

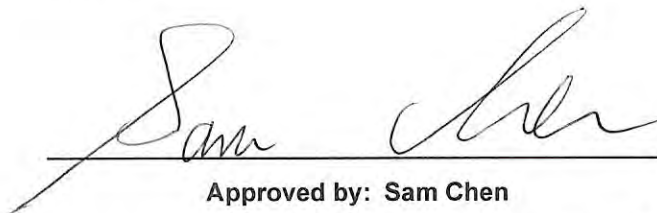


# RADIO TEST REPORT

FCC ID : TX2-RTL8852CE  
Equipment : 11ax RTL8852CE Combo module  
Brand Name : REALTEK  
Model Name : RTL8852CE  
Applicant : Realtek Semiconductor Corp.  
No. 2, Innovation Road II, Hsinchu Science Park,  
Hsinchu 300, Taiwan  
Manufacturer : Realtek Semiconductor Corp.  
No. 2, Innovation Road II, Hsinchu Science Park,  
Hsinchu 300, Taiwan  
Standard : 47 CFR FCC Part 15.247

The product was received on Nov. 05, 2021, and testing was started from Nov. 27, 2021 and completed on Jun. 17, 2022. We, Sporton International Inc. Hsinchu 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 test results in this report apply exclusively to the tested model / sample. Without written approval of Sporton International Inc. Hsinchu Laboratory, the test report shall not be reproduced except in full.



Approved by: Sam Chen

**Sporton International Inc. Hsinchu Laboratory**  
No.8, Ln. 724, Bo'ai St., Zhubei City, Hsinchu County 302010, Taiwan



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**Appendix F. Test Results of Emissions in Restricted Frequency Bands**

**Appendix G. Test Photos**

**Photographs of EUT v01**





## 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:**

1. The test results with all measurement uncertainty excluded are presented in accordance with the regulation limits or requirements declared by manufacturers. It's means measurement values may risk exceeding the limit of regulation standards, if measurement uncertainty is include in test results.
2. The measurement uncertainty please refer to report "Measurement Uncertainty".

**Comments and Explanations:**

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: Sandy Chuang**



# 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), VHT20, ax (HEW20)	2412-2472	1-13 [13]
2400-2483.5	n (HT40), VHT40, ax (HEW40)	2422-2462	3-11 [9]

Band	Mode	BWch (MHz)	Nant
2.4-2.4835GHz	802.11b	20	1TX/2TX
2.4-2.4835GHz	802.11g	20	1TX/2TX
2.4-2.4835GHz	802.11n HT20	20	1TX/2TX
2.4-2.4835GHz	802.11n HT20-BF	20	2TX
2.4-2.4835GHz	VHT20	20	1TX/2TX
2.4-2.4835GHz	VHT20-BF	20	2TX
2.4-2.4835GHz	802.11ax HEW20	20	1TX/2TX
2.4-2.4835GHz	802.11ax HEW20-BF	20	2TX
2.4-2.4835GHz	802.11n HT40	40	1TX/2TX
2.4-2.4835GHz	802.11n HT40-BF	40	2TX
2.4-2.4835GHz	VHT40	40	1TX/2TX
2.4-2.4835GHz	VHT40-BF	40	2TX
2.4-2.4835GHz	802.11ax HEW40	40	1TX/2TX
2.4-2.4835GHz	802.11ax HEW40-BF	40	2TX

**Note:**

- ♦ 11b mode uses a combination of DSSS-DBPSK, DQPSK, CCK modulation.
- ♦ 11g, HT20 and HT40 use a combination of OFDM-BPSK, QPSK, 16QAM, 64QAM modulation.
- ♦ VHT20, VHT40 use a combination of OFDM-BPSK, QPSK, 16QAM, 64QAM, 256QAM modulation.
- ♦ HEW20, HEW40 use a combination of OFDMA-BPSK, QPSK, 16QAM, 64QAM, 256QAM, 1024QAM modulation.
- ♦ BWch is the nominal channel bandwidth.



1.1.2 Antenna Information

Ant.	Port			Brand	Model Name	Antenna Type	Connector	Gain (dBi)
	WLAN 2.4GHz	WLAN 5GHz / 6GHz	Bluetooth					
1	1/2	1/2	1	ARISTOTLE	RFA-27-JP378-4B-200	Monopole	I-PEX	Note 1
2	1/2	1/2	1	ARISTOTLE	RFA-27-JP326-MHF4300	PIFA	I-PEX	
3	1/2	1/2	1	ARISTOTLE	RFA-27-C38H1-MHF4300	Dipole	I-PEX	
4	-	1/2	-	ARISTOTLE	RFA-57-JP697-4B-300	Monopole	I-PEX	

Note 1

Ant.	Port			Gain (dBi)		
	WLAN 2.4GHz	WLAN 5GHz / 6GHz	Bluetooth	WLAN 2.4GHz	WLAN 5GHz / 6GHz	Bluetooth
1	1/2	1/2	1	3.38	4.86	3.38
2	1/2	1/2	1	3.50	5.00	3.50
3	1/2	1/2	1	3.00	5.00	3.00
4	-	1/2	-	-	-5	-

Note 2: The above information was declared by manufacturer.

Note 3: For Conducted measurement Test: Only the highest gain antenna "Ant. 2" was selected to perform the test and recorded in this report.

<For WLAN 2.4GHz function>

For IEEE 802.11b/g/n/VHT/ax (1TX/2RX):

For Conducted:

The EUT supports the antenna with TX diversity functions.

Both Port 1 and Port 2 support transmit and receive functions, but only one of them will be used at one time.

The Port 1 generated the worst case, so it was selected to test and record in the report.

Port 1 and Port 2 could receive simultaneously

For Radiated:

The EUT supports the antenna with TX diversity functions.

Both Port 1 and Port 2 support transmit and receive functions, but only one of them will be used at one time.

The Port 2 generated the worst case, so it was selected to test and record in the report.

Port 1 and Port 2 could receive simultaneously

For IEEE 802.11b/g/n/VHT/ax (2TX/2RX):

Port 1 and Port 2 can be used as transmitting/receiving antenna.

Port 1 and Port 2 could transmit/receive simultaneously.



**<For WLAN 5GHz function>**

**For IEEE 802.11a/n/ac/ax (1TX/2RX):**

The EUT supports the antenna with TX diversity functions.

Both Port 1 and Port 2 support transmit and receive functions, but only one of them will be used at one time.

The Port 1 generated the worst case, so it was selected to test and record in the report.

Port 1 and Port 2 could receive simultaneously

**For IEEE 802.11a/n/ac/ax (2TX/2RX):**

Port 1 and Port 2 can be used as transmitting/receiving antenna.

Port 1 and Port 2 could transmit/receive simultaneously.

**<For WLAN 6GHz function>**

**For IEEE 802.11ax (1TX/2RX):**

The EUT supports the antenna with TX diversity functions.

Both Port 1 and Port 2 support transmit and receive functions, but only one of them will be used at one time.

The Port 1 generated the worst case, so it was selected to test and record in the report.

Port 1 and Port 2 could receive simultaneously

**For IEEE 802.11ax (2TX/2RX):**

Port 1 and Port 2 can be used as transmitting/receiving antenna.

Port 1 and Port 2 could transmit/receive simultaneously.

**<For Bluetooth function> (1TX/1RX):**

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



Note 4: Directional gain information

Type	Maximum Output Power	Power Spectral Density
Non-BF	Directional gain = Max.gain + array gain. For power measurements on IEEE 802.11 devices Array Gain = 0 dB (i.e., no array gain) for N ANT ≤ 4	$Directional\ Gain = 10 \cdot \log \left[ \frac{\sum_{j=1}^{N_{SS}} \left[ \sum_{k=1}^{N_{ANT}} g_{j,k} \right]^2}{N_{ANT}} \right]$
BF	$Directional\ Gain = 10 \cdot \log \left[ \frac{\sum_{j=1}^{N_{SS}} \left[ \sum_{k=1}^{N_{ANT}} g_{j,k} \right]^2}{N_{ANT}} \right]$	$Directional\ Gain = 10 \cdot \log \left[ \frac{\sum_{j=1}^{N_{SS}} \left[ \sum_{k=1}^{N_{ANT}} g_{j,k} \right]^2}{N_{ANT}} \right]$

Ex.

Directional Gain (NSS1) formula :

$$Directional\ Gain = 10 \cdot \log \left[ \frac{\sum_{j=1}^{N_{SS}} \left[ \sum_{k=1}^{N_{ANT}} g_{j,k} \right]^2}{N_{ANT}} \right]$$

$$NSS1(g1,1) = 10^{G1/20} ; NSS1(g1,2) = 10^{G2/20}$$

$$g_{j,k} = (NSS1(g1,1) + NSS1(g1,2))^2$$

$$DG = 10 \log[(NSS1(g1,1) + NSS1(g1,2) / N_{ANT})] => 10 \log[(10^{G1/20} + 10^{G2/20})^2 / N_{ANT}]$$

Where ;

Monopole Antenna

2.4G G1 = 3.38 dBi ; G2 = 3.38 dBi ; DG=6.39 dBi

5G G1 = 4.86 dBi ; G2 = 4.86 dBi ; DG=7.87dBi

6G G1 = 4.86 dBi ; G2 = 4.86 dBi ; DG=7.87 dBi

PIFA Antenna

2.4G G1 = 3.5 dBi ; G2 = 3.5 dBi ; DG=6.51 dBi

5G G1 = 5 dBi ; G2 =5 dBi ; DG=8.01dBi

6G G1 = 5 dBi ; G2 =5 dBi ; DG=8.01dBi

Dipole Antenna

2.4G G1 = 3 dBi ; G2 = 3 dBi ; DG=6.01 dBi

5G G1 = 5 dBi ; G2 =5 dBi ; DG=8.01dBi

6G G1 = 5 dBi ; G2 =5 dBi ; DG=8.01dBi

### 1.1.3 Test Mode of Partial RU

Mode		Partial RU		
802.11ax HEW20	1TX	26	52	106
	2TX	26	52	106





1.1.4 Mode Test Duty Cycle

<Full RU>

Non-Beamforming Mode:

Mode	DC	DCF(dB)	T(s)	VBW(Hz) ≥ 1/T
802.11b	0.999	0.01	n/a (DC>=0.98)	n/a (DC>=0.98)
802.11g	0.995	0.02	n/a (DC>=0.98)	n/a (DC>=0.98)
VHT20	0.994	0.03	n/a (DC>=0.98)	n/a (DC>=0.98)
VHT40	0.987	0.06	n/a (DC>=0.98)	n/a (DC>=0.98)
802.11ax HEW20	0.992	0.03	n/a (DC>=0.98)	n/a (DC>=0.98)
802.11ax HEW40	0.984	0.07	n/a (DC>=0.98)	n/a (DC>=0.98)

Beamforming Mode:

Mode	DC	DCF(dB)	T(s)	VBW(Hz) ≥ 1/T
VHT20-BF	0.994	0.03	n/a (DC>=0.98)	n/a (DC>=0.98)
VHT40-BF	0.987	0.06	n/a (DC>=0.98)	n/a (DC>=0.98)
802.11ax HEW20-BF	0.992	0.03	n/a (DC>=0.98)	n/a (DC>=0.98)
802.11ax HEW40-BF	0.984	0.07	n/a (DC>=0.98)	n/a (DC>=0.98)

<Partial RU>

Mode	DC	DCF(dB)	T(s)	VBW(Hz) ≥ 1/T
802.11ax HEW20	0.992	0.03	n/a (DC>=0.98)	n/a (DC>=0.98)

Note:

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

1.1.5 EUT Operational Condition

<b>EUT Power Type</b>	From host system			
<b>Beamforming Function</b>	<input checked="" type="checkbox"/> With beamforming	<input type="checkbox"/> Without beamforming	The product has beamforming function for 11n/VHT/11ax in 2.4GHz, 11n/11ac/11ax in 5GHz and ax in 6GHz.	
<b>Function</b>	<input checked="" type="checkbox"/> Point-to-multipoint	<input type="checkbox"/> Point-to-point		
<b>Test Software Version</b>	REALTEK MP V:homo_V1.0.2			

Note: The above information was declared by manufacturer.



### 1.2 Applicable Standards

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

- ◆ 47 CFR FCC Part 15.247
- ◆ ANSI C63.10-2013

The following reference test guidance is not within the scope of accreditation of TAF.

- ◆ FCC KDB 558074 D01 v05r02
- ◆ FCC KDB 662911 D01 v02r01
- ◆ FCC KDB 414788 D01 v01r01

### 1.3 Testing Location Information

Testing Location Information	
Test Lab. : Sporton International Inc. Hsinchu Laboratory	
Hsinchu	ADD: No.8, Ln. 724, Bo' ai St., Zhubei City, Hsinchu County 302010, Taiwan
(TAF: 3787)	TEL: 886-3-656-9065 FAX: 886-3-656-9085
	Test site Designation No. TW3787 with FCC.
	Conformity Assessment Body Identifier (CABID) TW3787 with ISED.

Test Condition	Test Site No.	Test Engineer	Test Environment (°C / %)	Test Date
RF Conducted	TH01-CB	Serway Lee	21~22.3 / 65~69	May 02, 2022~ Jun. 17, 2022
Radiated <Below 1GHz>	10CH01-CB	Peter Wu	23~24 / 57~58	May 18, 2022
Radiated <Above 1GHz: Full RU>	03CH03-CB	Ken Yeh	23.8-24.9 / 55-58	Nov. 27, 2021~ May 11, 2022
Radiated <Above 1GHz: Partial RU>	03CH03-CB	Ken Yeh	24.1-24.2 / 55-58	Nov. 27, 2021~ May 11, 2022
AC Conduction	CO01-CB	Ryan Huang	23~24 / 56~57	May 13, 2022



## 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 Date: Before Jun. 01, 2022**

Test Items	Uncertainty	Remark
Conducted Emission (150kHz ~ 30MHz)	3.4 dB	Confidence levels of 95%
Radiated Emission (9kHz ~ 30MHz)	4.2 dB	Confidence levels of 95%
Radiated Emission (30MHz ~ 1,000MHz)	5.5 dB	Confidence levels of 95%
Radiated Emission (1GHz ~ 18GHz)	4.7 dB	Confidence levels of 95%
Radiated Emission (18GHz ~ 40GHz)	4.2 dB	Confidence levels of 95%
Conducted Emission	2.5 dB	Confidence levels of 95%
Output Power Measurement	1.3 dB	Confidence levels of 95%
Power Density Measurement	2.5 dB	Confidence levels of 95%
Bandwidth Measurement	0.9%	Confidence levels of 95%

**Test Date: After May 31, 2022**

Test Items	Uncertainty	Remark
Conducted Emission	3.2 dB	Confidence levels of 95%
Output Power Measurement	0.8 dB	Confidence levels of 95%
Power Density Measurement	3.2 dB	Confidence levels of 95%
Bandwidth Measurement	2.0 %	Confidence levels of 95%



## 2 Test Configuration of EUT

### 2.1 Test Channel Mode

<Full RU>

Non-Beamforming Mode:

1TX

Mode	Power Setting
802.11b_Nss1,(1Mbps)_1TX	-
2412MHz	21.5
2437MHz	22.5
2457MHz	21.25
2462MHz	21
2467MHz	16.25
2472MHz	13.5
802.11b_Nss1,(1Mbps)_1TX	-
2422MHz	13.25
2427MHz	17.25
2437MHz	17.25
2447MHz	14
2452MHz	9.75
2457MHz	9.25
2462MHz	9.25
802.11g_Nss1,(6Mbps)_1TX	-
2412MHz	18
2417MHz	18.25
2437MHz	22.75
2457MHz	20.5
2462MHz	18.25
2467MHz	17.25
2472MHz	16.75
VHT20_Nss1,(MCS0)_1TX	-
2412MHz	18
2417MHz	19.25
2437MHz	22.75
2457MHz	20.5
2462MHz	17.5
2467MHz	17
2472MHz	11.75
VHT40_Nss1,(MCS0)_1TX	-
2422MHz	17.5



<b>Mode</b>	<b>Power Setting</b>
2437MHz	18.5
2452MHz	17.25
2457MHz	16.5
2462MHz	15.75
802.11ax HEW20_Nss1,(MCS0)_1TX	-
2412MHz	18
2417MHz	19.25
2437MHz	22.75
2457MHz	20.5
2462MHz	17.5
2467MHz	17
2472MHz	11.75
802.11ax HEW40_Nss1,(MCS0)_1TX	-
2422MHz	17.5
2437MHz	18.5
2452MHz	17.25
2457MHz	16.5
2462MHz	15.75



**2TX**

Mode	Power Setting
802.11b_Nss1,(1Mbps)_2TX	-
2412MHz	20.75 (S0-1)
2437MHz	22.25 (S0-1)
2457MHz	19.25 (S0-1.25)
2462MHz	19.5 (S0-1)
2467MHz	13.25 (S0-1.75)
2472MHz	8 (S0-4)
802.11b_Nss1,(1Mbps)_2TX	-
2422MHz	13.25 (S0-1.75)
2437MHz	14.25 (S0-1.75)
2447MHz	12.5 (S0-1.75)
2452MHz	7.5 (S0-4.25) 3.00
2457MHz	6.75 (S0-3.25)
2462MHz	7 (S0-4.5)
802.11g_Nss1,(6Mbps)_2TX	-
2412MHz	17.5 (S0-1.25)
2417MHz	18.5 (S0-1.25)
2437MHz	22.75 (S0-1.25)
2457MHz	19 (S0-1.25)
2462MHz	17 (S0-1.5)
2467MHz	16.5 (S0-1.25)
2472MHz	11.25 (S0-2)
VHT20_Nss1,(MCS0)_2TX	-
2412MHz	17.25 (S0-1.25)
2417MHz	19 (S0-1.25)
2437MHz	22.75 (S0-1.25)
2457MHz	18.25 (S0-1.25)
2462MHz	16.5 (S0-1.5)
2467MHz	16.25 (S0-1.25)
2472MHz	7.75 (S0-4)
VHT40_Nss1,(MCS0)_2TX	-
2422MHz	16.5 (S0-1.25)
2437MHz	16.25 (S0-1.5)
2452MHz	15.25 (S0-1.5)
2457MHz	15 (S0-1.5)
2462MHz	13.25 (S0-2)
802.11ax HEW20_Nss1,(MCS0)_2TX	-
2412MHz	17.25 (S0-1.25)
2417MHz	19 (S0-1.25)



<b>Mode</b>	<b>Power Setting</b>
2437MHz	22.75 (S0-1.25)
2457MHz	18.25 (S0-1.25)
2462MHz	16.5 (S0-1.5)
2467MHz	16.25 (S0-1.25)
2472MHz	7.75 (S0-4)
802.11ax HEW40_Nss1,(MCS0)_2TX	-
2422MHz	16.5 (S0-1.25)
2437MHz	16.25 (S0-1.5)
2452MHz	15.25 (S0-1.5)
2457MHz	15 (S0-1.5)
2462MHz	13.25 (S0-2)



**Beamforming Mode:  
2TX**

Mode	Power Setting
VHT20-BF_Nss1,(MCS0)_2TX	-
2412MHz	17.25 (S0-1.25)
2417MHz	19 (S0-1.25)
2437MHz	22.75 (S0-1.25)
2457MHz	18.25 (S0-1.25)
2462MHz	16.5 (S0-1.5)
2467MHz	16.25 (S0-1.25)
2472MHz	7.75 (S0-4)
VHT40-BF_Nss1,(MCS0)_2TX	-
2422MHz	16.5 (S0-1.25)
2437MHz	16.25 (S0-1.5)
2452MHz	15.25 (S0-1.5)
2457MHz	15 (S0-1.5)
2462MHz	13.25 (S0-2)
802.11ax HEW20-BF_Nss1,(MCS0)_2TX	-
2412MHz	17.25 (S0-1.25)
2417MHz	19 (S0-1.25)
2437MHz	22.75 (S0-1.25)
2457MHz	18.25 (S0-1.25)
2462MHz	16.5 (S0-1.5)
2467MHz	16.25 (S0-1.25)
2472MHz	7.75 (S0-4)
802.11ax HEW40-BF_Nss1,(MCS0)_2TX	-
2422MHz	16.5 (S0-1.25)
2427MHz	
2437MHz	16.25 (S0-1.5)
2447MHz	
2452MHz	15.25 (S0-1.5)
2457MHz	15 (S0-1.5)
2462MHz	13.25 (S0-2)





<Partial RU>

**RU 26**

**1TX**

Mode	Power Setting
802.11ax HEW20_Nss1,(MCS0)_1TX	-
2412MHz	20
2437MHz	24
2462MHz	16.5
2467MHz	12.5
2472MHz	2

**2TX**

Mode	Power Setting
802.11ax HEW20_Nss1,(MCS0)_2TX	-
2412MHz	19 (S0-1.25)
2437MHz	23 (S0-1)
2462MHz	15.75 (S0-1.25)
2467MHz	11.5 (S0-2.25)
2472MHz	-2 (S0-2)

**RU 52**

**1TX**

Mode	Power Setting
802.11ax HEW20_Nss1,(MCS0)_1TX	-
2412MHz	20
2437MHz	24
2462MHz	17.5
2467MHz	13.5
2472MHz	7

**2TX**

Mode	Power Setting
802.11ax HEW20_Nss1,(MCS0)_2TX	-
2412MHz	18 (S0-1.25)
2437MHz	24 (S0-1.25)
2462MHz	16 (S0-1.25)
2467MHz	11.75 (S0-2.25)
2472MHz	3.75 (S0-3.75)



**RU 106**

**1TX**

Mode	Power Setting
802.11ax HEW20_Nss1,(MCS0)_1TX	-
2412MHz	20
2437MHz	23.5
2462MHz	18.5
2467MHz	15
2472MHz	8

**2TX**

Mode	Power Setting
802.11ax HEW20_Nss1,(MCS0)_2TX	-
2412MHz	18.25 (S0-1.25)
2437MHz	23.25 (S0-1.25)
2462MHz	18.25 (S0-1.25)
2467MHz	14 (S0-1.5)
2472MHz	5.5 (S0-3.25)

**Note:**

- ♦ Evaluated HEW20/HEW40 mode only due to the similar modulation. The power setting of HT20/HT40/VHT20/VHT40 mode are the same or lower than HEW20/HEW40. The VHT20/VHT40 evaluates the output power only.
- ♦ The EUT supports non-beamforming and beamforming modes, after evaluating, the non-beamforming mode has been evaluated to be the worst case, so it was selected to test. The beamforming mode evaluates the output power only.



## 2.2 The Worst Case Measurement Configuration

<Full RU>

The Worst Case Mode for Following Conformance Tests	
<b>Tests Item</b>	AC power-line conducted emissions
<b>Condition</b>	AC power-line conducted measurement for line and neutral Test Voltage: 120Vac / 60Hz
<b>Operating Mode</b>	Normal Link
1	EUT + WLAN 2.4GHz+ Bluetooth + Ant. 2
2	EUT + WLAN 5GHz+ Bluetooth + Ant. 2
3	EUT + WLAN 6GHz+ Bluetooth + Ant. 2

Mode 2 generated the worst test result, so it was recorded in this report.

The Worst Case Mode for Following Conformance Tests	
<b>Tests Item</b>	Maximum Conducted Output Power
<b>Test Condition</b>	Conducted measurement at transmit chains
<b>Operating Mode</b>	
1	EUT with Ant. 2

The Worst Case Mode for Following Conformance Tests	
<b>Tests Item</b>	DTS Bandwidth Power Spectral Density Emissions in Non-restricted Frequency Bands
<b>Test Condition</b>	Conducted measurement at transmit chains
<b>Operating Mode</b>	
1	EUT with Ant. 1
2	EUT with Ant. 2
3	EUT with Ant. 3



<b>The Worst Case Mode for Following Conformance Tests</b>	
<b>Tests Item</b>	Emissions in Restricted Frequency Bands
<b>Test Condition</b>	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.
<b>Operating Mode &lt; 1GHz</b>	Normal Link
1	EUT in X axis + WLAN 2.4GHz + Bluetooth + Ant. 2
2	EUT in Y axis + WLAN 2.4GHz + Bluetooth + Ant. 2
3	EUT in Z axis + WLAN 2.4GHz + Bluetooth + Ant. 2
Mode 3 has been evaluated to be the worst case among Mode 1~3, thus measurement for Mode 4 ~ 5 will follow this same test mode.	
4	EUT in Z axis + WLAN 5GHz + Bluetooth + Ant. 2
5	EUT in Z axis + WLAN 6GHz + Bluetooth + Ant. 2
Mode 3 has been evaluated to be the worst case among Mode 1~5, thus measurement for Mode 6 ~ 7 will follow this same test mode.	
6	EUT in Z axis + WLAN 2.4GHz + Bluetooth + Ant. 3
7	EUT in Z axis + WLAN 2.4GHz + Bluetooth + Ant. 1
For operating mode 3 is the worst case and it was record in this test report.	
<b>Operating Mode &gt; 1GHz</b>	CTX
The EUT was performed at X axis, Y axis and Z axis position, and the worst case as below:	
1	1TX: EUT with Ant. 1 (Bandedge at X axis / Harmonic at Y axis)
	2TX: EUT with Ant. 1 (Bandedge at Z axis / Harmonic at X axis)
2	1TX: EUT with Ant. 2 (at X axis)
	2TX: EUT with Ant. 2 (at Y axis)
3	1TX: EUT with Ant. 3 (Bandedge at Y axis / Harmonic at X axis)
	2TX: EUT with Ant. 3 (Bandedge at Y axis / Harmonic at X axis)



<b>The Worst Case Mode for Following Conformance Tests</b>	
<b>Tests Item</b>	Simultaneous Transmission Analysis - Co-location RF Exposure Evaluation
<b>Operating Mode</b>	
1	Bluetooth + WLAN 5GHz : 2TX
2	Bluetooth + WLAN 6GHz : 2TX
3	WLAN 2.4GHz: 1TX + WLAN 5GHz : 1TX
4	WLAN 2.4GHz: 1TX + WLAN 6GHz : 1TX
5	Bluetooth + WLAN 5GHz : 1TX + WLAN 6GHz : 1TX
Refer to Sporton Test Report No.: FA1N0223 for Co-location RF Exposure Evaluation.	



**<Partial RU>**

<b>The Worst Case Mode for Following Conformance Tests</b>	
<b>Tests Item</b>	Maximum Conducted Output Power
<b>Test Condition</b>	Conducted measurement at transmit chains
<b>Operating Mode</b>	
1	EUT with Ant. 2

<b>The Worst Case Mode for Following Conformance Tests</b>	
<b>Tests Item</b>	DTS Bandwidth Power Spectral Density Emissions in Non-restricted Frequency Bands
<b>Test Condition</b>	Conducted measurement at transmit chains
<b>Operating Mode</b>	
1	EUT with Ant. 1
2	EUT with Ant. 2
3	EUT with Ant. 3

<b>The Worst Case Mode for Following Conformance Tests</b>	
<b>Tests Item</b>	Emissions in Restricted Frequency Bands
<b>Test Condition</b>	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.
<b>Operating Mode &gt; 1GHz</b>	CTX
The EUT was performed at X axis, Y axis and Z axis position, and the worst case as below:	
1	1TX: EUT with Ant. 1 (Bandedge at X axis / Harmonic at Y axis)
	2TX: EUT with Ant. 1 (Bandedge at Z axis / Harmonic at X axis)
2	1TX: EUT with Ant. 2 (at X axis)
	2TX: EUT with Ant. 2 (at Y axis)
3	1TX: EUT with Ant. 3 (Bandedge at Y axis / Harmonic at X axis)
	2TX: EUT with Ant. 3 (Bandedge at Y axis / Harmonic at X axis)



### 2.3 EUT Operation during Test

For CTX Mode:

The EUT was programmed to be in continuously transmitting mode.

For Normal Link Mode:

During the test, the EUT operation to normal function.

### 2.4 Accessories

N/A

### 2.5 Support Equipment

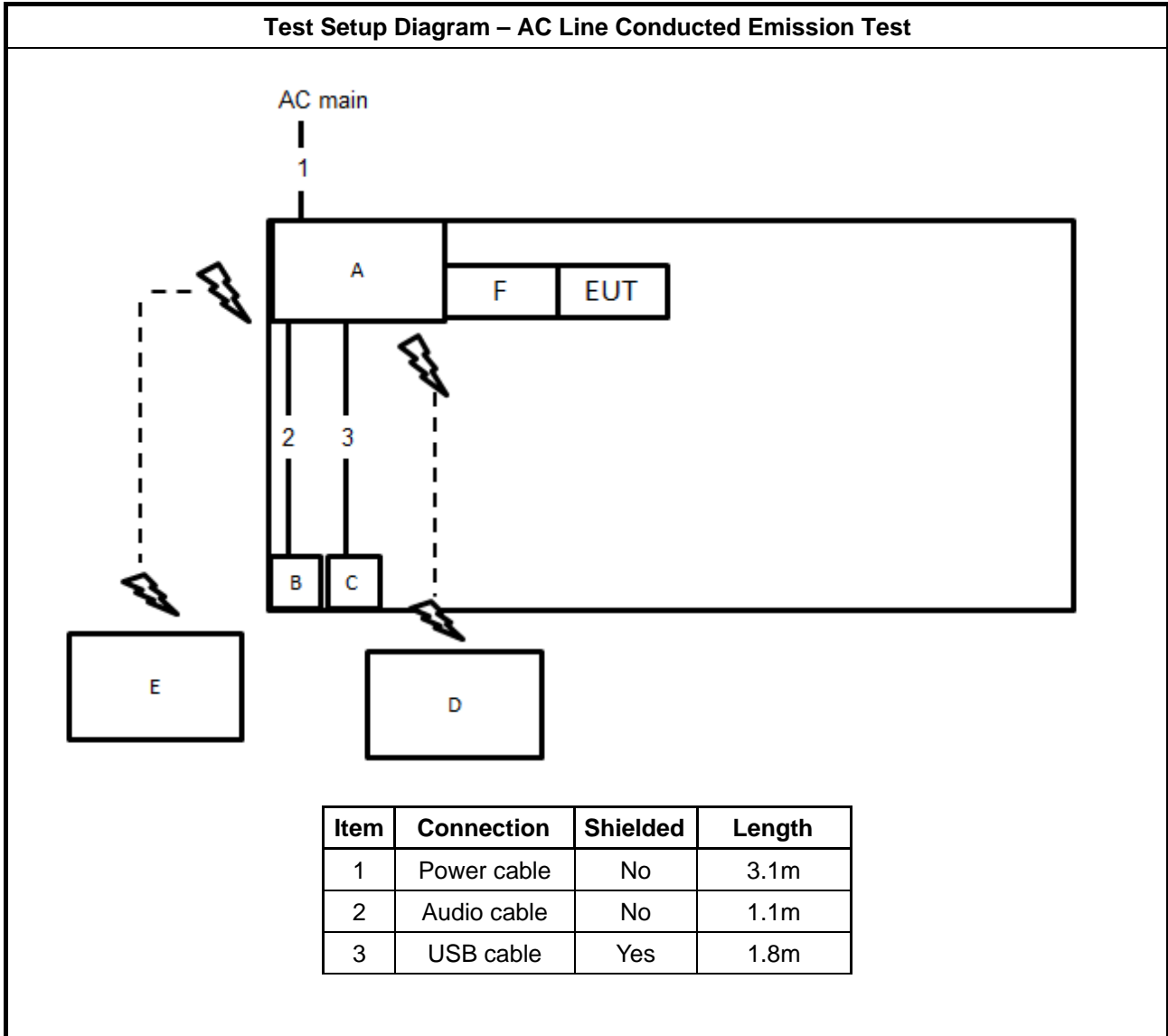
**For AC Conduction and Radiated (below 1GHz):**

Support Equipment				
No.	Equipment	Brand Name	Model Name	FCC ID
A	NB	DELL	PP13S	N/A
B	Earphone	SHYARO CHI	MIC-04	N/A
C	Mouse	Logitech	M-U0026	N/A
D	WIFI AP	ASUS	AX88U	N/A
E	Wireless Connectivity Tester	R&S	CMW270	N/A
F	Test fixture	REALTEK	Ameba adapter	N/A

**For Radiated (above 1GHz) and RF Conducted:**

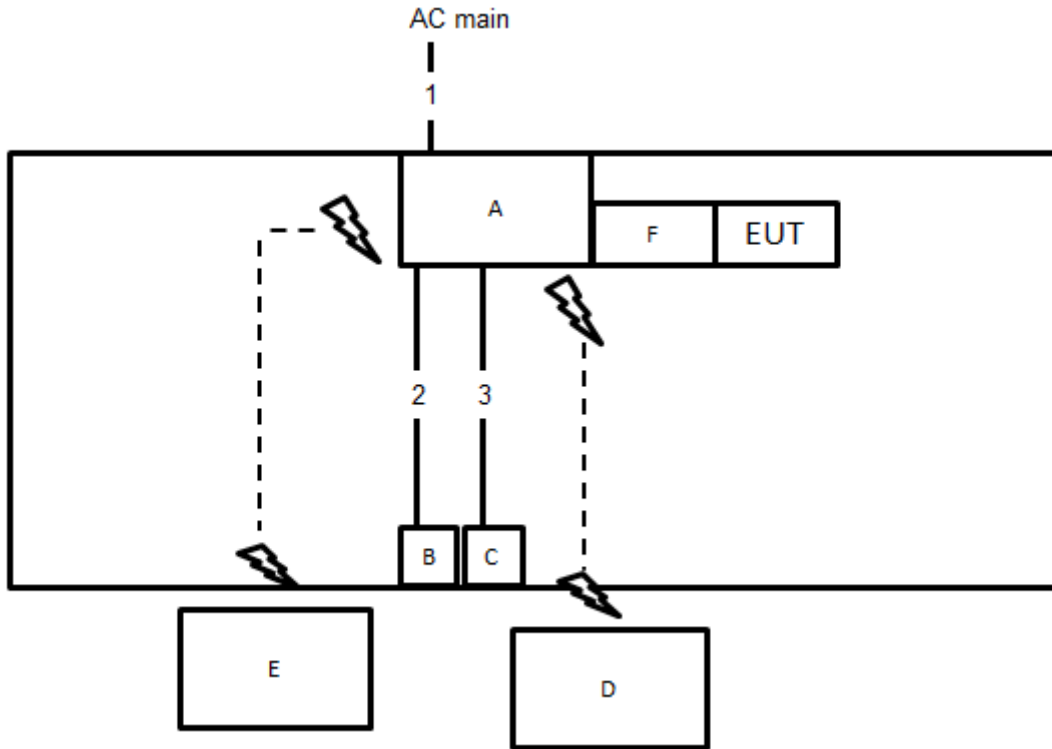
Support Equipment				
No.	Equipment	Brand Name	Model Name	FCC ID
A	NB	DELL	E4300	N/A
B	Test fixture	REALTEK	Ameba adapter	N/A

## 2.6 Test Setup Diagram



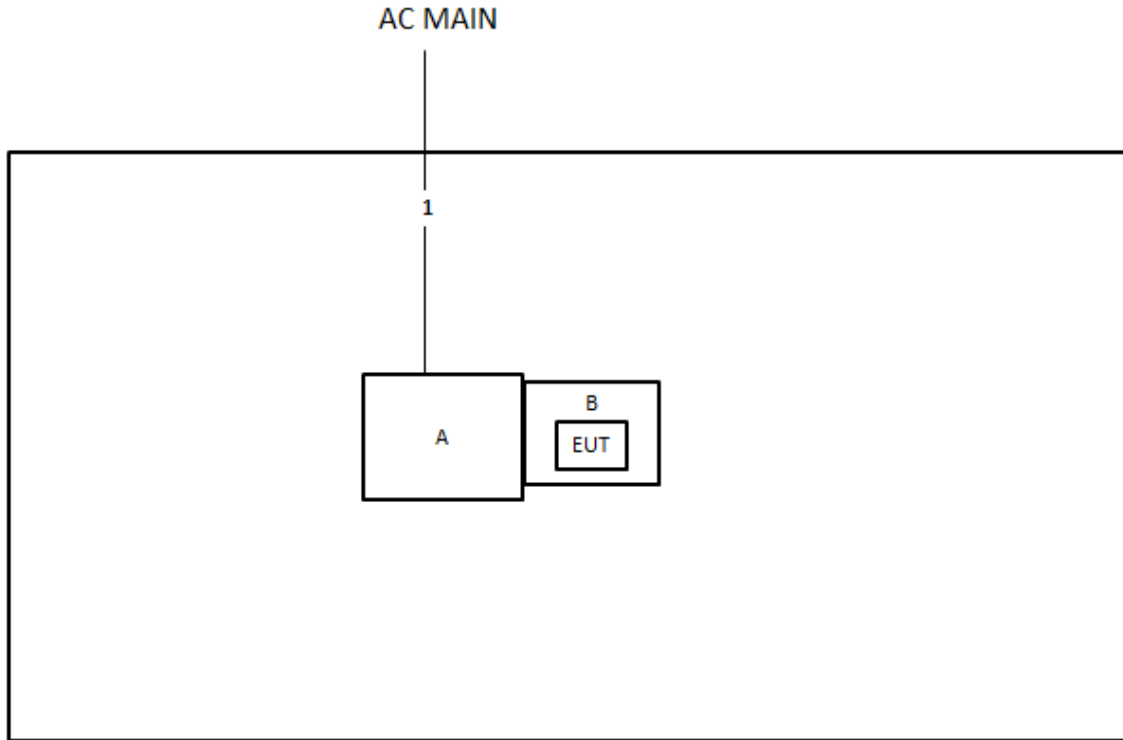


**Test Setup Diagram - Radiated Test < 1GHz**



Item	Connection	Shielded	Length
1	Power cable	No	3.1m
2	Audio cable	No	1.1m
3	USB cable	Yes	1.8m

**Test Setup Diagram - Radiated Test > 1GHz**



Item	Connection	Shielded	Length
1	Power cable	No	1.5m



### 3 Transmitter Test Result

#### 3.1 AC Power-line Conducted Emissions

##### 3.1.1 AC Power-line Conducted Emissions Limit

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

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

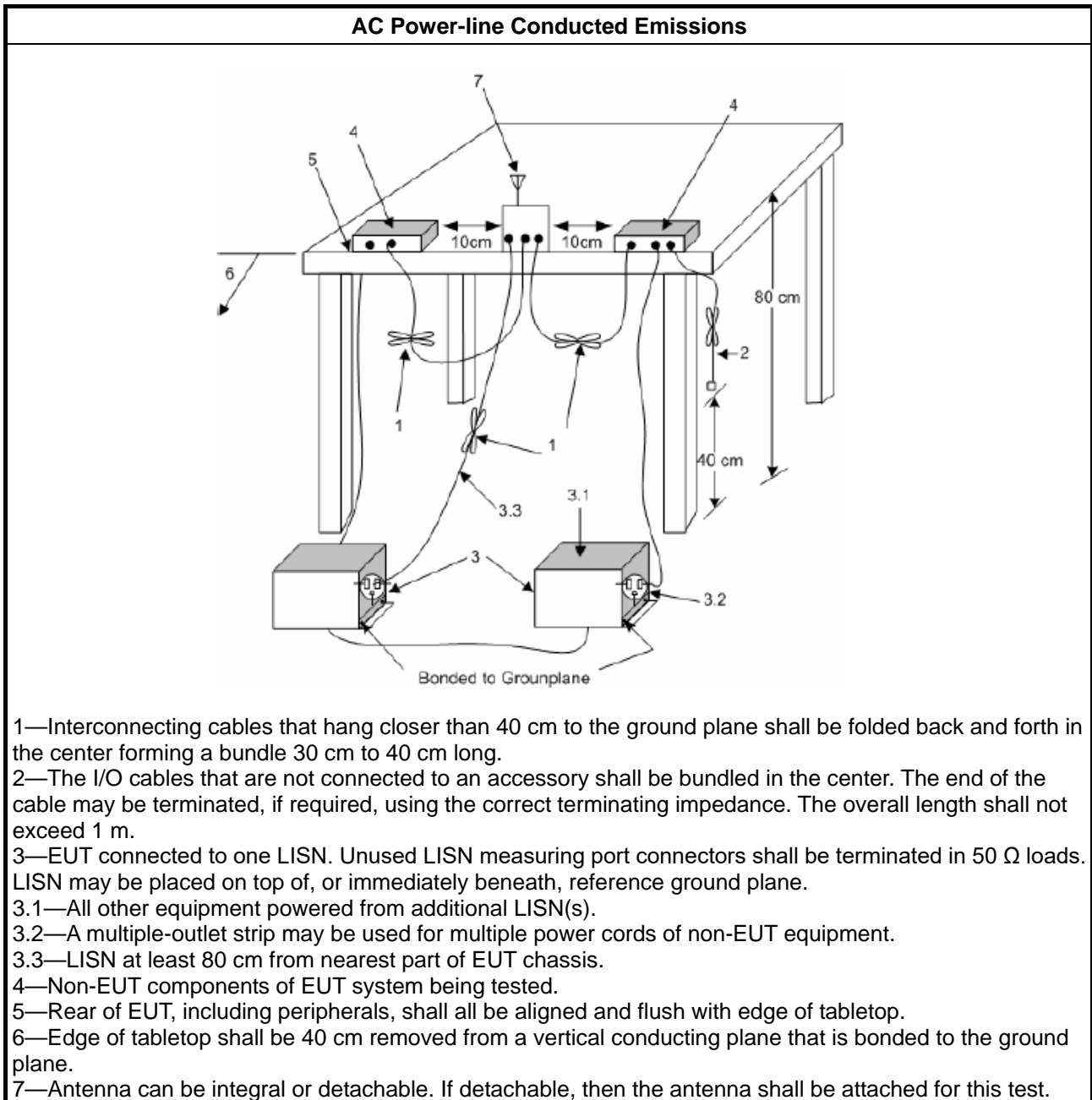
##### 3.1.2 Measuring Instruments

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

##### 3.1.3 Test Procedures

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

### 3.1.4 Test Setup



### 3.1.5 Measurement Results Calculation

The measured Level is calculated using:

- a. Corrected Reading: LISN Factor (LISN) + Attenuator (AT/AUX) + Cable Loss (CL) + Read Level (Raw) = Level
- b. Margin = -Limit + Level

### 3.1.6 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
<b>Systems using digital modulation techniques:</b>
<ul style="list-style-type: none"> <li>▪ 6 dB bandwidth <math>\geq</math> 500 kHz.</li> </ul>

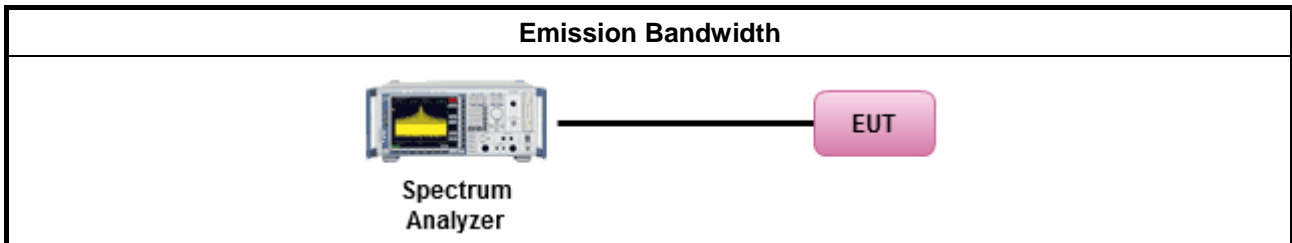
#### 3.2.2 Measuring Instruments

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

#### 3.2.3 Test Procedures

Test Method
<ul style="list-style-type: none"> <li>▪ For the emission bandwidth shall be measured using one of the options below:</li> </ul>
<input checked="" type="checkbox"/> Refer as FCC KDB 558074, clause 8.2 & C63.10 clause 11.8.1 Option 1 for 6 dB bandwidth measurement.
<input type="checkbox"/> Refer as FCC KDB 558074, clause 8.2 & C63.10 clause 11.8.2 Option 2 for 6 dB bandwidth measurement.
<input type="checkbox"/> Refer as ANSI C63.10, clause 6.9.1 for occupied bandwidth testing.

#### 3.2.4 Test Setup



#### 3.2.5 Test Result of Emission Bandwidth

Refer as Appendix B



### 3.3 Maximum Conducted Output Power

#### 3.3.1 Maximum Conducted Output Power Limit

Maximum Conducted Output Power Limit	
	<ul style="list-style-type: none"><li>▪ If <math>G_{TX} \leq 6</math> dBi, then <math>P_{Out} \leq 30</math> dBm (1 W)</li></ul>
	<ul style="list-style-type: none"><li>▪ Point-to-multipoint systems (P2M): If <math>G_{TX} &gt; 6</math> dBi, then <math>P_{Out} = 30 - (G_{TX} - 6)</math> dBm</li></ul>
	<ul style="list-style-type: none"><li>▪ Point-to-point systems (P2P): If <math>G_{TX} &gt; 6</math> dBi, then <math>P_{Out} = 30 - (G_{TX} - 6)/3</math> dBm</li></ul>
	<ul style="list-style-type: none"><li>▪ Smart antenna system (SAS):</li></ul>
	<ul style="list-style-type: none"><li>- Single beam: If <math>G_{TX} &gt; 6</math> dBi, then <math>P_{Out} = 30 - (G_{TX} - 6)/3</math> dBm</li></ul>
	<ul style="list-style-type: none"><li>- Overlap beam: If <math>G_{TX} &gt; 6</math> dBi, then <math>P_{Out} = 30 - (G_{TX} - 6)/3</math> dBm</li></ul>
	<ul style="list-style-type: none"><li>- Aggregate power on all beams: If <math>G_{TX} &gt; 6</math> dBi, then <math>P_{Out} = 30 - (G_{TX} - 6)/3 + 8</math> dB dBm</li></ul>
$P_{Out}$ = 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

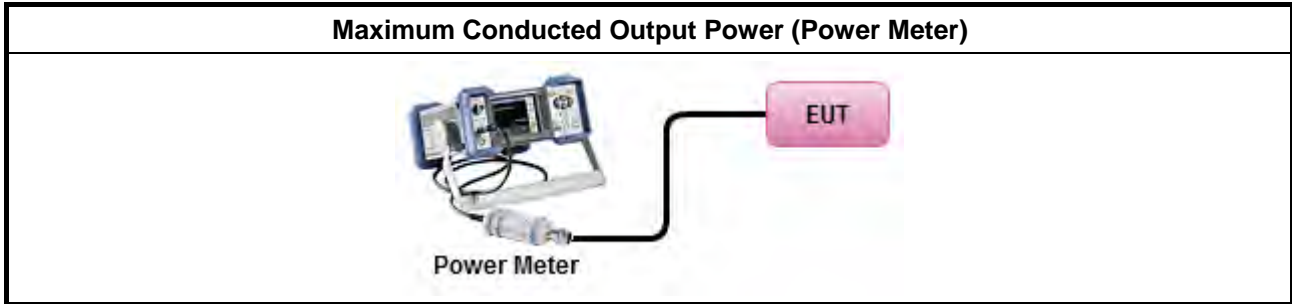
Refer a test equipment and calibration data table in this test report.



3.3.3 Test Procedures

Test Method	
<ul style="list-style-type: none"> <li>▪ Maximum Peak Conducted Output Power</li> </ul>	
<input type="checkbox"/>	Refer as FCC KDB 558074, clause 8.3.1.1 & C63.10 clause 11.9.1.1 (RBW ≥ EBW method).
<input type="checkbox"/>	Refer as FCC KDB 558074, clause 8.3.1.3 & C63.10 clause 11.9.1.3 (peak power meter).
<ul style="list-style-type: none"> <li>▪ Maximum Conducted Output Power</li> </ul>	
[duty cycle ≥ 98% or external video / power trigger]	
<input type="checkbox"/>	Refer as FCC KDB 558074, clause 8.3.2.2 & C63.10 clause 11.9.2.2.2 Method AVGSA-1.
<input type="checkbox"/>	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	
<input type="checkbox"/>	Refer as FCC KDB 558074, clause 8.3.2.2 & C63.10 clause 11.9.2.2.4 Method AVGSA-2.
<input type="checkbox"/>	Refer as FCC KDB 558074, clause 8.3.2.2 & C63.10 clause 11.9.2.2.5 Method AVGSA-2A (alternative)
<input type="checkbox"/>	Refer as FCC KDB 558074, clause 8.3.2.2 & C63.10 clause 11.9.2.2.6 Method AVGSA-3
<input type="checkbox"/>	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)	
<input type="checkbox"/>	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).
<input checked="" type="checkbox"/>	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).
<ul style="list-style-type: none"> <li>▪ For conducted measurement.</li> </ul>	
<ul style="list-style-type: none"> <li>▪ 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.</li> </ul>	
<ul style="list-style-type: none"> <li>▪ If multiple transmit chains, EIRP calculation could be following as methods:  <math display="block">P_{total} = P_1 + P_2 + \dots + P_n</math> (calculated in linear unit [mW] and transfer to log unit [dBm])  <math display="block">EIRP_{total} = P_{total} + DG</math> </li> </ul>	

**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
<ul style="list-style-type: none"> <li>Power Spectral Density (PSD) <math>\leq</math> 8 dBm/3kHz</li> </ul>

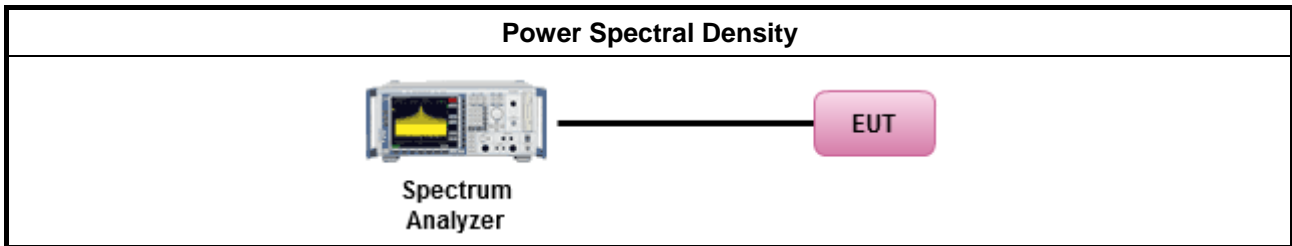
#### 3.4.2 Measuring Instruments

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

#### 3.4.3 Test Procedures

Test Method			
<ul style="list-style-type: none"> <li>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).</li> </ul>			
<input checked="" type="checkbox"/> Refer as FCC KDB 558074, clause 8.4 & C63.10 clause 11.10 Method Max. PSD.			
<ul style="list-style-type: none"> <li>For conducted measurement.             <ul style="list-style-type: none"> <li>If The EUT supports multiple transmit chains using options given below:                 <table border="1"> <tbody> <tr> <td> <input checked="" type="checkbox"/> Option 1: Measure and sum the spectra across the outputs. Refer as FCC KDB 662911, In-band power spectral density (PSD). Sample all transmit ports simultaneously using a spectrum analyzer for each transmit port. Where the trace bin-by-bin of each transmit port summing can be performed. (i.e., in the first spectral bin of output 1 is summed with that in the first spectral bin of output 2 and that from the first spectral bin of output 3, and so on up to the NTX output to obtain the value for the first frequency bin of the summed spectrum.). Add up the amplitude (power) values for the different transmit chains and use this as the new data trace.                 </td> </tr> <tr> <td> <input type="checkbox"/> Option 2: Measure and sum spectral maxima across the outputs. With this technique, spectra are measured at each output of the device at the required resolution bandwidth. The maximum value (peak) of each spectrum is determined. These maximum values are then summed mathematically in linear power units across the outputs. These operations shall be performed separately over frequency spans that have different out-of-band or spurious emission limits,                 </td> </tr> <tr> <td> <input type="checkbox"/> 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.                 </td> </tr> </tbody> </table> </li> </ul> </li> </ul>	<input checked="" type="checkbox"/> Option 1: Measure and sum the spectra across the outputs. Refer as FCC KDB 662911, In-band power spectral density (PSD). Sample all transmit ports simultaneously using a spectrum analyzer for each transmit port. Where the trace bin-by-bin of each transmit port summing can be performed. (i.e., in the first spectral bin of output 1 is summed with that in the first spectral bin of output 2 and that from the first spectral bin of output 3, and so on up to the NTX output to obtain the value for the first frequency bin of the summed spectrum.). Add up the amplitude (power) values for the different transmit chains and use this as the new data trace.	<input type="checkbox"/> Option 2: Measure and sum spectral maxima across the outputs. With this technique, spectra are measured at each output of the device at the required resolution bandwidth. The maximum value (peak) of each spectrum is determined. These maximum values are then summed mathematically in linear power units across the outputs. These operations shall be performed separately over frequency spans that have different out-of-band or spurious emission limits,	<input type="checkbox"/> Option 3: Measure and add 10 log(N) 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.
<input checked="" type="checkbox"/> Option 1: Measure and sum the spectra across the outputs. Refer as FCC KDB 662911, In-band power spectral density (PSD). Sample all transmit ports simultaneously using a spectrum analyzer for each transmit port. Where the trace bin-by-bin of each transmit port summing can be performed. (i.e., in the first spectral bin of output 1 is summed with that in the first spectral bin of output 2 and that from the first spectral bin of output 3, and so on up to the NTX output to obtain the value for the first frequency bin of the summed spectrum.). Add up the amplitude (power) values for the different transmit chains and use this as the new data trace.			
<input type="checkbox"/> Option 2: Measure and sum spectral maxima across the outputs. With this technique, spectra are measured at each output of the device at the required resolution bandwidth. The maximum value (peak) of each spectrum is determined. These maximum values are then summed mathematically in linear power units across the outputs. These operations shall be performed separately over frequency spans that have different out-of-band or spurious emission limits,			
<input type="checkbox"/> Option 3: Measure and add 10 log(N) 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.

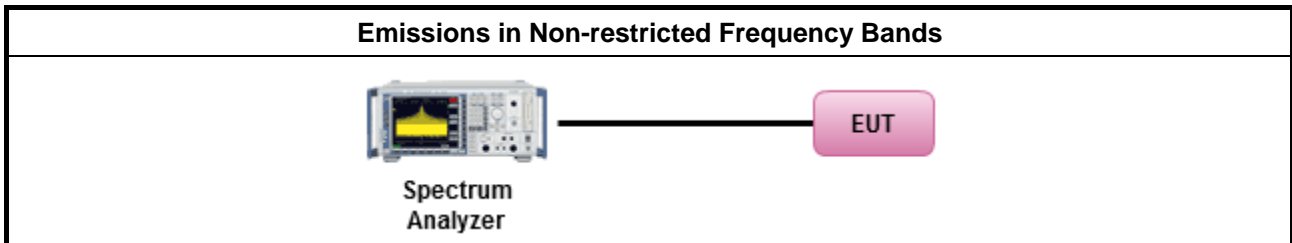
#### 3.5.2 Measuring Instruments

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

#### 3.5.3 Test Procedures

Test Method
<ul style="list-style-type: none"> <li>Refer as FCC KDB 558074, clause 8.5 for unwanted emissions into non-restricted bands.</li> </ul>

#### 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

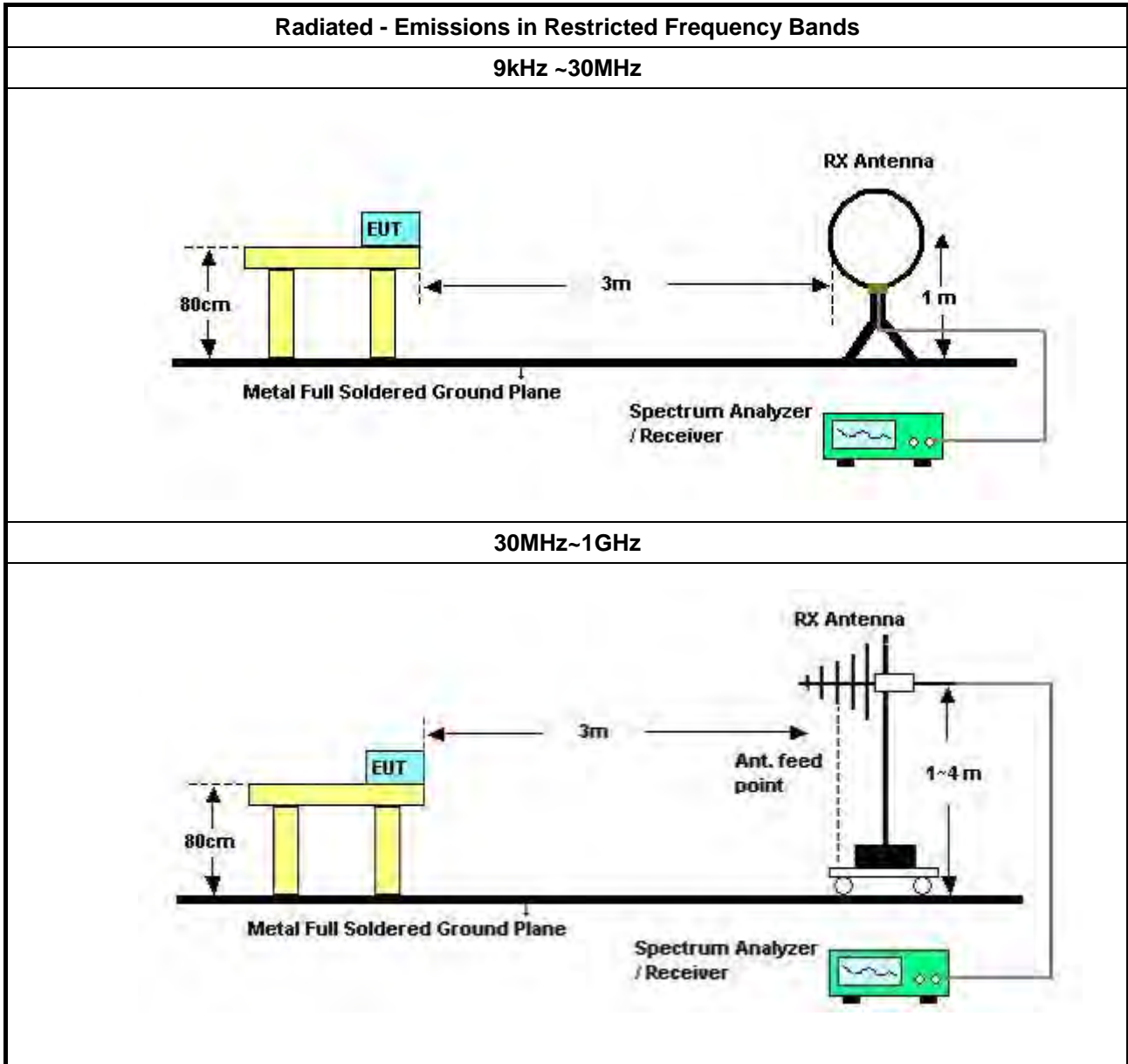
Refer a test equipment and calibration data table in this test report.

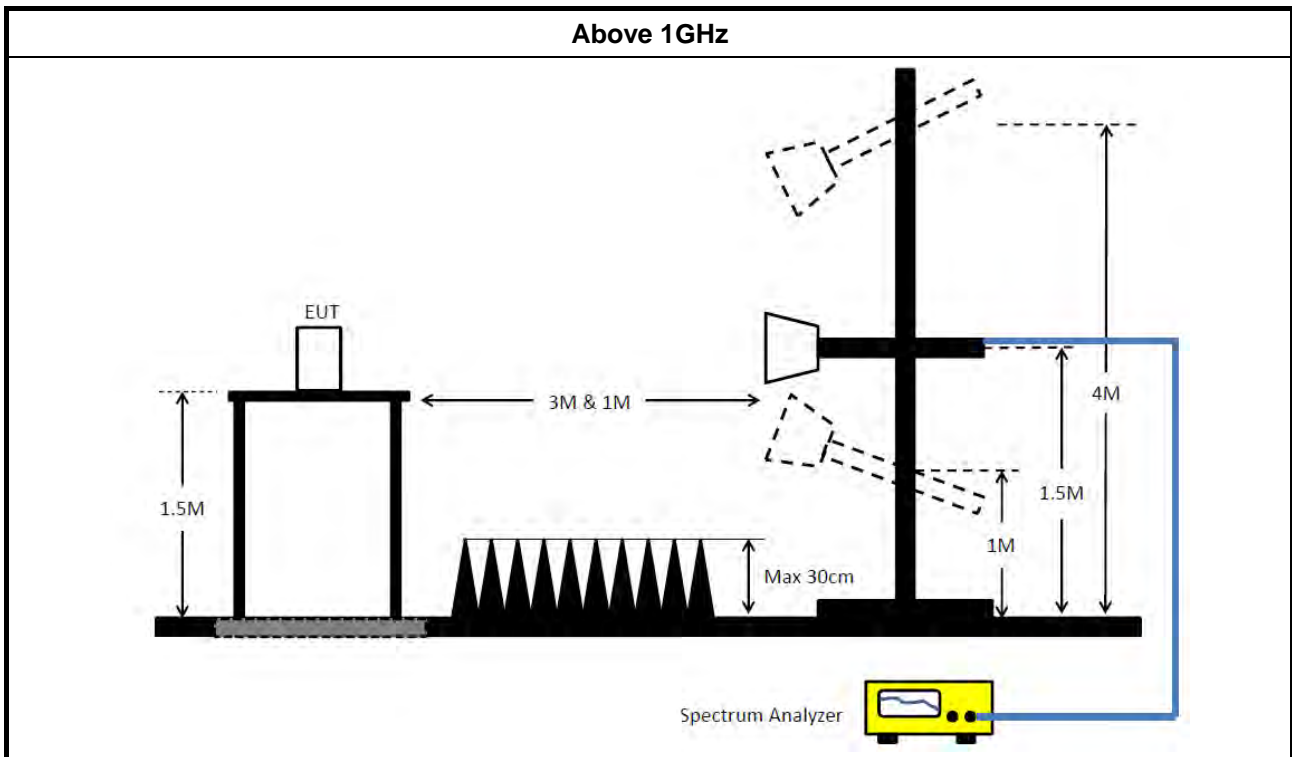


**3.6.3 Test Procedures**

<b>Test Method</b>	
<ul style="list-style-type: none"> <li>▪ The average emission levels shall be measured in [duty cycle <math>\geq</math> 98 or duty factor].</li> </ul>	
<ul style="list-style-type: none"> <li>▪ 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.</li> </ul>	
<ul style="list-style-type: none"> <li>▪ For the transmitter unwanted emissions shall be measured using following options below:</li> </ul>	
	<ul style="list-style-type: none"> <li>▪ Refer as FCC KDB 558074, clause 8.6 for unwanted emissions into restricted bands.</li> </ul>
	<input type="checkbox"/> Refer as FCC KDB 558074, clause 8.6 & C63.10 clause 11.12.2.5.1(trace averaging for duty cycle $\geq$ 98%).
	<input type="checkbox"/> Refer as FCC KDB 558074, clause 8.6 & C63.10 clause 11.12.2.5.2(trace averaging + duty factor).
	<input checked="" type="checkbox"/> Refer as FCC KDB 558074, clause 8.6 & C63.10 clause 11.12.2.5.3(Reduced VBW $\geq$ 1/T).
	<input type="checkbox"/> Refer as ANSI C63.10, clause 11.12.2.5.3 (Reduced VBW). VBW $\geq$ 1/T, where T is pulse time.
	<input type="checkbox"/> Refer as ANSI C63.10, clause 7.5 average value of pulsed emissions.
	<input checked="" type="checkbox"/> Refer as FCC KDB 558074, clause 8.6 & C63.10 clause 11.12.2.4 measurement procedure peak limit.
<ul style="list-style-type: none"> <li>▪ For the transmitter band-edge emissions shall be measured using following options below:</li> </ul>	
	<ul style="list-style-type: none"> <li>▪ Refer as FCC KDB 558074 clause 8.7 &amp; 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.</li> </ul>
	<ul style="list-style-type: none"> <li>▪ Refer as FCC KDB 558074, clause 8.7 (ANSI C63.10, clause 6.10.6) for marker-delta method for band-edge measurements.</li> </ul>
	<ul style="list-style-type: none"> <li>▪ 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).</li> </ul>
	<ul style="list-style-type: none"> <li>▪ 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             </li> </ul>
	<ul style="list-style-type: none"> <li>▪ 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.</li> </ul>

**3.6.4 Test Setup**





### 3.6.5 Measurement Results Calculation

The measured Level is calculated using:

Corrected Reading: Antenna factor (AF) + Cable loss (CL) + Read level (Raw) - Preamp factor (PA)(if applicable) = Level.

### 3.6.6 Emissions in Restricted Frequency Bands (Below 30MHz)

There is a comparison data of both open-field test site and alternative test site - semi-Anechoic chamber according to KDB414788 Radiated Test Site, and the result came out very similar.

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 10th harmonic or 40 GHz, whichever is appropriate.

### 3.6.7 Test Result of Emissions in Restricted Frequency Bands

Refer as Appendix F



## 4 Test Equipment and Calibration Data

Instrument	Brand	Model No.	Serial No.	Characteristics	Calibration Date	Calibration Due Date	Remark
EMI Receiver	Agilent	N9038A	My52260123	9kHz ~ 8.4GHz	Feb. 22, 2022	Feb. 21, 2023	Conduction (CO01-CB)
LISN	F.C.C.	FCC-LISN-50-16-2	04083	150kHz ~ 100MHz	Feb. 09, 2022	Feb. 08, 2023	Conduction (CO01-CB)
LISN	Schwarzbeck	NSLK 8127	8127647	9kHz ~ 30MHz	Apr. 12, 2022	Apr. 11, 2023	Conduction (CO01-CB)
Pulse Limiter	Rohde&Schwarz	ESH3-Z2	100430	9kHz ~ 30MHz	Feb. 10, 2022	Feb. 09, 2023	Conduction (CO01-CB)
COND Cable	Woken	Cable	Low cable-CO01	9kHz ~ 30MHz	May 19, 2021	May 18, 2022	Conduction (CO01-CB)
Software	SPORTON	SENSE	V5.10	-	N.C.R.	N.C.R.	Conduction (CO01-CB)
Loop Antenna	Teseq	HLA 6120	31244	9kHz - 30 MHz	Mar. 18, 2022	Mar. 17, 2023	Radiation (10CH01-CB)
10m Semi Anechoic Chamber NSA	TDK	SAC-10M	10CH01-CB	30MHz~1GHz 10m,3m	Jan. 27, 2022	Jan. 26, 2023	Radiation (10CH01-CB)
Pre-Amplifier	Agilent	8447D	2944A10783	9kHz ~ 1.3GHz	Mar. 11, 2022	Mar. 10, 2023	Radiation (10CH01-CB)
Pre-Amplifier	Agilent	8447D	2944A10784	9kHz ~ 1.3GHz	Mar. 11, 2022	Mar. 10, 2023	Radiation (10CH01-CB)
Low Cable	Woken	SUCOFLEX 104	low cable-01	25MHz ~ 1GHz	Oct. 19, 2021	Oct. 18, 2022	Radiation (10CH01-CB)
High Cable	Woken	SUCOFLEX 104	low cable-02	25MHz ~ 1GHz	Oct. 19, 2021	Oct. 18, 2022	Radiation (10CH01-CB)
Bilog Antenna with 6dB Attenuator	Chase & EMCI	CBL6111A &N-6-06	1543 &AT-N0609	30MHz ~ 1GHz	Jul. 01, 2021	Jun. 30, 2022	Radiation (10CH01-CB)
EMI Test Receiver	Rohde&Schwarz	ESCI	100186	9kHz ~ 3GHz	Jul. 12, 2021	Jul. 11, 2022	Radiation (10CH01-CB)
Spectrum Analyzer	Rohde&Schwarz	FSV30	101026	9kHz ~ 30GHz	Apr. 22, 2022	Apr. 21, 2023	Radiation (10CH01-CB)
Signal Analyzer	R&S	FSV40	101904	9kHz ~ 40GHz	Apr. 26, 2022	Apr. 25, 2023	Radiation (10CH01-CB)
Software	SPORTON	SENSE	V5.10	-	N.C.R.	N.C.R.	Radiation (10CH01-CB)
3m Semi Anechoic Chamber VSWR	TDK	SAC-3M	03CH03-CB	1GHz ~18GHz 3m	May 06, 2021	May 05, 2022	Radiation (03CH03-CB)
3m Semi Anechoic Chamber VSWR	TDK	SAC-3M	03CH03-CB	1GHz ~18GHz 3m	May 05, 2022	May 04, 2023	Radiation (03CH03-CB)
Horn Antenna	ETS · Lindgren	3115	6821	750MHz~18GHz	Jan. 26, 2021	Jan. 25, 2022	Radiation (03CH03-CB)
Horn Antenna	ETS · Lindgren	3115	6821	750MHz~18GHz	Jan. 21, 2022	Jan. 20, 2023	Radiation (03CH03-CB)





Instrument	Brand	Model No.	Serial No.	Characteristics	Calibration Date	Calibration Due Date	Remark
Horn Antenna	Schwarzbeck	BBHA 9170	BBHA9170252	15GHz ~ 40GHz	Aug. 05, 2021	Aug. 04, 2022	Radiation (03CH03-CB)
Pre-Amplifier	Agilent	8449B	3008A02097	1GHz ~ 26.5GHz	Jul. 02, 2021	Jul. 01, 2022	Radiation (03CH03-CB)
Pre-Amplifier	MITEQ	TTA1840-35-H G	1864479	18GHz ~ 40GHz	Jul. 13, 2021	Jul. 12, 2022	Radiation (03CH03-CB)
Spectrum Analyzer	R&S	FSP40	100019	9kHz ~ 40GHz	Jun. 04, 2021	Jun. 03, 2022	Radiation (03CH03-CB)
RF Cable-high	Woken	RG402	High Cable-20+29	1GHz ~ 18GHz	Oct. 04, 2021	Oct. 03, 2022	Radiation (03CH03-CB)
RF Cable-high	Woken	RG402	High Cable-29	1GHz ~ 18GHz	Oct. 04, 2021	Oct. 03, 2022	Radiation (03CH03-CB)
RF Cable-high	Woken	RG402	High Cable-18	1GHz ~ 18GHz	Oct. 04, 2021	Oct. 03, 2022	Radiation (03CH03-CB)
RF Cable-high	Woken	RG402	High Cable-18+19	1GHz ~ 18GHz	Oct. 04, 2021	Oct. 03, 2022	Radiation (03CH03-CB)
High Cable	Woken	RG402	40G#4	1GHz ~ 40 GHz	Dec. 08, 2021	Dec. 07, 2022	Radiation (03CH03-CB)
High Cable	Woken	WCA0929M	40G#5	1GHz ~ 40 GHz	Dec. 08, 2021	Dec. 07, 2022	Radiation (03CH03-CB)
Test Software	Audix	E3	6.2009-10-8b	-	N.C.R.	N.C.R.	Radiation (03CH03-CB)
Spectrum analyzer	R&S	FSV40	100979	9kHz~40GHz	May 21, 2021	May 20, 2022	Conducted (TH01-CB)
Spectrum analyzer	R&S	FSV40	100979	9kHz~40GHz	May 27, 2022	May 26, 2023	Conducted (TH01-CB)
RF Cable-high	Woken	RG402	High Cable-06	1 GHz – 26.5 GHz	Oct. 04, 2021	Oct. 03, 2022	Conducted (TH01-CB)
RF Cable-high	Woken	RG402	High Cable-07	1 GHz –26.5 GHz	Oct. 04, 2021	Oct. 03, 2022	Conducted (TH01-CB)
RF Cable-high	Woken	RG402	High Cable-08	1 GHz –26.5 GHz	Oct. 04, 2021	Oct. 03, 2022	Conducted (TH01-CB)
RF Cable-high	Woken	RG402	High Cable-09	1 GHz –26.5 GHz	Oct. 04, 2021	Oct. 03, 2022	Conducted (TH01-CB)
RF Cable-high	Woken	RG402	High Cable-10	1 GHz –26.5 GHz	Oct. 04, 2021	Oct. 03, 2022	Conducted (TH01-CB)
RF Cable-high	Woken	RG402	High Cable-30	1 GHz –26.5 GHz	Oct. 04, 2021	Oct. 03, 2022	Conducted (TH01-CB)
Switch	SPTCB	SP-SWI	SWI-01	1 GHz –26.5 GHz	Dec. 13, 2021	Dec. 12, 2022	Conducted (TH01-CB)
RF Cable-high	Woken	RG402	SWI-01-P1	1 GHz –26.5 GHz	Dec. 13, 2021	Dec. 12, 2022	Conducted (TH01-CB)
RF Cable-high	Woken	RG402	SWI-01-P2	1 GHz –26.5 GHz	Dec. 13, 2021	Dec. 12, 2022	Conducted (TH01-CB)
RF Cable-high	Woken	RG402	SWI-01-P3	1 GHz –26.5 GHz	Dec. 13, 2021	Dec. 12, 2022	Conducted (TH01-CB)
RF Cable-high	Woken	RG402	SWI-01-P4	1 GHz –26.5 GHz	Dec. 13, 2021	Dec. 12, 2022	Conducted (TH01-CB)



Instrument	Brand	Model No.	Serial No.	Characteristics	Calibration Date	Calibration Due Date	Remark
RF Cable-high	Woken	RG402	SWI-01-P5	1 GHz ~26.5 GHz	Dec. 13, 2021	Dec. 12, 2022	Conducted (TH01-CB)
Power Sensor	Agilent	E9327A	US40442088	50MHz~18GHz	Feb. 21, 2022	Feb. 20, 2023	Conducted (TH01-CB)
Power Meter	Agilent	E4416A	GB41291199	50MHz~18GHz	Feb. 21, 2022	Feb. 20, 2023	Conducted (TH01-CB)

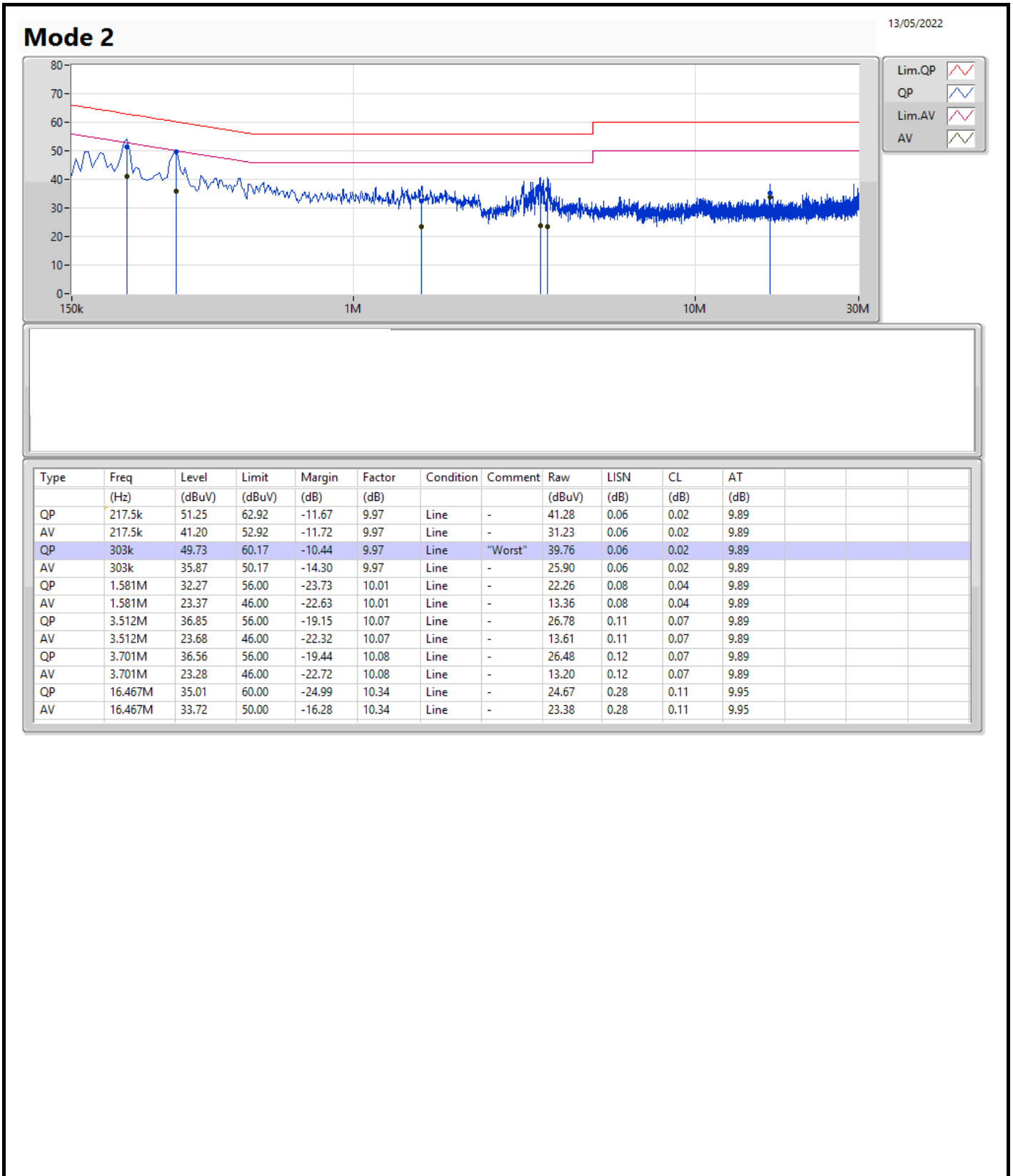
Note: Calibration Interval of instruments listed above is one year.

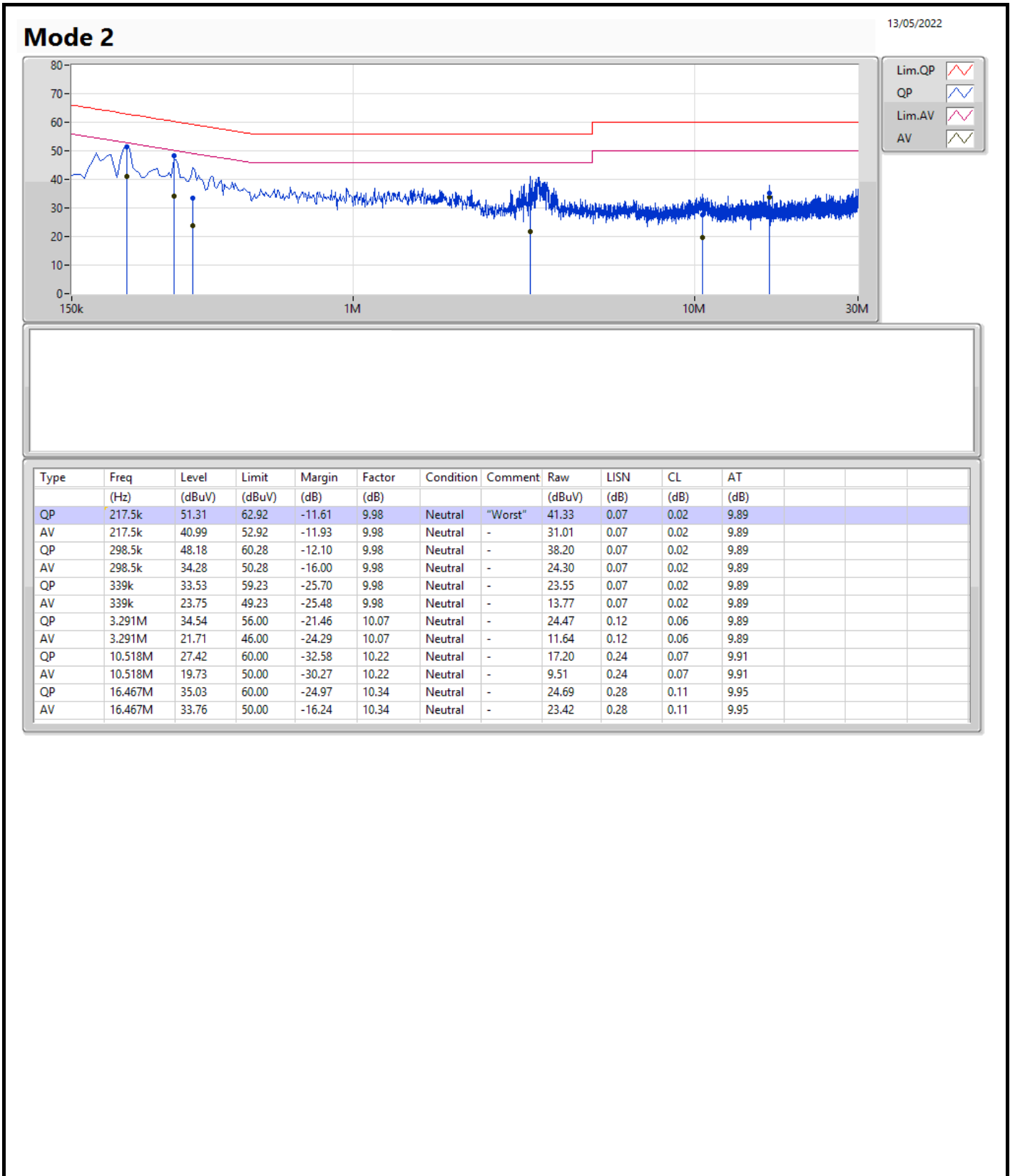
NCR means Non-Calibration required.



