

: 1 of 33

: Aug. 22, 2019

Report No.: FR850709AD



FCC RADIO TEST REPORT

FCC ID : MSQ-RTACJ900

Equipment : Wireless AC3000 Tri Band Gigabit Router

Brand Name : ASUS

Model Name : RT-AC95U, ZenWiFi CT8, ZenWiFi, CT8, ASUS

ZenWiFi CT8, ASUS ZenWiFi

Applicant : ASUSTeK COMPUTER INC.

4F, No. 150, Li-Te Rd., Peitou, Taipei 112, Taiwan

Manufacturer (1) : Datamax Electronics (DongGuan) Co., Ltd.

Niu Shan Foreign Economic Industrial Park, Dong Cheng District, Dong Guan City, Guang Dong,

China

Manufacturer (2) : Lukisen Electronic Corp.

3F., No. 236, Boai St., Shulin Dist., New Taipei City

23845, Taiwan

Manufacturer (3) : Kentec Inc.

No. 5, Tzu-Chiang 1st Rd. Chungli Industrial Zone,

Taoyuan City, Taiwan

Standard : 47 CFR FCC Part 15.407

The product was received on Jun. 07, 2019, and testing was started from Jun. 07, 2019 and completed on Jul. 31, 2019. 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 report must not be used by the client to claim product certification, approval, or endorsement by TAF or any agency of government.

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.)

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Appendix A. Test Results of AC Power-line Conducted Emissions

Appendix B. Test Results of Emission Bandwidth

Appendix C. Test Results of Maximum Conducted Output Power

Appendix D. Test Results of Peak Power Spectral Density

Appendix E. Test Results of Unwanted Emissions

Appendix F. Test Results of Radiated Emission Co-location

Appendix G. Test Photos

Photographs of EUT v01

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Report Version : 01

Report No.: FR850709AD

History of this test report

Report No.: FR850709AD

Report No.	Version	Description	Issued Date
FR850709AD	01	Initial issue of report	Aug. 22, 2019

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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:

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: Wendy Pan

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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		5745-5825	149-165 [5]
5150-5250	n (HT40), ac (VHT40)	5190-5230	38-46 [2]
5725-5850		5755-5795	151-159 [2]
5150-5250	ac (VHT80)	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	802.11ac VHT20	20	2TX
5.15-5.25GHz	802.11ac VHT20-BF	20	2TX
5.15-5.25GHz	802.11n HT40	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	802.11ac VHT80	80	2TX
5.15-5.25GHz	802.11ac VHT80	80	2TX
5.15-5.25GHz	802.11ac VHT80-BF	80	2TX
5.725-5.85GHz	802.11a	20	4TX
5.725-5.85GHz	802.11n HT20	20	4TX
5.725-5.85GHz	802.11ac VHT20	20	4TX
5.725-5.85GHz	802.11ac VHT20-BF	20	4TX
5.725-5.85GHz	802.11n HT40	40	4TX
5.725-5.85GHz	802.11ac VHT40	40	4TX
5.725-5.85GHz	802.11ac VHT40-BF	40	4TX
5.725-5.85GHz	802.11ac VHT80	80	4TX
5.725-5.85GHz	802.11ac VHT80-BF	80	4TX

Note:

- 11a, HT20 and HT40 use a combination of OFDM-BPSK, QPSK, 16QAM, 64QAM modulation.
- VHT20, VHT40 and VHT80 use a combination of OFDM-BPSK, QPSK, 16QAM, 64QAM, 256QAM modulation.
- BWch is the nominal channel bandwidth.
- Nss-Min is the minimum number of spatial streams.
- Nant is the number of outputs. e.g., 2(2,3) means have 2 outputs for port 2 and port 3. 2 means have 2 outputs for port 1 and port 2.

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1.1.2 Antenna Information

Set	Ant.	Port	Brand	Model Name	Antenna Type	Connector	Gain (dBi)
	1	1	PSA	RFDPA230505IMLB901	Dipole Antenna	I-PEX	
	2	2	PSA	RFDPA230510IMLB901	Dipole Antenna	I-PEX	
	3	3	PSA	RFDPA100610IM5B901	Dipole Antenna	I-PEX	
1	4	4	PSA	RFDPA100607IM5B901	Dipole Antenna	I-PEX	
	5	5	PSA	RFDPA100608IM5B901	Dipole Antenna	I-PEX	
	6	6	PSA	RFDPA100605IM5B901	Dipole Antenna	I-PEX	
	7	1	PSA	-	Printed Antenna	N/A	
	1	1	Whayu	C660-510478-A ANT1 2_5G	Dipole Antenna	I-PEX	
	2	2	Whayu	C660-510478-A ANT2 2_5G	Dipole Antenna	I-PEX	
2	3	3	Whayu	C660-510478-A_ANT 3 5G	Dipole Antenna	I-PEX	Note 1
	4	4	Whayu	C660-510478-A_ANT 4 5G	Dipole Antenna	I-PEX	
	5	5	Whayu	C660-510478-A_ANT 5 5G	Dipole Antenna	I-PEX	
	6	6	Whayu	C660-510478-A_ANT 6 5G	Dipole Antenna	I-PEX	
	1	1	Airgain	M2440DMCT-PK1-HSR3-LB1X52BU	Dipole Antenna	I-PEX	
	2	2	Airgain	M2440DMCT-PK1-HSY3-LB1X102BU	Dipole Antenna	I-PEX	
3	3	3	Airgain	M5X30CT-PK1-HSE3-LBIX102BU	Dipole Antenna	I-PEX	
3	4	4	Airgain	M5X30CT-PK1-HSA3-LB1X75BU	Dipole Antenna	I-PEX	
	5	5	Airgain	M5X30CT-PK1-HSW3-LB 1X85BU	Dipole Antenna	I-PEX	
	6	6	Airgain	M5X30CT-PK1-HSB3-LBIX52BU	Dipole Antenna	I-PEX	

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Note 1:

				Gain (dBi) - CDD mode for output power				
Set	Ant.	Port	2.4GHz	5GHz Band 1	5GHz Band 4	Bluetooth		
	1	1	1.36	1.74	-	-		
	2	2	1.36	1.74	-	-		
	3	1	-	-	1.36	-		
1	4	2	-	-	1.36	-		
	5	3	-	-	1.36	-		
	6	4	-	-	1.36	-		
	7	1	-	-	-	-2.93		
	1	1	1.17	1.69	-	-		
	2	2	1.17	1.69	-	-		
2	3	1	-	-	0.43	-		
2	4	2	-	-	0.43	-		
	5	3	-	-	0.43	-		
	6	4	-	-	0.43	-		
	1	1	0.80	1.47	-	-		
	2	2	0.80	1.47	-	-		
3	3	1	-	-	0.34	-		
S	4	2	-	-	0.34	-		
	5	3	-	-	0.34	-		
	6	4	-	-	0.34	-		

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			Gain (dBi) - Beamforming mode for output power & PSD, CDD mode for PSD					
Set	Ant.	Ant.	Port	2.4GHz	5GHz Band 1 Nss1	5GHz Band 4 Nss1	5GHz Band 4 Nss2	
	1	1	4.37	4.70	-	-		
	2	2	4.37	4.70	-	-		
1	3	1	-	-	7.21	4.32		
l '	4	2	-	-	7.21	4.32		
	5	3	=	-	7.21	4.32		
	6	4	=	-	7.21	4.32		
	1	1	4.18	4.54	-	-		
	2	2	4.18	4.54	-	-		
2	3	1	=	-	6.05	3.40		
	4	2	=	-	6.05	3.40		
	5	3	=	-	6.05	3.40		
	6	4	=	-	6.05	3.40		
	1	1	3.79	4.48	-	-		
	2	2	3.79	4.48	-	-		
3	3	1	=	=	6.02	3.33		
3	4	2	-	-	6.02	3.33		
	5	3	=	-	6.02	3.33		
	6	4	=	-	6.02	3.33		

Note2: The above information was declared by manufacturer.

The EUT has three sets of WLAN antenna and there are six antennas for each set.

There are three sets antenna are the same type antennas, only the higher gain antennas "Set 1" was tested and recorded in the report.

Directional Gain of CDD in Power Measurement = Gant + Array Gain ; Array Gain = 0dB.

For 2.4GHz function:

For IEEE 802.11a/b/g/n/VHT 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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For 5GHz Band 1 function:

For IEEE 802.11a/b/g/n/ac mode (2TX/2RX):

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

Port 1 and Port 2 could transmit/receive simultaneously.

For 5GHz Band 4 function:

For IEEE 802.11a/n/ac mode (4TX/4RX):

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

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

For Bluetooth function

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

1.1.3 Mode Test Duty Cycle

Mode	DC	DCF(dB)	T(s)	VBW(Hz) ≥ 1/T
802.11a	0.903	0.44	4.975m	300
802.11ac VHT20	0.967	0.15	4.97m	300
802.11ac VHT20-BF	0.925	0.34	1.76m	1k
802.11ac VHT40	0.974	0.11	2.42m	1k
802.11ac VHT40-BF	0.903	0.44	1.758m	1k
802.11ac VHT80	0.95	0.22	1.155m	1k
802.11ac VHT80-BF	0.947	0.24	1.14m	1k

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NI	Oto.	•

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

1.1.4 EUT Operational Condition

EUT Power Type	From Power Adapter				
Beamforming Function	\boxtimes	With beamforming		Without beamforming	
beamorning runction	For VHT20 and VHT40 in 2.4GHz and 802.11ac in 5GHz.				
Function		Outdoor P2M	\boxtimes	Indoor P2M	
Tanonon		Fixed P2P		Client	
Test Software Version	For Non-beamforming: QSPR Verson 5.0-00161 For beamforming: Telnet				

Note: The above information was declared by manufacturer.

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1.1.5 Table for Radio information

Radio	Band				
1	5GHz Band 1				
	2.4GHz				
2	5GHz Band 4				
3	Bluetooth				

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Note: The above information was declared by manufacturer.

1.1.6 Table for Multiple Listing

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

Brand Name	Model Name	Description
	RT-AC95U	
	ZenWiFi CT8	
ASUS	ZenWiFi All the models	All the models are identical, the difference model served as
A303	CT8	marketing strategy.
	ASUS ZenWiFi CT8	
	ASUS ZenWiFi	

From the above models, model:RT-AC95U was selected as representative model for the test and its data was recorded in this report.

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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
- FCC KDB 662911 D01 v02r01
- FCC KDB 412172 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, Lane 724, Bo-ai St., Jhubei 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	Test Date
RF Conducted	TH02-CB	Lucas Huang	25.4~26.9°C / 62~66%	Jun. 07, 2019 ~ Jul. 18, 2019
Radiated<1GHz	03CH05-CB	KJ Chang	24.8~25.5°C / 58~63%	Jul. 06, 2019 ~ Jul. 31, 2019
Radiated>1GHz	03CH03-CB	KJ Chang	25.6~26.9°C / 60~64%	Jul. 06, 2019 ~ Jul. 31, 2019
AC Conduction	CO01-CB	Deven Huang	22~23°C / 58~60%	Jul. 22, 2019

Test site Designation No. TW0006 with FCC

Test site registered number IC 4086B with Industry Canada.

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 (30MHz ~ 1,000MHz)	4.3 dB	Confidence levels of 95%
Radiated Emission (1GHz ~ 18GHz)	4.3 dB	Confidence levels of 95%
Radiated Emission (18GHz ~ 40GHz)	5.1 dB	Confidence levels of 95%
Conducted Emission	2.4 dB	Confidence levels of 95%
Output Power Measurement	1.5 dB	Confidence levels of 95%
Power Density Measurement	2.4 dB	Confidence levels of 95%
Bandwidth Measurement	2%	Confidence levels of 95%

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2 Test Configuration of EUT

2.1 Test Channel Mode

For Radio 1 2T1S / Radio 2 4T1S Mode:

Mode	PowerSetting
802.11a_Nss1,(6Mbps)_2TX	-
5180MHz	23
5200MHz	27
5240MHz	27.5
802.11a_Nss1,(6Mbps)_4TX	-
5745MHz	23
5785MHz	23
5825MHz	23
802.11ac VHT20_Nss1,(MCS0)_4TX	-
5745MHz	23.5
5785MHz	23.5
5825MHz	23.5
802.11ac VHT40_Nss1,(MCS0)_4TX	-
5755MHz	23.5
5795MHz	23.5
802.11ac VHT80_Nss1,(MCS0)_4TX	-
5775MHz	22
802.11ac VHT20-BF_Nss1,(MCS0)_2TX	-
5180MHz	25
5200MHz	30
5240MHz	30
802.11ac VHT20-BF_Nss1,(MCS0)_4TX	-
5745MHz	28.5
5785MHz	28.5
5825MHz	28
802.11ac VHT40-BF_Nss1,(MCS0)_2TX	-
5190MHz	24
5230MHz	30
802.11ac VHT40-BF_Nss1,(MCS0)_4TX	-
5755MHz	28
5795MHz	28
802.11ac VHT80-BF_Nss1,(MCS0)_2TX	-
5210MHz	24
802.11ac VHT80-BF_Nss1,(MCS0)_4TX	-
5775MHz	28

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For Radio 2 / 4T2S Mode:

Mode	PowerSetting
802.11ac VHT20-BF_Nss2,(MCS0)_4TX	-
5745MHz	29.5
5785MHz	29.5
5825MHz	29.5
802.11ac VHT40-BF_Nss2,(MCS0)_4TX	-
5755MHz	29.5
5795MHz	29.5

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For Radio 2 / 4T4S Mode:

Mode	PowerSetting
802.11ac VHT80_Nss4,(MCS0)_4TX	-
5775MHz	22.5

Note:

- There are two modes of EUT for Radio 1 802.11ac in 5GHz. One is beamforming mode, and the other is non-beamforming mode, after evaluating, beamforming mode has been evaluated to be the worst case, so it was selected to test and record in this test report.
- There are two modes of EUT for Radio 2 802.11ac in 5GHz. One is beamforming mode, and the other is non-beamforming mode. Both modes have been tested and recorded in this test report.
- VHT20/VHT40 covers HT20/HT40, due to same modulation. The power setting for 802.11n HT20 and HT40 are the same or lower than 802.11ac VHT20 and VHT40.

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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
Operating Mode	СТХ
1	CTX + Radio 1 WLAN 2.4GHz + Adapter
2	CTX + Radio 1 WLAN 5GHz + Adapter
3	CTX + Radio 2 WLAN 5GHz + Adapter
4	CTX + Radio 3 Bluetooth BR/EDR + Adapter
5	CTX + Radio 3 Bluetooth LE + Adapter
For operating mode 1 is the worst case and it was record in this test report.	

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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

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	СТХ		
1	CTX + Radio 1 WLAN 2.4GHz + Adapter		
2	CTX + Radio 1 WLAN 5GHz + Adapter		
3	CTX + Radio 2 WLAN 5GHz + Adapter		
4	CTX + Radio 3 Bluetooth BR/EDR + Adapter		
5	CTX + Radio 3 Bluetooth LE + Adapter		
For operating mode 2 is the	For operating mode 2 is the worst case and it was record in this test report.		
Operating Mode > 1GHz CTX			

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The Worst Case Mode for Following Conformance Tests	
Tests Item	Simultaneous Transmission Analysis - Radiated Emission Co-location
Test Condition	Radiated measurement
Operating Mode Normal Link	
1	Radio 1 WLAN 2.4GHz + Radio 1 WLAN 5GHz
Refer to Appendix F for Radiated Emission Co-location.	

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The Worst Case Mode for Following Conformance Tests		
Tests Item	Simultaneous Transmission Analysis - Co-location RF Exposure Evaluation	
Operating Mode		
1	Radio 1 WLAN 2.4GHz + Radio 2 WLAN 5GHz + Radio 3 Bluetooth	
2	Radio 1 WLAN 5GHz + Radio 2 WLAN 5GHz + Radio 3 Bluetooth	
Refer to Sporton Test Report No.: FA850709 for Co-location RF Exposure Evaluation.		

Note: The EUT can only be used Y axis.

2.3 EUT Operation during Test

For CTX Mode:

non-beamforming mode:

The EUT was programmed to be in continuously transmitting mode.

beamforming mode:

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

The program was executed as follows:

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

For Normal Link:

During the test, the EUT operation to normal function.

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2.4 Accessories

	Accessories			
Equipment Name	Brand Name	Model Name	Туре	Rating
Adapter	ASUS			Input: 100-240V~50/60Hz, 0.8A Output: 19V, 1.75A
Equipment Name	Brand Name	Model Name		Remark
RJ-45 cable	NIEN-YI NYT976		Non-Shieding:1.5m	

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2.5 Support Equipment

For AC Conduction:

	Support Equipment			
No.				FCC ID
Α	Flash disk3.0	Transcend	JetFlash-700	N/A
В	LAN NB	DELL	E6430	N/A

For Radiated (below 1GHz):

1011	dalated (below 10112).			
	Support Equipment			
No. Equipment Brand Name Model Name FCC ID		FCC ID		
Α	Notebook	DELL	E4300	N/A

For Radiated (above 1GHz) and RF Conducted:

<For Non-Beamforming Mode>

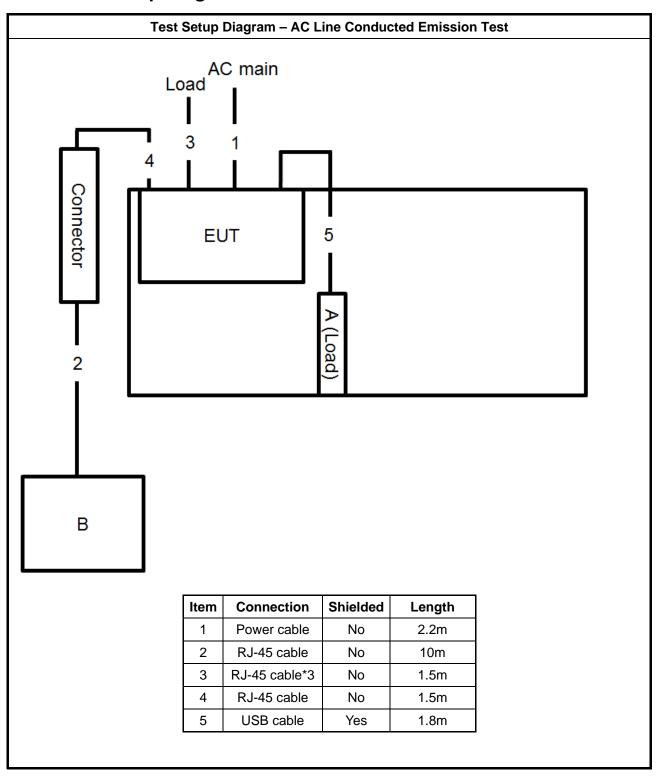
	Support Equipment			
No.	Equipment	Brand Name	Model Name	FCC ID
Α	Notebook	DELL	E4300	N/A

<For Non-Beamforming Mode>

	Support Equipment			
No.	Equipment	Brand Name	Model Name	FCC ID
Α	NB	DELL	E4300	DoC
В	Fixture	Abocom	AM7221T-X10	N/A
С	AP Router	ASUS	BRT-AC828	N/A

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2.6 Test Setup Diagram

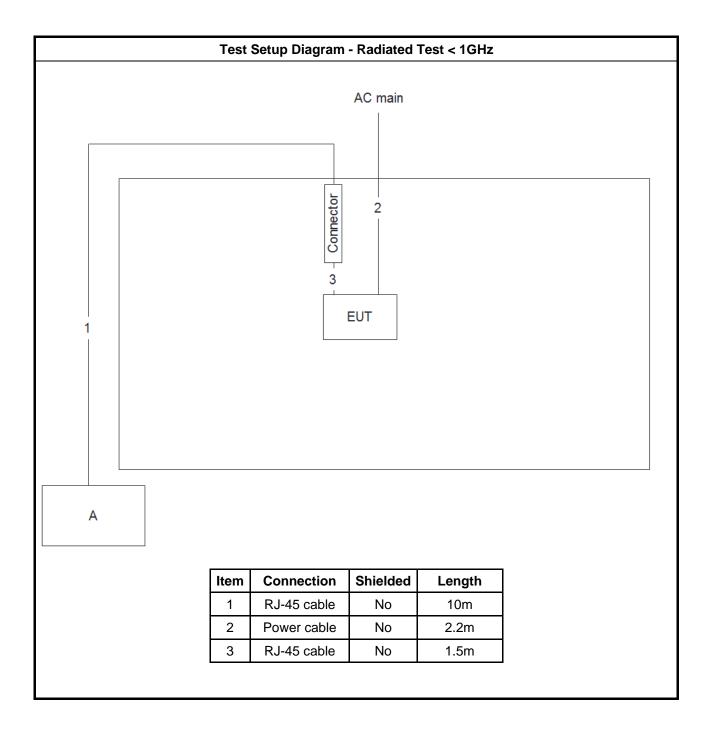


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Test Setup Diagram - Radiated Test > 1GHz / Non-Beamforming Mode AC main EUT Α Item Connection Shielded Length RJ-45 cable No 10m

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Report Template No.: CB Ver1.0 Report Version : 01

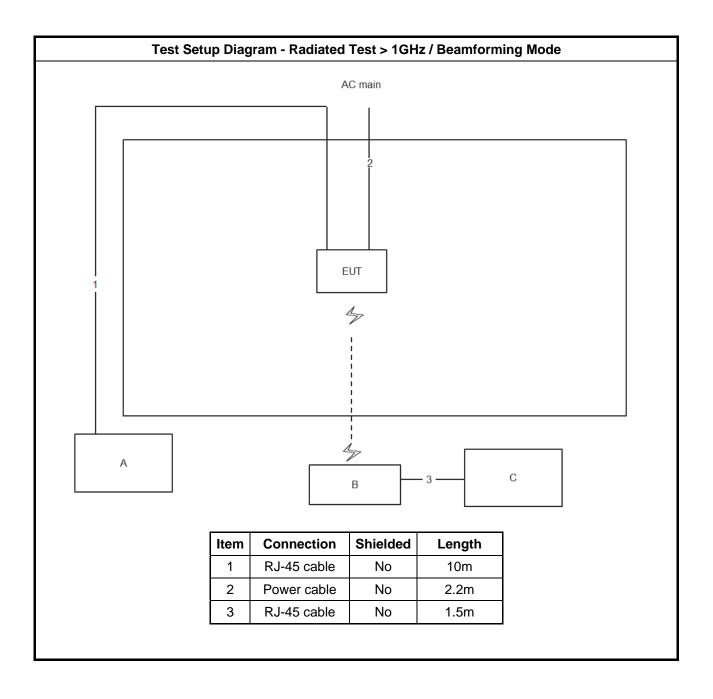
1 2

Power cable

No

2.2m

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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.

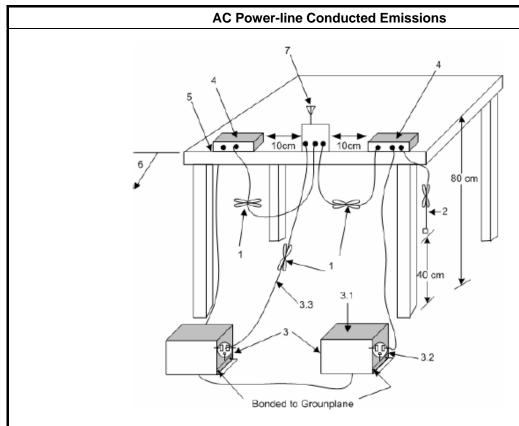
3.1.3 Test Procedures

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 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	UNII 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.				
\boxtimes	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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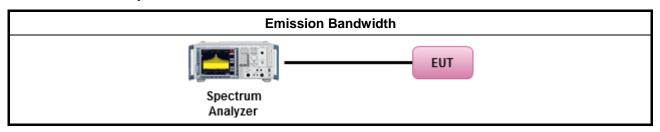
3.2.2 Measuring Instruments

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:		
	\boxtimes	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

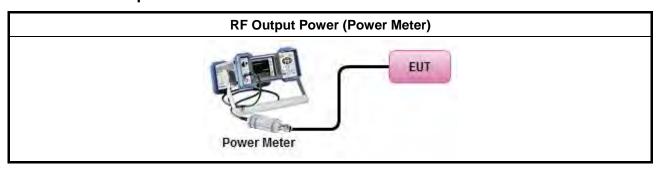
Refer a test equipment and calibration data table in this test report.

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 – $(G_{TX} - 6)$.
\boxtimes	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.
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

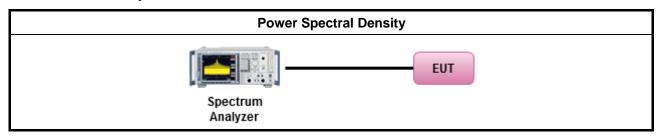
		Test Method								
•	outp func	Peak power spectral density procedures that the same method as used to determine the conducted output power shall be used to determine the peak power spectral density and use the peak search function on the spectrum analyzer to find the peak of the spectrum. For the peak power spectral density shall be measured using below options:								
		Refer as FCC KDB 789033, 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, 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	uty 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

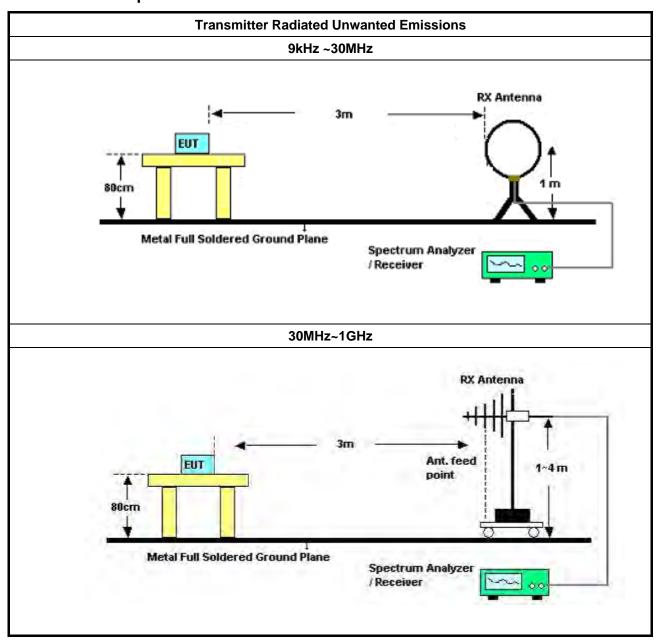
Test Method

- 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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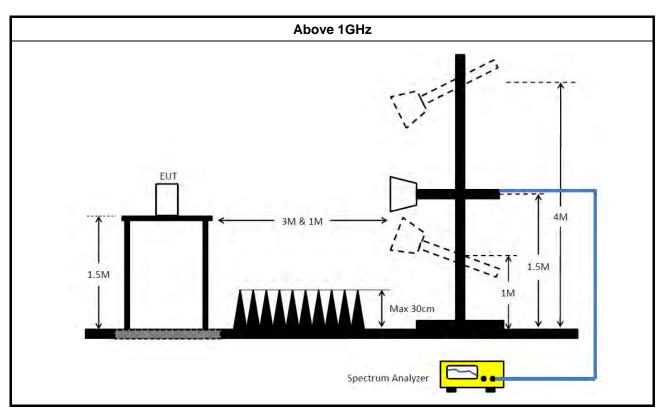
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3.5.4 Test Setup



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3.5.5 Measurement Results Calculation

The measured Level is calculated using:

Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level.

3.5.6 Transmitter Unwanted Emissions (Below 30MHz)

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 10 harmonic or 40 GHz, whichever is appropriate.

3.5.7 Test Result of Transmitter Unwanted Emissions

Refer as Appendix E

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4 Test Equipment and Calibration Data

Instrument Manufacturer		Model No.	Serial No.	Characteristics	Calibration Date	Calibration Due Date	Remark
EMI Receiver	Agilent	N9038A	My52260123	9kHz ~ 8.45GHz	Jan. 28, 2019	Jan. 29, 2020	Conduction (CO01-CB)
LISN	F.C.C.	FCC-LISN-50- 16-2	04083	150kHz ~ 100MHz	Dec. 24, 2018	Dec. 23, 2019	Conduction (CO01-CB)
LISN	Schwarzbeck	NSLK 8127	8127647	9kHz ~ 30MHz	Jan. 11, 2019	Jan. 10, 2020	Conduction (CO01-CB)
COND Cable	Woken	Cable	Low cable-CO01	9kHz ~ 30MHz	May 21, 2019	May 20, 2020	Conduction (CO01-CB)
Software	Audix	E3	6.120210n	-	N.C.R.	N.C.R.	Conduction (CO01-CB)
Bilog Antenna with 6dB Attenuator	TESE & EMCI	CBL 6112D & N-6-06	35236 & AT-N0610	30MHz ~ 2GHz	Mar. 28, 2019	Mar. 27, 2020	Radiation (03CH05-CB)
Loop Antenna	Teseq	HLA 6120	24155	9kHz - 30 MHz	Mar. 29, 2019	Mar. 28, 2020	Radiation (03CH05-CB)
Pre-Amplifier	EMCI	EMC330N	980331	20MHz ~ 3GHz	May 02, 2019	May 01, 2020	Radiation (03CH05-CB)
Spectrum analyzer	R&S	FSP40	100080	9kHz~40GHz	Oct. 03, 2018	Oct. 02, 2019	Radiation (03CH05-CB)
EMI Test Receiver	R&S	ESCS	826547/017	9kHz ~ 2.75GHz	May 15, 2019	May 14, 2020	Radiation (03CH05-CB)
RF Cable-low	Woken	RG402	LOW Cable-04+23	30MHz~1GHz	Oct. 08, 2018	Oct. 07, 2019	Radiation (03CH05-CB)
Horn Antenna	ETS · Lindgren	3115	6821	750MHz~18GHz	Jan. 24, 2019	Jan. 23, 2020	Radiation (03CH03-CB)
Horn Antenna	Schwarzbeck	BBHA 9170	BBHA9170252	15GHz ~ 40GHz	Jun. 27, 2019	Jun. 26, 2020	Radiation (03CH03-CB)
Pre-Amplifier	Agilent	8449B	3008A02097	1GHz ~ 26.5GHz	Dec. 20, 2018	Dec. 19, 2019	Radiation (03CH03-CB)
Pre-Amplifier	MITEQ	TTA1840-35-H G	1864479	18GHz ~ 40GHz	Jul. 03, 2019	Jul. 02, 2020	Radiation (03CH03-CB)
Spectrum Analyzer	R&S	FSP-40	100019	9kHz ~ 40GHz	Jun. 19, 2019	Jun. 18, 2020	Radiation (03CH03-CB)
RF Cable-high	Woken	RG402	High Cable-20+27	1GHz ~ 18GHz	Oct. 08, 2018	Oct. 07, 2019	Radiation (03CH03-CB)
RF Cable-high	Woken	RG402	High Cable-27	1GHz ~ 18GHz	Oct. 08, 2018	Oct. 07, 2019	Radiation (03CH03-CB)
RF Cable-high	Woken	RG402	High Cable-40G#1	18GHz ~ 40 GHz	Jul. 27, 2018	Jul. 26, 2019	Radiation (03CH03-CB)
RF Cable-high	Woken	RG402	High Cable-40G#1	18GHz ~ 40 GHz	Jul. 24, 2019	Jul. 23, 2020	Radiation (03CH03-CB)
RF Cable-high	Woken	RG402	High Cable-40G#2	18GHz ~ 40 GHz	Jul. 27, 2018	Jul. 26, 2019	Radiation (03CH03-CB)

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Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Calibration Due Date	Remark
RF Cable-high	Woken	RG402	High Cable-40G#2	18GHz ~ 40 GHz	Jul. 24, 2019	Jul. 23, 2020	Radiation (03CH03-CB)
Spectrum analyzer	R&S	FSV40	100979	9kHz~40GHz	Feb. 25, 2019	Feb. 24, 2020	Conducted (TH02-CB)
RF Cable-high	Woken	RG402	High Cable-01	1 GHz – 26.5 GHz	Oct. 08, 2018	Oct. 07, 2019	Conducted (TH02-CB)
RF Cable-high	Woken	RG402	High Cable-02	1 GHz – 26.5 GHz	Oct. 08, 2018	Oct. 07, 2019	Conducted (TH02-CB)
RF Cable-high	Woken	RG402	High Cable-3	1 GHz – 26.5 GHz	Oct. 24, 2018	Oct. 23, 2019	Conducted (TH02-CB)
RF Cable-high	Woken	RG402	High Cable-04	1 GHz – 26.5 GHz	Oct. 08, 2018	Oct. 07, 2019	Conducted (TH02-CB)
RF Cable-high	Woken	RG402	High Cable-05	1 GHz – 26.5 GHz	Oct. 08, 2018	Oct. 07, 2019	Conducted (TH02-CB)
Power Sensor	Anritsu	MA2411B	1126203	300MHz~40GHz	Sep. 03, 2018	Sep. 02, 2019	Conducted (TH02-CB)
Power Meter	Anritsu	ML2495A	1210004	300MHz~40GHz	Sep. 03, 2018	Sep. 02, 2019	Conducted (TH02-CB)

Report No.: FR850709AD

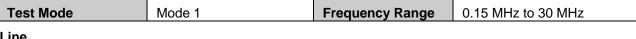
Note: Calibration Interval of instruments listed above is one year.

