

Report No.: FR782206-07

FCC RADIO TEST REPORT

FCC ID : TE7WPA4220V5

Equipment : AV600 Powerline Wi-Fi Extender

Brand Name : tp-link

Model Name : TL-WPA4220

: TP-Link Technologies Co., Ltd. Applicant

> Building 24 (floors 1,3,4,5) and 28 (floors 1-4), Central Science and Technology Park, Nanshan

Shenzhen, 518057 China

Manufacturer : TP-Link Technologies Co., Ltd.

> Building 24 (floors 1,3,4,5) and 28 (floors 1-4), Central Science and Technology Park, Nanshan

Shenzhen, 518057 China

Standard : 47 CFR FCC Part 15.247

The product was received on Aug. 20, 2020, and testing was started from Aug. 25, 2020 and completed on Sep. 02, 2020. 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-A10 10 Ver1.2

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Photographs of EUT v01

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History of this test report

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Report No.	Version	Description	Issued Date
FR782206-07	01	Initial issue of report	Sep. 21, 2020

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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	15.247(a)	DTS Bandwidth	PASS	-
3.3	15.247(b)	Maximum Conducted Output Power	PASS	-
3.4	15.247(e)	Power Spectral Density	PASS	-
3.5	15.247(d)	Emissions in Non-restricted Frequency Bands	PASS	-
3.6	15.247(d)	Emissions in Restricted Frequency Bands	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
2400-2483.5	b, g, n (HT20)	2412-2462	1-11 [11]
2400-2483.5	n (HT40)	2422-2452	3-9 [7]

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Band	Mode	BWch (MHz)	Nant
2.4-2.4835GHz	802.11b	20	2TX
2.4-2.4835GHz	802.11g	20	2TX
2.4-2.4835GHz	802.11n HT20	20	2TX
2.4-2.4835GHz	802.11n HT40	40	2TX

Note:

- ◆ 11b mode uses a combination of DSSS-DBPSK, DQPSK, CCK modulation.
- 11g, HT20 and HT40 use a combination of OFDM-BPSK, QPSK, 16QAM, 64QAM modulation.
- BWch is the nominal channel bandwidth.

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1.1.2 Antenna Information

An	t. Por	t	Brand	Model Name	Antenna Type	Connector	Gain (dBi)
1	1		-	-	Printed Antenna	N/A	2
2	2		-	-	Printed Antenna	N/A	2

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Note: The above information was declared by manufacturer.

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

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

Ant. 1 and Ant. 2 could transmit/receive simultaneously.

1.1.3 Mode Test Duty Cycle

Mode	DC	DCF(dB)	T(s)	VBW(Hz) ≥ 1/T
802.11b	0.977	0.1	8.417m	300
802.11g	0.865	0.63	1.397m	1k
802.11n HT20	0.86	0.66	1.309m	1k
802.11n HT40	0.751	1.24	648.438u	3k

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

1.1.4 EUT Operational Condition

EUT Power Type	From Internal Power Supply			
Beamforming Function	☐ With beamforming ☑ Without beamforming			Without beamforming
Function				Point-to-point
Test Software Version	on MT7603 QA V0.0.0.70			

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

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

- FCC KDB 558074 D01 v05r02
- FCC KDB 662911 D01 v02r01
- 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, 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	RJ Huang	23.8-25.3°C / 55-56%	Aug. 26, 2020
Radiated<1GHz	03CH06-CB	Owen Hsu	23-23.7°C / 54-57%	Aug. 25, 2020 ~ Sep. 02, 2020
Radiated>1GHz	03CH04-CB	Owen Hsu	24.4-25.9°C / 55-57%	Aug. 25, 2020 ~ Sep. 02, 2020
AC Conduction	CO02-CB	Max Lin	20~21°C / 64~65%	Aug. 25, 2020

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 (30MHz ~ 1,000MHz)	5.6 dB	Confidence levels of 95%
Radiated Emission (1GHz ~ 18GHz)	4.9 dB	Confidence levels of 95%
Radiated Emission (18GHz ~ 40GHz)	4.6 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	0.39%	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
802.11b_Nss1,(1Mbps)_2TX	-
2412MHz	1E
2417MHz	24
2437MHz	26
2457MHz	21
2462MHz	21
802.11g_Nss1,(6Mbps)_2TX	-
2412MHz	1A
2417MHz	1F
2437MHz	2F
2457MHz	1E
2462MHz	18
802.11n HT20_Nss1,(MCS0)_2TX	-
2412MHz	18
2417MHz	1E
2437MHz	2F
2457MHz	1E
2462MHz	16
802.11n HT40_Nss1,(MCS0)_2TX	-
2422MHz	11
2427MHz	13
2437MHz	17
2447MHz	15
2452MHz	13

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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	Normal Link
1	Idle Mode (without data transmit)

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

The Worst Case Mode for Following Conformance Tests		
Tests Item	Emissions in Restricted Frequency Bands	
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.	
	CTX	
Operating Mode < 1GHz	The EUT was performed at Z axis and Y axis position for Emissions in Restricted Frequency Bands above 1GHz test, and the worst case was found at Y axis. So the measurement will follow this same test configuration.	
1	EUT in Y axis	
	CTX	
Operating Mode > 1GHz	The EUT was performed at Z axis and Y axis position and the worst case was found at Y axis. So the measurement will follow this same test configuration.	
1	EUT in Y axis	

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:

	Support Equipment			
No.	Equipment	Brand Name	Model Name	FCC ID
Α	LAN NB	DELL	E6430	N/A
В	2.4G NB	DELL	E6430	N/A

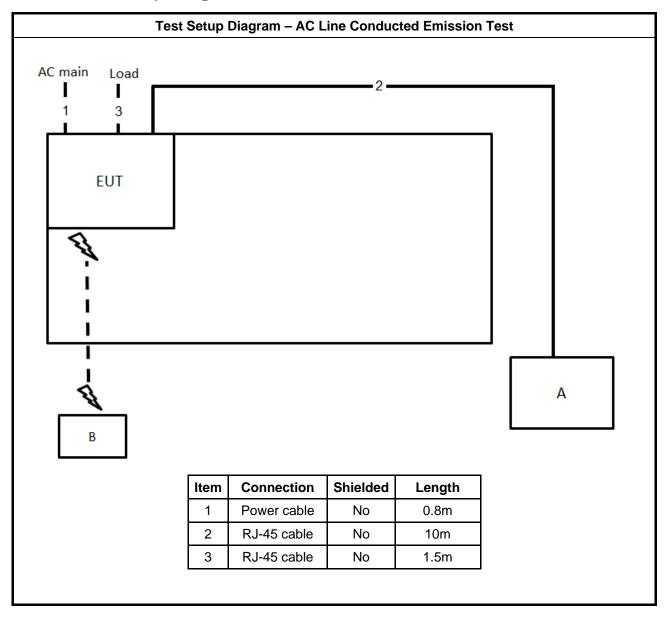
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For RF Conducted and Radiated:

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

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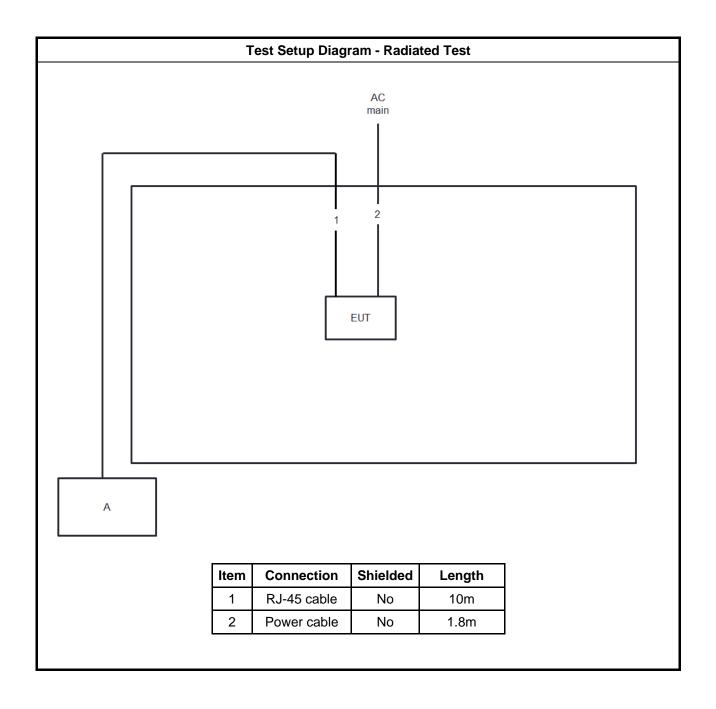
2.6 Test Setup Diagram



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3 Transmitter Test Result

3.1 AC Power-line Conducted Emissions

3.1.1 AC Power-line Conducted Emissions Limit

AC Power-line Conducted Emissions Limit		Limit
Frequency Emission (MHz) Quasi-Peak Average		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

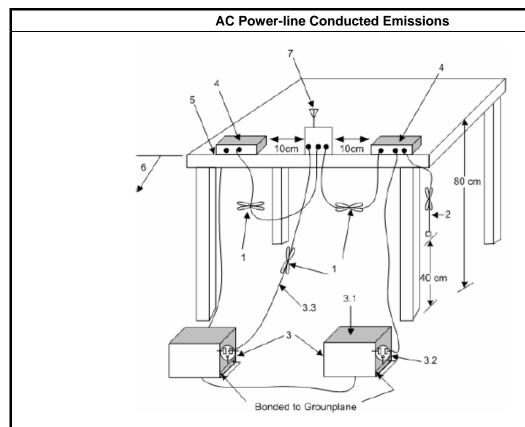
Refer a test equipment and calibration data table in this test report.

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 DTS Bandwidth

3.2.1 6dB Bandwidth Limit

6dB Bandwidth Limit	
Systems using digital modulation techniques:	
■ 6 dB bandwidth ≥ 500 kHz.	

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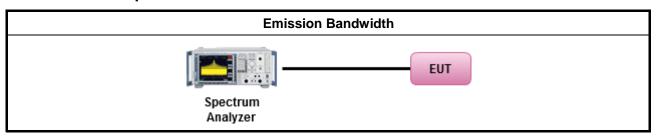
3.2.2 Measuring Instruments

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 558074, clause 8.2 & C63.10 clause 11.8.1 Option 1 for 6 dB bandwidth measurement.	
		Refer as FCC KDB 558074, clause 8.2 & C63.10 clause 11.8.2 Option 2 for 6 dB bandwidth measurement.	
		Refer as ANSI C63.10, clause 6.9.1 for occupied 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

- If G_{TX} ≤ 6 dBi, then P_{Out} ≤ 30 dBm (1 W)
- Point-to-multipoint systems (P2M): If $G_{TX} > 6$ dBi, then $P_{Out} = 30 (G_{TX} 6)$ dBm
- Point-to-point systems (P2P): If $G_{TX} > 6$ dBi, then $P_{Out} = 30 (G_{TX} 6)/3$ dBm
- Smart antenna system (SAS):
 - Single beam: If $G_{TX} > 6$ dBi, then $P_{Out} = 30 (G_{TX} 6)/3$ dBm
 - Overlap beam: If $G_{TX} > 6$ dBi, then $P_{Out} = 30 (G_{TX} 6)/3$ dBm
 - Aggregate power on all beams: If $G_{TX} > 6$ dBi, then $P_{Out} = 30 (G_{TX} 6)/3 + 8$ dB dBm

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 \mathbf{P}_{Out} = maximum peak conducted output power or maximum conducted output power in dBm, \mathbf{G}_{TX} = the maximum transmitting antenna directional gain in dBi.

3.3.2 Measuring Instruments

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

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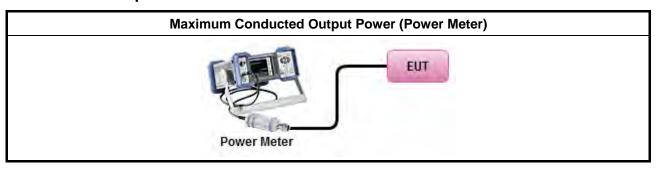
3.3.3 Test Procedures

	Test Method				
•	Max	imum Peak Conducted Output Power			
		Refer as FCC KDB 558074, clause 8.3.1.1 & C63.10 clause 11.9.1.1 (RBW ≥ EBW method).			
		Refer as FCC KDB 558074, clause 8.3.1.3 & C63.10 clause 11.9.1.3 (peak power meter).			
•	Max	imum Conducted Output Power			
	[duty	r cycle ≥ 98% or external video / power trigger]			
		Refer as FCC KDB 558074, clause 8.3.2.2 & C63.10 clause 11.9.2.2.2 Method AVGSA-1.			
		Refer as FCC KDB 558074, clause 8.3.2.2 & C63.10 clause 11.9.2.2.3 Method AVGSA-1A. (alternative)			
	duty	cycle < 98% and average over on/off periods with duty factor			
		Refer as FCC KDB 558074, clause 8.3.2.2 & C63.10 clause 11.9.2.2.4 Method AVGSA-2.			
		Refer as FCC KDB 558074, clause 8.3.2.2 & C63.10 clause 11.9.2.2.5 Method AVGSA-2A (alternative)			
		Refer as FCC KDB 558074, clause 8.3.2.2 & C63.10 clause 11.9.2.2.6 Method AVGSA-3			
		Refer as FCC KDB 558074, clause 8.3.2.2 & C63.10 clause 11.9.2.2.7 Method AVGSA-3A (alternative)			
	Measurement using a power meter (PM)				
		Refer as FCC KDB 558074, clause $8.3.2.3 \& C63.10$ clause $11.9.2.3.1$ Method AVGPM (using an RF average power meter).			
	\boxtimes	Refer as FCC KDB 558074, clause $8.3.2.3 \& C63.10$ clause $11.9.2.3.2$ Method AVGPM-G (using an gate 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: $P_{total} = P_1 + P_2 + + P_n$ (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



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3.3.5 Test Result of Maximum Conducted Output Power

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3.4 Power Spectral Density

3.4.1 Power Spectral Density Limit

Power Spectral Density Limit Power Spectral Density (PSD) ≤ 8 dBm/3kHz

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3.4.2 Measuring Instruments

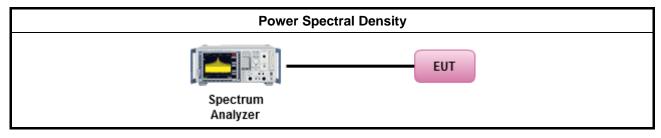
Refer a test equipment and calibration data table in this test report.

3.4.3 Test Procedures

	Test Method				
•	Peak power spectral density procedures that the same method as used to determine the conducted output power. If maximum peak conducted output power was measured to demonstrate compliance to the output power limit, then the peak PSD procedure below (Method PKPSD) shall be used. If maximum conducted output power was measured to demonstrate compliance to the output power limit, then one of the average PSD procedures shall be used, as applicable based on the following criteria (the peak PSD procedure is also an acceptable option).				
	\boxtimes	Ref	er as FCC KDB 558074, clause 8.4 & C63.10 clause 11.10 Method Max. PSD.		
•	For	cond	ucted measurement.		
	•	If Th	ne 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.		

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3.4.4 Test Setup



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3.4.5 Test Result of Power Spectral Density

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3.5 Emissions in Non-restricted Frequency Bands

3.5.1 Emissions in Non-restricted Frequency Bands Limit

Un-restricted Band Emissions Limit					
RF output power procedure	Limit (dBc)				
Peak output power procedure	20				
Average output power procedure	30				

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- Note 1: If the peak output power procedure is used to measure the fundamental emission power to demonstrate compliance to requirements, then the peak conducted output power measured within any 100 kHz outside the authorized frequency band shall be attenuated by at least 20 dB relative to the maximum measured in-band peak PSD level.
- Note 2: If the average output power procedure is used to measure the fundamental emission power to demonstrate compliance to requirements, then the power in any 100 kHz outside of the authorized frequency band shall be attenuated by at least 30 dB relative to the maximum measured in-band average PSD level.

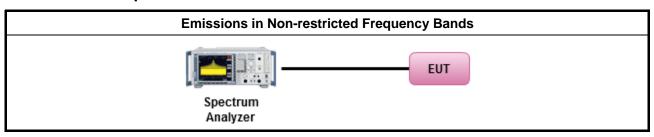
3.5.2 Measuring Instruments

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

3.5.3 Test Procedures

Test Method	
 Refer as FCC KDB 558074, clause 8.5 for unwanted emissions into non-restricted bands. 	

3.5.4 Test Setup



3.5.5 Test Result of Emissions in Non-restricted Frequency Bands

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3.6 Emissions in Restricted Frequency Bands

3.6.1 Emissions in Restricted Frequency Bands Limit

Restricted Band Emissions 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 ELIT
- 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.

3.6.2 Measuring Instruments

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

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3.6.3 Test Procedures

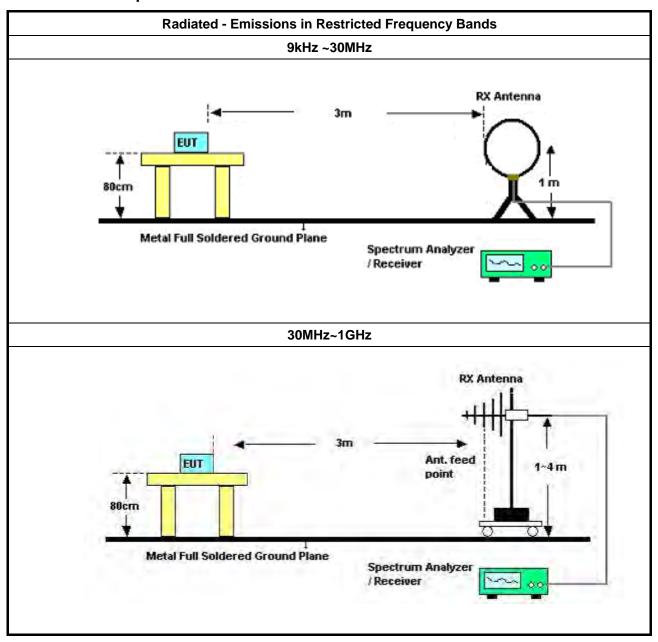
		Test Method
•	The	average emission levels shall be measured in [duty cycle ≥ 98 or duty factor].
•		er as ANSI C63.10, clause 6.10.3 band-edge testing shall be performed at the lowest frequency nnel and highest frequency channel within the allowed operating band.
•	For	the transmitter unwanted emissions shall be measured using following options below:
	•	Refer as FCC KDB 558074, clause 8.6 for unwanted emissions into restricted bands.
		Refer as FCC KDB 558074, clause 8.6 & C63.10 clause 11.12.2.5.1(trace averaging for duty cycle ≥98%).
		Refer as FCC KDB 558074, clause 8.6 & C63.10 clause 11.12.2.5.2(trace averaging + duty factor).
		☐ Refer as FCC KDB 558074, clause 8.6 & C63.10 clause 11.12.2.5.3(Reduced VBW≥1/T).
		Refer as ANSI C63.10, clause 7.5 average value of pulsed emissions.
		Refer as FCC KDB 558074, clause 8.6 & C63.10 clause 11.12.2.4 measurement procedure peak limit.
•	For	the transmitter band-edge emissions shall be measured using following options below:
	•	Refer as FCC KDB 558074 clause 8.7 & C63.10 clause 11.13.1, When the performing peak or average radiated measurements, emissions within 2 MHz of the authorized band edge may be measured using the marker-delta method described below.
	•	Refer as FCC KDB 558074, clause 8.7 (ANSI C63.10, clause 6.10.6) for marker-delta method for band-edge measurements.
	•	Refer as FCC KDB 558074, clause 8.7 for narrower resolution bandwidth (100kHz) using the band power and summing the spectral levels (i.e., 1 MHz).
	•	For conducted unwanted emissions into restricted bands (absolute emission limits). Devices with multiple transmit chains using options given below: (1) Measure and sum the spectra across the outputs or (2) Measure and add 10 log(N) dB
	•	For FCC KDB 662911 The methodology described here may overestimate array gain, thereby resulting in apparent failures to satisfy the out-of-band limits even if the device is actually compliant. In such cases, compliance may be demonstrated by performing radiated tests around the frequencies at which the apparent failures occurred.

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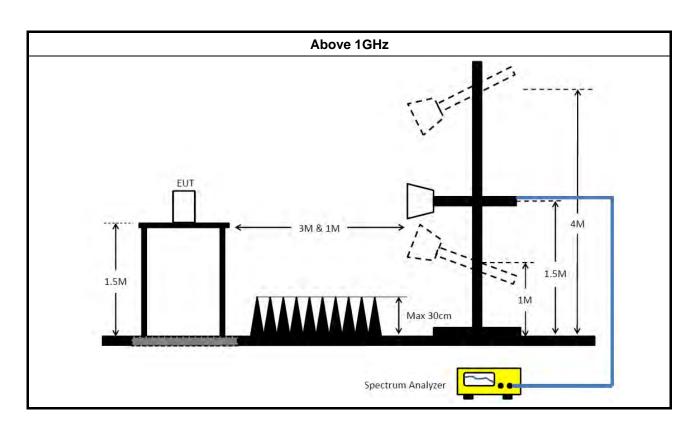
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3.6.4 Test Setup



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3.6.5 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.

