





Report No.: FR981313AC

FCC Test Report

FCC ID : 2AAAS-CM04

Equipment : Vivint Doorbell Camera Pro

Brand Name : vivint.

Model Name : CM04

Applicant : Vivint, Inc.

4931 N. 300 W., Provo, UT 84604 USA

Manufacturer : Chicony Electronics Co.,Ltd.

No.69, Sec. 2, Guangfu Rd., Sanchong Dist.

New Taipei City 241 Taiwan

Standard : 47 CFR FCC Part 15.247

The product was received on Aug. 13, 2019, and testing was started from Aug. 16, 2019 and completed on Sep. 26, 2019. We, SPORTON INTERNATIONAL INC. EMC & Wireless Communications Laboratory, would like to declare that the tested sample has been evaluated in accordance with the procedures given in ANSI C63.10-2013 and shown compliance with the applicable technical standards.

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

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

Approved by: Allen Lin

SPORTON INTERNATIONAL INC. EMC & Wireless Communications Laboratory

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

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History of this test report

Report No.	Version	Description	Issued Date
FR981313AC	01	Initial issue of report	Nov. 04, 2019

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Summary of Test Result

Report Clause	Ref. Std. Clause	Test Items	Result (PASS/FAIL)	Remark
1.1.2	15.203	Antenna Requirement	PASS	FCC 15.203
3.1	15.207	AC Power-line Conducted Emissions	PASS	FCC 15.207
3.2	15.247(a)	DTS Bandwidth	PASS	≥500kHz
3.3	15.247(b)	Maximum Conducted Output Power	PASS	Power [dBm]: 30
3.4	15.247(e)	Power Spectral Density	PASS	PSD [dBm/3kHz]: 8
3.5	15.247(d)	Emissions in Non-restricted Frequency Bands	PASS	Non-Restricted Bands: > 30 dBc
3.6	15.247(d)	Emissions in Restricted Frequency Bands	PASS	Restricted Bands: FCC 15.209

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:

None

Reviewed by: Ben Tseng

Report Producer: Michelle Tsai

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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]

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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

Note:

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

1.1.2 Antenna Information

Ant.	Brand	Model Name	Antenna Type	Connector
1	AMPHENOL	CY5765-15-001-C-FF00	PIFA	I-PEX
2	AMPHENOL	CY5765-15-002-C-FF00	PIFA	I-PEX

Ant.	Port	Gain (dBi)					
Ant.	Port	2.4G	ВТ	5G			
1	1	2.66	2.66	4.12			
2	2	0.05	-	4.41			

Note 1: The EUT has two antennas.

For 2.4GHz function:

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

Ant. 1 (port 1) and Ant. 2 (port 2) could transmit/receive simultaneously.

For BT function:

For IEEE 802.15.1 Bluetooth mode (1TX/1RX)

Support diversity function, the Ant. 1 (port 1) was declared to be tested only by customer.

For 5GHz function:

For IEEE 802.11 a/n mode (2TX/2RX)

Ant. 1 (port 1) and Ant. 2 (port 2) could transmit/receive simultaneously.

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1.1.3 EUT Information

	Operational Condition						
EU	Γ Power Typ	е	Fro	m AC Adapter			
EU	Γ Function			Point-to-multipo	int [\boxtimes	Point-to-point
Bea	ımforming F	unction		With beamformi	ng [\boxtimes	Without beamforming
				-	Type of	EU	т
\boxtimes	Stand-alone)					
	Combined (EUT where	e the	radio part is fully	/ integra	atec	within another device)
	Combined E	Equipment	- Bra	and Name / Mode	el No.:		
	Plug-in radio (EUT intended for a variety of host systems)						
	Host System - Brand Name / Model No.:						
	Other:						

1.1.4 Mode Test Duty Cycle

Mode	DC	DCF(dB)	T(s)	VBW(Hz) ≥ 1/T
802.11b	0.99	0.04	n/a (DC>=0.98)	n/a (DC>=0.98)
802.11g	0.938	0.28	2.053m	1k
802.11n HT20	0.938	0.28	1.913m	1k

Note. If DC < 0.98, the DCF was added while measuring Output power and PSD.

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1.2 Testing Applied 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
- KDB 558074 D01 v05r02
- KDB 662911 D01 v02r01
- KDB 414788 D01 v01r01

1.3 Testing Location Information

	Testing Location					
\boxtimes	HWA YA	ADD	D : No. 52, Huaya 1st Rd., Guishan Dist., Taoyuan City, Taiwan (R.O.C.)			
		TEL	:	886-3-327-3456	FAX : 886-3-327-0973	
				Test site Designation	on No. TW1190 with FCC.	
	JHUBEI	ADD	:	No.8, Ln. 724, Bo'ai St.	, Zhubei City, Hsinchu County, Taiwan (R.O.C.)	
	TEL: 886-3-656-9065 FAX: 886-3-656-9085					
	Test site Designation No. TW0006 with FCC.					

Test Condition	Test Site No.	Test Engineer	Test Environment	Test Date
AC Conduction	CO04-HY	Edward	22.4~24.5°C / 64.2~66.7%	10/Sep/2019
RF Conducted	TH06-HY	Jerry	23.5~25.6°C / 65~68%	26/Aug/2019~27/Aug/2019
Radiated	03CH09-HY	Ryan	22.5~24.3°C / 50.3~52.2%	16/Aug/2019~26/Sep/2019

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)	3.54 dB	Confidence levels of 95%
Radiated Emission (9kHz ~ 30MHz)	1.6 dB	Confidence levels of 95%
Radiated Emission (30MHz ~ 1,000MHz)	4.3 dB	Confidence levels of 95%
Radiated Emission (1GHz ~ 18GHz)	3.9 dB	Confidence levels of 95%
Radiated Emission (18GHz ~ 40GHz)	3.5 dB	Confidence levels of 95%
Conducted Emission	1.3 dB	Confidence levels of 95%
Temperature	0.7 ℃	Confidence levels of 95%
Humidity	4 %	Confidence levels of 95%

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2 Test Configuration of EUT

2.1 Test Condition

RF Conducted	Abbreviation	Remark
TnomVnom	Tnom	20°C
-	Vnom	120V

2.2 Test Channel Mode

Test Software	DoS
---------------	-----

Mode	PowerSetting
802.11b_Nss1,(1Mbps)_2TX	-
2412MHz	17
2417MHz	18
2437MHz	18
2462MHz	20
802.11g_Nss1,(6Mbps)_2TX	-
2412MHz	15
2417MHz	19
2437MHz	20
2457MHz	17
2462MHz	15
802.11n HT20_Nss1,(MCS0)_2TX	-
2412MHz	14
2417MHz	18
2437MHz	20
2457MHz	17
2462MHz	15

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2.3 The Worst Case Measurement Configuration

The Worst Case Mode for Following Conformance Tests		
Tests Item	Tests Item AC power-line conducted emissions	
Condition	Condition AC power-line conducted measurement for line and neutral	
Operating Mode CTX		
1	Adapter Mode	

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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	The Worst Case Mode for Following Conformance Tests			
Tests Item	Emissions in Restricted Fr	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	СТХ			
1	Adapter Mode			
Operating Mode > 1GHz	СТХ			
	X Plane Y Plane Z Plane			
Orthogonal Planes of EUT				
Worst Planes of EUT	V			

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2.4 Support Equipment

Support Equipment – RF Conducted				
No.	Equipment	Brand Name	Model Name	FCC ID
1	Notebook	DELL	E5410	DoC
2	Adapter for NB	DELL	HA65NM130	DoC
3	DC Power Supply	GW	GPS-3030DD	-

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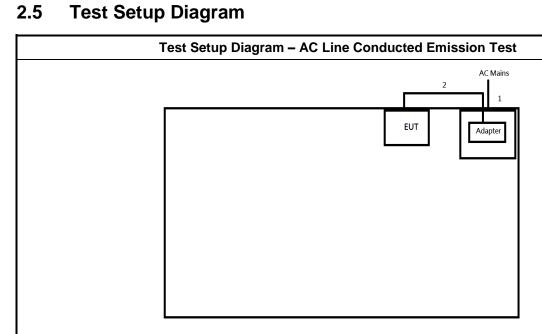
	Support Equipment –AC Conduction and Radiated Emission			
No.	No. Equipment Brand Name Model Name FCC ID			
1	AC Power Cable	Power sync	PW-GPC180-3	-
2	DC Power Cable	-	-	-
3	AC adapter	HOIOTO	ADS-40ST-12	-

Note: Support equipment No.2&3 was provided by customer.

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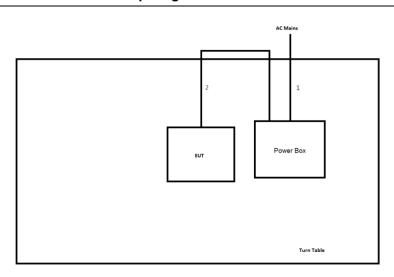
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Item	Connection	Shielded	Length(m)	Remark
1	AC Power Cable	No	1.8	-
2	DC Power Cable	No	1.76	-

Test Setup Diagram - Radiated Test



Item	Connection	Shielded	Length(m)	Remark
1	AC Power line	No	1.5m	-
2	DC Power Cable	No	1.76m	-

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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 POWE	er-line Conducted Emissions L	
Frequency Emission (MHz)	Quasi-Peak	Average
0.15-0.5	66 - 56 *	56 - 46 *
0.5-5	56	46
5-30	60	50

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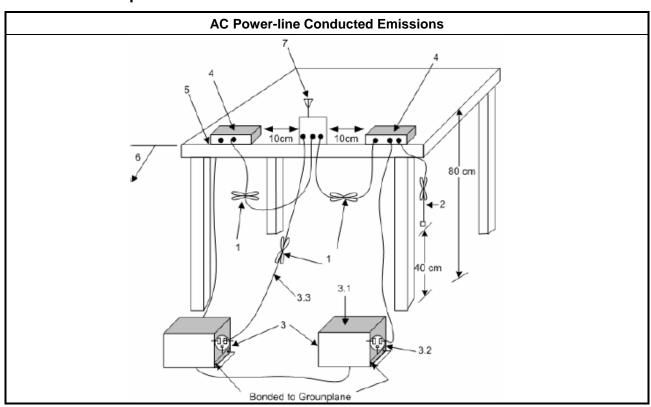
3.1.2 Measuring Instruments

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.

3.1.4 Test Setup



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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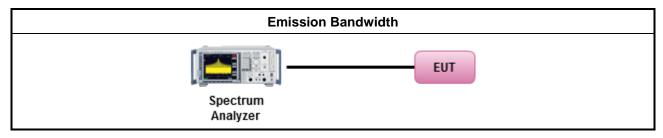
3.2.2 Measuring Instruments

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 KDB 558074. clause 8.2 (11.8 of ANSI C63.10) DTS bandwidth measurement.						
	Refer as RSS-Gen, clause 6.7 for for occupied bandwidth testing.						
	Refer as ANSI C63.10, clause 6.9.3 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

Max	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							
e.i.r	.p. P	ower Limit:							
•	240	0-2483.5 MHz Band							
	•	Point-to-multipoint systems (P2M): P _{eirp} ≤ 36 dBm (4 W)							
	•	Point-to-point systems (P2P): $P_{eirp} \le MAX(36, [P_{Out} + G_{TX}]) dBm$							
	•	Smart antenna system (SAS)							
		- Single beam: P _{eirp} ≤ MAX(36, P _{Out} + G _{TX}) dBm							
		- Overlap beam: $P_{eirp} \le MAX(36, P_{Out} + G_{TX}) dBm$							
		- Aggregate power on all beams: $P_{eirp} \le MAX(36, [P_{Out} + G_{TX} + 8]) dBm$							
		aximum peak conducted output power or maximum conducted output power in dBm, aximum 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.

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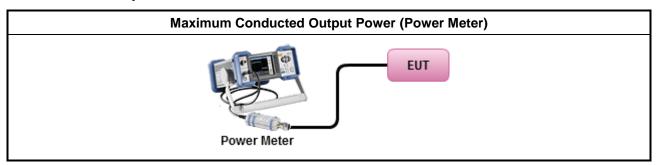
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3.3.3 Test Procedures

	Test Method
•	Maximum Peak Conducted Output Power
	☐ Refer as KDB 558074, clause 8.3.1.1 (11.9.1.1 of ANSI C63.10) RBW ≥ EBW method.
	Refer as KDB 558074, clause 8.3.1.2 (11.9.1.2 of ANSI C63.10) integrated band power method.
	Refer as KDB 558074, clause 8.3.1.3 (11.9.1.3 of ANSI C63.10) peak power meter.
•	Maximum Average Conducted Output Power
	Refer as KDB 558074, clause 8.3.2.2 (11.9.2.2 of ANSI C63.10) using a spectrum analyzer.
	Refer as KDB 558074, clause 8.3.2.3 (11.9.2.3 of ANSI C63.10) using a power meter.
•	For conducted measurement.
	If the EUT supports multiple transmit chains using options given below: Refer as KDB 662911, In-band power measurements. Using the measure-and-sum approach, measured all transmit ports individually. Sum the power (in linear power units e.g., mW) of all ports for each individual sample and save them.
	■ If multiple transmit chains, EIRP calculation could be following as methods: P _{total} = P ₁ + P ₂ + + P _n (calculated in linear unit [mW] and transfer to log unit [dBm]) EIRP _{total} = P _{total} + DG

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3.3.4 Test Setup



3.3.5 Test Result of Maximum Conducted Output Power

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3.4 Power Spectral Density

3.4.1 Power Spectral Density Limit

Power Spectral Density Limit

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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

- 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 KDB 558074, clause 8.4 (11.10 of ANSI C63.10) Method PKPSD.
- For conducted measurement.
 - If The EUT supports multiple transmit chains using options given below:
 - Measure and sum the spectra across the outputs. Refer as 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.

3.4.4 Test Setup



3.4.5 Test Result of Power Spectral Density

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3.5 Emissions in Non-restricted Frequency Bands

3.5.1 Emissions in Non-restricted Frequency Bands Limit

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

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

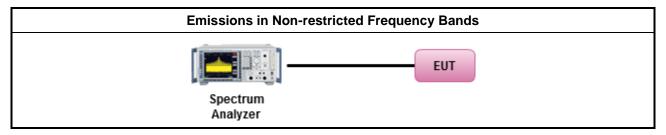
3.5.2 Measuring Instruments

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

3.5.3 Test Procedures

Test Method
 Refer as KDB 558074, clause 8.5 (11.11 of ANSI C63.10) for non-restricted frequency bands.

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 Distance (m)					
0.009~0.490	2400/F(kHz)	48.5 - 13.8	300					
0.490~1.705	24000/F(kHz)	33.8 - 23	30					
1.705~30.0	30	29	30					
30~88	100	40	3					
88~216	150	43.5	3					
216~960	200	46	3					
Above 960	500	54	3					

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- Note 1: Test distance for frequencies at or above 30 MHz, measurements may be performed at a distance other than the limit distance provided they are not performed in the near field and the emissions to be measured can be detected by the measurement equipment. When performing measurements at a distance other than that specified, the results shall be extrapolated to the specified distance using an extrapolation factor of 20 dB/decade (inverse of linear distance for field-strength measurements, inverse of linear distance-squared for power-density measurements).
- Note 2: Test distance for frequencies at below 30 MHz, measurements may be performed at a distance closer than the EUT limit distance; however, an attempt should be made to avoid making measurements in the near field. When performing measurements below 30 MHz at a closer distance than the limit distance, the results shall be extrapolated to the specified distance by either making measurements at a minimum of two or more distances on at least one radial to determine the proper extrapolation factor or by using the square of an inverse linear distance extrapolation factor (40 dB/decade). The test report shall specify the extrapolation method used to determine compliance of the EUT.
- Note 3: Using the distance of 1m during the test for above 18 GHz, and the test value to correct for the distance factor at 3m.

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

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- 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 KDB 558074, clause 8.6 (11.12 of ANSI C63.10) for restricted frequency bands.
- For the transmitter band-edge emissions shall be measured using following options below:
 - Refer as KDB 558074 clause 8.7.1, 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 KDB 558074, clause 8.7.2 (6.10.6 of ANSI C63.10) for marker-delta method for band-edge measurements.
 - Refer as KDB 558074, clause 8.7.3 for narrower resolution bandwidth (100kHz) using the band power and summing the spectral levels.
- Use the following spectrum analyzer settings:
 - Set RBW=100 kHz for f < 1 GHz; VBW=3 * RBW; Sweep = auto; Detector function = peak; Trace = max hold.</p>
 - Set RBW = 1 MHz, VBW= 3MHz for f ≥ 1 GHz for peak measurement. For average measurement, refer as 1.1.4.
- KDB 414788 Open-Field Test Sites and Chamber Correlation Justification.
 - Based on FCC 15.31 (f) (2): measurements may be performed at a distance closer than that specified in regulations; however, an attempt should be made to avoid making measurements in the near field.
 - Open-field site and chamber correlation testing had been performed and chamber measured test result is the worst case test result.

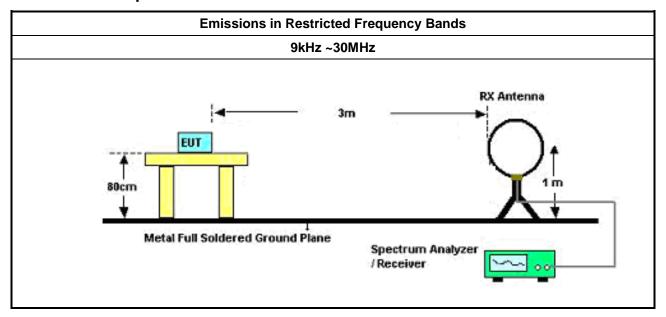
TEL: 886-3-3273456 Page Number : 19 of 23
FAX: 886-3-3270973 Issued Date : Nov. 04, 2019

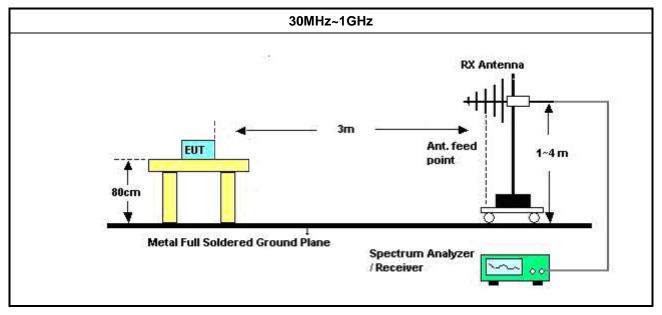
Report Template No.: HE1-C8 Ver3.6 Report Version : 01



Report No.: FR981313AC

Test Setup 3.6.4

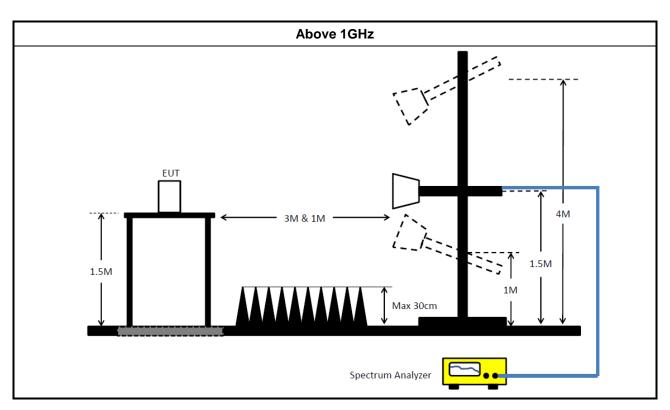




: 20 of 23 TEL: 886-3-3273456 Page Number : Nov. 04, 2019 FAX: 886-3-3270973 Issued Date

: 01

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3.6.5 Test Result of Emissions in Restricted Frequency Bands (Below 30MHz)

The amplitude of spurious emissions which are attenuated by more than 20dB below the permissible value has no need to be reported.

