

Report No.: FR101539-01



RADIO TEST REPORT

FCC ID

: 2ABLK-GM2037

Equipment

: GigaSpire Mesh BLAST u6me

Brand Name

: Calix

Model Name

: u6me

Applicant

: Calix Inc.

1035 N. McDowell Blvd. Petaluma, CA94954 U.S.A.

Manufacturer : Calix Inc.

1035 N. McDowell Blvd. Petaluma, CA94954 U.S.A.

Standard

: 47 CFR FCC Part 15.407

The product was received on Nov. 11, 2021, and testing was started from Nov. 11, 2021 and completed on Dec. 08, 2021. 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 variant 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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Report Template No.: CB-A12 1 Ver1.4

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: Mar. 07, 2022

Report Version : 01

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Report Version : 01

History of this test report

Report No.: FR1O1539-01

Report No.	Version	Description	Issued Date
FR1O1539-01	01	Initial issue of report	Mar. 07, 2022

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Summary of Test Result

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Report Clause	Ref Std. Clause	Test Items	Result (PASS/FAIL)	Remark
1.1.2	15.203	Antenna Requirement	PASS	-
3.1	15.407(a)	Emission Bandwidth	PASS	-
3.2	15.407(a)	Maximum Output Power	PASS	-
3.3	15.407(a)	Power Spectral Density	PASS	-
3.4	15.407(b)	Unwanted Emissions	PASS	-

Declaration of Conformity:

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

Comments and Explanations:

The declared of product specification for EUT presented in the report are provided by the manufacturer, and the manufacturer takes all the responsibilities for the accuracy of product specification.

Reviewed by: Sam Chen

Report Producer: Sandy Chuang

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1 General Description

1.1 Information

1.1.1 RF General Information

Frequency Range (MHz)	IEEE Std. 802.11	Ch. Frequency (MHz)	Channel Number
5250-5350	a, n (HT20), ac (VHT20),	5260-5320	52-64 [4]
5470-5725	ax (HEW20)	5500-5700	100-140 [11]
5250-5350	n (HT40), ac (VHT40),	5270-5310	54-62 [2]
5470-5725	ax (HEW40)	5510-5670	102-134 [5]
5250-5350	ac (VHT80), ax (HEW80)	5290	58 [1]
5470-5725	ac (VH100), ax (HEVV00)	5530-5610	106-122 [2]

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Band	Mode	BWch (MHz)	Nant
5.25-5.35GHz	802.11a	20	2TX
5.25-5.35GHz	802.11n HT20	20	2TX
5.25-5.35GHz	802.11n HT20-BF	20	2TX
5.25-5.35GHz	802.11ac VHT20	20	2TX
5.25-5.35GHz	802.11ac VHT20-BF	20	2TX
5.25-5.35GHz	802.11ax HEW20	20	2TX
5.25-5.35GHz	802.11ax HEW20-BF	20	2TX
5.25-5.35GHz	802.11n HT40	40	2TX
5.25-5.35GHz	802.11n HT40-BF	40	2TX
5.25-5.35GHz	802.11ac VHT40	40	2TX
5.25-5.35GHz	802.11ac VHT40-BF	40	2TX
5.25-5.35GHz	802.11ax HEW40	40	2TX
5.25-5.35GHz	802.11ax HEW40-BF	40	2TX
5.25-5.35GHz	802.11ac VHT80	80	2TX
5.25-5.35GHz	802.11ac VHT80-BF	80	2TX
5.25-5.35GHz	802.11ax HEW80	80	2TX
5.25-5.35GHz	802.11ax HEW80-BF	80	2TX
5.47-5.725GHz	802.11a	20	2TX
5.47-5.725GHz	802.11n HT20	20	2TX
5.47-5.725GHz	802.11n HT20-BF	20	2TX
5.47-5.725GHz	802.11ac VHT20	20	2TX
5.47-5.725GHz	802.11ac VHT20-BF	20	2TX
5.47-5.725GHz	802.11ax HEW20	20	2TX
5.47-5.725GHz	802.11ax HEW20-BF	20	2TX
5.47-5.725GHz	802.11n HT40	40	2TX

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Band	Mode	BWch (MHz)	Nant
5.47-5.725GHz	802.11n HT40-BF	40	2TX
5.47-5.725GHz	802.11ac VHT40	40	2TX
5.47-5.725GHz	802.11ac VHT40-BF	40	2TX
5.47-5.725GHz	802.11ax HEW40	40	2TX
5.47-5.725GHz	802.11ax HEW40-BF	40	2TX
5.47-5.725GHz	802.11ac VHT80	80	2TX
5.47-5.725GHz	802.11ac VHT80-BF	80	2TX
5.47-5.725GHz	802.11ax HEW80	80	2TX
5.47-5.725GHz	802.11ax HEW80-BF	80	2TX

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Note:

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

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1.1.2 Antenna Information

		Port				Antenna		Gain
Ant.	WLAN 2.4GHz	WLAN 5GHz	WLAN 6GHz	Brand	Model Name	Type	Connector	(dBi)
1	1	1	-	GALTRONICS	02102140-07461-2	Dipole	U.FL	
2	2	2	-	GALTRONICS	02102140-07461-1	Dipole	U.FL	Noted
3	-	-	1	GALTRONICS	02102475-07461-2	Dipole	U.FL	Note1
4	-	-	2	GALTRONICS	02102475-07461-1	Dipole	U.FL	

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Note 1:

NOIC													
		Port			Antenna Gain (dB					Bi)			
Ant.	WLAN	WLAN	WLAN	WLAN		WLAN	5GHz			WLAN	6GHz		
	2.4GHz	5GHz		2.4GHz	UNII 1	UNII2A	UNII2C	UNII 3	UNII 5	UNII 6	UNII 7	UNII 8	
1	1	1	-	2.617	3.761	4.190	2.280	3.221	-	-	-	-	
2	2	2	-	2.626	3.600	3.240	2.670	3.333	-	-	-	-	
3	-	-	1	-	-	-	-	-	2.558	2.781	3.076	2.982	
4	-	-	2	-	-	-	-	-	3.076	3.246	3.429	3.347	

Note 2:

<For UNII 1 and UNII 3>

The directional gain is measured which follows the procedure of KDB 662911 D01. Directional gain information

Туре	Maximum Output Power	Power Spectral Density
Non-BF	Directional gain = Max.gain + array gain. For power measurements on IEEE 802.11 devices Array Gain = 0 dB (i.e., no array gain) for N ANT ≤ 4	$Directional Gain = 10 \cdot \log \begin{bmatrix} \sum_{j=1}^{N_{EM}} \left\{ \sum_{k=1}^{N_{EM}} g_{j,k} \right\}^{2} \\ N_{AbsT} \end{bmatrix}$
BF	$Directional Gain = 10 \cdot log \begin{bmatrix} \sum_{j=1}^{N_{st}} \left\{ \sum_{k=1}^{N_{str}} g_{j,k} \right\}^{2} \\ N_{ANT} \end{bmatrix}$	$Directional Gain = 10 \cdot \log \begin{bmatrix} \sum_{j=1}^{N_{H}} \left\{ \sum_{k=1}^{N_{eff}} g_{j,k} \right\}^{2} \\ N_{ANT} \end{bmatrix}$

Ex.

Directional Gain (NSS1) formula :

$$Directiona\ lGain\ = 10\ \cdot \log \left[\frac{\sum\limits_{j=1}^{N_{st}} \left\{ \sum\limits_{k=1}^{N_{stat}} \mathcal{Z}_{j,k} \right\}^2}{N_{ANT}} \right]$$

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

 $gj,k = (Nss1(g1,1) + Nss1(g1,2))^2$

 $DG = 10 \log[(Nss1(g1,1) + Nss1(g1,2) / N_{ANT}] => 10 \log[(10^{G1/20} + 10^{G2/20})^2 / N_{ANT}]$

Where;

G1 = Ant 1 Gain; G2 = Ant 2 Gain

2.4GHzDG = 5.632dBi

5 GHz U-NII-1 DG = 6.691 dBi 5 GHz U-NII-3 DG = 6.287 dBi

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Note 3:

<For UNII 2A and UNII2C>

The directional gain is measured which follows the procedure of KDB 662911 D03. The antenna report is provided in the operational description for this application.

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Directional Gain (dBi)						
	UNII2A	UNII2C				
2T1S	4.28	4.53				
2T2S	1.68	2.07				

Note 3: The above information was declared by manufacturer.

The EUT has four antennas.

For 2.4GHz function:

For IEEE 802.11 b/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/2RX)

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

Port 1 and Port 2 could transmit/receive simultaneously.

For 6GHz function:

For IEEE 802.11ax mode (2TX/2RX)

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

Port 1 and Port 2 could transmit/receive simultaneously.

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1.1.3 Mode Test Duty Cycle

Mode	DC	DCF(dB)	T(s)	VBW(Hz) ≥ 1/T
802.11a	0.955	0.2	1.98m	1k
802.11ax HEW20-BF	0.912	0.4	1.766m	1k
802.11ax HEW40-BF	0.923	0.35	1.766m	1k
802.11ax HEW80-BF	0.899	0.46	1.69m	1k

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Note:

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

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1.1.4 EUT Operational Condition

EUT Power Type	From Power Adapter						
	\boxtimes	With beamforming		Without beamforming			
Beamforming Function	The product has beamforming function for 11n/VHT/ax in 2.4GHz, 11n/ac/ax 5GHz and ax in 6GHz.						
Weather Band	\boxtimes	Without 5600~5650MHz					
TPC Function		With TPC		Without TPC			
Function		Outdoor P2M	\boxtimes	Indoor P2M			
runction		Fixed P2P		Client			
Test Software Version	For non-beamforming: QRCT V 4.0.00192.0 For beamforming: DOS V6.1.7601						

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Note: The above information was declared by manufacturer.

1.1.5 Table for EUT supports functions

Function	
AP Router	
Extender	

Note 1: After evaluating, AP Router was selected to test and record in the report.

Note 2: The above information was declared by manufacturer.

1.1.6 Table for Permissive Change

This product is an extension of original one reported under Sporton project number: FR1O1539AB Below is the table for the change of the product with respect to the original one.

Modifications	Performance Checking
	Emission Bandwidth
Adding UNII 2A and UNII 2C (5250~5350 MHz,	Maximum Conducted Output Power
5470~5725 MHz) for this device.	Peak Power Spectral Density
	4. Unwanted Emissions <above 1ghz=""></above>

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1.2 Applicable Standards

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

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- 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 D03 v01
- FCC KDB 412172 D01 v01r01

1.3 Testing Location Information

Testing Location Information

Test Lab. : Sporton International Inc. Hsinchu Laboratory

Hsinchu ADD: No.8, Ln. 724, Bo'ai St., Zhubei City, Hsinchu County 302010, Taiwan (R.O.C.)

(TAF: 3787) TEL: 886-3-656-9065 FAX: 886-3-656-9085

Test site Designation No. TW3787 with FCC.

Conformity Assessment Body Identifier (CABID) TW3787 with ISED.

Test Condition	Test Site No.	Test Engineer	Test Environment (°C / %)	Test Date
RF Conducted	TH03-CB	Owen Hsu	19.1~20.4 / 51~53	Nov. 12, 2021~ Dec. 08, 2021
Radiated	03CH02-CB	Simmon Cheng	22.8-23.7 / 55-59	Nov. 11, 2021

1.4 Measurement Uncertainty

ISO/IEC 17025 requires that an estimate of the measurement uncertainties associated with the emissions test results be included in the report. The measurement uncertainties given below are based on a 95% confidence level (based on a coverage factor (k=2)

Test Items	Uncertainty	Remark
Radiated Emission (1GHz ~ 18GHz)	4.7 dB	Confidence levels of 95%
Radiated Emission (18GHz ~ 40GHz)	4.2 dB	Confidence levels of 95%
Conducted Emission	2.5 dB	Confidence levels of 95%
Output Power Measurement	1.3 dB	Confidence levels of 95%
Power Density Measurement	2.5 dB	Confidence levels of 95%
Bandwidth Measurement	0.9%	Confidence levels of 95%

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2 Test Configuration of EUT

2.1 Test Channel Mode

Mode	Power Setting	
802.11a_Nss1,(6Mbps)_2TX	-	
5260MHz	20	
5300MHz	19.5	
5320MHz	19.5	
5500MHz	20	
5580MHz	20	
5700MHz	20	
802.11ax HEW20-BF_Nss1,(MCS0)_2TX	-	
5260MHz	23	
5300MHz	23	
5320MHz	23	
5500MHz	23	
5580MHz	23	
5700MHz	23	
802.11ax HEW40-BF_Nss1,(MCS0)_2TX	-	
5270MHz	22	
5310MHz	22	
5510MHz	22	
5550MHz	22	
5670MHz	22	
802.11ax HEW80-BF_Nss1,(MCS0)_2TX	-	
5290MHz	23	
5530MHz	23	
5610MHz	23	

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Note:

- Evaluated HEW20/HEW40/HEW80 mode only due to the similar modulation. The power setting of HT20/HT40/VHT20/VHT40/VHT80 mode are the same or lower than HEW20/HEW40/HEW80.
- The EUT supports non-beamforming and beamforming modes, after evaluating, the beamforming mode has been evaluated to be the worst case, so it was selected to test.

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2.2 The Worst Case Measurement Configuration

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		

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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 regardless of spatial multiplexing MIMO configuration), the radiated test so 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 position, and the worst case as below:			
1	EUT in Z axis		

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 + WLAN 6GHz				
Refer to Sporton Test Report No.: FA1O1539-01 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>

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 WLAN AP and transmit duty cycle no less than 98%.

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2.4 Accessories

Accessories				
No. Equipment Brand Model Rating				Rating
1	Adapter	Ktec	KSA-24W-120200HU	Input: 100-240V~50/60Hz, 0.6A Output: 12V, 2.0A

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2.5 Support Equipment

For Radiated and RF Conducted:

<Non-beamforming mode>

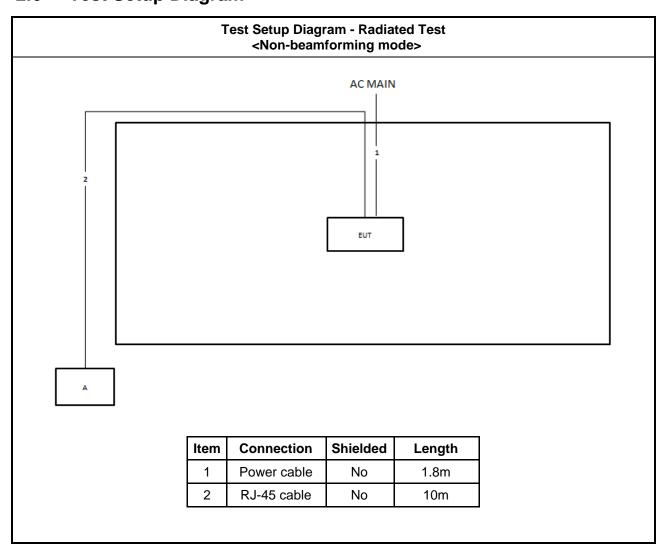
	Support Equipment					
No.	No. Equipment Brand Name Model Name FCC ID					
Α	NB	DELL	E4300	N/A		

<Beamforming mode>

	Support Equipment					
No.	No. Equipment Brand Name Model Name FCC ID					
Α	NB	DELL	E4300	N/A		
В	WLAN AP	CyberTAN	MT1V116	N/A		
С	NB	DELL	E4300	N/A		

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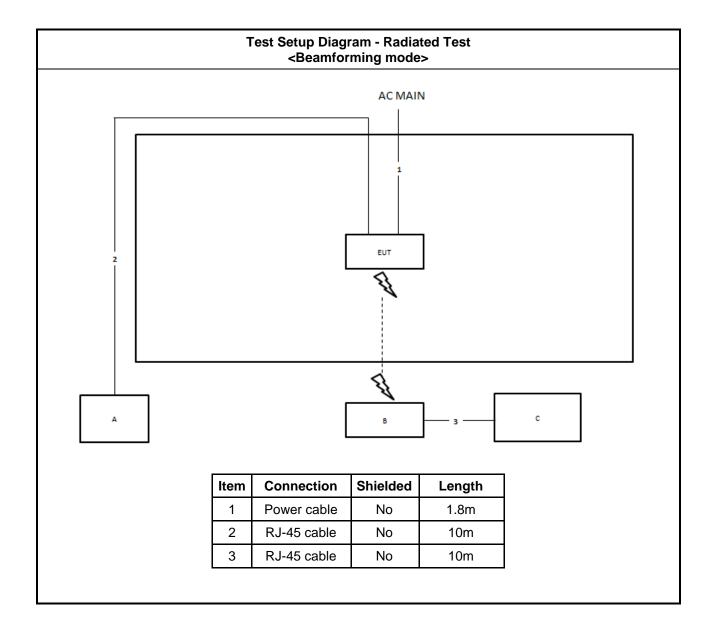
2.6 Test Setup Diagram



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3 Transmitter Test Result

3.1 Emission Bandwidth

3.1.1 Emission Bandwidth Limit

	Emission Bandwidth Limit
UNI	I Devices
	For the 5.15-5.25 GHz band, N/A
	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.
	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.
	For the 5.725-5.85 GHz band, 26 dB emission bandwidth ,N/A. 6 dB emission bandwidth ≥ 500kHz.
	For the 5.85-5.895 GHz band, 26 dB emission bandwidth ,N/A. 6 dB emission bandwidth ≥ 500kHz.
LE-	LAN Devices
	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.
	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
	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
	For the 5.725-5.85 GHz band, 6 dB emission bandwidth ≥ 500kHz.

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3.1.2 Measuring Instruments

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

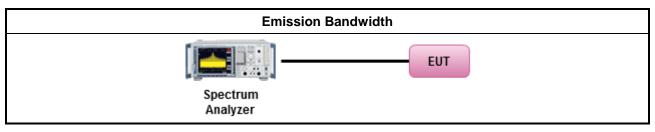
3.1.3 Test Procedures

	Test Method						
•	For the emission bandwidth shall be measured using one of the options below:						
	Refer as FCC KDB 789033 D02, clause C for EBW and clause D for OBW measurement.						
	Refer as ANSI C63.10, clause 6.9.1 for occupied bandwidth testing.						
	Refer as IC RSS-Gen, clause 4.6 for bandwidth testing.						

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3.1.4 Test Setup



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3.1.5 Test Result of Emission Bandwidth

Refer as Appendix A

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3.2 Maximum Output Power

3.2.1 Limit

	Maximum Output Power Limit
UNI	I Devices
	For the 5.15-5.25 GHz band:
	 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 ≤ 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).
	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 dBm + 10 log B, where B is the 26 dB emission bandwidth in MHz. If $G_{TX} > 6$ dBi, then $P_{Out} = 24 - (G_{TX} - 6)$.
\boxtimes	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 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).
	For the 5.725-5.85 GHz band:
	 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
	For the 5.85-5.895 GHz band:
	■ Indoor AP & subordinate device < 36 dBm
	Client device < 30 dBm
LE-	LAN Devices
	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.
	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
	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
	For the 5.725-5.85 GHz band:
	 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

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lesser of 1 W.

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P_{Out} = maximum conducted output power in dBm,

 G_{TX} = the maximum transmitting antenna directional gain in dBi.

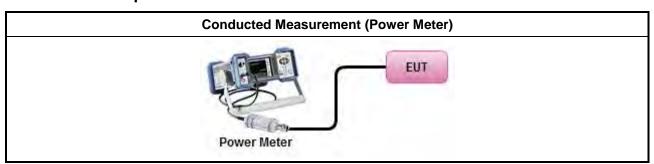
Measuring Instruments

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

Test Procedures 3.2.3

_								
		Test Method						
	Average over on/off periods with duty factor							
	Refer as FCC KDB 789033 D02, clause E Method SA-2 (spectral trace averaging).							
		Refer as FCC KDB 789033 D02, clause E Method SA-2 Alt. (RMS detection with slow sweep speed)						
	Widek	pand RF power meter and average over on/off periods with duty factor						
	⊠ F	Refer as FCC KDB 789033 D02, clause E Method PM-G (using an RF average power meter).						
\boxtimes	For co	onducted measurement.						
	F a	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.						
	F (If multiple transmit chains, EIRP calculation could be following as methods: $P_{total} = P_1 + P_2 + + P_n$ (calculated in linear unit [mW] and transfer to log unit [dBm]) EIRP _{total} = $P_{total} + DG$						
	For ra	adiated measurement.						
	• F	Refer as FCC KDB 789033 D02 clause II A.1.F "Antenna-port Conducted versus Radiated Testing"						
	• F	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.						

3.2.4 **Test Setup**



Test Result of Maximum Output Power 3.2.5

Refer as Appendix B

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3.3 Power Spectral Density

3.3.1 Limit

	Peak Power Spectral Density Limit
UNI	I Devices
	For the 5.15-5.25 GHz band:
	• 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)
	For the 5.25-5.35 GHz band, the peak power spectral density (PPSD) \leq 11 dBm/MHz. If $G_{TX} > 6$ dBi, then PPSD= 11 – ($G_{TX} - 6$).
\boxtimes	For the 5.47-5.725 GHz band, the peak power spectral density (PPSD) \leq 11 dBm/MHz. If $G_{TX} > 6$ dBi, then PPSD= 11 – ($G_{TX} - 6$).
	For the 5.725-5.85 GHz band:
	Point-to-multipoint systems (P2M): the peak power spectral density (PPSD) \leq 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
	For the 5.85-5.895 GHz band:
	■ Indoor AP & subordinate device < 20dBm/MHz
	■ Client device < 14dBm/MHz
LE-	LAN Devices
	For the 5.15-5.25 GHz band, the e.i.r.p. peak power spectral density (PPSD) ≤ 10 dBm/MHz.
	For the 5.25-5.35 GHz band, the peak power spectral density (PPSD) ≤ 11 dBm/MHz.
	 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° ≤ θ < 8°; -13 − 0.716 (θ-8) dBW/MHz for 8° ≤ θ < 40° -35.9 − 1.22 (θ-40) dBW/MHz for 40° ≤ θ ≤ 45°; -42 dBW/MHz for θ > 45°
	For the 5.47-5.6 GHz band and 5.65-5.725 GHz band, the peak power spectral density (PPSD) \leq 11 dBm/MHz.
	For the 5.725-5.85 GHz band:
	Point-to-multipoint systems (P2M): the peak power spectral density (PPSD) \leq 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.
PPS	SD = peak power spectral density that he same method as used to determine the conducted output

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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.

