

FCC Test Report

Equipment : 802.11a/b/g/n/ac RTL8821CE Combo module
Brand Name : REALTEK
Model No. : RTL8821CE
FCC ID : TX2-RTL8821CE
Standard : 47 CFR FCC Part 15.407
Operating Band : 5150 MHz – 5250 MHz
5250 MHz – 5350 MHz
5470 MHz – 5725 MHz
5725 MHz – 5850 MHz
Applicant : Realtek Semiconductor Corp.
No. 2, Innovation Road II, Hsinchu Science Park,
Hsinchu 300, Taiwan
Manufacturer : Realtek Semiconductor Corp.
No. 2, Innovation Road II, Hsinchu Science Park,
Hsinchu 300, Taiwan
Function : ☐ Outdoor; ☐ Indoor; ☐ Fixed P2P
☒ Client
TPC Function : TPC

The product sample received on Sep. 30, 2016 and completely tested on Nov. 29, 2016. We, SPORTON, would like to declare that the tested sample has been evaluated in accordance with the procedures given in ANSI C63.10-2013 and shown compliance with the applicable technical standards.

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


Sam Chen
SPORTON INTERNATIONAL INC.



Table of Contents

1	GENERAL DESCRIPTION	5
1.1	Information.....	5
1.2	Testing Applied Standards	9
1.3	Testing Location Information	9
1.4	Measurement Uncertainty	9
2	TEST CONFIGURATION OF EUT	10
2.1	Test Channel Mode	10
2.2	The Worst Case Measurement Configuration.....	12
2.3	EUT Operation during Test	15
2.4	Accessories	16
2.5	Support Equipment.....	16
2.6	Test Setup Diagram	17
3	TRANSMITTER TEST RESULT	20
3.1	AC Power-line Conducted Emissions	20
3.2	Emission Bandwidth	22
3.3	Maximum Conducted Output Power	23
3.4	Peak Power Spectral Density.....	25
3.5	Unwanted Emissions.....	28
3.6	Frequency Stability.....	33
4	TEST EQUIPMENT AND CALIBRATION DATA	34
APPENDIX A. TEST RESULTS OF AC POWER-LINE CONDUCTED EMISSIONS		
APPENDIX B. TEST RESULTS OF EMISSION BANDWIDTH		
APPENDIX C. TEST RESULTS OF MAXIMUM CONDUCTED OUTPUT POWER		
APPENDIX D. TEST RESULTS OF PEAK POWER SPECTRAL DENSITY		
APPENDIX E. TEST RESULTS OF UNWANTED EMISSIONS		
APPENDIX F. TEST RESULTS OF FREQUENCY STABILITY		
APPENDIX G. TEST RESULTS OF RADIATED EMISSION CO-LOCATION		
APPENDIX H. TEST PHOTOS		
APPENDIX I. ANTENNA LIST		

Summary of Test Result

Conformance Test Specifications			
Report Clause	Ref. Std. Clause	Description	Result
1.1.2	15.203	Antenna Requirement	Complied
3.1	15.207	AC Power-line Conducted Emissions	Complied
3.2	15.407(a)	Emission Bandwidth	Complied
3.3	15.407(a)	Maximum Conducted Output Power	Complied
3.4	15.407(a)	Peak Power Spectral Density	Complied
3.5	15.407(b)	Unwanted Emissions	Complied
3.6	15.407(g)	Frequency Stability	Complied



SPORTON INTERNATIONAL INC.
TEL : 886-3-3273456
FAX : 886-3-3270973
FCC ID: TX2-RTL8821CE

1 General Description

1.1 Information

1.1.1 RF General Information

Frequency Range (MHz)	IEEE Std. 802.11	Ch. Frequency (MHz)	Channel Number
5150-5250	a, n (HT20), ac (VHT20)	5180-5240	36-48 [4]
5250-5350		5260-5320	52-64 [4]
5470-5725		5500-5720	100-144 [12]
5725-5850		5745-5825	149-165 [5]
5150-5250	n (HT40), ac (VHT40)	5190-5230	38-46 [2]
5250-5350		5270-5310	54-62 [2]
5470-5725		5510-5710	102-142 [6]
5725-5850		5755-5795	151-159 [2]
5150-5250	ac (VHT80)	5210	42 [1]
5250-5350		5290	58 [1]
5470-5725		5530-5690	106-138 [3]
5725-5850		5775	155 [1]

Band	Mode	BWch (MHz)	Nant
5.2G	11a	20	1
5.2G	HT20	20	1
5.2G	VHT20	20	1
5.2G	HT40	40	1
5.2G	VHT40	40	1
5.2G	VHT80	80	1
5.3G	11a	20	1
5.3G	HT20	20	1
5.3G	VHT20	20	1
5.3G	HT40	40	1
5.3G	VHT40	40	1
5.3G	VHT80	80	1
5.6G	11a	20	1
5.6G	HT20	20	1
5.6G	VHT20	20	1
5.6G	HT40	40	1
5.6G	VHT40	40	1

Band	Mode	BWch (MHz)	Nant
5.6G	VHT80	80	1
5.8G	11a	20	1
5.8G	HT20	20	1
5.8G	VHT20	20	1
5.8G	HT40	40	1
5.8G	VHT40	40	1
5.8G	VHT80	80	1

Note:

- ♦ 5.2G/5.2G-I(IC) is the 5.2GHz Band (5.15-5.25GHz).
- ♦ 5.3G/5.3G-I(IC) is the 5.3GHz Band (5.25-5.35GHz).
- ♦ 5.6G is the 5.6GHz Band (5.47-5.725GHz) or w/o TDWR (5.47-5.6GHz and 5.65-5.725GHz).
- ♦ 5.6G-I(IC) is the 5.6GHz IC Band w/o TDWR (5.47-5.6GHz and 5.65-5.725GHz).
- ♦ 5.8G/5.8G-I(IC) is the 5.8GHz Band (5.725-5.850GHz).
- ♦ 5.3G-T(Taiwan) is the 5.3GHz TW Band (5.25-5.35GHz).
- ♦ 11a, HT20 and HT40 use a combination of OFDM-BPSK, QPSK, 16QAM, 64QAM modulation.
- ♦ VHT20, VHT40 and VHT80 use a combination of OFDM-BPSK, QPSK, 16QAM, 64QAM, 256QAM, modulation.
- ♦ BWch is the nominal channel bandwidth.
- ♦ Nss-Min is the minimum number of spatial streams.
- ♦ Nant is the number of outputs. e.g., 2(2,3) means have 2 outputs for port 2 and port 3. 2 means have 2 outputs for port 1 and port 2.

1.1.2 Antenna Information

Ant.	Brand	Model Name	Antenna Type	Connector	Gain (dBi)	
					2.4GHz	5GHz
1	LYNwave	ALA110-222050-300011	PIFA Antenna	IPEX MHF4	3.5	5
2	PSA	RFDPA171320EMLB301	Dipole Antenna	IPEX MHF4	3.14	5

Note: 1. The EUT has two types of antenna and there are above only records higher gain of same type antenna.

2. For more information, refer to Appendix I. Antenna List.

3. There are four configurations for EUT.

4. Chain 1: Connect to Ant. 1 or Ant. 2, Chain 2: Connect to Ant. 1 or Ant. 2

EUT	Configuration	Antenna Chain	Description
EUT 1	Config.1 Diversity	2 chains	<p>The EUT supports the antenna with TX/RX diversity function for WLAN and Bluetooth. (Ex. Assume chain 1 was selected to conduct transmitting function in WLAN, so chain 2 was selected in Bluetooth Mode. Vice versa.) WLAN 2.4GHz and Bluetooth will be transmitting from the different chains; WLAN 5GHz and Bluetooth will be transmitting from the same chain.</p> <p>WLAN function (1TX, 1RX) / Bluetooth function (1TX, 1RX)</p> <p>The EUT supports 1TX/1RX function, and it supports TX/RX diversity function.</p> <p>Both chain 1 and chain 2 could be used as transmitting/receiving antenna, but only one of them could transmit/receive at the same time.</p>
EUT 2	Config.2 Fixed	2 chains	<p>WLAN function (1TX, 1RX) / Bluetooth function (1TX, 1RX)</p> <p>Chain 2 is designated for WLAN (2.4GHz), Chain 1 is designated for WLAN (5GHz) and Bluetooth.</p>
EUT 3	Config.3 Single	1 chain	<p>WLAN function (1TX, 1RX) / Bluetooth function (1TX, 1RX)</p> <p>WLAN and BT share a common chain, where WLAN (2.4GHz) and BT couldn't transmit/receive at the same time, but WLAN (5GHz) and BT could transmit/receive at the same time.</p>
EUT 4	Config.4 Single	1 chain	<p>WLAN function (1TX, 1RX) / Bluetooth function (1TX, 1RX)</p> <p>WLAN and BT share a common chain, where WLAN (2.4GHz) and BT couldn't transmit/receive at the same time, but WLAN (5GHz) and BT could transmit/receive at the same time.</p>

Note 1: After evaluating, EUT 1 has been evaluated to be the worst case, so it was performed for all tests.

For WLAN 2.4GHz function:

Chain 2 generated the worst case in configuration 1, so it was selected to test and record in the report.

For WLAN 5GHz and Bluetooth function:

Chain 1 generated the worst case in configuration 1, so it was selected to test and record in the report.

Note 2: EUT 3 and EUT 4 were retested Emissions in Restricted Frequency Bands for 2.4GHz and Unwanted Emissions for 5GHz only. And after evaluating, the worst case is found at 802.11b/g CH13 and 5GHz 802.11a CH 36, 802.11ac VHT40 CH62, and retest this channel only.

1.1.3 Mode Test Duty Cycle

Mode	DC	T(s)	VBW(Hz) $\geq 1/T$
11a	0.998	n/a (DC \geq 0.98)	n/a (DC \geq 0.98)
VHT20	0.994	n/a (DC \geq 0.98)	n/a (DC \geq 0.98)
VHT40	0.999	n/a (DC \geq 0.98)	n/a (DC \geq 0.98)
VHT80	0.991	n/a (DC \geq 0.98)	n/a (DC \geq 0.98)

1.1.4 EUT Operational Condition

EUT Power Type	From host system			
Beamforming Function	<input type="checkbox"/>	With beamforming	<input checked="" type="checkbox"/>	Without beamforming
Weather Band	<input checked="" type="checkbox"/>	With 5600~5650MHz	<input type="checkbox"/>	Without 5600~5650MHz

1.2 Testing Applied Standards

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

- ♦ 47 CFR FCC Part 15
- ♦ ANSI C63.10-2013
- ♦ FCC KDB 789033 D02 v01r03
- ♦ FCC KDB 644545 D03 v01
- ♦ FCC KDB 662911 D01 v02r01

1.3 Testing Location Information

Testing Location				
<input type="checkbox"/>	HWA YA	ADD : No. 52, Hwa Ya 1st Rd., Kwei-Shan Hsiang, Tao Yuan Hsien, Taiwan, R.O.C.	TEL : 886-3-327-3456	FAX : 886-3-318-0055
<input checked="" type="checkbox"/>	JHUBEI	ADD : No.8, Lane 724, Bo-ai St., Jhubei City, HsinChu County 302, Taiwan, R.O.C.	TEL : 886-3-656-9065	FAX : 886-3-656-9085

Test Condition	Test Site No.	Test Engineer	Test Environment	Test Date
RF Conducted	TH01-CB	Eddie Weng	24°C / 58%	Nov. 15, 2016 Nov. 23, 2016
Radiated	03CH01-CB	Lucke Hsieh, Paul Chen	22°C / 54%	Oct. 20, 2016 Nov. 29, 2016
AC Conduction	CO01-CB	Kane Liu	23°C / 60%	Oct. 15, 2016

Test site Designation No. TW0006 with FCC

Test site registered number IC 4086D with Industry Canada.

1.4 Measurement Uncertainty

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

Test Items	Uncertainty	Remark
Conducted Emission (150kHz ~ 30MHz)	3.2 dB	Confidence levels of 95%
Radiated Emission (30MHz ~ 1,000MHz)	3.6 dB	Confidence levels of 95%
Radiated Emission (1GHz ~ 18GHz)	3.7 dB	Confidence levels of 95%
Radiated Emission (18GHz ~ 40GHz)	3.5 dB	Confidence levels of 95%
Conducted Emission	1.7 dB	Confidence levels of 95%

2 Test Configuration of EUT

2.1 Test Channel Mode

Band	Mode	BWch (MHz)	Nss-Min	Nant	Ch. (MHz)	Range	Power Setting
5.2G	11a	20	1	1	5180	L	50
5.2G	11a	20	1	1	5200	M	61
5.2G	11a	20	1	1	5240	H	50
5.3G	11a	20	1	1	5260	L	61
5.3G	11a	20	1	1	5300	M	61
5.3G	11a	20	1	1	5320	H	48
5.6G	11a	20	1	1	5500	L	46
5.6G	11a	20	1	1	5580	M	57
5.6G	11a	20	1	1	5700	H	48
5.6G	11a	20	1	1	5720	C	57
5.8G	11a	20	1	1	5720	C	57
5.8G	11a	20	1	1	5745	L	53
5.8G	11a	20	1	1	5785	M	57
5.8G	11a	20	1	1	5825	H	54
5.2G	VHT20	20	1,(M0)	1	5180	L	50
5.2G	VHT20	20	1,(M0)	1	5200	M	57
5.2G	VHT20	20	1,(M0)	1	5240	H	51
5.3G	VHT20	20	1,(M0)	1	5260	L	57
5.3G	VHT20	20	1,(M0)	1	5300	M	57
5.3G	VHT20	20	1,(M0)	1	5320	H	51
5.6G	VHT20	20	1,(M0)	1	5500	L	47
5.6G	VHT20	20	1,(M0)	1	5580	M	61
5.6G	VHT20	20	1,(M0)	1	5700	H	48
5.6G	VHT20	20	1,(M0)	1	5720	C	57
5.8G	VHT20	20	1,(M0)	1	5720	C	57
5.8G	VHT20	20	1,(M0)	1	5745	L	53
5.8G	VHT20	20	1,(M0)	1	5785	M	61
5.8G	VHT20	20	1,(M0)	1	5825	H	54
5.2G	VHT40	40	1,(M0)	1	5190	L	38
5.2G	VHT40	40	1,(M0)	1	5230	H	50
5.3G	VHT40	40	1,(M0)	1	5270	L	57
5.3G	VHT40	40	1,(M0)	1	5310	H	41
5.6G	VHT40	40	1,(M0)	1	5510	L	35
5.6G	VHT40	40	1,(M0)	1	5550	M	52
5.6G	VHT40	40	1,(M0)	1	5670	H	51
5.6G	VHT40	40	1,(M0)	1	5710	C	57
5.8G	VHT40	40	1,(M0)	1	5710	C	57

Band	Mode	BWch (MHz)	Nss-Min	Nant	Ch. (MHz)	Range	Power Setting
5.8G	VHT40	40	1,(M0)	1	5755	L	57
5.8G	VHT40	40	1,(M0)	1	5795	H	57
5.2G	VHT80	80	1,(M0)	1	5210	S	37
5.3G	VHT80	80	1,(M0)	1	5290	S	41
5.6G	VHT80	80	1,(M0)	1	5530	L	32
5.6G	VHT80	80	1,(M0)	1	5610	H	50
5.6G	VHT80	80	1,(M0)	1	5690	C	57
5.8G	VHT80	80	1,(M0)	1	5690	C	57
5.8G	VHT80	80	1,(M0)	1	5775	S	54

Note:

- ♦ Test range channel consist of L (Low Ch.), M (Middle Ch.), H (High Ch.), S (Single Ch.) and C (Straddle Band Ch.).
- ♦ VHT20/VHT40 covers HT20/HT40, due to same modulation. The power setting for 802.11n HT20 and HT40 are the same or lower than 802.11ac VHT20 and VHT40.

2.2 The Worst Case Measurement Configuration

The Worst Case Mode for Following Conformance Tests	
Tests Item	AC power-line conducted emissions
Condition	AC power-line conducted measurement for line and neutral
Operating Mode	Normal Link
1	EUT 1 with Ant. 1 (wireless 2.4GHz + Bluetooth 4.2)
2	EUT 1 with Ant. 1 (wireless 5GHz + Bluetooth 4.2)
Mode 1 has been evaluated to be the worst case between Mode 1~2, thus measurement for Mode 3 will follow this same test mode.	
3	EUT 1 with Ant. 2 (wireless 2.4GHz + Bluetooth 4.2)
For operating mode 1 is the worst case and it was record in this test report.	

The Worst Case Mode for Following Conformance Tests	
Tests Item	Emission Bandwidth Maximum Conducted Output Power Peak Power Spectral Density Frequency Stability
Test Condition	Conducted measurement at transmit chains
Test Mode	1 EUT 1 with Ant. 1

Note: For Conducted measurement Test: only the higher gain antenna "Ant. 1" was selected to perform the test and recorded in this report.

The Worst Case Mode for Following Conformance Tests	
Tests Item	Unwanted Emissions
Test Condition	Radiated measurement If EUT consist of multiple antenna assembly (multiple antenna are used in EUT regardless of spatial multiplexing MIMO configuration), the radiated test should be performed with highest antenna gain of each antenna type.
Operating Mode < 1GHz	Normal Link
1	EUT 1 Y axis with Ant. 1 (wireless 2.4GHz + Bluetooth 4.2)
2	EUT 1 Y axis with Ant. 1 (wireless 5GHz + Bluetooth 4.2)
Mode 1 has been evaluated to be the worst case between Mode 1~2, thus measurement for Mode 3 will follow this same test mode.	
3	EUT 1 Z axis with Ant. 1 (wireless 2.4GHz + Bluetooth 4.2)
Mode 3 has been evaluated to be the worst case between Mode 1~3, thus measurement for Mode 4 will follow this same test mode.	
4	EUT 1 Z axis with Ant. 2 (wireless 2.4GHz + Bluetooth 4.2)
For operating mode 3 is the worst case and it was record in this test report.	
Operating Mode > 1GHz	CTX
The EUT was performed at X axis, Y axis and Z axis position for Radiated emission test, and the worst case was found at X axis. So the measurement will follow this same test configuration.	
1	EUT 1 X axis with Ant. 1
2	EUT 1 X axis with Ant. 2
3	EUT 3 X axis with Ant. 1
4	EUT 3 X axis with Ant. 2
5	EUT 4 X axis with Ant. 1
6	EUT 4 X axis with Ant. 2

The Worst Case Mode for Following Conformance Tests	
Tests Item	Simultaneous Transmission Analysis
Test Condition	Radiated measurement
Operating Mode	Normal Link
1	EUT 1 X axis with Ant. 1 (wireless 2.4GHz + Bluetooth 4.2)
2	EUT 1 Y axis with Ant. 1 (wireless 2.4GHz + Bluetooth 4.2)
3	EUT 1 Z axis with Ant. 1 (wireless 2.4GHz + Bluetooth 4.2)
4	EUT 1 X axis with Ant. 1 (wireless 5GHz + Bluetooth 4.2)
5	EUT 1 Y axis with Ant. 1 (wireless 5GHz + Bluetooth 4.2)
6	EUT 1 Z axis with Ant. 1 (wireless 5GHz + Bluetooth 4.2)
7	EUT 1 X axis with Ant. 2 (wireless 2.4GHz + Bluetooth 4.2)
8	EUT 1 Y axis with Ant. 2 (wireless 2.4GHz + Bluetooth 4.2)
9	EUT 1 Z axis with Ant. 2 (wireless 2.4GHz + Bluetooth 4.2)
10	EUT 1 X axis with Ant. 2 (wireless 5GHz + Bluetooth 4.2)
11	EUT 1 Y axis with Ant. 2 (wireless 5GHz + Bluetooth 4.2)
12	EUT 1 Z axis with Ant. 2 (wireless 5GHz + Bluetooth 4.2)
Mode 3 has been evaluated to be the worst case between Mode 1~3, thus measurement for Mode 13 will follow this same test mode.	
13	EUT 4 Z axis with Ant. 1 (wireless 2.4GHz + Bluetooth 4.2)
Mode 6 has been evaluated to be the worst case between Mode 4~6, thus measurement for Mode 14 will follow this same test mode.	
14	EUT 4 Z axis with Ant. 1 (wireless 5GHz + Bluetooth 4.2)
Mode 9 has been evaluated to be the worst case between Mode 7~9, thus measurement for Mode 15 will follow this same test mode.	
15	EUT 4 Z axis with Ant. 2 (wireless 2.4GHz + Bluetooth 4.2)
Mode 12 has been evaluated to be the worst case between Mode 10~12, thus measurement for Mode 16 will follow this same test mode.	
16	EUT 4 Z axis with Ant. 2 (wireless 5GHz + Bluetooth 4.2)
Mode 3 has been evaluated to be the worst case between Mode 1~3, thus measurement for Mode 17 will follow this same test mode.	
17	EUT 3 Z axis with Ant. 1 (wireless 2.4GHz + Bluetooth 4.2)
Mode 6 has been evaluated to be the worst case between Mode 4~6, thus measurement for Mode 18 will follow this same test mode.	
18	EUT 3 Z axis with Ant. 1 (wireless 5GHz + Bluetooth 4.2)
Mode 9 has been evaluated to be the worst case between Mode 7~9, thus measurement for Mode 19 will follow this same test mode.	
19	EUT 3 Z axis with Ant. 2 (wireless 2.4GHz + Bluetooth 4.2)
Mode 12 has been evaluated to be the worst case between Mode 10~12, thus measurement for Mode 20 will follow this same test mode.	



20	EUT 3 Z axis with Ant. 2 (wireless 5GHz + Bluetooth 4.2)
Mode 18 and Mode 19 are worst test result among Mode 1 ~ Mode 20, and the test result of those two modes are selected to record in the test report. Refer to Sporton Test Report No.: FA692918 for Co-location RF Exposure Evaluation and Appendix G for Radiated Emission Co-location.	

2.3 EUT Operation during Test

For CTX Mode:

The EUT was programmed to be in continuously transmitting mode.

For Normal Link:

During the test, the EUT operation to normal function.



2.4 Accessories

N/A

2.5 Support Equipment

For Test Site No: CO01-CB

Support Equipment				
No.	Equipment	Brand Name	Model Name	FCC ID
1	NB*2	DELL	E6430	DoC
2	Earphone	SHYARO CHI	MIC-04	DoC
3	Mouse	HP	FM100	DoC
4	Test fixture*2	REALTEK	N/A	N/A
5	AP Router	Planex	GW-AP54SGX	KA220030603014-1
6	Device	REALTEK	RTL8821CE	TX2-RTL8821CE

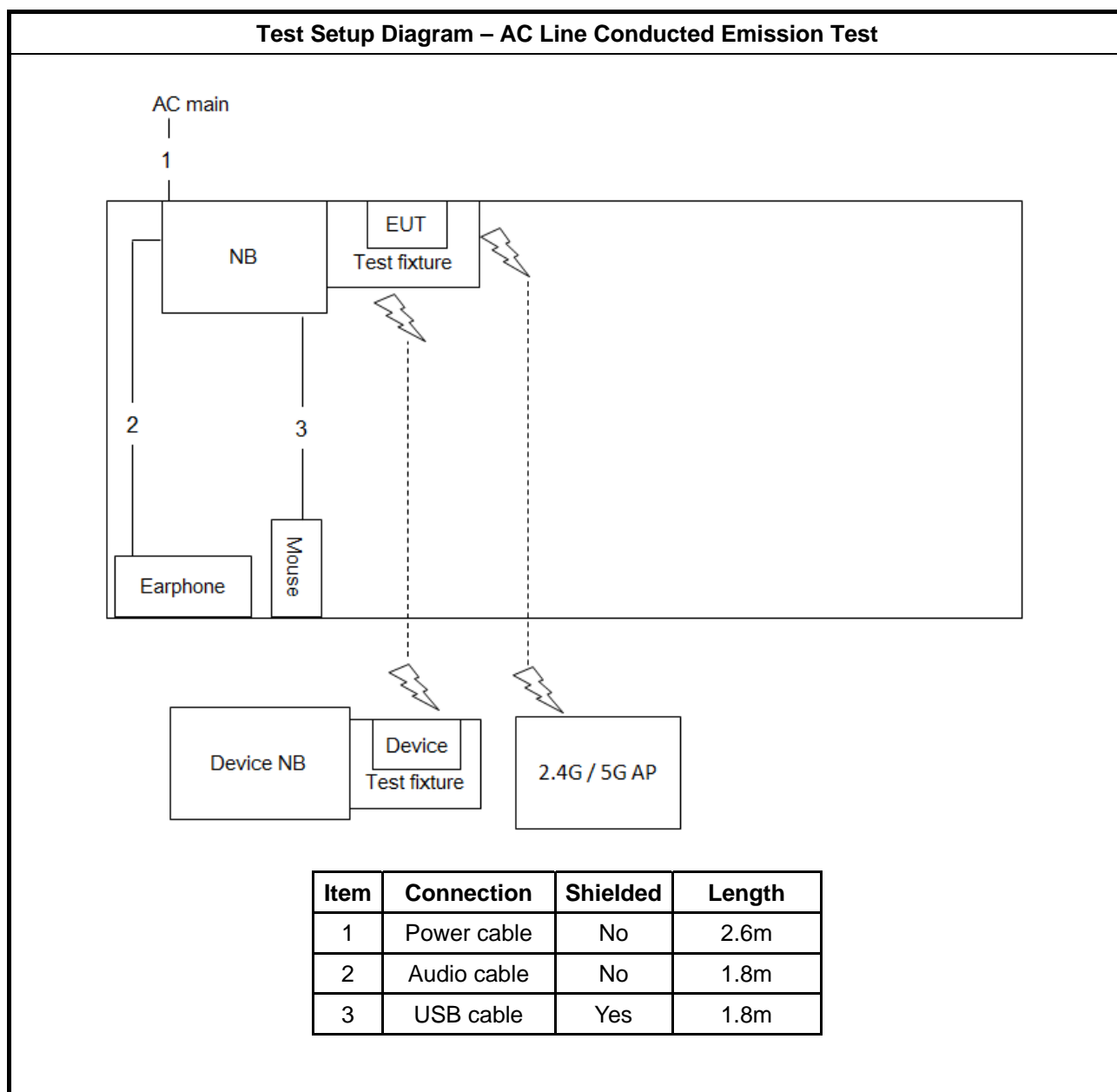
For Test Site No: 03CH01-CB (below 1GHz)

Support Equipment				
No.	Equipment	Brand Name	Model Name	FCC ID
1	NB*2	DELL	E4300	DoC
2	Mouse	Logitech	M-U0026	DoC
3	Earphone	SHYARO CHI	MIC-04	N/A
4	Test fixture*2	REALTEK	N/A	N/A
5	WLAN AP	D-LINK	DIR860L	KA2IR860LA1
6	Device	REALTEK	RTL8821CE	TX2-RTL8821CE

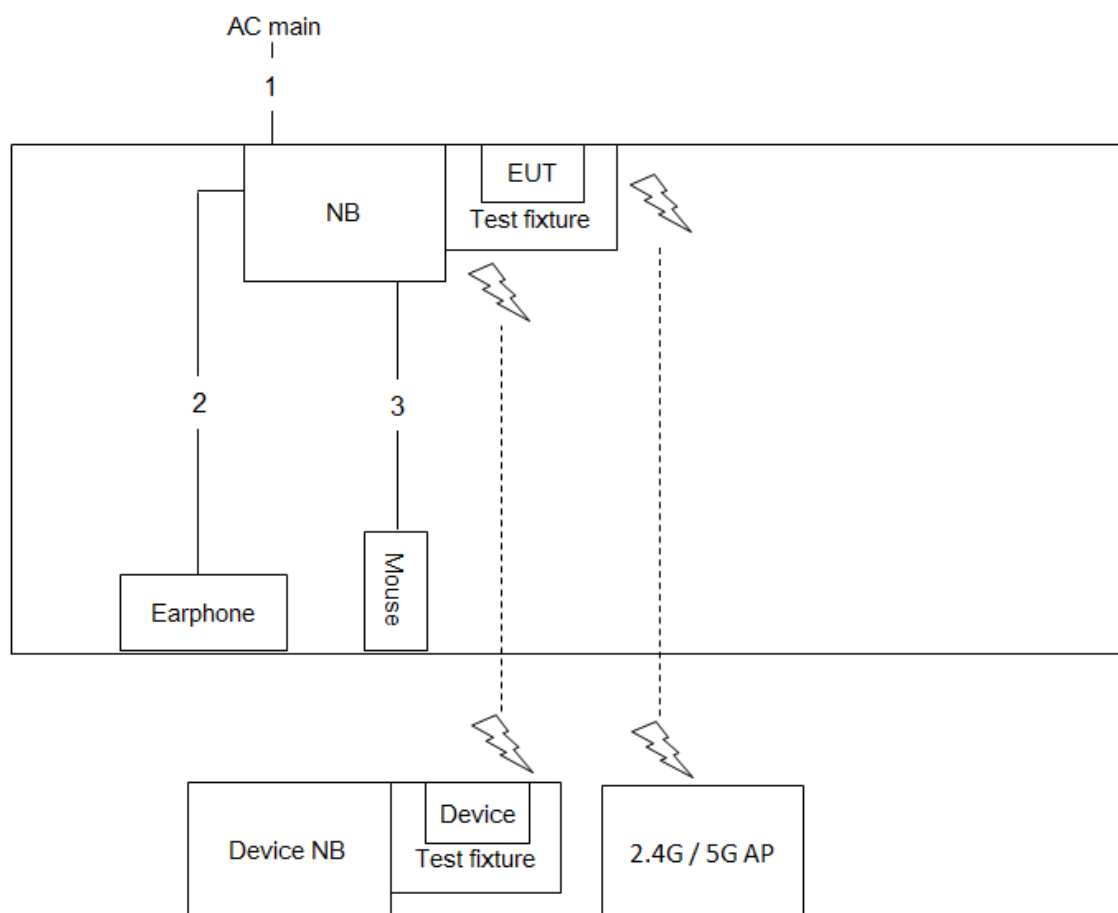
For Test Site No: 03CH01-CB (above 1GHz) and TH01-CB

Support Equipment				
No.	Equipment	Brand Name	Model Name	FCC ID
1	NB	DELL	E4300	DoC
2	Test fixture	REALTEK	N/A	N/A

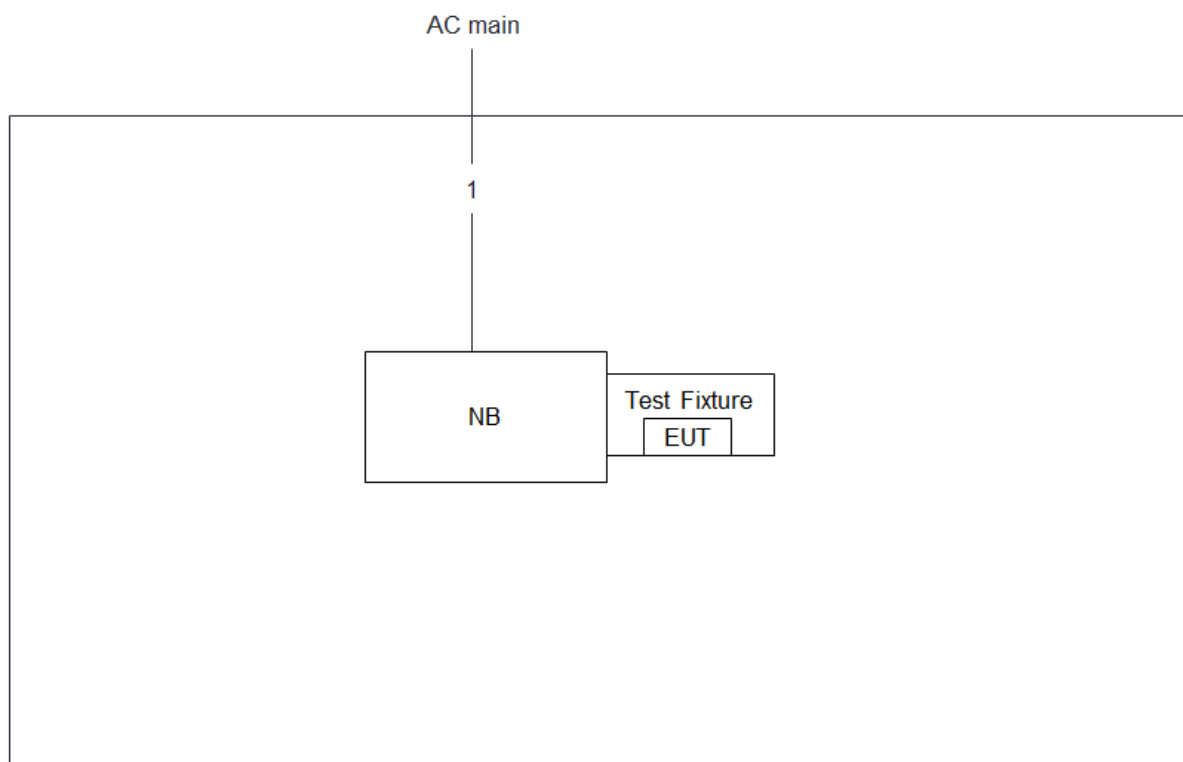
2.6 Test Setup Diagram



Test Setup Diagram - Radiated Test < 1GHz



Item	Connection	Shielded	Length
1	Power cable	No	2.6m
2	Audio cable	No	1.1m
3	USB cable	Yes	1.8m

Test Setup Diagram - Radiated Test > 1GHz


Item	Connection	Shielded	Length
1	Power cable	No	1.5m

3 Transmitter Test Result

3.1 AC Power-line Conducted Emissions

3.1.1 AC Power-line Conducted Emissions Limit

AC Power-line Conducted Emissions Limit		
Frequency Emission (MHz)	Quasi-Peak	Average
0.15-0.5	66 - 56 *	56 - 46 *
0.5-5	56	46
5-30	60	50

Note 1: * Decreases with the logarithm of the frequency.

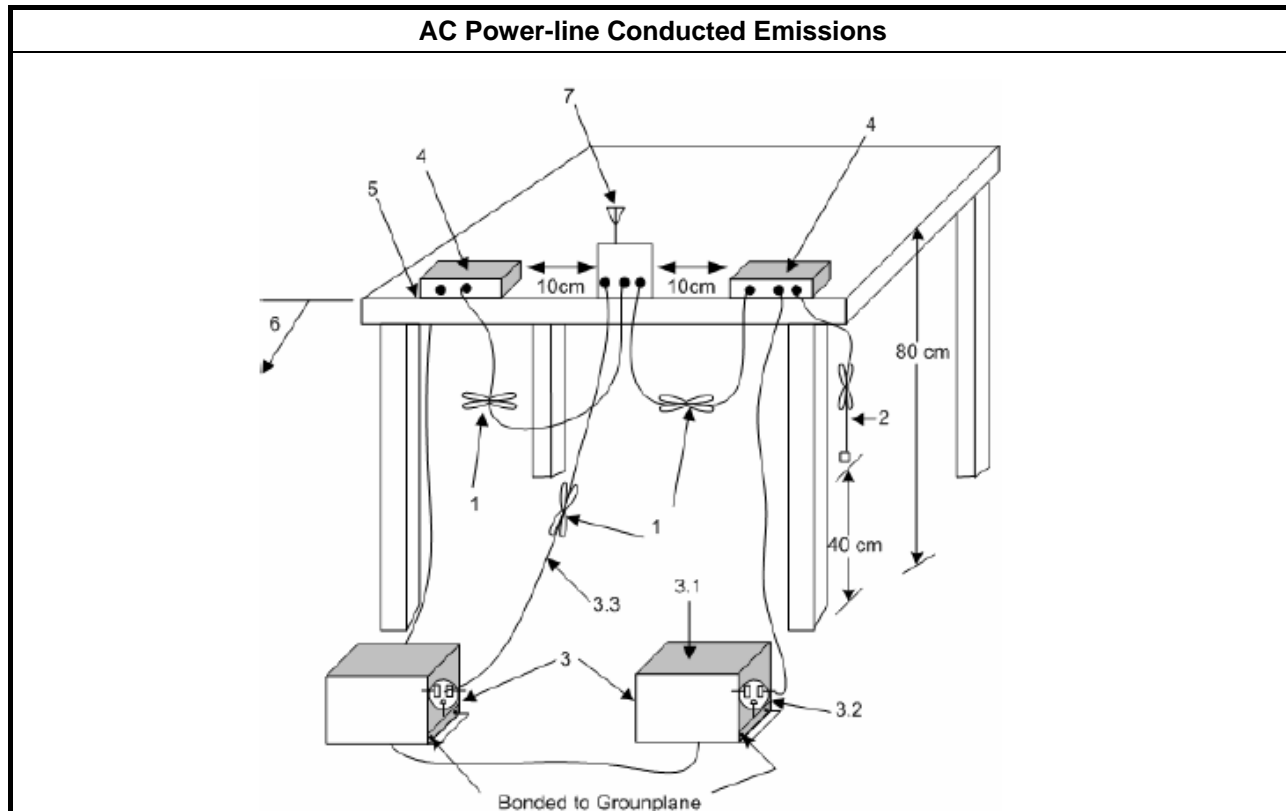
3.1.2 Measuring Instruments

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

3.1.3 Test Procedures

Test Method
<input checked="" type="checkbox"/> Refer as ANSI C63.10-2013, clause 6.2 for AC power-line conducted emissions.

3.1.4 Test Setup





3.1.5 Test Result of AC Power-line Conducted Emissions

Refer as Appendix A

3.2 Emission Bandwidth

3.2.1 Emission Bandwidth Limit

Emission Bandwidth Limit	
UNII Devices	
<input checked="" type="checkbox"/>	For the 5.15-5.25 GHz band, N/A
<input checked="" type="checkbox"/>	For the 5.25-5.35 GHz band, the maximum conducted output power shall not exceed the lesser of 250 mW or 11 dBm + 10 log B, where B is the 26 dB emission bandwidth in MHz.
<input checked="" type="checkbox"/>	For the 5.47-5.725 GHz band, the maximum conducted output power shall not exceed the lesser of 250 mW or 11 dBm + 10 log B, where B is the 26 dB emission bandwidth in MHz.
<input checked="" type="checkbox"/>	For the 5.725-5.85 GHz band, 6 dB emission bandwidth \geq 500kHz.
LE-LAN Devices	
<input type="checkbox"/>	For the band 5.15-5.25 GHz, the maximum e.i.r.p. shall not exceed 200 mW or 10 + 10 log B, dBm, whichever power is less. B is the 99% emission bandwidth in MHz.
<input type="checkbox"/>	For the 5.25-5.35 GHz band, the maximum e.i.r.p. shall not exceed 1.0 W or 17 + 10 log B, dBm, whichever power is less. B is the 99% emission bandwidth in MHz
<input type="checkbox"/>	For the 5.47-5.6 GHz band and 5.65-5.725 GHz band, the maximum e.i.r.p. shall not exceed 1.0 W or 17 + 10 log B, dBm, whichever power is less. B is the 99% emission bandwidth in MHz
<input type="checkbox"/>	For the 5.725-5.85 GHz band, 6 dB emission bandwidth \geq 500kHz.

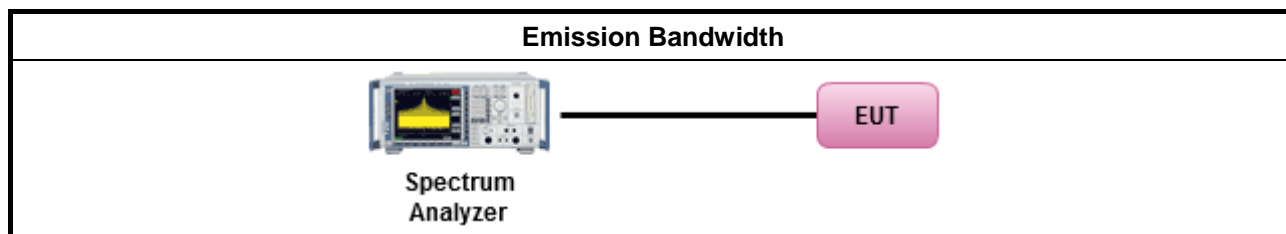
3.2.2 Measuring Instruments

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

3.2.3 Test Procedures

Test Method	
<ul style="list-style-type: none"> For the emission bandwidth shall be measured using one of the options below: 	
<input checked="" type="checkbox"/>	Refer as FCC KDB 789033, clause C for EBW and clause D for OBW measurement.
<input type="checkbox"/>	Refer as ANSI C63.10, clause 6.9.1 for occupied bandwidth testing.
<input checked="" type="checkbox"/>	Refer as IC RSS-Gen, clause 4.6 for bandwidth testing.

3.2.4 Test Setup



3.2.5 Test Result of Emission Bandwidth

Refer as Appendix B

3.3 Maximum Conducted Output Power

3.3.1 Maximum Conducted Output Power Limit

Maximum Conducted Output Power Limit	
UNII Devices	
<input checked="" type="checkbox"/>	For the 5.15-5.25 GHz band:
<input type="checkbox"/>	<ul style="list-style-type: none"> Outdoor AP: the maximum conducted output power (P_{Out}) shall not exceed the lesser of 1 W. If $G_{TX} > 6$ dBi, then $P_{Out} = 30 - (G_{TX} - 6)$. e.i.r.p. at any elevation angle above 30 degrees ≤ 125mW [21dBm] Indoor AP: the maximum conducted output power (P_{Out}) shall not exceed the lesser of 1 W. If $G_{TX} > 6$ dBi, then $P_{Out} = 30 - (G_{TX} - 6)$ Point-to-point AP: the maximum conducted output power (P_{Out}) shall not exceed the lesser of 1 W. If $G_{TX} > 23$ dBi, then $P_{Out} = 30 - (G_{TX} - 23)$. Mobile or Portable Client: the maximum conducted output power (P_{Out}) shall not exceed the lesser of 250 mW. If $G_{TX} > 6$ dBi, then $P_{Out} = 24 - (G_{TX} - 6)$.
<input checked="" type="checkbox"/>	For the 5.25-5.35 GHz band, the maximum conducted output power (P_{Out}) shall not exceed the lesser of 250 mW or $11 \text{ dBm} + 10 \log B$, where B is the 26 dB emission bandwidth in MHz. If $G_{TX} > 6$ dBi, then $P_{Out} = 24 - (G_{TX} - 6)$.
<input checked="" type="checkbox"/>	For the 5.47-5.725 GHz band, the maximum conducted output power (P_{Out}) shall not exceed the lesser of 250 mW or $11 \text{ dBm} + 10 \log B$, where B is the 26 dB emission bandwidth in MHz. If $G_{TX} > 6$ dBi, then $P_{Out} = 24 - (G_{TX} - 6)$.
<input checked="" type="checkbox"/>	For the 5.725-5.85 GHz band:
<input type="checkbox"/>	<ul style="list-style-type: none"> Point-to-multipoint systems (P2M): the maximum conducted output power (P_{Out}) shall not exceed the lesser of 1 W. If $G_{TX} > 6$ dBi, then $P_{Out} = 30 - (G_{TX} - 6)$. Point-to-point systems (P2P): the maximum conducted output power (P_{Out}) shall not exceed the lesser of 1 W.
LE-LAN Devices	
<input type="checkbox"/>	For the 5.15-5.25 GHz band, the maximum e.i.r.p. shall not exceed 200 mW or $10 + 10 \log B$, dBm, whichever power is less. B is the 99% emission bandwidth in MHz.
<input type="checkbox"/>	For the 5.25-5.35 GHz band, the maximum e.i.r.p. shall not exceed 1.0 W or $17 + 10 \log B$, dBm, whichever power is less. B is the 99% emission bandwidth in MHz
<input type="checkbox"/>	For the 5.47-5.6 GHz band and 5.65-5.725 GHz band, the maximum e.i.r.p. shall not exceed 1.0 W or $17 + 10 \log B$, dBm, whichever power is less. B is the 99% emission bandwidth in MHz
<input type="checkbox"/>	For the 5.725-5.85 GHz band:
<input type="checkbox"/>	<ul style="list-style-type: none"> Point-to-multipoint systems (P2M): the maximum conducted output power (P_{Out}) shall not exceed the lesser of 1 W. If $G_{TX} > 6$ dBi, then $P_{Out} = 30 - (G_{TX} - 6)$. Point-to-point systems (P2P): the maximum conducted output power (P_{Out}) shall not exceed the lesser of 1 W.
P_{Out} = maximum conducted output power in dBm, G_{TX} = the maximum transmitting antenna directional gain in dBi.	

3.3.2 Measuring Instruments

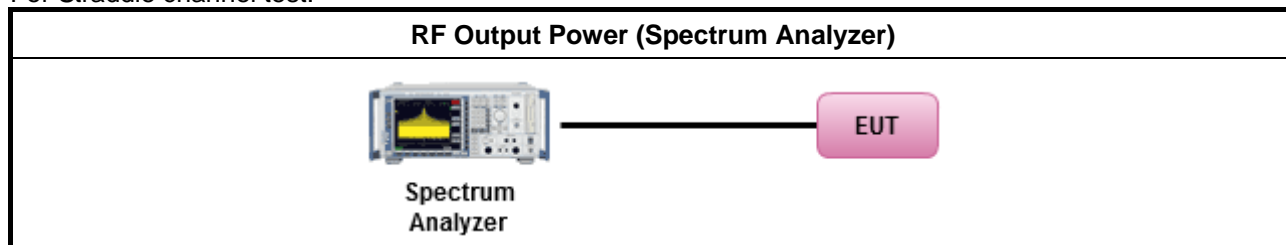
Refer a test equipment and calibration data table in this test report.

3.3.3 Test Procedures

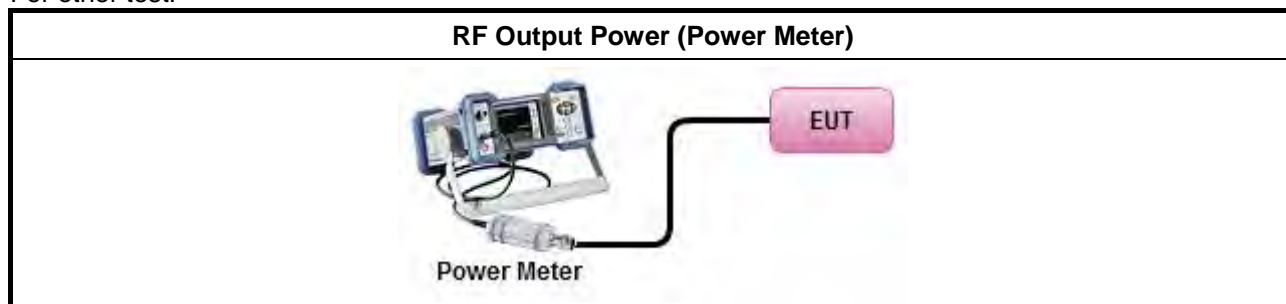
Test Method	
<ul style="list-style-type: none"> Maximum Conducted Output Power 	
	[duty cycle \geq 98% or external video / power trigger]
<input checked="" type="checkbox"/>	Refer as FCC KDB 789033, clause E Method SA-1 (spectral trace averaging).
<input type="checkbox"/>	Refer as FCC KDB 789033, clause E Method SA-1 Alt. (RMS detection with slow sweep speed)
	duty cycle < 98% and average over on/off periods with duty factor
<input type="checkbox"/>	Refer as FCC KDB 789033, clause E Method SA-2 (spectral trace averaging).
<input type="checkbox"/>	Refer as FCC KDB 789033, clause E Method SA-2 Alt. (RMS detection with slow sweep speed)
	Wideband RF power meter and average over on/off periods with duty factor
<input checked="" type="checkbox"/>	Refer as FCC KDB 789033, clause E Method PM-G (using an RF average power meter).
<ul style="list-style-type: none"> For conducted measurement. 	
<ul style="list-style-type: none"> If the EUT supports multiple transmit chains using options given below: Refer as FCC KDB 662911, In-band power measurements. Using the measure-and-sum approach, measured all transmit ports individually. Sum the power (in linear power units e.g., mW) of all ports for each individual sample and save them. 	
<ul style="list-style-type: none"> If multiple transmit chains, EIRP calculation could be following as methods: $P_{\text{total}} = P_1 + P_2 + \dots + P_n$ (calculated in linear unit [mW] and transfer to log unit [dBm]) $\text{EIRP}_{\text{total}} = P_{\text{total}} + \text{DG}$ 	

3.3.4 Test Setup

For Straddle channel test:



For other test:



3.3.5 Test Result of Maximum Conducted Output Power

Refer as Appendix C

3.4 Peak Power Spectral Density

3.4.1 Peak Power Spectral Density Limit

Peak Power Spectral Density Limit	
UNII Devices	
<input checked="" type="checkbox"/> For the 5.15-5.25 GHz band:	
	<ul style="list-style-type: none"> Outdoor AP: the peak power spectral density (PPSD) shall not exceed the lesser of 17dBm/MHz. If $G_{TX} > 6$ dBi, then $P_{Out} = 17 - (G_{TX} - 6)$. Indoor AP: the peak power spectral density (PPSD) shall not exceed the lesser of 17dBm/MHz. If $G_{TX} > 6$ dBi, then $P_{Out} = 17 - (G_{TX} - 6)$. Point-to-point AP: the peak power spectral density (PPSD) shall not exceed the lesser of 17dBm/MHz. If $G_{TX} > 23$ dBi, then $P_{Out} = 17 - (G_{TX} - 23)$. Mobile or Portable Client: the peak power spectral density (PPSD) ≤ 11 dBm/MHz. If $G_{TX} > 6$ dBi, then $PPSD = 11 - (G_{TX} - 6)$.
<input checked="" type="checkbox"/> For the 5.25-5.35 GHz band, the peak power spectral density (PPSD) ≤ 11 dBm/MHz. If $G_{TX} > 6$ dBi, then $PPSD = 11 - (G_{TX} - 6)$.	
<input checked="" type="checkbox"/> For the 5.47-5.725 GHz band, the peak power spectral density (PPSD) ≤ 11 dBm/MHz. If $G_{TX} > 6$ dBi, then $PPSD = 11 - (G_{TX} - 6)$.	
<input checked="" type="checkbox"/> For the 5.725-5.85 GHz band:	
	<ul style="list-style-type: none"> Point-to-multipoint systems (P2M): the peak power spectral density (PPSD) ≤ 30 dBm/500kHz. If $G_{TX} > 6$ dBi, then $PPSD = 30 - (G_{TX} - 6)$. Point-to-point systems (P2P): the peak power spectral density (PPSD) ≤ 30 dBm/500kHz.
LE-LAN Devices	
<input type="checkbox"/> For the 5.15-5.25 GHz band, the peak power spectral density (PPSD) ≤ 4 dBm/MHz and the e.i.r.p. peak power spectral density (PPSD) ≤ 10 dBm/MHz.	
<input type="checkbox"/> For the 5.25-5.35 GHz band, the peak power spectral density (PPSD) ≤ 11 dBm/MHz and the e.i.r.p. peak power spectral density (PPSD) ≤ 17 dBm/MHz.	
	<ul style="list-style-type: none"> e.i.r.p. greater than 200 mW shall comply with the following e.i.r.p. at different elevations, where θ is the angle above the local horizontal plane (of the Earth) as shown below: -13 dBW/MHz for $0^\circ \leq \theta < 8^\circ$; -13 - 0.716 (θ-8) dBW/MHz for $8^\circ \leq \theta < 40^\circ$ -35.9 - 1.22 (θ-40) dBW/MHz for $40^\circ \leq \theta \leq 45^\circ$; -42 dBW/MHz for $\theta > 45^\circ$
<input type="checkbox"/> For the 5.47-5.6 GHz band and 5.65-5.725 GHz band, the peak power spectral density (PPSD) ≤ 11 dBm/MHz and the e.i.r.p. peak power spectral density (PPSD) ≤ 17 dBm/MHz.	
<input type="checkbox"/> For the 5.725-5.85 GHz band:	
	<ul style="list-style-type: none"> Point-to-multipoint systems (P2M): the peak power spectral density (PPSD) ≤ 30 dBm/500kHz. If $G_{TX} > 6$ dBi, then $PPSD = 30 - (G_{TX} - 6)$. Point-to-point systems (P2P): the peak power spectral density (PPSD) ≤ 30 dBm/500kHz.
PPSD = peak power spectral density that he same method as used to determine the conducted output power shall be used to determine the power spectral density. And power spectral density in dBm/MHz G_{TX} = the maximum transmitting antenna directional gain in dBi.	

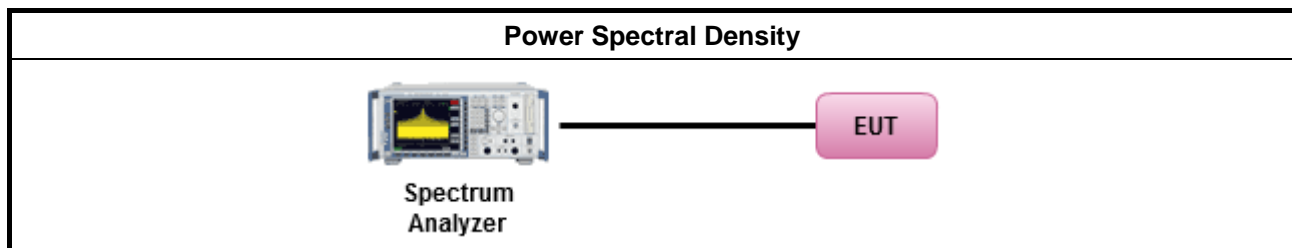
3.4.2 Measuring Instruments

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

3.4.3 Test Procedures

Test Method	
<ul style="list-style-type: none"> Peak power spectral density procedures that the same method as used to determine the conducted output power shall be used to determine the peak power spectral density and use the peak search function on the spectrum analyzer to find the peak of the spectrum. For the peak power spectral density shall be measured using below options: 	
<input type="checkbox"/> Refer as FCC KDB 789033, F5) power spectral density can be measured using resolution bandwidths < 1 MHz provided that the results are integrated over 1 MHz bandwidth	
[duty cycle ≥ 98% or external video / power trigger]	
<input checked="" type="checkbox"/> Refer as FCC KDB 789033, clause E Method SA-1 (spectral trace averaging).	
<input type="checkbox"/> Refer as FCC KDB 789033, clause E Method SA-1 Alt. (RMS detection with slow sweep speed)	
duty cycle < 98% and average over on/off periods with duty factor	
<input checked="" type="checkbox"/> Refer as FCC KDB 789033, clause E Method SA-2 (spectral trace averaging).	
<input type="checkbox"/> Refer as FCC KDB 789033, clause E Method SA-2 Alt. (RMS detection with slow sweep speed)	
<ul style="list-style-type: none"> For conducted measurement. 	
<ul style="list-style-type: none"> If the EUT supports multiple transmit chains using options given below: 	
<input checked="" type="checkbox"/> Option 1: Measure and sum the spectra across the outputs. Refer as FCC KDB 662911, In-band power spectral density (PSD). Sample all transmit ports simultaneously using a spectrum analyzer for each transmit port. Where the trace bin-by-bin of each transmit port summing can be performed. (i.e., in the first spectral bin of output 1 is summed with that in the first spectral bin of output 2 and that from the first spectral bin of output 3, and so on up to the NTX output to obtain the value for the first frequency bin of the summed spectrum.). Add up the amplitude (power) values for the different transmit chains and use this as the new data trace.	
<input type="checkbox"/> Option 2: Measure and sum spectral maxima across the outputs. With this technique, spectra are measured at each output of the device at the required resolution bandwidth. The maximum value (peak) of each spectrum is determined. These maximum values are then summed mathematically in linear power units across the outputs. These operations shall be performed separately over frequency spans that have different out-of-band or spurious emission limits,	
<input type="checkbox"/> Option 3: Measure and add 10 log(N) dB, where N is the number of transmit chains. Refer as FCC KDB 662911, In-band power spectral density (PSD). Performed at each transmit chains and each transmit chains shall be compared with the limit have been reduced with 10 log(N). Or each transmit chains shall be add 10 log(N) to compared with the limit.	
<ul style="list-style-type: none"> If multiple transmit chains, EIRP PPSD calculation could be following as methods: $PPSD_{total} = PPSD_1 + PPSD_2 + \dots + PPSD_n$ (calculated in linear unit [mW] and transfer to log unit [dBm]) $EIRP_{total} = PPSD_{total} + DG$ 	

3.4.4 Test Setup





3.4.5 Test Result of Peak Power Spectral Density

Refer as Appendix D

3.5 Unwanted Emissions

3.5.1 Transmitter Radiated Unwanted Emissions Limit

Unwanted emissions below 1 GHz and restricted band emissions above 1GHz limit			
Frequency Range (MHz)	Field Strength (uV/m)	Field Strength (dBuV/m)	Measure Distance (m)
0.009~0.490	2400/F(kHz)	48.5 - 13.8	300
0.490~1.705	24000/F(kHz)	33.8 - 23	30
1.705~30.0	30	29	30
30~88	100	40	3
88~216	150	43.5	3
216~960	200	46	3
Above 960	500	54	3

Note 1: Test distance for frequencies at or above 30 MHz, measurements may be performed at a distance other than the limit distance provided they are not performed in the near field and the emissions to be measured can be detected by the measurement equipment. When performing measurements at a distance other than that specified, the results shall be extrapolated to the specified distance using an extrapolation factor of 20 dB/decade (inverse of linear distance for field-strength measurements, inverse of linear distance-squared for power-density measurements).

Note 2: Test distance for frequencies at below 30 MHz, measurements may be performed at a distance closer than the EUT limit distance; however, an attempt should be made to avoid making measurements in the near field. When performing measurements below 30 MHz at a closer distance than the limit distance, the results shall be extrapolated to the specified distance by either making measurements at a minimum of two or more distances on at least one radial to determine the proper extrapolation factor or by using the square of an inverse linear distance extrapolation factor (40 dB/decade). The test report shall specify the extrapolation method used to determine compliance of the EUT.

Un-restricted band emissions above 1GHz Limit	
Operating Band	Limit
5.15 - 5.25 GHz	e.i.r.p. -27 dBm [68.2 dBuV/m@3m]
5.25 - 5.35 GHz	e.i.r.p. -27 dBm [68.2 dBuV/m@3m]
5.47 - 5.725 GHz	e.i.r.p. -27 dBm [68.2 dBuV/m@3m]
5.725 - 5.85 GHz	all emissions shall be limited to a level of -27 dBm/MHz at 75 MHz or more above or below the band edge increasing linearly to 10 dBm/MHz at 25 MHz above or below the band edge, and from 25 MHz above or below the band edge increasing linearly to a level of 15.6 dBm/MHz at 5 MHz above or below the band edge, and from 5 MHz above or below the band edge increasing linearly to a level of 27 dBm/MHz at the band edge.

Note 1: 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).

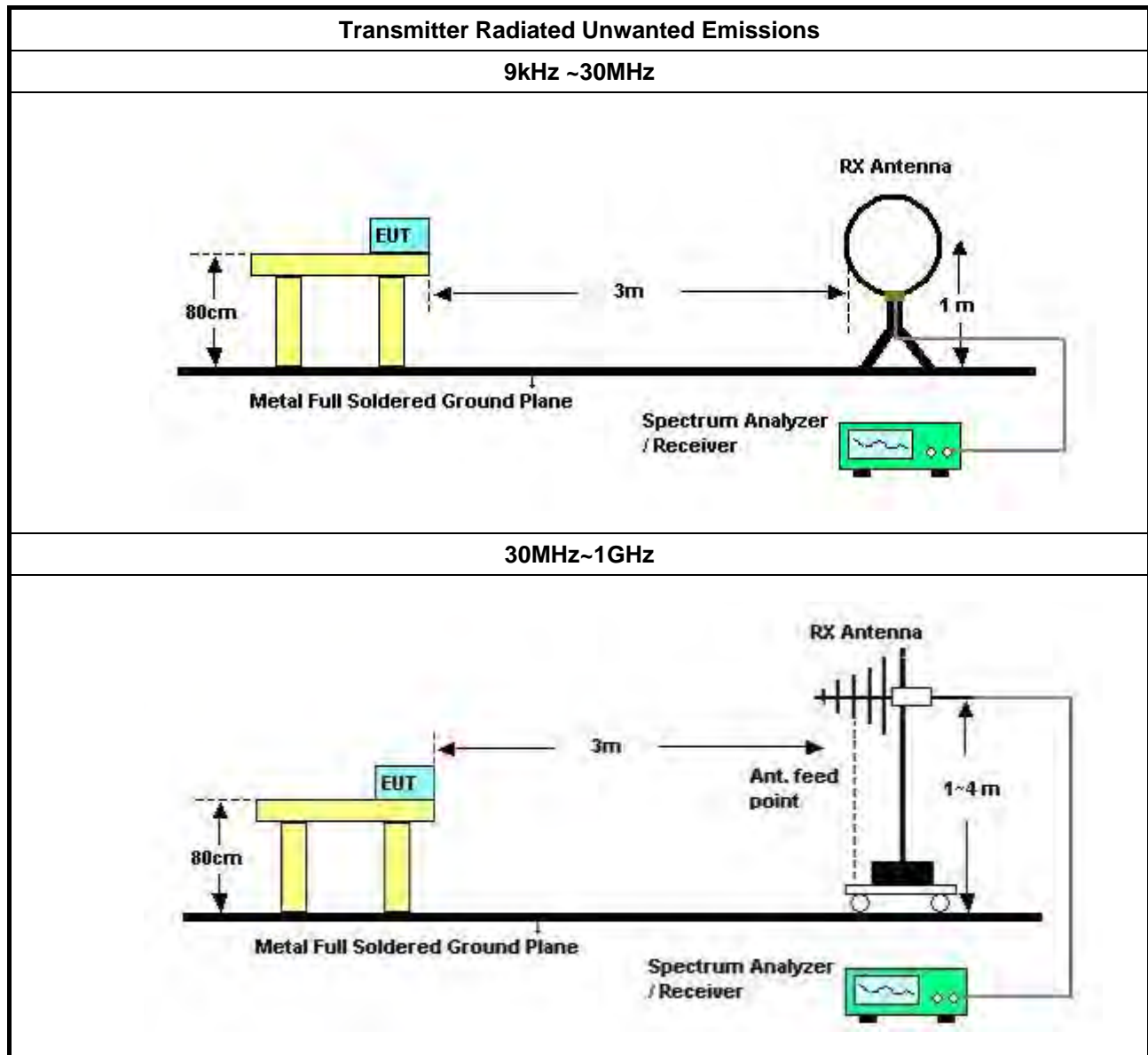
3.5.2 Measuring Instruments

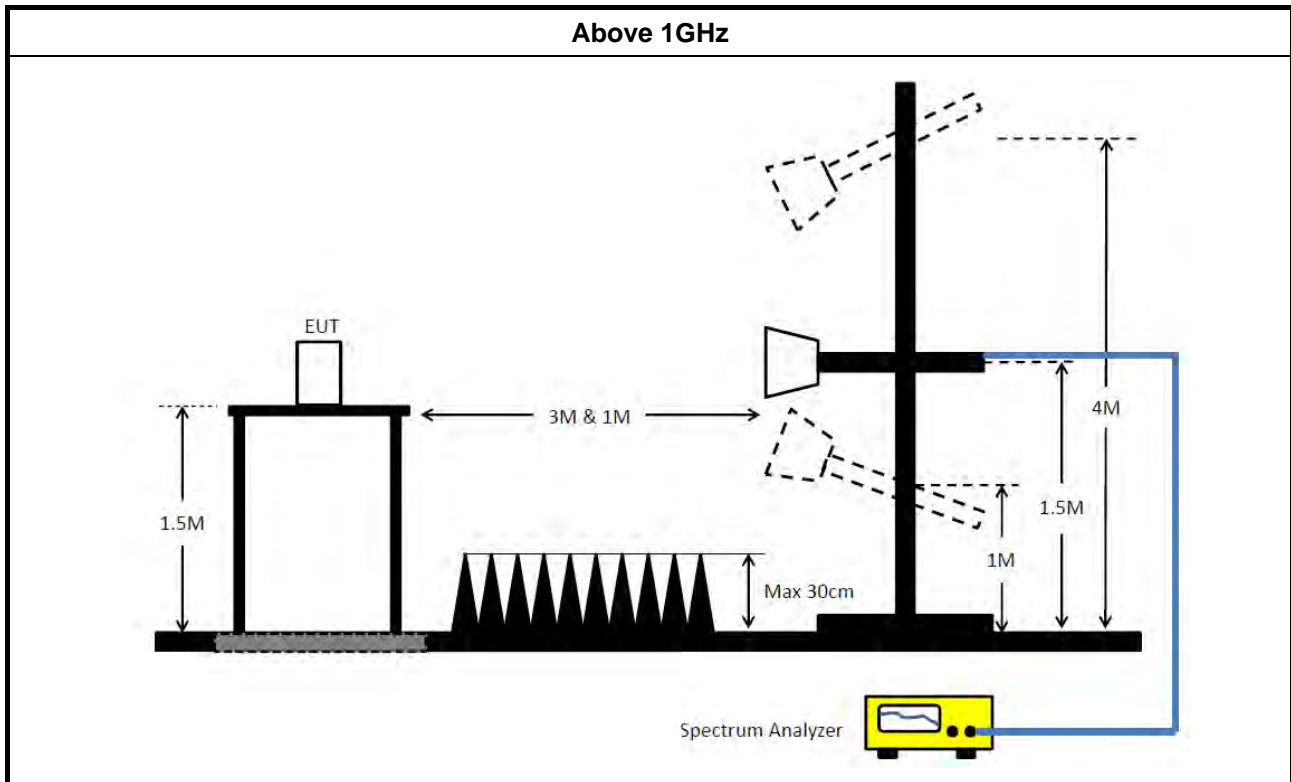
Refer a test equipment and calibration data table in this test report.

3.5.3 Test Procedures

Test Method	
<ul style="list-style-type: none"> 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. Measurements shall not be performed at a distance greater than 30 m for frequencies above 30 MHz, unless it can be further demonstrated that measurements at a distance of 30 m or less are impractical. 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). 	
<ul style="list-style-type: none"> The average emission levels shall be measured in [duty cycle \geq 98 or duty factor]. 	
<ul style="list-style-type: none"> For the transmitter unwanted emissions shall be measured using following options below: 	
	<ul style="list-style-type: none"> Refer as FCC KDB 789033, clause H)2) for unwanted emissions into non-restricted bands.
	<ul style="list-style-type: none"> Refer as FCC KDB 789033, clause H)1) for unwanted emissions into restricted bands.
	<input type="checkbox"/> Refer as FCC KDB 789033, H)6) Method AD (Trace Averaging).
	<input checked="" type="checkbox"/> Refer as FCC KDB 789033, H)6) Method VB (Reduced VBW).
	<input type="checkbox"/> Refer as ANSI C63.10, clause 4.2.3.2.3 (Reduced VBW). VBW \geq 1/T, where T is pulse time.
	<input type="checkbox"/> Refer as ANSI C63.10, clause 4.2.3.2.4 average value of pulsed emissions.
	<input checked="" type="checkbox"/> Refer as FCC KDB 789033, clause H)5) measurement procedure peak limit.
	<input type="checkbox"/> Refer as ANSI C63.10, clause 4.2.3.2.2 measurement procedure peak limit.
	<ul style="list-style-type: none"> For radiated measurement.
	<ul style="list-style-type: none"> Refer as ANSI C63.10, clause 6.4 for radiated emissions below 30 MHz and test distance is 3m.
	<ul style="list-style-type: none"> Refer as ANSI C63.10, clause 6.5 for radiated emissions 30 MHz to 1 GHz and test distance is 3m.
	<ul style="list-style-type: none"> Refer as ANSI C63.10, clause 6.6 for radiated emissions above 1GHz.
	<ul style="list-style-type: none"> The any unwanted emissions level shall not exceed the fundamental emission level.
<ul style="list-style-type: none"> All amplitude of spurious emissions that are attenuated by more than 20 dB below the permissible value has no need to be reported. 	

3.5.4 Test Setup







3.5.5 Transmitter Unwanted Emissions (Below 30MHz)

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

3.5.6 Test Result of Transmitter Unwanted Emissions

Refer as Appendix E

3.6 Frequency Stability

3.6.1 Frequency Stability Limit

Frequency Stability Limit	
UNII Devices	
<ul style="list-style-type: none"> In-band emission is maintained within the band of operation under all conditions of normal operation as specified in the user's manual. 	
LE-LAN Devices	
<ul style="list-style-type: none"> N/A 	
IEEE Std. 802.11	
<ul style="list-style-type: none"> The transmitter center frequency tolerance shall be ± 20 ppm maximum for the 5 GHz band and ± 25 ppm maximum for the 2.4 GHz band. 	

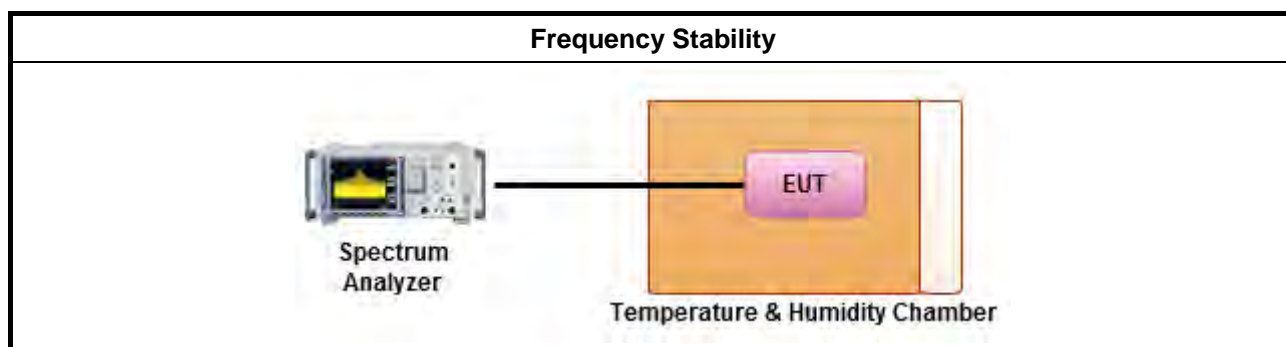
3.6.2 Measuring Instruments

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

3.6.3 Test Procedures

Test Method	
<ul style="list-style-type: none"> Refer as ANSI C63.10, clause 6.8 for frequency stability tests 	
	<ul style="list-style-type: none"> Frequency stability with respect to ambient temperature
	<ul style="list-style-type: none"> Frequency stability when varying supply voltage
	<ul style="list-style-type: none"> Extreme temperature is $-20^{\circ}\text{C} \sim 70^{\circ}\text{C}$.