**Summary**

Mode	Result	Type	Freq (Hz)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Condition
Mode 2	Pass	QP	303k	49.73	60.17	-10.44	Line







**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	11.025M	15.167M	15M2G1D	10.05M	13.943M
802.11g_Nss1,(6Mbps)_1TX	15.1M	16.767M	16M8D1D	14.975M	16.167M
802.11ax HEW20_Nss1,(MCS0)_1TX	15.1M	18.841M	18M8D1D	15M	18.591M
802.11ax HEW40_Nss1,(MCS0)_1TX	37.9M	38.081M	38M1D1D	33.85M	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**

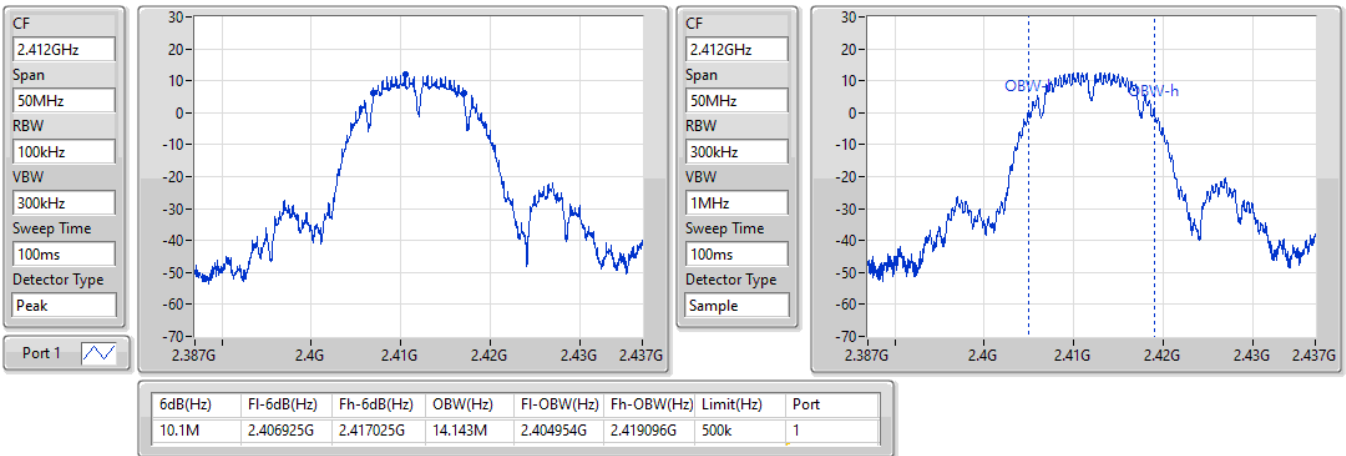
Mode	Result	Limit (Hz)	Port 1-N dB (Hz)	Port 1-OBW (Hz)
802.11b_Nss1,(1Mbps)_1TX	-	-	-	-
2412MHz	Pass	500k	10.1M	14.143M
2417MHz				
2437MHz	Pass	500k	11.025M	15.167M
2457MHz	Pass	500k	10.05M	14.118M
2462MHz	Pass	500k	10.05M	14.068M
2467MHz	Pass	500k	10.075M	13.943M
2472MHz	Pass	500k	10.05M	13.943M
802.11g_Nss1,(6Mbps)_1TX	-	-	-	-
2412MHz	Pass	500k	15M	16.192M
2417MHz				
2437MHz	Pass	500k	14.975M	16.767M
2457MHz	Pass	500k	15.075M	16.292M
2462MHz	Pass	500k	15M	16.217M
2467MHz	Pass	500k	15.1M	16.192M
2472MHz	Pass	500k	15.075M	16.167M
802.11ax HEW20_Nss1,(MCS0)_1TX	-	-	-	-
2412MHz	Pass	500k	15M	18.641M
2417MHz				
2437MHz	Pass	500k	15.05M	18.841M
2457MHz	Pass	500k	15.1M	18.666M
2462MHz	Pass	500k	15.075M	18.591M
2467MHz	Pass	500k	15.075M	18.616M
2472MHz	Pass	500k	15.075M	18.591M
802.11ax HEW40_Nss1,(MCS0)_1TX	-	-	-	-
2422MHz	Pass	500k	35.05M	37.281M
2427MHz				
2437MHz	Pass	500k	37.9M	38.081M
2447MHz				
2452MHz	Pass	500k	35M	37.331M
2457MHz	Pass	500k	33.85M	37.381M
2462MHz	Pass	500k	35.05M	37.331M

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

**802.11b\_Nss1,(1Mbps)\_1TX**  
**2412MHz**

**EBW**

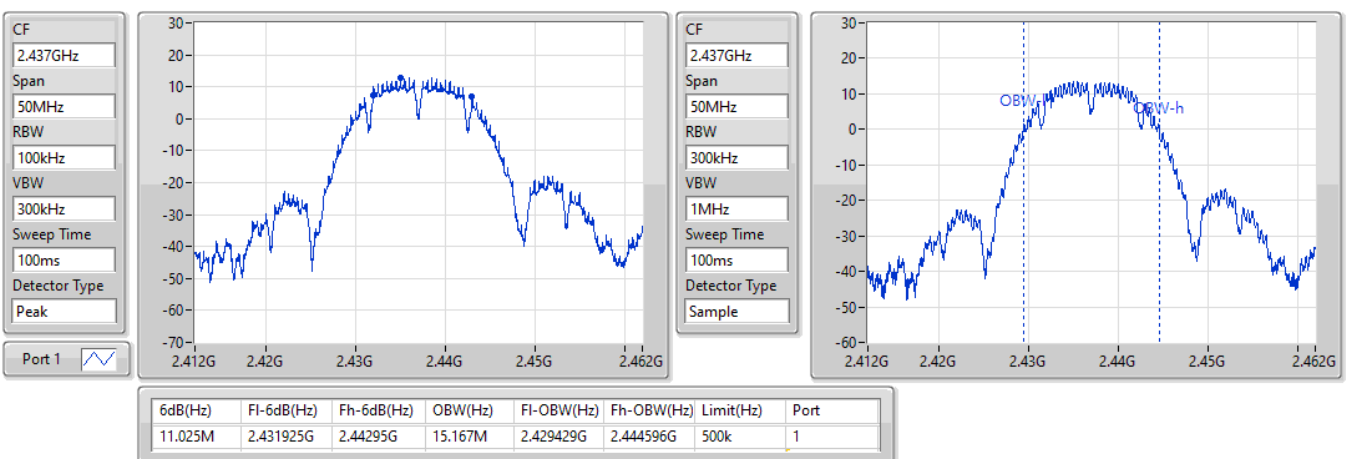
18/05/2022



**802.11b\_Nss1,(1Mbps)\_1TX**  
**2437MHz**

**EBW**

18/05/2022



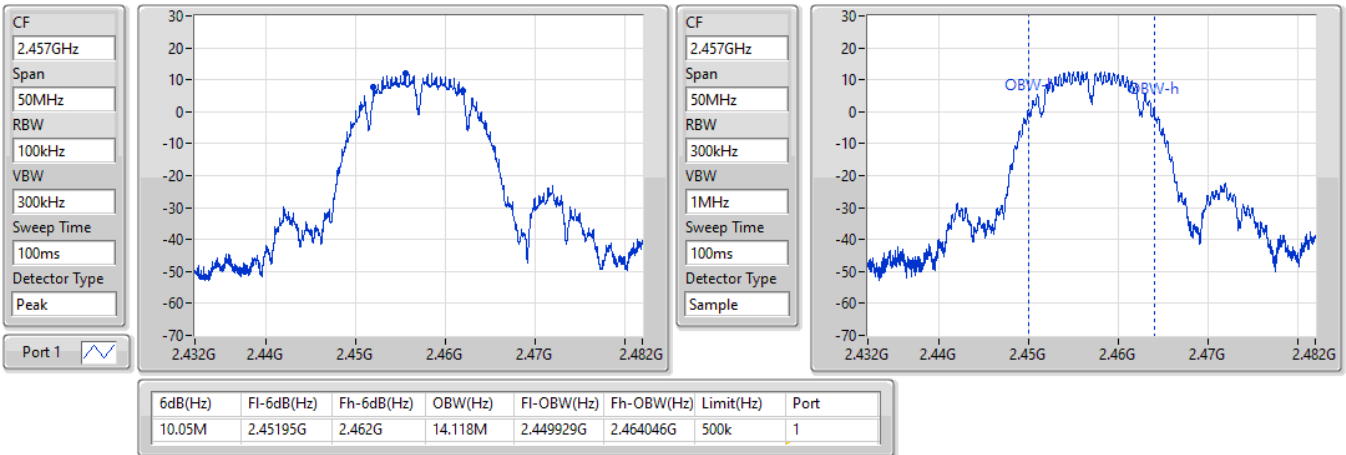


**802.11b\_Nss1,(1Mbps)\_1TX**

**EBW**

**2457MHz**

18/05/2022

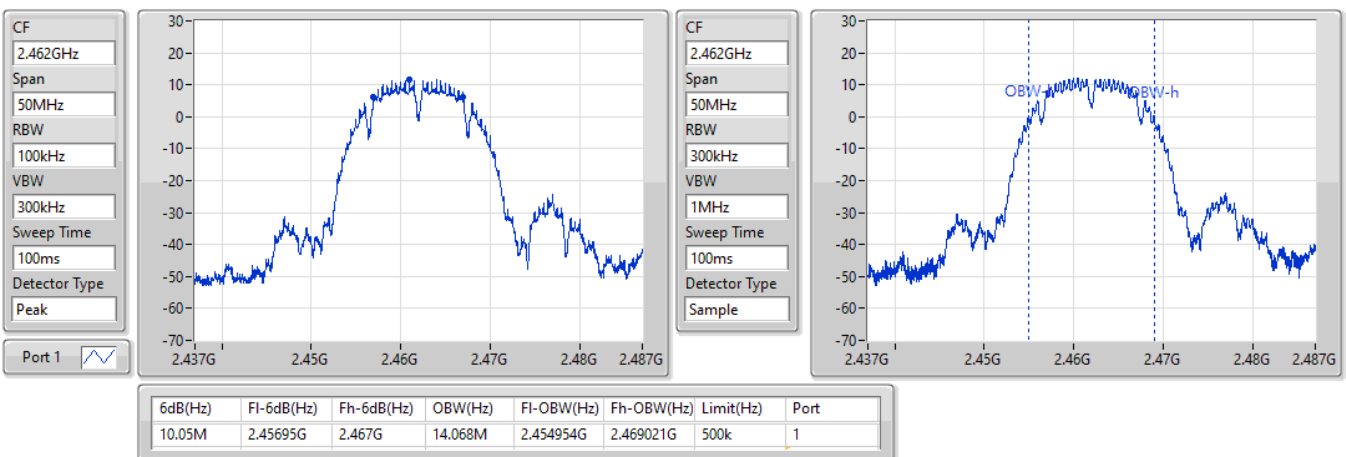


**802.11b\_Nss1,(1Mbps)\_1TX**

**EBW**

**2462MHz**

18/05/2022

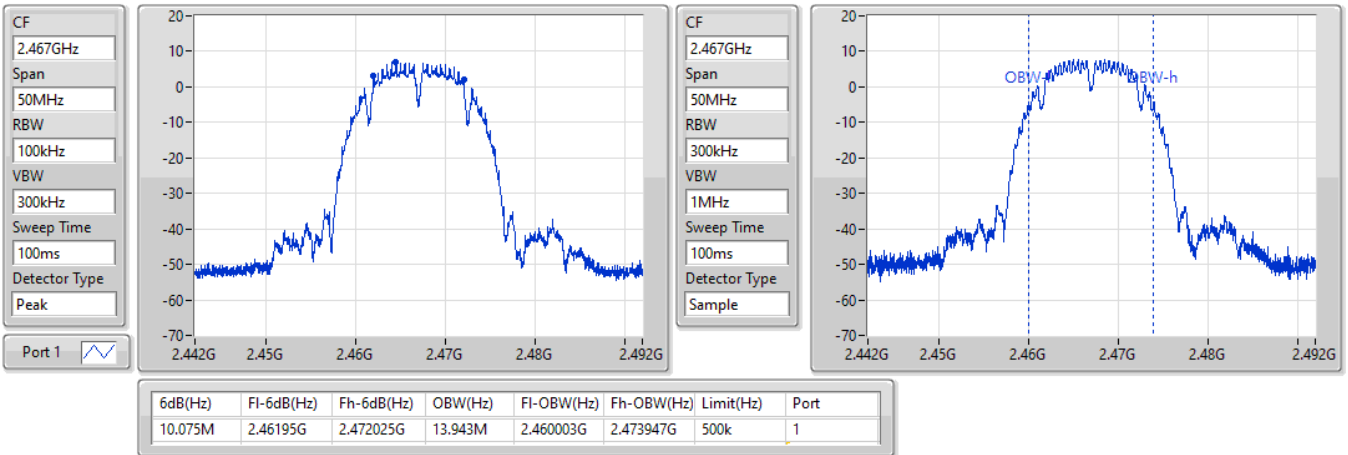


**802.11b\_Nss1,(1Mbps)\_1TX**

**EBW**

**2467MHz**

18/05/2022

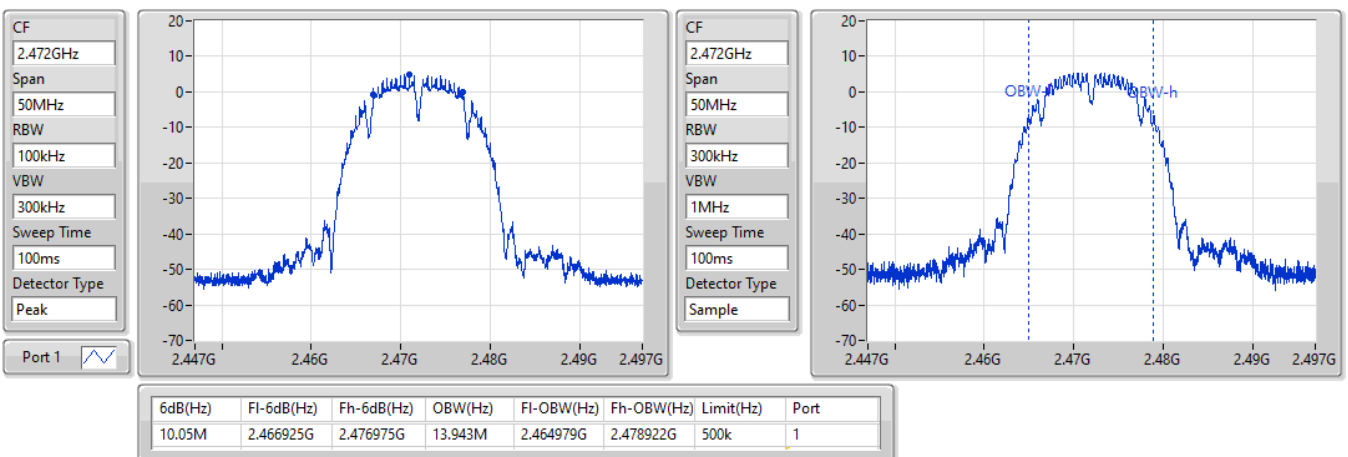


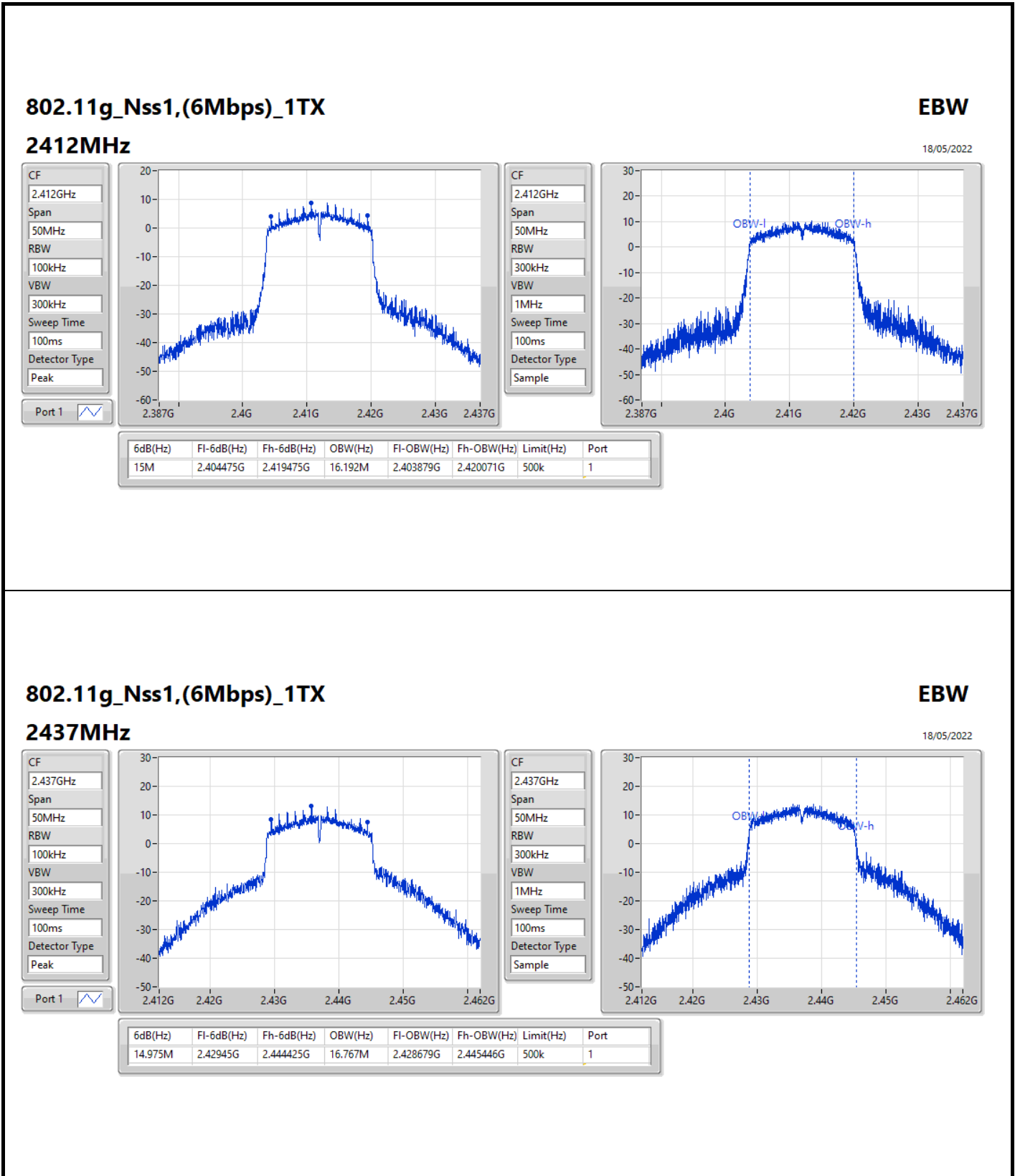
**802.11b\_Nss1,(1Mbps)\_1TX**

**EBW**

**2472MHz**

18/05/2022



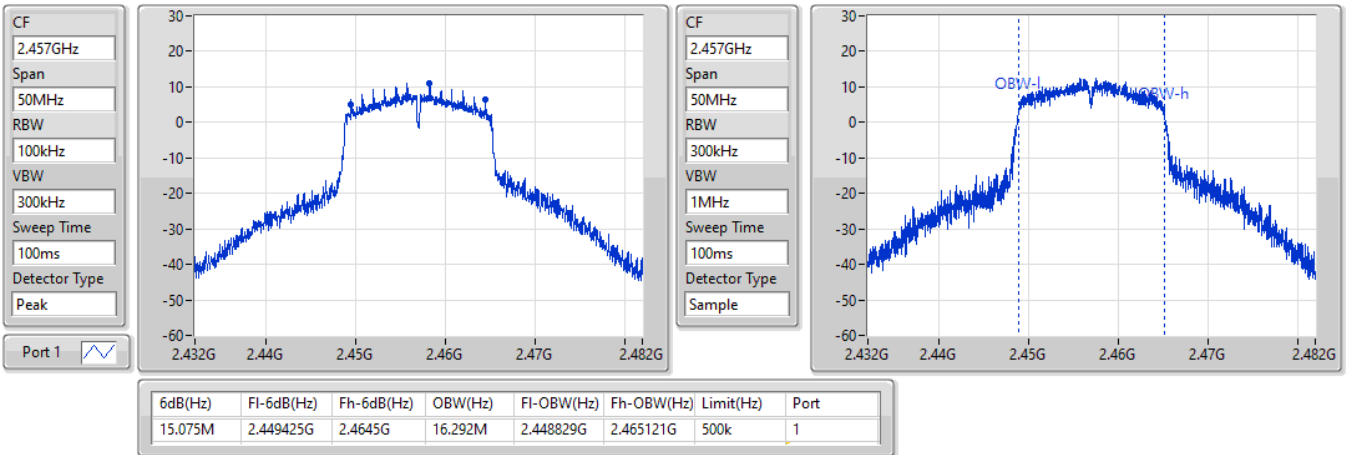


**802.11g\_Nss1,(6Mbps)\_1TX**

**EBW**

**2457MHz**

18/05/2022

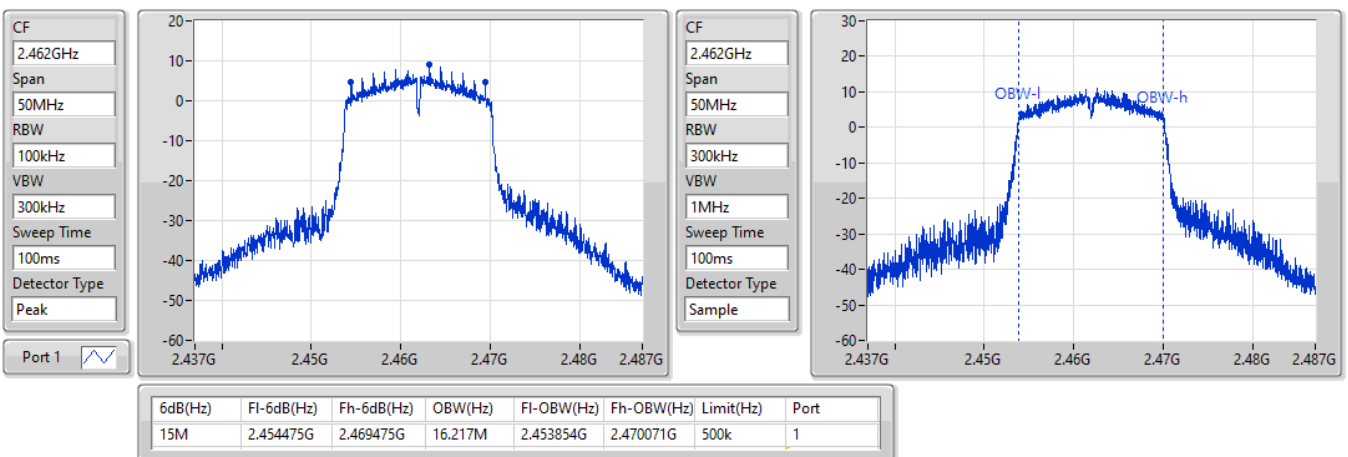


**802.11g\_Nss1,(6Mbps)\_1TX**

**EBW**

**2462MHz**

18/05/2022

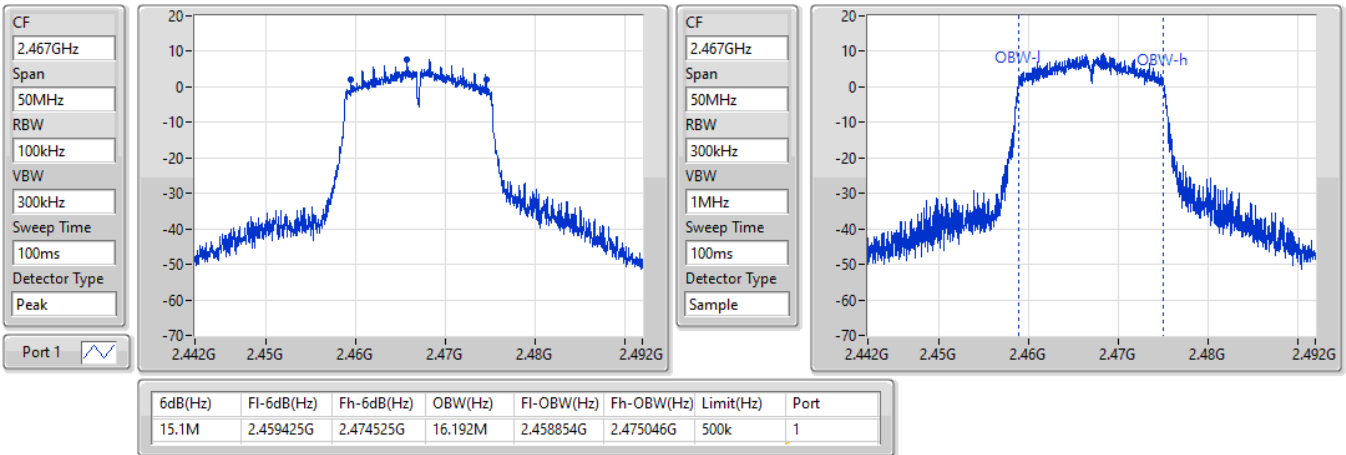


**802.11g\_Nss1,(6Mbps)\_1TX**

**EBW**

**2467MHz**

18/05/2022

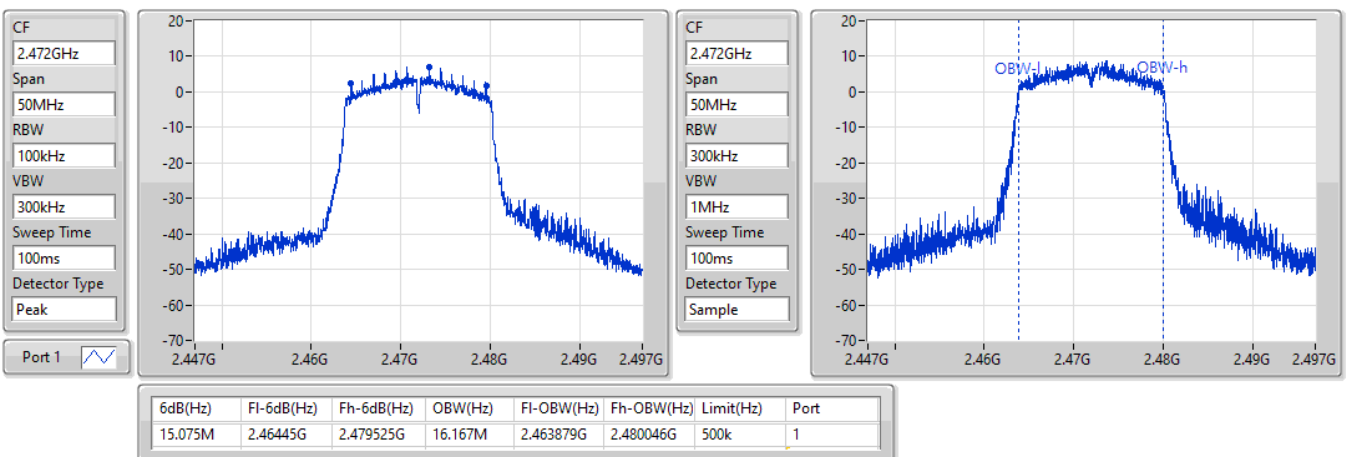


**802.11g\_Nss1,(6Mbps)\_1TX**

**EBW**

**2472MHz**

18/05/2022

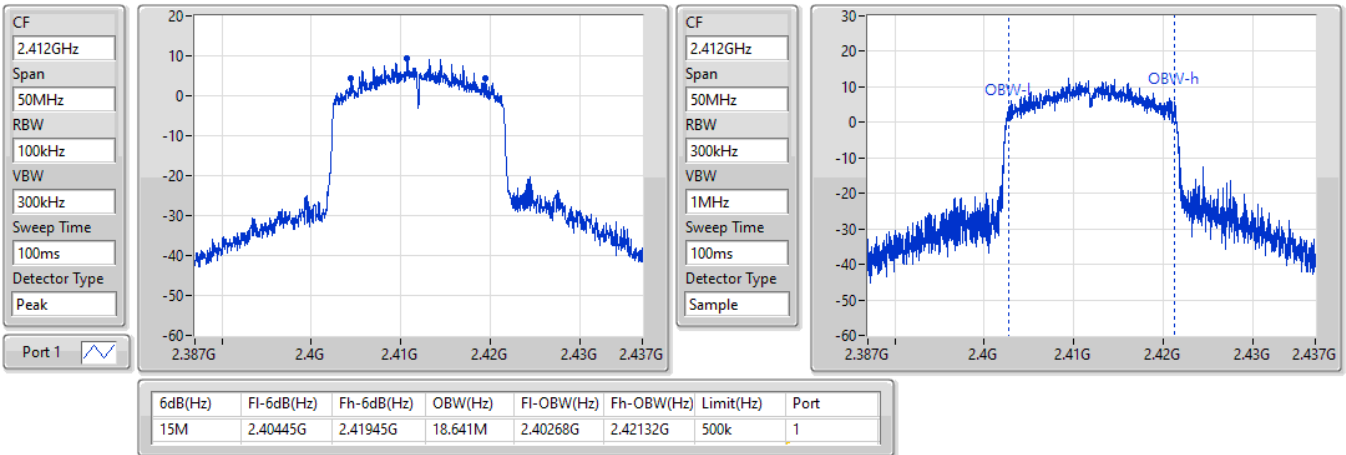


**802.11ax HEW20\_Nss1,(MCS0)\_1TX**

**EBW**

**2412MHz**

18/05/2022

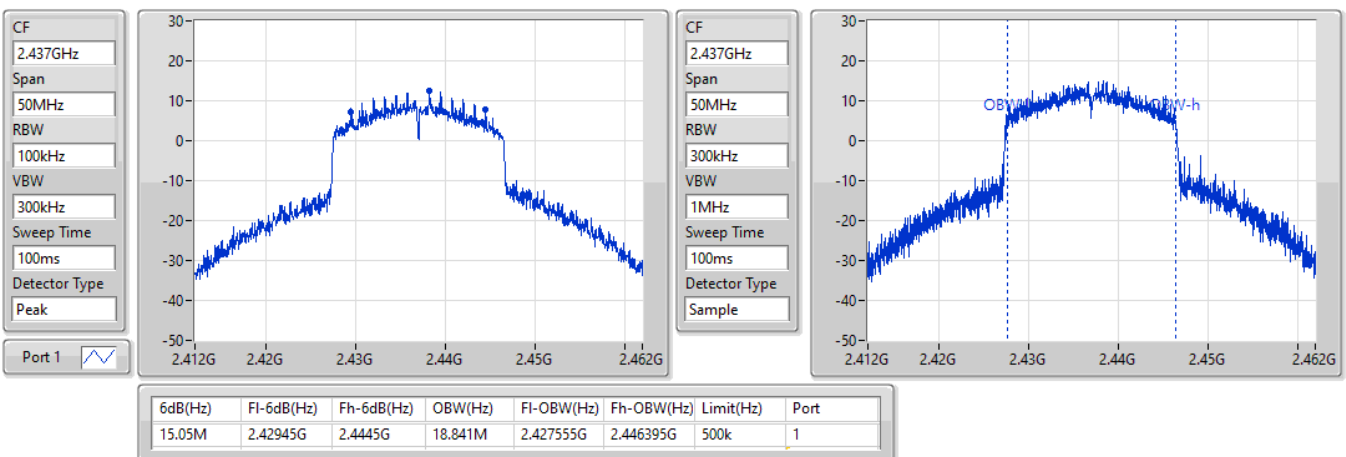


**802.11ax HEW20\_Nss1,(MCS0)\_1TX**

**EBW**

**2437MHz**

18/05/2022

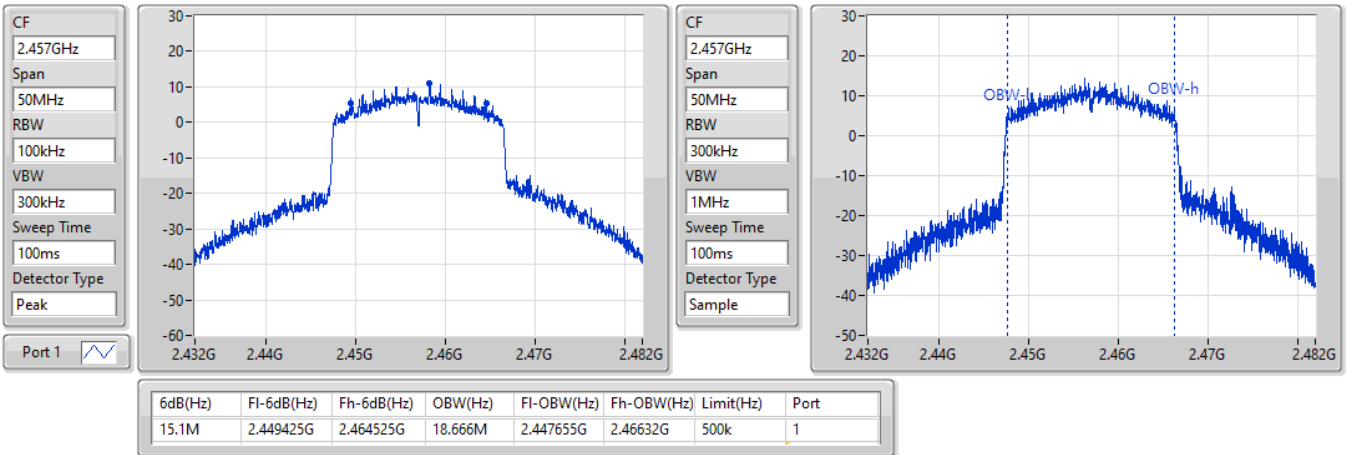


**802.11ax HEW20\_Nss1,(MCS0)\_1TX**

**EBW**

**2457MHz**

18/05/2022

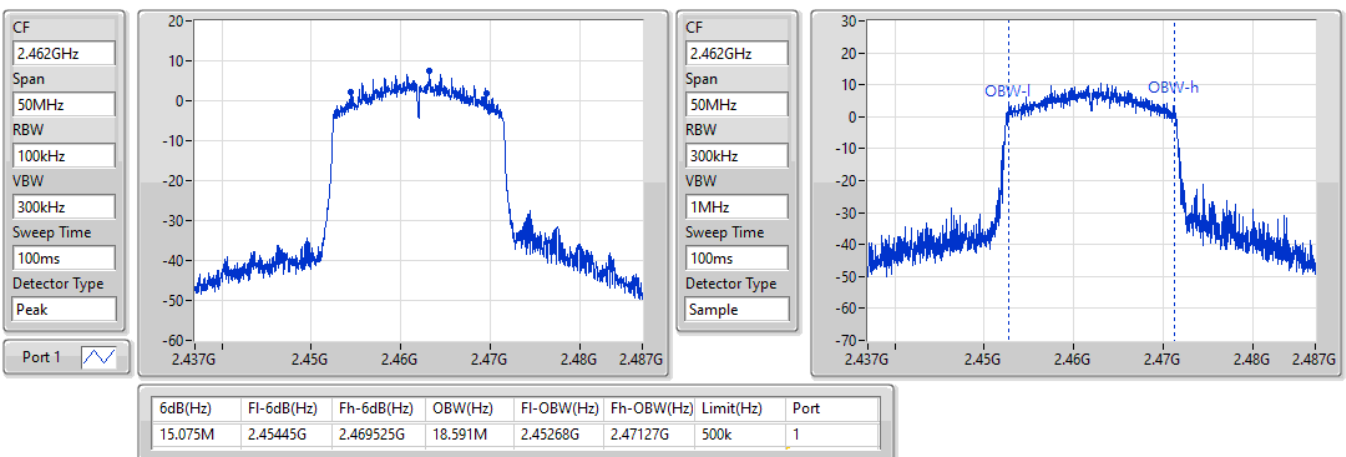


**802.11ax HEW20\_Nss1,(MCS0)\_1TX**

**EBW**

**2462MHz**

18/05/2022

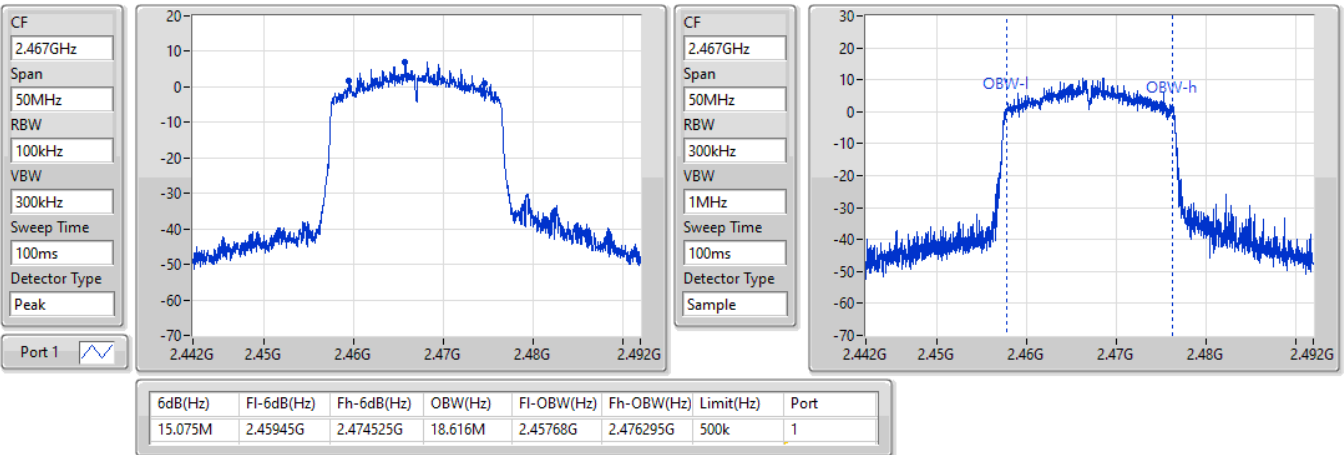


**802.11ax HEW20\_Nss1,(MCS0)\_1TX**

**EBW**

**2467MHz**

18/05/2022

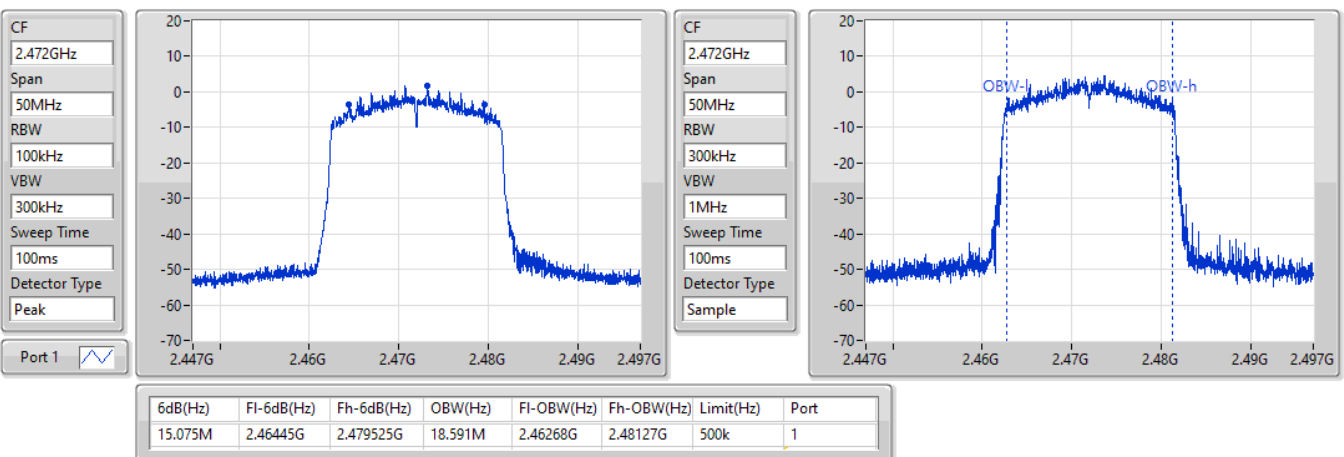


**802.11ax HEW20\_Nss1,(MCS0)\_1TX**

**EBW**

**2472MHz**

18/05/2022



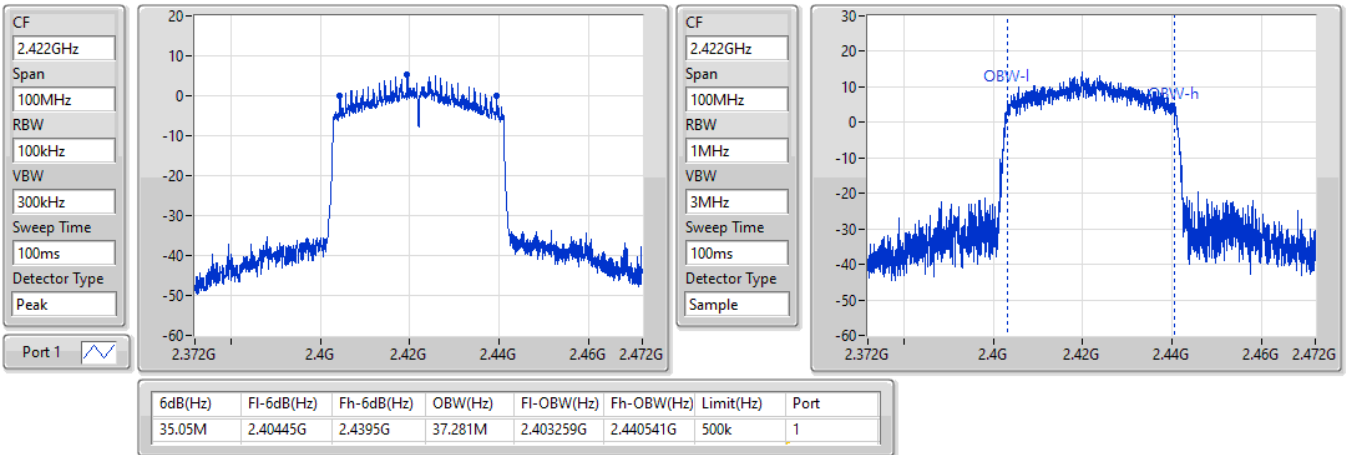


**802.11ax HEW40\_Nss1,(MCS0)\_1TX**

**EBW**

**2422MHz**

18/05/2022

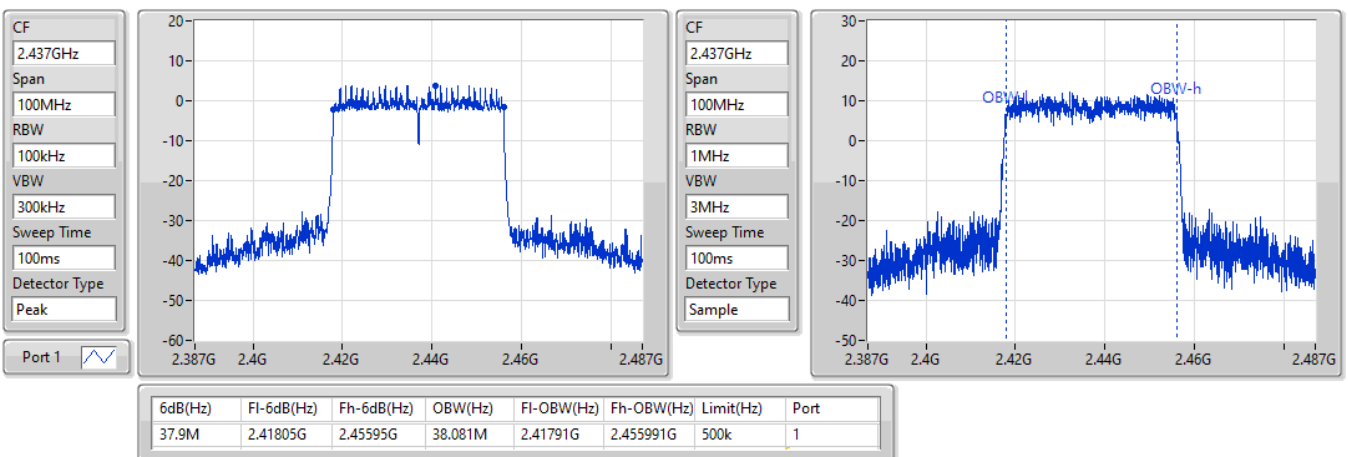


**802.11ax HEW40\_Nss1,(MCS0)\_1TX**

**EBW**

**2437MHz**

18/05/2022

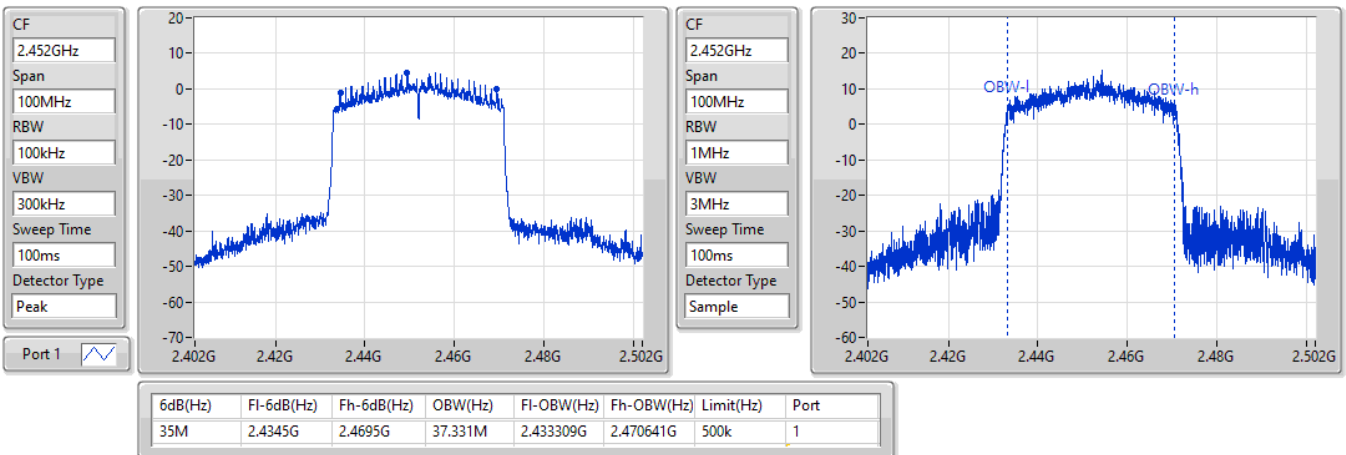


**802.11ax HEW40\_Nss1,(MCS0)\_1TX**

**EBW**

**2452MHz**

18/05/2022

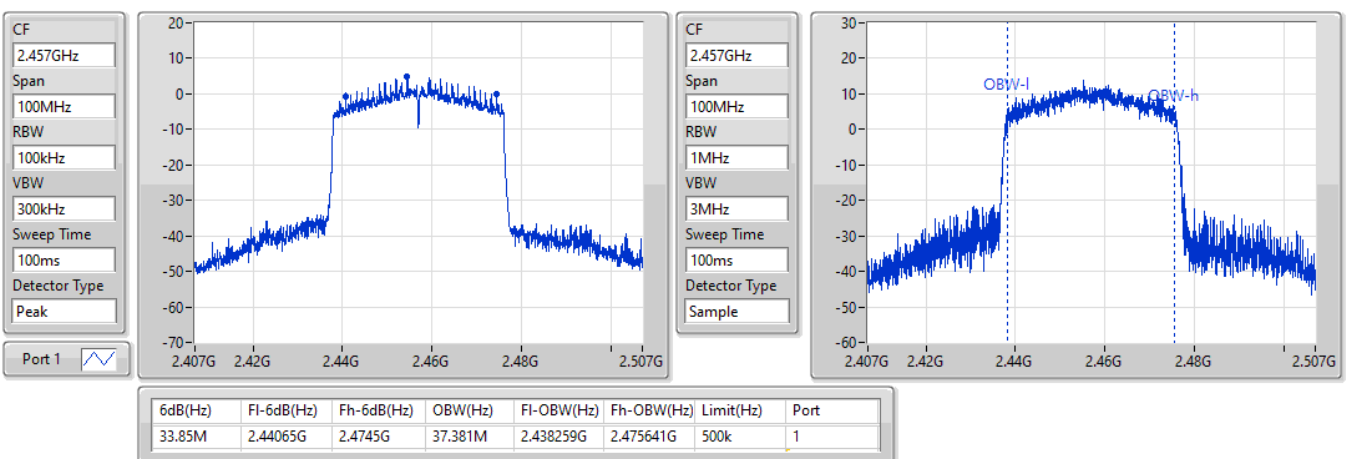


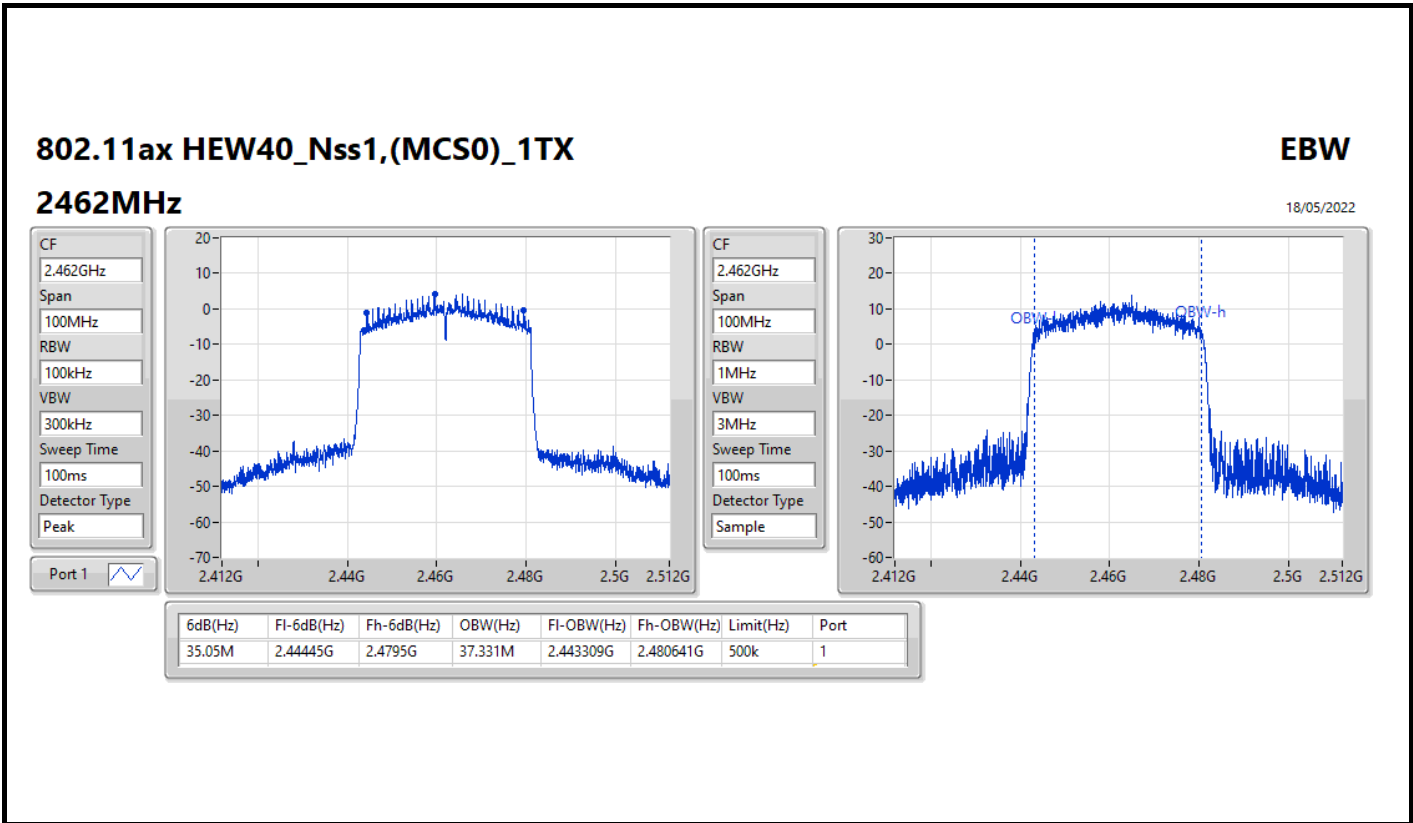
**802.11ax HEW40\_Nss1,(MCS0)\_1TX**

**EBW**

**2457MHz**

18/05/2022







**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	11.075M	15.142M	15M1G1D	10.05M	13.968M
802.11g_Nss1,(6Mbps)_1TX	15.075M	16.667M	16M7D1D	15.025M	16.167M
802.11ax HEW20_Nss1,(MCS0)_1TX	15.825M	18.791M	18M8D1D	15.025M	18.566M
802.11ax HEW40_Nss1,(MCS0)_1TX	35.05M	37.481M	37M5D1D	35.05M	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**

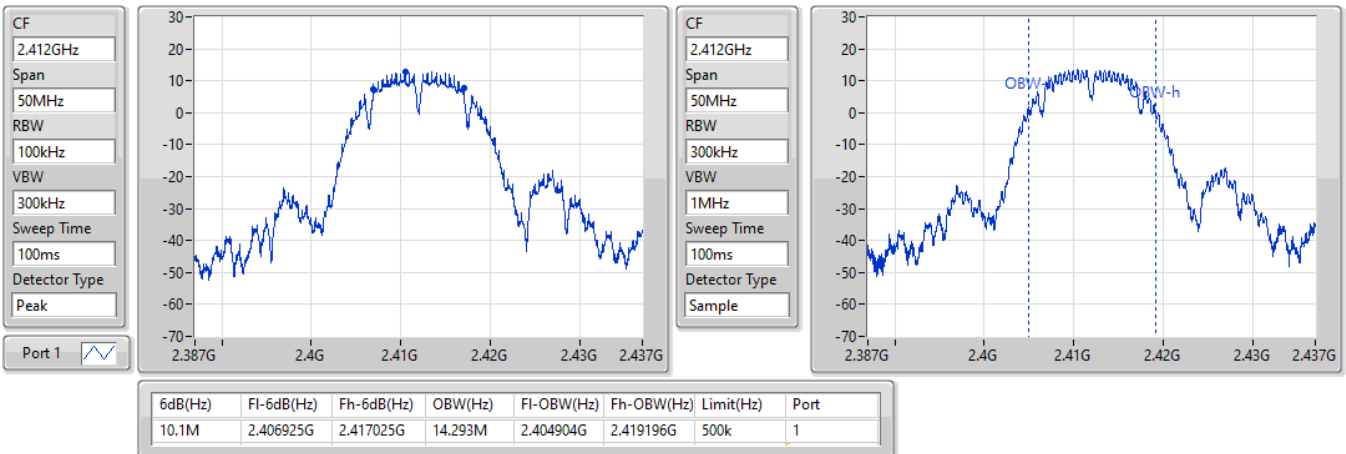
Mode	Result	Limit (Hz)	Port 1-N dB (Hz)	Port 1-OBW (Hz)
802.11b_Nss1,(1Mbps)_1TX	-	-	-	-
2412MHz	Pass	500k	10.1M	14.293M
2437MHz	Pass	500k	11.075M	15.142M
2462MHz	Pass	500k	10.05M	14.118M
2467MHz	Pass	500k	10.075M	13.968M
2472MHz	Pass	500k	10.05M	13.968M
802.11g_Nss1,(6Mbps)_1TX	-	-	-	-
2412MHz	Pass	500k	15.025M	16.167M
2437MHz	Pass	500k	15.025M	16.667M
2462MHz	Pass	500k	15.05M	16.217M
2467MHz	Pass	500k	15.075M	16.192M
2472MHz	Pass	500k	15.05M	16.167M
802.11ax HEW20_Nss1,(MCS0)_1TX	-	-	-	-
2412MHz	Pass	500k	15.825M	18.666M
2437MHz	Pass	500k	15.075M	18.791M
2462MHz	Pass	500k	15.05M	18.566M
2467MHz	Pass	500k	15.05M	18.641M
2472MHz	Pass	500k	15.025M	18.566M
802.11ax HEW40_Nss1,(MCS0)_1TX	-	-	-	-
2422MHz	Pass	500k	35.05M	37.431M
2437MHz	Pass	500k	35.05M	37.481M
2452MHz	Pass	500k	35.05M	37.481M
2457MHz	Pass	500k	35.05M	37.481M
2462MHz	Pass	500k	35.05M	37.281M

