

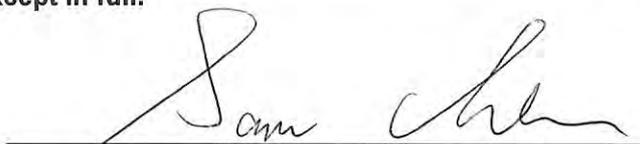


RADIO TEST REPORT

FCC ID : MSQ-RTAX6100
Equipment : AX5400 Dual Band Wi-Fi Router
Brand Name : ASUS
Model Name : RT-AX82U V2, RT-AX5400
Applicant : ASUSTeK COMPUTER INC.
1F., No. 15, Lide Rd., Beitou, Taipei City 112, Taiwan
Manufacturer(1) : Compal Networking(KunShan) CO., LTD
No.520,Nan Bang RD., Economic & Technical Development Zone,
KunShan,JiangSu,China
Manufacturer(2) : Datamax Electronics (DongGuan) Co., Ltd.
Niu Shan Foreign Economic Industrial Park, Dong Cheng District,
Dong Guan City, Guang Dong, China
Manufacturer(3) : ARCADYAN TECHNOLOGY (VIETNAM) CO., LTD.
Land plot No. D4-5-6, Thang Long Industrial Park (Vinh Phuc),
Thien Ke Commune, Binh Xuyen District, Vinh Phuc Province,
Vietnam
Manufacturer(4) : Lih Rong Electronic Enterprise Co.,Ltd.
No. 486, Sec. 1, Wanshou Road, Guishan District, , Taoyuan City,
Taiwan
Standard : 47 CFR FCC Part 15.407

The product was received on May 30, 2022, and testing was started from May 30, 2022 and completed on Sep. 24, 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 (R.O.C.)



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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	15.407(a)	Emission Bandwidth	PASS	-
3.3	15.407(a)	Maximum Output Power	PASS	-
3.4	15.407(a)	Power Spectral Density	PASS	-
3.5	15.407(b)	Unwanted Emissions	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: Vicky Huang**



1 General Description

1.1 Information

1.1.1 RF General Information

Frequency Range (MHz)	IEEE Std. 802.11	Ch. Frequency (MHz)	Channel Number
5150-5250	a, n (HT20), ac (VHT20), ax (HEW20)	5180-5240	36-48 [4]
5250-5350		5260-5320	52-64 [4]
5470-5725		5500-5720	100-144 [12]
5725-5850		5745-5825	149-165 [5]
5150-5250	n (HT40), ac (VHT40), ax (HEW40)	5190-5230	38-46 [2]
5250-5350		5270-5310	54-62 [2]
5470-5725		5510-5710	102-142 [6]
5725-5850		5755-5795	151-159 [2]
5150-5250	ac (VHT80), ax (HEW80)	5210	42 [1]
5250-5350		5290	58 [1]
5470-5725		5530-5690	106-138 [3]
5725-5850		5775	155 [1]
5150-5350	ac (VHT160), ax (HEW160)	5250	50 [1]
5470-5725		5570	114 [1]

Band	Mode	BWch (MHz)	Nant
5.15-5.35GHz	802.11a	20	2, 4TX
5.15-5.35GHz	802.11n HT20	20	2, 4TX
5.15-5.35GHz	802.11n HT20-BF	20	2, 4TX
5.15-5.35GHz	802.11ac VHT20	20	2, 4TX
5.15-5.35GHz	802.11ac VHT20-BF	20	2, 4TX
5.15-5.35GHz	802.11ax HEW20	20	2, 4TX
5.15-5.35GHz	802.11ax HEW20-BF	20	2, 4TX
5.15-5.35GHz	802.11n HT40	40	2, 4TX
5.15-5.35GHz	802.11n HT40-BF	40	2, 4TX
5.15-5.35GHz	802.11ac VHT40	40	2, 4TX
5.15-5.35GHz	802.11ac VHT40-BF	40	2, 4TX
5.15-5.35GHz	802.11ax HEW40	40	2, 4TX
5.15-5.35GHz	802.11ax HEW40-BF	40	2, 4TX
5.15-5.35GHz	802.11ac VHT80	80	2, 4TX
5.15-5.35GHz	802.11ac VHT80-BF	80	2, 4TX
5.15-5.35GHz	802.11ax HEW80	80	2, 4TX



Band	Mode	BWch (MHz)	Nant
5.15-5.35GHz	802.11ax HEW80-BF	80	2, 4TX
5.15-5.35GHz	802.11ac VHT160	160	2, 4TX
5.15-5.35GHz	802.11ac VHT160-BF	160	2, 4TX
5.15-5.35GHz	802.11ax HEW160	160	2, 4TX
5.15-5.35GHz	802.11ax HEW160-BF	160	2, 4TX
5.47-5.725GHz	802.11a	20	2, 4TX
5.47-5.725GHz	802.11n HT20	20	2, 4TX
5.47-5.725GHz	802.11n HT20-BF	20	2, 4TX
5.47-5.725GHz	802.11ac VHT20	20	2, 4TX
5.47-5.725GHz	802.11ac VHT20-BF	20	2, 4TX
5.47-5.725GHz	802.11ax HEW20	20	2, 4TX
5.47-5.725GHz	802.11ax HEW20-BF	20	2, 4TX
5.47-5.725GHz	802.11n HT40	40	2, 4TX
5.47-5.725GHz	802.11n HT40-BF	40	2, 4TX
5.47-5.725GHz	802.11ac VHT40	40	2, 4TX
5.47-5.725GHz	802.11ac VHT40-BF	40	2, 4TX
5.47-5.725GHz	802.11ax HEW40	40	2, 4TX
5.47-5.725GHz	802.11ax HEW40-BF	40	2, 4TX
5.47-5.725GHz	802.11ac VHT80	80	2, 4TX
5.47-5.725GHz	802.11ac VHT80-BF	80	2, 4TX
5.47-5.725GHz	802.11ax HEW80	80	2, 4TX
5.47-5.725GHz	802.11ax HEW80-BF	80	2, 4TX
5.47-5.725GHz	802.11ac VHT160	160	2, 4TX
5.47-5.725GHz	802.11ac VHT160-BF	160	2, 4TX
5.47-5.725GHz	802.11ax HEW160	160	2, 4TX
5.47-5.725GHz	802.11ax HEW160-BF	160	2, 4TX
5.725-5.85GHz	802.11a	20	2, 4TX
5.725-5.85GHz	802.11n HT20	20	2, 4TX
5.725-5.85GHz	802.11n HT20-BF	20	2, 4TX
5.725-5.85GHz	802.11ac VHT20	20	2, 4TX
5.725-5.85GHz	802.11ac VHT20-BF	20	2, 4TX
5.725-5.85GHz	802.11ax HEW20	20	2, 4TX
5.725-5.85GHz	802.11ax HEW20-BF	20	2, 4TX
5.725-5.85GHz	802.11n HT40	40	2, 4TX
5.725-5.85GHz	802.11n HT40-BF	40	2, 4TX
5.725-5.85GHz	802.11ac VHT40	40	2, 4TX
5.725-5.85GHz	802.11ac VHT40-BF	40	2, 4TX
5.725-5.85GHz	802.11ax HEW40	40	2, 4TX
5.725-5.85GHz	802.11ax HEW40-BF	40	2, 4TX
5.725-5.85GHz	802.11ac VHT80	80	2, 4TX



Band	Mode	BWch (MHz)	Nant
5.725-5.85GHz	802.11ac VHT80-BF	80	2, 4TX
5.725-5.85GHz	802.11ax HEW80	80	2, 4TX
5.725-5.85GHz	802.11ax HEW80-BF	80	2, 4TX

Note:

- ◆ 11a, HT20 and HT40 use a combination of OFDM-BPSK, QPSK, 16QAM, 64QAM modulation.
- ◆ VHT20, VHT40, VHT80 and VHT160 use a combination of OFDM-BPSK, QPSK, 16QAM, 64QAM, 256QAM, 1024QAM modulation.
- ◆ HEW20, HEW40, HEW80 and HEW160 use a combination of OFDMA-BPSK, QPSK, 16QAM, 64QAM, 256QAM, 1024QAM modulation.
- ◆ BWch is the nominal channel bandwidth.



1.1.2 Antenna Information

Set	Ant.	Port		Brand	Model Name	Antenna Type	Connector	Gain (dBi)
		2.4GHz	5GHz					
1	1	2	2	PSA	RFDPA161314IMLB701	Dipole Antenna	I-PEX	Note1
	2	-	1	PSA	RFDPA161311IM5B702	Dipole Antenna	I-PEX	
	3	-	4	PSA	RFDPA161310IM5B701	Dipole Antenna	I-PEX	
	4	1	3	PSA	RFDPA161316IMLB701	Dipole Antenna	I-PEX	
2	1	2	2	PSA	RFDPA171314IMLB701	Dipole Antenna	I-PEX	Note1
	2	-	1	PSA	RFDPA171311IM5B702	Dipole Antenna	I-PEX	
	3	-	4	PSA	RFDPA171310IM5B702	Dipole Antenna	I-PEX	
	4	1	3	PSA	RFDPA171316IMLB701	Dipole Antenna	I-PEX	
3	1	2	2	PSA	RFDPA141514IMLB701	Dipole Antenna	I-PEX	Note1
	2	-	1	PSA	RFDPA141511IM5B701	Dipole Antenna	I-PEX	
	3	-	4	PSA	RFDPA141510IM5B701	Dipole Antenna	I-PEX	
	4	1	3	PSA	RFDPA141516IMLB701	Dipole Antenna	I-PEX	
4	1	2	2	WHA YU	C660-510468-A	Dipole Antenna	I-PEX	Note1
	2	-	1	WHA YU	C660-510469-A	Dipole Antenna	I-PEX	
	3	-	4	WHA YU	C660-510470-A	Dipole Antenna	I-PEX	
	4	1	3	WHA YU	C660-510471-A	Dipole Antenna	I-PEX	
5	1	2	2	WHA YU	C660-510472-A	Dipole Antenna	I-PEX	Note1
	2	-	1	WHA YU	C660-510473-A	Dipole Antenna	I-PEX	
	3	-	4	WHA YU	C660-510474-A	Dipole Antenna	I-PEX	
	4	1	3	WHA YU	C660-510475-A	Dipole Antenna	I-PEX	
6	1	2	2	WHA YU	C660-510495-A	Dipole Antenna	I-PEX	Note1
	2	-	1	WHA YU	C660-510496-A	Dipole Antenna	I-PEX	
	3	-	4	WHA YU	C660-510497-A	Dipole Antenna	I-PEX	
	4	1	3	WHA YU	C660-510498-A	Dipole Antenna	I-PEX	



Note1:

Set	Ant.	Antenna Gain (dBi)				
		2.4GHz	5GHz UNII 1	5GHz UNII 2A	5GHz UNII 2C	5GHz UNII 3
1	1	1.71	1.75	1.89	1.88	1.7
	2	-	1.93	1.93	1.92	1.95
	3	-	1.75	1.85	1.83	1.89
	4	1.63	1.92	1.88	1.9	1.87
2	1	1.7	1.74	1.74	1.82	1.68
	2	-	1.86	1.9	1.64	1.9
	3	-	1.48	1.6	1.46	1.88
	4	1.61	1.63	1.71	1.81	1.86
3	1	1.7	1.75	1.75	1.78	1.67
	2	-	1.82	1.93	1.58	1.92
	3	-	1.75	1.46	1.18	1.14
	4	1.61	1.86	1.6	1.89	1.05
4	1	1.61	1.74	1.84	1.86	1.67
	2	-	1.76	1.8	1.87	1.87
	3	-	1.66	1.72	1.69	1.84
	4	1.6	1.88	1.82	1.85	1.86
5	1	1.7	1.71	1.85	1.85	1.68
	2	-	1.68	1.73	1.8	1.85
	3	-	1.63	1.74	1.76	1.77
	4	1.62	1.67	1.74	1.79	1.85
6	1	1.59	1.72	1.82	1.84	1.66
	2	-	1.74	1.79	1.86	1.86
	3	-	1.61	1.69	1.68	1.82
	4	1.58	1.77	1.81	1.82	1.85



Note2: Directional gain information for antenna set 1

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

Ex.

Directional Gain (NSS1) formula :

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

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

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

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

Where ;

$$G1 = 10 ; G2 = 10$$

$$2.4GHz G1 = 1.71 \text{ dBi}; G2 = 1.63 \text{ dBi}; 2T1S DG = 4.68 \text{ dBi}$$



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	$DirectionalGain = 10 \cdot \log \left[\frac{\sum_{j=1}^{N_{ANT}} \left\{ \sum_{k=1}^{N_{ANT}} \mathcal{E}_{j,k} \right\}^2}{N_{ANT}} \right]$
BF	$DirectionalGain = 10 \cdot \log \left[\frac{\sum_{j=1}^{N_{ANT}} \left\{ \sum_{k=1}^{N_{ANT}} \mathcal{E}_{j,k} \right\}^2}{N_{ANT}} \right]$	$DirectionalGain = 10 \cdot \log \left[\frac{\sum_{j=1}^{N_{ANT}} \left\{ \sum_{k=1}^{N_{ANT}} \mathcal{E}_{j,k} \right\}^2}{N_{ANT}} \right]$

Ex.

Directional Gain (NSS1) formula :

$$DirectionalGain = 10 \cdot \log \left[\frac{\sum_{j=1}^{N_{ANT}} \left\{ \sum_{k=1}^{N_{ANT}} \mathcal{E}_{j,k} \right\}^2}{N_{ANT}} \right]$$

$$NSS1(g1,1) = 10^{G1/20} ; NSS1(g1,2) = 10^{G2/20} ; NSS1(g1,2) = 10^{G3/20} ; NSS1(g1,2) = 10^{G4/20}$$

$$g_{j,k} = (NSS1(g1,1) + NSS1(g1,2) + NSS1(g1,3) + NSS1(g1,4))^2$$

$$DG = 10 \log[(NSS1(g1,1) + NSS1(g1,2) + NSS1(g1,3) + NSS1(g1,4))^2 / N_{ANT}] => 10$$

$$\log[(10^{G1/20} + 10^{G2/20} + 10^{G3/20} + 10^{G4/20})^2 / N_{ANT}]$$

Where ;

$$G1 = 10 ; G2 = 10 ; G3 = 10 ; G4 = 10 ;$$

5GHz Band1 G1 = 1.75 dBi; G2 = 1.93 dBi; G3 = 1.75 dBi; G4 = 1.92 dBi; 4T1S DG = 7.86 dBi
4T2S=4.85

5 GHz Band2 G1 = 1.89 dBi; G2 = 1.93 dBi; G3 = 1.85 dBi; G4 = 1.88 dBi; 4T1S DG = 7.91 dBi
4T2S=4.90

5GHz Band3 G1 = 1.88 dBi; G2 = 1.92 dBi; G3 = 1.83 dBi; G4 = 1.90 dBi; 4T1S DG = 7.90 dBi
4T2S=4.89

5 GHz Band4 G1 = 1.70 dBi; G2 = 1.95 dBi; G3 = 1.89 dBi; G4 = 1.87 dBi; 4T1S DG = 7.87 dBi
4T2S=4.86



Note3: The EUT has six sets of antenna, and each set contains four antennas.

Note4: Set 1~6 are the same type antenna. Only the highest gain "set 1" antenna was selected to test and record in this report.

Note5: The above information was declared by manufacturer.

For 2.4GHz function:

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

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

Port 1 and Port 2 could transmit/receive simultaneously.

For 5GHz function:

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

For 2TX

Port 1 and Port 4 can be used as transmitting antenna.

Port 1 and Port 4 could transmit simultaneously.

For 4TX

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

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

For 4RX:

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

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



1.1.3 Mode Test Duty Cycle

For non beamforming

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

For beamforming

For 4T1S

Mode	DC	DCF(dB)	T(s)	VBW(Hz) ≥ 1/T
802.11ax HEW20-BF	0.961	0.17	4.428m	300
802.11ax HEW40-BF	0.932	0.31	4.393m	300
802.11ax HEW80-BF	0.963	0.16	4.16m	300
802.11ax HEW160-BF	0.942	0.26	5.293m	300

For 4T2S

Mode	DC	DCF(dB)	T(s)	VBW(Hz) ≥ 1/T
802.11ax HEW20-BF	0.96	0.18	5.16m	300
802.11ax HEW40-BF	0.958	0.19	5.12m	300
802.11ax HEW80-BF	0.96	0.18	4.853m	300
802.11ax HEW160-BF	0.966	0.15	5.193m	300

Note:

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

1.1.4 EUT Operational Condition

EUT Power Type	From Power Adapter			
Beamforming Function	<input checked="" type="checkbox"/>	With beamforming	<input type="checkbox"/>	Without beamforming
Weather Band	<input checked="" type="checkbox"/>	With 5600~5650MHz	<input type="checkbox"/>	Without 5600~5650MHz
Function	<input type="checkbox"/>	Outdoor P2M	<input checked="" type="checkbox"/>	Indoor P2M
	<input type="checkbox"/>	Fixed P2P	<input type="checkbox"/>	Client
	<input checked="" type="checkbox"/>	Point-to-multipoint	<input type="checkbox"/>	Point-to-point
TPC Function	<input checked="" type="checkbox"/>	With TPC	<input type="checkbox"/>	Without TPC
Channel Puncturing Function	<input type="checkbox"/>	Supported	<input checked="" type="checkbox"/>	Unsupported
Test Software Version	Mtool V3.2.0.0			

Note: The above information was declared by manufacturer.



1.1.5 Table for Multiple Listing

The model names in the following table are all refer to the identical product.

Model Name	Description
RT-AX82U V2	All the models are identical, the difference model served as marketing strategy.
RT-AX5400	

Note 1: From the above models, model: RT-AX82U V2 was selected as representative model for the test and its data was recorded in this report.

Note 2: The above information was declared by manufacturer.

1.1.6 Table for EUT Information

EUT	Special Effects of Light Board	Description
1	V	EUT 2 is the same as EUT 1. The difference is the design of the light board and exterior of the EUT.
2	X	

Note: The above information was declared by manufacturer.

1.1.7 Table for EUT Supports Function

Function	Supports type
AP Router	Master
Bridge	Client without radar detection
Repeater	Master
Mesh	Master

Note: The AP Router mode was selected to test and recorded in this test report.



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
- ◆ ANSI C63.10-2013
- ◆ FCC KDB 789033 D02 v02r01

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

- ◆ FCC KDB 662911 D01 v02r01
- ◆ FCC KDB 412172 D01 v01r01
- ◆ FCC KDB 414788 D01 v01r01

1.3 Testing Location Information

Testing Location Information	
Test Lab. : Sporton International Inc. Hsinchu Laboratory	
Hsinchu (TAF: 3787)	ADD: No.8, Ln. 724, Bo'ai St., Zhubei City, Hsinchu County 302010, Taiwan (R.O.C.) 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	TH03-CB	Owen Hsu	23.6-23.9 / 57~64	Jun. 16, 2022~ Jul. 01, 2022
Radiated (below 1GHz)	03CH05-CB	Chris Li	24.2~25.2 / 61~66	Sep. 14, 2022
Radiated (above 1GHz)	03CH02-CB	Chris Li	23.8~24.4 / 67~68	May 30, 2022~ Jun. 28, 2022
	03CH06-CB	Chris Li	23.8~25.2 / 63~69	May 30, 2022~ Jun. 28, 2022
Radiated (Co-location)	03CH05-CB	Chris Li	24.5~25.2 / 61~65	Sep. 24, 2022
AC Conduction	CO01-CB	Dean Chang	20~22 / 60~62	Aug. 08, 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)

For Before Jun. 01, 2022

Test Items	Uncertainty	Remark
Radiated Emission (1GHz ~ 18GHz)	4.7 dB	Confidence levels of 95%
Radiated Emission (18GHz ~ 40GHz)	4.2 dB	Confidence levels of 95%

For After May 31, 2022

Test Items	Uncertainty	Remark
Conducted Emission (150kHz ~ 30MHz)	3.4 dB	Confidence levels of 95%
Radiated Emission (9kHz ~ 30MHz)	3.4 dB	Confidence levels of 95%
Radiated Emission (30MHz ~ 1,000MHz)	5.6 dB	Confidence levels of 95%
Radiated Emission (1GHz ~ 18GHz)	5.2 dB	Confidence levels of 95%
Radiated Emission (18GHz ~ 40GHz)	4.7 dB	Confidence levels of 95%
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

For non beamforming

Mode	Power Setting
802.11a_Nss1,(6Mbps)_4TX	-
5180MHz	87
5200MHz	87
5240MHz	88
5260MHz	63
5300MHz	63
5320MHz	64
5500MHz	64
5580MHz	64
5700MHz	63
5720MHz Straddle 5.47-5.725GHz	63
5720MHz Straddle 5.725-5.85GHz	63
5745MHz	94
5785MHz	95
5825MHz	95



**For beamforming
For 4T1S**

Mode	Power Setting
802.11ax HEW20-BF_Nss1,(MCS0)_4TX	-
5180MHz	86
5200MHz	86
5240MHz	87
5260MHz	62
5300MHz	62
5320MHz	62
5500MHz	62
5580MHz	63
5700MHz	62
5720MHz Straddle 5.47-5.725GHz	61
5720MHz Straddle 5.725-5.85GHz	61
5745MHz	86
5785MHz	86
5825MHz	86
802.11ax HEW40-BF_Nss1,(MCS0)_4TX	-
5190MHz	85
5230MHz	85
5270MHz	61
5310MHz	62
5510MHz	62
5550MHz	62
5670MHz	61
5710MHz Straddle 5.47-5.725GHz	61
5710MHz Straddle 5.725-5.85GHz	61
5755MHz	85
5795MHz	86
802.11ax HEW80-BF_Nss1,(MCS0)_4TX	-
5210MHz	86
5290MHz	62
5530MHz	63
5610MHz	61
5690MHz Straddle 5.47-5.725GHz	61
5690MHz Straddle 5.725-5.85GHz	61
5775MHz	86
802.11ax HEW160-BF_Nss1,(MCS0)_4TX	-
5250MHz Straddle 5.15-5.25GHz	71
5250MHz Straddle 5.25-5.35GHz	71



Mode	Power Setting
5570MHz	62



For 4T2S

Mode	Power Setting
802.11ax HEW20-BF_Nss2,(MCS0)_4TX	-
5180MHz	94
5200MHz	94
5240MHz	94
5260MHz	69
5300MHz	69
5320MHz	70
5500MHz	69
5580MHz	70
5700MHz	70
5720MHz Straddle 5.47-5.725GHz	68
5720MHz Straddle 5.725-5.85GHz	68
5745MHz	93
5785MHz	93
5825MHz	94
802.11ax HEW40-BF_Nss2,(MCS0)_4TX	-
5190MHz	92
5230MHz	93
5270MHz	69
5310MHz	69
5510MHz	70
5550MHz	70
5670MHz	69
5710MHz Straddle 5.47-5.725GHz	69
5710MHz Straddle 5.725-5.85GHz	69
5755MHz	93
5795MHz	94
802.11ax HEW80-BF_Nss2,(MCS0)_4TX	-
5210MHz	94
5290MHz	70
5530MHz	69
5610MHz	69
5690MHz Straddle 5.47-5.725GHz	68
5690MHz Straddle 5.725-5.85GHz	68
5775MHz	94
802.11ax HEW160-BF_Nss2,(MCS0)_4TX	-
5250MHz Straddle 5.15-5.25GHz	79
5250MHz Straddle 5.25-5.35GHz	79



Mode	Power Setting
5570MHz	70

Note:

- ♦ Evaluated HEW20/HEW40/HEW80/HEW160 mode only, due to similar modulation. The power setting of HT20/HT40/VHT20/VHT40/VHT80/VHT160 mode are the same or lower than HEW20/HEW40/HEW80/HEW160.
- ♦ The EUT supports non-beamforming and beamforming mode, only beamforming mode has been selected to test.
- ♦ Only the 4TX function was selected to test and record in the report, and the output power for the 2TX function will follow this same test result.



2.2 The Worst Case Measurement Configuration

The Worst Case Mode for Following Conformance Tests	
Tests Item	AC power-line conducted emissions
Condition	AC power-line conducted measurement for line and neutral Test Voltage: 120Vac / 60Hz
Operating Mode	Normal Link
1	EUT 1 (AP Router) + Adapter 1
2	EUT 1 (AP Router) + Adapter 3
For operating mode 2 is the worst case and it was record in this test report.	

The Worst Case Mode for Following Conformance Tests	
Tests Item	Emission Bandwidth Maximum Output Power Power Spectral Density
Test Condition	Conducted measurement at transmit chains

The Worst Case Mode for Following Conformance Tests	
Tests Item	Unwanted Emissions
Test Condition	Radiated measurement If EUT consist of multiple antenna assembly (multiple antenna are used in EUT regardless of spatial multiplexing MIMO configuration), the radiated test should be performed with highest antenna gain of each antenna type.
Operating Mode < 1GHz	CTX
	The EUT was performed at X axis, Y axis and Z axis positio for Unwanted Emissions above 1GHz, and the worst case was found at Z axis. So the measurement will follow this same test configuration.
1	EUT 1 in Z axis_2.4GHz + Adapter 1
2	EUT 1 in Z axis_2.4GHz + Adapter 3
Mode 1 has been evaluated to be the worst case between Mode 1~2, thus measurement for Mode 3 will follow this same test mode.	
3	EUT 1 in Z axis_5GHz + Adapter 1
Mode 3 has been evaluated to be the worst case among Mode 1~3, thus measurement for Mode 4 will follow this same test mode.	
4	EUT 2 in Z axis_5GHz + Adapter 1
For operating mode 3 is the worst case and it was record in this test report.	



Operating Mode > 1GHz	CTX
	The EUT was performed at X axis, Y axis and Z axis positio, and the worst case was found at Z axis. So the measurement will follow this same test configuration.
1	EUT 1 in Z axis

The Worst Case Mode for Following Conformance Tests	
Tests Item	Simultaneous Transmission Analysis - Radiated Emission Co-location
Test Condition	Radiated measurement
Operating Mode	Normal Link
	The EUT was performed at X axis, Y axis and Z axis positio for Unwanted Emissions above 1GHz, and the worst case was found at Z axis. So the measurement will follow this same test configuration.
1	EUT 1 in Z axis_WLAN 2.4GHz+WLAN 5GHz
Refer to Appendix G for Radiated Emission Co-location.	

The Worst Case Mode for Following Conformance Tests	
Tests Item	Simultaneous Transmission Analysis - Co-location RF Exposure Evaluation
Operating Mode	
1	WLAN 2.4GHz+WLAN 5GHz
Refer to Sporton Test Report No.: FA231808 for Co-location RF Exposure Evaluation.	

2.3 EUT Operation during Test

For CTX Mode:

non-beamforming mode:

The EUT was programmed to be in continuously transmitting mode.

beamforming mode:

For Conducted Mode:

The EUT was programmed to be in continuously transmitting mode.

For Radiated Mode:

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

The program was executed as follows:

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

For Normal Link Mode:

During the test, the EUT operation to normal function.



2.4 Accessories

Accessories			
Equipment Name	Brand Name	Model Name	Rating
Adapter 1	DELTA	ADP-33AW Y	INPUT:100-240V~1.0A, 50-60Hz OUTPUT:19.0V, 1.75A, 33.0W
Adapter 2	DELTA	ADP-33AW Y	INPUT:100-240V~1.0A, 50-60Hz OUTPUT:19.0V, 1.75A, 33.0W
Adapter 3	PI	AD2131320	INPUT:100-240V~50-60Hz, 0.8A OUTPUT:19.0V, 1.75A, 33.0W
Adapter 4	PI	AD2131320	INPUT:100-240V~50-60Hz, 0.8A OUTPUT:19.0V, 1.75A, 33.0W
Other			
RJ-45 cable*1, non-shielded, 1.5m			

Note 1: The difference between Adapter 1 & Adapter 2 is only for labels, there is only Adapter 1 tested and recorded in this report.

Note 2: The difference between Adapter 3 & Adapter 4 is only for labels, there is only Adapter 3 tested and recorded in this report.

Note 3: The above information was declared by manufacturer.

2.5 Support Equipment

For AC Conduction:

Support Equipment				
No.	Equipment	Brand Name	Model Name	FCC ID
A	LAN1 NB	DELL	E6430	N/A
B	LAN4 NB	DELL	E6430	N/A
C	2.4G NB	DELL	E6430	N/A
D	5G NB	DELL	E6430	N/A
E	WAN NB	DELL	E6430	N/A
F	Flash disk3.0	Transcend	JetFlash-700	N/A

For Radiated (below 1GHz):

Support Equipment				
No.	Equipment	Brand Name	Model Name	FCC ID
A	NB	DELL	E4310	N/A



For Radiated (above 1GHz):

For non-beamforming mode:

Support Equipment				
No.	Equipment	Brand Name	Model Name	FCC ID
A	NB	DELL	E4310	N/A

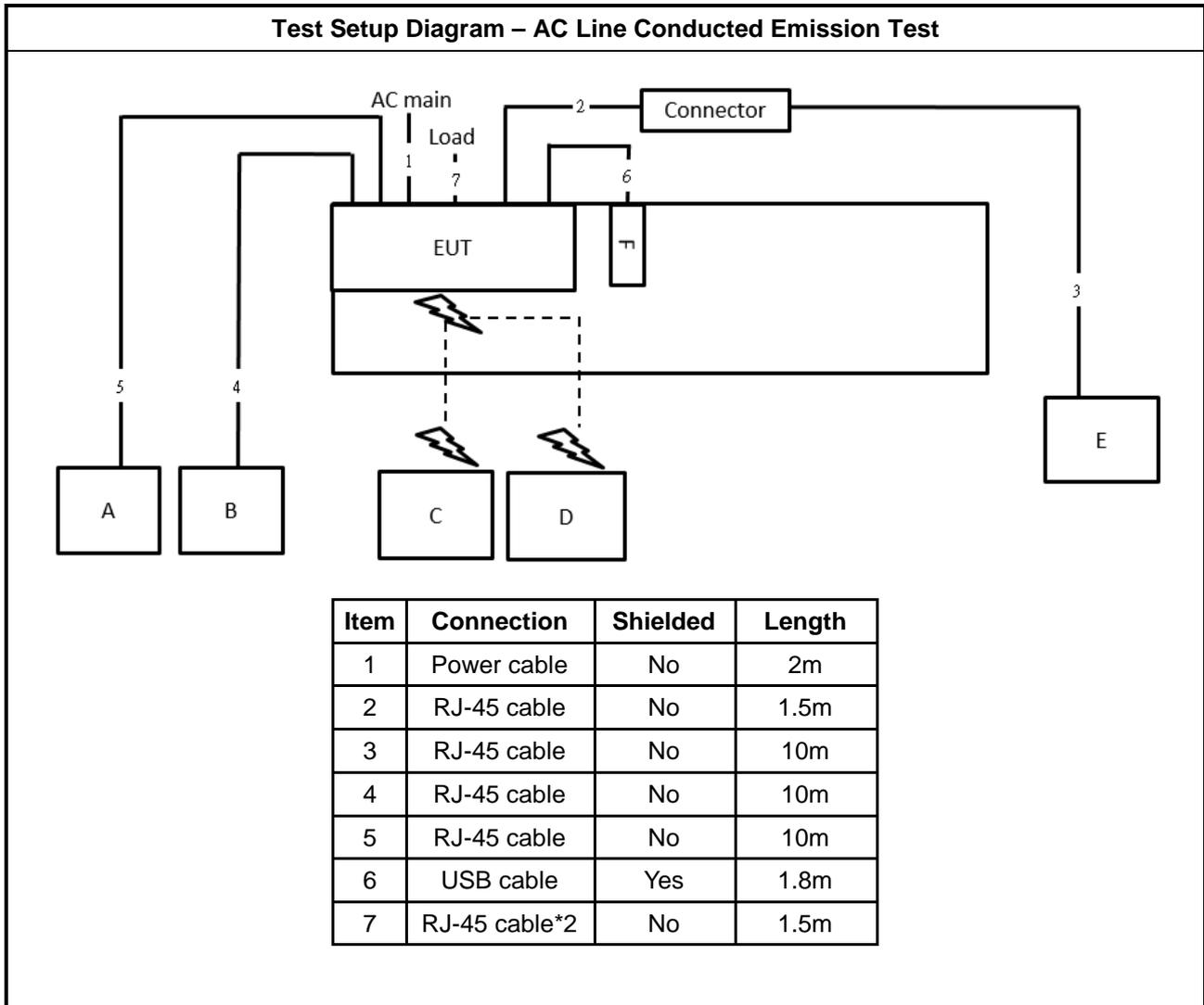
For beamforming mode:

Support Equipment				
No.	Equipment	Brand Name	Model Name	FCC ID
A	NB	DELL	E4310	N/A
B	NB	DELL	PP13S	N/A
C	Client	ASUS	A26	N/A

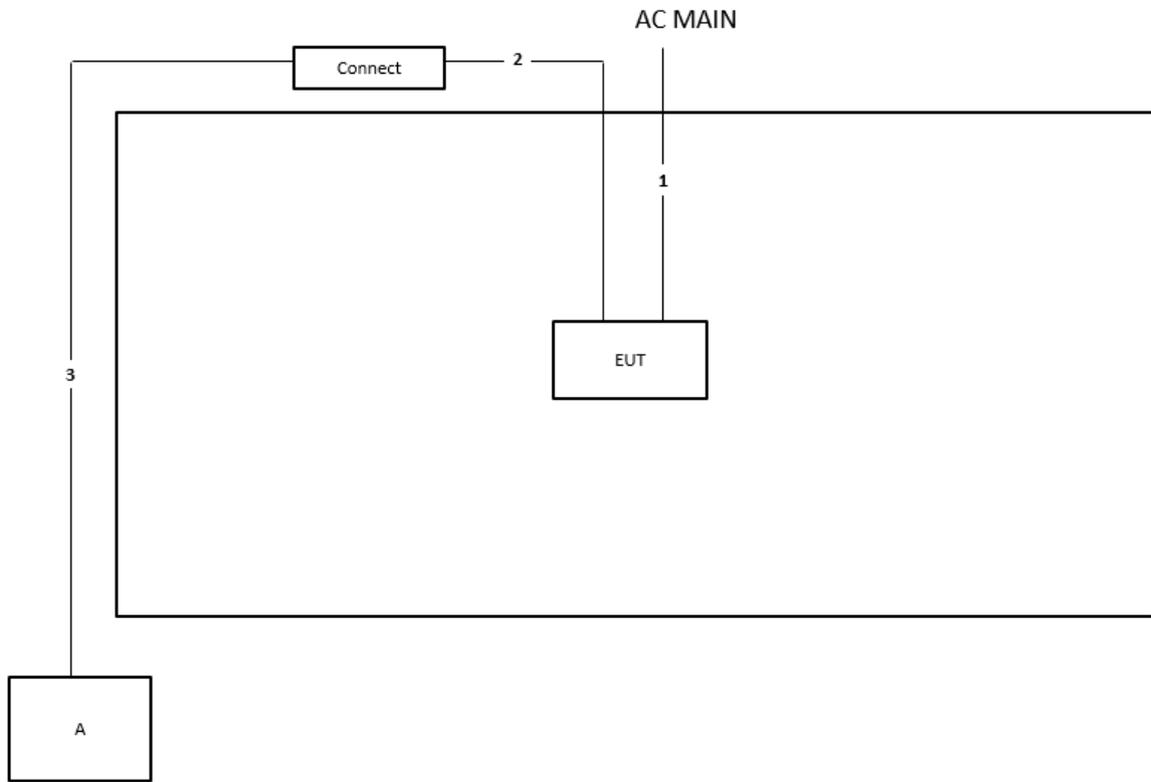
For RF Conducted:

Support Equipment				
No.	Equipment	Brand Name	Model Name	FCC ID
A	NB	DELL	E4300	N/A

2.6 Test Setup Diagram



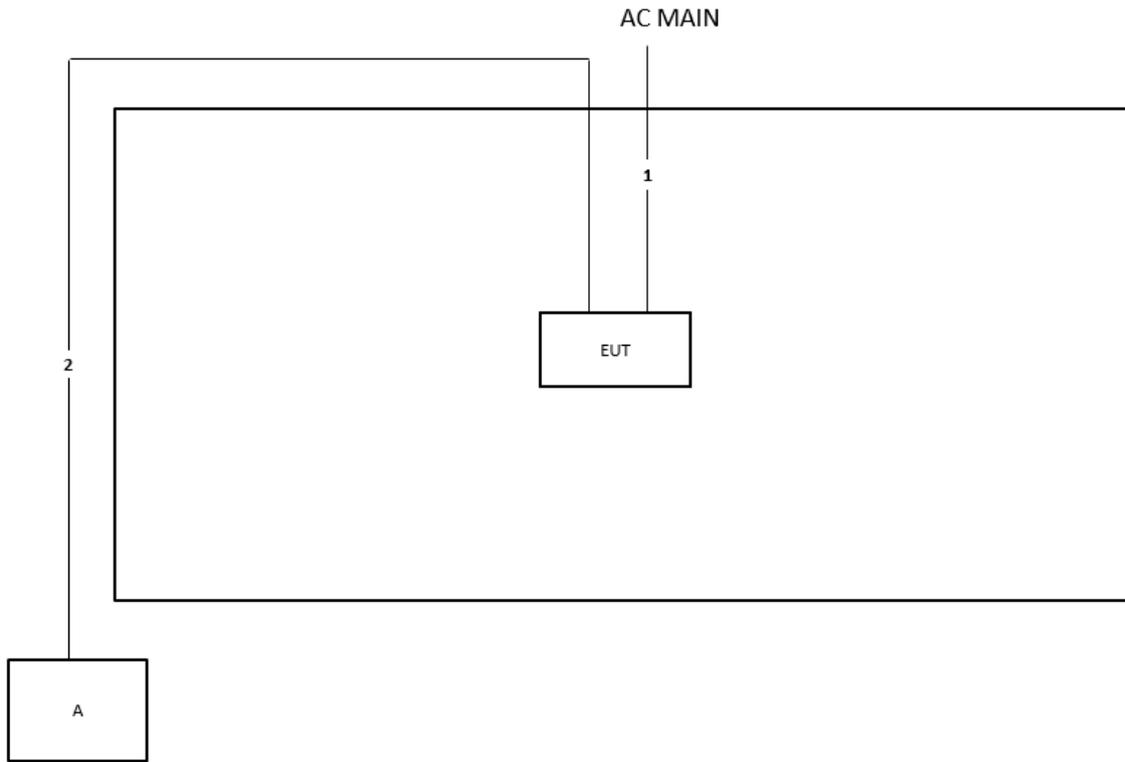
Test Setup Diagram - Radiated Test < 1GHz



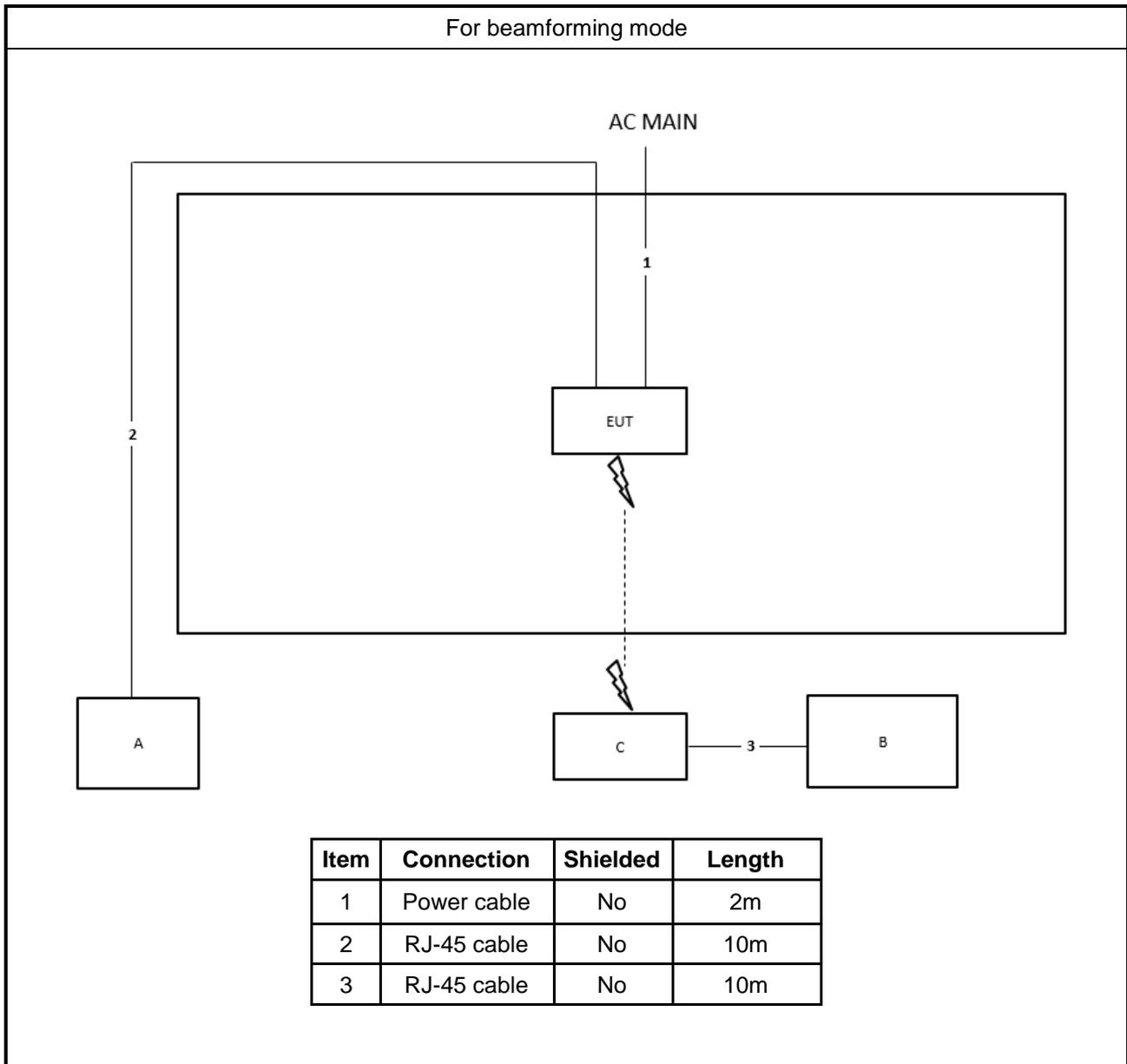
Item	Connection	Shielded	Length
1	Power cable	No	2m
2	RJ-45 cable	No	1.5m
3	RJ-45 cable	No	10m

Test Setup Diagram - Radiated Test > 1GHz

For non-beamforming mode



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





3 Transmitter Test Result

3.1 AC Power-line Conducted Emissions

3.1.1 AC Power-line Conducted Emissions Limit

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

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

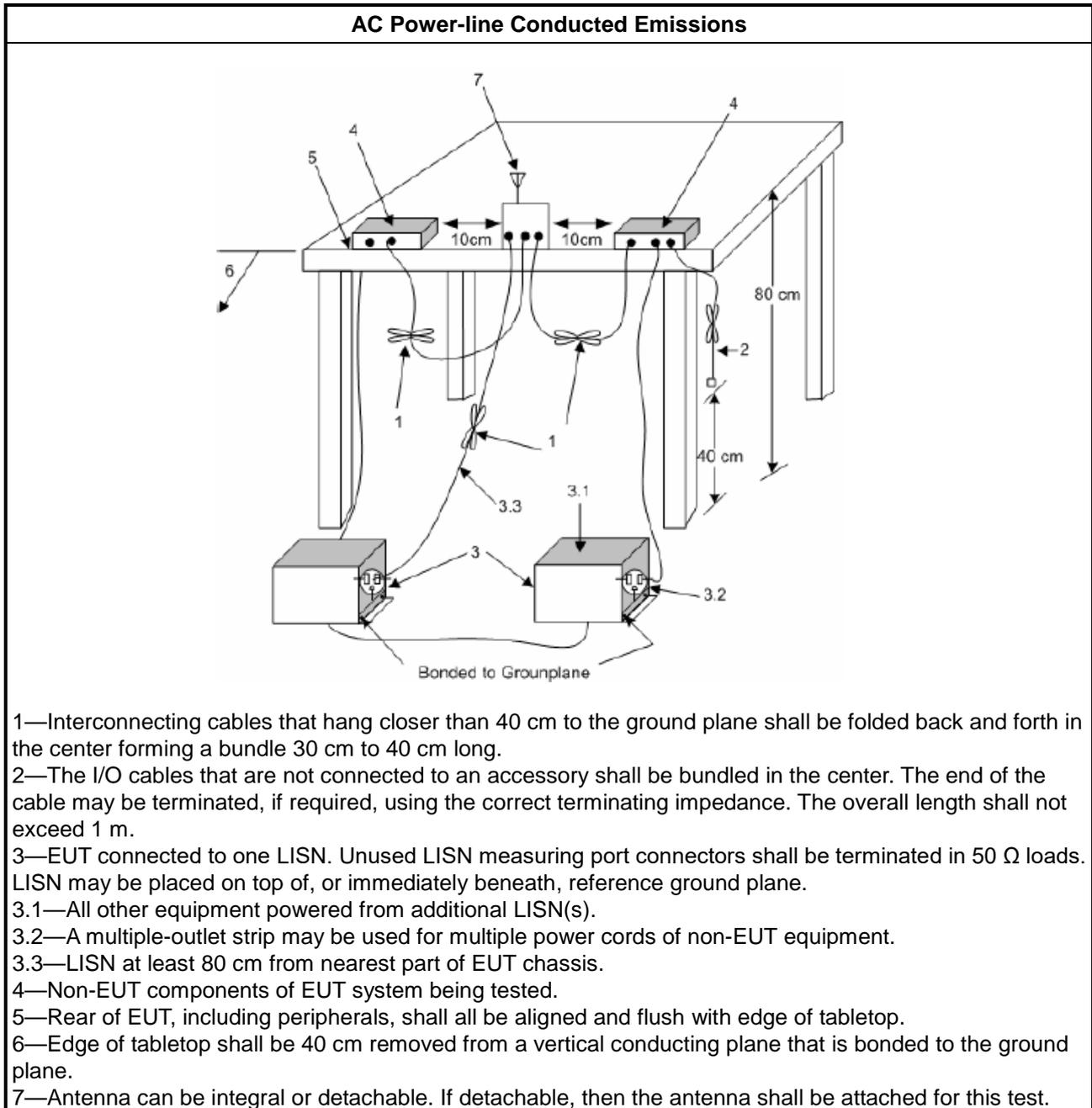
3.1.2 Measuring Instruments

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

3.1.3 Test Procedures

Test Method
<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 Emission Bandwidth

3.2.1 Emission Bandwidth Limit

Emission Bandwidth Limit	
UNII Devices	
<input checked="" type="checkbox"/>	For the 5.15-5.25 GHz band, N/A
<input checked="" type="checkbox"/>	For the 5.25-5.35 GHz band, the maximum conducted output power shall not exceed the lesser of 250 mW or 11 dBm + 10 log B, where B is the 26 dB emission bandwidth in MHz.
<input checked="" type="checkbox"/>	For the 5.47-5.725 GHz band, the maximum conducted output power shall not exceed the lesser of 250 mW or 11 dBm + 10 log B, where B is the 26 dB emission bandwidth in MHz.
<input checked="" type="checkbox"/>	For the 5.725-5.85 GHz band, 26 dB emission bandwidth ,N/A. 6 dB emission bandwidth ≥ 500kHz.
<input type="checkbox"/>	For the 5.85-5.895 GHz band, 26 dB emission bandwidth ,N/A. 6 dB emission bandwidth ≥ 500kHz.
LE-LAN Devices	
<input type="checkbox"/>	For the band 5.15-5.25 GHz, the maximum e.i.r.p. shall not exceed 200 mW or 10 + 10 log B, dBm, whichever power is less. B is the 99% emission bandwidth in MHz.
<input type="checkbox"/>	For the 5.25-5.35 GHz band, the maximum e.i.r.p. shall not exceed 1.0 W or 17 + 10 log B, dBm, whichever power is less. B is the 99% emission bandwidth in MHz
<input type="checkbox"/>	For the 5.47-5.6 GHz band and 5.65-5.725 GHz band, the maximum e.i.r.p. shall not exceed 1.0 W or 17 + 10 log B, dBm, whichever power is less. B is the 99% emission bandwidth in MHz
<input type="checkbox"/>	For the 5.725-5.85 GHz band, 6 dB emission bandwidth ≥ 500kHz.

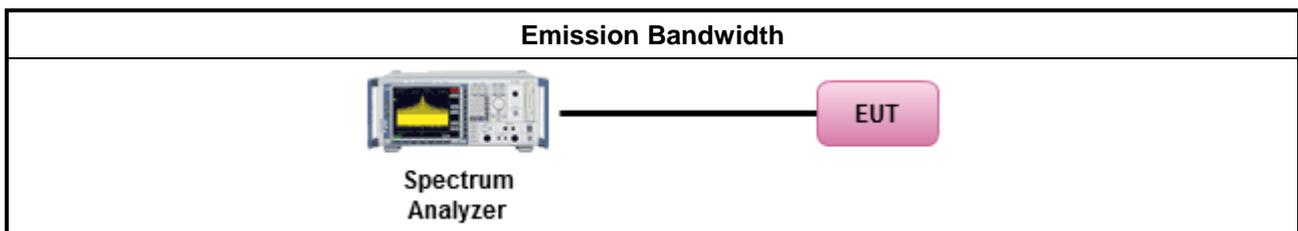
3.2.2 Measuring Instruments

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"> ▪ For the emission bandwidth shall be measured using one of the options below: <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 30px;"><input checked="" type="checkbox"/></td> <td>Refer as FCC KDB 789033 D02, clause C for EBW and clause D for OBW measurement.</td> </tr> <tr> <td><input type="checkbox"/></td> <td>Refer as ANSI C63.10, clause 6.9.1 for occupied bandwidth testing.</td> </tr> <tr> <td><input type="checkbox"/></td> <td>Refer as IC RSS-Gen, clause 4.6 for bandwidth testing.</td> </tr> </table> 		<input checked="" type="checkbox"/>	Refer as FCC KDB 789033 D02, clause C for EBW and clause D for OBW measurement.	<input type="checkbox"/>	Refer as ANSI C63.10, clause 6.9.1 for occupied bandwidth testing.	<input type="checkbox"/>	Refer as IC RSS-Gen, clause 4.6 for bandwidth testing.
<input checked="" type="checkbox"/>	Refer as FCC KDB 789033 D02, clause C for EBW and clause D for OBW measurement.						
<input type="checkbox"/>	Refer as ANSI C63.10, clause 6.9.1 for occupied bandwidth testing.						
<input type="checkbox"/>	Refer as IC RSS-Gen, clause 4.6 for bandwidth testing.						

3.2.4 Test Setup





3.2.5 Test Result of Emission Bandwidth

Refer as Appendix B



3.3 Maximum Output Power

3.3.1 Limit

Maximum Output Power Limit	
UNII Devices	
<input checked="" type="checkbox"/> For the 5.15-5.25 GHz band:	
	<ul style="list-style-type: none"> ▪ Outdoor AP: the maximum conducted output power (P_{Out}) shall not exceed the lesser of 1 W. If $G_{TX} > 6$ dBi, then $P_{Out} = 30 - (G_{TX} - 6)$. e.i.r.p. at any elevation angle above 30 degrees $\leq 125mW$ [21dBm] ▪ Indoor AP: the maximum conducted output power (P_{Out}) shall not exceed the lesser of 1 W. If $G_{TX} > 6$ dBi, then $P_{Out} = 30 - (G_{TX} - 6)$ ▪ Point-to-point AP: the maximum conducted output power (P_{Out}) shall not exceed the lesser of 1 W. If $G_{TX} > 23$ dBi, then $P_{Out} = 30 - (G_{TX} - 23)$. ▪ Mobile or Portable Client: the maximum conducted output power (P_{Out}) shall not exceed the lesser of 250 mW. If $G_{TX} > 6$ dBi, then $P_{Out} = 24 - (G_{TX} - 6)$.
<input checked="" type="checkbox"/> For the 5.25-5.35 GHz band, the maximum conducted output power (P_{Out}) shall not exceed the lesser of 250 mW or $11 \text{ dBm} + 10 \log B$, where B is the 26 dB emission bandwidth in MHz. If $G_{TX} > 6$ dBi, then $P_{Out} = 24 - (G_{TX} - 6)$.	
<input checked="" type="checkbox"/> For the 5.47-5.725 GHz band, the maximum conducted output power (P_{Out}) shall not exceed the lesser of 250 mW or $11 \text{ dBm} + 10 \log B$, where B is the 26 dB emission bandwidth in MHz. If $G_{TX} > 6$ dBi, then $P_{Out} = 24 - (G_{TX} - 6)$.	
<input checked="" type="checkbox"/> For the 5.725-5.85 GHz band:	
	<ul style="list-style-type: none"> ▪ Point-to-multipoint systems (P2M): the maximum conducted output power (P_{Out}) shall not exceed the lesser of 1 W. If $G_{TX} > 6$ dBi, then $P_{Out} = 30 - (G_{TX} - 6)$. ▪ Point-to-point systems (P2P): the maximum conducted output power (P_{Out}) shall not exceed the lesser of 1 W.
Maximum EIRP Limit	
<input type="checkbox"/> For the 5.85-5.895 GHz band:	
	<ul style="list-style-type: none"> ▪ Indoor AP & subordinate device < 36 dBm ▪ Client device < 30 dBm
LE-LAN Devices	
<input type="checkbox"/> For the 5.15-5.25 GHz band, the maximum e.i.r.p. shall not exceed 200 mW or $10 + 10 \log B$, dBm, whichever power is less. B is the 99% emission bandwidth in MHz.	
<input type="checkbox"/> For the 5.25-5.35 GHz band, the maximum e.i.r.p. shall not exceed 1.0 W or $17 + 10 \log B$, dBm, whichever power is less. B is the 99% emission bandwidth in MHz	
<input type="checkbox"/> For the 5.47-5.6 GHz band and 5.65-5.725 GHz band, the maximum e.i.r.p. shall not exceed 1.0 W or $17 + 10 \log B$, dBm, whichever power is less. B is the 99% emission bandwidth in MHz	
<input type="checkbox"/> For the 5.725-5.85 GHz band:	
	<ul style="list-style-type: none"> ▪ Point-to-multipoint systems (P2M): the maximum conducted output power (P_{Out}) shall not exceed the lesser of 1 W. If $G_{TX} > 6$ dBi, then $P_{Out} = 30 - (G_{TX} - 6)$. ▪ Point-to-point systems (P2P): the maximum conducted output power (P_{Out}) shall not exceed the



lesser of 1 W.

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

3.3.2 Measuring Instruments

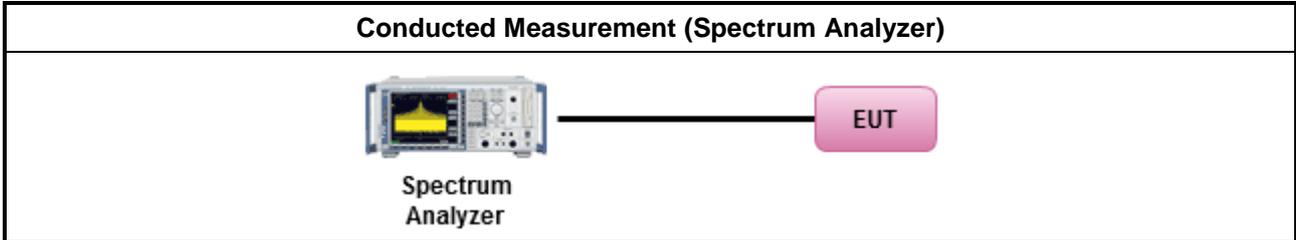
Refer a test equipment and calibration data table in this test report.

3.3.3 Test Procedures

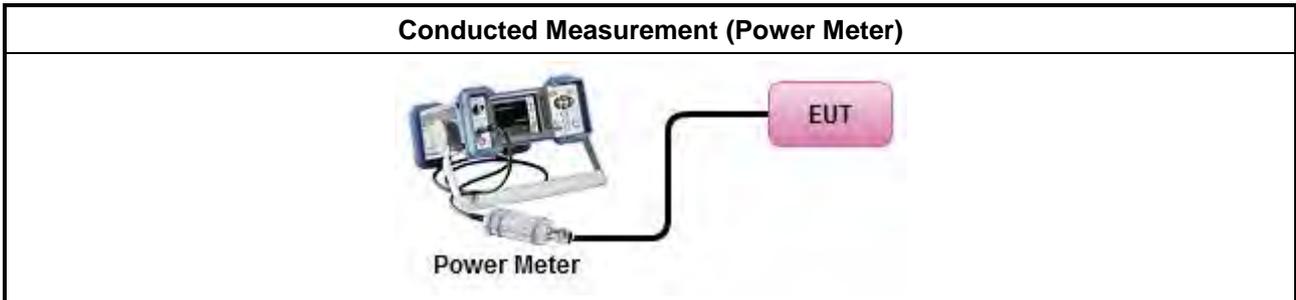
Test Method	
	Average over on/off periods with duty factor
<input checked="" type="checkbox"/>	Refer as FCC KDB 789033 D02, clause E Method SA-2 (spectral trace averaging).
<input type="checkbox"/>	Refer as FCC KDB 789033 D02, clause E Method SA-2 Alt. (RMS detection with slow sweep speed)
	Wideband RF power meter and average over on/off periods with duty factor
<input checked="" type="checkbox"/>	Refer as FCC KDB 789033 D02, clause E Method PM-G (using an RF average power meter).
<input checked="" type="checkbox"/>	For conducted measurement.
	<ul style="list-style-type: none"> ▪ If the EUT supports multiple transmit chains using options given below: Refer as FCC KDB 662911, In-band power measurements. Using the measure-and-sum approach, measured all transmit ports individually. Sum the power (in linear power units e.g., mW) of all ports for each individual sample and save them. ▪ If multiple transmit chains, EIRP calculation could be following as methods: $P_{total} = P_1 + P_2 + \dots + P_n$ (calculated in linear unit [mW] and transfer to log unit [dBm]) $EIRP_{total} = P_{total} + DG$
<input type="checkbox"/>	For radiated measurement.
	<ul style="list-style-type: none"> ▪ Refer as FCC KDB 789033 D02 clause II A.1.F "Antenna-port Conducted versus Radiated Testing" ▪ Refer as ANSI C63.10, clause 6.6 for radiated emissions above 1GHz. ▪ Refer as FCC KDB 412172 D01 clause 2.2 for EIRP calculation.

3.3.4 Test Setup

For Straddle channels



For Other channels



3.3.5 Test Result of Maximum Output Power

Refer as Appendix C



3.4 Power Spectral Density

3.4.1 Limit

Peak Power Spectral Density Limit	
UNII Devices	
<input checked="" type="checkbox"/> For the 5.15-5.25 GHz band:	
	<ul style="list-style-type: none"> ▪ Outdoor AP: the peak power spectral density (PPSD) shall not exceed the lesser of 17dBm/MHz. If $G_{TX} > 6$ dBi, then $P_{Out} = 17 - (G_{TX} - 6)$. ▪ Indoor AP: the peak power spectral density (PPSD) shall not exceed the lesser of 17dBm/MHz. If $G_{TX} > 6$ dBi, then $P_{Out} = 17 - (G_{TX} - 6)$. ▪ Point-to-point AP: the peak power spectral density (PPSD) shall not exceed the lesser of 17dBm/MHz. If $G_{TX} > 23$ dBi, then $P_{Out} = 17 - (G_{TX} - 23)$. ▪ Mobile or Portable Client: the peak power spectral density (PPSD) ≤ 11 dBm/MHz. If $G_{TX} > 6$ dBi, then $PPSD = 11 - (G_{TX} - 6)$.
<input checked="" type="checkbox"/> For the 5.25-5.35 GHz band, the peak power spectral density (PPSD) ≤ 11 dBm/MHz. If $G_{TX} > 6$ dBi, then $PPSD = 11 - (G_{TX} - 6)$.	
<input checked="" type="checkbox"/> For the 5.47-5.725 GHz band, the peak power spectral density (PPSD) ≤ 11 dBm/MHz. If $G_{TX} > 6$ dBi, then $PPSD = 11 - (G_{TX} - 6)$.	
<input checked="" type="checkbox"/> For the 5.725-5.85 GHz band:	
	<ul style="list-style-type: none"> ▪ Point-to-multipoint systems (P2M): the peak power spectral density (PPSD) ≤ 30 dBm/500kHz. If $G_{TX} > 6$ dBi, then $PPSD = 30 - (G_{TX} - 6)$. ▪ Point-to-point systems (P2P): the peak power spectral density (PPSD) ≤ 30 dBm/500kHz.
EIRP Power Spectral Density Limit	
<input type="checkbox"/> For the 5.85-5.895 GHz band:	
	<ul style="list-style-type: none"> ▪ Indoor AP & subordinate device < 20dBm/MHz ▪ Client device < 14dBm/MHz
LE-LAN Devices	
<input type="checkbox"/> For the 5.15-5.25 GHz band, the e.i.r.p. peak power spectral density (PPSD) ≤ 10 dBm/MHz.	
<input type="checkbox"/> For the 5.25-5.35 GHz band, the peak power spectral density (PPSD) ≤ 11 dBm/MHz.	
	<ul style="list-style-type: none"> ▪ e.i.r.p. greater than 200 mW shall comply with the following e.i.r.p. at different elevations, where θ is the angle above the local horizontal plane (of the Earth) as shown below: -13 dBW/MHz for $0^\circ \leq \theta < 8^\circ$; -13 - 0.716 (θ-8) dBW/MHz for $8^\circ \leq \theta < 40^\circ$ -35.9 - 1.22 (θ-40) dBW/MHz for $40^\circ \leq \theta \leq 45^\circ$; -42 dBW/MHz for $\theta > 45^\circ$
<input type="checkbox"/> For the 5.47-5.6 GHz band and 5.65-5.725 GHz band, the peak power spectral density (PPSD) ≤ 11 dBm/MHz.	
<input type="checkbox"/> For the 5.725-5.85 GHz band:	
	<ul style="list-style-type: none"> ▪ Point-to-multipoint systems (P2M): the peak power spectral density (PPSD) ≤ 30 dBm/500kHz. If $G_{TX} > 6$ dBi, then $PPSD = 30 - (G_{TX} - 6)$. ▪ Point-to-point systems (P2P): the peak power spectral density (PPSD) ≤ 30 dBm/500kHz.
PPSD = peak power spectral density that he same method as used to determine the conducted output	



power shall be used to determine the power spectral density. And power spectral density in dBm/MHz
 G_{TX} = the maximum transmitting antenna directional gain in dBi.

