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-	-
2422MHz	Pass	12.82	13.71	13.79	13.82	14.09	19.88	23.18	12.75
2427MHz	Pass	12.82	13.98	13.69	13.85	14.51	20.04	23.18	13
2437MHz	Pass	12.82	14.29	14.34	13.96	13.90	20.15	23.18	13
2442MHz	Pass	12.82	14.15	13.78	13.74	14.25	20.01	23.18	13
2447MHz	Pass	12.82	12.79	12.97	12.82	13.06	18.93	23.18	11.75
2452MHz	Pass	12.82	13.08	12.59	12.65	12.92	18.84	23.18	11.75

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

Note : Conducted average output power is for reference only

Note : Conducted setting = Pass conducted setting division 4



AV Power Result

Appendix C.15

For Non-beamforming / 4T4S mode Summary

Mode	Total Power (dBm)	Total Power (W)
2.4-2.4835GHz	-	-
802.11ax HEW20_Nss4,(MCS0)_4TX	24.69	0.29444
802.11ax HEW40_Nss4,(MCS0)_4TX	19.72	0.09376

Result

Mode	Result	DG (dBi)	Port 1 (dBm)	Port 2 (dBm)	Port 3 (dBm)	Port 4 (dBm)	Total Power (dBm)	Power Limit (dBm)	Conducted setting
802.11ax HEW20_Nss4,(MCS0)_4TX	-	-	-	-	-	-	-	-	-
2412MHz	Pass	6.80	14.89	14.66	14.56	15.07	20.82	29.20	13.5
2417MHz	Pass	6.80	15.71	15.76	15.73	15.98	21.82	29.20	14.5
2422MHz	Pass	6.80	16.65	16.32	16.57	16.71	22.59	29.20	15.25
2427MHz	Pass	6.80	17.72	17.36	17.68	17.75	23.65	29.20	16.5
2432MHz	Pass	6.80	18.53	18.34	18.51	18.60	24.52	29.20	17.25
2437MHz	Pass	6.80	18.77	18.57	18.70	18.64	24.69	29.20	17.25
2442MHz	Pass	6.80	18.19	18.16	18.23	17.92	24.15	29.20	16.75
2447MHz	Pass	6.80	17.54	17.46	17.28	17.49	23.46	29.20	16
2452MHz	Pass	6.80	16.15	15.94	15.96	16.32	22.12	29.20	14.75
2457MHz	Pass	6.80	14.93	14.85	14.66	14.92	20.86	29.20	13.5
2462MHz	Pass	6.80	13.84	13.97	13.71	13.74	19.84	29.20	12.5
802.11ax HEW40_Nss4,(MCS0)_4TX	-	-	-	-	-	-	-	-	-
2422MHz	Pass	6.80	11.91	11.34	11.68	11.41	17.61	29.20	10
2427MHz	Pass	6.80	11.96	11.52	12.29	11.77	17.91	29.20	10.25
2432MHz	Pass	6.80	13.07	12.61	13.33	13.38	19.13	29.20	11.75
2437MHz	Pass	6.80	13.68	13.59	13.93	13.60	19.72	29.20	12.25
2442MHz	Pass	6.80	13.53	13.48	13.61	13.31	19.50	29.20	12
2447MHz	Pass	6.80	11.98	11.25	11.88	11.47	17.68	29.20	10.25
2452MHz	Pass	6.80	11.55	11.02	11.64	11.42	17.43	29.20	10

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

Note : Conducted average output power is for reference only

Note : Conducted setting = Pass conducted setting division 4



PSD Result

Appendix D.1

For Mode 1: (Ant. 4 Omni antenna / 3 dBi) Summary

Mode	PD (dBm/RBW)
2.4-2.4835GHz	-
802.11b_Nss1,(1Mbps)_1TX	1.21
802.11g_Nss1,(6Mbps)_1TX	-4.73
802.11ax HEW20_Nss1,(MCS0)_1TX	-4.29
802.11ax HEW40_Nss1,(MCS0)_1TX	-11.28

RBW=3kHz.

Result

Mode	Result	DG (dBi)	Port 1 (dBm/RBW)	PD (dBm/RBW)	PD Limit (dBm/RBW)
802.11b_Nss1,(1Mbps)_1TX	-	-	-	-	-
2412MHz	Pass	3.00	-0.70	-0.70	8.00
2437MHz	Pass	3.00	1.21	1.21	8.00
2462MHz	Pass	3.00	-1.16	-1.16	8.00
802.11g_Nss1,(6Mbps)_1TX	-	-	-	-	-
2412MHz	Pass	3.00	-10.12	-10.12	8.00
2437MHz	Pass	3.00	-4.73	-4.73	8.00
2462MHz	Pass	3.00	-10.35	-10.35	8.00
802.11ax HEW20_Nss1,(MCS0)_1TX	-	-	-	-	-
2412MHz	Pass	3.00	-8.27	-8.27	8.00
2437MHz	Pass	3.00	-4.29	-4.29	8.00
2462MHz	Pass	3.00	-10.70	-10.70	8.00
802.11ax HEW40_Nss1,(MCS0)_1TX	-	-	-	-	-
2422MHz	Pass	3.00	-12.10	-12.10	8.00
2437MHz	Pass	3.00	-11.28	-11.28	8.00
2452MHz	Pass	3.00	-12.75	-12.75	8.00

DG = Directional Gain; RBW=3kHz;

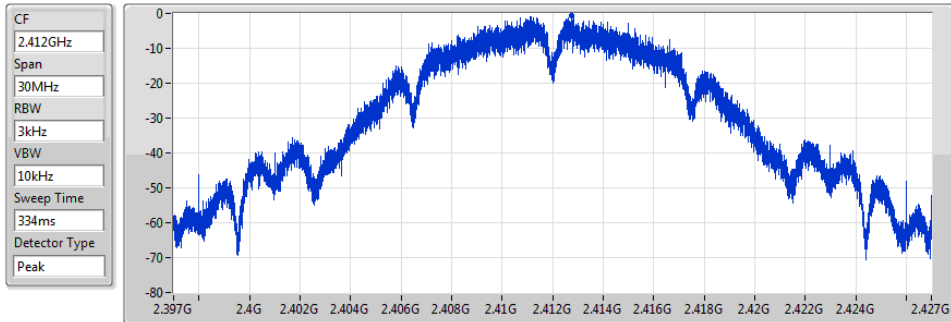
PD = trace bin-by-bin of each transmits port summing can be performed maximum power density; **Port X** = Port Xpower density;