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3.3.2 Measuring Instruments

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

3.3.3 Test Procedures

		Test Method							
•	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:								
	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]								
	\boxtimes	Refer as FCC KDB 789033 D02, clause E Method SA-1 (spectral trace averaging).							
		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							
	\boxtimes	Refer as FCC KDB 789033 D02, clause E Method SA-2 (spectral trace averaging).							
		Refer as FCC KDB 789033 D02, clause E Method SA-2 Alt. (RMS detection with slow sweep speed)							
\boxtimes	For	conducted measurement.							
	•	If the EUT supports multiple transmit chains using options given below:							
		Option 1: Measure and sum the spectra across the outputs. Refer as FCC KDB 662911, In-band power spectral density (PSD). Sample all transmit ports simultaneously using a spectrum analyzer for each transmit port. Where the trace bin-by-bin of each transmit port summing can be performed. (i.e., in the first spectral bin of output 1 is summed with that in the first spectral bin of output 2 and that from the first spectral bin of output 3, and so on up to the NTX output to obtain the value for the first frequency bin of the summed spectrum.). Add up the amplitude (power) values for the different transmit chains and use this as the new data trace.							
		Option 2: Measure and sum spectral maxima across the outputs. With this technique, spectra are measured at each output of the device at the required resolution bandwidth. The maximum value (peak) of each spectrum is determined. These maximum values are then summed mathematically in linear power units across the outputs. These operations shall be performed separately over frequency spans that have different out-of-band or spurious emission limits,							
		Option 3: Measure and add 10 log(N) dB, where N is the number of transmit chains. Refer as FCC KDB 662911, In-band power spectral density (PSD). Performed at each transmit chains and each transmit chains shall be compared with the limit have been reduced with 10 log(N). Or each transmit chains shall be add 10 log(N) to compared with the limit.							
	•	If multiple transmit chains, EIRP PPSD calculation could be following as methods: PPSD _{total} = PPSD ₁ + PPSD ₂ + + PPSD _n (calculated in linear unit [mW] and transfer to log unit [dBm])							

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Test Method

EIRP_{total} = PPSD_{total} + DG

For radiated measurement.

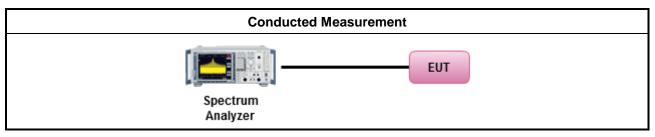
■ Refer as FCC KDB 789033 D02 clause II A.1.F "Antenna-port Conducted versus Radiated Testing"

■ 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.

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3.3.4 Test Setup



3.3.5 Test Result of Power Spectral Density

Refer as Appendix C

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3.4 Unwanted Emissions

3.4.1 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				

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- 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						
☐ 5.15 - 5.25 GHz	e.i.r.p27 dBm [68.2 dBuV/m@3m]						
☑ 5.25 - 5.35 GHz	e.i.r.p27 dBm [68.2 dBuV/m@3m]						
⊠ 5.47 - 5.725 GHz	e.i.r.p27 dBm [68.2 dBuV/m@3m]						
☐ 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.						
☐ 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						

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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.

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(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.

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).

3.4.2 Measuring Instruments

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

3.4.3 Test Procedures

Test Method 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). The average emission levels shall be measured in [duty cycle ≥ 98 or duty factor]. For the transmitter unwanted emissions shall be measured using following options below: 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. Refer as FCC KDB 789033 D02, G)6) Method AD (Trace Averaging). Refer as FCC KDB 789033 D02, G)6) Method VB (Reduced VBW). Refer as ANSI C63.10, clause 11.12.2.5.3 (Reduced VBW), VBW ≥ 1/T, where T is pulse time. Refer as ANSI C63.10, clause 7.5 average value of pulsed emissions. Refer as FCC KDB 789033 D02, clause G)5) measurement procedure peak limit. Refer as ANSI C63.10, clause 4.1.4.2.2 measurement procedure peak limit. For radiated measurement. 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.

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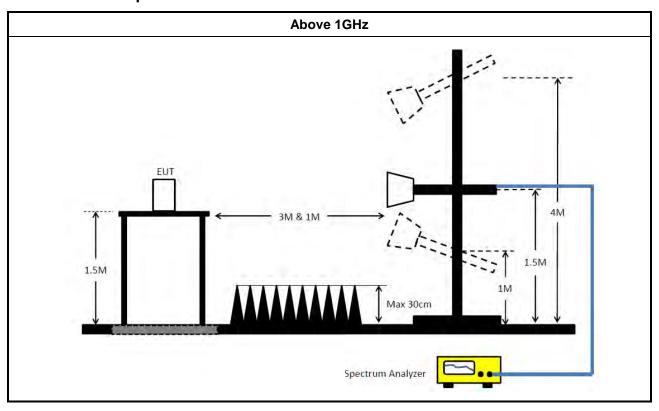
The any unwanted emissions level shall not exceed the fundamental emission level.

Test Method

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

3.4.4 Test Setup



3.4.5 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.

3.4.6 Test Result of Transmitter Unwanted Emissions

Refer as Appendix D

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4 Test Equipment and Calibration Data

Instrument	Brand	Model No.	Serial No.	Characteristics	Calibration Date	Calibration Due Date	Remark
3m Semi Anechoic Chamber VSWR	RIKEN	SAC-3M	03CH02-CB	1GHz ~18GHz 3m	Mar. 27, 2021	Mar. 26, 2022	Radiation (03CH02-CB)
Horn Antenna	EMCO	3115	9610-4976	1GHz ~ 18GHz	May 04, 2021	May 03, 2022	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)
RF Cable-high	Woken	RG402	High Cable-40G#1	18GHz ~ 40 GHz	Jul. 15, 2021	Jul. 14, 2022	Radiation (03CH02-CB)
RF Cable-high	Woken	RG402	High Cable-40G#2	18GHz ~ 40 GHz	Jul. 15, 2021	Jul. 14, 2022	Radiation (03CH02-CB)
Test Software	SPORTON	SENSE	V5.10	-	N.C.R.	N.C.R.	Radiation (03CH02-CB)
Signal Analyzer	R&S	FSV40	101904	9kHz ~ 40GHz	Apr. 15, 2021	Apr. 14, 2022	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)
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.

 $\label{eq:NCR} \mbox{NCR means Non-Calibration required.}$

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Appendix A **EBW**

Summary

Mode	Max-N dB	Max-OBW	ITU-Code	Min-N dB	Min-OBW
	(Hz)	(Hz)		(Hz)	(Hz)
5.25-5.35GHz	-	-	-	-	-
802.11a_Nss1,(6Mbps)_2TX	20.76M	16.462M	16M5D1D	20.46M	16.432M
802.11ax HEW20-BF_Nss1,(MCS0)_2TX	21.93M	18.951M	19M0D1D	21.33M	18.921M
802.11ax HEW40-BF_Nss1,(MCS0)_2TX	41.28M	37.901M	37M9D1D	40.32M	37.781M
802.11ax HEW80-BF_Nss1,(MCS0)_2TX	82.56M	77.241M	77M2D1D	82.2M	77.241M
5.47-5.725GHz	-	-	-	1	•
802.11a_Nss1,(6Mbps)_2TX	20.52M	16.432M	16M4D1D	20.04M	16.432M
802.11ax HEW20-BF_Nss1,(MCS0)_2TX	21.78M	18.951M	19M0D1D	21.51M	18.891M
802.11ax HEW40-BF_Nss1,(MCS0)_2TX	41.28M	37.961M	38M0D1D	40.14M	37.301M
802.11ax HEW80-BF_Nss1,(MCS0)_2TX	82.32M	77.481M	77M5D1D	82.2M	77.241M

 $\label{eq:max-NdB} Max - N \ dB = Maximum \ 6dB \ down \ bandwidth \ for \ 5.725-5.85 GHz \ band \ / \ Maximum \ 26dB \ down \ bandwidth \ for \ other \ band; \\ Max-OBW = Maximum \ 99\% \ occupied \ bandwidth \ for \ 5.725-5.85 GHz \ band \ / \ Maximum \ 26dB \ down \ bandwidth \ for \ other \ band; \\ Min-OBW = Minimum \ 99\% \ occupied \ bandwidth \ for \ other \ band; \\ Min-OBW = Minimum \ 99\% \ occupied \ bandwidth \ for \ other \ band; \\ Min-OBW = Minimum \ 99\% \ occupied \ bandwidth \ for \ other \ band; \\ Min-OBW = Minimum \ 99\% \ occupied \ bandwidth \ for \ other \ band; \\ Minimum \ 99\% \ occupied \ bandwidth \ for \ other \ band; \\ Minimum \ 99\% \ occupied \ bandwidth \ for \ other \ bandwidth \ for \$

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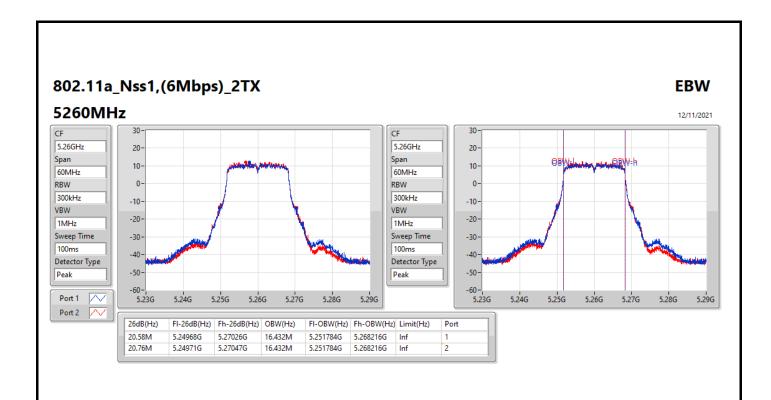
Result

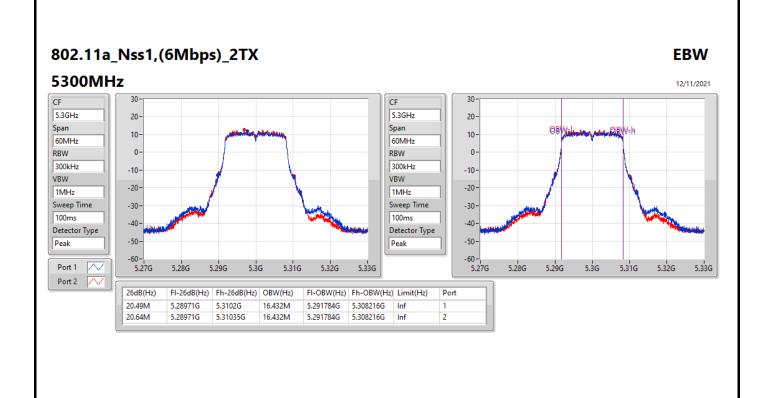
Mode	Result	Limit	Port 1-N dB	Port 1-OBW	Port 2-N dB	Port 2-OBW
		(Hz)	(Hz)	(Hz)	(Hz)	(Hz)
802.11a_Nss1,(6Mbps)_2TX	-	-	-	-	-	-
5260MHz	Pass	Inf	20.58M	16.432M	20.76M	16.432M
5300MHz	Pass	Inf	20.49M	16.432M	20.64M	16.432M
5320MHz	Pass	Inf	20.46M	16.462M	20.55M	16.432M
5500MHz	Pass	Inf	20.04M	16.432M	20.52M	16.432M
5580MHz	Pass	Inf	20.52M	16.432M	20.4M	16.432M
5700MHz	Pass	Inf	20.04M	16.432M	20.43M	16.432M
802.11ax HEW20-BF_Nss1,(MCS0)_2TX	-	-	-	-	-	-
5260MHz	Pass	Inf	21.93M	18.921M	21.33M	18.951M
5300MHz	Pass	Inf	21.57M	18.921M	21.36M	18.921M
5320MHz	Pass	Inf	21.51M	18.951M	21.66M	18.951M
5500MHz	Pass	Inf	21.72M	18.951M	21.51M	18.891M
5580MHz	Pass	Inf	21.78M	18.921M	21.75M	18.951M
5700MHz	Pass	Inf	21.72M	18.921M	21.72M	18.921M
802.11ax HEW40-BF_Nss1,(MCS0)_2TX	-	-	-	-	-	-
5270MHz	Pass	Inf	40.32M	37.781M	41.1M	37.901M
5310MHz	Pass	Inf	41.28M	37.841M	41.16M	37.841M
5510MHz	Pass	Inf	41.28M	37.901M	41.22M	37.901M
5550MHz	Pass	Inf	40.74M	37.781M	40.98M	37.901M
5670MHz	Pass	Inf	41.22M	37.961M	40.14M	37.301M
802.11ax HEW80-BF_Nss1,(MCS0)_2TX	-	-	-	-	-	-
5290MHz	Pass	Inf	82.56M	77.241M	82.2M	77.241M
5530MHz	Pass	Inf	82.32M	77.241M	82.2M	77.481M
5610MHz	Pass	Inf	82.2M	77.481M	82.32M	77.241M

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

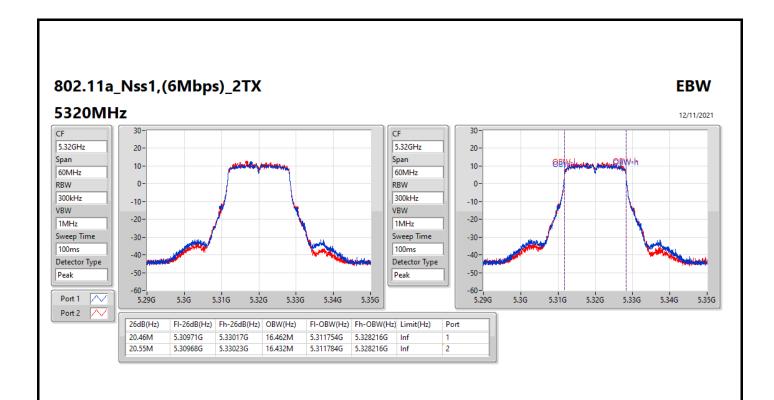
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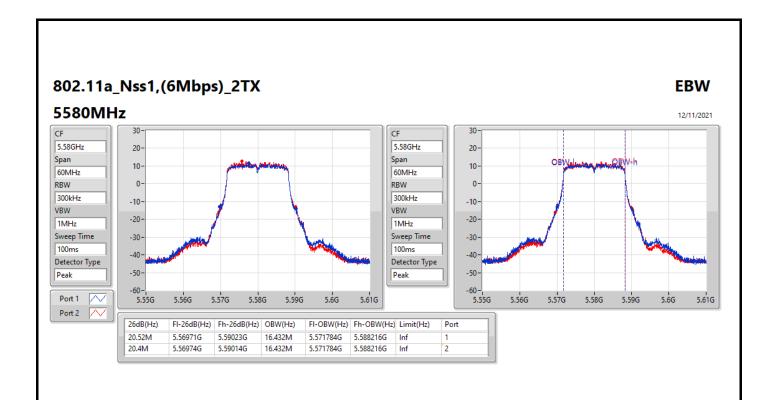


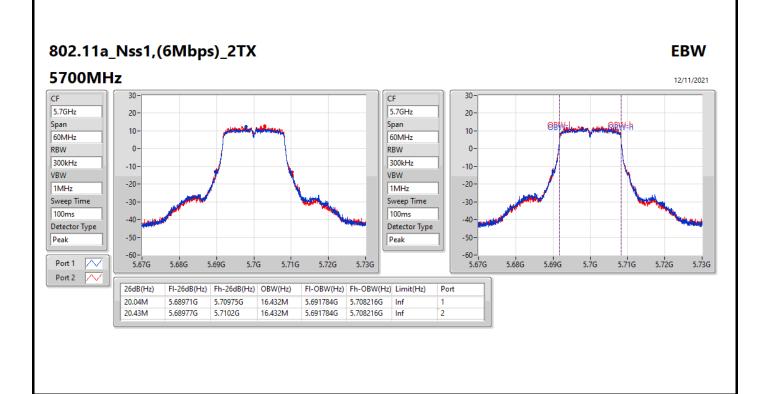
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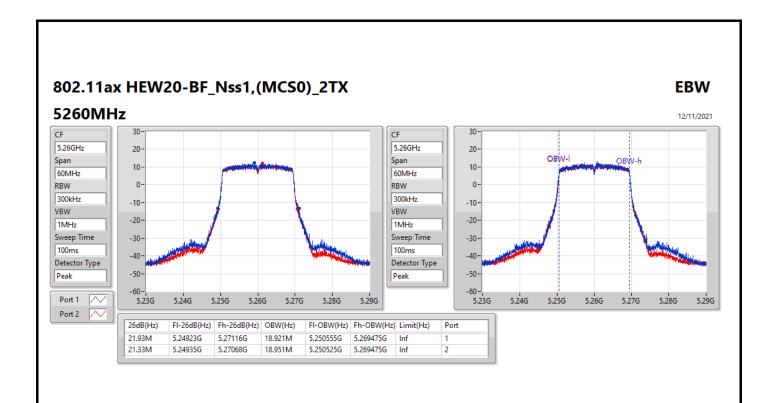


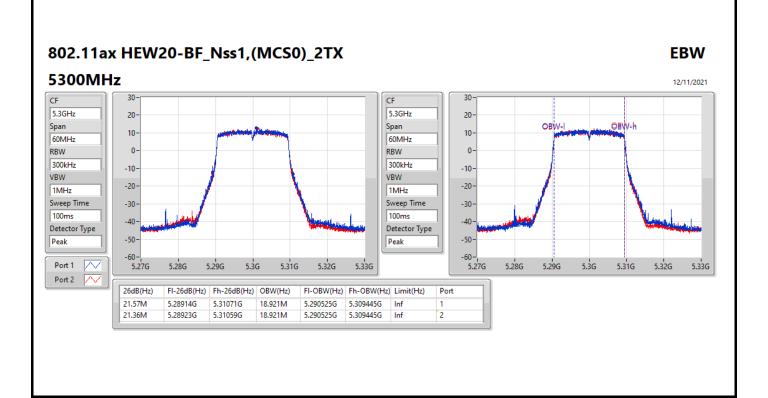
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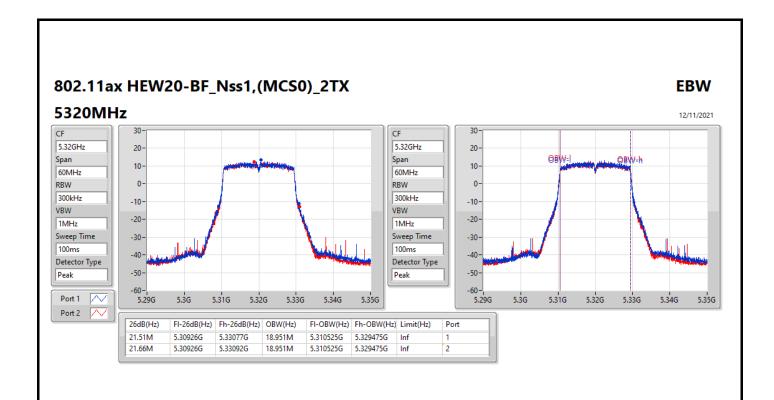


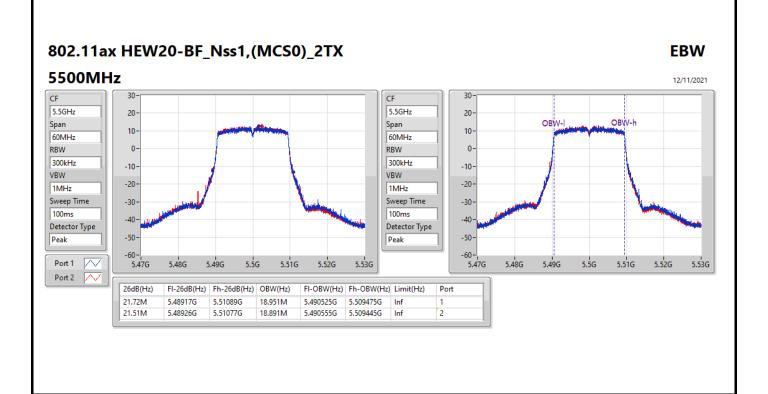
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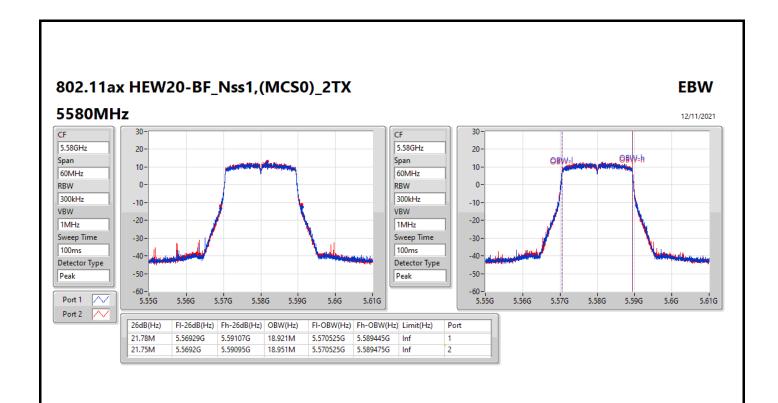


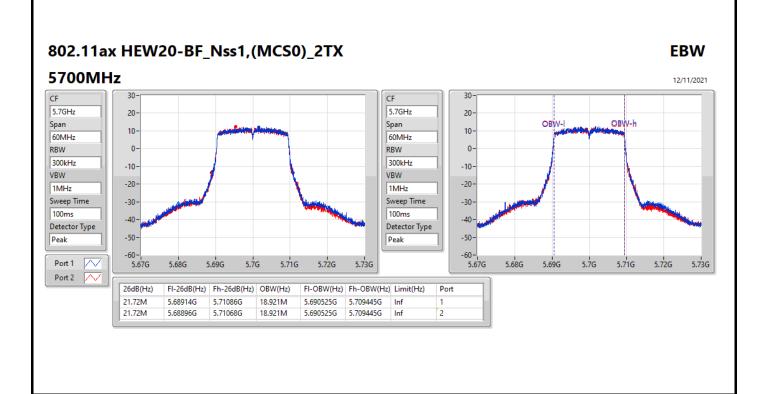
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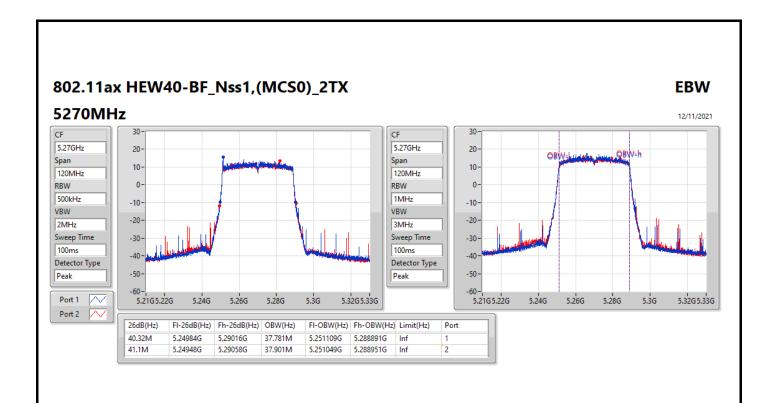


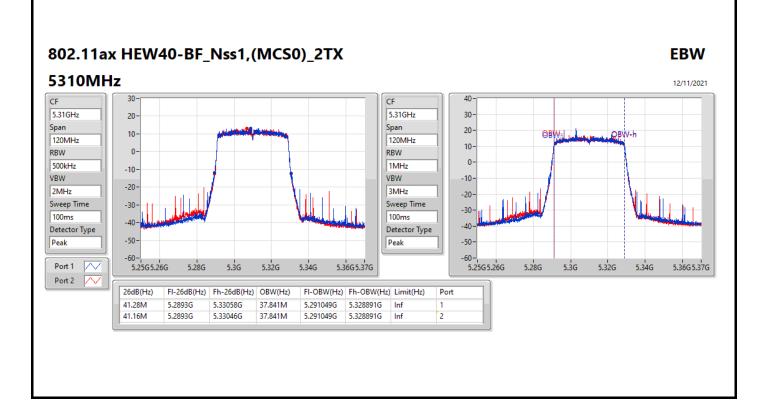
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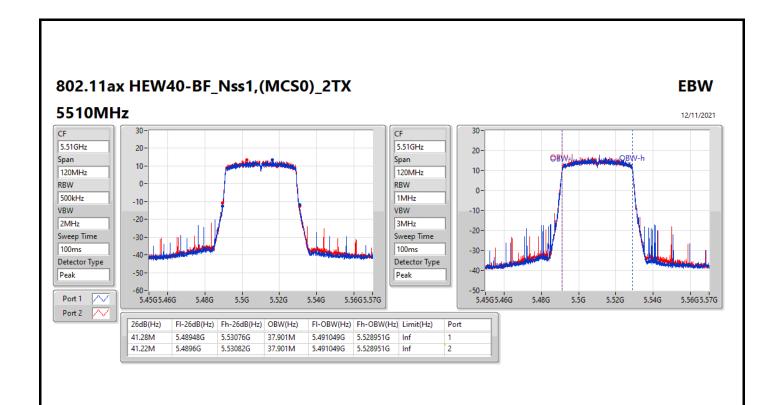