3.6.4 Test Setup



3.6.5 Test Result of Frequency Stability

Refer as Appendix F



4 Test Equipment and Calibration Data

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Remark
EMI Receiver	Agilent	N9038A	My52260123	9kHz ~ 8.45GHz	Jan. 27, 2016	Conduction (CO01-CB)
LISN	F.C.C.	FCC-LISN-50-16-2	04083	150kHz ~ 100MHz	Dec. 08, 2015	Conduction (CO01-CB)
LISN	Schwarzbeck	NSLK 8127	8127647	9kHz ~ 30MHz	Dec. 23, 2015	Conduction (CO01-CB)
COND Cable	Woken	Cable	01	150kHz ~ 30MHz	May 24, 2016	Conduction (CO01-CB)
Software	Audix	E3	6.120210n	-	N.C.R.	Conduction (CO01-CB)
BILOG ANTENNA	TESEQ	CBL6112D	37880	20MHz ~ 2GHz	Aug. 30, 2016	Radiation (03CH01-CB)
Loop Antenna	Teseq	HLA 6120	24155	9kHz - 30 MHz	Mar. 16, 2016*	Radiation (03CH01-CB)
Horn Antenna	EMCO	3115	00075790	750MHz ~ 18GHz	Nov. 10, 2016	Radiation (03CH01-CB)
Horn Antenna	Schwarzbeck	BBHA 9170	BBHA9170252	15GHz ~ 40GHz	Jul. 25, 2016	Radiation (03CH01-CB)
Pre-Amplifier	Agilent	8447D	2944A10991	0.1MHz ~ 1.3GHz	Mar. 15, 2016	Radiation (03CH01-CB)
Pre-Amplifier	Agilent	8449B	3008A02310	1GHz ~ 26.5GHz	Jan. 18, 2016	Radiation (03CH01-CB)
Pre-Amplifier	-	-	TF-130N-R1	26GHz ~ 40GHz	Feb. 23, 2016	Radiation (03CH01-CB)
Spectrum Analyzer	R&S	FSP40	100056	9kHz ~ 40GHz	Oct. 27, 2015	Radiation (03CH01-CB)
Spectrum Analyzer	R&S	FSP40	100056	9kHz ~ 40GHz	Nov. 21, 2016	Radiation (03CH01-CB)
EMI Test	R&S	ESCS	100355	9kHz ~ 2.75GHz	May 16, 2016	Radiation (03CH01-CB)
RF Cable-low	Woken	Low Cable-1	N/A	30 MHz ~ 1 GHz	Nov. 02, 2015	Radiation (03CH01-CB)
RF Cable-low	Woken	Low Cable-1	N/A	30 MHz ~ 1 GHz	Oct. 24, 2016	Radiation (03CH01-CB)
RF Cable-high	Woken	High Cable-16	N/A	1 GHz ~ 18 GHz	Nov. 02, 2015	Radiation (03CH01-CB)
RF Cable-high	Woken	High Cable-16	N/A	1 GHz ~ 18 GHz	Oct. 24, 2016	Radiation (03CH01-CB)
RF Cable-high	Woken	High Cable-17	N/A	1 GHz ~ 18 GHz	Nov. 02, 2015	Radiation (03CH01-CB)
RF Cable-high	Woken	High Cable-17	N/A	1 GHz ~ 18 GHz	Oct. 24, 2016	Radiation (03CH01-CB)
RF Cable-high	Woken	High Cable-40G-1	N/A	18GHz ~ 40 GHz	Nov. 02, 2015	Radiation (03CH01-CB)
RF Cable-high	Woken	High Cable-40G-1	N/A	18GHz ~ 40 GHz	Oct. 24, 2016	Radiation (03CH01-CB)

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Remark
RF Cable-high	Woken	High Cable-40G-2	N/A	18GHz ~ 40 GHz	Nov. 02, 2015	Radiation (03CH01-CB)
RF Cable-high	Woken	High Cable-40G-2	N/A	18GHz ~ 40 GHz	Oct. 24, 2016	Radiation (03CH01-CB)
Test Software	Audix	E3	6.2009-I0-7	N/A	N/A	Radiation (03CH01-CB)
Spectrum analyzer	R&S	FSV40	100979	9kHz~40GHz	Dec. 09, 2015	Conducted (TH01-CB)
Temp. and Humidity Chamber	Ten Billion	TTH-D3SP	TBN-931011	-30~100 degree	Jun. 03, 2016	Conducted (TH01-CB)
RF Cable-high	Woken	RG402	High Cable-6	1 GHz – 26.5 GHz	Oct. 24, 2016	Conducted (TH01-CB)
RF Cable-high	Woken	RG402	High Cable-7	1 GHz – 26.5 GHz	Oct. 24, 2016	Conducted (TH01-CB)
RF Cable-high	Woken	RG402	High Cable-8	1 GHz – 26.5 GHz	Oct. 24, 2016	Conducted (TH01-CB)
RF Cable-high	Woken	RG402	High Cable-9	1 GHz – 26.5 GHz	Oct. 24, 2016	Conducted (TH01-CB)
RF Cable-high	Woken	RG402	High Cable-10	1 GHz – 26.5 GHz	Oct. 24, 2016	Conducted (TH01-CB)
Power Sensor	Agilent	U2021XA	MY54320014	50MHz~18GHz	Apr. 20, 2016	Conducted (TH01-CB)

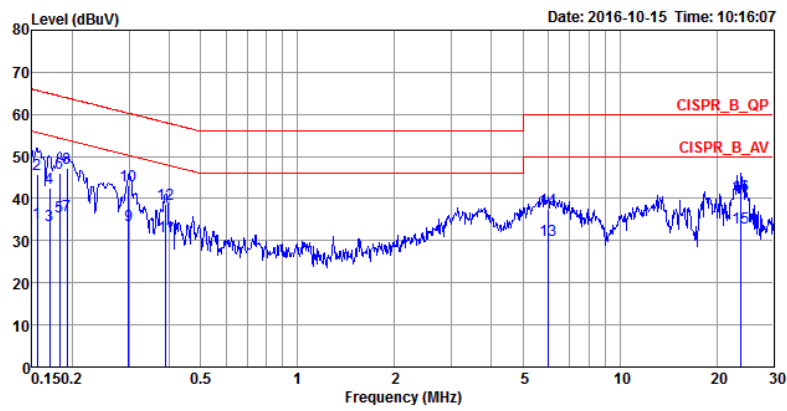
Note: Calibration Interval of instruments listed above is one year.

“**” Calibration Interval of instruments listed above is two years.

N.C.R means Non-Calibration required.

AC Power-line Conducted Emissions Result

Operating Mode	1	Power Phase	Neutral
Operating Function	Normal Link		

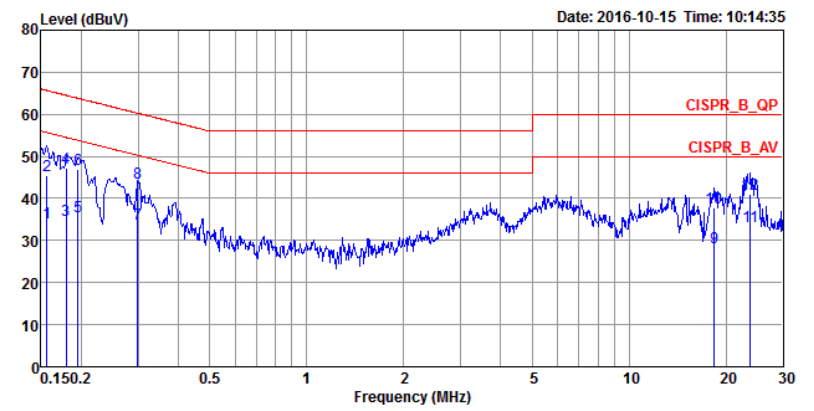


	Freq	Level	Over Limit	Limit Line	Read Level	LISN Factor	Cable Loss	Pol/Phase	Remark
	MHz	dBuV	dB	dBuV	dBuV	dB	dB		
1	0.1557	34.37	-21.32	55.69	24.19	10.02	0.16	NEUTRAL	Average
2	0.1557	45.74	-19.95	65.69	35.56	10.02	0.16	NEUTRAL	QP
3	0.1703	33.52	-21.42	54.94	23.33	10.02	0.17	NEUTRAL	Average
4	0.1703	42.57	-22.37	64.94	32.38	10.02	0.17	NEUTRAL	QP
5	0.1825	35.83	-18.54	54.37	25.73	9.92	0.18	NEUTRAL	Average
6	0.1825	45.96	-18.41	64.37	35.86	9.92	0.18	NEUTRAL	QP
7	0.1924	35.97	-17.96	53.93	25.86	9.92	0.19	NEUTRAL	Average
8	0.1924	47.33	-16.60	63.93	37.22	9.92	0.19	NEUTRAL	QP
9	0.2987	33.72	-16.56	50.28	23.71	9.92	0.09	NEUTRAL	Average
10	0.2987	43.15	-17.13	60.28	33.14	9.92	0.09	NEUTRAL	QP
11	0.3893	30.96	-17.12	48.08	21.02	9.92	0.02	NEUTRAL	Average
12	0.3893	38.65	-19.43	58.08	28.71	9.92	0.02	NEUTRAL	QP
13	5.9925	30.21	-19.79	50.00	20.05	10.04	0.12	NEUTRAL	Average
14	5.9925	37.51	-22.49	60.00	27.35	10.04	0.12	NEUTRAL	QP
15	23.7616	33.16	-16.84	50.00	22.49	10.41	0.26	NEUTRAL	Average
16	23.7616	40.69	-19.31	60.00	30.02	10.41	0.26	NEUTRAL	QP

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

AC Power-line Conducted Emissions Result

Operating Mode	1	Power Phase	Line
Operating Function	Normal Link		



	Freq	Level	Over Limit	Limit Line	Read Level	LISN Factor	Cable Loss	Pol/Phase	Remark
	MHz	dBuV	dB	dBuV	dBuV	dB	dB		
1	0.1565	34.34	-21.31	55.65	24.15	10.02	0.17	LINE	Average
2	0.1565	45.53	-20.12	65.65	35.34	10.02	0.17	LINE	QP
3	0.1796	34.85	-19.65	54.50	24.75	9.92	0.18	LINE	Average
4	0.1796	47.16	-17.34	64.50	37.06	9.92	0.18	LINE	QP
5	0.1955	35.62	-18.18	53.80	25.51	9.92	0.19	LINE	Average
6	0.1955	46.98	-16.82	63.80	36.87	9.92	0.19	LINE	QP
7	0.2987	33.87	-16.41	50.28	23.86	9.92	0.09	LINE	Average
8	0.2987	43.55	-16.73	60.28	33.54	9.92	0.09	LINE	QP
9	18.4258	28.29	-21.71	50.00	17.78	10.28	0.23	LINE	Average
10	18.4258	37.79	-22.21	60.00	27.28	10.28	0.23	LINE	QP
11	23.7616	33.29	-16.71	50.00	22.62	10.41	0.26	LINE	Average
12	23.7616	41.12	-18.88	60.00	30.45	10.41	0.26	LINE	QP

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



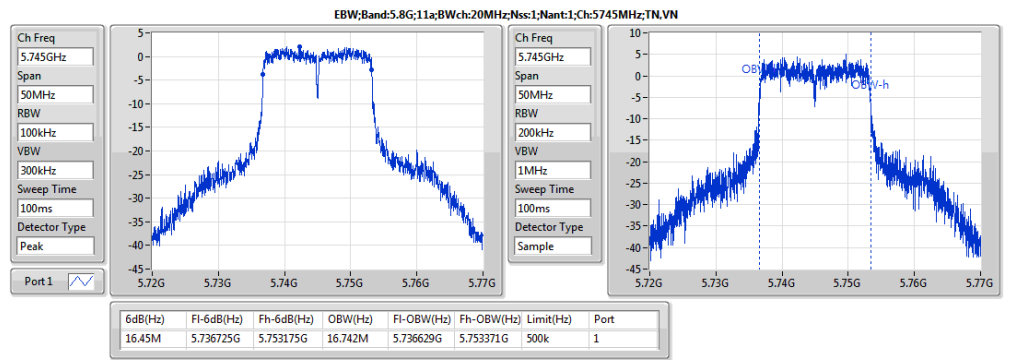
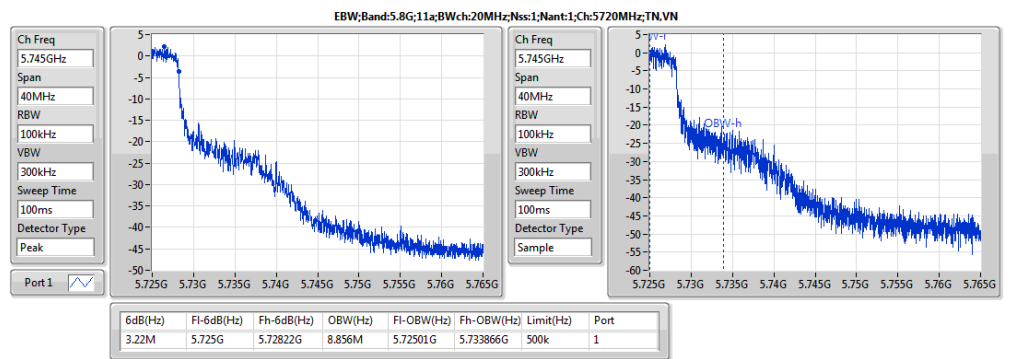
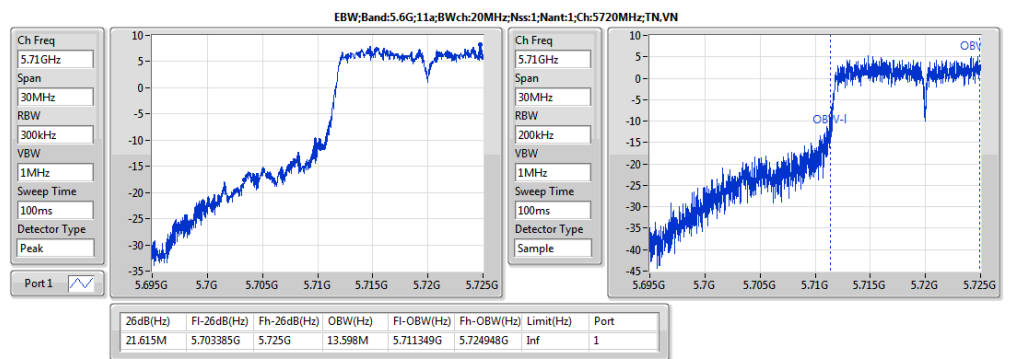
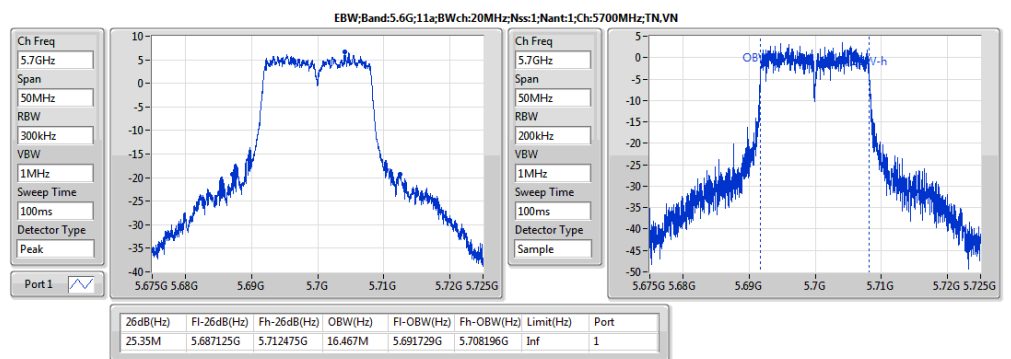
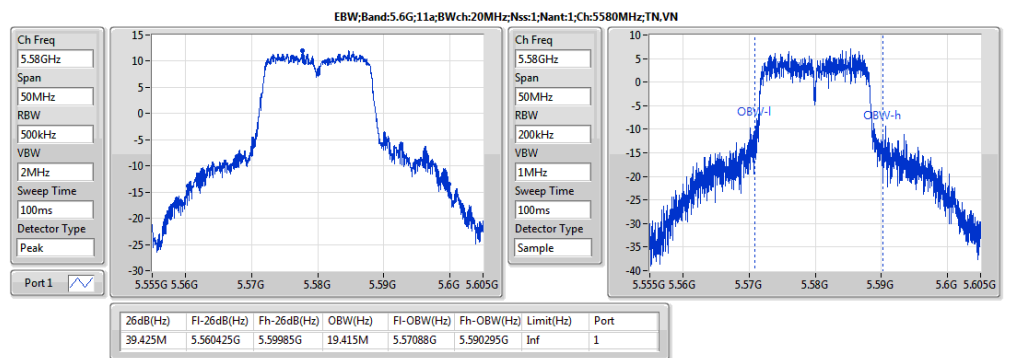
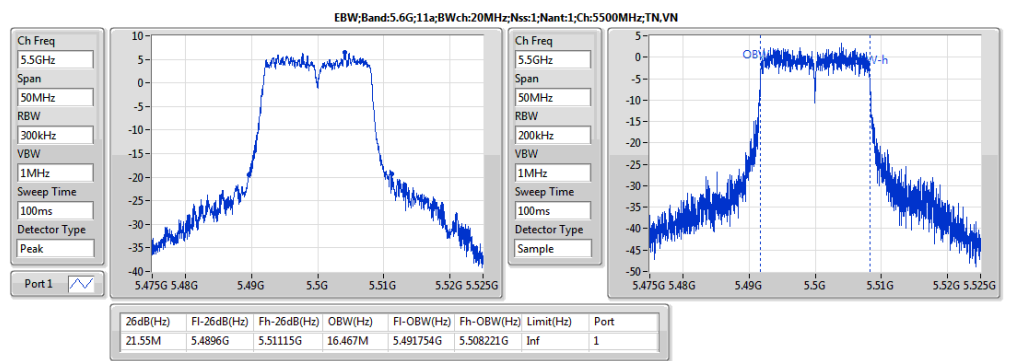
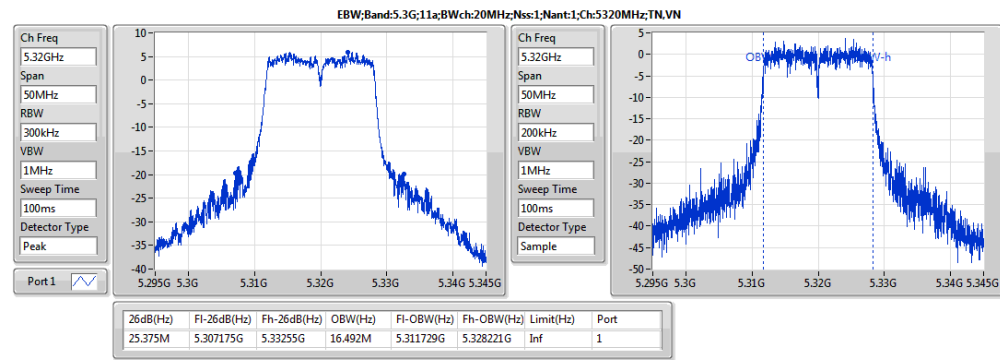
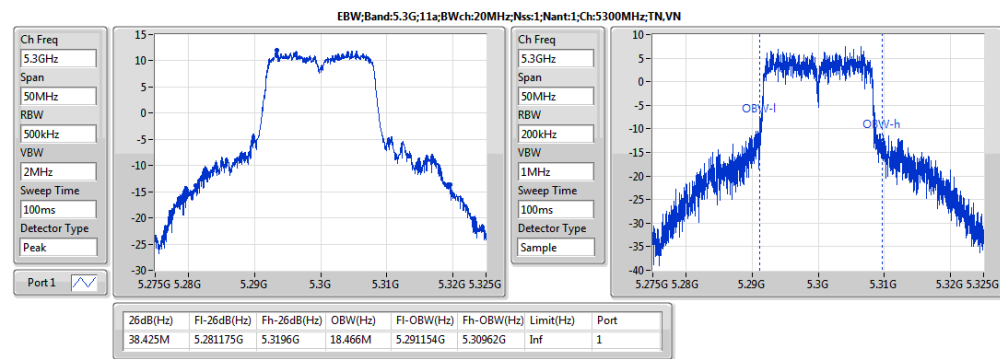
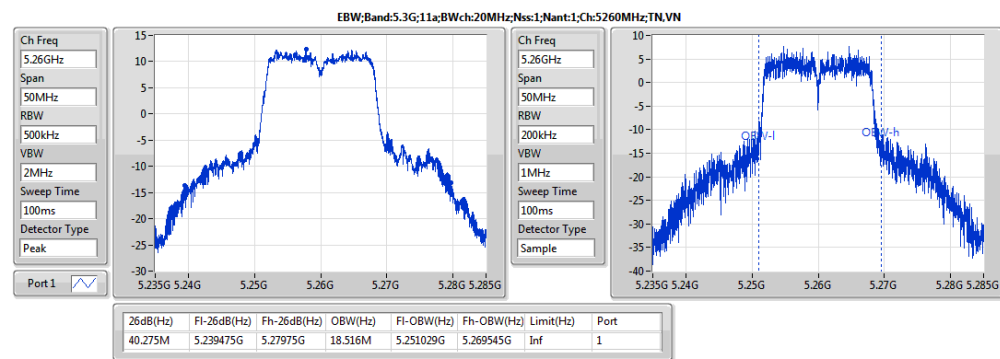
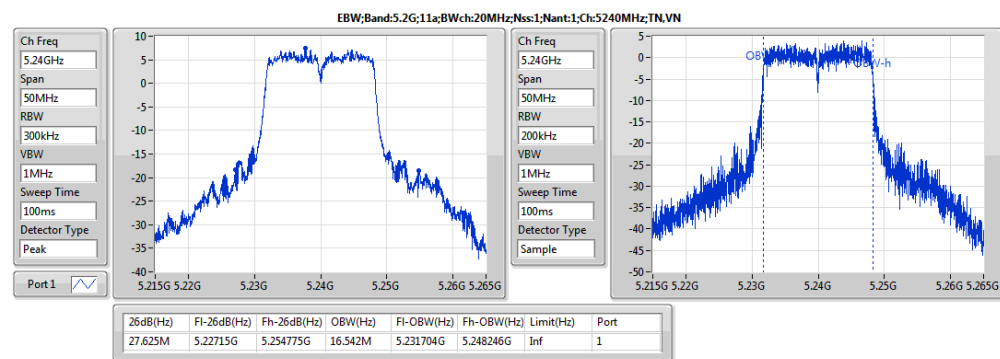
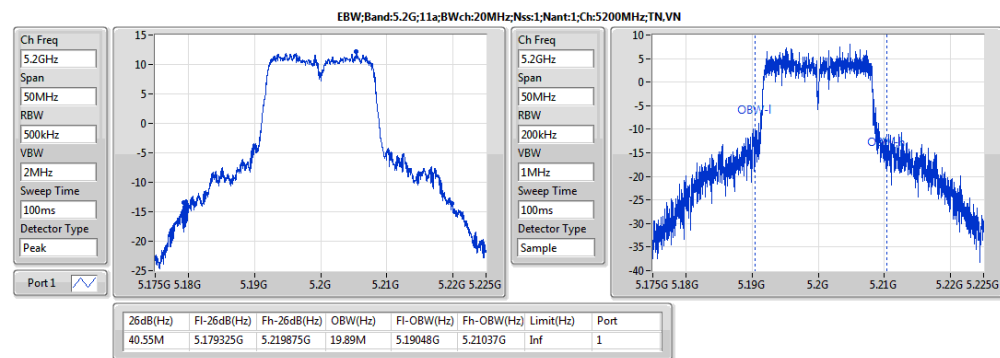
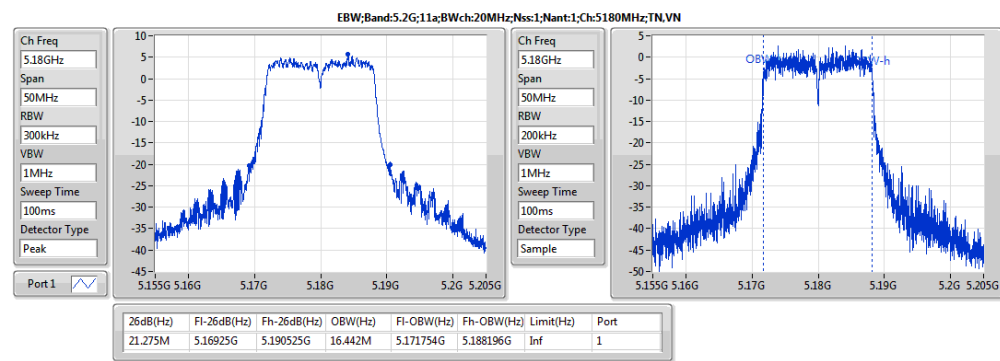
Summary

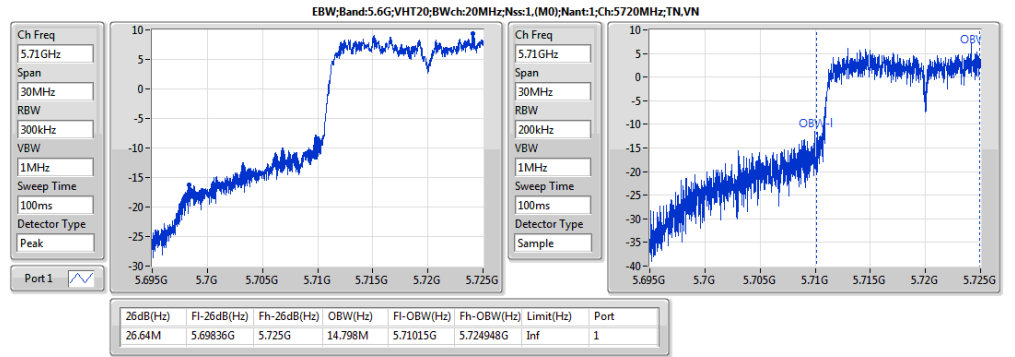
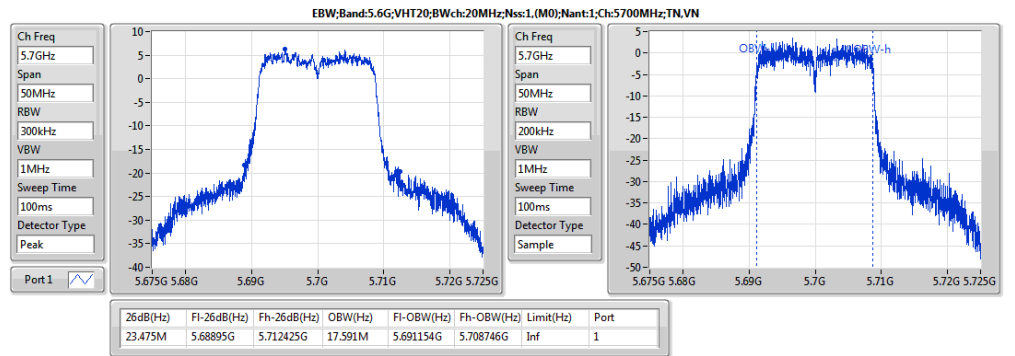
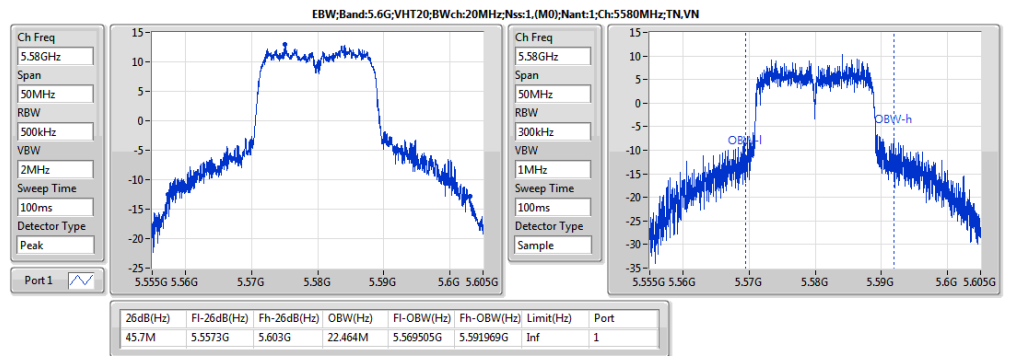
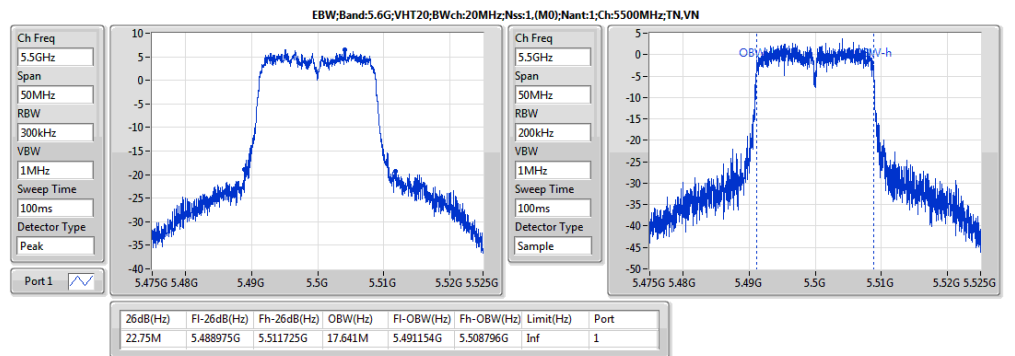
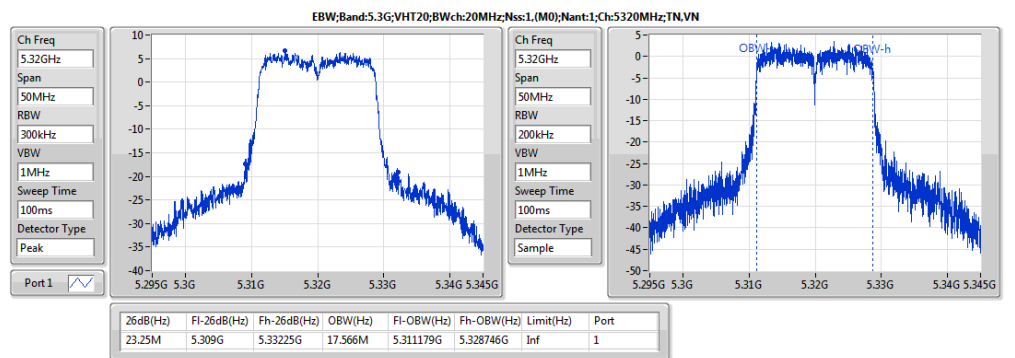
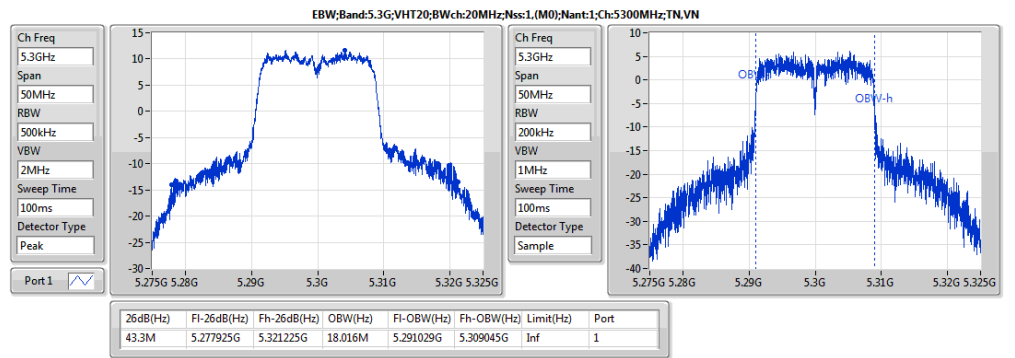
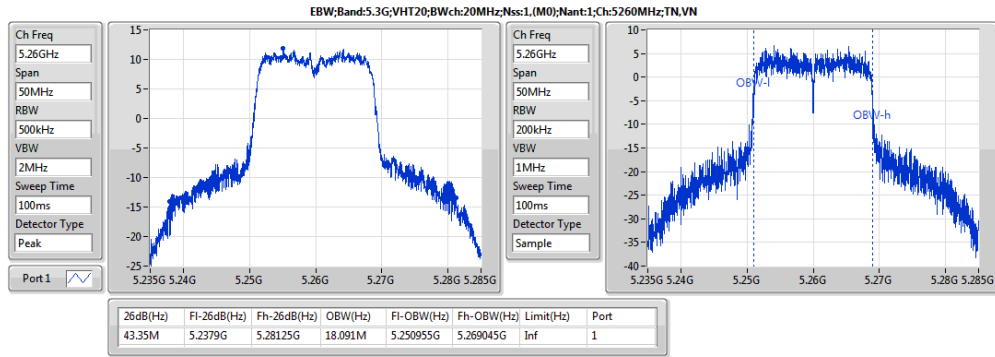
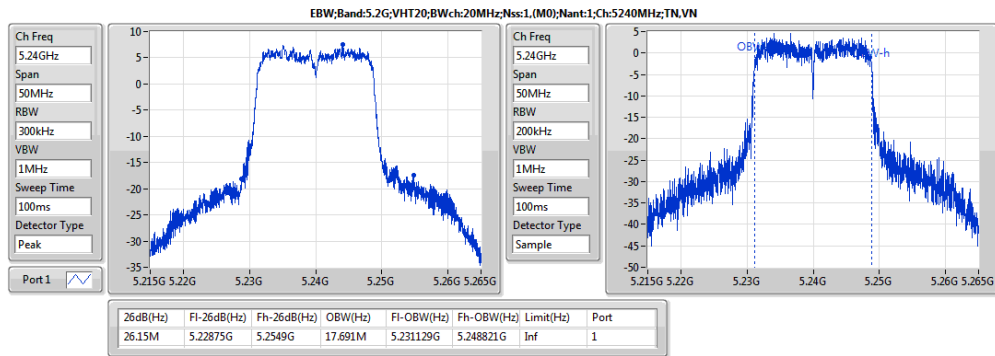
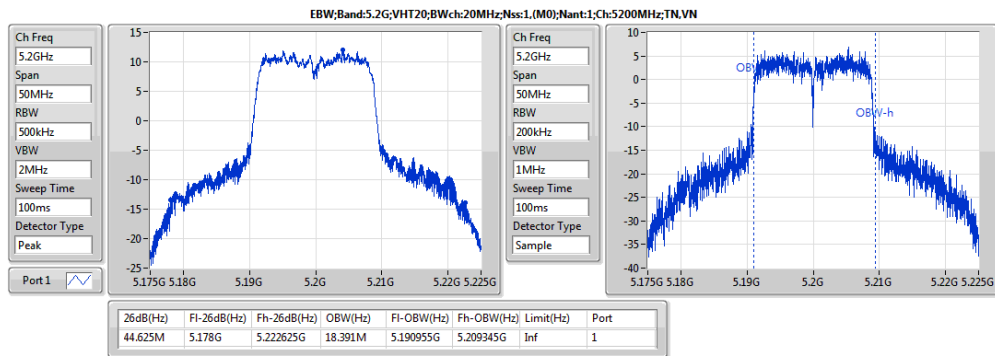
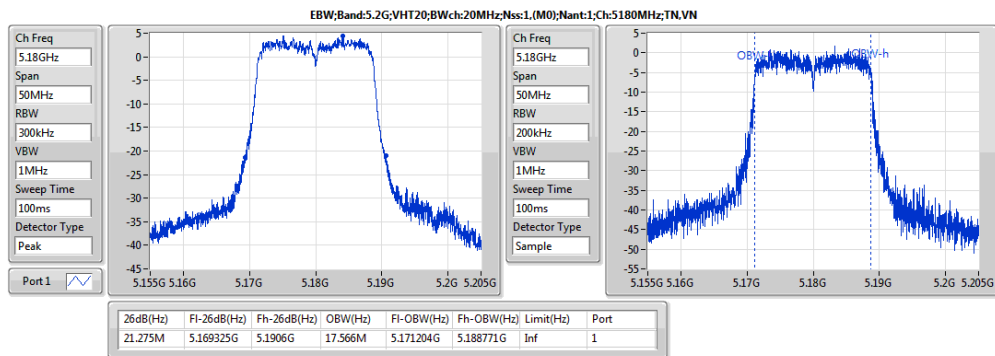
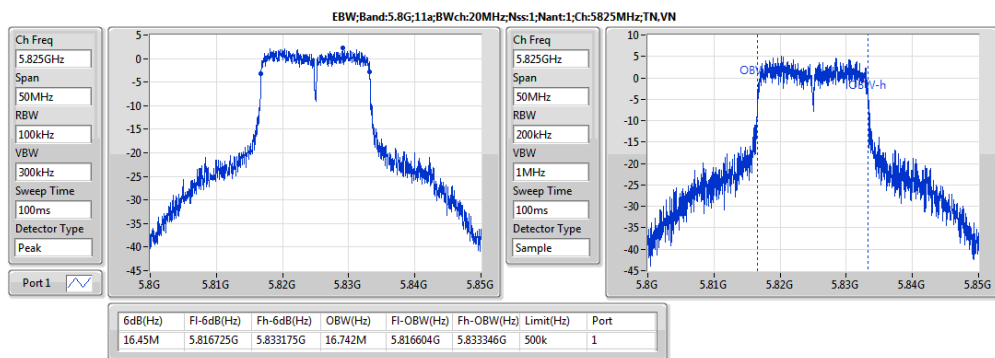
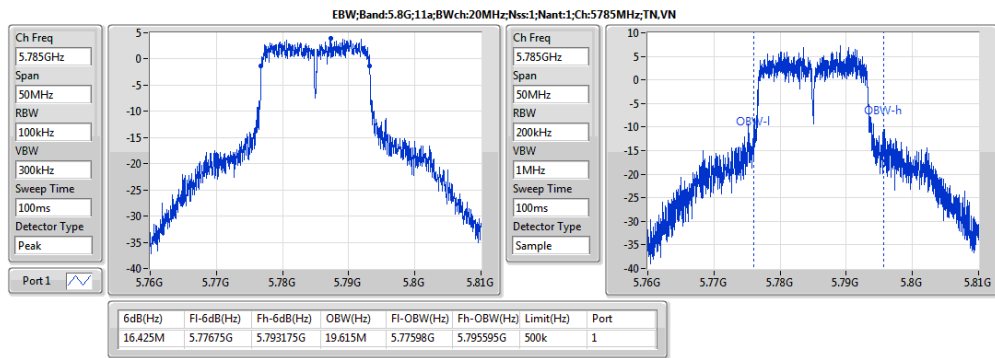
Mode	Max-N dB (Hz)	Max-OBW (Hz)	ITU-Code	Min-N dB (Hz)	Min-OBW (Hz)
5.2G;11a:Nss1;Ntx1	40.55M	19.89M	19M9D1D	21.275M	16.442M
5.3G;11a:Nss1;Ntx1	40.275M	18.516M	18M5D1D	25.375M	16.492M
5.6G;11a:Nss1;Ntx1	39.425M	19.415M	19M4D1D	21.55M	13.598M
5.8G;11a:Nss1;Ntx1	16.45M	19.615M	19M6D1D	3.22M	8.856M
5.2G;VHT20:Nss1,(M0);Ntx1	44.625M	18.391M	18M4D1D	21.275M	17.566M
5.3G;VHT20:Nss1,(M0);Ntx1	43.35M	18.091M	18M1D1D	23.25M	17.566M
5.6G;VHT20:Nss1,(M0);Ntx1	45.7M	22.464M	22M5D1D	22.75M	14.798M
5.8G;VHT20:Nss1,(M0);Ntx1	17.7M	21.014M	21M0D1D	3.78M	11.134M
5.2G;VHT40:Nss1,(M0);Ntx1	65.15M	35.982M	36M0D1D	41.9M	35.982M
5.3G;VHT40:Nss1,(M0);Ntx1	84.3M	36.682M	36M7D1D	41.3M	35.882M
5.6G;VHT40:Nss1,(M0);Ntx1	72.65M	36.182M	36M2D1D	41.9M	34.248M
5.8G;VHT40:Nss1,(M0);Ntx1	36.35M	39.68M	39M7D1D	3.16M	24.808M
5.2G;VHT80:Nss1,(M0);Ntx1	81.1M	74.763M	74M8D1D	81.1M	74.763M
5.3G;VHT80:Nss1,(M0);Ntx1	81.2M	74.763M	74M8D1D	81.2M	74.763M
5.6G;VHT80:Nss1,(M0);Ntx1	118.1M	75.062M	75M1D1D	81.2M	73.163M
5.8G;VHT80:Nss1,(M0);Ntx1	74.5M	75.362M	75M4D1D	3.12M	38.041M

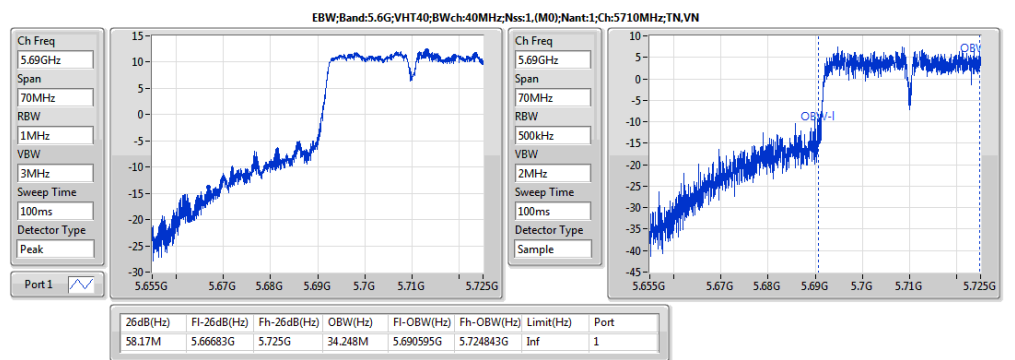
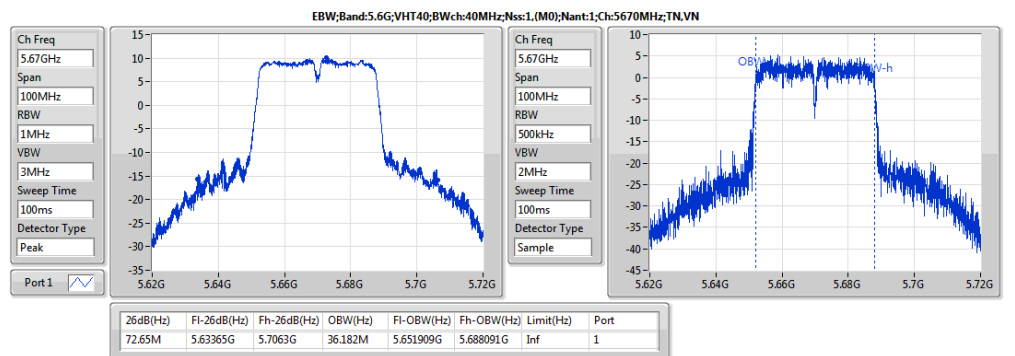
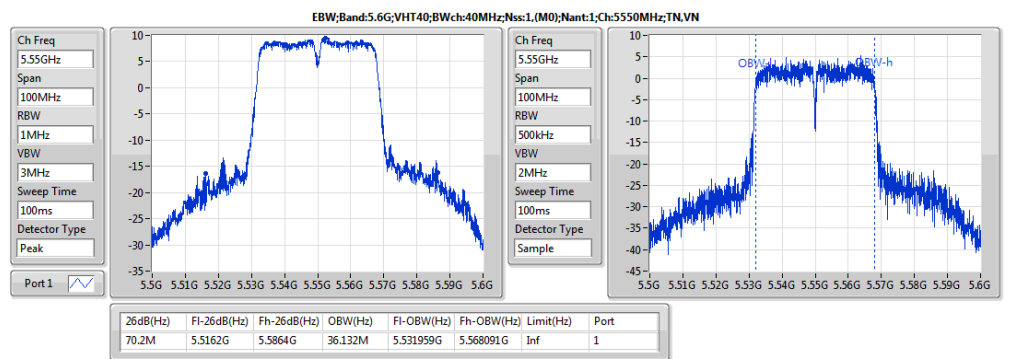
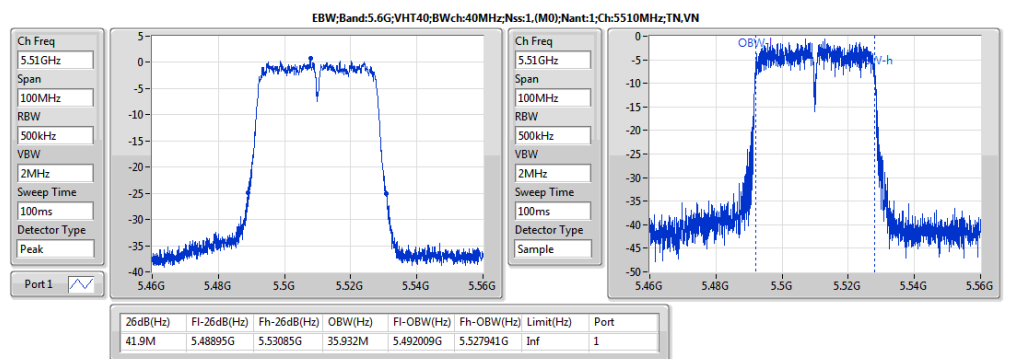
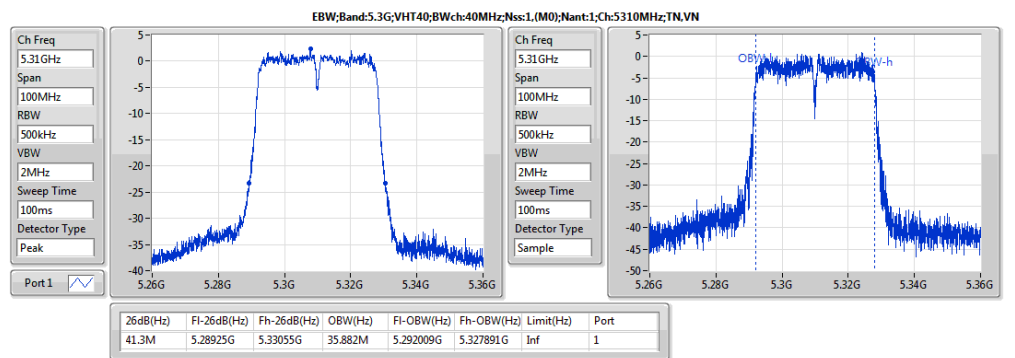
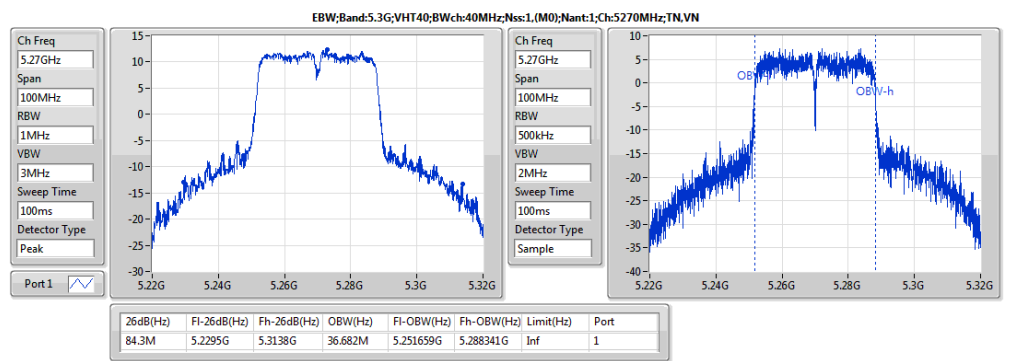
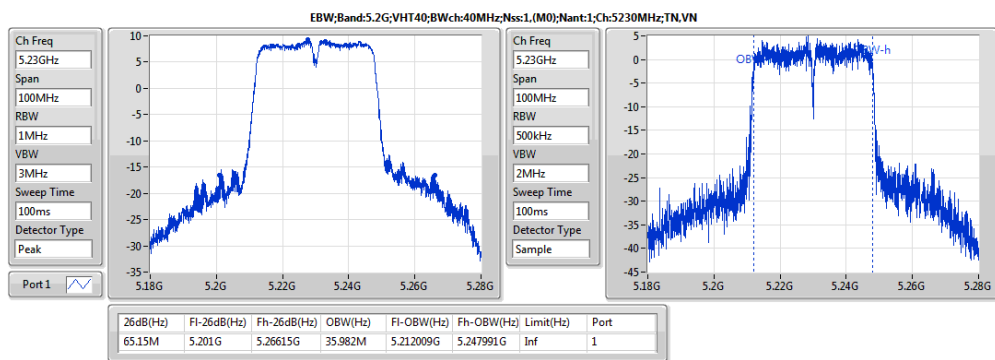
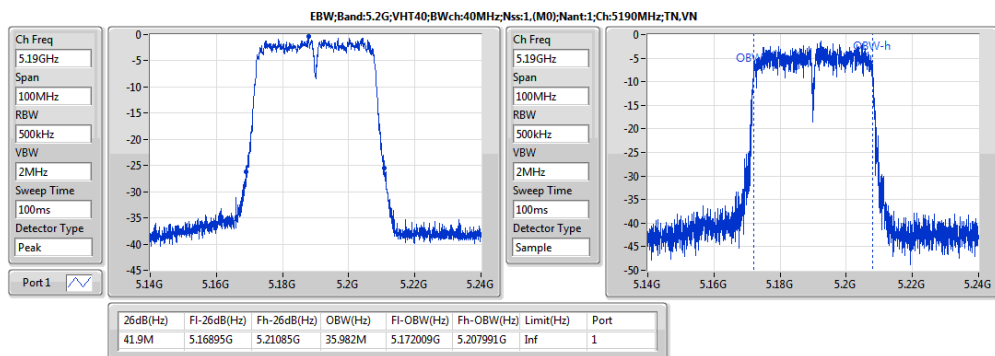
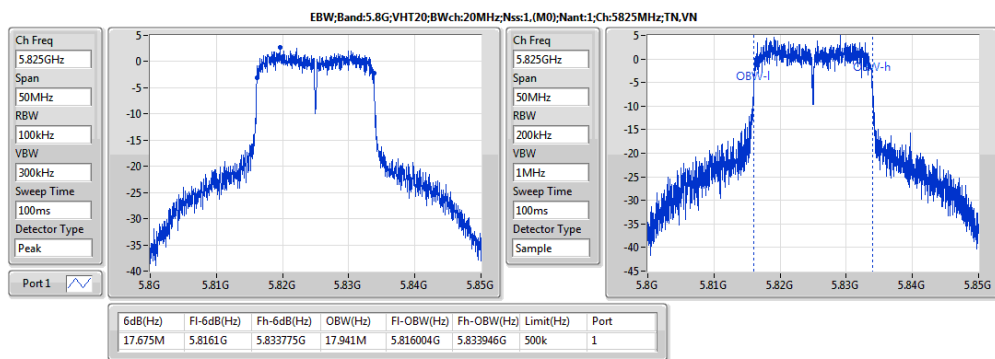
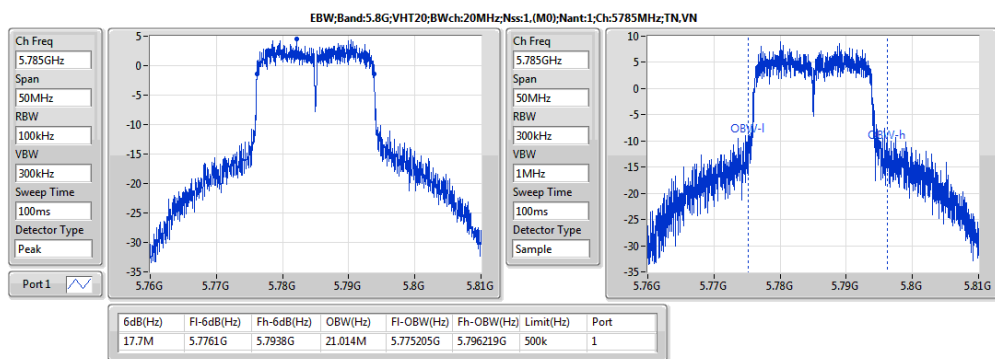
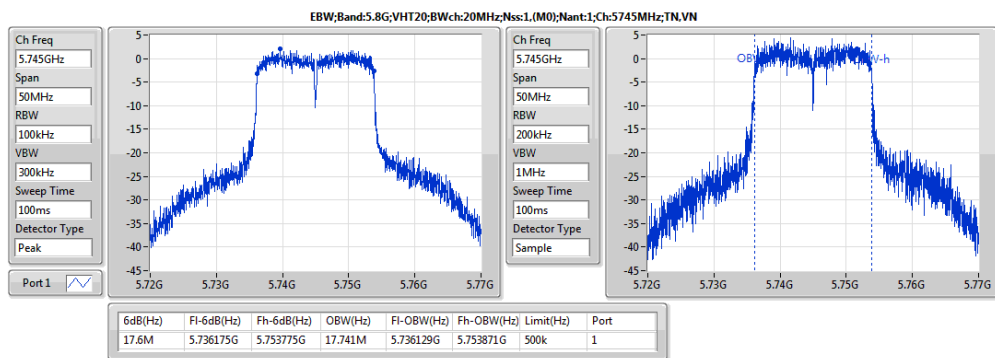
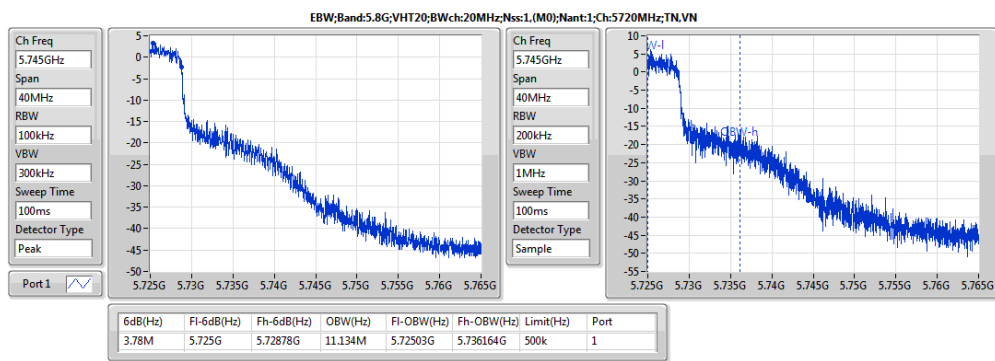


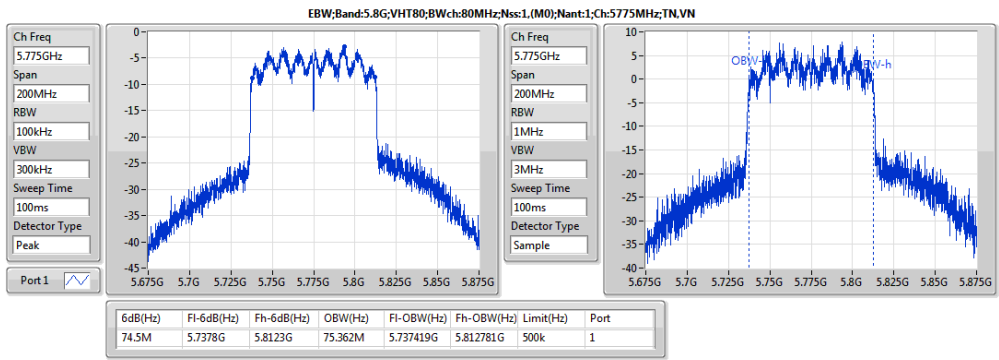
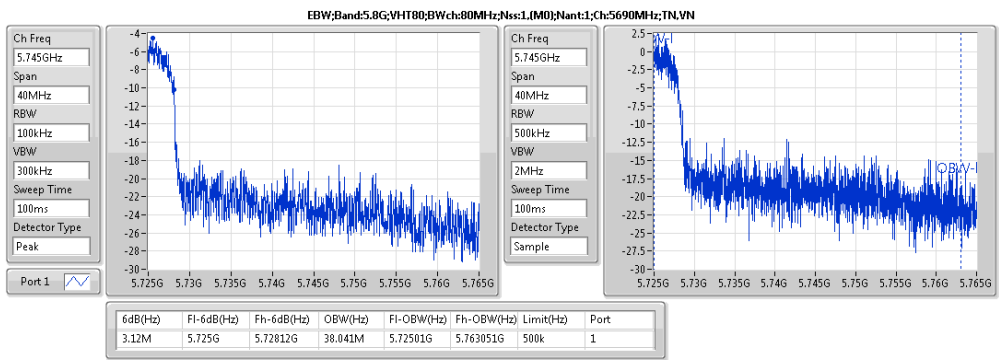
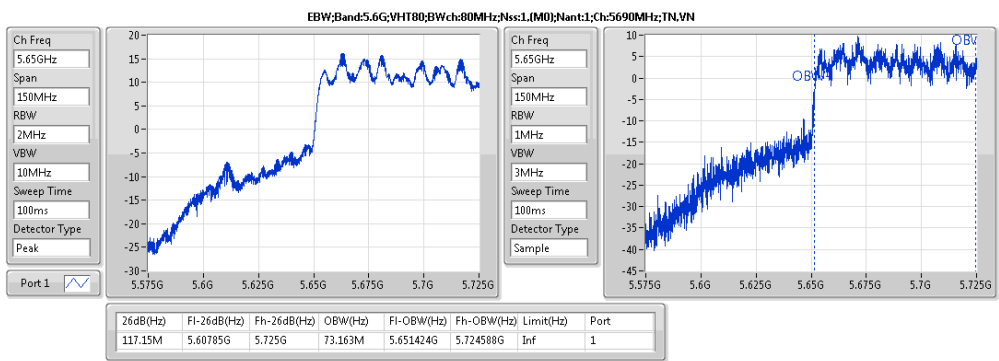
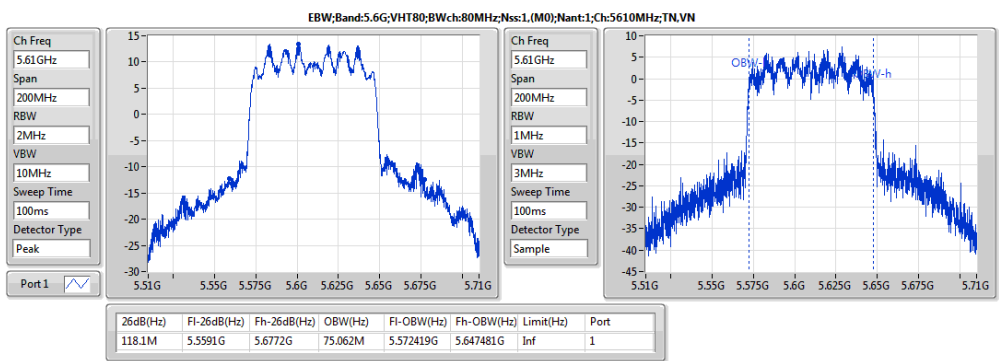
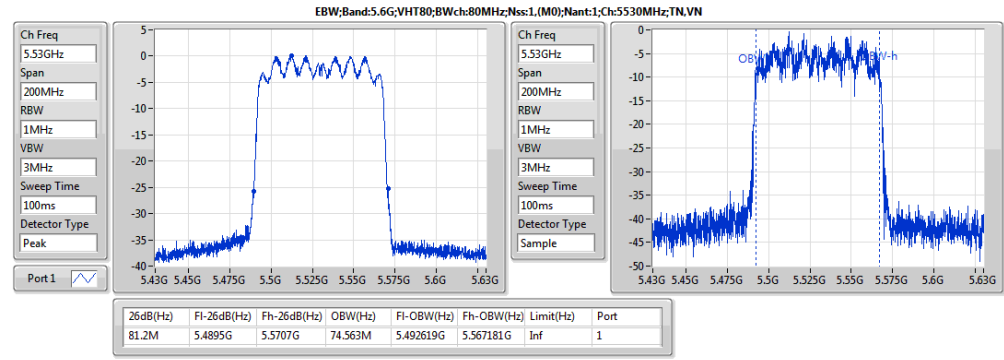
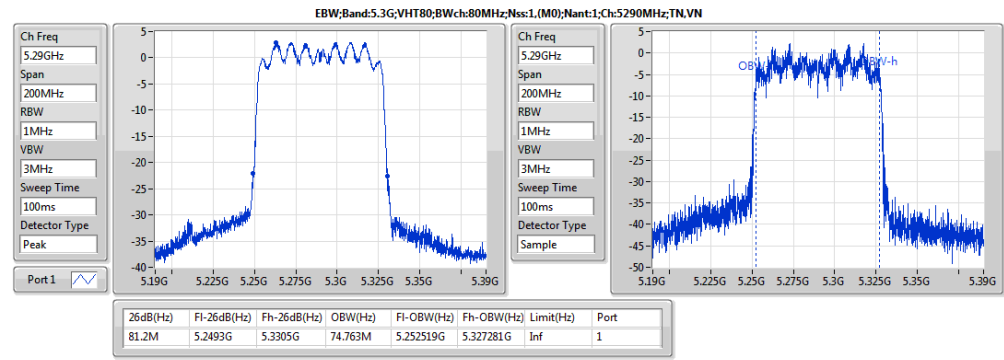
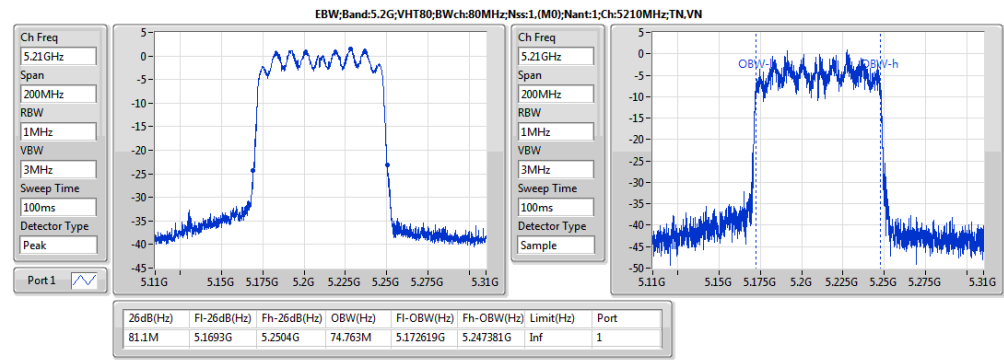
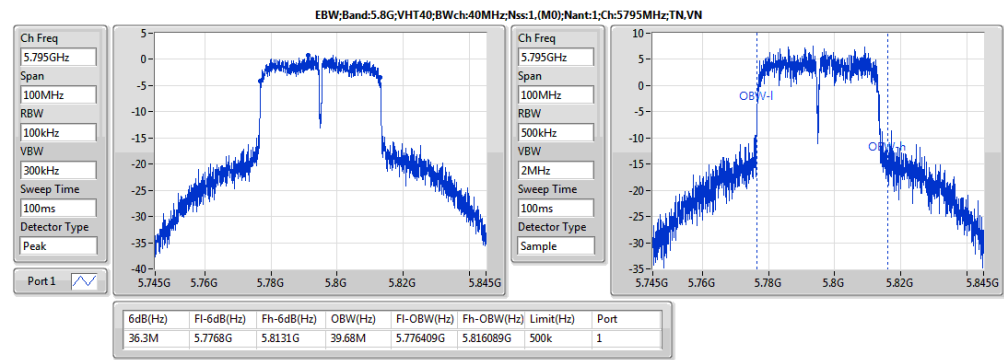
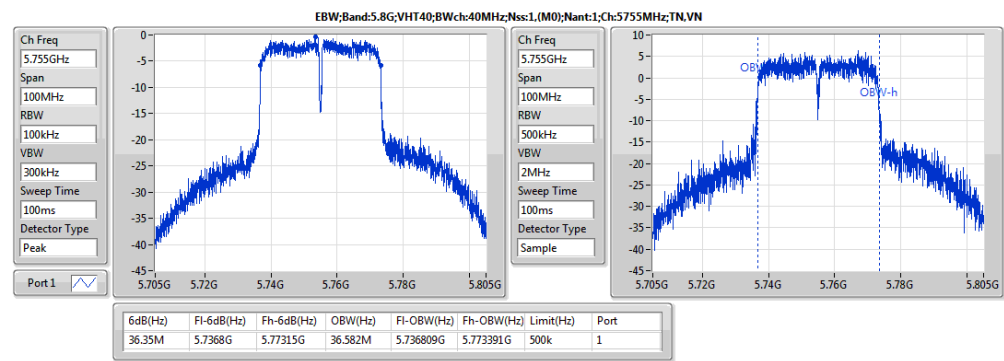
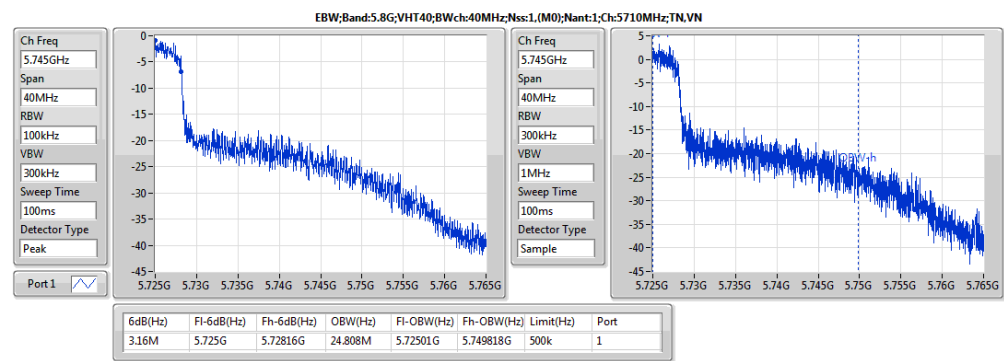
Result

Mode	Result	Limit (Hz)	P1-N dB (Hz)	P1-OBW (Hz)
5.2G;11a:Nss1:Ntx1;5180	Pass	Inf	21.275M	16.442M
5.2G;11a:Nss1:Ntx1;5200	Pass	Inf	40.55M	19.89M
5.2G;11a:Nss1:Ntx1;5240	Pass	Inf	27.625M	16.542M
5.3G;11a:Nss1:Ntx1;5260	Pass	Inf	40.275M	18.516M
5.3G;11a:Nss1:Ntx1;5300	Pass	Inf	38.425M	18.466M
5.3G;11a:Nss1:Ntx1;5320	Pass	Inf	25.375M	16.492M
5.6G;11a:Nss1:Ntx1;5500	Pass	Inf	21.55M	16.467M
5.6G;11a:Nss1:Ntx1;5580	Pass	Inf	39.425M	19.415M
5.6G;11a:Nss1:Ntx1;5700	Pass	Inf	25.35M	16.467M
5.6G;11a:Nss1:Ntx1;5720	Pass	Inf	21.615M	13.598M
5.8G;11a:Nss1:Ntx1;5720	Pass	500k	3.22M	8.856M
5.8G;11a:Nss1:Ntx1;5745	Pass	500k	16.45M	16.742M
5.8G;11a:Nss1:Ntx1;5785	Pass	500k	16.425M	19.615M
5.8G;11a:Nss1:Ntx1;5825	Pass	500k	16.45M	16.742M
5.2G;VHT20:Nss1,(M0);Ntx1;5180	Pass	Inf	21.275M	17.566M
5.2G;VHT20:Nss1,(M0);Ntx1;5200	Pass	Inf	44.625M	18.391M
5.2G;VHT20:Nss1,(M0);Ntx1;5240	Pass	Inf	26.15M	17.691M
5.3G;VHT20:Nss1,(M0);Ntx1;5260	Pass	Inf	43.35M	18.091M
5.3G;VHT20:Nss1,(M0);Ntx1;5300	Pass	Inf	43.3M	18.016M
5.3G;VHT20:Nss1,(M0);Ntx1;5320	Pass	Inf	23.25M	17.566M
5.6G;VHT20:Nss1,(M0);Ntx1;5500	Pass	Inf	22.75M	17.641M
5.6G;VHT20:Nss1,(M0);Ntx1;5580	Pass	Inf	45.7M	22.464M
5.6G;VHT20:Nss1,(M0);Ntx1;5700	Pass	Inf	23.475M	17.591M
5.6G;VHT20:Nss1,(M0);Ntx1;5720	Pass	Inf	26.64M	14.798M
5.8G;VHT20:Nss1,(M0);Ntx1;5720	Pass	500k	3.78M	11.134M
5.8G;VHT20:Nss1,(M0);Ntx1;5745	Pass	500k	17.6M	17.741M
5.8G;VHT20:Nss1,(M0);Ntx1;5785	Pass	500k	17.7M	21.014M
5.8G;VHT20:Nss1,(M0);Ntx1;5825	Pass	500k	17.675M	17.941M
5.2G;VHT40:Nss1,(M0);Ntx1;5190	Pass	Inf	41.9M	35.982M
5.2G;VHT40:Nss1,(M0);Ntx1;5230	Pass	Inf	65.15M	35.982M
5.3G;VHT40:Nss1,(M0);Ntx1;5270	Pass	Inf	84.3M	36.682M
5.3G;VHT40:Nss1,(M0);Ntx1;5310	Pass	Inf	41.3M	35.882M
5.6G;VHT40:Nss1,(M0);Ntx1;5510	Pass	Inf	41.9M	35.932M
5.6G;VHT40:Nss1,(M0);Ntx1;5550	Pass	Inf	70.2M	36.132M
5.6G;VHT40:Nss1,(M0);Ntx1;5670	Pass	Inf	72.65M	36.182M
5.6G;VHT40:Nss1,(M0);Ntx1;5710	Pass	Inf	58.17M	34.248M
5.8G;VHT40:Nss1,(M0);Ntx1;5710	Pass	500k	3.16M	24.808M
5.8G;VHT40:Nss1,(M0);Ntx1;5755	Pass	500k	36.35M	36.582M
5.8G;VHT40:Nss1,(M0);Ntx1;5795	Pass	500k	36.3M	39.68M
5.2G;VHT80:Nss1,(M0);Ntx1;5210	Pass	Inf	81.1M	74.763M
5.3G;VHT80:Nss1,(M0);Ntx1;5290	Pass	Inf	81.2M	74.763M
5.6G;VHT80:Nss1,(M0);Ntx1;5530	Pass	Inf	81.2M	74.563M
5.6G;VHT80:Nss1,(M0);Ntx1;5610	Pass	Inf	118.1M	75.062M
5.6G;VHT80:Nss1,(M0);Ntx1;5690	Pass	Inf	117.15M	73.163M
5.8G;VHT80:Nss1,(M0);Ntx1;5690	Pass	500k	3.12M	38.041M
5.8G;VHT80:Nss1,(M0);Ntx1;5775	Pass	500k	74.5M	75.362M