3.6.6 Test Result of Emissions in Restricted Frequency Bands

Refer as Appendix F

TEL: 886-3-3273456 Page Number FAX: 886-3-3270973 Issued Date

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FCC ID: 2AAAS-CM04

Issued Date : Nov. 04, 2019 Report Version : 01

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Report No.: FR981313AC



4 Test Equipment and Calibration Data

Instrument for AC Conduction

istrament for Ao Conduction								
Instrument	Manufacturer	Model No.	Serial No.	Spec.	Calibration Date	Calibration Due Date		
EMC Receiver	R&S	ESR3	102052	9kHz ~ 3.6GHz	09/Apr/2019	08/Apr/2020		
LISN	R&S	ENV216	101295	9kHz ~ 30MHz	08/Nov/2018	07/Nov/2019		
RF Cable-CON	MTJ	RG142	CB002-CO	9kHz ~ 200MHz	17/Sep/2018	16/Sep/2019		
AC POWER	POWER APC AFC		F310050055	47Hz~63Hz 5~300V	NCR	NCR		
Impuls Begrenzer Pulse Limiter	SCHWARZBECK	VTSD 9561-F	9561-F041	9 kHz ~ 30 MHz	12/Oct/2018	11/Oct/2019		

Report No.: FR981313AC

NCR : Non-Calibration Require

Instrument for Conducted Test

Instrument	Manufacturer	Model No.	Serial No.	Spec.	Calibration Date	Calibration Due Date
Spectrum Analyzer	R&S	FSV 40	101013	10Hz~40GHz	13/Mar/2019	12/Mar/2020
Power Sensor	Anritsu	MA2411B	1339407	300MHz ~ 40GHz	17/Nov/2018	16/Nov/2019
Power Meter	Anritsu	ML2495A	1517010	300MHz ~ 40GHz	17/Nov/2018	16/Nov/2019
Cable 0.2m	HUBER	MY10710/4	RF Cable - 01	30MHz ~18G	10/Jan/2019	09/Jan/2020
Cable 0.2m	HUBER	MY10711/4	RF Cable - 02	30MHz ~18G	10/Jan/2019	09/Jan/2020
Cable 0.5m	HUBER	MY39470/4	RF Cable - 29	30MHz ~18G	10/Jan/2019	09/Jan/2020
SMB100A Signal Generator	R&S	SMB100A03	181147	100kHz~40GHz	12/Nov/2018	10/Nov/2020

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Report Template No.: HE1-C8 Ver3.6 Report Version : 01



FCC Test Report

Instrument for Radiated Test

Instrument	Manufacturer	Model No.	Serial No.	Spec.	Calibration Date	Calibration Due Date
3m Semi Anechoic Chamber	TDK	SAC-3M	03CH09-HY	30MHz ~ 1GHz	22/Apr/2019	21/Apr/2020
3m Semi Anechoic Chamber	TDK	SAC-3M	03CH09-HY	1GHz ~ 18GHz	13/Jun/2019	12/Jun/2020
Microwave Preamplifier	Agilent	8449B	3008A02326	1GHz ~ 26.5GHz	15/Jul/2019	14/Jul/2020
Amplifier	EMC	EMC9135	980232	9KHz~1GHz	22/Apr/2019	21/Apr/2020
EMI Test Receiver	R&S	ESR3	102052	9kHz ~ 3.6GHz	09/Apr/2019	08/Apr/2020
EXA Signal Analyzer	KEYSIGHT	N9010A	MY54200885	10Hz ~ 44GHz	07/Aug/2019	06/Aug/2020
Bilog Antenna & 5dB Attenuator	TESEQ & MTJ	CBL6111D & MTJ6102-05	35418 / 3	30MHz~1GHz	02/Oct/2018	03/Oct/2019
Double Ridged Guide Horn Antenna	SCHWARZBECK	BBHA 9120 D	BBHA9120 D 1534	1GHz~18GHz	22/May/2019	21/May/2020
Broadband Horn Antenna	SCHWARZBECK	BBHA 9170	BBHA9170614	18GHz~40GHz	22/May/2019	21/May/2020
Preamplifier	MITEQ	TTA1840-35-H G	1864481	18GHz ~ 40GHz	24/Aug/2018	23/Aug/2019
Preamplifier	MITEQ	TTA1840-35-H		22/Aug/2020		
LF-CABLE-2019021 8	Jye Bao	RG142	CB028	9kHz ~ 1GHz	18/Feb/2019	17/Feb/2020
RF Cable-high	HUBER+SUHNE R	SUCOFLEX104	SN 556626/4 + 556627	1GHz ~ 40GHz	13/Mar/2019	12/Mar/2020
Turn Table	ChainTek	T-200S	1308028	-	NCR	NCR
Antenna Mast	ChainTek	MBS-400	1308049	-	NCR	NCR
Controller	ChainTek	3000	MF780208325	-	NCR	NCR
AC Power Source	G.W	AFC-1KW	F104070001	-	NCR	NCR
Soldering iron	XRTRONIC	1f15	-	-	NCR	NCR
Site V.S.W.R	Riken	3m SAC	03CH09-HY	-	13/Jun/2019	12/Jun/2020

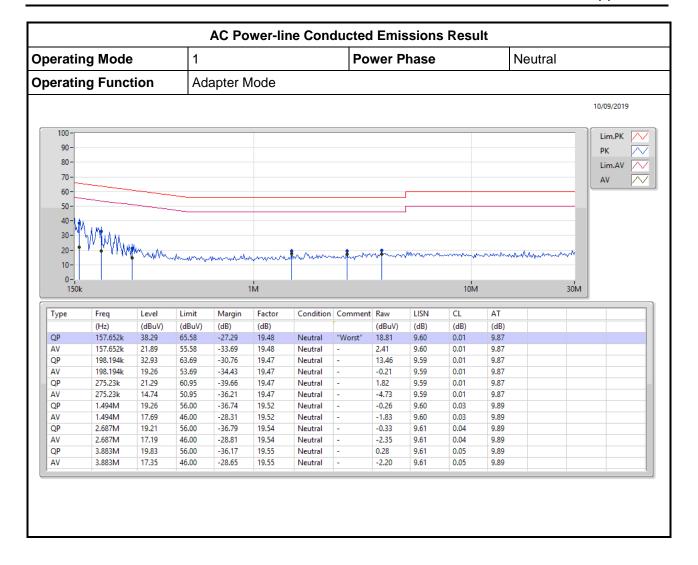
Report No.: FR981313AC

NCR : Non-Calibration Require

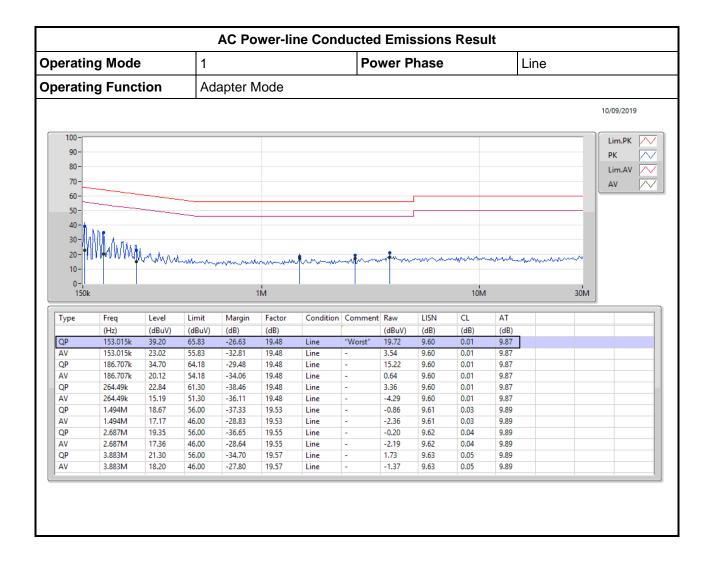
TEL: 886-3-3273456 Page Number : 23 of 23
FAX: 886-3-3270973 Issued Date : Nov. 04, 2019

Report Template No.: HE1-C8 Ver3.6 Report Version : 01

AC Power-line Conducted Emissions









EBW Appendix B

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	9.025M	14.018M	14M0G1D	7.55M	13.093M
802.11g_Nss1,(6Mbps)_2TX	16.325M	16.992M	17M0D1D	16.25M	16.367M
802.11n HT20_Nss1,(MCS0)_2TX	17.275M	17.941M	17M9D1D	15.95M	17.566M

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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981313



EBW Appendix B

Result

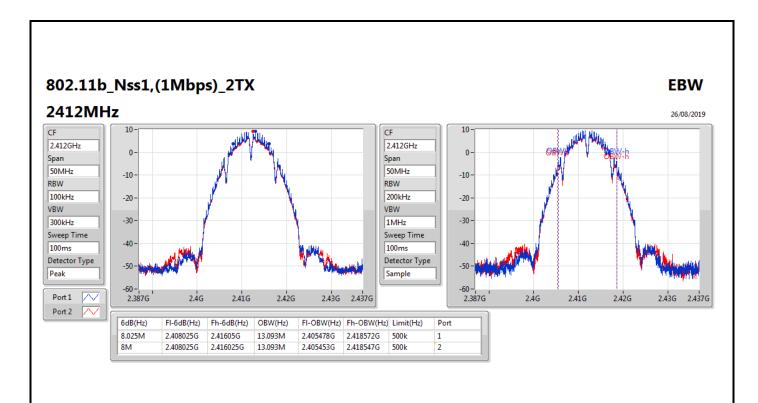
Mode	Result	Limit	Port 1-N dB	Port 1-OBW	Port 2-N dB	Port 2-OBW
		(Hz)	(Hz)	(Hz)	(Hz)	(Hz)
802.11b_Nss1,(1Mbps)_2TX	=	-	-	-	-	=
2412MHz_TnomVnom	Pass	500k	8.025M	13.093M	8M	13.093M
2437MHz_TnomVnom	Pass	500k	7.55M	13.218M	8.025M	13.143M
2462MHz_TnomVnom	Pass	500k	8.025M	14.018M	9.025M	13.643M
802.11g_Nss1,(6Mbps)_2TX	=	-	-	-	-	=
2412MHz_TnomVnom	Pass	500k	16.275M	16.392M	16.25M	16.367M
2437MHz_TnomVnom	Pass	500k	16.25M	16.992M	16.325M	16.592M
2462MHz_TnomVnom	Pass	500k	16.275M	16.417M	16.325M	16.392M
802.11n HT20_Nss1,(MCS0)_2TX	=	-	-	-	-	=
2412MHz_TnomVnom	Pass	500k	17.275M	17.566M	16.275M	17.591M
2437MHz_TnomVnom	Pass	500k	16.5M	17.941M	16.3M	17.741M
2462MHz_TnomVnom	Pass	500k	16.875M	17.566M	15.95M	17.566M

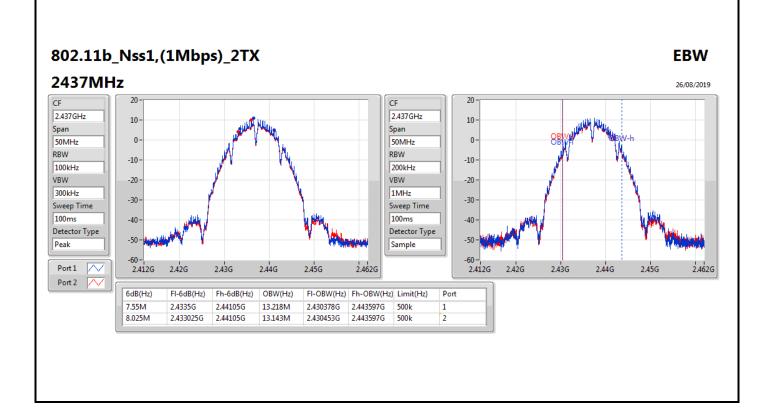
Port X-N dB = Port X 6dB down bandwidth; Port X-OBW = Port X 99% occupied bandwidth;

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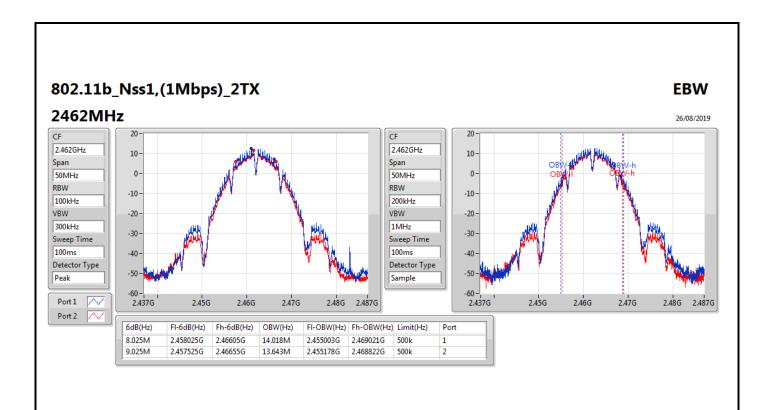
981313

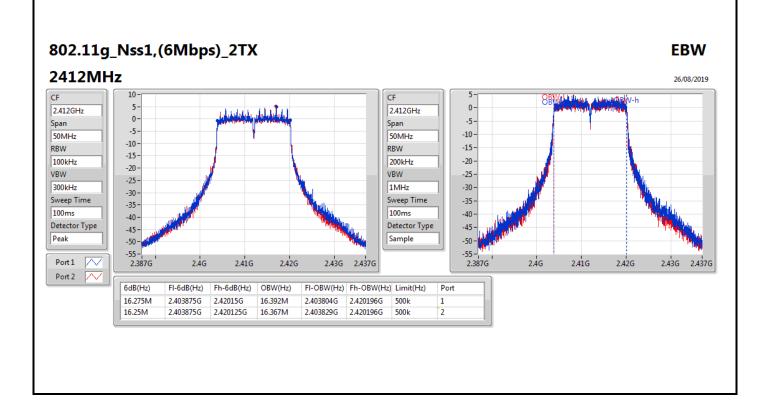






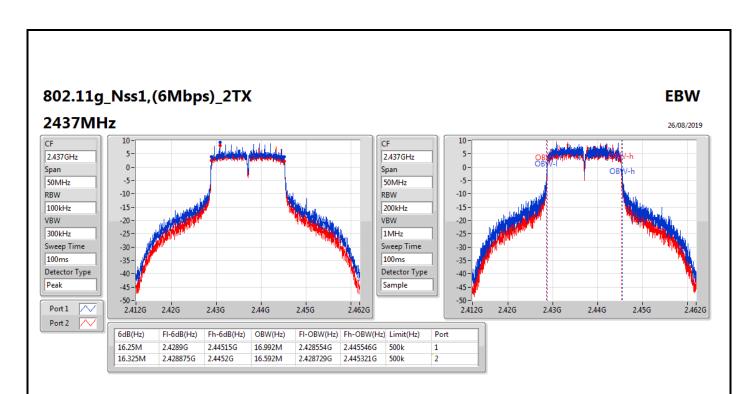


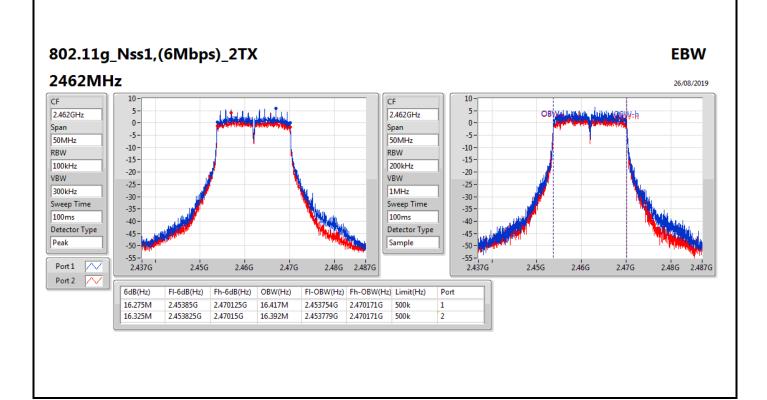




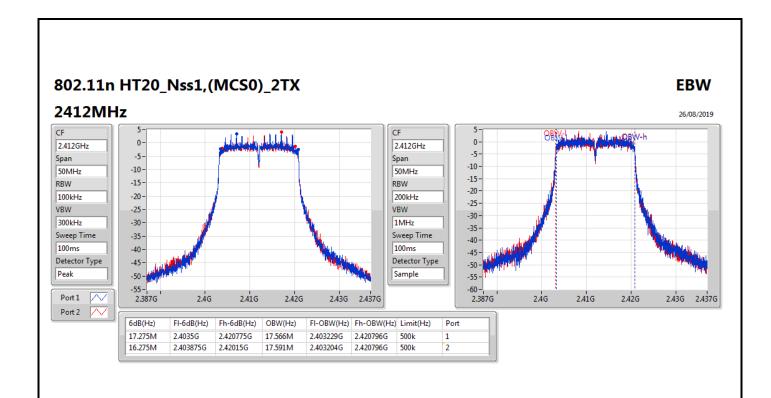
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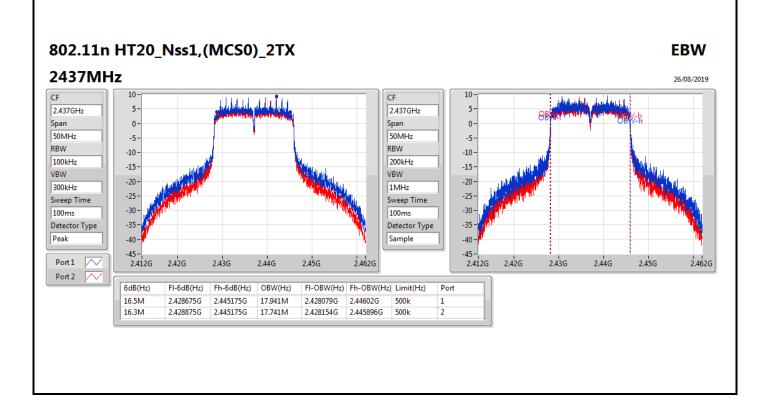
Appendix B



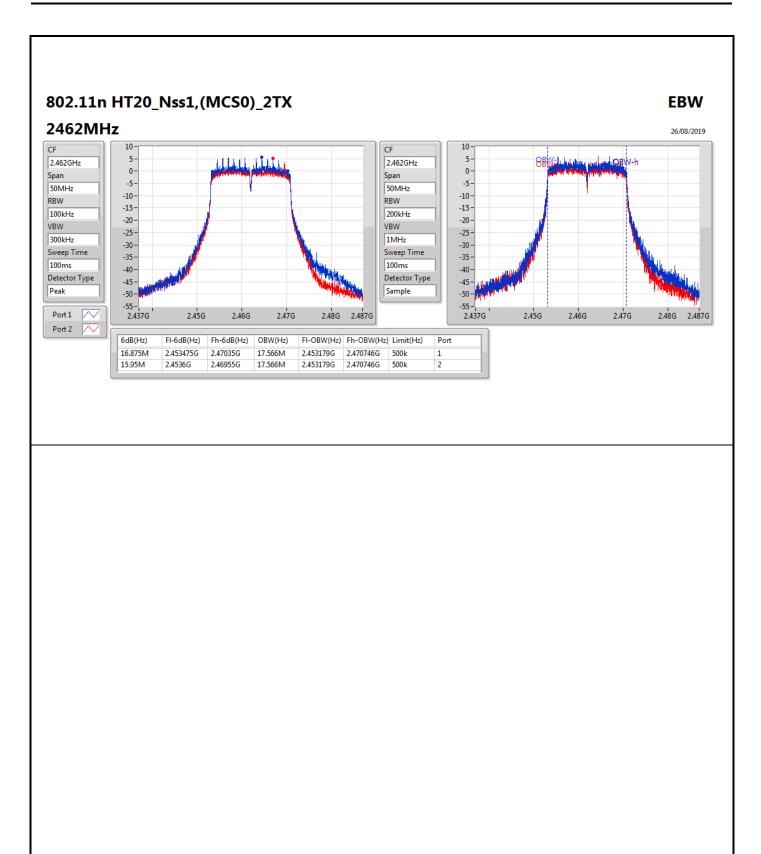














Average Power Appendix C

Summary

Mode	Total Power	Total Power	
	(dBm)	(W)	
2.4-2.4835GHz	-	-	
802.11b_Nss1,(1Mbps)_2TX	23.85	0.24266	
802.11g_Nss1,(6Mbps)_2TX	23.08	0.20324	
802.11n HT20_Nss1,(MCS0)_2TX	22.92	0.19588	

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Average Power Appendix C

Result

Mode	Result	DG	Port 1	Port 2	Total Power	Power Limit
		(dBi)	(dBm)	(dBm)	(dBm)	(dBm)
802.11b_Nss1,(1Mbps)_2TX	-	-	-	-	-	-
2412MHz_TnomVnom	Pass	2.66	17.78	17.34	20.58	30.00
2417MHz_TnomVnom	Pass	2.66	18.84	18.30	21.59	30.00
2437MHz_TnomVnom	Pass	2.66	18.99	18.47	21.75	30.00
2462MHz_TnomVnom	Pass	2.66	21.28	20.36	23.85	30.00
802.11g_Nss1,(6Mbps)_2TX	-	-	-	-	-	-
2412MHz_TnomVnom	Pass	2.66	15.53	15.17	18.36	30.00
2417MHz_TnomVnom	Pass	2.66	19.18	18.66	21.94	30.00
2437MHz_TnomVnom	Pass	2.66	20.41	19.70	23.08	30.00
2457MHz_TnomVnom	Pass	2.66	17.77	17.05	20.44	30.00
2462MHz_TnomVnom	Pass	2.66	16.85	15.46	19.22	30.00
802.11n HT20_Nss1,(MCS0)_2TX	-	-	-	-	-	-
2412MHz_TnomVnom	Pass	2.66	14.24	14.15	17.21	30.00
2417MHz_TnomVnom	Pass	2.66	18.17	17.62	20.91	30.00
2437MHz_TnomVnom	Pass	2.66	20.21	19.58	22.92	30.00
2457MHz_TnomVnom	Pass	2.66	17.61	16.86	20.26	30.00
2462MHz_TnomVnom	Pass	2.66	16.24	15.18	18.75	30.00

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

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PSD Appendix D

Summary

Mode	PD	
	(dBm/RBW)	
2.4-2.4835GHz	-	
802.11b_Nss1,(1Mbps)_2TX	-1.01	
802.11g_Nss1,(6Mbps)_2TX	-4.46	
802.11n HT20_Nss1,(MCS0)_2TX	-3.99	

RBW=3 kHz.