802.11b_Nss1,(1Mbps)_1TX

PSD

2412MHz

25/01/2019



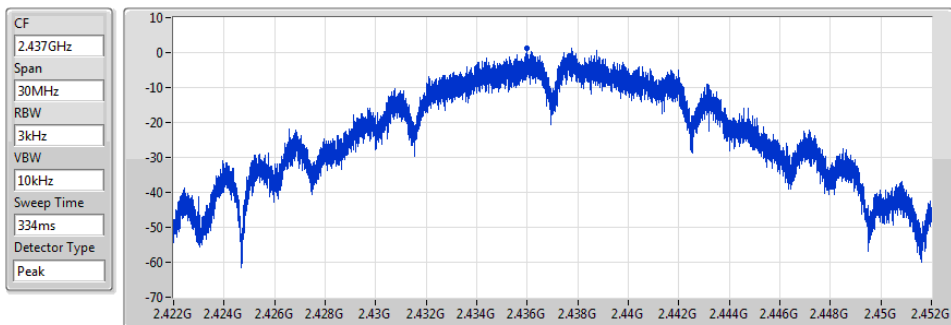
Sum	PD	Port 1
(dBm/Hz)	(dBm/Hz)	(dBm/Hz)
-0.70	-0.70	-0.70

802.11b_Nss1,(1Mbps)_1TX

PSD

2437MHz

25/01/2019



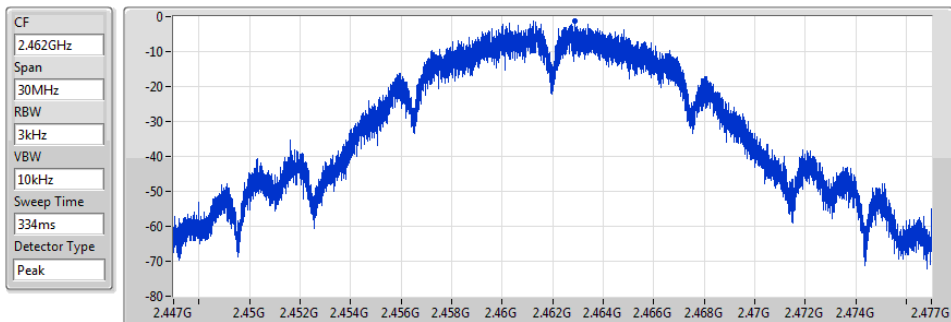
Sum	PD	Port 1
(dBm/Hz)	(dBm/Hz)	(dBm/Hz)
1.21	1.21	1.21

802.11b_Nss1,(1Mbps)_1TX

PSD

2462MHz

25/01/2019



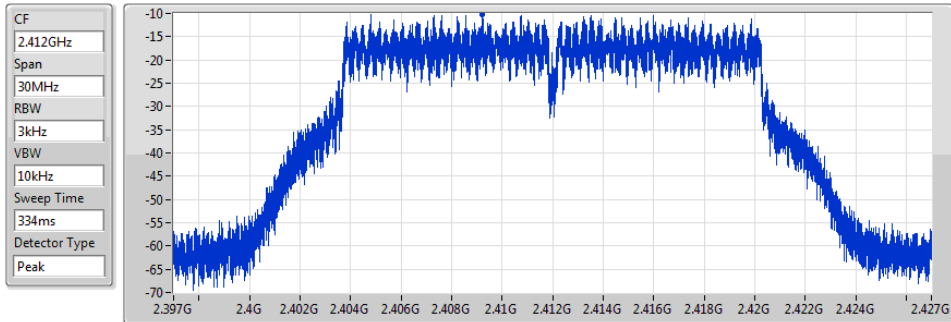
Sum	PD	Port 1
(dBm/Hz)	(dBm/Hz)	(dBm/Hz)
-1.16	-1.16	-1.16

802.11g_Nss1,(6Mbps)_1TX

PSD

2412MHz

25/01/2019



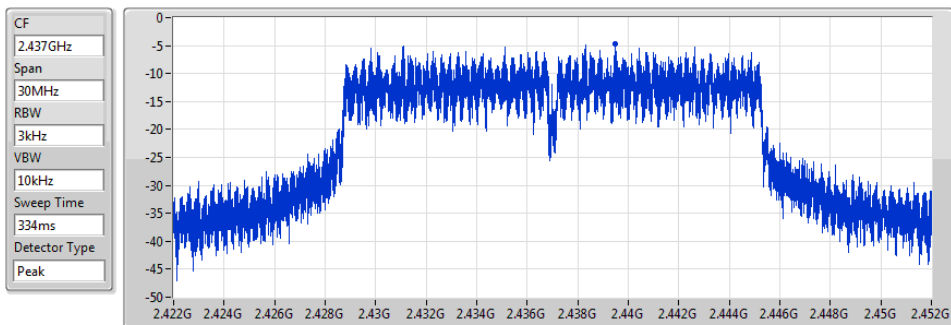
Sum	PD	Port 1
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
-10.12	-10.12	-10.12

802.11g_Nss1,(6Mbps)_1TX

PSD

2437MHz

25/01/2019



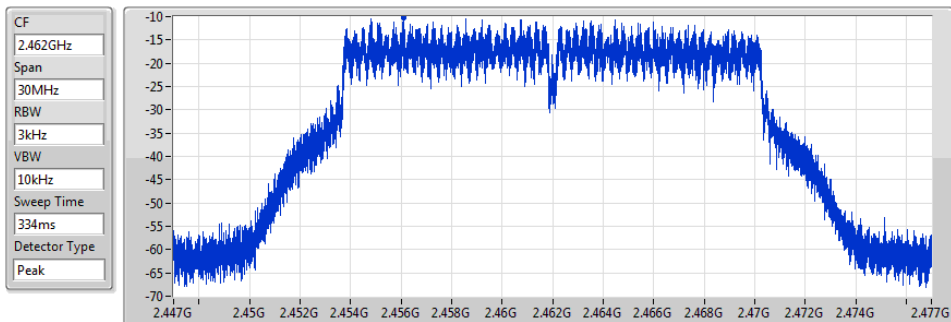
Sum	PD	Port 1
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
-4.73	-4.73	-4.73

