



FCC RADIO TEST REPORT

FCC ID		Z3WAIR4921
Equipment		Home Wi-Fi Solution Kit, Air4921 3x3 11ac Smart Mesh Access Point, AT&T SMART WI-FI EXTENDER, AIRTIES WIFI EXTENDER
Brand Name		AirTies
Model Name	ŝ	Air 4921
Applicant		AirTies Wireless Networks Mithat Uluunlu Sokak No. 23 Esentepe, Sisli Istanbul, 34394 Turkey
Manufacturer		AirTies Wireless Networks Mithat Uluunlu Sokak No. 23 Esentepe, Sisli Istanbul, 34394 Turkey
Standard		47 CFR FCC Part 15.247

The product was received on Nov. 21, 2018, and testing was started from Nov. 21, 2018 and completed on Nov. 30, 2018. We, SPORTON INTERNATIONAL INC. EMC & Wireless Communications Laboratory, would like to declare that the tested sample has been evaluated in accordance with the procedures given in ANSI C63.10-2013 and shown compliance with the applicable technical standards.

The report must not be used by the client to claim product certification, approval, or endorsement by TAF or any agency of government.

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

Approved by: Cliff Chang

SPORTON INTERNATIONAL INC. EMC & Wireless Communications Laboratory No. 52, Huaya 1st Rd., Guishan Dist., Taoyuan City, Taiwan (R.O.C.)

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Photographs of EUT v01



History of this test report

Report No.	Version	Description	Issued Date
FR8N2027AA	01	Initial issue of report	Dec. 18, 2018



Summary of Test Result

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 judgment of conformity in the report is based on the measurement results excluding the measurement uncertainty.

Comments and Explanations:

The EUT supports AP Router and Mesh mode, only AP Router mode was tested and recorded in this test report for applicant request.

Reviewed by: Cliff Chang

Report Producer: Vicky Huang



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]

Band	Mode	BWch (MHz)	Nant
2.4-2.4835GHz	802.11b	20	1TX
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

Ant.	Port	Brand	Model Name	Antenna Type	Connector	Gain (dBi)
1	1	-	-	Printed Antenna	Murata	2.4GHz Antenna
2	2	Airgain	N2420S	PIFA Antenna	I-PEX	2.4GHz Antenna
3	1	-	-	Printed Antenna	Murata	5GHz Antenna
4	2	-	-	Printed Antenna	Murata	5GHz Antenna
5	3	-	-	Printed Antenna	Murata	5GHz Antenna

2.4GHz Antenna Gain (dBi)						
Ant.	Ant. Port 2390-2440MHz 2440-2470MHz					
Ant. 1	1	3.24 3.71				
Ant. 2	2	3.24 3.71				



	5GHz Antenna Gain (dBi)						
Ant.	Port	5150-5350MHz	5470-5600MHz	5650-5725MHz	5725-5815MHz	5815-5850MHz	
Ant. 3	1	4.2	4.9	4.2	4.1	3.2	
Ant. 4	2	4.2	4.9	4.2	4.1	3.2	
Ant. 5	3	4.2	4.9	4.2	4.1	3.2	

Note: The EUT has five antennas.

For 2.4GHz function:

For IEEE 802.11b mode (1TX/1RX):

The EUT supports the antenna with TX and RX diversity functions.

Both Port 1 and Port 2 support transmit and receive functions, but only one of them will be used at one time. The Port 1 generated the worst case, so it was selected to test and record in the report.

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

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

Port 1 and Port 2 could transmit/receive simultaneously.

For 5GHz function:

For IEEE 802.11a/n/ac mode (3TX/3RX):

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

Port 1 > Port 2 and Port 3 could transmit/receive simultaneously.

1.1.3 Mode Test Duty Cycle

Mode	DC	DCF(dB)	T(s)	VBW(Hz) ≥ 1/T
802.11b	0.958	0.186	12.424m	100
802.11g	0.952	0.214	2.074m	1k
802.11n HT20	0.952	0.214	1.912m	1k
802.11n HT40	0.91	0.41	937.5u	3k

Note:

• DC is Duty Cycle.

DCF is Duty Cycle Factor.

1.1.4 EUT Operational Condition

EUT Power Type	Fro	From power adapter				
Beamforming Function	\boxtimes	With beamforming for	Vith beamforming for 802.11n/ac in 5GHz			Without beamforming
Function	\boxtimes	Point-to-multipoint		Point-to-point		
Test Software Version	Mto	ol_3.0.0.2				



1.1.5 Table for Multiple Listing

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

Equipment Name	Description
Home Wi-Fi Solution Kit	
Air4921 3x3 11ac Smart Mesh Access Point	All the equipment are identical, the difference equipment
AT&T SMART WI-FI EXTENDER	served as marketing strategy.
AIRTIES WIFI EXTENDER	

From the above, equipment name: Home Wi-Fi Solution Kit was selected as representative for the test and its data was recorded in this report.

1.1.6 Table for EUT support function

Function			
AP Router mode			
Mesh mode			

Note:

The EUT supports AP Router and Mesh mode, only AP Router mode was tested and recorded in this test report for applicant request.



1.2 Testing Applied Standards

According to the specifications of the manufacturer, the EUT must comply with the requirements of the following standards:

- 47 CFR FCC Part 15
- ANSI C63.10-2013
- FCC KDB 558074 D01 v05
- 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		
\boxtimes	JHUBEI	ADD	:	No.8, Lane 724, Bo-ai St., Jhubei City, HsinChu County 302, Taiwan, R.O.C.		
		TEL	:	386-3-656-9065 FAX : 886-3-656-9085		

Test Condition	Test Site No.	Test Engineer	Test Environment	Test Date
RF Conducted	TH01-CB	Owen Hsu	22°C / 54%	Nov. 21, 2018~ Nov. 30, 2018
Radiated	03CH01-CB	RJ Huang	22°C / 54%	Nov. 21, 2018~ Nov. 26, 2018
AC Conduction	CO01-CB	Rick Yeh	22°C / 58%	Nov. 26, 2018

Test site Designation No. TW0006 with FCC.

Test site registered number IC 4086D with Industry Canada.

1.4 Measurement Uncertainty

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

Test Items	Uncertainty	Remark
Conducted Emission (150kHz ~ 30MHz)	2.0 dB	Confidence levels of 95%
Radiated Emission (30MHz ~ 1,000MHz)	3.6 dB	Confidence levels of 95%
Radiated Emission (1GHz ~ 18GHz)	3.7 dB	Confidence levels of 95%
Radiated Emission (18GHz ~ 40GHz)	3.5 dB	Confidence levels of 95%
Conducted Emission	1.7 dB	Confidence levels of 95%
Output Power Measurement	1.33 dB	Confidence levels of 95%
Power Density Measurement	1.27 dB	Confidence levels of 95%
Bandwidth Measurement	9.74 x10 ⁻⁸	Confidence levels of 95%



2 Test Configuration of EUT

2.1 Test Channel Mode

Mode	Power Setting
802.11b_Nss1,(1Mbps)_1TX	-
2412MHz	75
2417MHz	82
2422MHz	85
2427MHz	87
2432MHz	88
2437MHz	89
2442MHz	87
2447MHz	87
2452MHz	83
2457MHz	78
2462MHz	72
802.11g_Nss1,(6Mbps)_2TX	-
2412MHz	50
2417MHz	62
2422MHz	68
2427MHz	73
2432MHz	76
2437MHz	79
2442MHz	75
2447MHz	72
2452MHz	68
2457MHz	60
2462MHz	50
802.11n HT20_Nss1,(MCS0)_2TX	-
2412MHz	50
2417MHz	62
2422MHz	68
2427MHz	73
2432MHz	75
2437MHz	77
2442MHz	75
2447MHz	70
2452MHz	67
2457MHz	59

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Mode	Power Setting
2462MHz	45
802.11n HT40_Nss1,(MCS0)_2TX	-
2422MHz	37
2427MHz	39
2432MHz	43
2437MHz	53
2442MHz	45
2447MHz	43
2452MHz	40



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	Normal Link		
1 AP Router mode			

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		

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.			
Operating Mode < 1GHz	Normal Link			
1	AP Router mode - EUT in Y axis			
Operating Mode > 1GHz	CTX			
1	EUT in Y axis			

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

The Worst Case Mode for Following Conformance Tests			
Tests Item Simultaneous Transmission Analysis - Co-location RF Exposure Evaluation			
Operating Mode	Operating Mode		
1	1 WLAN 2.4GHz+WLAN 5GHz		
Refer to Sporton Test Report No.: FA8N2027 for Co-location RF Exposure Evaluation.			
Note: The FUT only he used at V avia			

Note: The EUT only be used at 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.

2.4 Accessories

Accessories					
Equipment Name	Brand Name	Model Name	Rating		
Adapter	MOSO	MSA-C1000IC12.0-12W-US	Input: 100-240V~50/60Hz, 0.5A max. Output: 12.0V, 1A		

2.5 Support Equipment

For Test Site No: CO01-CB

	Support Equipment				
No.	Equipment	Brand Name	Model Name	FCC ID	
А	LAN NB	DELL	E6430	N/A	
В	2.4G NB	DELL	E6430	N/A	
С	5G NB	DELL	E6430	N/A	

For Test Site No: 03CH01-CB (below 1GHz)

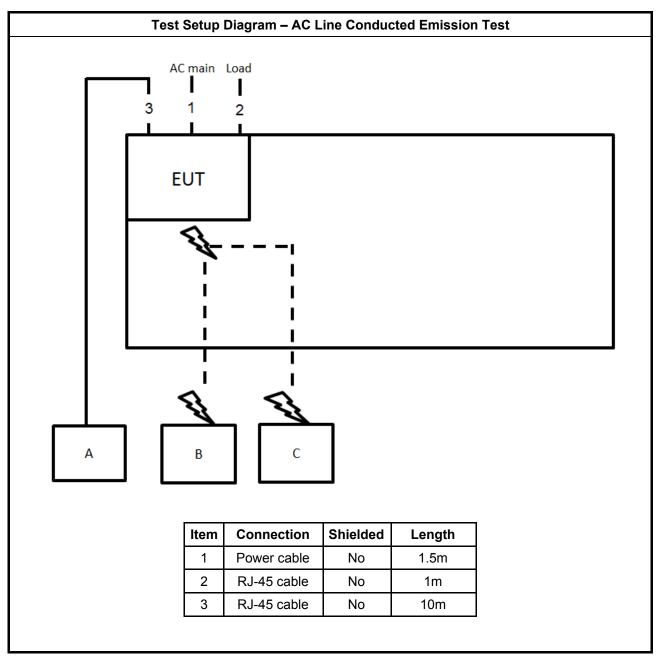
	Support Equipment				
No.	Equipment	Brand Name	Model Name	FCC ID	
А	LAN NB	DELL	E4300	N/A	
В	2.4G NB	DELL	E4300	N/A	
С	5G NB	DELL	E4300	N/A	

For Test Site No: 03CH01-CB (above 1GHz) and TH01-CB

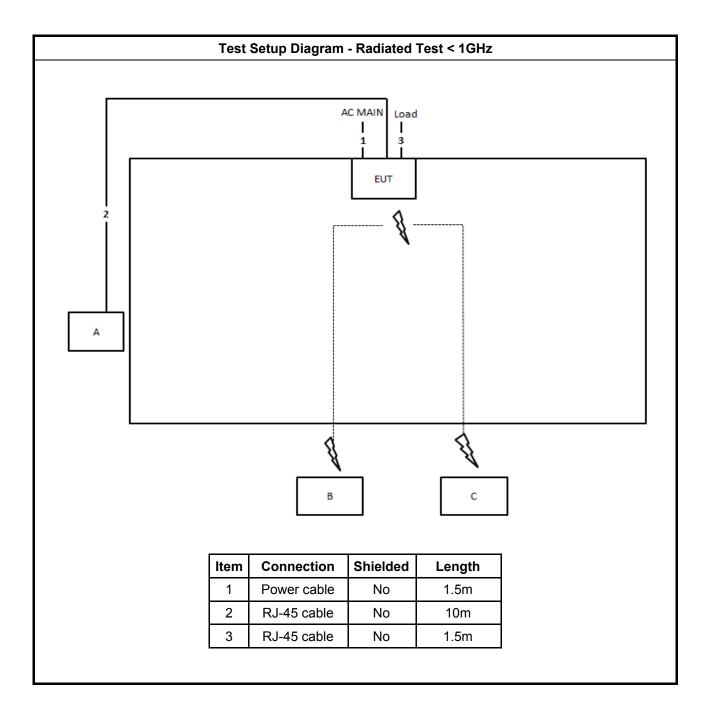
		Support Equ	ipment	
No.	Equipment	Brand Name	Model Name	FCC ID
А	LAN NB	DELL	E4300	N/A



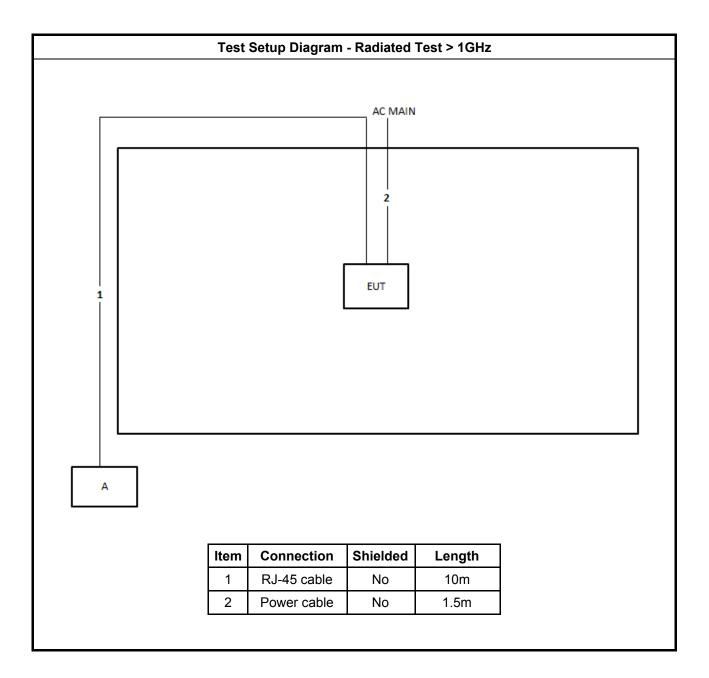
2.6 Test Setup Diagram













3 Transmitter Test Result

3.1 AC Power-line Conducted Emissions

3.1.1 AC Power-line Conducted Emissions Limit

AC Power-line Conducted Emissions Limit				
Frequency Emission (MHz) Quasi-Peak Average				
0.15-0.5	66 - 56 *	56 - 46 *		
0.5-5	56	46		
5-30	60	50		
Note 1: * Decreases with the logarithm of the frequency.				

3.1.2 Measuring Instruments

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

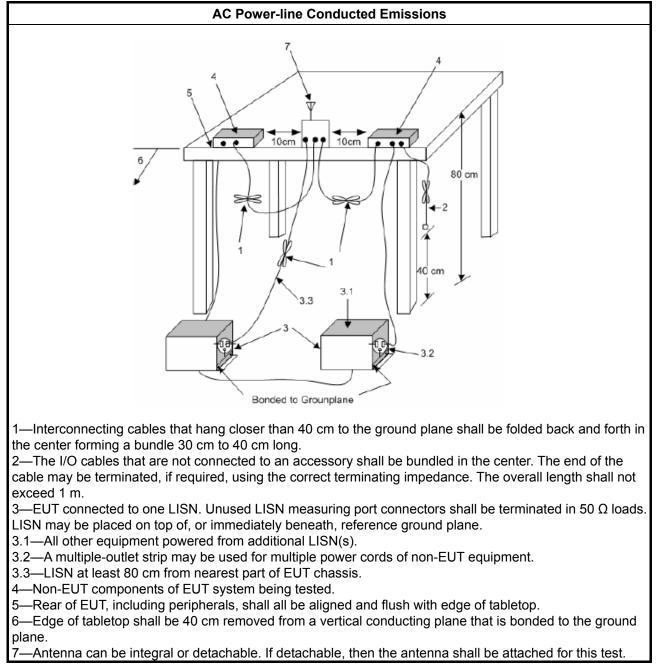
3.1.3 Test Procedures

Test Method

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



3.1.4 Test Setup



3.1.5 Test Result of AC Power-line Conducted Emissions

Refer as Appendix A



3.2 DTS Bandwidth

3.2.1 6dB Bandwidth Limit

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

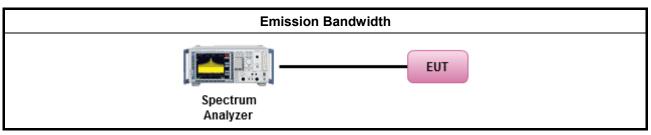
3.2.2 Measuring Instruments

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



3.3 Maximum Conducted Output Power

3.3.1 Maximum Conducted Output Power Limit

Maximum	Conducted	Output	Power Limit
	••••••••	• aspac	

• If $G_{TX} \le 6$ dBi, then $P_{Out} \le 30$ dBm (1 W)
--

•	Point-to-multipoint systems	(P2M): If G_{TX}	> 6 dBi, ther	n P _{Out} = 30 –	(G _{⊤X} – 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 $G_{TX} > 6 \text{ dBi}$, then $P_{Out} = 30 - (G_{TX} - 6)/3 + 8 \text{dBm}$

 P_{out} = maximum peak conducted output power or maximum conducted output power in dBm, G_{TX} = the maximum transmitting antenna directional gain in dBi.

3.3.2 Measuring Instruments

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



3.3.3 Test Procedures

		Test Method
•	Мах	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).
•	Мах	imum Conducted Output Power
	[duty	/ 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)
	Меа	surement 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).
•	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

3.3.4 Test Setup

Maximum Conducted Output Power (Power Meter)	
EUT Power Meter	

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3.3.5 Test Result of Maximum Conducted Output Power

Refer as Appendix C



3.4 **Power Spectral Density**

3.4.1 Power Spectral Density Limit

Power Spectral Density Limit

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

3.4.2 Measuring Instruments

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

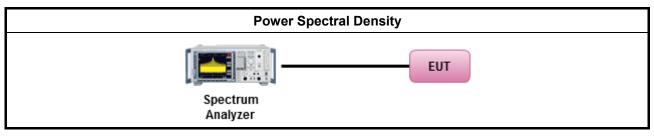
3.4.3 Test Procedures

		Test Method
•	outp the c conc of th	k power spectral density procedures that the same method as used to determine the conducted ut power. If maximum peak conducted output power was measured to demonstrate compliance to butput power limit, then the peak PSD procedure below (Method PKPSD) shall be used. If maximum ducted output power was measured to demonstrate compliance to the output power limit, then one he average PSD procedures shall be used, as applicable based on the following criteria (the peak procedure is also an acceptable option).
	\boxtimes	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, 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,
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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.

