



FCC RADIO TEST REPORT

FCC ID

: 2AJAS9WPIKA010901

Equipment

: PIKA-CONN

Brand Name

: Millitronic

Model Name

: PIKA-CONN

Applicant

: Millitronic

7F.-6, No.237, Sec.1, Datong Rd. Xizhi Dist., New Taipei

City Taiwan

Manufacturer

: Millitronic

7F.-6, No.237, Sec.1, Datong Rd. Xizhi Dist., New Taipei

City Taiwan

Standard

: 47 CFR FCC Part 15.407

The product was received on Dec. 15, 2020, and testing was started from Jan. 07, 2021 and completed on Jan. 18, 2021. We, SPORTON INTERNATIONAL INC. EMC & Wireless Communications Laboratory, would like to declare that the tested sample has been evaluated in accordance with the procedures given in ANSI C63.10-2013 and shown compliance with the applicable technical standards.

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

Approved by: Sam Chen

SPORTON INTERNATIONAL INC. EMC & Wireless Communications Laboratory

No. 52, Huaya 1st Rd., Guishan Dist., Taoyuan City, Taiwan (R.O.C.)

TEL: 886-3-656-9065

FAX: 886-3-656-9085

Report Template No.: CB-A12_1 Ver1.2

Page Number

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Issued Date

: Feb. 19, 2021

Report Version : 01

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Report No.: FR0D1428

Report Version : 01

History of this test report

Report No.: FR0D1428

Report No.	Version	Description	Issued Date
FR0D1428	01	Initial issue of report	Feb. 19, 2021

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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 Conducted Output Power	PASS	-
3.4	15.407(a)	Peak 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.

Comments and Explanations:

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

Reviewed by: Sam Chen

Report Producer: Vicky Huang

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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
5150-5250	a, n (HT20), ac (VHT20),	5180-5240	36-48 [4]
5725-5850	ax (HEW20)	5745-5825	149-165 [5]
5150-5250	n (HT40), ac (VHT40),	5190-5230	38-46 [2]
5725-5850	ax (HEW40)	5755-5795	151-159 [2]
5150-5250	ac (VHT80), ax (HEW80)	5210	42 [1]
5725-5850		5775	155 [1]

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Band	Mode	BWch (MHz)	Nant
5.15-5.25GHz	802.11a	20	2TX
5.15-5.25GHz	802.11n HT20	20	2TX
5.15-5.25GHz	802.11n HT20-BF	20	2TX
5.15-5.25GHz	802.11ac VHT20	20	2TX
5.15-5.25GHz	802.11ac VHT20-BF	20	2TX
5.15-5.25GHz	802.11ax HEW20	20	2TX
5.15-5.25GHz	802.11ax HEW20-BF	20	2TX
5.15-5.25GHz	802.11n HT40	40	2TX
5.15-5.25GHz	802.11n HT40-BF	40	2TX
5.15-5.25GHz	802.11ac VHT40	40	2TX
5.15-5.25GHz	802.11ac VHT40-BF	40	2TX
5.15-5.25GHz	802.11ax HEW40	40	2TX
5.15-5.25GHz	802.11ax HEW40-BF	40	2TX
5.15-5.25GHz	802.11ac VHT80	80	2TX
5.15-5.25GHz	802.11ac VHT80-BF	80	2TX
5.15-5.25GHz	802.11ax HEW80	80	2TX
5.15-5.25GHz	802.11ax HEW80-BF	80	2TX
5.725-5.85GHz	802.11a	20	2TX
5.725-5.85GHz	802.11n HT20	20	2TX
5.725-5.85GHz	802.11n HT20-BF	20	2TX
5.725-5.85GHz	802.11ac VHT20	20	2TX
5.725-5.85GHz	802.11ac VHT20-BF	20	2TX

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

1.1.2 Antenna Information

Ant.	Port	Brand	Model Name	Antonno Tyro	Connector	Gain	(dBi)
Ant.	t. Port Brand		Model Name Antenna Type		Connector	5G Band 1	5G Band 4
1	1	Millitronic	5SN000000007	PCB Antenna	I-PEX	4.11	3.51
2	2	Millitronic	5SN000000007	PCB Antenna	I-PEX	4.11	3.51

Note: The above information was declared by manufacturer.

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.

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1.1.3 Mode Test Duty Cycle

Mode	DC	DCF(dB)	T(s)	VBW(Hz) ≥ 1/T
802.11a	0.942	0.26	1.398m	1k
802.11ax HEW20	0.912	0.4	1.023m	1k
802.11ax HEW40	0.842	0.75	541.25u	3k
802.11ax HEW80	0.742	1.3	291.25u	10k

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11-1-	
$A(1) \mapsto$	

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

1.1.4 EUT Operational Condition

EUT Power Type	From host system				
EUT Power Type	Testing: From Power Adapter				
Poomforming Function	☑ With beamforming ☐ Without beamforming				
Beamforming Function	The product has beamforming function for n/ac/ax in 5GHz				
Function	☐ Outdoor P2M ☐ Indoor P2M				
runction	Fixed P2P				
Test Software Version	PUTTY 0.62				

Note: 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:

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

1.3 Testing Location Information

	Testing Location						
	HWA YA	ADD	:	No. 52, Huaya 1st Rd., Guishan Dist., Taoyuan City, Taiwan (R.O.C.)			
		TEL	:	886-3-327-3456 FAX : 886-3-327-0973			
\boxtimes	JHUBEI	ADD	:	No.8, Ln. 724, Bo'ai St., Zhubei City, Hsinchu County 302, Taiwan (R.O.C.)			
		TEL	:	886-3-656-9065 FAX : 886-3-656-9085			

Test Condition	Test Site No.	Test Engineer	Test Environment (°C / %)	Test Date
RF Conducted	TH02-CB	Benson Su	13.6-14.6 / 59-62	Jan. 14, 2021~ Jan. 18, 2021
Radiated (Below 1GHz)	03CH06-CB	Stim Sung	15.8-16.2 / 54-56	Jan. 07, 2021
Radiated (Above 1GHz)	03CH03-CB	Lucke Hsieh	21.5-22.5 / 54-57	Jan. 14, 2021
AC Conduction	CO01-CB	Ryo Fan	18~19 / 60~61	Jan. 11, 2021

Test site Designation No. TW0006 with FCC

1.4 Measurement Uncertainty

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

Test Items	Uncertainty	Remark
Conducted Emission (150kHz ~ 30MHz)	2.0 dB	Confidence levels of 95%
Radiated Emission (9kHz ~ 30MHz)	3.8 dB	Confidence levels of 95%
Radiated Emission (30MHz ~ 1,000MHz)	5.6 dB	Confidence levels of 95%
Radiated Emission (1GHz ~ 18GHz)	5.0 dB	Confidence levels of 95%
Radiated Emission (18GHz ~ 40GHz)	4.9 dB	Confidence levels of 95%
Conducted Emission	2.8 dB	Confidence levels of 95%
Output Power Measurement	1.4 dB	Confidence levels of 95%
Power Density Measurement	2.8 dB	Confidence levels of 95%
Bandwidth Measurement	0.4%	Confidence levels of 95%

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Test site registered number IC 4086D with Industry Canada.

2 Test Configuration of EUT

2.1 Test Channel Mode

Mode	Power Setting
802.11a_Nss1,(6Mbps)_2TX	-
5180MHz	53
5200MHz	62
5240MHz	Default
5745MHz	Default
5785MHz	Default
5825MHz	Default
802.11ax HEW20_Nss1,(MCS0)_2TX	-
5180MHz	51
5200MHz	58
5240MHz	Default
5745MHz	Default
5785MHz	Default
5825MHz	Default
802.11ax HEW40_Nss1,(MCS0)_2TX	-
5190MHz	42
5230MHz	62
5755MHz	Default
5795MHz	Default
802.11ax HEW80_Nss1,(MCS0)_2TX	-
5210MHz	40
5775MHz	Default
802.11ax HEW20-BF_Nss1,(MCS0)_2TX	-
5180MHz	51
5200MHz	58
5240MHz	Default
5745MHz	Default
5785MHz	Default
5825MHz	Default
802.11ax HEW40-BF_Nss1,(MCS0)_2TX	-
5190MHz	42
5230MHz	62
5755MHz	Default
5795MHz	Default

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802.11ax HEW80-BF_Nss1,(MCS0)_2TX	-
5210MHz	40
5775MHz	Default

Note:

- The EUT supports beamforming and CDD modes for 5GHz: 802.11n/ac/ax, and the CDD mode is the
 worst case. Therefore, all test items are evaluated in the report. The beamforming mode only evaluates
 the output power.
- Evaluated HEW20/HEW40/HEW80 mode only, due to 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	Tests Item AC power-line conducted emissions	
Condition	Condition AC power-line conducted measurement for line and neutral	
Operating Mode Normal Link		

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

Th	The Worst Case Mode for Following Conformance Tests		
Tests Item	Unwanted Emissions		
Test Condition	Radiated measurement If EUT consist of multiple antenna assembly (multiple antenna are used in EUT regardless of spatial multiplexing MIMO configuration), the radiated test should be performed with highest antenna gain of each antenna type.		
Operating Mode < 1GHz	Normal Link		
1	EUT in Z axis		
Operating Mode > 1GHz CTX			
The EUT was performed at X axis, Y axis and Z axis position for Unwanted Emissions above 1GHz test, and the worst case was found at Z axis. So the measurement will follow this same test configuration.			
1	EUT in Z axis		

Note1: The USB port can not be used by the end-user. It is generally used by the professional installer.

Note2: The following support unit for measurement only, would not be marketed.

Support Unit	Brand Name	Model Name
Adapter	ADAPTER TECH	ATS018T-W120U

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.

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2.4 Accessories

N/A

2.5 Support Equipment

For AC Conduction:

	To Ao conduction.			
	Support Equipment			
No.	Equipment	Brand Name	Model Name	FCC ID
Α	AP NB	DELL	E6430	N/A
В	TV	ASUS	VP28U	N/A
С	AP Router	ASUS	RP-N53	MSQ-RPN53
D	Adapter	ADAPTER TECH	ATS018T-W120U	N/A

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For Radiated (below 1GHz):

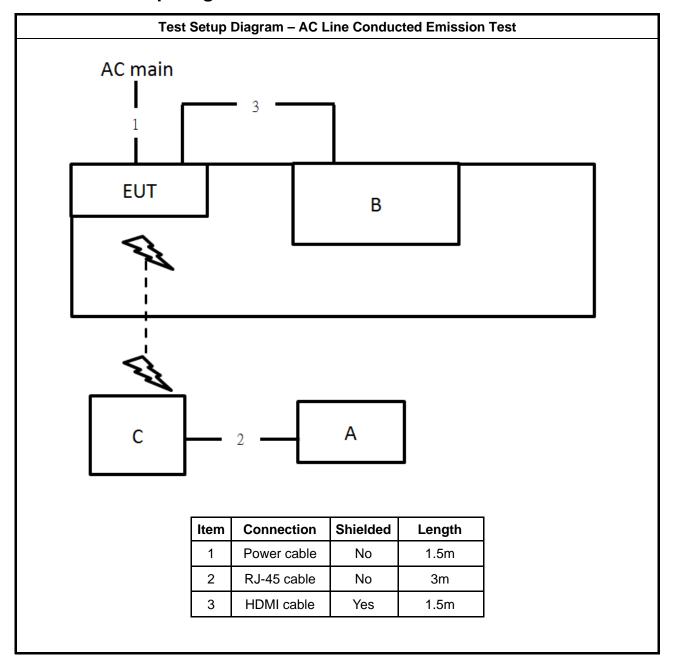
	, ,		_	
Support Equipment				
No.	Equipment	Brand Name	Model Name	FCC ID
Α	TV	ASUS	VP28U	N/A
В	WLAN AP	ASUS	RT-AX88U	MSQ-RTAXHP00
С	NB	DELL	E4300	N/A
D	Adapter	ADAPTER TECH	ATS018T-W120U	N/A

For Radiated (above 1GHz) and RF Conducted:

	Support Equipment			
No.	No. Equipment Brand Name Model Name FCC ID			
Α	NB	DELL	E4300	N/A
В	Adapter	ADAPTER TECH	ATS018T-W120U	N/A

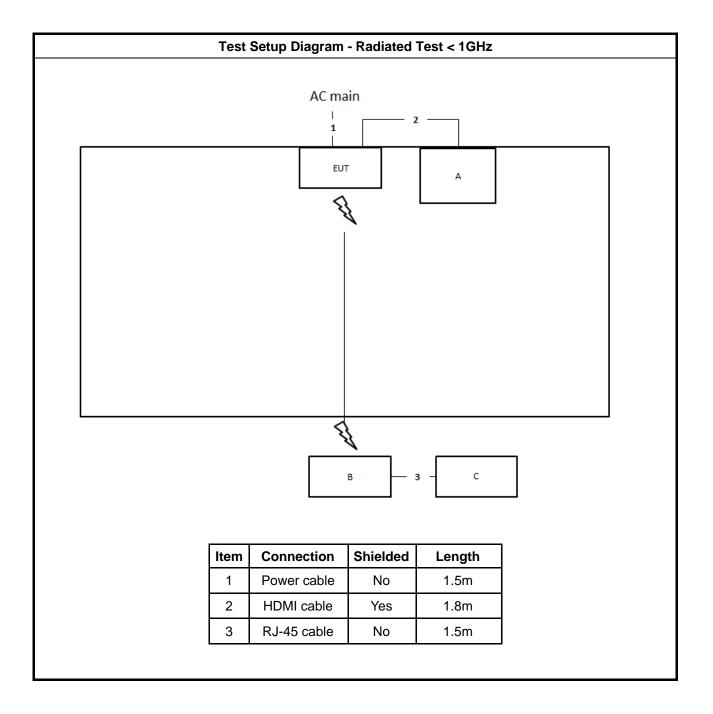
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2.6 Test Setup Diagram

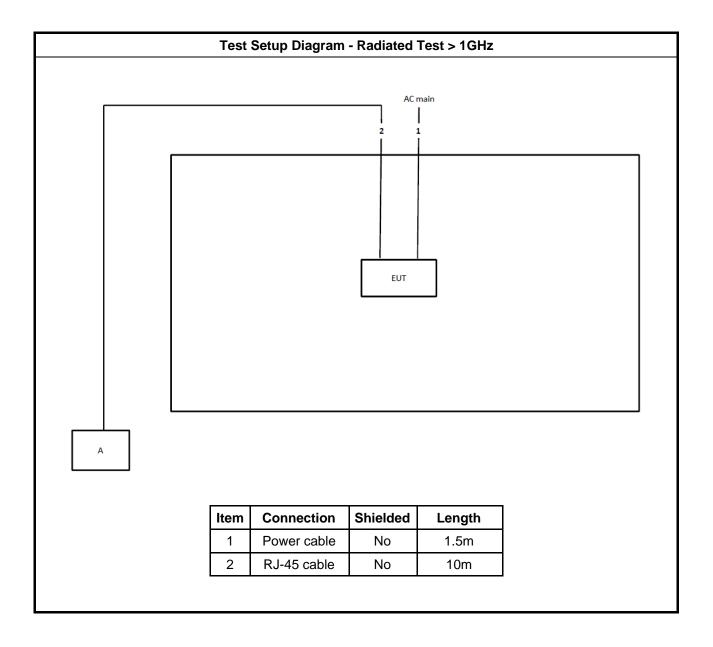


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3 Transmitter Test Result

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

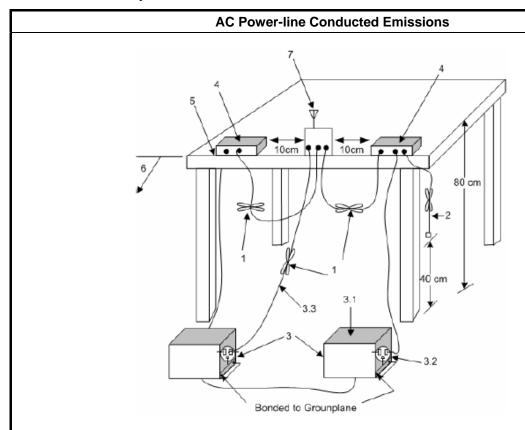
Refer a test equipment and calibration data table in this test report.

3.1.3 Test Procedures

Test Method
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						
\boxtimes	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, 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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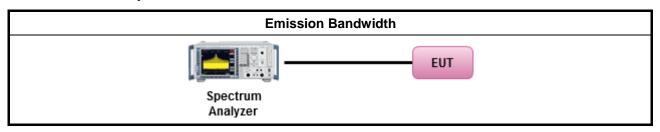
3.2.2 Measuring Instruments

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:								
Refer as FCC KDB 789033, 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.							

3.2.4 Test Setup



3.2.5 Test Result of Emission Bandwidth

Refer as Appendix B

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3.3 Maximum Conducted Output Power

3.3.1 Maximum Conducted Output Power Limit

	Maximum Conducted Output Power Limit
UNI	I Devices
\boxtimes	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.
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 lesser of 1 W.
	= maximum conducted output power in dBm, = the maximum transmitting antenna directional gain in dBi.

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3.3.2 Measuring Instruments

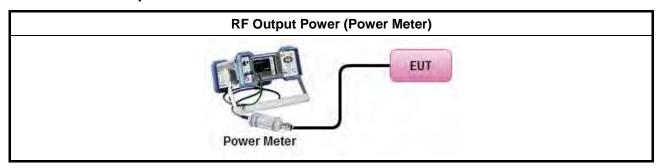
Refer a test equipment and calibration data table in this test report.

3.3.3 Test Procedures

	Test Method
•	Maximum Conducted Output Power
	Average over on/off periods with duty factor
	Refer as FCC KDB 789033, clause E Method SA-2 (spectral trace averaging).
	Refer as FCC KDB 789033, clause E Method SA-2 Alt. (RMS detection with slow sweep speed)
	Wideband RF power meter and average over on/off periods with duty factor
	Refer as FCC KDB 789033, clause E Method PM-G (using an RF average power meter).
•	For conducted measurement.
	■ If the EUT supports multiple transmit chains using options given below: Refer as FCC KDB 662911, In-band power measurements. Using the measure-and-sum approach, measured all transmit ports individually. Sum the power (in linear power units e.g., mW) of all ports for each individual sample and save them.
	 If multiple transmit chains, EIRP calculation could be following as methods: P_{total} = P₁ + P₂ + + P_n (calculated in linear unit [mW] and transfer to log unit [dBm]) EIRP_{total} = P_{total} + DG

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3.3.4 Test Setup



3.3.5 Test Result of Maximum Conducted Output Power

Refer as Appendix C

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3.4 Peak Power Spectral Density

3.4.1 Peak Power Spectral Density Limit

	Peak Power Spectral Density Limit
UNI	I Devices
\boxtimes	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 – ($G_{TX} - 6$).
	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.
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.
pow	SD = peak power spectral density that he same method as used to determine the conducted output ver shall be used to determine the power spectral density. And power spectral density in dBm/MHz = 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

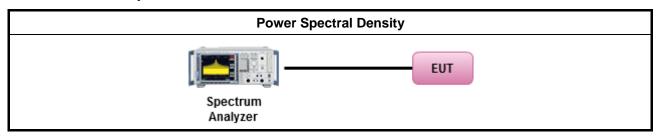
		Test Method								
•	outp func	ak power spectral density procedures that the same method as used to determine the conducted tput power shall be used to determine the peak power spectral density and use the peak search action on the spectrum analyzer to find the peak of the spectrum. For the peak power spectral density all be measured using below options:								
		Refer as FCC KDB 789033, 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]								
		Refer as FCC KDB 789033, clause E Method SA-1 (spectral trace averaging).								
		Refer as FCC KDB 789033, 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, clause E Method SA-2 (spectral trace averaging).								
		Refer as FCC KDB 789033, clause E Method SA-2 Alt. (RMS detection with slow sweep speed)								
•	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]) \\ EIRP_{total} = PPSD_{total} + DG $								

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3.4.4 Test Setup



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3.4.5 Test Result of Peak 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.						

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

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linear distance for field-strength measurements, inverse of linear distance-squared for power-density measurements).

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3.5.2 Measuring Instruments

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

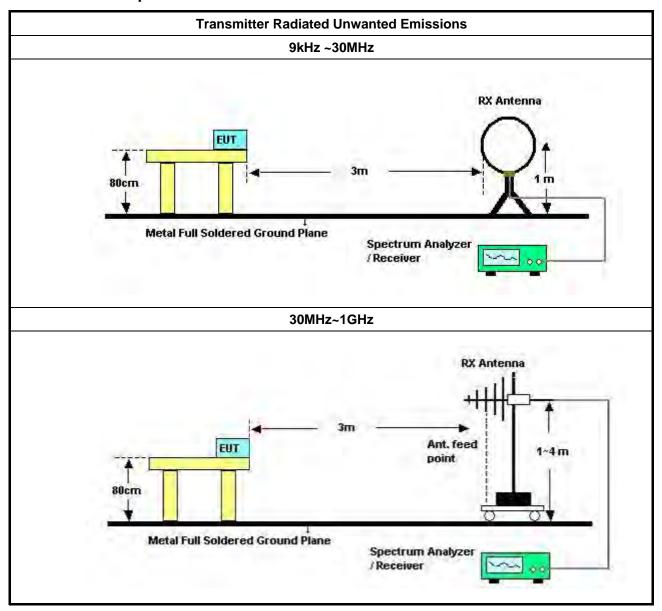
3.5.3 Test Procedures

Test Method

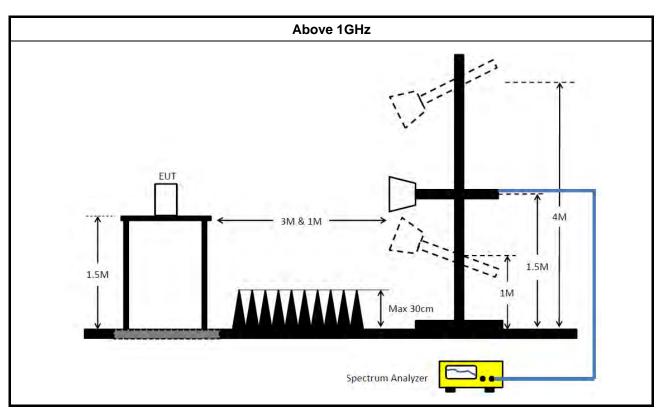
- Measurements may be performed at a distance other than the limit distance provided they are not performed in the near field and the emissions to be measured can be detected by the measurement equipment. Measurements shall not be performed at a distance greater than 30 m for frequencies above 30 MHz, 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, clause G)2) for unwanted emissions into non-restricted bands.
 - Refer as FCC KDB 789033, clause G)1) for unwanted emissions into restricted bands.
 - Refer as FCC KDB 789033, G)6) Method AD (Trace Averaging).
 - Refer as FCC KDB 789033, 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, 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.
- All amplitude of spurious emissions that are attenuated by more than 20 dB below the permissible value has no need to be reported.

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3.5.4 Test Setup



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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

In admires and	Duc :: J	MadelNi	Carial N	Parial Na Characteristics		Calibration	Pomark
Instrument	Brand	Model No.	Serial No.	Characteristics	Date	Due Date	Remark
EMI Receiver	Agilent	N9038A	My52260123	9kHz ~ 8.4GHz	Feb. 26, 2020	Feb. 25, 2021	Conduction (CO01-CB)
LISN	F.C.C.	FCC-LISN-50- 16-2	04083	150kHz ~ 100MHz	Jan. 06, 2021	Jan. 05, 2022	Conduction (CO01-CB)
LISN	Schwarzbeck	NSLK 8127	8127647	9kHz ~ 30MHz	Feb. 25, 2020	Feb. 24, 2021	Conduction (CO01-CB)
Pulse Limiter	Rohde& Schwarz	ESH3-Z2	100430	9kHz ~ 30MHz	Jan. 31, 2020	Jan. 30, 2021	Conduction (CO01-CB)
COND Cable	Woken	Cable	Low cable-CO01	9kHz ~ 30MHz	May 20, 2020	May 19, 2021	Conduction (CO01-CB)
Software	SPORTON	SENSE	V5.10	-	N.C.R.	N.C.R.	Conduction (CO01-CB)
3m Semi Anechoic Chamber NSA	TDK	SAC-3M	03CH06-CB	30 MHz ~ 1 GHz	Aug. 10, 2020	Aug. 09. 2021	Radiation (03CH06-CB)
Bilog Antenna with 6 dB attenuator	TESEQ & EMCI	CBL6112D & N-6-06	37878 & AT-N0606	20MHz ~ 2GHz	Aug. 02, 2020	Aug. 01, 2021	Radiation (03CH06-CB)
Loop Antenna	Teseq	HLA 6120	24155	9kHz - 30 MHz	Apr. 13, 2020	Apr. 12, 2021	Radiation (03CH06-CB)
Pre-Amplifier	Agilent	310N	187290	0.1MHz ~ 1GHz	Nov. 05, 2020	Nov. 04, 2021	Radiation (03CH06-CB)
Spectrum analyzer	R&S	FSP40	100080	9kHz~40GHz	Dec. 15, 2020	Dec. 14, 2021	Radiation (03CH06-CB)
EMI Test Receiver	R&S	ESCS	826547/017	9kHz ~ 2.75GHz	May 13, 2020	May 12, 2021	Radiation (03CH06-CB)
RF Cable-low	Woken	RG402	Low Cable-05+24	30MHz~1GHz	Oct. 05, 2020	Oct. 04, 2021	Radiation (03CH06-CB)
Test Software	SPORTON	SENSE	V5.10	-	N.C.R.	N.C.R.	Radiation (03CH06-CB)
3m Semi Anechoic Chamber VSWR	TDK	SAC-3M	03CH03-CB	1GHz ~18GHz 3m	May 28, 2020	May 27, 2021	Radiation (03CH03-CB)
Horn Antenna	ETS · Lindgren	3115	6821	750MHz~ 18GHz	Jan. 20, 2020	Jan. 19, 2021	Radiation (03CH03-CB)
Horn Antenna	Schwarzbeck	BBHA 9170	BBHA9170252	15GHz ~ 40GHz	Jul. 21, 2020	Jul. 20, 2021	Radiation (03CH03-CB)
Pre-Amplifier	Agilent	8449B	3008A02097	1GHz ~ 26.5GHz	Jul. 03, 2020	Jun. 02, 2021	Radiation (03CH03-CB)
Pre-Amplifier	MITEQ	TTA1840-35-H G	1864479	18GHz ~ 40GHz	Jul. 08, 2020	Jul. 07, 2021	Radiation (03CH03-CB)
Spectrum Analyzer	R&S	FSP40	100019	9kHz ~; 40GHz	Jun. 09, 2020	Jun. 08, 2021	Radiation (03CH03-CB)
RF Cable-high	Woken	RG402	High Cable-20+29	1GHz ~ 18GHz	Oct. 05, 2020	Oct. 04, 2021	Radiation (03CH03-CB)

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Instrument Brand Mod		Model No.	Serial No.	Characteristics	Calibration Date	Calibration Due Date	Remark
RF Cable-high	Woken	RG402	High Cable-29	1GHz ~ 18GHz	Oct. 05, 2020	Oct. 04, 2021	Radiation (03CH03-CB)
RF Cable-high	Woken	RG402	High Cable-40G#1	18GHz~40 GHz	Jul. 16, 2020	Jul. 15, 2021	Radiation (03CH03-CB)
RF Cable-high	Woken	RG402	High Cable-40G#2	18GHz~40 GHz	Jul. 16, 2020	Jul. 15, 2021	Radiation (03CH03-CB)
Test Software	SPORTON	SENSE	V5.10	-	N.C.R.	N.C.R.	Radiation (03CH03-CB)
Spectrum analyzer	R&S	FSV40	101027	9kHz~40GHz	Jul. 27, 2020	Jul. 26, 2021	Conducted (TH02-CB)
Power Sensor	Anritsu	MA2411B	1126203	300MHz~ 40GHz	Sep. 17, 2020	Sep. 16, 2021	Conducted (TH02-CB)
Power Meter	Anritsu	ML2495A	1210004	300MHz~ 40GHz	Sep. 17, 2020	Sep. 16, 2021	Conducted (TH02-CB)
RF Cable-high	Woken	RG402	High Cable-01	1 GHz – 18 GHz	Oct. 05, 2020	Oct. 04, 2021	Conducted (TH02-CB)
RF Cable-high	Woken	RG402	High Cable-02	1 GHz – 18 GHz	Oct. 05, 2020	Oct. 04, 2021	Conducted (TH02-CB)
RF Cable-high	Woken	RG402	High Cable-03	1 GHz – 18 GHz	Oct. 05, 2020	Oct. 04, 2021	Conducted (TH02-CB)
RF Cable-high	Woken	RG402	High Cable-04	1 GHz – 18 GHz	Oct. 05, 2020	Oct. 04, 2021	Conducted (TH02-CB)
RF Cable-high	Woken	RG402	High Cable-05	1 GHz – 18 GHz	Oct. 05, 2020	Oct. 04, 2021	Conducted (TH02-CB)
Test Software	SPORTON	SENSE	V5.10	-	N.C.R.	N.C.R.	Conducted (TH02-CB)

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

NCR means Non-Calibration required.

