

Report No.: FR191618-01



RADIO TEST REPORT

FCC ID : Z8H89FT0075

: ePMP 6GHz Force 4625 SM Equipment

Brand Name : Cambium Networks

Model Name : ePMP 6GHz Force 4625 SM

Model Number: C068940P142A

: Cambium Networks Inc. **Applicant**

3800 Golf Road, Suite 360 Rolling Meadows, IL

60008, USA

: Cambium Networks, Ltd. Manufacturer

Ashburton, TQ13 7UP, UK

: 47 CFR FCC Part 15.407 Standard

The product was received on Sep. 20, 2022, and testing was started from Oct. 01, 2022 and completed on Oct. 18, 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.)

TEL: 886-3-656-9065 FAX: 886-3-656-9085

Report Template No.: CB-A12_1 Ver1.4

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: Nov. 07, 2022 Issued Date

Report Version : 01

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History of this test report

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Report No.	Version	Description	Issued Date
FR191618-01	01	Initial issue of report	Nov. 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	15.207	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:

- 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: Penny Kao

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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
5725-5850	a, n (HT20), ac (VHT20), ax (HEW20)	5745-5825	149-165 [5]
5725-5850	n (HT40), ac (VHT40), ax (HEW40)	5755-5795	151-159 [2]
5725-5850	ac (VHT80), ax (HEW80)	5775	155 [1]

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Band	Mode	BWch (MHz)	Nant
5.725-5.85GHz	802.11a	20	2TX
5.725-5.85GHz	802.11n HT20	20	2TX
5.725-5.85GHz	802.11ac VHT20	20	2TX
5.725-5.85GHz	802.11ax HEW20	20	2TX
5.725-5.85GHz	802.11n HT40	40	2TX
5.725-5.85GHz	802.11ac VHT40	40	2TX
5.725-5.85GHz	802.11ax HEW40	40	2TX
5.725-5.85GHz	802.11ac VHT80	80	2TX
5.725-5.85GHz	802.11ax HEW80	80	2TX

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

Ant.	Port	Brand	Model Name	Antenna Type	Connector	Gain (dBi)
1	1/2	Cambium	25dBi Dish antenna	Dish	N/A	25.38

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Note1: Directional gain information

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

Ex.

Directiona lGain =
$$10 \cdot \log \left| \frac{\sum_{j=1}^{N_{SE}} \left\{ \sum_{k=1}^{N_{SET}} \mathbf{g}_{j,k} \right\}}{N_{ANT}} \right|$$

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

$$gj_k = (Nss1(g1,1) + Nss1(g1,2))^2$$

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

Where;

5G Band4 G1 = 25.38 dBi; G2 = 25.38 dBi; DG = 28.39 dBi

Note2: The above information was declared by manufacturer.

Note3: The EUT has one antenna.

<5GHz UNII 3 function>

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

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

Port 1, 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	0.641	1.93	1.977m	1k
802.11ax HEW20	0.908	0.42	5.452m	300
802.11ax HEW40	0.93	0.32	5.452m	300
802.11ax HEW80	0.902	0.45	5.452m	300

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NI	_1.	

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

1.1.4 EUT Operational Condition

EUT Power Type	From PoE			
Beamforming Function	☐ With beamforming ☐ Without beamforming			Without beamforming
		Outdoor P2M		Indoor P2M
Function	\boxtimes	Fixed P2P		Client
		Point-to-multipoint	\boxtimes	Point-to-point
Test Software Version	QSPR v5.0-00199			

Note: The above information was declared by manufacturer.

1.1.5 Table for EUT supports functions

Function	Support Type
AP	Master
Slave	Slave without radar detection

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

Note 2: The above information was declared by manufacturer.

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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:

- 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 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	TH02-CB	Mason Chen	22.9~24.7 / 55~60	Oct. 07, 2022
Radiated Below 1GHz	03CH05-CB	RJ Huang	25.1~26.5 / 60~65	Oct. 01, 2022~ Oct. 14, 2022
Radiated	03CH02-CB	RJ Huang	24.4-25.5 / 55-58	Oct. 01, 2022~
Above 1GHz	03CH03-CB		23.5~23.8 / 56~60	Oct. 14, 2022
AC Conduction	CO02-CB	Allen Chung	22~23 / 58~59	Oct. 18, 2022

1.4 **Measurement Uncertainty**

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

Test 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%

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2 Test Configuration of EUT

2.1 Test Channel Mode

Mode	Power Setting
802.11a_Nss1,(6Mbps)_2TX	-
5745MHz	14
5785MHz	13
5825MHz	6.5
802.11ax HEW20_Nss1,(MCS0)_2TX	-
5745MHz	14
5785MHz	14
5825MHz	6.5
802.11ax HEW40_Nss1,(MCS0)_2TX	-
5755MHz	14
5795MHz	10
802.11ax HEW80_Nss1,(MCS0)_2TX	-
5775MHz	9

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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.

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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_WLAN 5GHz + PoE

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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 us regardless of spatial multiplexing MIMO configuration), the radiated to be performed with highest antenna gain of each antenna type.		
	CTX	
Operating Mode < 1GHz	The EUT was performed at X axis, Y axis and Z axis. EUT in Z axis has been evaluated to be the worst case at Unwanted Emissions <above 1ghz="">; thus, the measurement will follow this same test configuration.</above>	
1	EUT in Z axis_WLAN 5GHz + PoE	
	СТХ	
Operating Mode > 1GHz	The EUT was performed at X axis, Y axis and Z axis position, and the worst case as below:	
1	EUT in Z axis	

Note: The PoE below is for measurement only, would not be marketed.

The PoE information as below:

Support Unit	Brand	Model Number
PoE	CWT	P015U06

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2.3 EUT Operation during Test

For CTX Mode:

The EUT was programmed to be in continuously transmitting mode.

For Normal Link:

During the test, the EUT operation to normal function.

2.4 Accessories

N/A

2.5 Support Equipment

For AC Conduction:

	Support Equipment			
No.	Equipment	Brand Name	Model Name	FCC ID
Α	PoE	CWT	P015U06	N/A
В	PoE NB	DELL	E6430	N/A
С	Flash disk3.0	Transcend	JetFlash-700	N/A

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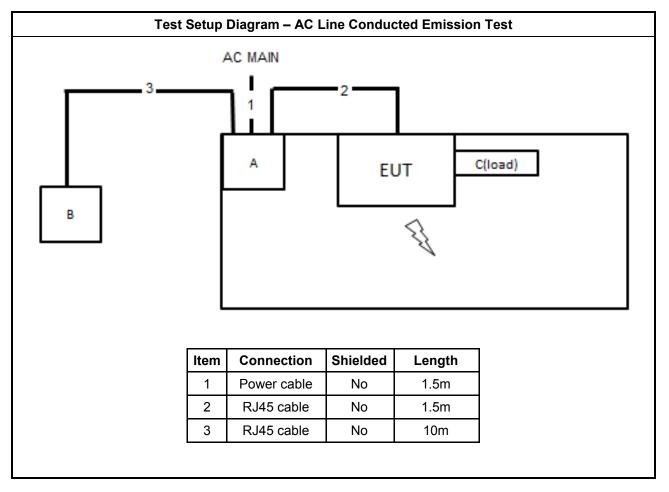
For Radiated and RF Conducted:

	Support Equipment			
No.	Equipment	Brand Name	Model Name	FCC ID
Α	PoE	CWT	P015U06	N/A
В	Notebook	DELL	E4300	N/A

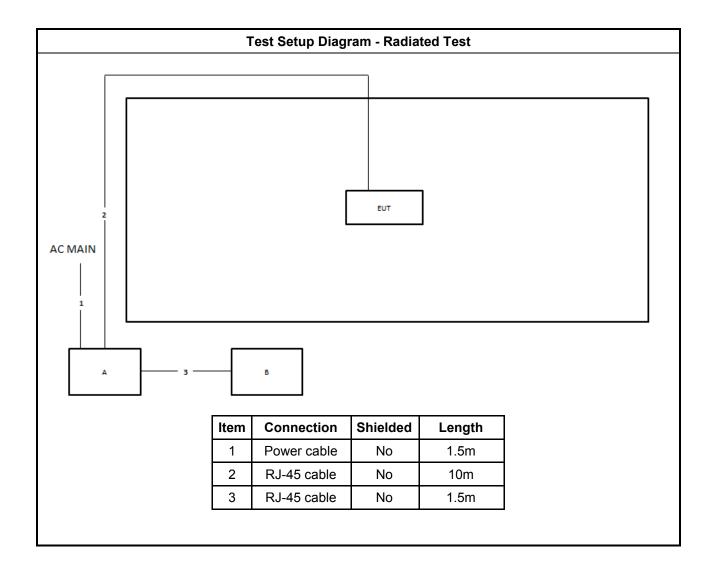
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2.6 Test Setup Diagram



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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.		

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3.1.2 Measuring Instruments

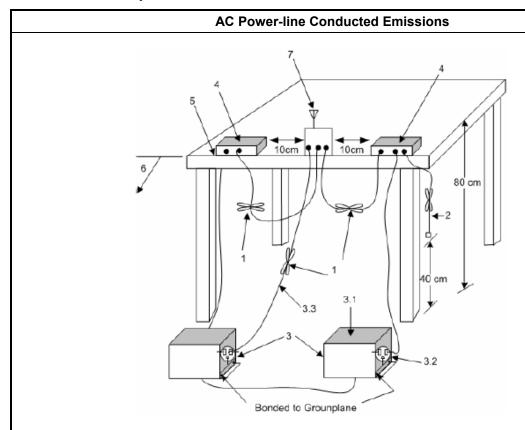
Refer a test equipment and calibration data table in this test report.

3.1.3 Test Procedures

	Test Method
\boxtimes	Refer as ANSI C63.10-2013, clause 6.2 for AC power-line conducted emissions.

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3.1.4 Test Setup



1—Interconnecting cables that hang closer than 40 cm to the ground plane shall be folded back and forth in the center forming a bundle 30 cm to 40 cm long.

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- 2—The I/O cables that are not connected to an accessory shall be bundled in the center. The end of the cable may be terminated, if required, using the correct terminating impedance. The overall length shall not exceed 1 m.
- 3—EUT connected to one LISN. Unused LISN measuring port connectors shall be terminated in 50 Ω loads. LISN may be placed on top of, or immediately beneath, reference ground plane.
- 3.1—All other equipment powered from additional LISN(s).
- 3.2—A multiple-outlet strip may be used for multiple power cords of non-EUT equipment.
- 3.3—LISN at least 80 cm from nearest part of EUT chassis.
- 4—Non-EUT components of EUT system being tested.
- 5—Rear of EUT, including peripherals, shall all be aligned and flush with edge of tabletop.
- 6—Edge of tabletop shall be 40 cm removed from a vertical conducting plane that is bonded to the ground plane.
- 7—Antenna can be integral or detachable. If detachable, then the antenna shall be attached for this test.

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

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3.2 Emission Bandwidth

3.2.1 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.
\boxtimes	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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3.2.2 Measuring Instruments

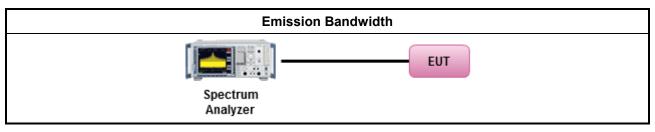
Refer a test equipment and calibration data table in this test report.

3.2.3 Test Procedures

	Test Method		
-	■ For the emission bandwidth shall be measured using one of the options below:		
	\boxtimes	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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3.2.4 Test Setup



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3.2.5 Test Result of Emission Bandwidth

Refer as Appendix B

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3.3 Maximum Output Power

3.3.1 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 $P_{Out} = 24 - (G_{TX} - 6)$.
	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).
\boxtimes	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.

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

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

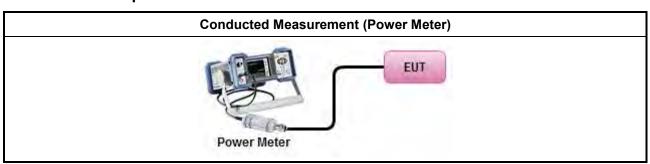
3.3.2 Measuring Instruments

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

3.3.3 Test Procedures

		Test Method								
	Aver	rage 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)									
	Wide	eband RF power meter and average over on/off periods with duty factor								
	\boxtimes	Refer as FCC KDB 789033 D02, clause E Method PM-G (using an RF average power meter).								
\boxtimes	For	conducted measurement.								
	•	If the EUT supports multiple transmit chains using options given below: Refer as FCC KDB 662911, In-band power measurements. Using the measure-and-sum approach, measured all transmit ports individually. Sum the power (in linear power units e.g., mW) of all ports for each individual sample and save them.								
	•	If multiple transmit chains, EIRP calculation could be following as methods: $P_{total} = P_1 + P_2 + + P_n$ (calculated in linear unit [mW] and transfer to log unit [dBm]) EIRP _{total} = $P_{total} + DG$								
	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.								

3.3.4 Test Setup



3.3.5 Test Result of Maximum Output Power

Refer as Appendix C

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3.4 Power Spectral Density

3.4.1 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 – $(G_{TX} - 6)$.
	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).
\boxtimes	For the 5.725-5.85 GHz band:
	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
	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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3.4.2 Measuring Instruments

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

3.4.3 Test Procedures

		Test Method									
•	Peak power spectral density procedures that the same method as used to determine the conducted output power 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.

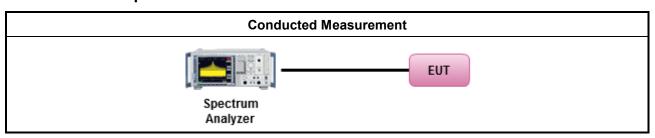
Refer as FCC KDB 789033 D02 clause II A.1.F "Antenna-port Conducted versus Radiated Testing"

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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3.4.4 Test Setup



3.4.5 Test Result of Power Spectral Density

Refer as Appendix D

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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						

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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).

3.5.2 Measuring Instruments

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

3.5.3 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.
- The any unwanted emissions level shall not exceed the fundamental emission level.

