



Report No.:FR9D1219AC

FCC Test Report

FCC ID : 2AHGTA30103A

Equipment : Mevo Start

Brand Name : Mevo

Model Name : A30103A

Applicant : Mevo, Inc

19 Morris Ave. BLDG 128 Brooklyn, NY

11205 United States Of America

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 Dec. 13, 2019, and testing was started from Dec. 17, 2019 and completed on Jan. 16, 2020. We, SPORTON INTERNATIONAL INC. EMC & Wireless Communications Laboratory, would like to declare that the tested sample has been evaluated in accordance with the procedures given in ANSI C63.10-2013 and shown compliance with the applicable technical standards.

The 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.)

TEL: 886-3-3273456 Page Number : 1 of 27
FAX: 886-3-3270973 Issued Date : Jan. 31, 2020

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

Table of Contents

HISTO	ORY OF THIS TEST REPORT	3
SUMN	MARY OF TEST RESULT	4
1	GENERAL DESCRIPTION	5
1.1	Information	5
1.2	Testing Applied Standards	7
1.3	Testing Location Information	7
1.4	Measurement Uncertainty	8
2	TEST CONFIGURATION OF EUT	9
2.1	Test Condition	9
2.2	Test Channel Mode	9
2.3	The Worst Case Measurement Configuration	10
2.4	Accessories and Support Equipment	11
2.5	Test Setup Diagram	12
3	TRANSMITTER TEST RESULT	15
3.1	AC Power-line Conducted Emissions	15
3.2	DTS Bandwidth	
3.3	Maximum Conducted Output Power	
3.4	Power Spectral Density	
3.5	Emissions in Non-restricted Frequency Bands	
3.6	Emissions in Restricted Frequency Bands	22
4	TEST EQUIPMENT AND CALIBRATION DATA	26
APPE	ENDIX A. TEST RESULTS OF AC POWER-LINE CONDUCTED EMISSIONS	
APPE	ENDIX B. TEST RESULTS OF DTS BANDWIDTH	
APPE	ENDIX C. TEST RESULTS OF MAXIMUM CONDUCTED OUTPUT POWER	
APPE	ENDIX D. TEST RESULTS OF POWER SPECTRAL DENSITY	
APPE	ENDIX E. TEST RESULTS OF EMISSIONS IN NON-RESTRICTED FREQUENCY BANDS	
APPE	ENDIX F. TEST RESULTS OF EMISSIONS IN RESTRICTED FREQUENCY BANDS	
APPE	ENDIX G. TEST PHOTOS	
РНОТ	TOGRAPHS OF EUT V01	

TEL: 886-3-3273456 FAX: 886-3-3270973

Report Template No.: HE1-C8 Ver3.6

FCC ID: 2AHGTA30103A

Page Number : 2 of 27
Issued Date : Jan. 31, 2020

Report Version : 01



History of this test report

Report No.	Version	Description	Issued Date
FR9D1219AC	01	Initial issue of report	Jan. 31, 2020

TEL: 886-3-3273456 Page Number : 3 of 27
FAX: 886-3-3270973 Issued Date : Jan. 31, 2020

Report Template No.: HE1-C8 Ver3.6

FCC ID: 2AHGTA30103A

Issued Date : Jan Report Version : 01

Report No.:FR9D1219AC

Summary of Test Result

Report No.:FR9D1219AC

Report Clause	Ref. Std. Clause	Test Items	Result (PASS/FAIL)	Remark
1.1.2	15.203	Antenna Requirement	PASS	-
3.1	15.207	AC Power-line Conducted Emissions	PASS	-
3.2	15.247(a)	DTS Bandwidth	PASS	-
3.3	15.247(b)	Maximum Conducted Output Power	PASS	-
3.4	15.247(e)	Power Spectral Density	PASS	-
3.5	15.247(d)	Emissions in Non-restricted Frequency Bands	PASS	-
3.6	15.247(d)	Emissions in Restricted Frequency Bands	PASS	-

Declaration of Conformity:

The test results with all measurement uncertainty excluded are presented in accordance with the regulation limits or requirements declared by manufacturers.

Comments and explanations:

None

Reviewed by: Jackson Tsai

Report Producer: Kate Lo

TEL: 886-3-3273456 Page Number : 4 of 27
FAX: 886-3-3270973 Issued Date : Jan. 31, 2020

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



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]

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	Part Number	Antenna Type	Connector
I	1	WIESON	GY196HT337-020	PCB Antenna	I-PEX
	2	WIESON	GY196HT337-019	PCB Antenna	I-PEX

							Gain (c	lBi)				
Ant.	Port	Port 2.4G(MHz)			5G(MHz)					BT(MHz)		
		2400	2450	2500	5150	5250	5725	5785	5850	2400	2450	2500
1	1	-0.71	0.94	0.74	1.18	1.19	2.13	1.18	1.15	-0.71	0.94	0.74
2	2	1.21	1.26	1.59	2.18	2.18	1.11	1.29	1.63	-	-	-

Note 1: The EUT has two antennas.

Note 2: Higher gain was used to perform the worst configuration and result of that was recorded as the final test result.

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)

Ant. 1 (port 1) could transmit/receive.

For 5GHz function:

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

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

TEL: 886-3-3273456 Page Number : 5 of 27
FAX: 886-3-3270973 Issued Date : Jan. 31, 2020

Report Template No.: HE1-C8 Ver3.6

FCC ID: 2AHGTA30103A

Report Version : 01

Report No.:FR9D1219AC



FCC Test Report

1.1.3 EUT Information

	Operational Condition							
EU	Γ Power Type)	Fro	m AC Adapter / F	rom ho	st s	ystem(NB)	
EU	Γ Function		\boxtimes	Point-to-multipoi	nt [Point-to-point	
Bea	ımforming Fu	unction		With beamforming	ng [\boxtimes	Without beamforming	
	Type of EUT							
\boxtimes	Stand-alone							
	Combined (E	UT where	e the	radio part is fully	integra	ated	within another device)	
	Combined Ed	quipment	- Bra	and Name / Mode	l No.:			
	Plug-in radio	(EUT inte	ende	d for a variety of	host sy	ster	ms)	
	Host System - Brand Name / Model No.:							
	Other:							

Report No.:FR9D1219AC

1.1.4 Mode Test Duty Cycle

Mode	DC	DCF(dB)	T(s)	VBW(Hz) ≥ 1/T
802.11b_Nss1,(1Mbps)_2TX	0.999	0.01	n/a (DC>=0.98)	n/a (DC>=0.98)
802.11g_Nss1,(6Mbps)_2TX	0.991	0.04	n/a (DC>=0.98)	n/a (DC>=0.98)
802.11n HT20 HT20_Nss1,(MCS0)_2TX	0.99	0.04	n/a (DC>=0.98)	n/a (DC>=0.98)

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

TEL: 886-3-3273456 Page Number : 6 of 27
FAX: 886-3-3270973 Issued Date : Jan. 31, 2020

Report Version

: 01

Report Template No.: HE1-C8 Ver3.6

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
- KDB 558074 D01 v05r02
- KDB 662911 D01 v02r01
- KDB 414788 D01 v01r01

1.3 Testing Location Information

	Testing Location								
\boxtimes	HWA YA	ADD	:	No. 52, Huaya 1st Rd.,	Guish	an	Dist., Taoyuan City, Taiwan (R.O.C.)		
		TEL	:	886-3-327-3456	FAX	:	886-3-327-0973		
	Test site Designation No. TW1190 with FCC.								
	JHUBEI	ADD	:	No.8, Ln. 724, Bo'ai St	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 Designati	on No.	TV	V0006 with FCC.		
\boxtimes	Wen Shan	ADD	:	No.14-1, Ln. 19, Wen 3	33rd St	., G	uishan Dist., Taoyuan City 333, Taiwan (R.O.C.)		
		TEL	:	886-3-318-0787	FAX	:	886-3-318-0287		
	Test site Designation No. TW1097 with FCC.								

Test Condition	Test Site No.	Test Engineer	Test Environment	Test Date
AC Conduction	CO04-HY	David	21.2~22.5°C / 59.2~66.4%	19/Dec/2019~ 16/Jan/2020
RF Conducted	TH06-HY	Gary	23.5~26.6°C / 65~69%	19/Dec/2019~ 13/Jan/2020
Radiated	03CH09-HY	Ryan	21.1~24.3°C / 52~60%	17/Dec/2019~ 15/Jan/2020

TEL: 886-3-3273456 Page Number : 7 of 27
FAX: 886-3-3270973 Issued Date : Jan. 31, 2020

Report Template No.: HE1-C8 Ver3.6

FCC ID: 2AHGTA30103A

Report Version : 01

Report No.:FR9D1219AC

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)

Report No.:FR9D1219AC

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 °C	Confidence levels of 95%
Humidity	4 %	Confidence levels of 95%

TEL: 886-3-3273456 Page Number : 8 of 27
FAX: 886-3-3270973 Issued Date : Jan. 31, 2020

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



Report No. :FR9D1219AC

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	Power Setting
802.11b_Nss1,(1Mbps)_2TX	-
2412MHz	88
2437MHz	88
2462MHz	88
802.11g_Nss1,(6Mbps)_2TX	-
2412MHz	70
2417MHz	88
2437MHz	88
2457MHz	88
2462MHz	68
802.11n HT20_Nss1,(MCS0)_2TX	-
2412MHz	65
2417MHz	88
2437MHz	88
2457MHz	88
2462MHz	67

TEL: 886-3-3273456 Page Number : 9 of 27
FAX: 886-3-3270973 Issued Date : Jan. 31, 2020

Report Template No.: HE1-C8 Ver3.6

FCC ID: 2AHGTA30103A

Report Version : 01



Report No.:FR9D1219AC

2.3 **The Worst Case Measurement Configuration**

The Worst Case Mode for Following Conformance Tests		
Tests Item AC power-line conducted emissions		
Condition AC power-line conducted measurement for line and neutral		
Operating Mode CTX		
1	Adapter mode	
2	USB 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 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	CTX				
1	Adapter mode				
2	USB mode				
Operating Mode > 1GHz	стх				
	X Plane	Y Plane	Z Plane		
Orthogonal Planes of EUT					
Worst Planes of EUT	V				

TEL: 886-3-3273456 : 10 of 27 Page Number FAX: 886-3-3270973 : Jan. 31, 2020 Issued Date

Report Version

: 01

Report Template No.: HE1-C8 Ver3.6

2.4 Accessories and Support Equipment

Accessories				
Brand Name - Model Name -				
USB Cable	Power Cord	2.0 meter, shielded cable, w/o ferrite core		

Report No.:FR9D1219AC

Reminder: Regarding to more detail and other information, please refer to user manual.

	Support Equipment – AC Conduction					
No.	No. Equipment Brand Name Model Name FCC ID					
1	AC Power Cable	Power sync	TPCMRN0018	-		
2	Adapter	DELL	AA90PM111	-		
3	Notebook	DELL	PP13S	-		
4	AC adapter	Mevo	A18001A	-		

Note: Support equipment No.4 was provided by customer.

	Support Equipment - RF Conducted				
No.	No. Equipment Brand Name Model Name FCC ID				
1	Notebook	DELL	E5410	DoC	
2	Adapter for NB	DELL	HA65NM130	DoC	

Support Equipment – Radiated Emission					
No. Equipment Brand Name Model Name FCC ID					
1	AC adapter	Mevo	A18001A	-	
2	Notebook	DELL	E4300	-	
3	AC adapter for NB	DELL	LA90PS0-00	-	
4	AC Power Cable	Power sync	TPCMRN0018	-	

Note: Support equipment No.1 was provided by customer.

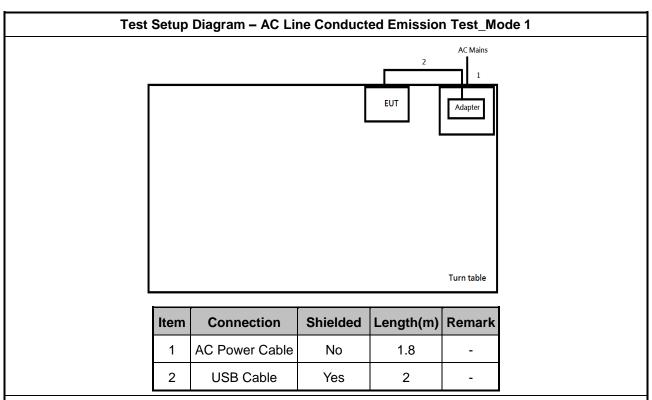
TEL: 886-3-3273456 Page Number : 11 of 27
FAX: 886-3-3270973 Issued Date : Jan. 31, 2020

Report Template No.: HE1-C8 Ver3.6 Report Version : 01 FCC ID: 2AHGTA30103A

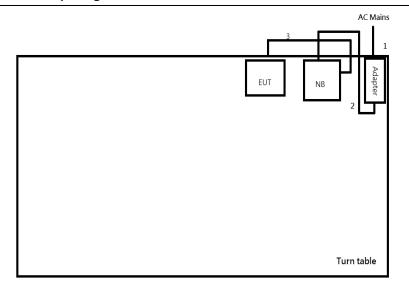


Report No.:FR9D1219AC

Test Setup Diagram 2.5



Test Setup Diagram – AC Line Conducted Emission Test_Mode 2



Item	Connection	Shielded	Length(m)	Remark
1	AC Power Cable	No	1.8	-
2	DC Power Cable	No	1.5	-
3	USB Cable	Yes	2	-

TEL: 886-3-3273456 FAX: 886-3-3270973

Report Template No.: HE1-C8 Ver3.6

FCC ID: 2AHGTA30103A

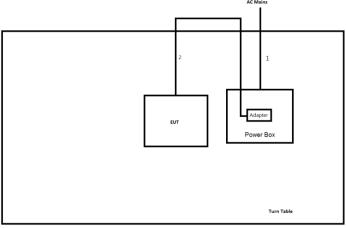
: 12 of 27 Page Number : Jan. 31, 2020 Issued Date

Report Version : 01



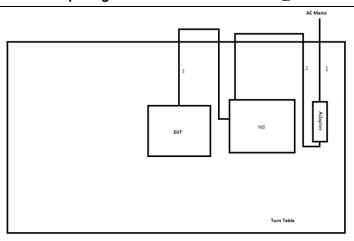
Report No.:FR9D1219AC

Test Setup Diagram - Radiated Test < 1GHz_Mode 1



Item	Connection	Shielded	Length(m)	Remark
1	AC Power line	No	1.8	-
2	USB cable	Yes	2	-

Test Setup Diagram - Radiated Test < 1GHz_ Mode 2



Item	Connection	Shielded	Length(m)	Remark
1	AC Power line	No	1.8	-
2	DC Power line	No	1.5	-
3	USB cable	Yes	2	-

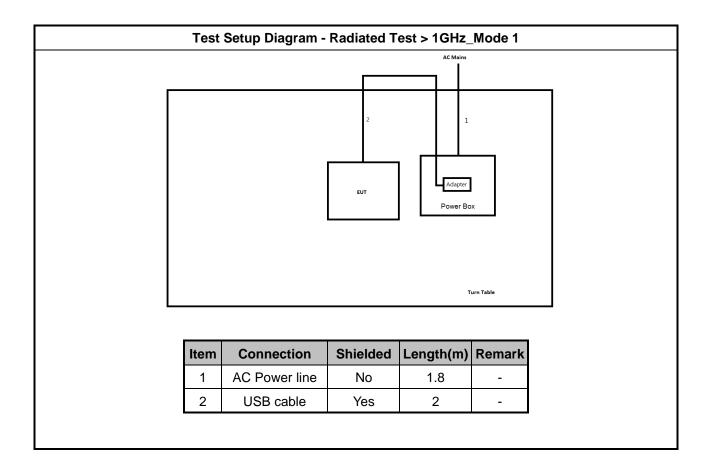
TEL: 886-3-3273456 FAX: 886-3-3270973

Report Template No.: HE1-C8 Ver3.6

FCC ID: 2AHGTA30103A

: 13 of 27 Page Number : Jan. 31, 2020 Issued Date

Report Version : 01 CC Test Report No.:FR9D1219AC



TEL: 886-3-3273456 FAX: 886-3-3270973

Report Template No.: HE1-C8 Ver3.6

FCC ID: 2AHGTA30103A

Page Number : 14 of 27
Issued Date : Jan. 31, 2020

Report Version : 01



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		

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.	

TEL: 886-3-3273456 Page Number : 15 of 27
FAX: 886-3-3270973 Issued Date : Jan. 31, 2020

Report Template No.: HE1-C8 Ver3.6

FCC ID: 2AHGTA30103A

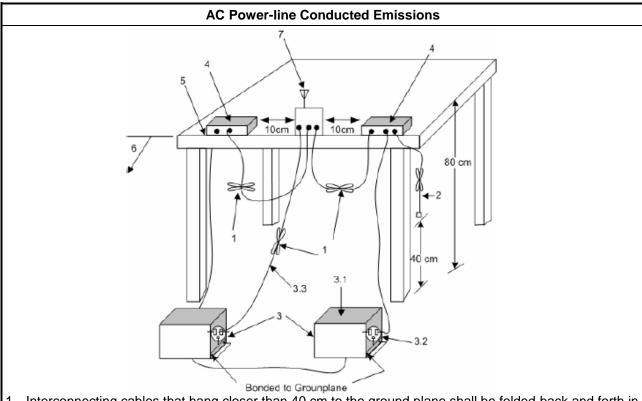
Report Version : 01

Report No.:FR9D1219AC



Report No.:FR9D1219AC

3.1.4 Test Setup



- 1—Interconnecting cables that hang closer than 40 cm to the ground plane shall be folded back and forth in the center forming a bundle 30 cm to 40 cm long.
- 2—The I/O cables that are not connected to an accessory shall be bundled in the center. The end of the cable may be terminated, if required, using the correct terminating impedance. The overall length shall not exceed 1 m.
- 3—EUT connected to one LISN. Unused LISN measuring port connectors shall be terminated in 50 Ω loads. LISN may be placed on top of, or immediately beneath, reference ground plane.
- 3.1—All other equipment powered from additional LISN(s).
- 3.2—A multiple-outlet strip may be used for multiple power cords of non-EUT equipment.
- 3.3—LISN at least 80 cm from nearest part of EUT chassis.
- 4—Non-EUT components of EUT system being tested.
- 5—Rear of EUT, including peripherals, shall all be aligned and flush with edge of tabletop.
- 6—Edge of tabletop shall be 40 cm removed from a vertical conducting plane that is bonded to the ground plane.
- 7—Antenna can be integral or detachable. If detachable, then the antenna shall be attached for this test.

Test Result of AC Power-line Conducted Emissions

Refer as Appendix A

TEL: 886-3-3273456 : 16 of 27 Page Number : Jan. 31, 2020 FAX: 886-3-3270973 Issued Date

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

FCC Test Report No. :FR9D1219AC

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

3.2.4 Test Setup

Emission Bandwidth			
Spectrum Analyzer			

3.2.5 Test Result of Emission Bandwidth

Refer as Appendix B

TEL: 886-3-3273456 Page Number : 17 of 27
FAX: 886-3-3270973 Issued Date : Jan. 31, 2020

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



3.3 Maximum Conducted Output Power

3.3.1 Maximum Conducted Output Power Limit

Maxi	Maximum Conducted Output Power Limit					
	■ If G _{TX} ≤ 6 dBi, then P _{Out} ≤ 30 dBm (1 W)					
	■ Point-to-multipoint systems (P2M): If G _{TX} > 6 dBi, then P _{Out} = 30 – (G _{TX} – 6) dBm					
	■ Point-to-point systems (P2P): If G _{TX} > 6 dBi, then P _{Out} = 30 – (G _{TX} – 6)/3 dBm					
	Smart antenna system (SAS):					
	- Single beam: If $G_{TX} > 6$ dBi, then $P_{Out} = 30 - (G_{TX} - 6)/3$ dBm					
		- Overlap beam: If $G_{TX} > 6$ dBi, then $P_{Out} = 30 - (G_{TX} - 6)/3$ dBm				
	- Aggregate power on all beams: If $G_{TX} > 6$ dBi, then $P_{Out} = 30 - (G_{TX} - 6)/3 + 8dB$ dBm					
e.i.r.	p. P	ower Limit:				
•	2400-2483.5 MHz Band					
	Point-to-multipoint systems (P2M): P _{eirp} ≤ 36 dBm (4 W)					
	Point-to-point systems (P2P): P _{eirp} ≤ MAX(36, [P _{Out} + G _{TX}]) dBm					
	•	Smart antenna system (SAS)				
		- Single beam: $P_{eirp} \le MAX(36, P_{Out} + G_{TX}) dBm$				
		- Overlap beam: $P_{eirp} \le MAX(36, P_{Out} + G_{TX}) dBm$				
		- Aggregate power on all beams: $P_{eirp} \le MAX(36, [P_{Out} + G_{TX} + 8]) dBm$				
	\mathbf{P}_{Out} = maximum peak conducted output power or maximum conducted output power in dBm, \mathbf{G}_{TX} = the maximum transmitting antenna directional gain in dBi.					

Report No.:FR9D1219AC

3.3.2 Measuring Instruments

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

TEL: 886-3-3273456 Page Number : 18 of 27
FAX: 886-3-3270973 Issued Date : Jan. 31, 2020

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

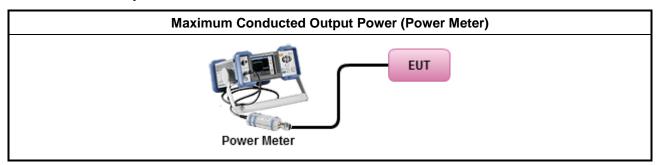
3.3.3 Test Procedures

	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

Report No.:FR9D1219AC

: 01

3.3.4 Test Setup



3.3.5 Test Result of Maximum Conducted Output Power

Refer as Appendix C

TEL: 886-3-3273456 Page Number : 19 of 27
FAX: 886-3-3270973 Issued Date : Jan. 31, 2020

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

3.4 Power Spectral Density

3.4.1 Power Spectral Density Limit

Power Spectral Density Limit

Report No.:FR9D1219AC

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

Refer as Appendix D

TEL: 886-3-3273456 Page Number : 20 of 27
FAX: 886-3-3270973 Issued Date : Jan. 31, 2020

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

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			

Report No.:FR9D1219AC

- 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 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 level.

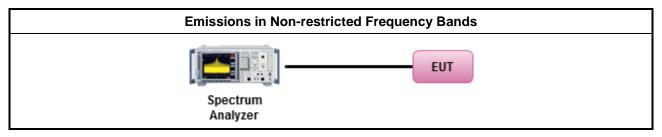
3.5.2 Measuring Instruments

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

TEL: 886-3-3273456 Page Number : 21 of 27
FAX: 886-3-3270973 Issued Date : Jan. 31, 2020

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

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			

Report No.:FR9D1219AC

- 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.