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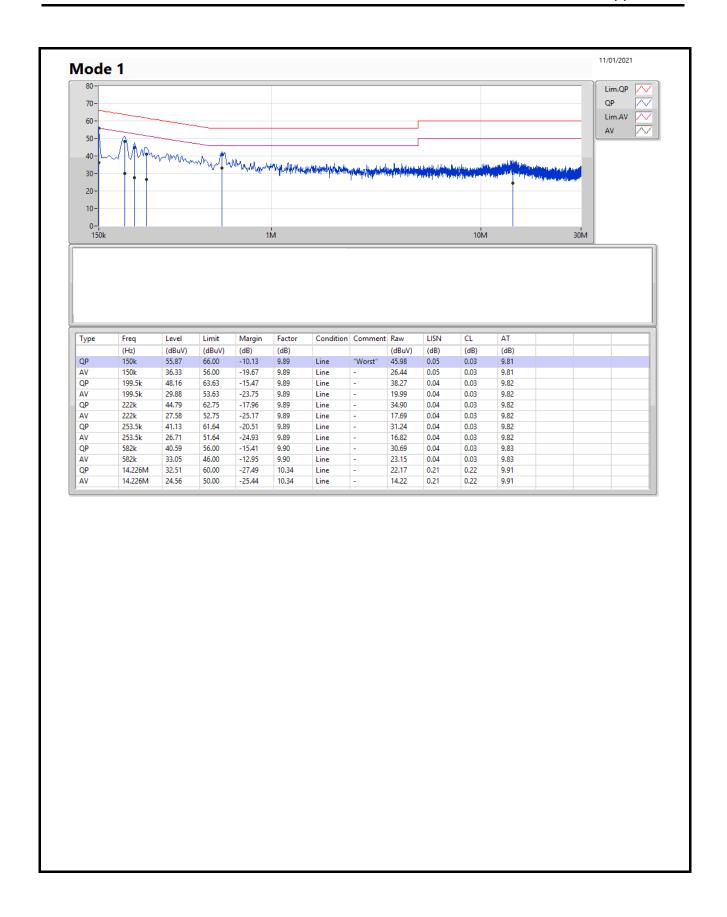
AC Power Port Conducted Emission Result

Appendix A

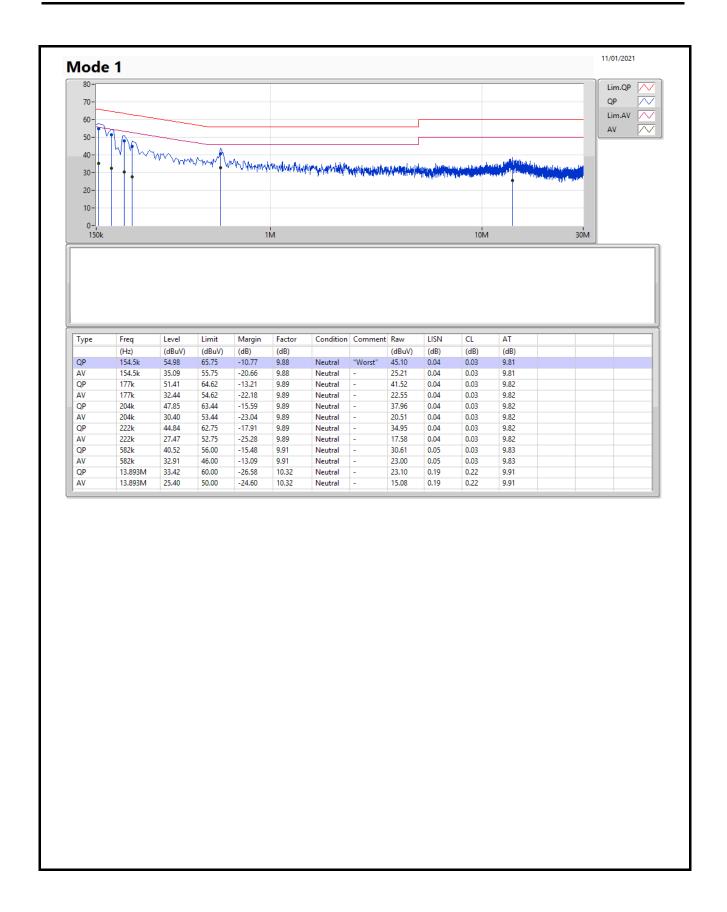
Summary

Mode	Result	Туре	Freq (Hz)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Condition
Mode 1	Pass	QP	150k	55.87	66.00	-10.13	Line











Summary

Mode	Max-N dB	Max-OBW	ITU-Code	Min-N dB	Min-OBW
	(Hz)	(Hz)		(Hz)	(Hz)
5.15-5.25GHz	-	-	-	-	-
802.11a_Nss1,(6Mbps)_2TX	26.34M	16.942M	16M9D1D	21M	16.582M
802.11ax HEW20_Nss1,(MCS0)_2TX	25.71M	19.04M	19M0D1D	21M	18.951M
802.11ax HEW40_Nss1,(MCS0)_2TX	75.36M	37.961M	38M0D1D	40.14M	37.541M
802.11ax HEW80_Nss1,(MCS0)_2TX	81.72M	77.241M	77M2D1D	81.36M	77.241M
5.725-5.85GHz	-	-	-	-	-
802.11a_Nss1,(6Mbps)_2TX	16.32M	16.792M	16M8D1D	15.69M	16.642M
802.11ax HEW20_Nss1,(MCS0)_2TX	18.57M	18.981M	19M0D1D	16.02M	18.921M
802.11ax HEW40_Nss1,(MCS0)_2TX	37.56M	37.841M	37M8D1D	36.96M	37.661M
802.11ax HEW80_Nss1,(MCS0)_2TX	77.4M	77.121M	77M1D1D	77.28M	77.121M

Max-N dB = Maximum 6dB down bandwidth for 5.725-5.85GHz band / Maximum 26dB down bandwidth for other band;

Max-OBW = Maximum99% occupied bandwidth;

Min-N dB = Minimum 6dB down bandwidth for 5.725-5.85GHz band / Maximum 26dB down bandwidth for other band;

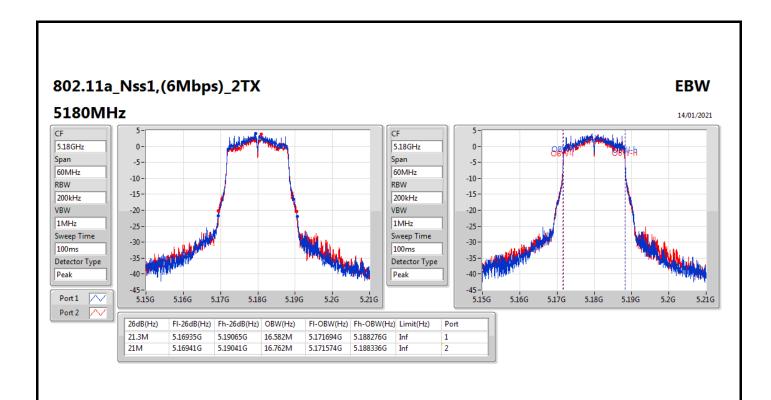
Min-OBW = Minimum 99% occupied bandwidth;

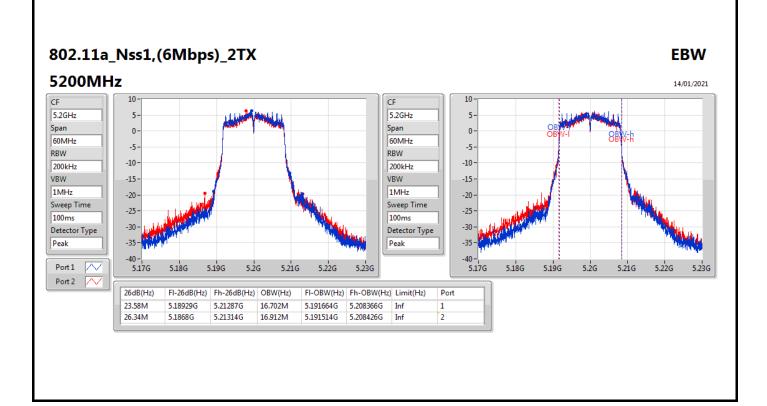


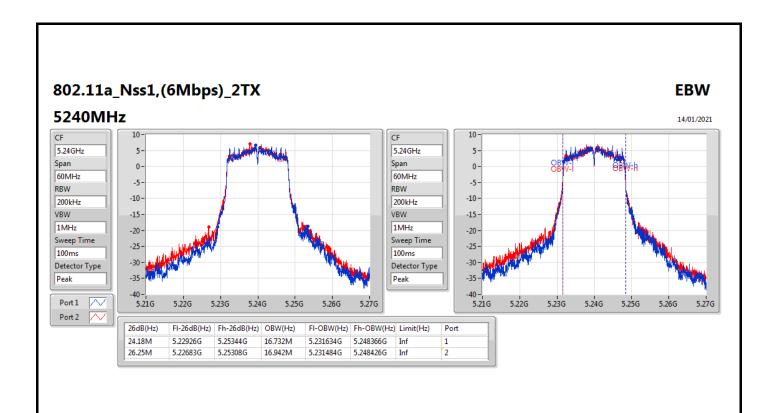
Result

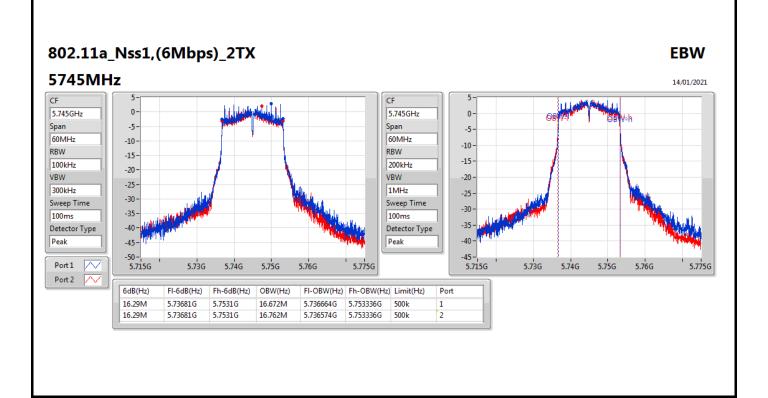
Mode	Result	Limit	Port 1-N dB	Port 1-OBW	Port 2-N dB	Port 2-OBW
		(Hz)	(Hz)	(Hz)	(Hz)	(Hz)
802.11a_Nss1,(6Mbps)_2TX	-	-	-	-	-	-
5180MHz	Pass	Inf	21.3M	16.582M	21M	16.762M
5200MHz	Pass	Inf	23.58M	16.702M	26.34M	16.912M
5240MHz	Pass	Inf	24.18M	16.732M	26.25M	16.942M
5745MHz	Pass	500k	16.29M	16.672M	16.29M	16.762M
5785MHz	Pass	500k	15.69M	16.642M	16.32M	16.792M
5825MHz	Pass	500k	16.29M	16.672M	16.32M	16.732M
802.11ax HEW20_Nss1,(MCS0)_2TX	-	-	-	-	-	-
5180MHz	Pass	Inf	21M	18.951M	21.3M	18.951M
5200MHz	Pass	Inf	21M	18.951M	21.39M	18.951M
5240MHz	Pass	Inf	23.76M	19.04M	25.71M	19.04M
5745MHz	Pass	500k	16.02M	18.981M	18.57M	18.921M
5785MHz	Pass	500k	18.03M	18.951M	18.3M	18.921M
5825MHz	Pass	500k	18.09M	18.921M	18.36M	18.951M
802.11ax HEW40_Nss1,(MCS0)_2TX	-	-	-	-	-	-
5190MHz	Pass	Inf	40.14M	37.541M	40.2M	37.661M
5230MHz	Pass	Inf	75.36M	37.961M	74.46M	37.901M
5755MHz	Pass	500k	37.14M	37.781M	37.5M	37.781M
5795MHz	Pass	500k	36.96M	37.841M	37.56M	37.661M
802.11ax HEW80_Nss1,(MCS0)_2TX	-	-	-	-	-	-
5210MHz	Pass	Inf	81.36M	77.241M	81.72M	77.241M
5775MHz	Pass	500k	77.4M	77.121M	77.28M	77.121M

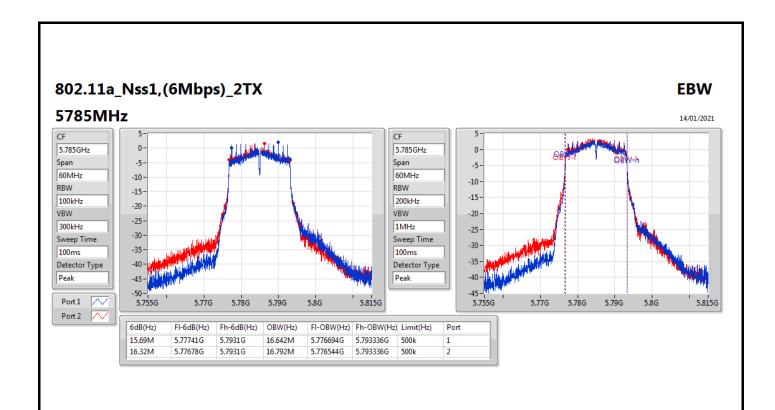
Port X-N dB = Port X 6dB down bandwidth for 5.725-5.85GHz band / 26dB down bandwidth for other band Port X-OBW = Port X 99% occupied bandwidth;

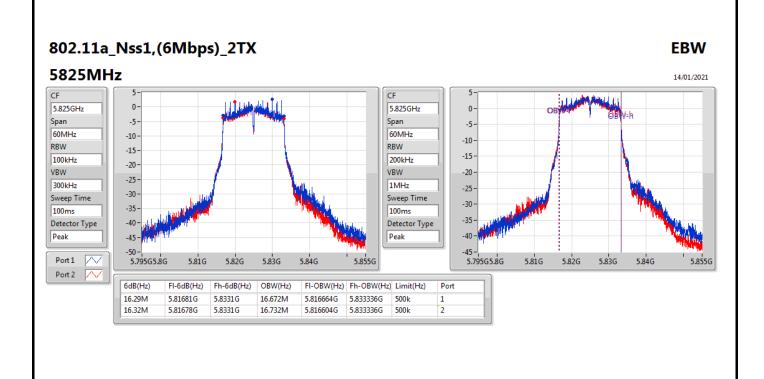




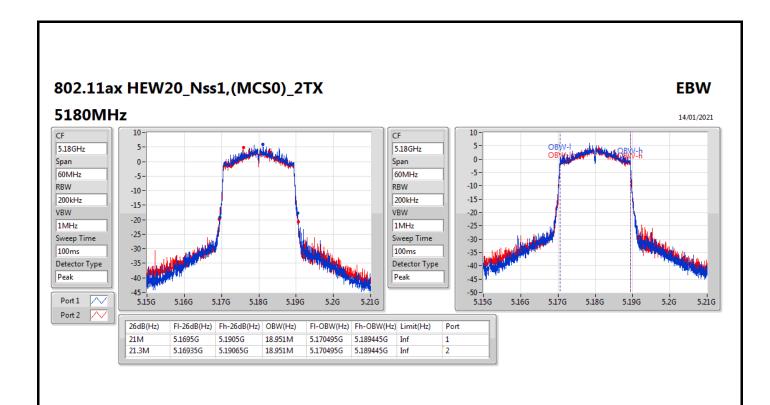


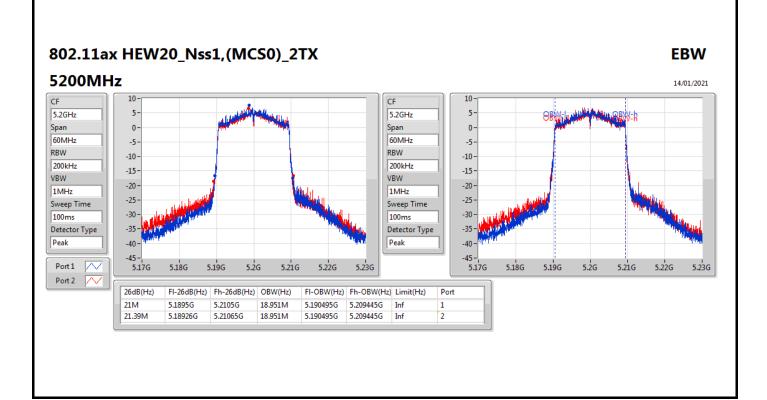


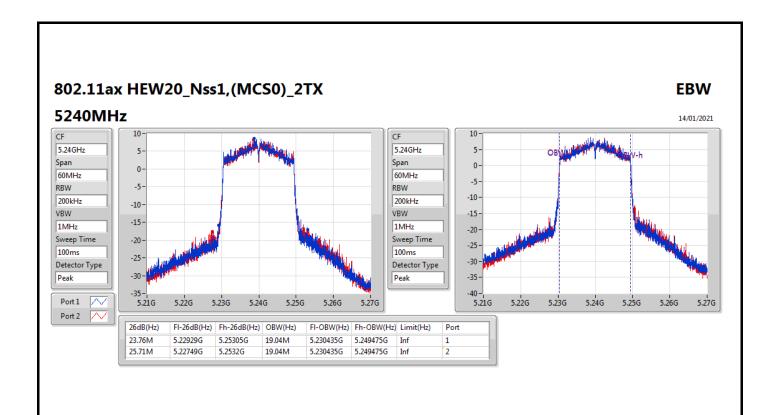


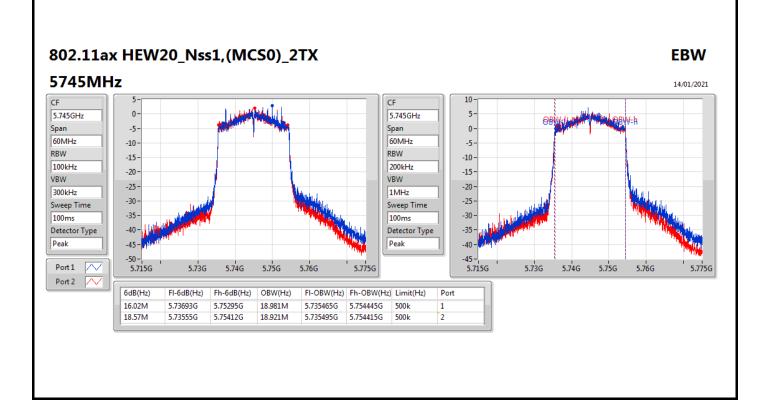


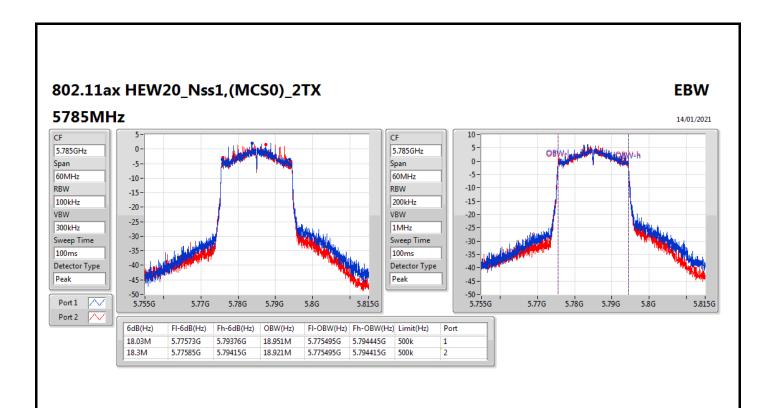
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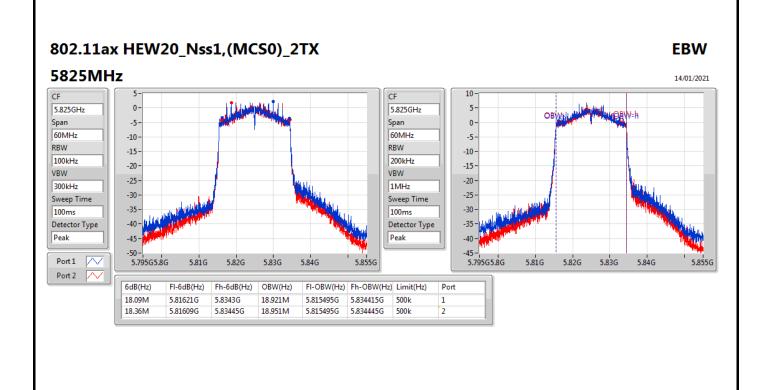


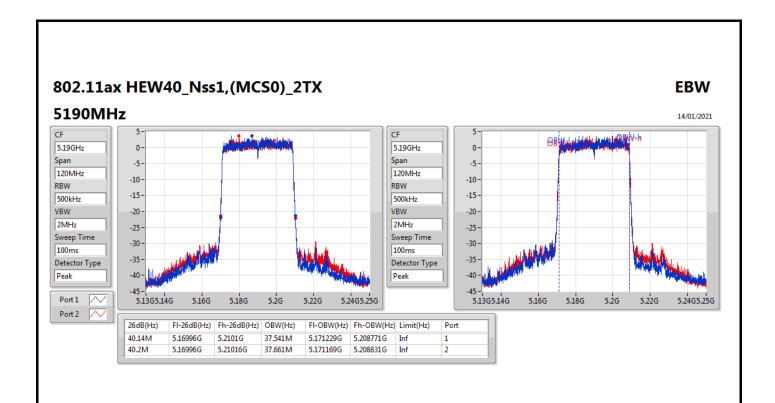


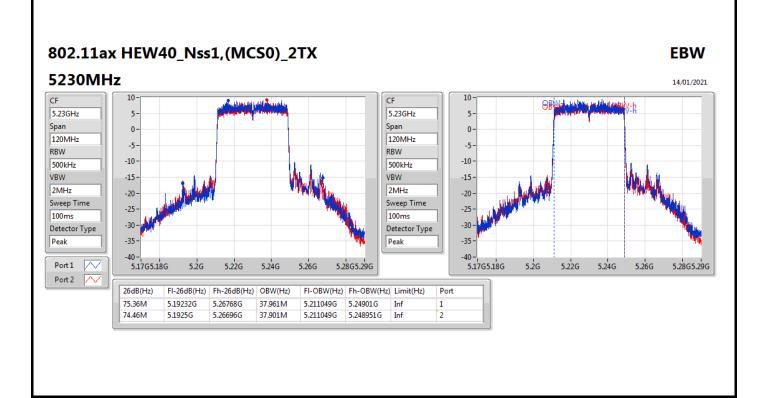


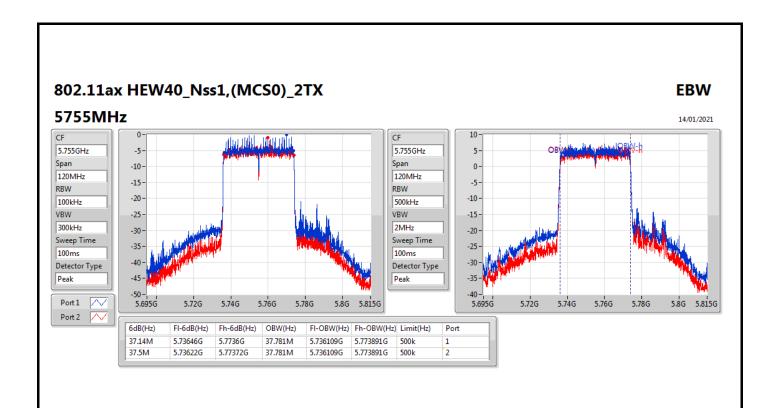


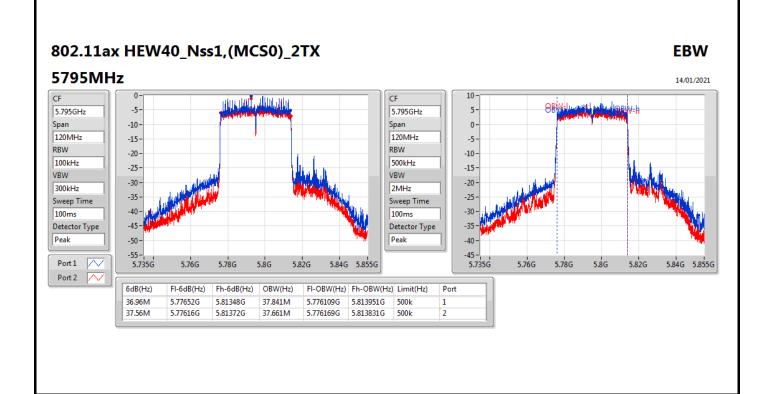


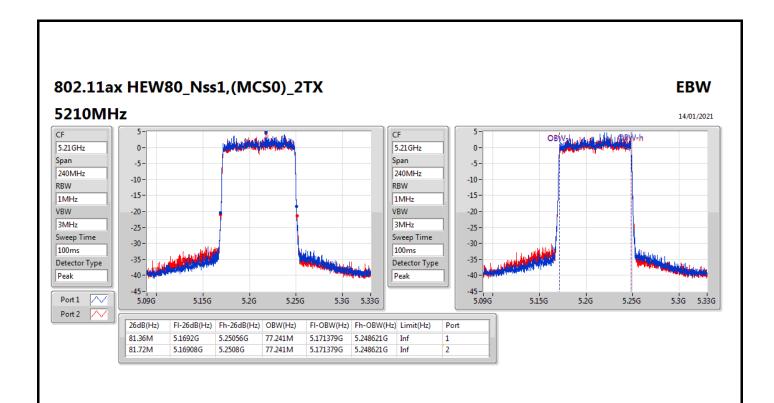


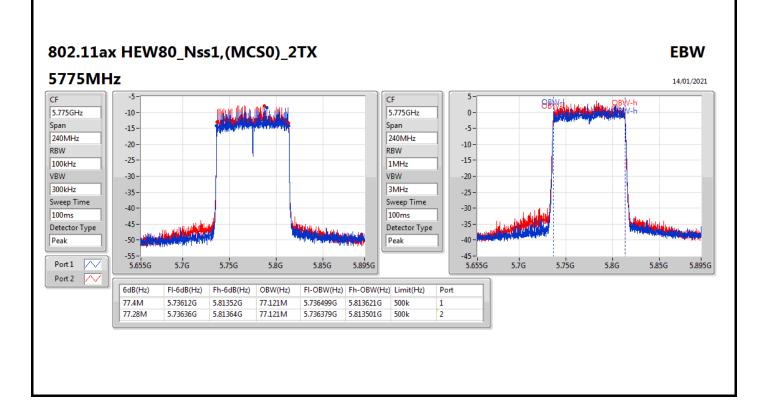














For non-beamforming mode: Summary___

Mode	Total Power	Total Power
	(dBm)	(W)
5.15-5.25GHz	-	-
802.11a_Nss1,(6Mbps)_2TX	19.47	0.08851
802.11ax HEW20_Nss1,(MCS0)_2TX	19.66	0.09247
802.11ax HEW40_Nss1,(MCS0)_2TX	19.25	0.08414
802.11ax HEW80_Nss1,(MCS0)_2TX	13.70	0.02344
5.725-5.85GHz	-	-
802.11a_Nss1,(6Mbps)_2TX	17.37	0.05458
802.11ax HEW20_Nss1,(MCS0)_2TX	17.36	0.05445
802.11ax HEW40_Nss1,(MCS0)_2TX	17.30	0.05370
802.11ax HEW80_Nss1,(MCS0)_2TX	12.83	0.01919