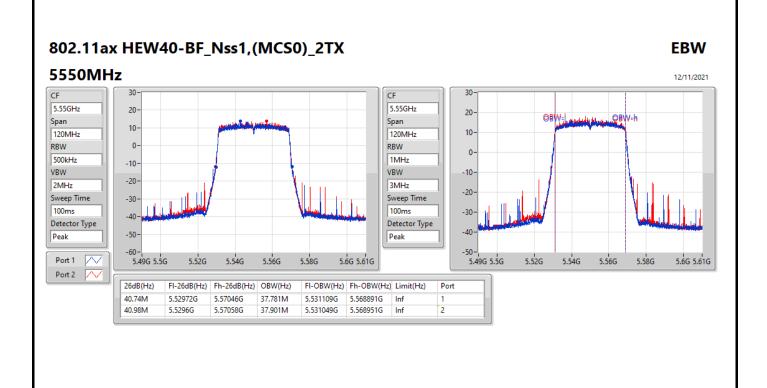
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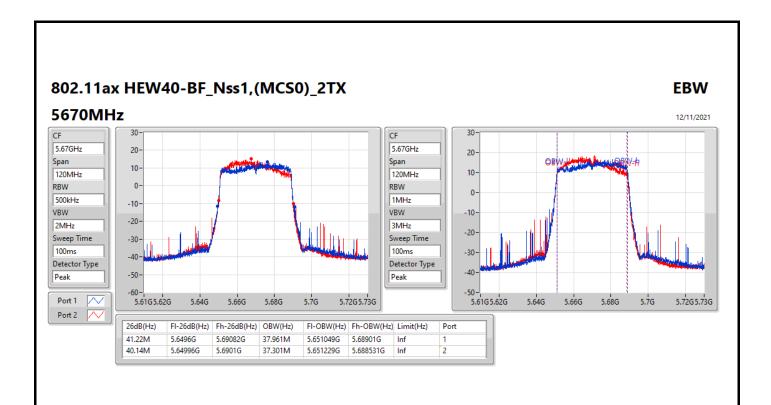


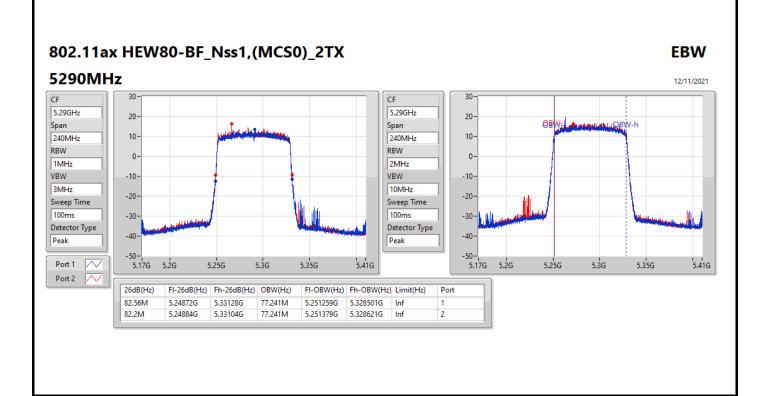
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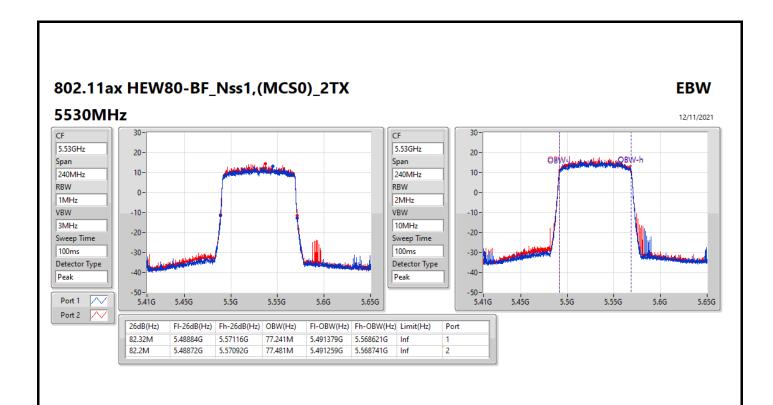


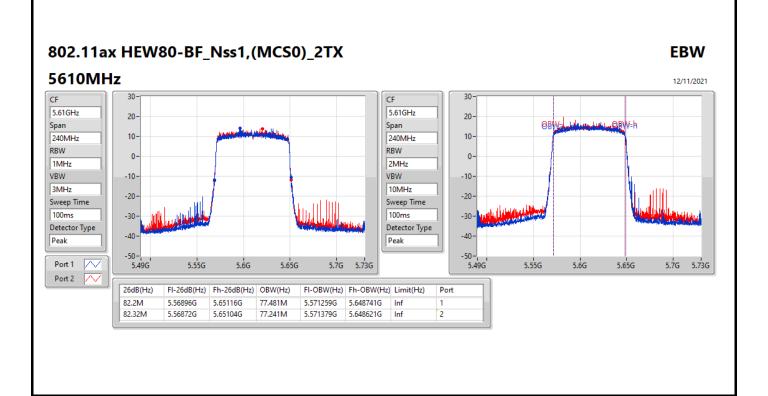
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Average Power Appendix B

Summary

Mode	Total Power (dBm)	Total Power (W)		
5.25-5.35GHz	-	-		
802.11a_Nss1,(6Mbps)_2TX	23.84	0.24210		
802.11ax HEW20-BF_Nss1,(MCS0)_2TX	23.85	0.24266		
802.11ax HEW40-BF_Nss1,(MCS0)_2TX	23.29	0.21330		
802.11ax HEW80-BF_Nss1,(MCS0)_2TX	23.81	0.24044		
5.47-5.725GHz	-	-		
802.11a_Nss1,(6Mbps)_2TX	23.93	0.24717		
802.11ax HEW20-BF_Nss1,(MCS0)_2TX	23.93	0.24717		
802.11ax HEW40-BF_Nss1,(MCS0)_2TX	23.43	0.22029		
802.11ax HEW80-BF_Nss1,(MCS0)_2TX	23.89	0.24491		

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Average Power Appendix B

Result

Mode	Result	DG	Port 1	Port 2	Total Power	Power Limit
		(dBi)	(dBm)	(dBm)	(dBm)	(dBm)
802.11a_Nss1,(6Mbps)_2TX	-	-	-	-	-	-
5260MHz	Pass	4.19	20.81	20.84	23.84	23.98
5300MHz	Pass	4.19	20.61	20.62	23.63	23.98
5320MHz	Pass	4.19	20.57	20.79	23.69	23.98
5500MHz	Pass	2.67	20.80	21.03	23.93	23.98
5580MHz	Pass	2.67	20.84	20.82	23.84	23.98
5700MHz	Pass	2.67	20.62	20.92	23.78	23.98
802.11ax HEW20-BF_Nss1,(MCS0)_2TX	-	-	-	-	-	-
5260MHz	Pass	4.28	20.53	20.70	23.63	23.98
5300MHz	Pass	4.28	20.65	20.66	23.67	23.98
5320MHz	Pass	4.28	20.75	20.92	23.85	23.98
5500MHz	Pass	4.53	20.82	20.90	23.87	23.98
5580MHz	Pass	4.53	20.84	21.00	23.93	23.98
5700MHz	Pass	4.53	20.53	20.90	23.73	23.98
802.11ax HEW40-BF_Nss1,(MCS0)_2TX	-	-	-	-	-	-
5270MHz	Pass	4.28	20.35	20.17	23.27	23.98
5310MHz	Pass	4.28	20.42	20.13	23.29	23.98
5510MHz	Pass	4.53	20.36	20.48	23.43	23.98
5550MHz	Pass	4.53	20.14	20.51	23.34	23.98
5670MHz	Pass	4.53	19.93	20.55	23.26	23.98
802.11ax HEW80-BF_Nss1,(MCS0)_2TX	-	-	-	-	-	-
5290MHz	Pass	4.28	20.65	20.94	23.81	23.98
5530MHz	Pass	4.53	20.74	20.97	23.87	23.98
5610MHz	Pass	4.53	20.57	21.17	23.89	23.98

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

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Summary

Mode	PD (dBm/RBW)
5.25-5.35GHz	-
802.11a_Nss1,(6Mbps)_2TX	10.71
802.11ax HEW20-BF_Nss1,(MCS0)_2TX	10.33
802.11ax HEW40-BF_Nss1,(MCS0)_2TX	7.08
802.11ax HEW80-BF_Nss1,(MCS0)_2TX	4.60
5.47-5.725GHz	-
802.11a_Nss1,(6Mbps)_2TX	10.94
802.11ax HEW20-BF_Nss1,(MCS0)_2TX	10.41
802.11ax HEW40-BF_Nss1,(MCS0)_2TX	7.65
802.11ax HEW80-BF_Nss1,(MCS0)_2TX	4.78

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

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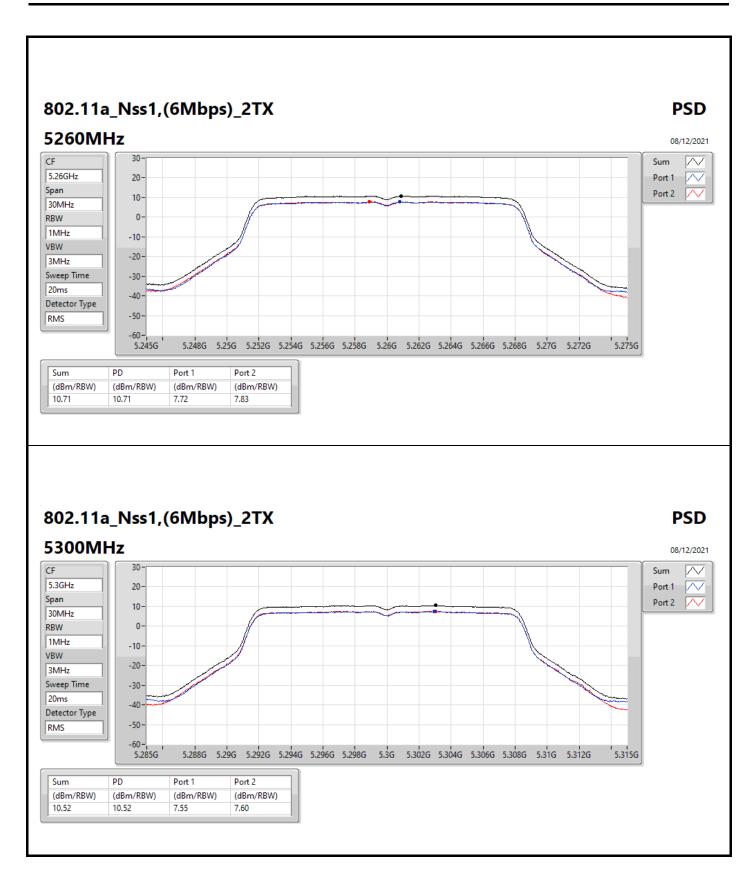
Appendix C **PSD**

Result

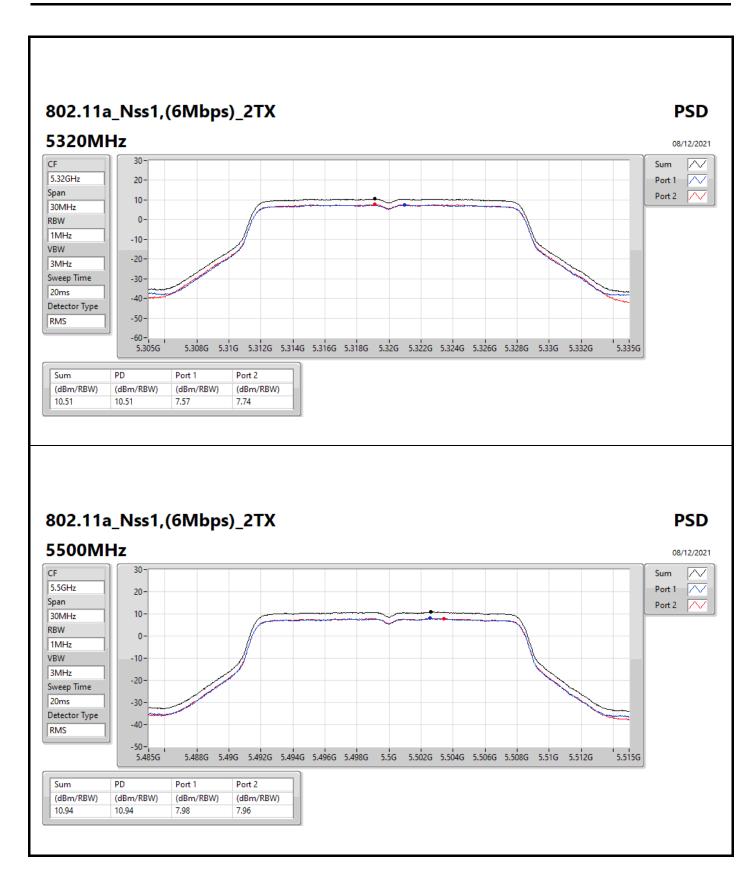
Mode	Result	DG	Port 1	Port 2	PD	PD Limit
		(dBi)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
802.11a_Nss1,(6Mbps)_2TX	-	-	-	-	-	-
5260MHz	Pass	4.28	7.72	7.83	10.71	11.00
5300MHz	Pass	4.28	7.55	7.60	10.52	11.00
5320MHz	Pass	4.28	7.57	7.74	10.51	11.00
5500MHz	Pass	4.53	7.98	7.96	10.94	11.00
5580MHz	Pass	4.53	7.89	8.16	10.92	11.00
5700MHz	Pass	4.53	7.51	7.78	10.54	11.00
802.11ax HEW20-BF_Nss1,(MCS0)_2TX	-	-	-	-	-	-
5260MHz	Pass	4.28	7.08	7.28	10.16	11.00
5300MHz	Pass	4.28	7.31	7.39	10.24	11.00
5320MHz	Pass	4.28	7.47	7.40	10.33	11.00
5500MHz	Pass	4.53	7.35	7.52	10.37	11.00
5580MHz	Pass	4.53	7.29	7.60	10.41	11.00
5700MHz	Pass	4.53	7.20	7.49	10.27	11.00
802.11ax HEW40-BF_Nss1,(MCS0)_2TX	-	-	-	-	-	-
5270MHz	Pass	4.28	4.17	3.97	7.08	11.00
5310MHz	Pass	4.28	4.26	3.95	7.04	11.00
5510MHz	Pass	4.53	4.04	4.12	7.04	11.00
5550MHz	Pass	4.53	3.94	4.39	7.06	11.00
5670MHz	Pass	4.53	4.03	6.06	7.65	11.00
802.11ax HEW80-BF_Nss1,(MCS0)_2TX	-	-	-	-	-	-
5290MHz	Pass	4.28	1.52	1.94	4.60	11.00
5530MHz	Pass	4.53	1.63	1.89	4.76	11.00
5610MHz	Pass	4.53	1.54	2.05	4.78	11.00

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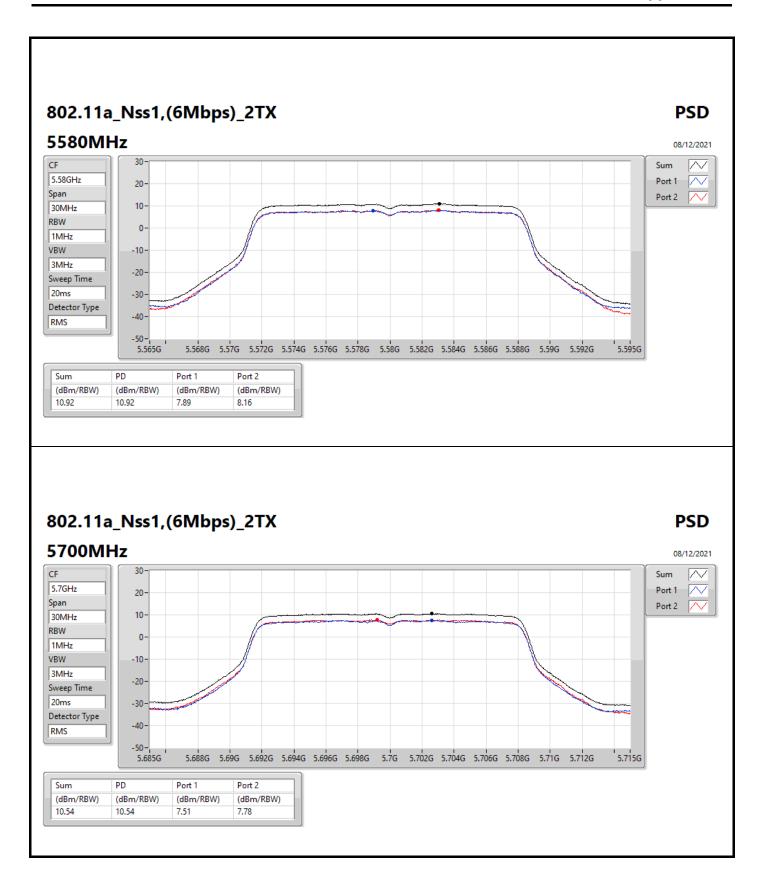
DG = Directional Gain; RBW = 500kHz for 5.725-5.85GHz band / 1MHz for other band; PD = trace bin-by-bin of each transmits port summing can be performed maximum power density; Port X = Port X Power Density;