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

**802.11b\_Nss1,(1Mbps)\_1TX**  
**2412MHz**

**EBW**

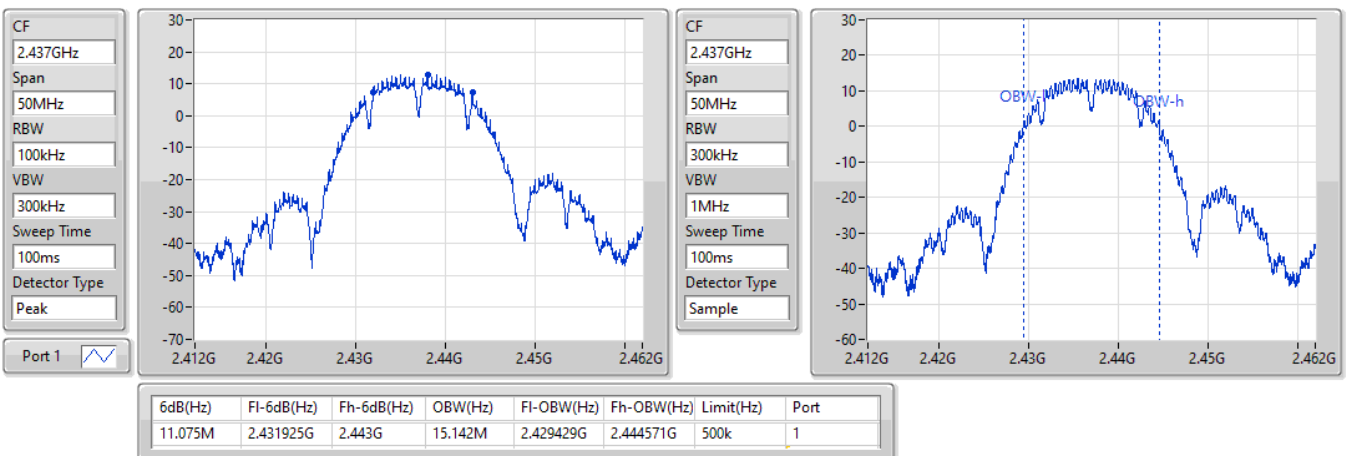
18/05/2022



**802.11b\_Nss1,(1Mbps)\_1TX**  
**2437MHz**

**EBW**

18/05/2022

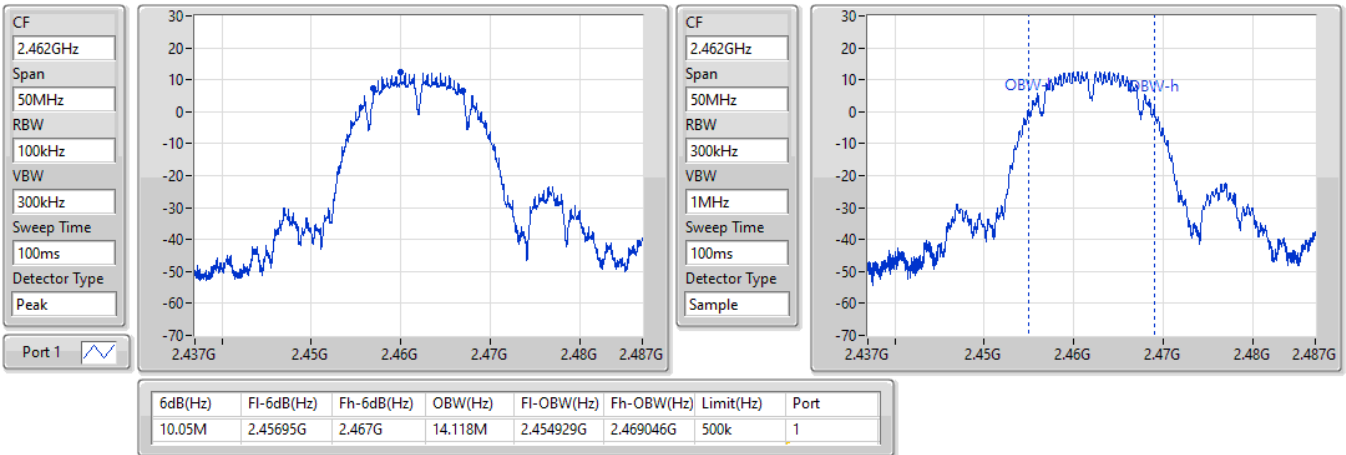


**802.11b\_Nss1,(1Mbps)\_1TX**

**EBW**

**2462MHz**

18/05/2022

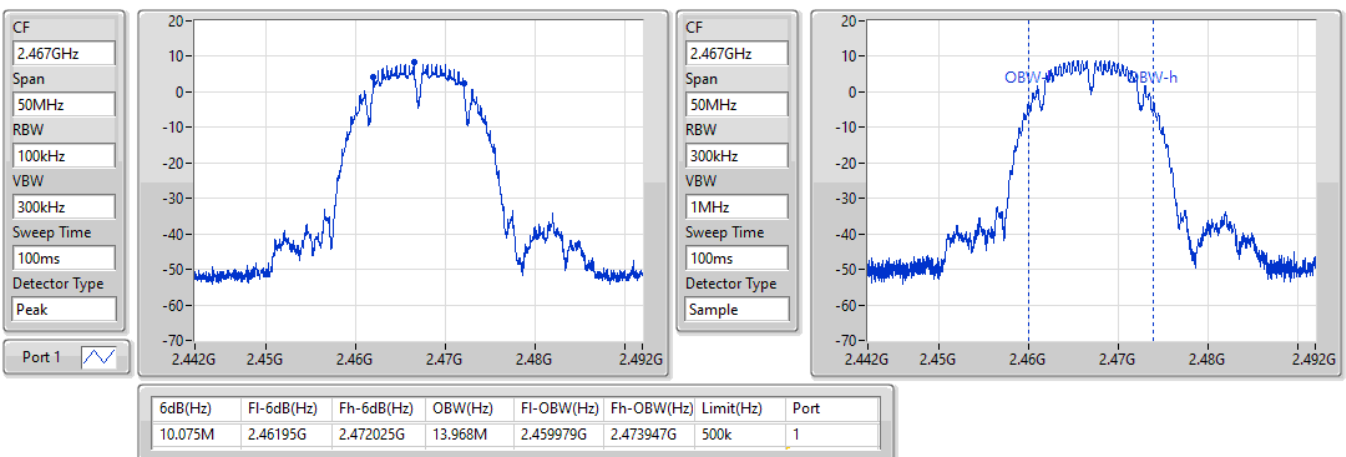


**802.11b\_Nss1,(1Mbps)\_1TX**

**EBW**

**2467MHz**

18/05/2022

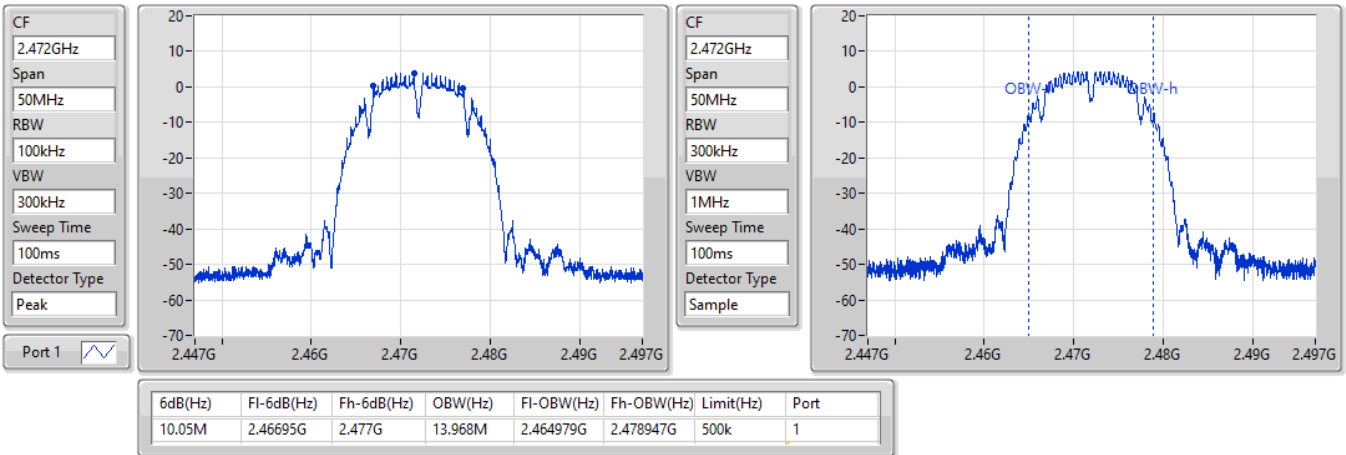


**802.11b\_Nss1,(1Mbps)\_1TX**

**EBW**

**2472MHz**

18/05/2022

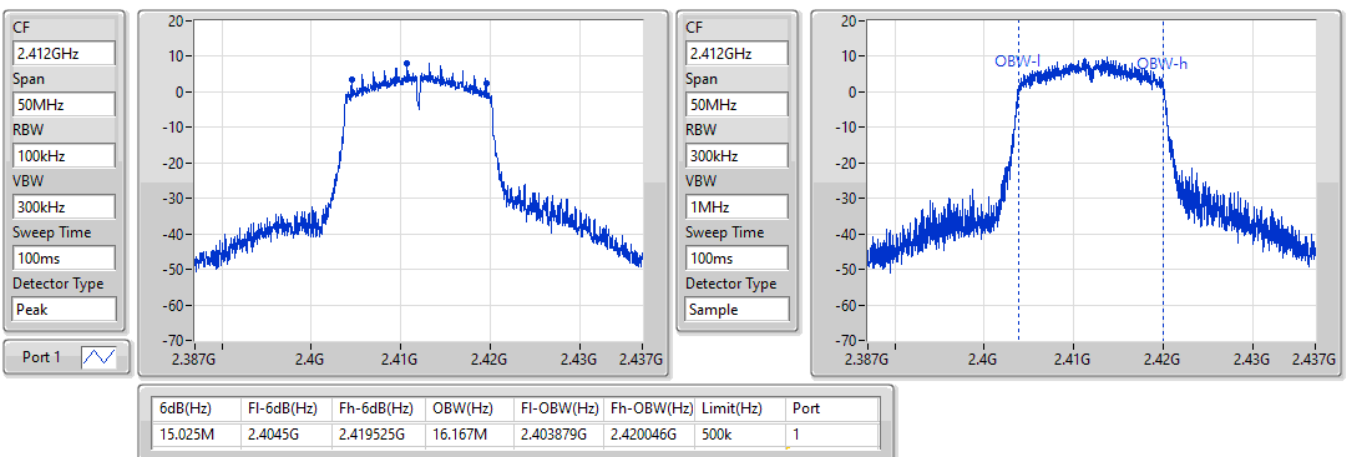


**802.11g\_Nss1,(6Mbps)\_1TX**

**EBW**

**2412MHz**

18/05/2022



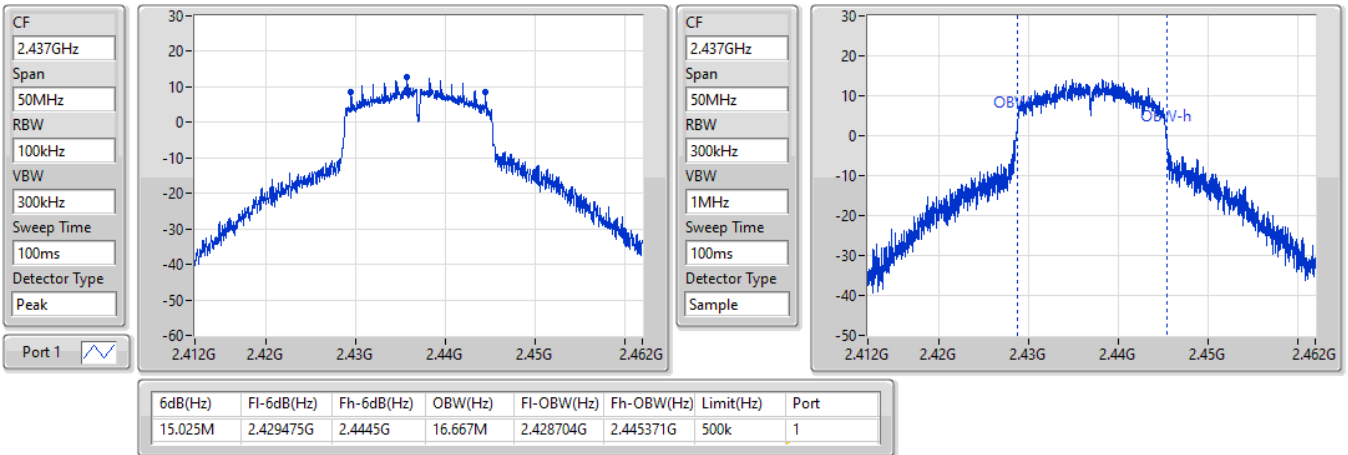


**802.11g\_Nss1,(6Mbps)\_1TX**

**EBW**

**2437MHz**

18/05/2022

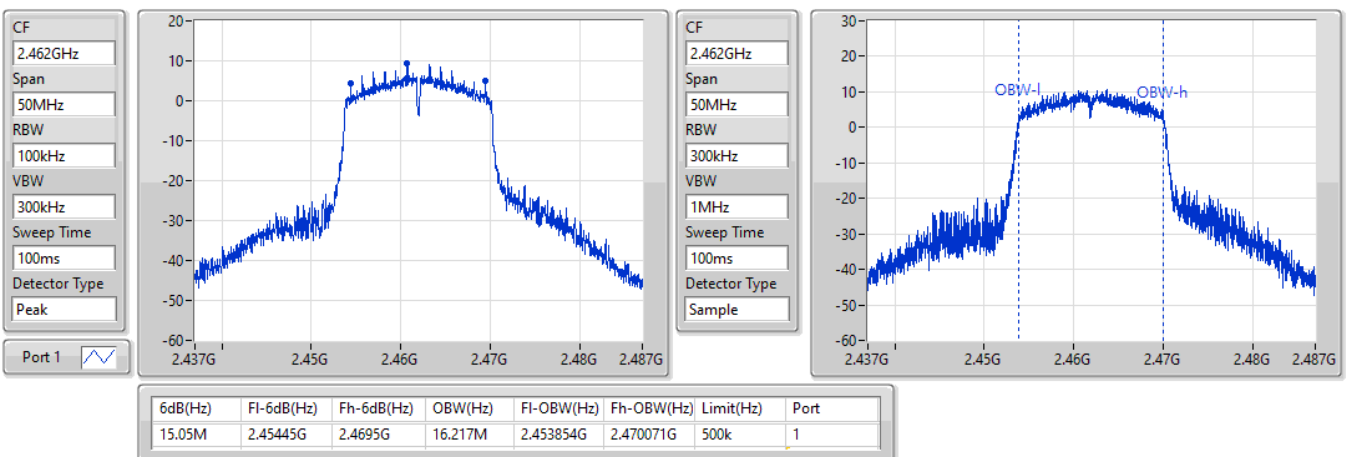


**802.11g\_Nss1,(6Mbps)\_1TX**

**EBW**

**2462MHz**

18/05/2022

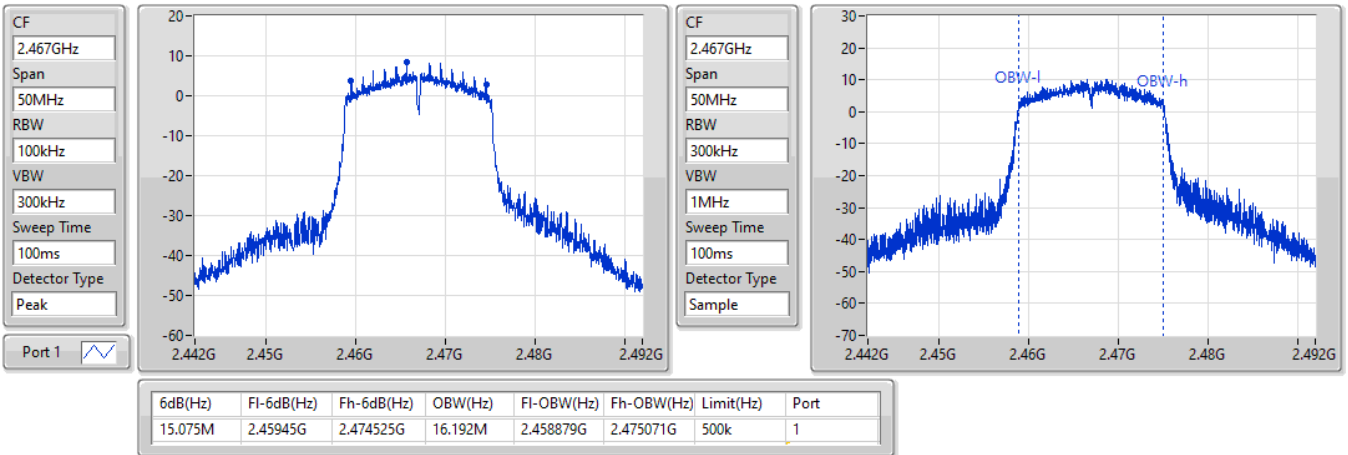


**802.11g\_Nss1,(6Mbps)\_1TX**

**EBW**

**2467MHz**

18/05/2022

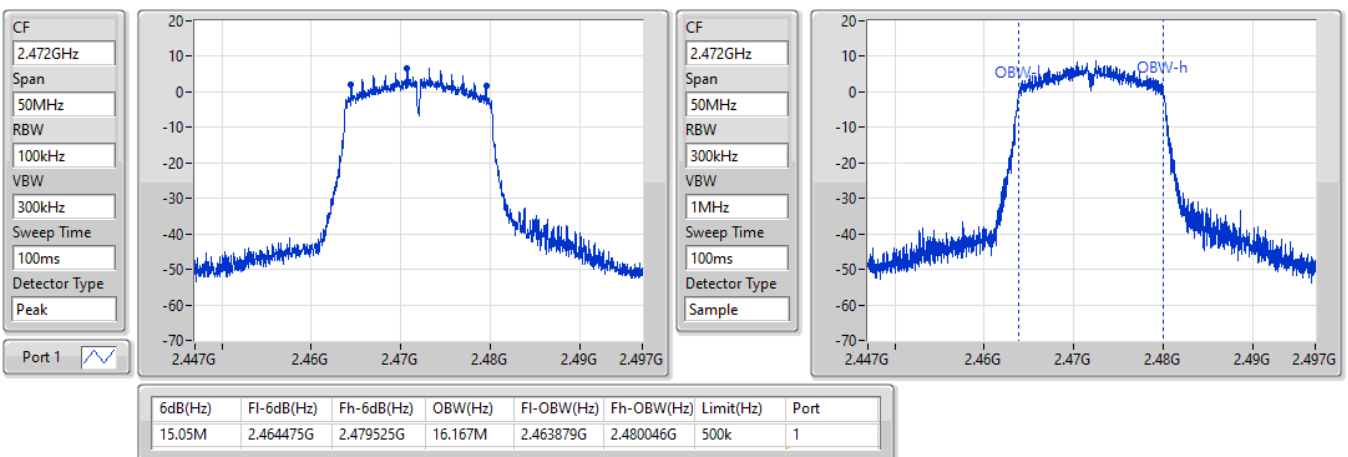


**802.11g\_Nss1,(6Mbps)\_1TX**

**EBW**

**2472MHz**

18/05/2022

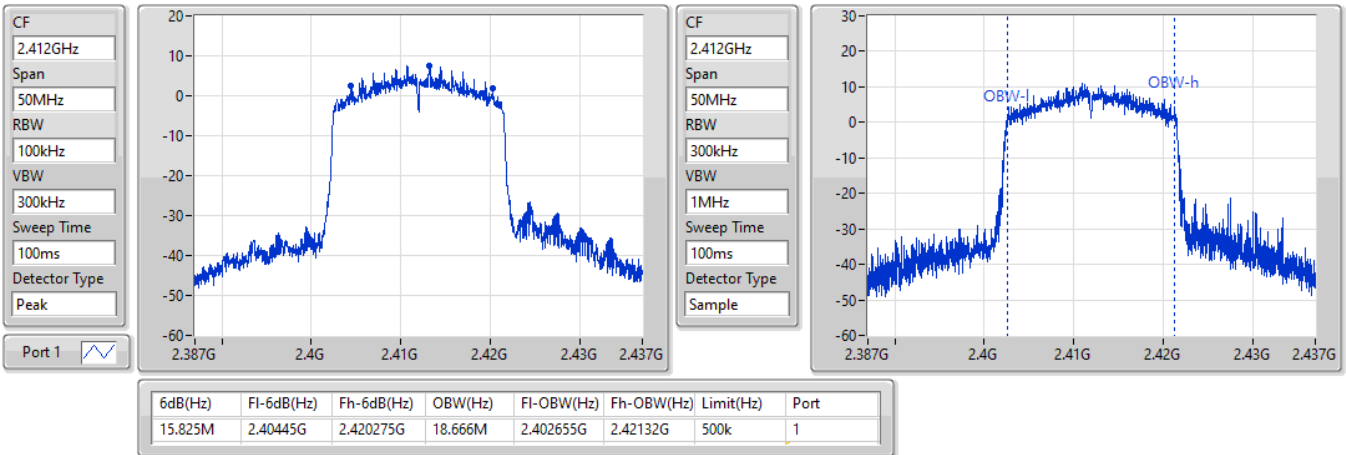


**802.11ax HEW20\_Nss1,(MCS0)\_1TX**

**EBW**

**2412MHz**

18/05/2022

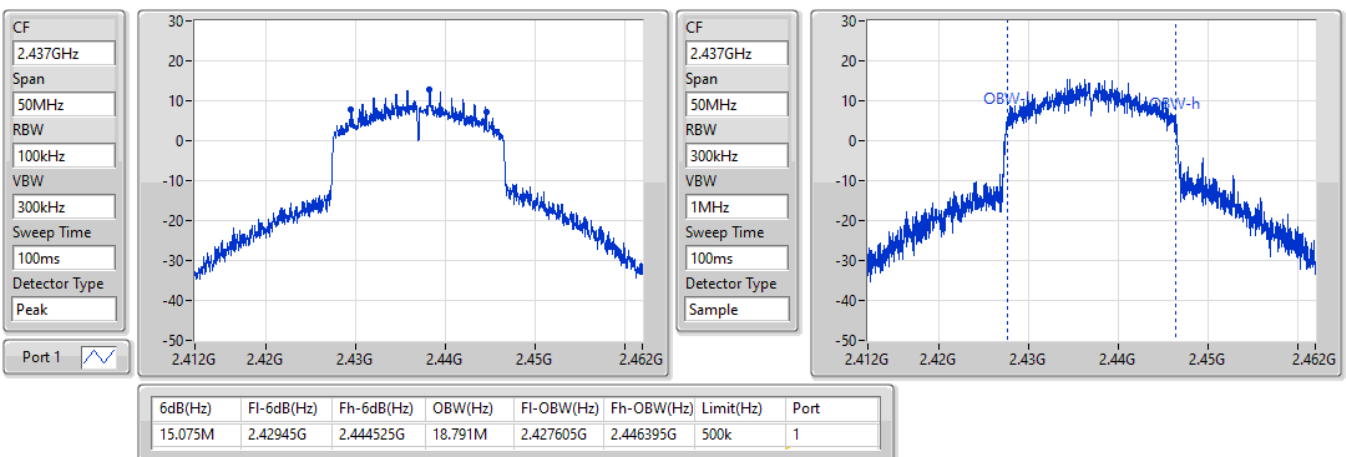


**802.11ax HEW20\_Nss1,(MCS0)\_1TX**

**EBW**

**2437MHz**

18/05/2022

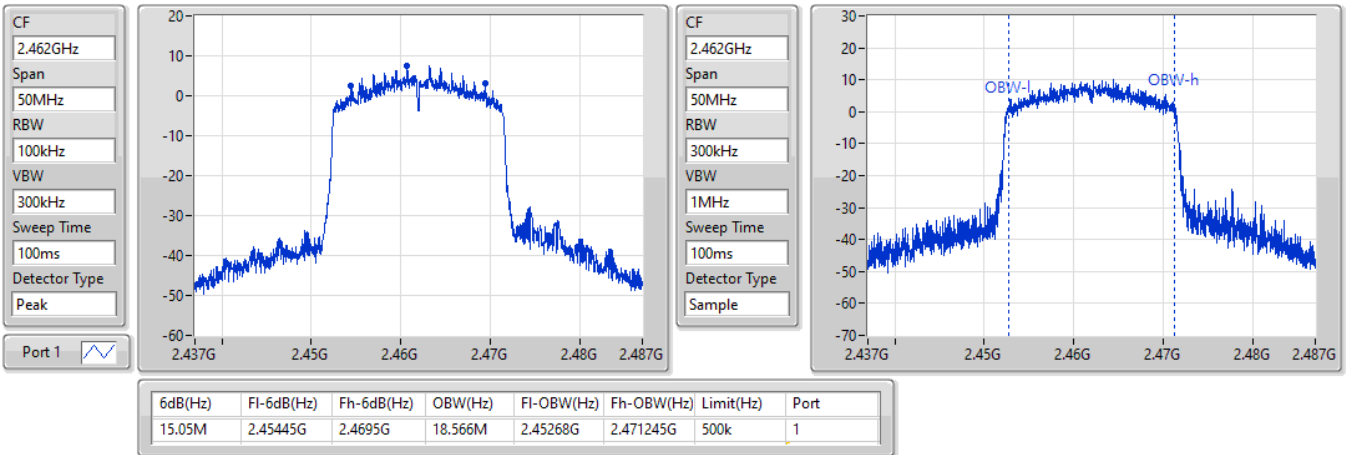


**802.11ax HEW20\_Nss1,(MCS0)\_1TX**

**EBW**

**2462MHz**

18/05/2022

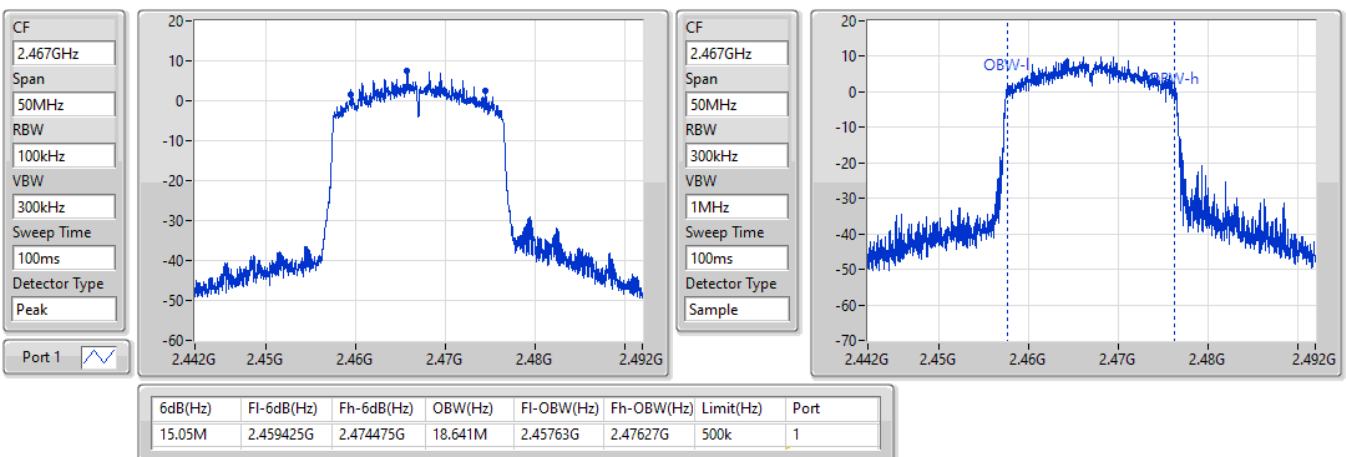


**802.11ax HEW20\_Nss1,(MCS0)\_1TX**

**EBW**

**2467MHz**

18/05/2022

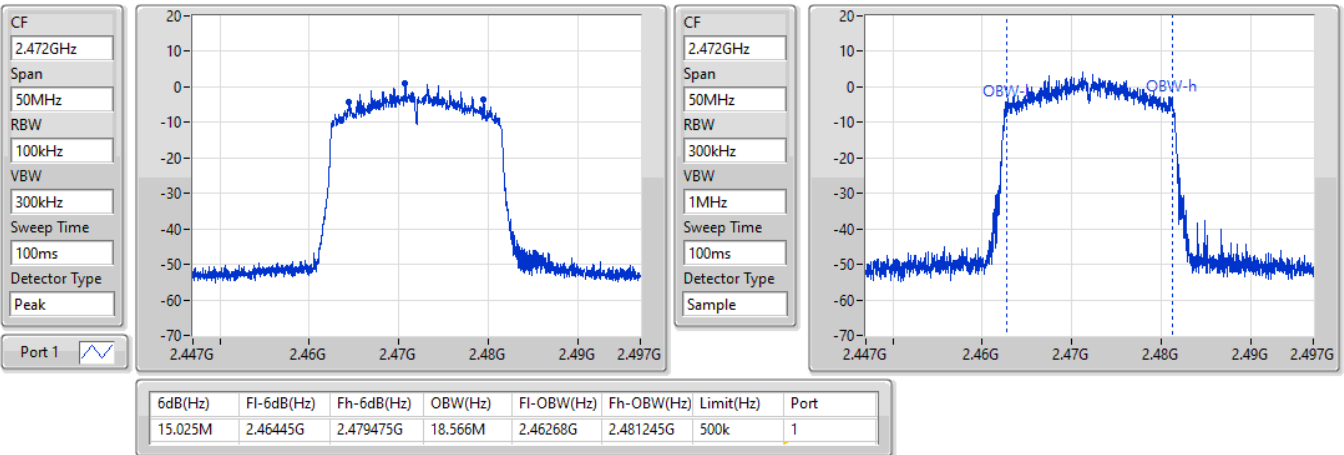


**802.11ax HEW20\_Nss1,(MCS0)\_1TX**

**EBW**

**2472MHz**

18/05/2022

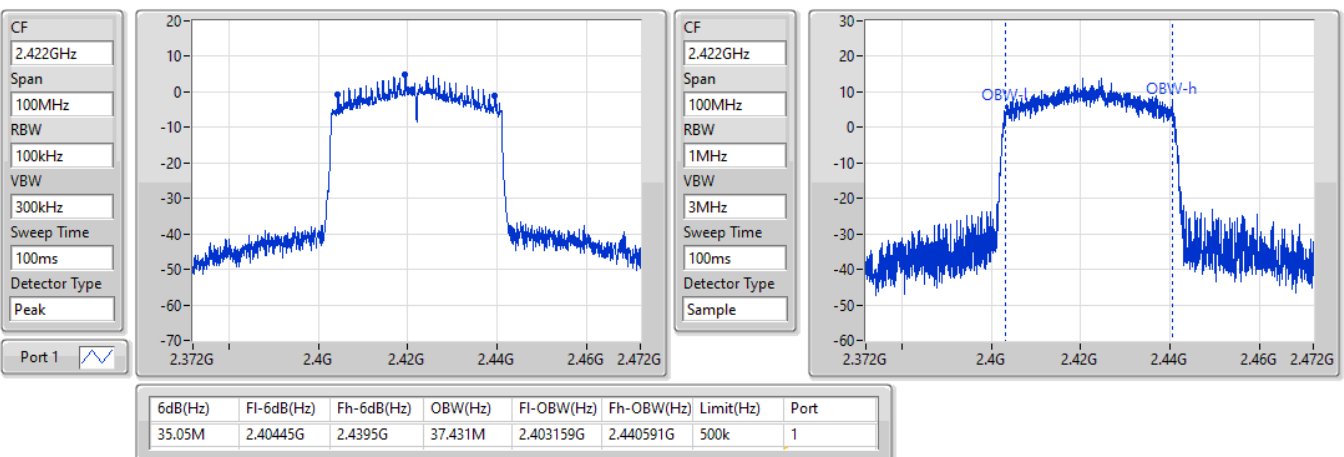


**802.11ax HEW40\_Nss1,(MCS0)\_1TX**

**EBW**

**2422MHz**

18/05/2022

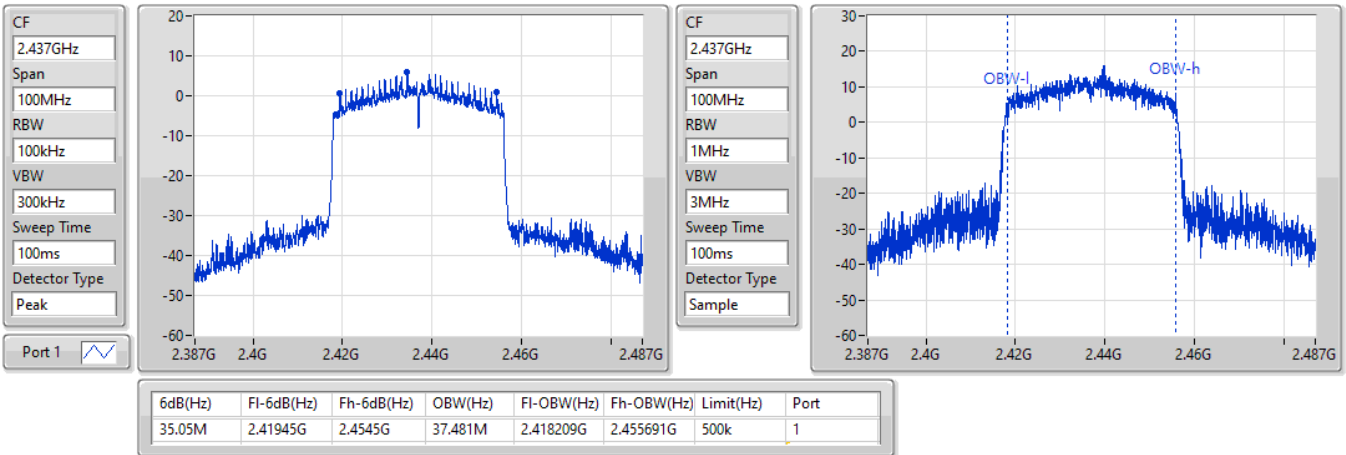


**802.11ax HEW40\_Nss1,(MCS0)\_1TX**

**EBW**

**2437MHz**

18/05/2022

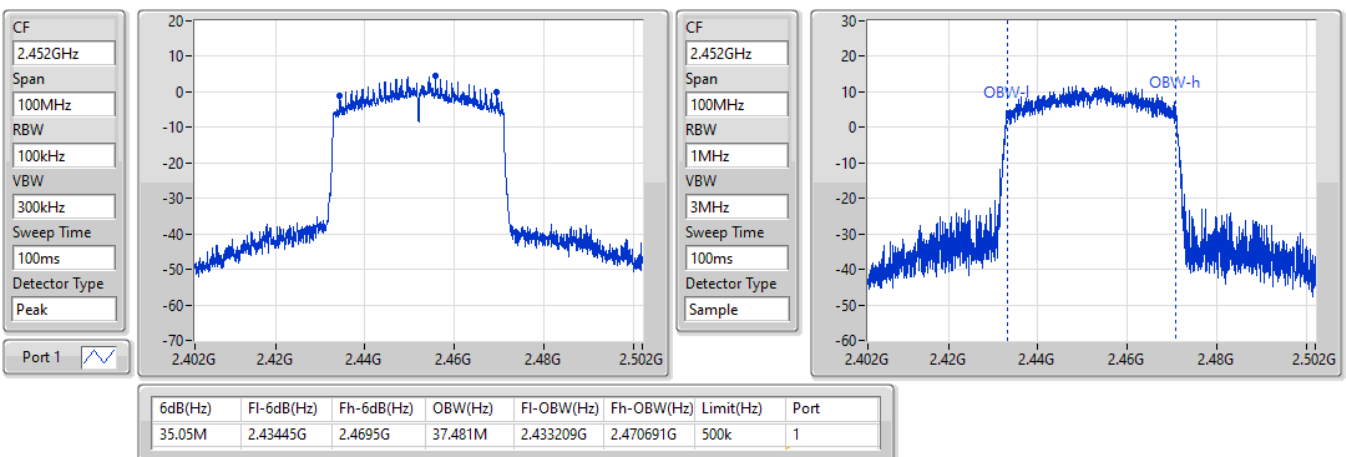


**802.11ax HEW40\_Nss1,(MCS0)\_1TX**

**EBW**

**2452MHz**

18/05/2022

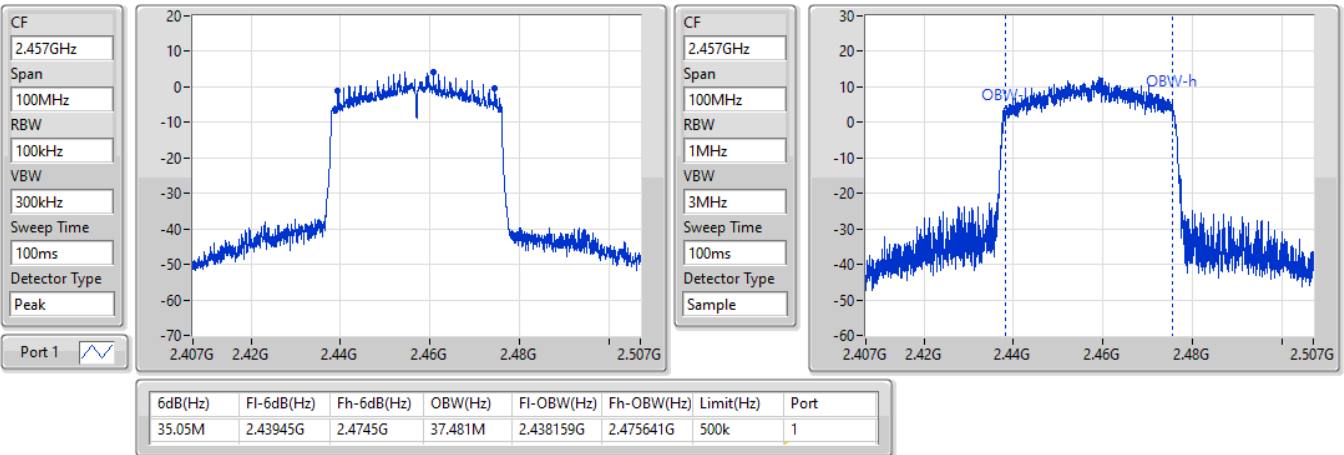


**802.11ax HEW40\_Nss1,(MCS0)\_1TX**

**EBW**

**2457MHz**

18/05/2022

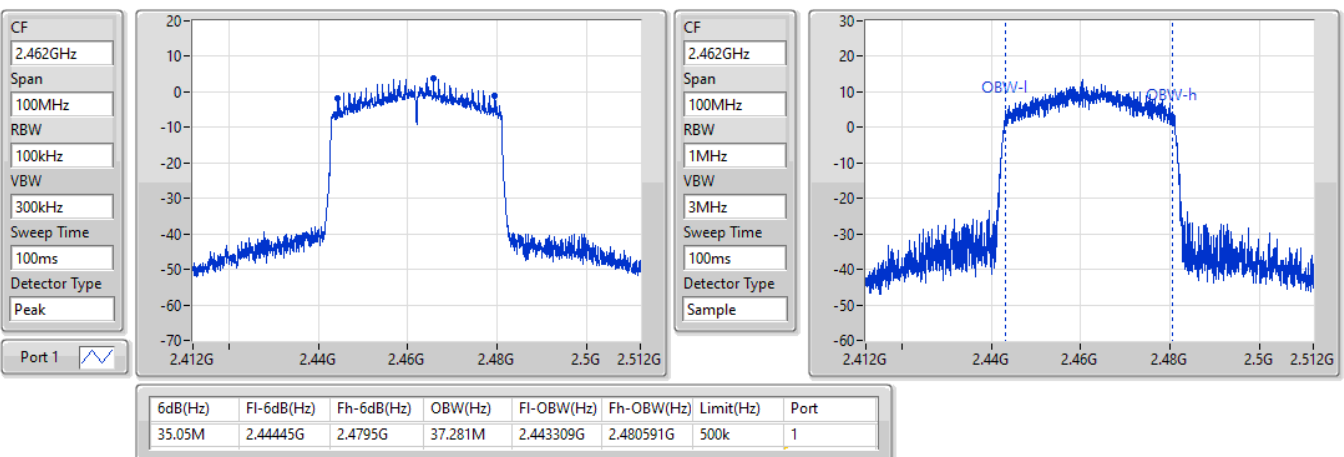


**802.11ax HEW40\_Nss1,(MCS0)\_1TX**

**EBW**

**2462MHz**

18/05/2022





**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	11.05M	15.267M	15M3G1D	10.075M	14.093M
802.11g_Nss1,(6Mbps)_1TX	16.3M	20.665M	20M7D1D	16.275M	16.392M
802.11ax HEW20_Nss1,(MCS0)_1TX	18.65M	20.59M	20M6D1D	18.375M	18.866M
802.11ax HEW40_Nss1,(MCS0)_1TX	37.85M	37.981M	38M0D1D	37.8M	37.831M

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	10.1M	14.993M
2437MHz	Pass	500k	11.025M	15.267M
2457MHz	Pass	500k	10.075M	14.093M
2462MHz	Pass	500k	11.05M	14.918M
2467MHz	Pass	500k	10.1M	14.918M
2472MHz	Pass	500k	10.1M	14.943M
802.11g_Nss1,(6Mbps)_1TX	-	-	-	-
2412MHz	Pass	500k	16.3M	16.417M
2437MHz	Pass	500k	16.275M	20.665M
2457MHz	Pass	500k	16.3M	16.467M
2462MHz	Pass	500k	16.275M	16.417M
2467MHz	Pass	500k	16.3M	16.392M
2472MHz	Pass	500k	16.3M	16.392M
802.11ax HEW20_Nss1,(MCS0)_1TX	-	-	-	-
2412MHz	Pass	500k	18.65M	18.891M
2437MHz	Pass	500k	18.375M	20.59M
2457MHz	Pass	500k	18.625M	18.891M
2462MHz	Pass	500k	18.625M	18.891M
2467MHz	Pass	500k	18.6M	18.866M
2472MHz	Pass	500k	18.65M	18.866M
802.11ax HEW40_Nss1,(MCS0)_1TX	-	-	-	-
2422MHz	Pass	500k	37.8M	37.831M
2437MHz	Pass	500k	37.85M	37.981M
2452MHz	Pass	500k	37.85M	37.931M
2457MHz	Pass	500k	37.8M	37.931M
2462MHz	Pass	500k	37.85M	37.881M

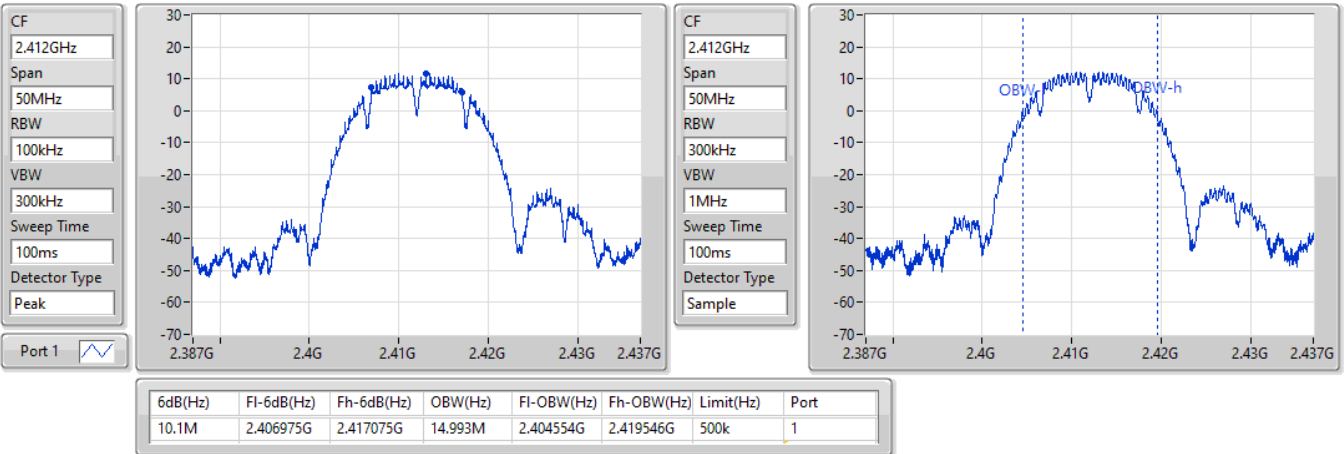
Port X-N dB = Port X 6dB down bandwidth;  
 Port X-OBW = Port X 99% occupied bandwidth

**802.11b\_Nss1,(1Mbps)\_1TX**

**EBW**

**2412MHz**

01/12/2021

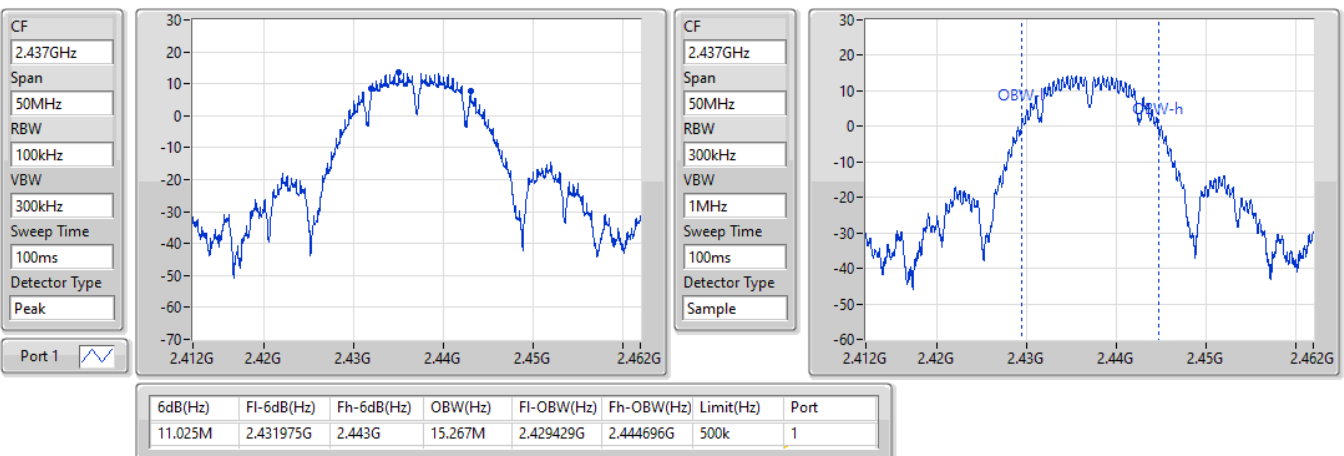


**802.11b\_Nss1,(1Mbps)\_1TX**

**EBW**

**2437MHz**

01/12/2021

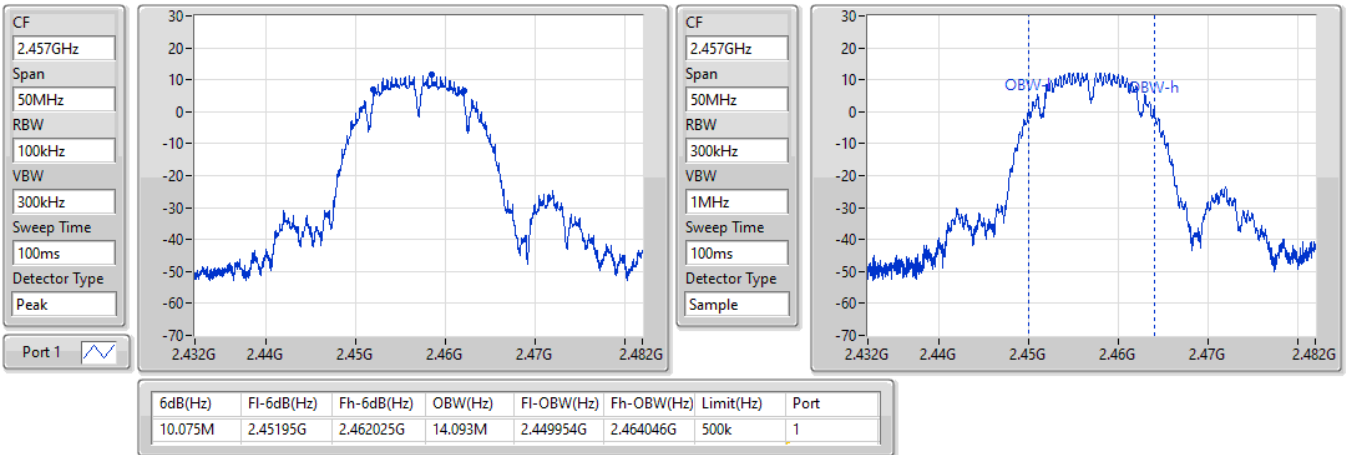


**802.11b\_Nss1,(1Mbps)\_1TX**

**EBW**

**2457MHz**

18/05/2022

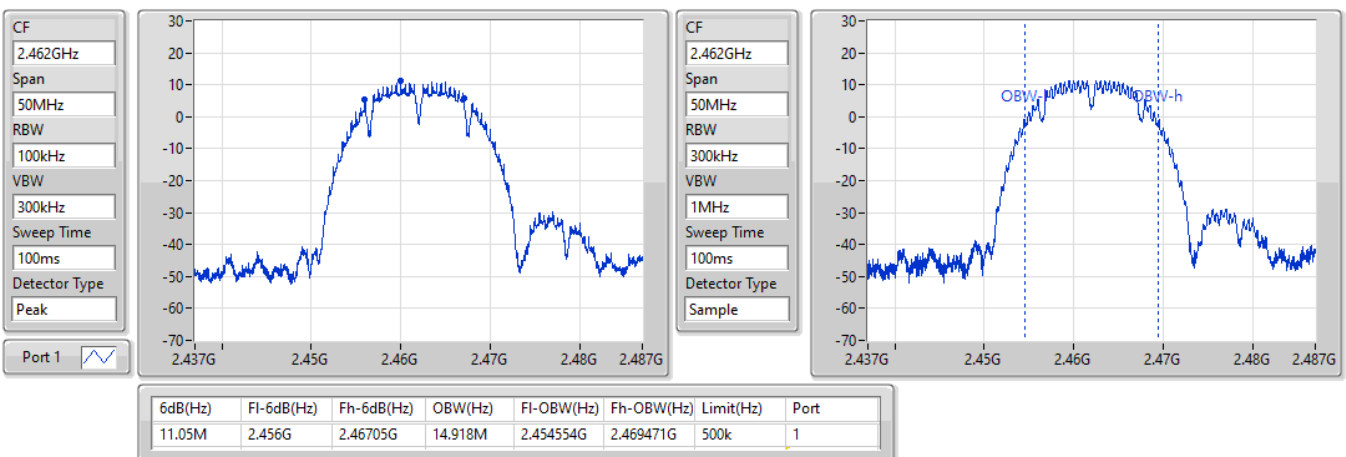


**802.11b\_Nss1,(1Mbps)\_1TX**

**EBW**

**2462MHz**

01/12/2021

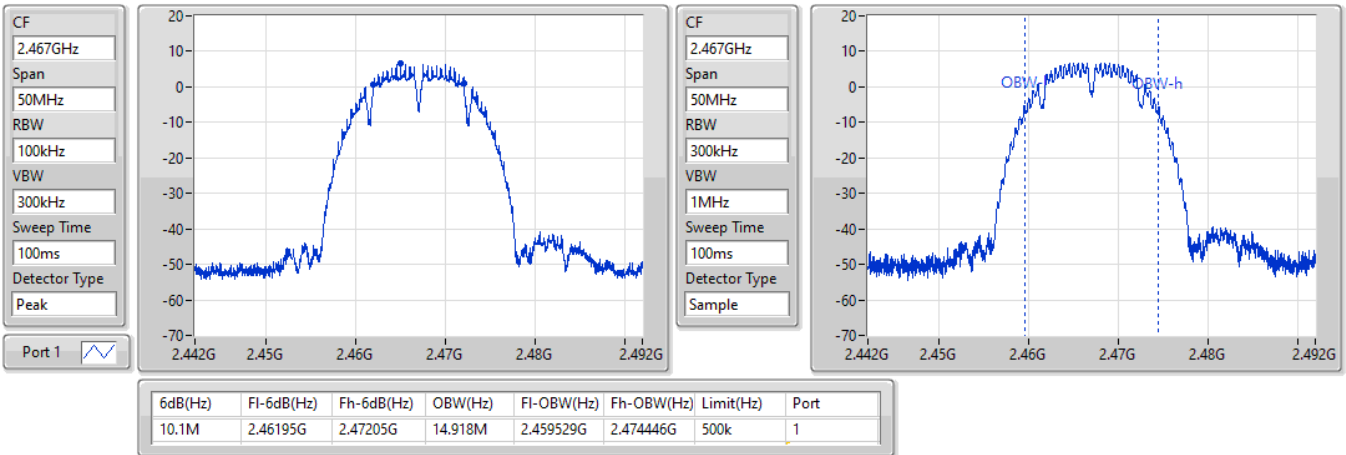


**802.11b\_Nss1,(1Mbps)\_1TX**

**EBW**

**2467MHz**

01/12/2021

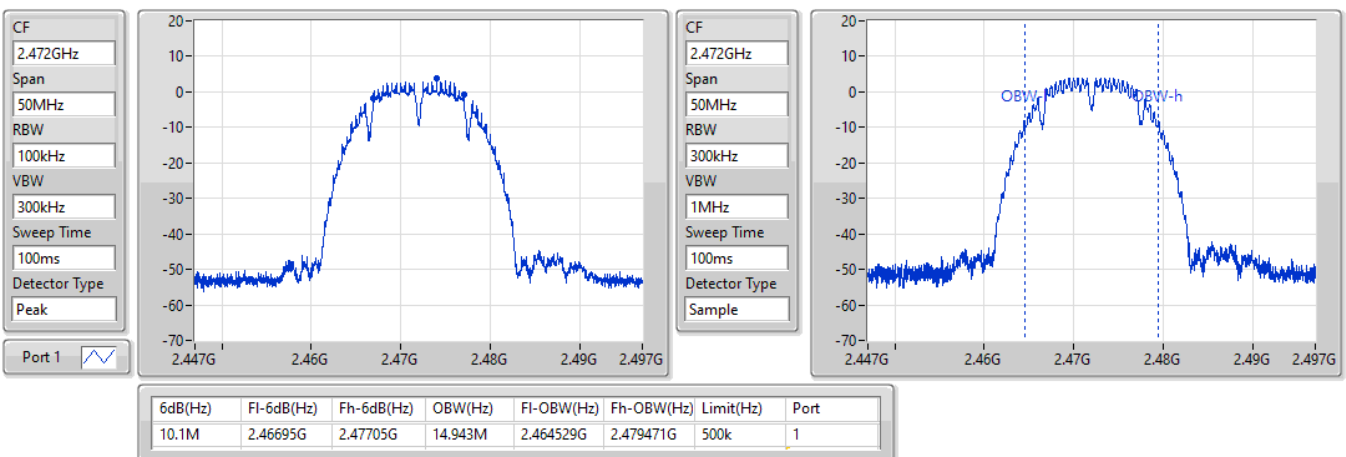


**802.11b\_Nss1,(1Mbps)\_1TX**

**EBW**

**2472MHz**

01/12/2021

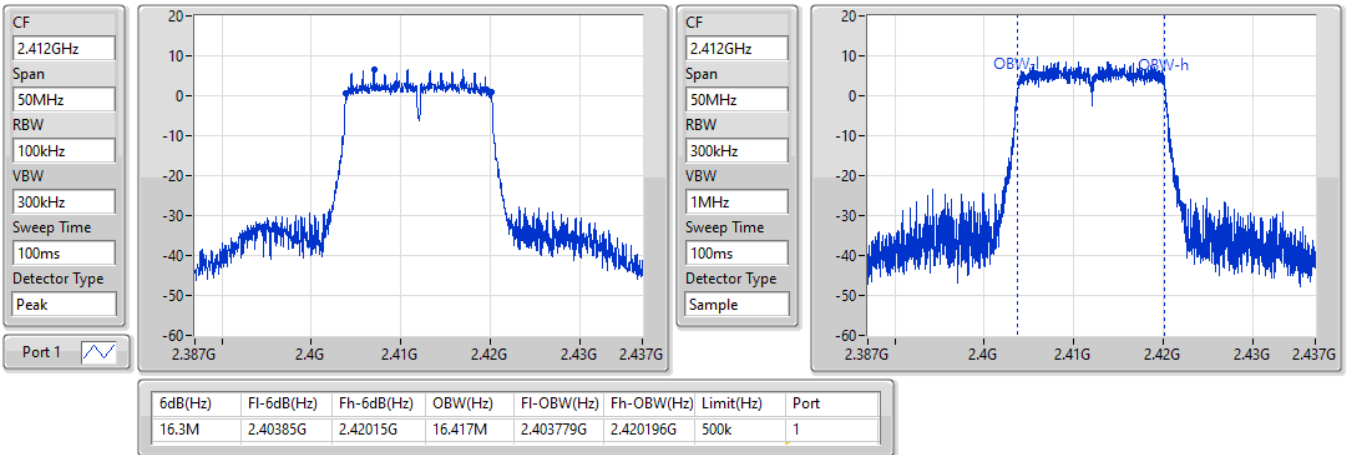


**802.11g\_Nss1,(6Mbps)\_1TX**

**EBW**

**2412MHz**

01/12/2021

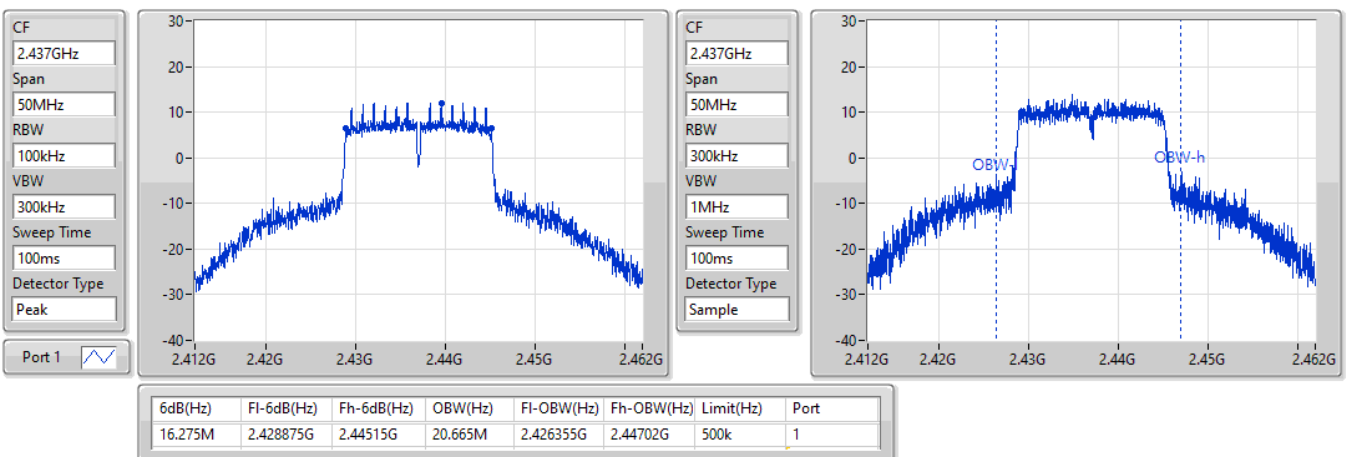


**802.11g\_Nss1,(6Mbps)\_1TX**

**EBW**

**2437MHz**

01/12/2021

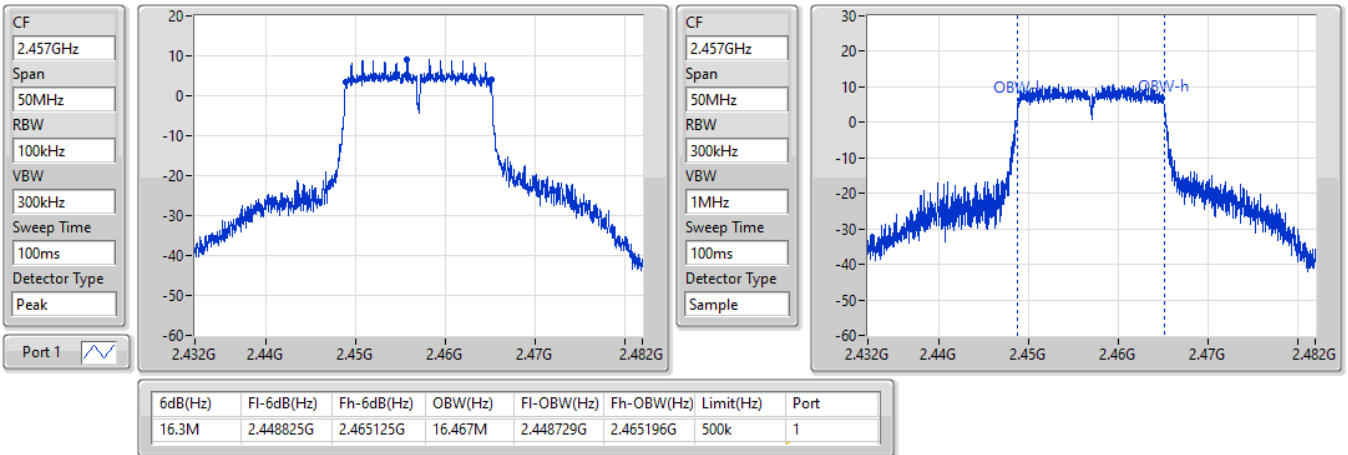


**802.11g\_Nss1,(6Mbps)\_1TX**

**EBW**

**2457MHz**

18/05/2022

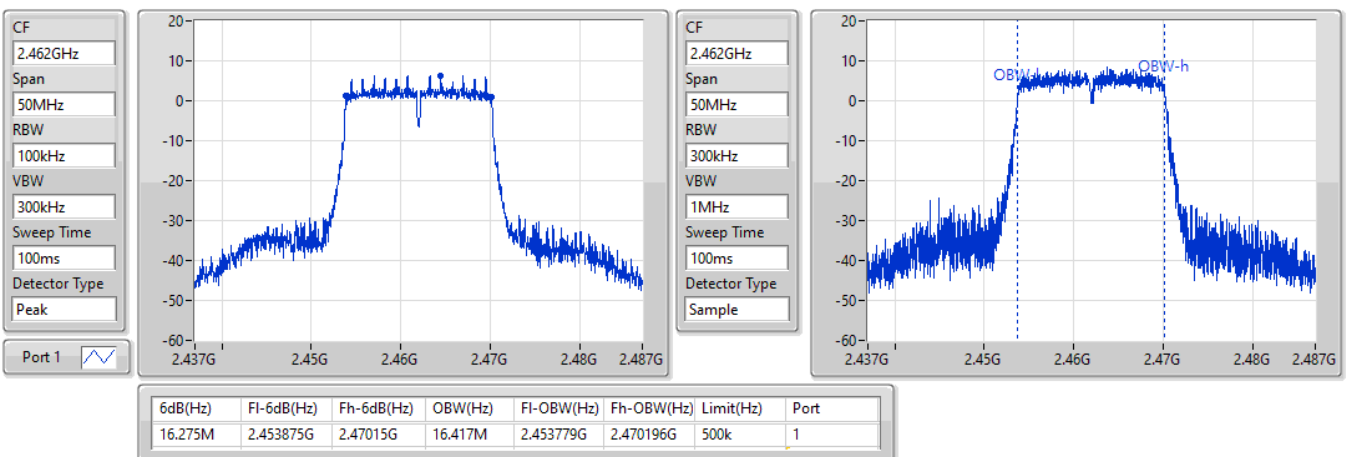


**802.11g\_Nss1,(6Mbps)\_1TX**

**EBW**

**2462MHz**

01/12/2021

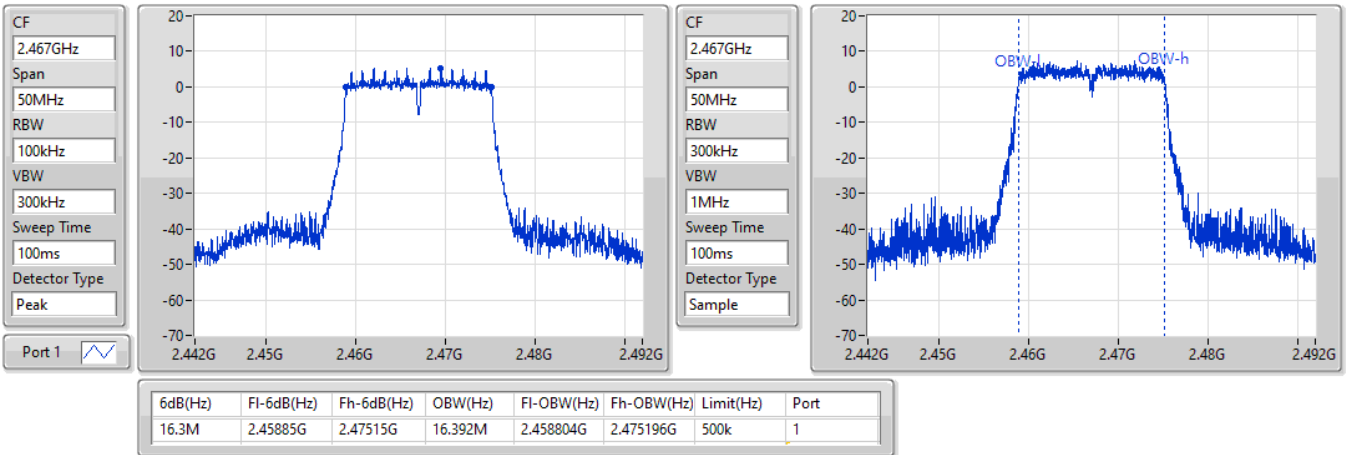


**802.11g\_Nss1,(6Mbps)\_1TX**

**EBW**

**2467MHz**

01/12/2021

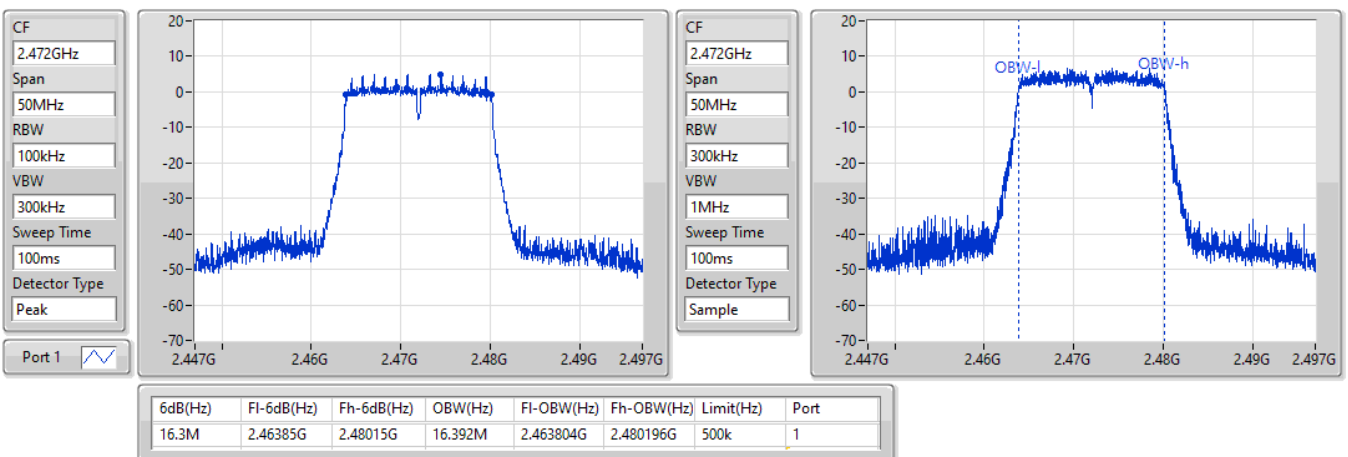


**802.11g\_Nss1,(6Mbps)\_1TX**

**EBW**

**2472MHz**

01/12/2021

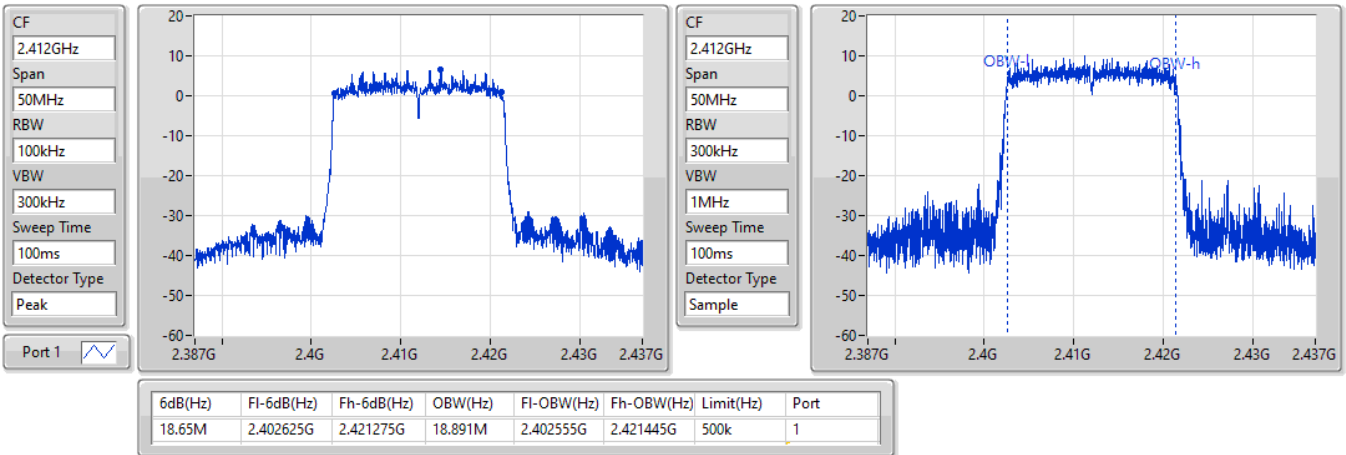


**802.11ax HEW20\_Nss1,(MCS0)\_1TX**

**EBW**

**2412MHz**

01/12/2021

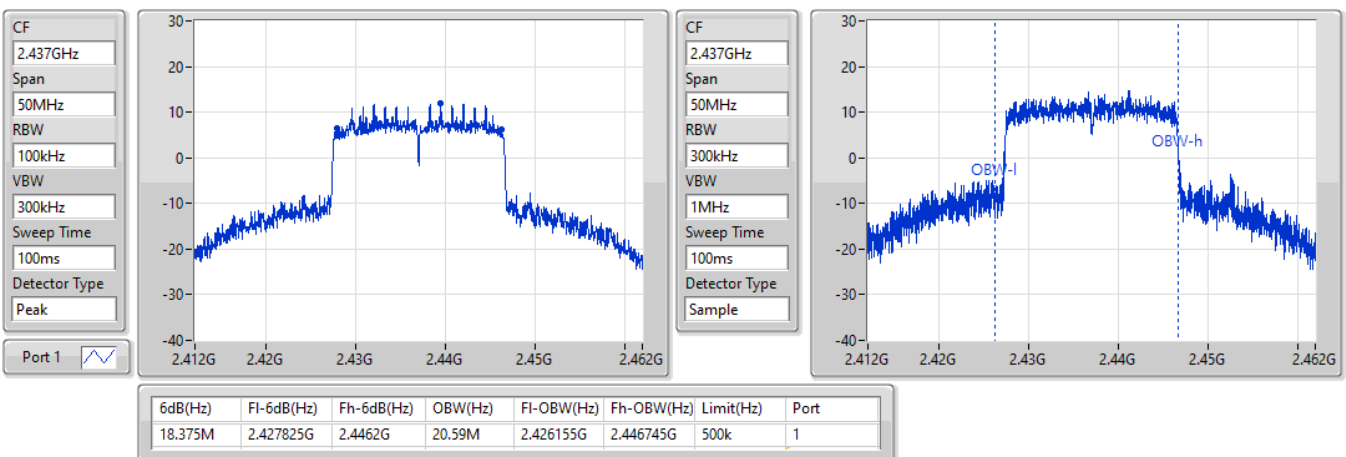


**802.11ax HEW20\_Nss1,(MCS0)\_1TX**

**EBW**

**2437MHz**

01/12/2021



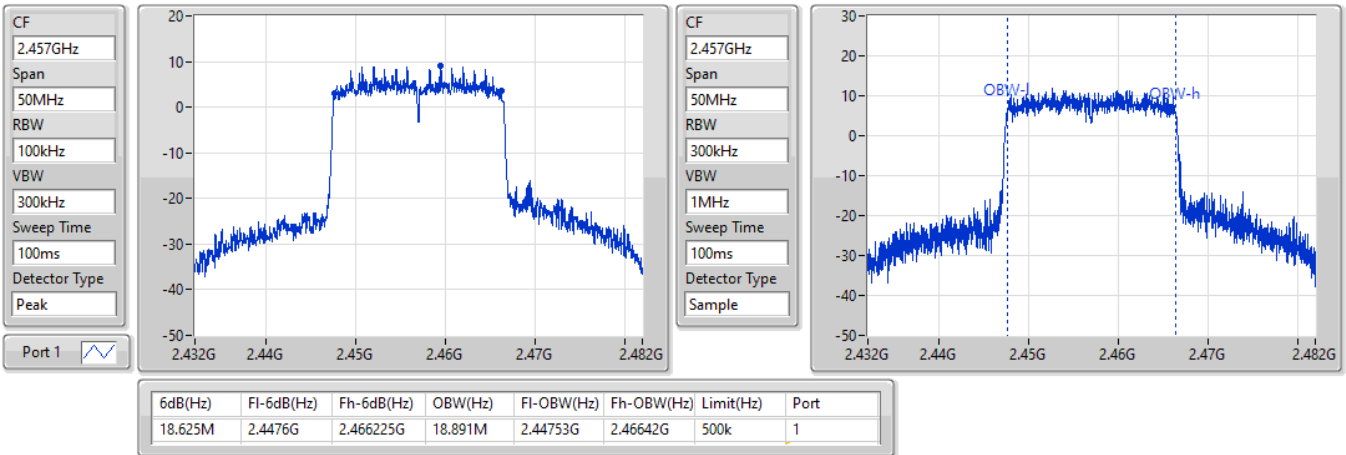


**802.11ax HEW20\_Nss1,(MCS0)\_1TX**

**EBW**

**2457MHz**

18/05/2022

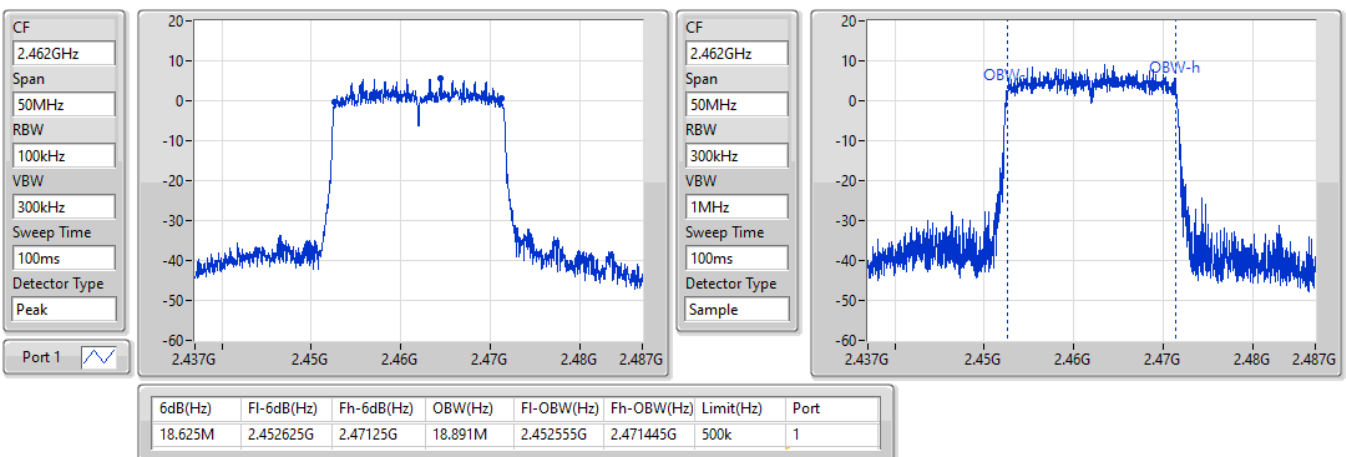


**802.11ax HEW20\_Nss1,(MCS0)\_1TX**

**EBW**

**2462MHz**

01/12/2021

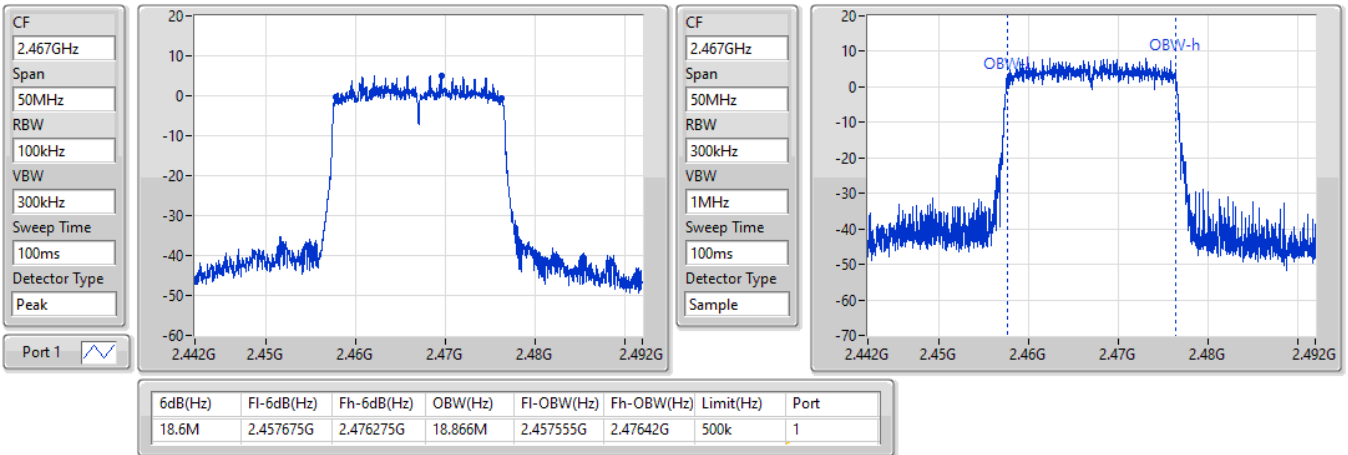


**802.11ax HEW20\_Nss1,(MCS0)\_1TX**

**EBW**

**2467MHz**

01/12/2021

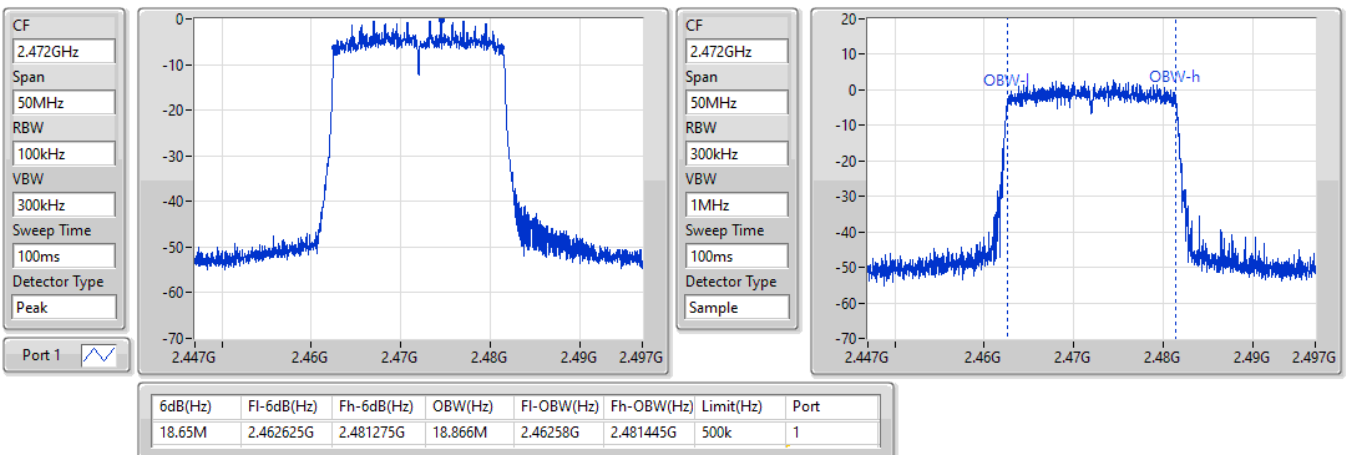


**802.11ax HEW20\_Nss1,(MCS0)\_1TX**

**EBW**

**2472MHz**

01/12/2021

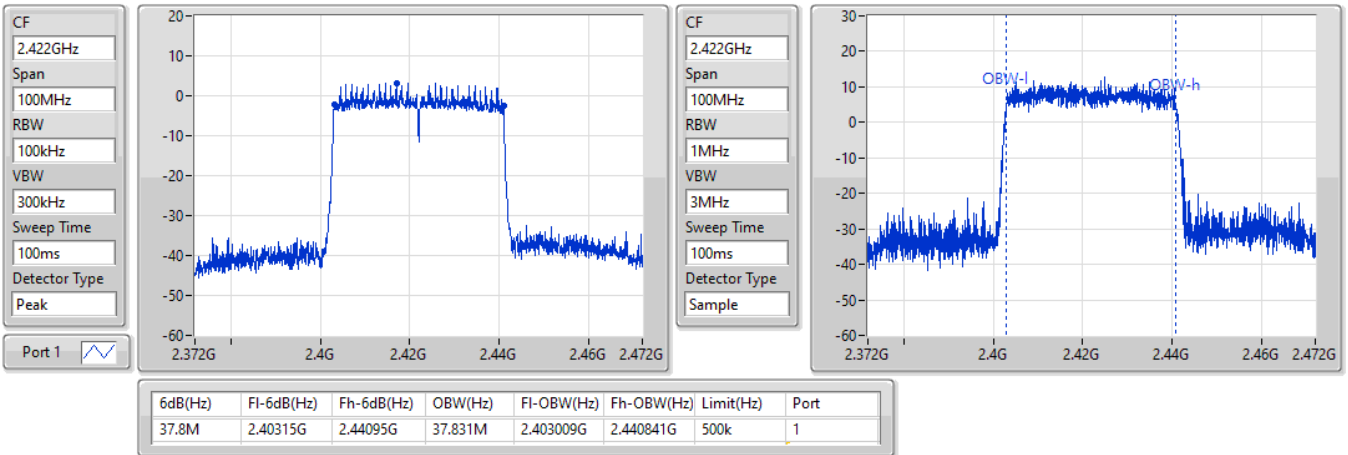


**802.11ax HEW40\_Nss1,(MCS0)\_1TX**

**EBW**

**2422MHz**

01/12/2021

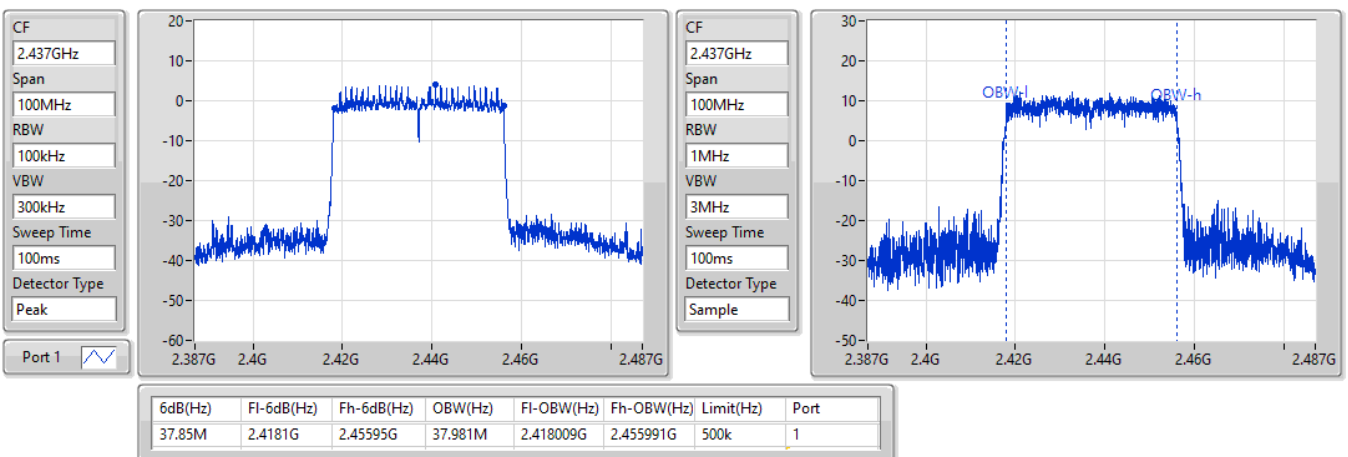


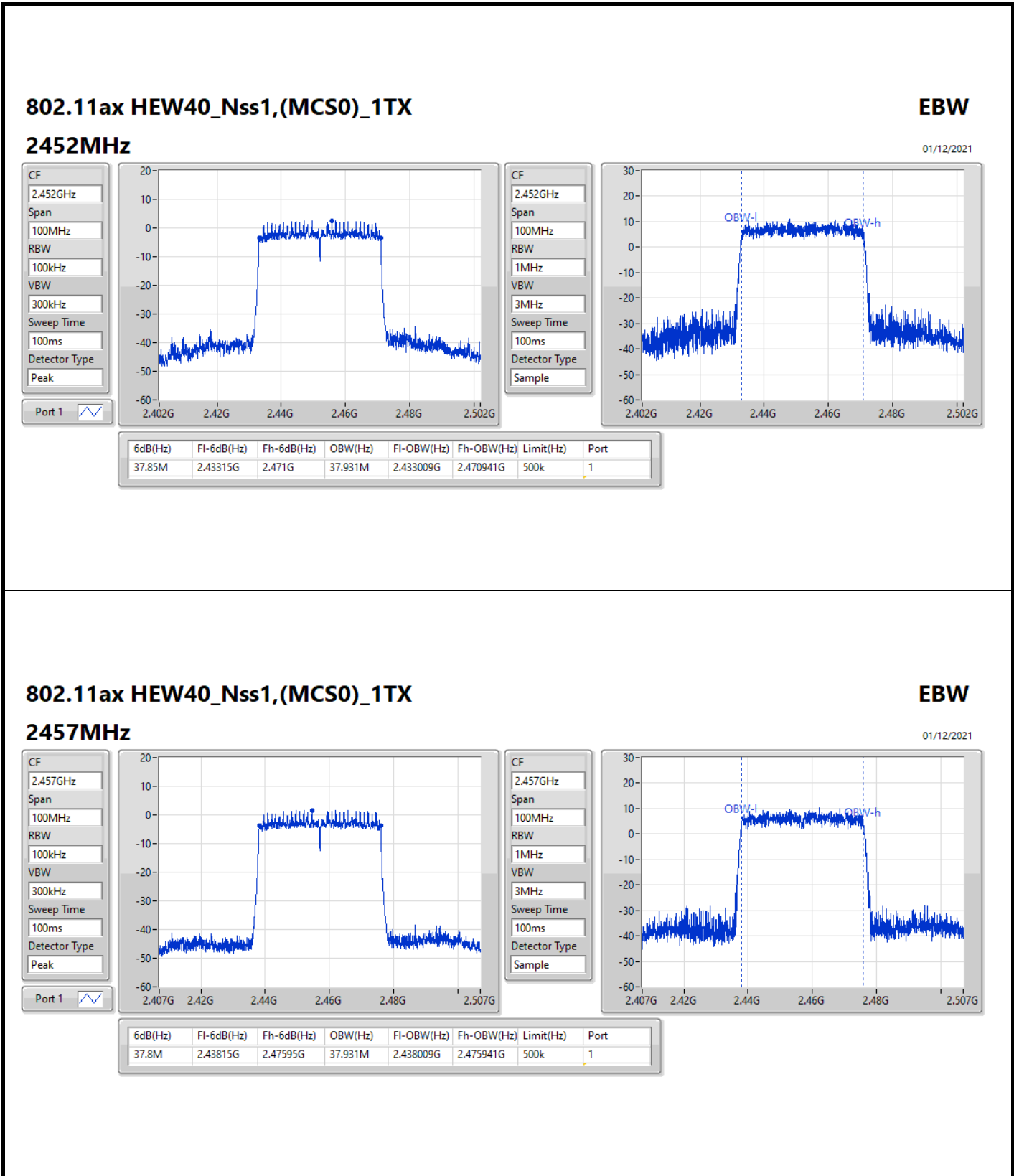
**802.11ax HEW40\_Nss1,(MCS0)\_1TX**

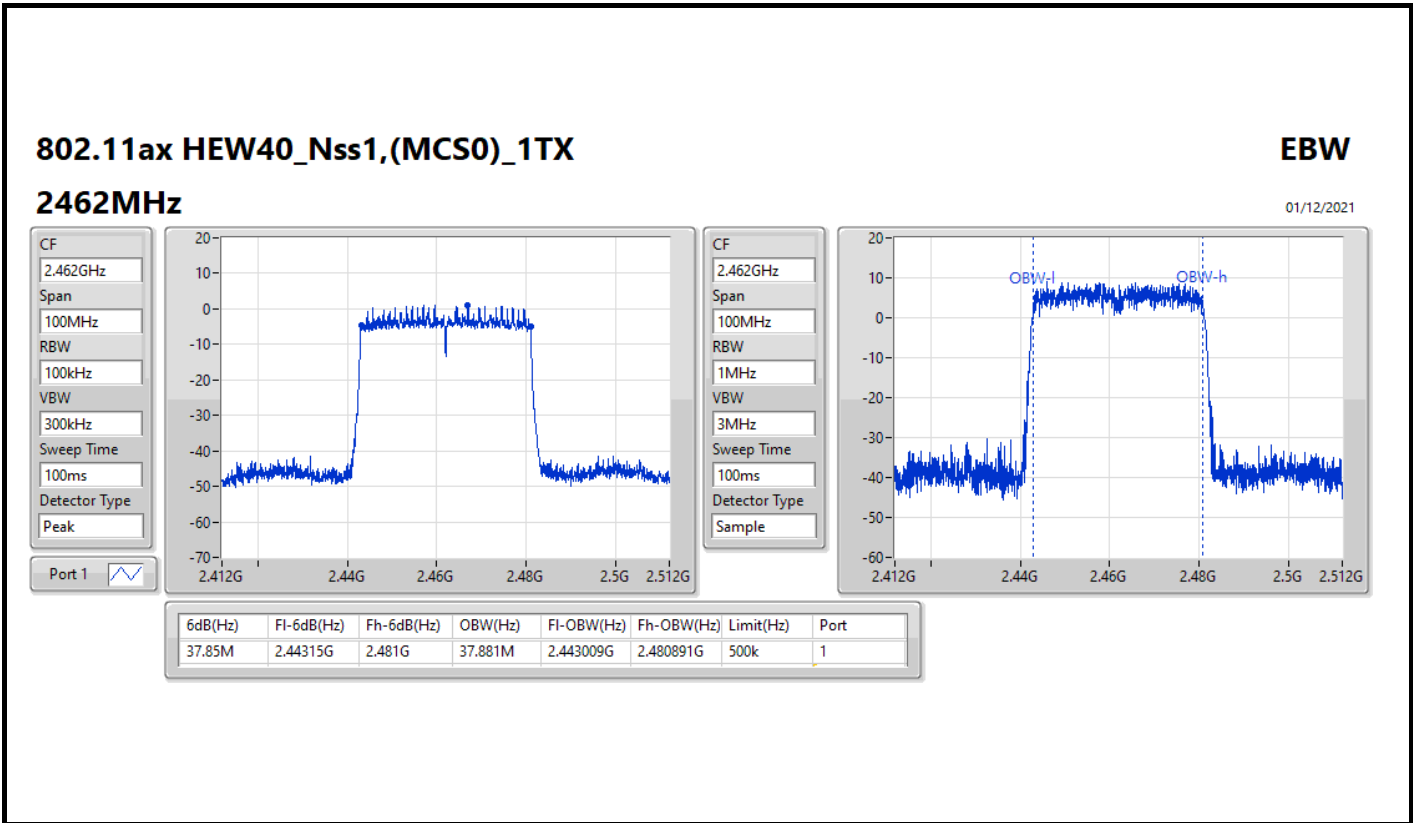
**EBW**

**2437MHz**

01/12/2021









**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)_2TX	11.05M	15.317M	15M3G1D	10.05M	13.943M
802.11g_Nss1,(6Mbps)_2TX	16.3M	21.164M	21M2D1D	15M	16.167M
802.11ax HEW20_Nss1,(MCS0)_2TX	15.075M	18.991M	19M0D1D	15M	18.541M
802.11ax HEW40_Nss1,(MCS0)_2TX	35.05M	37.431M	37M4D1D	33.8M	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)
802.11b_Nss1,(1Mbps)_2TX	-	-	-	-	-	-
2412MHz	Pass	500k	10.075M	14.218M	10.05M	14.118M
2437MHz	Pass	500k	11.05M	15.317M	11.05M	15.167M
2462MHz	Pass	500k	10.075M	14.068M	10.075M	14.043M
2467MHz	Pass	500k	10.05M	13.968M	10.075M	13.968M
2472MHz	Pass	500k	10.075M	13.968M	10.1M	13.943M
802.11g_Nss1,(6Mbps)_2TX	-	-	-	-	-	-
2412MHz	Pass	500k	15M	16.192M	15.05M	16.192M
2437MHz	Pass	500k	16.3M	21.164M	16.275M	18.516M
2462MHz	Pass	500k	15M	16.242M	15.05M	16.217M
2467MHz	Pass	500k	15.025M	16.217M	15.05M	16.192M
2472MHz	Pass	500k	15.075M	16.217M	15.05M	16.167M
802.11ax HEW20_Nss1,(MCS0)_2TX	-	-	-	-	-	-
2412MHz	Pass	500k	15.025M	18.641M	15M	18.591M
2437MHz	Pass	500k	15.025M	18.991M	15.05M	18.891M
2462MHz	Pass	500k	15.05M	18.666M	15.075M	18.616M
2467MHz	Pass	500k	15.05M	18.541M	15.05M	18.541M
2472MHz	Pass	500k	15.075M	18.591M	15M	18.541M
802.11ax HEW40_Nss1,(MCS0)_2TX	-	-	-	-	-	-
2422MHz	Pass	500k	35.05M	37.281M	35.05M	37.331M
2437MHz	Pass	500k	35.05M	37.381M	35.05M	37.431M
2452MHz	Pass	500k	35.05M	37.431M	35.05M	37.431M
2457MHz	Pass	500k	35.05M	37.331M	35M	37.431M
2462MHz	Pass	500k	35.05M	37.281M	33.8M	37.431M

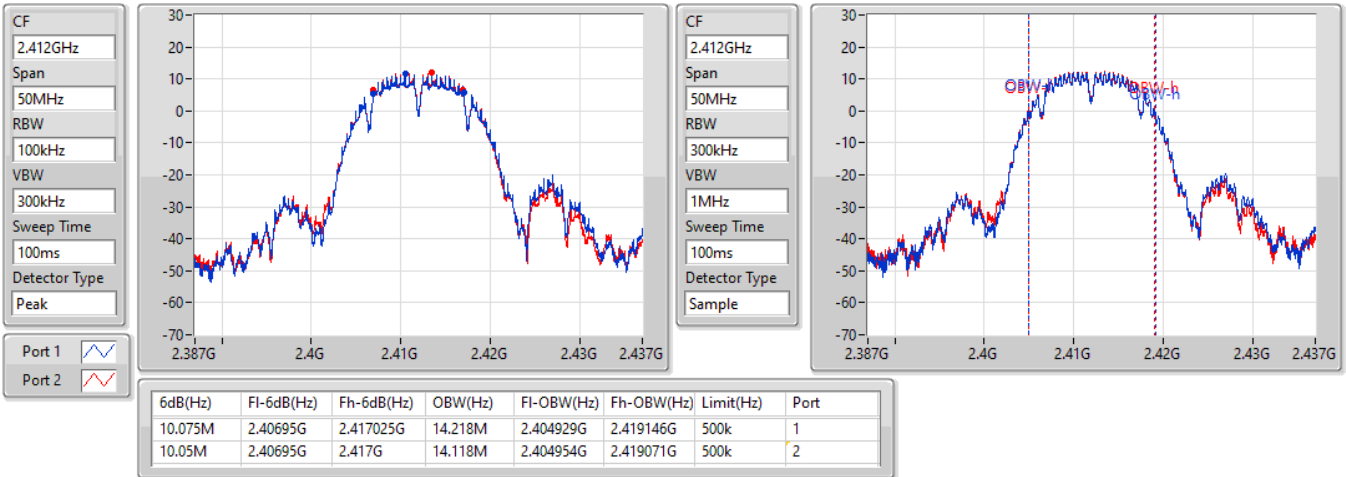
Port X-N dB = Port X 6dB down bandwidth:  
 Port X-OBW = Port X 99% occupied bandwidth