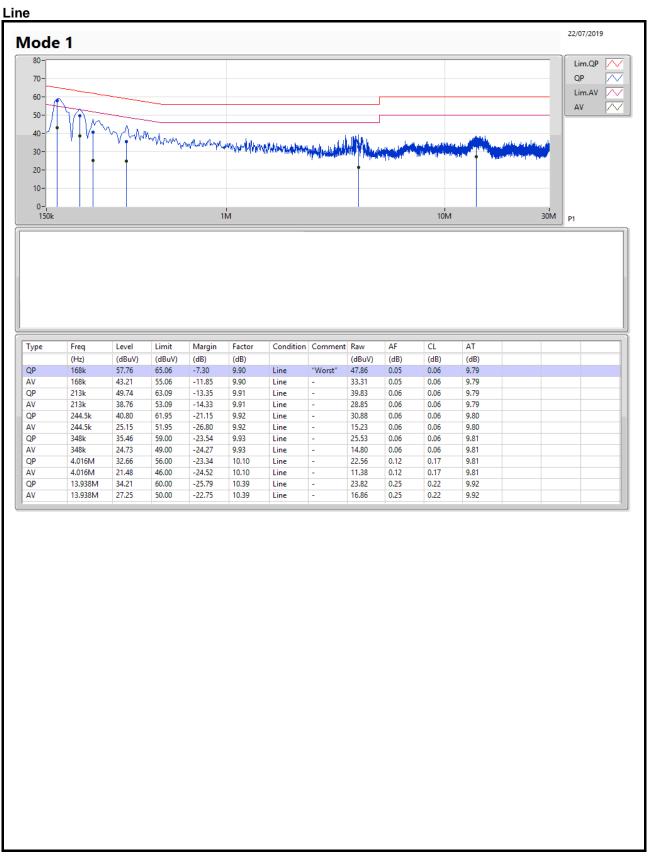
N.C.R. means Non-Calibration required.

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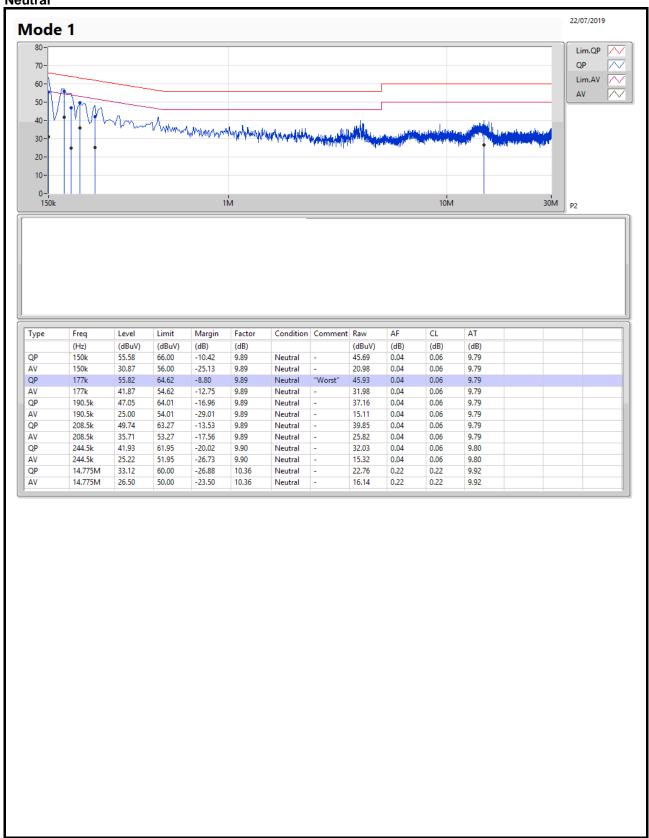
AC Power Port Conducted Emission Result













Appendix B.1 **EBW**

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	42.15M	19.13M	19M1D1D	19.38M	16.416M
802.11ac VHT20-BF_Nss1,(MCS0)_2TX	43.71M	20.57M	20M6D1D	20.37M	17.619M
802.11ac VHT40-BF_Nss1,(MCS0)_2TX	86.16M	37.301M	37M3D1D	39.24M	35.874M
802.11ac VHT80-BF_Nss1,(MCS0)_2TX	83.16M	75.706M	75M7D1D	82.56M	75.654M
5.725-5.85GHz	-	-	-	-	-
802.11a_Nss1,(6Mbps)_4TX	16.32M	16.459M	16M5D1D	15.9M	16.356M
802.11ac VHT20_Nss1,(MCS0)_4TX	17.55M	17.664M	17M7D1D	16.29M	17.566M
802.11ac VHT40_Nss1,(MCS0)_4TX	35.04M	36.105M	36M1D1D	33.12M	35.84M
802.11ac VHT80_Nss1,(MCS0)_4TX	76.32M	75.931M	75M9D1D	74.88M	75.632M
802.11ac VHT20-BF_Nss1,(MCS0)_4TX	17.58M	17.663M	17M7D1D	16.47M	17.565M
802.11ac VHT40-BF_Nss1,(MCS0)_4TX	35.22M	36.098M	36M1D1D	31.92M	35.825M
802.11ac VHT80-BF_Nss1,(MCS0)_4TX	75.6M	75.889M	75M9D1D	75.6M	75.528M

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;

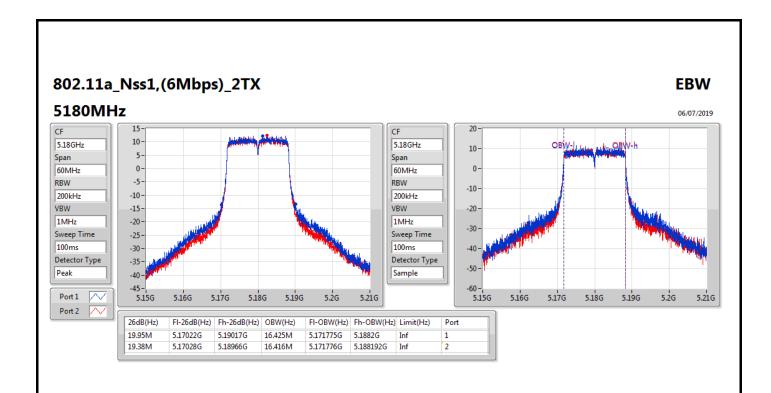
Min-OBW = Minimum 99% occupied bandwidth;

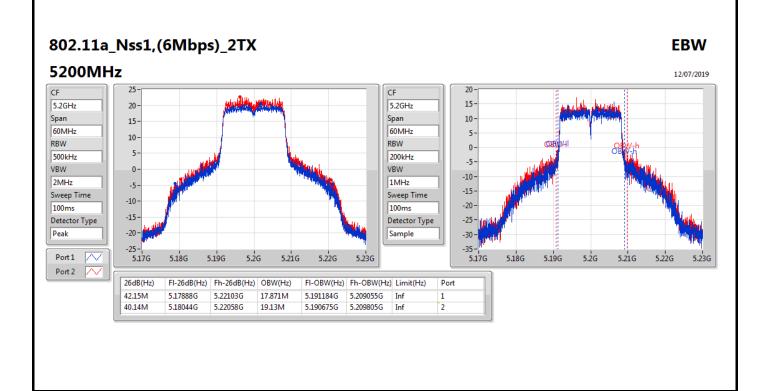
EBW Appendix B.1

Result

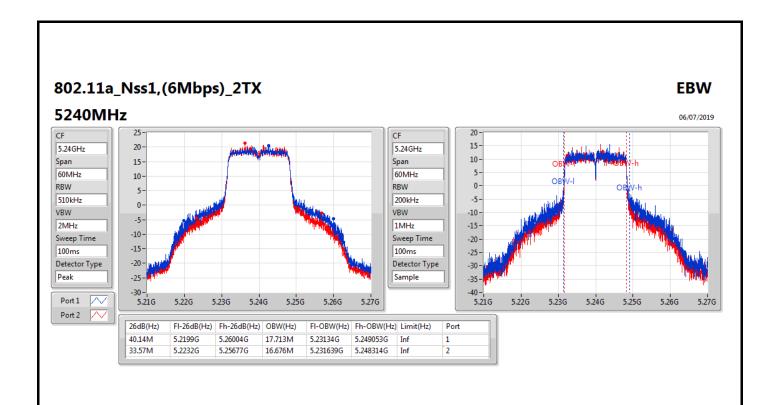
Mode	Result	Limit	Port 1-N dB	Port 1-OBW	Port 2-N dB	Port 2-OBW	Port 3-N dB	Port 3-OBW	Port 4-N dB	Port 4-OBW
		(Hz)	(Hz)	(Hz)	(Hz)	(Hz)	(Hz)	(Hz)	(Hz)	(Hz)
802.11a_Nss1,(6Mbps)_2TX	-	-	-	-		-	-	-	-	-
5180MHz	Pass	Inf	19.95M	16.425M	19.38M	16.416M				
5200MHz	Pass	Inf	42.15M	17.871M	40.14M	19.13M				
5240MHz	Pass	Inf	40.14M	17.713M	33.57M	16.676M				
802.11a_Nss1,(6Mbps)_4TX	-	-	-	-	-	-	-	-	-	-
5745MHz	Pass	500k	16.29M	16.392M	16.29M	16.41M	15.9M	16.356M	16.29M	16.425M
5785MHz	Pass	500k	16.29M	16.401M	16.29M	16.4M	16.29M	16.387M	16.29M	16.446M
5825MHz	Pass	500k	16.29M	16.447M	16.29M	16.396M	15.99M	16.367M	16.32M	16.459M
802.11ac VHT20_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-	-	-
5745MHz	Pass	500k	16.92M	17.609M	17.13M	17.621M	16.5M	17.573M	17.55M	17.631M
5785MHz	Pass	500k	17.22M	17.62M	16.86M	17.633M	16.29M	17.568M	17.49M	17.664M
5825MHz	Pass	500k	16.92M	17.63M	17.25M	17.589M	17.1M	17.566M	17.49M	17.661M
802.11ac VHT40_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-	-	-
5755MHz	Pass	500k	33.78M	35.969M	33.78M	36.022M	35.04M	36.105M	34.98M	35.955M
5795MHz	Pass	500k	33.72M	36.035M	33.78M	36.021M	34.92M	36.05M	33.12M	35.84M
802.11ac VHT80_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-	-	-
5775MHz	Pass	500k	74.88M	75.632M	75.6M	75.763M	76.32M	75.931M	75M	75.646M
802.11ac VHT20-BF_Nss1,(MCS0)_2TX	-	-	-	-	-	-	-	-	-	-
5180MHz	Pass	Inf	20.46M	17.619M	20.37M	17.63M				
5200MHz	Pass	Inf	43.71M	20.57M	43.32M	20.51M				
5240MHz	Pass	Inf	41.4M	19.04M	41.7M	18.591M				
802.11ac VHT20-BF_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-	-	-
5745MHz	Pass	500k	17.52M	17.621M	17.55M	17.616M	16.53M	17.581M	17.49M	17.641M
5785MHz	Pass	500k	17.55M	17.634M	17.49M	17.593M	16.47M	17.565M	17.55M	17.663M
5825MHz	Pass	500k	17.1M	17.614M	16.86M	17.628M	17.55M	17.57M	17.58M	17.654M
802.11ac VHT40-BF_Nss1,(MCS0)_2TX	-	-	-	-	-	-	-	-	-	-
5190MHz	Pass	Inf	39.54M	35.935M	39.24M	35.874M				
5230MHz	Pass	Inf	83.52M	36.822M	86.16M	37.301M				
802.11ac VHT40-BF_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-	-	-
5755MHz	Pass	500k	33.72M	35.982M	34.98M	35.891M	34.98M	36.098M	31.92M	35.825M
5795MHz	Pass	500k	33.84M	35.96M	35.22M	36.075M	34.02M	36.033M	34.92M	35.865M
802.11ac VHT80-BF_Nss1,(MCS0)_2TX	-	-	-	-	-	-	-	-	-	-
5210MHz	Pass	Inf	83.16M	75.706M	82.56M	75.654M				
802.11ac VHT80-BF_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-	-	-
5775MHz	Pass	500k	75.6M	75.809M	75.6M	75.776M	75.6M	75.889M	75.6M	75.528M

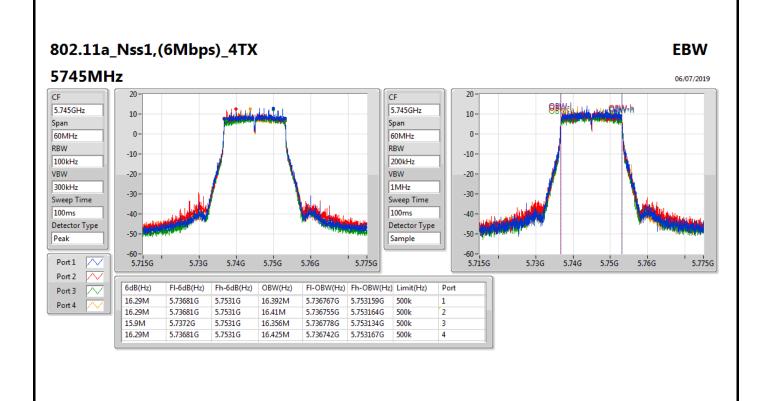
Port X-N dB = Port X 6dB down bandwidth for 5.725-5.85GHz band / 26dB down bandwidth for other band Port X-OBW = Port X 99% occupied bandwidth;



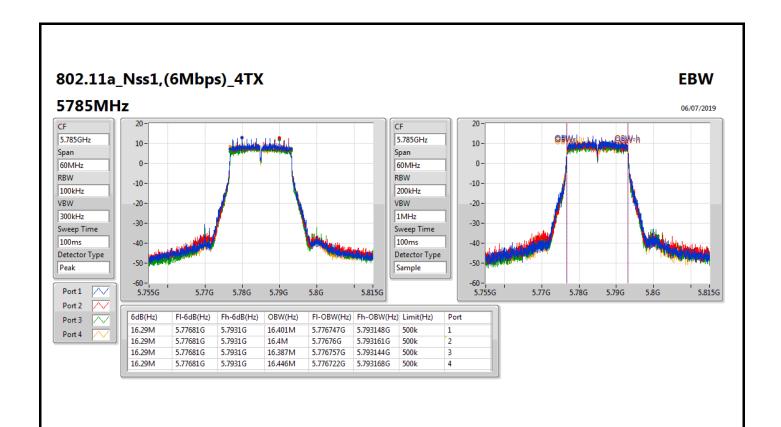


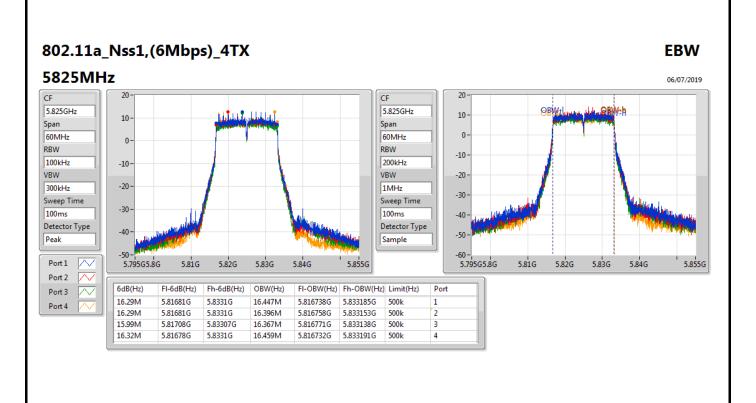
Appendix B.1



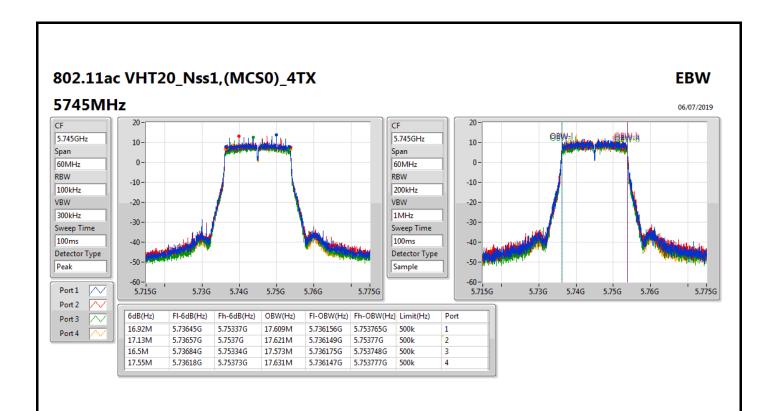


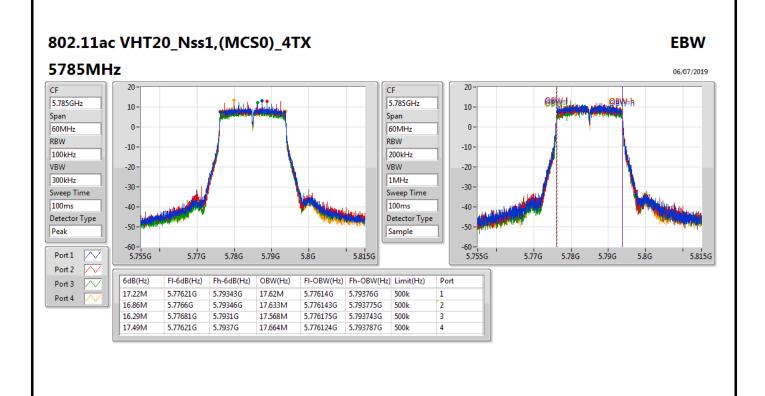


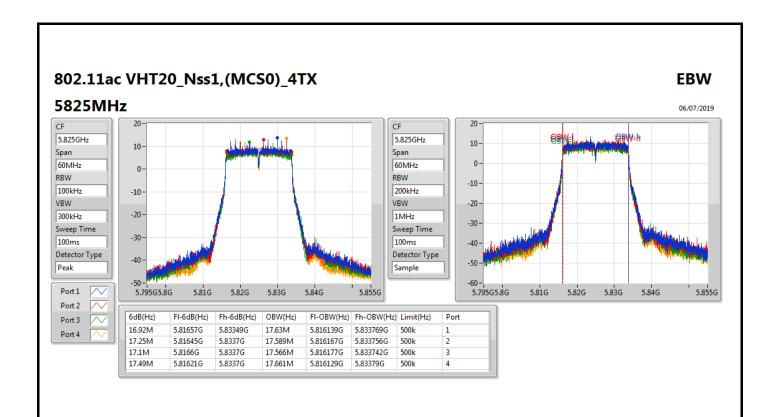


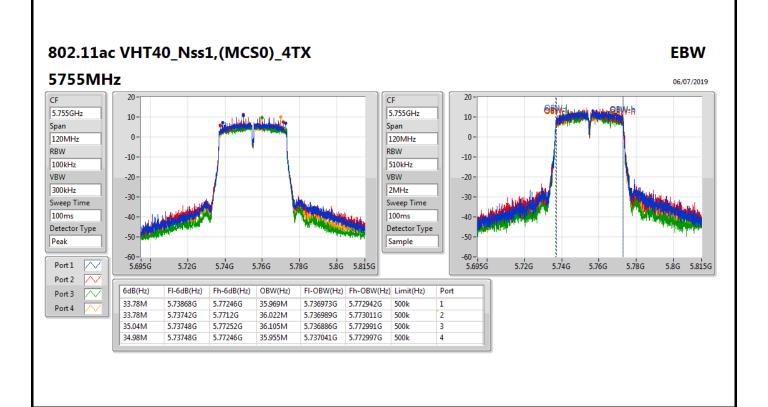


Appendix B.1

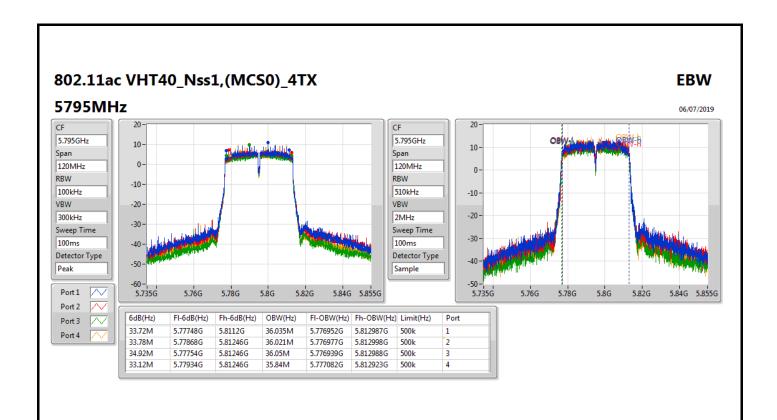


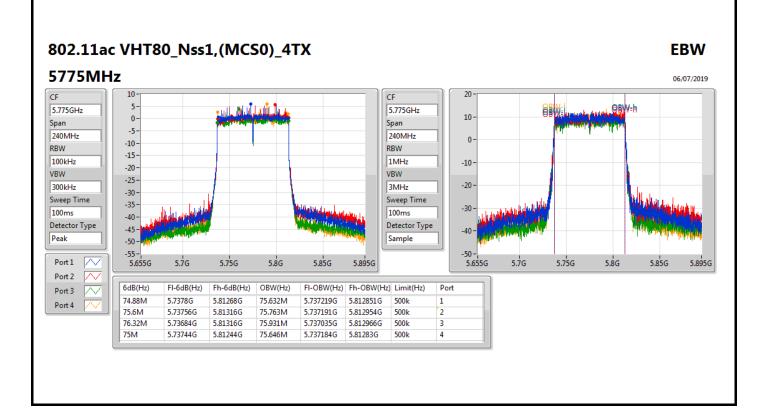


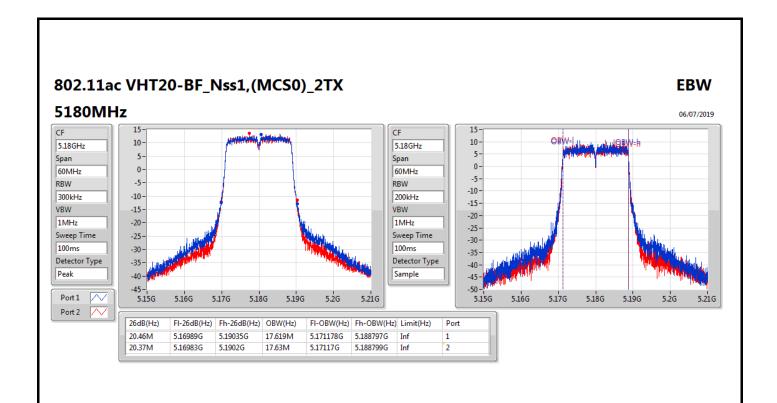


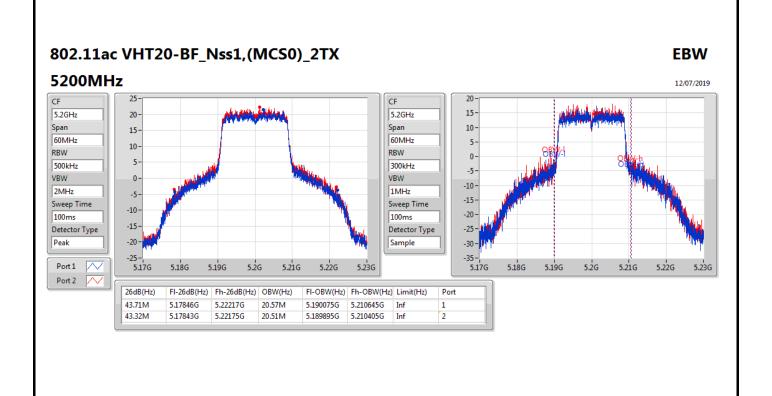


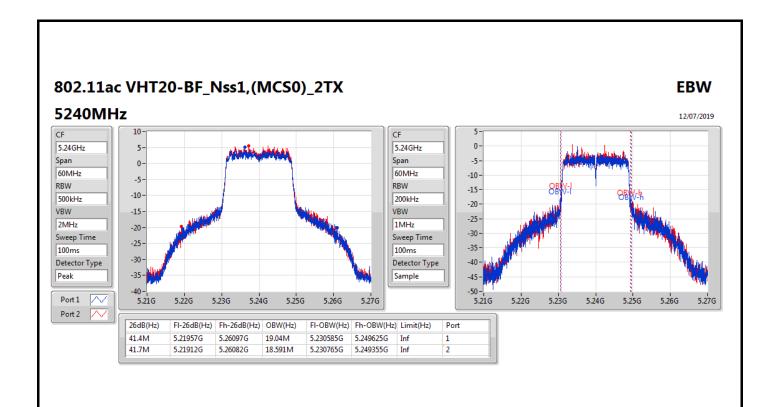


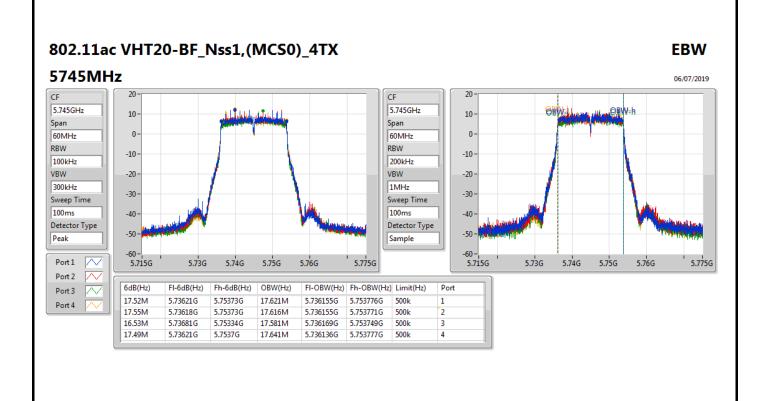


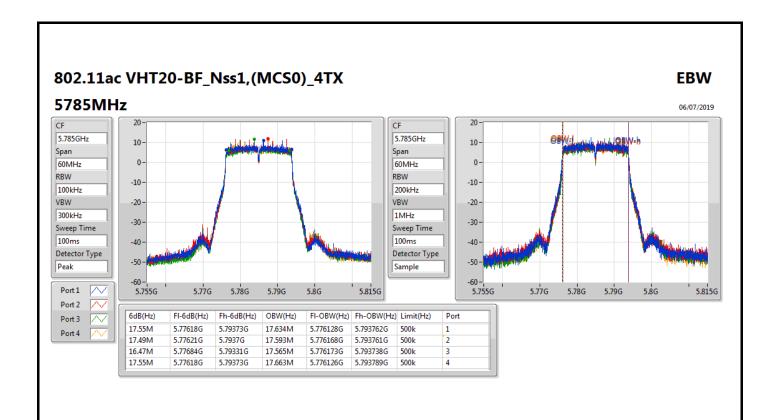


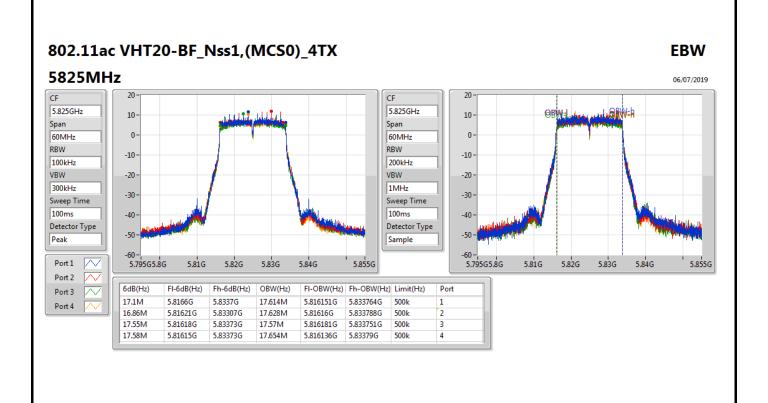


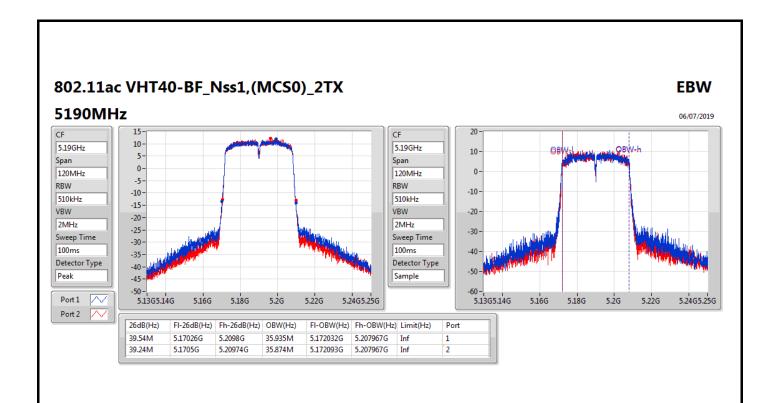


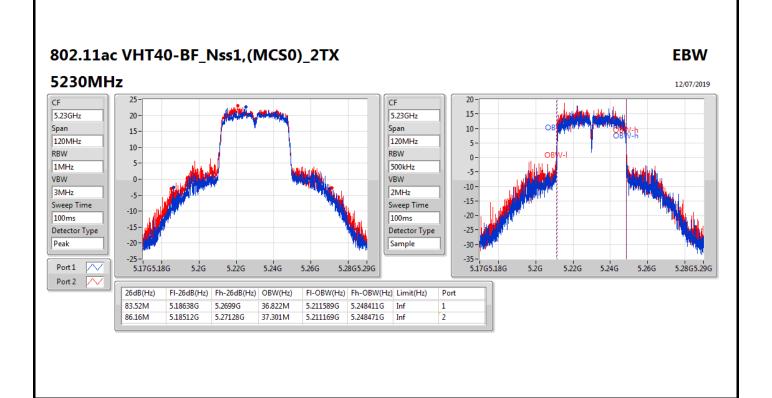


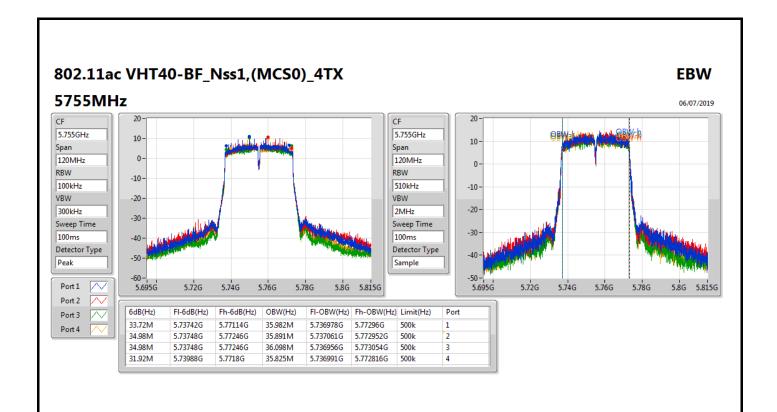


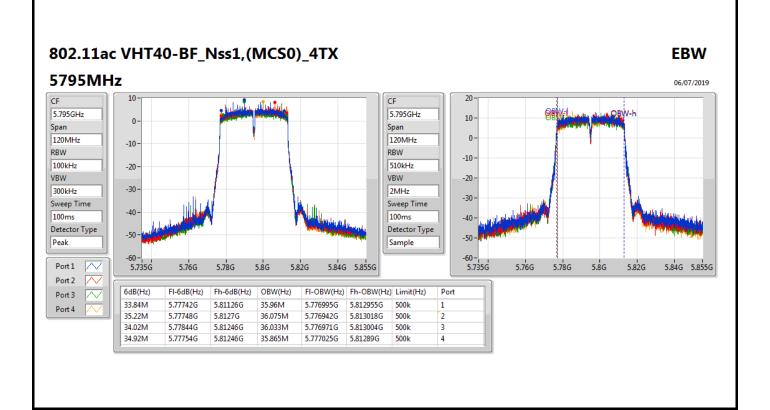


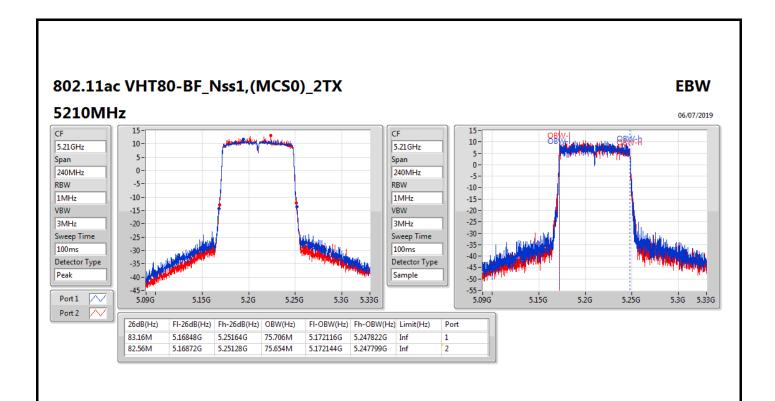


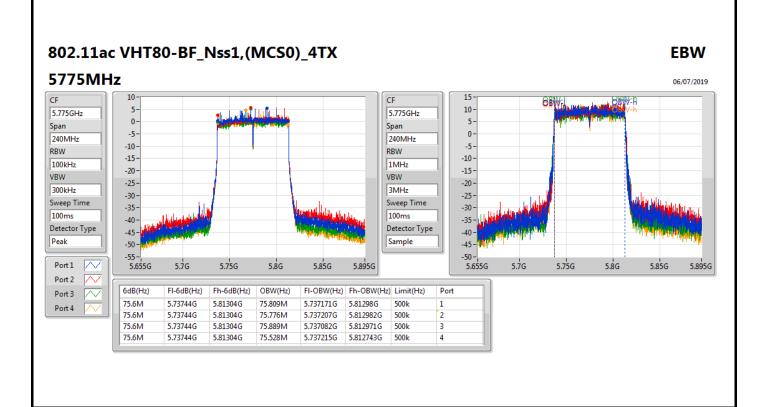














EBW Appendix B.2

Summary

Mode	Max-N dB	Max-OBW	ITU-Code	Min-N dB	Min-OBW
	(Hz)	(Hz)		(Hz)	(Hz)
5.725-5.85GHz	-	-	-	-	-
802.11ac VHT20-BF_Nss2,(MCS0)_4TX	17.61M	17.683M	17M7D1D	17.52M	17.61M
802.11ac VHT40-BF_Nss2,(MCS0)_4TX	36.42M	36.133M	36M1D1D	35.22M	35.979M