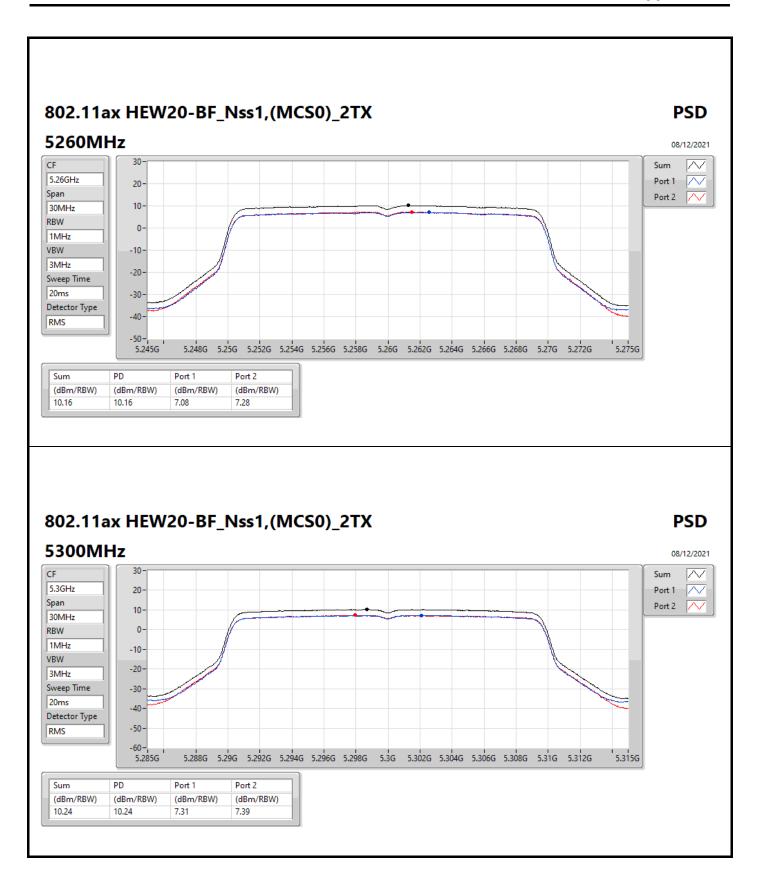
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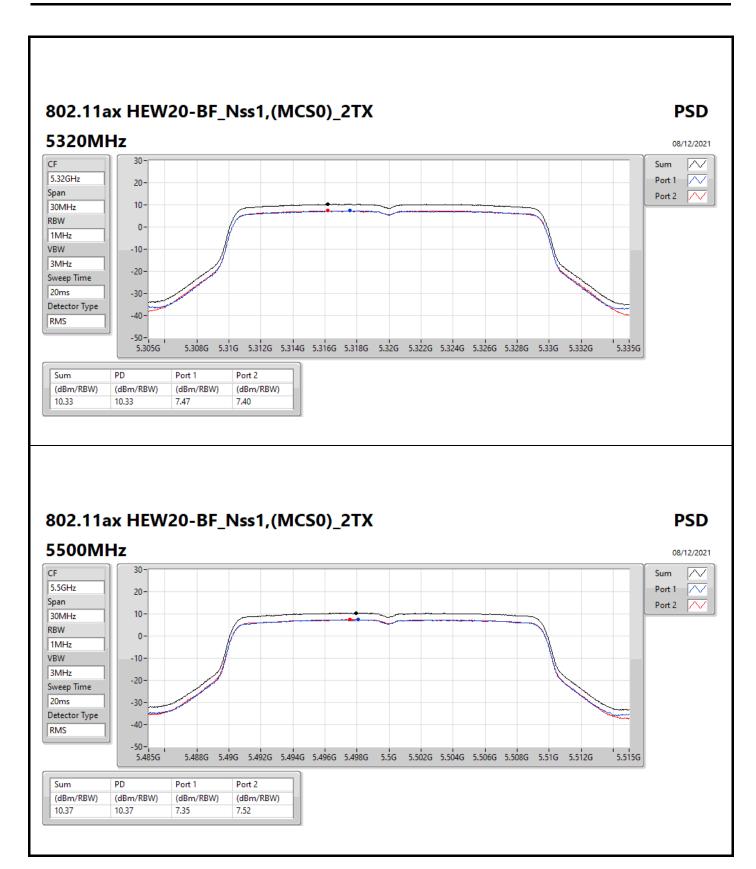
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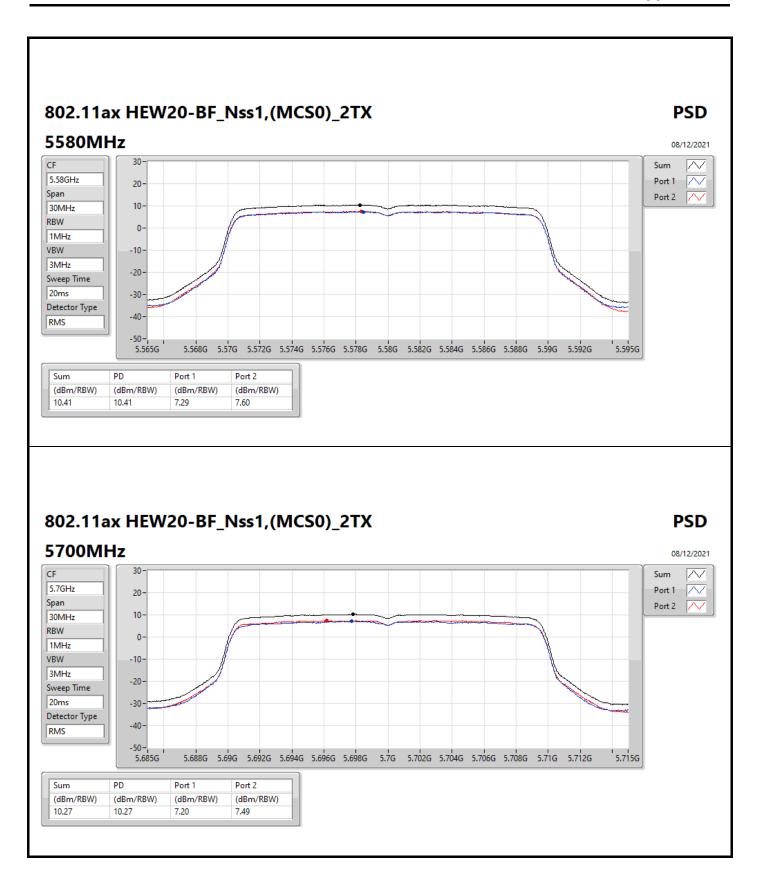
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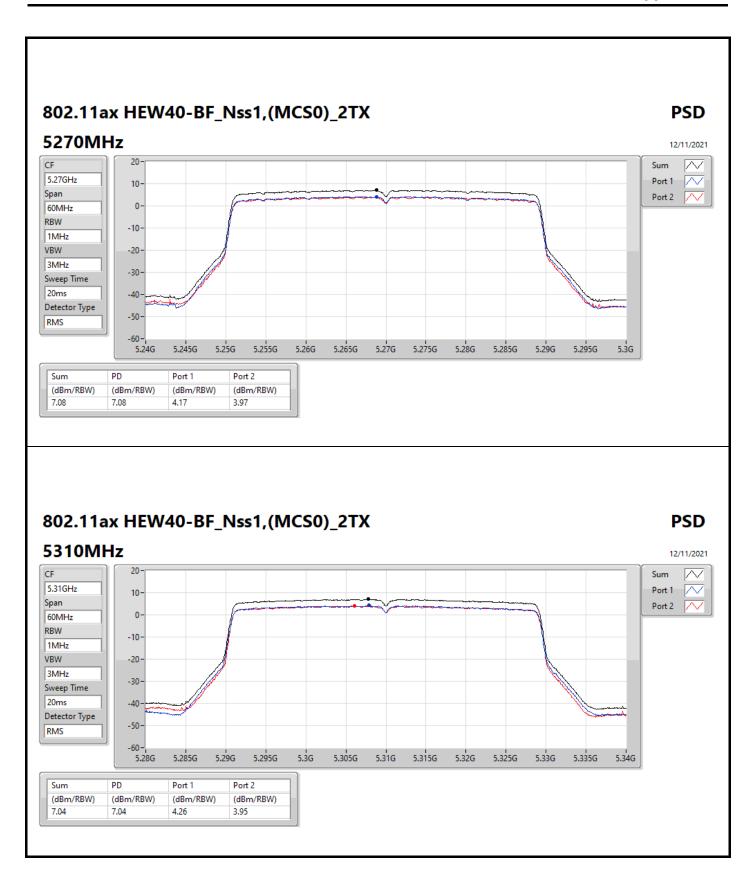
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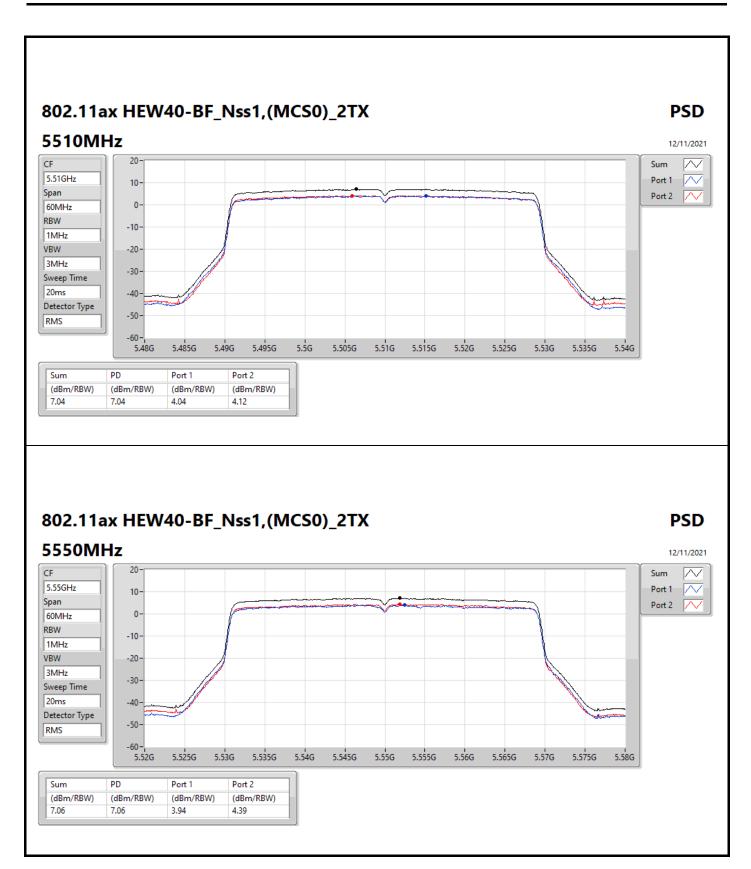
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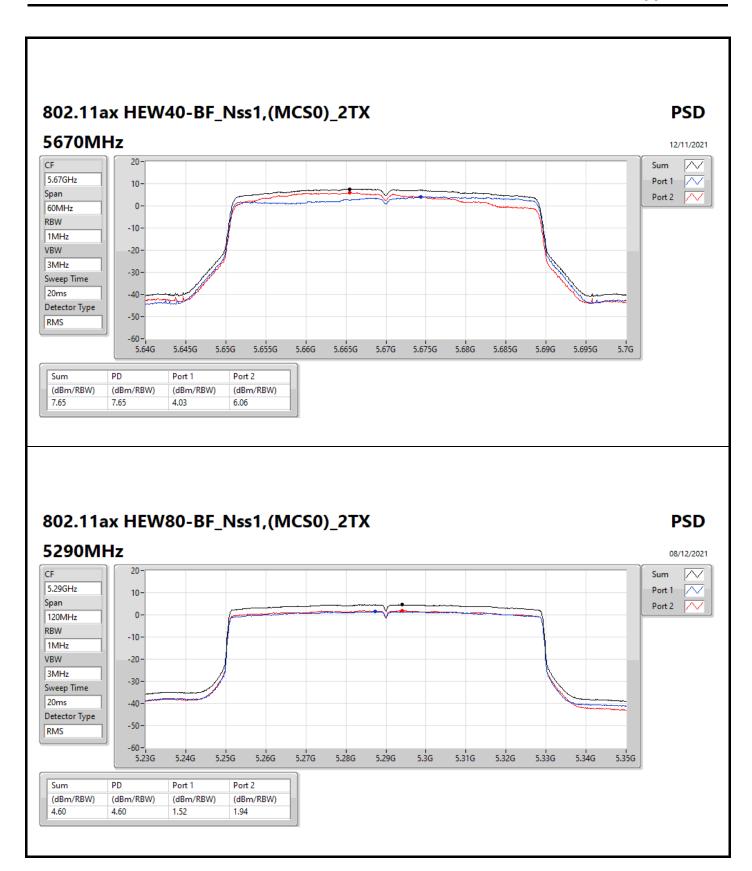
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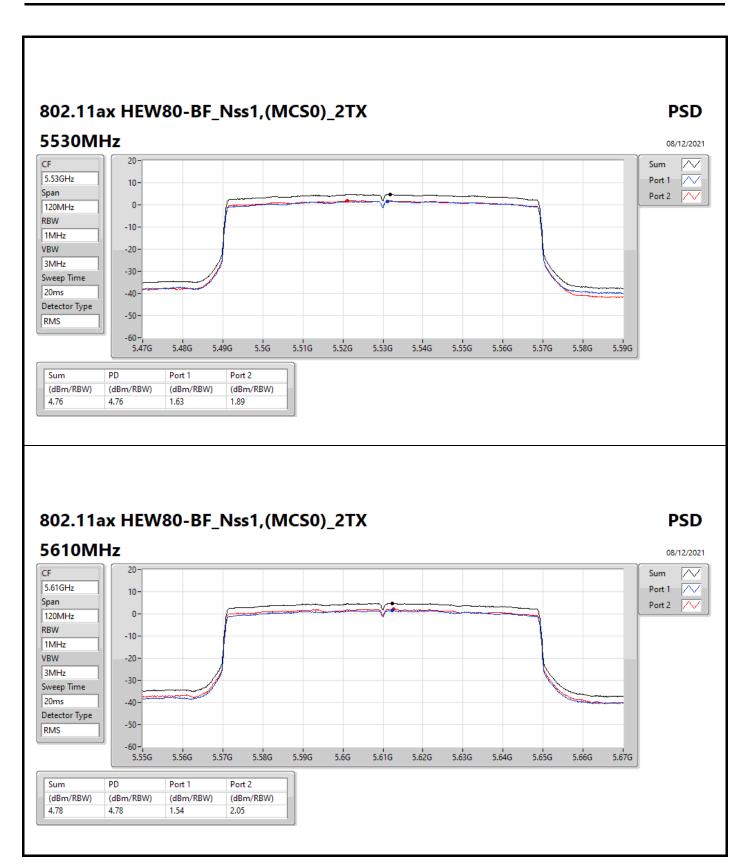
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RSE TX above 1GHz

Appendix D

Summary

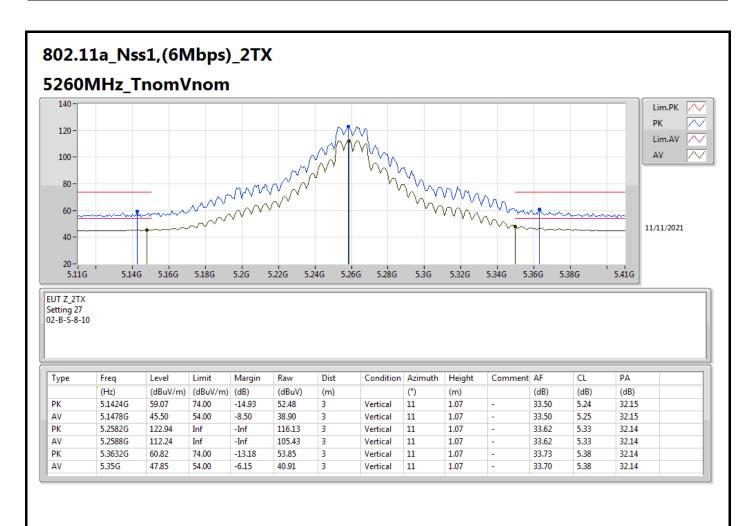
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			(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(m)		(°)	(m)	
5.47-5.725GHz	-	-	-	-	-	-	-	-	-		-
802.11ax HEW80-BF_Nss1,(MCS0)_2TX	Pass	PK	5.466G	67.12	68.20	-1.08	3	Vertical	284	2.65	-

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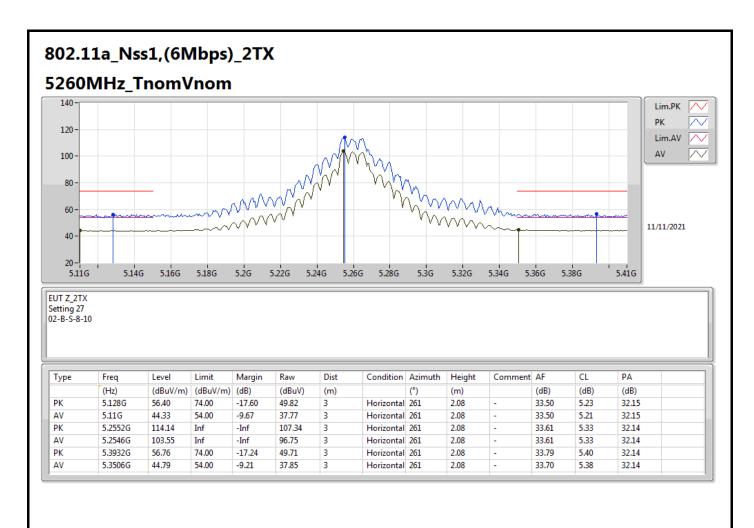




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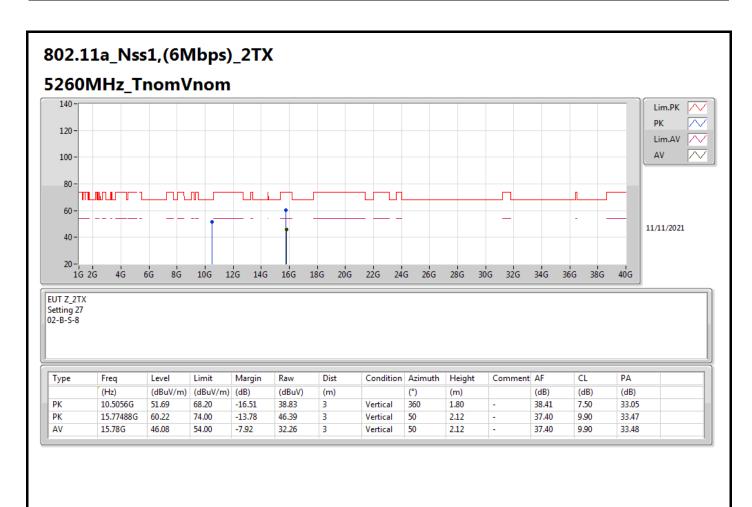




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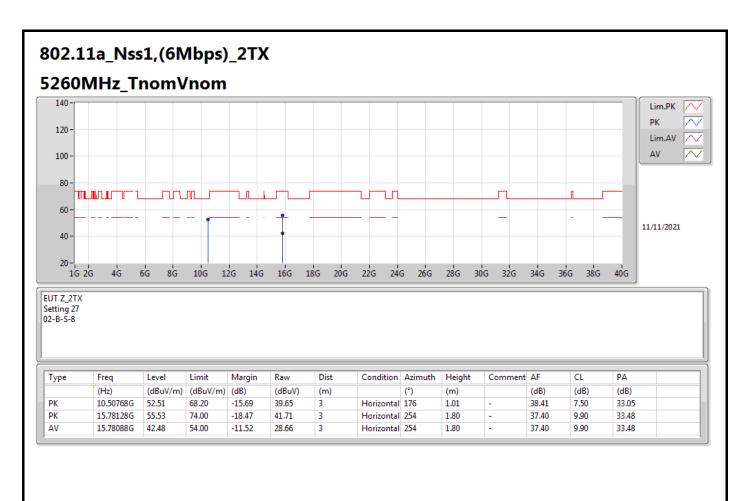




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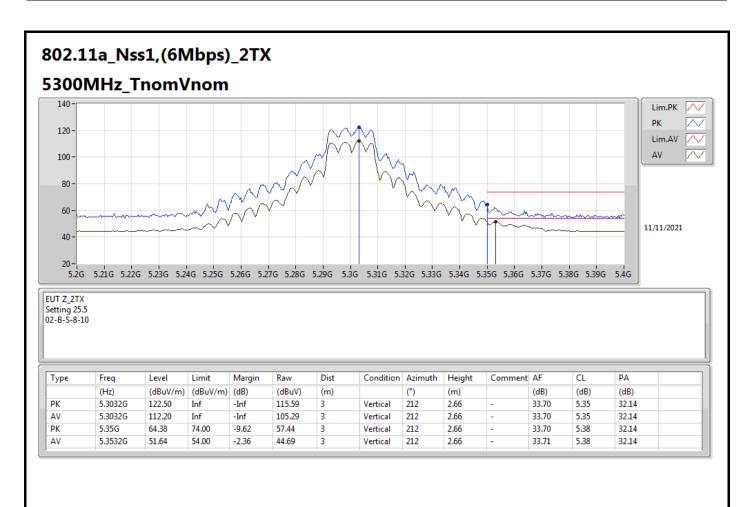




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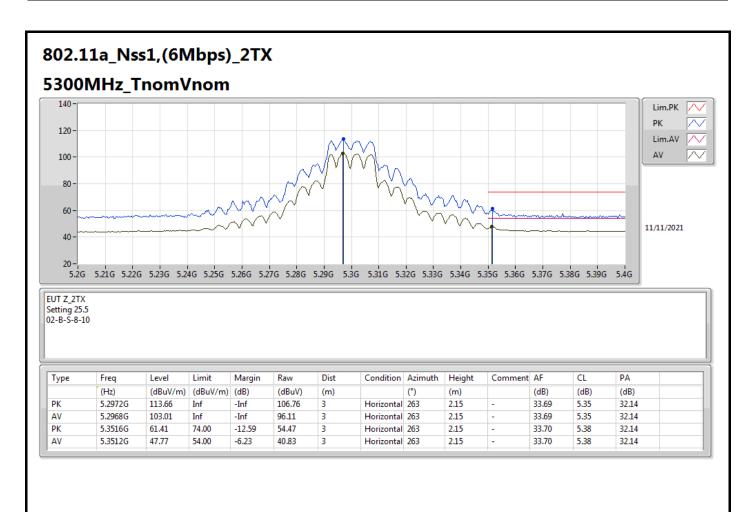




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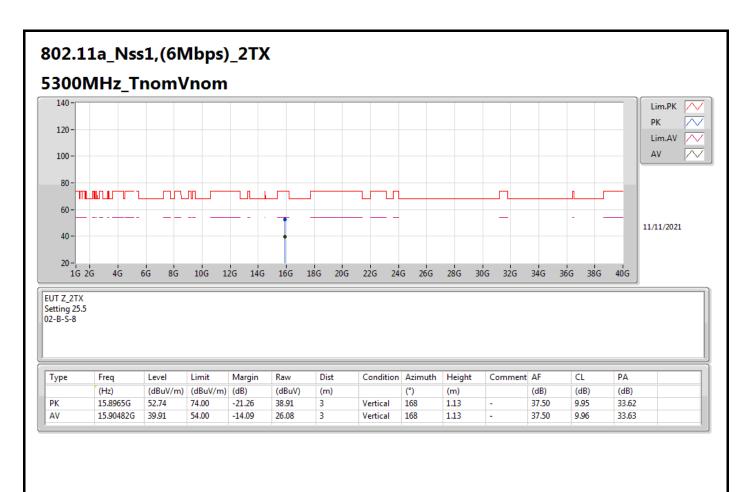




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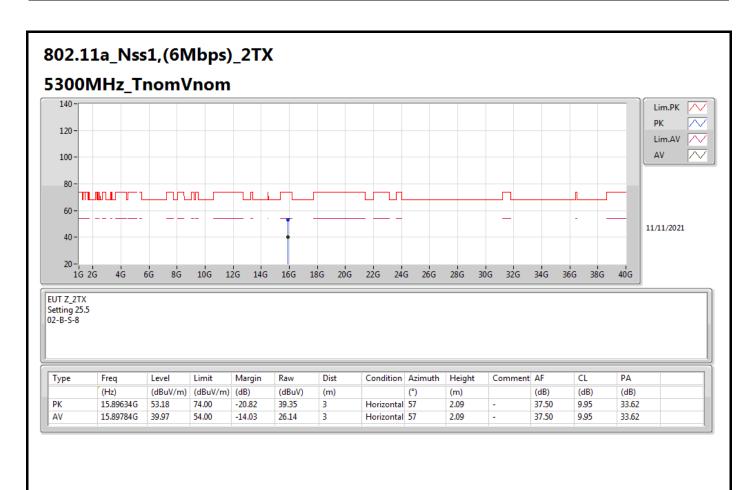




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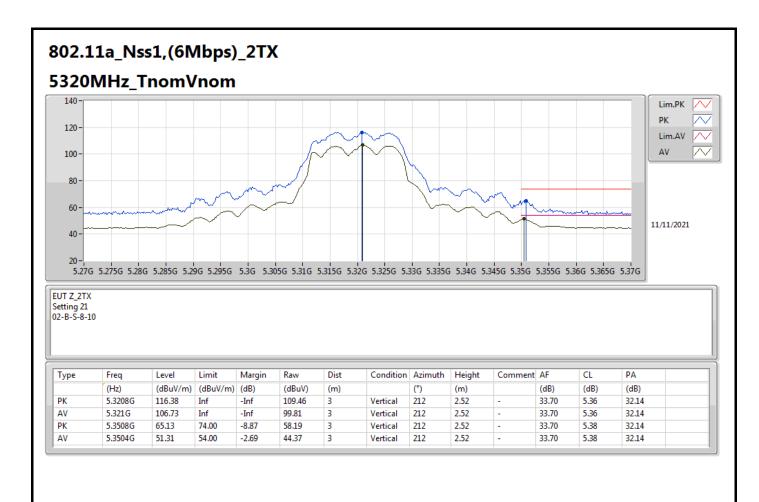




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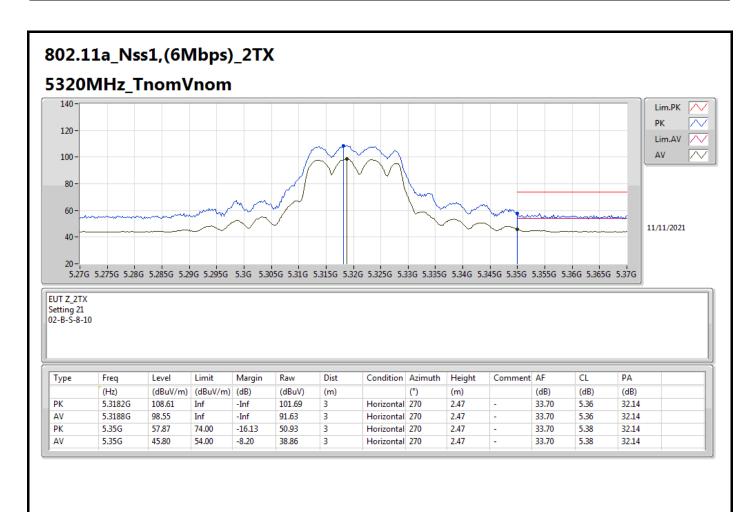




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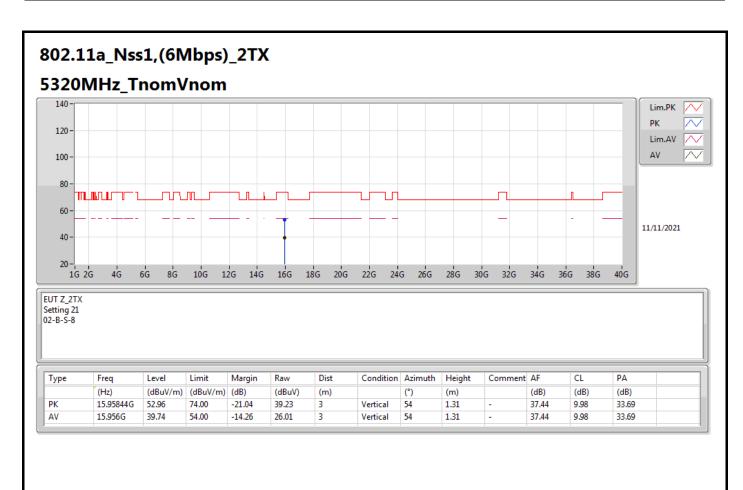