Result

Mode	Result	DG	Port 1	Port 2	Total Power	Power Limit
		(dBi)	(dBm)	(dBm)	(dBm)	(dBm)
802.11a_Nss1,(6Mbps)_2TX	-	-	-	-	-	-
5180MHz	Pass	4.11	14.30	13.56	16.96	23.98
5200MHz	Pass	4.11	16.40	15.90	19.17	23.98
5240MHz	Pass	4.11	16.54	16.37	19.47	23.98
5745MHz	Pass	3.51	14.24	14.14	17.20	30.00
5785MHz	Pass	3.51	13.54	13.89	16.73	30.00
5825MHz	Pass	3.51	14.54	14.17	17.37	30.00
802.11ax HEW20_Nss1,(MCS0)_2TX	-	-	-	-	-	-
5180MHz	Pass	4.11	13.83	13.38	16.62	23.98
5200MHz	Pass	4.11	15.47	15.13	18.31	23.98
5240MHz	Pass	4.11	16.87	16.41	19.66	23.98
5745MHz	Pass	3.51	14.50	14.16	17.34	30.00
5785MHz	Pass	3.51	14.29	14.00	17.16	30.00
5825MHz	Pass	3.51	14.49	14.20	17.36	30.00
802.11ax HEW40_Nss1,(MCS0)_2TX	-	-	-	-	-	-
5190MHz	Pass	4.11	11.18	10.83	14.02	23.98
5230MHz	Pass	4.11	16.52	15.94	19.25	23.98
5755MHz	Pass	3.51	14.71	13.76	17.27	30.00
5795MHz	Pass	3.51	14.82	13.69	17.30	30.00
802.11ax HEW80_Nss1,(MCS0)_2TX	-	-	-	-	-	-
5210MHz	Pass	4.11	10.78	10.60	13.70	23.98
5775MHz	Pass	3.51	9.21	10.35	12.83	30.00

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



For beamforming mode: Summary

Mode	Total Power	Total Power
	(dBm)	(W)
5.15-5.25GHz	-	-
802.11ax HEW20-BF_Nss1,(MCS0)_2TX	19.66	0.09247
802.11ax HEW40-BF_Nss1,(MCS0)_2TX	19.25	0.08414
802.11ax HEW80-BF_Nss1,(MCS0)_2TX	13.70	0.02344
5.725-5.85GHz	-	-
802.11ax HEW20-BF_Nss1,(MCS0)_2TX	17.36	0.05445
802.11ax HEW40-BF_Nss1,(MCS0)_2TX	17.30	0.05370
ax8,BF0_Nss1,(MCS0)_2TX	12.83	0.01919

Result

Mode	Result	DG	Port 1	Port 2	Total Power	Power Limit
		(dBi)	(dBm)	(dBm)	(dBm)	(dBm)
802.11ax HEW20-BF_Nss1,(MCS0)_2TX	-	-	-	-	-	-
5180MHz	Pass	7.12	13.83	13.38	16.62	22.86
5200MHz	Pass	7.12	15.47	15.13	18.31	22.86
5240MHz	Pass	7.12	16.87	16.41	19.66	22.86
5745MHz	Pass	6.52	14.5	14.16	17.34	29.48
5785MHz	Pass	6.52	14.29	14.00	17.16	29.48
5825MHz	Pass	6.52	14.49	14.2.0	17.36	29.48
802.11ax HEW40-BF_Nss1,(MCS0)_2TX	-	-	-	-	-	-
5190MHz	Pass	7.12	11.18	10.83	14.02	22.86
5230MHz	Pass	7.12	16.52	15.94	19.25	22.86
5755MHz	Pass	6.52	14.71	13.76	17.27	29.48
5795MHz	Pass	6.52	14.82	13.69	17.30	29.48
802.11ax HEW80-BF_Nss1,(MCS0)_2TX	-	-	-	-	-	-
5210MHz	Pass	7.12	10.78	10.6.0	13.70	22.86
5775MHz	Pass	6.52	9.21	10.35	12.83	29.48

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



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Summary

Mode	PD
	(dBm/RBW)
5.15-5.25GHz	·
802.11a_Nss1,(6Mbps)_2TX	7.79
802.11ax HEW20_Nss1,(MCS0)_2TX	7.31
802.11ax HEW40_Nss1,(MCS0)_2TX	2.91
802.11ax HEW80_Nss1,(MCS0)_2TX	-5.81
5.725-5.85GHz	·
802.11a_Nss1,(6Mbps)_2TX	3.87
802.11ax HEW20_Nss1,(MCS0)_2TX	3.81
802.11ax HEW40_Nss1,(MCS0)_2TX	-0.87
802.11ax HEW80_Nss1,(MCS0)_2TX	-8.10

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



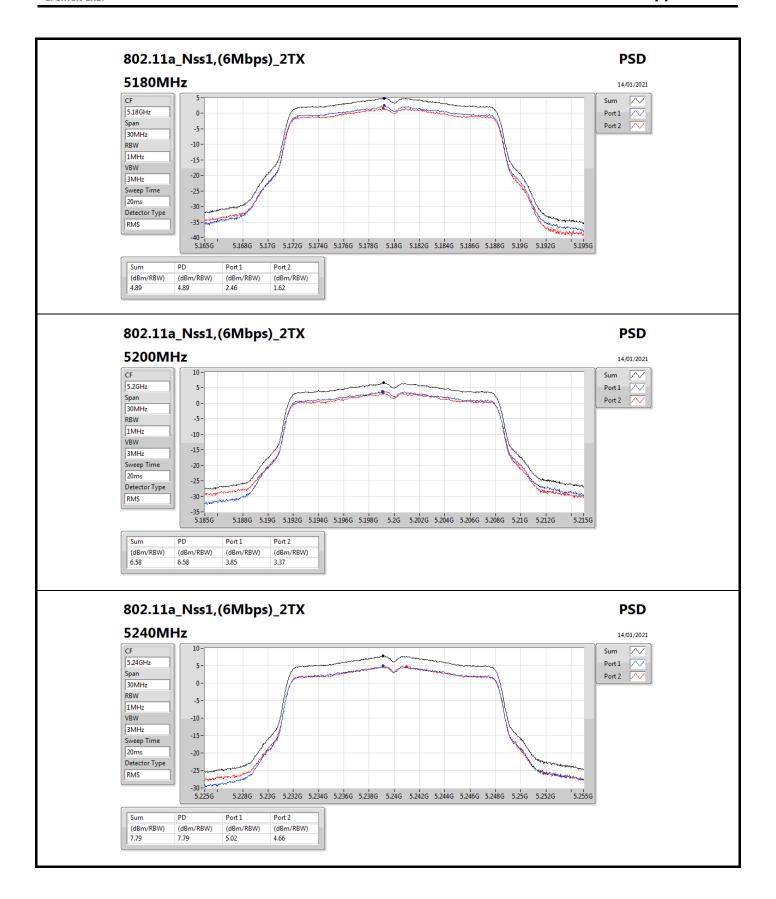
Result

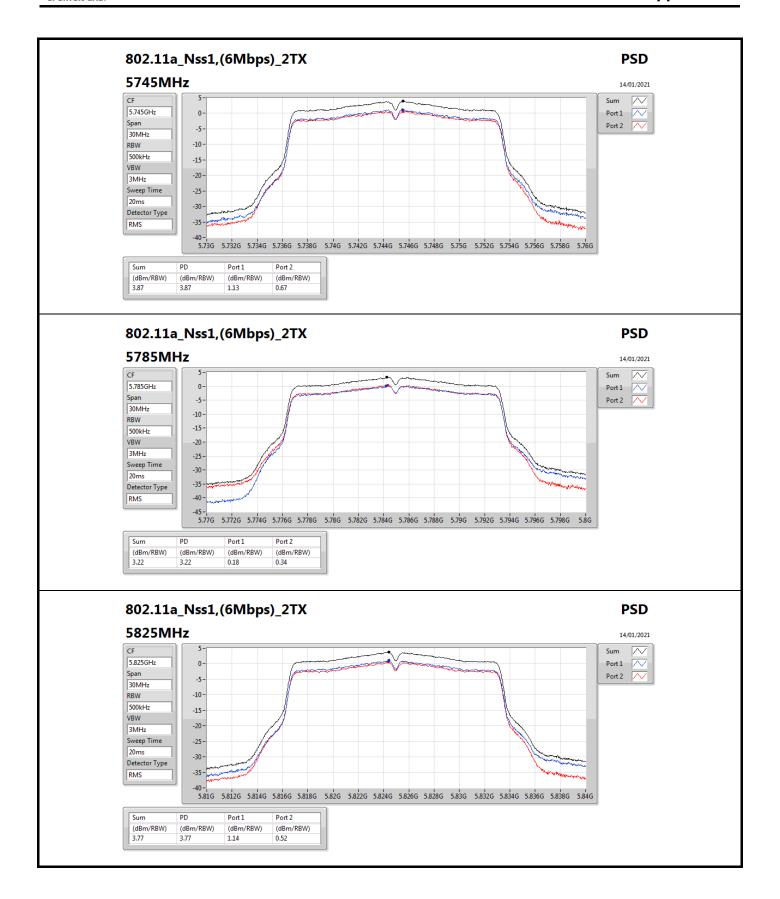
Mode	Result	DG	Port 1	Port 2	PD	PD Limit
		(dBi)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
802.11a_Nss1,(6Mbps)_2TX	-	-	-	-	-	-
5180MHz	Pass	7.12	2.46	1.62	4.89	9.88
5200MHz	Pass	7.12	3.85	3.37	6.58	9.88
5240MHz	Pass	7.12	5.02	4.66	7.79	9.88
5720MHz Straddle 5.725-5.85GHz						
5745MHz	Pass	6.52	1.13	0.67	3.87	29.48
5785MHz	Pass	6.52	0.18	0.34	3.22	29.48
5825MHz	Pass	6.52	1.14	0.52	3.77	29.48
802.11ax HEW20_Nss1,(MCS0)_2TX	-	-	-	-	-	-
5180MHz	Pass	7.12	1.49	1.09	4.22	9.88
5200MHz	Pass	7.12	2.97	2.48	5.60	9.88
5240MHz	Pass	7.12	4.61	4.45	7.31	9.88
5720MHz Straddle 5.725-5.85GHz						
5745MHz	Pass	6.52	0.94	0.71	3.81	29.48
5785MHz	Pass	6.52	0.94	0.18	3.47	29.48
5825MHz	Pass	6.52	0.64	0.37	3.36	29.48
802.11ax HEW40_Nss1,(MCS0)_2TX	-	-	-	-	-	-
5190MHz	Pass	7.12	-5.36	-5.73	-2.72	9.88
5230MHz	Pass	7.12	0.23	-0.35	2.91	9.88
5710MHz Straddle 5.725-5.85GHz						
5755MHz	Pass	6.52	-3.40	-4.15	-0.87	29.48
5795MHz	Pass	6.52	-3.30	-4.45	-0.90	29.48
802.11ax HEW80_Nss1,(MCS0)_2TX	-	-	-	-	-	-
5210MHz	Pass	7.12	-8.62	-8.82	-5.81	9.88
5690MHz Straddle 5.725-5.85GHz						
5775MHz	Pass	6.52	-11.46	-10.60	-8.10	29.48

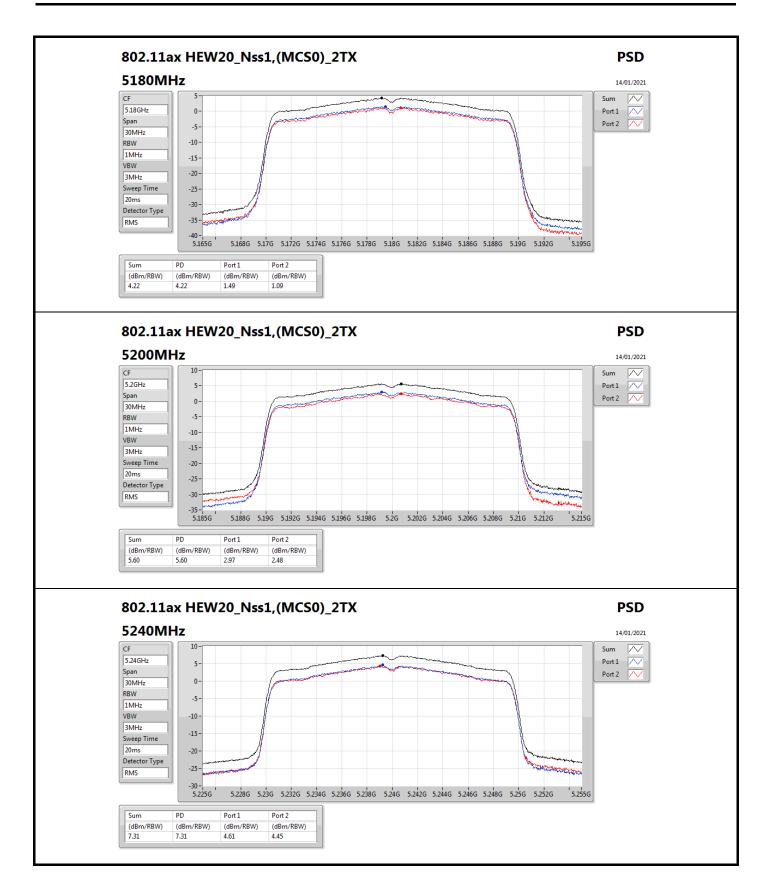
Page No.

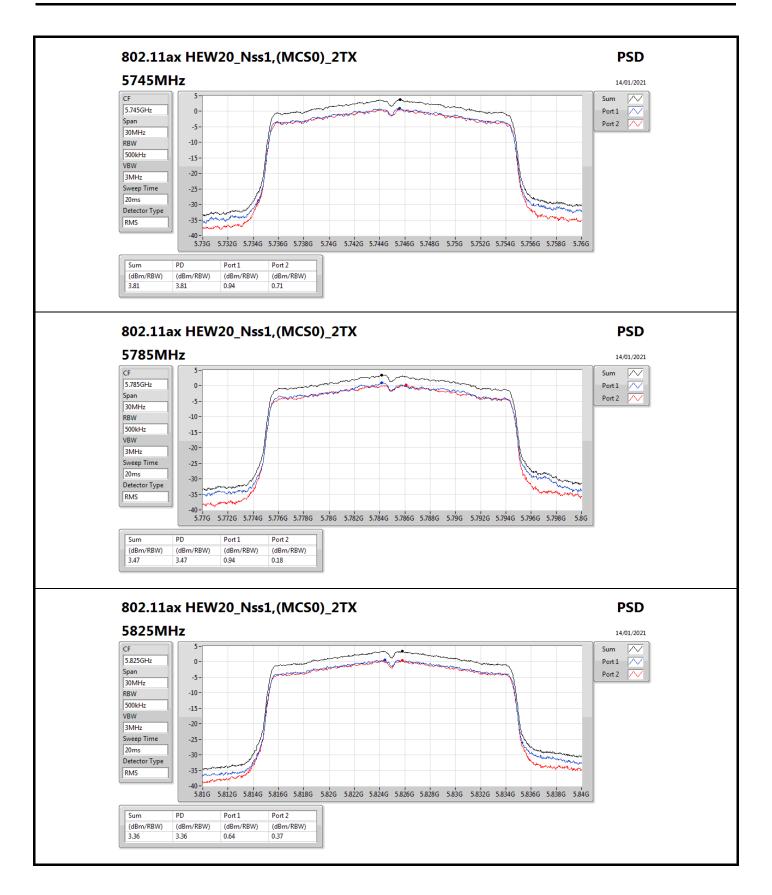
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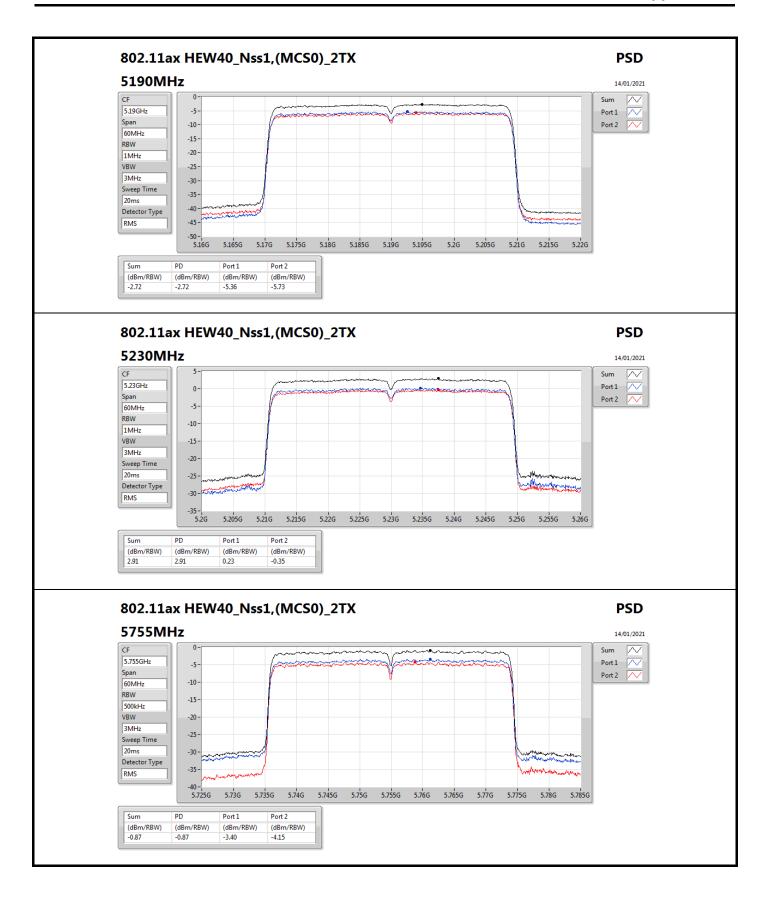
DG = Directional Gain; **RBW** = 500 kHz for 5.725-5.85GHz band / 1MHz for other band; **PD** = trace bin-by-bin of each transmits port summing can be performed maximum power density; **Port X** = Port X power density;

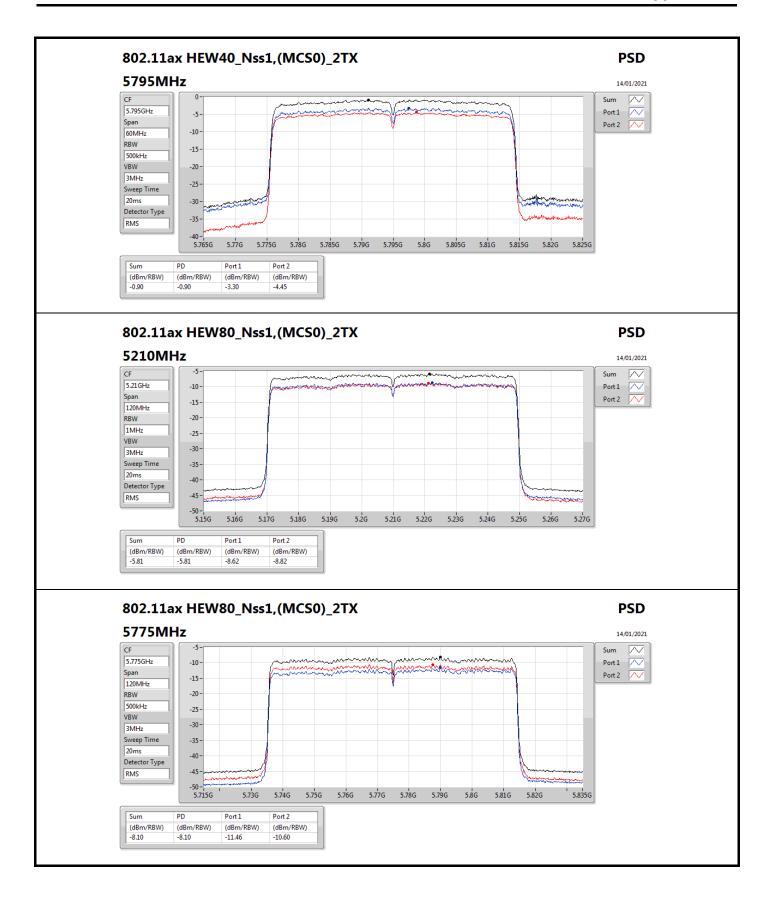














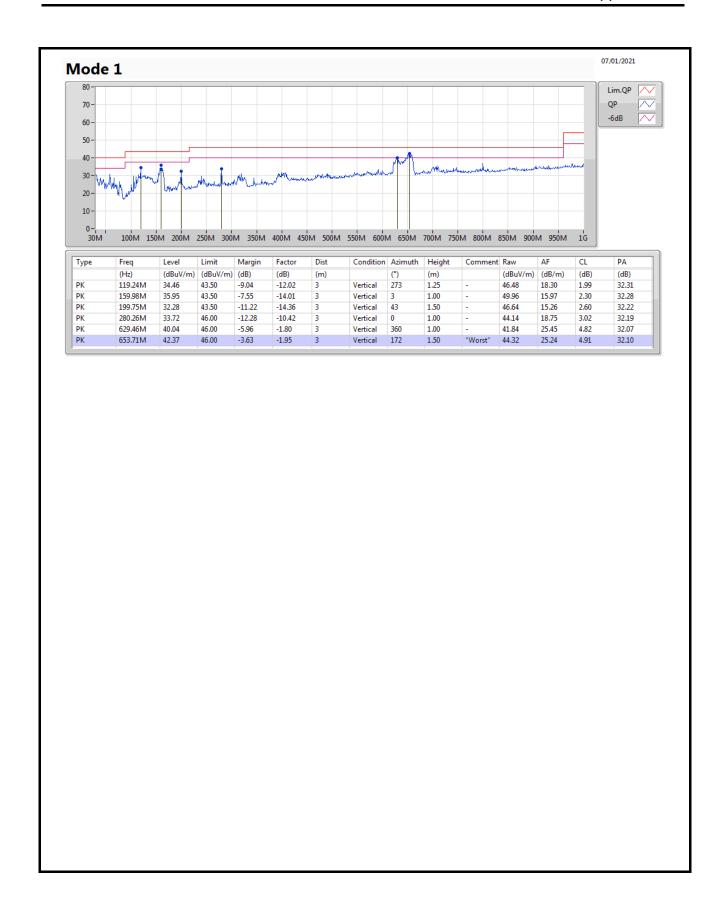
Radiated Emission below 1GHz Result

Appendix E.1

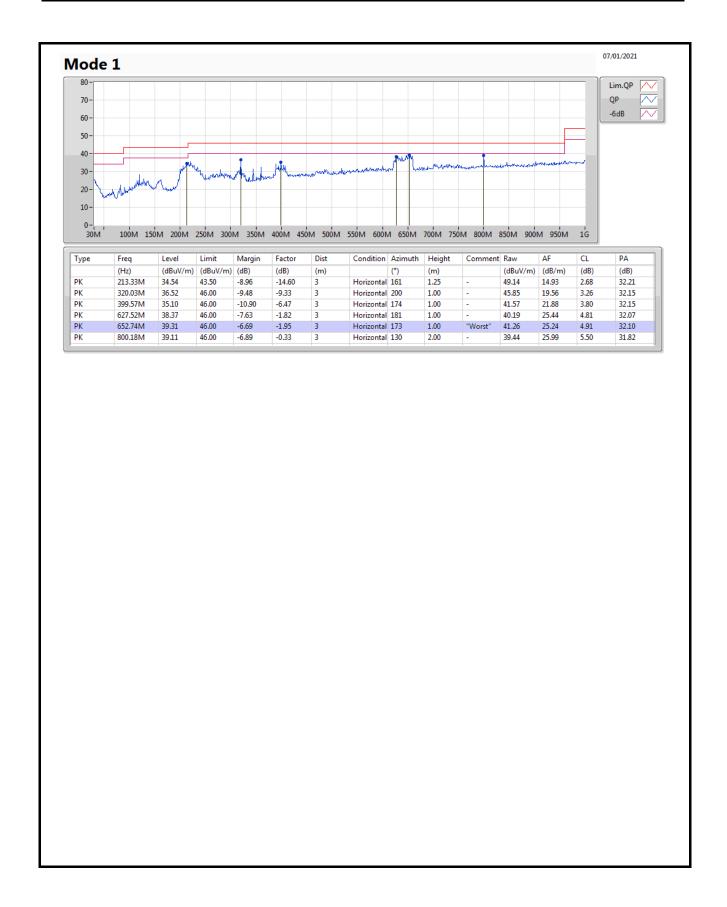
Summary

Mode	Result	Туре	Freq	Level Limit		Margin	Condition
			(Hz)	(dBuV/m)	(dBuV/m) (dB)		
Mode 1	Pass	PK	653.71M	42.37	46.00	-3.63	Vertical