3.6.6 Emissions in Restricted Frequency Bands (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.

3.6.7 Test Result of Emissions in Restricted Frequency Bands

Refer as Appendix F

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4 Test Equipment and Calibration Data

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Calibration Due Date	Remark
LISN	Schwarzbeck	NSLK 8127	8127650	8127650 9kHz ~ 30MHz		Nov. 20, 2020	Conduction (CO02-CB)
LISN	Schwarzbeck	NSLK 8127	8127478	9kHz ~ 30MHz	Oct. 30, 2019	Oct. 29, 2020	Conduction (CO02-CB)
EMI Receiver	Agilent	N9038A	MY52260140	9kHz ~ 8.4GHz	Mar. 10, 2020	Mar. 09, 2021	Conduction (CO02-CB)
COND Cable	Woken	Cable	2	0.15MHz ~ 30MHz	Oct. 21, 2019	Oct. 20, 2020	Conduction (CO02-CB)
Software	Audix	E3	6.120210n	-	N.C.R.	N.C.R.	Conduction (CO02-CB)
Pulse Limiter	Schwarzbeck	VTSD 9561F-N	00378	9kHz ~ 30MHz	Mar. 19, 2020	Mar. 18, 2021	Conduction (CO02-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	EMCI	EMC330N	980391	20MHz ~ 3GHz	May 21, 2020	May 20, 2021	Radiation (03CH06-CB)
Spectrum analyzer	R&S	FSP40	100080	9kHz~40GHz	Oct. 21, 2019	Oct. 20, 2020	Radiation (03CH06-CB)
RF Cable-low	HUBER+SUH NER	RG402	Low Cable-05+24	30MHz~1GHz	Oct. 07, 2019	Oct. 06, 2020	Radiation (03CH06-CB)
Test Software	SPORTON	SENSE	V5.10	-	N.C.R.	N.C.R.	Radiation (03CH06-CB)
Horn Antenna	ETS • Lindgren	3115	00143147	750MHz~18GHz	Oct. 22, 2019	Oct. 21, 2020	Radiation (03CH04-CB)
Horn Antenna	Schwarzbeck	BBHA 9170	BBHA9170252	15GHz ~ 40GHz	Jul. 21, 2020	Jul. 20, 2021	Radiation (03CH04-CB)
Pre-Amplifier	Agilent	83017A	MY53270063	0.5GHz ~ 26.5GHz	Jul. 14, 2020	Jul. 13, 2021	Radiation (03CH04-CB)
Pre-Amplifier	MITEQ	TTA1840-35-H G	1864479	18GHz ~ 40GHz	Jul. 08, 2020	Jul. 07, 2021	Radiation (03CH04-CB)
Spectrum Analyzer	R&S	FSP40	100142	9kHz~40GHz	Dec. 18, 2019	Dec. 17, 2020	Radiation (03CH04-CB
RF Cable-high	Woken	RG402	High Cable-21	1GHz - 18GHz	Jul. 07, 2020	Jul. 06, 2021	Radiation (03CH04-CB)
RF Cable-high	Woken	RG402	High Cable-21+22	1GHz - 18GHz	Feb. 01, 2020	Jan. 31, 2021	Radiation (03CH04-CB)
RF Cable-high	Woken	RG402	High Cable-40G#1	18GHz ~ 40 GHz	Jul. 16, 2020	Jul. 15, 2021	Radiation (03CH04-CB)
RF Cable-high	Woken	RG402	High Cable-40G#2	18GHz ~ 40 GHz	Jul. 16, 2020	Jul. 15, 2021	Radiation (03CH04-CB)
Test Software	SPORTON	SENSE	V5.10	-	N.C.R.	N.C.R.	Radiation (03CH04-CB)

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Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Calibration Due Date	Remark
Spectrum analyzer	R&S	FSV40	101027	9kHz~40GHz	Jul. 27, 2020	Jul. 26, 2021	Conducted (TH02-CB)
Power Sensor	Anritsu	MA2411B	1531343	300MHz~40GHz	Aug. 04, 2020	Aug. 03, 2021	Conducted (TH02-CB)
Power Meter	Anritsu	ML2495A	1728001	300MHz~40GHz	Aug. 04, 2020	Aug. 03, 2021	Conducted (TH02-CB)
RF Cable-high	Woken	RG402	High Cable-01	1 GHz – 26.5 GHz	Oct. 07, 2019	Oct. 06, 2020	Conducted (TH02-CB)
RF Cable-high	Woken	RG402	High Cable-02	1 GHz – 26.5 GHz	Oct. 07, 2019	Oct. 06, 2020	Conducted (TH02-CB)
RF Cable-high	Woken	RG402	High Cable-3	1 GHz – 26.5 GHz	Oct. 07, 2019	Oct. 06, 2020	Conducted (TH02-CB)
RF Cable-high	Woken	RG402	High Cable-04	1 GHz – 26.5 GHz	Oct. 07, 2019	Oct. 06, 2020	Conducted (TH02-CB)
RF Cable-high	Woken	RG402	High Cable-05	1 GHz – 26.5 GHz	Oct. 07, 2019	Oct. 06, 2020	Conducted (TH02-CB)
Test Software	SPORTON	SENSE	V5.10	-	N.C.R.	N.C.R.	Conducted (TH02-CB)

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

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

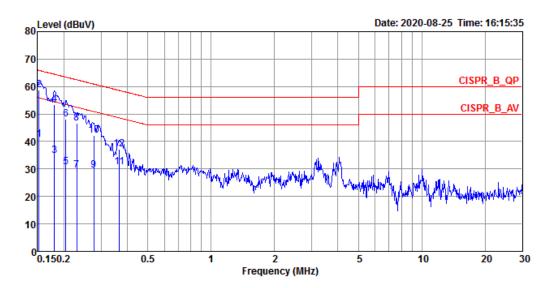
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AC Power Port Conducted Emission Result

Test Mode	Mode 1	Frequency Range	0.15 MHz to 30 MHz

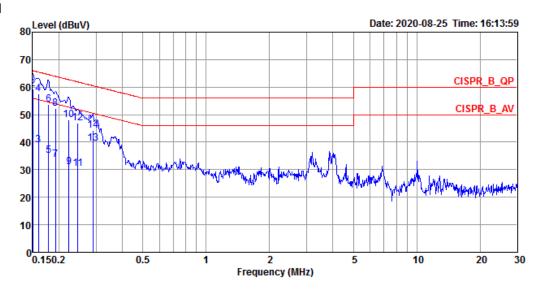
Line



			Over	Limit	Read	LISN	Cable		
	Freq	Level	Limit	Line	Level	Factor	Loss	Remark	Pol/Phase
	MHz	dBuV	dB	dBuV	dBuV	dB	dB		
1	0.1524	40.64	-15.23	55.87	30.43	10.15	0.06	Average	LINE
2	0.1524	58.60	-7.27	65.87	48.39	10.15	0.06	QP	LINE
3	0.1806	34.91	-19.55	54.46	24.69	10.15	0.07	Average	LINE
4	0.1806	53.34	-11.12	64.46	43.12	10.15	0.07	QP	LINE
5	0.2040	30.62	-22.83	53.45	20.40	10.15	0.07	Average	LINE
6	0.2040	48.13	-15.32	63.45	37.91	10.15	0.07	QP	LINE
7	0.2304	29.48	-22.96	52.44	19.26	10.15	0.07	Average	LINE
8	0.2304	46.53	-15.91	62.44	36.31	10.15	0.07	QP	LINE
9	0.2773	29.49	-21.41	50.90	19.27	10.15	0.07	Average	LINE
10	0.2773	42.27	-18.63	60.90	32.05	10.15	0.07	QP	LINE
11	0.3673	30.76	-17.80	48.56	20.52	10.16	0.08	Average	LINE
12	0.3673	37.27	-21.29	58.56	27.03	10.16	0.08	QP	LINE



Neutral



			0ver	Limit	Read	LISN	Cable		
	Freq	Level	Limit	Line	Level	Factor	Loss	Remark	Pol/Phase
	MHz	dBuV	dB	dBuV	dBuV	dB	dB		
1	0.1500	40.82	-15.18	56.00	30.63	10.13	0.06	Average	NEUTRAL
2	0.1500	59.39	-6.61	66.00	49.20	10.13	0.06	QP	NEUTRAL
3	0.1598	39.05	-16.42	55.47	28.86	10.13	0.06	Average	NEUTRAL
4	0.1598	57.56	-7.91	65.47	47.37	10.13	0.06	QP	NEUTRAL
5	0.1787	35.02	-19.53	54.55	24.82	10.13	0.07	Average	NEUTRAL
6	0.1787	53.87	-10.68	64.55	43.67	10.13	0.07	QP	NEUTRAL
7	0.1924	33.59	-20.34	53.93	23.39	10.13	0.07	Average	NEUTRAL
8	0.1924	52.19	-11.74	63.93	41.99	10.13	0.07	QP	NEUTRAL
9	0.2232	30.93	-21.77	52.70	20.73	10.13	0.07	Average	NEUTRAL
10	0.2232	48.06	-14.64	62.70	37.86	10.13	0.07	QP	NEUTRAL
11	0.2455	30.36	-21.55	51.91	20.16	10.13	0.07	Average	NEUTRAL
12	0.2455	46.97	-14.94	61.91	36.77	10.13	0.07	QP	NEUTRAL
13	0.2909	39.68	-10.82	50.50	29.47	10.14	0.07	Average	NEUTRAL
14	0.2909	44.23	-16.27	60.50	34.02	10.14	0.07	QP	NEUTRAL



Summary

Mode	Max-N dB Max-OBW		ITU-Code	Min-N dB	Min-OBW
	(Hz)	(Hz)		(Hz)	(Hz)
2.4-2.4835GHz	-	-	-	-	-
802.11b_Nss1,(1Mbps)_2TX	10.075M	15.292M	15M3D2W	9.525M	14.393M
802.11g_Nss1,(6Mbps)_2TX	15.05M	22.789M	22M8D7W	13.85M	16.367M
802.11n HT20_Nss1,(MCS0)_2TX	16.3M	25.562M	25M6D7W	15.05M	17.516M
802.11n HT40_Nss1,(MCS0)_2TX	35.05M	35.982M	36M0D7W	34.95M	35.882M

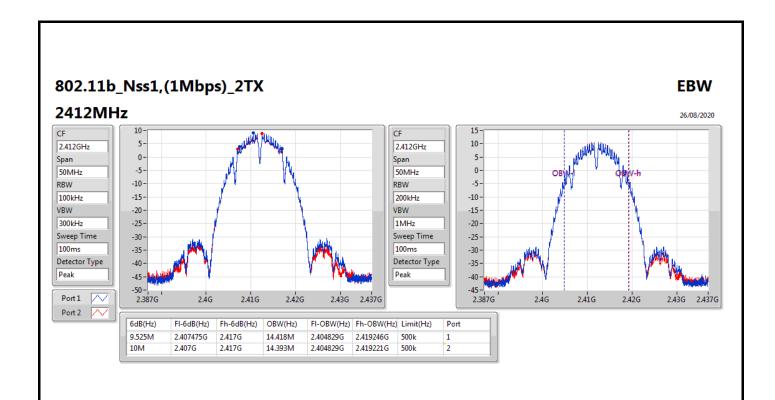
Max-N dB = Maximum 6dB down bandwidth; Max-OBW = Maximum 99% occupied bandwidth; Min-N dB = Minimum 6dB down bandwidth; Min-OBW = Minimum 99% occupied bandwidth;

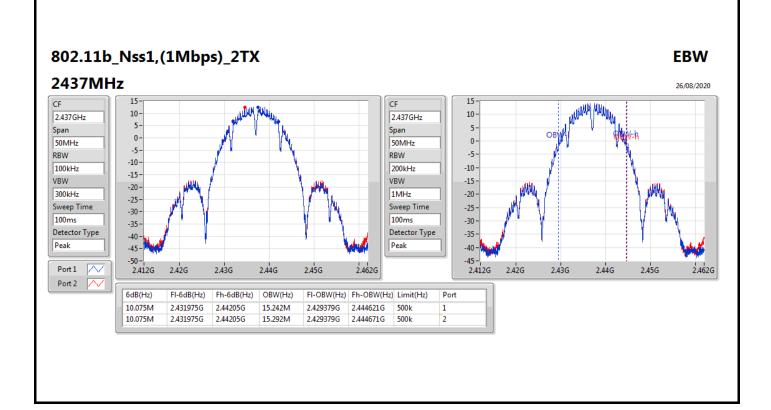


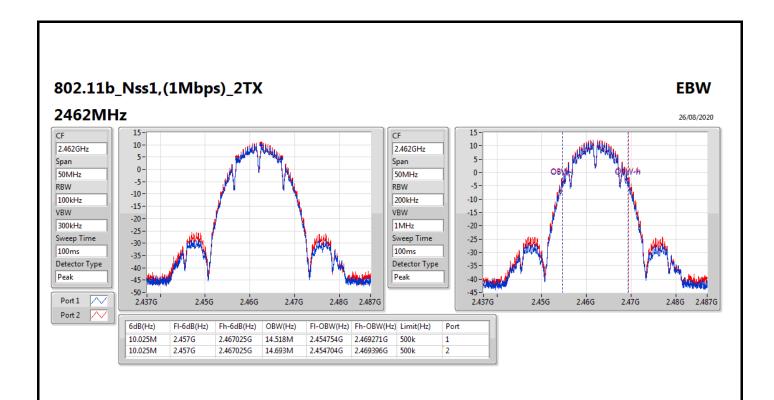
Result

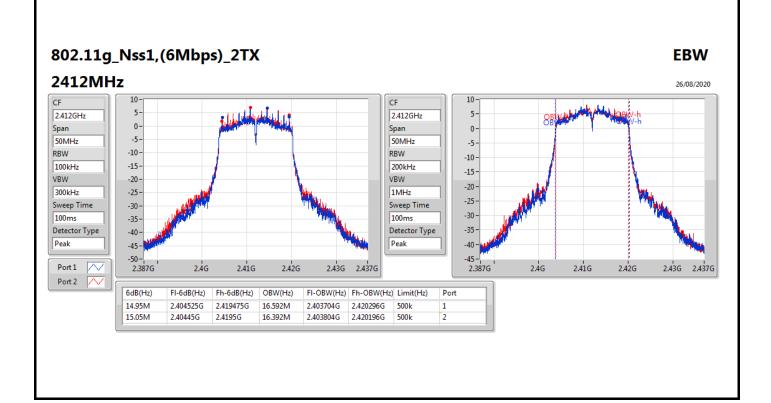
Mode	Result	Limit	Port 1-N dB	Port 1-OBW	Port 2-N dB	Port 2-OBW
		(Hz)	(Hz)	(Hz)	(Hz)	(Hz)
802.11b_Nss1,(1Mbps)_2TX	-	-	-	-	-	-
2412MHz	Pass	500k	9.525M	14.418M	10M	14.393M
2437MHz	Pass	500k	10.075M	15.242M	10.075M	15.292M
2462MHz	Pass	500k	10.025M	14.518M	10.025M	14.693M
802.11g_Nss1,(6Mbps)_2TX	-	-	-	-	-	-
2412MHz	Pass	500k	14.95M	16.592M	15.05M	16.392M
2437MHz	Pass	500k	13.85M	20.34M	15.05M	22.789M
2462MHz	Pass	500k	14.05M	16.567M	15.05M	16.367M
802.11n HT20_Nss1,(MCS0)_2TX	-	-	-	-	-	-
2412MHz	Pass	500k	15.05M	17.566M	15.1M	17.516M
2437MHz	Pass	500k	15.125M	22.039M	16.3M	25.562M
2462MHz	Pass	500k	15.075M	17.566M	15.1M	17.516M
802.11n HT40_Nss1,(MCS0)_2TX	-	-	-	-	-	-
2422MHz	Pass	500k	34.95M	35.882M	35.05M	35.932M
2437MHz	Pass	500k	35.05M	35.932M	35.05M	35.982M
2452MHz	Pass	500k	35.05M	35.882M	35.05M	35.982M

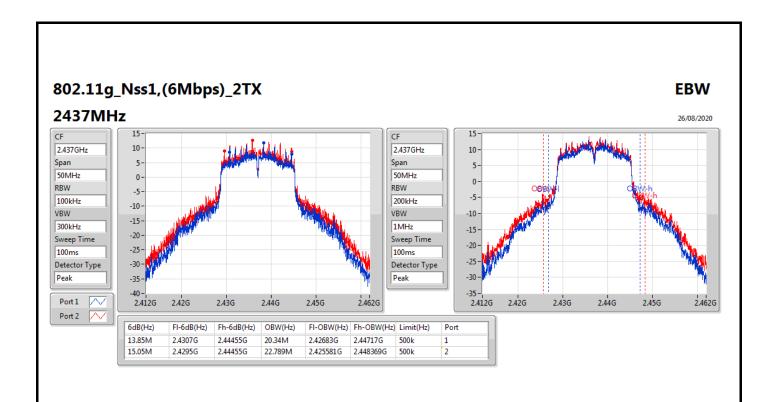
Port X-N dB = Port X 6dB down bandwidth; Port X-OBW = Port X 99% occupied bandwidth;

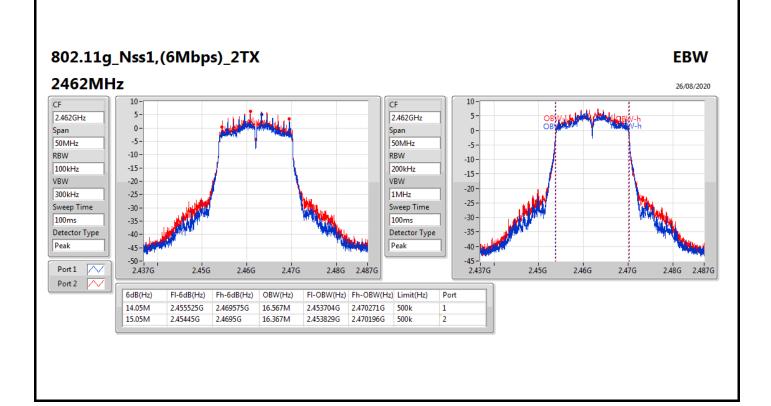


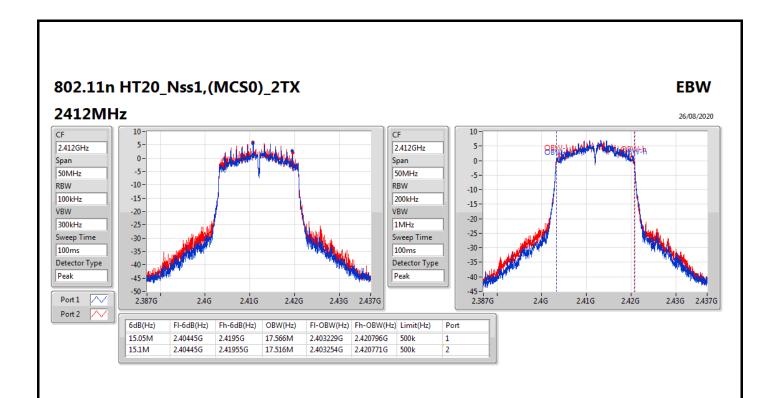


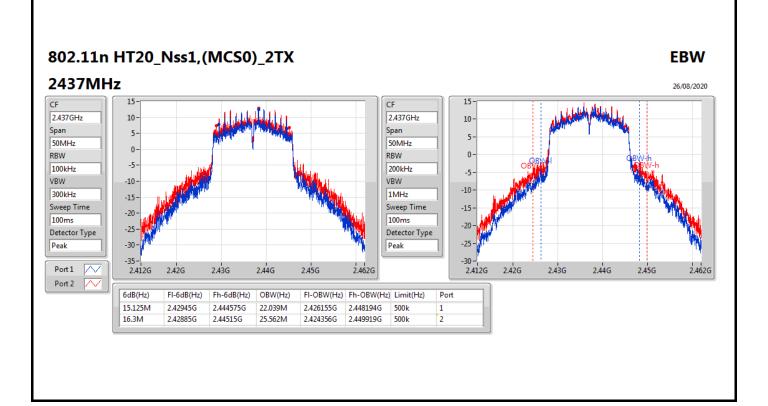


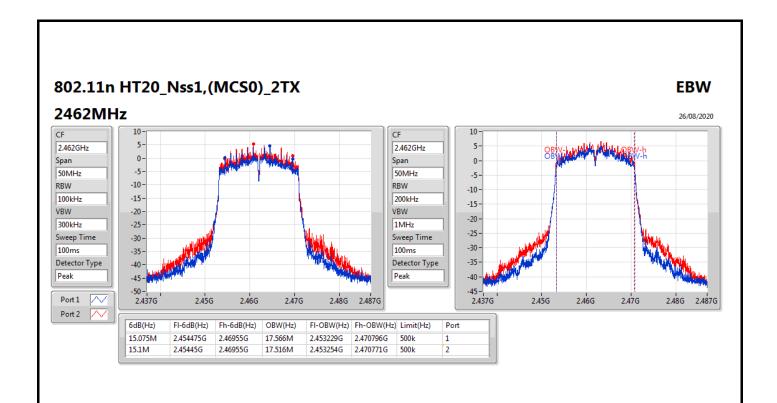


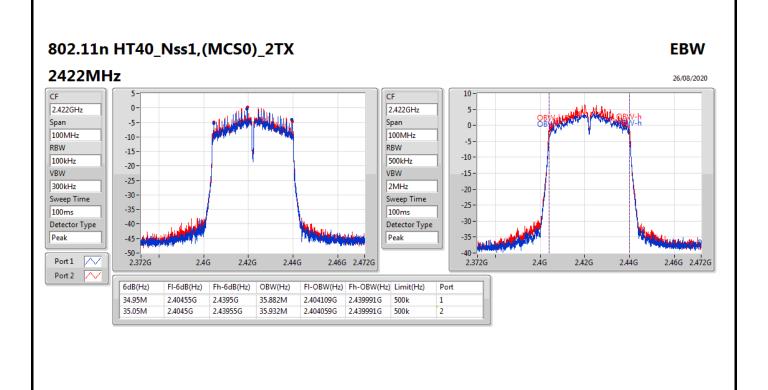




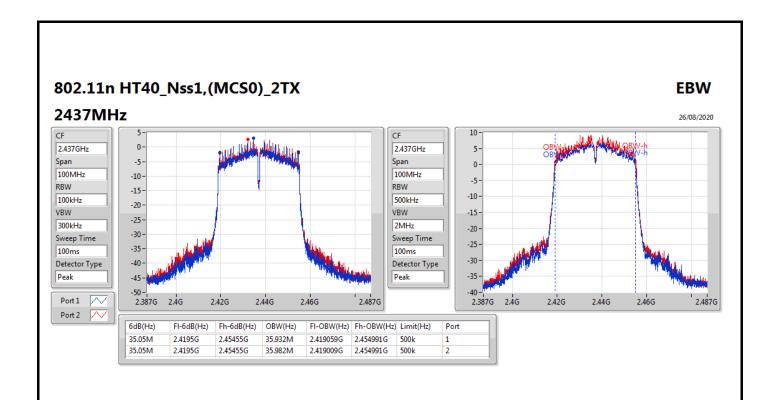


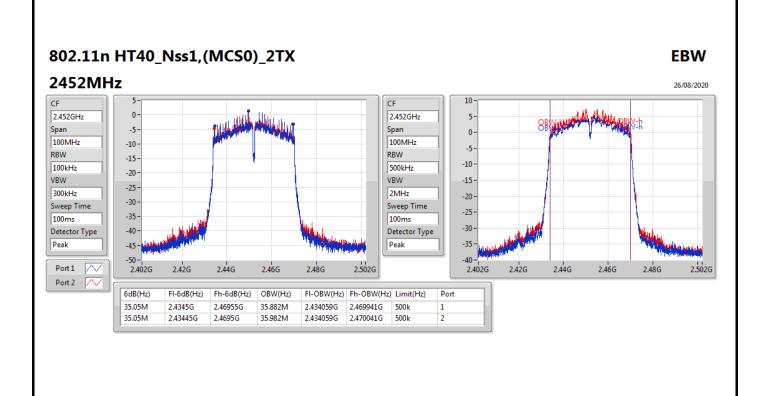






EBW Appendix B







Average Power Appendix C

Mode	Total Power	Total Power		
	(dBm)	(W)		
2.4-2.4835GHz	-	-		
802.11b_Nss1,(1Mbps)_2TX	26.17	0.41400		
802.11g_Nss1,(6Mbps)_2TX	25.66	0.36813		
802.11n HT20_Nss1,(MCS0)_2TX	25.96	0.39446		
802.11n HT40_Nss1,(MCS0)_2TX	18.76	0.07516		



Average Power Appendix C

Result

Mode	Result	DG	Port 1	Port 2	Total Power	Power Limit
		(dBi)	(dBm)	(dBm)	(dBm)	(dBm)
802.11b_Nss1,(1Mbps)_2TX	-	-	-	-	-	-
2412MHz	Pass	2.00	19.37	19.43	22.41	30.00
2417MHz	Pass	2.00	22.27	22.44	25.37	30.00
2437MHz	Pass	2.00	23.17	23.14	26.17	30.00
2457MHz	Pass	2.00	20.67	20.64	23.67	30.00
2462MHz	Pass	2.00	20.32	21.19	23.79	30.00
802.11g_Nss1,(6Mbps)_2TX	-	-	-	-	-	-
2412MHz	Pass	2.00	17.06	17.42	20.25	30.00
2417MHz	Pass	2.00	19.44	19.79	22.63	30.00
2437MHz	Pass	2.00	22.14	23.10	25.66	30.00
2457MHz	Pass	2.00	18.95	19.05	22.01	30.00
2462MHz	Pass	2.00	15.69	16.69	19.23	30.00
802.11n HT20_Nss1,(MCS0)_2TX	-	-	-	-	-	-
2412MHz	Pass	2.00	15.91	16.50	19.23	30.00
2417MHz	Pass	2.00	18.81	19.25	22.05	30.00
2437MHz	Pass	2.00	22.36	23.47	25.96	30.00
2457MHz	Pass	2.00	18.78	19.18	21.99	30.00
2462MHz	Pass	2.00	14.49	15.83	18.22	30.00
802.11n HT40_Nss1,(MCS0)_2TX	-	-	-	-	-	-
2422MHz	Pass	2.00	12.82	13.00	15.92	30.00
2427MHz	Pass	2.00	13.65	13.97	16.82	30.00
2437MHz	Pass	2.00	15.67	15.83	18.76	30.00
2447MHz	Pass	2.00	14.67	14.84	17.77	30.00
2452MHz	Pass	2.00	13.72	13.86	16.80	30.00

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



Summary

Mode	PD
	(dBm/RBW)
2.4-2.4835GHz	·
802.11b_Nss1,(1Mbps)_2TX	-4.84
802.11g_Nss1,(6Mbps)_2TX	-1.68
802.11n HT20_Nss1,(MCS0)_2TX	-0.48
802.11n HT40_Nss1,(MCS0)_2TX	-10.85