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;



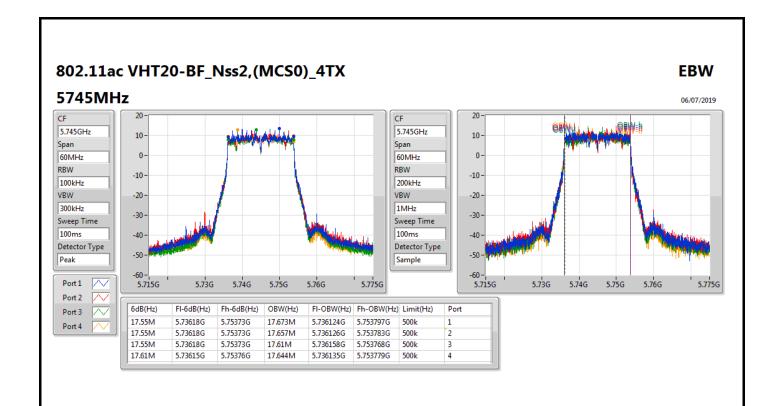
EBW Appendix B.2

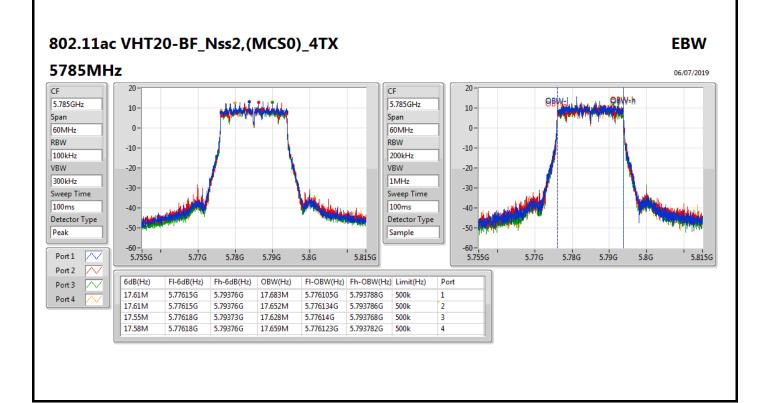
Result

Mode	Result	Limit	Port 1-N dB	Port 1-OBW	Port 2-N dB	Port 2-OBW	Port 3-N dB	Port 3-OBW	Port 4-N dB	Port 4-OBW
		(Hz)	(Hz)	(Hz)	(Hz)	(Hz)	(Hz)	(Hz)	(Hz)	(Hz)
802.11ac VHT20-BF_Nss2,(MCS0)_4TX	-	-	-	-	-	-	-	-	-	-
5745MHz	Pass	500k	17.55M	17.673M	17.55M	17.657M	17.55M	17.61M	17.61M	17.644M
5785MHz	Pass	500k	17.61M	17.683M	17.61M	17.652M	17.55M	17.628M	17.58M	17.659M
5825MHz	Pass	500k	17.55M	17.651M	17.55M	17.649M	17.52M	17.618M	17.55M	17.652M
802.11ac VHT40-BF_Nss2,(MCS0)_4TX	-	-	-	-	-	-	-	-	-	-
5755MHz	Pass	500k	35.7M	35.979M	35.22M	36.023M	35.94M	36.068M	36.24M	35.995M
5795MHz	Pass	500k	36.42M	36.086M	35.58M	36.133M	36.3M	36.116M	36.24M	36.013M

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;

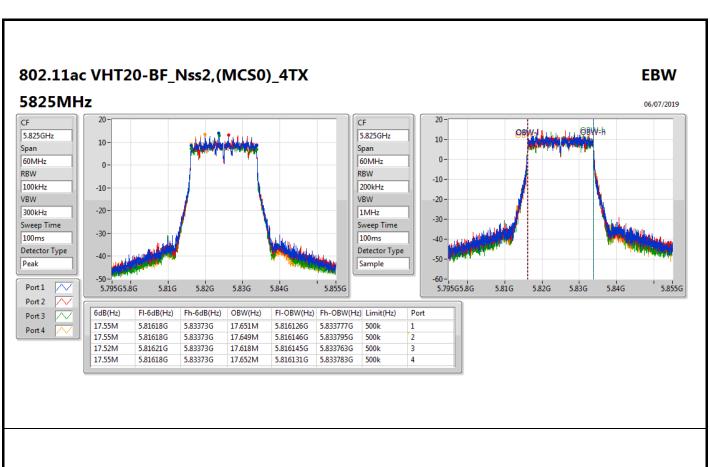


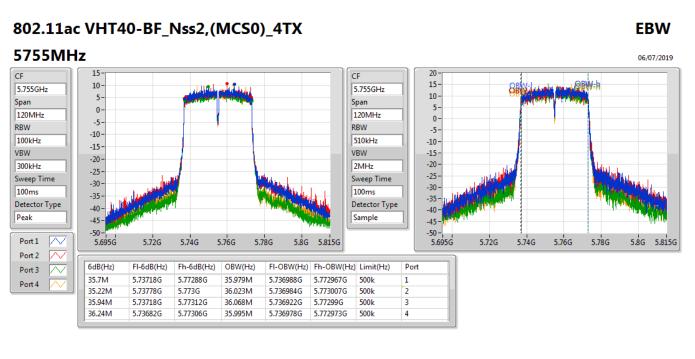




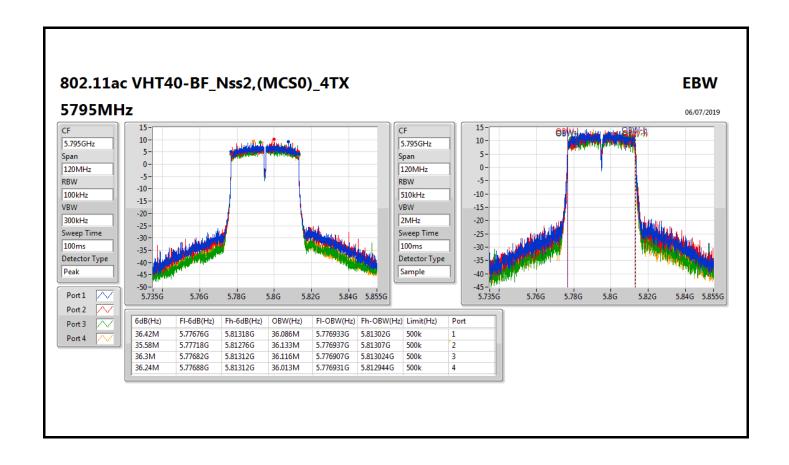
Appendix B.2













Appendix B.3 **EBW**

Summary

Mode	Max-N dB	Max-OBW	ITU-Code	Min-N dB	Min-OBW
	(Hz)	(Hz)		(Hz)	(Hz)
5.725-5.85GHz	-	-	-	-	-
802.11ac VHT80_Nss4,(MCS0)_4TX	76.32M	76.007M	76M0D1D	76.32M	75.595M

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;

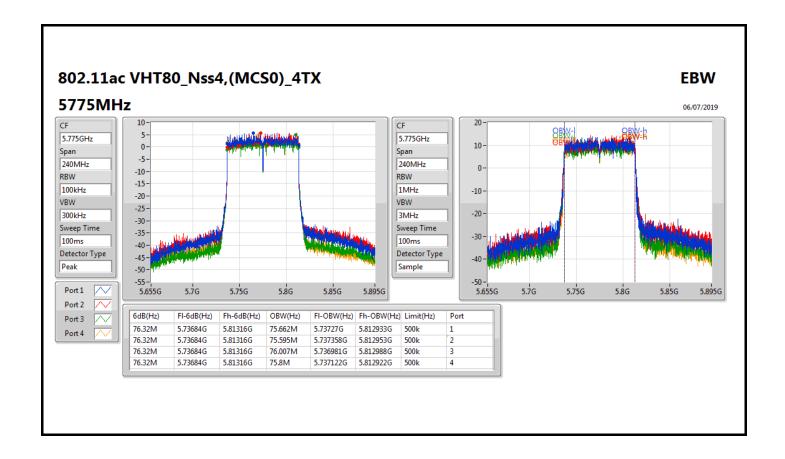


EBW Appendix B.3

Result

Mode	Result	Limit	Port 1-N dB	Port 1-OBW	Port 2-N dB	Port 2-OBW	Port 3-N dB	Port 3-OBW	Port 4-N dB	Port 4-OBW
		(Hz)	(Hz)	(Hz)	(Hz)	(Hz)	(Hz)	(Hz)	(Hz)	(Hz)
802.11ac VHT80_Nss4,(MCS0)_4TX	-	-	-	-	-	-	-	-	-	-
5775MHz	Pass	500k	76.32M	75.662M	76.32M	75.595M	76.32M	76.007M	76.32M	75.8M

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;





Summary

Mode	Total Power	Total Power
	(dBm)	(W)
5.15-5.25GHz	-	-
802.11a_Nss1,(6Mbps)_2TX	29.72	0.93756
802.11ac VHT20-BF_Nss1,(MCS0)_2TX	29.77	0.94842
802.11ac VHT40-BF_Nss1,(MCS0)_2TX	29.86	0.96828
802.11ac VHT80-BF_Nss1,(MCS0)_2TX	23.90	0.24547
5.725-5.85GHz	-	-
802.11a_Nss1,(6Mbps)_4TX	29.63	0.91833
802.11ac VHT20_Nss1,(MCS0)_4TX	29.65	0.92257
802.11ac VHT40_Nss1,(MCS0)_4TX	29.96	0.99083
802.11ac VHT80_Nss1,(MCS0)_4TX	28.60	0.72444
802.11ac VHT20-BF_Nss1,(MCS0)_4TX	28.60	0.72444
802.11ac VHT40-BF_Nss1,(MCS0)_4TX	28.50	0.70795
802.11ac VHT80-BF_Nss1,(MCS0)_4TX	28.59	0.72277

Mode	Result	DG	Port 1	Port 2	Port 3	Port 4	Total Power	Power Limit
		(dBi)	(dBm)	(dBm)	(dBm)	(dBm)	(dBm)	(dBm)
802.11a_Nss1,(6Mbps)_2TX	-	-	-	-	-	-	-	-
5180MHz	Pass	1.74	23.03	22.97	-	-	26.01	30.00
5200MHz	Pass	1.74	26.44	26.96	-	-	29.72	30.00
5240MHz	Pass	1.74	26.16	27.10	-	-	29.67	30.00
802.11a_Nss1,(6Mbps)_4TX	-	-	-	-	-	-	-	-
5745MHz	Pass	1.36	23.90	23.89	23.13	23.38	29.61	30.00
5785MHz	Pass	1.36	24.01	23.97	23.05	23.32	29.63	30.00
5825MHz	Pass	1.36	23.94	23.79	23.14	23.50	29.62	30.00
802.11ac VHT20_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-
5745MHz	Pass	1.36	23.87	23.80	23.06	23.55	29.60	30.00
5785MHz	Pass	1.36	24.05	23.72	23.19	23.50	29.65	30.00
5825MHz	Pass	1.36	23.76	23.90	23.03	23.68	29.63	30.00
802.11ac VHT40_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-
5755MHz	Pass	1.36	24.32	24.31	23.04	23.75	29.91	30.00
5795MHz	Pass	1.36	24.30	24.32	23.09	23.92	29.96	30.00
802.11ac VHT80_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-
5775MHz	Pass	1.36	23.02	23.02	21.83	22.34	28.60	30.00
802.11ac VHT20-BF_Nss1,(MCS0)_2TX	-	-	-	-	-	-	-	-
5180MHz	Pass	4.70	21.91	21.83	-	-	24.88	30.00
5200MHz	Pass	4.70	26.41	27.08	-	-	29.77	30.00
5240MHz	Pass	4.70	26.31	26.89	-	-	29.62	30.00
802.11ac VHT20-BF_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-
5745MHz	Pass	7.21	22.76	22.80	21.99	22.65	28.58	28.79
5785MHz	Pass	7.21	22.98	22.67	21.99	22.62	28.60	28.79
5825MHz	Pass	7.21	22.59	22.42	21.63	22.07	28.21	28.79
802.11ac VHT40-BF_Nss1,(MCS0)_2TX	-	-	-	-	-	-	-	-
5190MHz	Pass	4.70	21.22	21.18	-	-	24.21	30.00
5230MHz	Pass	4.70	26.91	26.78	-	-	29.86	30.00
802.11ac VHT40-BF_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-
5755MHz	Pass	7.21	22.85	22.91	21.88	22.21	28.50	28.79
5795MHz	Pass	7.21	22.82	22.70	21.95	22.32	28.48	28.79
802.11ac VHT80-BF_Nss1,(MCS0)_2TX	-	-	-	-	-	-	-	-
5210MHz	Pass	4.70	20.90	20.88	-	-	23.90	30.00
802.11ac VHT80-BF_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-
5775MHz	Pass	7.21	22.89	23.00	22.1	22.22	28.59	28.79

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



Summary

Mode	Total Power	Total Power
	(dBm)	(W)
5.725-5.85GHz	-	-
802.11ac VHT20-BF_Nss2,(MCS0)_4TX	29.79	0.95280
802.11ac VHT40-BF_Nss2,(MCS0)_4TX	29.98	0.99541

Mode	Result	DG	Port 1	Port 2	Port 3	Port 4	Total Power	Power Limit
		(dBi)	(dBm)	(dBm)	(dBm)	(dBm)	(dBm)	(dBm)
802.11ac VHT20-BF_Nss2,(MCS0)_4TX	-	-	-	-	-	-	-	-
5745MHz	Pass	4.32	23.94	23.79	23.19	23.54	29.64	30.00
5785MHz	Pass	4.32	24.00	23.76	23.17	23.53	29.65	30.00
5825MHz	Pass	4.32	23.98	24.00	23.35	23.73	29.79	30.00
802.11ac VHT40-BF_Nss2,(MCS0)_4TX	-	-	-	-	-	-	-	-
5755MHz	Pass	4.32	24.34	23.86	23.43	23.92	29.92	30.00
5795MHz	Pass	4.32	24.41	24.14	23.41	23.81	29.98	30.00

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



Summary

Mode	Total Power	Total Power			
	(dBm)	(W)			
5.725-5.85GHz	-	-			
802.11ac VHT80_Nss4,(MCS0)_4TX	29.07	0.80724			

Mode	Result	DG (dBi)	Port 1 (dBm)	Port 2 (dBm)	Port 3 (dBm)	Port 4 (dBm)	Total Power (dBm)	Power Limit (dBm)
802.11ac VHT80_Nss4,(MCS0)_4TX	-	-	-	-	-	-	-	-
5775MHz	Pass	1.36	23.52	23.52	22.18	22.85	29.07	30.00

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	16.94
802.11ac VHT20-BF_Nss1,(MCS0)_2TX	16.74
802.11ac VHT40-BF_Nss1,(MCS0)_2TX	13.64
802.11ac VHT80-BF_Nss1,(MCS0)_2TX	4.00
5.725-5.85GHz	·
802.11a_Nss1,(6Mbps)_4TX	14.78
802.11ac VHT20_Nss1,(MCS0)_4TX	14.08
802.11ac VHT40_Nss1,(MCS0)_4TX	11.69
802.11ac VHT80_Nss1,(MCS0)_4TX	7.12
802.11ac VHT20-BF_Nss1,(MCS0)_4TX	13.53
802.11ac VHT40-BF_Nss1,(MCS0)_4TX	11.89
802.11ac VHT80-BF_Nss1,(MCS0)_4TX	7.12

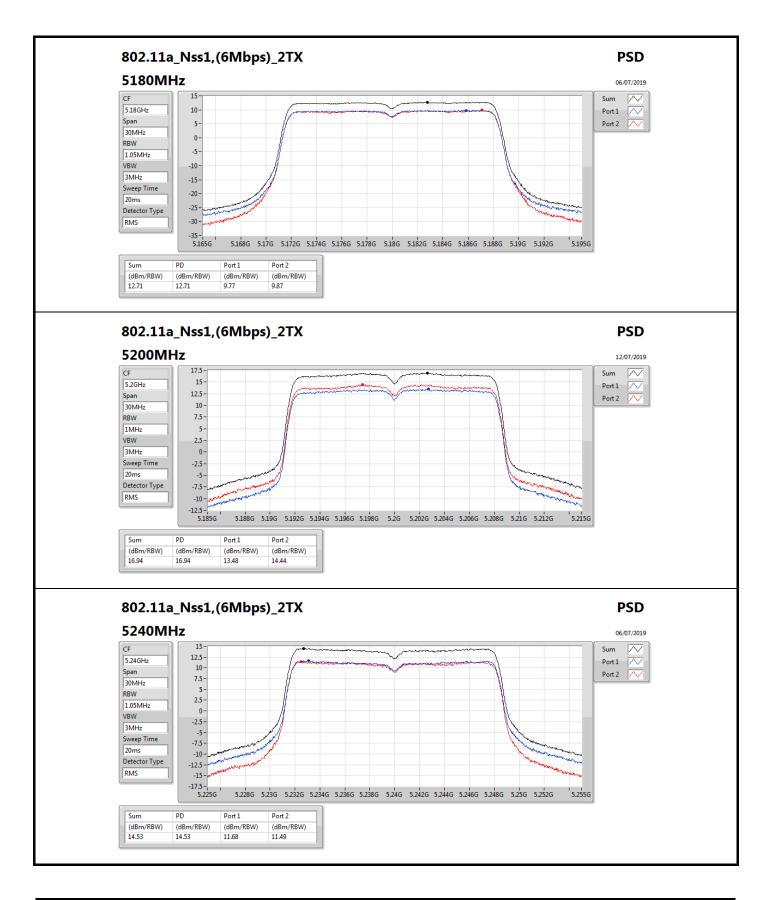
RBW = 500 kHz for 5.725-5.85GHz band / 1MHz for other band;

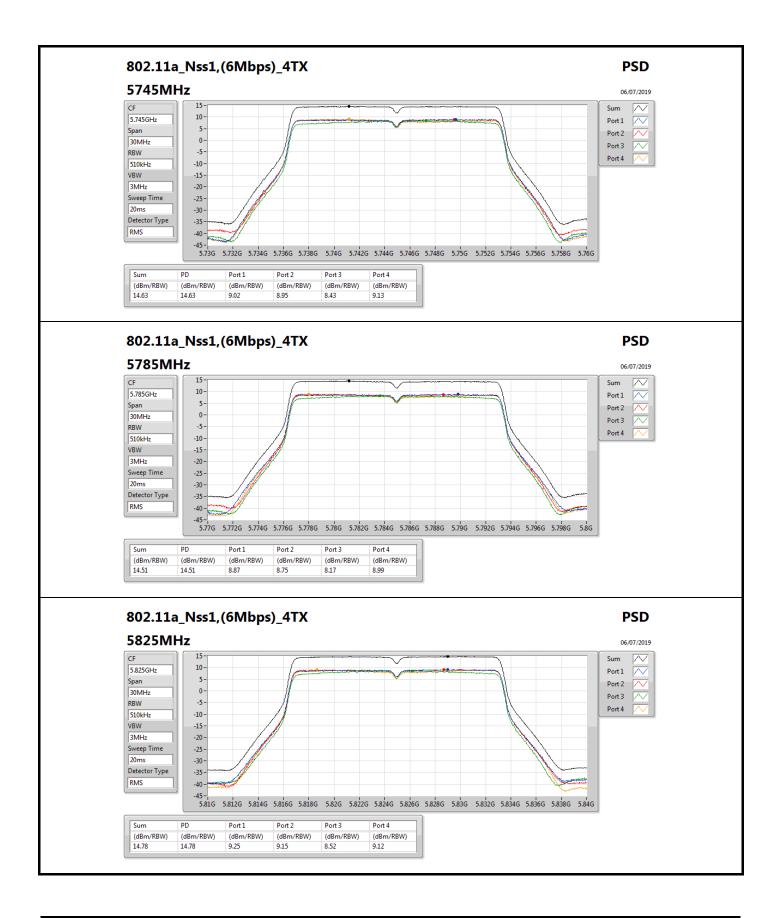


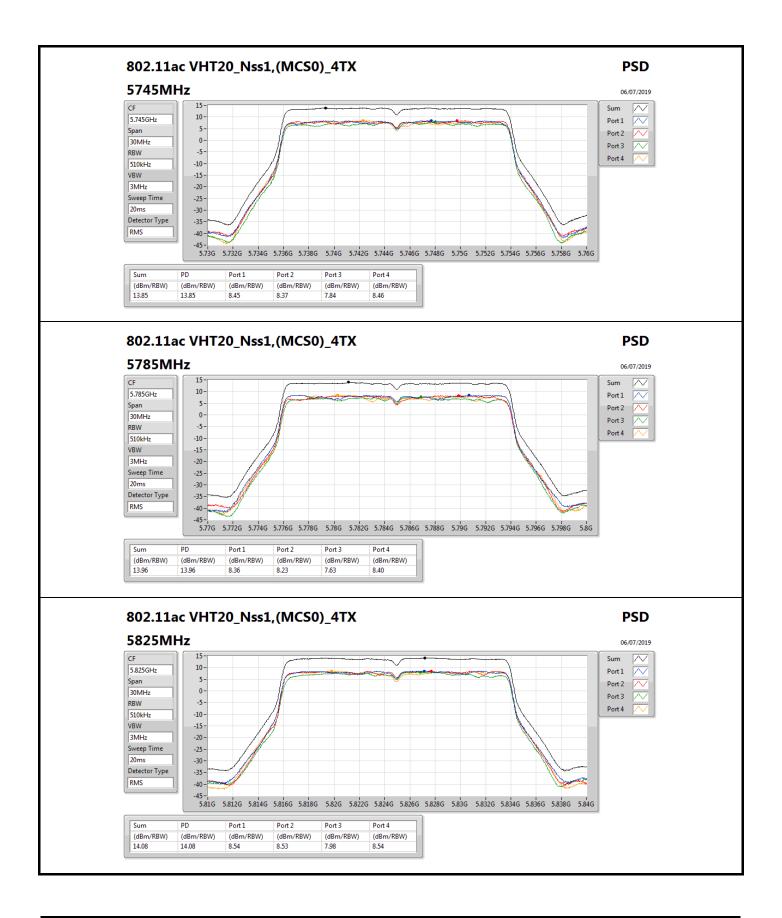
Appendix D.1 **PSD**

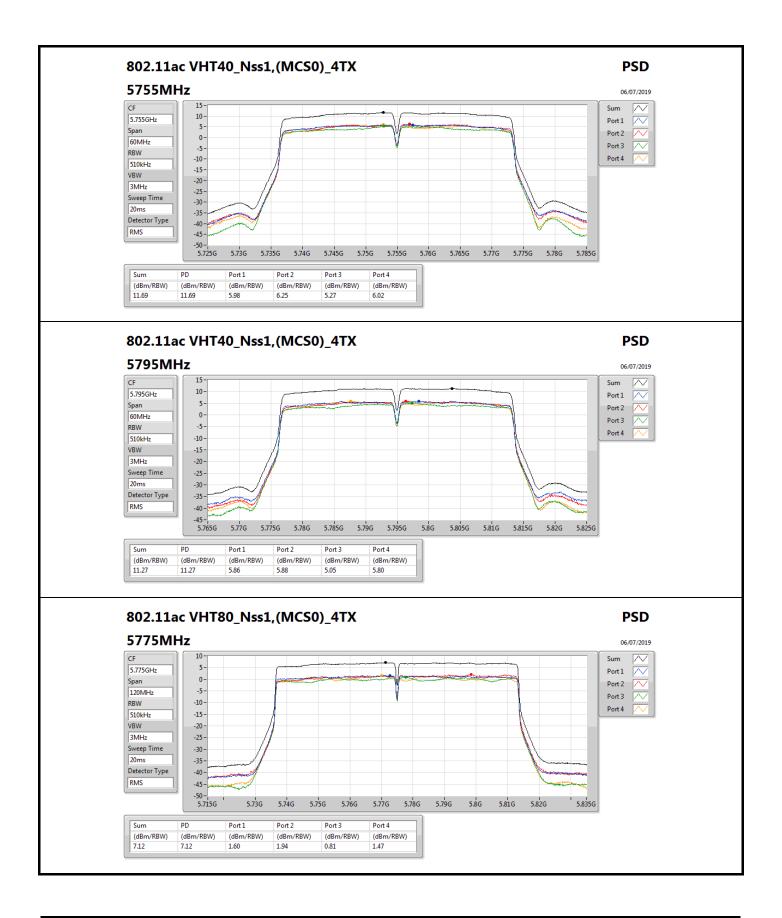
Mode	Result	DG (dBi)	Port 1 (dBm/RBW)	Port 2 (dBm/RBW)	Port 3 (dBm/RBW)	Port 4 (dBm/RBW)	PD (dBm/RBW)	PD Limit (dBm/RBW)
802.11a_Nss1,(6Mbps)_2TX	-	-	-	-	-	-	-	-
5180MHz	Pass	4.70	9.77	9.87	-	-	12.71	17.00
5200MHz	Pass	4.70	13.48	14.44	-	-	16.94	17.00
5240MHz	Pass	4.70	11.68	11.49	-	-	14.53	17.00
802.11a_Nss1,(6Mbps)_4TX	-	-	-	-	-	-	-	-
5745MHz	Pass	7.21	9.02	8.95	8.43	9.13	14.63	28.79
5785MHz	Pass	7.21	8.87	8.75	8.17	8.99	14.51	28.79
5825MHz	Pass	7.21	9.25	9.15	8.52	9.12	14.78	28.79
802.11ac VHT20_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-
5745MHz	Pass	7.21	8.45	8.37	7.84	8.46	13.85	28.79
5785MHz	Pass	7.21	8.36	8.23	7.63	8.40	13.96	28.79
5825MHz	Pass	7.21	8.54	8.53	7.98	8.54	14.08	28.79
802.11ac VHT40_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-
5755MHz	Pass	7.21	5.98	6.25	5.27	6.02	11.69	28.79
5795MHz	Pass	7.21	5.86	5.88	5.05	5.80	11.27	28.79
802.11ac VHT80_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-
5775MHz	Pass	7.21	1.60	1.94	0.81	1.47	7.12	28.79
802.11ac VHT20-BF_Nss1,(MCS0)_2TX	-	-	-	-	-	-	-	-
5180MHz	Pass	4.70	8.54	8.46	-	-	11.47	17.00
5200MHz	Pass	4.70	13.42	14.26	-	-	16.74	17.00
5240MHz	Pass	4.70	-3.30	-2.47	-	-	0.10	17.00
802.11ac VHT20-BF_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-
5745MHz	Pass	7.21	7.78	7.86	7.62	7.78	13.53	28.79
5785MHz	Pass	7.21	7.74	7.70	7.36	7.76	13.24	28.79
5825MHz	Pass	7.21	7.50	7.55	7.22	7.37	13.20	28.79
802.11ac VHT40-BF_Nss1,(MCS0)_2TX	-	-	-	-	-	-	-	-
5190MHz	Pass	4.70	4.67	4.72	-	-	7.57	17.00
5230MHz	Pass	4.70	10.60	11.35	-	-	13.64	17.00
802.11ac VHT40-BF_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-
5755MHz	Pass	7.21	6.36	6.26	6.06	6.23	11.89	28.79
5795MHz	Pass	7.21	4.71	4.81	4.19	4.79	10.22	28.79
802.11ac VHT80-BF_Nss1,(MCS0)_2TX	-	-	-	-	-	-	-	-
5210MHz	Pass	4.70	1.03	1.11	-	-	4.00	17.00
802.11ac VHT80-BF_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-
5775MHz	Pass	7.21	1.69	1.93	1.23	1.48	7.12	28.79

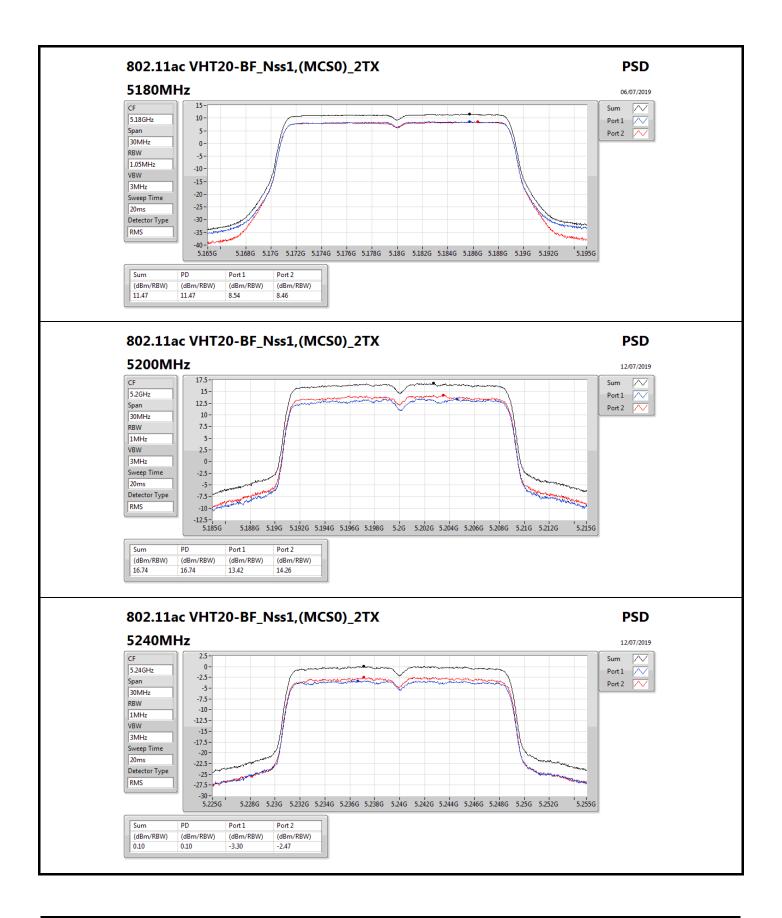
DG = Directional Gain; RBW = 500 kHz for 5.725-5.85GHz band / 1MHz for other band;
PD = trace bin-by-bin of each transmits port summing can be performed maximum power density; Port X = Port X power density;