802.11g_Nss1,(6Mbps)_1TX

PSD

2462MHz

25/01/2019



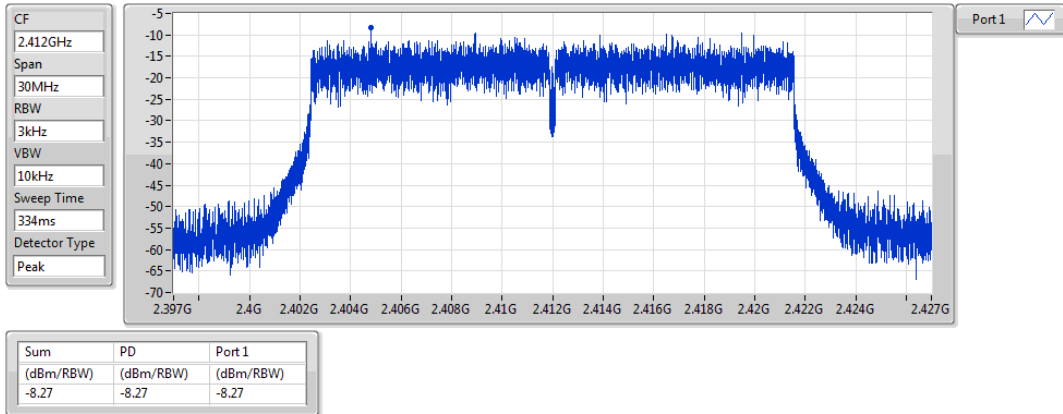
Sum	PD	Port 1
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
-10.35	-10.35	-10.35