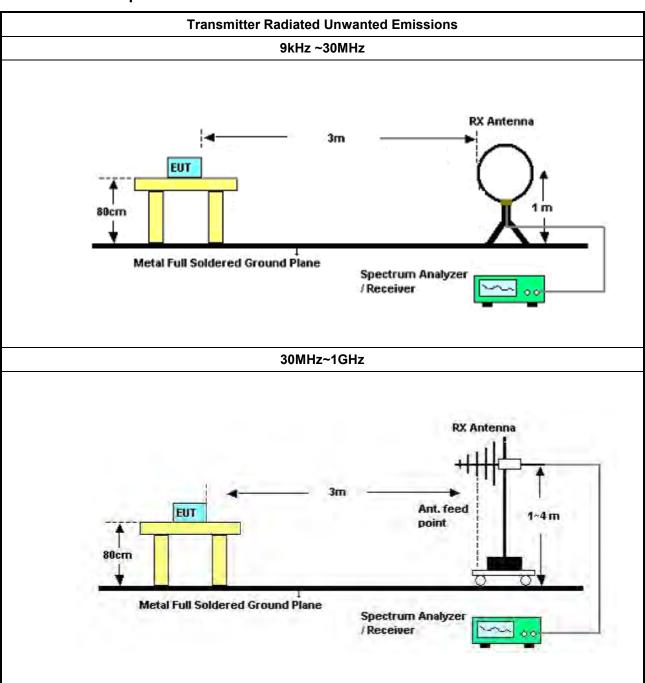
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Test Method

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



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Above 1GHz

Spectrum Analyzer

Above 1GHz

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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

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Test Equipment and Calibration Data

Instrument	Brand	Model No.	Serial No.	Characteristics	Calibration Date	Calibration Due Date	Remark
LISN	Schwarzbeck	NSLK 8127	8127650	9kHz ~ 30MHz	Jan. 07, 2022	Jan. 06, 2023	Conduction (CO02-CB)
LISN	Schwarzbeck	NSLK 8127	8127478	9kHz ~ 30MHz	Dec. 22, 2021	Dec. 21, 2022	Conduction (CO02-CB)
EMI Receiver	Agilent	N9038A	MY52260140	9kHz ~ 8.4GHz	May 06, 2022	May 05, 2023	Conduction (CO02-CB)
COND Cable	Woken	Cable	2	0.15MHz ~ 30MHz	Oct. 19, 2021	Oct. 18, 2022	Conduction (CO02-CB)
Pulse Limiter	Schwarzbeck	VTSD 9561F-N	00378	9kHz ~ 30MHz	Mar. 18, 2022	Mar. 17, 2023	Conduction (CO02-CB)
Software	SPORTON	SENSE	V5.10	-	N.C.R.	N.C.R.	Conduction (CO02-CB)
Loop Antenna	Teseq	HLA 6120	24155	9kHz - 30 MHz	May 14, 2022	May 13, 2023	Radiation (03CH05-CB)
3m Semi Anechoic Chamber NSA	TDK	SAC-3M	03CH05-CB	30 MHz ~ 1 GHz	Aug. 03, 2022	Aug. 02, 2023	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)
Pre-Amplifier	EMCI	EMC330N	980331	20MHz ~ 3GHz	Apr. 26, 2022	Apr. 25, 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)
RF Cable-low	Woken	RG402	Low Cable-04+23	30MHz~1GHz	Oct. 13, 2021	Oct. 12, 2022	Radiation (03CH05-CB)
RF Cable-low	Woken	RG402	Low Cable-04+23	30MHz~1GHz	Oct. 03, 2022	Oct. 02, 2023	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. 22, 2022	Aug. 21, 2023	Radiation (03CH02-CB)
Pre-Amplifier	Agilent	83017A	MY39501305	1GHz ~ 26.5GHz	Jul. 01, 2022	Jun. 30, 2023	Radiation (03CH02-CB)
Pre-Amplifier	MITEQ	TTA1840-35-H G	1864479	18GHz ~ 40GHz	Jul. 20, 2022	Jul. 19, 2023	Radiation (03CH02-CB)
Spectrum analyzer	R&S	FSP	100593	9kHz~40GHz	Apr. 08, 2022	Apr. 07, 2023	Radiation (03CH02-CB)

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Calibration Calibration Instrument **Brand** Model No. Serial No. Characteristics Remark **Date Due Date** Radiation RG402 High Cable-18 1GHz ~ 18GHz Oct. 04, 2021 Oct. 03, 2022 RF Cable-high Woken (03CH02-CB) Radiation RF Cable-high Woken RG402 High Cable-18 1GHz ~ 18GHz Oct. 03, 2022 Oct. 02, 2023 (03CH02-CB) Radiation Oct. 04, 2021 RG402 1GHz ~ 18GHz RF Cable-high Woken Oct. 03, 2022 Cable-18+19 (03CH02-CB) Hiah Radiation RF Cable-high 1GHz ~ 18GHz Oct. 03, 2022 Oct. 02, 2023 Woken RG402 Cable-18+19 (03CH02-CB) Radiation 40G#5+7 1GHz ~ 40 GHz Dec. 14, 2021 High Cable Woken WCA0929M Dec. 13, 2022 (03CH02-CB) Radiation High Cable Woken WCA0929M 40G#5 1GHz ~ 40 GHz Dec. 08, 2021 Dec. 07, 2022 (03CH02-CB) Radiation High Cable Woken WCA0929M 40G#7 1GHz ~ 40 GHz Dec. 14, 2021 Dec. 13, 2022 (03CH02-CB) Radiation Test Software **SPORTON** SENSE V5.10 N.C.R. N.C.R. (03CH02-CB) 3m Semi Anechoic 1GHz ~18GHz Radiation 03CH03-CB TDK SAC-3M May 05, 2022 May 04, 2023 (03CH03-CB) Chamber **VSWR** 750MHz~18GH Radiation Jan. 21, 2022 Jan. 20, 2023 ETS · Lindgren 3115 6821 Horn Antenna (03CH03-CB) Radiation Horn Antenna Schwarzbeck **BBHA 9170** BBHA9170252 15GHz ~ 40GHz Aug. 22, 2022 Aug. 21, 2023 (03CH03-CB) 1GHz ~ Radiation Pre-Amplifier Agilent 8449B 3008A02097 Jul. 01, 2022 Jun. 30, 2023 26.5GHz (03CH03-CB) TTA1840-35-H Radiation 18GHz ~ 40GHz Pre-Amplifier **MITEQ** 1864479 Jul. 20, 2022 Jul. 19, 2023 (03CH03-CB) G Radiation Spectrum FSP40 100019 R&S 9kHz ~ 40GHz Jun. 10, 2022 Jun. 09, 2023 Analyzer (03CH03-CB) High Radiation RF Cable-high RG402 1GHz ~ 18GHz Oct. 04, 2021 Oct. 03, 2022 Woken Cable-20+29 (03CH03-CB) Radiation High RF Cable-high Woken RG402 1GHz ~ 18GHz Oct. 03, 2022 Oct. 02, 2023 Cable-20+29 (03CH03-CB) Radiation RF Cable-high Woken RG402 High Cable-29 1GHz ~ 18GHz Oct. 04, 2021 Oct. 03, 2022 (03CH03-CB) Radiation 1GHz ~ 18GHz RF Cable-high RG402 High Cable-29 Oct 03 2022 Oct 02 2023 Woken (03CH03-CB) Radiation WCA0929M 40G#5+7 1GHz ~ 40 GHz High Cable Woken Dec. 14, 2021 Dec. 13, 2022 (03CH03-CB) Radiation High Cable Woken WCA0929M 40G#5 1GHz ~ 40 GHz Dec. 08, 2021 Dec. 07, 2022 (03CH03-CB) Radiation High Cable Woken WCA0929M 40G#7 1GHz ~ 40 GHz Dec. 14, 2021 Dec. 13, 2022 (03CH03-CB) Radiation **Test Software SPORTON** SENSE V5.10 N.C.R. N.C.R. (03CH03-CB) Spectrum Conducted R&S FSV40 100979 9kHz~40GHz May 27, 2022 May 26, 2023 analyzer (TH01-CB) 1 GHz -26 5 Conducted **SPTCB** SP-SWI Switch **SWI-01** Oct. 04, 2022 Oct. 03, 2023

GHz

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Instrument	Brand	Model No.	Serial No.	Characteristics	Calibration Date	Calibration Due Date	Remark
RF Cable-high	Woken	RG402	High Cable-06	1 GHz – 26.5 GHz	Oct. 03, 2022	Oct. 02, 2023	Conducted (TH01-CB)
RF Cable-high	Woken	RG402	High Cable-07	1 GHz –26.5 GHz	Oct. 03, 2022	Oct. 02, 2023	Conducted (TH01-CB)
RF Cable-high	Woken	RG402	High Cable-08	1 GHz –26.5 GHz	Oct. 03, 2022	Oct. 02, 2023	Conducted (TH01-CB)
RF Cable-high	Woken	RG402	High Cable-09	1 GHz –26.5 GHz	Oct. 03, 2022	Oct. 02, 2023	Conducted (TH01-CB)
RF Cable-high	Woken	RG402	High Cable-10	1 GHz –26.5 GHz	Oct. 03, 2022	Oct. 02, 2023	Conducted (TH01-CB)
RF Cable-high	Woken	RG402	High Cable-30	1 GHz –26.5 GHz	Oct. 03, 2022	Oct. 02, 2023	Conducted (TH01-CB)
Power Sensor	Agilent	E9327A	US40442088	50MHz~18GHz	Feb. 21, 2022	Feb. 20, 2023	Conducted (TH01-CB)
Power Meter	Agilent	E4416A	GB41291199	50MHz~18GHz	Feb. 21, 2022	Feb. 20, 2023	Conducted (TH01-CB)
Test Software	SPORTON	SENSE	V5.10	-	N.C.R.	N.C.R.	Conducted (TH01-CB)

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

NCR means Non-Calibration required.

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Conducted Emissions at Powerline

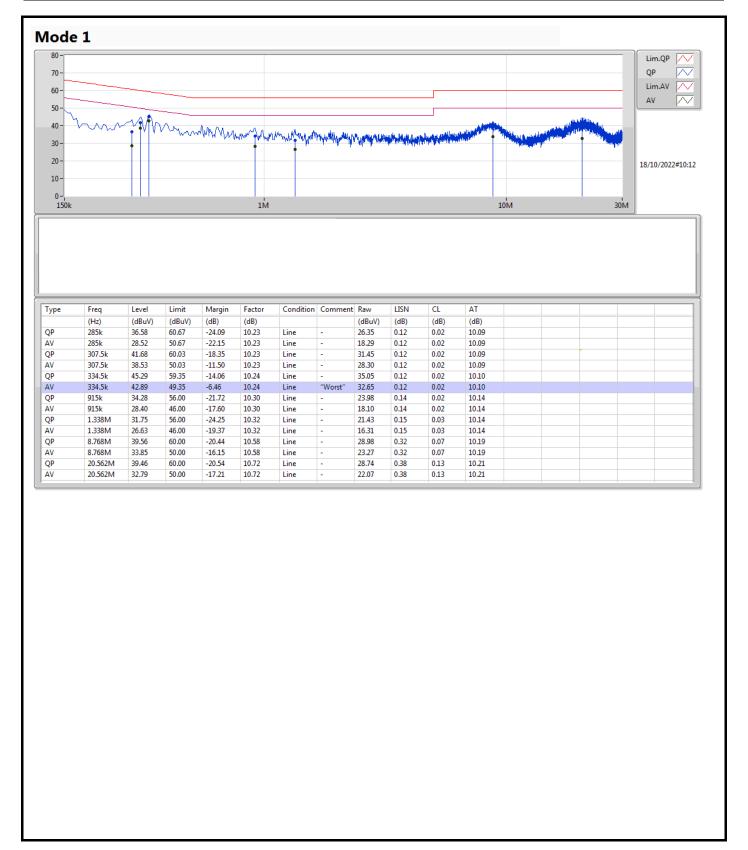
Appendix A

Summary

Mode	Result	Туре	Freq (Hz)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Condition
Mode 1	Pass	AV	334.5k	42.89	49.35	-6.46	Line

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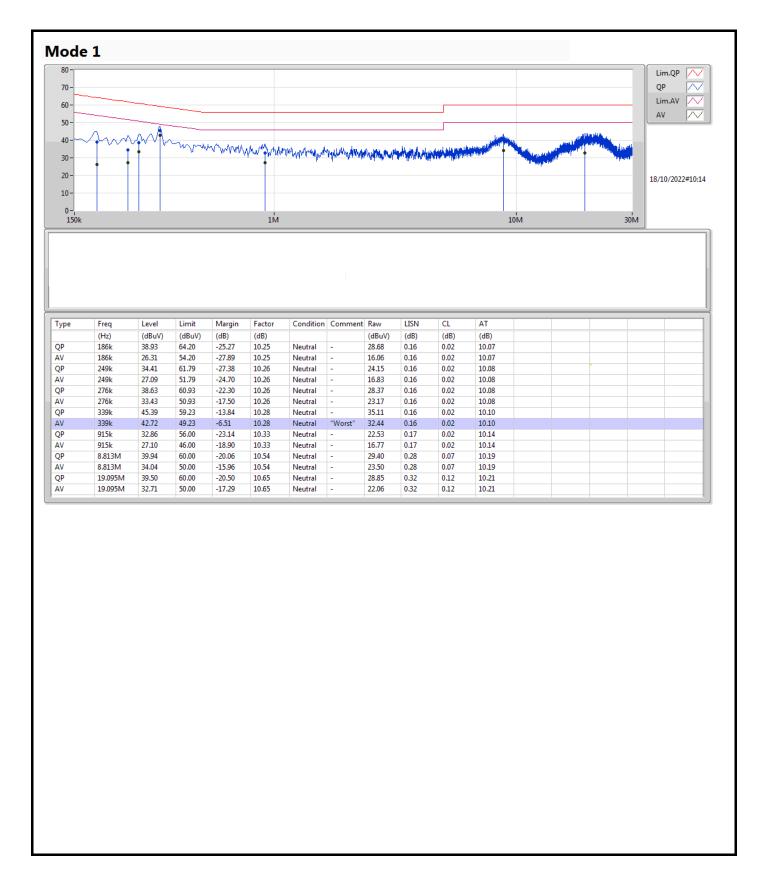