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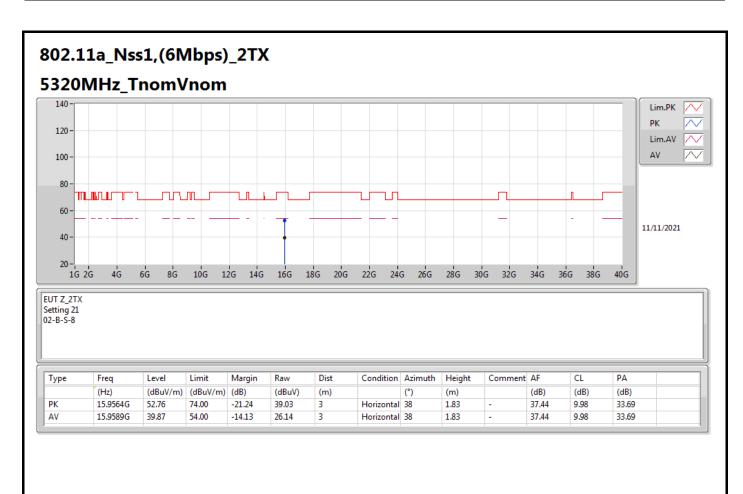




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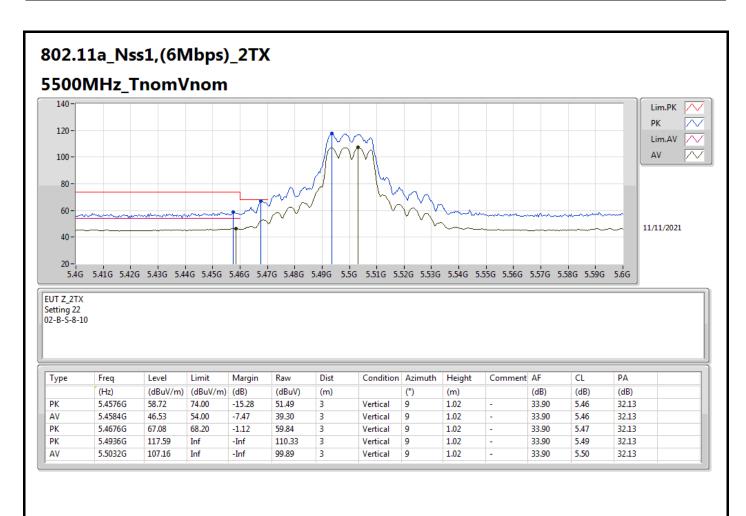




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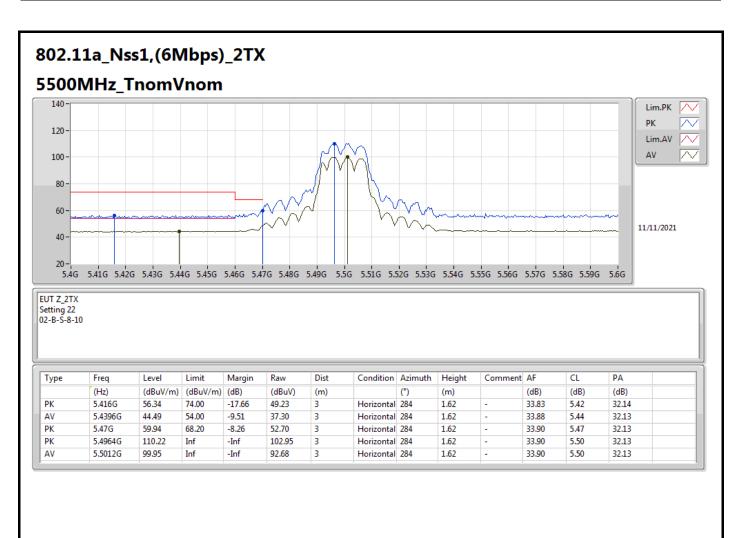




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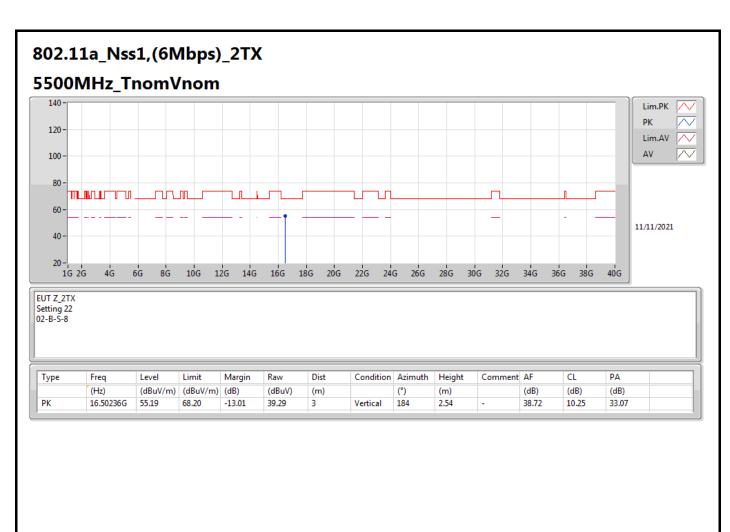




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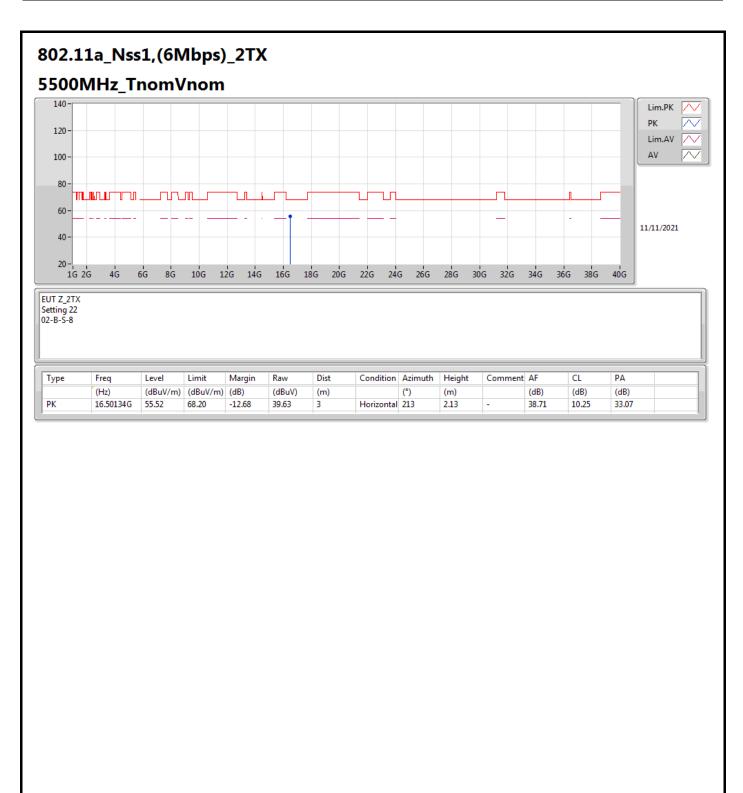




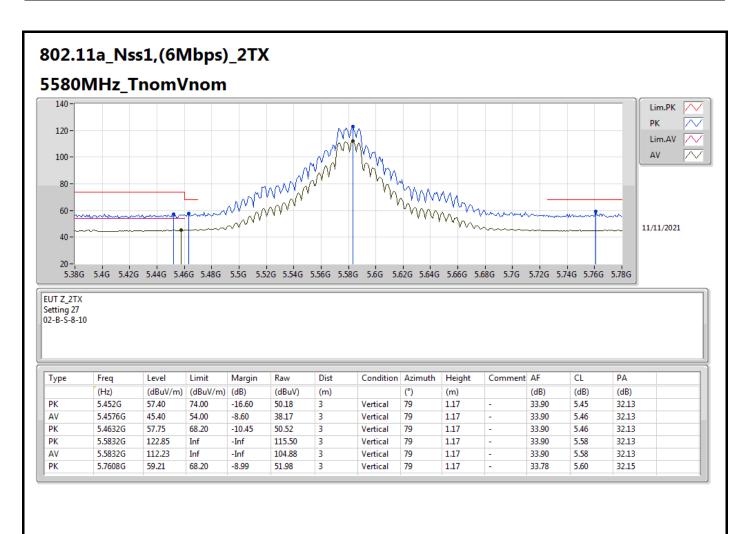
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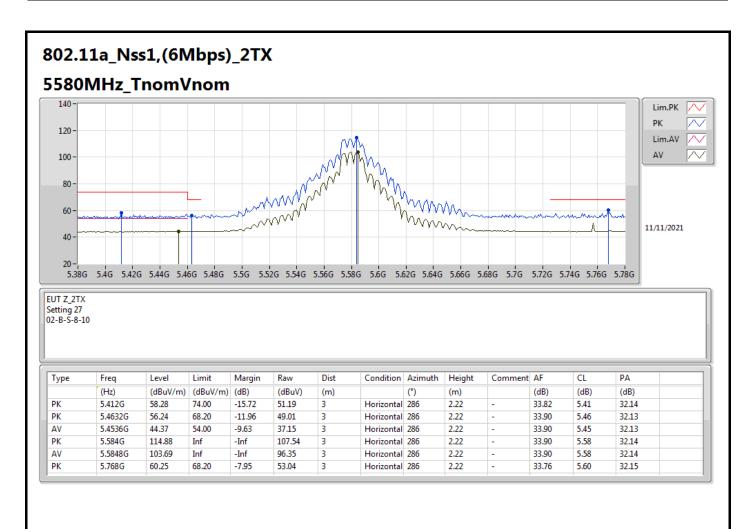




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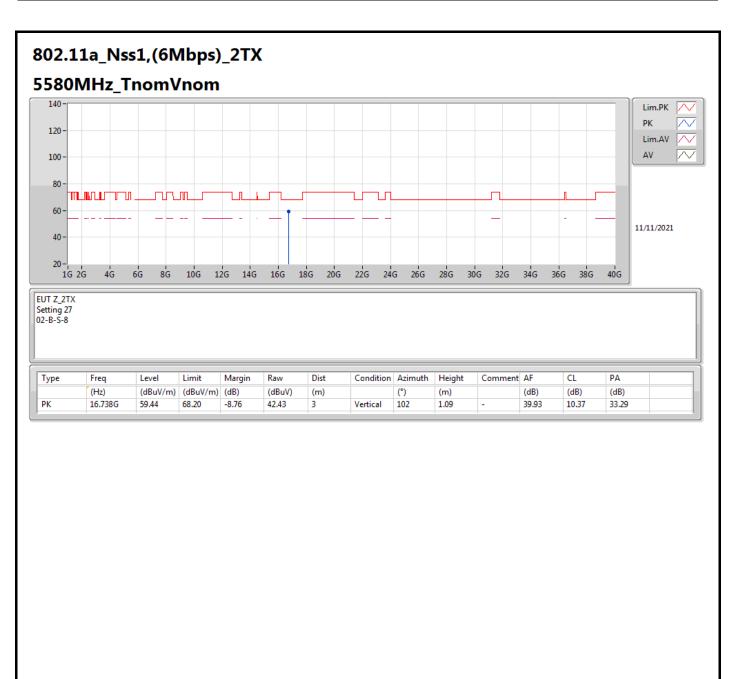




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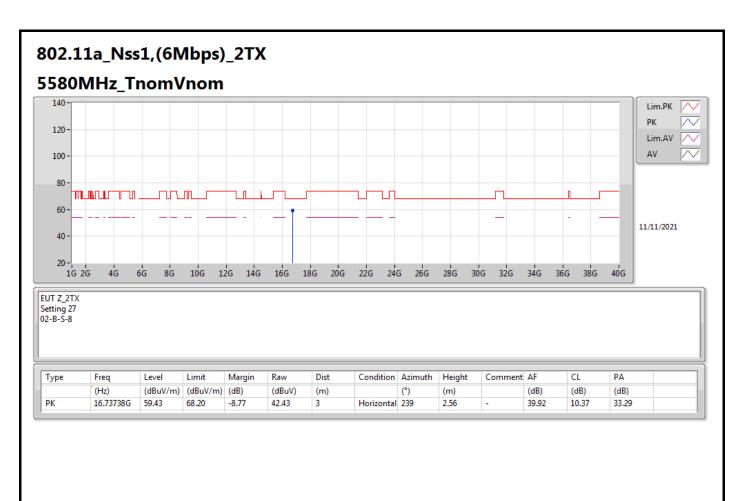




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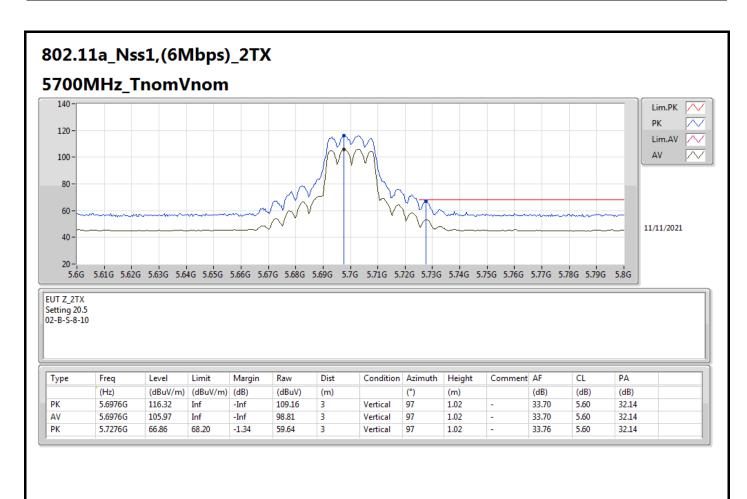




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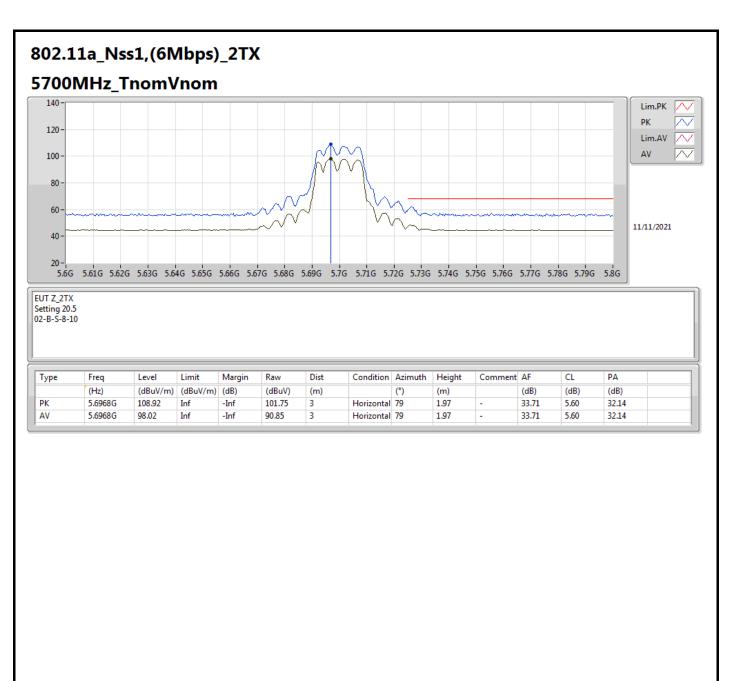




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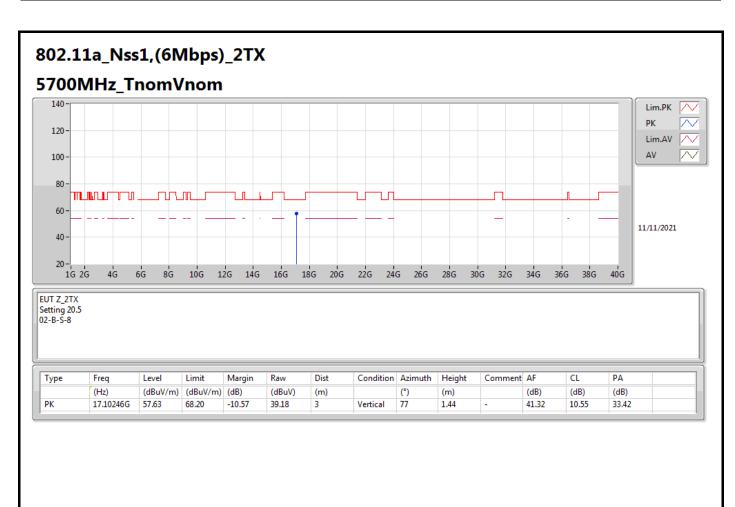




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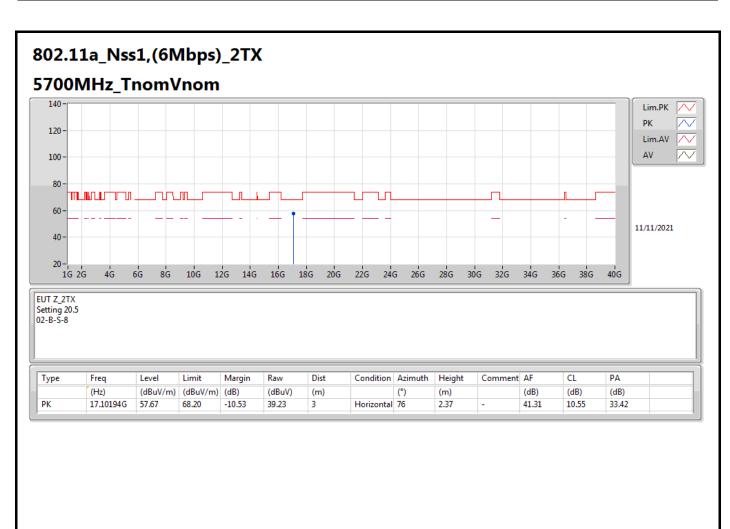




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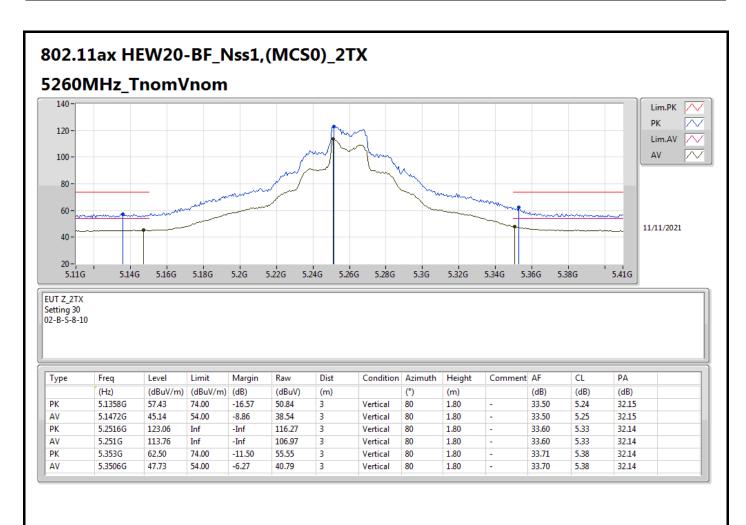




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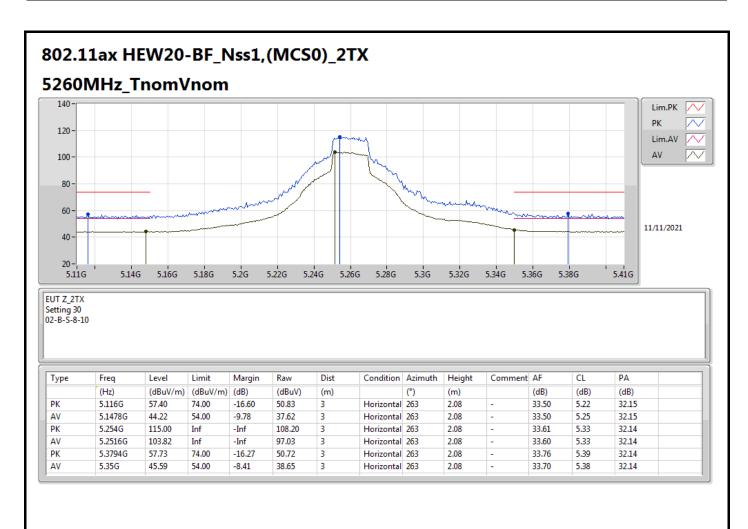




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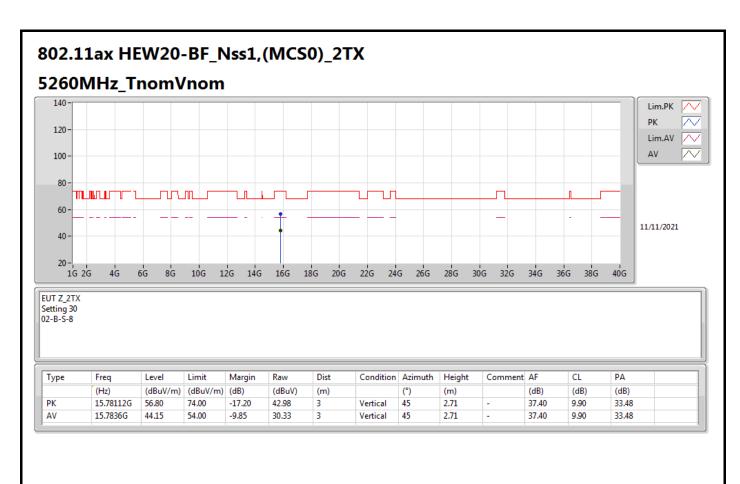




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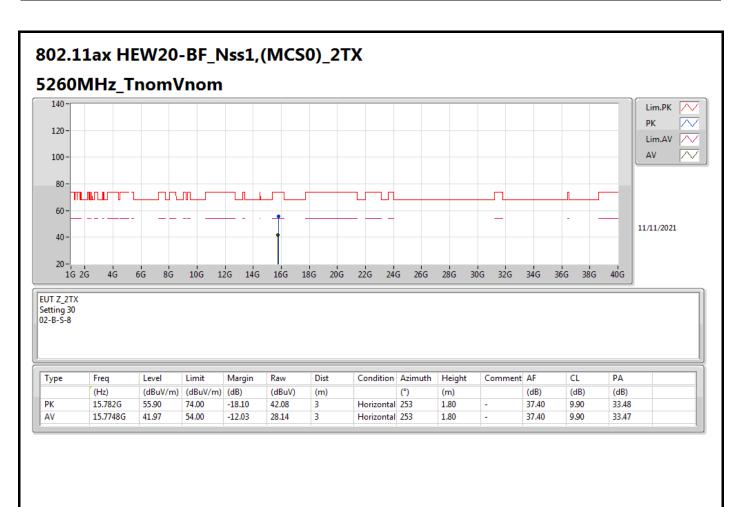




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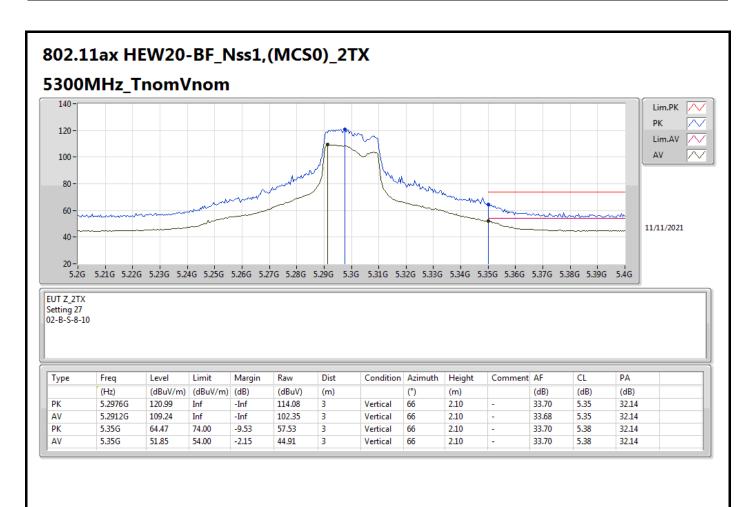