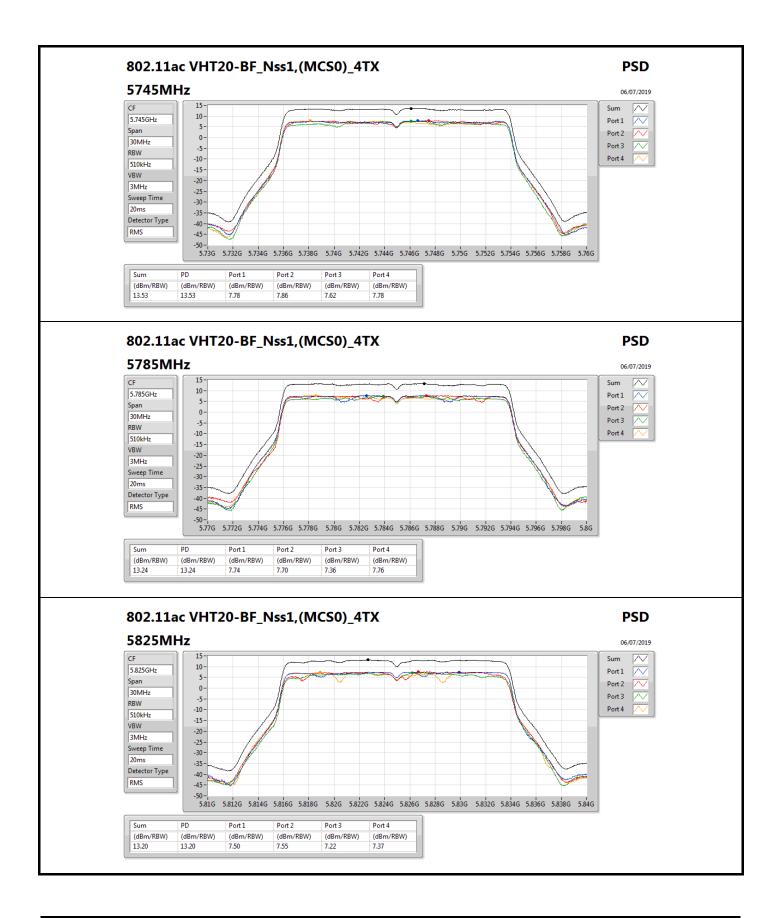


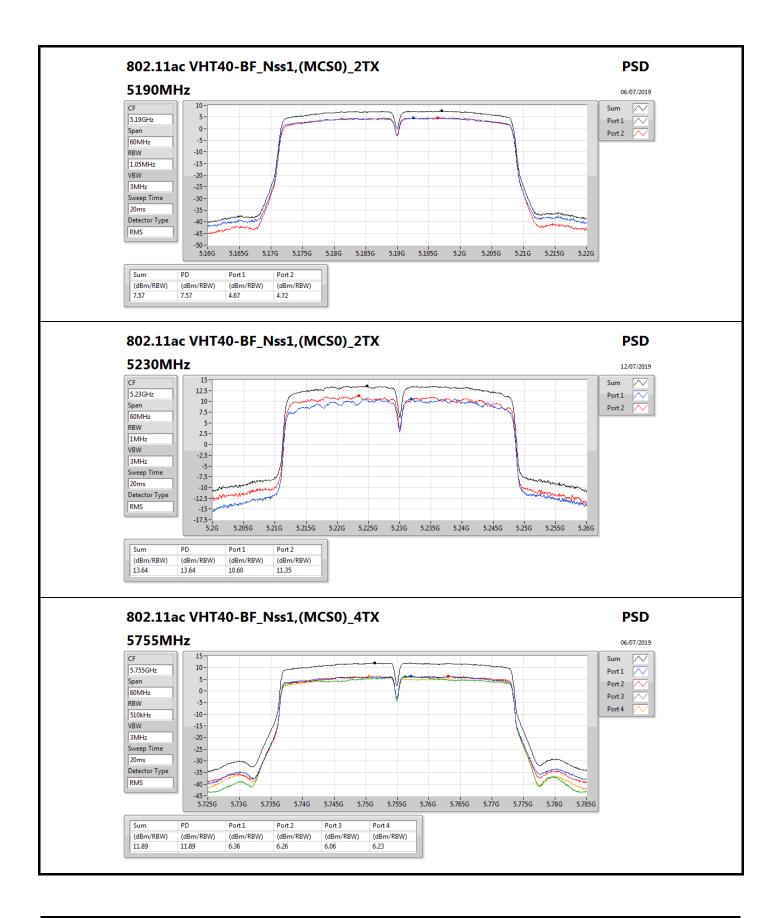


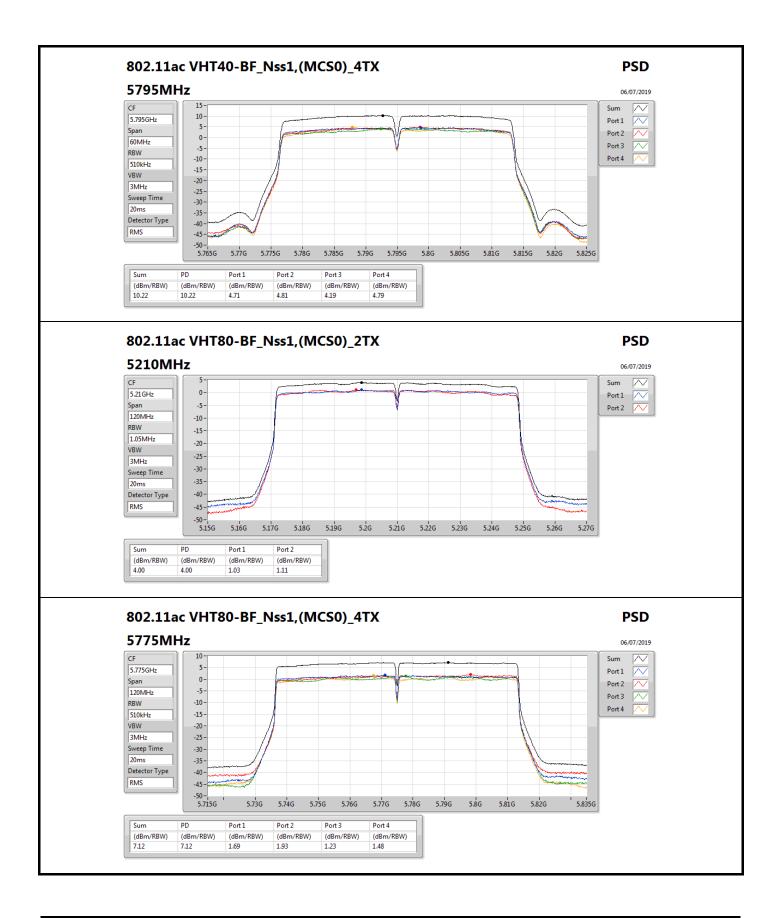














Summary

Mode	PD (dBm/RBW)		
5.725-5.85GHz	·		
802.11ac VHT20-BF_Nss2,(MCS0)_4TX	13.95		
802.11ac VHT40-BF_Nss2,(MCS0)_4TX	12.67		

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



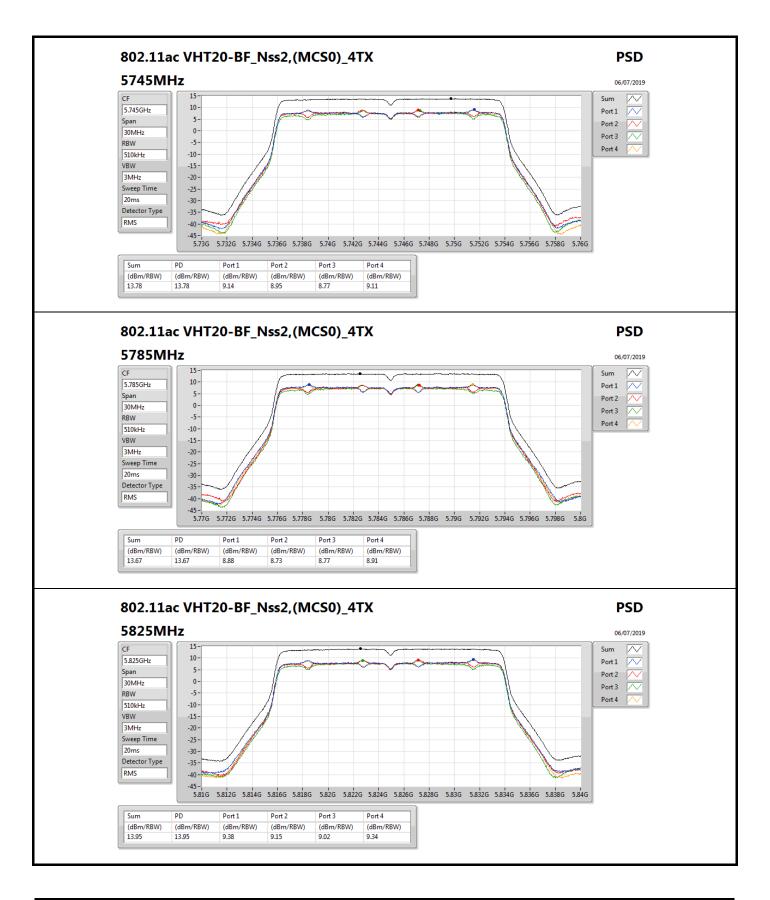
Appendix D.2 **PSD**

Result

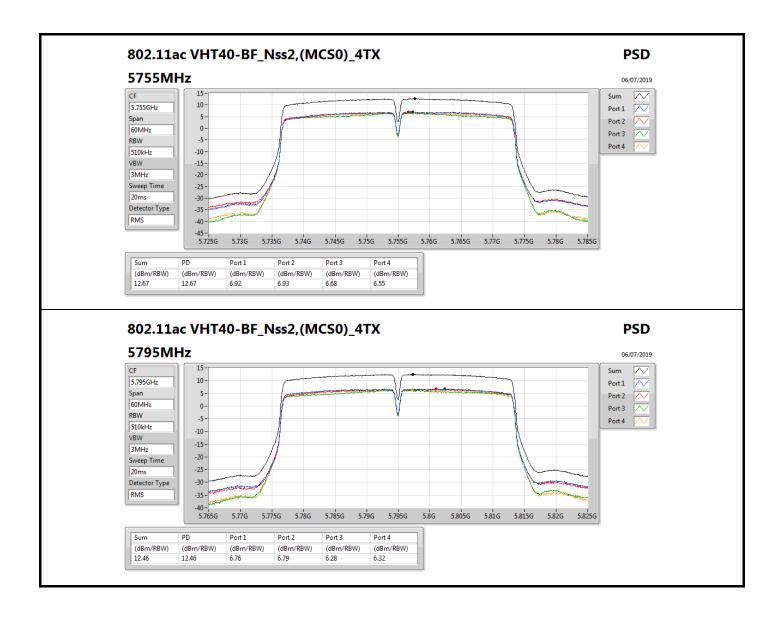
Mode	Result	DG	Port 1	Port 2	Port 3	Port 4	PD	PD Limit
		(dBi)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
802.11ac VHT20-BF_Nss2,(MCS0)_4TX	-	-	-	-	-	-	-	-
5745MHz	Pass	4.32	9.14	8.95	8.77	9.11	13.78	30.00
5785MHz	Pass	4.32	8.88	8.73	8.77	8.91	13.67	30.00
5825MHz	Pass	4.32	9.38	9.15	9.02	9.34	13.95	30.00
802.11ac VHT40-BF_Nss2,(MCS0)_4TX	-	-	-	-	-	-	-	-
5755MHz	Pass	4.32	6.92	6.93	6.68	6.55	12.67	30.00
5795MHz	Pass	4.32	6.76	6.79	6.28	6.32	12.46	30.00

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;

PSD Appendix D.2



PSD Appendix D.2





Appendix D.3 **PSD**

Summary

Mode	PD
	(dBm/RBW)
5.725-5.85GHz	·
802.11ac VHT80_Nss4,(MCS0)_4TX	7.56

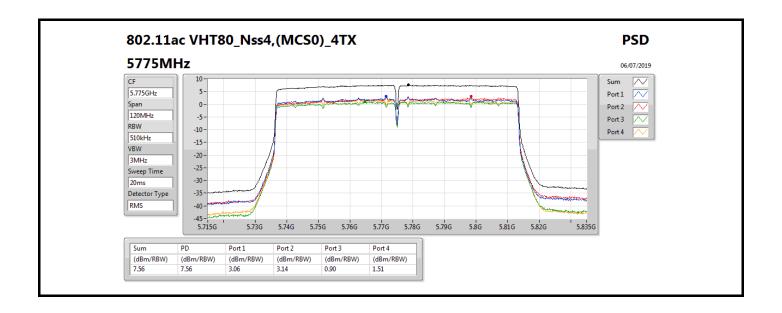
RBW = 500 kHz for 5.725-5.85GHz band / 1MHz for other band;

Result

Mode	Result	DG (dBi)	Port 1 (dBm/RBW)	Port 2 (dBm/RBW)	Port 3	Port 4	PD (dBm/RBW)	PD Limit
802.11ac VHT80_Nss4,(MCS0)_4TX	-	-	-	-	-	-	-	-
5775MHz	Pass	1.36	3.06	3.14	0.90	1.51	7.56	30.00

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;

PSD Appendix D.3





Radiated Emission below 1GHz Result

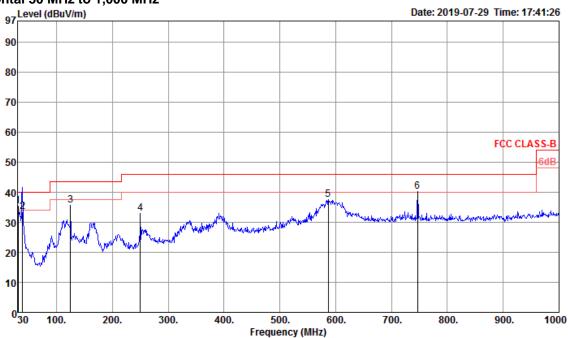




	Freq	Level			Over Read CableAntenna Preamp Limit Level Loss Factor Factor					T/Pos	Remark	Pol/Phase
-	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	32.91	35.89	40.00	-4.11	40.92	0.67	22.87	28.57	300	0	Peak	VERTICAL
2	38.73	34.56	40.00	-5.44	42.71	0.73	19.69	28.57	134	55	QP	VERTICAL
3	49.40	33.24	40.00	-6.76	46.46	0.82	14.52	28.56	300	0	Peak	VERTICAL
4	84.32	28.42	40.00	-11.58	41.99	1.07	13.84	28.48	300	0	Peak	VERTICAL
5	166.77	32.23	43.50	-11.27	43.31	1.50	15.61	28.19	300	0	Peak	VERTICAL
6	584.84	37.93	46.00	-8.07	39.62	2.84	24.96	29.49	300	0	Peak	VERTICAL



Horizontal 30 MHz to 1,000 MHz



	Freq	Level		imit Over Read CableAnten Line Limit Level Loss Fact					T/Pos	Remark	Pol/Phase	
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	Cm	deg		
1	30.97	35.29	40.00	-4.71	39.35	0.65	23.86	28.57	100	0	Peak	HORIZONTAL
2	38.73	33.46	40.00	-6.54	41.61	0.73	19.69	28.57	131	17	QP	HORIZONTAL
3	125.06	35.70	43.50	-7.80	44.84	1.30	17.91	28.35	100	0	Peak	HORIZONTAL
4	250.19	32.93	46.00	-13.07	40.73	1.85	18.34	27.99	100	0	Peak	HORIZONTAL
5	586.78	37.65	46.00	-8.35	39.41	2.84	24.89	29.49	100	0	Peak	HORIZONTAL
6	746.83	40.24	46.00	-5.76	40.53	3.22	25.90	29.41	100	0	Peak	HORIZONTAL



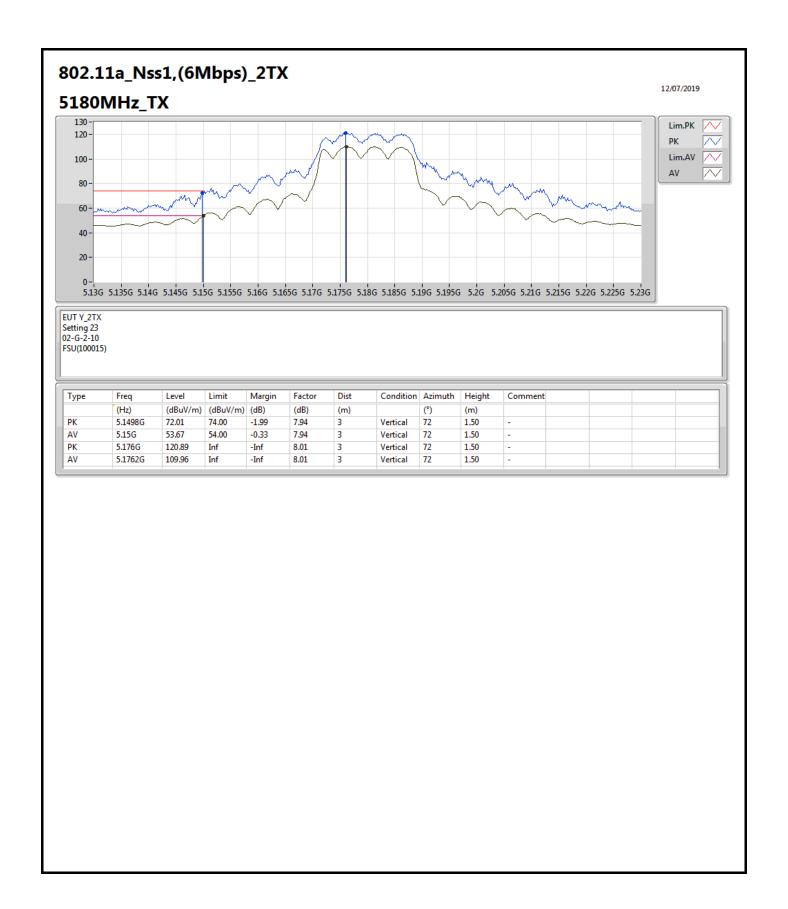
RSE TX above 1GHz

Appendix E.2

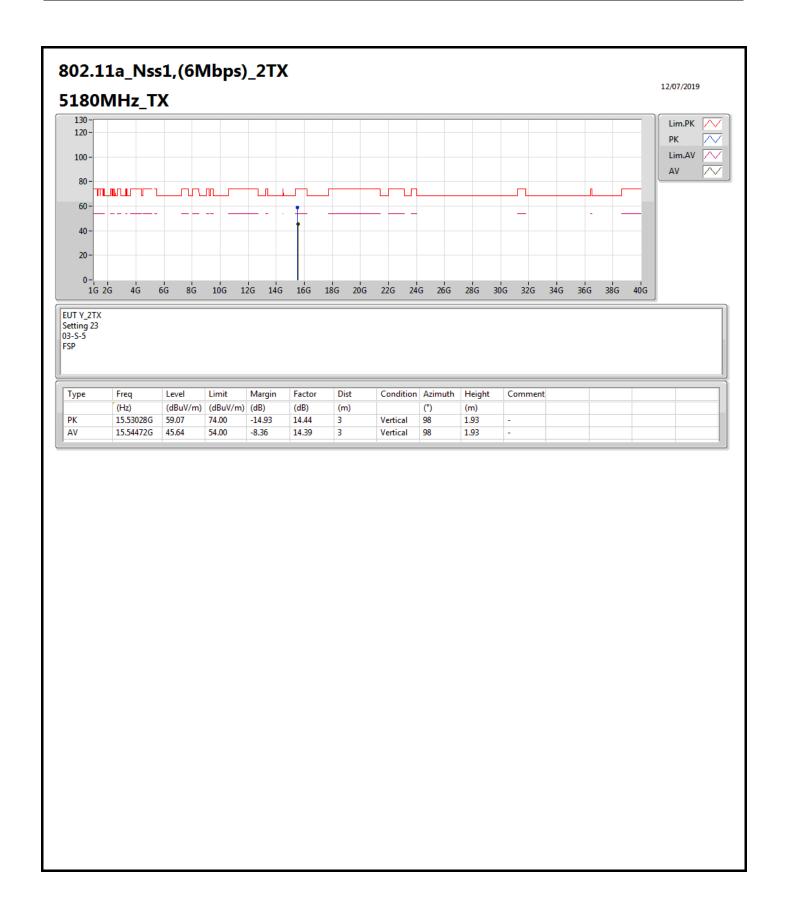
Summary

Mode	Result	Туре	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comments
			(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)	
802.11ac VHT80_Nss1,(MCS0)_4TX	Pass	PK	5.652G	69.42	69.68	-0.26	8.66	3	Vertical	93	1.50	-