**802.11b\_Nss1,(1Mbps)\_2TX**

**EBW**

**2412MHz**

18/05/2022

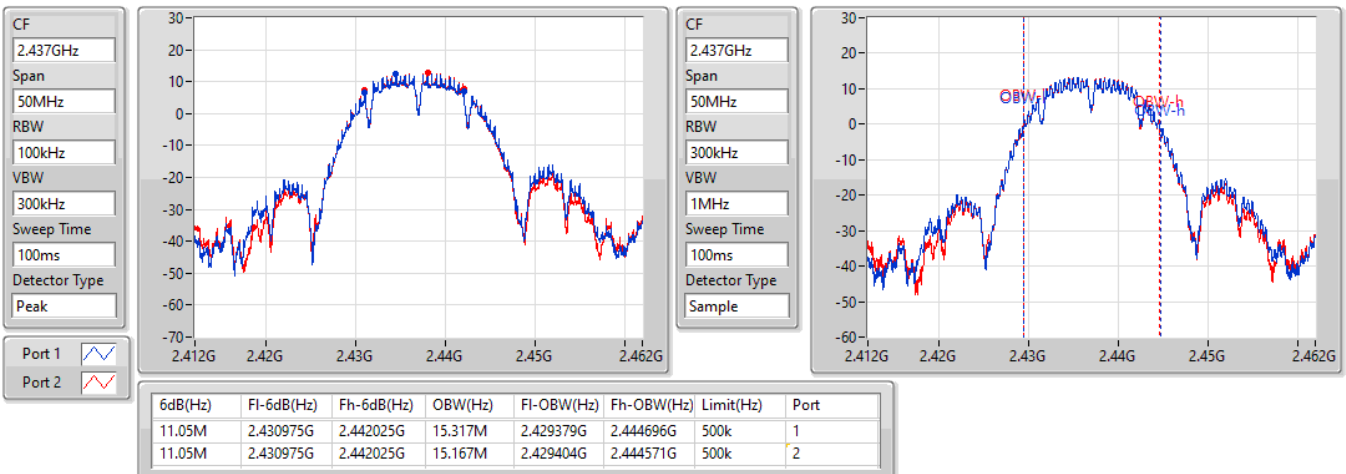


**802.11b\_Nss1,(1Mbps)\_2TX**

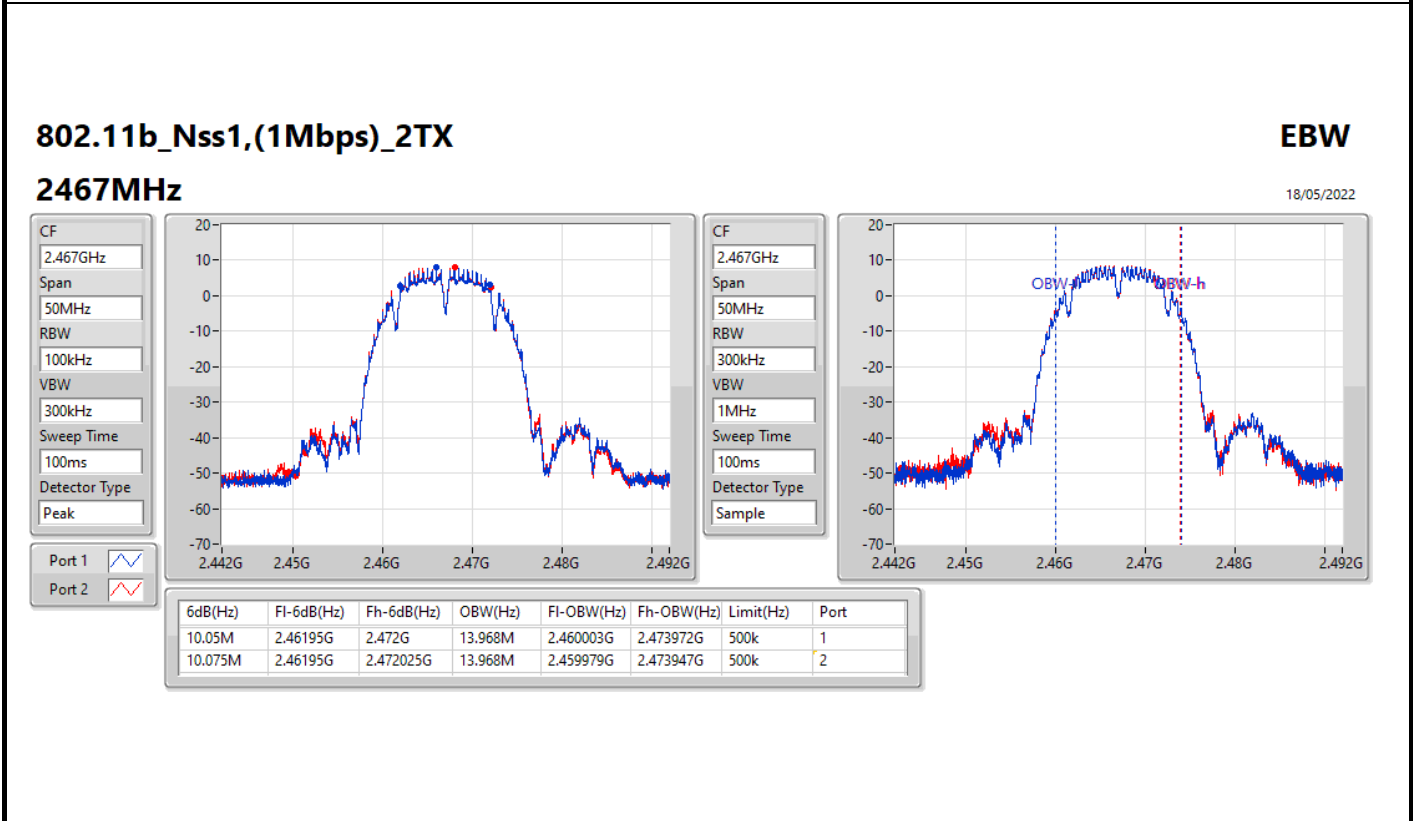
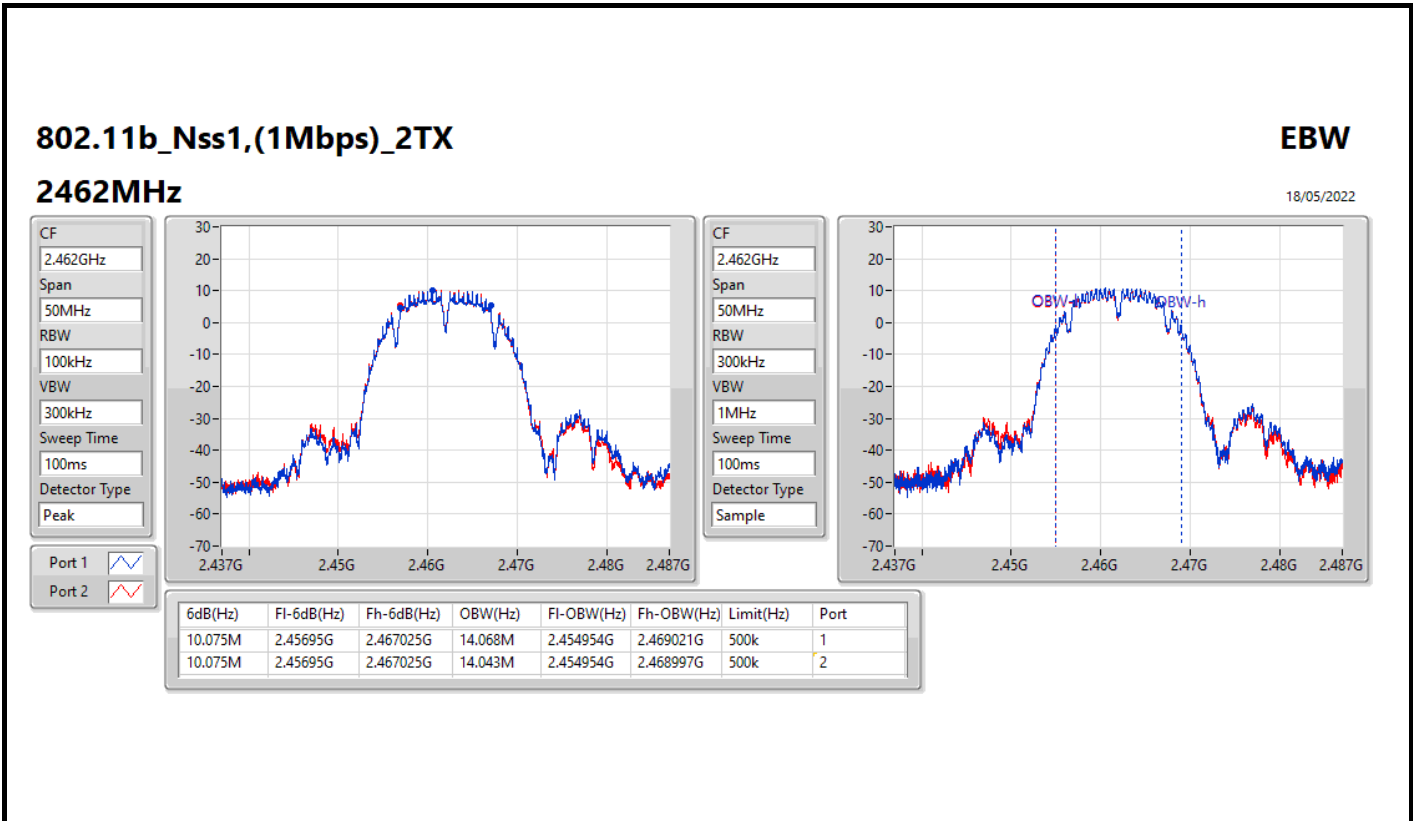
**EBW**

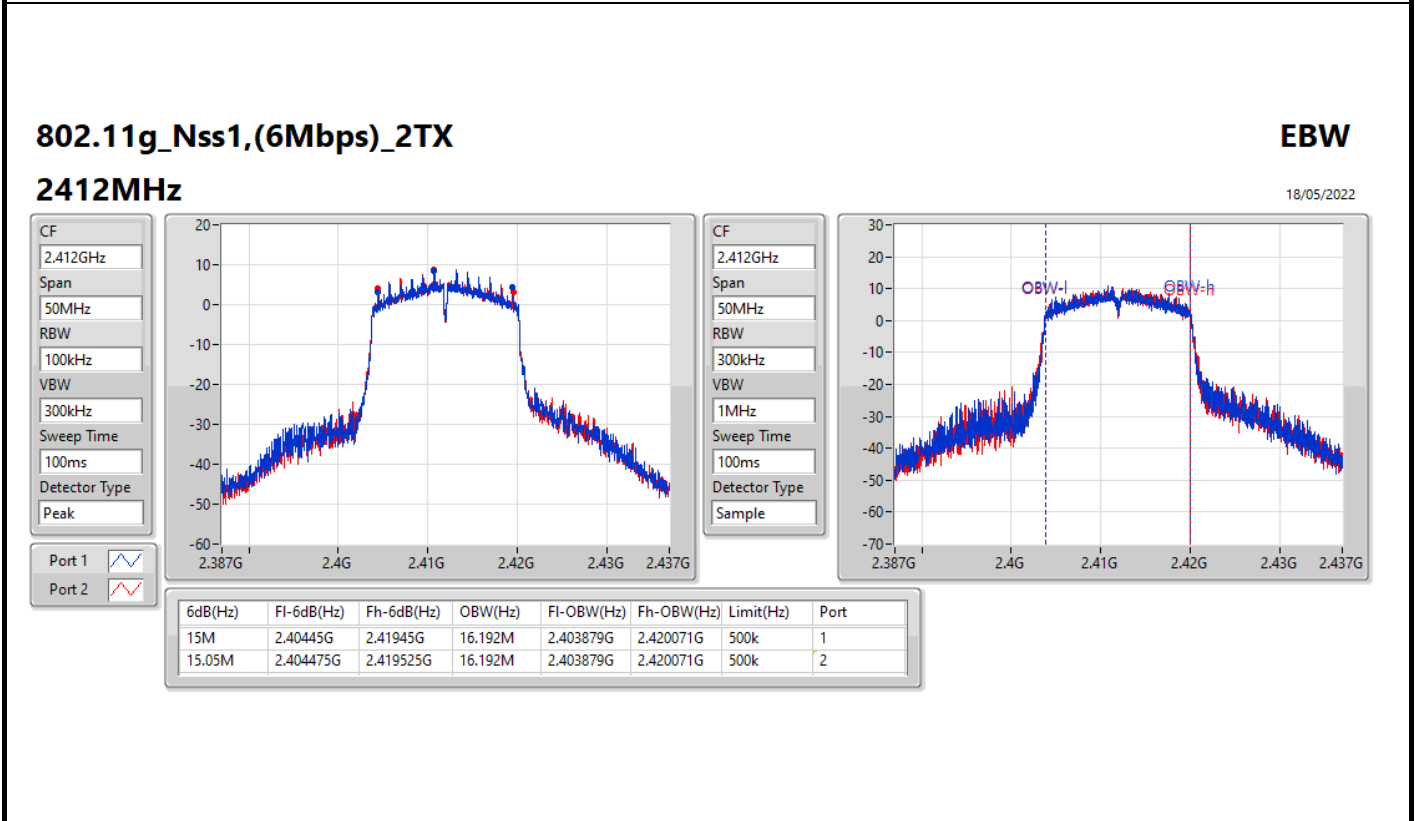
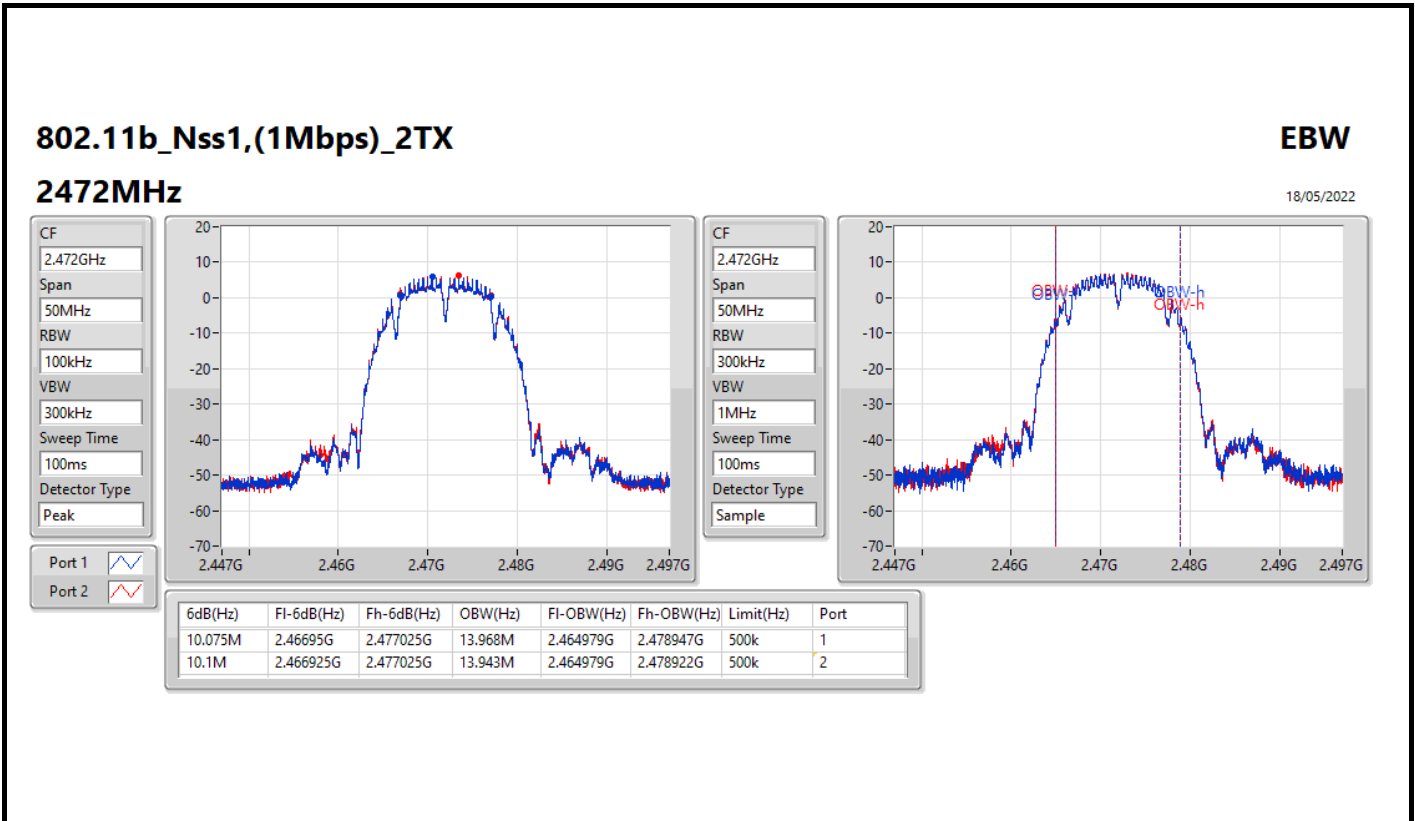
**2437MHz**

18/05/2022







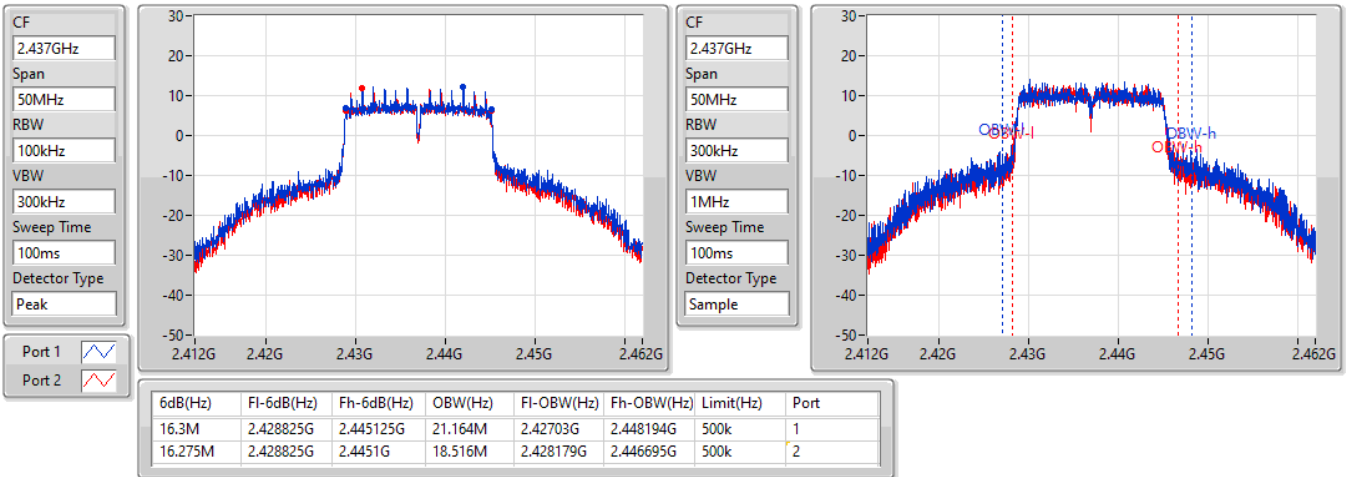


**802.11g\_Nss1,(6Mbps)\_2TX**

**EBW**

**2437MHz**

18/05/2022

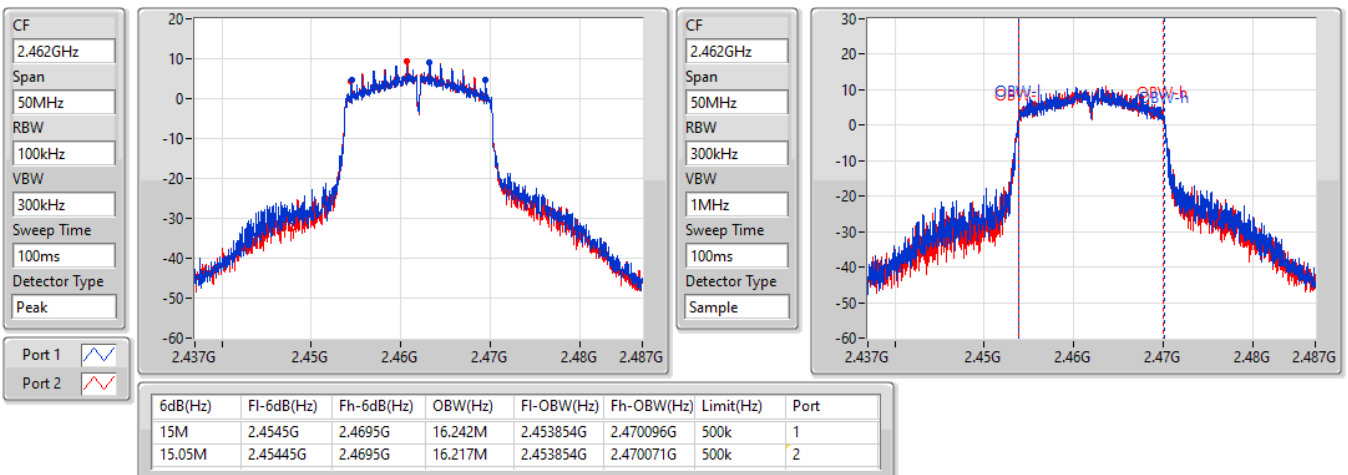


**802.11g\_Nss1,(6Mbps)\_2TX**

**EBW**

**2462MHz**

18/05/2022

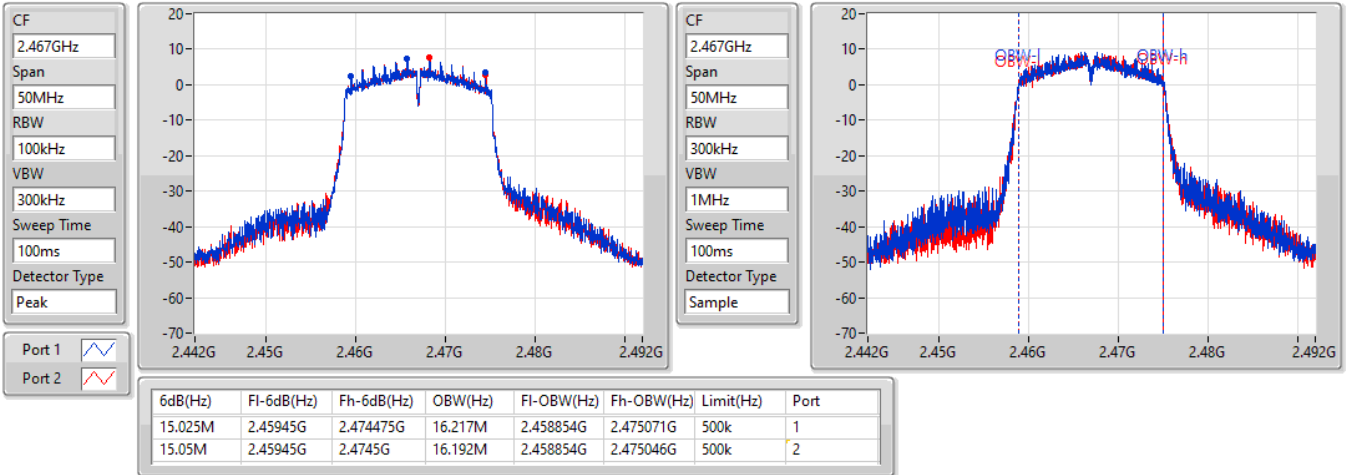


**802.11g\_Nss1,(6Mbps)\_2TX**

**EBW**

**2467MHz**

18/05/2022

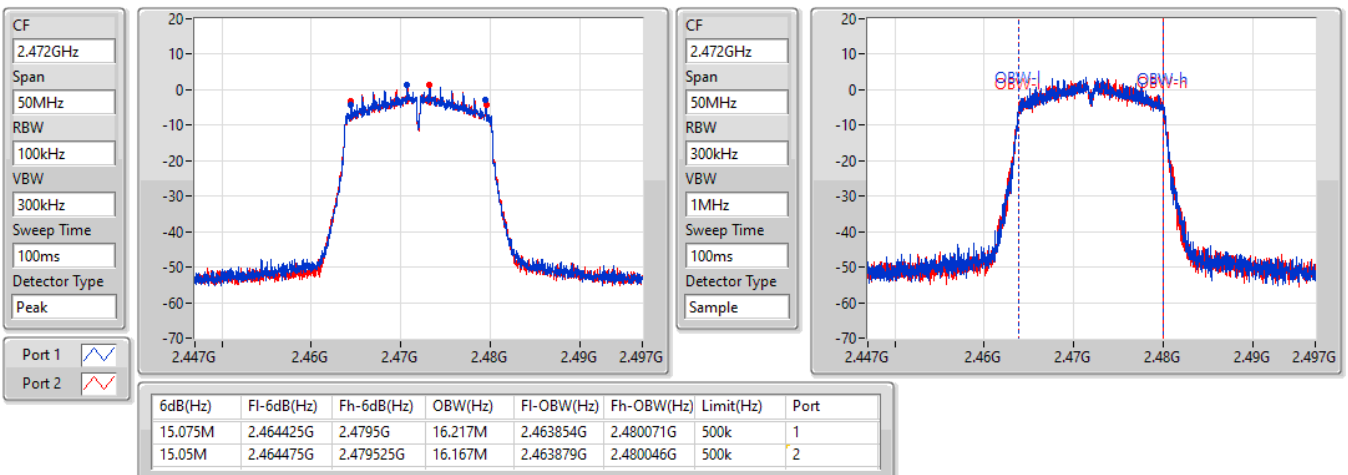


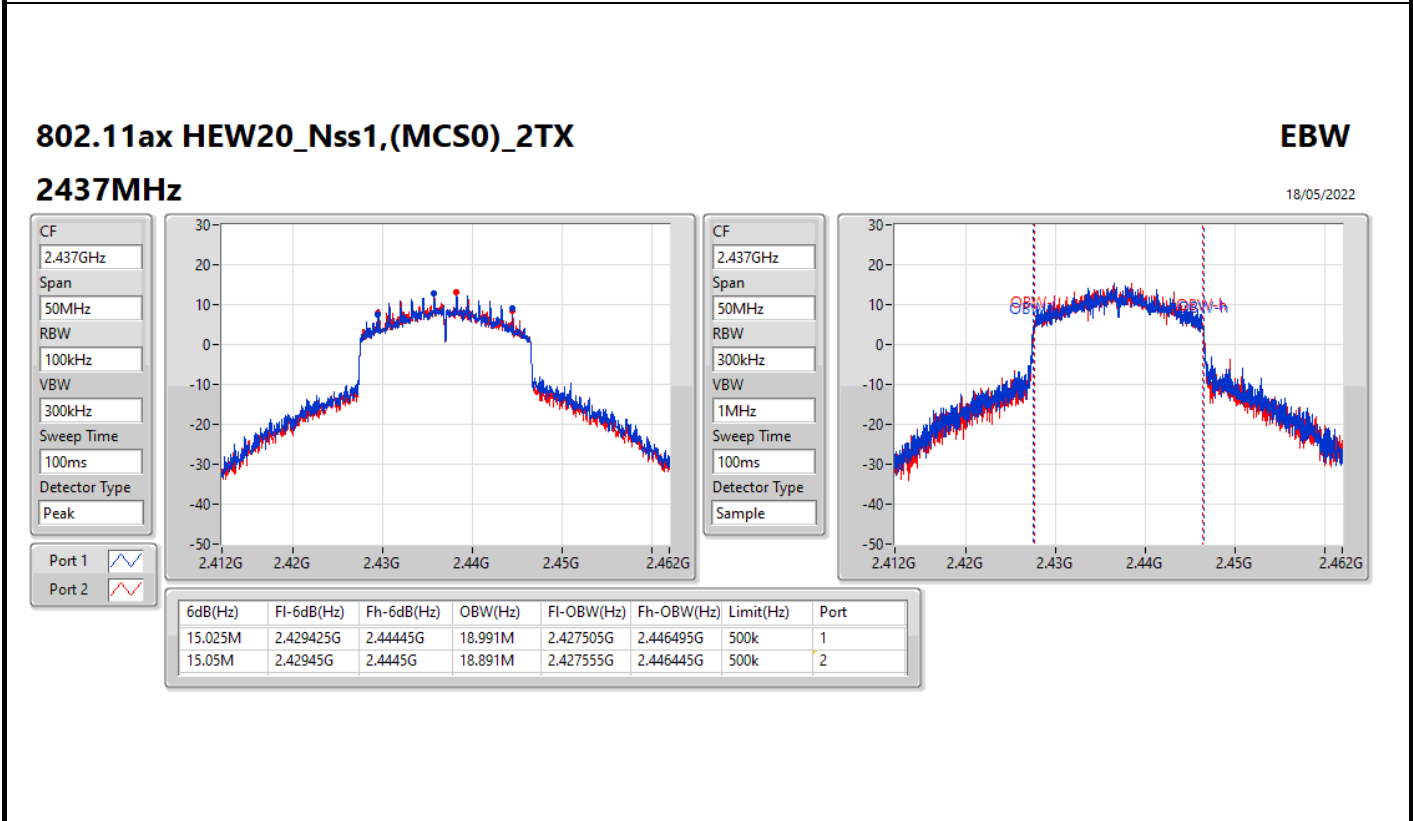
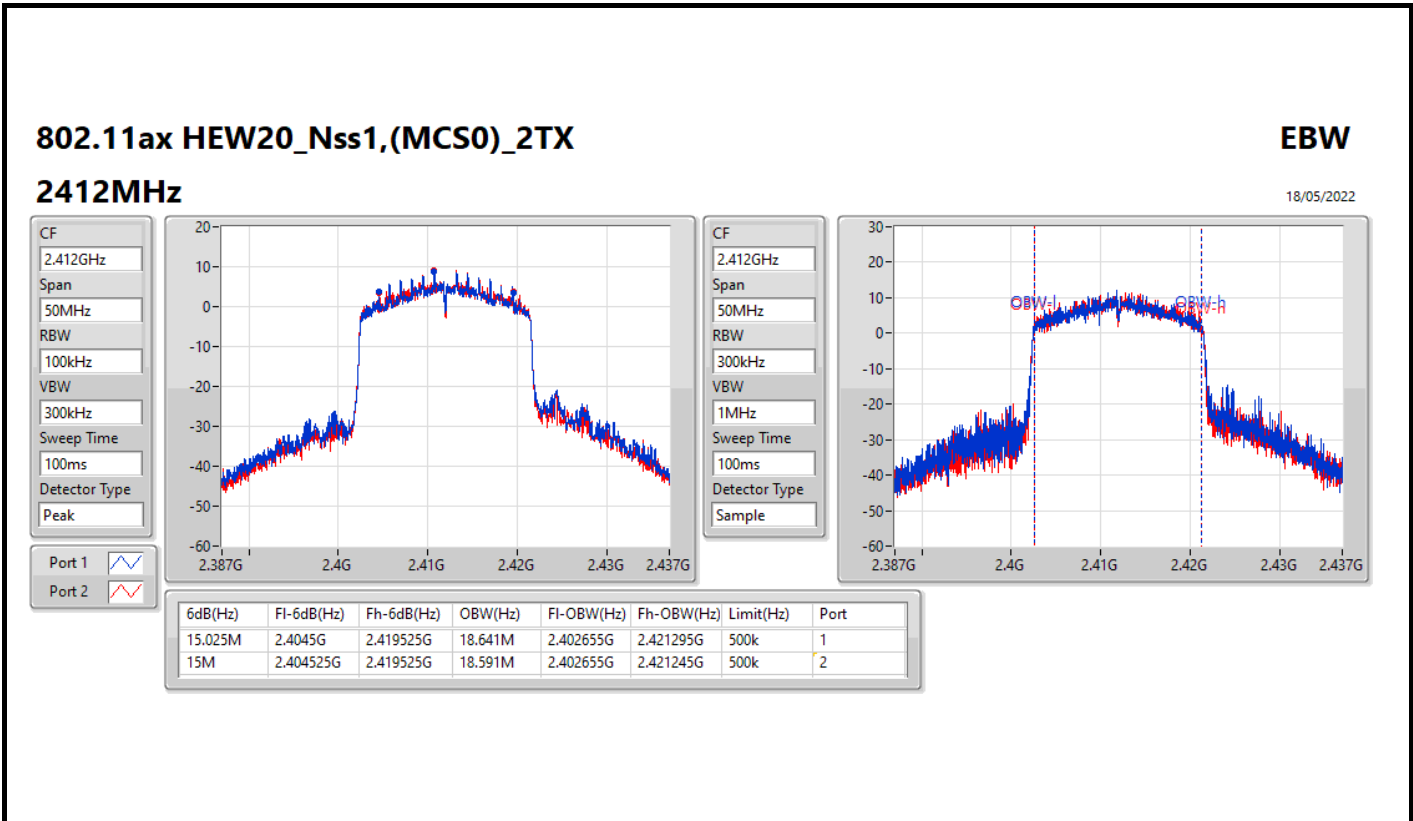
**802.11g\_Nss1,(6Mbps)\_2TX**

**EBW**

**2472MHz**

18/05/2022



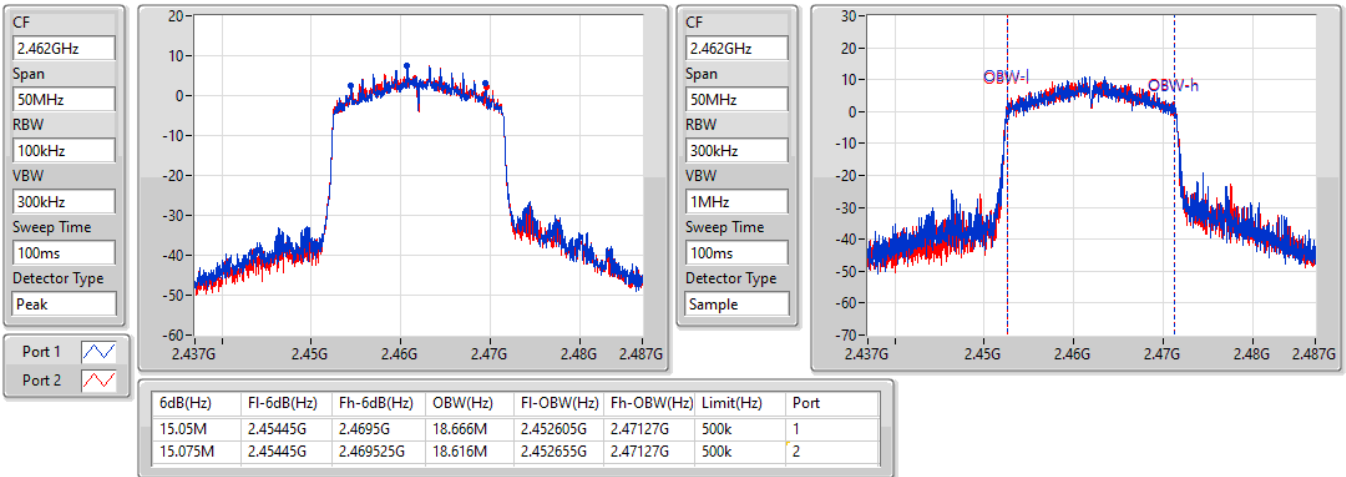


**802.11ax HEW20\_Nss1,(MCS0)\_2TX**

**EBW**

**2462MHz**

18/05/2022

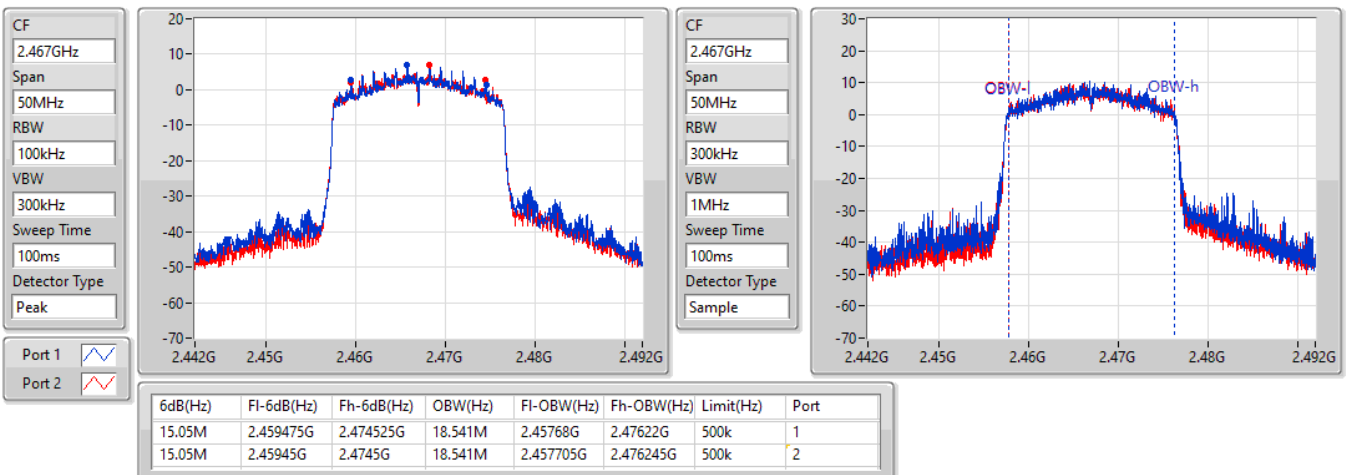


**802.11ax HEW20\_Nss1,(MCS0)\_2TX**

**EBW**

**2467MHz**

18/05/2022

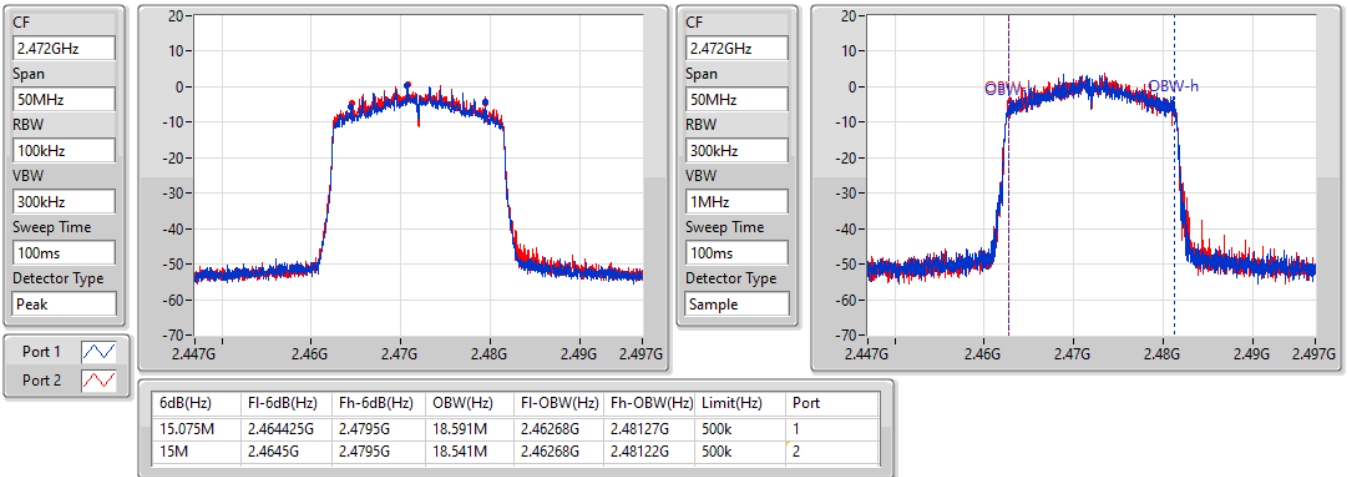


**802.11ax HEW20\_Nss1,(MCS0)\_2TX**

**EBW**

**2472MHz**

18/05/2022

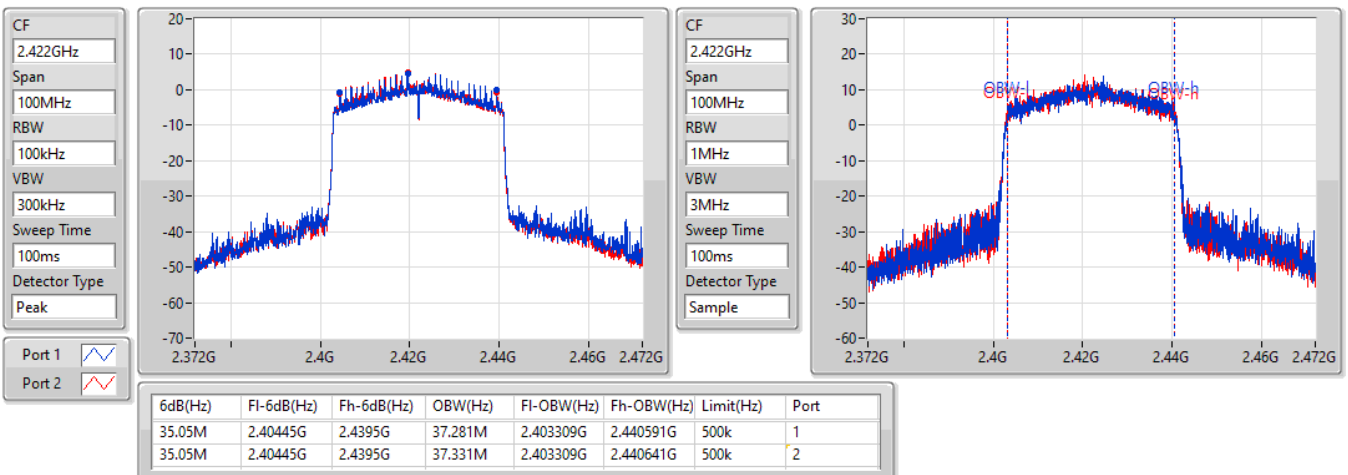


**802.11ax HEW40\_Nss1,(MCS0)\_2TX**

**EBW**

**2422MHz**

18/05/2022

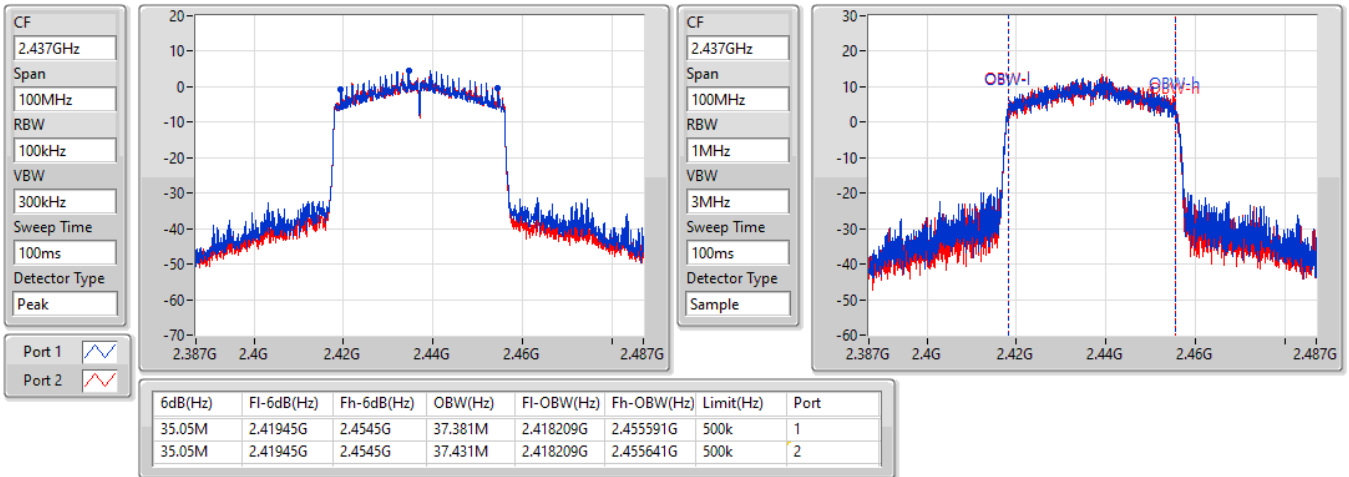


**802.11ax HEW40\_Nss1,(MCS0)\_2TX**

**EBW**

**2437MHz**

18/05/2022

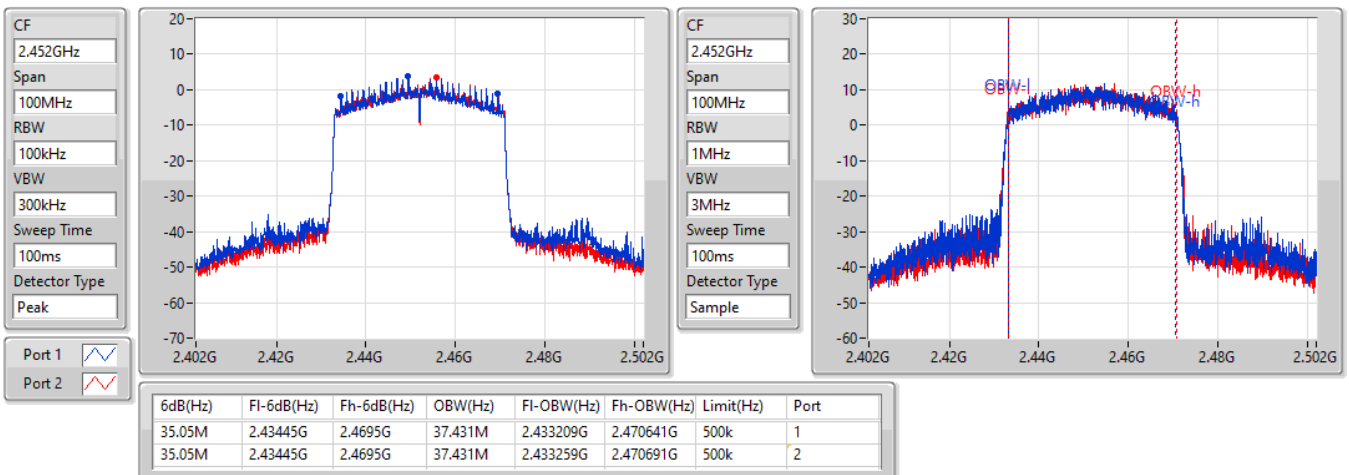


**802.11ax HEW40\_Nss1,(MCS0)\_2TX**

**EBW**

**2452MHz**

18/05/2022



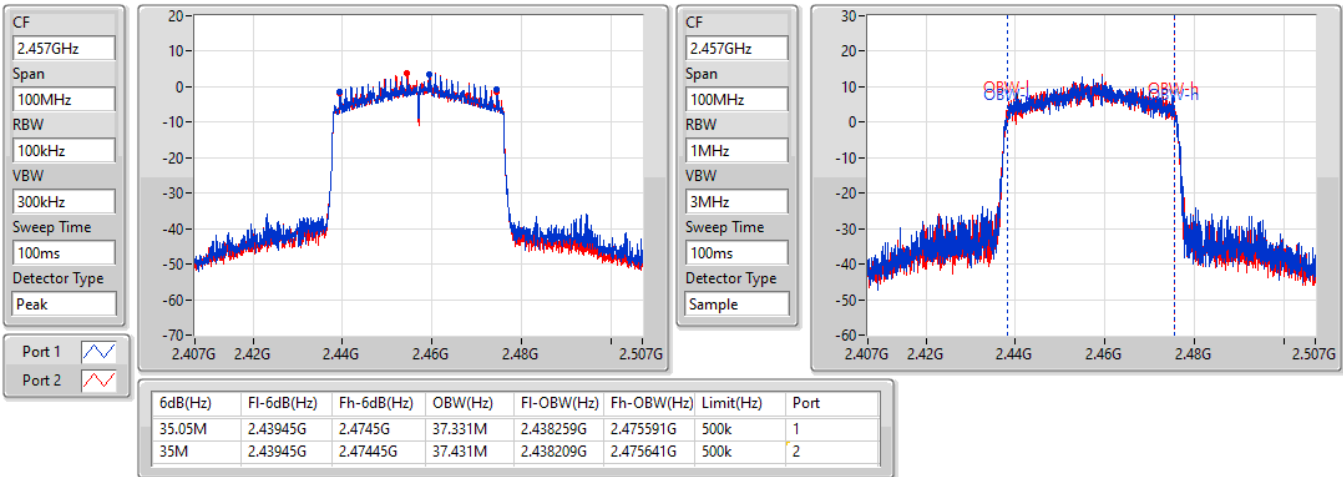


**802.11ax HEW40\_Nss1,(MCS0)\_2TX**

**EBW**

**2457MHz**

18/05/2022

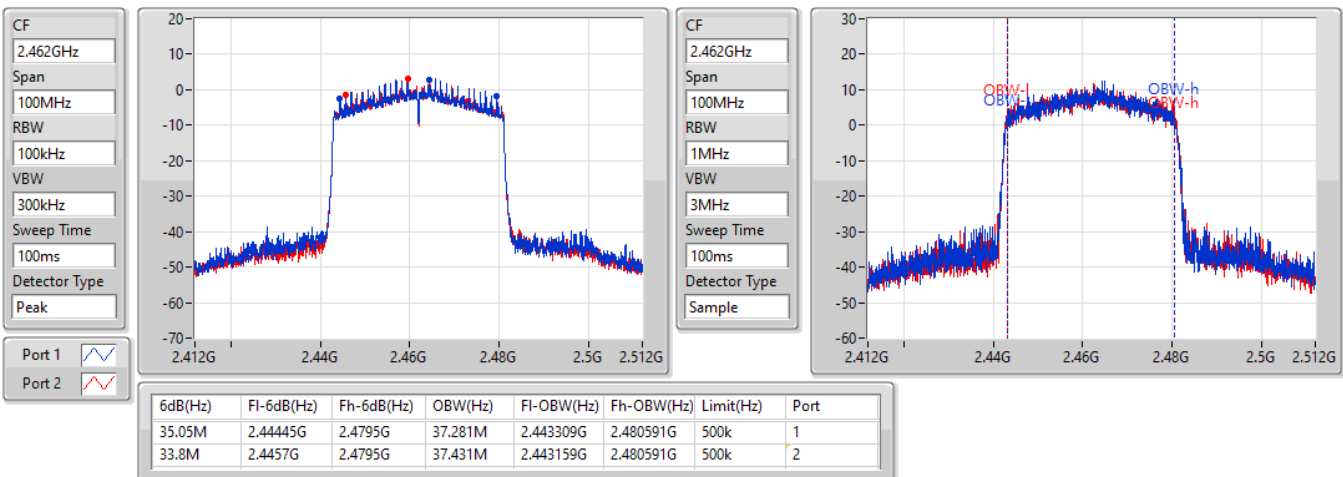


**802.11ax HEW40\_Nss1,(MCS0)\_2TX**

**EBW**

**2462MHz**

18/05/2022





**Summary**

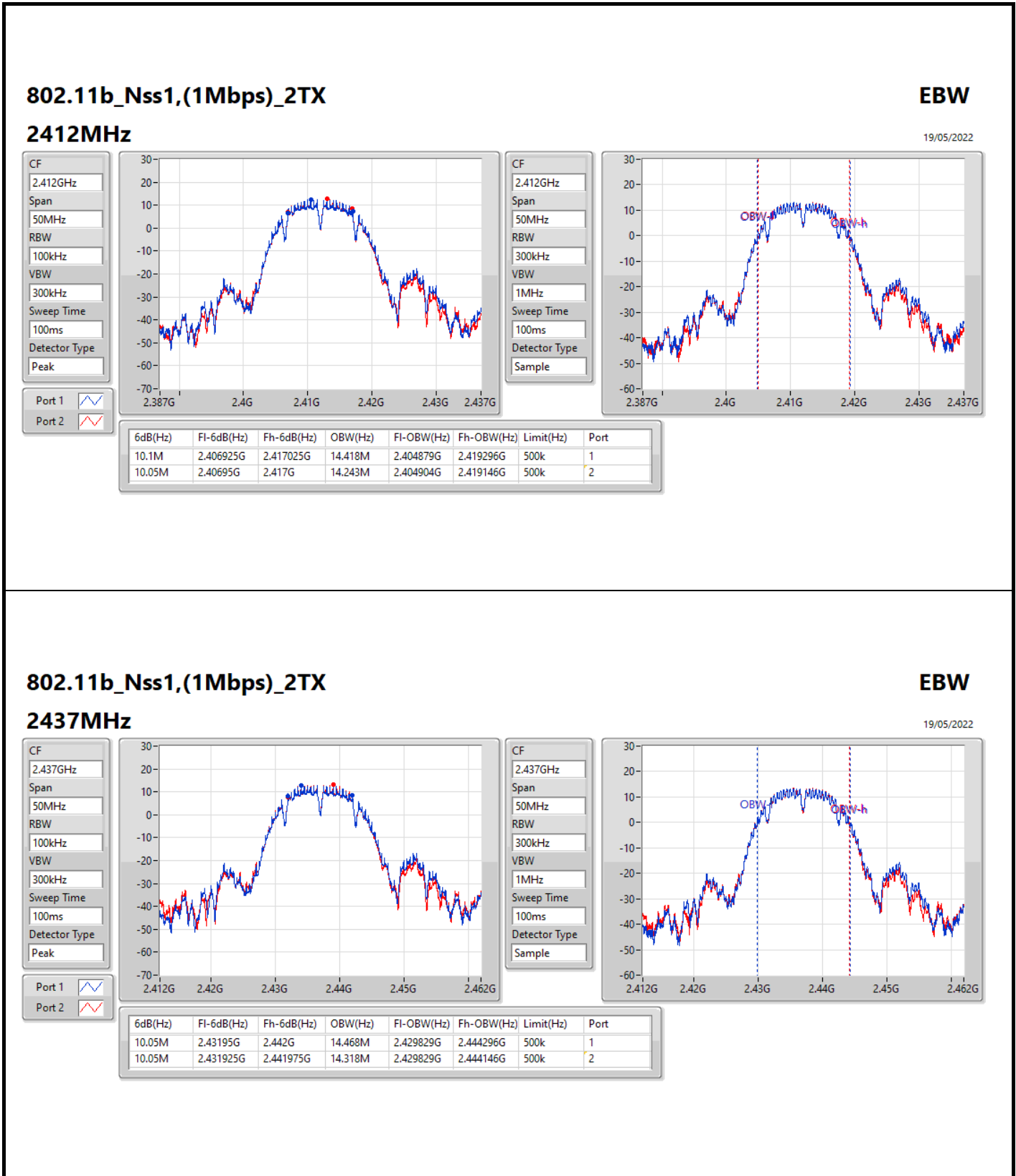
Mode	Max-N dB (Hz)	Max-OBW (Hz)	ITU-Code	Min-N dB (Hz)	Min-OBW (Hz)
2.4-2.4835GHz	-	-	-	-	-
802.11b_Nss1,(1Mbps)_2TX	10.1M	14.468M	14M5G1D	10.05M	13.943M
802.11g_Nss1,(6Mbps)_2TX	15.075M	18.866M	18M9D1D	13.75M	16.117M
802.11ax HEW20_Nss1,(MCS0)_2TX	15.1M	19.065M	19M1D1D	13.8M	18.566M
802.11ax HEW40_Nss1,(MCS0)_2TX	35.05M	37.581M	37M6D1D	33.8M	37.281M

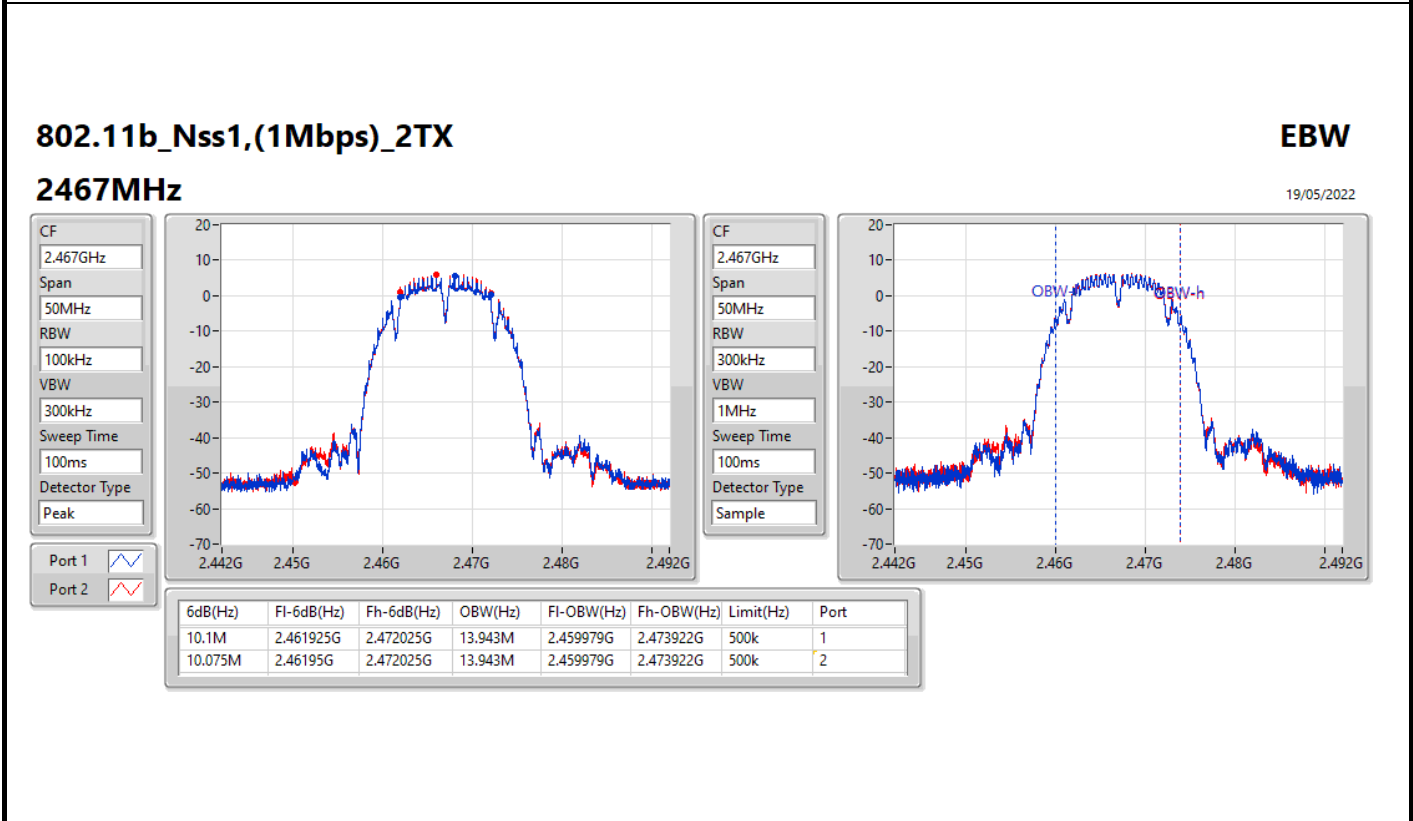
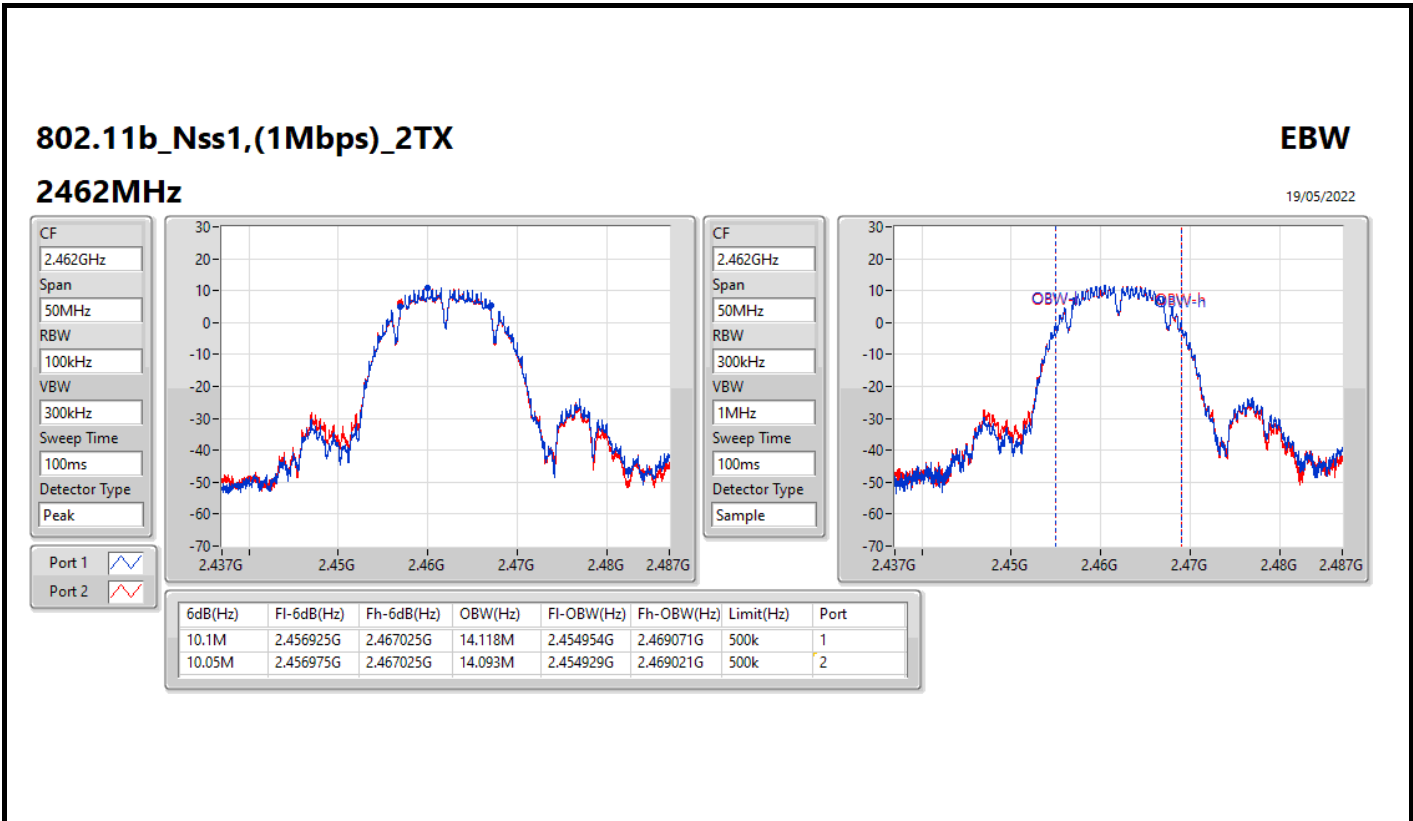
Max-N dB = Maximum 6dB down bandwidth; Max-OBW = Maximum 99% occupied bandwidth;  
Min-N dB = Minimum 6dB down bandwidth; Min-OBW = Minimum 99% occupied bandwidth

**Result**

Mode	Result	Limit (Hz)	Port 1-N dB (Hz)	Port 1-OBW (Hz)	Port 2-N dB (Hz)	Port 2-OBW (Hz)
802.11b_Nss1,(1Mbps)_2TX	-	-	-	-	-	-
2412MHz	Pass	500k	10.1M	14.418M	10.05M	14.243M
2437MHz	Pass	500k	10.05M	14.468M	10.05M	14.318M
2462MHz	Pass	500k	10.1M	14.118M	10.05M	14.093M
2467MHz	Pass	500k	10.1M	13.943M	10.075M	13.943M
2472MHz	Pass	500k	10.075M	13.968M	10.075M	13.943M
802.11g_Nss1,(6Mbps)_2TX	-	-	-	-	-	-
2412MHz	Pass	500k	15.025M	16.192M	15.025M	16.192M
2437MHz	Pass	500k	15M	18.866M	15.075M	17.541M
2462MHz	Pass	500k	15.075M	16.192M	15.05M	16.192M
2467MHz	Pass	500k	15.075M	16.142M	15.075M	16.142M
2472MHz	Pass	500k	13.75M	16.167M	14.95M	16.117M
802.11ax HEW20_Nss1,(MCS0)_2TX	-	-	-	-	-	-
2412MHz	Pass	500k	15.025M	18.641M	15.075M	18.566M
2437MHz	Pass	500k	15.1M	19.065M	15.05M	18.966M
2462MHz	Pass	500k	15.05M	18.641M	15.075M	18.666M
2467MHz	Pass	500k	15.075M	18.616M	15.05M	18.616M
2472MHz	Pass	500k	15.05M	18.591M	13.8M	18.616M
802.11ax HEW40_Nss1,(MCS0)_2TX	-	-	-	-	-	-
2422MHz	Pass	500k	35.05M	37.431M	35M	37.331M
2437MHz	Pass	500k	35.05M	37.481M	35.05M	37.431M
2452MHz	Pass	500k	35.05M	37.581M	35.05M	37.281M
2457MHz	Pass	500k	35.05M	37.531M	35.05M	37.381M
2462MHz	Pass	500k	35.05M	37.431M	33.8M	37.381M

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



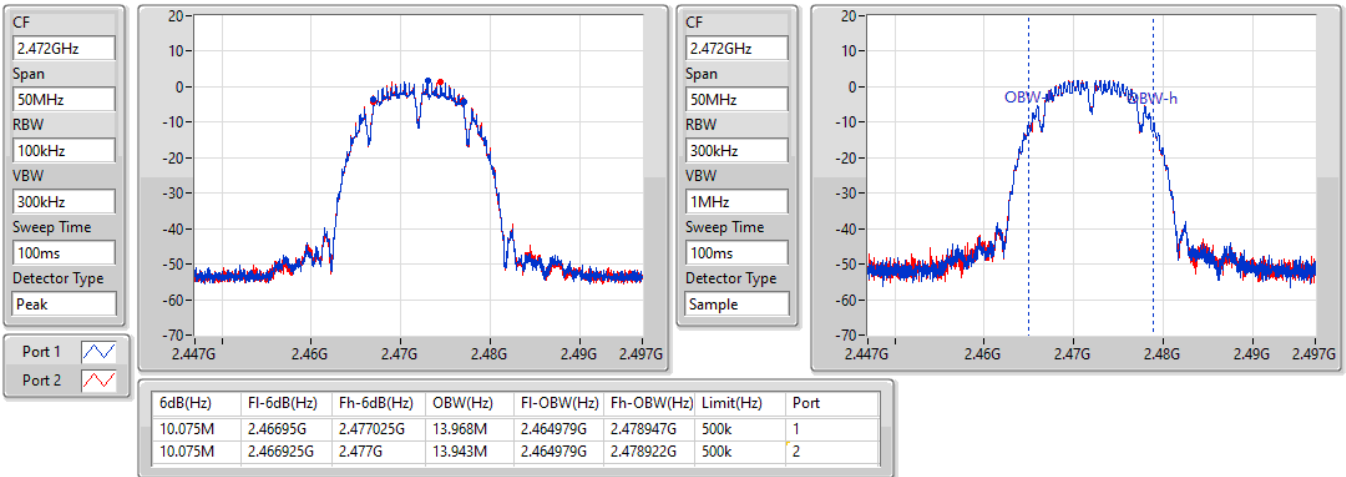


**802.11b\_Nss1,(1Mbps)\_2TX**

**EBW**

**2472MHz**

19/05/2022

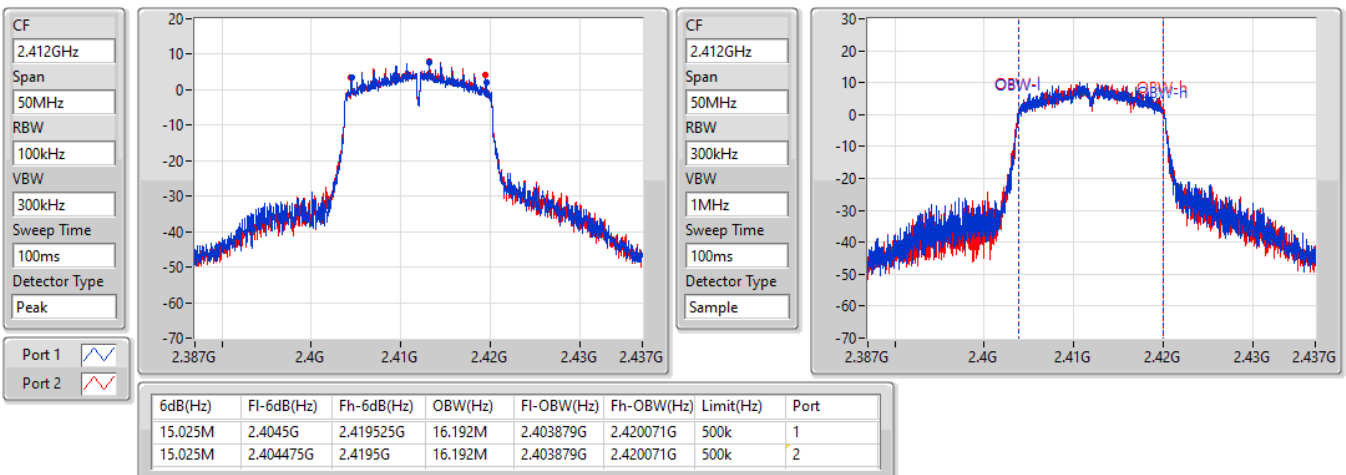


**802.11g\_Nss1,(6Mbps)\_2TX**

**EBW**

**2412MHz**

19/05/2022

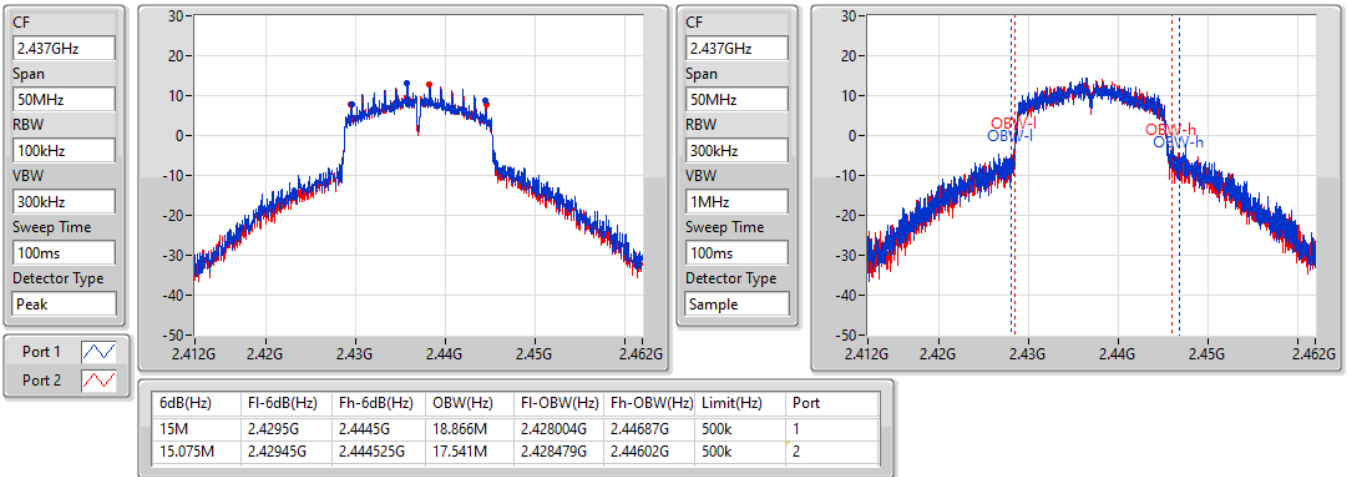


**802.11g\_Nss1,(6Mbps)\_2TX**

**2437MHz**

**EBW**

19/05/2022

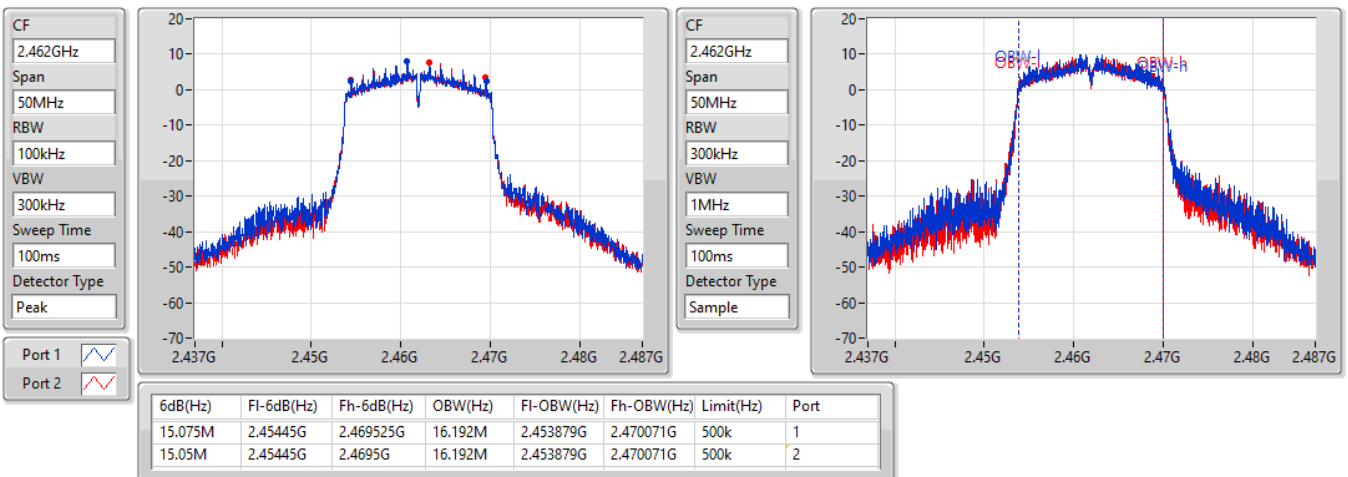


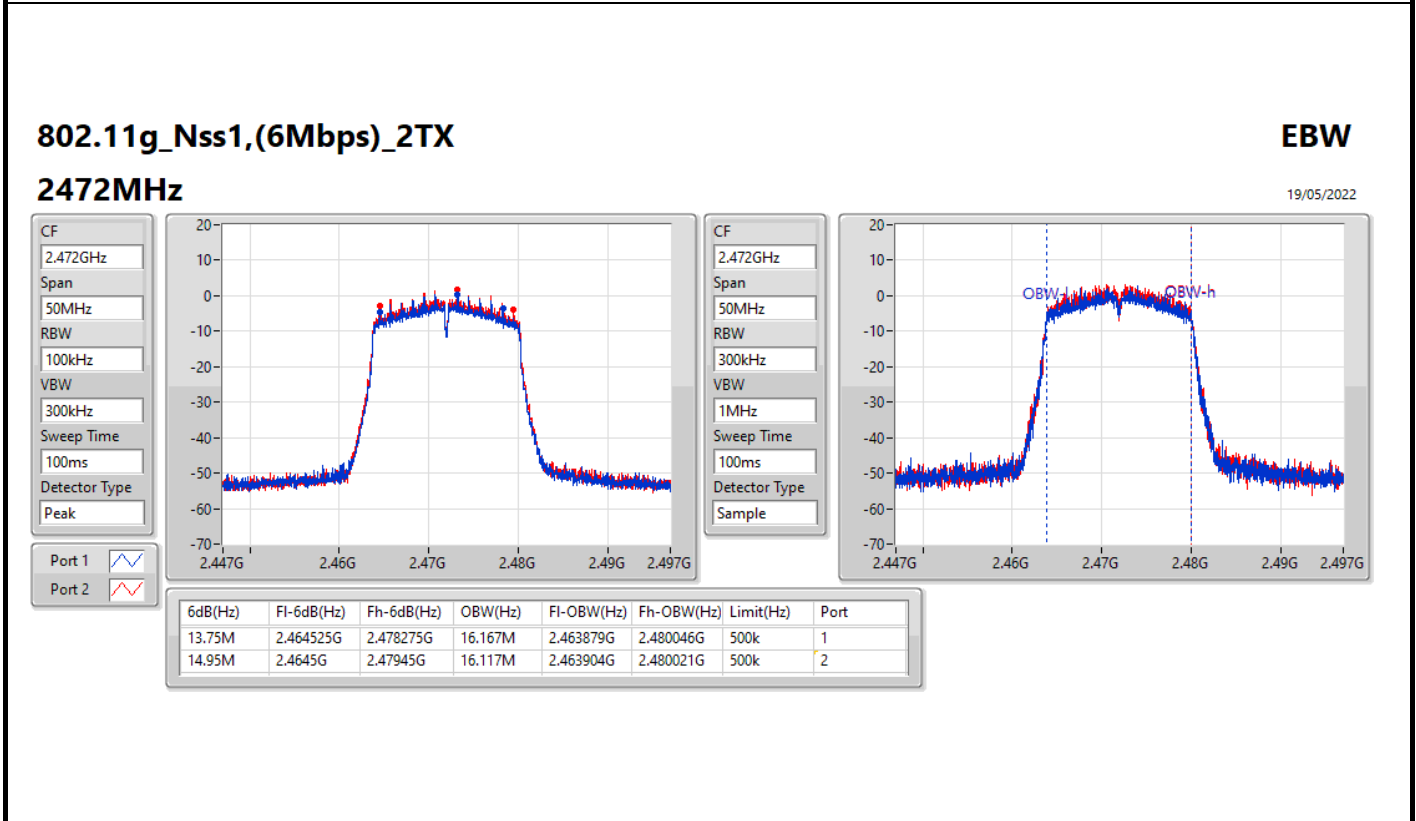
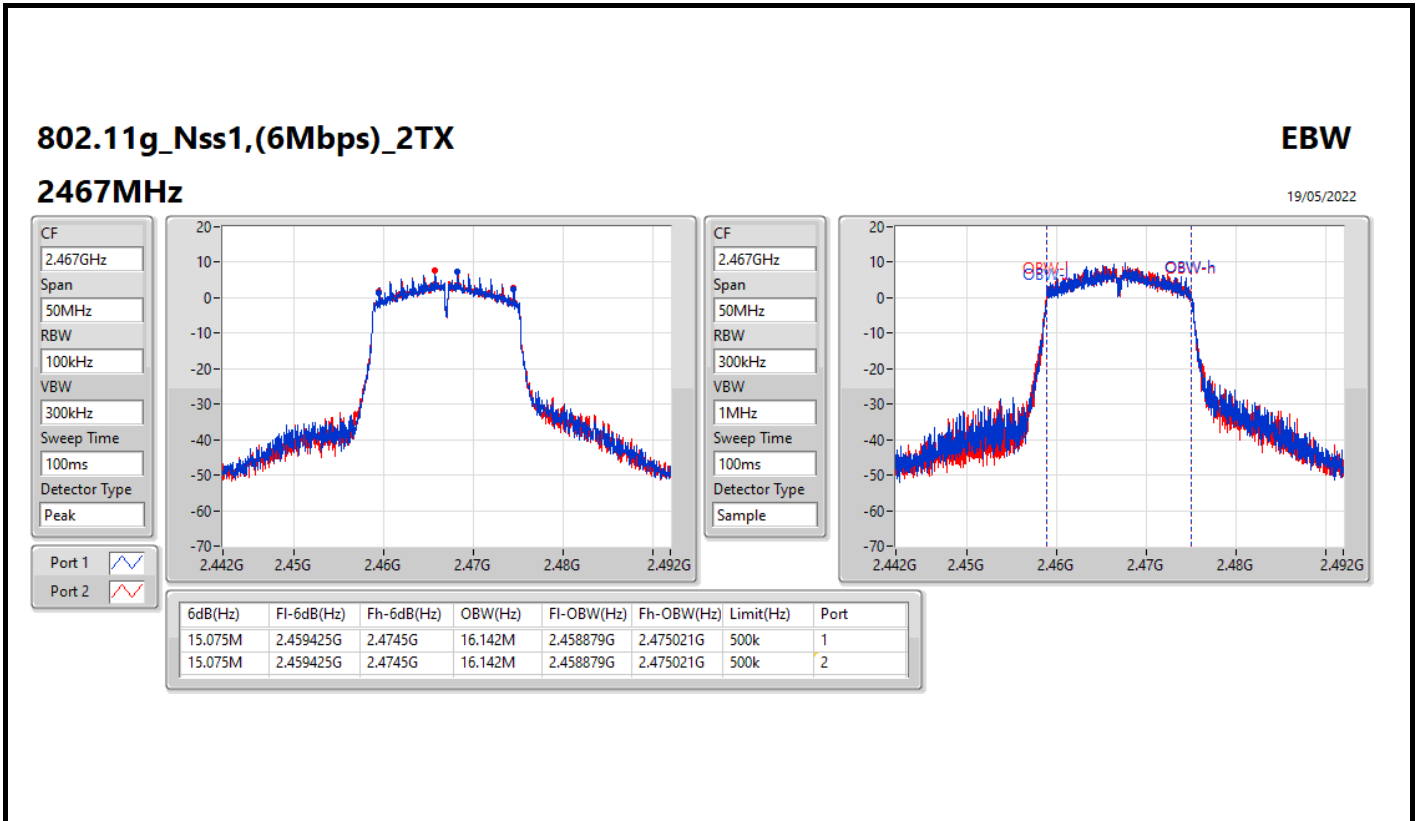
**802.11g\_Nss1,(6Mbps)\_2TX**