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Appendix B **EBW**

Summary

Mode	Max-N dB	Max-OBW	ITU-Code	Min-N dB	Min-OBW
	(Hz)	(Hz)		(Hz)	(Hz)
5.725-5.85GHz	-	-	-	-	-
802.11a_Nss1,(6Mbps)_2TX	15.9M	41.559M	41M6D1D	5.64M	17.061M
802.11ax HEW20_Nss1,(MCS0)_2TX	18.33M	35.892M	35M9D1D	8.34M	19.16M
802.11ax HEW40_Nss1,(MCS0)_2TX	36.96M	102.909M	103MD1D	21.72M	39.34M
802.11ax HEW80_Nss1,(MCS0)_2TX	60.9M	92.894M	92M9D1D	53.34M	87.076M

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

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EBW Appendix B

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	-	-	-	-	-	-
5745MHz	Pass	500k	15.42M	17.451M	15.9M	17.061M
5785MHz	Pass	500k	15.72M	25.907M	15.03M	17.241M
5825MHz	Pass	500k	5.64M	41.559M	10.65M	39.07M
802.11ax HEW20_Nss1,(MCS0)_2TX	-	-	-	-	-	-
5745MHz	Pass	500k	18.33M	19.16M	17.76M	19.22M
5785MHz	Pass	500k	16.95M	19.52M	17.34M	21.139M
5825MHz	Pass	500k	8.34M	35.892M	13.35M	31.334M
802.11ax HEW40_Nss1,(MCS0)_2TX	-	-	-	-	-	-
5755MHz	Pass	500k	36.9M	39.34M	36.96M	39.46M
5795MHz	Pass	500k	21.72M	102.909M	23.94M	89.055M
802.11ax HEW80_Nss1,(MCS0)_2TX	-	-	-	-	-	-
5775MHz	Pass	500k	53.34M	92.894M	60.9M	87.076M

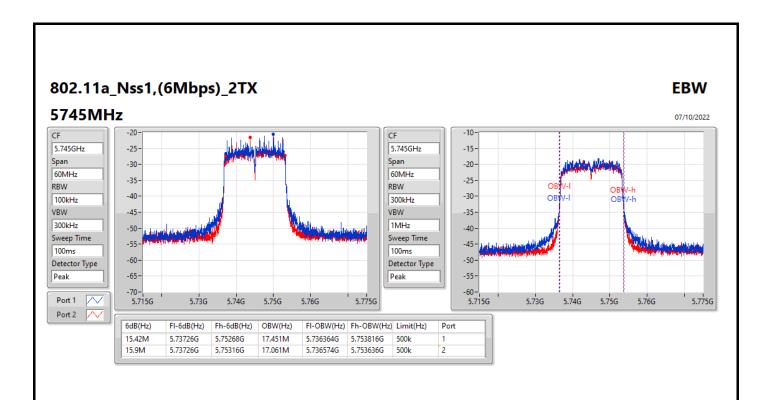
Port X-N dB = Port X 6dB down bandwidth for 5.725-5.85GHz band / 26dB down bandwidth for other band Port X-OBW = Port X 99% occupied bandwidth

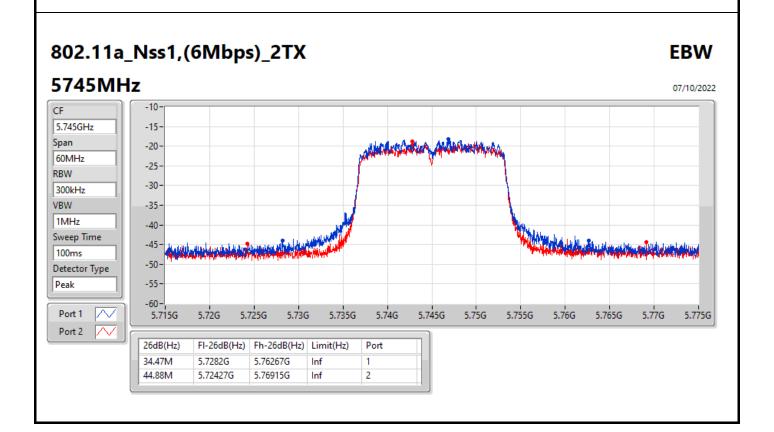
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EBW Appendix B

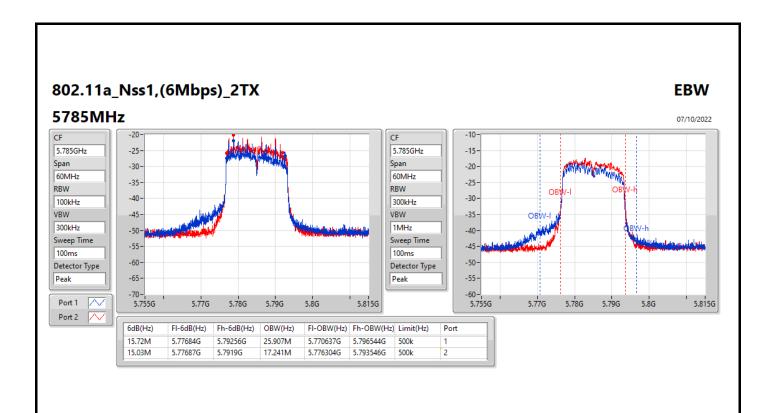


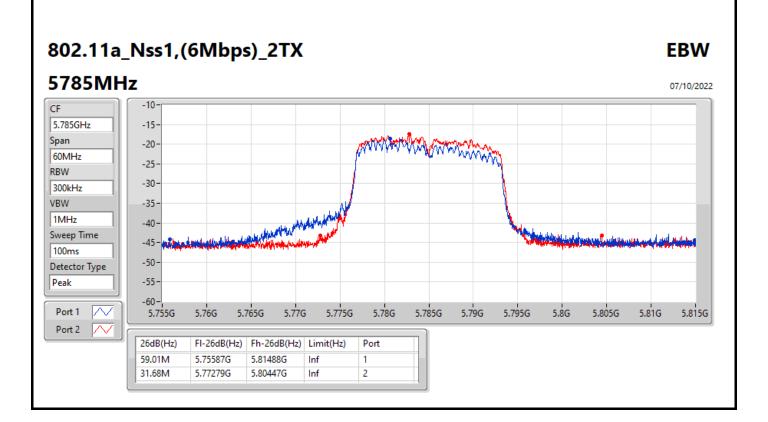


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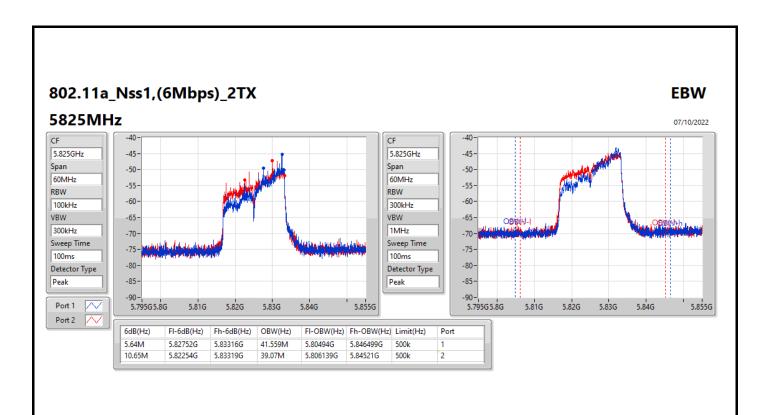
EBW Appendix B

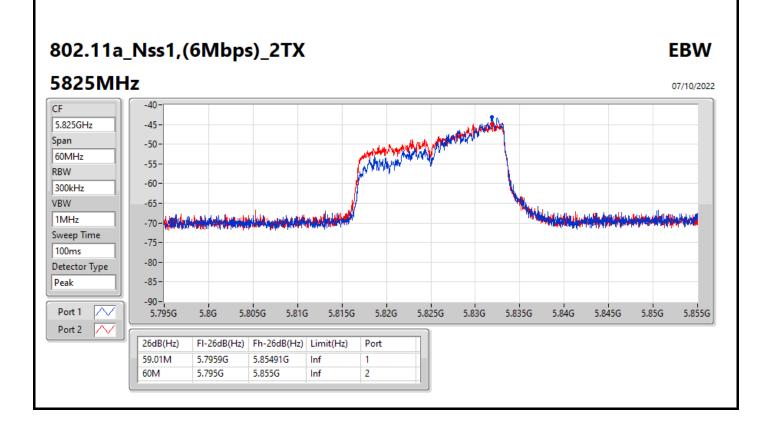




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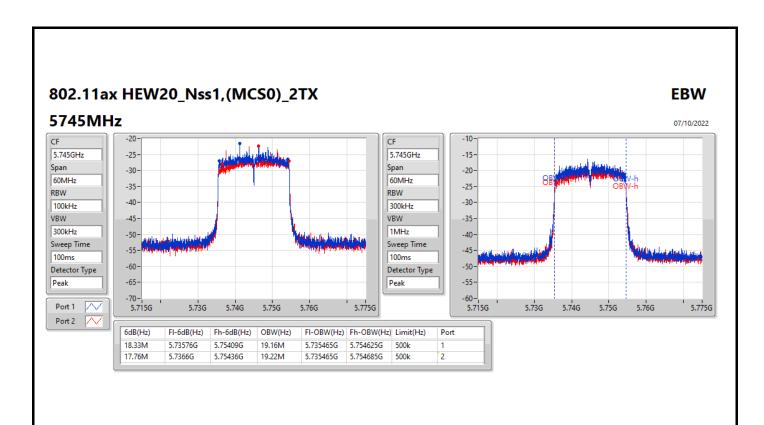
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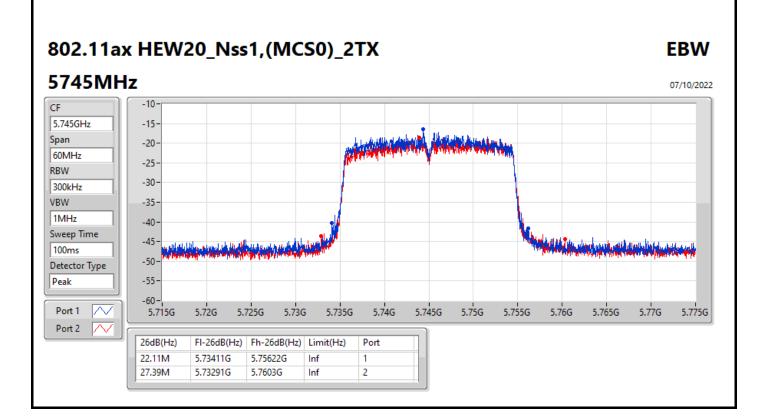




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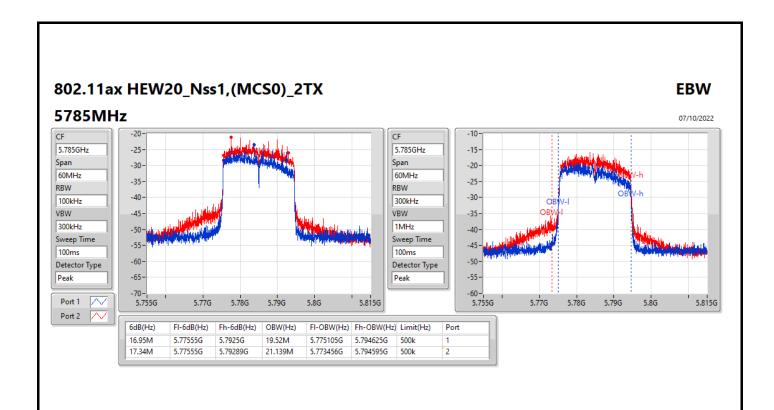
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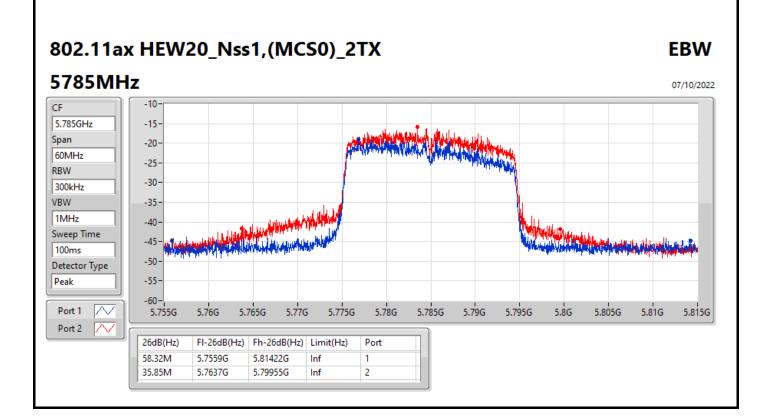




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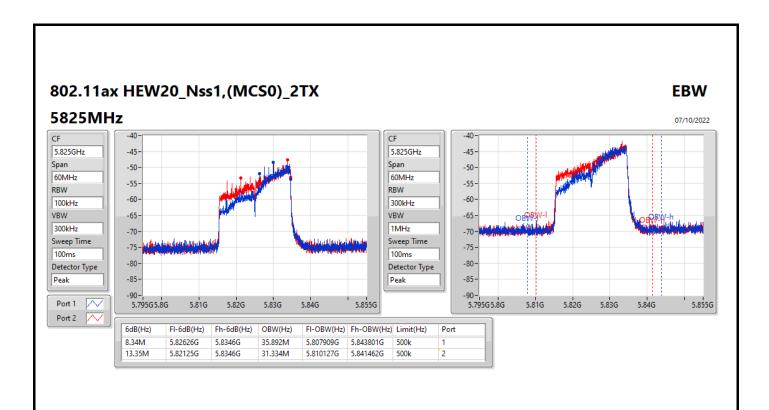
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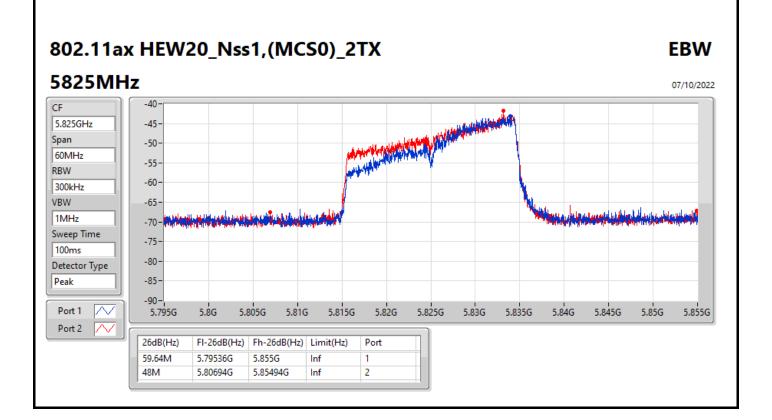