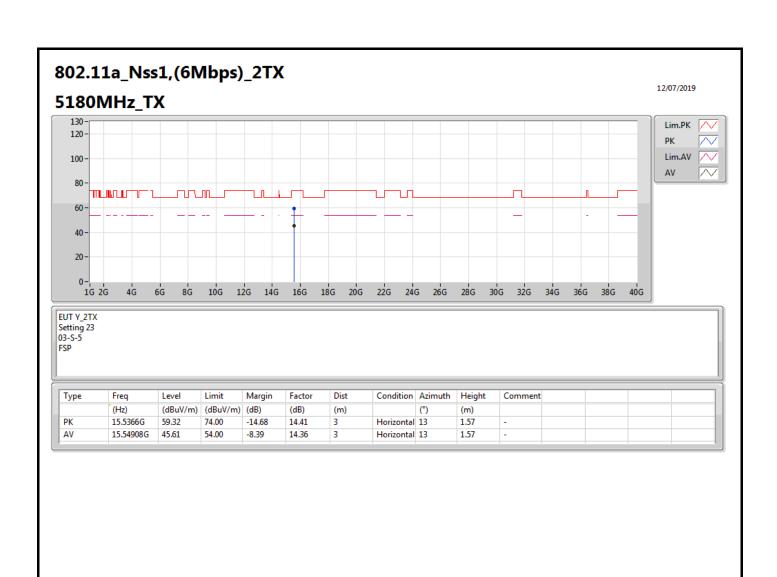




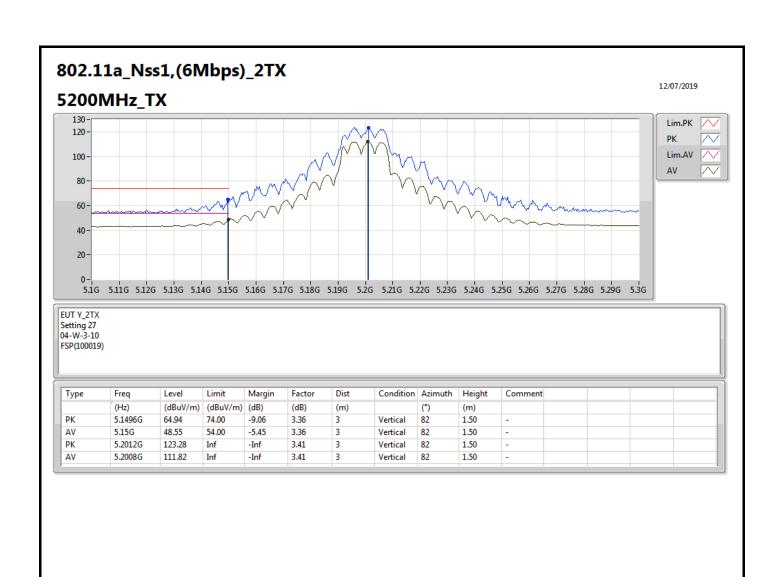




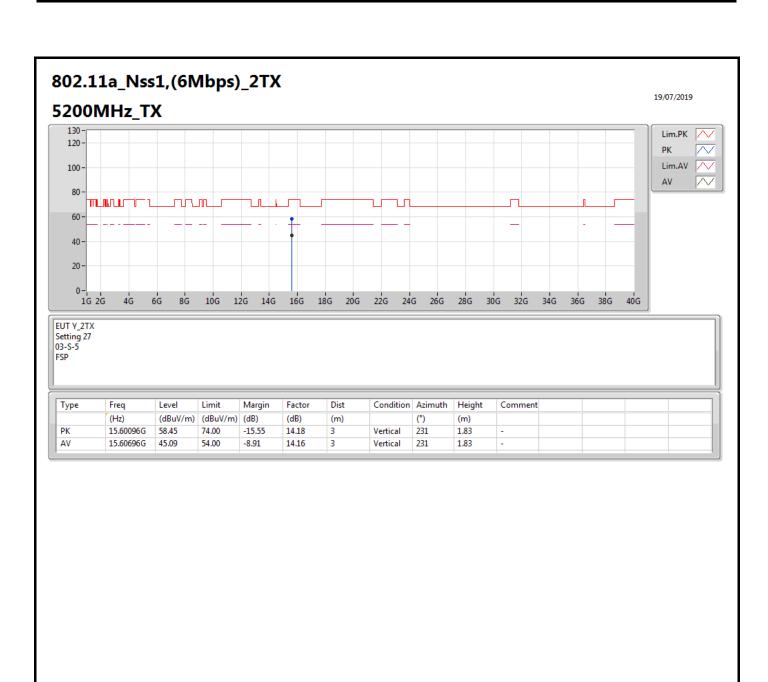




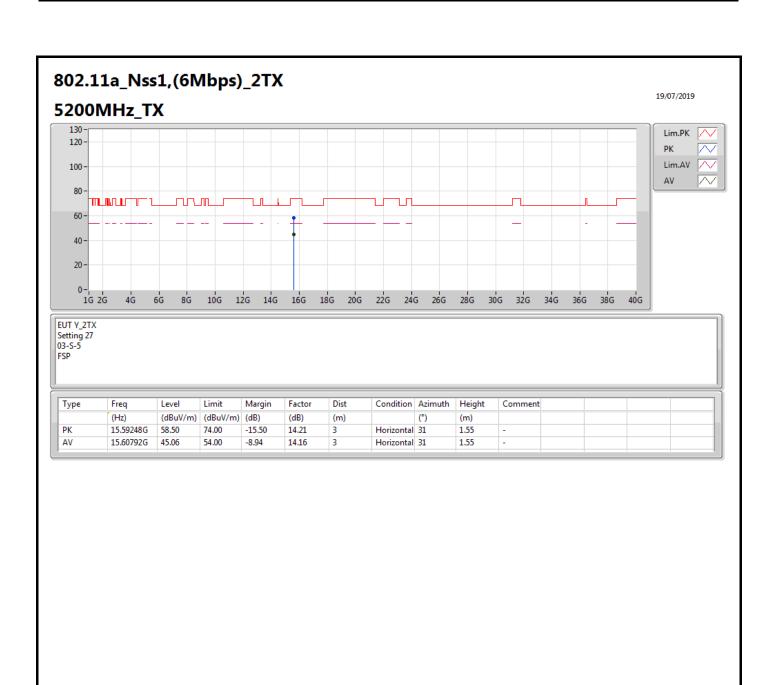




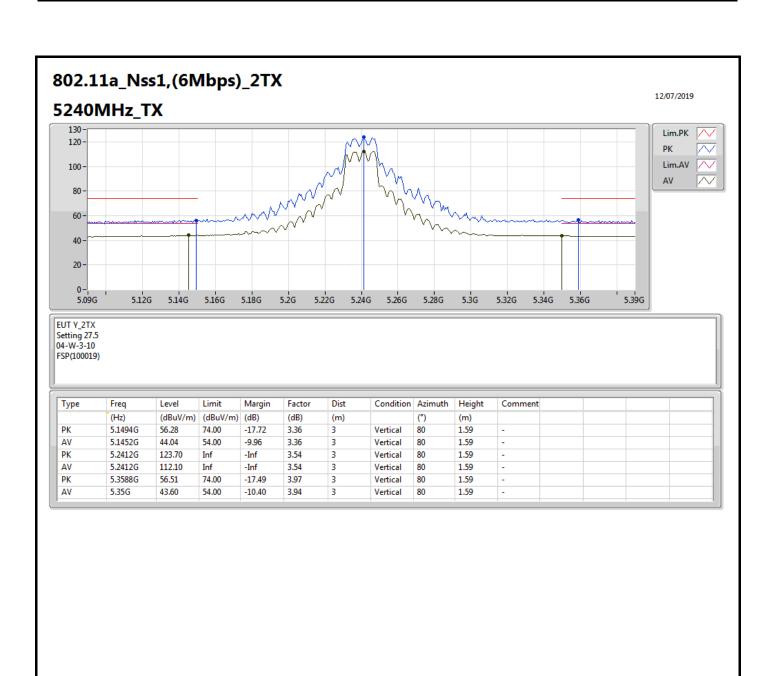




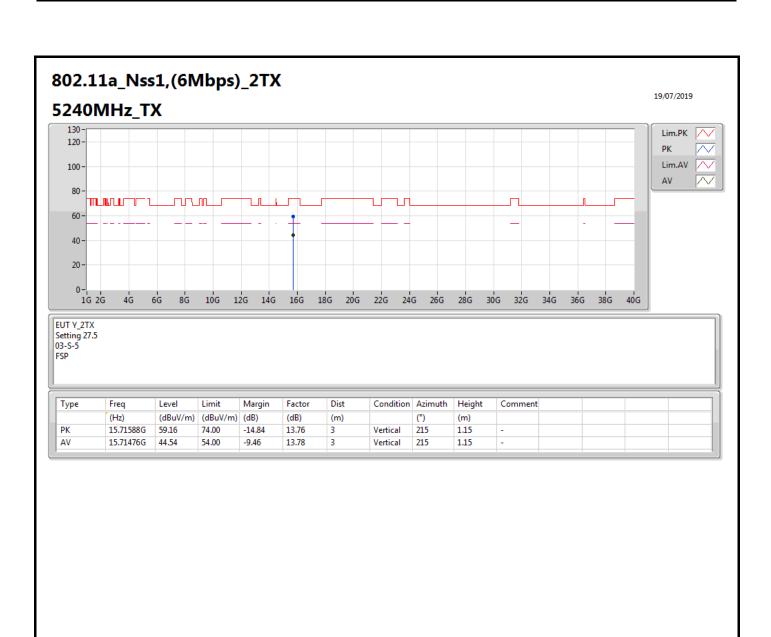




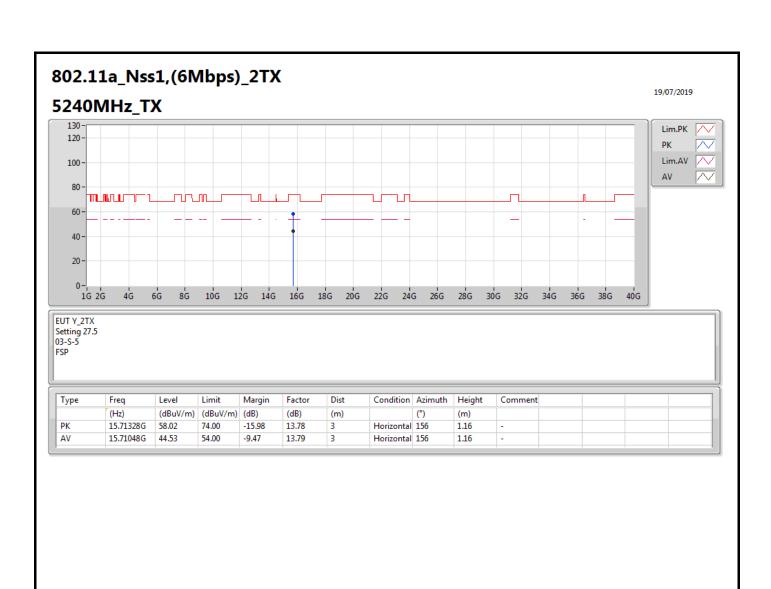




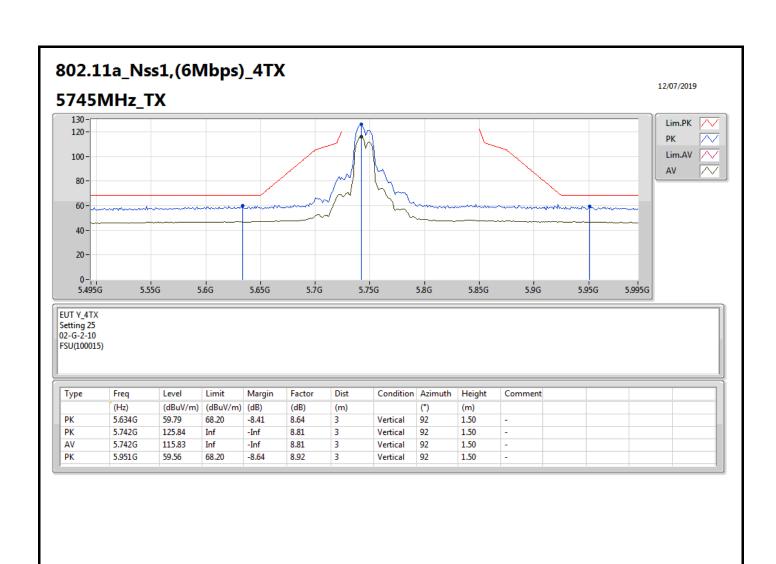




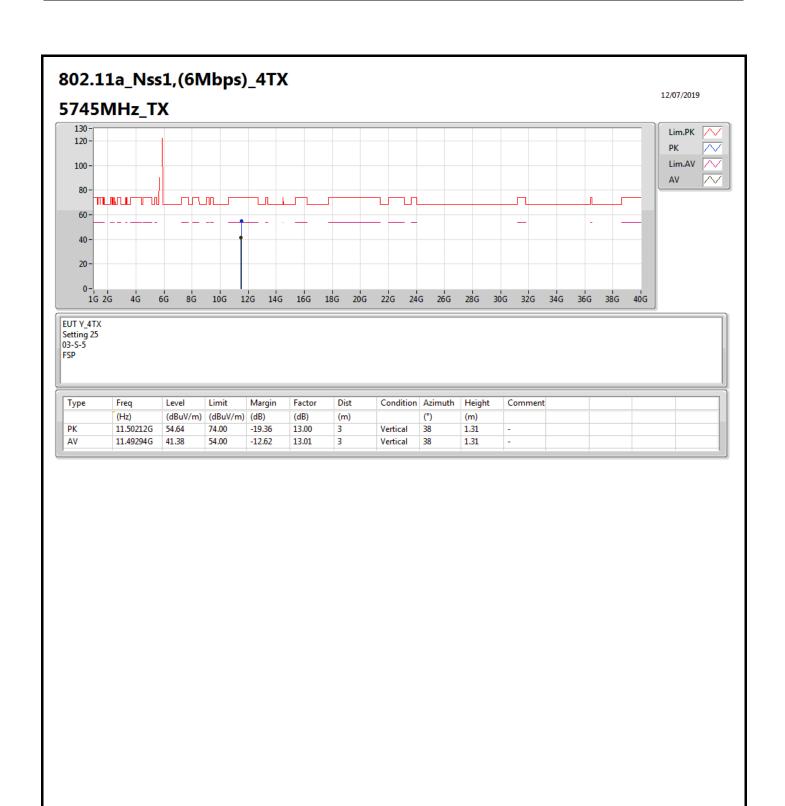




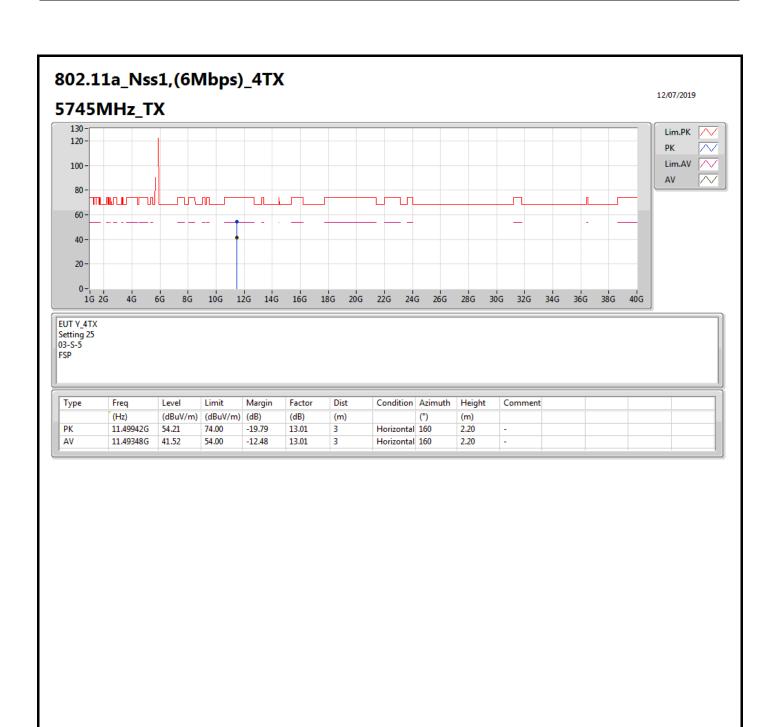




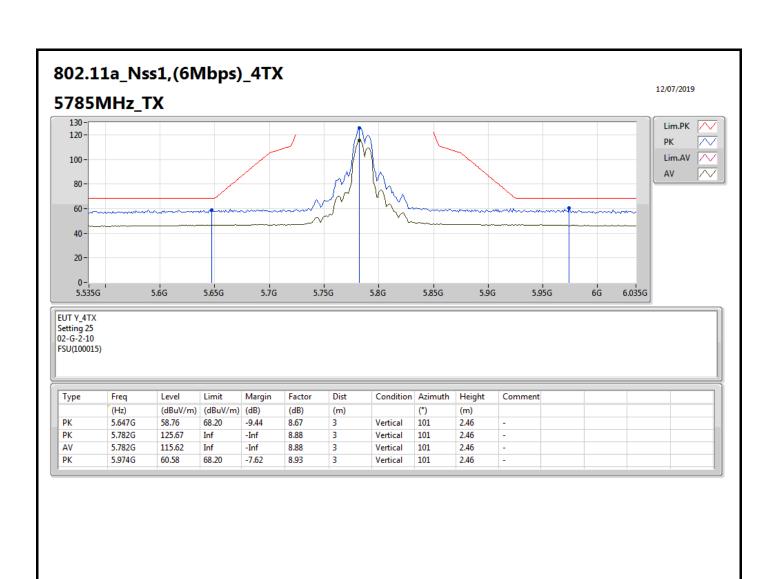




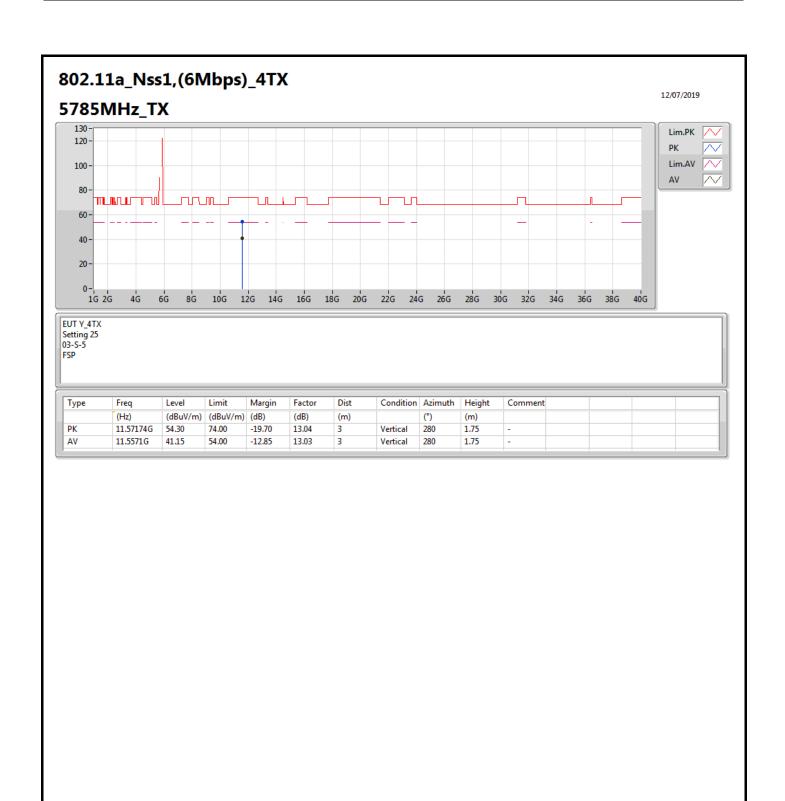




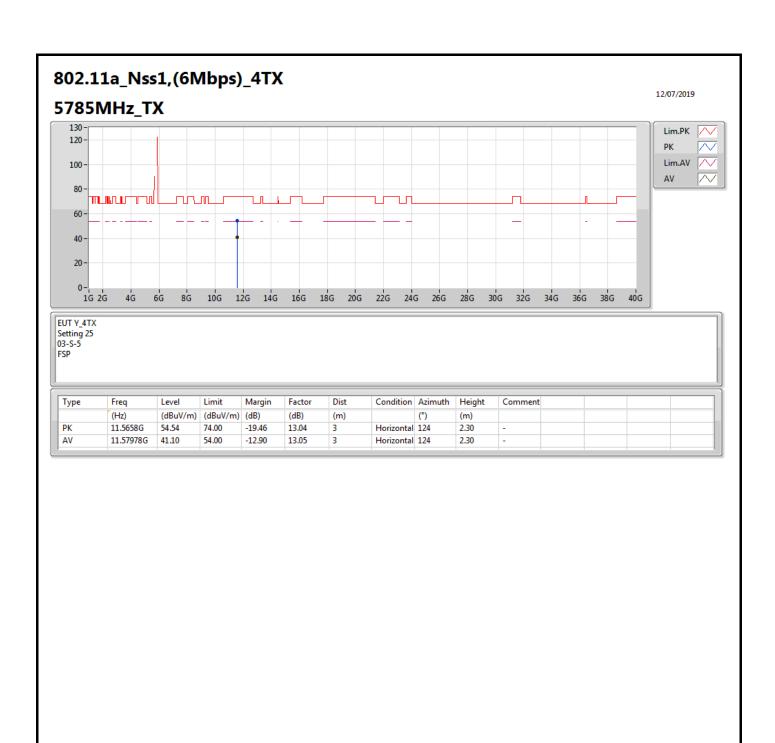




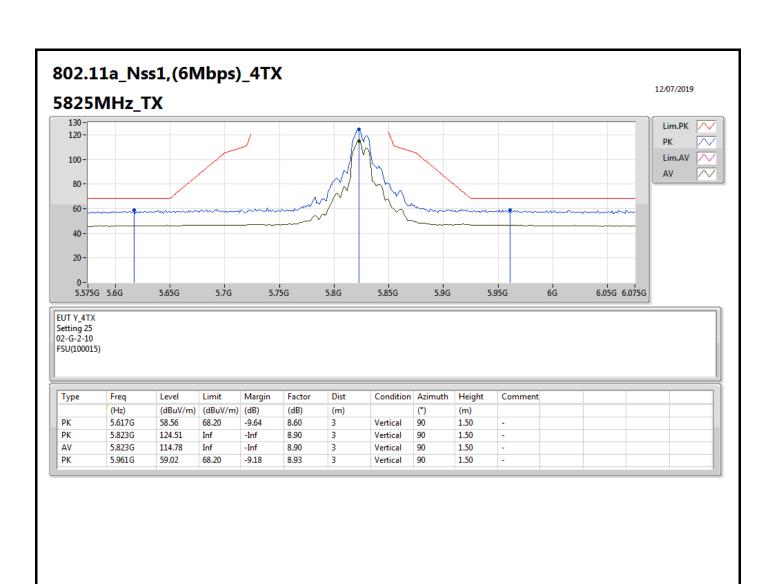




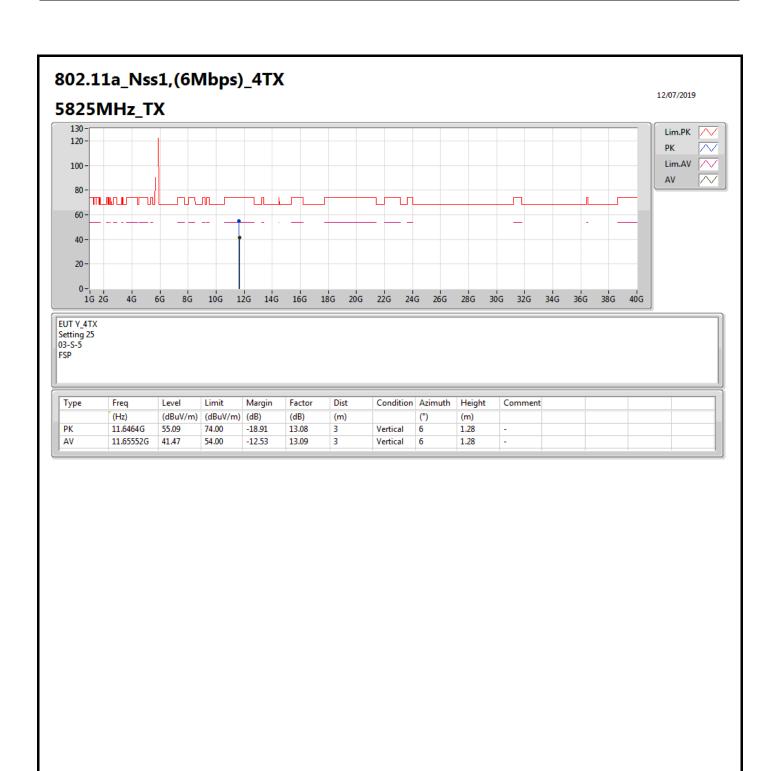




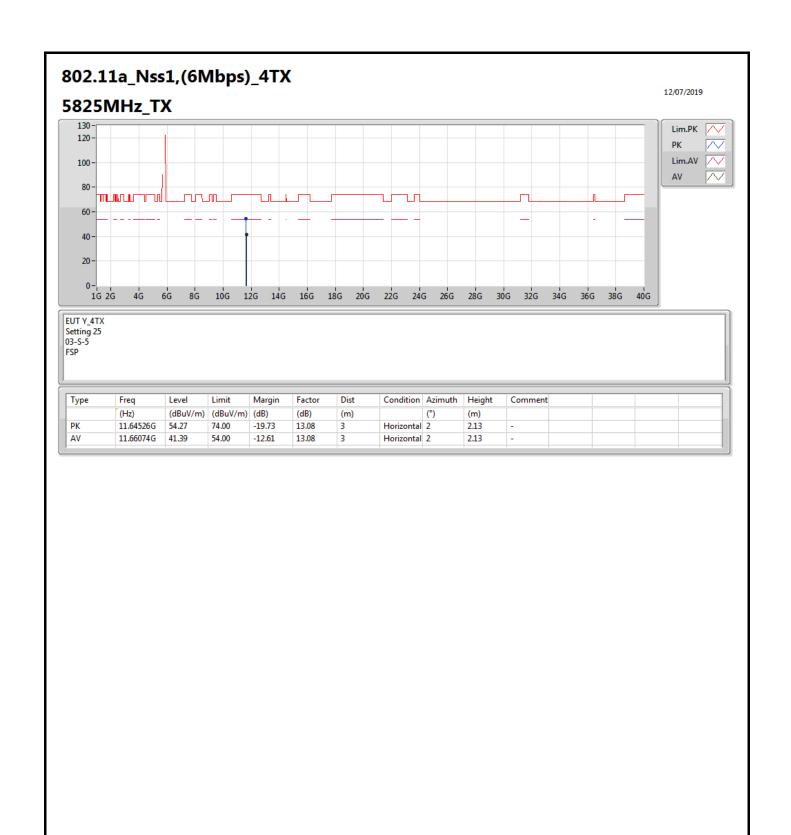




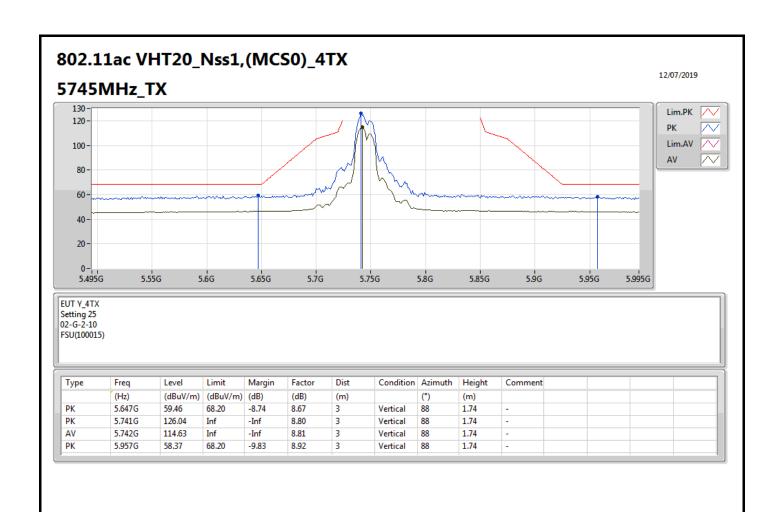




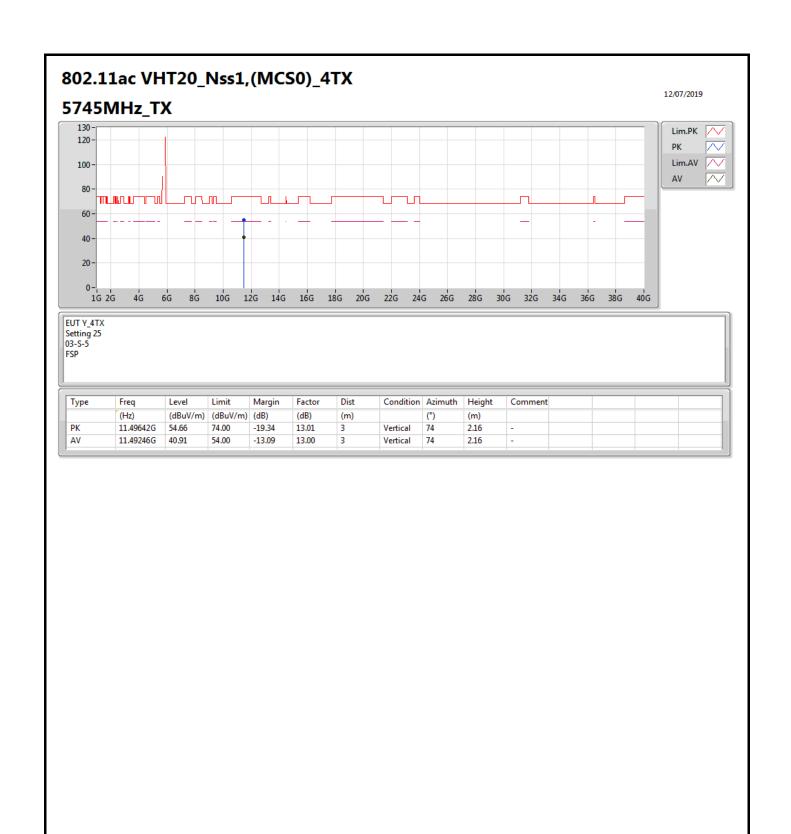




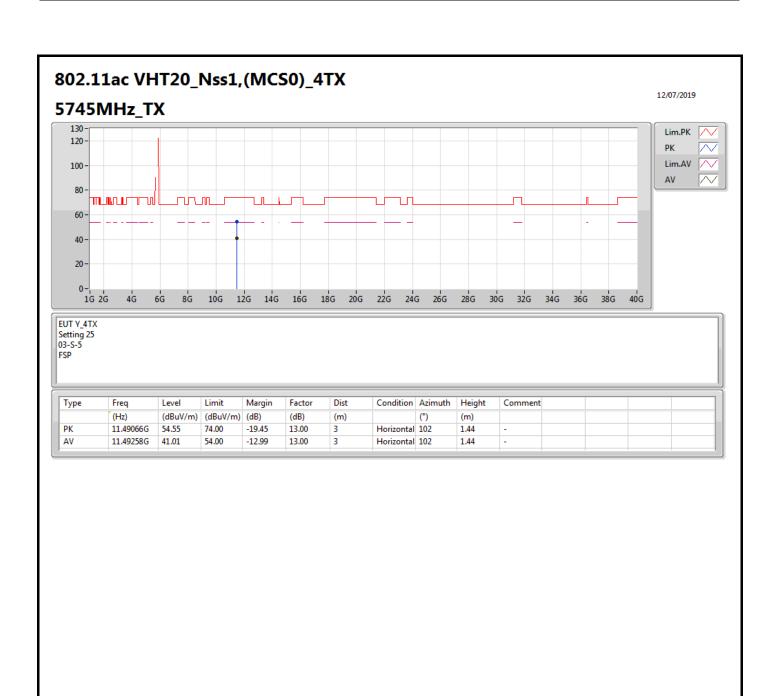




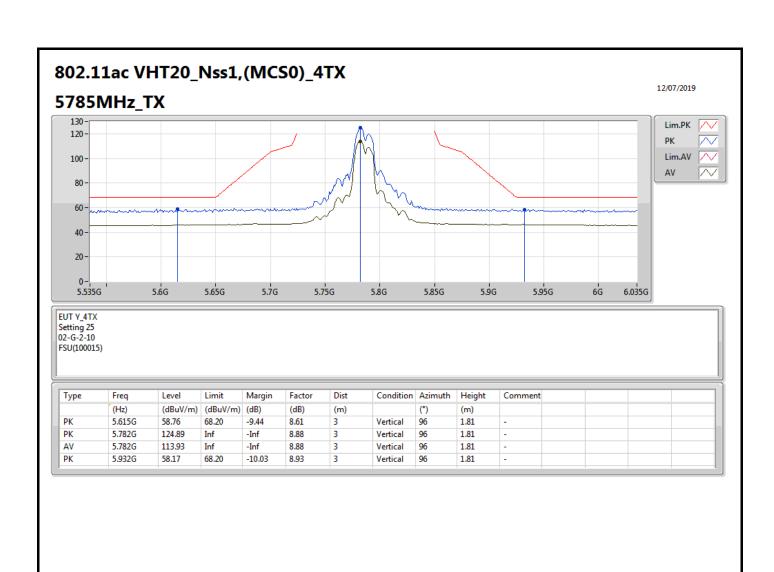




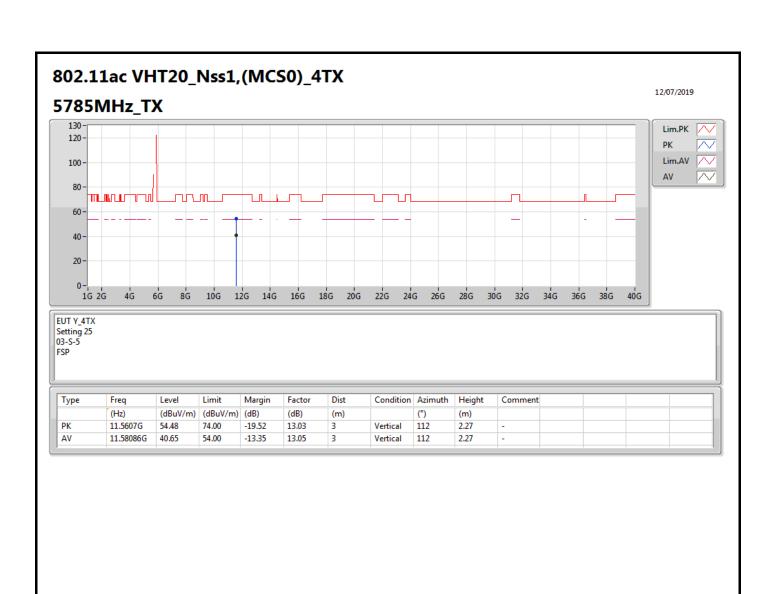




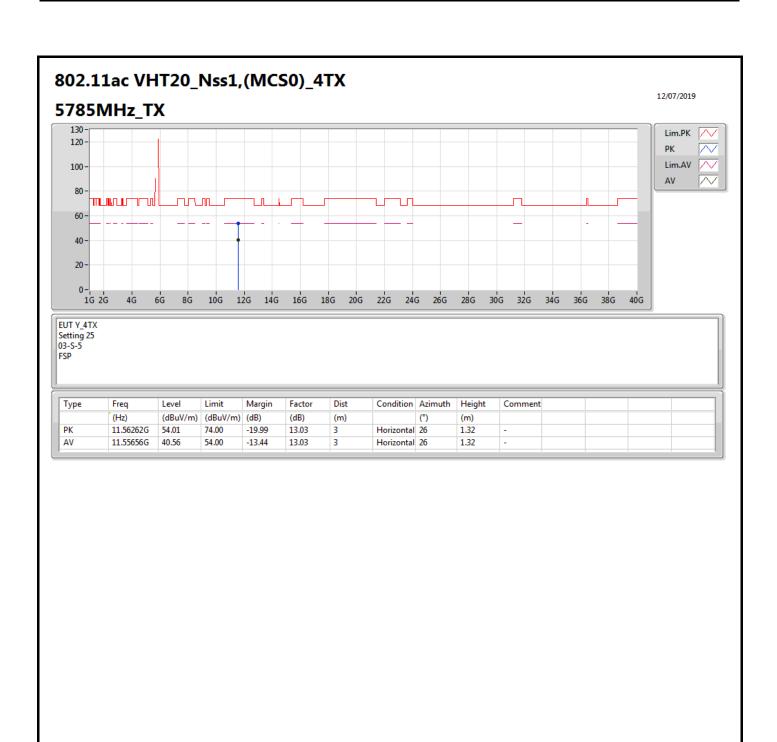




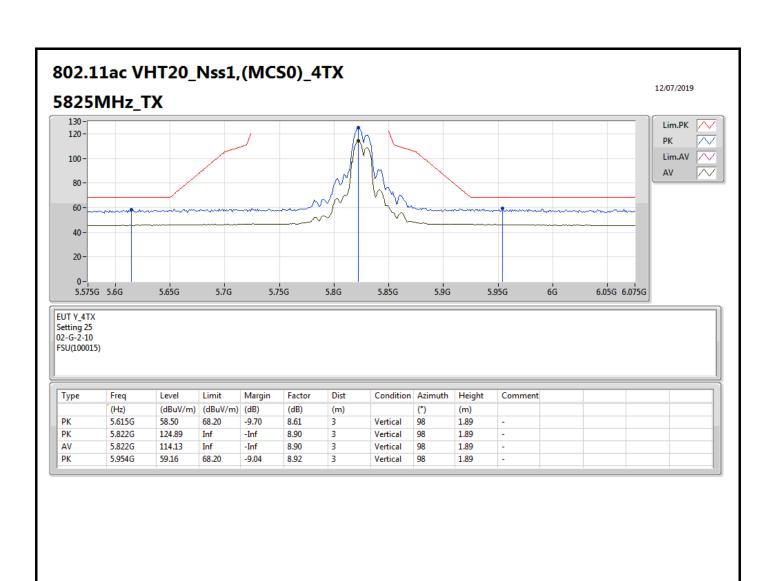




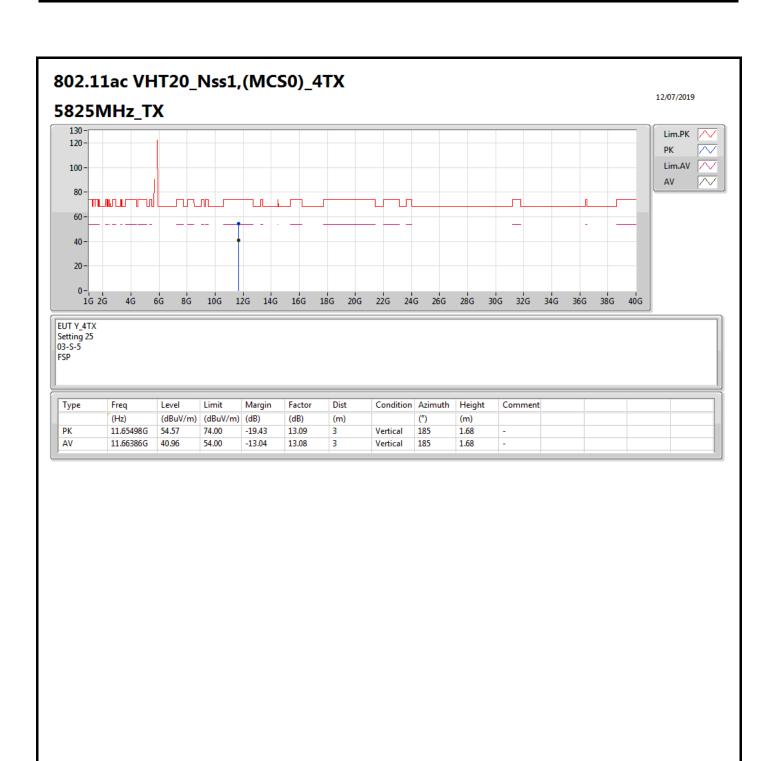




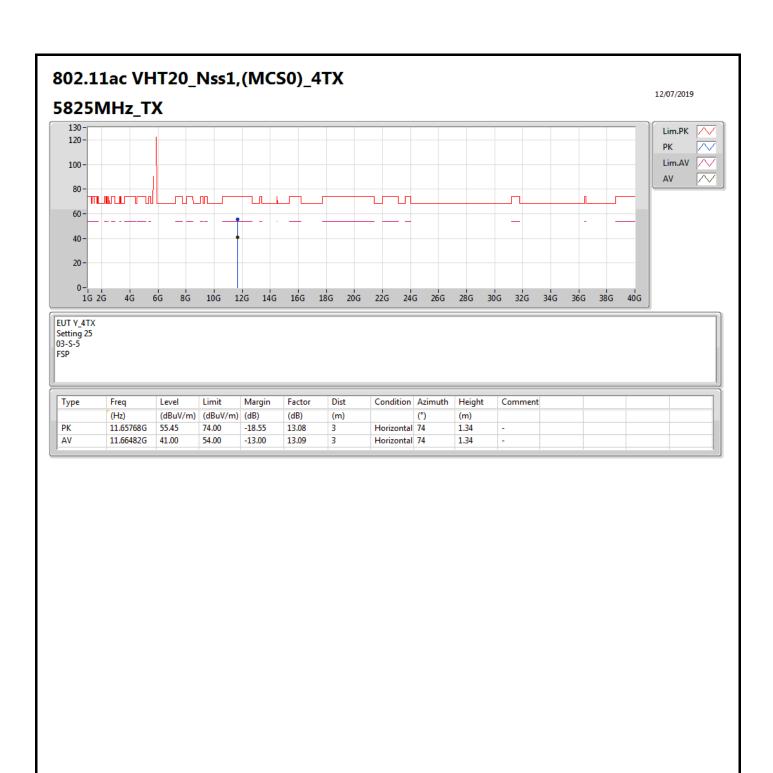




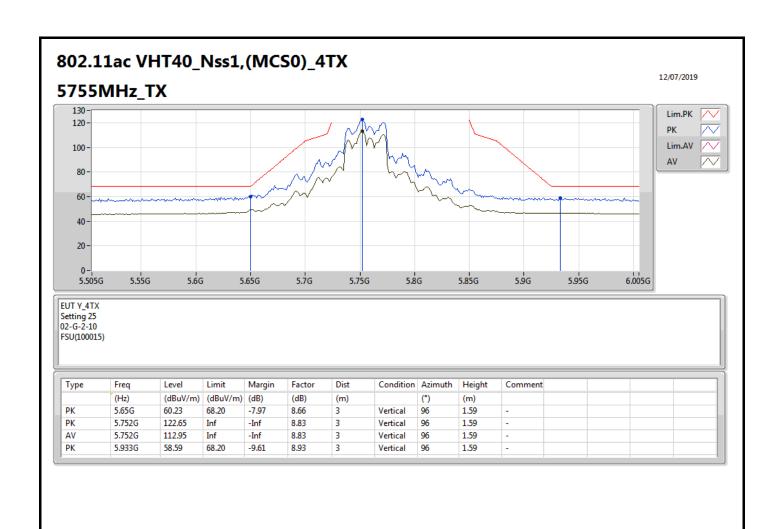




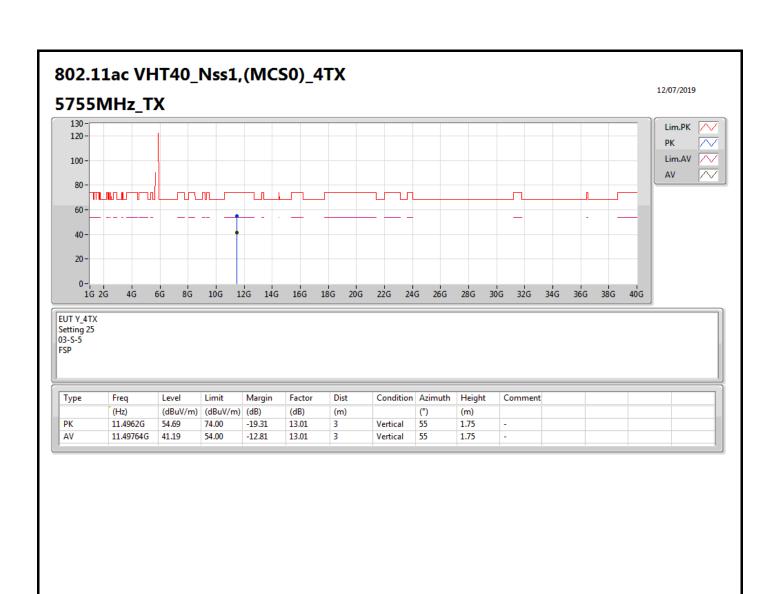