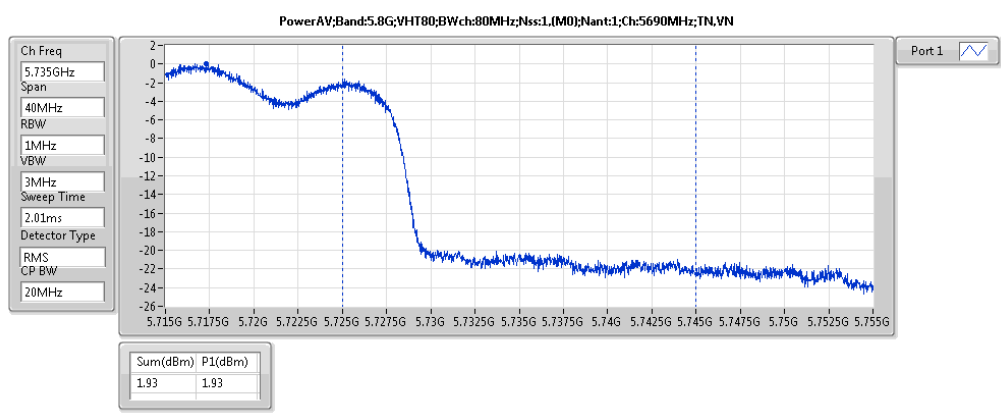
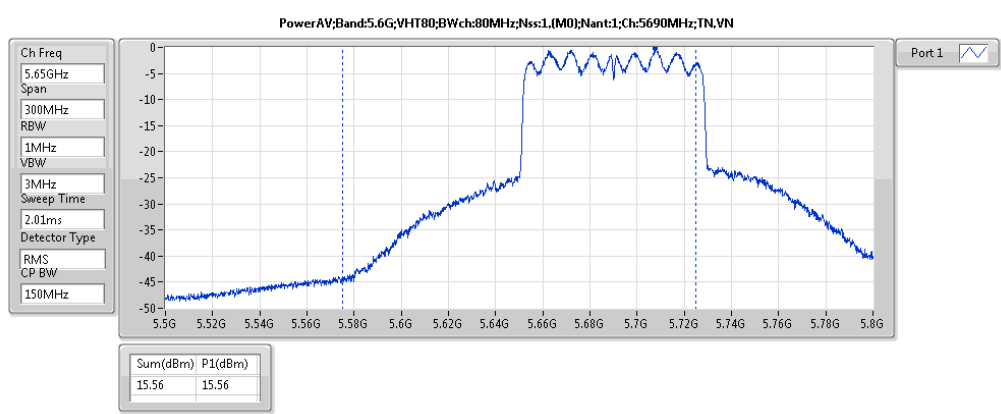
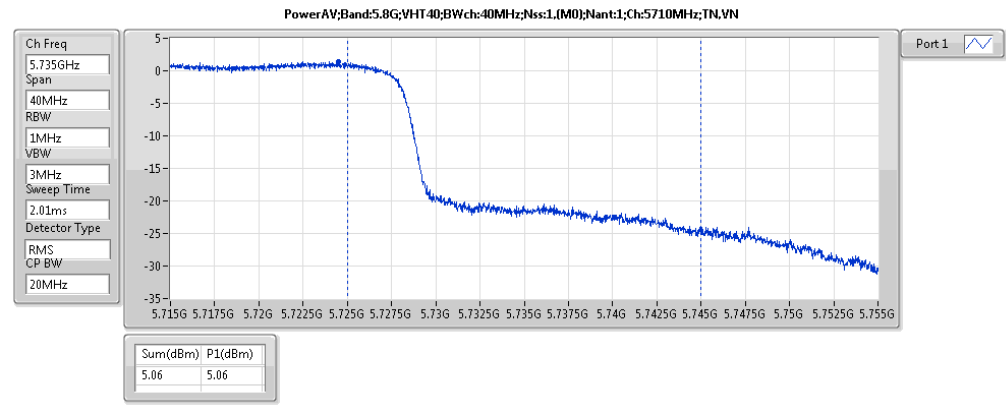
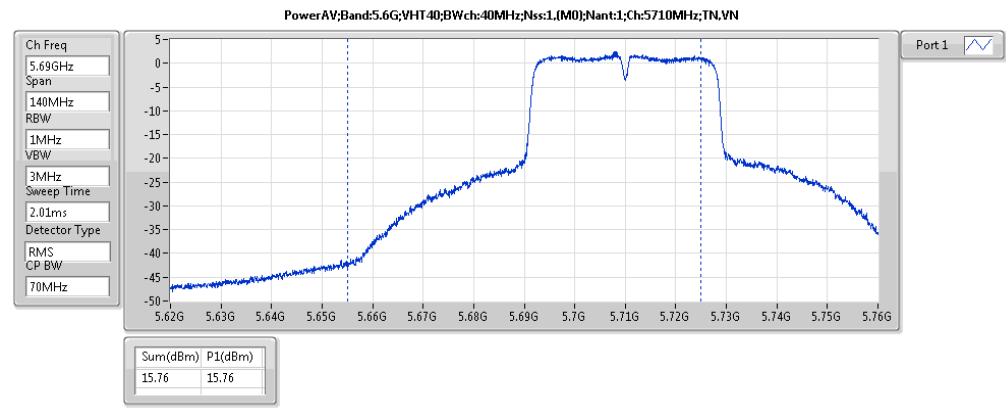
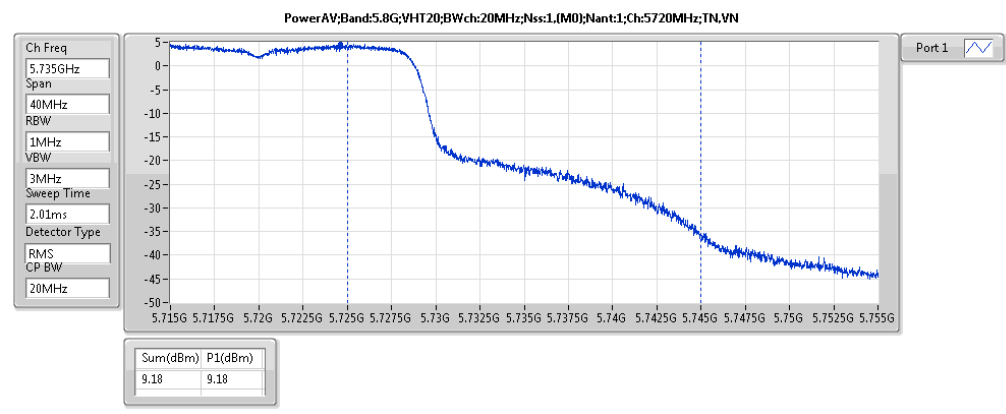
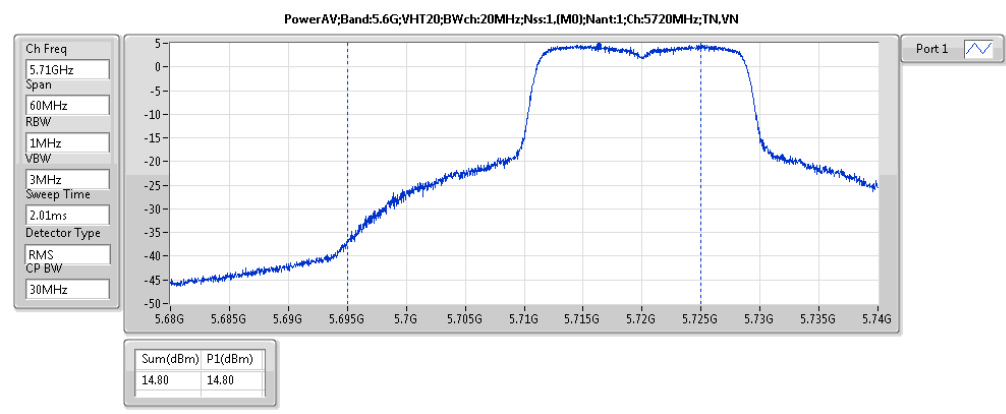
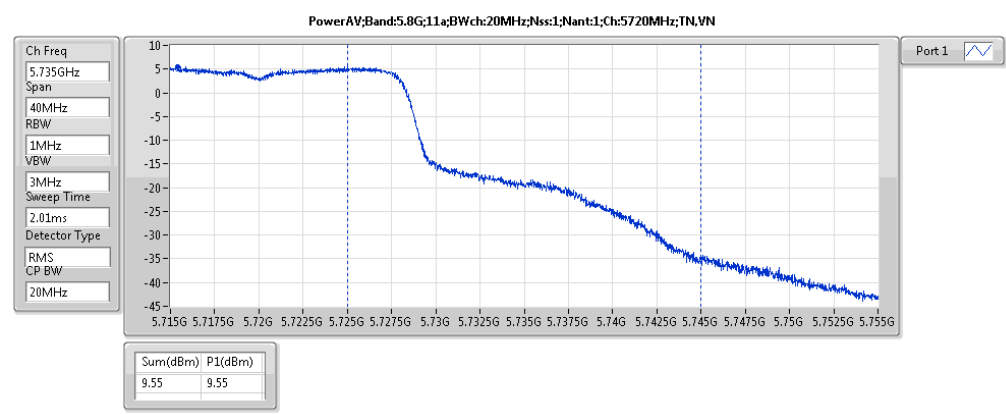
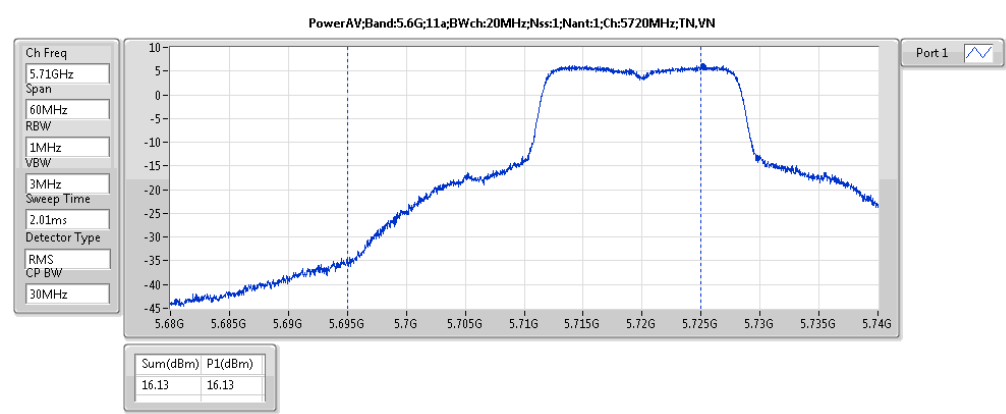
Summary

Mode	Sum (dBm)	Sum (W)	EIRP (dBm)	EIRP (W)
5.2G;11a:Nss1;Ntx1	18.17	0.06561	23.17	0.20749
5.3G;11a:Nss1;Ntx1	18.22	0.06637	23.22	0.20989
5.6G;11a:Nss1;Ntx1	18.23	0.06653	23.23	0.21038
5.8G;11a:Nss1;Ntx1	18.16	0.06546	23.16	0.20701
5.2G;VHT20:Nss1,(M0);Ntx1	18.08	0.06427	23.08	0.20324
5.3G;VHT20:Nss1,(M0);Ntx1	18.23	0.06653	23.23	0.21038
5.6G;VHT20:Nss1,(M0);Ntx1	18.21	0.06622	23.21	0.20941
5.8G;VHT20:Nss1,(M0);Ntx1	18.16	0.06546	23.16	0.20701
5.2G;VHT40:Nss1,(M0);Ntx1	17.23	0.05284	22.23	0.16711
5.3G;VHT40:Nss1,(M0);Ntx1	18.08	0.06427	23.08	0.20324
5.6G;VHT40:Nss1,(M0);Ntx1	18.21	0.06622	23.21	0.20941
5.8G;VHT40:Nss1,(M0);Ntx1	18.21	0.06622	23.21	0.20941
5.2G;VHT80:Nss1,(M0);Ntx1	11.17	0.01309	16.17	0.0414
5.3G;VHT80:Nss1,(M0);Ntx1	12.63	0.01832	17.63	0.05794
5.6G;VHT80:Nss1,(M0);Ntx1	17.56	0.05702	22.56	0.1803
5.8G;VHT80:Nss1,(M0);Ntx1	18.21	0.06622	23.21	0.20941



Result

Mode	Result	DG (dBi)	Sum (dBm)	Sum Lim. (dBm)	EIRP (dBm)	EIRP Lim. (dBm)	P1 (dBm)
5.2G;11a;Nss1;Ntx1;5180	Pass	5.00	16.94	23.98	21.94	30.00	16.94
5.2G;11a;Nss1;Ntx1;5200	Pass	5.00	18.17	23.98	23.17	30.00	18.17
5.2G;11a;Nss1;Ntx1;5240	Pass	5.00	17.07	23.98	22.07	30.00	17.07
5.3G;11a;Nss1;Ntx1;5260	Pass	5.00	18.15	23.98	23.15	30.00	18.15
5.3G;11a;Nss1;Ntx1;5300	Pass	5.00	18.22	23.98	23.22	30.00	18.22
5.3G;11a;Nss1;Ntx1;5320	Pass	5.00	16.24	23.98	21.24	30.00	16.24
5.6G;11a;Nss1;Ntx1;5500	Pass	5.00	16.33	23.98	21.33	30.00	16.33
5.6G;11a;Nss1;Ntx1;5580	Pass	5.00	18.23	23.98	23.23	30.00	18.23
5.6G;11a;Nss1;Ntx1;5700	Pass	5.00	17.08	23.98	22.08	30.00	17.08
5.6G;11a;Nss1;Ntx1;5720	Pass	5.00	16.13	23.98	21.13	30.00	16.13
5.8G;11a;Nss1;Ntx1;5720	Pass	5.00	9.55	30.00	14.55	36.00	9.55
5.8G;11a;Nss1;Ntx1;5745	Pass	5.00	18.16	30.00	23.16	36.00	18.16
5.8G;11a;Nss1;Ntx1;5785	Pass	5.00	18.11	30.00	23.11	36.00	18.11
5.8G;11a;Nss1;Ntx1;5825	Pass	5.00	18.02	30.00	23.02	36.00	18.02
5.2G;VHT20;Nss1,(M0);Ntx1;5180	Pass	5.00	16.66	23.98	21.66	30.00	16.66
5.2G;VHT20;Nss1,(M0);Ntx1;5200	Pass	5.00	18.08	23.98	23.08	30.00	18.08
5.2G;VHT20;Nss1,(M0);Ntx1;5240	Pass	5.00	18.01	23.98	23.01	30.00	18.01
5.3G;VHT20;Nss1,(M0);Ntx1;5260	Pass	5.00	18.19	23.98	23.19	30.00	18.19
5.3G;VHT20;Nss1,(M0);Ntx1;5300	Pass	5.00	18.23	23.98	23.23	30.00	18.23
5.3G;VHT20;Nss1,(M0);Ntx1;5320	Pass	5.00	18.08	23.98	23.08	30.00	18.08
5.6G;VHT20;Nss1,(M0);Ntx1;5500	Pass	5.00	16.57	23.98	21.57	30.00	16.57
5.6G;VHT20;Nss1,(M0);Ntx1;5580	Pass	5.00	18.21	23.98	23.21	30.00	18.21
5.6G;VHT20;Nss1,(M0);Ntx1;5700	Pass	5.00	16.08	23.98	21.08	30.00	16.08
5.6G;VHT20;Nss1,(M0);Ntx1;5720	Pass	5.00	14.80	23.98	19.80	30.00	14.80
5.8G;VHT20;Nss1,(M0);Ntx1;5720	Pass	5.00	9.18	30.00	14.18	36.00	9.18
5.8G;VHT20;Nss1,(M0);Ntx1;5745	Pass	5.00	18.16	30.00	23.16	36.00	18.16
5.8G;VHT20;Nss1,(M0);Ntx1;5785	Pass	5.00	18.12	30.00	23.12	36.00	18.12
5.8G;VHT20;Nss1,(M0);Ntx1;5825	Pass	5.00	18.13	30.00	23.13	36.00	18.13
5.2G;VHT40;Nss1,(M0);Ntx1;5190	Pass	5.00	12.34	23.98	17.34	30.00	12.34
5.2G;VHT40;Nss1,(M0);Ntx1;5230	Pass	5.00	17.23	23.98	22.23	30.00	17.23
5.3G;VHT40;Nss1,(M0);Ntx1;5270	Pass	5.00	18.08	23.98	23.08	30.00	18.08
5.3G;VHT40;Nss1,(M0);Ntx1;5310	Pass	5.00	13.11	23.98	18.11	30.00	13.11
5.6G;VHT40;Nss1,(M0);Ntx1;5510	Pass	5.00	11.88	23.98	16.88	30.00	11.88
5.6G;VHT40;Nss1,(M0);Ntx1;5550	Pass	5.00	18.21	23.98	23.21	30.00	18.21
5.6G;VHT40;Nss1,(M0);Ntx1;5670	Pass	5.00	18.19	23.98	23.19	30.00	18.19
5.6G;VHT40;Nss1,(M0);Ntx1;5710	Pass	5.00	15.76	23.98	20.76	30.00	15.76
5.8G;VHT40;Nss1,(M0);Ntx1;5710	Pass	5.00	5.06	30.00	10.06	36.00	5.06
5.8G;VHT40;Nss1,(M0);Ntx1;5755	Pass	5.00	18.21	30.00	23.21	36.00	18.21
5.8G;VHT40;Nss1,(M0);Ntx1;5795	Pass	5.00	18.15	30.00	23.15	36.00	18.15
5.2G;VHT80;Nss1,(M0);Ntx1;5210	Pass	5.00	11.17	23.98	16.17	30.00	11.17
5.3G;VHT80;Nss1,(M0);Ntx1;5290	Pass	5.00	12.63	23.98	17.63	30.00	12.63
5.6G;VHT80;Nss1,(M0);Ntx1;5530	Pass	5.00	10.41	23.98	15.41	30.00	10.41
5.6G;VHT80;Nss1,(M0);Ntx1;5610	Pass	5.00	17.56	23.98	22.56	30.00	17.56
5.6G;VHT80;Nss1,(M0);Ntx1;5690	Pass	5.00	15.56	23.98	20.56	30.00	15.56
5.8G;VHT80;Nss1,(M0);Ntx1;5690	Pass	5.00	1.93	30.00	6.93	36.00	1.93
5.8G;VHT80;Nss1,(M0);Ntx1;5775	Pass	5.00	18.21	30.00	23.21	36.00	18.21





Summary

Mode	PD (dBm/RBW)	EIRP.PD (dBm/RBW)
5.2G;11a;Nss1;Ntx1	6.58	11.58
5.3G;11a;Nss1;Ntx1	6.46	11.46
5.6G;11a;Nss1;Ntx1	6.28	11.28
5.8G;11a;Nss1;Ntx1	4.13	9.13
5.2G;VHT20;Nss1,(M0);Ntx1	6.20	11.20
5.3G;VHT20;Nss1,(M0);Ntx1	5.97	10.97
5.6G;VHT20;Nss1,(M0);Ntx1	6.83	11.83
5.8G;VHT20;Nss1,(M0);Ntx1	4.59	9.59
5.2G;VHT40;Nss1,(M0);Ntx1	-0.04	4.96
5.3G;VHT40;Nss1,(M0);Ntx1	2.74	7.74
5.6G;VHT40;Nss1,(M0);Ntx1	0.80	5.80
5.8G;VHT40;Nss1,(M0);Ntx1	1.20	6.20
5.2G;VHT80;Nss1,(M0);Ntx1	-7.64	-2.64
5.3G;VHT80;Nss1,(M0);Ntx1	-6.23	-1.23
5.6G;VHT80;Nss1,(M0);Ntx1	-1.34	3.66
5.8G;VHT80;Nss1,(M0);Ntx1	-1.83	3.17



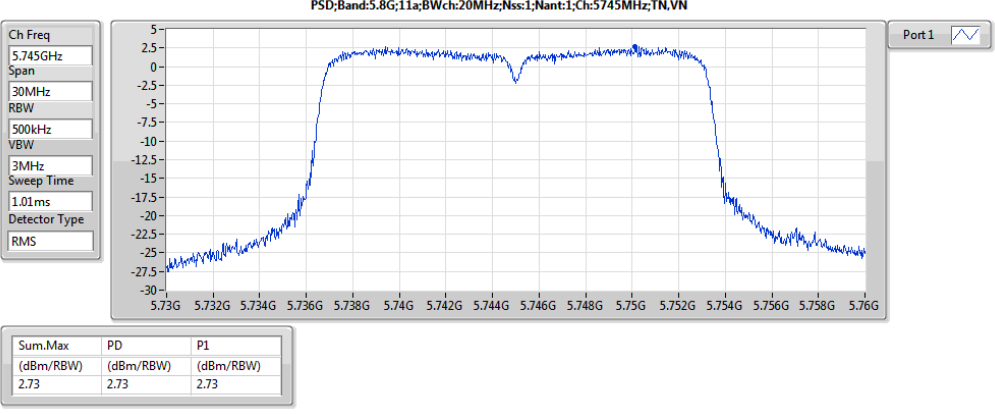
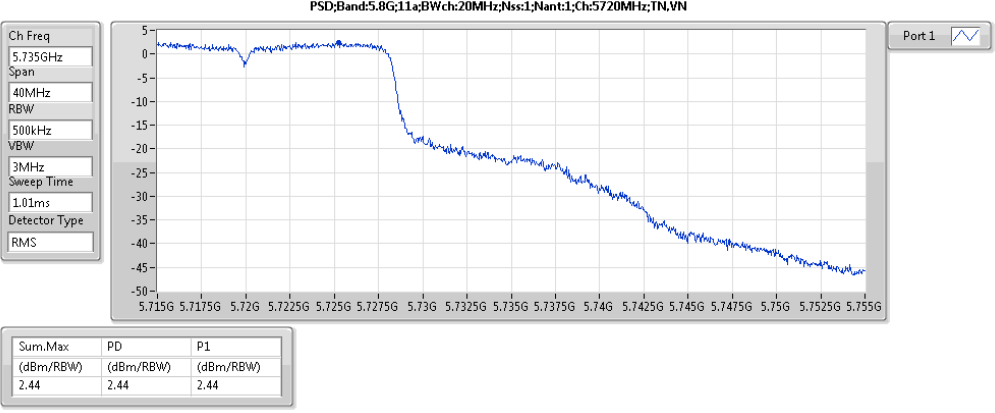
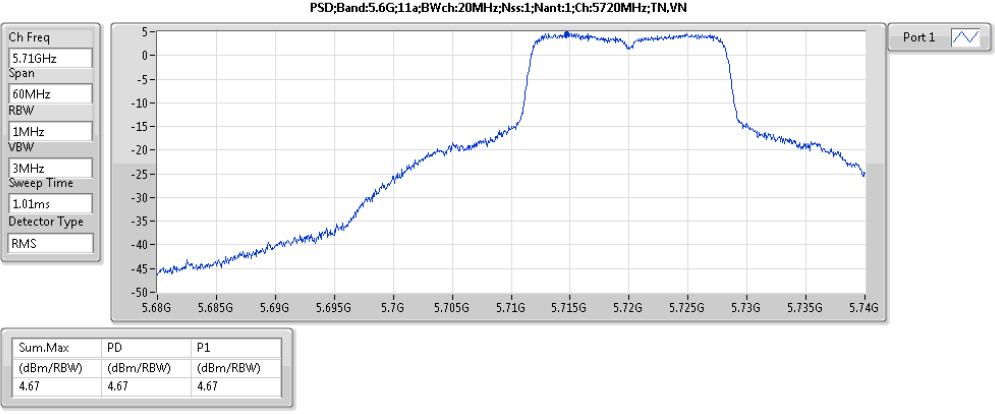
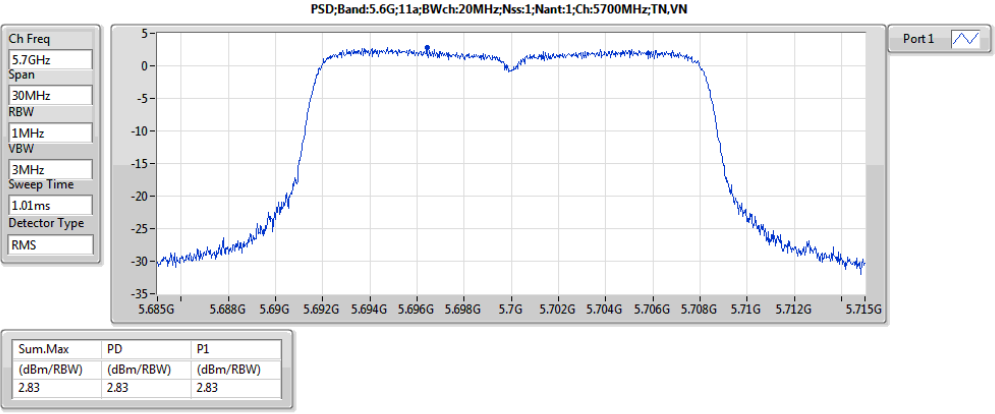
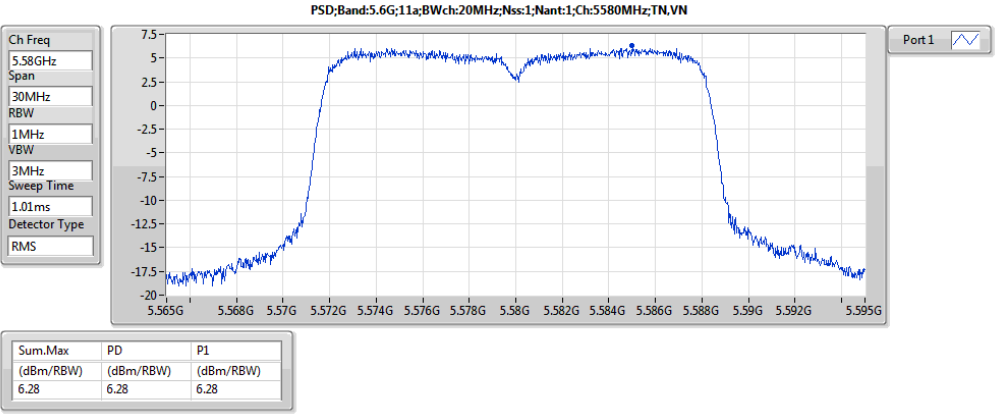
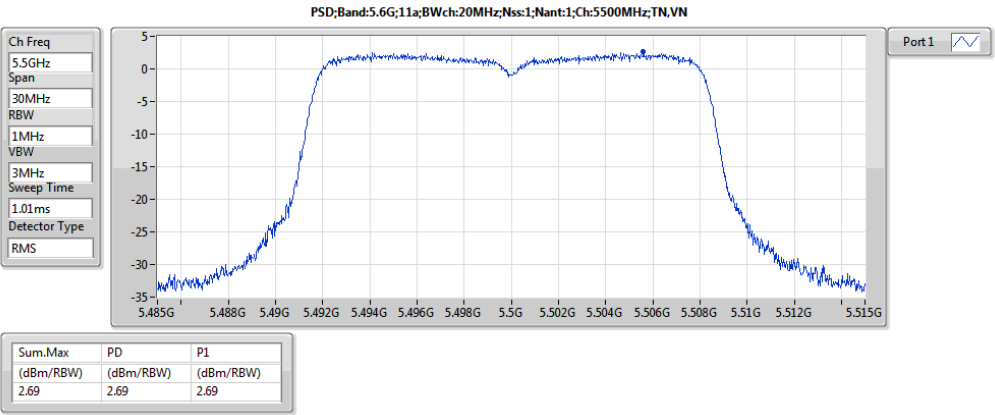
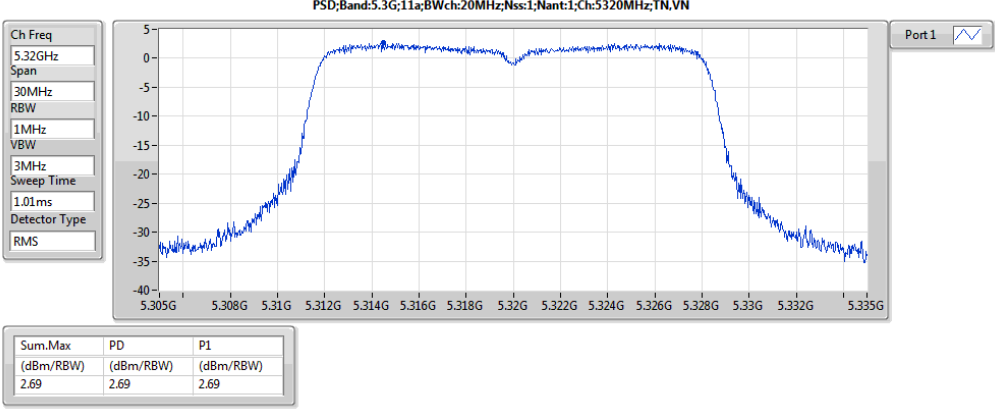
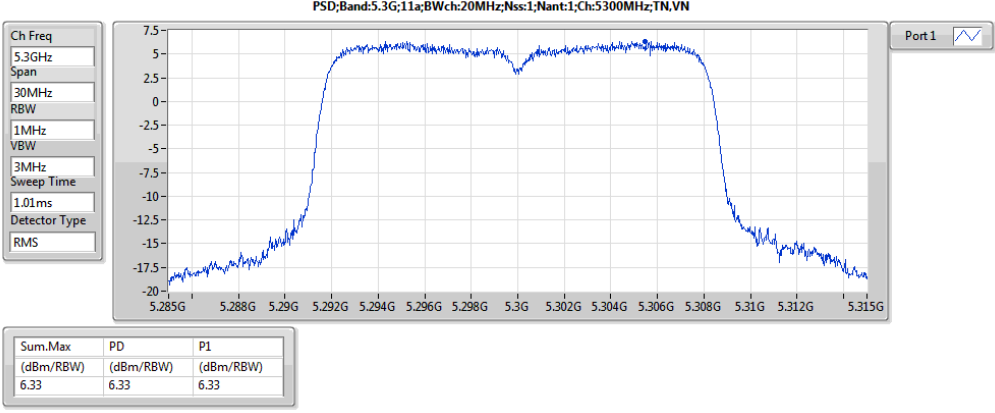
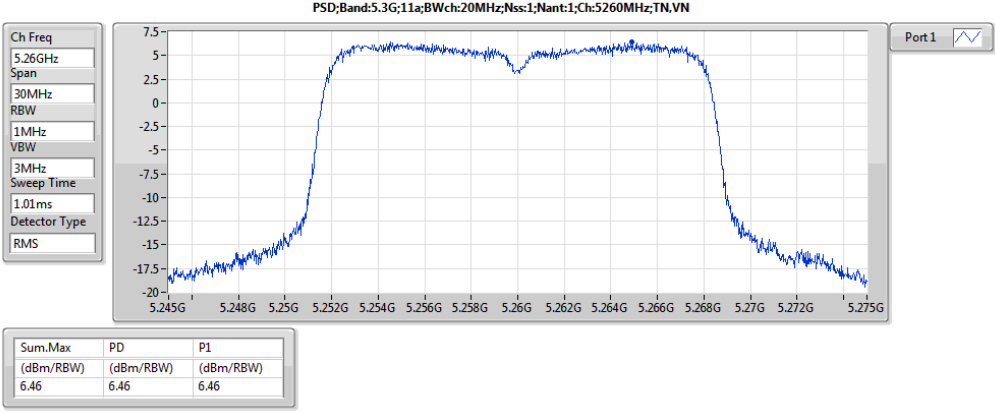
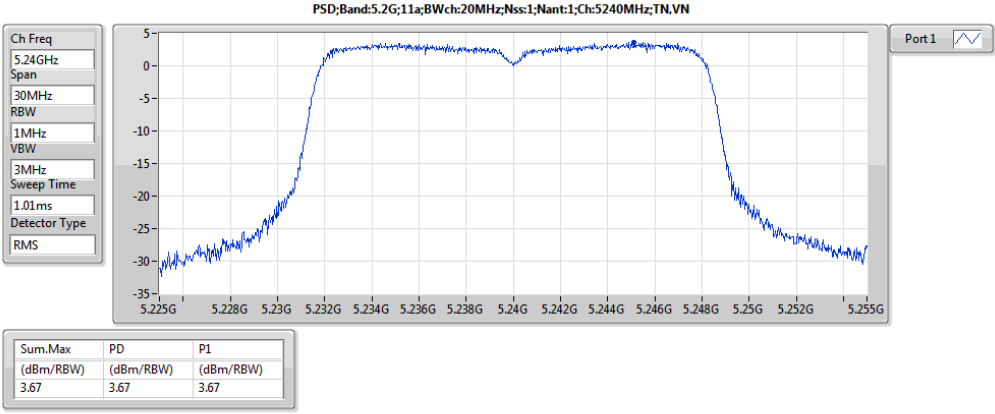
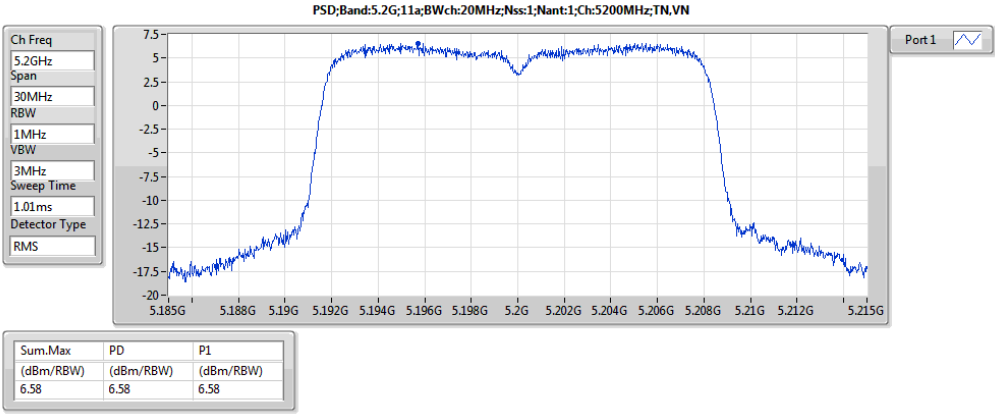
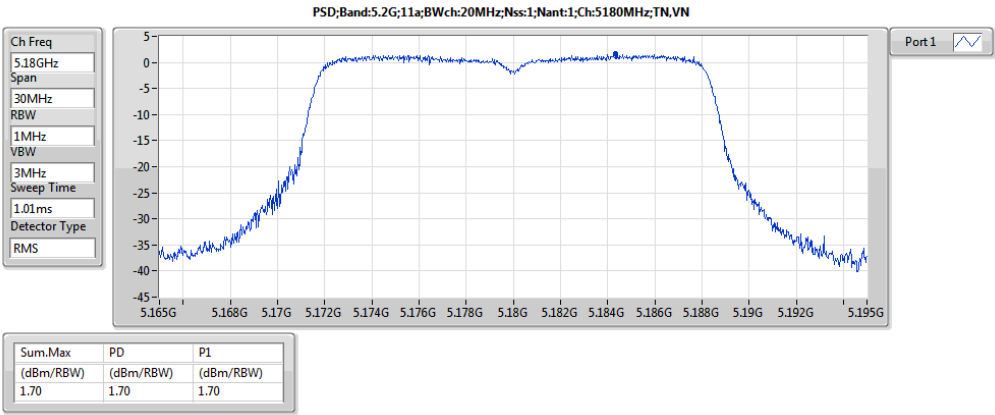
Result

Mode	Result	Meas.RBW (Hz)	Lim.RBW (Hz)	BWCF (dB)	DG (dBi)	PD (dBm/RBW)	PD.Limit (dBm/RBW)	EIRP.PD (dBm/RBW)	EIRP.PD.Li m (dBm/RBW)	P1 (dBm/RBW)
5.2G;11a:Nss1:Ntx1:5180	Pass	1M	1M	0.00	5.00	1.70	11.00	6.70	Inf	1.70
5.2G;11a:Nss1:Ntx1:5200	Pass	1M	1M	0.00	5.00	6.58	11.00	11.58	Inf	6.58
5.2G;11a:Nss1:Ntx1:5240	Pass	1M	1M	0.00	5.00	3.67	11.00	8.67	Inf	3.67
5.3G;11a:Nss1:Ntx1:5260	Pass	1M	1M	0.00	5.00	6.46	11.00	11.46	Inf	6.46
5.3G;11a:Nss1:Ntx1:5300	Pass	1M	1M	0.00	5.00	6.33	11.00	11.33	Inf	6.33
5.3G;11a:Nss1:Ntx1:5320	Pass	1M	1M	0.00	5.00	2.69	11.00	7.69	Inf	2.69
5.6G;11a:Nss1:Ntx1:5500	Pass	1M	1M	0.00	5.00	2.69	11.00	7.69	Inf	2.69
5.6G;11a:Nss1:Ntx1:5580	Pass	1M	1M	0.00	5.00	6.28	11.00	11.28	Inf	6.28
5.6G;11a:Nss1:Ntx1:5700	Pass	1M	1M	0.00	5.00	2.83	11.00	7.83	Inf	2.83
5.6G;11a:Nss1:Ntx1:5720	Pass	1M	1M	0.00	5.00	4.67	11.00	9.67	Inf	4.67
5.8G;11a:Nss1:Ntx1:5720	Pass	500k	500k	0.00	5.00	2.44	30.00	7.44	Inf	2.44
5.8G;11a:Nss1:Ntx1:5745	Pass	500k	500k	0.00	5.00	2.73	30.00	7.73	Inf	2.73
5.8G;11a:Nss1:Ntx1:5785	Pass	500k	500k	0.00	5.00	4.13	30.00	9.13	Inf	4.13
5.8G;11a:Nss1:Ntx1:5825	Pass	500k	500k	0.00	5.00	2.73	30.00	7.73	Inf	2.73
5.2G;VHT20:Nss1,(M0):Ntx1:5180	Pass	1M	1M	0.00	5.00	1.18	11.00	6.18	Inf	1.18
5.2G;VHT20:Nss1,(M0):Ntx1:5200	Pass	1M	1M	0.00	5.00	6.20	11.00	11.20	Inf	6.20
5.2G;VHT20:Nss1,(M0):Ntx1:5240	Pass	1M	1M	0.00	5.00	3.82	11.00	8.82	Inf	3.82
5.3G;VHT20:Nss1,(M0):Ntx1:5260	Pass	1M	1M	0.00	5.00	5.97	11.00	10.97	Inf	5.97
5.3G;VHT20:Nss1,(M0):Ntx1:5300	Pass	1M	1M	0.00	5.00	5.92	11.00	10.92	Inf	5.92
5.3G;VHT20:Nss1,(M0):Ntx1:5320	Pass	1M	1M	0.00	5.00	3.17	11.00	8.17	Inf	3.17
5.6G;VHT20:Nss1,(M0):Ntx1:5500	Pass	1M	1M	0.00	5.00	3.16	11.00	8.16	Inf	3.16
5.6G;VHT20:Nss1,(M0):Ntx1:5580	Pass	1M	1M	0.00	5.00	6.83	11.00	11.83	Inf	6.83
5.6G;VHT20:Nss1,(M0):Ntx1:5700	Pass	1M	1M	0.00	5.00	2.77	11.00	7.77	Inf	2.77
5.6G;VHT20:Nss1,(M0):Ntx1:5720	Pass	1M	1M	0.00	5.00	3.19	11.00	8.19	Inf	3.19
5.8G;VHT20:Nss1,(M0):Ntx1:5720	Pass	500k	500k	0.00	5.00	1.50	30.00	6.50	Inf	1.5
5.8G;VHT20:Nss1,(M0):Ntx1:5745	Pass	500k	500k	0.00	5.00	2.23	30.00	7.23	Inf	2.23
5.8G;VHT20:Nss1,(M0):Ntx1:5785	Pass	500k	500k	0.00	5.00	4.59	30.00	9.59	Inf	4.59
5.8G;VHT20:Nss1,(M0):Ntx1:5825	Pass	500k	500k	0.00	5.00	2.87	30.00	7.87	Inf	2.87
5.2G;VHT40:Nss1,(M0):Ntx1:5190	Pass	1M	1M	0.00	5.00	-6.10	11.00	-1.10	Inf	-6.10
5.2G;VHT40:Nss1,(M0):Ntx1:5230	Pass	1M	1M	0.00	5.00	-0.04	11.00	4.96	Inf	-0.04
5.3G;VHT40:Nss1,(M0):Ntx1:5270	Pass	1M	1M	0.00	5.00	2.74	11.00	7.74	Inf	2.74
5.3G;VHT40:Nss1,(M0):Ntx1:5310	Pass	1M	1M	0.00	5.00	-3.21	11.00	1.79	Inf	-3.21
5.6G;VHT40:Nss1,(M0):Ntx1:5510	Pass	1M	1M	0.00	5.00	-4.77	11.00	0.23	Inf	-4.77
5.6G;VHT40:Nss1,(M0):Ntx1:5550	Pass	1M	1M	0.00	5.00	0.22	11.00	5.22	Inf	0.22
5.6G;VHT40:Nss1,(M0):Ntx1:5670	Pass	1M	1M	0.00	5.00	0.80	11.00	5.80	Inf	0.80
5.6G;VHT40:Nss1,(M0):Ntx1:5710	Pass	1M	1M	0.00	5.00	0.48	11.00	5.48	Inf	0.48
5.8G;VHT40:Nss1,(M0):Ntx1:5710	Pass	500k	500k	0.00	5.00	-1.64	30.00	3.36	Inf	-1.64
5.8G;VHT40:Nss1,(M0):Ntx1:5755	Pass	500k	500k	0.00	5.00	0.09	30.00	5.09	Inf	0.09
5.8G;VHT40:Nss1,(M0):Ntx1:5795	Pass	500k	500k	0.00	5.00	1.20	30.00	6.20	Inf	1.20
5.2G;VHT80:Nss1,(M0):Ntx1:5210	Pass	1M	1M	0.00	5.00	-7.64	11.00	-2.64	Inf	-7.64
5.3G;VHT80:Nss1,(M0):Ntx1:5290	Pass	1M	1M	0.00	5.00	-6.23	11.00	-1.23	Inf	-6.23
5.6G;VHT80:Nss1,(M0):Ntx1:5530	Pass	1M	1M	0.00	5.00	-9.12	11.00	-4.12	Inf	-9.12
5.6G;VHT80:Nss1,(M0):Ntx1:5610	Pass	1M	1M	0.00	5.00	-1.34	11.00	3.66	Inf	-1.34
5.6G;VHT80:Nss1,(M0):Ntx1:5690	Pass	1M	1M	0.00	5.00	-1.93	11.00	3.07	Inf	-1.93
5.8G;VHT80:Nss1,(M0):Ntx1:5690	Pass	500k	500k	0.00	5.00	-5.01	30.00	-0.01	Inf	-5.01
5.8G;VHT80:Nss1,(M0):Ntx1:5775	Pass	500k	500k	0.00	5.00	-1.83	30.00	3.17	Inf	-1.83



PSD Result

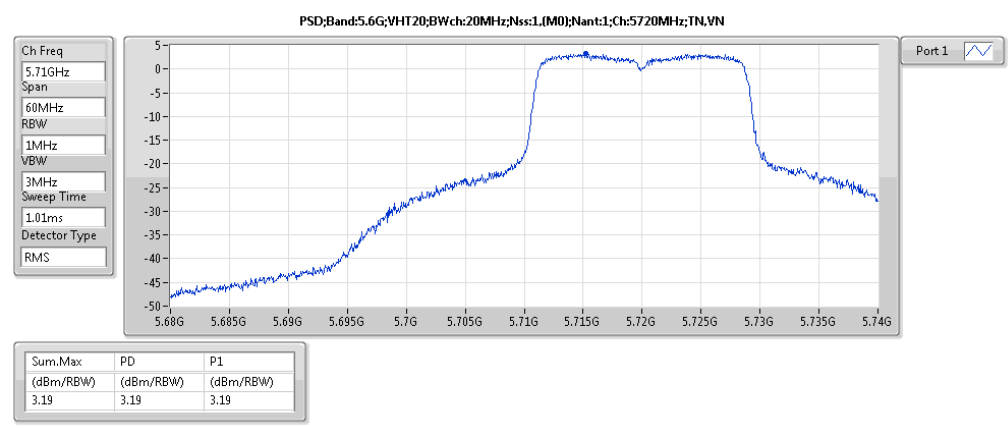
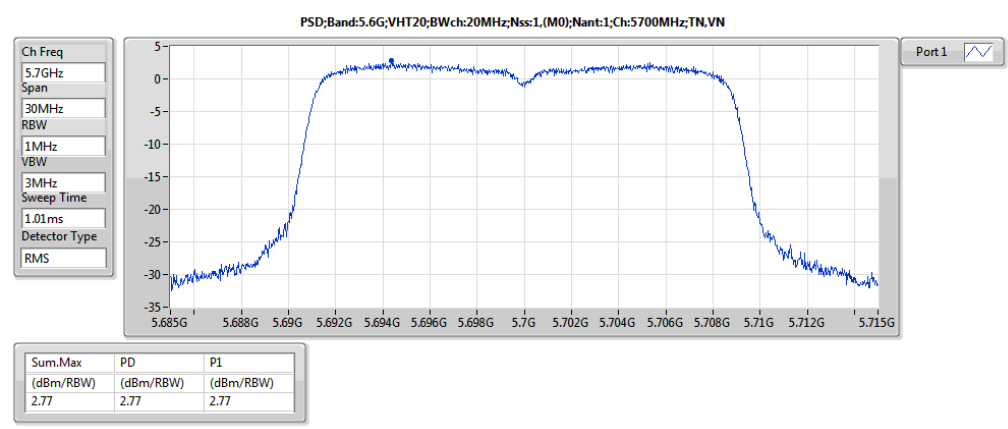
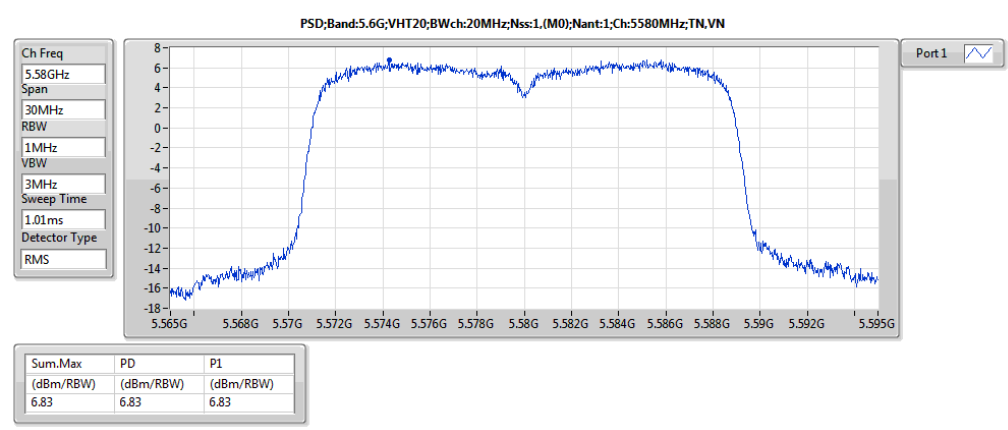
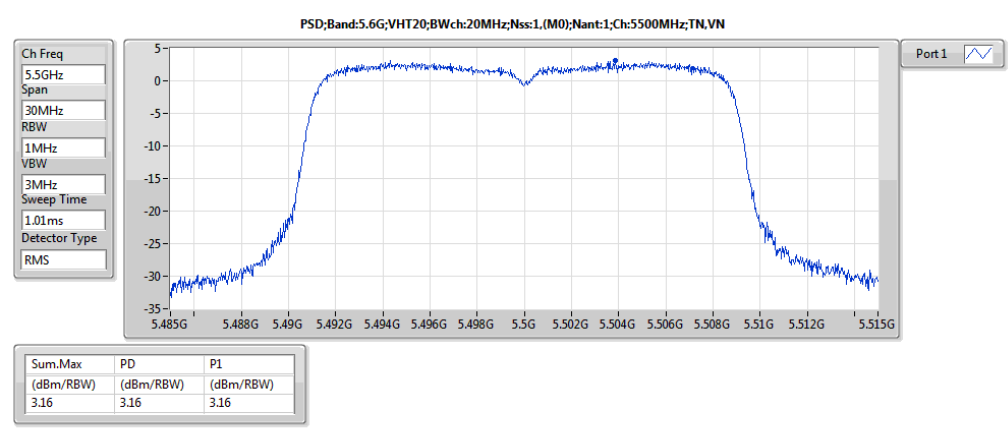
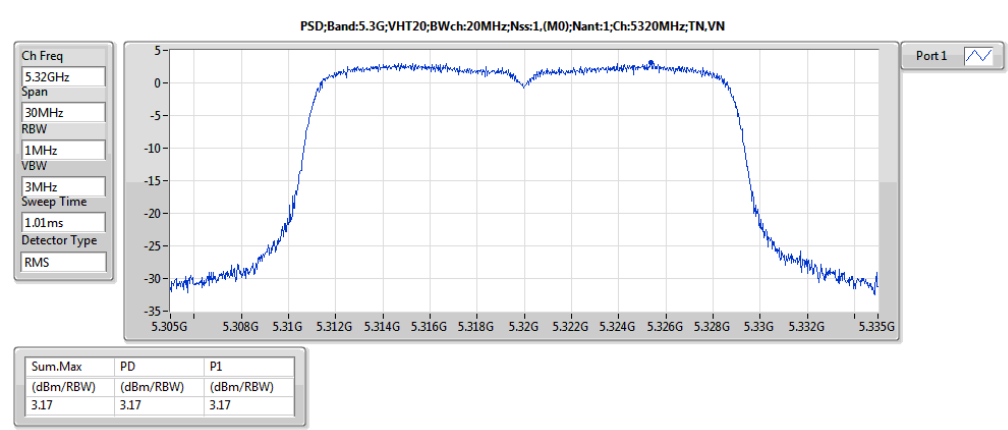
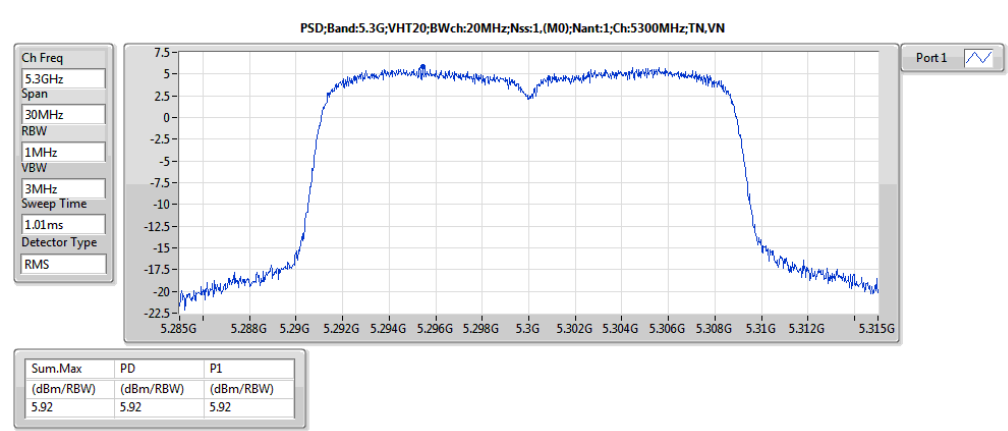
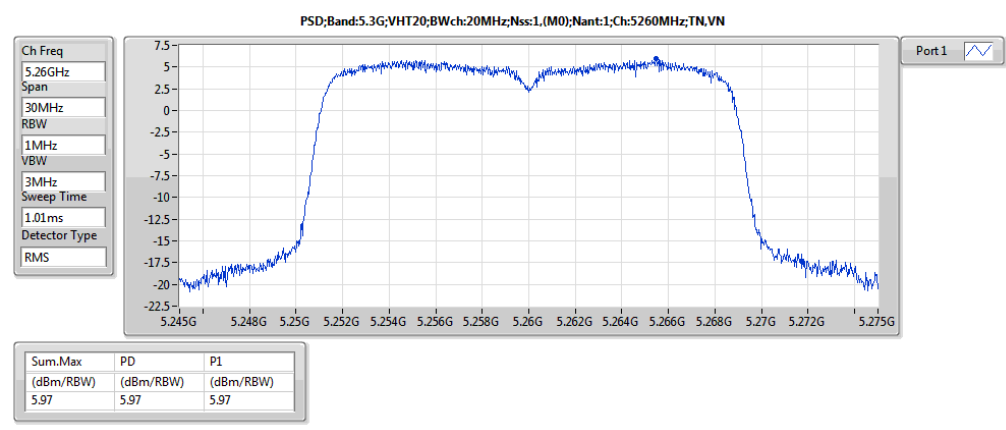
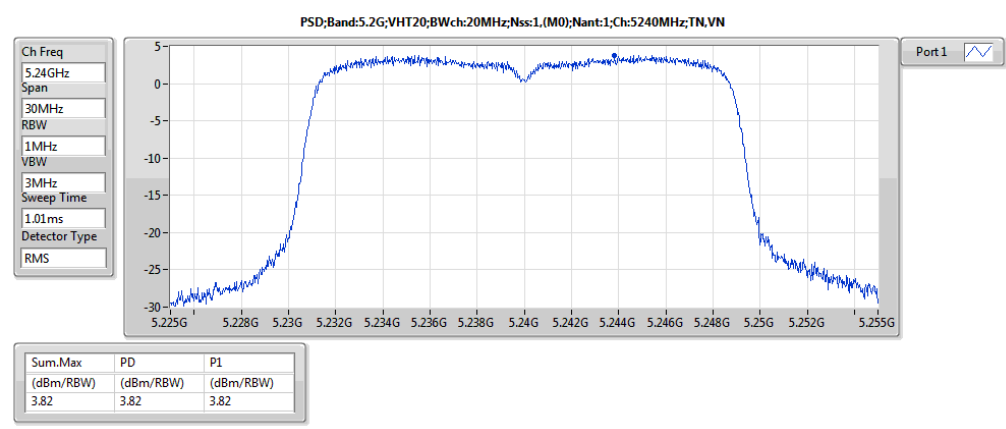
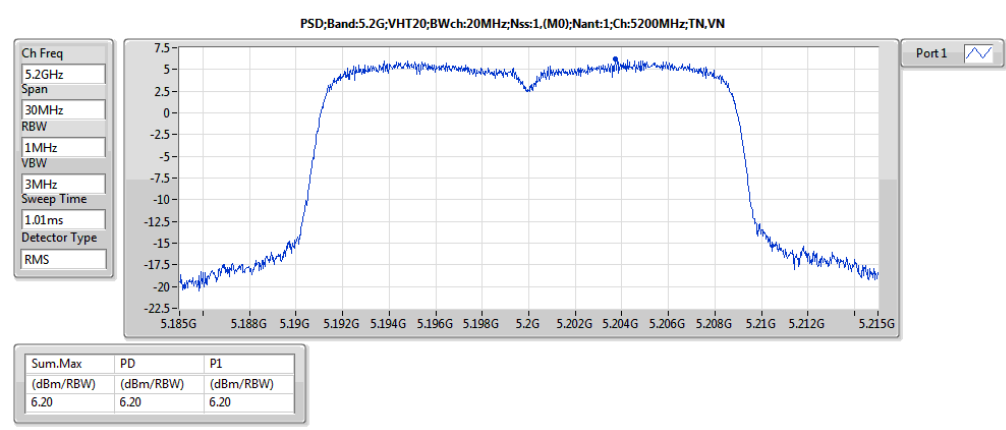
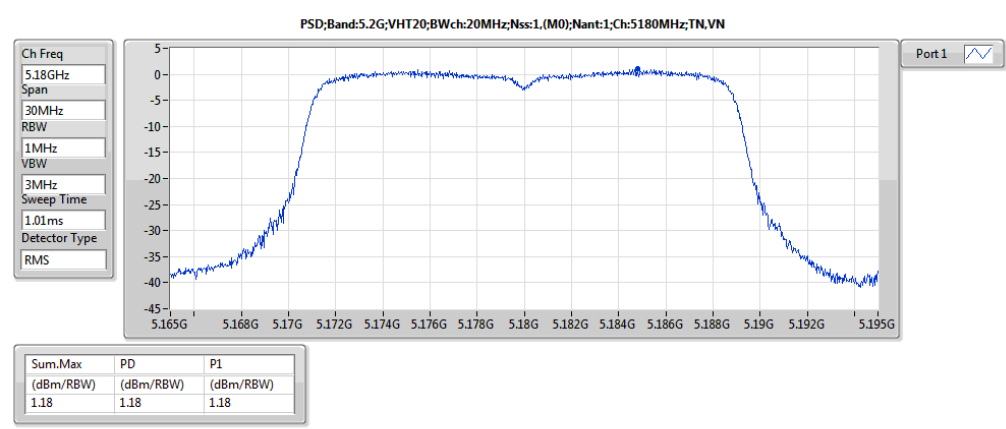
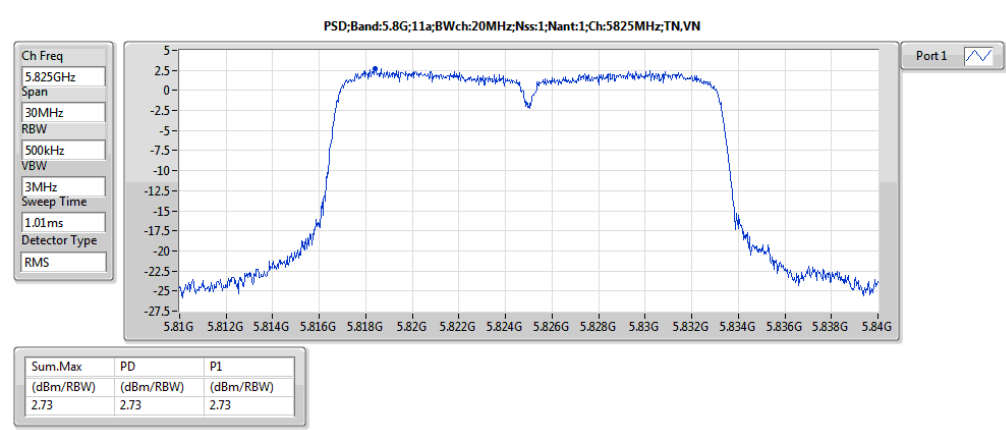
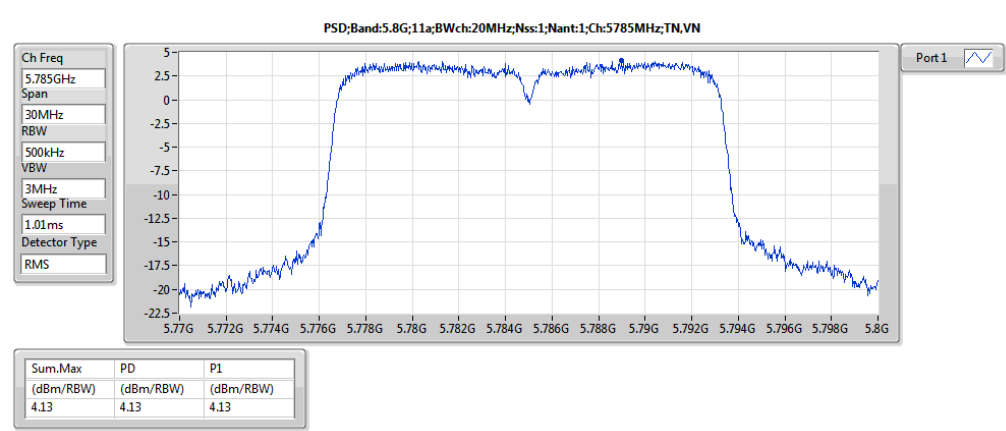
Appendix D





PSD Result

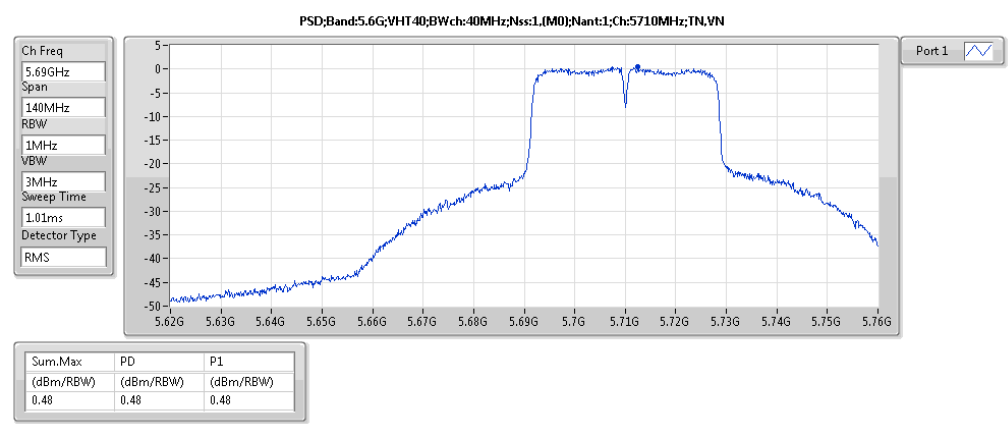
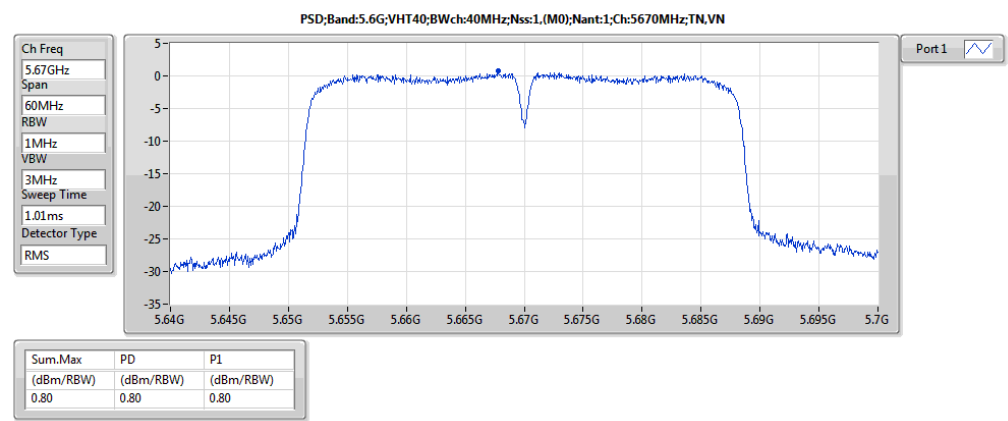
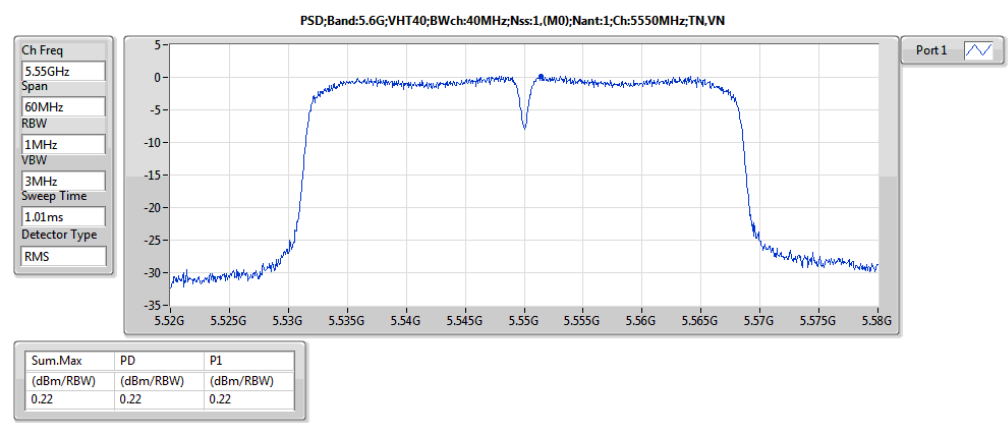
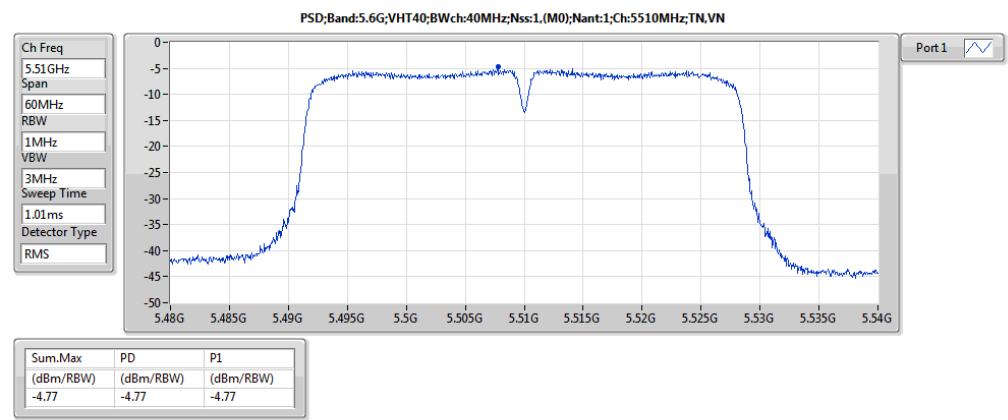
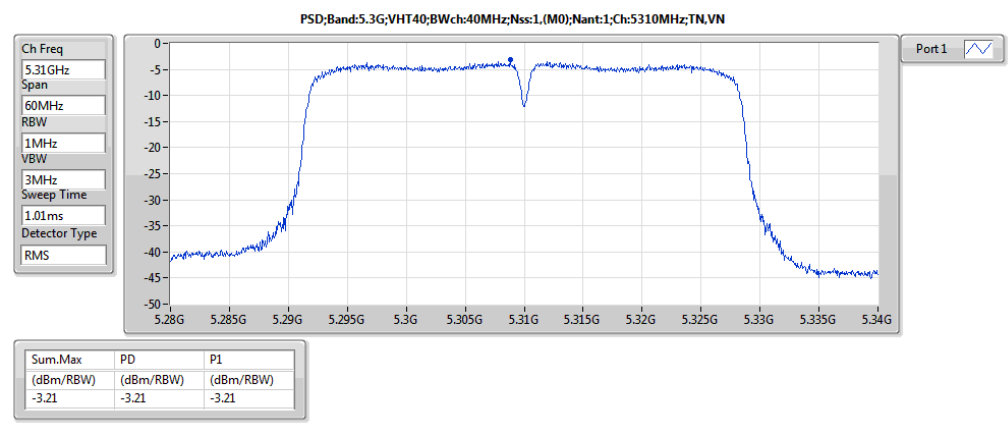
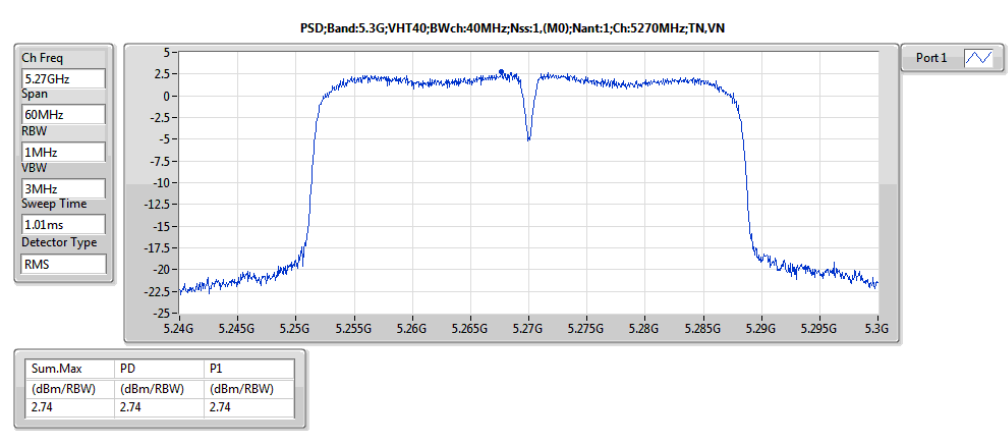
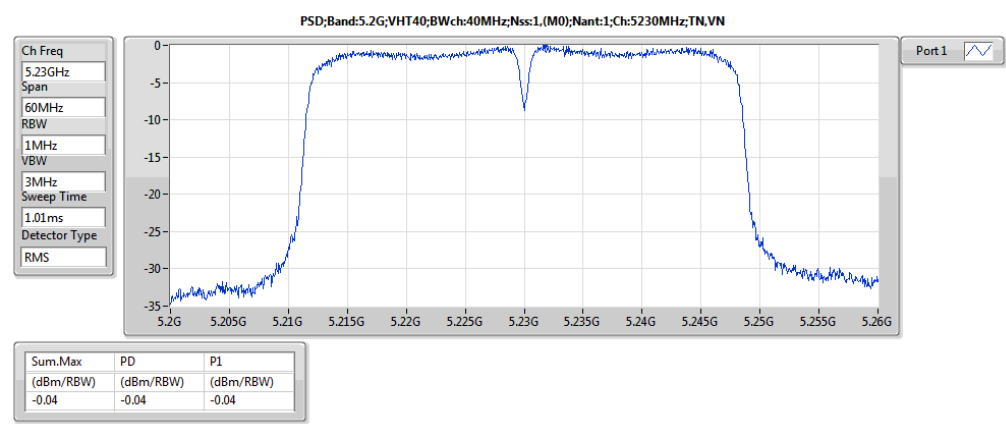
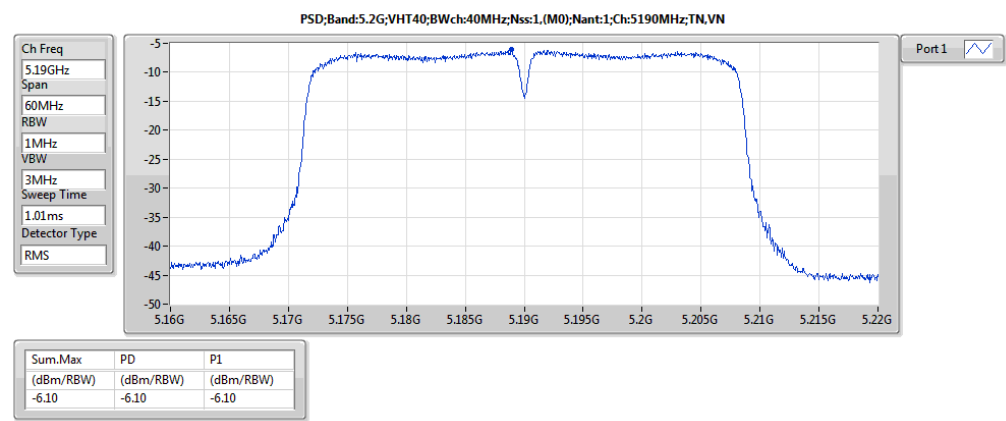
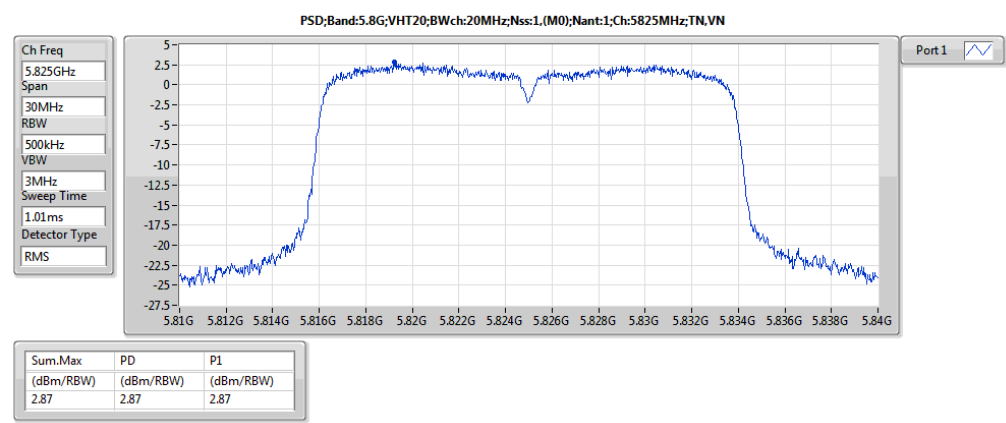
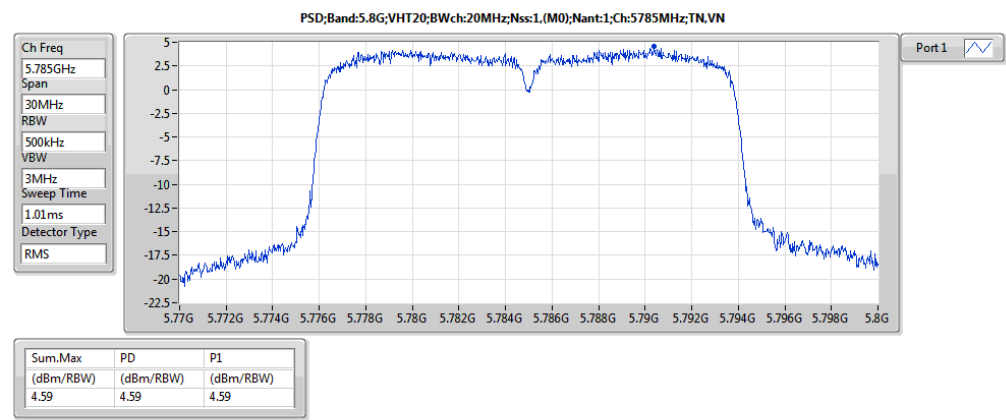
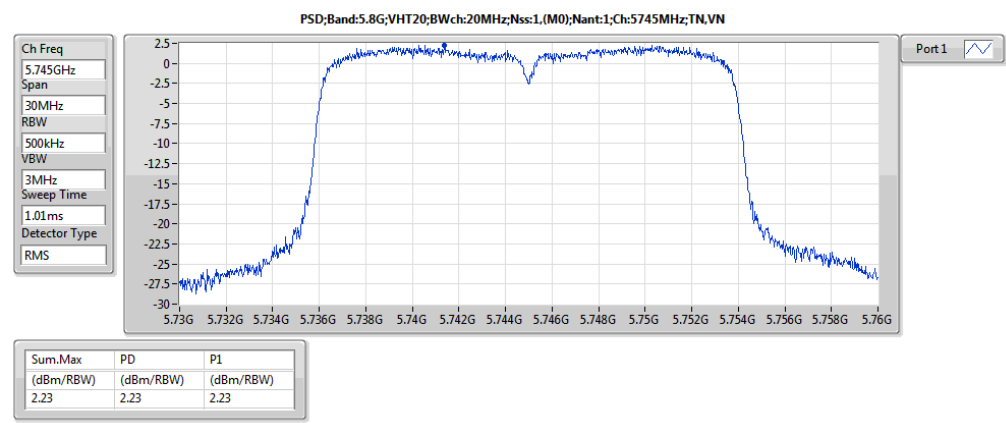
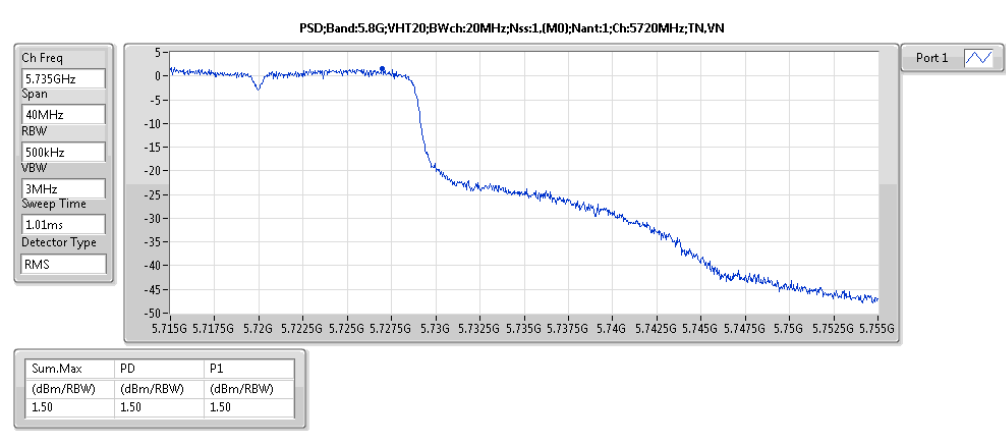
Appendix D