TEL: 886-3-3273456 Page Number : 22 of 27
FAX: 886-3-3270973 Issued Date : Jan. 31, 2020

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

FCC Test Report No. :FR9D1219AC

3.6.3 Test Procedures

Test Method

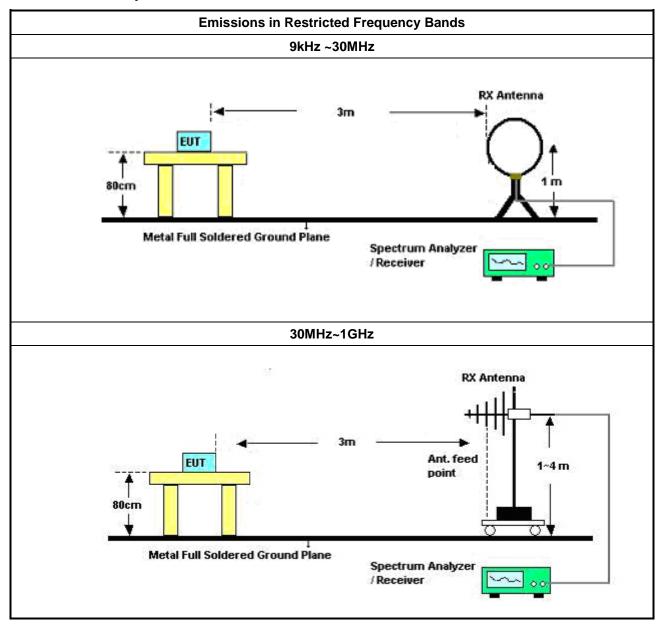
- The average emission levels shall be measured in [duty cycle ≥ 98 or duty factor].
- Refer as ANSI C63.10, clause 6.10.3 band-edge testing shall be performed at the lowest frequency channel and highest frequency channel within the allowed operating band.
- For the transmitter unwanted emissions shall be measured using following options below:
 - Refer as 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 : 23 of 27
FAX: 886-3-3270973 Issued Date : Jan. 31, 2020

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

Report No.:FR9D1219AC

3.6.4 Test Setup



TEL: 886-3-3273456 FAX: 886-3-3270973

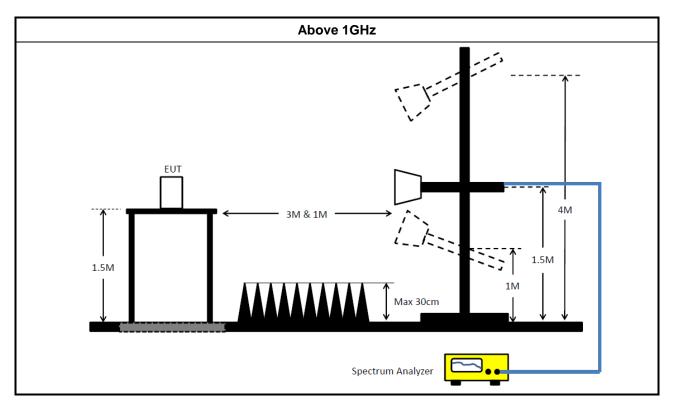
Report Template No.: HE1-C8 Ver3.6

FCC ID: 2AHGTA30103A

Page Number : 24 of 27
Issued Date : Jan. 31, 2020

Report Version : 01

Report No. :FR9D1219AC



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 FAX: 886-3-3270973

Report Template No.: HE1-C8 Ver3.6

FCC ID: 2AHGTA30103A

Page Number : 25 of 27
Issued Date : Jan. 31, 2020

Report Version : 01



Report No. :FR9D1219AC

4 Test Equipment and Calibration Data

Instrument for AC 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	04/Nov/2019	05/Nov/2020
RF Cable-CON	MTJ	RG142	CB002-CO	9kHz ~ 200MHz	12/Sep/2019	11/Sep/2020
AC POWER	APC	AFC-11005G	F310050055	47Hz~63Hz 5~300V	NCR	NCR
Impuls Begrenzer Pulse Limiter	SCHWARZBECK	VTSD 9561-F	9561-F041	9 kHz ~ 30 MHz	24/Sep/2019	23/Sep/2020

NCR : Non-Calibration Require

Instrument for Conducted Test

Instrument	Manufacturer	Model No.	Serial No.	o. Spec. Calibration Date		Calibration Due Date
Spectrum Analyzer	R&S	FSV 40	101029	10KHz ~ 40GHz	01/Oct/2019	30/Sep/2020
Pulse Power Sensor	Anritsu	MA2411B	1027452	300MHz ~ 40GHz	14/Mar/2019	13/Mar/2020
Power Meter	Anritsu	ML2495A	1124009	300MHz ~ 40GHz	14/Mar/2019	13/Mar/2020
SMB100A Signal Generator	R&S	SMB100A03	181147	100kHz~40GHz	12/Nov/2018	10/Nov/2020

TEL: 886-3-3273456 Page Number : 26 of 27
FAX: 886-3-3270973 Issued Date : Jan. 31, 2020

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



FCC Test Report

Report No. :FR9D1219AC

Instrument for Radiated Test

Instrument	Manufacturer	Model No.	l 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	3008A02096	1GHz ~ 26.5GHz	04/Sep/2019	03/Sep/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	11/Oct/2019	10/Oct/2020	
Double Ridged Guide Horn Antenna	SCHWARZBECK	BBHA 9120 D	BBHA9120 D 1534	1GHz~18GHz	29/Apr/2019	28/Apr/2020	
Broadband Horn Antenna	SCHWARZBECK	BBHA 9170	BBHA9170614	18GHz~40GHz	22/May/2019	21/May/2020	
Preamplifier	MITEQ	TTA1840-35-HG	1864481	18GHz ~ 40GHz	05/Aug/2019	04/Aug/2020	
Loop Antenna	TESEQ	HLA 6120	31244	9k-30MHz	15/Mar/2019	14/Mar/2020	
LF-CABLE-2019 0218	Jye Bao	RG142	CB028	9kHz ~ 1GHz	18/Feb/2019	17/Feb/2020	
RF Cable-high	HUBER+SUHNER	SUCOFLEX104	SN 556626/4 + 556627	1GHz ~ 40GHz	13/Mar/2019	12/Mar/2020	

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

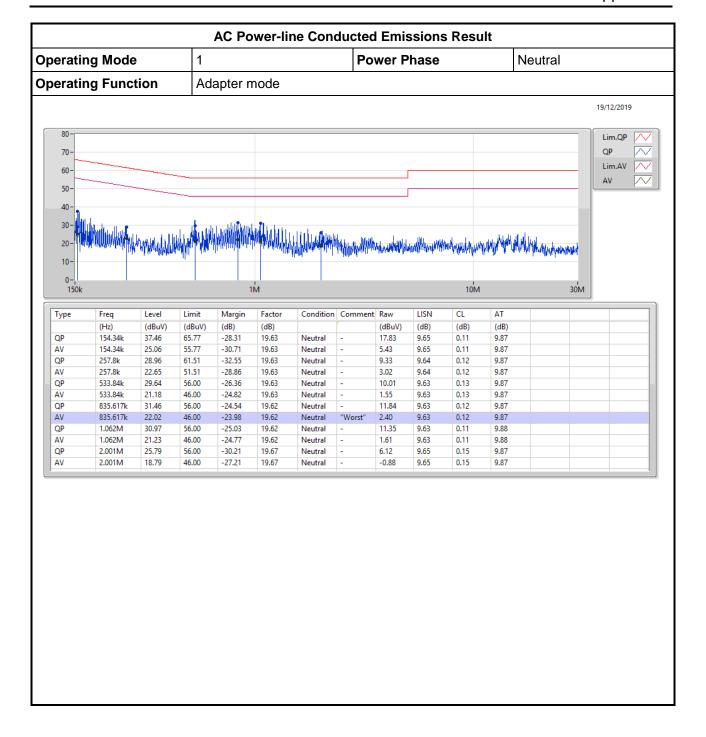
Report Template No.: HE1-C8 Ver3.6

FCC ID: 2AHGTA30103A

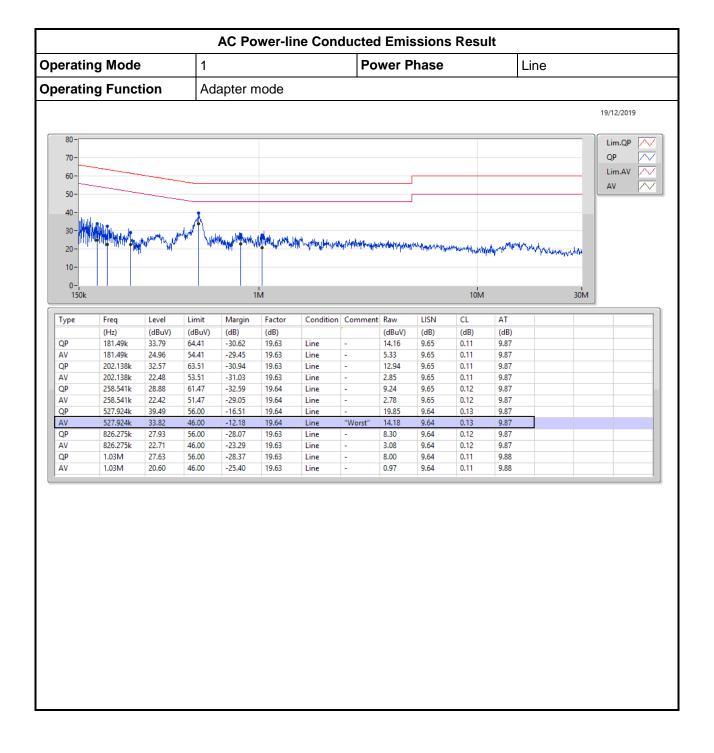
Page Number : 27 of 27
Issued Date : Jan. 31, 2020
Report Version : 01



AC Power-line Conducted Emissions

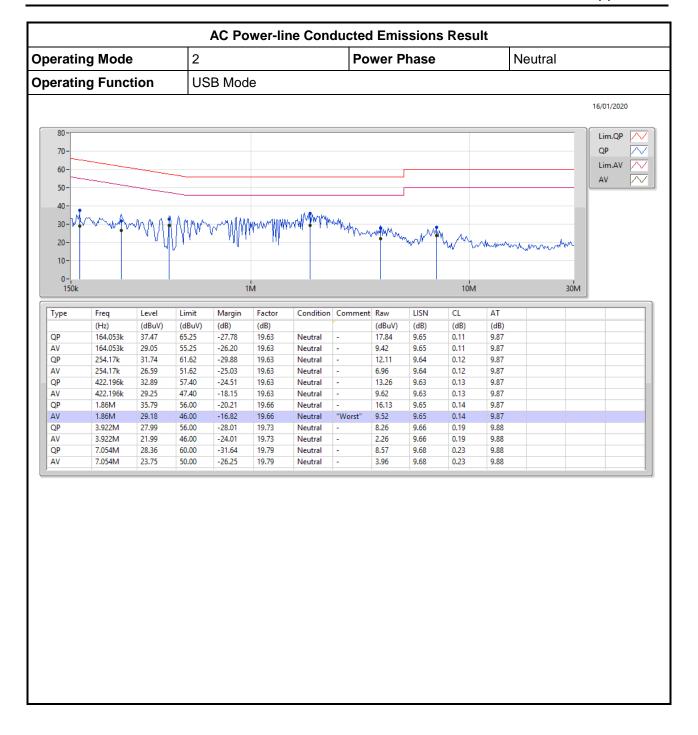




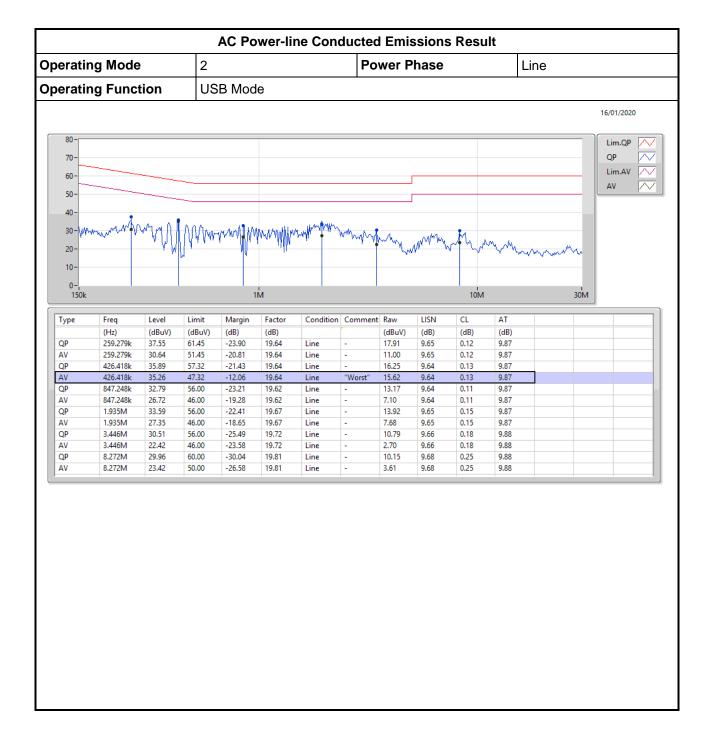




AC Power-line Conducted Emissions









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	9.55M	13.373M	13M4G1D	8.525M	11.814M	
802.11g_Nss1,(6Mbps)_2TX	16.35M	20.37M	20M4D1D	16.275M	16.972M	
802.11n HT20_Nss1,(MCS0)_2TX	17.6M	21.109M	21M1D1D	17.525M	17.971M	

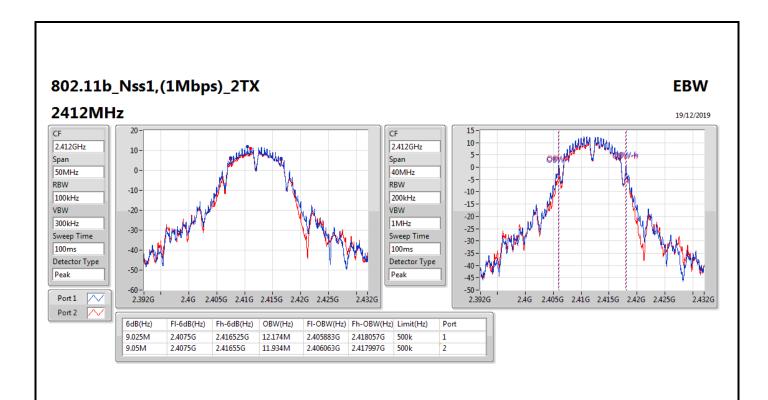
Max-N dB = Maximum 6dB down bandwidth; Max-OBW = Maximum 99% occupied bandwidth; Min-N dB = Minimum 6dB down bandwidth; Min-OBW = Minimum 99% occupied bandwidth;

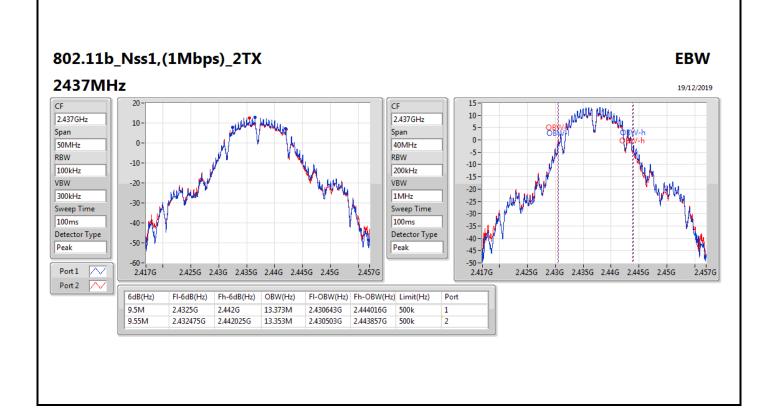


Result

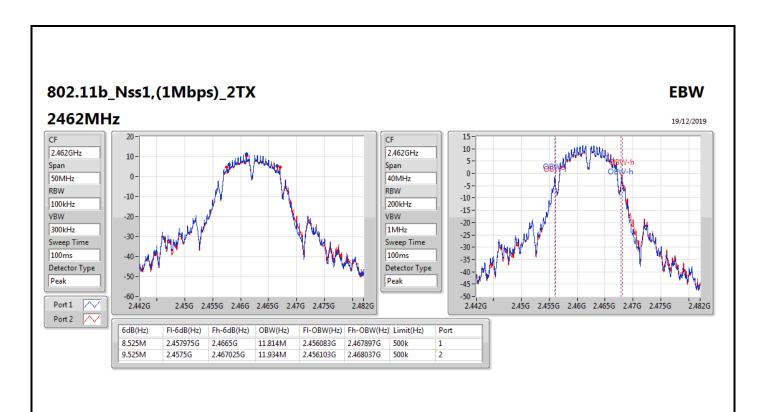
Mode	Result	Limit	Port 1-N dB	Port 1-OBW	Port 2-N dB	Port 2-OBW
		(Hz)	(Hz)	(Hz)	(Hz)	(Hz)
802.11b_Nss1,(1Mbps)_2TX	=	=	=	=	=	=
2412MHz	Pass	500k	9.025M	12.174M	9.05M	11.934M
2437MHz	Pass	500k	9.5M	13.373M	9.55M	13.353M
2462MHz	Pass	500k	8.525M	11.814M	9.525M	11.934M
802.11g_Nss1,(6Mbps)_2TX	=	=	-	-	=	-
2412MHz	Pass	500k	16.35M	16.972M	16.35M	17.031M
2437MHz	Pass	500k	16.275M	20.01M	16.325M	20.37M
2462MHz	Pass	500k	16.35M	17.031M	16.325M	16.972M
802.11n HT20_Nss1,(MCS0)_2TX	=	=	-	-	-	-
2412MHz	Pass	500k	17.525M	17.991M	17.575M	17.971M
2437MHz	Pass	500k	17.575M	21.109M	17.55M	20.77M
2462MHz	Pass	500k	17.6M	18.071M	17.575M	17.991M

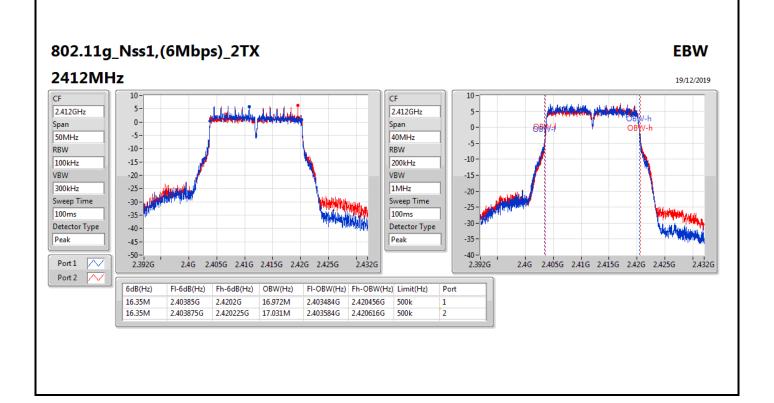
Port X-N dB = Port X 6dB down bandwidth; Port X-OBW = Port X 99% occupied bandwidth;



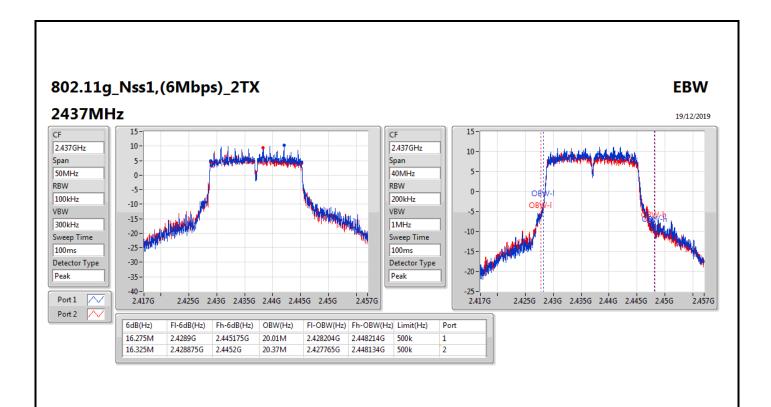


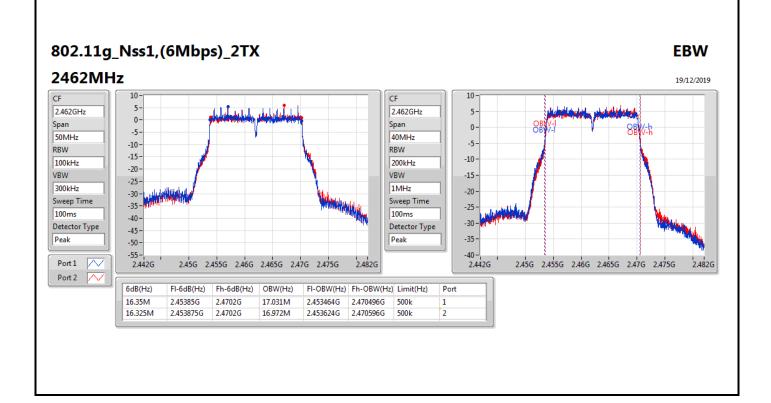
SPORTON INTERNATIONAL INC. Page No. : B3 of B7





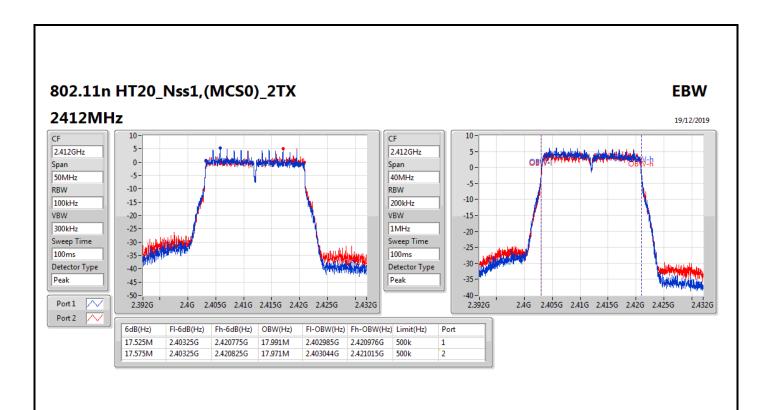
SPORTON INTERNATIONAL INC. Page No. : B4 of B7