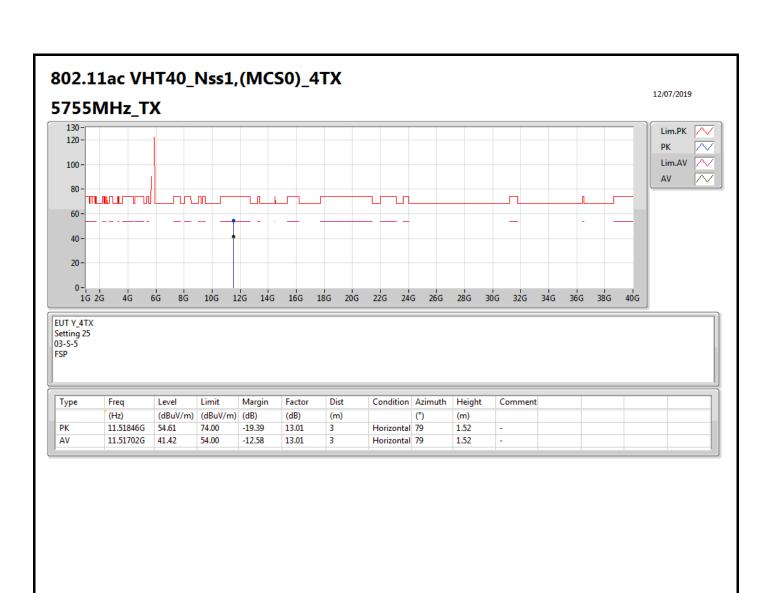




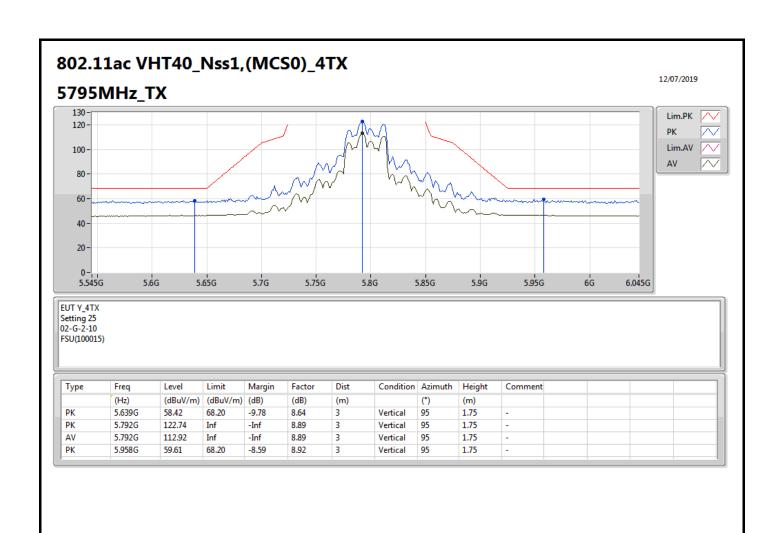




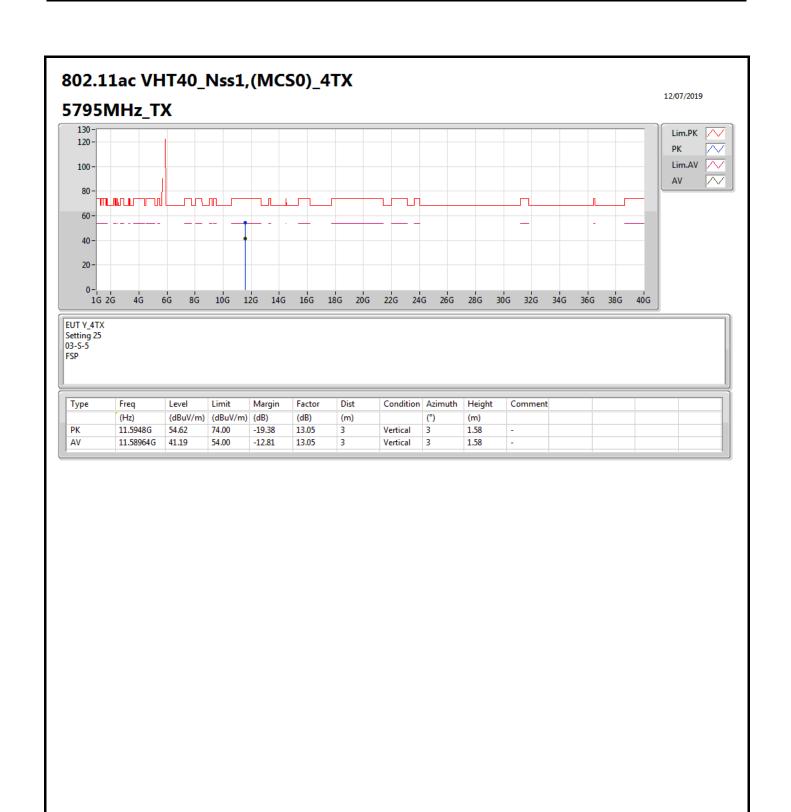




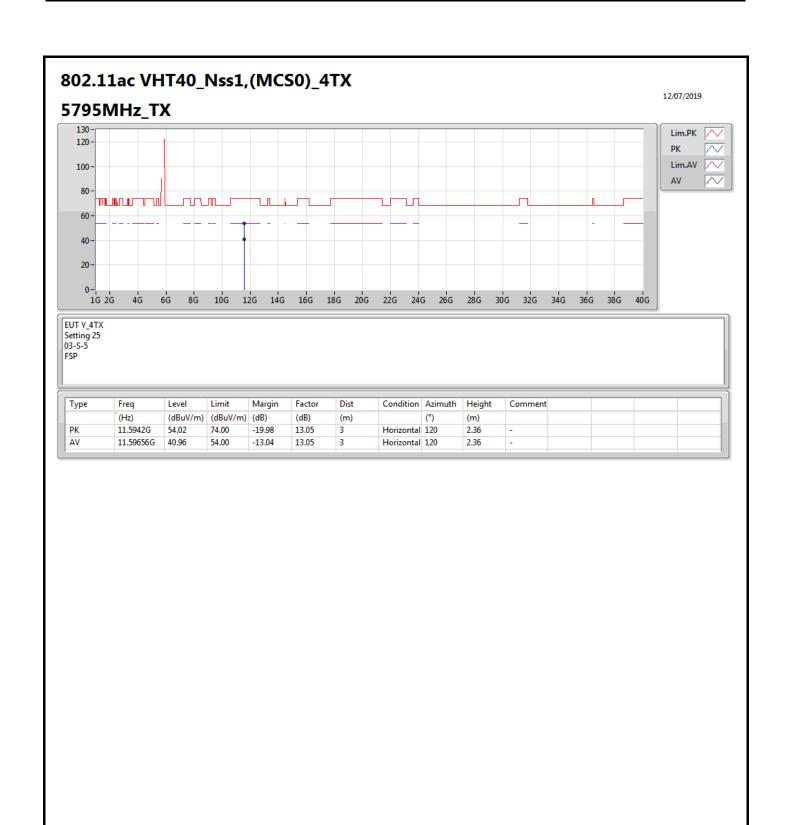




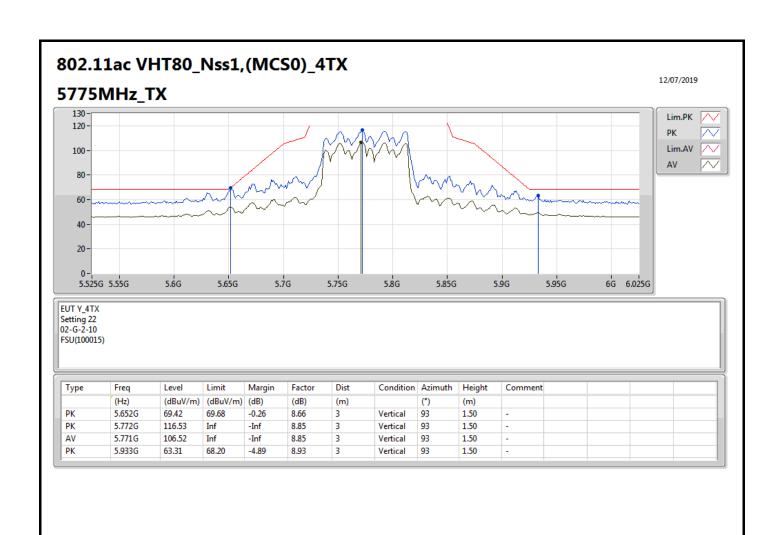




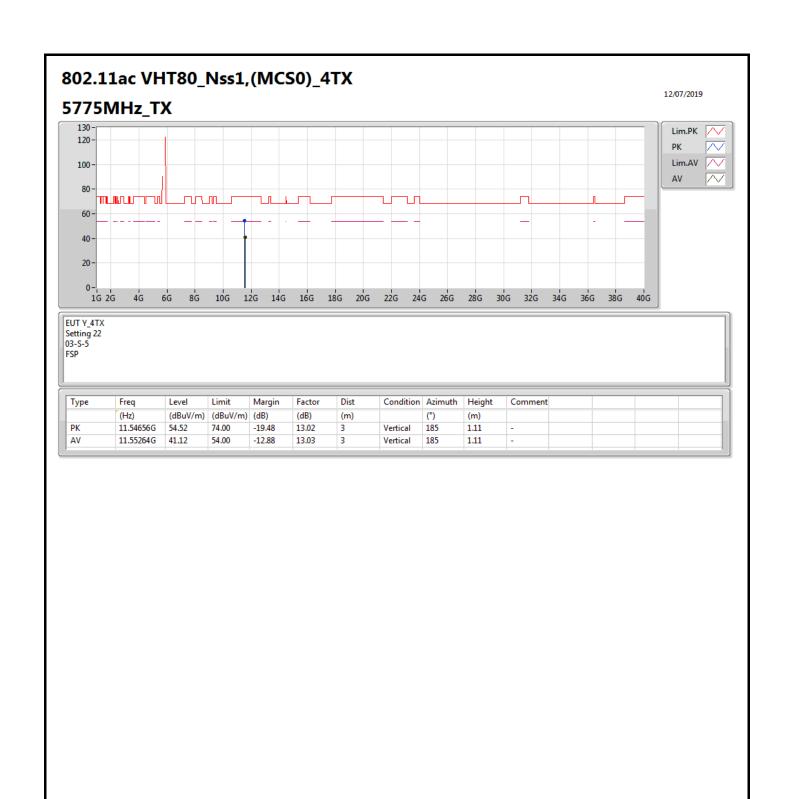




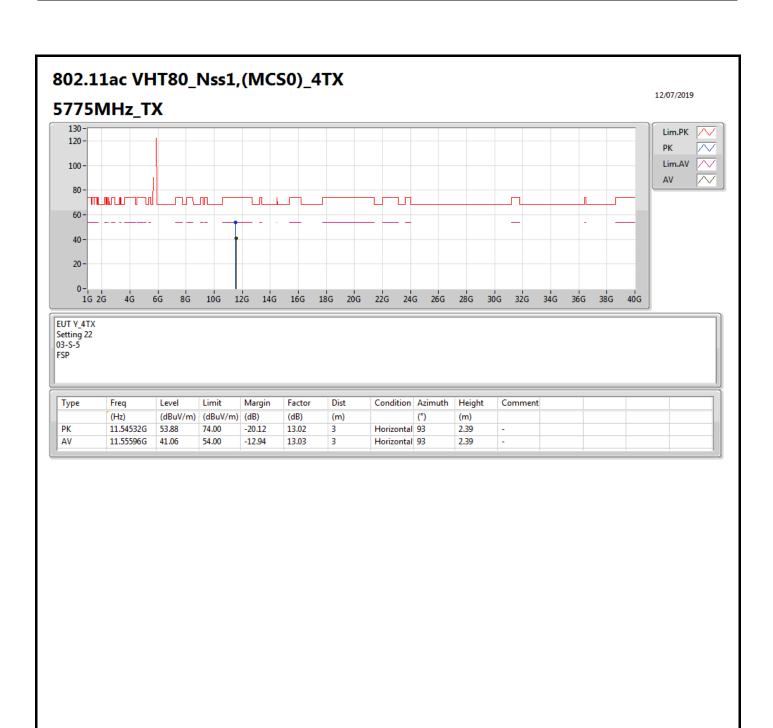




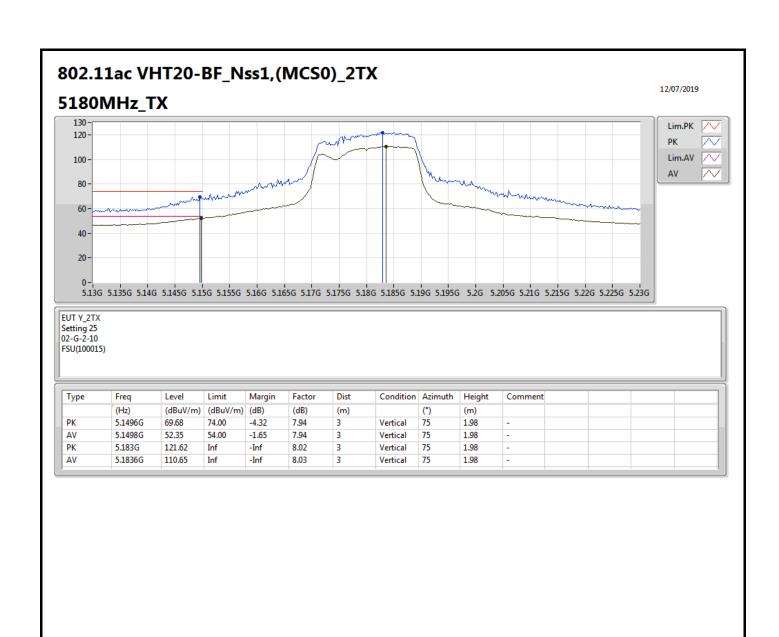




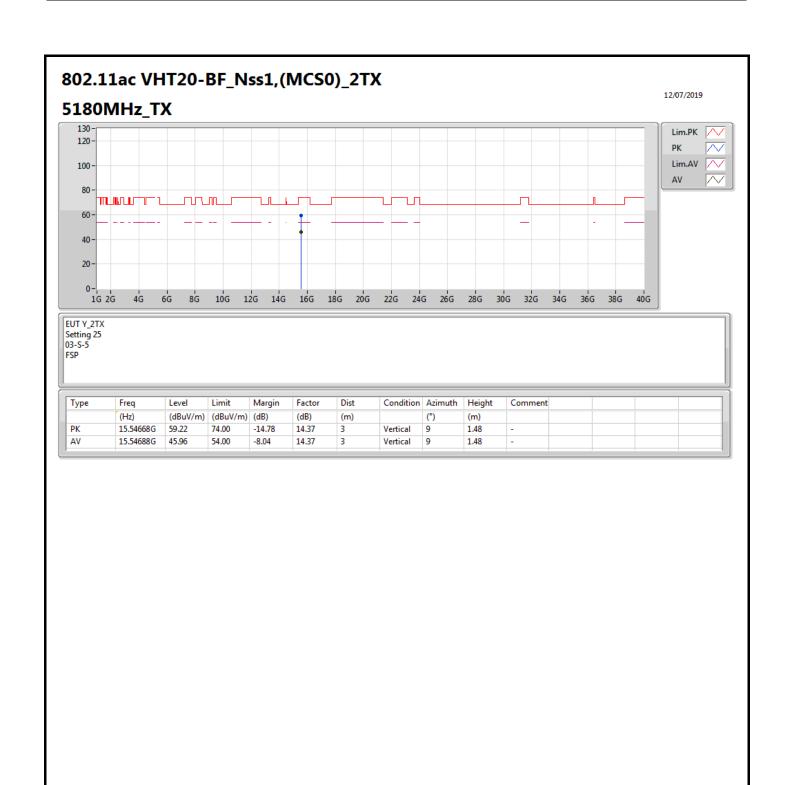




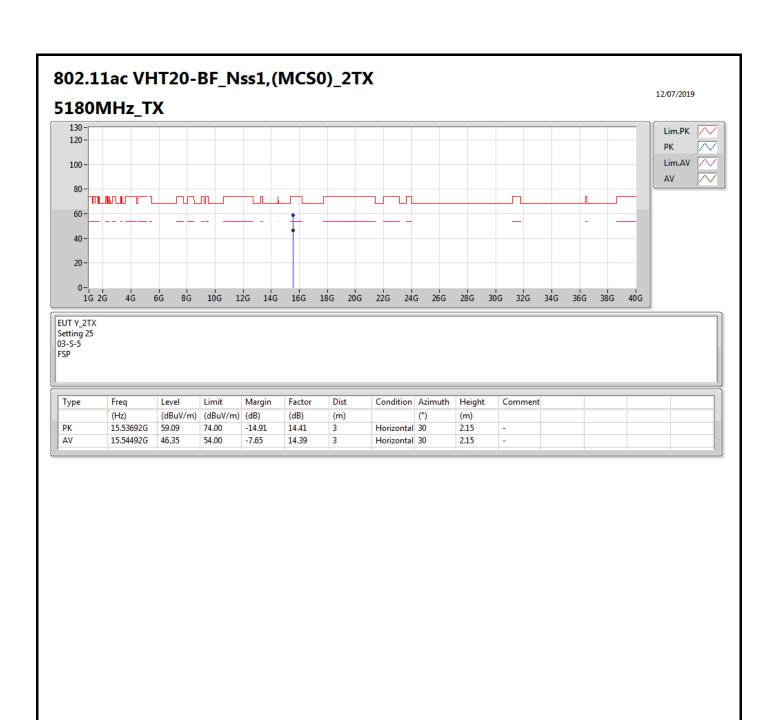




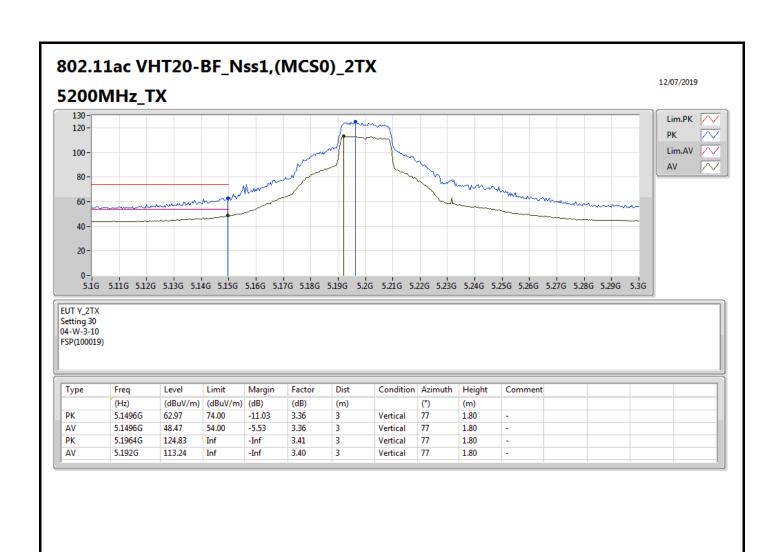




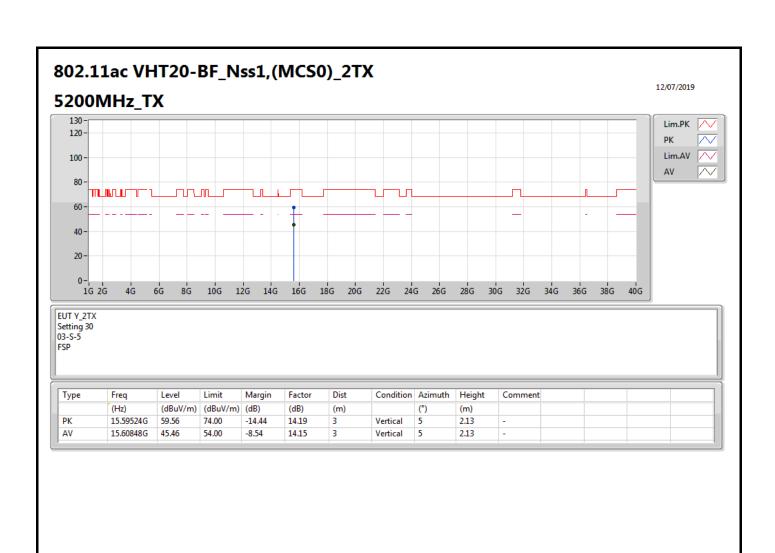




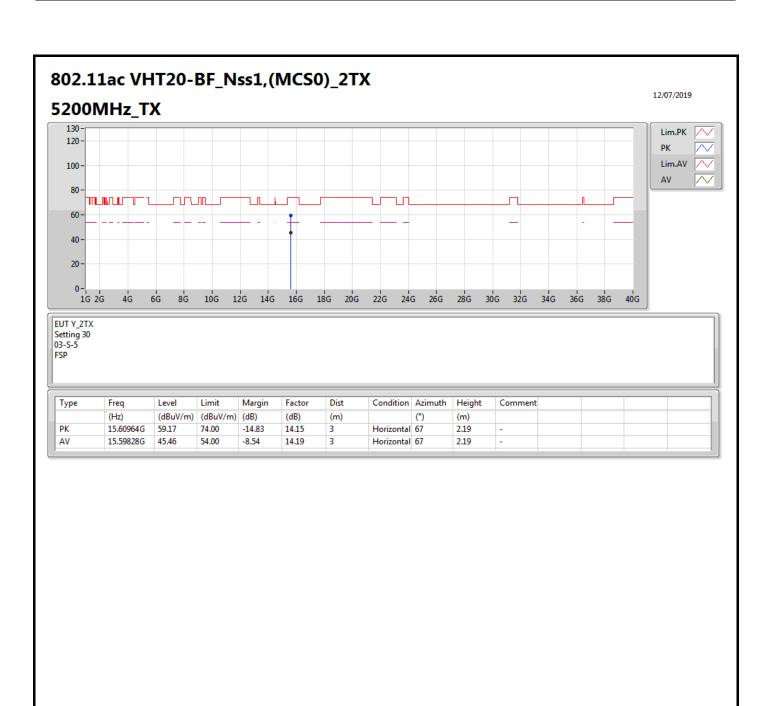




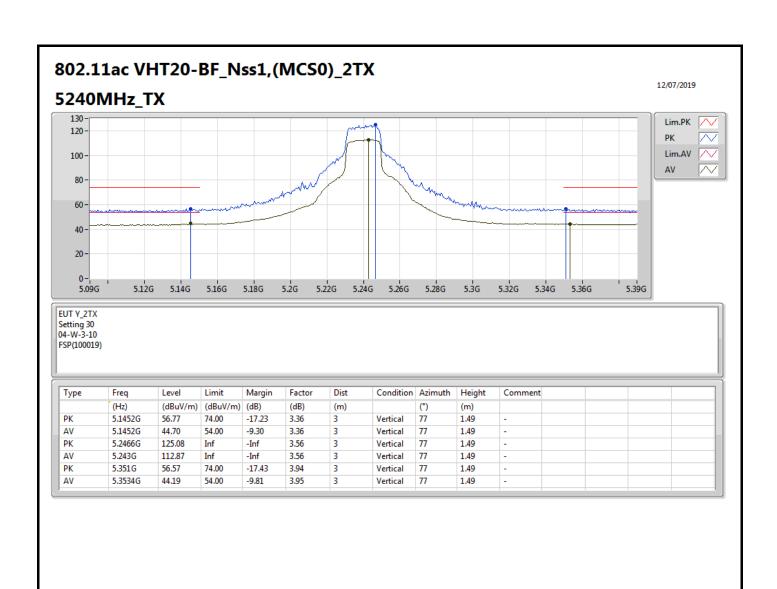




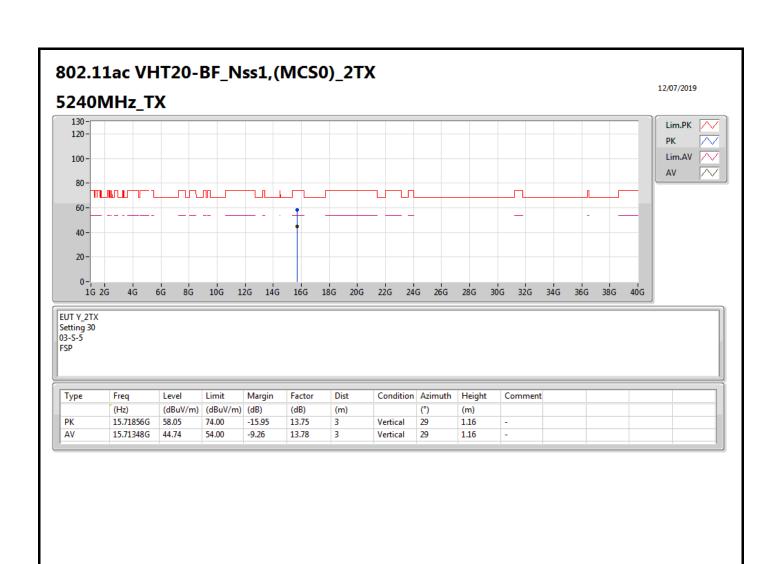




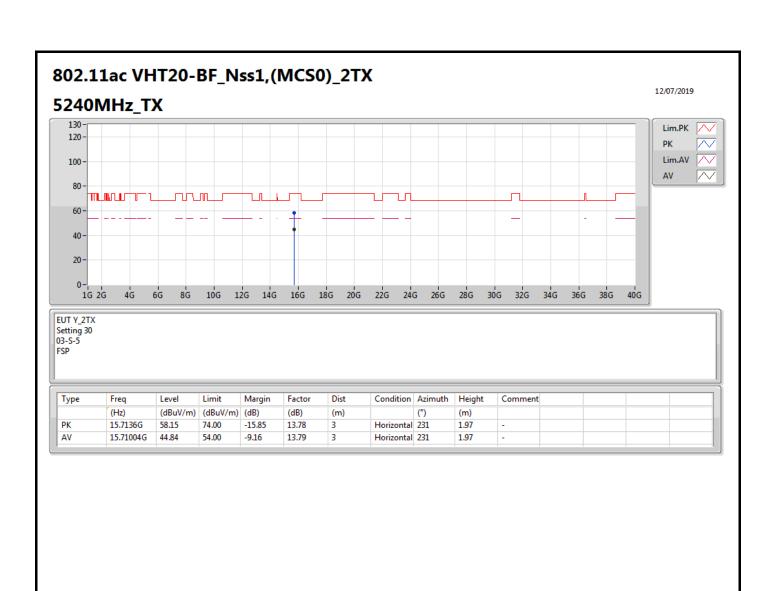




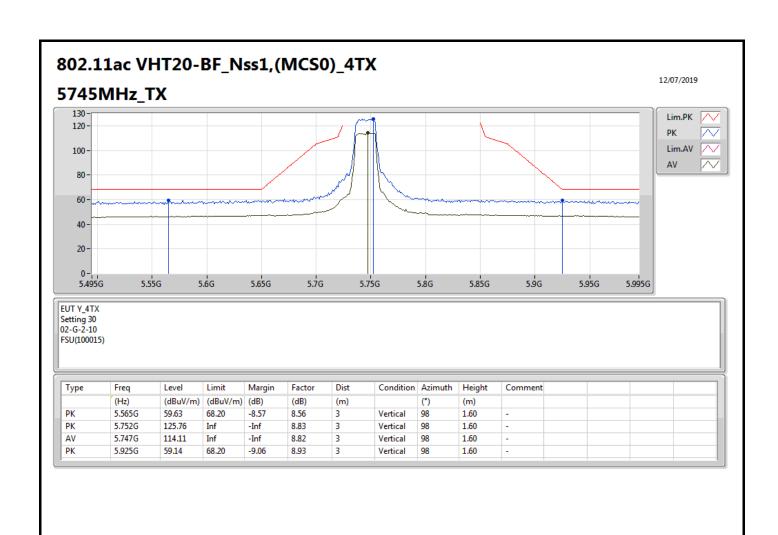




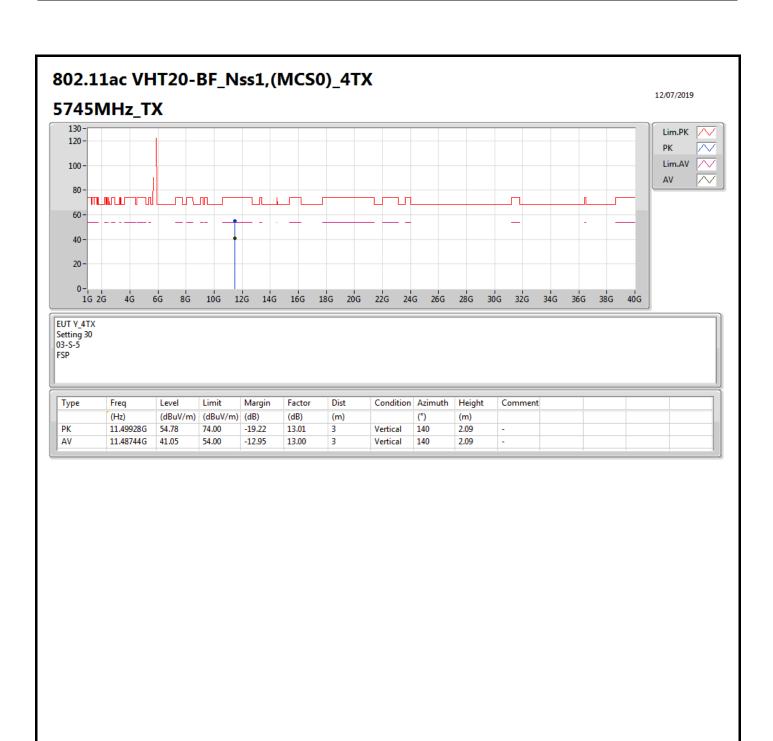




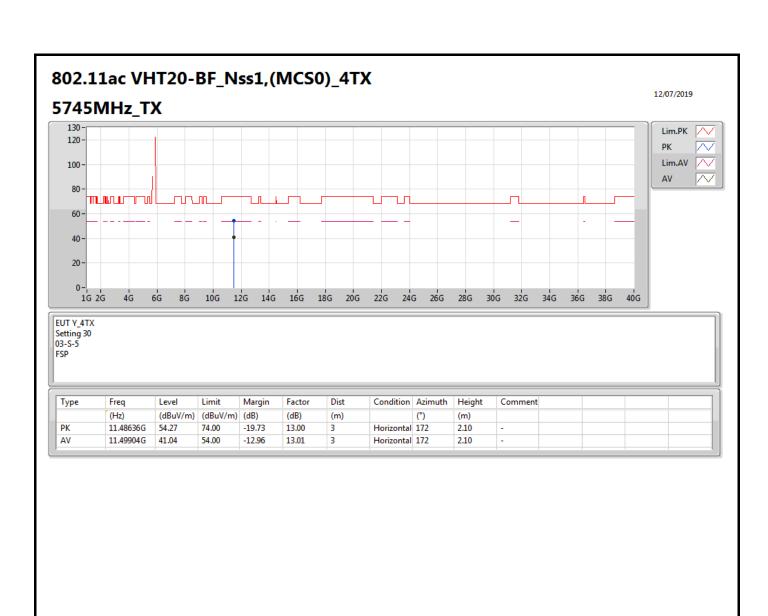




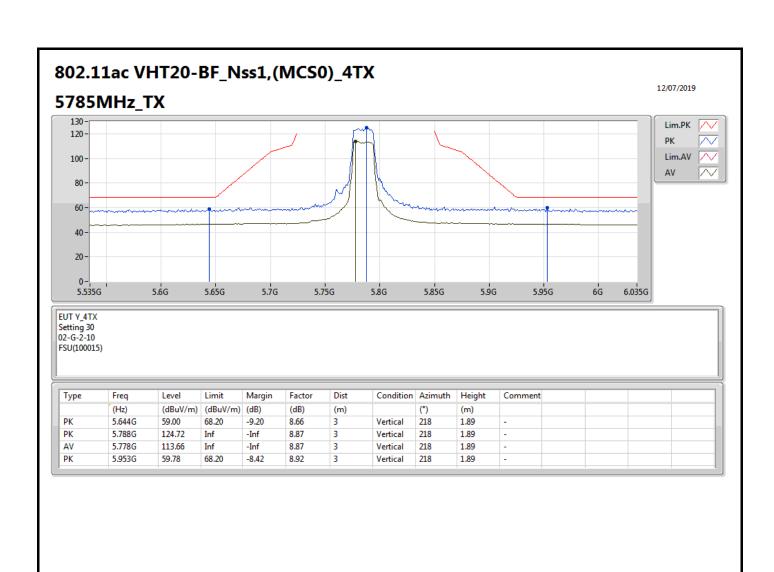




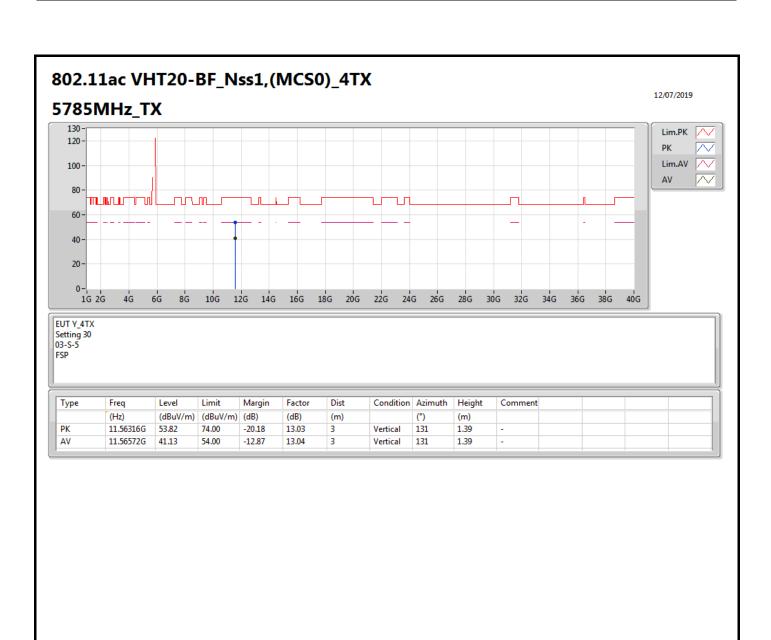




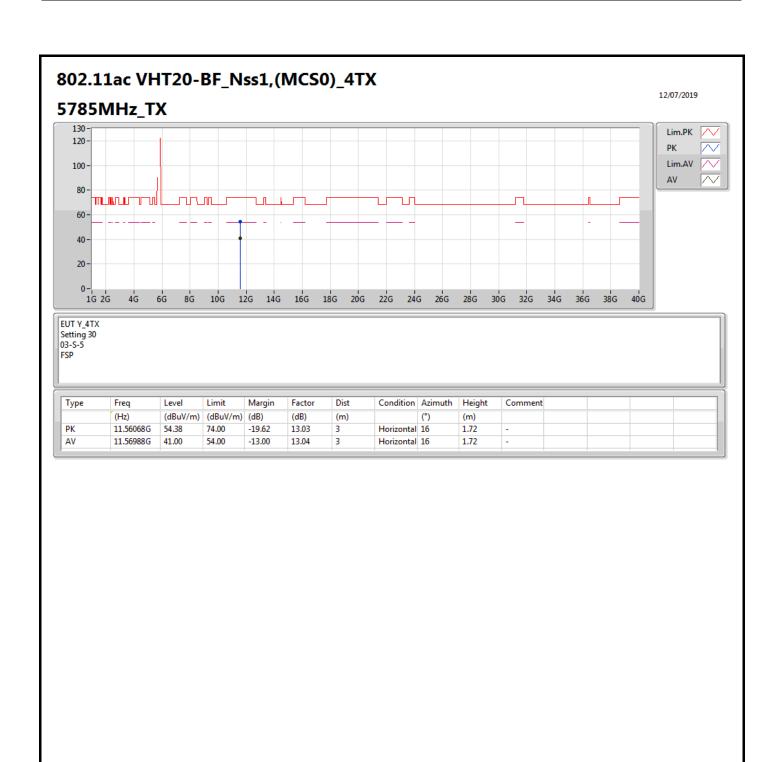




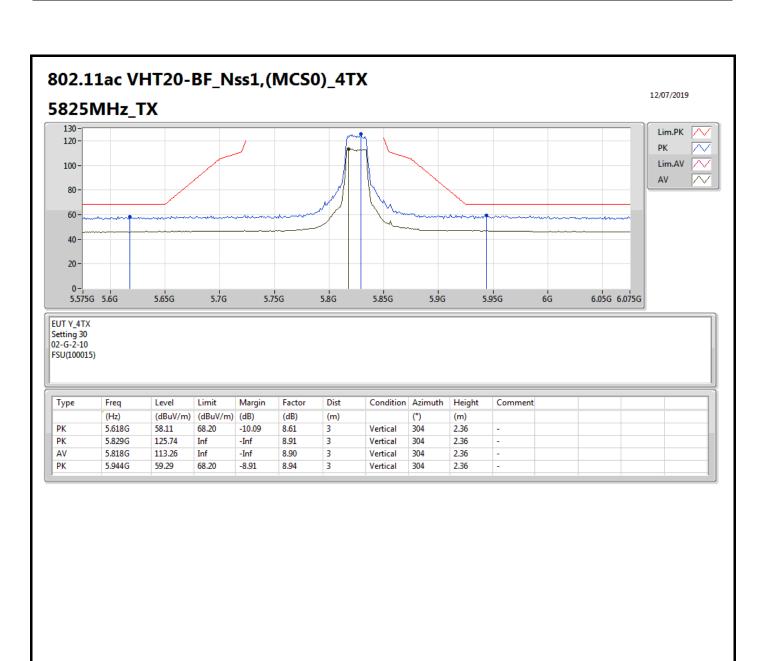




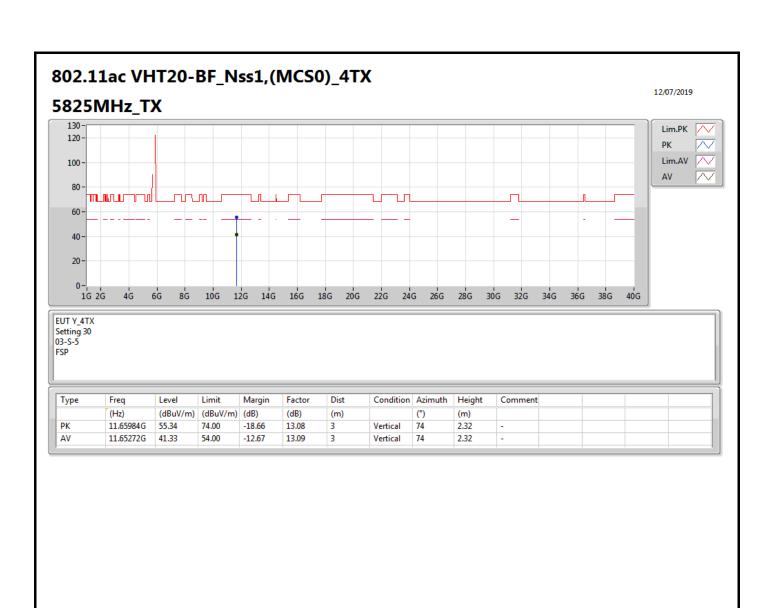




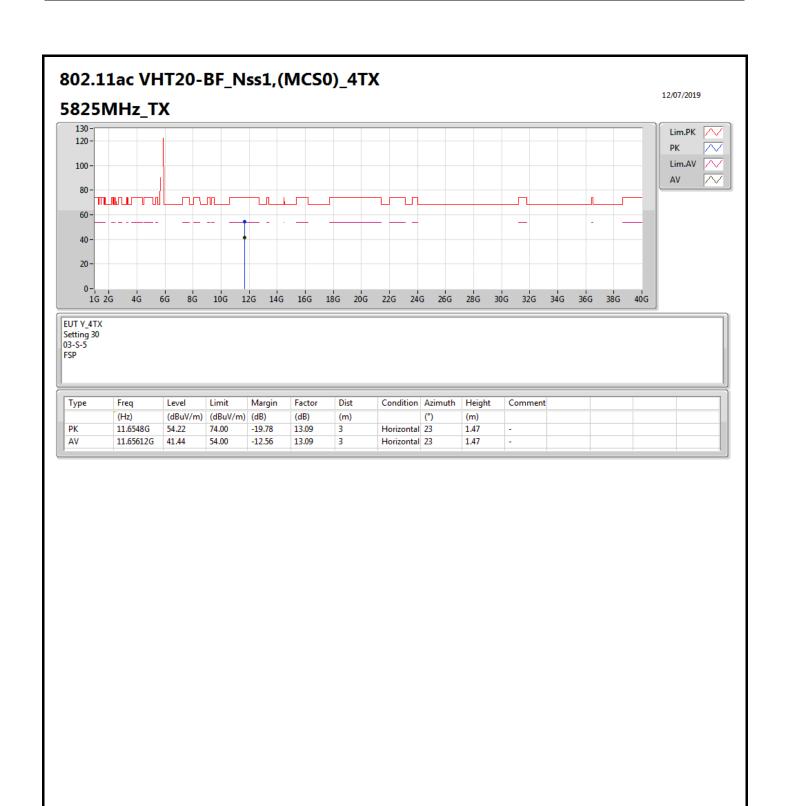




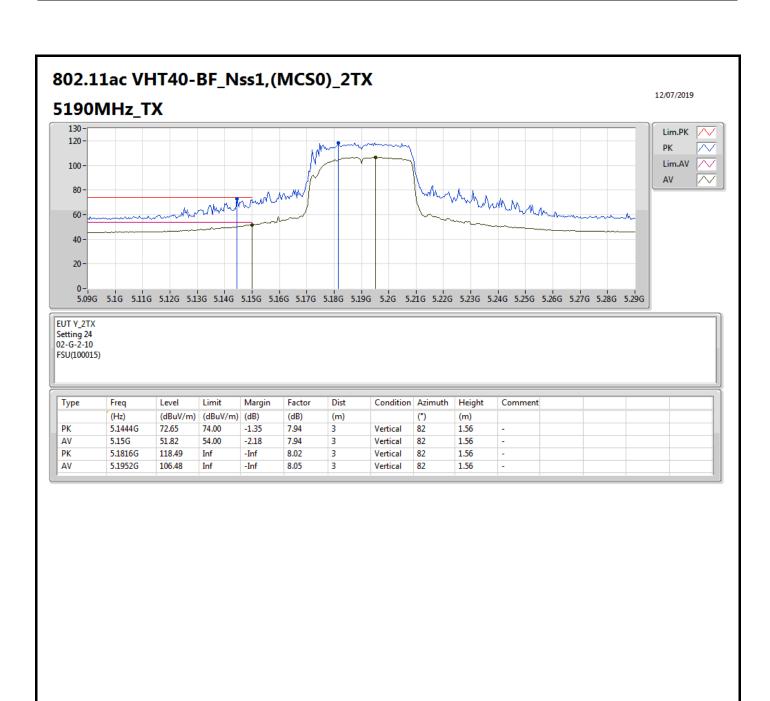




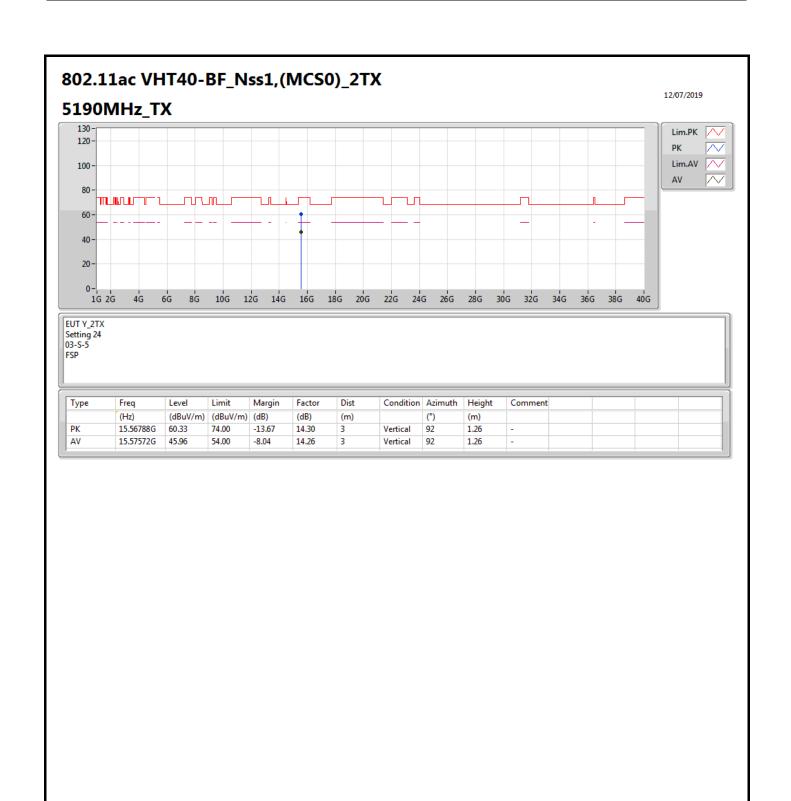