3.4.2 Measuring Instruments

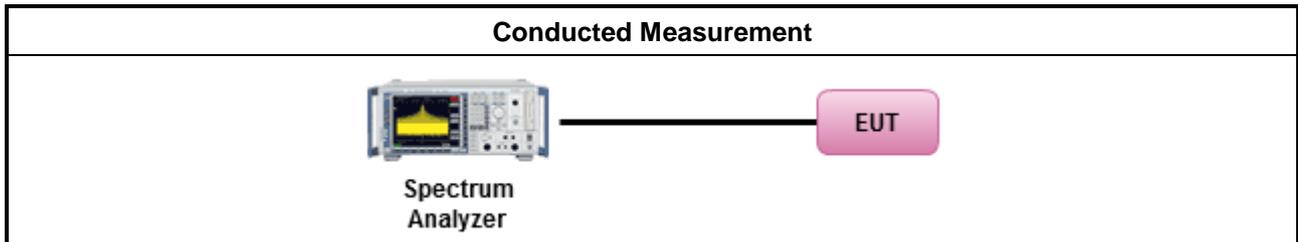
Refer a test equipment and calibration data table in this test report.

3.4.3 Test Procedures

Test Method	
	<ul style="list-style-type: none"> ▪ Peak power spectral density procedures that the same method as used to determine the conducted output power shall be used to determine the peak power spectral density and use the peak search function on the spectrum analyzer to find the peak of the spectrum. For the peak power spectral density shall be measured using below options:
<input type="checkbox"/>	Refer as FCC KDB 789033 D02, F)5) power spectral density can be measured using resolution bandwidths < 1 MHz provided that the results are integrated over 1 MHz bandwidth
	[duty cycle ≥ 98% or external video / power trigger]
<input checked="" type="checkbox"/>	Refer as FCC KDB 789033 D02, clause E Method SA-1 (spectral trace averaging).
<input type="checkbox"/>	Refer as FCC KDB 789033 D02, clause E Method SA-1 Alt. (RMS detection with slow sweep speed)
	duty cycle < 98% and average over on/off periods with duty factor
<input checked="" type="checkbox"/>	Refer as FCC KDB 789033 D02, clause E Method SA-2 (spectral trace averaging).
<input type="checkbox"/>	Refer as FCC KDB 789033 D02, clause E Method SA-2 Alt. (RMS detection with slow sweep speed)
<input checked="" type="checkbox"/>	For conducted measurement.
	<ul style="list-style-type: none"> ▪ If the EUT supports multiple transmit chains using options given below:
<input checked="" type="checkbox"/>	Option 1: Measure and sum the spectra across the outputs. Refer as FCC KDB 662911, In-band power spectral density (PSD). Sample all transmit ports simultaneously using a spectrum analyzer for each transmit port. Where the trace bin-by-bin of each transmit port summing can be performed. (i.e., in the first spectral bin of output 1 is summed with that in the first spectral bin of output 2 and that from the first spectral bin of output 3, and so on up to the NTX output to obtain the value for the first frequency bin of the summed spectrum.). Add up the amplitude (power) values for the different transmit chains and use this as the new data trace.
<input type="checkbox"/>	Option 2: Measure and sum spectral maxima across the outputs. With this technique, spectra are measured at each output of the device at the required resolution bandwidth. The maximum value (peak) of each spectrum is determined. These maximum values are then summed mathematically in linear power units across the outputs. These operations shall be performed separately over frequency spans that have different out-of-band or spurious emission limits,
<input type="checkbox"/>	Option 3: Measure and add 10 log(N) 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.
	<ul style="list-style-type: none"> ▪ If multiple transmit chains, EIRP PPSD calculation could be following as methods: $PPSD_{total} = PPSD_1 + PPSD_2 + \dots + PPSD_n$ (calculated in linear unit [mW] and transfer to log unit [dBm])

Test Method	
	$EIRP_{total} = PPSD_{total} + DG$
<input type="checkbox"/>	For radiated measurement.
	<ul style="list-style-type: none"> Refer as FCC KDB 789033 D02 clause II A.1.F "Antenna-port Conducted versus Radiated Testing"
	<ul style="list-style-type: none"> Refer as ANSI C63.10, clause 6.6 for radiated emissions above 1GHz.
	<ul style="list-style-type: none"> Refer as FCC KDB 412172 D01 clause 2.2 for EIRP calculation.

3.4.4 Test Setup



3.4.5 Test Result of Power Spectral Density

Refer as Appendix D



3.5 Unwanted Emissions

3.5.1 Transmitter Unwanted Emissions Limit

Unwanted emissions below 1 GHz and restricted band emissions above 1GHz 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.

Un-restricted band emissions above 1GHz Limit	
Operating Band	Limit
<input checked="" type="checkbox"/> 5.15 - 5.25 GHz	e.i.r.p. -27 dBm [68.2 dBuV/m @3m]
<input checked="" type="checkbox"/> 5.25 - 5.35 GHz	e.i.r.p. -27 dBm [68.2 dBuV/m @3m]
<input checked="" type="checkbox"/> 5.47 - 5.725 GHz	e.i.r.p. -27 dBm [68.2 dBuV/m @3m]
<input checked="" type="checkbox"/> 5.725 - 5.85 GHz	all emissions shall be limited to a level of -27 dBm/MHz at 75 MHz or more above or below the band edge increasing linearly to 10 dBm/MHz at 25 MHz above or below the band edge, and from 25 MHz above or below the band edge increasing linearly to a level of 15.6 dBm/MHz at 5 MHz above or below the band edge, and from 5 MHz above or below the band edge increasing linearly to a level of 27 dBm/MHz at the band edge.
<input type="checkbox"/> 5.85 - 5.895 GHz	(i) For an indoor access point or subordinate device, all emissions at or above 5.895 GHz shall not exceed an e.i.r.p. of 15 dBm/MHz and shall decrease linearly to an e.i.r.p. of - 7 dBm/MHz at or above 5.925 GHz. (ii) For a client device, all emissions at or above 5.895 GHz shall not exceed an



	<p>e.i.r.p. of -5 dBm/MHz and shall decrease linearly to an e.i.r.p. of -27 dBm/MHz at or above 5.925 GHz.</p> <p>(iii) For a client device or indoor access point or subordinate device, all emissions below 5.725 GHz shall not exceed an e.i.r.p. of -27 dBm/MHz at 5.65 GHz increasing linearly to 10 dBm/ MHz at 5.7 GHz, and from 5.7 GHz increasing linearly to a level of 15.6 dBm/MHz at 5.72 GHz, and from 5.72 GHz increasing linearly to a level of 27 dBm/MHz at 5.725 GHz.</p>
<p>Note 1: 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).</p>	

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"> ▪ 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. Measurements shall not be performed at a distance greater than 30 m for frequencies above 30 MHz, unless it can be further demonstrated that measurements at a distance of 30 m or less are impractical. 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). 														
	<ul style="list-style-type: none"> ▪ The average emission levels shall be measured in [duty cycle ≥ 98 or duty factor]. 														
	<ul style="list-style-type: none"> ▪ For the transmitter unwanted emissions shall be measured using following options below: <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 5%;"></td> <td> <ul style="list-style-type: none"> ▪ Refer as FCC KDB 789033 D02, clause G)2) for unwanted emissions into non-restricted bands. ▪ Refer as FCC KDB 789033 D02, clause G)1) for unwanted emissions into restricted bands. </td> </tr> <tr> <td><input type="checkbox"/></td> <td>Refer as FCC KDB 789033 D02, G)6) Method AD (Trace Averaging).</td> </tr> <tr> <td><input checked="" type="checkbox"/></td> <td>Refer as FCC KDB 789033 D02, G)6) Method VB (Reduced VBW).</td> </tr> <tr> <td><input type="checkbox"/></td> <td>Refer as ANSI C63.10, clause 11.12.2.5.3 (Reduced VBW). VBW ≥ 1/T, where T is pulse time.</td> </tr> <tr> <td><input type="checkbox"/></td> <td>Refer as ANSI C63.10, clause 7.5 average value of pulsed emissions.</td> </tr> <tr> <td><input checked="" type="checkbox"/></td> <td>Refer as FCC KDB 789033 D02, clause G)5) measurement procedure peak limit.</td> </tr> <tr> <td><input type="checkbox"/></td> <td>Refer as ANSI C63.10, clause 4.1.4.2.2 measurement procedure peak limit.</td> </tr> </table> 		<ul style="list-style-type: none"> ▪ Refer as FCC KDB 789033 D02, clause G)2) for unwanted emissions into non-restricted bands. ▪ Refer as FCC KDB 789033 D02, clause G)1) for unwanted emissions into restricted bands. 	<input type="checkbox"/>	Refer as FCC KDB 789033 D02, G)6) Method AD (Trace Averaging).	<input checked="" type="checkbox"/>	Refer as FCC KDB 789033 D02, G)6) Method VB (Reduced VBW).	<input type="checkbox"/>	Refer as ANSI C63.10, clause 11.12.2.5.3 (Reduced VBW). VBW ≥ 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 789033 D02, clause G)5) measurement procedure peak limit.	<input type="checkbox"/>	Refer as ANSI C63.10, clause 4.1.4.2.2 measurement procedure peak limit.
	<ul style="list-style-type: none"> ▪ Refer as FCC KDB 789033 D02, clause G)2) for unwanted emissions into non-restricted bands. ▪ Refer as FCC KDB 789033 D02, clause G)1) for unwanted emissions into restricted bands. 														
<input type="checkbox"/>	Refer as FCC KDB 789033 D02, G)6) Method AD (Trace Averaging).														
<input checked="" type="checkbox"/>	Refer as FCC KDB 789033 D02, G)6) Method VB (Reduced VBW).														
<input type="checkbox"/>	Refer as ANSI C63.10, clause 11.12.2.5.3 (Reduced VBW). VBW ≥ 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 789033 D02, clause G)5) measurement procedure peak limit.														
<input type="checkbox"/>	Refer as ANSI C63.10, clause 4.1.4.2.2 measurement procedure peak limit.														
	<ul style="list-style-type: none"> ▪ For radiated measurement. <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 5%;"></td> <td> <ul style="list-style-type: none"> ▪ Refer as ANSI C63.10, clause 6.4 for radiated emissions below 30 MHz and test distance is 3m. ▪ Refer as ANSI C63.10, clause 6.5 for radiated emissions 30 MHz to 1 GHz and test distance is 3m. ▪ Refer as ANSI C63.10, clause 6.6 for radiated emissions above 1GHz. </td> </tr> </table> 		<ul style="list-style-type: none"> ▪ Refer as ANSI C63.10, clause 6.4 for radiated emissions below 30 MHz and test distance is 3m. ▪ Refer as ANSI C63.10, clause 6.5 for radiated emissions 30 MHz to 1 GHz and test distance is 3m. ▪ Refer as ANSI C63.10, clause 6.6 for radiated emissions above 1GHz. 												
	<ul style="list-style-type: none"> ▪ Refer as ANSI C63.10, clause 6.4 for radiated emissions below 30 MHz and test distance is 3m. ▪ Refer as ANSI C63.10, clause 6.5 for radiated emissions 30 MHz to 1 GHz and test distance is 3m. ▪ Refer as ANSI C63.10, clause 6.6 for radiated emissions above 1GHz. 														
	<ul style="list-style-type: none"> ▪ The any unwanted emissions level shall not exceed the fundamental emission level. 														

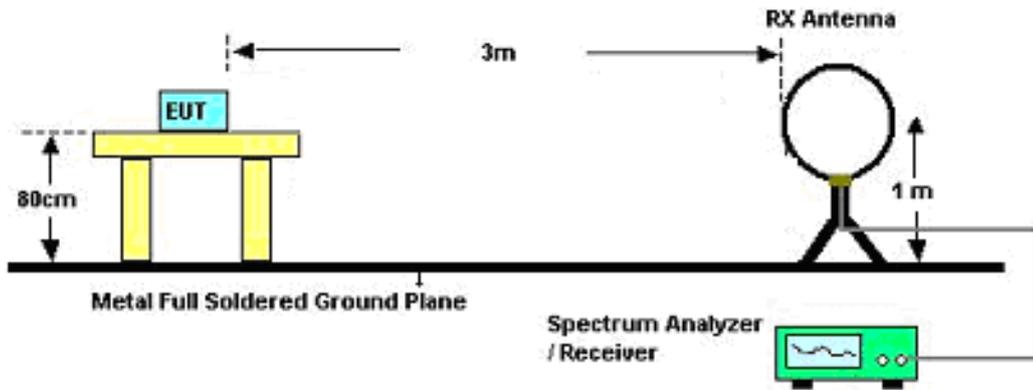
Test Method

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

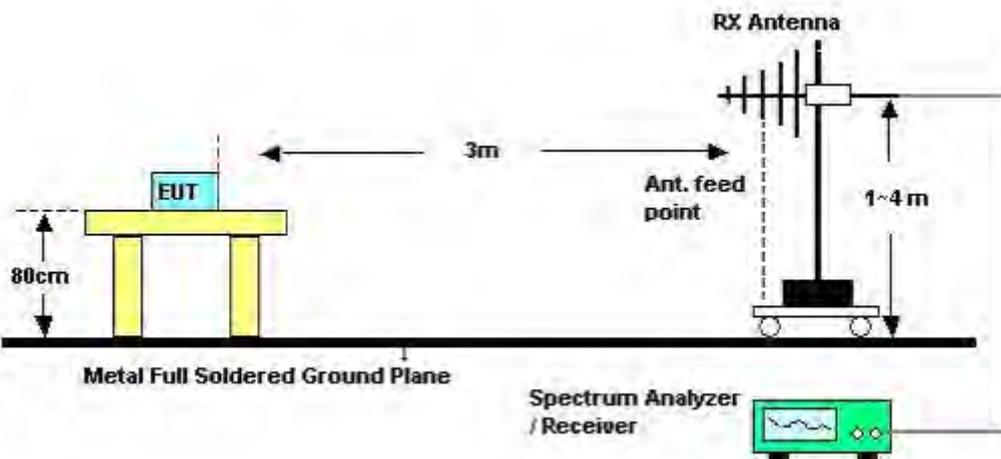
3.5.4 Test Setup

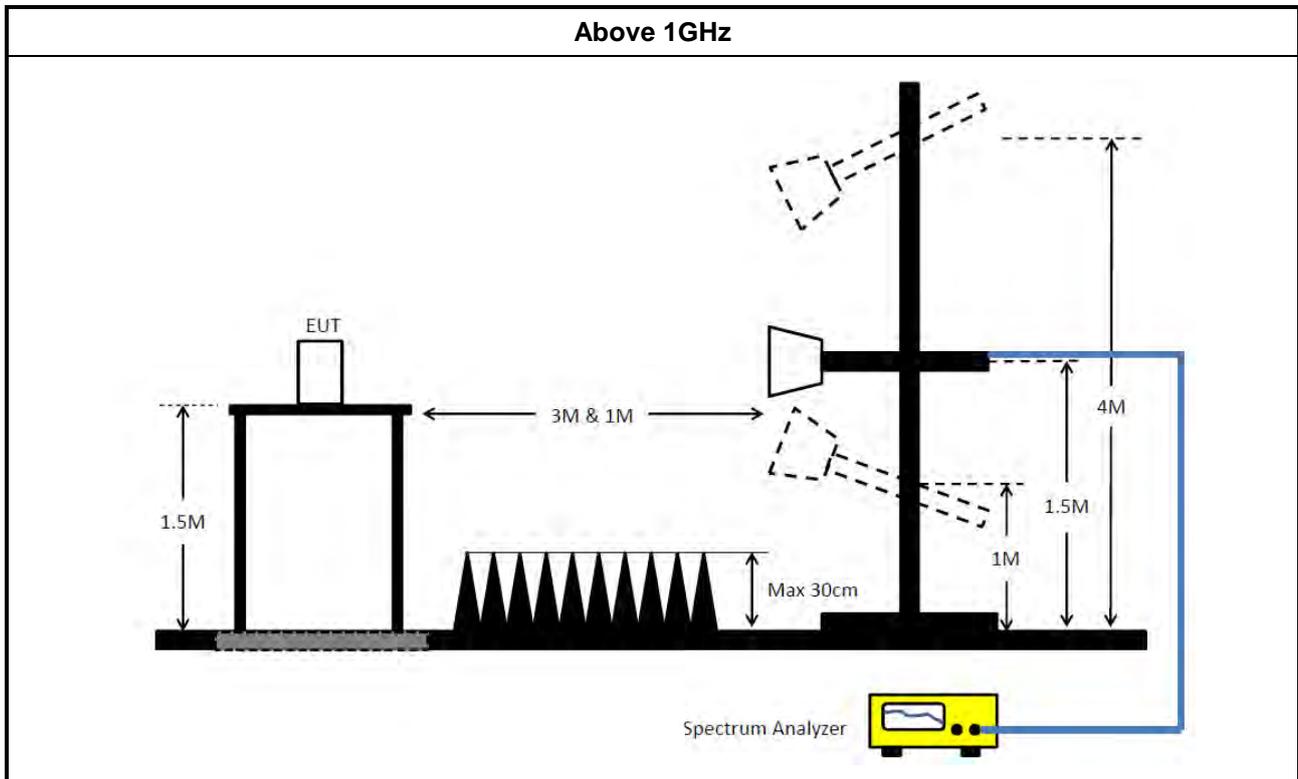
Transmitter Radiated Unwanted Emissions

9kHz ~30MHz



30MHz~1GHz





3.5.5 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.

3.5.6 Transmitter Unwanted Emissions (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.

3.5.7 Test Result of Transmitter Unwanted Emissions

Refer as Appendix E



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 18, 2022	May 17, 2023	Conduction (CO01-CB)
Software	SPORTON	SENSE	V5.10	-	N.C.R.	N.C.R.	Conduction (CO01-CB)
3m Semi Anechoic Chamber NSA	TDK	SAC-3M	03CH05-CB	30 MHz ~ 1 GHz	Aug. 03, 2022	Aug. 02, 2023	Radiation (03CH05-CB)
3m Semi Anechoic Chamber VSWR	TDK	SAC-3M	03CH05-CB	1GHz ~18GHz 3m	Nov. 07, 2021	Nov. 06, 2022	Radiation (03CH05-CB)
Bilog Antenna with 6dB Attenuator	TESEQ & EMCI	CBL 6112D & N-6-06	35236 & AT-N0610	30MHz ~ 2GHz	Mar. 25, 2022	Mar. 24, 2023	Radiation (03CH05-CB)
Horn Antenna	SCHWARZBECK	BBHA9120D	BBHA 9120 D-1291	1GHz~18GHz	Jun. 23, 2022	Jun. 22, 2023	Radiation (03CH05-CB)
Horn Antenna	Schwarzbeck	BBHA 9170	BBHA9170252	15GHz ~ 40GHz	Aug. 22, 2022	Aug. 21, 2023	Radiation (03CH05-CB)
Pre-Amplifier	EMCI	EMC330N	980331	20MHz ~ 3GHz	Apr. 26, 2022	Apr. 25, 2023	Radiation (03CH05-CB)
Pre-Amplifier	EMCI	EMC12630SE	980287	1GHz ~ 26.5GHz	Jul. 01, 2022	Jun. 30, 2023	Radiation (03CH05-CB)
Pre-Amplifier	MITEQ	TTA1840-35-H G	1864479	18GHz ~ 40GHz	Jul. 20, 2022	Jul. 19, 2023	Radiation (03CH05-CB)
Spectrum Analyzer	R&S	FSP40	100304	9kHz ~ 40GHz	Mar. 14, 2022	Mar. 13, 2023	Radiation (03CH05-CB)
EMI Test Receiver	R&S	ESCS	826547/017	9kHz ~ 2.75GHz	Jun. 17, 2022	Jun. 16, 2023	Radiation (03CH05-CB)
Loop Antenna	Teseq	HLA 6120	24155	9kHz - 30 MHz	May 14, 2022	May 13, 2023	Radiation (03CH05-CB)
RF Cable-low	Woken	RG402	Low Cable-04+23	30MHz~1GHz	Oct. 13, 2021	Oct. 12, 2022	Radiation (03CH05-CB)



RF Cable-high	Woken	RG402	High Cable-28	1GHz~18GHz	Oct. 13, 2021	Oct. 12, 2022	Radiation (03CH05-CB)
RF Cable-high	Woken	RG402	High Cable-04+28	1GHz~18GHz	Oct. 13, 2021	Oct. 12, 2022	Radiation (03CH05-CB)
High Cable	Woken	WCA0929M	40G#5+7	1GHz ~ 40 GHz	Dec. 14, 2021	Dec. 13, 2022	Radiation (03CH05-CB)
High Cable	Woken	WCA0929M	40G#5	1GHz ~ 40 GHz	Dec. 08, 2021	Dec. 07, 2022	Radiation (03CH05-CB)
High Cable	Woken	WCA0929M	40G#7	1GHz ~ 40 GHz	Dec. 14, 2021	Dec. 13, 2022	Radiation (03CH05-CB)
Test Software	SPORTON	SENSE	V5.10	-	N.C.R.	N.C.R.	Radiation (03CH05-CB)
3m Semi Anechoic Chamber VSWR	RIKEN	SAC-3M	03CH02-CB	1GHz ~18GHz	Mar. 26, 2022	Mar. 25, 2023	Radiation (03CH02-CB)
Horn Antenna	EMCO	3115	9610-4976	1GHz ~ 18GHz	Apr. 19, 2022	Apr. 18, 2023	Radiation (03CH02-CB)
Horn Antenna	Schwarzbeck	BBHA 9170	BBHA9170252	15GHz ~ 40GHz	Aug. 05, 2021	Aug. 04, 2022	Radiation (03CH02-CB)
Pre-Amplifier	Agilent	83017A	MY39501305	1GHz ~ 26.5GHz	Jul. 12, 2021	Jul. 11, 2022	Radiation (03CH02-CB)
Pre-Amplifier	MITEQ	TTA1840-35-H G	1864479	18GHz ~ 40GHz	Jul. 13, 2021	Jul. 12, 2022	Radiation (03CH02-CB)
Spectrum analyzer	R&S	FSU	100015	9kHz~26GHz	Oct. 25, 2021	Oct. 24, 2022	Radiation (03CH02-CB)
RF Cable-high	Woken	RG402	High Cable-18	1GHz ~ 18GHz	Oct. 04, 2021	Oct. 03, 2022	Radiation (03CH02-CB)
RF Cable-high	Woken	RG402	High Cable-18+19	1GHz ~ 18GHz	Oct. 04, 2021	Oct. 03, 2022	Radiation (03CH02-CB)
High Cable	Woken	WCA0929M	40G#5+7	1GHz ~ 40 GHz	Dec. 14, 2021	Dec. 13, 2022	Radiation (03CH02-CB)
High Cable	Woken	WCA0929M	40G#5	1GHz ~ 40 GHz	Dec. 08, 2021	Dec. 07, 2022	Radiation (03CH02-CB)
High Cable	Woken	WCA0929M	40G#7	1GHz ~ 40 GHz	Dec. 14, 2021	Dec. 13, 2022	Radiation (03CH02-CB)
Test Software	SPORTON	SENSE	V5.10	-	N.C.R.	N.C.R.	Radiation (03CH02-CB)
3m Semi Anechoic Chamber VSWR	TDK	SAC-3M	03CH06-CB	1GHz ~18GHz 3m	Oct. 01, 2021	Sep. 30, 2022	Radiation (03CH06-CB)
Horn Antenna	SCHWARZBECK	BBHA9120D	BBHA 9120D-1292	1GHz~18GHz	Aug. 04, 2021	Aug. 03, 2022	Radiation (03CH06-CB)



Horn Antenna	Schwarzbeck	BBHA 9170	BBHA9170252	15GHz ~ 40GHz	Aug. 05, 2021	Aug. 04, 2022	Radiation (03CH06-CB)
Pre-Amplifier	Agilent	SGH5265	20211115-1	1GHz ~ 26.5GHz	Jan. 19, 2022	Jan. 18, 2023	Radiation (03CH06-CB)
Pre-Amplifier	MITEQ	TTA1840-35-H G	1864479	18GHz ~ 40GHz	Jul. 13, 2021	Jul. 12, 2022	Radiation (03CH06-CB)
Spectrum analyzer	R&S	FSP40	100080	9kHz~40GHz	Dec. 24, 2021	Dec. 23, 2022	Radiation (03CH06-CB)
RF Cable-high	Woken	RG402	High Cable-67	1GHz~18GHz	Feb. 24, 2022	Feb. 23, 2023	Radiation (03CH06-CB)
RF Cable-high	Woken	RG402	High Cable-05+67	1GHz~18GHz	Feb. 24, 2022	Feb. 23, 2023	Radiation (03CH06-CB)
High Cable	Woken	WCA0929M	40G#5+7	1GHz ~ 40 GHz	Dec. 14, 2021	Dec. 13, 2022	Radiation (03CH06-CB)
High Cable	Woken	WCA0929M	40G#5	1GHz ~ 40 GHz	Dec. 08, 2021	Dec. 07, 2022	Radiation (03CH06-CB)
High Cable	Woken	WCA0929M	40G#7	1GHz ~ 40 GHz	Dec. 14, 2021	Dec. 13, 2022	Radiation (03CH06-CB)
Test Software	SPORTON	SENSE	V5.10	-	N.C.R.	N.C.R.	Radiation (03CH06-CB)
Spectrum analyzer	R&S	FSV40	101028	9kHz~40GHz	Jan. 07, 2022	Jan. 06, 2023	Conducted (TH03-CB)
Power Sensor	Anritsu	MA2411B	1726195	300MHz~40GHz	Aug. 22, 2021	Aug. 21, 2022	Conducted (TH03-CB)
Power Meter	Anritsu	ML2495A	1035008	300MHz~40GHz	Aug. 22, 2021	Aug. 21, 2022	Conducted (TH03-CB)
RF Cable-high	Woken	RG402	High Cable-11	1 GHz –18 GHz	Oct. 04, 2021	Oct. 03, 2022	Conducted (TH03-CB)
RF Cable-high	Woken	RG402	High Cable-12	1 GHz –18 GHz	Oct. 04, 2021	Oct. 03, 2022	Conducted (TH03-CB)
RF Cable-high	Woken	RG402	High Cable-13	1 GHz –18 GHz	Oct. 04, 2021	Oct. 03, 2022	Conducted (TH03-CB)
RF Cable-high	Woken	RG402	High Cable-14	1 GHz –18 GHz	Oct. 04, 2021	Oct. 03, 2022	Conducted (TH03-CB)
RF Cable-high	Woken	RG402	High Cable-15	1 GHz –18 GHz	Oct. 04, 2021	Oct. 03, 2022	Conducted (TH03-CB)
Switch	SPTCB	SP-SWI	SWI-03	1 GHz –26.5 GHz	Dec. 13, 2021	Dec. 12, 2022	Conducted (TH03-CB)
RF Cable-high	Woken	RG402	SWI-03-P1	1 GHz –26.5 GHz	Dec. 13, 2021	Dec. 12, 2022	Conducted (TH03-CB)
RF Cable-high	Woken	RG402	SWI-03-P2	1 GHz –26.5 GHz	Dec. 13, 2021	Dec. 12, 2022	Conducted (TH03-CB)



RF Cable-high	Woken	RG402	SWI-03-P3	1 GHz –26.5 GHz	Dec. 13, 2021	Dec. 12, 2022	Conducted (TH03-CB)
RF Cable-high	Woken	RG402	SWI-03-P4	1 GHz –26.5 GHz	Dec. 13, 2021	Dec. 12, 2022	Conducted (TH03-CB)
RF Cable-high	Woken	RG402	SWI-03-P5	1 GHz –26.5 GHz	Dec. 13, 2021	Dec. 12, 2022	Conducted (TH03-CB)
Test Software	SPORTON	SENSE	V5.10	-	N.C.R.	N.C.R.	Conducted (TH03-CB)

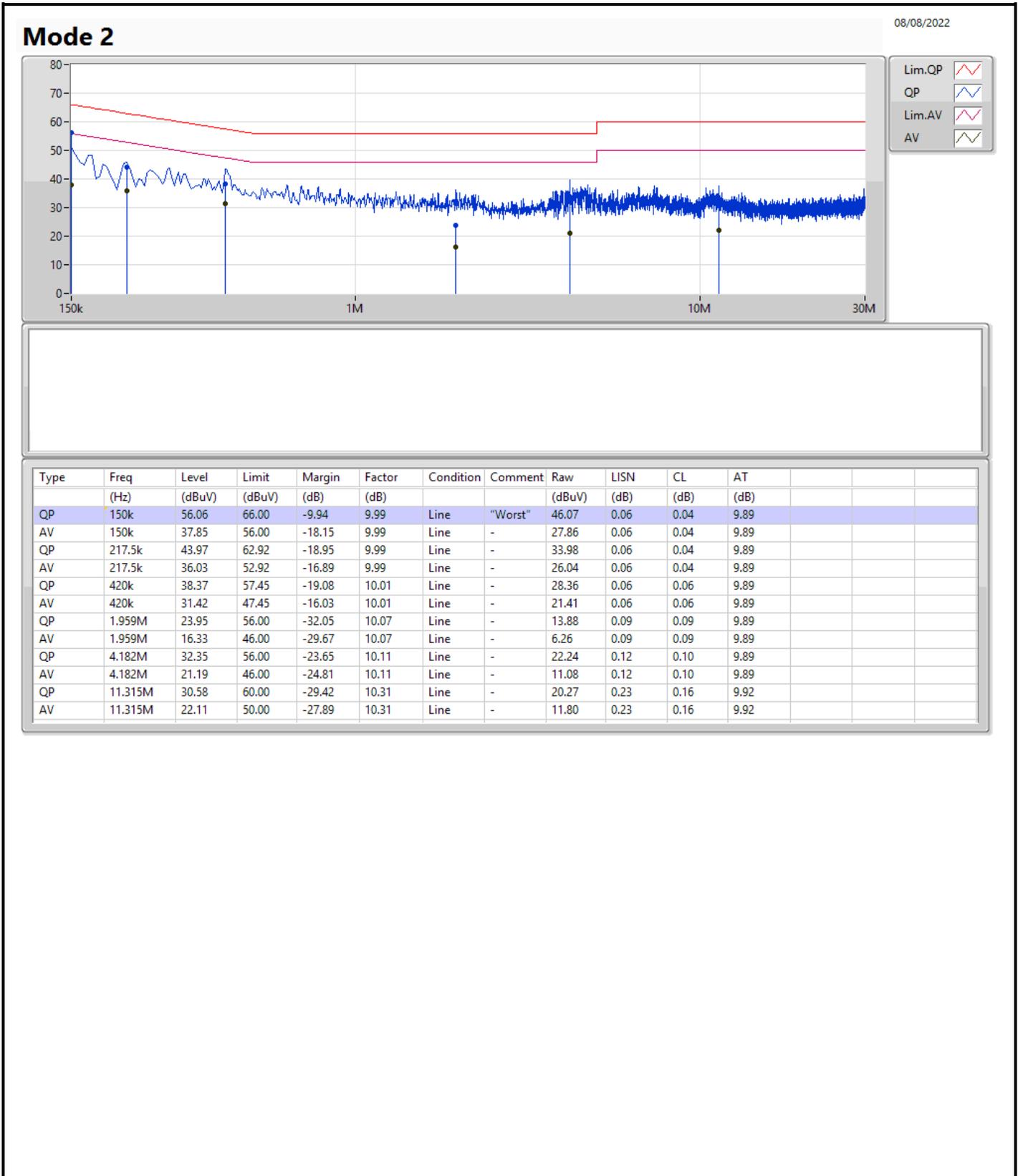
Note: Calibration Interval of instruments listed above is one year.

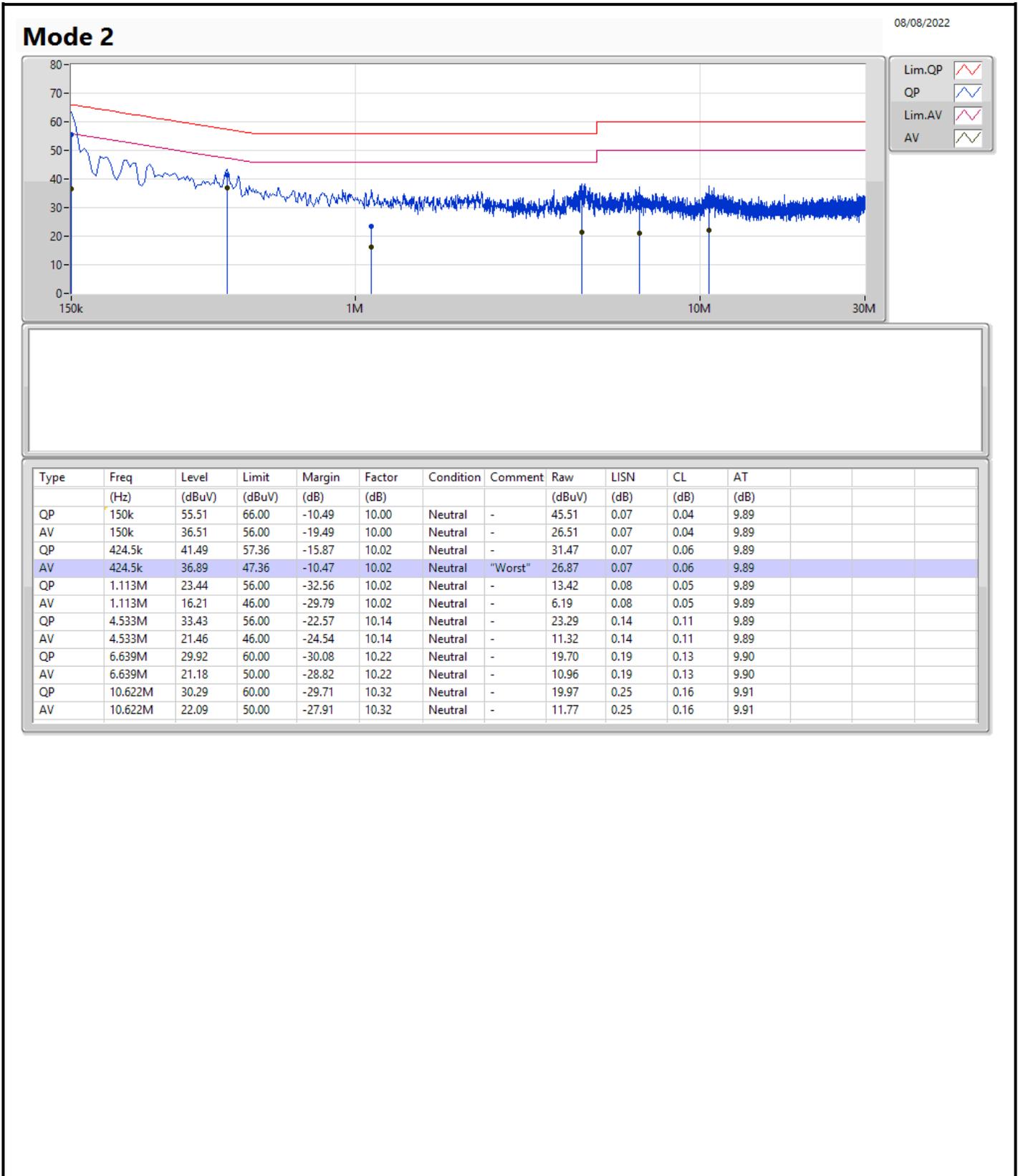
NCR means Non-Calibration required.



Summary

Mode	Result	Type	Freq (Hz)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Condition
Mode 2	Pass	QP	150k	56.06	66.00	-9.94	Line





**For non beamforming
Summary**

Mode	Max-N dB (Hz)	Max-OBW (Hz)	ITU-Code	Min-N dB (Hz)	Min-OBW (Hz)
5.15-5.25GHz	-	-	-	-	-
802.11a_Nss1,(6Mbps)_4TX	22.17M	17.181M	17M2D1D	21.42M	16.972M
5.25-5.35GHz	-	-	-	-	-
802.11a_Nss1,(6Mbps)_4TX	21.93M	17.181M	17M2D1D	21.3M	16.912M
5.47-5.725GHz	-	-	-	-	-
802.11a_Nss1,(6Mbps)_4TX	21.81M	17.151M	17M2D1D	15.66M	13.493M
5.725-5.85GHz	-	-	-	-	-
802.11a_Nss1,(6Mbps)_4TX	16.35M	17.421M	17M4D1D	3.14M	4.178M

Max-N dB = Maximum 6dB down bandwidth for 5.725-5.85GHz band / Maximum 26dB down bandwidth for other band;
 Max-OBW = Maximum 99% occupied bandwidth;
 Min-N dB = Minimum 6dB down bandwidth for 5.725-5.85GHz band / Maximum 26dB down bandwidth for other band;
 Min-OBW = Minimum 99% occupied bandwidth

Result

Mode	Result	Limit (Hz)	Port 1-N dB (Hz)	Port 1-OBW (Hz)	Port 2-N dB (Hz)	Port 2-OBW (Hz)	Port 3-N dB (Hz)	Port 3-OBW (Hz)	Port 4-N dB (Hz)	Port 4-OBW (Hz)
802.11a_Nss1,(6Mbps)_4TX	-	-	-	-	-	-	-	-	-	-
5180MHz	Pass	Inf	21.75M	17.091M	22.17M	17.091M	22.05M	16.972M	21.66M	16.972M
5200MHz	Pass	Inf	21.66M	17.091M	21.87M	17.091M	21.6M	17.001M	21.42M	16.972M
5240MHz	Pass	Inf	21.66M	17.181M	21.9M	17.061M	21.45M	16.972M	21.48M	16.972M
5260MHz	Pass	Inf	21.51M	17.091M	21.66M	17.031M	21.48M	16.972M	21.45M	16.942M
5300MHz	Pass	Inf	21.75M	17.091M	21.6M	17.061M	21.48M	16.972M	21.3M	16.972M
5320MHz	Pass	Inf	21.93M	17.181M	21.84M	17.091M	21.45M	16.972M	21.54M	16.912M
5500MHz	Pass	Inf	21.51M	17.151M	21.81M	17.091M	21.66M	16.972M	21.54M	16.972M
5580MHz	Pass	Inf	21.63M	17.091M	21.63M	17.061M	21.63M	17.001M	21.39M	16.912M
5700MHz	Pass	Inf	21.81M	17.121M	21.6M	17.091M	21.72M	17.001M	21.6M	16.972M
5720MHz Straddle 5.47-5.725GHz	Pass	Inf	15.72M	13.658M	15.705M	13.628M	15.66M	13.493M	15.69M	13.538M
5720MHz Straddle 5.725-5.85GHz	Pass	500k	3.16M	4.238M	3.16M	4.238M	3.14M	4.198M	3.16M	4.178M
5745MHz	Pass	500k	16.32M	17.241M	16.32M	17.301M	16.29M	17.121M	16.29M	17.121M
5785MHz	Pass	500k	16.32M	17.361M	16.29M	17.391M	16.32M	17.151M	16.35M	17.271M
5825MHz	Pass	500k	16.35M	17.421M	16.35M	17.421M	16.32M	17.241M	16.32M	17.271M

Port X-N dB = Port X 6dB down bandwidth for 5.725-5.85GHz band / 26dB down bandwidth for other band
Port X-OBW = Port X 99% occupied bandwidth

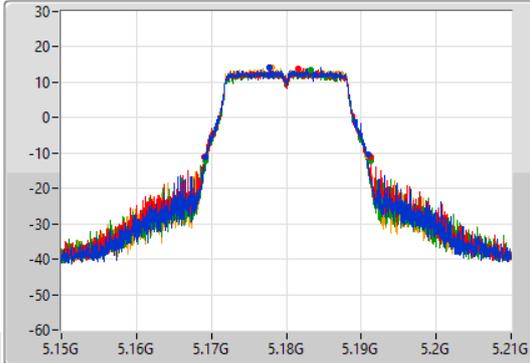
802.11a_Nss1,(6Mbps)_4TX

EBW

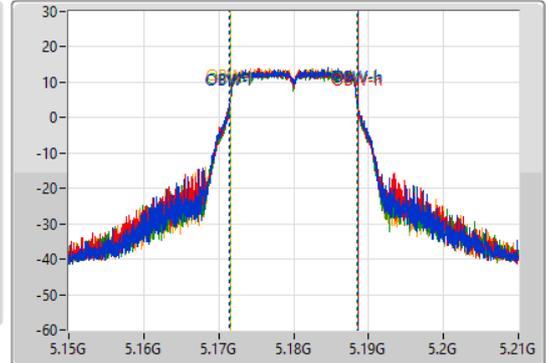
5180MHz

30/06/2022

CF
5.18GHz
Span
60MHz
RBW
300kHz
VBW
1MHz
Sweep Time
100ms
Detector Type
Peak



CF
5.18GHz
Span
60MHz
RBW
300kHz
VBW
1MHz
Sweep Time
100ms
Detector Type
Peak



Port 1
Port 2
Port 3
Port 4

26dB(Hz)	Fl-26dB(Hz)	Fh-26dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
21.75M	5.16914G	5.19089G	17.091M	5.171454G	5.188546G	Inf	1
22.17M	5.16905G	5.19122G	17.091M	5.171454G	5.188546G	Inf	2
22.05M	5.16923G	5.19128G	16.972M	5.171514G	5.188486G	Inf	3
21.66M	5.1692G	5.19086G	16.972M	5.171514G	5.188486G	Inf	4

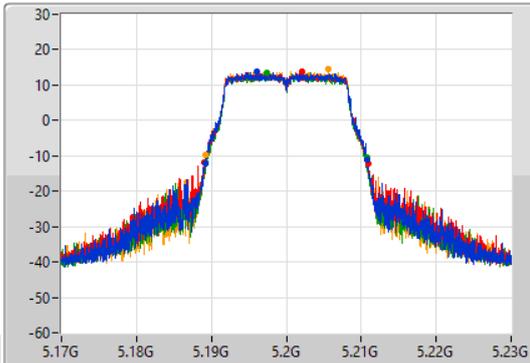
802.11a_Nss1,(6Mbps)_4TX

EBW

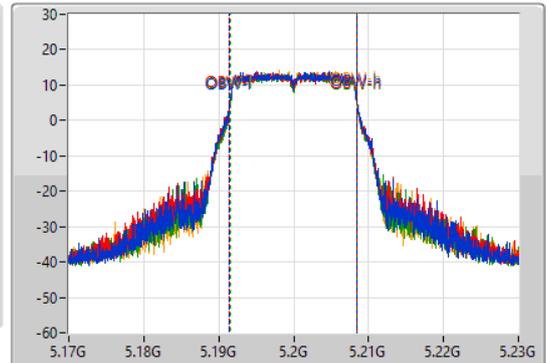
5200MHz

30/06/2022

CF
5.2GHz
Span
60MHz
RBW
300kHz
VBW
1MHz
Sweep Time
100ms
Detector Type
Peak



CF
5.2GHz
Span
60MHz
RBW
300kHz
VBW
1MHz
Sweep Time
100ms
Detector Type
Peak



Port 1
Port 2
Port 3
Port 4

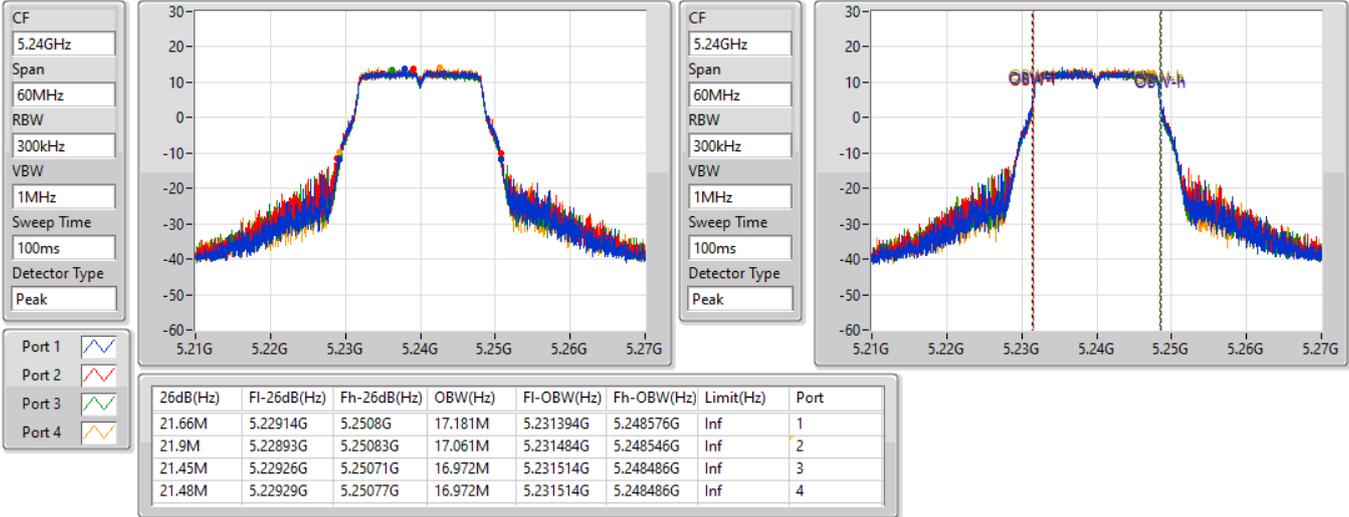
26dB(Hz)	Fl-26dB(Hz)	Fh-26dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
21.66M	5.18914G	5.2108G	17.091M	5.191424G	5.208516G	Inf	1
21.87M	5.18908G	5.21095G	17.091M	5.191424G	5.208516G	Inf	2
21.6M	5.18917G	5.21077G	17.001M	5.191514G	5.208516G	Inf	3
21.42M	5.18929G	5.21071G	16.972M	5.191484G	5.208456G	Inf	4

802.11a_Nss1,(6Mbps)_4TX

EBW

5240MHz

30/06/2022

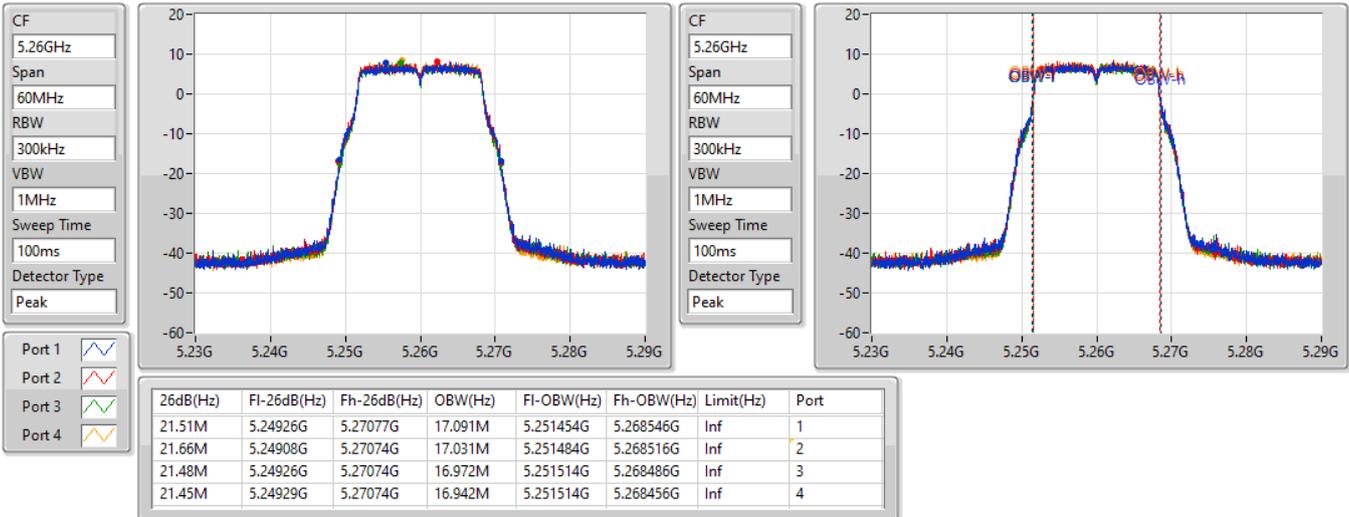


802.11a_Nss1,(6Mbps)_4TX

EBW

5260MHz

30/06/2022



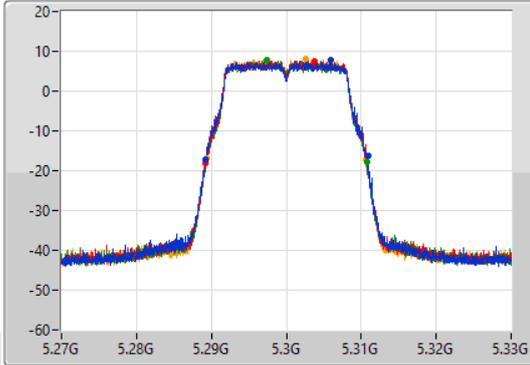
802.11a_Nss1,(6Mbps)_4TX

EBW

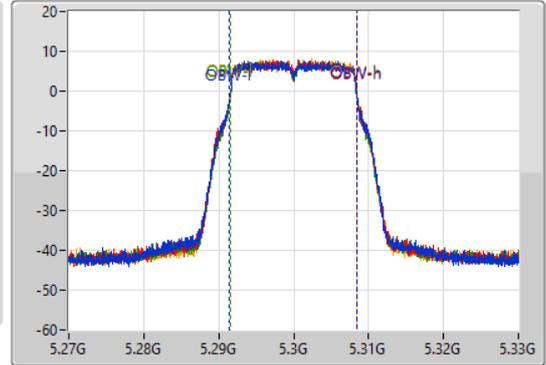
5300MHz

30/06/2022

CF
5.3GHz
Span
60MHz
RBW
300kHz
VBW
1MHz
Sweep Time
100ms
Detector Type
Peak



CF
5.3GHz
Span
60MHz
RBW
300kHz
VBW
1MHz
Sweep Time
100ms
Detector Type
Peak



Port 1
Port 2
Port 3
Port 4

26dB(Hz)	Fl-26dB(Hz)	Fh-26dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
21.75M	5.28914G	5.31089G	17.091M	5.291424G	5.308516G	Inf	1
21.6M	5.28914G	5.31074G	17.061M	5.291454G	5.308516G	Inf	2
21.48M	5.28926G	5.31074G	16.972M	5.291514G	5.308486G	Inf	3
21.3M	5.28932G	5.31062G	16.972M	5.291514G	5.308486G	Inf	4

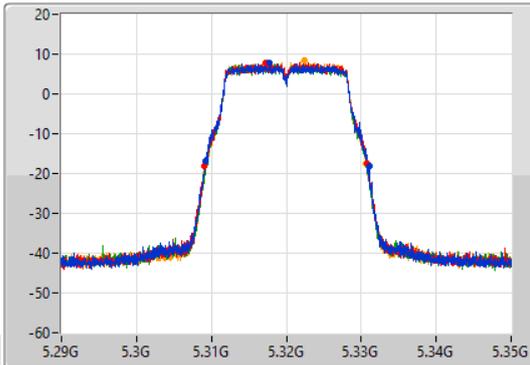
802.11a_Nss1,(6Mbps)_4TX

EBW

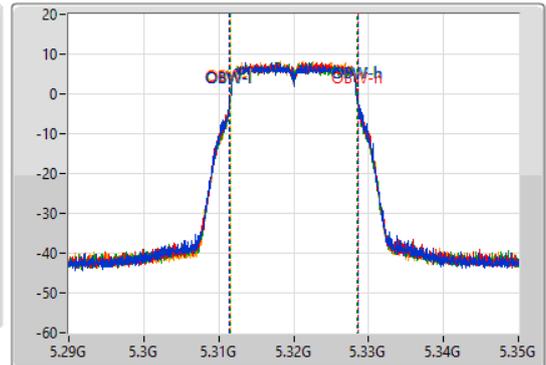
5320MHz

30/06/2022

CF
5.32GHz
Span
60MHz
RBW
300kHz
VBW
1MHz
Sweep Time
100ms
Detector Type
Peak



CF
5.32GHz
Span
60MHz
RBW
300kHz
VBW
1MHz
Sweep Time
100ms
Detector Type
Peak



Port 1
Port 2
Port 3
Port 4

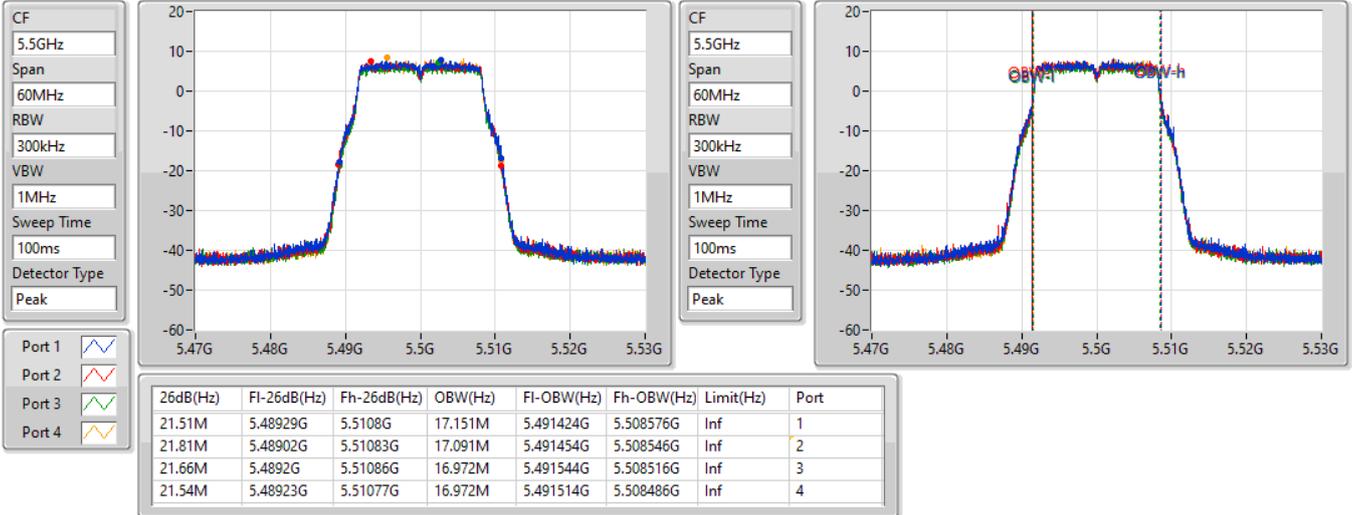
26dB(Hz)	Fl-26dB(Hz)	Fh-26dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
21.93M	5.30914G	5.33107G	17.181M	5.311424G	5.328606G	Inf	1
21.84M	5.30902G	5.33086G	17.091M	5.311454G	5.328546G	Inf	2
21.45M	5.30929G	5.33074G	16.972M	5.311514G	5.328486G	Inf	3
21.54M	5.30914G	5.33068G	16.912M	5.311544G	5.328456G	Inf	4