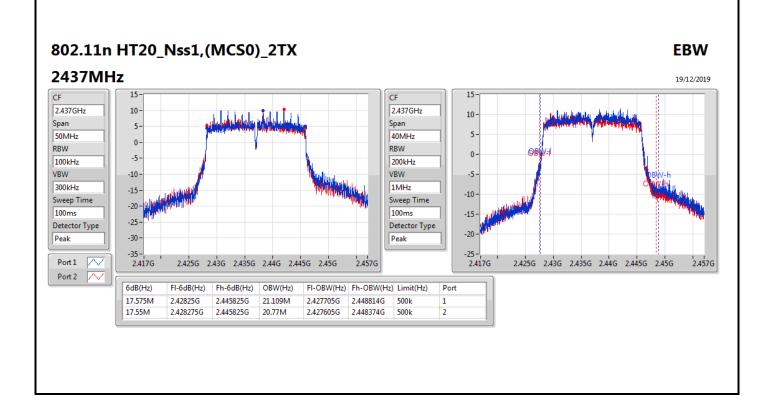




SPORTON INTERNATIONAL INC. Page No. : B5 of B7

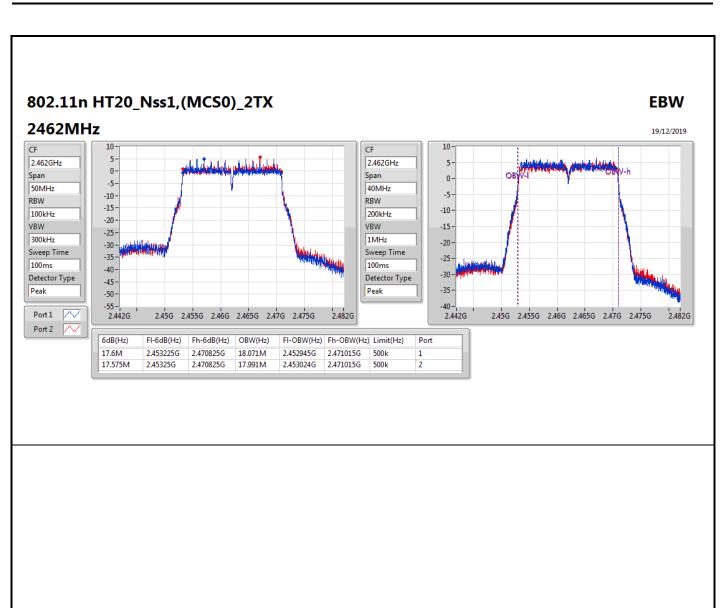
EBW Appendix B





SPORTON INTERNATIONAL INC. Page No. : B6 of B7

EBW Appendix B



SPORTON INTERNATIONAL INC. Page No. : B7 of B7



Average Power Appendix C

Summary

Mode	Total Power	Total Power
	(dBm)	(W)
2.4-2.4835GHz	-	-
802.11b_Nss1,(1Mbps)_2TX	24.19	0.26242
802.11g_Nss1,(6Mbps)_2TX	23.30	0.21380
802.11n HT20_Nss1,(MCS0)_2TX	23.45	0.22131

Average Power Appendix C

Result

Mode	Result	DG	Port 1	Port 2	Total Power	Power Limit
		(dBi)	(dBm)	(dBm)	(dBm)	(dBm)
802.11b_Nss1,(1Mbps)_2TX	-	-	-	-	-	-
2412MHz	Pass	1.59	20.35	19.70	23.05	30.00
2437MHz	Pass	1.59	21.30	21.05	24.19	30.00
2462MHz	Pass	1.59	19.15	19.13	22.15	30.00
802.11g_Nss1,(6Mbps)_2TX	-	-	-	-	-	-
2412MHz	Pass	1.59	17.24	17.06	20.16	30.00
2417MHz	Pass	1.59	19.17	18.75	21.98	30.00
2437MHz	Pass	1.59	20.41	20.17	23.30	30.00
2457MHz	Pass	1.59	19.15	18.70	21.94	30.00
2462MHz	Pass	1.59	16.58	16.46	19.53	30.00
802.11n HT20_Nss1,(MCS0)_2TX	-	-	-	-	-	-
2412MHz	Pass	1.59	16.13	15.70	18.93	30.00
2417MHz	Pass	1.59	19.59	18.94	22.29	30.00
2437MHz	Pass	1.59	20.55	20.32	23.45	30.00
2457MHz	Pass	1.59	19.37	18.88	22.14	30.00
2462MHz	Pass	1.59	15.95	16.12	19.05	30.00

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



Summary

Mode	PD
	(dBm/RBW)
2.4-2.4835GHz	-
802.11b_Nss1,(1Mbps)_2TX	-0.69
802.11g_Nss1,(6Mbps)_2TX	-2.47
802.11n HT20_Nss1,(MCS0)_2TX	-3.20

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

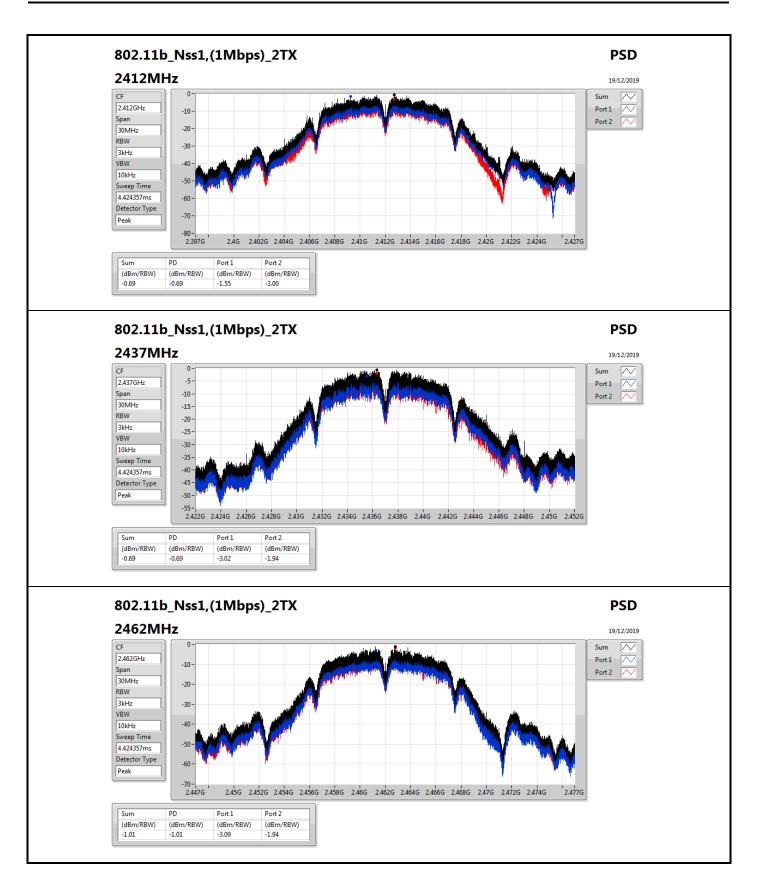


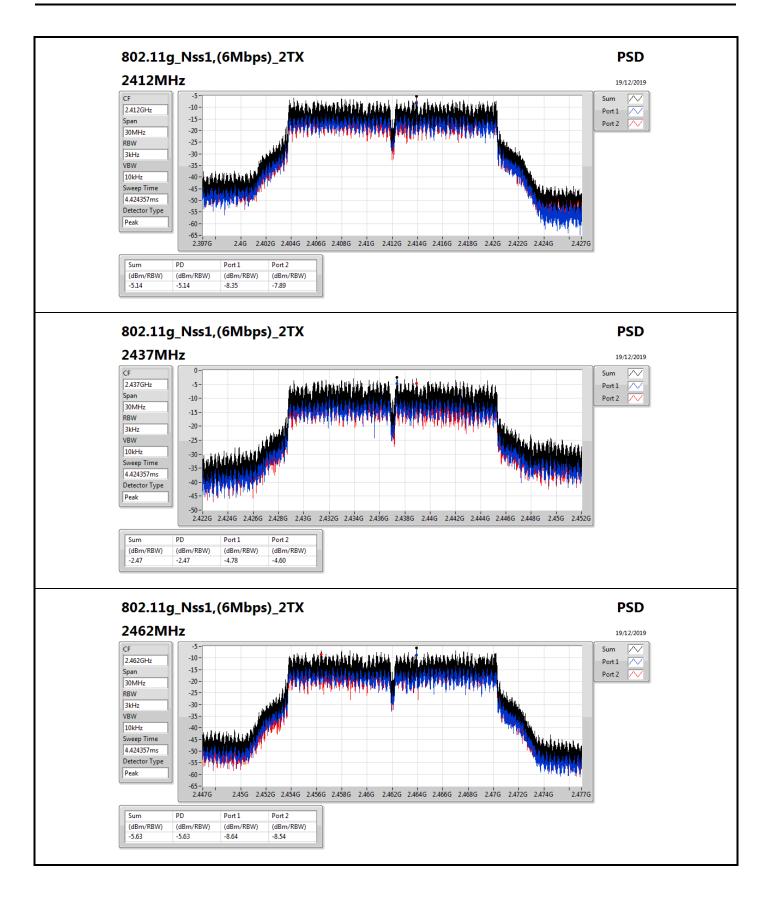
Appendix D **PSD**

Result

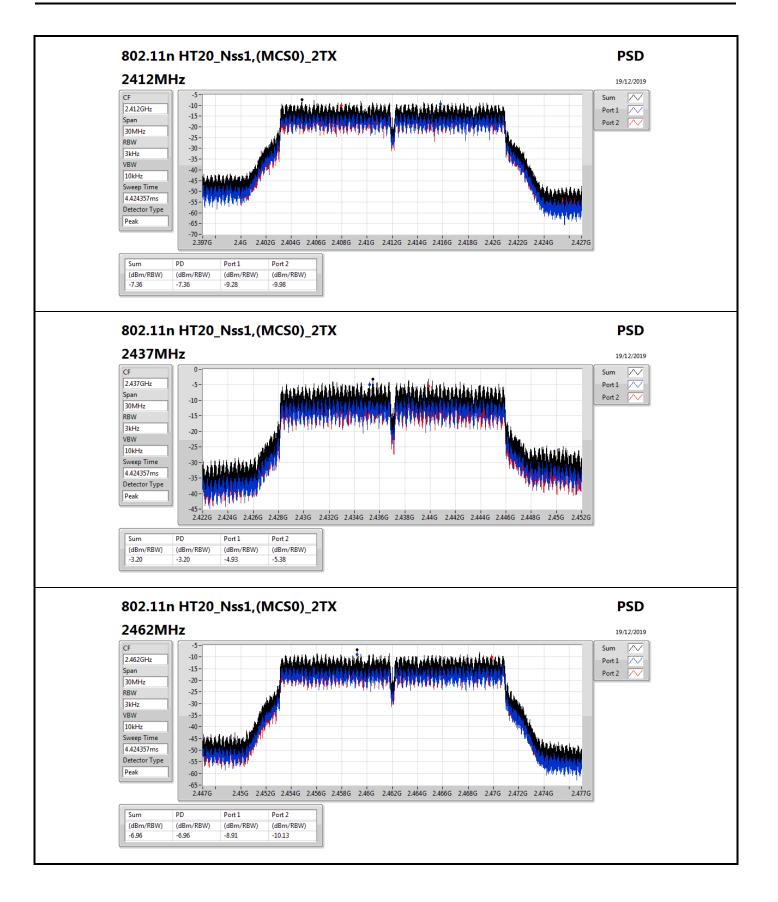
Mode	Result	DG	Port 1	Port 2	PD	PD Limit
		(dBi)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
802.11b_Nss1,(1Mbps)_2TX	-	-	-	=	-	-
2412MHz	Pass	4.60	-1.55	-3.00	-0.69	8.00
2437MHz	Pass	4.60	-3.02	-1.94	-0.69	8.00
2462MHz	Pass	4.60	-3.09	-1.94	-1.01	8.00
802.11g_Nss1,(6Mbps)_2TX	-	-	-	=	-	-
2412MHz	Pass	4.60	-8.35	-7.89	-5.14	8.00
2437MHz	Pass	4.60	-4.78	-4.60	-2.47	8.00
2462MHz	Pass	4.60	-8.64	-8.54	-5.63	8.00
802.11n HT20_Nss1,(MCS0)_2TX	-	-	-	=	-	-
2412MHz	Pass	4.60	-9.28	-9.98	-7.36	8.00
2437MHz	Pass	4.60	-4.93	-5.38	-3.20	8.00
2462MHz	Pass	4.60	-8.91	-10.13	-6.96	8.00

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





SPORTON INTERNATIONAL INC. Page No. : D4 of D5



SPORTON INTERNATIONAL INC. Page No. : D5 of D5



CSE(Non-restricted Band)

Appendix E

Summary

Mode	Resu	t Ref	Ref	Limit	Freq	Level	Freq	Level	Freq	Level	Freq	Level	Freq	Level	Port
		(Hz)	(dBm)	(dBm)	(Hz)	(dBm)	(Hz)	(dBm)	(Hz)	(dBm)	(Hz)	(dBm)	(Hz)	(dBm)	
2.4-2.4835GHz	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
802.11b_Nss1,(1Mbps)_2T	Y Pass	2.41052G	11.00	-19.00	2.11535G	-55.03	2.39902G	-26.54	2.4G	-29.01	2.48732G	-51.79	23.27774G	-42.91	1
802.11g_Nss1,(6Mbps)_2T	Y Pass	2.43081G	9.66	-20.34	2.13399G	-54.11	2.39956G	-21.93	2.4G	-26.49	2.5185G	-52.89	16.23136G	-42.67	2
802.11n HT20_Nss1,(MCS0)_	2TX Pass	2.44204G	10.09	-19.91	1.96623G	-54.90	2.39554G	-26.64	2.4G	-31.50	2.4874G	-52.60	17.56309G	-41.91	2

SPORTON INTERNATIONAL INC. Page No. : E1 of E7

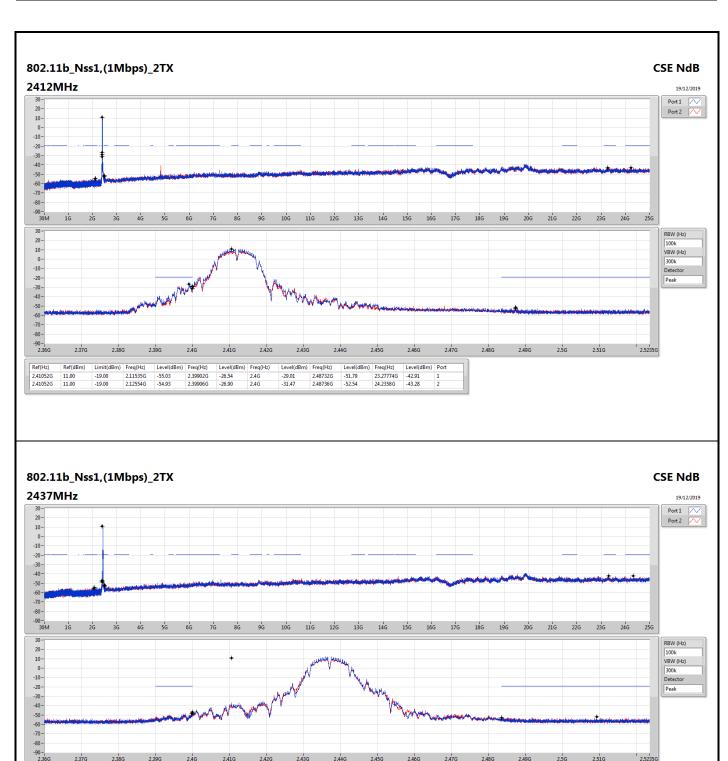
CSE(Non-restricted Band)

Appendix E

Result

Mode	Result	Ref	Ref	Limit	Freq	Level	Freq	Level	Freq	Level	Freq	Level	Freq	Level	Port
		(Hz)	(dBm)	(dBm)	(Hz)	(dBm)	(Hz)	(dBm)	(Hz)	(dBm)	(Hz)	(dBm)	(Hz)	(dBm)	
802.11b_Nss1,(1Mbps)_2TX	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2412MHz	Pass	2.41052G	11.00	-19.00	2.11535G	-55.03	2.39902G	-26.54	2.4G	-29.01	2.48732G	-51.79	23.27774G	-42.91	1
2412MHz	Pass	2.41052G	11.00	-19.00	2.12554G	-54.93	2.39906G	-26.90	2.4G	-31.47	2.48736G	-52.54	24.2358G	-43.28	2
2437MHz	Pass	2.41052G	11.00	-19.00	2.0903G	-55.06	2.39986G	-48.61	2.4G	-46.75	2.48358G	-52.97	23.31145G	-42.34	1
2437MHz	Pass	2.41052G	11.00	-19.00	2.06409G	-55.42	2.4G	-48.84	2.4G	-48.04	2.5093G	-52.24	24.33413G	-42.18	2
2462MHz	Pass	2.41052G	11.00	-19.00	1.94992G	-55.47	2.39878G	-52.87	2.4835G	-48.09	2.48352G	-47.26	23.58679G	-42.03	1
2462MHz	Pass	2.41052G	11.00	-19.00	2.07021G	-55.45	2.39586G	-52.20	2.4835G	-45.93	2.48352G	-45.28	23.28617G	-41.88	2
802.11g_Nss1,(6Mbps)_2TX	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2412MHz	Pass	2.43081G	9.66	-20.34	2.12147G	-54.76	2.3996G	-24.47	2.4G	-28.66	2.51192G	-52.22	21.94882G	-41.19	1
2412MHz	Pass	2.43081G	9.66	-20.34	2.13399G	-54.11	2.39956G	-21.93	2.4G	-26.49	2.5185G	-52.89	16.23136G	-42.67	2
2437MHz	Pass	2.43081G	9.66	-20.34	2.10428G	-55.34	2.39954G	-34.90	2.4G	-38.73	2.48546G	-45.47	23.57274G	-42.68	1
2437MHz	Pass	2.43081G	9.66	-20.34	2.06496G	-54.95	2.3992G	-35.23	2.4G	-39.43	2.48358G	-44.70	15.25082G	-43.02	2
2462MHz	Pass	2.43081G	9.66	-20.34	2.30932G	-54.94	2.39792G	-51.22	2.4835G	-44.57	2.48396G	-43.03	15.18058G	-42.78	1
2462MHz	Pass	2.43081G	9.66	-20.34	932M	-54.80	2.39786G	-50.67	2.4835G	-43.30	2.48362G	-40.74	23.28336G	-42.83	2
802.11n HT20_Nss1,(MCS0)_2TX	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2412MHz	Pass	2.44204G	10.09	-19.91	2.11826G	-55.45	2.39482G	-28.82	2.4G	-32.95	2.4854G	-52.43	23.26369G	-42.89	1
2412MHz	Pass	2.44204G	10.09	-19.91	1.96623G	-54.90	2.39554G	-26.64	2.4G	-31.50	2.4874G	-52.60	17.56309G	-41.91	2
2437MHz	Pass	2.44204G	10.09	-19.91	2.12584G	-55.75	2.39954G	-33.71	2.4G	-36.64	2.48362G	-44.31	17.61928G	-43.18	1
2437MHz	Pass	2.44204G	10.09	-19.91	2.12321G	-53.95	2.39582G	-33.79	2.4G	-35.25	2.48612G	-43.79	15.21429G	-41.94	2
2462MHz	Pass	2.44204G	10.09	-19.91	947.44M	-54.33	2.3943G	-50.77	2.4835G	-43.15	2.4835G	-39.87	23.27493G	-42.79	1
2462MHz	Pass	2.44204G	10.09	-19.91	2.17477G	-55.38	2.3968G	-51.39	2.4835G	-40.06	2.48424G	-39.59	23.24683G	-42.35	2





 Level(dBm)
 Freq(Hz)
 Level(dBm)
 Port

 -52.97
 23.311456
 -42.34
 1

 -52.24
 24.334136
 -42.18
 2

Level(dBm) Freq(Hz)

2.48358G 2.5093G

-46.75 -48.04

Freq(Hz)