PSD Result

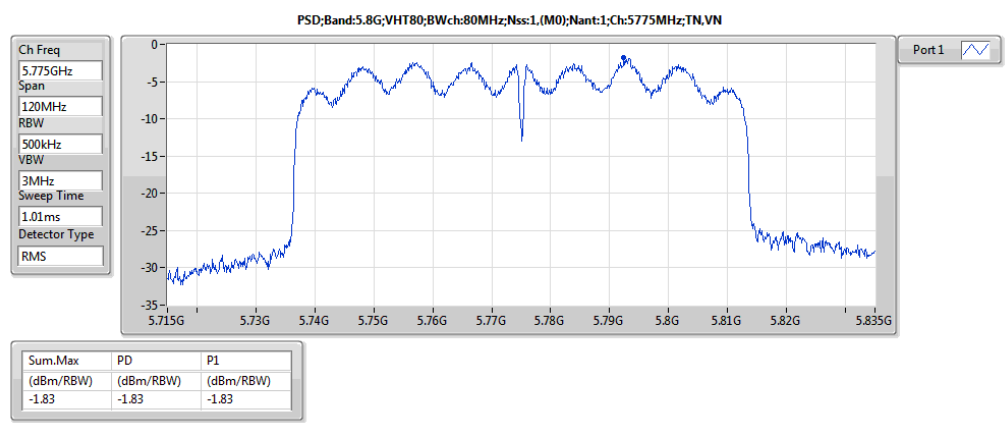
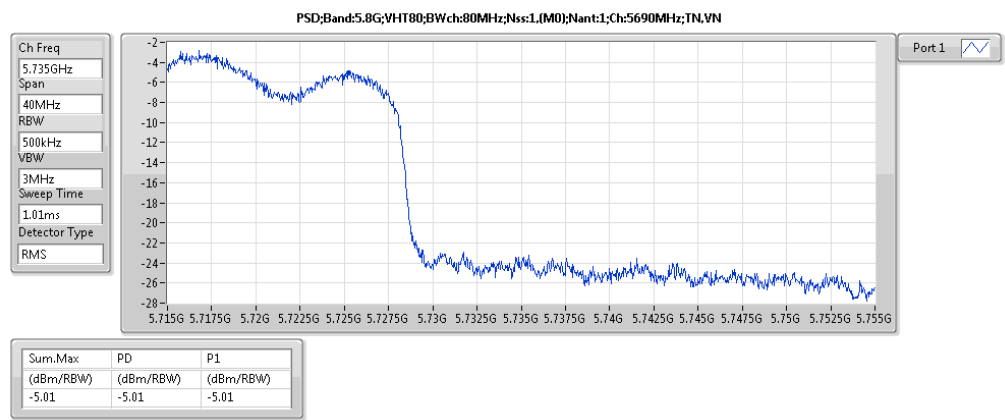
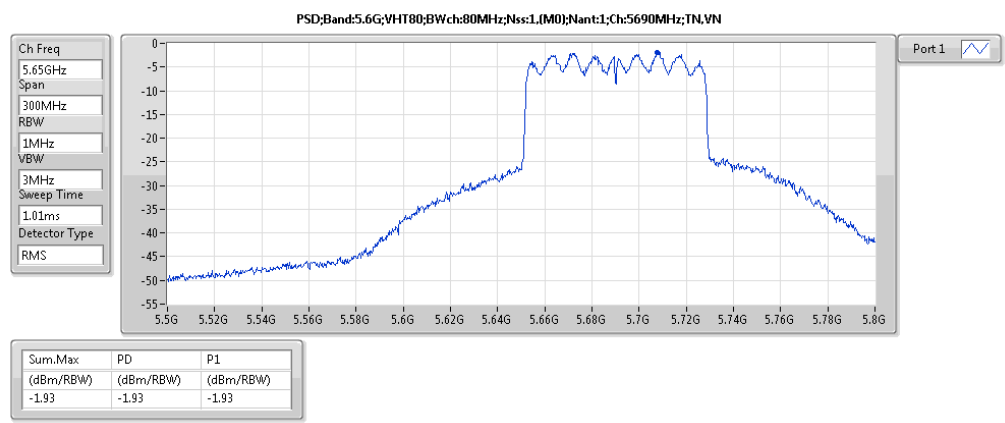
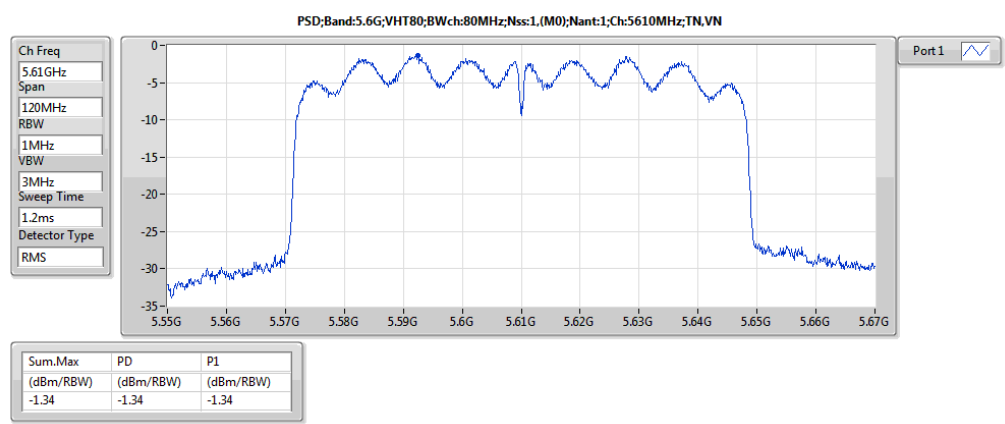
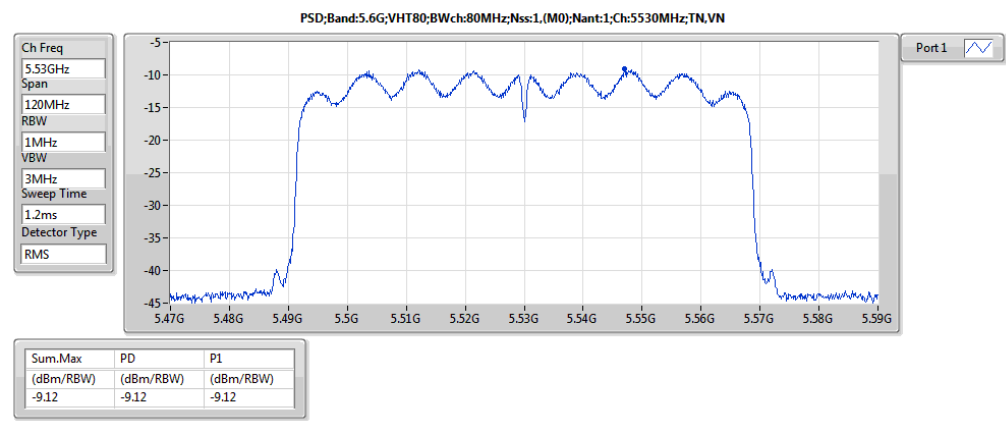
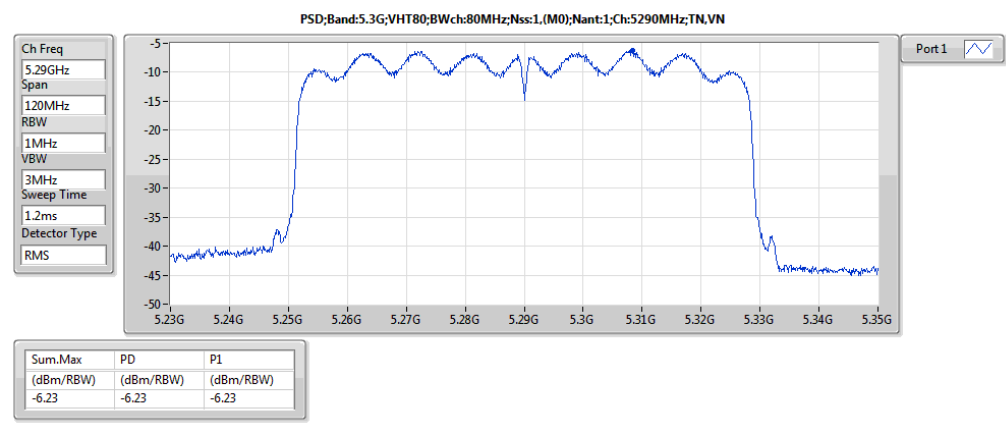
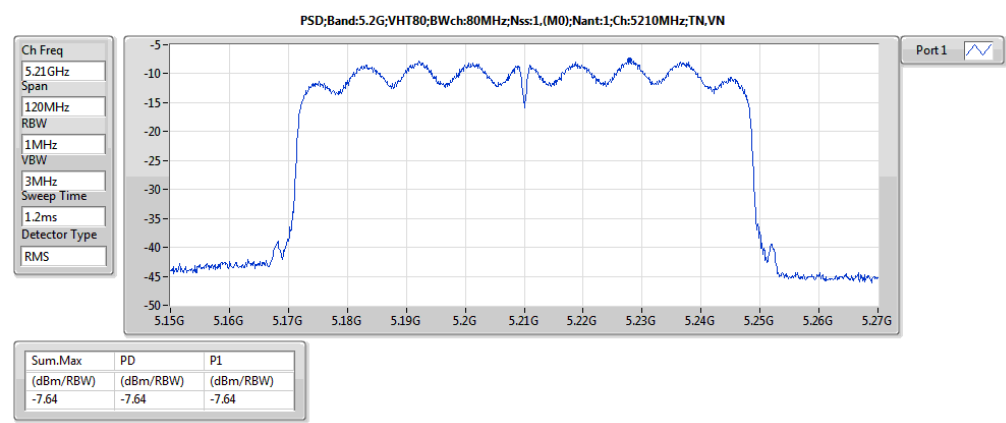
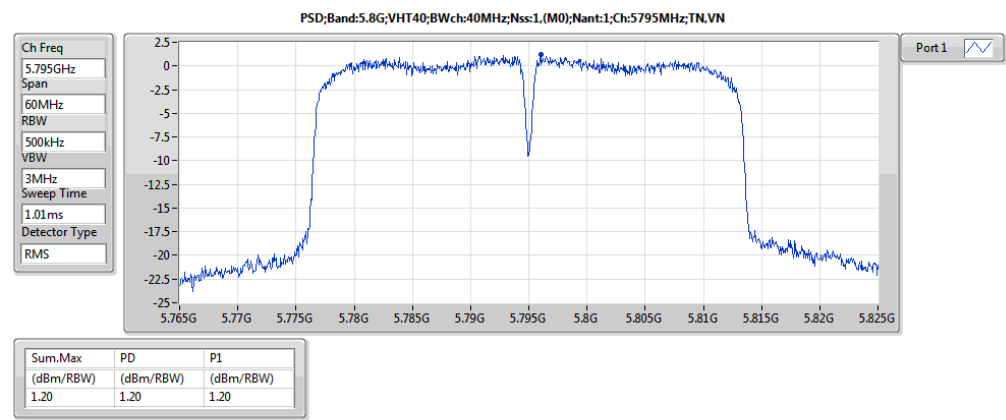
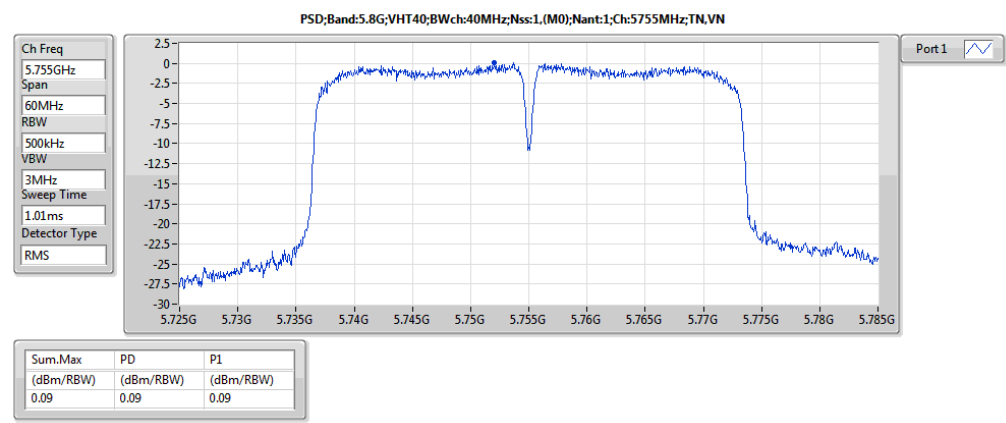
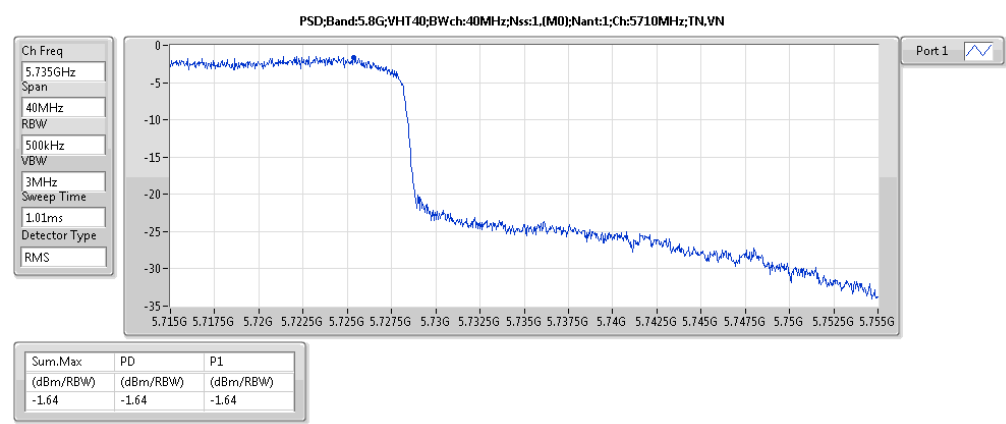
Appendix D

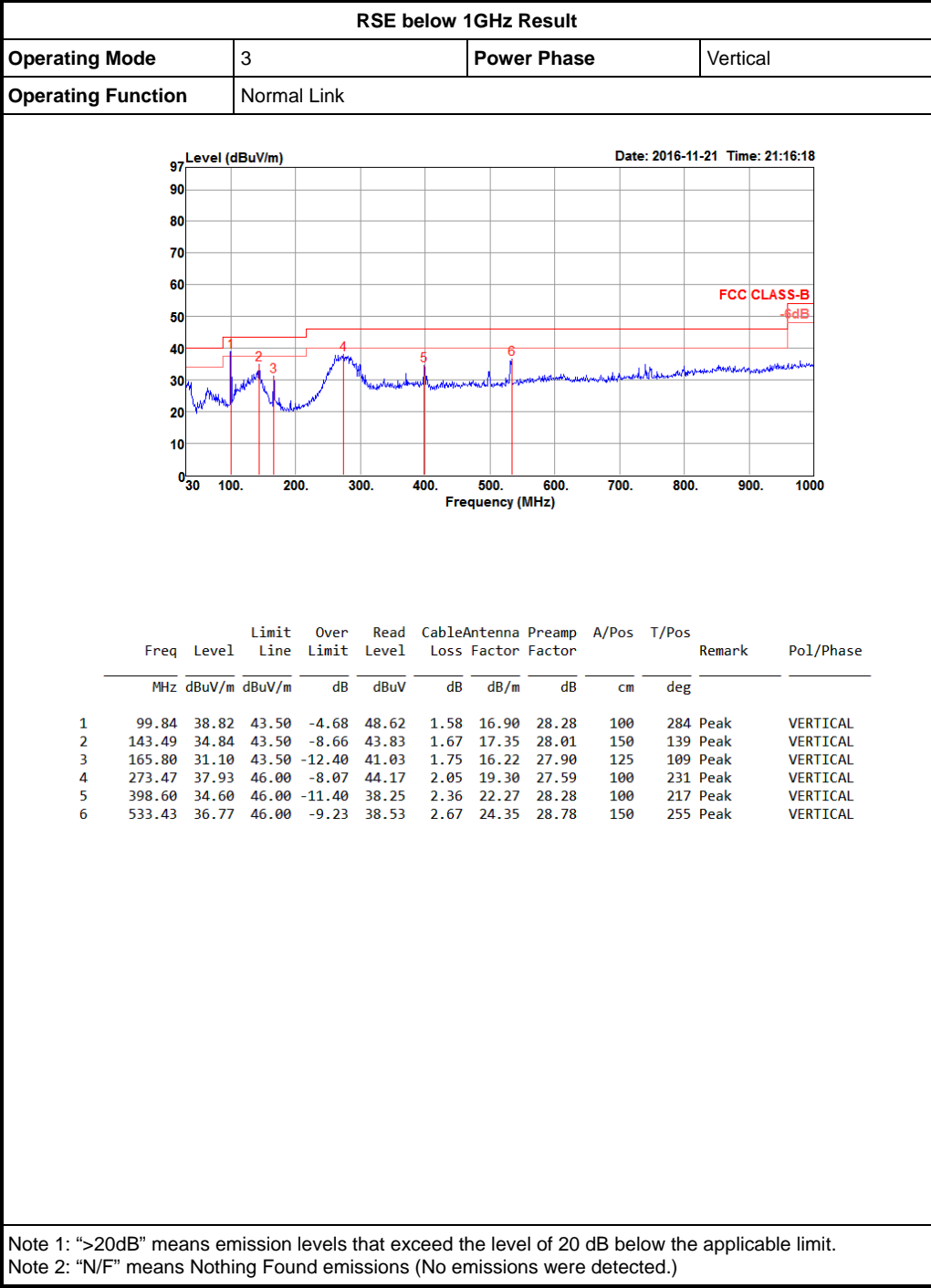
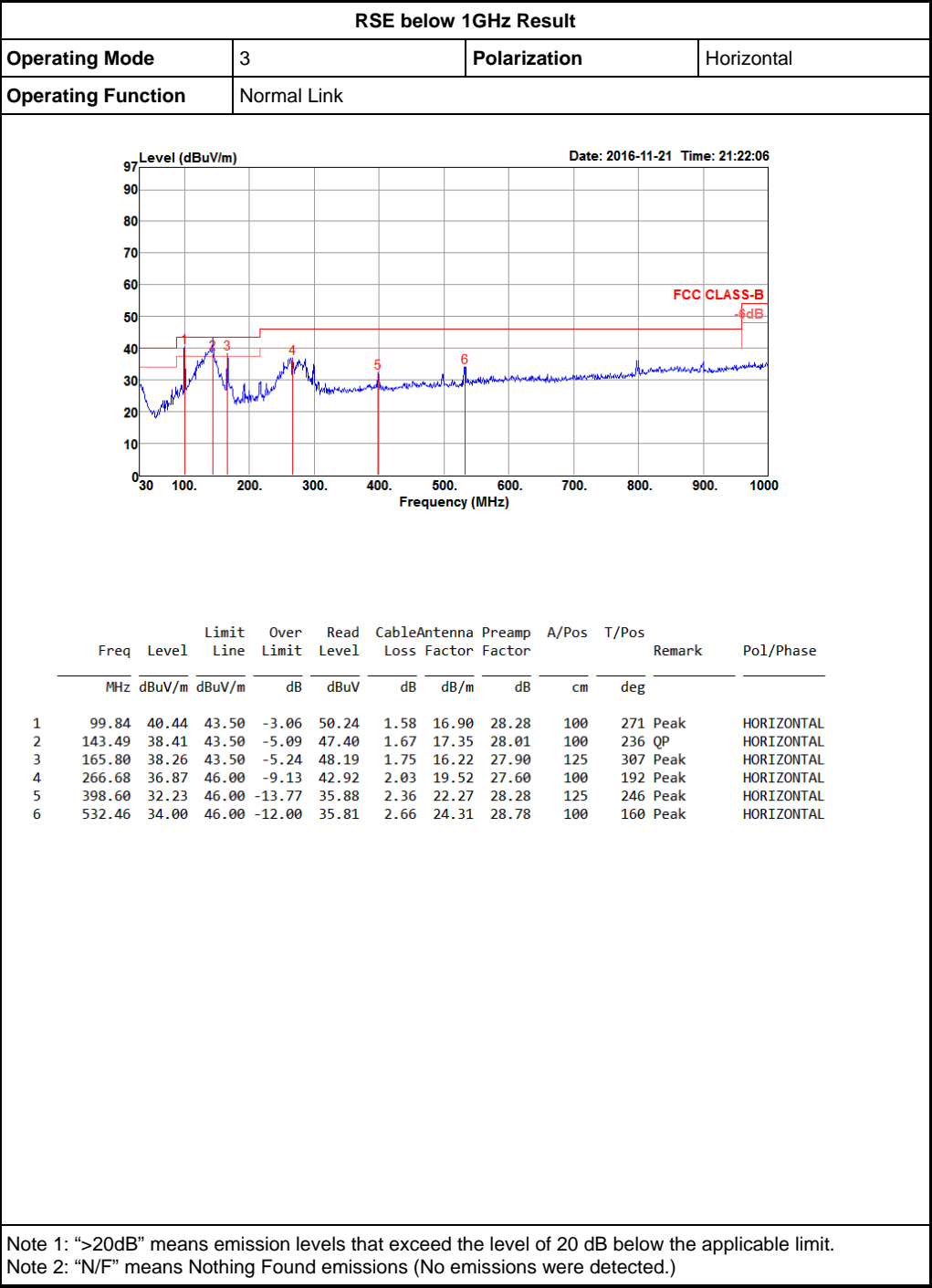




PSD Result

Appendix D

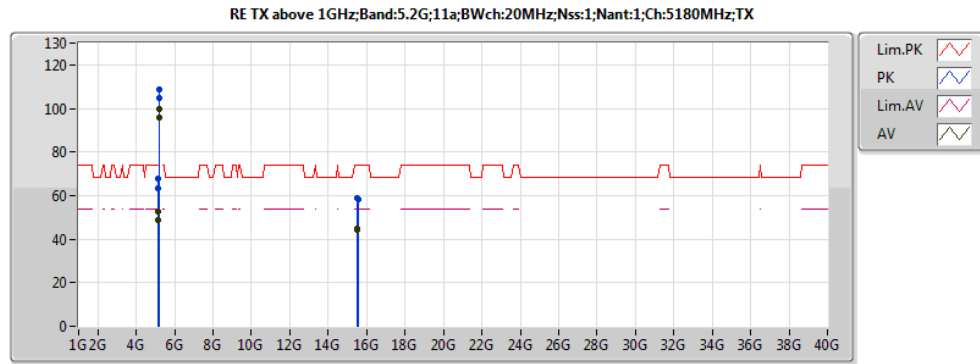






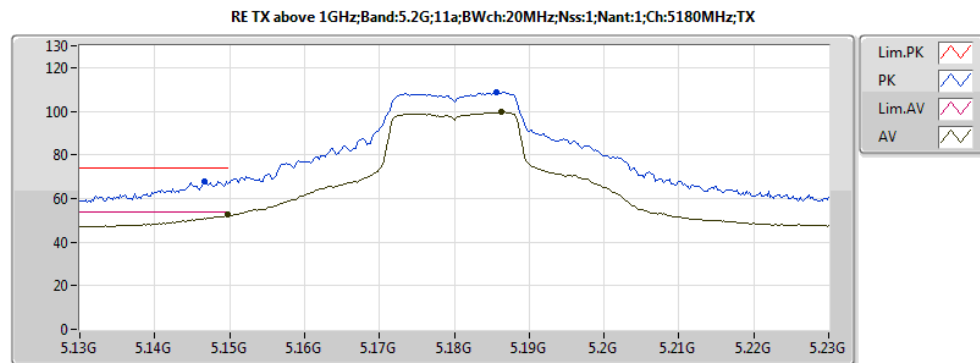
Summary

Mode	Result	Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Pol. (H/V)	Azimuth (°)	Height (m)	Comments
5.3G;VHT40;Nss1,(M0);Ntx1;5310	Pass	AV	5.3508G	52.49	54.00	-1.51	9.82	3	V	14	1.68	-



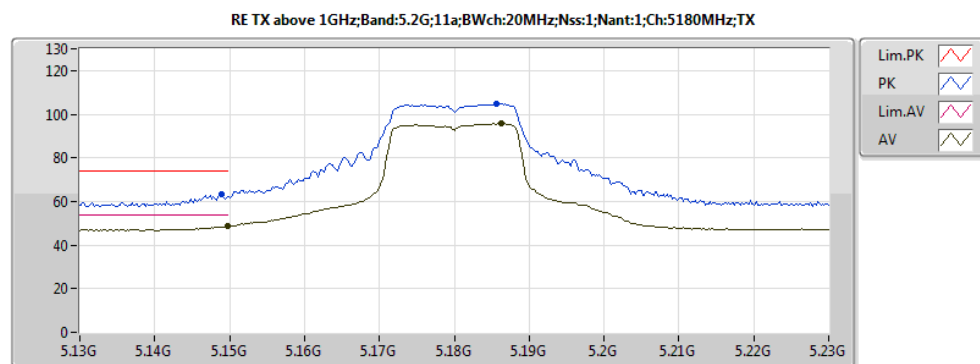
20161028
EUT X_1TX_ANT1_PIFA
Setting_51
02-N-2-10

Type	Freq(Hz)	Level(dBuV/m)	Limit(dBuV/m)	Margin(dB)	Factor(dB)	Dist(m)	Pol.(H/V)	Azimuth(°)	Height(m)	Comments
AV	5.1498G	48.62	54.00	-5.38	8.54	3	H	52	1.57	-
AV	5.1862G	95.85	Inf	-Inf	8.63	3	H	52	1.57	-
PK	5.149G	63.57	74.00	-10.43	8.54	3	H	52	1.57	-
PK	5.1856G	104.90	Inf	-Inf	8.63	3	H	52	1.57	-
AV	5.1498G	52.47	54.00	-1.53	8.54	3	V	6	1.67	-
AV	5.1862G	99.68	Inf	-Inf	8.63	3	V	6	1.67	-
PK	5.1466G	68.05	74.00	-5.95	8.53	3	V	6	1.67	-
PK	5.1856G	108.78	Inf	-Inf	8.63	3	V	6	1.67	-
AV	15.53708G	45.02	54.00	-8.98	15.68	3	H	249	1.91	-
PK	15.54392G	58.46	74.00	-15.54	15.66	3	H	249	1.91	-
AV	15.53628G	44.47	54.00	-9.53	15.69	3	V	1	2.21	-
PK	15.53404G	58.76	74.00	-15.24	15.69	3	V	1	2.21	-



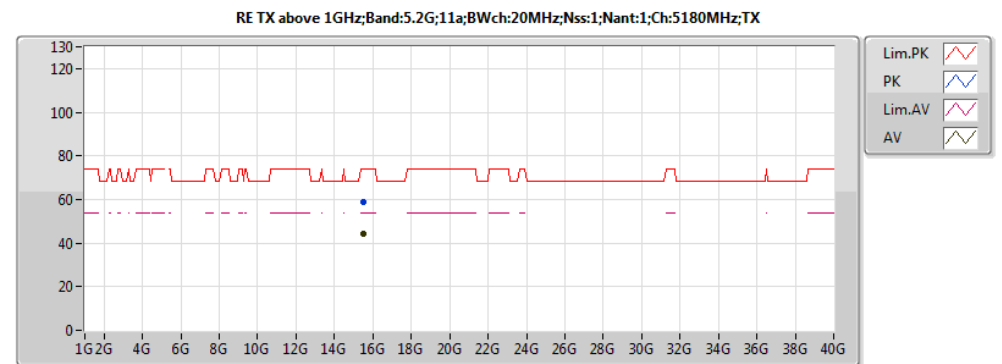
20161028
EUT X_1TX_ANT1_PIFA
Setting_51
02-N-2-10

Type	Freq(Hz)	Level(dBuV/m)	Limit(dBuV/m)	Margin(dB)	Factor(dB)	Dist(m)	Pol.(H/V)	Azimuth(°)	Height(m)	Comments
AV	5.1498G	52.47	54.00	-1.53	8.54	3	V	6	1.67	-
AV	5.1862G	99.68	Inf	-Inf	8.63	3	V	6	1.67	-
PK	5.1466G	68.05	74.00	-5.95	8.53	3	V	6	1.67	-
PK	5.1856G	108.78	Inf	-Inf	8.63	3	V	6	1.67	-



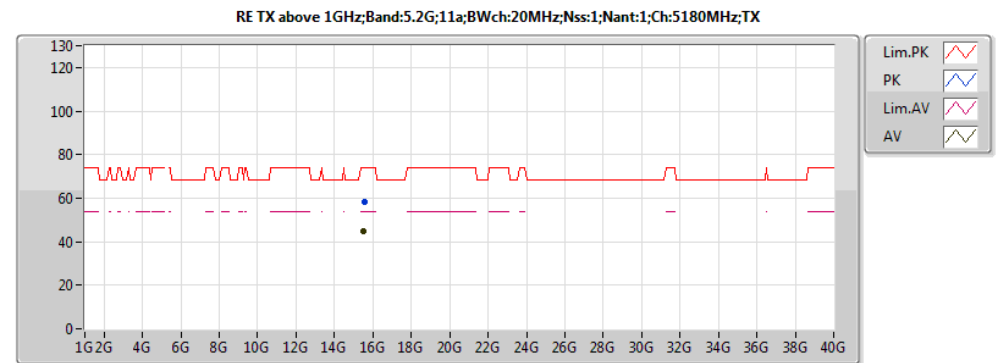
20161028
EUT X_1TX_ANT1_PIFA
Setting_51
02-N-2-10

Type	Freq(Hz)	Level(dBuV/m)	Limit(dBuV/m)	Margin(dB)	Factor(dB)	Dist(m)	Pol.(H/V)	Azimuth(°)	Height(m)	Comments
AV	5.1498G	48.62	54.00	-5.38	8.54	3	H	52	1.57	-
AV	5.1862G	95.85	Inf	-Inf	8.63	3	H	52	1.57	-
PK	5.149G	63.57	74.00	-10.43	8.54	3	H	52	1.57	-
PK	5.1856G	104.90	Inf	-Inf	8.63	3	H	52	1.57	-



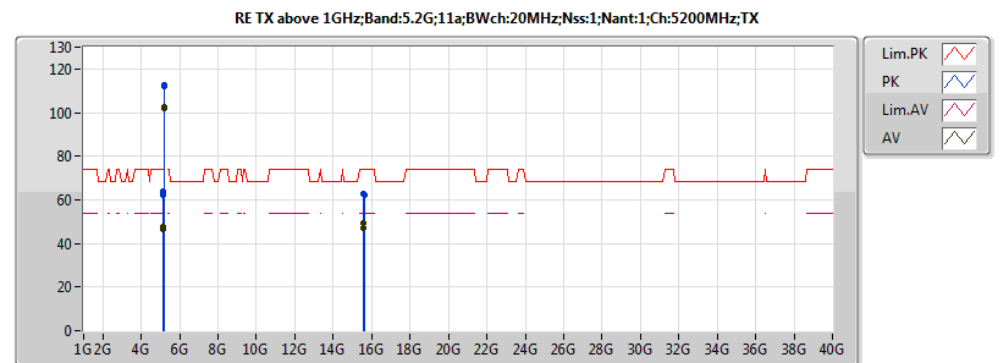
20161028
EUT X_1TX_ANT1_PIFA
Setting_51
02-N-2-10

Type	Freq(Hz)	Level(dBuV/m)	Limit(dBuV/m)	Margin(dB)	Factor(dB)	Dist(m)	Pol.(H/V)	Azimuth(°)	Height(m)	Comments
AV	15.53628G	44.47	54.00	-9.53	15.69	3	V	1	2.21	-
PK	15.53404G	58.76	74.00	-15.24	15.69	3	V	1	2.21	-



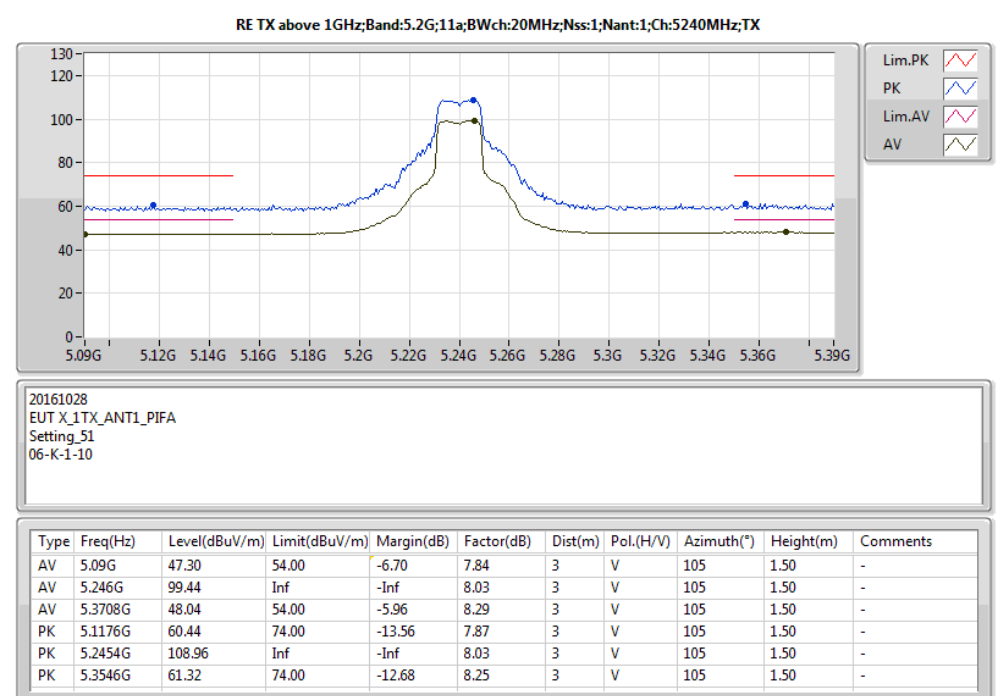
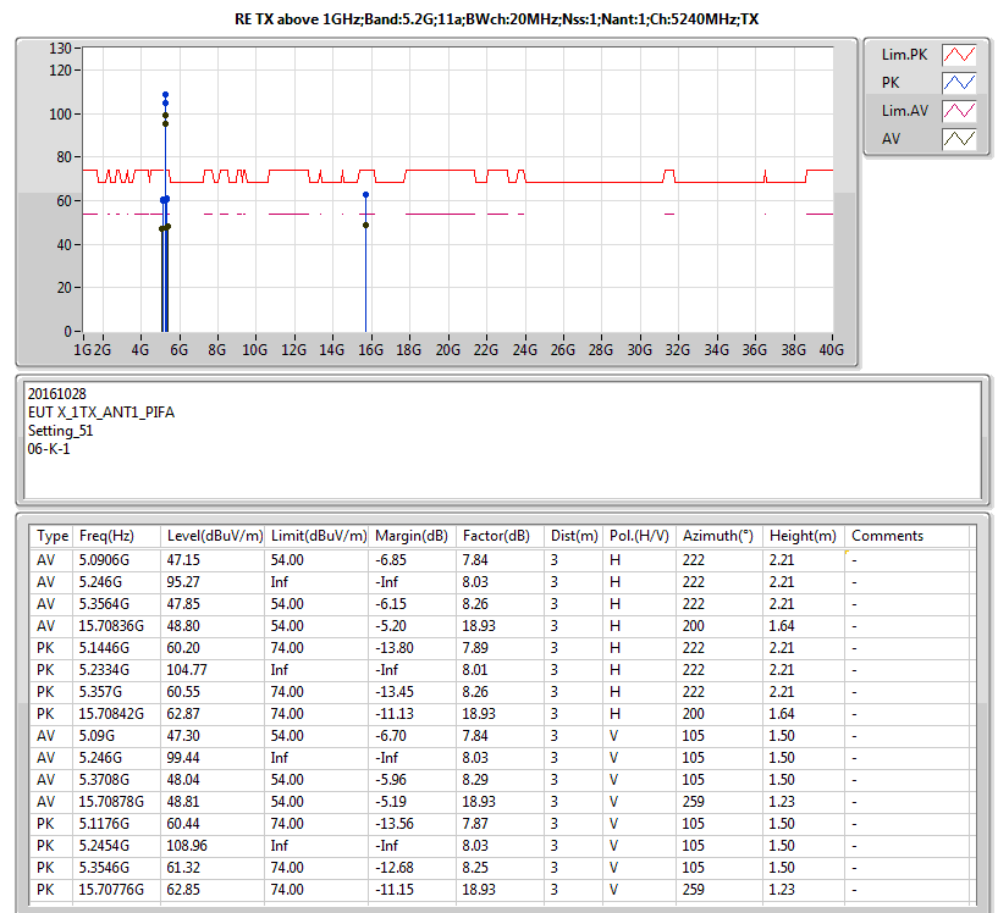
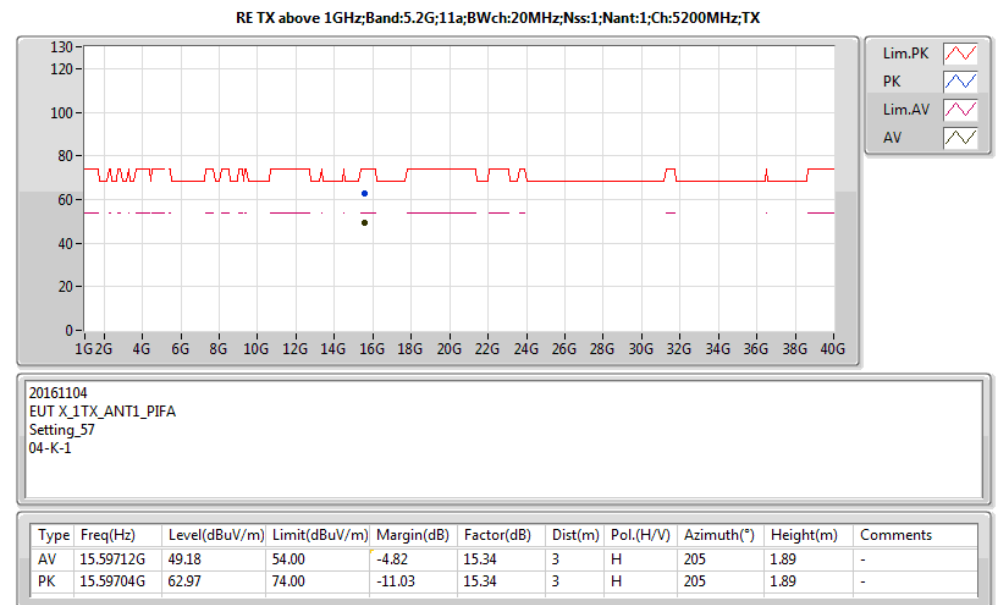
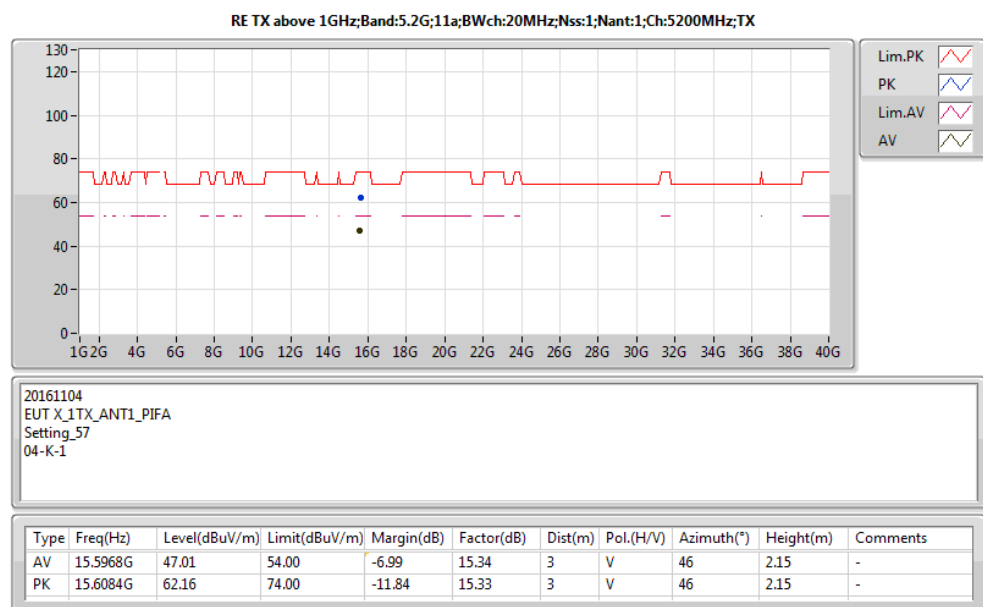
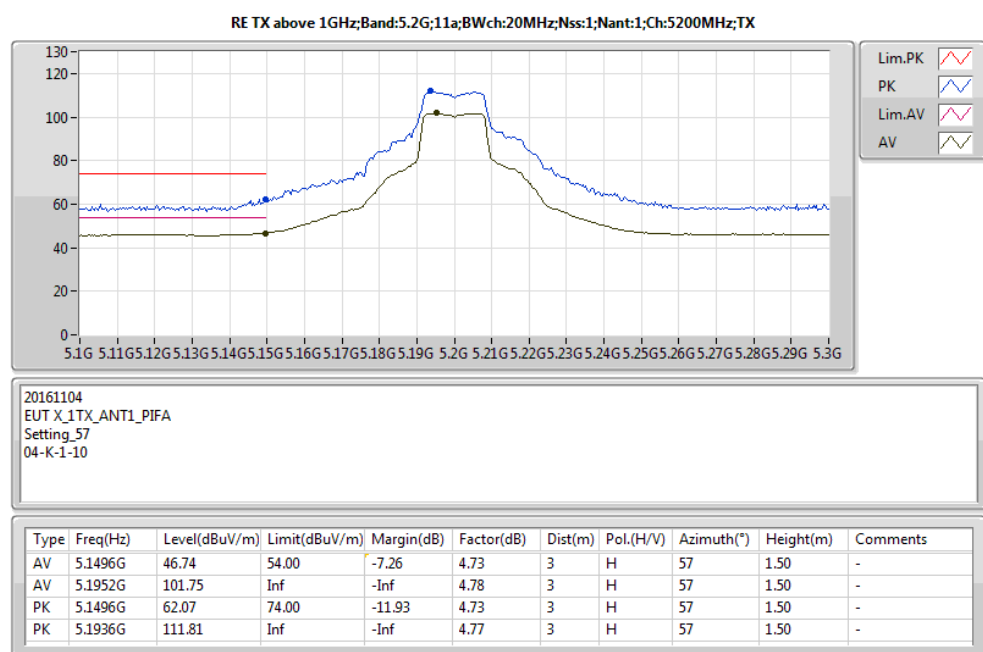
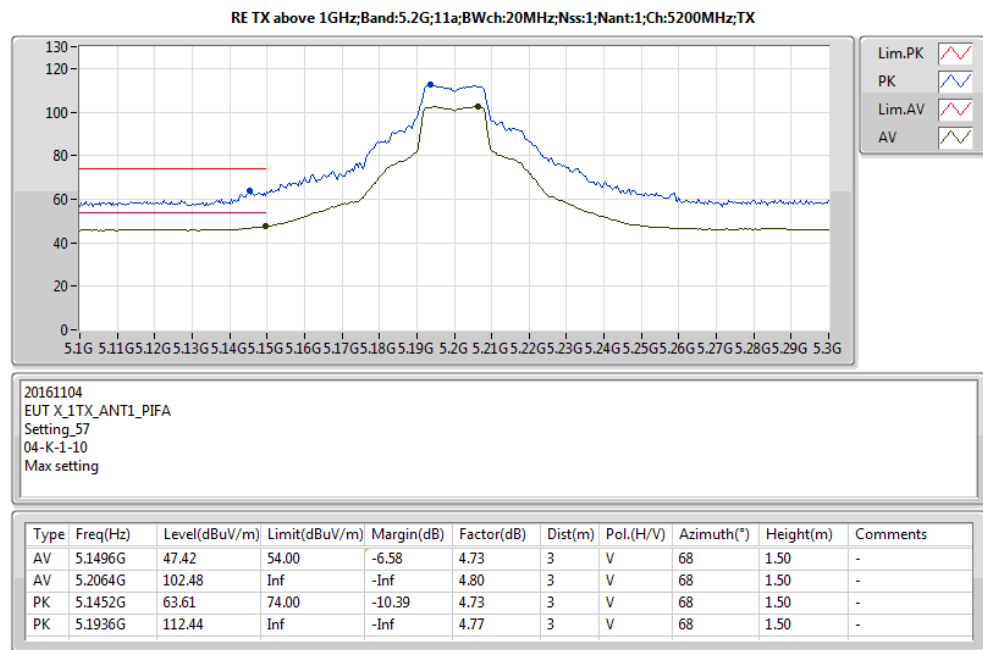
20161028
EUT X_1TX_ANT1_PIFA
Setting_51
02-N-2-10

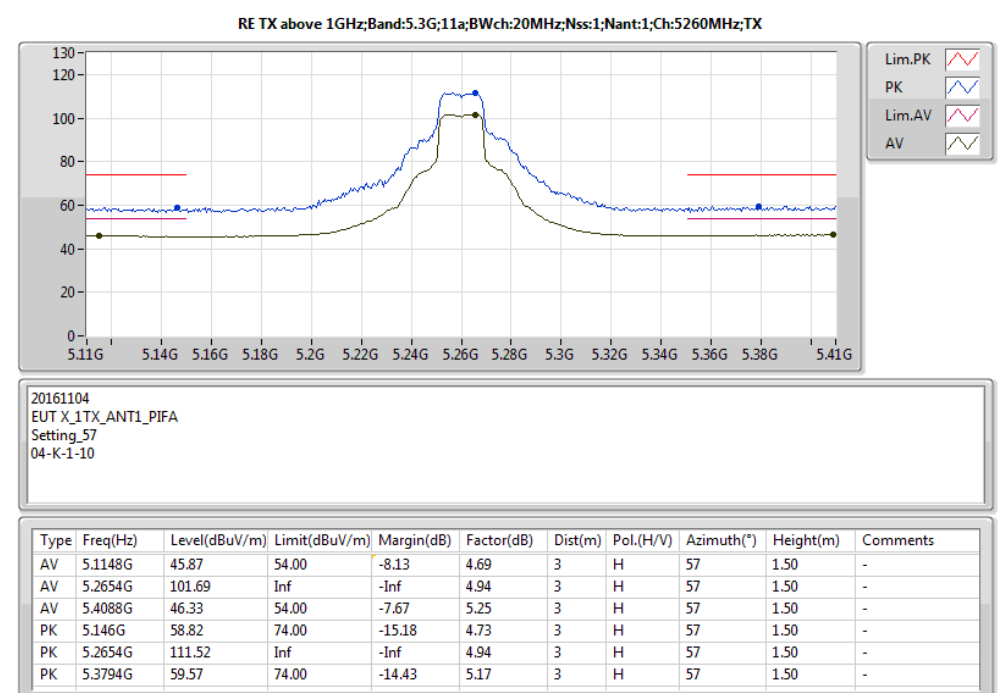
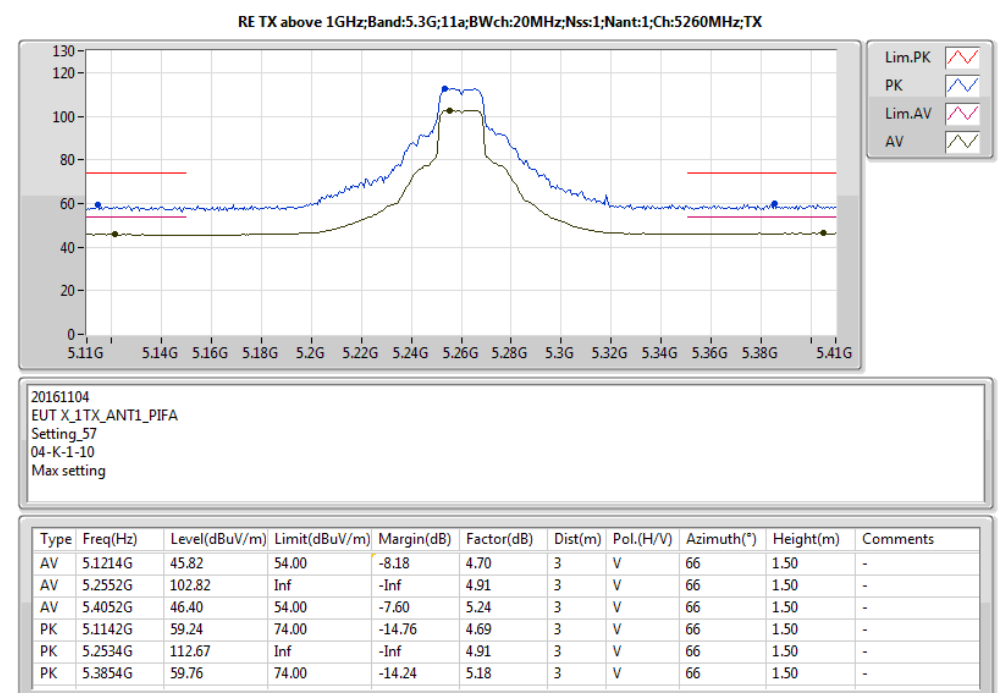
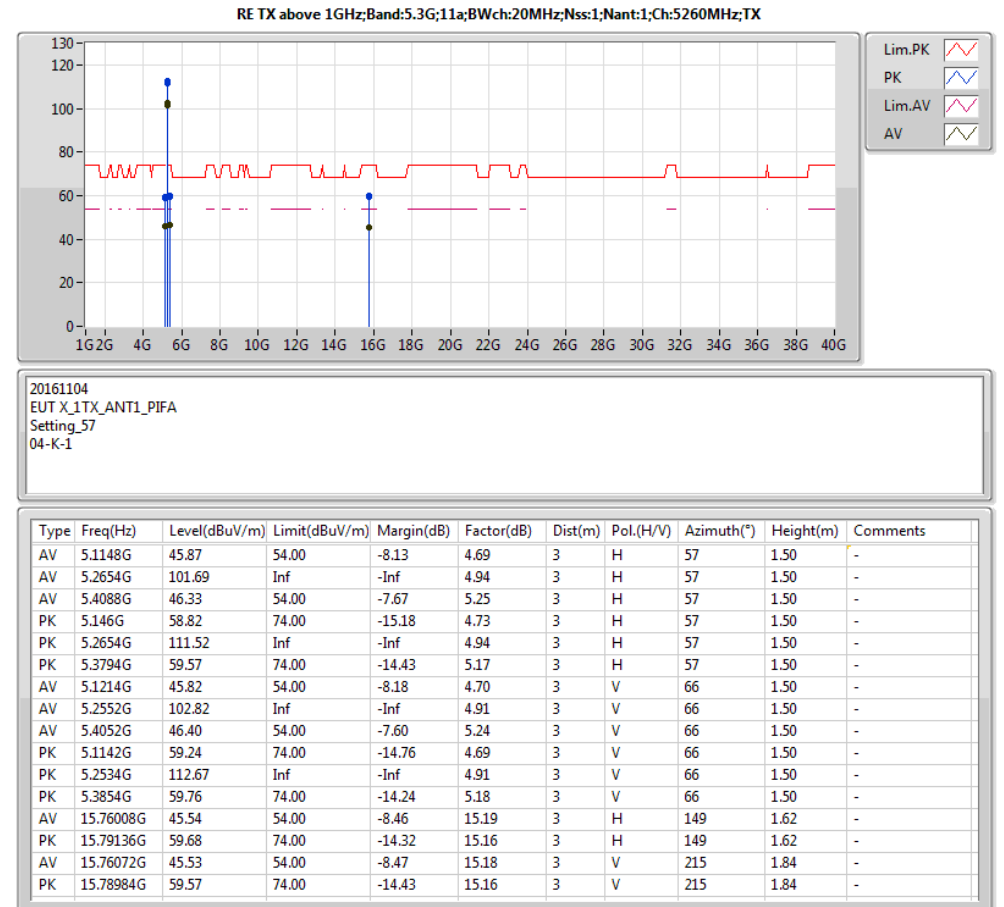
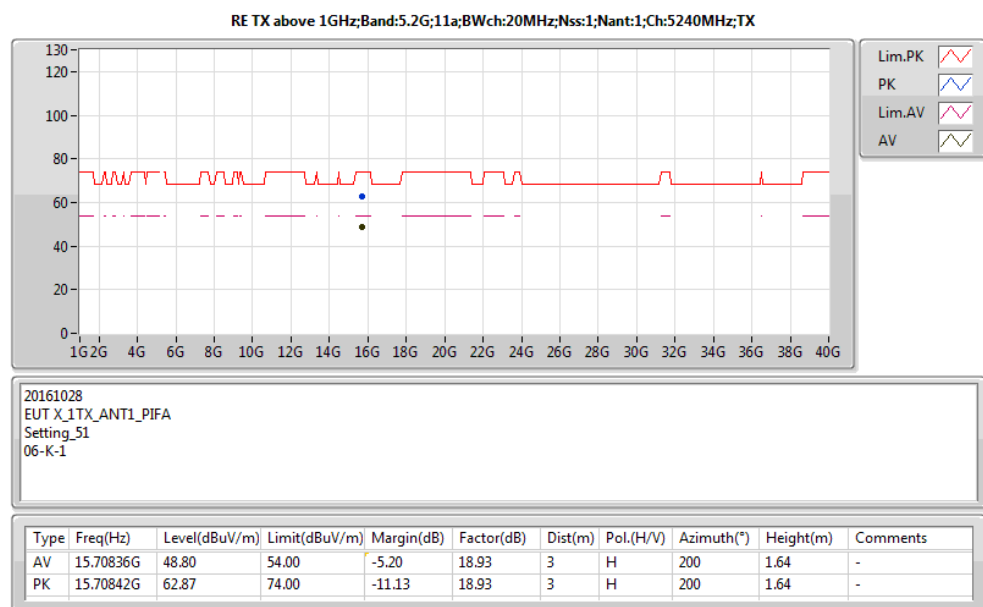
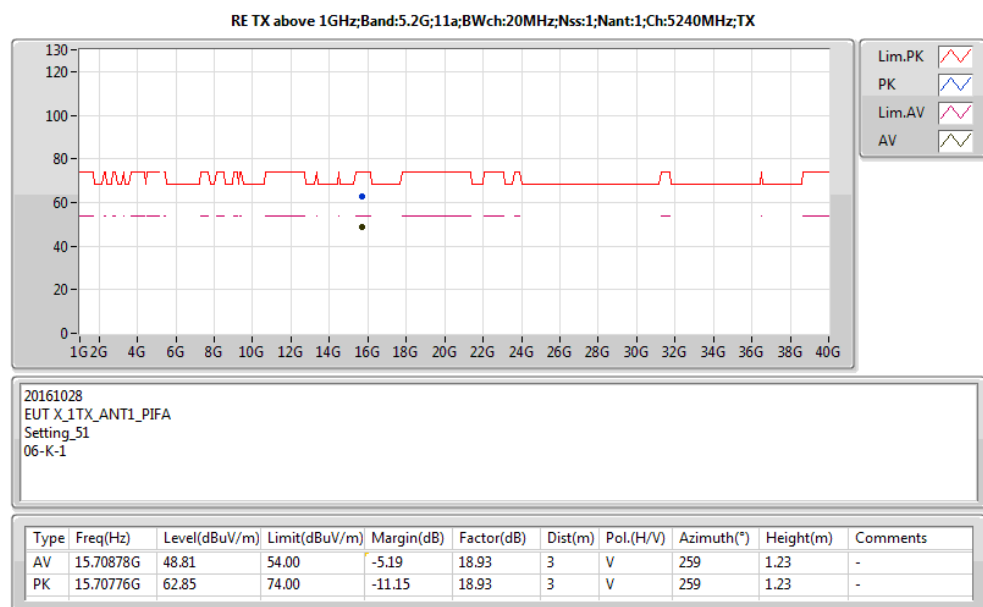
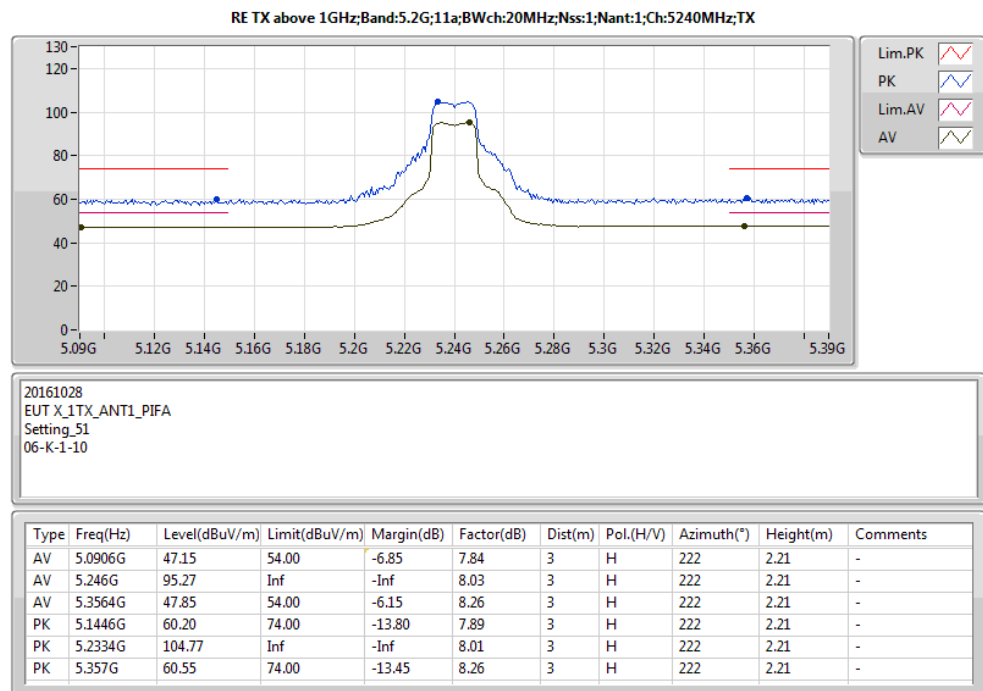
Type	Freq(Hz)	Level(dBuV/m)	Limit(dBuV/m)	Margin(dB)	Factor(dB)	Dist(m)	Pol.(H/V)	Azimuth(°)	Height(m)	Comments
AV	15.53708G	45.02	54.00	-8.98	15.68	3	H	249	1.91	-
PK	15.54392G	58.46	74.00	-15.54	15.66	3	H	249	1.91	-

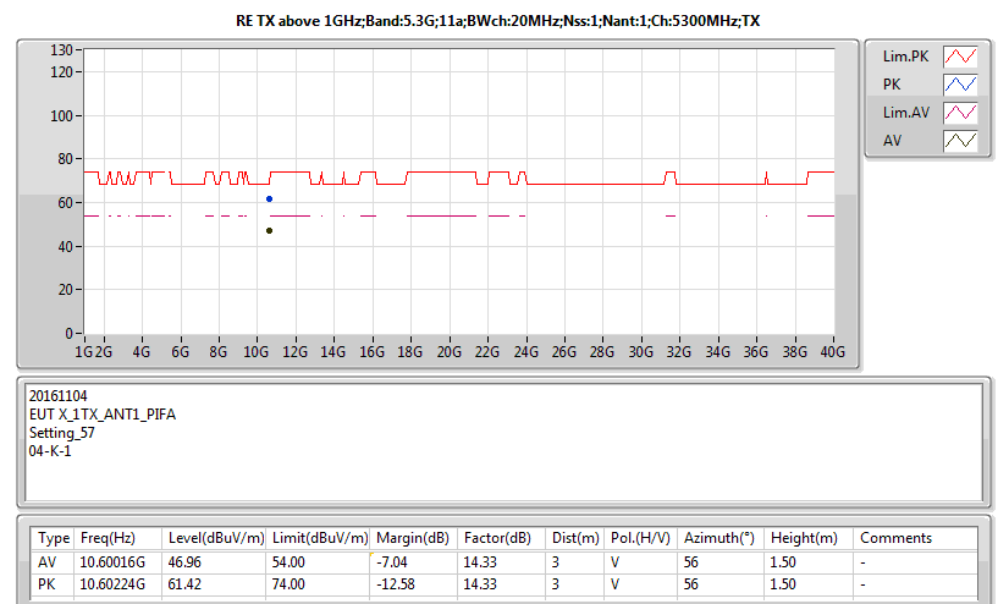
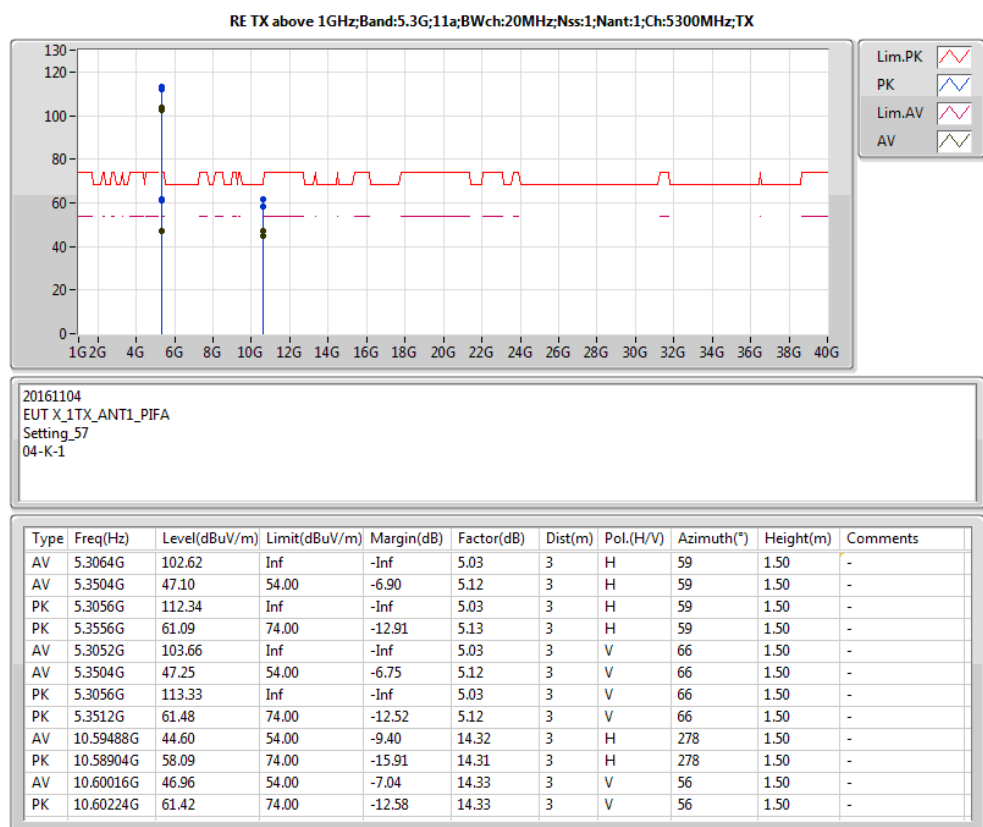
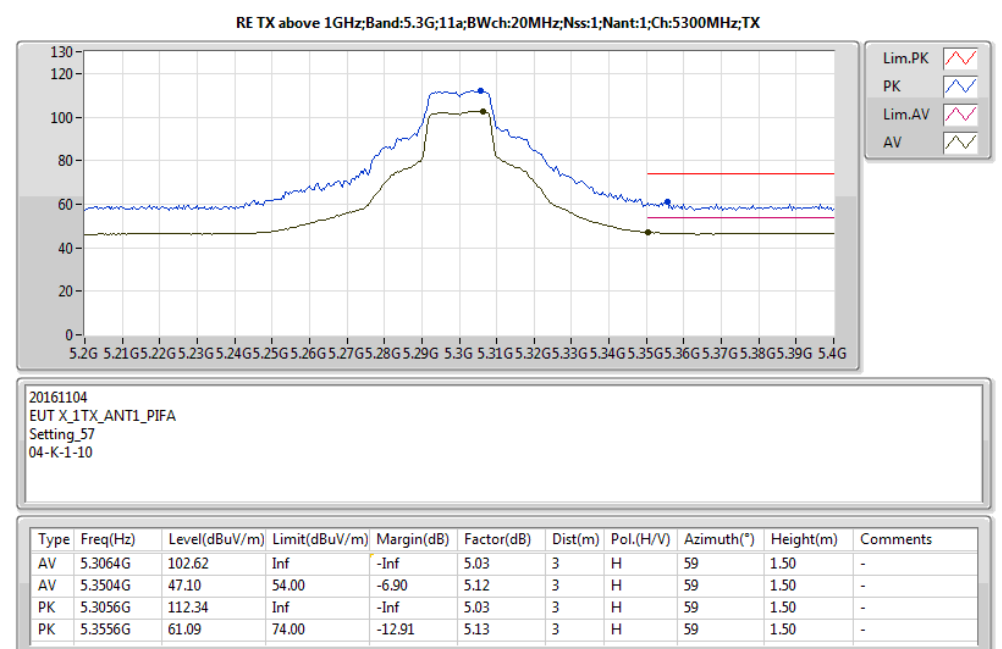
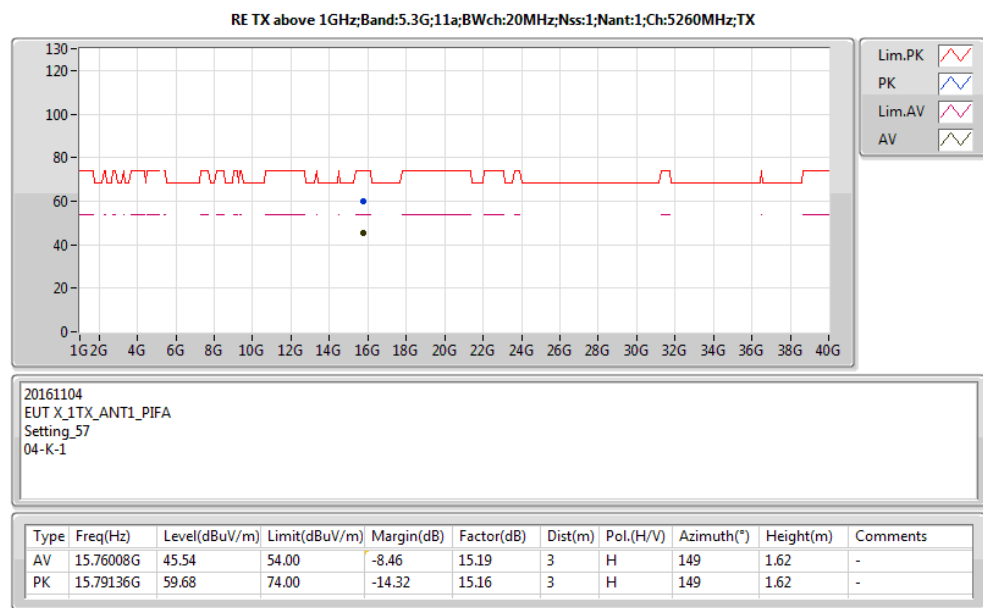
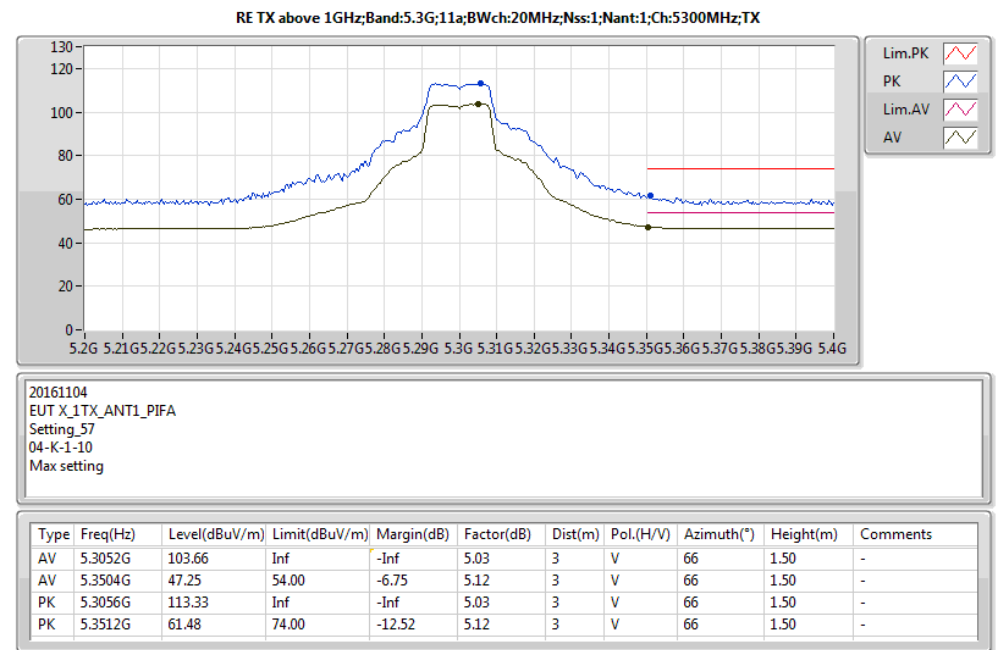
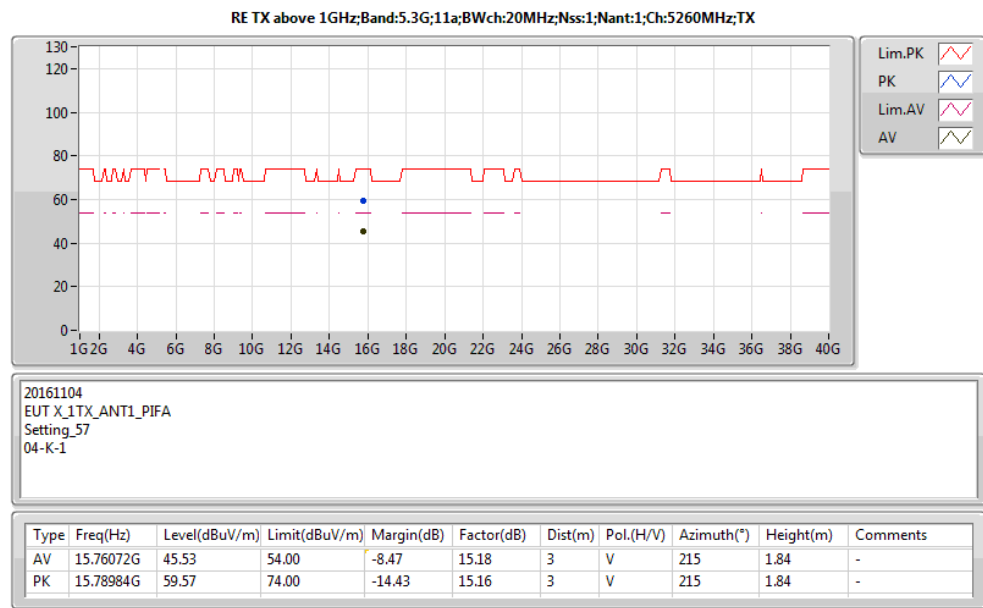