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Appendix D **PSD**

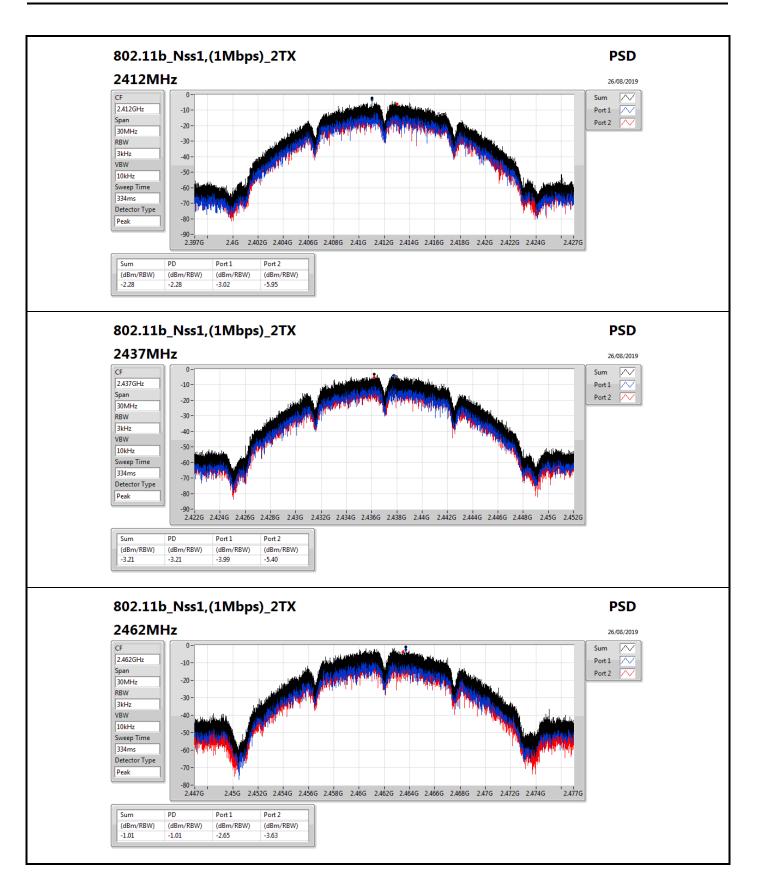
Result

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_TnomVnom	Pass	5.67	-3.02	-5.95	-2.28	8.00
2437MHz_TnomVnom	Pass	5.67	-3.99	-5.40	-3.21	8.00
2462MHz_TnomVnom	Pass	5.67	-2.65	-3.63	-1.01	8.00
802.11g_Nss1,(6Mbps)_2TX	-	-	=	-	-	-
2412MHz_TnomVnom	Pass	5.67	-9.84	-10.06	-7.54	8.00
2437MHz_TnomVnom	Pass	5.67	-5.26	-6.46	-4.46	8.00
2462MHz_TnomVnom	Pass	5.67	-7.92	-10.69	-7.40	8.00
802.11n HT20_Nss1,(MCS0)_2TX	-	-	=	-	-	-
2412MHz_TnomVnom	Pass	5.67	-11.13	-11.25	-8.19	8.00
2437MHz_TnomVnom	Pass	5.67	-5.11	-6.98	-3.99	8.00
2462MHz_TnomVnom	Pass	5.67	-9.16	-10.62	-8.41	8.00

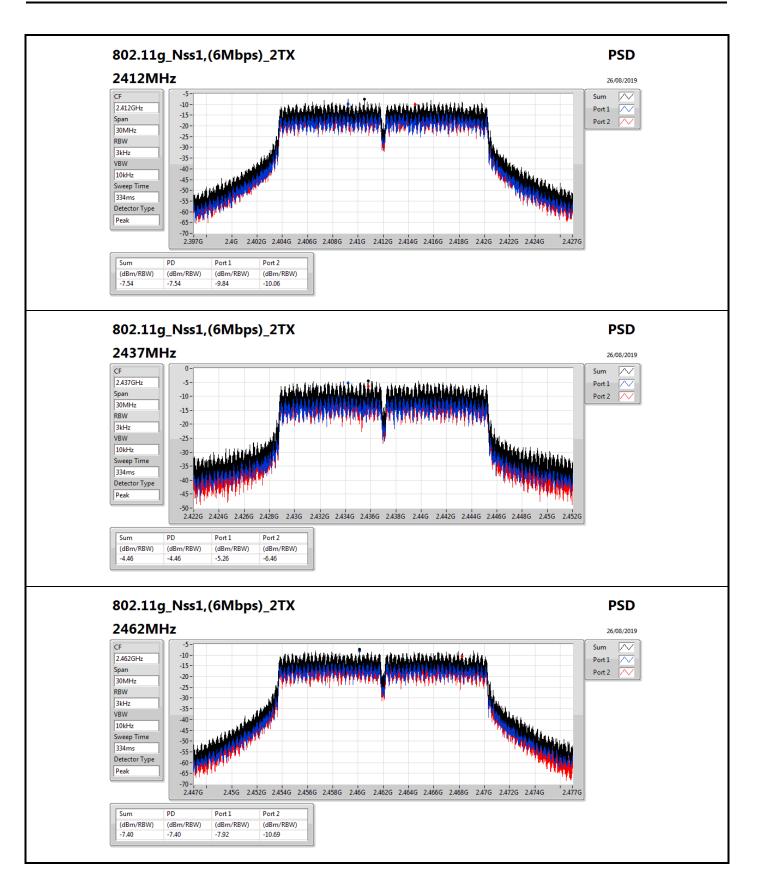
Page No. : D2 of D5

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;

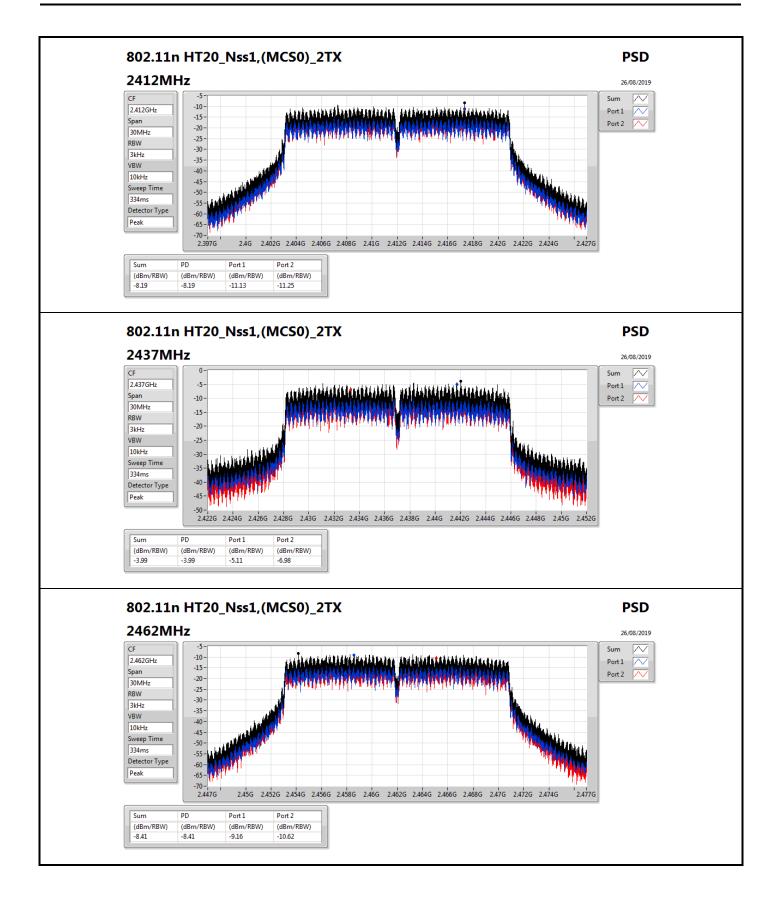
Appendix D **PSD**



PSD Appendix D









CSE(Non-restricted Band)

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	2.46254G	13.13	-16.87	2.30321G	-62.91	2.39856G	-40.75	2.49614G	-58.77	24.49709G	-51.83	2
802.11g_Nss1,(6Mbps)_2TX	Pass	2.43202G	10.04	-19.96	2.30321G	-62.73	2.3998G	-28.36	2.48414G	-56.18	24.51956G	-51.20	2
802.11n HT20_Nss1,(MCS0)_2TX	Pass	2.43202G	10.08	-19.92	2.30932G	-61.77	2.3999G	-31.10	2.48372G	-57.31	3.21465G	-51.43	2

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Appendix E

Result

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_TnomVnom	Pass	2.46254G	13.13	-16.87	2.30787G	-61.58	2.39854G	-41.11	2.48796G	-58.31	24.40437G	-51.09	1
2412MHz_TnomVnom	Pass	2.46254G	13.13	-16.87	2.30321G	-62.91	2.39856G	-40.75	2.49614G	-58.77	24.49709G	-51.83	2
2437MHz_TnomVnom	Pass	2.46254G	13.13	-16.87	2.30554G	-63.35	2.39328G	-50.30	2.48412G	-54.08	23.45193G	-51.96	1
2437MHz_TnomVnom	Pass	2.46254G	13.13	-16.87	1.92138G	-64.03	2.3972G	-52.55	2.48502G	-51.33	15.3042G	-51.69	2
2462MHz_TnomVnom	Pass	2.46254G	13.13	-16.87	2.30758G	-64.42	2.39488G	-57.35	2.48804G	-46.17	15.31825G	-50.81	1
2462MHz_TnomVnom	Pass	2.46254G	13.13	-16.87	2.30612G	-63.65	2.3996G	-57.15	2.48404G	-52.12	15.34634G	-51.10	2
802.11g_Nss1,(6Mbps)_2TX	-	-	-	-	-	-	-	-	-	-	-	-	-
2412MHz_TnomVnom	Pass	2.43202G	10.04	-19.96	2.30292G	-63.10	2.39952G	-28.99	2.48434G	-57.41	15.34915G	-51.60	1
2412MHz_TnomVnom	Pass	2.43202G	10.04	-19.96	2.30321G	-62.73	2.3998G	-28.36	2.48414G	-56.18	24.51956G	-51.20	2
2437MHz_TnomVnom	Pass	2.43202G	10.04	-19.96	2.30583G	-63.59	2.39892G	-48.25	2.48372G	-52.77	15.34353G	-51.59	1
2437MHz_TnomVnom	Pass	2.43202G	10.04	-19.96	2.30641G	-62.09	2.39932G	-49.49	2.485G	-50.31	16.49264G	-51.16	2
2462MHz_TnomVnom	Pass	2.43202G	10.08	-19.92	2.30525G	-62.81	2.39838G	-55.36	2.48382G	-43.25	15.09629G	-51.39	1
2462MHz_TnomVnom	Pass	2.43202G	10.08	-19.92	2.30728G	-63.49	2.39864G	-55.19	2.48484G	-48.44	15.34353G	-51.61	2
802.11n HT20_Nss1,(MCS0)_2TX	-	-	-	-	-	-	-	-	-	-	-	-	-
2412MHz_TnomVnom	Pass	2.43202G	10.08	-19.92	2.3035G	-60.62	2.39978G	-31.11	2.48432G	-57.34	15.34353G	-51.87	1
2412MHz_TnomVnom	Pass	2.43202G	10.08	-19.92	2.30932G	-61.77	2.3999G	-31.10	2.48372G	-57.31	3.21465G	-51.43	2
2437MHz_TnomVnom	Pass	2.43202G	10.08	-19.92	2.30379G	-62.87	2.39952G	-47.63	2.48424G	-53.02	16.23697G	-51.43	1
2437MHz_TnomVnom	Pass	2.43202G	10.08	-19.92	2.3067G	-62.31	2.3992G	-49.43	2.48502G	-51.15	24.15151G	-51.98	2
2462MHz_TnomVnom	Pass	2.43202G	10.08	-19.92	2.30262G	-62.79	2.39936G	-54.60	2.48386G	-46.43	15.08505G	-50.78	1
2462MHz_TnomVnom	Pass	2.43202G	10.08	-19.92	2.30204G	-63.14	2.39794G	-55.40	2.48358G	-48.61	16.20326G	-51.56	2

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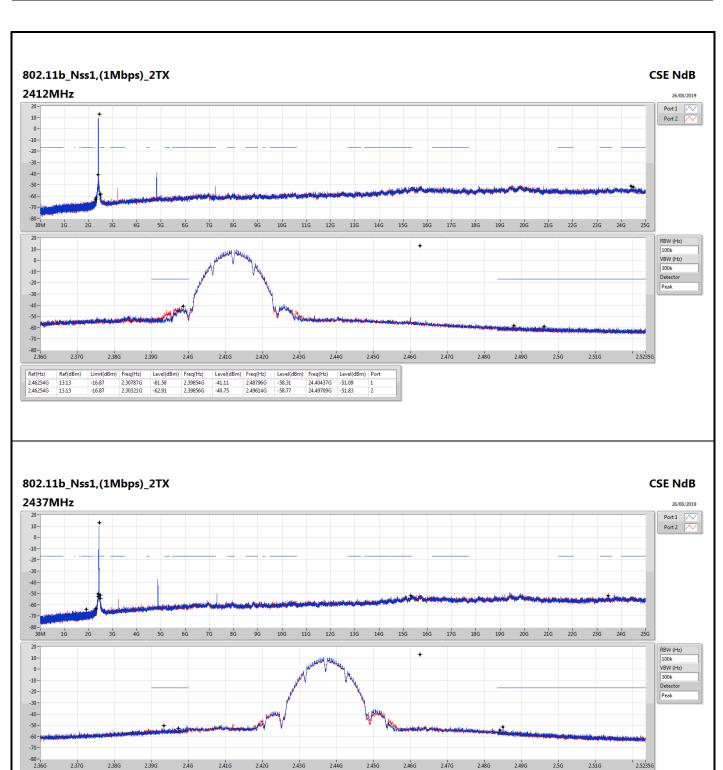


Ref(Hz) 2.46254G 2.46254G

13.13 13.13 Limit(dBm) Freq(Hz) -16.87 2.30554G -16.87 1.92138G

-63.35 -64.03 2.39328G 2.3972G Level(dBm) Freq(Hz) -50.30 2.48412G -52.55 2.48502G Level(dBm) Freq(Hz)
-54.08 23.45193G
-51.33 15.3042G

-51.96 -51.69



2.41G

Level(dBm) Freq(Hz) -63.10 2.39952G -62.73 2.3998G Level(dBm) Freq(Hz)
-28.99 2.48434G
-28.36 2.48414G

2.42G

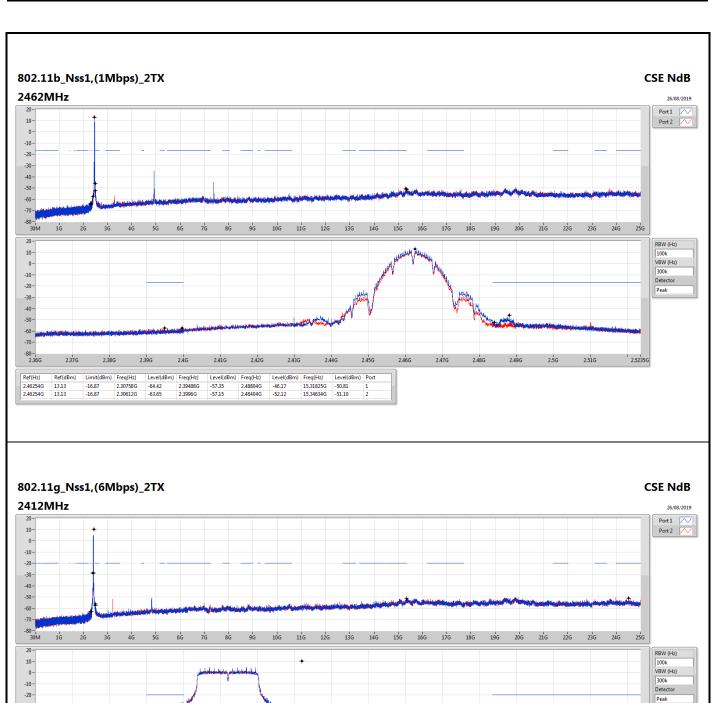
2.44G



-30 -

-70 -

Ref(dBm)



2.46G

2.45G

2.47G

2.48G

2.5G

2.51G



2.37G

Ref(dBm)

Limit(dBm) Freq(Hz) -19.92 2.30525G -19.92 2.30728G 2.41G

Level(dBm) Freq(Hz) -62.81 2.39838G -63.49 2.39864G Level(dBm) Freq(Hz)
-55.36 2.48382G
-55.19 2.48484G

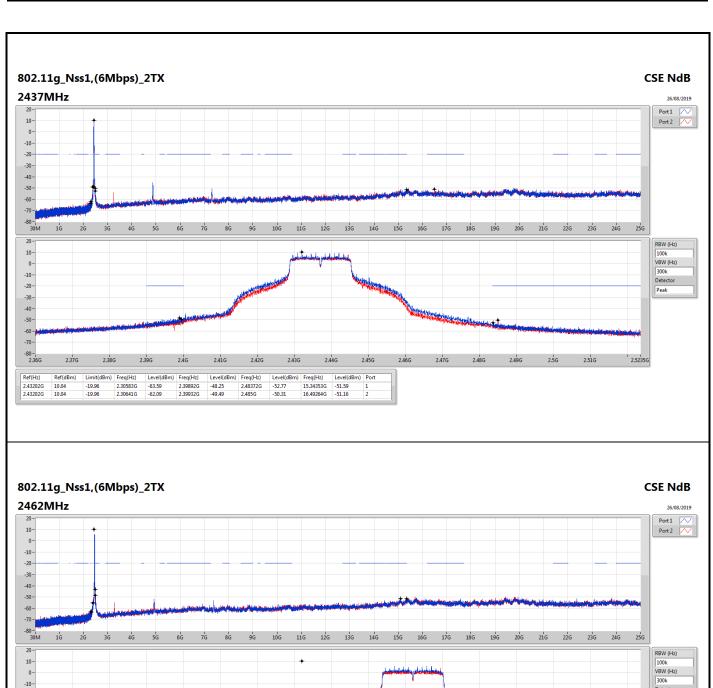
2.42G

2.43G

Level(dBm) Freq(Hz) -43.25 15.09629G -48.44 15.34353G

2.44G

2.45G



2.46G

2.47G

2.48G

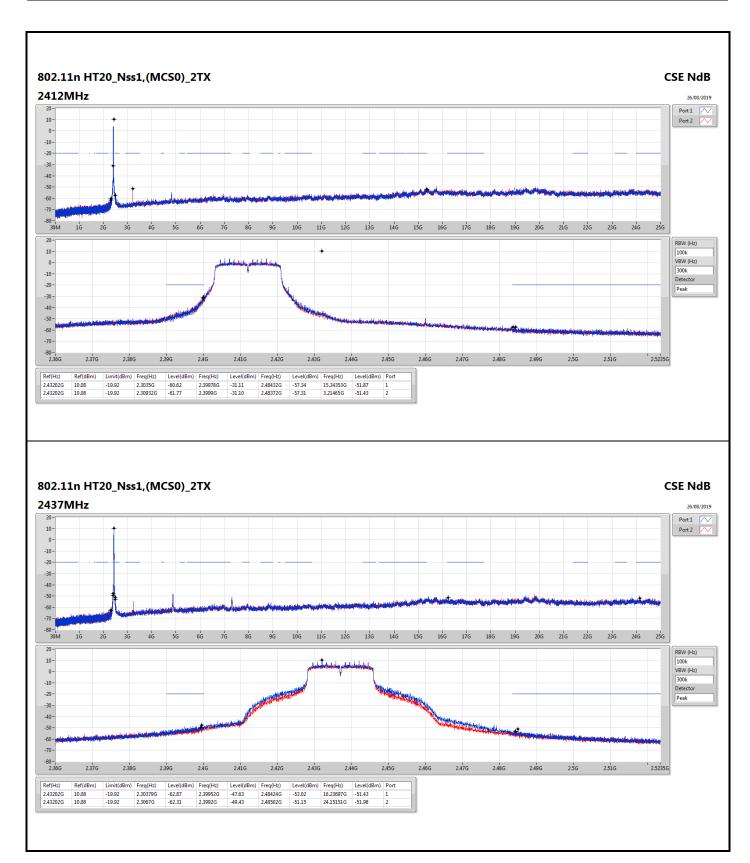
2.49G

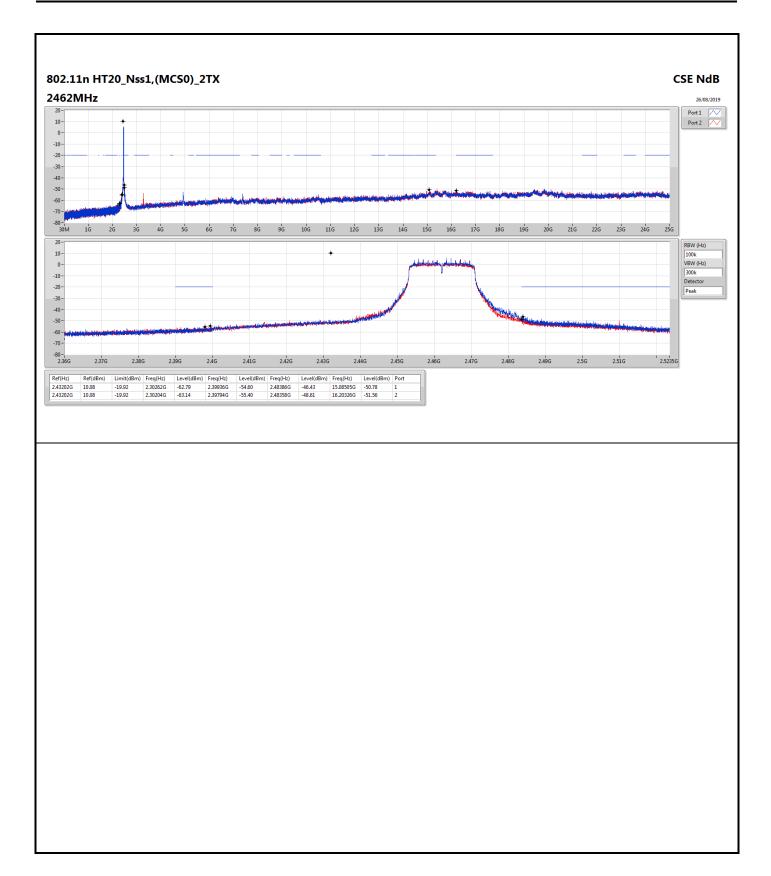
2.5G

2.51G

Detector









RSE TX below 1GHz

Appendix F.1

Summary

Mode	Result	Туре	Freq	Level	Limit	Margin	Dist	Condition	Azimuth	Height	Comments
			(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(m)		(°)	(m)	
2.4-2.4835GHz	-	-	-	-	-	-	-	-	-	-	-
802.11n HT20_Nss1,(MCS0)_2TX	Pass	QP	840.01M	41.56	46.00	-4.44	3	Horizontal	230	1.00	-