2.0903G

2.06409G

-55.06 -55.42 2.39986G 2.4G -48.61 -48.84 2.4G 2.4G

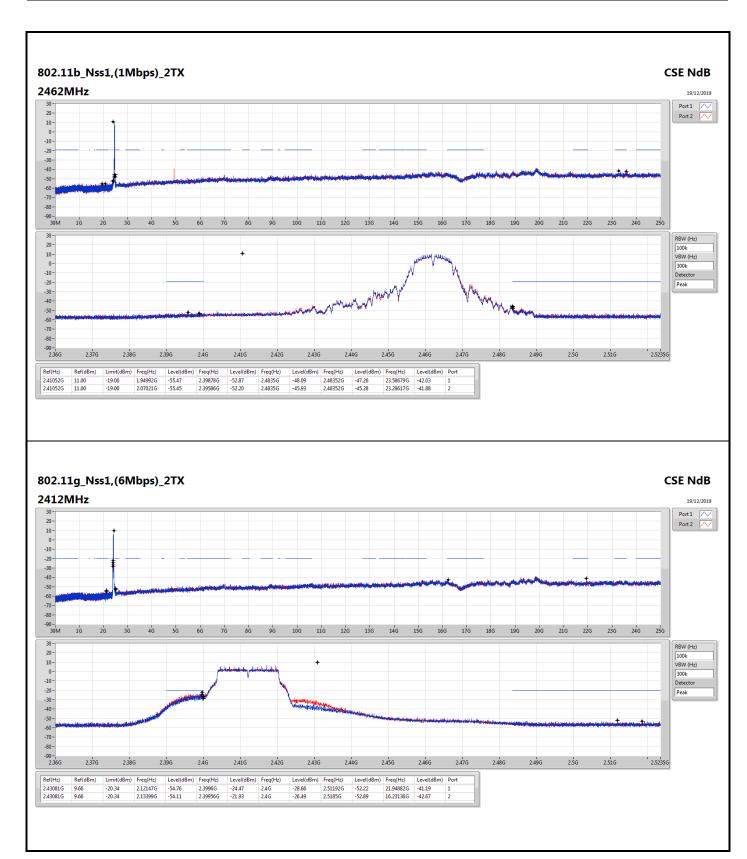
2.410520

2.41052G

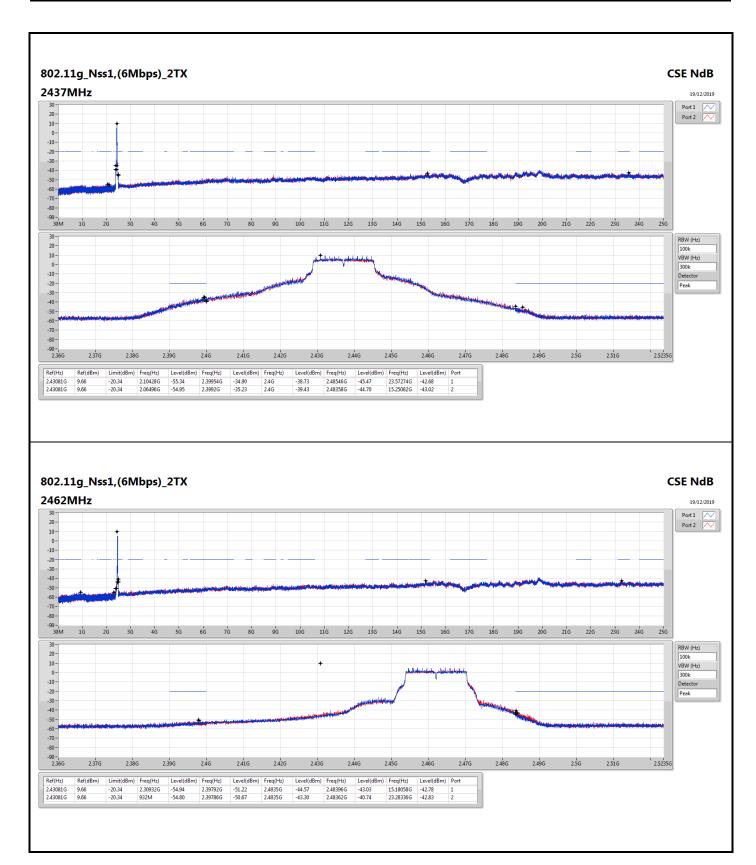
11.00 11.00 -19.00

-19.00

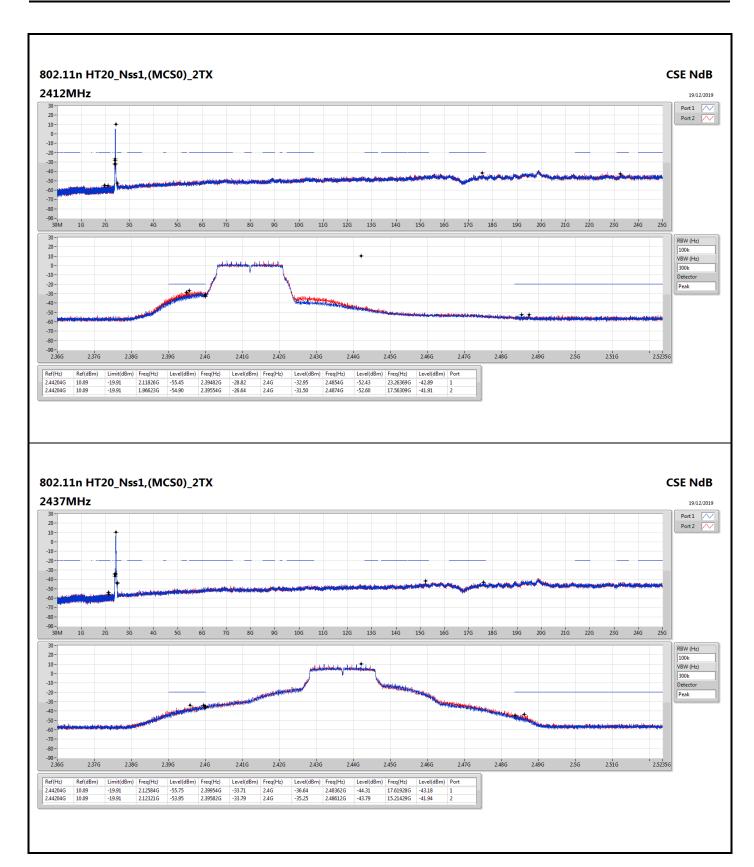






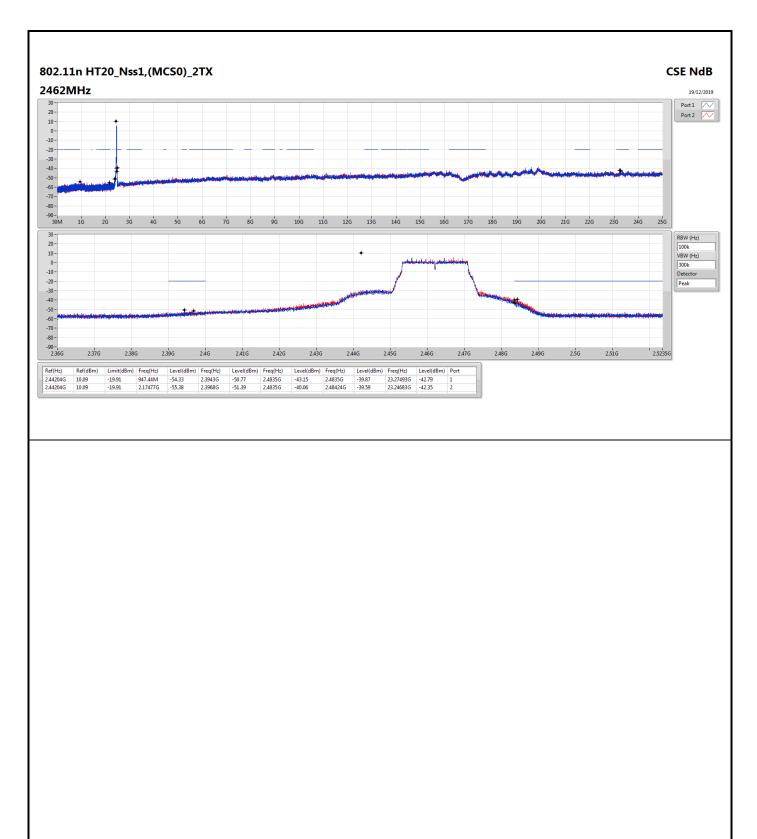






SPORTON INTERNATIONAL INC. Page No. : E6 of E7





SPORTON INTERNATIONAL INC. Page No. : E7 of E7



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 H	HT20_Nss1,(MCS0)_2TX	Pass	PK	43.58M	36.43	40.00	-3.57	3	Horizontal	0	1.00	-

SPORTON INTERNATIONAL INC. Page No. : F1 of F6



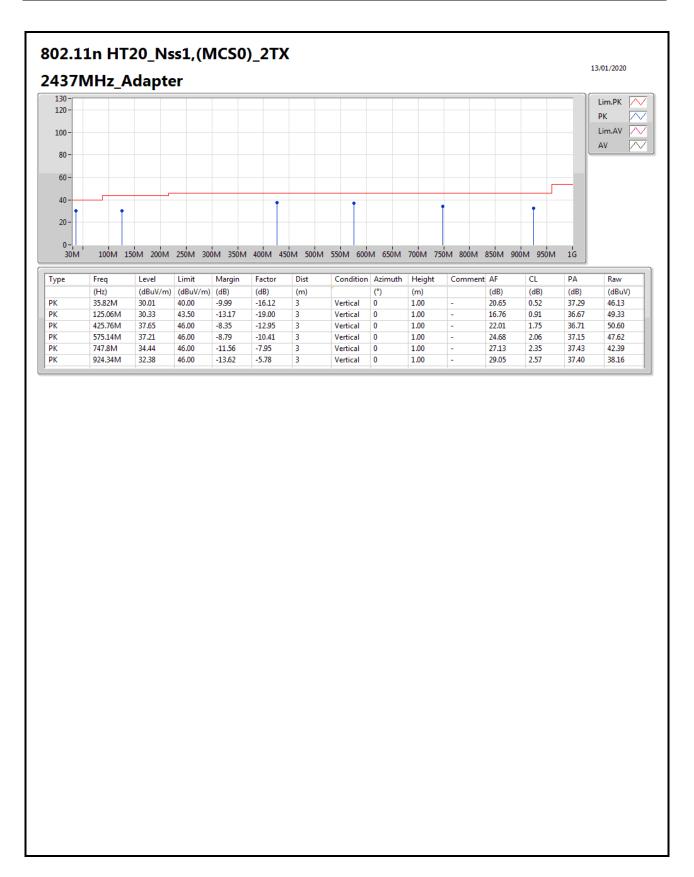
RSE TX below 1GHz

Appendix F.1

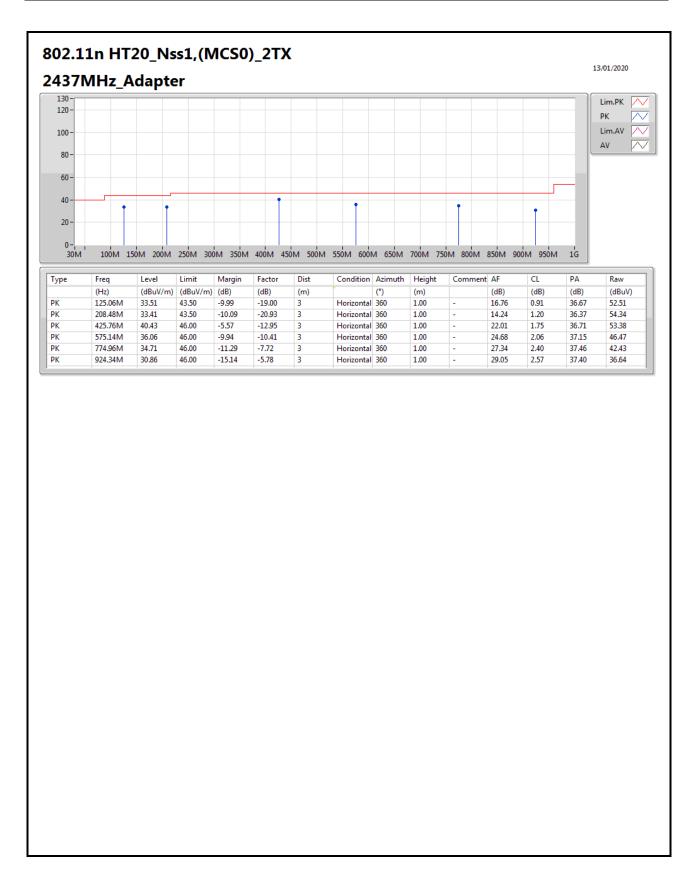
Result

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	35.82M	30.01	40.00	-9.99	3	Vertical	0	1.00	-
2437MHz	Pass	PK	125.06M	30.33	43.50	-13.17	3	Vertical	0	1.00	-
2437MHz	Pass	PK	425.76M	37.65	46.00	-8.35	3	Vertical	0	1.00	-
2437MHz	Pass	PK	575.14M	37.21	46.00	-8.79	3	Vertical	0	1.00	-
2437MHz	Pass	PK	747.8M	34.44	46.00	-11.56	3	Vertical	0	1.00	-
2437MHz	Pass	PK	924.34M	32.38	46.00	-13.62	3	Vertical	0	1.00	-
2437MHz	Pass	PK	125.06M	33.51	43.50	-9.99	3	Horizontal	360	1.00	-
2437MHz	Pass	PK	208.48M	33.41	43.50	-10.09	3	Horizontal	360	1.00	-
2437MHz	Pass	PK	425.76M	40.43	46.00	-5.57	3	Horizontal	360	1.00	-
2437MHz	Pass	PK	575.14M	36.06	46.00	-9.94	3	Horizontal	360	1.00	-
2437MHz	Pass	PK	774.96M	34.71	46.00	-11.29	3	Horizontal	360	1.00	-
2437MHz	Pass	PK	924.34M	30.86	46.00	-15.14	3	Horizontal	360	1.00	-
2437MHz	Pass	PK	43.58M	35.85	40.00	-4.15	3	Vertical	360	1.00	-
2437MHz	Pass	PK	125.06M	30.59	43.50	-12.91	3	Vertical	360	1.00	-
2437MHz	Pass	PK	274.44M	33.05	46.00	-12.95	3	Vertical	360	1.00	-
2437MHz	Pass	PK	425.76M	38.32	46.00	-7.68	3	Vertical	360	1.00	-
2437MHz	Pass	PK	625.58M	37.06	46.00	-8.94	3	Vertical	360	1.00	-
2437MHz	Pass	PK	747.8M	35.26	46.00	-10.74	3	Vertical	360	1.00	-
2437MHz	Pass	PK	43.58M	36.43	40.00	-3.57	3	Horizontal	0	1.00	-
2437MHz	Pass	PK	125.06M	31.37	43.50	-12.13	3	Horizontal	0	1.00	-
2437MHz	Pass	PK	245.34M	33.87	46.00	-12.13	3	Horizontal	0	1.00	-
2437MHz	Pass	PK	425.76M	39.50	46.00	-6.50	3	Horizontal	0	1.00	-
2437MHz	Pass	PK	625.58M	35.70	46.00	-10.30	3	Horizontal	0	1.00	-
2437MHz	Pass	PK	774.96M	34.20	46.00	-11.80	3	Horizontal	0	1.00	-

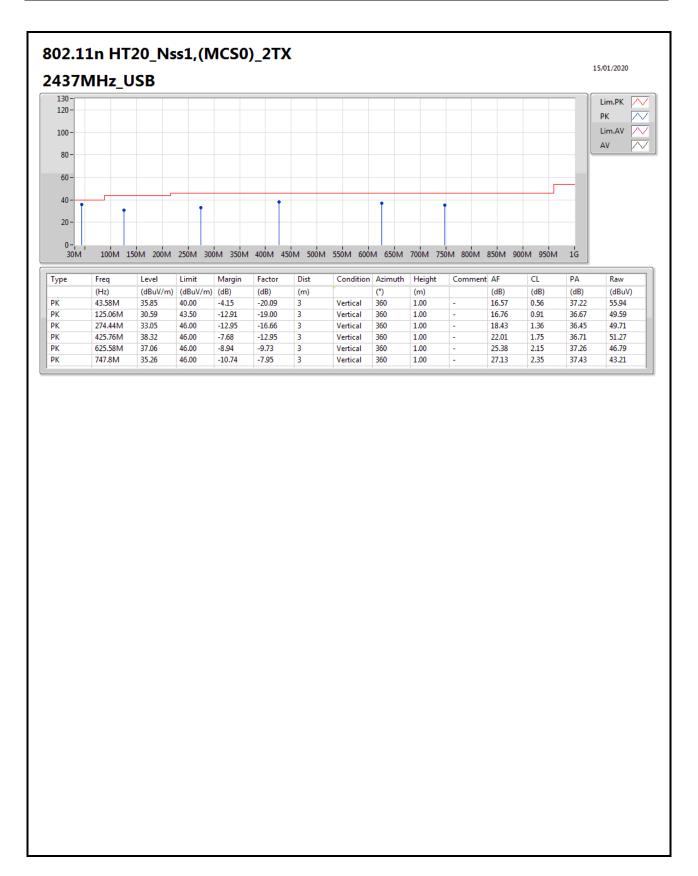




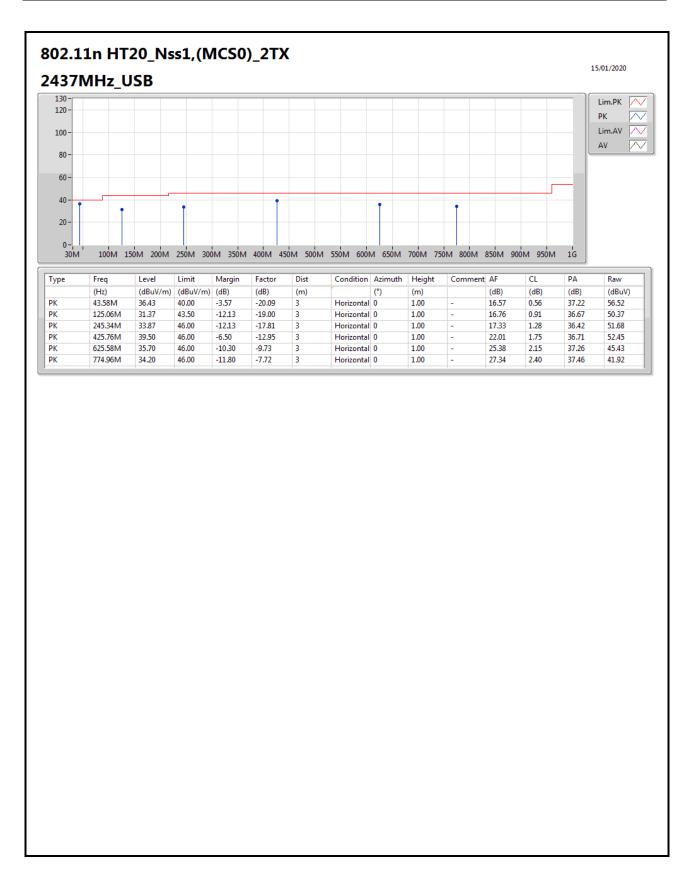














Appendix F.2

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	4.87416G	52.28	54.00	-1.72	3	Horizontal	150	2.57	-
802.11g_Nss1,(6Mbps)_2TX	Pass	AV	2.3898G	53.82	54.00	-0.18	3	Horizontal	11	1.00	-
802.11n HT20_Nss1,(MCS0)_2TX	Pass	AV	2.39G	53.83	54.00	-0.17	3	Horizontal	10	1.00	-

SPORTON INTERNATIONAL INC. Page No. : F1 of F49



Result

Result	1			1			1	1	1	1	1
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	2.39G	49.51	54.00	-4.49	3	Vertical	189	1.09	-
2412MHz	Pass	AV	2.4114G	103.95	Inf	-Inf	3	Vertical	189	1.09	-
2412MHz	Pass	PK	2.3868G	61.05	74.00	-12.95	3	Vertical	189	1.09	-
2412MHz	Pass	PK	2.4112G	106.18	Inf	-Inf	3	Vertical	189	1.09	-
2412MHz	Pass	AV	2.39G	48.92	54.00	-5.08	3	Horizontal	31	1.50	-
2412MHz	Pass	AV	2.4114G	103.86	Inf	-Inf	3	Horizontal	31	1.50	-
2412MHz	Pass	PK	2.3718G	60.58	74.00	-13.42	3	Horizontal	31	1.50	-
2412MHz	Pass	PK	2.413G	106.19	Inf	-Inf	3	Horizontal	31	1.50	-
2412MHz	Pass	AV	4.8242G	48.68	54.00	-5.32	3	Vertical	171	1.00	-
2412MHz	Pass	PK	4.83072G	52.74	74.00	-21.26	3	Vertical	171	1.00	-
2412MHz	Pass	AV	4.82418G	51.15	54.00	-2.85	3	Horizontal	116	2.75	-
2412MHz	Pass	PK	4.82436G	55.39	74.00	-18.61	3	Horizontal	116	2.75	-
2437MHz	Pass	AV	2.3402G	46.92	54.00	-7.08	3	Vertical	0	2.75	-
2437MHz	Pass	AV	2.4382G	102.19	Inf	-Inf	3	Vertical	0	2.75	-
2437MHz	Pass	AV	2.4878G	47.09	54.00	-6.91	3	Vertical	0	2.75	-
2437MHz	Pass	PK	2.3422G	59.72	74.00	-14.28	3	Vertical	0	2.75	-
2437MHz	Pass	PK	2.4378G	104.52	Inf	-Inf	3	Vertical	0	2.75	-
2437MHz	Pass	PK	2.4946G	60.02	74.00	-13.98	3	Vertical	0	2.75	-
2437MHz	Pass	AV	2.3514G	46.91	54.00	-7.09	3	Horizontal	28	2.75	-
2437MHz	Pass	AV	2.4362G	104.94	Inf	-Inf	3	Horizontal	28	2.75	-
2437MHz	Pass	AV	2.4862G	47.04	54.00	-6.96	3	Horizontal	28	2.75	-
2437MHz	Pass	PK	2.3714G	60.44	74.00	-13.56	3	Horizontal	28	2.75	-
2437MHz	Pass	PK	2.4378G	107.19	Inf	-Inf	3	Horizontal	28	2.75	-
2437MHz	Pass	PK	2.4886G	60.07	74.00	-13.93	3	Horizontal	28	2.75	-
2437MHz	Pass	AV	4.87417G	49.57	54.00	-4.43	3	Vertical	152	2.06	-
2437MHz	Pass	PK	4.8741G	54.68	74.00	-19.32	3	Vertical	152	2.06	-
2437MHz	Pass	AV	4.87416G	52.28	54.00	-1.72	3	Horizontal	150	2.57	-
2437MHz	Pass	PK	4.8741G	55.79	74.00	-18.21	3	Horizontal	150	2.57	-
2462MHz	Pass	AV	2.4612G	103.17	Inf	-Inf	3	Vertical	0	2.77	-
2462MHz	Pass	AV	2.4835G	48.28	54.00	-5.72	3	Vertical	0	2.77	-
2462MHz	Pass	PK	2.4612G	105.32	Inf	-Inf	3	Vertical	0	2.77	-
2462MHz	Pass	PK	2.4846G	61.07	74.00	-12.93	3	Vertical	0	2.77	-
2462MHz	Pass	AV	2.4614G	104.78	Inf	-Inf	3	Horizontal	28	3.00	-
2462MHz	Pass	AV	2.4835G	48.90	54.00	-5.10	3	Horizontal	28	3.00	-
2462MHz	Pass	PK	2.4612G	106.95	Inf	-Inf	3	Horizontal	28	3.00	-
2462MHz	Pass	PK	2.488G	60.14	74.00	-13.86	3	Horizontal	28	3.00	-
2462MHz	Pass	AV	4.9242G	42.97	54.00	-11.03	3	Vertical	3	2.99	-
2462MHz	Pass	PK	4.92416G	50.83	74.00	-23.17	3	Vertical	3	2.99	-
2462MHz	Pass	AV	4.9242G	44.46	54.00	-9.54	3	Horizontal	106	3.00	-
2462MHz	Pass	PK	4.92432G	51.04	74.00	-22.96	3	Horizontal	106	3.00	-
802.11g_Nss1,(6Mbps)_2TX	-	-	-	-	-	-	-	-	-	-	-
2412MHz	Pass	AV	2.39G	53.04	54.00	-0.96	3	Vertical	184	1.49	-
2412MHz	Pass	AV	2.4156G	97.86	Inf	-Inf	3	Vertical	184	1.49	-
2412MHz	Pass	PK	2.3898G	68.60	74.00	-5.40	3	Vertical	184	1.49	-
2412MHz	Pass	PK	2.4164G	107.94	Inf	-Inf	3	Vertical	184	1.49	-
2412MHz	Pass	AV	2.3898G	53.82	54.00	-0.18	3	Horizontal	11	1.00	-