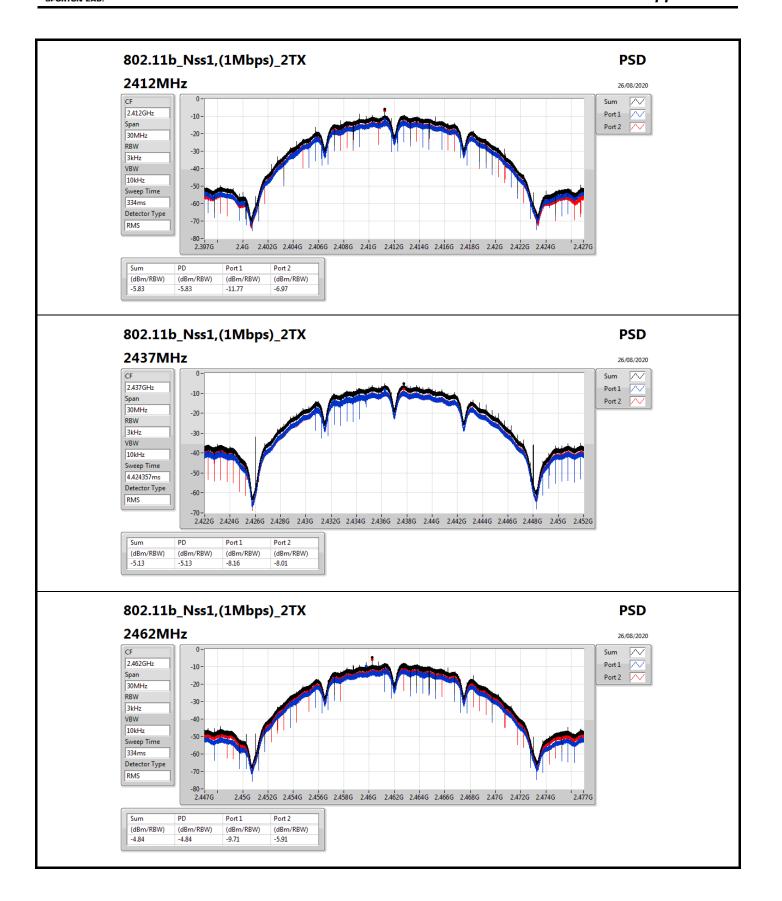
RBW = 500 kHz for 5.725-5.85GHz band / 1MHz for other band;

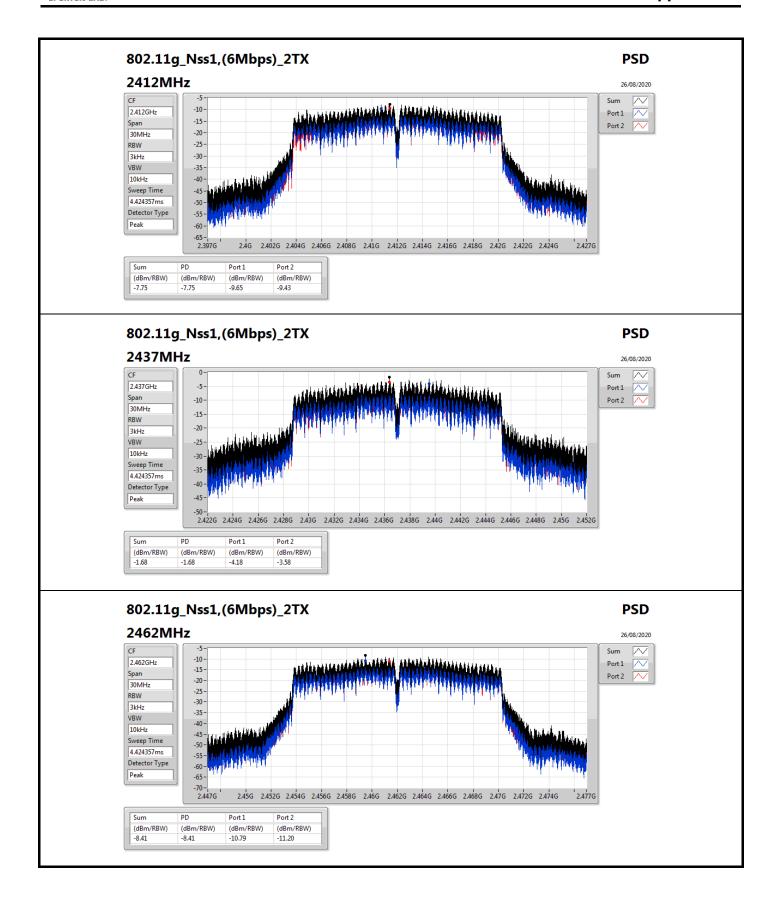


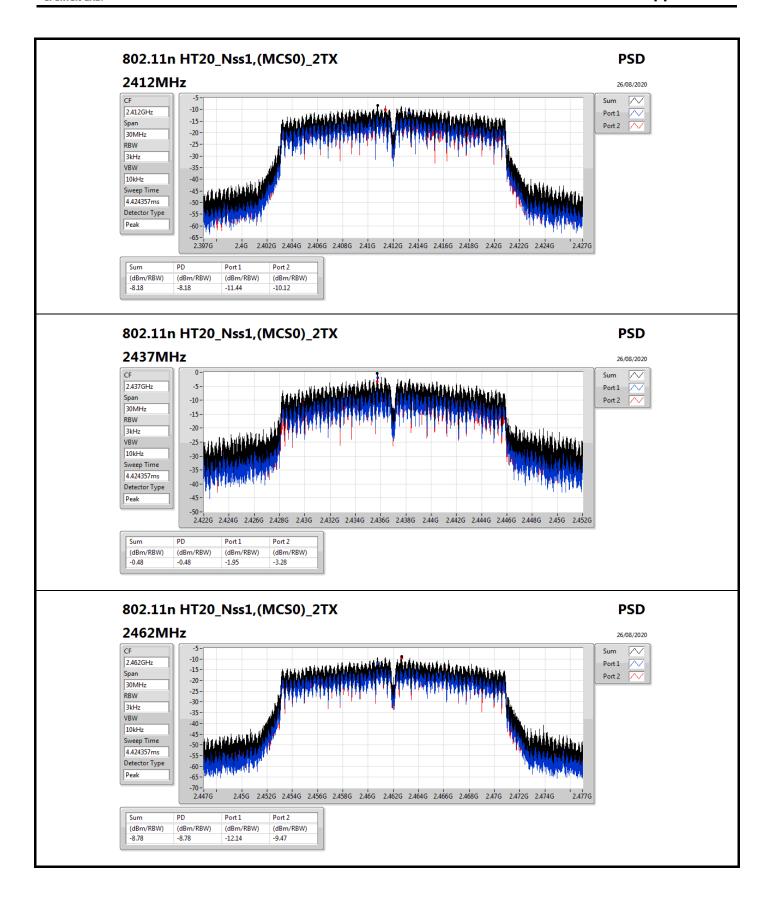
Result

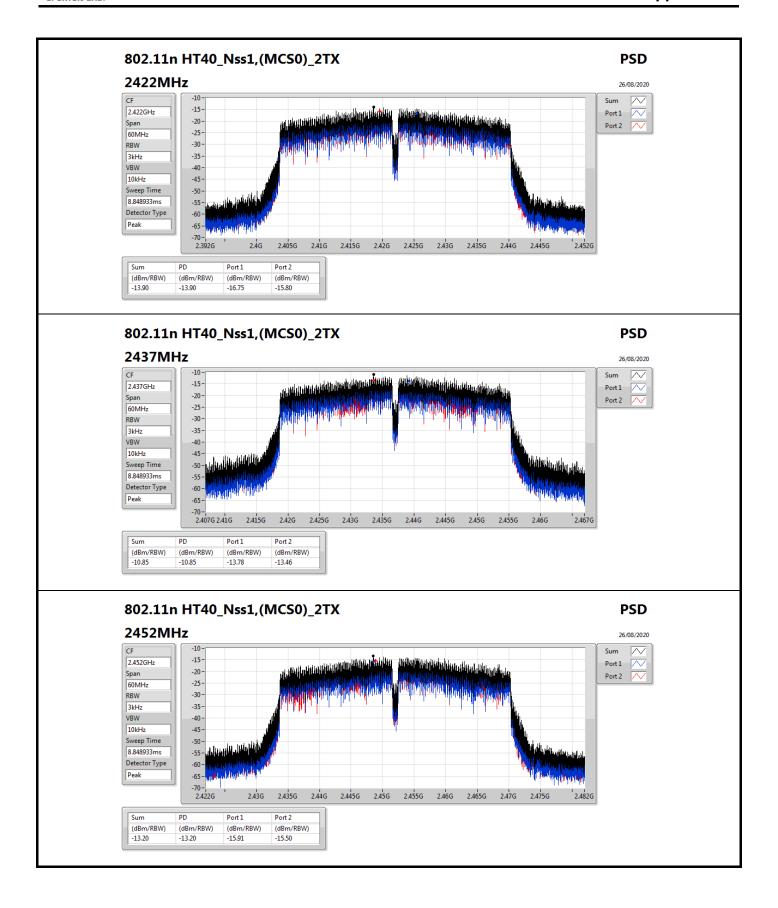
Mode	Result	DG	Port 1	Port 2	PD	PD Limit
		(dBi)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
802.11b_Nss1,(1Mbps)_2TX	-	-	-	-	-	-
2412MHz	Pass	5.01	-11.77	-6.97	-5.83	8.00
2437MHz	Pass	5.01	-8.16	-8.01	-5.13	8.00
2462MHz	Pass	5.01	-9.71	-5.91	-4.84	8.00
802.11g_Nss1,(6Mbps)_2TX	-	-	-	-	-	-
2412MHz	Pass	5.01	-9.65	-9.43	-7.75	8.00
2437MHz	Pass	5.01	-4.18	-3.58	-1.68	8.00
2462MHz	Pass	5.01	-10.79	-11.20	-8.41	8.00
802.11n HT20_Nss1,(MCS0)_2TX	-	-	-	-	-	-
2412MHz	Pass	5.01	-11.44	-10.12	-8.18	8.00
2437MHz	Pass	5.01	-1.95	-3.28	-0.48	8.00
2462MHz	Pass	5.01	-12.14	-9.47	-8.78	8.00
802.11n HT40_Nss1,(MCS0)_2TX	-	-	-	-	-	-
2422MHz	Pass	5.01	-16.75	-15.80	-13.90	8.00
2437MHz	Pass	5.01	-13.78	-13.46	-10.85	8.00
2452MHz	Pass	5.01	-15.91	-15.50	-13.20	8.00

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;











CSE(Non-restricted Band)

Appendix E

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Mode	Result	Ref	Ref	Limit	Freq	Level	Freq	Level	Freq	Level	Freq	Level	Freq	Level	Port
		(Hz)	(dBm)	(dBm)	(Hz)	(dBm)	(Hz)	(dBm)	(Hz)	(dBm)	(Hz)	(dBm)	(Hz)	(dBm)	
2.4-2.4835GHz	-			-		-	-	-	-		-				-
802.11b_Nss1,(1Mbps)_2TX	Pass	2.43649G	12.69	-17.31	1.97701G	-53.65	2.39704G	-30.74	2.4G	-35.66	2.494G	-48.90	15.23958G	-45.55	1
802.11g_Nss1,(6Mbps)_2TX	Pass	2.43578G	12.29	-17.71	796.28M	-53.43	2.39988G	-24.01	2.4G	-26.88	2.4931G	-48.92	17.66704G	-45.19	2
802.11n HT20_Nss1,(MCS0)_2TX	Pass	2.4357G	12.50	-17.50	32.33M	-52.95	2.39828G	-26.04	2.4G	-29.80	2.49076G	-47.14	15.01201G	-45.11	2
802.11n HT40_Nss1,(MCS0)_2TX	Pass	2.43449G	3.49	-26.51	727.59M	-53.09	2.39952G	-35.94	2.4G	-39.72	2.4857G	-46.68	24.88501G	-45.35	2



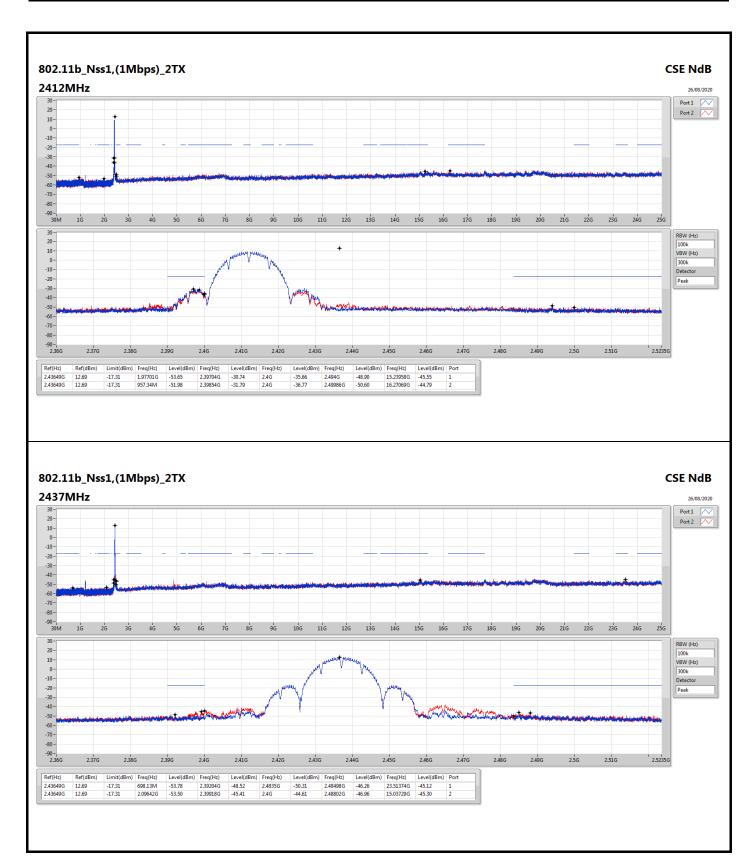
CSE(Non-restricted Band)

Appendix E

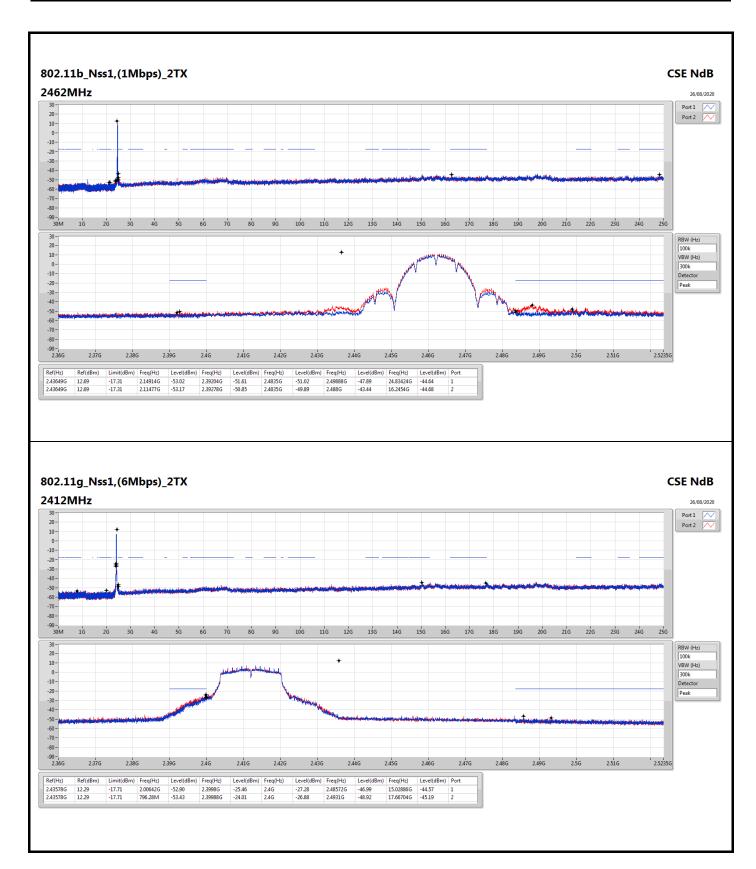
Result

Mode	Result	Ref	Ref	Limit	Freq	Level	Freq	Level	Freq	Level	Freq	Level	Freq	Level	Port
		(Hz)	(dBm)	(dBm)	(Hz)	(dBm)	(Hz)	(dBm)	(Hz)	(dBm)	(Hz)	(dBm)	(Hz)	(dBm)	
802.11b_Nss1,(1Mbps)_2TX	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2412MHz	Pass	2.43649G	12.69	-17.31	1.97701G	-53.65	2.39704G	-30.74	2.4G	-35.66	2.494G	-48.90	15.23958G	-45.55	1
2412MHz	Pass	2.43649G	12.69	-17.31	957.34M	-51.98	2.39854G	-31.79	2.4G	-36.77	2.49986G	-50.60	16.27069G	-44.79	2
2437MHz	Pass	2.43649G	12.69	-17.31	698.13M	-53.78	2.39204G	-48.52	2.4835G	-50.31	2.48498G	-46.26	23.51374G	-45.12	1
2437MHz	Pass	2.43649G	12.69	-17.31	2.09642G	-53.50	2.39918G	-45.41	2.4G	-44.61	2.48802G	-46.96	15.03729G	-45.30	2
2462MHz	Pass	2.43649G	12.69	-17.31	2.14914G	-53.02	2.39204G	-51.61	2.4835G	-51.02	2.49888G	-47.89	24.83424G	-44.64	1
2462MHz	Pass	2.43649G	12.69	-17.31	2.11477G	-53.17	2.39278G	-50.85	2.4835G	-49.89	2.488G	-43.44	16.2454G	-44.68	2
802.11g_Nss1,(6Mbps)_2TX	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2412MHz	Pass	2.43578G	12.29	-17.71	2.00642G	-52.90	2.3998G	-25.46	2.4G	-27.28	2.48572G	-46.99	15.02886G	-44.57	1
2412MHz	Pass	2.43578G	12.29	-17.71	796.28M	-53.43	2.39988G	-24.01	2.4G	-26.88	2.4931G	-48.92	17.66704G	-45.19	2
2437MHz	Pass	2.43578G	12.29	-17.71	2.30233G	-53.30	2.3986G	-45.51	2.4G	-46.93	2.49572G	-45.82	15.08505G	-45.71	1
2437MHz	Pass	2.43578G	12.29	-17.71	2.16632G	-53.37	2.39932G	-42.92	2.4G	-47.33	2.48354G	-43.40	24.79771G	-44.97	2
2462MHz	Pass	2.43578G	12.29	-17.71	901.42M	-53.19	2.39596G	-50.04	2.4835G	-48.98	2.48386G	-45.56	24.92976G	-45.43	1
2462MHz	Pass	2.43578G	12.29	-17.71	2.16486G	-53.50	2.39002G	-49.61	2.4835G	-46.52	2.48698G	-44.30	15.04291G	-45.43	2
802.11n HT20_Nss1,(MCS0)_2TX	-	-	-	-	-		-	-	-	-	-	-	-	-	-
2412MHz	Pass	2.4357G	12.50	-17.50	2.12409G	-52.76	2.39992G	-29.70	2.4G	-32.48	2.48532G	-49.47	17.6839G	-44.25	1
2412MHz	Pass	2.4357G	12.50	-17.50	32.33M	-52.95	2.39828G	-26.04	2.4G	-29.80	2.49076G	-47.14	15.01201G	-45.11	2
2437MHz	Pass	2.4357G	12.50	-17.50	1.74313G	-52.82	2.3995G	-42.63	2.4G	-46.08	2.48598G	-43.20	24.823G	-44.67	1
2437MHz	Pass	2.4357G	12.50	-17.50	952.97M	-52.72	2.39982G	-36.38	2.4G	-42.01	2.48602G	-41.40	17.68109G	-45.38	2
2462MHz	Pass	2.4357G	12.50	-17.50	950.06M	-52.65	2.3999G	-50.03	2.4835G	-48.71	2.49576G	-44.58	15.02886G	-45.02	1
2462MHz	Pass	2.4357G	12.50	-17.50	896.18M	-53.56	2.39084G	-48.54	2.4835G	-45.51	2.48446G	-44.07	24.80333G	-44.91	2
802.11n HT40_Nss1,(MCS0)_2TX	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2422MHz	Pass	2.43449G	3.49	-26.51	918.81M	-53.12	2.39796G	-39.90	2.4G	-44.32	2.51358G	-49.43	15.03819G	-44.71	1
2422MHz	Pass	2.43449G	3.49	-26.51	2.02173G	-53.57	2.3992G	-39.61	2.4G	-42.00	2.4845G	-46.86	24.87099G	-45.20	2
2437MHz	Pass	2.43449G	3.49	-26.51	372.07M	-53.59	2.39948G	-38.73	2.4G	-44.66	2.48542G	-48.80	24.86538G	-44.88	1
2437MHz	Pass	2.43449G	3.49	-26.51	727.59M	-53.09	2.39952G	-35.94	2.4G	-39.72	2.4857G	-46.68	24.88501G	-45.35	2
2452MHz	Pass	2.43449G	3.49	-26.51	479.99M	-53.05	2.39628G	-50.58	2.4835G	-49.11	2.4845G	-45.61	17.69131G	-44.52	1
2452MHz	Pass	2.43449G	3.49	-26.51	944.28M	-53.06	2.392G	-48.82	2.4835G	-49.01	2.48762G	-44.90	15.02698G	-43.97	2