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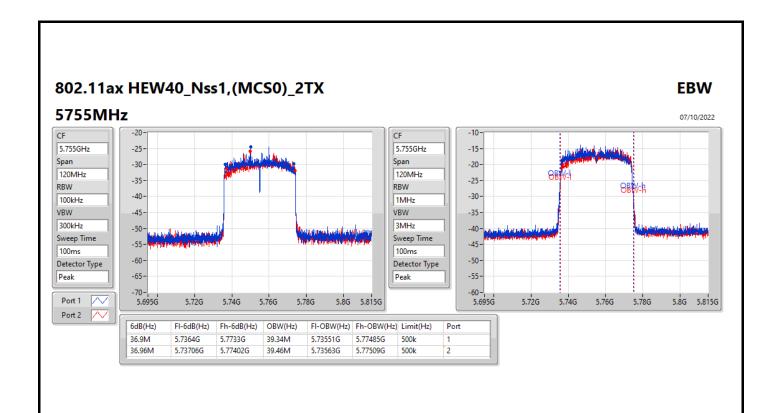
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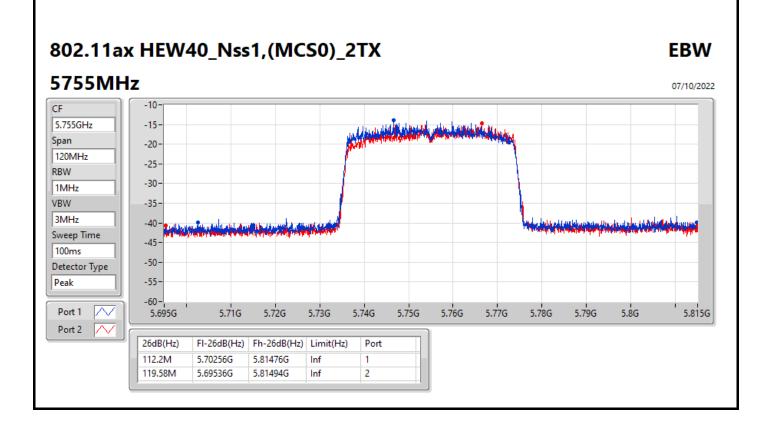




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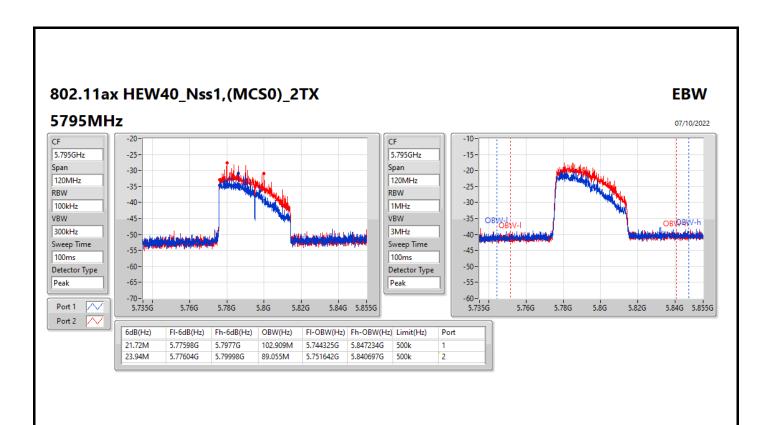
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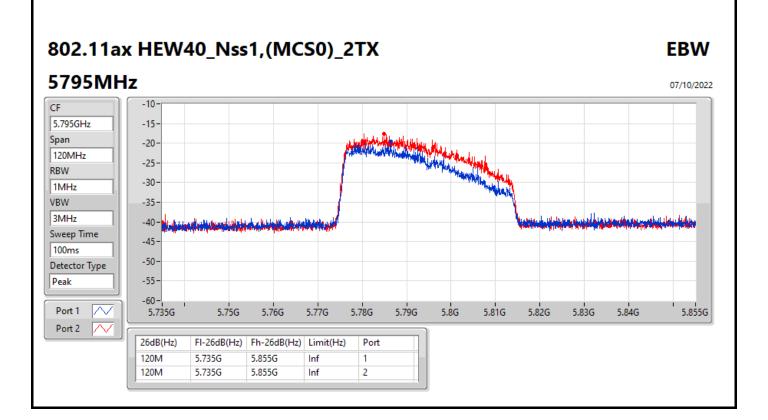




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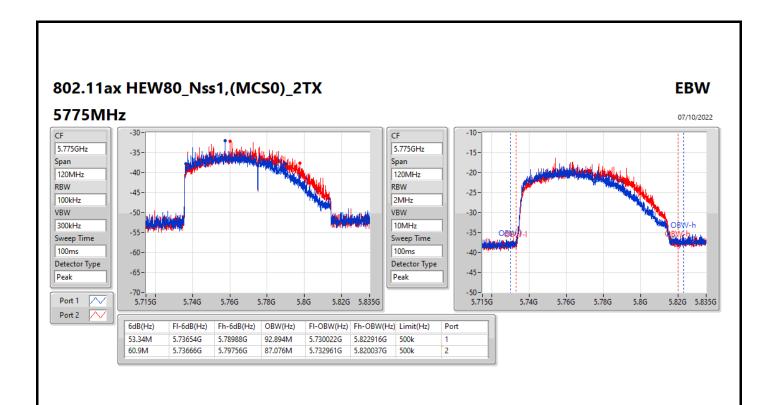
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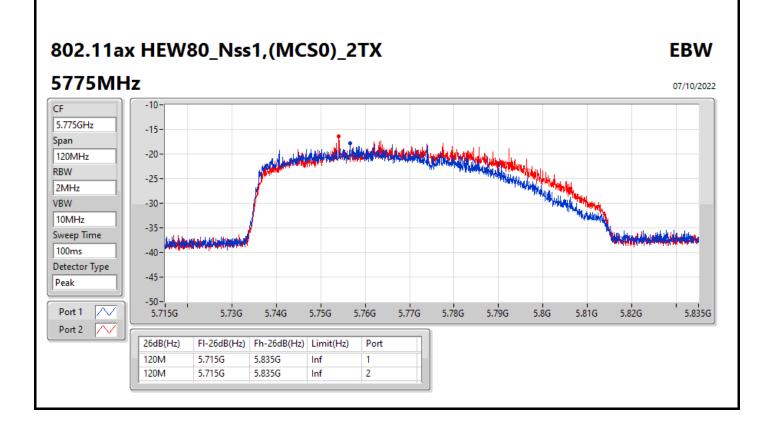




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Average Power Appendix C

Summary

Mode	Total Power	Total Power		
	(dBm)	(W)		
5.725-5.85GHz	-	-		
802.11a_Nss1,(6Mbps)_2TX	-6.45	0.00023		
802.11ax HEW20_Nss1,(MCS0)_2TX	-4.92	0.00032		
802.11ax HEW40_Nss1,(MCS0)_2TX	-5.51	0.00028		
802.11ax HEW80_Nss1,(MCS0)_2TX	-9.57	0.00011		

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Average Power Appendix C

Result

Mode	Result	DG	Port 1	Port 2	Total Power	Power Limit	
		(dBi)	(dBm)	(dBm)	(dBm)	(dBm)	
802.11a_Nss1,(6Mbps)_2TX	-	-	-	-	-	-	
5745MHz	Pass	25.38	-9.22	-9.72	-6.45	10.62	
5785MHz	Pass	25.38	-9.77	-9.64	-6.69	10.62	
5825MHz	Pass	25.38	-39.23	-38.46	-35.82	10.62	
802.11ax HEW20_Nss1,(MCS0)_2TX	-	-	-	-	-	-	
5745MHz	Pass	25.38	-8.37	-9.13	-5.72	10.62	
5785MHz	Pass	25.38	-8.54	-7.40	-4.92	10.62	
5825MHz	Pass	25.38	-38.90	-38.26	-35.56	10.62	
802.11ax HEW40_Nss1,(MCS0)_2TX	-	-	-	-	-	-	
5755MHz	Pass	25.38	-8.16	-8.92	-5.51	10.62	
5795MHz	Pass	25.38	-13.16	-12.55	-9.83	10.62	
802.11ax HEW80_Nss1,(MCS0)_2TX	-	-	-	-	-	-	
5775MHz	Pass	25.38	-12.61	-12.55	-9.57	10.62	

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

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Appendix D **PSD**

Summary

Mode	PD		
	(dBm/RBW)		
5.725-5.85GHz	-		
802.11a_Nss1,(6Mbps)_2TX	-21.18		
802.11ax HEW20_Nss1,(MCS0)_2TX	-22.32		
802.11ax HEW40_Nss1,(MCS0)_2TX	-25.54		
802.11ax HEW80_Nss1,(MCS0)_2TX	-32.37		

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

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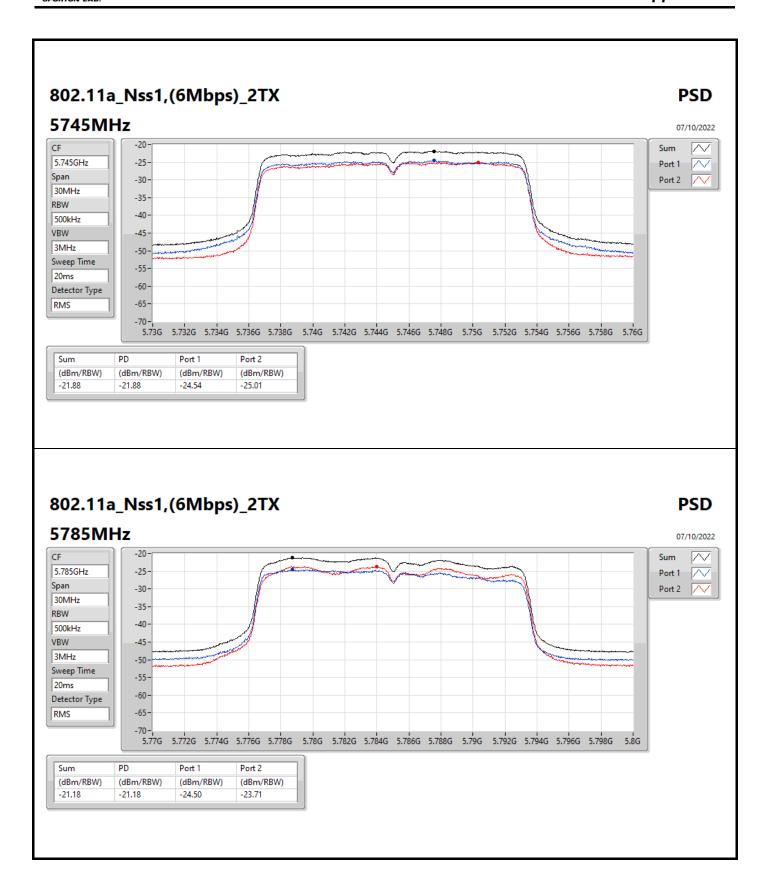
Result

Mode	Result	DG	Port 1 Port 2		PD	PD Limit	
		(dBi)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	
802.11a_Nss1,(6Mbps)_2TX	-	-	-	-	-	-	
5745MHz	Pass	28.39	-24.54	-25.01	-21.88	7.61	
5785MHz	Pass	28.39	-24.50	-23.71	-21.18	7.61	
5825MHz	Pass	28.39	-49.28	-49.98	-46.73	7.61	
802.11ax HEW20_Nss1,(MCS0)_2TX	-	-	-	=	-	-	
5745MHz	Pass	28.39	-25.13	-26.17	-22.70	7.61	
5785MHz	Pass	28.39	-26.49	-24.10	-22.32	7.61	
5825MHz	Pass	28.39	-49.59	-49.23	-46.45	7.61	
802.11ax HEW40_Nss1,(MCS0)_2TX	-	-	-	-	-	-	
5755MHz	Pass	28.39	-28.29	-28.48	-25.54	7.61	
5795MHz	Pass	28.39	-33.76	-31.50	-29.68	7.61	
802.11ax HEW80_Nss1,(MCS0)_2TX	-	-	-	-	-	-	
5775MHz	Pass	28.39	-35.58	-35.05	-32.37	7.61	

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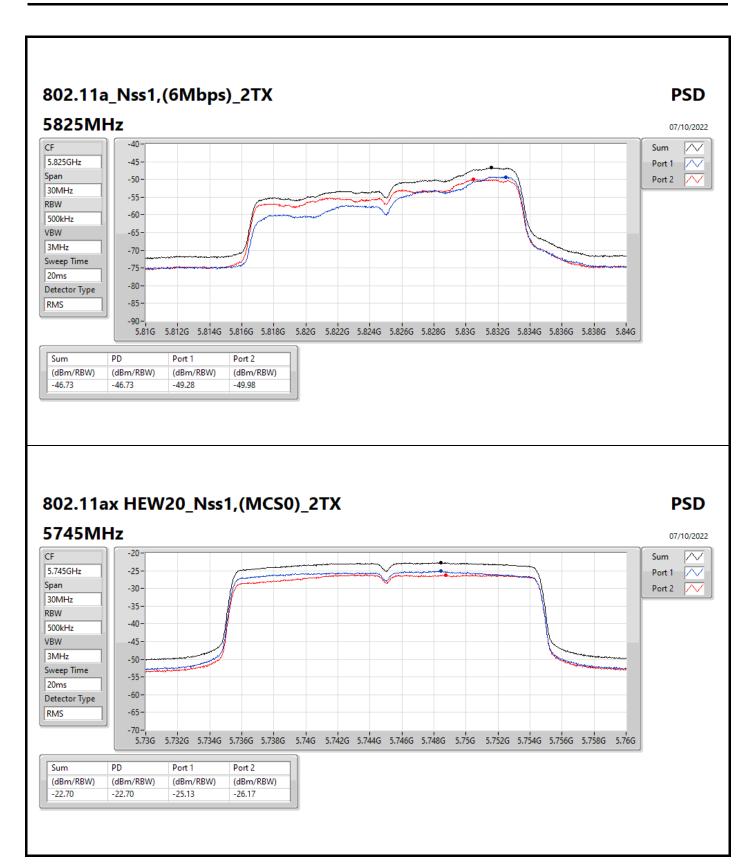
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DG = Directional Gain; RBW = 500kHz for 5.725-5.85GHz band / 1MHz for other band;
PD = trace bin-by-bin of each transmits port summing can be performed maximum power density; Port X = Port X Power Density;