**2462MHz**

**EBW**

19/05/2022





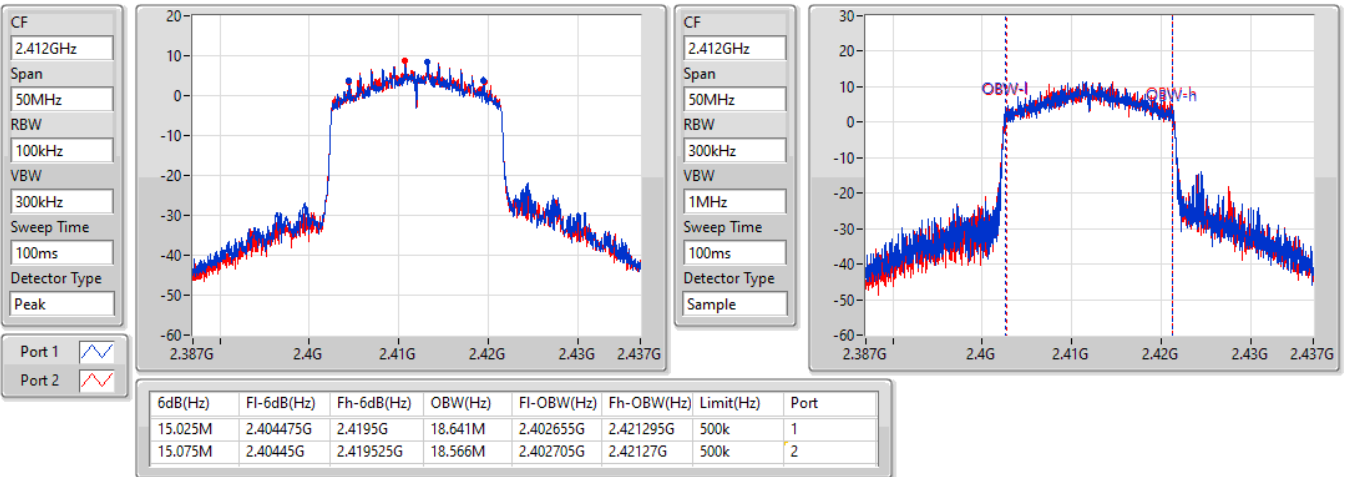


**802.11ax HEW20\_Nss1,(MCS0)\_2TX**

**EBW**

**2412MHz**

19/05/2022

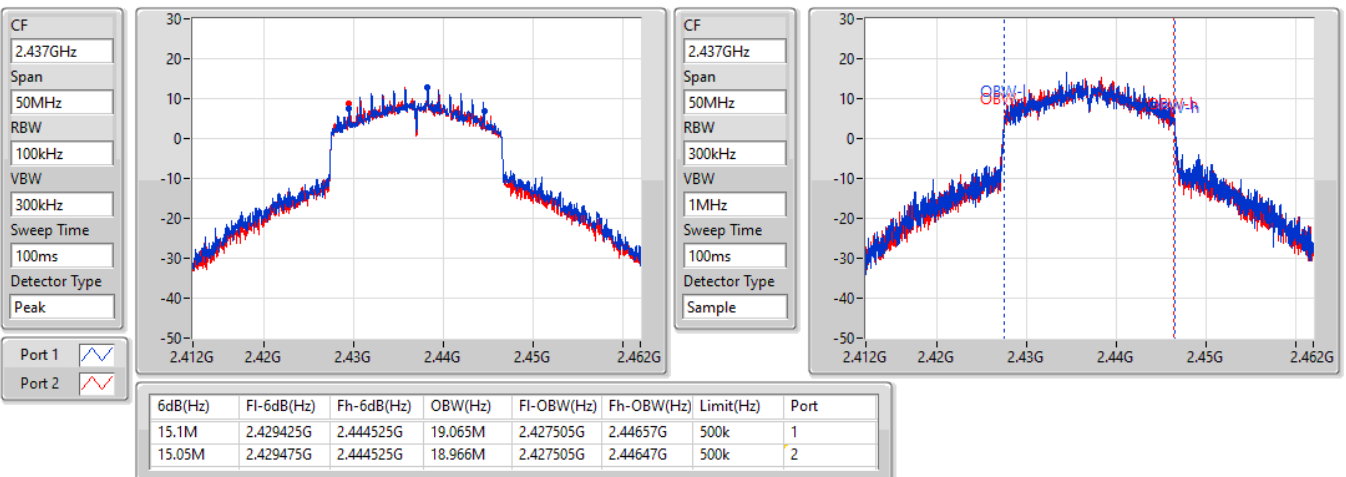


**802.11ax HEW20\_Nss1,(MCS0)\_2TX**

**EBW**

**2437MHz**

19/05/2022

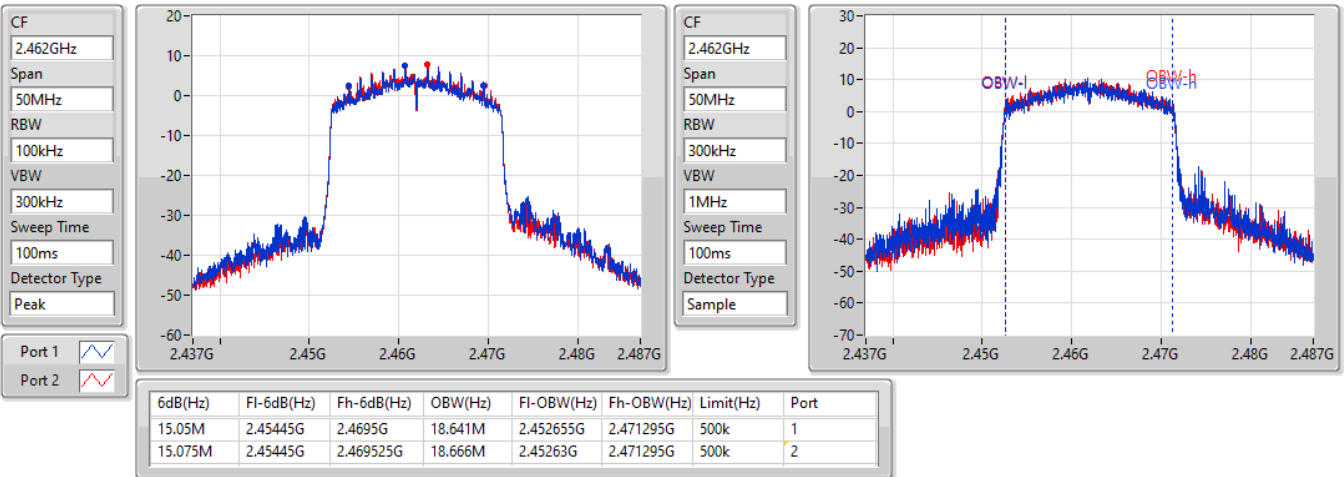


**802.11ax HEW20\_Nss1,(MCS0)\_2TX**

**EBW**

**2462MHz**

19/05/2022

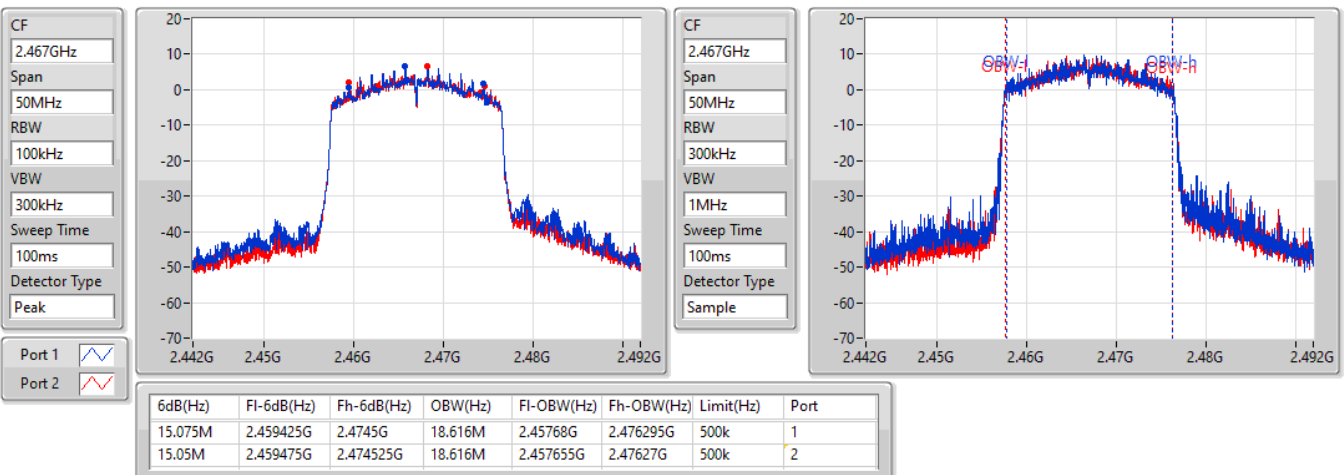


**802.11ax HEW20\_Nss1,(MCS0)\_2TX**

**EBW**

**2467MHz**

19/05/2022

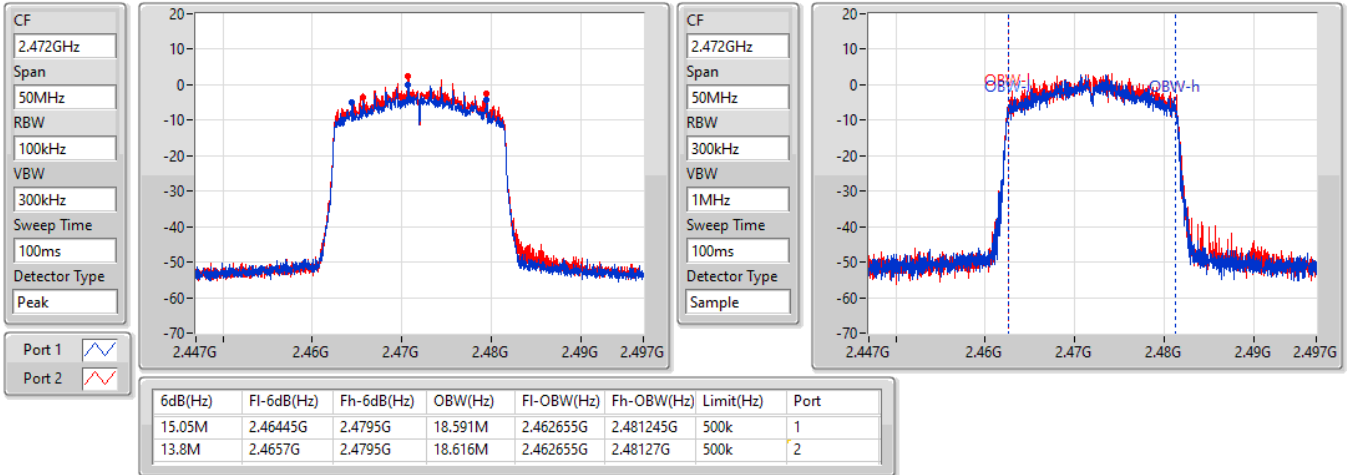


**802.11ax HEW20\_Nss1,(MCS0)\_2TX**

**EBW**

**2472MHz**

19/05/2022

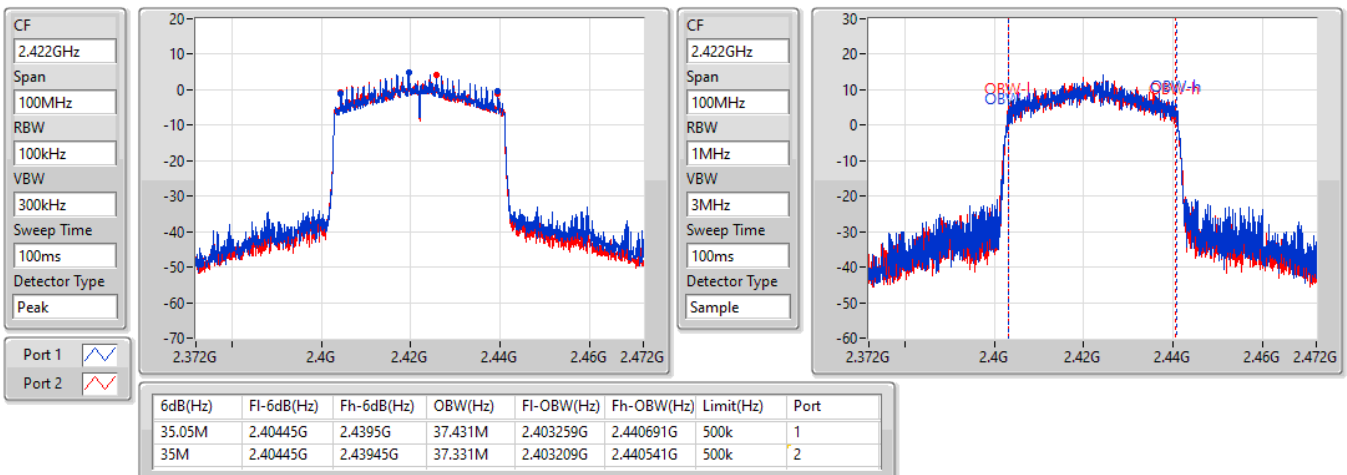


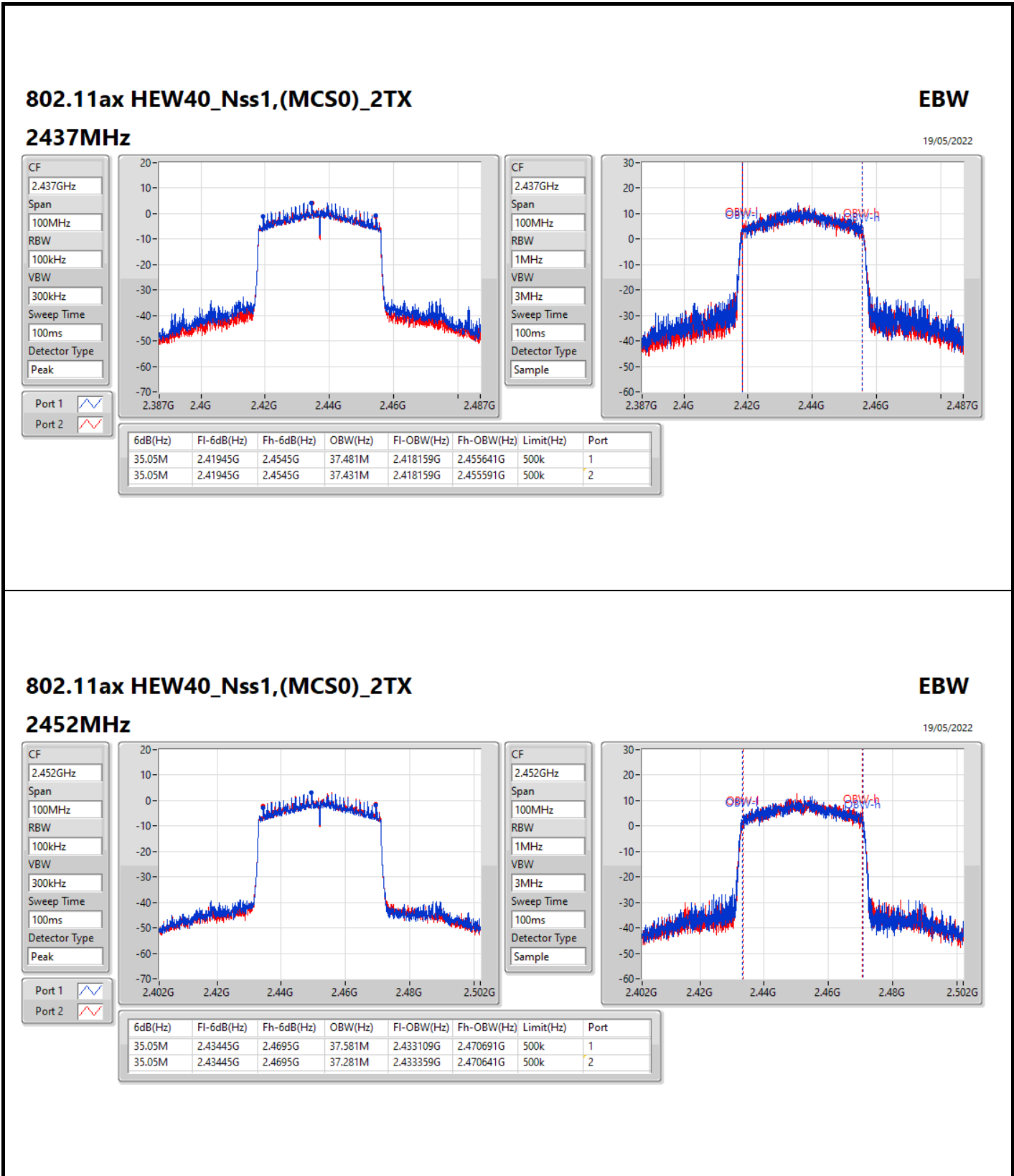
**802.11ax HEW40\_Nss1,(MCS0)\_2TX**

**EBW**

**2422MHz**

19/05/2022



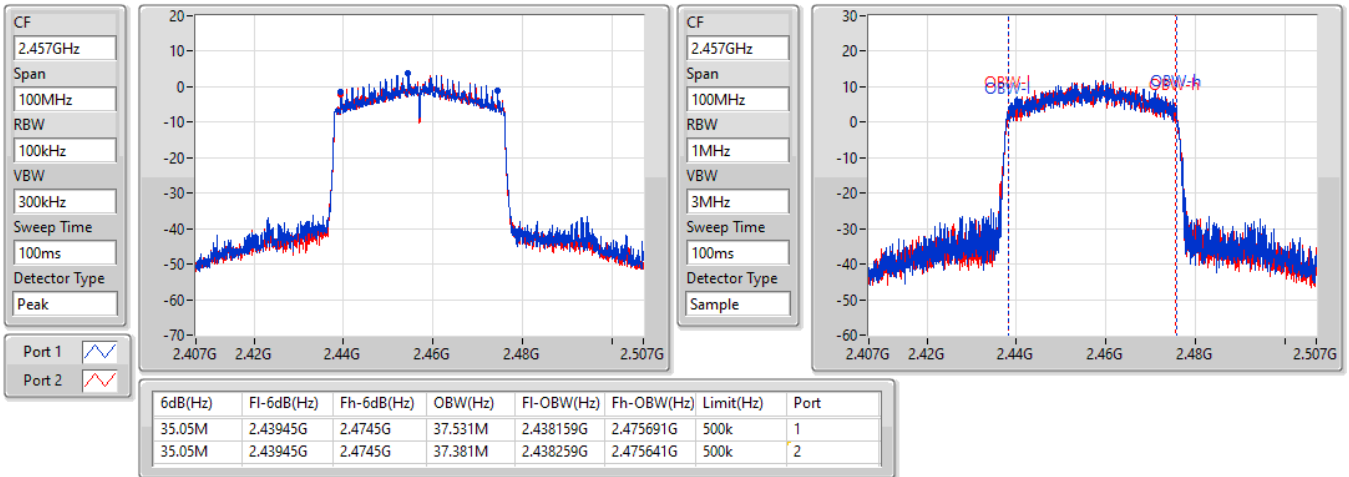


**802.11ax HEW40\_Nss1,(MCS0)\_2TX**

**EBW**

**2457MHz**

19/05/2022

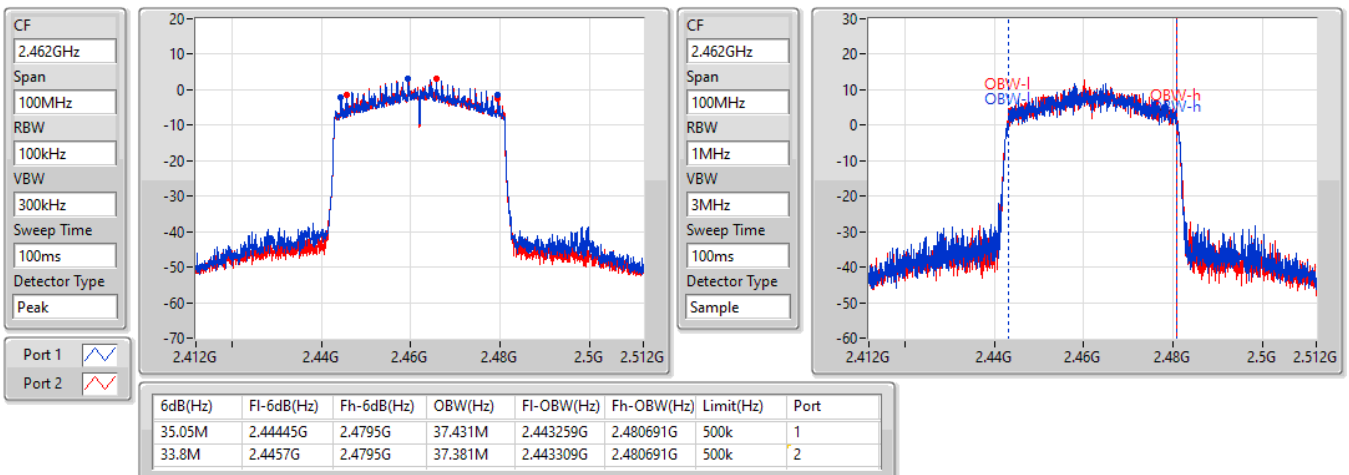


**802.11ax HEW40\_Nss1,(MCS0)\_2TX**

**EBW**

**2462MHz**

19/05/2022





**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)_2TX	10.1M	14.593M	14M6G1D	10.05M	13.943M
802.11g_Nss1,(6Mbps)_2TX	15.1M	18.666M	18M7D1D	15M	16.142M
802.11ax HEW20_Nss1,(MCS0)_2TX	15.875M	19.04M	19M0D1D	15M	18.491M
802.11ax HEW40_Nss1,(MCS0)_2TX	35.05M	37.481M	37M5D1D	33.8M	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)
802.11b_Nss1,(1Mbps)_2TX	-	-	-	-	-	-
2412MHz	Pass	500k	10.05M	14.168M	10.075M	14.093M
2437MHz	Pass	500k	10.05M	14.593M	10.05M	14.343M
2462MHz	Pass	500k	10.1M	14.043M	10.075M	14.043M
2467MHz	Pass	500k	10.05M	13.968M	10.075M	13.968M
2472MHz	Pass	500k	10.1M	13.968M	10.075M	13.943M
802.11g_Nss1,(6Mbps)_2TX	-	-	-	-	-	-
2412MHz	Pass	500k	15.05M	16.192M	15.075M	16.167M
2437MHz	Pass	500k	15.025M	18.666M	15.025M	17.341M
2462MHz	Pass	500k	15.025M	16.167M	15.025M	16.167M
2467MHz	Pass	500k	15.075M	16.192M	15.1M	16.142M
2472MHz	Pass	500k	15M	16.217M	15.025M	16.142M
802.11ax HEW20_Nss1,(MCS0)_2TX	-	-	-	-	-	-
2412MHz	Pass	500k	15.05M	18.616M	15.025M	18.591M
2437MHz	Pass	500k	15.1M	19.04M	15M	18.941M
2462MHz	Pass	500k	15.05M	18.566M	15.1M	18.616M
2467MHz	Pass	500k	15.025M	18.616M	15.075M	18.566M
2472MHz	Pass	500k	15.075M	18.616M	15.875M	18.491M
802.11ax HEW40_Nss1,(MCS0)_2TX	-	-	-	-	-	-
2422MHz	Pass	500k	35M	37.481M	35M	37.481M
2437MHz	Pass	500k	35M	37.431M	35.05M	37.431M
2452MHz	Pass	500k	33.8M	37.381M	35.05M	37.481M
2457MHz	Pass	500k	35.05M	37.331M	35.05M	37.431M
2462MHz	Pass	500k	33.85M	37.331M	35.05M	37.331M

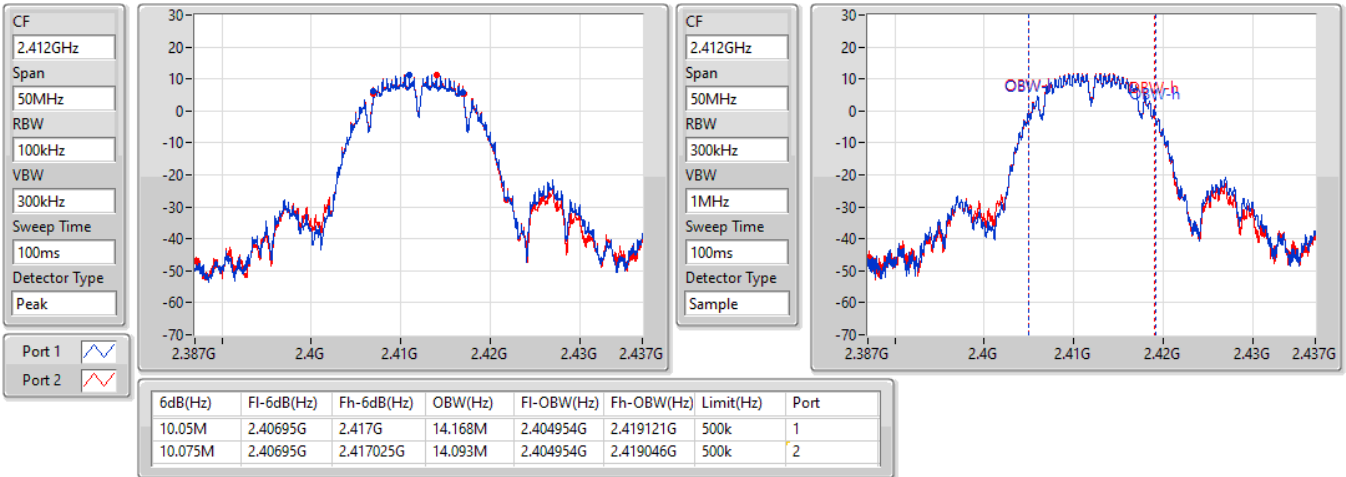
Port X-N dB = Port X 6dB down bandwidth:  
 Port X-OBW = Port X 99% occupied bandwidth

**802.11b\_Nss1,(1Mbps)\_2TX**

**EBW**

**2412MHz**

18/05/2022

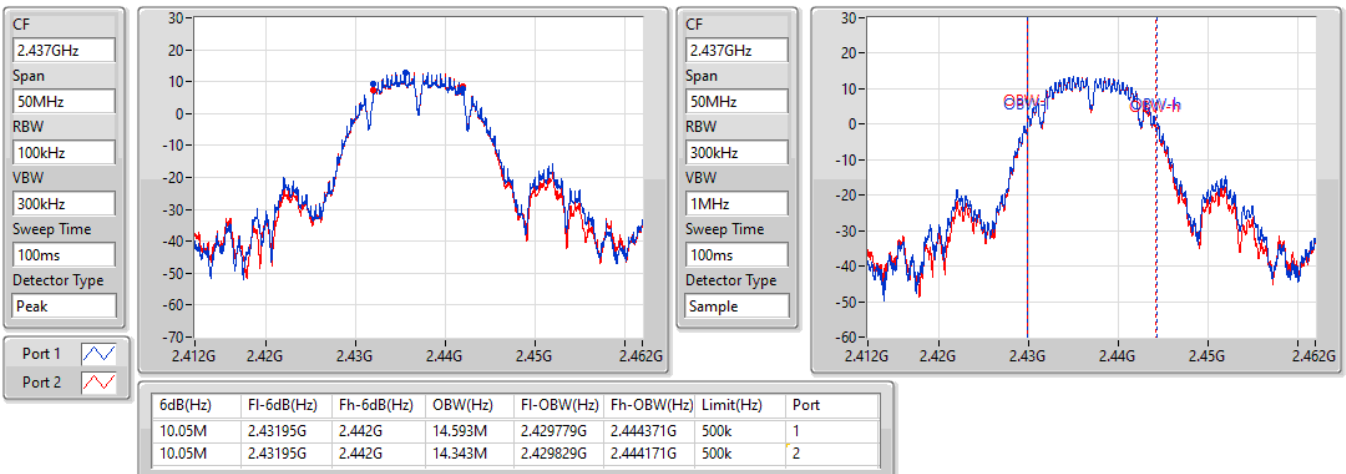


**802.11b\_Nss1,(1Mbps)\_2TX**

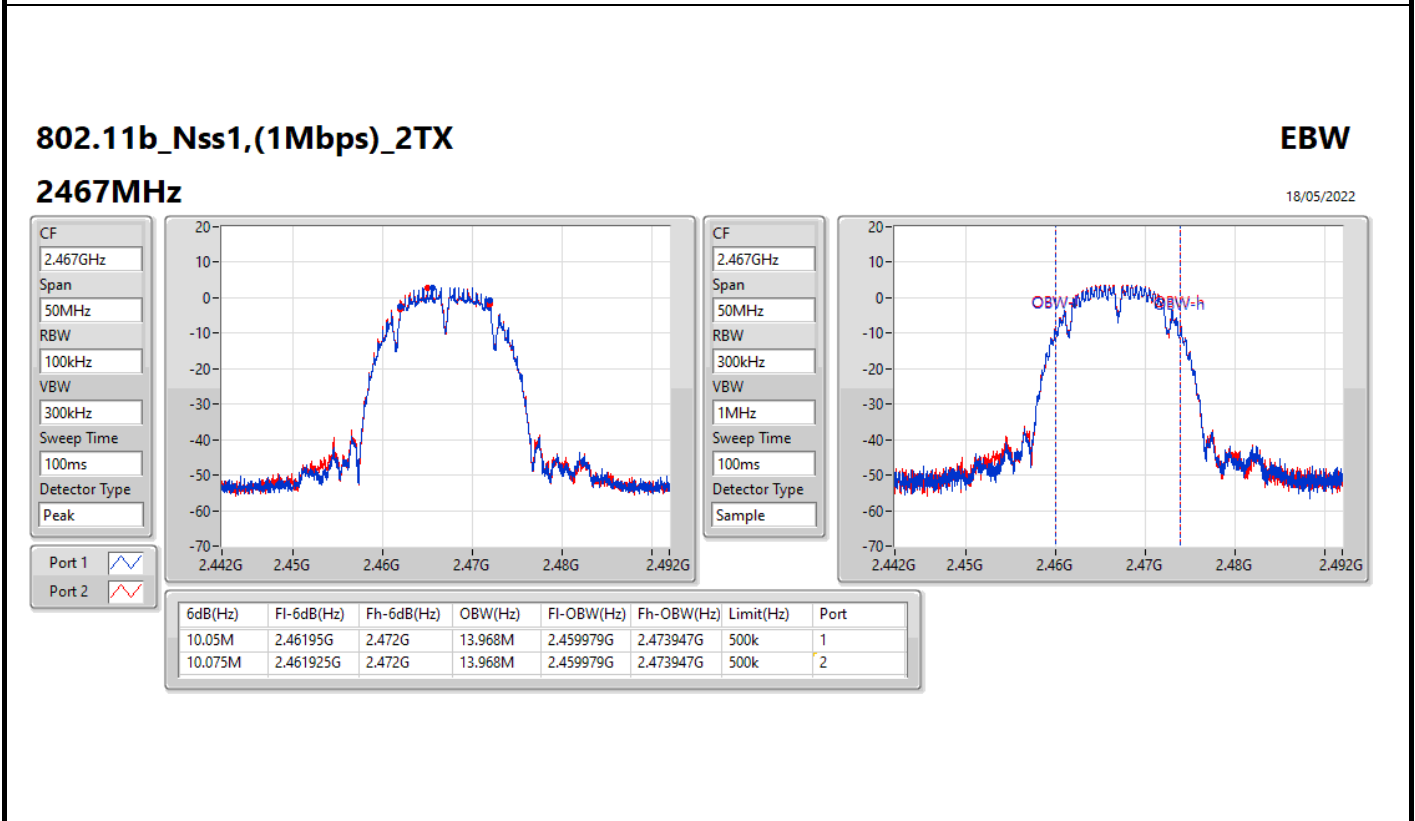
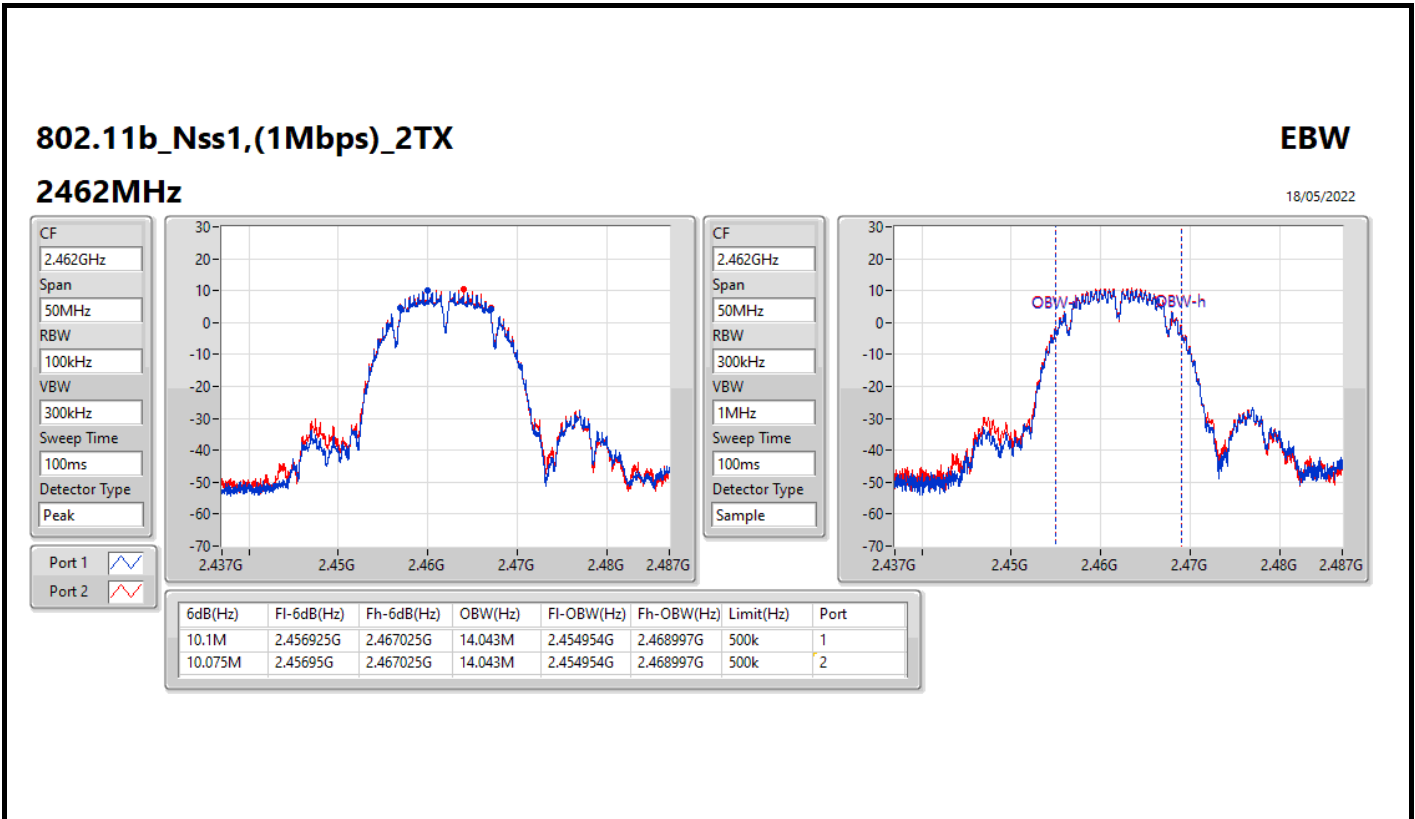
**EBW**

**2437MHz**

18/05/2022





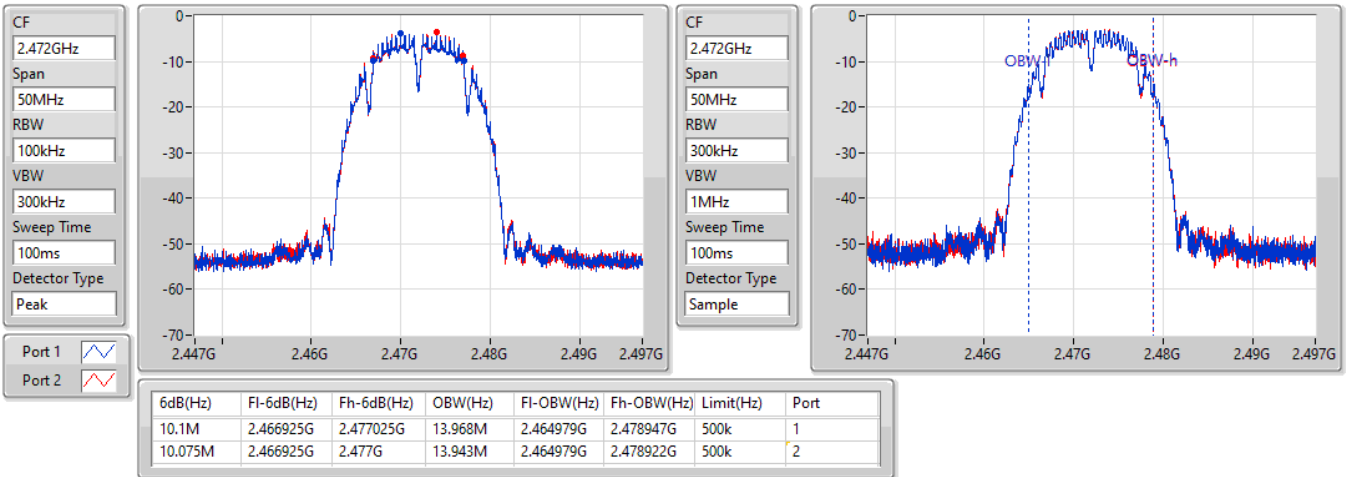


**802.11b\_Nss1,(1Mbps)\_2TX**

**EBW**

**2472MHz**

18/05/2022

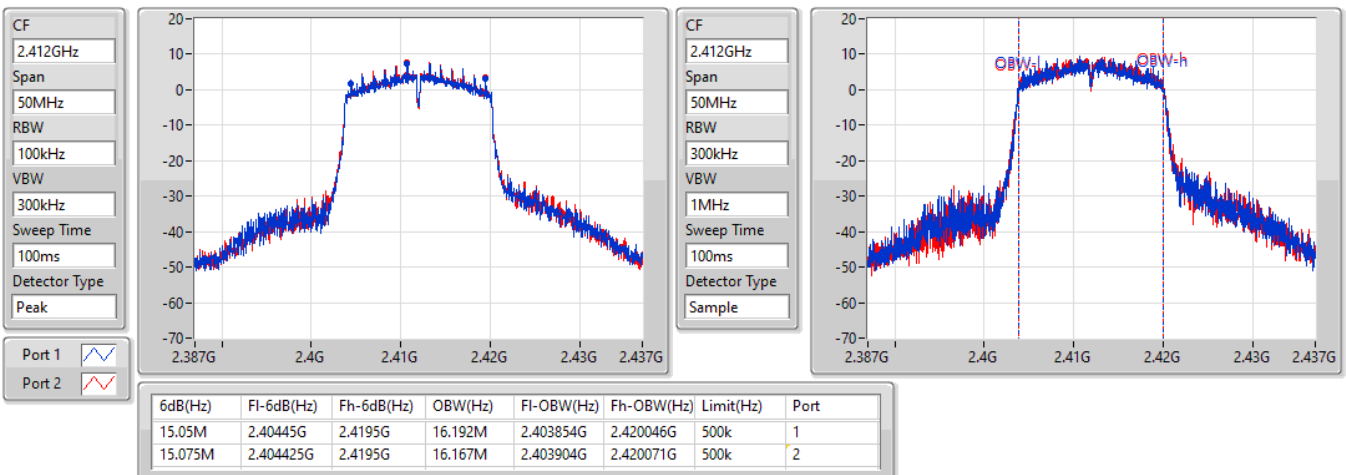


**802.11g\_Nss1,(6Mbps)\_2TX**

**EBW**

**2412MHz**

18/05/2022

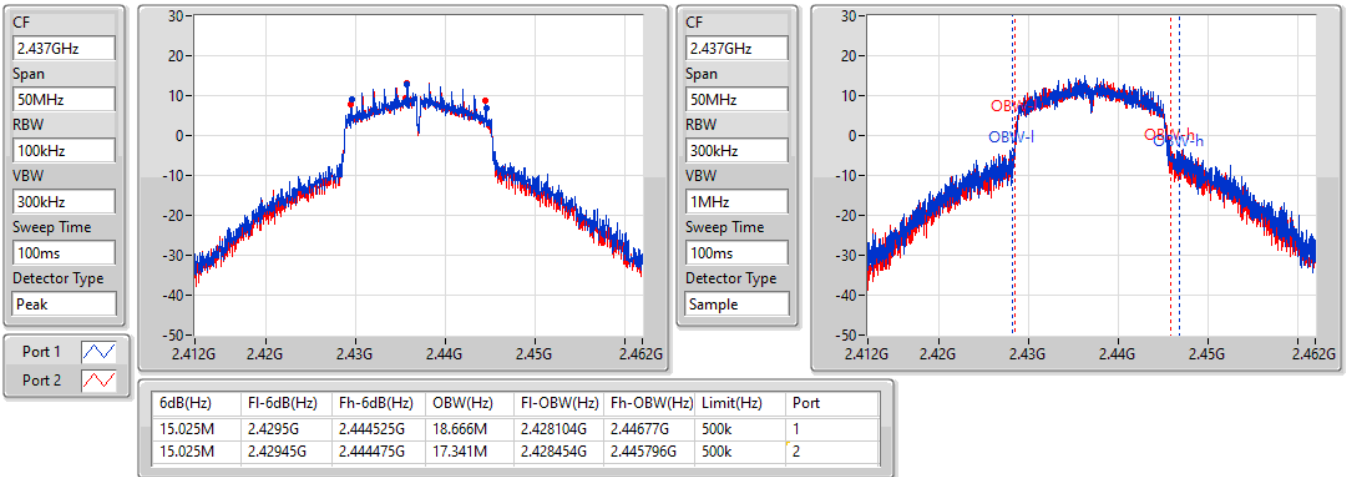


**802.11g\_Nss1,(6Mbps)\_2TX**

**2437MHz**

**EBW**

18/05/2022

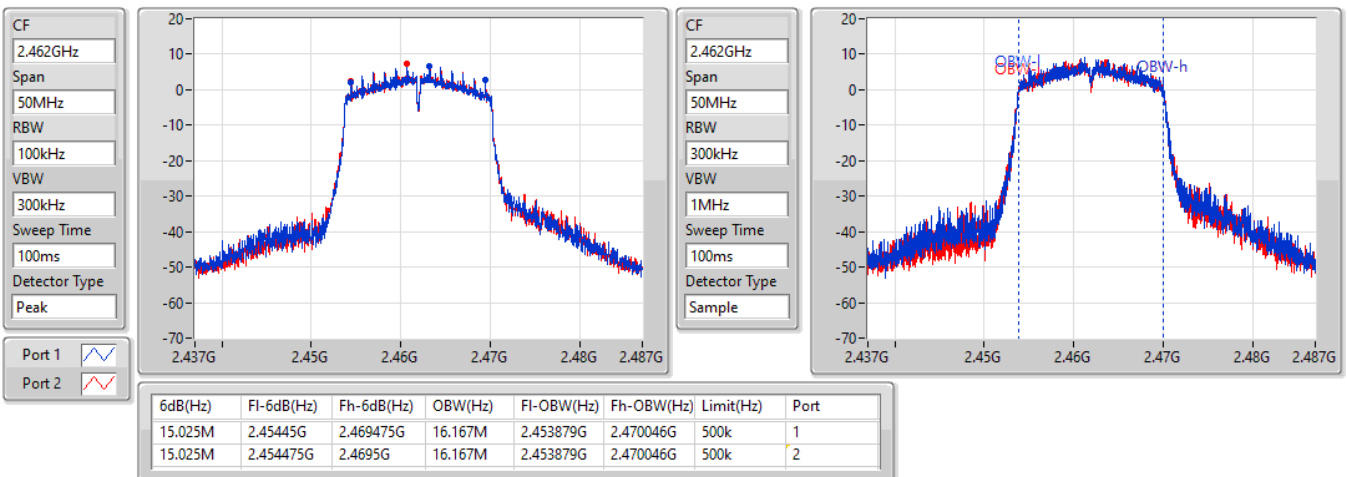


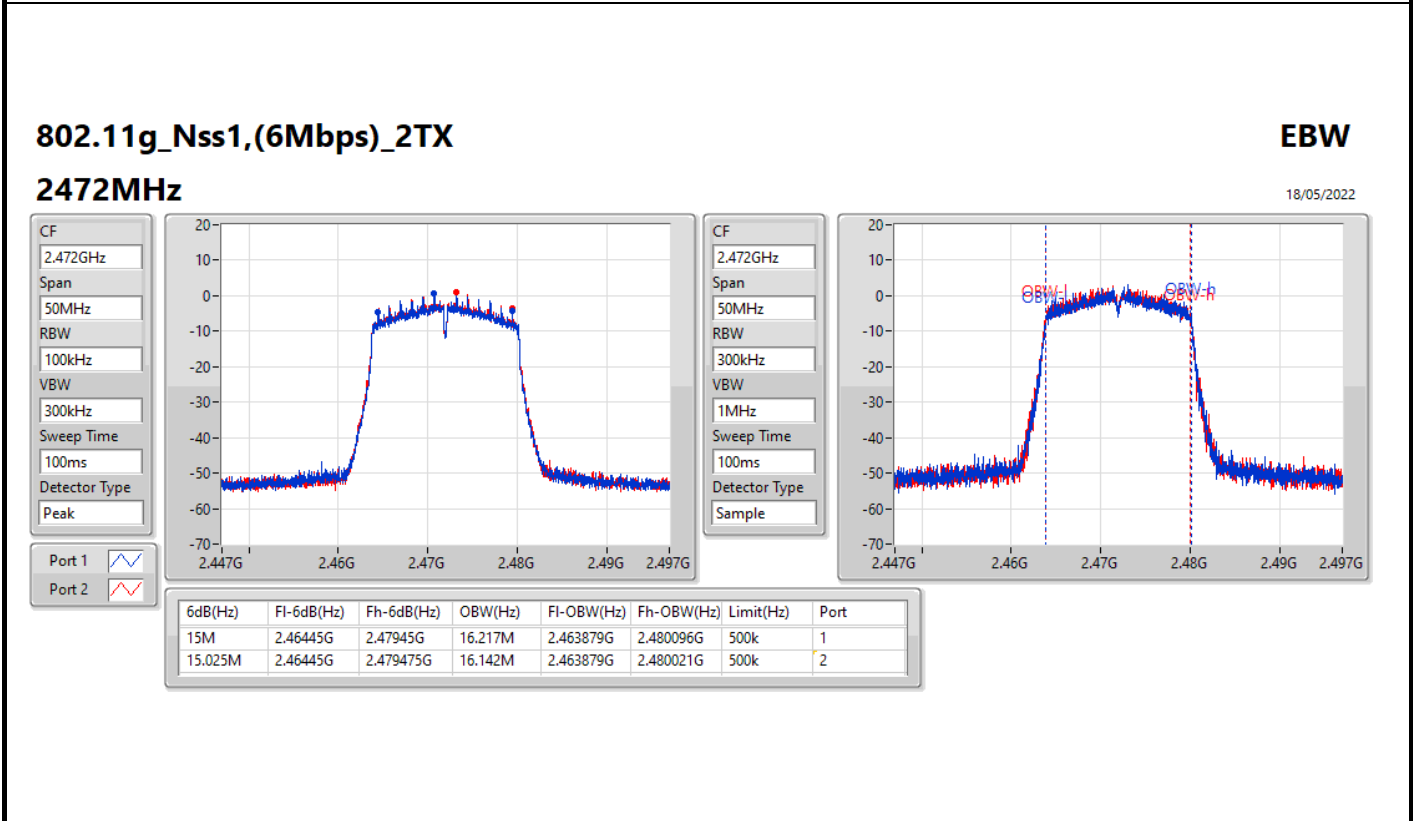
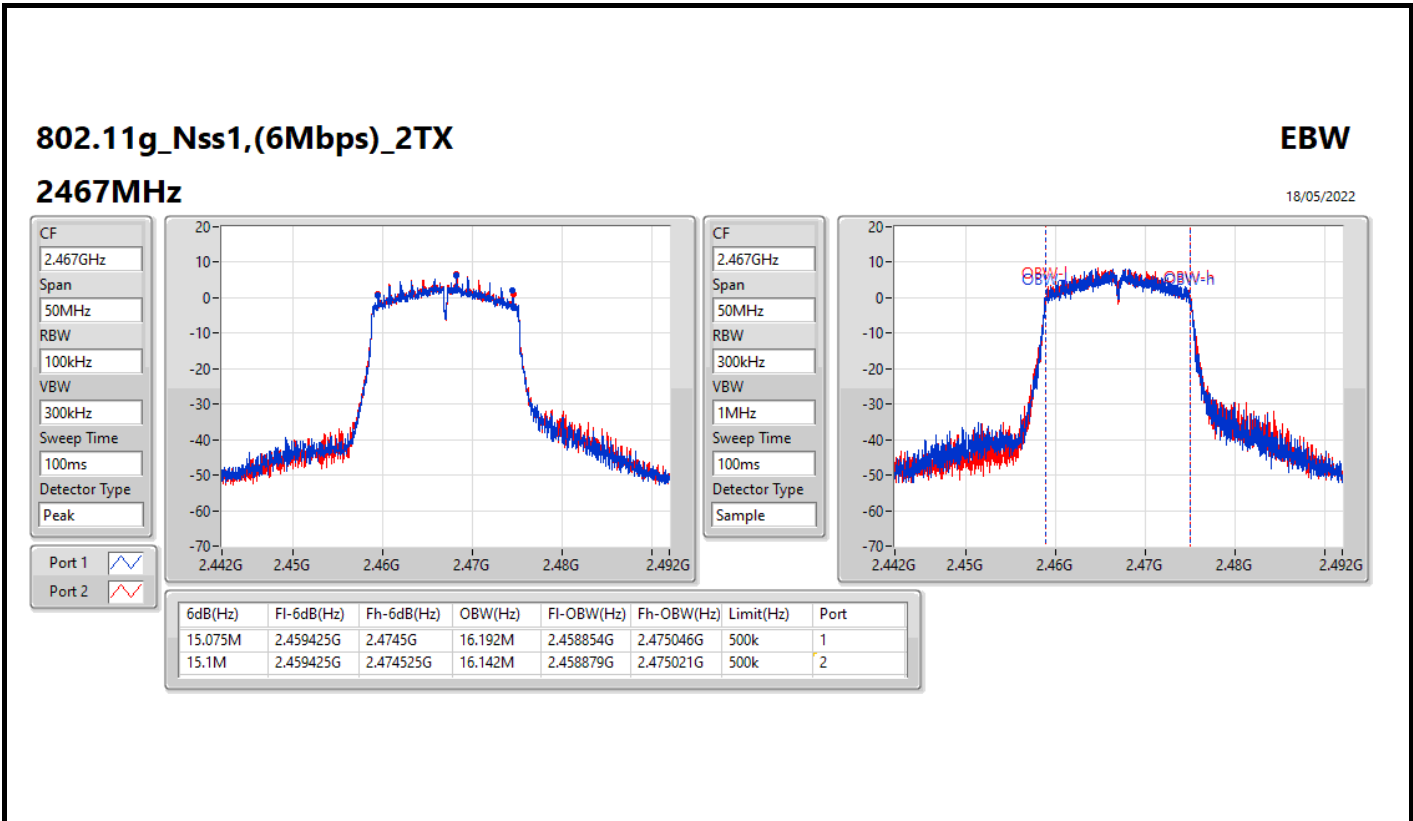
**802.11g\_Nss1,(6Mbps)\_2TX**

**2462MHz**

**EBW**

18/05/2022



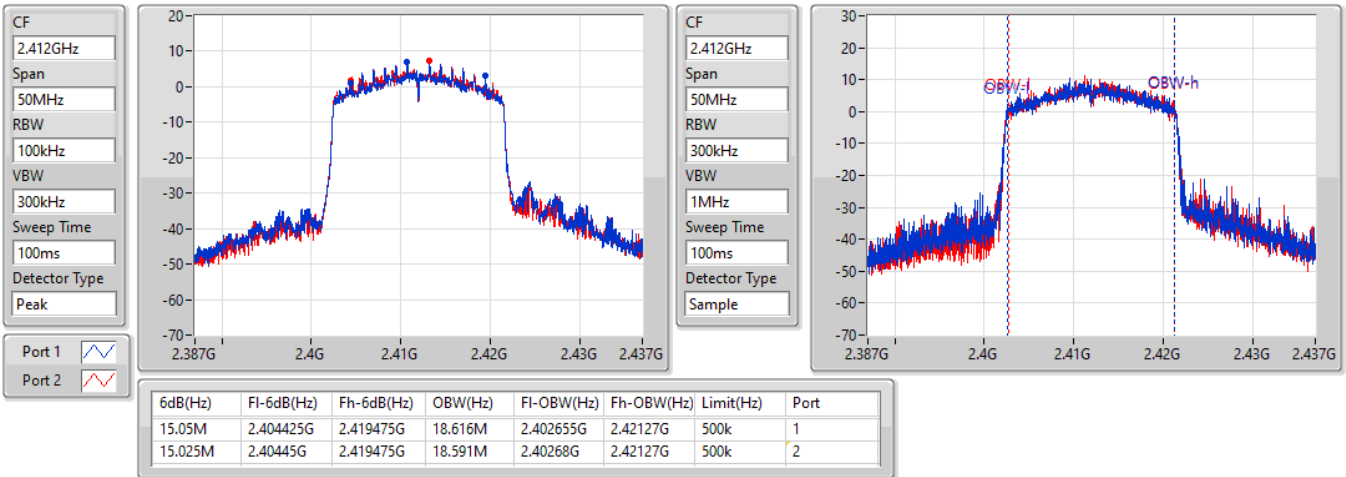


**802.11ax HEW20\_Nss1,(MCS0)\_2TX**

**EBW**

**2412MHz**

18/05/2022

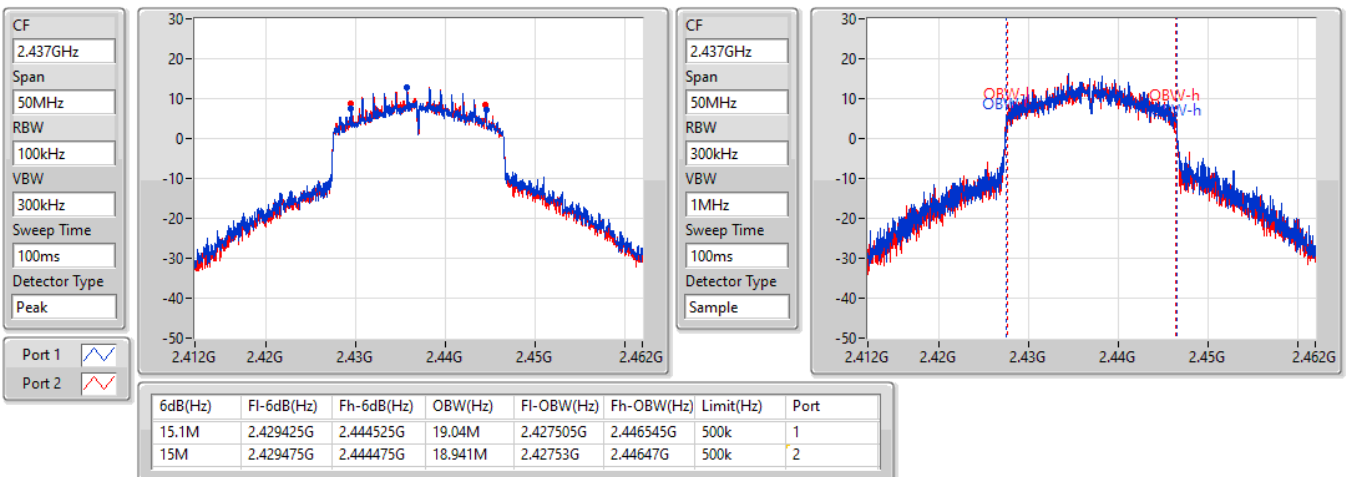


**802.11ax HEW20\_Nss1,(MCS0)\_2TX**

**EBW**

**2437MHz**

18/05/2022

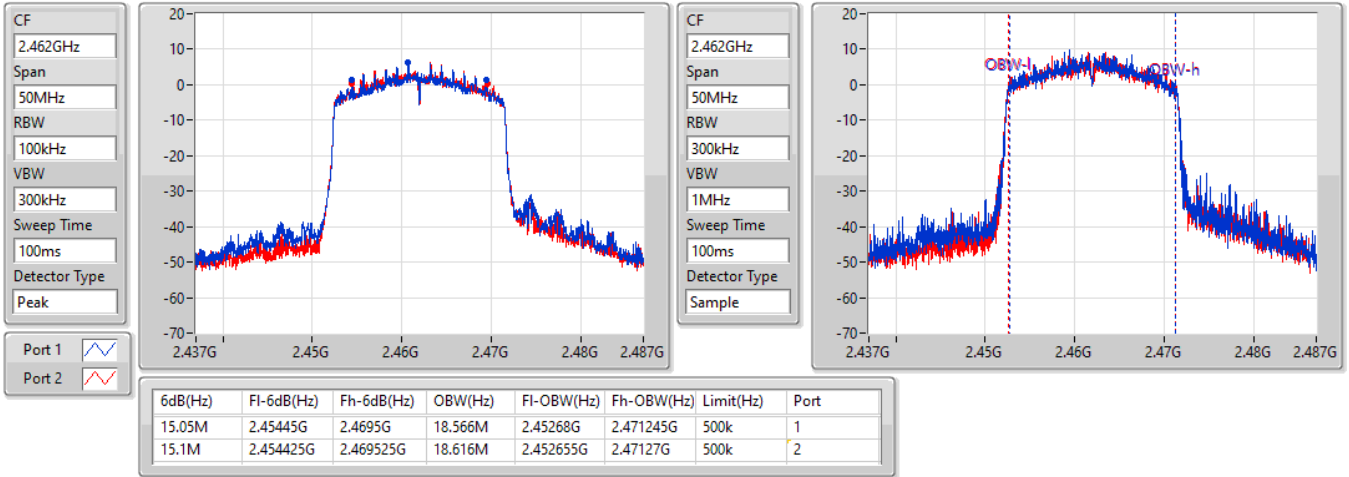


**802.11ax HEW20\_Nss1,(MCS0)\_2TX**

**EBW**

**2462MHz**

18/05/2022

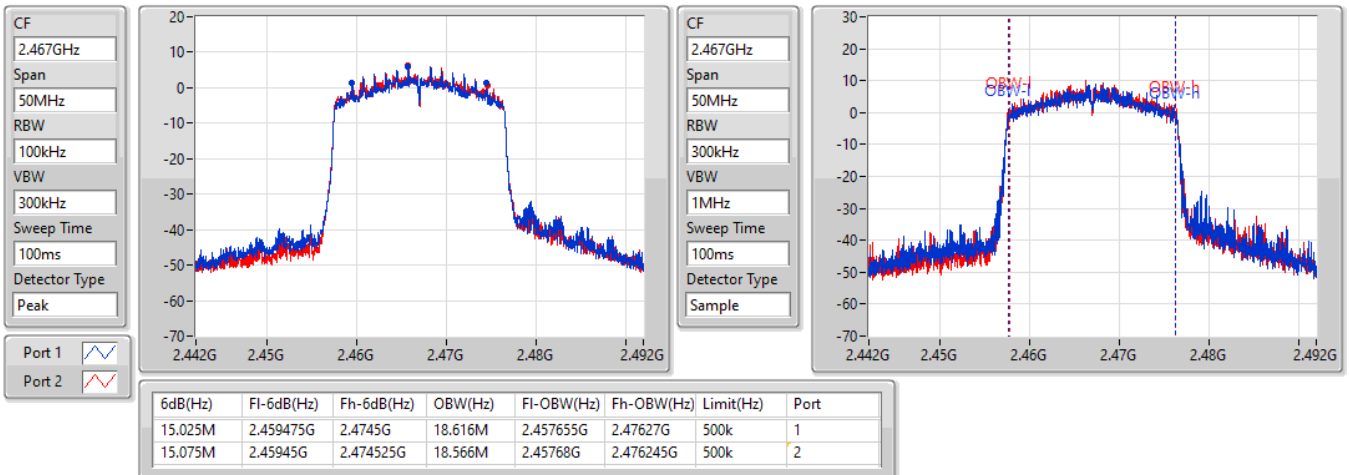


**802.11ax HEW20\_Nss1,(MCS0)\_2TX**

**EBW**

**2467MHz**

18/05/2022

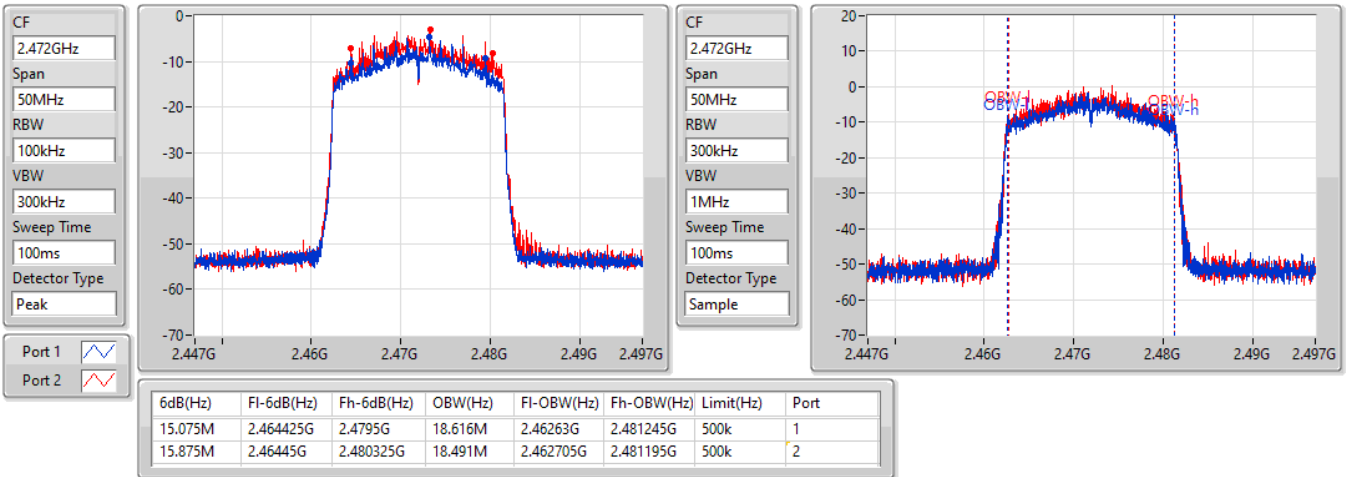


**802.11ax HEW20\_Nss1,(MCS0)\_2TX**

**EBW**

**2472MHz**

18/05/2022

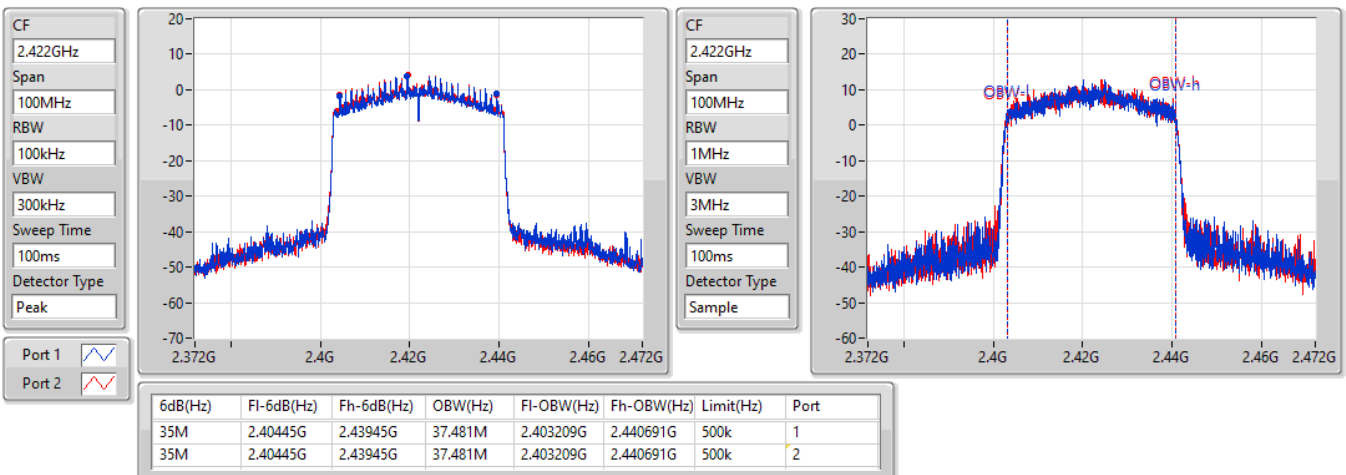


**802.11ax HEW40\_Nss1,(MCS0)\_2TX**

**EBW**

**2422MHz**

18/05/2022

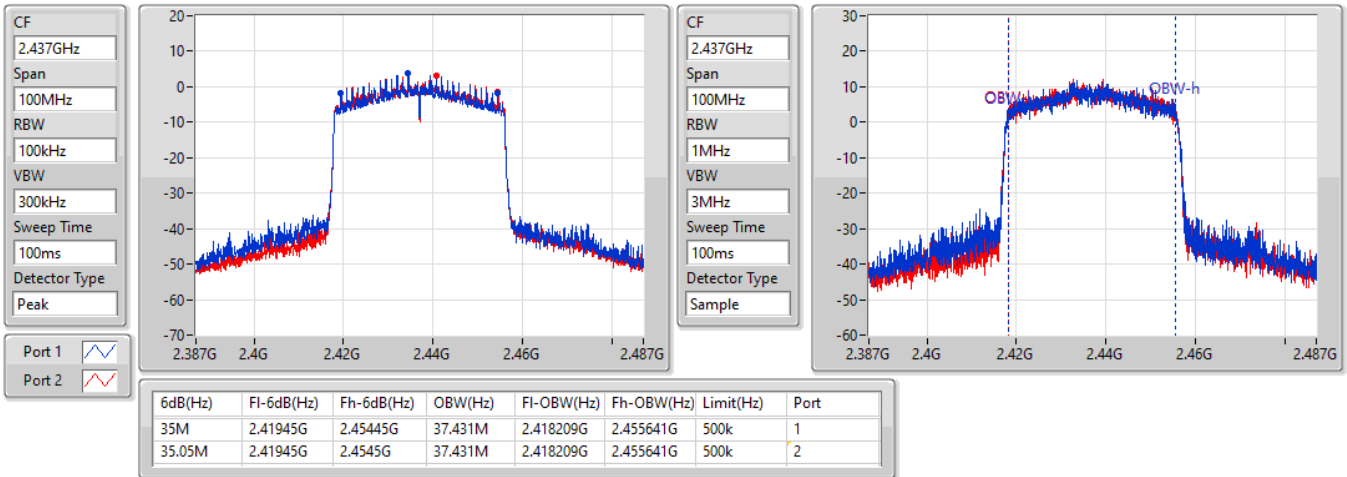


**802.11ax HEW40\_Nss1,(MCS0)\_2TX**

**EBW**

**2437MHz**

18/05/2022

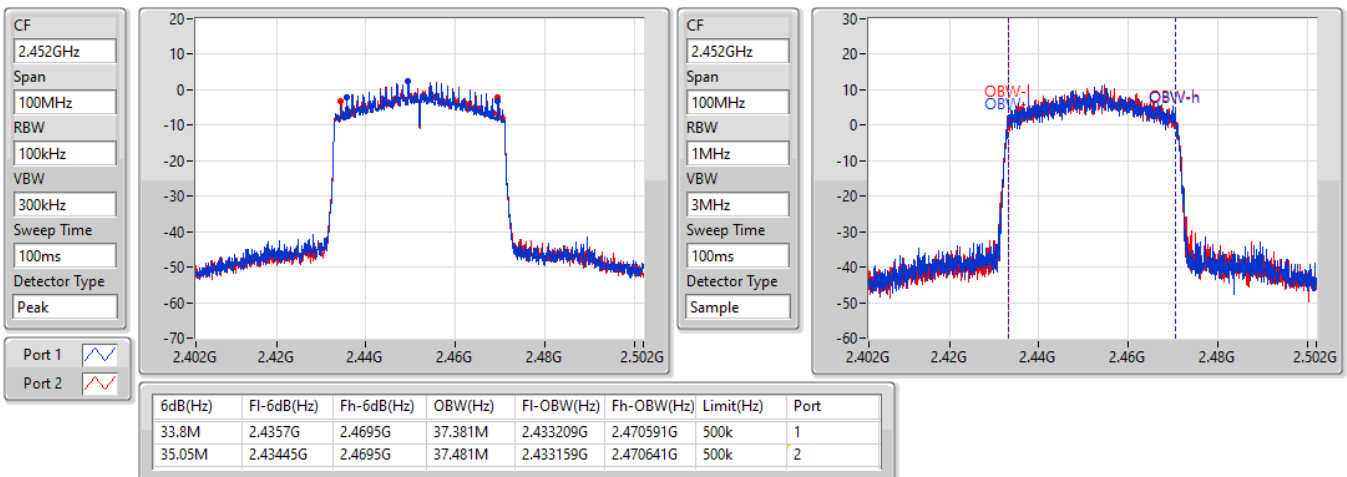


**802.11ax HEW40\_Nss1,(MCS0)\_2TX**

**EBW**

**2452MHz**

18/05/2022



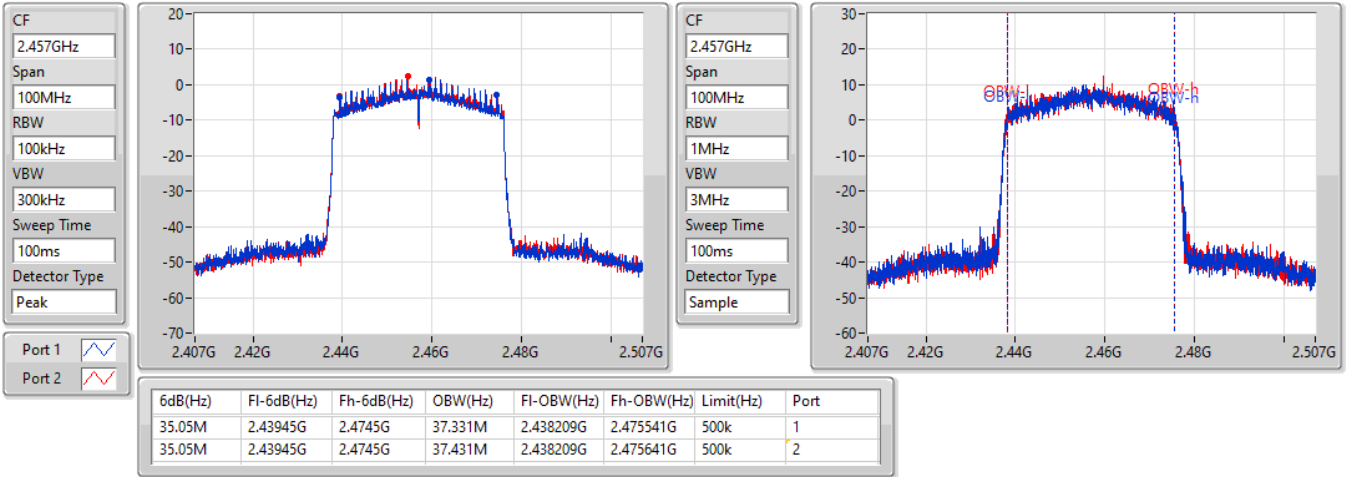


**802.11ax HEW40\_Nss1,(MCS0)\_2TX**

**EBW**

**2457MHz**

18/05/2022

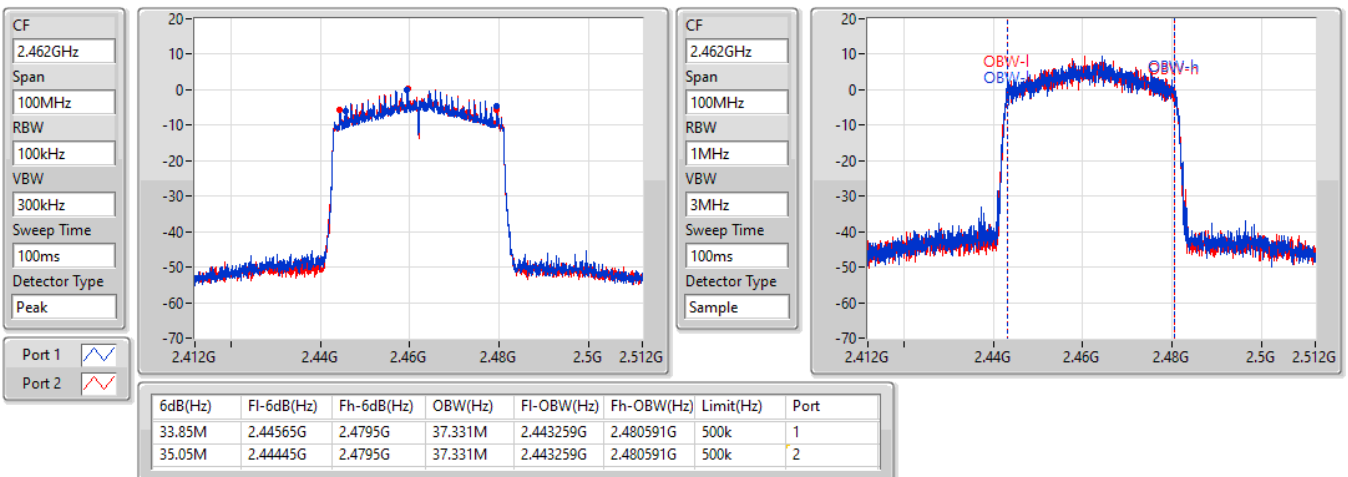


**802.11ax HEW40\_Nss1,(MCS0)\_2TX**

**EBW**

**2462MHz**

18/05/2022





**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_Nss1,(MCS0)_1TX	15.7M	17.391M	17M4D1D	13.225M	16.917M

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**

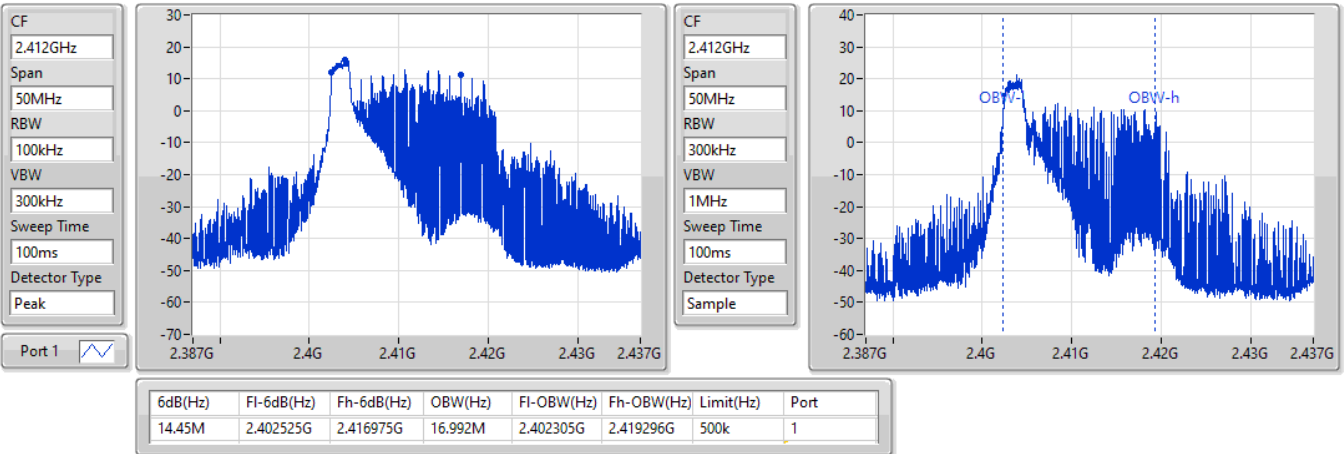
Mode	Result	Limit (Hz)	Port 1-N dB (Hz)	Port 1-OBW (Hz)
802.11ax HEW20_Nss1,(MCS0)_1TX	-	-	-	-
2412MHz	Pass	500k	14.45M	16.992M
2437MHz	Pass	500k	15.7M	16.942M
2462MHz	Pass	500k	13.225M	16.942M
2467MHz	Pass	500k	14.425M	17.391M
2472MHz	Pass	500k	14.425M	16.917M

