Report No.: FR932530AA





# FCC RADIO TEST REPORT

FCC ID : Q87-03431

Equipment : LINKSYS Smart Wi-Fi Router AC1200

Brand Name : LINKSYS

Model Name : EA6350 V4

Applicant : Linksys LLC

121 Theory Drive, Irvine, CA 92617, USA

: 47 CFR FCC Part 15.247 Standard

The product was received on May 23, 2019, and testing was started from Jun. 18, 2019 and completed on Jul. 08, 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

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.)

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

issued Date : Aug. 08, 2019 Report Template No.: CB Ver1.0 Report Version : 01

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# History of this test report

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Report No.	Version	Description	Issued Date
FR932530AA	01	Initial issue of report	Aug. 08, 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	15.247(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 test configuration, test mode and test software were written in this test report are declared by the manufacturer.
- 2. The declared of product specification for EUT presented in the report are provided by the manufacturer, and the manufacturer takes all the responsibilities for the accuracy of product specification.

Reviewed by: Sam Chen Report Producer: Cindy Peng

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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.
- 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.

### 1.1.2 Antenna Information

A 4	Port	Brand	D/N	Antonno Timo	Connector	Gain	(dBi)
Ant.	Port	Branu	P/N	Antenna Type	Connector	2.4Gz	5GHz
1	1	FIT	4TS2449-A0001-JH	Dipole Antenna	I-PEX	2.88	3.32
2	2	FIT	4TS2449-A0001-JH	Dipole Antenna	I-PEX	2.36	3.22

Note1: The above information was declared by manufacturer.

Note2: The EUT has two antennas.

### For WLAN 2.4GHz (2TX/2RX):

Port 1 and Port 2 could transmit/receive simultaneously.

### For WLAN 5GHz (2TX/2RX):

Port 1 and Port 2 could transmit/receive simultaneously.

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### 1.1.3 Mode Test Duty Cycle

Mode	DC	DCF(dB)	T(s)	VBW(Hz) ≥ 1/T
802.11b	0.984	0.07	n/a (DC>=0.98)	n/a (DC>=0.98)
802.11g	0.905	0.43	1.4m	1k
802.11n HT20	0.893	0.49	1.313m	1k
802.11n HT40	0.827	0.82	652.5u	3k

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NI	UtD.	

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

### 1.1.4 EUT Operational Condition

EUT Power Type	From power adapter				
Beamforming Function					
Beamforning Function	The product has beamforming function for 802.11n/ac in 5GHz band.				
Function	☑ Point-to-multipoint   ☐ Point-to-point				
Test Software Version	MT7603 QA 0.0.0.96				

Note: The above information was declared by manufacturer.

### 1.1.5 EUT Supports Type

The EUT supports Master (AP router, Bridge) functions, only the Master (AP router) was performed for AC power-line conducted emissions test, and it was based on manufacturer's request.

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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 558074 D01 v05r02
- FCC KDB 662911 D01 v02r01

# 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		
JHUBEI	ADD	:	No.8, Lane 724, Bo-ai St., Jhubei City, HsinChu County 302, Taiwan, R.O.C.		
	TEL	:	86-3-656-9065 FAX : 886-3-656-9085		

Test Condition	Test Site No.	Test Engineer	Test Environment	Test Date
RF Conducted	TH02-CB	Owen Hsu	22~24°C / 50~54%	Jun. 20, 2019~Jul. 03, 2019
Radiated below 1GHz	03CH06-CB	KJ Chang	24~27°C / 48~58%	Jun. 19, 2019~Jul. 08, 2019
Radiated above 1GHz	03CH01-CB	KJ Chang	21~25°C / 52~62%	Jun. 19, 2019~Jul. 08, 2019
AC Conduction	CO01-CB	GN Hou	21.6~22.1°C / 64~68%	Jun. 18, 2019

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)	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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Test site registered number IC 4086B with Industry Canada.

# 2 Test Configuration of EUT

# 2.1 Test Channel Mode

Mode	Power Setting
802.11b_Nss1,(1Mbps)_2TX	-
2412MHz	27
2417MHz	28
2437MHz	28
2457MHz	27
2462MHz	27
802.11g_Nss1,(6Mbps)_2TX	-
2412MHz	21
2417MHz	25
2437MHz	28
2457MHz	23
2462MHz	1D
802.11n HT20_Nss1,(MCS0)_2TX	-
2412MHz	1C
2417MHz	24
2437MHz	28
2457MHz	23
2462MHz	1B
802.11n HT40_Nss1,(MCS0)_2TX	-
2422MHz	15
2427MHz	18
2437MHz	1E
2447MHz	19
2452MHz	17

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# 2.2 The Worst Case Measurement Configuration

The Worst Case Mode for Following Conformance Tests			
Tests Item	Tests Item AC power-line conducted emissions		
Condition AC power-line conducted measurement for line and neutral			
Operating Mode	Operating Mode Normal Link		
1 EUT + Adapter 1			
2 EUT + Adapter 2			
For operating mode 2 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	DTS Bandwidth Maximum Conducted Output Power Power Spectral Density Emissions in Non-restricted Frequency Bands
Test Condition	Conducted measurement at transmit chains.

Th	e 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.
Operating Mode < 1GHz	CTX
	Y axis and Z axis. After evaluating, "Y axis" generated the worst test result for requency Bands above 1GHz test, so the measurement will follow this same test
1	EUT Y axis with WLAN 2.4GHz + Adapter 1
2	EUT Y axis with WLAN 2.4GHz + Adapter 2
Mode 2 has been evaluate this same test mode.	d to be the worst case among Mode 1~2, thus measurement for Mode 3 will follow
3	EUT Y axis with WLAN 5GHz + Adapter 2
For operating mode 2 is th	e worst case and it was record in this test report.
Operating Mode > 1GHz	СТХ
1	EUT Y axis
2	EUT Z axis
Mode 1 has been evaluate this same test mode.	ed to be the worst case after evaluating. Consequently, measurement will follow

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Т	he Worst Case Mode for Following Conformance Tests
Tests Item	Simultaneous Transmission Analysis - Radiated Emission Co-location
Test Condition Radiated measurement	
	in Y axis and Z axis. After evaluating, "Y axis" generated the worst test result for Frequency Bands above 1GHz test, so the measurement will follow this same test
Operating Mode	Normal Link
1 EUT Y axis with WLAN 2.4GHz + WLAN 5GHz	
Refer to Appendix G 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	Operating Mode	
1 WLAN 2.4GHz + WLAN 5GHz		
Refer to Sporton Test Report No.: FA932530 for Co-location RF Exposure Evaluation.		

# 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

			Accessories	
No.	Equipment Name	Brand Name	Model Name	Rating
1	Adapter	Ktec	KSA-18W-120150VU	INPUT: 100-240V~50/60Hz, 0.5A OUTPUT: 12V, 1.5A
2	Adapter	LEI	MU18B1120150-A1	INPUT: 100-240V~50/60Hz, 0.6A OUTPUT: 12V, 1.5A
No.			Other	
3	RJ-45 cable*1	: Non-shielded,	0.9m	

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# 2.5 Support Equipment

### For AC Conduction:

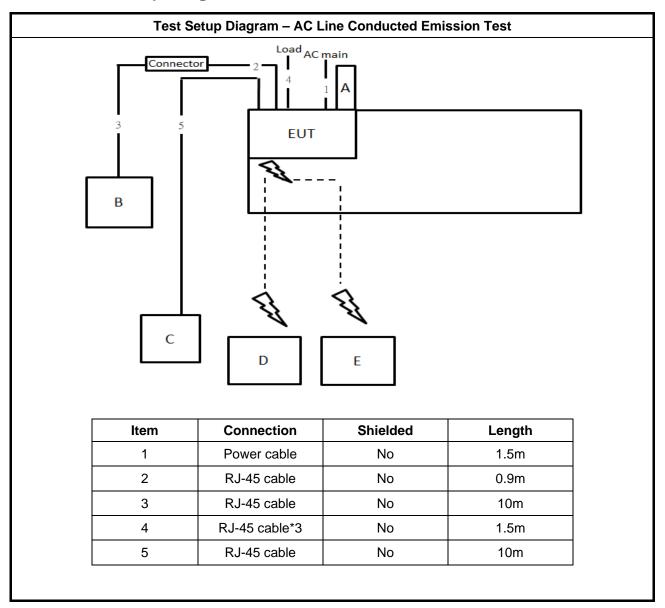
	Support Equipment				
No.	Equipment	Brand Name	Model Name	FCC ID	
Α	Flash disk3.0	Transcend	JetFlash-700	N/A	
В	WAN NB	DELL	E6430	N/A	
С	LAN NB	DELL	E6430	N/A	
D	2.4G NB	DELL	E6430	N/A	
Е	5G NB	DELL	E6430	N/A	

### For Radiated and RF Conducted:

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

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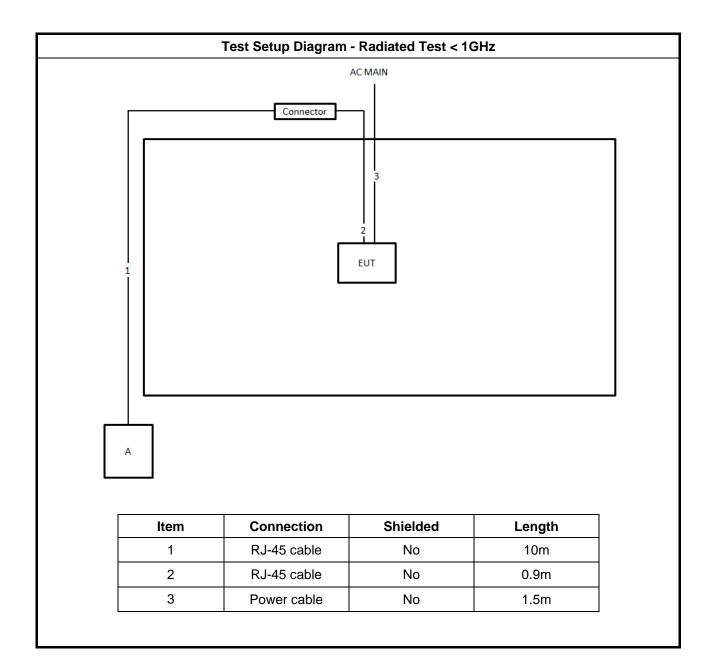
# 2.6 Test Setup Diagram



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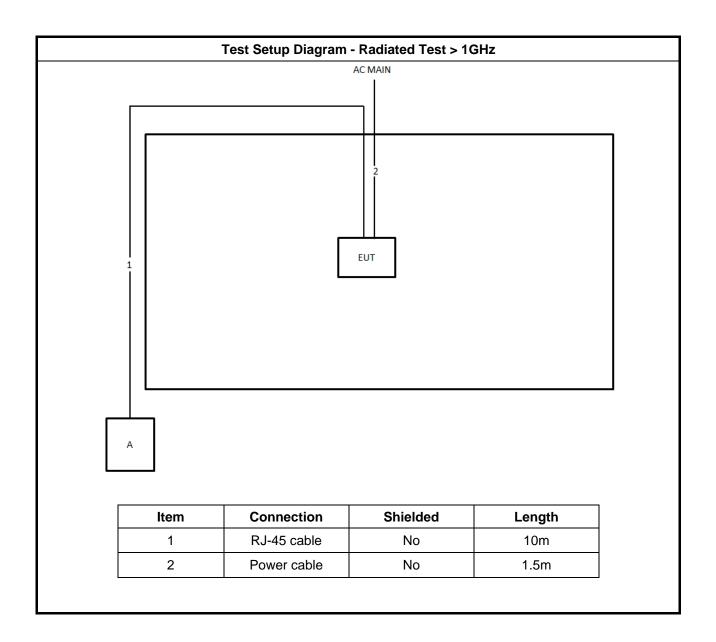
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### 3 Transmitter Test Result

### 3.1 AC Power-line Conducted Emissions

### 3.1.1 AC Power-line Conducted Emissions Limit

AC Power-line Conducted Emissions Limit		_imit
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	of the frequency.	

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### 3.1.2 Measuring Instruments

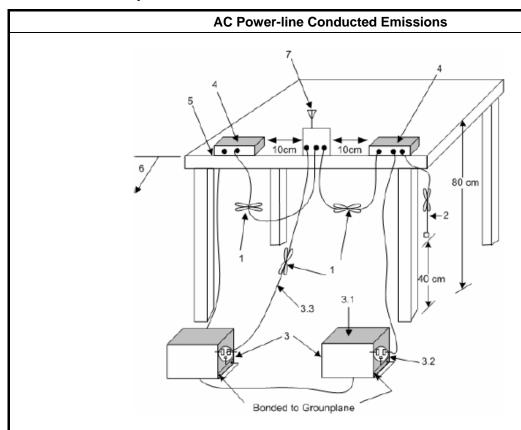
Refer a test equipment and calibration data table in this test report.

### 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  $\Omega$  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 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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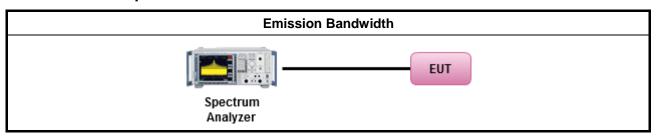
### 3.2.2 Measuring Instruments

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:									
		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 $G_{TX} \le 6$ dBi, then $P_{Out} \le 30$ 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 $P_{Out} =$ maximum peak conducted output power or maximum conducted output power in dBm, $G_{TX} =$ the maximum transmitting antenna directional gain in dBi.

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### 3.3.2 Measuring Instruments

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

### 3.3.3 Test Procedures

		Test Method						
•	Maxi	mum Peak Conducted Output Power						
 I		Refer as FCC KDB 558074, clause 8.3.1.1 & C63.10 clause 11.9.1.1 (RBW ≥ EBW method).						
ı		Refer as FCC KDB 558074, clause 8.3.1.3 & C63.10 clause 11.9.1.3 (peak power meter).						
•	Maxi	mum Conducted Output Power						
 	[duty	cycle ≥ 98% or external video / power trigger]						
1		Refer as FCC KDB 558074, clause 8.3.2.2 & C63.10 clause 11.9.2.2.2 Method AVGSA-1.						
Ĭ		Refer as FCC KDB 558074, clause 8.3.2.2 & C63.10 clause 11.9.2.2.3 Method AVGSA-1A. (alternative)						
1	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.						
Ĭ		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 (alternative)							
	Measurement using a power meter (PM)							
	$\boxtimes$	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).						
		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).						

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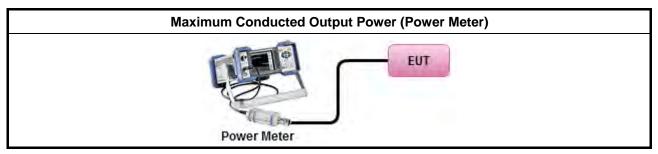
### For conducted measurement.

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.

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■ If multiple transmit chains, EIRP calculation could be following as methods: P<sub>total</sub> = P<sub>1</sub> + P<sub>2</sub> +... + P<sub>n</sub>
(calculated in linear unit [mW] and transfer to log unit [dBm])
EIRP<sub>total</sub> = P<sub>total</sub> + DG

### 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 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

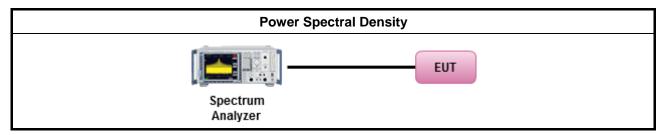
	Test Method										
•	Peak power spectral density procedures that the same method as used to determine the conducted output power. If maximum peak conducted output power was measured to demonstrate compliance to the output power limit, then the peak PSD procedure below (Method PKPSD) shall be used. 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).										
	Refer as FCC KDB 558074, clause 8.4 & C63.10 clause 11.10.2 Method PKPSD.										
	[duty cycle ≥ 98% or external video / power trigger]										
	Refer as FCC KDB 558074, clause 8.4 & C63.10 clause 11.10.3 Method AVGPSD-1.										
	Refer as FCC KDB 558074, clause 8.4 & C63.10 clause 11.10.5 Method AVGPSD-2.										
	Refer as FCC KDB 558074, clause 8.4 & C63.10 clause 11.10.7 Method AVGPSD-3.										
	duty cycle < 98% and average over on/off periods with duty factor										
	Refer as FCC KDB 558074, clause 8.4 & C63.10 clause 11.10.4 Method AVGPSD-1A. (alternative).										
	Refer as FCC KDB 558074, clause 8.4 & C63.10 clause 11.10.6 Method AVGPSD-2A. (alternative)										
	Refer as FCC KDB 558074, clause 8.4 & C63.10 clause 11.10.8 Method AVGPSD-3A. (alternative)										
•	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, spectral 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,										

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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



### 3.4.5 Test Result of Power Spectral Density

Refer as Appendix D

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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.

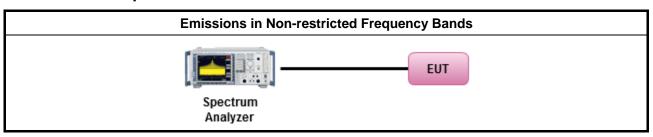
### 3.5.2 Measuring Instruments

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

### 3.5.3 Test Procedures

Test Method	
<ul> <li>Refer as FCC KDB 558074, clause 8.5 for unwanted emissions into non-restricted bands.</li> </ul>	

### 3.5.4 Test Setup



### 3.5.5 Test Result of Emissions in Non-restricted Frequency Bands

Refer as Appendix E

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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 Dist									
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.

### 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].								
•	Refer as ANSI C63.10, clause 6.10.3 band-edge testing shall be performed at the lowest frequency channel 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 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 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:								
	<ul> <li>Refer as FCC KDB 558074 clause 8.7 &amp; 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.</li> </ul>									
	•	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.								

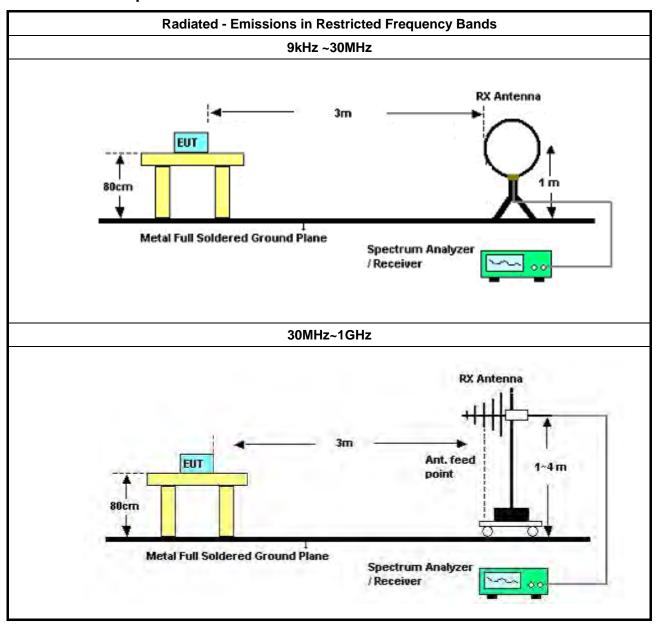
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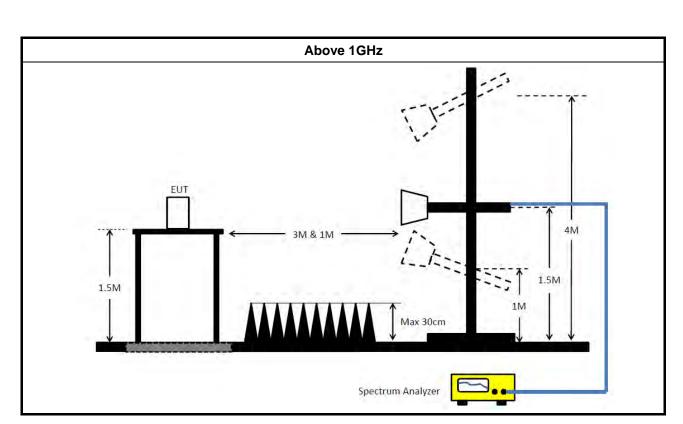
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### 3.6.4 Test Setup



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### 3.6.5 Measurement Results Calculation

The measured Level is calculated using:

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

### 3.6.6 Emissions in Restricted Frequency Bands (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.

### 3.6.7 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
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)
Loop Antenna	Teseq	HLA 6120	24155	9kHz - 30 MHz	Mar. 29, 2019	Mar. 28, 2020	Radiation (03CH06-CB)
Bilog Antenna with 6 dB attenuator	TESEQ & EMCI	CBL6112D & N-6-06	37878 & AT-N0606	20MHz ~ 2GHz	Aug. 04, 2018	Aug. 03, 2019	Radiation (03CH06-CB)
Pre-Amplifier	Agilent	310N	187290	0.1MHz ~ 1GHz	May 07, 2019	May 06, 2020	Radiation (03CH06-CB)
Spectrum analyzer	R&S	FSP40	100080	9kHz~40GHz	Oct. 03, 2018	Oct. 02, 2019	Radiation (03CH06-CB)
EMI Test Receiver	R&S	ESCS	100359	9kHz ~ 2.75GHz	Jul. 03, 2018	Jul. 02, 2019	Radiation (03CH06-CB)
EMI Test Receiver	R&S	ESCS	100359	9kHz ~ 2.75GHz	Jun. 26, 2019	Jun. 25, 2020	Radiation (03CH06-CB)
RF Cable-low	HUBER+SUHN ER	RG402	Low Cable-05+24	30MHz~1GHz	Oct. 08, 2018	Oct. 07, 2019	Radiation (03CH06-CB)
Horn Antenna	EMCO	3115	00075790	750MHz ~ 18GHz	Nov. 13, 2018	Nov. 12, 2019	Radiation (03CH01-CB)
Horn Antenna	Schwarzbeck	BBHA 9170	BBHA9170252	15GHz ~ 40GHz	Jun. 28, 2018	Jun. 27, 2019	Radiation (03CH01-CB)
Horn Antenna	Schwarzbeck	BBHA 9170	BBHA9170252	15GHz ~ 40GHz	Jun. 27, 2019	Jun. 26, 2020	Radiation (03CH01-CB)
Pre-Amplifier	Agilent	8449B	3008A02310	1GHz ~ 26.5GHz	Jan. 08, 2019	Jan. 07, 2020	Radiation (03CH01-CB)
Pre-Amplifier	MITEQ	TTA1840-35- HG	1864479	18GHz ~ 40GHz	Jul. 04, 2018	Jul. 03, 2019	Radiation (03CH01-CB)
Pre-Amplifier	MITEQ	TTA1840-35- HG	1864479	18GHz ~ 40GHz	Jul. 03, 2019	Jul. 02, 2020	Radiation (03CH01-CB)
Spectrum Analyzer	R&S	FSP40	100056	9kHz ~ 40GHz	Jan. 31, 2019	Jan. 30, 2020	Radiation (03CH01-CB)
RF Cable-high	Woken	RG402	High Cable-16	1 GHz ~ 18 GHz	Oct. 08, 2018	Oct. 07, 2019	Radiation (03CH01-CB)
RF Cable-high	Woken	RG402	High Cable-16+17	1 GHz ~ 18 GHz	Oct. 08, 2018	Oct. 07, 2019	Radiation (03CH01-CB)
RF Cable-high	Woken	RG402	High Cable-40G#1	18GHz ~ 40 GHz	Jul. 27, 2018	Jul. 26, 2019	Radiation (03CH01-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. 27, 2018	Jul. 26, 2019	Radiation (03CH01-CB)
Spectrum analyzer	R&S	FSV40	100979	9kHz~40GHz	Feb. 25, 2019	Feb. 24, 2020	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)
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)

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

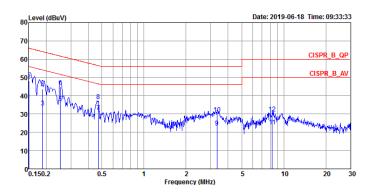
N.C.R. means Non-Calibration required.