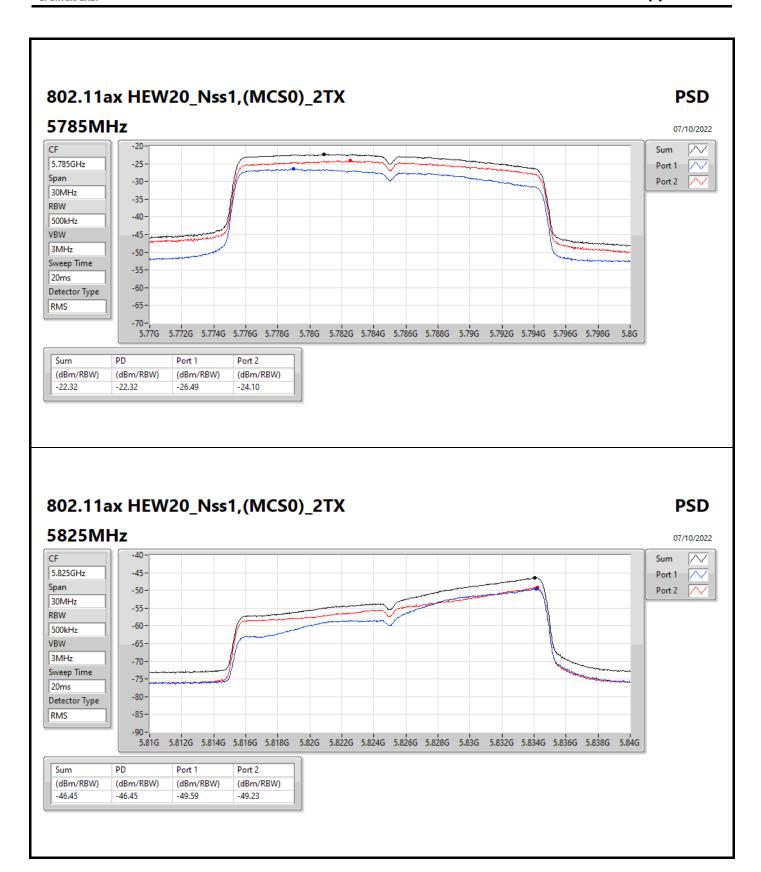


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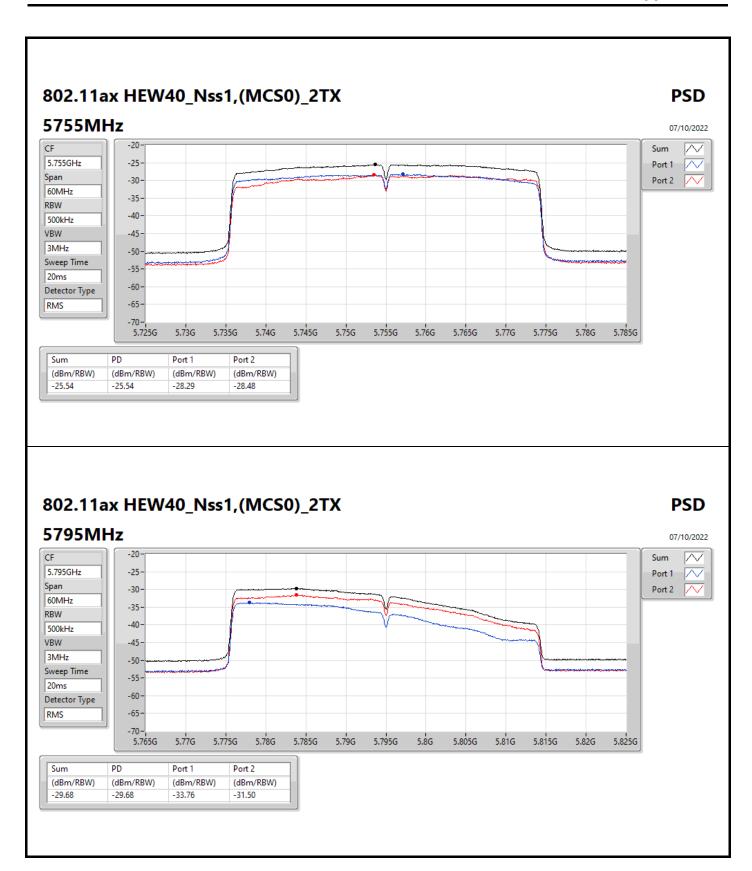


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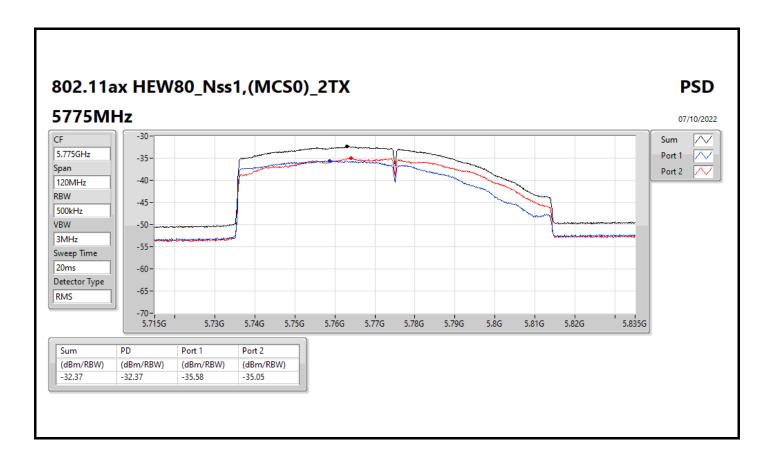
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Radiated Emissions below 1GHz

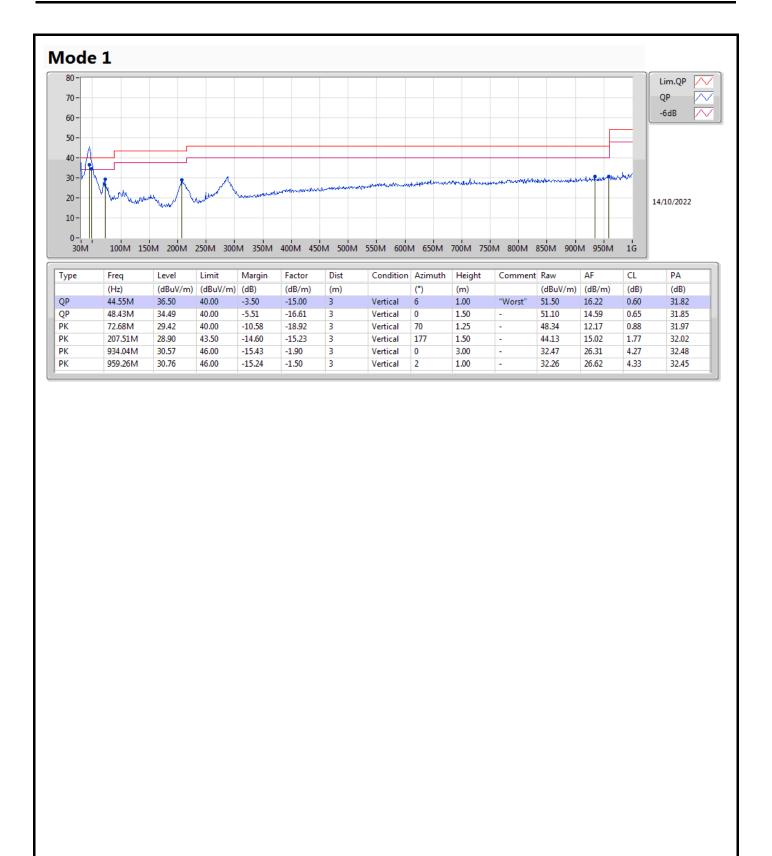
Appendix E.1

Summary

Mode	Result	Туре	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Condition
Mode 1	Pass	QP	44.55M	36.50	40.00	-3.50	Vertical

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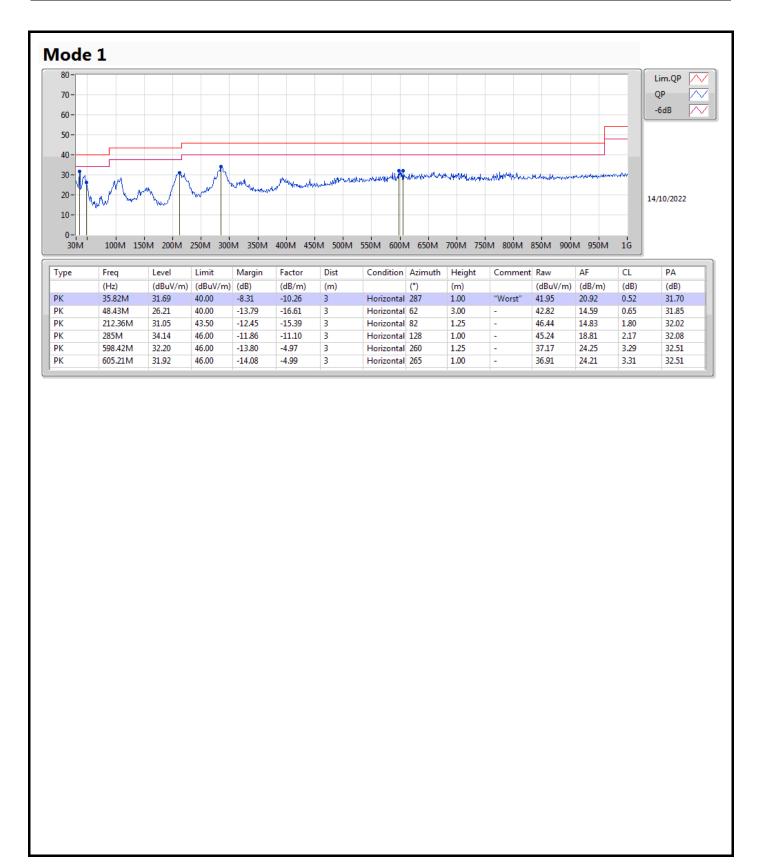
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RSE TX above 1GHz

Appendix E.2

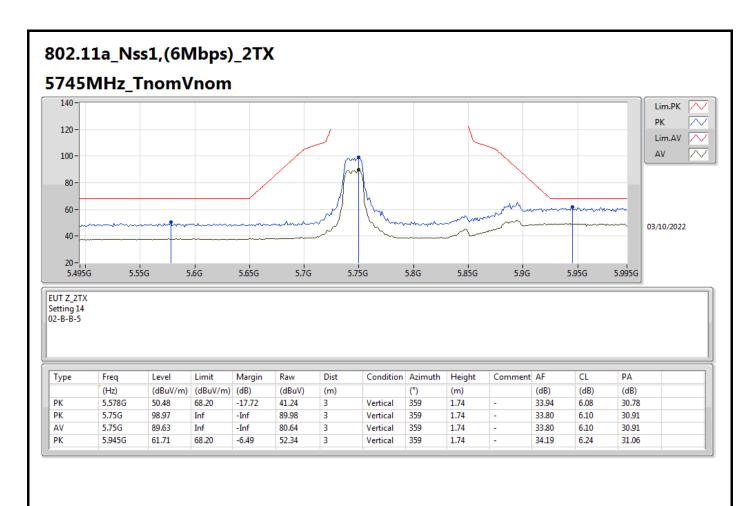
Summary

Mode	Result	Туре	Freq	Level	Limit	Margin	Dist	Condition	Azimuth	Height	Comments
			(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(m)		(°)	(m)	
5.725-5.85GHz	-	-	-	-	-	-	-	-	-	-	-
802.11ax HEW80_Nss1,(MCS0)_2TX	Pass	PK	5.962G	67.94	68.20	-0.26	3	Horizontal	360	1.59	-