802.11a_Nss1,(6Mbps)_4TX

EBW

5500MHz

30/06/2022

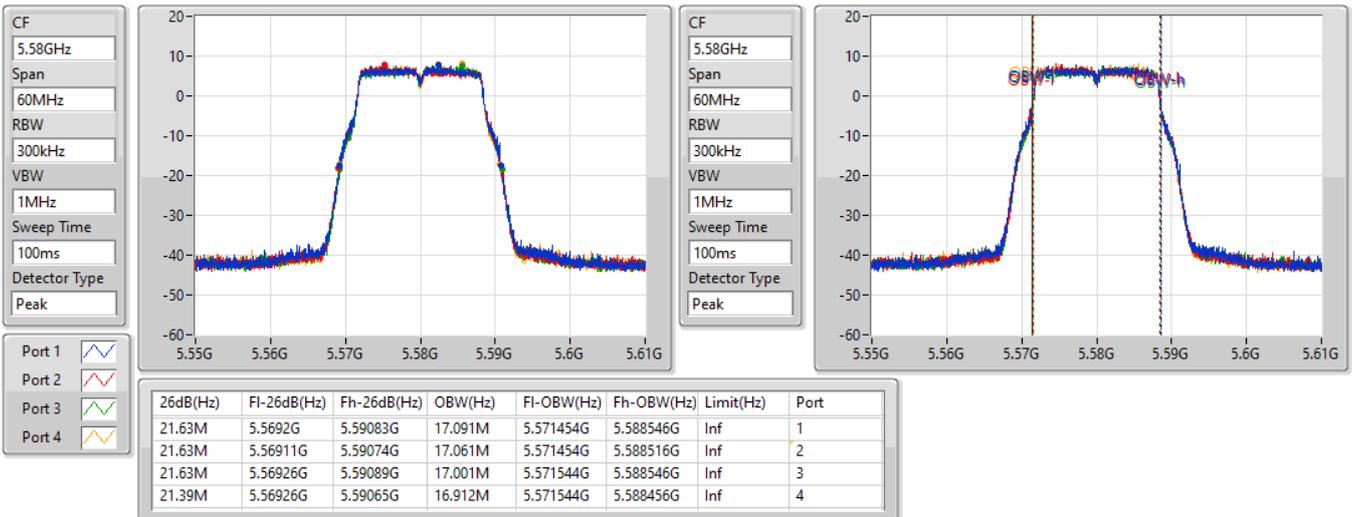


802.11a_Nss1,(6Mbps)_4TX

EBW

5580MHz

30/06/2022

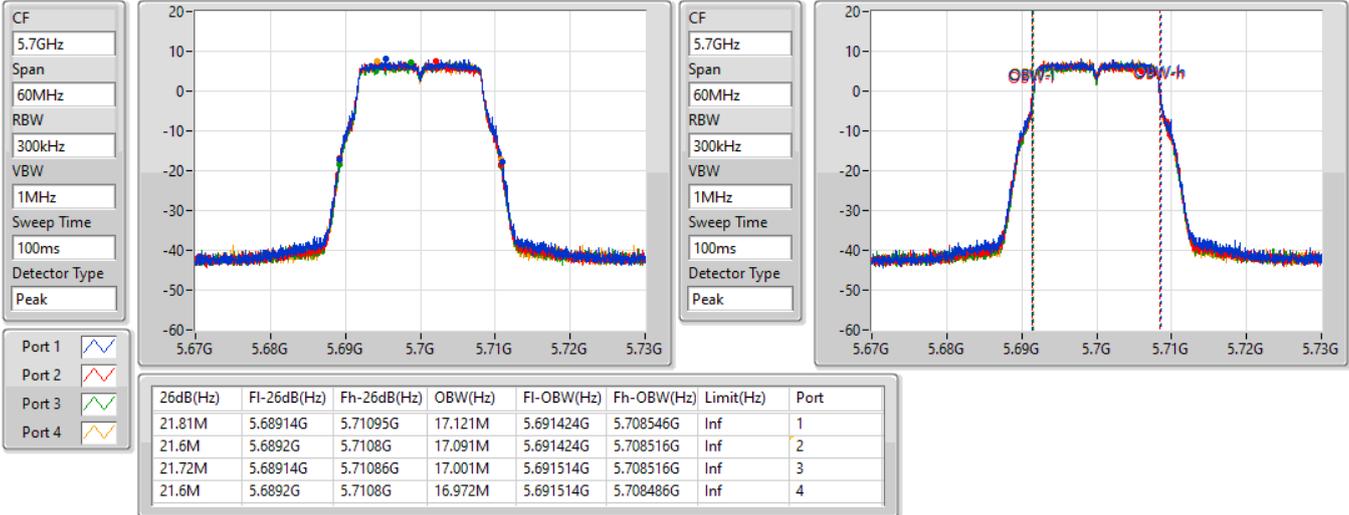


802.11a_Nss1,(6Mbps)_4TX

EBW

5700MHz

30/06/2022

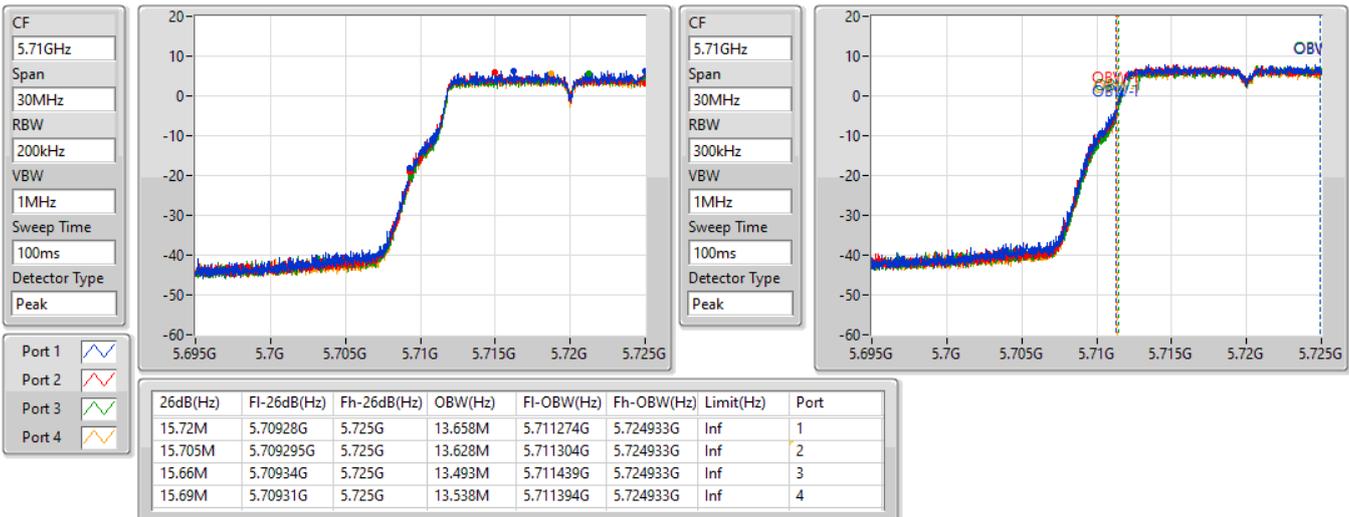


802.11a_Nss1,(6Mbps)_4TX

EBW

5720MHz Straddle 5.47-5.725GHz

30/06/2022

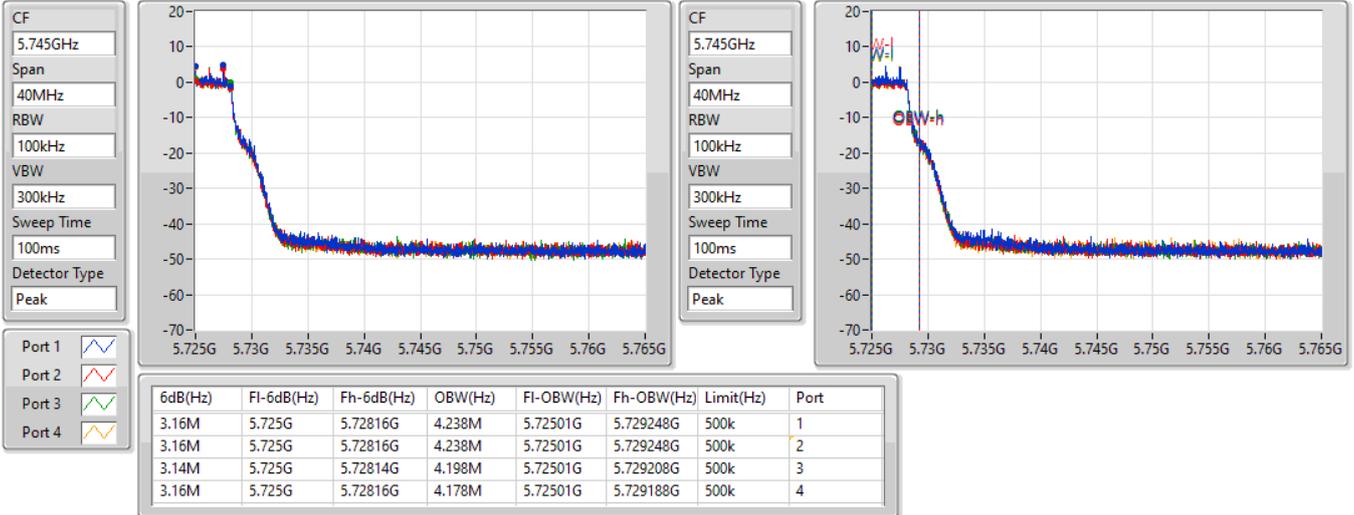


802.11a_Nss1,(6Mbps)_4TX

EBW

5720MHz Straddle 5.725-5.85GHz

30/06/2022

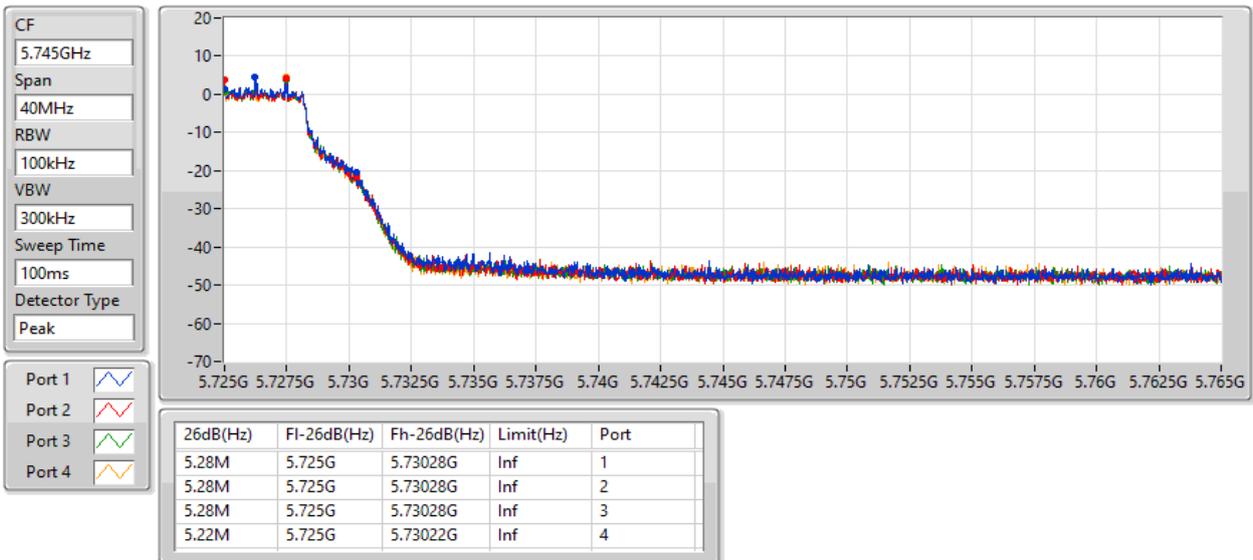


802.11a_Nss1,(6Mbps)_4TX

EBW

5720MHz Straddle 5.725-5.85GHz

30/06/2022

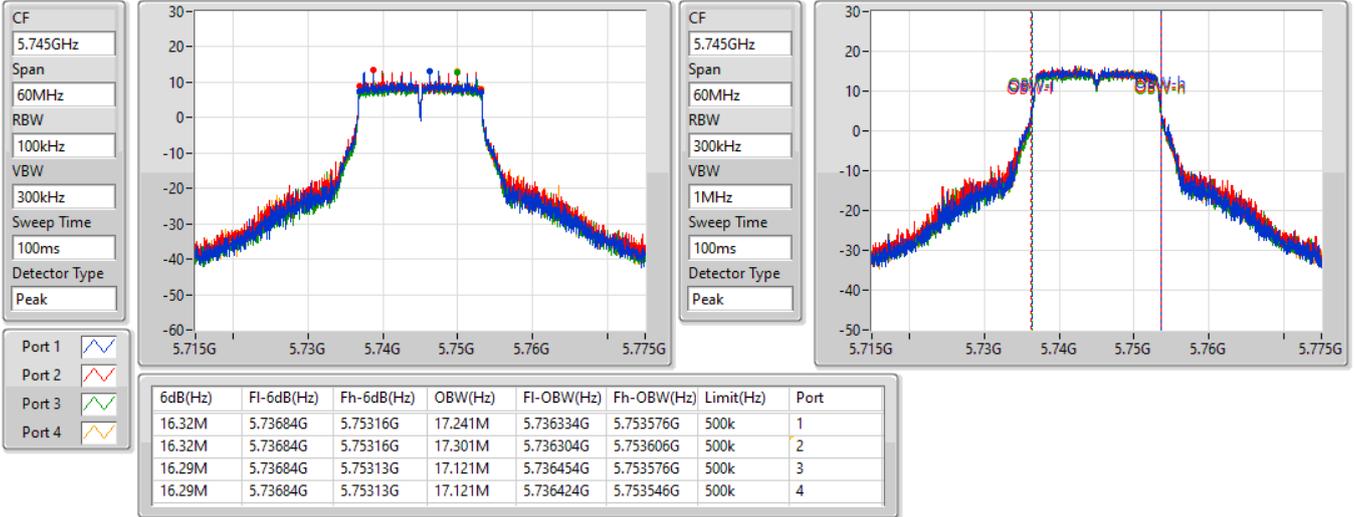


802.11a_Nss1,(6Mbps)_4TX

EBW

5745MHz

30/06/2022

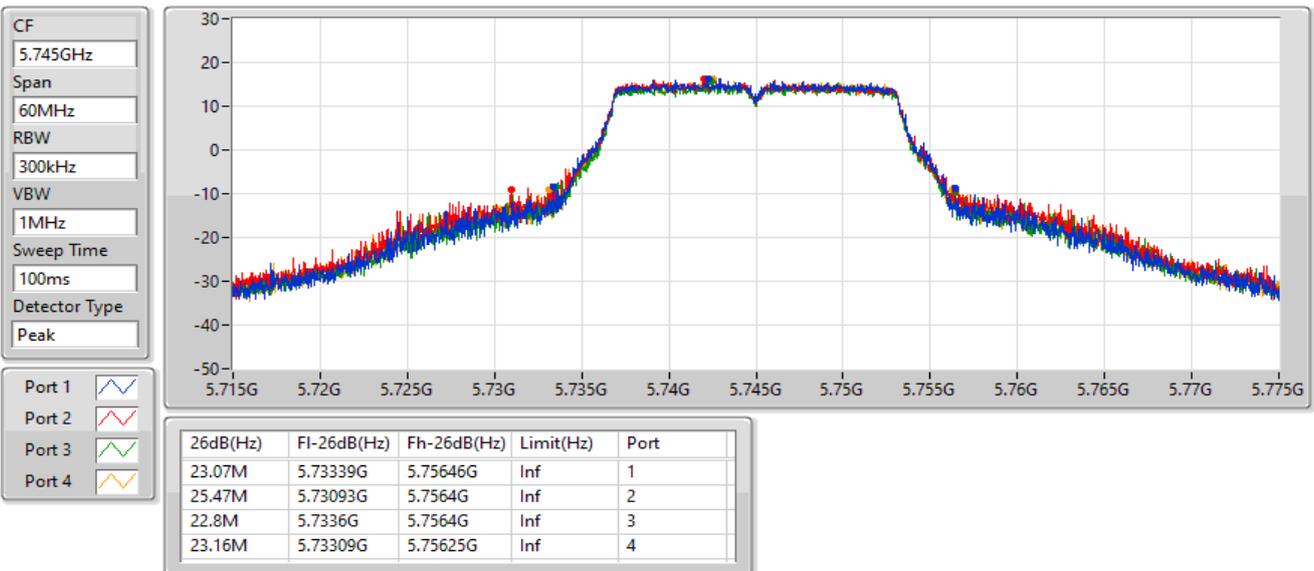


802.11a_Nss1,(6Mbps)_4TX

EBW

5745MHz

30/06/2022

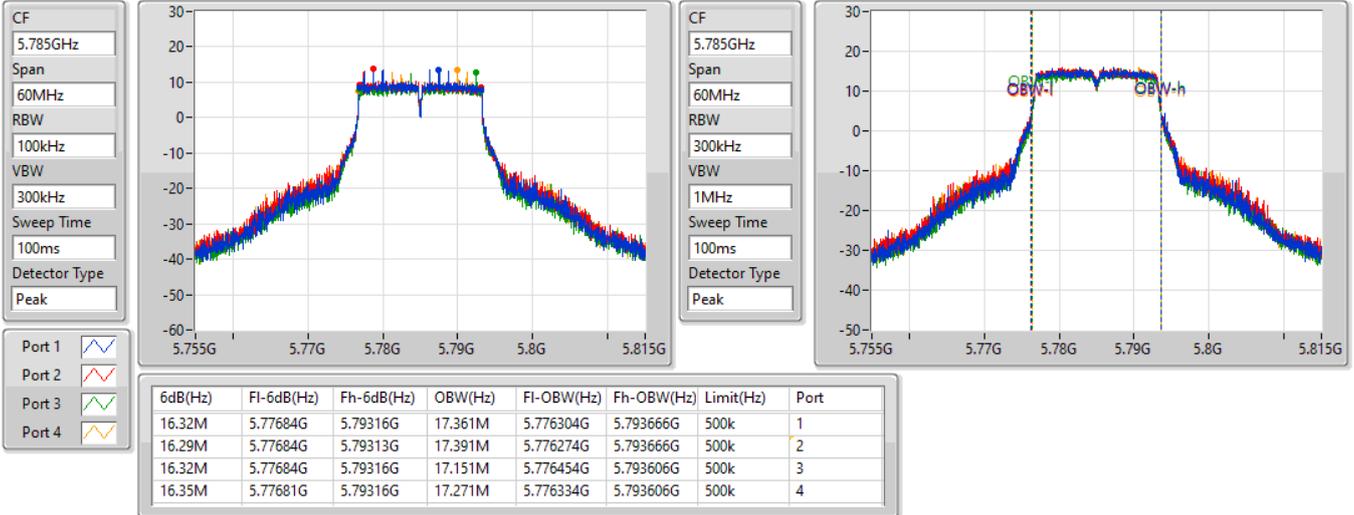


802.11a_Nss1,(6Mbps)_4TX

EBW

5785MHz

30/06/2022

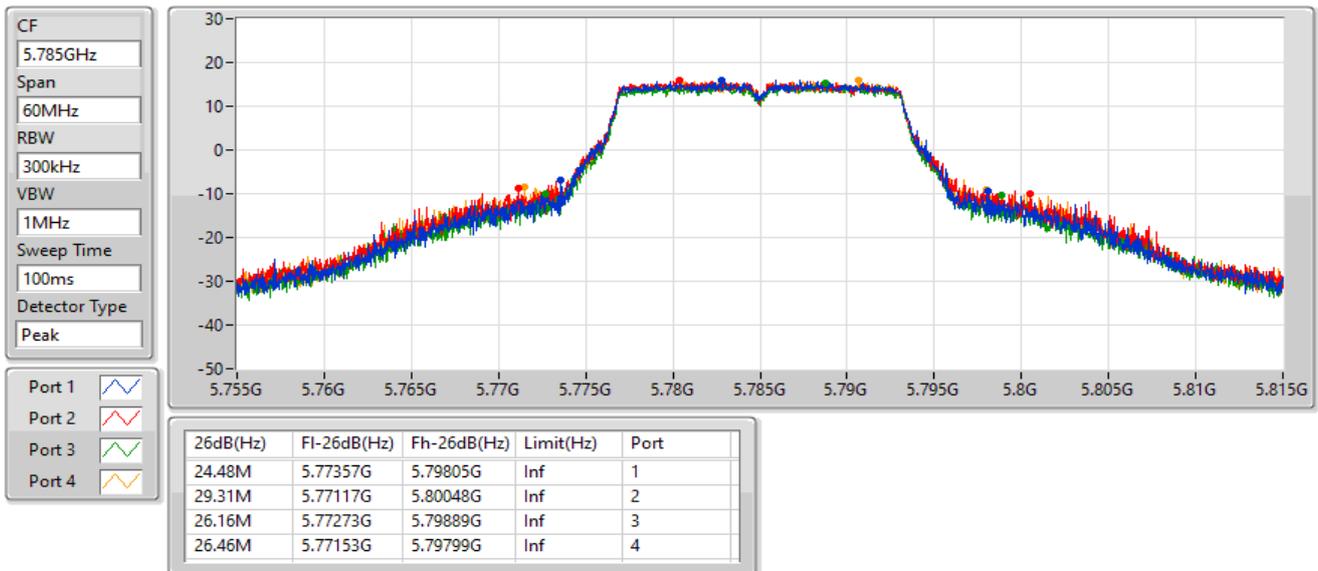


802.11a_Nss1,(6Mbps)_4TX

EBW

5785MHz

30/06/2022

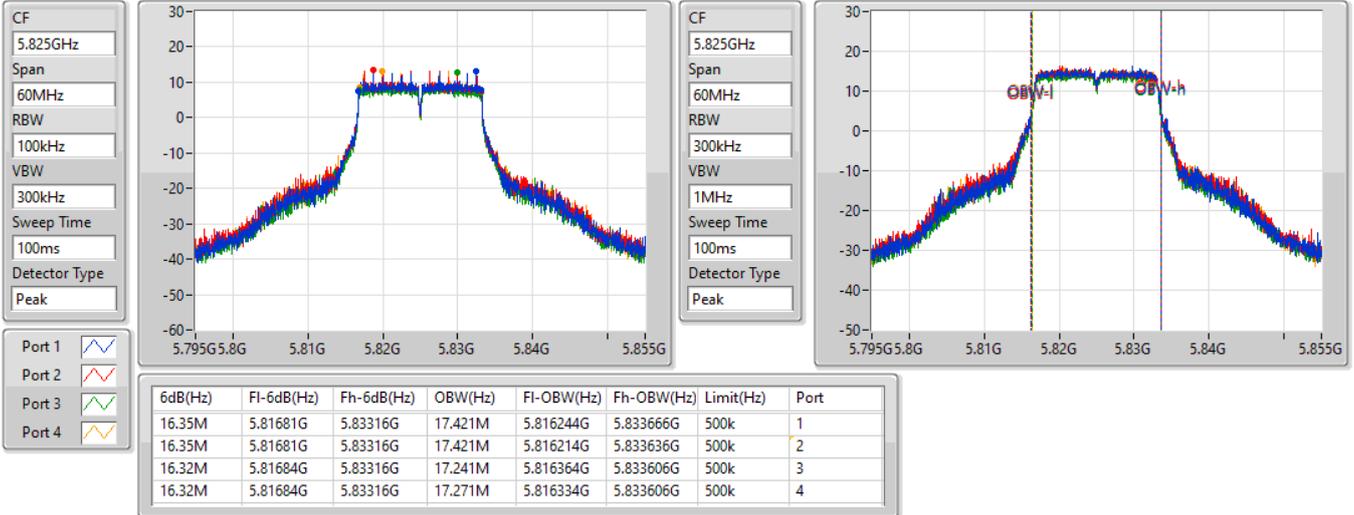


802.11a_Nss1,(6Mbps)_4TX

EBW

5825MHz

30/06/2022

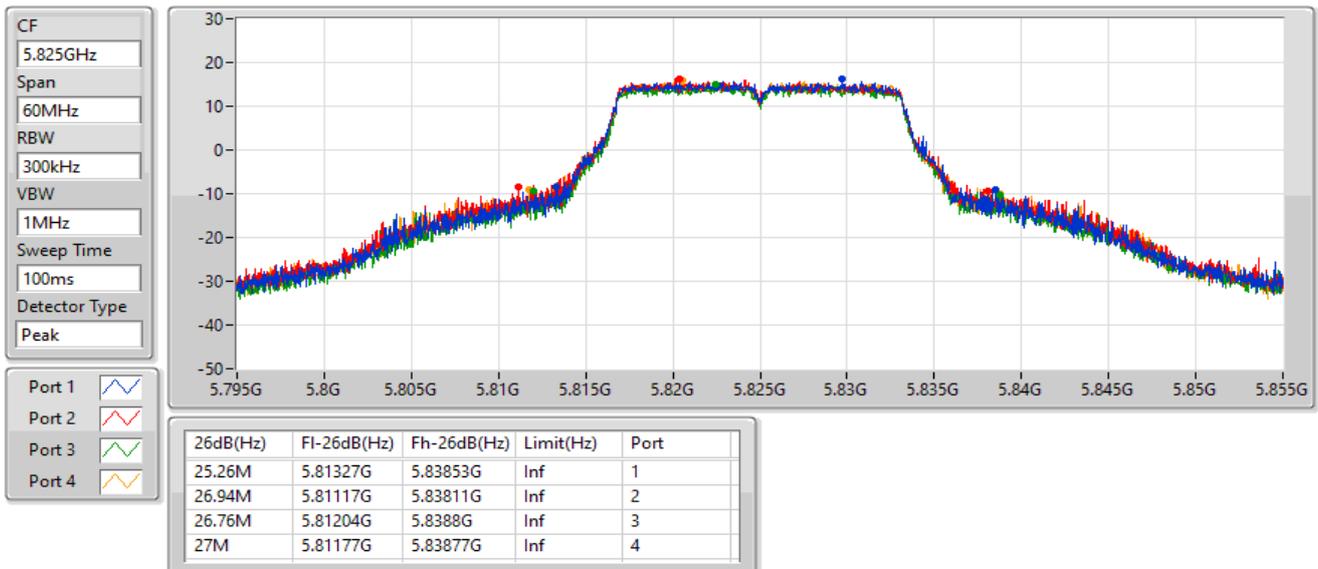


802.11a_Nss1,(6Mbps)_4TX

EBW

5825MHz

30/06/2022



**For beamforming
For 4T1S
Summary**

Mode	Max-N dB (Hz)	Max-OBW (Hz)	ITU-Code	Min-N dB (Hz)	Min-OBW (Hz)
5.15-5.25GHz	-	-	-	-	-
802.11ax HEW20-BF_Nss1,(MCS0)_4TX	24.42M	19.16M	19M2D1D	21.54M	19.1M
802.11ax HEW40-BF_Nss1,(MCS0)_4TX	40.68M	38.021M	38MOD1D	40.26M	37.901M
802.11ax HEW80-BF_Nss1,(MCS0)_4TX	82.32M	77.721M	77M7D1D	81.96M	77.601M
802.11ax HEW160-BF_Nss1,(MCS0)_4TX	82.96M	78.441M	78M4D1D	82.32M	78.441M
5.25-5.35GHz	-	-	-	-	-
802.11ax HEW20-BF_Nss1,(MCS0)_4TX	21.87M	19.13M	19M1D1D	21.57M	19.1M
802.11ax HEW40-BF_Nss1,(MCS0)_4TX	40.74M	38.021M	38MOD1D	40.38M	37.841M
802.11ax HEW80-BF_Nss1,(MCS0)_4TX	82.2M	77.601M	77M6D1D	81.72M	77.601M
802.11ax HEW160-BF_Nss1,(MCS0)_4TX	82.88M	78.441M	78M4D1D	82.4M	78.281M
5.47-5.725GHz	-	-	-	-	-
802.11ax HEW20-BF_Nss1,(MCS0)_4TX	21.84M	19.16M	19M2D1D	15.735M	14.558M
802.11ax HEW40-BF_Nss1,(MCS0)_4TX	40.86M	37.961M	38MOD1D	35.105M	33.828M
802.11ax HEW80-BF_Nss1,(MCS0)_4TX	82.08M	77.841M	77M8D1D	75.675M	73.388M
802.11ax HEW160-BF_Nss1,(MCS0)_4TX	165.36M	156.882M	157MD1D	164.64M	156.642M
5.725-5.85GHz	-	-	-	-	-
802.11ax HEW20-BF_Nss1,(MCS0)_4TX	18.99M	19.16M	19M2D1D	4.46M	4.658M
802.11ax HEW40-BF_Nss1,(MCS0)_4TX	37.92M	38.081M	38M1D1D	3.86M	4.138M
802.11ax HEW80-BF_Nss1,(MCS0)_4TX	77.4M	77.841M	77M8D1D	3.74M	4.158M

Max-N dB = Maximum 6dB down bandwidth for 5.725-5.85GHz band / Maximum 26dB down bandwidth for other band;
Max-OBW = Maximum 99% occupied bandwidth;
Min-N dB = Minimum 6dB down bandwidth for 5.725-5.85GHz band / Maximum 26dB down bandwidth for other band;
Min-OBW = Minimum 99% occupied bandwidth

Result

Mode	Result	Limit (Hz)	Port 1-N dB (Hz)	Port 1-OBW (Hz)	Port 2-N dB (Hz)	Port 2-OBW (Hz)	Port 3-N dB (Hz)	Port 3-OBW (Hz)	Port 4-N dB (Hz)	Port 4-OBW (Hz)
802.11ax HEW20-BF_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-	-	-
5180MHz	Pass	Inf	21.84M	19.16M	21.66M	19.1M	21.69M	19.13M	21.75M	19.13M
5200MHz	Pass	Inf	21.78M	19.1M	21.72M	19.13M	24.42M	19.13M	21.81M	19.1M
5240MHz	Pass	Inf	21.9M	19.16M	21.54M	19.13M	21.87M	19.13M	21.72M	19.1M
5260MHz	Pass	Inf	21.81M	19.1M	21.87M	19.13M	21.63M	19.13M	21.57M	19.1M
5300MHz	Pass	Inf	21.87M	19.1M	21.63M	19.1M	21.69M	19.13M	21.57M	19.1M
5320MHz	Pass	Inf	21.84M	19.13M	21.72M	19.13M	21.72M	19.13M	21.69M	19.1M
5500MHz	Pass	Inf	21.72M	19.1M	21.63M	19.1M	21.84M	19.1M	21.54M	19.1M
5580MHz	Pass	Inf	21.81M	19.1M	21.6M	19.07M	21.6M	19.1M	21.72M	19.07M
5700MHz	Pass	Inf	21.75M	19.13M	21.78M	19.16M	21.57M	19.13M	21.57M	19.1M
5720MHz Straddle 5.47-5.725GHz	Pass	Inf	15.765M	14.573M	15.81M	14.588M	15.75M	14.558M	15.735M	14.573M
5720MHz Straddle 5.725-5.85GHz	Pass	500k	4.5M	4.658M	4.46M	4.678M	4.46M	4.698M	4.46M	4.658M
5745MHz	Pass	500k	18.96M	19.13M	18.96M	19.13M	18.9M	19.16M	18.84M	19.16M
5785MHz	Pass	500k	18.99M	19.13M	18.87M	19.13M	18.99M	19.16M	18.81M	19.16M
5825MHz	Pass	500k	18.9M	19.13M	18.9M	19.16M	18.93M	19.16M	18.9M	19.13M
802.11ax HEW40-BF_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-	-	-
5190MHz	Pass	Inf	40.68M	37.901M	40.32M	37.961M	40.26M	37.901M	40.62M	38.021M
5230MHz	Pass	Inf	40.68M	38.021M	40.62M	38.021M	40.32M	37.961M	40.5M	37.961M
5270MHz	Pass	Inf	40.74M	37.901M	40.38M	37.961M	40.62M	37.961M	40.44M	37.841M
5310MHz	Pass	Inf	40.68M	37.961M	40.5M	37.961M	40.68M	37.961M	40.44M	38.021M
5510MHz	Pass	Inf	40.86M	37.961M	40.62M	37.901M	40.44M	37.961M	40.5M	37.961M
5550MHz	Pass	Inf	40.56M	37.961M	40.68M	37.961M	40.32M	37.961M	40.56M	37.901M
5670MHz	Pass	Inf	40.74M	37.901M	40.62M	37.961M	40.44M	37.961M	40.44M	37.961M
5710MHz Straddle 5.47-5.725GHz	Pass	Inf	35.315M	33.828M	35.385M	33.898M	35.105M	33.828M	35.14M	33.863M
5710MHz Straddle 5.725-5.85GHz	Pass	500k	3.86M	4.158M	3.86M	4.158M	3.88M	4.138M	3.96M	4.138M
5755MHz	Pass	500k	37.92M	37.961M	37.62M	38.021M	37.44M	38.081M	37.56M	38.021M
5795MHz	Pass	500k	37.32M	38.021M	37.74M	38.021M	37.44M	38.021M	37.62M	38.021M
802.11ax HEW80-BF_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-	-	-
5210MHz	Pass	Inf	81.96M	77.721M	82.32M	77.721M	82.08M	77.601M	82.08M	77.601M
5290MHz	Pass	Inf	82.2M	77.601M	81.72M	77.601M	82.08M	77.601M	82.08M	77.601M
5530MHz	Pass	Inf	81.96M	77.601M	81.96M	77.721M	81.72M	77.841M	81.72M	77.601M
5610MHz	Pass	Inf	81.96M	77.601M	81.84M	77.601M	82.08M	77.601M	81.72M	77.481M
5690MHz Straddle 5.47-5.725GHz	Pass	Inf	75.825M	73.388M	75.675M	73.463M	76.05M	73.463M	76.05M	73.463M
5690MHz Straddle 5.725-5.85GHz	Pass	500k	3.94M	4.178M	3.96M	4.178M	3.74M	4.178M	3.78M	4.158M
5775MHz	Pass	500k	77.4M	77.721M	76.8M	77.841M	77.04M	77.721M	77.28M	77.841M
802.11ax HEW160-BF_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-	-	-
5250MHz Straddle 5.15-5.25GHz	Pass	Inf	82.96M	78.441M	82.72M	78.441M	82.32M	78.441M	82.32M	78.441M
5250MHz Straddle 5.25-5.35GHz	Pass	Inf	82.88M	78.361M	82.4M	78.361M	82.64M	78.281M	82.4M	78.441M
5570MHz	Pass	Inf	165.36M	156.642M	165.36M	156.882M	164.88M	156.642M	164.64M	156.882M

Port X-N dB = Port X 6dB down bandwidth for 5.725-5.85GHz band / 26dB down bandwidth for other band
 Port X-OBW = Port X 99% occupied bandwidth

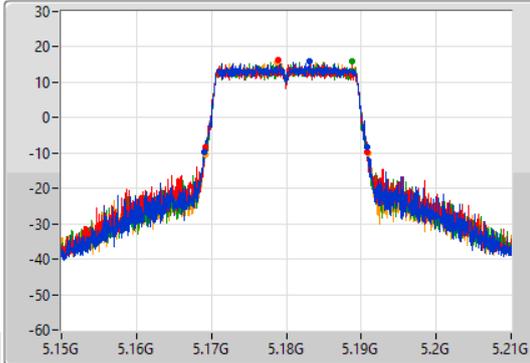
802.11ax HEW20-BF_Nss1,(MCS0)_4TX

EBW

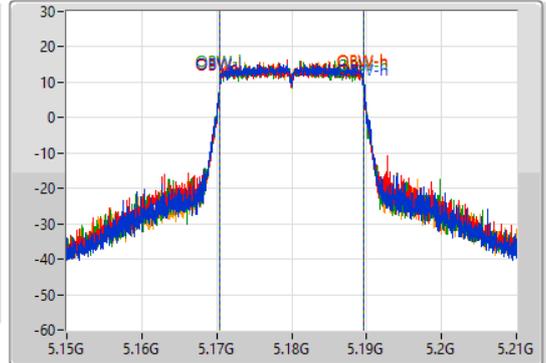
5180MHz

30/06/2022

CF
5.18GHz
Span
60MHz
RBW
300kHz
VBW
1MHz
Sweep Time
100ms
Detector Type
Peak



CF
5.18GHz
Span
60MHz
RBW
300kHz
VBW
1MHz
Sweep Time
100ms
Detector Type
Peak



Port 1
Port 2
Port 3
Port 4

26dB(Hz)	Fl-26dB(Hz)	Fh-26dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
21.84M	5.16899G	5.19083G	19.16M	5.170435G	5.189595G	Inf	1
21.66M	5.16914G	5.1908G	19.1M	5.170435G	5.189535G	Inf	2
21.69M	5.16917G	5.19086G	19.13M	5.170435G	5.189565G	Inf	3
21.75M	5.16917G	5.19092G	19.13M	5.170435G	5.189565G	Inf	4

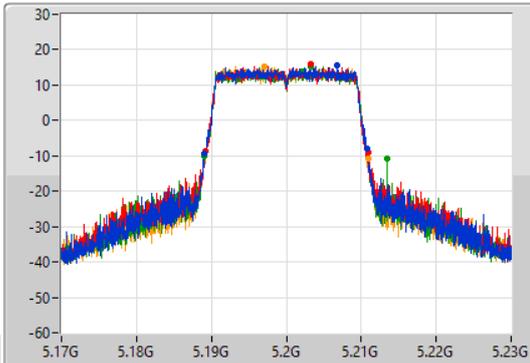
802.11ax HEW20-BF_Nss1,(MCS0)_4TX

EBW

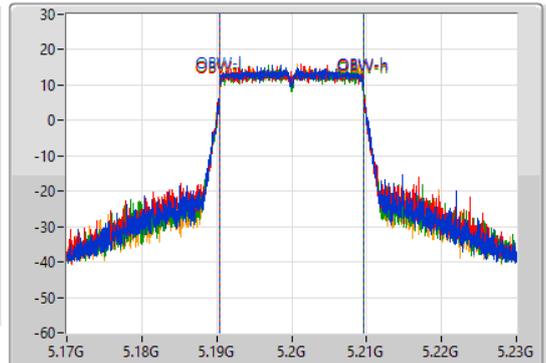
5200MHz

30/06/2022

CF
5.2GHz
Span
60MHz
RBW
300kHz
VBW
1MHz
Sweep Time
100ms
Detector Type
Peak



CF
5.2GHz
Span
60MHz
RBW
300kHz
VBW
1MHz
Sweep Time
100ms
Detector Type
Peak



Port 1
Port 2
Port 3
Port 4

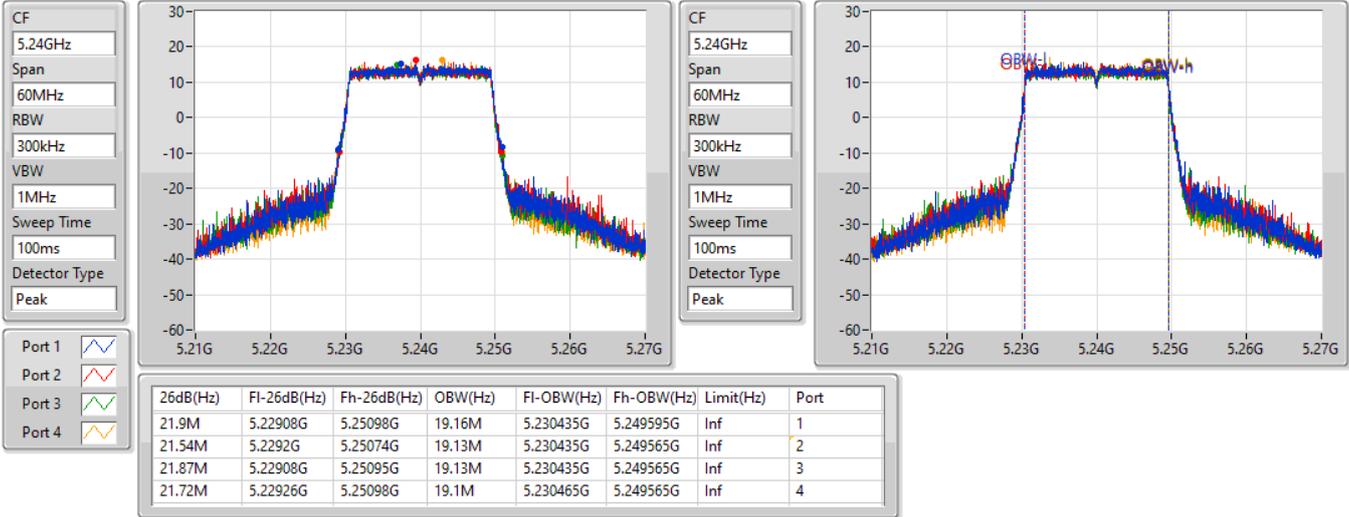
26dB(Hz)	Fl-26dB(Hz)	Fh-26dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
21.78M	5.18908G	5.21086G	19.1M	5.190435G	5.209535G	Inf	1
21.72M	5.1892G	5.21092G	19.13M	5.190435G	5.209565G	Inf	2
24.42M	5.18908G	5.2135G	19.13M	5.190435G	5.209565G	Inf	3
21.81M	5.18911G	5.21092G	19.1M	5.190435G	5.209535G	Inf	4