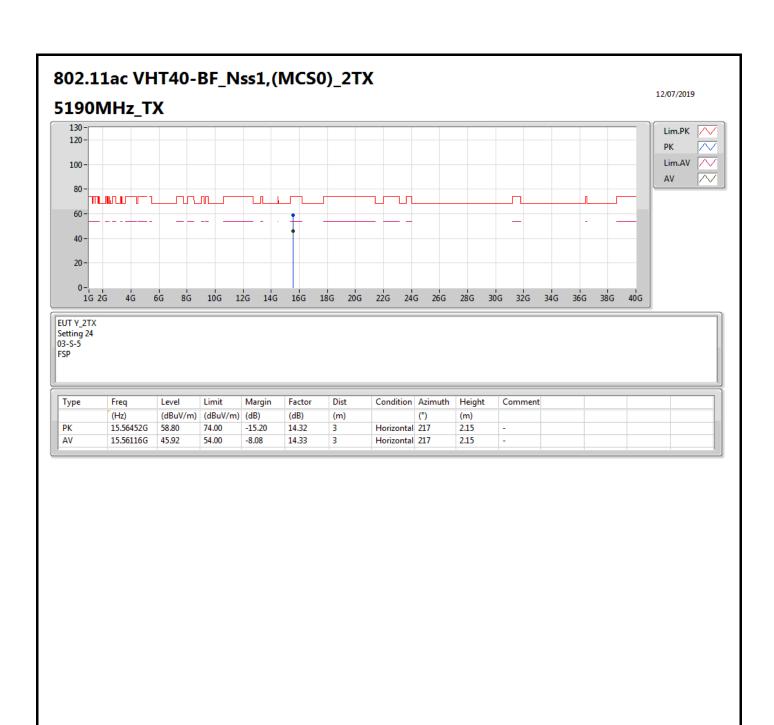




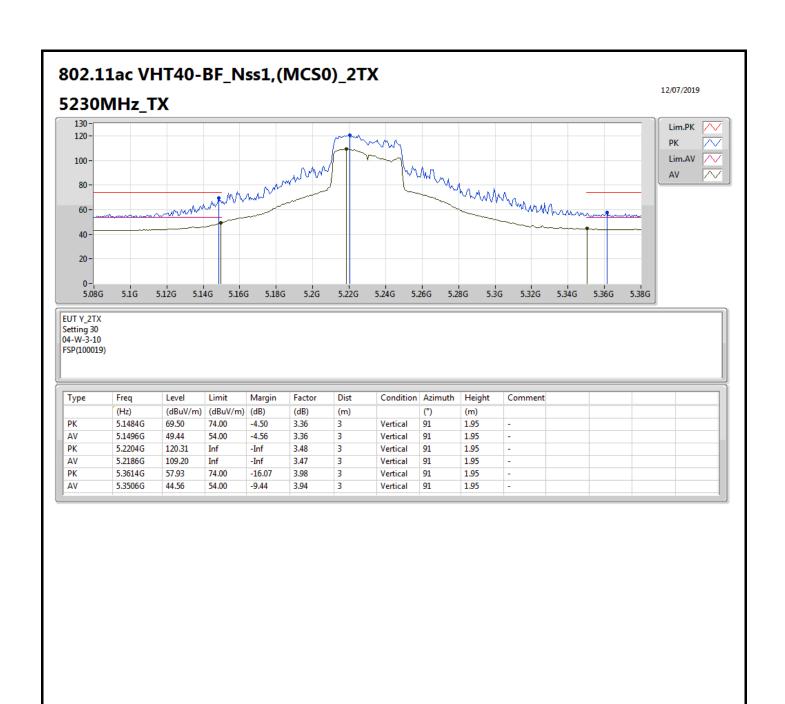




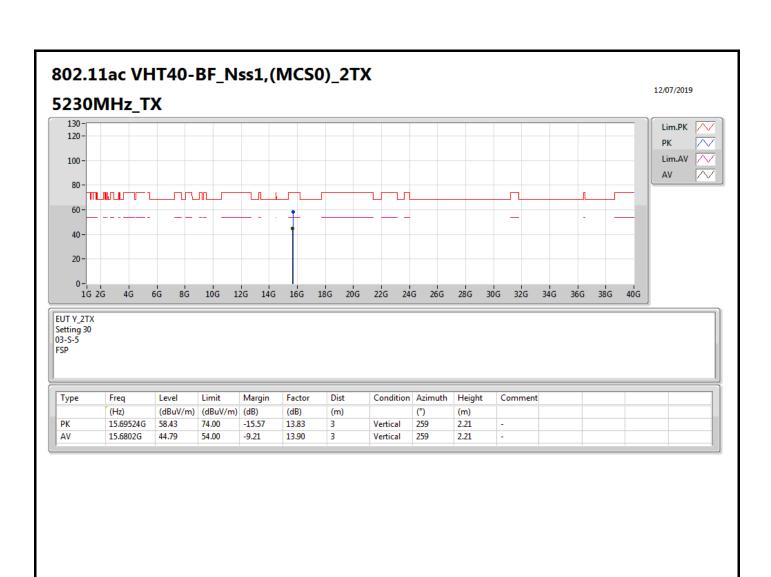




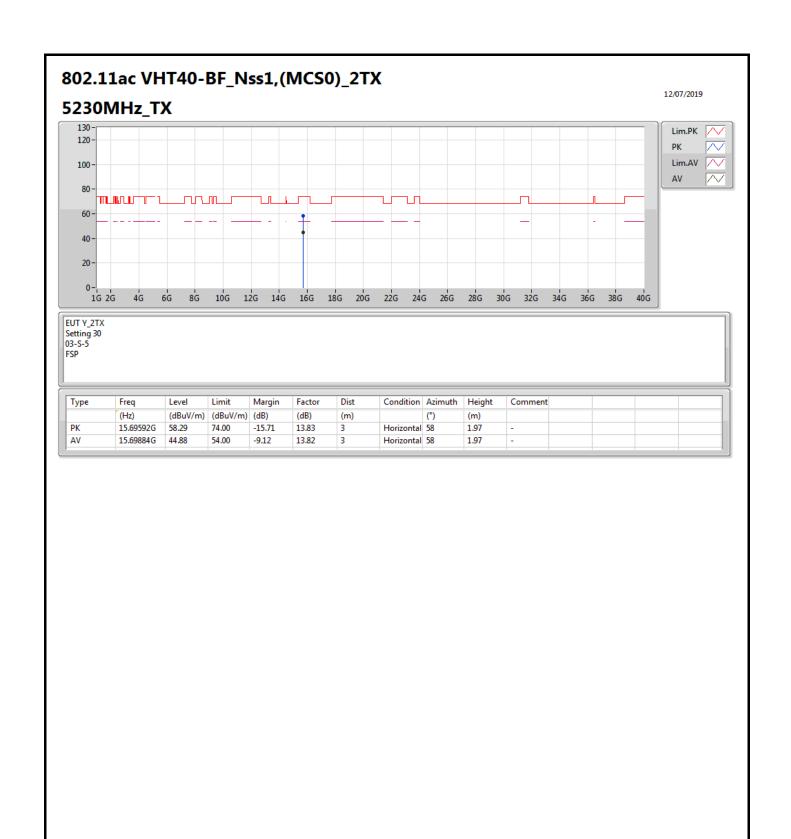




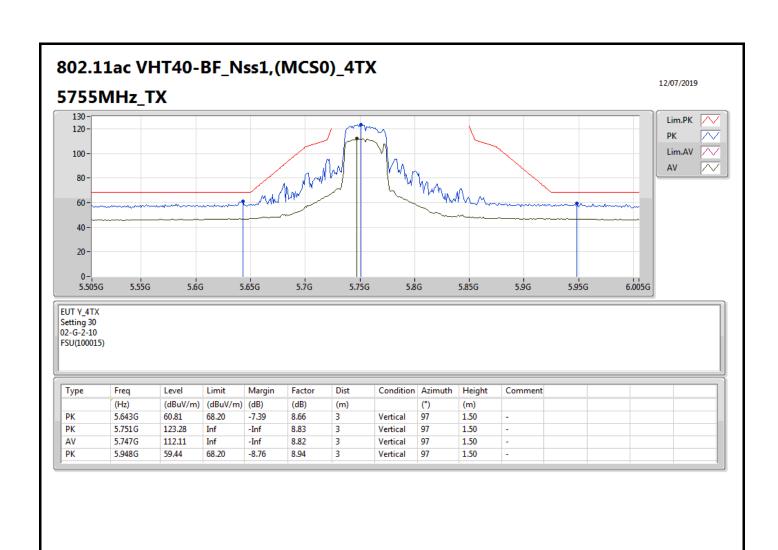




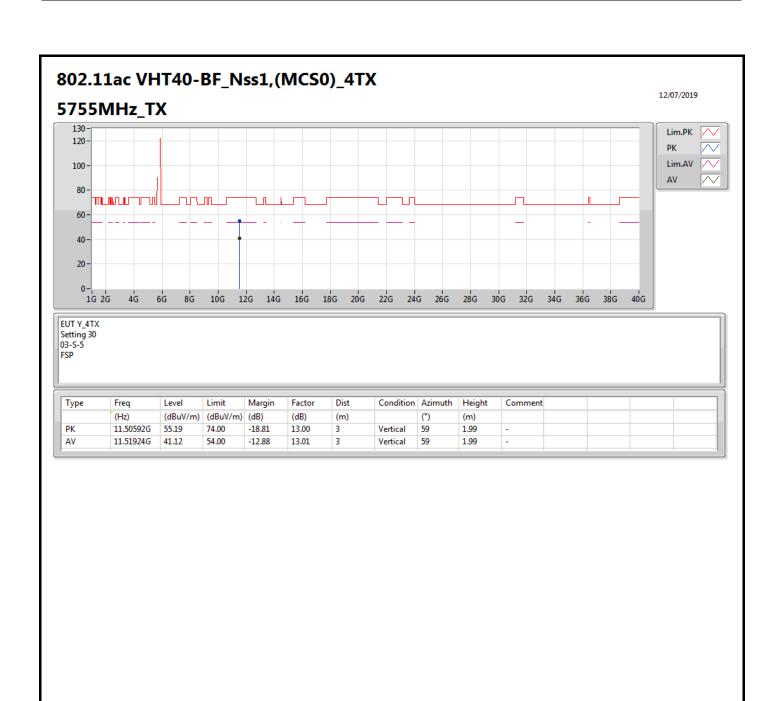




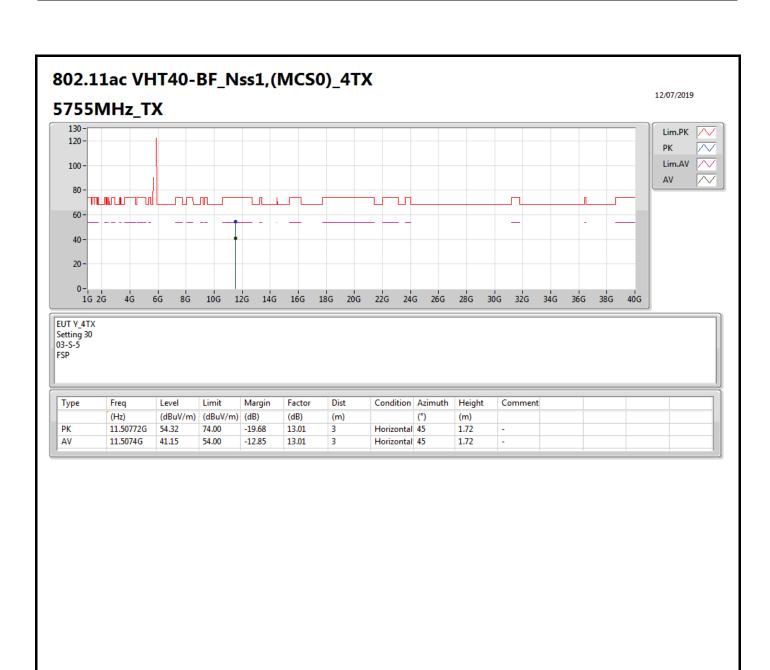




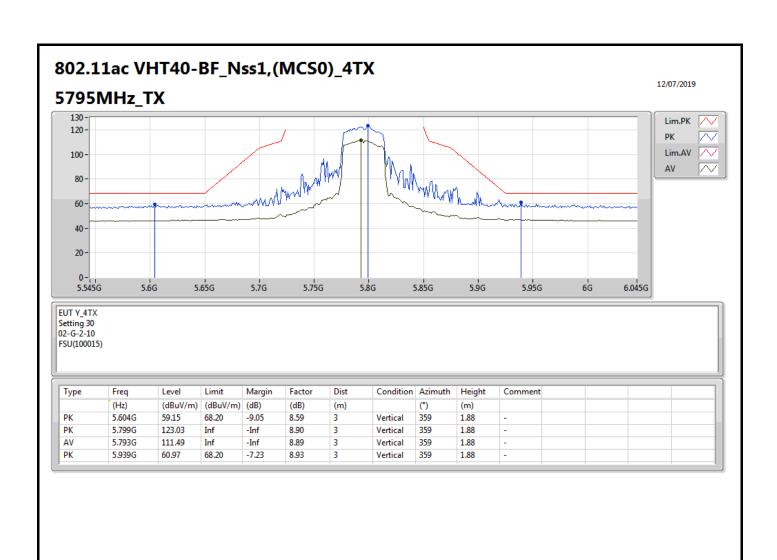




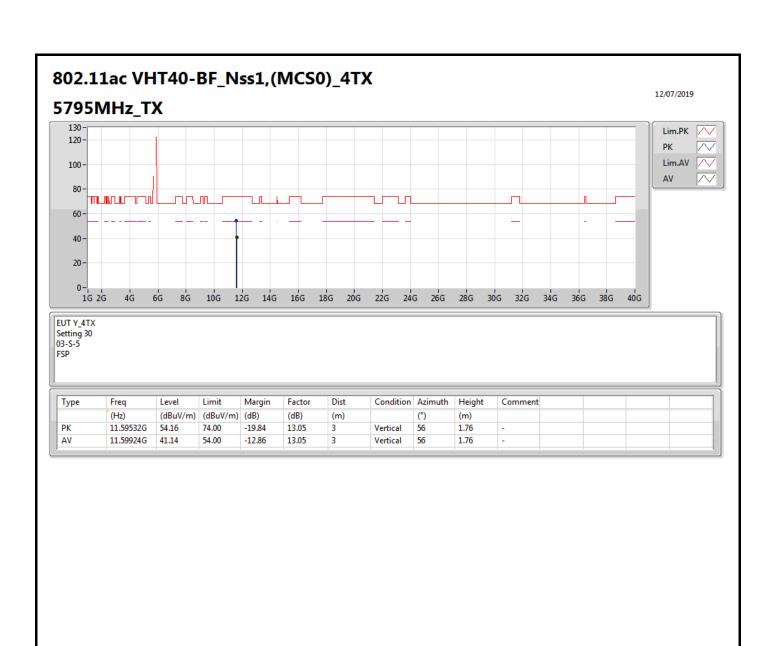




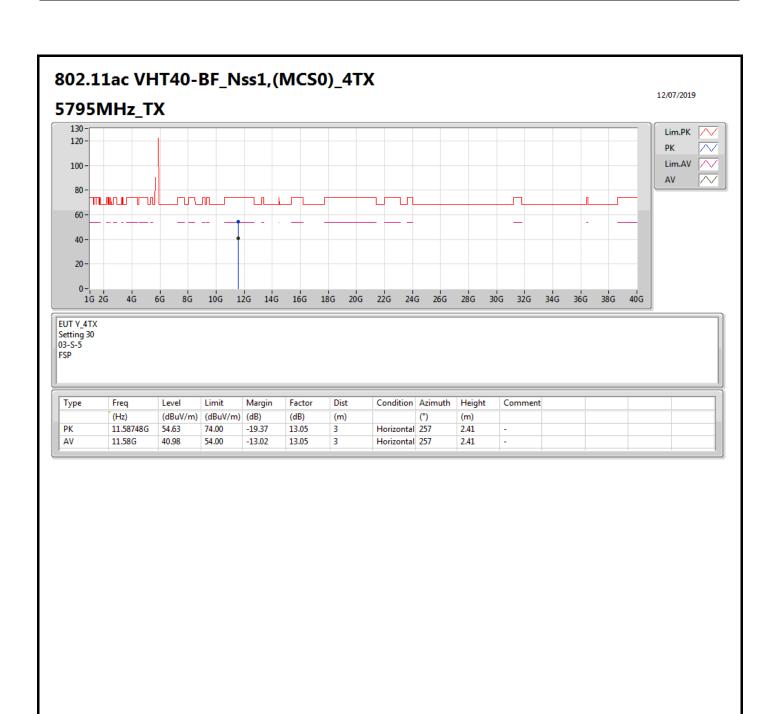




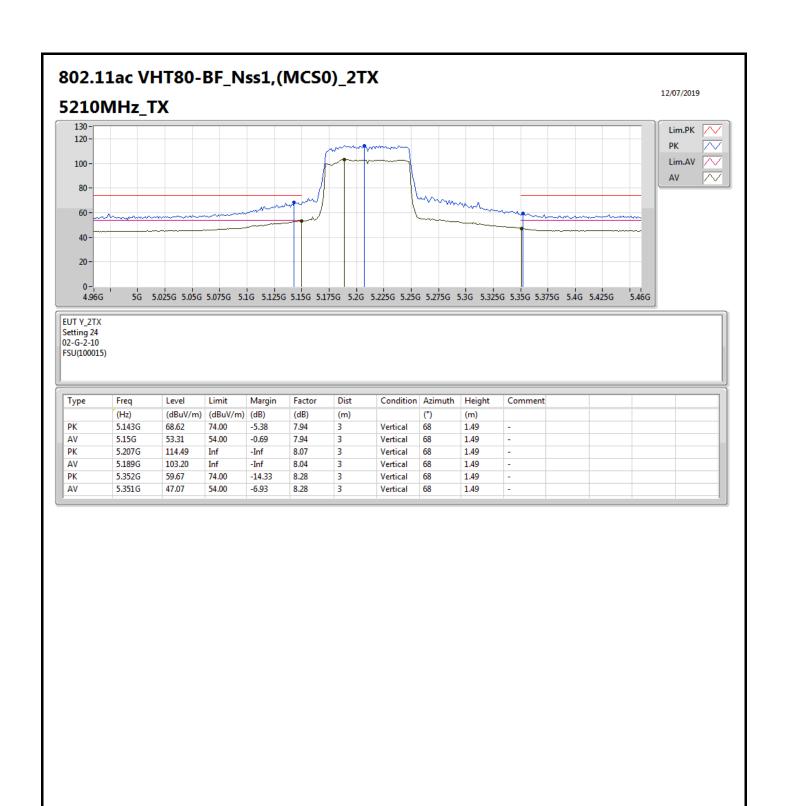




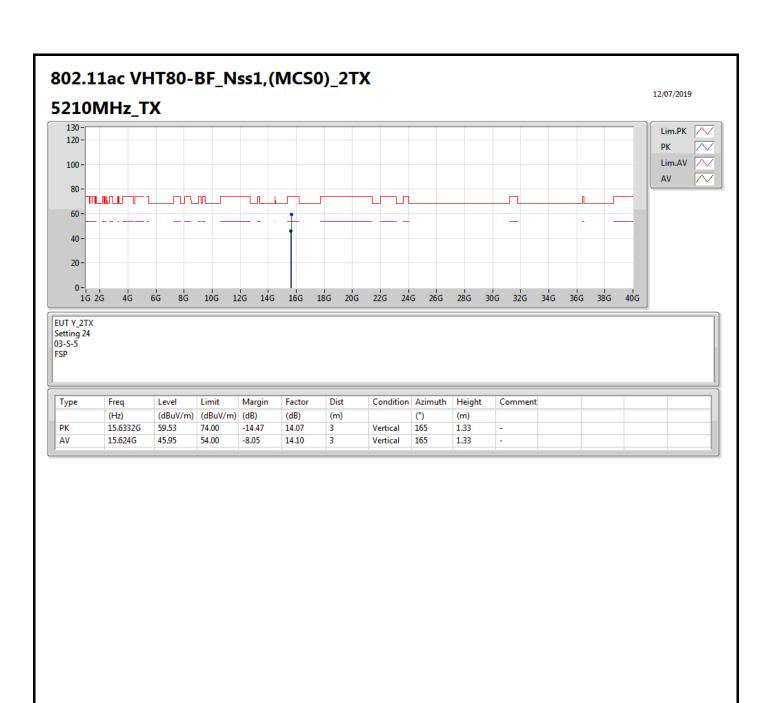




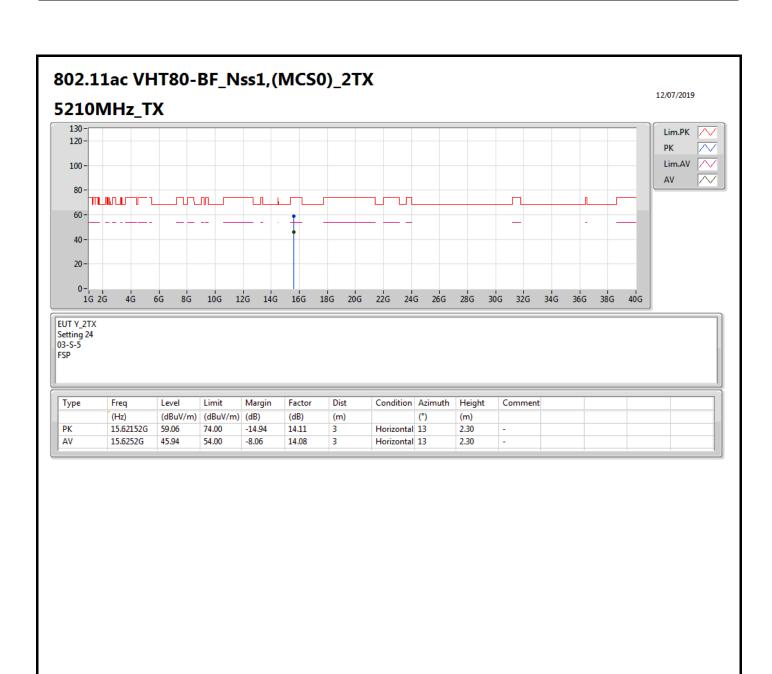




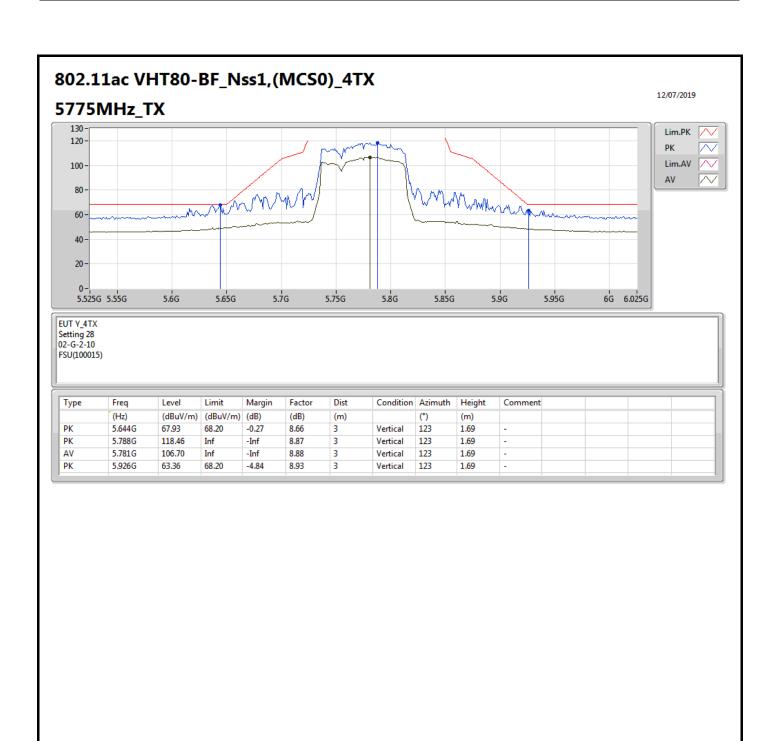




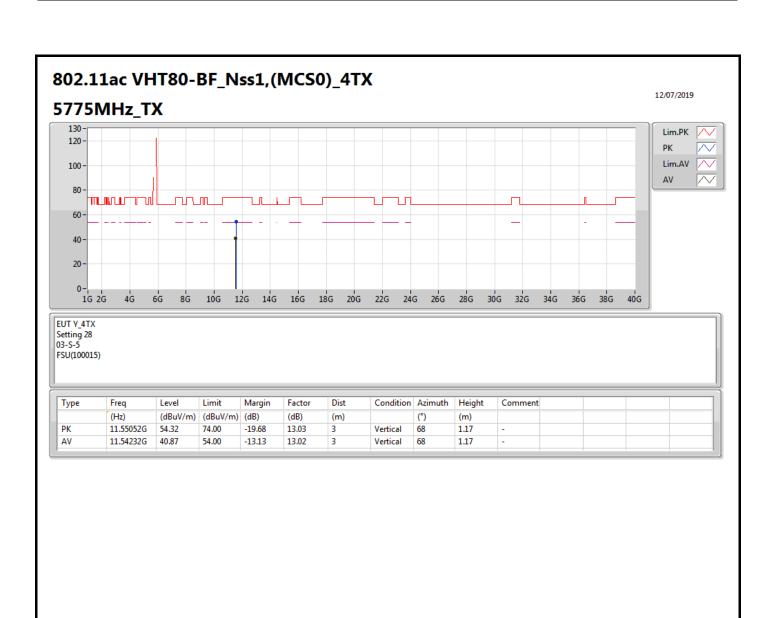




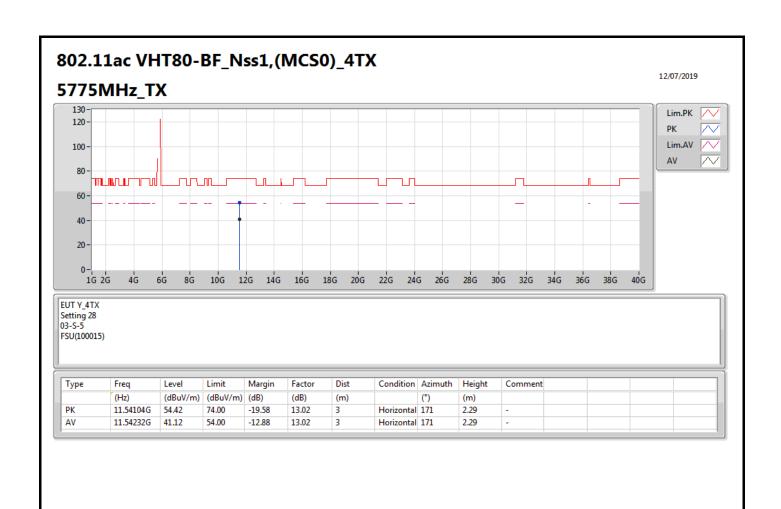




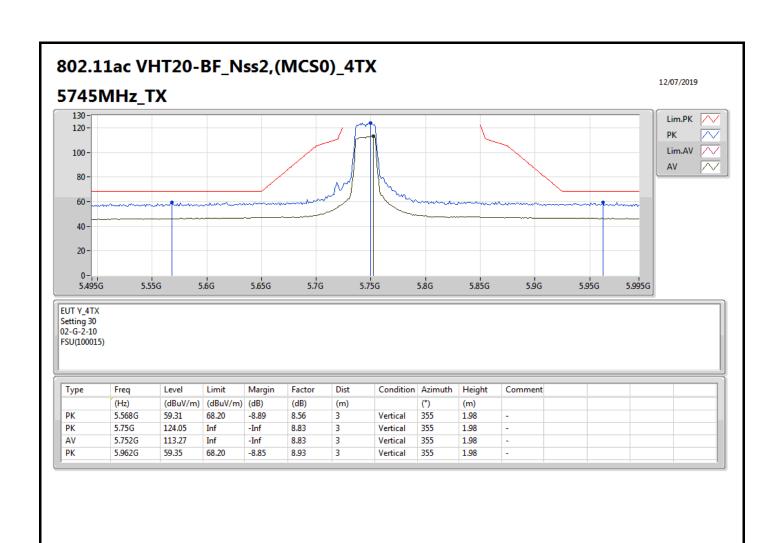




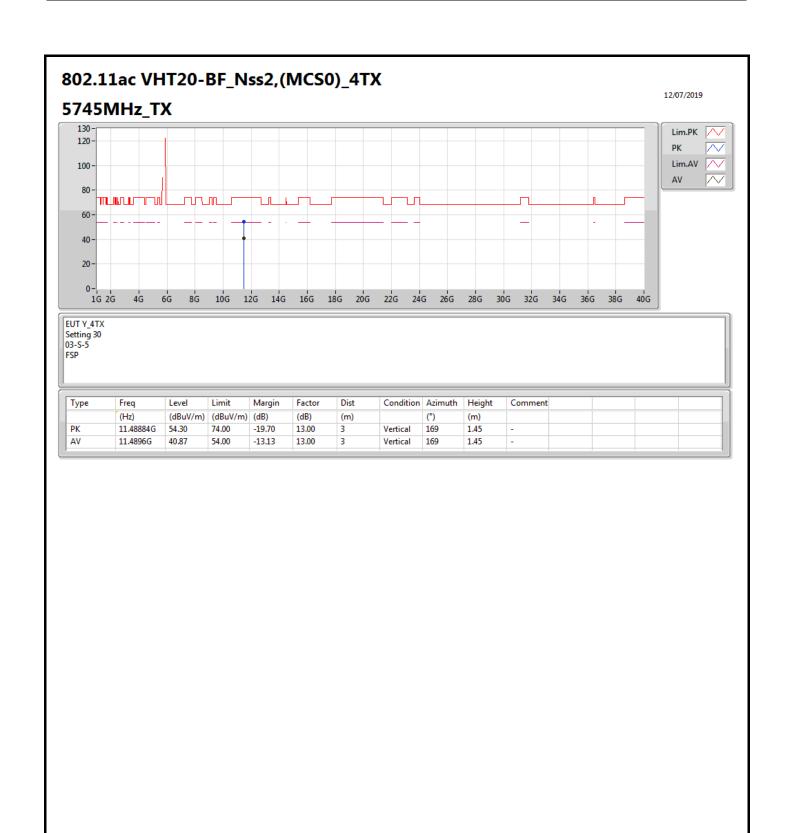




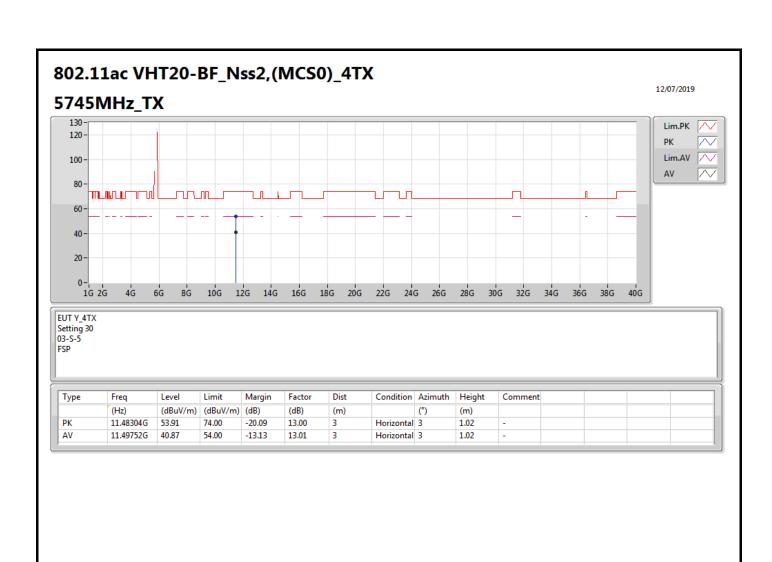




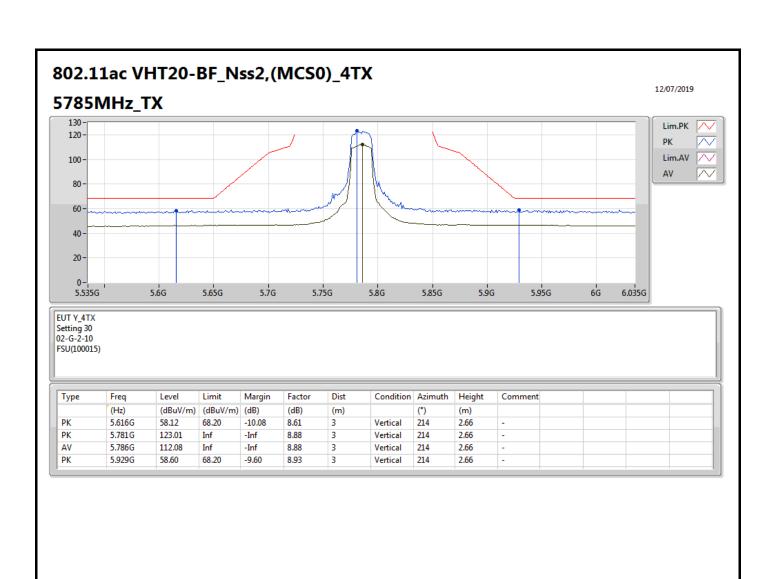










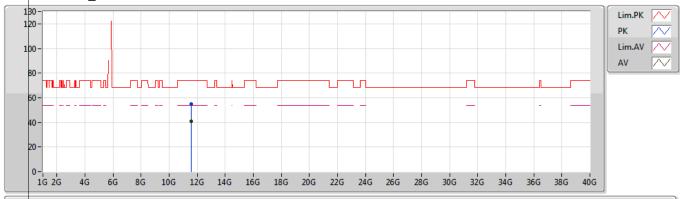




802.11ac VHT20-BF_Nss2,(MCS0)_4TX

5785MHz_TX

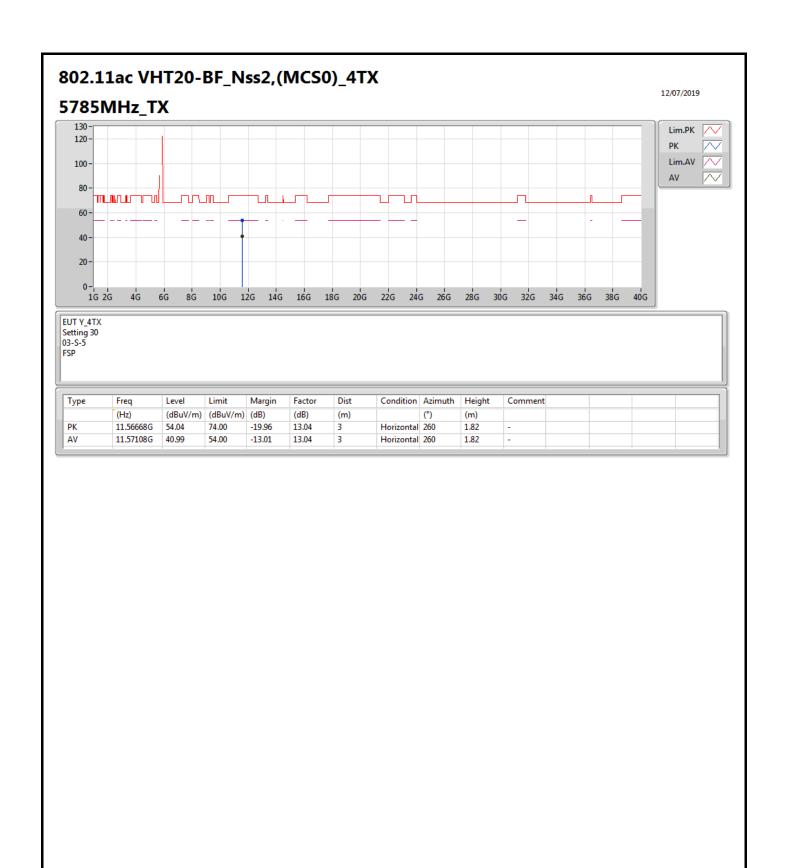
12/07/2019



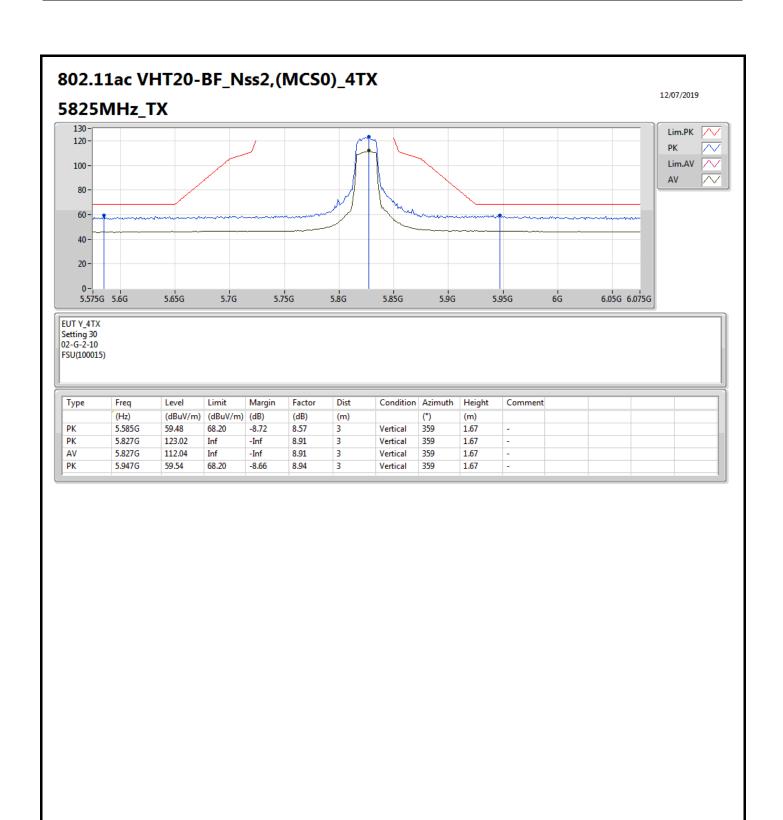


	Condition Azimuth	Height	Comment	
(Hz) (dBuV/m) (dBuV/m) (dB) (dB) (m)	(°)	(m)		