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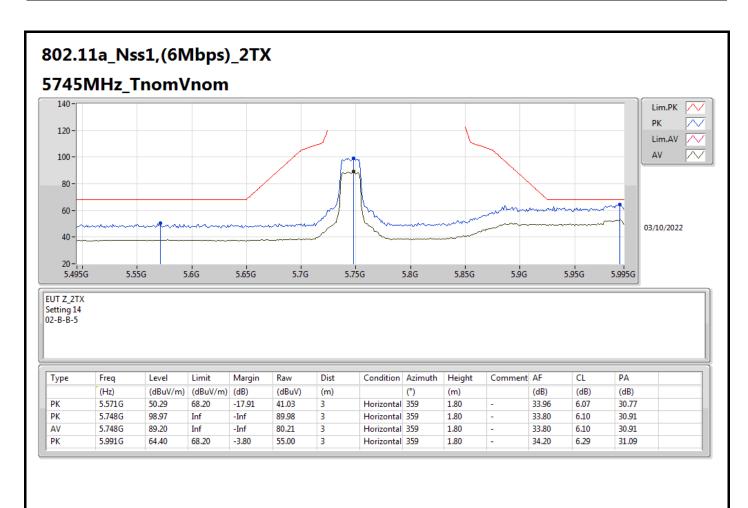
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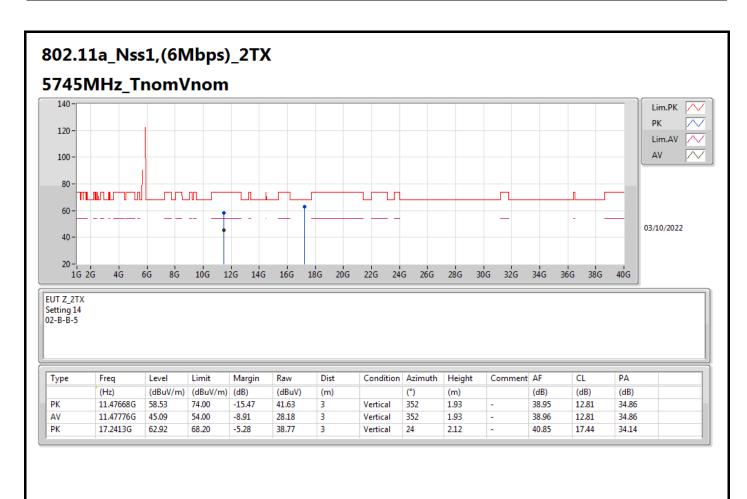
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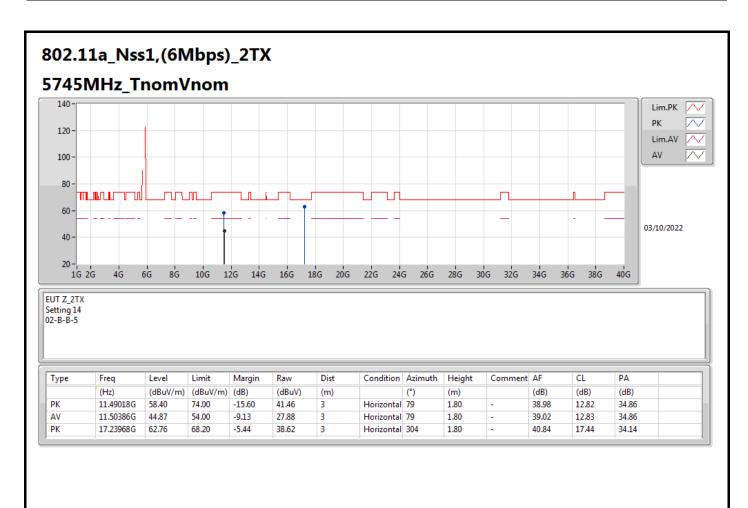
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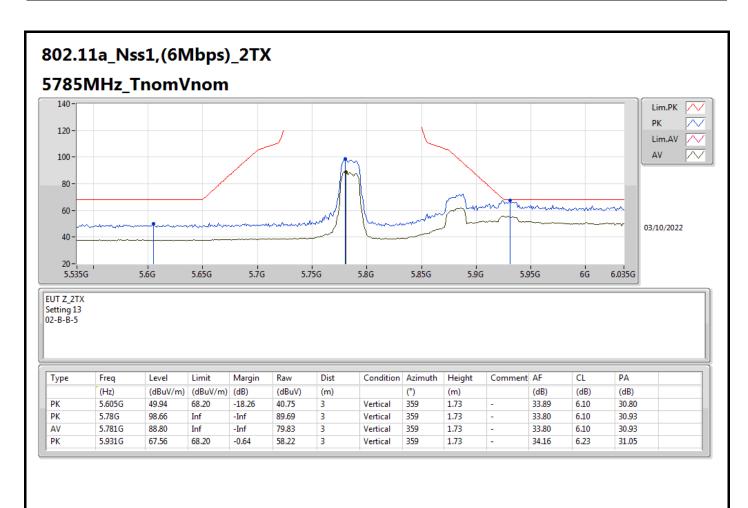
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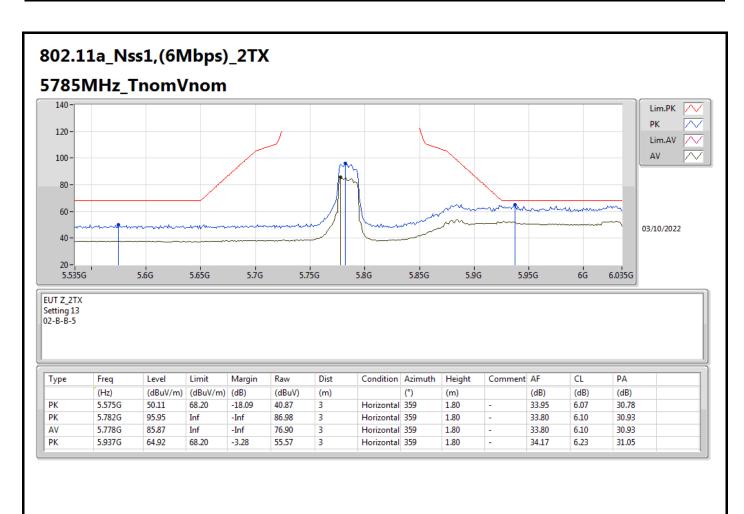
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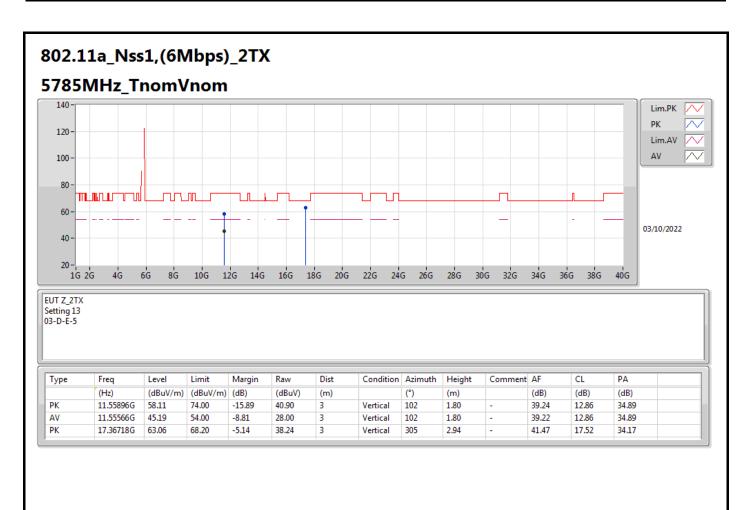
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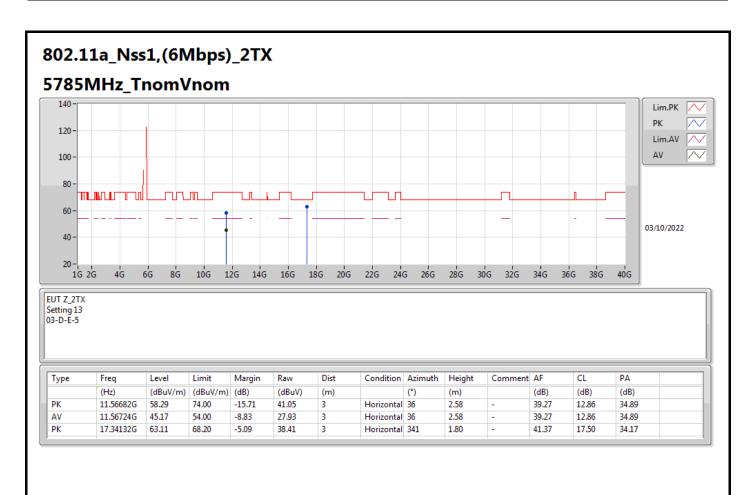
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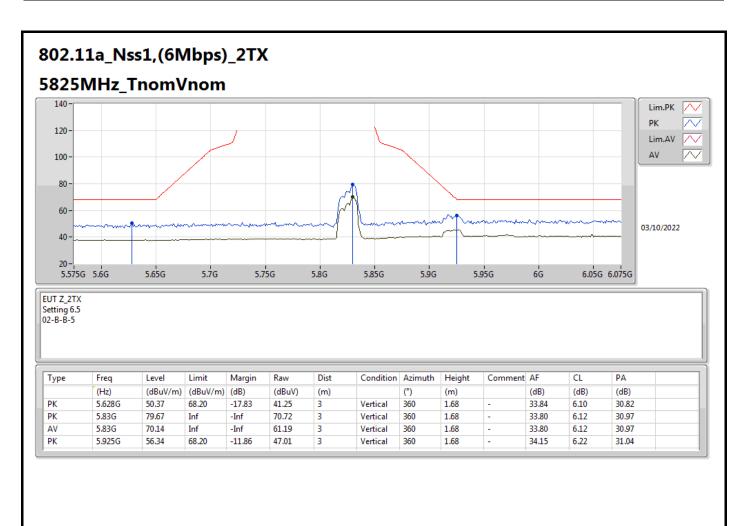
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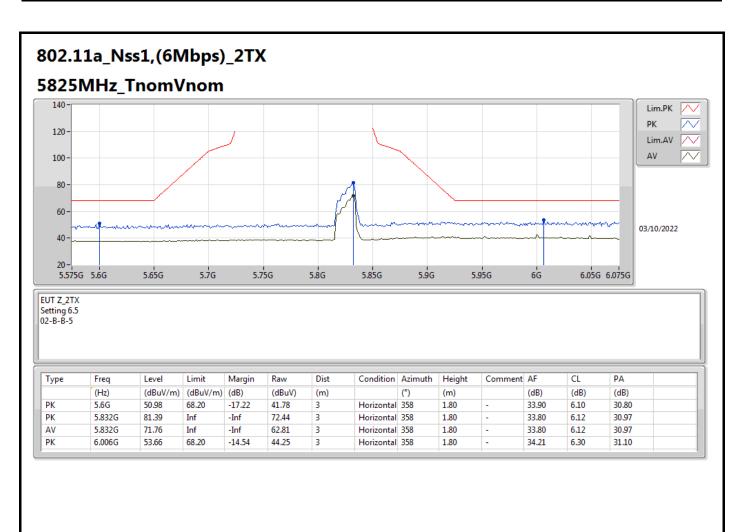
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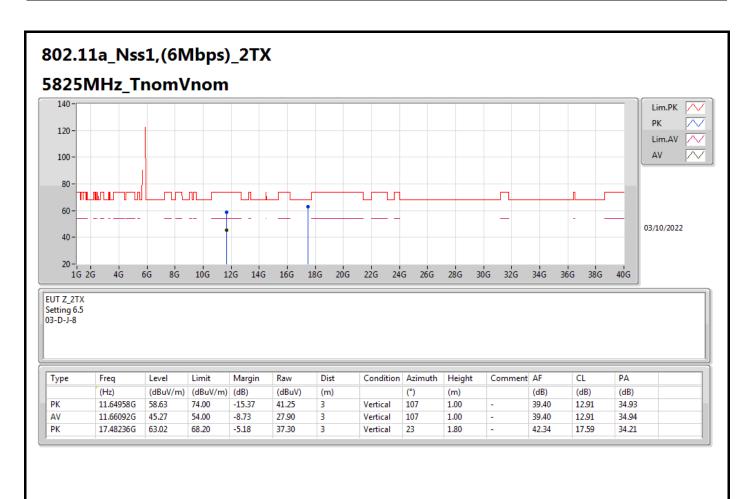
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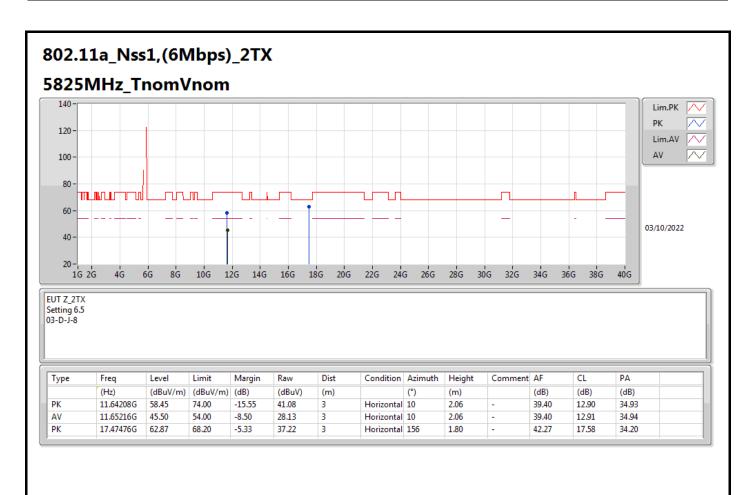
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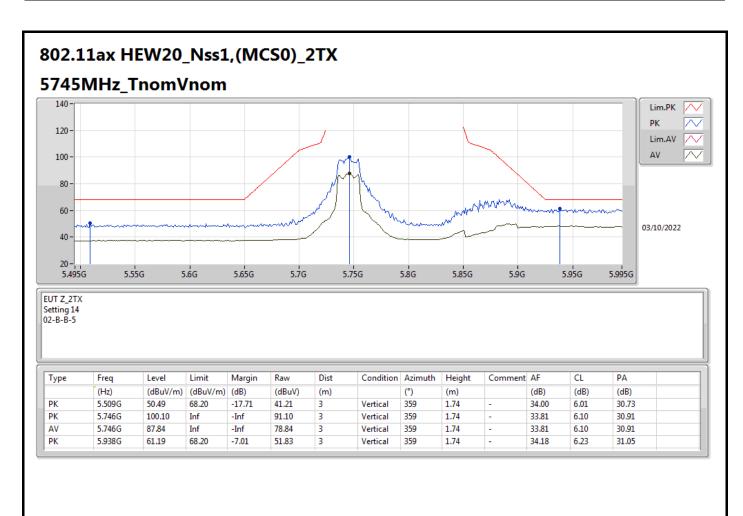