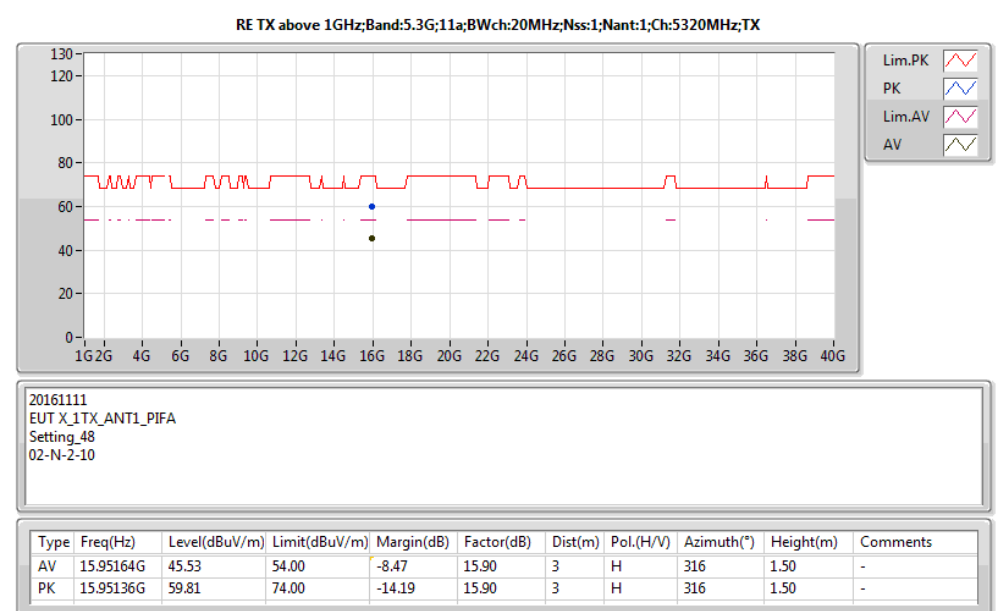
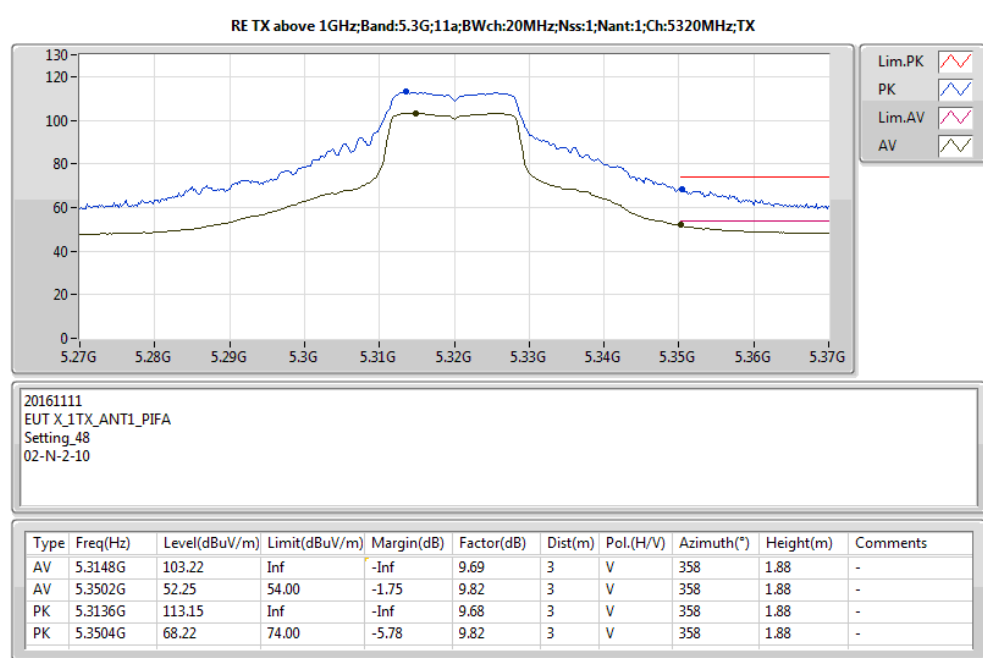
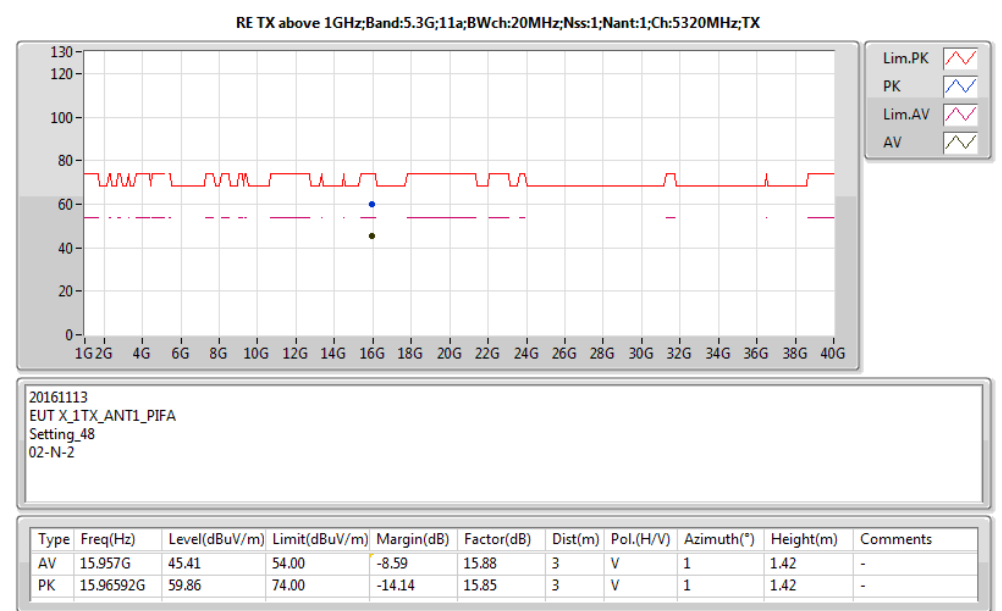
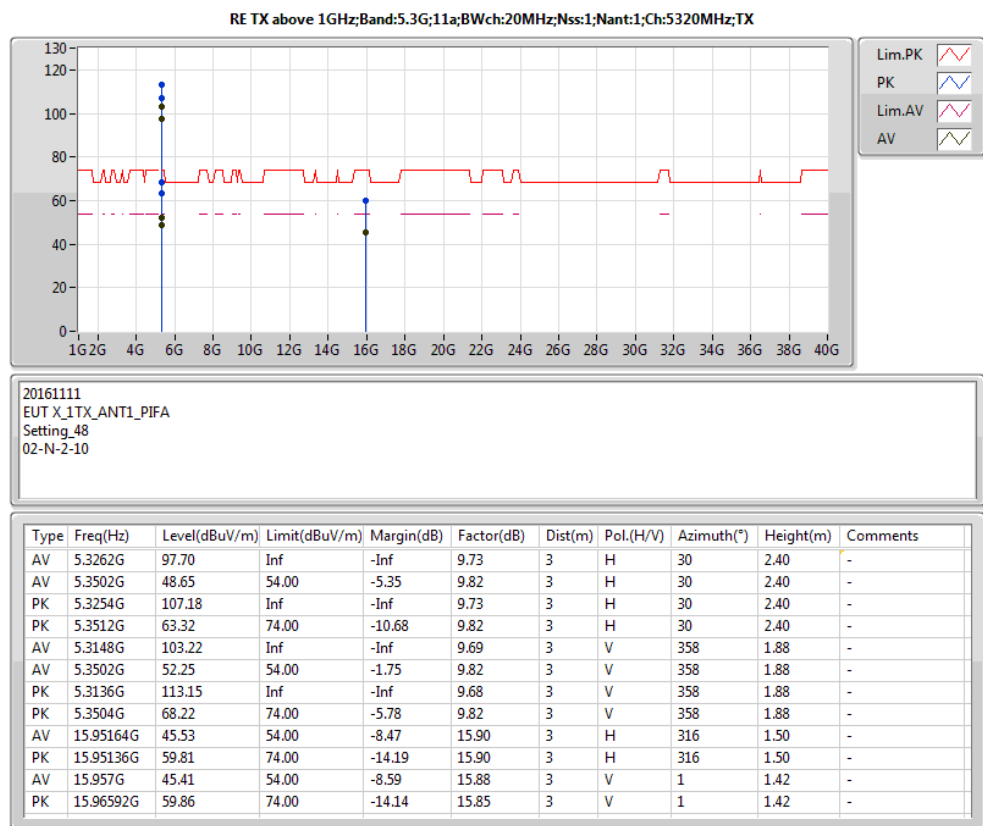
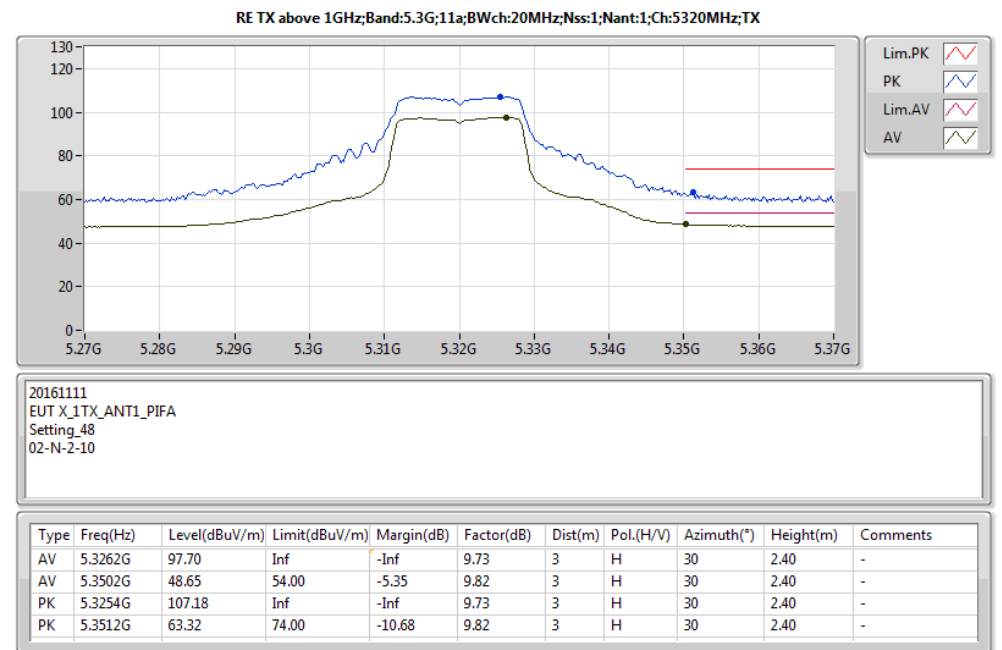
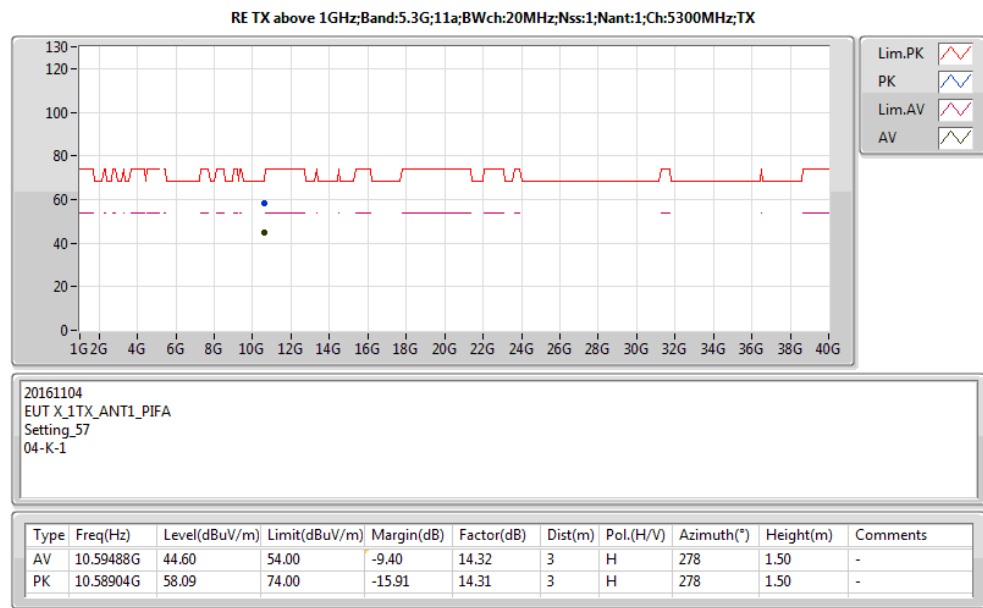
20161104
EUT X_1TX_ANT1_PIFA
Setting_57
06-K-1

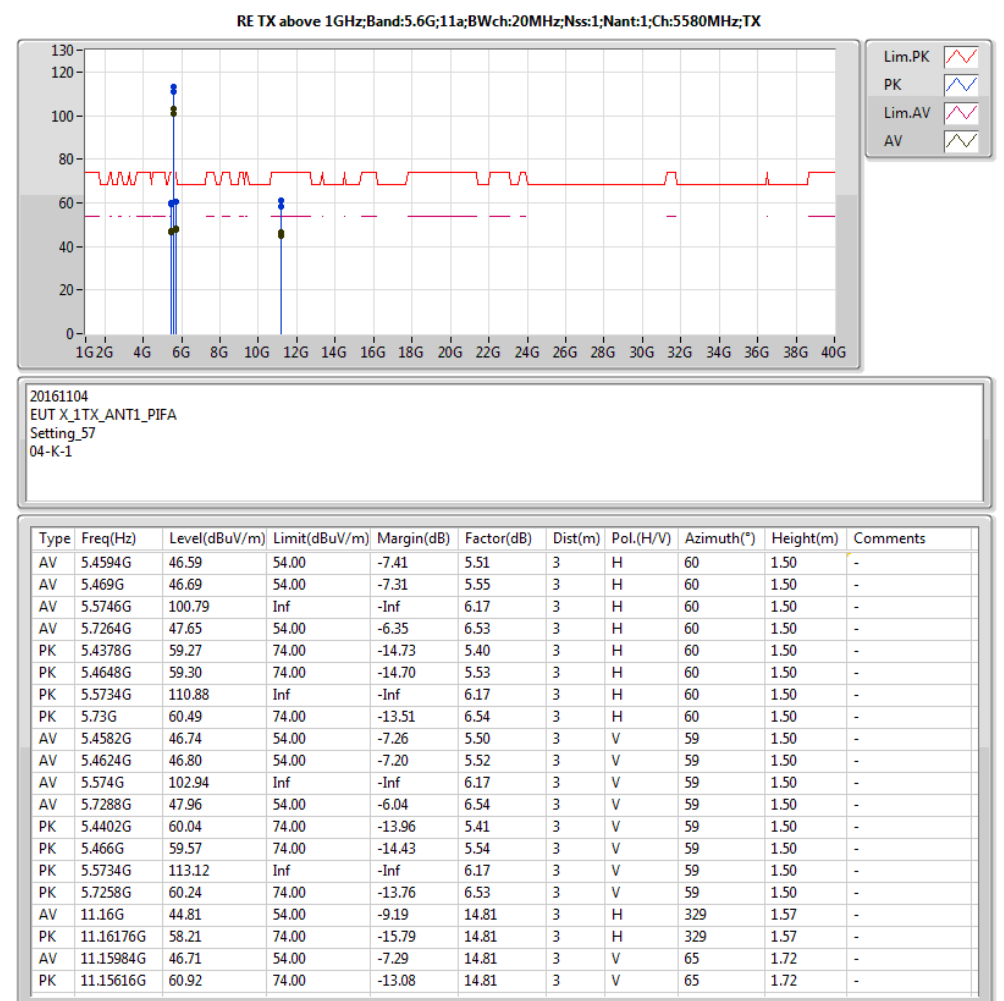
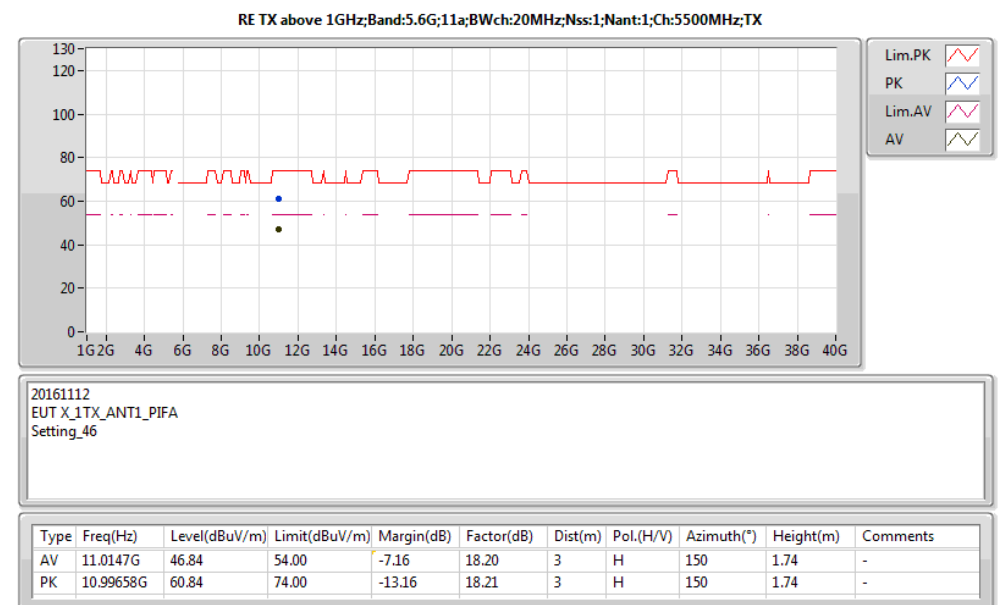
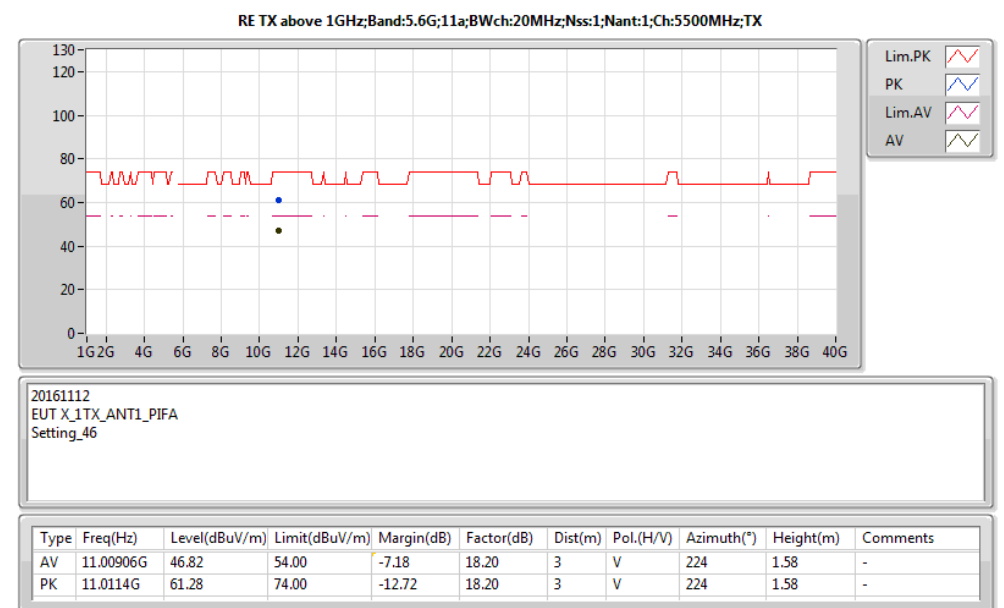
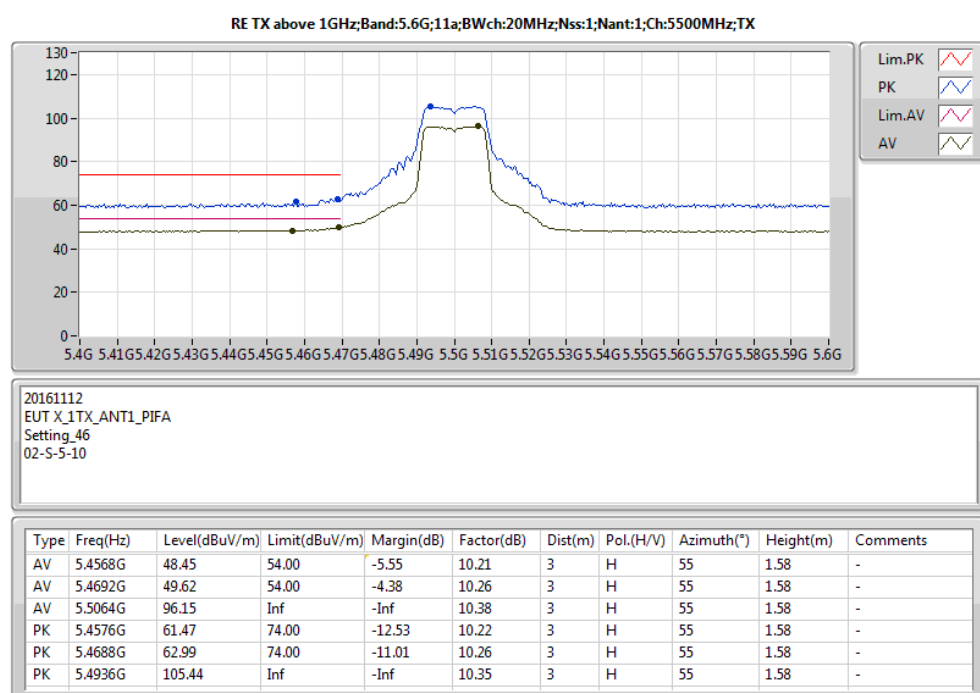
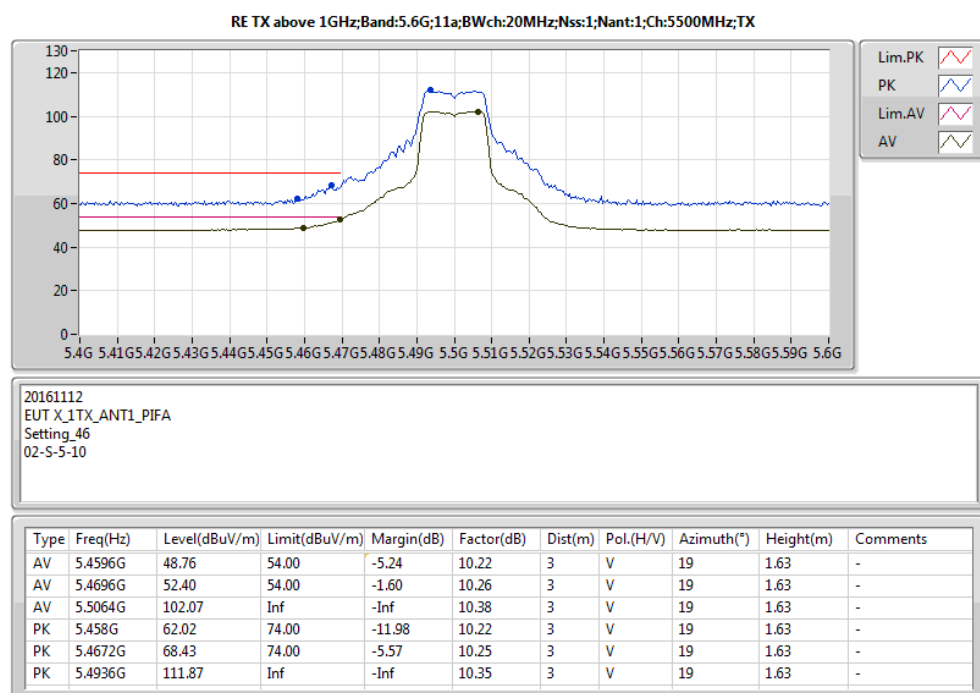
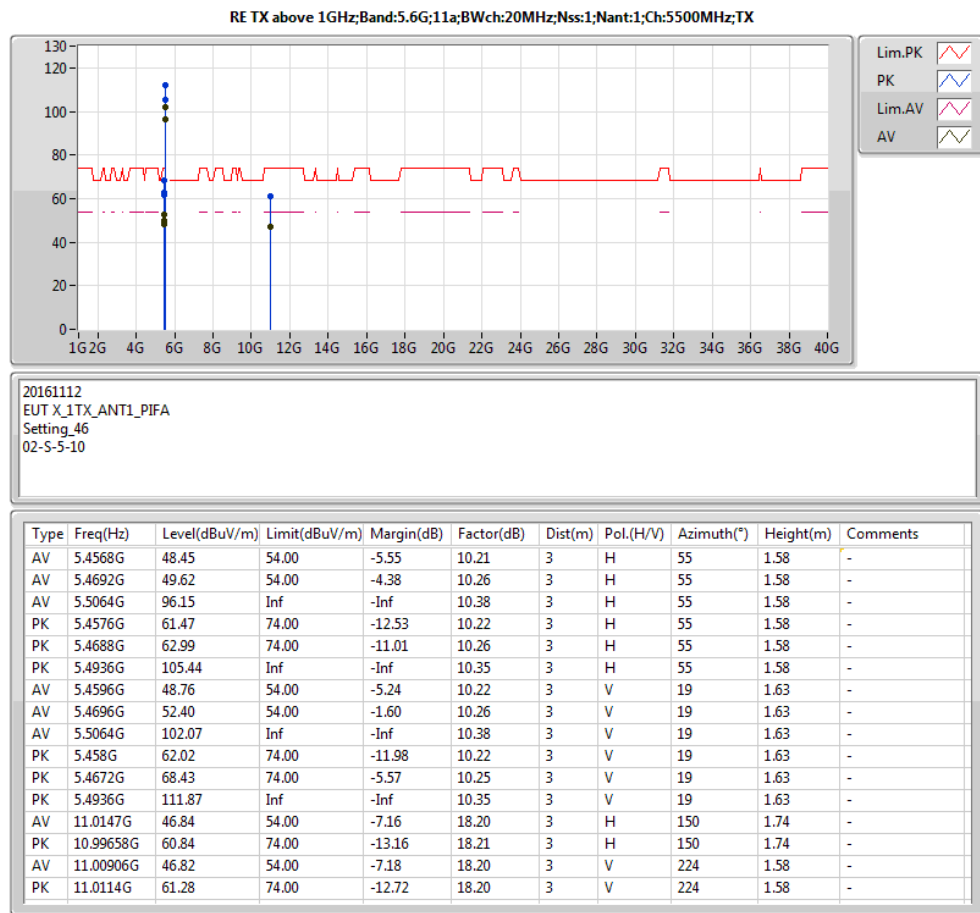
Type	Freq(Hz)	Level(dBuV/m)	Limit(dBuV/m)	Margin(dB)	Factor(dB)	Dist(m)	Pol.(H/V)	Azimuth(°)	Height(m)	Comments
AV	5.1496G	46.74	54.00	-7.26	4.73	3	H	57	1.50	-
AV	5.1952G	101.75	Inf	-Inf	4.78	3	H	57	1.50	-
PK	5.1496G	62.07	74.00	-11.93	4.73	3	H	57	1.50	-
PK	5.1936G	111.81	Inf	-Inf	4.77	3	H	57	1.50	-
AV	5.1496G	47.42	54.00	-6.58	4.73	3	V	68	1.50	-
AV	5.2064G	102.48	Inf	-Inf	4.80	3	V	68	1.50	-
PK	5.1452G	63.61	74.00	-10.39	4.73	3	V	68	1.50	-
PK	5.1936G	112.44	Inf	-Inf	4.77	3	V	68	1.50	-
AV	15.59712G	49.18	54.00	-4.82	15.34	3	H	205	1.89	-
PK	15.59704G	62.97	74.00	-11.03	15.34	3	H	205	1.89	-
AV	15.5968G	47.01	54.00	-6.99	15.34	3	V	46	2.15	-
PK	15.6084G	62.16	74.00	-11.84	15.33	3	V	46	2.15	-

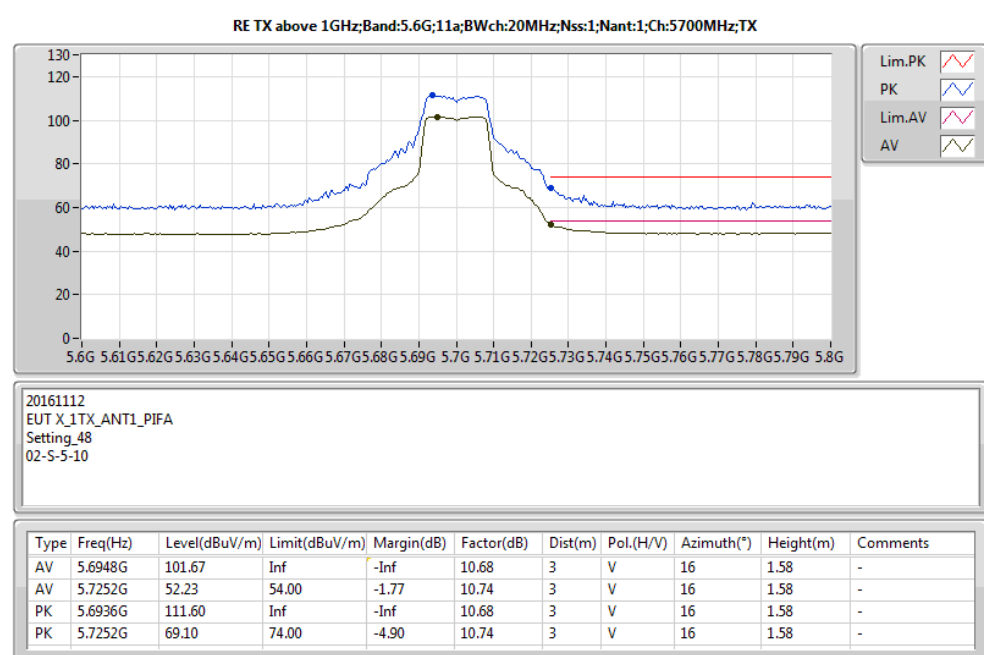
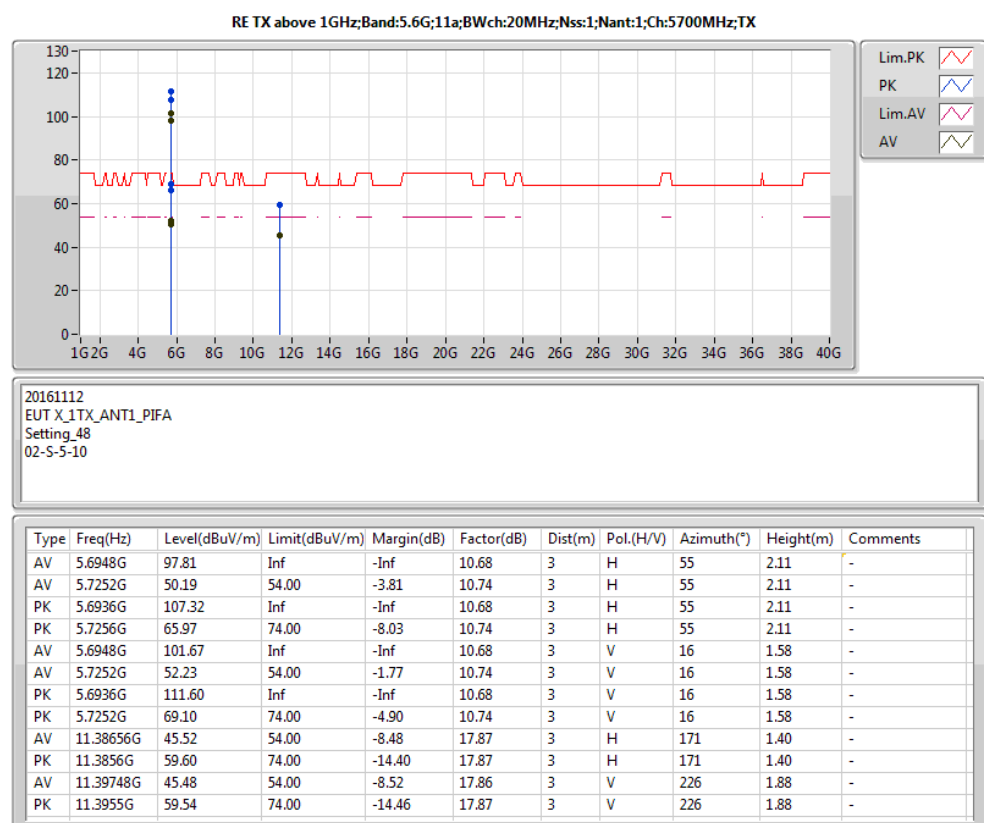
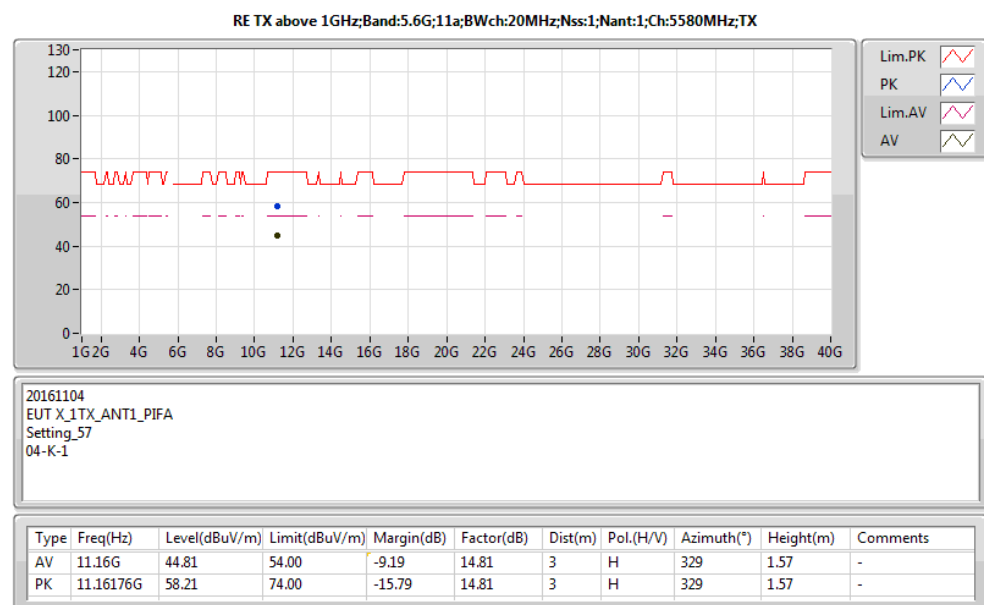
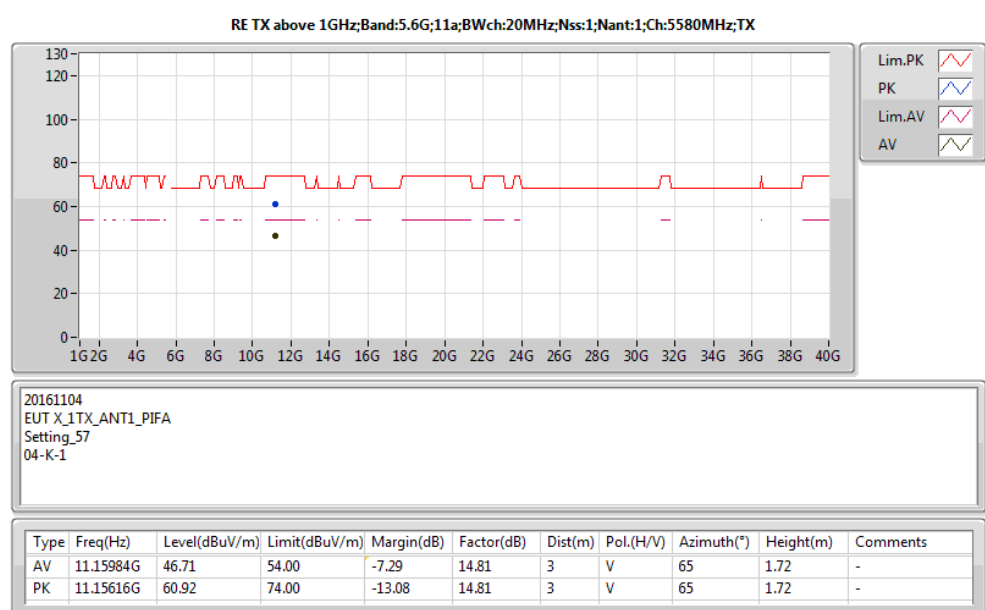
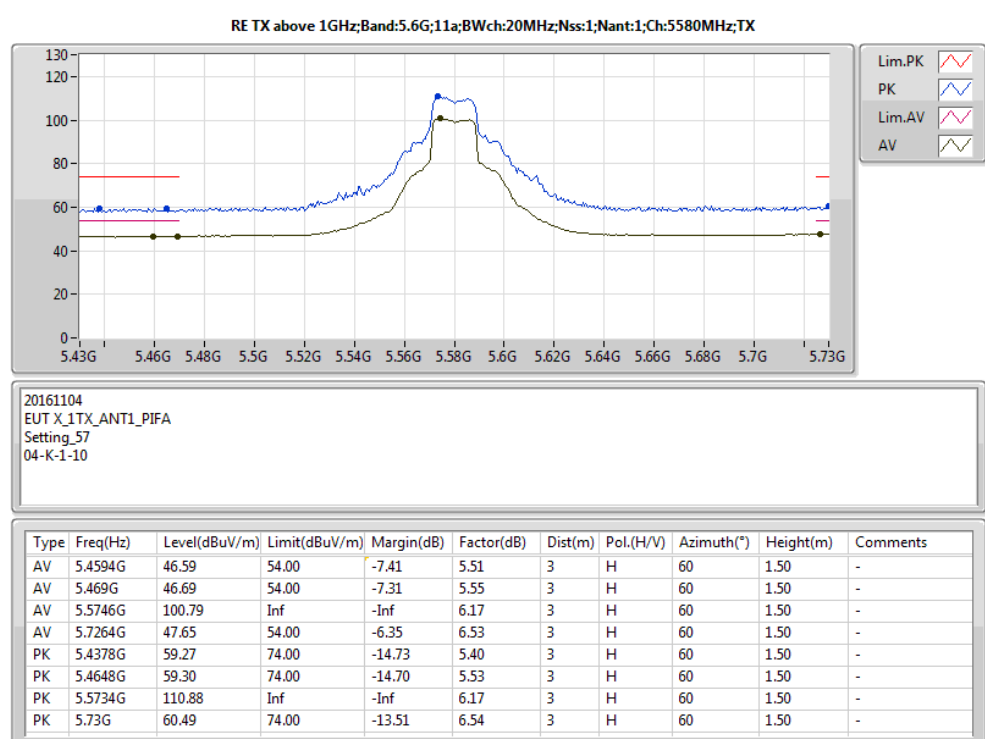
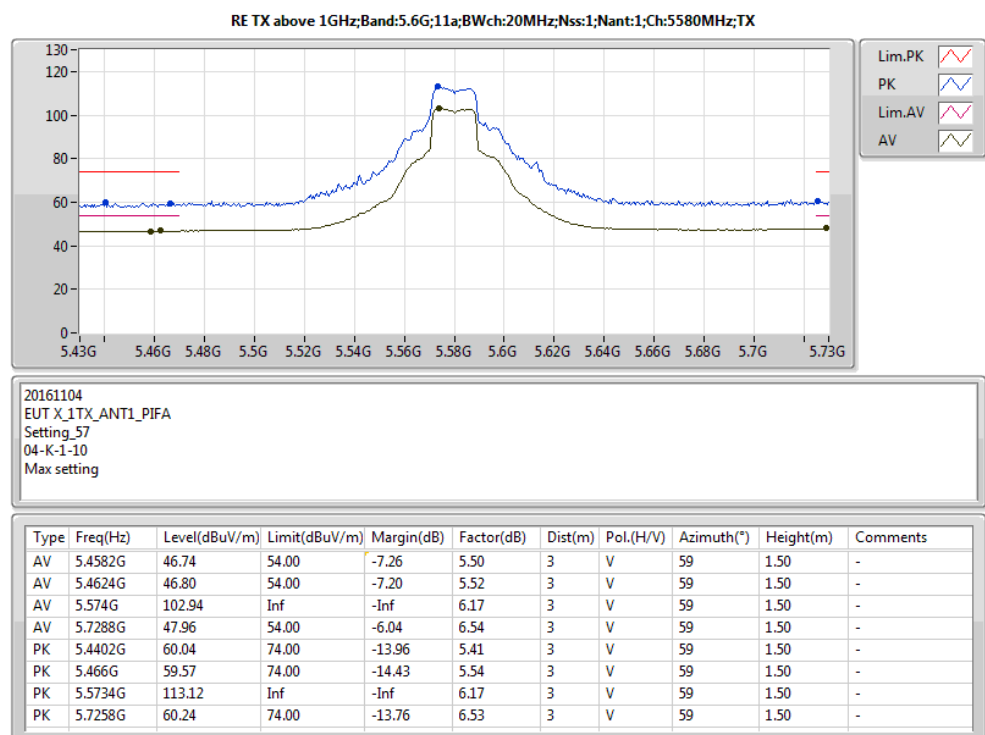


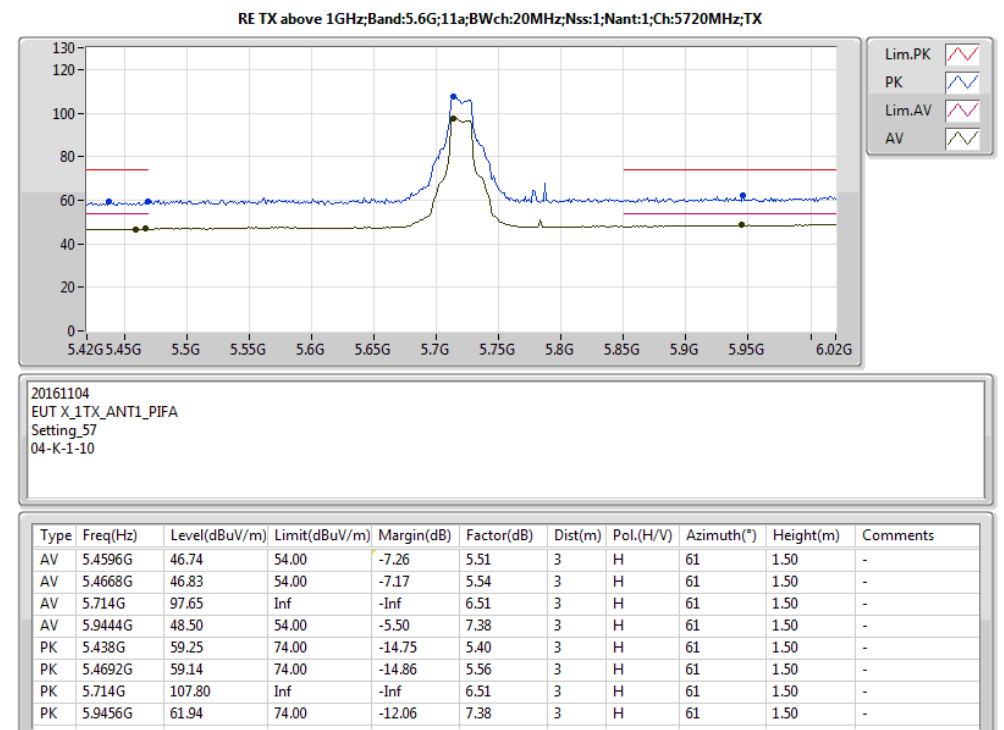
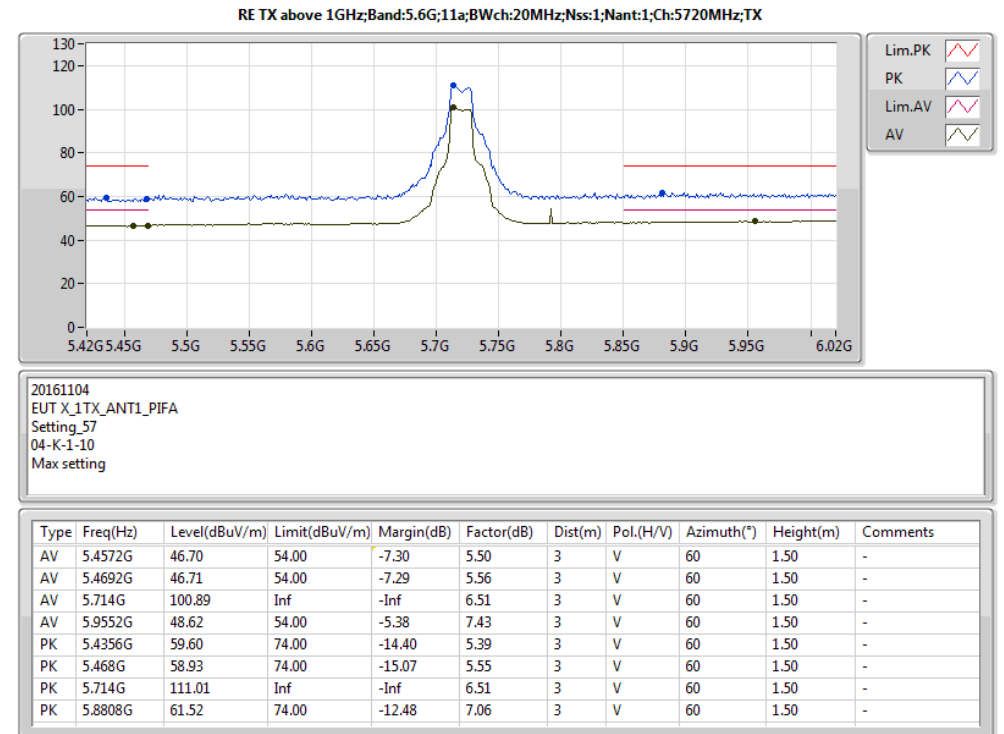
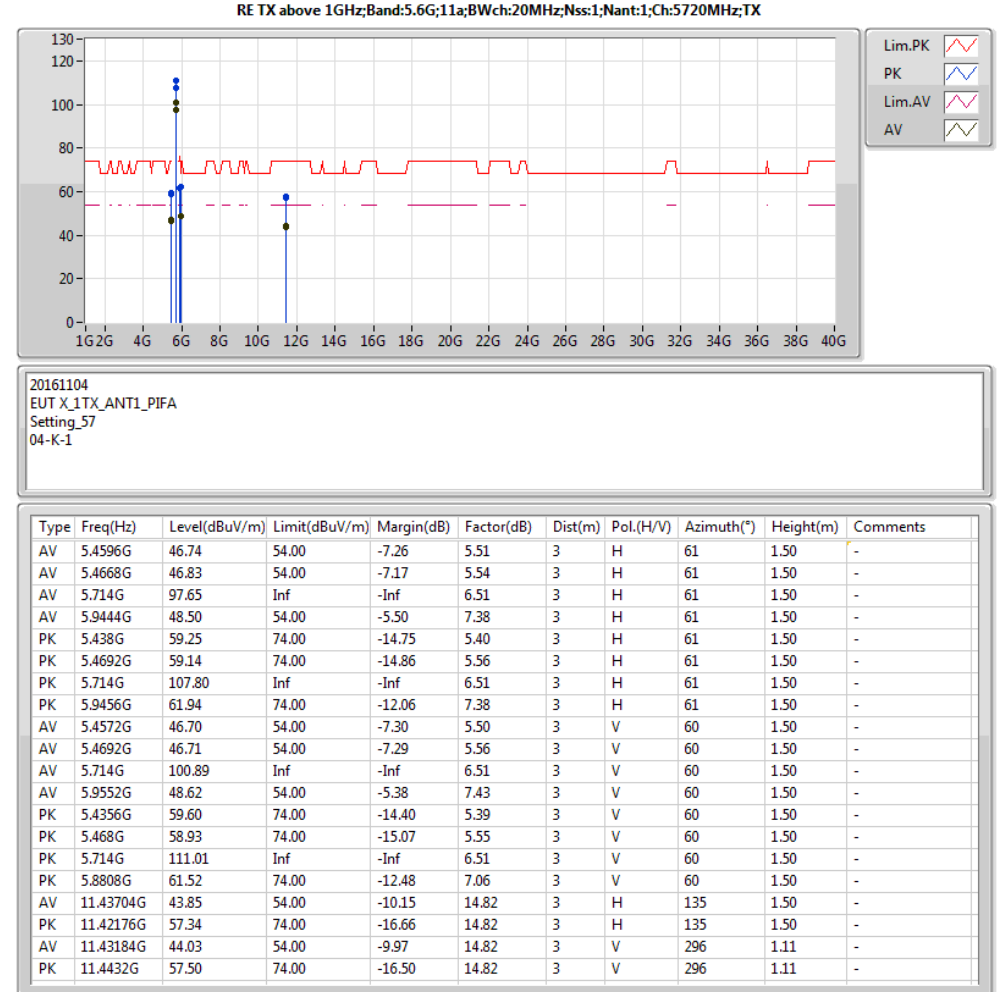
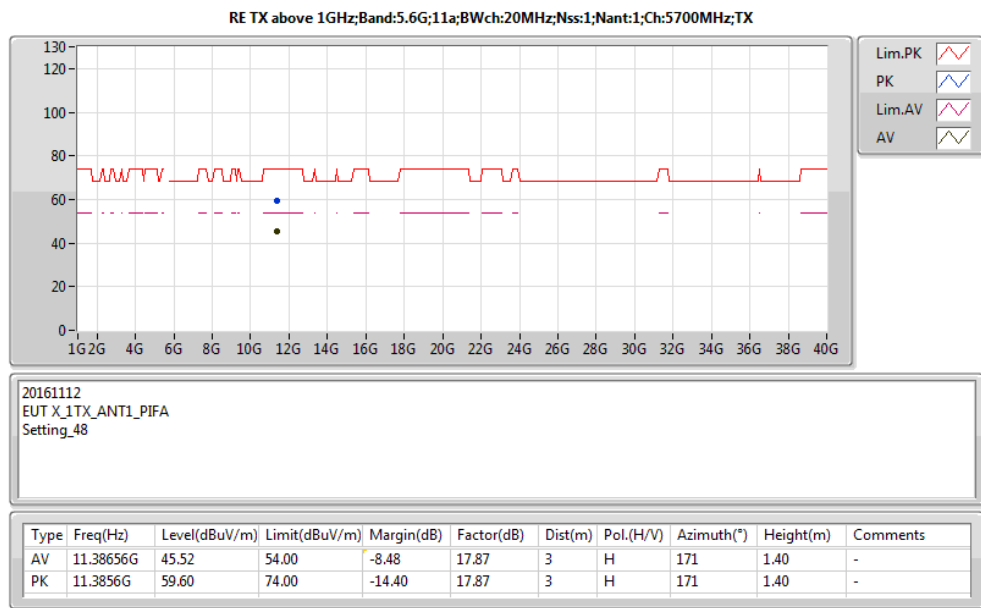
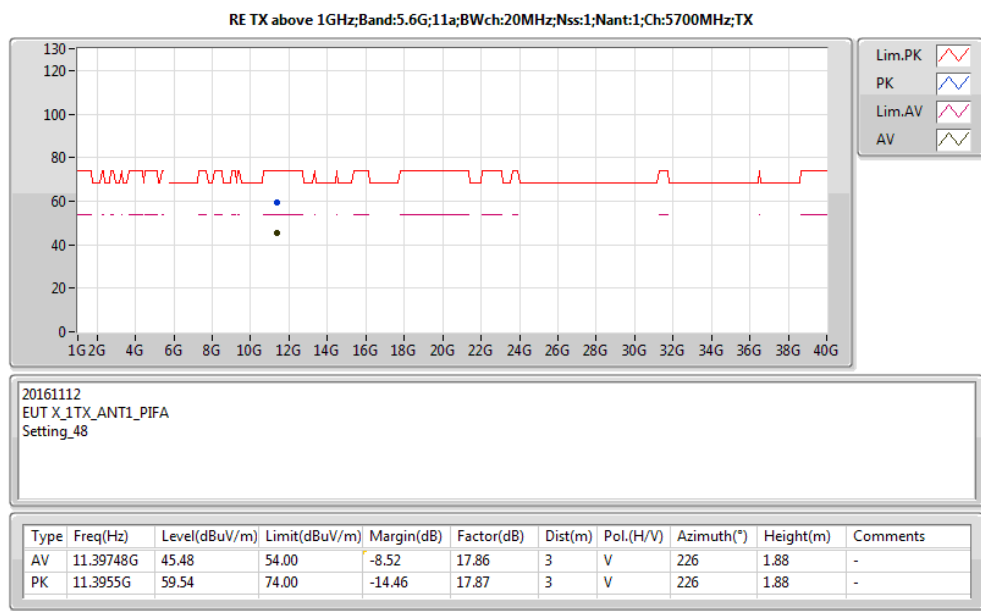
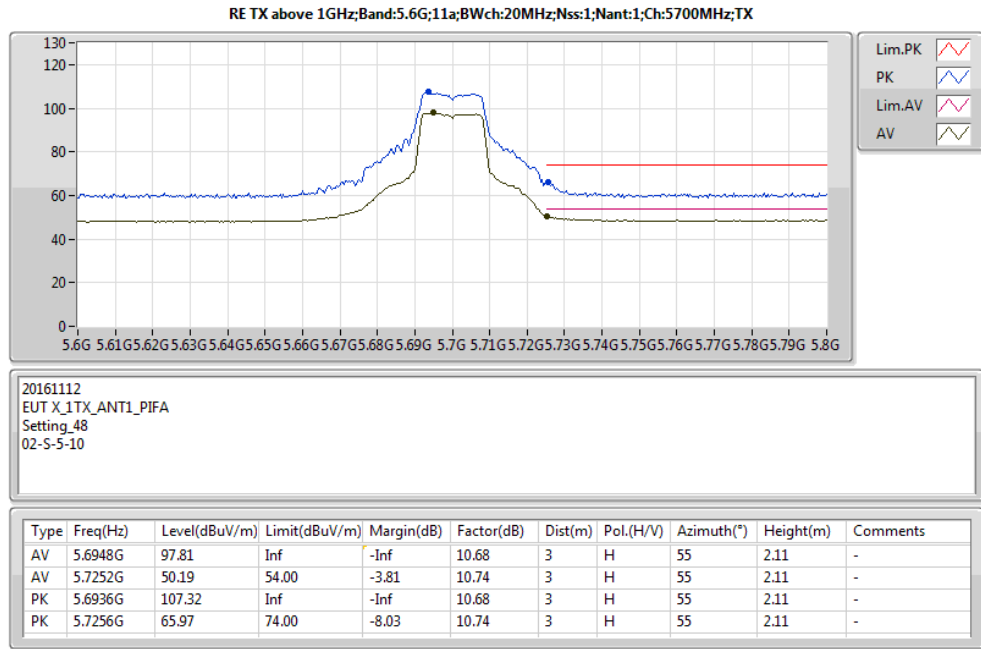


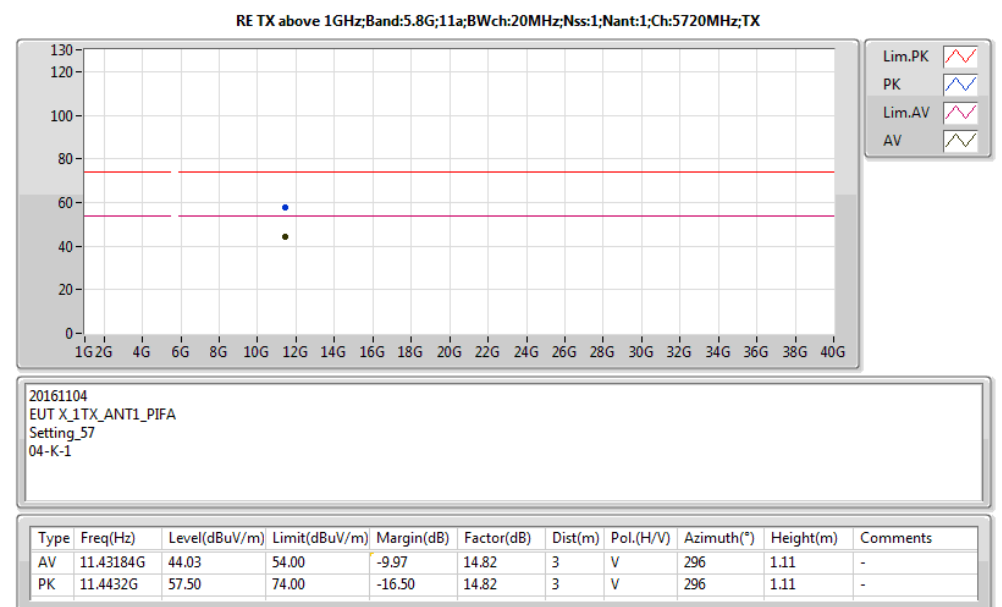
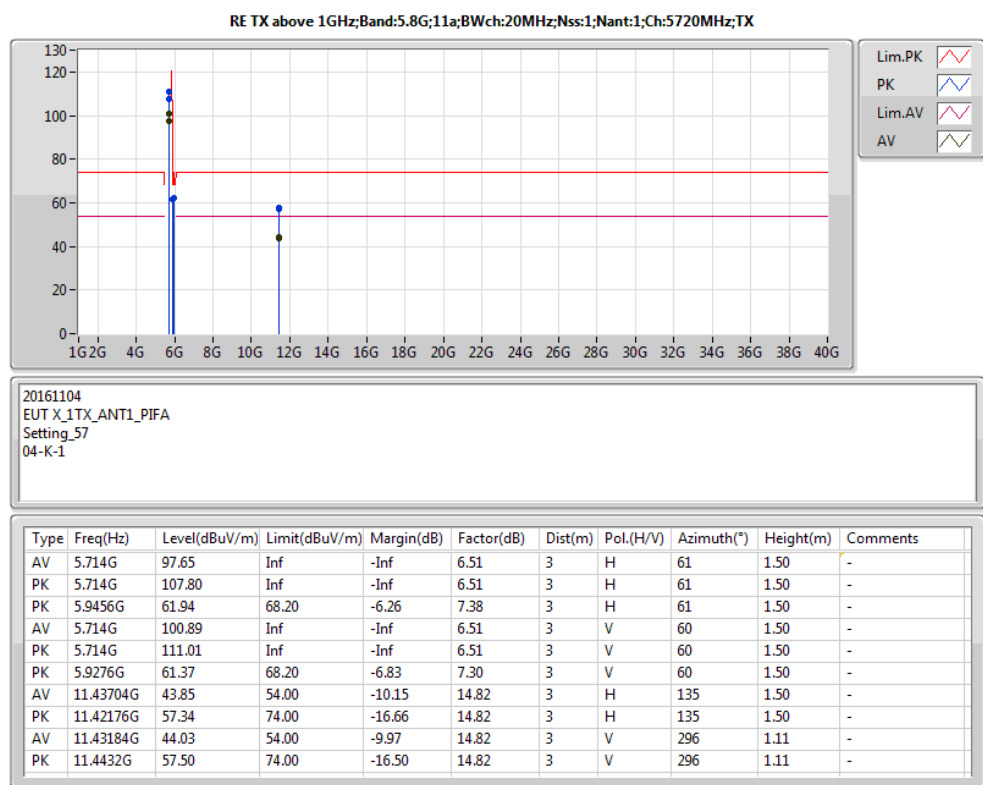
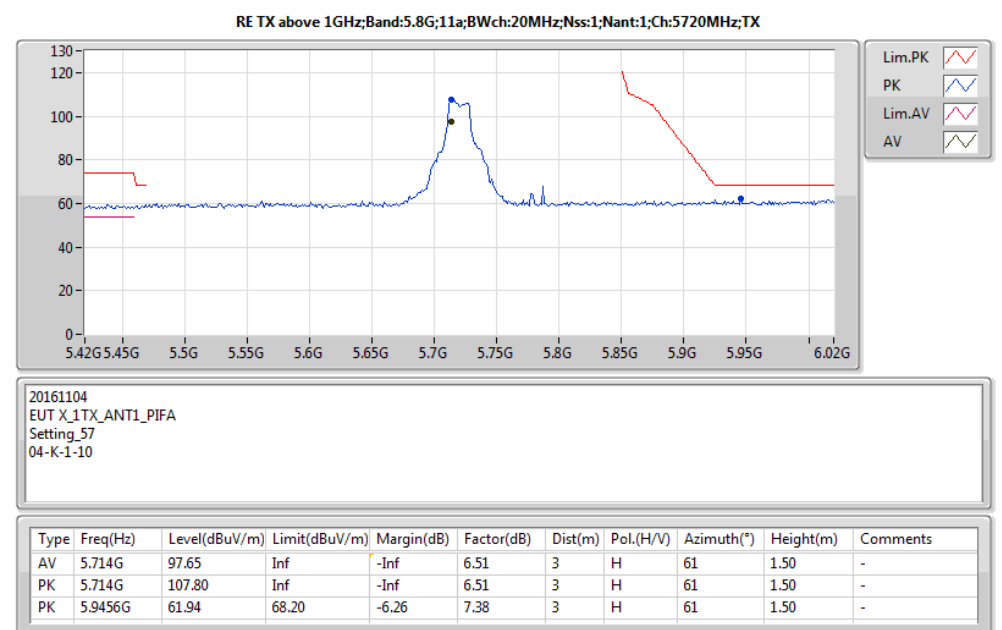
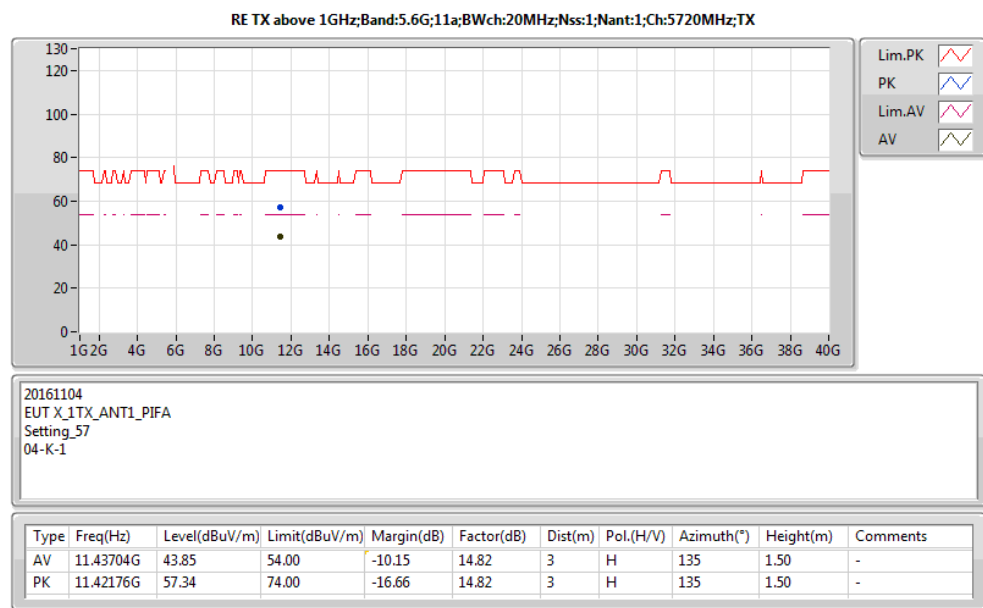
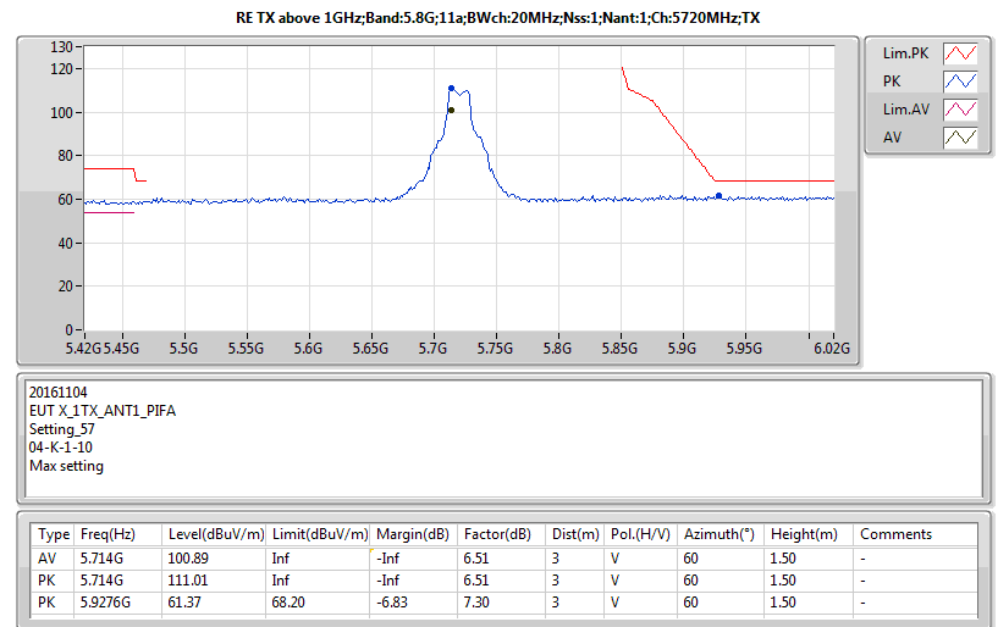
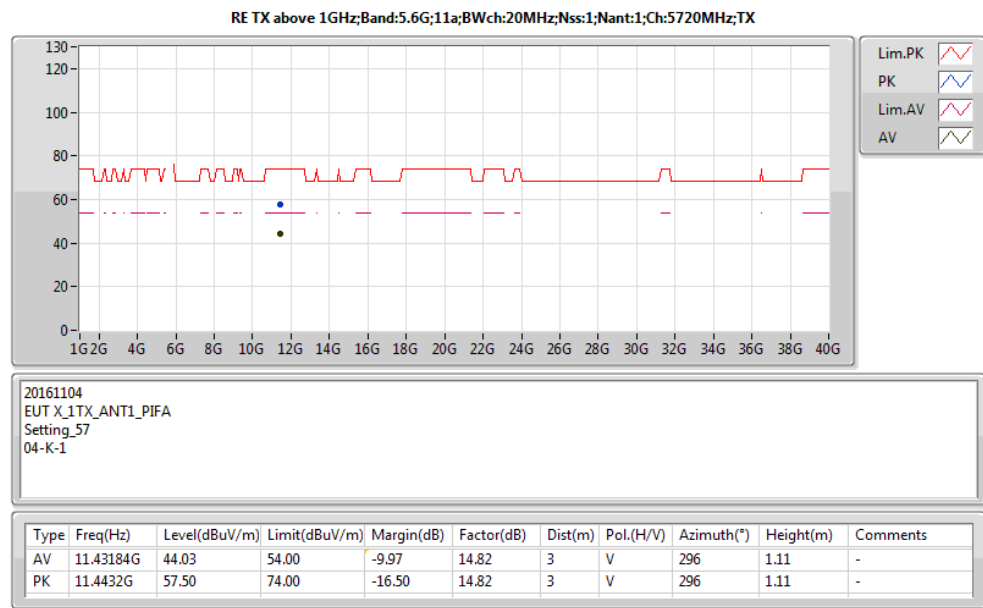