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### AC Power-line Conducted Emissions Result

AC Power-line Conducted Emissions Result								
Operating Mode	2	Line						
Operating Function Normal Link								

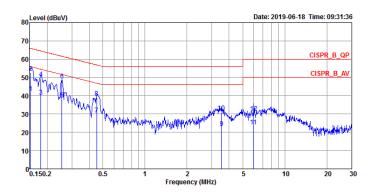


			Over	Limit	Read	LISN	Cable		
	Freq	Level	Limit	Line	Level	Factor	Loss	Remark	Pol/Phase
		In v			In I	<u></u>			
	MHz	dBuV	dB	dBuV	dBuV	dB	dB		
1	0.1500	37 82	-18.18	56.00	27.92	9.84	9 96	Average	LINE
_									
2	0.1500	48.06	-17.94	66.00	38.16	9.84	0.06	QР	LINE
3	0.1884	33.65	-20.46	54.11	23.74	9.85	0.06	Average	LINE
4	0.1884	43.81	-20.30	64.11	33.90	9.85	0.06	QP	LINE
5	0.2521	35.94	-15.75	51.69	26.02	9.86	0.06	Average	LINE
6	0.2521	44.79	-16.90	61.69	34.87	9.86	0.06	QP	LINE
7	0.4711	31.15	-15.34	46.49	21.21	9.87	0.07	Average	LINE
8	0.4711	37.20	-19.29	56.49	27.26	9.87	0.07	QP	LINE
9	3.3281	22.75	-23.25	46.00	12.66	9.93	0.16	Average	LINE
10	3.3281	29.98	-26.02	56.00	19.89	9.93	0.16	QP	LINE
11	8.2789	23.40	-26.60	50.00	13.09	10.09	0.22	Average	LINE
12	8.2789	30.31	-29.69	60.00	20.00	10.09	0.22	QP	LINE

Note 1: ">20dB" means emission levels that exceed the level of 20 dB below the applicable limit. Note 2: "N/F" means Nothing Found emissions (No emissions were detected.)

### **AC Power-line Conducted Emissions Result**

AC Power-line Conducted Emissions Result							
Operating Mode	2	Power Phase	Neutral				
Operating Function Normal Link							



			0ver	Limit	Read	LISN	Cable		
	Freq	Level	Limit	Line	Level	Factor	Loss	Remark	Pol/Phase
	MHz	dBuV	dB	dBuV	dBuV	dB	dB		
1	0.1524	41.57	-14.30	55.87	31.68	9.83	0.06	Average	NEUTRAL
2	0.1524	52.43	-13.44	65.87	42.54	9.83	0.06	QP	NEUTRAL
3	0.1806	39.45	-15.01	54.46	29.56	9.83	0.06	Average	NEUTRAL
4	0.1806	49.50	-14.96	64.46	39.61	9.83	0.06	QP	NEUTRAL
5	0.2548	38.10	-13.50	51.60	28.20	9.84	0.06	Average	NEUTRAL
6	0.2548	48.55	-13.05	61.60	38.65	9.84	0.06	QP	NEUTRAL
7	0.4516	29.86	-16.99	46.85	19.95	9.85	0.06	Average	NEUTRAL
8	0.4516	38.85	-18.00	56.85	28.94	9.85	0.06	QP	NEUTRAL
9	3.5278	22.45	-23.55	46.00	12.38	9.91	0.16	Average	NEUTRAL
10	3.5278	30.94	-25.06	56.00	20.87	9.91	0.16	QP	NEUTRAL
11	5.9925	23.31	-26.69	50.00	13.11	10.00	0.20	Average	NEUTRAL
12	5.9925	30.56	-29.44	60.00	20.36	10.00	0.20	QP	NEUTRAL

Note 1: ">20dB" means emission levels that exceed the level of 20 dB below the applicable limit. Note 2: "N/F" means Nothing Found emissions (No emissions were detected.)



**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	15.667M	15M7G1D	10.05M	14.968M	
802.11g_Nss1,(6Mbps)_2TX	15.1M	20.94M	20M9D1D	14.425M	16.342M	
802.11n HT20_Nss1,(MCS0)_2TX	15.675M	21.964M	22M0D1D	15.025M	17.516M	
802.11n HT40_Nss1,(MCS0)_2TX	35.05M	35.932M	35M9D1D	35M	35.832M	

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;

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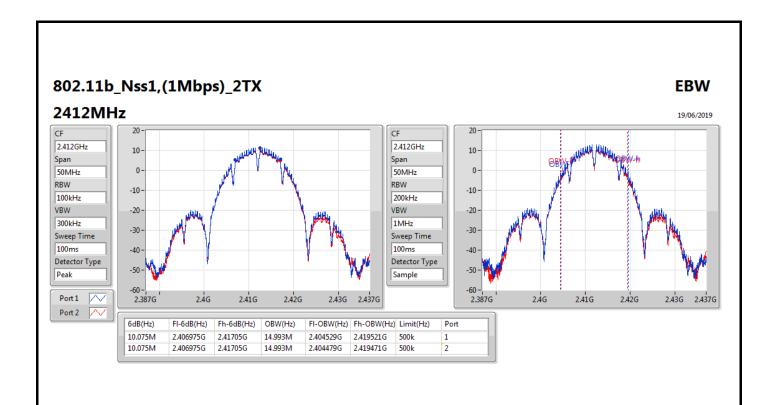
### Result

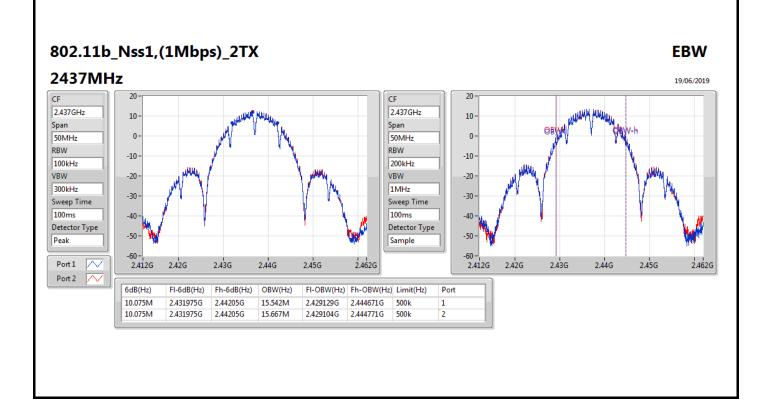
Mode	Result	Limit	Port 1-N dB	Port 1-OBW	Port 2-N dB	Port 2-OBW
		(Hz)	(Hz)	(Hz)	(Hz)	(Hz)
802.11b_Nss1,(1Mbps)_2TX	-	-	-	-	-	-
2412MHz	Pass	500k	10.075M	14.993M	10.075M	14.993M
2437MHz	Pass	500k	10.075M	15.542M	10.075M	15.667M
2462MHz	Pass	500k	10.05M	15.017M	10.05M	14.968M
802.11g_Nss1,(6Mbps)_2TX	-	-	-	-	-	-
2412MHz	Pass	500k	15.025M	16.467M	14.975M	16.467M
2437MHz	Pass	500k	15.1M	20.94M	15.1M	19.865M
2462MHz	Pass	500k	15.025M	16.392M	14.425M	16.342M
802.11n HT20_Nss1,(MCS0)_2TX	-	-	-	-	-	-
2412MHz	Pass	500k	15.05M	17.566M	15.675M	17.516M
2437MHz	Pass	500k	15.075M	21.964M	15.05M	21.089M
2462MHz	Pass	500k	15.05M	17.516M	15.025M	17.516M
802.11n HT40_Nss1,(MCS0)_2TX	-	-	-	-	-	-
2422MHz	Pass	500k	35M	35.882M	35.05M	35.882M
2437MHz	Pass	500k	35.05M	35.882M	35M	35.932M
2452MHz	Pass	500k	35.05M	35.882M	35.05M	35.832M

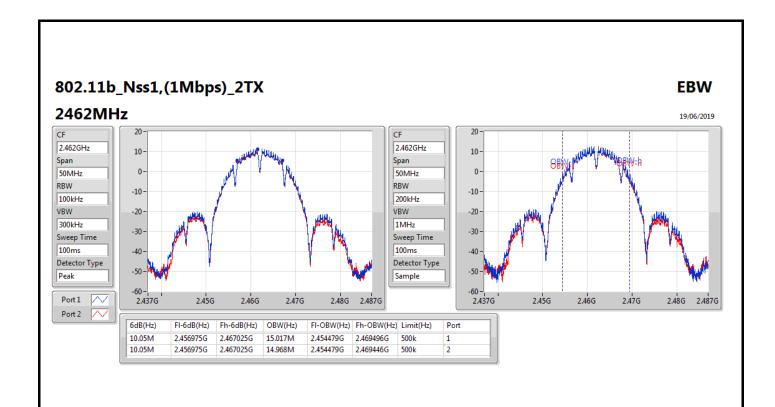
Port X-N dB = Port X 6dB down bandwidth; Port X-OBW = Port X 99% occupied bandwidth;

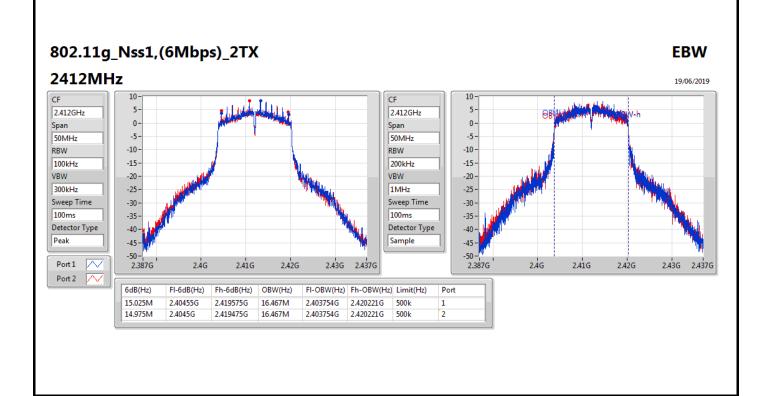
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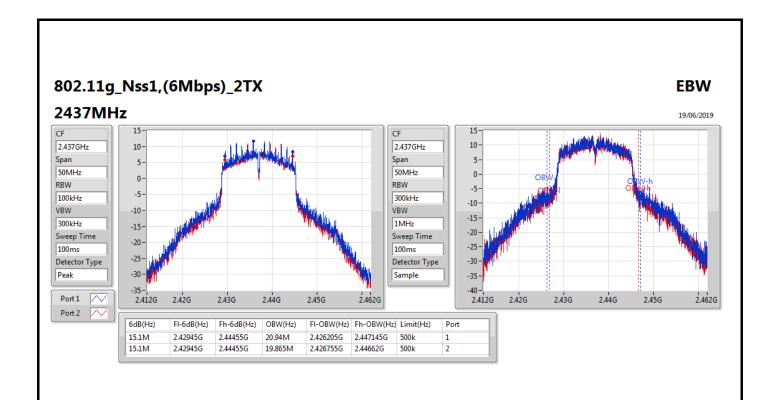
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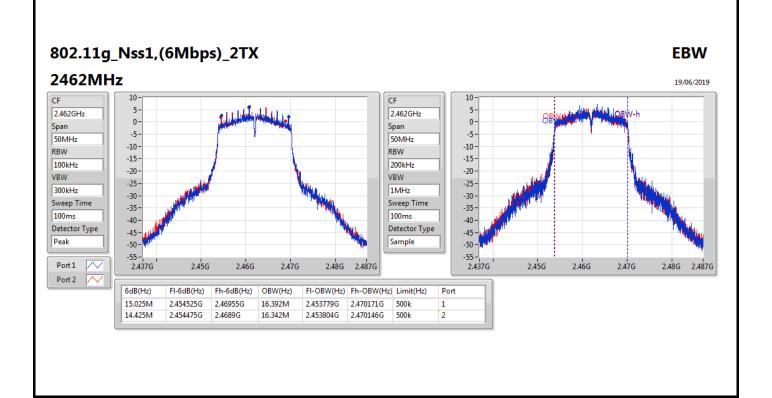


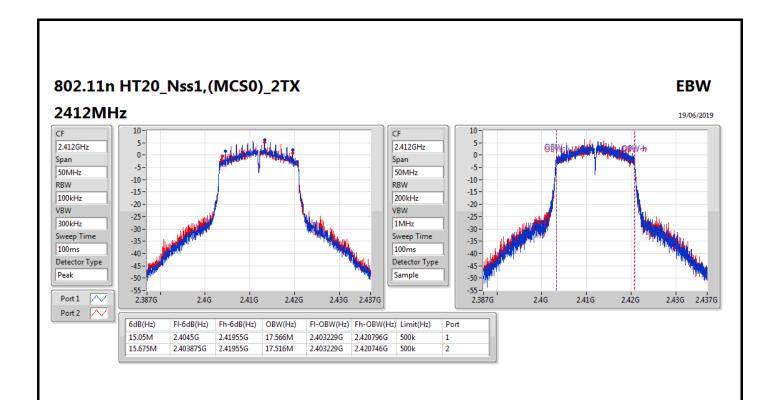


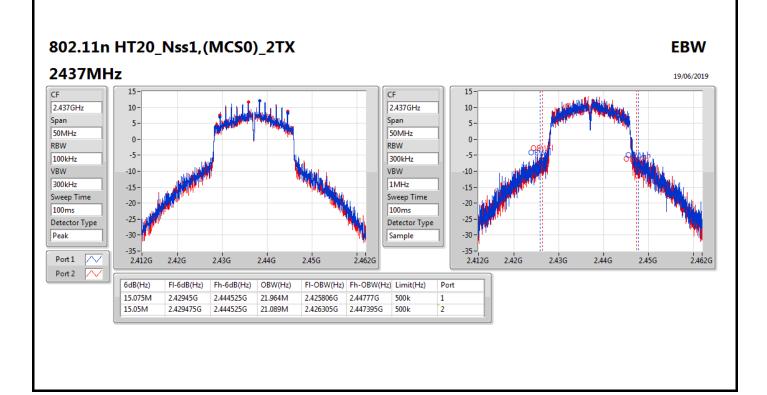




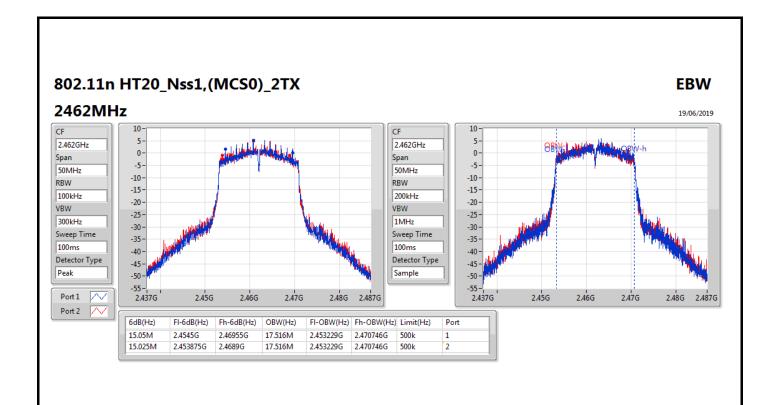


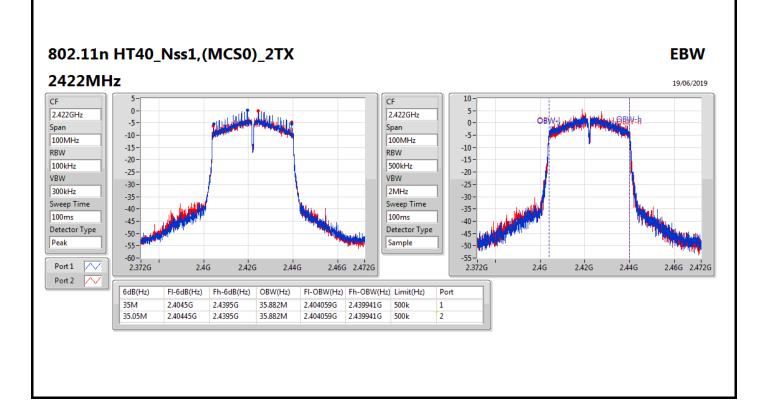




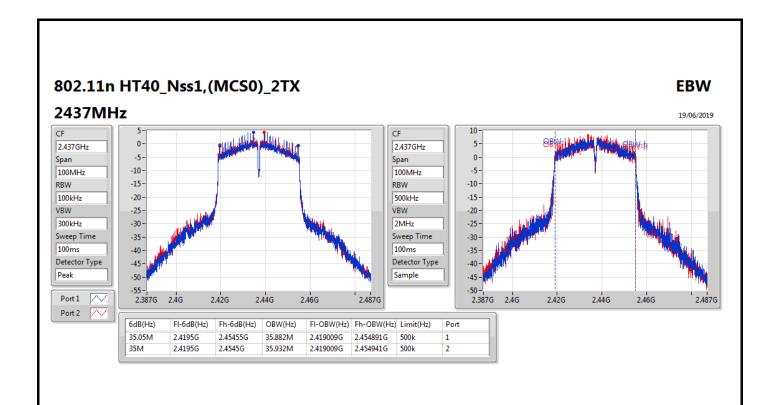


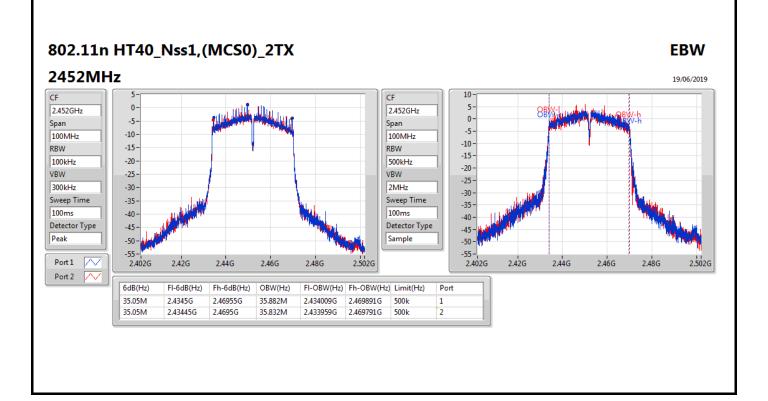
EBW Result Appendix B





EBW Result Appendix B







# Average Power Result

Appendix C

**Summary** 

Mode	Total Power	Total Power
	(dBm)	(W)
2.4-2.4835GHz	-	-
802.11b_Nss1,(1Mbps)_2TX	25.47	0.35237
802.11g_Nss1,(6Mbps)_2TX	25.06	0.32063
802.11n HT20_Nss1,(MCS0)_2TX	25.08	0.32211
802.11n HT40_Nss1,(MCS0)_2TX	20.29	0.10691



### Result

Mode	Result	DG	Port 1	Port 2	Total Power	Power Limit
		(dBi)	(dBm)	(dBm)	(dBm)	(dBm)
802.11b_Nss1,(1Mbps)_2TX	-	-	-	-	-	-
2412MHz	Pass	2.88	21.74	21.58	24.67	30.00
2417MHz	Pass	2.88	22.40	22.37	25.40	30.00
2437MHz	Pass	2.88	22.44	22.47	25.47	30.00
2457MHz	Pass	2.88	22.38	22.27	25.34	30.00
2462MHz	Pass	2.88	21.58	21.39	24.50	30.00
802.11g_Nss1,(6Mbps)_2TX	-	-	-	-	-	-
2412MHz	Pass	2.88	18.96	18.60	21.79	30.00
2417MHz	Pass	2.88	20.46	20.18	23.33	30.00
2437MHz	Pass	2.88	22.23	21.87	25.06	30.00
2457MHz	Pass	2.88	19.42	19.17	22.31	30.00
2462MHz	Pass	2.88	16.69	16.66	19.69	30.00
802.11n HT20_Nss1,(MCS0)_2TX	-	-	-	-	-	-
2412MHz	Pass	2.88	16.24	16.20	19.23	30.00
2417MHz	Pass	2.88	19.75	19.52	22.65	30.00
2437MHz	Pass	2.88	22.05	22.08	25.08	30.00
2457MHz	Pass	2.88	19.12	19.31	22.23	30.00
2462MHz	Pass	2.88	15.55	15.69	18.63	30.00
802.11n HT40_Nss1,(MCS0)_2TX	-	-	-	-	-	-
2422MHz	Pass	2.88	13.03	12.79	15.92	30.00
2427MHz	Pass	2.88	14.24	14.29	17.28	30.00
2437MHz	Pass	2.88	17.30	17.26	20.29	30.00
2447MHz	Pass	2.88	14.70	14.82	17.77	30.00
2452MHz	Pass	2.88	13.84	13.71	16.79	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	-6.30
802.11g_Nss1,(6Mbps)_2TX	-2.13
802.11n HT20_Nss1,(MCS0)_2TX	-1.91
802.11n HT40_Nss1,(MCS0)_2TX	-8.67

RBW=3 kHz.