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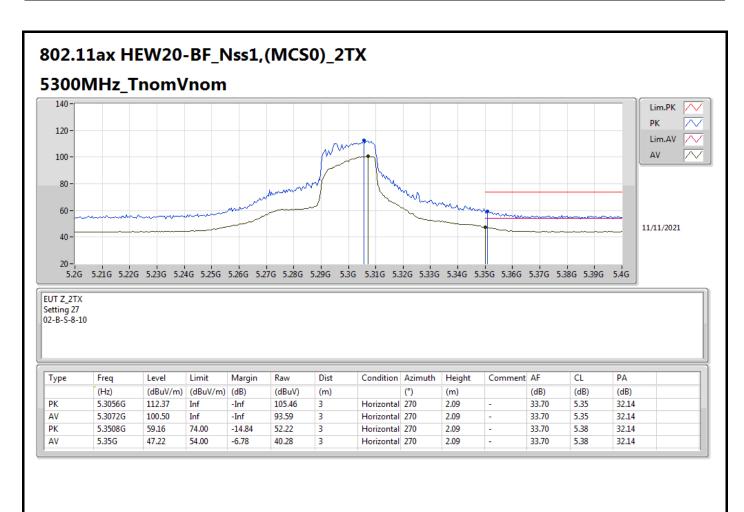




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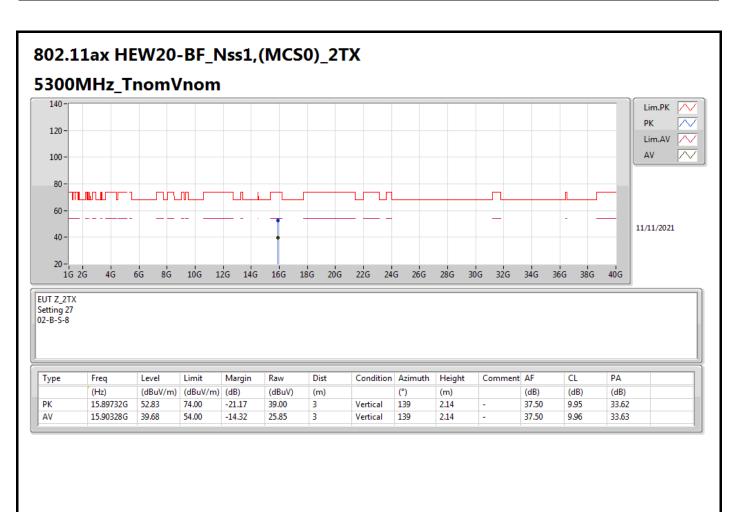




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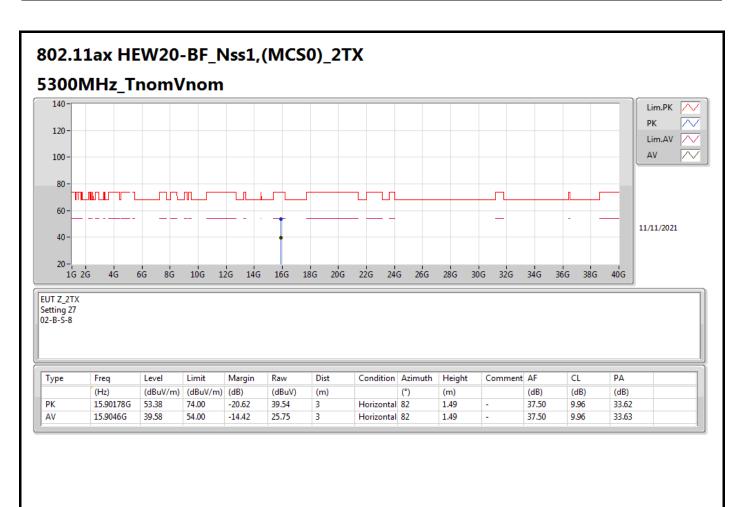




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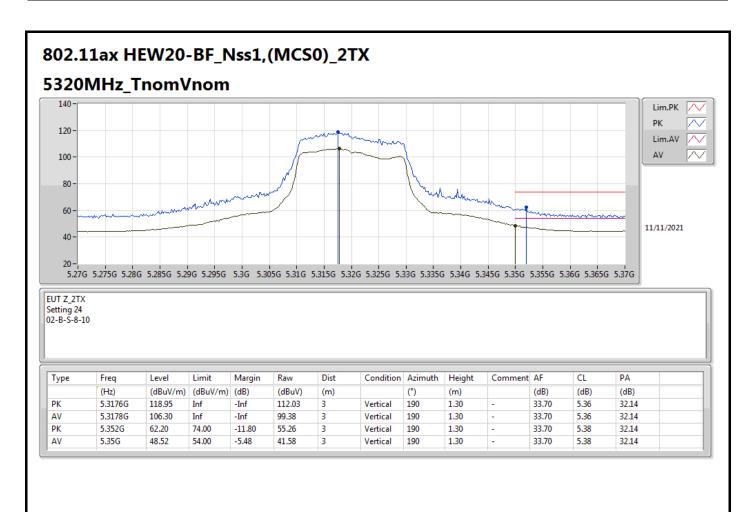




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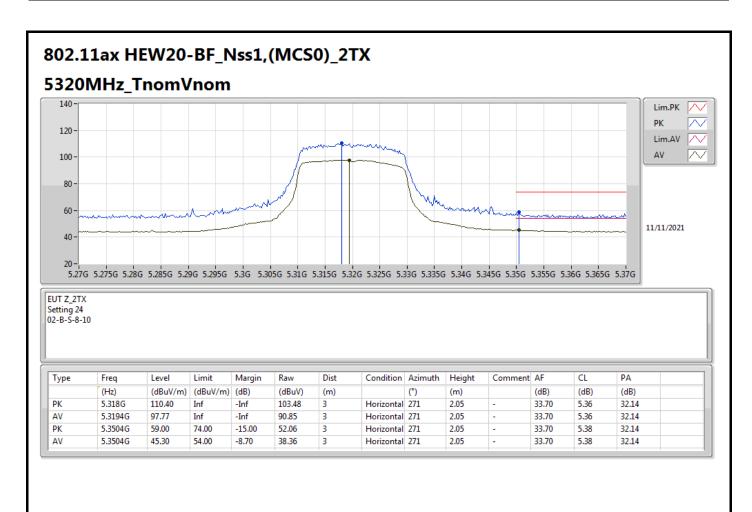




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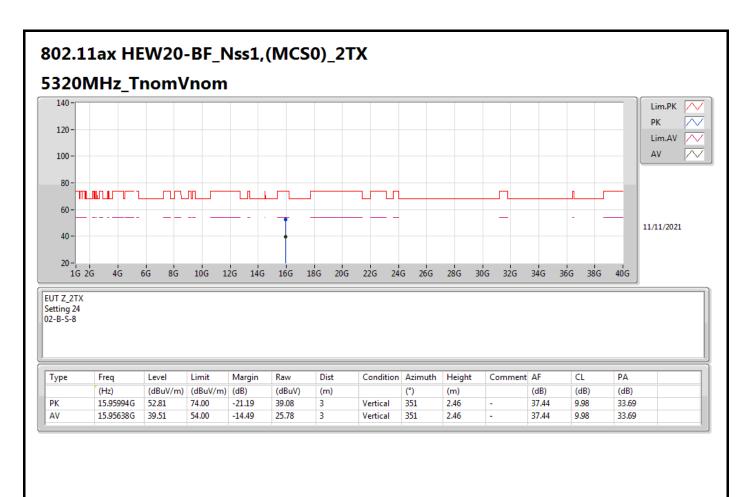




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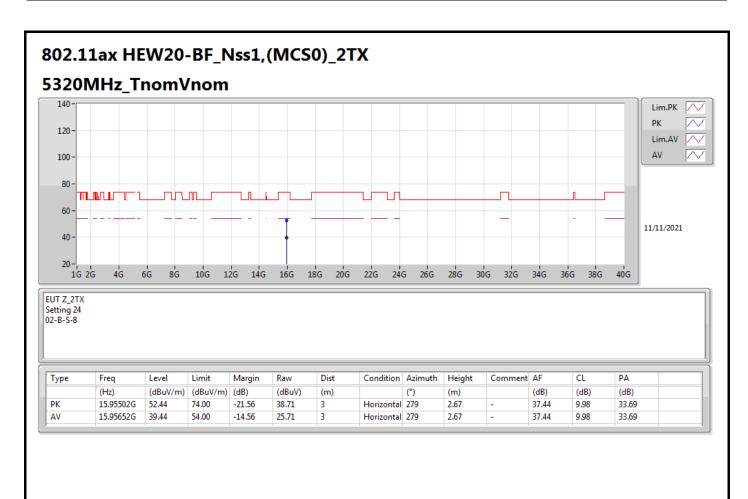




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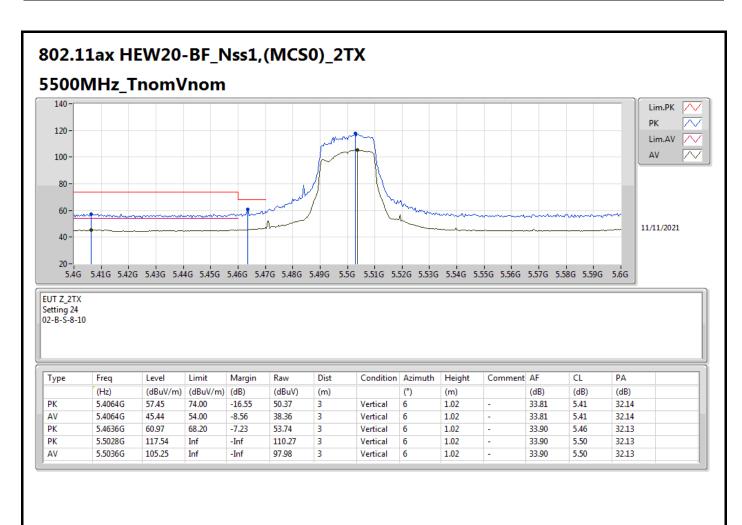




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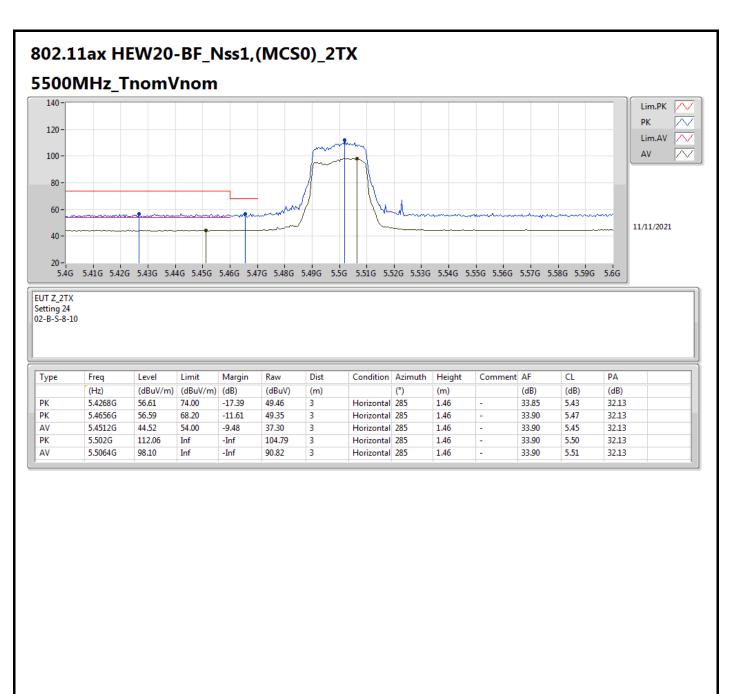




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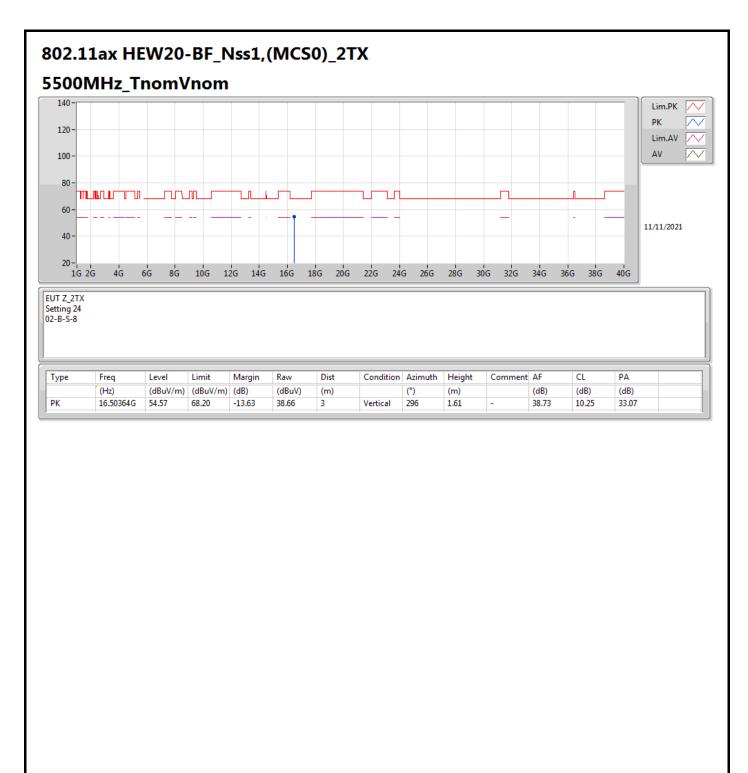




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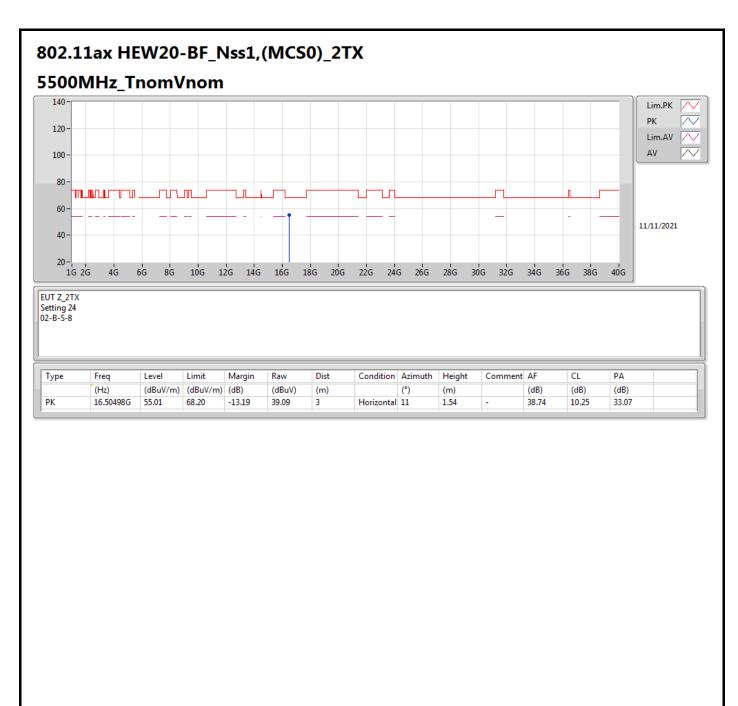




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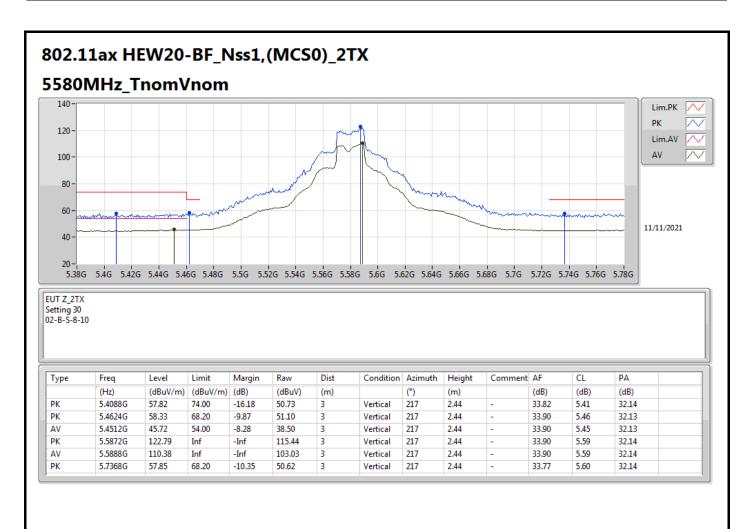




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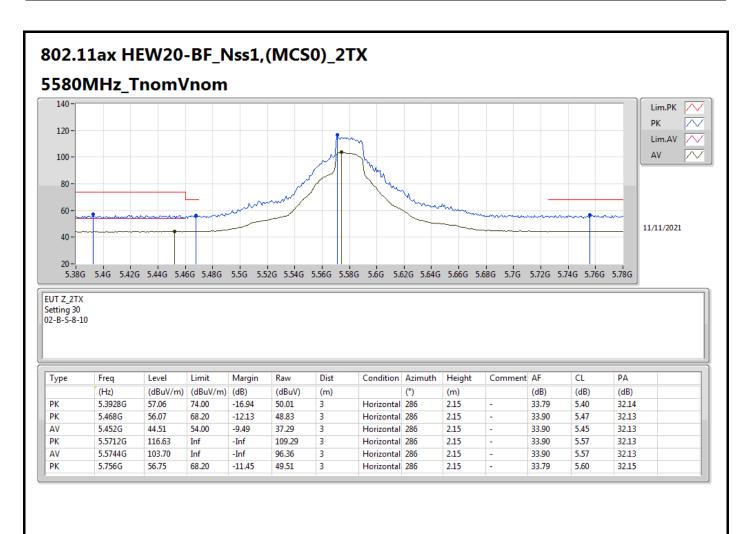




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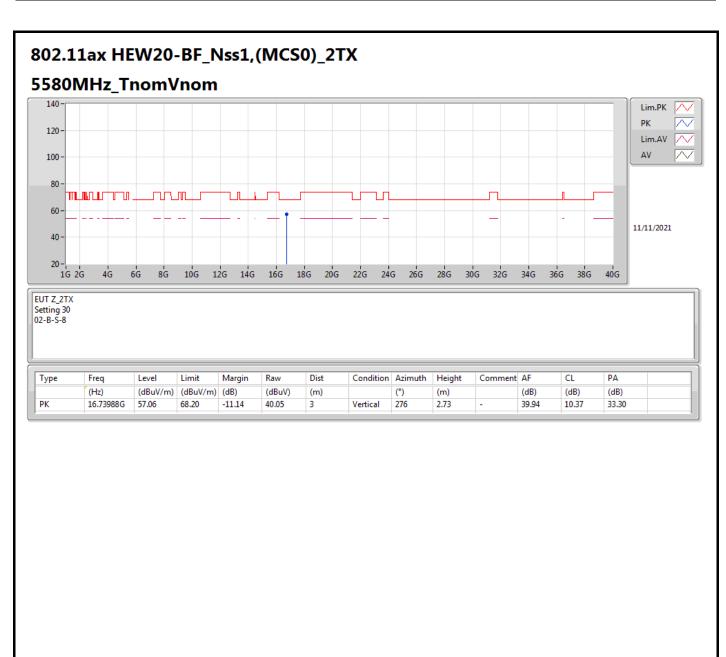




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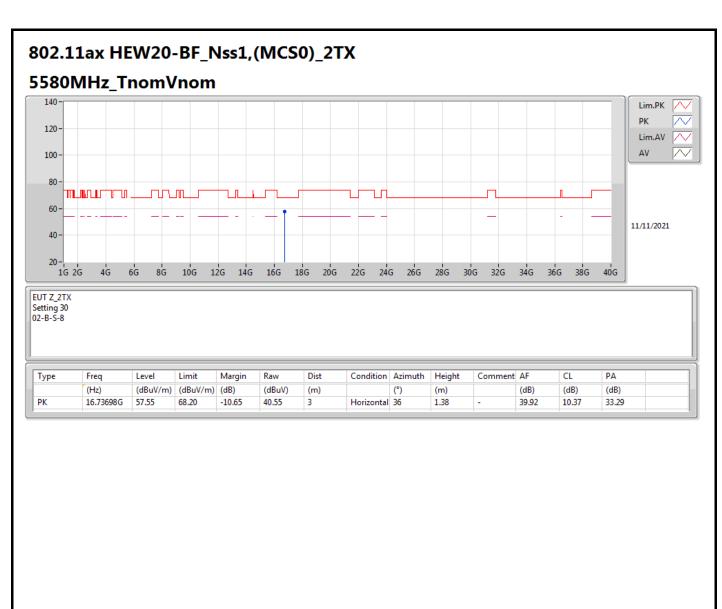




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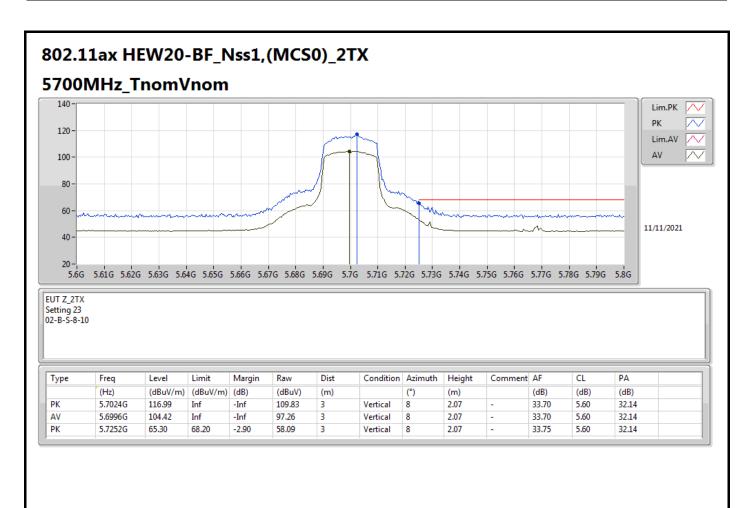




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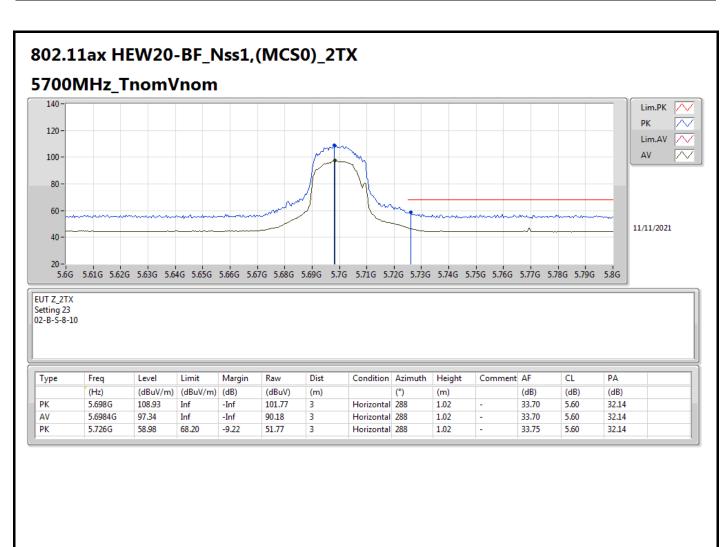