RSE TX above 1GHz

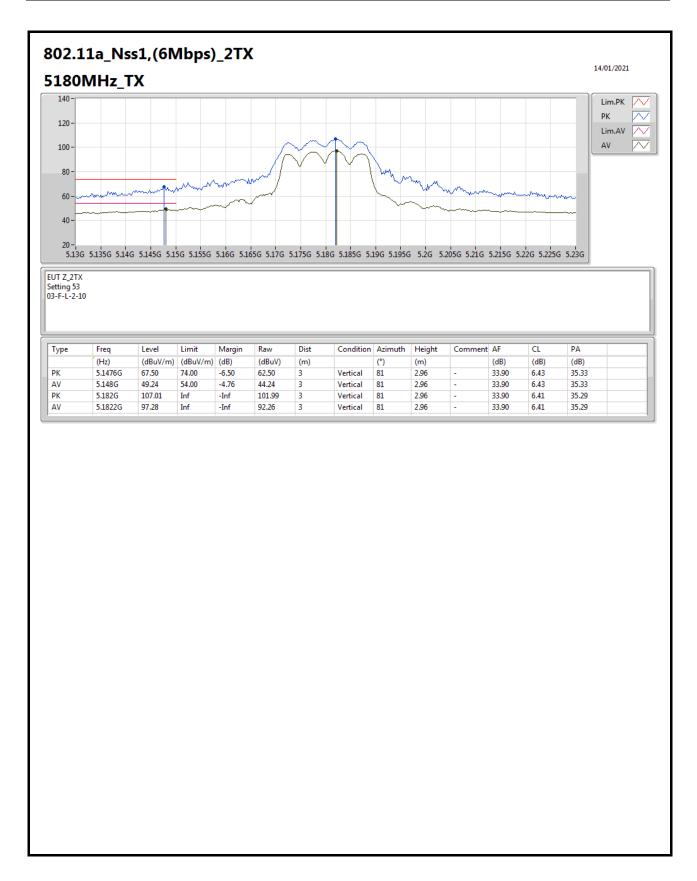
Appendix E.2

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Summary

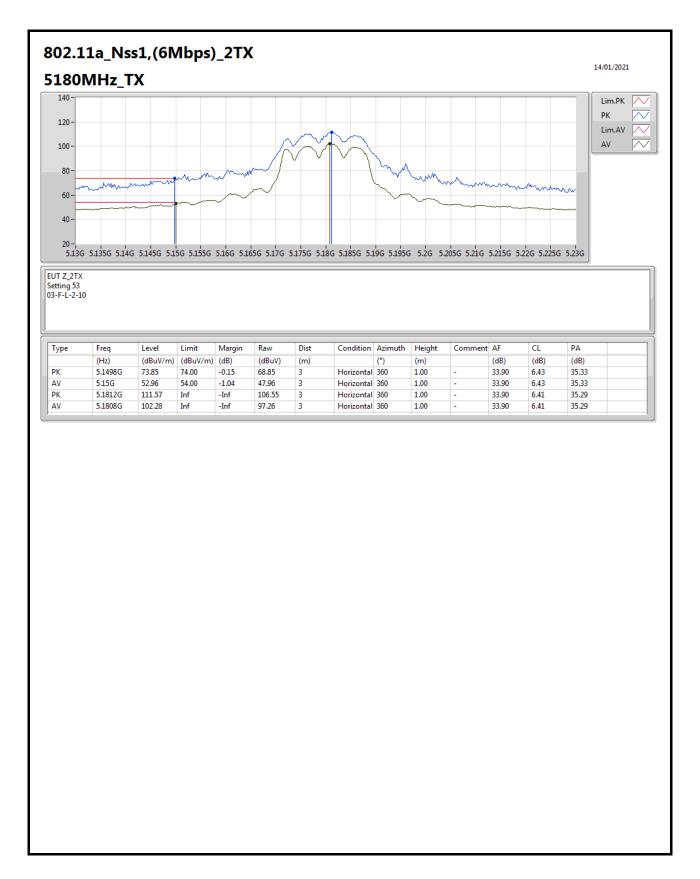
Mode	Result	Туре	Freq	Level	Limit	Margin	Dist	Condition	Azimuth	Height	Comments
			(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(m)		(°)	(m)	
5.15-5.25GHz	-	-	•	-	-	-	-	-	-	-	-
802.11ax HEW20_Nss1,(MCS0)_2TX	Pass	AV	5.1484G	53.95	54.00	-0.05	3	Horizontal	353	1.00	-



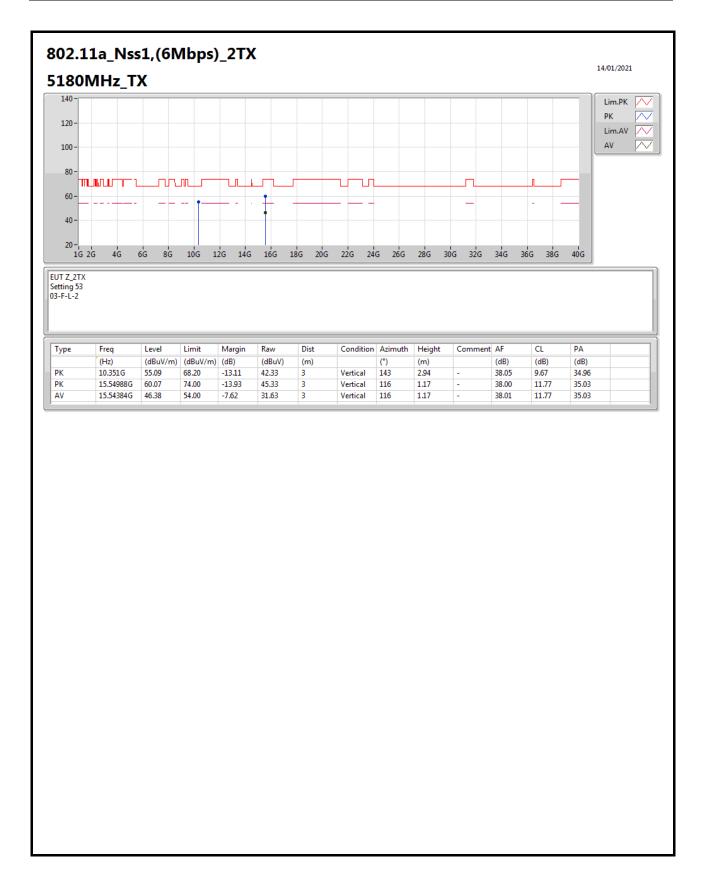


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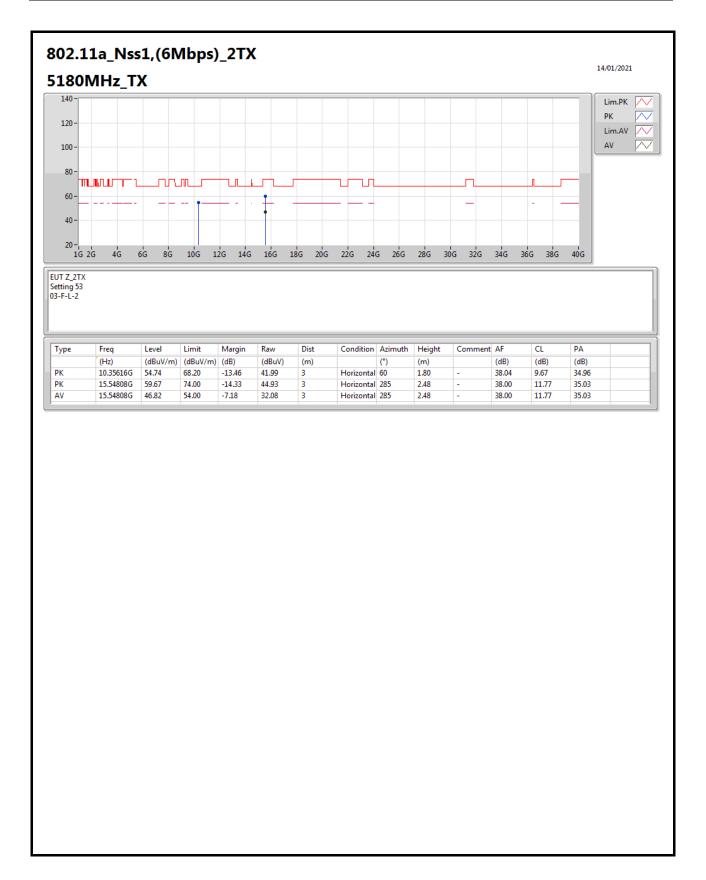




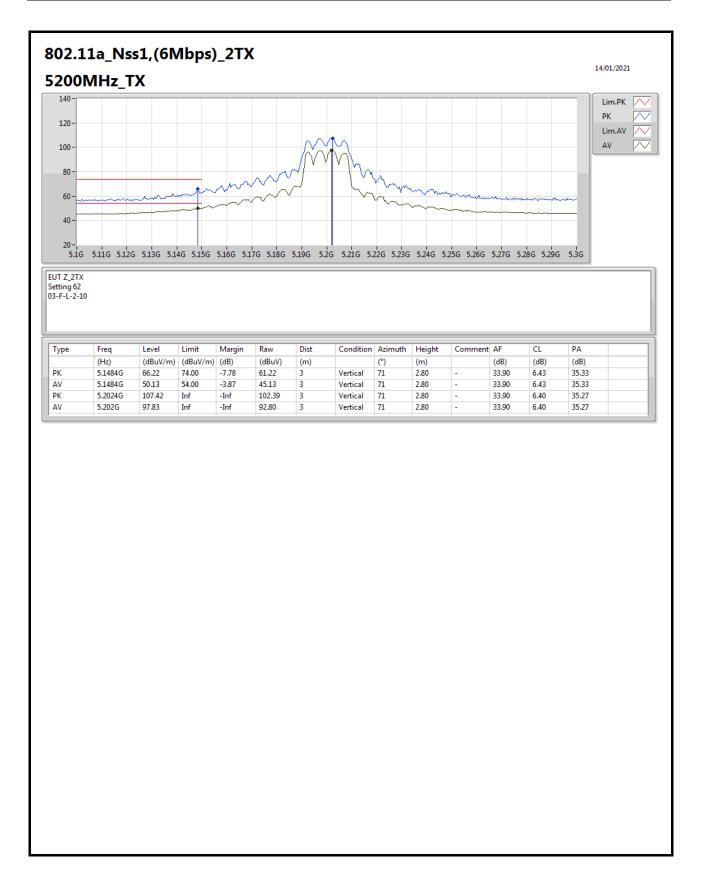


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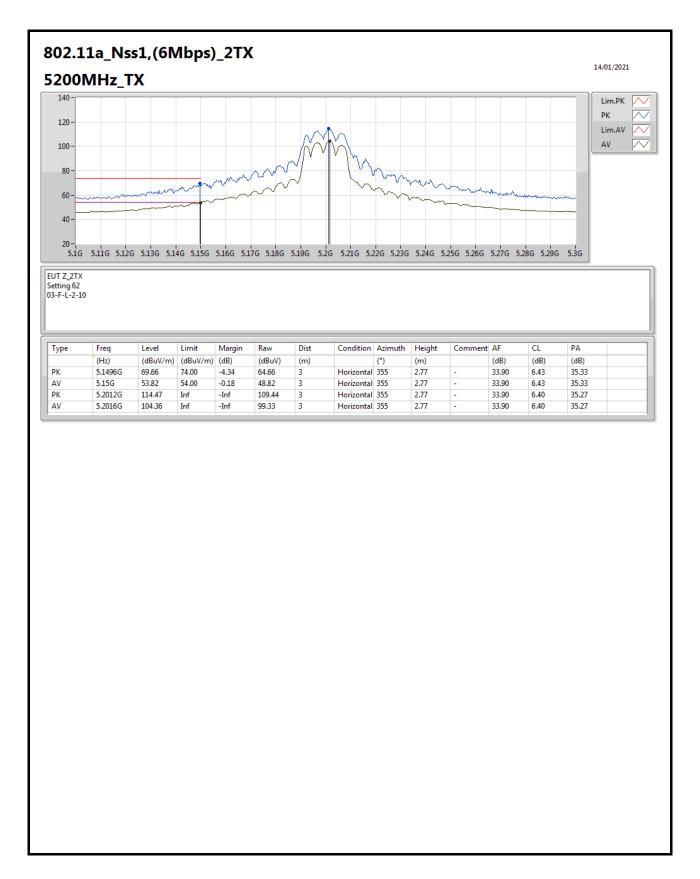






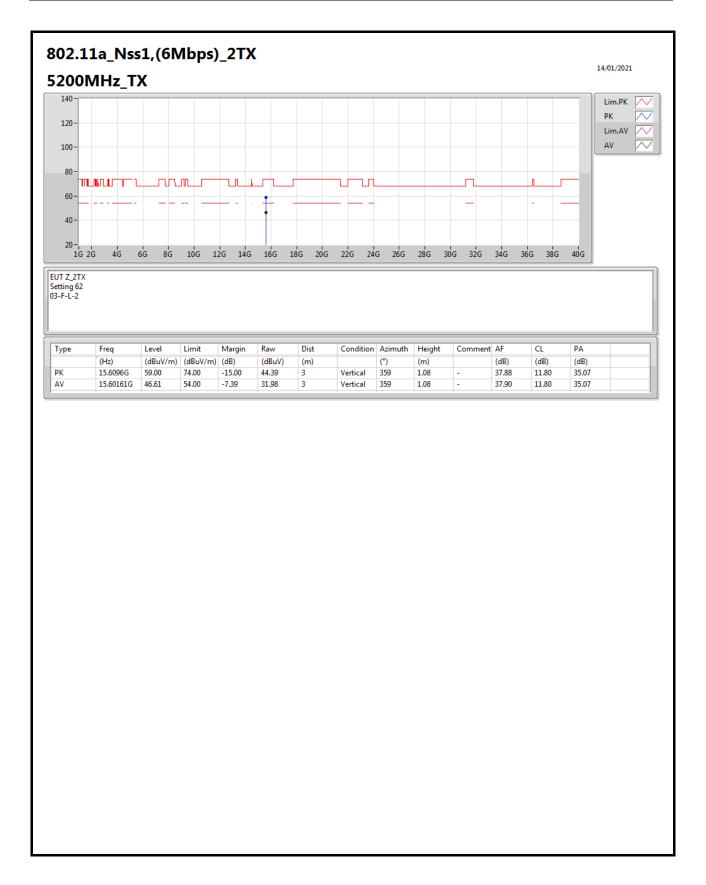
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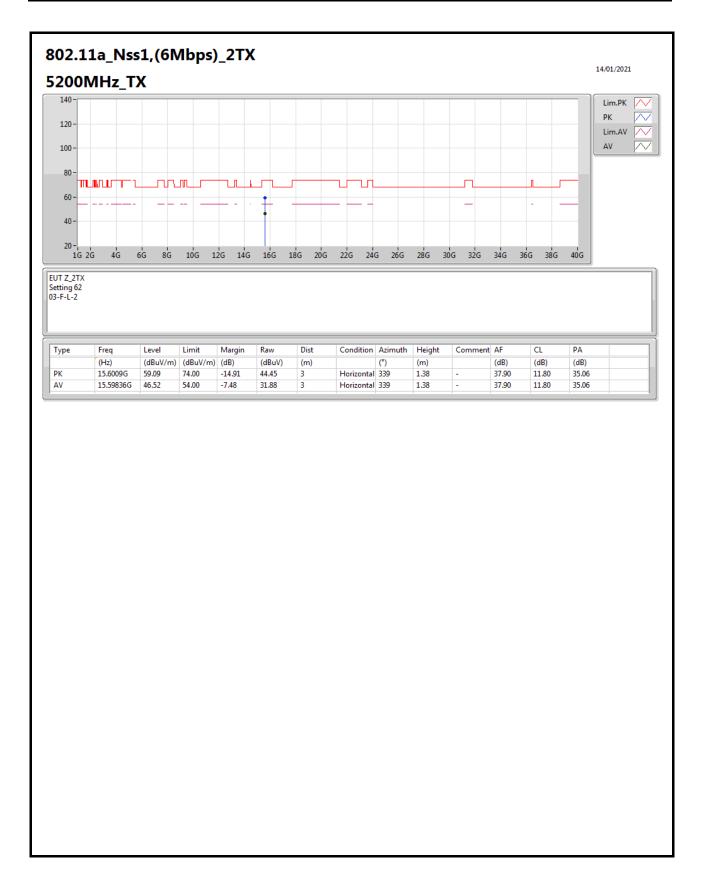


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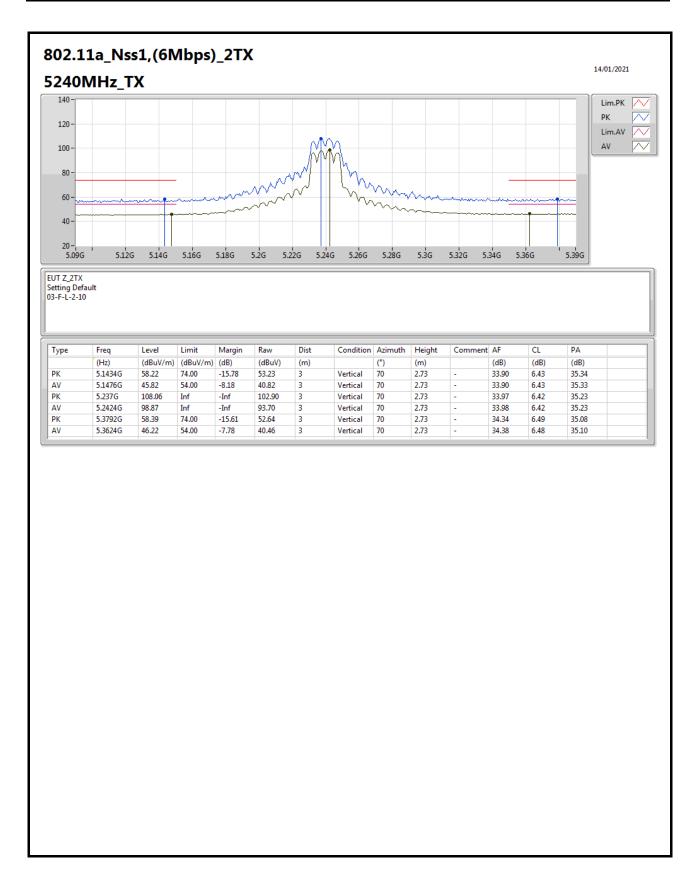




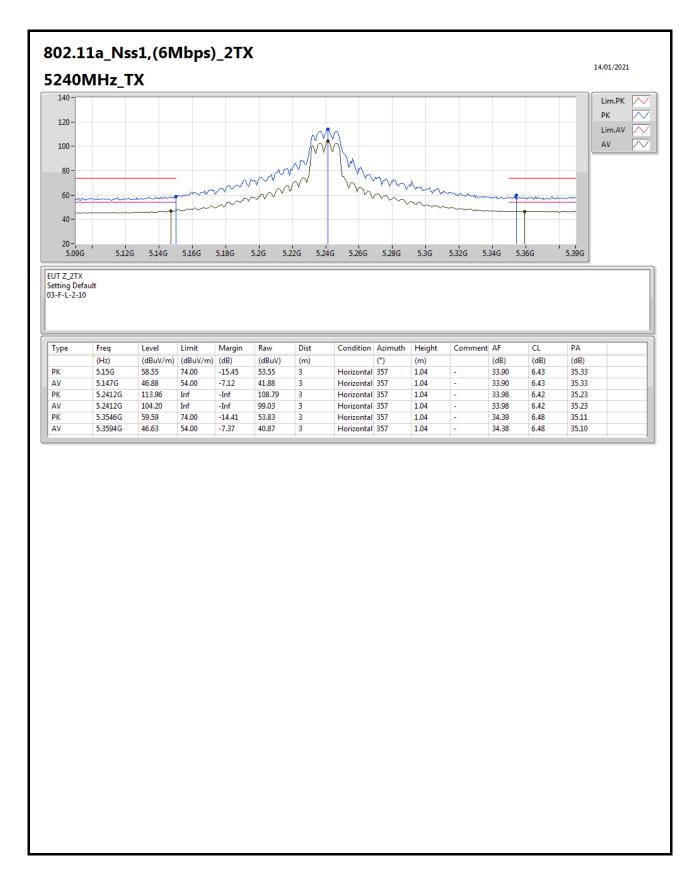




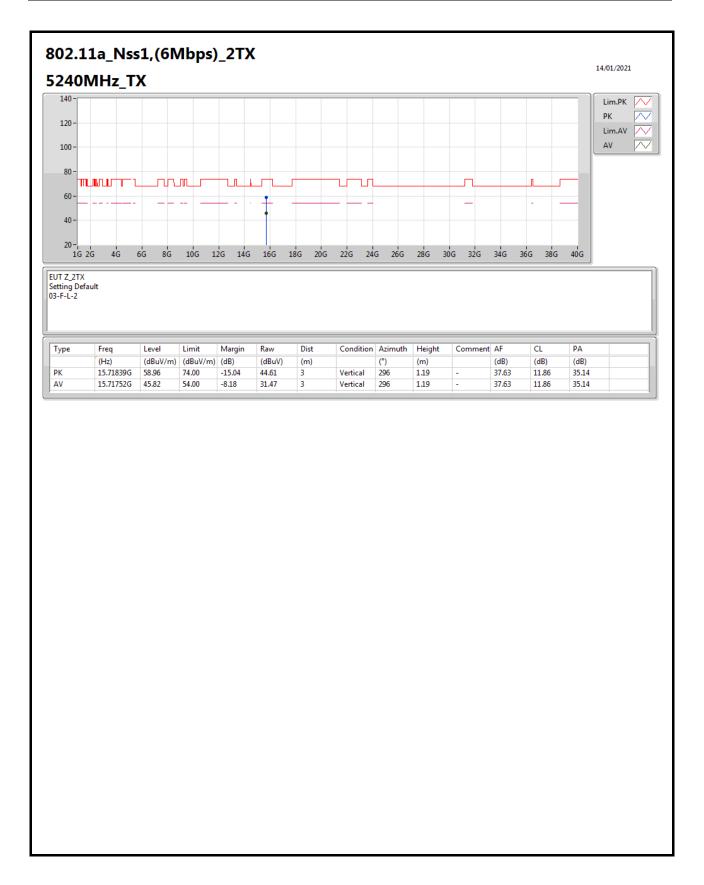




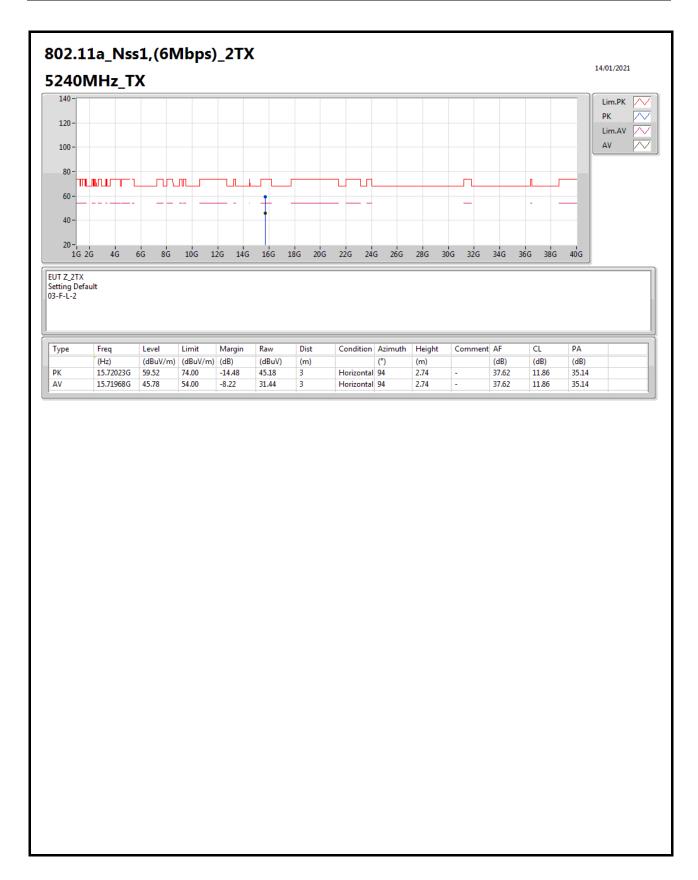






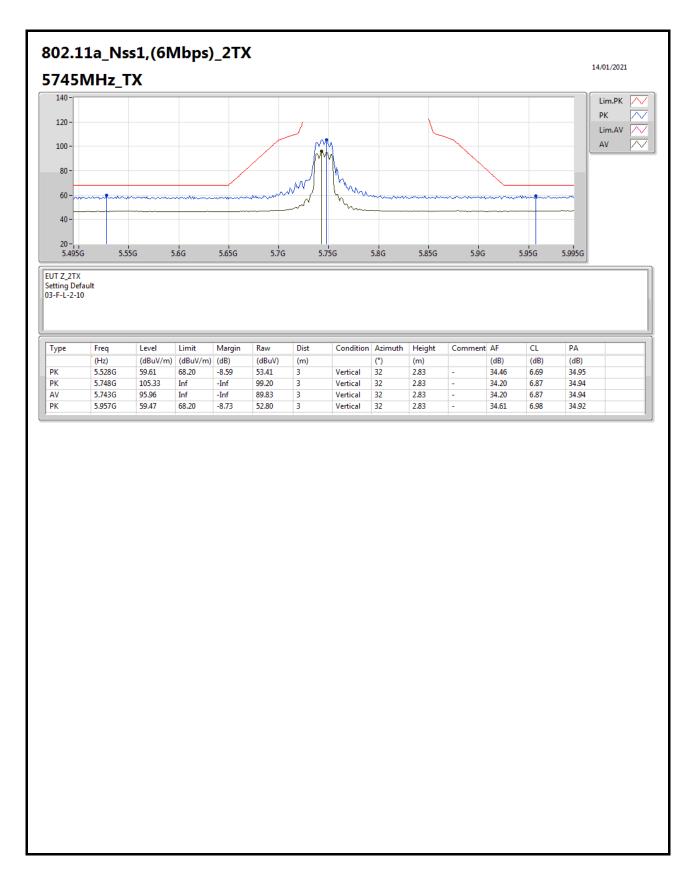






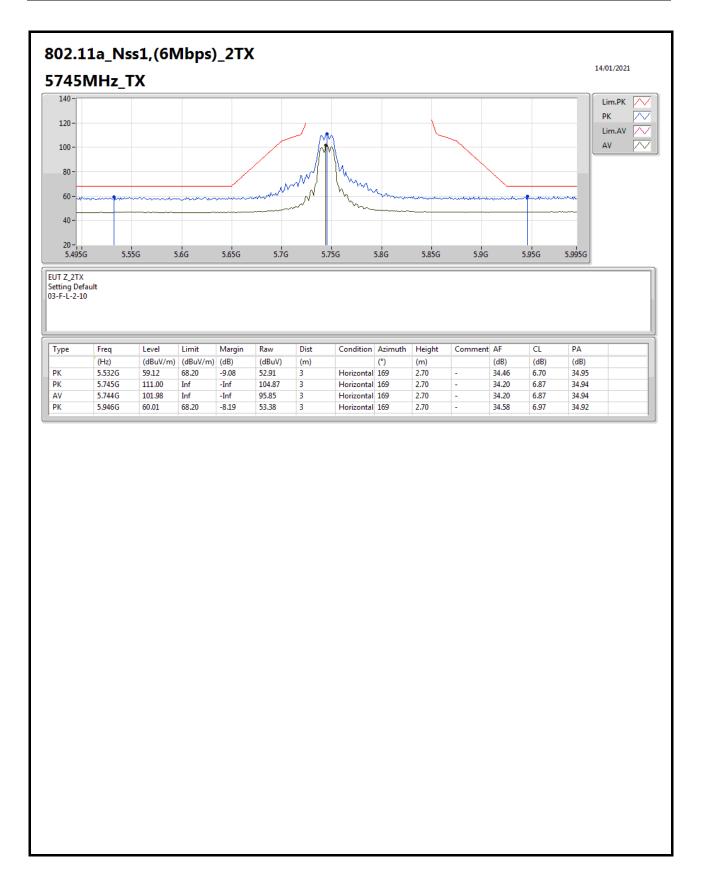
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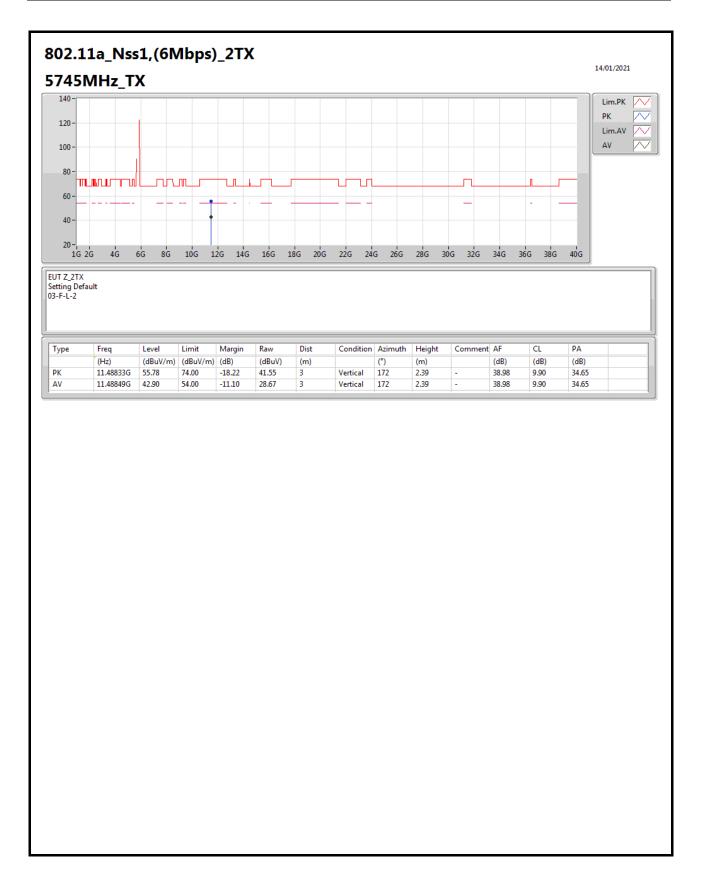