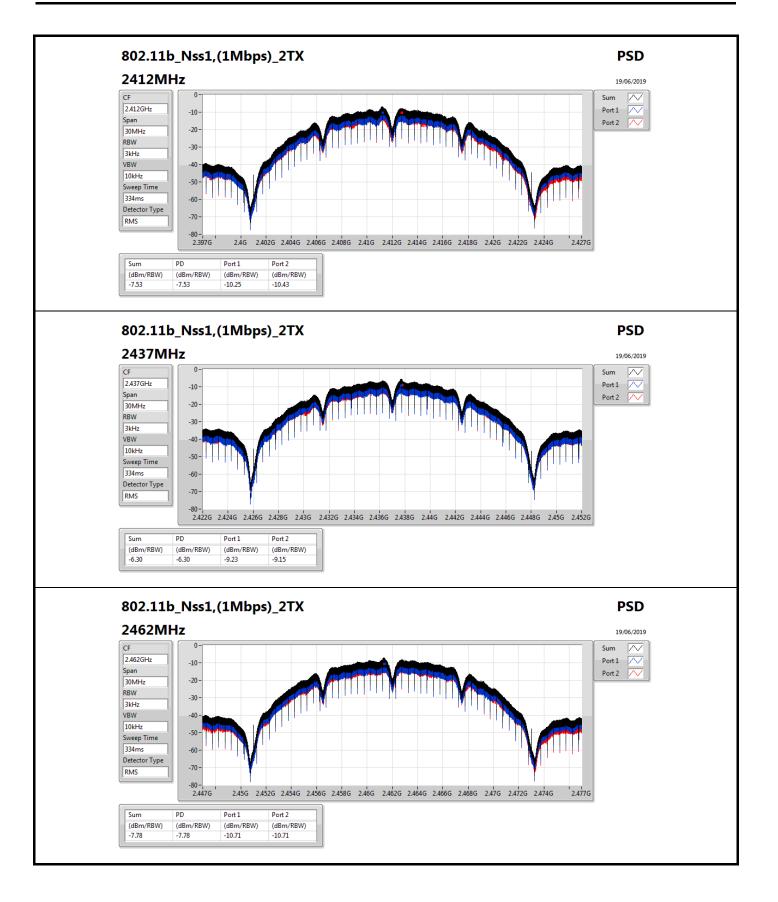


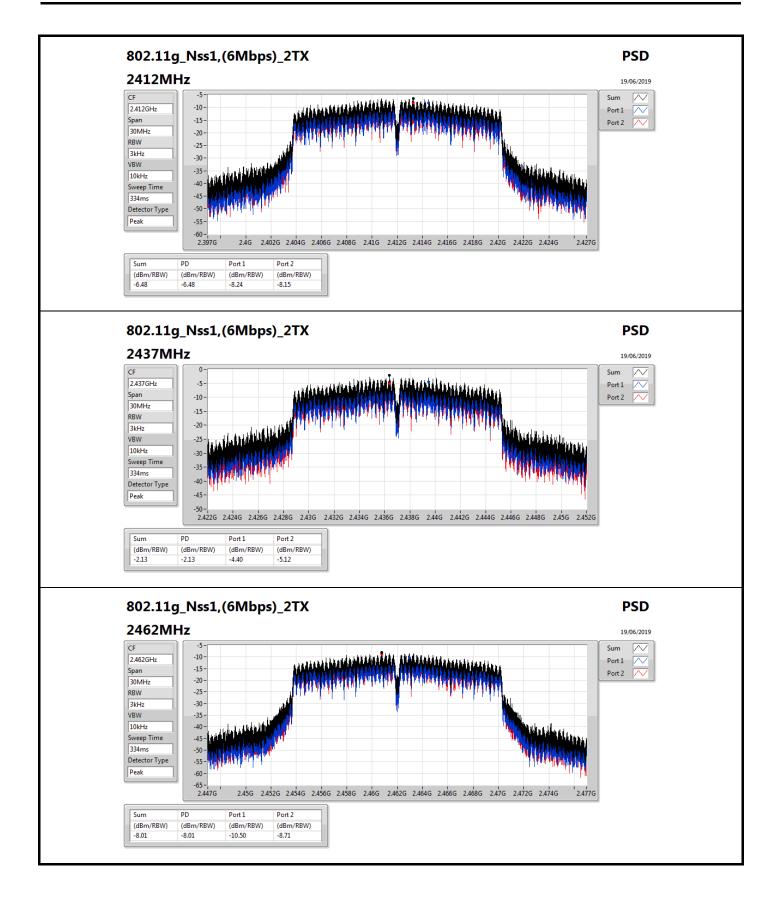
### Result

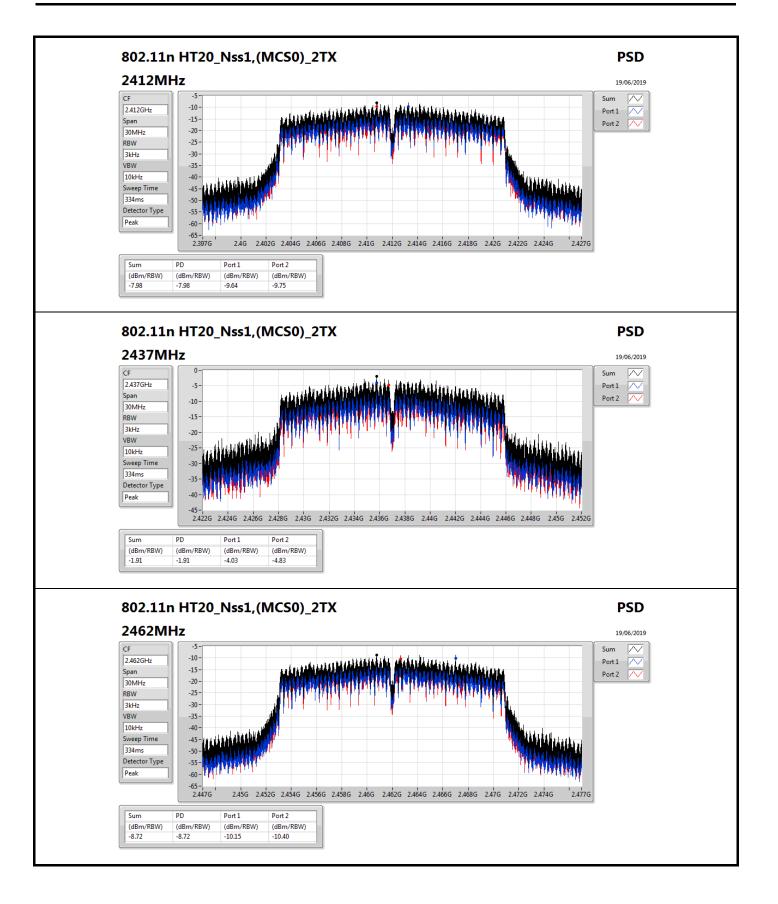
Mode	Result	DG	Port 1	Port 2	PD	PD Limit
		(dBi)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
802.11b_Nss1,(1Mbps)_2TX	-	-	-	-	-	-
2412MHz	Pass	5.63	-10.25	-10.43	-7.53	8.00
2437MHz	Pass	5.63	-9.23	-9.15	-6.30	8.00
2462MHz	Pass	5.63	-10.71	-10.71	-7.78	8.00
802.11g_Nss1,(6Mbps)_2TX	-	-	-	-	-	-
2412MHz	Pass	5.63	-8.24	-8.15	-6.48	8.00
2437MHz	Pass	5.63	-4.40	-5.12	-2.13	8.00
2462MHz	Pass	5.63	-10.50	-8.71	-8.01	8.00
802.11n HT20_Nss1,(MCS0)_2TX	-	-	-	-	-	-
2412MHz	Pass	5.63	-9.64	-9.75	-7.98	8.00
2437MHz	Pass	5.63	-4.03	-4.83	-1.91	8.00
2462MHz	Pass	5.63	-10.15	-10.40	-8.72	8.00
802.11n HT40_Nss1,(MCS0)_2TX	-	-	-	-	-	-
2422MHz	Pass	5.63	-16.68	-16.24	-13.76	8.00
2437MHz	Pass	5.63	-11.66	-11.31	-8.67	8.00
2452MHz	Pass	5.63	-16.17	-15.74	-13.11	8.00

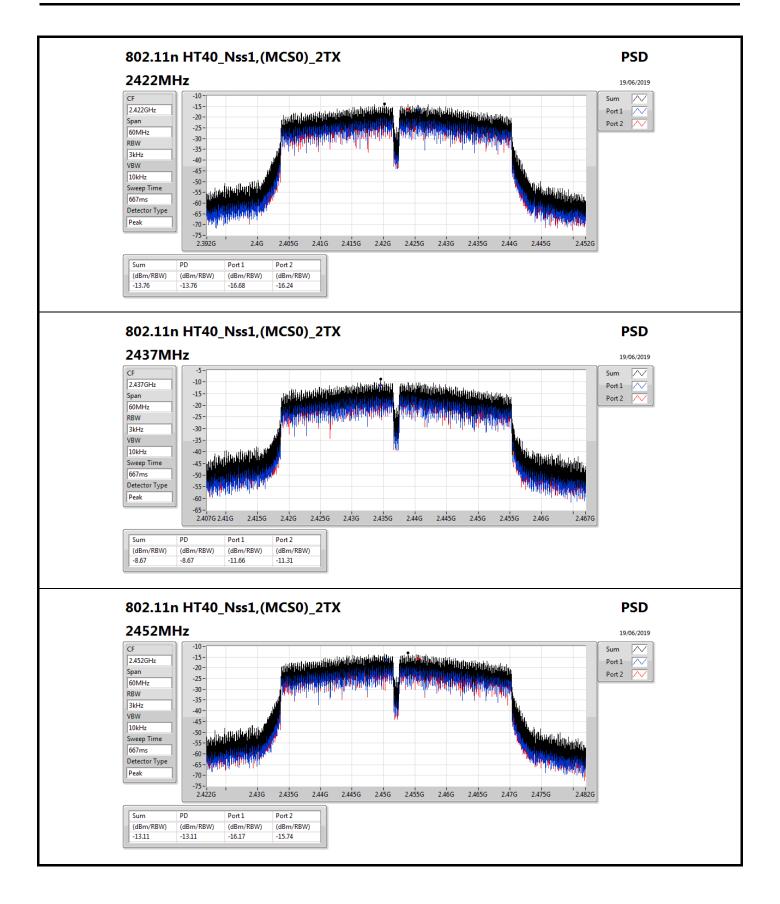
**DG** = Directional Gain; RBW=3 kHz;

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) Result

Appendix E

**Summary** 

• · · · · · · · · · · · · · · · · · · ·													
Mode	Result	Ref	Ref	Limit	Freq	Level	Freq	Level	Freq	Level	Freq	Level	Port
		(Hz)	(dBm)	(dBm)	(Hz)	(dBm)	(Hz)	(dBm)	(Hz)	(dBm)	(Hz)	(dBm)	
2.4-2.4835GHz	-	-	-	-	-	-	-	-	-	-	-	-	-
802.11b_Nss1,(1Mbps)_2TX	Pass	2.43649G	12.30	-17.70	1.81216G	-54.10	2.39704G	-20.01	2.49762G	-50.61	23.49407G	-45.68	2
802.11g_Nss1,(6Mbps)_2TX	Pass	2.43574G	11.84	-18.16	479.98M	-52.33	2.39992G	-20.08	2.49206G	-47.65	24.82862G	-45.02	2
802.11n HT20_Nss1,(MCS0)_2TX	Pass	2.43574G	12.04	-17.96	1.93099G	-53.63	2.3995G	-25.23	2.48952G	-49.78	15.05415G	-44.89	2
802.11n HT40_Nss1,(MCS0)_2TX	Pass	2.43449G	4.98	-25.02	479.99M	-52.09	2.39452G	-36.15	2.49978G	-50.12	5.78033G	-31.04	2



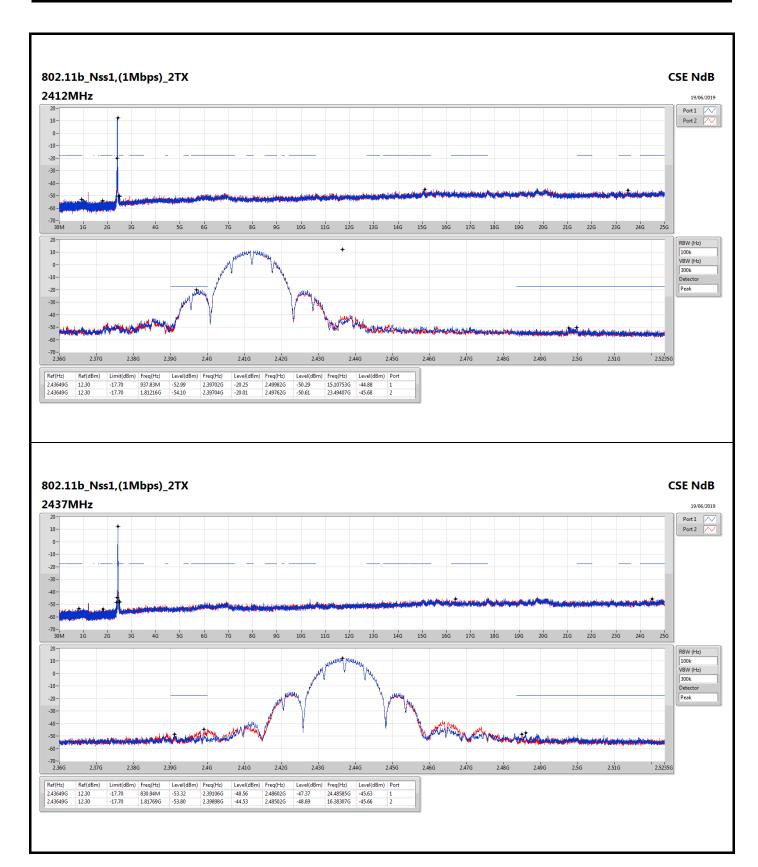
# CSE(Non-restricted Band) Result

Appendix E

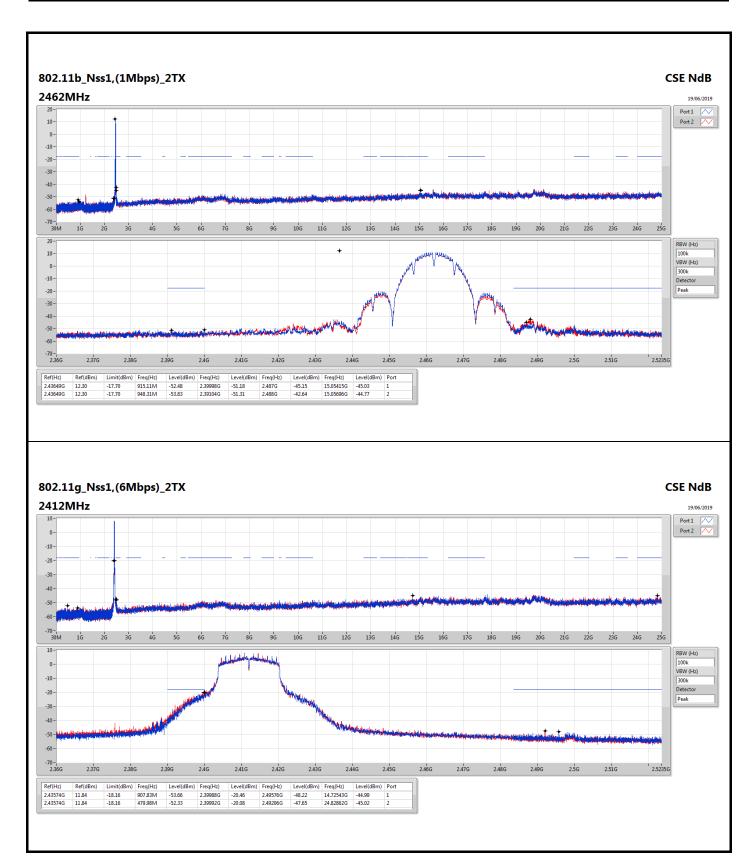
### Result

Result	1	1		, ,		1			1		1	1	
Mode	Result	Ref	Ref	Limit	Freq	Level	Freq	Level	Freq	Level	Freq	Level	Port
		(Hz)	(dBm)	(dBm)	(Hz)	(dBm)	(Hz)	(dBm)	(Hz)	(dBm)	(Hz)	(dBm)	
802.11b_Nss1,(1Mbps)_2TX	-			-		-			*		-	-	-
2412MHz	Pass	2.43649G	12.30	-17.70	937.83M	-52.99	2.39702G	-20.25	2.49982G	-50.29	15.10753G	-44.88	1
2412MHz	Pass	2.43649G	12.30	-17.70	1.81216G	-54.10	2.39704G	-20.01	2.49762G	-50.61	23.49407G	-45.68	2
2437MHz	Pass	2.43649G	12.30	-17.70	830.94M	-53.32	2.39106G	-48.56	2.48602G	-47.37	24.48585G	-45.63	1
2437MHz	Pass	2.43649G	12.30	-17.70	1.81769G	-53.80	2.39898G	-44.53	2.48502G	-48.69	16.38307G	-45.66	2
2462MHz	Pass	2.43649G	12.30	-17.70	915.11M	-52.48	2.39998G	-51.18	2.487G	-45.15	15.05415G	-45.03	1
2462MHz	Pass	2.43649G	12.30	-17.70	948.31M	-53.83	2.39104G	-51.31	2.488G	-42.64	15.05696G	-44.77	2
802.11g_Nss1,(6Mbps)_2TX	-	-	-	-	-	-	-	-	-	-	-	-	-
2412MHz	Pass	2.43574G	11.84	-18.16	907.83M	-53.66	2.39988G	-20.46	2.49576G	-48.22	14.72543G	-44.99	1
2412MHz	Pass	2.43574G	11.84	-18.16	479.98M	-52.33	2.39992G	-20.08	2.49206G	-47.65	24.82862G	-45.02	2
2437MHz	Pass	2.43574G	11.84	-18.16	891.23M	-53.73	2.39426G	-42.42	2.48826G	-45.16	15.26206G	-44.57	1
2437MHz	Pass	2.43574G	11.84	-18.16	479.98M	-52.36	2.3998G	-45.08	2.48388G	-46.22	24.93538G	-44.49	2
2462MHz	Pass	2.43574G	11.84	-18.16	479.98M	-52.90	2.39828G	-47.79	2.48386G	-43.22	15.22272G	-45.60	1
2462MHz	Pass	2.43574G	11.84	-18.16	812.01M	-53.66	2.39198G	-48.96	2.4839G	-41.49	15.04291G	-44.84	2
802.11n HT20_Nss1,(MCS0)_2TX	-	-	-	-	-	-	-	-	-	-	-	-	-
2412MHz	Pass	2.43574G	12.04	-17.96	804.43M	-52.71	2.3999G	-28.10	2.50076G	-48.37	15.26768G	-44.93	1
2412MHz	Pass	2.43574G	12.04	-17.96	1.93099G	-53.63	2.3995G	-25.23	2.48952G	-49.78	15.05415G	-44.89	2
2437MHz	Pass	2.43574G	12.04	-17.96	2.05768G	-54.02	2.39948G	-40.53	2.4858G	-43.79	24.91571G	-44.92	1
2437MHz	Pass	2.43574G	12.04	-17.96	834.72M	-53.06	2.39954G	-41.91	2.4861G	-43.83	24.80614G	-45.05	2
2462MHz	Pass	2.43574G	12.04	-17.96	479.98M	-52.67	2.39572G	-49.09	2.48354G	-44.00	24.53642G	-45.71	1
2462MHz	Pass	2.43574G	12.04	-17.96	1.77313G	-53.44	2.39996G	-50.09	2.48352G	-43.65	13.99494G	-44.09	2
802.11n HT40_Nss1,(MCS0)_2TX	-	-	-	-	-	-	-	-	-		-	-	-
2422MHz	Pass	2.43449G	4.98	-25.02	2.0203G	-53.28	2.39828G	-37.12	2.49754G	-49.30	23.39859G	-45.33	1
2422MHz	Pass	2.43449G	4.98	-25.02	479.99M	-52.09	2.39452G	-36.15	2.49978G	-50.12	5.78033G	-31.04	2
2437MHz	Pass	2.43449G	4.98	-25.02	1.91896G	-53.09	2.39956G	-33.88	2.48946G	-44.85	24.77844G	-45.06	1
2437MHz	Pass	2.43449G	4.98	-25.02	479.99M	-52.27	2.39956G	-32.53	2.48358G	-45.74	24.85136G	-44.40	2
2452MHz	Pass	2.43449G	4.98	-25.02	953.44M	-53.14	2.39016G	-50.26	2.48446G	-38.87	17.69692G	-45.51	1
2452MHz	Pass	2.43449G	4.98	-25.02	479.99M	-51.35	2.392G	-48.49	2.4845G	-40.33	16.9481G	-45.73	2