802.11ax HEW20_Nss1,(MCS0)_1TX

PSD

2412MHz

25/01/2019

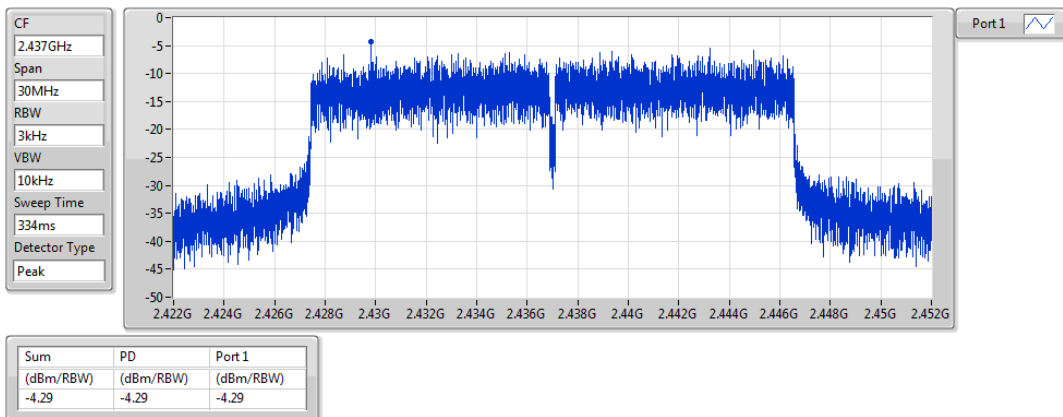


802.11ax HEW20_Nss1,(MCS0)_1TX

PSD

2437MHz

25/01/2019

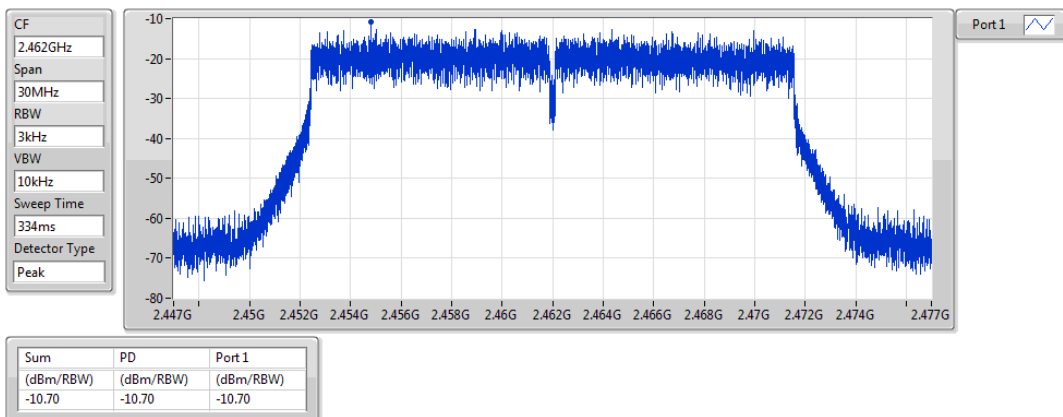


802.11ax HEW20_Nss1,(MCS0)_1TX

PSD

2462MHz

25/01/2019

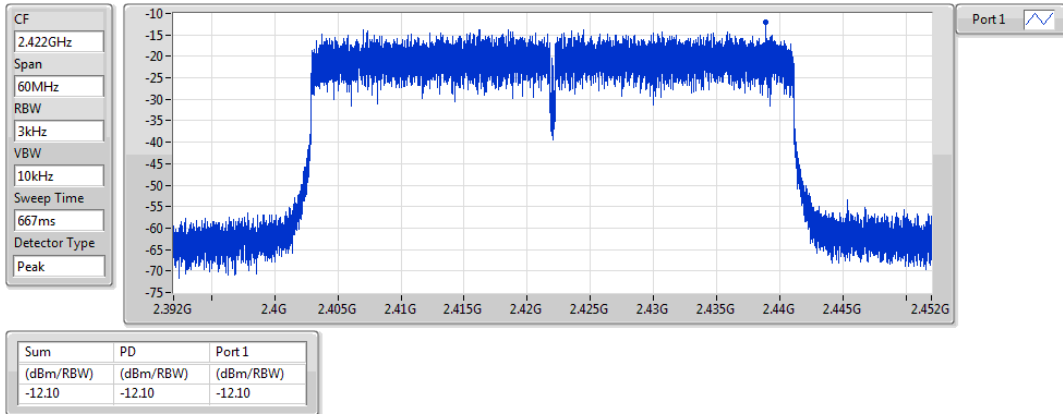


802.11ax HEW40_Nss1,(MCS0)_1TX

PSD

2422MHz

25/01/2019

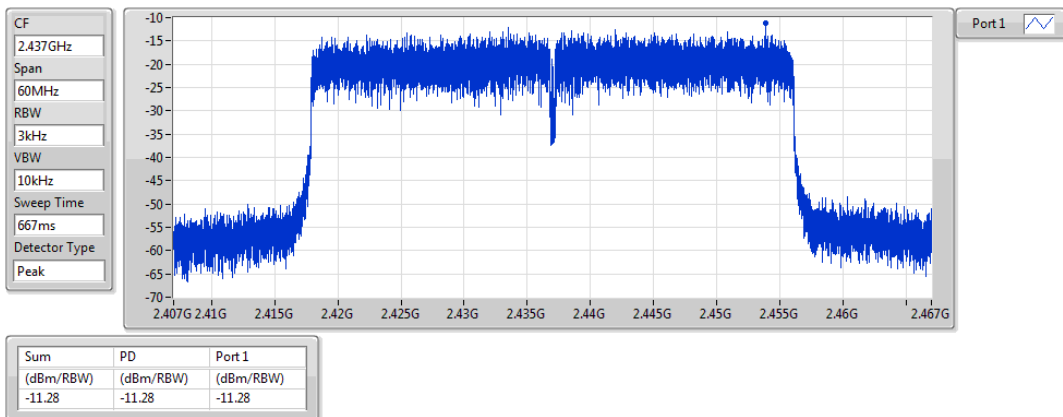


802.11ax HEW40_Nss1,(MCS0)_1TX

PSD

2437MHz

25/01/2019

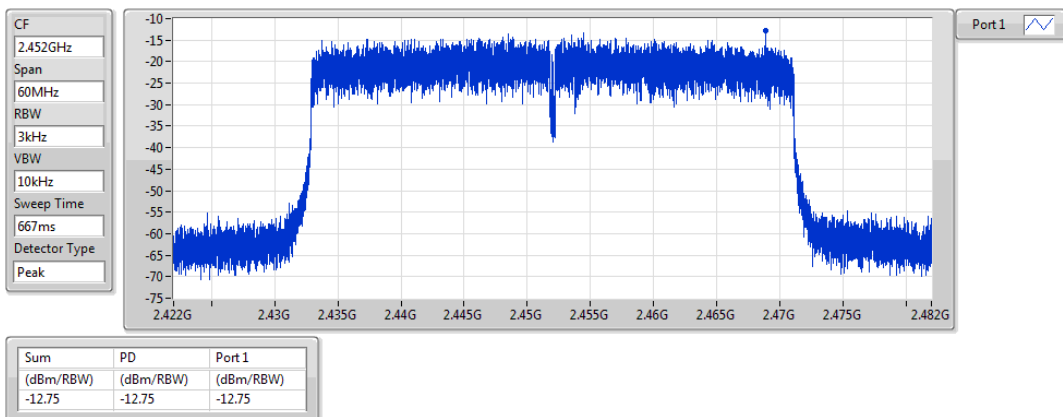


802.11ax HEW40_Nss1,(MCS0)_1TX

PSD

2452MHz

25/01/2019





PSD Result

Appendix D.2

For Non-beamforming / 2T2S mode Summary

Mode	PD (dBm/RBW)
2.4-2.4835GHz	-
802.11ax HEW20_Nss2,(MCS0)_2TX	-4.59
802.11ax HEW40_Nss2,(MCS0)_2TX	-11.57

RBW=3kHz.

Result

Mode	Result	DG (dBi)	Port 1 (dBm/RBW)	Port 2 (dBm/RBW)	PD (dBm/RBW)	PD Limit (dBm/RBW)
802.11ax HEW20_Nss2,(MCS0)_2TX	-	-	-	-	-	-
2412MHz	Pass	3.00	-9.35	-9.56	-7.39	8.00
2437MHz	Pass	3.00	-6.40	-6.08	-4.59	8.00
2462MHz	Pass	3.00	-10.80	-10.53	-9.23	8.00
802.11ax HEW40_Nss2,(MCS0)_2TX	-	-	-	-	-	-
2422MHz	Pass	3.00	-14.30	-14.16	-12.58	8.00
2437MHz	Pass	3.00	-14.17	-13.04	-11.57	8.00
2452MHz	Pass	3.00	-15.50	-15.63	-14.14	8.00

DG = Directional Gain; RBW=3kHz;

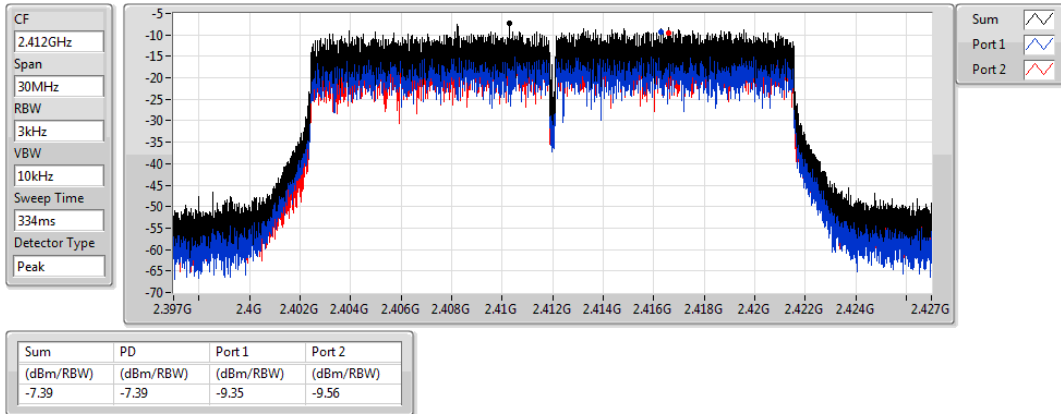
PD = trace bin-by-bin of each transmits port summing can be performed maximum power density; **Port X** = Port Xpower density;