3.4.4 Test Setup



3.4.5 Test Result of Power Spectral Density

Refer as Appendix D



3.5 Emissions in Non-restricted Frequency Bands

3.5.1 Emissions in Non-restricted Frequency Bands Limit

Un-restricted Band Emissions Limit						
Limit (dB)						
20						
30						
-						

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

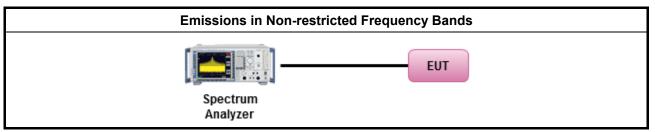
Refer a test equipment and calibration data table in this test report.

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

Refer as Appendix E



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					

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.

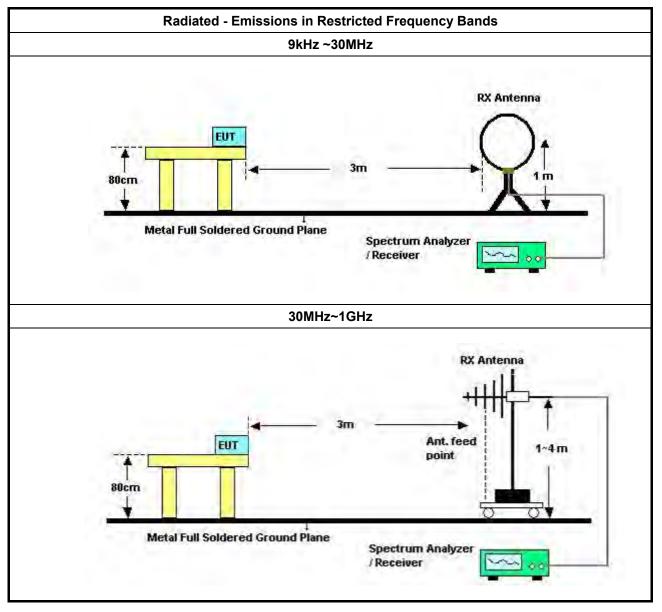


3.6.3 Test Procedures

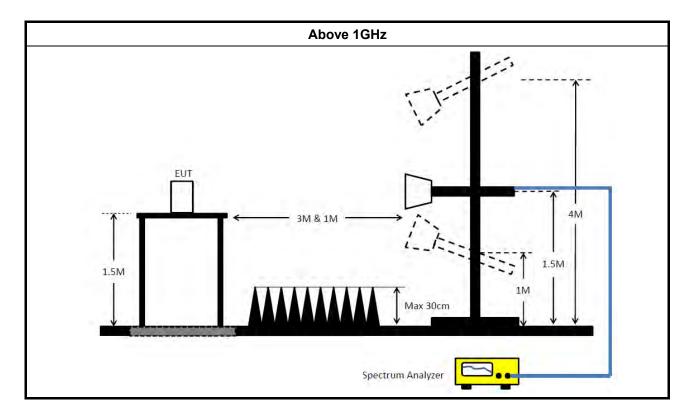
	Test Method
•	The average emission levels shall be measured in [duty cycle \geq 98 or duty factor].
•	Refer as ANSI C63.10, clause 6.10.3 band-edge testing shall be performed at the lowest frequency channel and highest frequency channel within the allowed operating band.
•	For the transmitter unwanted 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 \ge 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:
	 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.



3.6.4 Test Setup







3.6.5 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.

3.6.6 Test Result of Emissions in Restricted Frequency Bands

Refer as Appendix F



Test Equipment and Calibration Data 4

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Calibration Due Date	Remark		
EMI Receiver	Agilent	N9038A	My52260123	9kHz ~ 8.45GHz	Jan. 31, 2018	Jan. 30, 2019	Conduction (CO01-CB)		
LISN	F.C.C.	FCC-LISN-50- 16-2	04083	150kHz ~ 100MHz	Dec. 20, 2017	Dec. 19, 2018	Conduction (CO01-CB)		
LISN	Schwarzbeck	NSLK 8127	8127647	9kHz ~ 30MHz	Dec. 29, 2017	Dec. 28, 2018	Conduction (CO01-CB)		
COND Cable	Woken	Cable	Low cable-CO01	150kHz ~ 30MHz	May 22, 2018	May 21, 2019	Conduction (CO01-CB)		
Software	Audix	lix E3 6.120210n - N.C.		N.C.R.	N.C.R.	Conduction (CO01-CB)			
BILOG ANTENNA with 6dB Attenuator	with TESEQ & CBL6112D & EMCI N-6-06		ENNA with EMCI N-6-06 A		37880 & AT-N0609	20MHz ~ 2GHz	Aug. 27, 2018	Aug. 26, 2019	Radiation (03CH01-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)		
Pre-Amplifier	EMCI	EMC330N	980332	20MHz ~ 3GHz	May 02, 2018	May 01, 2019	Radiation (03CH01-CB)		
Pre-Amplifier	Agilent	8449B	3008A02310	1GHz ~ 26.5GHz	Jan. 09, 2018	Jan. 08, 2019	Radiation (03CH01-CB)		
Pre-Amplifier	MITEQ	TTA1840-35-H G	1864479	18GHz ~ 40GHz	Jul. 04, 2018	Jul. 03, 2019	Radiation (03CH01-CB)		
Spectrum analyzer	R&S	FSP40	100080	9kHz~40GHz	Oct. 03, 2018	Oct. 02, 2019	Radiation (03CH01-CB)		
EMI Test	R&S	ESCS	100354	9kHz ~ 2.75GHz	Dec. 08, 2017	Dec. 07, 2018	Radiation (03CH01-CB)		
RF Cable-low	Woken	Low Cable-16+17	N/A	30 MHz ~ 1 GHz	Oct. 08, 2018	Oct. 07, 2019	Radiation (03CH01-CB)		
RF Cable-high	Woken	High Cable-16	N/A	1 GHz ~ 18 GHz	Oct. 08, 2018	Oct. 07, 2019	Radiation (03CH01-CB)		
RF Cable-high	Woken	High Cable-16+17	N/A	1 GHz ~ 18 GHz	Oct. 08, 2018	Oct. 07, 2019	Radiation (03CH01-CB)		
RF Cable-high	Woken	High Cable-40G#1	N/A	18GHz ~ 40 GHz	Jul. 27, 2018	Jul. 26, 2019	Radiation (03CH01-CB)		
RF Cable-high	Woken	High Cable-40G#2	N/A	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
Loop Antenna	Teseq	HLA 6120	24155	9kHz - 30 MHz	Mar. 16, 2018	Mar. 15, 2019	Radiation (03CH01-CB)
Spectrum analyzer	R&S	FSV40	100979	9kHz~40GHz	Dec. 21, 2017	Dec. 20, 2018	Conducted (TH01-CB)
RF Cable-high	Woken	RG402	High Cable-06	1 GHz – 26.5 GHz	Oct. 08, 2018	Oct. 07, 2019	Conducted (TH01-CB)
RF Cable-high	Woken	RG402	High Cable-07	1 GHz –26.5 GHz	Oct. 08, 2018	Oct. 07, 2019	Conducted (TH01-CB)
RF Cable-high	Woken	RG402	High Cable-08	1 GHz –26.5 GHz	Oct. 08, 2018	Oct. 07, 2019	Conducted (TH01-CB)
RF Cable-high	Woken	RG402	High Cable-09	1 GHz –26.5 GHz	Oct. 08, 2018	Oct. 07, 2019	Conducted (TH01-CB)
RF Cable-high	Woken	RG402	High Cable-10	1 GHz –26.5 GHz	Oct. 08, 2018	Oct. 07, 2019	Conducted (TH01-CB)
RF Cable-high	Woken	RG402	High Cable-28	1 GHz –26.5 GHz	Nov. 19, 2018	Nov. 18, 2019	Conducted (TH01-CB)
Power Sensor	Agilent	U2021XA	MY53410001	50MHz~18GHz	Nov. 05, 2018	Nov. 04, 2019	Conducted (TH01-CB)

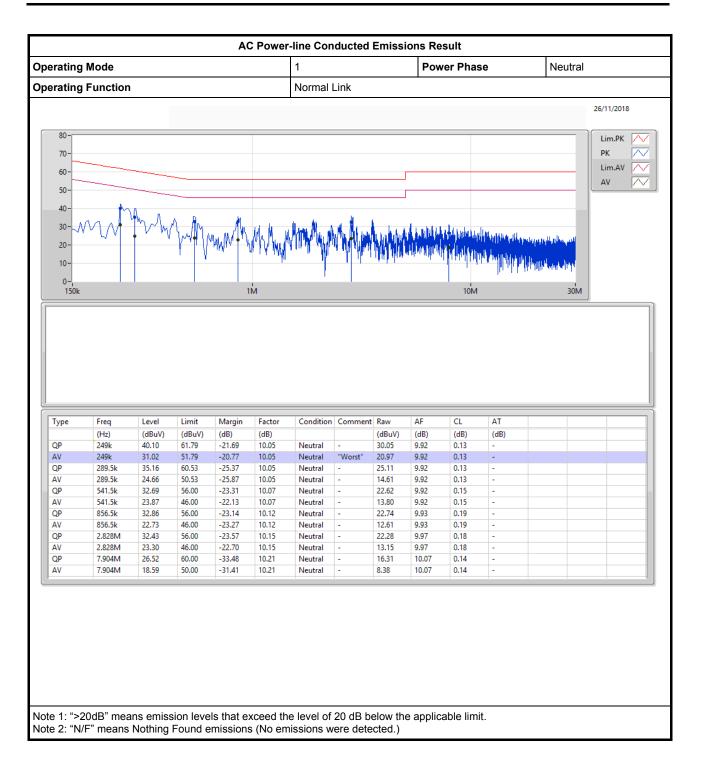
Note: Calibration Interval of instruments listed above is one year.

NCR means Non-Calibration required.



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Туре	Freq	Level	Limit	Margin	Factor	Condition	Comment		AF	CL	AT		
	(Hz)	(dBuV)	(dBuV)	(dB)	(dB)			(dBuV)	(dB)	(dB)	(dB)		
QP	267k	37.65	61.20	-23.55	10.04	Line	"Worst"	27.61	9.91	0.13	-		
AV	267k	27.07	51.20	-24.13	10.04	Line	-	17.03	9.91	0.13	-		
QP	951k	27.85	56.00	-28.15	10.13	Line	-	17.72	9.93	0.20	-		
AV	951k	18.37	46.00	-27.63	10.13	Line	-	8.24	9.93	0.20	-		
QP	1.982M	27.19	56.00	-28.81	10.19	Line	-	17.00	9.96	0.23	-		
AV	1.982M	16.41	46.00	-29.59	10.19	Line	-	6.22	9.96	0.23	-		
QP	3.975M	24.18	56.00	-31.82	10.11	Line	-	14.07	9.98	0.13	-		
AV	3.975M	14.59	46.00	-31.41	10.11	Line	-	4.48	9.98	0.13	-		
QP	7.296M	26.04	60.00	-33.96	10.22	Line	-	15.82	10.08	0.14	-		
AV	7.296M	18.00	50.00	-32.00	10.22	Line	-	7.78	10.08	0.14	-		
QP	9.411M	26.78	60.00	-33.22	10.28	Line	-	16.50	10.13	0.15	-		
AV	9.411M	18.89	50.00	-31.11	10.28	Line	-	8.61	10.13	0.15	-		
		1	1	1		1	1		1	1	1	1	
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EBW Result

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)_1TX	9.5M	14.318M	14M3G1D	8.05M	10.145M
802.11g_Nss1,(6Mbps)_2TX	15.075M	17.041M	17M0D1D	14.4M	16.317M
802.11n HT20_Nss1,(MCS0)_2TX	15.05M	17.666M	17M7D1D	14.275M	17.441M
802.11n HT40_Nss1,(MCS0)_2TX	35.55M	36.232M	36M2D1D	33.8M	36.132M

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;

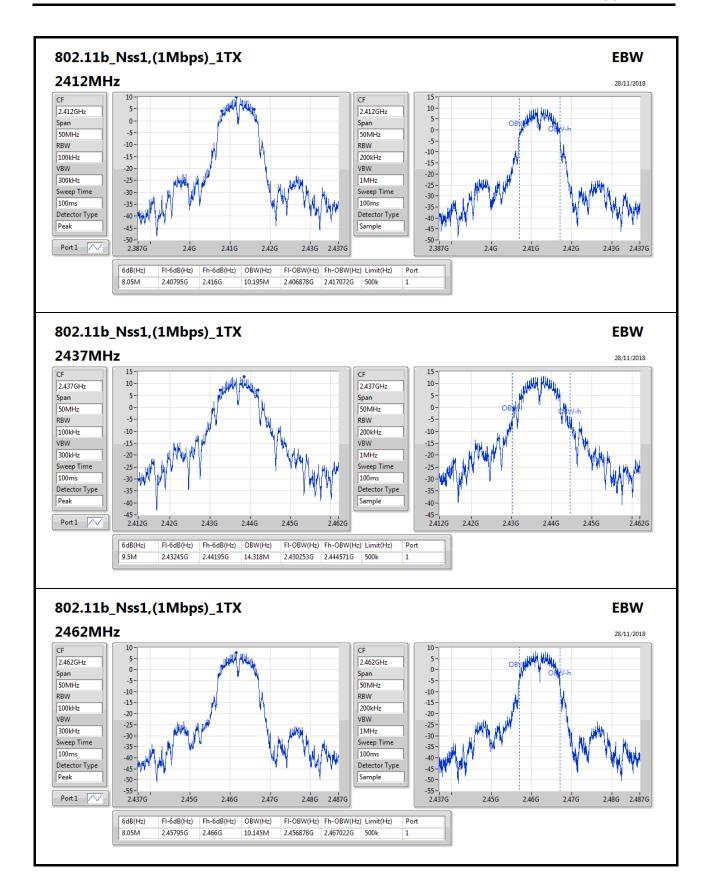
Result

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)_1TX	-	-	-	-	-	-
2412MHz	Pass	500k	8.05M	10.195M		
2437MHz	Pass	500k	9.5M	14.318M		
2462MHz	Pass	500k	8.05M	10.145M		
802.11g_Nss1,(6Mbps)_2TX	-	-	-	-	-	-
2412MHz	Pass	500k	15.05M	16.317M	15.025M	16.317M
2437MHz	Pass	500k	14.4M	16.692M	15.025M	17.041M
2462MHz	Pass	500k	14.4M	16.342M	15.075M	16.367M
802.11n HT20_Nss1,(MCS0)_2TX	-	-	-	-	-	-
2412MHz	Pass	500k	14.275M	17.441M	15.05M	17.491M
2437MHz	Pass	500k	14.425M	17.641M	14.975M	17.666M
2462MHz	Pass	500k	15.025M	17.466M	14.325M	17.491M
802.11n HT40_Nss1,(MCS0)_2TX	-	-	-	-	-	-
2422MHz	Pass	500k	35.55M	36.182M	35M	36.232M
2437MHz	Pass	500k	35.05M	36.182M	35.1M	36.182M
2452MHz	Pass	500k	35M	36.232M	33.8M	36.132M