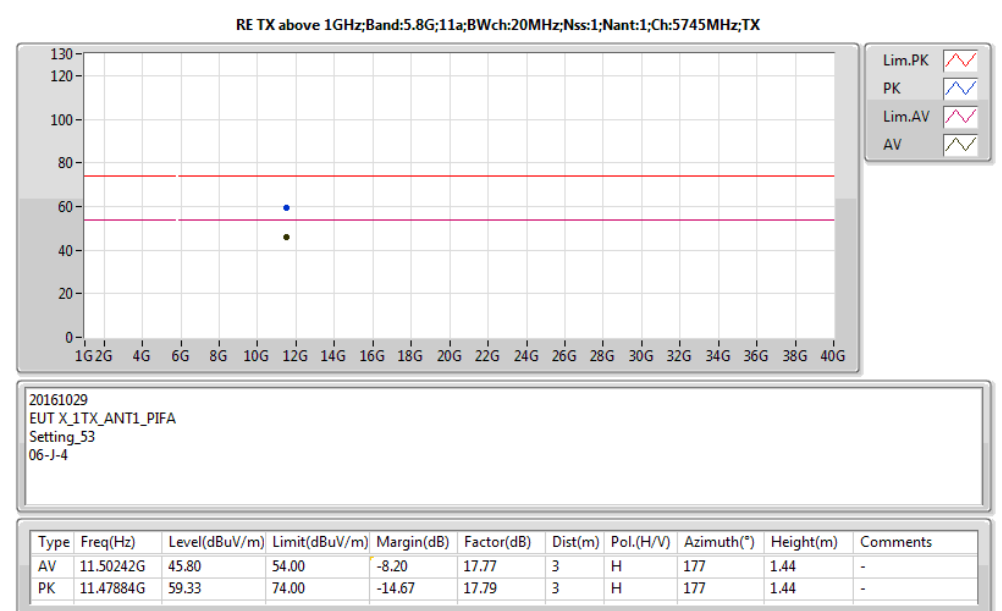
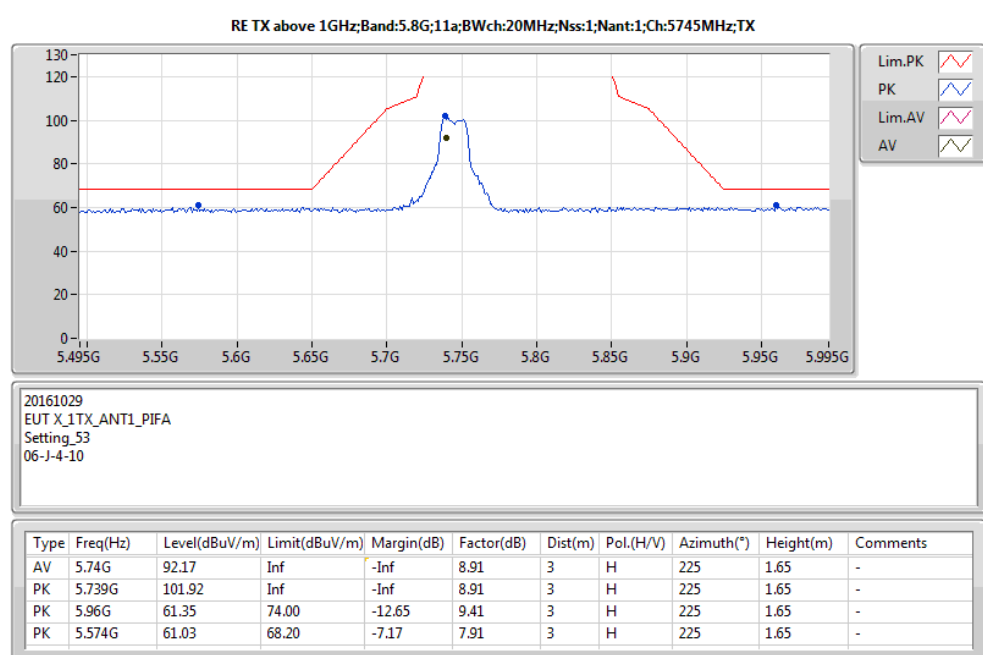
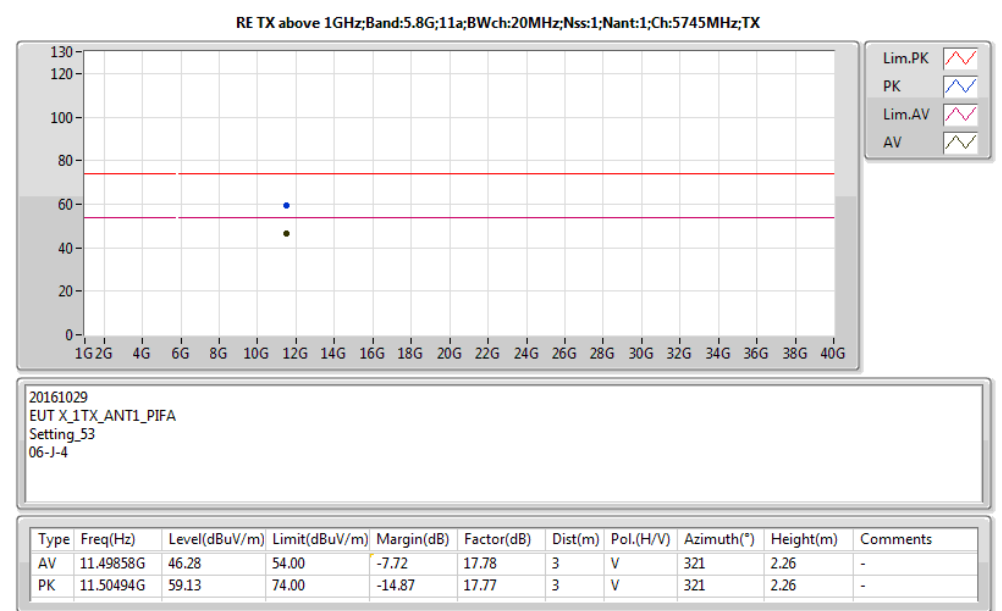
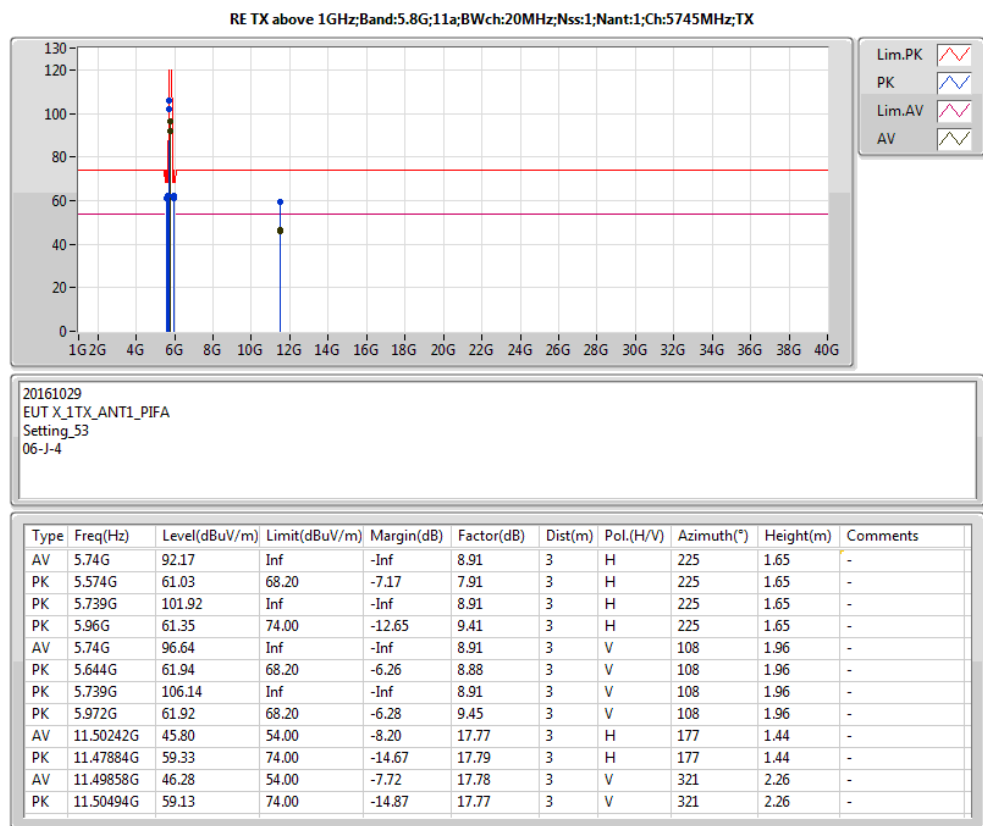
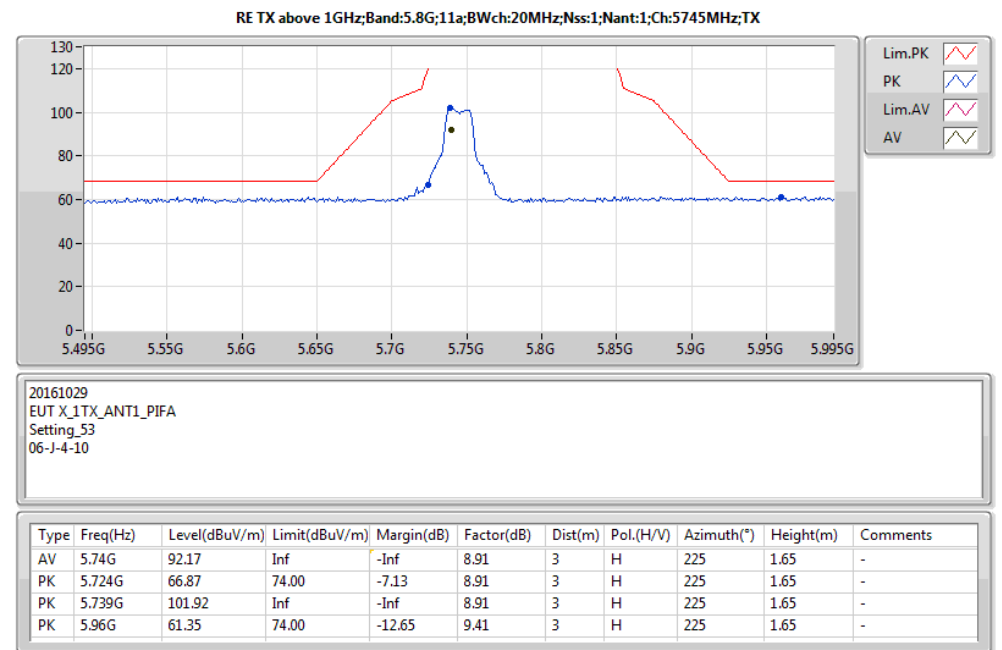
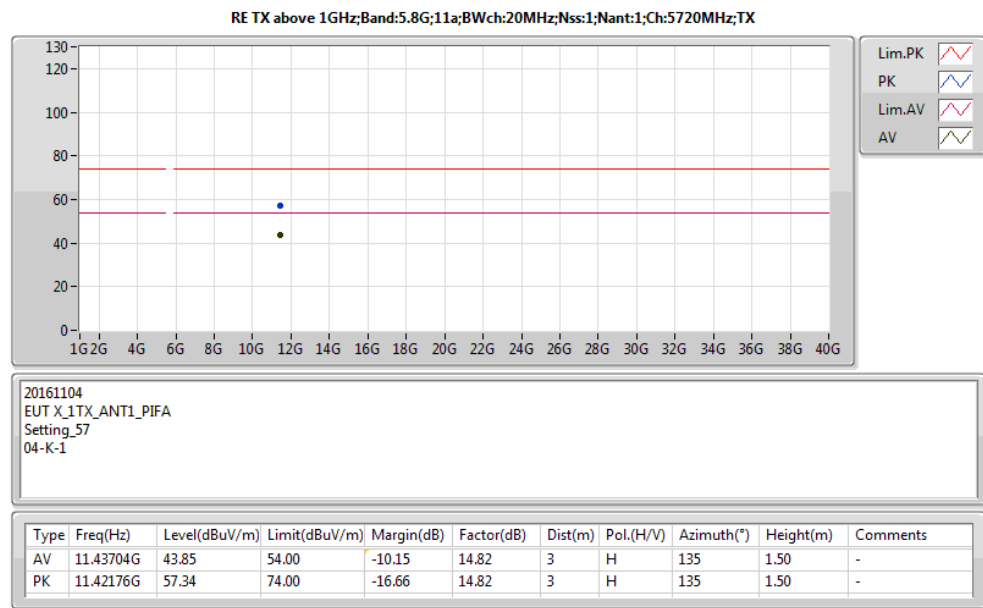


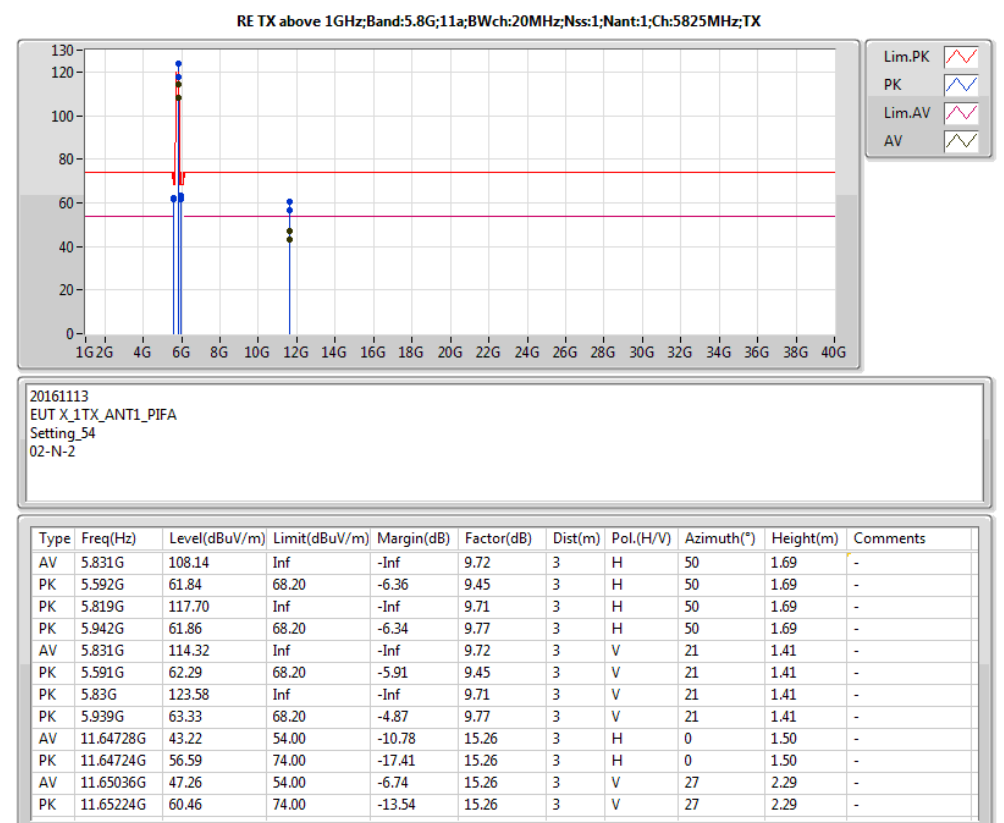
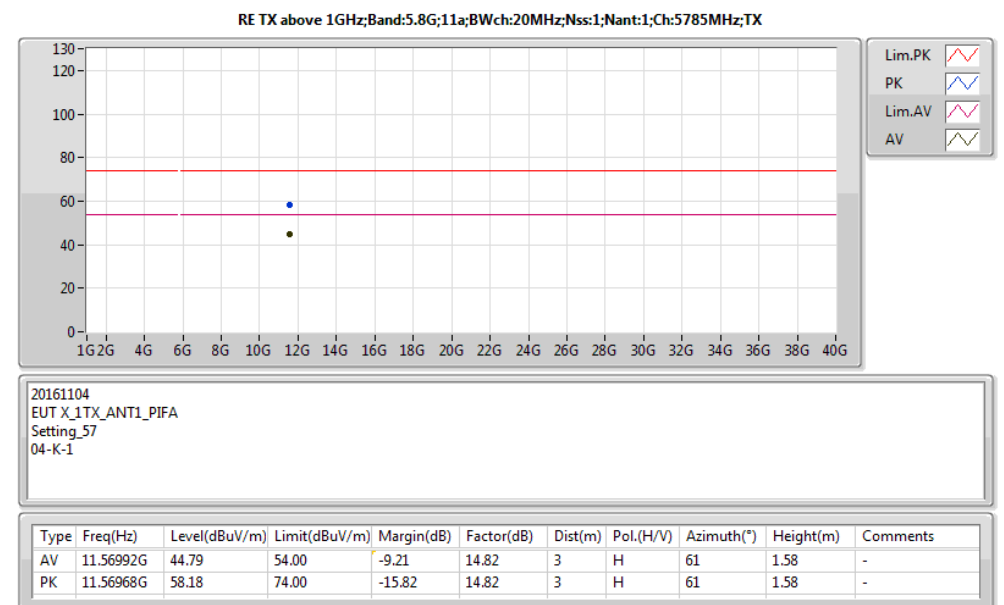
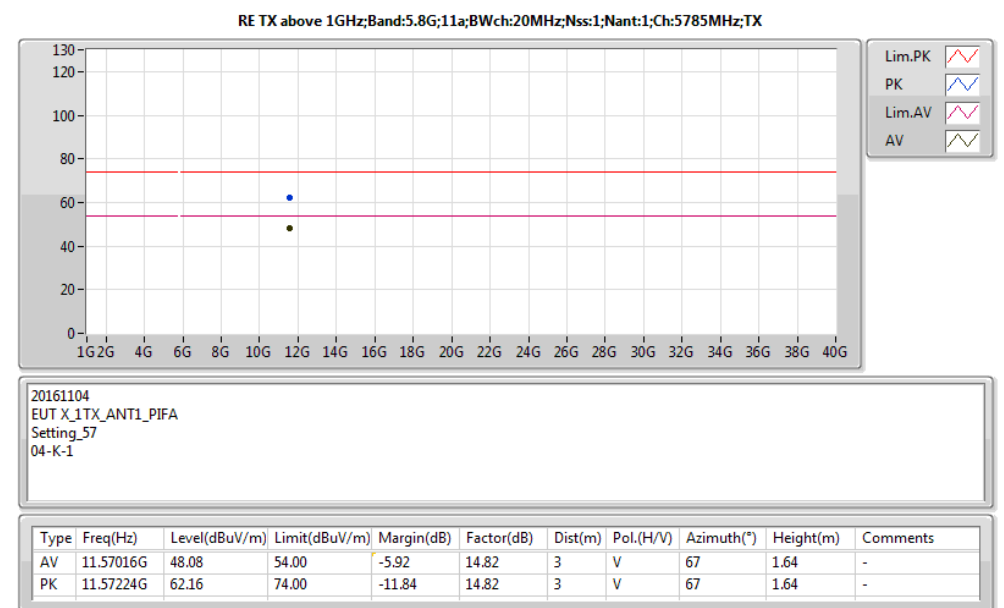
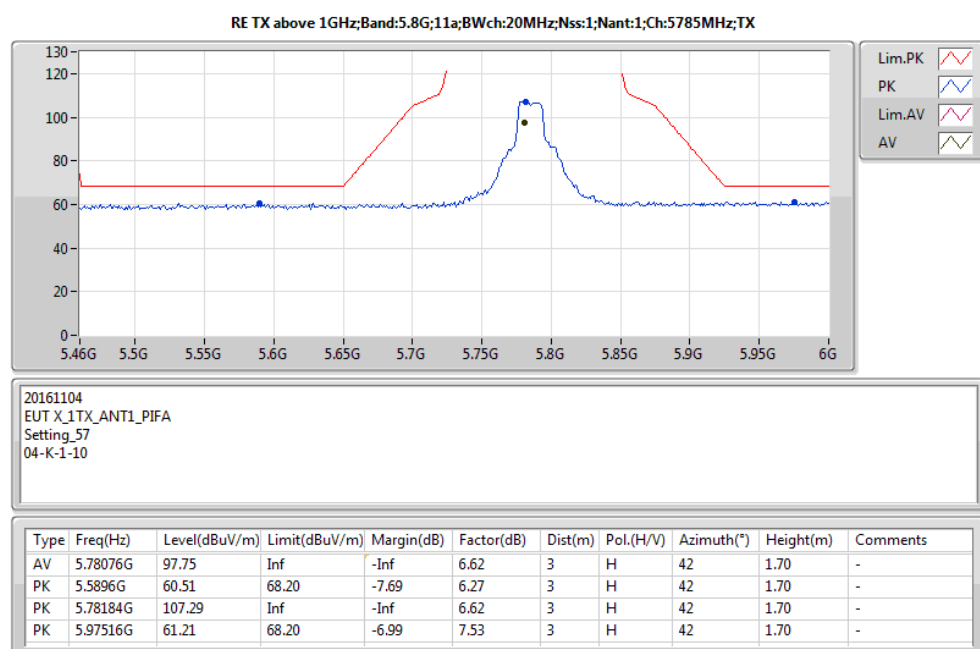
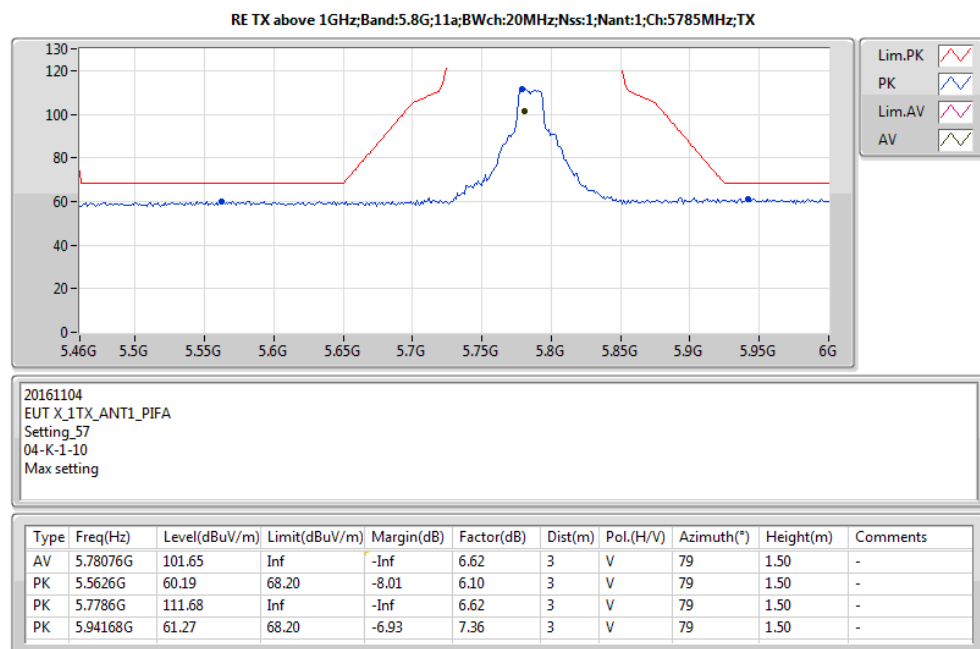
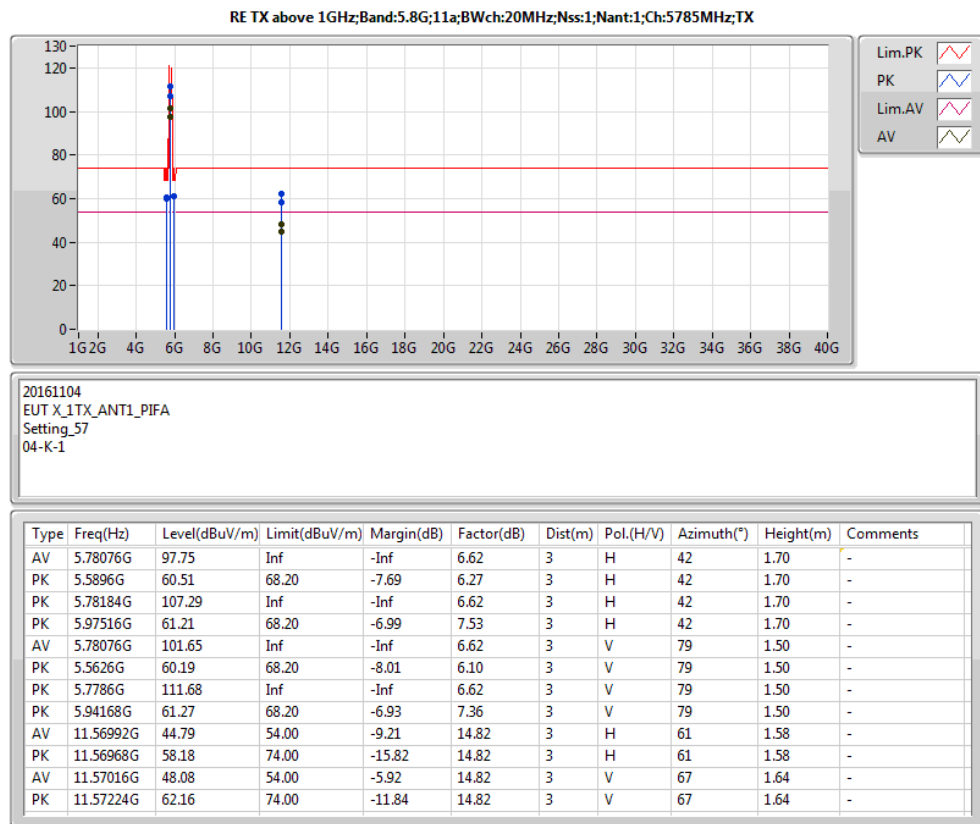


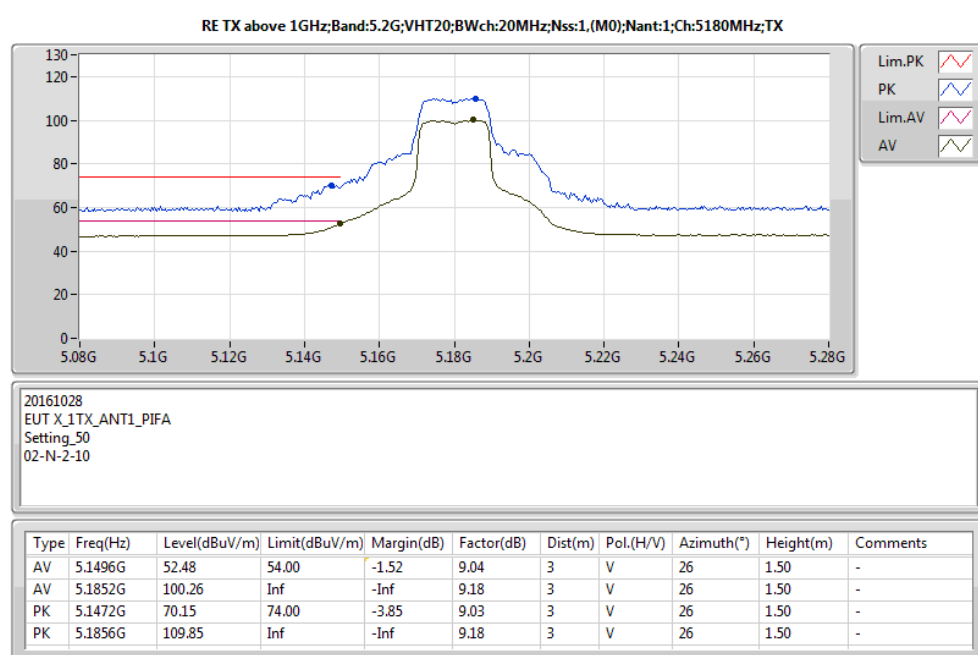
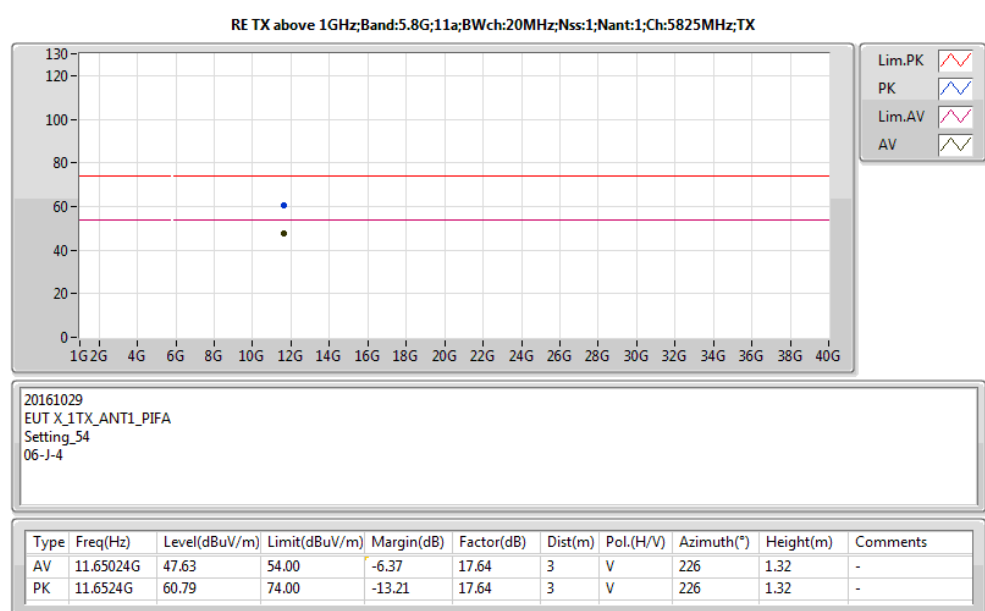
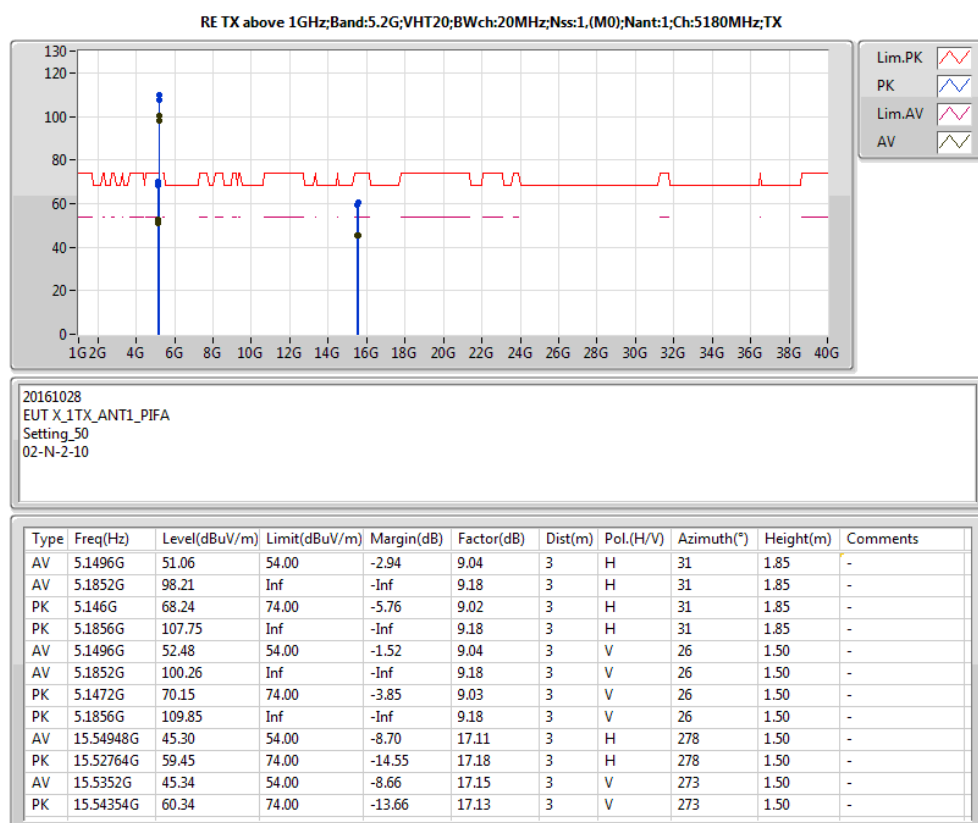
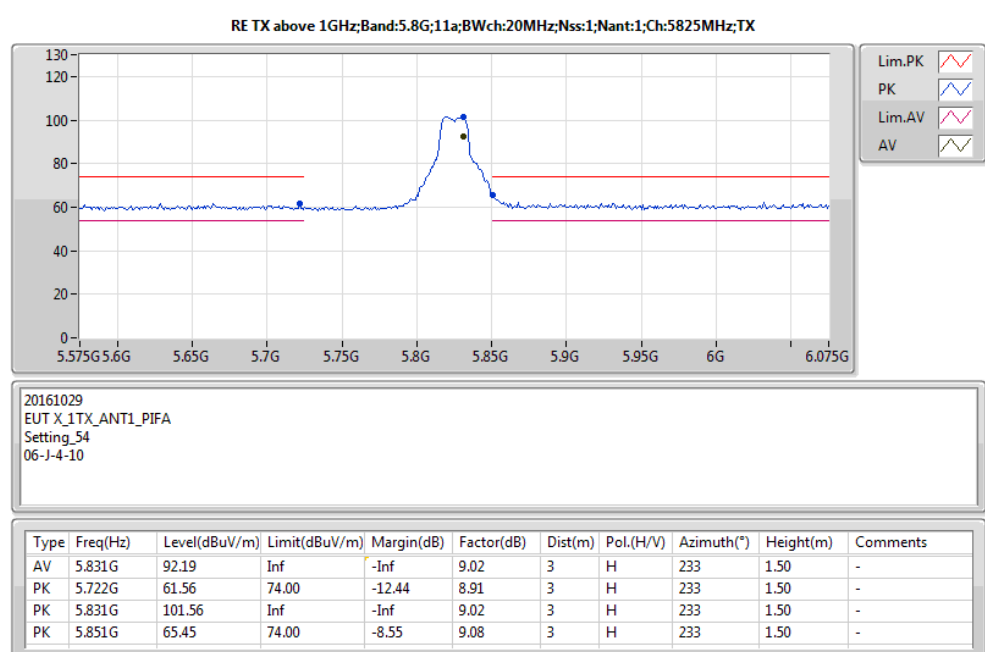
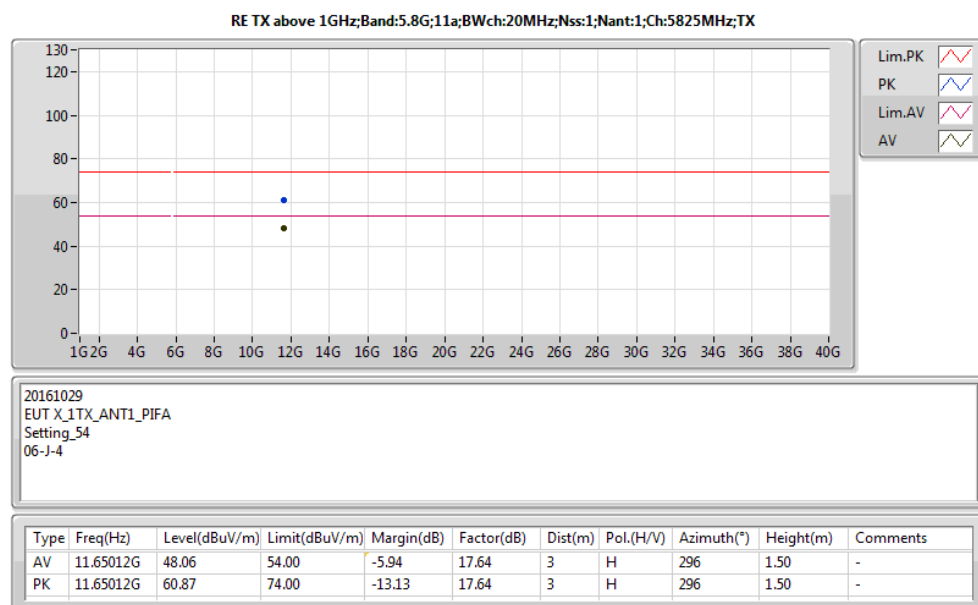
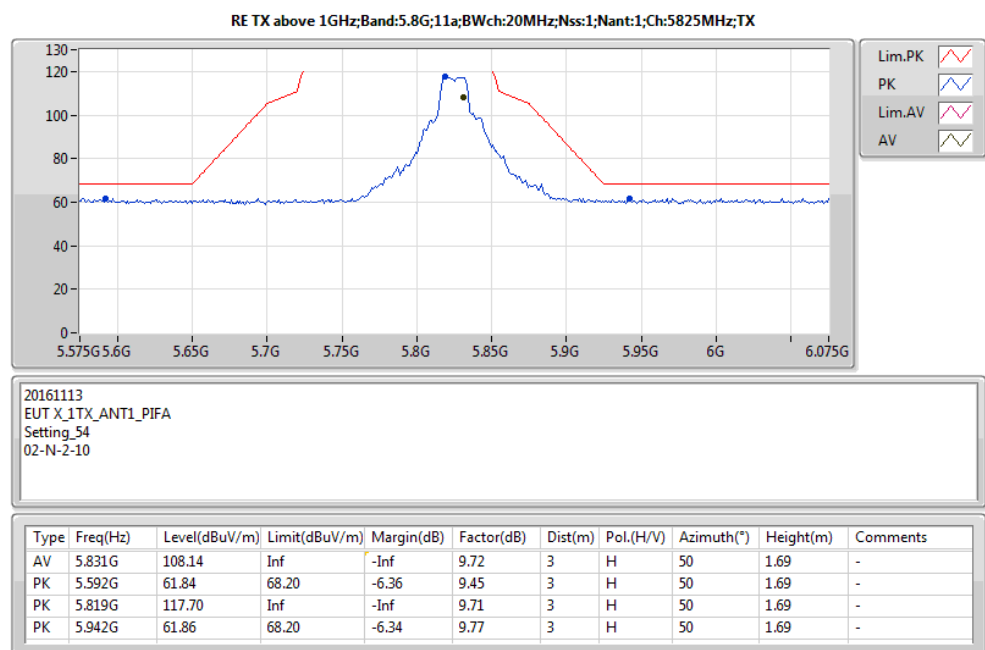


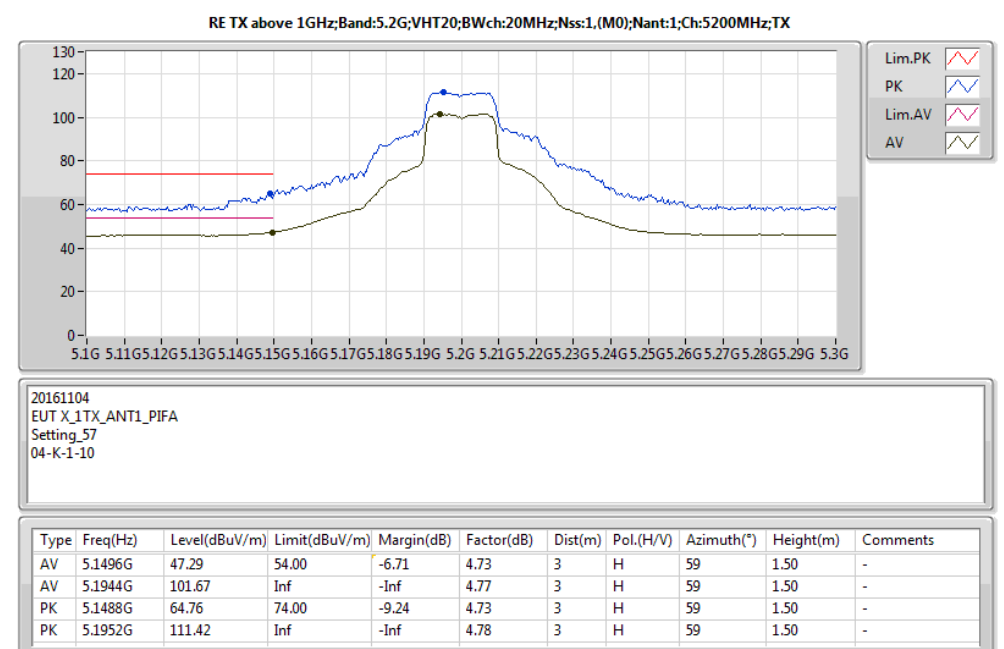
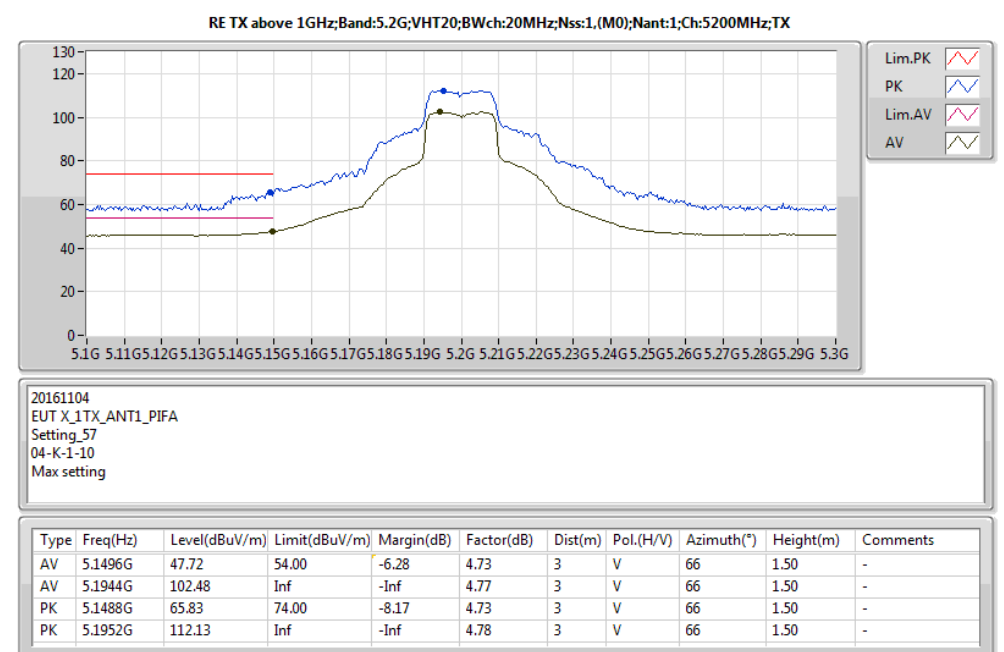
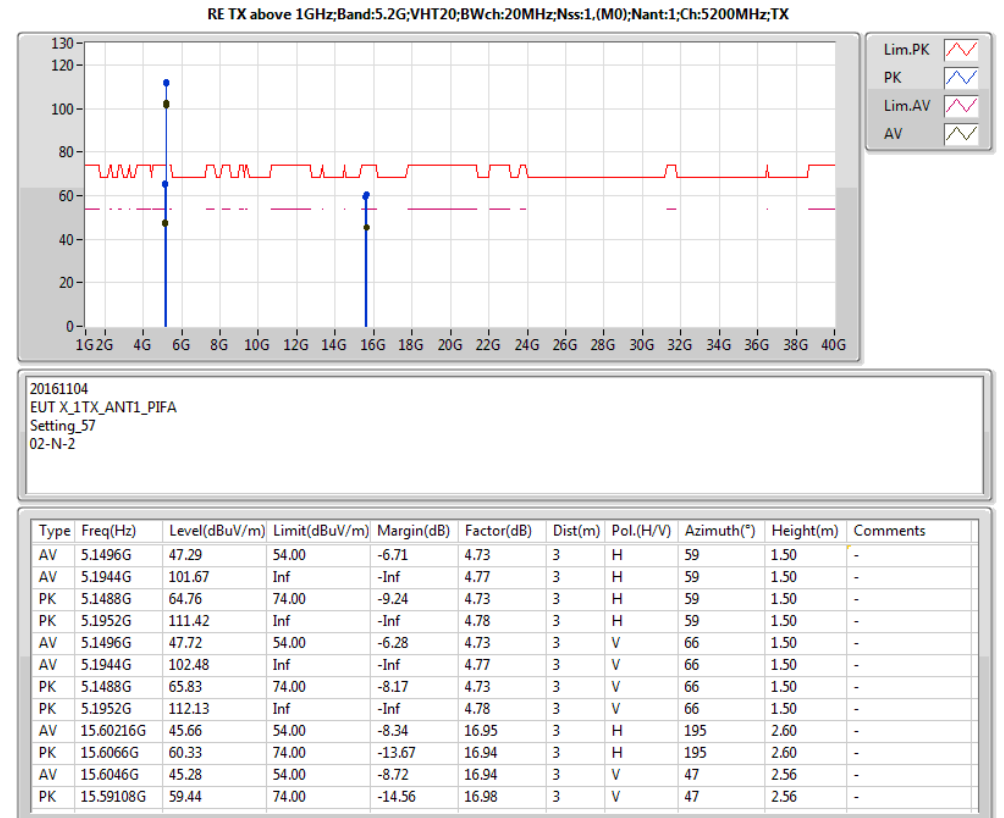
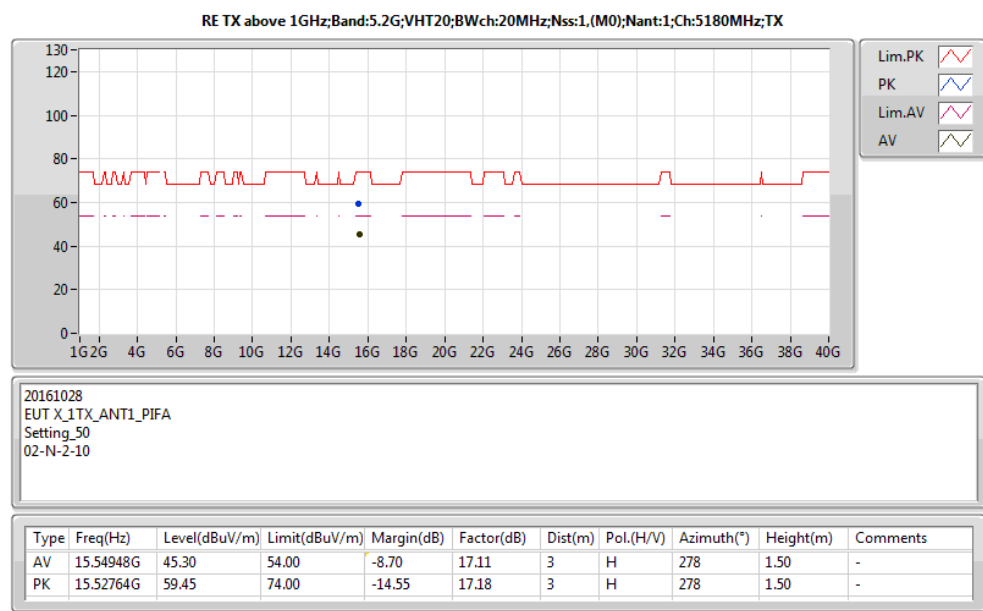
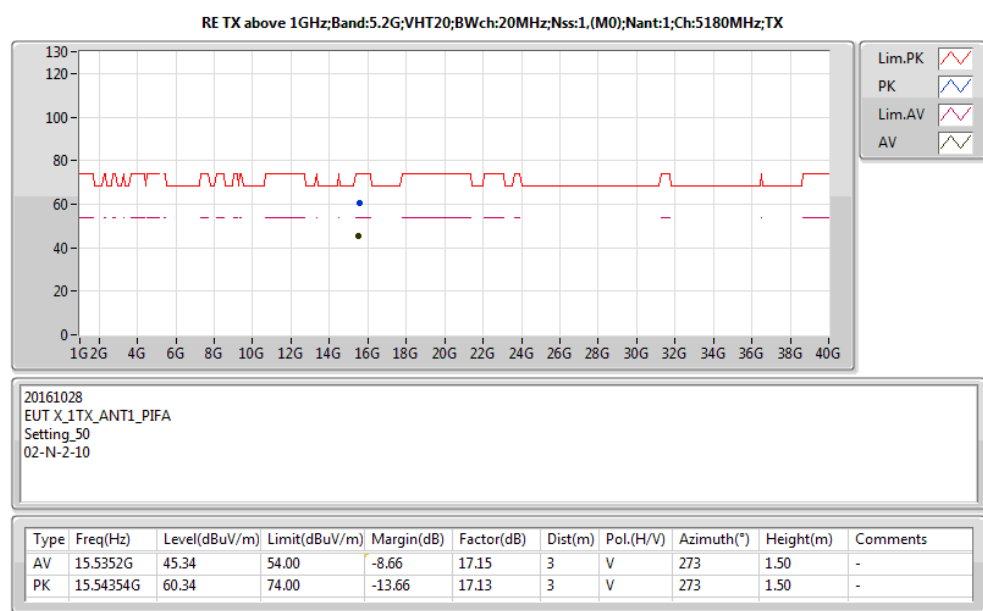
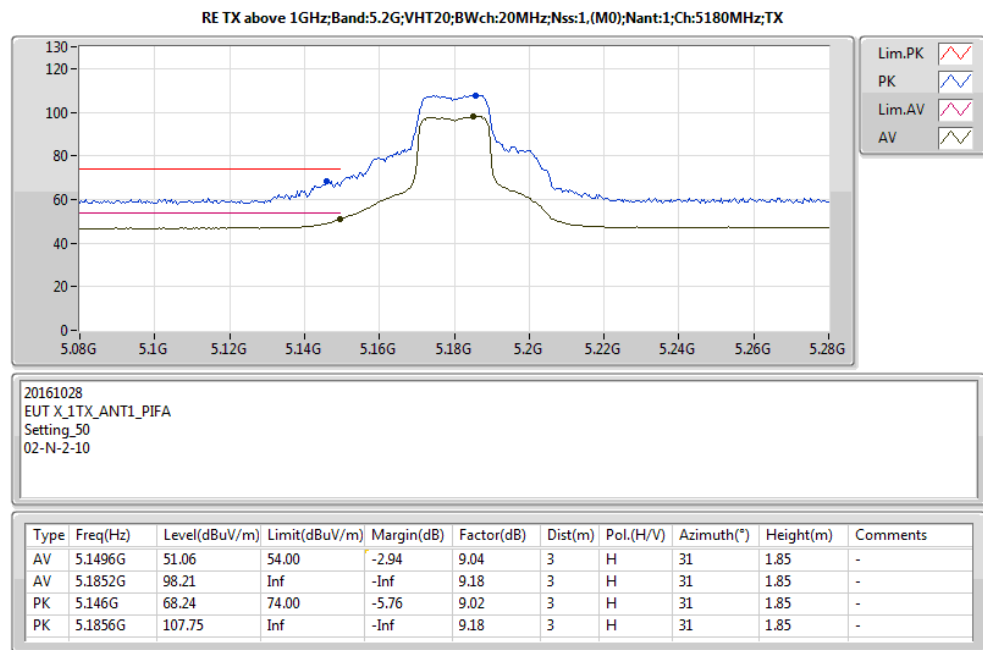


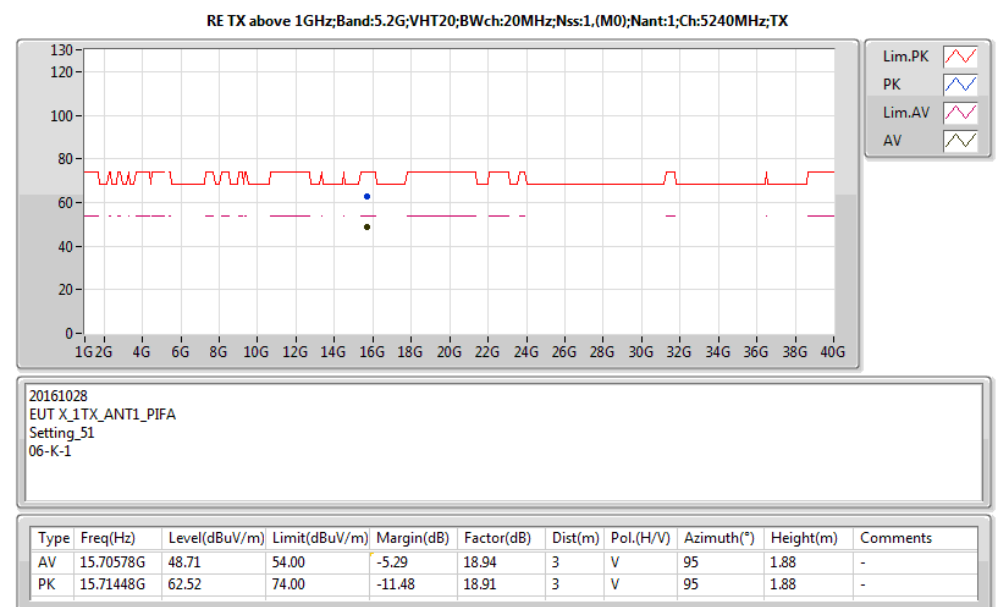
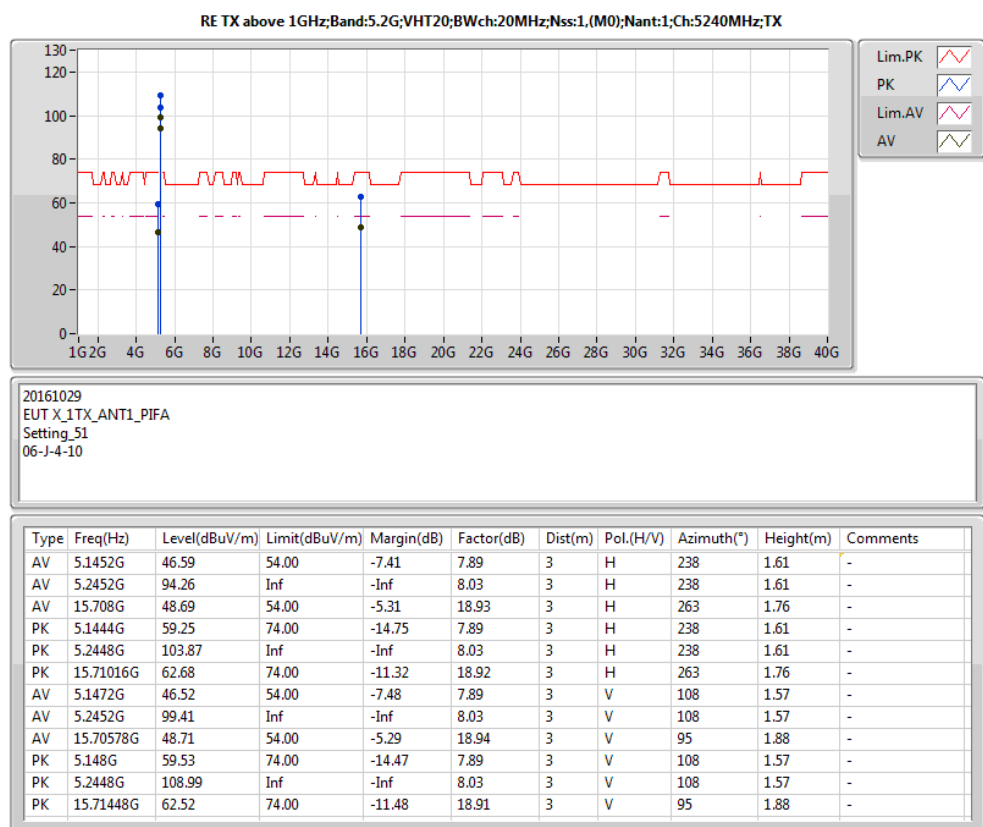
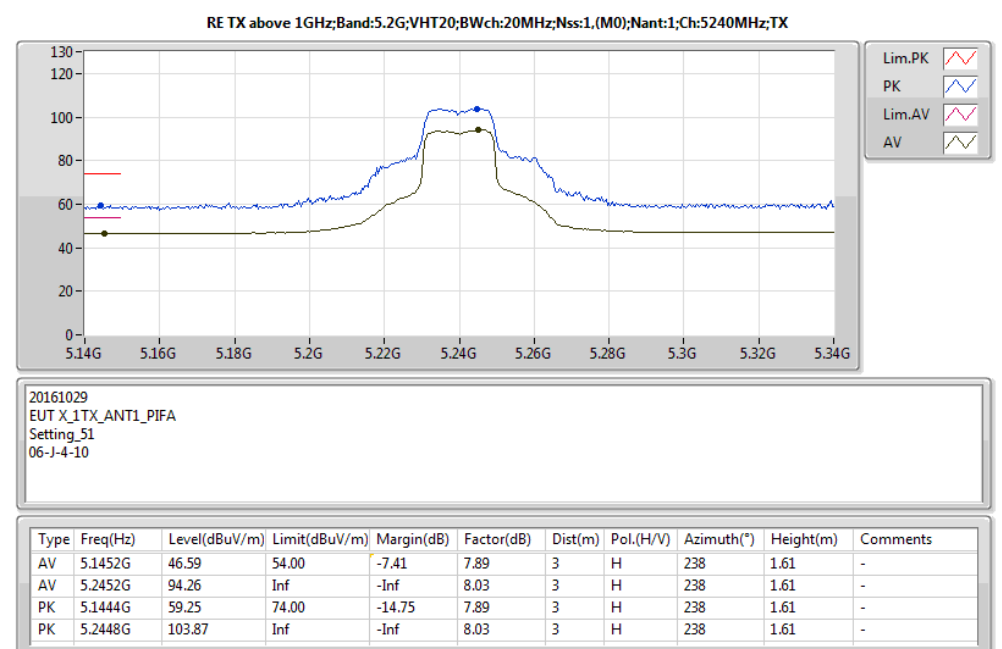
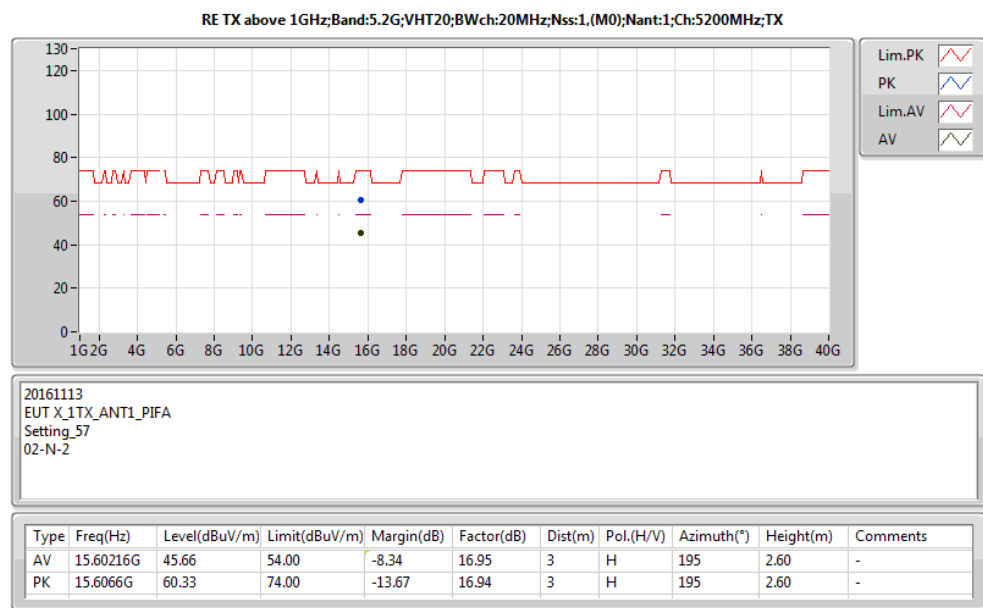
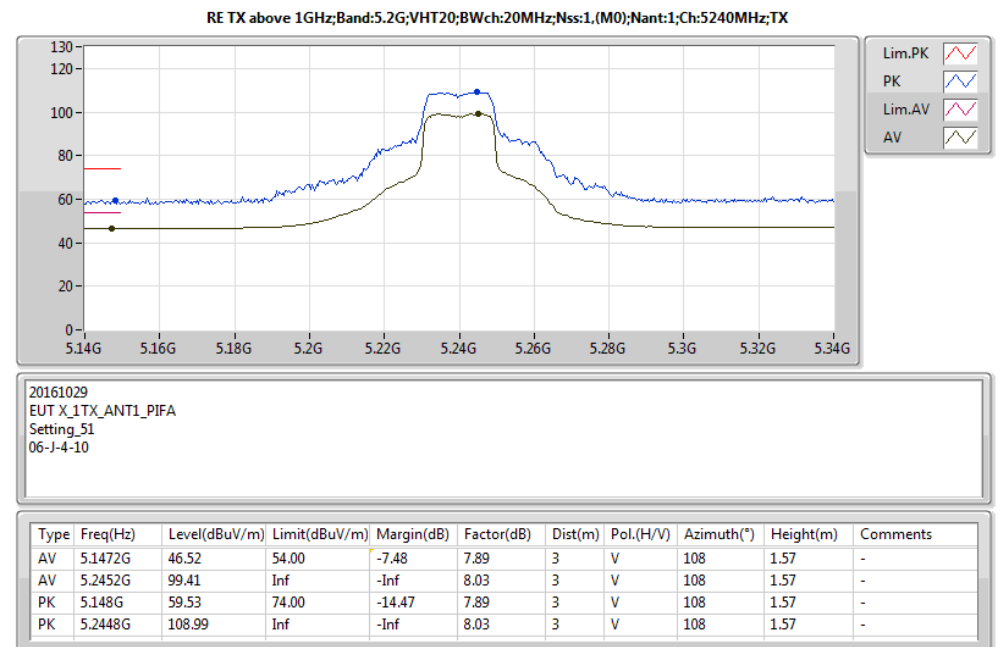
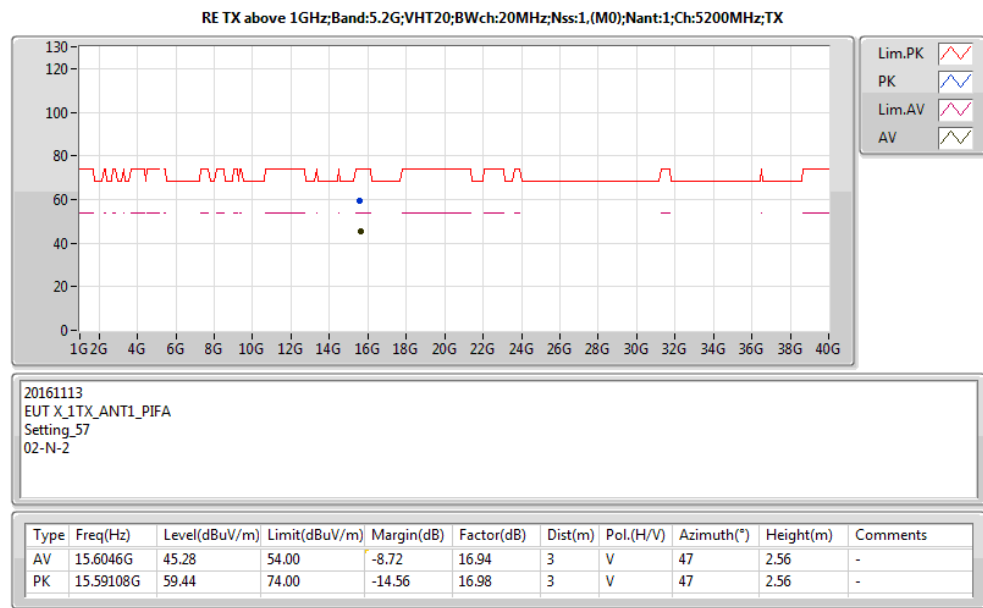


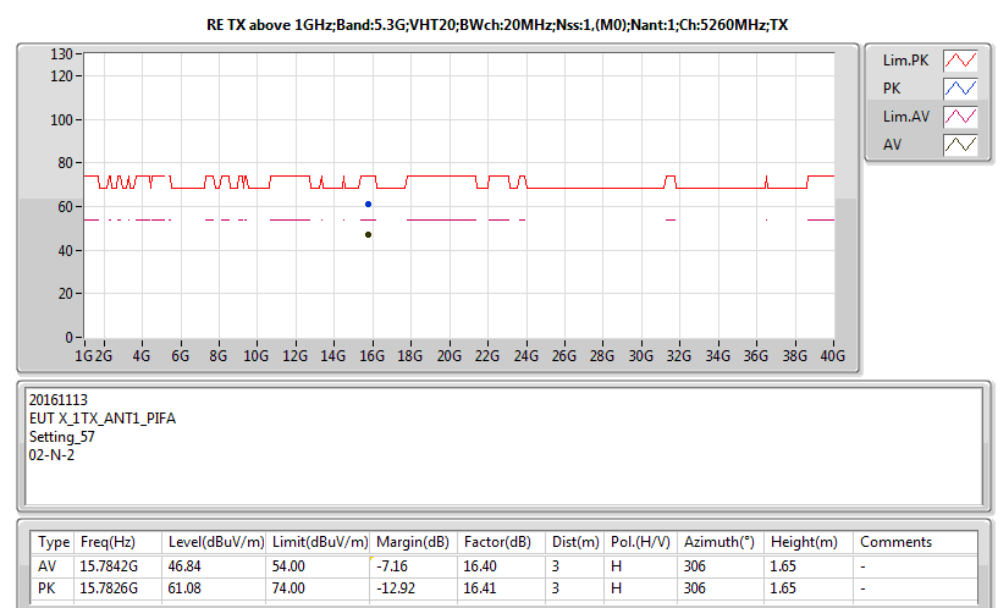
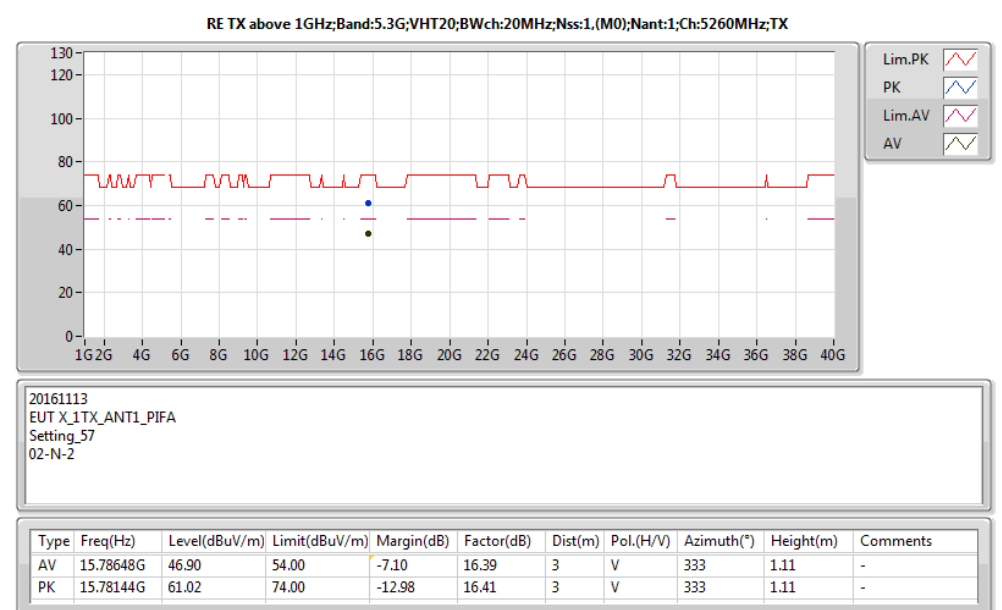
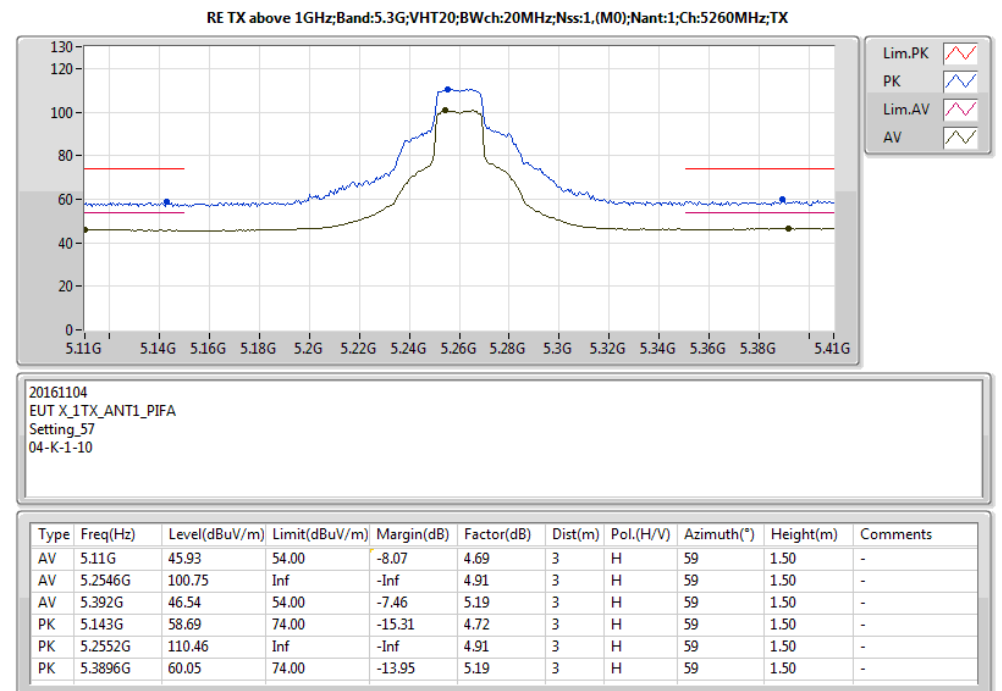
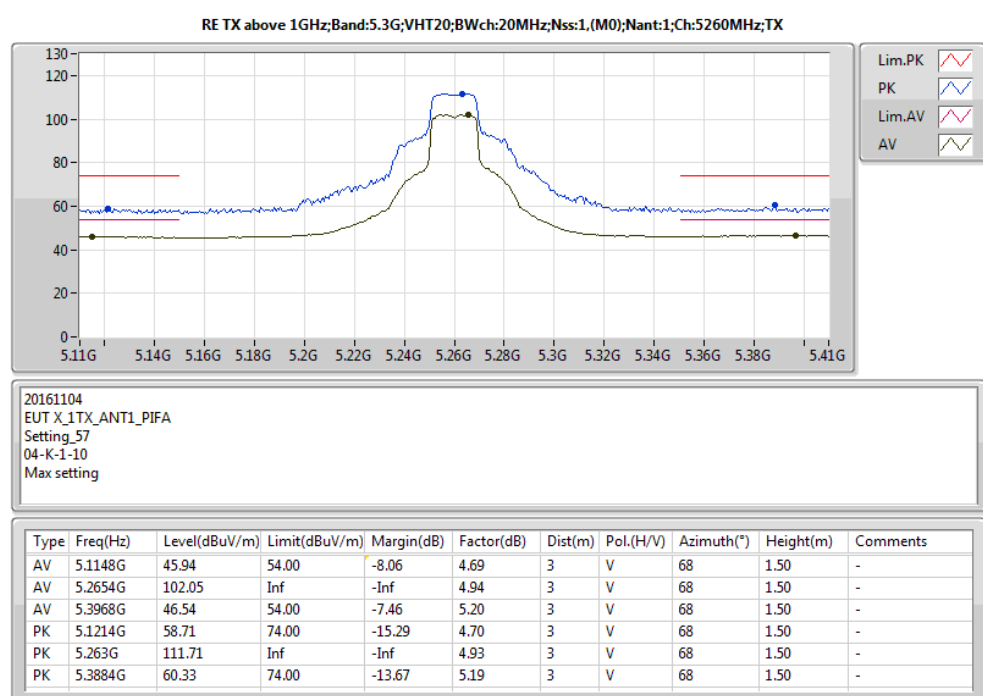
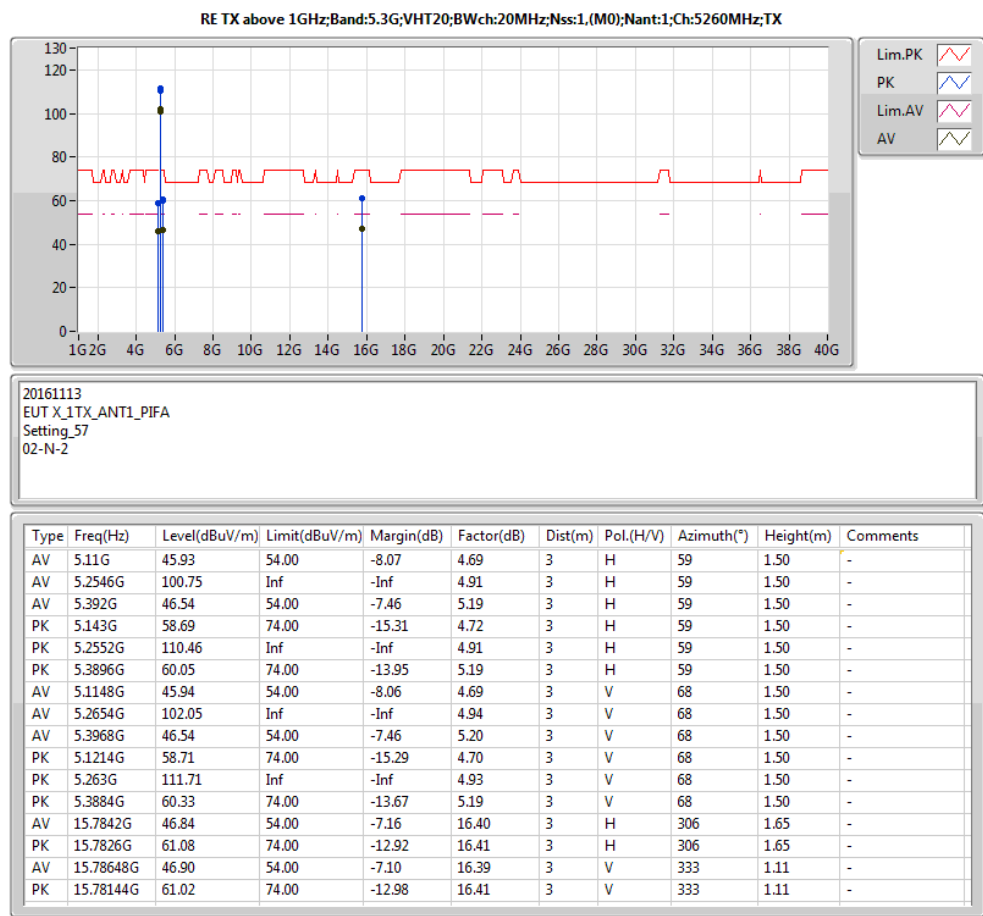
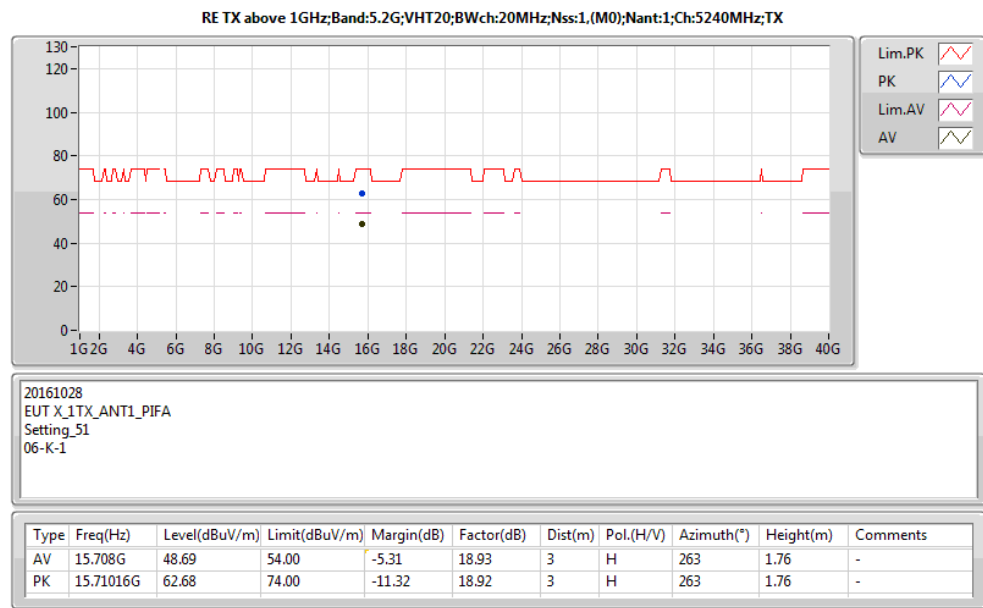