802.11ax HEW20_Nss2,(MCS0)_2TX

PSD

2412MHz

25/01/2019

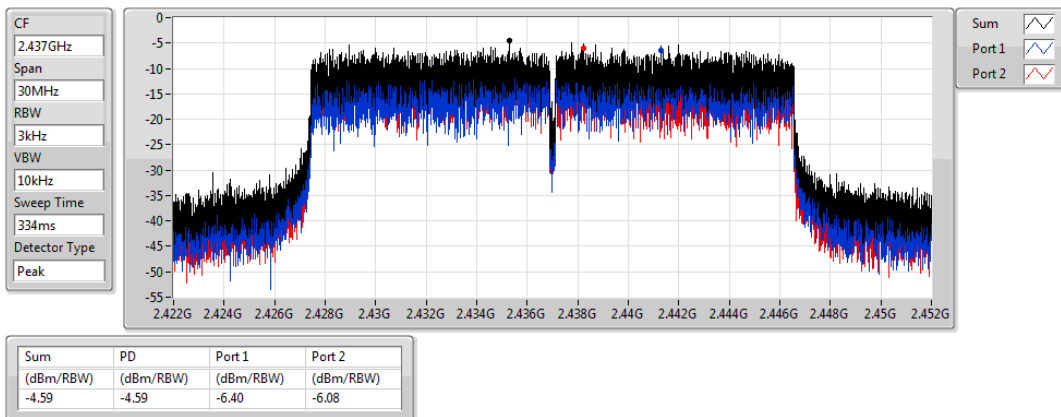


802.11ax HEW20_Nss2,(MCS0)_2TX

PSD

2437MHz

25/01/2019

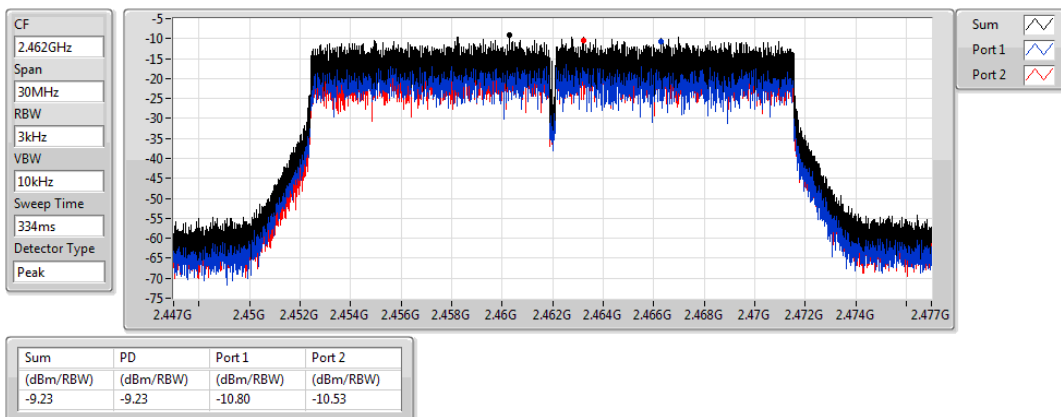


802.11ax HEW20_Nss2,(MCS0)_2TX

PSD

2462MHz

25/01/2019

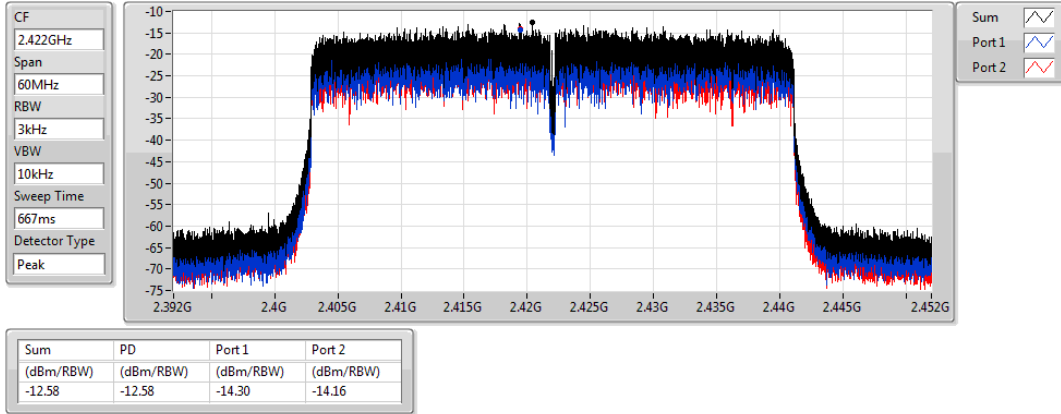


802.11ax HEW40_Nss2,(MCS0)_2TX

PSD

2422MHz

25/01/2019

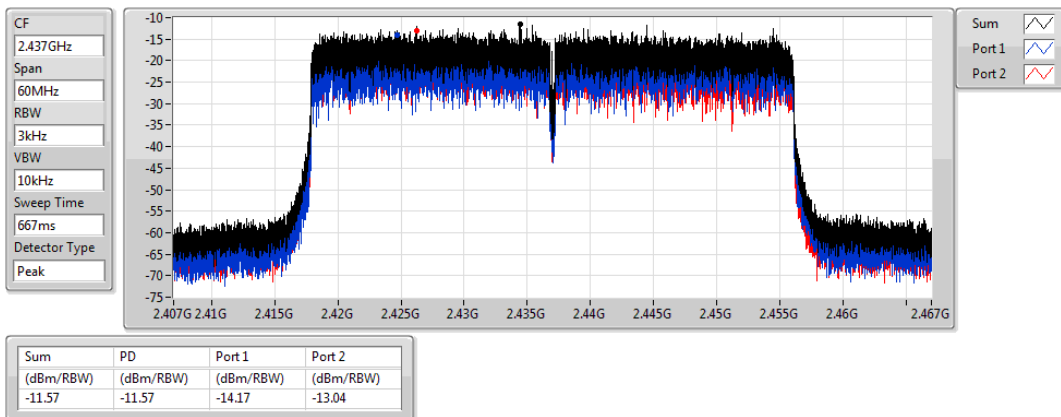


802.11ax HEW40_Nss2,(MCS0)_2TX

PSD

2437MHz

25/01/2019

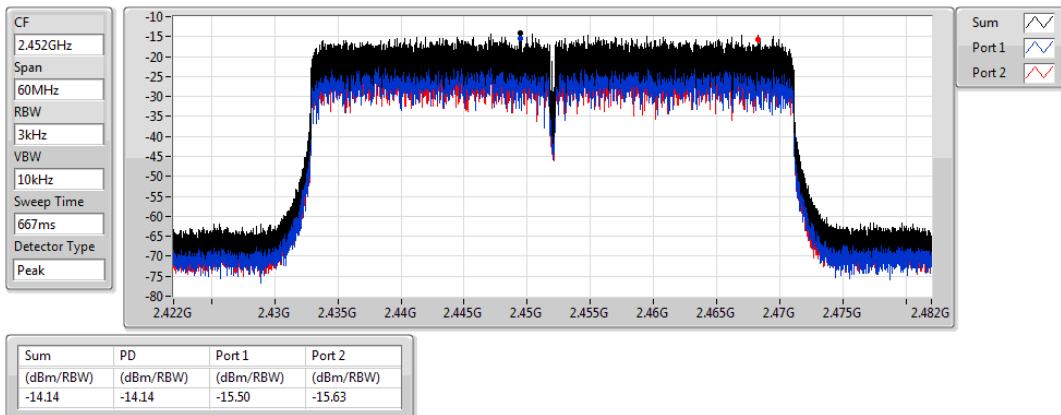


802.11ax HEW40_Nss2,(MCS0)_2TX

PSD

2452MHz

25/01/2019



**For Non-beamforming / 4T1S mode
Summary**

Mode	PD (dBm/RBW)
2.4-2.4835GHz	-
802.11b_Nss1,(1Mbps)_4TX	4.54
802.11g_Nss1,(6Mbps)_4TX	-2.45
802.11ax HEW20_Nss1,(MCS0)_4TX	-0.04
802.11ax HEW40_Nss1,(MCS0)_4TX	-7.95