Appendix F.2

Mode	Result	Tuna	Eroa	Level	Limit	Margin	Dist	Condition	Azimuth	Unight	Comments
Wode	Result	Туре	Freq			Margin		Condition		Height	Comments
0440441	-		(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(m)		(°)	(m)	
2412MHz	Pass	AV	2.4186G	99.95	Inf	-Inf	3	Horizontal	11	1.00	-
2412MHz	Pass	PK	2.3894G	66.84	74.00	-7.16	3	Horizontal	11	1.00	-
2412MHz	Pass	PK	2.4186G	109.07	Inf	-Inf	3	Horizontal	11	1.00	-
2412MHz	Pass	AV	4.82592G	38.30	54.00	-15.70	3	Vertical	161	2.21	-
2412MHz	Pass	PK	4.82452G	51.12	74.00	-22.88	3	Vertical	161	2.21	-
2412MHz	Pass	AV	4.827G	38.21	54.00	-15.79	3	Horizontal	28	3.00	-
2412MHz	Pass	PK	4.82284G	52.08	74.00	-21.92	3	Horizontal	28	3.00	-
2417MHz	Pass	AV	2.39G	48.50	54.00	-5.50	3	Vertical	184	1.50	-
2417MHz	Pass	AV	2.4206G	98.24	Inf	-Inf	3	Vertical	184	1.50	-
2417MHz	Pass	PK	2.39G	61.23	74.00	-12.77	3	Vertical	184	1.50	-
2417MHz	Pass	PK	2.4214G	108.95	Inf	-Inf	3	Vertical	184	1.50	-
2417MHz	Pass	AV	2.3892G	49.78	54.00	-4.22	3	Horizontal	10	1.01	-
2417MHz	Pass	AV	2.4236G	100.01	Inf	-Inf	3	Horizontal	10	1.01	-
2417MHz	Pass	PK	2.3892G	62.47	74.00	-11.53	3	Horizontal	10	1.01	-
2417MHz	Pass	PK	2.4236G	109.70	Inf	-Inf	3	Horizontal	10	1.01	-
2437MHz	Pass	AV	2.3898G	47.52	54.00	-6.48	3	Vertical	190	1.01	-
2437MHz	Pass	AV	2.431G	100.19	Inf	-Inf	3	Vertical	190	1.01	-
2437MHz	Pass	AV	2.4835G	47.31	54.00	-6.69	3	Vertical	190	1.01	-
2437MHz	Pass	PK	2.389G	62.08	74.00	-11.92	3	Vertical	190	1.01	-
2437MHz	Pass	PK	2.4358G	110.36	Inf	-Inf	3	Vertical	190	1.01	-
2437MHz	Pass	PK	2.4838G	59.91	74.00	-14.09	3	Vertical	190	1.01	-
2437MHz	Pass	AV	2.3898G	47.53	54.00	-6.47	3	Horizontal	9	1.50	-
2437MHz	Pass	AV	2.4434G	100.81	Inf	-Inf	3	Horizontal	9	1.50	-
2437MHz	Pass	AV	2.485G	47.19	54.00	-6.81	3	Horizontal	9	1.50	-
2437MHz	Pass	PK	2.3698G	60.32	74.00	-13.68	3	Horizontal	9	1.50	-
2437MHz	Pass	PK	2.4426G	109.84	Inf	-Inf	3	Horizontal	9	1.50	-
2437MHz	Pass	PK	2.495G	60.38	74.00	-13.62	3	Horizontal	9	1.50	-
2437MHz	Pass	AV	4.87388G	36.98	54.00	-17.02	3	Vertical	195	1.50	-
2437MHz	Pass	PK	4.87992G	50.05	74.00	-23.95	3	Vertical	195	1.50	-
2437MHz	Pass	AV	4.87464G	39.62	54.00	-14.38	3	Horizontal	147	2.58	-
2437MHz	Pass	PK	4.87408G	53.37	74.00	-20.63	3	Horizontal	147	2.58	-
2457MHz	Pass	AV	2.4506G	97.37	Inf	-Inf	3	Vertical	182	1.49	-
2457MHz	Pass	AV	2.4835G	47.76	54.00	-6.24	3	Vertical	182	1.49	-
2457MHz	Pass	PK	2.4508G	107.75	Inf	-Inf	3	Vertical	182	1.49	-
2457MHz	Pass	PK	2.4838G	60.51	74.00	-13.49	3	Vertical	182	1.49	-
2457MHz	Pass	AV	2.4536G	99.77	Inf	-Inf	3	Horizontal	359	2.19	-
2457MHz	Pass	AV	2.4835G	48.11	54.00	-5.89	3	Horizontal	359	2.19	-
2457MHz	Pass	PK	2.453G	109.61	Inf	-Inf	3	Horizontal	359	2.19	-
2457MHz	Pass	PK	2.4835G	60.97	74.00	-13.03	3	Horizontal	359	2.19	-
2462MHz	Pass	AV	2.4552G	97.49	Inf	-Inf	3	Vertical	185	1.50	-
2462MHz	Pass	AV	2.4835G	52.04	54.00	-1.96	3	Vertical	185	1.50	-
2462MHz	Pass	PK	2.4558G	107.02	Inf	-Inf	3	Vertical	185	1.50	-
2462MHz	Pass	PK	2.4838G	66.47	74.00	-7.53	3	Vertical	185	1.50	-
2462MHz	Pass	AV	2.4586G	100.33	Inf	-Inf	3	Horizontal	359	3.00	-
2462MHz	Pass	AV	2.4835G	53.76	54.00	-0.24	3	Horizontal	359	3.00	-
2462MHz	Pass	PK	2.4578G	109.81	Inf	-U.24	3	Horizontal	359	3.00	_
2462MHz	Pass	PK	2.4838G	68.19	74.00	-5.81	3	Horizontal	359	3.00	-
2462MHz	Pass	PK	4.9213G	51.86	74.00	-22.14	3	Vertical	174	1.05	
											
2462MHz	Pass	AV	4.92142G	38.76	54.00	-15.24	3	Vertical	174	1.05	-



Appendix F.2

Mode	Result	Туре	Freq	Level	Limit	Margin	Dist	Condition	Azimuth	Height	Comments
Mode	Result	Турс	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(m)	Condition	(°)	(m)	Comments
2462MHz	Pass	AV	4.92154G	36.87	54.00	-17.13	3	Horizontal	57	1.00	
2462MHz	Pass	PK	4.92134G 4.91686G	50.04	74.00	-23.96	3	Horizontal	57	1.00	-
802.11n HT20 Nss1,(MCS0) 2TX	F 855	FK	4.910000	30.04	74.00	-23.90	3	Honzontal	31	1.00	-
2412MHz	Pass	AV	2.389G	50.75	54.00	-3.25	3	Vertical	186	1.50	-
		AV					3				-
2412MHz	Pass		2.4164G	95.70	Inf	-Inf	3	Vertical	186	1.50	-
2412MHz	Pass	PK PK	2.3894G 2.4164G	66.35	74.00	-7.65	3	Vertical	186	1.50	-
2412MHz	Pass			106.48	Inf	-Inf		Vertical	186	1.50	-
2412MHz	Pass	AV	2.39G	53.83	54.00	-0.17	3	Horizontal	10	1.00	-
2412MHz	Pass	AV	2.4178G	97.84	Inf	-Inf	3	Horizontal	10	1.00	-
2412MHz	Pass	PK	2.39G	67.66	74.00	-6.34	3	Horizontal	10	1.00	-
2412MHz	Pass	PK	2.4184G	107.16	Inf	-Inf	3	Horizontal	10	1.00	-
2412MHz	Pass	AV	4.8246G	37.44	54.00	-16.56	3	Vertical	155	2.22	-
2412MHz	Pass	PK	4.8171G	50.78	74.00	-23.22	3	Vertical	155	2.22	-
2412MHz	Pass	AV	4.82838G	37.01	54.00	-16.99	3	Horizontal	25	3.00	-
2412MHz	Pass	PK	4.83156G	49.76	74.00	-24.24	3	Horizontal	25	3.00	-
2417MHz	Pass	AV	2.3896G	49.07	54.00	-4.93	3	Vertical	185	1.00	-
2417MHz	Pass	AV	2.424G	98.23	Inf	-Inf	3	Vertical	185	1.00	-
2417MHz	Pass	PK	2.3894G	62.03	74.00	-11.97	3	Vertical	185	1.00	-
2417MHz	Pass	PK	2.414G	109.55	Inf	-Inf	3	Vertical	185	1.00	-
2417MHz	Pass	AV	2.39G	50.19	54.00	-3.81	3	Horizontal	9	1.00	-
2417MHz	Pass	AV	2.4228G	99.33	Inf	-Inf	3	Horizontal	9	1.00	-
2417MHz	Pass	PK	2.3894G	63.04	74.00	-10.96	3	Horizontal	9	1.00	-
2417MHz	Pass	PK	2.4224G	109.55	Inf	-Inf	3	Horizontal	9	1.00	-
2437MHz	Pass	AV	2.3894G	47.74	54.00	-6.26	3	Vertical	190	1.02	-
2437MHz	Pass	AV	2.4338G	99.53	Inf	-Inf	3	Vertical	190	1.02	-
2437MHz	Pass	AV	2.4835G	47.53	54.00	-6.47	3	Vertical	190	1.02	-
2437MHz	Pass	PK	2.387G	61.23	74.00	-12.77	3	Vertical	190	1.02	-
2437MHz	Pass	PK	2.4338G	110.84	Inf	-Inf	3	Vertical	190	1.02	-
2437MHz	Pass	PK	2.4994G	59.92	74.00	-14.08	3	Vertical	190	1.02	-
2437MHz	Pass	AV	2.3898G	48.01	54.00	-5.99	3	Horizontal	10	1.50	-
2437MHz	Pass	AV	2.4426G	100.17	Inf	-Inf	3	Horizontal	10	1.50	-
2437MHz	Pass	AV	2.4842G	47.22	54.00	-6.78	3	Horizontal	10	1.50	-
2437MHz	Pass	PK	2.3894G	60.68	74.00	-13.32	3	Horizontal	10	1.50	-
2437MHz	Pass	PK	2.4434G	109.63	Inf	-Inf	3	Horizontal	10	1.50	-
2437MHz	Pass	PK	2.4842G	59.34	74.00	-14.66	3	Horizontal	10	1.50	-
2437MHz	Pass	AV	4.87442G	36.56	54.00	-17.44	3	Vertical	140	1.50	-
2437MHz	Pass	PK	4.87136G	50.04	74.00	-23.96	3	Vertical	140	1.50	-
2437MHz	Pass	AV	4.87688G	39.14	54.00	-14.86	3	Horizontal	205	2.78	-
2437MHz	Pass	PK	4.87898G	52.78	74.00	-21.22	3	Horizontal	205	2.78	-
2457MHz	Pass	AV	2.4514G	97.75	Inf	-Inf	3	Vertical	189	1.30	-
2457MHz	Pass	AV	2.4835G	49.51	54.00	-4.49	3	Vertical	189	1.30	-
2457MHz	Pass	PK	2.4516G	109.20	Inf	-Inf	3	Vertical	189	1.30	-
2457MHz	Pass	PK	2.4835G	63.15	74.00	-10.85	3	Vertical	189	1.30	-
2457MHz	Pass	AV	2.455G	100.11	Inf	-Inf	3	Horizontal	19	3.00	-
2457MHz	Pass	AV	2.4848G	49.22	54.00	-4.78	3	Horizontal	19	3.00	-
2457MHz	Pass	PK	2.4518G	110.52	Inf	-Inf	3	Horizontal	19	3.00	-
2457MHz	Pass	PK	2.4835G	62.27	74.00	-11.73	3	Horizontal	19	3.00	-
2462MHz	Pass	AV	2.455G	97.79	Inf	-Inf	3	Vertical	326	2.99	-
2462MHz	Pass	AV	2.4844G	52.21	54.00	-1.79	3	Vertical	326	2.99	-

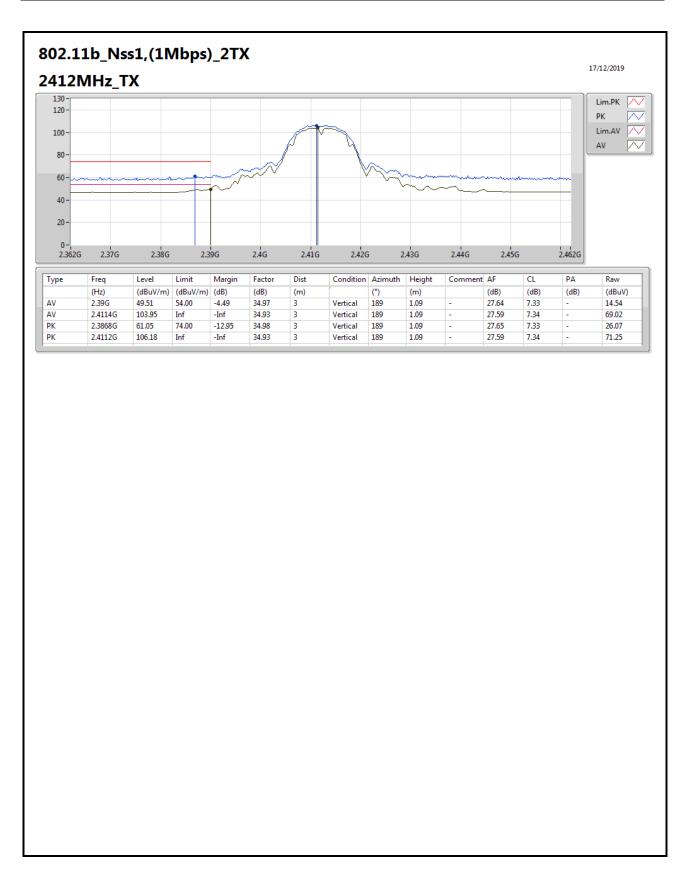


Appendix F.2

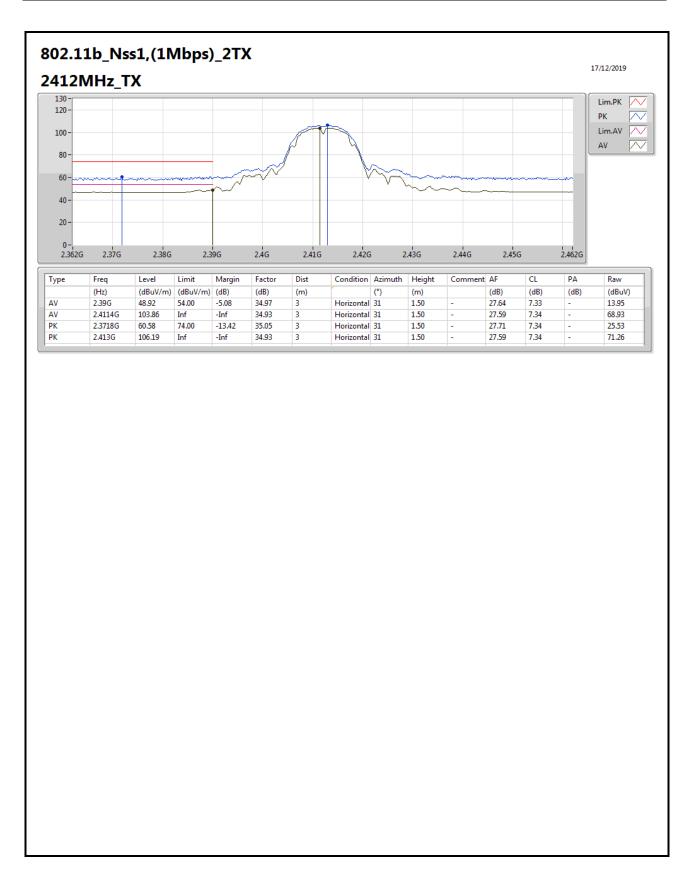
Mode	Result	Туре	Freq	Level	Limit	Margin	Dist	Condition	Azimuth	Height	Comments
			(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(m)		(°)	(m)	
2462MHz	Pass	PK	2.4576G	107.68	Inf	-Inf	3	Vertical	326	2.99	-
2462MHz	Pass	PK	2.4852G	68.08	74.00	-5.92	3	Vertical	326	2.99	-
2462MHz	Pass	AV	2.4552G	99.86	Inf	-Inf	3	Horizontal	359	3.00	-
2462MHz	Pass	AV	2.4835G	53.50	54.00	-0.50	3	Horizontal	359	3.00	-
2462MHz	Pass	PK	2.456G	109.81	Inf	-Inf	3	Horizontal	359	3.00	-
2462MHz	Pass	PK	2.4835G	67.23	74.00	-6.77	3	Horizontal	359	3.00	-
2462MHz	Pass	AV	4.92544G	37.65	54.00	-16.35	3	Vertical	150	1.01	-
2462MHz	Pass	PK	4.92514G	51.82	74.00	-22.18	3	Vertical	150	1.01	-
2462MHz	Pass	AV	4.92334G	36.48	54.00	-17.52	3	Horizontal	28	2.87	-
2462MHz	Pass	PK	4.93102G	49.51	74.00	-24.49	3	Horizontal	28	2.87	-