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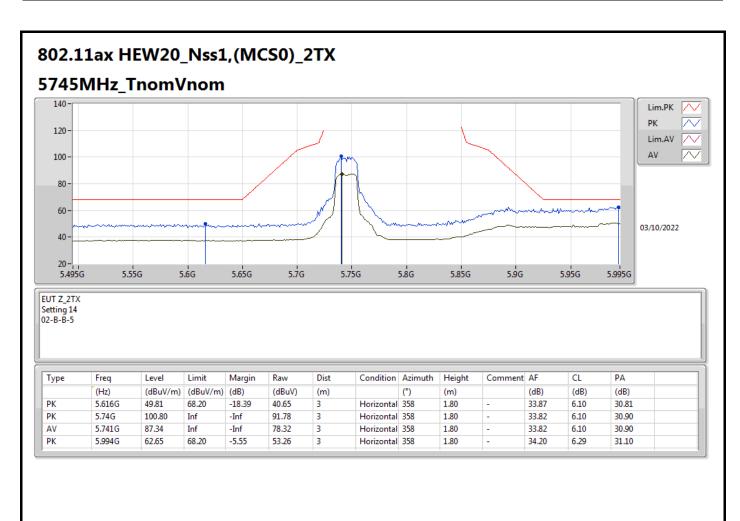
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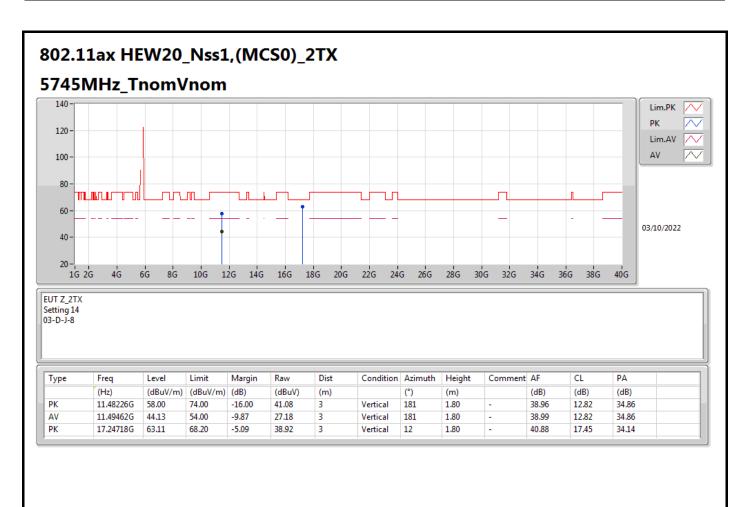
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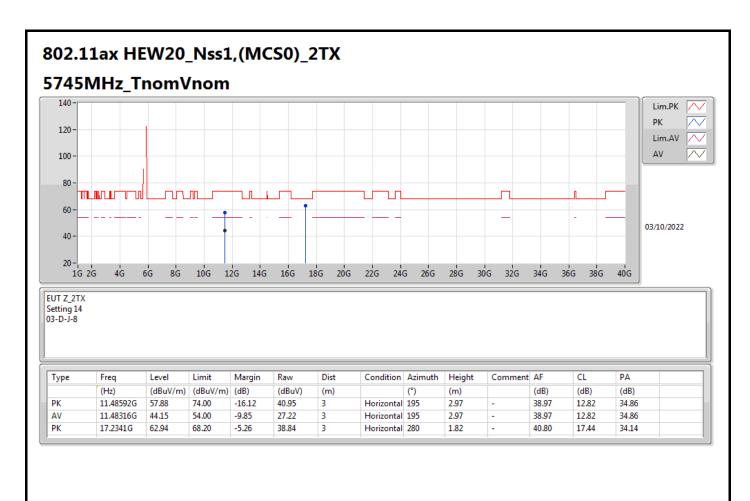
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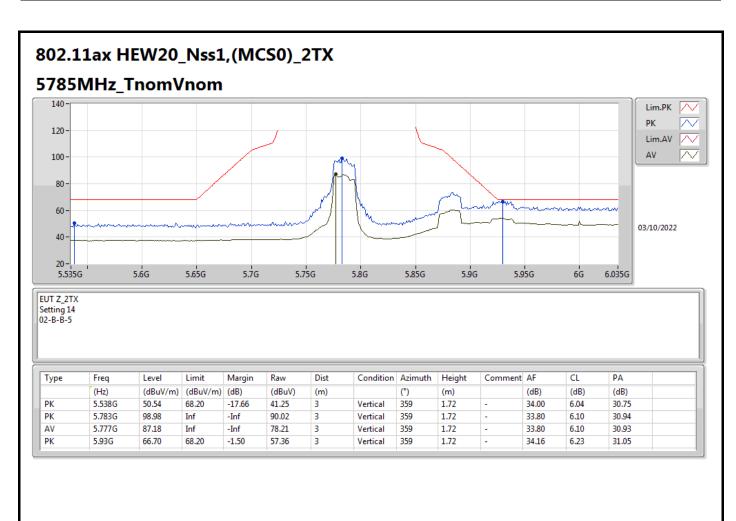
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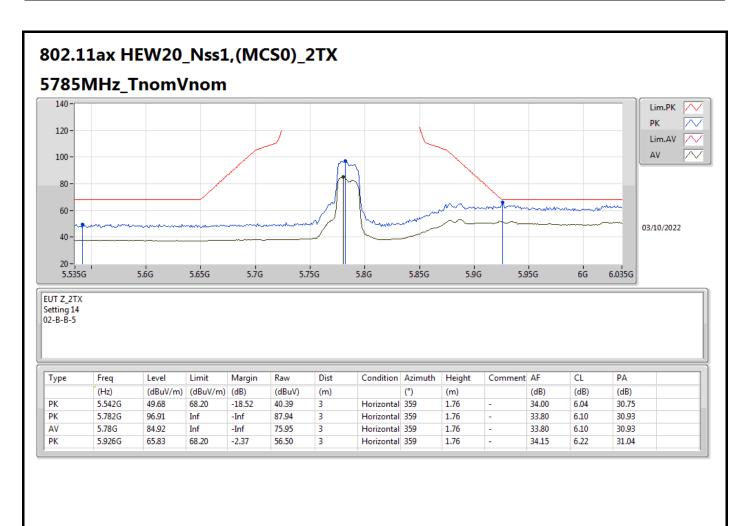
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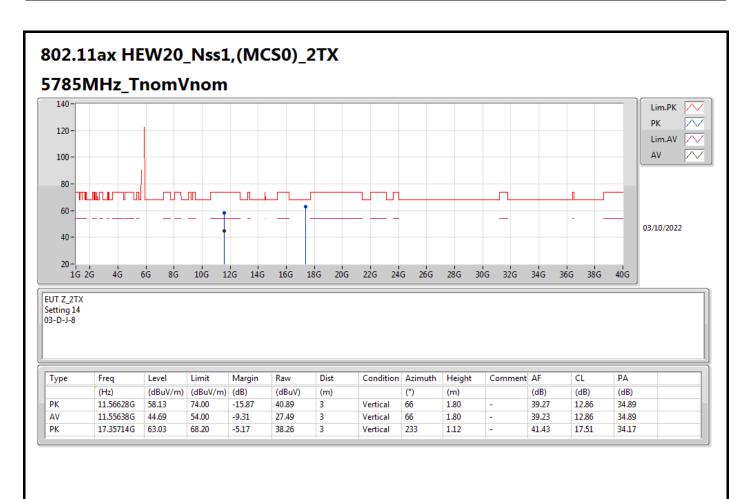
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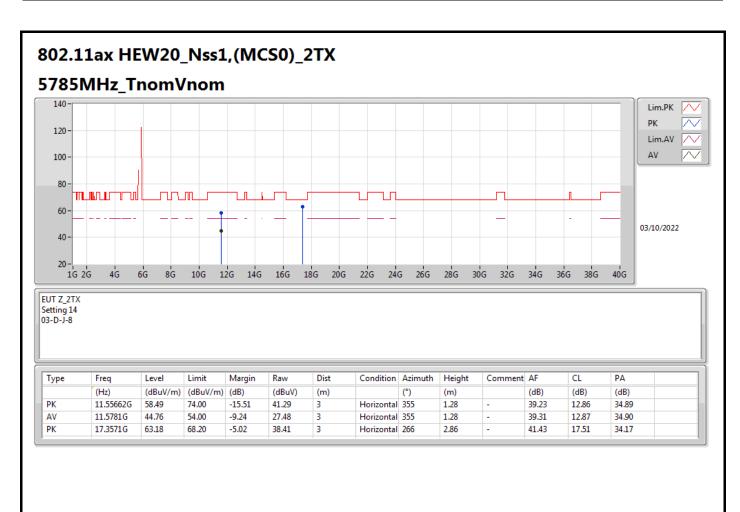
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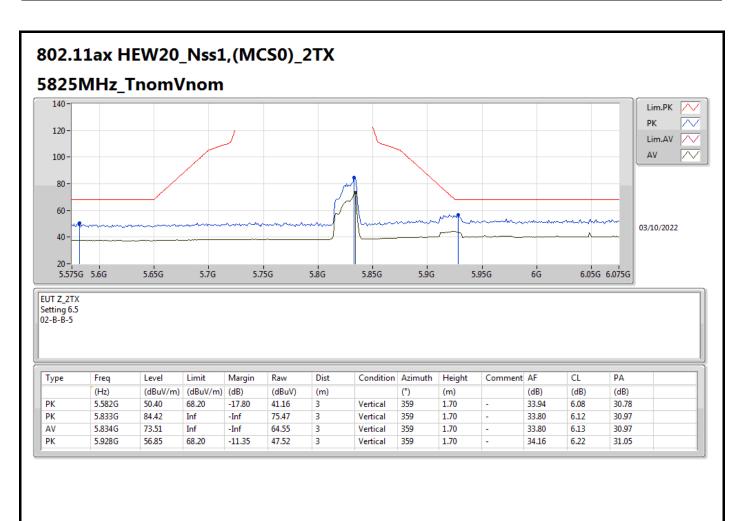
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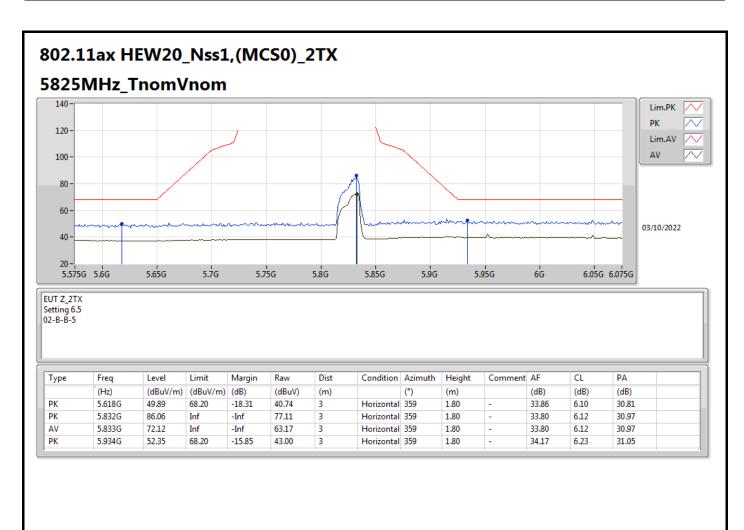
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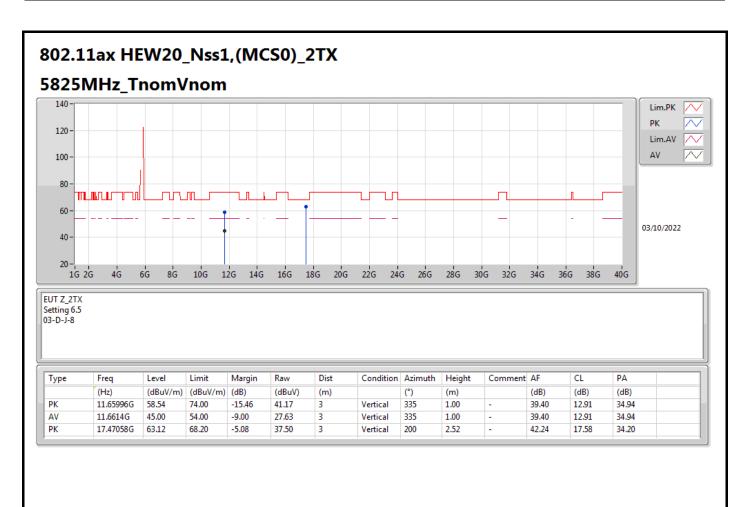
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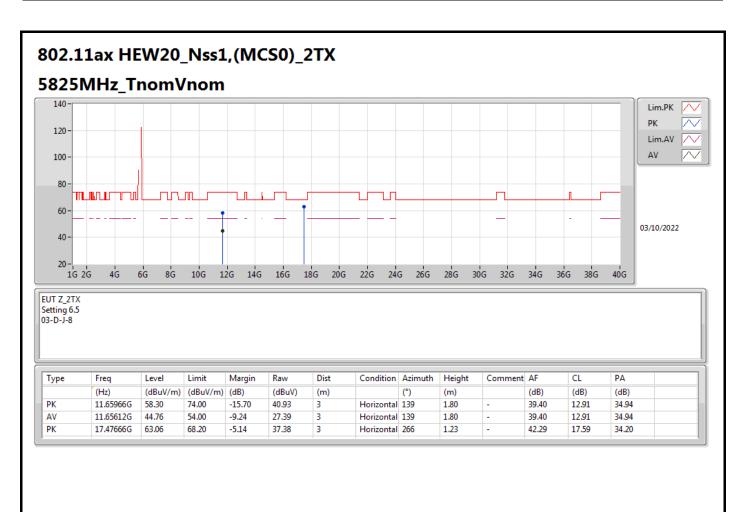
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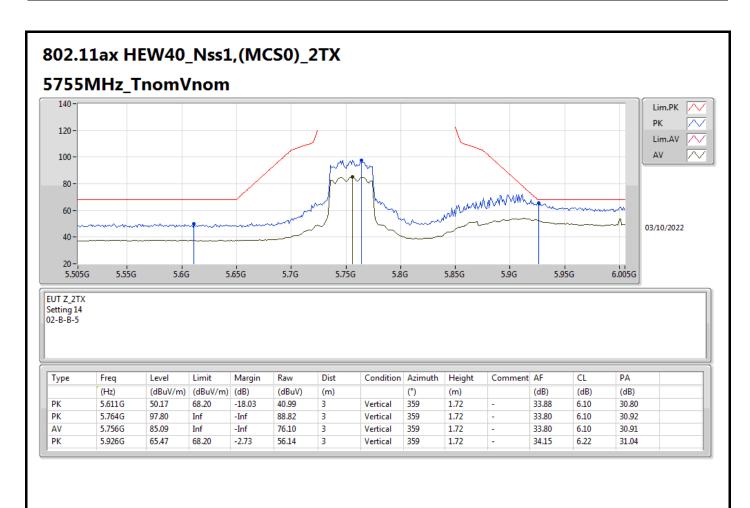