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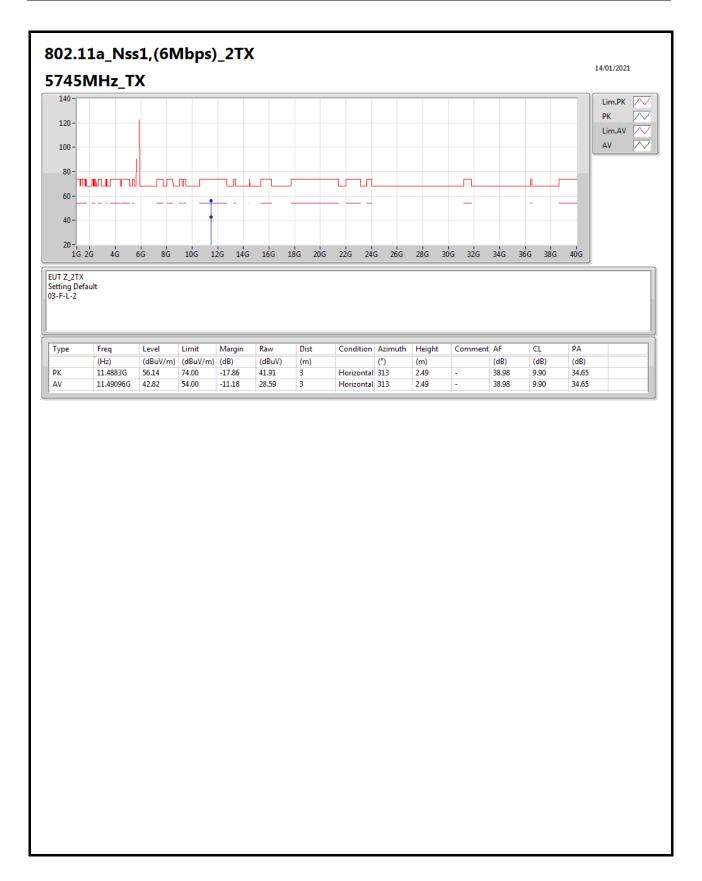




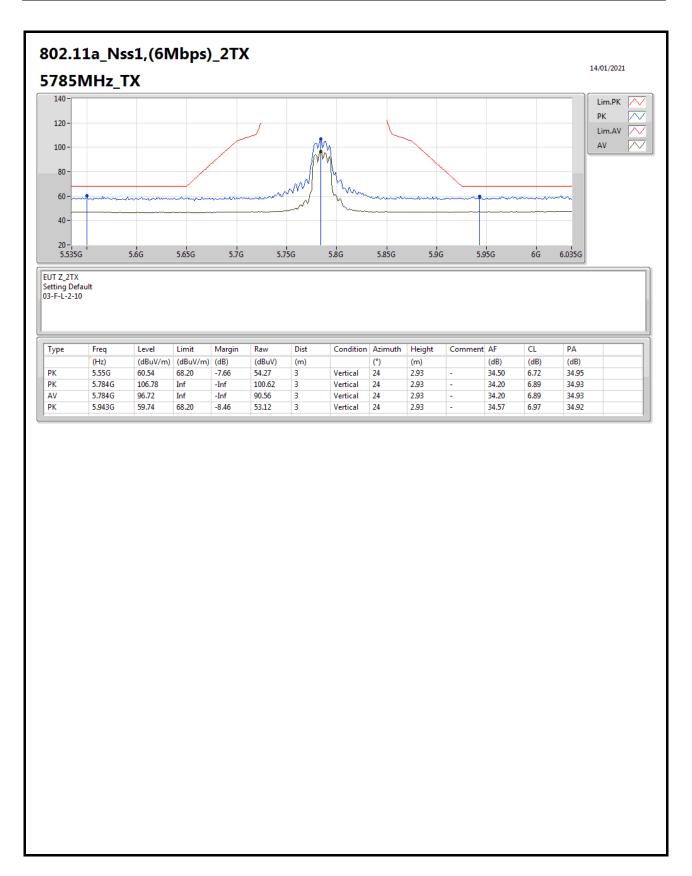






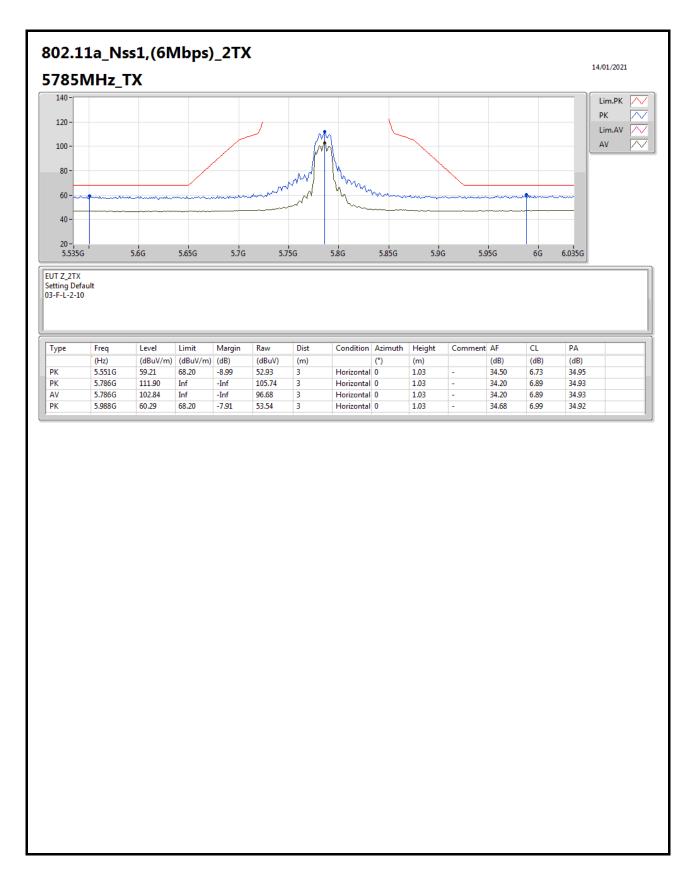






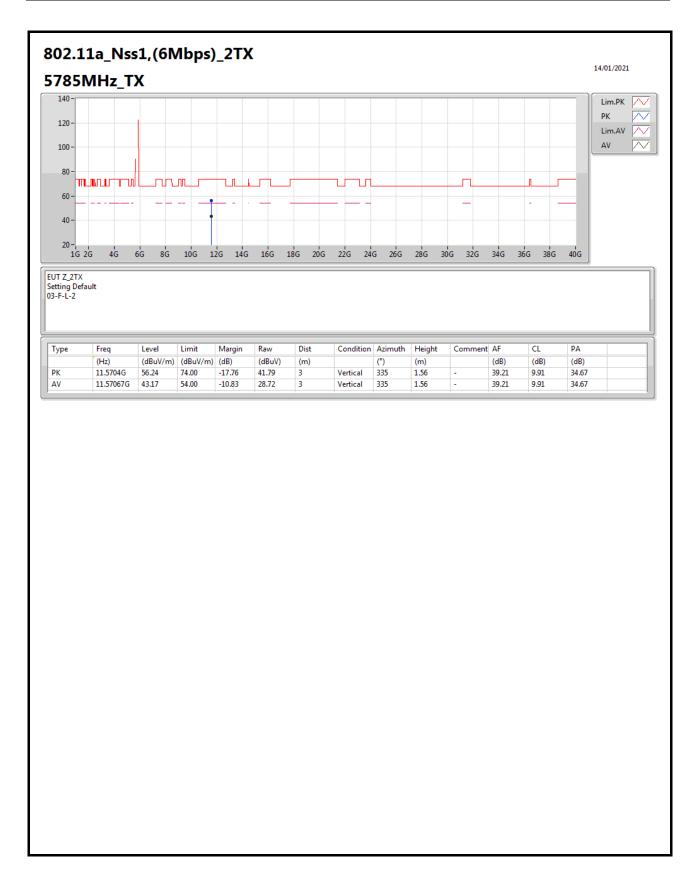
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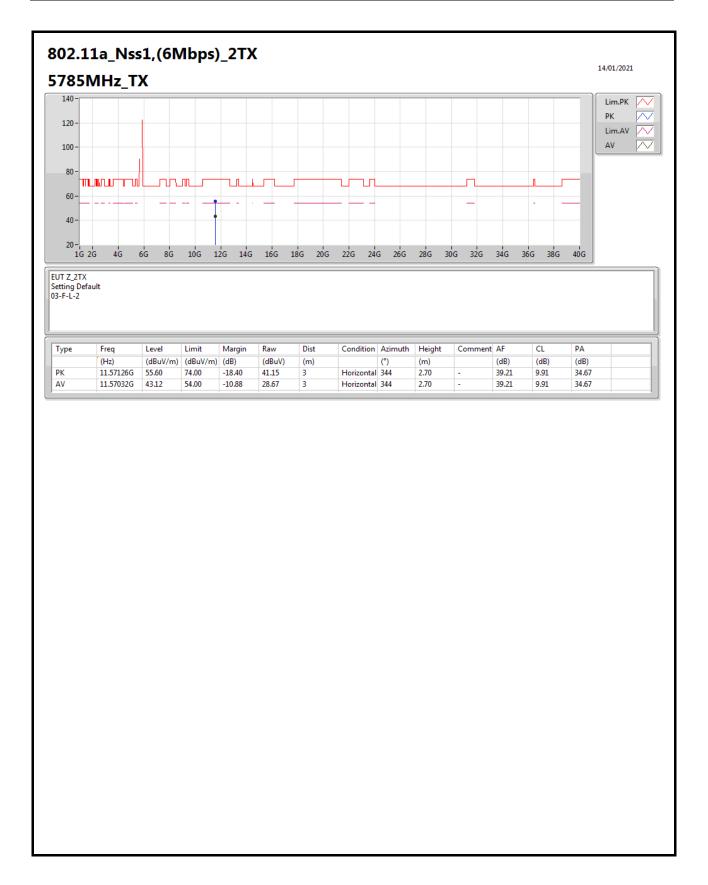


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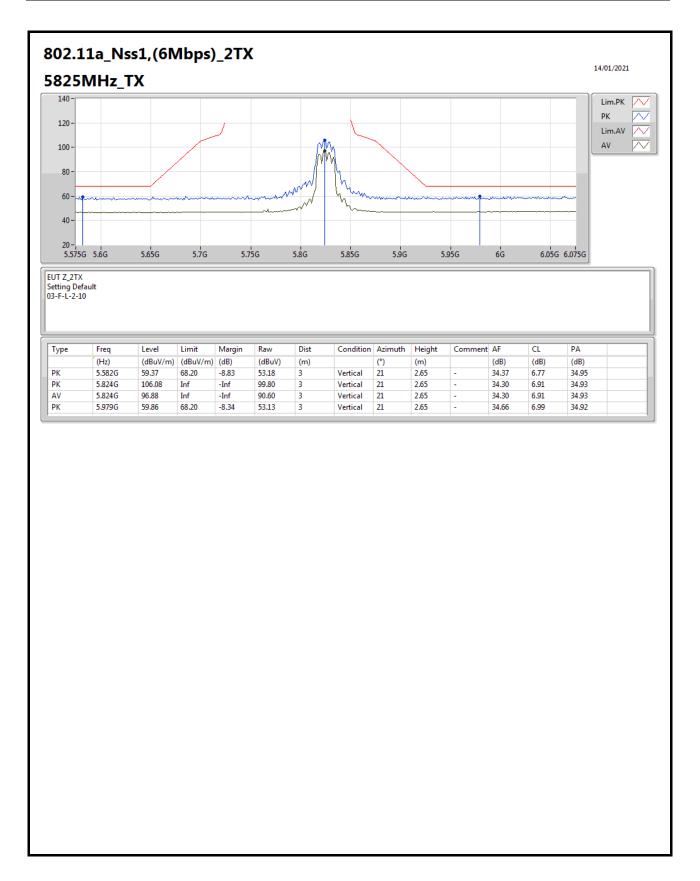