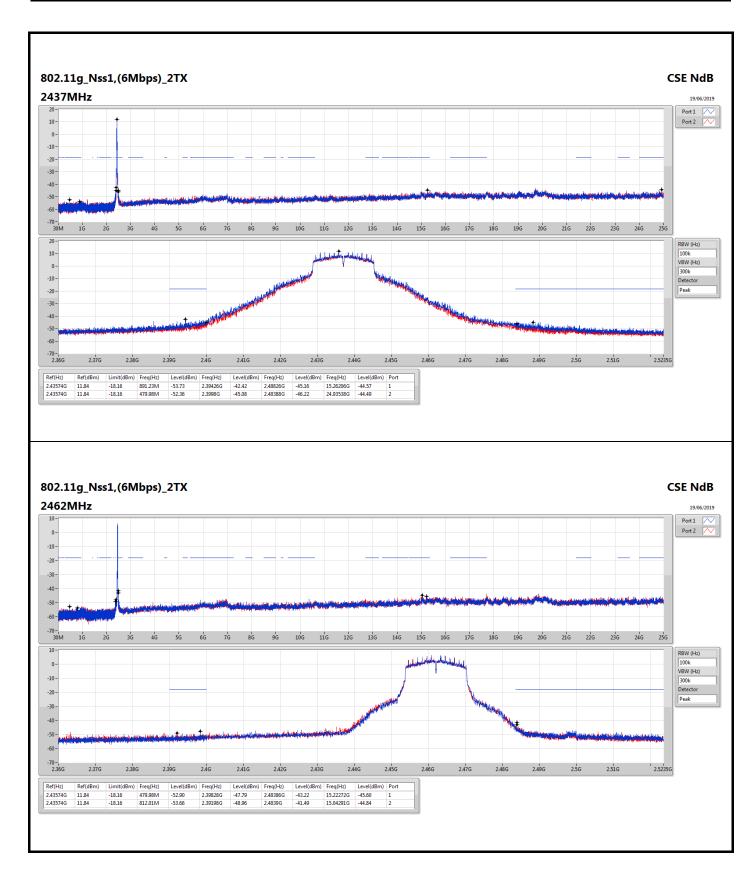




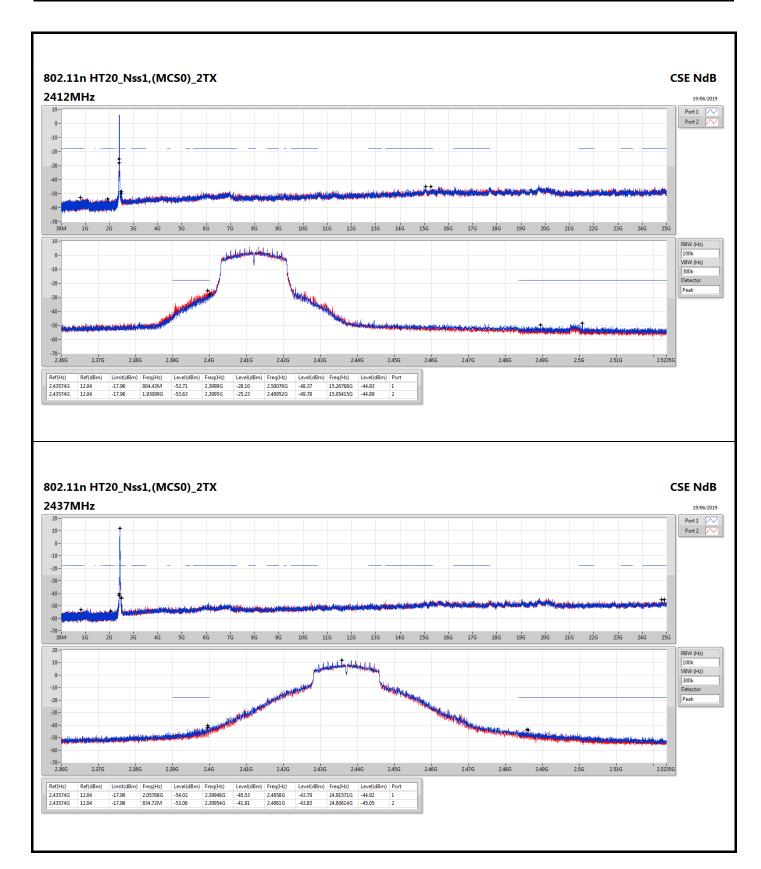




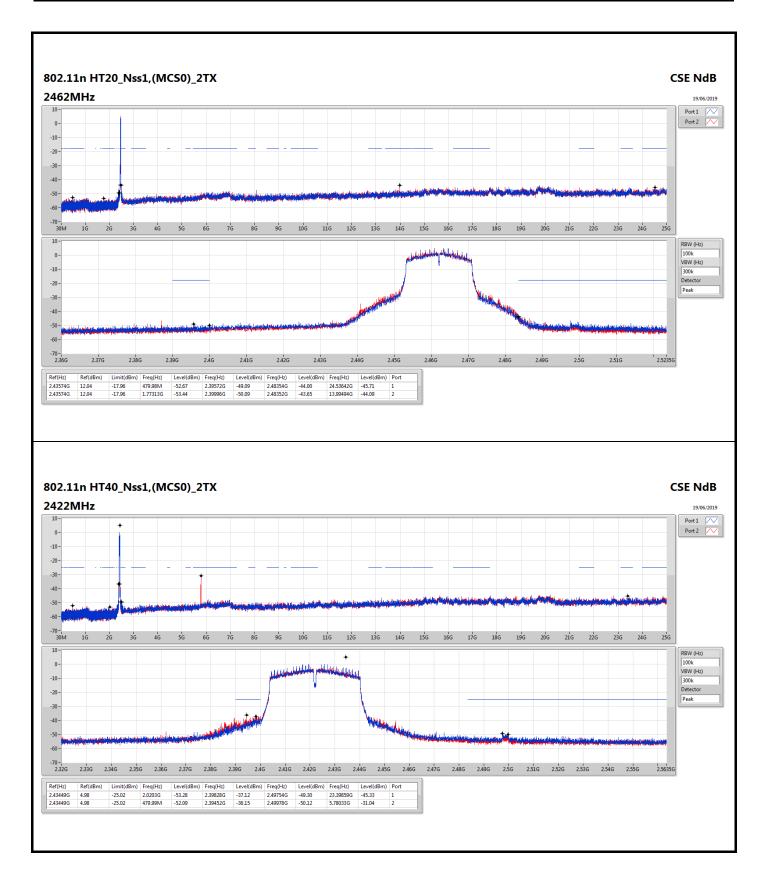




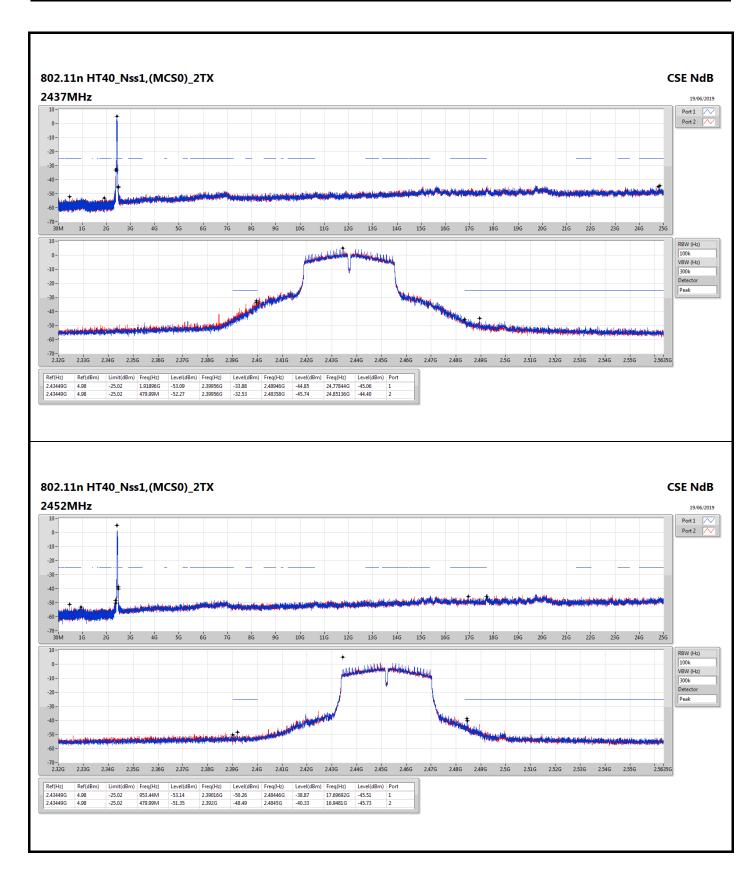






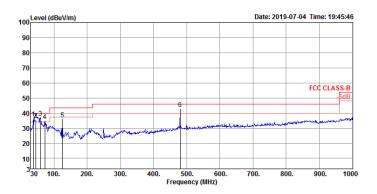








RSE below 1GHz Result										
Operating Mode	2	2 <b>Polarization</b> Vertical								
Operating Function	СТХ									

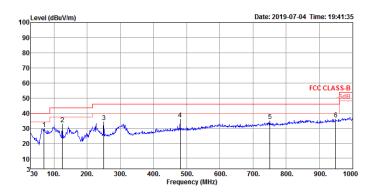


	Freq	Level	Limit Line					Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	38.73	36.82	40.00	-3.18	49.03	1.21	19.15	32.57	100	237	Peak	VERTICAL
2	44.55	35.71	40.00	-4.29	50.90	1.30	16.19	32.68	100	277	QP	VERTICAL
3	59.10	36.98	40.00	-3.02	55.78	1.52	12.22	32.54	200	252	Peak	VERTICAL
4	72.68	34.75	40.00	-5.25	53.46	1.71	12.04	32.46	125	60	Peak	VERTICAL
5	125.06	35.78	43.50	-7.72	48.21	2.25	17.85	32.53	100	253	Peak	VERTICAL
6	480.08	42.76	46.00	-3.24	47.65	4.19	23.08	32.16	125	63	Peak	VERTICAL

Note 1: ">20dB" means emission levels that exceed the level of 20 dB below the applicable limit. Note 2: "N/F" means Nothing Found emissions (No emissions were detected.)



RSE below 1GHz Result											
Operating Mode	2	Polarization Horizontal									
Operating Function	СТХ										



	Freq	Level	Limit Line	Over Limit				Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	69.77	29.61	40.00	-10.39	48.31	1.67	12.06	32.43	300	297	Peak	HORIZONTAL
2	125.06	32.66	43.50	-10.84	45.09	2.25	17.85	32.53	300	297	Peak	HORIZONTAL
3	250.19	34.28	46.00	-11.72	45.40	2.95	18.30	32.37	100	273	Peak	HORIZONTAL
4	480.08	36.11	46.00	-9.89	41.00	4.19	23.08	32.16	200	225	Peak	HORIZONTAL
5	750.71	35.00	46.00	-11.00	36.49	5.20	25.37	32.06	100	236	Peak	HORIZONTAL
6	949.56	35.91	46.00	-10.09	35.04	5.82	26.46	31.41	150	98	Peak	HORIZONTAL

Note 1: ">20dB" means emission levels that exceed the level of 20 dB below the applicable limit. Note 2: "N/F" means Nothing Found emissions (No emissions were detected.)



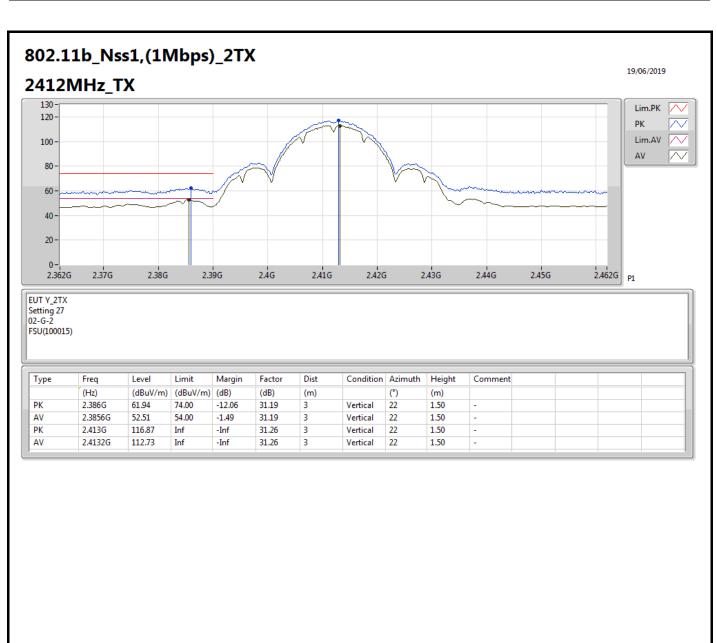
### RSE TX above 1GHz Result

Appendix F.2

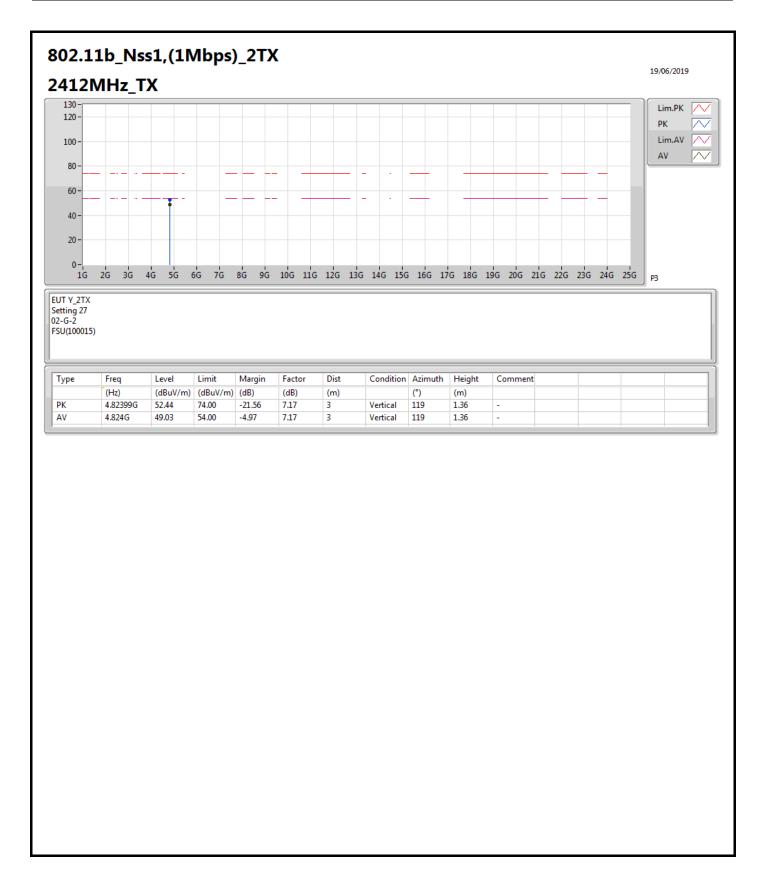
Summary

Mode	Result	Туре	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comments
			(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)	
2.4-2.4835GHz	-	-	-	-	-	-	-	-	-	-	-	-
802.11n HT40_Nss1,(MCS0)_2TX	Pass	AV	2.4836G	52.94	54.00	-1.06	32.25	3	Vertical	342	1.32	-