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

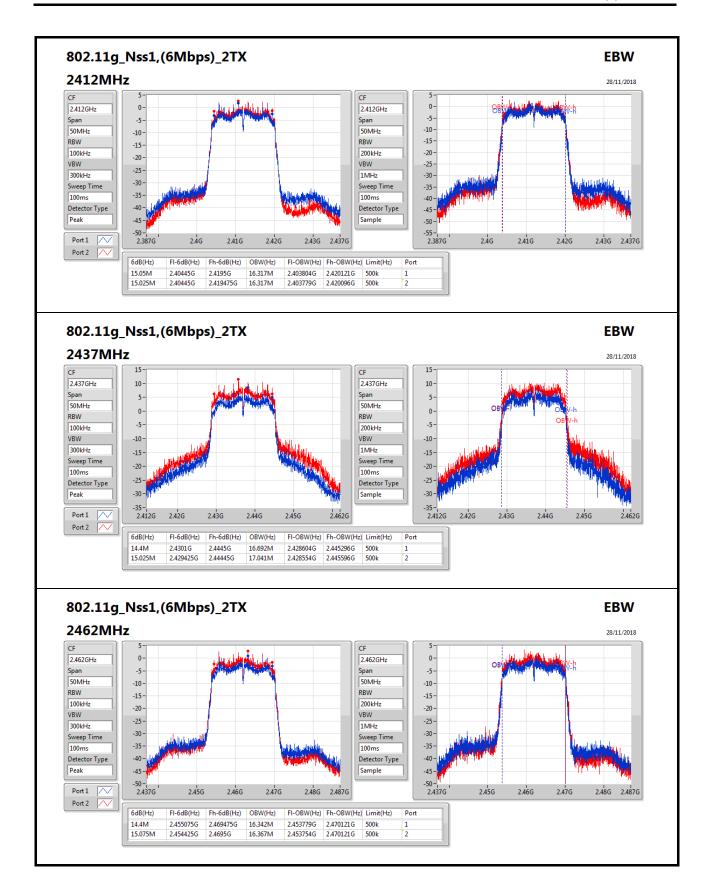


EBW Result



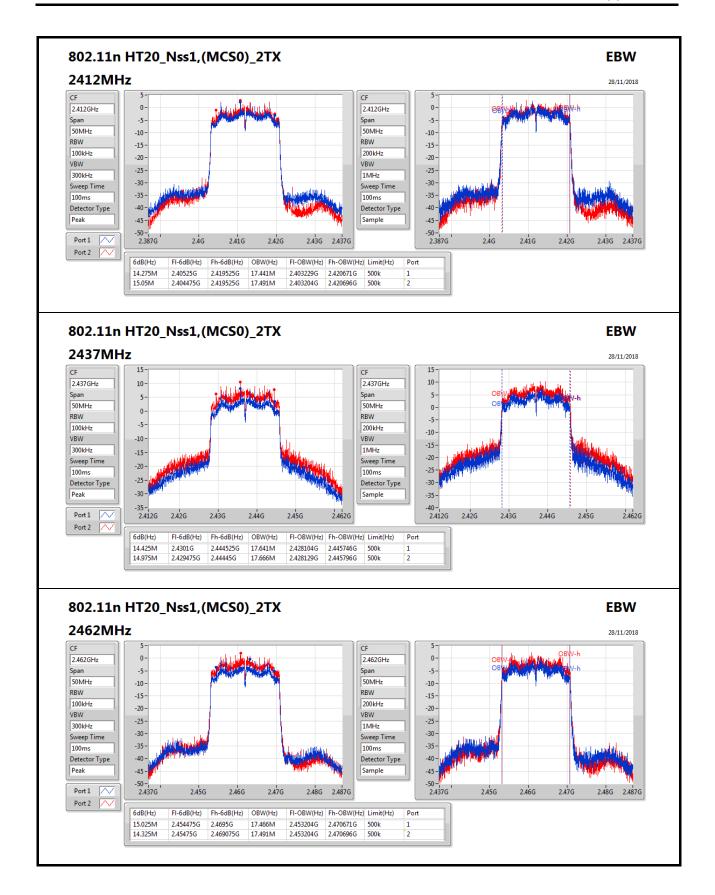


EBW Result



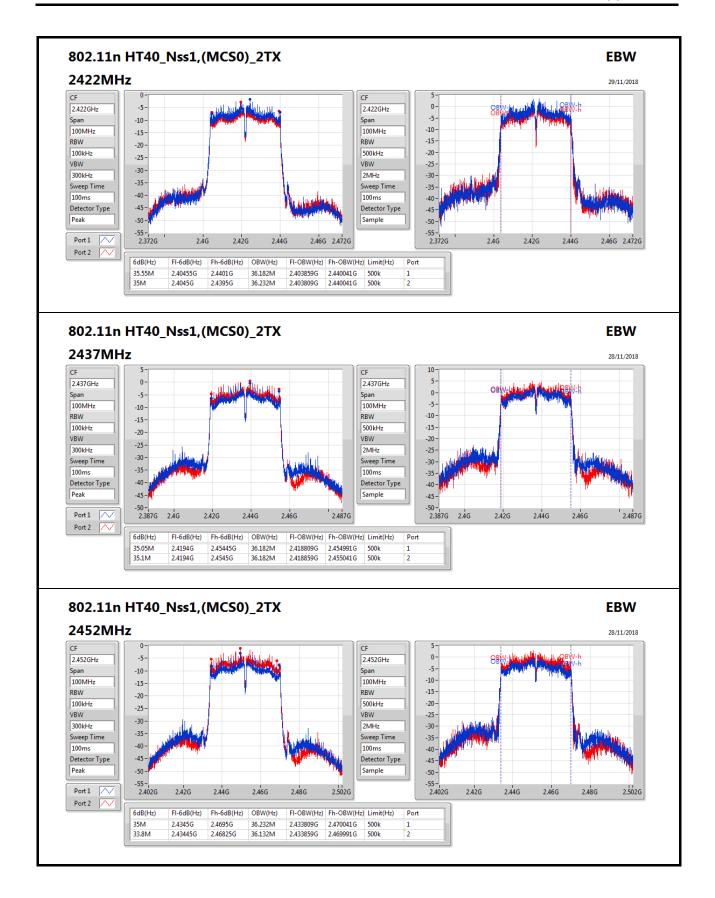


EBW Result





EBW Result





AV Power Result

Summary

Mode	Total Power	Total Power
	(dBm)	(W)
2.4-2.4835GHz	-	-
802.11b_Nss1,(1Mbps)_1TX	21.89	0.15453
802.11g_Nss1,(6Mbps)_2TX	23.57	0.22751
802.11n HT20_Nss1,(MCS0)_2TX	22.94	0.19679
802.11n HT40_Nss1,(MCS0)_2TX	16.45	0.04416

Result

Mode	Result	DG	Port 1	Port 2	Total Power	Power Li	
		(dBi)	(dBm)	(dBm)	(dBm)	(dBm)	
802.11b_Nss1,(1Mbps)_1TX	-	-	-	-	-	-	
2412MHz	Pass	3.24	18.31		18.31	30.00	
2417MHz	Pass	3.24	20.36		20.36	30.00	
2422MHz	Pass	3.24	21.43		21.43	30.00	
2427MHz	Pass	3.24	21.61		21.61	30.00	
2432MHz	Pass	3.24	21.73		21.73	30.00	
2437MHz	Pass	3.24	21.89		21.89	30.00	
2442MHz	Pass	3.71	21.86		21.86	30.00	
2447MHz	Pass	3.71	21.81		21.81	30.00	
2452MHz	Pass	3.71	20.36		20.36	30.00	
2457MHz	Pass	3.71	18.52		18.52	30.00	
2462MHz	Pass	3.71	16.48		16.48	30.00	
802.11g_Nss1,(6Mbps)_2TX	-	-	-	-	-	-	
2412MHz	Pass	3.24	12.48	13.49	16.02	30.00	
2417MHz	Pass	3.24	14.88	15.79	18.37	30.00	
2422MHz	Pass	3.24	16.47	17.73	20.16	30.00	
2427MHz	Pass	3.24	17.47	19.49	21.61	30.00	
2432MHz	Pass	3.24	18.29	20.56	22.58	30.00	
2437MHz	Pass	3.24	18.98	21.71	23.57	30.00	
2442MHz	Pass	3.71	18.02	20.18	22.24	30.00	
2447MHz	Pass	3.71	17.07	18.88 21.08 17.79 19.90	21.08	30.00 30.00	
2452MHz	Pass	3.71	15.75		19.90		
2457MHz	Pass	3.71	13.81	15.37	17.67	30.00	
2462MHz	Pass	3.71	11.68	13.56	15.73	30.00	
802.11n HT20_Nss1,(MCS0)_2TX	-	-	-	-	-	-	
2412MHz	Pass	3.24	12.64	13.05	15.86	30.00	
2417MHz	Pass	3.24	14.85	15.52	18.21	30.00	
2422MHz	Pass	3.24	15.99	17.57	19.86	30.00	
2427MHz	Pass	3.24	17.47	18.98	21.30	30.00	
2432MHz	Pass	3.24	18.06	19.89	22.08	30.00	
2437MHz	Pass	3.24	18.59	20.95	22.94	30.00	
2442MHz	Pass	3.71	18.28	19.52	21.95	30.00	
2447MHz	Pass	3.71	16.56	18.01	20.36	30.00	
2452MHz	Pass	3.71	16.02	16.86	19.47	30.00	
2457MHz	Pass	3.71	14.05	14.47	17.28	30.00	



AV Power Result

Appendix C

Mode	Result	DG	Port 1	Port 2	Total Power	Power Limit
		(dBi)	(dBm)	(dBm)	(dBm)	(dBm)
2462MHz	Pass	3.71	10.63	13.41	15.25	30.00
802.11n HT40_Nss1,(MCS0)_2TX	-	-	-	-	-	-
2422MHz	Pass	3.24	9.92	11.17	13.60	30.00
2427MHz	Pass	3.24	10.14	11.53	13.90	30.00
2432MHz	Pass	3.24	10.20	11.73	14.04	30.00
2437MHz	Pass	3.24	12.83	13.98	16.45	30.00
2442MHz	Pass	3.71	10.89	13.54	15.42	30.00
2447MHz	Pass	3.71	10.52	11.87	14.26	30.00
2452MHz	Pass	3.71	10.03	11.94	14.10	30.00

DG = Directional Gain; Port X = Port X output power Note : Conducted average output power is for reference only



Summary

Mode	PD
	(dBm/RBW)
2.4-2.4835GHz	
802.11b_Nss1,(1Mbps)_1TX	0.44
802.11g_Nss1,(6Mbps)_2TX	-1.42
802.11n HT20_Nss1,(MCS0)_2TX	-2.81
802.11n HT40_Nss1,(MCS0)_2TX	-11.86

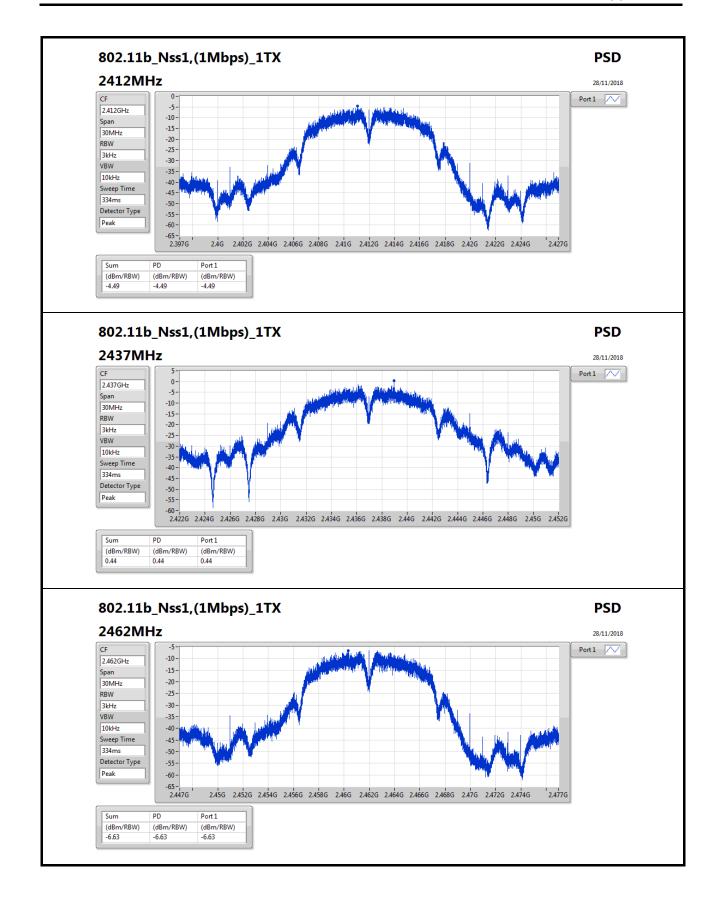
RBW=3kHz.

Result

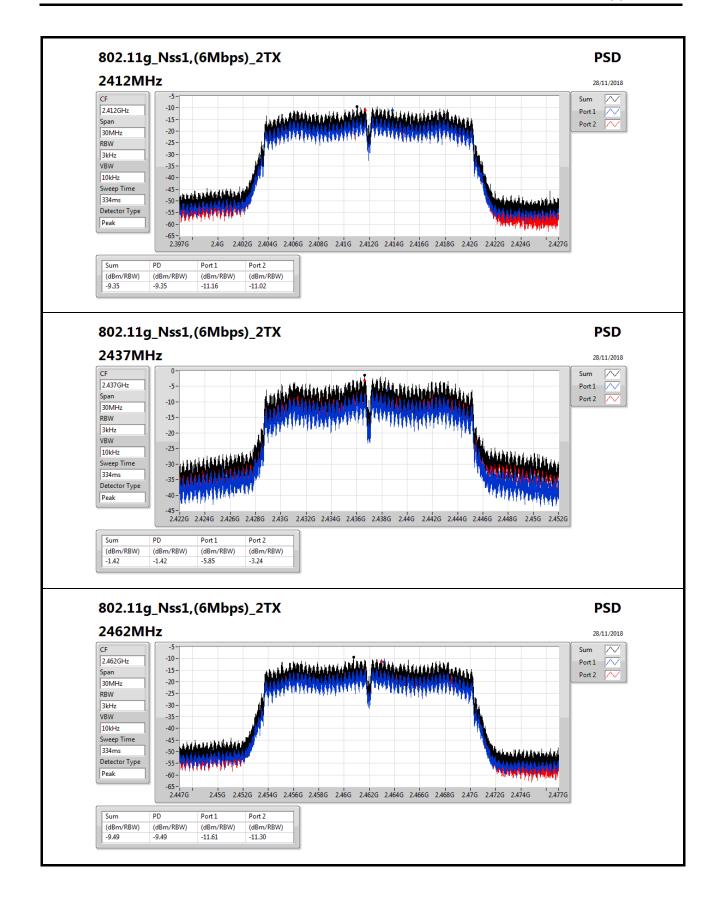
Mode	Result	DG	Port 1	Port 2	PD	PD Limit	
		(dBi)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	
802.11b_Nss1,(1Mbps)_1TX	-	-	-	-	-	-	
2412MHz	Pass	3.24	-4.49		-4.49	8.00	
2437MHz	Pass	3.24	0.44		0.44	8.00	
2462MHz	Pass	3.71	-6.63		-6.63	8.00	
802.11g_Nss1,(6Mbps)_2TX	-	-	-	-	-	-	
2412MHz	Pass	6.25	-11.16	-11.02	-9.35	7.75	
2437MHz	Pass	6.25	-5.85	-3.24	-1.42	7.75	
2462MHz	Pass	6.72	-11.61	-11.30	-9.49	7.28	
802.11n HT20_Nss1,(MCS0)_2TX	-	-	-	-	-	-	
2412MHz	Pass	6.25	-12.62	-10.90	-9.43	7.75	
2437MHz	Pass	6.25	-5.37	-3.76	-2.81	7.75	
2462MHz	Pass	6.72	-13.98	-9.27	-8.19	7.28	
802.11n HT40_Nss1,(MCS0)_2TX	-	-	-	-	-	-	
2422MHz	Pass	6.25	-16.23	-14.78	-13.71	7.75	
2437MHz	Pass	6.25	-14.56	-13.36	-11.86	7.75	
2452MHz	Pass	6.72	-17.01	-14.77	-14.12	7.28	

DG = Directional Gain; RBW=3kHz; **PD** = trace bin-by-bin of each transmits port summing can be performed maximum power density; **Port X** = Port Xpower density;