802.11ax HEW20-BF_Nss1,(MCS0)_4TX

EBW

5240MHz

30/06/2022

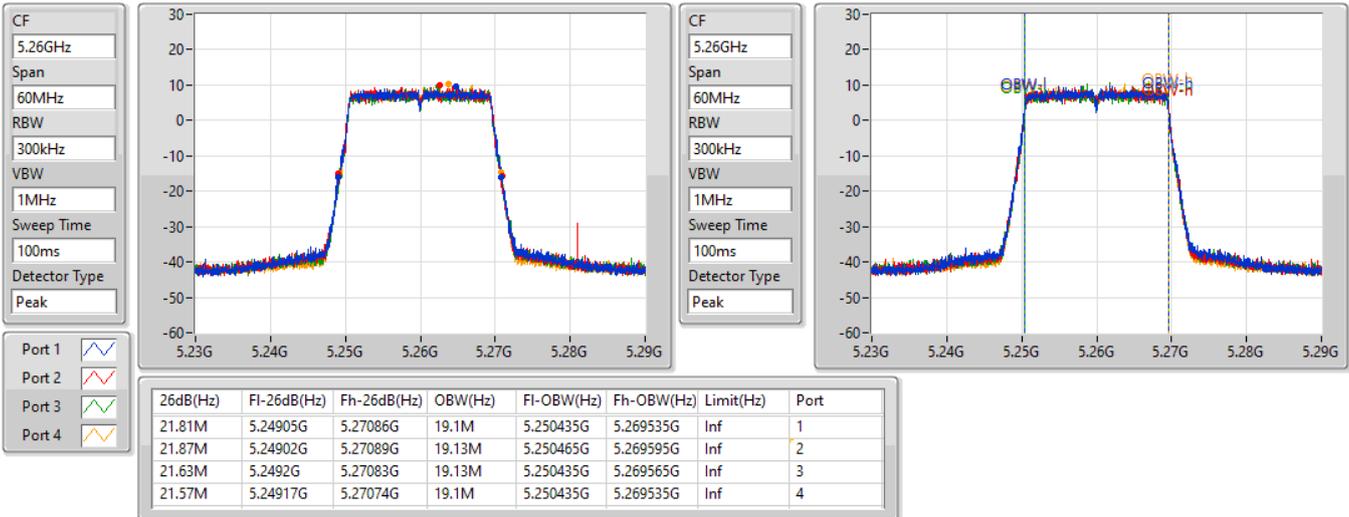


802.11ax HEW20-BF_Nss1,(MCS0)_4TX

EBW

5260MHz

30/06/2022

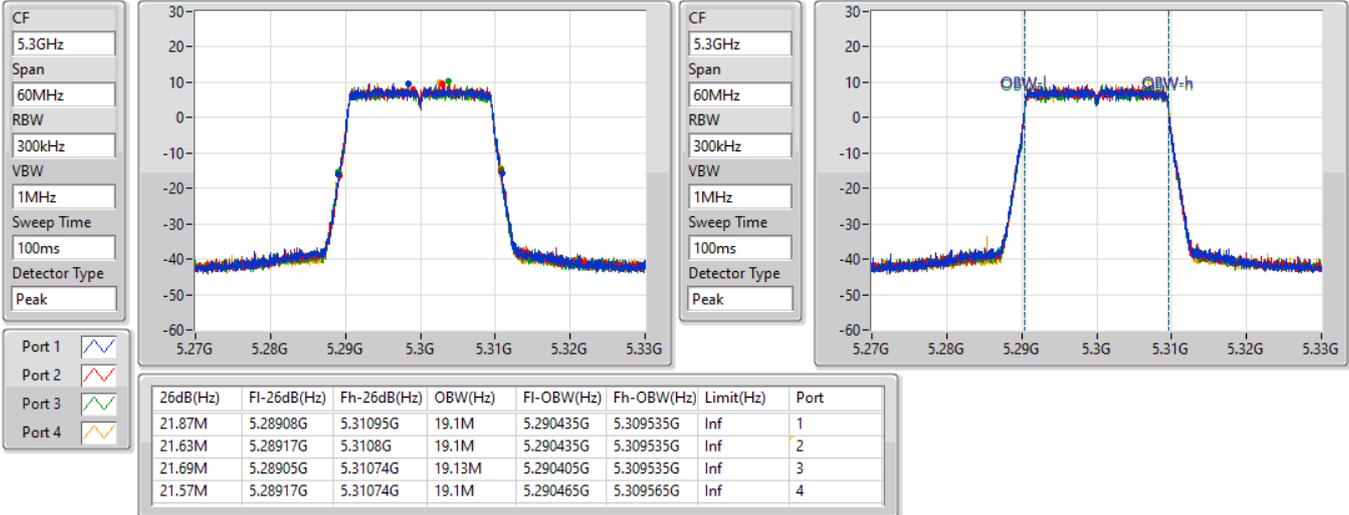


802.11ax HEW20-BF_Nss1,(MCS0)_4TX

EBW

5300MHz

30/06/2022

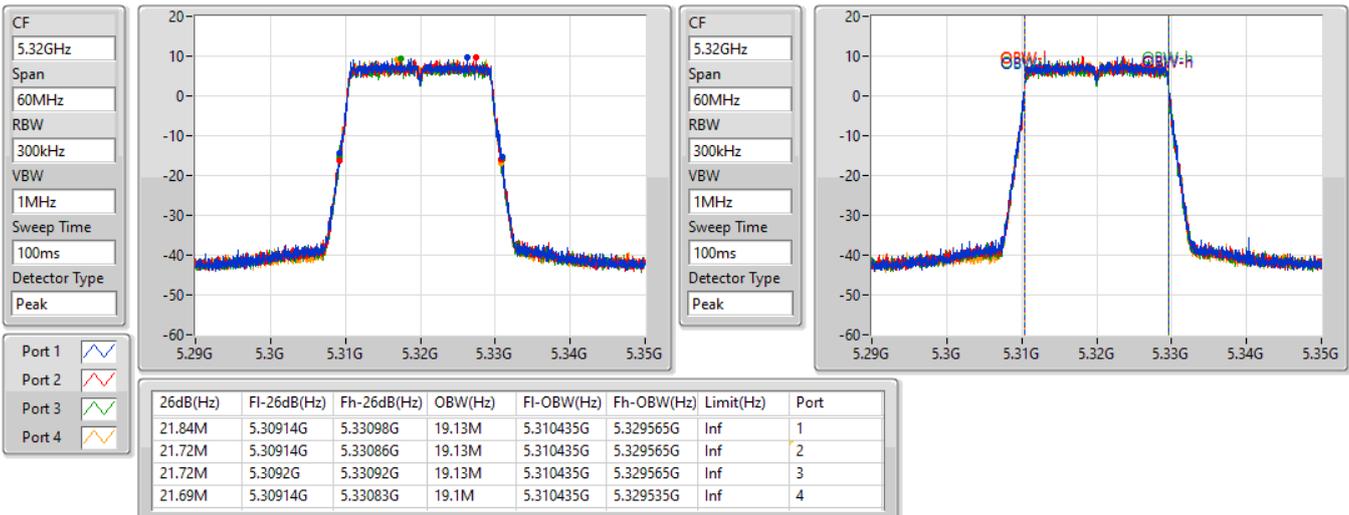


802.11ax HEW20-BF_Nss1,(MCS0)_4TX

EBW

5320MHz

30/06/2022

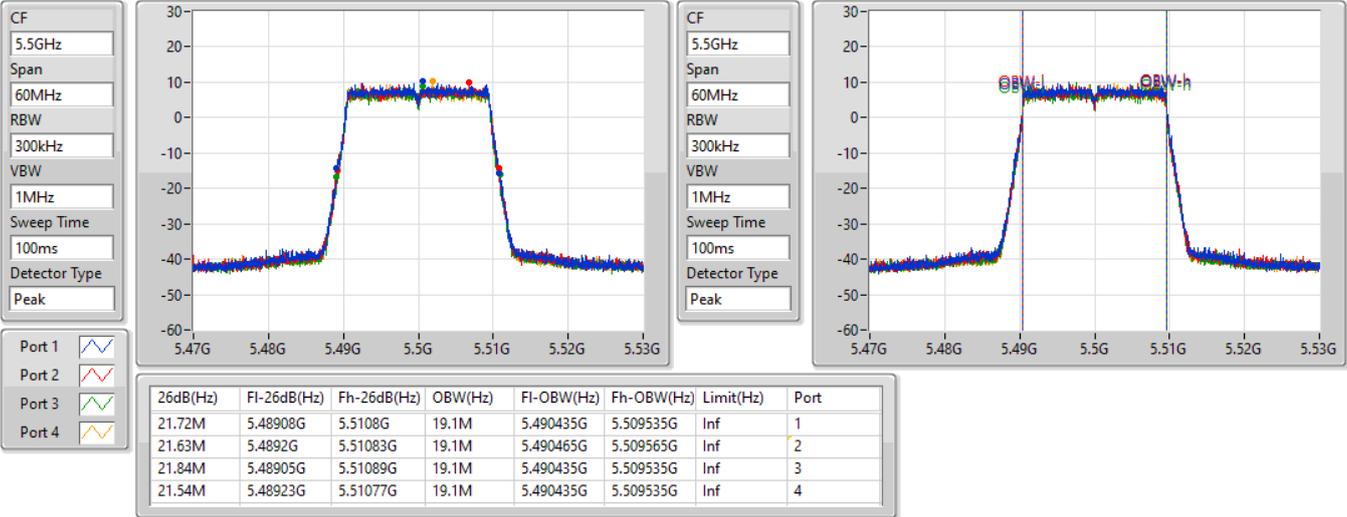


802.11ax HEW20-BF_Nss1,(MCS0)_4TX

EBW

5500MHz

30/06/2022

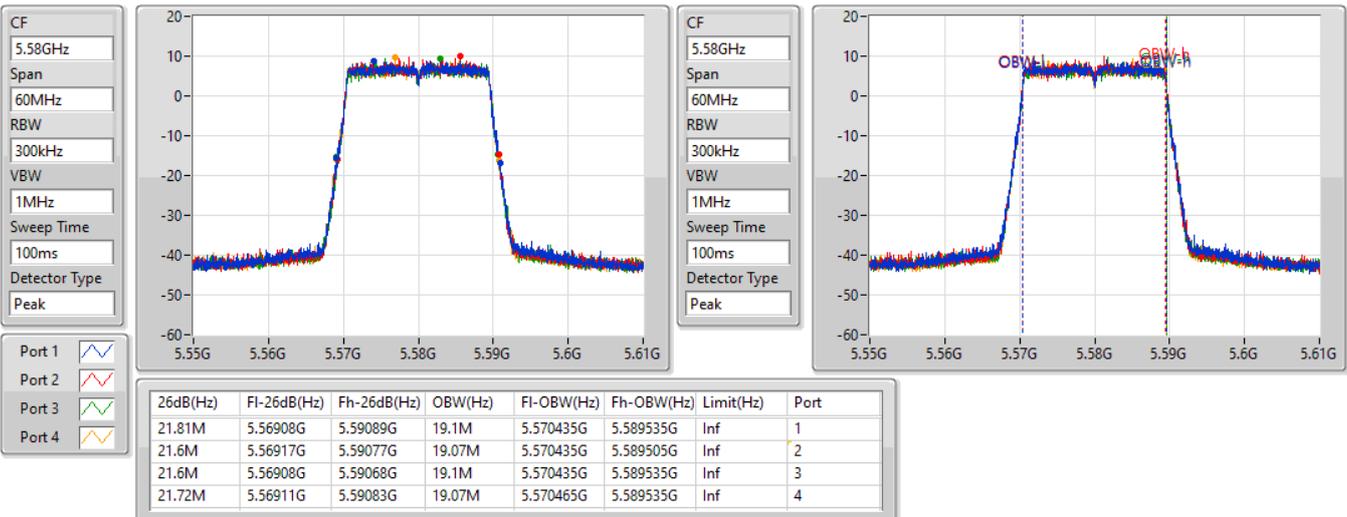


802.11ax HEW20-BF_Nss1,(MCS0)_4TX

EBW

5580MHz

30/06/2022

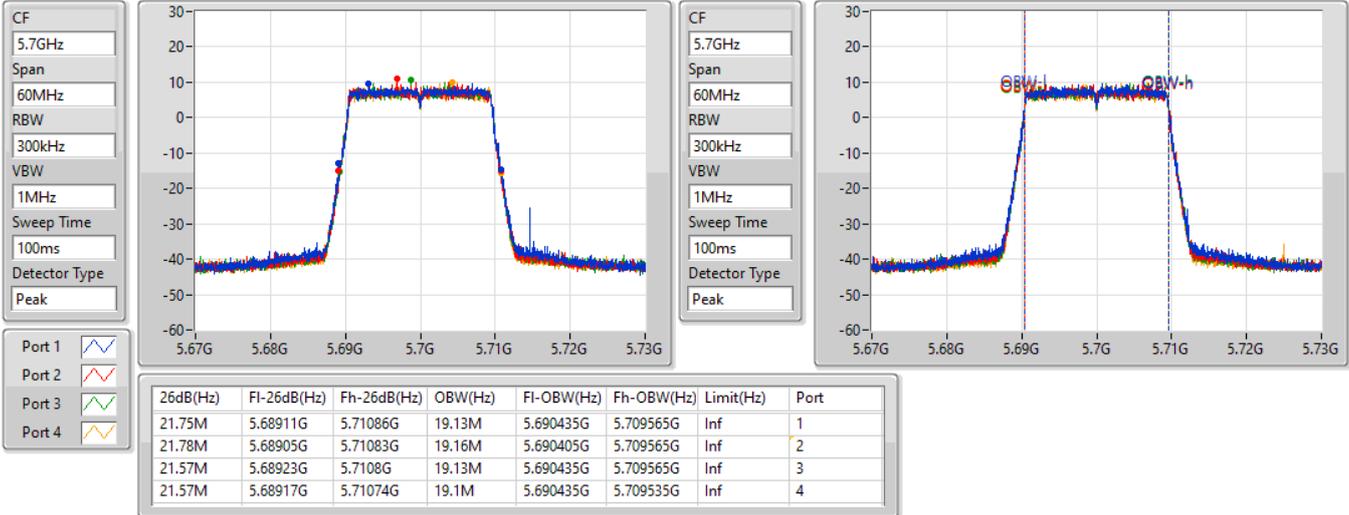


802.11ax HEW20-BF_Nss1,(MCS0)_4TX

EBW

5700MHz

30/06/2022

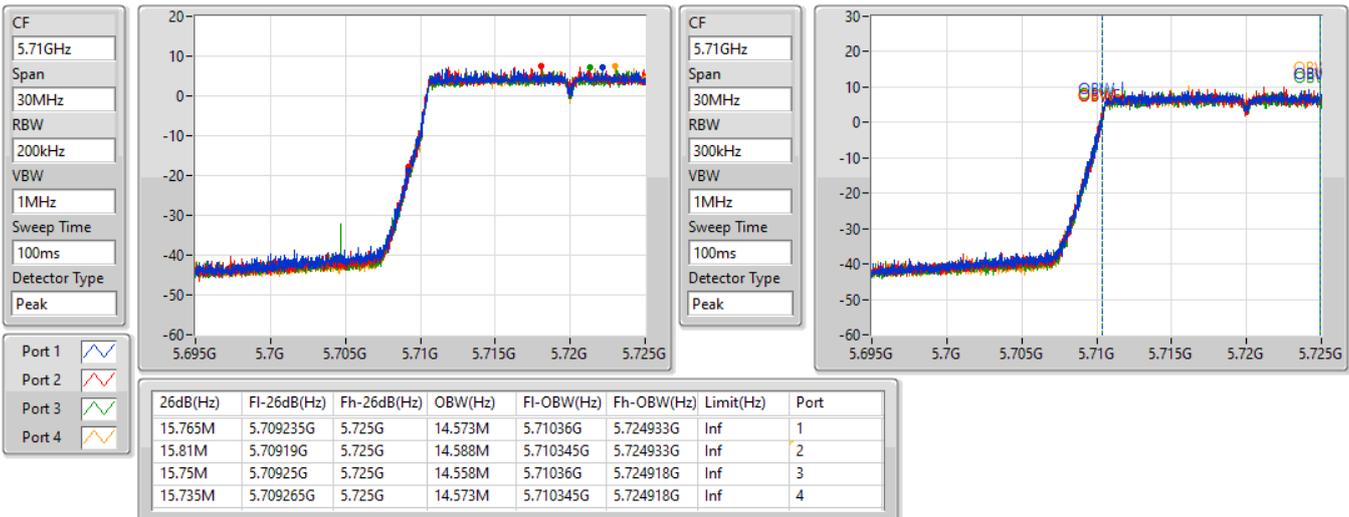


802.11ax HEW20-BF_Nss1,(MCS0)_4TX

EBW

5720MHz Straddle 5.47-5.725GHz

30/06/2022

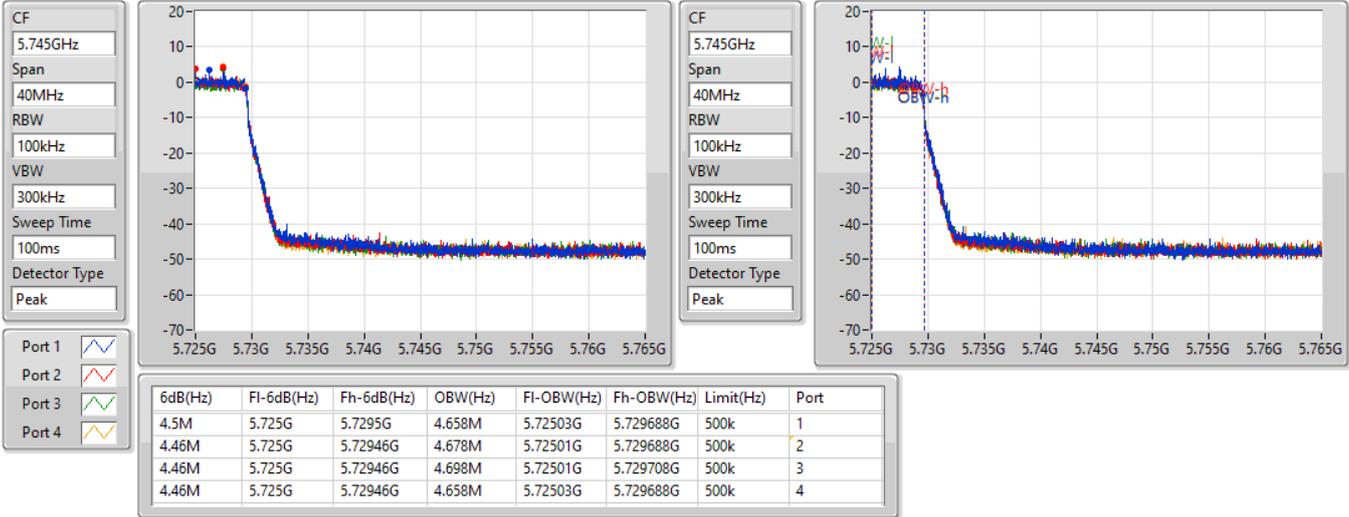


802.11ax HEW20-BF_Nss1,(MCS0)_4TX

EBW

5720MHz Straddle 5.725-5.85GHz

30/06/2022

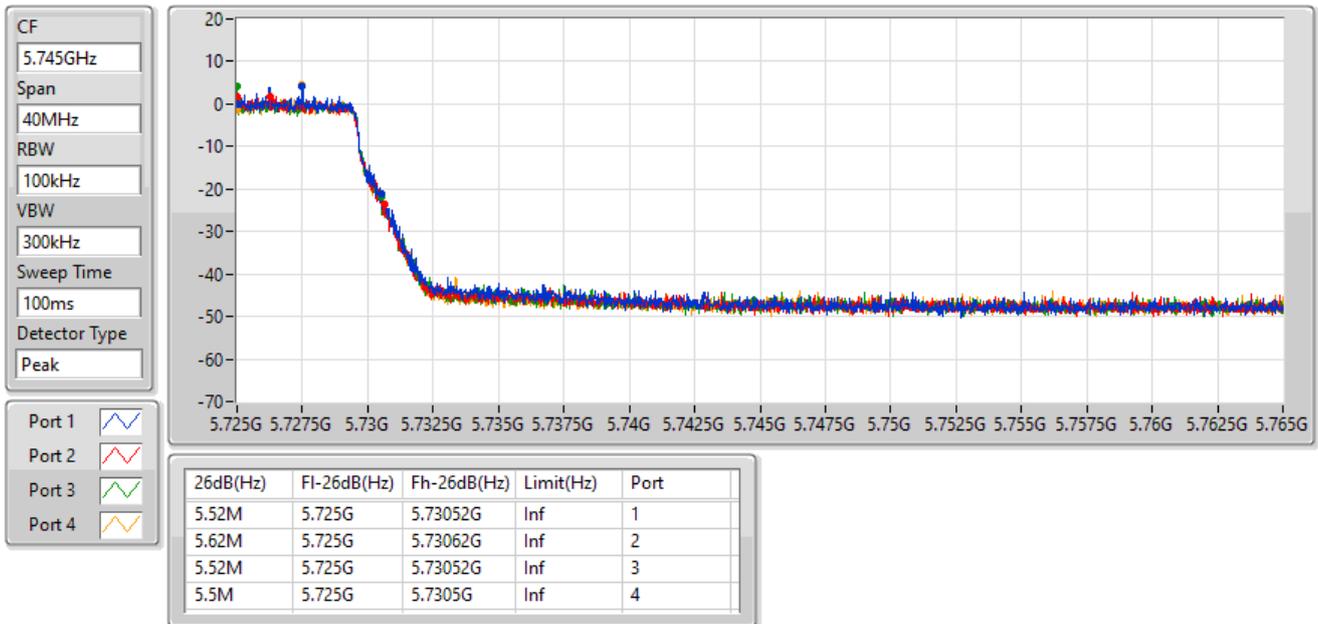


802.11ax HEW20-BF_Nss1,(MCS0)_4TX

EBW

5720MHz Straddle 5.725-5.85GHz

30/06/2022

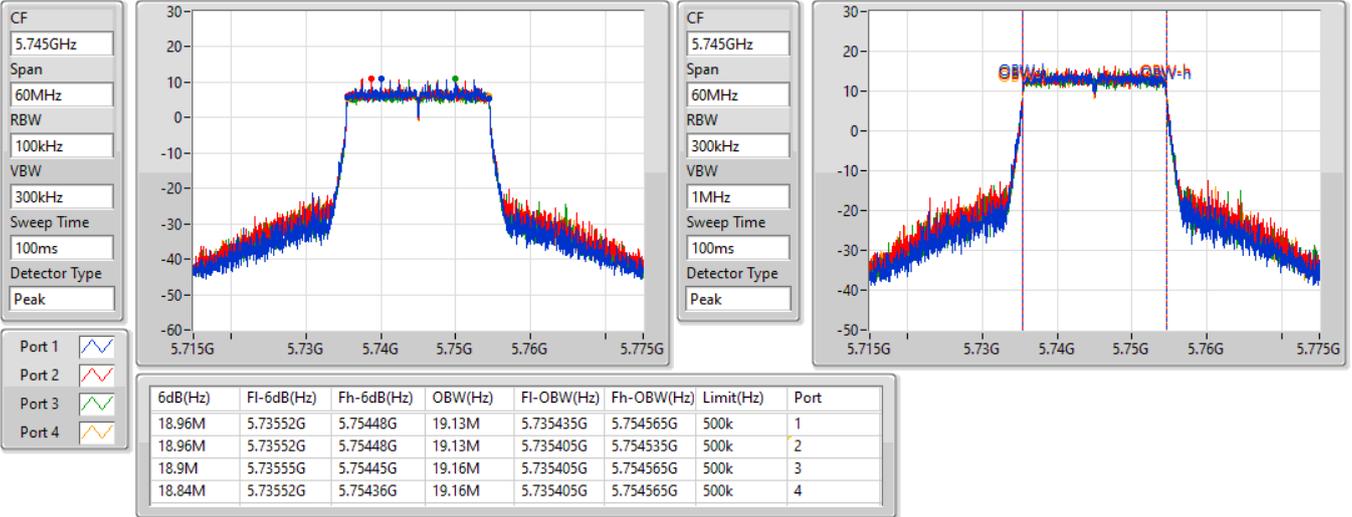


802.11ax HEW20-BF_Nss1,(MCS0)_4TX

EBW

5745MHz

30/06/2022

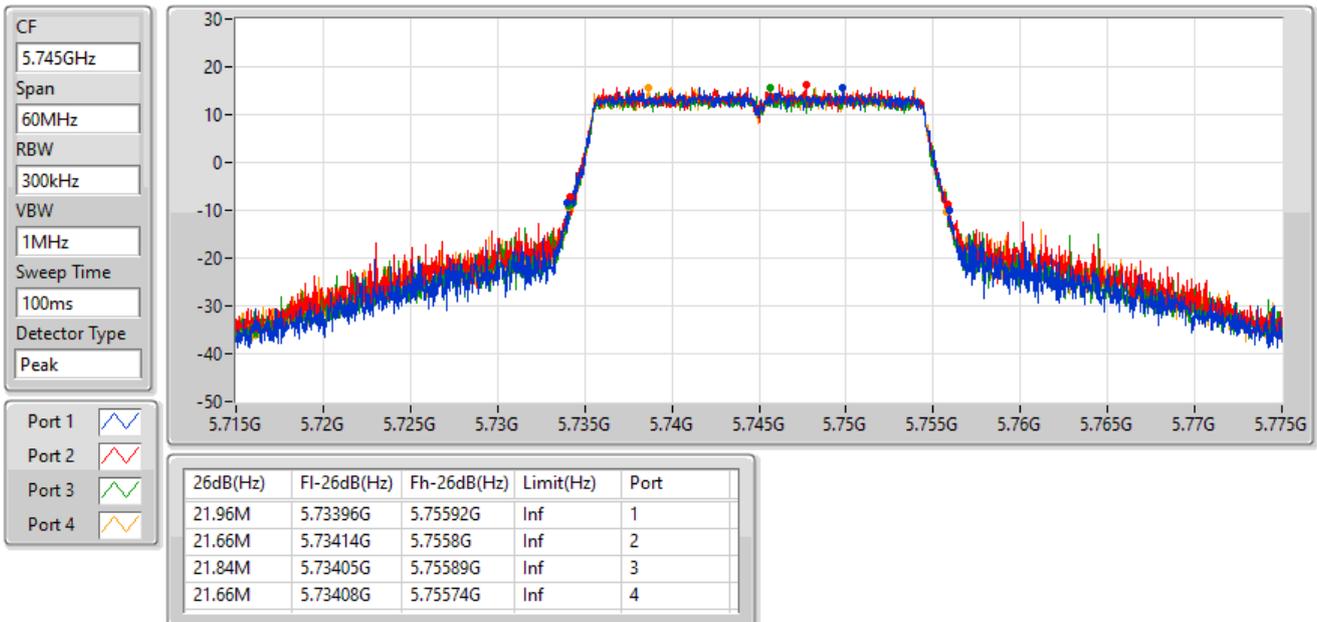


802.11ax HEW20-BF_Nss1,(MCS0)_4TX

EBW

5745MHz

30/06/2022

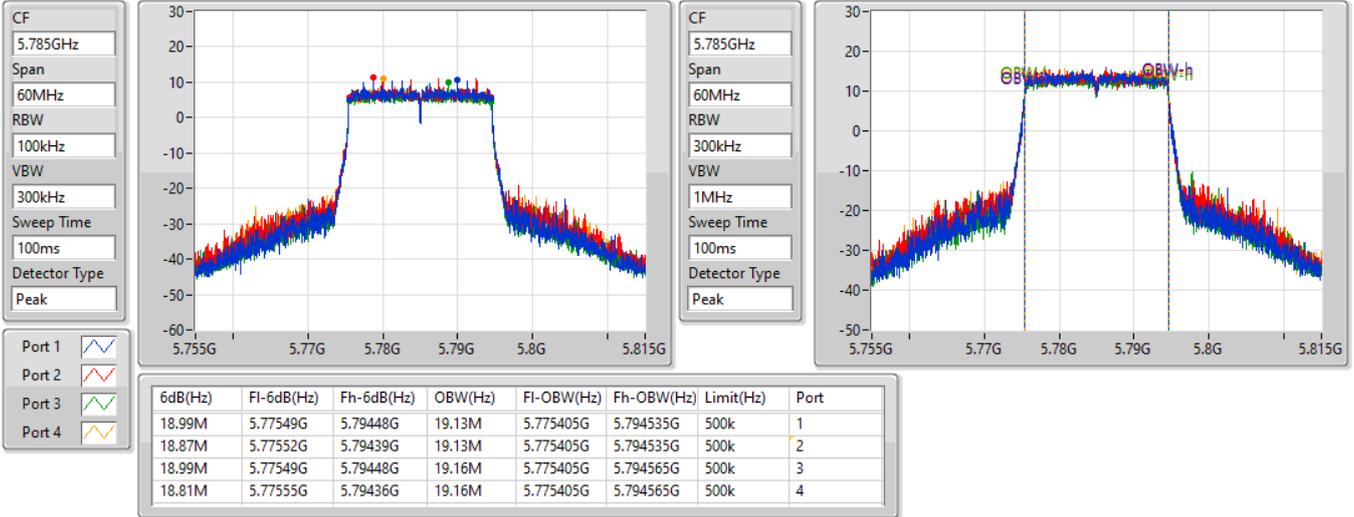


802.11ax HEW20-BF_Nss1,(MCS0)_4TX

EBW

5785MHz

30/06/2022

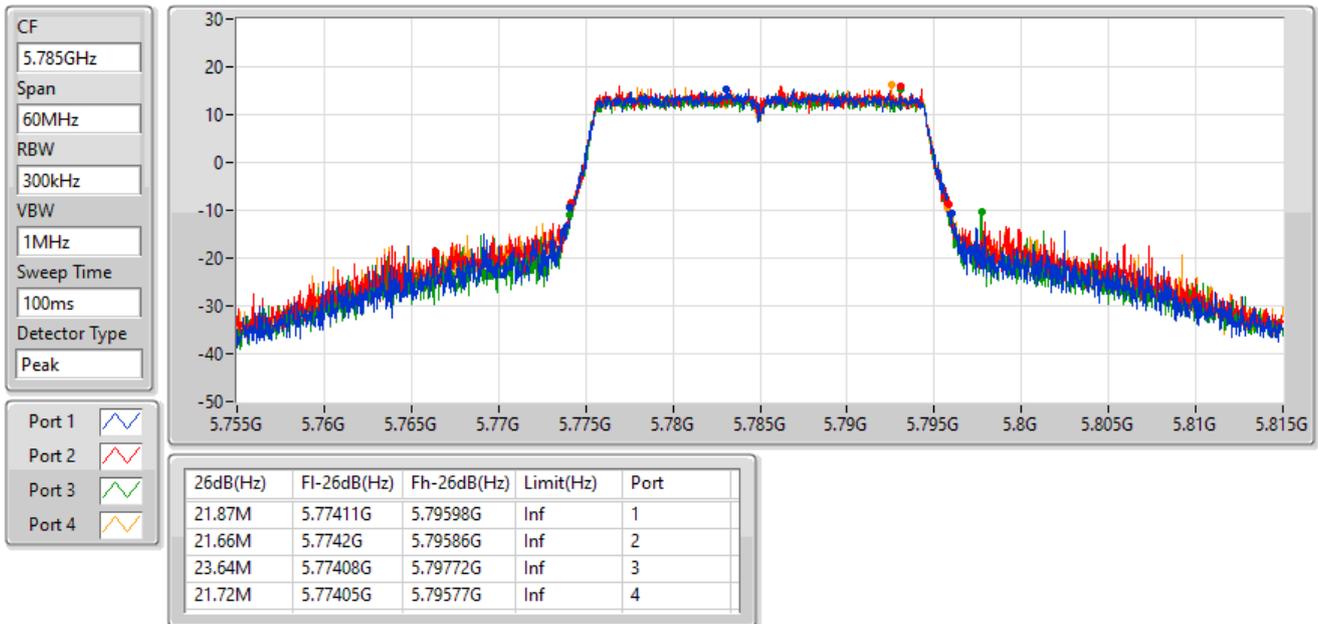


802.11ax HEW20-BF_Nss1,(MCS0)_4TX

EBW

5785MHz

30/06/2022



802.11ax HEW20-BF_Nss1,(MCS0)_4TX

EBW

5825MHz

30/06/2022

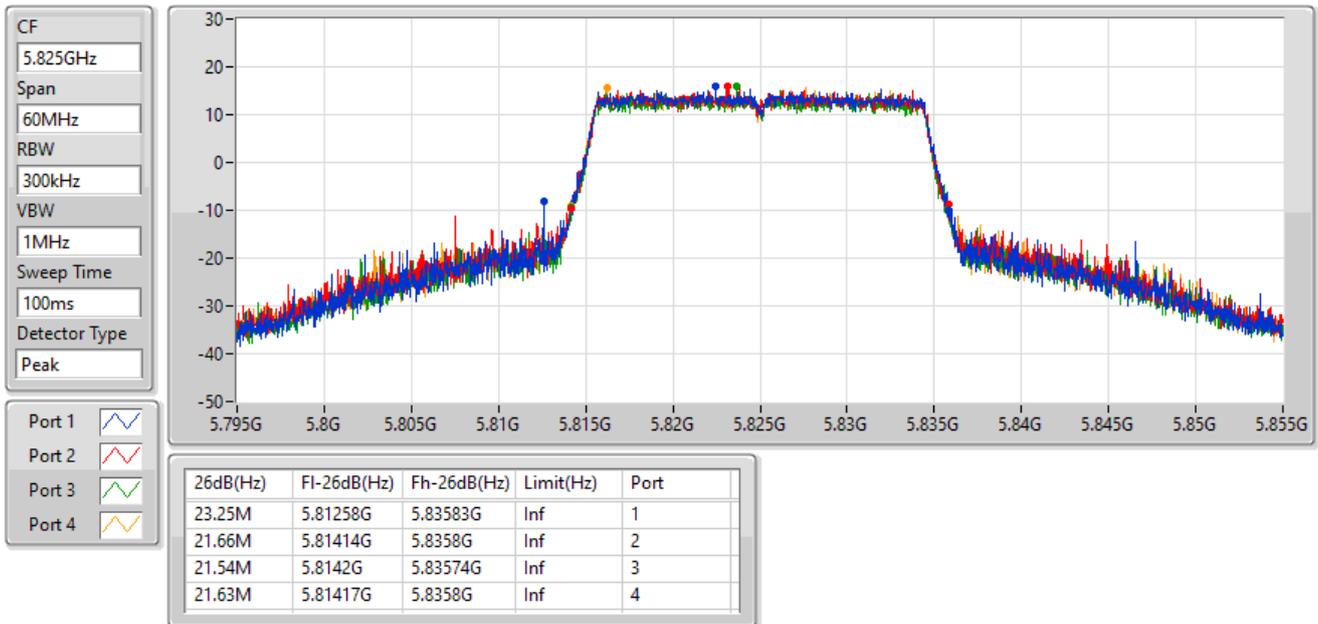


802.11ax HEW20-BF_Nss1,(MCS0)_4TX

EBW

5825MHz

30/06/2022

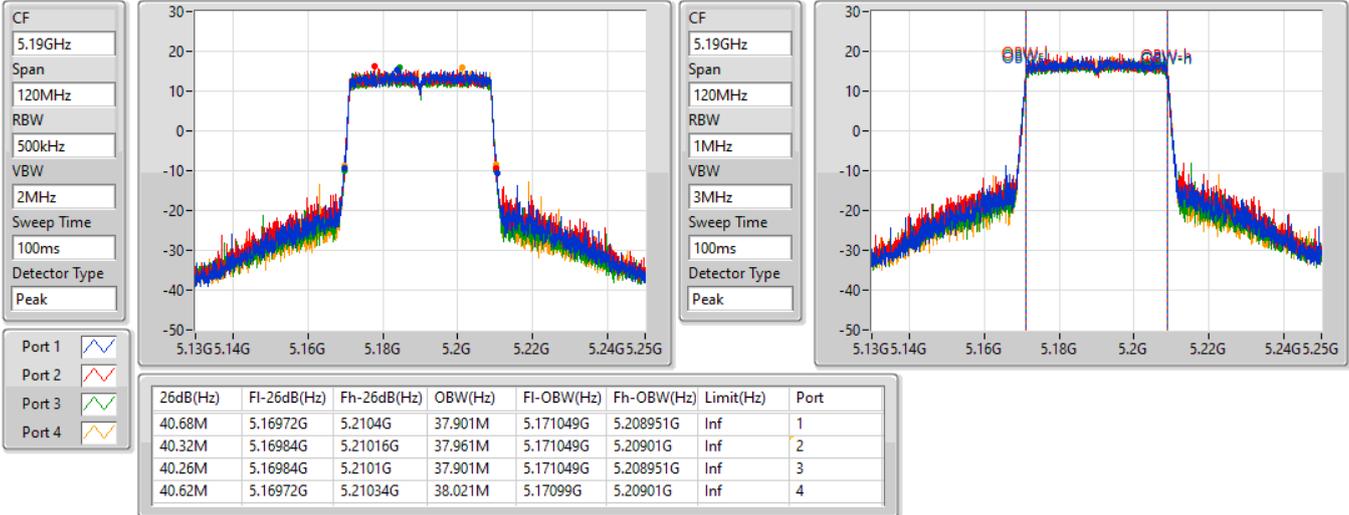


802.11ax HEW40-BF_Nss1,(MCS0)_4TX

EBW

5190MHz

30/06/2022

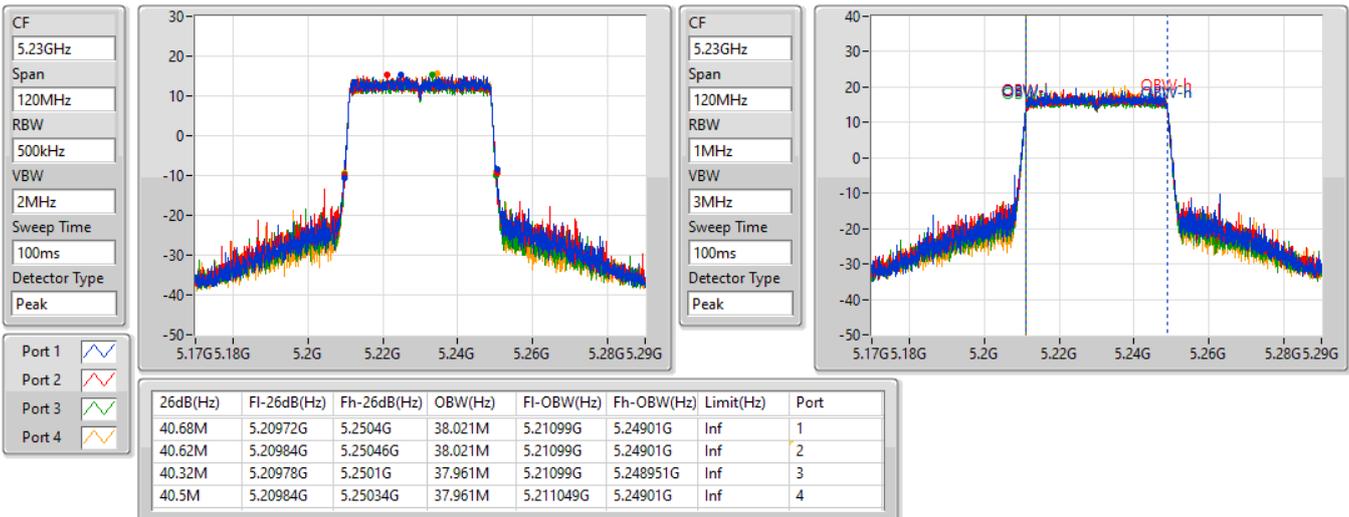


802.11ax HEW40-BF_Nss1,(MCS0)_4TX

EBW

5230MHz

30/06/2022

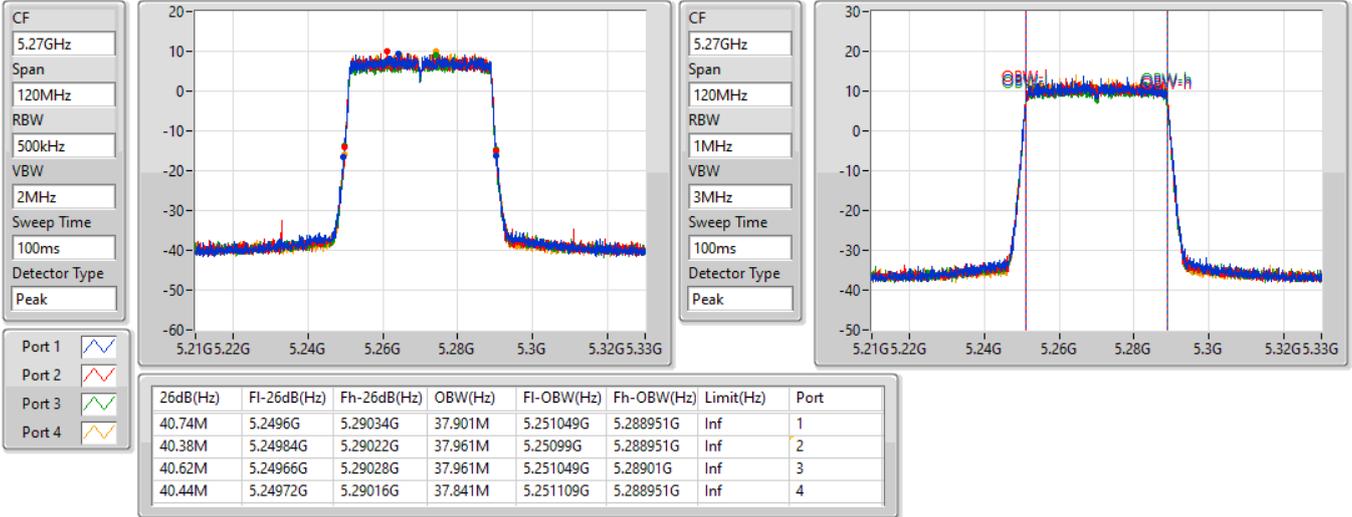


802.11ax HEW40-BF_Nss1,(MCS0)_4TX

EBW

5270MHz

30/06/2022

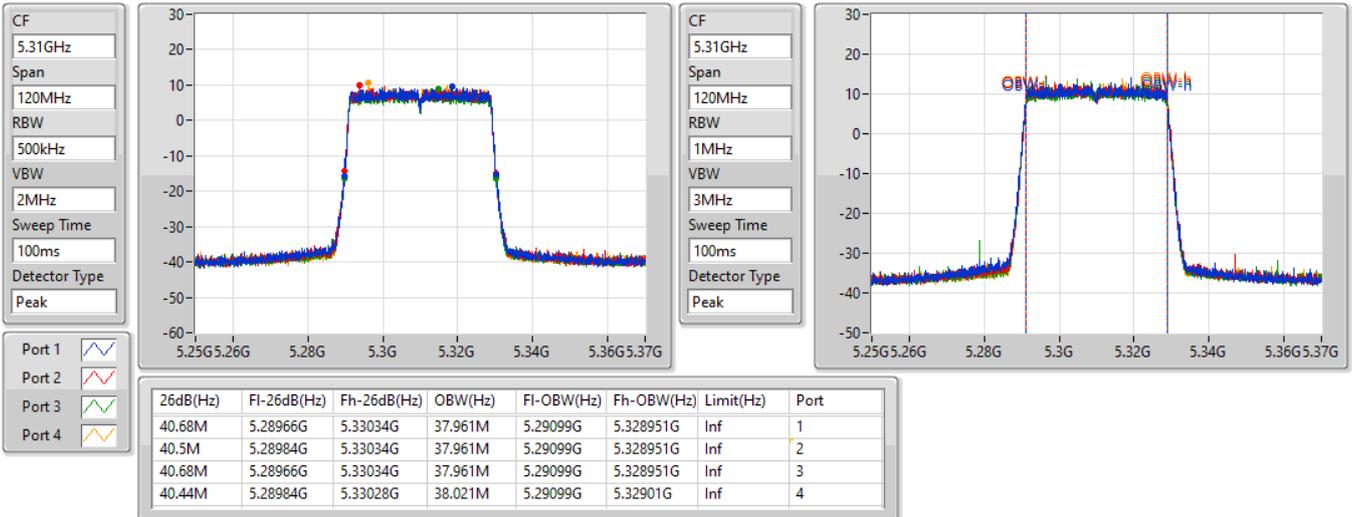


802.11ax HEW40-BF_Nss1,(MCS0)_4TX

EBW

5310MHz

30/06/2022

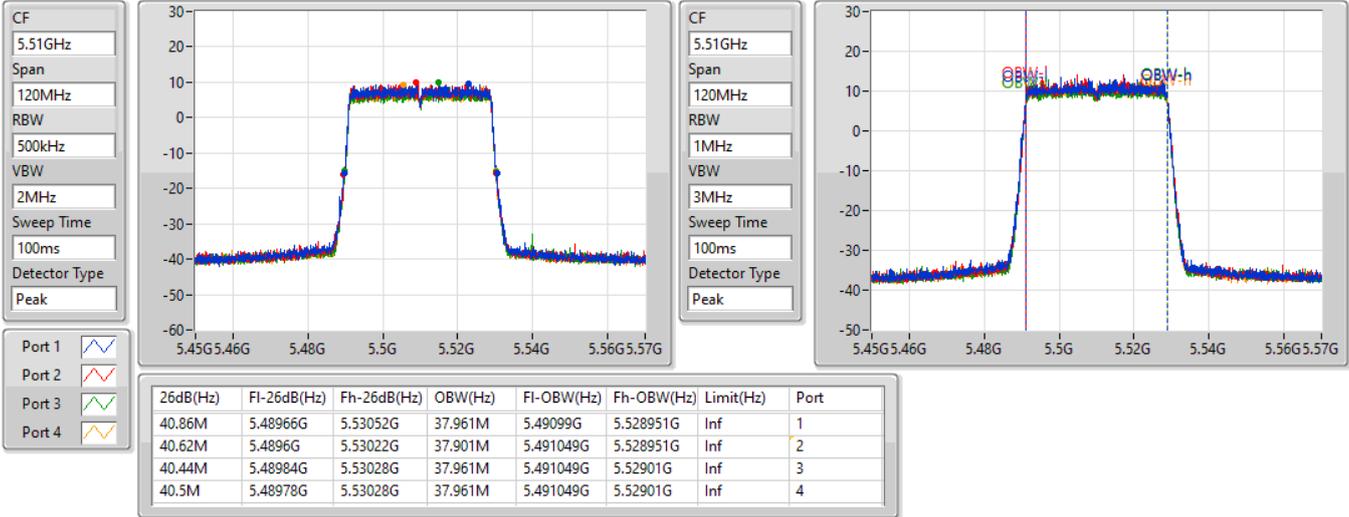


802.11ax HEW40-BF_Nss1,(MCS0)_4TX

EBW

5510MHz

30/06/2022

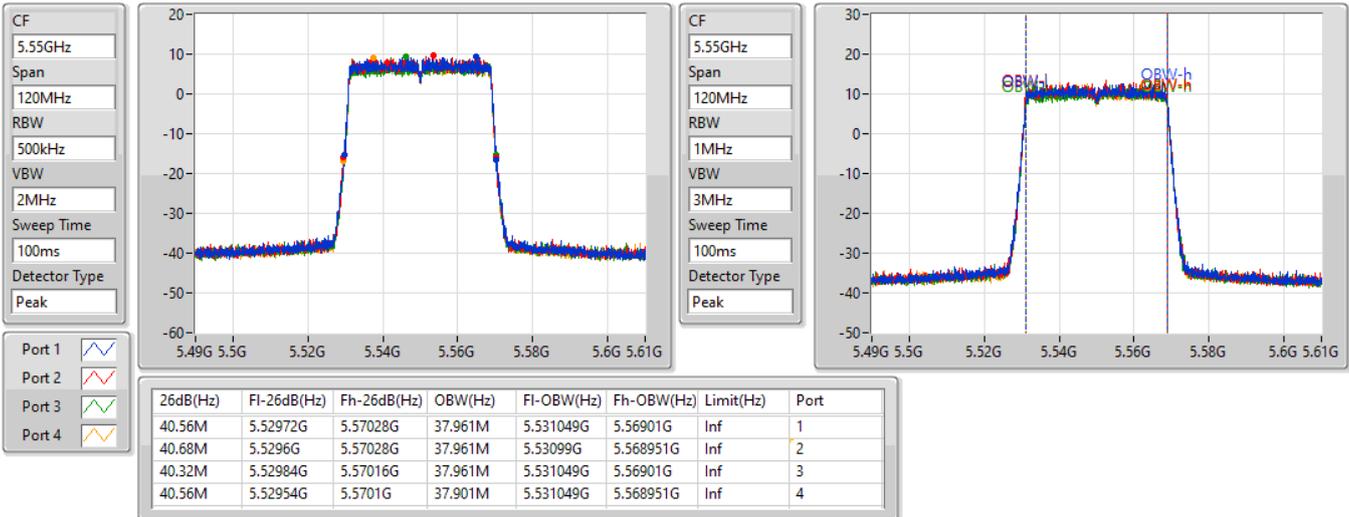


802.11ax HEW40-BF_Nss1,(MCS0)_4TX

EBW

5550MHz

30/06/2022

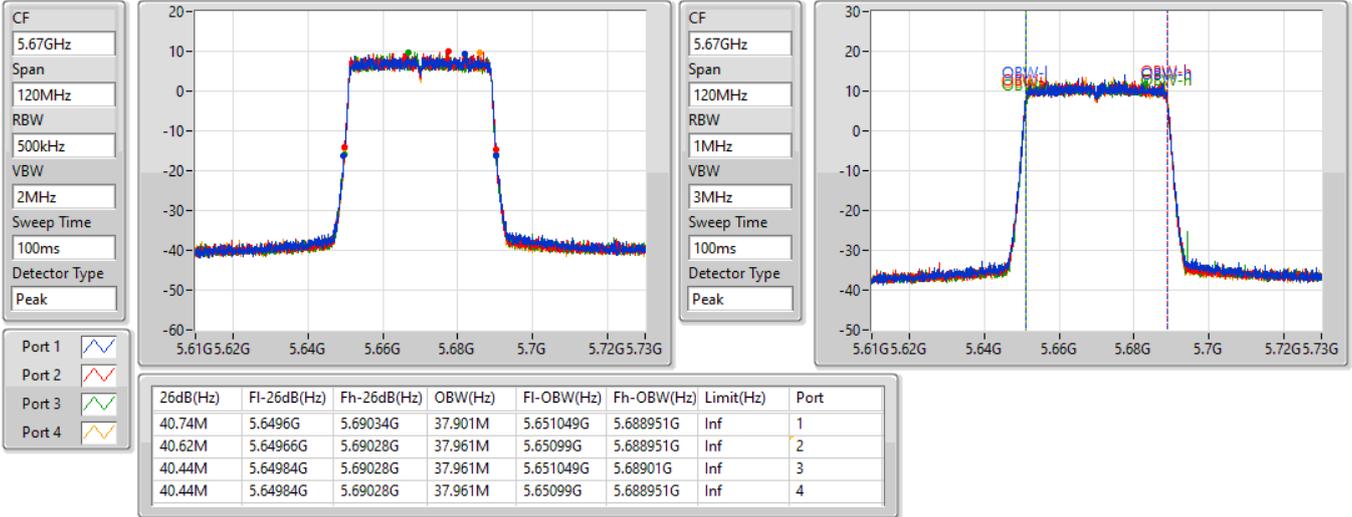


802.11ax HEW40-BF_Nss1,(MCS0)_4TX

EBW

5670MHz

30/06/2022

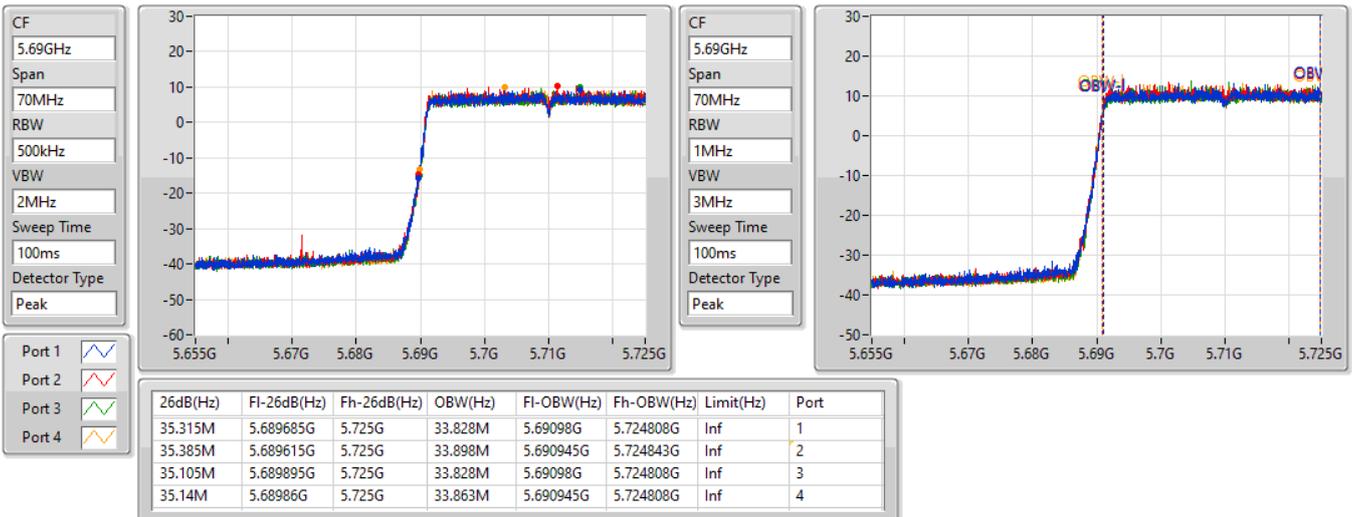


802.11ax HEW40-BF_Nss1,(MCS0)_4TX

EBW

5710MHz Straddle 5.47-5.725GHz

30/06/2022

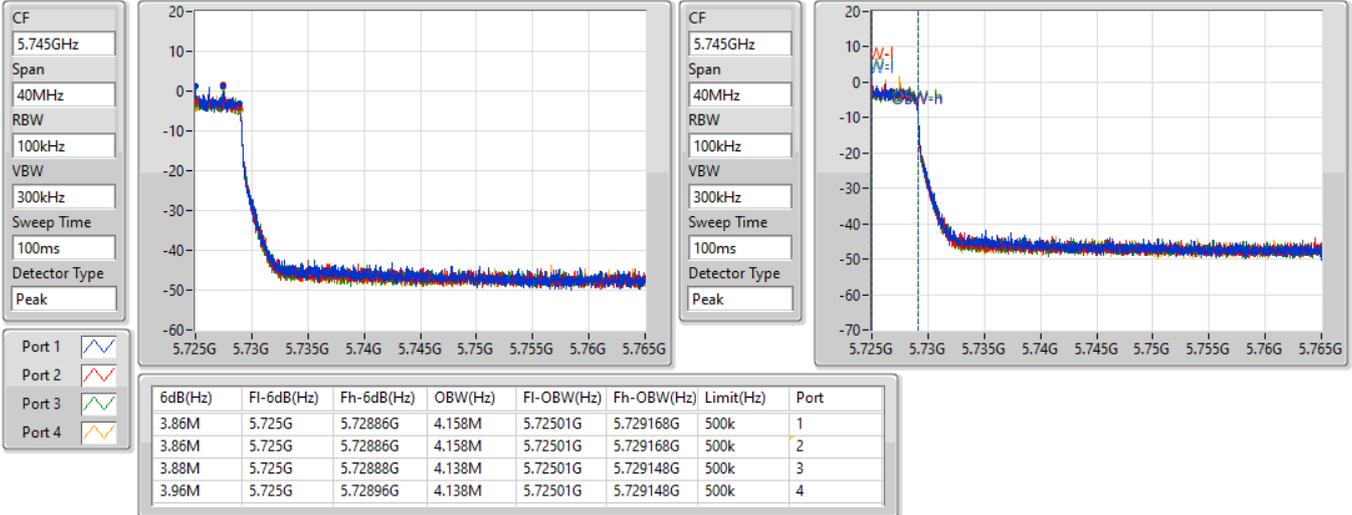


802.11ax HEW40-BF_Nss1,(MCS0)_4TX

EBW

5710MHz Straddle 5.725-5.85GHz

30/06/2022

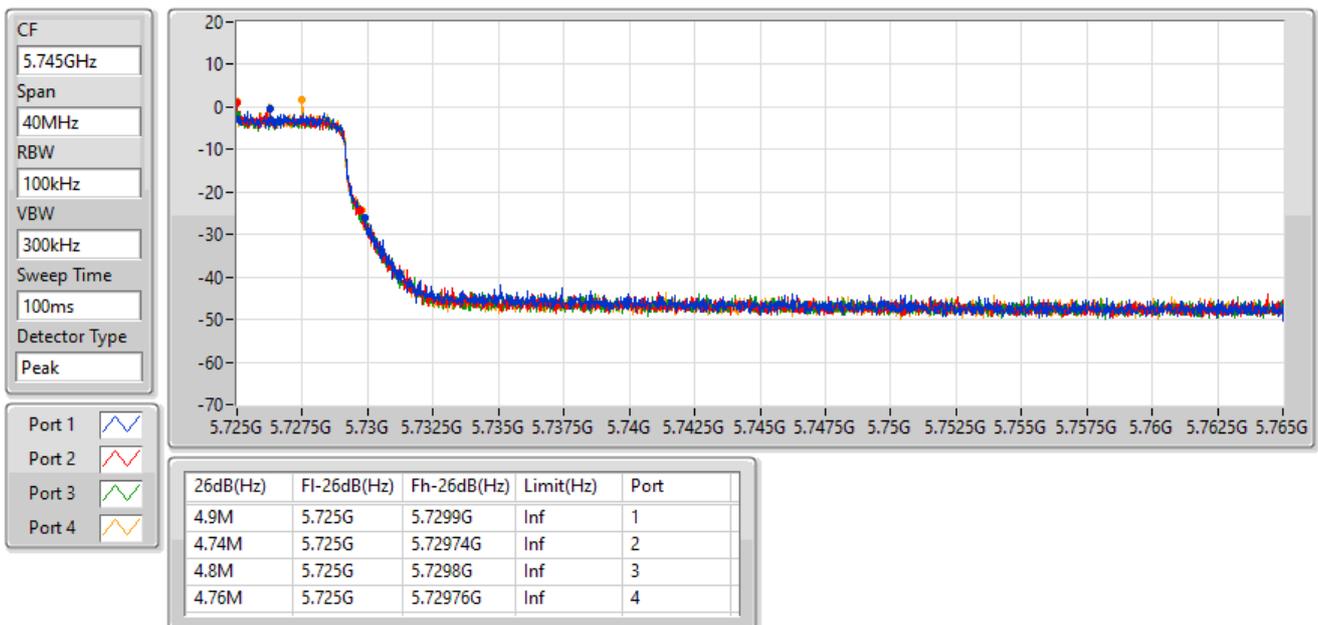


802.11ax HEW40-BF_Nss1,(MCS0)_4TX

EBW

5710MHz Straddle 5.725-5.85GHz

30/06/2022



802.11ax HEW40-BF_Nss1,(MCS0)_4TX

EBW

5755MHz

30/06/2022

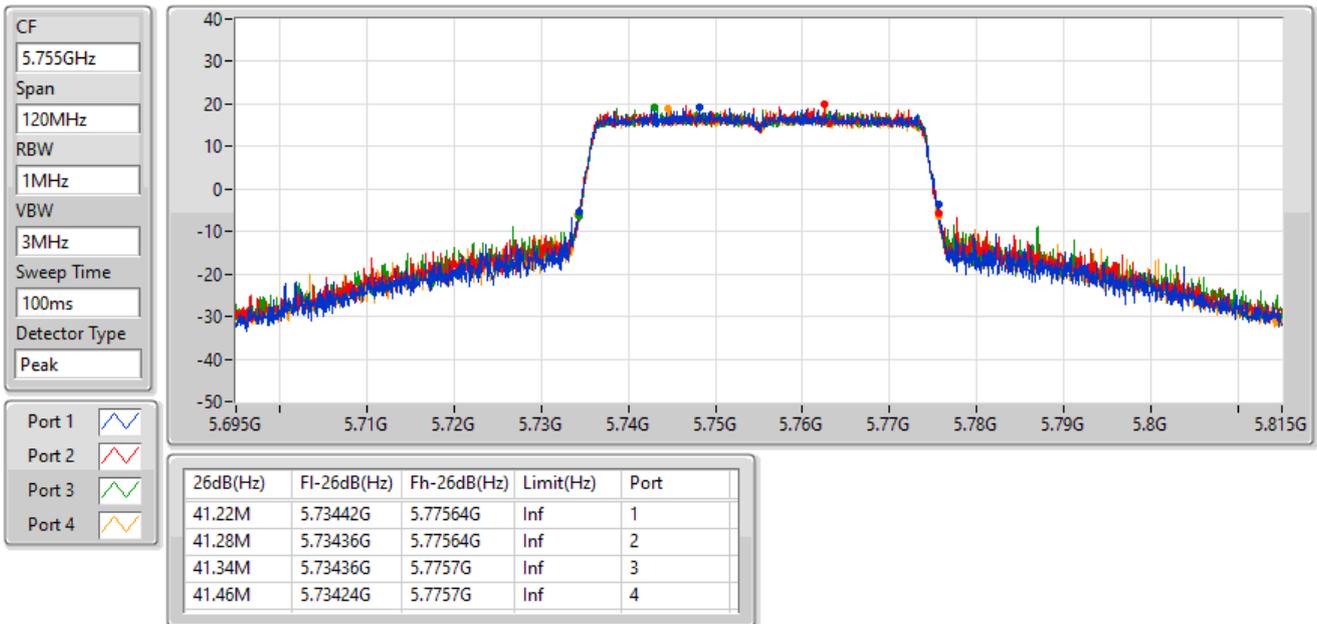


802.11ax HEW40-BF_Nss1,(MCS0)_4TX

EBW

5755MHz

30/06/2022

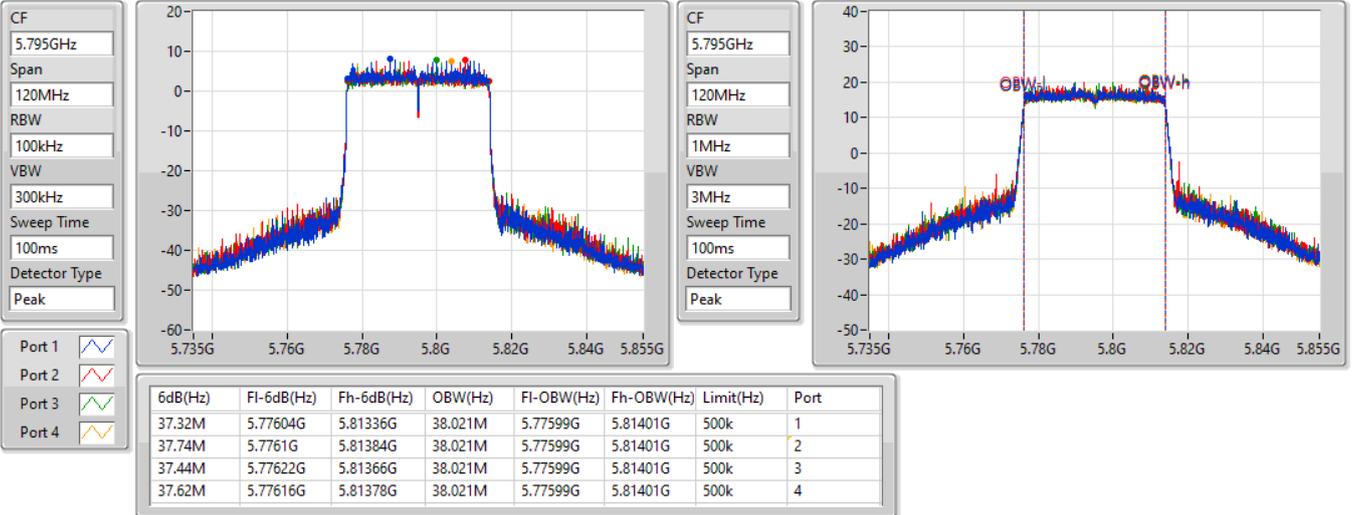


802.11ax HEW40-BF_Nss1,(MCS0)_4TX

EBW

5795MHz

30/06/2022

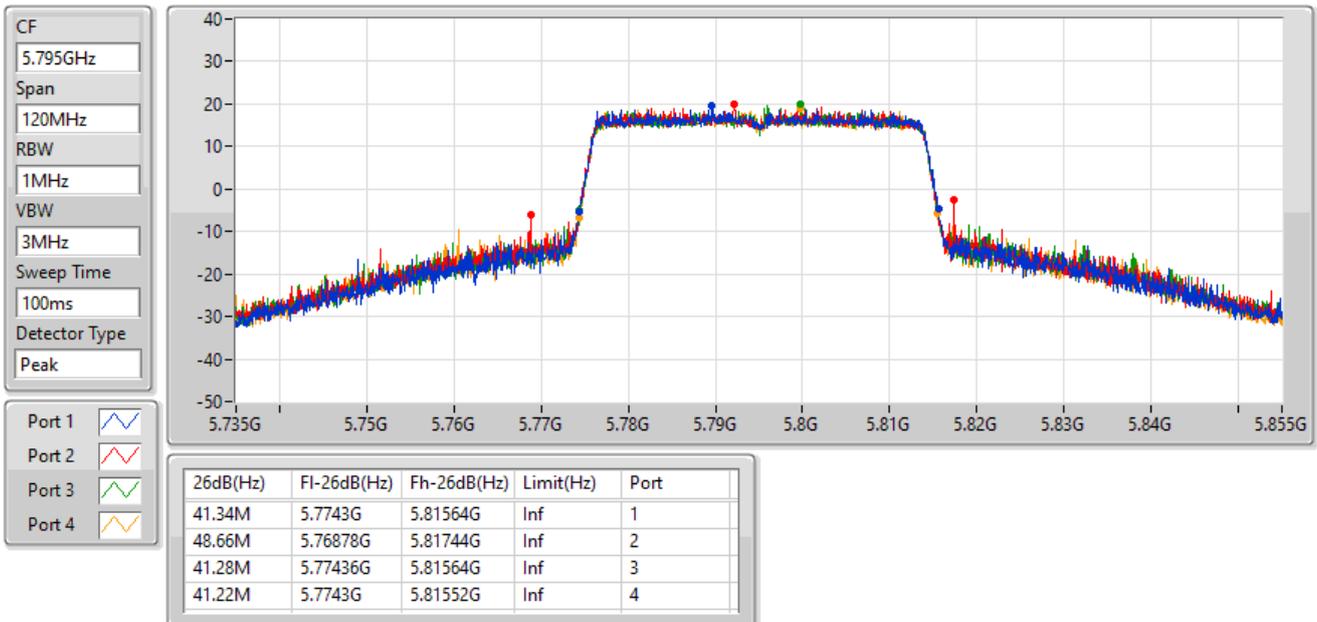


802.11ax HEW40-BF_Nss1,(MCS0)_4TX

EBW

5795MHz

30/06/2022



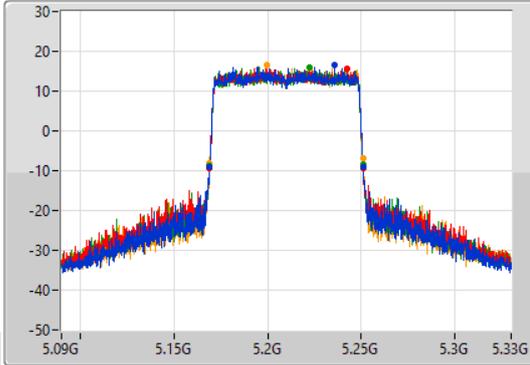
802.11ax HEW80-BF_Nss1,(MCS0)_4TX

EBW

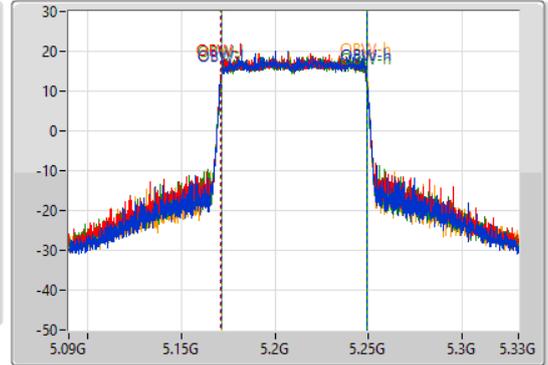
5210MHz

30/06/2022

CF
5.21GHz
Span
240MHz
RBW
1MHz
VBW
3MHz
Sweep Time
100ms
Detector Type
Peak



CF
5.21GHz
Span
240MHz
RBW
2MHz
VBW
10MHz
Sweep Time
100ms
Detector Type
Peak



Port 1
Port 2
Port 3
Port 4

26dB(Hz)	Fl-26dB(Hz)	Fh-26dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
81.96M	5.16896G	5.25092G	77.721M	5.171259G	5.248981G	Inf	1
82.32M	5.16884G	5.25116G	77.721M	5.171139G	5.248861G	Inf	2
82.08M	5.16884G	5.25092G	77.601M	5.171259G	5.248861G	Inf	3
82.08M	5.16908G	5.25116G	77.601M	5.171259G	5.248861G	Inf	4

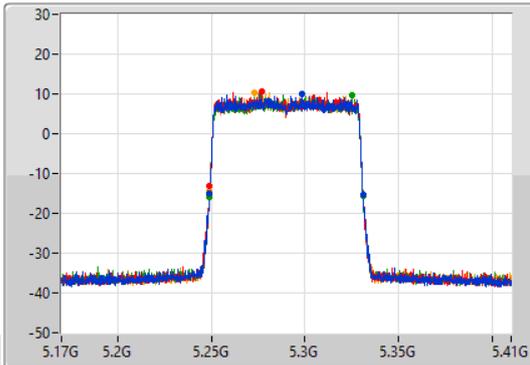
802.11ax HEW80-BF_Nss1,(MCS0)_4TX

EBW

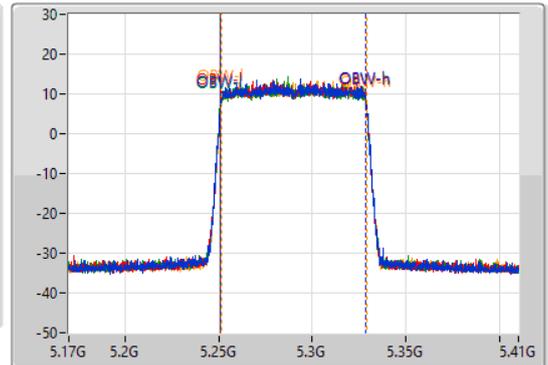
5290MHz

30/06/2022

CF
5.29GHz
Span
240MHz
RBW
1MHz
VBW
3MHz
Sweep Time
100ms
Detector Type
Peak



CF
5.29GHz
Span
240MHz
RBW
2MHz
VBW
10MHz
Sweep Time
100ms
Detector Type
Peak



Port 1
Port 2
Port 3
Port 4

26dB(Hz)	Fl-26dB(Hz)	Fh-26dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
82.2M	5.24896G	5.33116G	77.601M	5.251139G	5.328741G	Inf	1
81.72M	5.2492G	5.33092G	77.601M	5.251139G	5.328741G	Inf	2
82.08M	5.24896G	5.33104G	77.601M	5.251139G	5.328741G	Inf	3
82.08M	5.24896G	5.33104G	77.601M	5.251259G	5.328861G	Inf	4

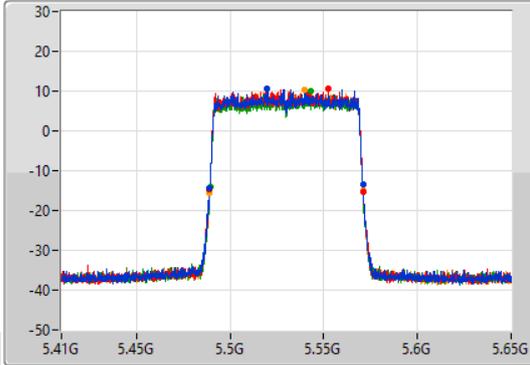
802.11ax HEW80-BF_Nss1,(MCS0)_4TX

EBW

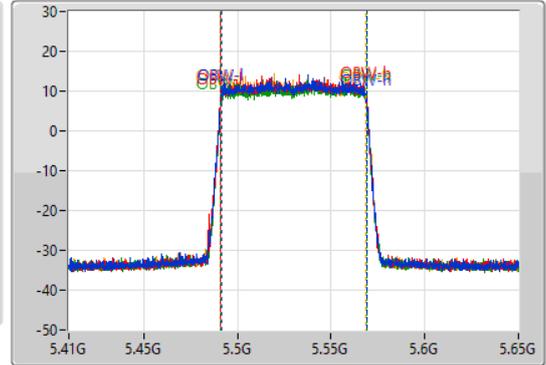
5530MHz

30/06/2022

CF
5.53GHz
Span
240MHz
RBW
1MHz
VBW
3MHz
Sweep Time
100ms
Detector Type
Peak



CF
5.53GHz
Span
240MHz
RBW
2MHz
VBW
10MHz
Sweep Time
100ms
Detector Type
Peak



Port 1
Port 2
Port 3
Port 4

26dB(Hz)	Fl-26dB(Hz)	Fh-26dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
81.96M	5.48896G	5.57092G	77.601M	5.491259G	5.568861G	Inf	1
81.96M	5.48908G	5.57104G	77.721M	5.491139G	5.568861G	Inf	2
81.72M	5.48932G	5.57104G	77.841M	5.491019G	5.568861G	Inf	3
81.72M	5.48908G	5.5708G	77.601M	5.491139G	5.568741G	Inf	4

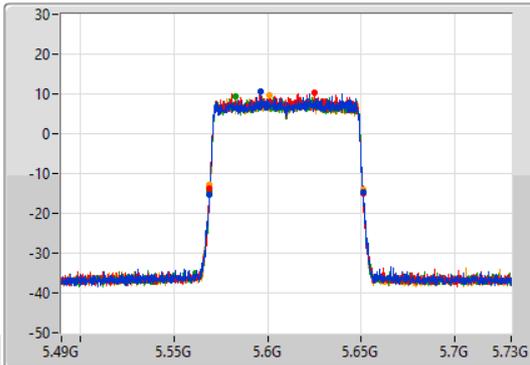
802.11ax HEW80-BF_Nss1,(MCS0)_4TX

EBW

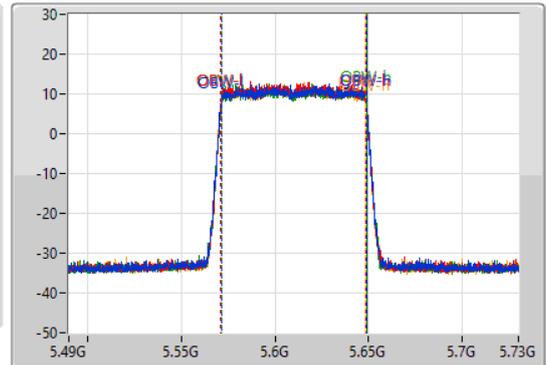
5610MHz

30/06/2022

CF
5.61GHz
Span
240MHz
RBW
1MHz
VBW
3MHz
Sweep Time
100ms
Detector Type
Peak



CF
5.61GHz
Span
240MHz
RBW
2MHz
VBW
10MHz
Sweep Time
100ms
Detector Type
Peak



Port 1
Port 2
Port 3
Port 4

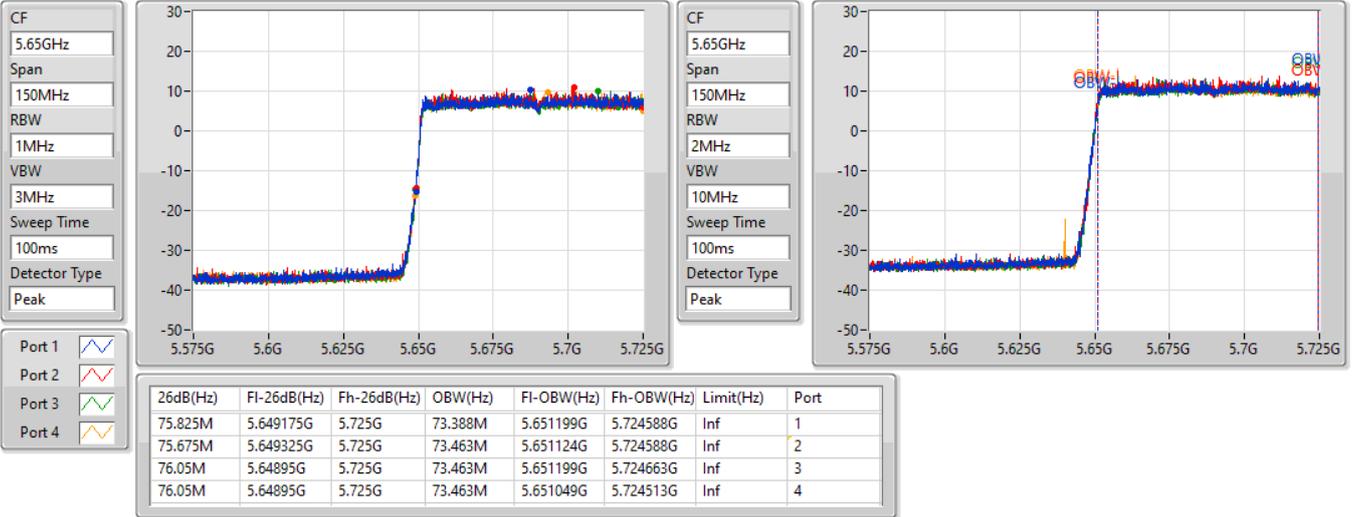
26dB(Hz)	Fl-26dB(Hz)	Fh-26dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
81.96M	5.56908G	5.65104G	77.601M	5.571259G	5.648861G	Inf	1
81.84M	5.56908G	5.65092G	77.601M	5.571139G	5.648741G	Inf	2
82.08M	5.56896G	5.65104G	77.601M	5.571259G	5.648861G	Inf	3
81.72M	5.5692G	5.65092G	77.481M	5.571259G	5.648741G	Inf	4

802.11ax HEW80-BF_Nss1,(MCS0)_4TX

EBW

5690MHz Straddle 5.47-5.725GHz

30/06/2022

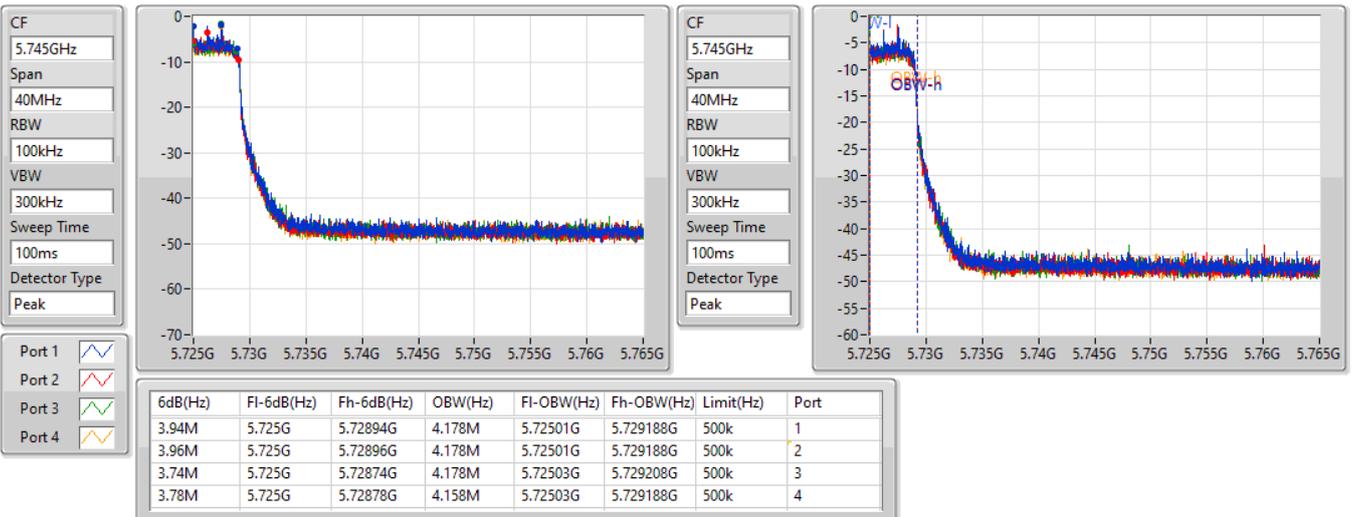


802.11ax HEW80-BF_Nss1,(MCS0)_4TX

EBW

5690MHz Straddle 5.725-5.85GHz

30/06/2022

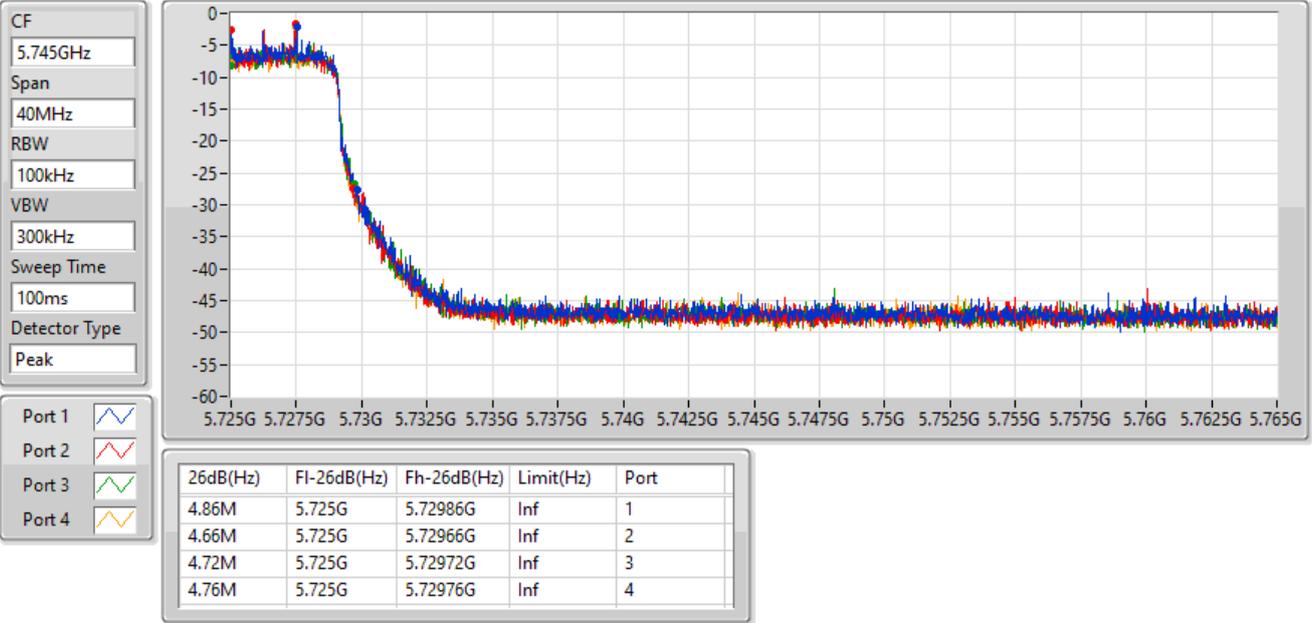


802.11ax HEW80-BF_Nss1,(MCS0)_4TX

EBW

5690MHz Straddle 5.725-5.85GHz

30/06/2022

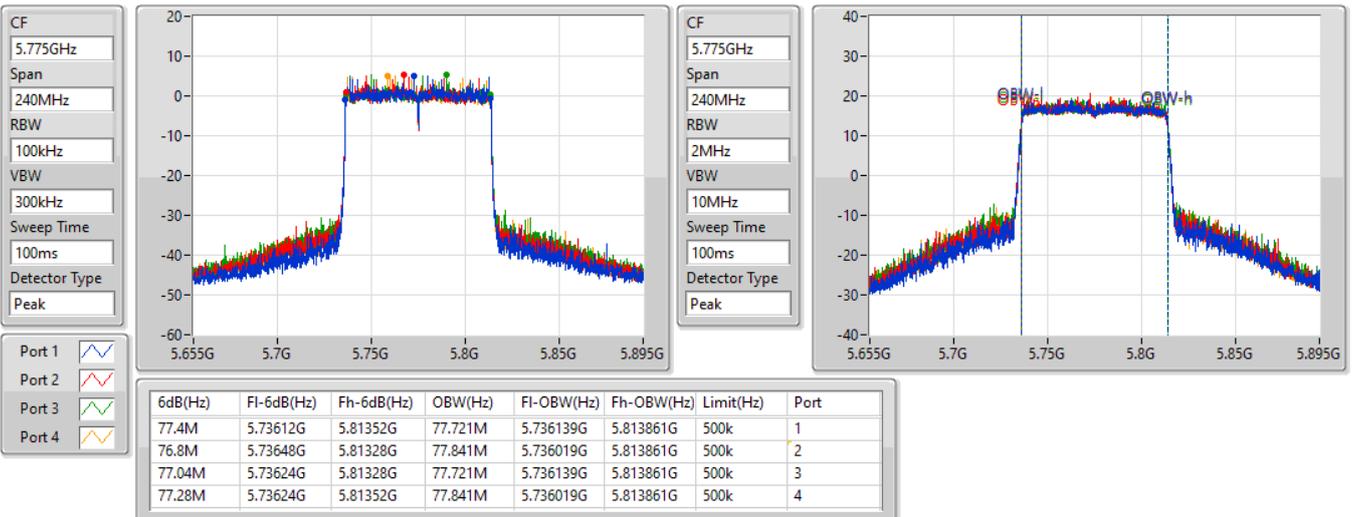


802.11ax HEW80-BF_Nss1,(MCS0)_4TX

EBW

5775MHz

30/06/2022



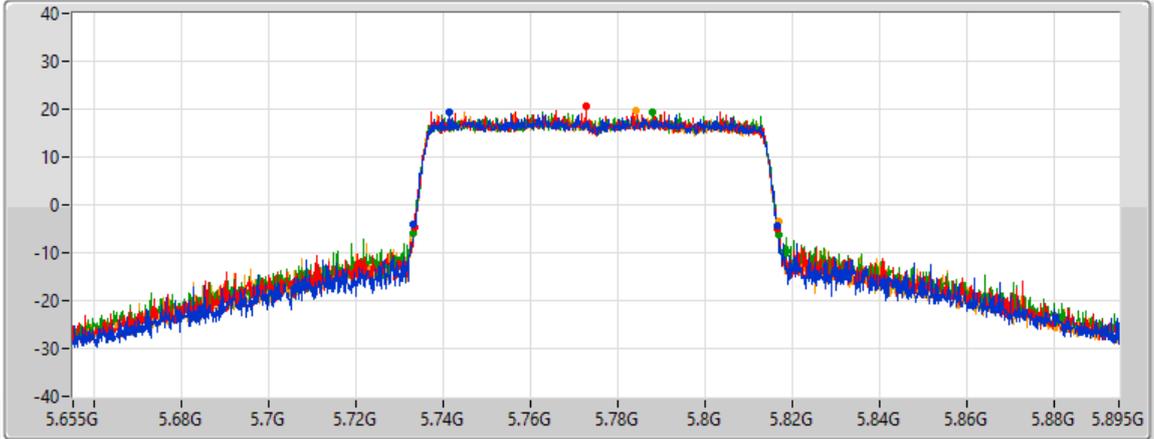
802.11ax HEW80-BF_Nss1,(MCS0)_4TX

EBW

5775MHz

30/06/2022

CF
5.775GHz
Span
240MHz
RBW
2MHz
VBW
10MHz
Sweep Time
100ms
Detector Type
Peak



Port 1
Port 2
Port 3
Port 4

26dB(Hz)	Fl-26dB(Hz)	Fh-26dB(Hz)	Limit(Hz)	Port
83.76M	5.733G	5.81676G	Inf	1
83.28M	5.73324G	5.81652G	Inf	2
83.76M	5.73312G	5.81688G	Inf	3
83.88M	5.733G	5.81688G	Inf	4

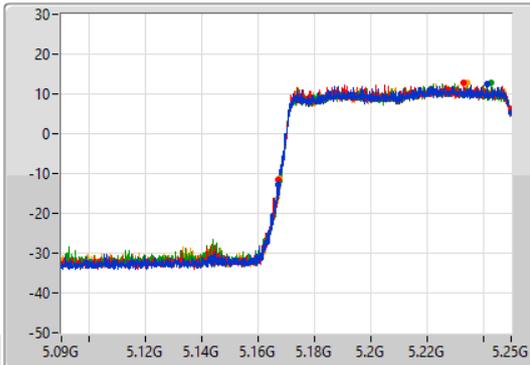
802.11ax HEW160-BF_Nss1,(MCS0)_4TX

EBW

5250MHz Straddle 5.15-5.25GHz

30/06/2022

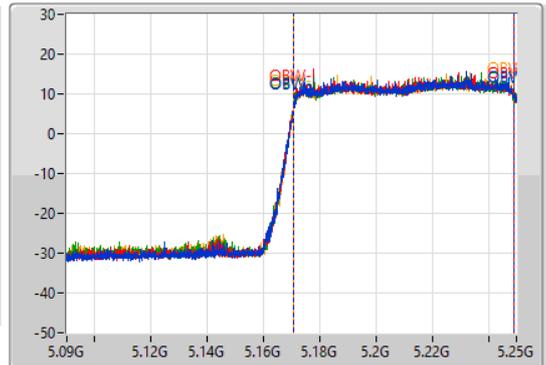
CF
5.17GHz
Span
160MHz
RBW
2MHz
VBW
10MHz
Sweep Time
100ms
Detector Type
Peak



Port 1
Port 2
Port 3
Port 4

26dB(Hz)	Fl-26dB(Hz)	Fh-26dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
82.96M	5.16704G	5.25G	78.441M	5.17088G	5.24932G	Inf	1
82.72M	5.16728G	5.25G	78.441M	5.17088G	5.24932G	Inf	2
82.32M	5.16768G	5.25G	78.441M	5.17088G	5.24932G	Inf	3
82.32M	5.16768G	5.25G	78.441M	5.17088G	5.24932G	Inf	4