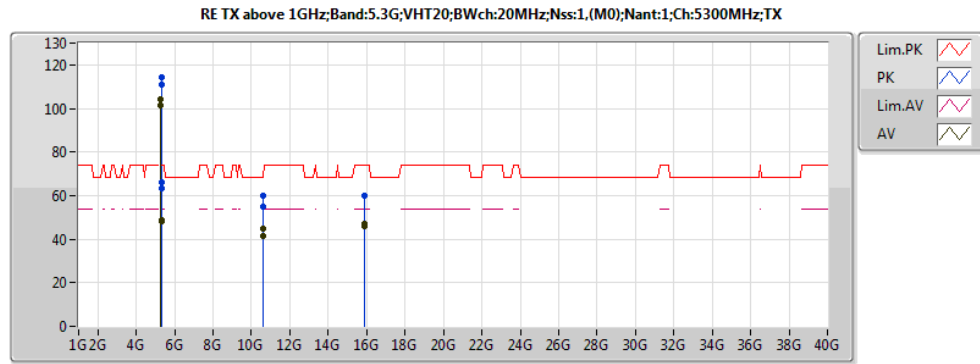






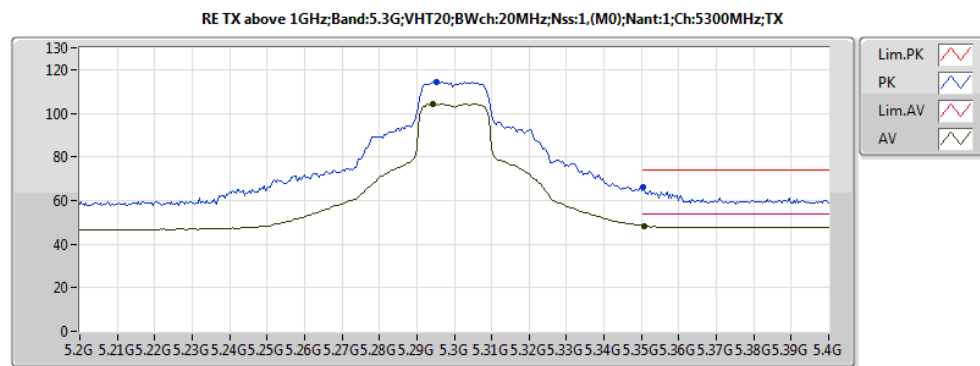






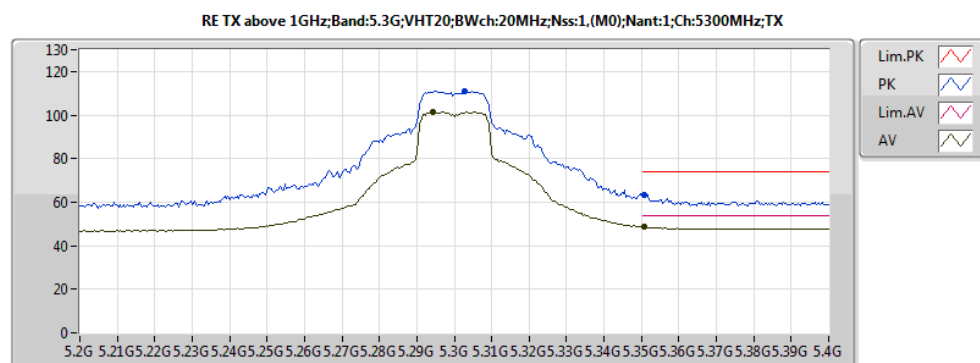
20161113
EUT X_1TX_ANT1_PIFA
Setting_57
02-N-2

Type	Freq(Hz)	Level(dBuV/m)	Limit(dBuV/m)	Margin(dB)	Factor(dB)	Dist(m)	Pol.(H/V)	Azimuth(°)	Height(m)	Comments
AV	5.2944G	101.59	Inf	-Inf	9.61	3	H	52	1.77	-
AV	5.3508G	48.61	54.00	-5.39	9.82	3	H	52	1.77	-
PK	5.3028G	110.84	Inf	-Inf	9.64	3	H	52	1.77	-
PK	5.3508G	63.49	74.00	-10.51	9.82	3	H	52	1.77	-
AV	5.2944G	104.46	Inf	-Inf	9.61	3	V	18	1.66	-
AV	5.3508G	48.33	54.00	-5.67	9.82	3	V	18	1.66	-
PK	5.2952G	114.30	Inf	-Inf	9.61	3	V	18	1.66	-
PK	5.3504G	66.11	74.00	-7.89	9.82	3	V	18	1.66	-
AV	10.59832G	41.55	54.00	-12.45	14.63	3	H	324	1.56	-
AV	15.90428G	46.02	54.00	-7.98	16.04	3	H	336	2.08	-
PK	10.59944G	54.89	74.00	-19.11	14.63	3	H	324	1.56	-
PK	15.90924G	59.83	74.00	-14.17	16.02	3	H	336	2.08	-
AV	10.59996G	44.58	54.00	-9.42	14.63	3	V	22	2.49	-
AV	15.8982G	46.79	54.00	-7.21	16.06	3	V	113	2.47	-
PK	10.59792G	59.71	74.00	-14.29	14.63	3	V	22	2.49	-
PK	15.89236G	59.99	74.00	-14.01	16.08	3	V	113	2.47	-



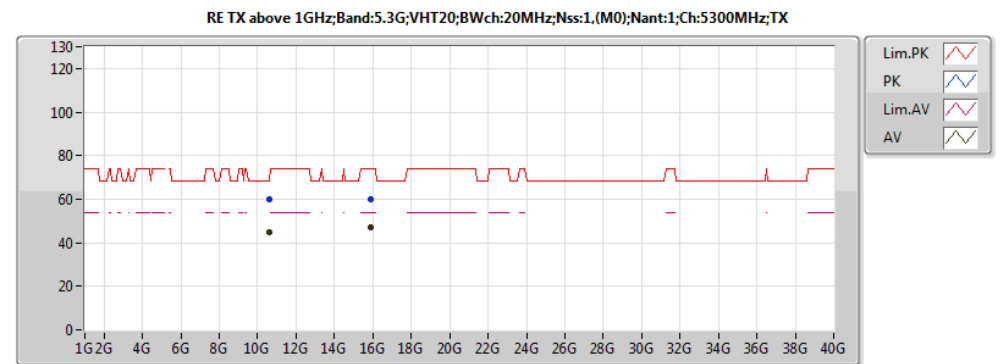
20161112
EUT X_1TX_ANT1_PIFA
Setting_57
02-S-5-10

Type	Freq(Hz)	Level(dBuV/m)	Limit(dBuV/m)	Margin(dB)	Factor(dB)	Dist(m)	Pol.(H/V)	Azimuth(°)	Height(m)	Comments
AV	5.2944G	104.46	Inf	-Inf	9.61	3	V	18	1.66	-
AV	5.3508G	48.33	54.00	-5.67	9.82	3	V	18	1.66	-
PK	5.2952G	114.30	Inf	-Inf	9.61	3	V	18	1.66	-
PK	5.3504G	66.11	74.00	-7.89	9.82	3	V	18	1.66	-



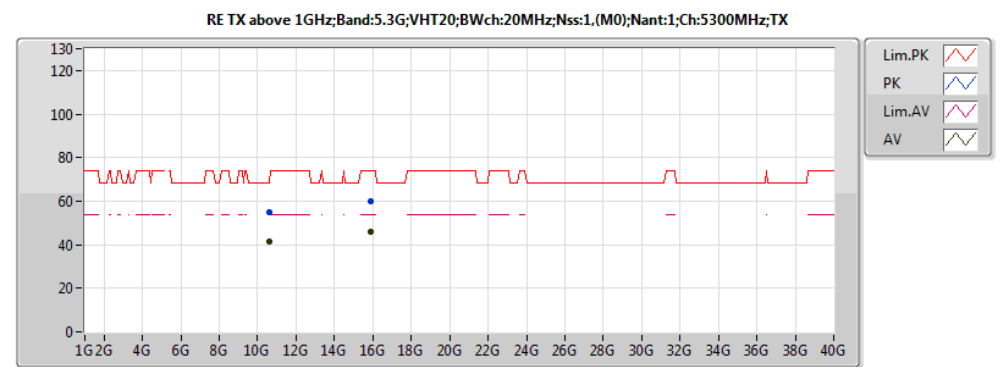
20161112
EUT X_1TX_ANT1_PIFA
Setting_57
02-S-5-10

Type	Freq(Hz)	Level(dBuV/m)	Limit(dBuV/m)	Margin(dB)	Factor(dB)	Dist(m)	Pol.(H/V)	Azimuth(°)	Height(m)	Comments
AV	5.2944G	101.59	Inf	-Inf	9.61	3	H	52	1.77	-
AV	5.3508G	48.61	54.00	-5.39	9.82	3	H	52	1.77	-
PK	5.3028G	110.84	Inf	-Inf	9.64	3	H	52	1.77	-
PK	5.3508G	63.49	74.00	-10.51	9.82	3	H	52	1.77	-



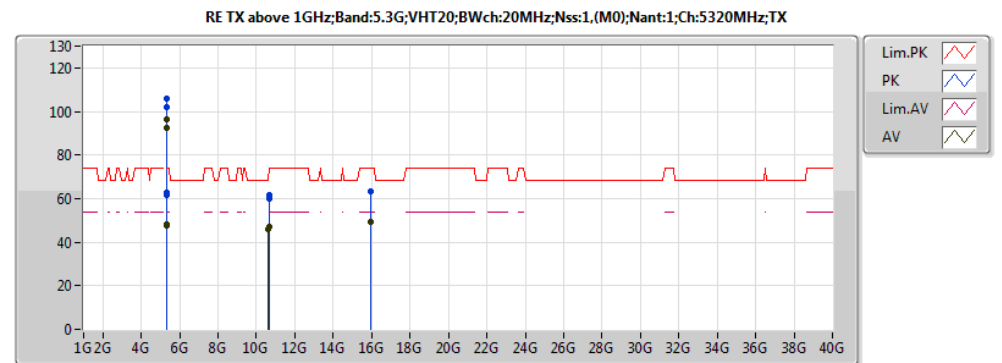
20161113
EUT X_1TX_ANT1_PIFA
Setting_57
02-N-2

Type	Freq(Hz)	Level(dBuV/m)	Limit(dBuV/m)	Margin(dB)	Factor(dB)	Dist(m)	Pol.(H/V)	Azimuth(°)	Height(m)	Comments
AV	10.59996G	44.58	54.00	-9.42	14.63	3	V	22	2.49	-
AV	15.8982G	46.79	54.00	-7.21	16.06	3	V	113	2.47	-
PK	10.59792G	59.71	74.00	-14.29	14.63	3	V	22	2.49	-
PK	15.89236G	59.99	74.00	-14.01	16.08	3	V	113	2.47	-



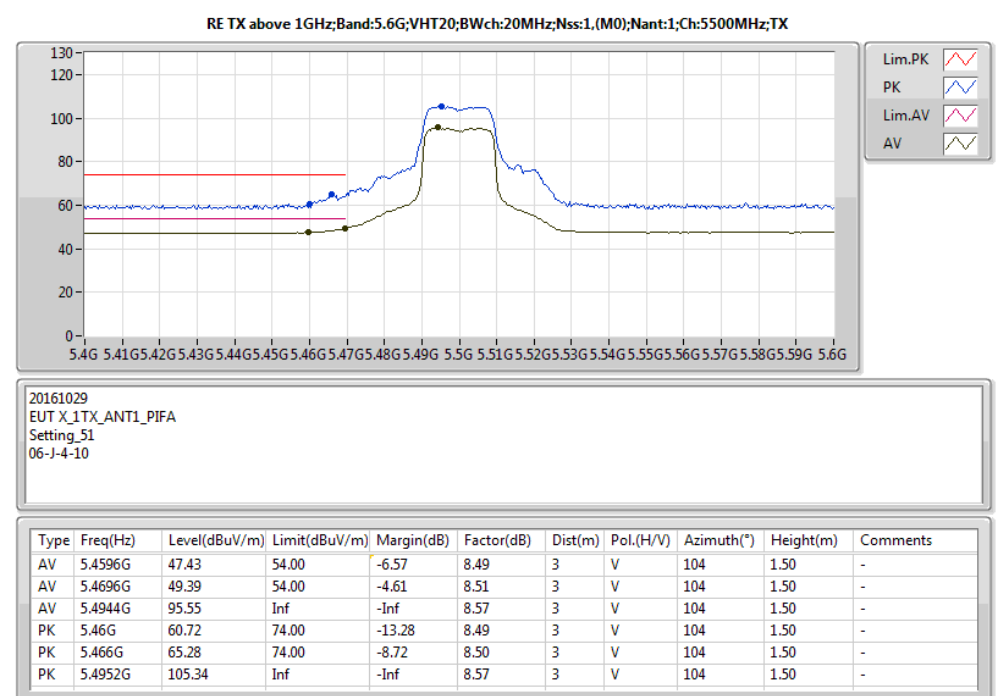
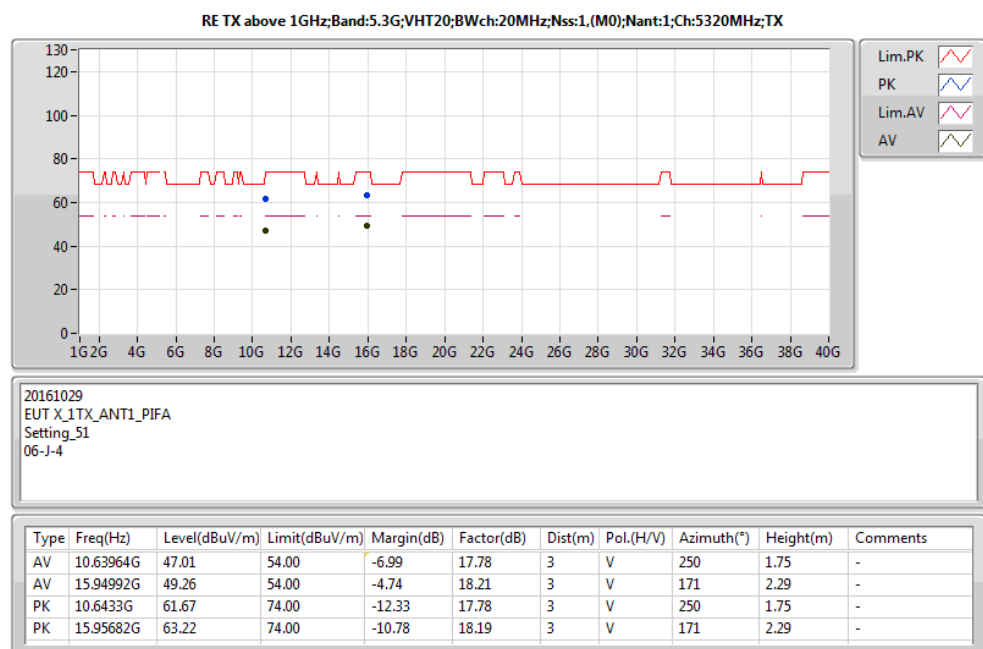
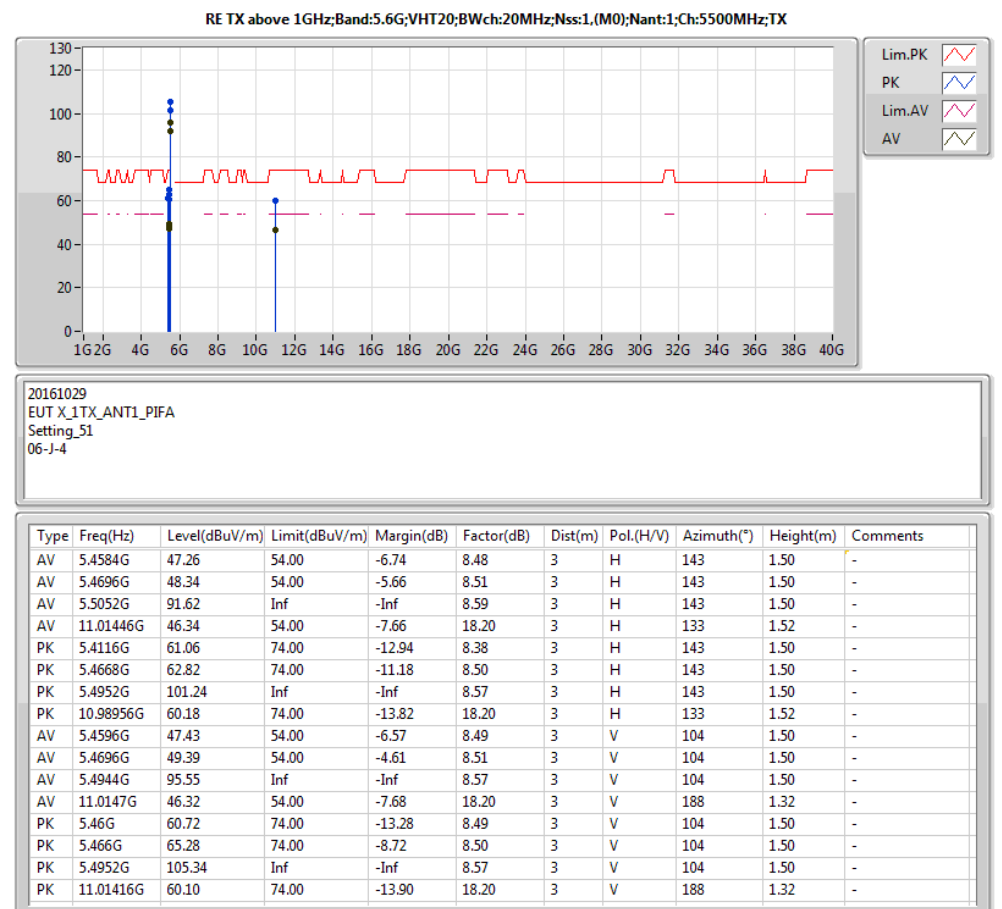
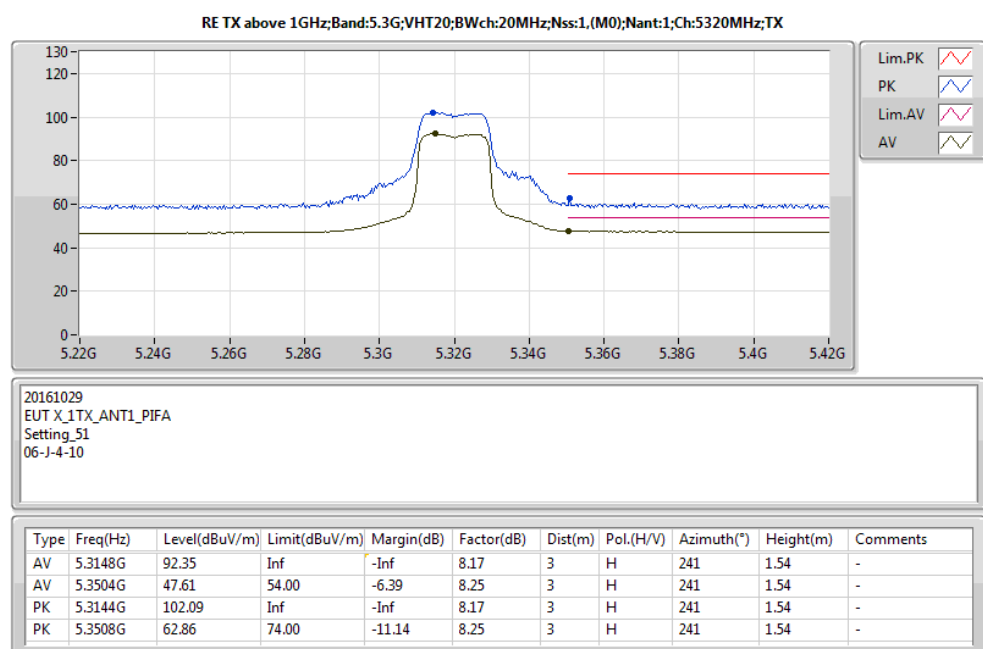
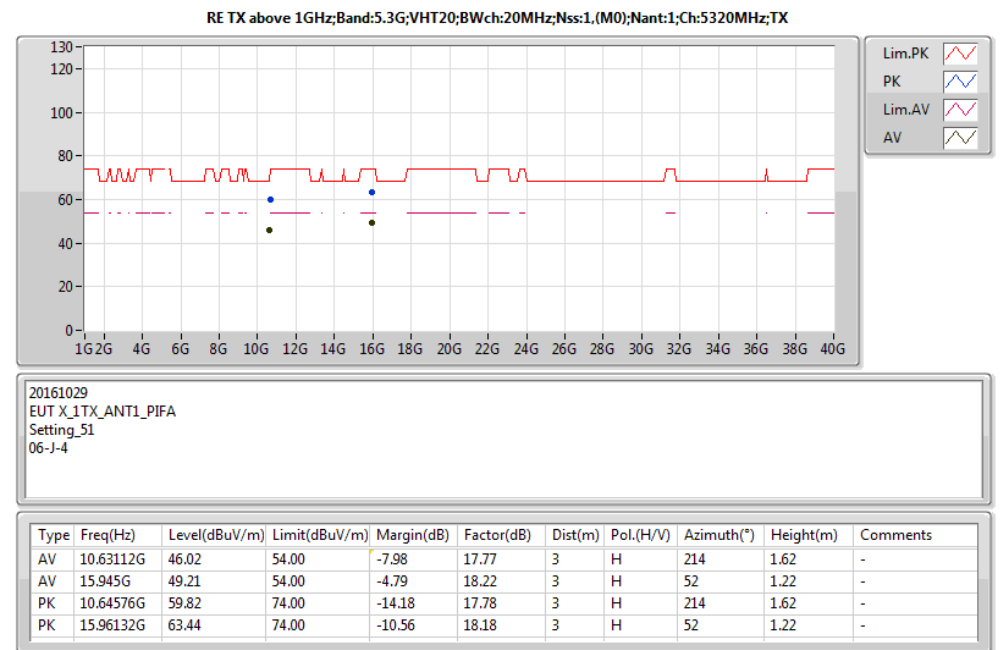
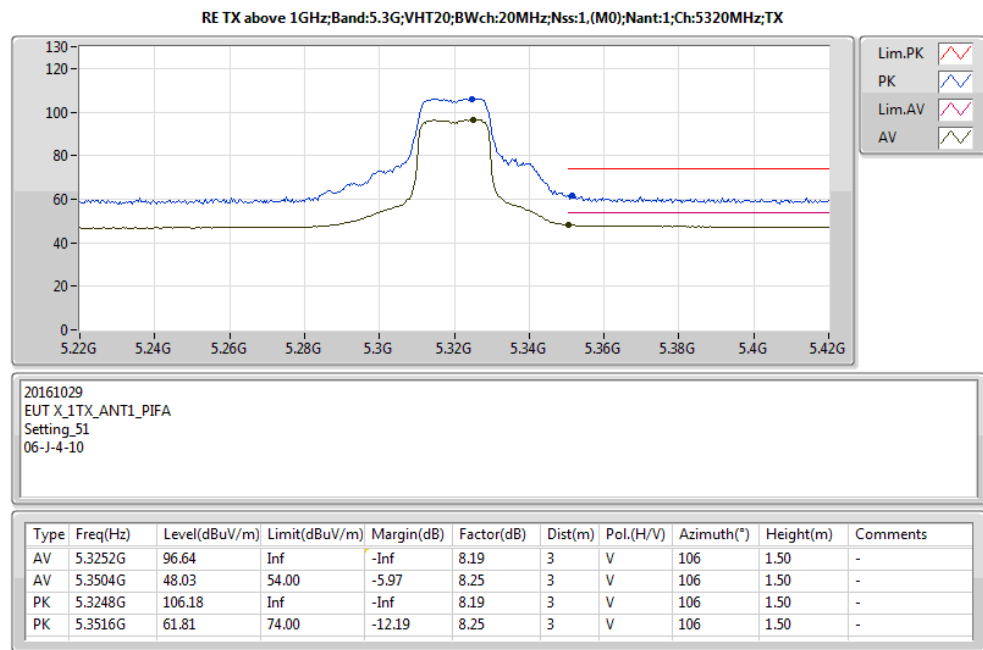
20161113
EUT X_1TX_ANT1_PIFA
Setting_57
02-N-2

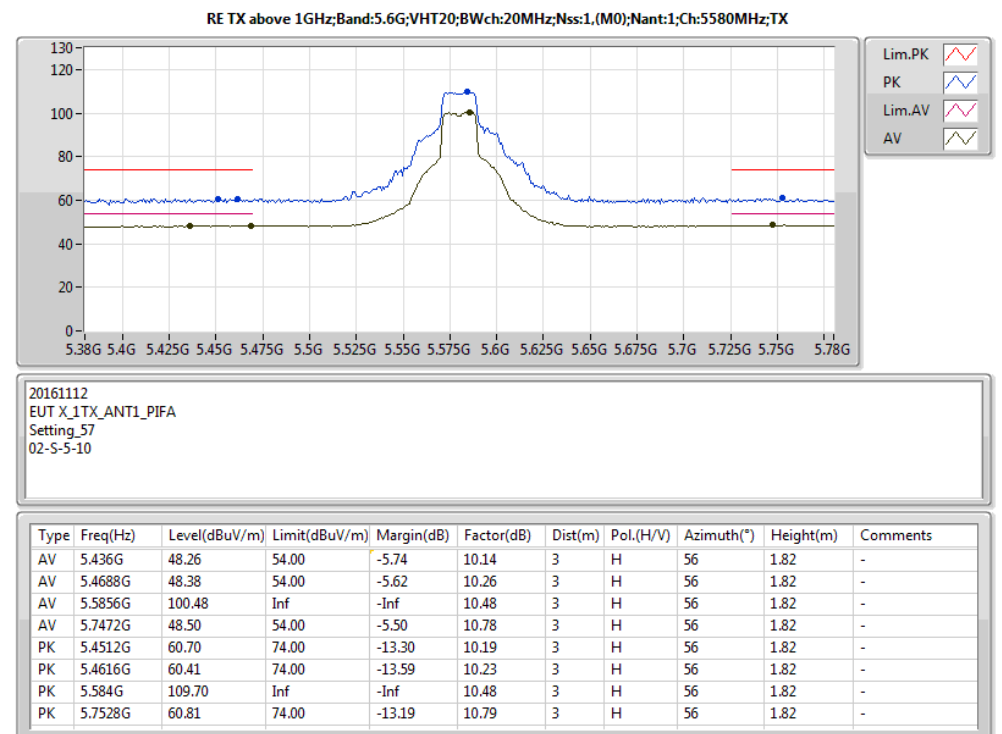
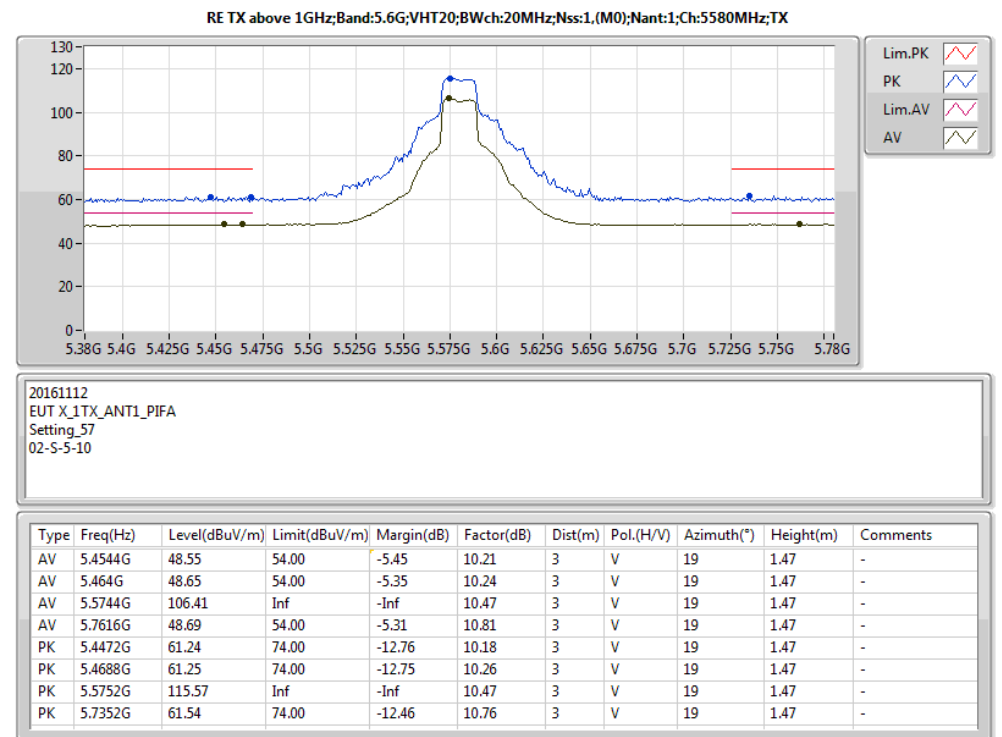
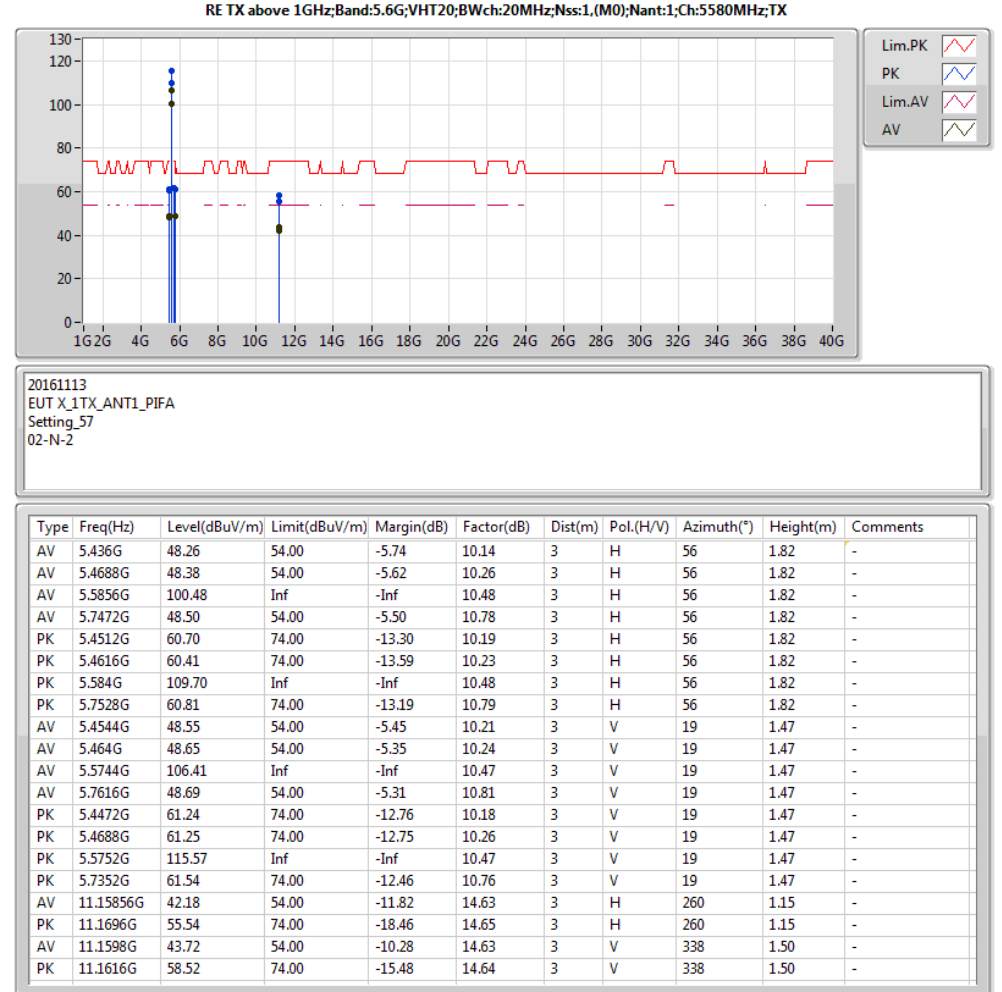
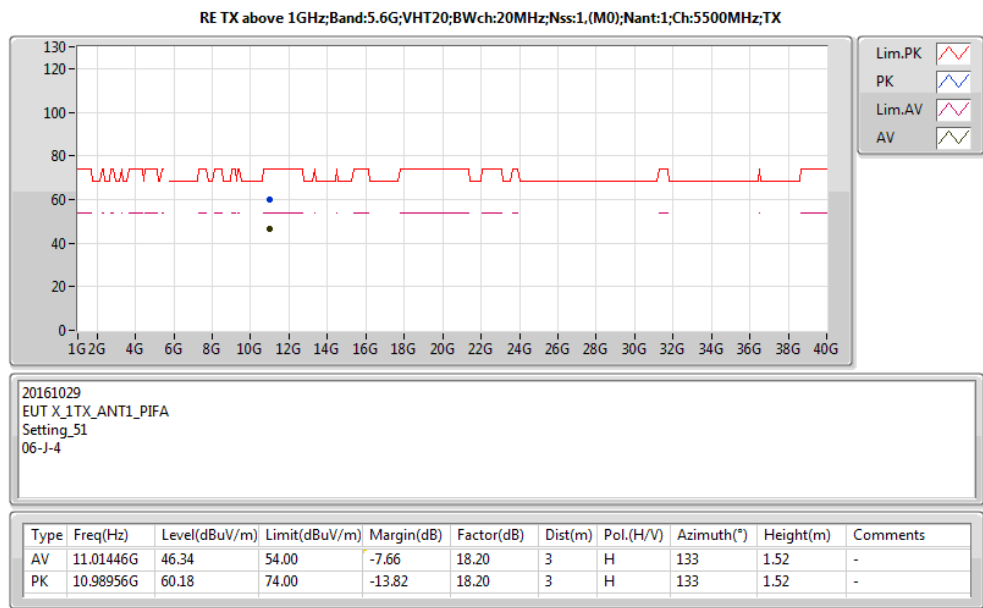
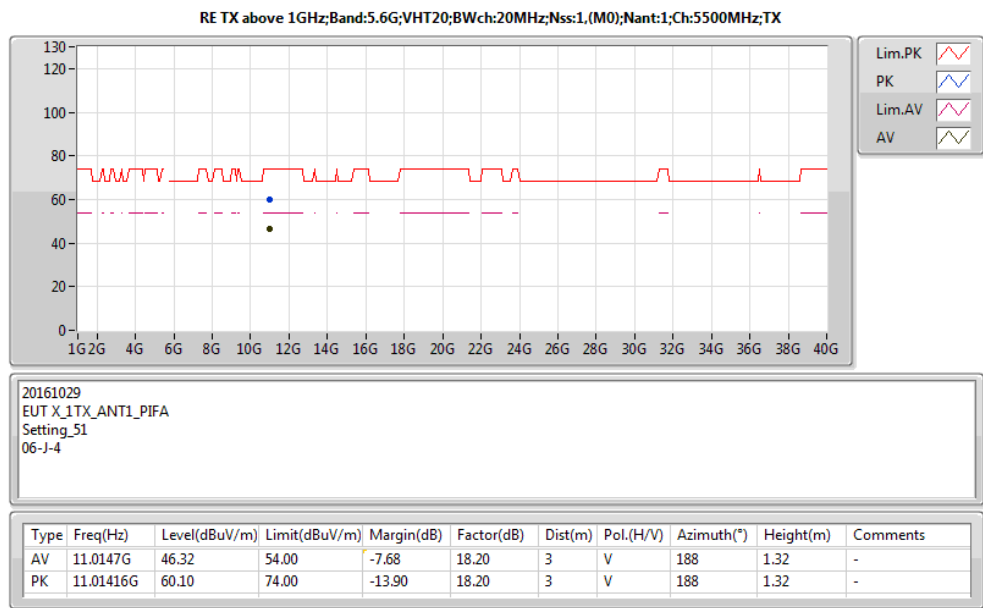
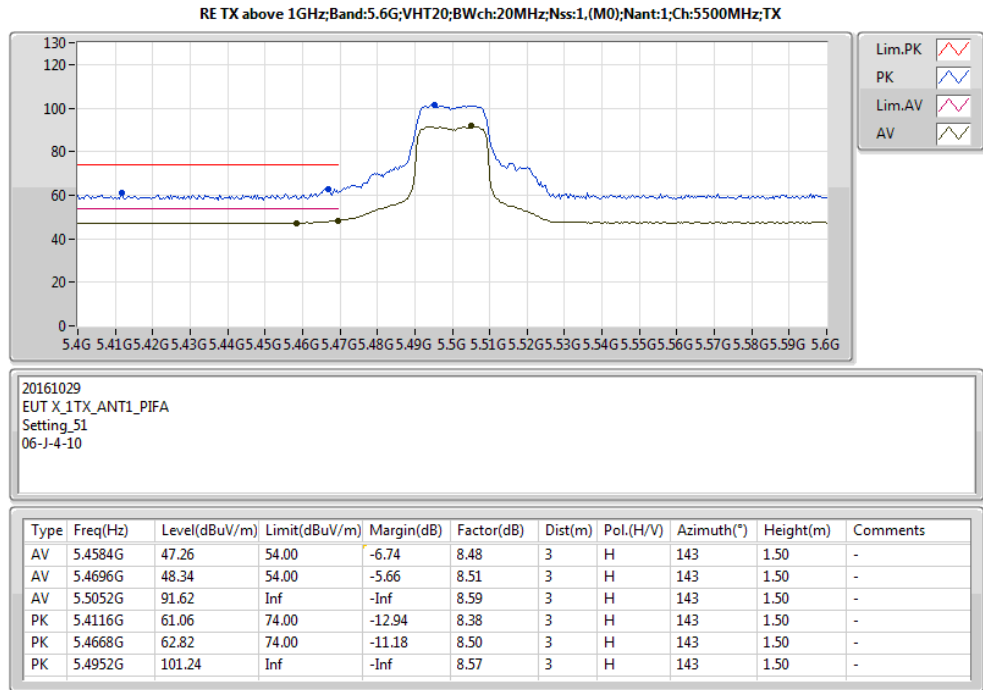
Type	Freq(Hz)	Level(dBuV/m)	Limit(dBuV/m)	Margin(dB)	Factor(dB)	Dist(m)	Pol.(H/V)	Azimuth(°)	Height(m)	Comments
AV	10.59832G	41.55	54.00	-12.45	14.63	3	H	324	1.56	-
AV	15.90428G	46.02	54.00	-7.98	16.04	3	H	336	2.08	-
PK	10.59944G	54.89	74.00	-19.11	14.63	3	H	324	1.56	-
PK	15.90924G	59.83	74.00	-14.17	16.02	3	H	336	2.08	-

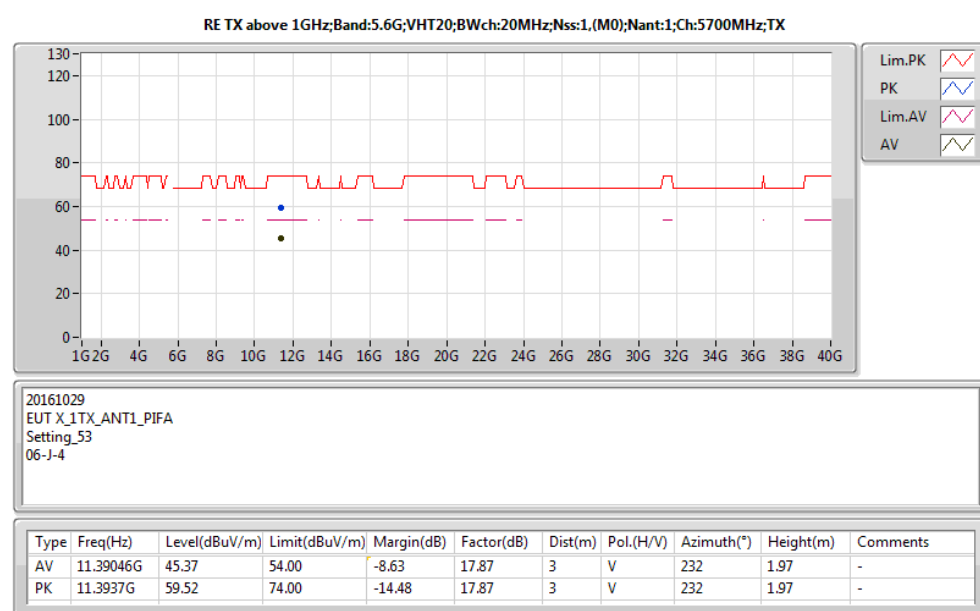
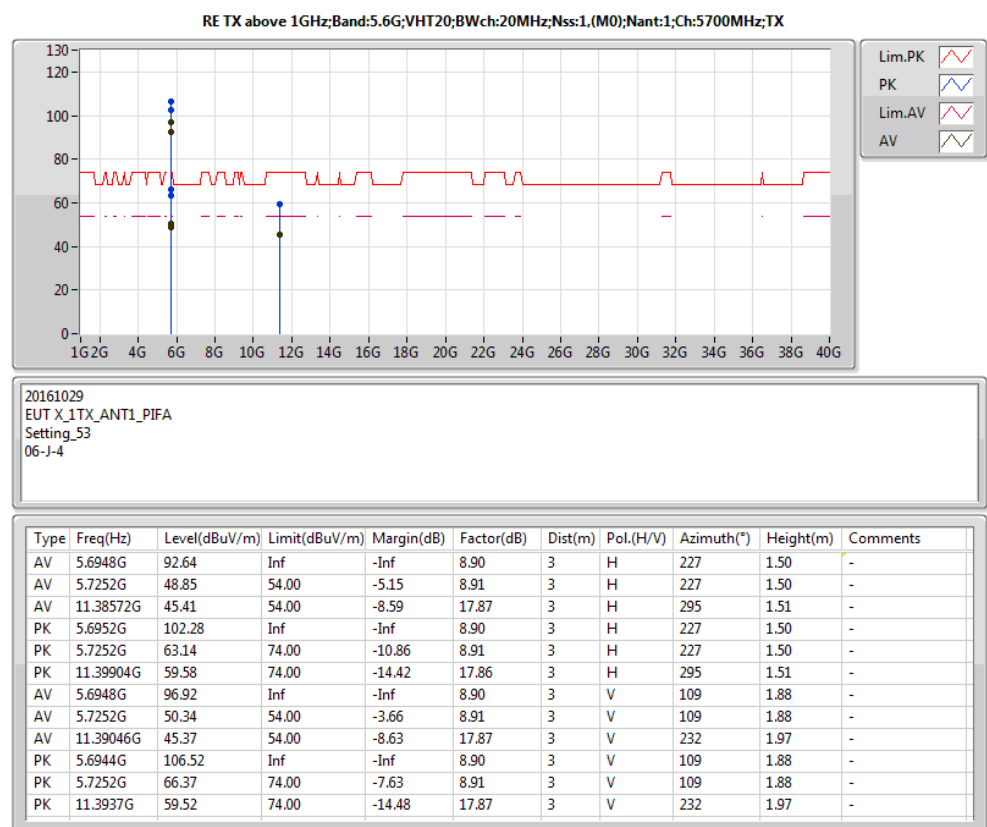
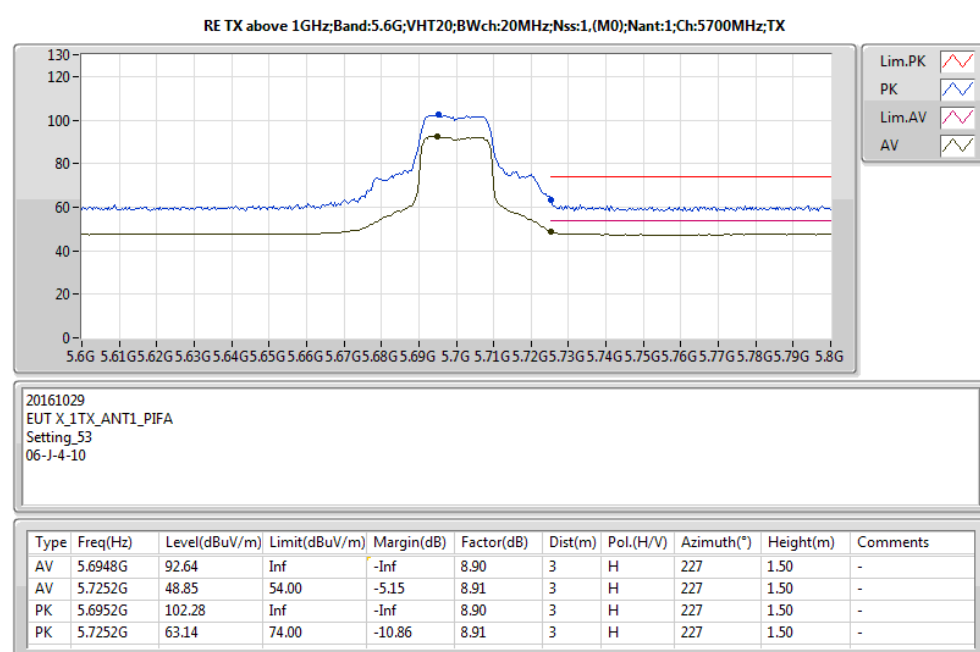
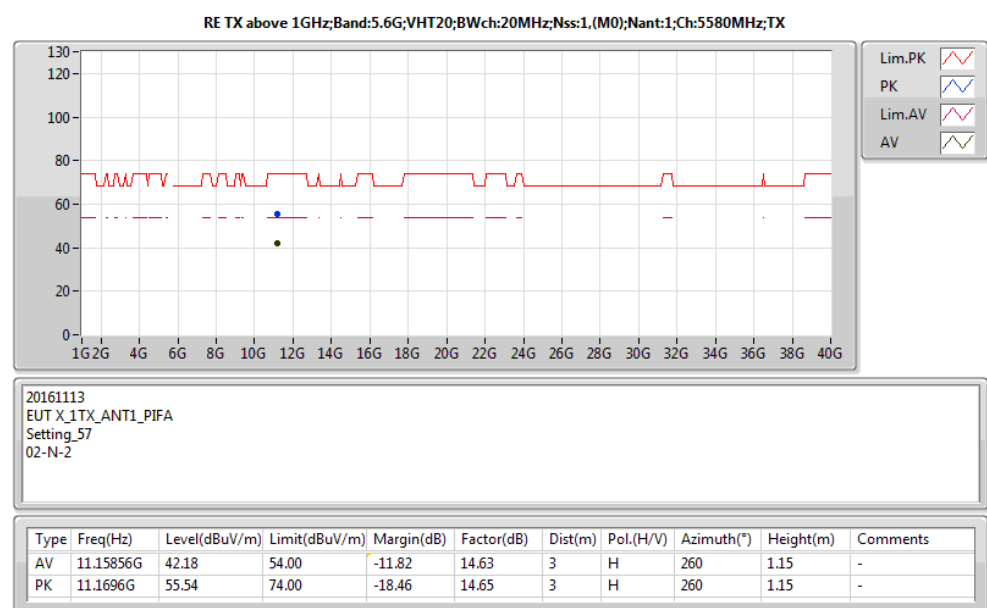
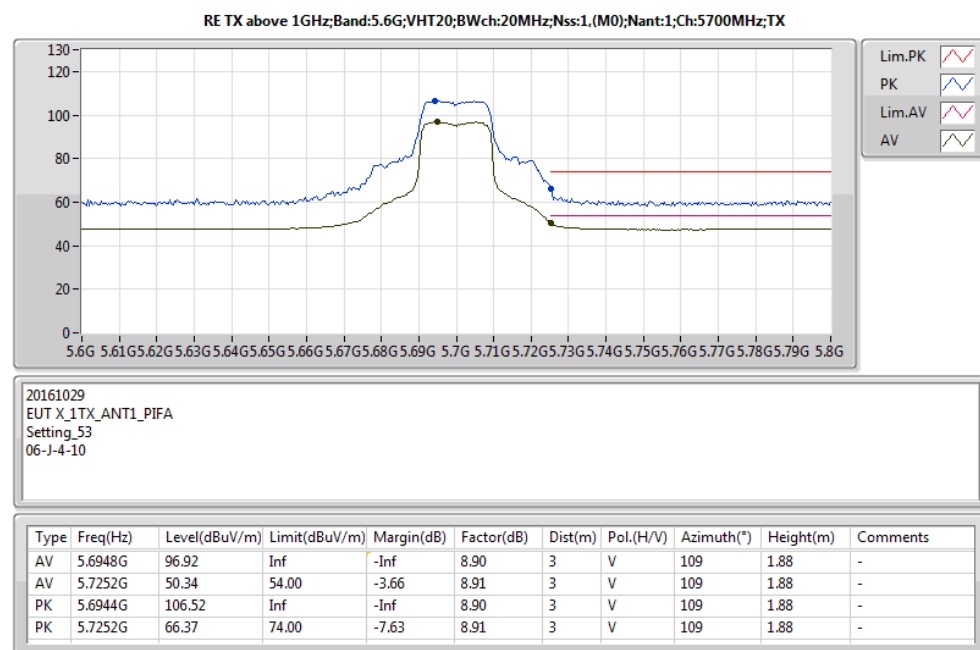
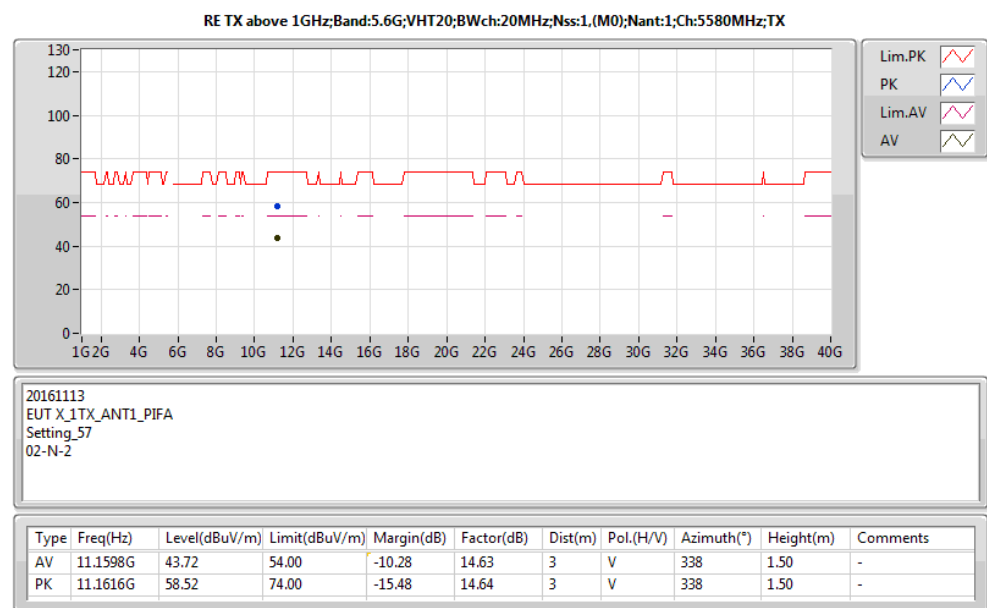


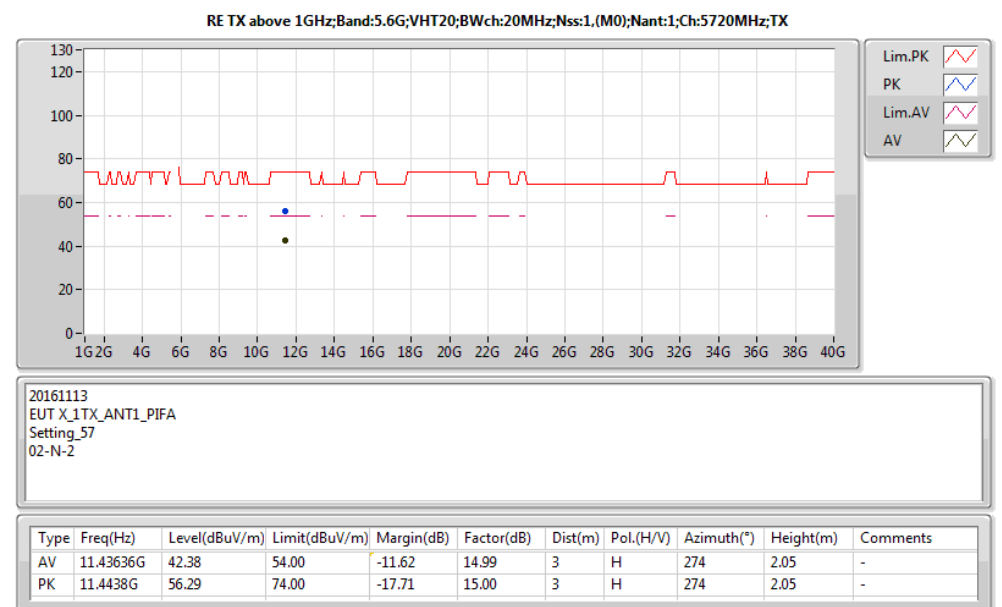
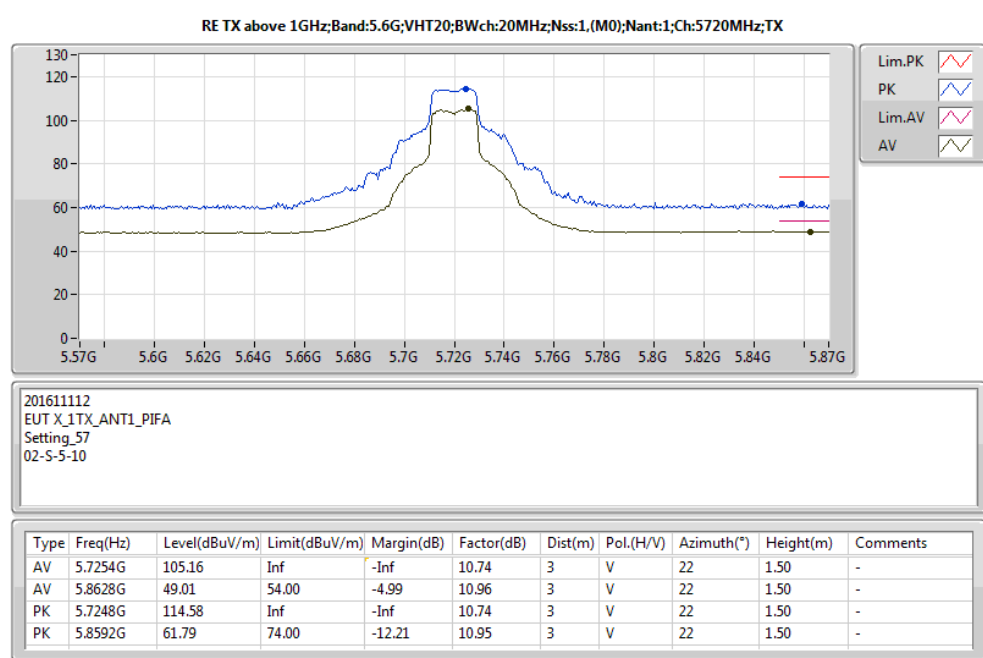
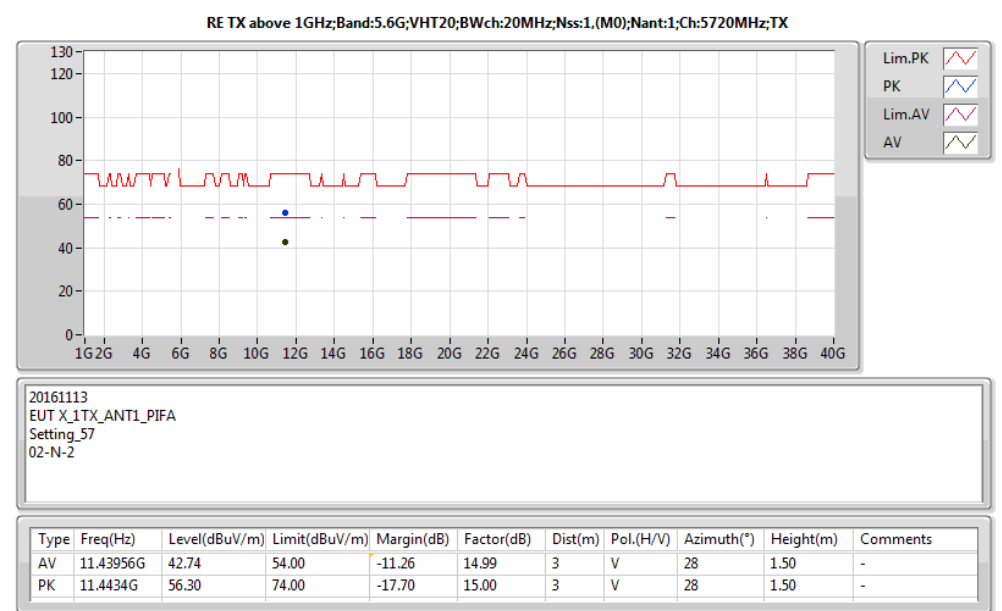
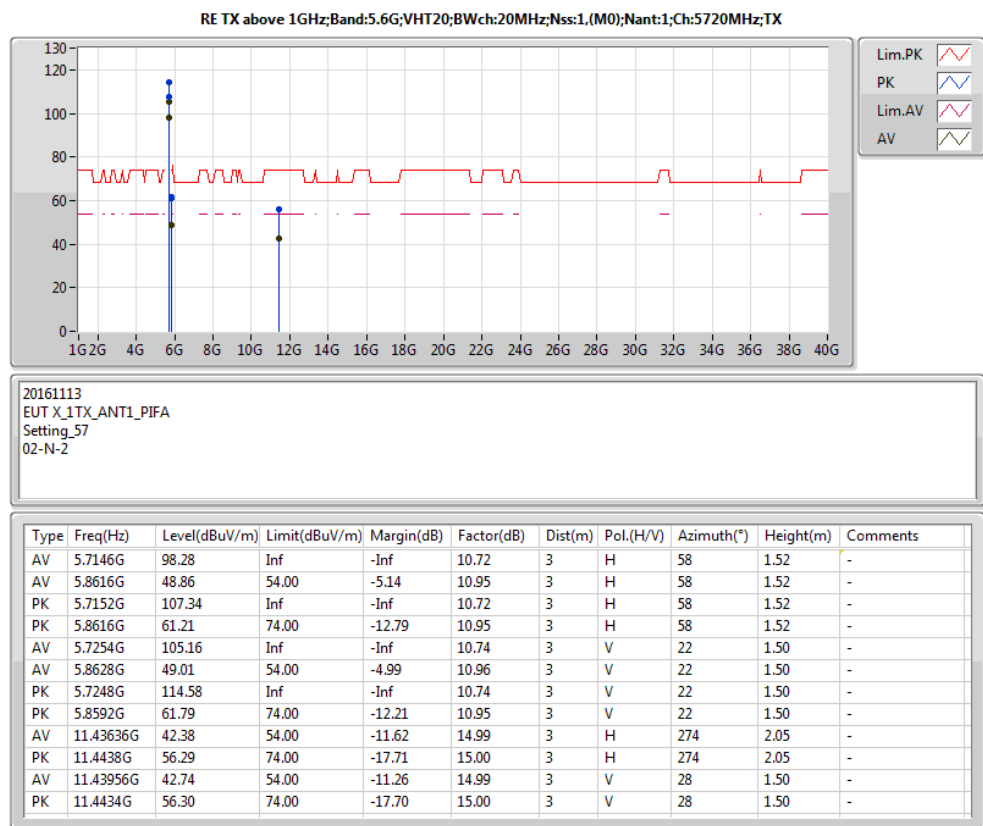
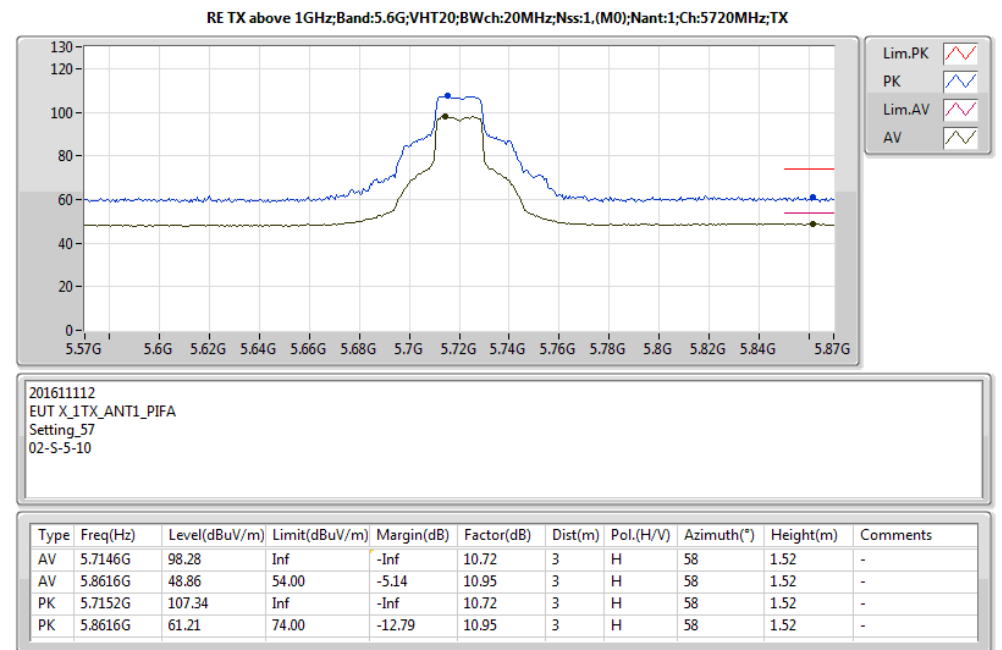
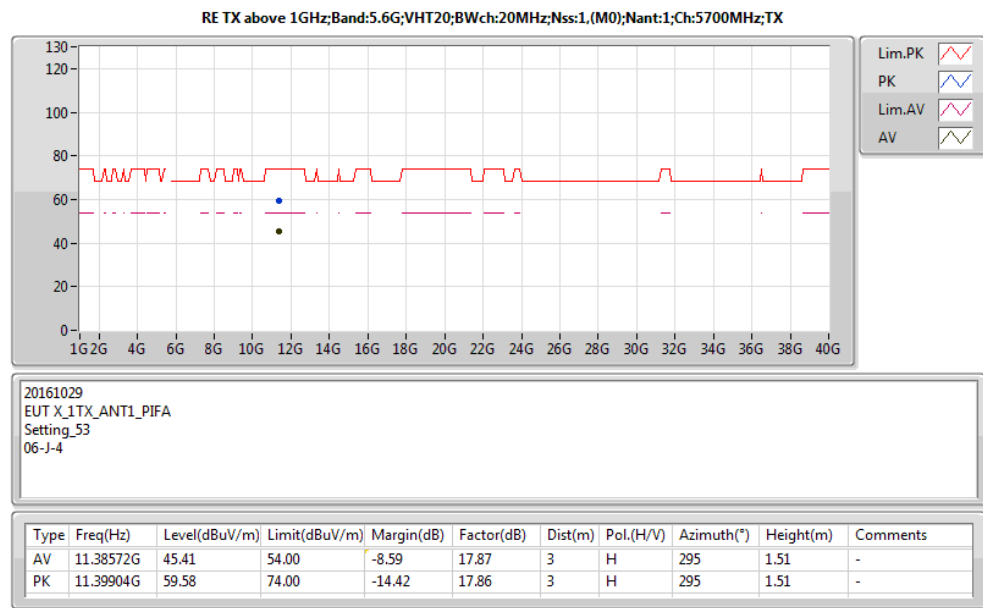
20161029
EUT X_1TX_ANT1_PIFA
Setting_51
06-J-4