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_Nss1,(1Mbps)_4TX	-	-	-	-	-	-	-	-
2412MHz	Pass	9.02	0.26	-0.13	-0.78	0.72	4.34	4.98
2437MHz	Pass	9.02	0.70	1.14	0.25	0.42	4.50	4.98
2462MHz	Pass	9.02	-1.07	-0.03	-0.50	-0.56	4.54	4.98
802.11g_Nss1,(6Mbps)_4TX	-	-	-	-	-	-	-	-
2412MHz	Pass	9.02	-11.95	-11.09	-11.94	-11.94	-6.71	4.98
2437MHz	Pass	9.02	-7.28	-7.92	-7.21	-7.56	-2.45	4.98
2462MHz	Pass	9.02	-11.99	-12.06	-11.48	-12.21	-6.73	4.98
802.11ax HEW20_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-
2412MHz	Pass	9.02	-11.36	-11.42	-12.05	-10.20	-6.31	4.98
2437MHz	Pass	9.02	-7.33	-5.51	-5.97	-5.65	-0.04	4.98
2462MHz	Pass	9.02	-11.83	-12.21	-13.54	-11.82	-6.81	4.98
802.11ax HEW40_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-
2422MHz	Pass	9.02	-14.43	-14.51	-14.71	-14.11	-9.03	4.98
2437MHz	Pass	9.02	-13.05	-14.53	-13.77	-13.67	-7.95	4.98
2452MHz	Pass	9.02	-15.72	-15.98	-13.48	-15.05	-9.30	4.98

DG = Directional Gain; RBW=3kHz;

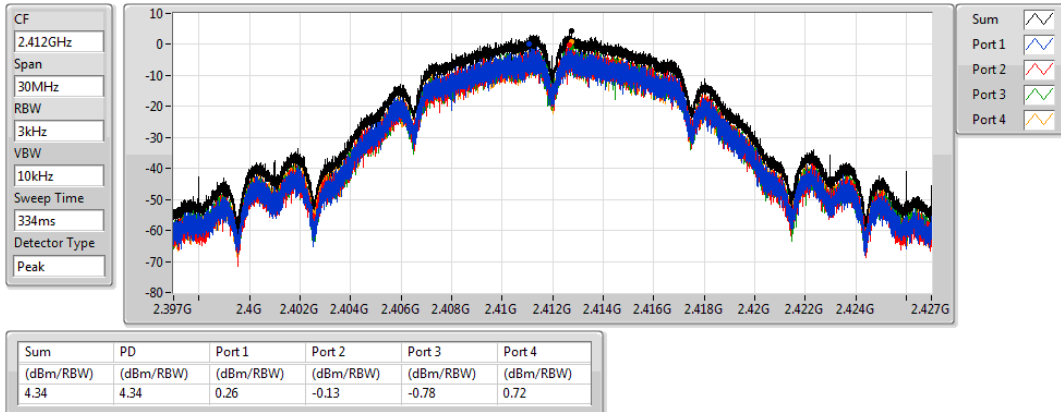
PD = trace bin-by-bin of each transmits port summing can be performed maximum power density; **Port X** = Port Xpower density;