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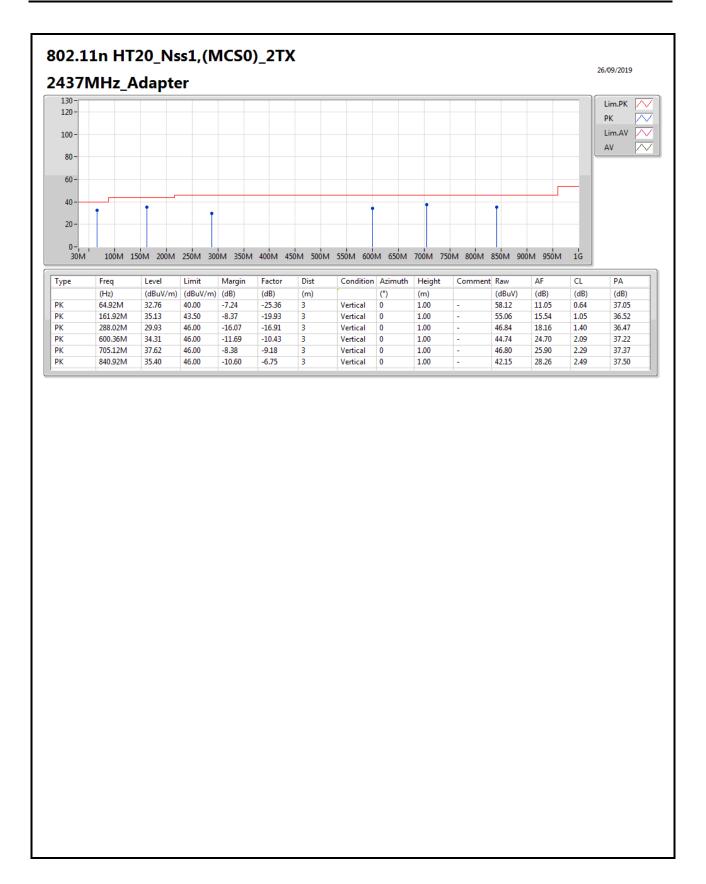


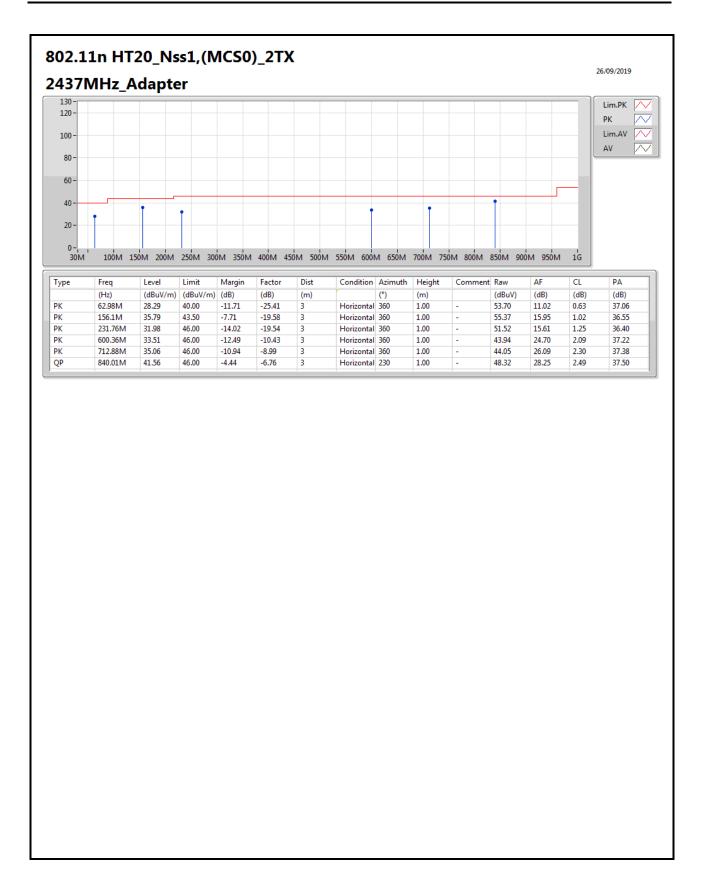
RSE TX below 1GHz

Appendix F.1

Result

Mode	Result	Туре	Freq	Level	Limit	Margin	Dist	Condition	Azimuth	Height	Comments
			(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(m)		(°)	(m)	
802.11n HT20_Nss1,(MCS0)_2TX	-	-	-	-	-	-	-	-	-	-	-
2437MHz	Pass	PK	64.92M	32.76	40.00	-7.24	3	Vertical	0	1.00	-
2437MHz	Pass	PK	161.92M	35.13	43.50	-8.37	3	Vertical	0	1.00	-
2437MHz	Pass	PK	288.02M	29.93	46.00	-16.07	3	Vertical	0	1.00	-
2437MHz	Pass	PK	600.36M	34.31	46.00	-11.69	3	Vertical	0	1.00	-
2437MHz	Pass	PK	705.12M	37.62	46.00	-8.38	3	Vertical	0	1.00	-
2437MHz	Pass	PK	840.92M	35.40	46.00	-10.60	3	Vertical	0	1.00	-
2437MHz	Pass	PK	62.98M	28.29	40.00	-11.71	3	Horizontal	360	1.00	-
2437MHz	Pass	PK	156.1M	35.79	43.50	-7.71	3	Horizontal	360	1.00	-
2437MHz	Pass	PK	231.76M	31.98	46.00	-14.02	3	Horizontal	360	1.00	-
2437MHz	Pass	PK	600.36M	33.51	46.00	-12.49	3	Horizontal	360	1.00	-
2437MHz	Pass	PK	712.88M	35.06	46.00	-10.94	3	Horizontal	360	1.00	-
2437MHz	Pass	QP	840.01M	41.56	46.00	-4.44	3	Horizontal	230	1.00	-







Appendix F.2

Summary

Mode	Result	Туре	Freq	Level	Limit	Margin	Dist	Condition	Azimuth	Height	Comments
			(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(m)		(°)	(m)	
2.4-2.4835GHz	-	-	-	-	-	-	-	-	-	-	-
802.11b_Nss1,(1Mbps)_2TX	Pass	AV	2.4836G	50.79	54.00	-3.21	3	Horizontal	44	1.50	-
802.11g_Nss1,(6Mbps)_2TX	Pass	AV	2.3898G	50.92	54.00	-3.08	3	Horizontal	46	1.21	-
802.11n HT20_Nss1,(MCS0)_2TX	Pass	AV	2.39G	50.81	54.00	-3.19	3	Horizontal	46	1.01	-

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Result

Mode	Result	Туре	Freq	Level	Limit	Margin	Dist	Condition	Azimuth	Height	Comments
		,,,	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(m)		(°)	(m)	
802.11b_Nss1,(1Mbps)_2TX	-	-	-	-	-	-	-	_	-	-	-
2412MHz	Pass	AV	2.4656G	94.76	Inf	-Inf	3	Vertical	266	2.07	-
2412MHz	Pass	AV	2.4835G	47.35	54.00	-6.65	3	Vertical	266	2.07	-
2412MHz	Pass	PK	2.466G	104.53	Inf	-Inf	3	Vertical	266	2.07	-
2412MHz	Pass	PK	2.5G	59.89	74.00	-14.11	3	Vertical	266	2.07	-
2412MHz	Pass	AV	2.4668G	99.95	Inf	-Inf	3	Horizontal	44	1.50	-
2412MHz	Pass	AV	2.4836G	50.79	54.00	-3.21	3	Horizontal	44	1.50	-
2412MHz	Pass	PK	2.4674G	110.02	Inf	-Inf	3	Horizontal	44	1.50	-
2412MHz	Pass	PK	2.4835G	63.05	74.00	-10.95	3	Horizontal	44	1.50	-
2412MHz	Pass	AV	4.92432G	34.46	54.00	-19.54	3	Vertical	232	1.00	-
2412MHz	Pass	PK	4.92395G	47.73	74.00	-26.27	3	Vertical	232	1.00	-
2412MHz	Pass	AV	4.92167G	35.06	54.00	-18.94	3	Horizontal	11	1.03	-
2412MHz	Pass	PK	4.92158G	47.70	74.00	-26.30	3	Horizontal	11	1.03	-
2417MHz	Pass	AV	2.3802G	46.86	54.00	-7.14	3	Vertical	266	1.58	-
2417MHz	Pass	AV	2.4162G	103.31	Inf	-Inf	3	Vertical	266	1.58	-
2417MHz	Pass	PK	2.3878G	59.02	74.00	-14.98	3	Vertical	266	1.58	-
2417MHz	Pass	PK	2.416G	105.43	Inf	-Inf	3	Vertical	266	1.58	-
2417MHz	Pass	AV	2.388G	47.00	54.00	-7.00	3	Horizontal	39	1.00	-
2417MHz	Pass	AV	2.4178G	106.15	Inf	-Inf	3	Horizontal	39	1.00	-
2417MHz	Pass	PK	2.3796G	60.40	74.00	-13.60	3	Horizontal	39	1.00	-
2417MHz	Pass	PK	2.4178G	109.39	Inf	-Inf	3	Horizontal	39	1.00	-
2437MHz	Pass	AV	2.3378G	46.48	54.00	-7.52	3	Vertical	269	1.50	-
2437MHz	Pass	AV	2.4362G	103.16	Inf	-Inf	3	Vertical	269	1.50	-
2437MHz	Pass	AV	2.4966G	46.57	54.00	-7.43	3	Vertical	269	1.50	-
2437MHz	Pass	PK	2.3466G	59.25	74.00	-14.75	3	Vertical	269	1.50	-
2437MHz	Pass	PK	2.4362G	105.36	Inf	-Inf	3	Vertical	269	1.50	-
2437MHz	Pass	PK	2.4946G	58.84	74.00	-15.16	3	Vertical	269	1.50	-
2437MHz	Pass	AV	2.3858G	46.92	54.00	-7.08	3	Horizontal	47	1.41	-
2437MHz	Pass	AV	2.4378G	107.90	Inf	-Inf	3	Horizontal	47	1.41	-
2437MHz	Pass	AV	2.4862G	47.18	54.00	-6.82	3	Horizontal	47	1.41	-
2437MHz	Pass	PK	2.3542G	59.36	74.00	-14.64	3	Horizontal	47	1.41	-
2437MHz	Pass	PK	2.4378G	110.26	Inf	-Inf	3	Horizontal	47	1.41	-
2437MHz	Pass	PK	2.4835G	59.73	74.00	-14.27	3	Horizontal	47	1.41	-
2437MHz	Pass	AV	4.874G	49.83	54.00	-4.17	3	Vertical	236	1.00	-
2437MHz	Pass	PK	4.87396G	54.49	74.00	-19.51	3	Vertical	236	1.00	-
2437MHz	Pass	AV	4.87399G	46.73	54.00	-7.27	3	Horizontal	13	1.08	-
2437MHz	Pass	PK	4.87401G	51.78	74.00	-22.22	3	Horizontal	13	1.08	-
2462MHz	Pass	AV	2.4628G	105.36	Inf	-Inf	3	Vertical	304	1.50	-
2462MHz	Pass	AV	2.491G	46.95	54.00	-7.05	3	Vertical	304	1.50	-
2462MHz	Pass	PK	2.4628G	107.48	Inf	-Inf	3	Vertical	304	1.50	-
2462MHz	Pass	PK	2.4874G	59.30	74.00	-14.70	3	Vertical	304	1.50	-
2462MHz	Pass	AV	2.4628G	109.75	Inf	-Inf	3	Horizontal	42	2.76	-
2462MHz	Pass	AV	2.4835G	49.88	54.00	-4.12	3	Horizontal	42	2.76	-
2462MHz	Pass	PK	2.4628G	112.01	Inf	-Inf	3	Horizontal	42	2.76	-
2462MHz	Pass	PK	2.4864G	61.08	74.00	-12.92	3	Horizontal	42	2.76	-
2462MHz	Pass	AV	4.92392G	49.76	54.00	-4.24	3	Vertical	241	1.00	-
2462MHz	Pass	PK	4.92395G	54.33	74.00	-19.67	3	Vertical	241	1.00	-
2462MHz	Pass	AV	4.92398G	49.35	54.00	-4.65	3	Horizontal	16	1.09	-

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Mode	Result	Type	Freq	Level	Limit	Margin	Dist	Condition	Azimuth	Height	Comments
	_		(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(m)		(°)	(m)	
2462MHz	Pass	PK	4.924G	53.59	74.00	-20.41	3	Horizontal	16	1.09	-
802.11g_Nss1,(6Mbps)_2TX	-	-	-	-	-	-	-	-	-	-	-
2412MHz	Pass	AV	2.39G	47.97	54.00	-6.03	3	Vertical	270	1.90	-
2412MHz	Pass	AV	2.4084G	95.59	Inf	-Inf	3	Vertical	270	1.90	-
2412MHz	Pass	PK	2.3898G	59.81	74.00	-14.19	3	Vertical	270	1.90	-
2412MHz	Pass	PK	2.4082G	105.08	Inf	-Inf	3	Vertical	270	1.90	-
2412MHz	Pass	AV	2.3898G	50.92	54.00	-3.08	3	Horizontal	46	1.21	-
2412MHz	Pass	AV	2.4058G	100.03	Inf	-Inf	3	Horizontal	46	1.21	-
2412MHz	Pass	PK	2.3892G	65.94	74.00	-8.06	3	Horizontal	46	1.21	-
2412MHz	Pass	PK	2.4086G	110.15	Inf	-Inf	3	Horizontal	46	1.21	-
2412MHz	Pass	AV	4.82322G	38.38	54.00	-15.62	3	Vertical	237	1.16	-
2412MHz	Pass	PK	4.82344G	52.71	74.00	-21.29	3	Vertical	237	1.16	-
2412MHz	Pass	AV	4.82304G	35.36	54.00	-18.64	3	Horizontal	9	2.73	-
2412MHz	Pass	PK	4.8241G	48.52	74.00	-25.48	3	Horizontal	9	2.73	-
2417MHz	Pass	AV	2.39G	47.88	54.00	-6.12	3	Vertical	266	1.92	-
2417MHz	Pass	AV	2.4126G	98.31	Inf	-Inf	3	Vertical	266	1.92	-
2417MHz	Pass	PK	2.3898G	60.21	74.00	-13.79	3	Vertical	266	1.92	-
2417MHz	Pass	PK	2.4126G	108.06	Inf	-Inf	3	Vertical	266	1.92	-
2417MHz	Pass	AV	2.3896G	49.57	54.00	-4.43	3	Horizontal	34	1.50	-
2417MHz	Pass	AV	2.4212G	101.48	Inf	-Inf	3	Horizontal	34	1.50	-
2417MHz	Pass	PK	2.3894G	61.94	74.00	-12.06	3	Horizontal	34	1.50	-
2417MHz	Pass	PK	2.4136G	110.81	Inf	-Inf	3	Horizontal	34	1.50	-
2437MHz	Pass	AV	2.3758G	46.49	54.00	-7.51	3	Vertical	265	1.00	-
2437MHz	Pass	AV	2.443G	99.19	Inf	-Inf	3	Vertical	265	1.00	-
2437MHz	Pass	AV	2.4858G	46.68	54.00	-7.32	3	Vertical	265	1.00	-
2437MHz	Pass	PK	2.3438G	59.48	74.00	-14.52	3	Vertical	265	1.00	-
2437MHz	Pass	PK	2.443G	109.11	Inf	-Inf	3	Vertical	265	1.00	-
2437MHz	Pass	PK	2.4898G	59.11	74.00	-14.89	3	Vertical	265	1.00	-
2437MHz	Pass	AV	2.3886G	46.80	54.00	-7.20	3	Horizontal	46	1.41	-
2437MHz	Pass	AV	2.4338G	104.28	Inf	-Inf	3	Horizontal	46	1.41	-
2437MHz	Pass	AV	2.4854G	47.38	54.00	-6.62	3	Horizontal	46	1.41	-
2437MHz	Pass	PK	2.3674G	59.24	74.00	-14.76	3	Horizontal	46	1.41	-
2437MHz	Pass	PK	2.4334G	113.34	Inf	-Inf	3	Horizontal	46	1.41	-
2437MHz	Pass	PK	2.4835G	59.82	74.00	-14.18	3	Horizontal	46	1.41	-
2437MHz	Pass	AV	4.87349G	40.39	54.00	-13.61	3	Vertical	234	1.00	-
2437MHz	Pass	PK	4.87296G	53.78	74.00	-20.22	3	Vertical	234	1.00	-
2437MHz	Pass	AV	4.87198G	37.88	54.00	-16.12	3	Horizontal	6	3.00	-
2437MHz	Pass	PK	4.87207G	50.83	74.00	-23.17	3	Horizontal	6	3.00	-
2457MHz	Pass	AV	2.461G	98.68	Inf	-Inf	3	Vertical	97	1.00	-
2457MHz	Pass	AV	2.4854G	47.79	54.00	-6.21	3	Vertical	97	1.00	-
2457MHz	Pass	PK	2.4606G	108.54	Inf	-Inf	3	Vertical	97	1.00	-
2457MHz	Pass	PK	2.4835G	59.91	74.00	-14.09	3	Vertical	97	1.00	_
2457MHz	Pass	AV	2.4512G	103.13	Inf	-14.03 -Inf	3	Horizontal	312	1.50	-
2457MHz	Pass	AV	2.4836G	50.90	54.00	-3.10	3	Horizontal	312	1.50	-
2457MHz	Pass	PK	2.4562G	112.18	54.00 Inf	-3.10 -Inf	3	Horizontal	312	1.50	-
											-
2457MHz	Pass	PK	2.486G	63.08	74.00	-10.92	3	Horizontal	312	1.50	-
2462MHz	Pass	AV	2.4678G	94.93	Inf	-Inf	3	Vertical	265	1.50	-
2462MHz	Pass	AV	2.4835G	47.67	54.00	-6.33	3	Vertical	265	1.50	-
2462MHz	Pass	PK	2.4674G	104.79	Inf	-Inf	3	Vertical	265	1.50	-

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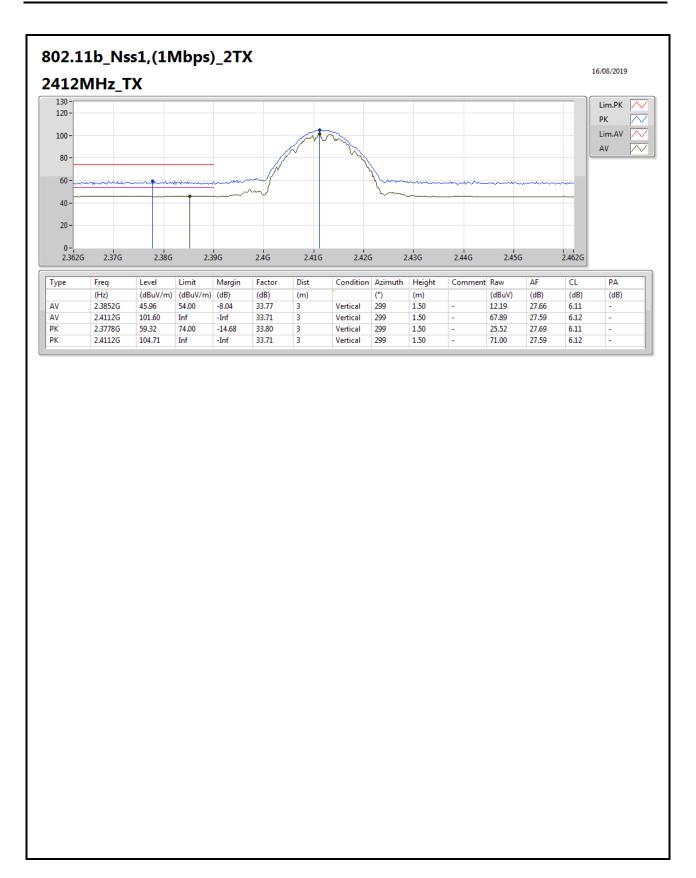
M. J.	D It	T	F	11	1.114	Manada	Di-4	0	A _!4b	11-1-64	0
Mode	Result	Туре	Freq	Level	Limit	Margin	Dist	Condition	Azimuth	Height	Comments
			(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(m)		(°)	(m)	
2462MHz	Pass	PK	2.484G	59.01	74.00	-14.99	3	Vertical	265	1.50	-
2462MHz	Pass	AV	2.4658G	100.55	Inf	-Inf	3	Horizontal	44	1.40	-
2462MHz	Pass	AV	2.4836G	50.15	54.00	-3.85	3	Horizontal	44	1.40	-
2462MHz	Pass	PK	2.4638G	110.23	Inf	-Inf	3	Horizontal	44	1.40	-
2462MHz	Pass	PK	2.4836G	64.21	74.00	-9.79	3	Horizontal	44	1.40	-
2462MHz	Pass	AV	4.92372G	34.98	54.00	-19.02	3	Vertical	249	1.01	-
2462MHz	Pass	PK	4.92354G	47.62	74.00	-26.38	3	Vertical	249	1.01	-
2462MHz	Pass	AV	4.92611G	34.65	54.00	-19.35	3	Horizontal	15	1.50	-
2462MHz	Pass	PK	4.92351G	47.94	74.00	-26.06	3	Horizontal	15	1.50	-
802.11n HT20_Nss1,(MCS0)_2TX	-	-	-	-	-	-	-	-	-	-	-
2412MHz	Pass	AV	2.39G	47.77	54.00	-6.23	3	Vertical	269	1.89	-
2412MHz	Pass	AV	2.4062G	93.97	Inf	-Inf	3	Vertical	269	1.89	-
2412MHz	Pass	PK	2.3888G	60.92	74.00	-13.08	3	Vertical	269	1.89	-
2412MHz	Pass	PK	2.4088G	103.33	Inf	-Inf	3	Vertical	269	1.89	-
2412MHz	Pass	AV	2.39G	50.81	54.00	-3.19	3	Horizontal	46	1.01	-
2412MHz	Pass	AV	2.4066G	98.51	Inf	-Inf	3	Horizontal	46	1.01	-
2412MHz	Pass	PK	2.39G	63.85	74.00	-10.15	3	Horizontal	46	1.01	-
2412MHz	Pass	PK	2.4094G	108.09	Inf	-Inf	3	Horizontal	46	1.01	-
2412MHz	Pass	AV	4.82194G	35.89	54.00	-18.11	3	Vertical	237	1.05	-
2412MHz	Pass	PK	4.82247G	49.42	74.00	-24.58	3	Vertical	237	1.05	-
2412MHz	Pass	AV	4.82273G	34.30	54.00	-19.70	3	Horizontal	1	2.95	-
2412MHz	Pass	PK	4.82182G	46.92	74.00	-27.08	3	Horizontal	1	2.95	-
2417MHz	Pass	AV	2.39G	48.27	54.00	-5.73	3	Vertical	227	2.92	-
2417MHz	Pass	AV	2.4182G	99.40	Inf	-Inf	3	Vertical	227	2.92	-
2417MHz	Pass	PK	2.3898G	60.68	74.00	-13.32	3	Vertical	227	2.92	-
2417MHz	Pass	PK	2.4194G	109.03	Inf	-Inf	3	Vertical	227	2.92	-
2417MHz	Pass	AV	2.39G	50.43	54.00	-3.57	3	Horizontal	306	1.00	-
2417MHz	Pass	AV	2.4224G	104.37	Inf	-Inf	3	Horizontal	306	1.00	-
2417MHz	Pass	PK	2.39G	62.61	74.00	-11.39	3	Horizontal	306	1.00	-
2417MHz	Pass	PK	2.4154G	113.45	Inf	-Inf	3	Horizontal	306	1.00	-
2437MHz	Pass	AV	2.3878G	46.54	54.00	-7.46	3	Vertical	263	1.01	-
2437MHz	Pass	AV	2.4402G	99.27	Inf	-Inf	3	Vertical	263	1.01	-
2437MHz	Pass	AV	2.485G	46.83	54.00	-7.17	3	Vertical	263	1.01	-
2437MHz	Pass	PK	2.3866G	59.46	74.00	-14.54	3	Vertical	263	1.01	-
2437MHz	Pass	PK	2.4402G	108.22	Inf	-Inf	3	Vertical	263	1.01	-
2437MHz	Pass	PK	2.4878G	58.85	74.00	-15.15	3	Vertical	263	1.01	-
2437MHz	Pass	AV	2.3894G	46.93	54.00	-7.07	3	Horizontal	43	1.43	-
2437MHz	Pass	AV	2.4342G	103.96	Inf	-Inf	3	Horizontal	43	1.43	-
2437MHz	Pass	AV	2.4835G	47.49	54.00	-6.51	3	Horizontal	43	1.43	-
2437MHz	Pass	PK	2.3854G	60.32	74.00	-13.68	3	Horizontal	43	1.43	_
2437MHz	Pass	PK	2.4338G	113.03	Inf	-Inf	3	Horizontal	43	1.43	_
2437MHz	Pass	PK	2.491G	59.74	74.00	-14.26	3	Horizontal	43	1.43	_
2437MHz	Pass	AV	4.87162G	40.51	54.00	-14.20	3	Vertical	234	1.43	
2437MHz	Pass	PK	4.87305G	55.10	74.00	-18.90	3	Vertical	234	1.00	-
2437MHz	Pass	AV	4.87212G	37.37	54.00	-16.63	3	Horizontal	0	3.00	-
											-
2437MHz	Pass	PK	4.87237G	50.75	74.00	-23.25	3	Horizontal	0	3.00	-
2457MHz	Pass	AV	2.4554G	97.38	Inf	-Inf	3	Vertical	360	1.12	-
2457MHz	Pass	AV	2.484G	47.65	54.00	-6.35	3	Vertical	360	1.12	-
2457MHz	Pass	PK	2.4536G	106.92	Inf	-Inf	3	Vertical	360	1.12	-