CF
5.17GHz
Span
160MHz
RBW
3MHz
VBW
10MHz
Sweep Time
100ms
Detector Type
Peak

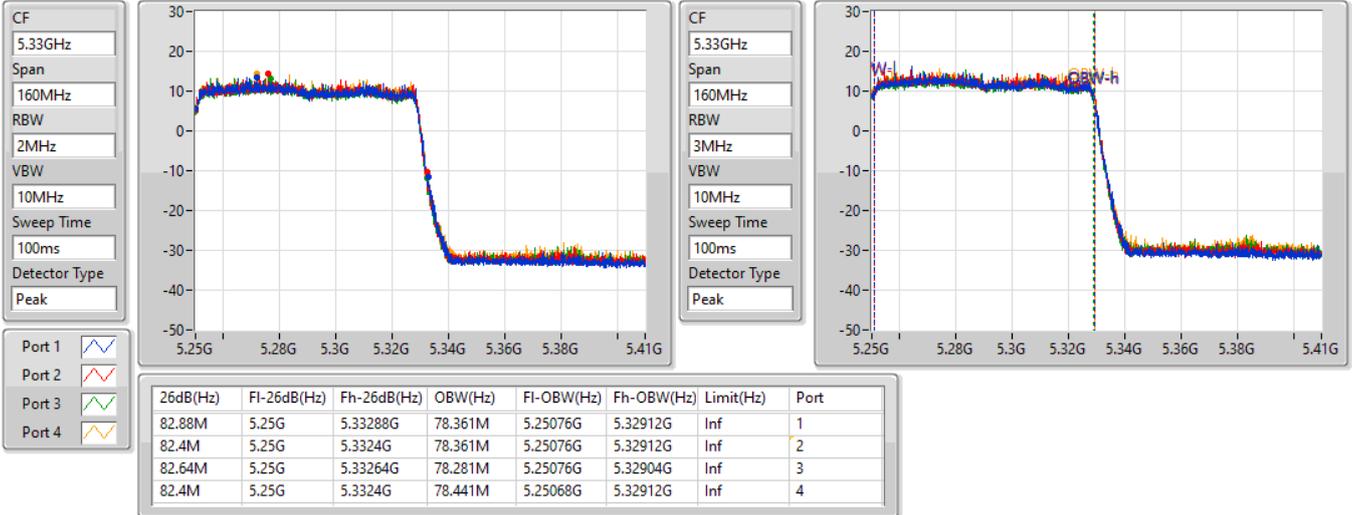


802.11ax HEW160-BF_Nss1,(MCS0)_4TX

EBW

5250MHz Straddle 5.25-5.35GHz

30/06/2022

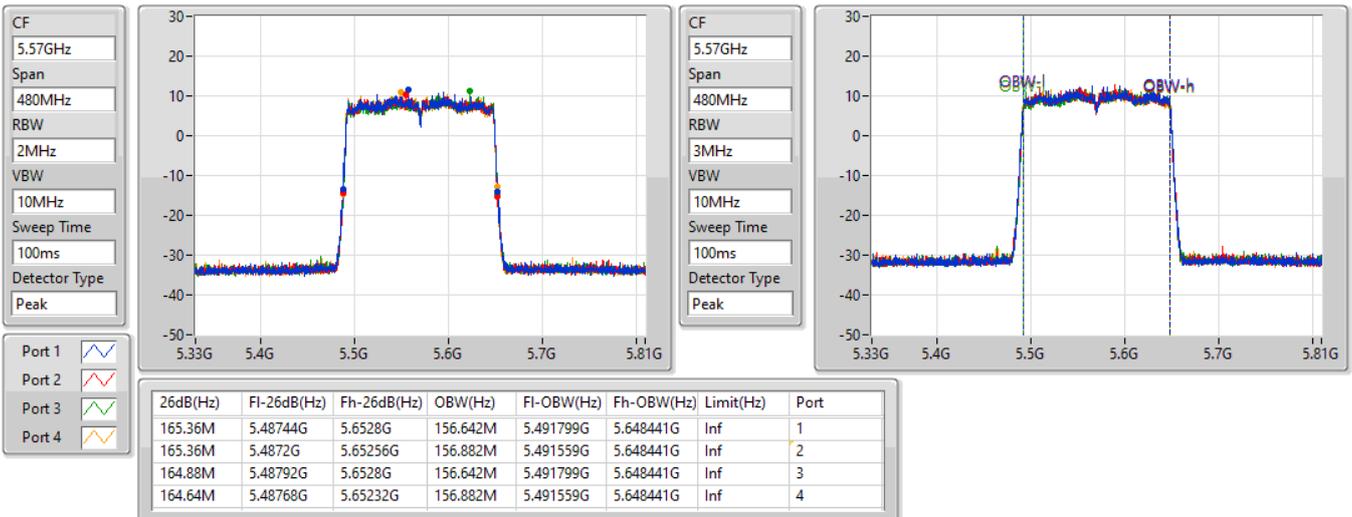


802.11ax HEW160-BF_Nss1,(MCS0)_4TX

EBW

5570MHz

30/06/2022



**For beamforming
For 4T2S
Summary**

Mode	Max-N dB (Hz)	Max-OBW (Hz)	ITU-Code	Min-N dB (Hz)	Min-OBW (Hz)
5.15-5.25GHz	-	-	-	-	-
802.11ax HEW20-BF_Nss2,(MCS0)_4TX	23.01M	19.19M	19M2D1D	21.54M	19.13M
802.11ax HEW40-BF_Nss2,(MCS0)_4TX	47.22M	38.141M	38M1D1D	40.44M	38.021M
802.11ax HEW80-BF_Nss2,(MCS0)_4TX	84M	77.961M	78M0D1D	81.72M	77.841M
802.11ax HEW160-BF_Nss2,(MCS0)_4TX	82.8M	78.521M	78M5D1D	82.48M	78.361M
5.25-5.35GHz	-	-	-	-	-
802.11ax HEW20-BF_Nss2,(MCS0)_4TX	21.84M	19.16M	19M2D1D	21.48M	19.1M
802.11ax HEW40-BF_Nss2,(MCS0)_4TX	40.8M	38.021M	38M0D1D	40.38M	37.841M
802.11ax HEW80-BF_Nss2,(MCS0)_4TX	82.2M	77.721M	77M7D1D	81.84M	77.481M
802.11ax HEW160-BF_Nss2,(MCS0)_4TX	82.88M	78.441M	78M4D1D	82.4M	78.281M
5.47-5.725GHz	-	-	-	-	-
802.11ax HEW20-BF_Nss2,(MCS0)_4TX	21.87M	19.13M	19M1D1D	15.72M	14.543M
802.11ax HEW40-BF_Nss2,(MCS0)_4TX	40.74M	38.021M	38M0D1D	35.175M	33.793M
802.11ax HEW80-BF_Nss2,(MCS0)_4TX	82.2M	77.721M	77M7D1D	75.825M	73.463M
802.11ax HEW160-BF_Nss2,(MCS0)_4TX	165.12M	156.882M	157MD1D	163.92M	156.642M
5.725-5.85GHz	-	-	-	-	-
802.11ax HEW20-BF_Nss2,(MCS0)_4TX	18.99M	19.28M	19M3D1D	4.44M	4.678M
802.11ax HEW40-BF_Nss2,(MCS0)_4TX	37.86M	38.201M	38M2D1D	3.84M	4.118M
802.11ax HEW80-BF_Nss2,(MCS0)_4TX	77.52M	78.201M	78M2D1D	3.86M	4.158M

Max-N dB = Maximum 6dB down bandwidth for 5.725-5.85GHz band / Maximum 26dB down bandwidth for other band;
 Max-OBW = Maximum 99% occupied bandwidth;
 Min-N dB = Minimum 6dB down bandwidth for 5.725-5.85GHz band / Maximum 26dB down bandwidth for other band;
 Min-OBW = Minimum 99% occupied bandwidth

Result

Mode	Result	Limit (Hz)	Port 1-N dB (Hz)	Port 1-OBW (Hz)	Port 2-N dB (Hz)	Port 2-OBW (Hz)	Port 3-N dB (Hz)	Port 3-OBW (Hz)	Port 4-N dB (Hz)	Port 4-OBW (Hz)
802.11ax HEW20-BF_Nss2,(MCS0)_4TX	-	-	-	-	-	-	-	-	-	-
5180MHz	Pass	Inf	21.9M	19.13M	22.02M	19.19M	21.9M	19.13M	21.69M	19.16M
5200MHz	Pass	Inf	22.11M	19.13M	22.08M	19.16M	21.6M	19.19M	21.81M	19.13M
5240MHz	Pass	Inf	22.32M	19.16M	23.01M	19.13M	21.66M	19.16M	21.54M	19.16M
5260MHz	Pass	Inf	21.75M	19.13M	21.63M	19.1M	21.63M	19.16M	21.84M	19.1M
5300MHz	Pass	Inf	21.66M	19.1M	21.78M	19.1M	21.48M	19.1M	21.54M	19.1M
5320MHz	Pass	Inf	21.84M	19.1M	21.57M	19.13M	21.72M	19.13M	21.63M	19.1M
5500MHz	Pass	Inf	21.81M	19.1M	21.6M	19.07M	21.66M	19.13M	21.57M	19.13M
5580MHz	Pass	Inf	21.87M	19.1M	21.54M	19.1M	21.72M	19.07M	21.6M	19.1M
5700MHz	Pass	Inf	21.81M	19.13M	21.78M	19.1M	21.69M	19.1M	21.57M	19.1M
5720MHz Straddle 5.47-5.725GHz	Pass	Inf	15.72M	14.573M	15.84M	14.543M	15.855M	14.573M	15.855M	14.558M
5720MHz Straddle 5.725-5.85GHz	Pass	500k	4.44M	4.678M	4.46M	4.678M	4.5M	4.678M	4.46M	4.678M
5745MHz	Pass	500k	18.9M	19.16M	18.93M	19.19M	18.9M	19.19M	18.87M	19.19M
5785MHz	Pass	500k	18.93M	19.16M	18.96M	19.25M	18.93M	19.22M	18.96M	19.19M
5825MHz	Pass	500k	18.99M	19.25M	18.99M	19.28M	18.93M	19.25M	18.87M	19.28M
802.11ax HEW40-BF_Nss2,(MCS0)_4TX	-	-	-	-	-	-	-	-	-	-
5190MHz	Pass	Inf	40.8M	38.081M	47.22M	38.141M	40.56M	38.081M	40.62M	38.021M
5230MHz	Pass	Inf	40.74M	38.081M	40.44M	38.081M	40.86M	38.021M	40.56M	38.081M
5270MHz	Pass	Inf	40.62M	37.961M	40.56M	38.021M	40.62M	37.961M	40.74M	38.021M
5310MHz	Pass	Inf	40.8M	37.961M	40.74M	37.901M	40.5M	37.841M	40.38M	37.901M
5510MHz	Pass	Inf	40.68M	37.961M	40.56M	37.901M	40.38M	37.961M	40.5M	38.021M
5550MHz	Pass	Inf	40.74M	37.901M	40.5M	38.021M	40.5M	37.901M	40.68M	37.901M
5670MHz	Pass	Inf	40.62M	37.961M	40.56M	37.961M	40.38M	38.021M	40.5M	37.961M
5710MHz Straddle 5.47-5.725GHz	Pass	Inf	35.385M	33.828M	35.21M	33.898M	35.175M	33.793M	35.175M	33.863M
5710MHz Straddle 5.725-5.85GHz	Pass	500k	3.94M	4.118M	3.94M	4.138M	3.84M	4.138M	3.96M	4.138M
5755MHz	Pass	500k	37.56M	38.141M	37.86M	38.141M	37.62M	38.201M	37.38M	38.201M
5795MHz	Pass	500k	37.68M	38.201M	37.68M	38.201M	37.56M	38.141M	37.86M	38.201M
802.11ax HEW80-BF_Nss2,(MCS0)_4TX	-	-	-	-	-	-	-	-	-	-
5210MHz	Pass	Inf	81.84M	77.841M	84M	77.961M	81.72M	77.841M	81.84M	77.841M
5290MHz	Pass	Inf	82.2M	77.601M	81.96M	77.721M	81.84M	77.601M	81.96M	77.481M
5530MHz	Pass	Inf	81.84M	77.721M	81.96M	77.601M	82.2M	77.601M	81.96M	77.601M
5610MHz	Pass	Inf	82.08M	77.601M	81.6M	77.601M	81.72M	77.601M	81.84M	77.601M
5690MHz Straddle 5.47-5.725GHz	Pass	Inf	76.425M	73.463M	76.05M	73.463M	75.975M	73.463M	75.825M	73.463M
5690MHz Straddle 5.725-5.85GHz	Pass	500k	3.96M	4.198M	3.86M	4.158M	3.92M	4.178M	3.86M	4.158M
5775MHz	Pass	500k	76.92M	78.081M	77.04M	78.081M	77.52M	78.081M	77.28M	78.201M
802.11ax HEW160-BF_Nss2,(MCS0)_4TX	-	-	-	-	-	-	-	-	-	-
5250MHz Straddle 5.15-5.25GHz	Pass	Inf	82.8M	78.521M	82.56M	78.361M	82.64M	78.521M	82.48M	78.521M
5250MHz Straddle 5.25-5.35GHz	Pass	Inf	82.4M	78.441M	82.72M	78.361M	82.48M	78.361M	82.88M	78.281M
5570MHz	Pass	Inf	165.12M	156.882M	164.64M	156.642M	163.92M	156.642M	164.88M	156.642M

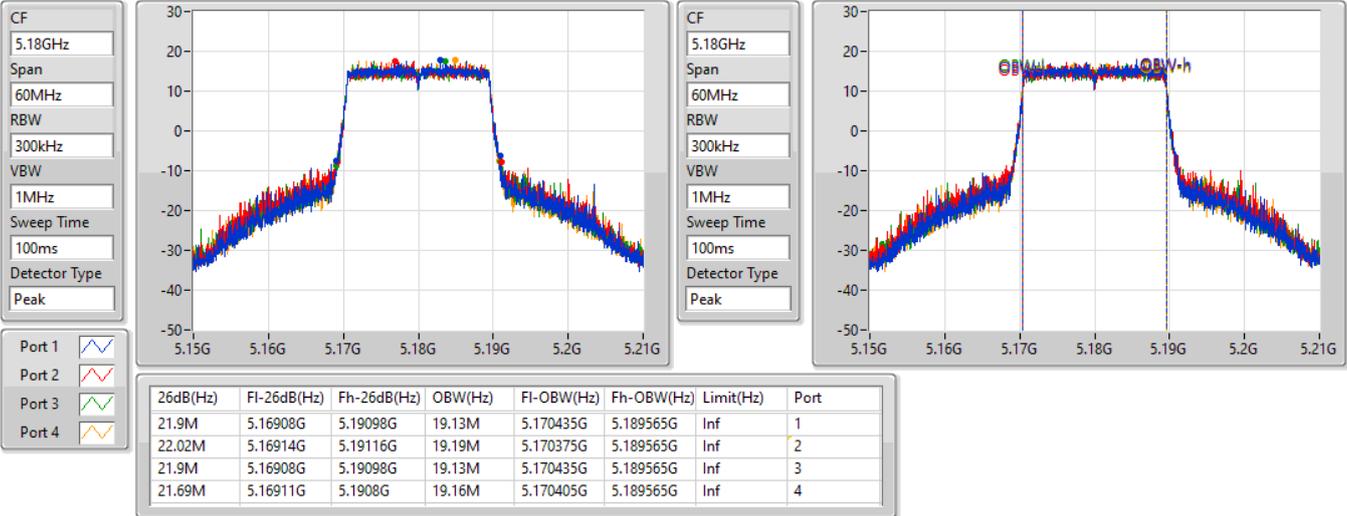
Port X-N dB = Port X 6dB down bandwidth for 5.725-5.85GHz band / 26dB down bandwidth for other band
 Port X-OBW = Port X 99% occupied bandwidth

802.11ax HEW20-BF_Nss2,(MCS0)_4TX

EBW

5180MHz

30/06/2022



802.11ax HEW20-BF_Nss2,(MCS0)_4TX

EBW

5200MHz

30/06/2022

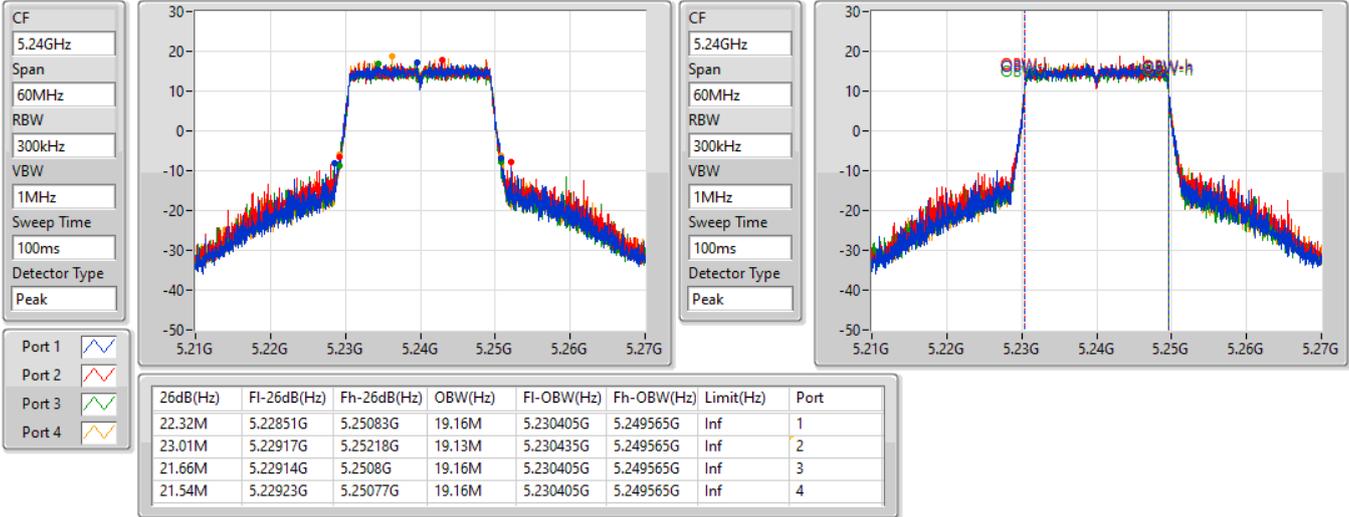


802.11ax HEW20-BF_Nss2,(MCS0)_4TX

EBW

5240MHz

30/06/2022

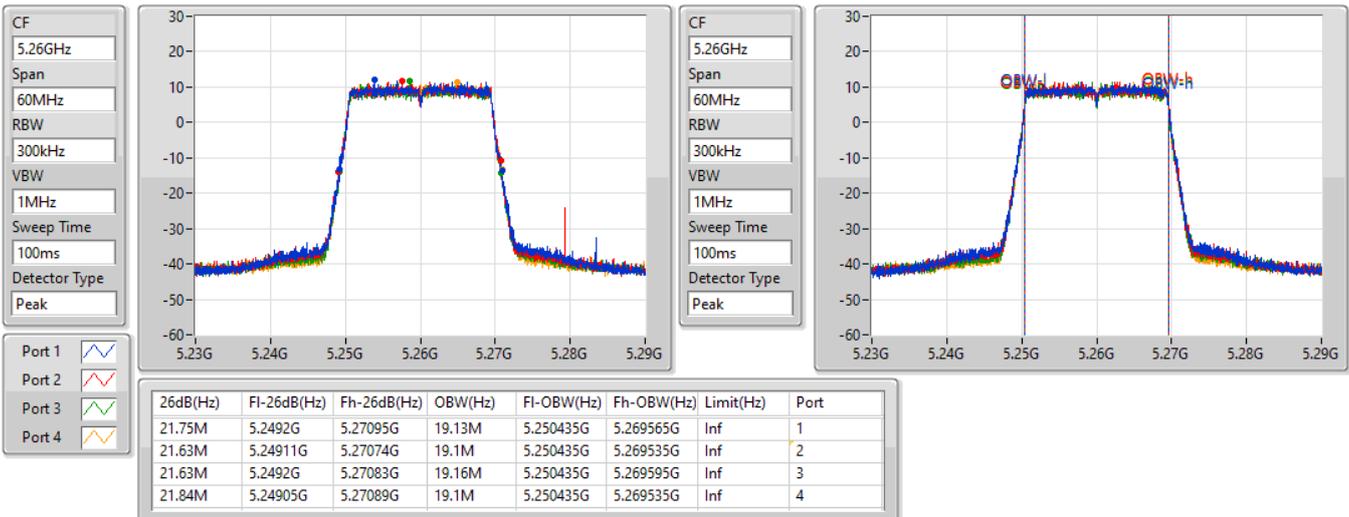


802.11ax HEW20-BF_Nss2,(MCS0)_4TX

EBW

5260MHz

30/06/2022

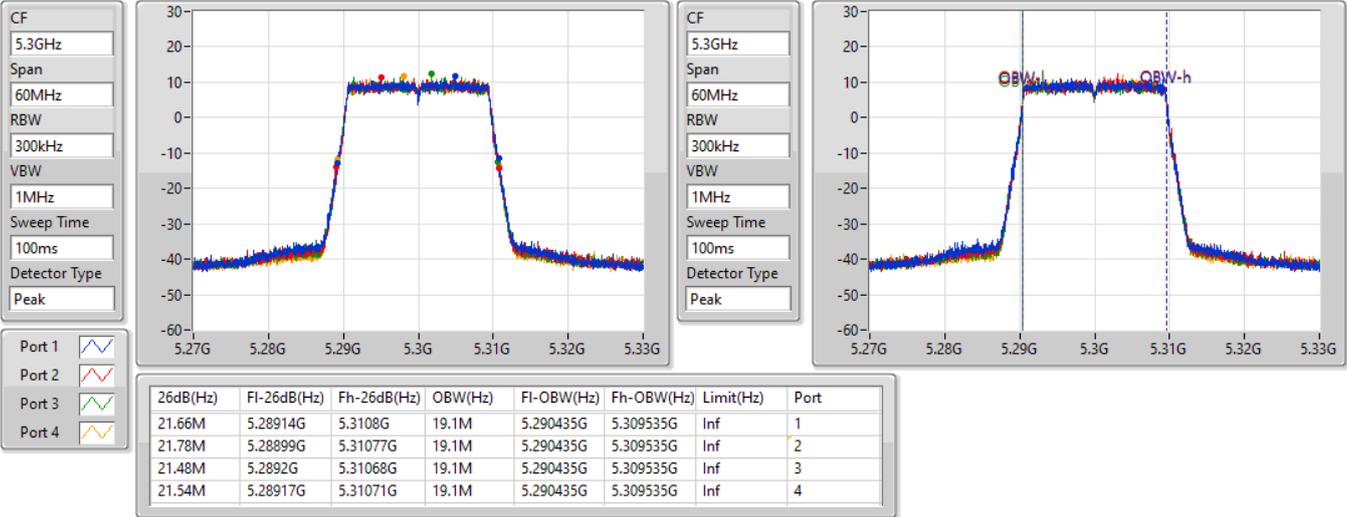


802.11ax HEW20-BF_Nss2,(MCS0)_4TX

EBW

5300MHz

30/06/2022

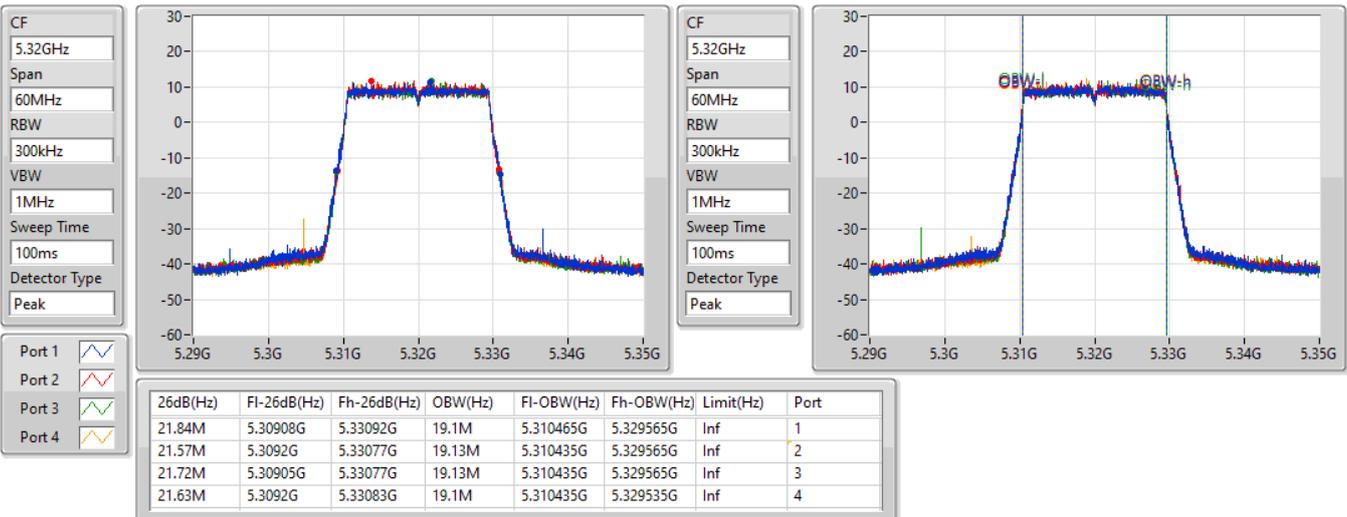


802.11ax HEW20-BF_Nss2,(MCS0)_4TX

EBW

5320MHz

30/06/2022

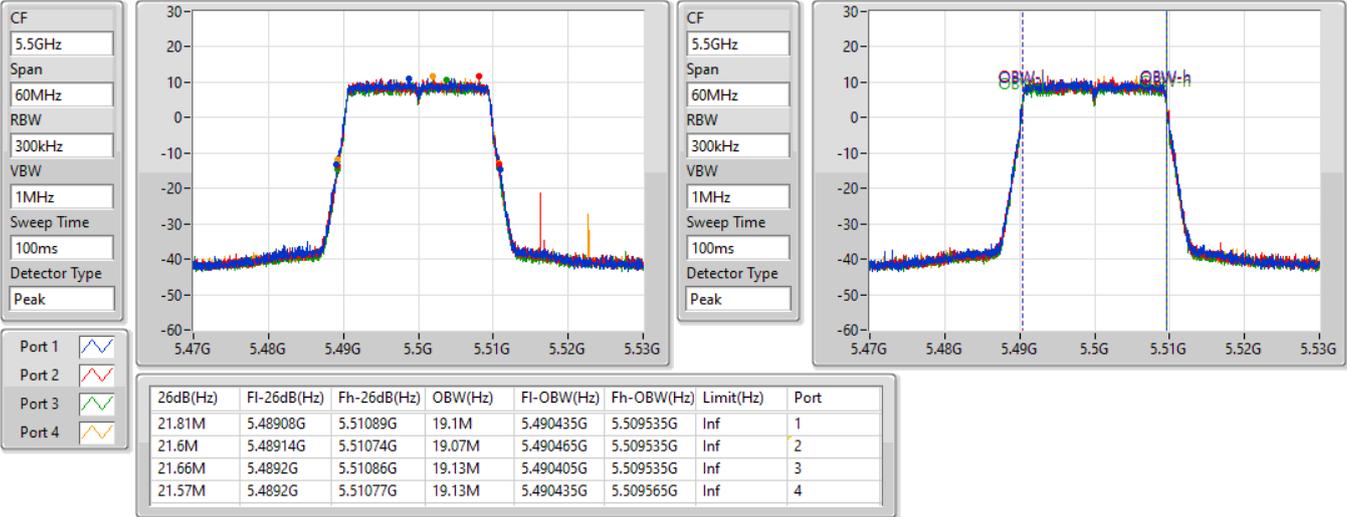


802.11ax HEW20-BF_Nss2,(MCS0)_4TX

EBW

5500MHz

30/06/2022

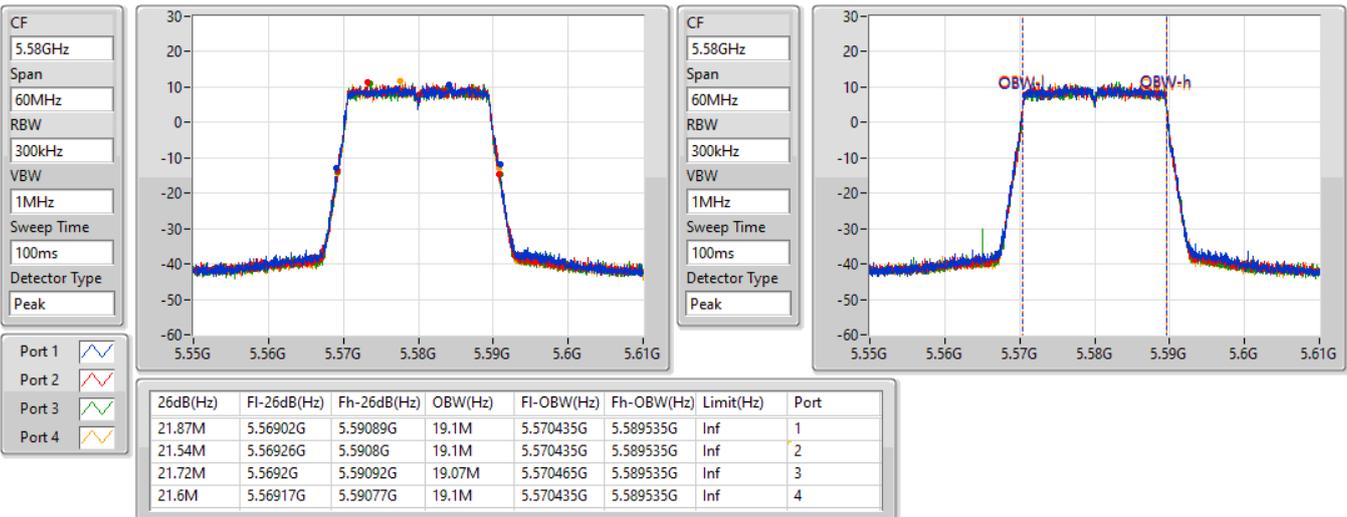


802.11ax HEW20-BF_Nss2,(MCS0)_4TX

EBW

5580MHz

30/06/2022

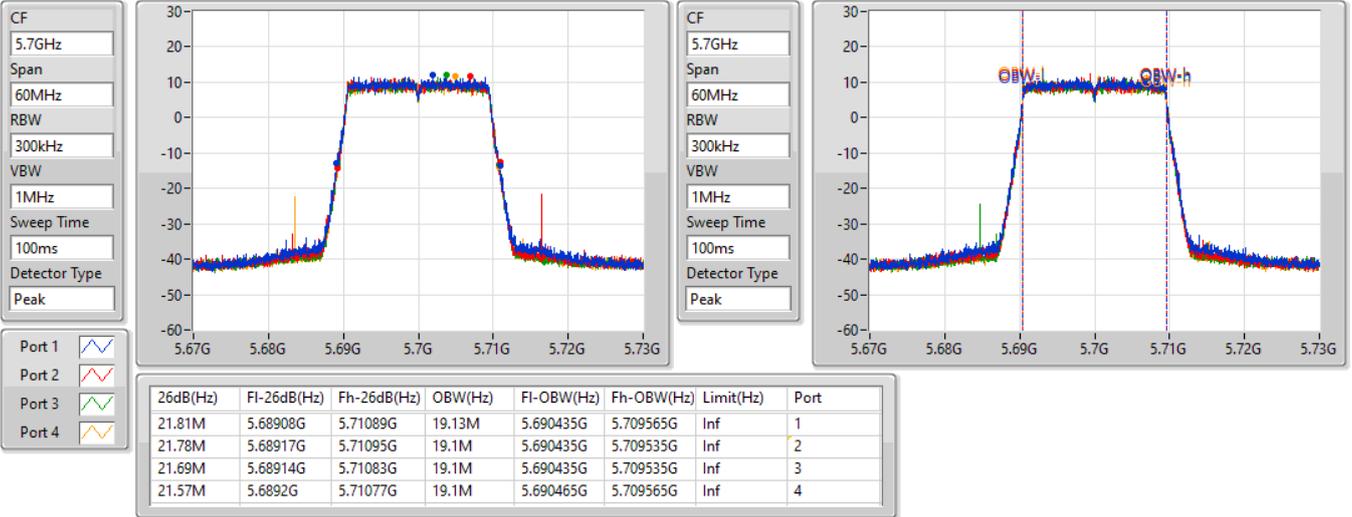


802.11ax HEW20-BF_Nss2,(MCS0)_4TX

EBW

5700MHz

30/06/2022

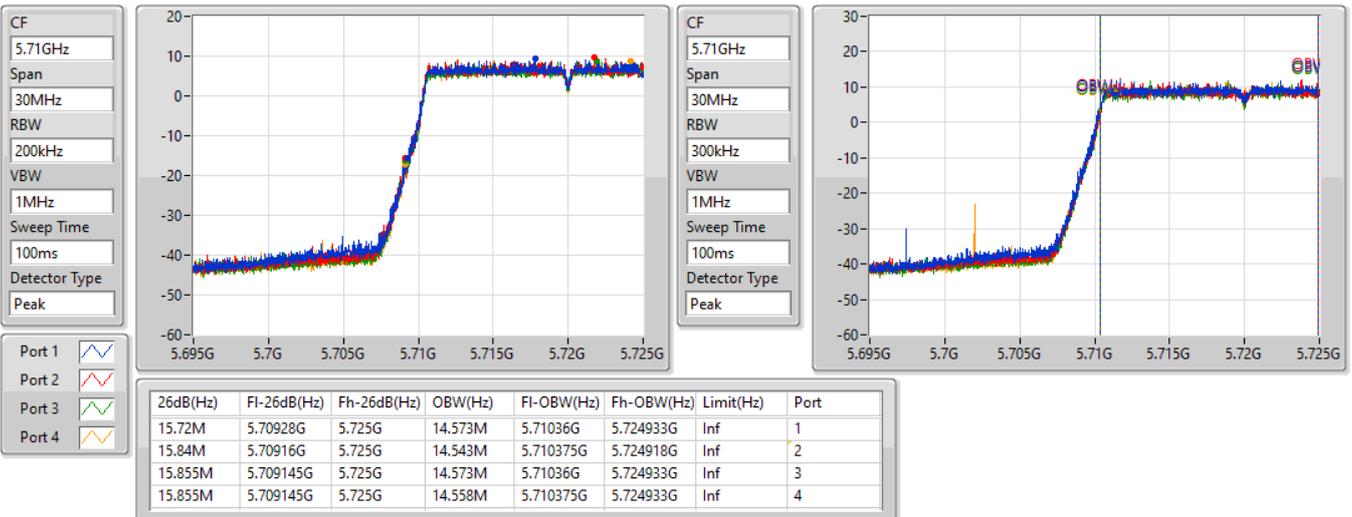


802.11ax HEW20-BF_Nss2,(MCS0)_4TX

EBW

5720MHz Straddle 5.47-5.725GHz

30/06/2022

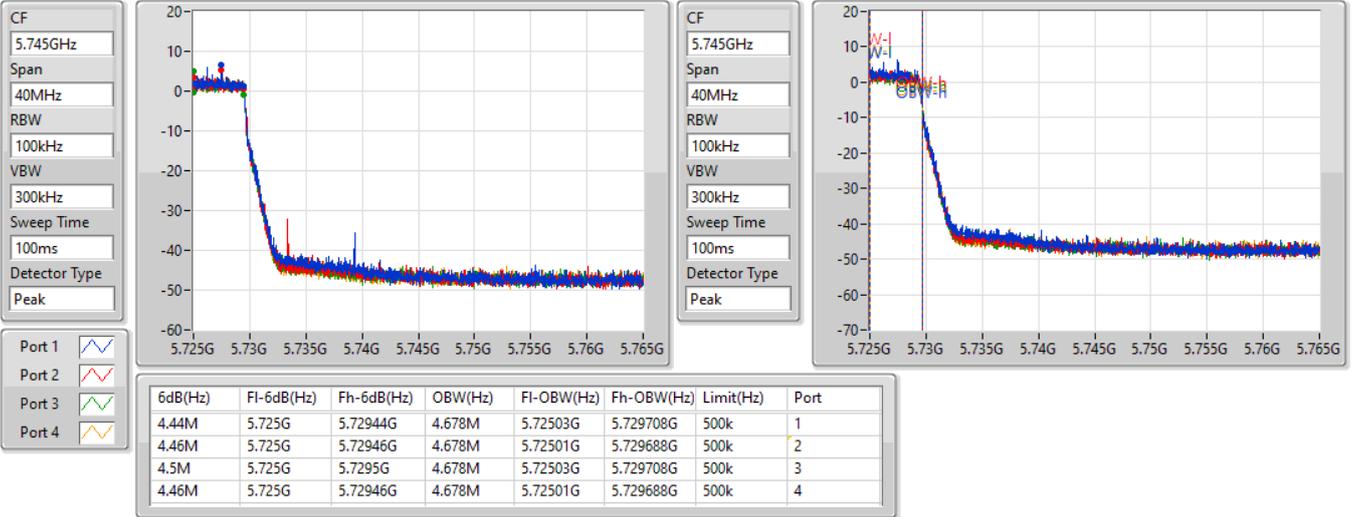


802.11ax HEW20-BF_Nss2,(MCS0)_4TX

EBW

5720MHz Straddle 5.725-5.85GHz

30/06/2022

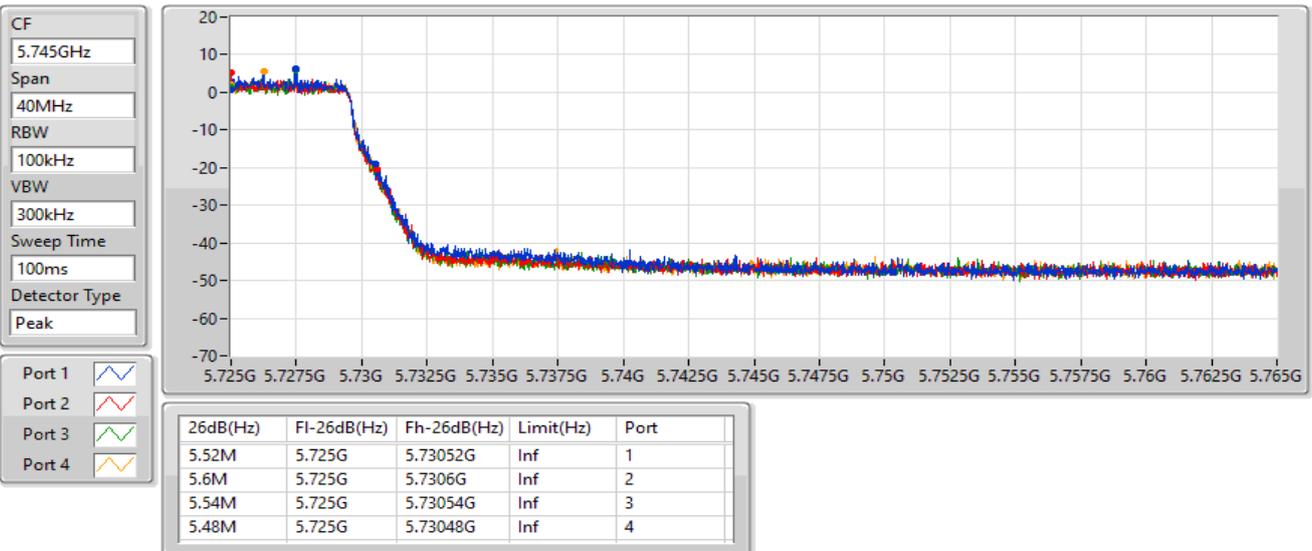


802.11ax HEW20-BF_Nss2,(MCS0)_4TX

EBW

5720MHz Straddle 5.725-5.85GHz

30/06/2022



802.11ax HEW20-BF_Nss2,(MCS0)_4TX

EBW

5745MHz

30/06/2022

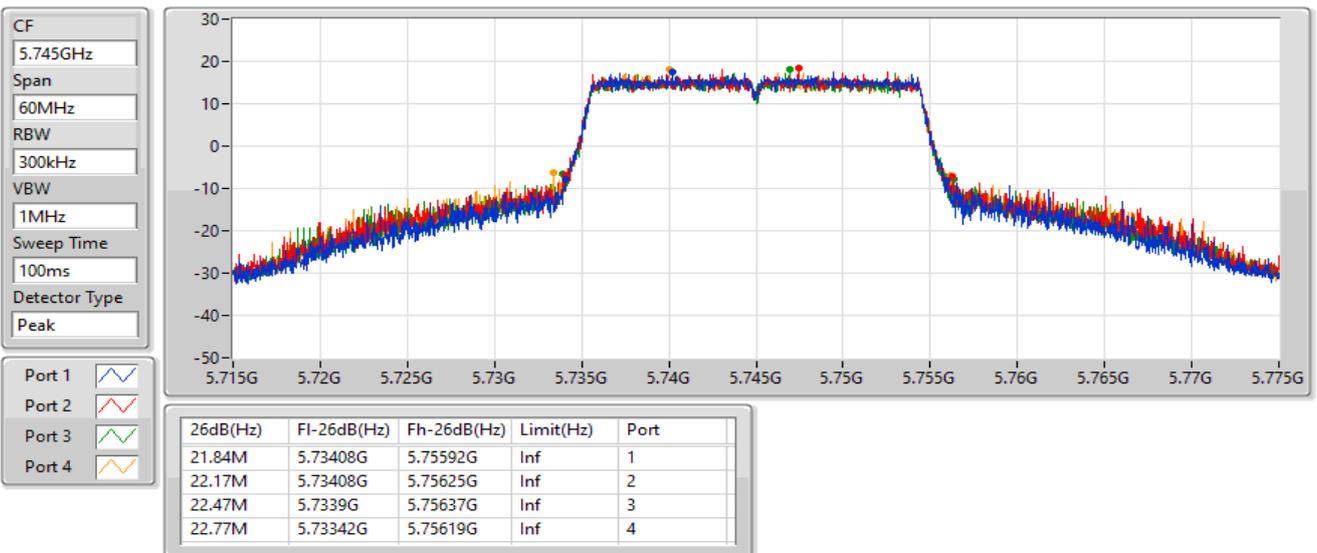


802.11ax HEW20-BF_Nss2,(MCS0)_4TX

EBW

5745MHz

30/06/2022

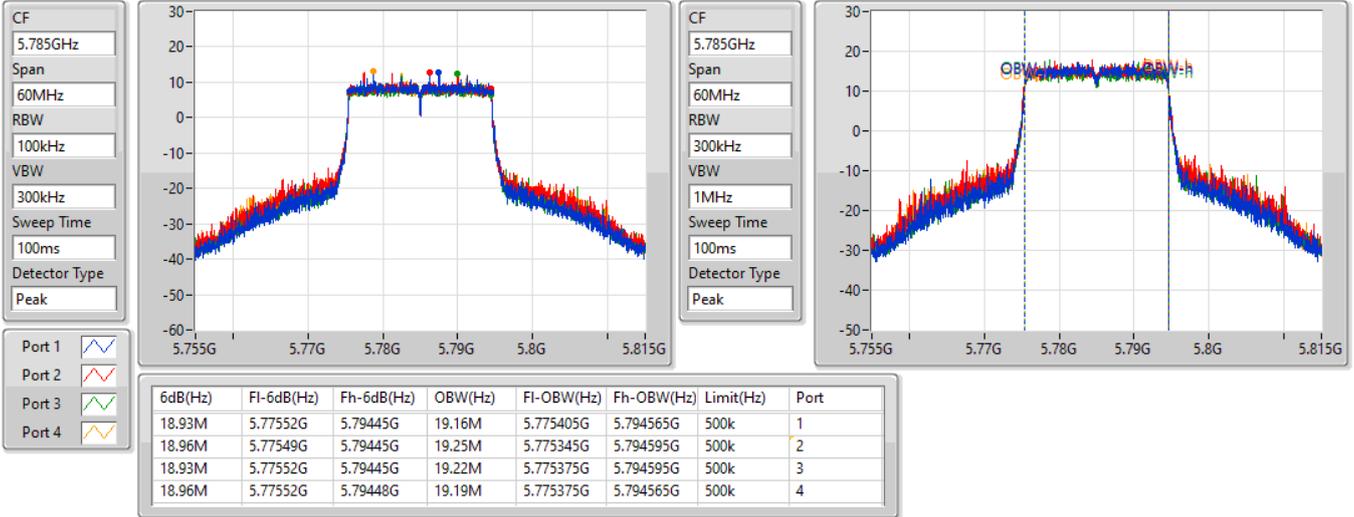


802.11ax HEW20-BF_Nss2,(MCS0)_4TX

EBW

5785MHz

30/06/2022

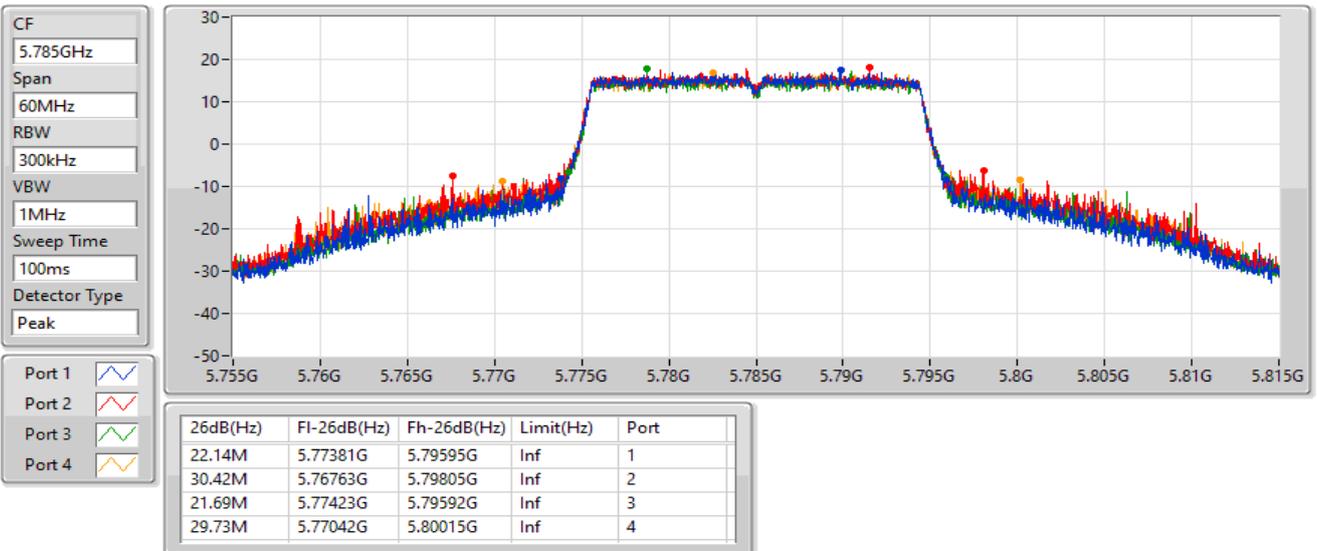


802.11ax HEW20-BF_Nss2,(MCS0)_4TX

EBW

5785MHz

30/06/2022

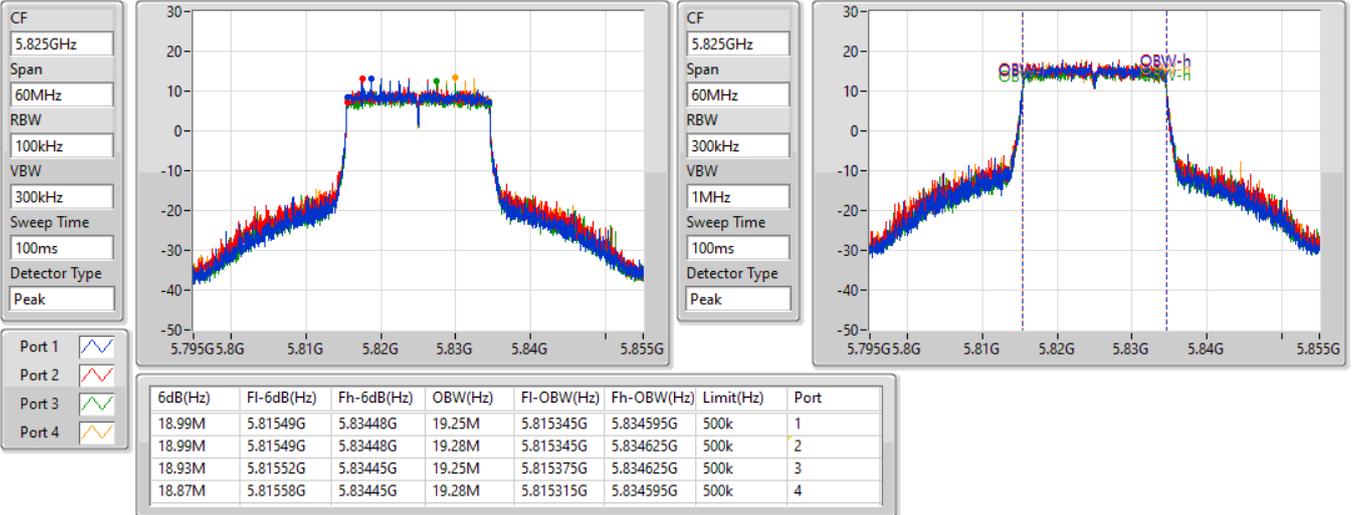


802.11ax HEW20-BF_Nss2,(MCS0)_4TX

EBW

5825MHz

30/06/2022

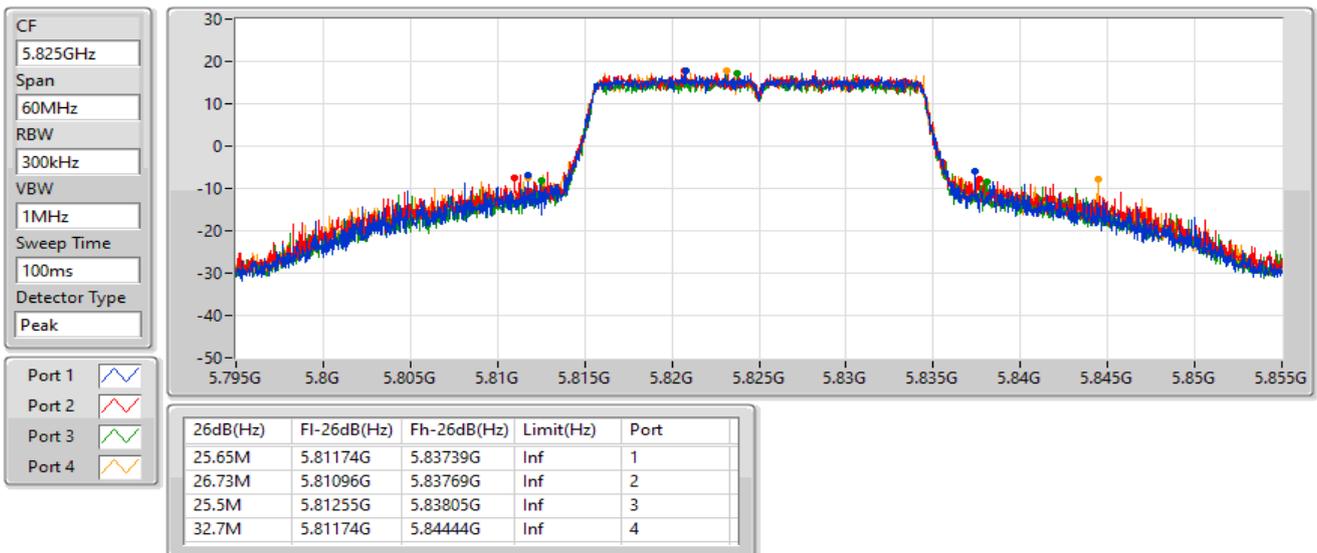


802.11ax HEW20-BF_Nss2,(MCS0)_4TX

EBW

5825MHz

30/06/2022

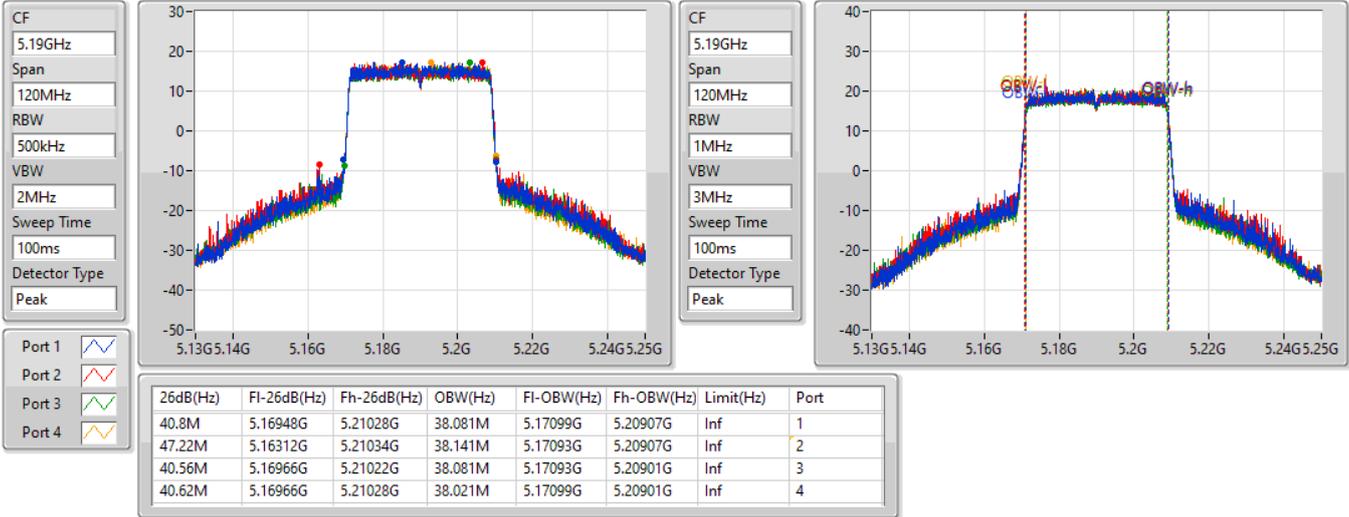


802.11ax HEW40-BF_Nss2,(MCS0)_4TX

EBW

5190MHz

30/06/2022

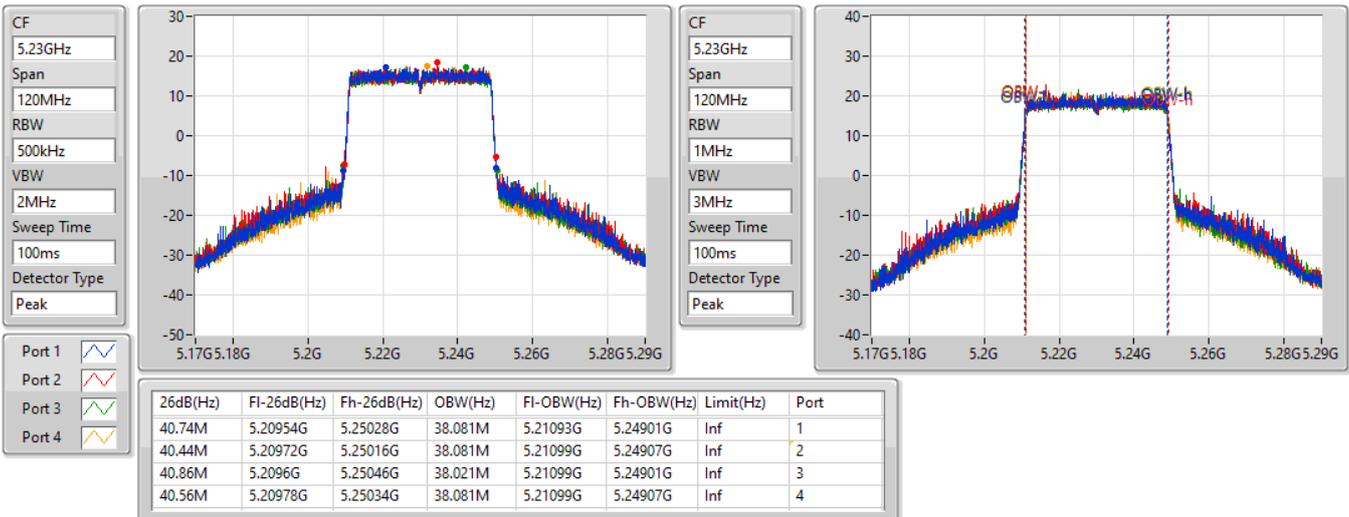


802.11ax HEW40-BF_Nss2,(MCS0)_4TX

EBW

5230MHz

30/06/2022

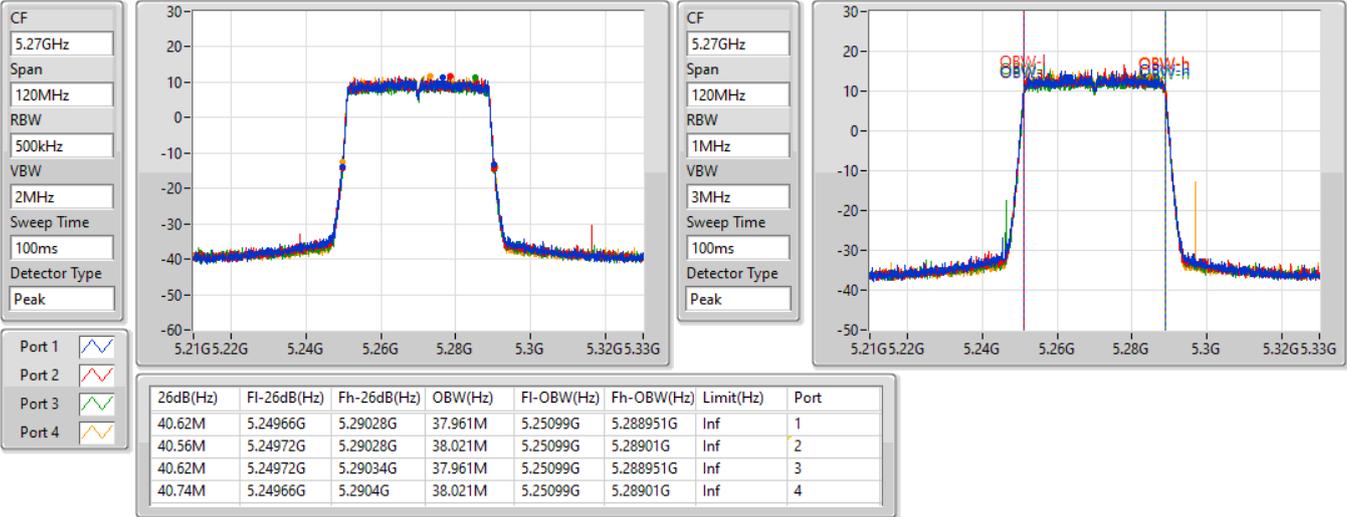


802.11ax HEW40-BF_Nss2,(MCS0)_4TX

EBW

5270MHz

30/06/2022

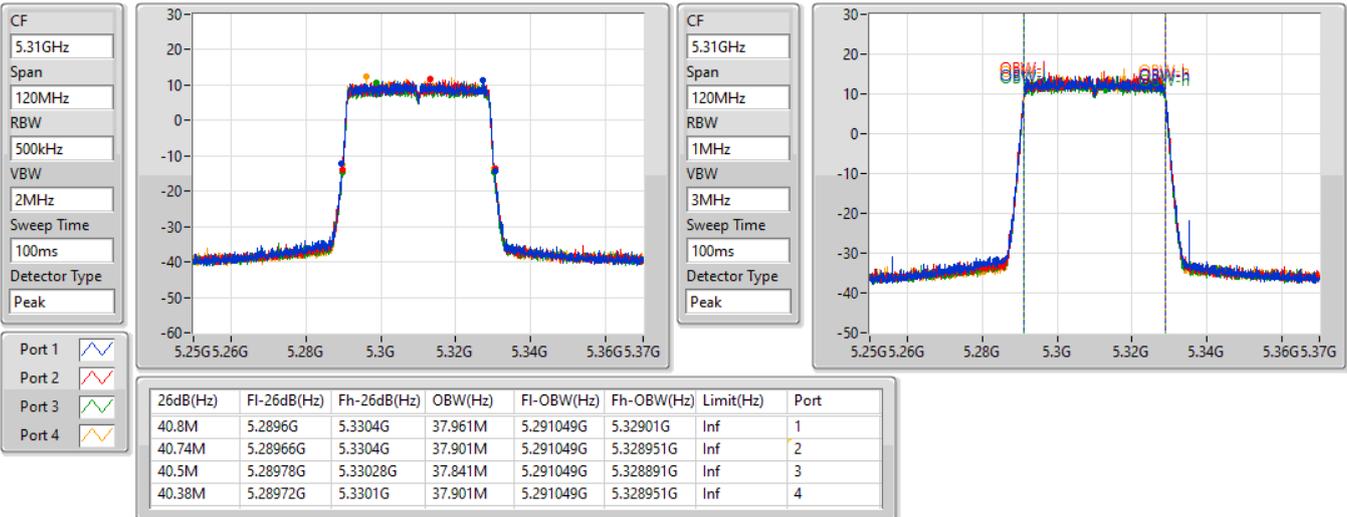


802.11ax HEW40-BF_Nss2,(MCS0)_4TX

EBW

5310MHz

30/06/2022



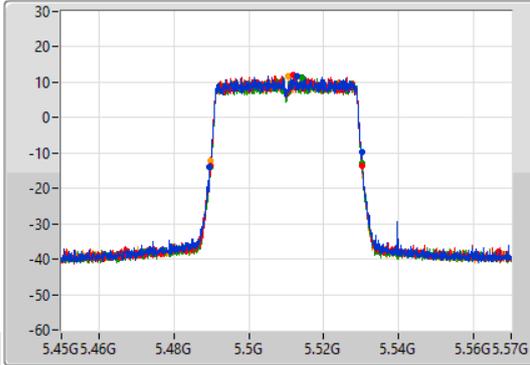
802.11ax HEW40-BF_Nss2,(MCS0)_4TX

EBW

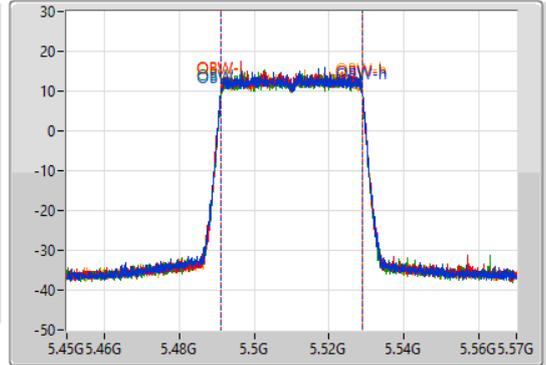
5510MHz

30/06/2022

CF
5.51GHz
Span
120MHz
RBW
500kHz
VBW
2MHz
Sweep Time
100ms
Detector Type
Peak



CF
5.51GHz
Span
120MHz
RBW
1MHz
VBW
3MHz
Sweep Time
100ms
Detector Type
Peak



Port 1
Port 2
Port 3
Port 4

26dB(Hz)	Fl-26dB(Hz)	Fh-26dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
40.68M	5.48954G	5.53022G	37.961M	5.49099G	5.528951G	Inf	1
40.56M	5.48972G	5.53028G	37.901M	5.491049G	5.528951G	Inf	2
40.38M	5.48984G	5.53022G	37.961M	5.491049G	5.52901G	Inf	3
40.5M	5.48978G	5.53028G	38.021M	5.49099G	5.52901G	Inf	4