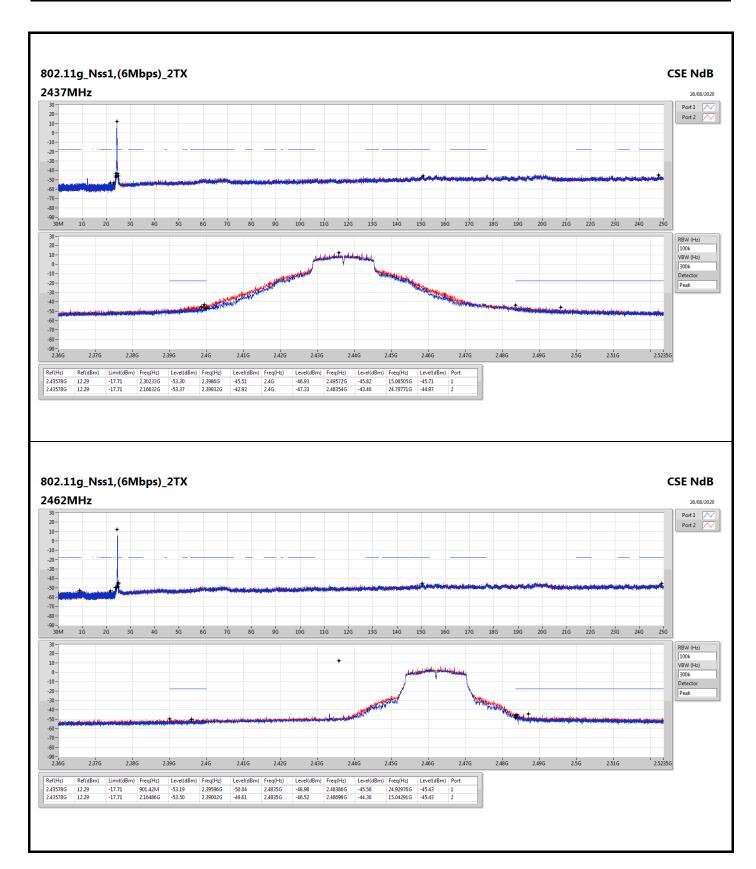




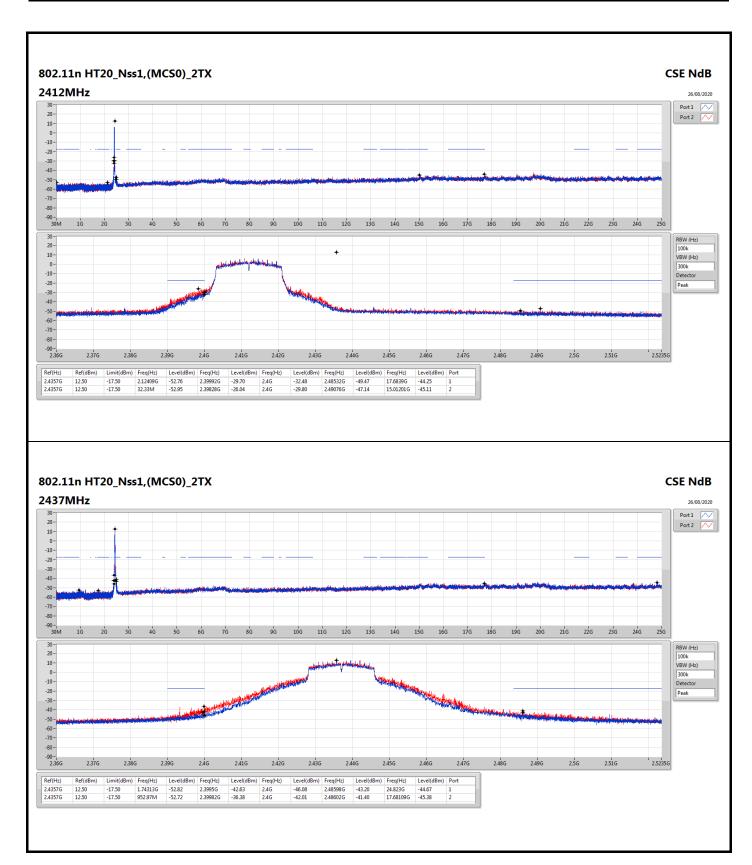




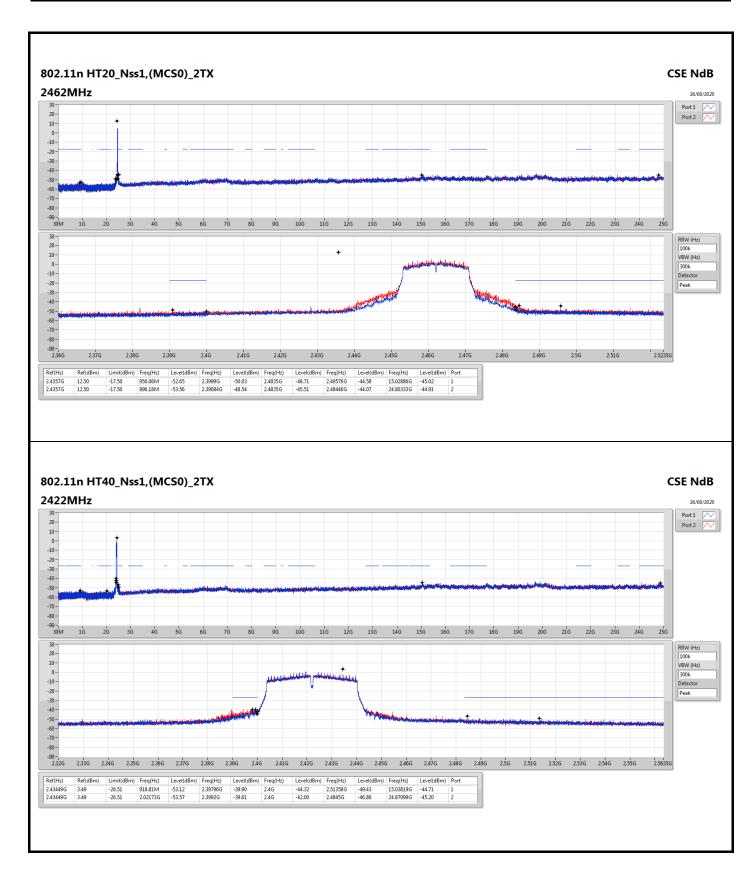




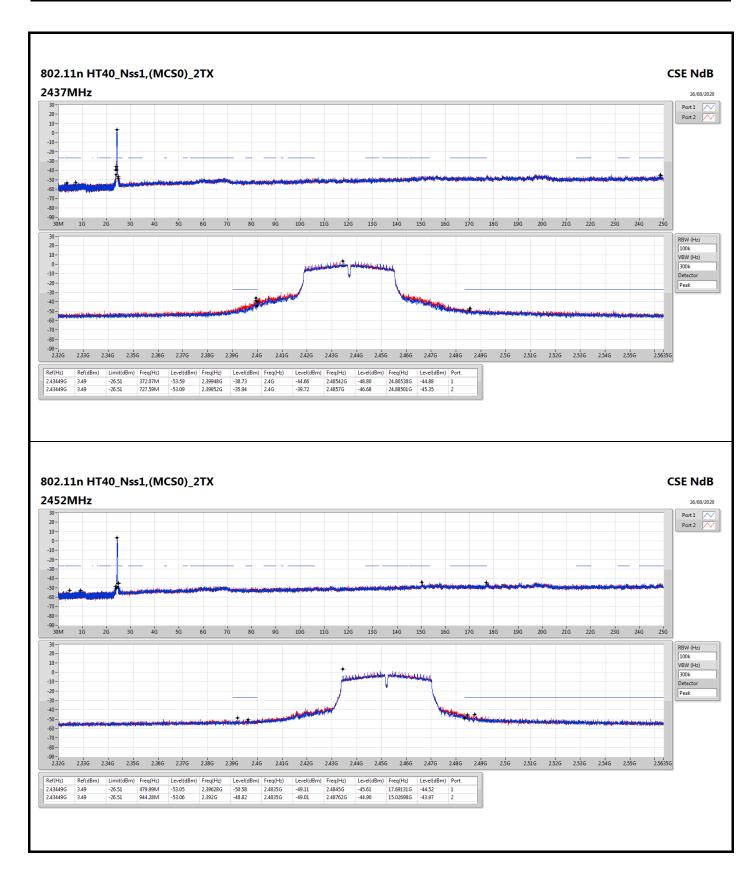












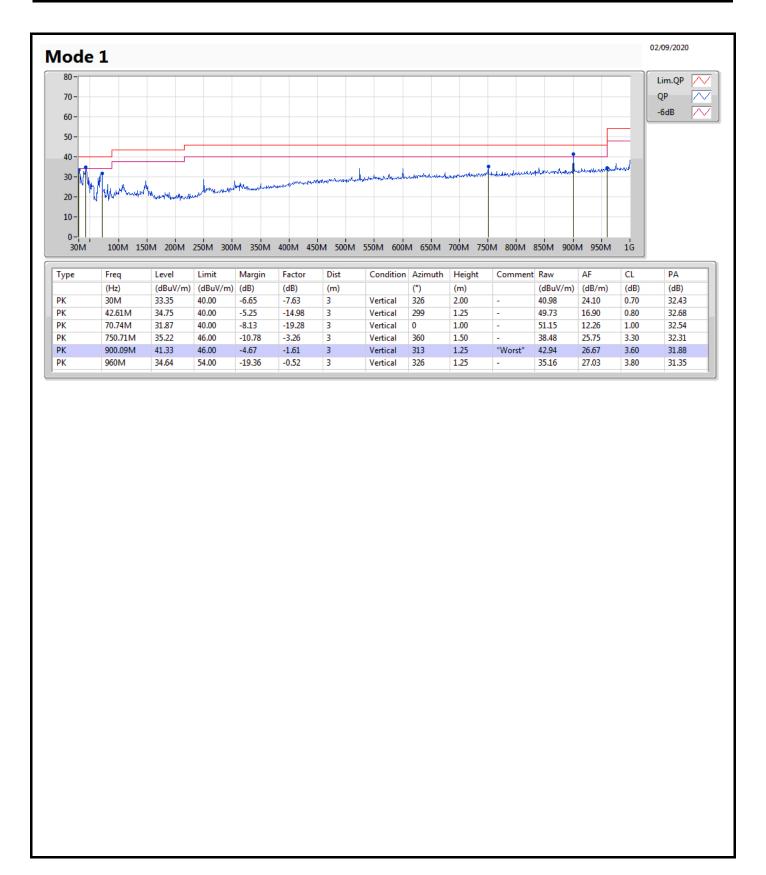


Radiated Emissions below 1GHz

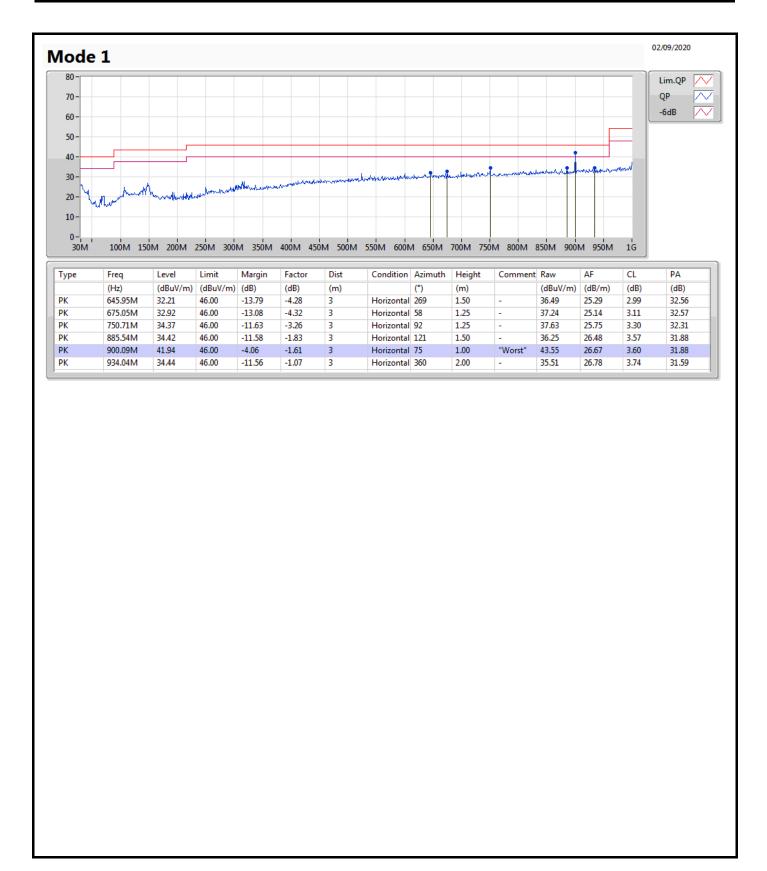
Appendix F.1

Mode	Result	Туре	Freq	Level	Limit	Margin	Condition
			(Hz)	(dBuV/m)	(dBuV/m)	(dB)	
Mode 1	Pass	PK	900.09M	41.94	46.00	-4.06	Horizontal











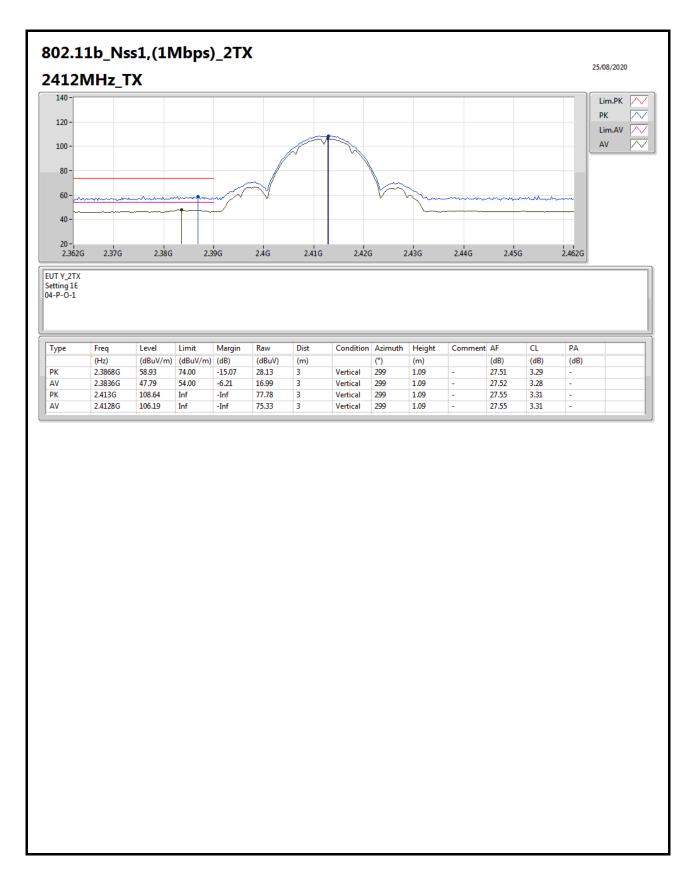
RSE TX above 1GHz

Appendix F.2

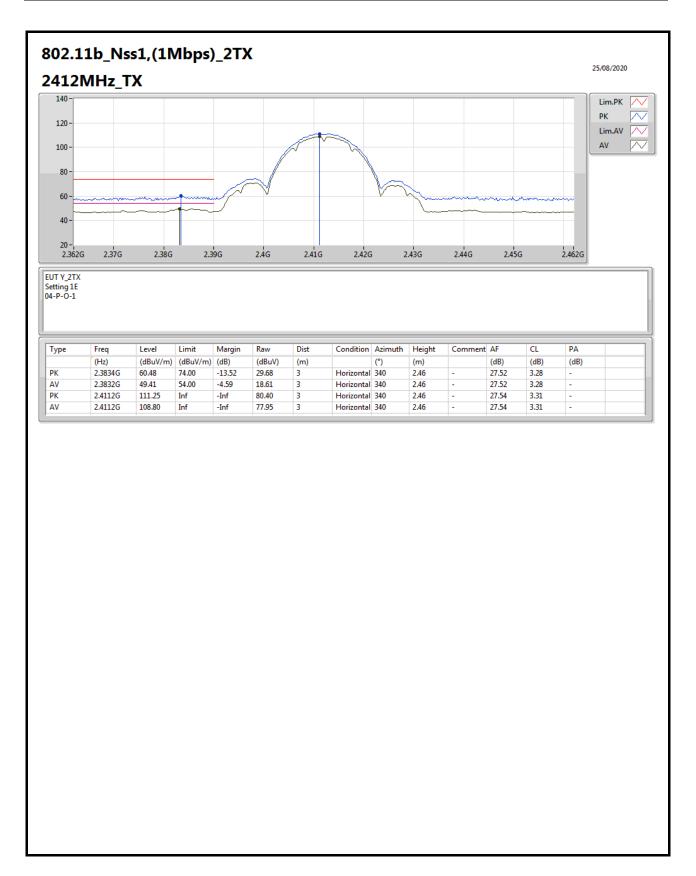
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Mode	Result	Туре	Freq	Level	Limit	Margin	Dist	Condition	Azimuth	Height	Comments
			(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(m)		(°)	(m)	
2.4-2.4835GHz	-	-	•	-	-	-	-	-	-	-	-
802.11b_Nss1,(1Mbps)_2TX	Pass	AV	2.4838G	53.68	54.00	-0.32	3	Vertical	0	1.04	-
802.11g_Nss1,(6Mbps)_2TX	Pass	AV	2.39G	53.95	54.00	-0.05	3	Horizontal	360	1.00	-
802.11n HT20_Nss1,(MCS0)_2TX	Pass	AV	2.3896G	53.95	54.00	-0.05	3	Horizontal	0	1.00	-
802.11n HT40_Nss1,(MCS0)_2TX	Pass	AV	2.4835G	53.91	54.00	-0.09	3	Vertical	38	1.18	-