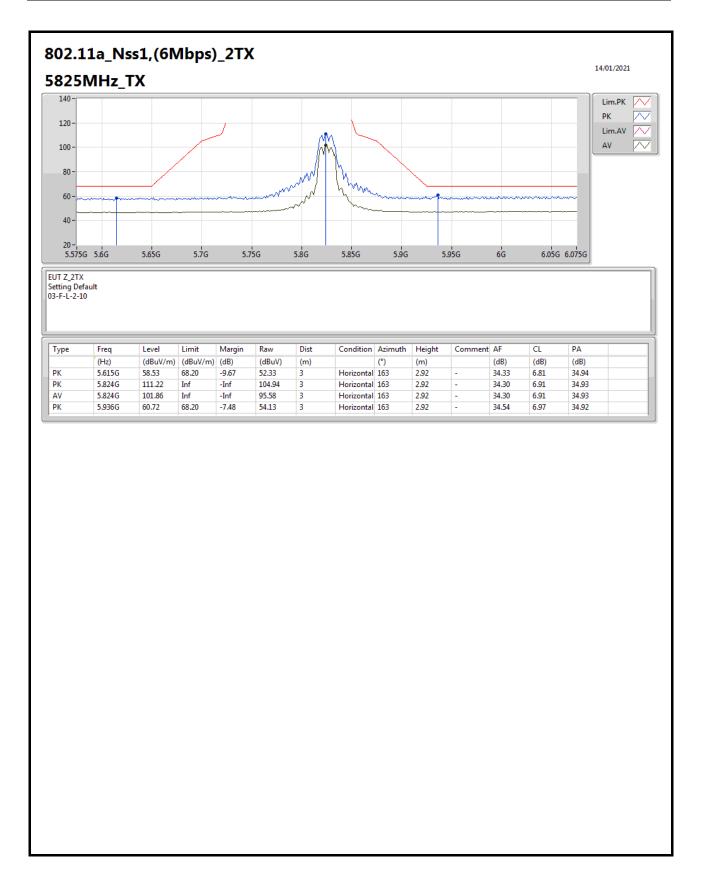




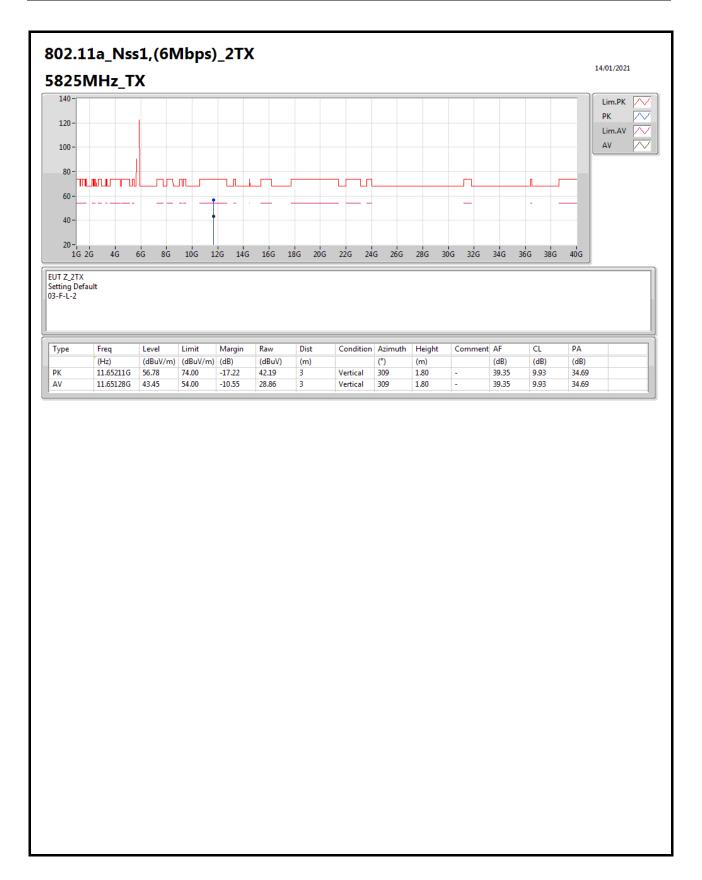




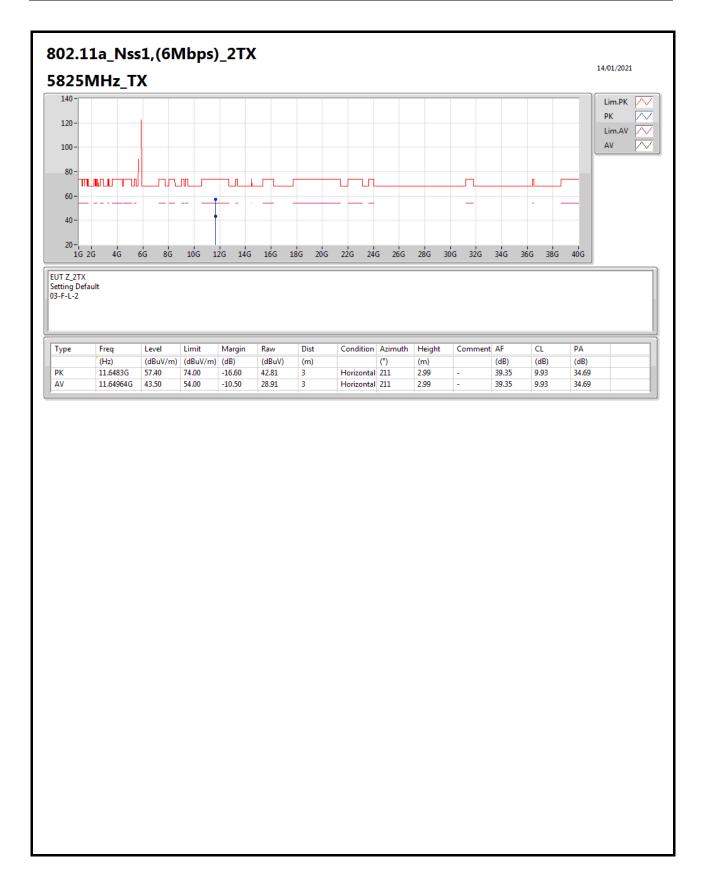




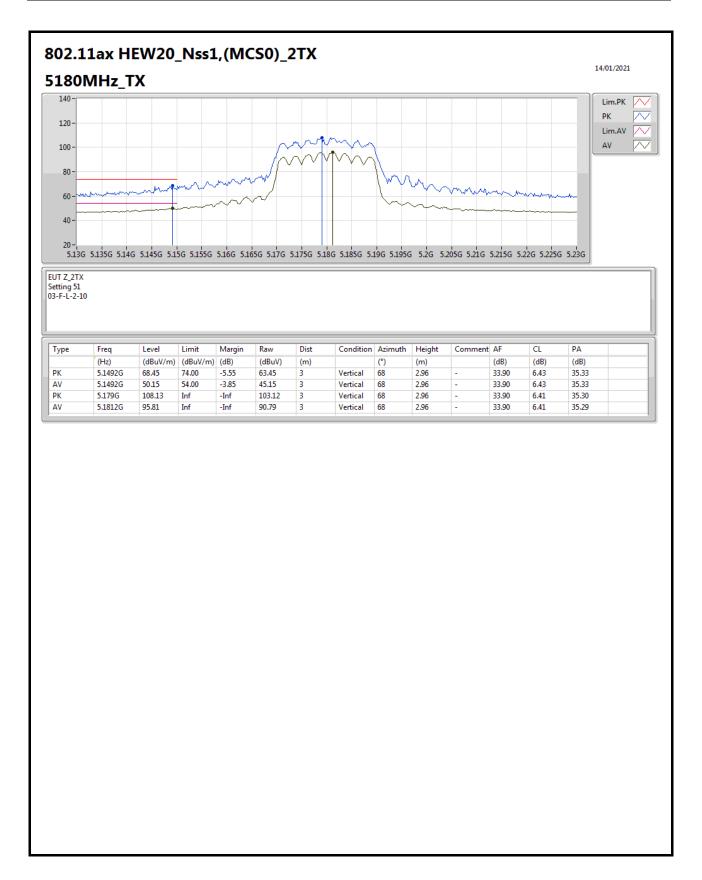




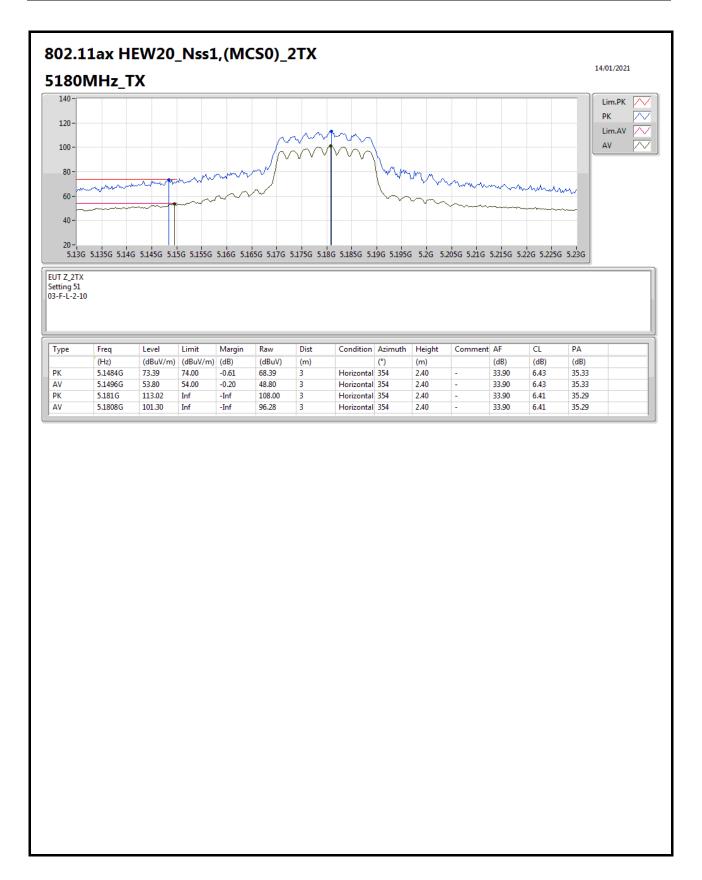




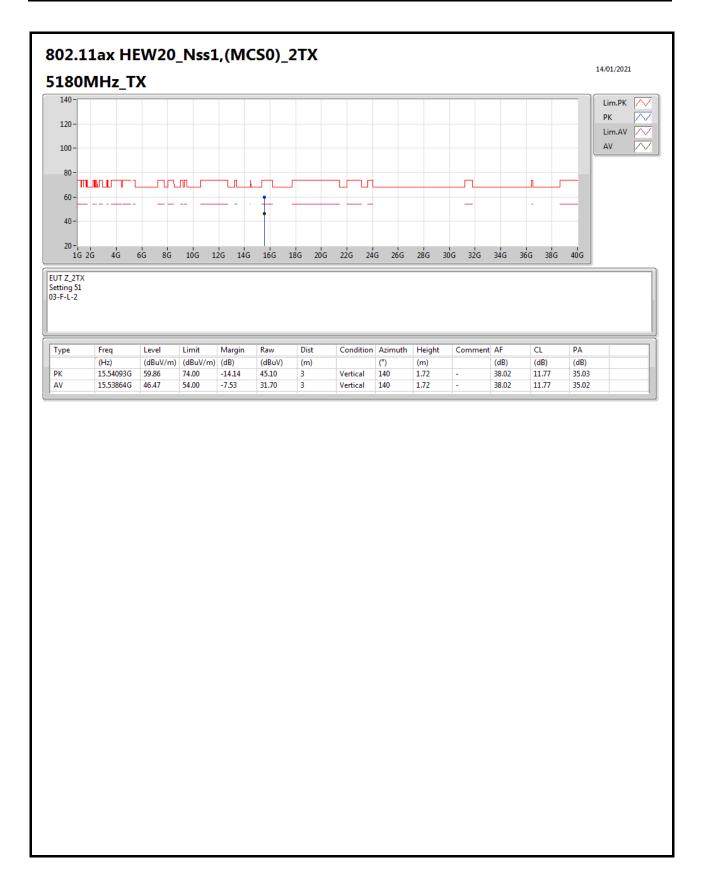






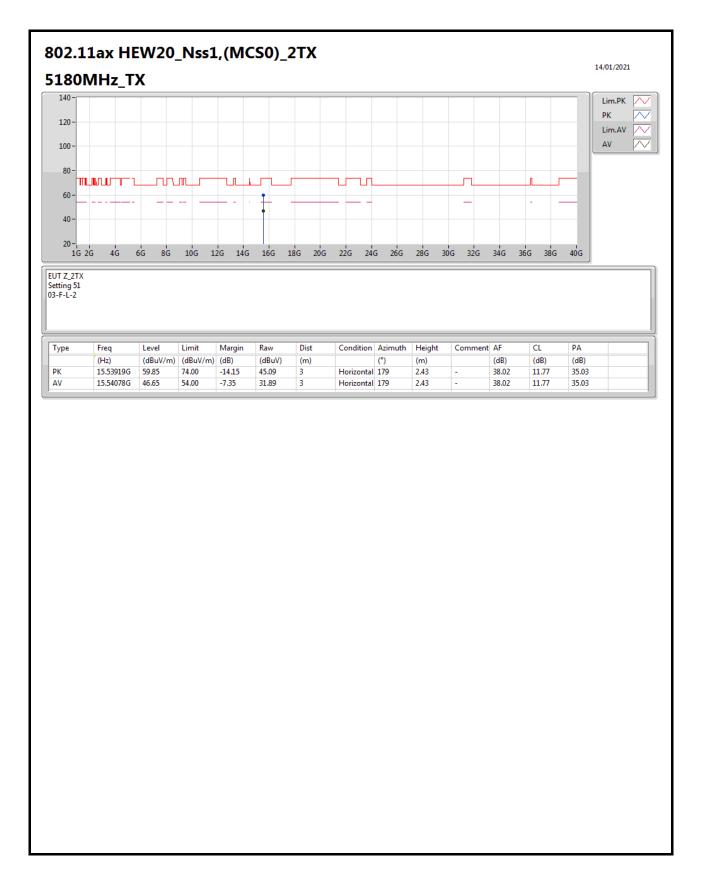




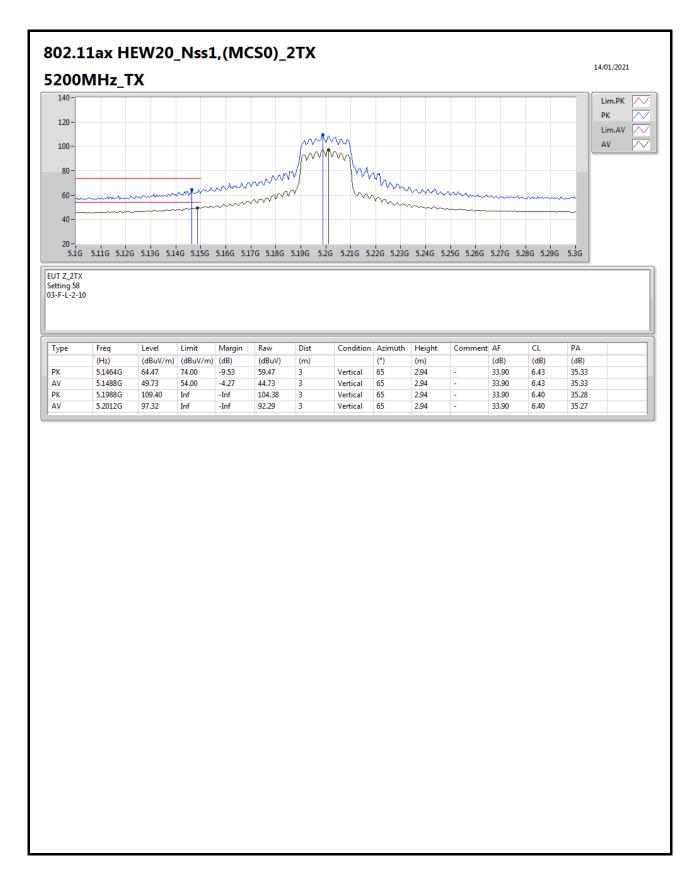


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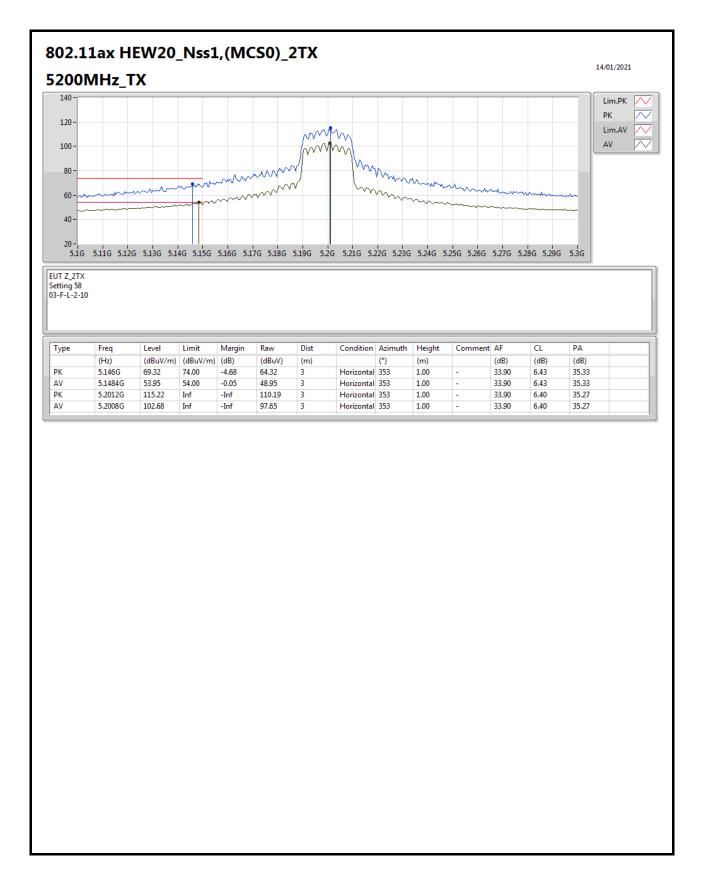




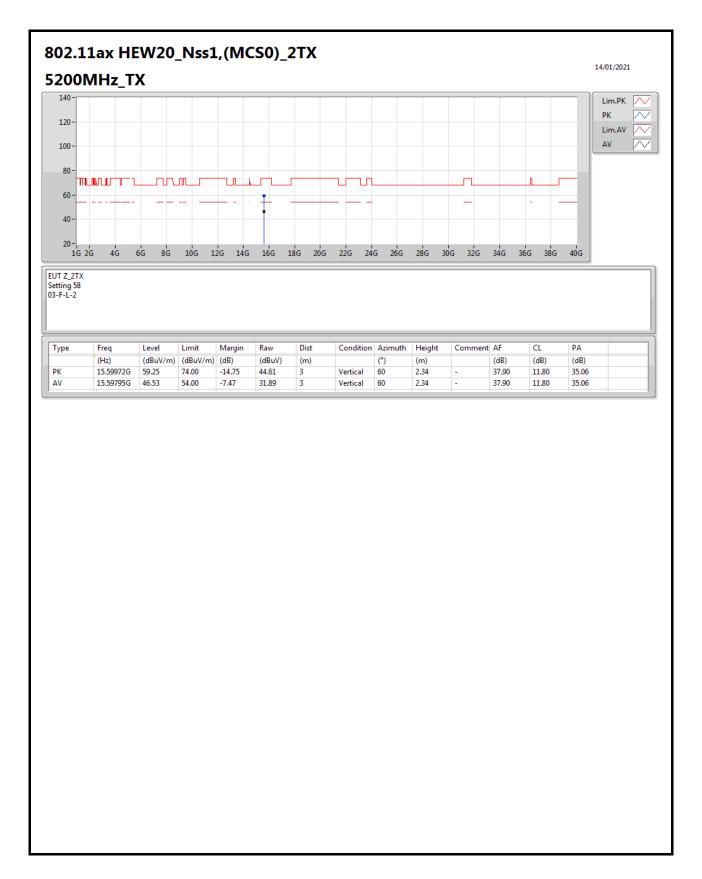




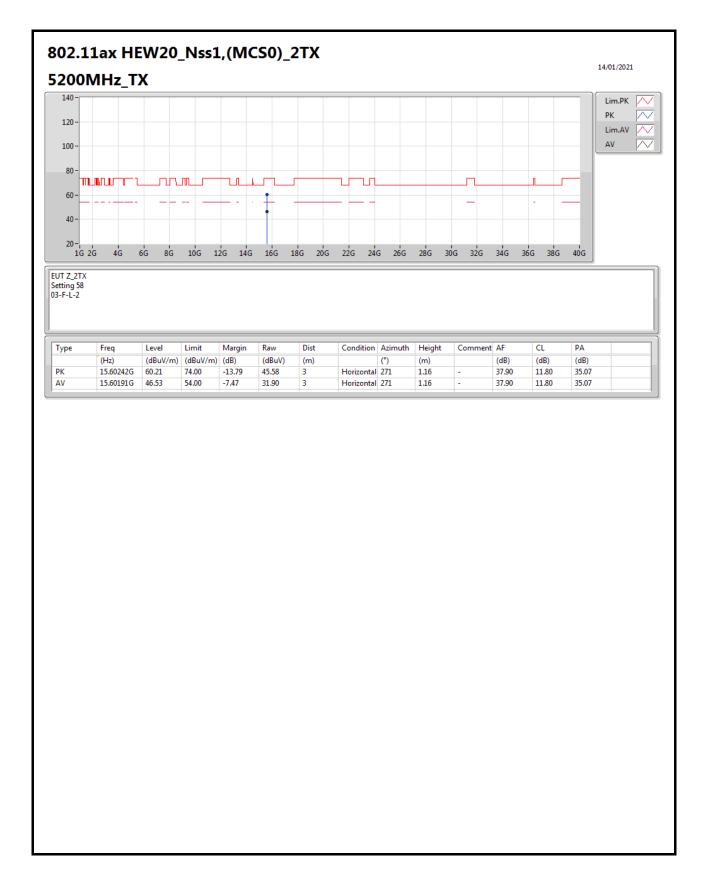




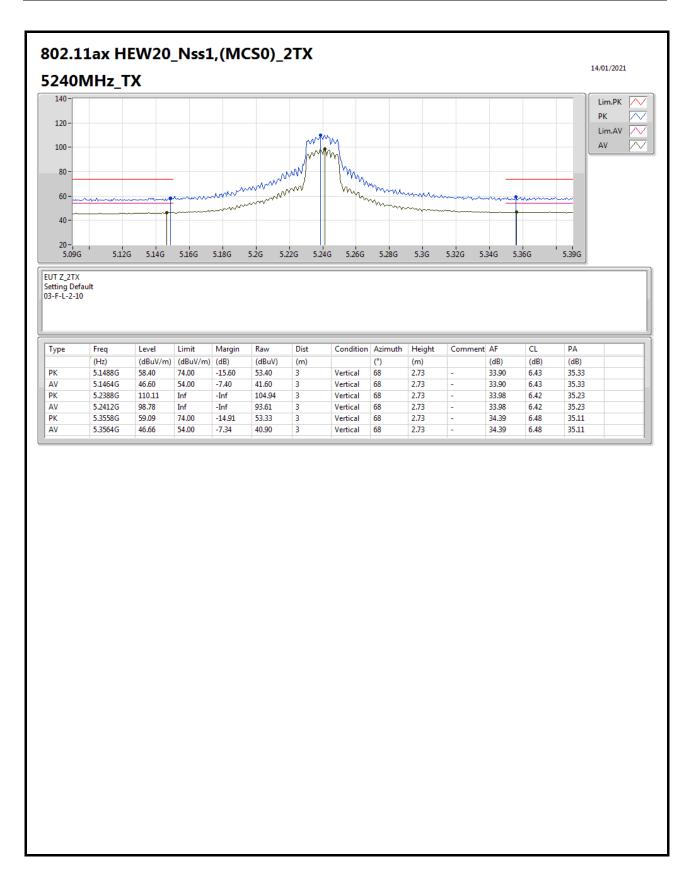




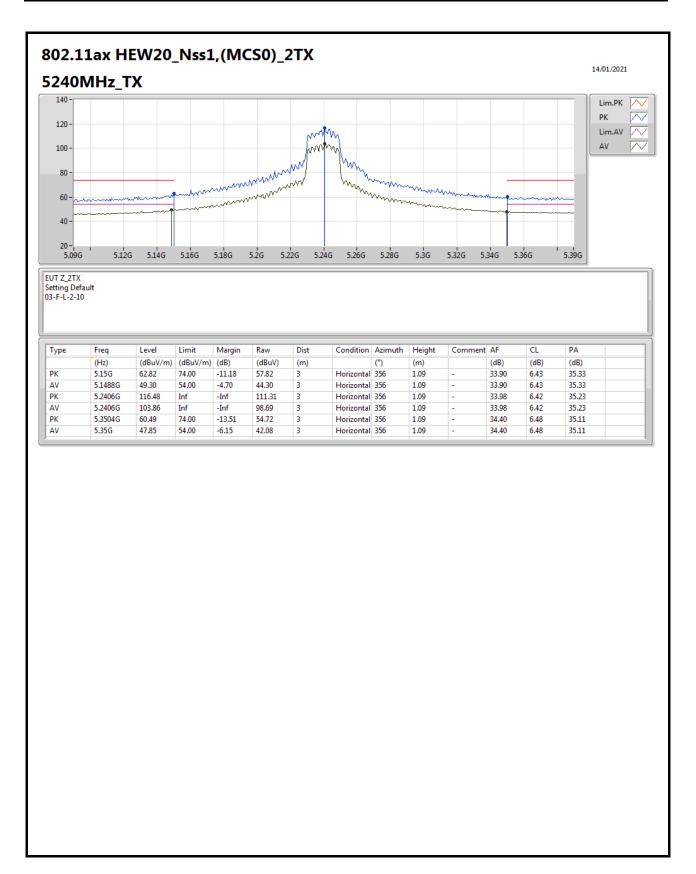




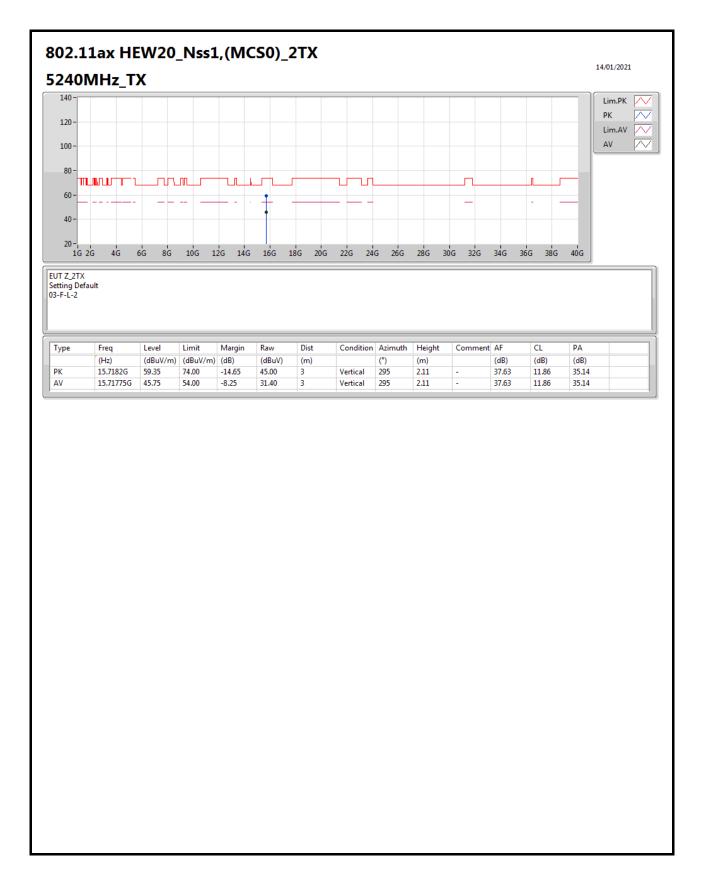






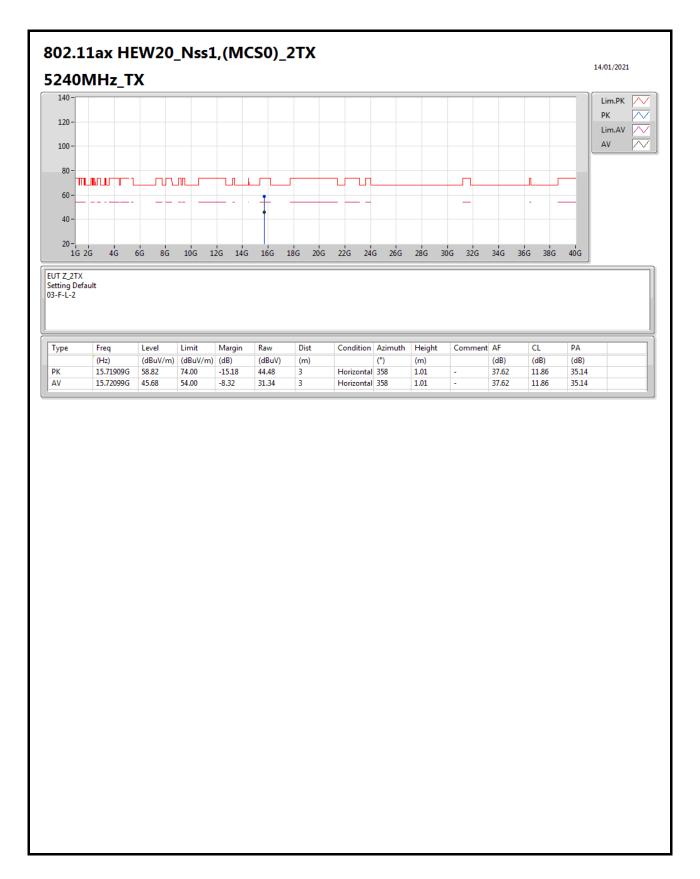




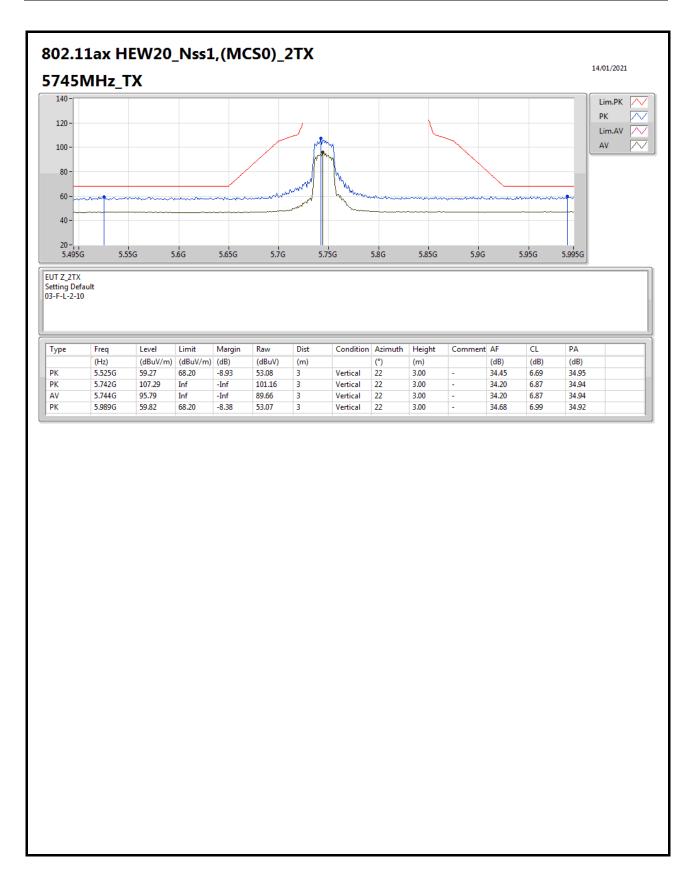


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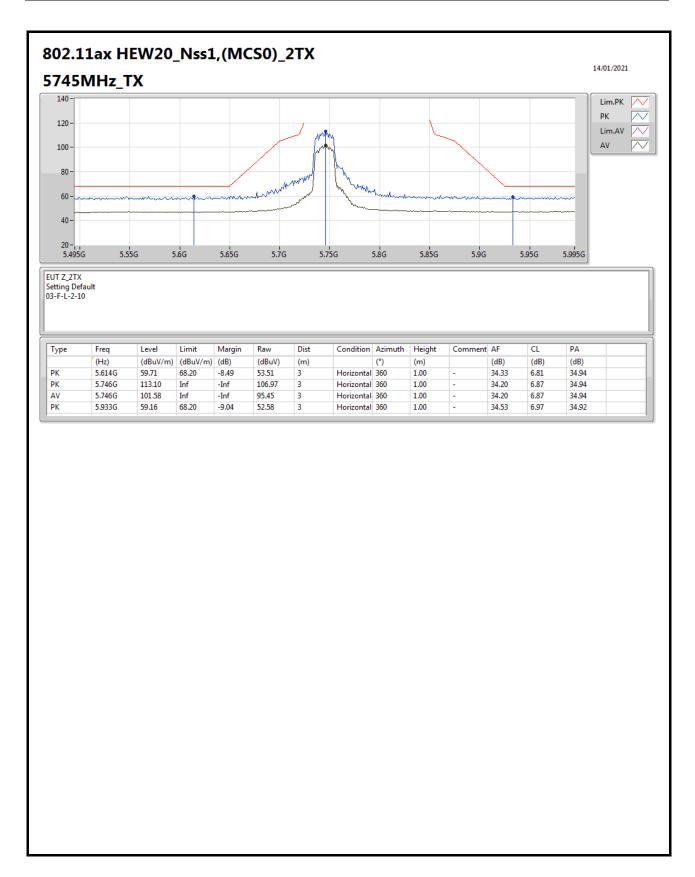




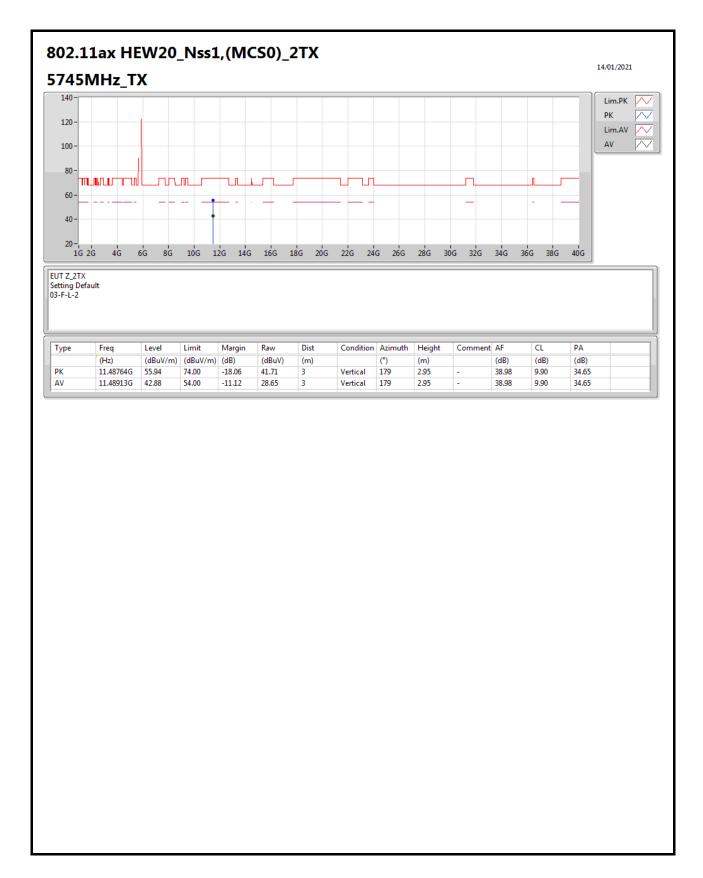






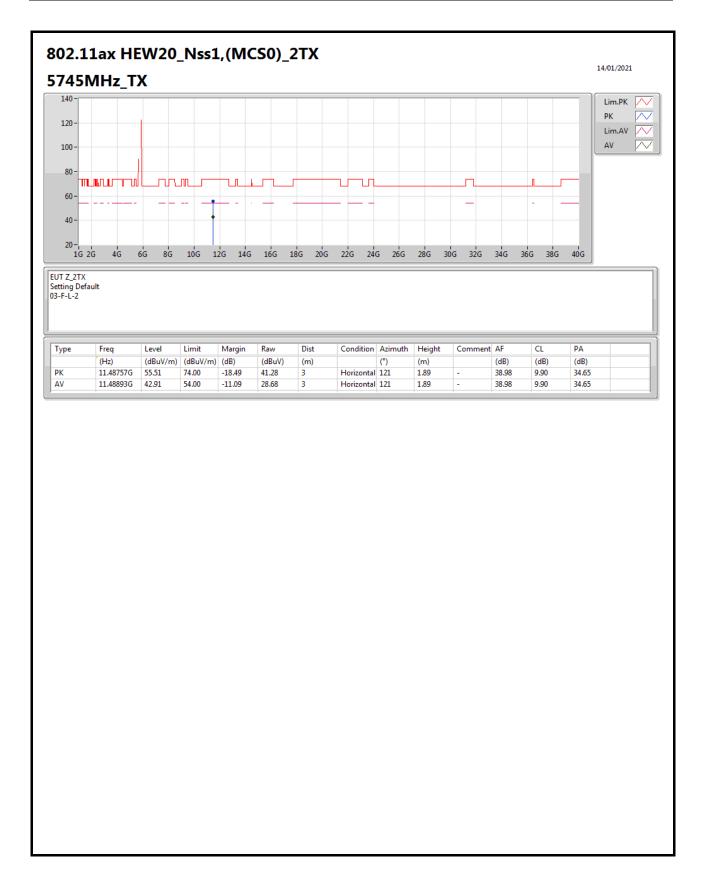




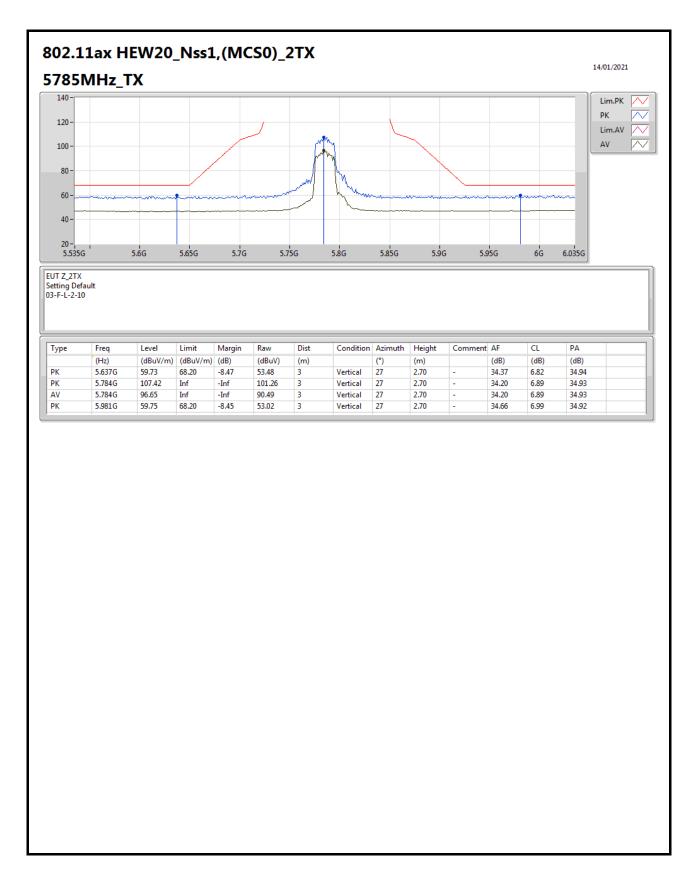


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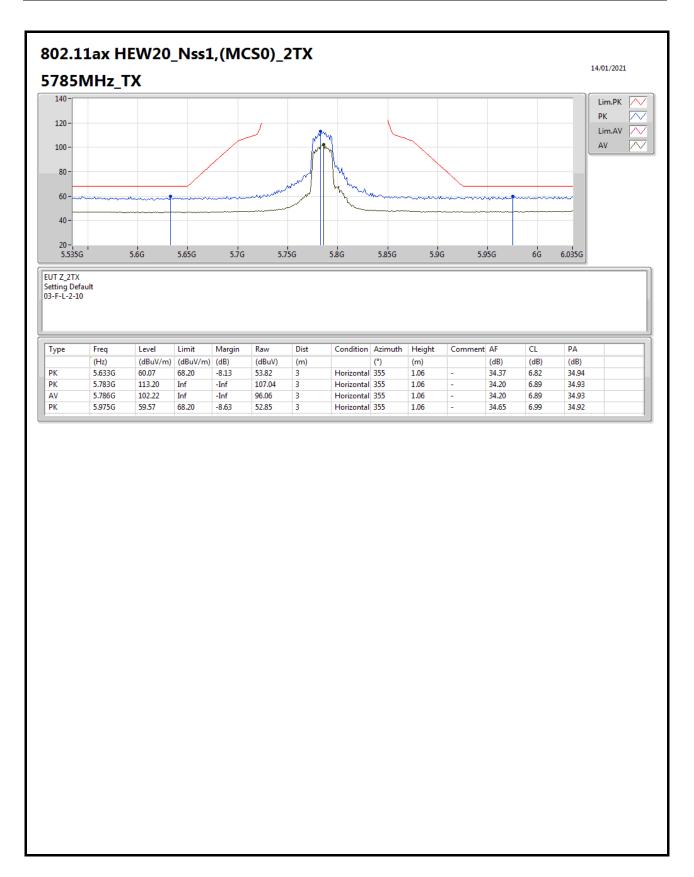