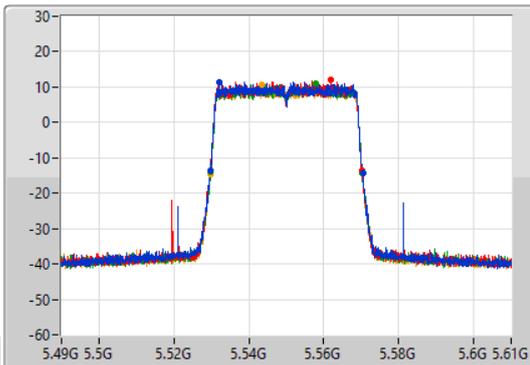
802.11ax HEW40-BF_Nss2,(MCS0)_4TX

EBW

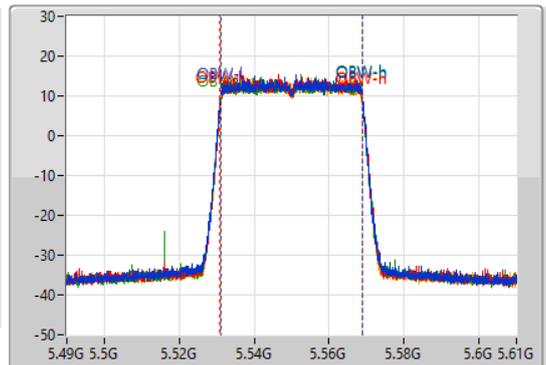
5550MHz

30/06/2022

CF
5.55GHz
Span
120MHz
RBW
500kHz
VBW
2MHz
Sweep Time
100ms
Detector Type
Peak



CF
5.55GHz
Span
120MHz
RBW
1MHz
VBW
3MHz
Sweep Time
100ms
Detector Type
Peak



Port 1
Port 2
Port 3
Port 4

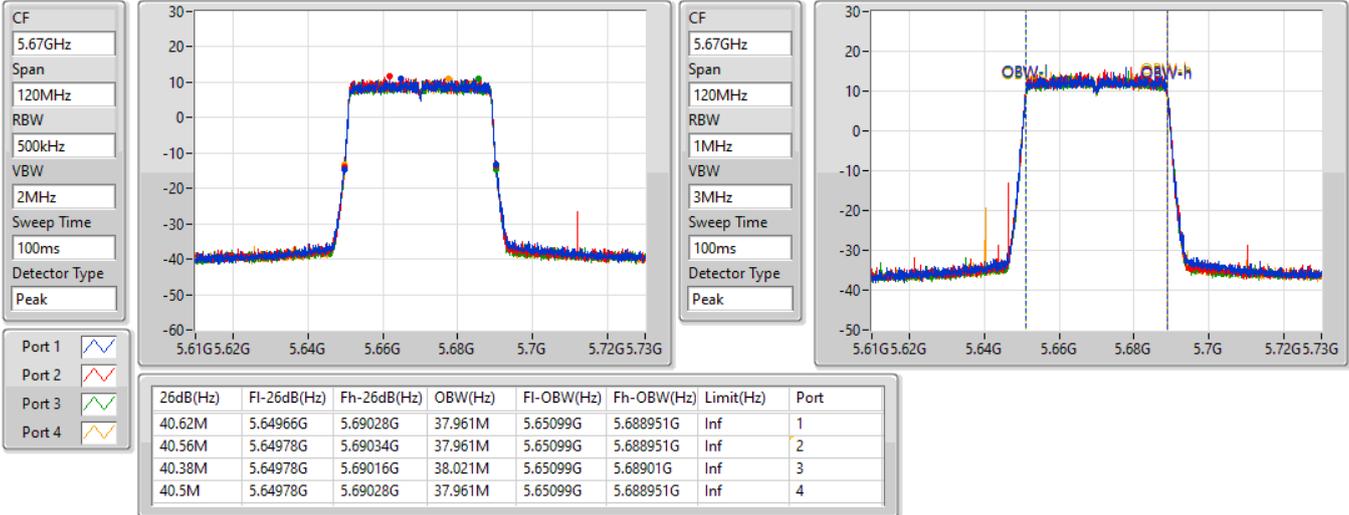
26dB(Hz)	Fl-26dB(Hz)	Fh-26dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
40.74M	5.52966G	5.5704G	37.901M	5.531049G	5.568951G	Inf	1
40.5M	5.52966G	5.57016G	38.021M	5.53093G	5.568951G	Inf	2
40.5M	5.52972G	5.57022G	37.901M	5.531049G	5.568951G	Inf	3
40.68M	5.52966G	5.57034G	37.901M	5.531049G	5.568951G	Inf	4

802.11ax HEW40-BF_Nss2,(MCS0)_4TX

EBW

5670MHz

30/06/2022

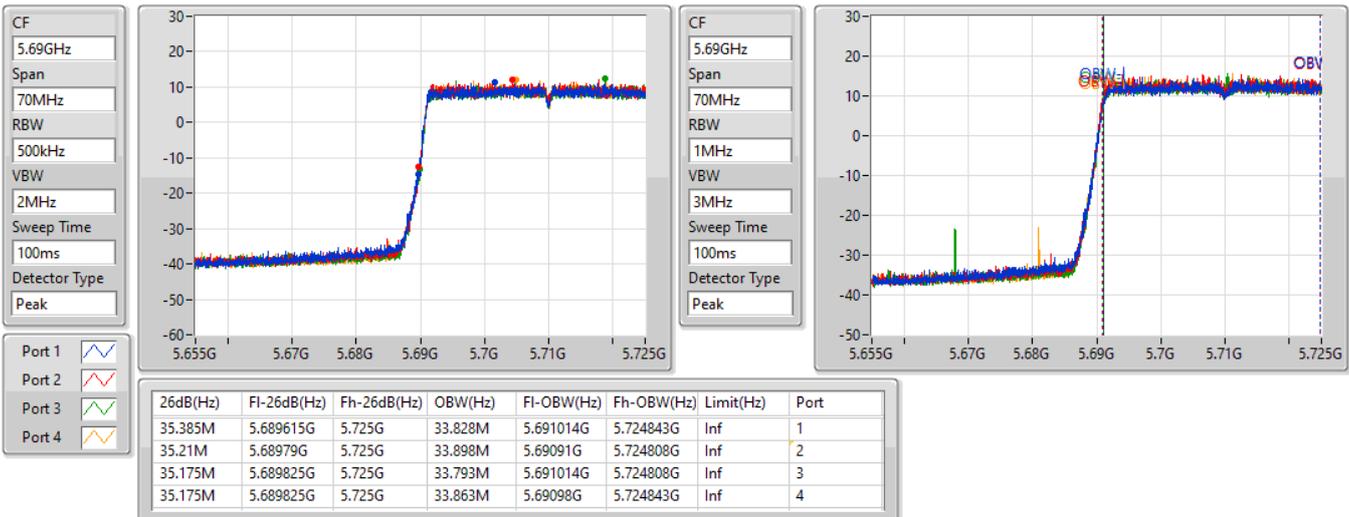


802.11ax HEW40-BF_Nss2,(MCS0)_4TX

EBW

5710MHz Straddle 5.47-5.725GHz

30/06/2022

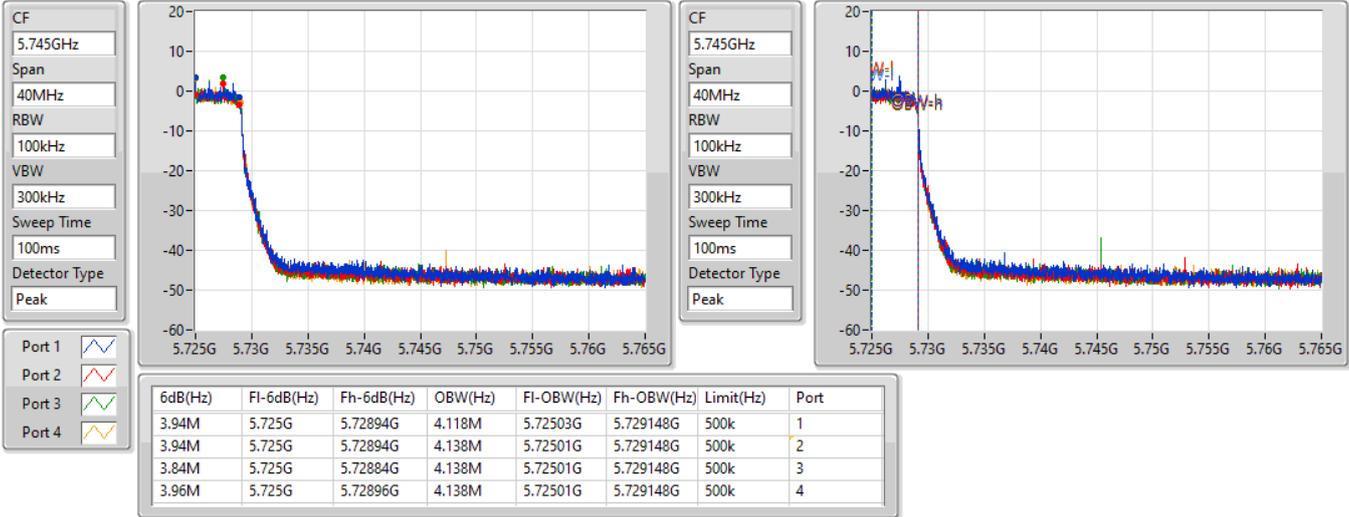


802.11ax HEW40-BF_Nss2,(MCS0)_4TX

EBW

5710MHz Straddle 5.725-5.85GHz

30/06/2022

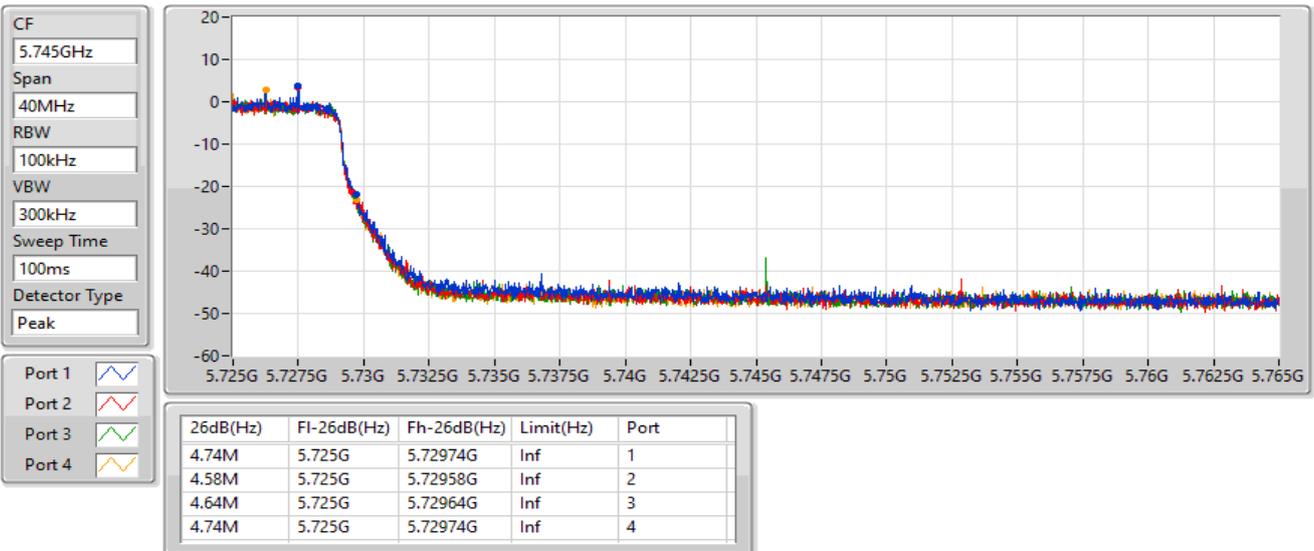


802.11ax HEW40-BF_Nss2,(MCS0)_4TX

EBW

5710MHz Straddle 5.725-5.85GHz

30/06/2022

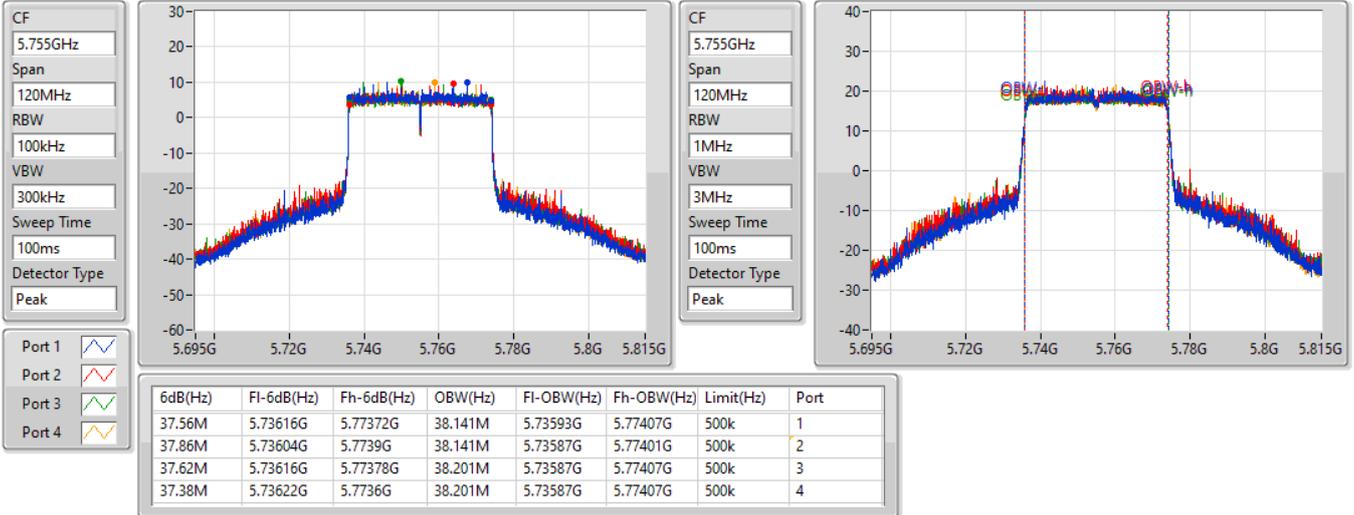


802.11ax HEW40-BF_Nss2,(MCS0)_4TX

EBW

5755MHz

30/06/2022

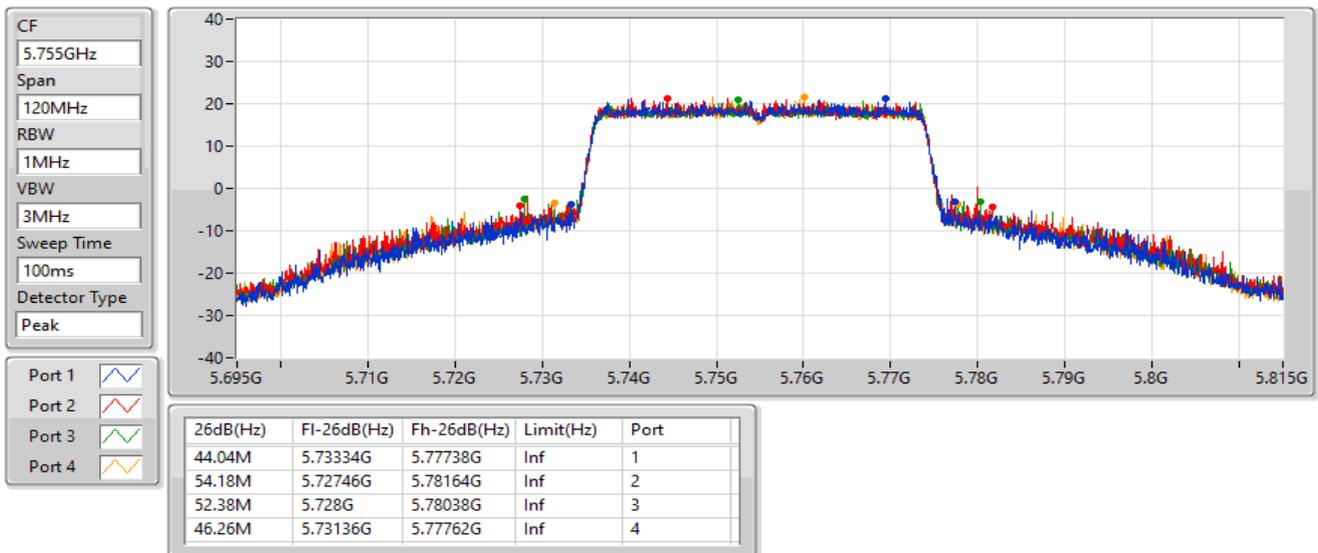


802.11ax HEW40-BF_Nss2,(MCS0)_4TX

EBW

5755MHz

30/06/2022

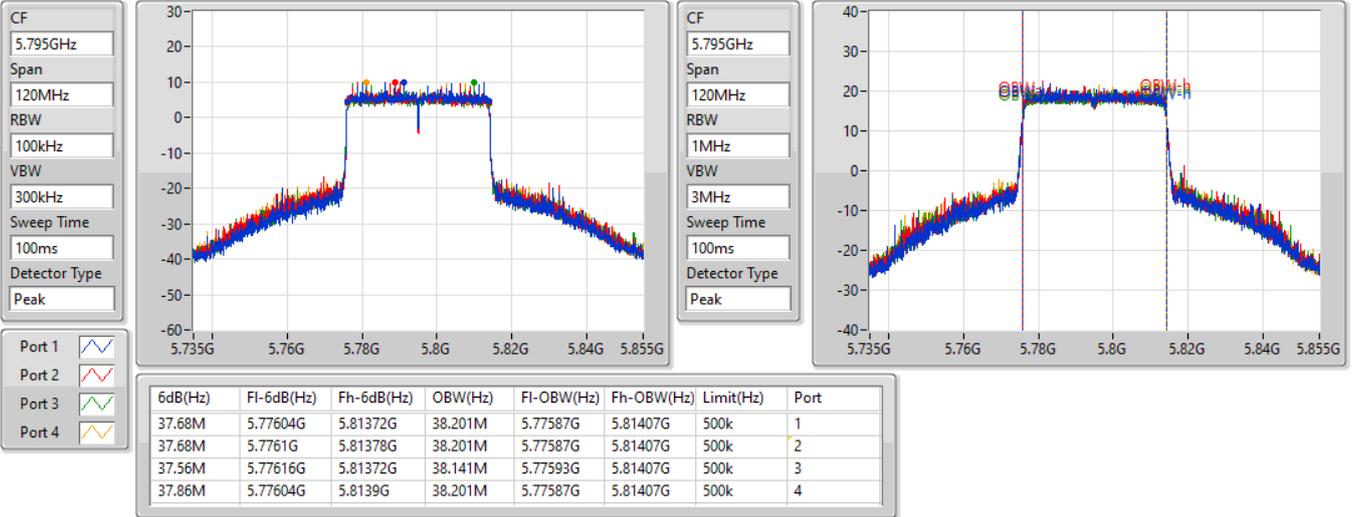


802.11ax HEW40-BF_Nss2,(MCS0)_4TX

EBW

5795MHz

30/06/2022

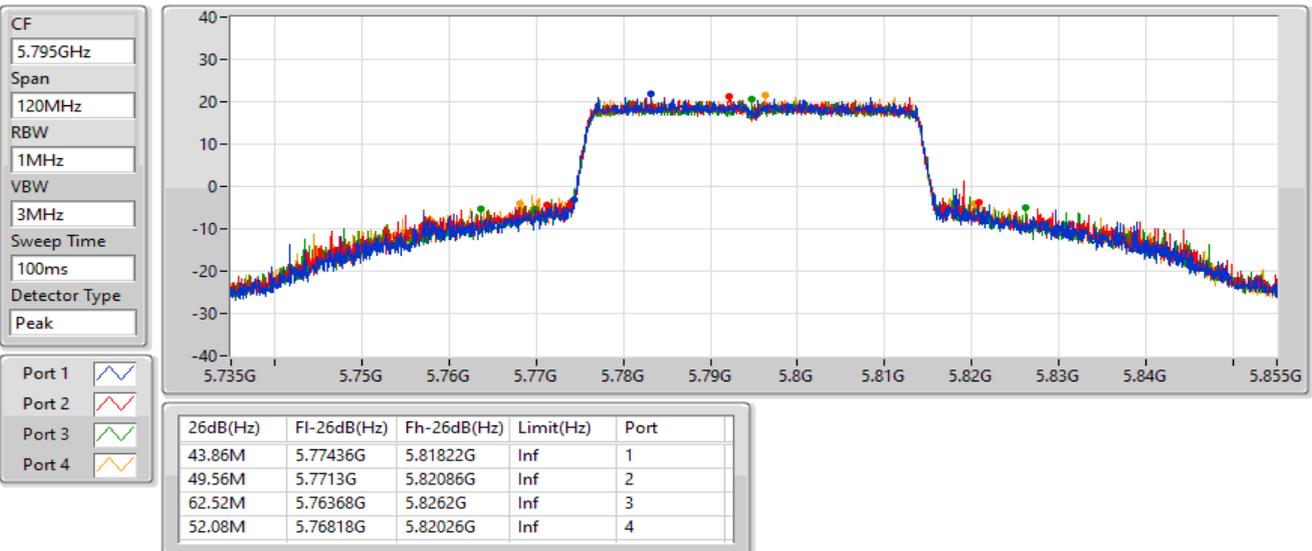


802.11ax HEW40-BF_Nss2,(MCS0)_4TX

EBW

5795MHz

30/06/2022

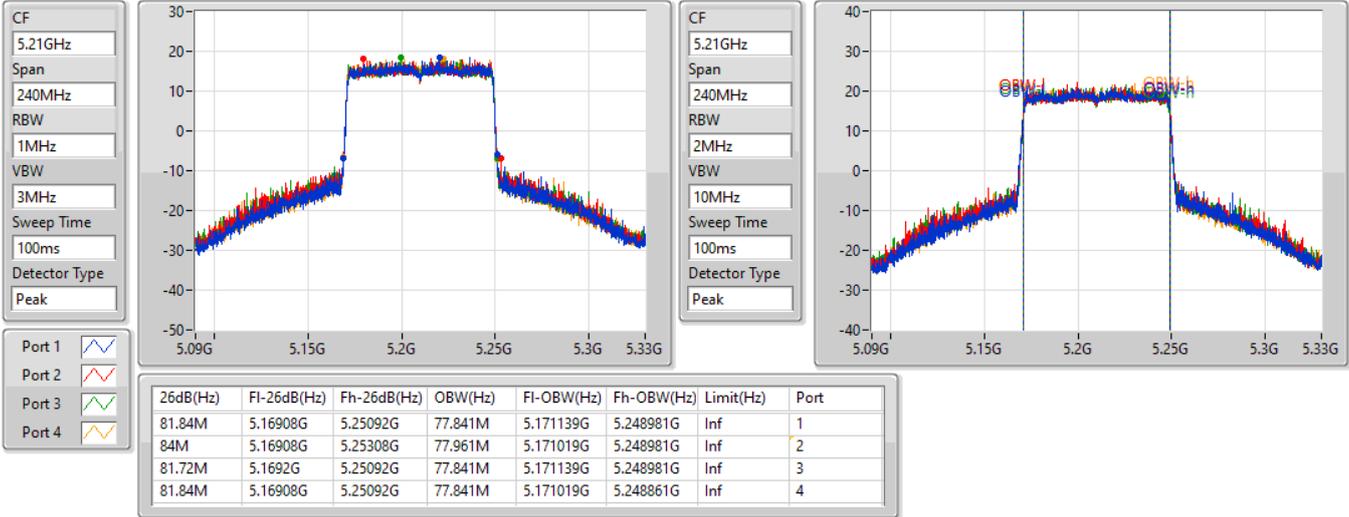


802.11ax HEW80-BF_Nss2,(MCS0)_4TX

EBW

5210MHz

30/06/2022

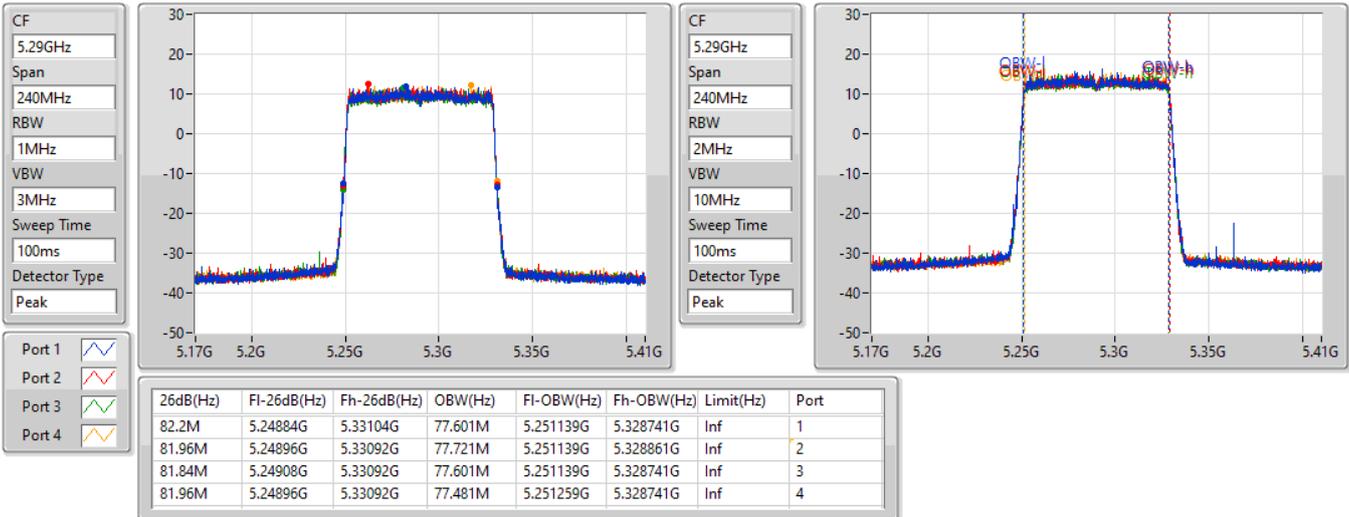


802.11ax HEW80-BF_Nss2,(MCS0)_4TX

EBW

5290MHz

30/06/2022

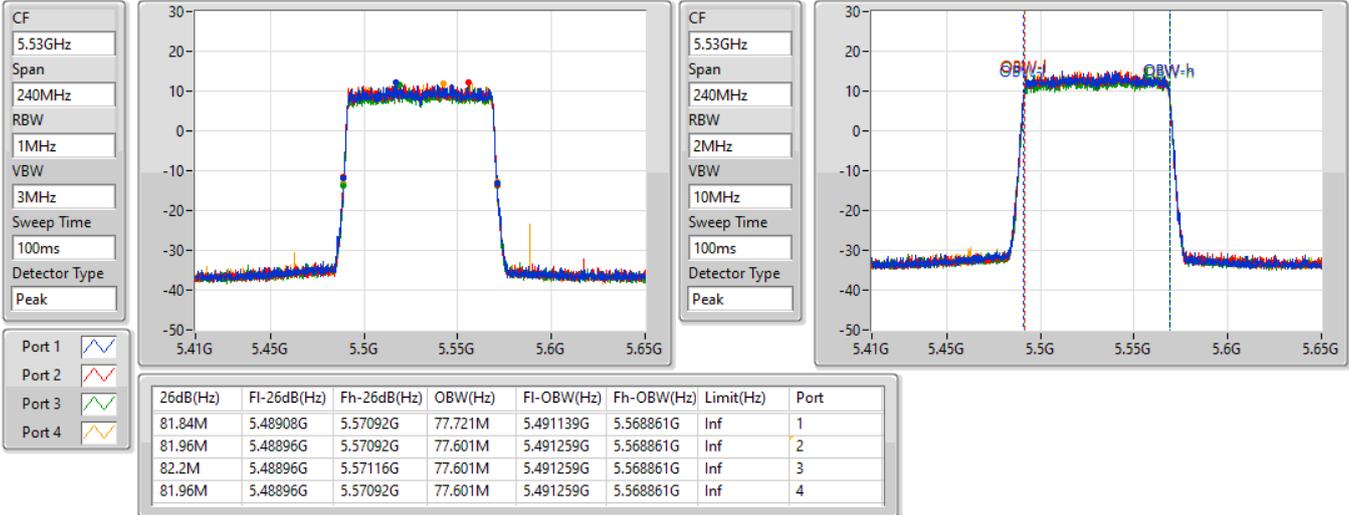


802.11ax HEW80-BF_Nss2,(MCS0)_4TX

EBW

5530MHz

30/06/2022

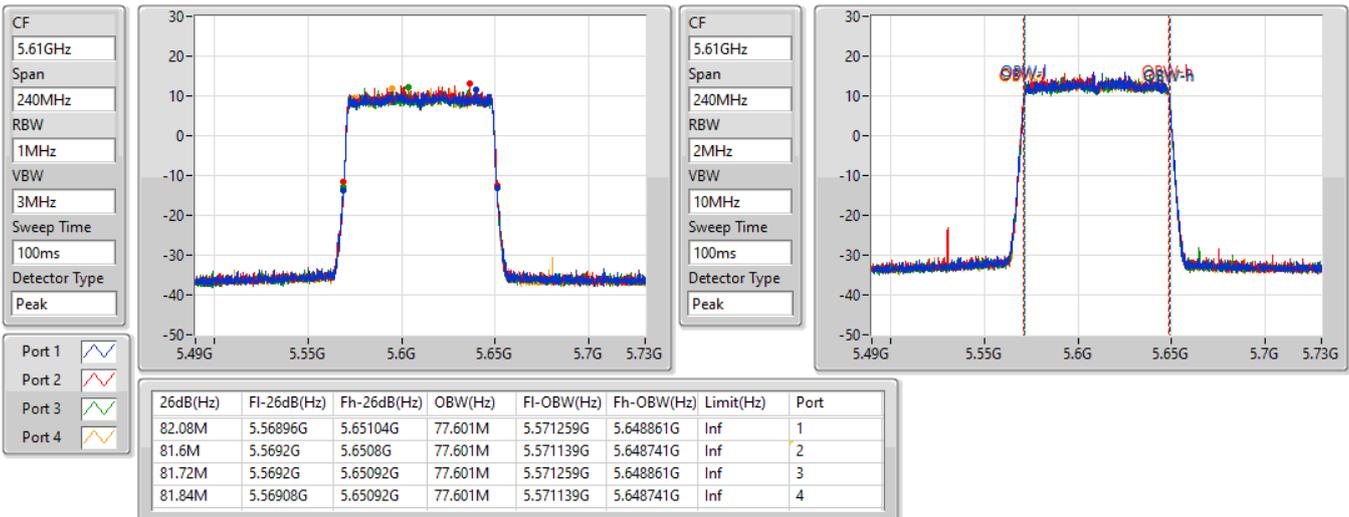


802.11ax HEW80-BF_Nss2,(MCS0)_4TX

EBW

5610MHz

30/06/2022

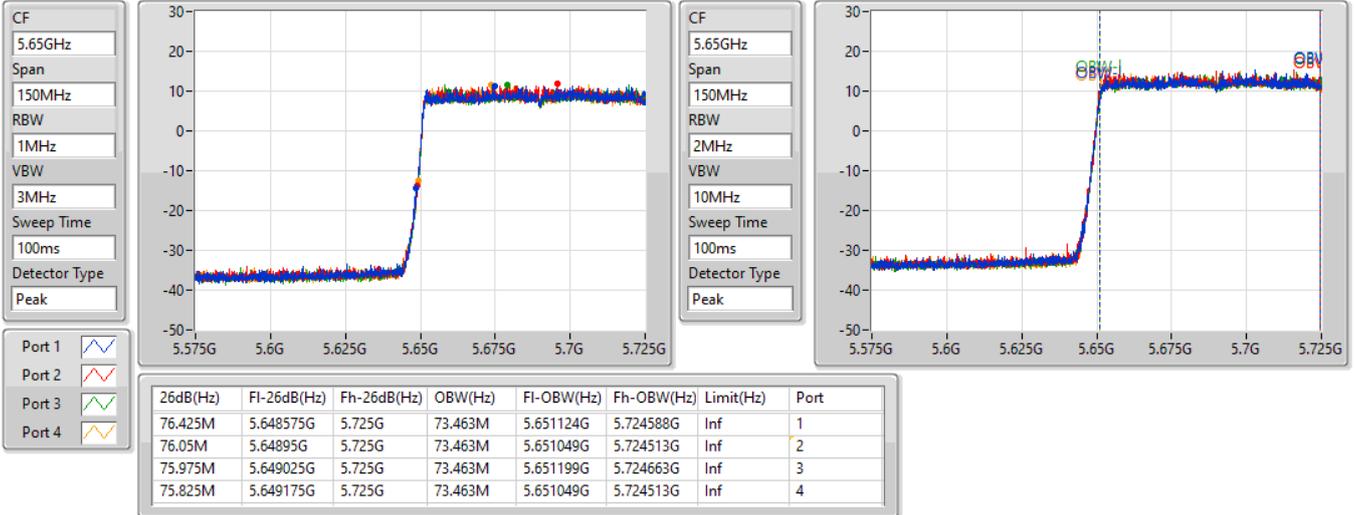


802.11ax HEW80-BF_Nss2,(MCS0)_4TX

EBW

5690MHz Straddle 5.47-5.725GHz

30/06/2022

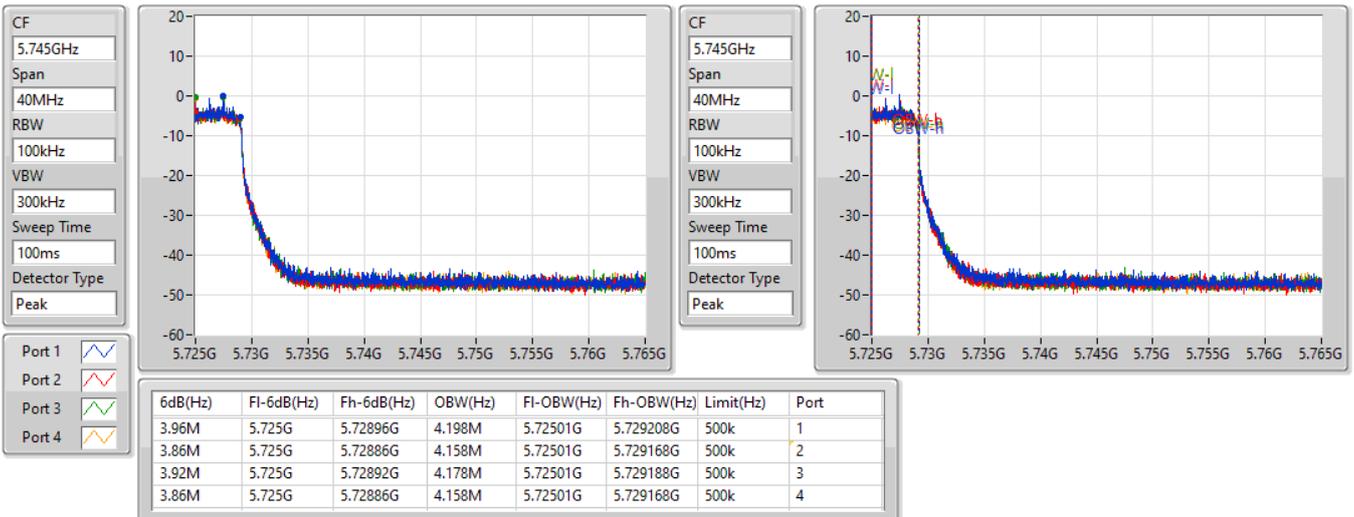


802.11ax HEW80-BF_Nss2,(MCS0)_4TX

EBW

5690MHz Straddle 5.725-5.85GHz

30/06/2022

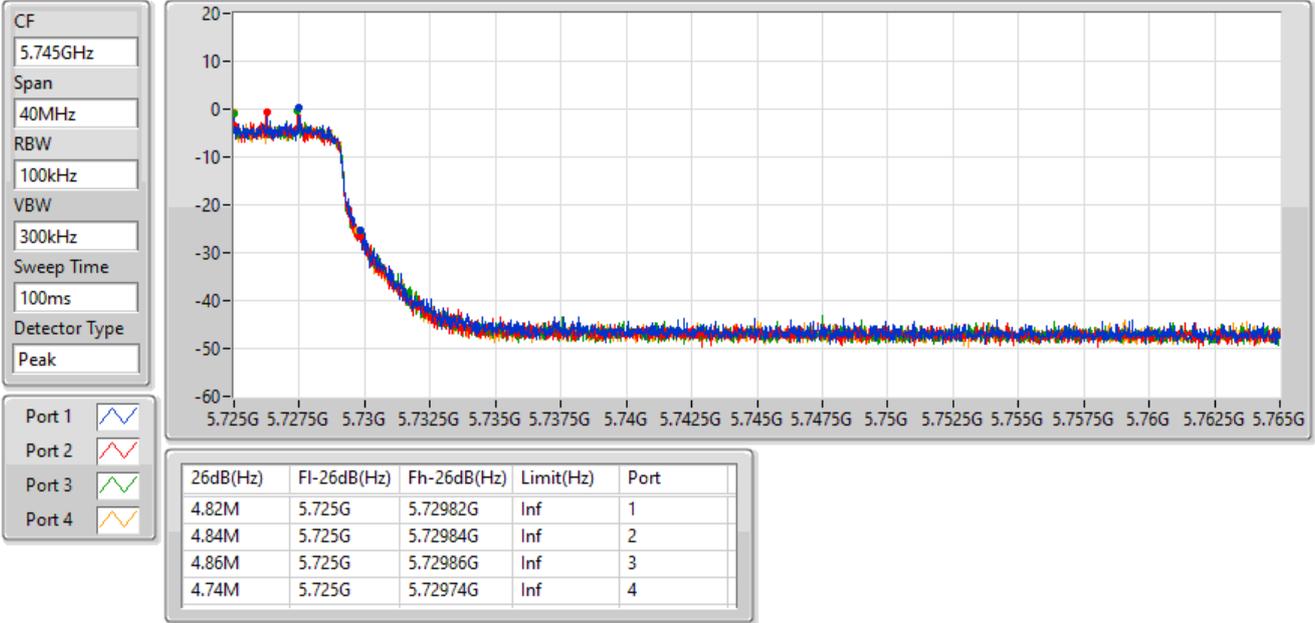


802.11ax HEW80-BF_Nss2,(MCS0)_4TX

EBW

5690MHz Straddle 5.725-5.85GHz

30/06/2022

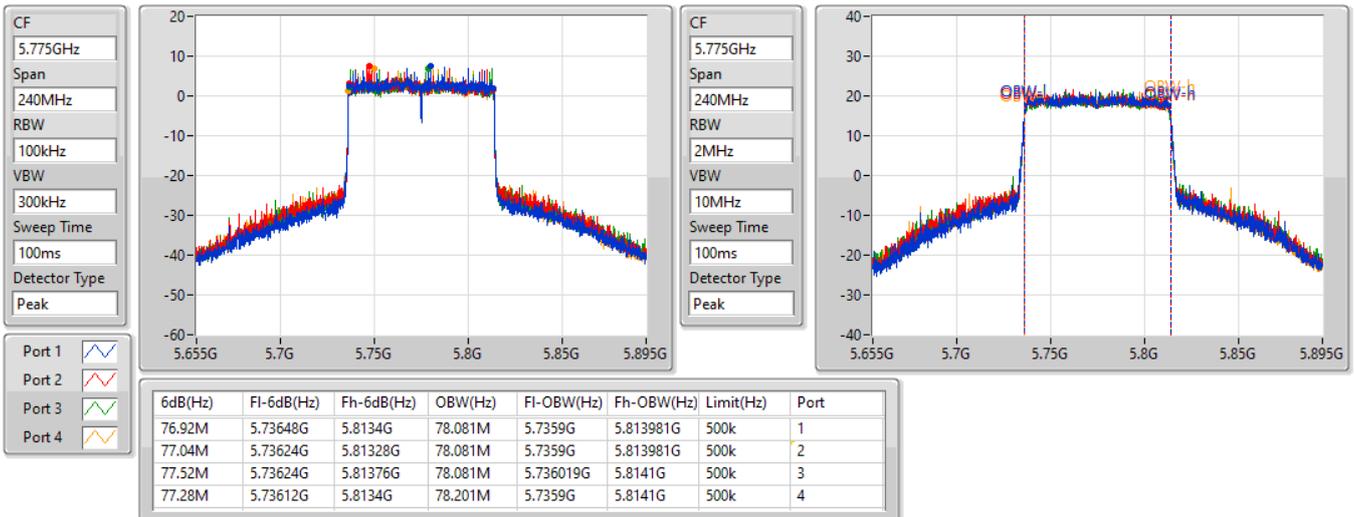


802.11ax HEW80-BF_Nss2,(MCS0)_4TX

EBW

5775MHz

30/06/2022



802.11ax HEW80-BF_Nss2,(MCS0)_4TX

EBW

5775MHz

30/06/2022

CF
5.775GHz

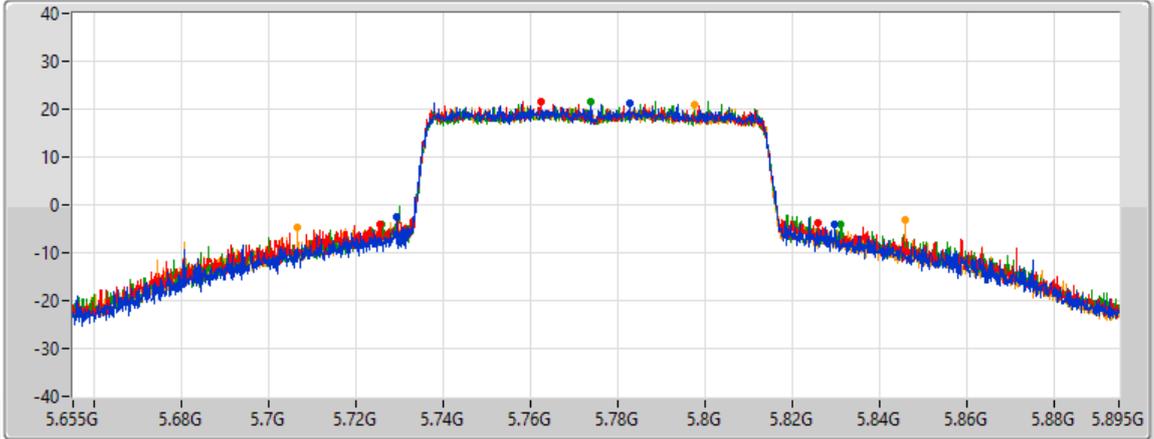
Span
240MHz

RBW
2MHz

VBW
10MHz

Sweep Time
100ms

Detector Type
Peak



Port 1

Port 2

Port 3

Port 4

26dB(Hz)	Fl-26dB(Hz)	Fh-26dB(Hz)	Limit(Hz)	Port
100.56M	5.72928G	5.82984G	Inf	1
100.32M	5.72556G	5.82588G	Inf	2
105.36M	5.72568G	5.83104G	Inf	3
139.32M	5.7066G	5.84592G	Inf	4

802.11ax HEW160-BF_Nss2,(MCS0)_4TX

EBW

5250MHz Straddle 5.15-5.25GHz

30/06/2022

CF
5.17GHz

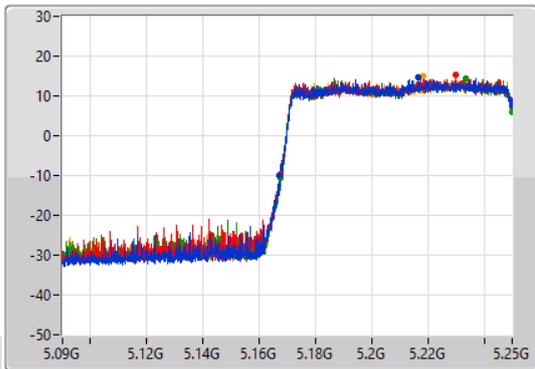
Span
160MHz

RBW
2MHz

VBW
10MHz

Sweep Time
100ms

Detector Type
Peak



Port 1

Port 2

Port 3

Port 4

26dB(Hz)	Fl-26dB(Hz)	Fh-26dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
82.8M	5.1672G	5.25G	78.521M	5.1708G	5.24932G	Inf	1
82.56M	5.16744G	5.25G	78.361M	5.17088G	5.24924G	Inf	2
82.64M	5.16736G	5.25G	78.521M	5.1708G	5.24932G	Inf	3
82.48M	5.16752G	5.25G	78.521M	5.1708G	5.24932G	Inf	4

CF
5.17GHz

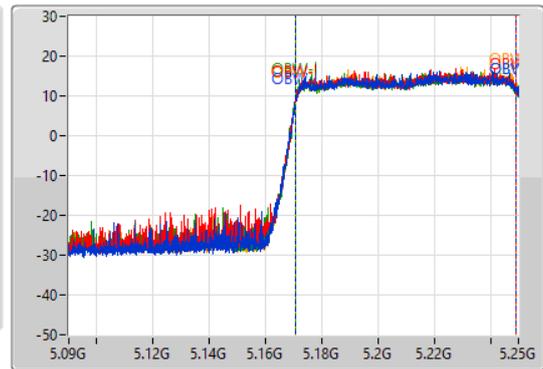
Span
160MHz

RBW
3MHz

VBW
10MHz

Sweep Time
100ms

Detector Type
Peak

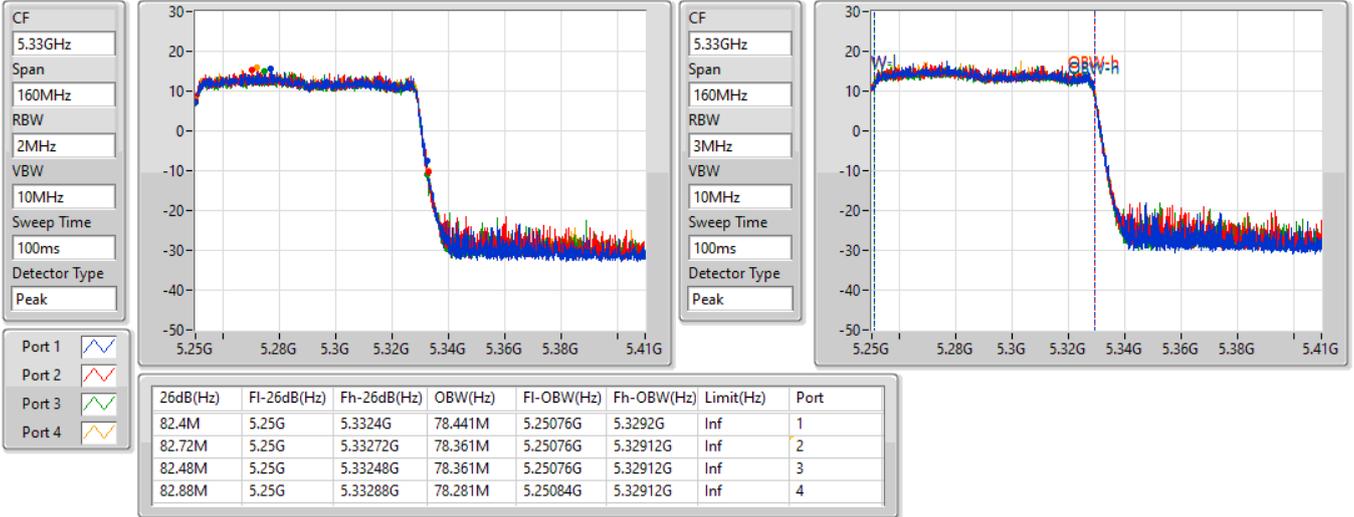


802.11ax HEW160-BF_Nss2,(MCS0)_4TX

EBW

5250MHz Straddle 5.25-5.35GHz

30/06/2022

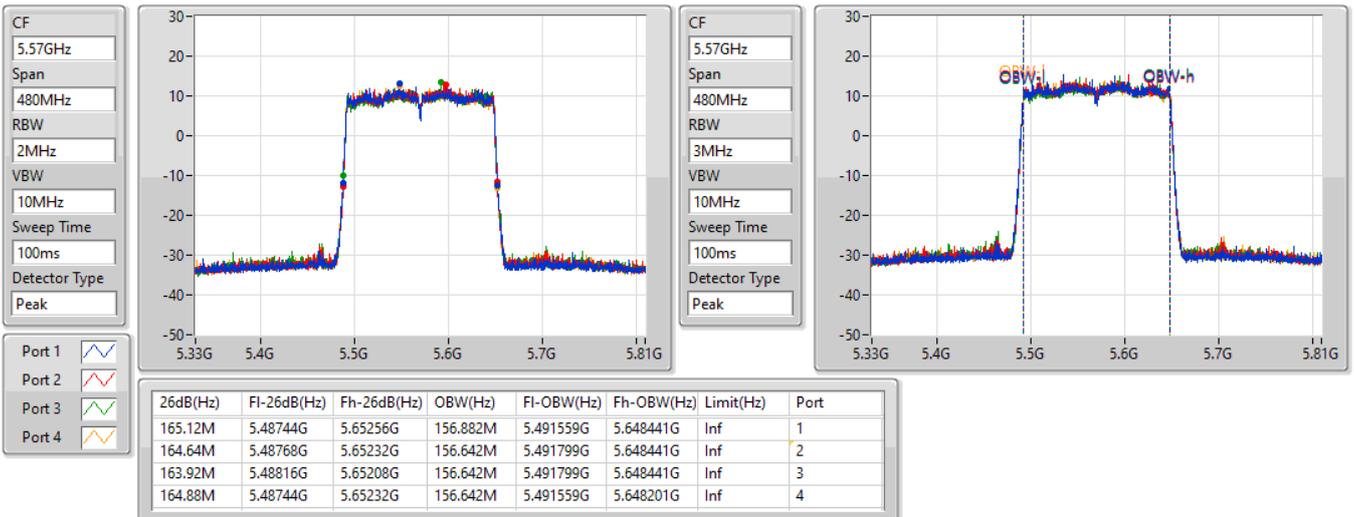


802.11ax HEW160-BF_Nss2,(MCS0)_4TX

EBW

5570MHz

30/06/2022





**For non beamforming
Summary**

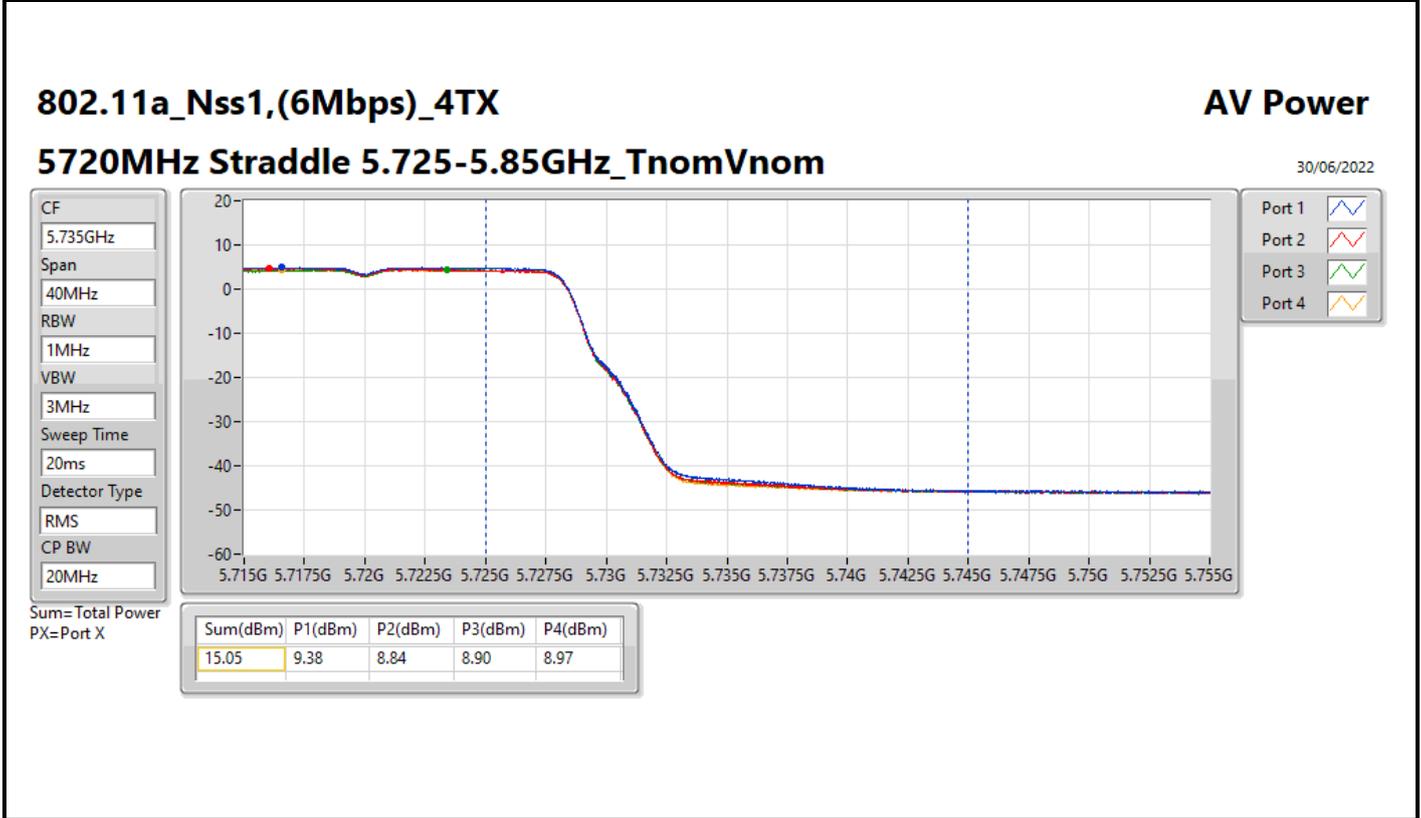
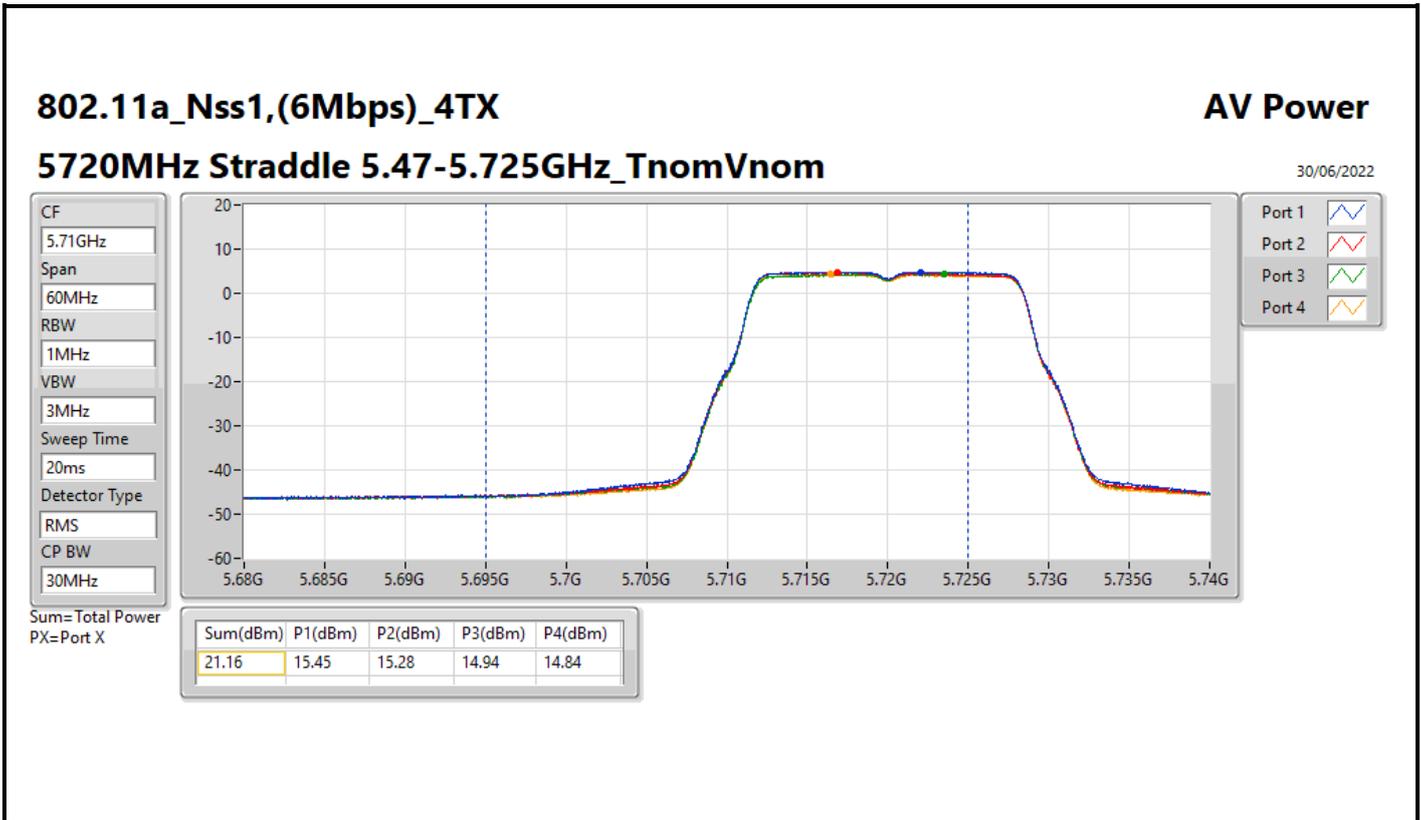
Mode	Total Power (dBm)	Total Power (W)
5.15-5.25GHz	-	-
802.11a_Nss1,(6Mbps)_4TX	27.92	0.61944
5.25-5.35GHz	-	-
802.11a_Nss1,(6Mbps)_4TX	22.05	0.16032
5.47-5.725GHz	-	-
802.11a_Nss1,(6Mbps)_4TX	21.88	0.15417
5.725-5.85GHz	-	-
802.11a_Nss1,(6Mbps)_4TX	29.89	0.97499



Result

Mode	Result	DG (dBi)	Port 1 (dBm)	Port 2 (dBm)	Port 3 (dBm)	Port 4 (dBm)	Total Power (dBm)	Power Limit (dBm)
802.11a_Nss1,(6Mbps)_4TX	-	-	-	-	-	-	-	-
5180MHz	Pass	1.93	21.96	21.56	21.48	21.90	27.75	30.00
5200MHz	Pass	1.93	22.15	21.61	21.39	21.80	27.77	30.00
5240MHz	Pass	1.93	22.18	21.62	21.53	22.24	27.92	30.00
5260MHz	Pass	1.93	16.06	15.95	15.75	16.05	21.97	23.98
5300MHz	Pass	1.93	16.10	15.89	15.70	15.95	21.93	23.98
5320MHz	Pass	1.93	16.14	15.98	15.85	16.16	22.05	23.98
5500MHz	Pass	1.92	16.22	16.09	15.32	15.76	21.88	23.98
5580MHz	Pass	1.92	15.97	15.93	15.78	15.75	21.88	23.98
5700MHz	Pass	1.92	15.96	15.75	15.54	15.51	21.71	23.98
5720MHz Straddle 5.47-5.725GHz	Pass	1.92	15.45	15.28	14.94	14.84	21.16	22.95
5720MHz Straddle 5.725-5.85GHz	Pass	1.95	9.38	8.84	8.90	8.97	15.05	30.00
5745MHz	Pass	1.95	24.13	24.05	23.58	23.52	29.85	30.00
5785MHz	Pass	1.95	24.12	24.18	23.54	23.58	29.89	30.00
5825MHz	Pass	1.95	24.24	24.05	23.18	23.67	29.82	30.00

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





For beamforming
For 4T1S
Summary

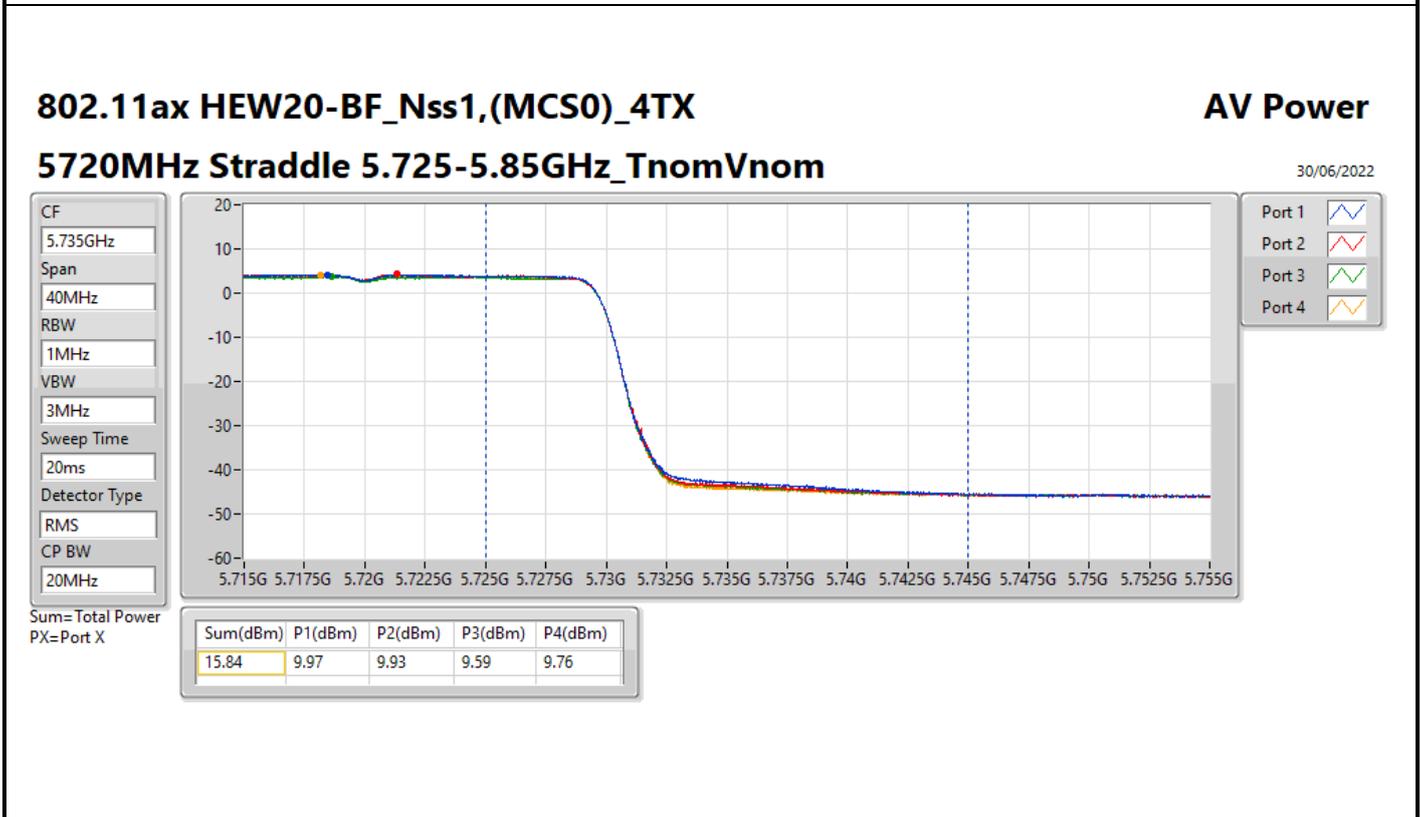
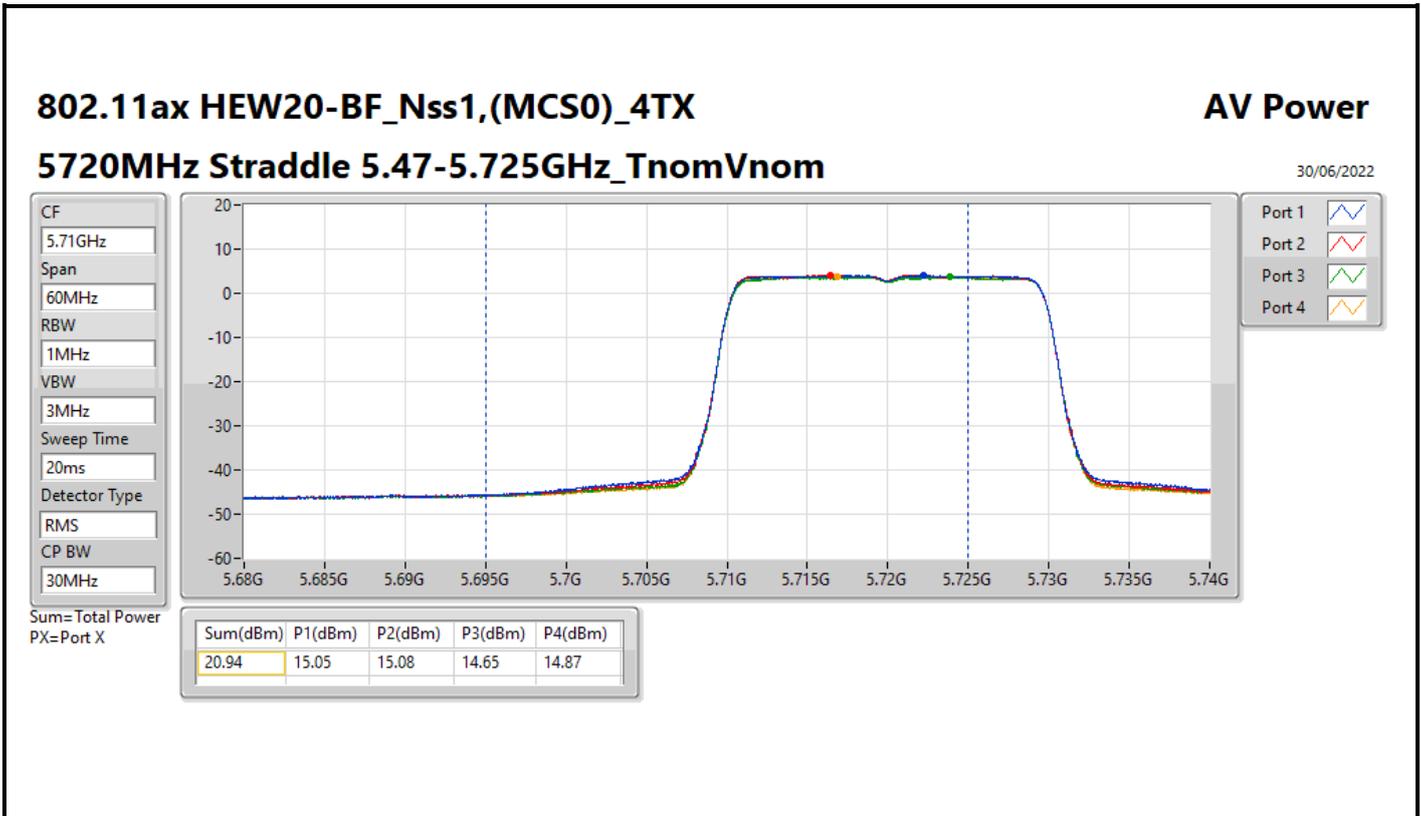
Mode	Total Power (dBm)	Total Power (W)
5.15-5.25GHz	-	-
802.11ax HEW20-BF_Nss1,(MCS0)_4TX	28.04	0.63680
802.11ax HEW40-BF_Nss1,(MCS0)_4TX	28.01	0.63241
802.11ax HEW80-BF_Nss1,(MCS0)_4TX	27.92	0.61944
802.11ax HEW160-BF_Nss1,(MCS0)_4TX	21.65	0.14622
5.25-5.35GHz	-	-
802.11ax HEW20-BF_Nss1,(MCS0)_4TX	22.03	0.15959
802.11ax HEW40-BF_Nss1,(MCS0)_4TX	22.05	0.16032
802.11ax HEW80-BF_Nss1,(MCS0)_4TX	21.96	0.15704
802.11ax HEW160-BF_Nss1,(MCS0)_4TX	21.98	0.15776
5.47-5.725GHz	-	-
802.11ax HEW20-BF_Nss1,(MCS0)_4TX	22.02	0.15922
802.11ax HEW40-BF_Nss1,(MCS0)_4TX	22.03	0.15959
802.11ax HEW80-BF_Nss1,(MCS0)_4TX	22.04	0.15996
802.11ax HEW160-BF_Nss1,(MCS0)_4TX	21.94	0.15631
5.725-5.85GHz	-	-
802.11ax HEW20-BF_Nss1,(MCS0)_4TX	28.11	0.64714
802.11ax HEW40-BF_Nss1,(MCS0)_4TX	28.01	0.63241
802.11ax HEW80-BF_Nss1,(MCS0)_4TX	28.01	0.63241