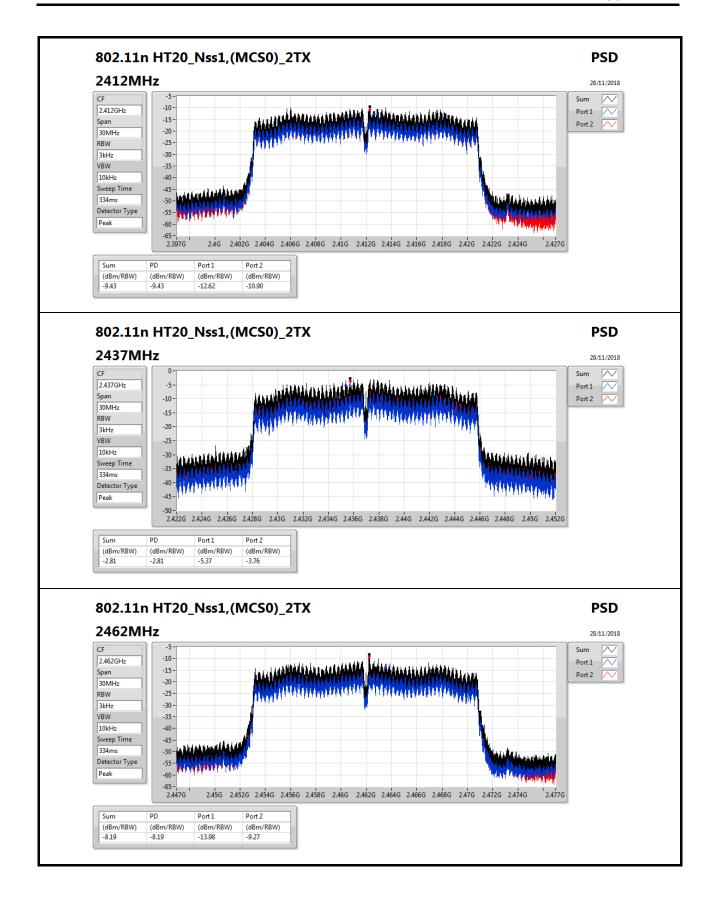




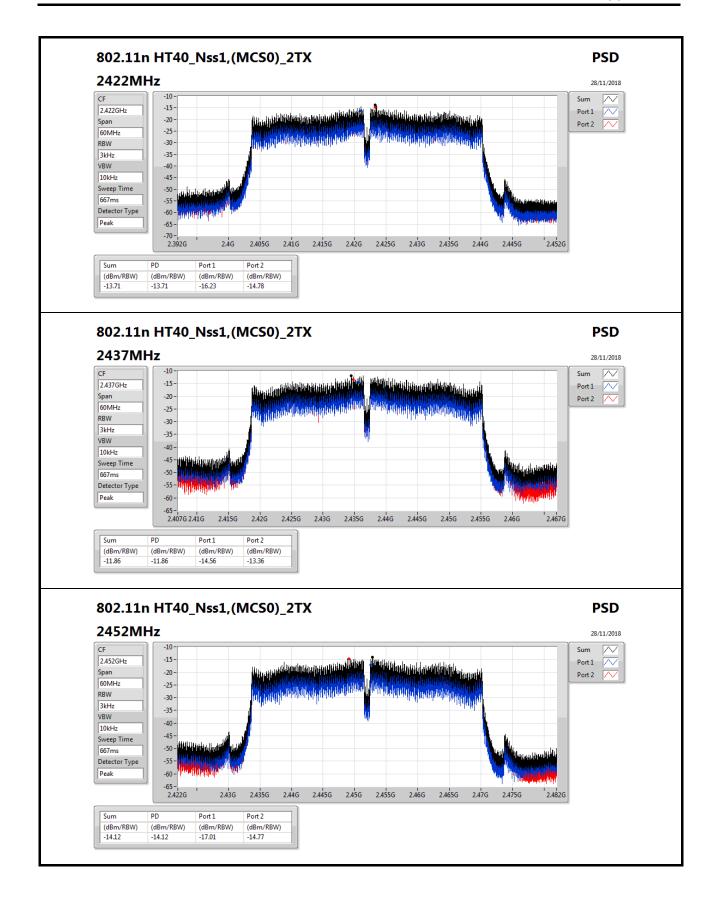














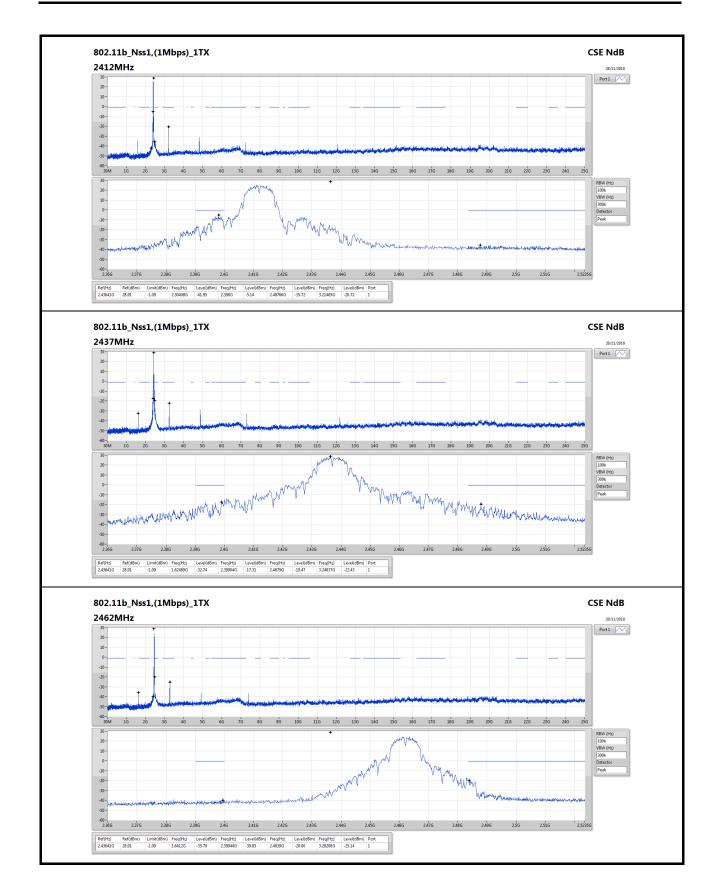
CSE Non-restricted Band Result

Appendix E

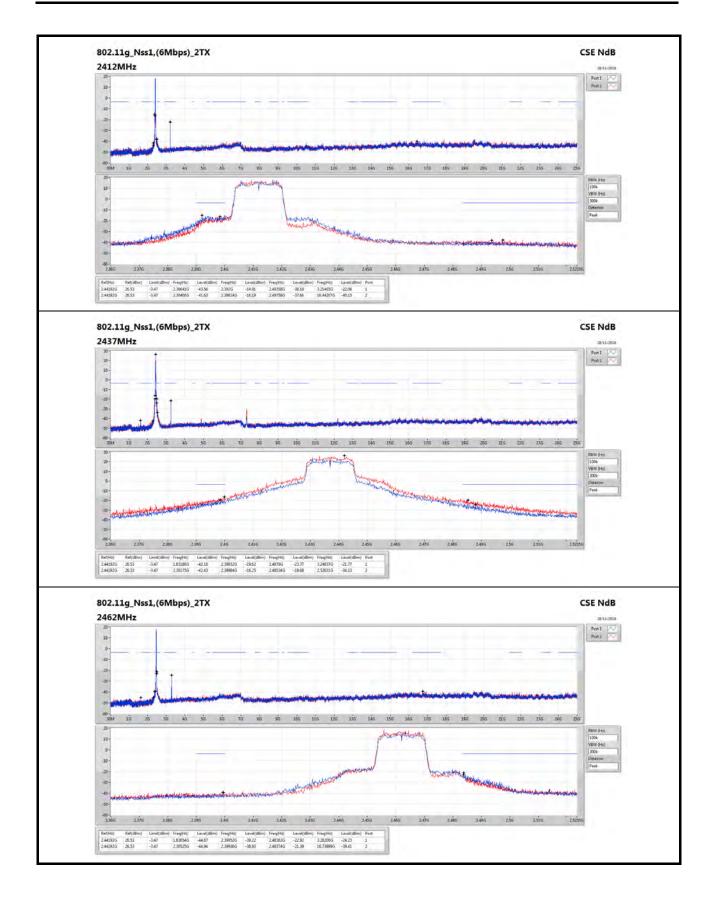
Summary

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)_1TX	Pass	2.43641G	28.91	-1.09	2.30408G	-41.95	2.398G	-5.14	2.48766G	-35.72	3.21465G	-20.72	1
802.11g_Nss1,(6Mbps)_2TX	Pass	2.44192G	26.53	-3.47	2.30641G	-43.56	2.392G	-14.91	2.49358G	-38.18	3.21465G	-22.06	1
802.11n HT20_Nss1,(MCS0)_2TX	Pass	2.43824G	26.48	-3.52	2.30758G	-44.52	2.39792G	-14.48	2.48742G	-38.91	3.21465G	-21.89	1
802.11n HT40_Nss1,(MCS0)_2TX	Pass	2.43323G	16.53	-13.47	2.30512G	-44.42	2.39984G	-15.67	2.48398G	-24.62	3.24781G	-25.02	1
			•					•		•			•
Mode	Result	Ref	Ref	Limit	Freq	Level	Freq	Level	Freq	Level	Freq	Level	Port
Mode	Result	(Hz)	(dBm)	(dBm)	(Hz)	(dBm)	(Hz)	(dBm)	(Hz)	(dBm)	(Hz)	(dBm)	101
802.11b_Nss1,(1Mbps)_1TX		-	-	-	-	-	-	-	-	-			-
2412MHz	Pass	2.43641G	28.91	-1.09	2.30408G	-41.95	2.398G	-5.14	2.48766G	-35.72	3.21465G	-20.72	1
2437MHz	Pass	2.43641G	28.91	-1.09	1.62489G	-32.74	2.39904G	-17.31	2.4879G	-19.47	3.24837G	-22.43	1
2462MHz	Pass	2.43641G	28.91	-1.09	1.6412G	-35.79	2.39944G	-39.85	2.4839G	-20	3.28208G	-25.14	1
802.11g_Nss1,(6Mbps)_2TX	-	-	-	-	-		-	-	-	-	-	-	-
2412MHz	Pass	2.44192G	26.53	-3.47	2.30641G	-43.56	2.392G	-14.91	2.49358G	-38.18	3.21465G	-22.06	1
2412MHz	Pass	2.44192G	26.53	-3.47	2.30408G	-41.63	2.39824G	-16.19	2.49758G	-37.66	16.44207G	-40.15	2
2437MHz	Pass	2.44192G	26.53	-3.47	1.63188G	-42.18	2.39832G	-19.62	2.4879G	-23.77	3.24837G	-21.77	1
2437MHz	Pass	2.44192G	26.53	-3.47	2.30175G	-42.43	2.39984G	-16.25	2.48534G	-19.68	2.52631G	-34.13	2
2462MHz	Pass	2.44192G	26.53	-3.47	1.63654G	-44.87	2.39952G	-39.22	2.48382G	-22.92	3.28208G	-24.23	1
2462MHz	Pass	2.44192G	26.53	-3.47	2.30525G	-44.94	2.39936G	-38.93	2.48374G	-21.39	16.73989G	-39.41	2
802.11n HT20_Nss1,(MCS0)_2TX	-	-	-	-	-		-	-	-	-	-	-	-
2412MHz	Pass	2.43824G	26.48	-3.52	2.30758G	-44.52	2.39792G	-14.48	2.48742G	-38.91	3.21465G	-21.89	1
2412MHz	Pass	2.43824G	26.48	-3.52	2.30408G	-44.6	2.39856G	-15.52	2.49286G	-37.92	16.41117G	-39.59	2
2437MHz	Pass	2.43824G	26.48	-3.52	1.62489G	-40.78	2.39952G	-18.6	2.48382G	-24.11	3.24837G	-22.28	1
2437MHz	Pass	2.43824G	26.48	-3.52	2.30641G	-40.77	2.39944G	-17.92	2.4891G	-21.06	2.52912G	-35.97	2
2462MHz	Pass	2.43824G	26.48	-3.52	1.81245G	-45.18	2.39888G	-41.3	2.48446G	-23.95	3.28208G	-24.65	1
2462MHz	Pass	2.43824G	26.48	-3.52	2.30758G	-45.8	2.39544G	-40.46	2.48406G	-23.68	2.53474G	-39.32	2
802.11n HT40_Nss1,(MCS0)_2TX	-	-	-	-	-	-	-	-	-	-	-	-	-
2422MHz	Pass	2.43323G	16.53	-13.47	717M	-45.51	2.39984G	-20.34	2.48574G	-38.35	3.22818G	-25.57	1
2422MHz	Pass	2.43323G	16.53	-13.47	2.30283G	-45.04	2.39984G	-19.69	2.48398G	-38.2	16.34232G	-39.83	2
2437MHz	Pass	2.43323G	16.53	-13.47	2.30512G	-44.42	2.39984G	-15.67	2.48398G	-24.62	3.24781G	-25.02	1
2437MHz	Pass	2.43323G	16.53	-13.47	2.30855G	-45.07	2.39872G	-16.64	2.48382G	-24.82	16.55266G	-40.03	2
2452MHz	Pass	2.43323G	16.53	-13.47	1.63987G	-45.3	2.39808G	-30.31	2.48814G	-20.22	3.26745G	-27.7	1
2452MHz	Pass	2.43323G	16.53	-13.47	920.81M	-45.81	2.39952G	-33.22	2.48686G	-21.22	17.40805G	-39.8	2

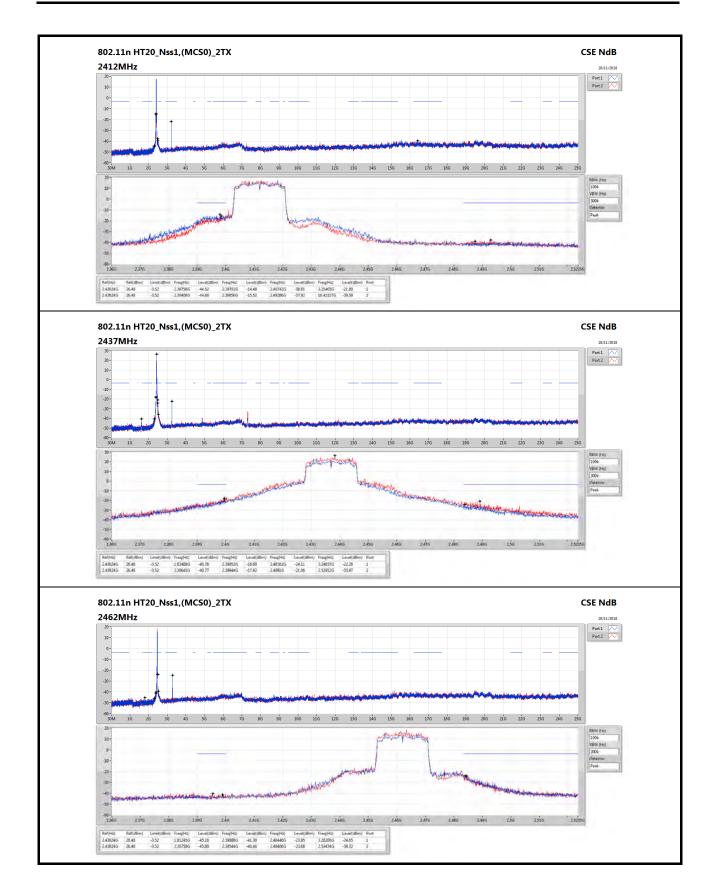




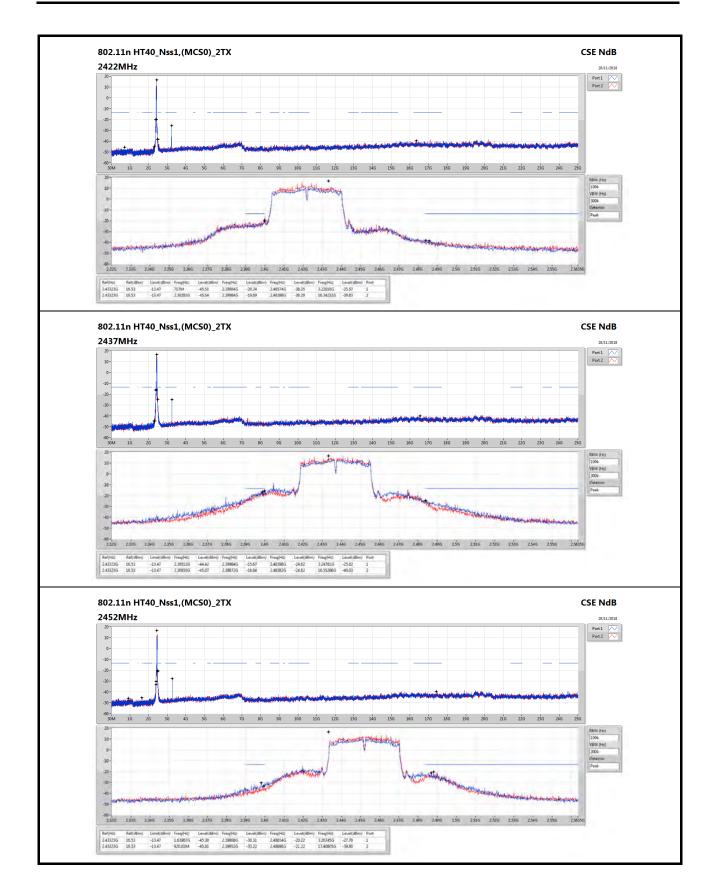




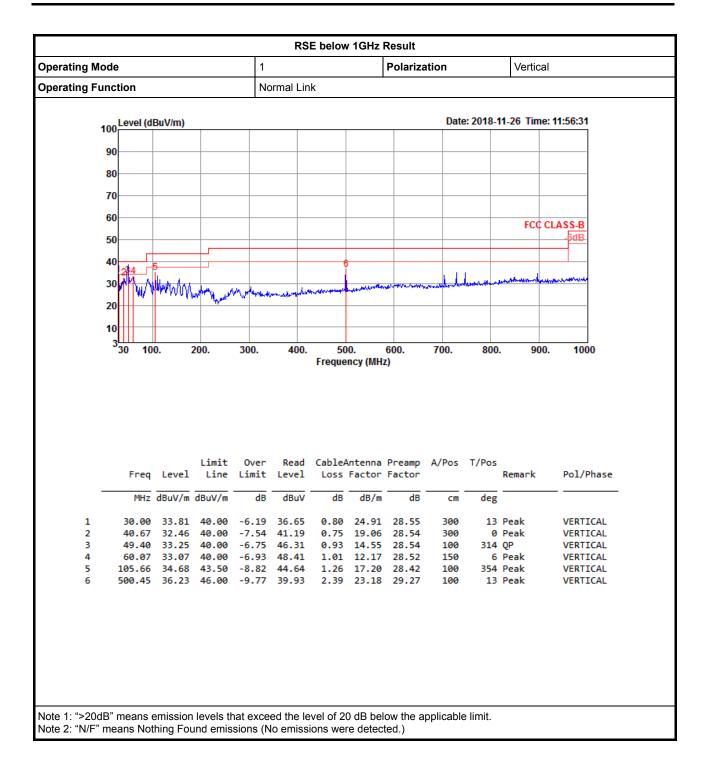




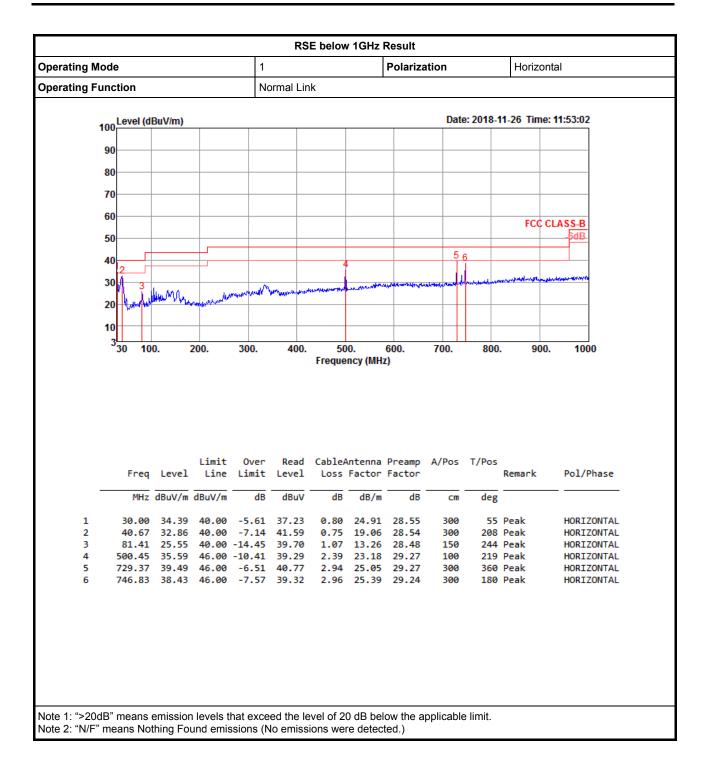












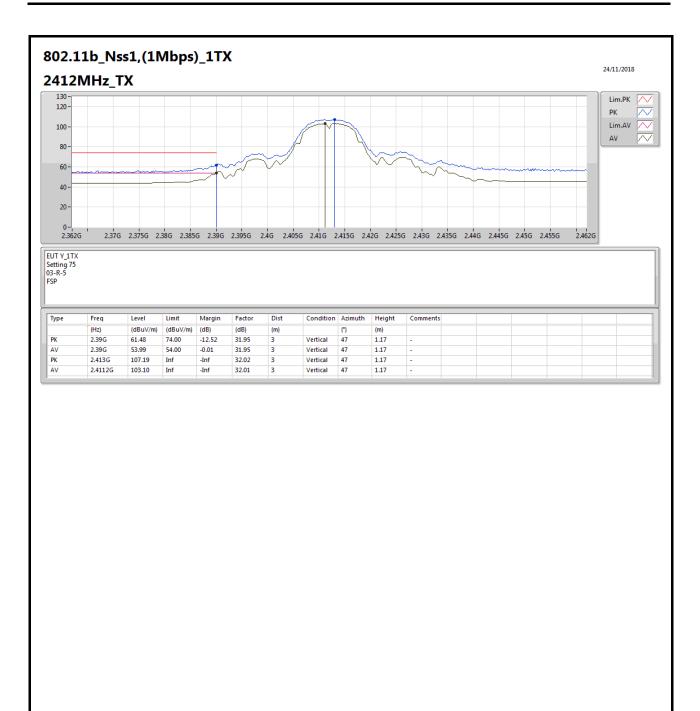


Appendix F.2

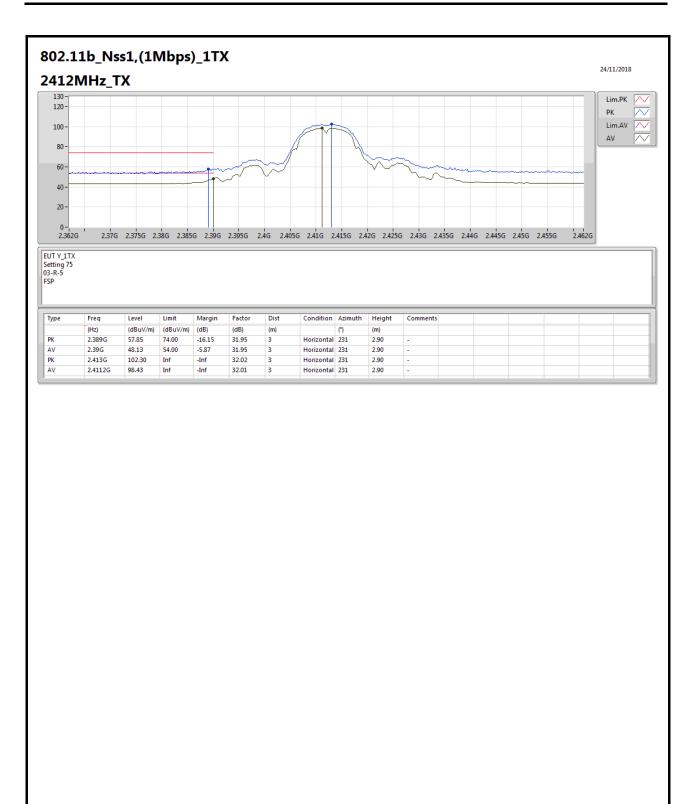
Summary

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	-	-	-	-	-	-	-	-	-	-	-	-
802.11b_Nss1,(1Mbps)_1TX	Pass	AV	2.39G	53.99	54.00	-0.01	31.95	3	Vertical	47	1.17	-