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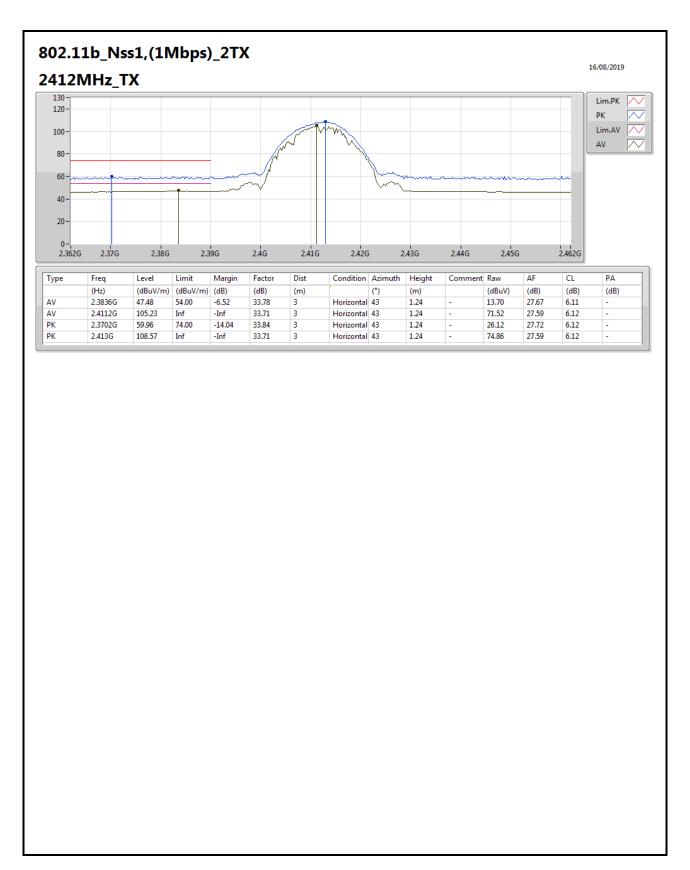


Appendix F.2

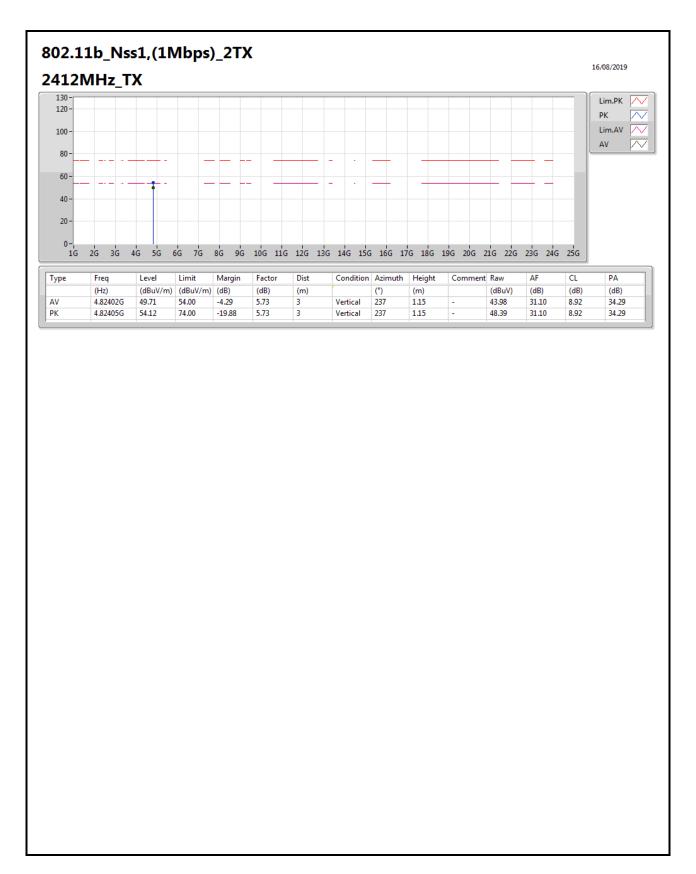
Mode	Result	Туре	Freq	Level	Limit	Margin	Dist	Condition	Azimuth	Height	Comments
			(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(m)		(°)	(m)	
2457MHz	Pass	PK	2.4848G	59.56	74.00	-14.44	3	Vertical	360	1.12	-
2457MHz	Pass	AV	2.4624G	103.99	Inf	-Inf	3	Horizontal	305	1.00	-
2457MHz	Pass	AV	2.4835G	50.77	54.00	-3.23	3	Horizontal	305	1.00	-
2457MHz	Pass	PK	2.462G	113.69	Inf	-Inf	3	Horizontal	305	1.00	-
2457MHz	Pass	PK	2.4846G	64.03	74.00	-9.97	3	Horizontal	305	1.00	-
2462MHz	Pass	AV	2.4656G	94.76	Inf	-Inf	3	Vertical	266	2.07	-
2462MHz	Pass	AV	2.4835G	47.35	54.00	-6.65	3	Vertical	266	2.07	-
2462MHz	Pass	PK	2.466G	104.53	Inf	-Inf	3	Vertical	266	2.07	-
2462MHz	Pass	PK	2.5G	59.89	74.00	-14.11	3	Vertical	266	2.07	-
2462MHz	Pass	AV	2.4668G	99.95	Inf	-Inf	3	Horizontal	44	1.50	-
2462MHz	Pass	AV	2.4836G	50.79	54.00	-3.21	3	Horizontal	44	1.50	-
2462MHz	Pass	PK	2.4674G	110.02	Inf	-Inf	3	Horizontal	44	1.50	-
2462MHz	Pass	PK	2.4835G	63.05	74.00	-10.95	3	Horizontal	44	1.50	-
2462MHz	Pass	AV	4.92432G	34.46	54.00	-19.54	3	Vertical	232	1.00	-
2462MHz	Pass	PK	4.92395G	47.73	74.00	-26.27	3	Vertical	232	1.00	-
2462MHz	Pass	AV	4.92167G	35.06	54.00	-18.94	3	Horizontal	11	1.03	-
2462MHz	Pass	PK	4.92158G	47.70	74.00	-26.30	3	Horizontal	11	1.03	-

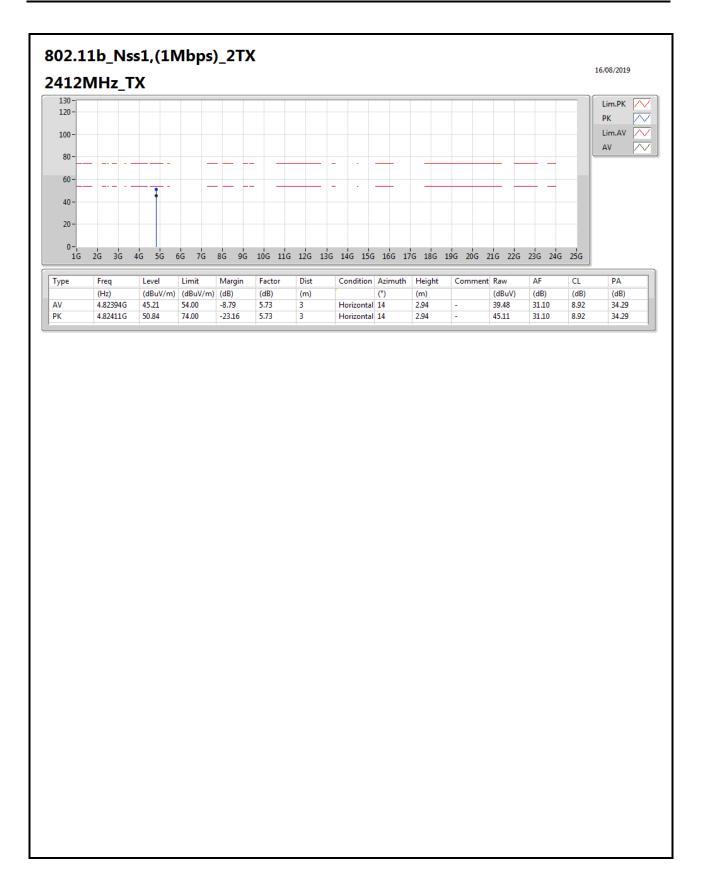


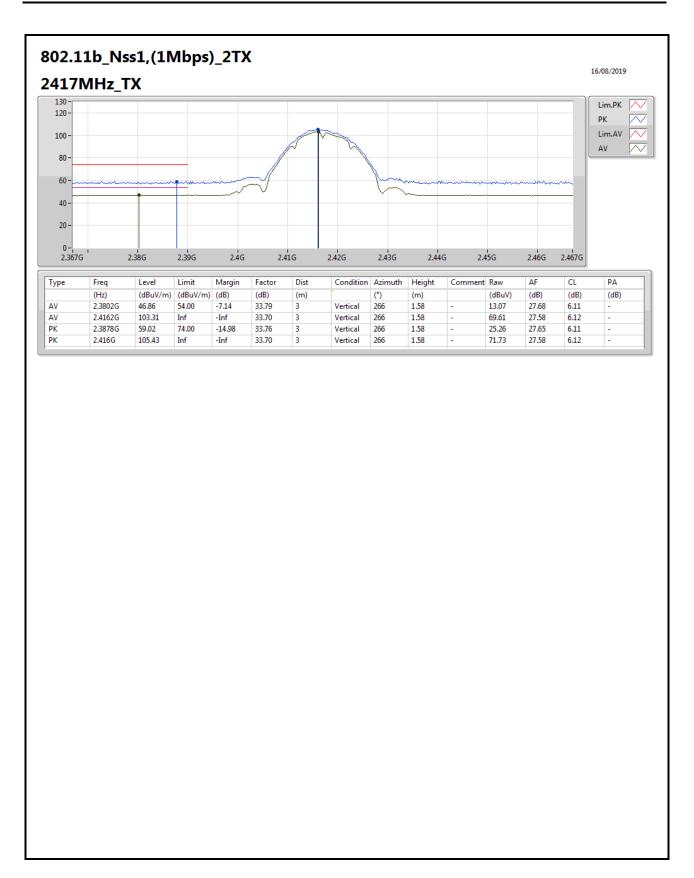




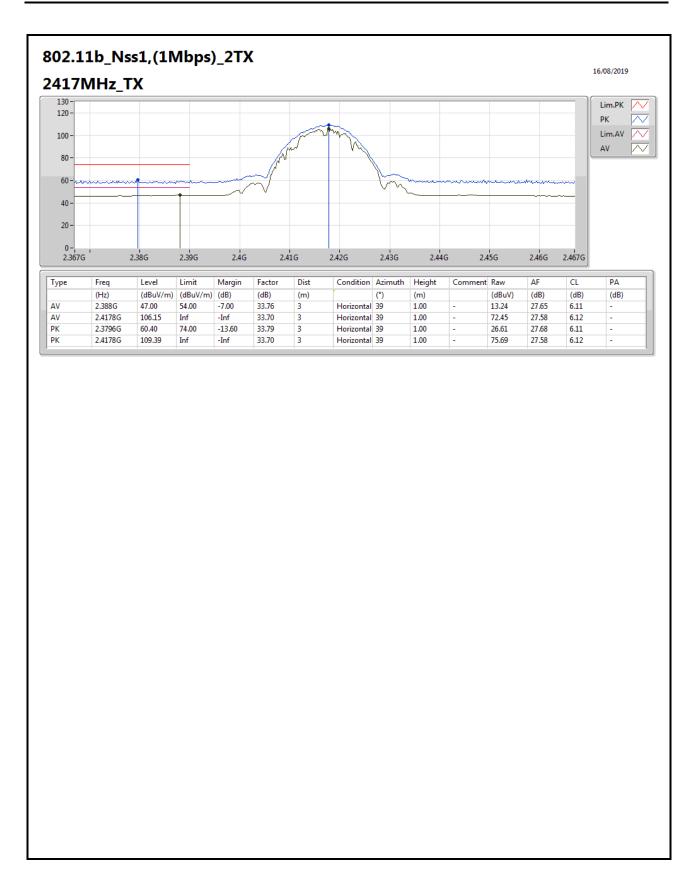




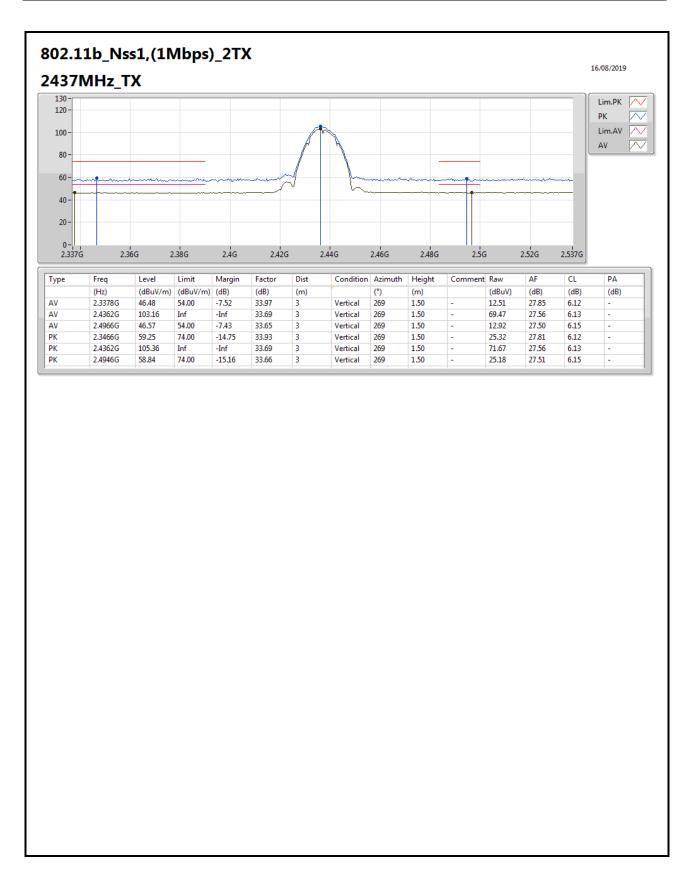


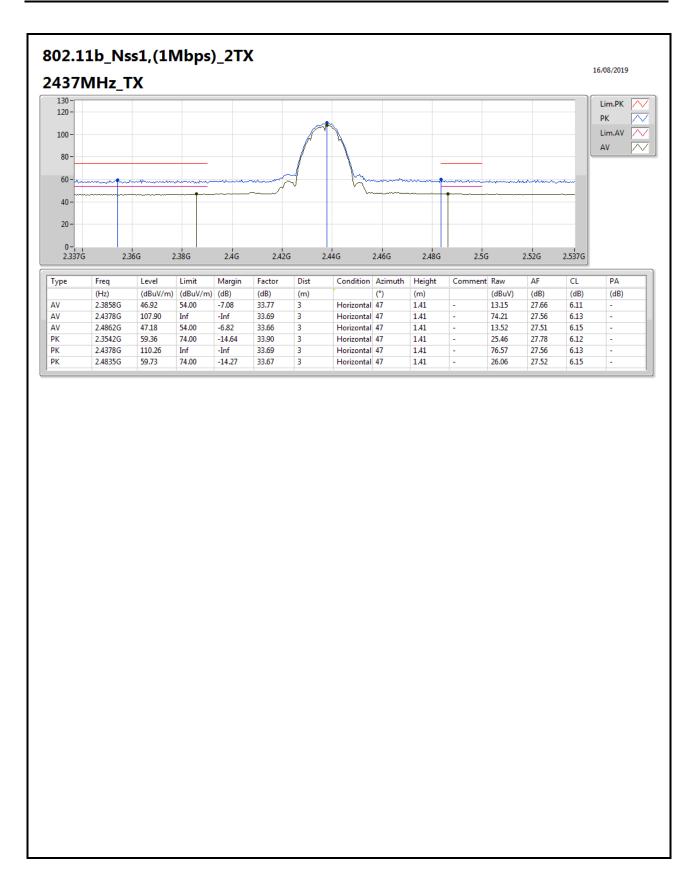


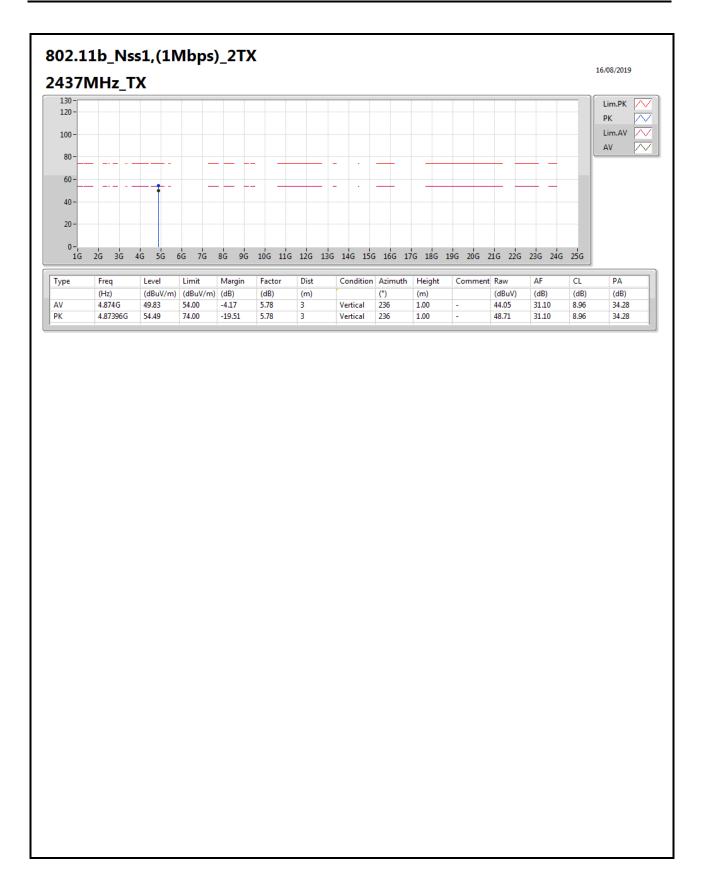
 $Level\ (dBuV/m) = Raw(Read\ Level) + AF(Antenna\ Factor) + CL(Cable\ Loss) - PA(\ Preamp\ Factor)$