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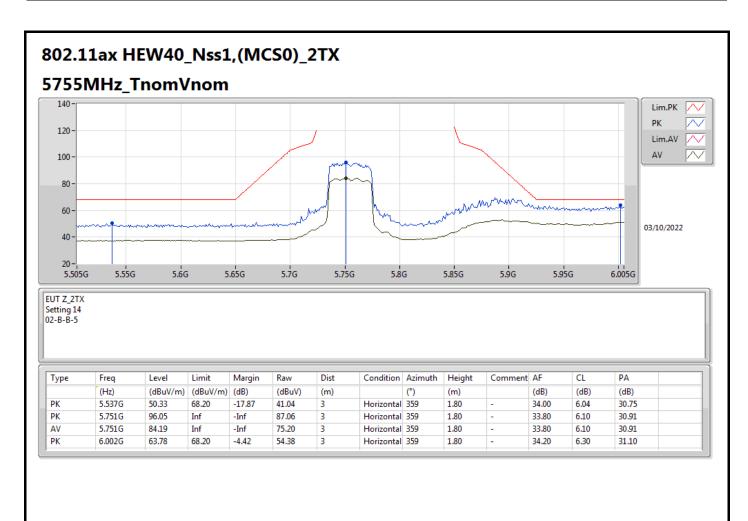
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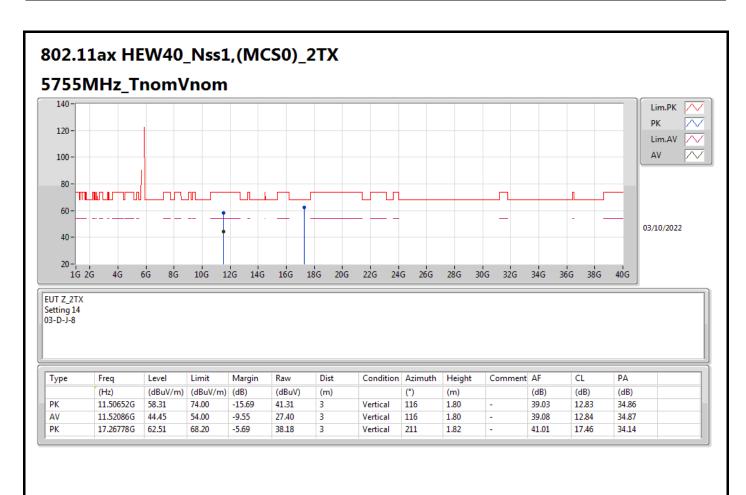
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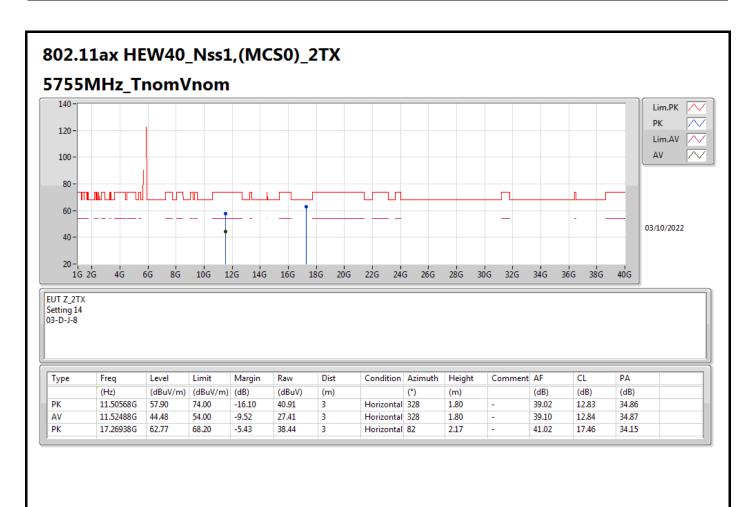
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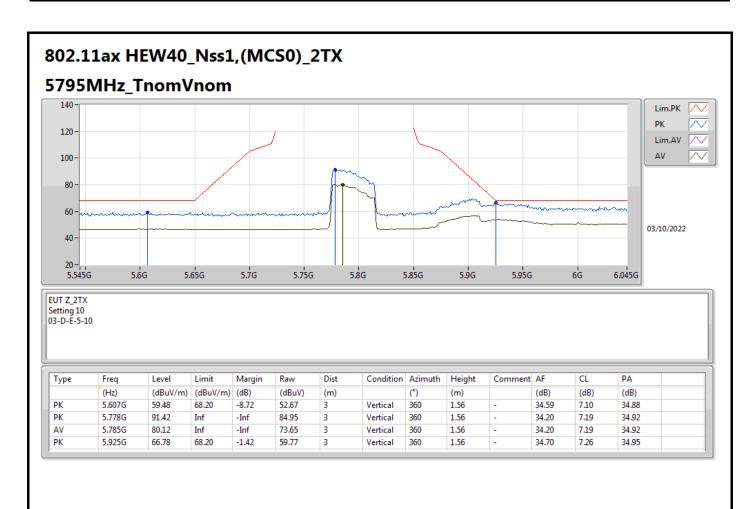
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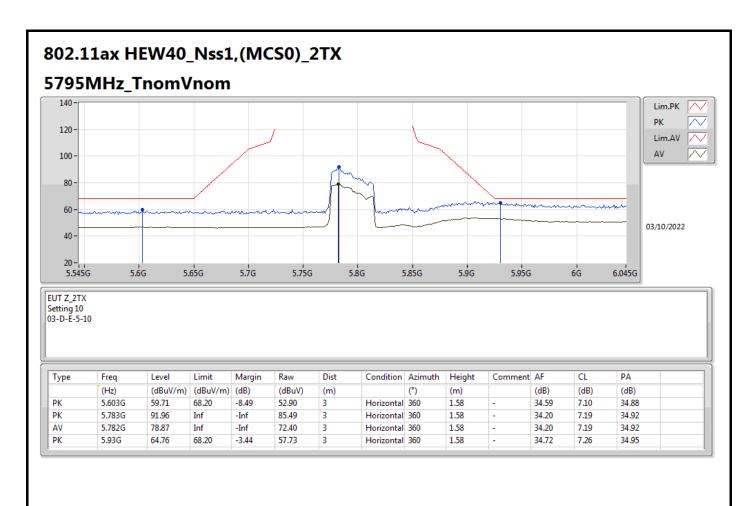
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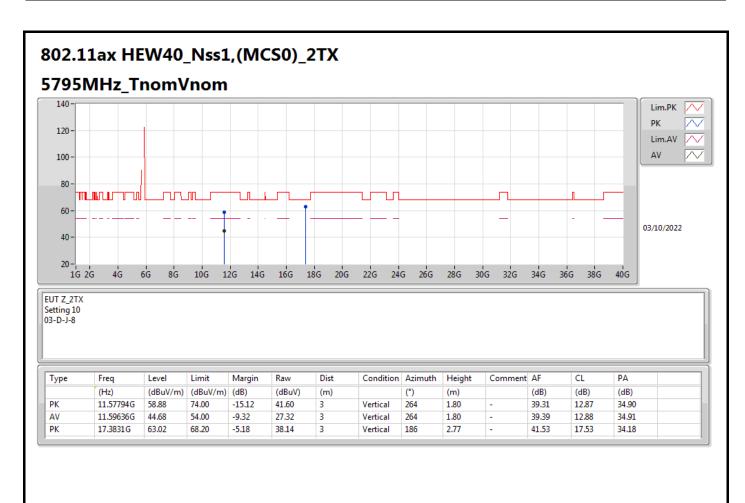
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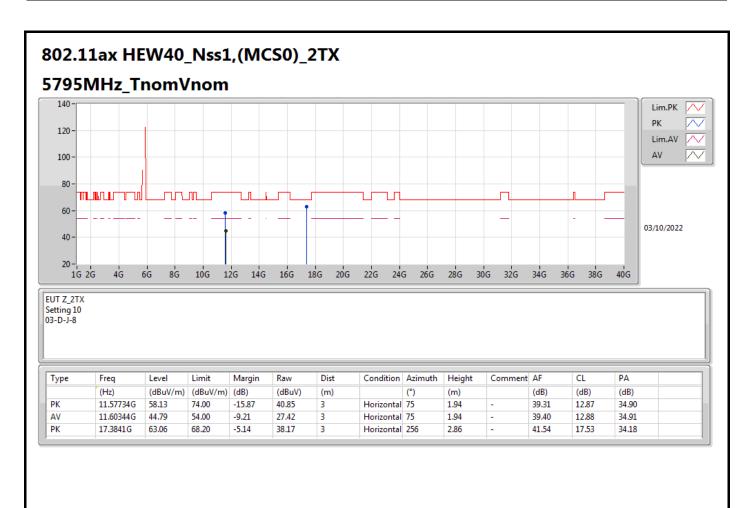
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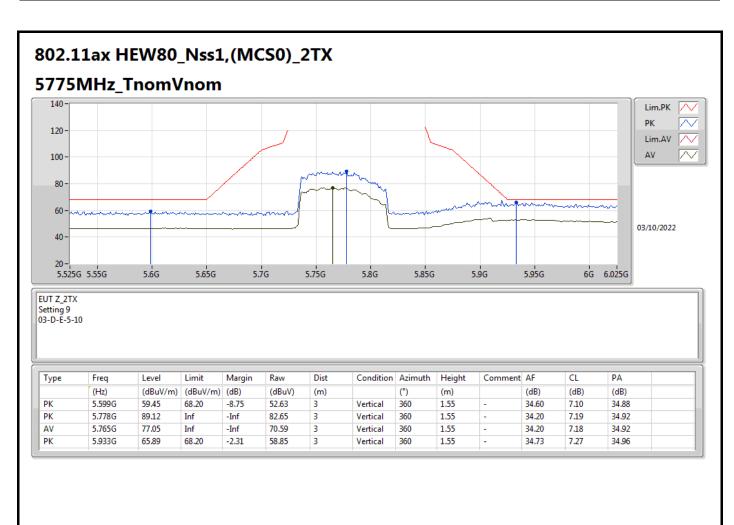
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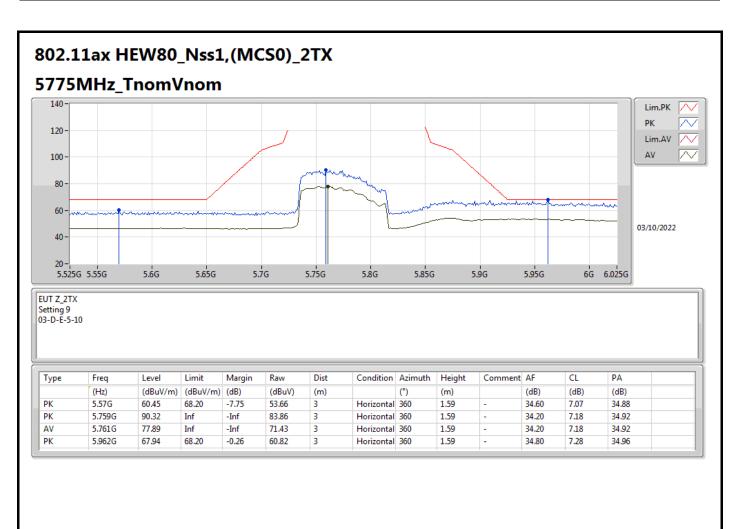
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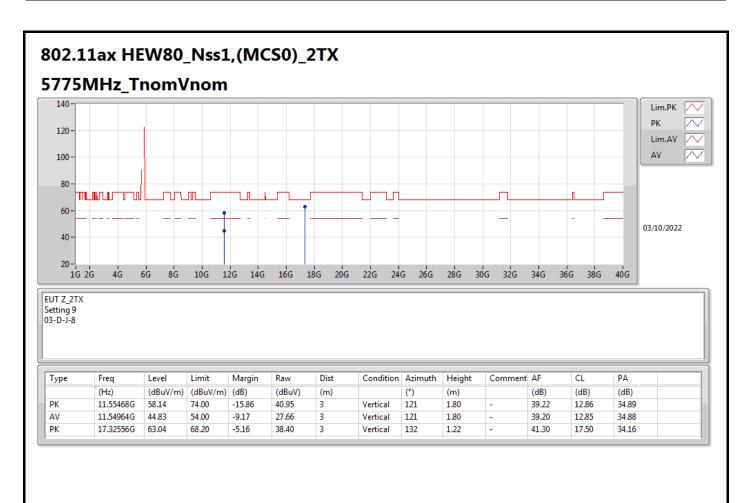
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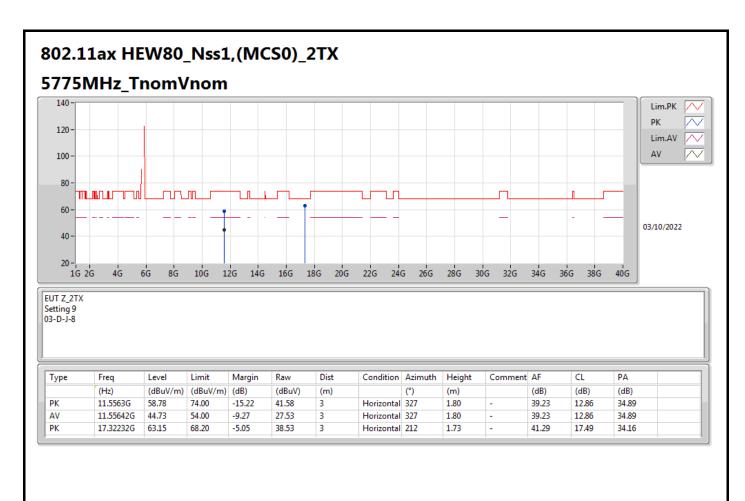
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