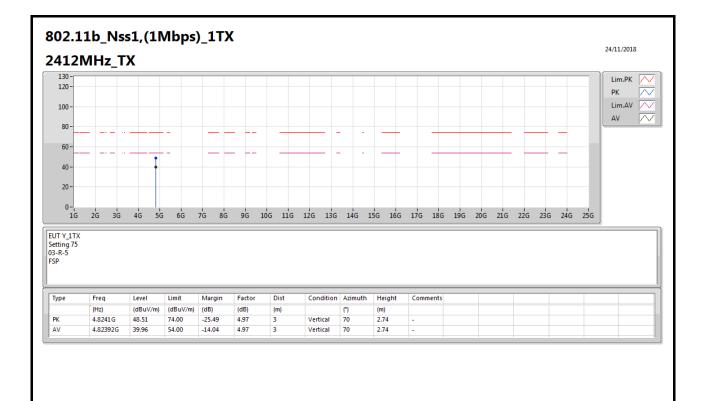




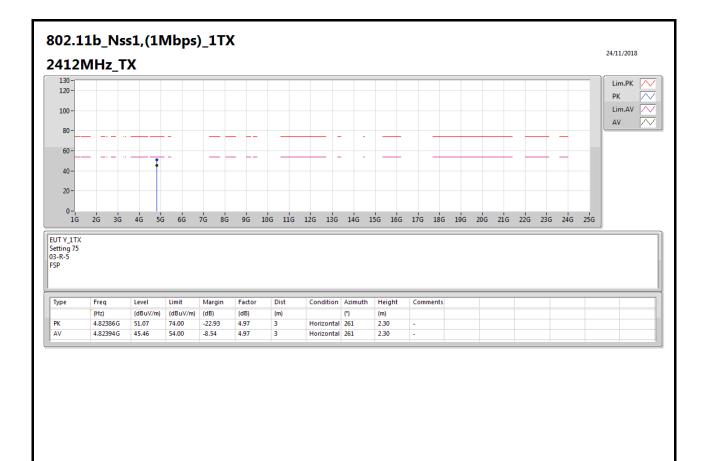




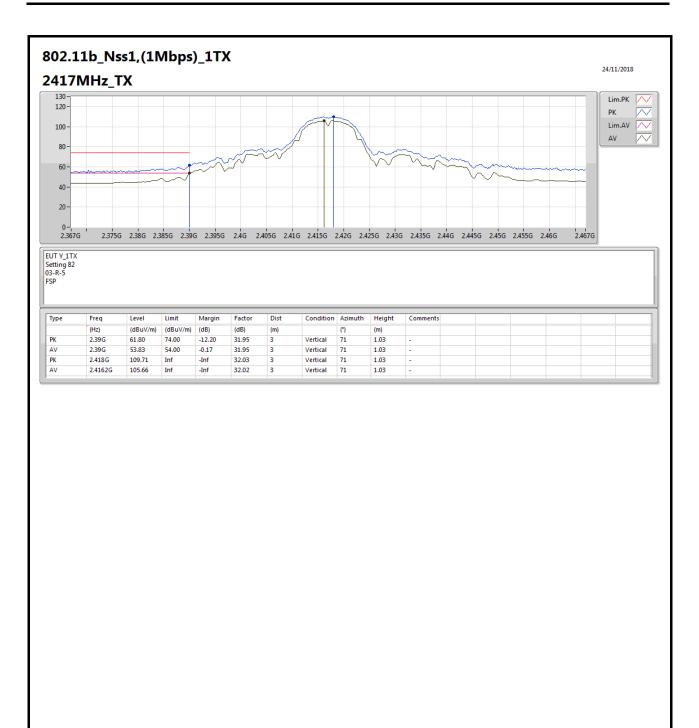




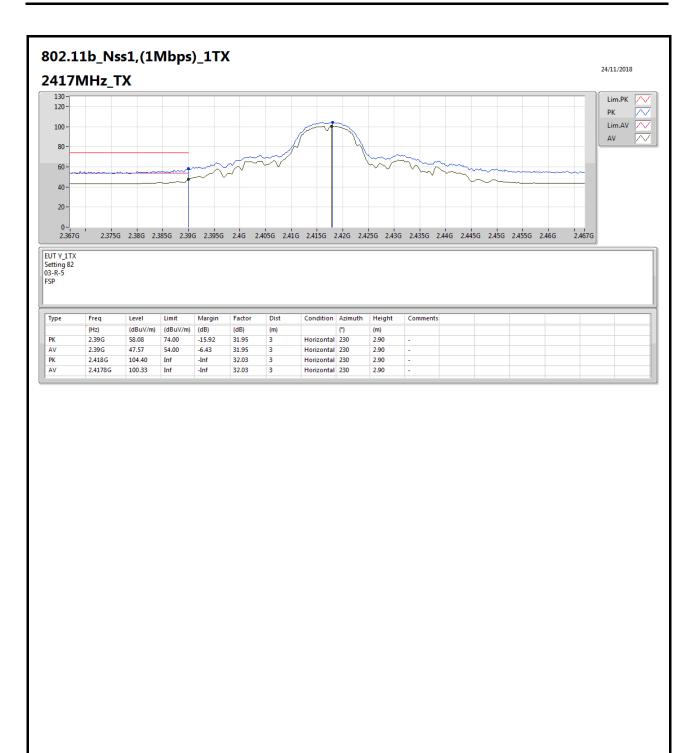




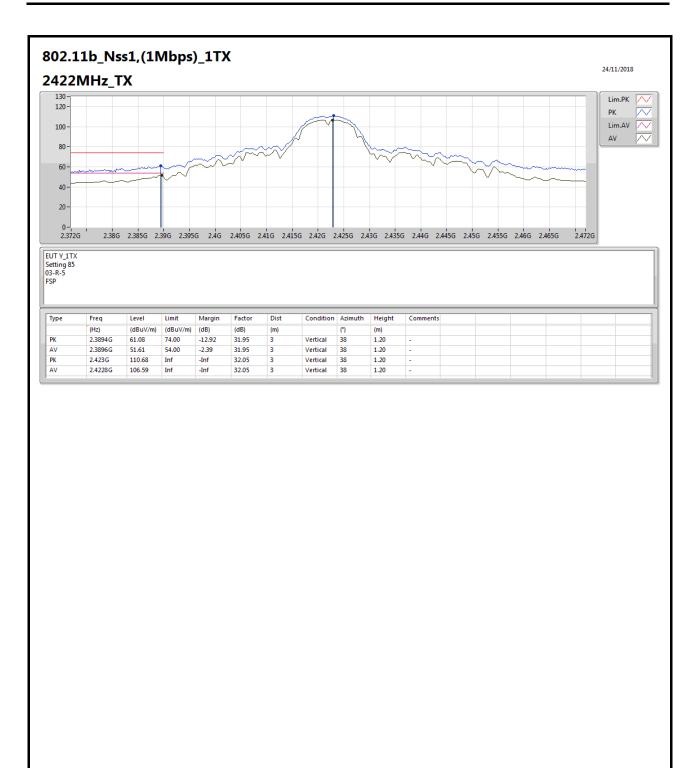




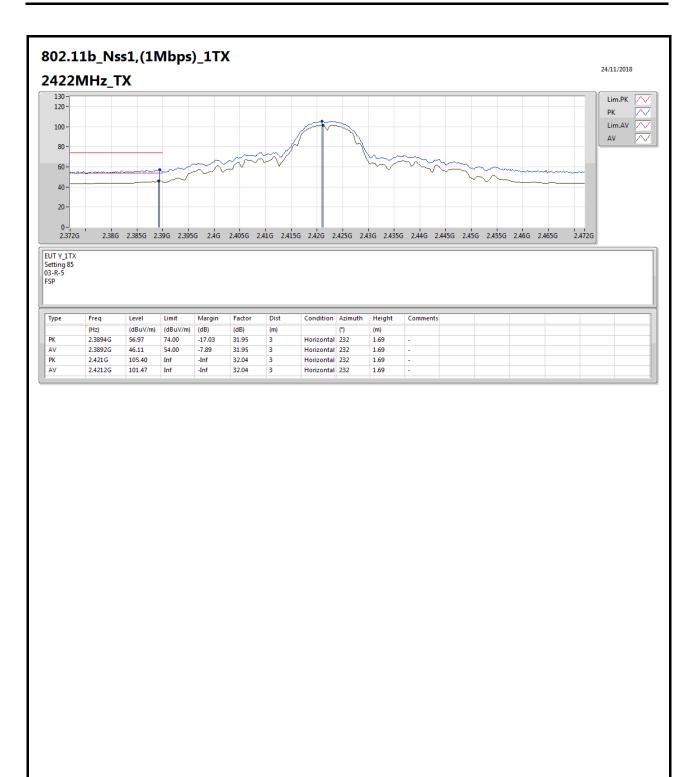




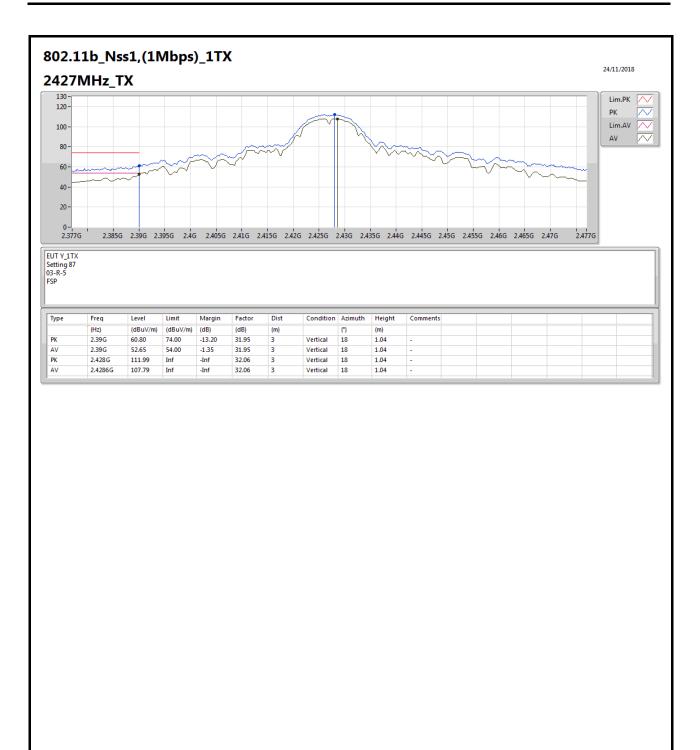




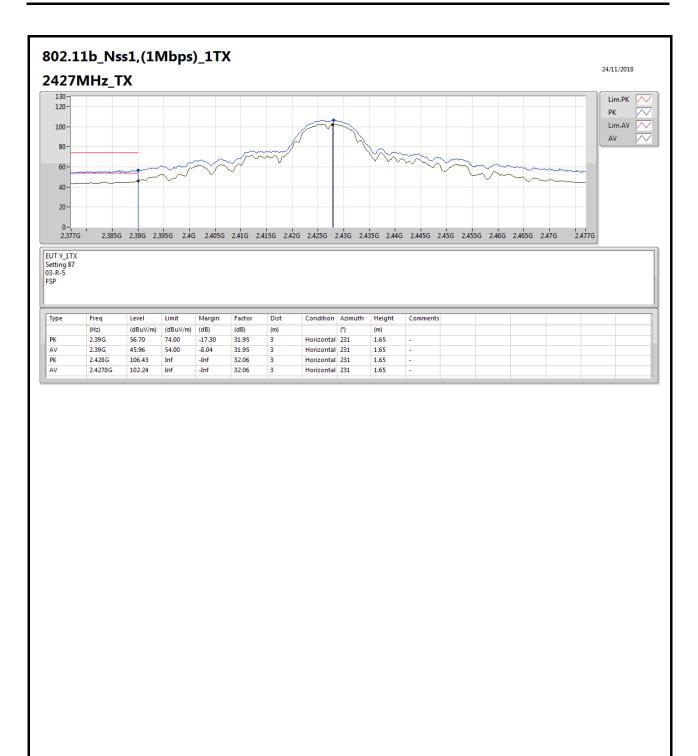




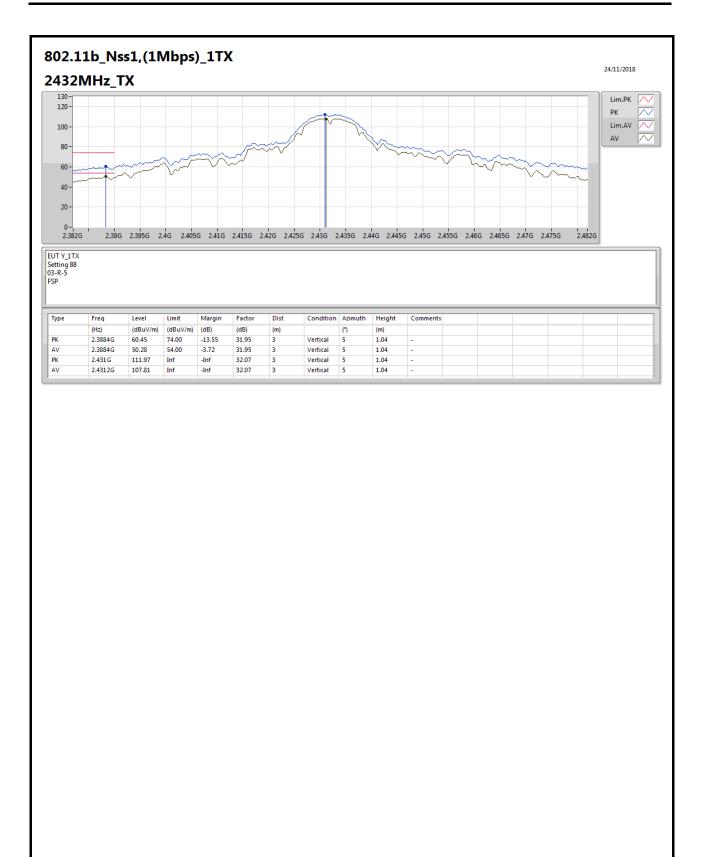




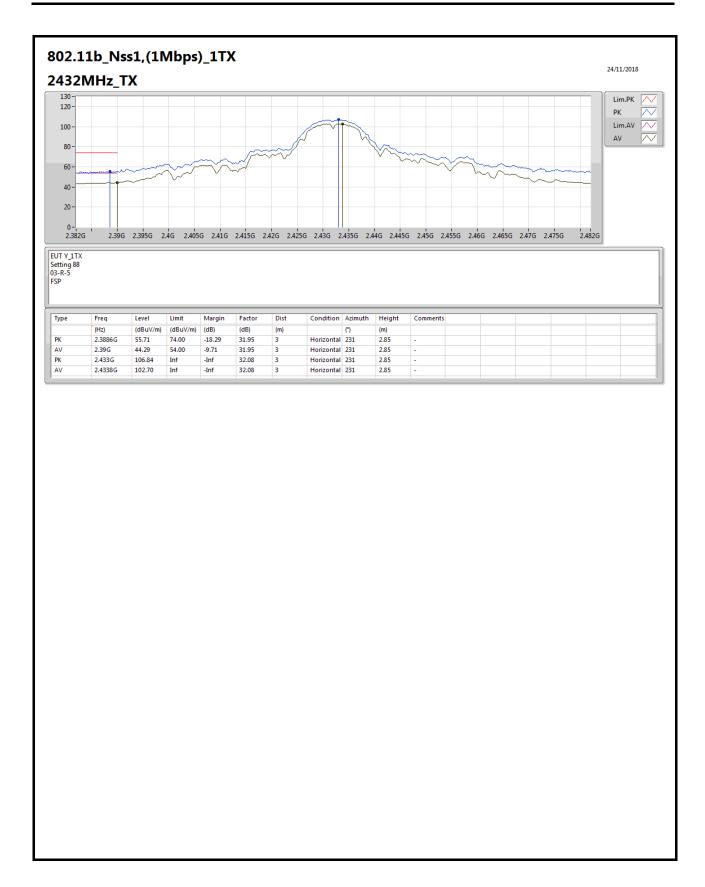




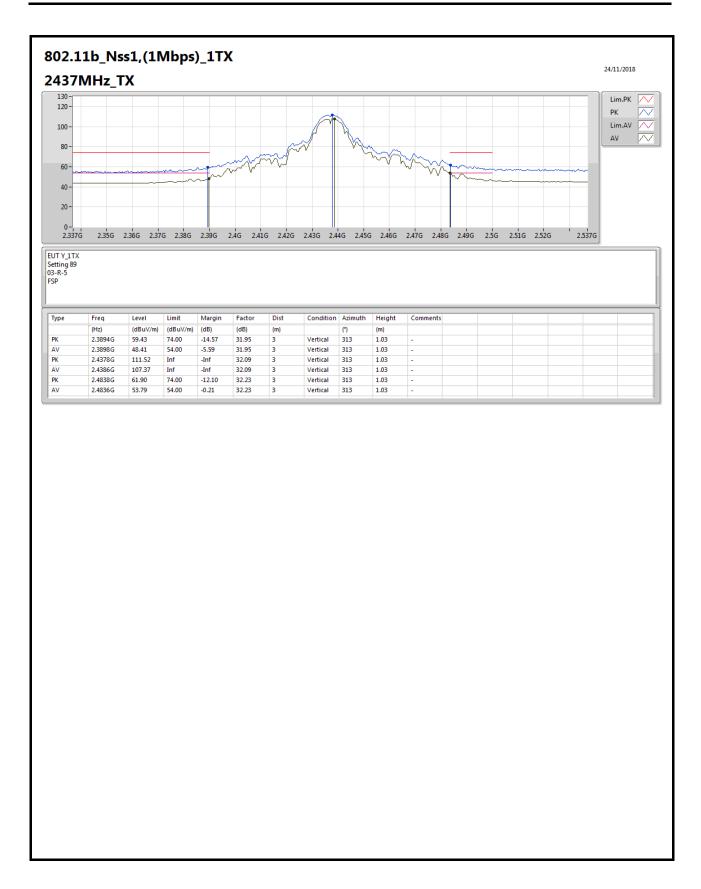




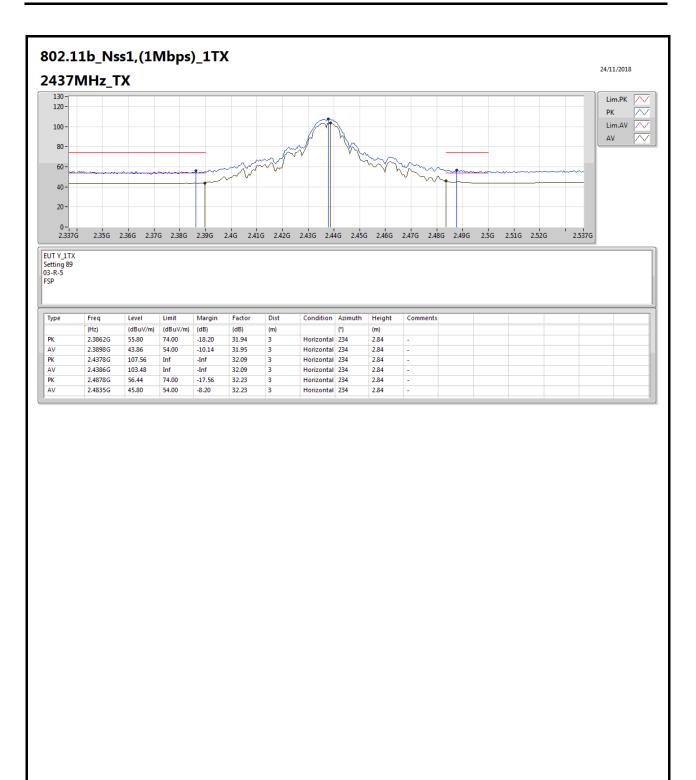