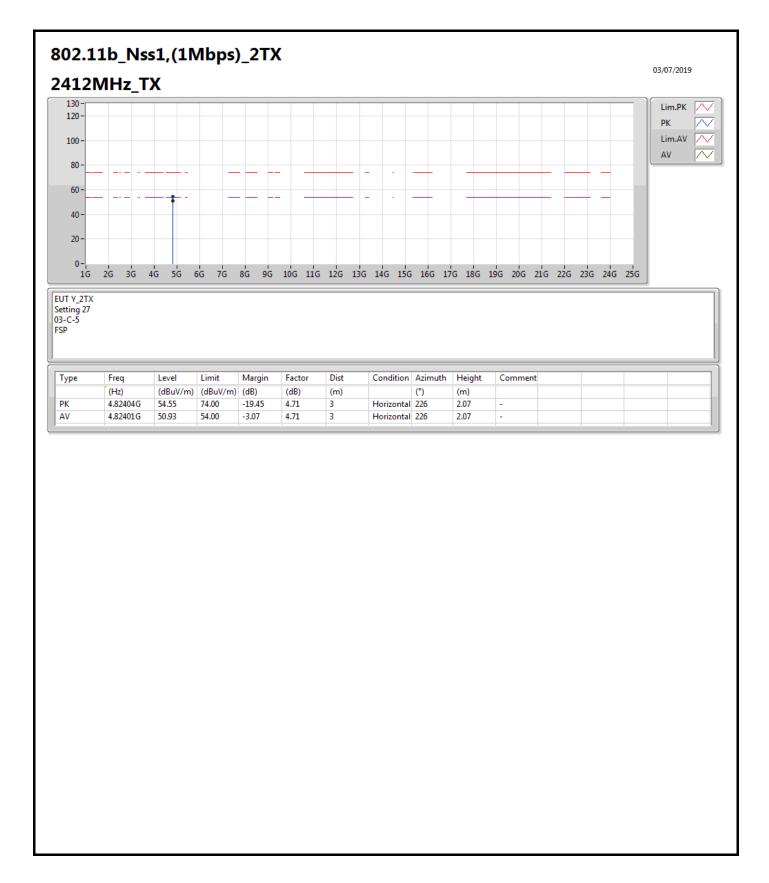




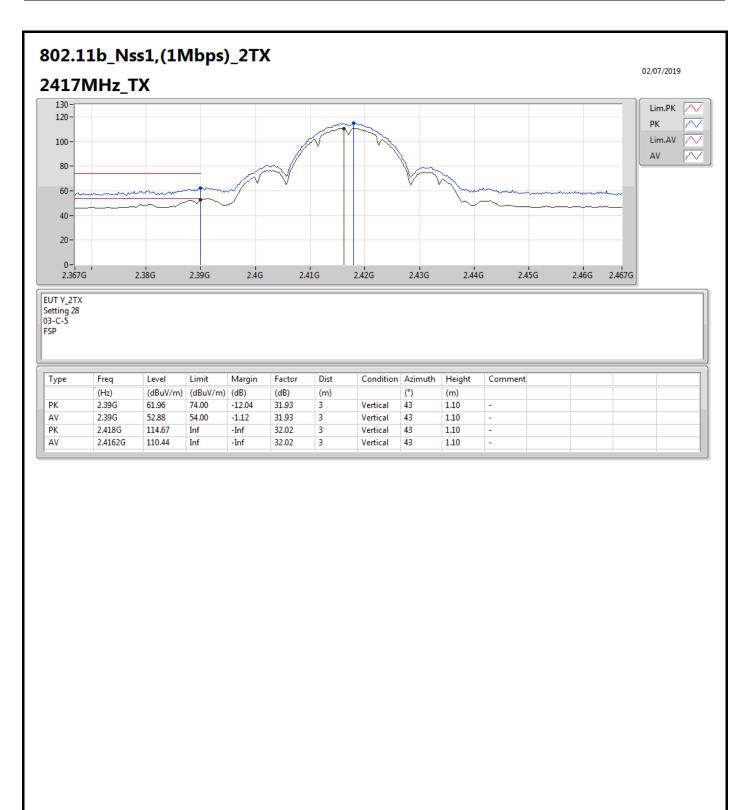




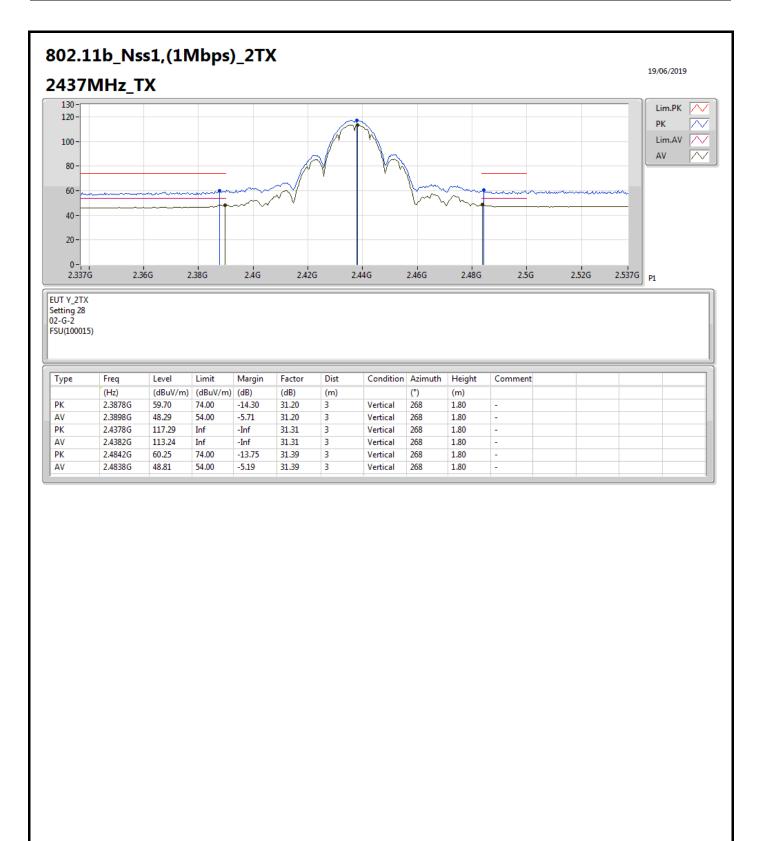




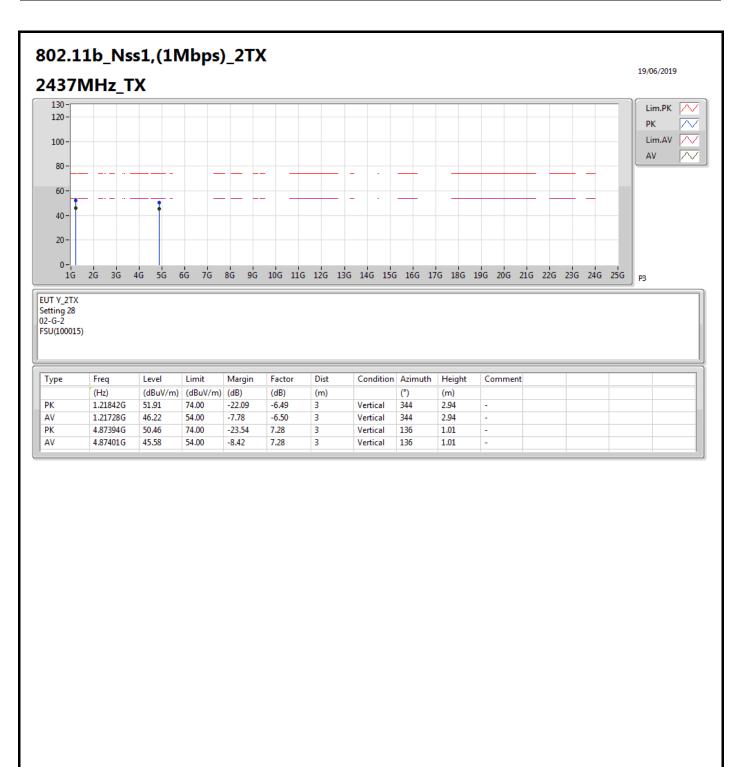




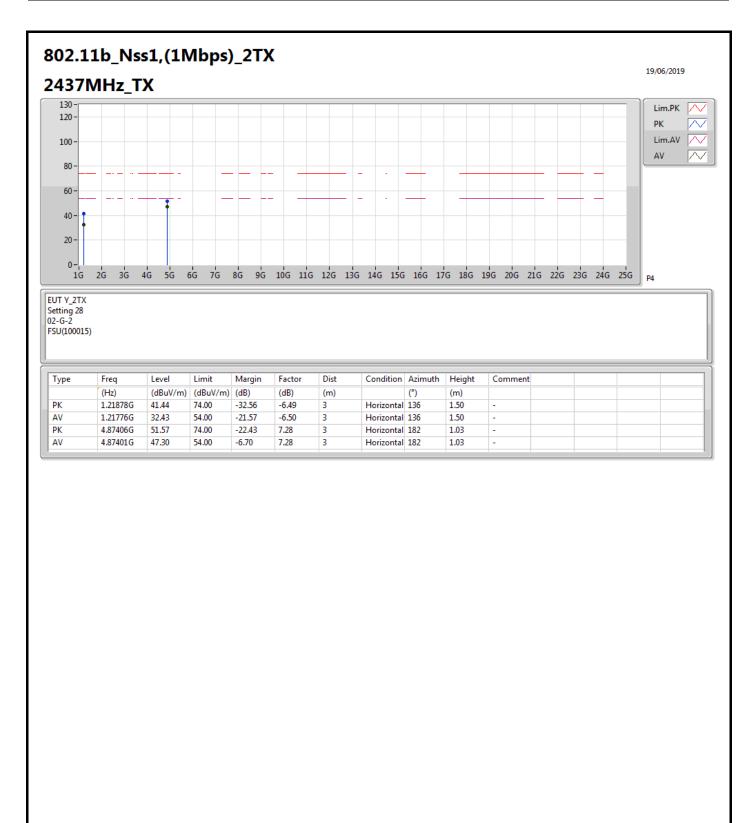




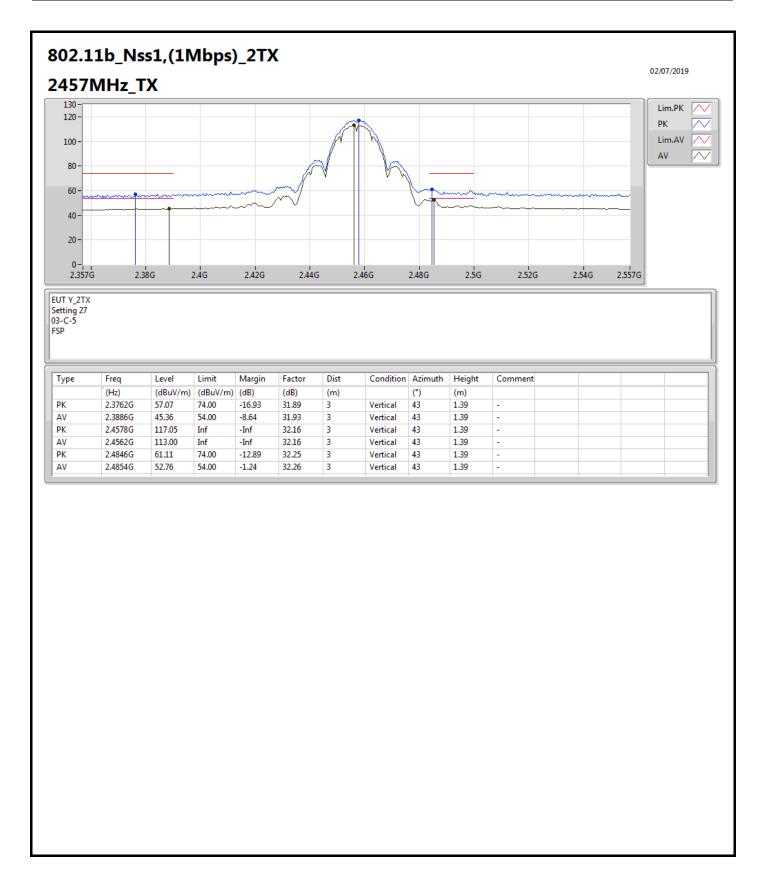




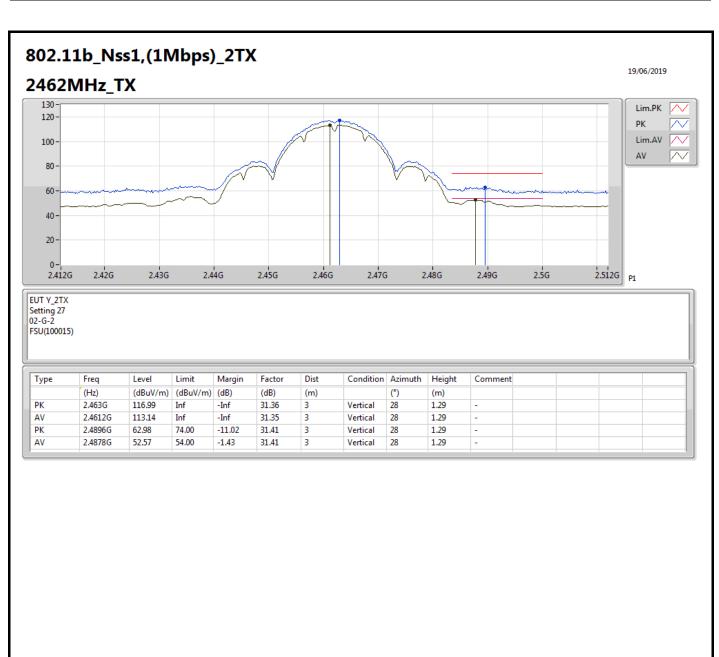




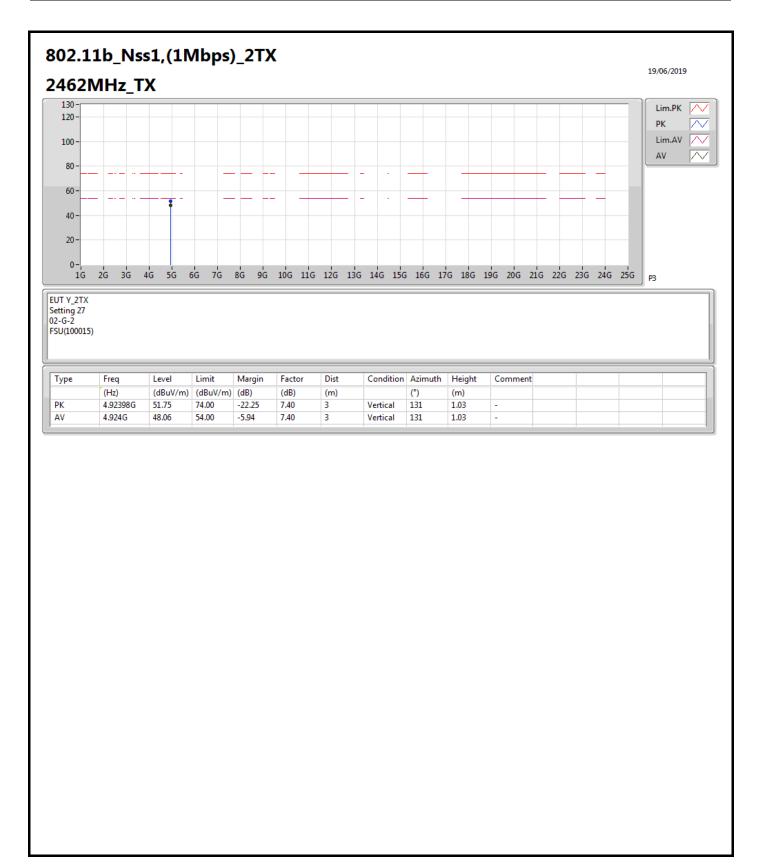




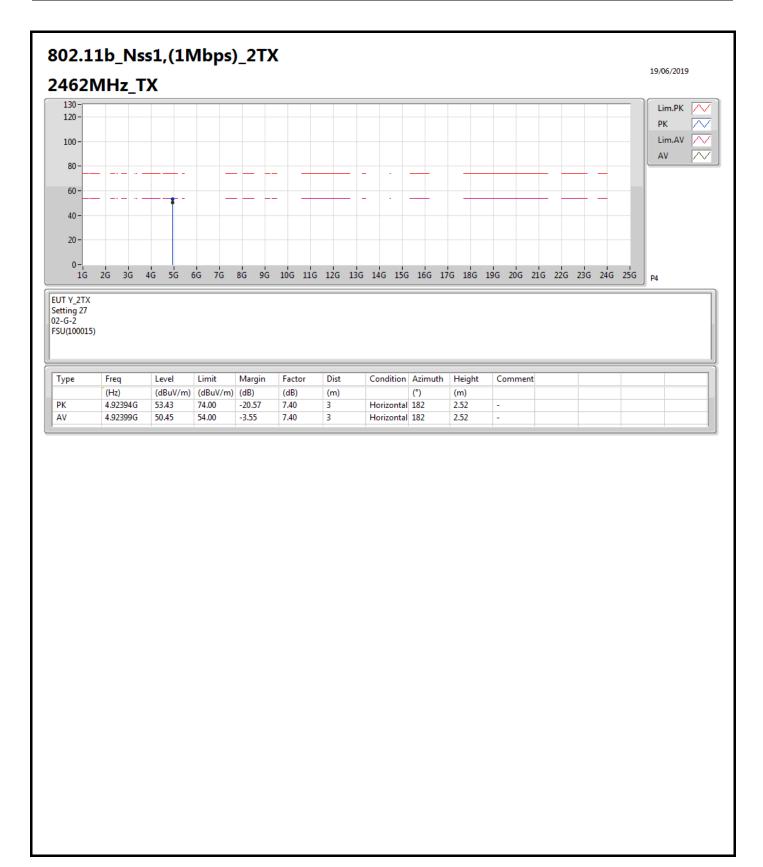




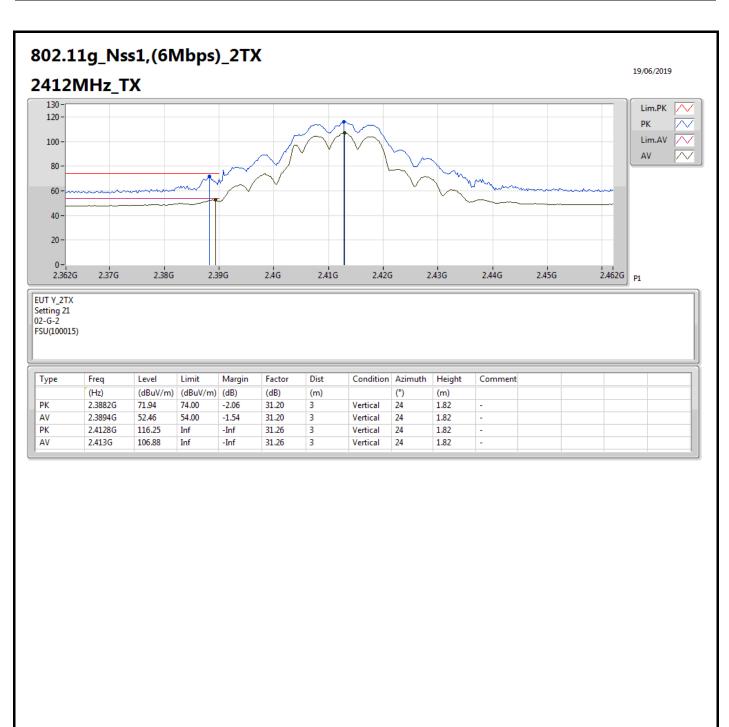




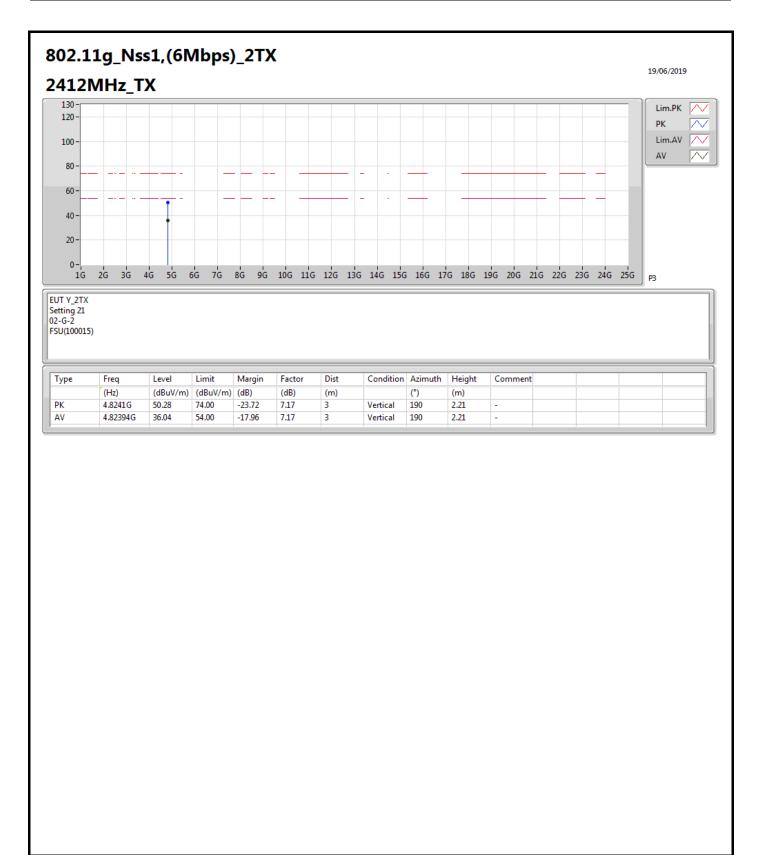




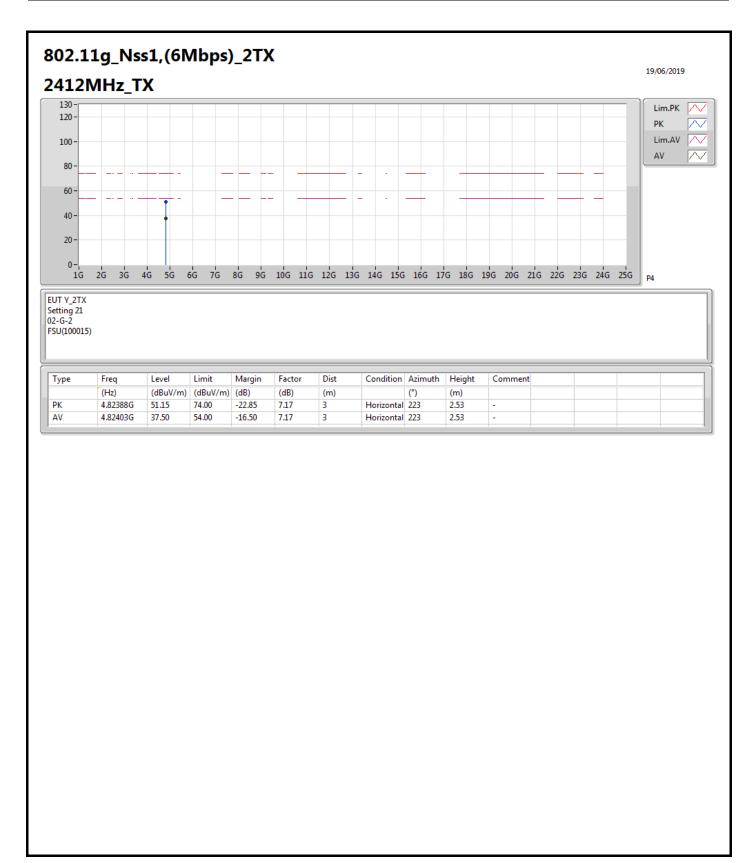




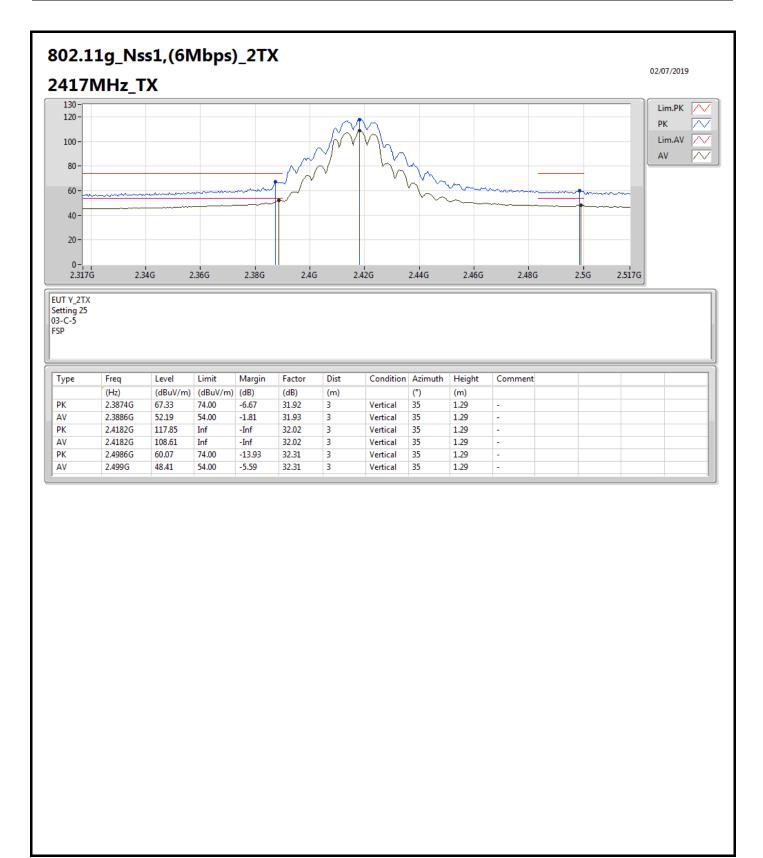