SPORTON INTERNATIONAL INC. Page No. : F5 of F49

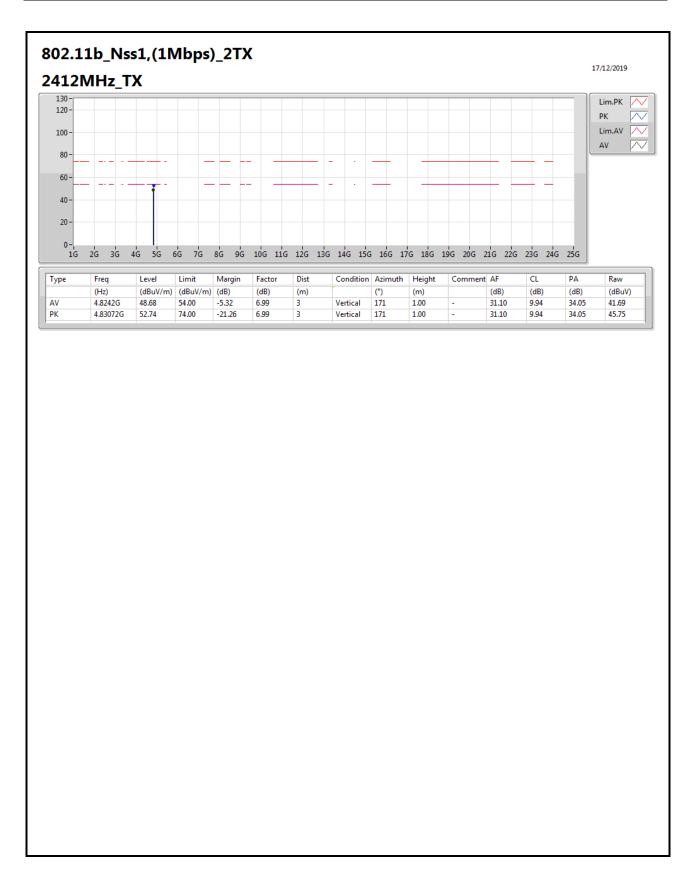




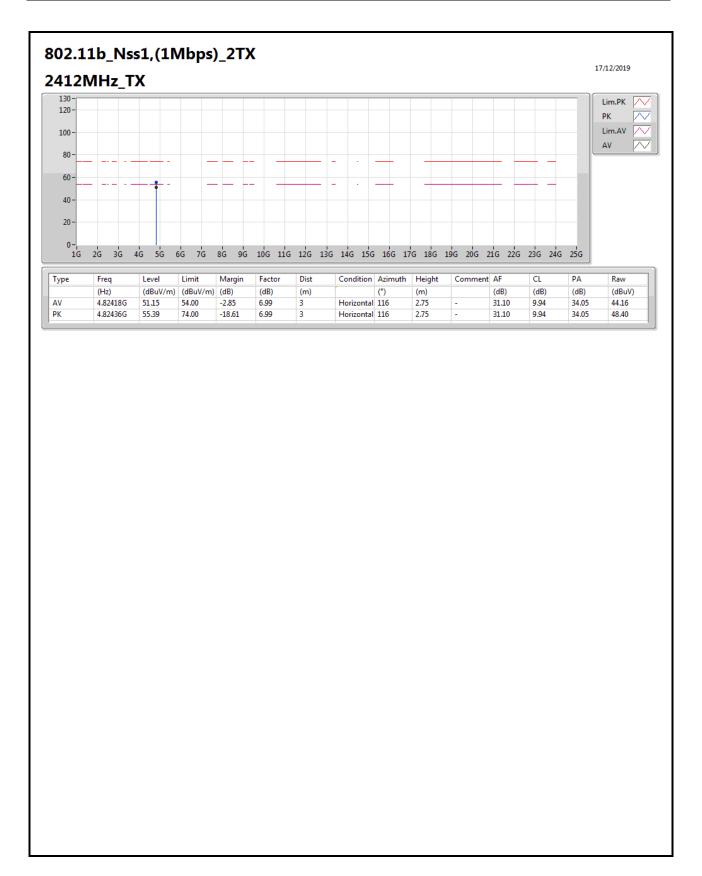




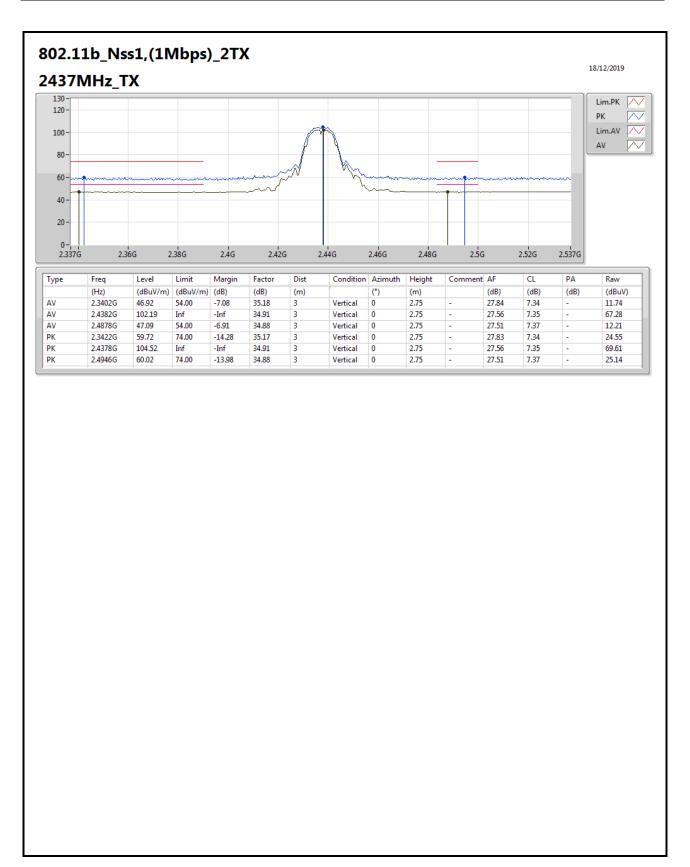




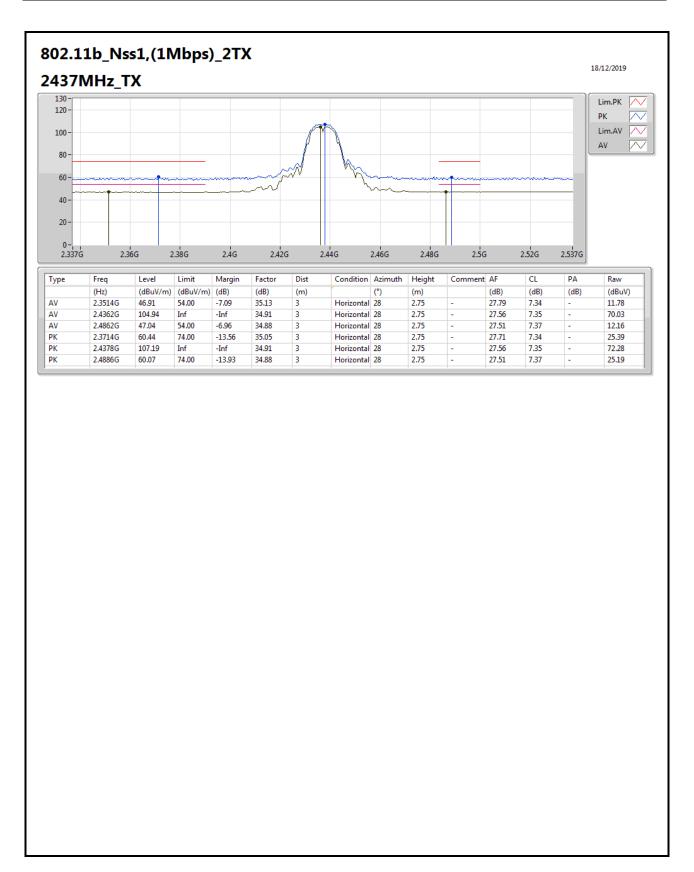




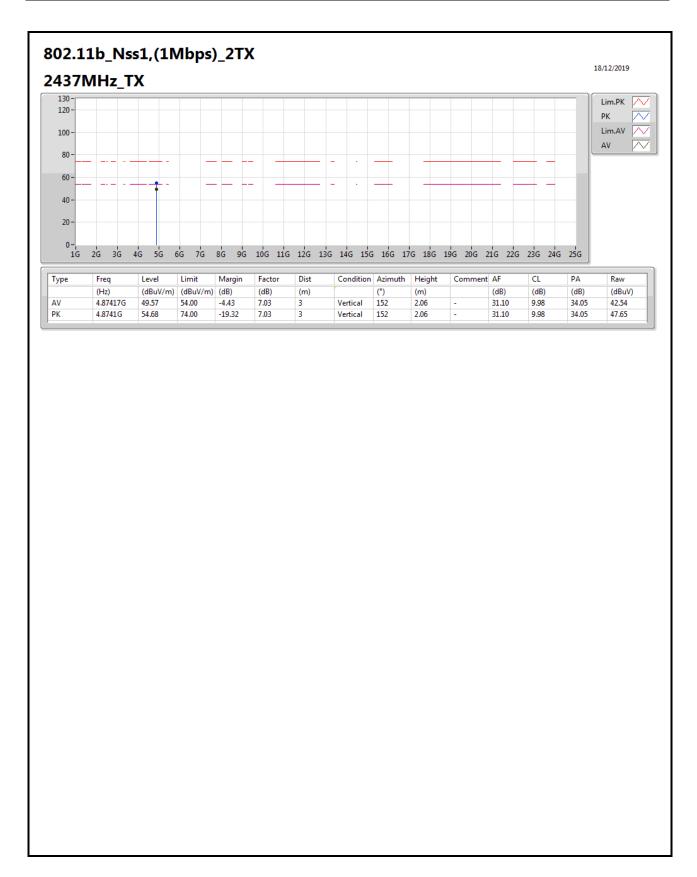




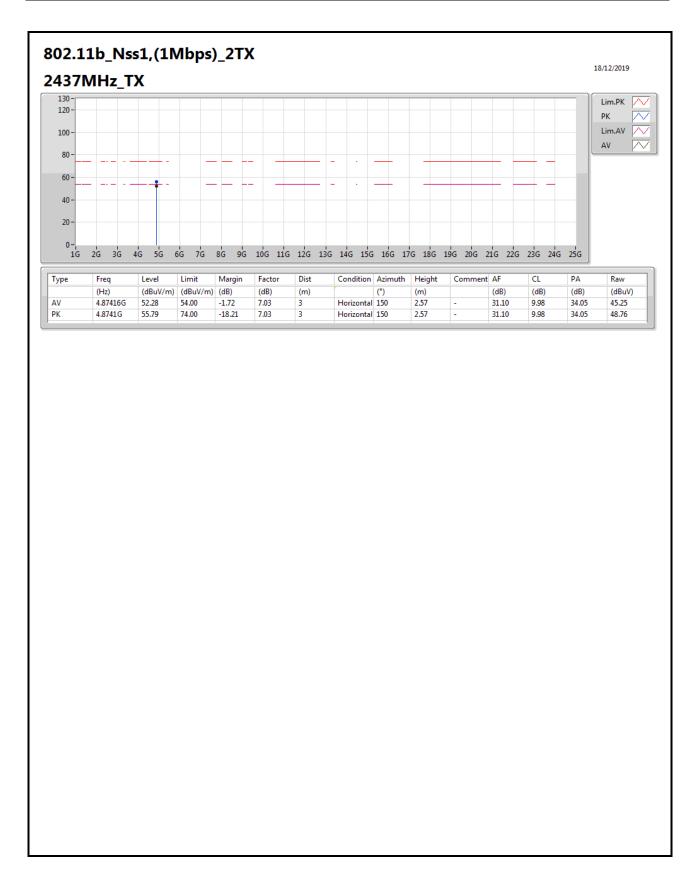




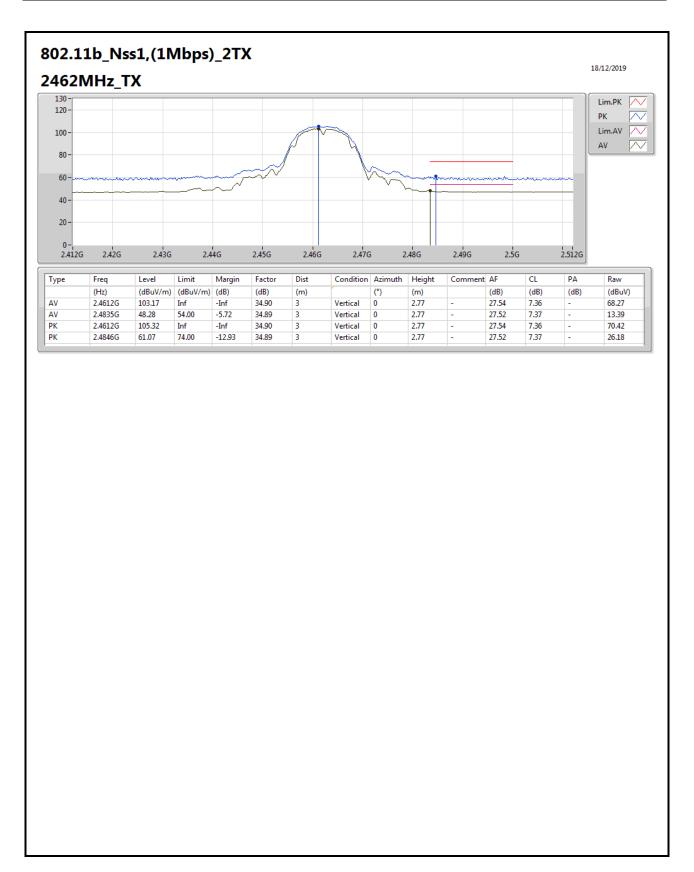






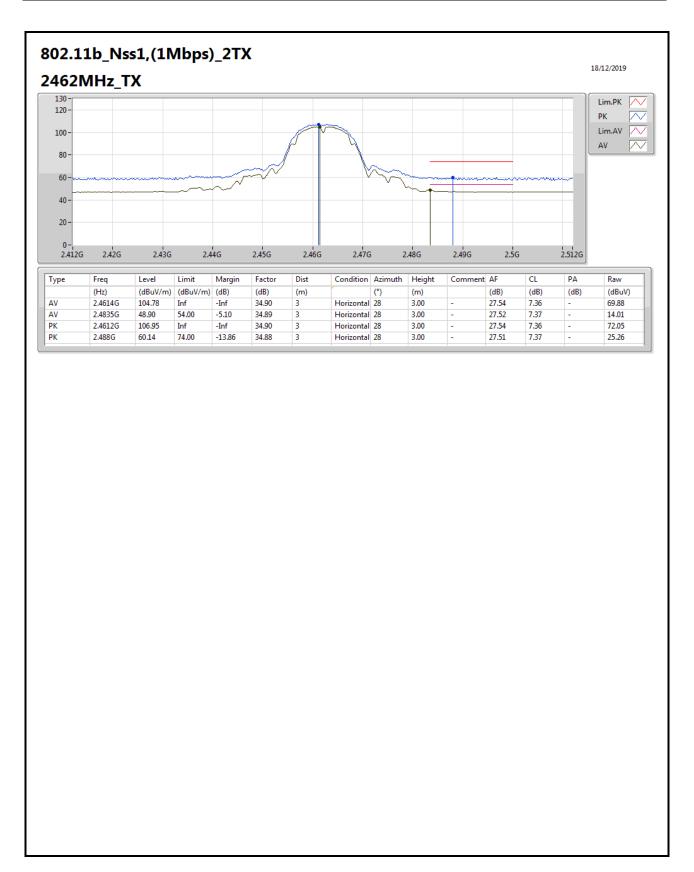






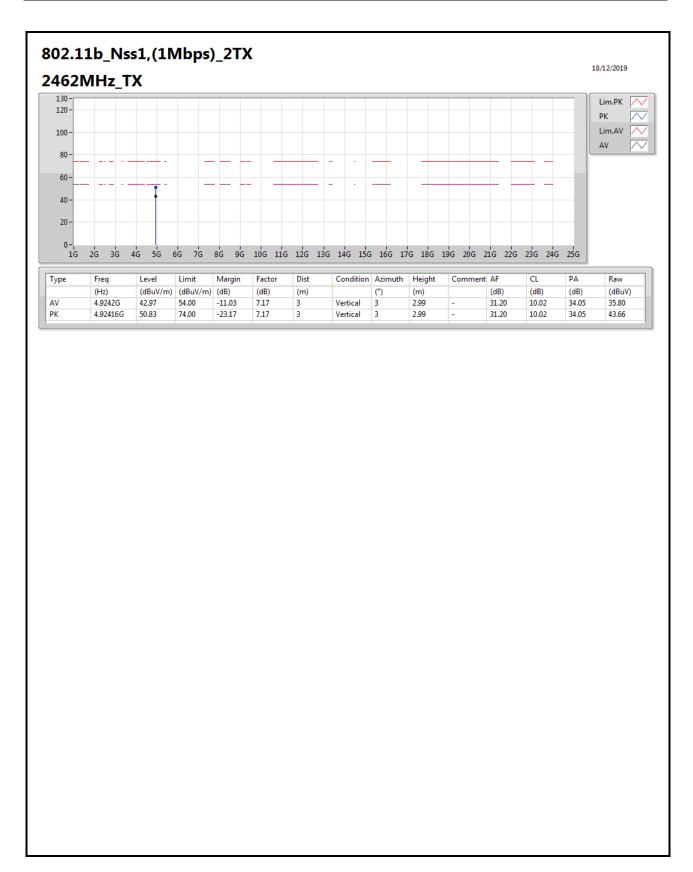
Page No. : F14 of F49



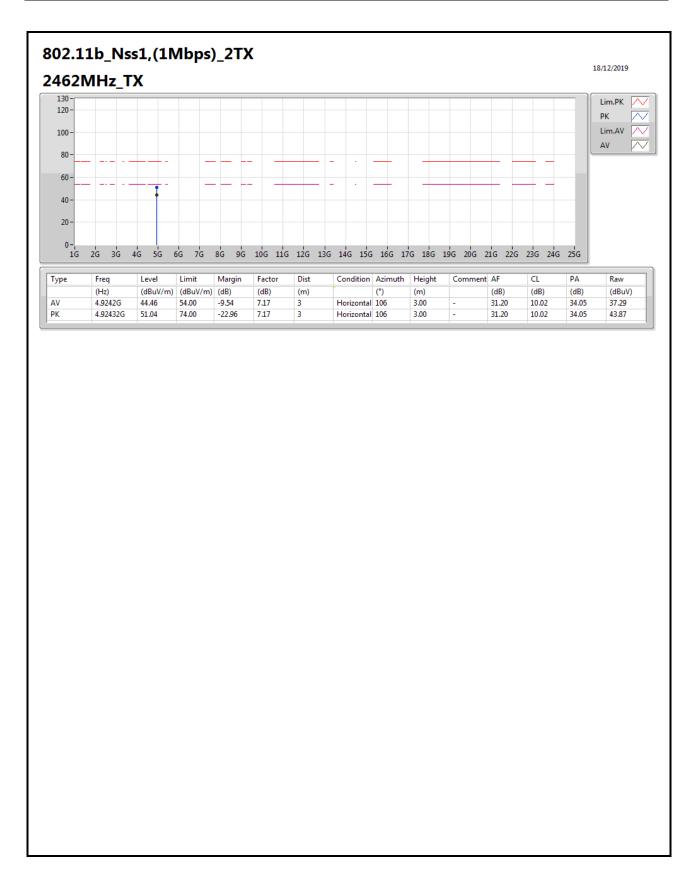


9D1219

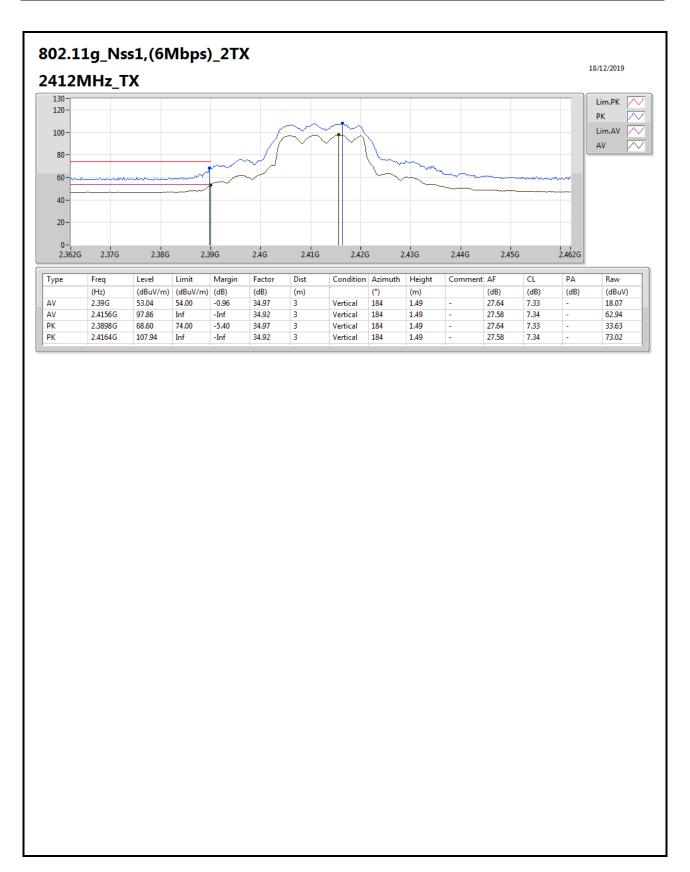




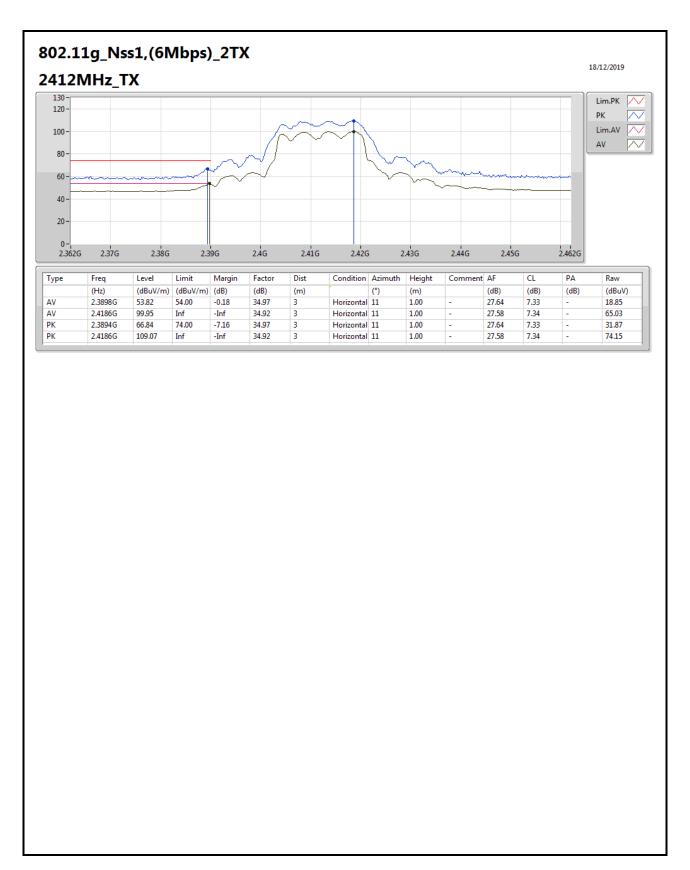




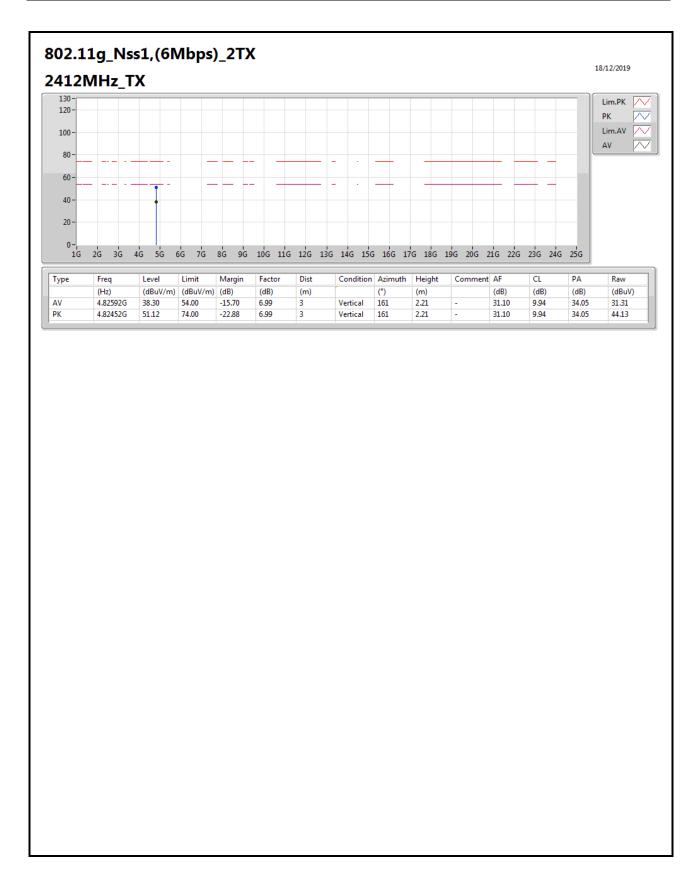