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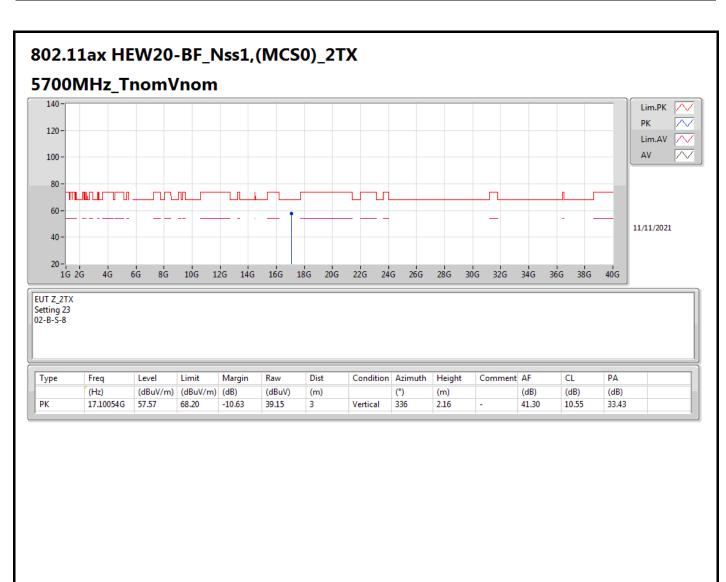




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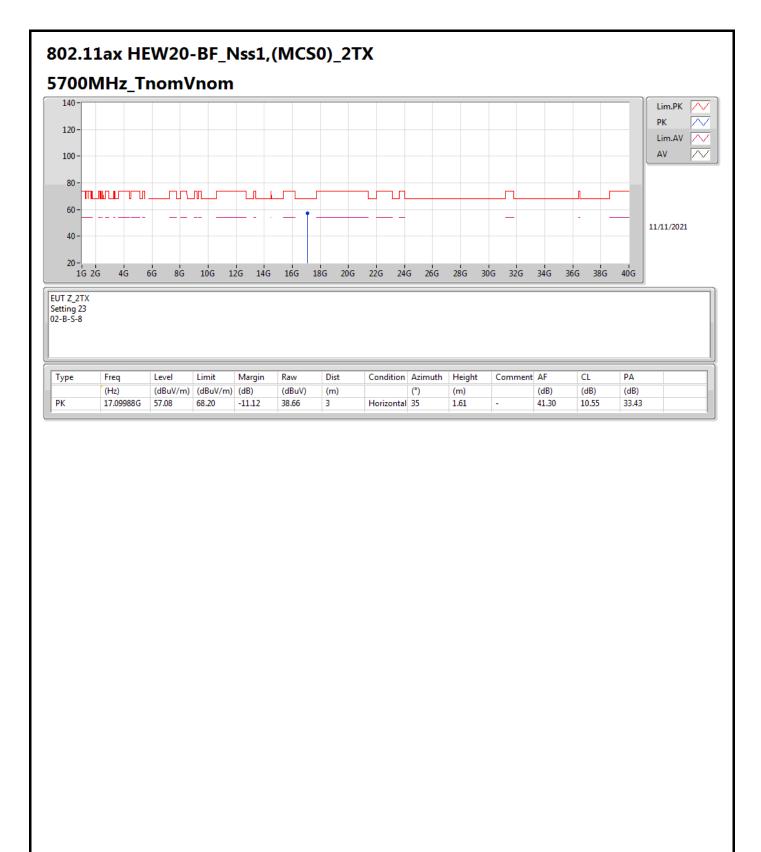




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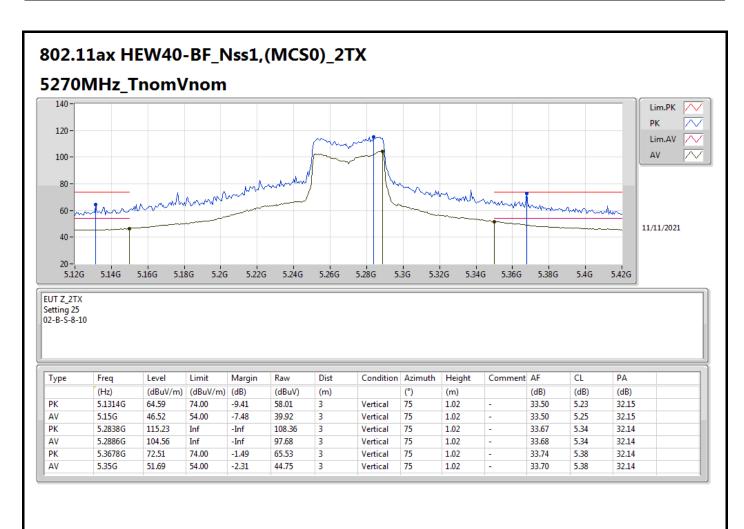




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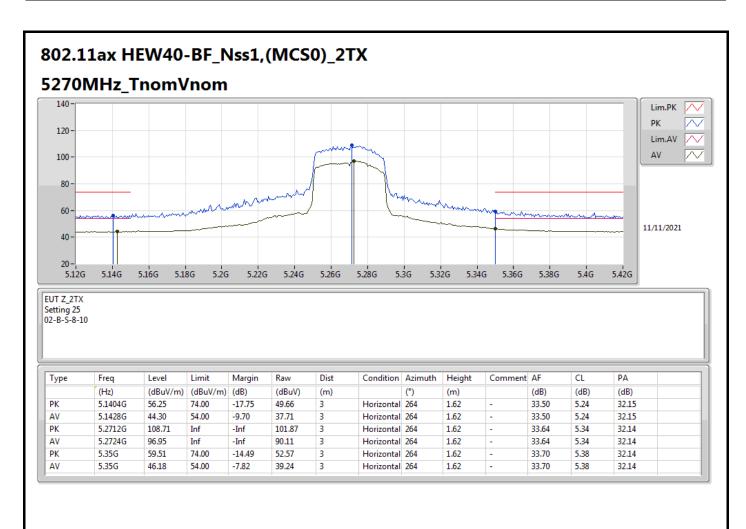




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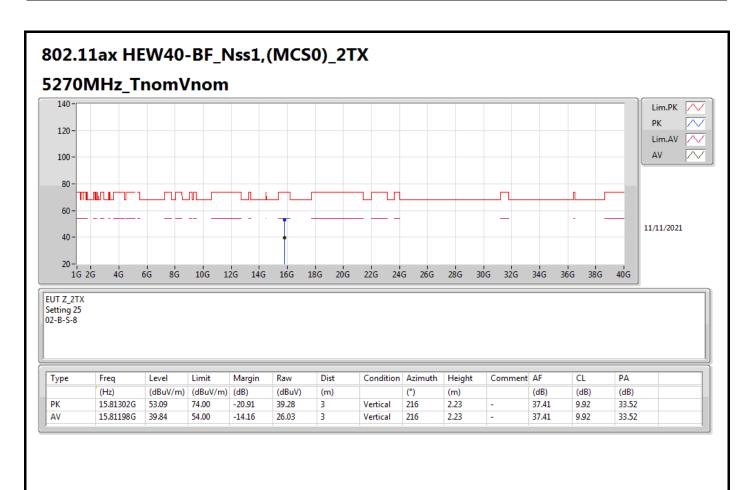




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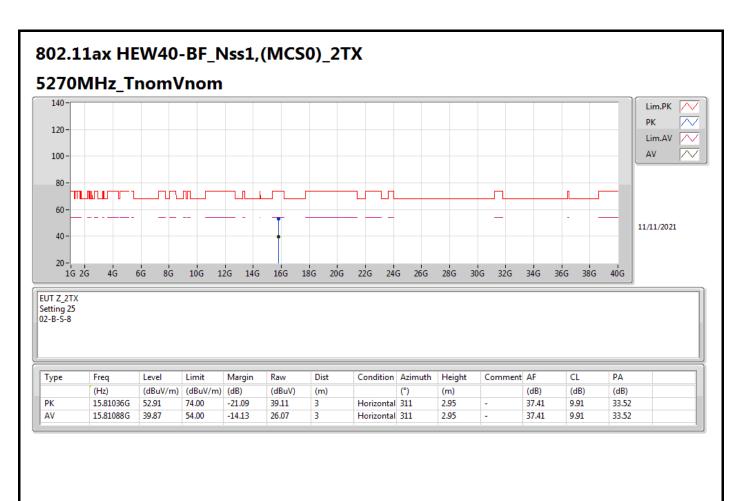




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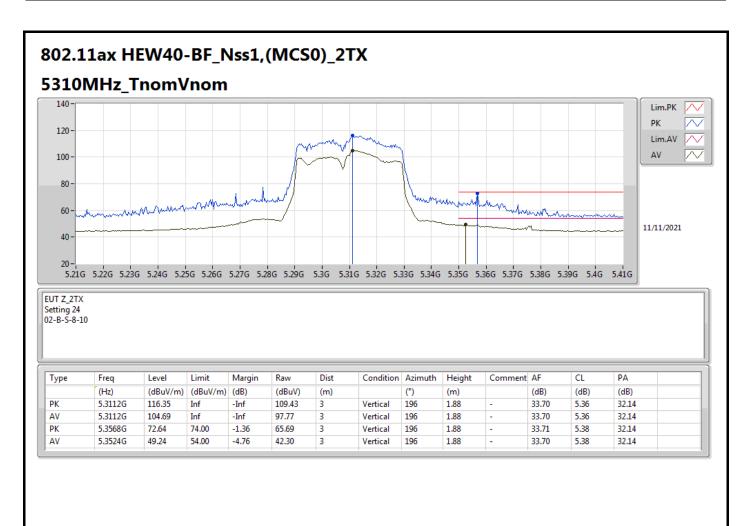




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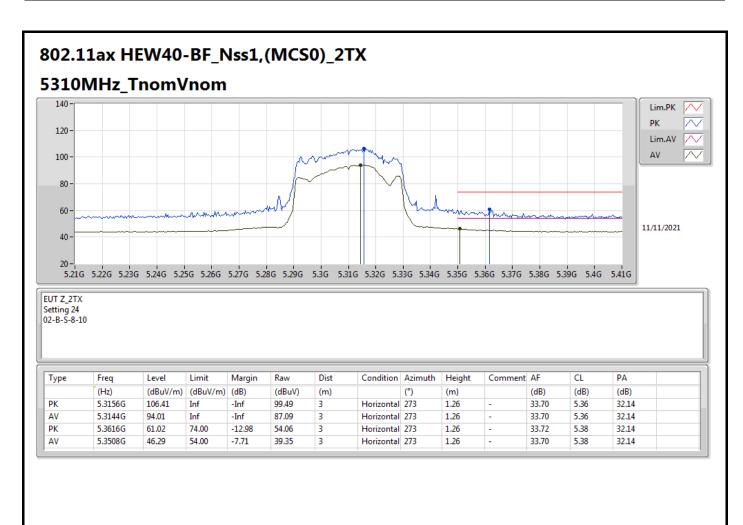




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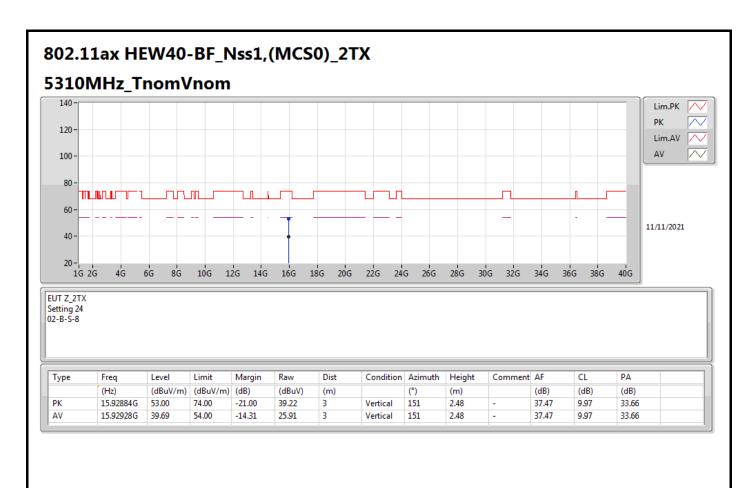




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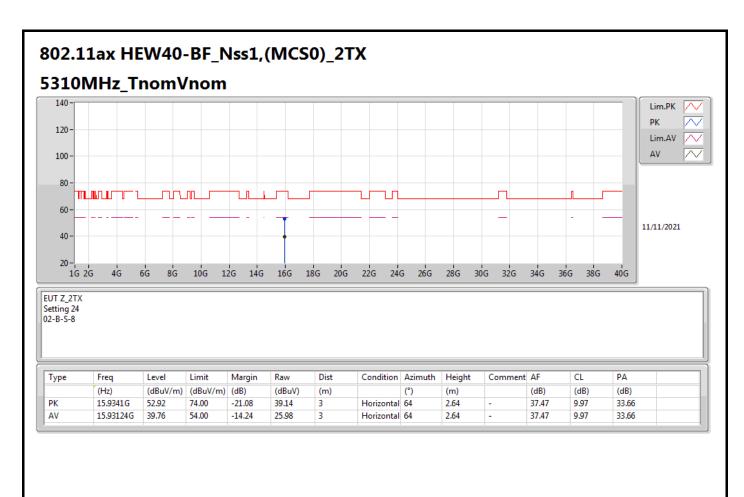




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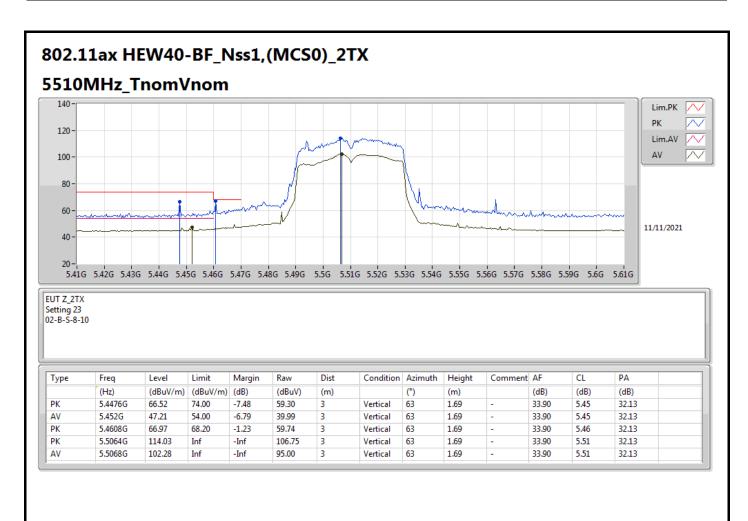




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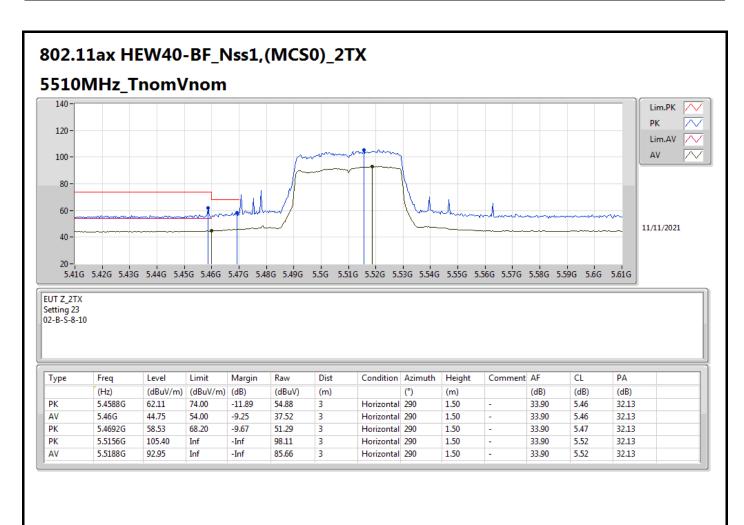




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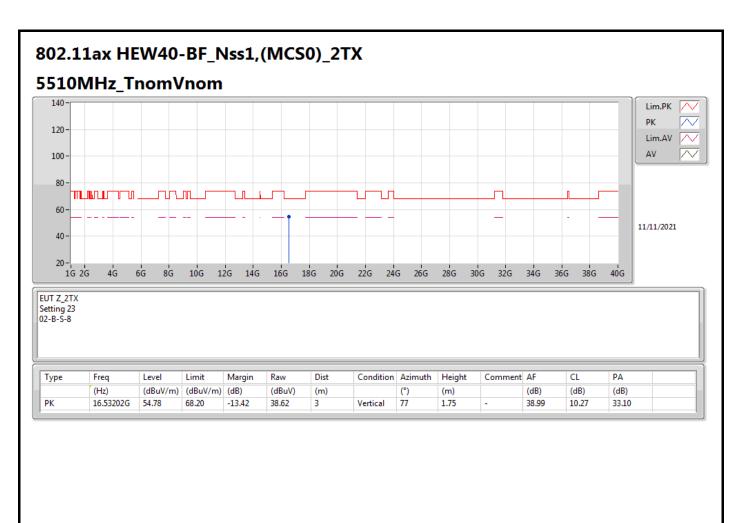




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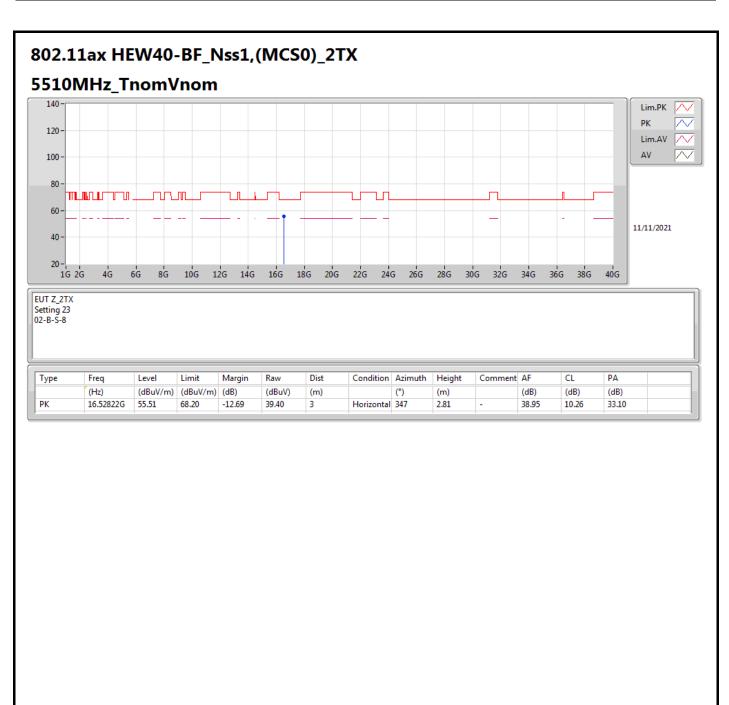




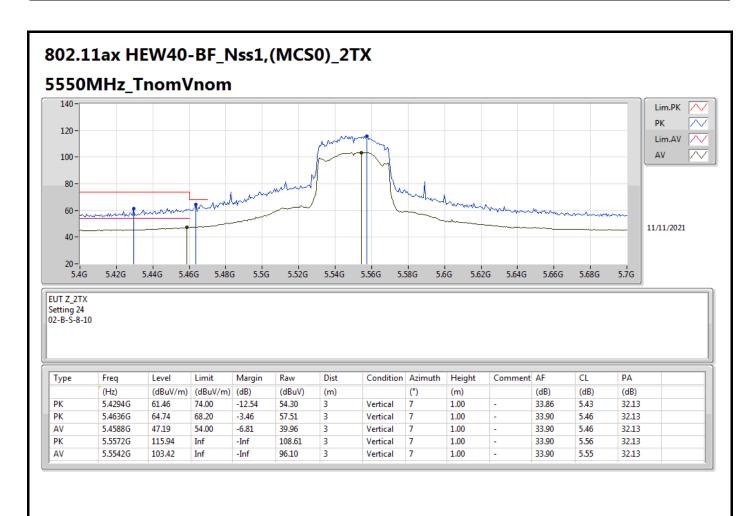
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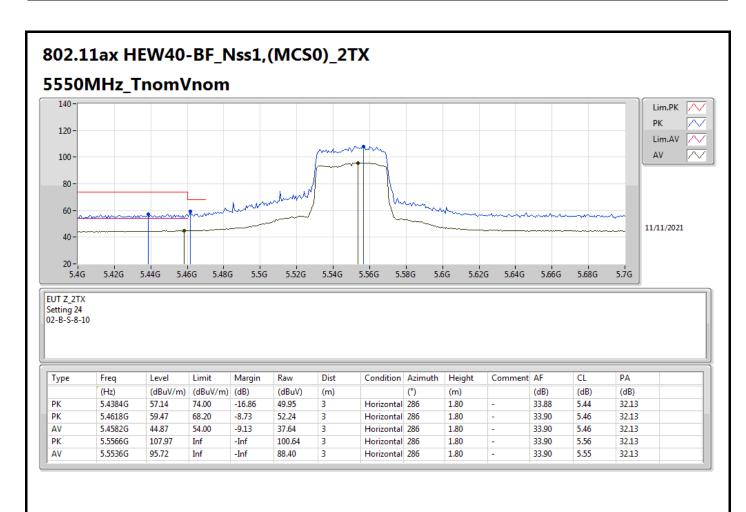




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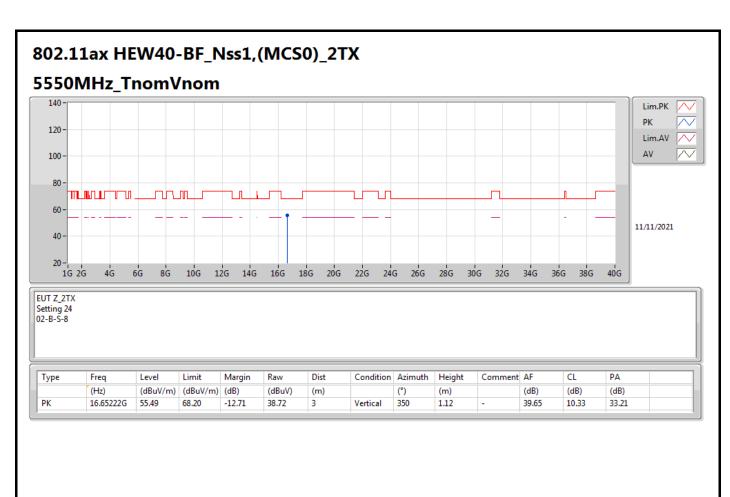




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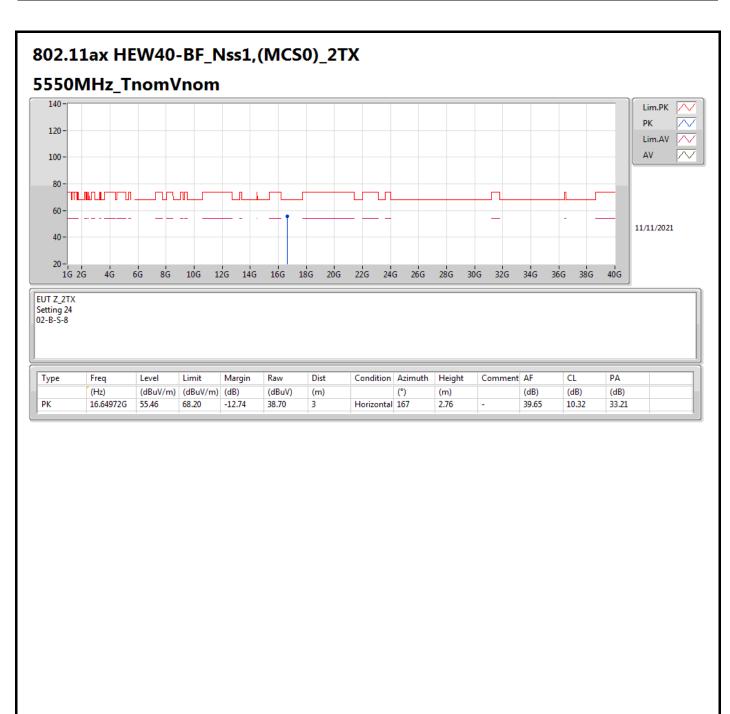