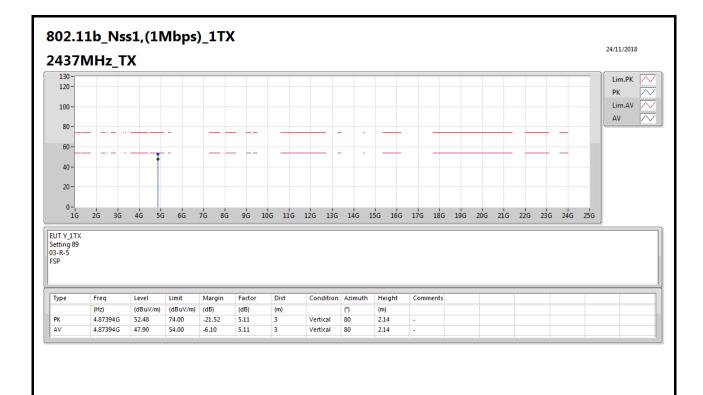




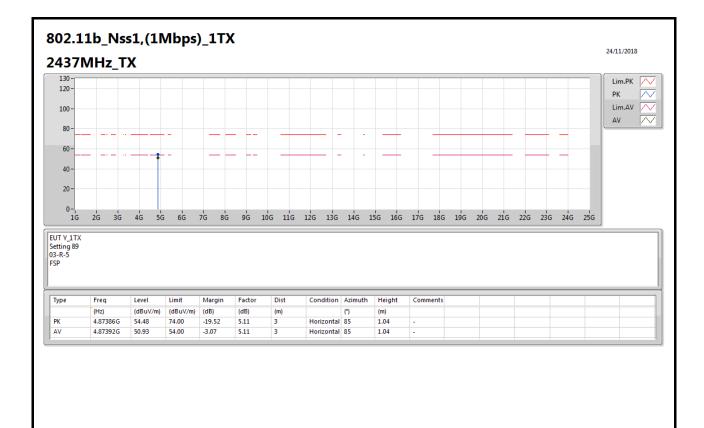




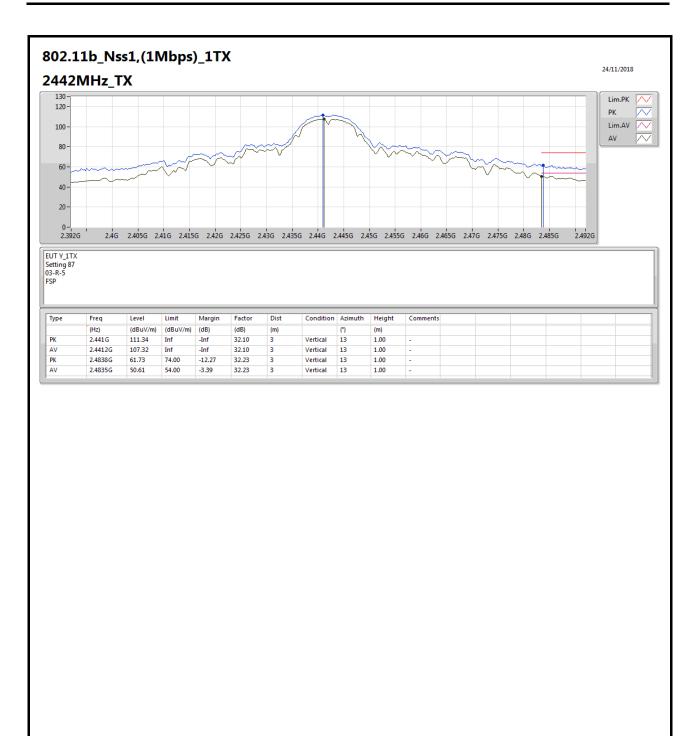




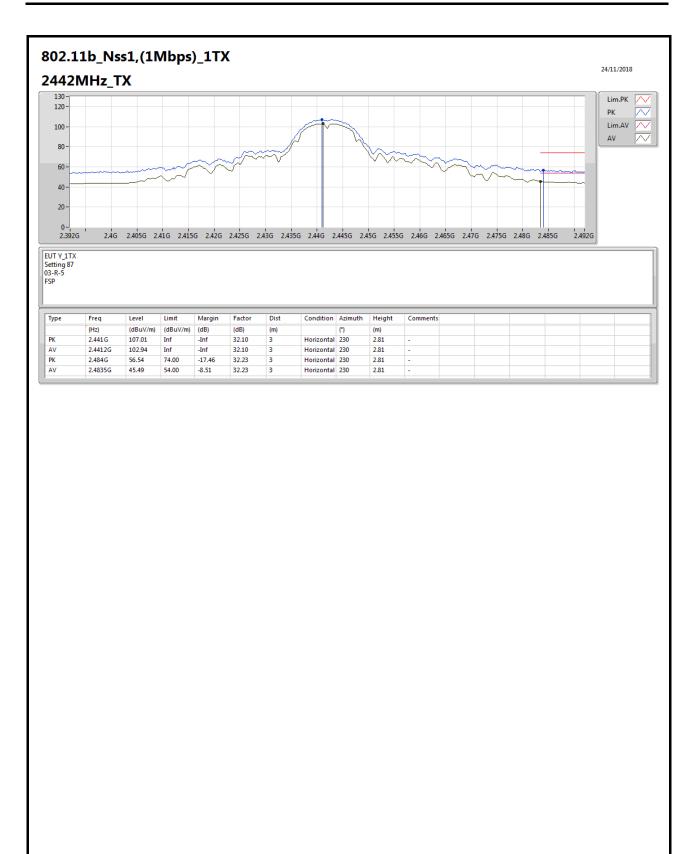




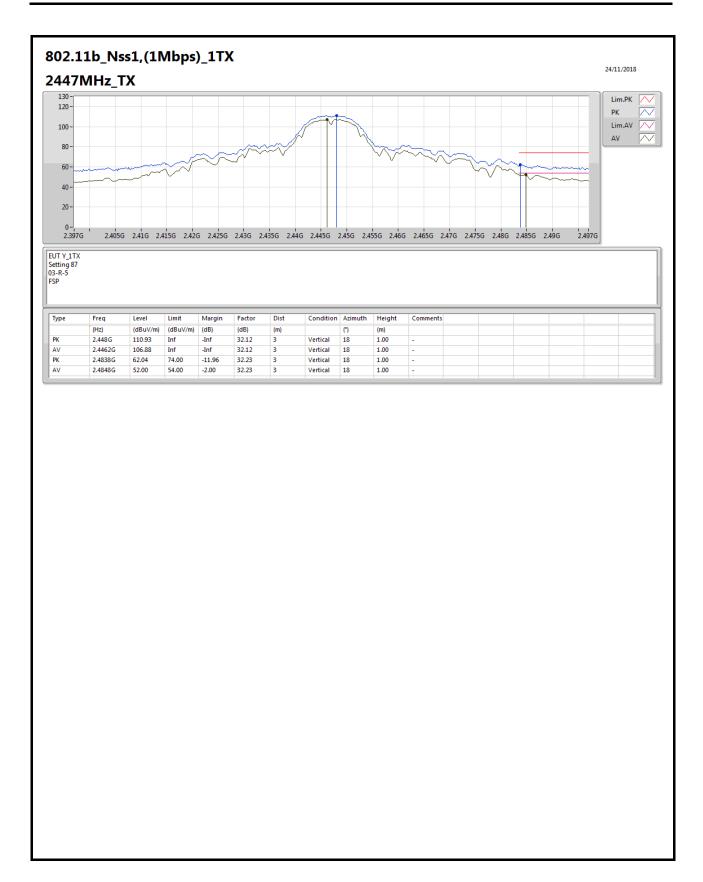




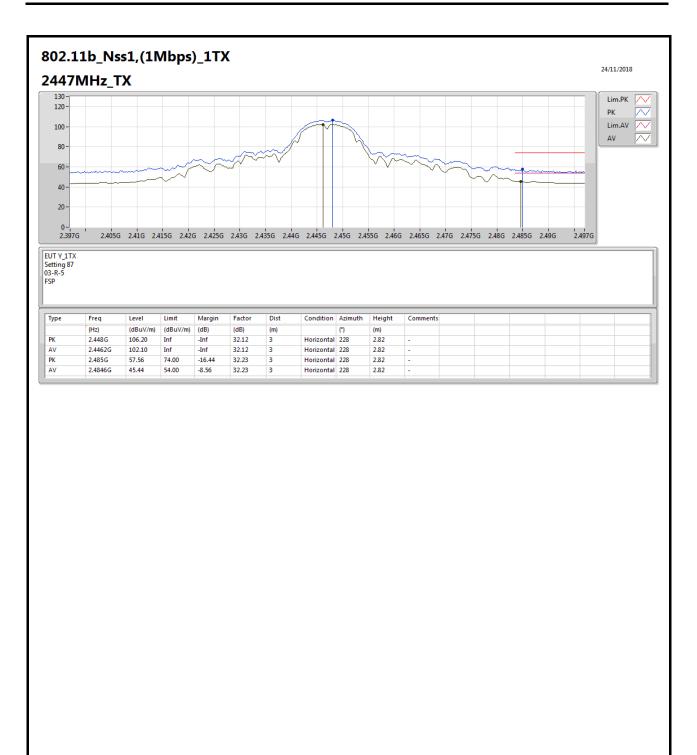




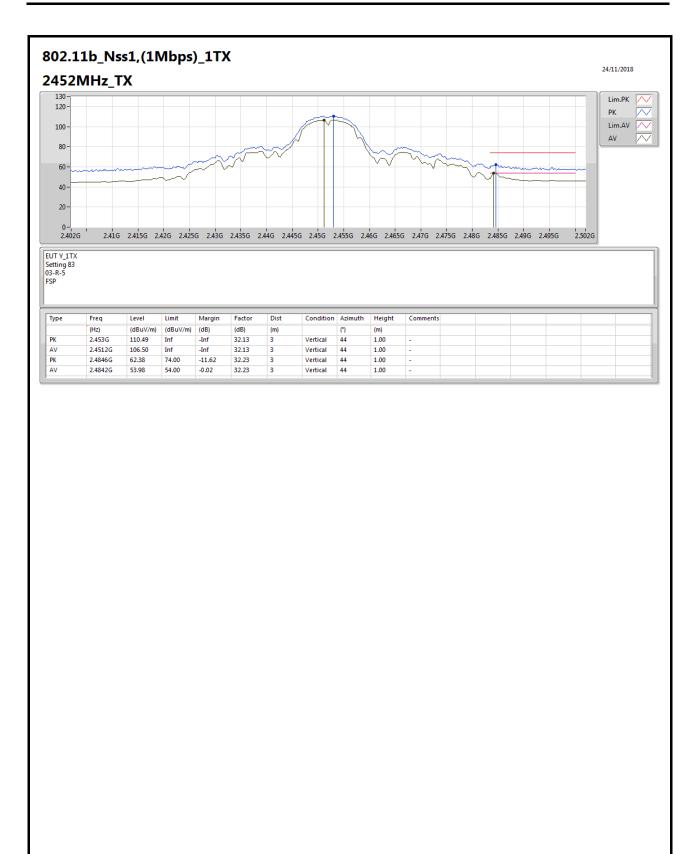




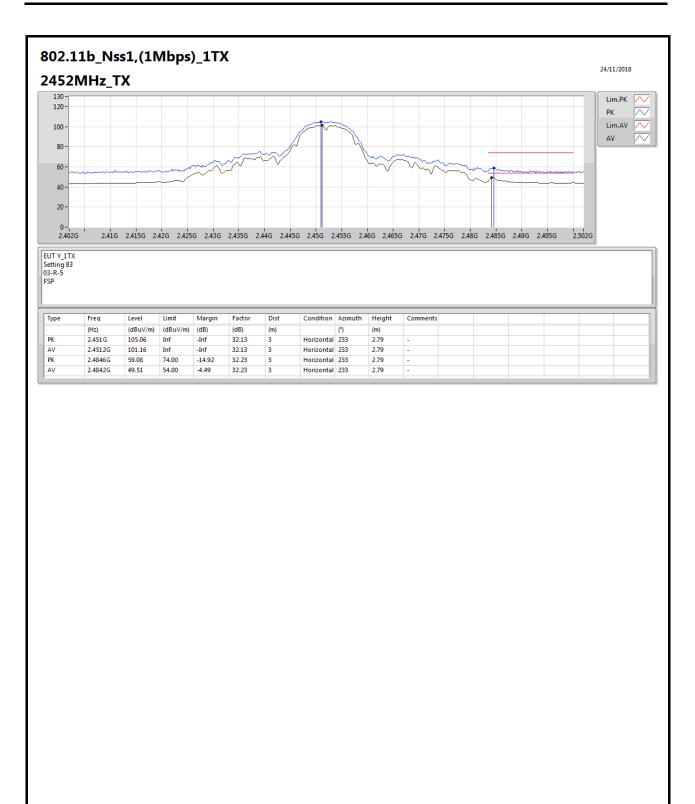




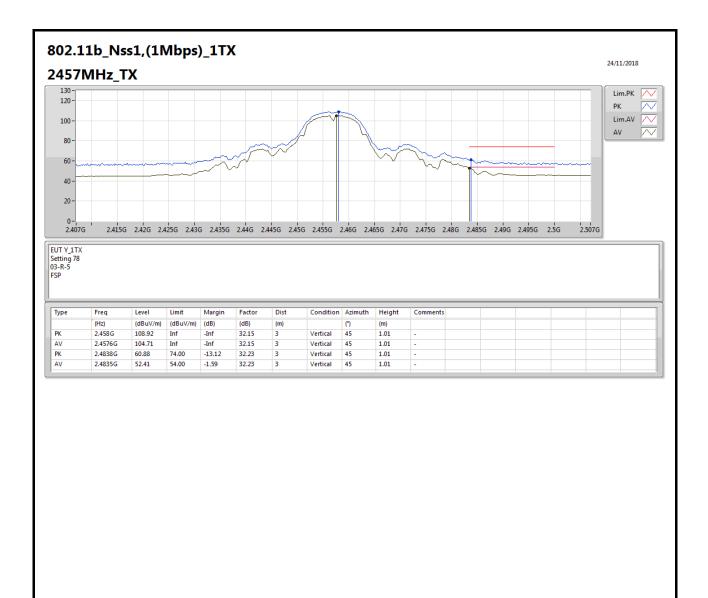




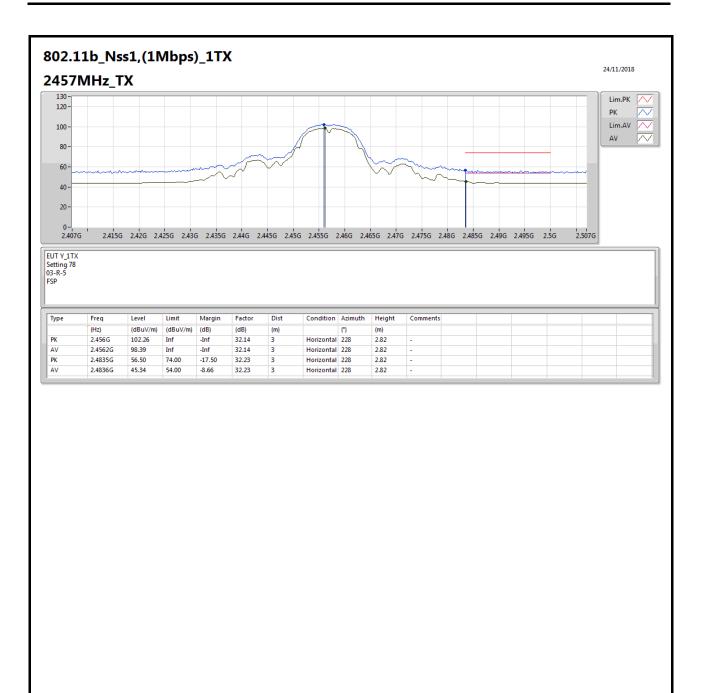




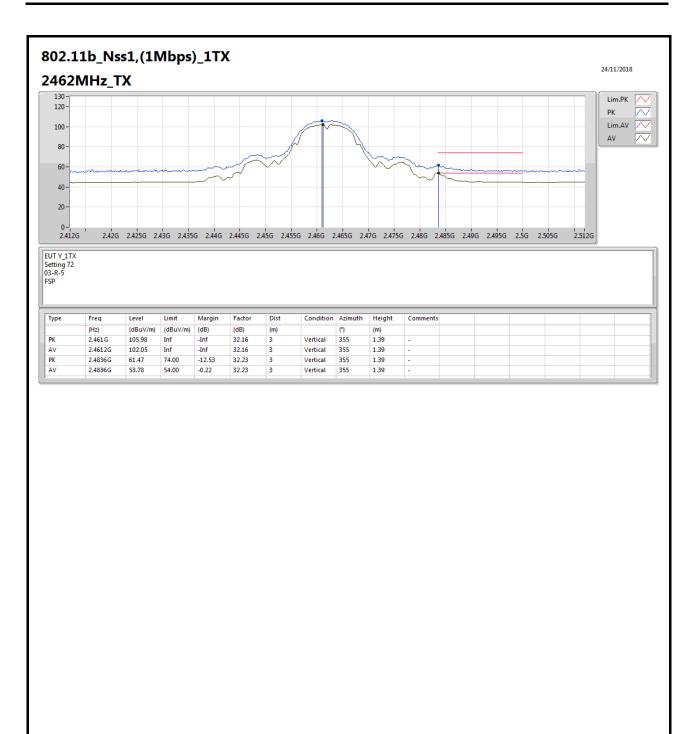




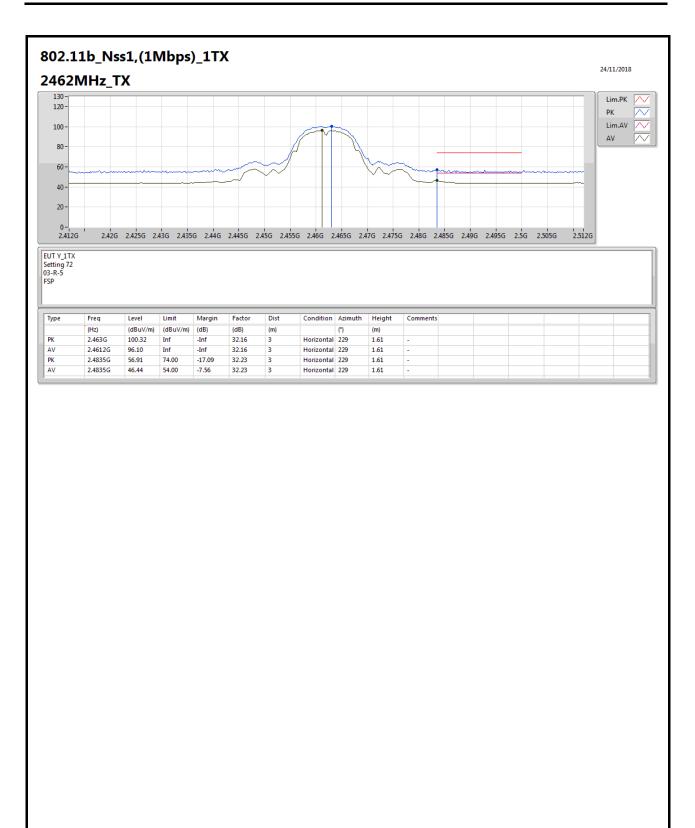