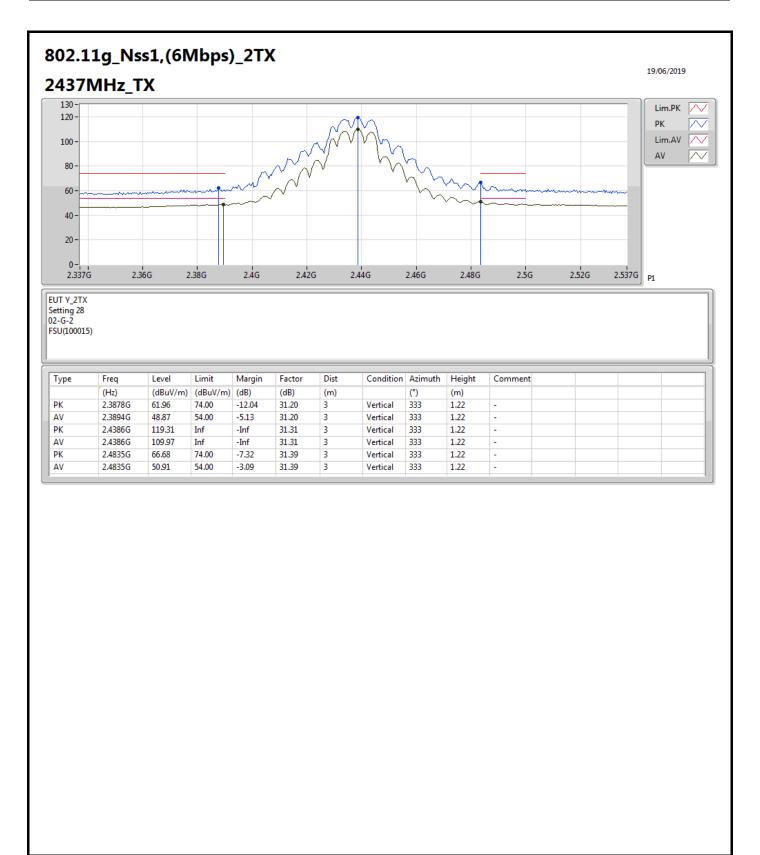




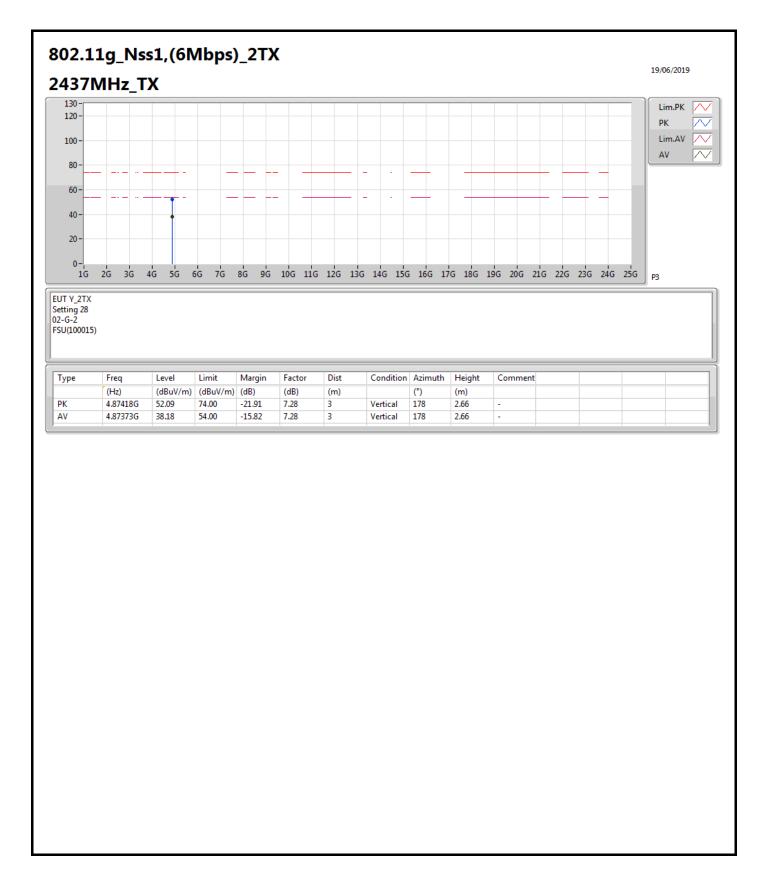




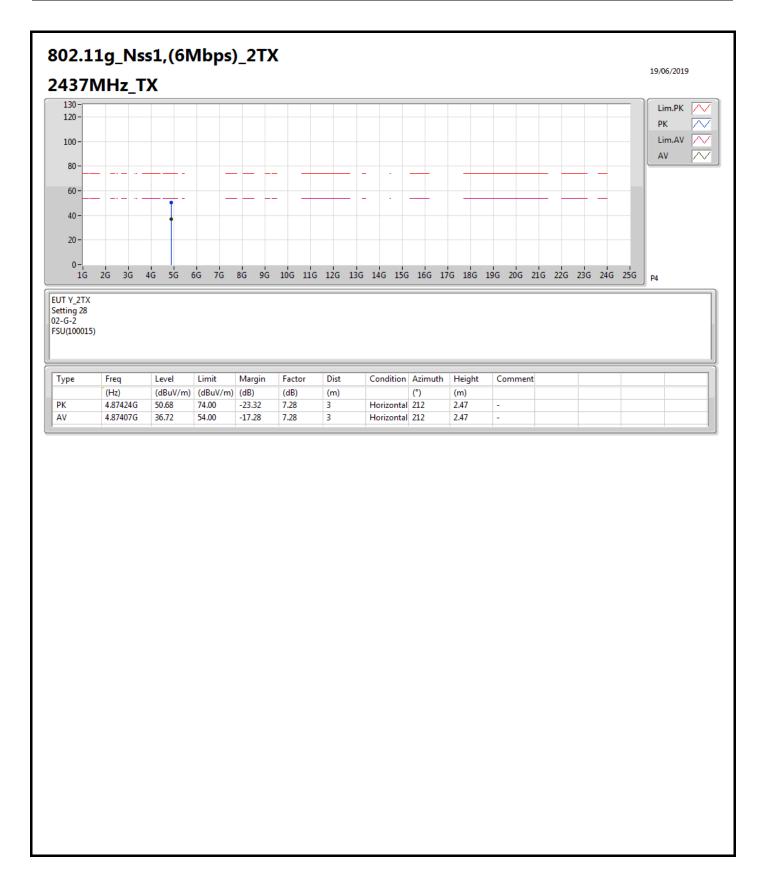




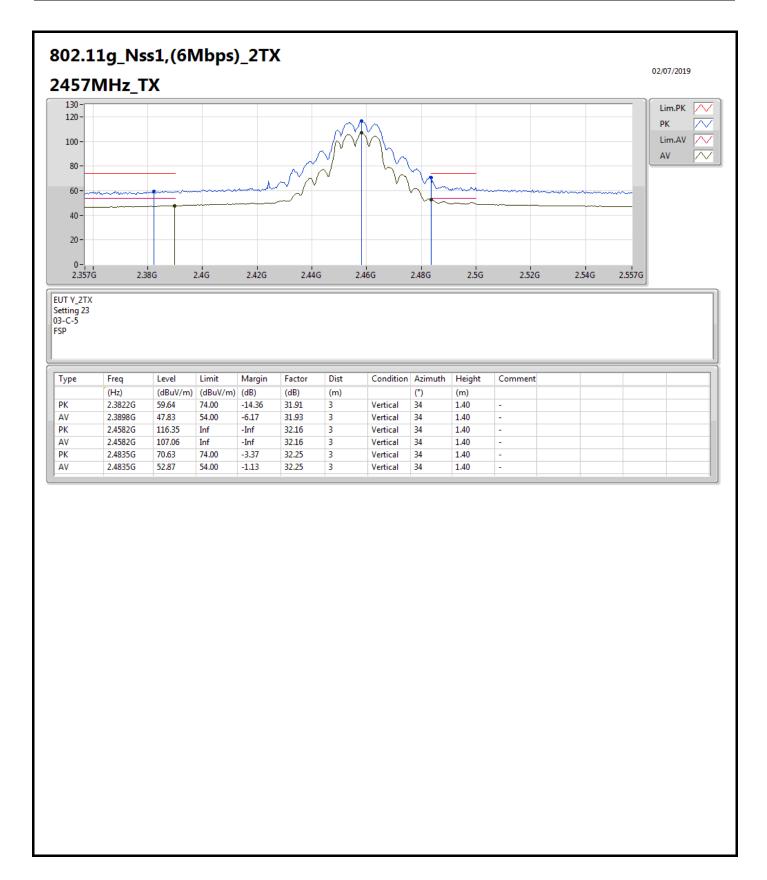




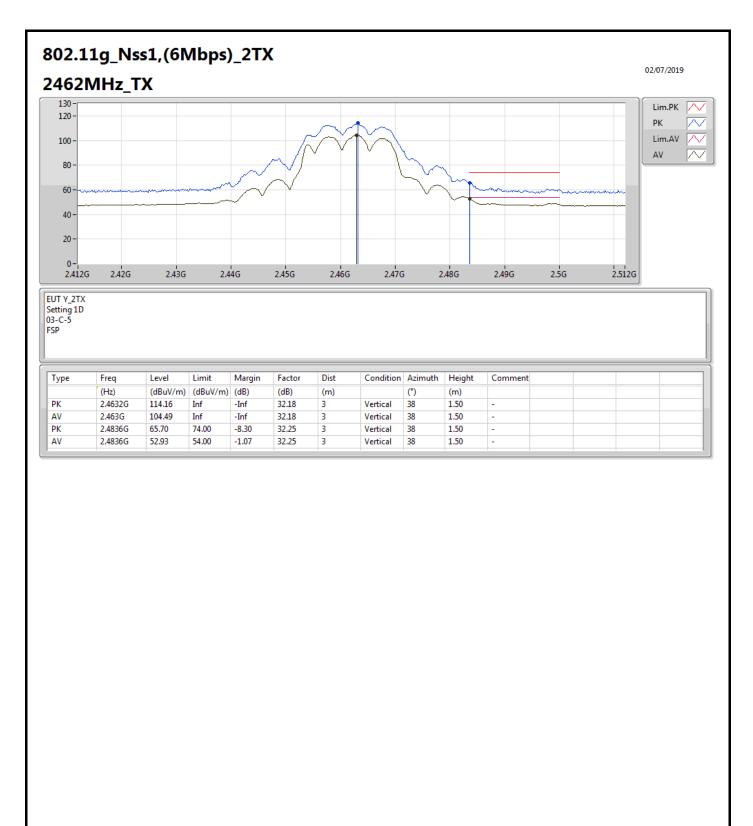




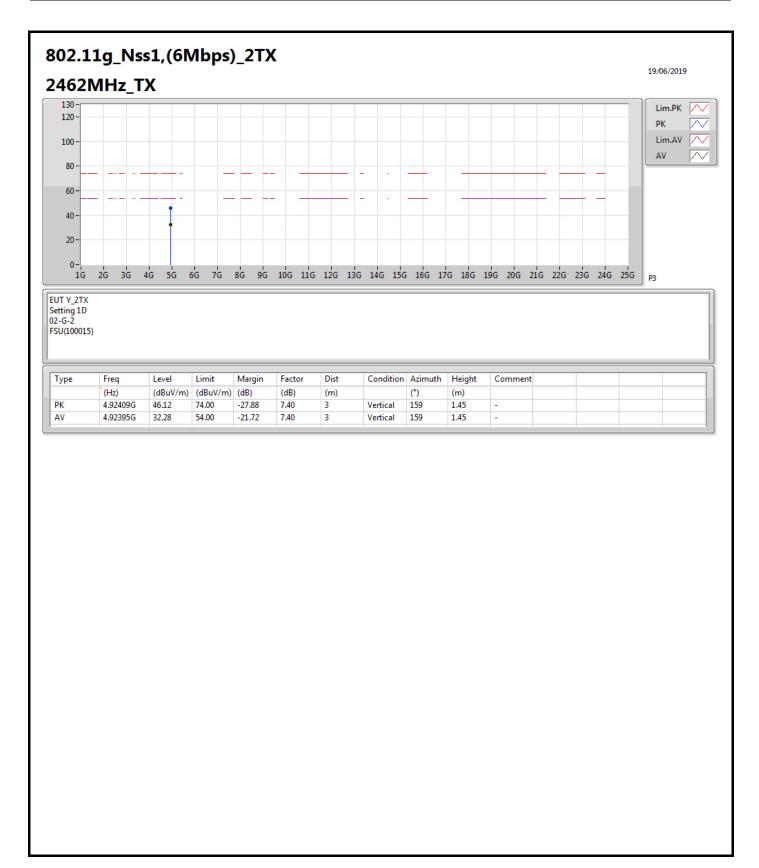




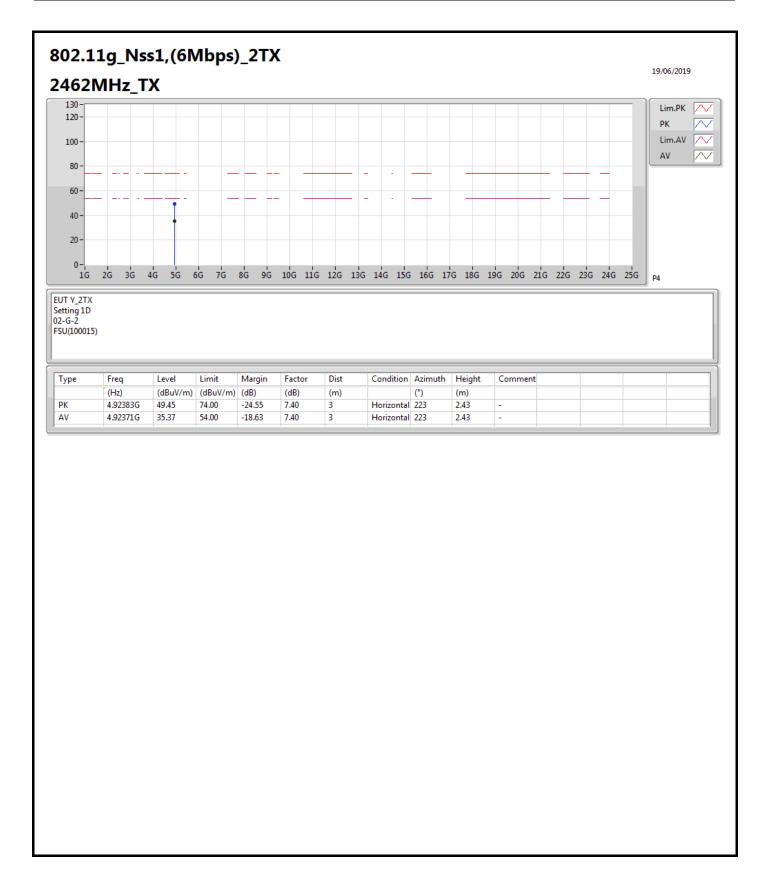




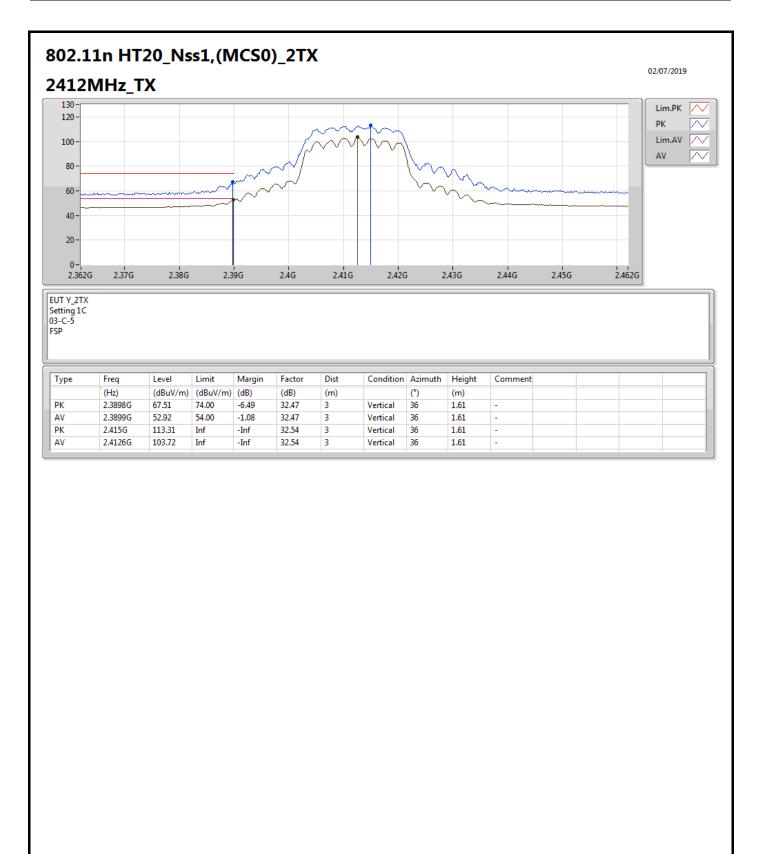




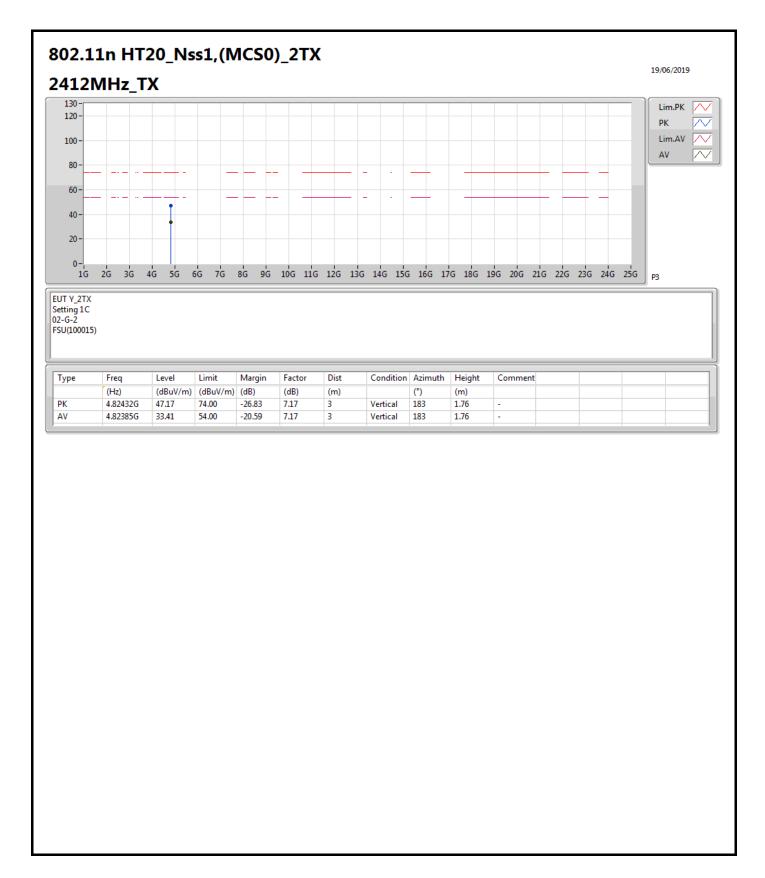




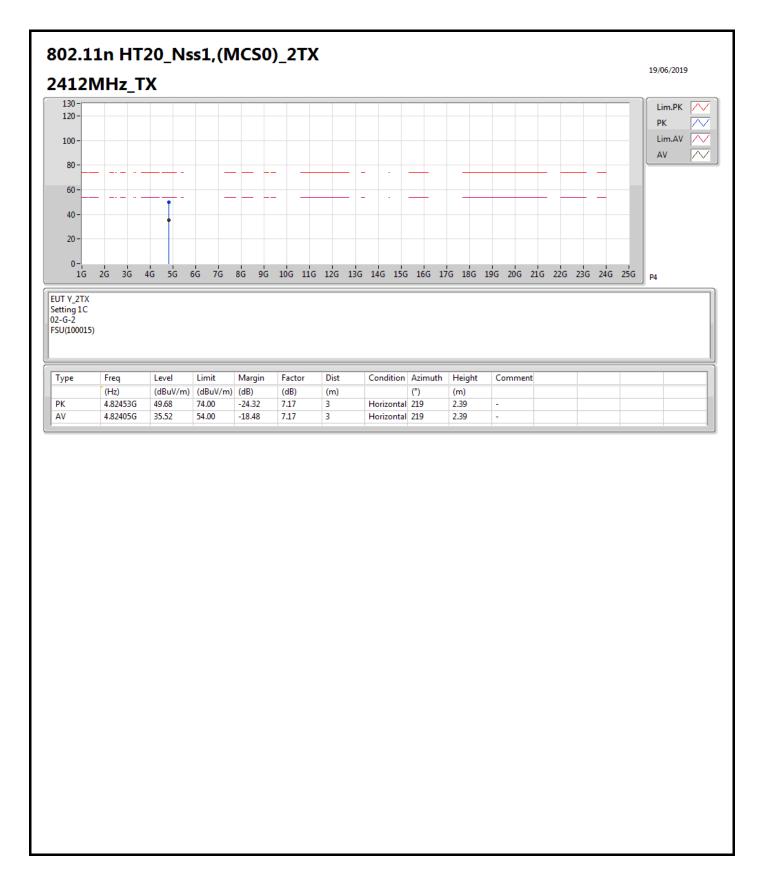




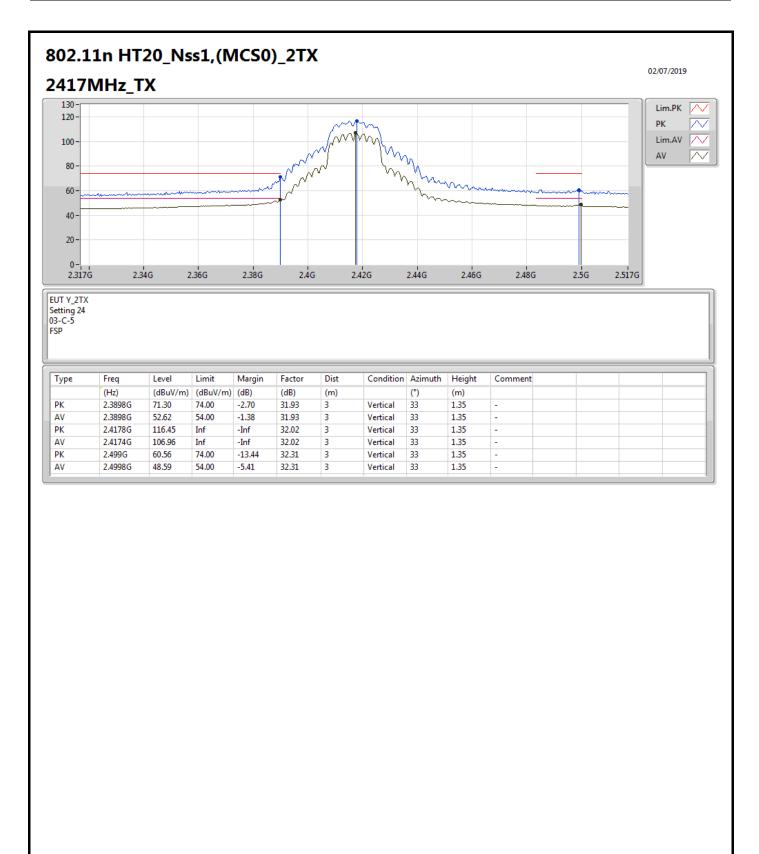




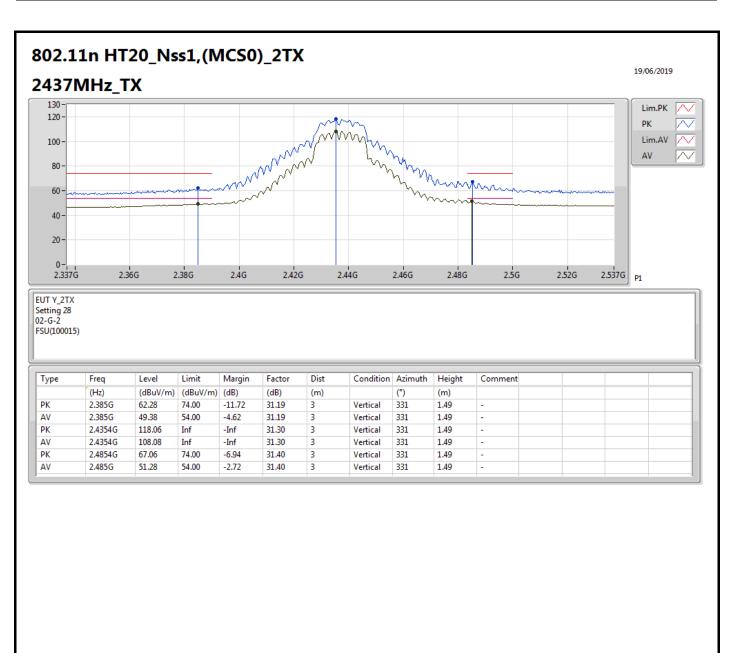




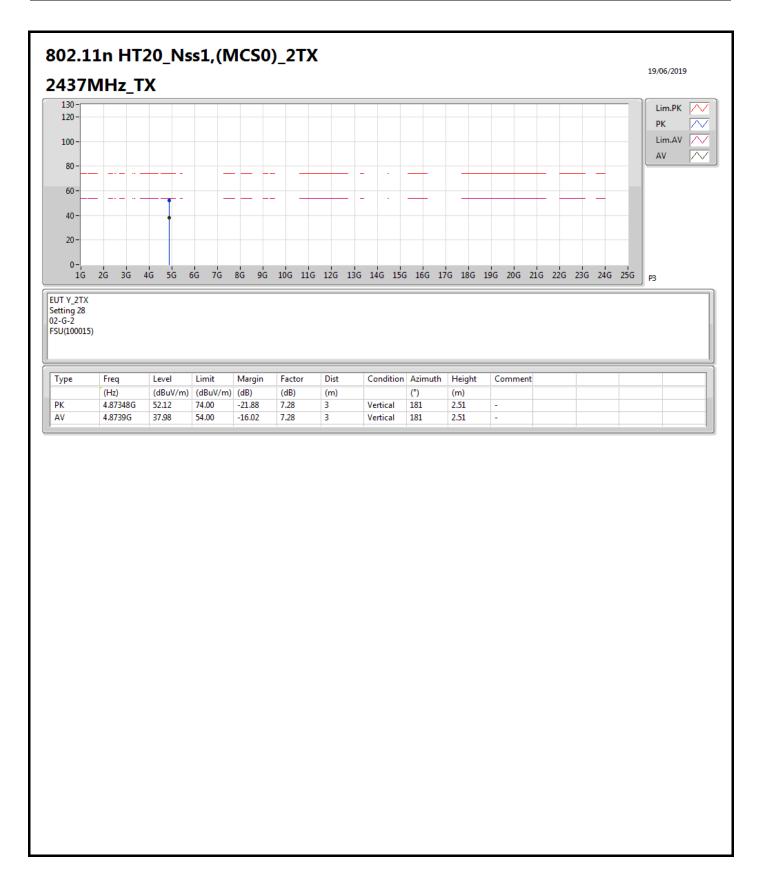