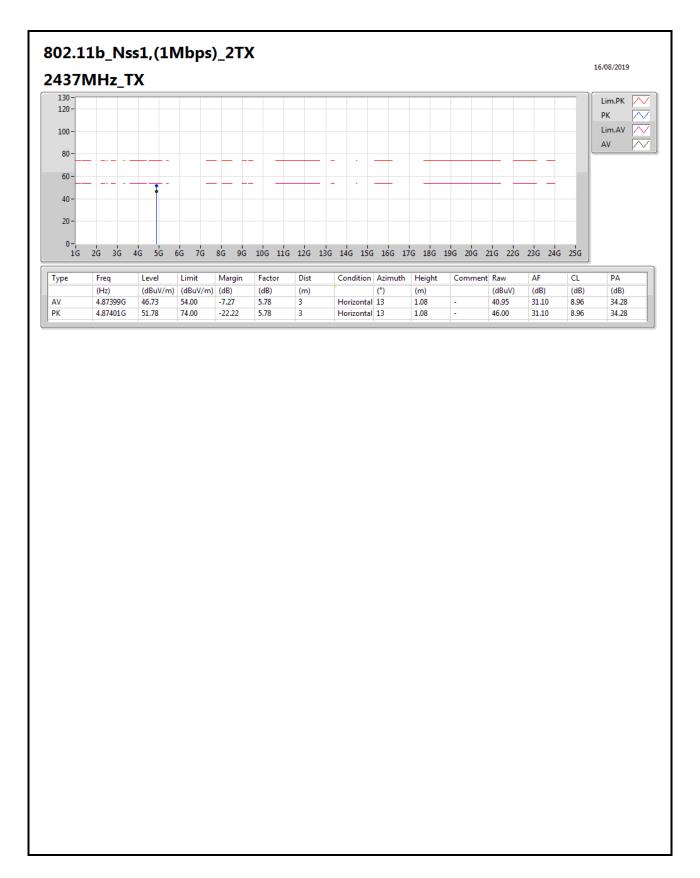


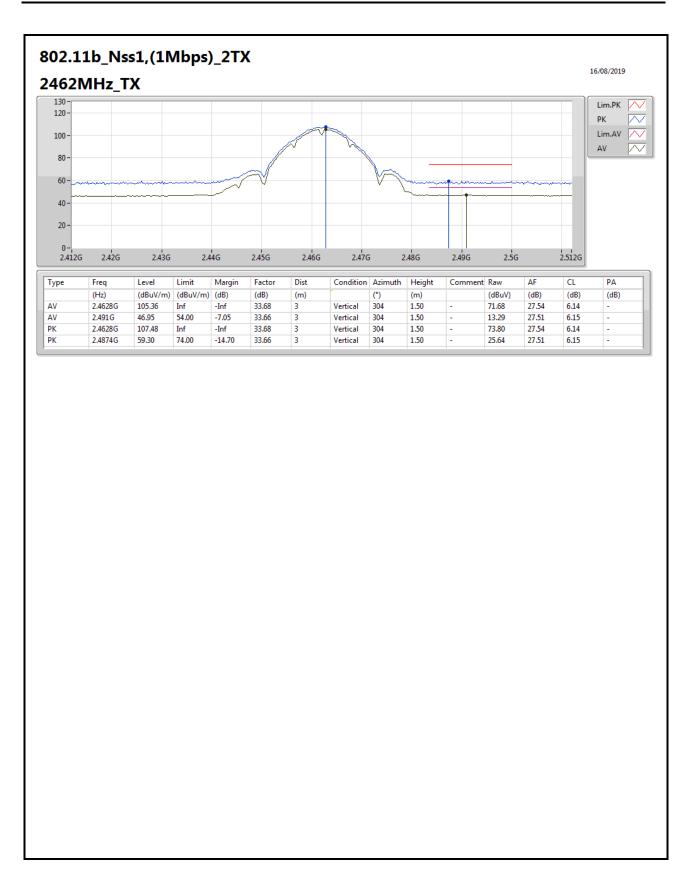


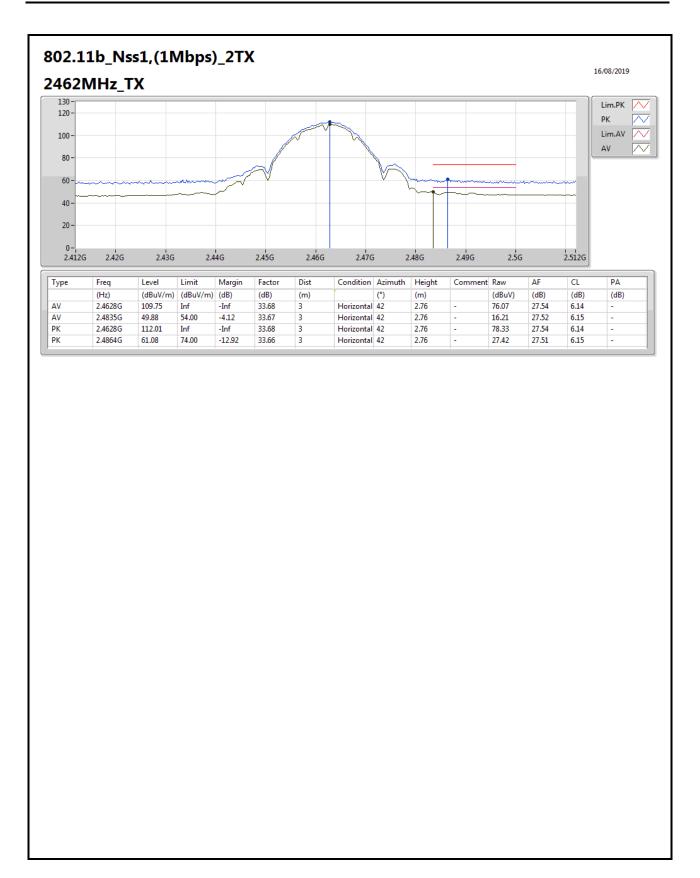


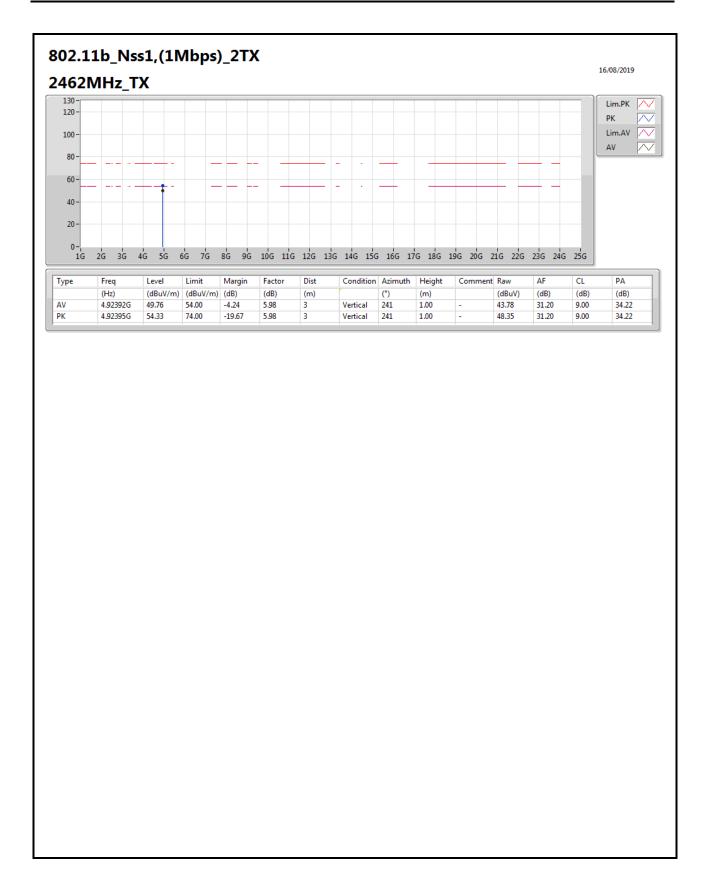




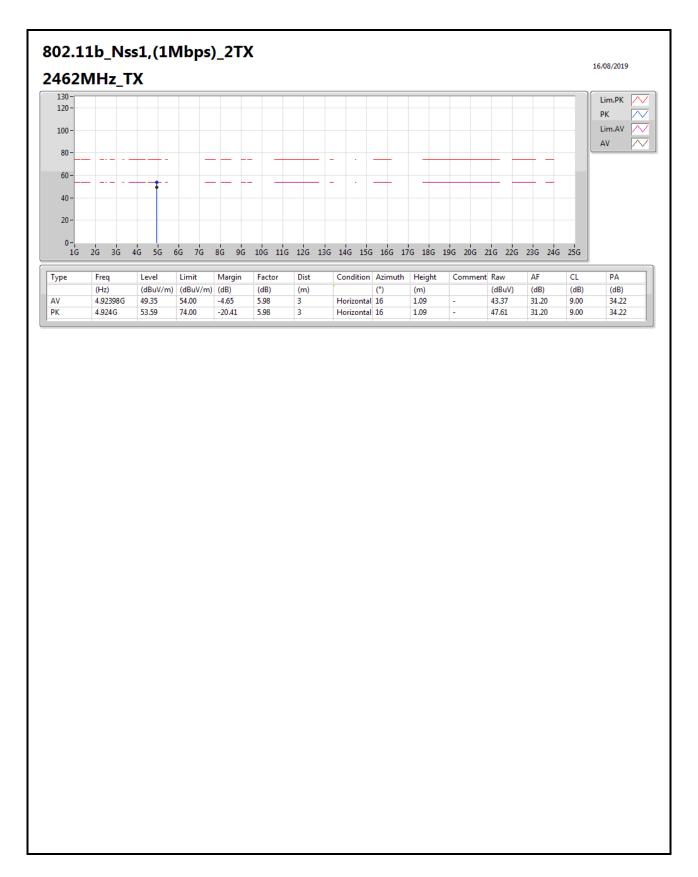


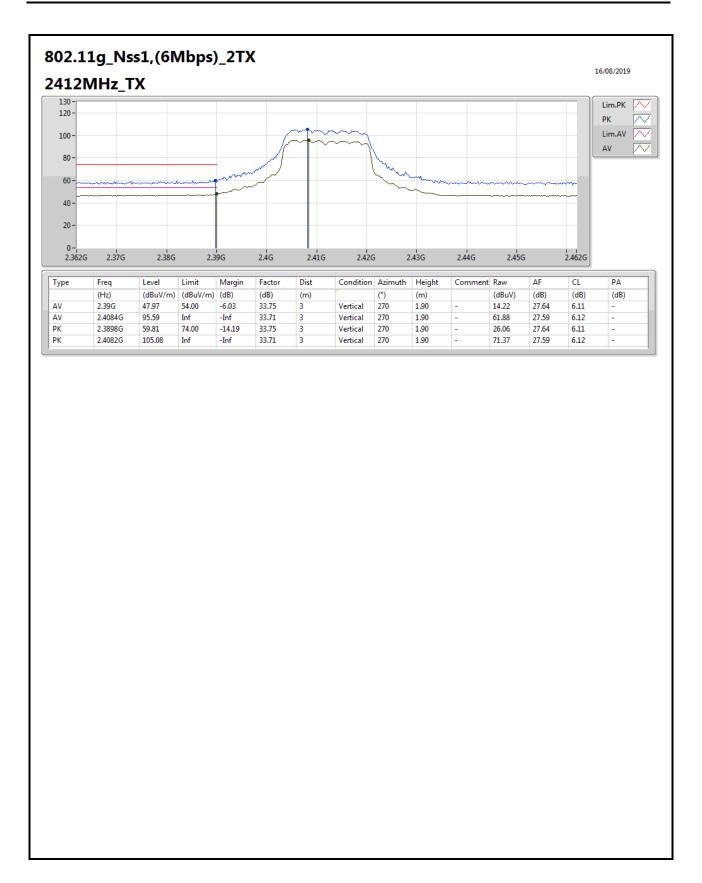


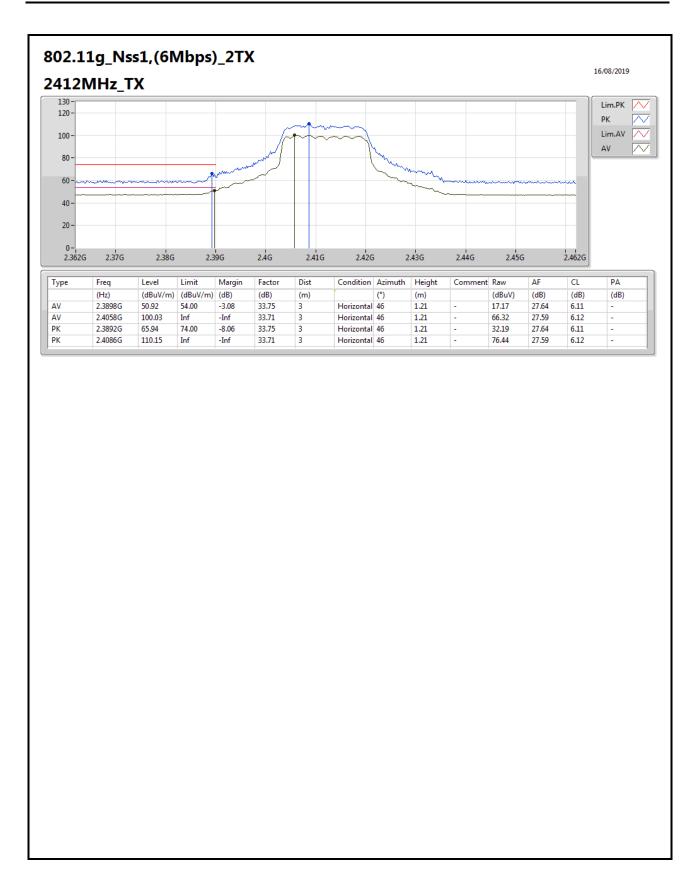


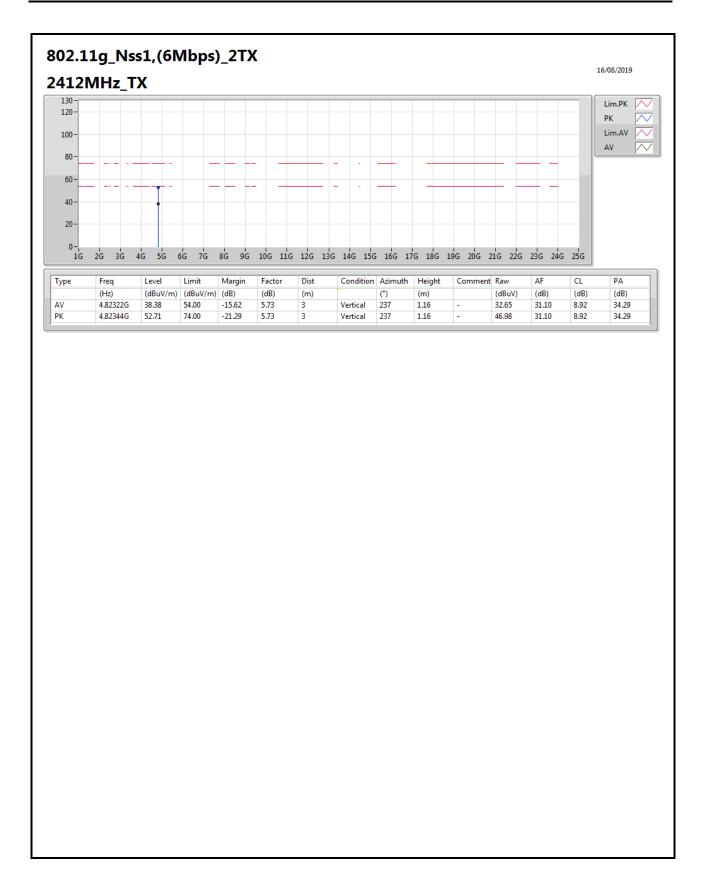




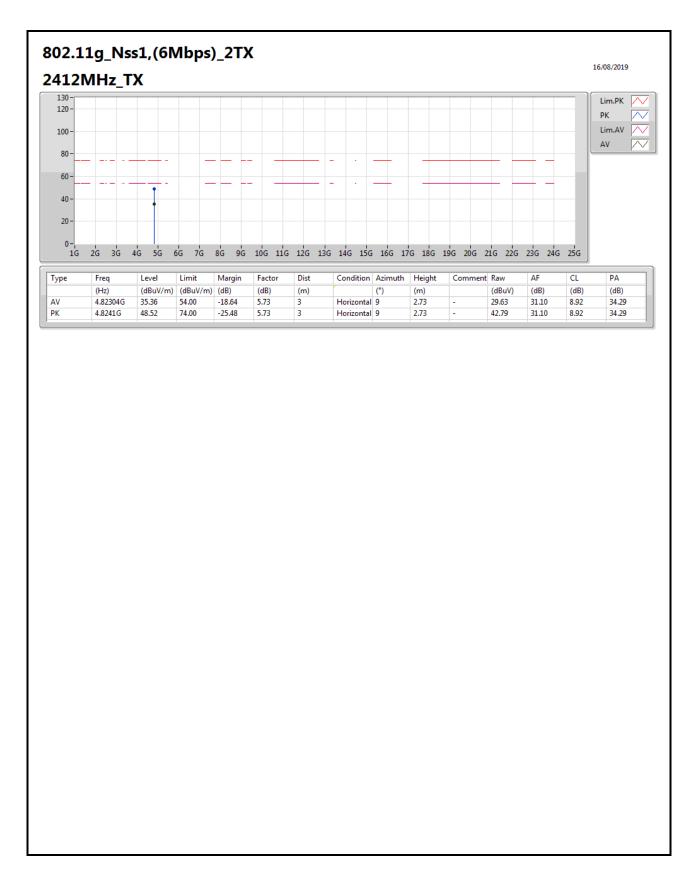


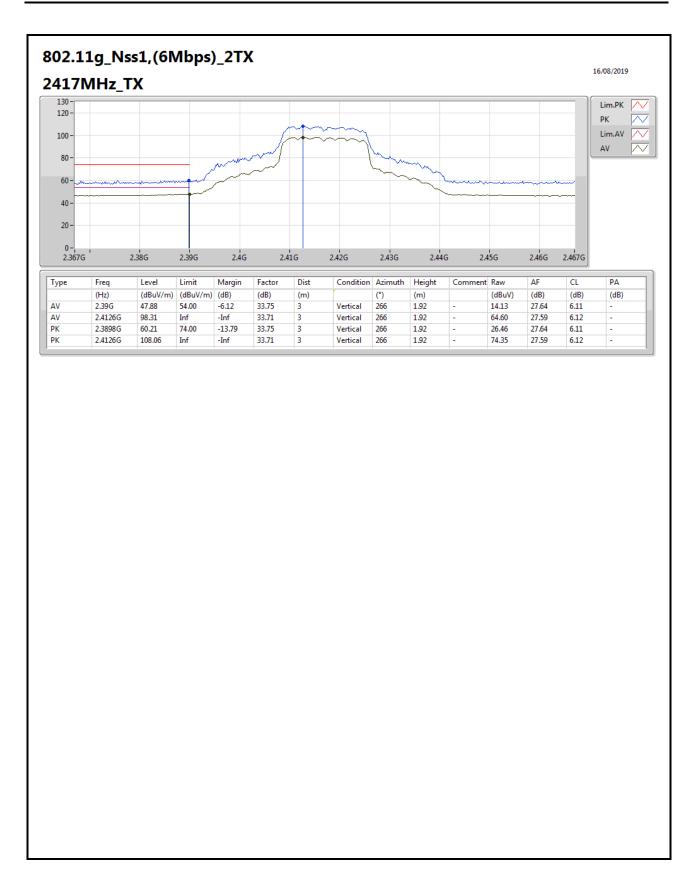




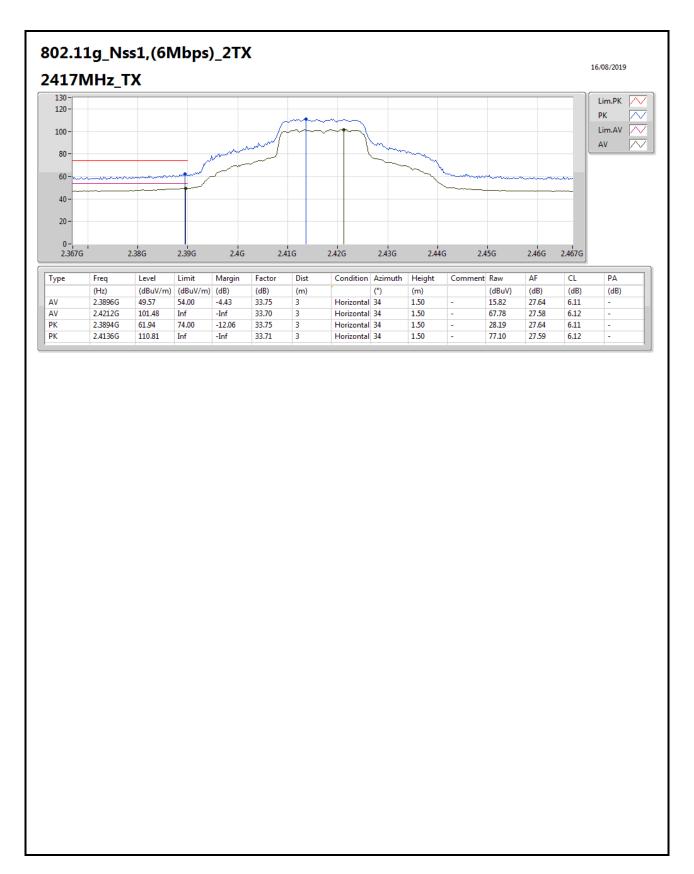


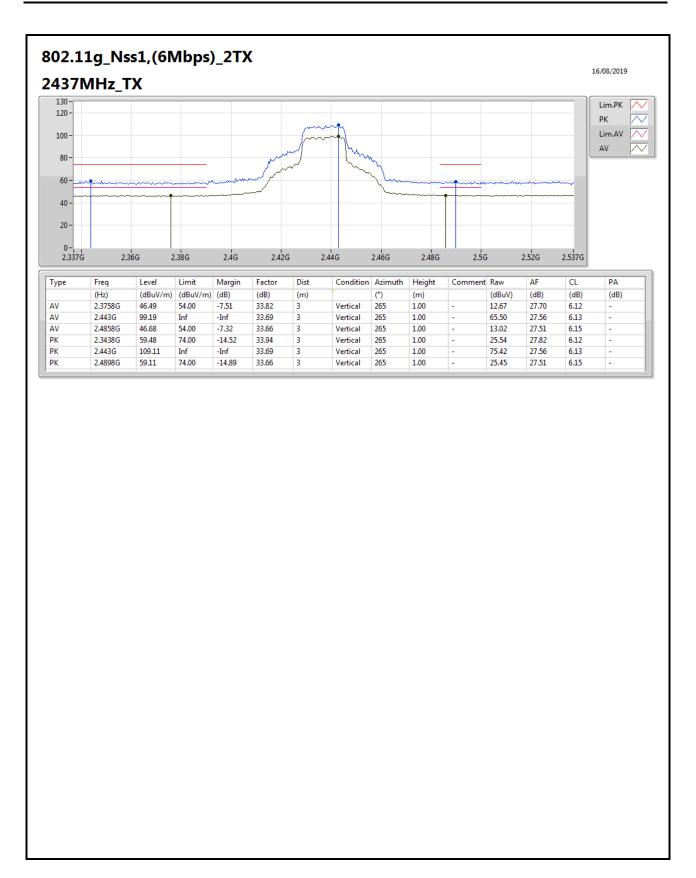