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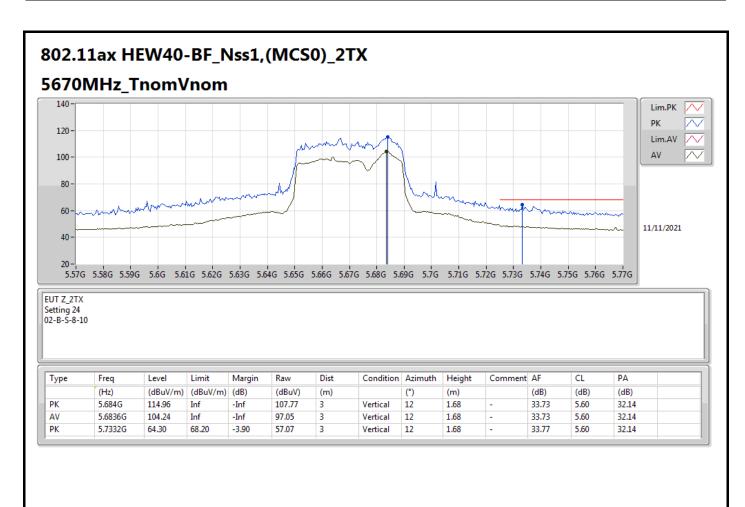




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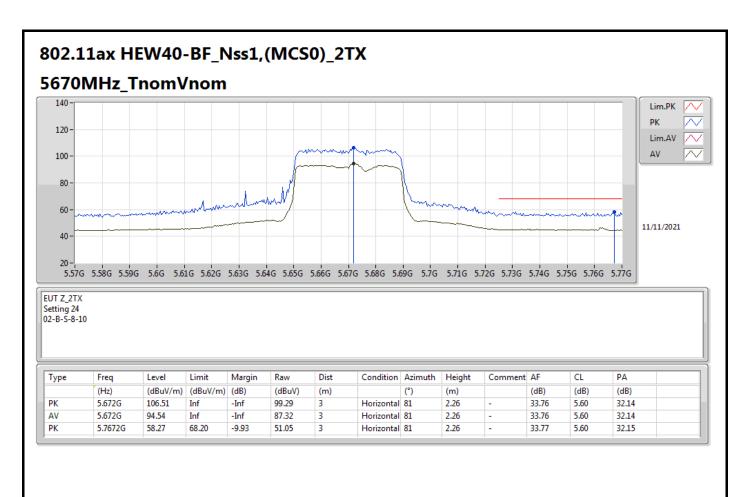




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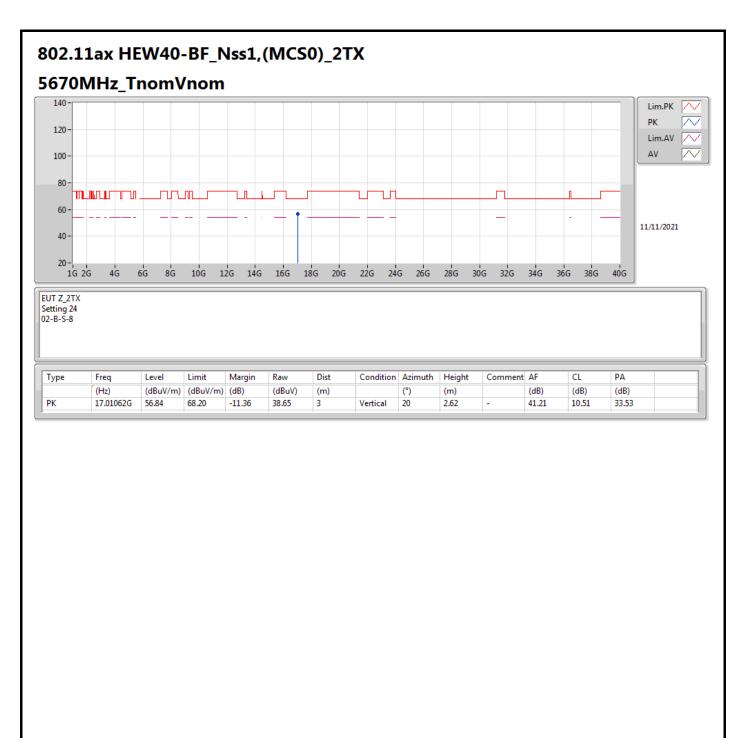




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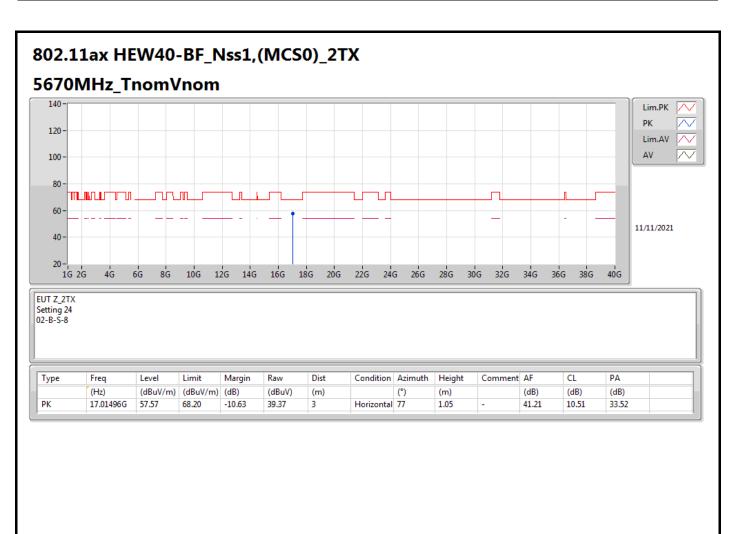




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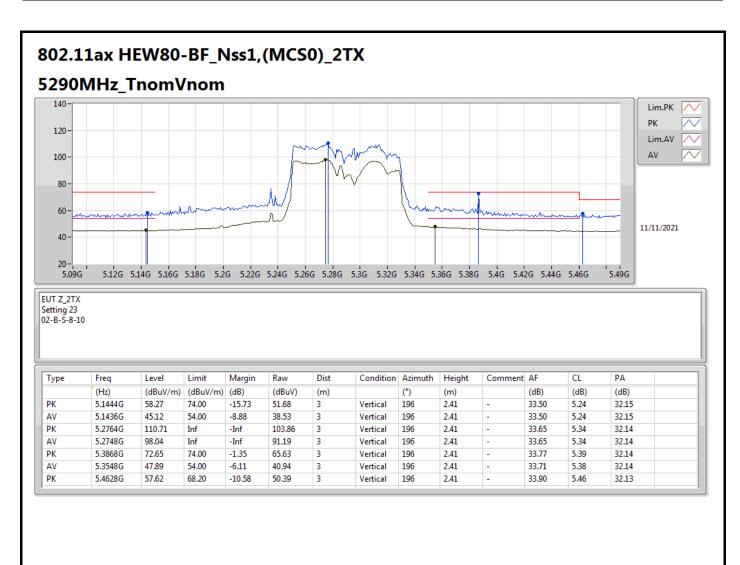




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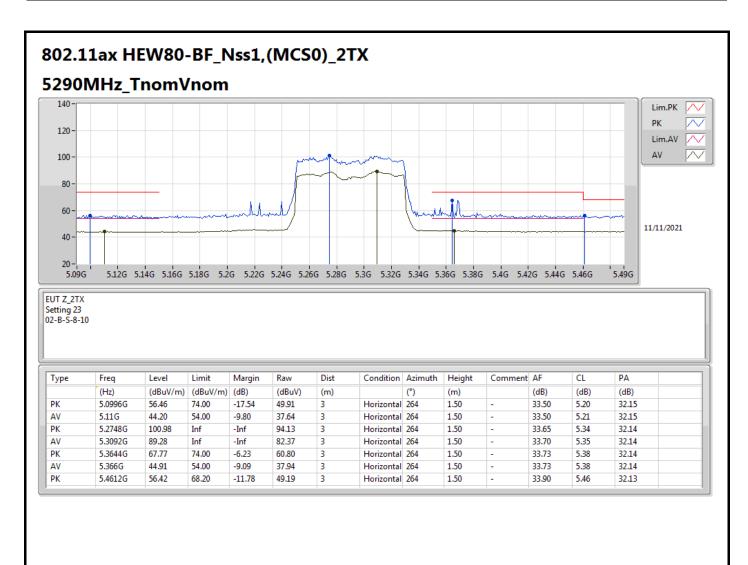




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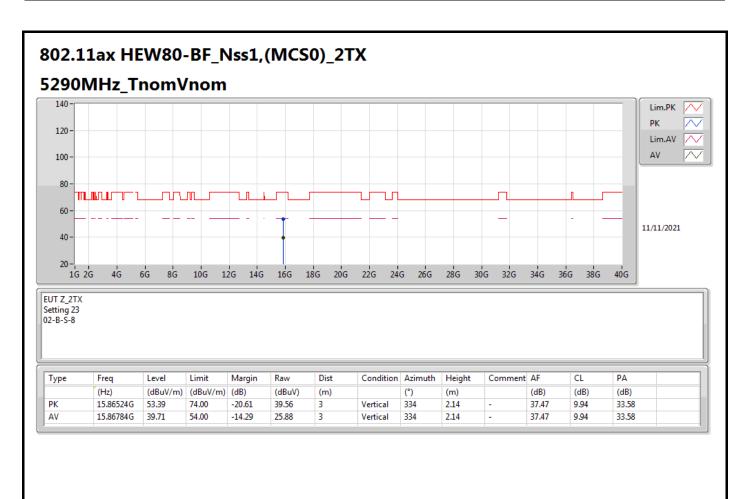




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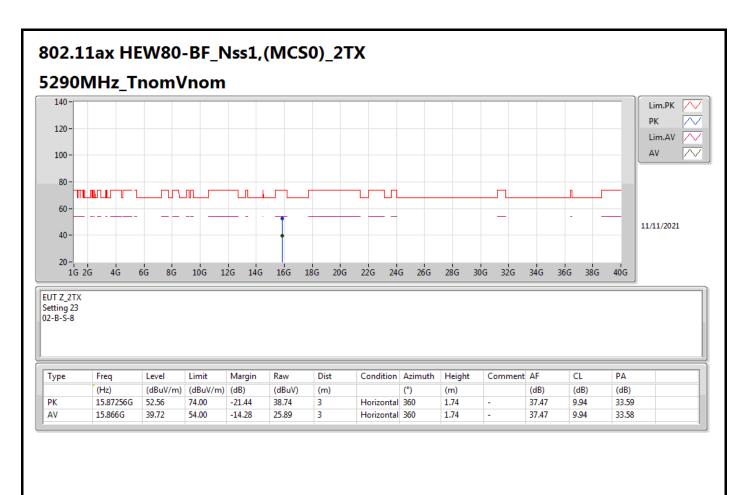




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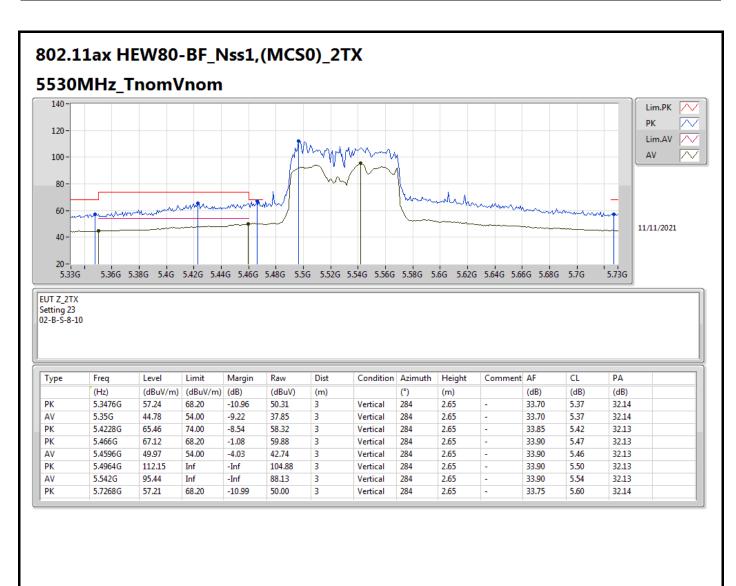




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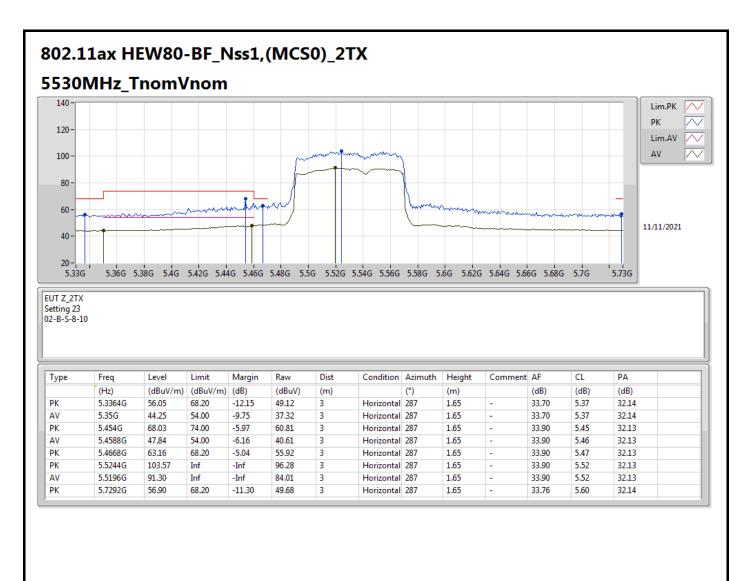




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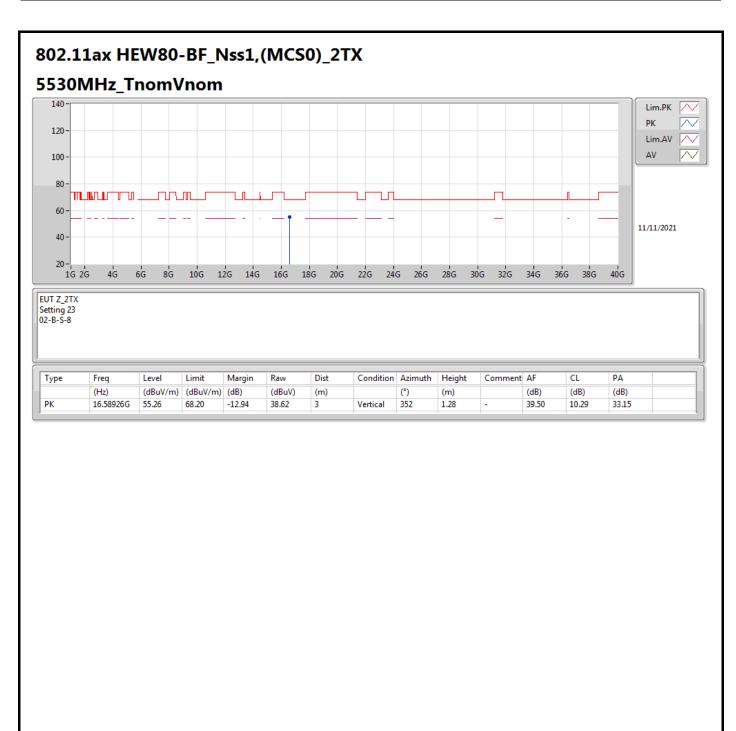




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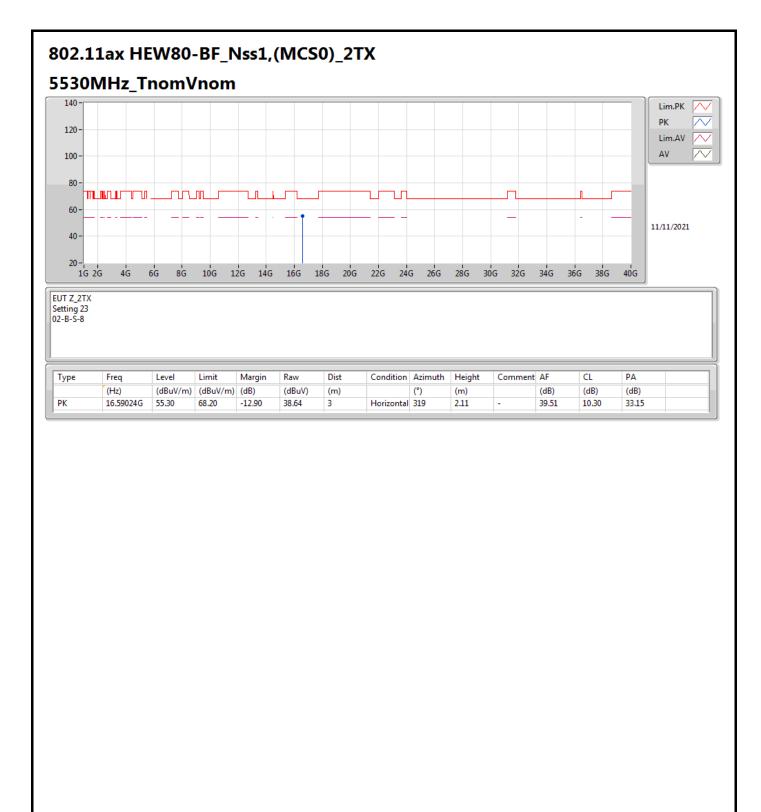




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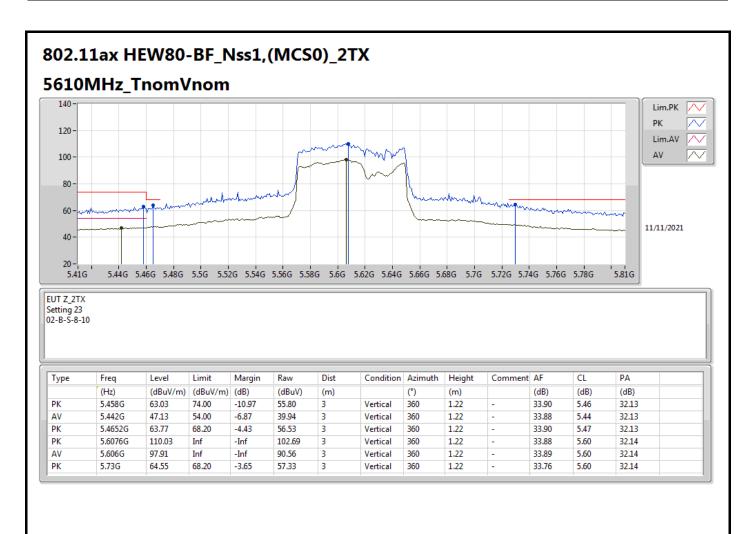




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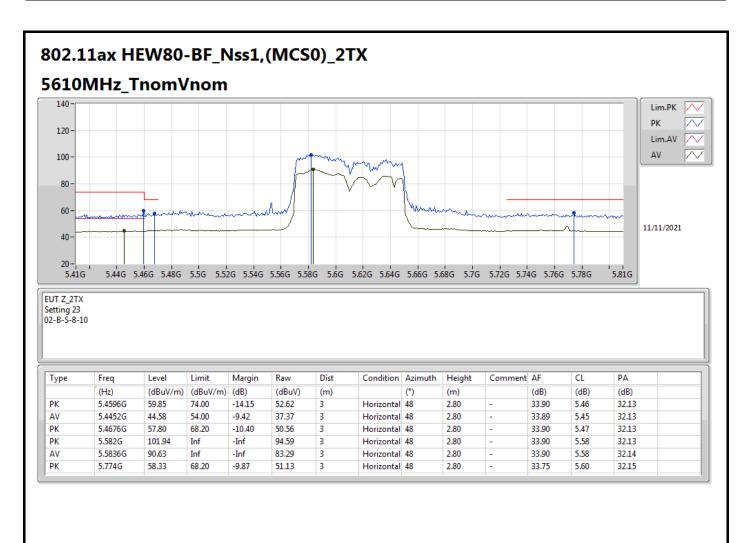




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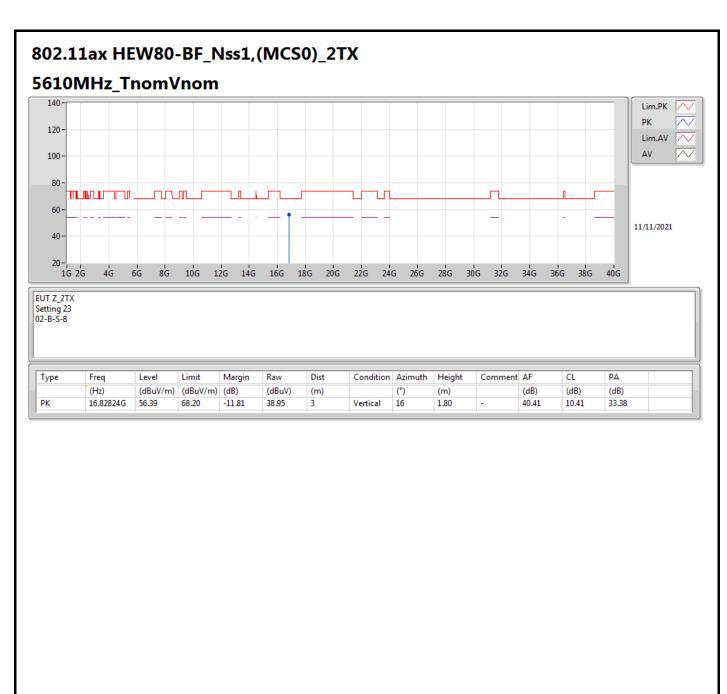




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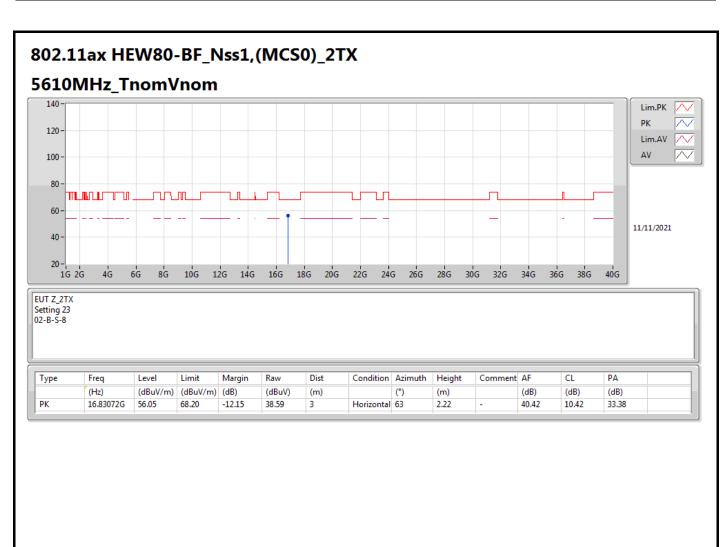




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