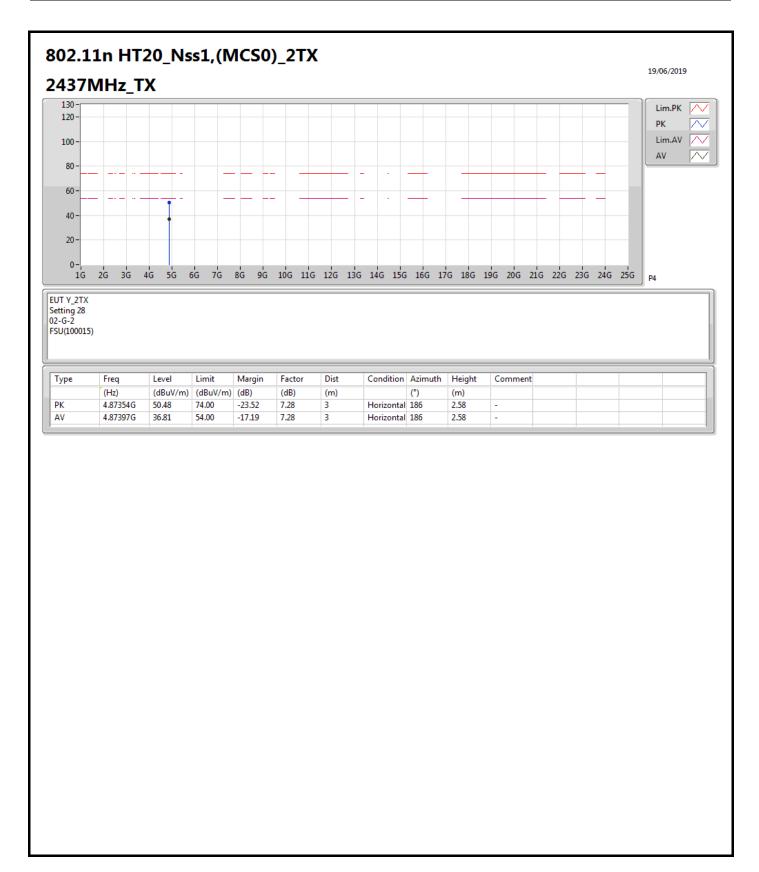




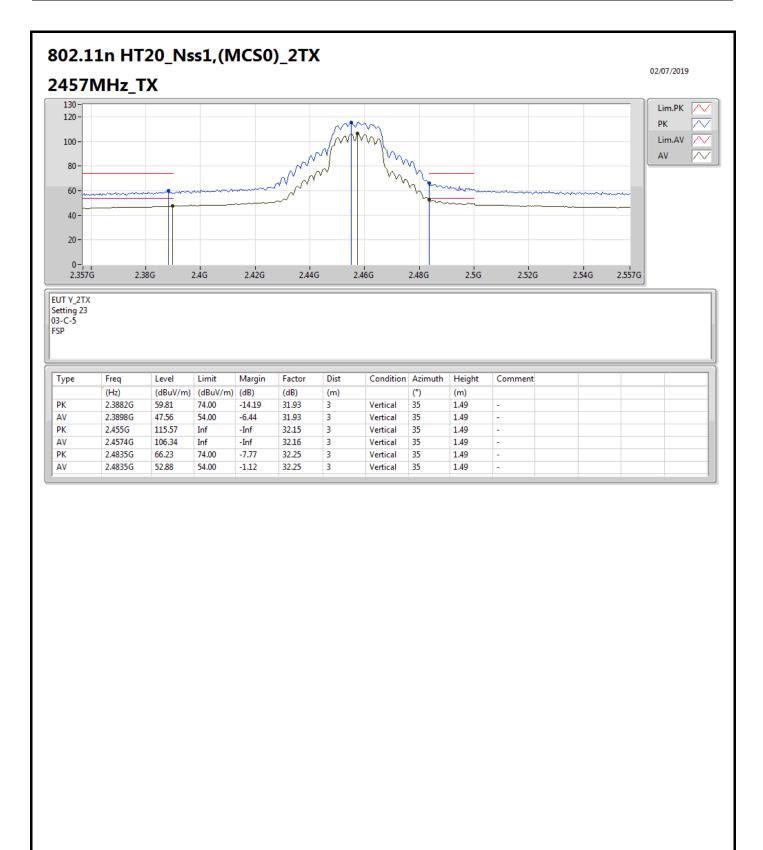




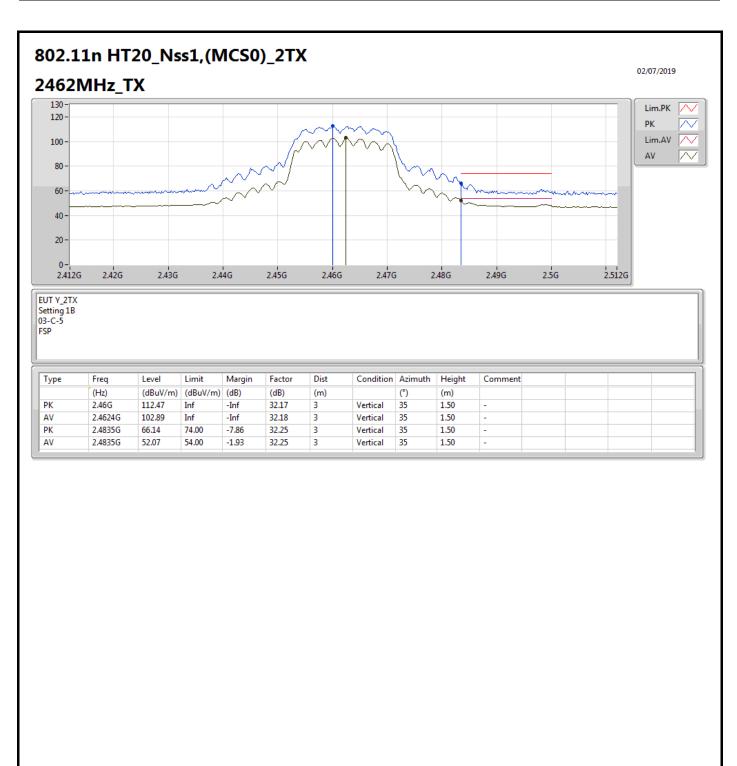




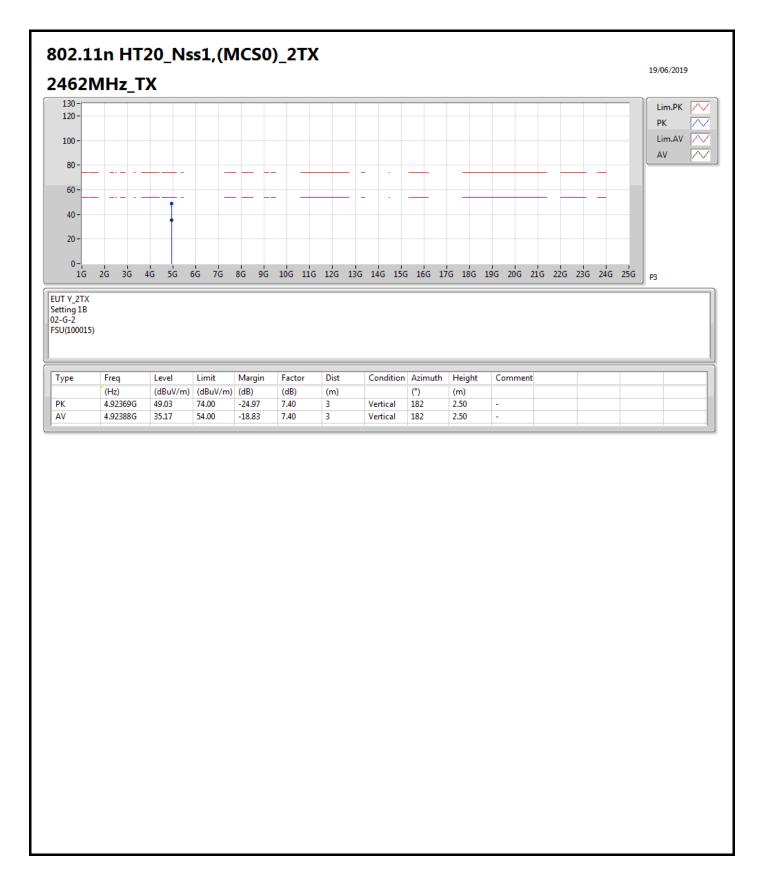




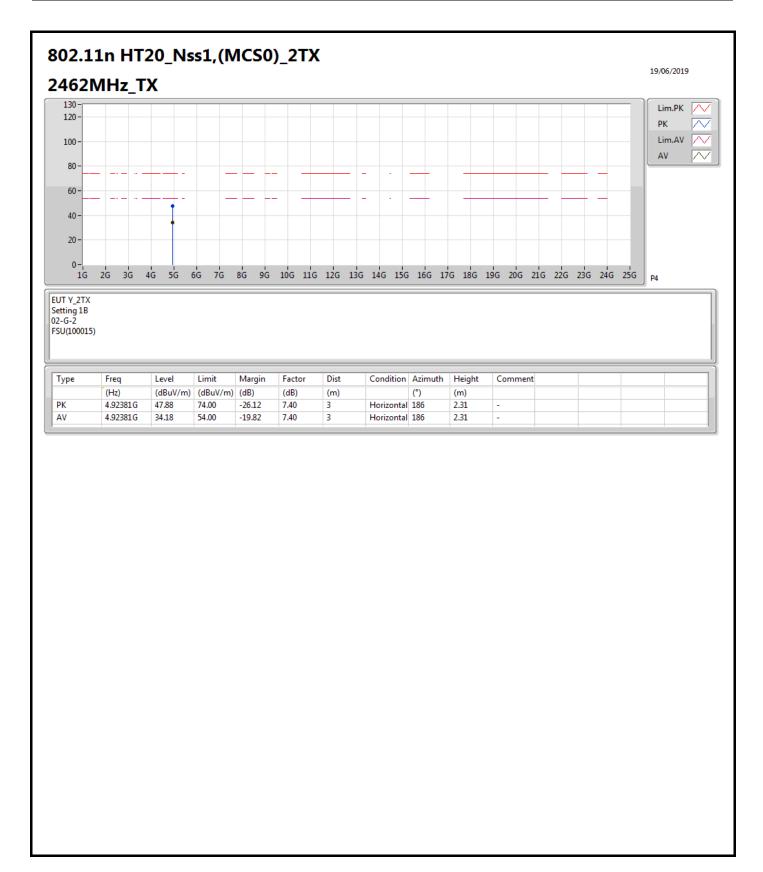




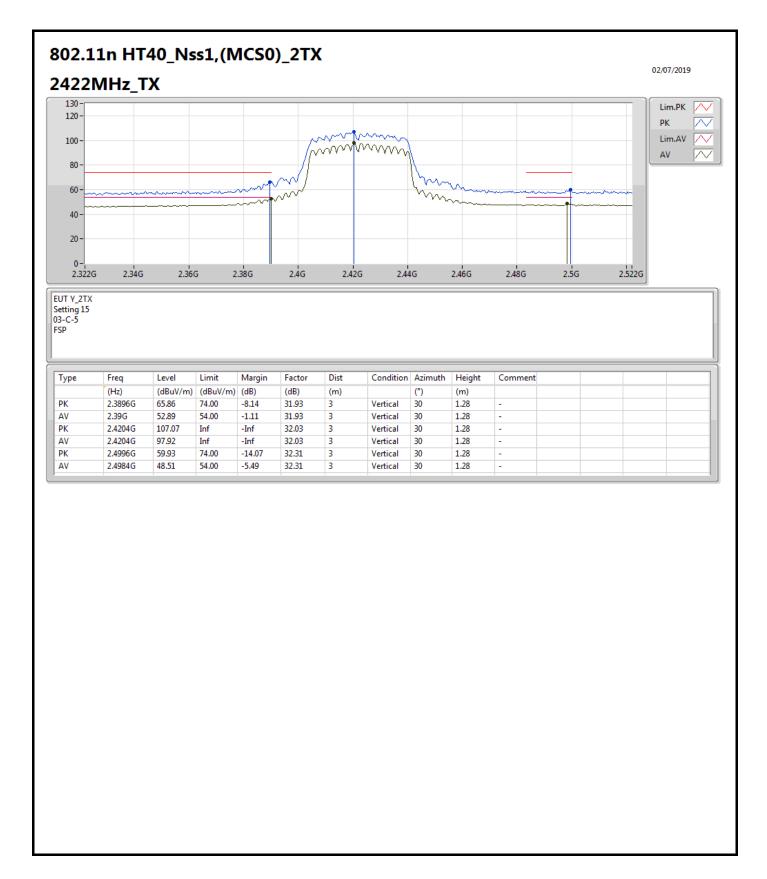




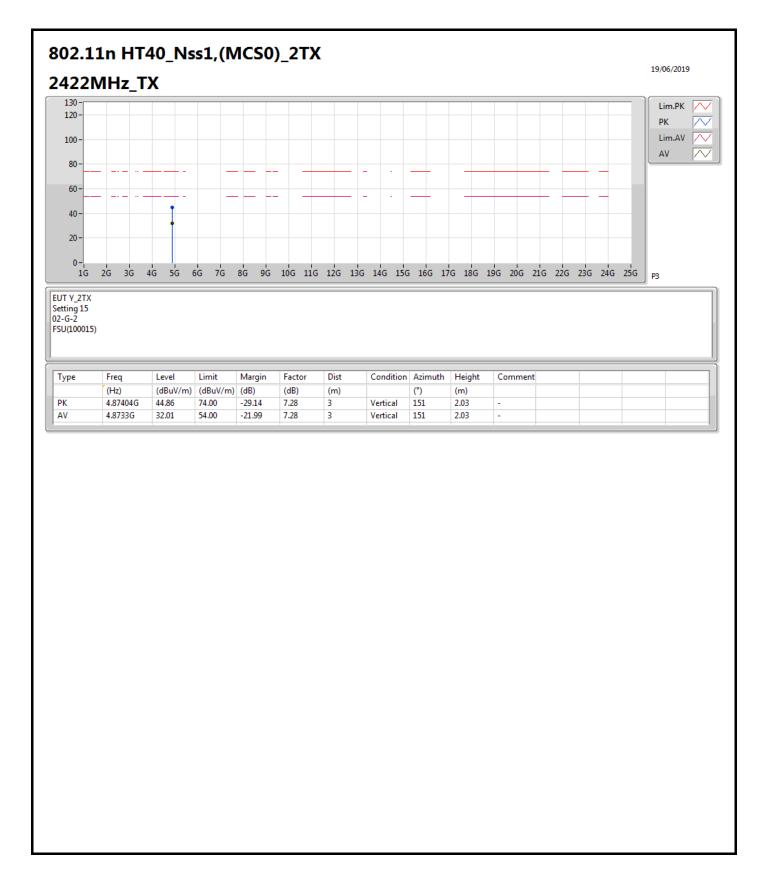




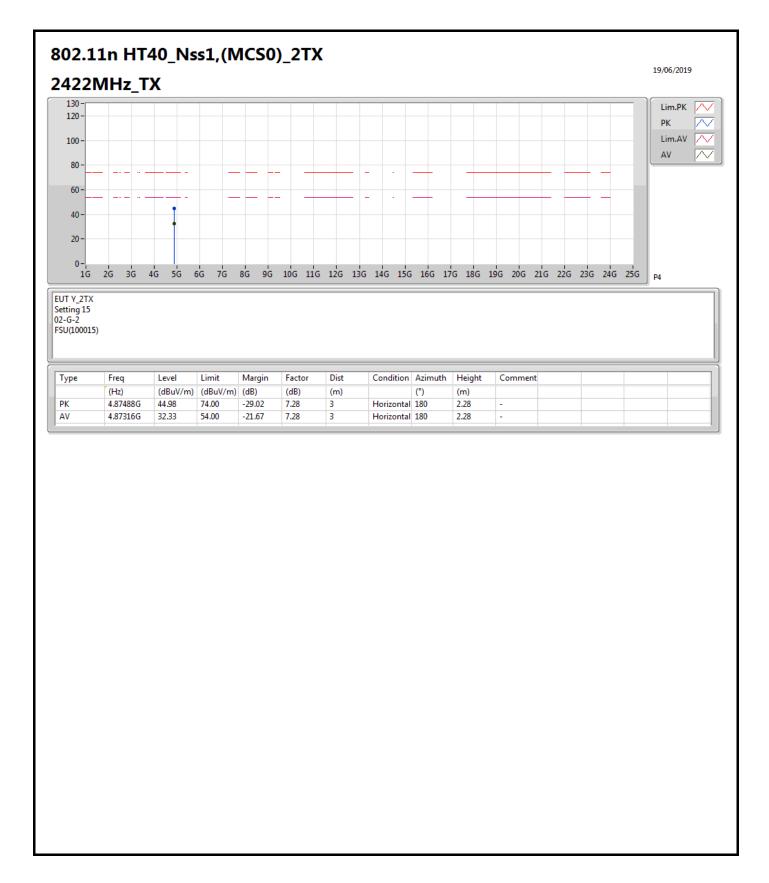




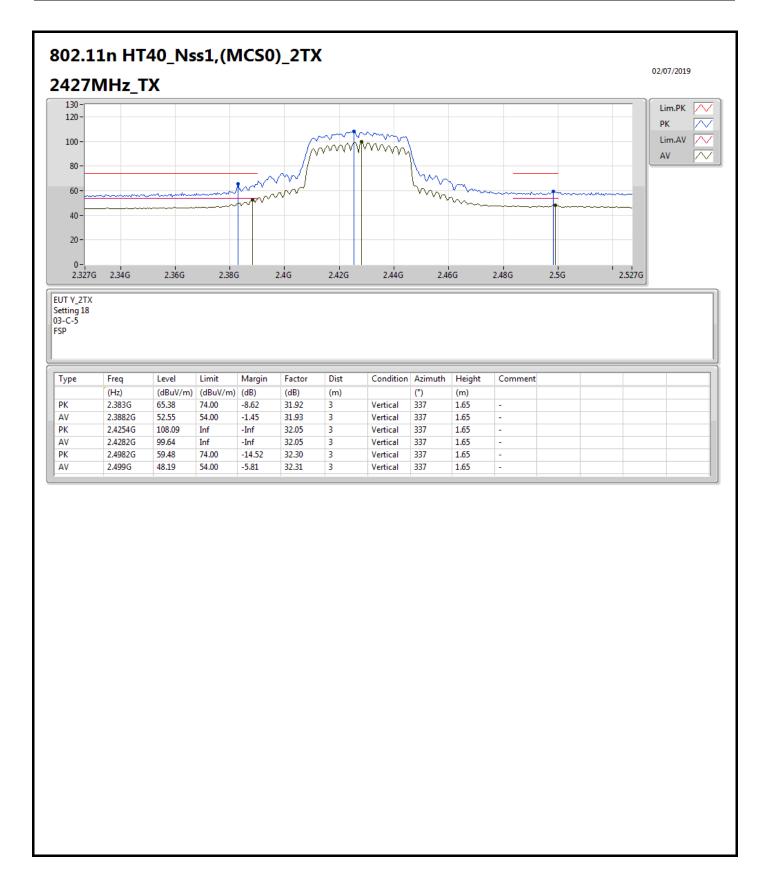




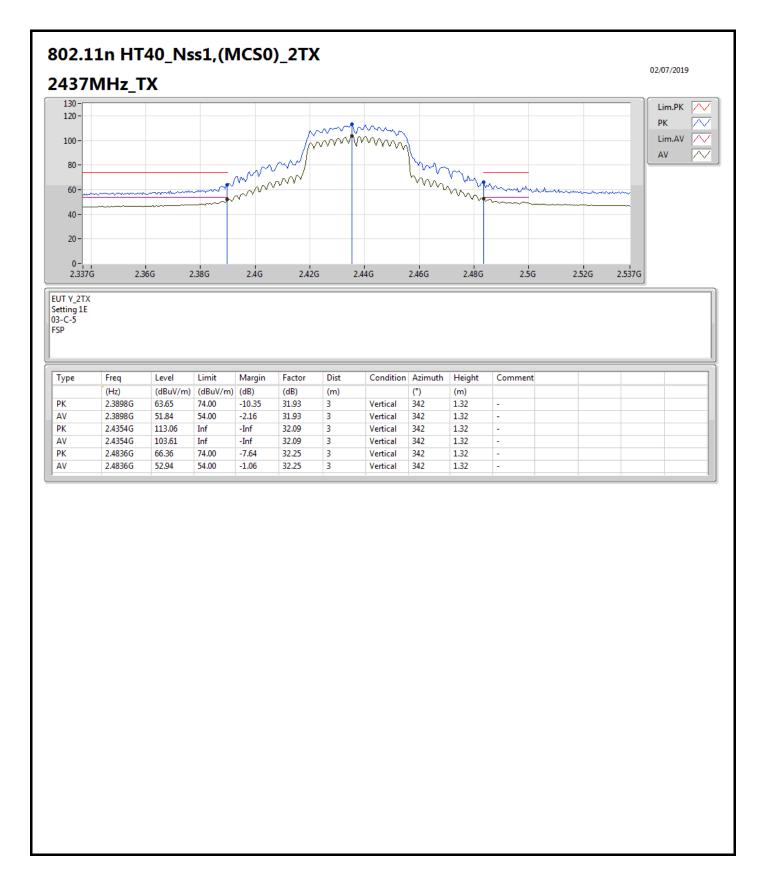




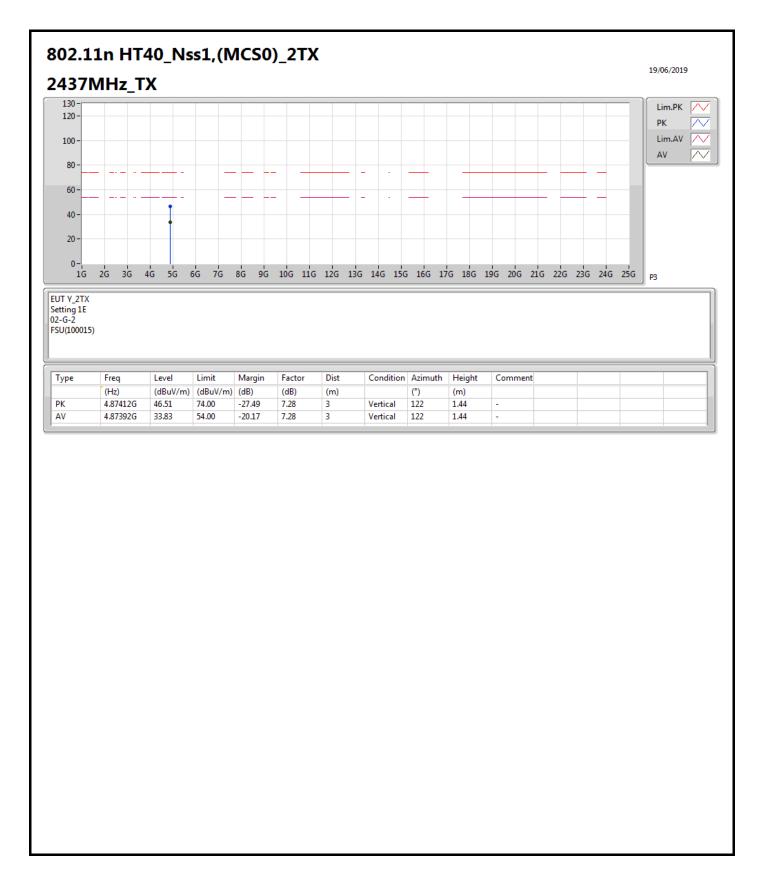




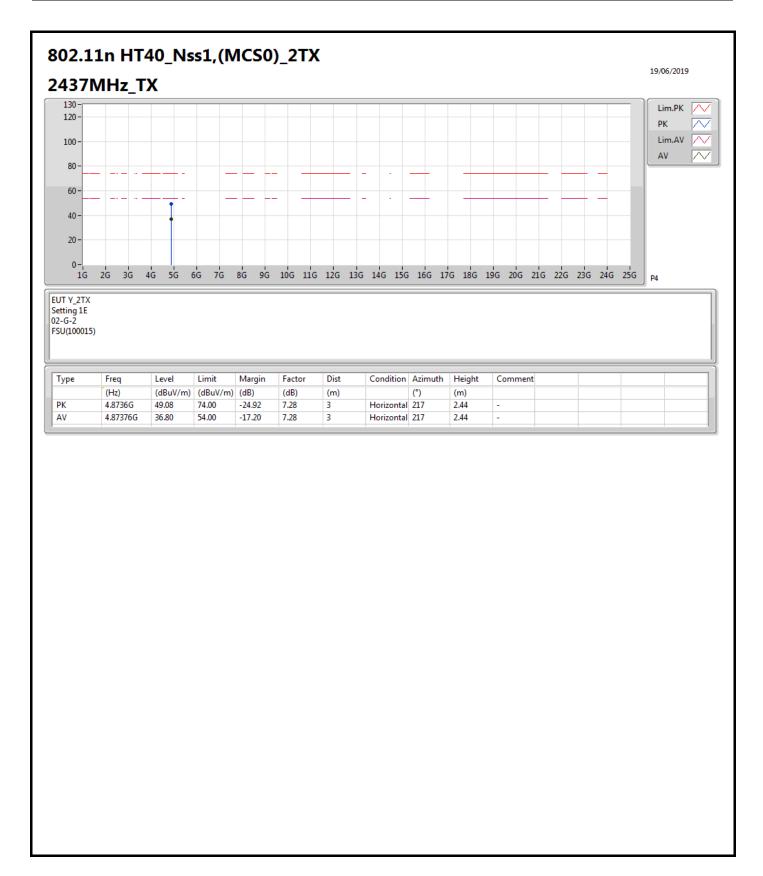




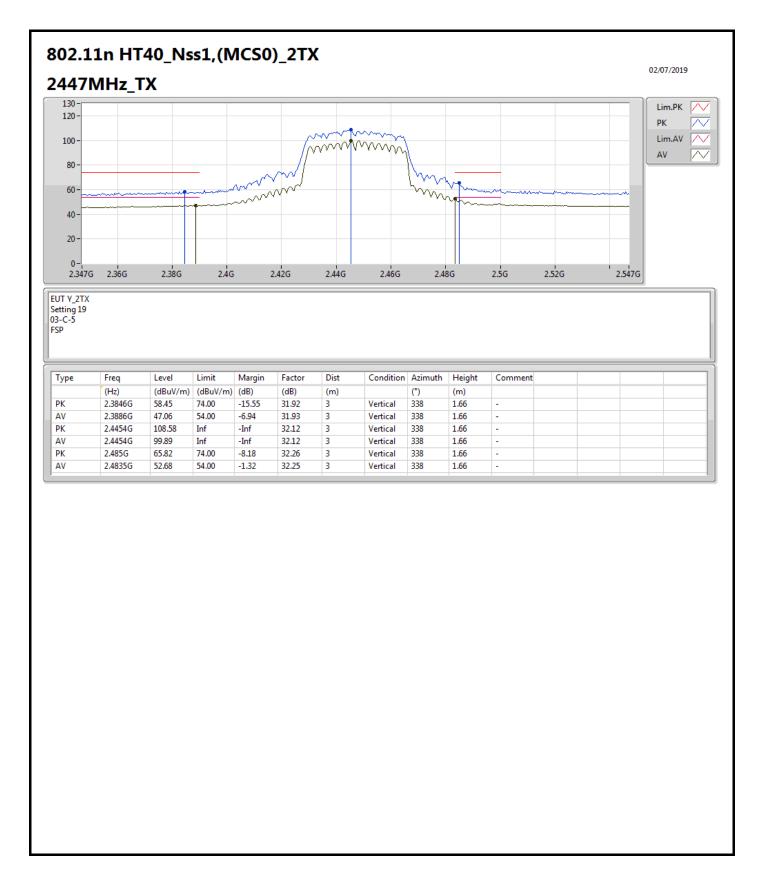