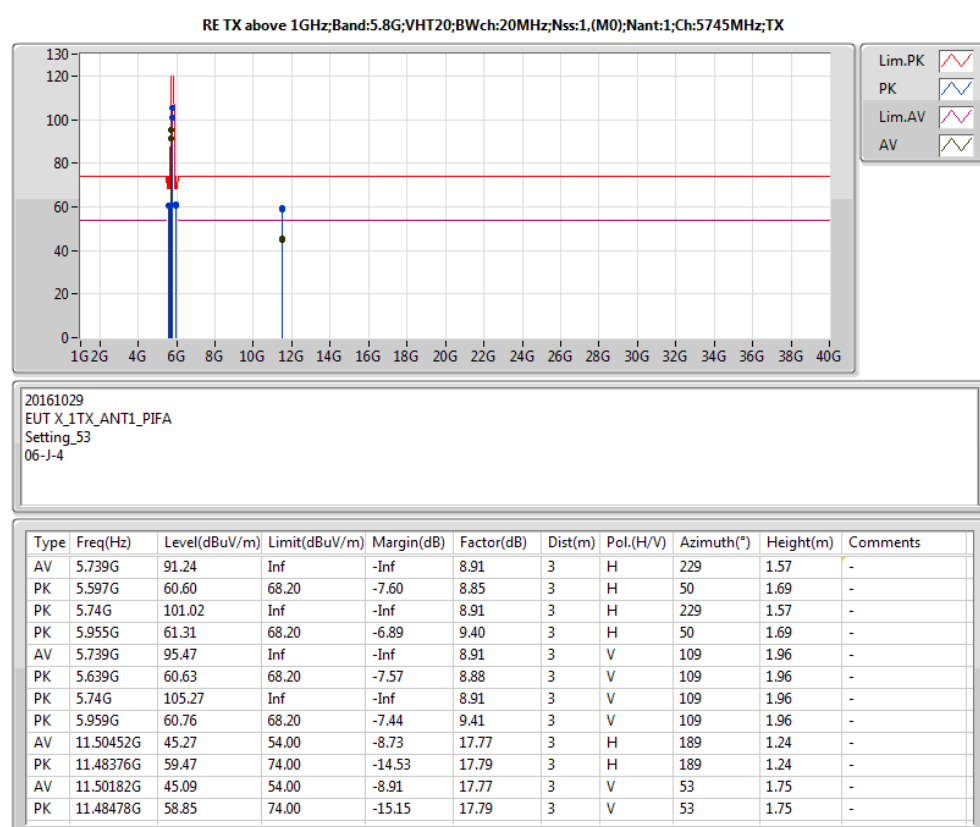
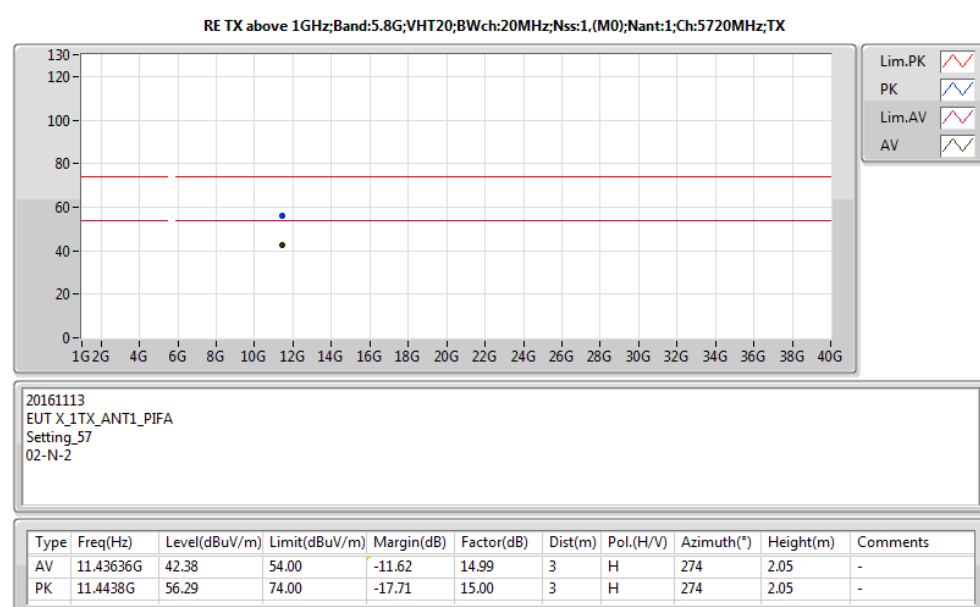
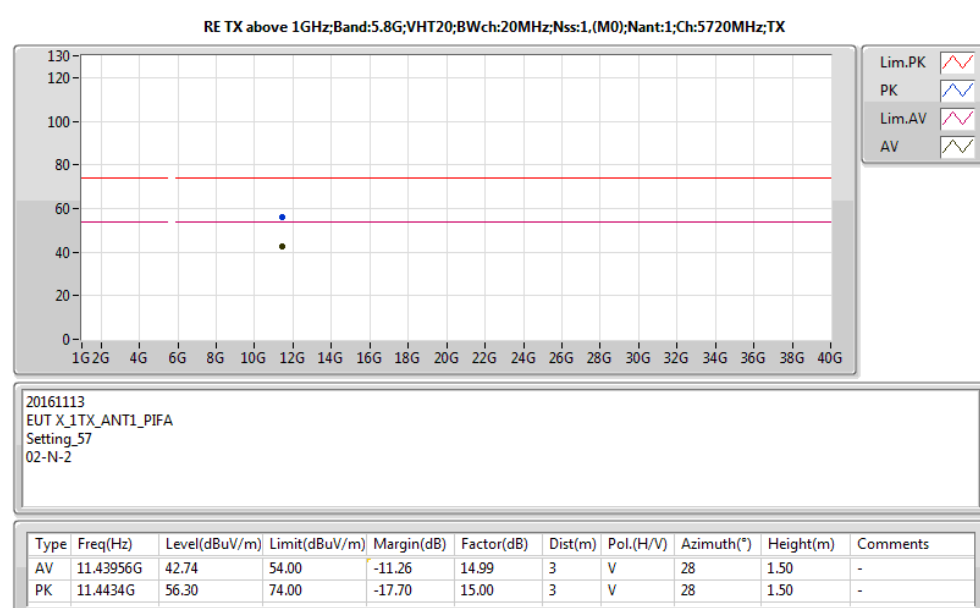
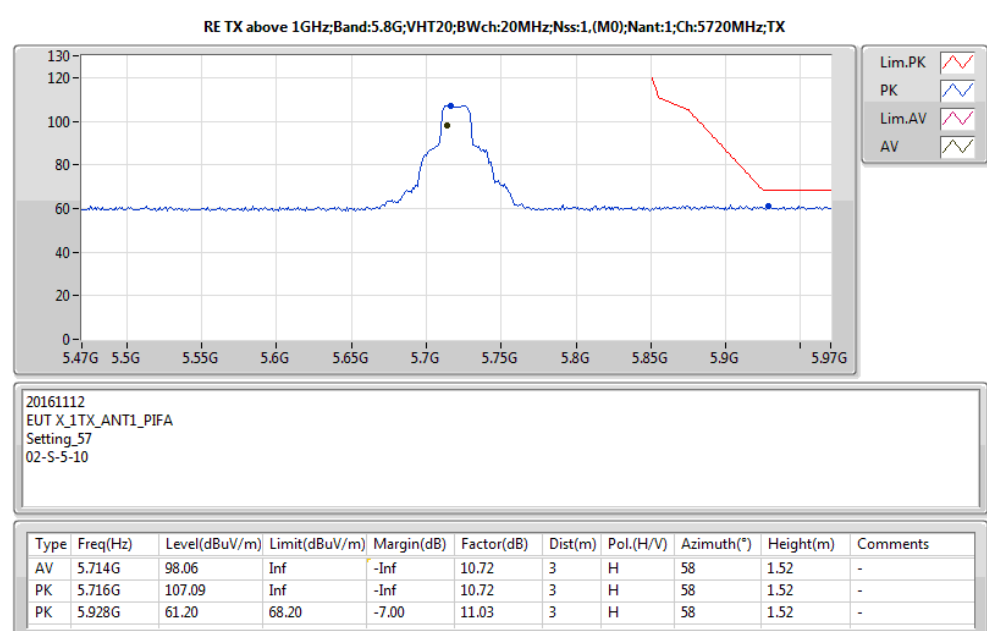
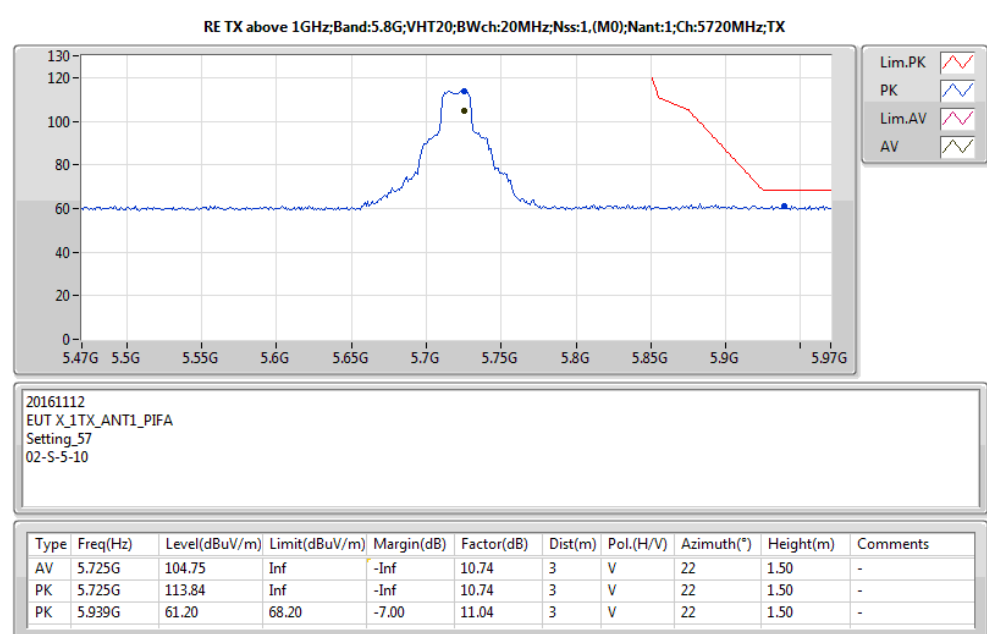
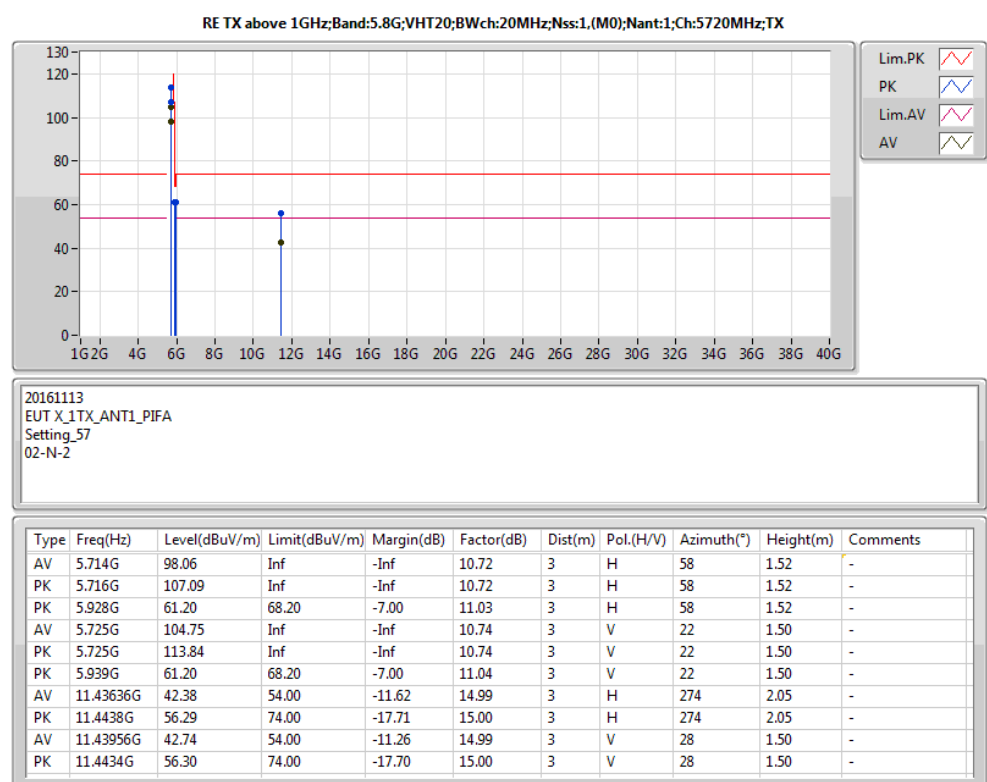
Type	Freq(Hz)	Level(dBuV/m)	Limit(dBuV/m)	Margin(dB)	Factor(dB)	Dist(m)	Pol.(H/V)	Azimuth(°)	Height(m)	Comments
AV	5.3148G	92.35	Inf	-Inf	8.17	3	H	241	1.54	-
AV	5.3504G	47.61	54.00	-6.39	8.25	3	H	241	1.54	-
AV	10.63112G	46.02	54.00	-7.98	17.77	3	H	214	1.62	-
AV	15.945G	49.21	54.00	-4.79	18.22	3	H	52	1.22	-
PK	5.3144G	102.09	Inf	-Inf	8.17	3	H	241	1.54	-
PK	5.3508G	62.86	74.00	-11.14	8.25	3	H	241	1.54	-
PK	10.64576G	59.82	74.00	-14.18	17.78	3	H	214	1.62	-
PK	15.96132G	63.44	74.00	-10.56	18.18	3	H	52	1.22	-
AV	5.3252G	96.64	Inf	-Inf	8.19	3	V	106	1.50	-
AV	5.3504G	48.03	54.00	-5.97	8.25	3	V	106	1.50	-
AV	10.63964G	47.01	54.00	-6.99	17.78	3	V	250	1.75	-
AV	15.94992G	49.26	54.00	-4.74	18.21	3	V	171	2.29	-
PK	5.3248G	106.18	Inf	-Inf	8.19	3	V	106	1.50	-
PK	5.3516G	61.81	74.00	-12.19	8.25	3	V	106	1.50	-
PK	10.6433G	61.67	74.00	-12.33	17.78	3	V	250	1.75	-
PK	15.95682G	63.22	74.00	-10.78	18.19	3	V	171	2.29	-

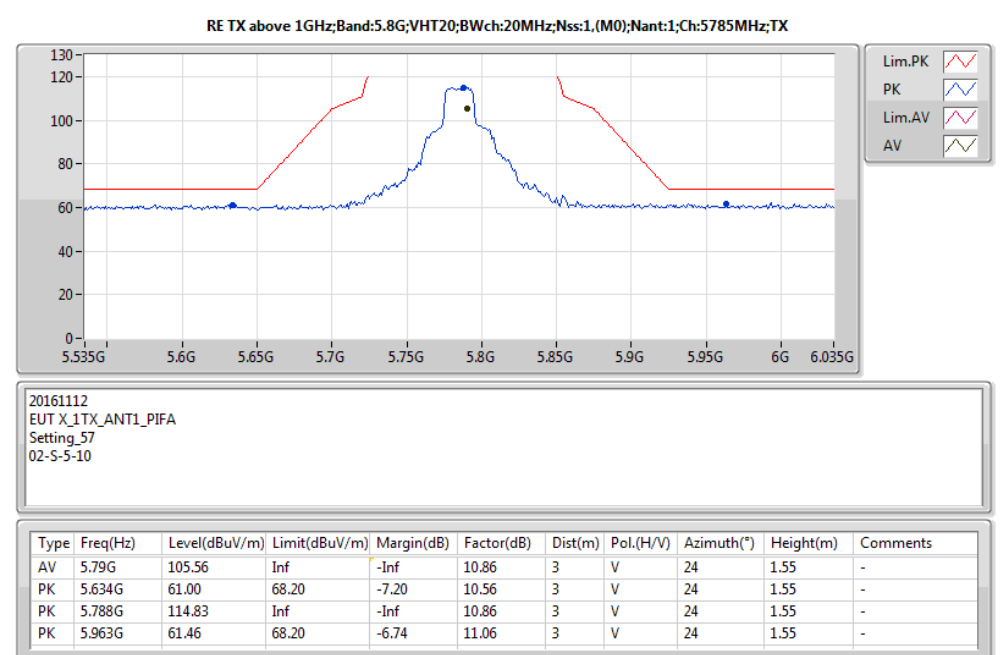
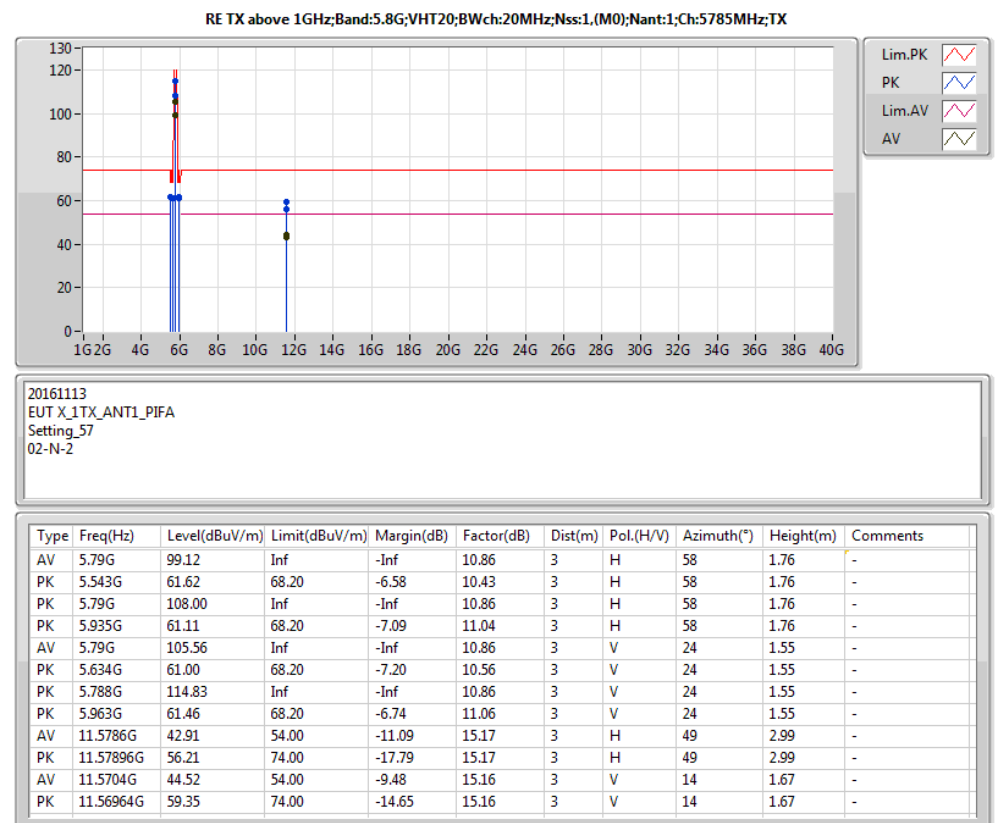
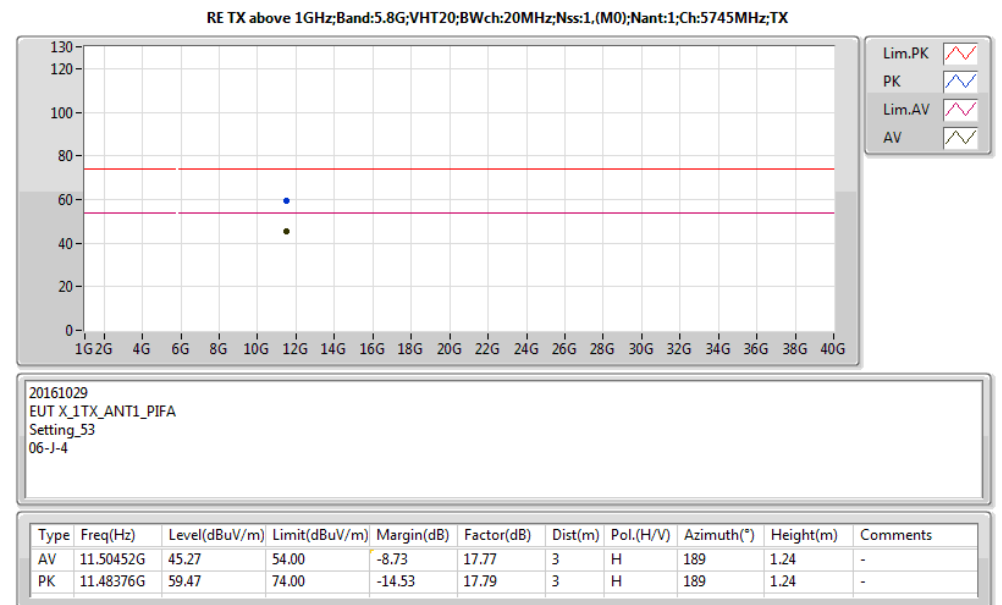
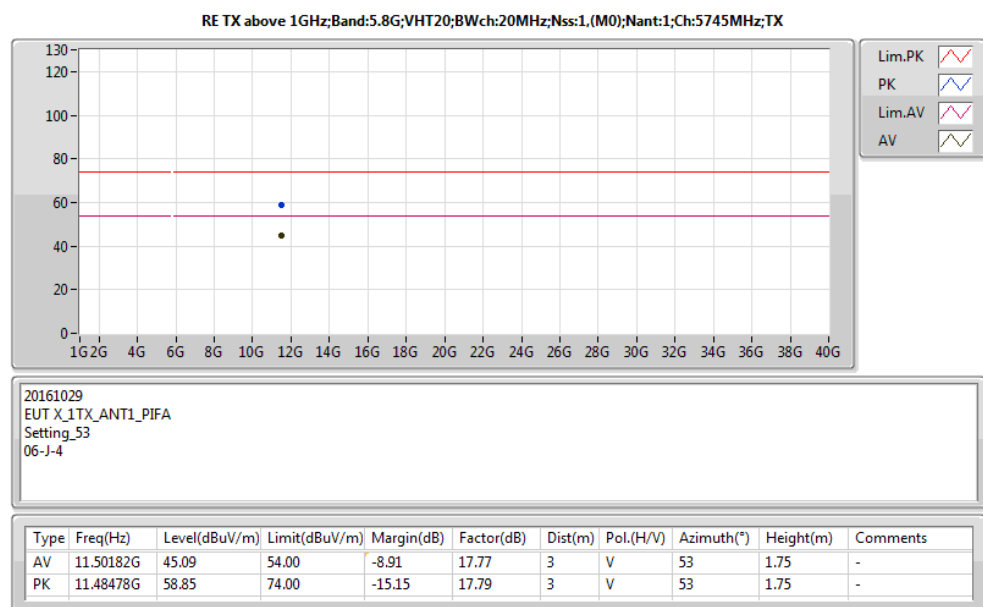
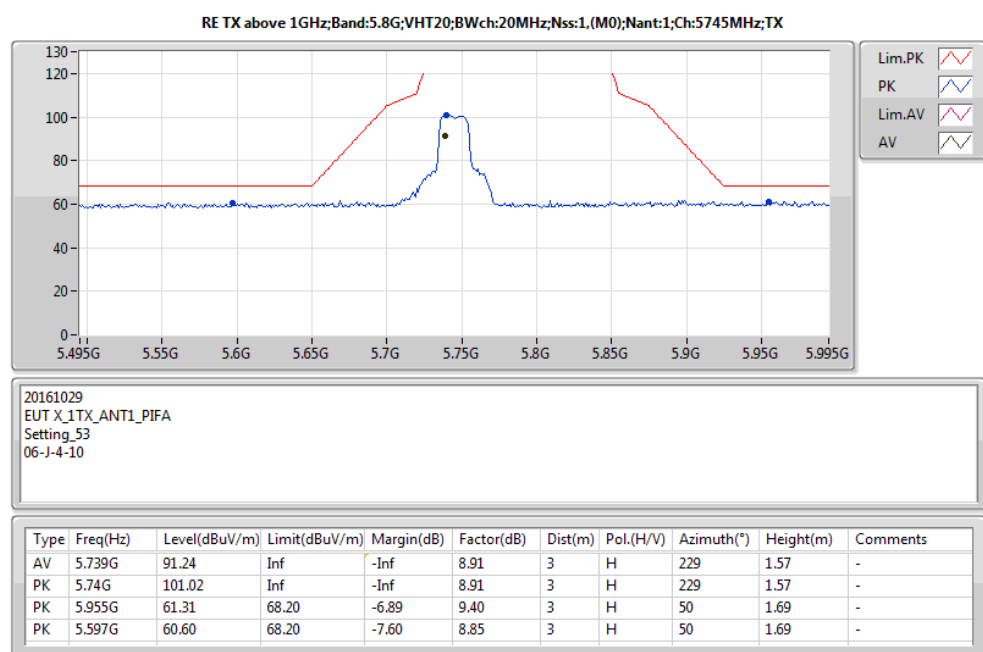
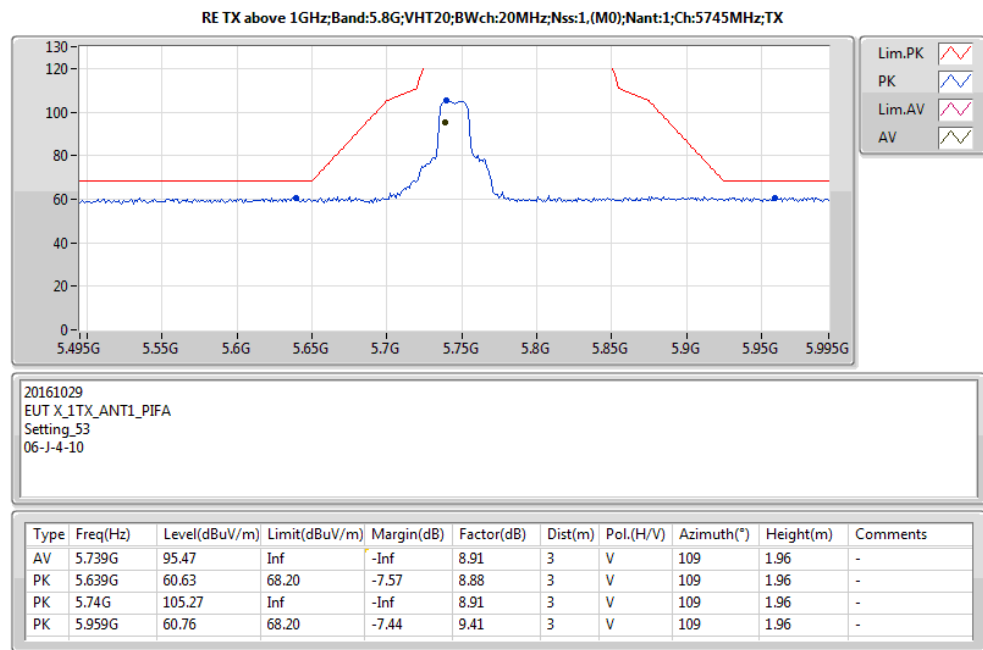


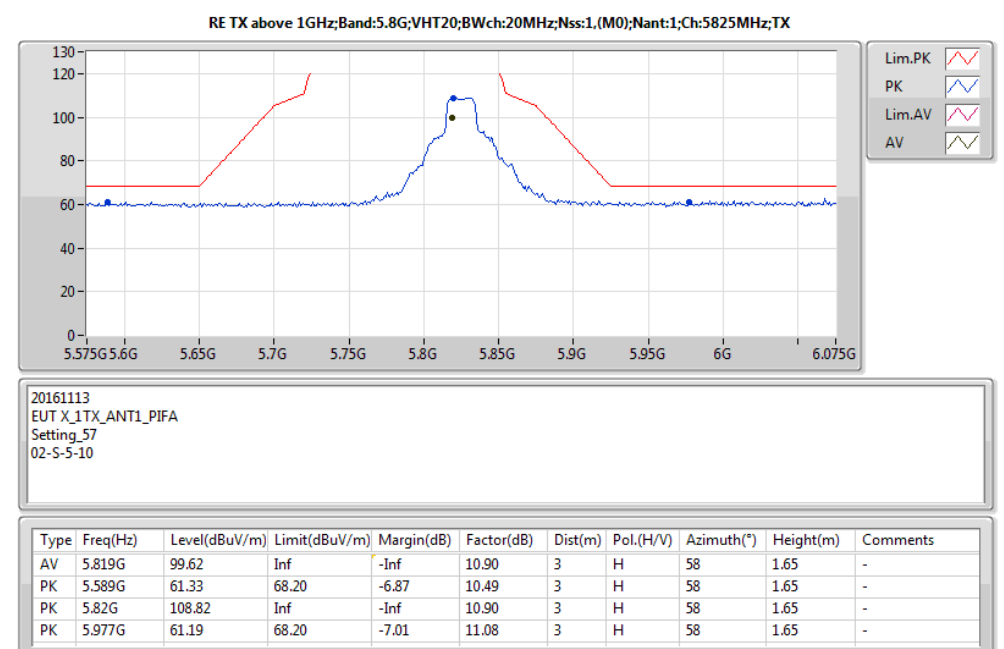
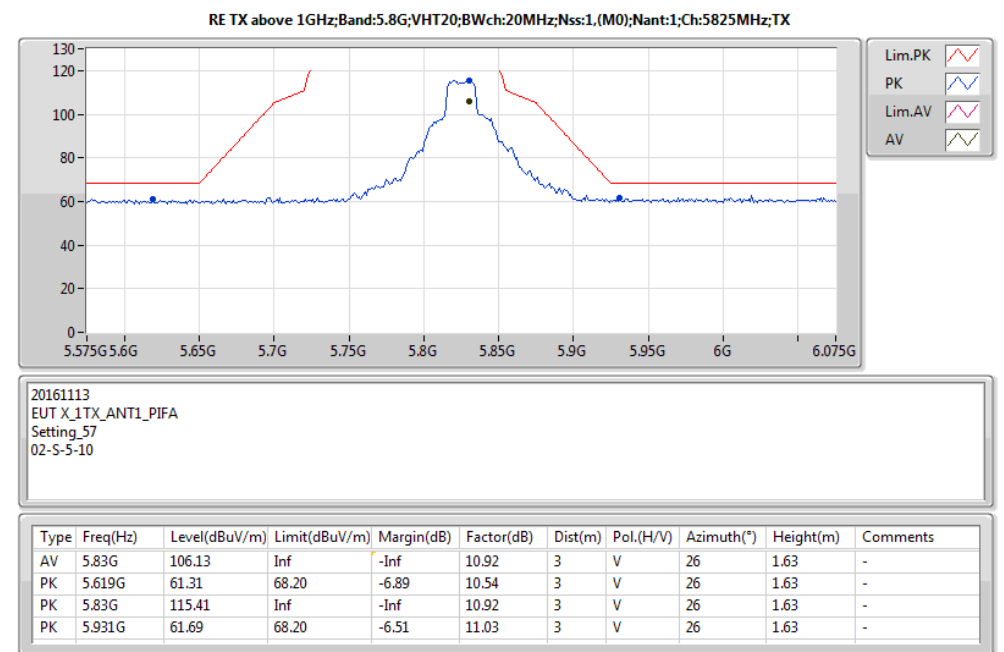
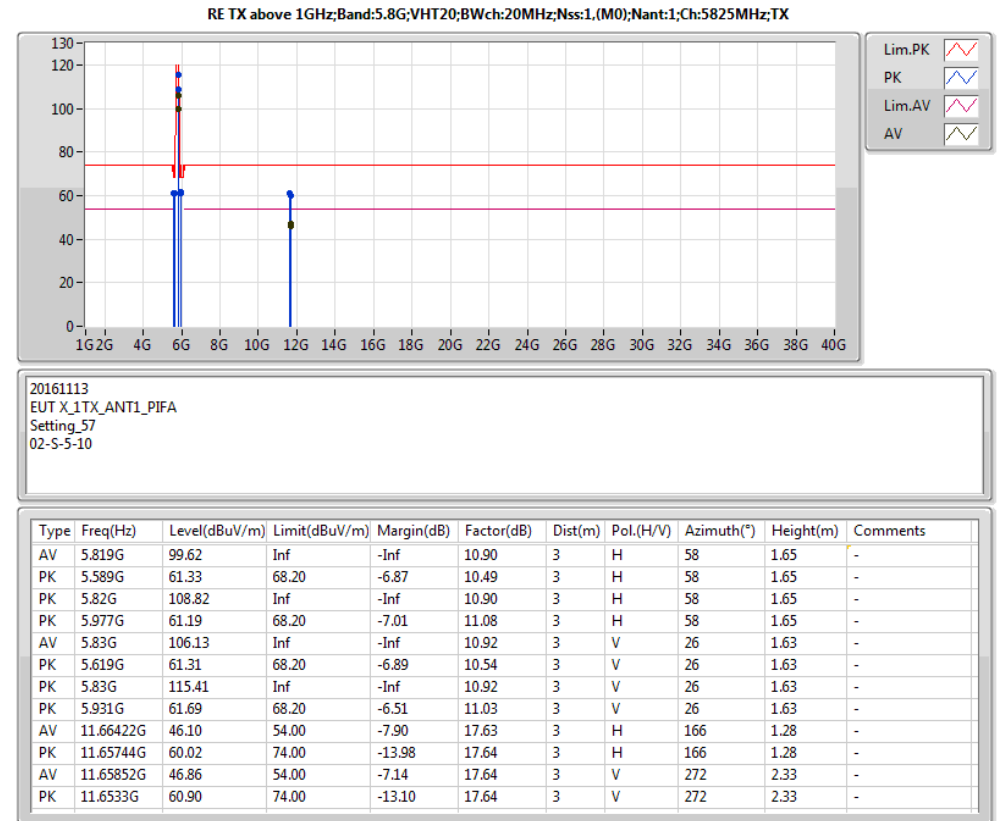
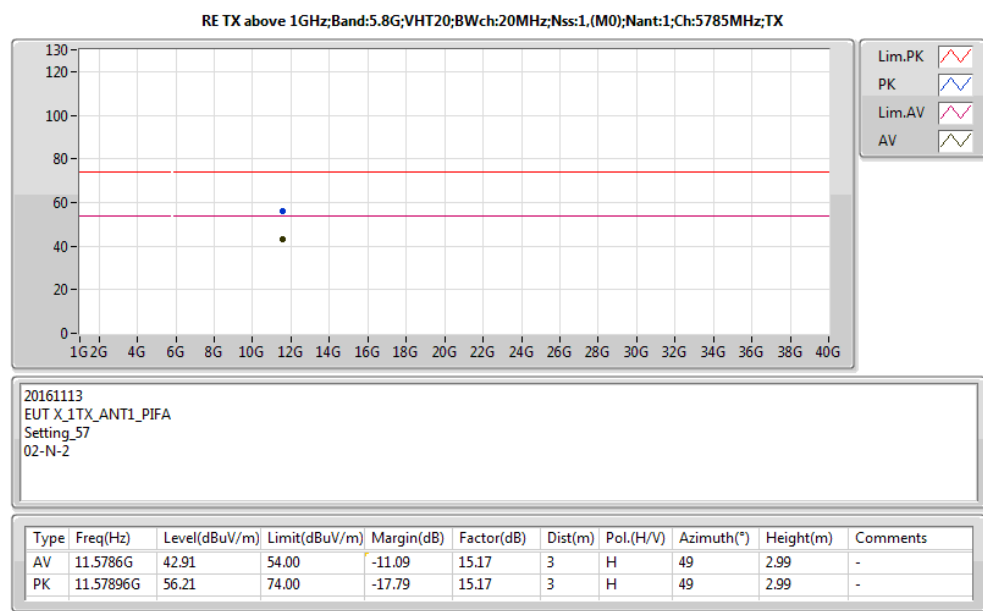
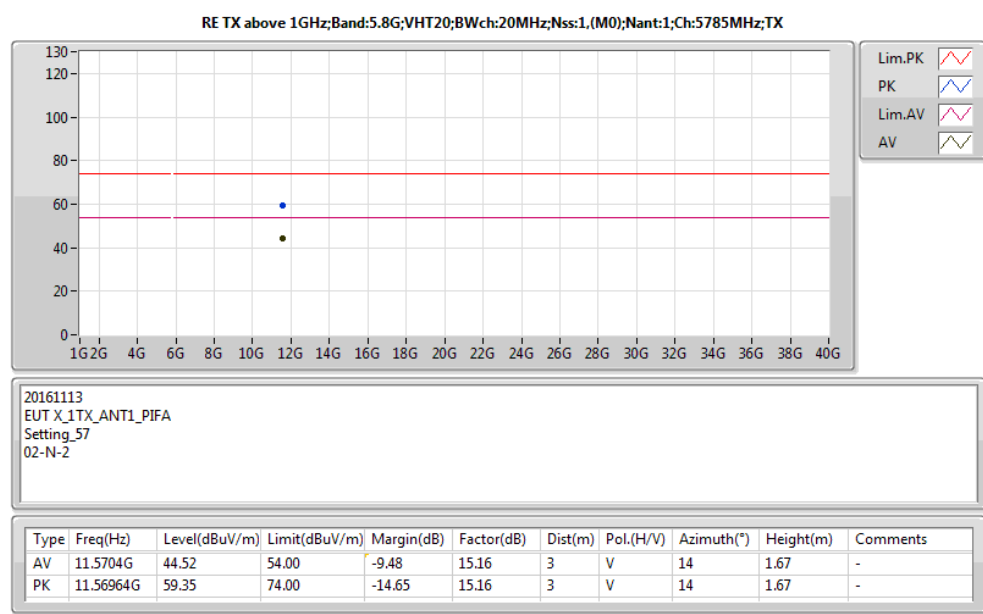
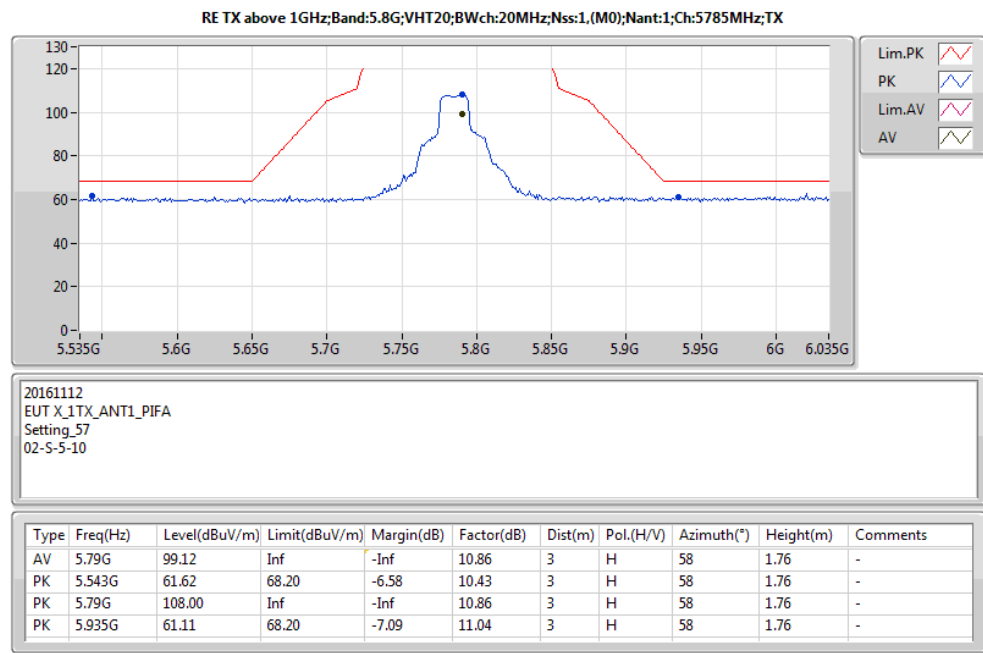




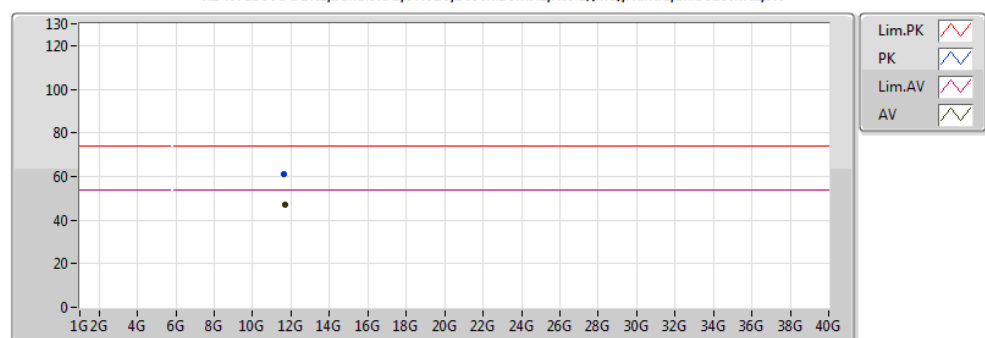








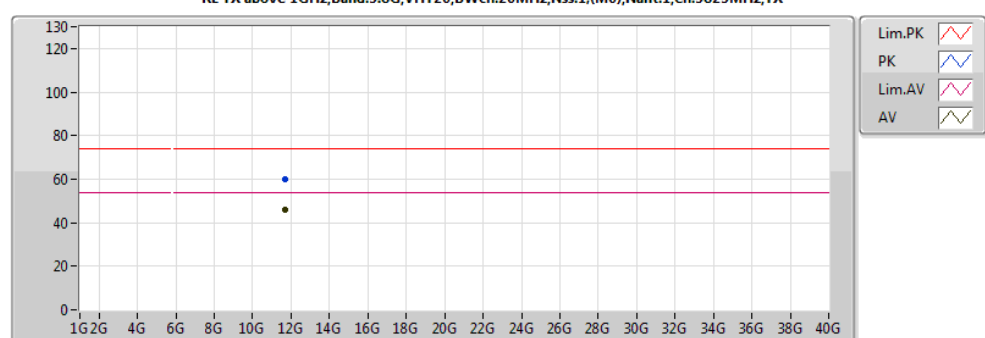
RE TX above 1GHz;Band:5.8G;VHT20;BWch:20MHz;Nss:1.(M0);Nant:1;Ch:5825MHz;TX



20161029
EUT X_1TX_ANT1_PIFA
Setting_57
06-J-4

Type	Freq(Hz)	Level(dBuV/m)	Limit(dBuV/m)	Margin(dB)	Factor(dB)	Dist(m)	Pol.(H/V)	Azimuth(°)	Height(m)	Comments
AV	11.65852G	46.86	54.00	-7.14	17.64	3	V	272	2.33	-
PK	11.6533G	60.90	74.00	-13.10	17.64	3	V	272	2.33	-

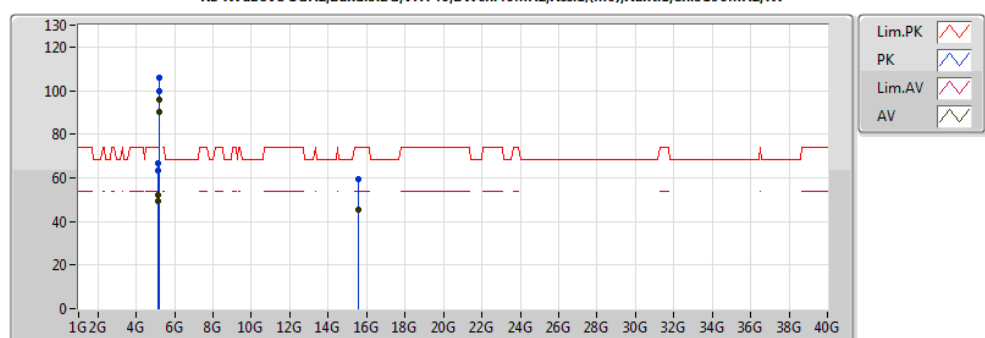
RE TX above 1GHz;Band:5.8G;VHT20;BWch:20MHz;Nss:1.(M0);Nant:1;Ch:5825MHz;TX



20161029
EUT X_1TX_ANT1_PIFA
Setting_57
06-J-4

Type	Freq(Hz)	Level(dBuV/m)	Limit(dBuV/m)	Margin(dB)	Factor(dB)	Dist(m)	Pol.(H/V)	Azimuth(°)	Height(m)	Comments
AV	11.66422G	46.10	54.00	-7.90	17.63	3	H	166	1.28	-
PK	11.65744G	60.02	74.00	-13.98	17.64	3	H	166	1.28	-

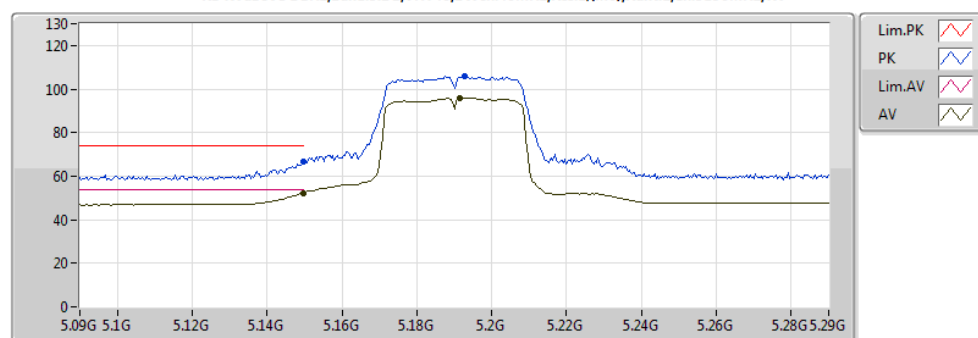
RE TX above 1GHz;Band:5.2G;VHT40;BWch:40MHz;Nss:1.(M0);Nant:1;Ch:5190MHz;TX



20161028
EUT X_1TX_ANT1_PIFA
Setting_38
02-N-2-10

Type	Freq(Hz)	Level(dBuV/m)	Limit(dBuV/m)	Margin(dB)	Factor(dB)	Dist(m)	Pol.(H/V)	Azimuth(°)	Height(m)	Comments
AV	5.1496G	49.25	54.00	-4.75	9.04	3	H	34	2.15	-
AV	5.188G	90.22	Inf	-Inf	9.19	3	H	34	2.15	-
PK	5.1496G	63.07	74.00	-10.93	9.04	3	H	34	2.15	-
PK	5.188G	100.02	Inf	-Inf	9.19	3	H	34	2.15	-
AV	5.1496G	52.31	54.00	-1.69	9.04	3	V	1	1.69	-
AV	5.1916G	96.07	Inf	-Inf	9.21	3	V	1	1.69	-
PK	5.1496G	66.61	74.00	-7.39	9.04	3	V	1	1.69	-
PK	5.1928G	106.10	Inf	-Inf	9.21	3	V	1	1.69	-
AV	15.57692G	45.28	54.00	-8.72	17.03	3	H	12	1.80	-
PK	15.5778G	59.21	74.00	-14.79	17.03	3	H	12	1.80	-
AV	15.57708G	45.11	54.00	-8.89	17.03	3	V	9	1.50	-
PK	15.57192G	59.39	74.00	-14.61	17.04	3	V	9	1.50	-

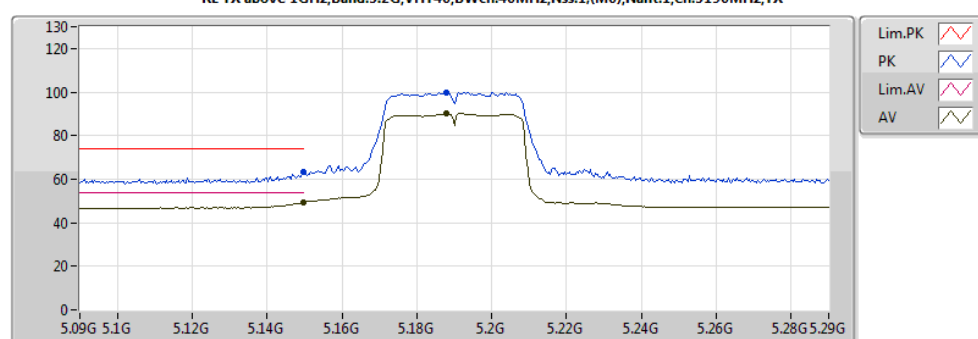
RE TX above 1GHz;Band:5.2G;VHT40;BWch:40MHz;Nss:1.(M0);Nant:1;Ch:5190MHz;TX



20161111
EUT X_1TX_ANT1_PIFA
Setting_38
02-N-2-10

Type	Freq(Hz)	Level(dBuV/m)	Limit(dBuV/m)	Margin(dB)	Factor(dB)	Dist(m)	Pol.(H/V)	Azimuth(°)	Height(m)	Comments
AV	5.1496G	52.31	54.00	-1.69	9.04	3	V	1	1.69	-
AV	5.1916G	96.07	Inf	-Inf	9.21	3	V	1	1.69	-
PK	5.1496G	66.61	74.00	-7.39	9.04	3	V	1	1.69	-
PK	5.1928G	106.10	Inf	-Inf	9.21	3	V	1	1.69	-

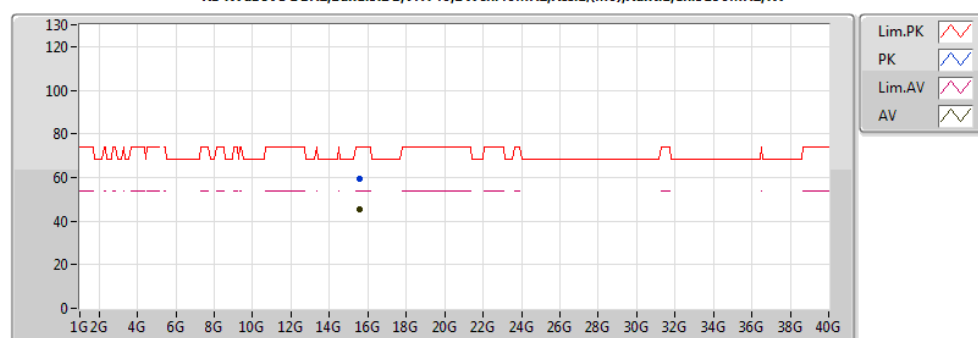
RE TX above 1GHz;Band:5.2G;VHT40;BWch:40MHz;Nss:1.(M0);Nant:1;Ch:5190MHz;TX



20161111
EUT X_1TX_ANT1_PIFA
Setting_38
02-N-2-10

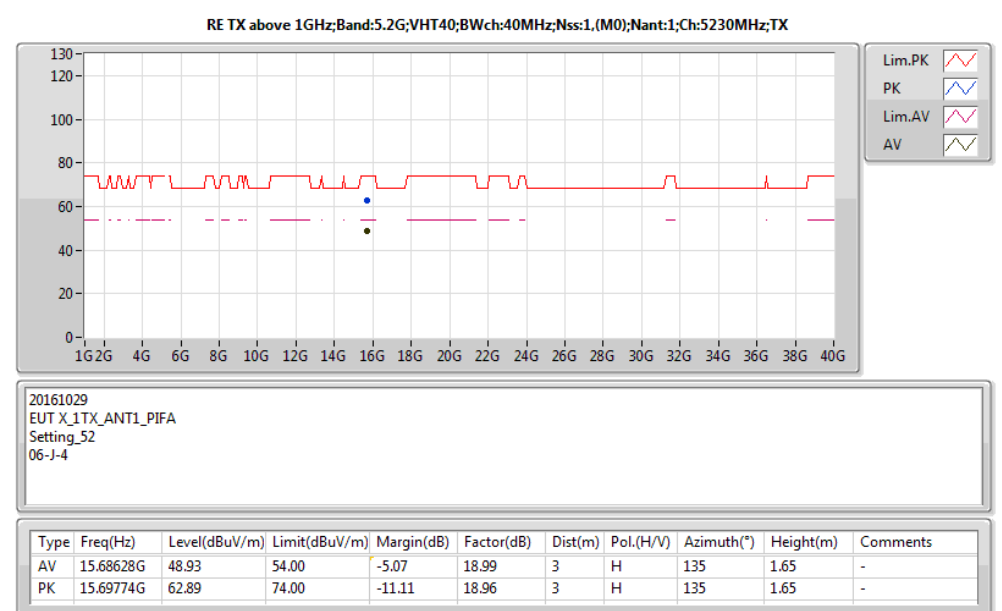
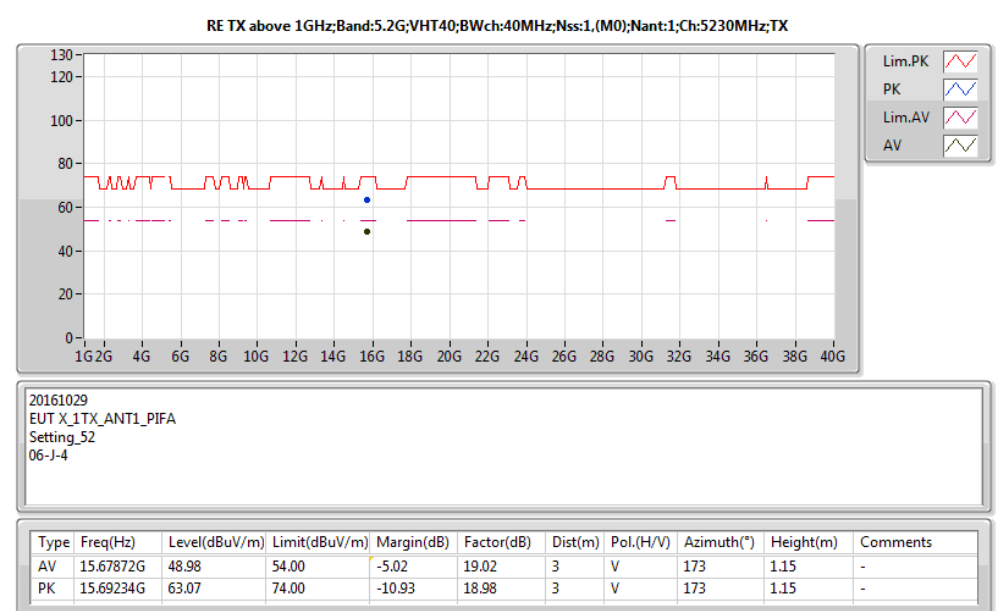
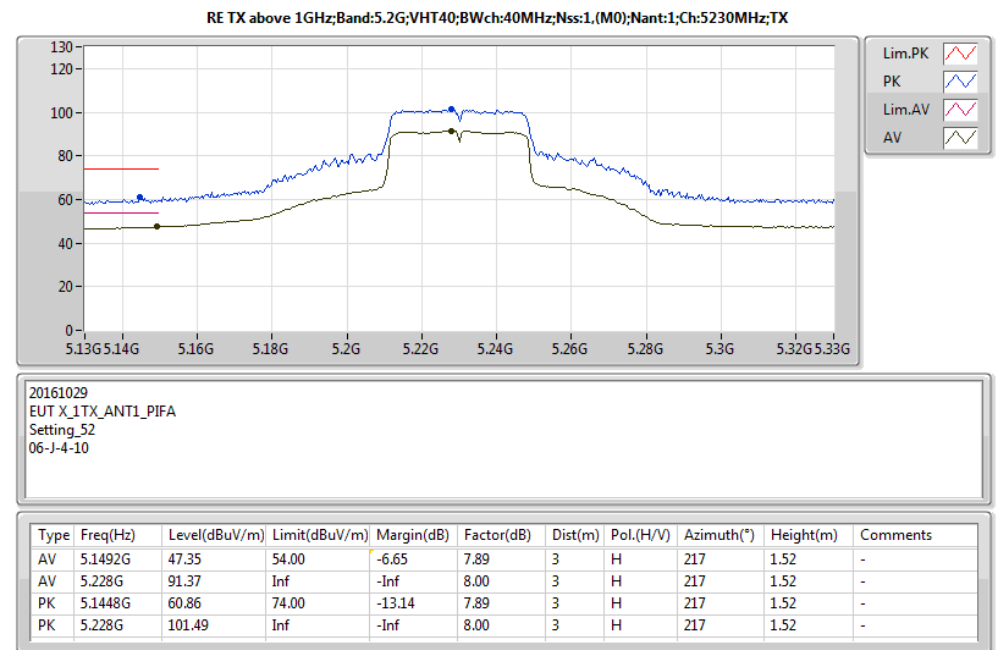
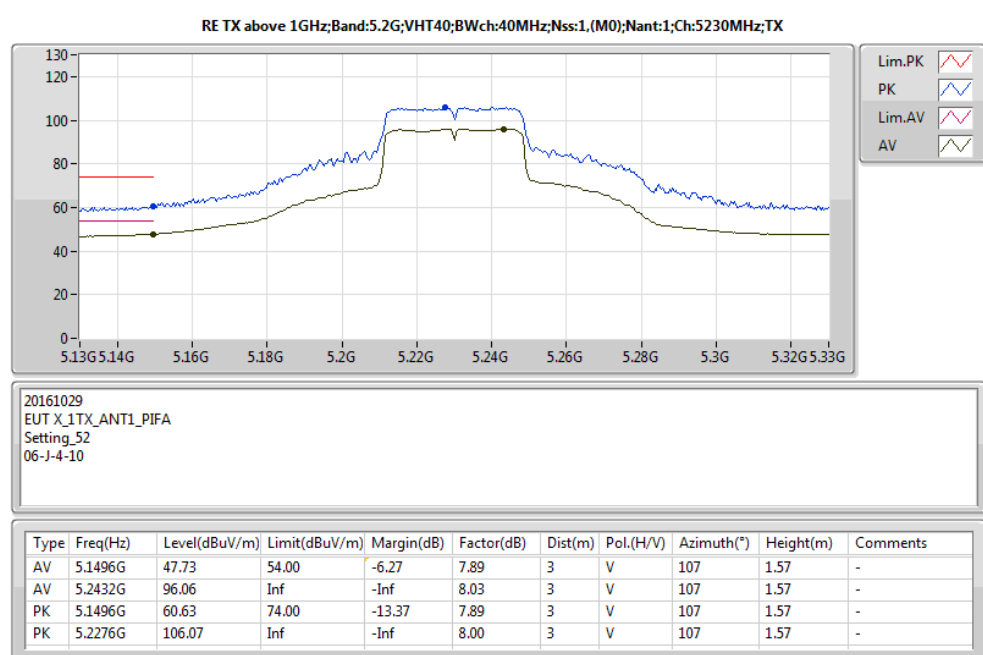
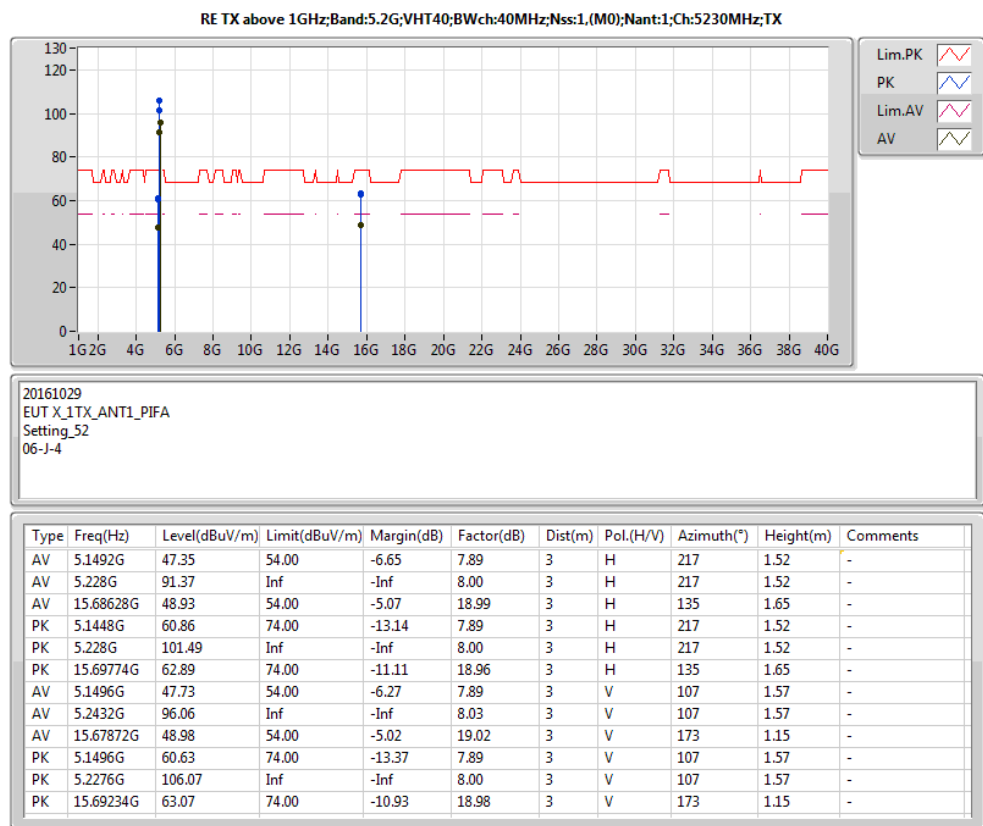
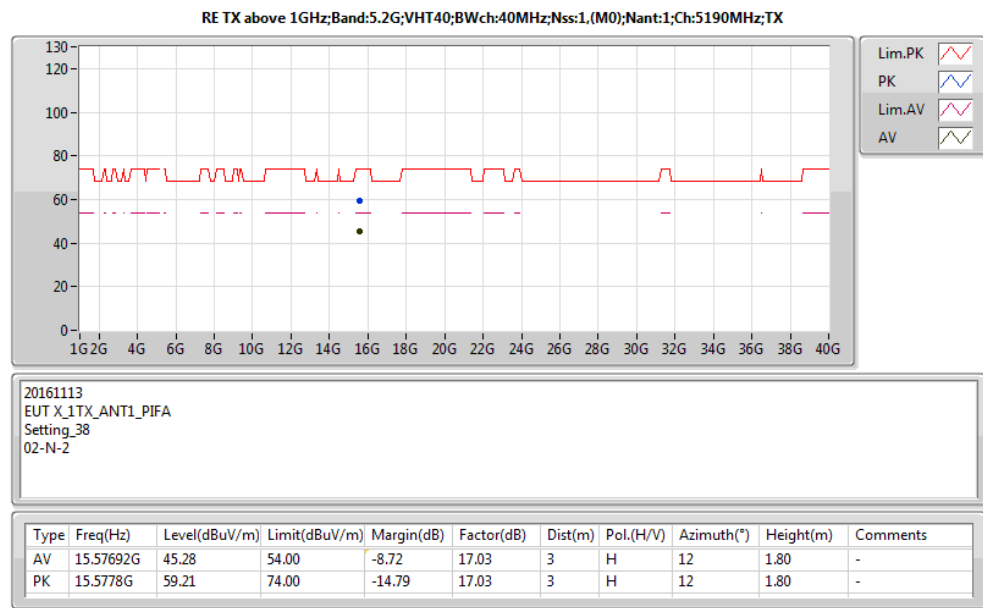
Type	Freq(Hz)	Level(dBuV/m)	Limit(dBuV/m)	Margin(dB)	Factor(dB)	Dist(m)	Pol.(H/V)	Azimuth(°)	Height(m)	Comments
AV	5.1496G	49.25	54.00	-4.75	9.04	3	H	34	2.15	-
AV	5.188G	90.22	Inf	-Inf	9.19	3	H	34	2.15	-
PK	5.1496G	63.07	74.00	-10.93	9.04	3	H	34	2.15	-
PK	5.188G	100.02	Inf	-Inf	9.19	3	H	34	2.15	-

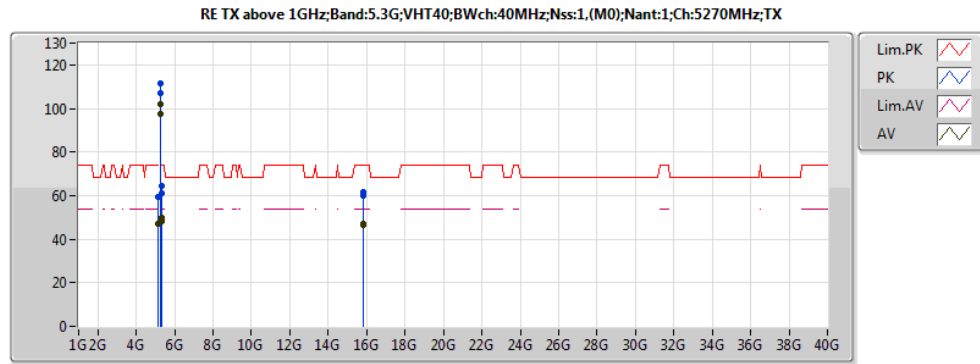
RE TX above 1GHz;Band:5.2G;VHT40;BWch:40MHz;Nss:1.(M0);Nant:1;Ch:5190MHz;TX



20161113
EUT X_1TX_ANT1_PIFA
Setting_38
02-N-2

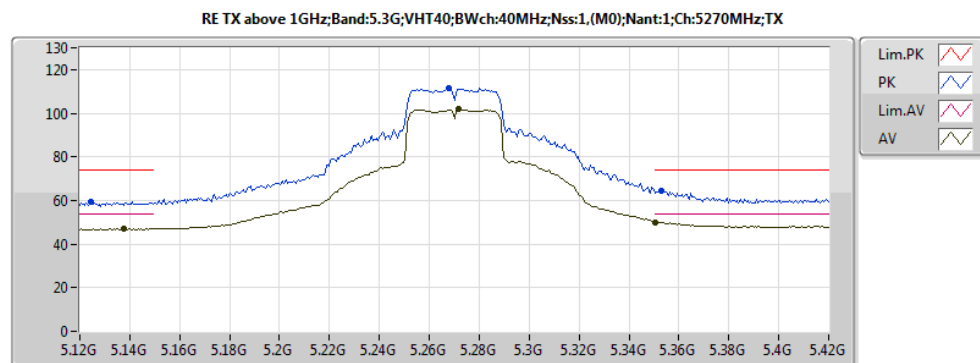
Type	Freq(Hz)	Level(dBuV/m)	Limit(dBuV/m)	Margin(dB)	Factor(dB)	Dist(m)	Pol.(H/V)	Azimuth(°)	Height(m)	Comments
AV	15.57708G	45.11	54.00	-8.89	17.03	3	V	9	1.50	-
PK	15.57192G	59.39	74.00	-14.61	17.04	3	V	9	1.50	-





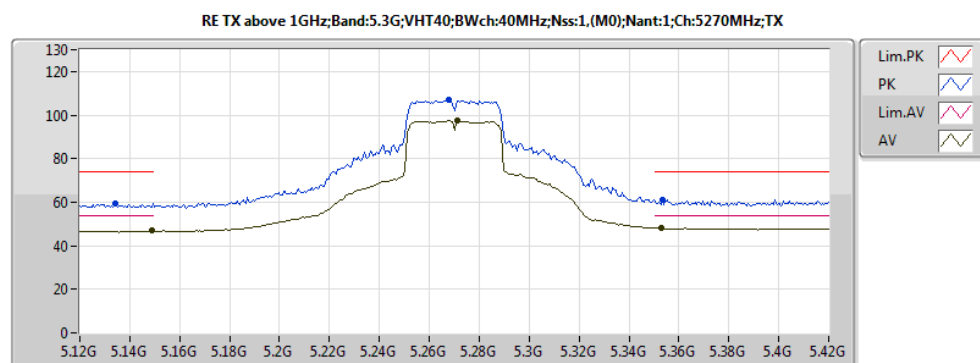
20161112
EUT X_1TX_ANT1_PIFA
Setting_57
02-S-5-10

Type	Freq(Hz)	Level(dBuV/m)	Limit(dBuV/m)	Margin(dB)	Factor(dB)	Dist(m)	Pol.(H/V)	Azimuth(*)	Height(m)	Comments
AV	5.1488G	46.93	54.00	-7.07	9.04	3	H	51	1.63	-
AV	5.2712G	97.43	Inf	-Inf	9.52	3	H	51	1.63	-
AV	5.3528G	48.16	54.00	-5.84	9.83	3	H	51	1.63	-
PK	5.1344G	59.36	74.00	-14.64	8.98	3	H	51	1.63	-
PK	5.2676G	107.12	Inf	-Inf	9.50	3	H	51	1.63	-
PK	5.3534G	61.17	74.00	-12.83	9.83	3	H	51	1.63	-
AV	5.1374G	47.08	54.00	-6.92	8.99	3	V	5	1.47	-
AV	5.2718G	101.94	Inf	-Inf	9.52	3	V	5	1.47	-
AV	5.3504G	50.06	54.00	-3.94	9.82	3	V	5	1.47	-
PK	5.1242G	59.51	74.00	-14.49	8.94	3	V	5	1.47	-
PK	5.2676G	111.44	Inf	-Inf	9.50	3	V	5	1.47	-
PK	5.3528G	64.56	74.00	-9.44	9.83	3	V	5	1.47	-
AV	15.817G	47.12	54.00	-6.88	16.30	3	H	359	2.06	-
AV	15.8116G	61.72	74.00	-12.28	16.32	3	H	359	2.06	-
AV	15.81084G	46.78	54.00	-7.22	16.32	3	V	233	1.50	-
PK	15.80124G	60.17	74.00	-13.83	16.35	3	V	233	1.50	-



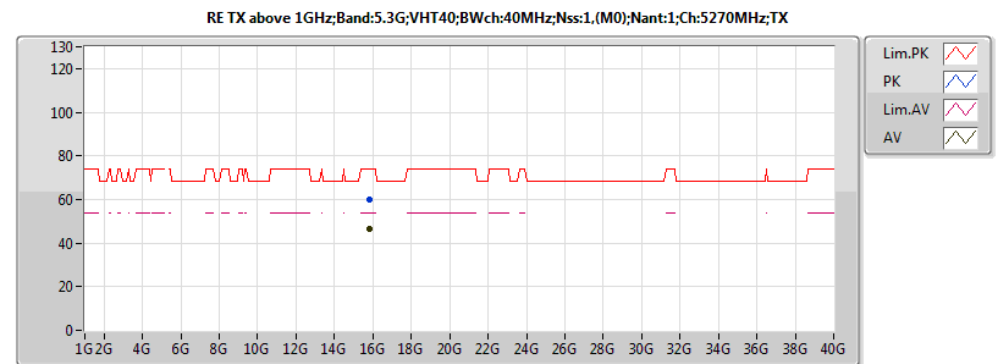
20161112
EUT X_1TX_ANT1_PIFA
Setting_57
02-S-5-10

Type	Freq(Hz)	Level(dBuV/m)	Limit(dBuV/m)	Margin(dB)	Factor(dB)	Dist(m)	Pol.(H/V)	Azimuth(*)	Height(m)	Comments
AV	5.1374G	47.08	54.00	-6.92	8.99	3	V	5	1.47	-
AV	5.2718G	101.94	Inf	-Inf	9.52	3	V	5	1.47	-
AV	5.3504G	50.06	54.00	-3.94	9.82	3	V	5	1.47	-
PK	5.1242G	59.51	74.00	-14.49	8.94	3	V	5	1.47	-
PK	5.2676G	111.44	Inf	-Inf	9.50	3	V	5	1.47	-
PK	5.3528G	64.56	74.00	-9.44	9.83	3	V	5	1.47	-



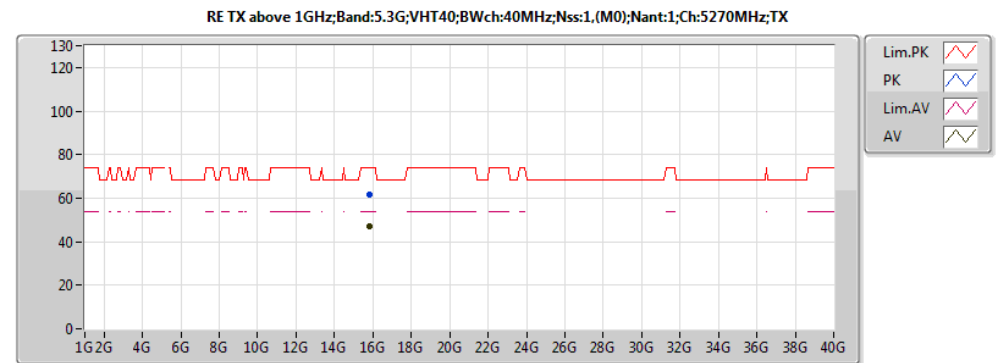
20161112
EUT X_1TX_ANT1_PIFA
Setting_57
02-S-5-10

Type	Freq(Hz)	Level(dBuV/m)	Limit(dBuV/m)	Margin(dB)	Factor(dB)	Dist(m)	Pol.(H/V)	Azimuth(*)	Height(m)	Comments
AV	5.1488G	46.93	54.00	-7.07	9.04	3	H	51	1.63	-
AV	5.2712G	97.43	Inf	-Inf	9.52	3	H	51	1.63	-
AV	5.3528G	48.16	54.00	-5.84	9.83	3	H	51	1.63	-
PK	5.1344G	59.36	74.00	-14.64	8.98	3	H	51	1.63	-
PK	5.2676G	107.12	Inf	-Inf	9.50	3	H	51	1.63	-
PK	5.3534G	61.17	74.00	-12.83	9.83	3	H	51	1.63	-



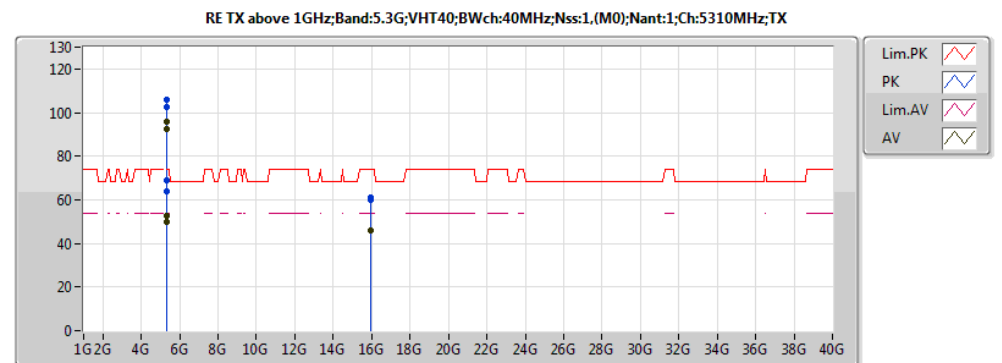
20161113
EUT X_1TX_ANT1_PIFA
Setting_57
02-N-2

Type	Freq(Hz)	Level(dBuV/m)	Limit(dBuV/m)	Margin(dB)	Factor(dB)	Dist(m)	Pol.(H/V)	Azimuth(*)	Height(m)	Comments
AV	15.81084G	46.78	54.00	-7.22	16.32	3	V	233	1.50	-
PK	15.80124G	60.17	74.00	-13.83	16.35	3	V	233	1.50	-



20161113
EUT X_1TX_ANT1_PIFA
Setting_57
02-N-2

Type	Freq(Hz)	Level(dBuV/m)	Limit(dBuV/m)	Margin(dB)	Factor(dB)	Dist(m)	Pol.(H/V)	Azimuth(*)	Height(m)	Comments
AV	15.817G	47.12	54.00	-6.88	16.30	3	H	359	2.06	-
PK	15.8116G	61.72	74.00	-12.28	16.32	3	H	359	2.06	-



20161113
EUT X_1TX_ANT1_PIFA
Setting_41
02-N-2

Type	Freq(Hz)	Level(dBuV/m)	Limit(dBuV/m)	Margin(dB)	Factor(dB)	Dist(m)	Pol.(H/V)	Azimuth(*)	Height(m)	Comments
AV	5.3232G	92.40	Inf	-Inf	9.72	3	H	16	2.32	-
AV	5.3512G	49.77	54.00	-4.23	9.82	3	H	16	2.32	-
PK	5.324G	102.42	Inf	-Inf	9.72	3	H	16	2.32	-
PK	5.3508G	64.07	74.00	-9.93	9.82	3	H	16	2.32	-
AV	5.308G	96.06	Inf	-Inf	9.66	3	V	14	1.68	-
AV	5.3508G	52.49	54.00	-1.51	9.82	3	V	14	1.68	-
PK	5.308G	106.11	Inf	-Inf	9.66	3	V	14	1.68	-
PK	5.3524G	69.11	74.00	-4.89	9.83	3	V	14	1.68	-
AV	15.92408G	45.81	54.00	-8.19	15.98	3	H	96	1.50	-
PK	15.92944G	59.90	74.00	-14.10	15.96	3	H	96	1.50	-
AV	15.92212G	45.78	54.00	-8.22	15.99	3	V	152	1.01	-
PK	15.92636G	61.31	74.00	-12.69	15.97	3	V	152	1.01	-