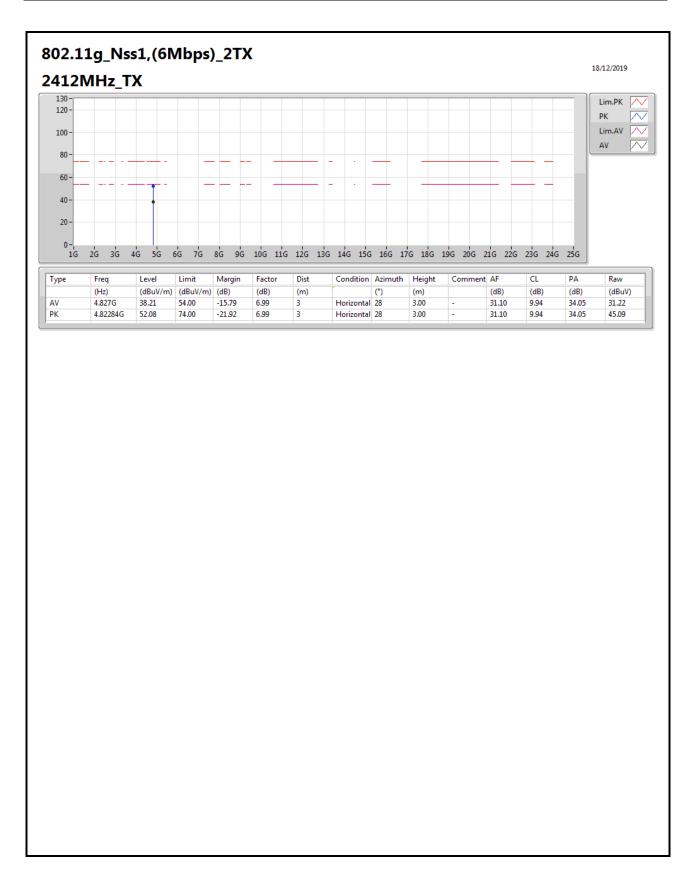




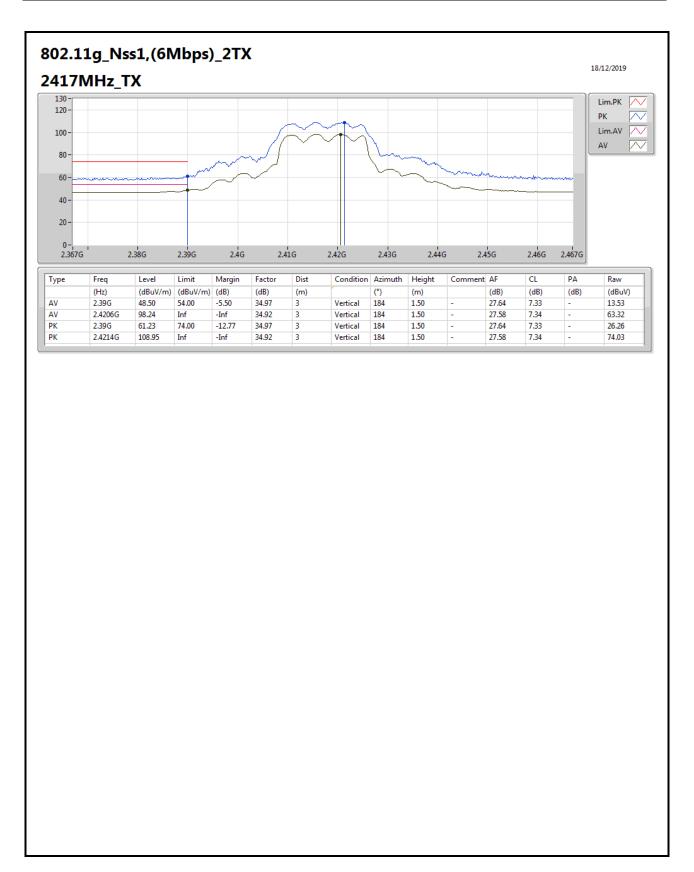




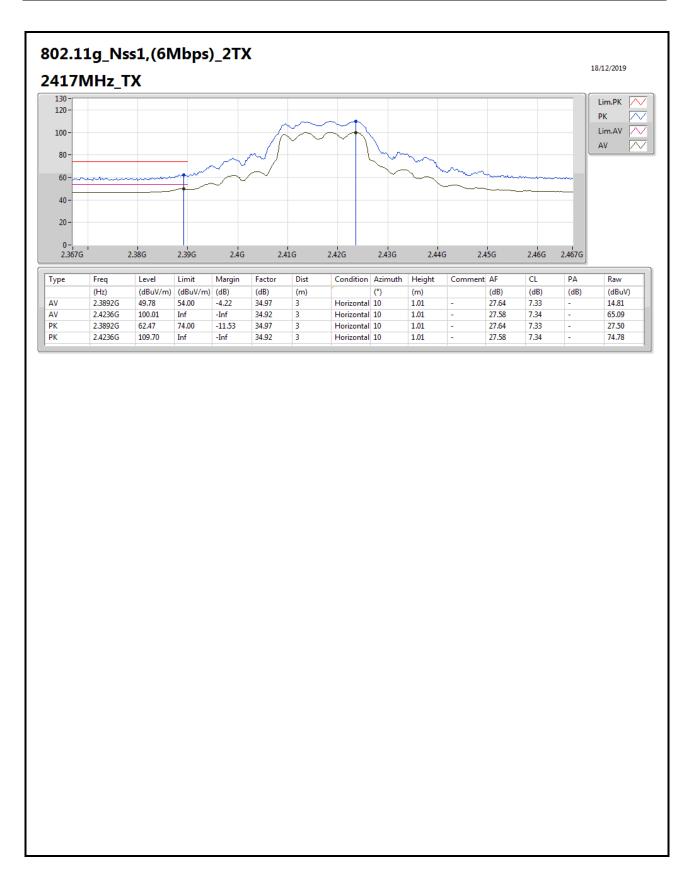




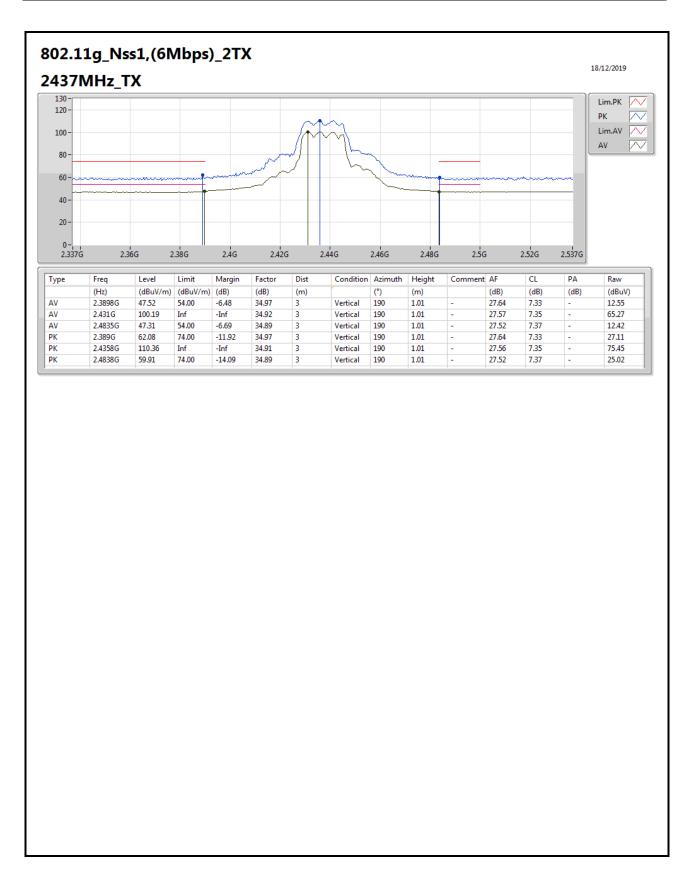




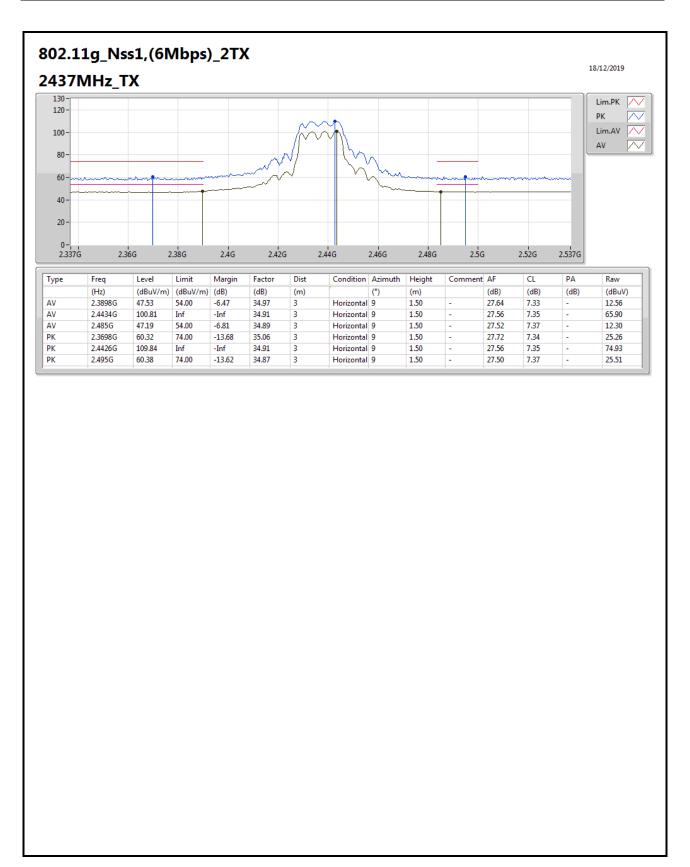




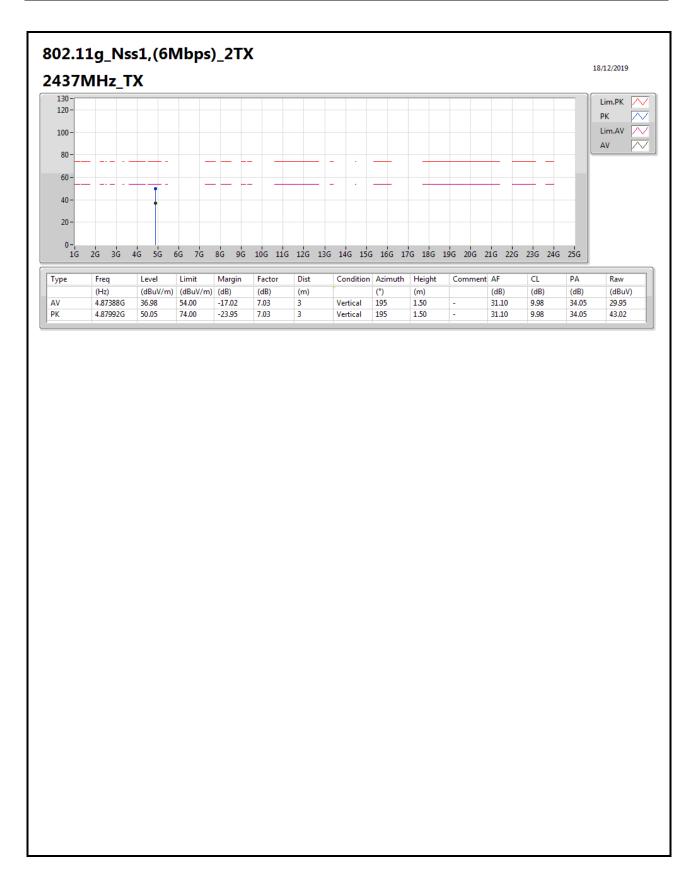




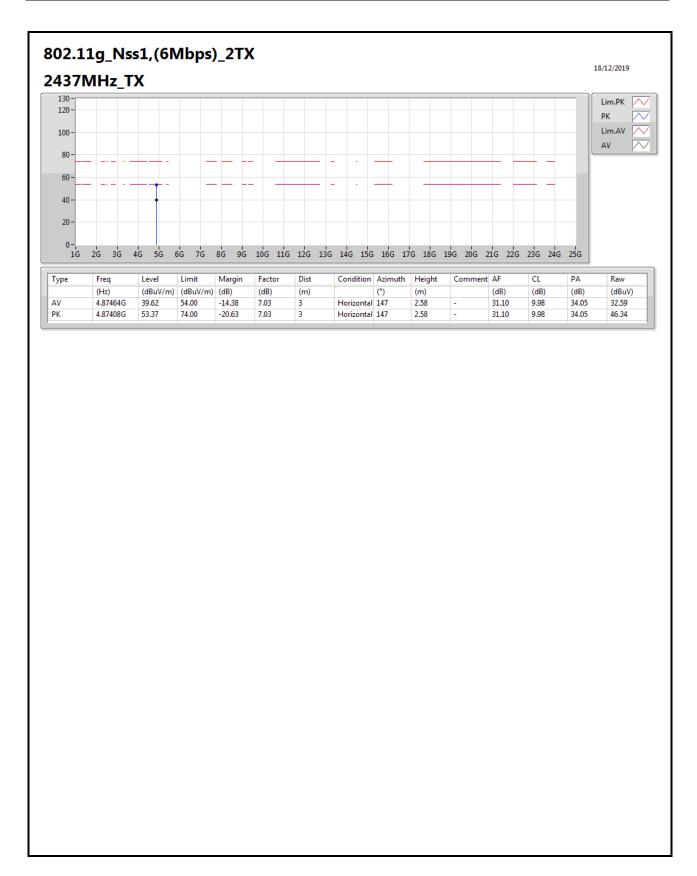




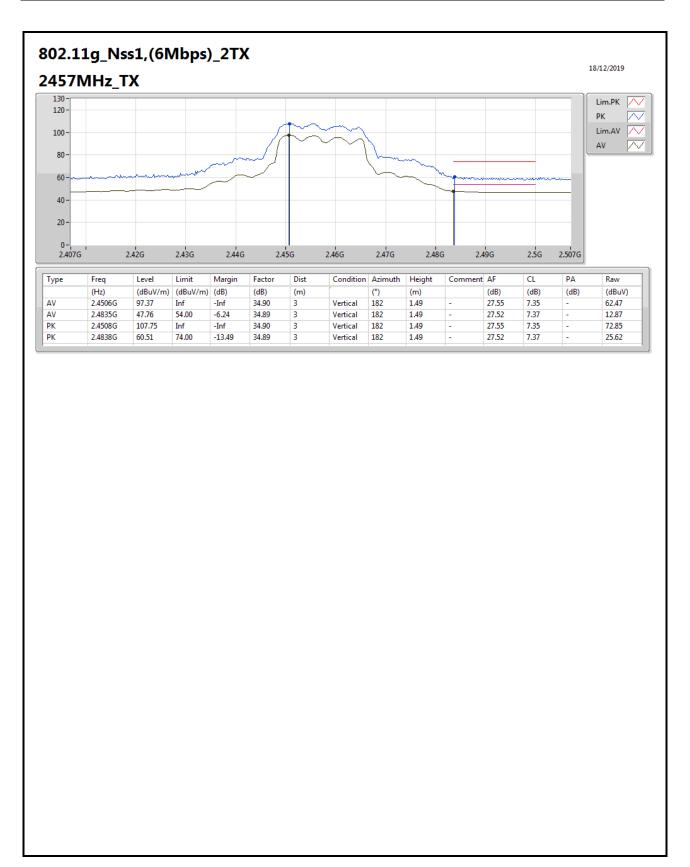




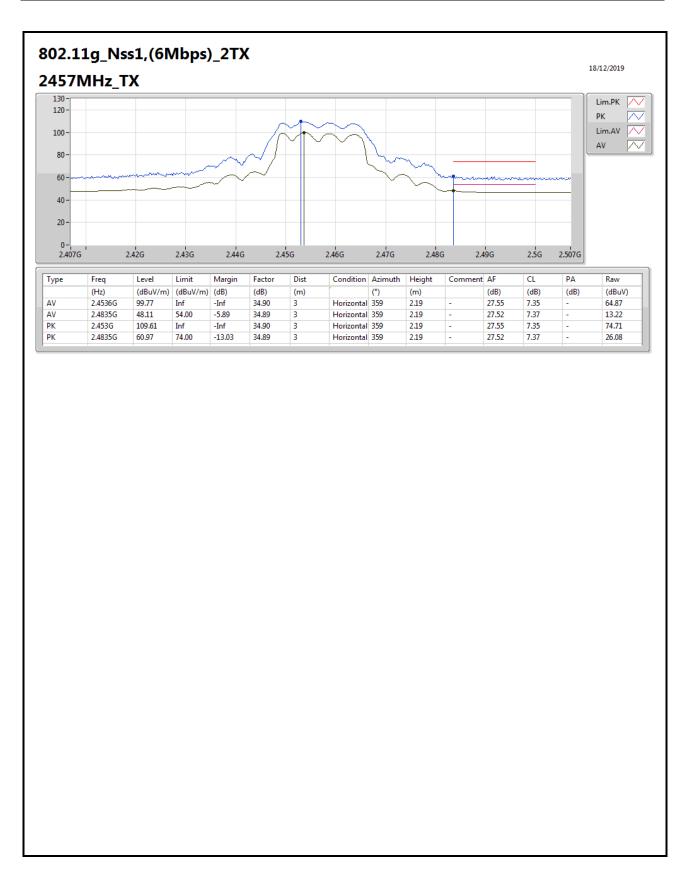




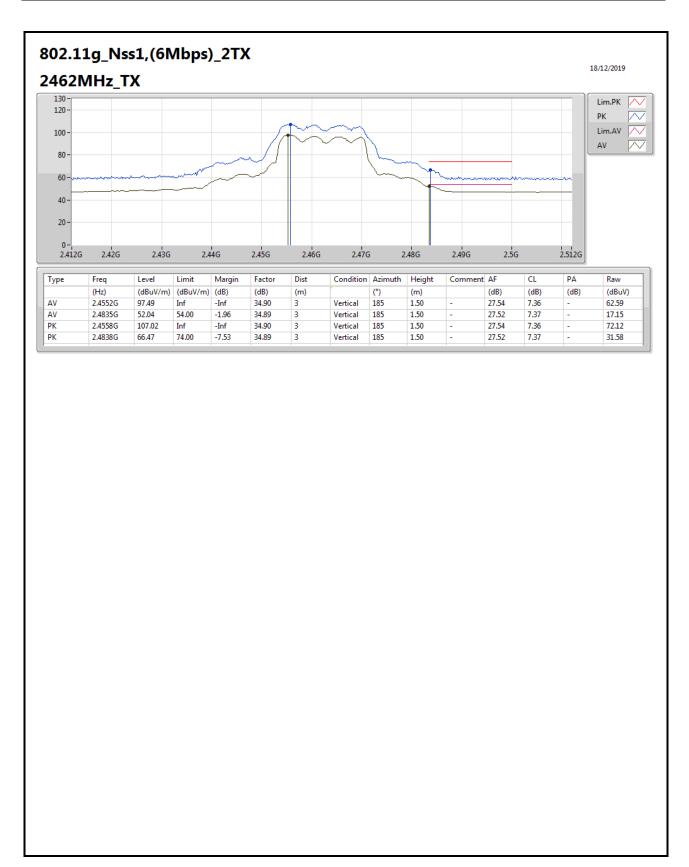




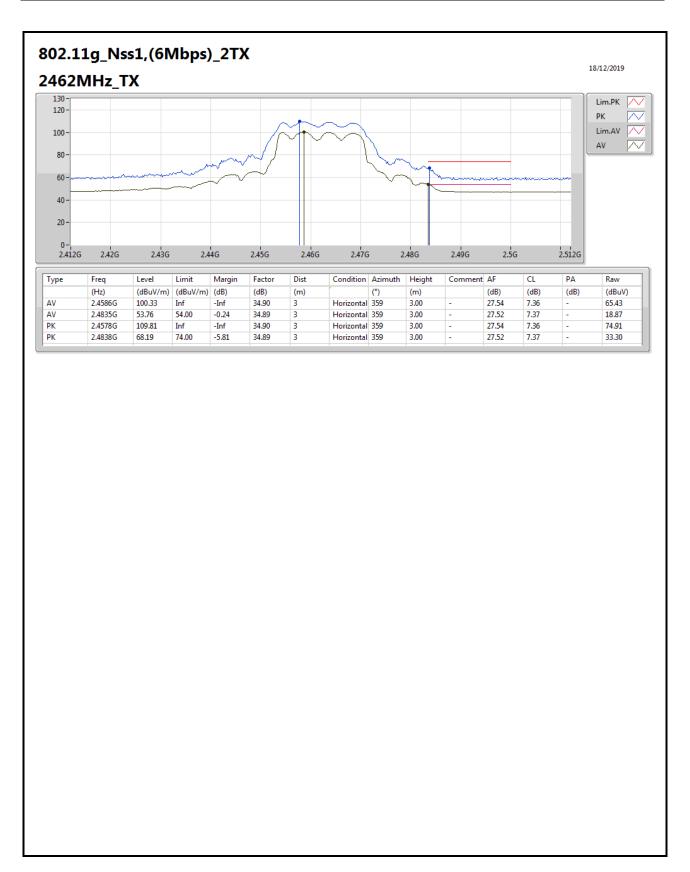




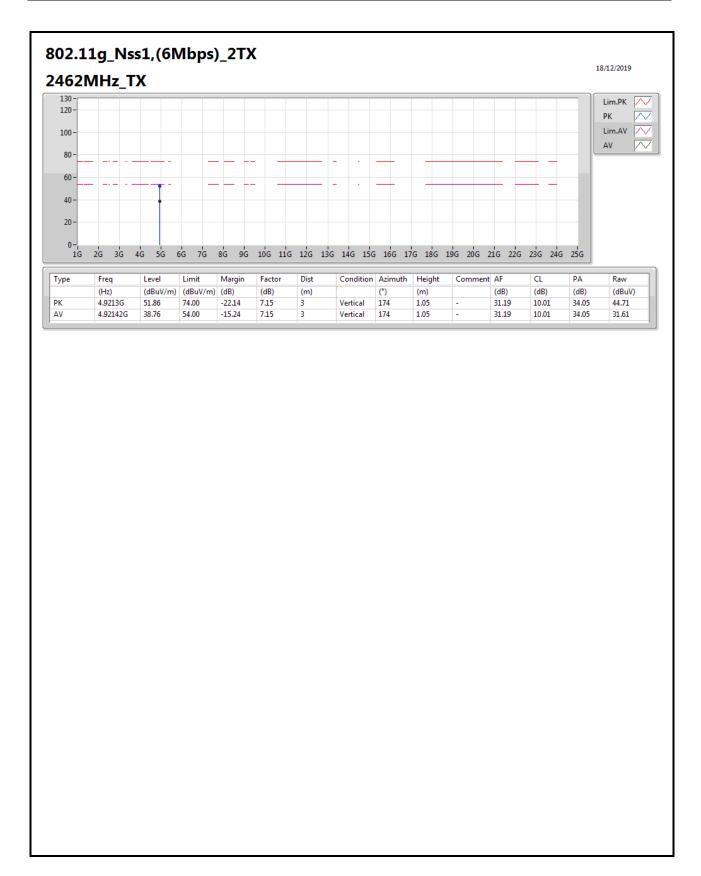




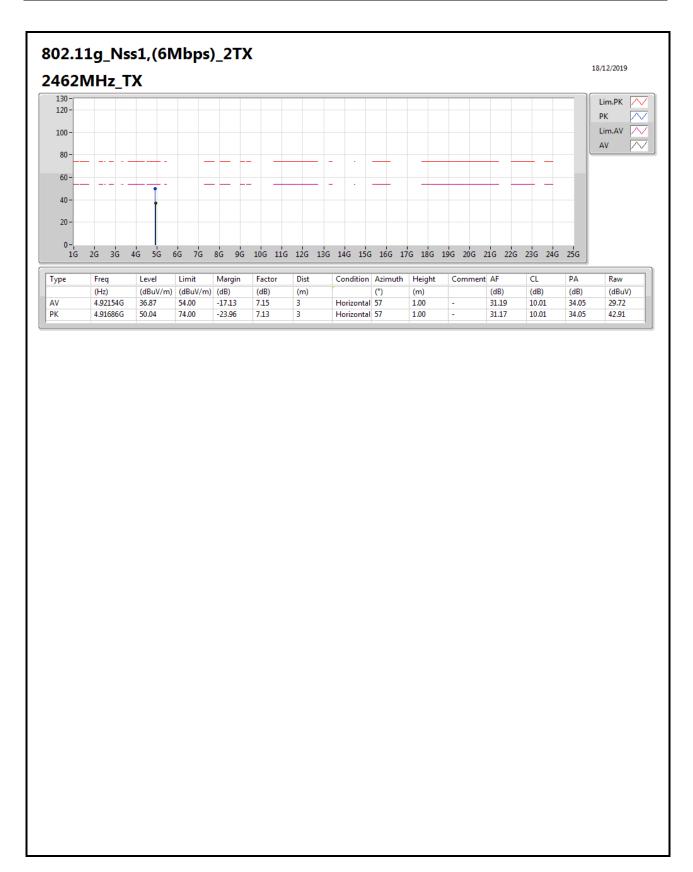




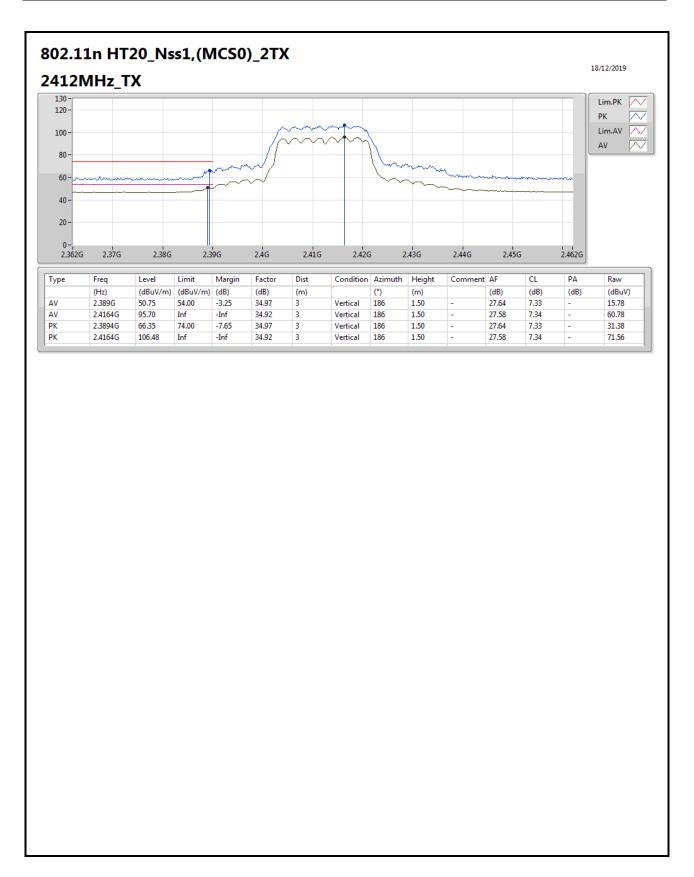