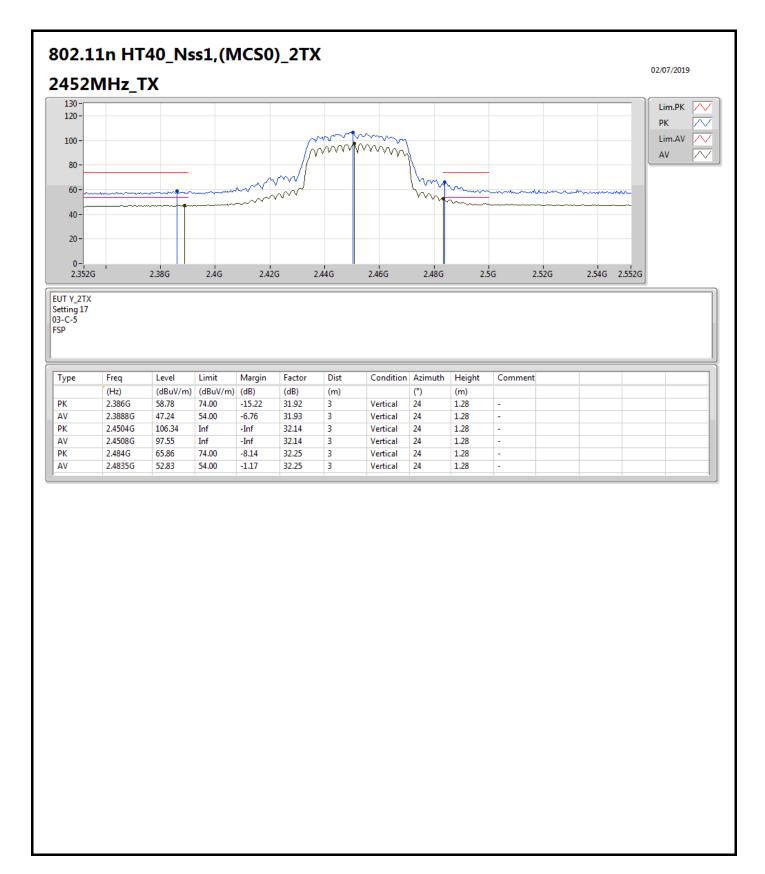




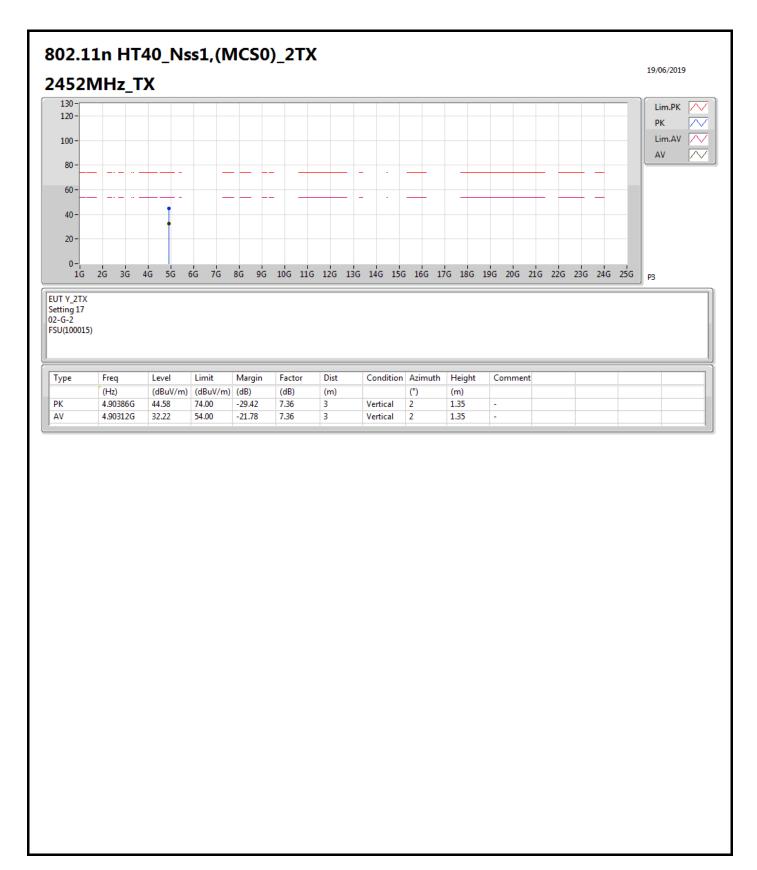




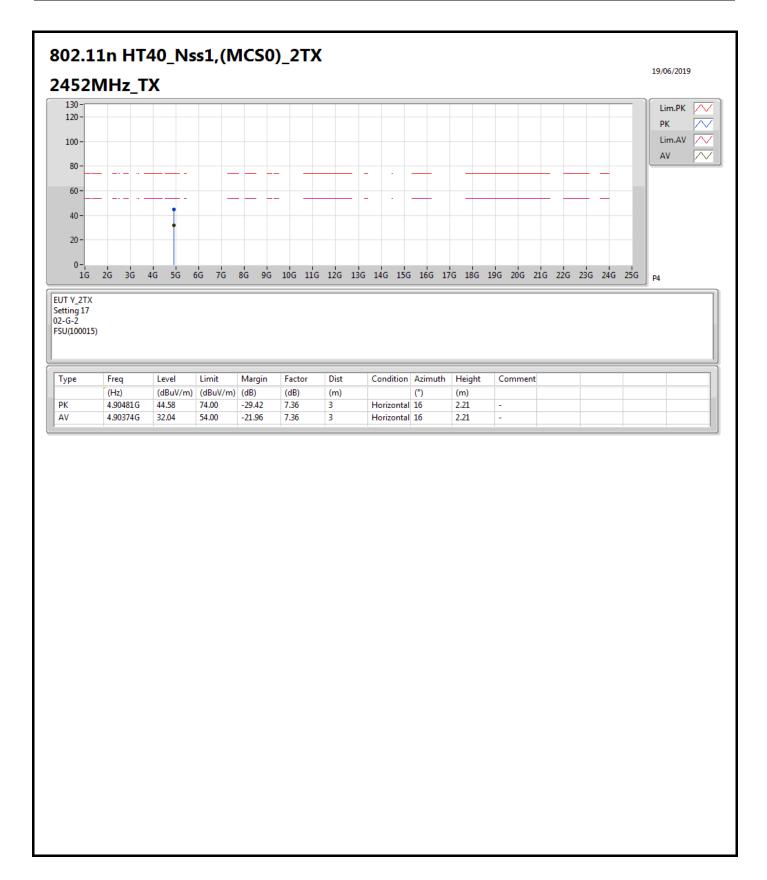






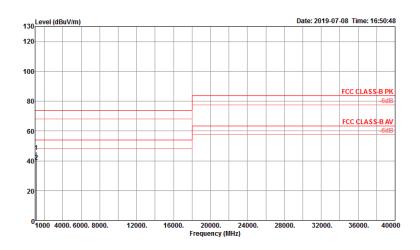








RSE Co-location Result						
Operating Mode	1	Polarization	Horizontal			
Operating Function	Normal Link					



	Freq	Level						Factor		1/105	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1 2	1139.96 1140.16								180 180		Peak Average	HORIZONTAL HORIZONTAL

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RSE Co-location Result						
Operating Mode	1	Polarization	Vertical			
Operating Function	Normal Link					