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

**802.11ax HEW20\_Nss1,(MCS0)\_1TX**  
**2412MHz**

**EBW**

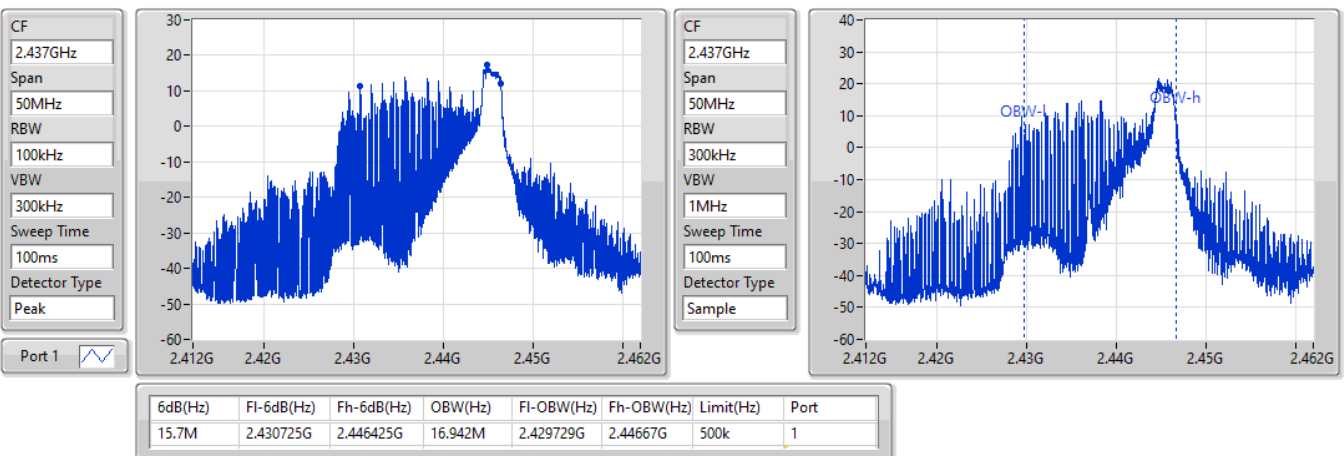
24/05/2022



**802.11ax HEW20\_Nss1,(MCS0)\_1TX**  
**2437MHz**

**EBW**

24/05/2022

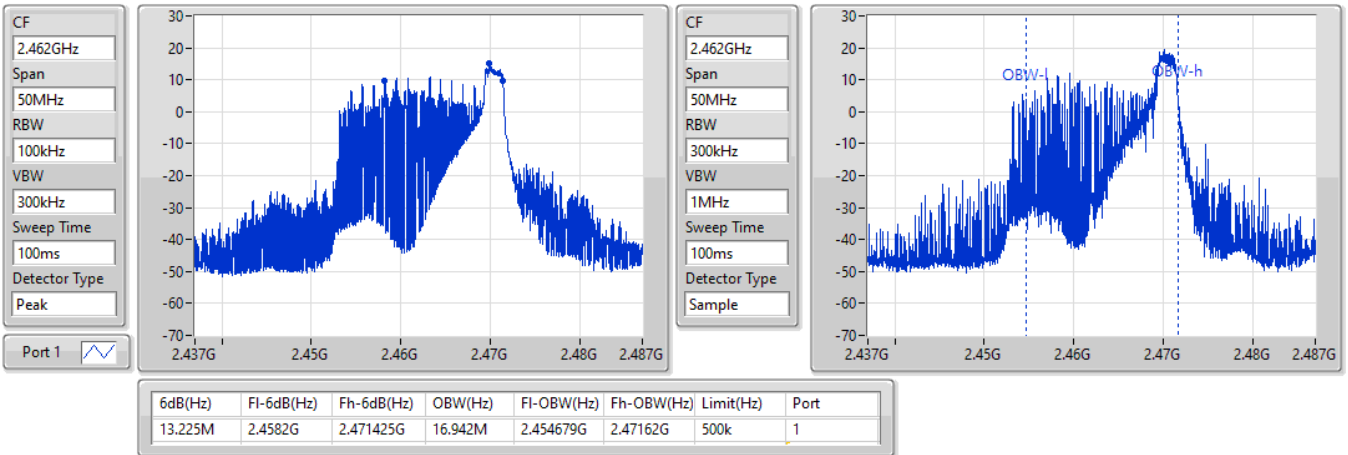


**802.11ax HEW20\_Nss1,(MCS0)\_1TX**

**EBW**

**2462MHz**

24/05/2022

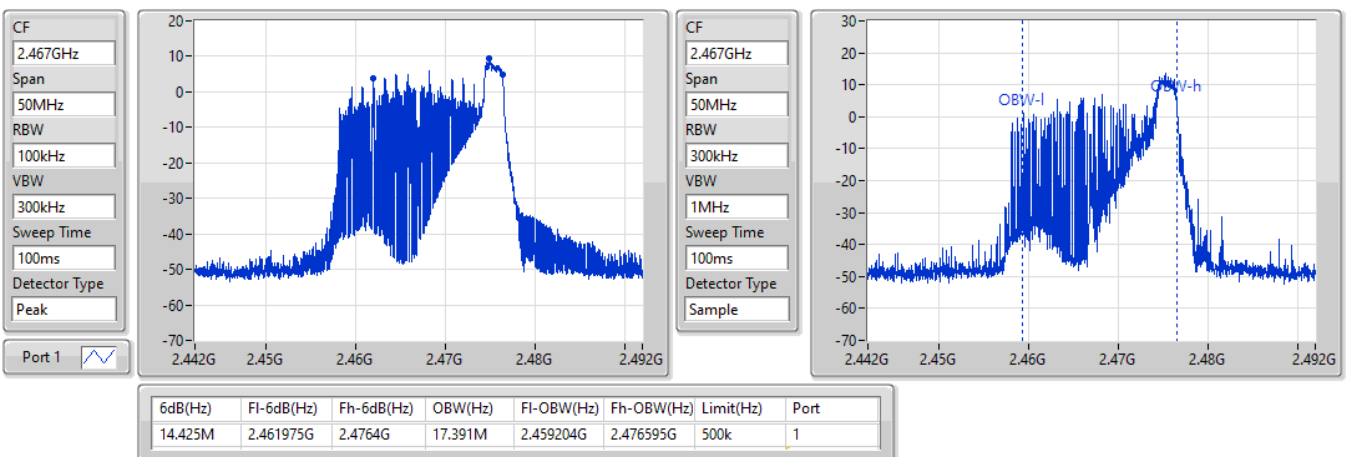


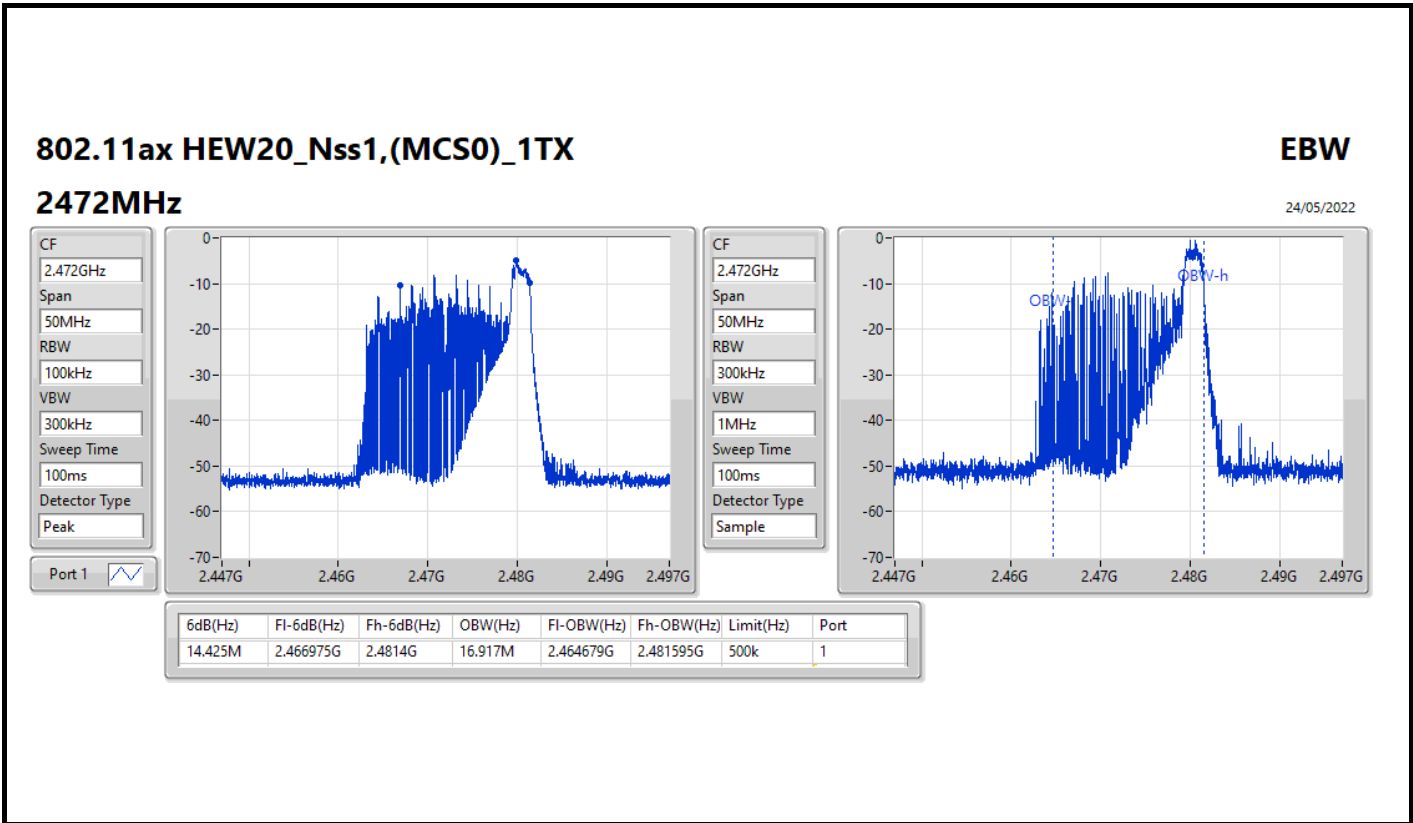
**802.11ax HEW20\_Nss1,(MCS0)\_1TX**

**EBW**

**2467MHz**

24/05/2022







**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_Nss1,(MCS0)_1TX	17M	17.966M	18M0D1D	15.7M	17.841M

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)
802.11ax HEW20_Nss1,(MCS0)_1TX	-	-	-	-
2412MHz	Pass	500k	17M	17.966M
2437MHz	Pass	500k	15.7M	17.916M
2462MHz	Pass	500k	15.7M	17.866M
2467MHz	Pass	500k	15.7M	17.841M
2472MHz	Pass	500k	15.7M	17.841M

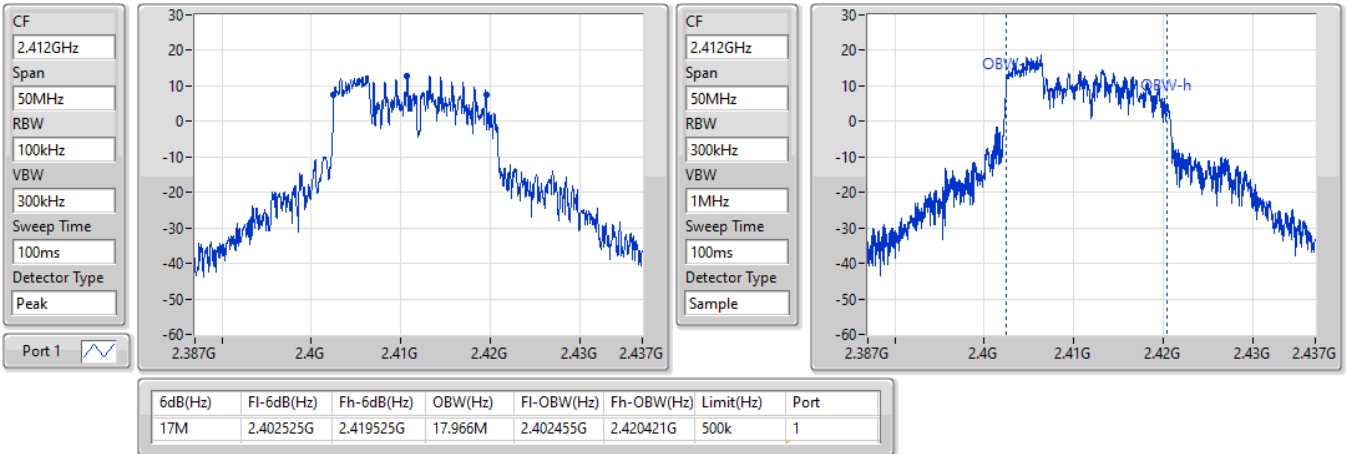
Port X-N dB = Port X 6dB down bandwidth;  
Port X-OBW = Port X 99% occupied bandwidth



**802.11ax HEW20\_Nss1,(MCS0)\_1TX**  
**2412MHz**

**EBW**

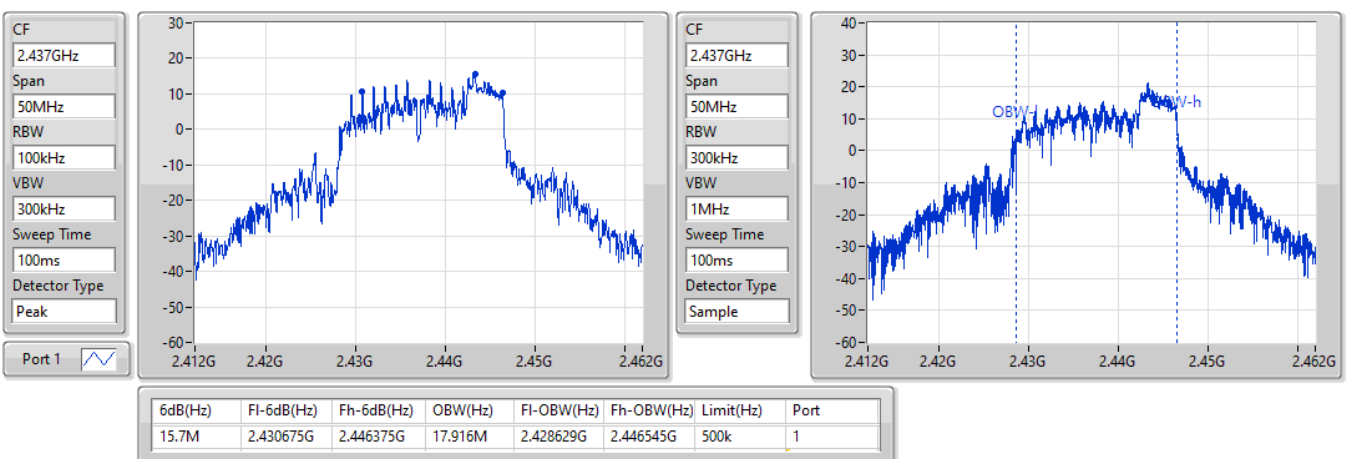
24/05/2022



**802.11ax HEW20\_Nss1,(MCS0)\_1TX**  
**2437MHz**

**EBW**

24/05/2022

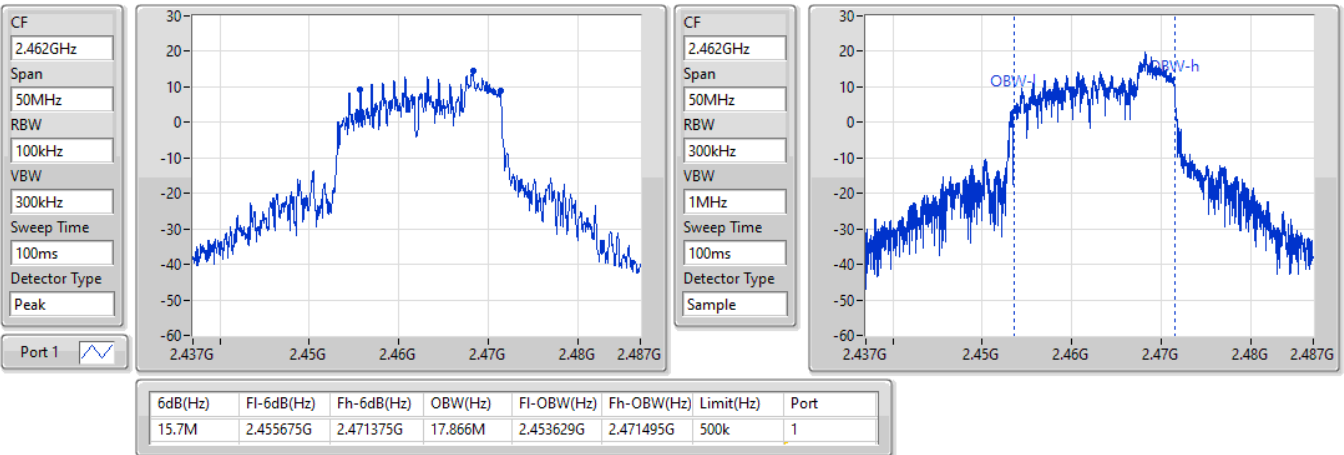


**802.11ax HEW20\_Nss1,(MCS0)\_1TX**

**EBW**

**2462MHz**

24/05/2022

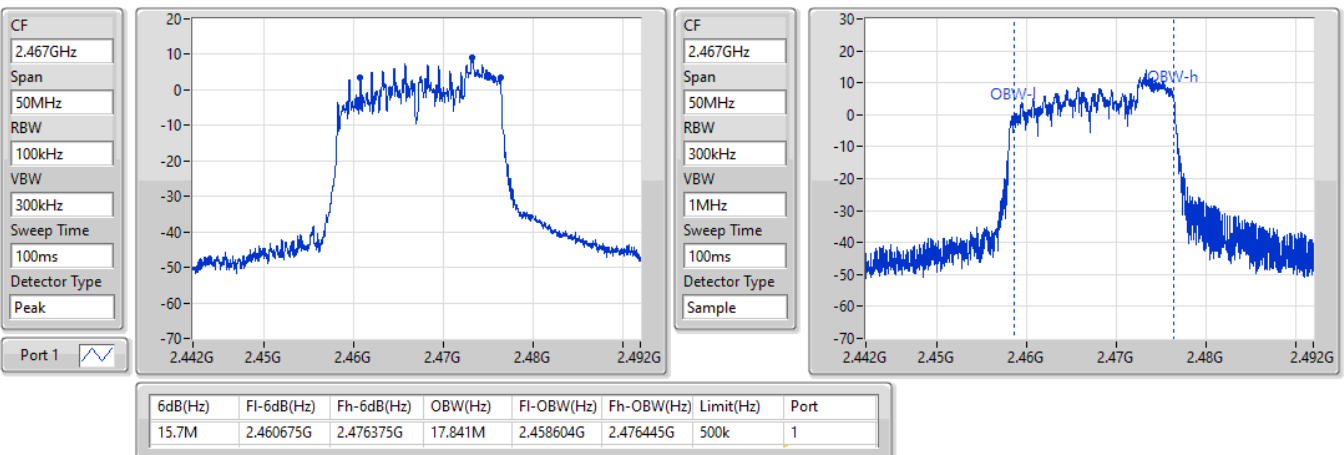


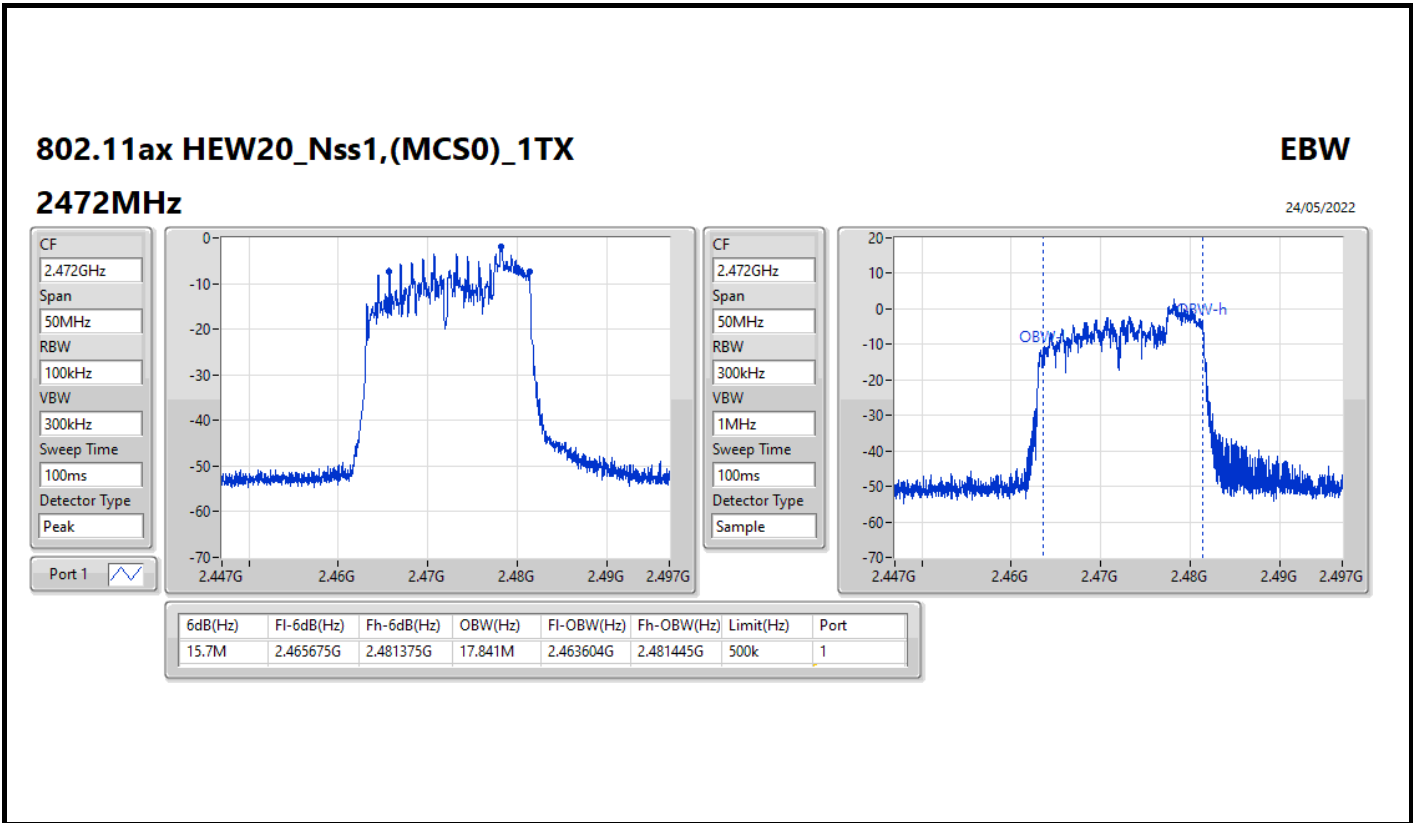
**802.11ax HEW20\_Nss1,(MCS0)\_1TX**

**EBW**

**2467MHz**

24/05/2022







**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_Nss1,(MCS0)_1TX	16.975M	18.091M	18M1D1D	15.05M	17.666M

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**

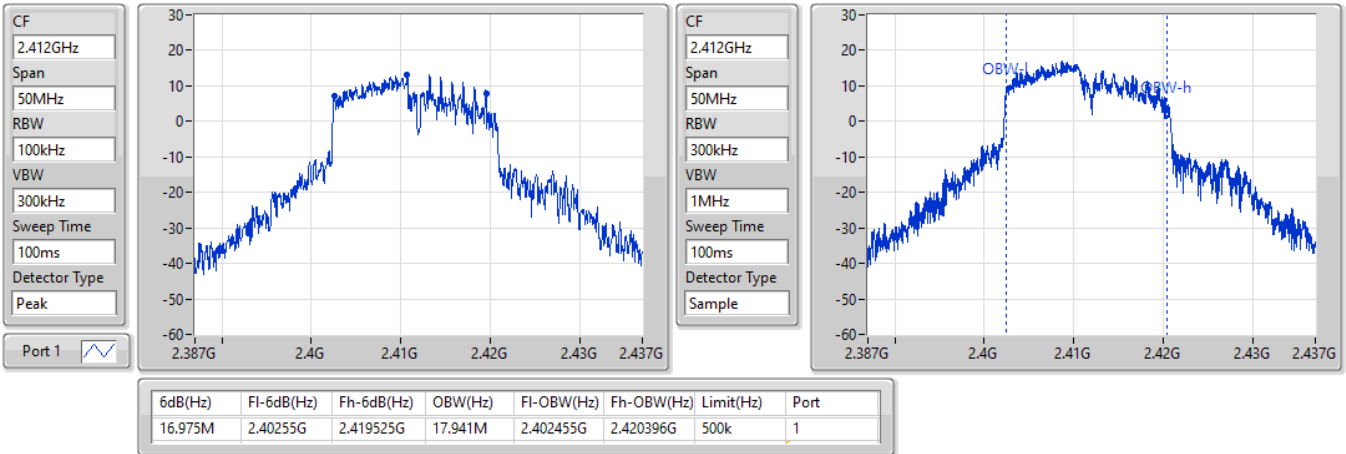
Mode	Result	Limit (Hz)	Port 1-N dB (Hz)	Port 1-OBW (Hz)
802.11ax HEW20_Nss1,(MCS0)_1TX	-	-	-	-
2412MHz	Pass	500k	16.975M	17.941M
2437MHz	Pass	500k	16.9M	18.091M
2462MHz	Pass	500k	15.05M	18.016M
2467MHz	Pass	500k	15.15M	17.716M
2472MHz	Pass	500k	15.15M	17.666M

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

**802.11ax HEW20\_Nss1,(MCS0)\_1TX**  
**2412MHz**

**EBW**

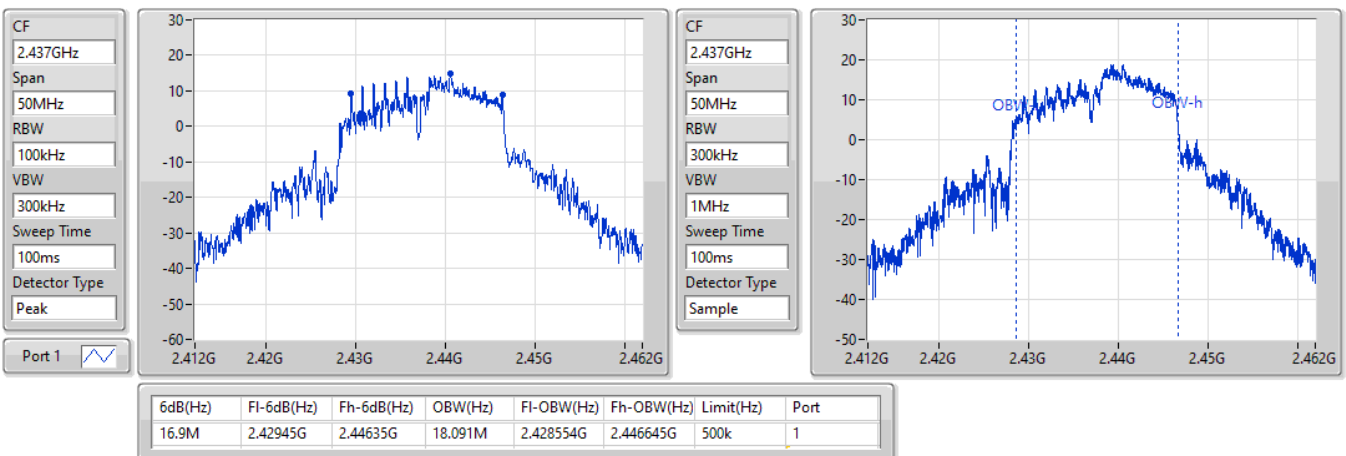
24/05/2022



**802.11ax HEW20\_Nss1,(MCS0)\_1TX**  
**2437MHz**

**EBW**

24/05/2022

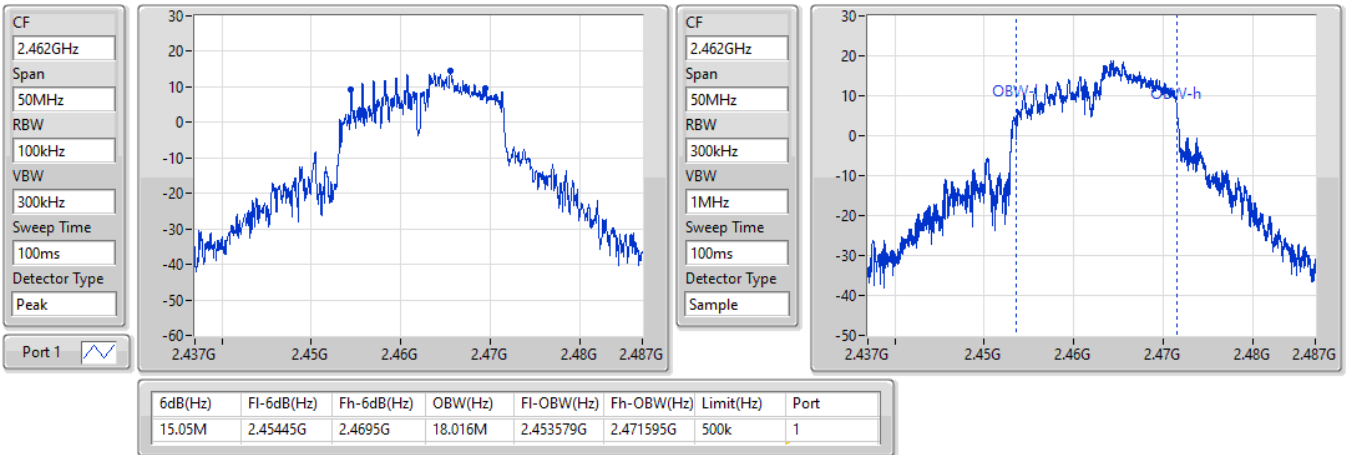


**802.11ax HEW20\_Nss1,(MCS0)\_1TX**

**EBW**

**2462MHz**

24/05/2022

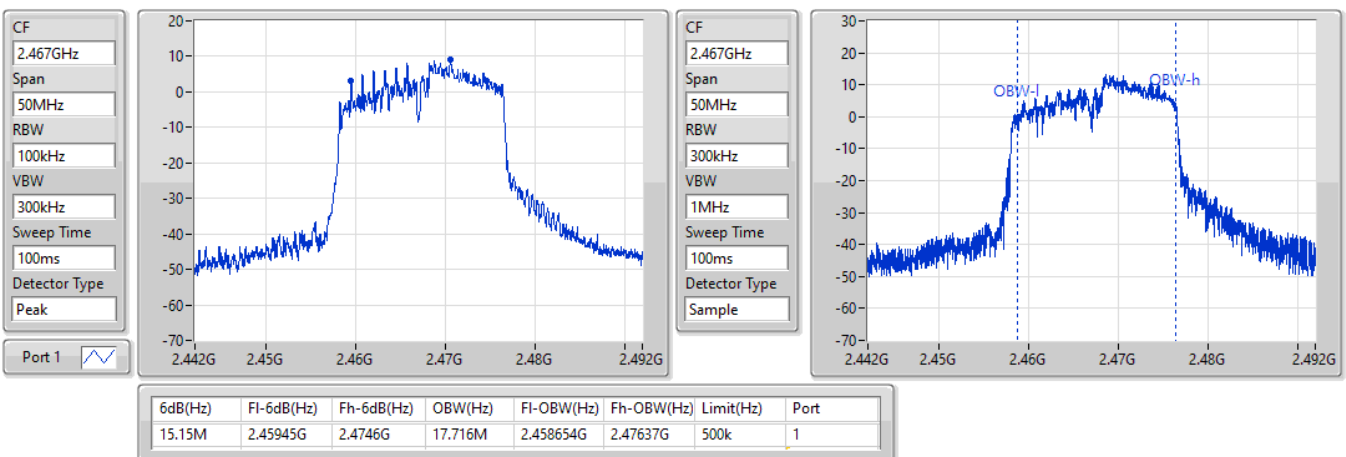


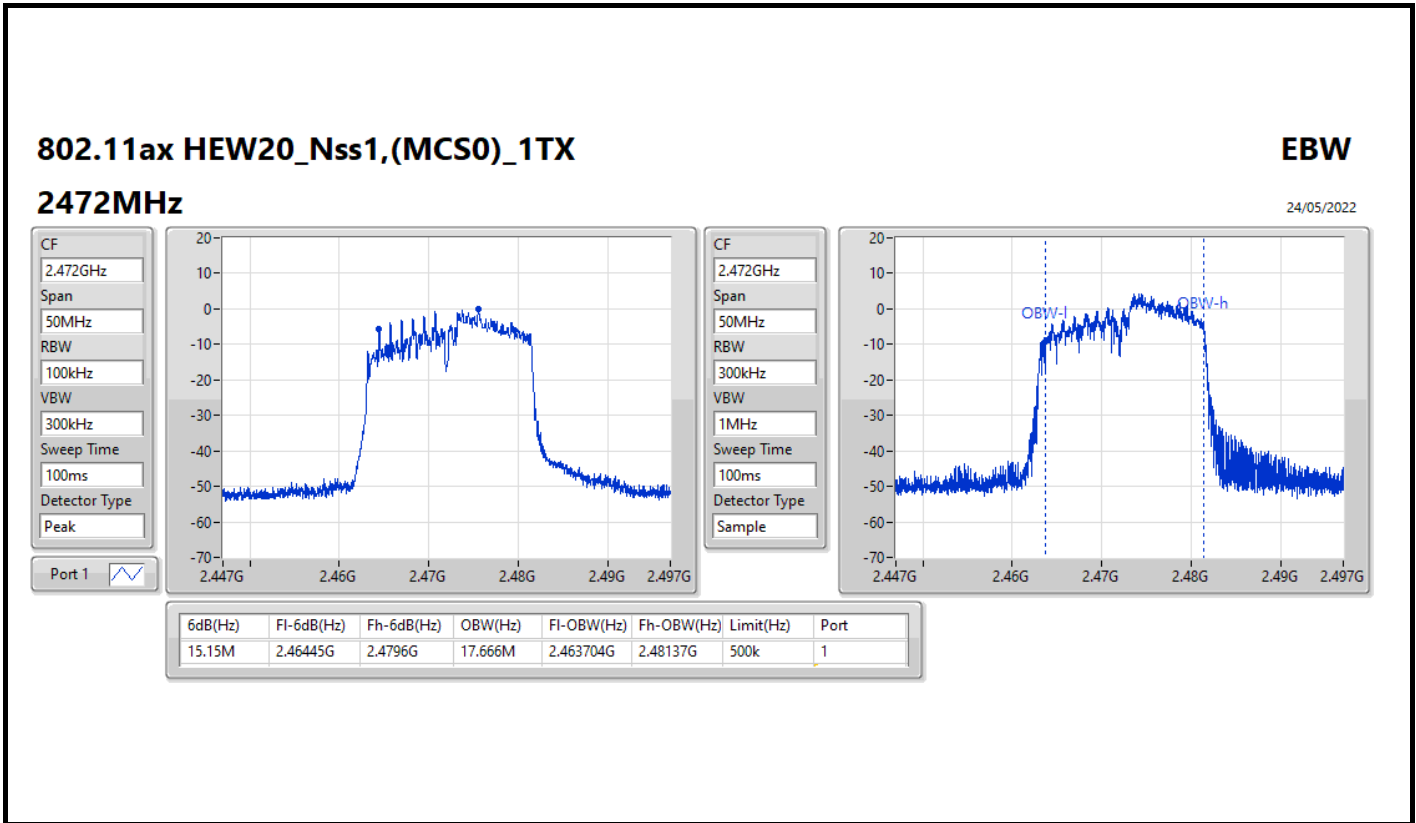
**802.11ax HEW20\_Nss1,(MCS0)\_1TX**

**EBW**

**2467MHz**

24/05/2022









**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_Nss1,(MCS0)_1TX	15.7M	16.267M	16M3D1D	11.9M	15.067M

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**

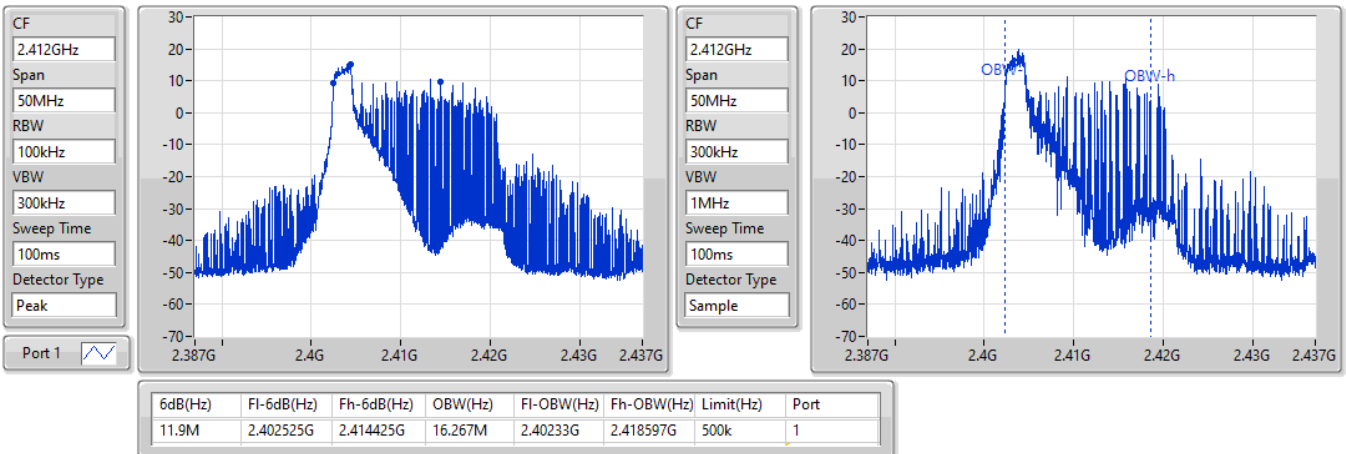
Mode	Result	Limit (Hz)	Port 1-N dB (Hz)	Port 1-OBW (Hz)
802.11ax HEW20_Nss1,(MCS0)_1TX	-	-	-	-
2412MHz	Pass	500k	11.9M	16.267M
2437MHz	Pass	500k	14.425M	15.817M
2462MHz	Pass	500k	15.7M	15.842M
2467MHz	Pass	500k	15.7M	15.067M
2472MHz	Pass	500k	14.525M	15.942M

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

**802.11ax HEW20\_Nss1,(MCS0)\_1TX**  
**2412MHz**

**EBW**

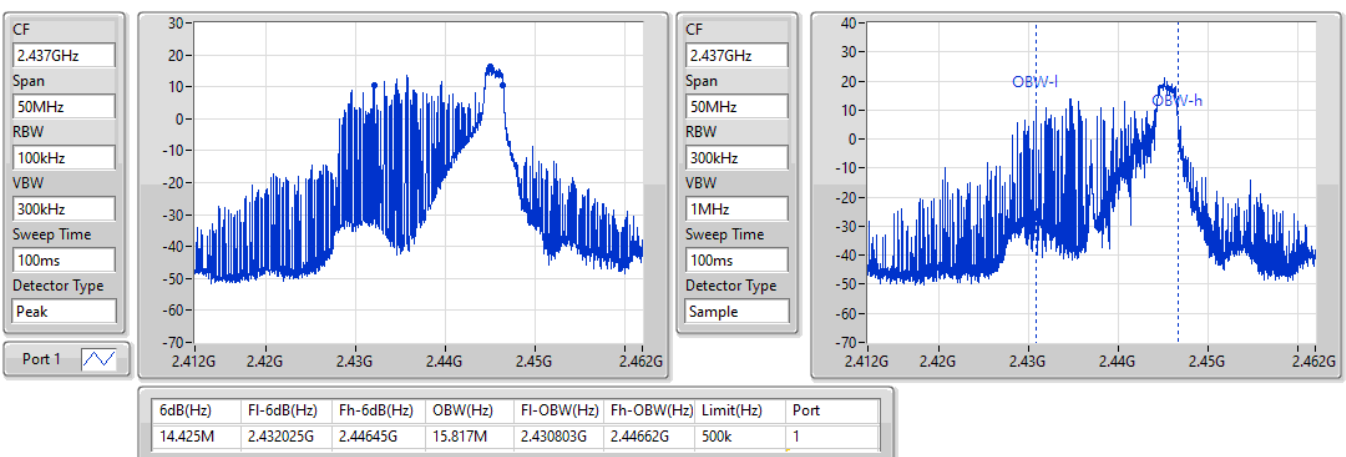
26/05/2022



**802.11ax HEW20\_Nss1,(MCS0)\_1TX**  
**2437MHz**

**EBW**

25/05/2022

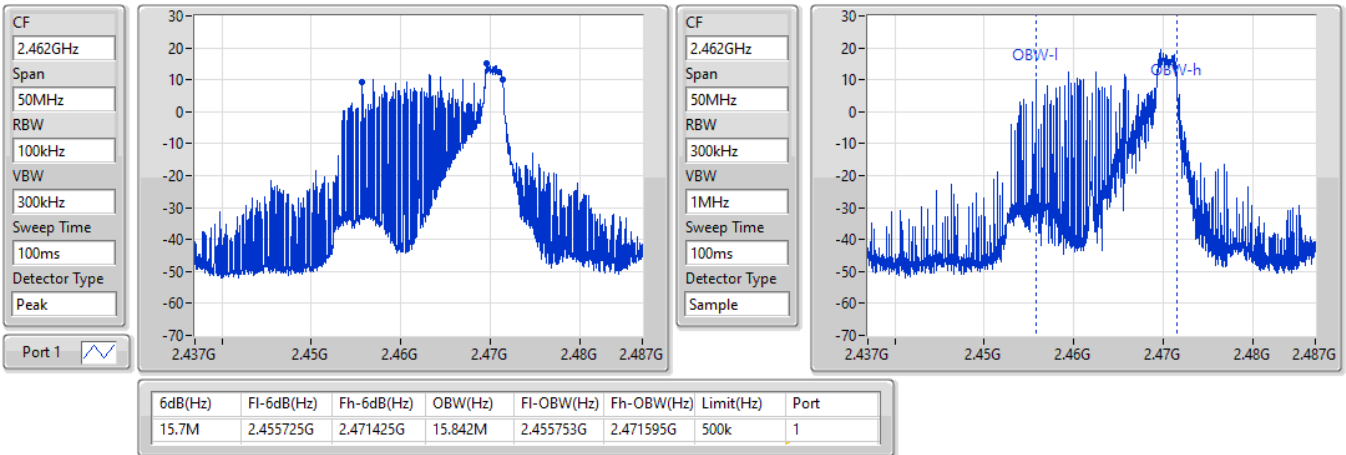


**802.11ax HEW20\_Nss1,(MCS0)\_1TX**

**EBW**

**2462MHz**

26/05/2022

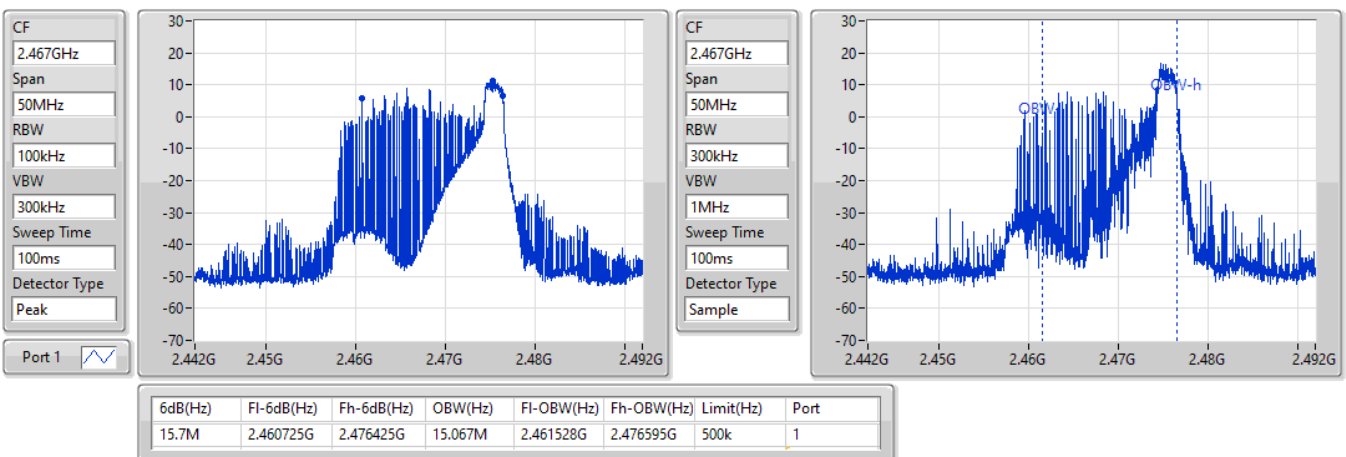


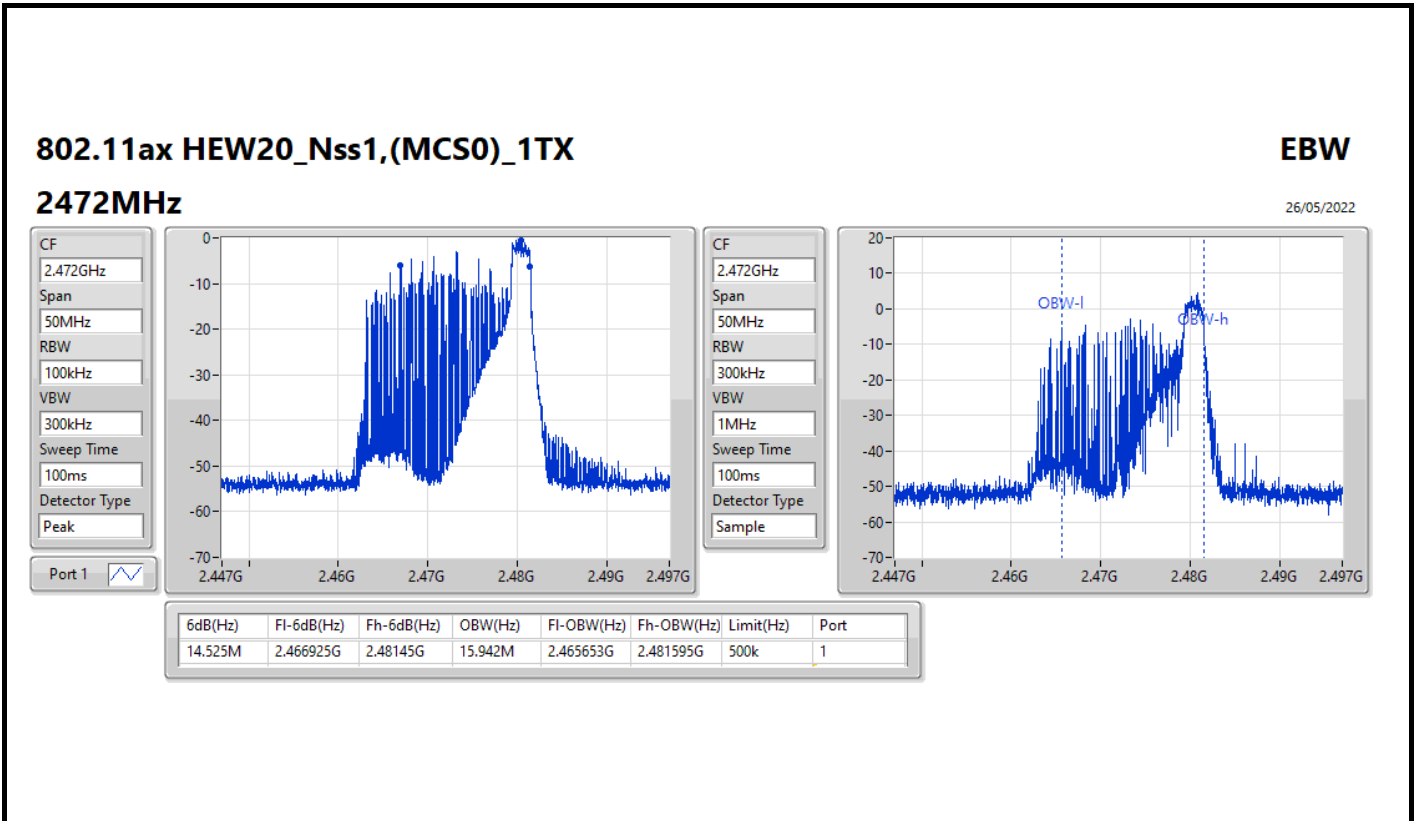
**802.11ax HEW20\_Nss1,(MCS0)\_1TX**

**EBW**

**2467MHz**

26/05/2022







**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_Nss1,(MCS0)_1TX	16.975M	17.841M	17M8D1D	15.7M	17.766M

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**

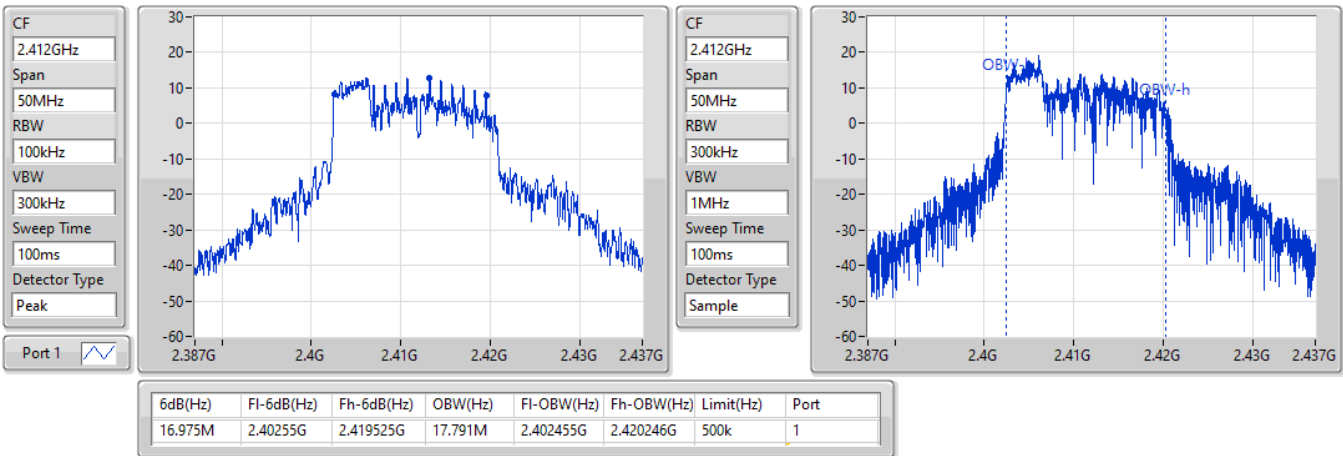
Mode	Result	Limit (Hz)	Port 1-N dB (Hz)	Port 1-OBW (Hz)
802.11ax HEW20_Nss1,(MCS0)_1TX	-	-	-	-
2412MHz	Pass	500k	16.975M	17.791M
2437MHz	Pass	500k	15.7M	17.841M
2462MHz	Pass	500k	15.7M	17.816M
2467MHz	Pass	500k	15.7M	17.766M
2472MHz	Pass	500k	15.7M	17.816M

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

**802.11ax HEW20\_Nss1,(MCS0)\_1TX**  
**2412MHz**

**EBW**

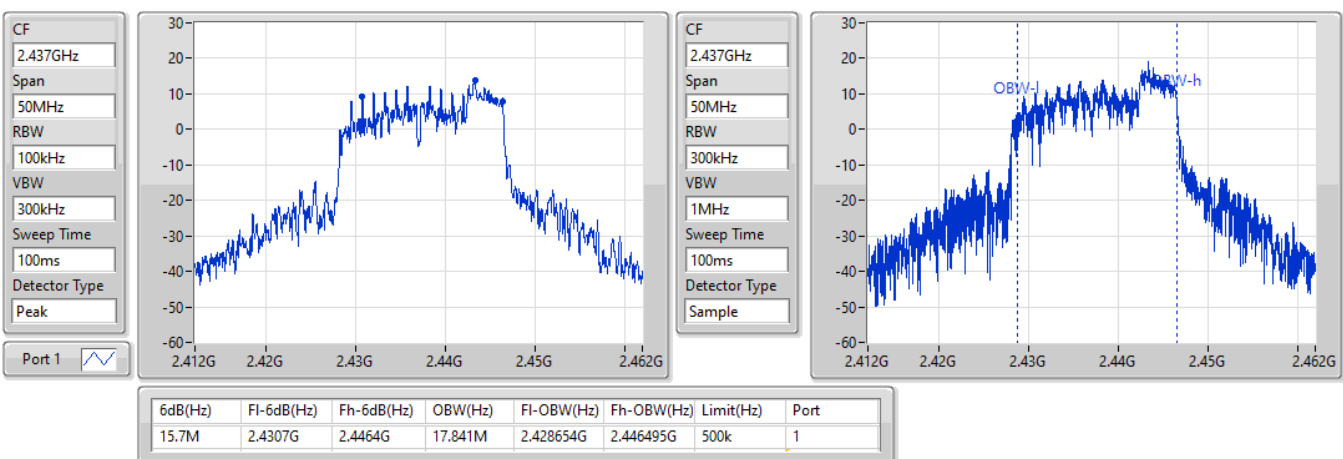
26/05/2022



**802.11ax HEW20\_Nss1,(MCS0)\_1TX**  
**2437MHz**

**EBW**

26/05/2022



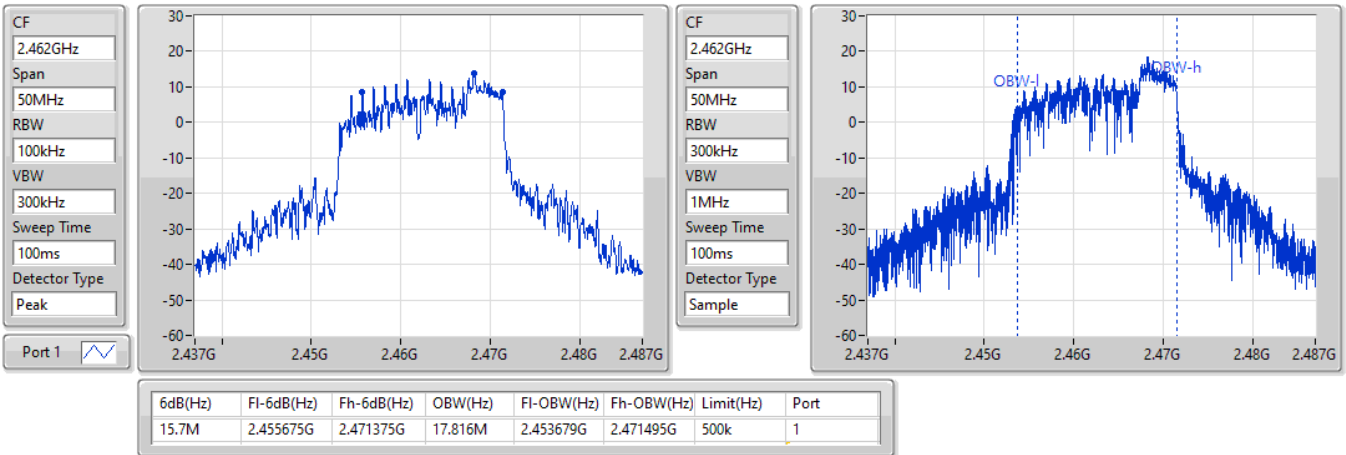


**802.11ax HEW20\_Nss1,(MCS0)\_1TX**

**EBW**

**2462MHz**

26/05/2022

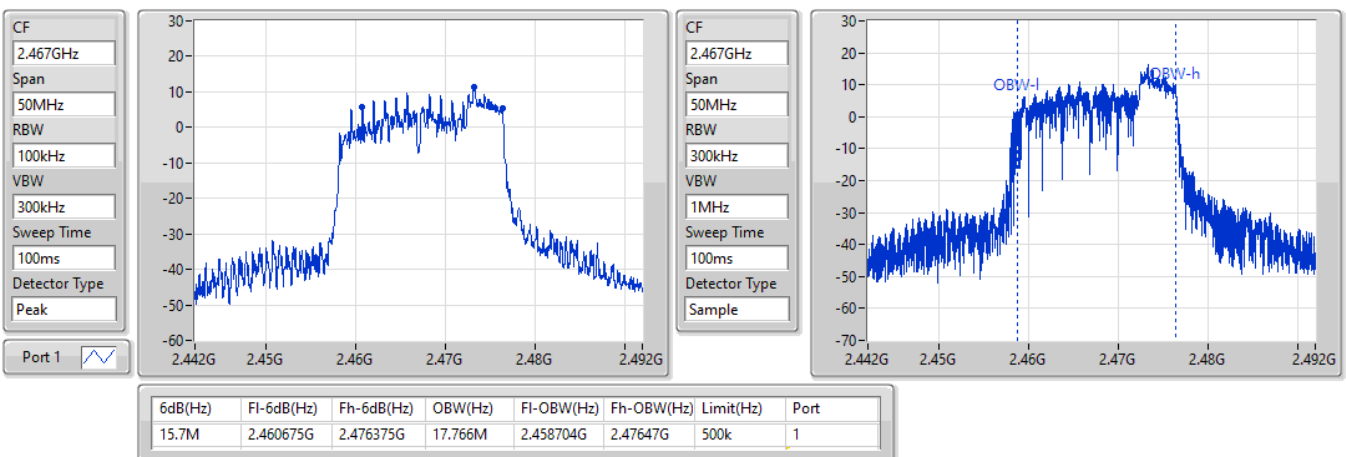


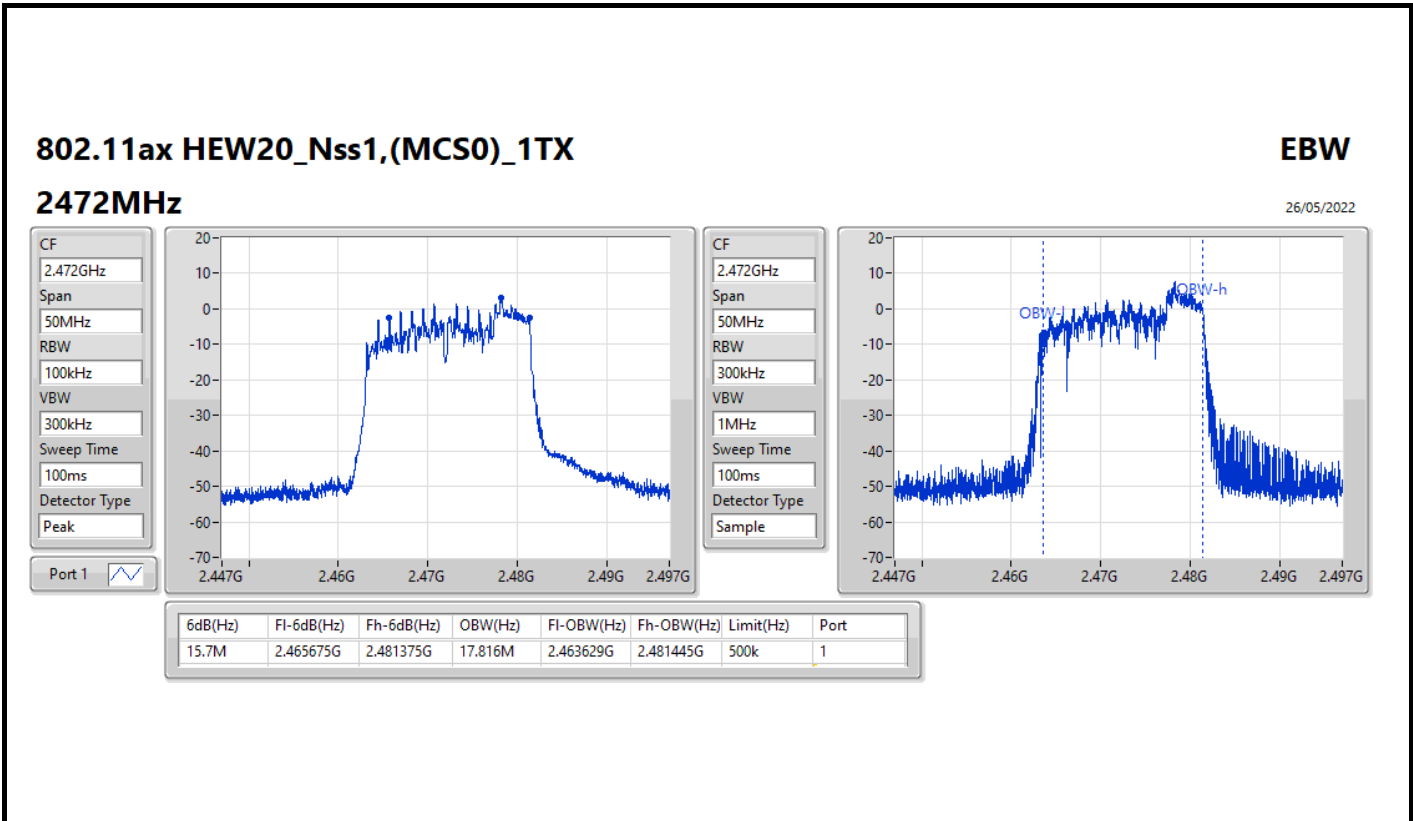
**802.11ax HEW20\_Nss1,(MCS0)\_1TX**

**EBW**

**2467MHz**

26/05/2022







**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_Nss1,(MCS0)_1TX	16.95M	17.891M	17M9D1D	15.05M	17.716M

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**

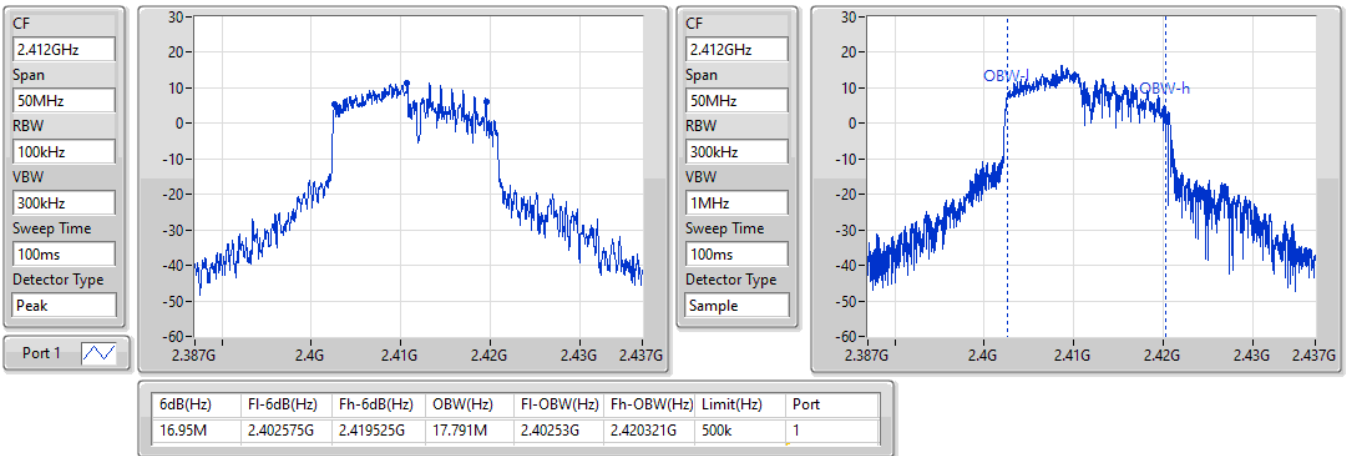
Mode	Result	Limit (Hz)	Port 1-N dB (Hz)	Port 1-OBW (Hz)
802.11ax HEW20_Nss1,(MCS0)_1TX	-	-	-	-
2412MHz	Pass	500k	16.95M	17.791M
2437MHz	Pass	500k	15.075M	17.891M
2462MHz	Pass	500k	15.05M	17.791M
2467MHz	Pass	500k	15.125M	17.716M
2472MHz	Pass	500k	15.15M	17.716M

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

**802.11ax HEW20\_Nss1,(MCS0)\_1TX**  
**2412MHz**

**EBW**

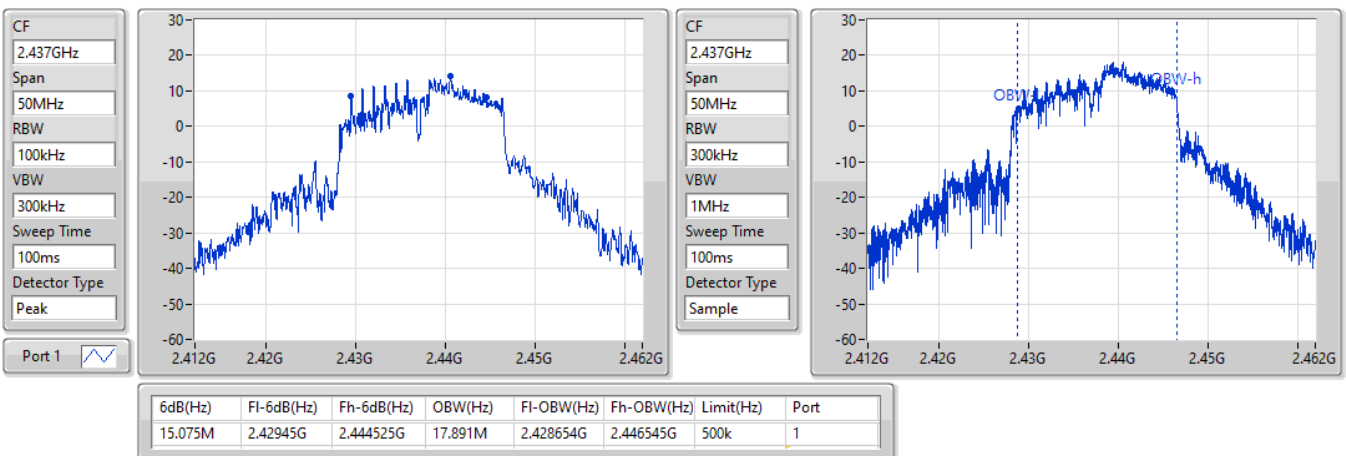
26/05/2022



**802.11ax HEW20\_Nss1,(MCS0)\_1TX**  
**2437MHz**

**EBW**

26/05/2022

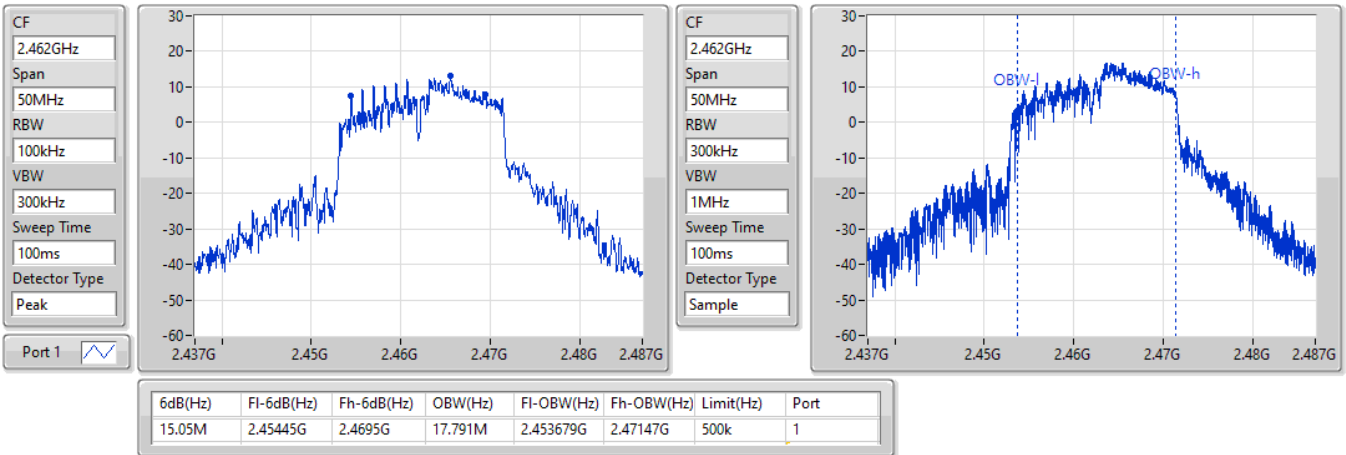


**802.11ax HEW20\_Nss1,(MCS0)\_1TX**

**EBW**

**2462MHz**

26/05/2022

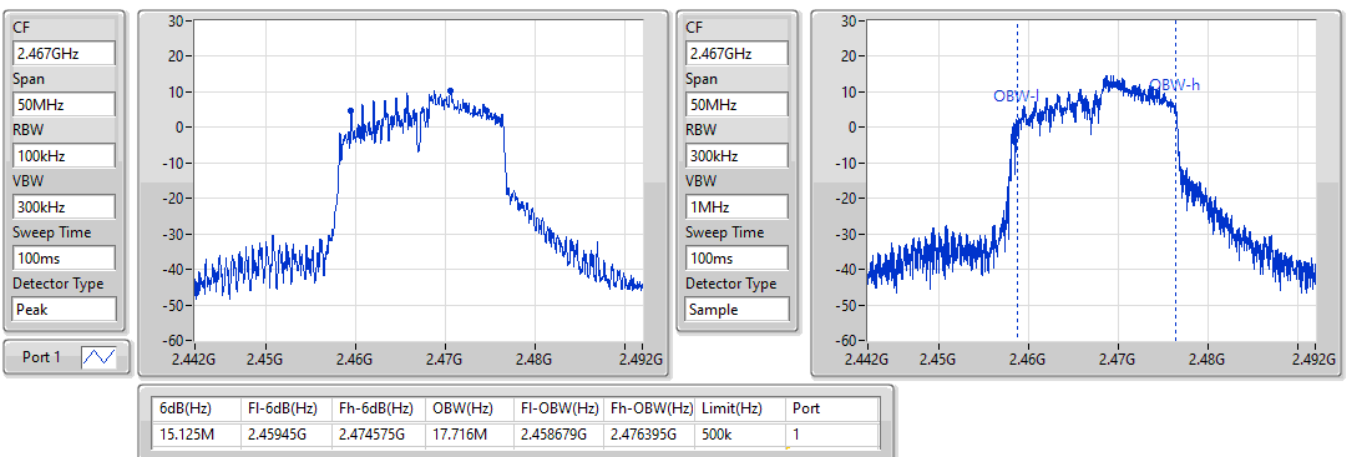


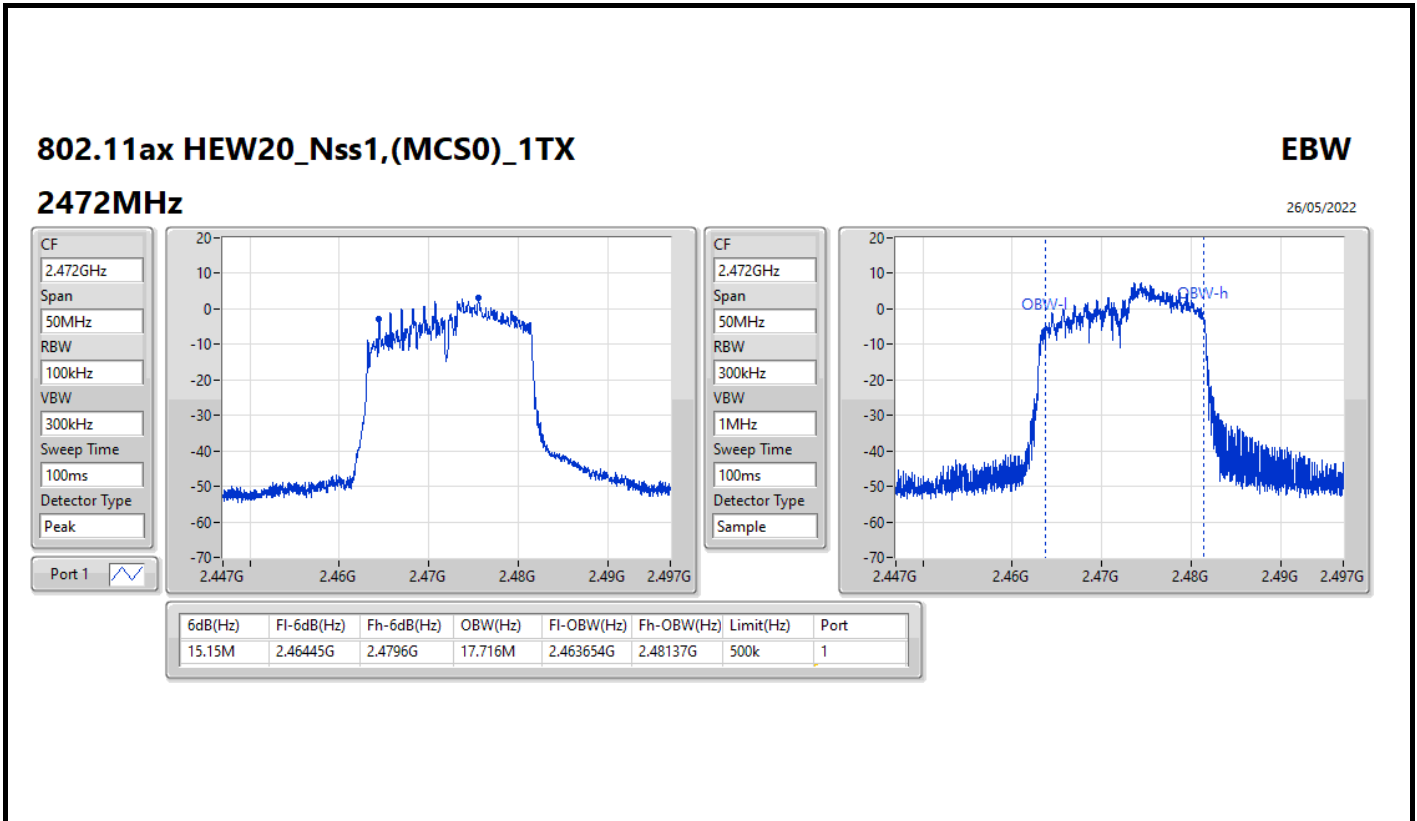
**802.11ax HEW20\_Nss1,(MCS0)\_1TX**

**EBW**

**2467MHz**

26/05/2022







**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_Nss1,(MCS0)_1TX	15.725M	17.241M	17M2D1D	14.425M	16.392M

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**

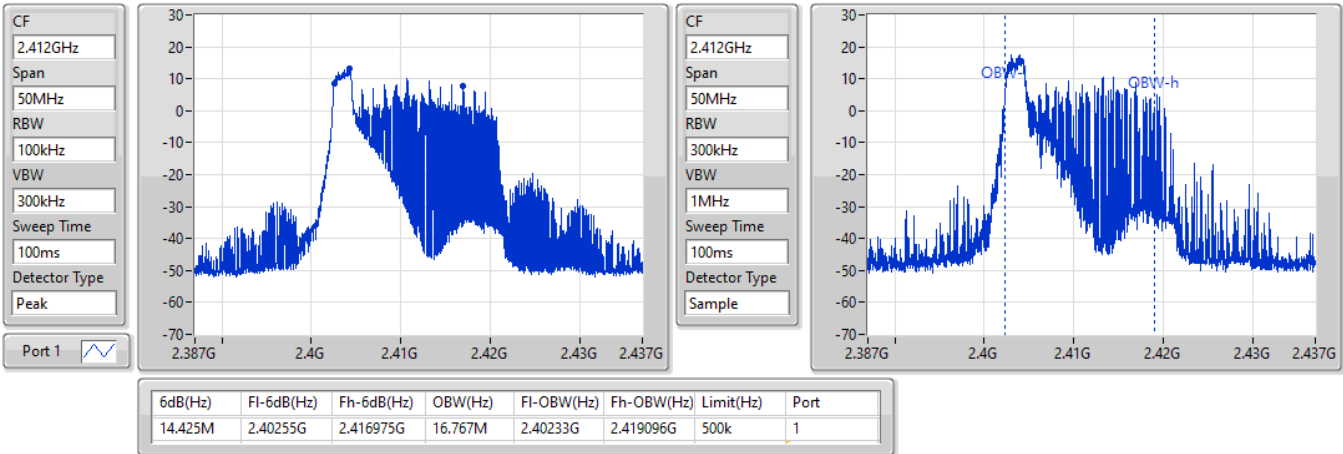
Mode	Result	Limit (Hz)	Port 1-N dB (Hz)	Port 1-OBW (Hz)
802.11ax HEW20_Nss1,(MCS0)_1TX	-	-	-	-
2412MHz	Pass	500k	14.425M	16.767M
2437MHz	Pass	500k	15.725M	16.392M
2462MHz	Pass	500k	14.5M	17.016M
2467MHz	Pass	500k	14.5M	17.091M
2472MHz	Pass	500k	15.725M	17.241M