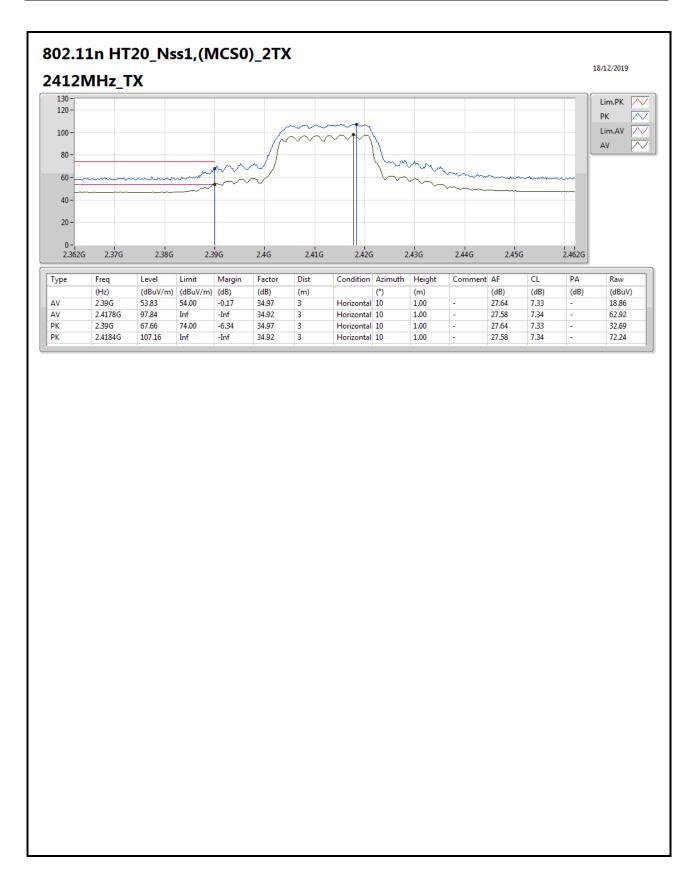




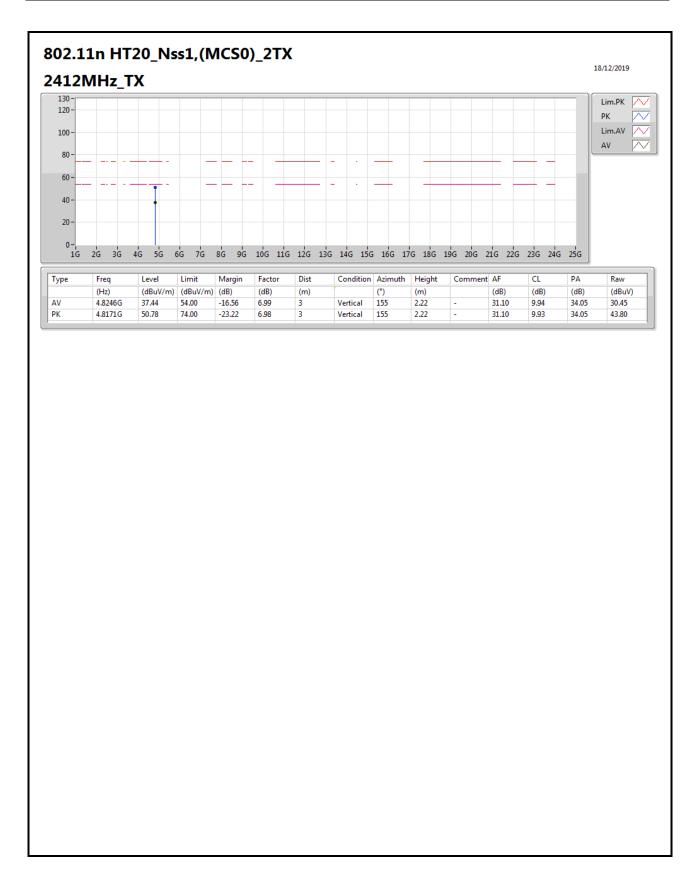






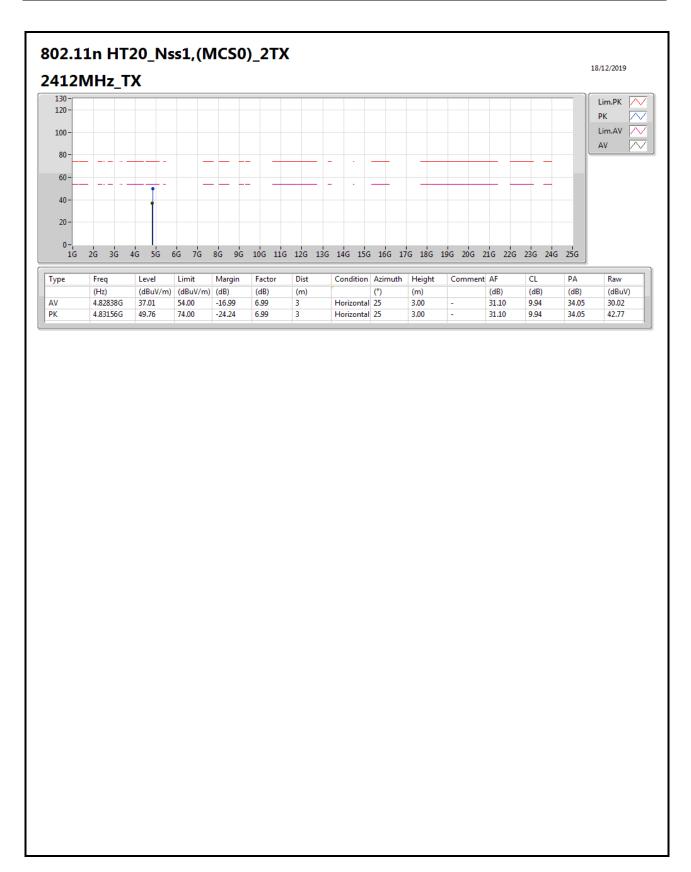




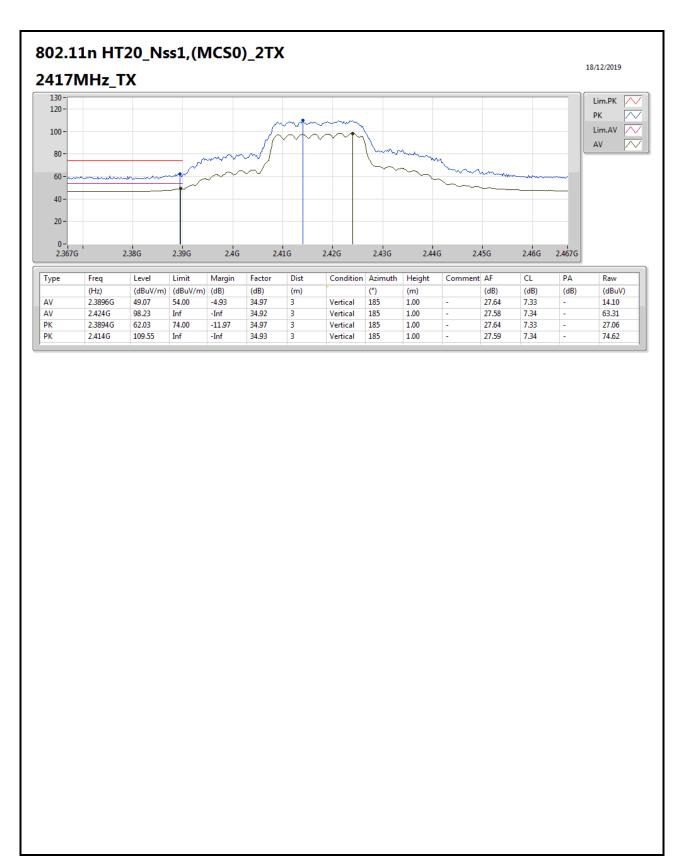


9D1219

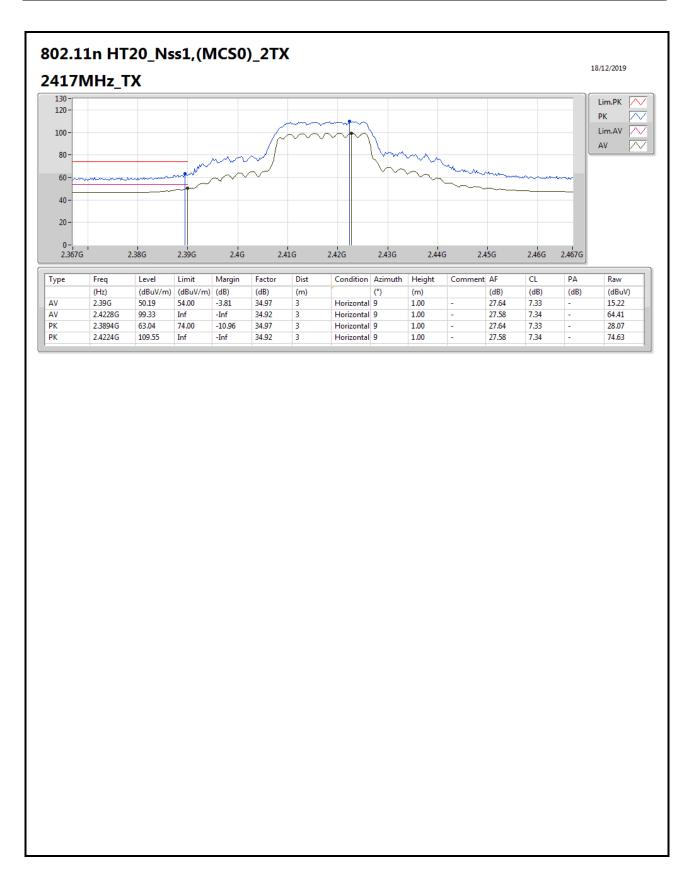




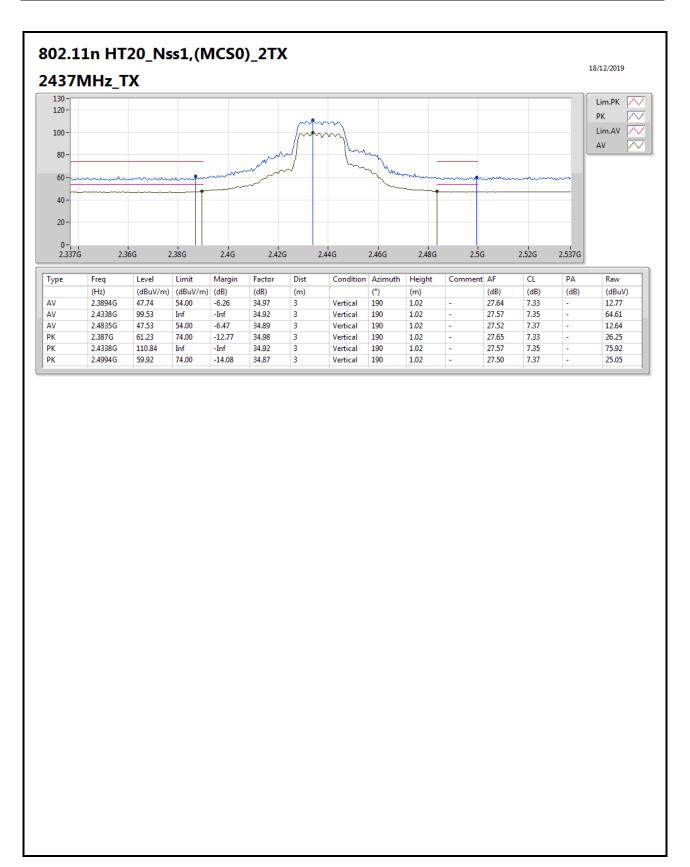






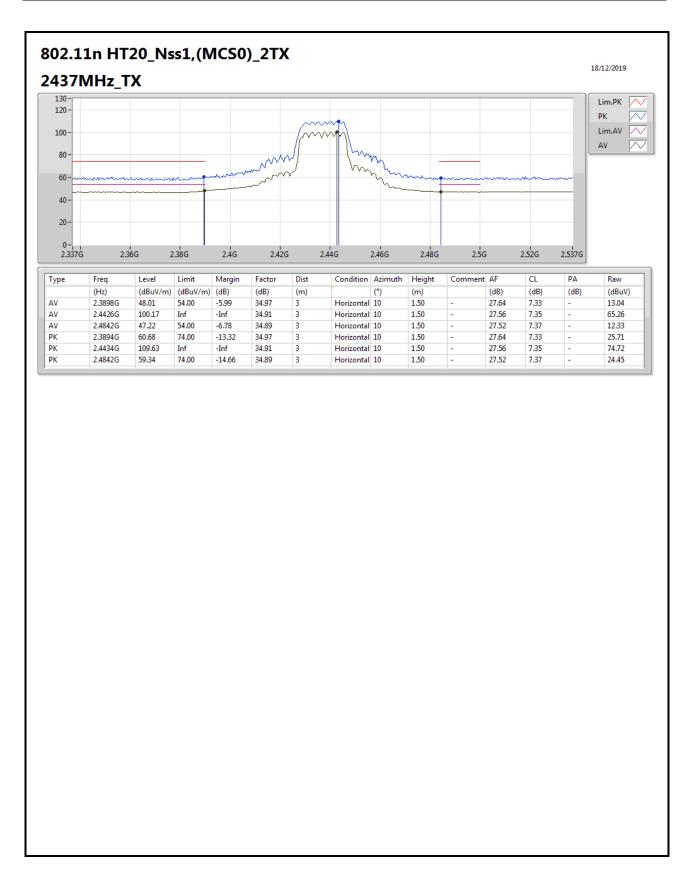






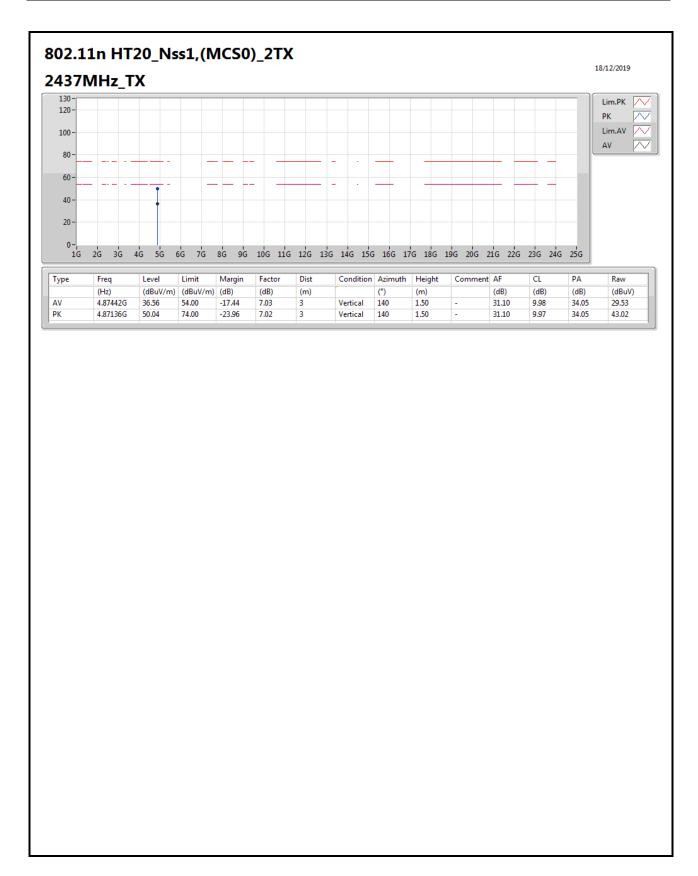
9D1219



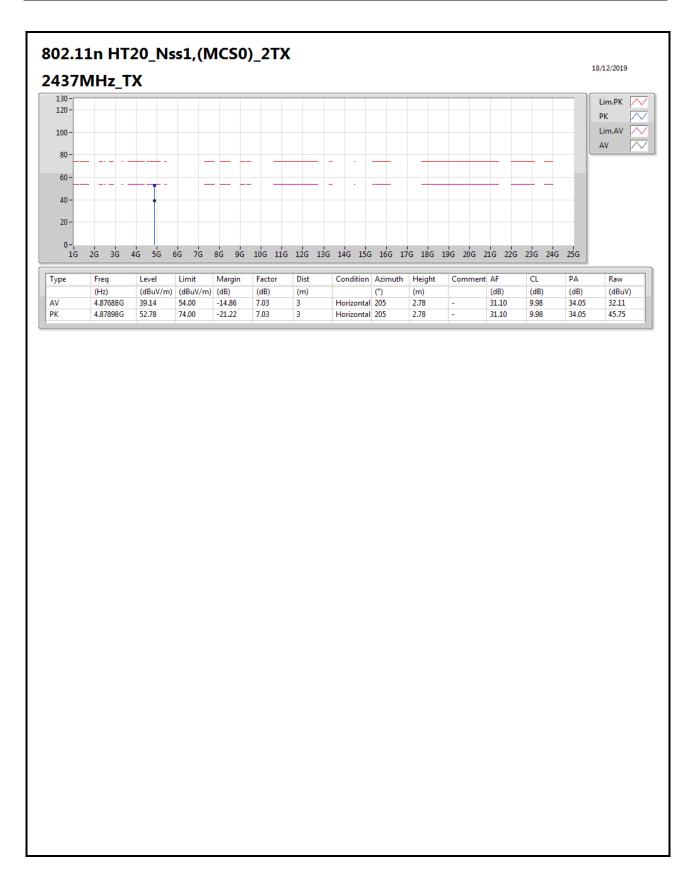


Page No. : F41 of F49

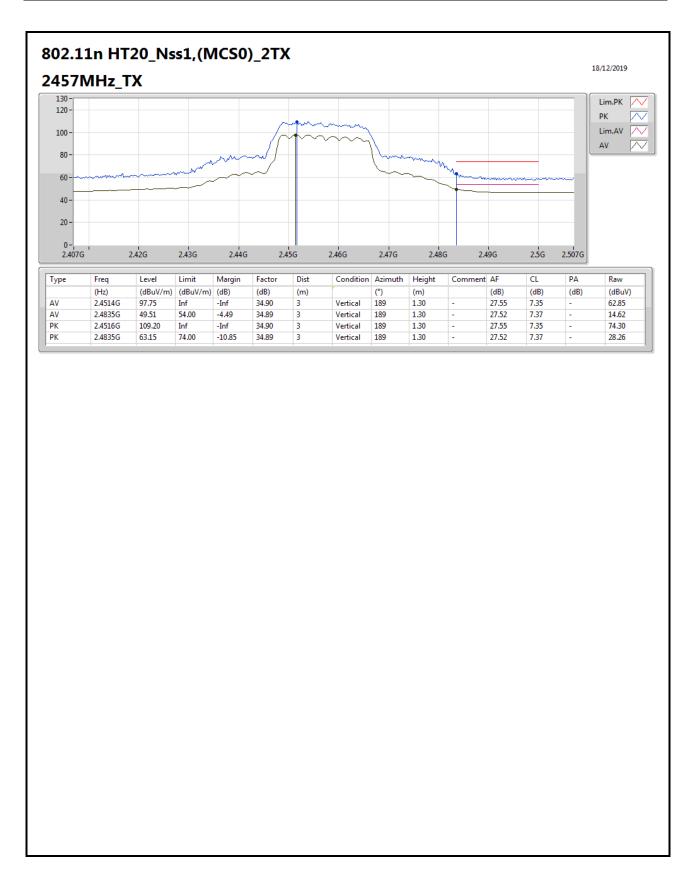




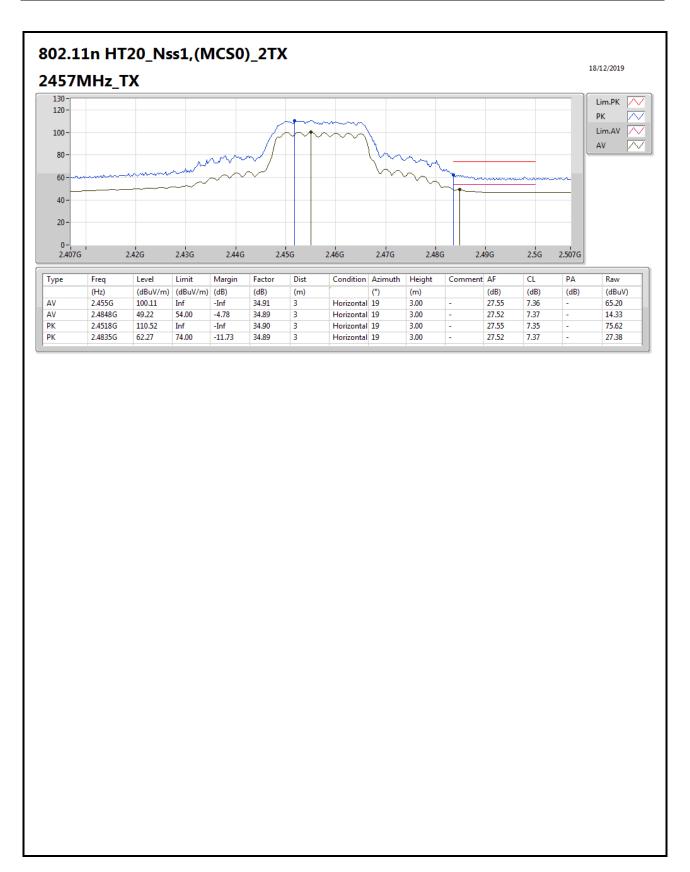




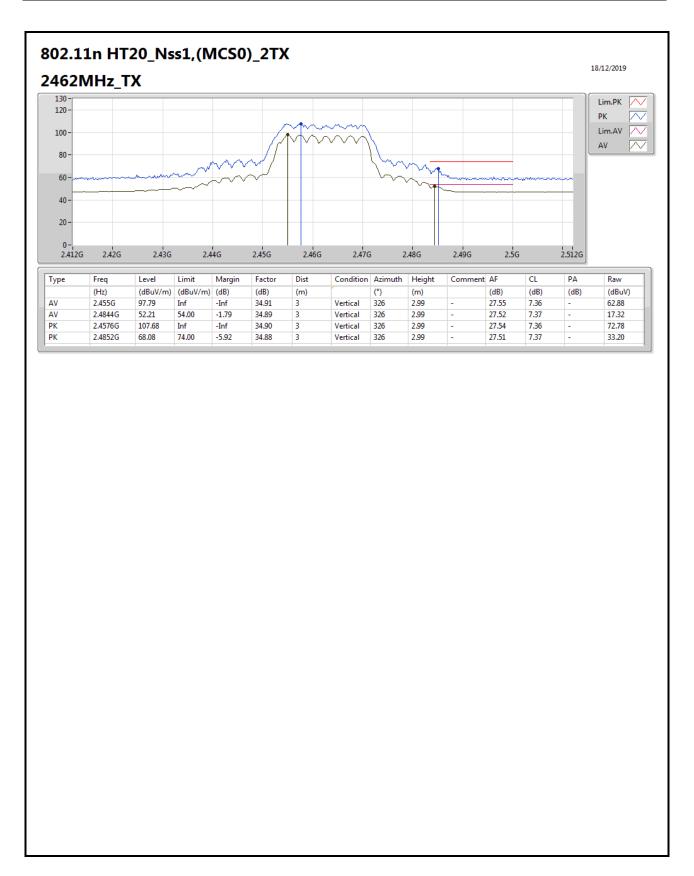




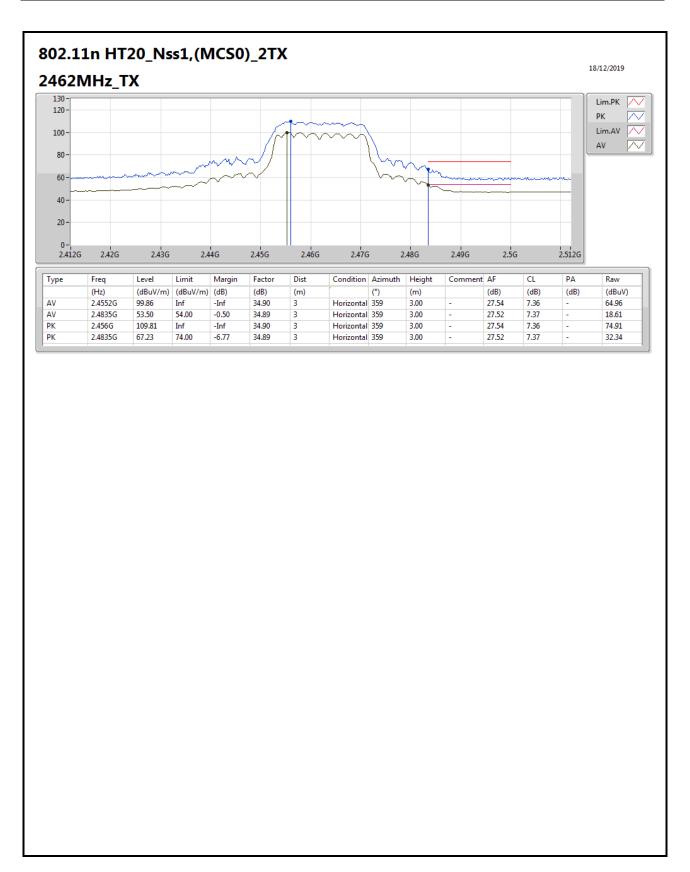












Page No. : F47 of F49