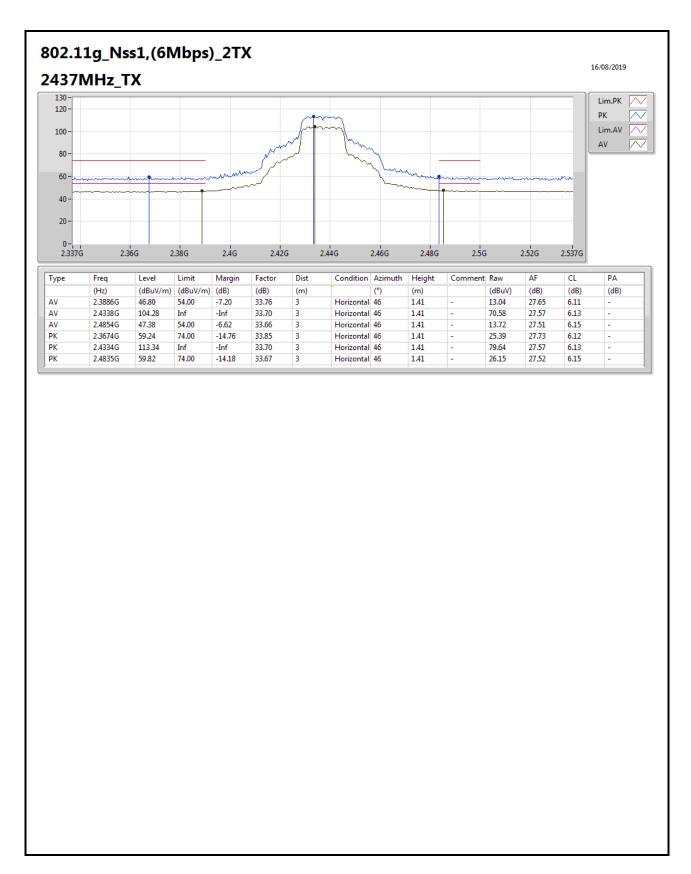


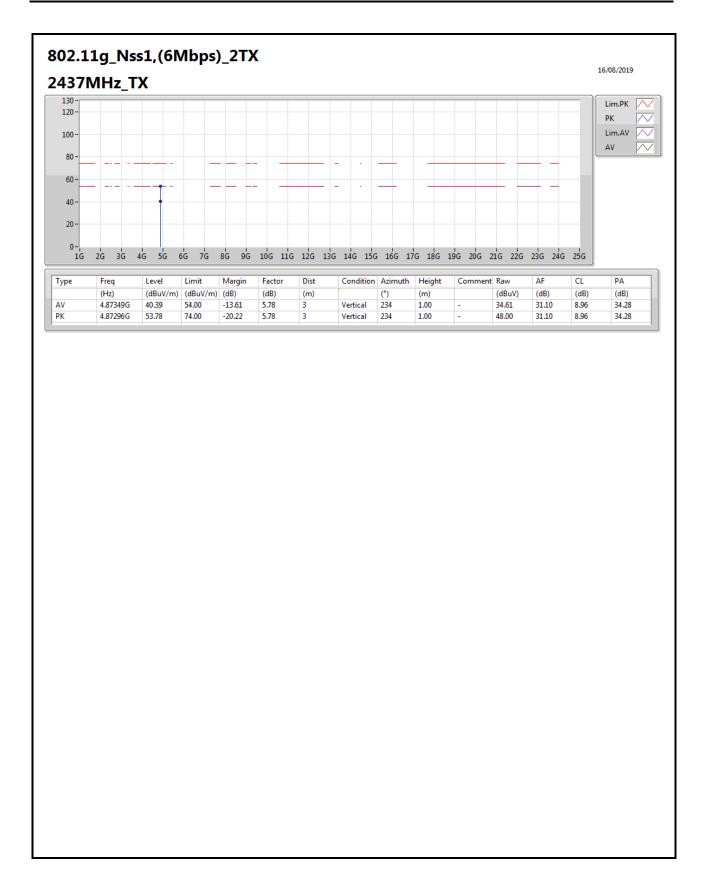


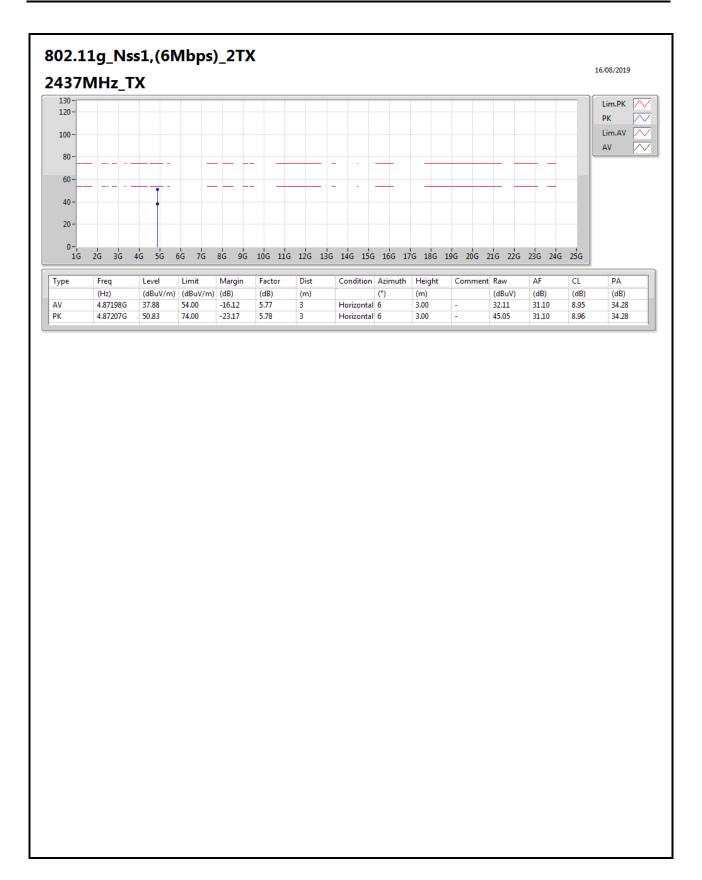


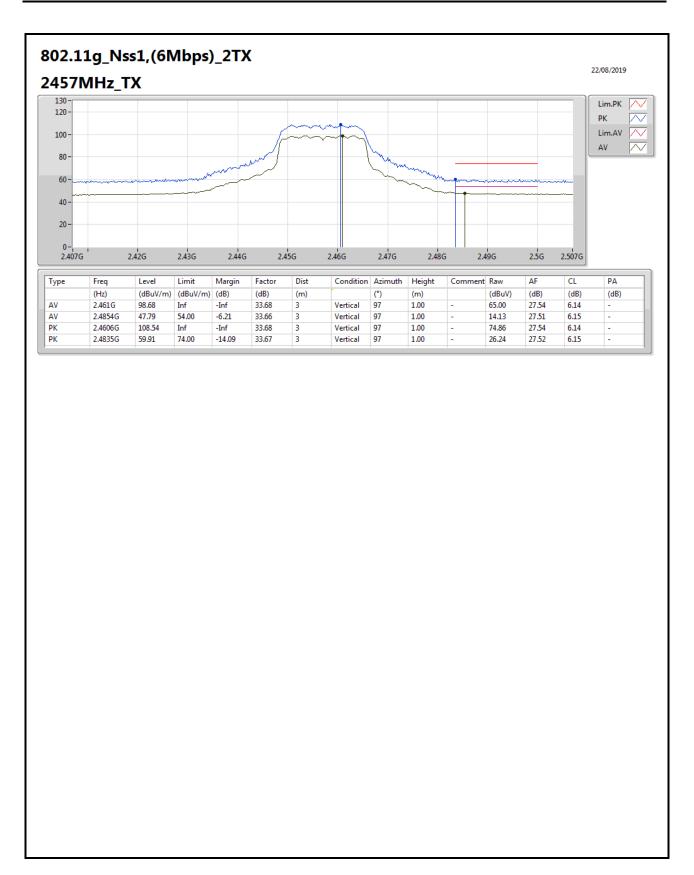


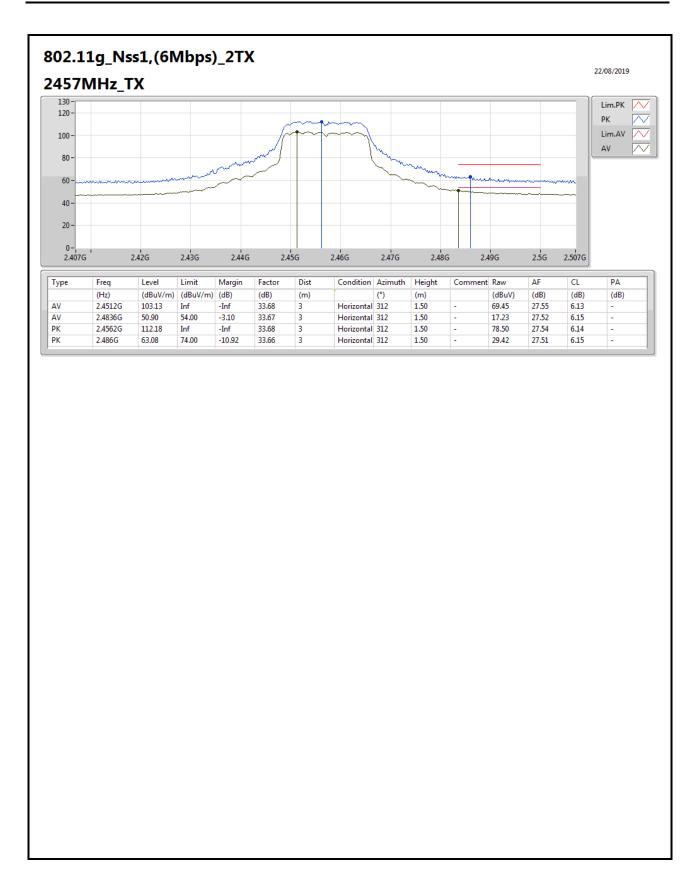




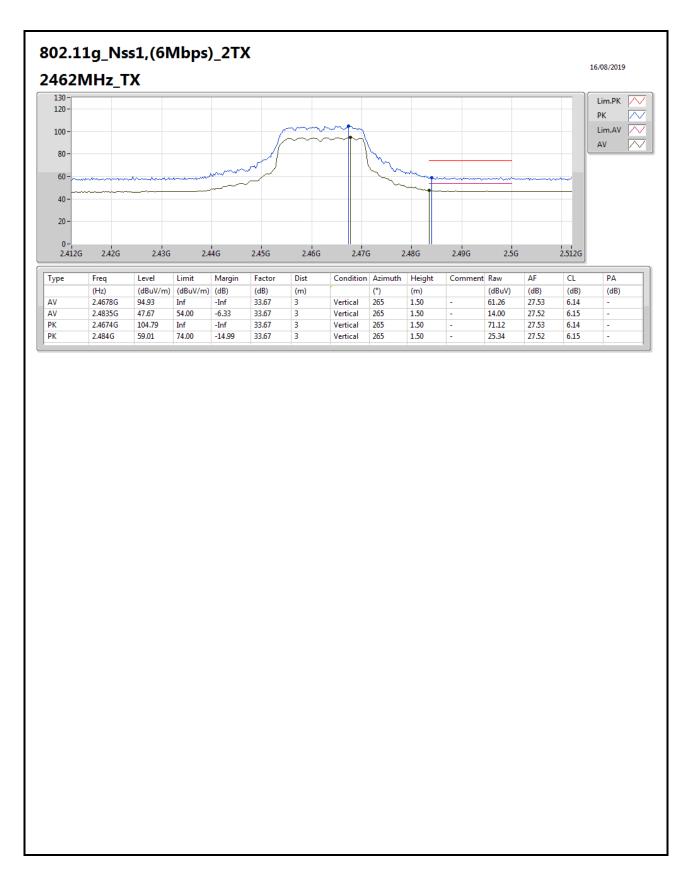


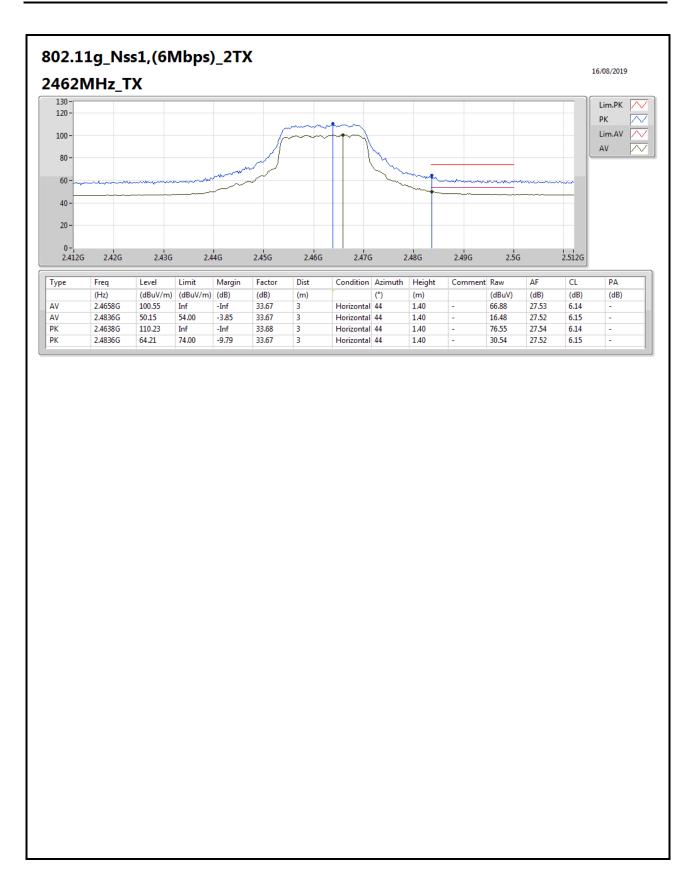


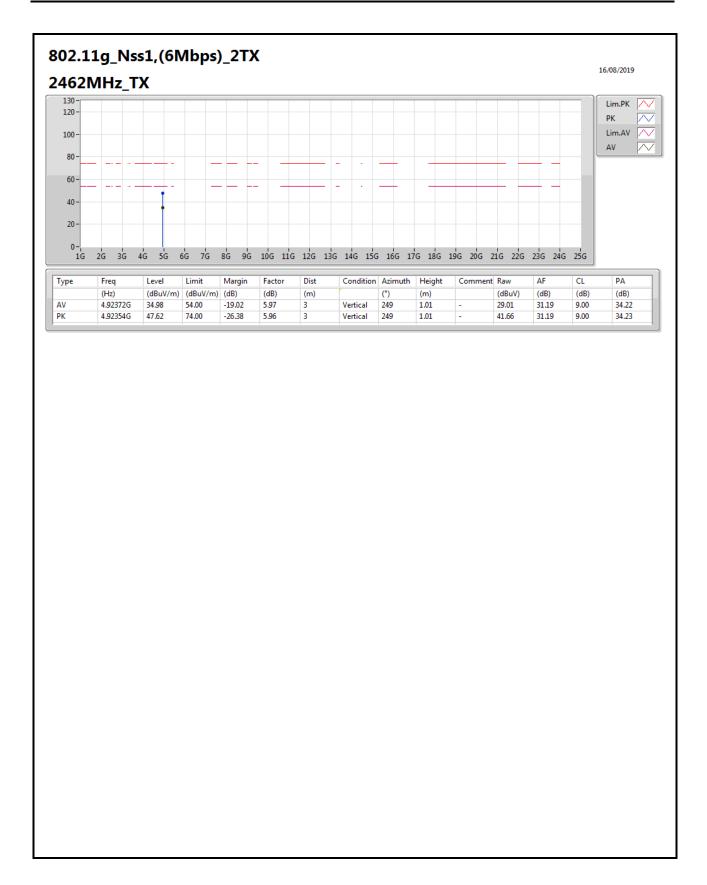


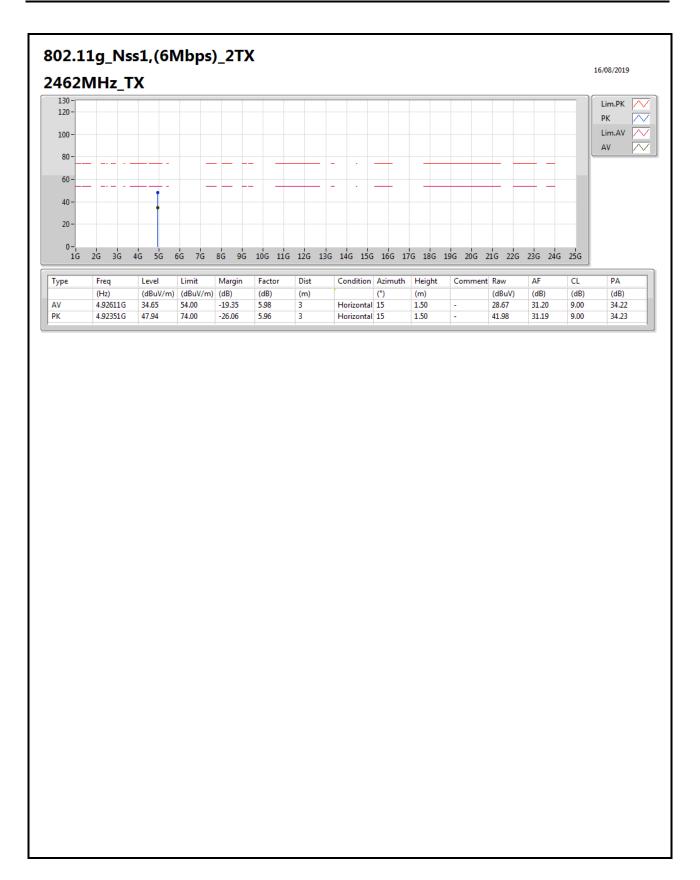


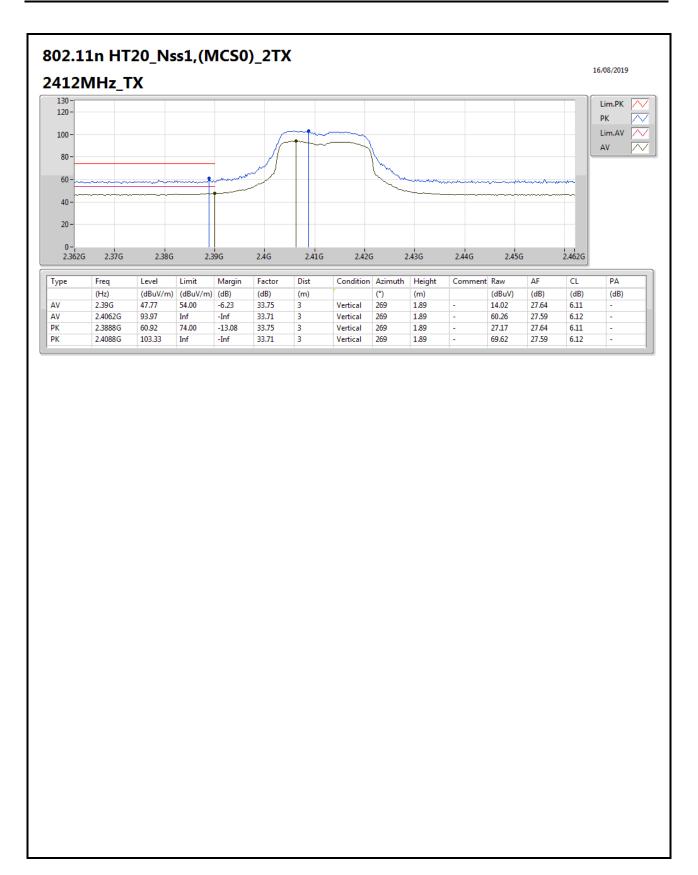


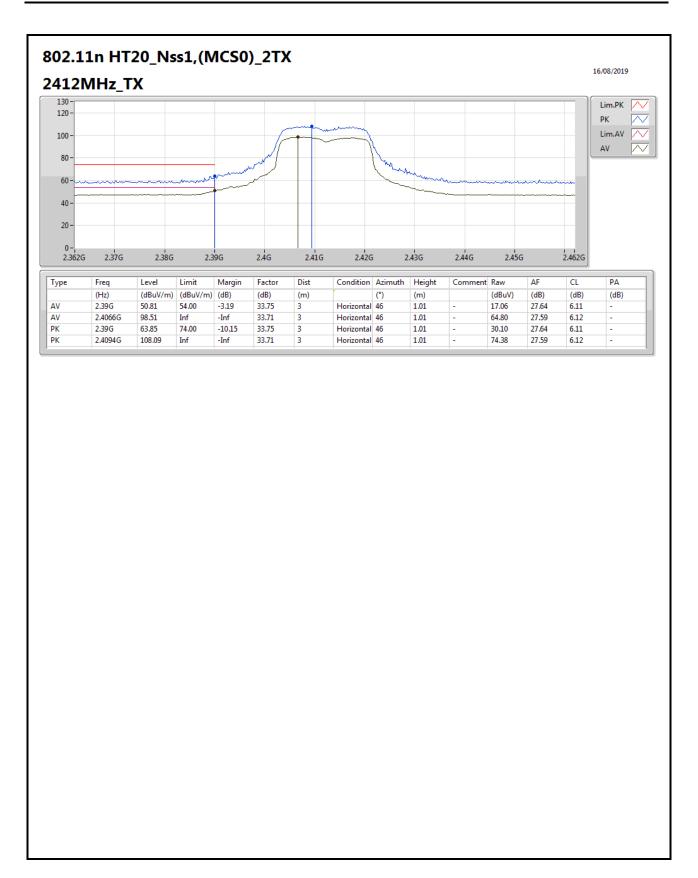


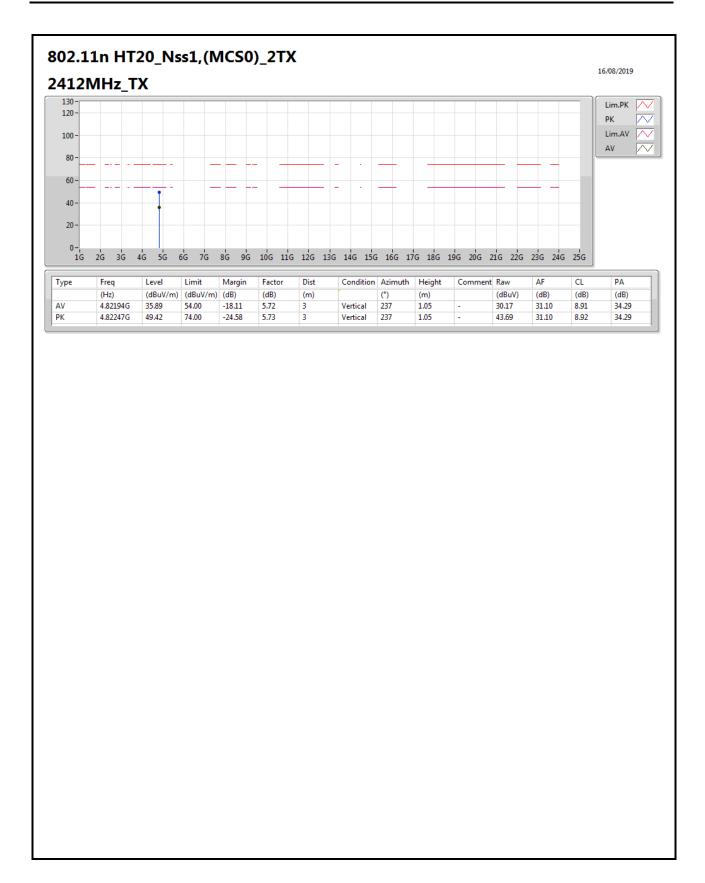