802.11b_Nss1,(1Mbps)_4TX

PSD

2412MHz

25/01/2019

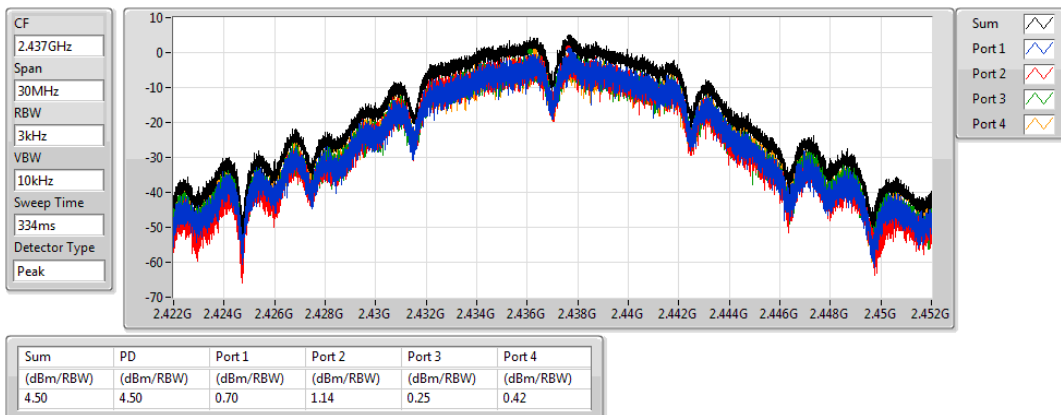


802.11b_Nss1,(1Mbps)_4TX

PSD

2437MHz

25/01/2019

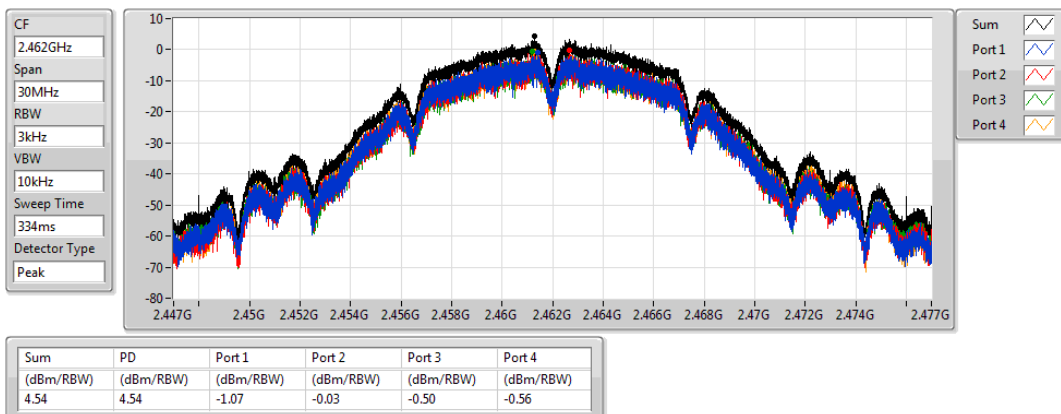


802.11b_Nss1,(1Mbps)_4TX

PSD

2462MHz

25/01/2019

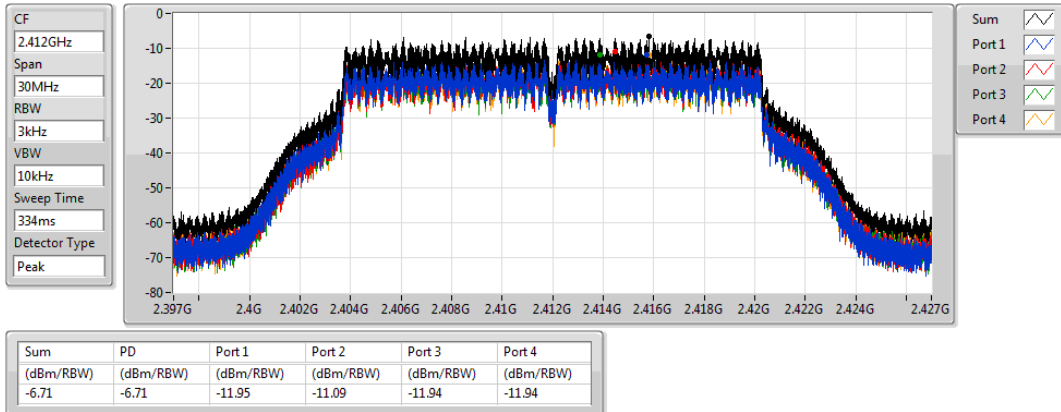


802.11g_Nss1,(6Mbps)_4TX

PSD

2412MHz

25/01/2019

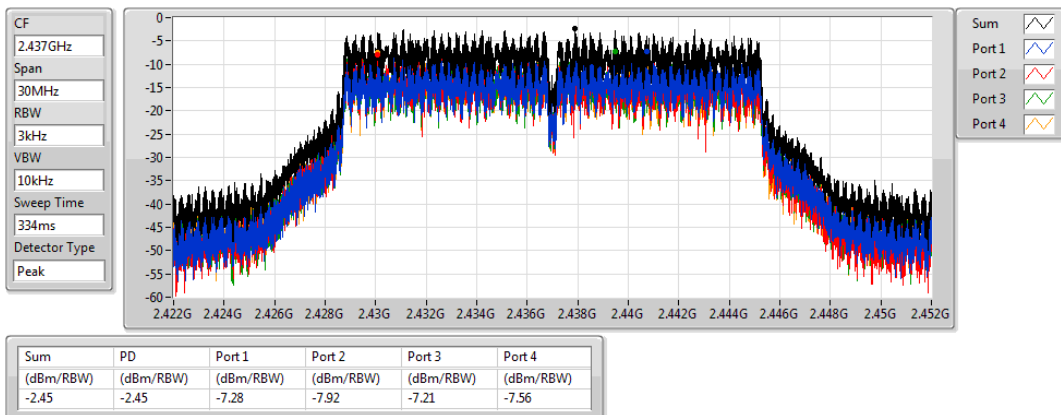


802.11g_Nss1,(6Mbps)_4TX

PSD

2437MHz

25/01/2019

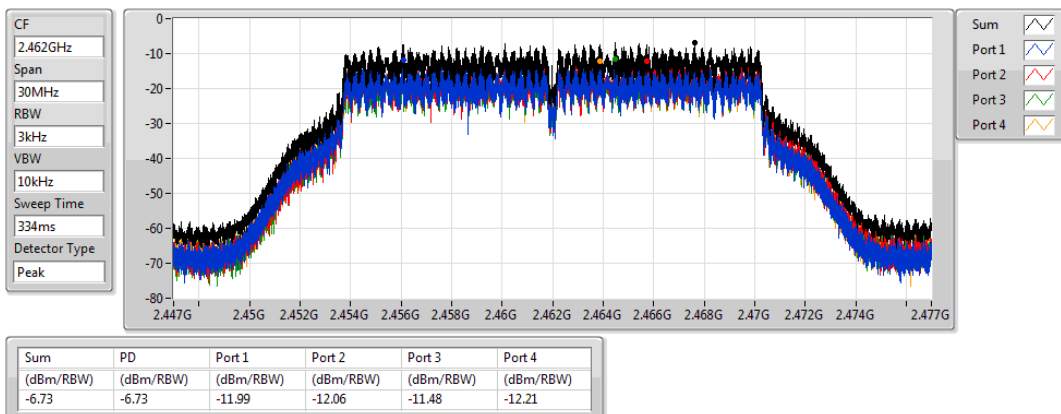


802.11g_Nss1,(6Mbps)_4TX

PSD

2462MHz

25/01/2019

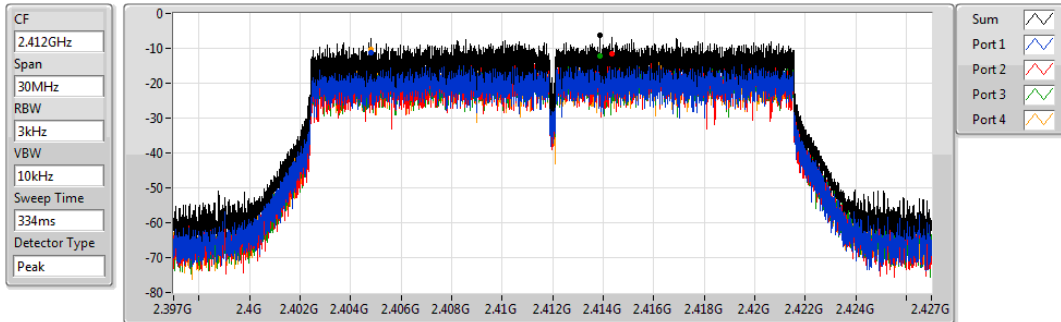


802.11ax HEW20_Nss1,(MCS0)_4TX

PSD

2412MHz

25/01/2019



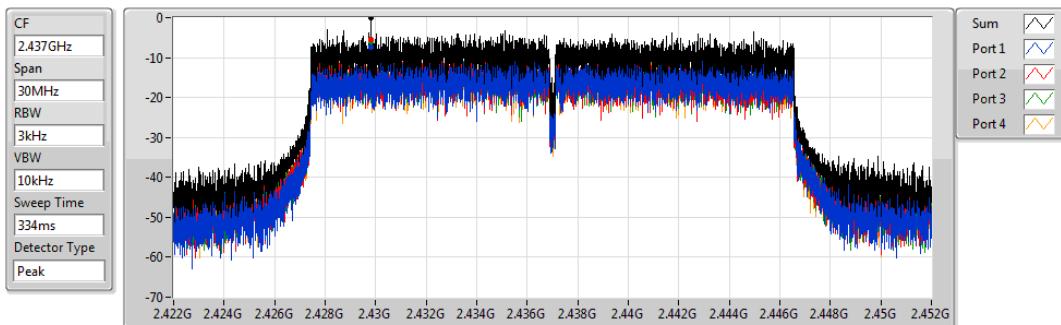
Sum	PD	Port 1	Port 2	Port 3	Port 4
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
-6.31	-6.31	-11.36	-11.42	-12.05	-10.20