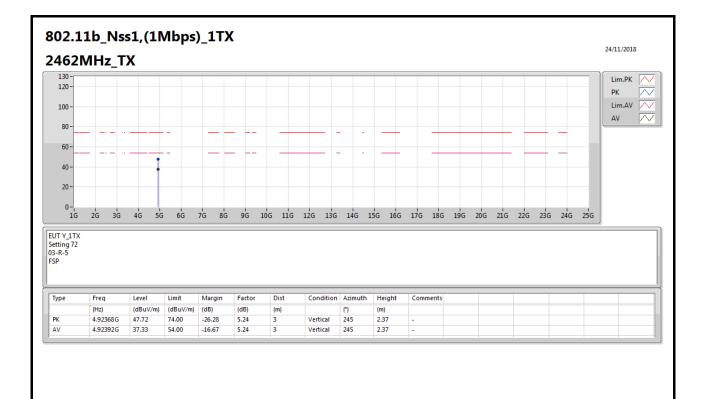




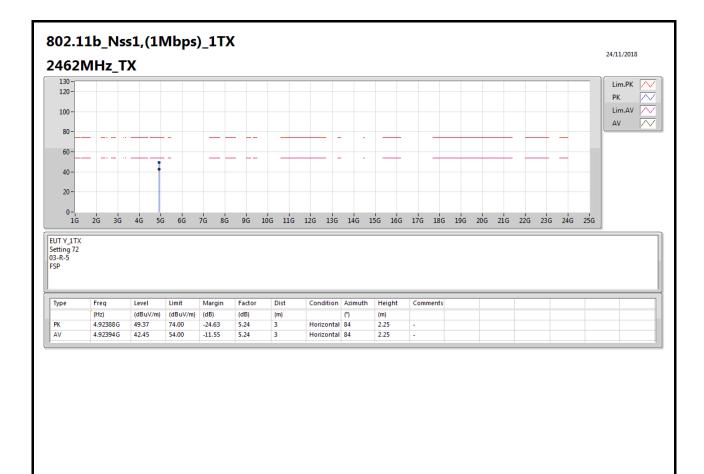




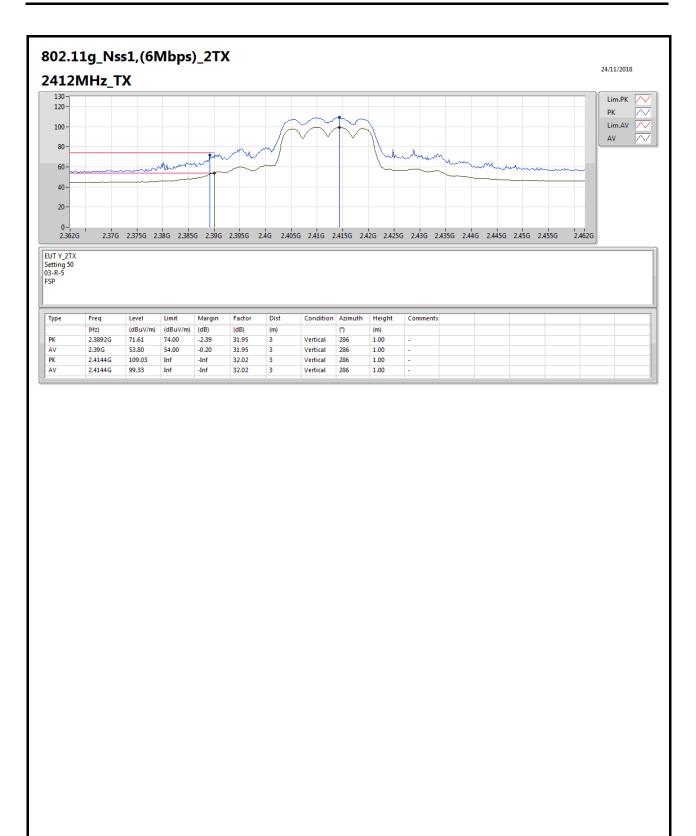




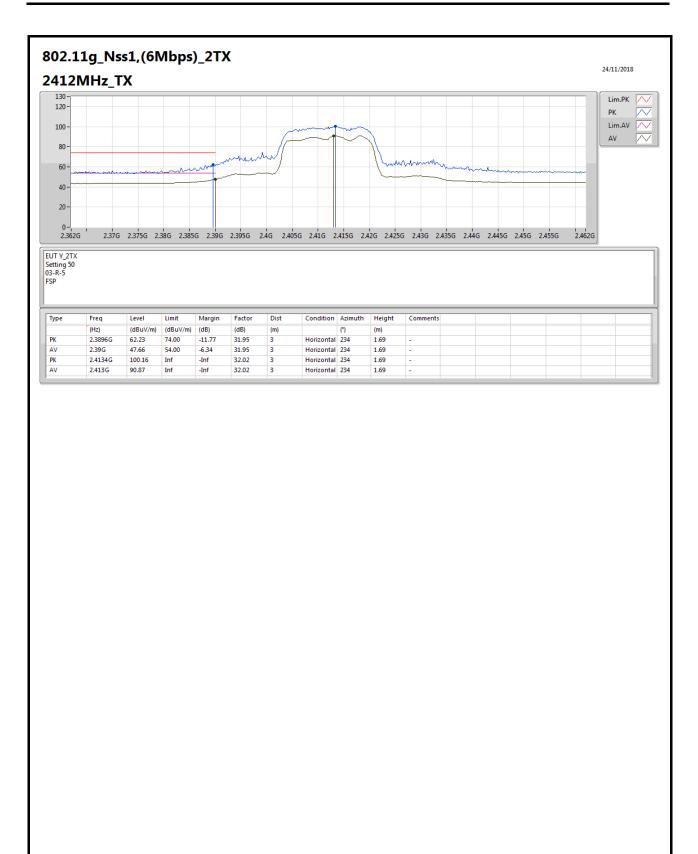




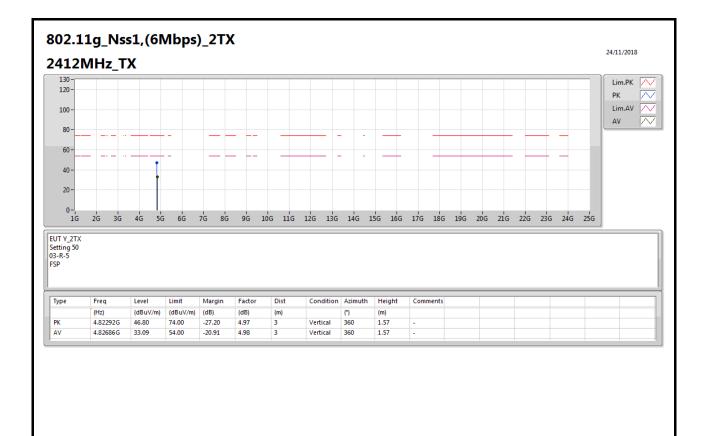




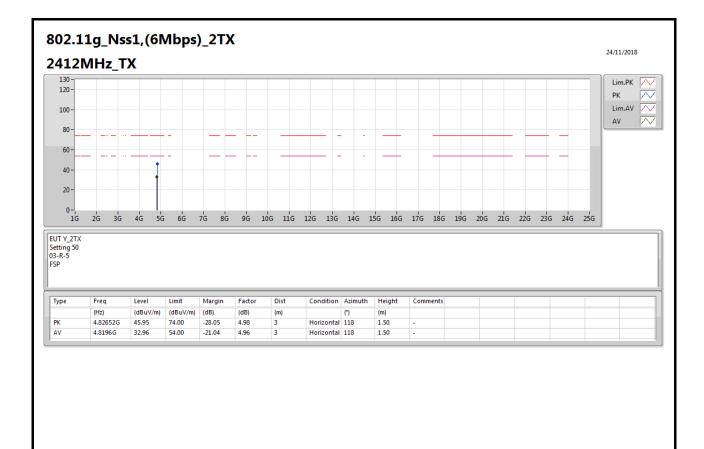




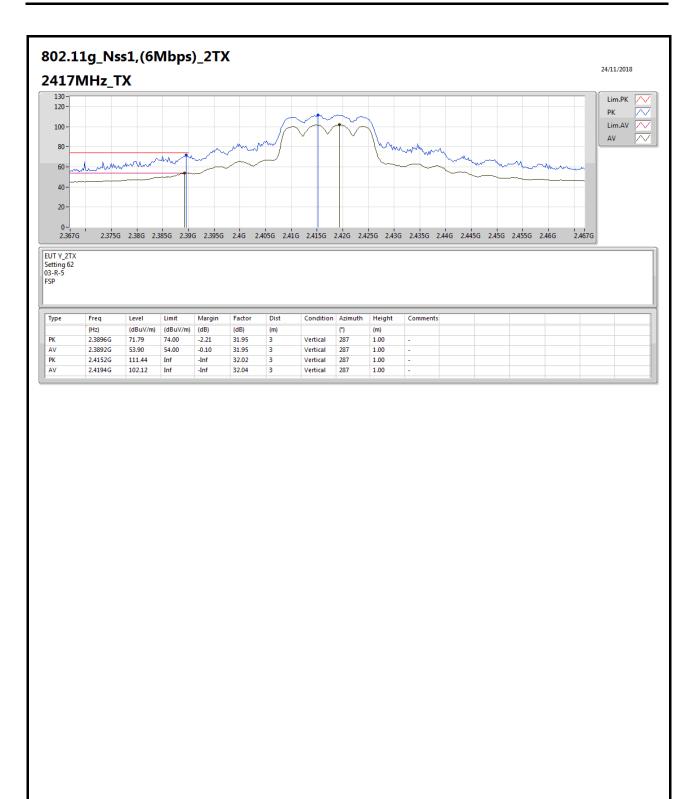




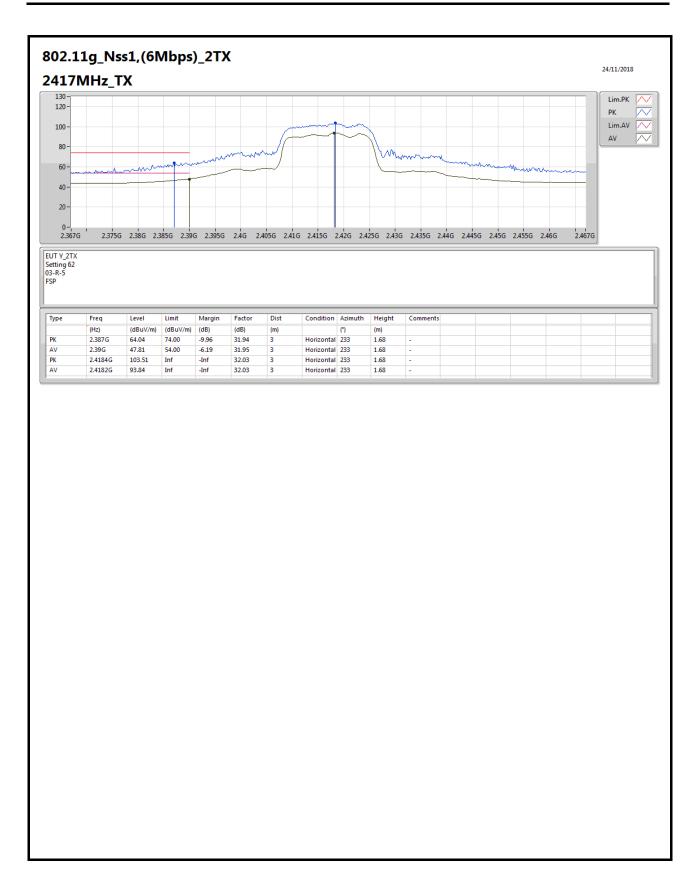




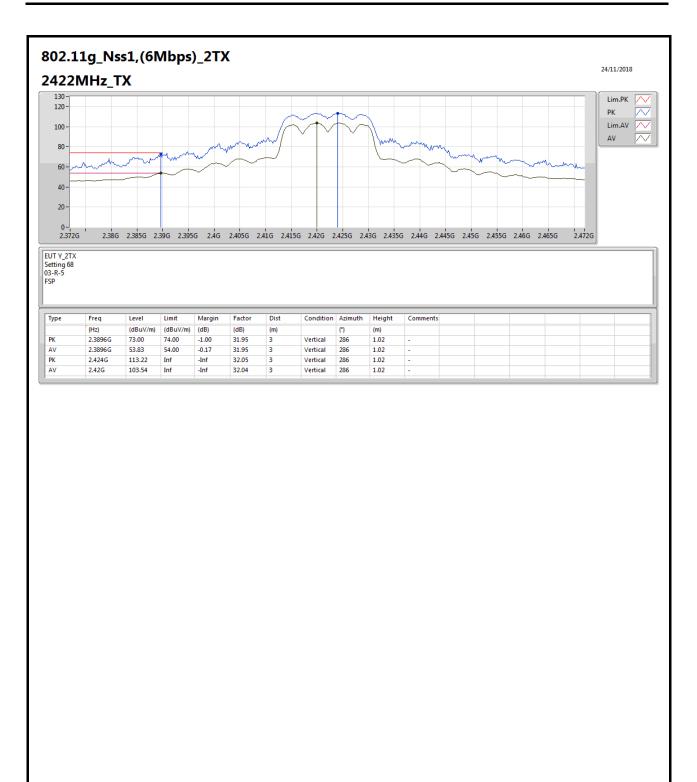




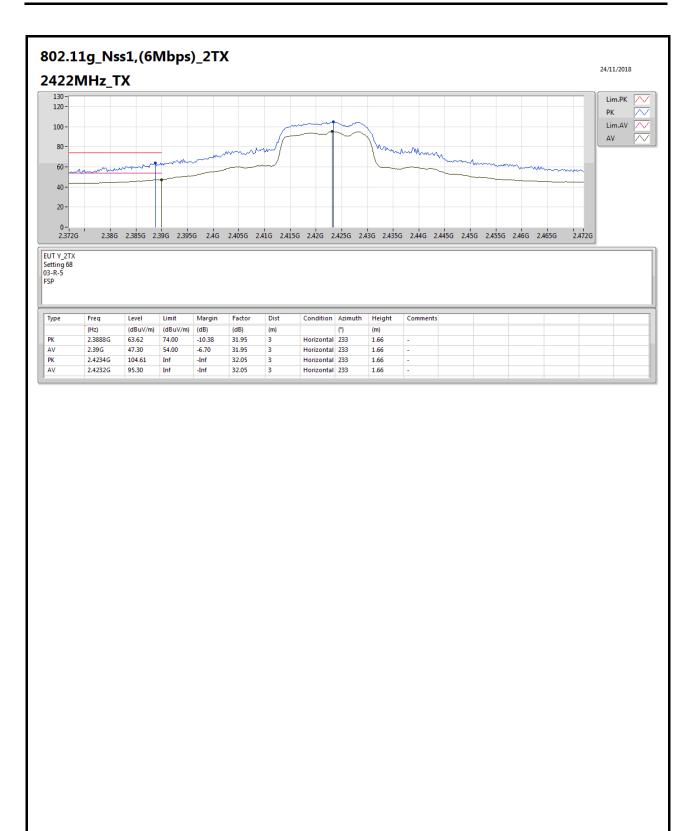




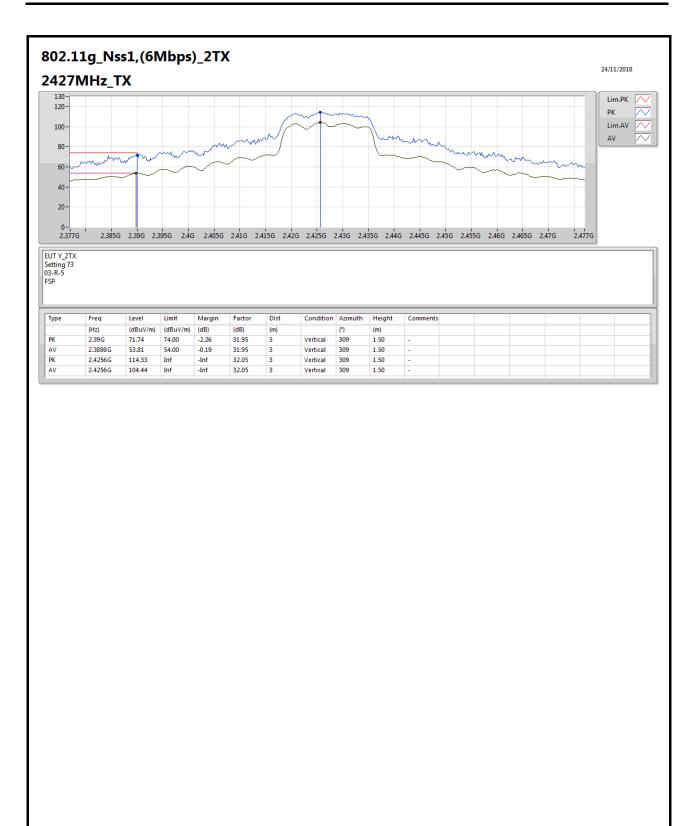




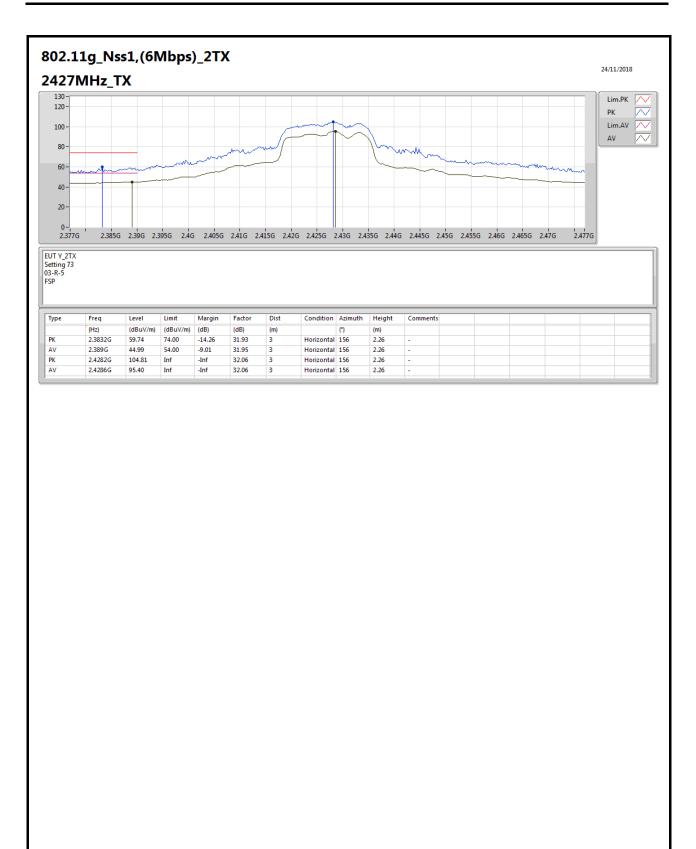