PK 11.56128G 54.73 74.00 -19.27 13.03 3	Vertical 6	2.05	-	
AV 11.56976G 40.99 54.00 -13.01 13.04 3	Vertical 6	2.05	-	

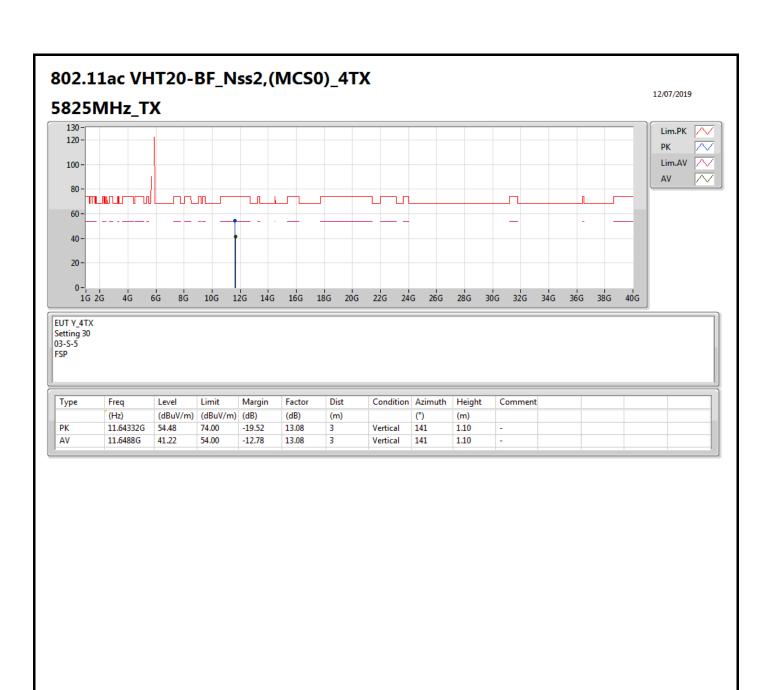




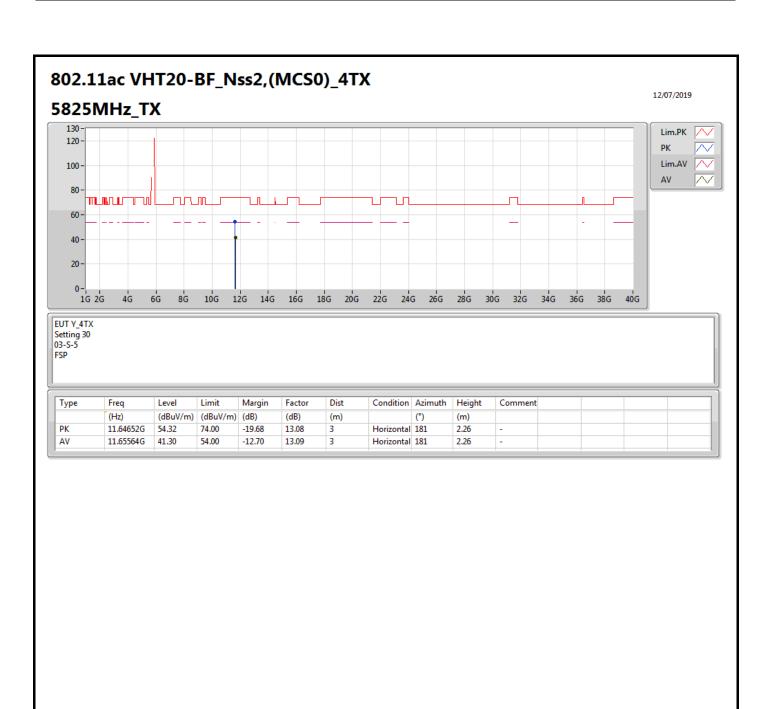




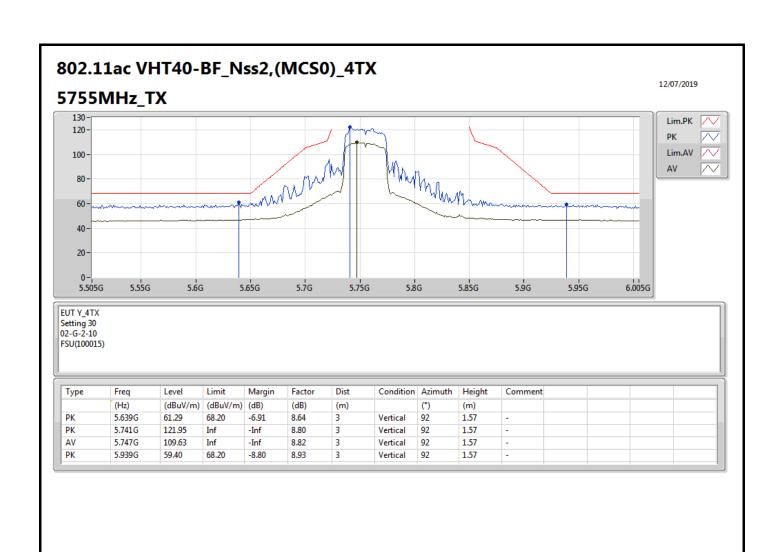




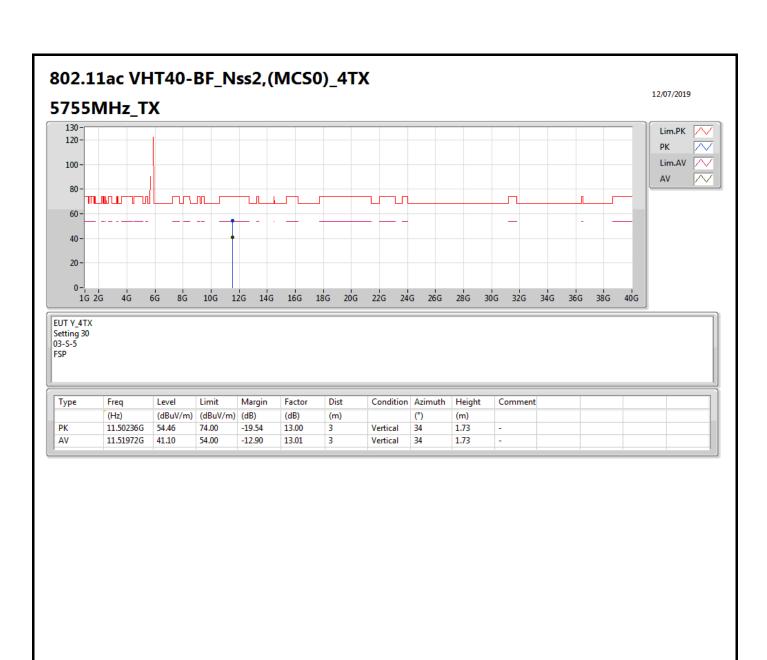




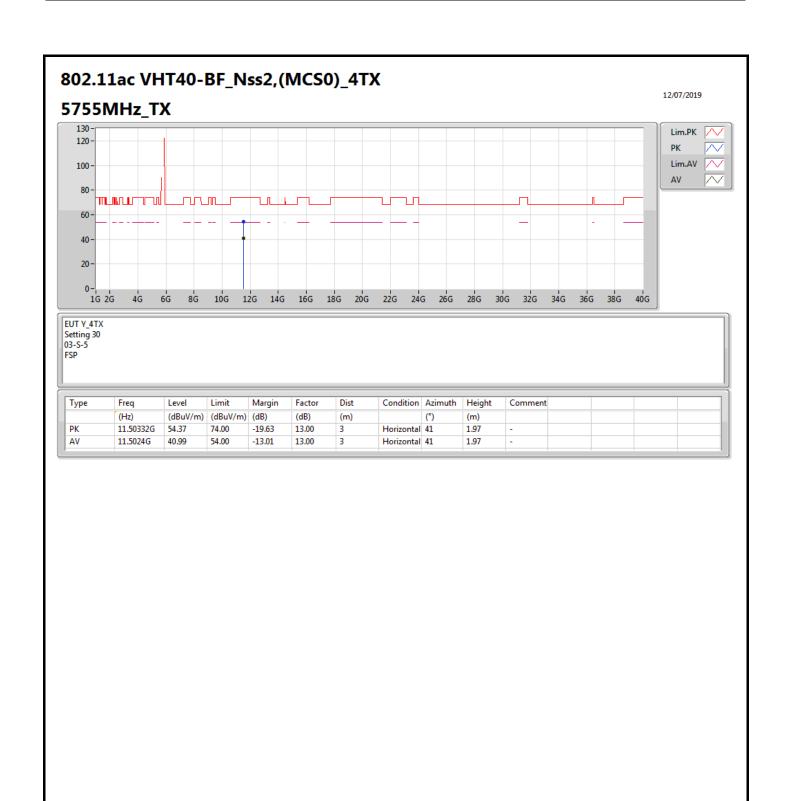




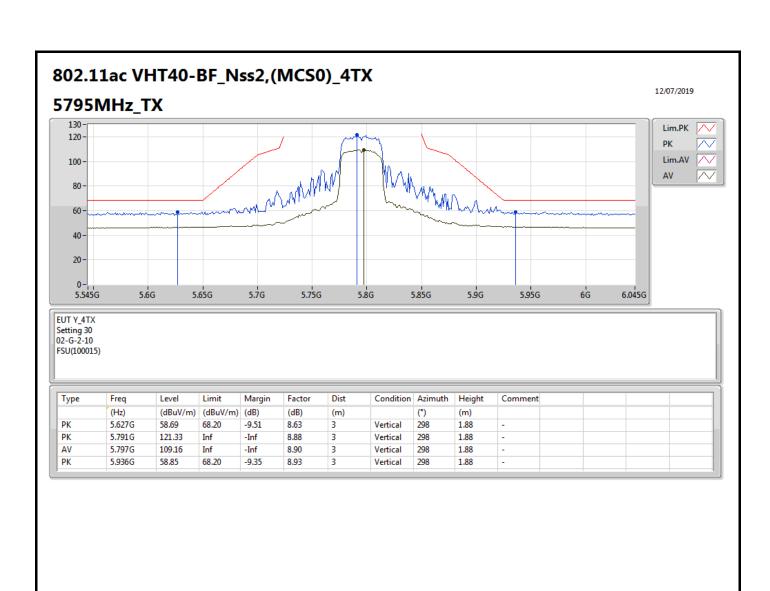




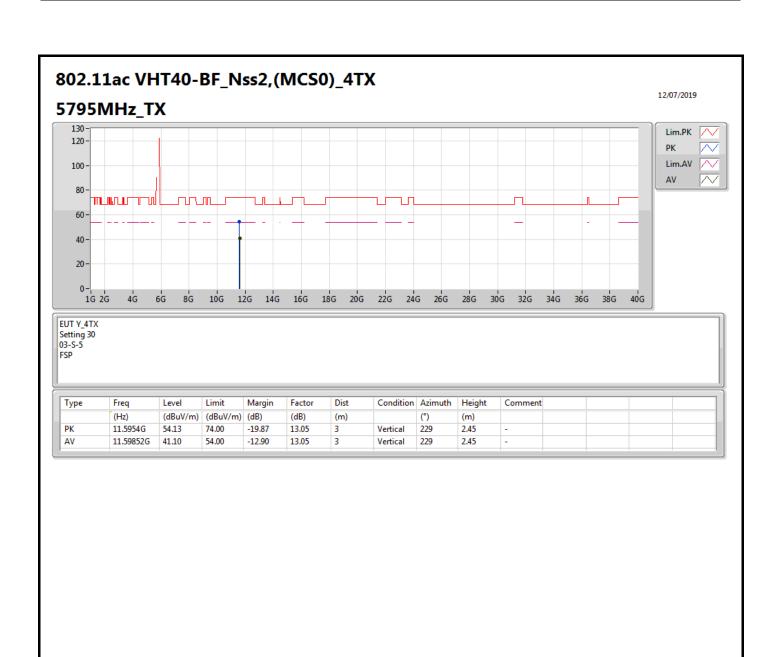








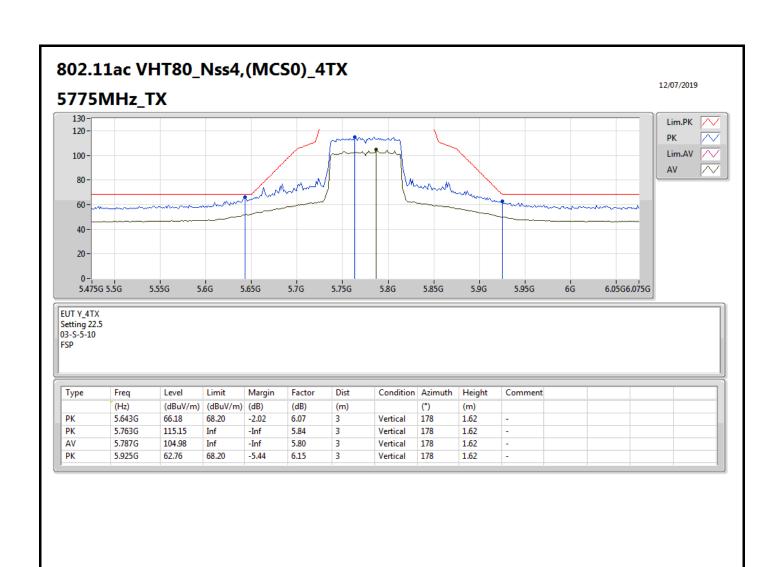




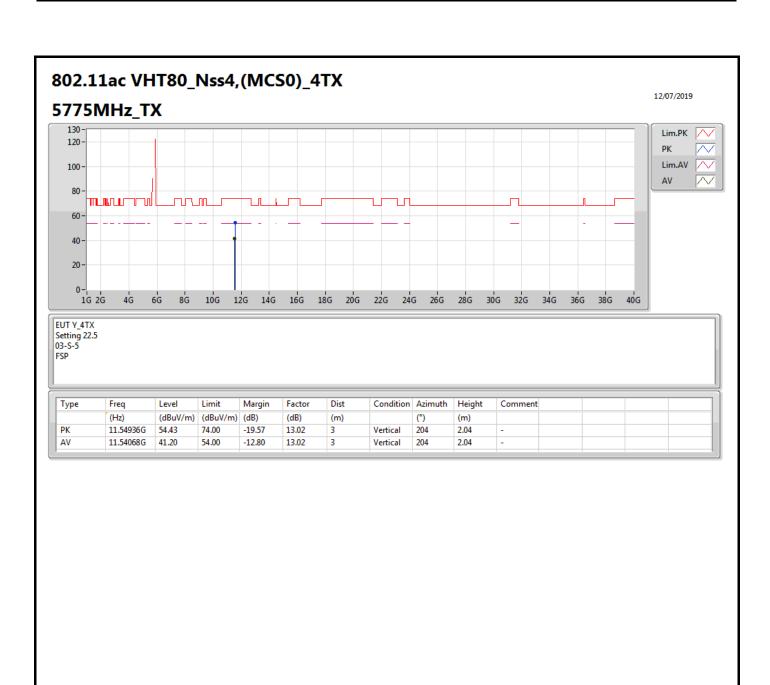




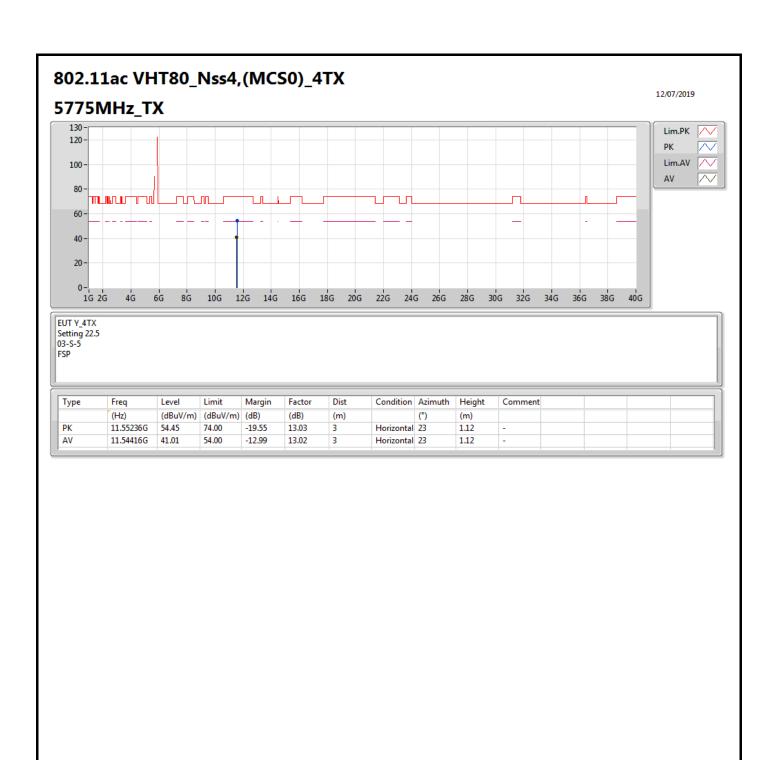




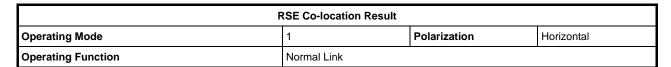


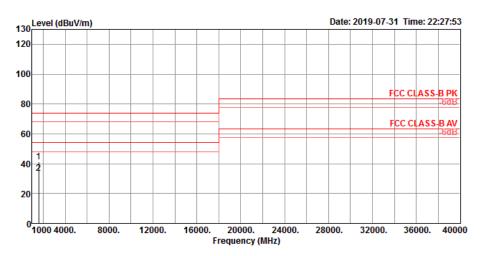






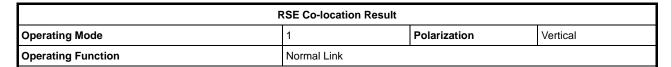


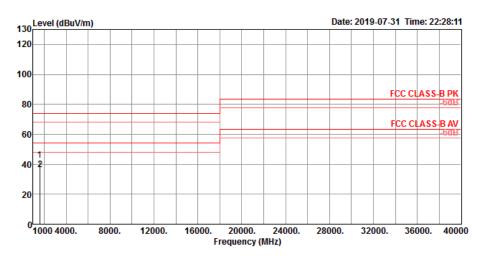




	Freq	Level						Preamp Factor		T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	1611.28									192		HORIZONTAL
2	1611.60	33.54	54.00	-20.46	41.00	3.20	26.29	36.95	106	192	Average	HORIZONTAL







	Freq	Level						Preamp Factor		T/Pos	Remark	Pol/Phase
-	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	1611.43	42.78	74.00	-31.22	50.24	3.20	26.29	36.95	131	95	Peak	VERTICAL
2	1616.18	36.31	54.00	-17.69	43.76	3.21	26.29	36.95	131	95	Average	VERTICAL