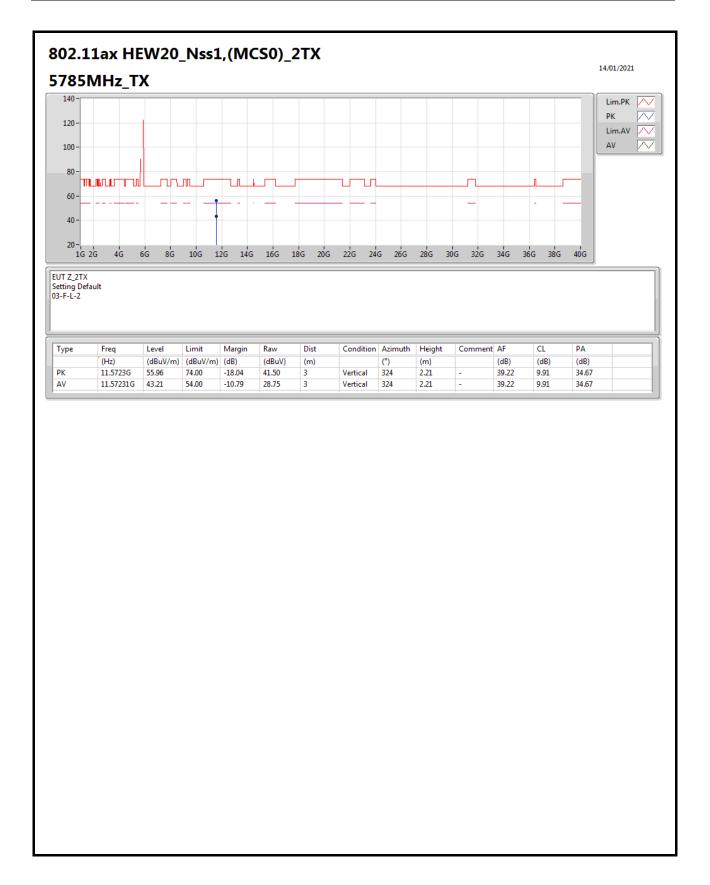






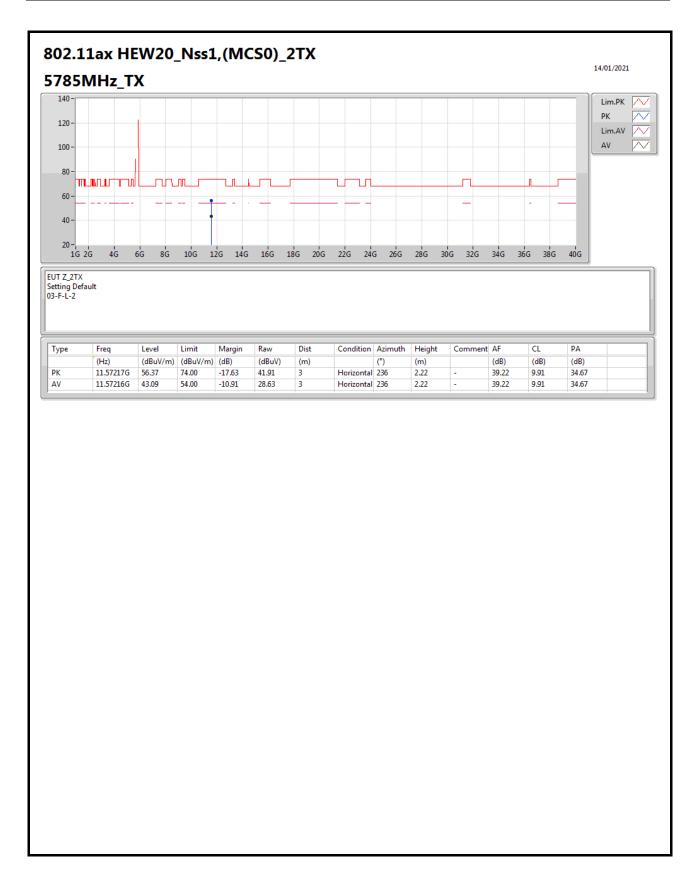




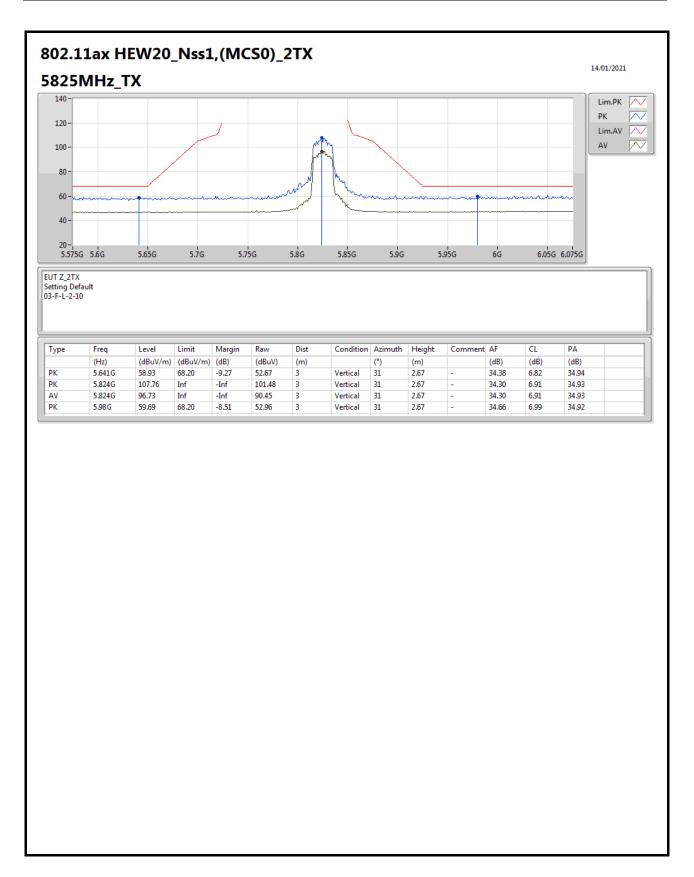


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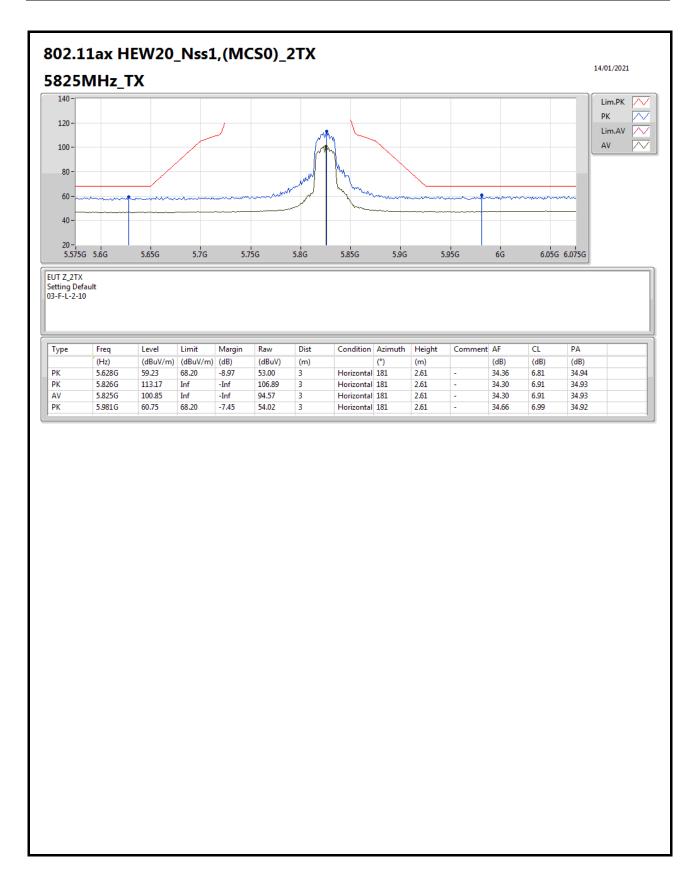




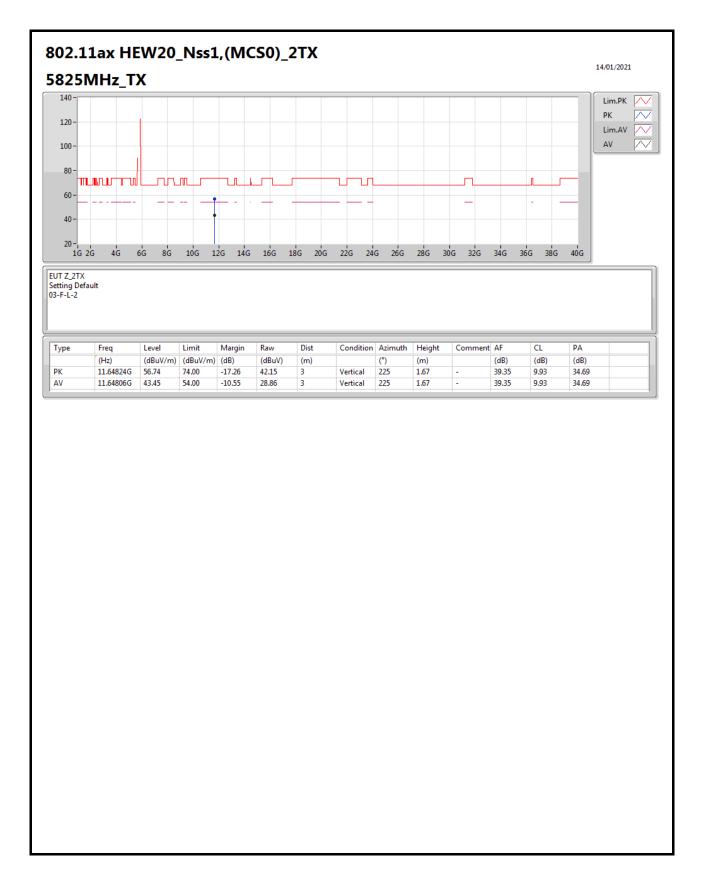






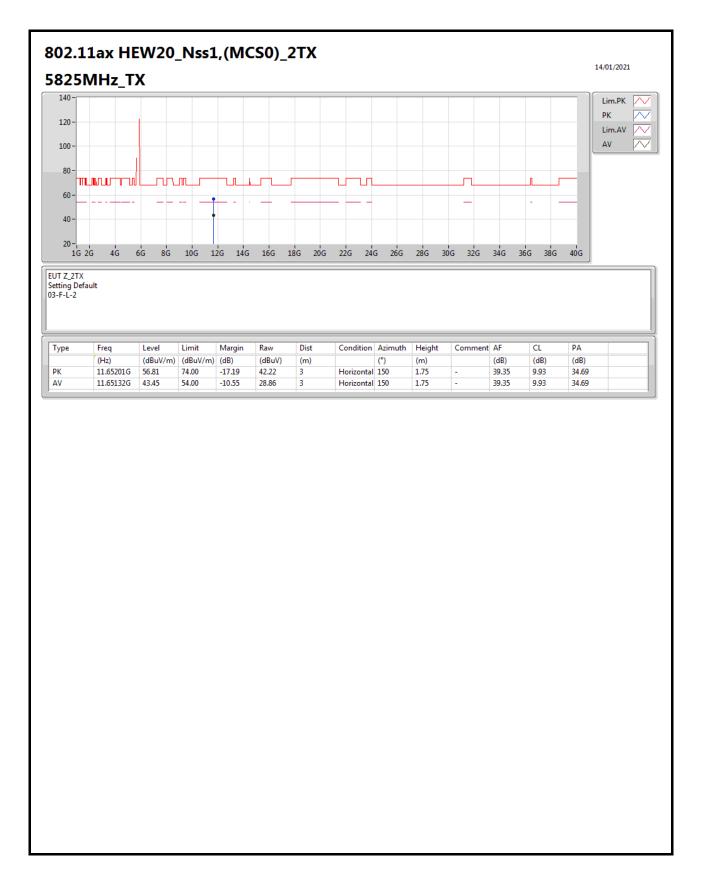






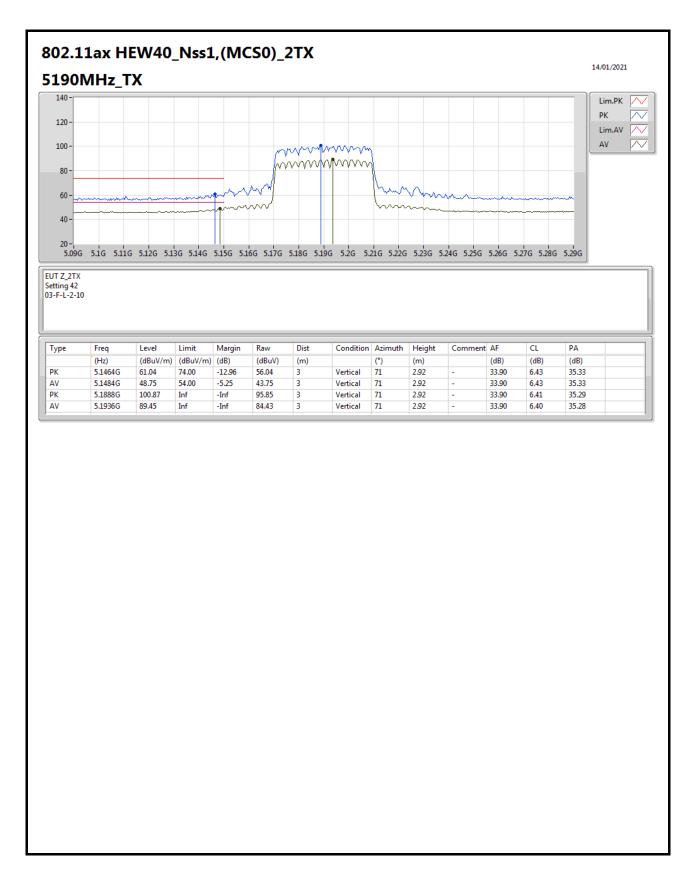
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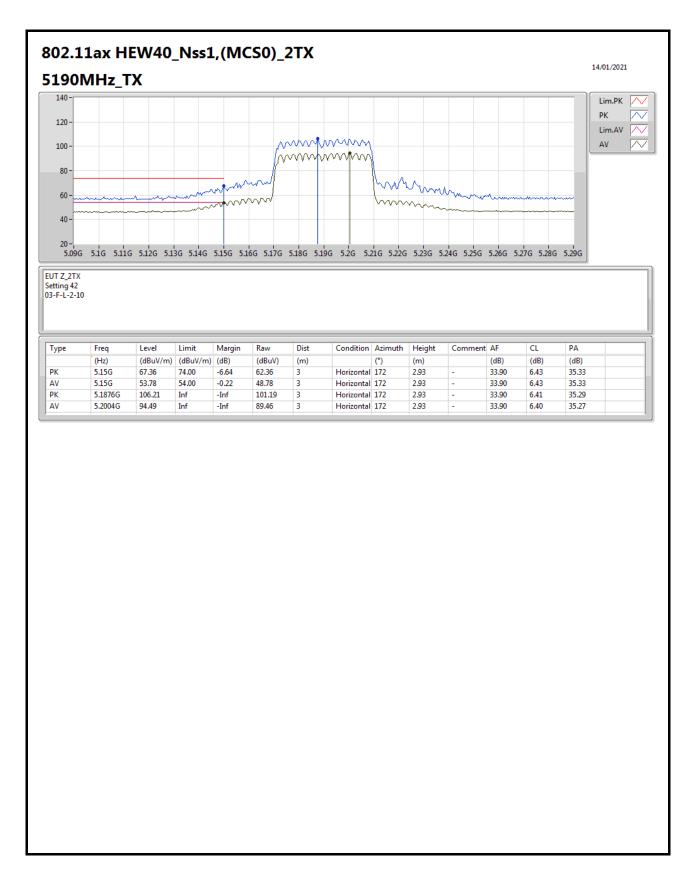


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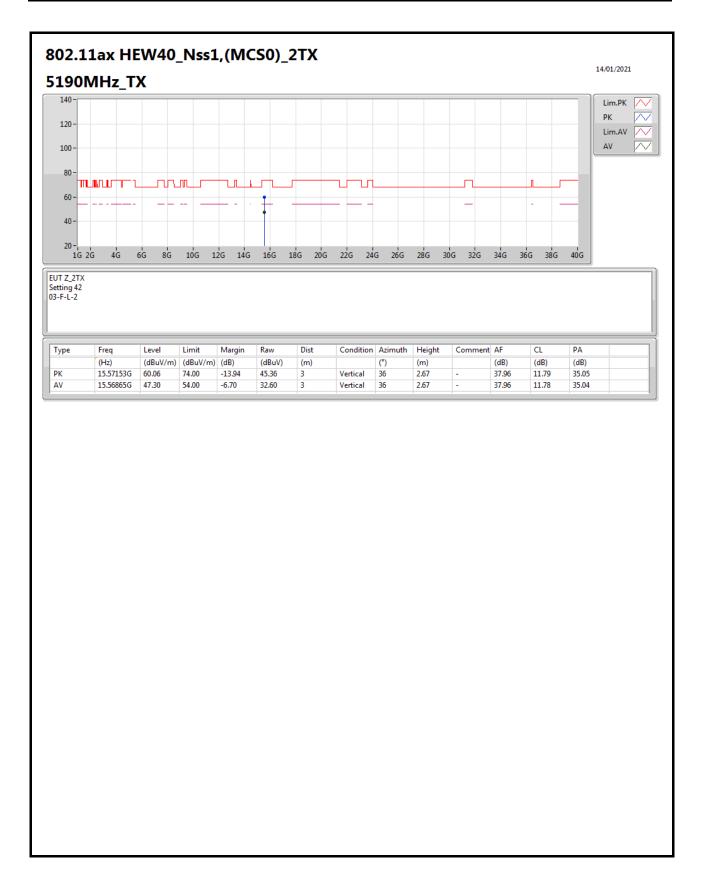






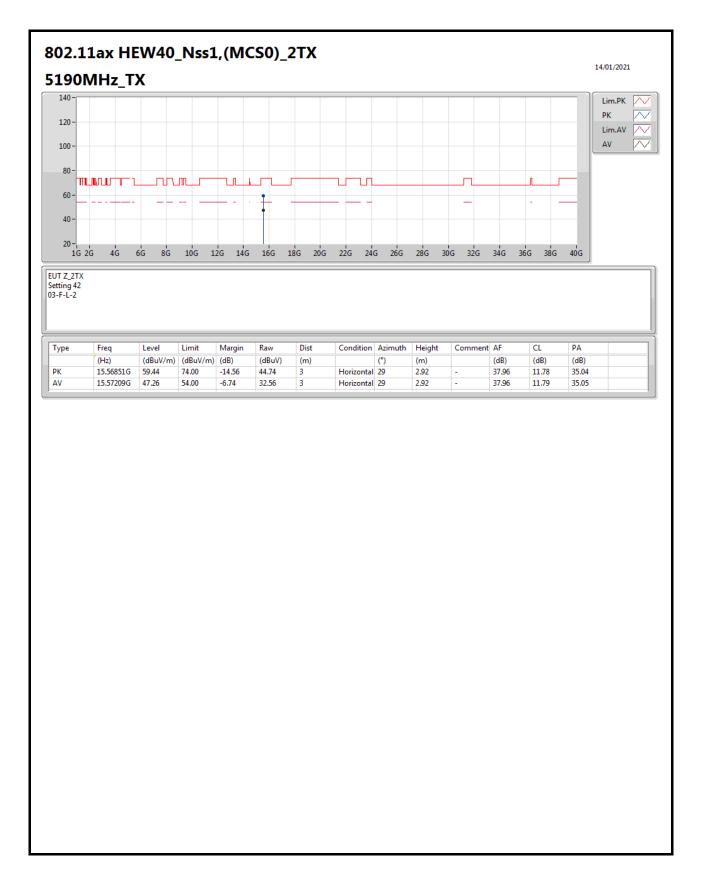
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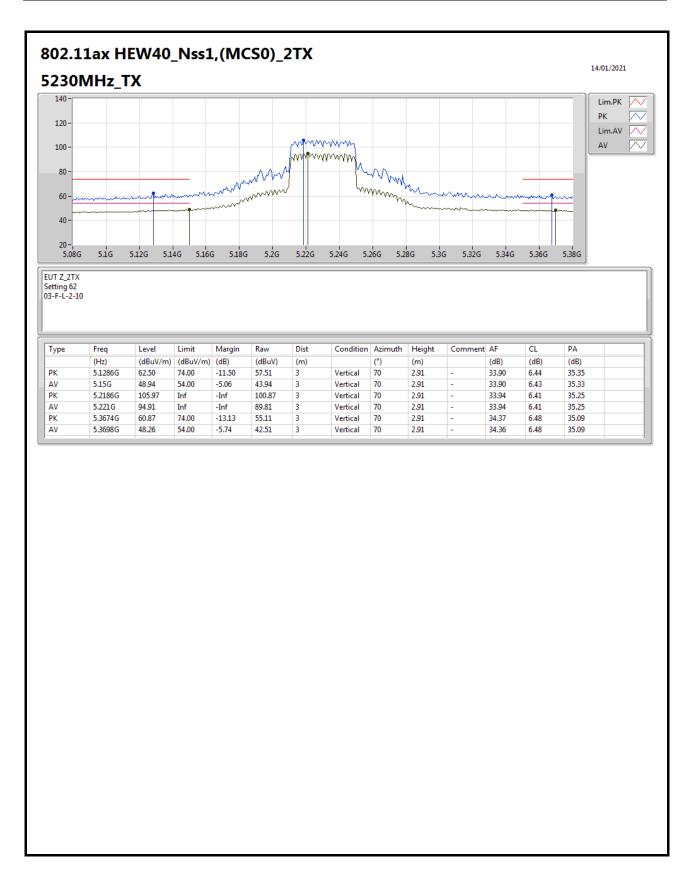


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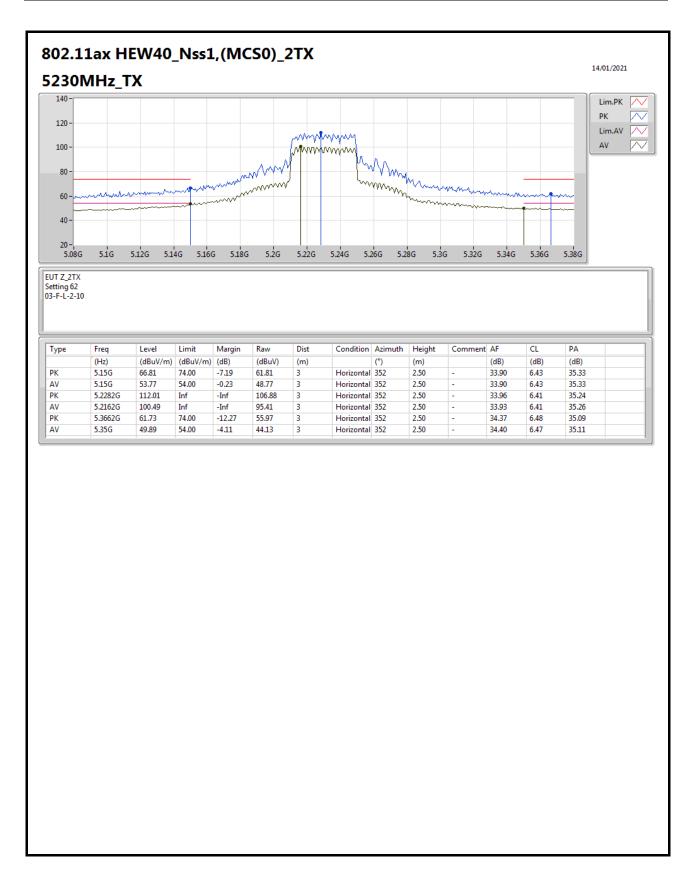




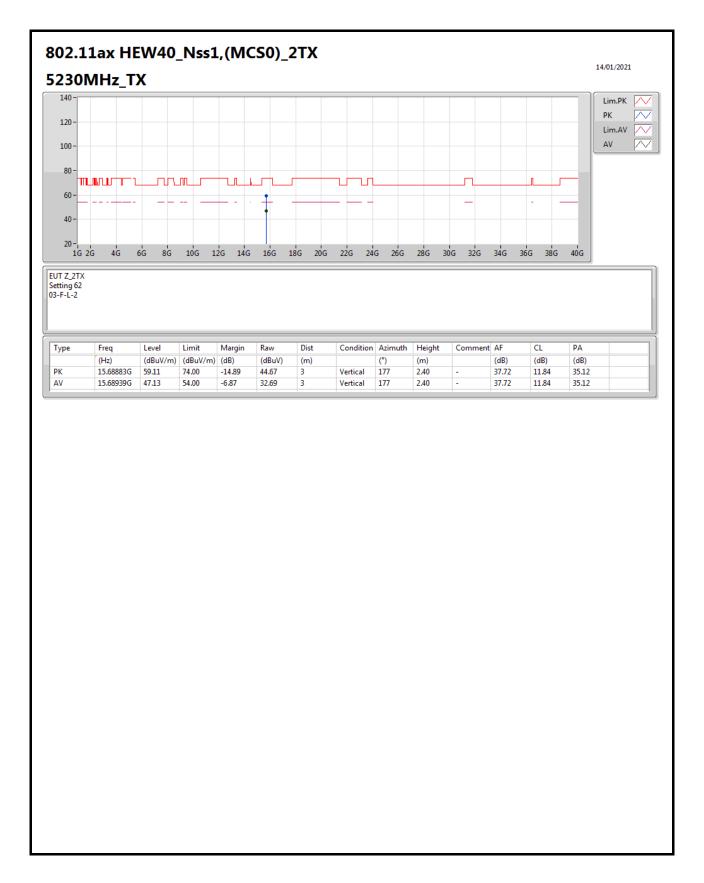


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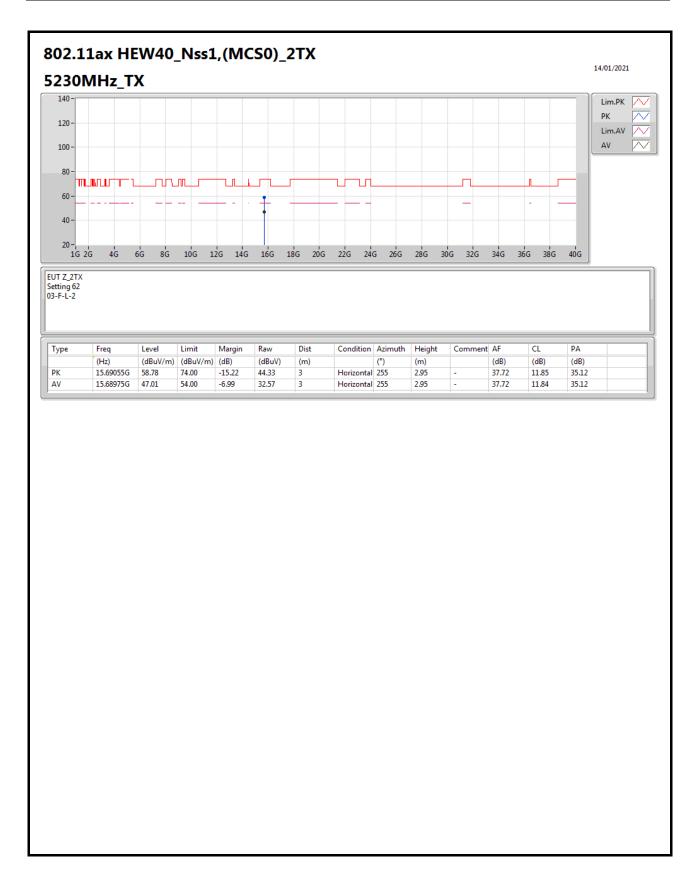