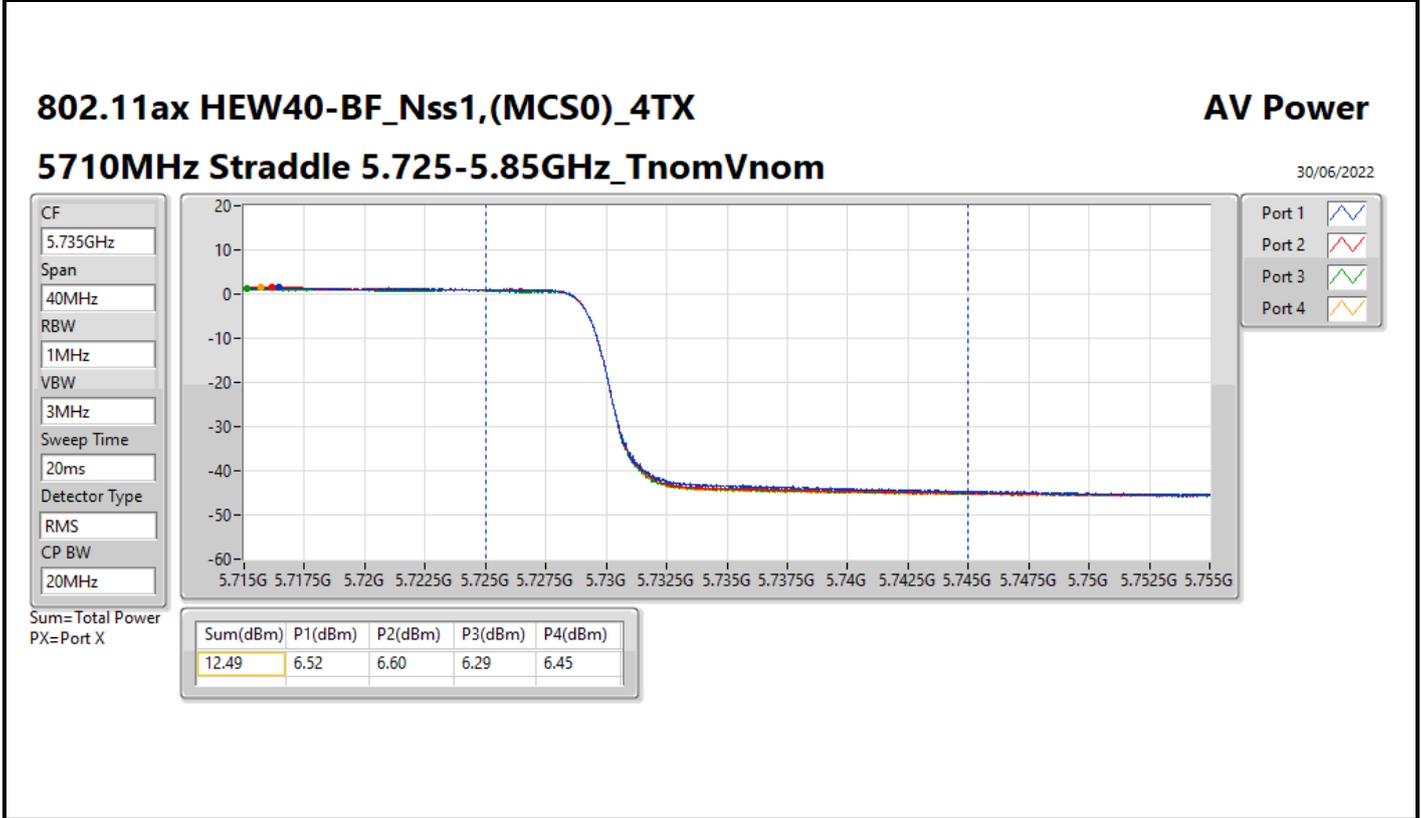
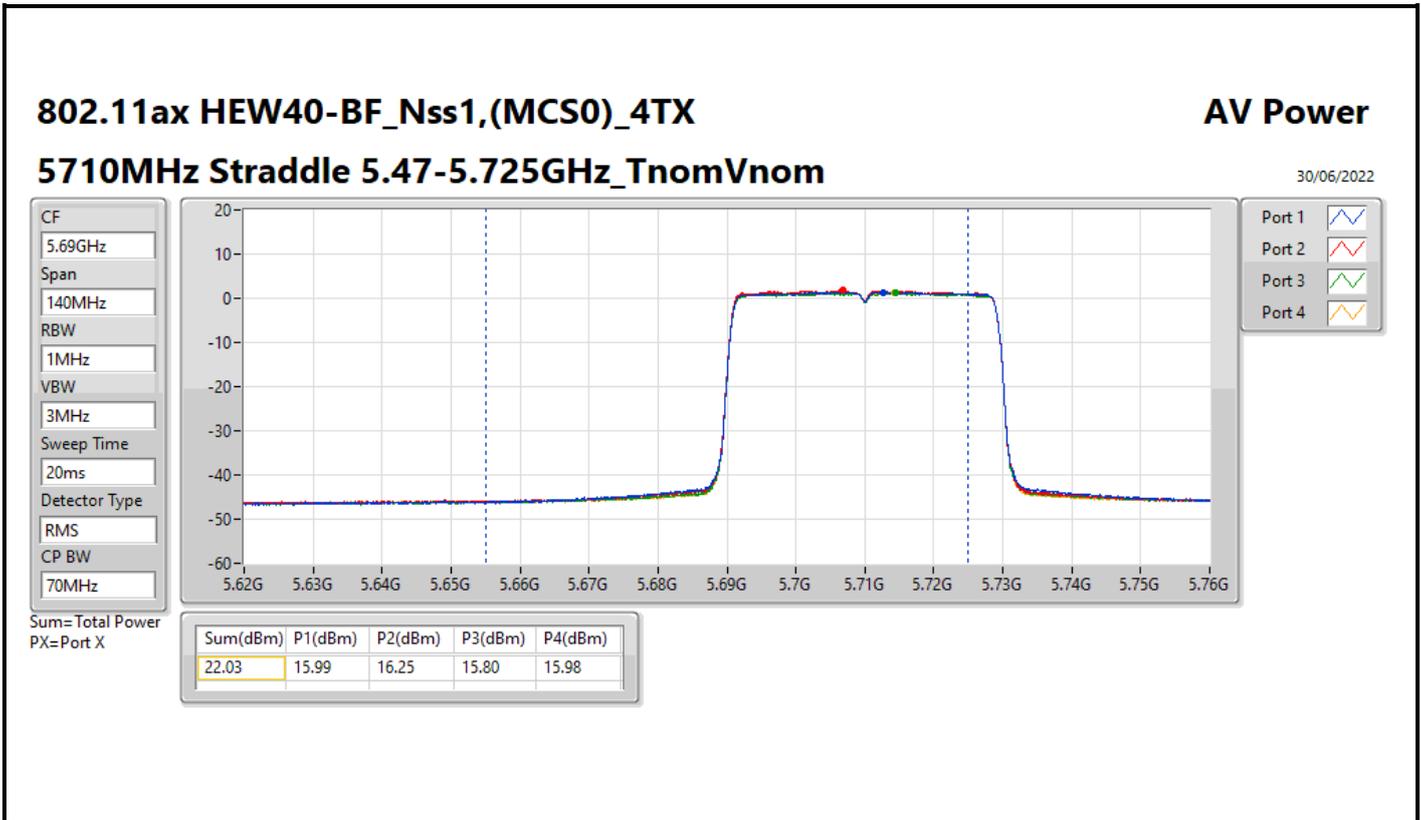


Result

Mode	Result	DG (dBi)	Port 1 (dBm)	Port 2 (dBm)	Port 3 (dBm)	Port 4 (dBm)	Total Power (dBm)	Power Limit (dBm)
802.11ax HEW20-BF_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-
5180MHz	Pass	7.86	22.17	21.85	21.60	22.08	27.95	28.14
5200MHz	Pass	7.86	22.23	21.92	21.56	22.02	27.96	28.14
5240MHz	Pass	7.86	22.07	22.13	21.71	22.16	28.04	28.14
5260MHz	Pass	7.91	16.26	16.02	15.72	16.01	22.03	22.07
5300MHz	Pass	7.91	16.12	16.22	15.51	15.96	21.98	22.07
5320MHz	Pass	7.91	16.06	16.02	15.51	15.98	21.92	22.07
5500MHz	Pass	7.90	15.98	16.18	15.35	15.89	21.88	22.08
5580MHz	Pass	7.90	16.16	16.22	15.77	15.84	22.02	22.08
5700MHz	Pass	7.90	16.18	15.93	15.68	15.60	21.87	22.08
5720MHz Straddle 5.47-5.725GHz	Pass	7.90	15.05	15.08	14.65	14.87	20.94	21.07
5720MHz Straddle 5.725-5.85GHz	Pass	7.87	9.97	9.93	9.59	9.76	15.84	28.13
5745MHz	Pass	7.87	22.08	22.37	21.79	22.11	28.11	28.13
5785MHz	Pass	7.87	22.15	22.36	21.58	22.09	28.07	28.13
5825MHz	Pass	7.87	22.07	22.40	21.38	21.92	27.98	28.13
802.11ax HEW40-BF_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-
5190MHz	Pass	7.86	22.27	21.90	21.65	22.13	28.01	28.14
5230MHz	Pass	7.86	22.18	21.97	21.57	21.91	27.93	28.14
5270MHz	Pass	7.91	16.11	15.87	15.42	16.09	21.90	22.07
5310MHz	Pass	7.91	16.23	16.18	15.52	16.16	22.05	22.07
5510MHz	Pass	7.90	16.10	16.30	15.42	15.72	21.92	22.08
5550MHz	Pass	7.90	16.17	16.23	15.58	15.69	21.95	22.08
5670MHz	Pass	7.90	15.89	15.92	15.79	15.82	21.88	22.08
5710MHz Straddle 5.47-5.725GHz	Pass	7.90	15.99	16.25	15.80	15.98	22.03	22.08
5710MHz Straddle 5.725-5.85GHz	Pass	7.87	6.52	6.60	6.29	6.45	12.49	28.13
5755MHz	Pass	7.87	22.21	21.98	21.83	21.77	27.97	28.13
5795MHz	Pass	7.87	22.10	22.16	21.93	21.76	28.01	28.13
802.11ax HEW80-BF_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-
5210MHz	Pass	7.86	22.10	21.94	21.57	21.97	27.92	28.14
5290MHz	Pass	7.91	16.20	15.94	15.63	15.98	21.96	22.07
5530MHz	Pass	7.90	16.23	16.15	15.54	16.12	22.04	22.08
5610MHz	Pass	7.90	15.85	16.13	15.71	15.64	21.86	22.08
5690MHz Straddle 5.47-5.725GHz	Pass	7.90	15.92	16.08	15.74	15.62	21.86	22.08
5690MHz Straddle 5.725-5.85GHz	Pass	7.87	3.09	2.93	2.85	2.64	8.90	28.13
5775MHz	Pass	7.87	22.27	22.07	22.19	21.35	28.01	28.13
802.11ax HEW160-BF_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-
5250MHz Straddle 5.15-5.25GHz	Pass	7.86	15.69	15.70	15.37	15.75	21.65	28.14
5250MHz Straddle 5.25-5.35GHz	Pass	7.91	16.11	15.88	15.49	16.30	21.98	22.07
5570MHz	Pass	7.90	16.05	15.92	15.87	15.83	21.94	22.08

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





802.11ax HEW80-BF_Nss1,(MCS0)_4TX

AV Power

5690MHz Straddle 5.47-5.725GHz_TnomVnom

30/06/2022

CF
5.65GHz

Span
300MHz

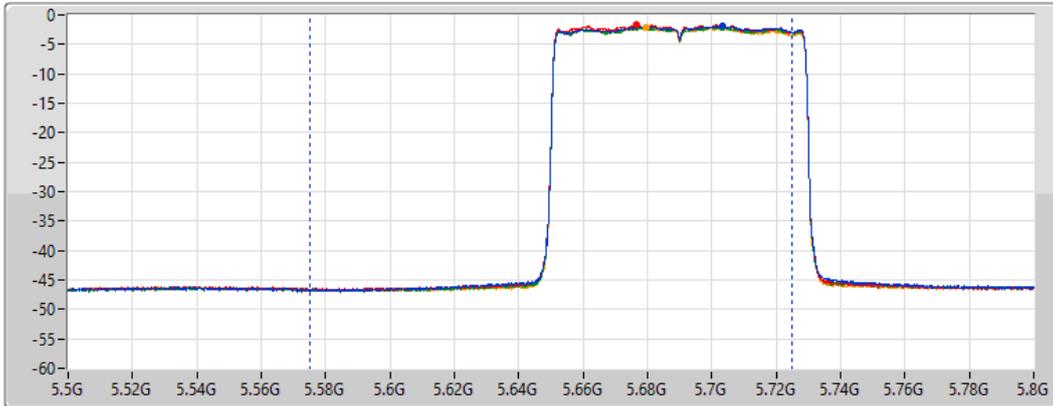
RBW
1MHz

VBW
3MHz

Sweep Time
20ms

Detector Type
RMS

CP BW
150MHz



Port 1 

Port 2 

Port 3 

Port 4 

Sum= Total Power
PX=Port X

Sum(dBm)	P1(dBm)	P2(dBm)	P3(dBm)	P4(dBm)
21.86	15.92	16.08	15.74	15.62

802.11ax HEW80-BF_Nss1,(MCS0)_4TX

AV Power

5690MHz Straddle 5.725-5.85GHz_TnomVnom

30/06/2022

CF
5.735GHz

Span
40MHz

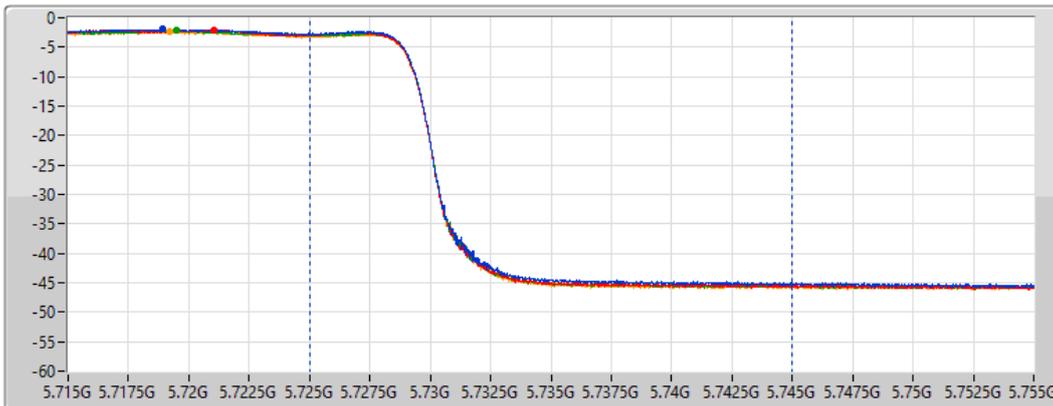
RBW
1MHz

VBW
3MHz

Sweep Time
20ms

Detector Type
RMS

CP BW
20MHz



Port 1 

Port 2 

Port 3 

Port 4 

Sum= Total Power
PX=Port X

Sum(dBm)	P1(dBm)	P2(dBm)	P3(dBm)	P4(dBm)
8.90	3.09	2.93	2.85	2.64

802.11ax HEW160-BF_Nss1,(MCS0)_4TX

AV Power

5250MHz Straddle 5.15-5.25GHz_TnomVnom

16/06/2022

CF
5.17GHz

Span
320MHz

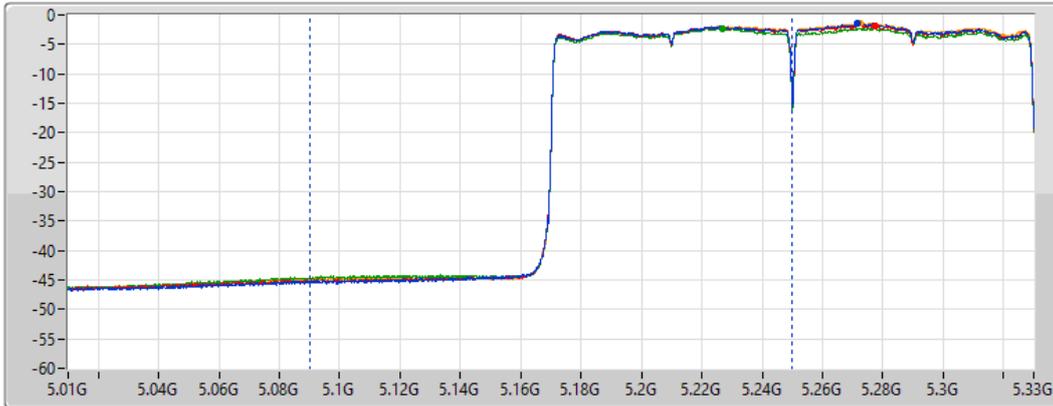
RBW
1MHz

VBW
3MHz

Sweep Time
20ms

Detector Type
RMS

CP BW
160MHz



Port 1 

Port 2 

Port 3 

Port 4 

Sum= Total Power
PX=Port X

Sum(dBm)	P1(dBm)	P2(dBm)	P3(dBm)	P4(dBm)
21.65	15.69	15.70	15.37	15.75

802.11ax HEW160-BF_Nss1,(MCS0)_4TX

AV Power

5250MHz Straddle 5.25-5.35GHz_TnomVnom

16/06/2022

CF
5.33GHz

Span
320MHz

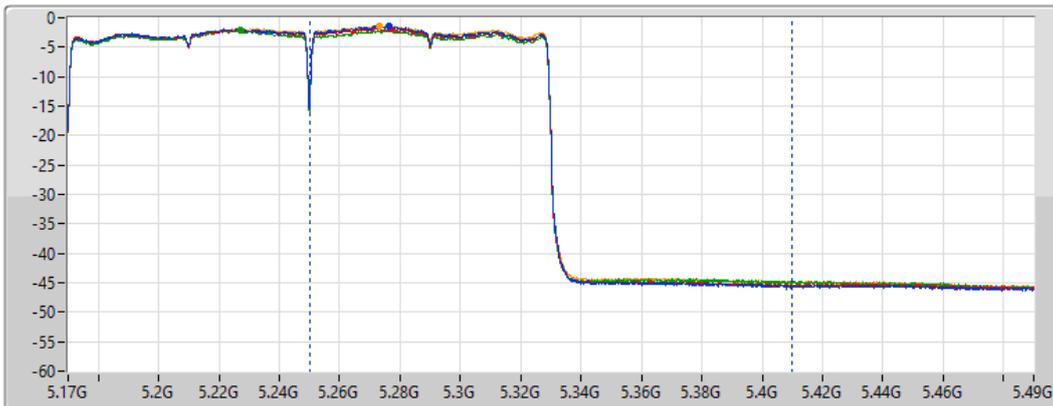
RBW
1MHz

VBW
3MHz

Sweep Time
20ms

Detector Type
RMS

CP BW
160MHz



Port 1 

Port 2 

Port 3 

Port 4 

Sum= Total Power
PX=Port X

Sum(dBm)	P1(dBm)	P2(dBm)	P3(dBm)	P4(dBm)
21.98	16.11	15.88	15.49	16.30



**For beamforming
For 4T2S
Summary**

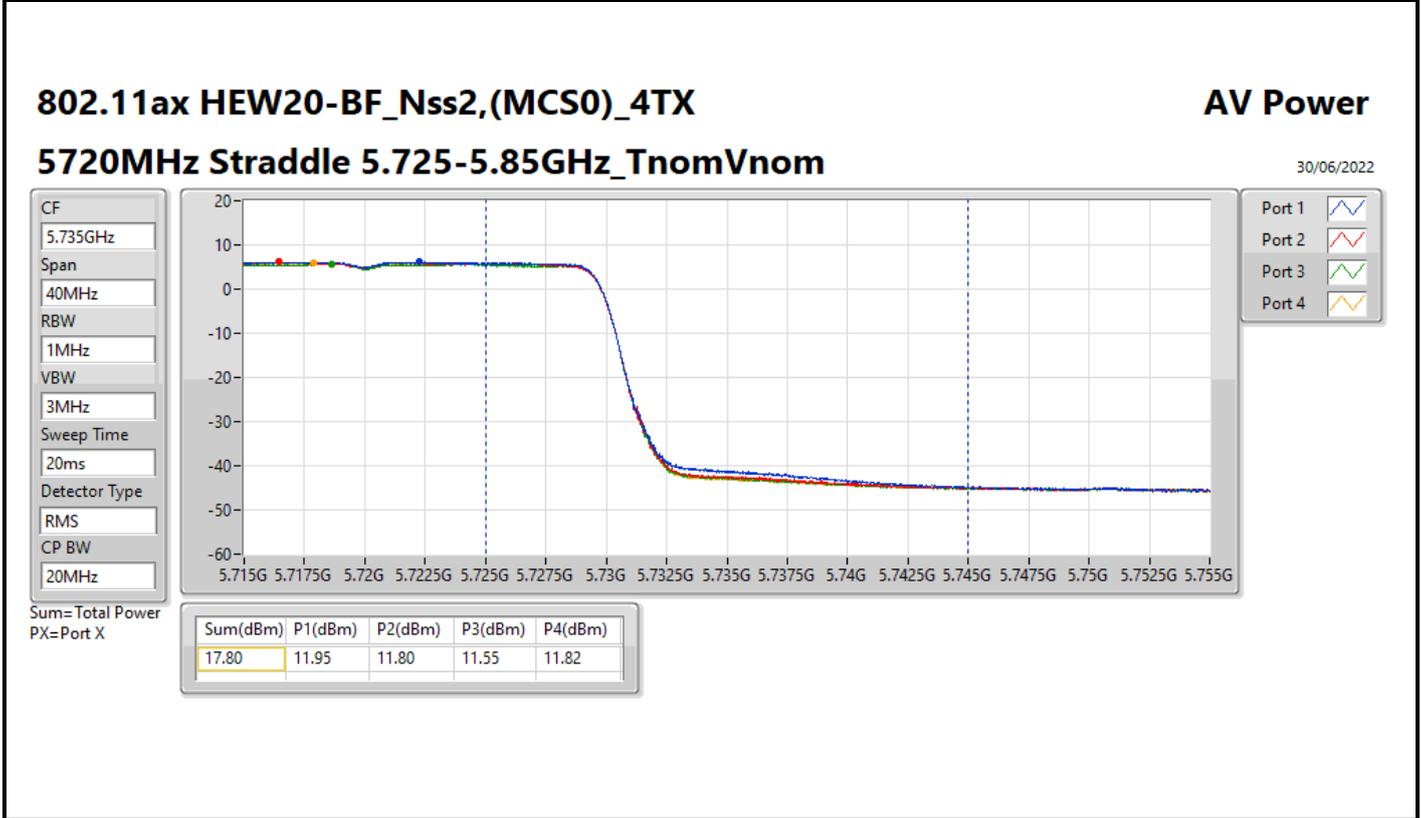
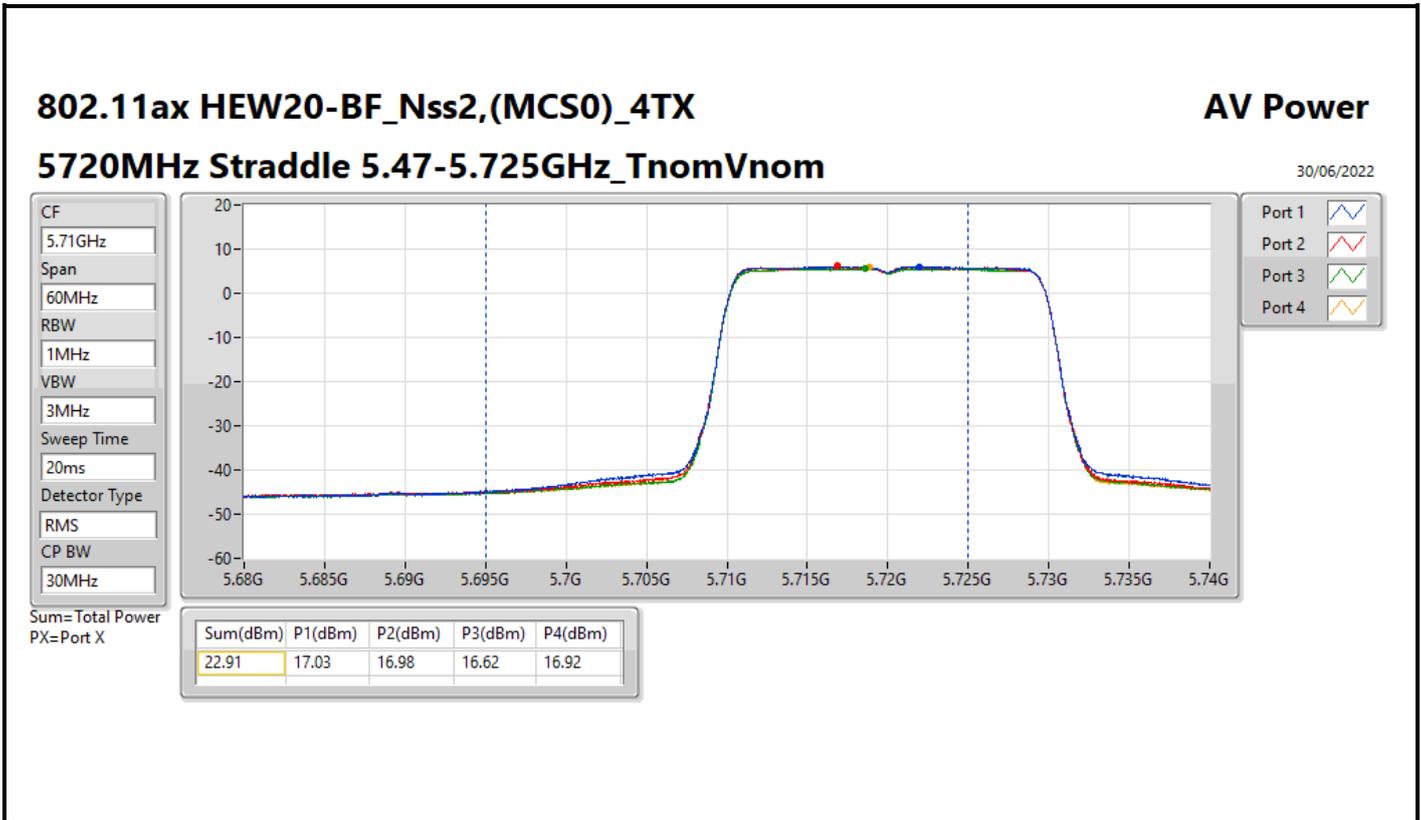
Mode	Total Power (dBm)	Total Power (W)
5.15-5.25GHz	-	-
802.11ax HEW20-BF_Nss2,(MCS0)_4TX	29.93	0.98401
802.11ax HEW40-BF_Nss2,(MCS0)_4TX	29.93	0.98401
802.11ax HEW80-BF_Nss2,(MCS0)_4TX	29.98	0.99541
802.11ax HEW160-BF_Nss2,(MCS0)_4TX	23.56	0.22699
5.25-5.35GHz	-	-
802.11ax HEW20-BF_Nss2,(MCS0)_4TX	23.96	0.24889
802.11ax HEW40-BF_Nss2,(MCS0)_4TX	23.94	0.24774
802.11ax HEW80-BF_Nss2,(MCS0)_4TX	23.91	0.24604
802.11ax HEW160-BF_Nss2,(MCS0)_4TX	23.86	0.24322
5.47-5.725GHz	-	-
802.11ax HEW20-BF_Nss2,(MCS0)_4TX	23.96	0.24889
802.11ax HEW40-BF_Nss2,(MCS0)_4TX	23.96	0.24889
802.11ax HEW80-BF_Nss2,(MCS0)_4TX	23.90	0.24547
802.11ax HEW160-BF_Nss2,(MCS0)_4TX	23.88	0.24434
5.725-5.85GHz	-	-
802.11ax HEW20-BF_Nss2,(MCS0)_4TX	29.91	0.97949
802.11ax HEW40-BF_Nss2,(MCS0)_4TX	29.97	0.99312
802.11ax HEW80-BF_Nss2,(MCS0)_4TX	29.95	0.98855

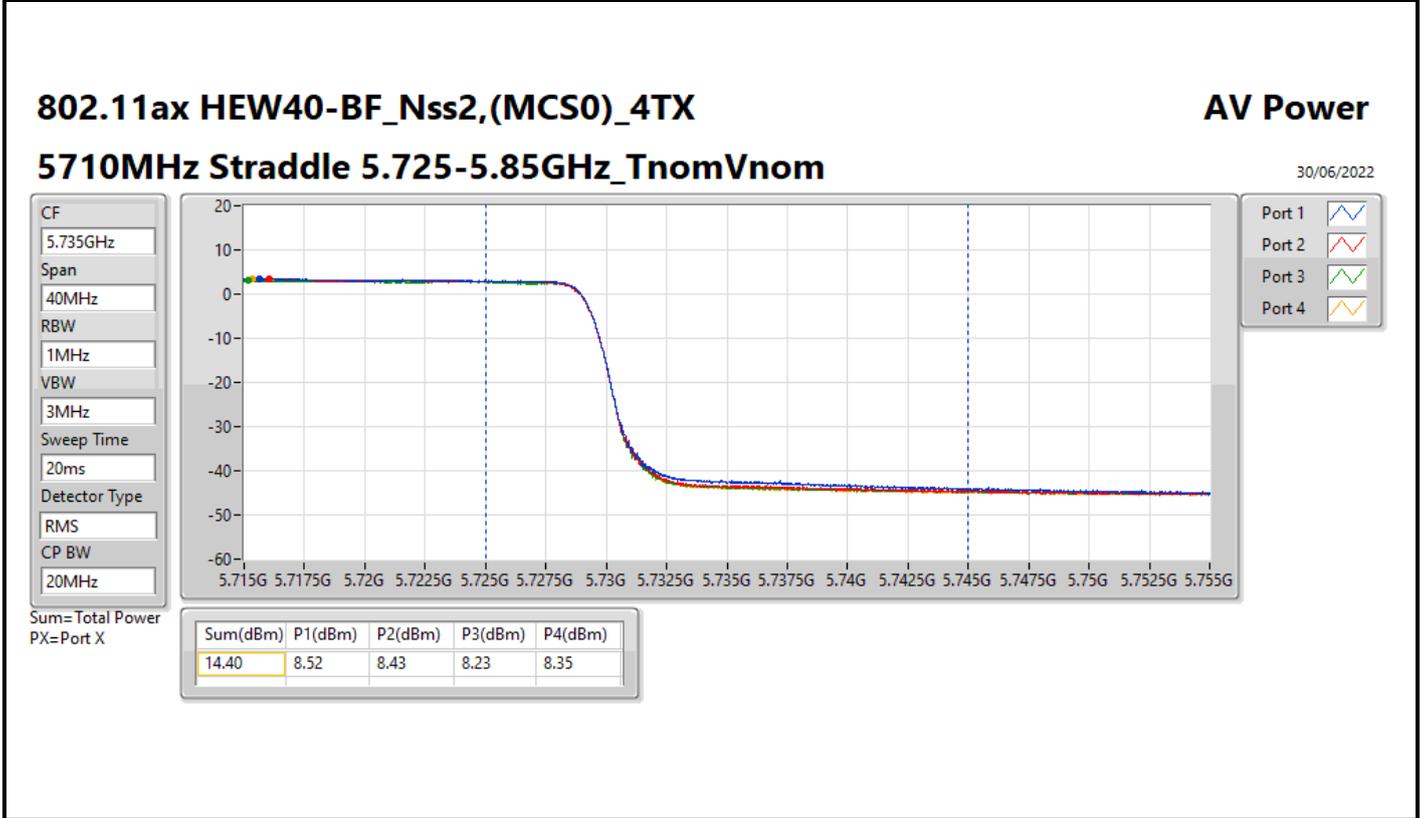
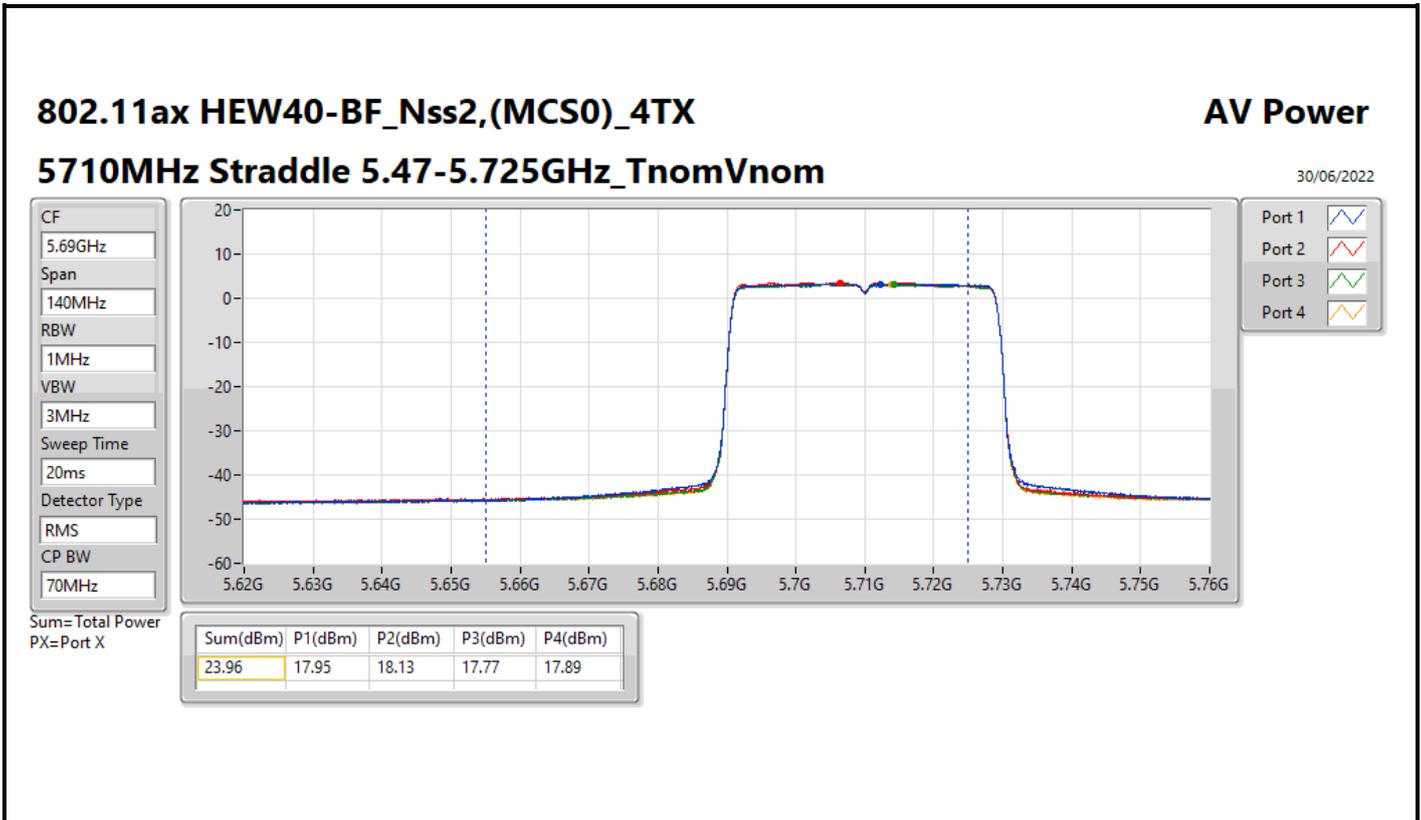


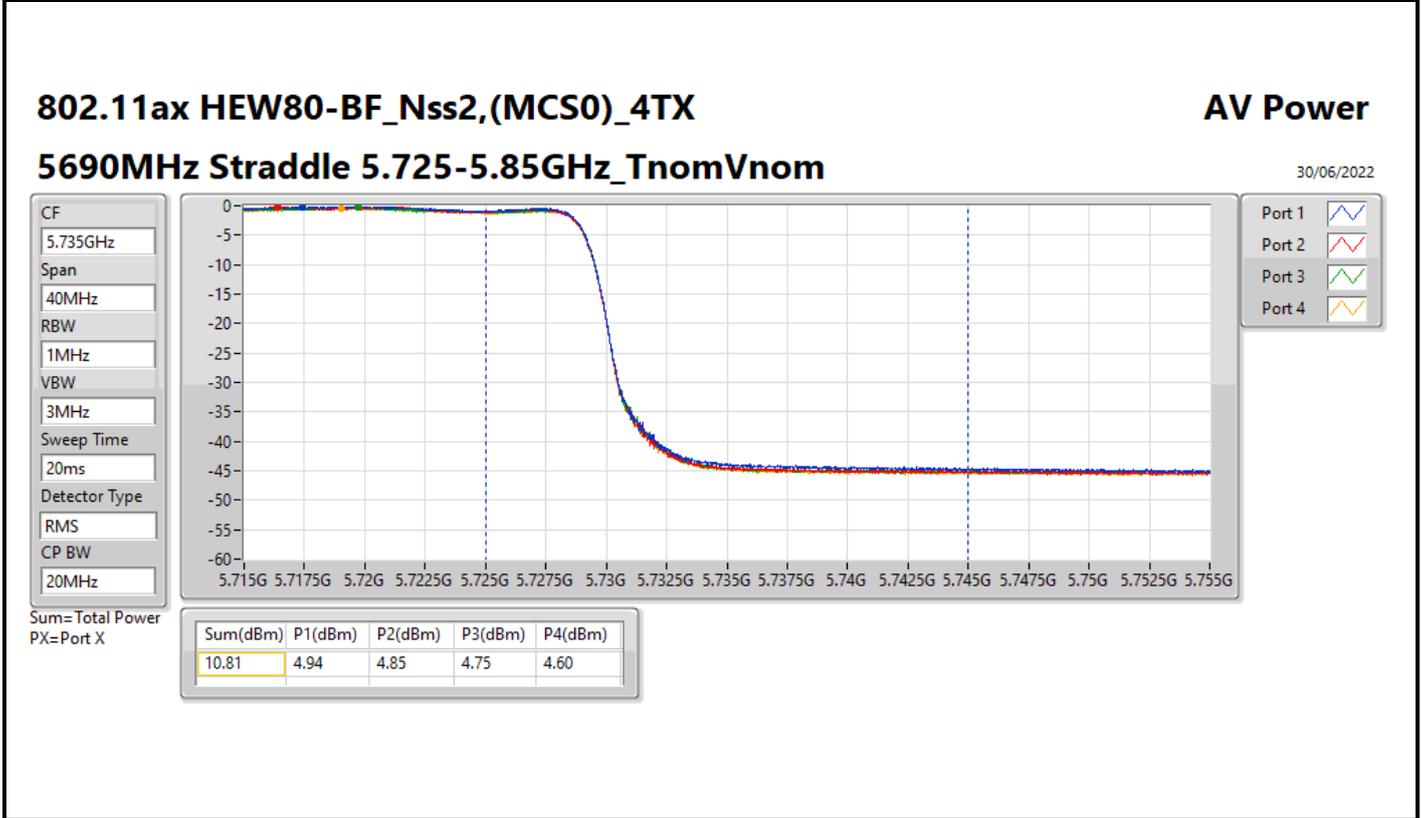
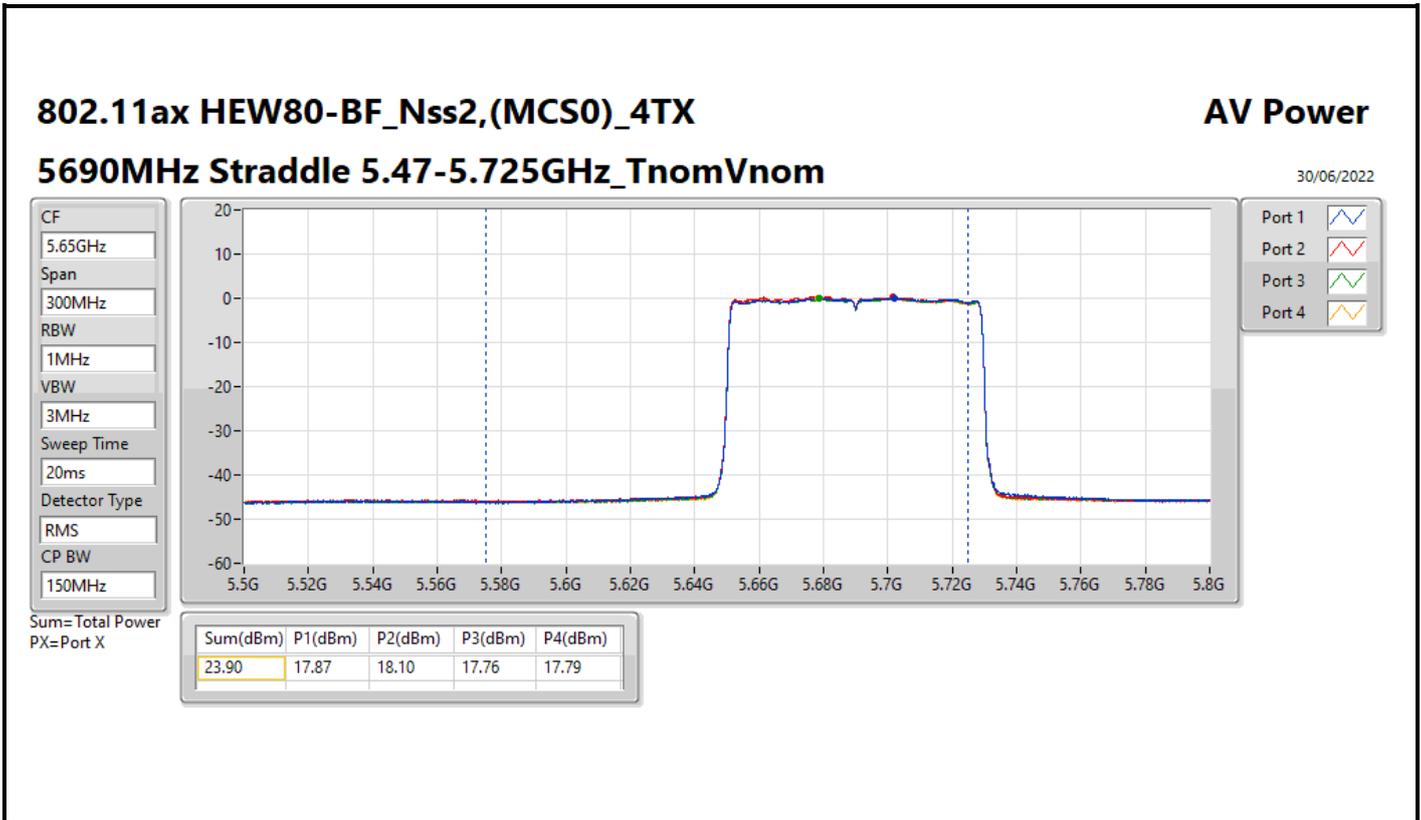
Result

Mode	Result	DG (dBi)	Port 1 (dBm)	Port 2 (dBm)	Port 3 (dBm)	Port 4 (dBm)	Total Power (dBm)	Power Limit (dBm)
802.11ax HEW20-BF_Nss2,(MCS0)_4TX	-	-	-	-	-	-	-	-
5180MHz	Pass	4.85	23.95	23.82	23.66	23.98	29.87	30.00
5200MHz	Pass	4.85	23.85	23.98	23.64	24.17	29.93	30.00
5240MHz	Pass	4.85	23.86	23.78	23.55	24.16	29.86	30.00
5260MHz	Pass	4.90	17.97	17.76	17.57	18.04	23.86	23.98
5300MHz	Pass	4.90	17.93	17.78	17.45	17.81	23.77	23.98
5320MHz	Pass	4.90	18.02	17.99	17.71	18.03	23.96	23.98
5500MHz	Pass	4.89	17.94	18.19	17.27	17.61	23.79	23.98
5580MHz	Pass	4.89	18.04	18.15	17.70	17.81	23.95	23.98
5700MHz	Pass	4.89	18.17	18.03	17.78	17.76	23.96	23.98
5720MHz Straddle 5.47-5.725GHz	Pass	4.89	17.03	16.98	16.62	16.92	22.91	22.96
5720MHz Straddle 5.725-5.85GHz	Pass	4.86	11.95	11.80	11.55	11.82	17.80	30.00
5745MHz	Pass	4.86	23.88	24.20	23.56	23.87	29.90	30.00
5785MHz	Pass	4.86	23.69	24.08	23.44	23.89	29.80	30.00
5825MHz	Pass	4.86	23.94	24.21	23.46	23.92	29.91	30.00
802.11ax HEW40-BF_Nss2,(MCS0)_4TX	-	-	-	-	-	-	-	-
5190MHz	Pass	4.85	23.98	23.78	23.49	24.01	29.84	30.00
5230MHz	Pass	4.85	24.07	23.97	23.54	24.04	29.93	30.00
5270MHz	Pass	4.90	18.15	17.89	17.49	18.11	23.94	23.98
5310MHz	Pass	4.90	18.01	18.05	17.39	17.94	23.88	23.98
5510MHz	Pass	4.89	18.25	18.04	17.46	17.93	23.95	23.98
5550MHz	Pass	4.89	18.01	18.06	17.67	17.76	23.90	23.98
5670MHz	Pass	4.89	17.79	18.14	17.56	17.83	23.86	23.98
5710MHz Straddle 5.47-5.725GHz	Pass	4.89	17.95	18.13	17.77	17.89	23.96	23.98
5710MHz Straddle 5.725-5.85GHz	Pass	4.86	8.52	8.43	8.23	8.35	14.40	30.00
5755MHz	Pass	4.86	24.02	24.05	23.58	23.82	29.89	30.00
5795MHz	Pass	4.86	23.99	24.17	23.69	23.92	29.97	30.00
802.11ax HEW80-BF_Nss2,(MCS0)_4TX	-	-	-	-	-	-	-	-
5210MHz	Pass	4.85	24.06	23.89	23.65	24.20	29.98	30.00
5290MHz	Pass	4.90	18.15	18.02	17.57	17.81	23.91	23.98
5530MHz	Pass	4.89	17.98	17.95	17.21	17.90	23.79	23.98
5610MHz	Pass	4.89	17.92	18.21	17.58	17.76	23.89	23.98
5690MHz Straddle 5.47-5.725GHz	Pass	4.89	17.87	18.10	17.76	17.79	23.90	23.98
5690MHz Straddle 5.725-5.85GHz	Pass	4.86	4.94	4.85	4.75	4.60	10.81	30.00
5775MHz	Pass	4.86	24.23	23.98	23.94	23.56	29.95	30.00
802.11ax HEW160-BF_Nss2,(MCS0)_4TX	-	-	-	-	-	-	-	-
5250MHz Straddle 5.15-5.25GHz	Pass	4.85	17.69	17.63	17.35	17.49	23.56	30.00
5250MHz Straddle 5.25-5.35GHz	Pass	4.90	18.08	17.84	17.36	18.03	23.86	23.98
5570MHz	Pass	4.89	17.96	17.98	17.73	17.76	23.88	23.98

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







802.11ax HEW160-BF_Nss2,(MCS0)_4TX

AV Power

5250MHz Straddle 5.15-5.25GHz_TnomVnom

16/06/2022

CF
5.17GHz

Span
320MHz

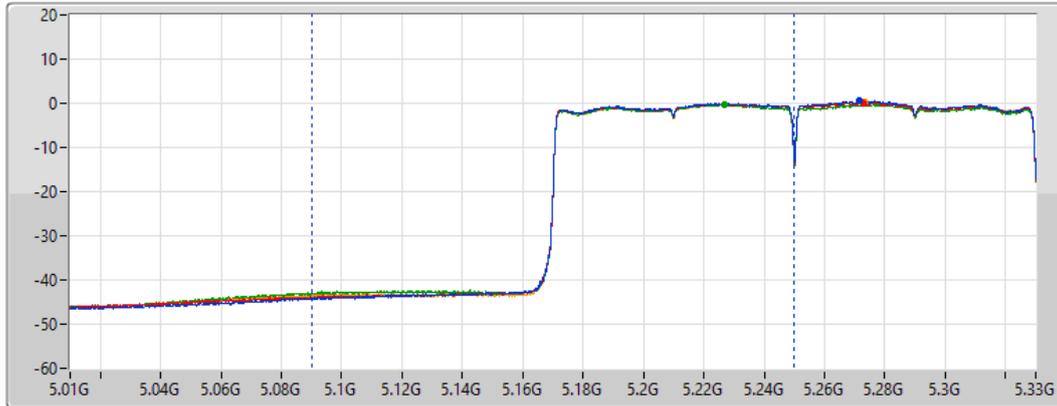
RBW
1MHz

VBW
3MHz

Sweep Time
20ms

Detector Type
RMS

CP BW
160MHz



Port 1 

Port 2 

Port 3 

Port 4 

Sum= Total Power
PX=Port X

Sum(dBm)	P1(dBm)	P2(dBm)	P3(dBm)	P4(dBm)
23.56	17.69	17.63	17.35	17.49

802.11ax HEW160-BF_Nss2,(MCS0)_4TX

AV Power

5250MHz Straddle 5.25-5.35GHz_TnomVnom

16/06/2022

CF
5.33GHz

Span
320MHz

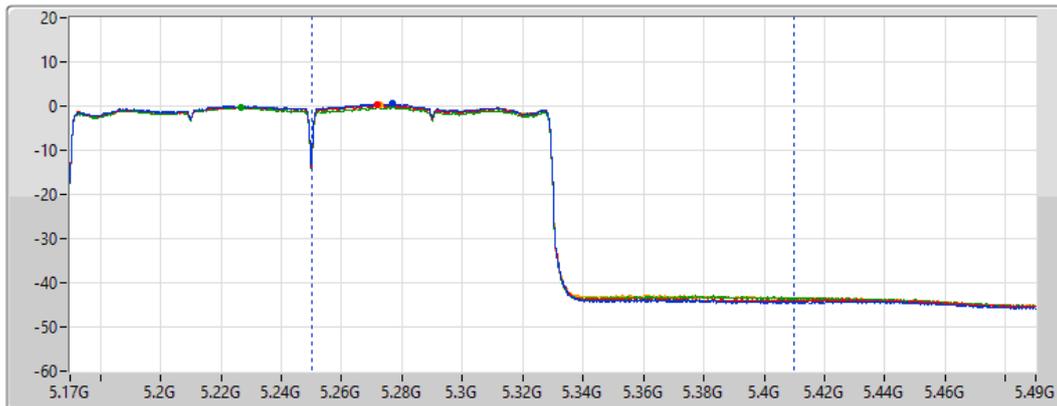
RBW
1MHz

VBW
3MHz

Sweep Time
20ms

Detector Type
RMS

CP BW
160MHz



Port 1 

Port 2 

Port 3 

Port 4 

Sum= Total Power
PX=Port X

Sum(dBm)	P1(dBm)	P2(dBm)	P3(dBm)	P4(dBm)
23.86	18.08	17.84	17.36	18.03



**For non beamforming
Summary**

Mode	PD (dBm/RBW)
5.15-5.25GHz	-
802.11a_Nss1,(6Mbps)_4TX	15.03
5.25-5.35GHz	-
802.11a_Nss1,(6Mbps)_4TX	9.08
5.47-5.725GHz	-
802.11a_Nss1,(6Mbps)_4TX	9.05
5.725-5.85GHz	-
802.11a_Nss1,(6Mbps)_4TX	15.59

RBW = 500kHz for 5.725-5.85GHz band / 1MHz for other band;

Result

Mode	Result	DG (dBi)	Port 1 (dBm/RBW)	Port 2 (dBm/RBW)	Port 3 (dBm/RBW)	Port 4 (dBm/RBW)	PD (dBm/RBW)	PD Limit (dBm/RBW)
802.11a_Nss1,(6Mbps)_4TX	-	-	-	-	-	-	-	-
5180MHz	Pass	7.86	9.25	8.92	8.77	9.26	14.97	15.14
5200MHz	Pass	7.86	9.26	8.76	8.89	9.28	14.96	15.14
5240MHz	Pass	7.86	9.15	8.85	8.96	9.52	15.03	15.14
5260MHz	Pass	7.91	3.29	3.09	3.05	3.32	9.08	9.09
5300MHz	Pass	7.91	3.24	2.95	2.83	3.19	8.92	9.09
5320MHz	Pass	7.91	3.26	3.13	3.08	3.34	9.08	9.09
5500MHz	Pass	7.90	3.40	3.25	2.41	3.16	9.03	9.10
5580MHz	Pass	7.90	3.29	3.40	3.03	3.01	9.05	9.10
5700MHz	Pass	7.90	3.39	3.21	2.92	2.85	9.02	9.10
5720MHz Straddle 5.47-5.725GHz	Pass	7.90	3.35	3.32	2.91	2.84	9.04	9.10
5720MHz Straddle 5.725-5.85GHz	Pass	7.87	1.70	1.12	1.26	1.20	7.31	28.13
5745MHz	Pass	7.87	9.70	9.81	9.41	9.10	15.43	28.13
5785MHz	Pass	7.87	9.88	10.04	9.39	9.41	15.59	28.13
5825MHz	Pass	7.87	9.95	9.85	9.05	9.32	15.43	28.13

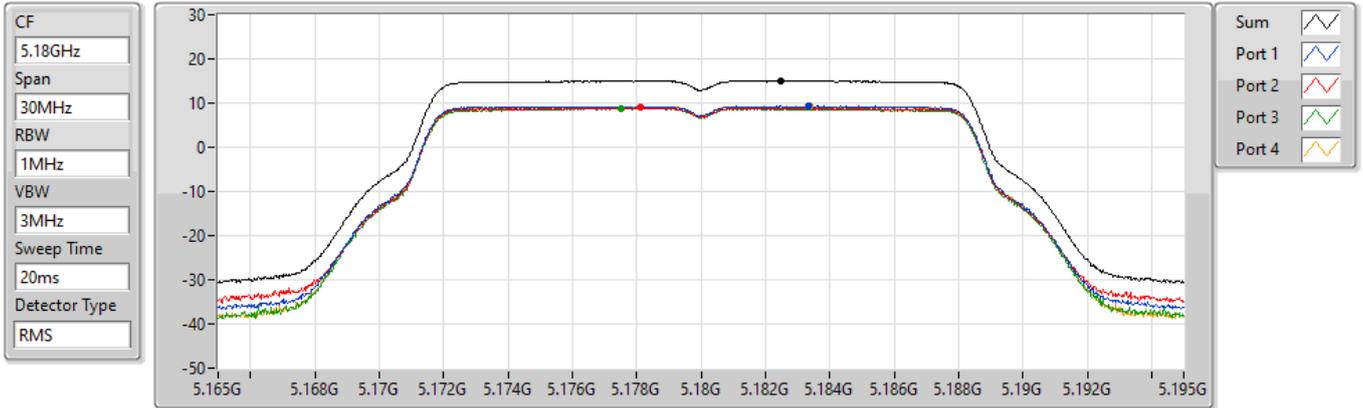
DG = Directional Gain; RBW = 500kHz for 5.725-5.85GHz band / 1MHz for other band;
 PD = trace bin-by-bin of each transmits port summing can be performed maximum power density; Port X = Port X Power Density;

802.11a_Nss1,(6Mbps)_4TX

PSD

5180MHz

16/06/2022



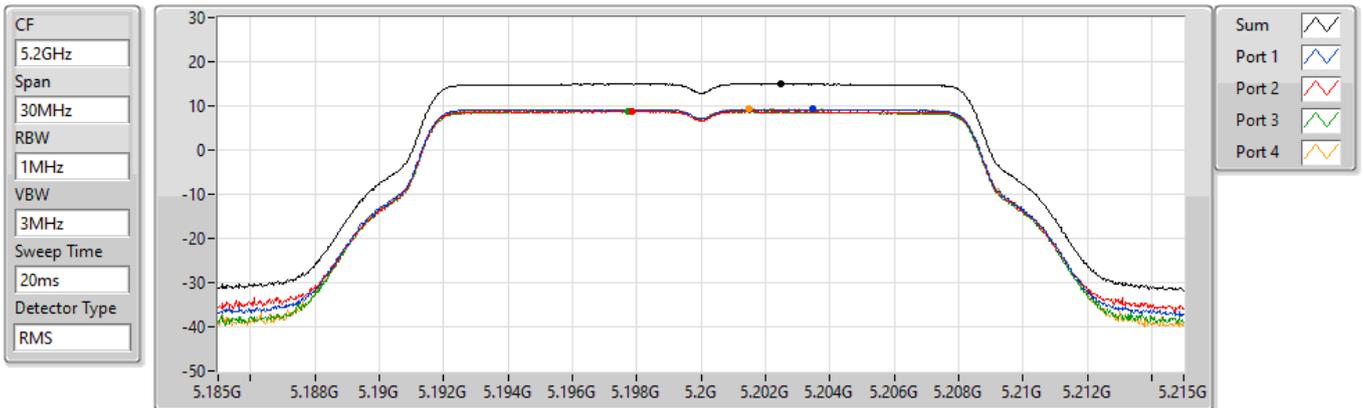
Sum	PD	Port 1	Port 2	Port 3	Port 4
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
14.97	14.97	9.25	8.92	8.77	9.26

802.11a_Nss1,(6Mbps)_4TX

PSD

5200MHz

16/06/2022



Sum	PD	Port 1	Port 2	Port 3	Port 4
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
14.96	14.96	9.26	8.76	8.89	9.28

802.11a_Nss1,(6Mbps)_4TX

PSD

5240MHz

16/06/2022

CF
5.24GHz

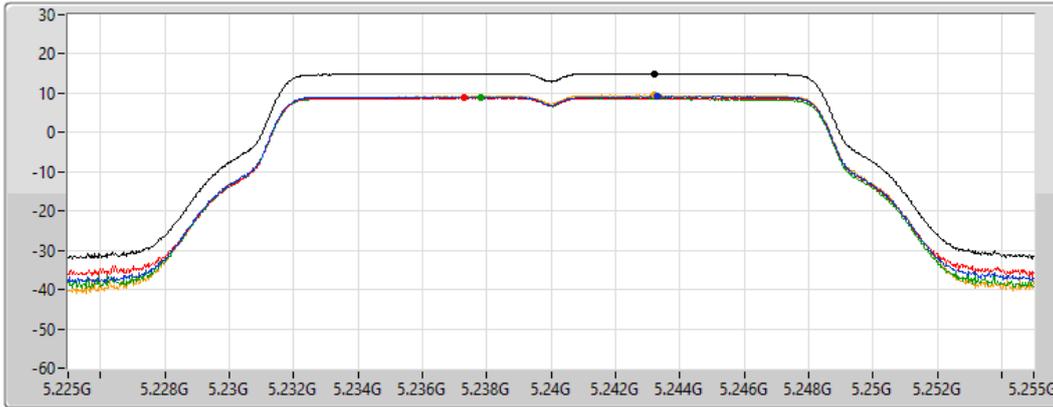
Span
30MHz

RBW
1MHz

VBW
3MHz

Sweep Time
20ms

Detector Type
RMS



Sum 

Port 1 

Port 2 

Port 3 

Port 4 

Sum	PD	Port 1	Port 2	Port 3	Port 4
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
15.03	15.03	9.15	8.85	8.96	9.52