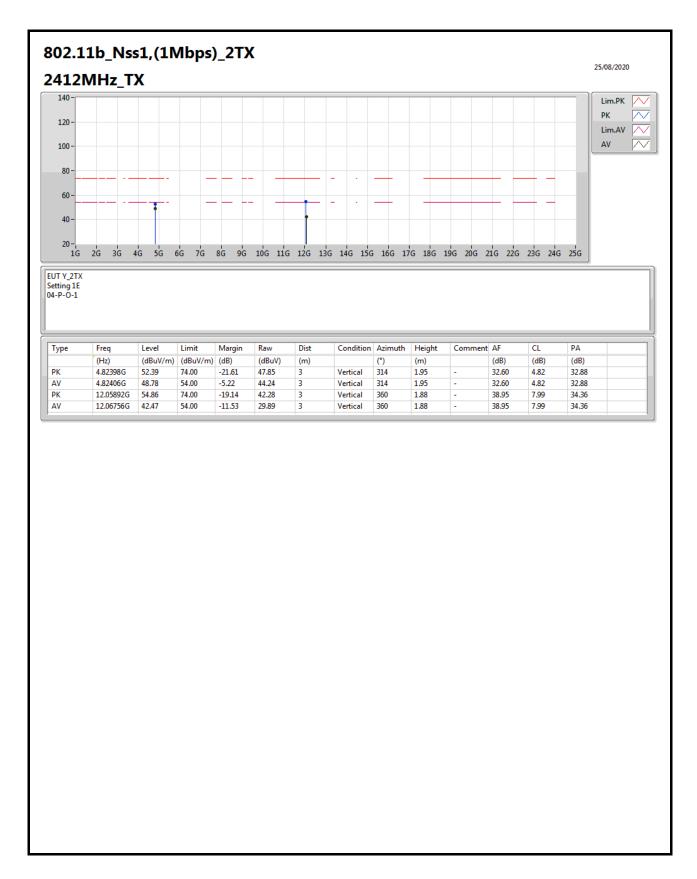




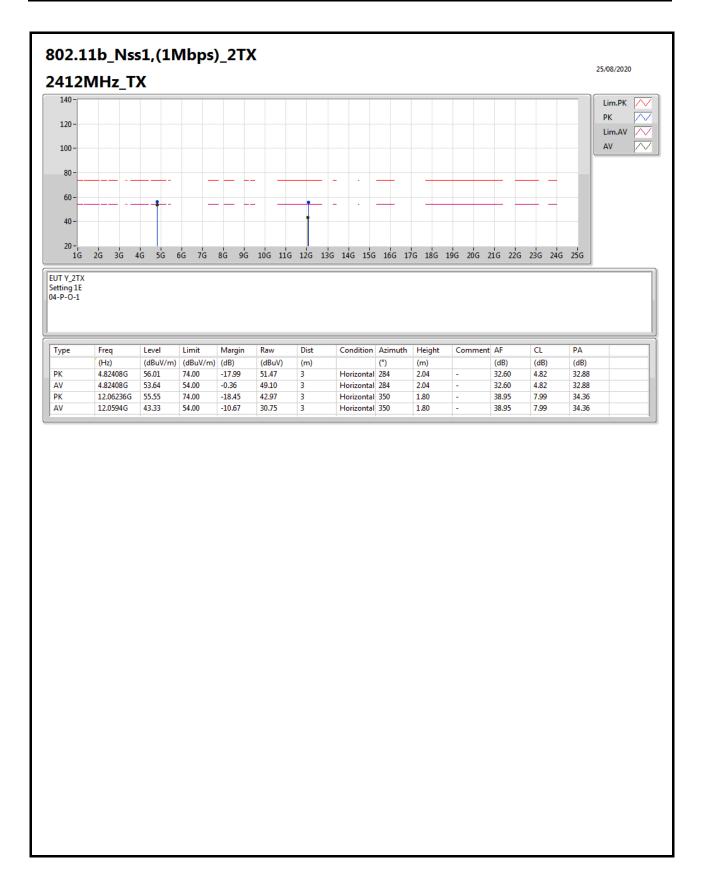




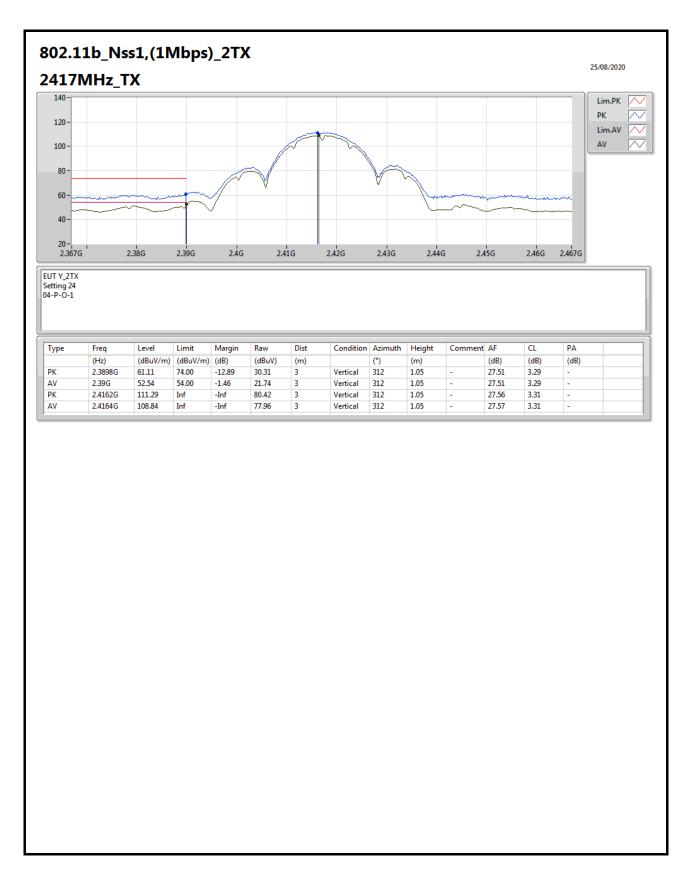




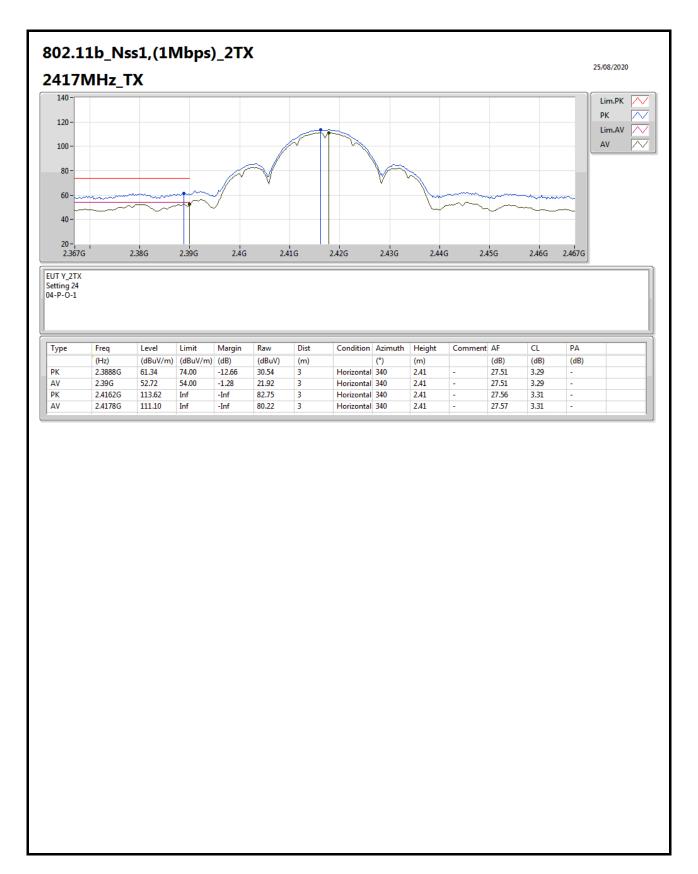




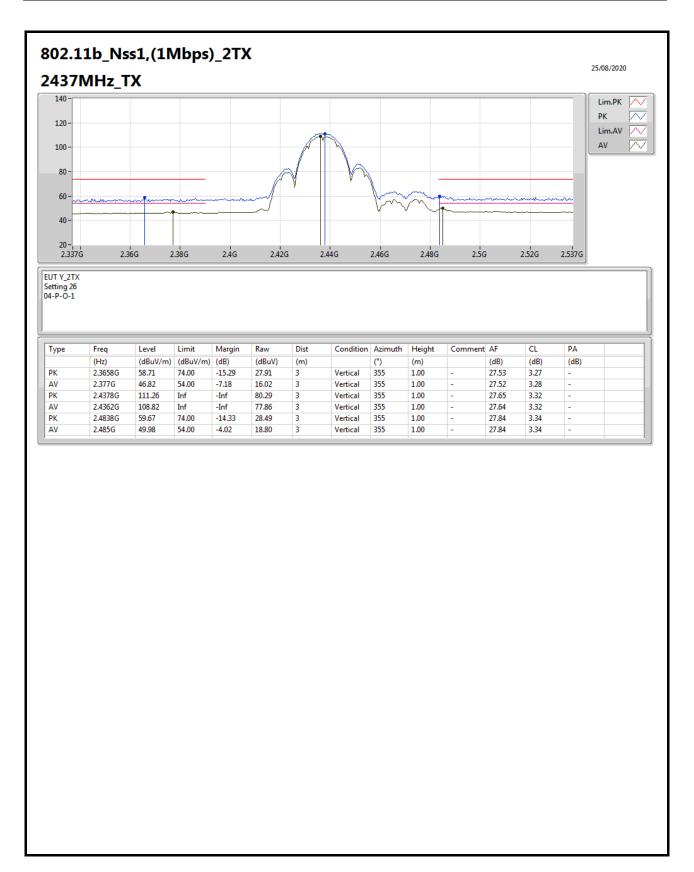




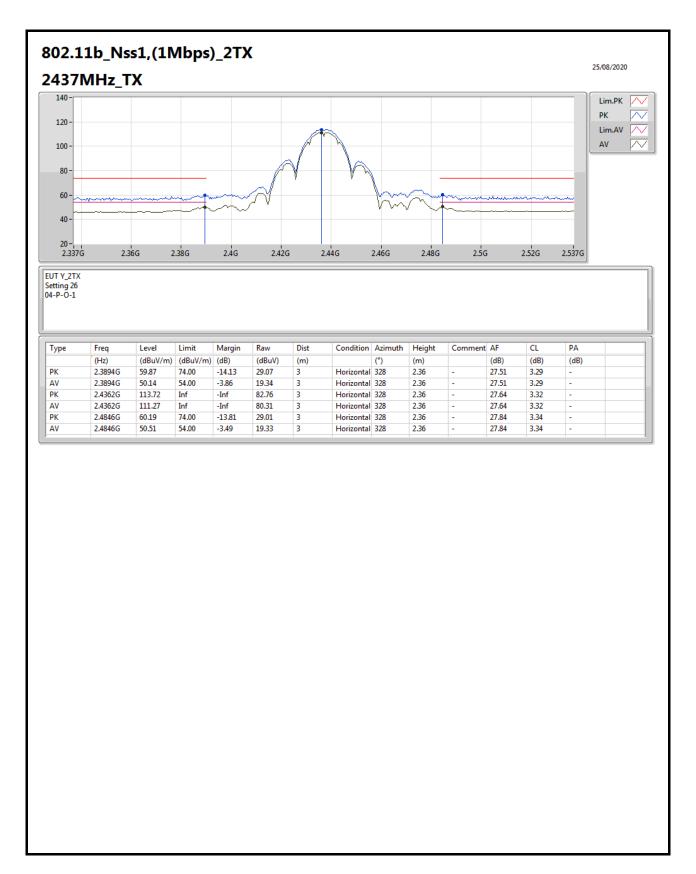




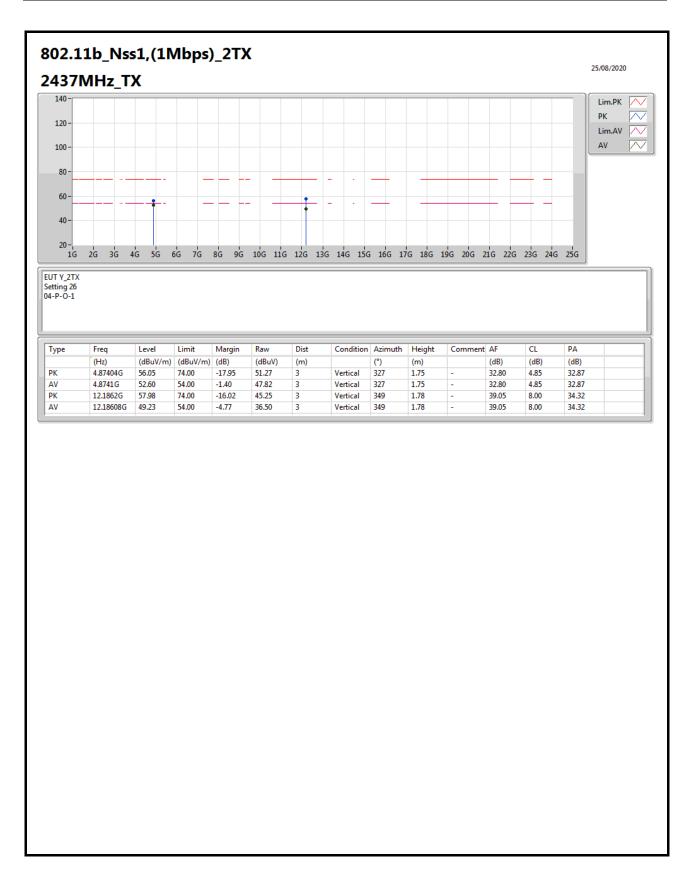




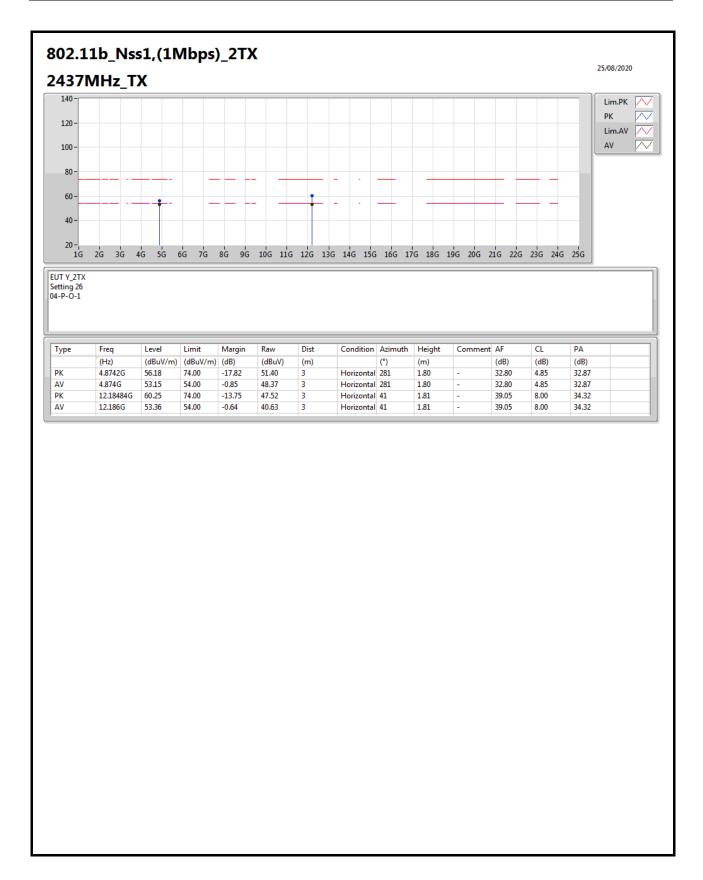




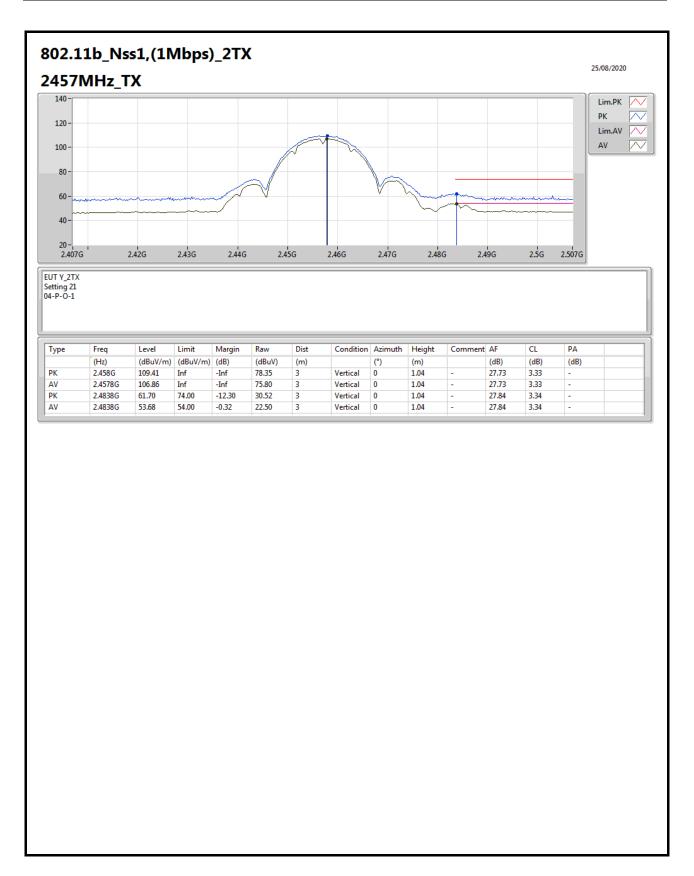




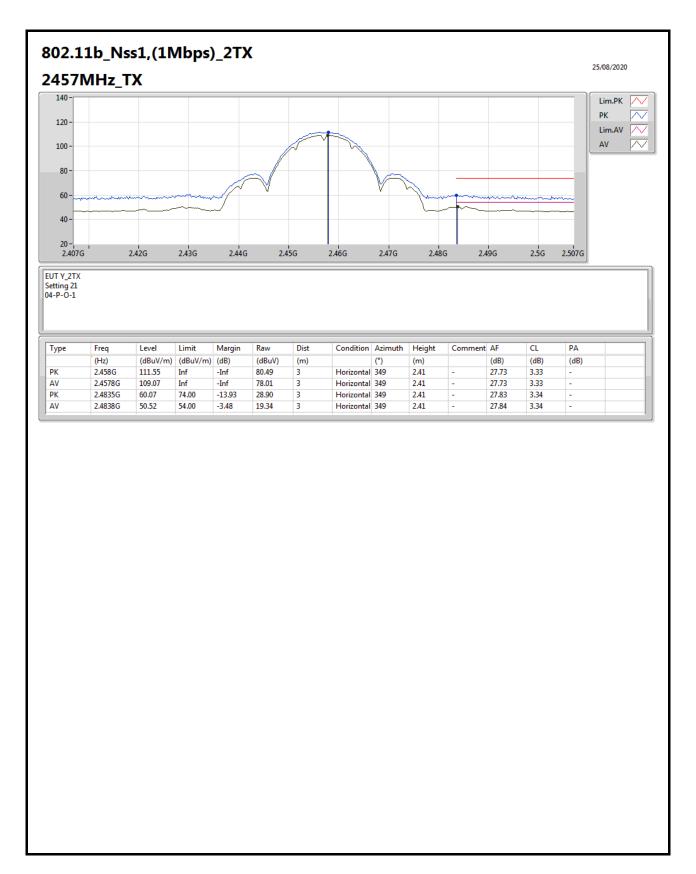




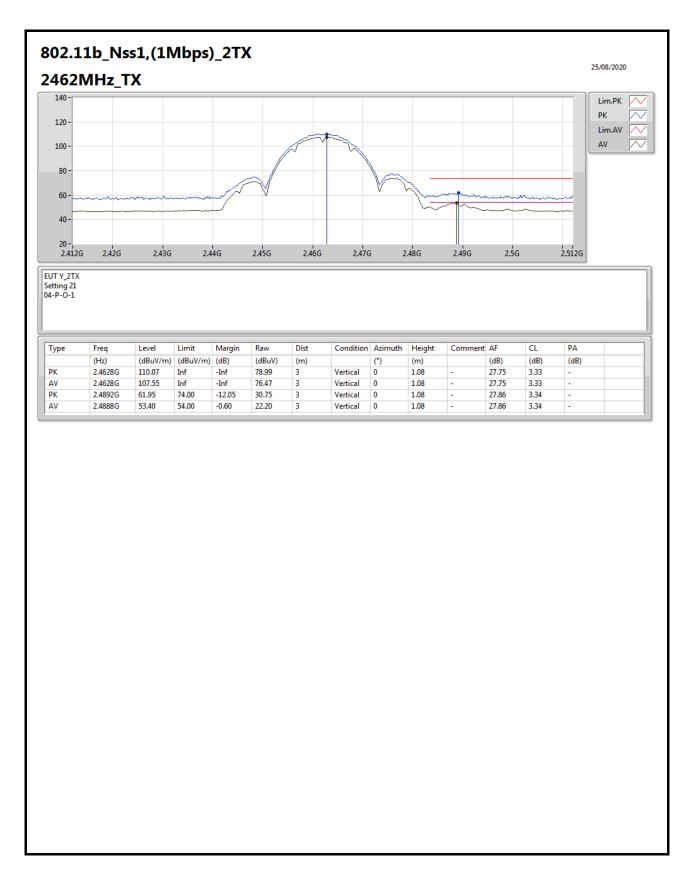




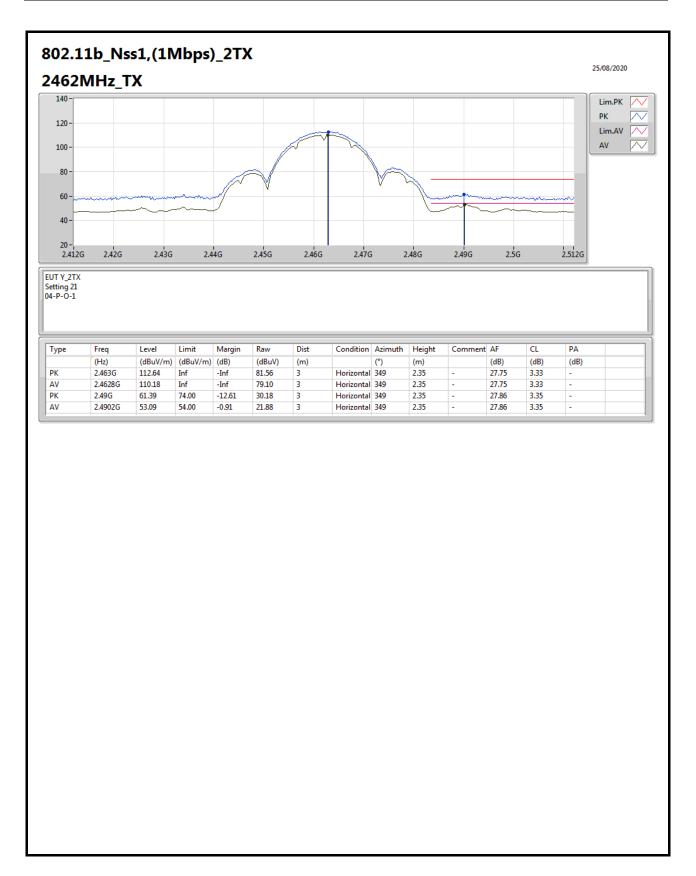




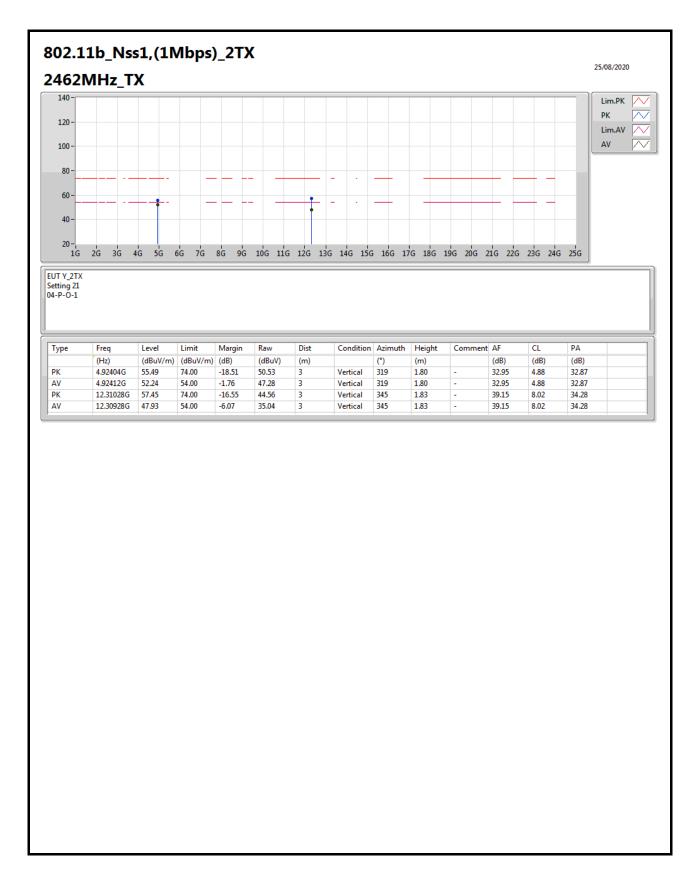




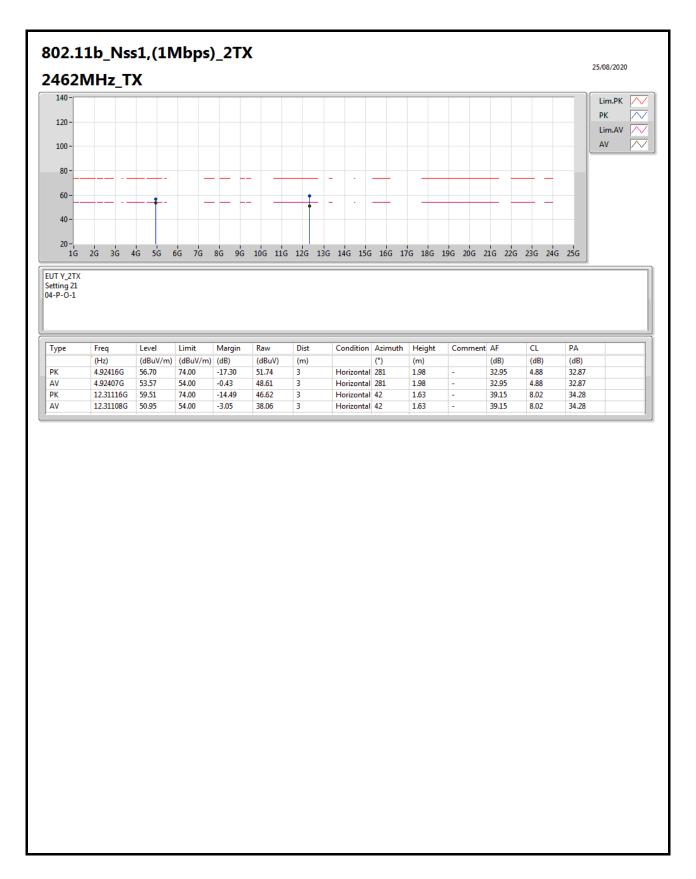