802.11ax HEW20_Nss1,(MCS0)_4TX

PSD

2437MHz

25/01/2019



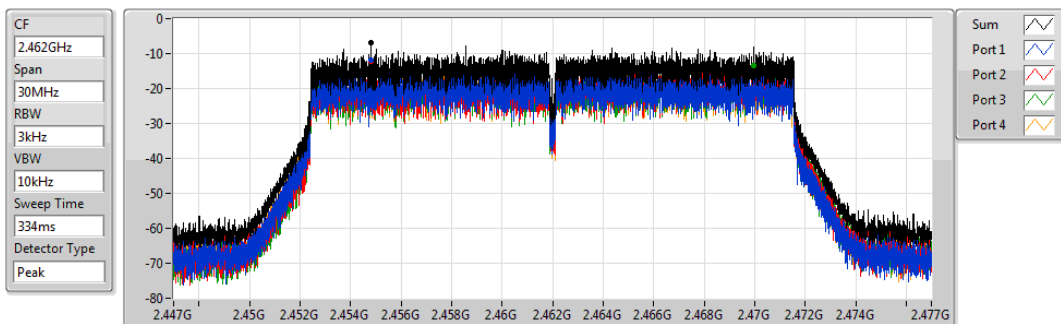
Sum	PD	Port 1	Port 2	Port 3	Port 4
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
-0.04	-0.04	-7.33	-5.51	-5.97	-5.65

802.11ax HEW20_Nss1,(MCS0)_4TX

PSD

2462MHz

25/01/2019



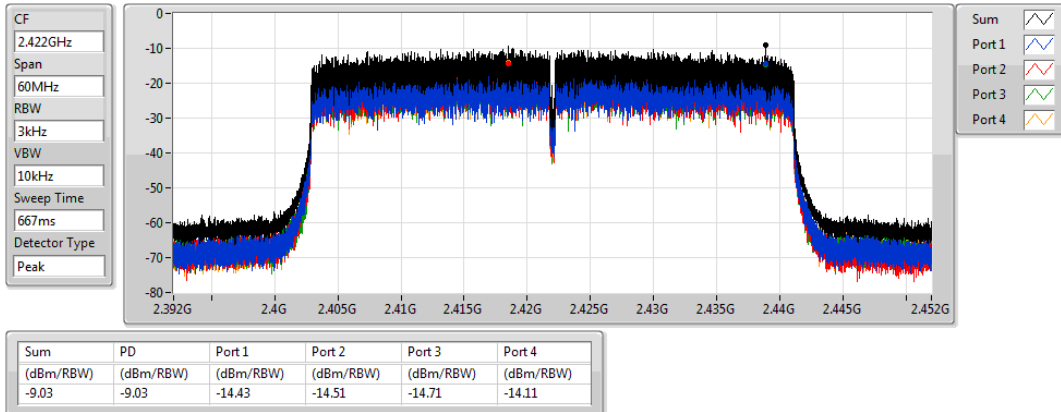
Sum	PD	Port 1	Port 2	Port 3	Port 4
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
-6.81	-6.81	-11.83	-12.21	-13.54	-11.82

802.11ax HEW40_Nss1,(MCS0)_4TX

PSD

2422MHz

25/01/2019

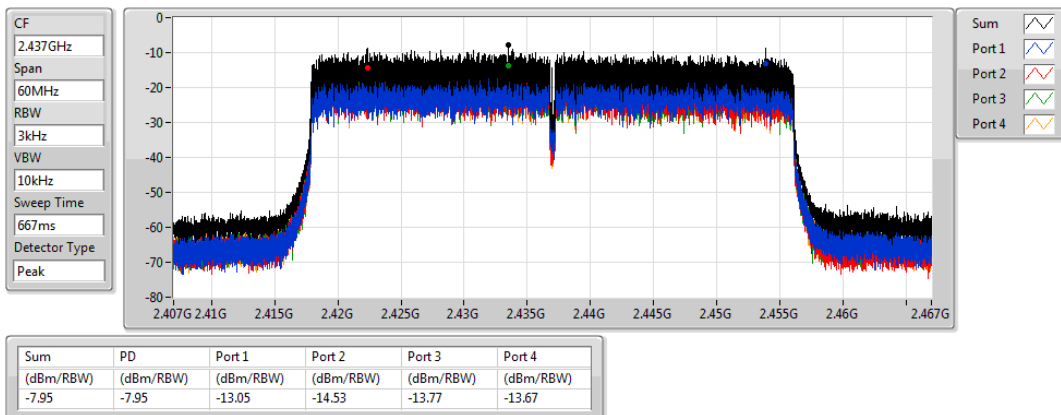


802.11ax HEW40_Nss1,(MCS0)_4TX

PSD

2437MHz

25/01/2019

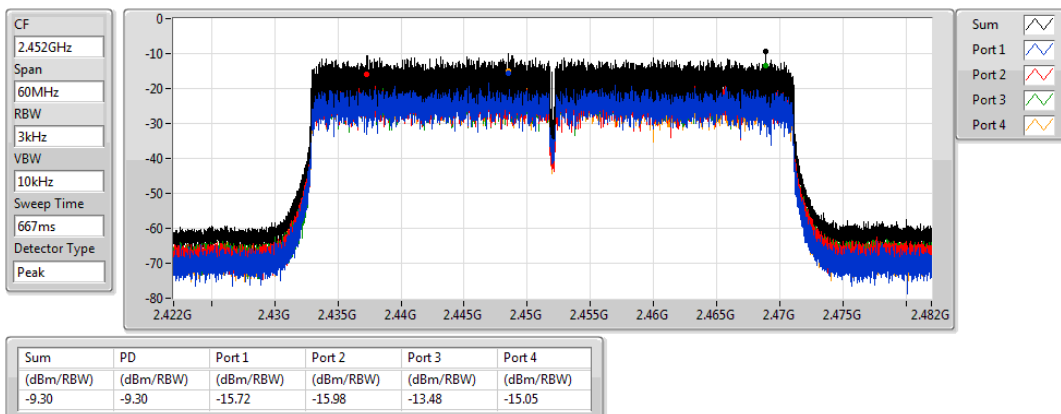


802.11ax HEW40_Nss1,(MCS0)_4TX

PSD

2452MHz

25/01/2019





PSD Result

Appendix D.4

For Beamforming / 4T1S mode Summary

Mode	PD (dBm/RBW)
2.4-2.4835GHz	-
802.11ax HEW20-BF_Nss1,(MCS0)_4TX	0.11
802.11ax HEW40-BF_Nss1,(MCS0)_4TX	-8.78

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)
802.11ax HEW20-BF_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-
2412MHz	Pass	9.02	-9.21	-10.14	-9.76	-11.62	-4.36	4.98
2437MHz	Pass	9.02	-6.00	-4.62	-5.21	-7.30	0.11	4.98
2462MHz	Pass	9.02	-10.89	-12.88	-12.80	-11.00	-6.17	4.98
802.11ax HEW40-BF_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-
2422MHz	Pass	9.02	-14.27	-14.95	-14.49	-15.03	-8.87	4.98
2437MHz	Pass	9.02	-14.24	-14.41	-15.01	-15.67	-9.40	4.98
2452MHz	Pass	9.02	-14.65	-13.09	-14.67	-15.34	-8.78	4.98

DG = Directional Gain; RBW=3kHz;

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