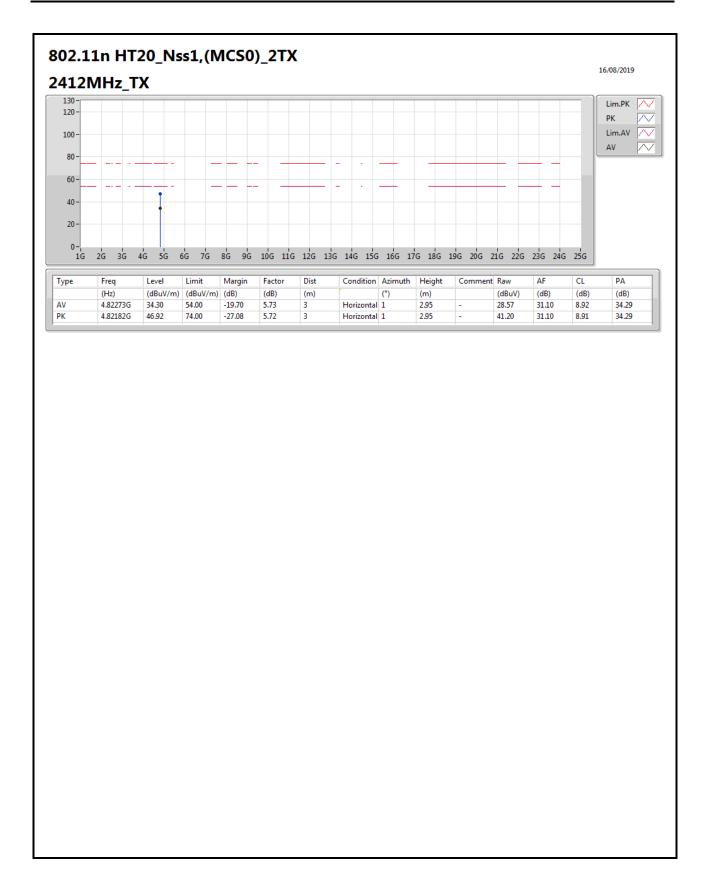


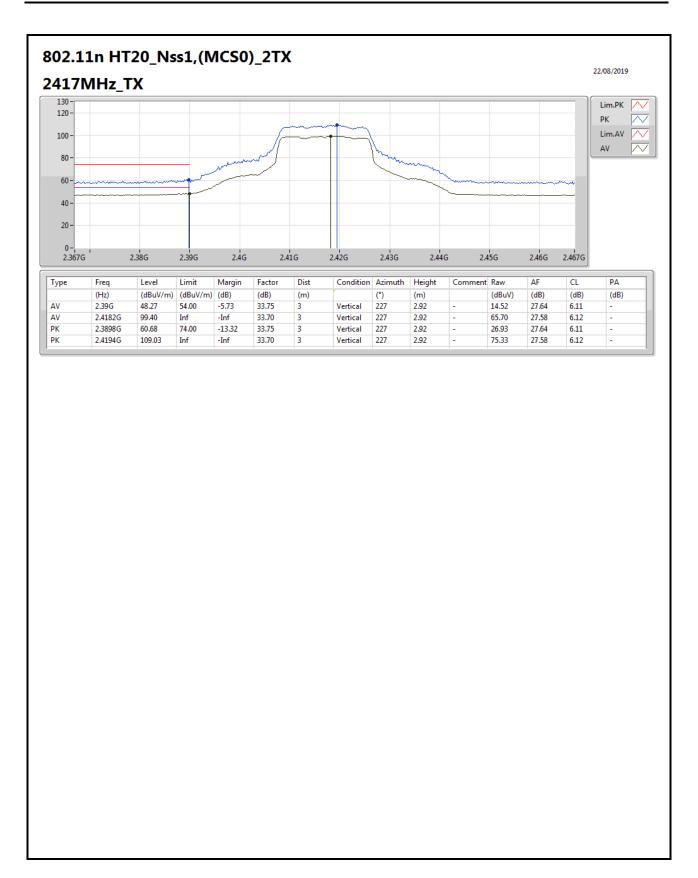


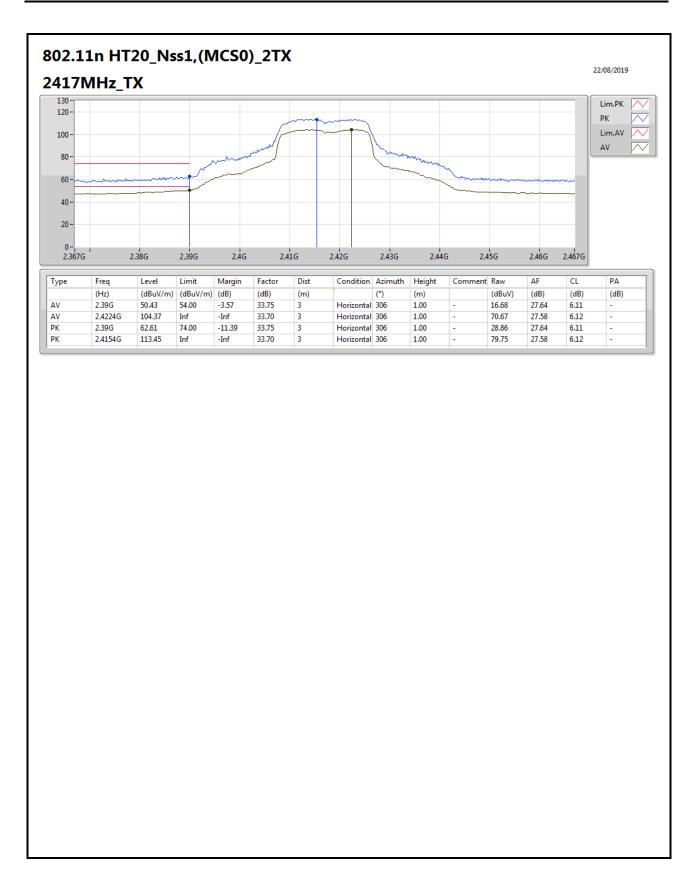




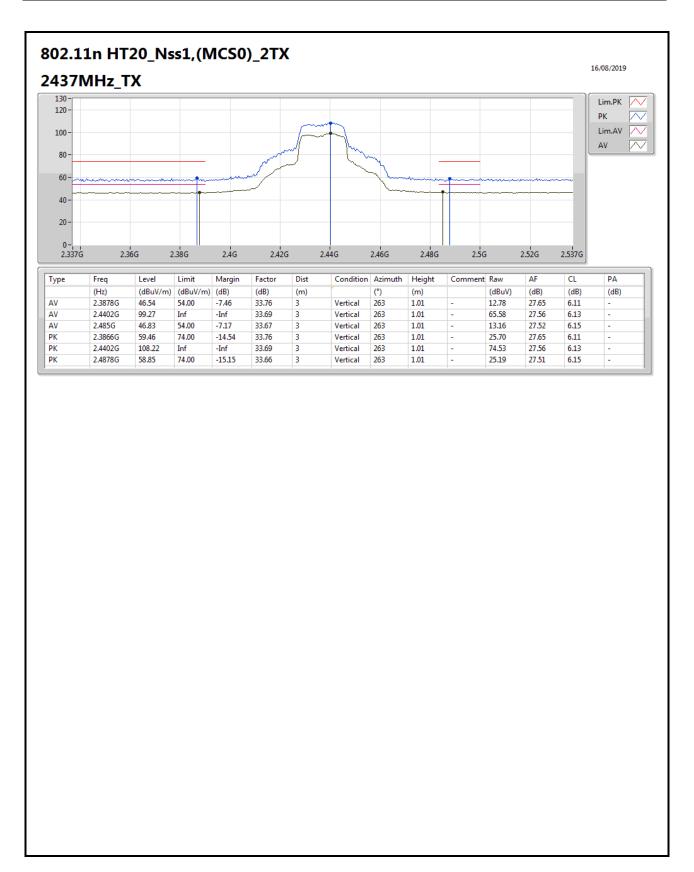


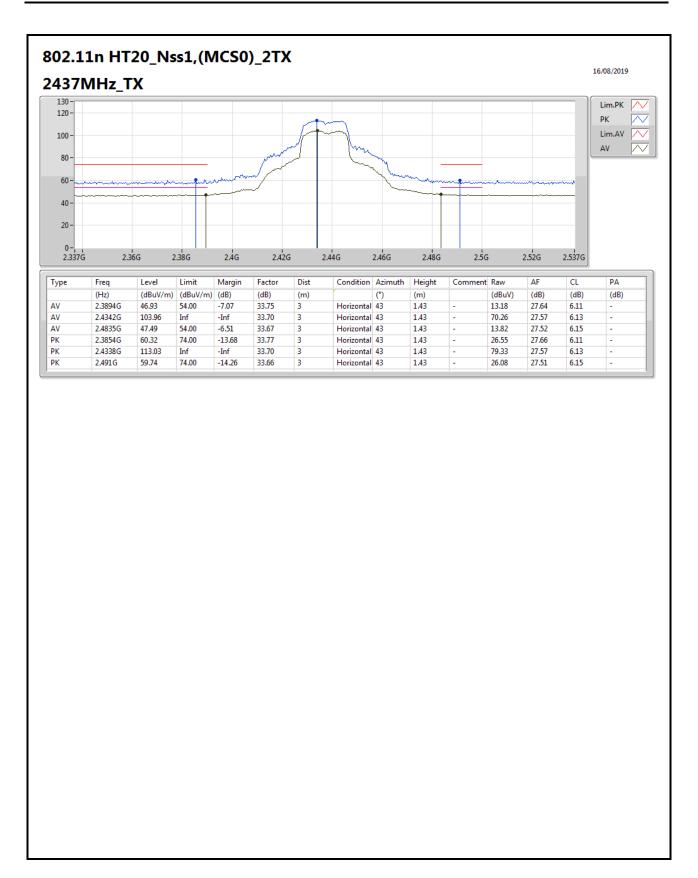


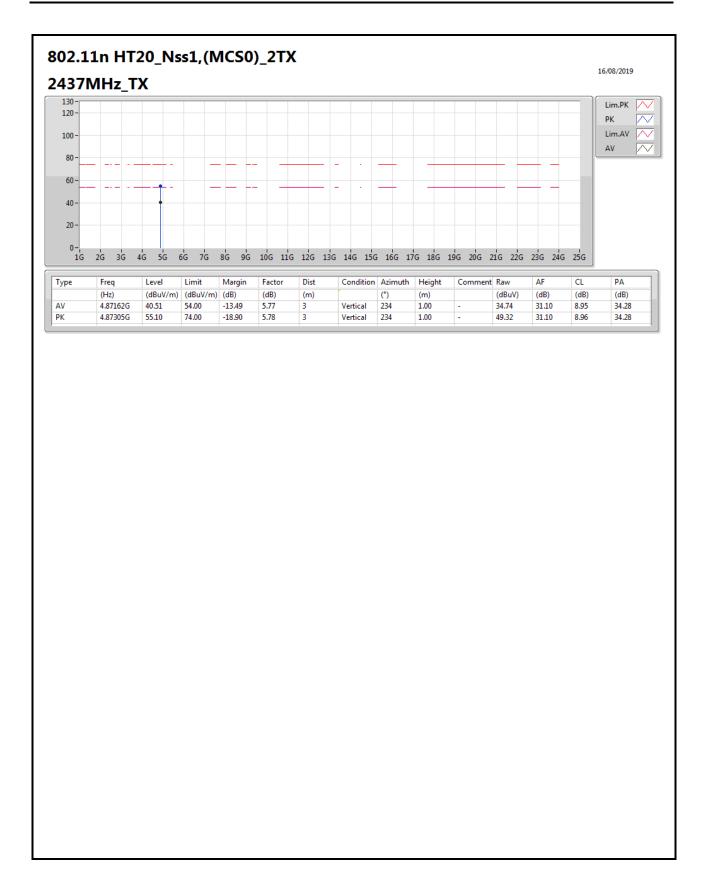


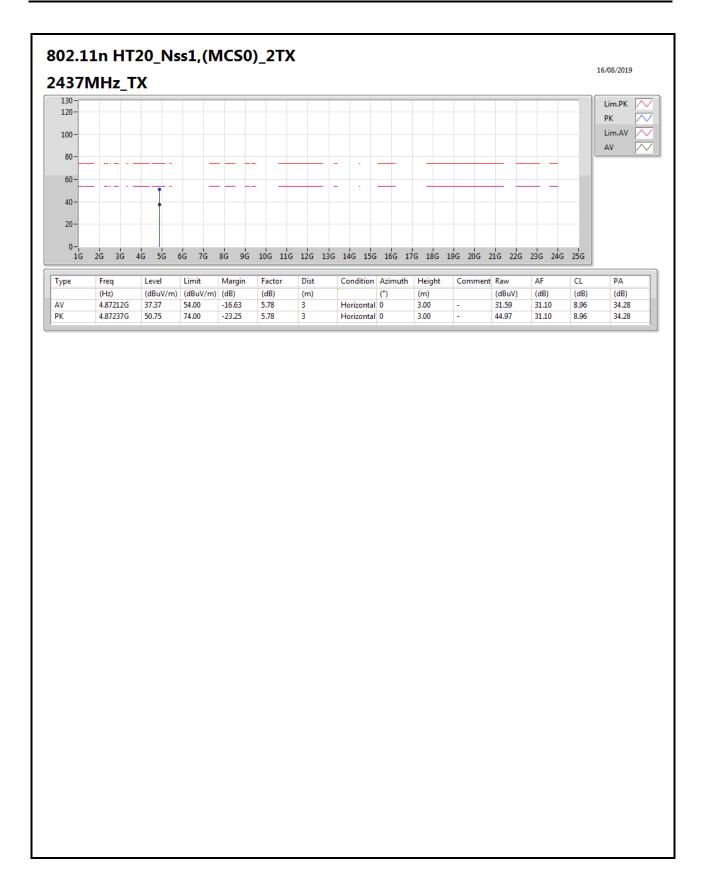


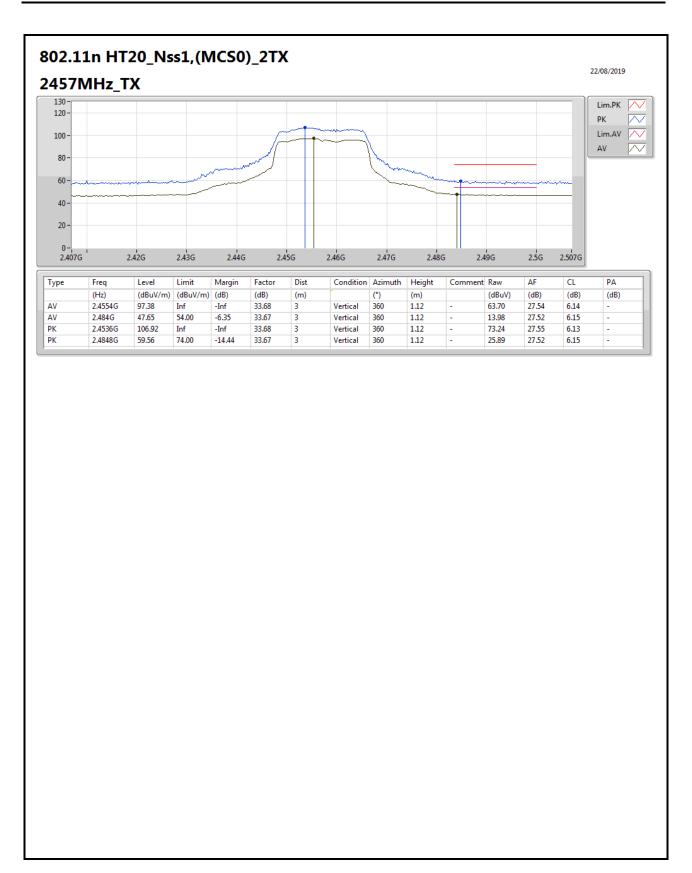


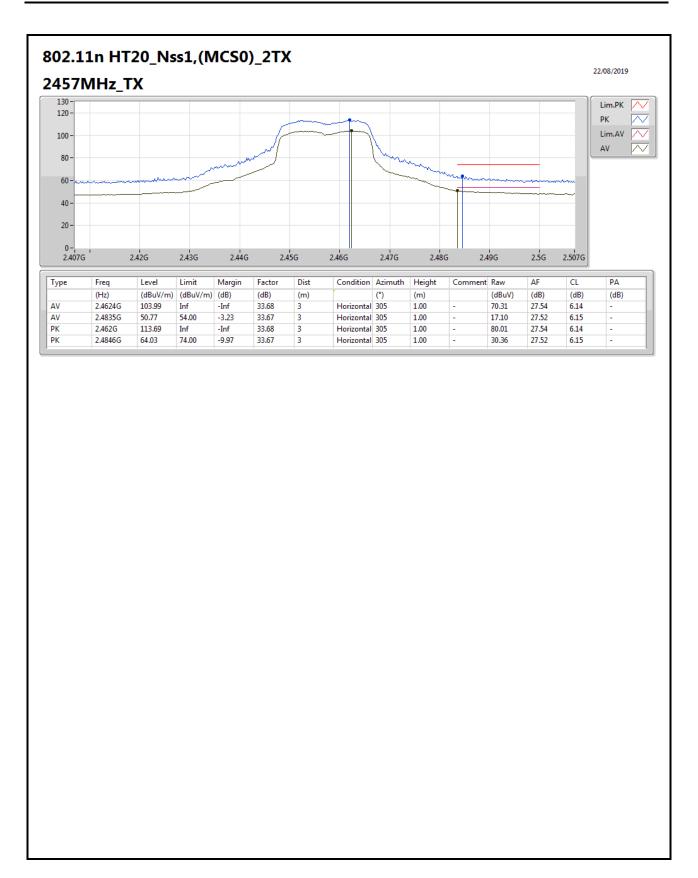












Level (dBuV/m) = Raw(Read Level) + AF(Antenna Factor) + CL(Cable Loss) - PA(Preamp Factor)