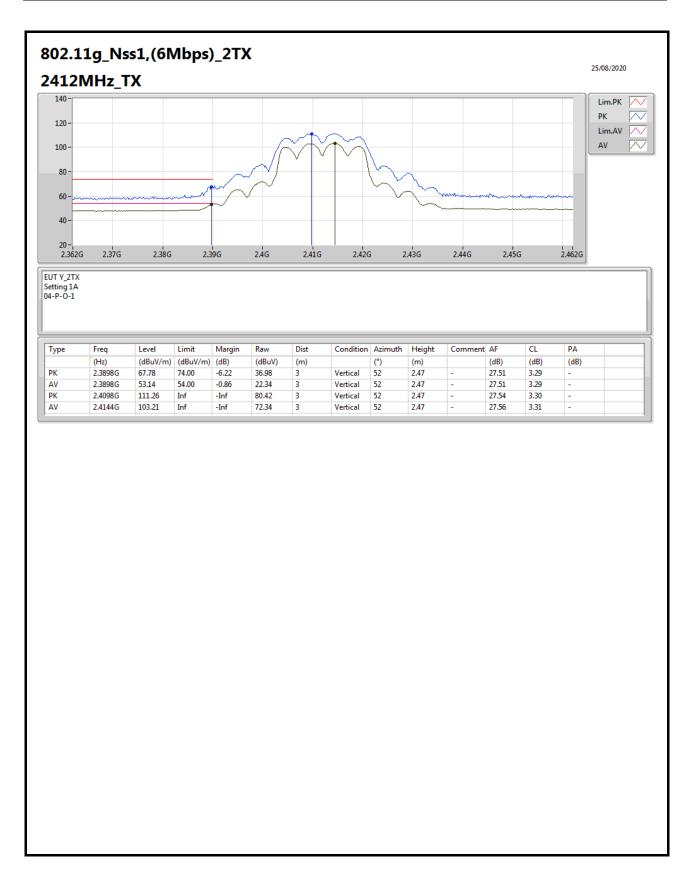




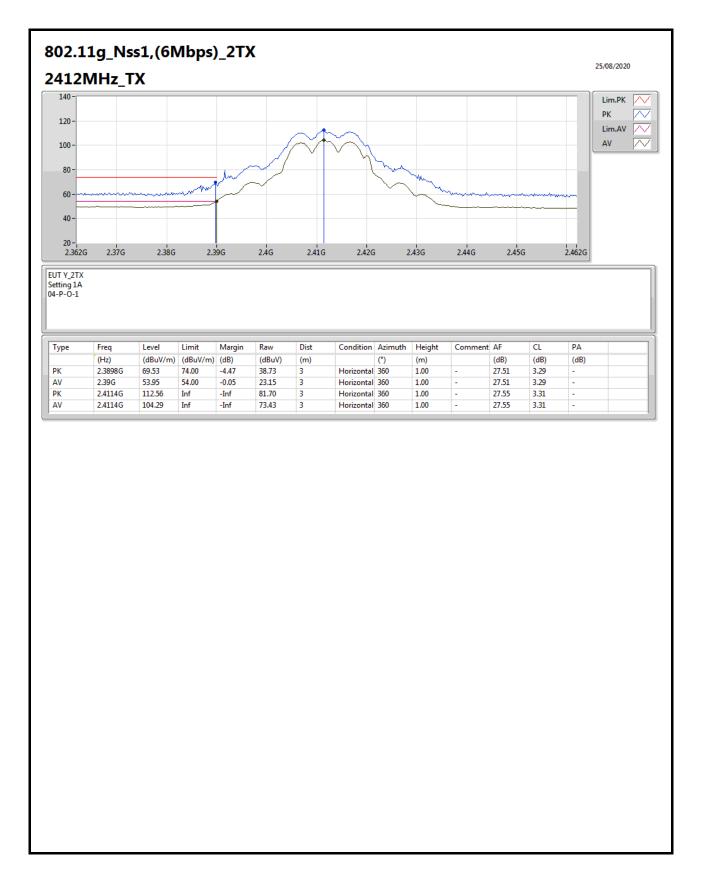




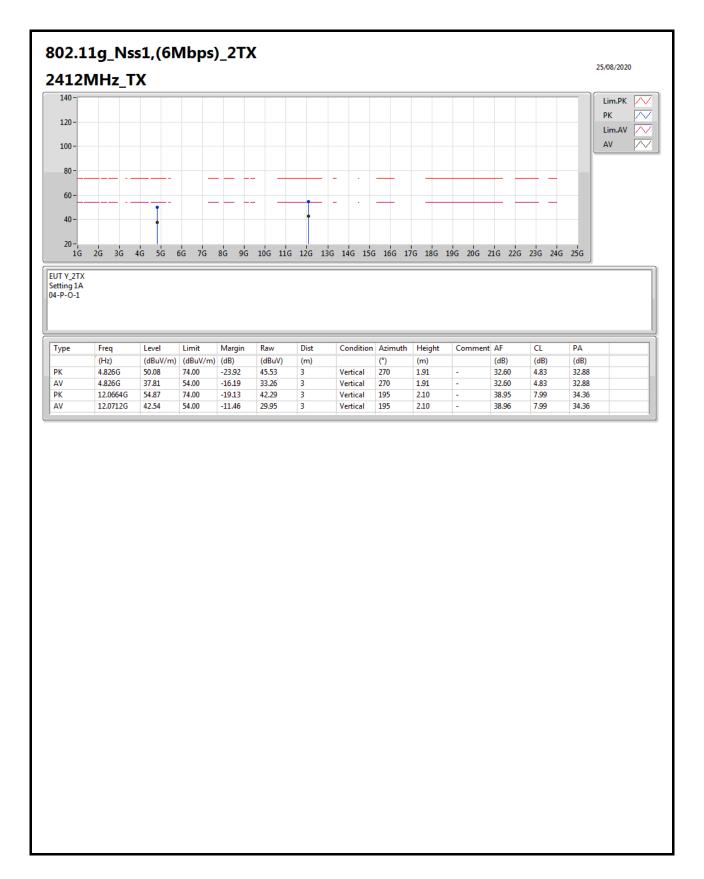




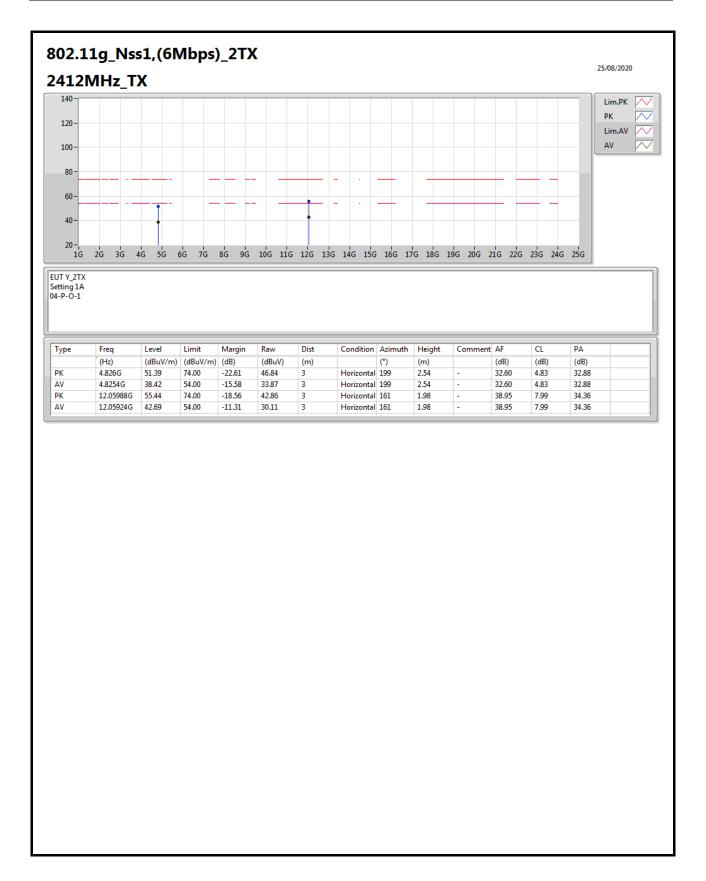




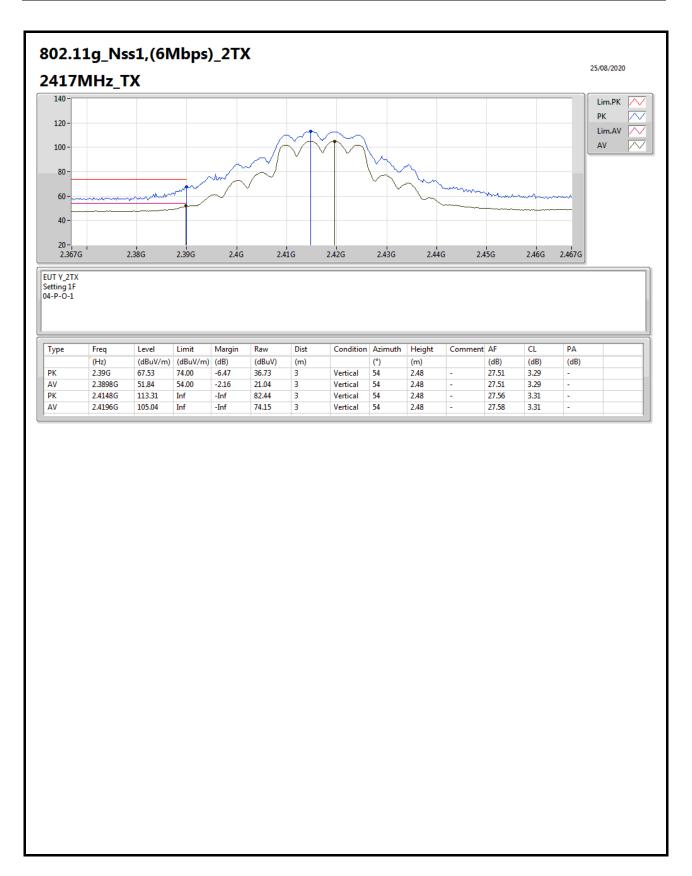


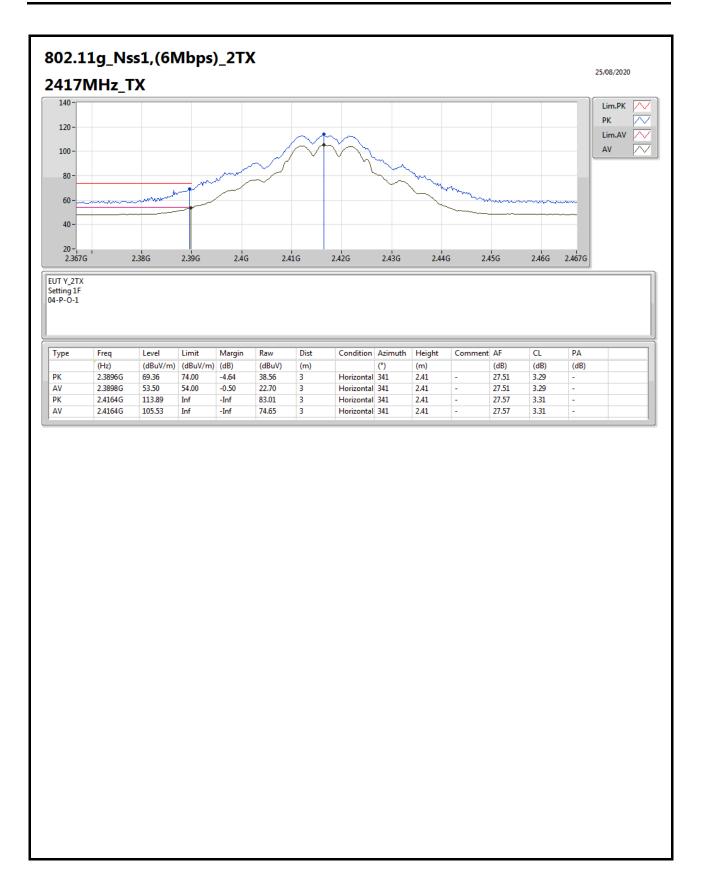




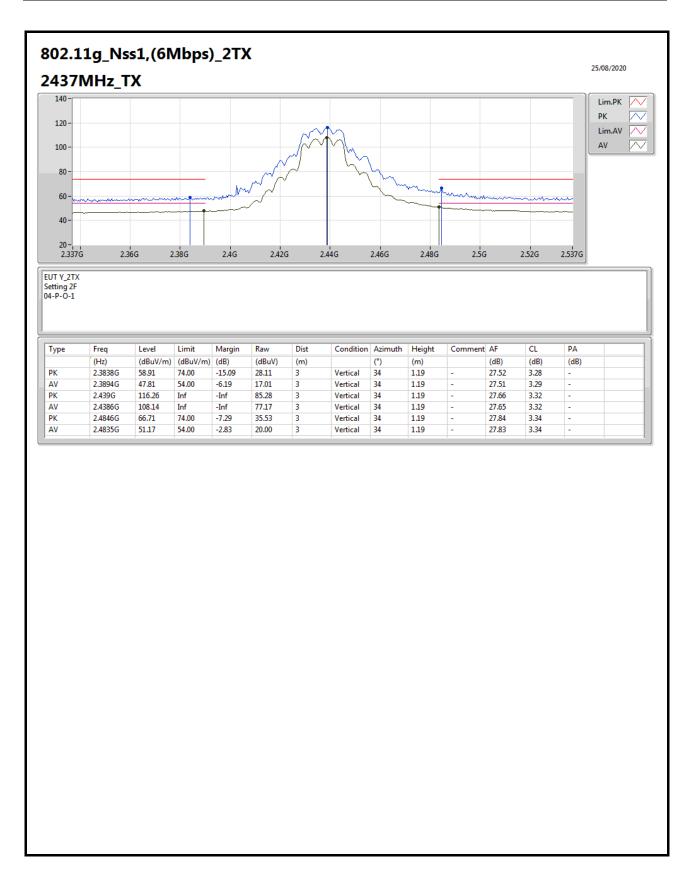


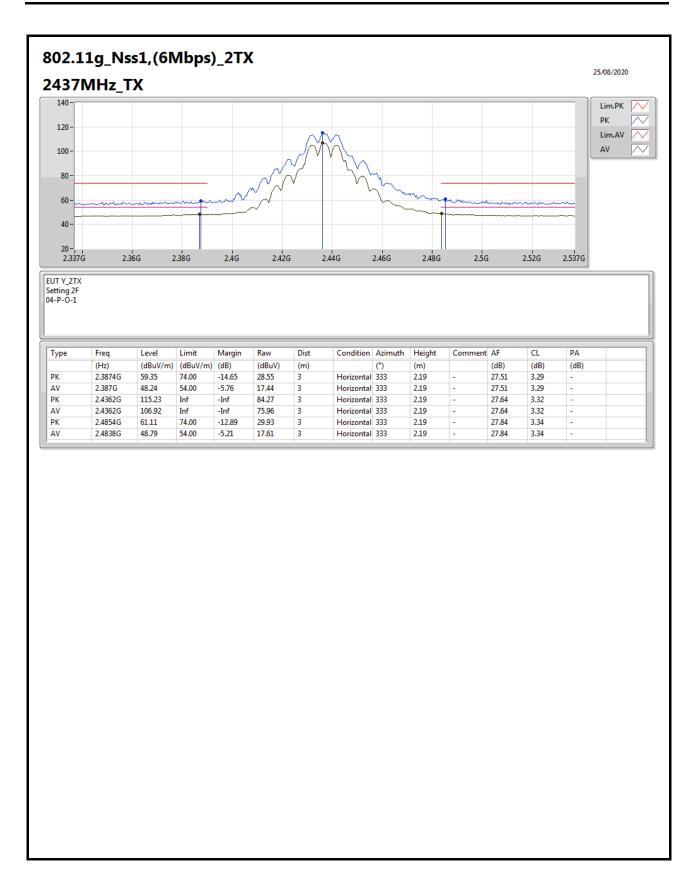




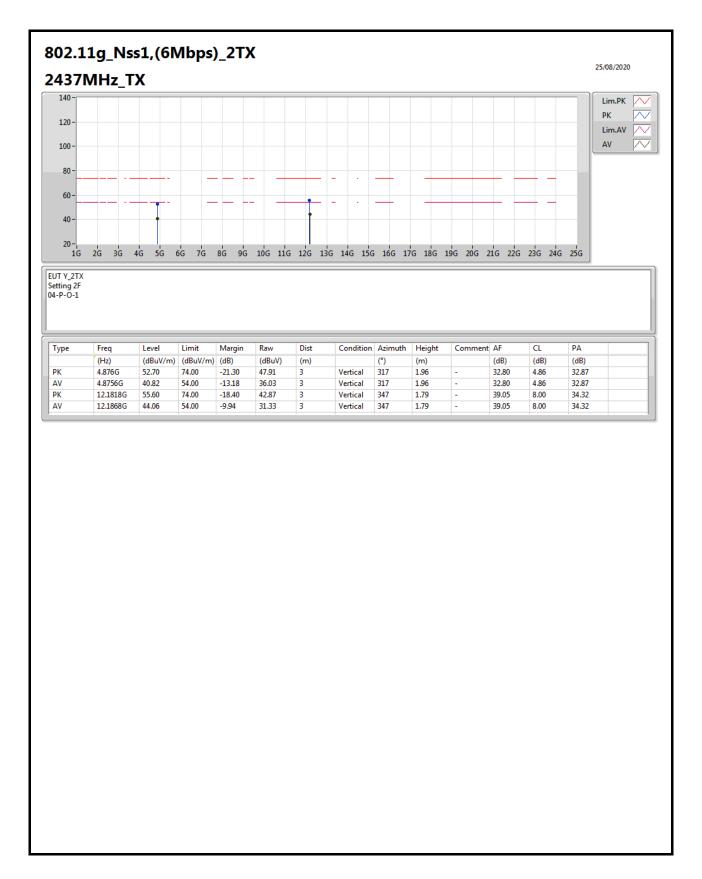




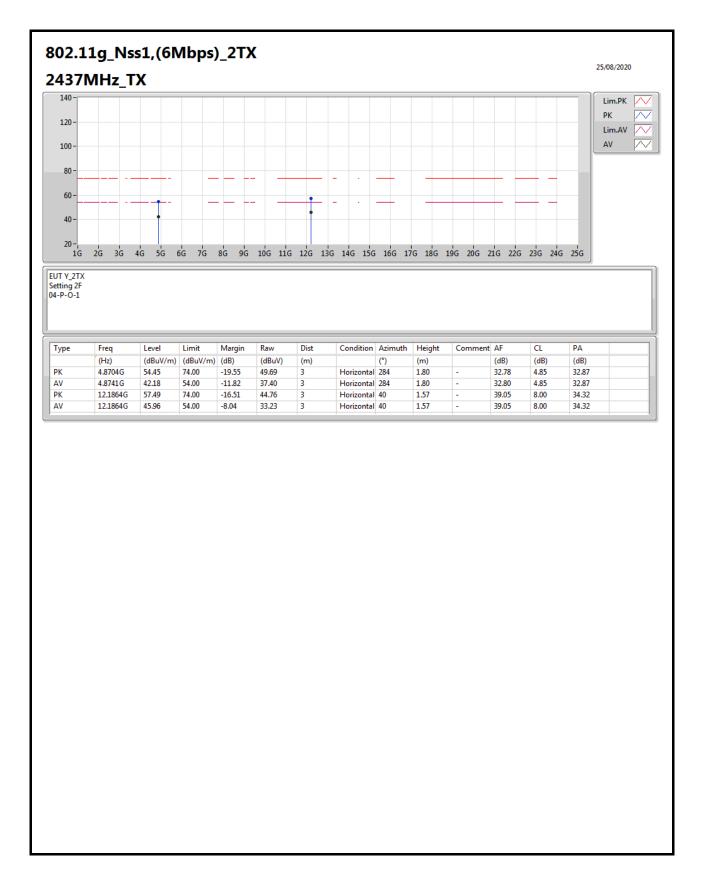




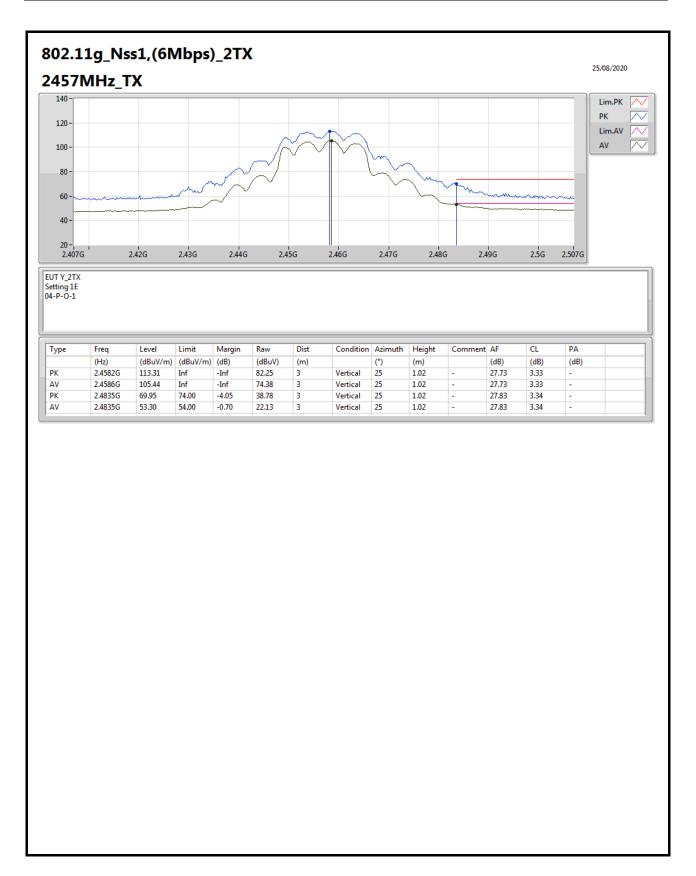


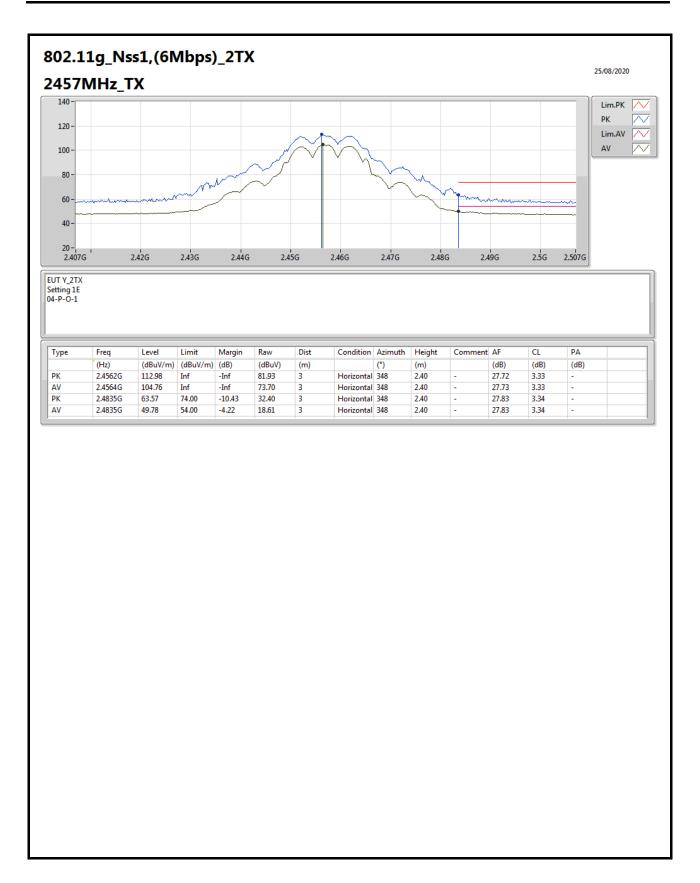




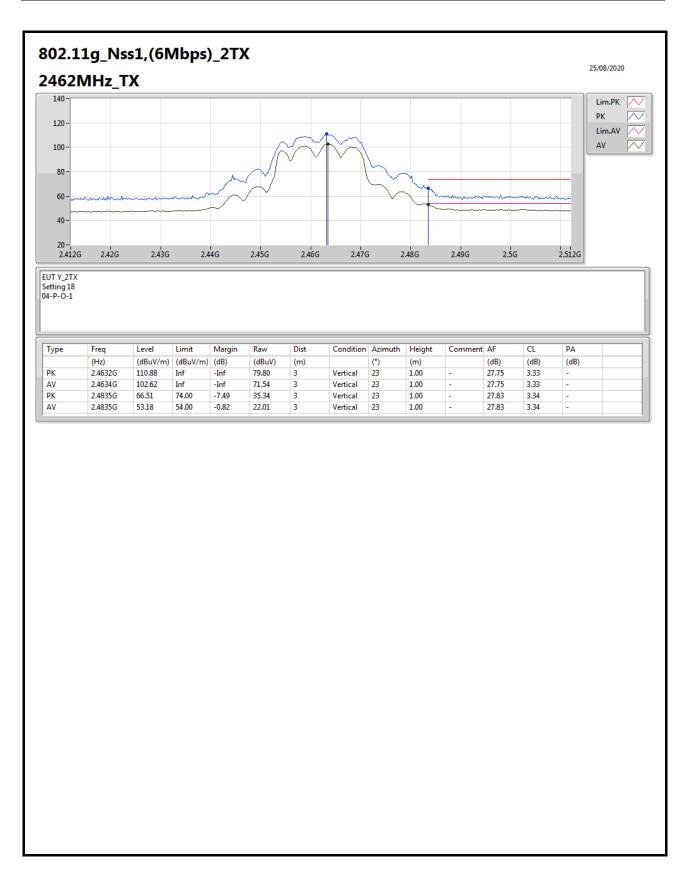




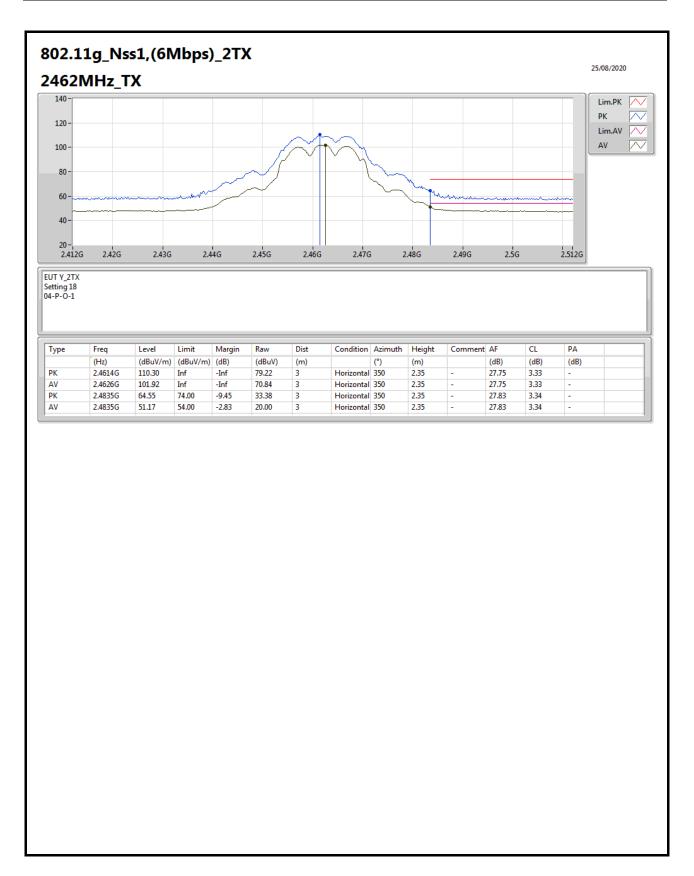