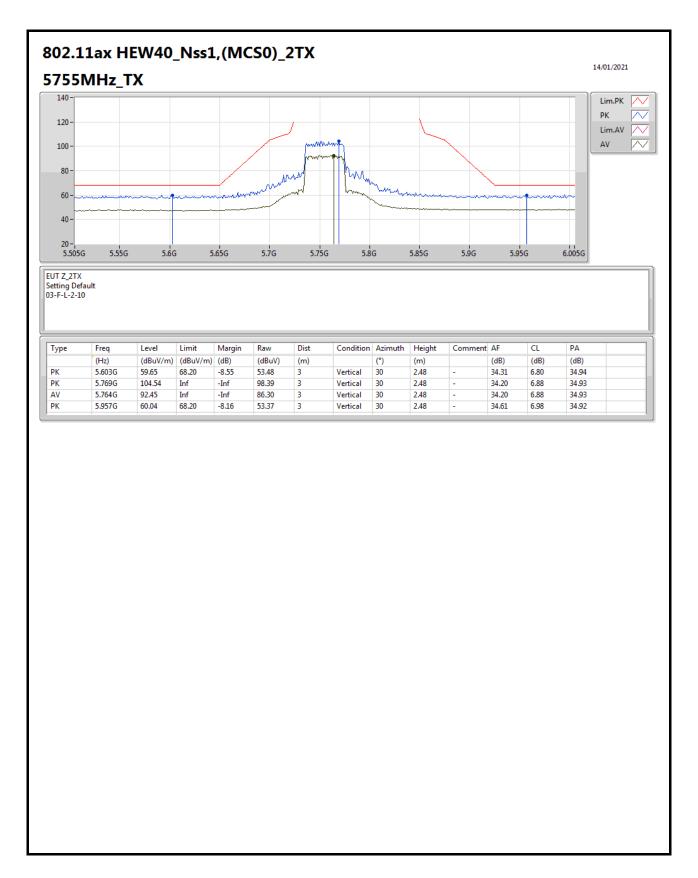
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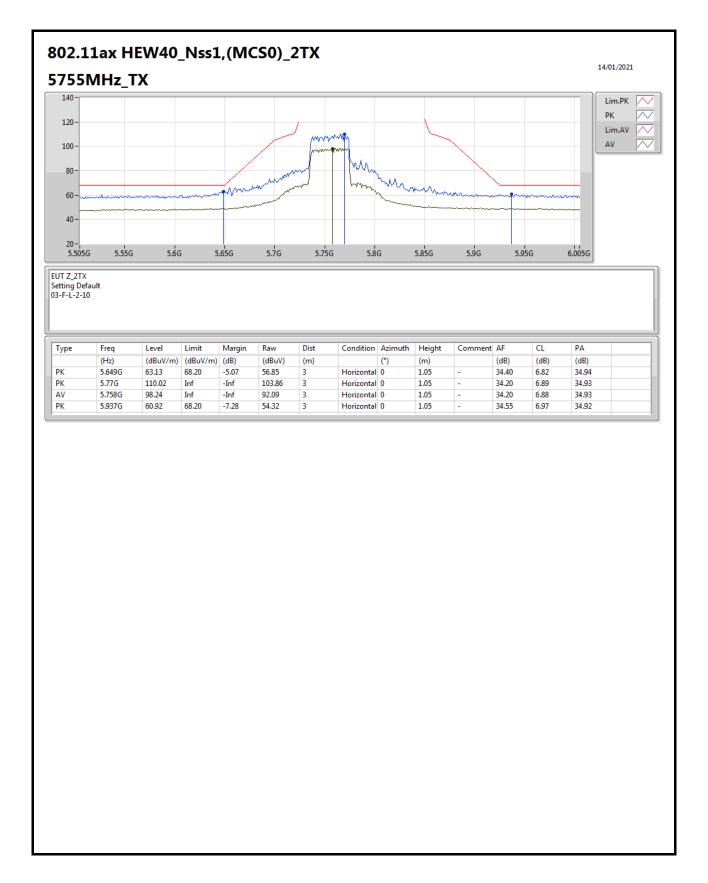


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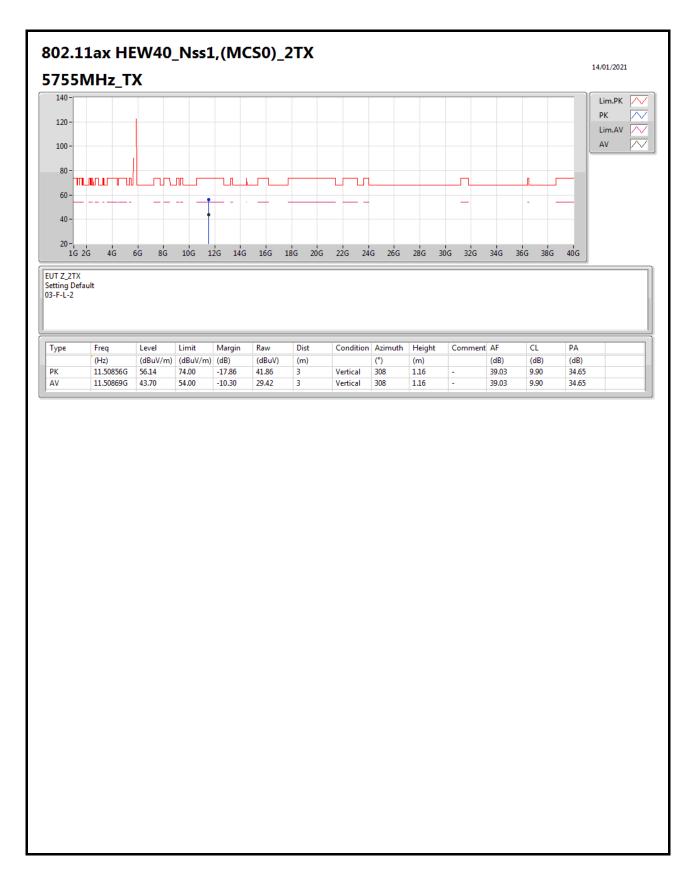






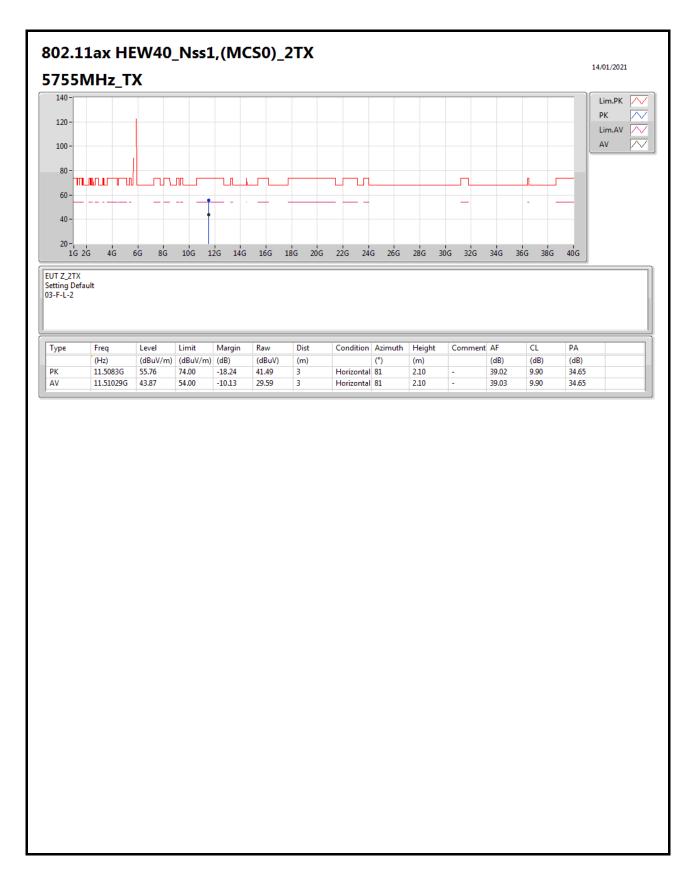
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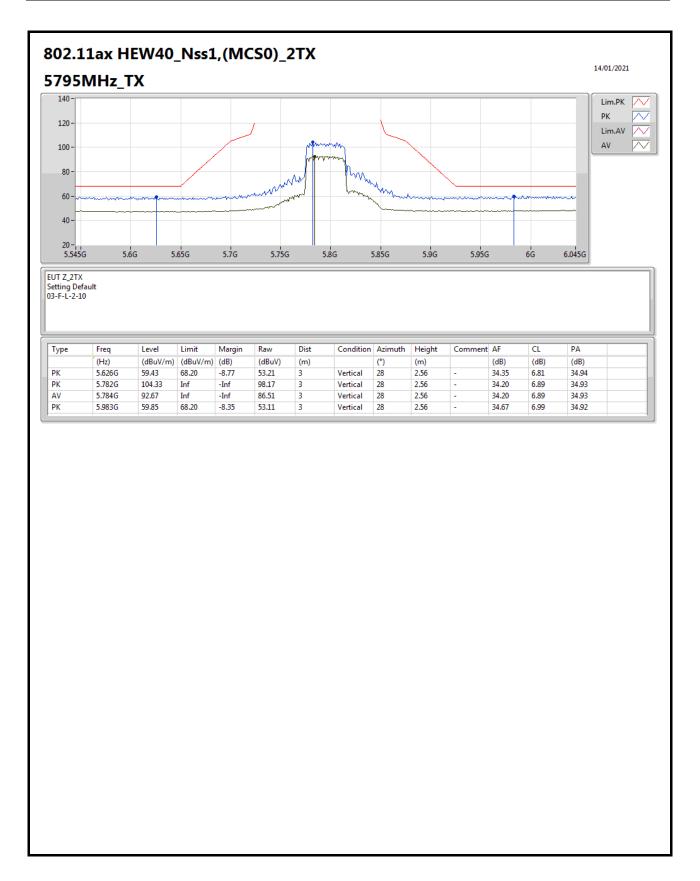
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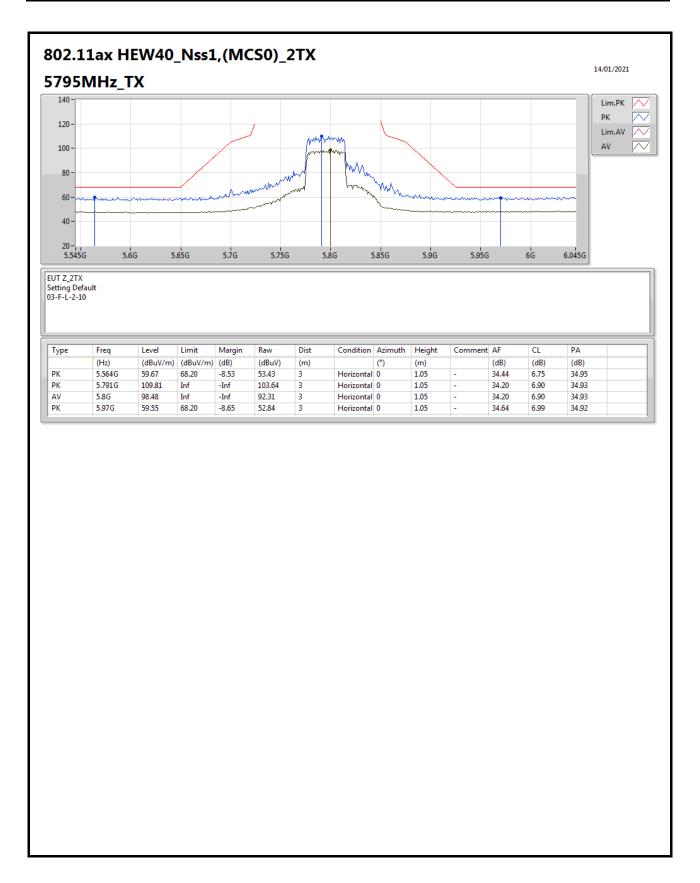


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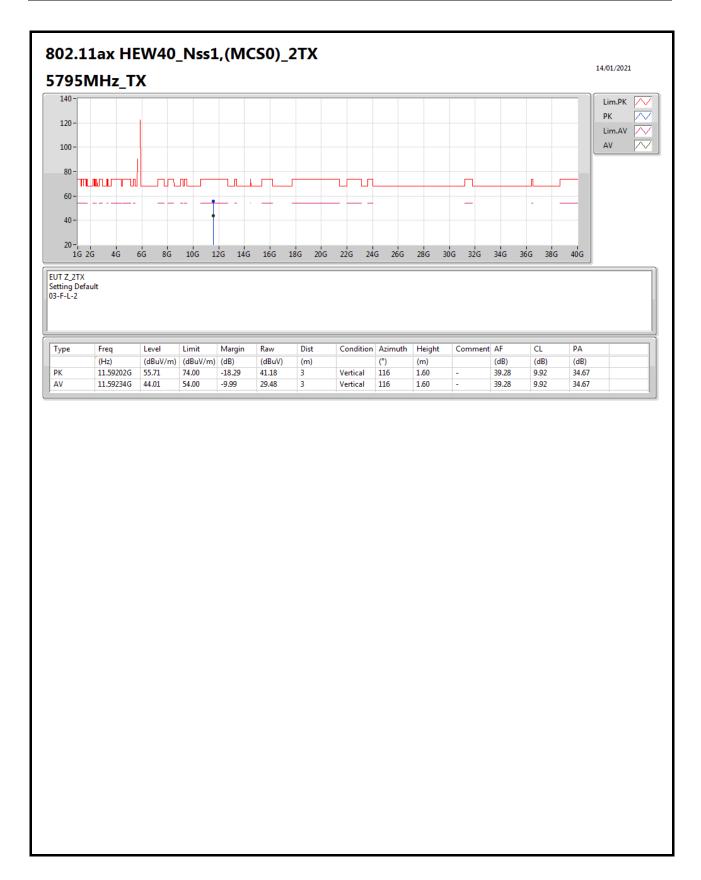




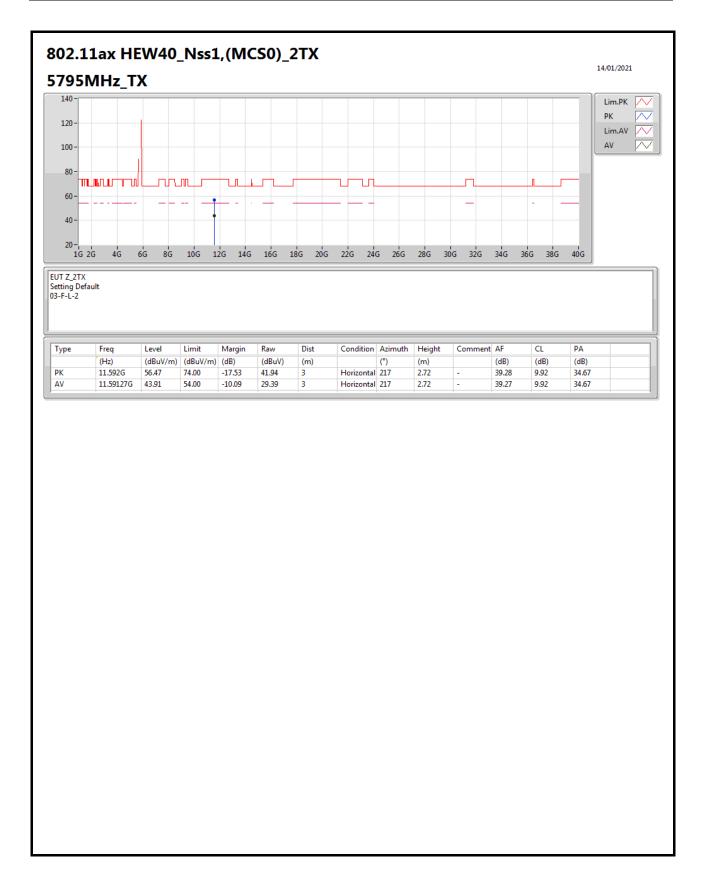


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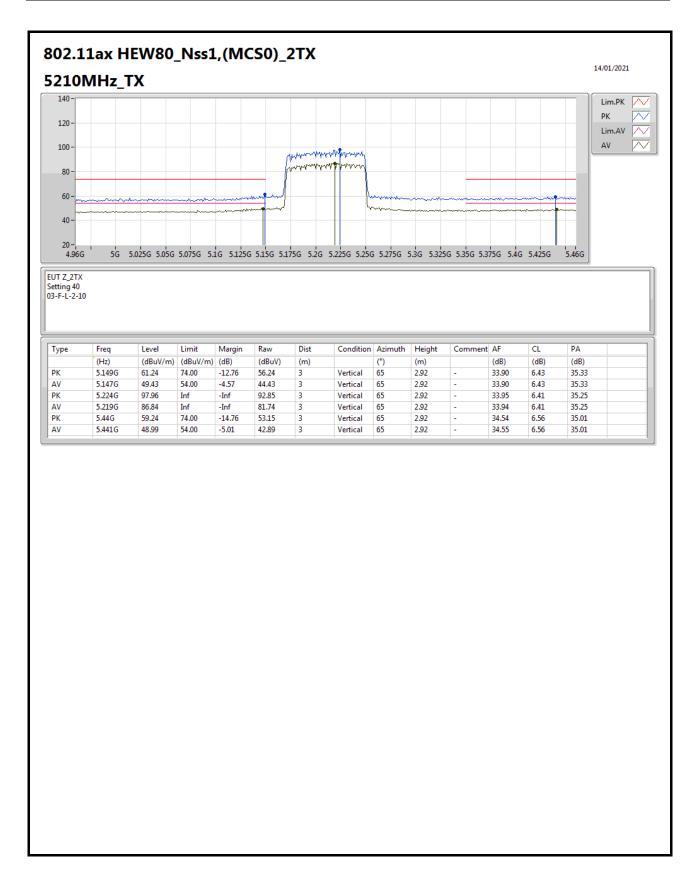




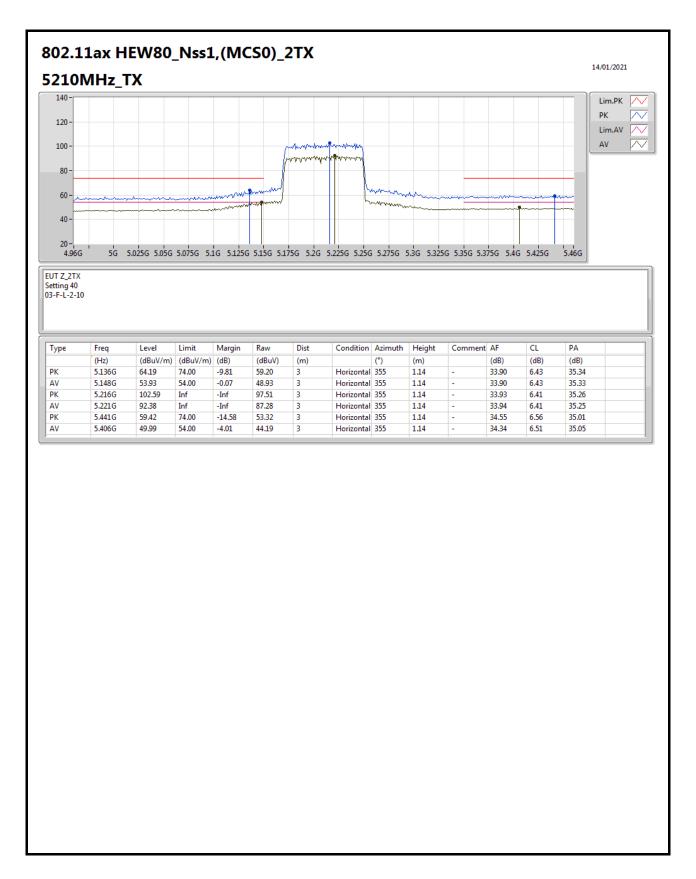




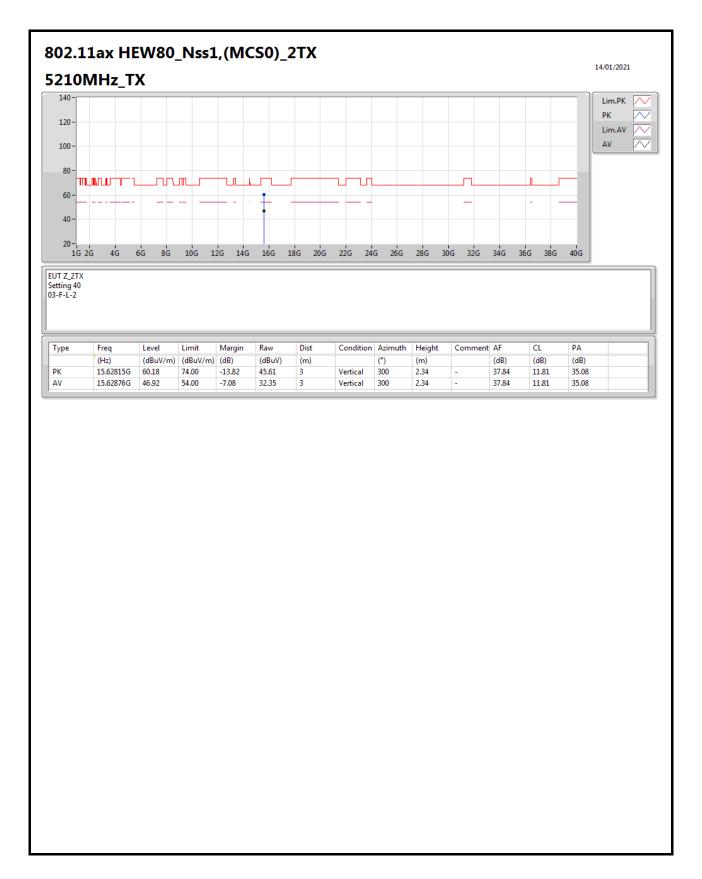




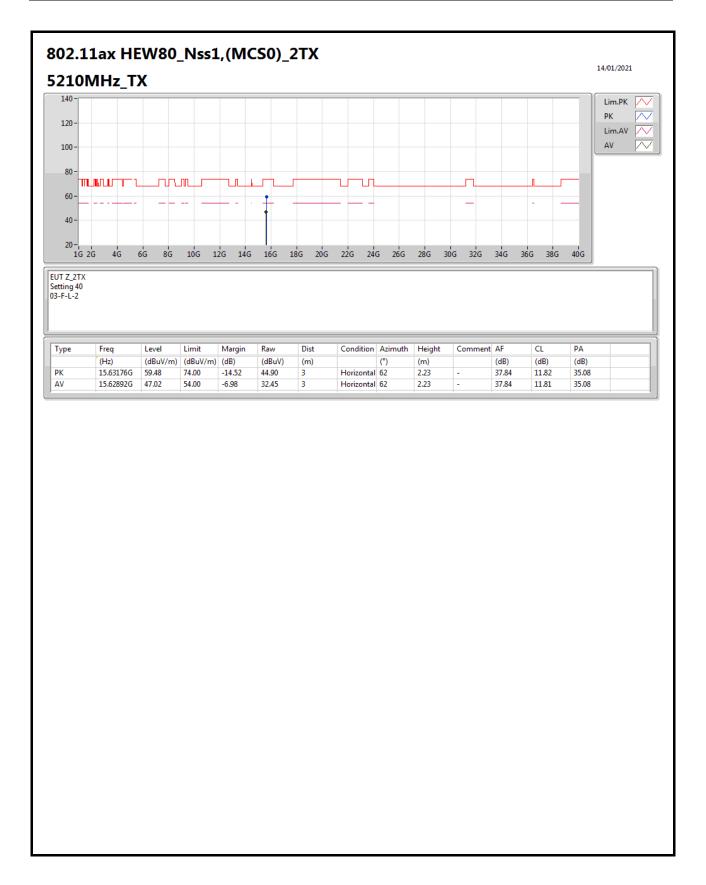






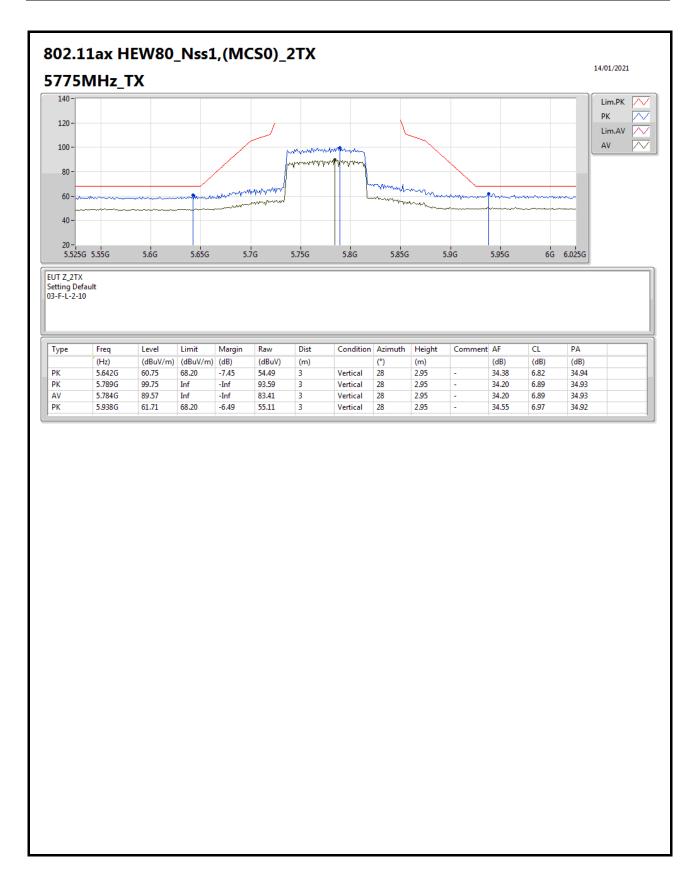






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