802.11a_Nss1,(6Mbps)_4TX

PSD

5260MHz

16/06/2022

CF
5.26GHz

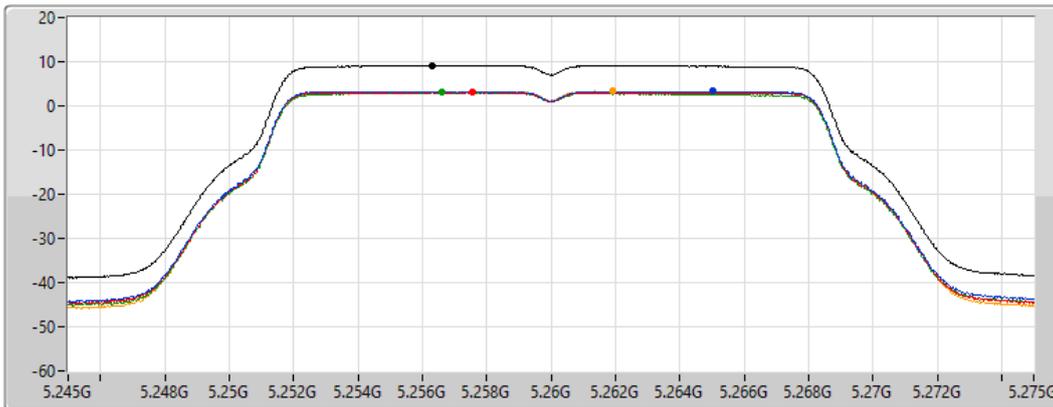
Span
30MHz

RBW
1MHz

VBW
3MHz

Sweep Time
20ms

Detector Type
RMS



Sum 

Port 1 

Port 2 

Port 3 

Port 4 

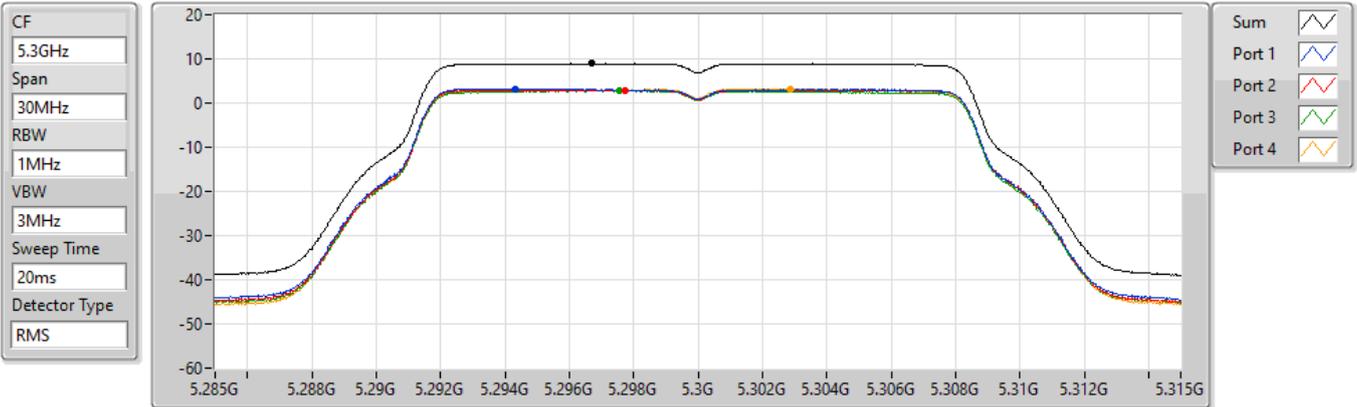
Sum	PD	Port 1	Port 2	Port 3	Port 4
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
9.08	9.08	3.29	3.09	3.05	3.32

802.11a_Nss1,(6Mbps)_4TX

PSD

5300MHz

16/06/2022



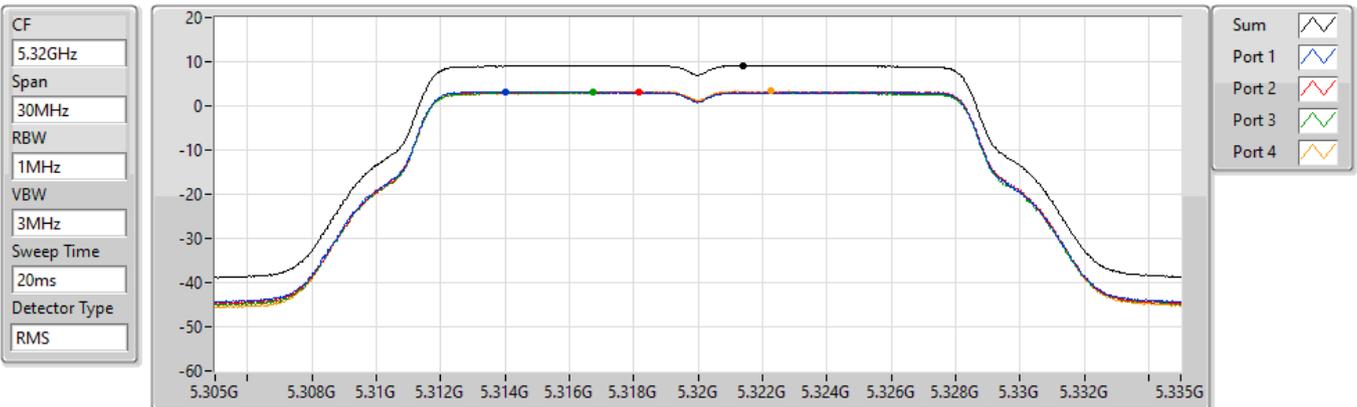
Sum	PD	Port 1	Port 2	Port 3	Port 4
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
8.92	8.92	3.24	2.95	2.83	3.19

802.11a_Nss1,(6Mbps)_4TX

PSD

5320MHz

16/06/2022



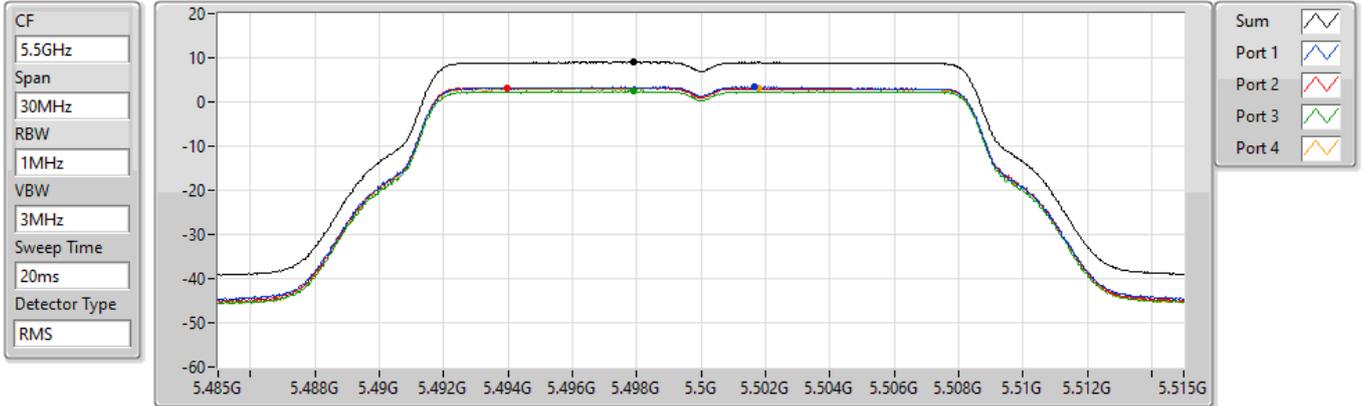
Sum	PD	Port 1	Port 2	Port 3	Port 4
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
9.08	9.08	3.26	3.13	3.08	3.34

802.11a_Nss1,(6Mbps)_4TX

PSD

5500MHz

30/06/2022



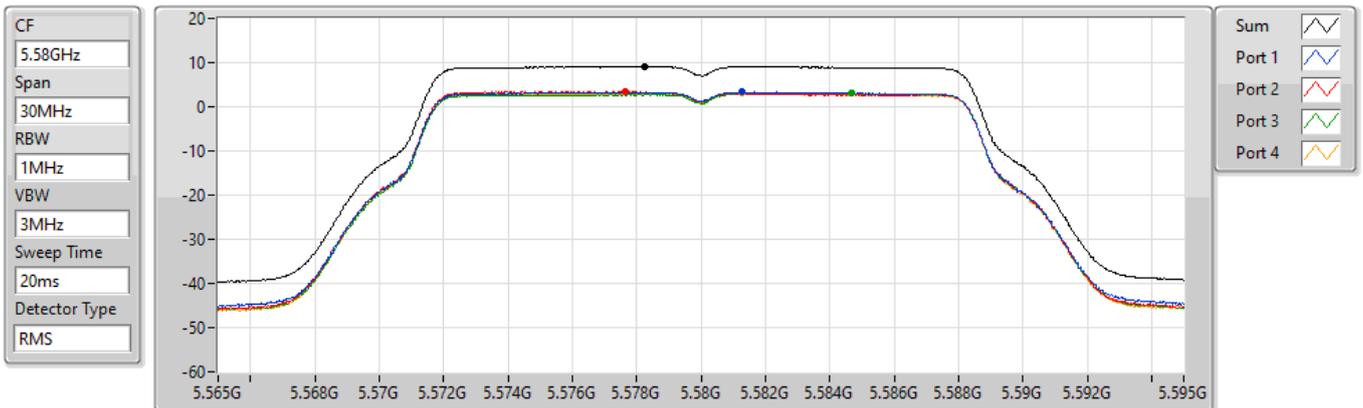
Sum	PD	Port 1	Port 2	Port 3	Port 4
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
9.03	9.03	3.40	3.25	2.41	3.16

802.11a_Nss1,(6Mbps)_4TX

PSD

5580MHz

30/06/2022



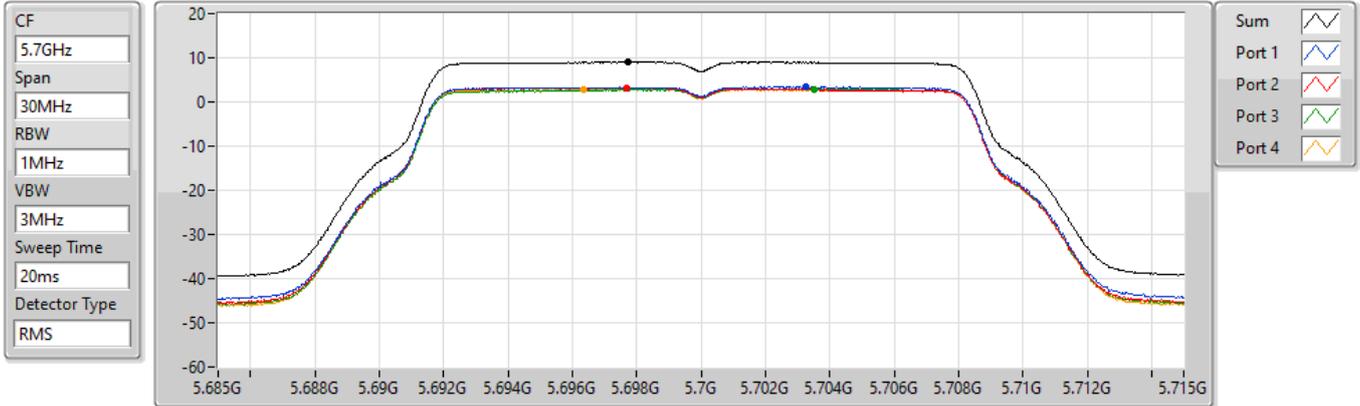
Sum	PD	Port 1	Port 2	Port 3	Port 4
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
9.05	9.05	3.29	3.40	3.03	3.01

802.11a_Nss1,(6Mbps)_4TX

PSD

5700MHz

30/06/2022

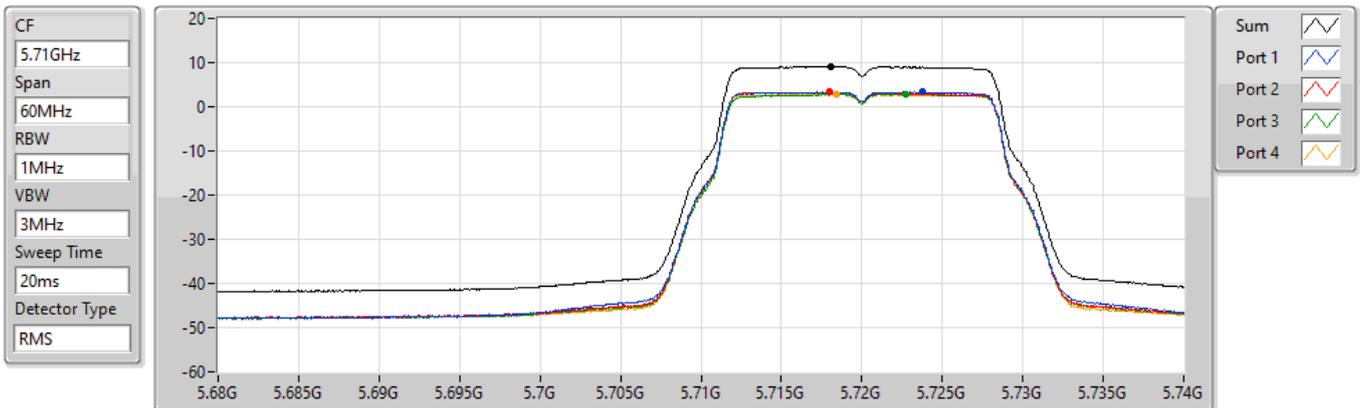


802.11a_Nss1,(6Mbps)_4TX

PSD

5720MHz Straddle 5.47-5.725GHz

30/06/2022

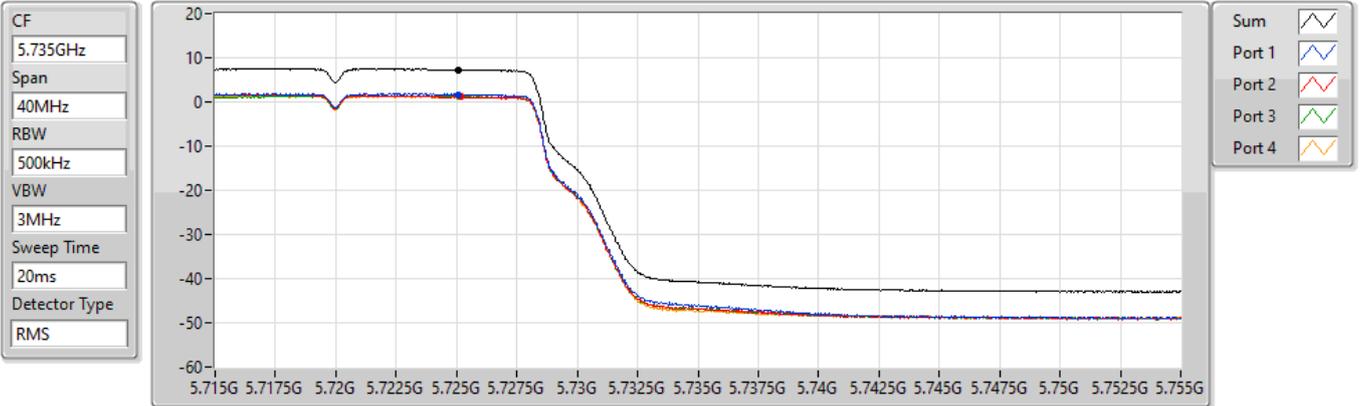


802.11a_Nss1,(6Mbps)_4TX

PSD

5720MHz Straddle 5.725-5.85GHz

30/06/2022



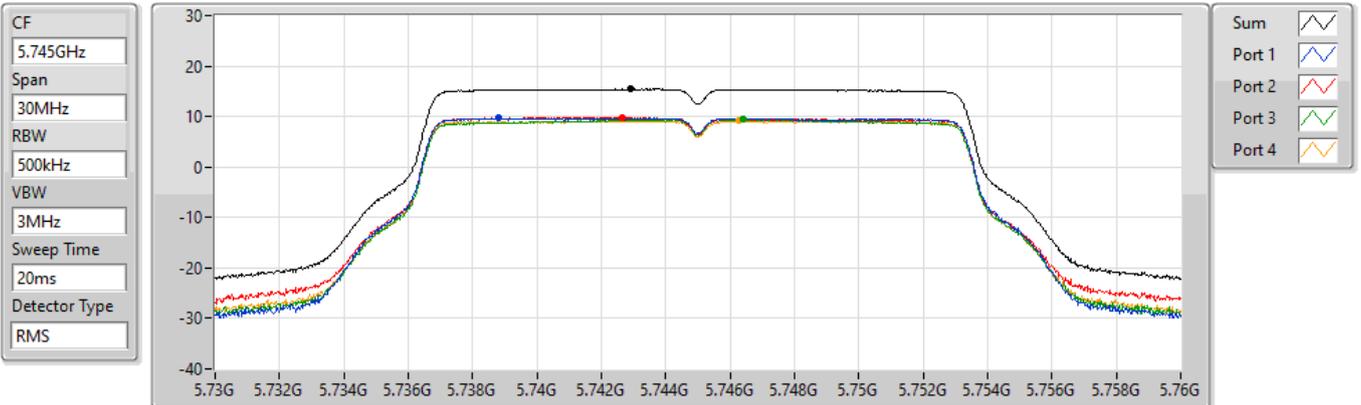
Sum	PD	Port 1	Port 2	Port 3	Port 4
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
7.31	7.31	1.70	1.12	1.26	1.20

802.11a_Nss1,(6Mbps)_4TX

PSD

5745MHz

16/06/2022



Sum	PD	Port 1	Port 2	Port 3	Port 4
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
15.43	15.43	9.70	9.81	9.41	9.10

802.11a_Nss1,(6Mbps)_4TX

PSD

5785MHz

16/06/2022

CF
5.785GHz

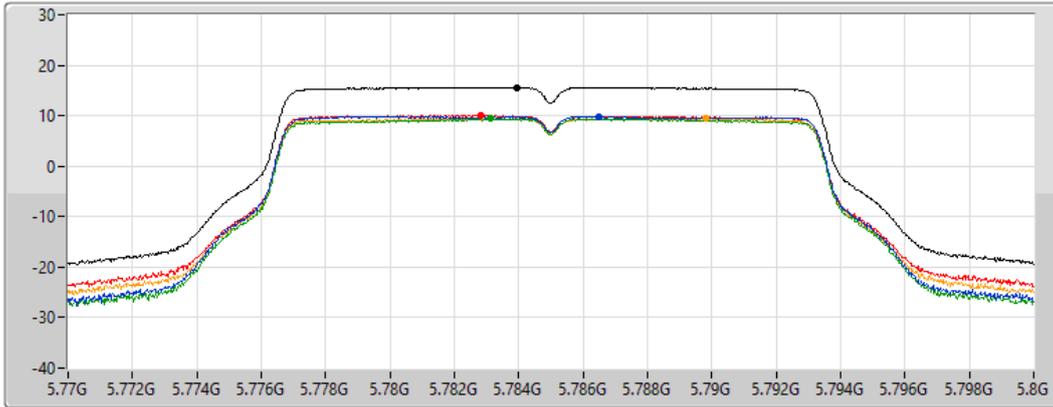
Span
30MHz

RBW
500kHz

VBW
3MHz

Sweep Time
20ms

Detector Type
RMS



Sum 

Port 1 

Port 2 

Port 3 

Port 4 

Sum	PD	Port 1	Port 2	Port 3	Port 4
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
15.59	15.59	9.88	10.04	9.39	9.41

802.11a_Nss1,(6Mbps)_4TX

PSD

5825MHz

16/06/2022

CF
5.825GHz

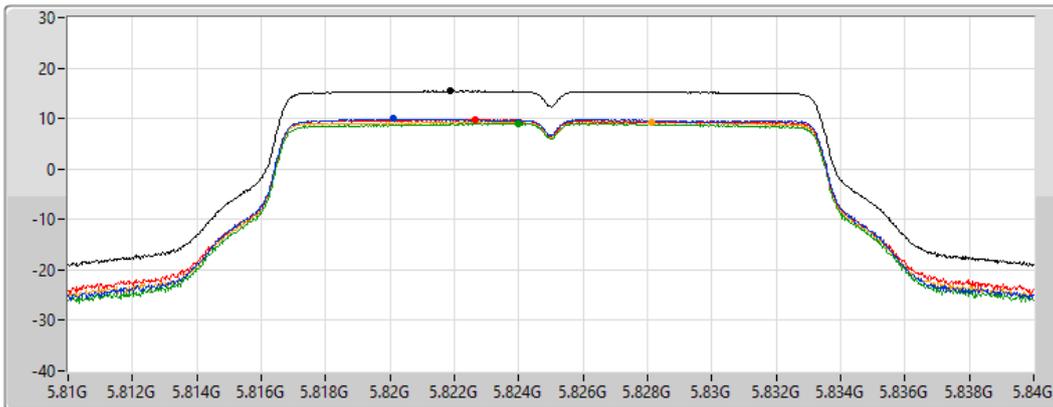
Span
30MHz

RBW
500kHz

VBW
3MHz

Sweep Time
20ms

Detector Type
RMS



Sum 

Port 1 

Port 2 

Port 3 

Port 4 

Sum	PD	Port 1	Port 2	Port 3	Port 4
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
15.43	15.43	9.95	9.85	9.05	9.32

**For beamforming
For 4T1S
Summary**

Mode	PD (dBm/RBW)
5.15-5.25GHz	-
802.11ax HEW20-BF_Nss1,(MCS0)_4TX	14.79
802.11ax HEW40-BF_Nss1,(MCS0)_4TX	12.09
802.11ax HEW80-BF_Nss1,(MCS0)_4TX	8.89
802.11ax HEW160-BF_Nss1,(MCS0)_4TX	2.43
5.25-5.35GHz	-
802.11ax HEW20-BF_Nss1,(MCS0)_4TX	8.77
802.11ax HEW40-BF_Nss1,(MCS0)_4TX	5.96
802.11ax HEW80-BF_Nss1,(MCS0)_4TX	2.92
802.11ax HEW160-BF_Nss1,(MCS0)_4TX	2.76
5.47-5.725GHz	-
802.11ax HEW20-BF_Nss1,(MCS0)_4TX	8.70
802.11ax HEW40-BF_Nss1,(MCS0)_4TX	6.02
802.11ax HEW80-BF_Nss1,(MCS0)_4TX	2.99
802.11ax HEW160-BF_Nss1,(MCS0)_4TX	0.50
5.725-5.85GHz	-
802.11ax HEW20-BF_Nss1,(MCS0)_4TX	13.34
802.11ax HEW40-BF_Nss1,(MCS0)_4TX	10.63
802.11ax HEW80-BF_Nss1,(MCS0)_4TX	7.37

RBW = 500kHz for 5.725-5.85GHz band / 1MHz for other band;

Result

Mode	Result	DG (dBi)	Port 1 (dBm/RBW)	Port 2 (dBm/RBW)	Port 3 (dBm/RBW)	Port 4 (dBm/RBW)	PD (dBm/RBW)	PD Limit (dBm/RBW)
802.11ax HEW20-BF_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-
5180MHz	Pass	7.86	8.94	8.70	8.49	8.87	14.73	15.14
5200MHz	Pass	7.86	8.90	8.73	8.39	8.82	14.68	15.14
5240MHz	Pass	7.86	8.98	8.86	8.41	8.92	14.79	15.14
5260MHz	Pass	7.91	3.13	2.84	2.42	2.87	8.77	9.09
5300MHz	Pass	7.91	2.97	3.01	2.35	2.82	8.73	9.09
5320MHz	Pass	7.91	2.88	2.81	2.39	2.72	8.65	9.09
5500MHz	Pass	7.90	2.67	3.12	2.29	2.50	8.63	9.10
5580MHz	Pass	7.90	2.87	3.15	2.65	2.51	8.70	9.10
5700MHz	Pass	7.90	2.99	2.91	2.61	2.51	8.66	9.10
5720MHz Straddle 5.47-5.725GHz	Pass	7.90	2.51	2.64	2.23	2.30	8.34	9.10
5720MHz Straddle 5.725-5.85GHz	Pass	7.87	0.88	0.95	0.57	0.65	6.70	28.13
5745MHz	Pass	7.87	7.56	7.71	7.17	7.34	13.34	28.13
5785MHz	Pass	7.87	7.43	7.74	6.89	7.41	13.31	28.13
5825MHz	Pass	7.87	7.36	7.56	6.70	7.21	13.16	28.13
802.11ax HEW40-BF_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-
5190MHz	Pass	7.86	6.37	6.23	5.86	6.18	12.09	15.14
5230MHz	Pass	7.86	6.05	5.95	5.59	5.99	11.87	15.14
5270MHz	Pass	7.91	0.24	-0.11	-0.62	0.09	5.83	9.09
5310MHz	Pass	7.91	0.33	0.14	-0.53	0.18	5.96	9.09
5510MHz	Pass	7.90	0.32	0.51	-0.32	-0.28	6.02	9.10
5550MHz	Pass	7.90	0.17	0.37	-0.24	-0.31	5.89	9.10
5670MHz	Pass	7.90	-0.15	0.07	-0.20	-0.21	5.76	9.10
5710MHz Straddle 5.47-5.725GHz	Pass	7.90	-0.16	0.21	-0.25	-0.19	5.81	9.10
5710MHz Straddle 5.725-5.85GHz	Pass	7.87	-2.06	-1.87	-2.14	-2.09	3.91	28.13
5755MHz	Pass	7.87	4.61	4.66	4.51	4.33	10.43	28.13
5795MHz	Pass	7.87	4.75	4.92	4.58	4.66	10.63	28.13
802.11ax HEW80-BF_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-
5210MHz	Pass	7.86	3.16	3.01	2.62	2.97	8.89	15.14
5290MHz	Pass	7.91	-2.66	-2.96	-3.29	-3.08	2.92	9.09
5530MHz	Pass	7.90	-2.70	-2.66	-3.46	-3.05	2.99	9.10
5610MHz	Pass	7.90	-3.30	-2.86	-3.41	-3.50	2.64	9.10
5690MHz Straddle 5.47-5.725GHz	Pass	7.90	-3.42	-3.17	-3.57	-3.75	2.44	9.10
5690MHz Straddle 5.725-5.85GHz	Pass	7.87	-5.30	-5.49	-5.61	-5.86	0.38	28.13
5775MHz	Pass	7.87	1.77	1.61	1.71	0.83	7.37	28.13
802.11ax HEW160-BF_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-
5250MHz Straddle 5.15-5.25GHz	Pass	7.86	-3.50	-3.47	-3.76	-3.45	2.43	15.14
5250MHz Straddle 5.25-5.35GHz	Pass	7.91	-2.95	-3.23	-3.68	-2.90	2.76	9.09
5570MHz	Pass	7.90	-5.40	-5.20	-5.39	-5.57	0.50	9.10

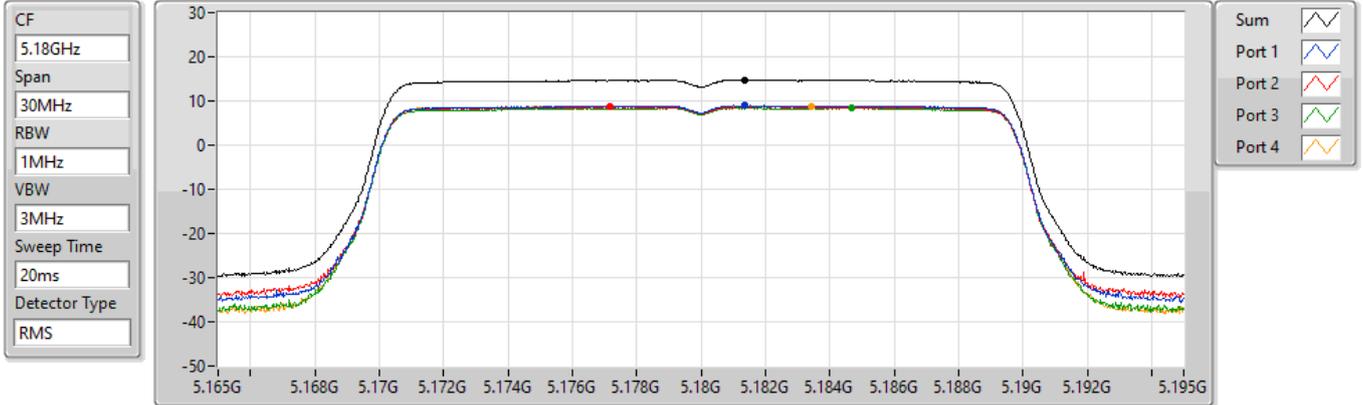
DG = Directional Gain; RBW = 500kHz for 5.725-5.85GHz band / 1MHz for other band;
 PD = trace bin-by-bin of each transmits port summing can be performed maximum power density; Port X = Port X Power Density;

802.11ax HEW20-BF_Nss1,(MCS0)_4TX

PSD

5180MHz

30/06/2022



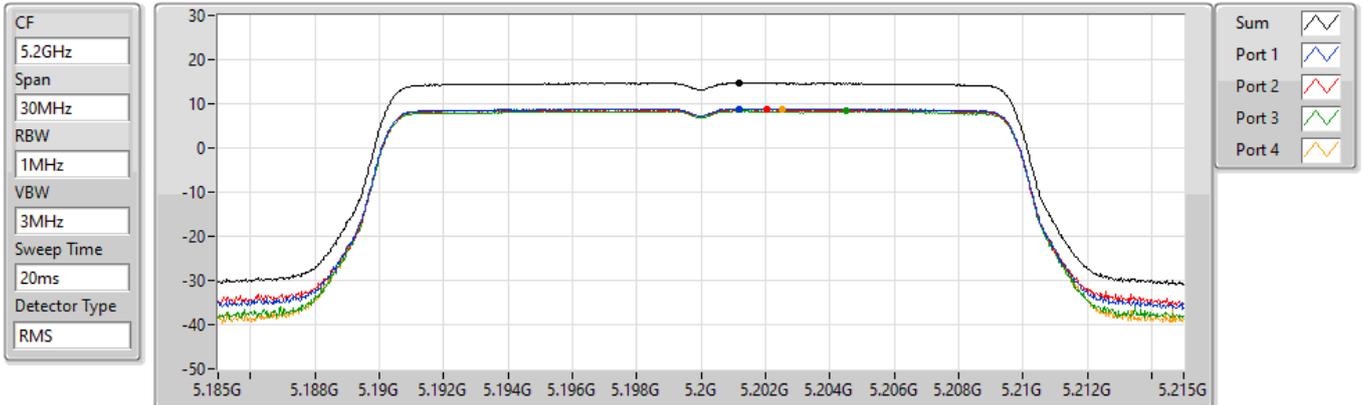
Sum	PD	Port 1	Port 2	Port 3	Port 4
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
14.73	14.73	8.94	8.70	8.49	8.87

802.11ax HEW20-BF_Nss1,(MCS0)_4TX

PSD

5200MHz

30/06/2022



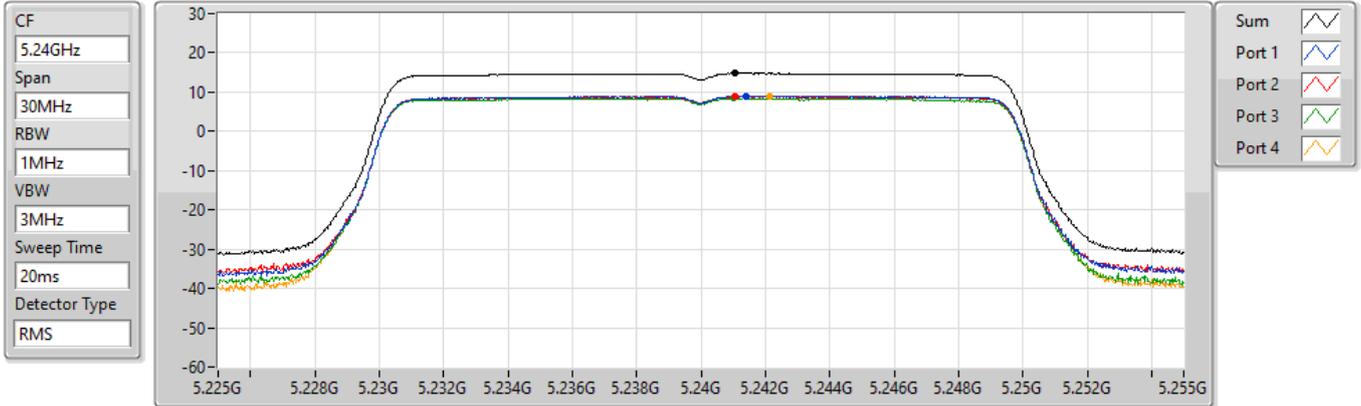
Sum	PD	Port 1	Port 2	Port 3	Port 4
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
14.68	14.68	8.90	8.73	8.39	8.82

802.11ax HEW20-BF_Nss1,(MCS0)_4TX

PSD

5240MHz

30/06/2022



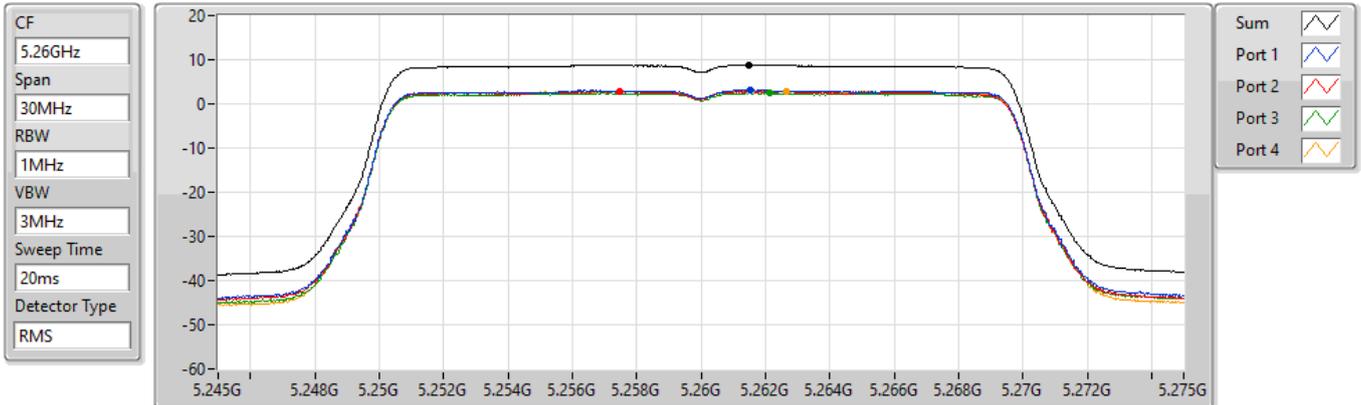
Sum	PD	Port 1	Port 2	Port 3	Port 4
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
14.79	14.79	8.98	8.86	8.41	8.92

802.11ax HEW20-BF_Nss1,(MCS0)_4TX

PSD

5260MHz

16/06/2022



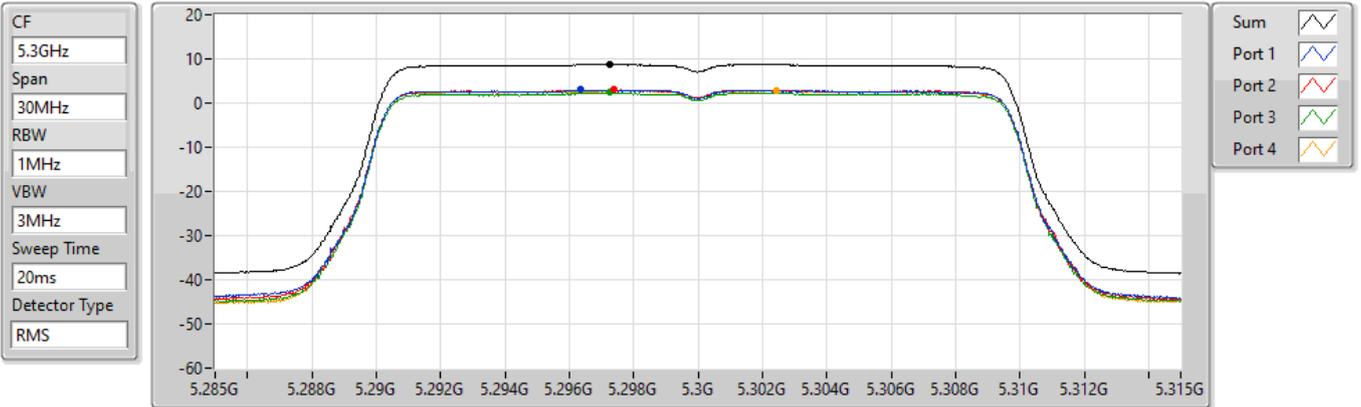
Sum	PD	Port 1	Port 2	Port 3	Port 4
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
8.77	8.77	3.13	2.84	2.42	2.87

802.11ax HEW20-BF_Nss1,(MCS0)_4TX

PSD

5300MHz

16/06/2022



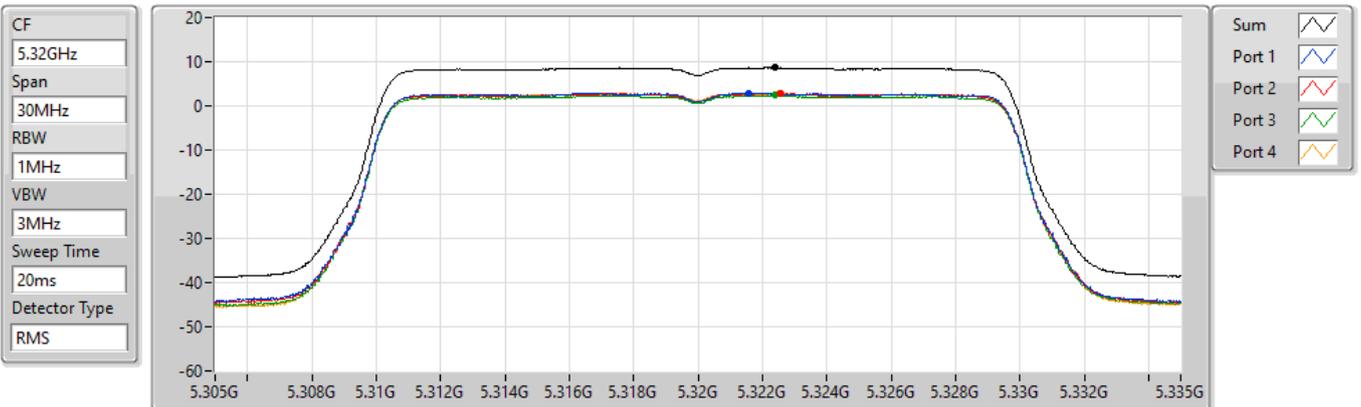
Sum	PD	Port 1	Port 2	Port 3	Port 4
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
8.73	8.73	2.97	3.01	2.35	2.82

802.11ax HEW20-BF_Nss1,(MCS0)_4TX

PSD

5320MHz

16/06/2022



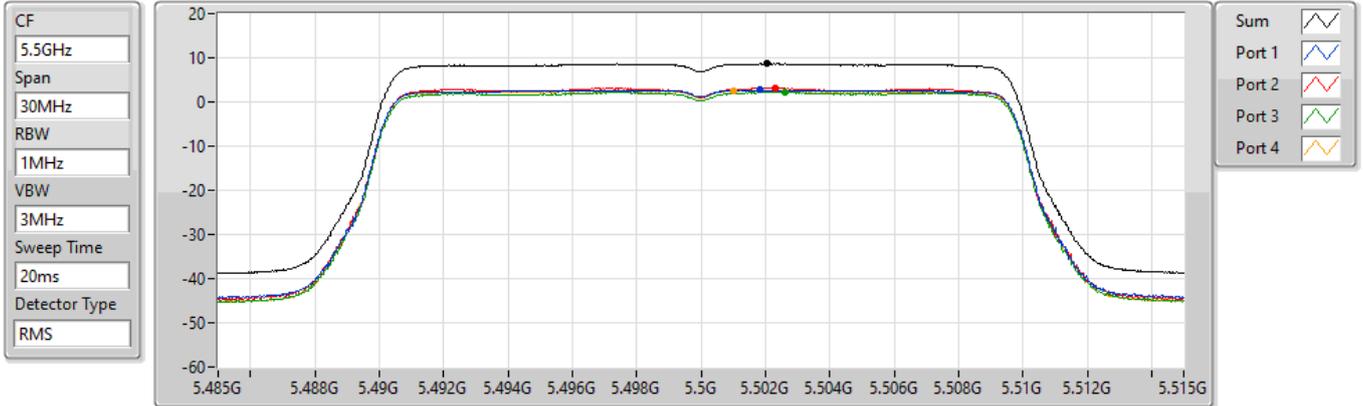
Sum	PD	Port 1	Port 2	Port 3	Port 4
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
8.65	8.65	2.88	2.81	2.39	2.72

802.11ax HEW20-BF_Nss1,(MCS0)_4TX

PSD

5500MHz

30/06/2022

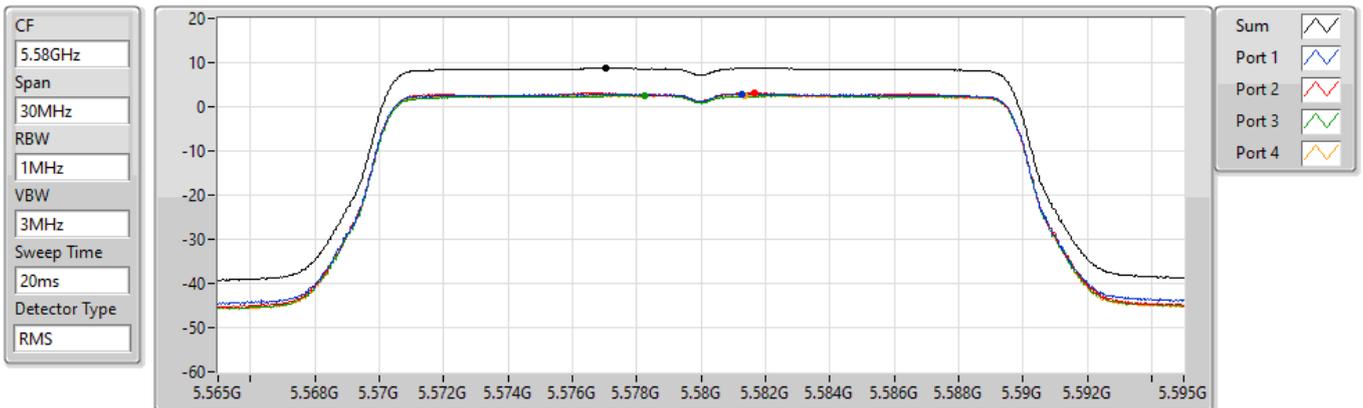


802.11ax HEW20-BF_Nss1,(MCS0)_4TX

PSD

5580MHz

30/06/2022

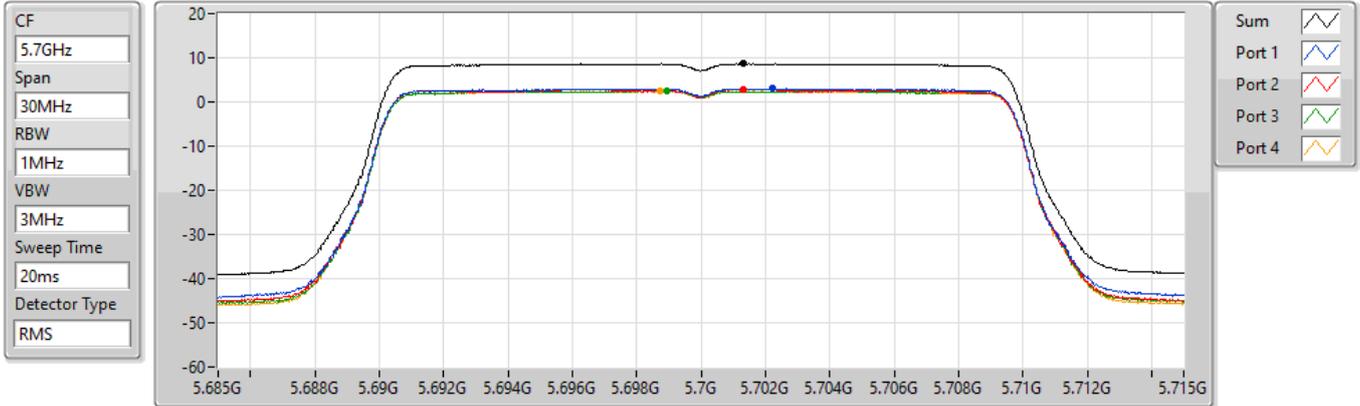


802.11ax HEW20-BF_Nss1,(MCS0)_4TX

PSD

5700MHz

30/06/2022



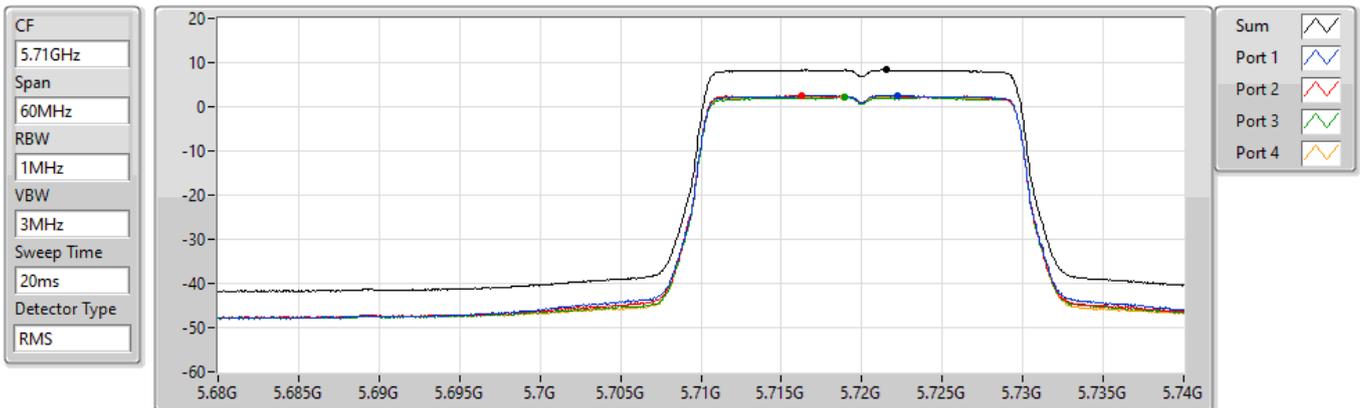
Sum	PD	Port 1	Port 2	Port 3	Port 4
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
8.66	8.66	2.99	2.91	2.61	2.51

802.11ax HEW20-BF_Nss1,(MCS0)_4TX

PSD

5720MHz Straddle 5.47-5.725GHz

30/06/2022



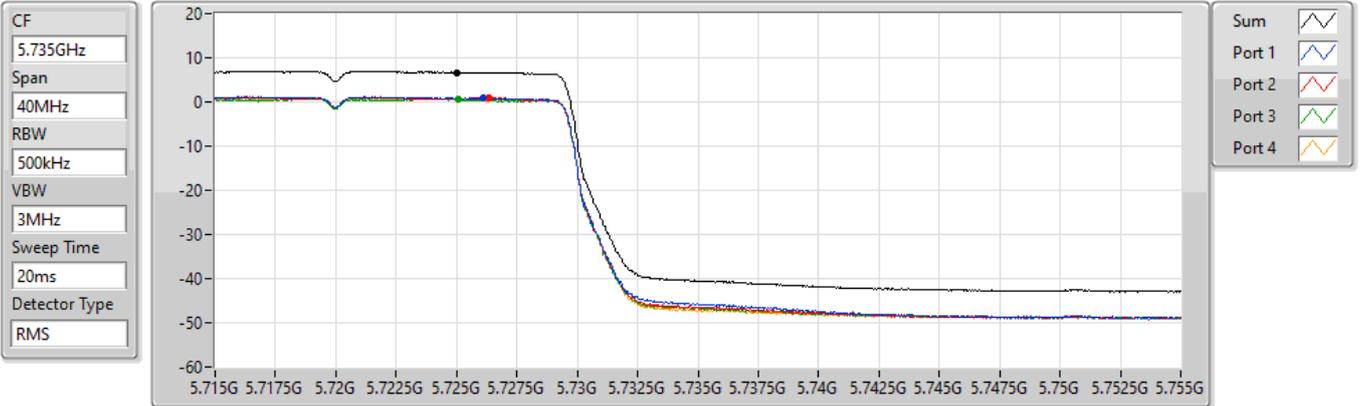
Sum	PD	Port 1	Port 2	Port 3	Port 4
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
8.34	8.34	2.51	2.64	2.23	2.30

802.11ax HEW20-BF_Nss1,(MCS0)_4TX

PSD

5720MHz Straddle 5.725-5.85GHz

30/06/2022



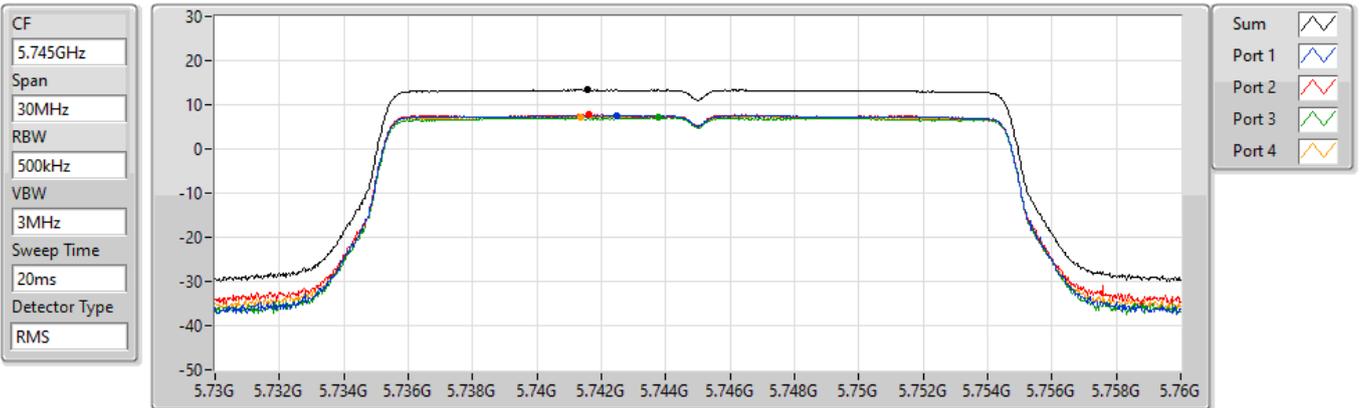
Sum	PD	Port 1	Port 2	Port 3	Port 4
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
6.70	6.70	0.88	0.95	0.57	0.65

802.11ax HEW20-BF_Nss1,(MCS0)_4TX

PSD

5745MHz

30/06/2022



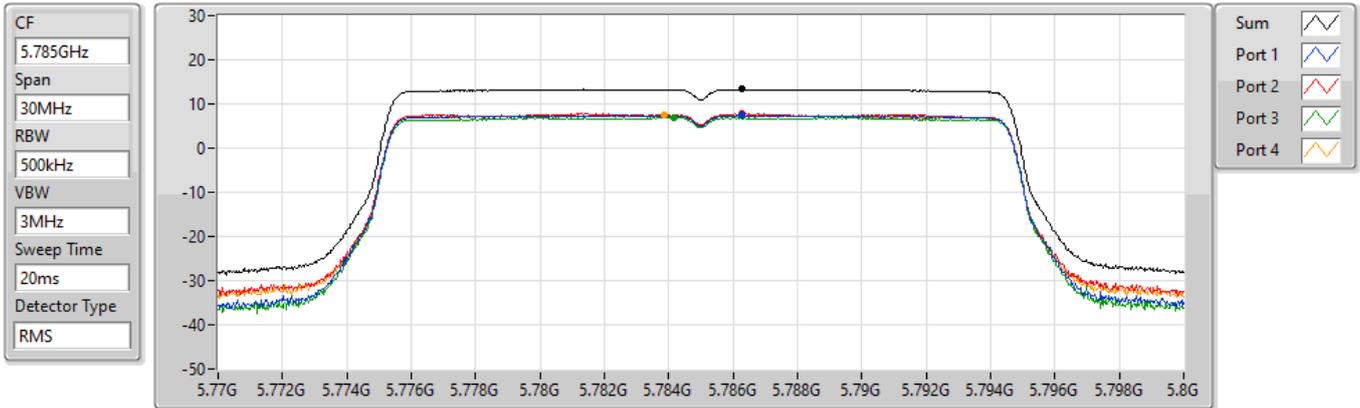
Sum	PD	Port 1	Port 2	Port 3	Port 4
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
13.34	13.34	7.56	7.71	7.17	7.34

802.11ax HEW20-BF_Nss1,(MCS0)_4TX

PSD

5785MHz

30/06/2022



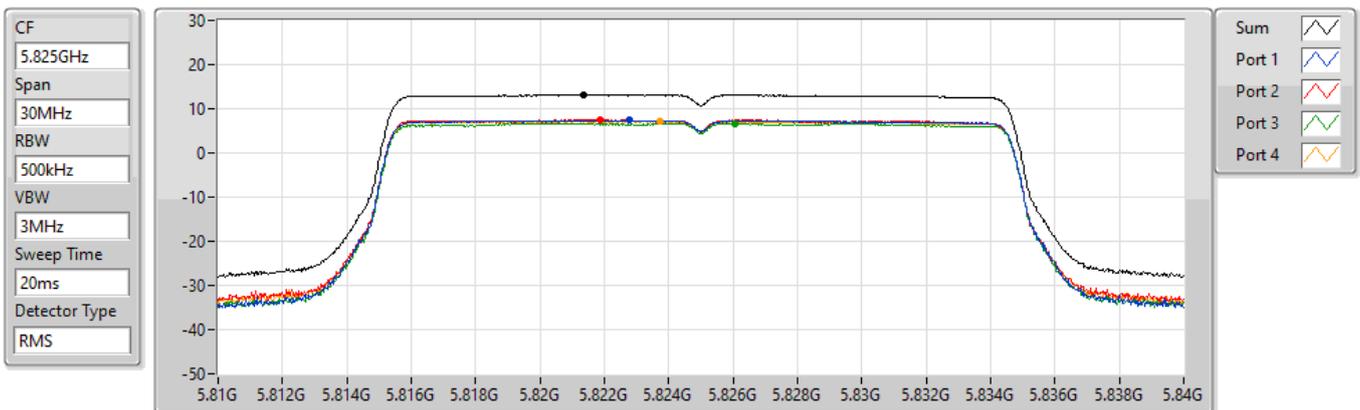
Sum	PD	Port 1	Port 2	Port 3	Port 4
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
13.31	13.31	7.43	7.74	6.89	7.41

802.11ax HEW20-BF_Nss1,(MCS0)_4TX

PSD

5825MHz

30/06/2022



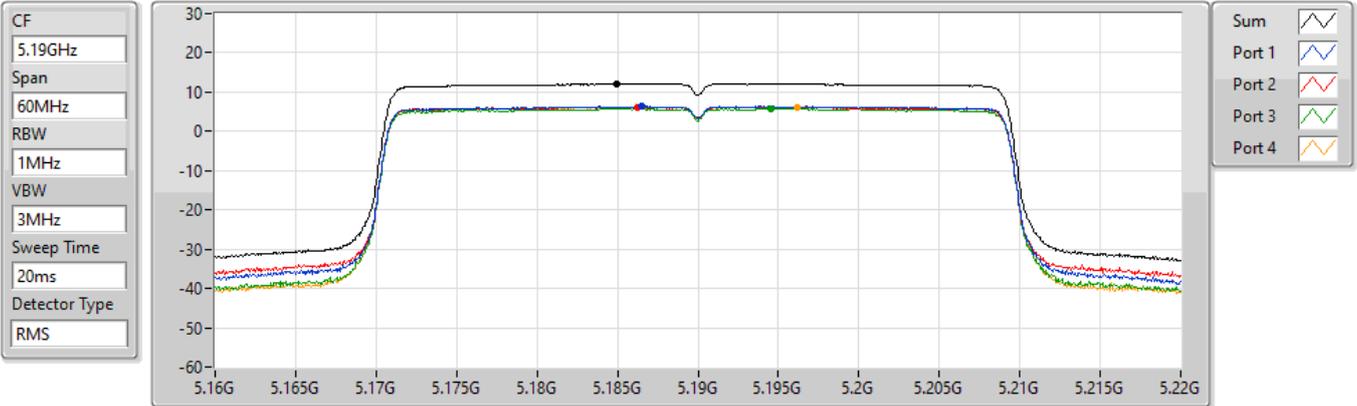
Sum	PD	Port 1	Port 2	Port 3	Port 4
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
13.16	13.16	7.36	7.56	6.70	7.21

802.11ax HEW40-BF_Nss1,(MCS0)_4TX

PSD

5190MHz

30/06/2022



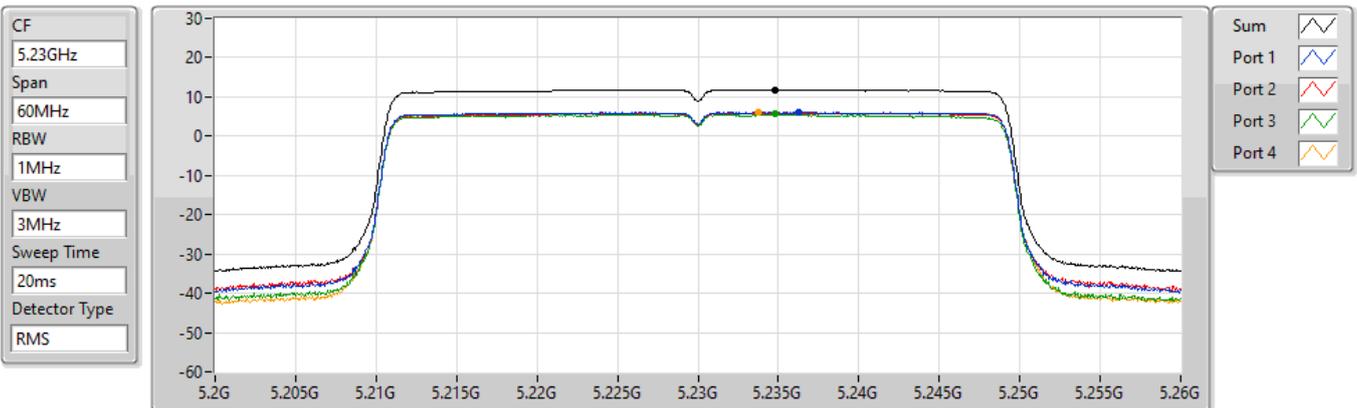
Sum	PD	Port 1	Port 2	Port 3	Port 4
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
12.09	12.09	6.37	6.23	5.86	6.18

802.11ax HEW40-BF_Nss1,(MCS0)_4TX

PSD

5230MHz

30/06/2022



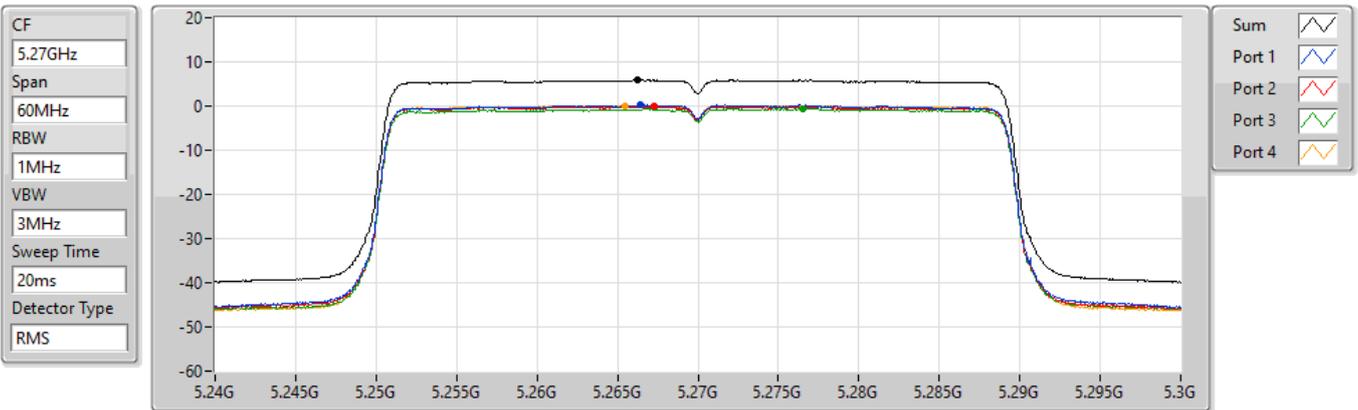
Sum	PD	Port 1	Port 2	Port 3	Port 4
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
11.87	11.87	6.05	5.95	5.59	5.99

802.11ax HEW40-BF_Nss1,(MCS0)_4TX

PSD

5270MHz

16/06/2022



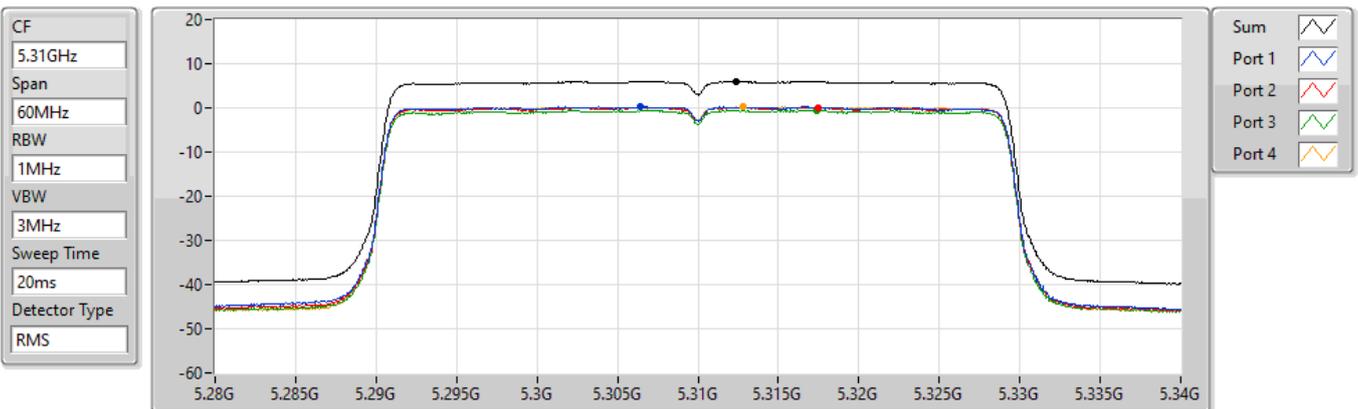
Sum	PD	Port 1	Port 2	Port 3	Port 4
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
5.83	5.83	0.24	-0.11	-0.62	0.09

802.11ax HEW40-BF_Nss1,(MCS0)_4TX

PSD

5310MHz

16/06/2022



Sum	PD	Port 1	Port 2	Port 3	Port 4
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
5.96	5.96	0.33	0.14	-0.53	0.18