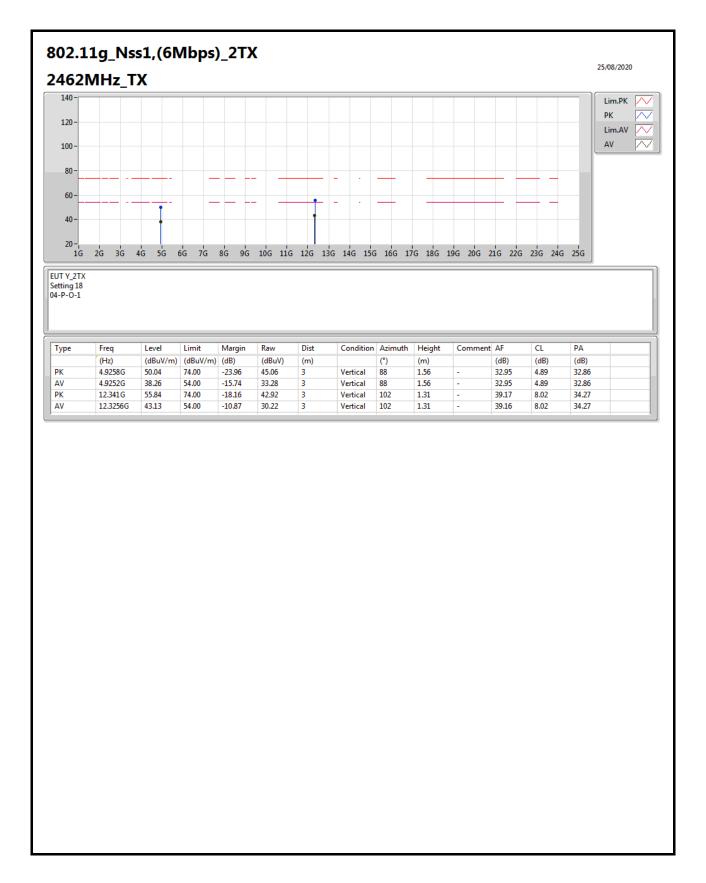




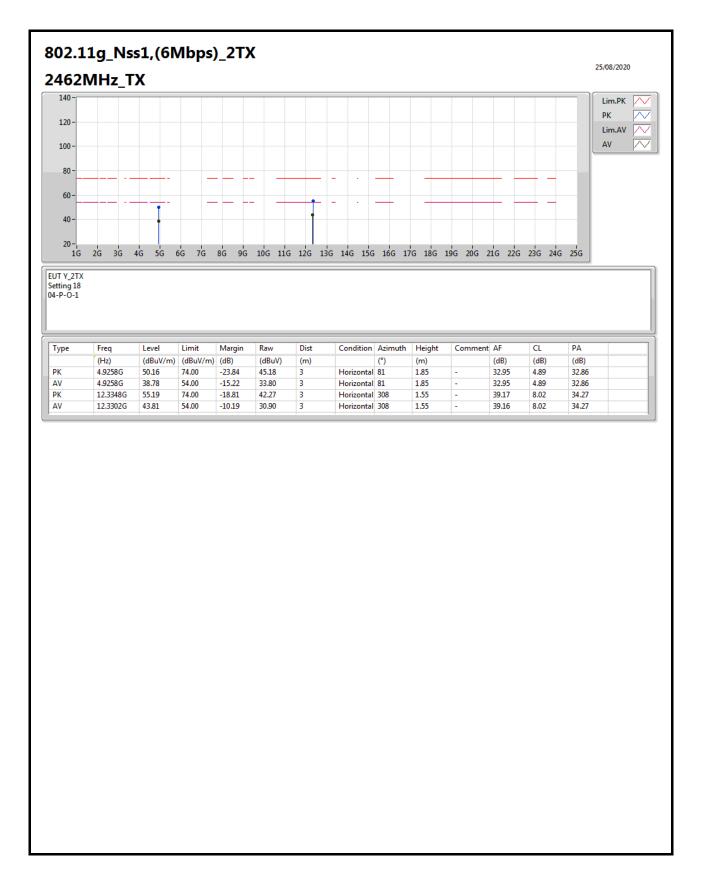




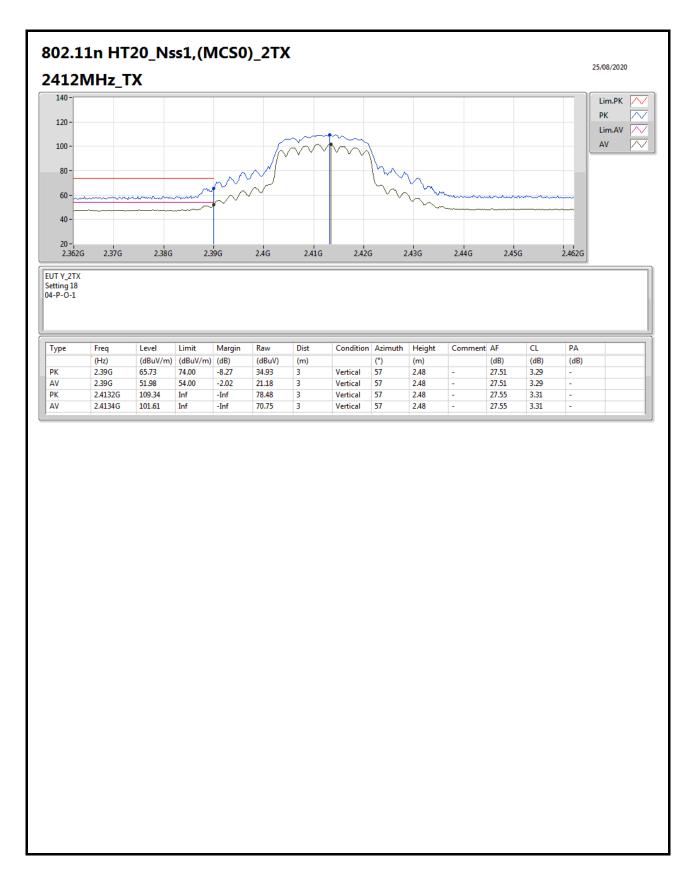




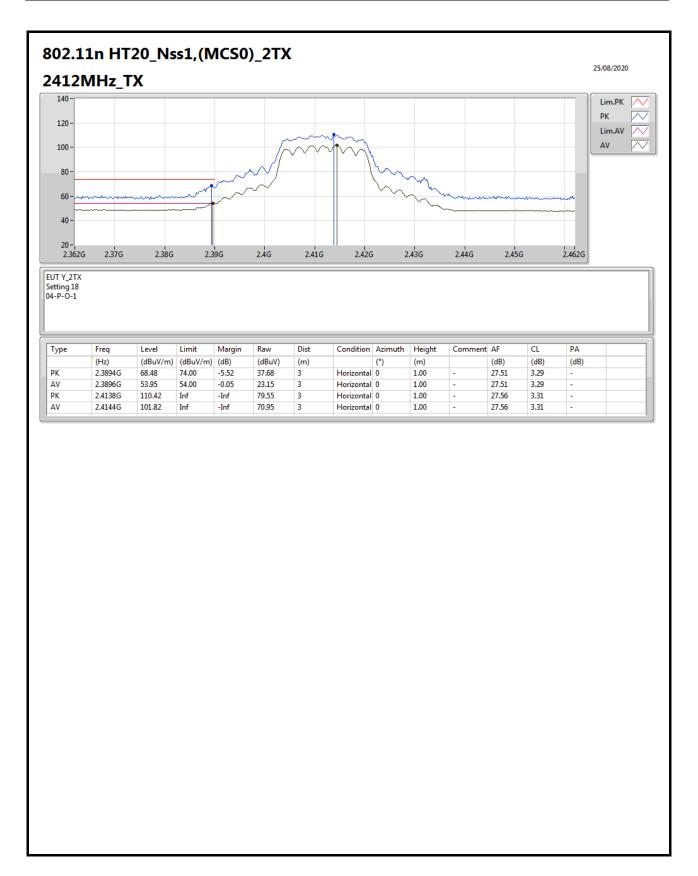




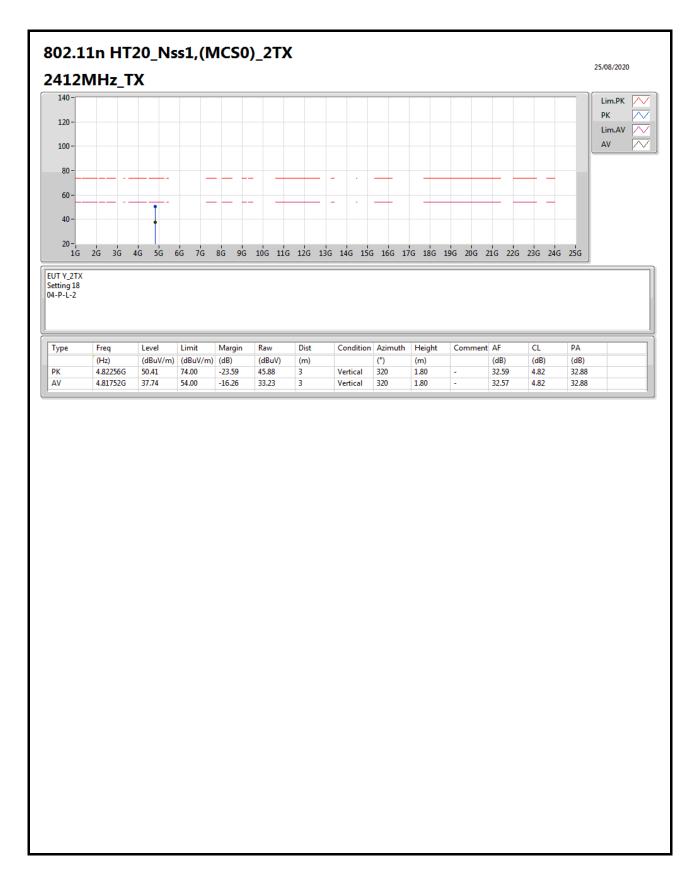




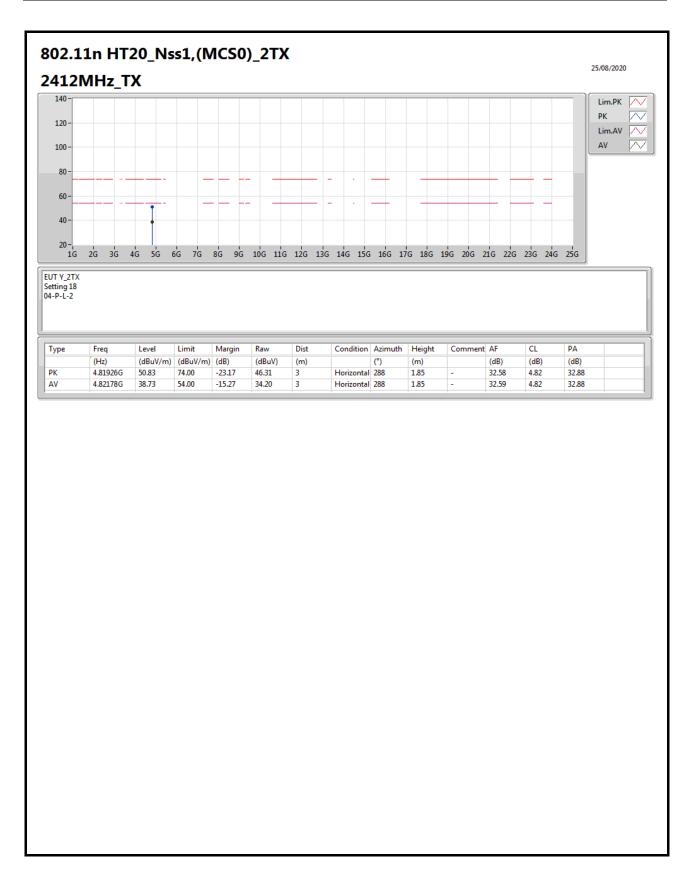




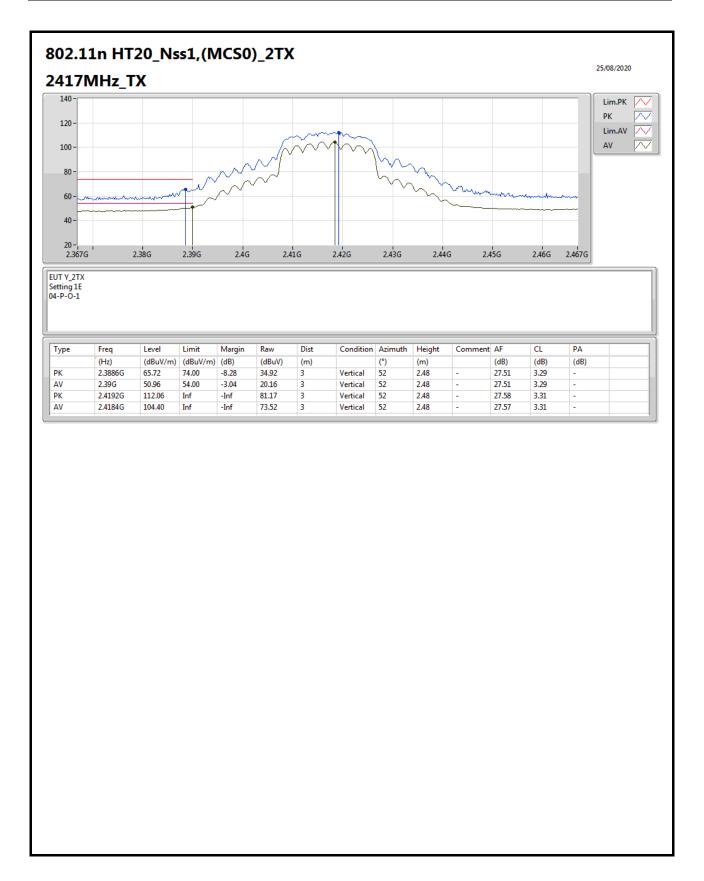




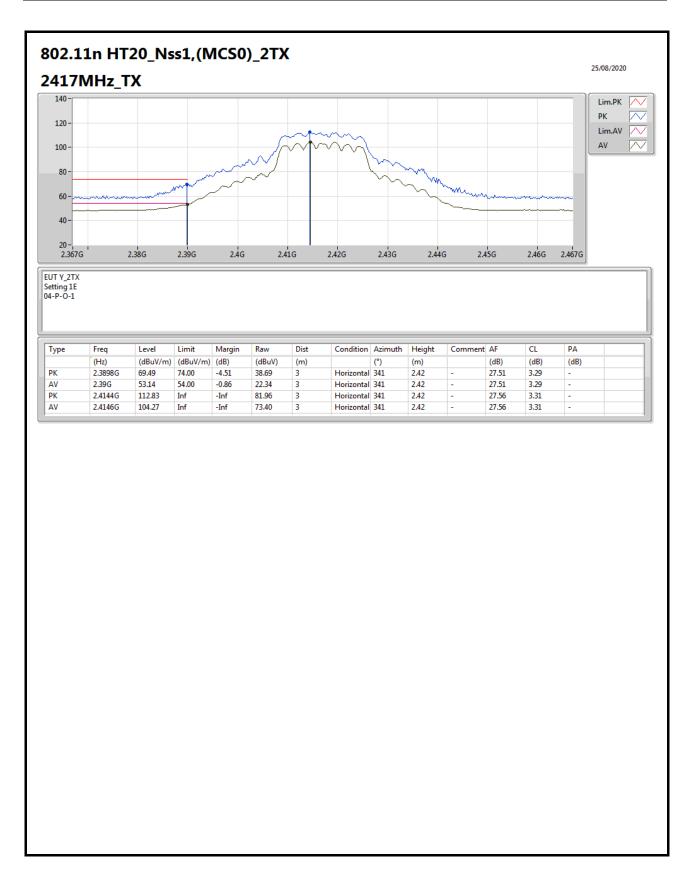




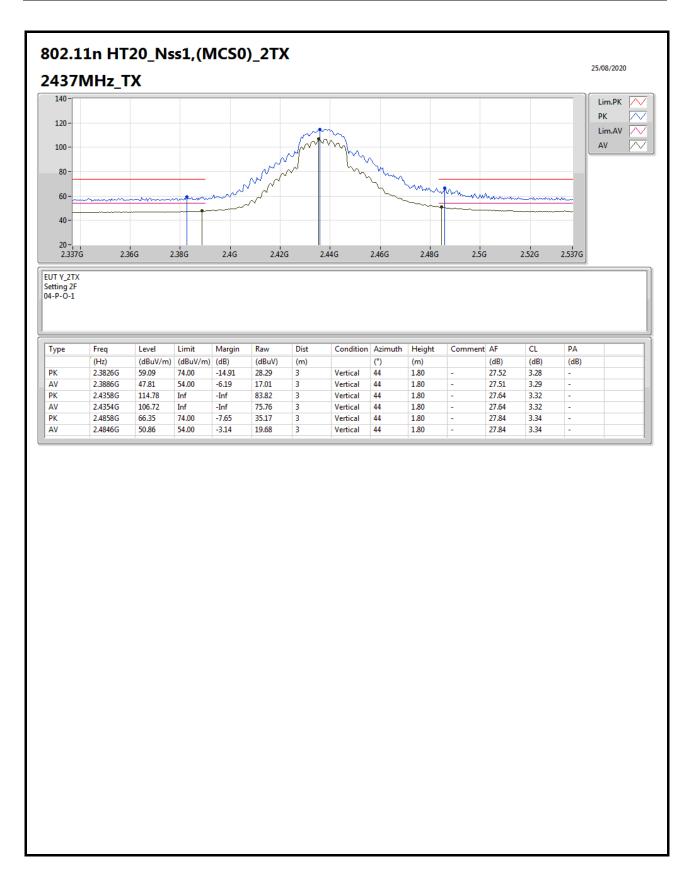




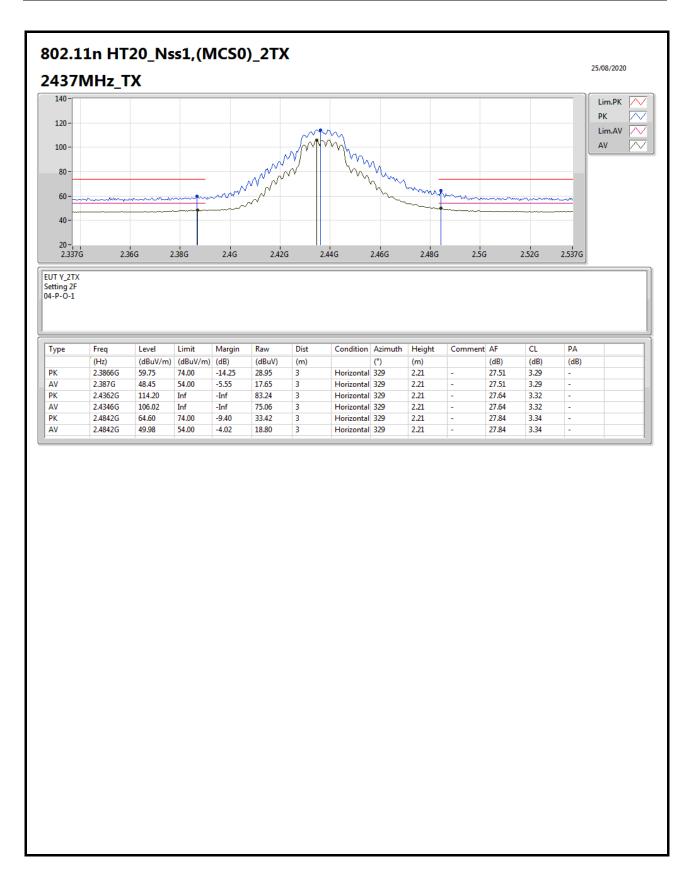




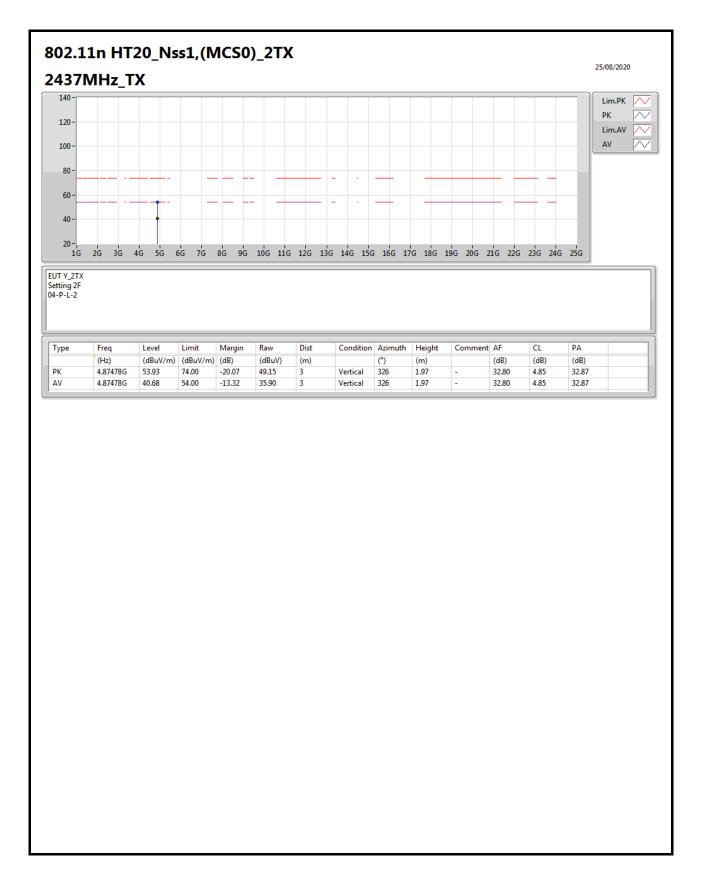




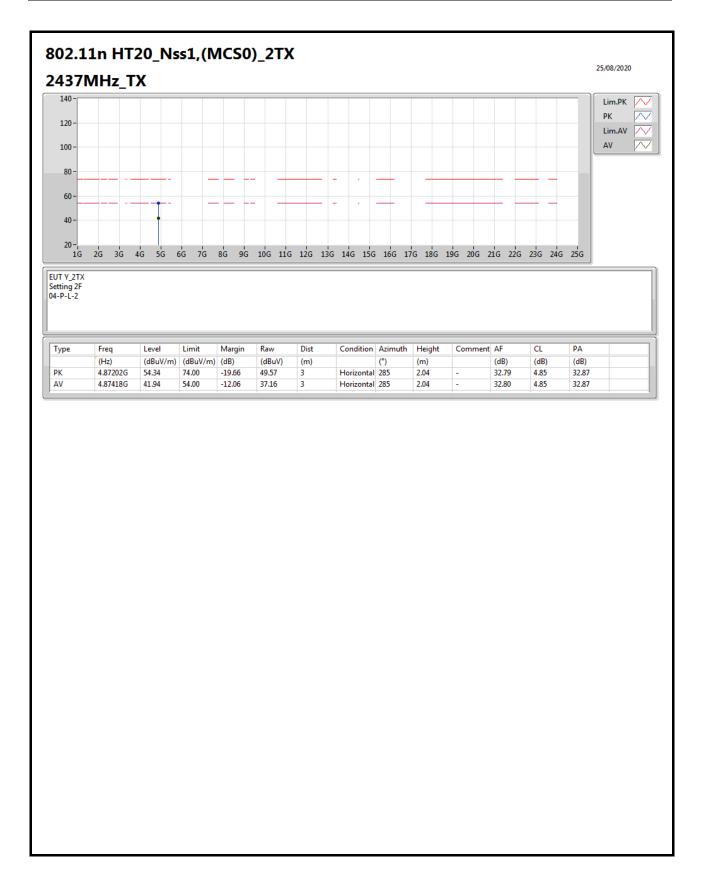




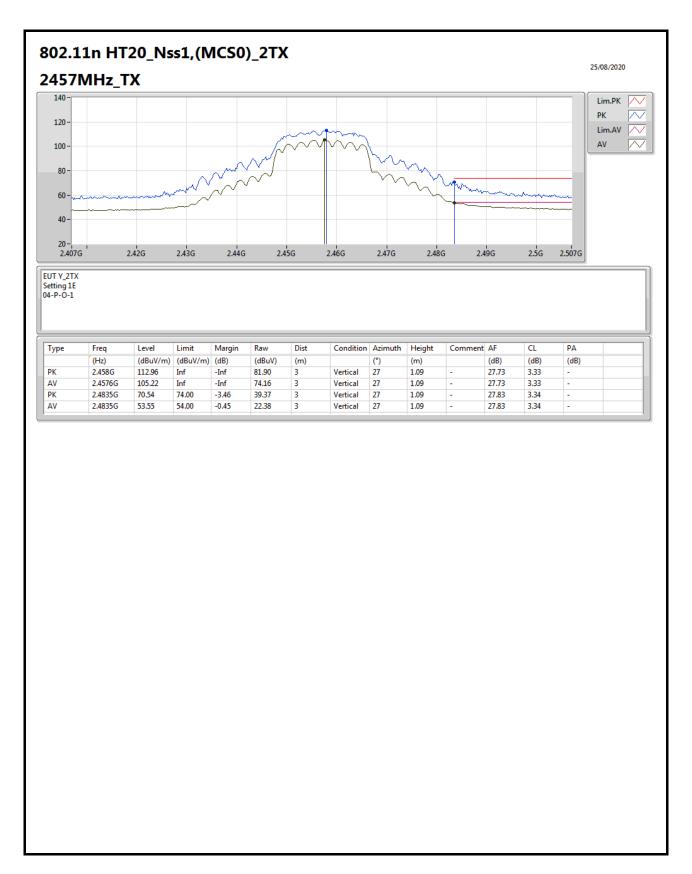




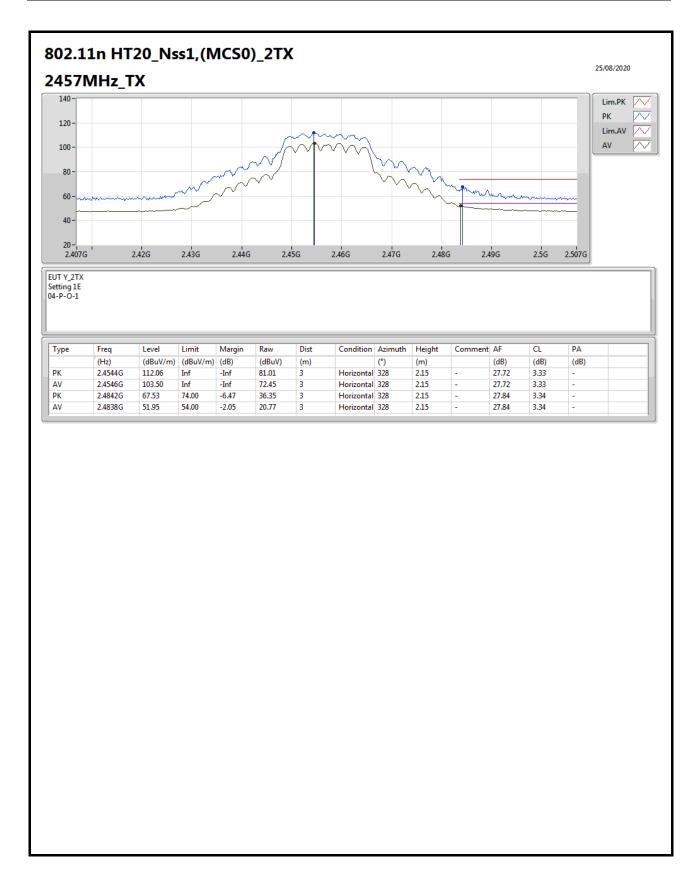