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

**802.11ax HEW20\_Nss1,(MCS0)\_1TX**  
**2412MHz**

**EBW**

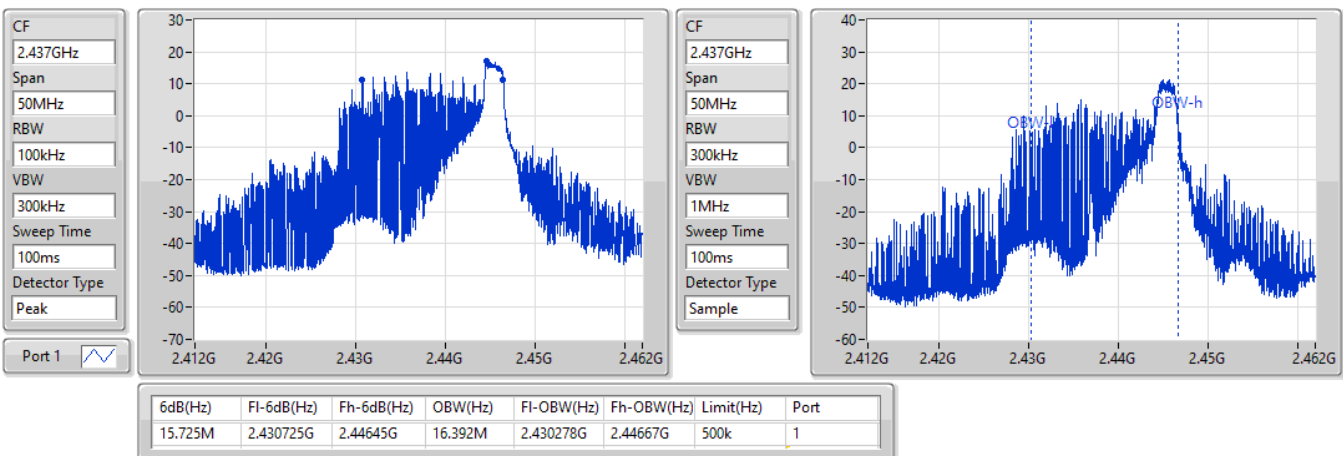
21/05/2022



**802.11ax HEW20\_Nss1,(MCS0)\_1TX**  
**2437MHz**

**EBW**

21/05/2022

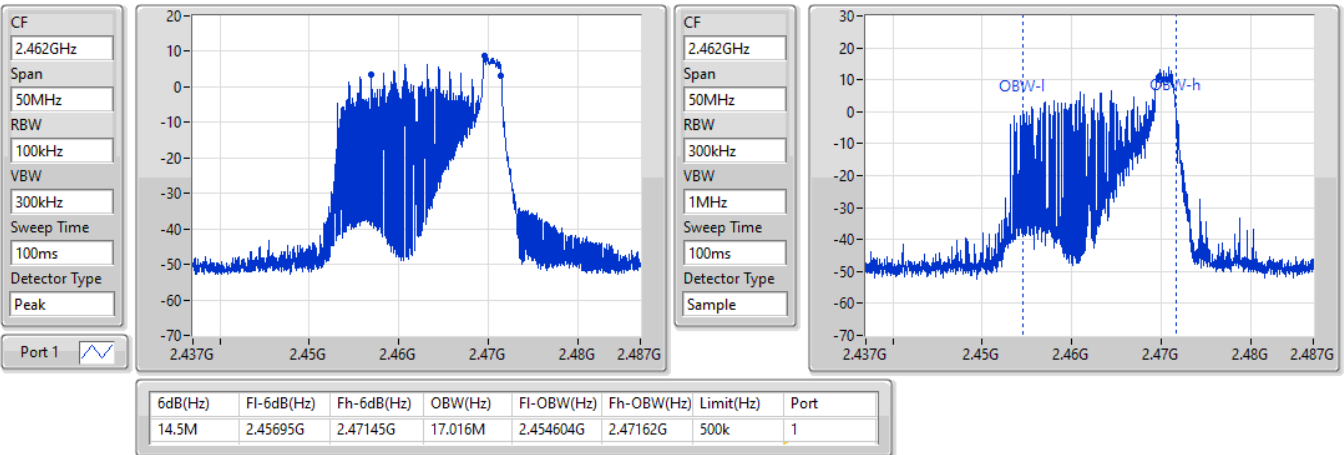


**802.11ax HEW20\_Nss1,(MCS0)\_1TX**

**EBW**

**2462MHz**

21/05/2022

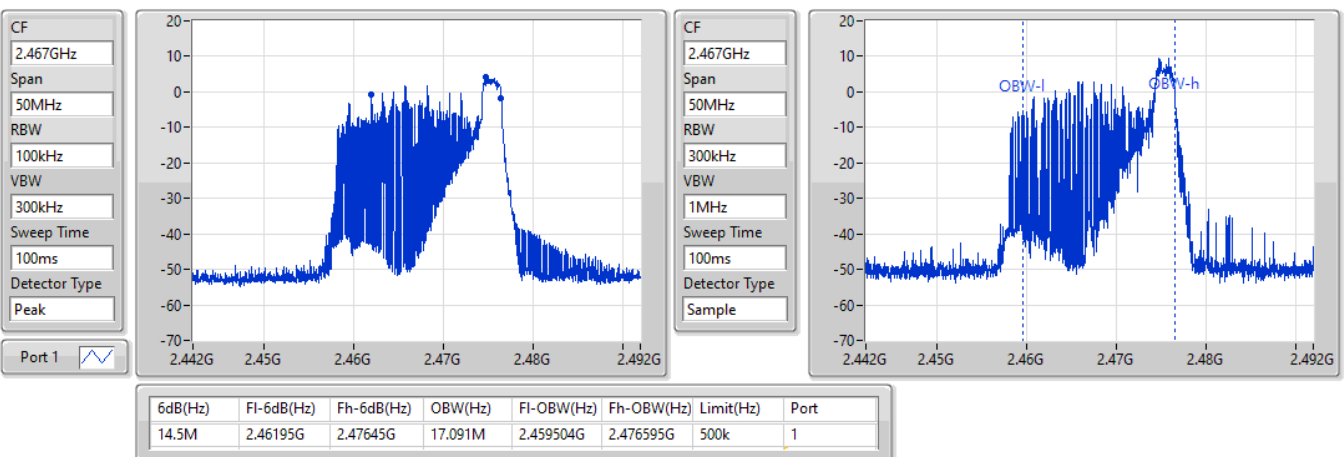


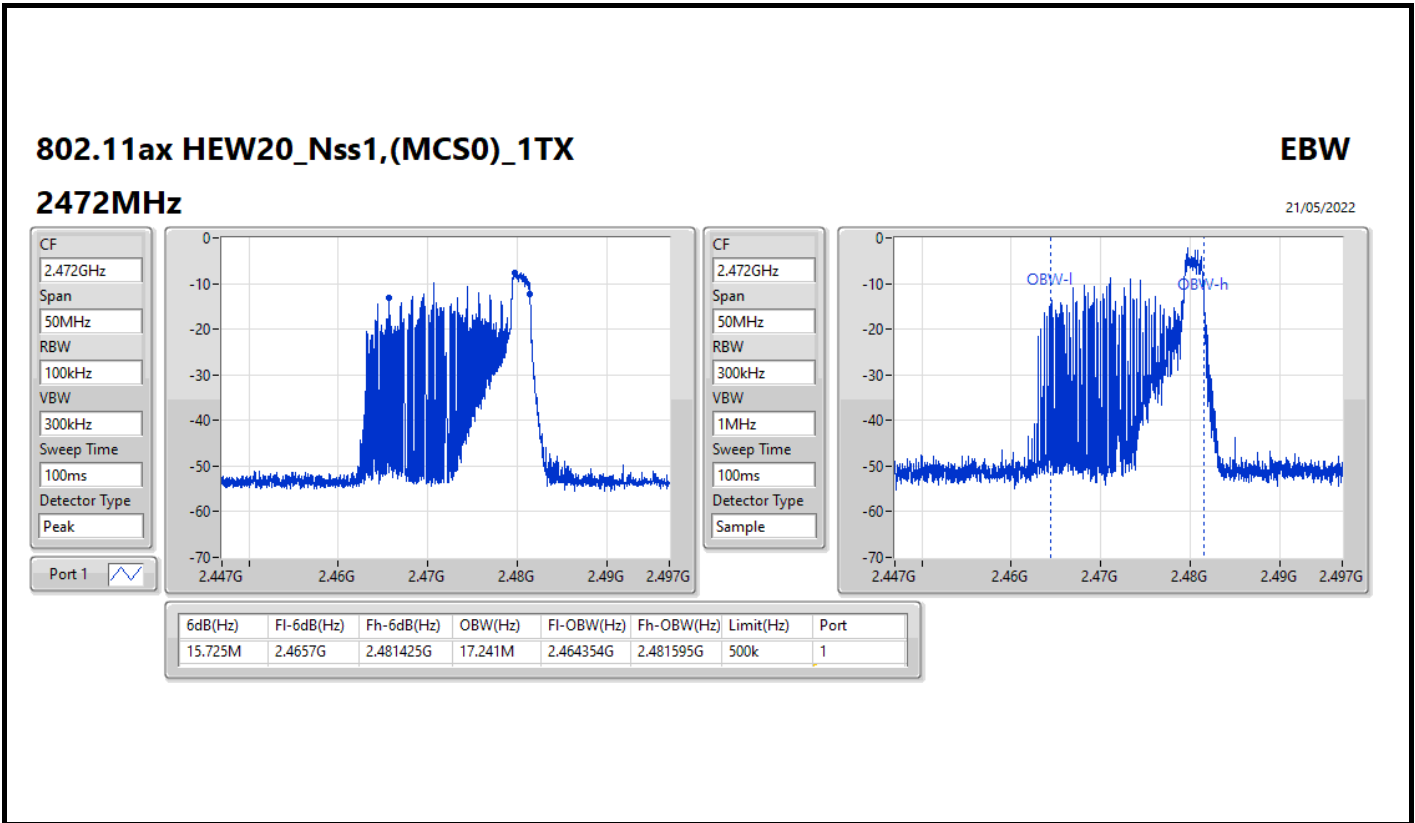
**802.11ax HEW20\_Nss1,(MCS0)\_1TX**

**EBW**

**2467MHz**

21/05/2022







**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_Nss1,(MCS0)_1TX	17M	17.941M	17M9D1D	15.675M	17.816M

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



**Result1**

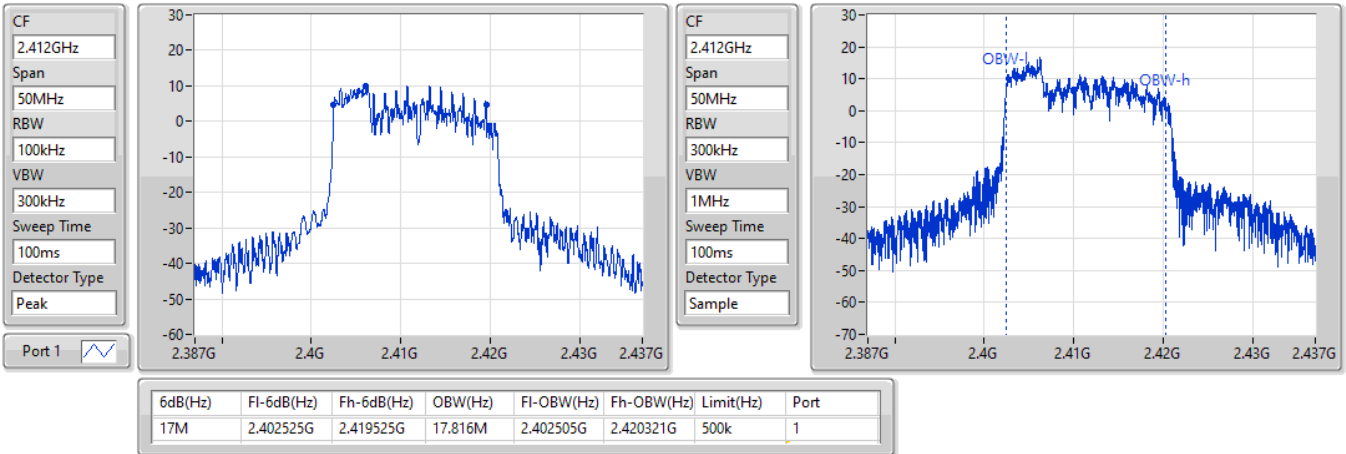
Mode	Result	Limit (Hz)	Port1 -N dB (Hz)	Port 1-OBW (Hz)
802.11ax HEW20_Nss1,(MCS0)_1TX	-	-	-	-
2412MHz	Pass	500k	17M	17.816M
2437MHz	Pass	500k	15.7M	17.941M
2462MHz	Pass	500k	15.675M	17.866M
2467MHz	Pass	500k	15.7M	17.816M
2472MHz	Pass	500k	15.7M	17.841M

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

**802.11ax HEW20\_Nss1,(MCS0)\_1TX**  
**2412MHz**

**EBW**

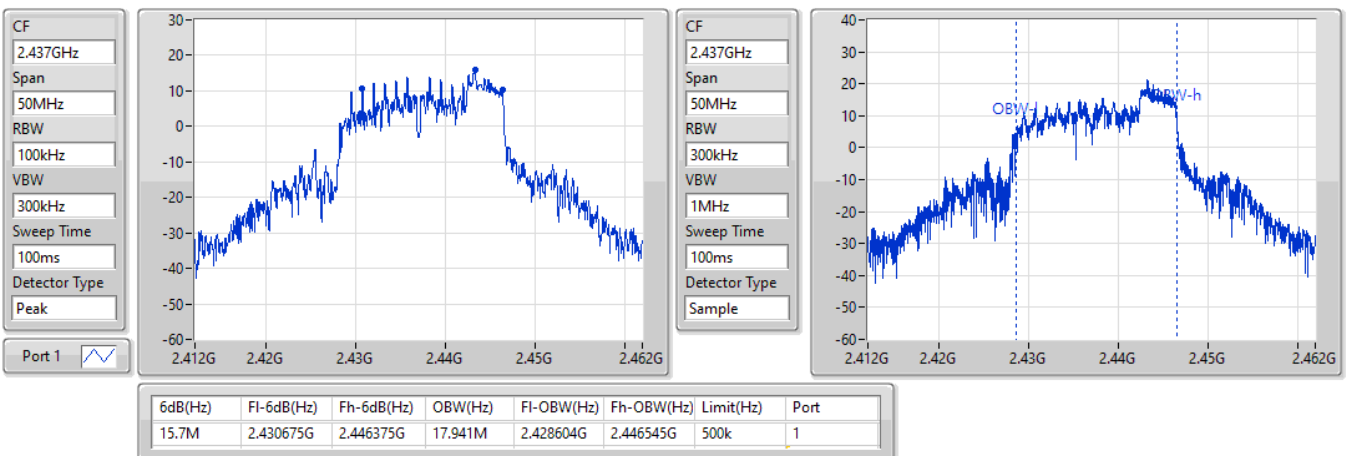
21/05/2022



**802.11ax HEW20\_Nss1,(MCS0)\_1TX**  
**2437MHz**

**EBW**

21/05/2022

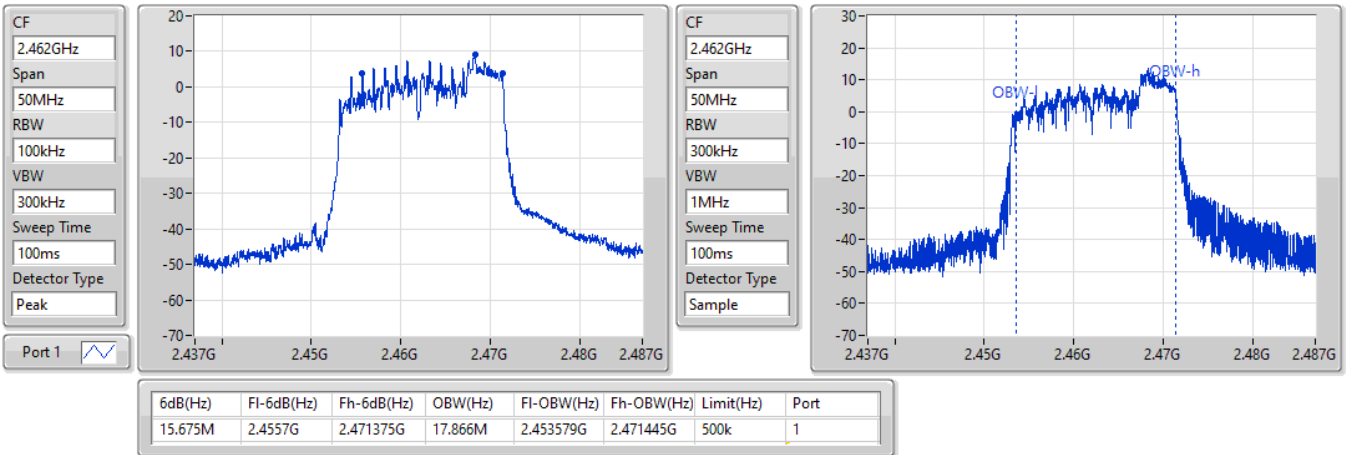


**802.11ax HEW20\_Nss1,(MCS0)\_1TX**

**EBW**

**2462MHz**

21/05/2022

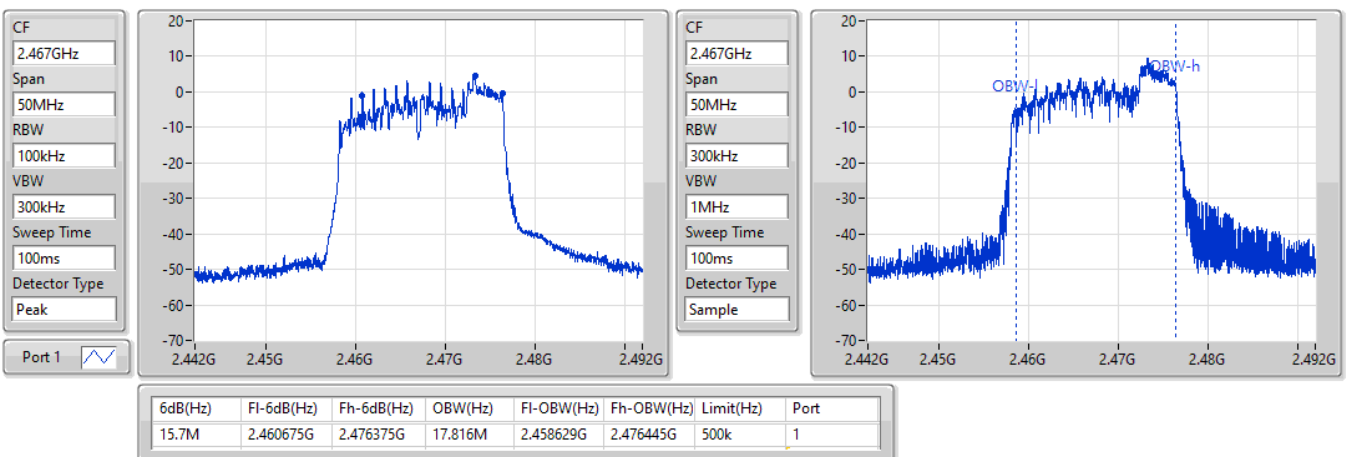


**802.11ax HEW20\_Nss1,(MCS0)\_1TX**

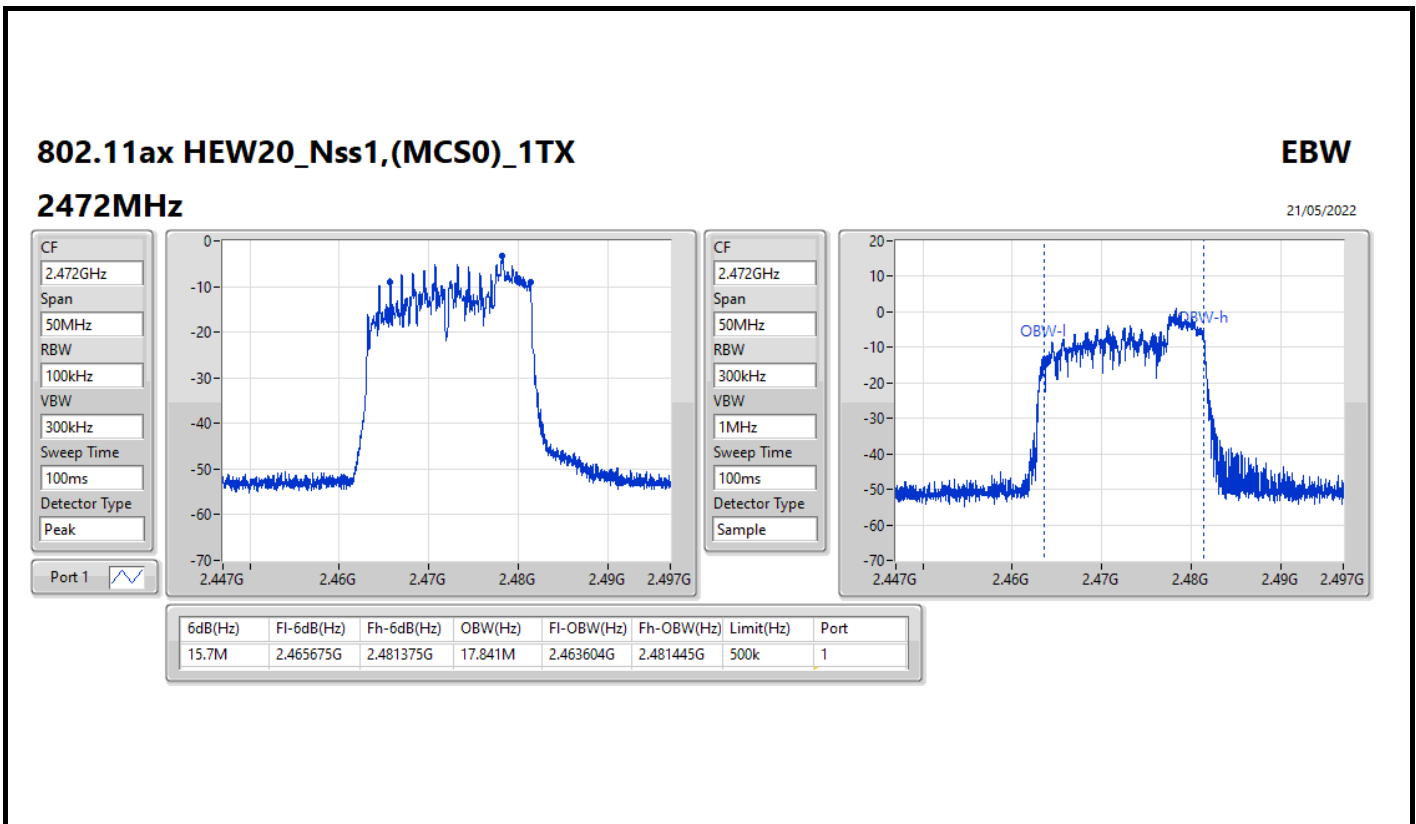
**EBW**

**2467MHz**

21/05/2022









**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_Nss1,(MCS0)_1TX	16.9M	18.016M	18M0D1D	15.15M	17.641M

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**

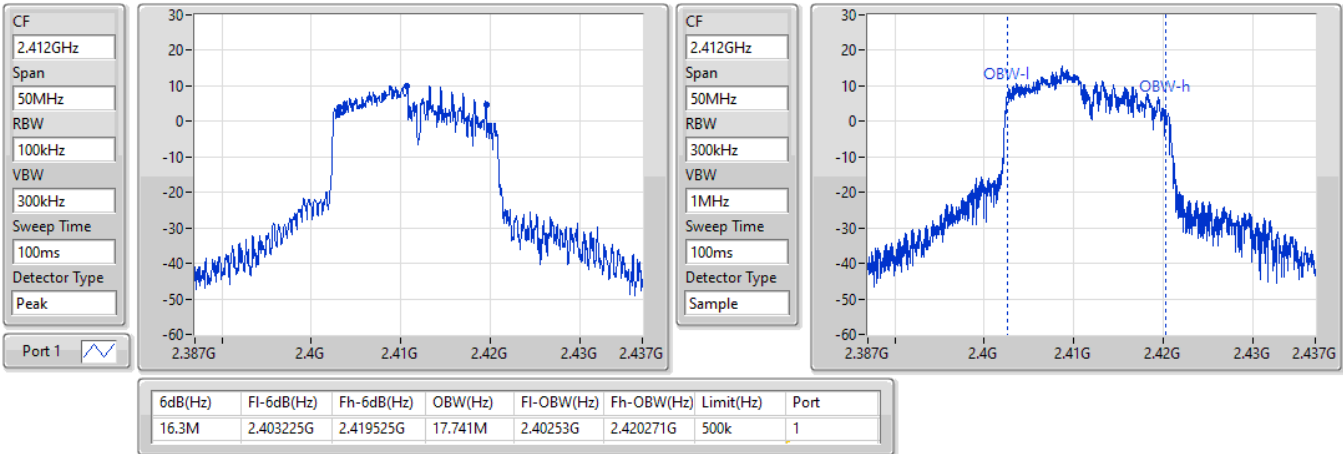
Mode	Result	Limit (Hz)	Port 1-N dB (Hz)	Port 1-OBW (Hz)
802.11ax HEW20_Nss1,(MCS0)_1TX	-	-	-	-
2412MHz	Pass	500k	16.3M	17.741M
2437MHz	Pass	500k	16.9M	18.016M
2462MHz	Pass	500k	15.15M	17.766M
2467MHz	Pass	500k	15.15M	17.641M
2472MHz	Pass	500k	15.15M	17.691M

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

**802.11ax HEW20\_Nss1,(MCS0)\_1TX**  
**2412MHz**

**EBW**

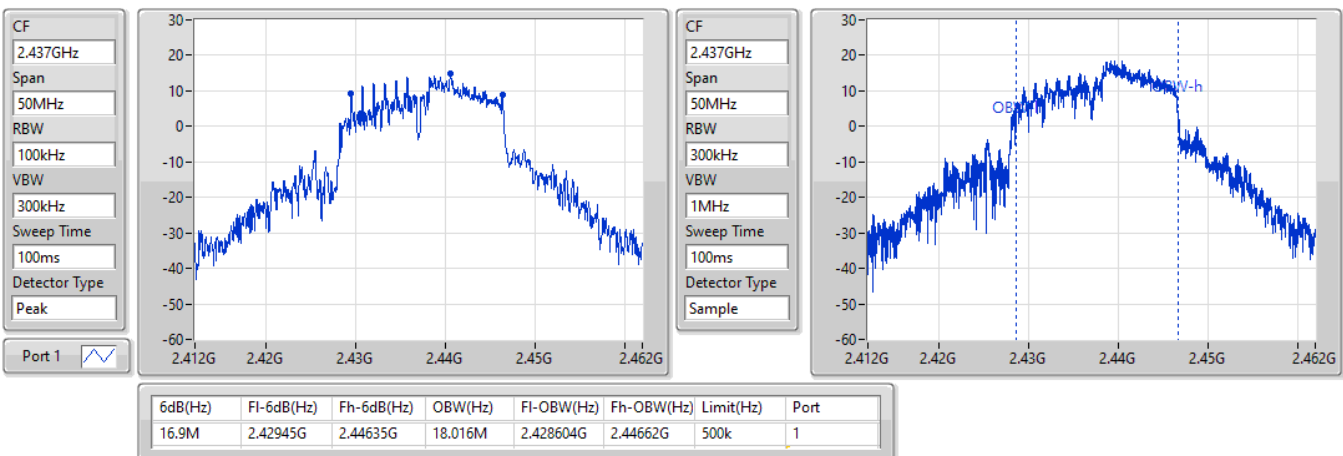
21/05/2022



**802.11ax HEW20\_Nss1,(MCS0)\_1TX**  
**2437MHz**

**EBW**

21/05/2022

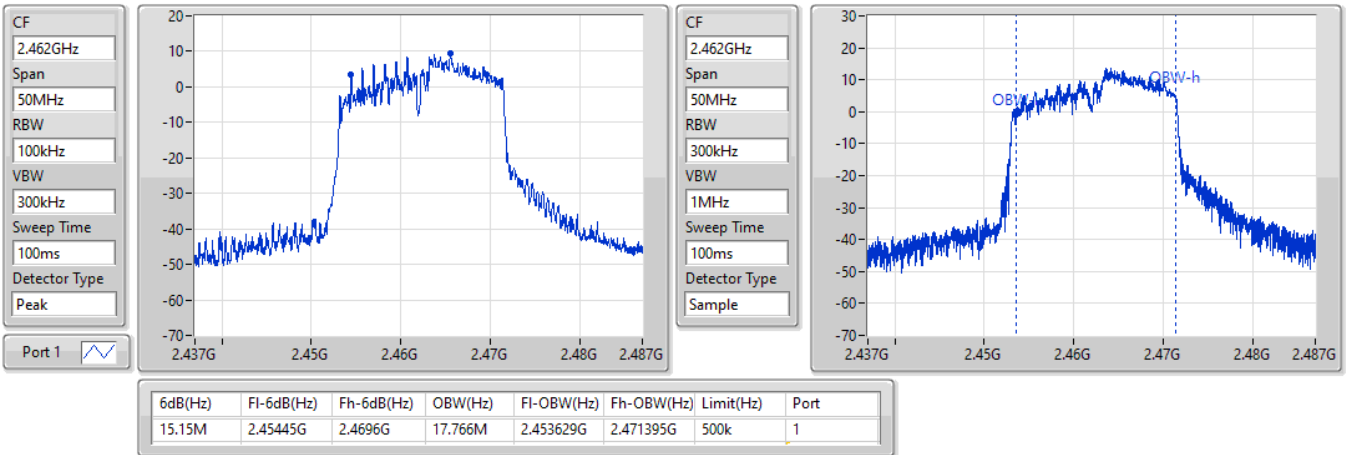


**802.11ax HEW20\_Nss1,(MCS0)\_1TX**

**EBW**

**2462MHz**

21/05/2022

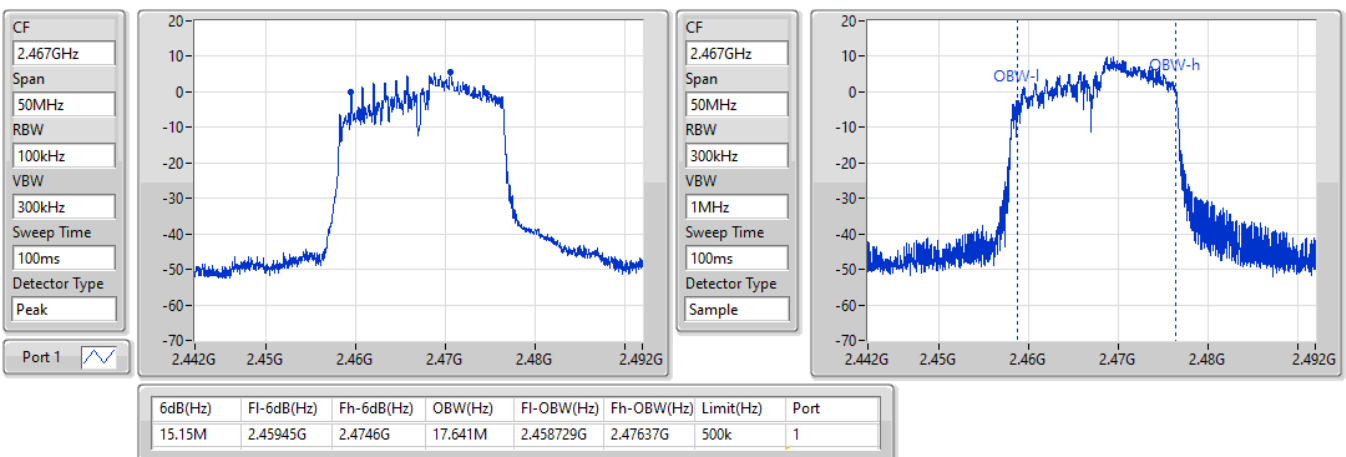


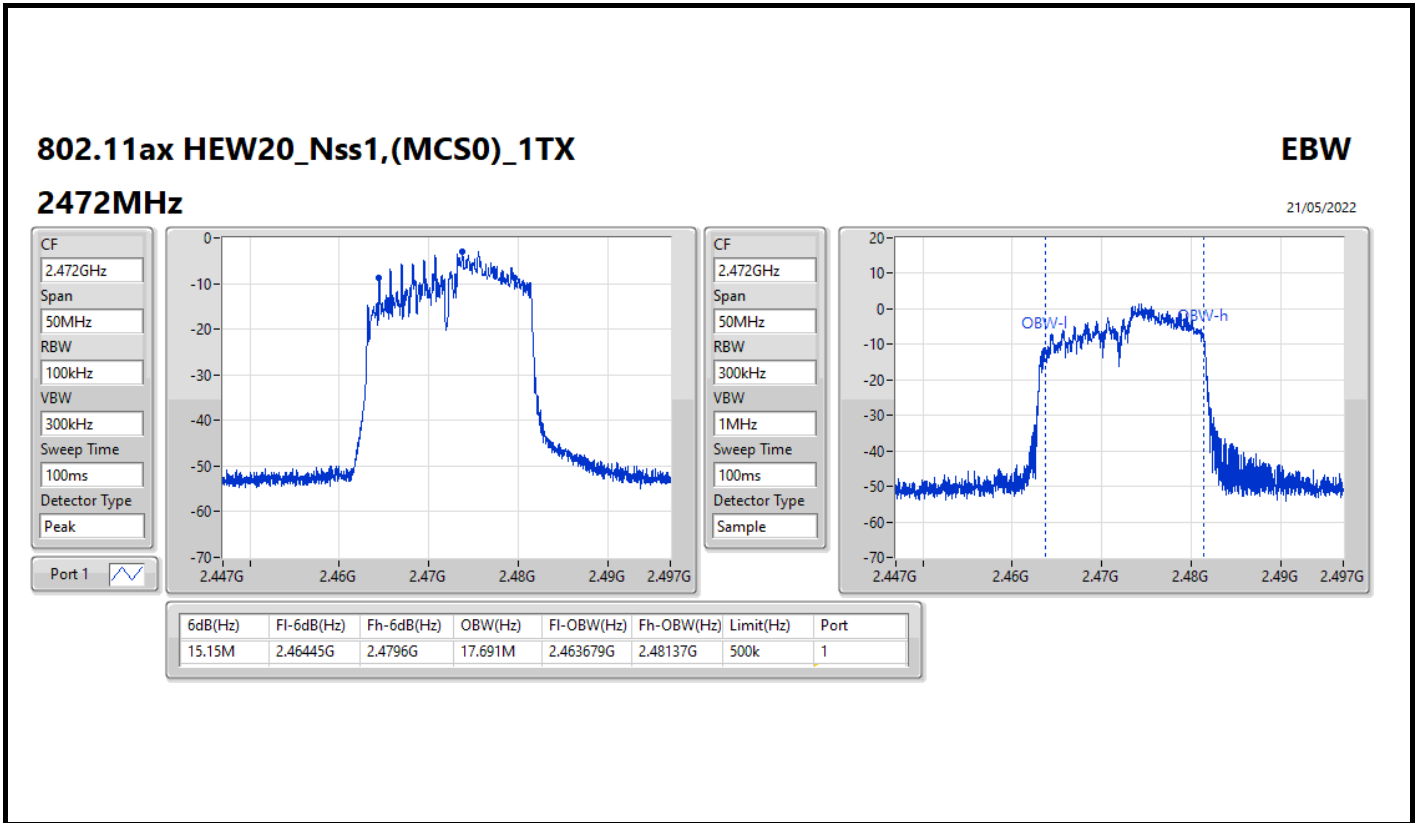
**802.11ax HEW20\_Nss1,(MCS0)\_1TX**

**EBW**

**2467MHz**

21/05/2022







**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_Nss1,(MCS0)_2TX	15.725M	17.391M	17M4D1D	13.2M	16.067M

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_Nss1,(MCS0)_2TX	-	-	-	-	-	-
2412MHz	Pass	500k	14.45M	17.141M	14.45M	17.391M
2437MHz	Pass	500k	15.725M	17.141M	15.725M	16.992M
2462MHz	Pass	500k	13.2M	17.016M	15.725M	17.191M
2467MHz	Pass	500k	14.475M	17.041M	15.725M	17.241M
2472MHz	Pass	500k	14.475M	16.067M	14.45M	17.041M

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

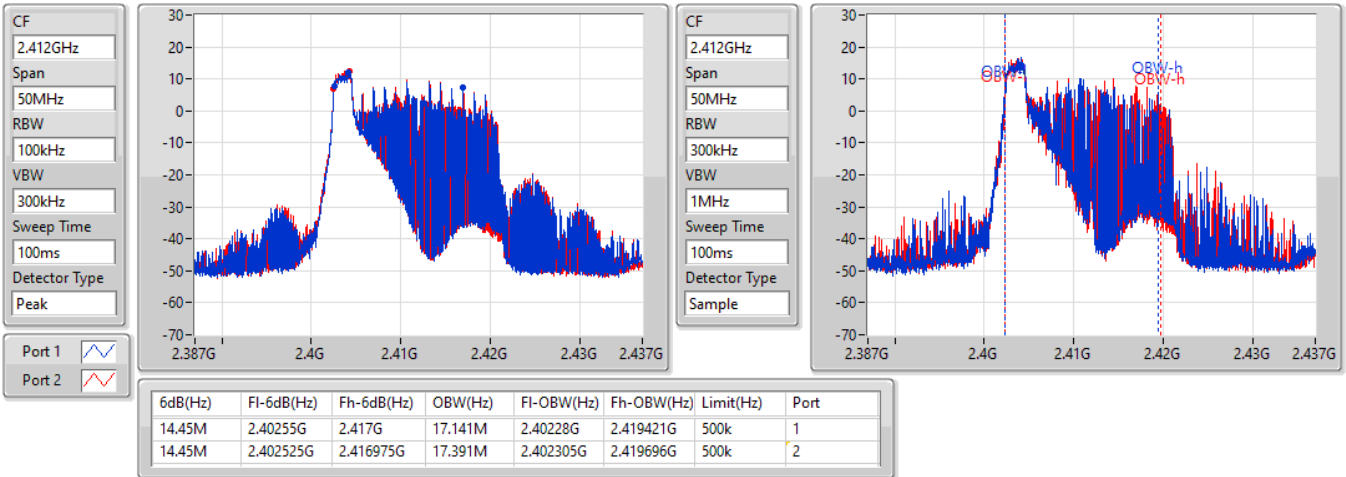


**802.11ax HEW20\_Nss1,(MCS0)\_2TX**

**EBW**

**2412MHz**

19/05/2022

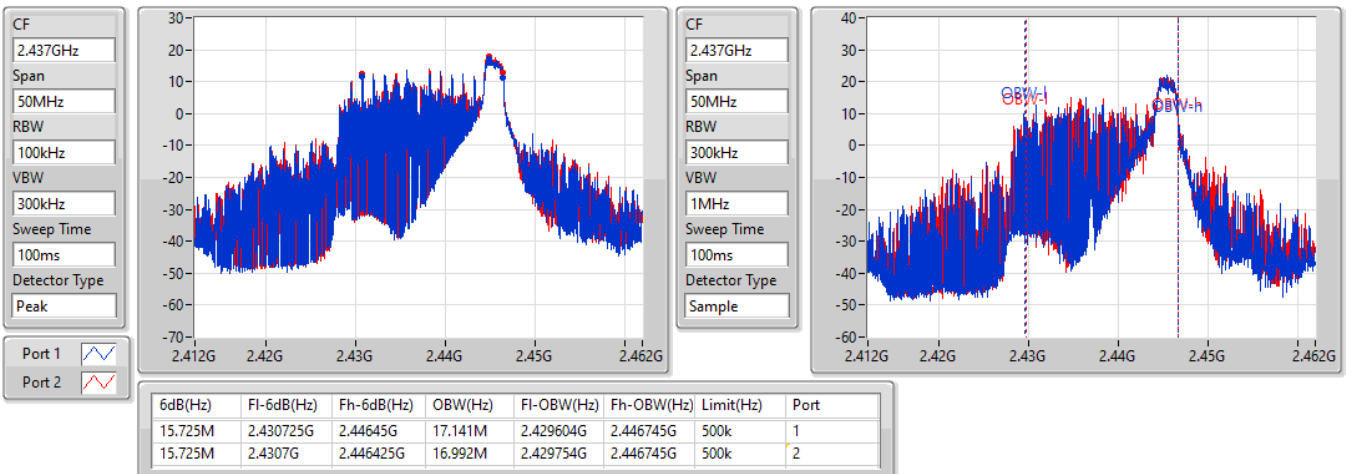


**802.11ax HEW20\_Nss1,(MCS0)\_2TX**

**EBW**

**2437MHz**

19/05/2022

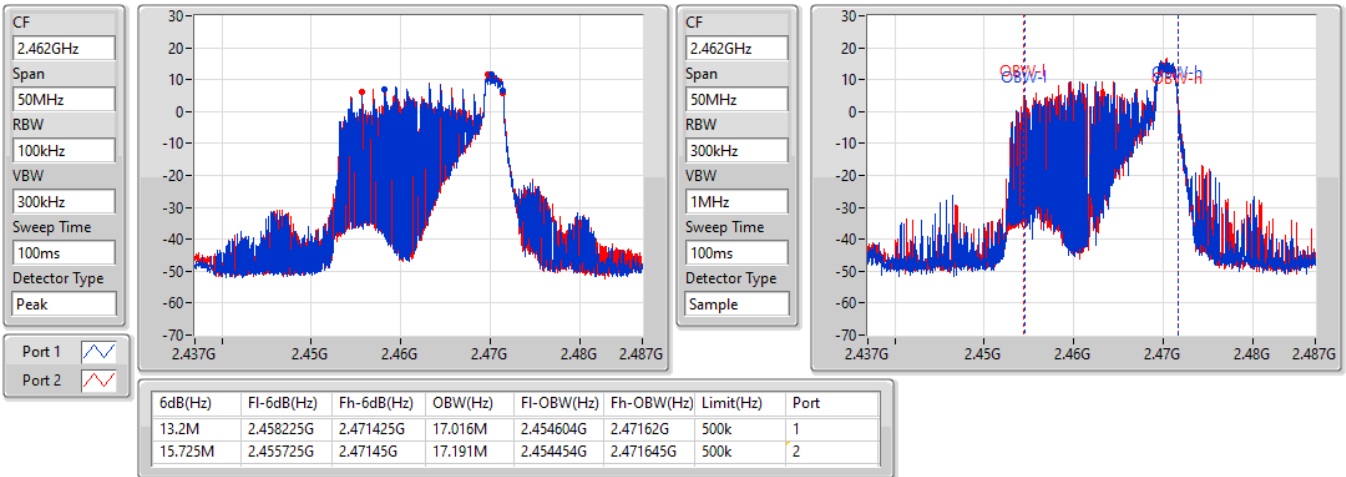


**802.11ax HEW20\_Nss1,(MCS0)\_2TX**

**EBW**

**2462MHz**

19/05/2022

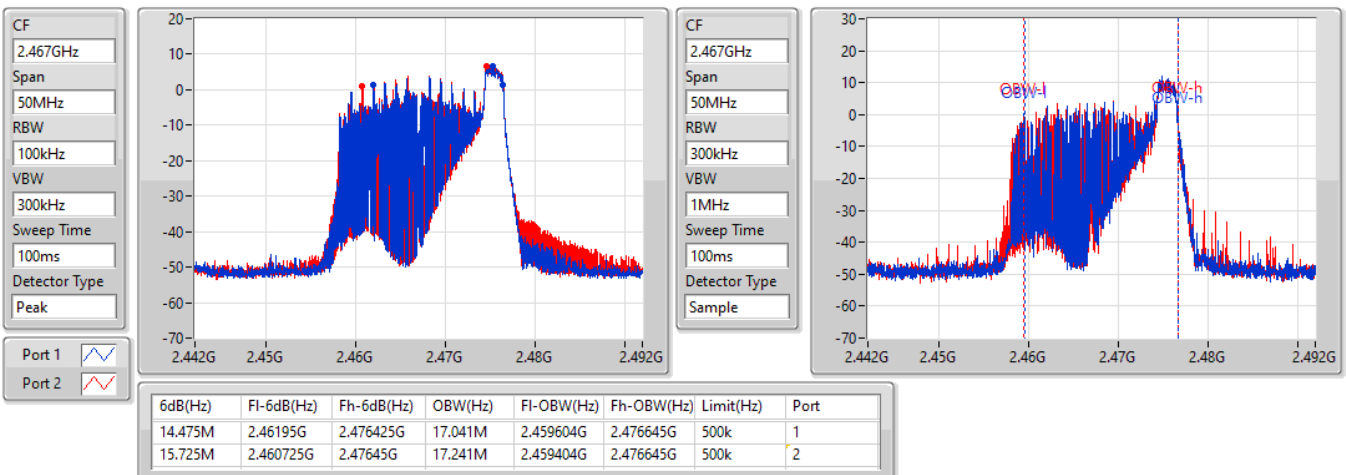


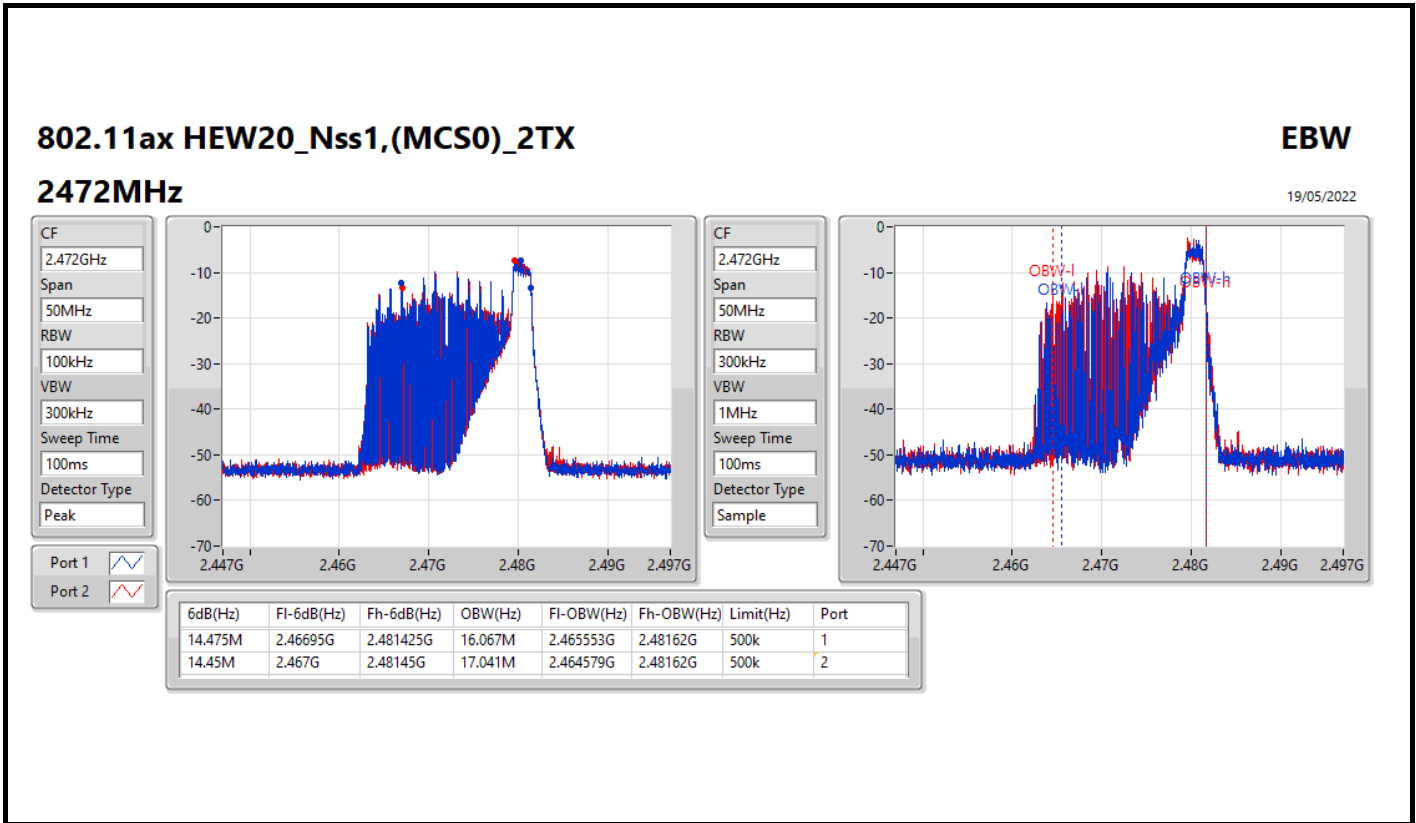
**802.11ax HEW20\_Nss1,(MCS0)\_2TX**

**EBW**

**2467MHz**

19/05/2022







**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_Nss1,(MCS0)_2TX	17M	18.241M	18M2D1D	15.7M	17.716M

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_Nss1,(MCS0)_2TX	-	-	-	-	-	-
2412MHz	Pass	500k	17M	17.716M	17M	17.766M
2437MHz	Pass	500k	16.925M	18.241M	16.9M	18.141M
2462MHz	Pass	500k	16.95M	17.841M	15.7M	17.866M
2467MHz	Pass	500k	16.95M	17.866M	15.7M	17.891M
2472MHz	Pass	500k	16.925M	17.816M	15.7M	17.816M

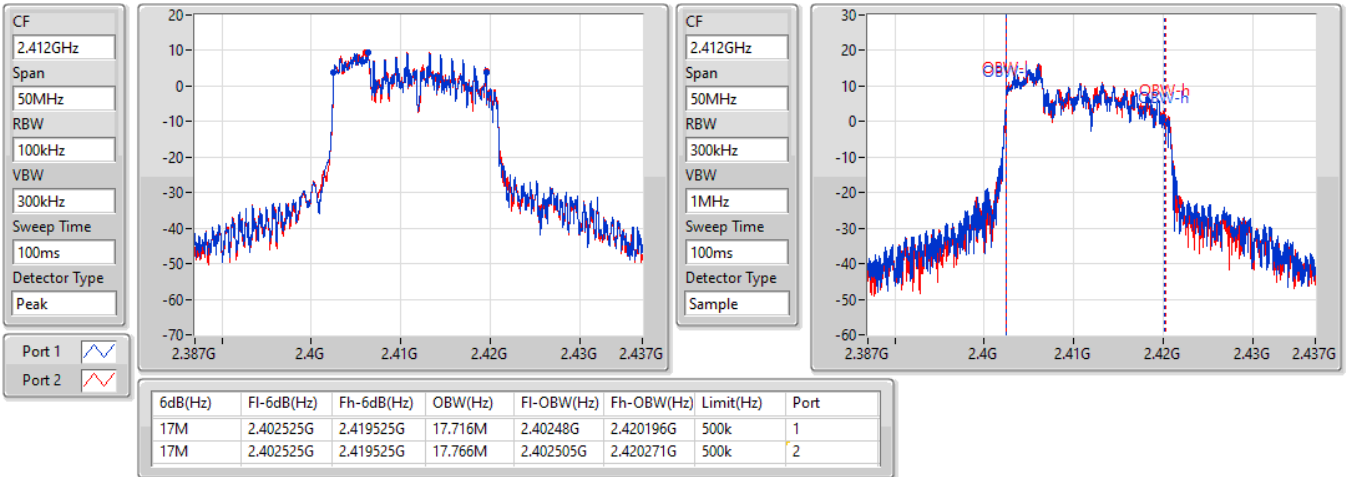
Port X-N dB = Port X 6dB down bandwidth;  
Port X-OBW = Port X 99% occupied bandwidth

**802.11ax HEW20\_Nss1,(MCS0)\_2TX**

**EBW**

**2412MHz**

19/05/2022

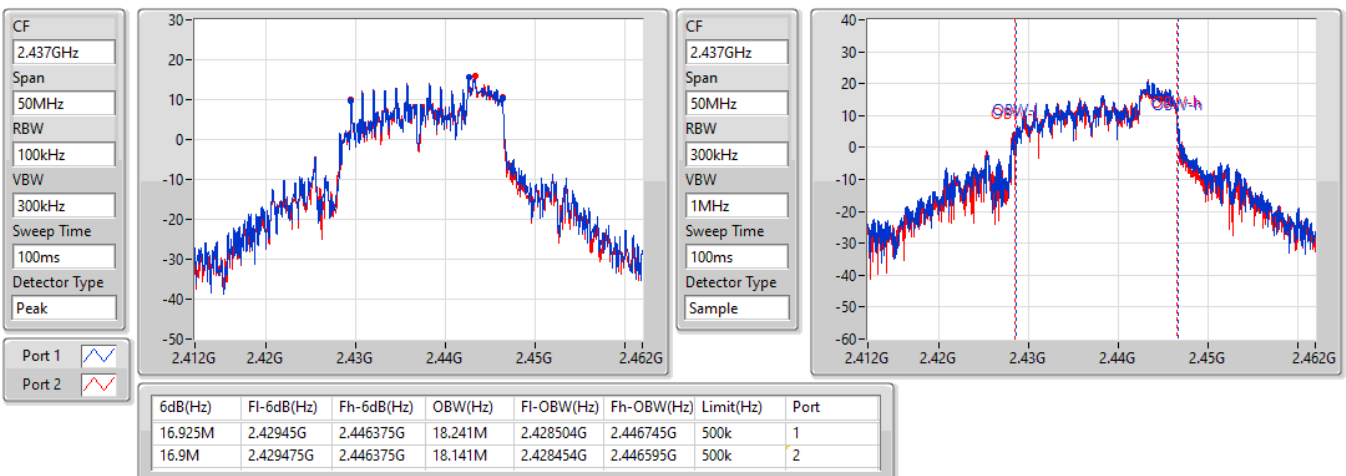


**802.11ax HEW20\_Nss1,(MCS0)\_2TX**

**EBW**

**2437MHz**

19/05/2022

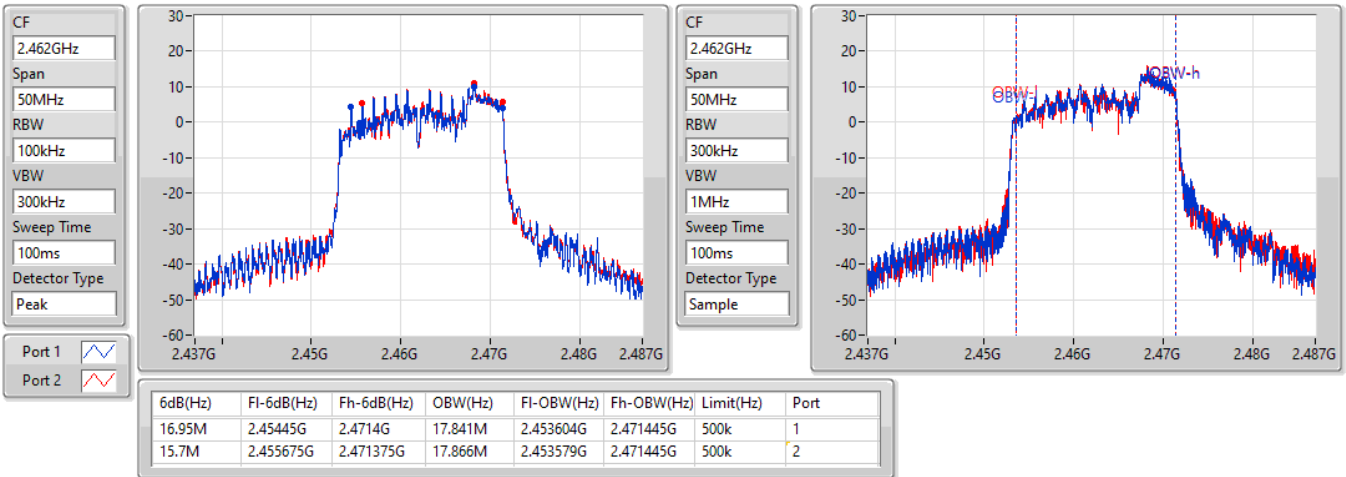


**802.11ax HEW20\_Nss1,(MCS0)\_2TX**

**EBW**

**2462MHz**

19/05/2022

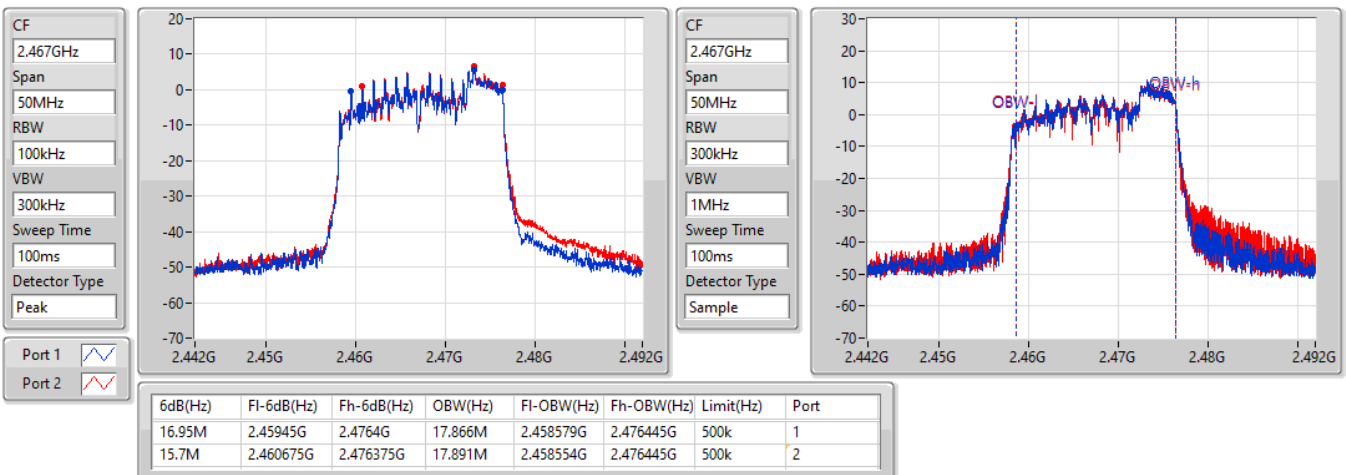


**802.11ax HEW20\_Nss1,(MCS0)\_2TX**

**EBW**

**2467MHz**

19/05/2022

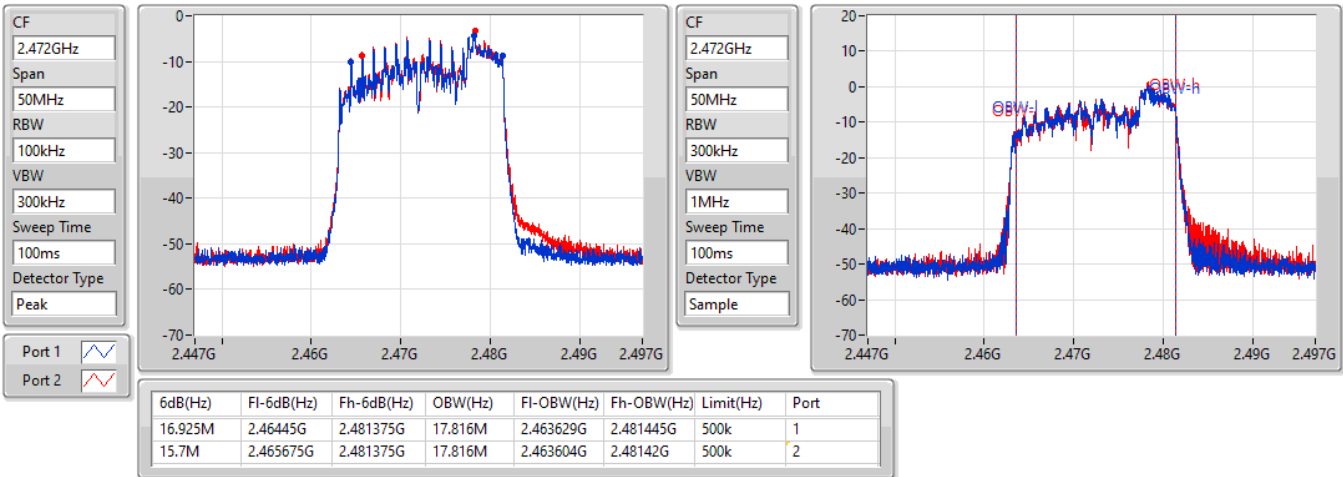


802.11ax HEW20\_Nss1,(MCS0)\_2TX

EBW

2472MHz

19/05/2022







**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_Nss1,(MCS0)_2TX	16.95M	18.166M	18M2D1D	15.075M	17.641M

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_Nss1,(MCS0)_2TX	-	-	-	-	-	-
2412MHz	Pass	500k	15.925M	17.641M	16.275M	17.766M
2437MHz	Pass	500k	16.95M	18.166M	16.9M	18.091M
2462MHz	Pass	500k	16.9M	17.741M	15.075M	17.766M
2467MHz	Pass	500k	16.6M	17.741M	15.15M	17.766M
2472MHz	Pass	500k	16.625M	17.716M	15.1M	17.741M

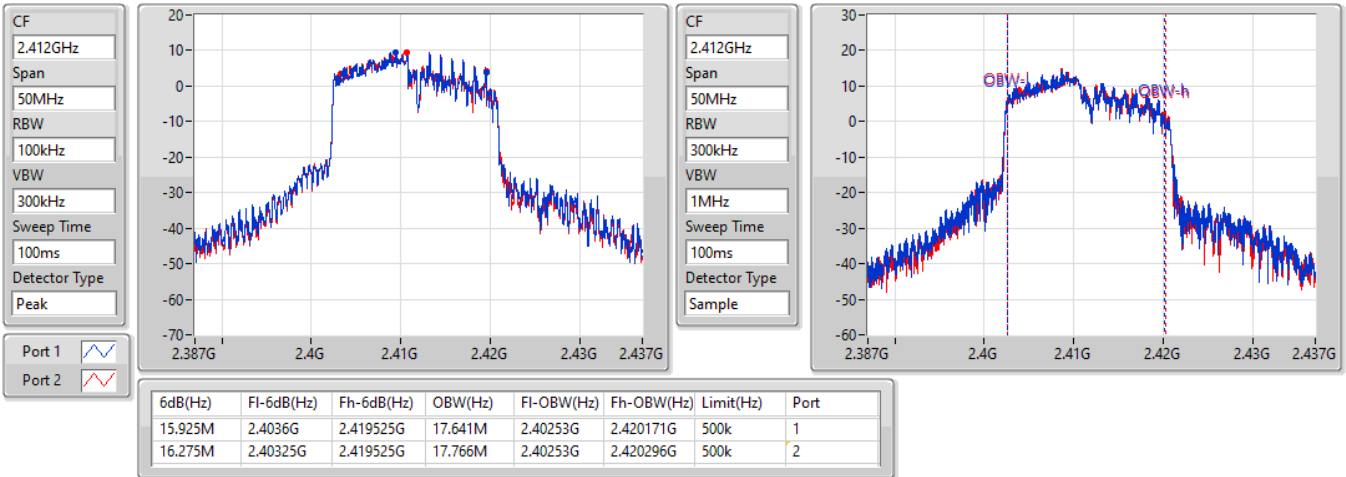
Port X-N dB = Port X 6dB down bandwidth;  
Port X-OBW = Port X 99% occupied bandwidth

**802.11ax HEW20\_Nss1,(MCS0)\_2TX**

**EBW**

**2412MHz**

19/05/2022

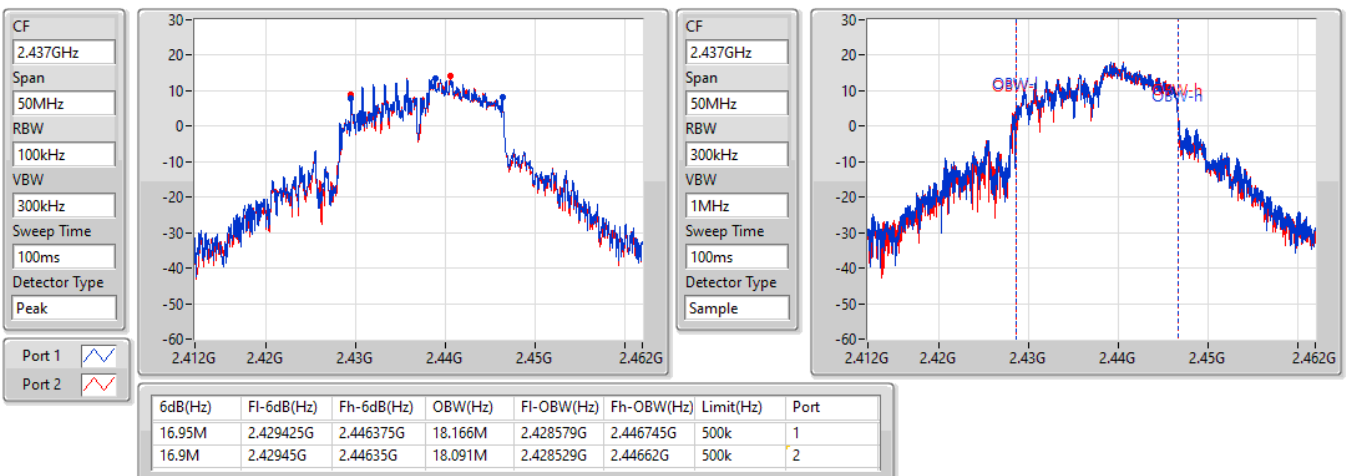


**802.11ax HEW20\_Nss1,(MCS0)\_2TX**

**EBW**

**2437MHz**

19/05/2022

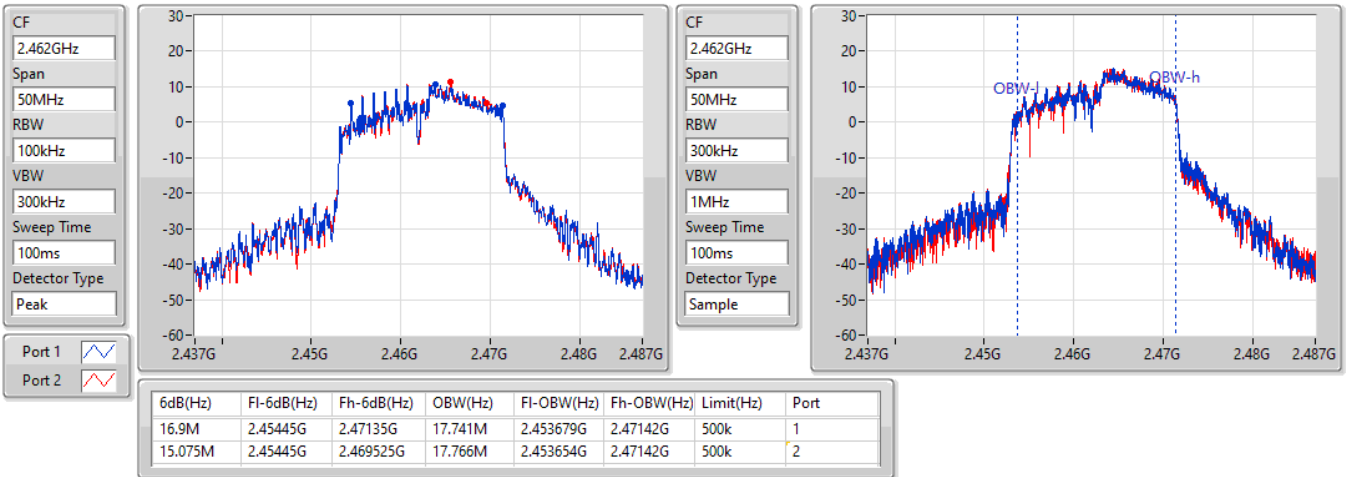


**802.11ax HEW20\_Nss1,(MCS0)\_2TX**

**EBW**

**2462MHz**

19/05/2022

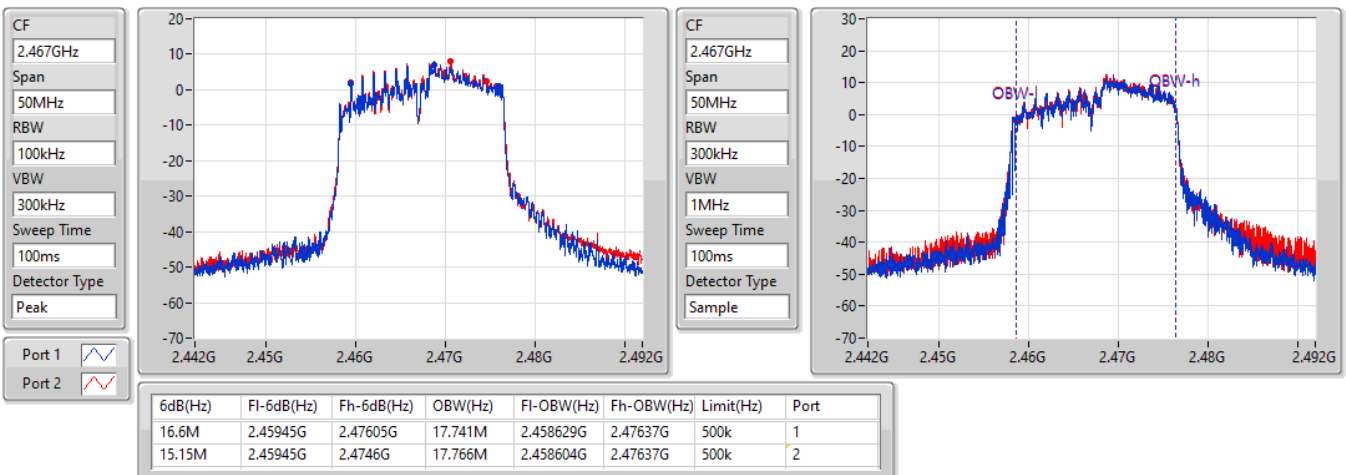


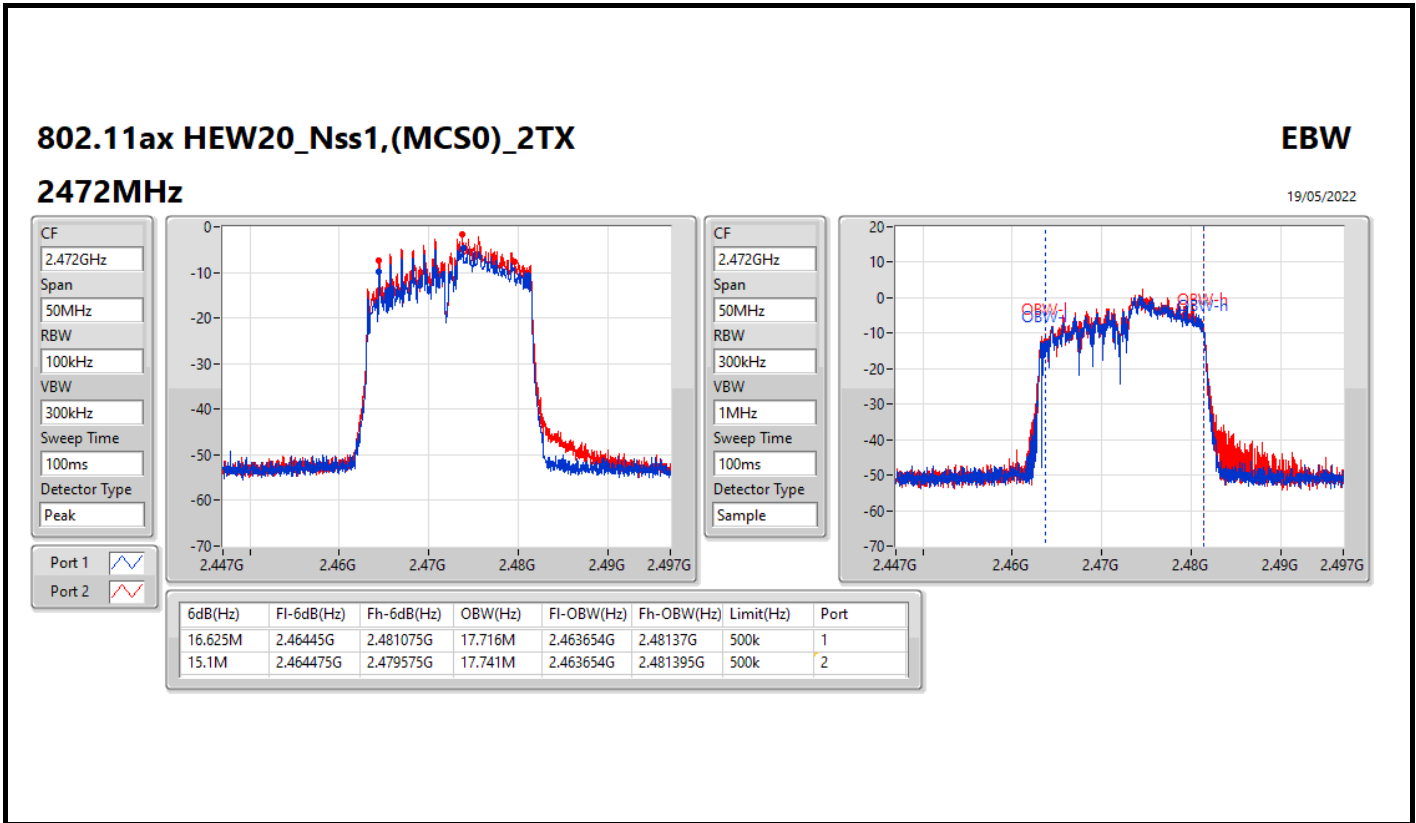
**802.11ax HEW20\_Nss1,(MCS0)\_2TX**

**EBW**

**2467MHz**

19/05/2022







**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_Nss1,(MCS0)_2TX	15.725M	17.591M	17M6D1D	13.175M	16.442M

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_Nss1,(MCS0)_2TX	-	-	-	-	-	-
2412MHz	Pass	500k	14.45M	16.442M	13.25M	17.166M
2437MHz	Pass	500k	15.725M	17.241M	13.175M	17.591M
2462MHz	Pass	500k	14.45M	17.166M	15.725M	17.191M
2467MHz	Pass	500k	14.475M	17.216M	15.675M	16.967M
2472MHz	Pass	500k	14.5M	16.792M	15.725M	16.892M

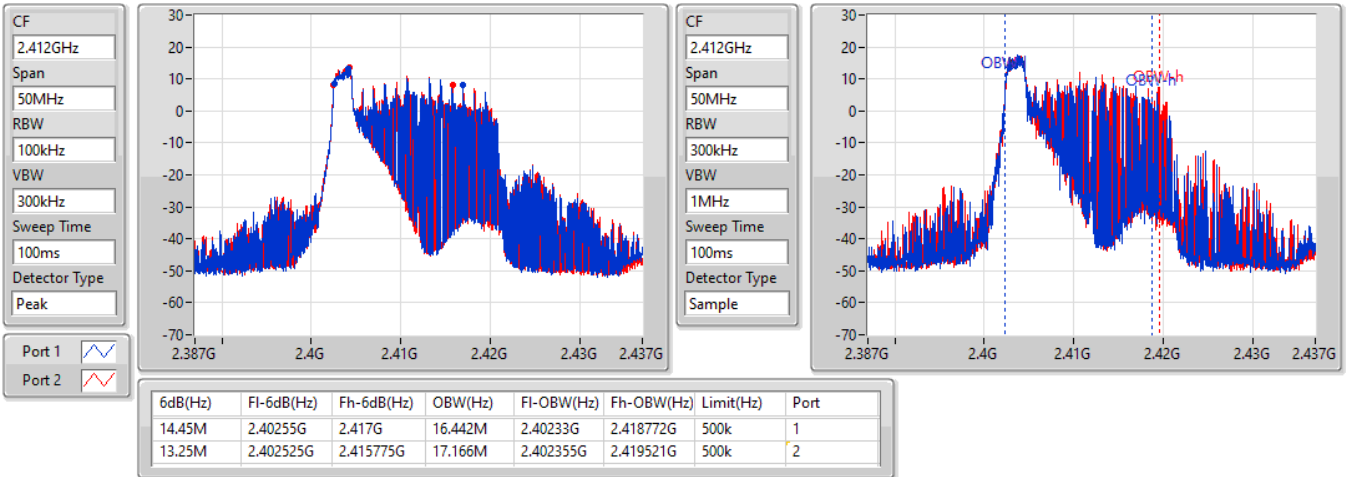
Port X-N dB = Port X 6dB down bandwidth;  
Port X-OBW = Port X 99% occupied bandwidth

**802.11ax HEW20\_Nss1,(MCS0)\_2TX**

**EBW**

**2412MHz**

19/05/2022

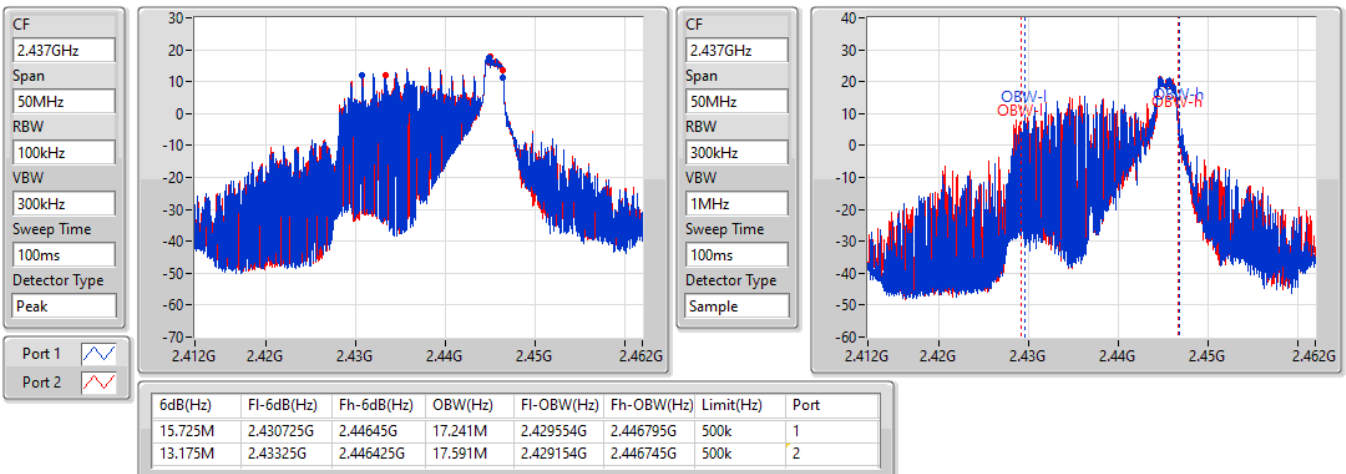


**802.11ax HEW20\_Nss1,(MCS0)\_2TX**

**EBW**

**2437MHz**

19/05/2022



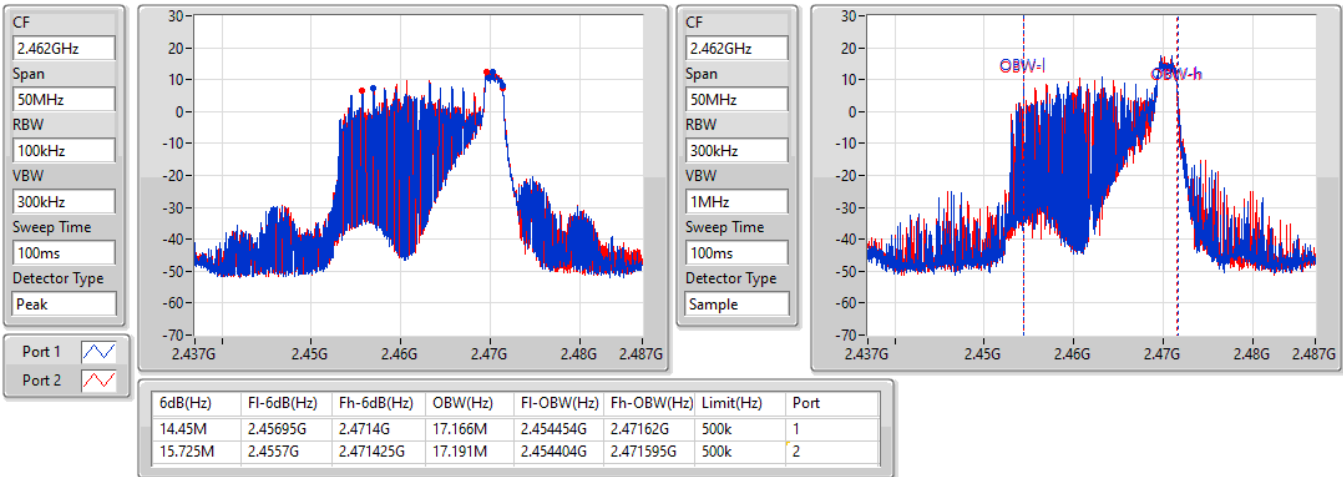


**802.11ax HEW20\_Nss1,(MCS0)\_2TX**

**EBW**

**2462MHz**

19/05/2022

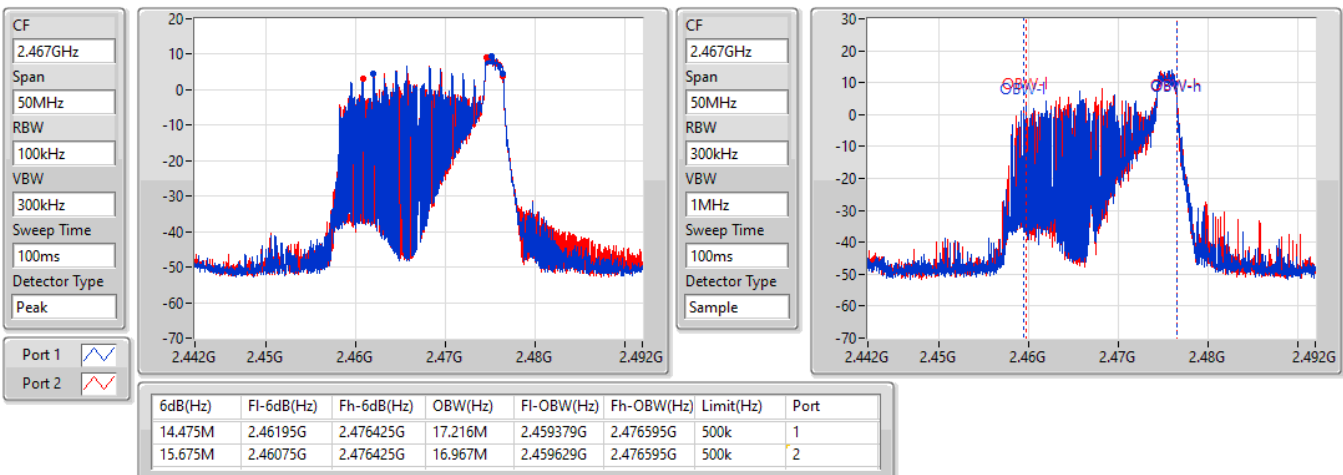


**802.11ax HEW20\_Nss1,(MCS0)\_2TX**

**EBW**

**2467MHz**

19/05/2022

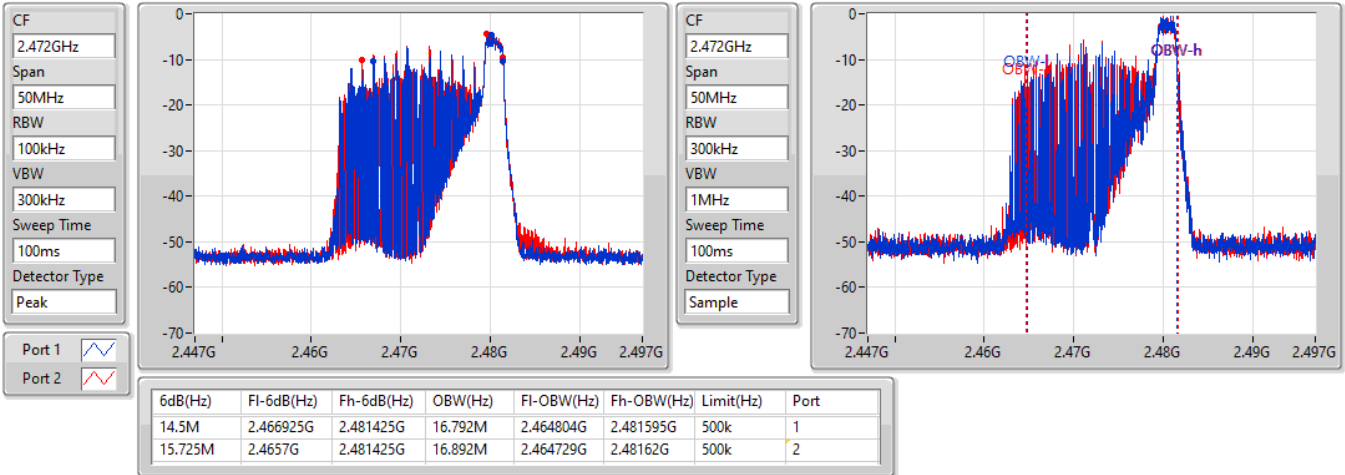


**802.11ax HEW20\_Nss1,(MCS0)\_2TX**

**EBW**

**2472MHz**

19/05/2022





**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_Nss1,(MCS0)_2TX	17M	18.291M	18M3D1D	15.7M	17.766M

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_Nss1,(MCS0)_2TX	-	-	-	-	-	-
2412MHz	Pass	500k	17M	17.766M	17M	17.816M
2437MHz	Pass	500k	16.925M	18.291M	16.9M	18.141M
2462MHz	Pass	500k	16.95M	17.841M	15.7M	17.816M
2467MHz	Pass	500k	16.95M	17.891M	15.7M	17.791M
2472MHz	Pass	500k	16.925M	17.866M	15.7M	17.891M