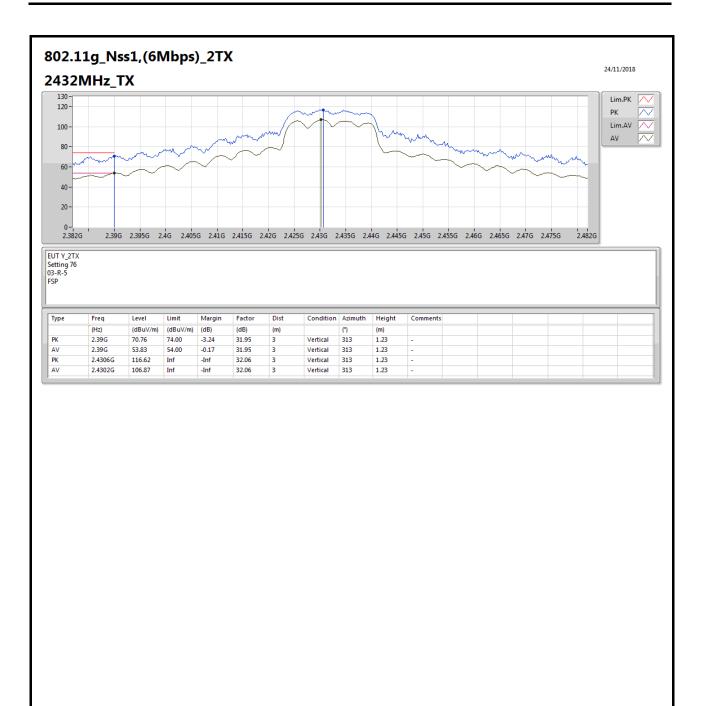




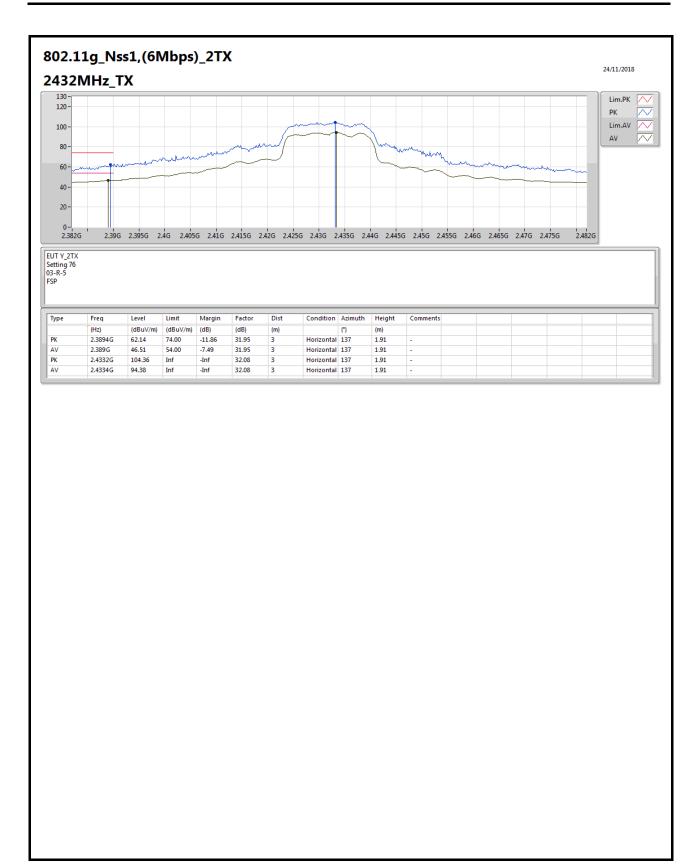




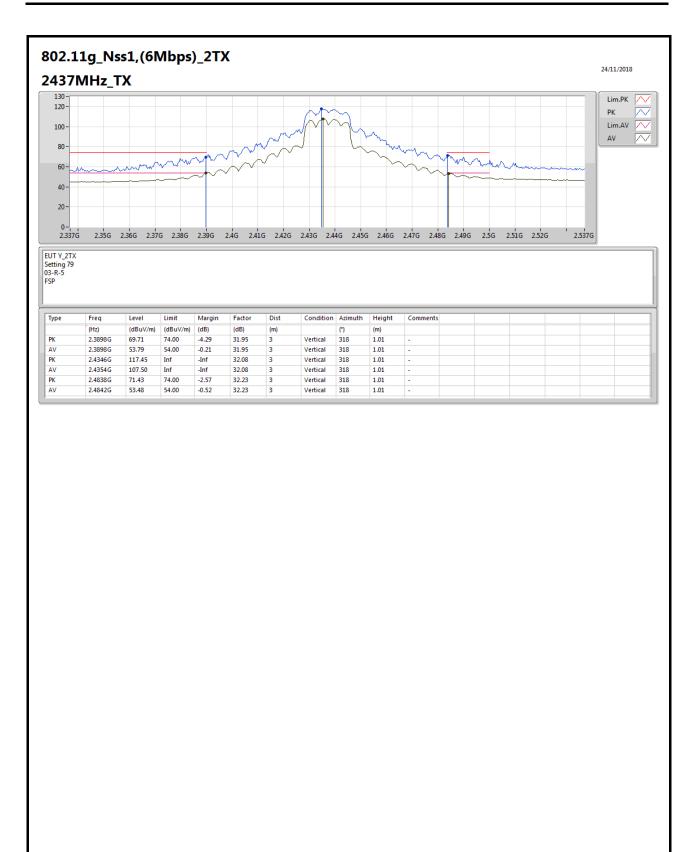








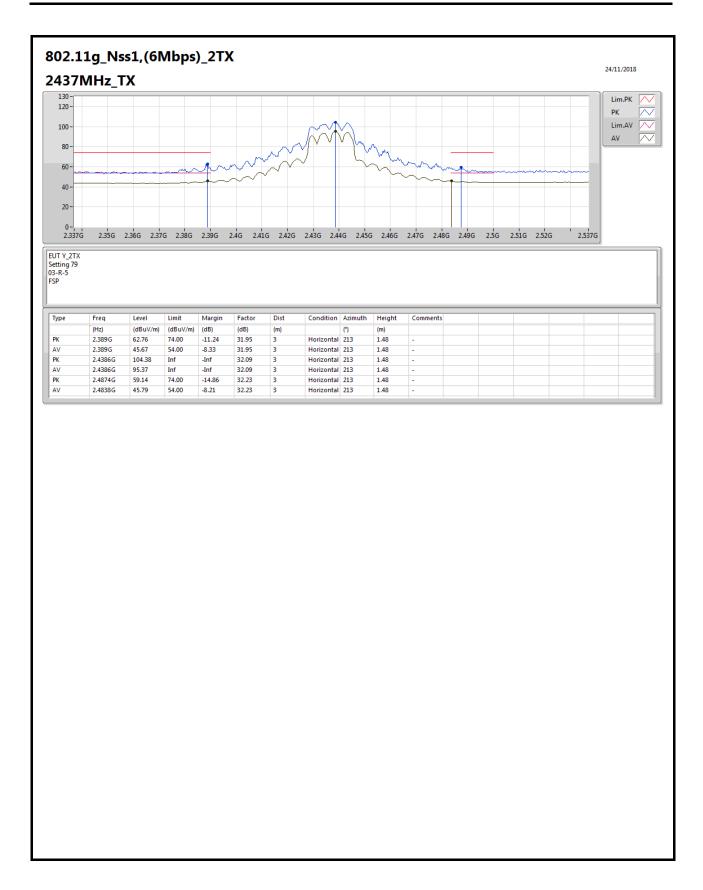




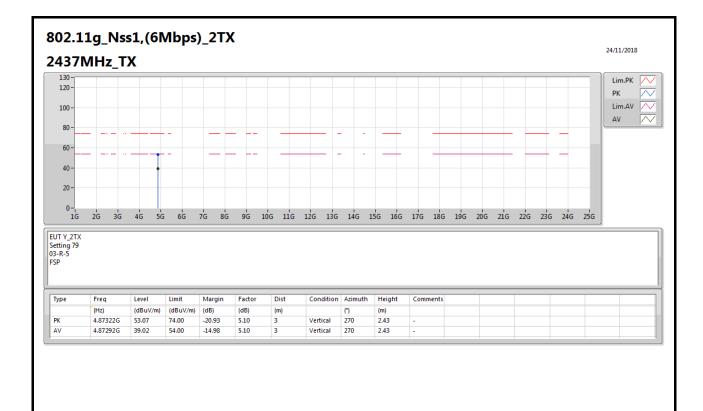


RSE TX above 1GHz Result

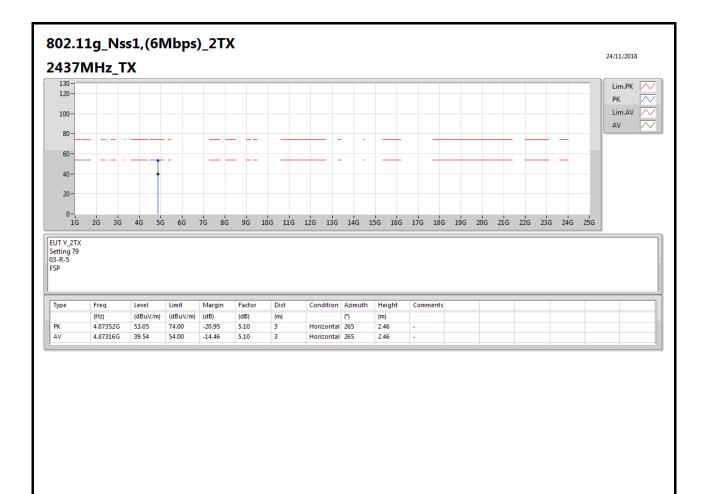
Appendix F.2



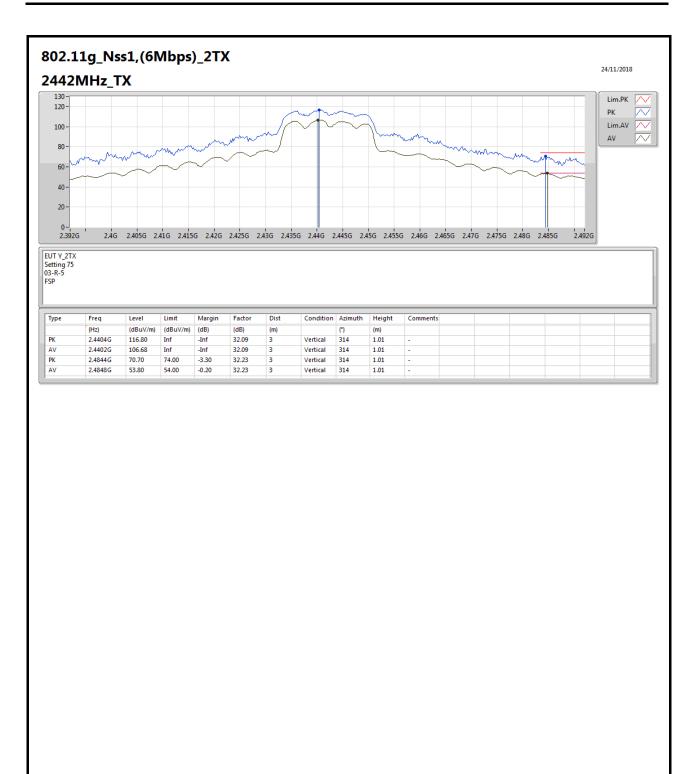




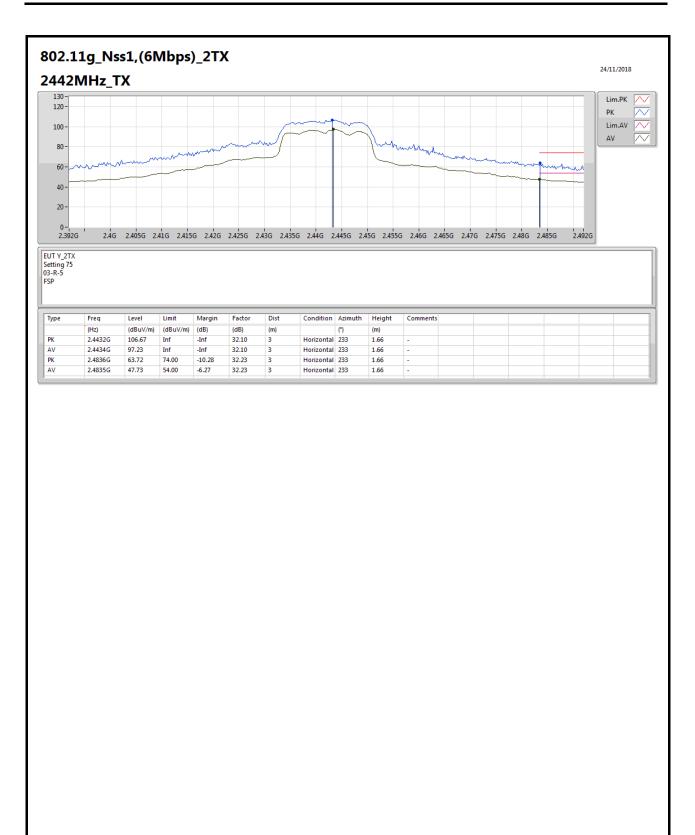




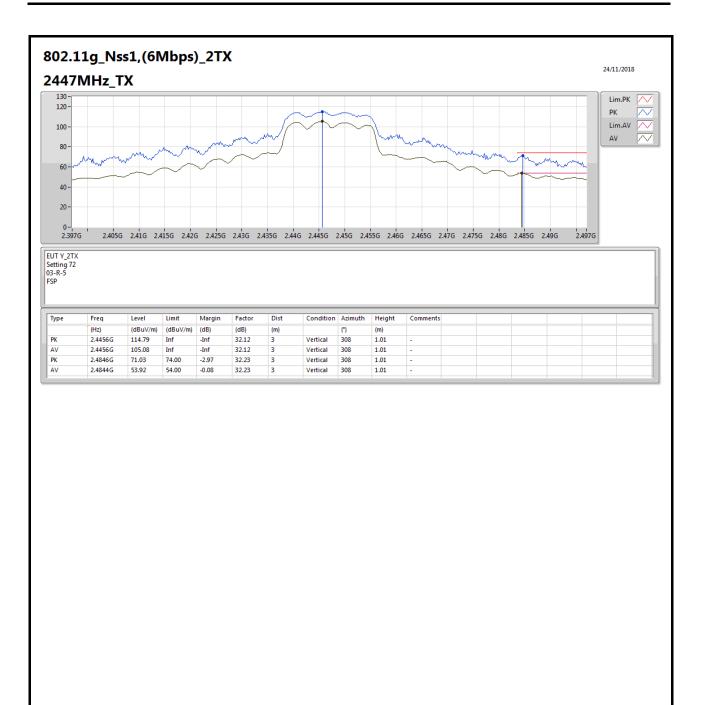




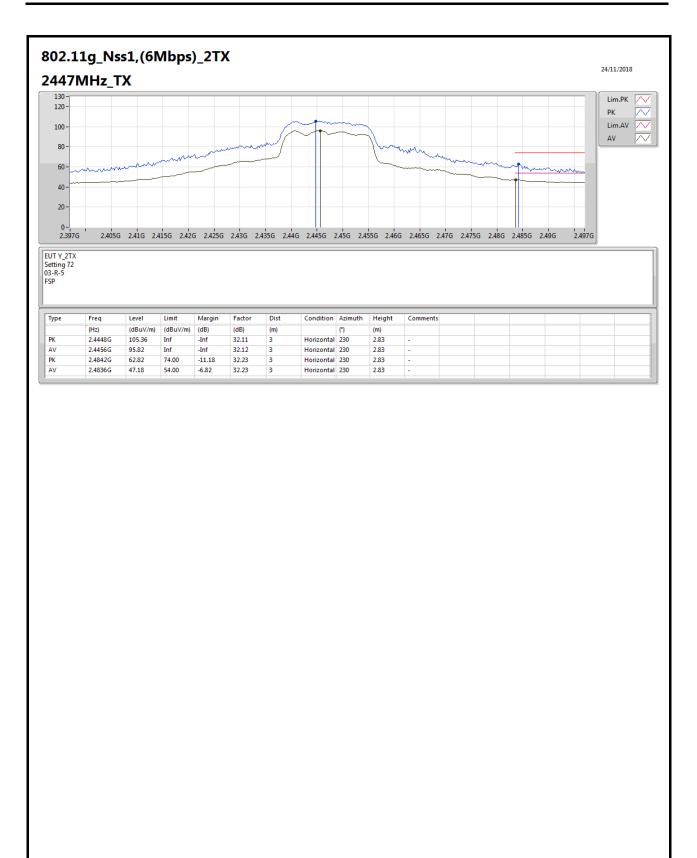














RSE TX above 1GHz Result

Appendix F.2