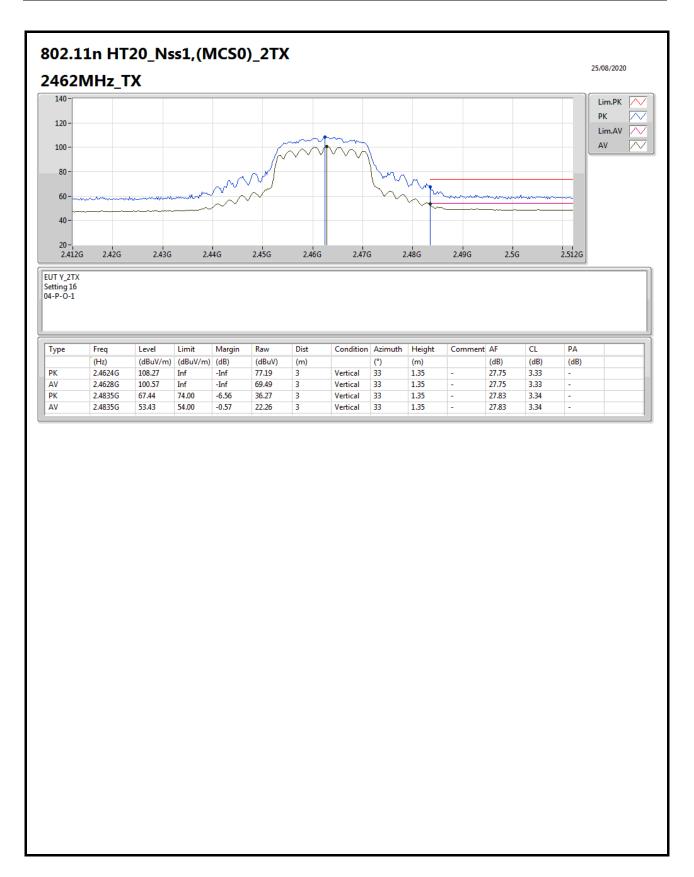




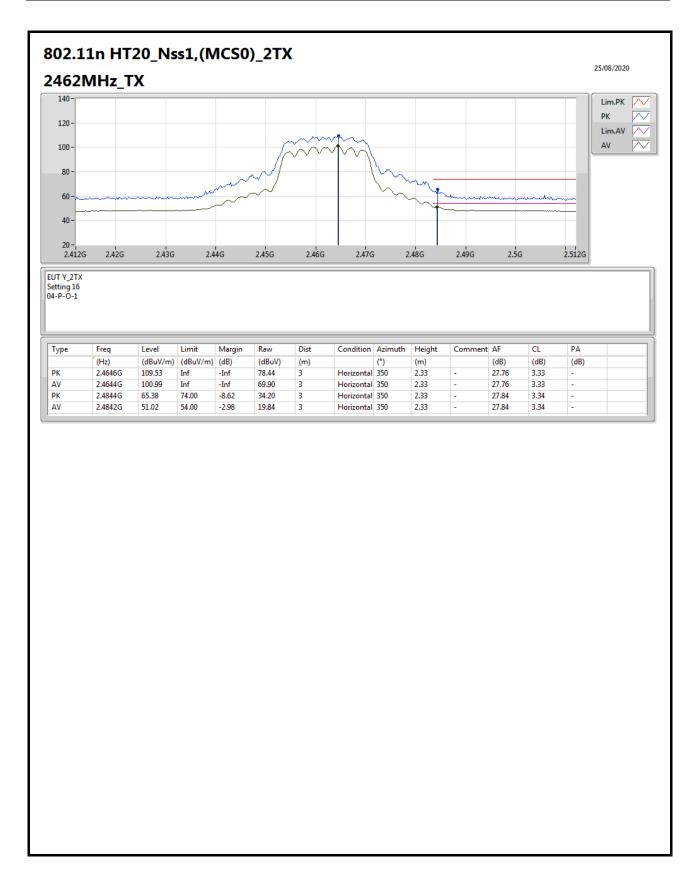




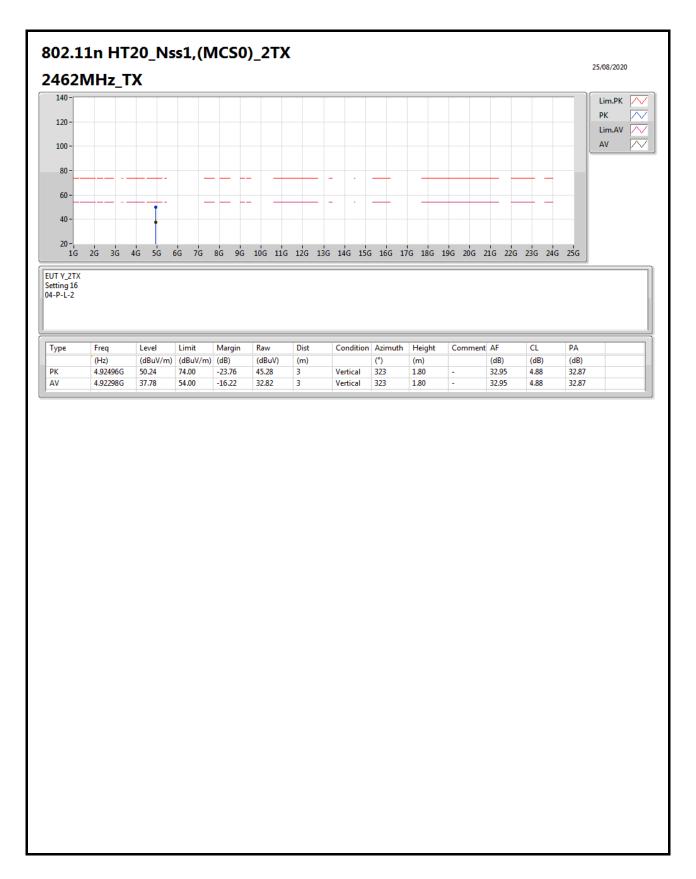




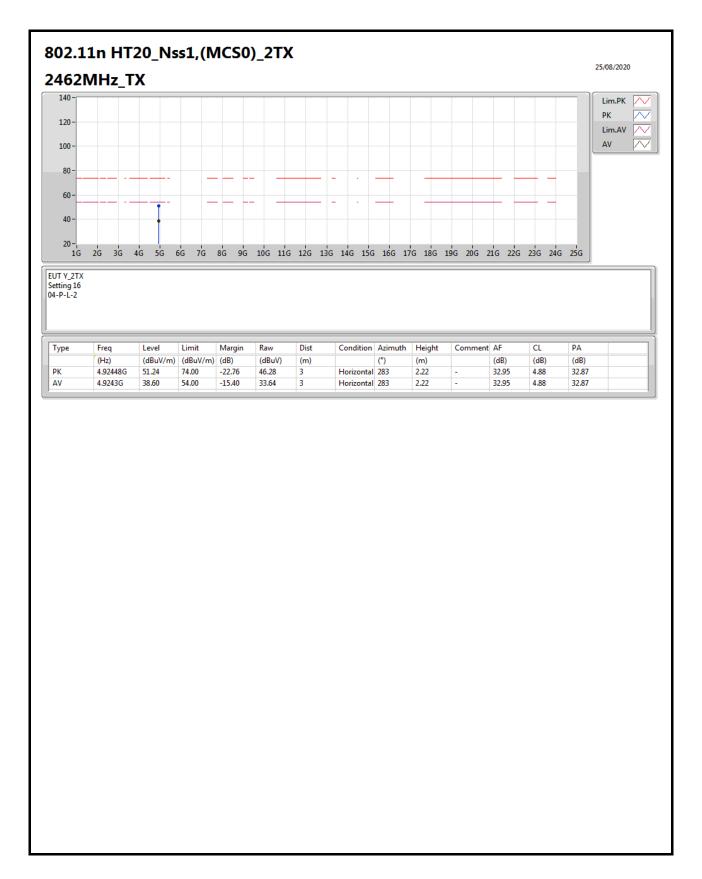




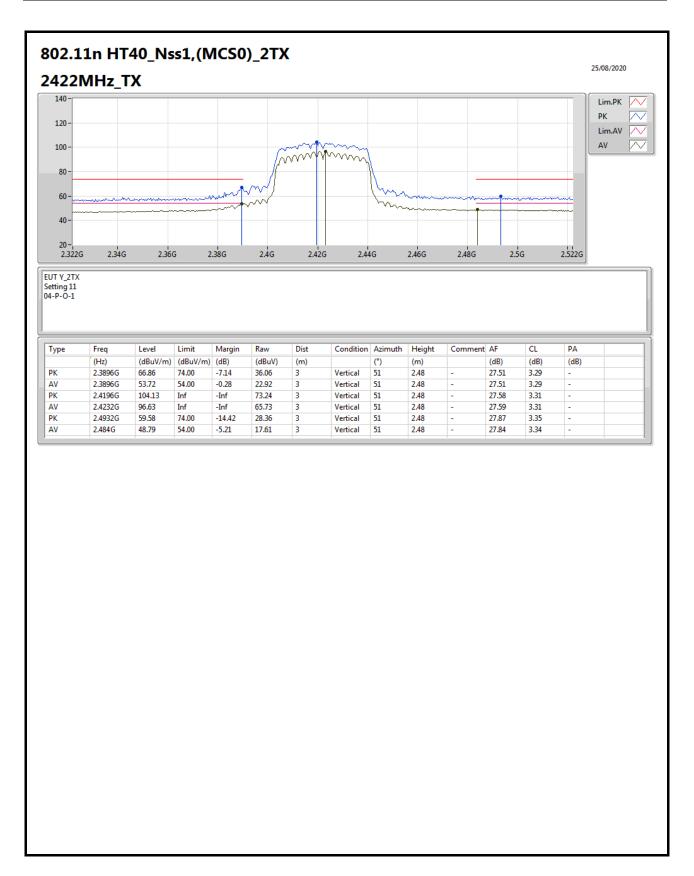




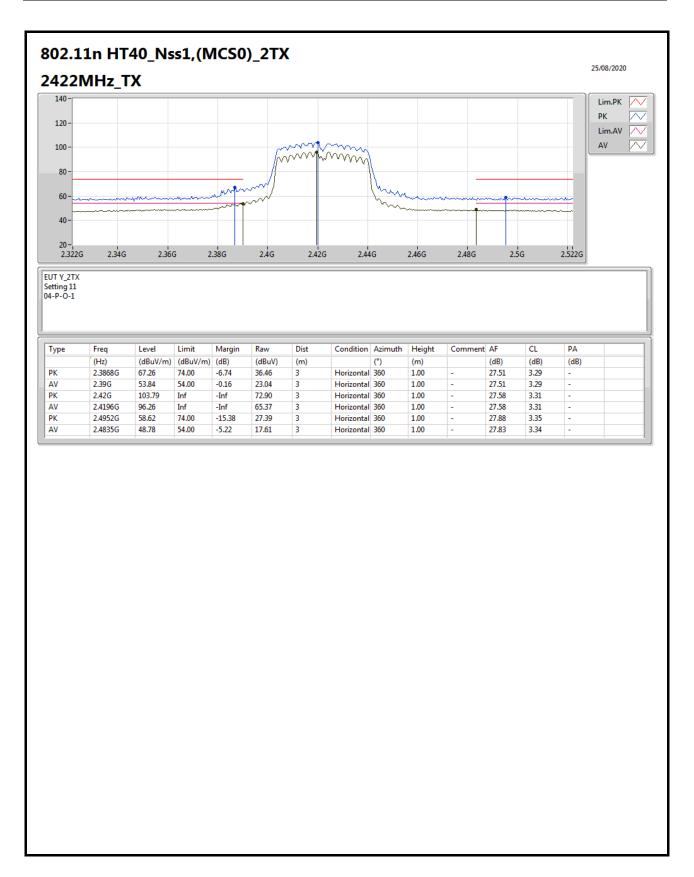




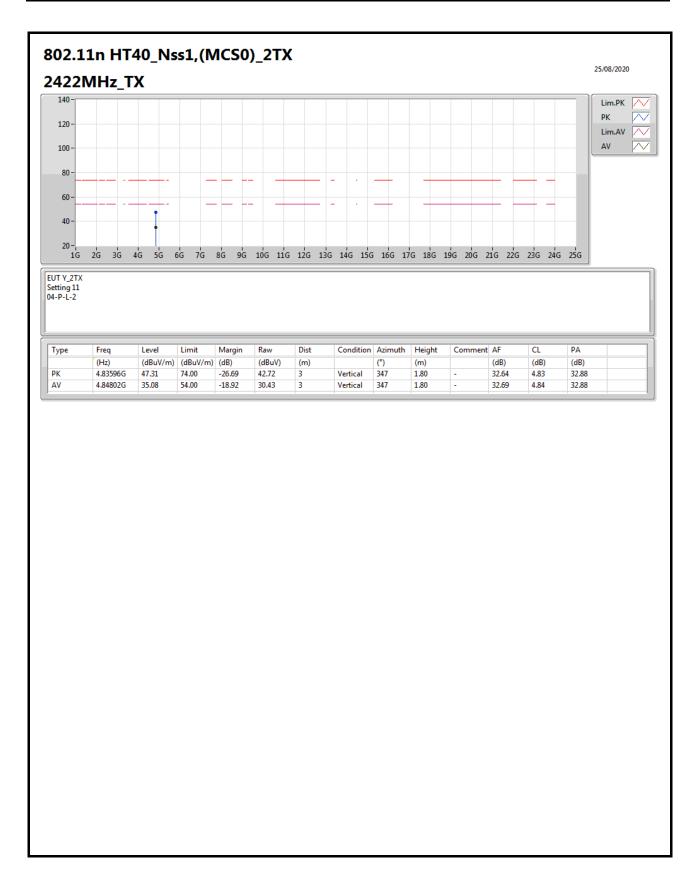




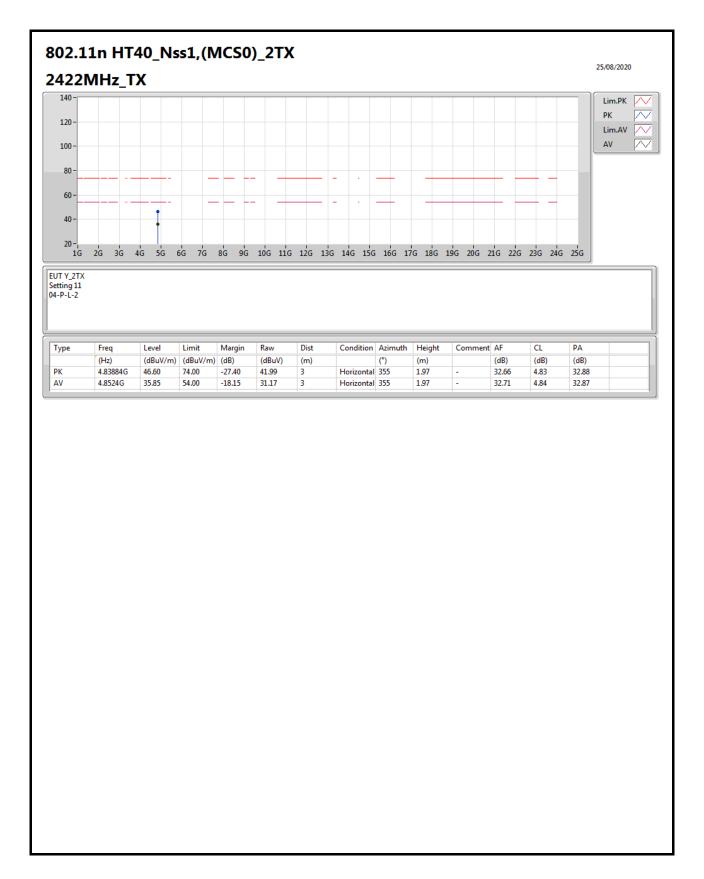




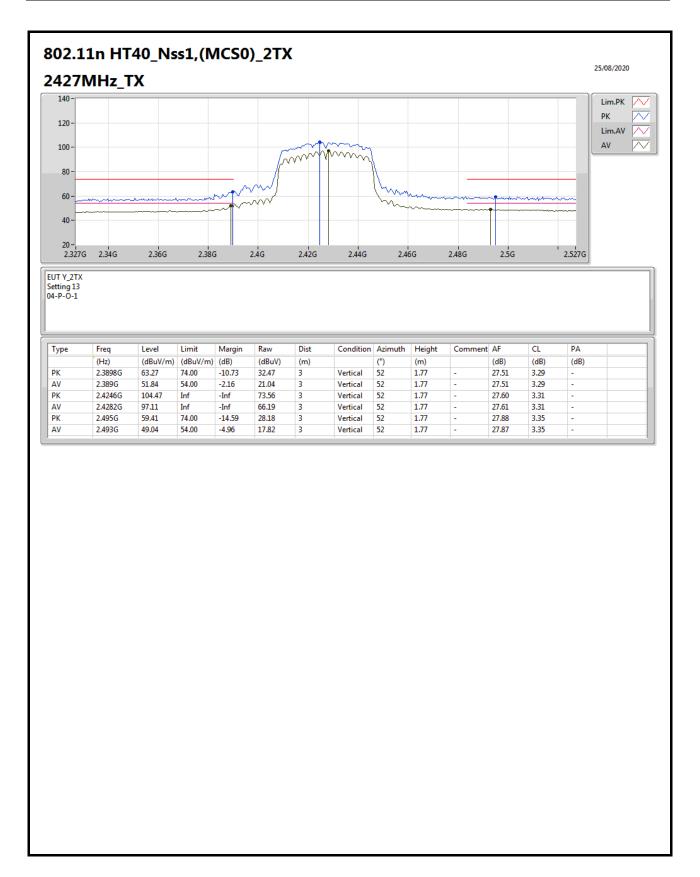




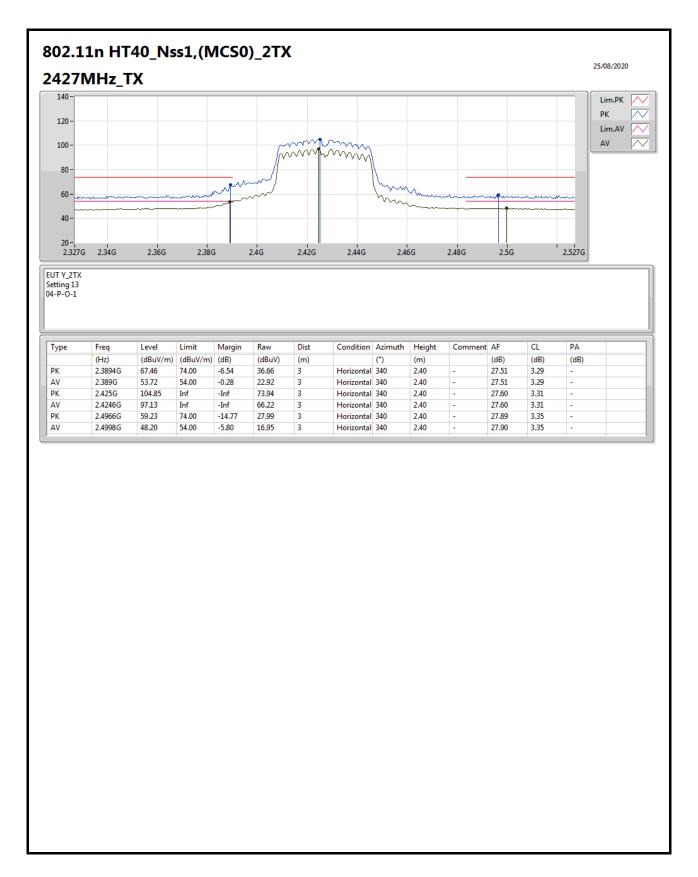




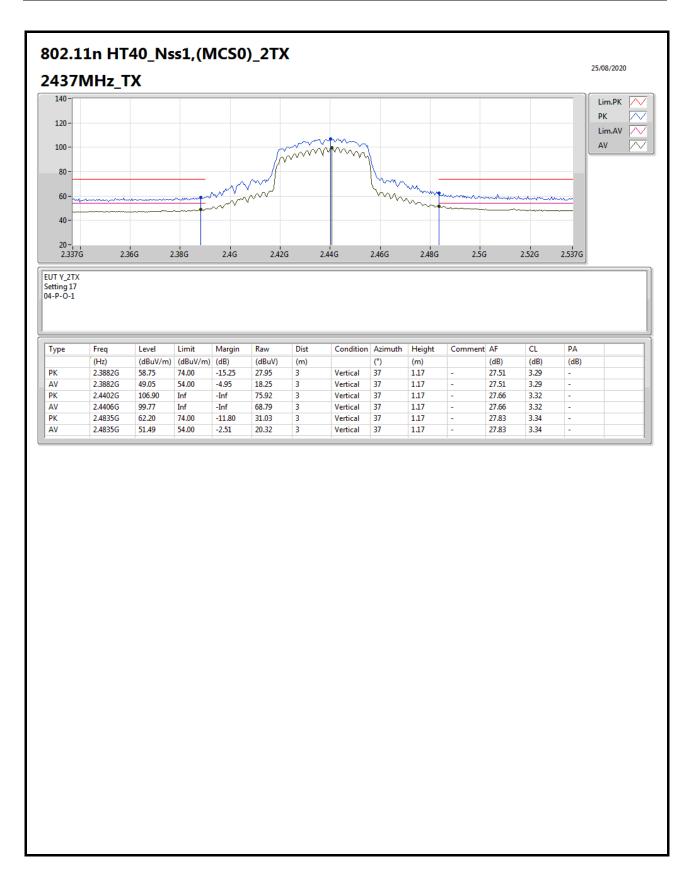




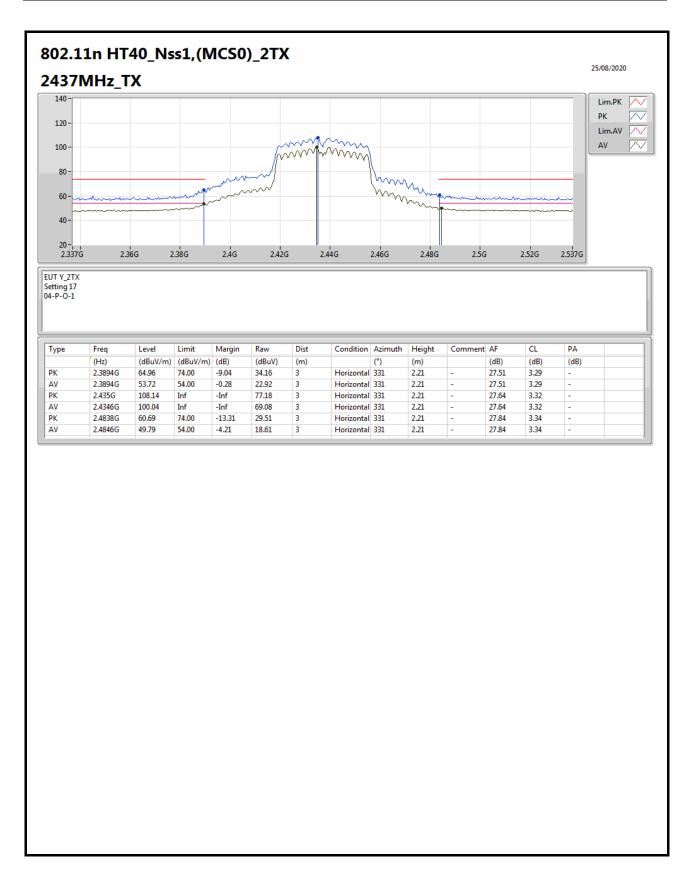




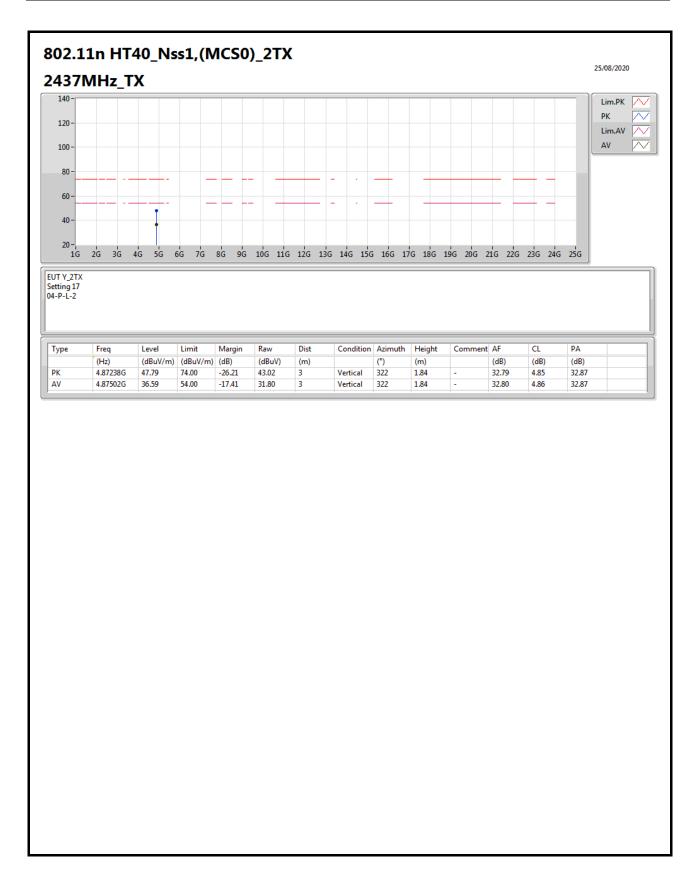












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