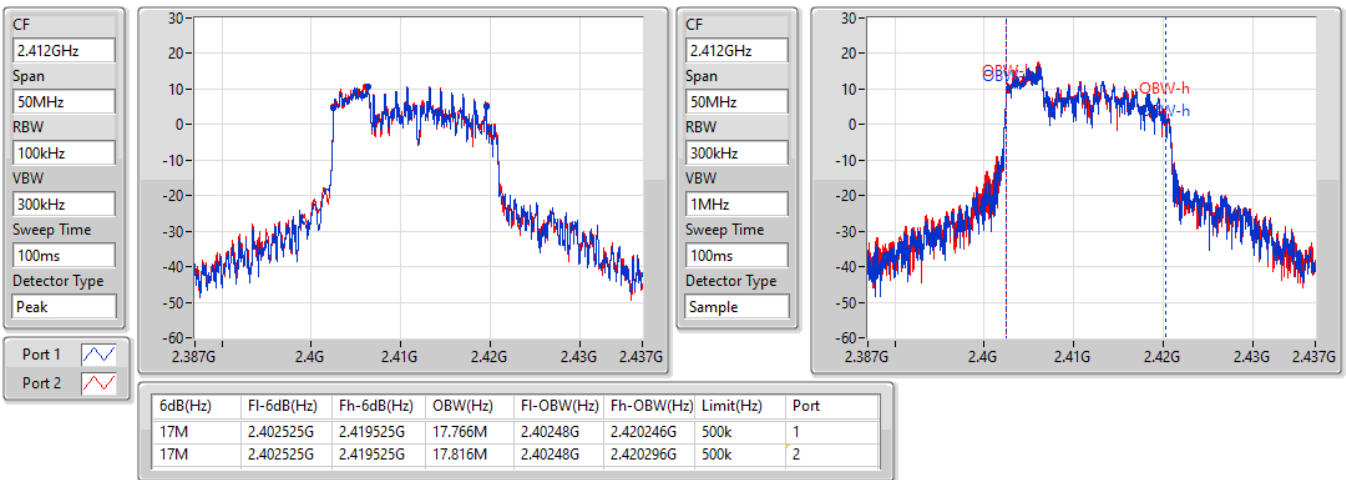
Port X-N dB = Port X 6dB down bandwidth;  
Port X-OBW = Port X 99% occupied bandwidth

**802.11ax HEW20\_Nss1,(MCS0)\_2TX**

**EBW**

**2412MHz**

19/05/2022

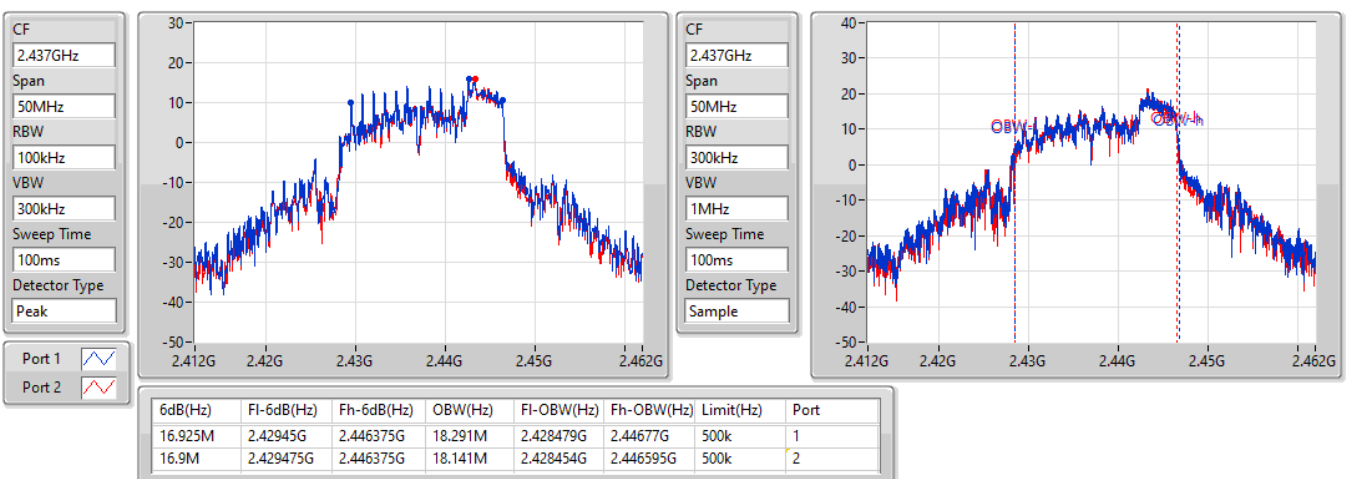


**802.11ax HEW20\_Nss1,(MCS0)\_2TX**

**EBW**

**2437MHz**

19/05/2022

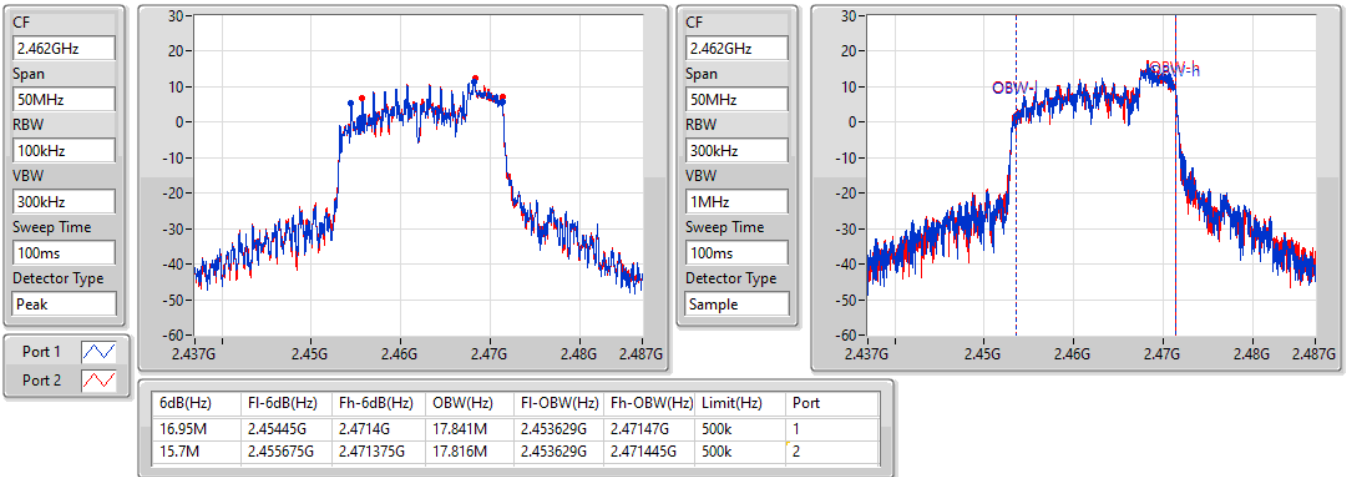


**802.11ax HEW20\_Nss1,(MCS0)\_2TX**

**EBW**

**2462MHz**

19/05/2022

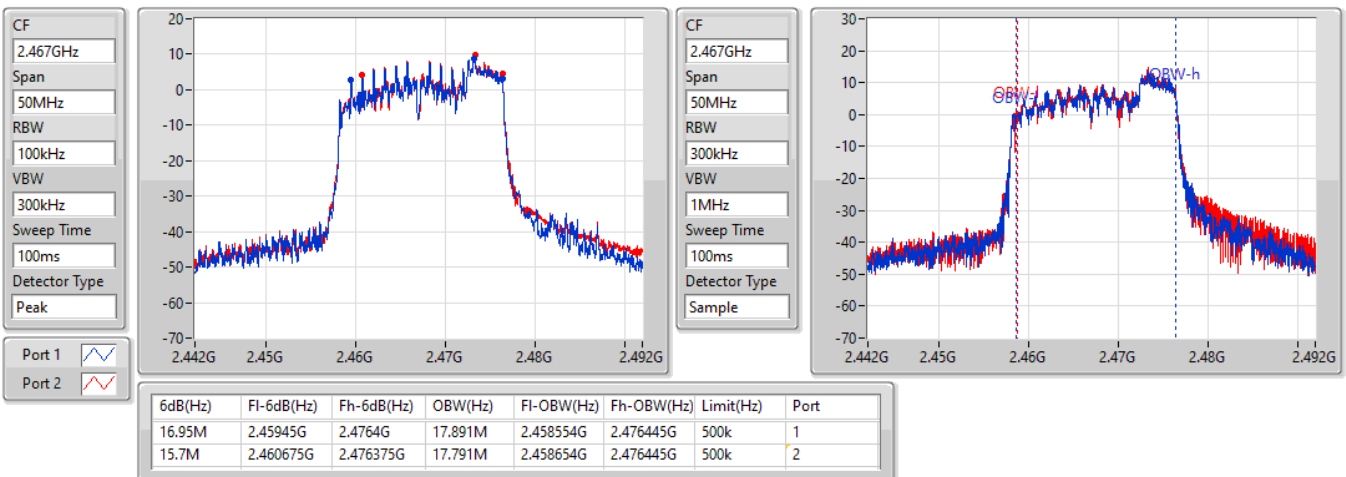


**802.11ax HEW20\_Nss1,(MCS0)\_2TX**

**EBW**

**2467MHz**

19/05/2022

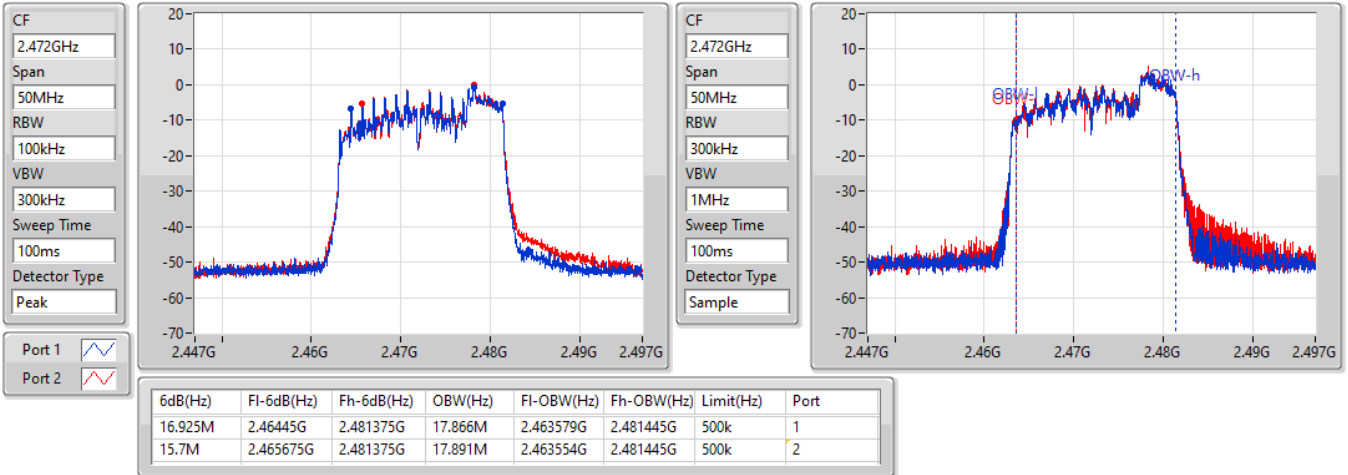


**802.11ax HEW20\_Nss1,(MCS0)\_2TX**

**EBW**

**2472MHz**

19/05/2022





**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_Nss1,(MCS0)_2TX	16.975M	19.19M	19M2D1D	15.05M	17.666M

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_Nss1,(MCS0)_2TX	-	-	-	-	-	-
2412MHz	Pass	500k	16.95M	17.666M	16.95M	17.741M
2437MHz	Pass	500k	16.975M	19.19M	16.95M	18.766M
2462MHz	Pass	500k	16.9M	17.741M	15.05M	17.716M
2467MHz	Pass	500k	16.6M	17.741M	15.15M	17.741M
2472MHz	Pass	500k	16.625M	17.691M	15.125M	17.716M

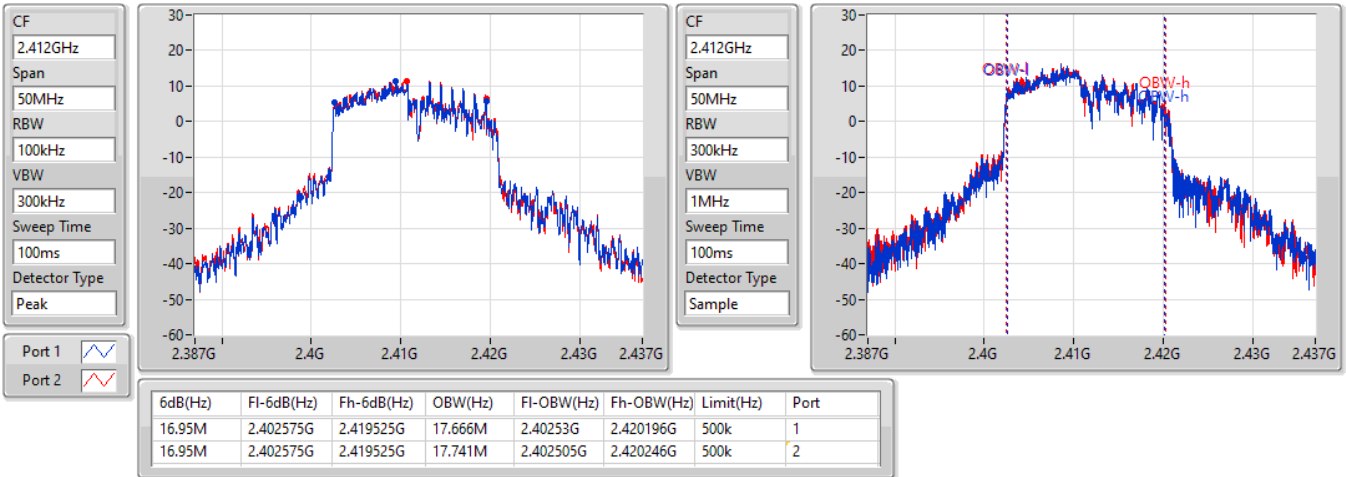
Port X-N dB = Port X 6dB down bandwidth;  
Port X-OBW = Port X 99% occupied bandwidth

**802.11ax HEW20\_Nss1,(MCS0)\_2TX**

**EBW**

**2412MHz**

19/05/2022

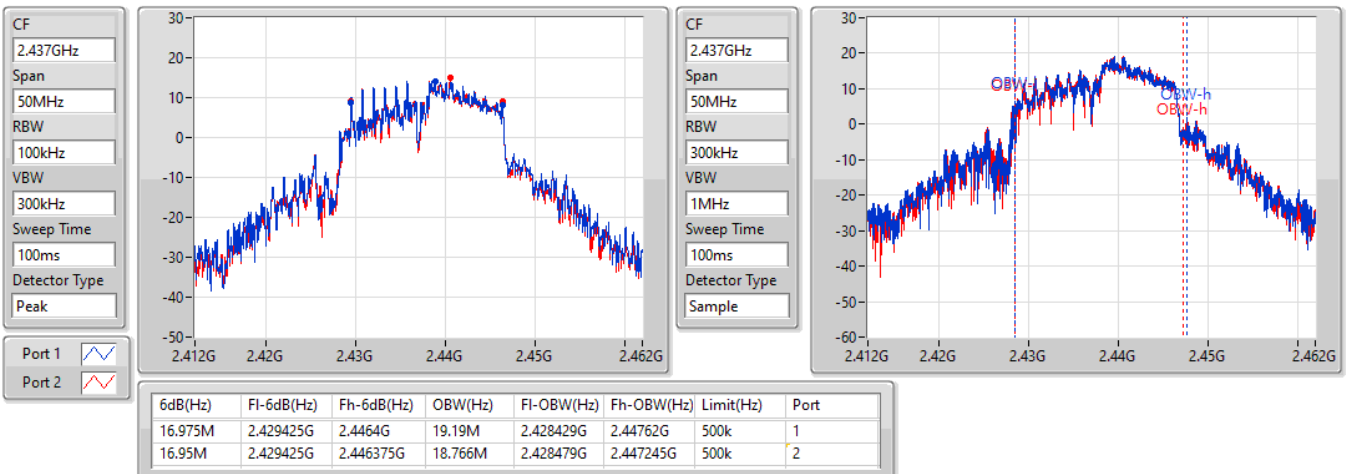


**802.11ax HEW20\_Nss1,(MCS0)\_2TX**

**EBW**

**2437MHz**

19/05/2022

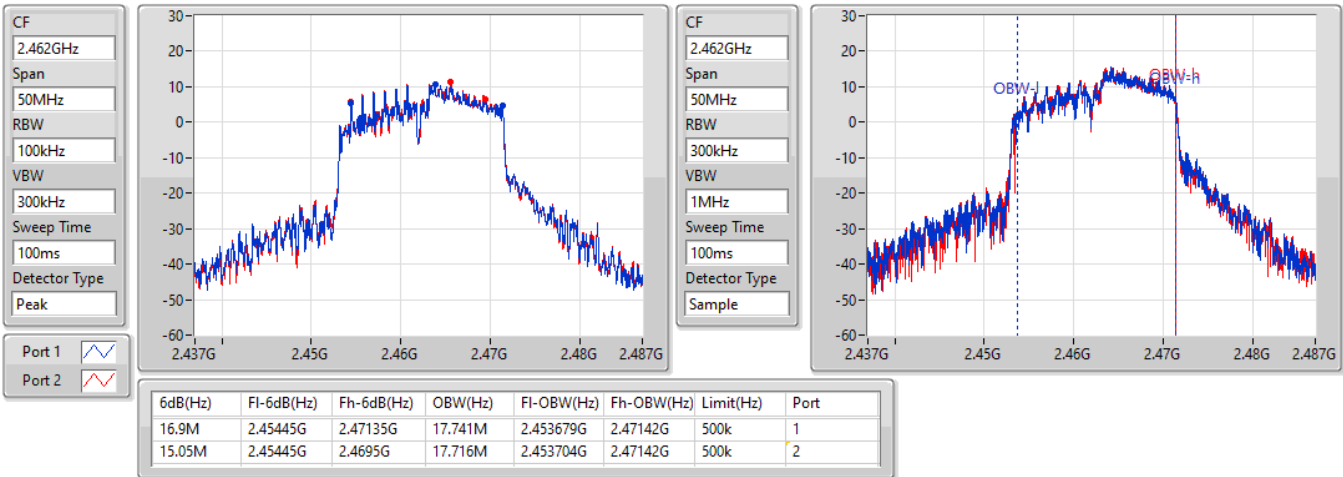


**802.11ax HEW20\_Nss1,(MCS0)\_2TX**

**EBW**

**2462MHz**

19/05/2022

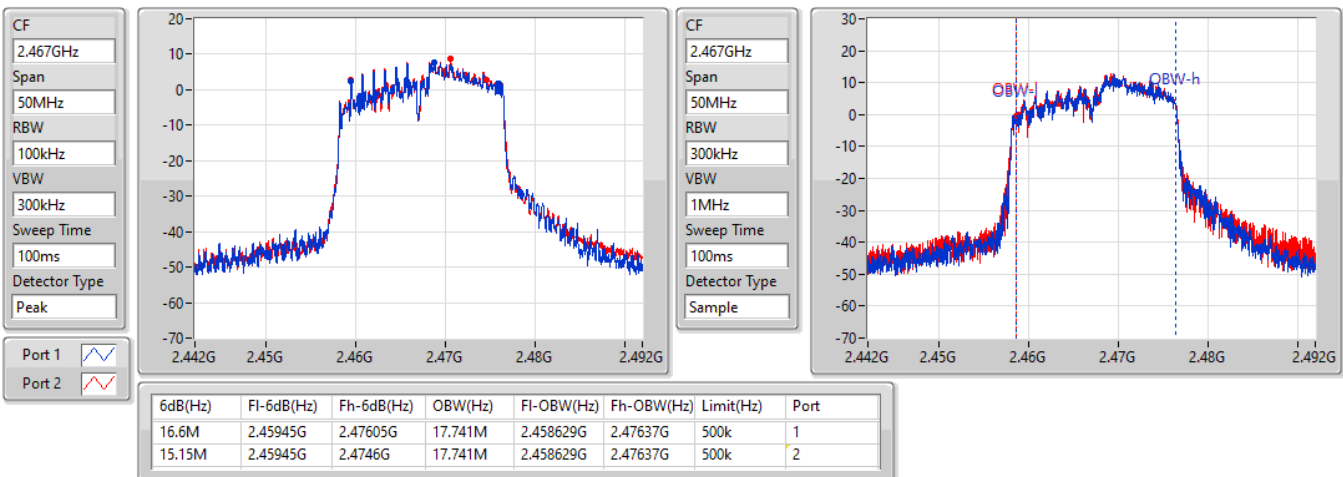


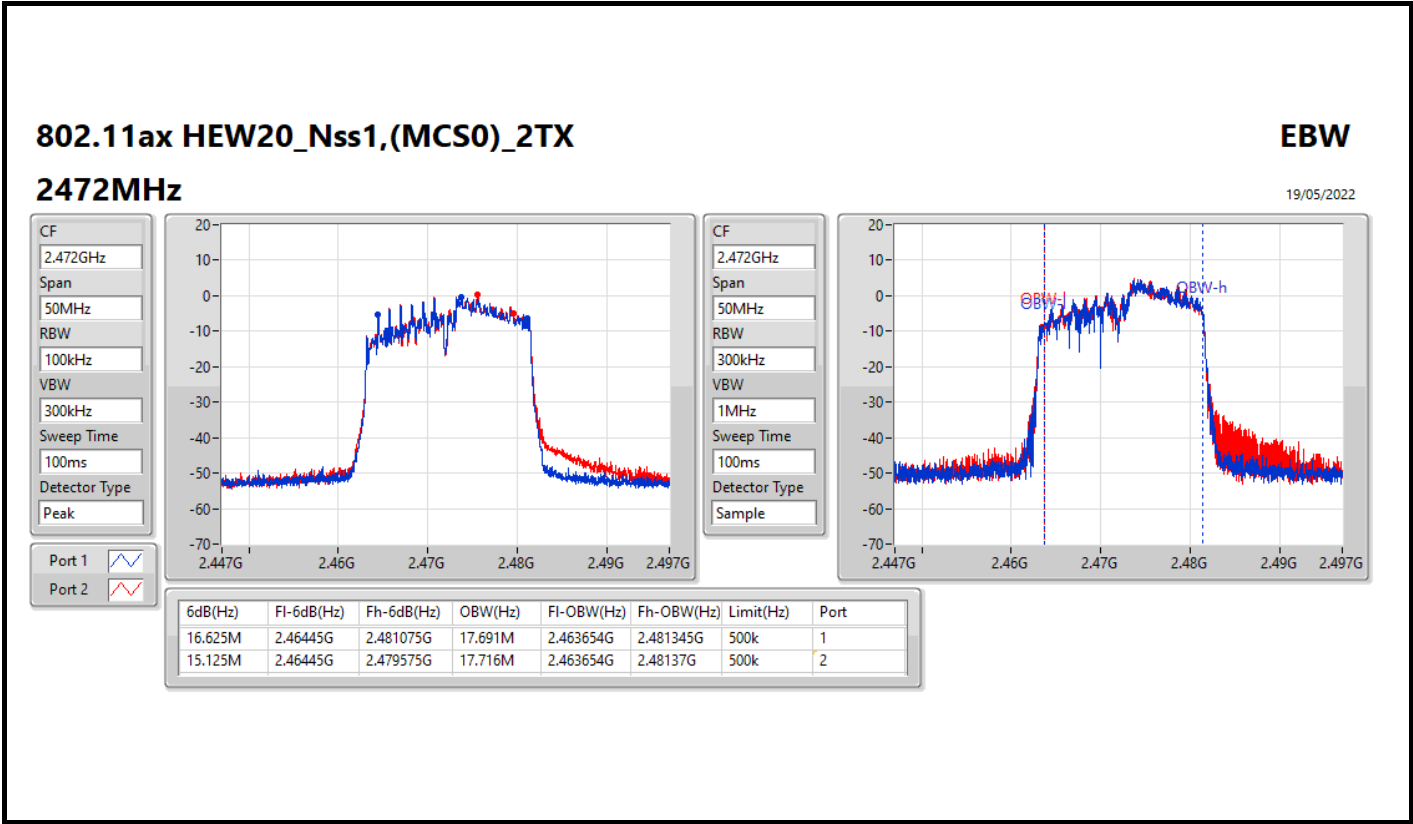
**802.11ax HEW20\_Nss1,(MCS0)\_2TX**

**EBW**

**2467MHz**

19/05/2022







**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_Nss1,(MCS0)_2TX	14.5M	17.341M	17M3D1D	12M	16.367M

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_Nss1,(MCS0)_2TX	-	-	-	-	-	-
2412MHz	Pass	500k	14.425M	16.592M	13.25M	16.792M
2437MHz	Pass	500k	14.475M	16.517M	14.475M	16.417M
2462MHz	Pass	500k	14.475M	16.792M	12M	17.241M
2467MHz	Pass	500k	13.175M	17.041M	14.475M	16.892M
2472MHz	Pass	500k	14.5M	17.341M	14.475M	16.367M

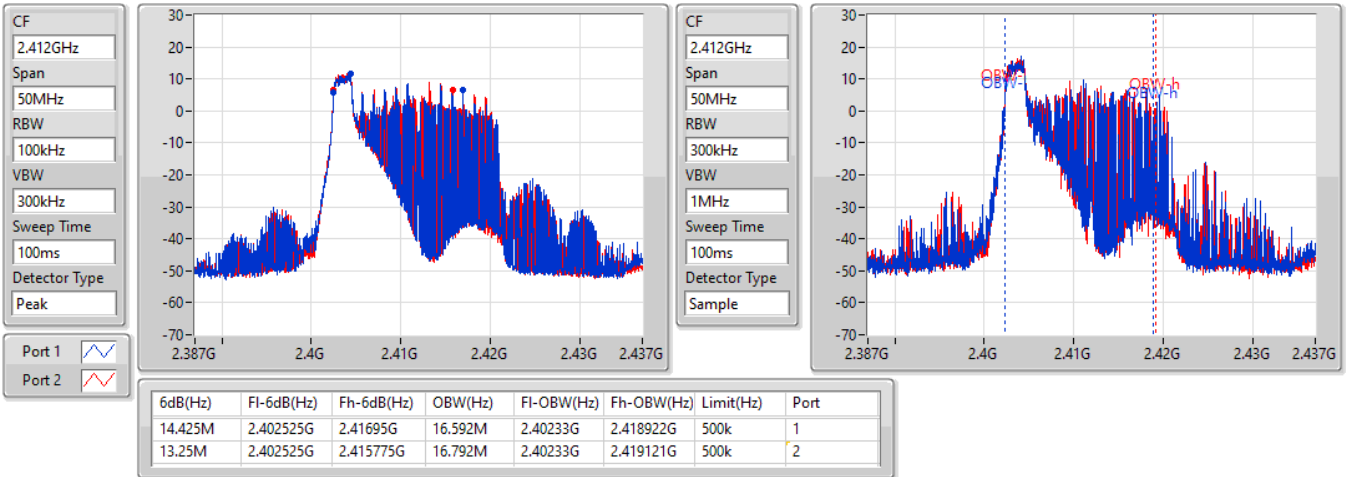
Port X-N dB = Port X 6dB down bandwidth;  
Port X-OBW = Port X 99% occupied bandwidth

**802.11ax HEW20\_Nss1,(MCS0)\_2TX**

**EBW**

**2412MHz**

19/05/2022

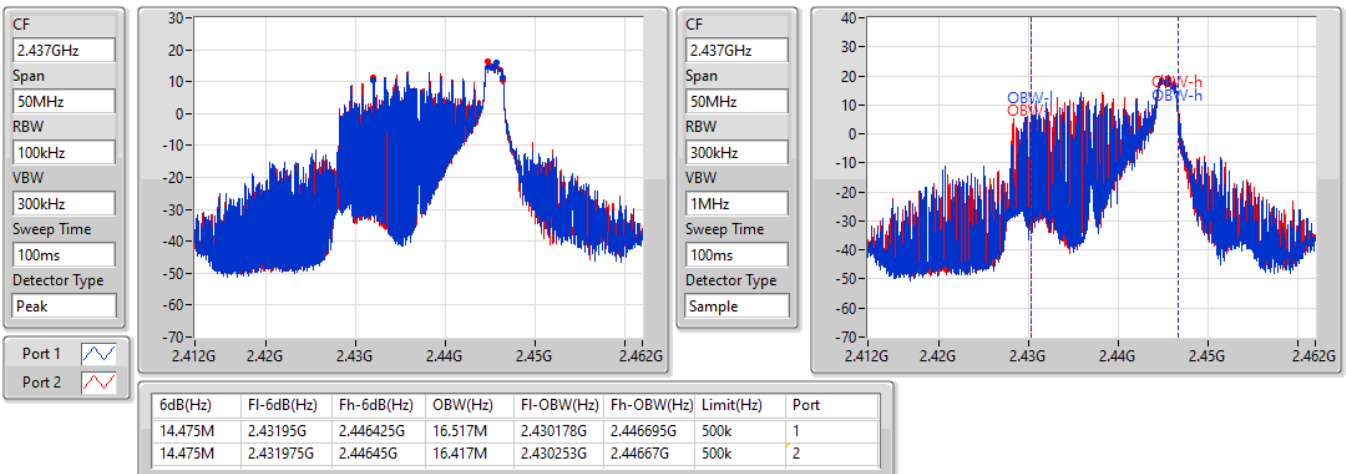


**802.11ax HEW20\_Nss1,(MCS0)\_2TX**

**EBW**

**2437MHz**

19/05/2022

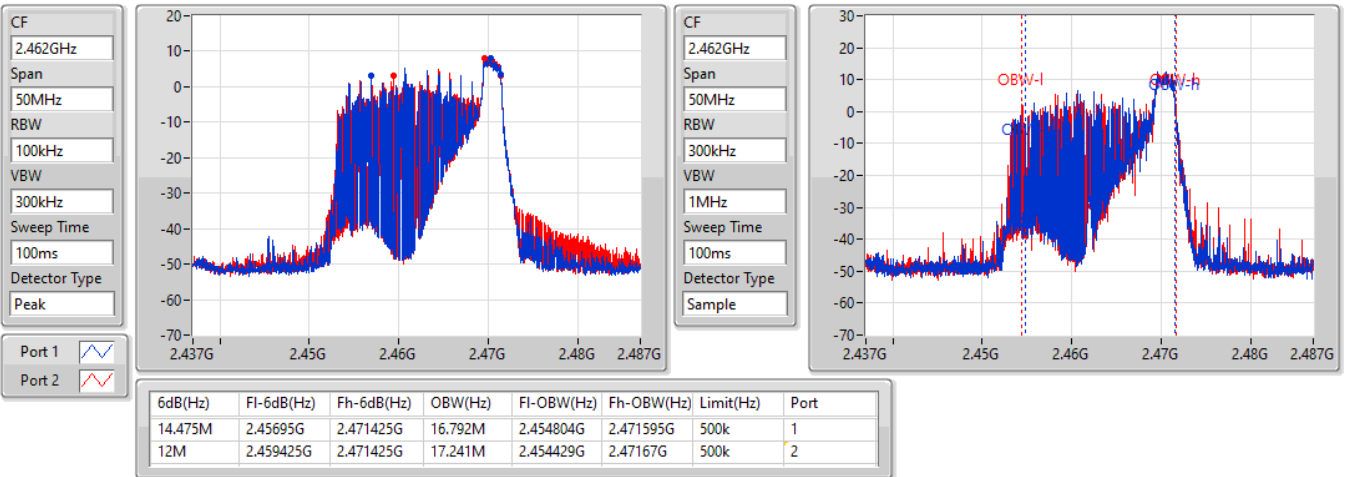


**802.11ax HEW20\_Nss1,(MCS0)\_2TX**

**EBW**

**2462MHz**

19/05/2022

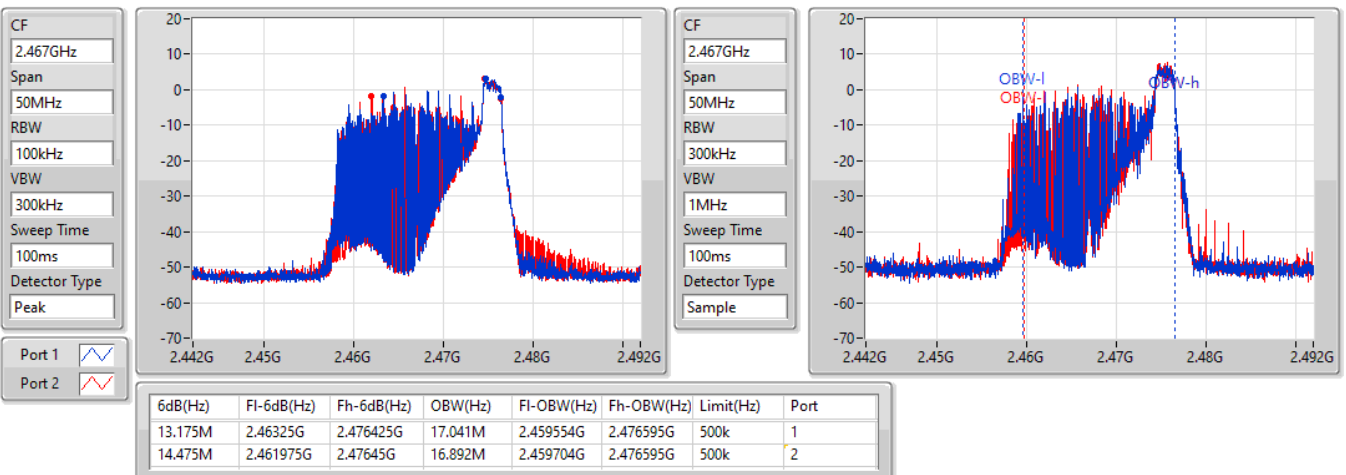


**802.11ax HEW20\_Nss1,(MCS0)\_2TX**

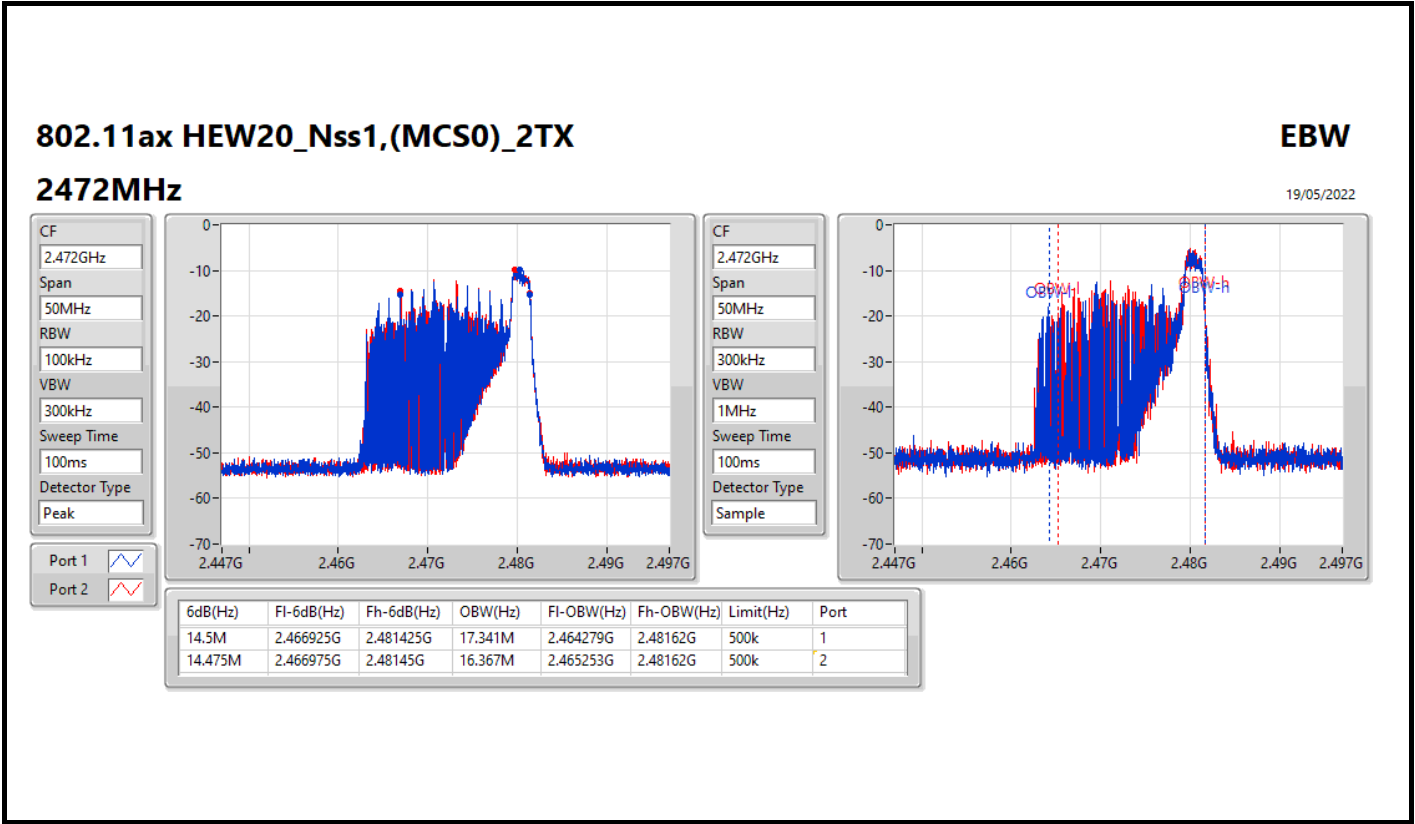
**EBW**

**2467MHz**

19/05/2022









**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_Nss1,(MCS0)_2TX	17M	18.516M	18M5D1D	15.7M	17.716M

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_Nss1,(MCS0)_2TX	-	-	-	-	-	-
2412MHz	Pass	500k	17M	17.741M	17M	17.716M
2437MHz	Pass	500k	16.9M	18.166M	16.9M	18.516M
2462MHz	Pass	500k	16.95M	17.866M	15.7M	17.816M
2467MHz	Pass	500k	16.925M	17.816M	15.7M	17.841M
2472MHz	Pass	500k	16.925M	17.841M	15.7M	17.841M

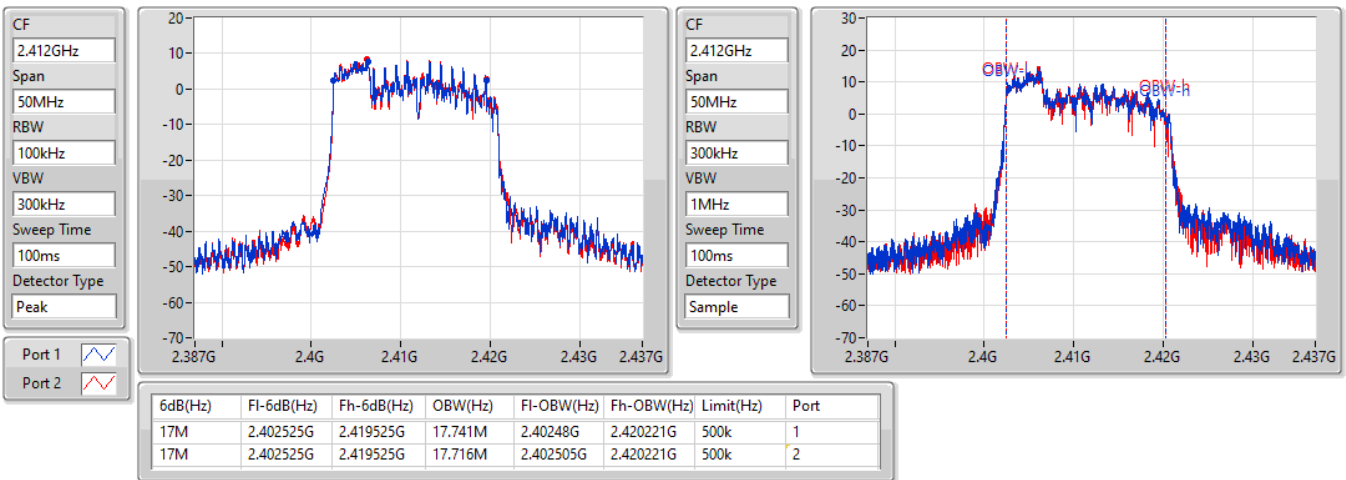
Port X-N dB = Port X 6dB down bandwidth;  
Port X-OBW = Port X 99% occupied bandwidth

**802.11ax HEW20\_Nss1,(MCS0)\_2TX**

**EBW**

**2412MHz**

19/05/2022

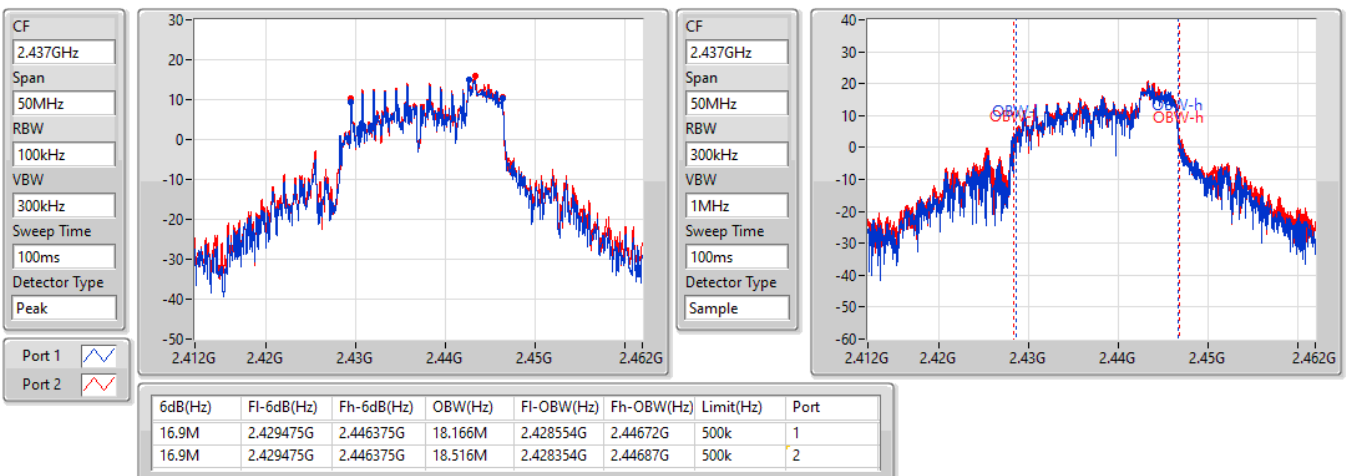


**802.11ax HEW20\_Nss1,(MCS0)\_2TX**

**EBW**

**2437MHz**

19/05/2022

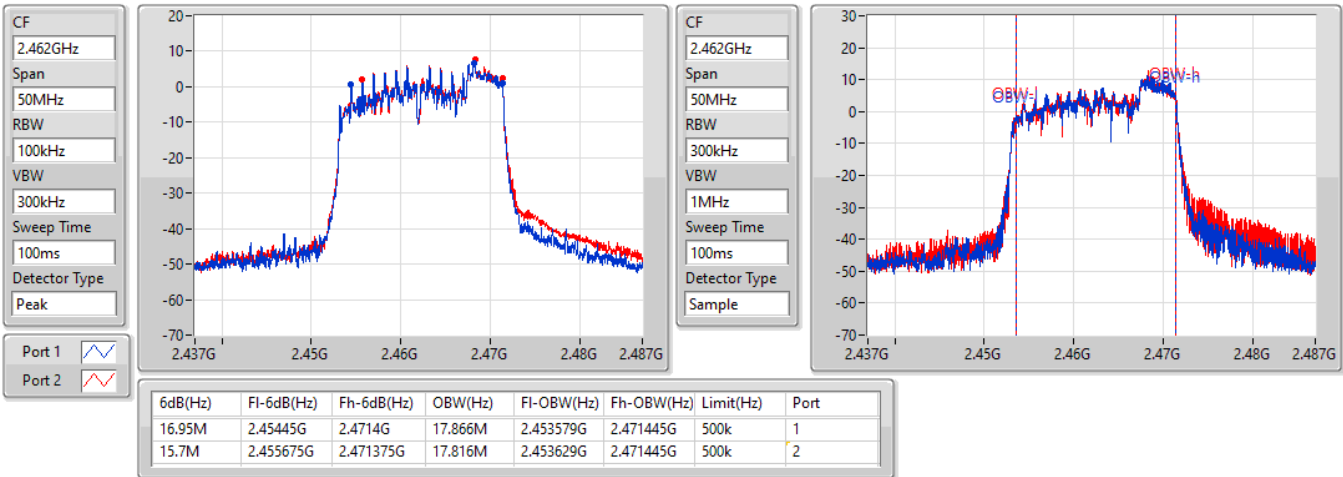


**802.11ax HEW20\_Nss1,(MCS0)\_2TX**

**EBW**

**2462MHz**

19/05/2022

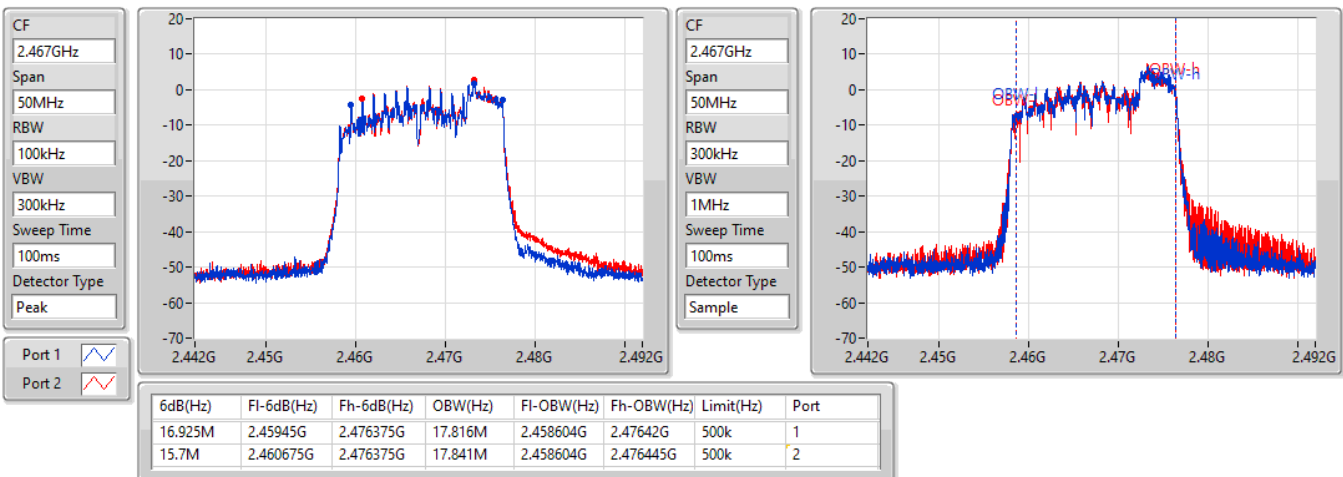


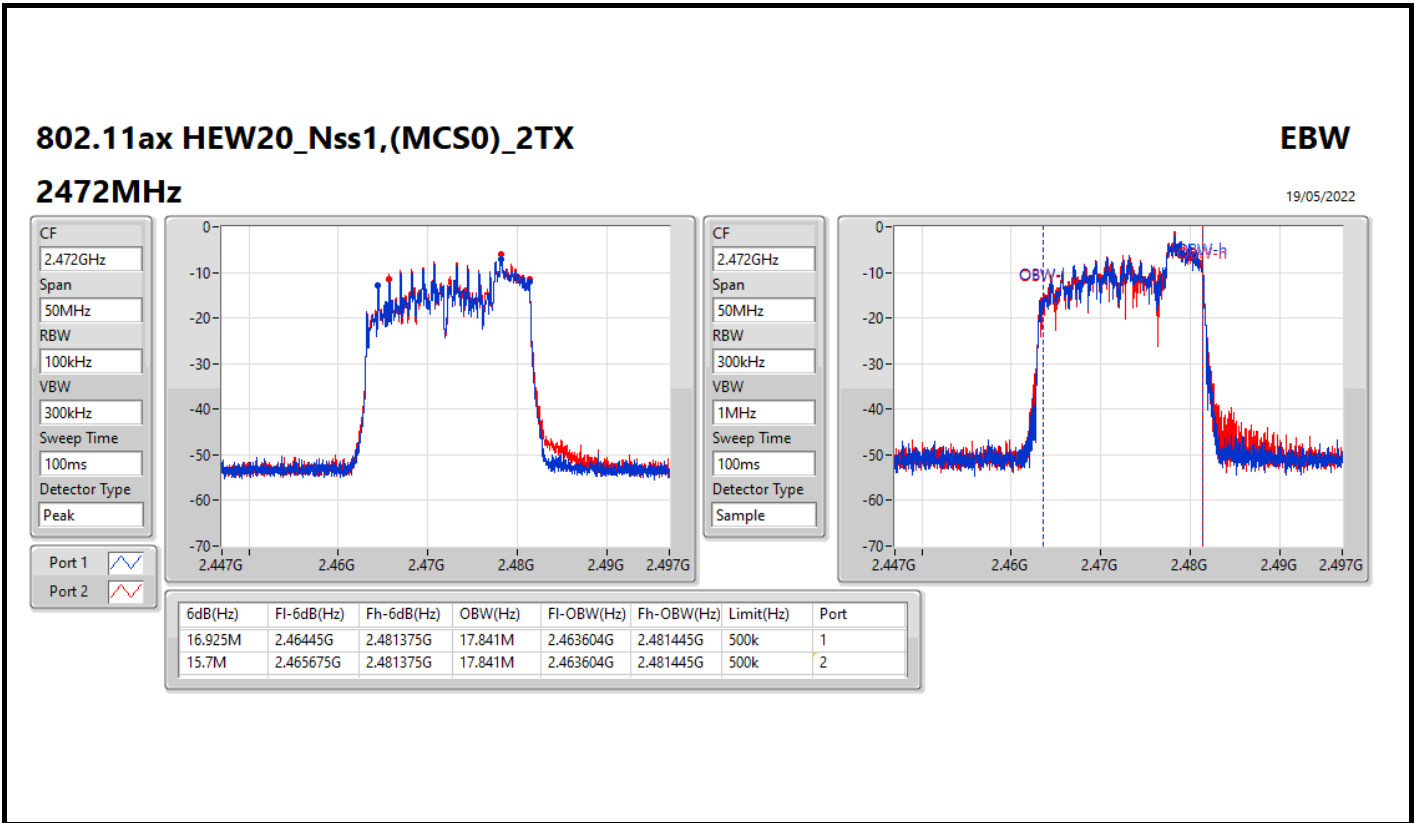
**802.11ax HEW20\_Nss1,(MCS0)\_2TX**

**EBW**

**2467MHz**

19/05/2022







**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_Nss1,(MCS0)_2TX	16.95M	18.266M	18M3D1D	15.125M	17.641M

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_Nss1,(MCS0)_2TX	-	-	-	-	-	-
2412MHz	Pass	500k	15.9M	17.641M	16.6M	17.716M
2437MHz	Pass	500k	16.95M	18.266M	16.9M	17.991M
2462MHz	Pass	500k	16.35M	17.716M	15.125M	17.691M
2467MHz	Pass	500k	16.625M	17.716M	15.15M	17.666M
2472MHz	Pass	500k	16.65M	17.716M	15.15M	17.666M

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

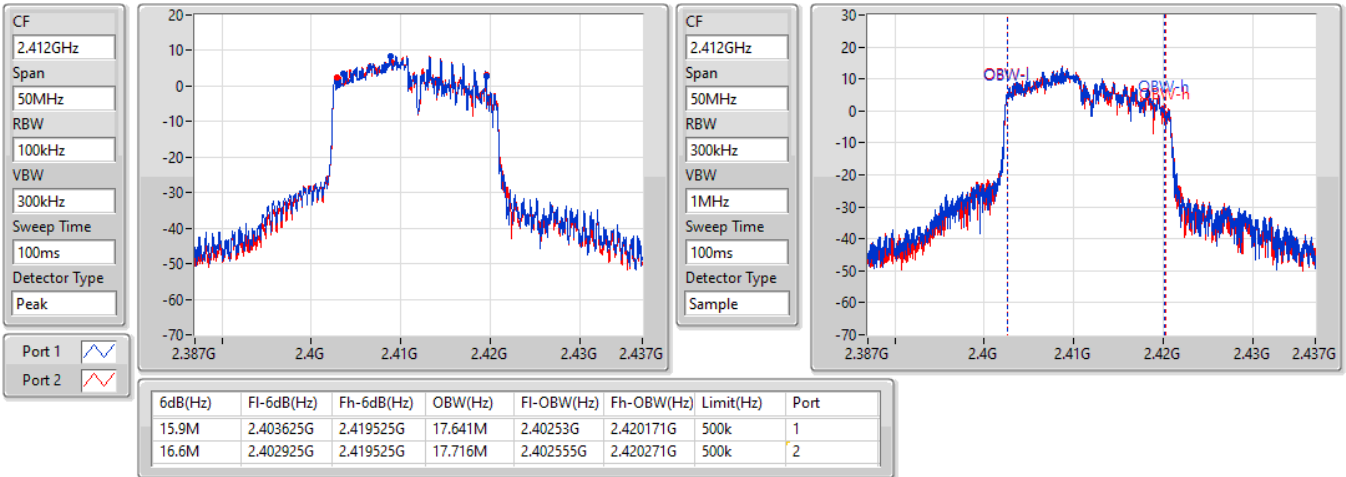


**802.11ax HEW20\_Nss1,(MCS0)\_2TX**

**EBW**

**2412MHz**

19/05/2022

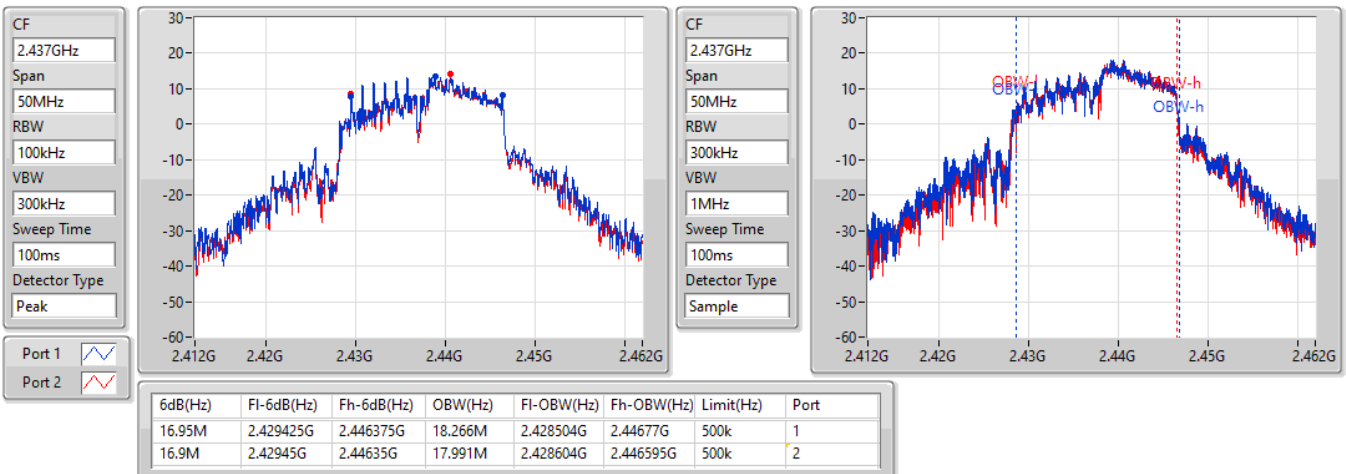


**802.11ax HEW20\_Nss1,(MCS0)\_2TX**

**EBW**

**2437MHz**

19/05/2022

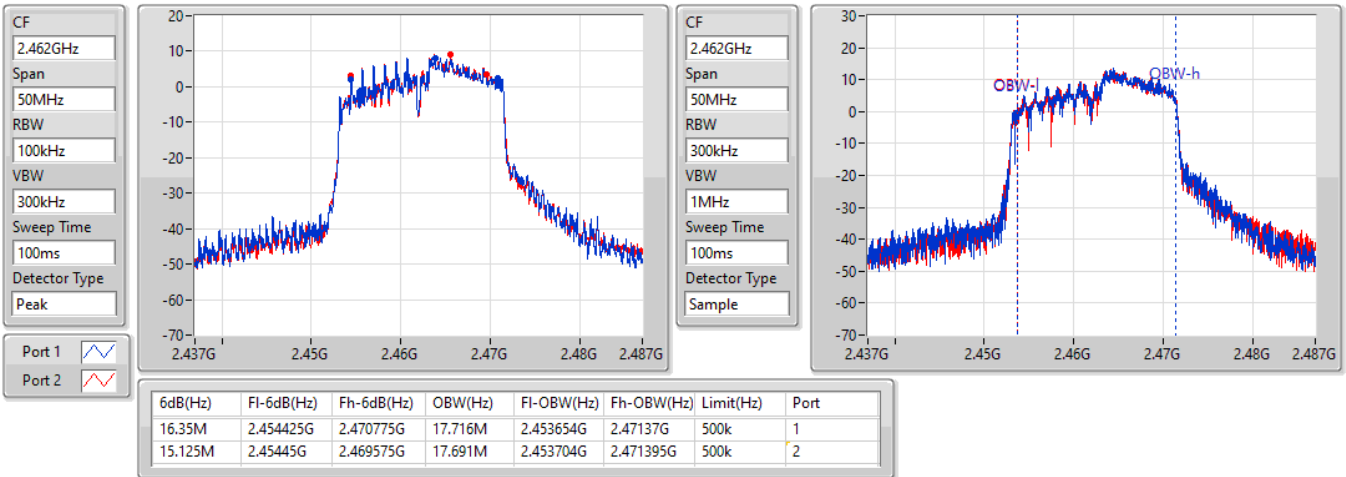


**802.11ax HEW20\_Nss1,(MCS0)\_2TX**

**EBW**

**2462MHz**

19/05/2022

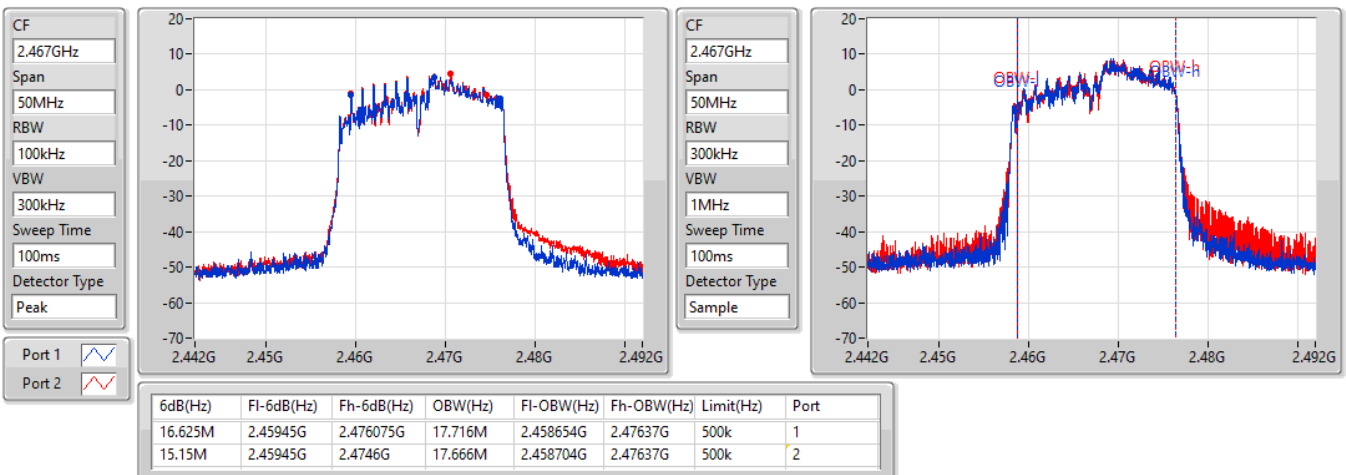


**802.11ax HEW20\_Nss1,(MCS0)\_2TX**

**EBW**

**2467MHz**

19/05/2022

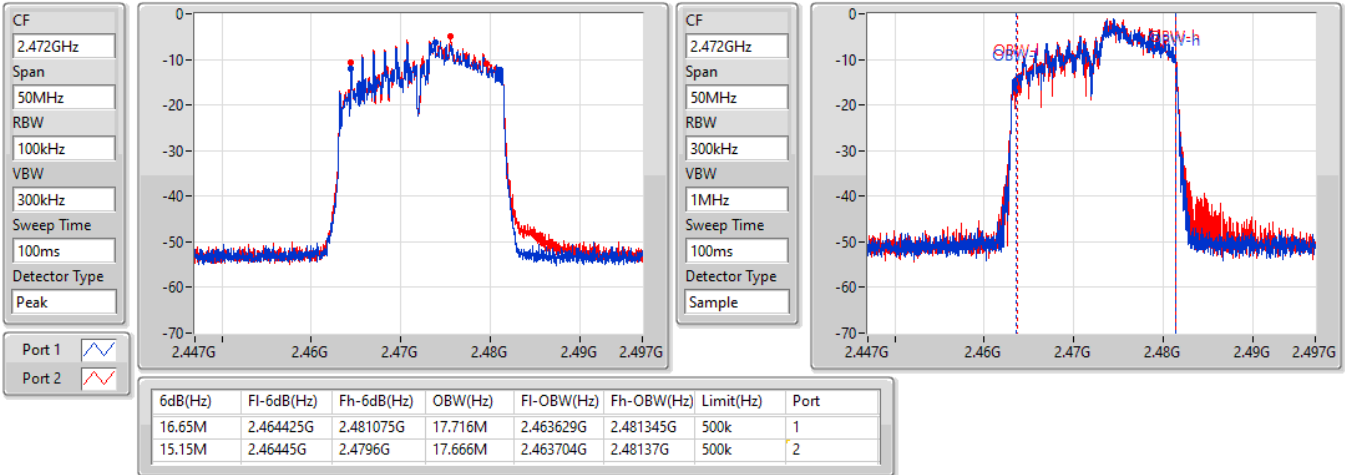


802.11ax HEW20\_Nss1,(MCS0)\_2TX

EBW

2472MHz

19/05/2022





**Average Power**  
**<Full RU> Non-Beamforming Mode (1TX)**

**Appendix C.1**

**Summary**

Mode	Total Power (dBm)	Total Power (W)
2.4-2.4835GHz	-	-
802.11b_Nss1,(1Mbps)_1TX	22.46	0.17620
802.11b_Nss1,(1Mbps)_1TX	16.76	0.04742
802.11g_Nss1,(6Mbps)_1TX	22.39	0.17338
VHT20_Nss1,(MCS0)_1TX	22.16	0.16444
VHT40_Nss1,(MCS0)_1TX	18.56	0.07178
802.11ax HEW20_Nss1,(MCS0)_1TX	22.18	0.16520
802.11ax HEW40_Nss1,(MCS0)_1TX	18.61	0.07261



**Average Power**  
**<Full RU> Non-Beamforming Mode (1TX)**

**Appendix C.1**

**Result**

Mode	Result	DG (dBi)	Port 1 (dBm)	Total Power (dBm)	Power Limit (dBm)
802.11b_Nss1,(1Mbps)_1TX	-	-	-	-	-
2412MHz	Pass	3.50	21.53	21.53	30.00
2437MHz	Pass	3.50	22.46	22.46	30.00
2457MHz	Pass	3.50	21.19	21.19	30.00
2462MHz	Pass	3.50	20.93	20.93	30.00
2467MHz	Pass	3.50	15.91	15.91	30.00
2472MHz	Pass	3.50	12.85	12.85	30.00
802.11b_Nss1,(1Mbps)_1TX	-	-	-	-	-
2422MHz	Pass	3.50	12.71	12.71	30.00
2427MHz	Pass	3.50	16.74	16.74	30.00
2437MHz	Pass	3.50	16.76	16.76	30.00
2447MHz	Pass	3.50	13.17	13.17	30.00
2452MHz	Pass	3.50	8.41	8.41	30.00
2457MHz	Pass	3.50	7.79	7.79	30.00
2462MHz	Pass	3.50	7.76	7.76	30.00
802.11g_Nss1,(6Mbps)_1TX	-	-	-	-	-
2412MHz	Pass	3.50	18.05	18.05	30.00
2417MHz	Pass	3.50	18.37	18.37	30.00
2437MHz	Pass	3.50	22.39	22.39	30.00
2457MHz	Pass	3.50	20.41	20.41	30.00
2462MHz	Pass	3.50	18.17	18.17	30.00
2467MHz	Pass	3.50	17.17	17.17	30.00
2472MHz	Pass	3.50	16.54	16.54	30.00
VHT20_Nss1,(MCS0)_1TX	-	-	-	-	-
2412MHz	Pass	3.50	17.83	17.83	30.00
2417MHz	Pass	3.50	19.15	19.15	30.00
2437MHz	Pass	3.50	22.16	22.16	30.00
2457MHz	Pass	3.50	20.13	20.13	30.00
2462MHz	Pass	3.50	17.08	17.08	30.00
2467MHz	Pass	3.50	16.63	16.63	30.00
2472MHz	Pass	3.50	10.81	10.81	30.00
VHT40_Nss1,(MCS0)_1TX	-	-	-	-	-
2422MHz	Pass	3.50	17.25	17.25	30.00
2437MHz	Pass	3.50	18.56	18.56	30.00
2452MHz	Pass	3.50	17.04	17.04	30.00
2457MHz	Pass	3.50	16.33	16.33	30.00
2462MHz	Pass	3.50	15.55	15.55	30.00
802.11ax HEW20_Nss1,(MCS0)_1TX	-	-	-	-	-
2412MHz	Pass	3.50	17.86	17.86	30.00
2417MHz	Pass	3.50	19.16	19.16	30.00
2437MHz	Pass	3.50	22.18	22.18	30.00
2457MHz	Pass	3.50	20.17	20.17	30.00
2462MHz	Pass	3.50	17.11	17.11	30.00
2467MHz	Pass	3.50	16.65	16.65	30.00
2472MHz	Pass	3.50	10.82	10.82	30.00
802.11ax HEW40_Nss1,(MCS0)_1TX	-	-	-	-	-
2422MHz	Pass	3.50	17.33	17.33	30.00
2437MHz	Pass	3.50	18.61	18.61	30.00
2452MHz	Pass	3.50	17.12	17.12	30.00
2457MHz	Pass	3.50	16.38	16.38	30.00
2462MHz	Pass	3.50	15.57	15.57	30.00

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



**Average Power**  
**<Full RU> Non-Beamforming Mode (2TX)**

**Appendix C.2**

**Summary**

Mode	Total Power (dBm)	Total Power (W)
2.4-2.4835GHz	-	-
802.11b_Nss1,(1Mbps)_2TX	25.08	0.32211
802.11b_Nss1,(1Mbps)_2TX	16.68	0.04656
802.11g_Nss1,(6Mbps)_2TX	25.45	0.35075
VHT20_Nss1,(MCS0)_2TX	25.12	0.32509
VHT40_Nss1,(MCS0)_2TX	19.54	0.08995
802.11ax HEW20_Nss1,(MCS0)_2TX	25.16	0.32810
802.11ax HEW40_Nss1,(MCS0)_2TX	19.69	0.09311



**Average Power  
<Full RU> Non-Beamforming Mode (2TX)**

**Appendix C.2**

**Result**

Mode	Result	DG (dBi)	Port 1 (dBm)	Port 2 (dBm)	Total Power (dBm)	Power Limit (dBm)
802.11b_Nss1,(1Mbps)_2TX	-	-	-	-	-	-
2412MHz	Pass	3.50	20.69	20.84	23.78	30.00
2437MHz	Pass	3.50	22.06	22.08	25.08	30.00
2457MHz	Pass	3.50	18.87	19.13	22.01	30.00
2462MHz	Pass	3.50	19.17	19.54	22.37	30.00
2467MHz	Pass	3.50	12.36	12.7	15.54	30.00
2472MHz	Pass	3.50	5.92	6.15	9.05	30.00
802.11b_Nss1,(1Mbps)_2TX	-	-	-	-	-	-
2422MHz	Pass	3.50	12.62	12.99	15.82	30.00
2437MHz	Pass	3.50	13.52	13.82	16.68	30.00
2447MHz	Pass	3.50	11.51	11.9	14.72	30.00
2452MHz	Pass	3.50	5.07	5.3	8.20	30.00
2457MHz	Pass	3.50	5.14	5.28	8.22	30.00
2462MHz	Pass	3.50	4.48	4.81	7.66	30.00
802.11g_Nss1,(6Mbps)_2TX	-	-	-	-	-	-
2412MHz	Pass	3.50	17.62	17.89	20.77	30.00
2417MHz	Pass	3.50	18.64	18.77	21.72	30.00
2437MHz	Pass	3.50	22.43	22.44	25.45	30.00
2457MHz	Pass	3.50	18.94	19.04	22.00	30.00
2462MHz	Pass	3.50	16.83	16.98	19.92	30.00
2467MHz	Pass	3.50	16.35	16.62	19.50	30.00
2472MHz	Pass	3.50	10.46	10.8	13.64	30.00
VHT20_Nss1,(MCS0)_2TX	-	-	-	-	-	-
2412MHz	Pass	3.50	17.19	17.27	20.24	30.00
2417MHz	Pass	3.50	18.88	18.95	21.93	30.00
2437MHz	Pass	3.50	22.03	22.18	25.12	30.00
2457MHz	Pass	3.50	17.82	18.02	20.93	30.00
2462MHz	Pass	3.50	16.01	16.11	19.07	30.00
2467MHz	Pass	3.50	15.88	16.02	18.96	30.00
2472MHz	Pass	3.50	5.41	5.66	8.55	30.00
VHT40_Nss1,(MCS0)_2TX	-	-	-	-	-	-
2422MHz	Pass	3.50	16.41	16.65	19.54	30.00
2437MHz	Pass	3.50	16.26	16.38	19.33	30.00
2452MHz	Pass	3.50	14.95	15.13	18.05	30.00
2457MHz	Pass	3.50	14.59	14.93	17.77	30.00
2462MHz	Pass	3.50	12.61	12.88	15.76	30.00
802.11ax HEW20_Nss1,(MCS0)_2TX	-	-	-	-	-	-
2412MHz	Pass	3.50	17.18	17.43	20.32	30.00
2417MHz	Pass	3.50	18.87	19.03	21.96	30.00
2437MHz	Pass	3.50	22.09	22.2	25.16	30.00
2457MHz	Pass	3.50	17.92	18.06	21.00	30.00
2462MHz	Pass	3.50	16.11	16.19	19.16	30.00
2467MHz	Pass	3.50	15.9	16.14	19.03	30.00
2472MHz	Pass	3.50	5.48	5.75	8.63	30.00
802.11ax HEW40_Nss1,(MCS0)_2TX	-	-	-	-	-	-
2422MHz	Pass	3.50	16.53	16.82	19.69	30.00
2437MHz	Pass	3.50	16.31	16.48	19.41	30.00
2452MHz	Pass	3.50	15.01	15.21	18.12	30.00
2457MHz	Pass	3.50	14.7	14.96	17.84	30.00
2462MHz	Pass	3.50	12.77	12.92	15.86	30.00

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



**Average Power**  
**<Full RU> Beamforming Mode (2TX)**

**Appendix C.3**

**Summary**

Mode	Total Power (dBm)	Total Power (W)
2.4-2.4835GHz	-	-
802.11ax HEW20-BF_Nss1,(MCS0)_2TX	25.16	0.32810
802.11ax HEW40-BF_Nss1,(MCS0)_2TX	19.69	0.09311





**Average Power**  
**<Full RU> Beamforming Mode (2TX)**

**Appendix C.3**

**Result**

Mode	Result	DG (dBi)	Port 1 (dBm)	Port 2 (dBm)	Total Power (dBm)	Power Limit (dBm)
802.11ax HEW20-BF_Nss1,(MCS0)_2TX	-	-	-	-	-	-
2412MHz	Pass	6.51	17.18	17.43	20.32	29.49
2417MHz	Pass	6.51	18.87	19.03	21.96	29.49
2437MHz	Pass	6.51	22.09	22.2	25.16	29.49
2457MHz	Pass	6.51	17.92	18.06	21.00	29.49
2462MHz	Pass	6.51	16.11	16.19	19.16	29.49
2467MHz	Pass	6.51	15.9	16.14	19.03	29.49
2472MHz	Pass	6.51	5.48	5.75	8.63	29.49
802.11ax HEW40-BF_Nss1,(MCS0)_2TX	-	-	-	-	-	-
2422MHz	Pass	6.51	16.53	16.82	19.69	29.49
2437MHz	Pass	6.51	16.31	16.48	19.41	29.49
2452MHz	Pass	6.51	15.01	15.21	18.12	29.49
2457MHz	Pass	6.51	14.70	14.96	17.84	29.49
2462MHz	Pass	6.51	12.77	12.92	15.86	29.49

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



**Average Power**  
**<Partial RU> RU 26 (1TX)**

**Appendix C.4**

**Summary**

Mode	Total Power (dBm)	Total Power (W)
2.4-2.4835GHz	-	-
802.11ax HEW20_Nss1,(MCS0)_1TX	21.19	0.13152



**Average Power**  
**<Partial RU> RU 26 (1TX)**

**Appendix C.4**

**Result**

Mode	Result	DG (dBi)	Port 1 (dBm)	Total Power (dBm)	Power Limit (dBm)
802.11ax HEW20_Nss1,(MCS0)_1TX	-	-	-	-	-
2412MHz	Pass	3.50	16.81	16.81	30.00
2437MHz	Pass	3.50	21.19	21.19	30.00
2462MHz	Pass	3.50	13.01	13.01	30.00
2467MHz	Pass	3.50	8.47	8.47	30.00
2472MHz	Pass	3.50	-3.08	-3.08	30.00

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



**Average Power**  
**<Partial RU> RU 26 (2TX)**

**Appendix C.5**

**Summary**

Mode	Total Power (dBm)	Total Power (W)
2.4-2.4835GHz	-	-
802.11ax HEW20_Nss1,(MCS0)_2TX	23.54	0.22594



**Average Power**  
**<Partial RU> RU 26 (2TX)**

**Appendix C.5**

**Result**

Mode	Result	DG (dBi)	Port 1 (dBm)	Port 2 (dBm)	Total Power (dBm)	Power Limit (dBm)
802.11ax HEW20_Nss1,(MCS0)_2TX	-	-	-	-	-	-
2412MHz	Pass	3.50	15.89	16.06	18.99	30.00
2437MHz	Pass	3.50	20.51	20.55	23.54	30.00
2462MHz	Pass	3.50	12.24	12.48	15.37	30.00
2467MHz	Pass	3.50	7.37	7.51	10.45	30.00
2472MHz	Pass	3.50	-5.75	-5.59	-2.66	30.00

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



**Average Power**  
**<Partial RU> RU 52 (1TX)**

**Appendix C.6**

**Summary**

Mode	Total Power (dBm)	Total Power (W)
2.4-2.4835GHz	-	-
802.11ax HEW20_Nss1,(MCS0)_1TX	22.02	0.15922



**Average Power**  
**<Partial RU> RU 52 (1TX)**

**Appendix C.6**

**Result**

Mode	Result	DG (dBi)	Port 1 (dBm)	Total Power (dBm)	Power Limit (dBm)
802.11ax HEW20_Nss1,(MCS0)_1TX	-	-	-	-	-
2412MHz	Pass	3.50	18.09	18.09	30.00
2437MHz	Pass	3.50	22.02	22.02	30.00
2462MHz	Pass	3.50	15.30	15.30	30.00
2467MHz	Pass	3.50	10.92	10.92	30.00
2472MHz	Pass	3.50	2.70	2.70	30.00

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



**Average Power**  
**<Partial RU> RU 52 (2TX)**

**Appendix C.7**

**Summary**

Mode	Total Power (dBm)	Total Power (W)
2.4-2.4835GHz	-	-
802.11ax HEW20_Nss1,(MCS0)_2TX	25.38	0.34514





**Average Power**  
**<Partial RU> RU 52 (2TX)**

**Appendix C.7**

**Result**

Mode	Result	DG (dBi)	Port 1 (dBm)	Port 2 (dBm)	Total Power (dBm)	Power Limit (dBm)
802.11ax HEW20_Nss1,(MCS0)_2TX	-	-	-	-	-	-
2412MHz	Pass	3.50	16.16	16.39	19.29	30.00
2437MHz	Pass	3.50	22.34	22.40	25.38	30.00
2462MHz	Pass	3.50	13.78	14.07	16.94	30.00
2467MHz	Pass	3.50	8.93	9.09	12.02	30.00
2472MHz	Pass	3.50	0.05	0.24	3.16	30.00

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



**Average Power**  
**<Partial RU> RU 106 (1TX)**

**Appendix C.8**

**Summary**

Mode	Total Power (dBm)	Total Power (W)
2.4-2.4835GHz	-	-
802.11ax HEW20_Nss1,(MCS0)_1TX	22.48	0.17701



**Average Power**  
**<Partial RU> RU 106 (1TX)**

**Appendix C.8**

**Result**

Mode	Result	DG (dBi)	Port 1 (dBm)	Total Power (dBm)	Power Limit (dBm)
802.11ax HEW20_Nss1,(MCS0)_1TX	-	-	-	-	-
2412MHz	Pass	3.50	19.37	19.37	30.00
2437MHz	Pass	3.50	22.48	22.48	30.00
2462MHz	Pass	3.50	17.75	17.75	30.00
2467MHz	Pass	3.50	13.91	13.91	30.00
2472MHz	Pass	3.50	5.70	5.70	30.00

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



**Summary**

Mode	Total Power (dBm)	Total Power (W)
2.4-2.4835GHz	-	-
802.11ax HEW20_Nss1,(MCS0)_2TX	25.40	0.34674



**Average Power**  
**<Partial RU> RU 106 (2TX)**

**Appendix C.9**

**Result**

Mode	Result	DG (dBi)	Port 1 (dBm)	Port 2 (dBm)	Total Power (dBm)	Power Limit (dBm)
802.11ax HEW20_Nss1,(MCS0)_2TX	-	-	-	-	-	-
2412MHz	Pass	3.50	17.73	17.97	20.86	30.00
2437MHz	Pass	3.50	22.41	22.36	25.40	30.00
2462MHz	Pass	3.50	17.48	17.64	20.57	30.00
2467MHz	Pass	3.50	12.91	13.20	16.07	30.00
2472MHz	Pass	3.50	3.20	3.59	6.41	30.00

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



**Summary**

Mode	PD (dBm/RBW)
2.4-2.4835GHz	-
802.11b_Nss1,(1Mbps)_1TX	-1.72
802.11g_Nss1,(6Mbps)_1TX	-2.66
802.11ax HEW20_Nss1,(MCS0)_1TX	-3.23
802.11ax HEW40_Nss1,(MCS0)_1TX	-10.74

RBW = 3kHz;