



FCC Test Report

Equipment : Digital Satellite Receiver(Headless DVR Server)
Brand Name : AT&T DIRECTV
Model No. : HS17-500
FCC ID : O6ZHS17
Standard : 47 CFR FCC Part 15.407
Operating Band : 5150 MHz – 5250 MHz
5725 MHz – 5850 MHz
Applicant : Humax Co., Ltd.
HUMAX Village, 11-4, Sunae-dong, Bundang-gu
Seongnam city, Gyeonggi-do South Korea 463-825
Manufacturer : Humax Co., Ltd.
HUMAX Village, 11-4, Sunae-dong, Bundang-gu
Seongnam city, Gyeonggi-do South Korea 463-825
Function : ☐ Outdoor; ☒ Indoor; ☐ Fixed P2P
☐ Client

The product sample received on Oct. 28, 2016 and completely tested on Nov. 18, 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.

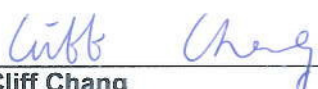

Cliff Chang
SPORTON INTERNATIONAL INC.



Table of Contents

1	GENERAL DESCRIPTION	5
1.1	Information.....	5
1.2	Testing Applied Standards	9
1.3	Testing Location Information	10
1.4	Measurement Uncertainty	10
2	TEST CONFIGURATION OF EUT	11
2.1	Test Channel Mode	11
2.2	The Worst Case Measurement Configuration.....	13
2.3	EUT Operation during Test	14
2.4	Accessories	15
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.....	32
4	TEST EQUIPMENT AND CALIBRATION DATA	33
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 PHOTOS		

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

Revision History

[illegible]

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	n (HT20), ac (VHT20)	5180-5240	36-48 [4]
5725-5850		5745-5825	149-165 [5]
5150-5250	n (HT40), ac (VHT40)	5190-5230	38-46 [2]
5725-5850		5755-5795	151-159 [2]
5150-5250	ac (VHT80)	5210	42 [1]
5725-5850		5775	155 [1]

Band	Mode	BWch (MHz)	Nant
5.2G	HT20	20	4
5.8G	HT20	20	4
5.2G	HT20,BF	20	4
5.8G	HT20,BF	20	4
5.2G	VHT20	20	4
5.8G	VHT20	20	4
5.2G	VHT20,BF	20	4
5.8G	VHT20,BF	20	4
5.2G	HT40	40	4
5.8G	HT40	40	4
5.2G	HT40,BF	40	4
5.8G	HT40,BF	40	4
5.2G	VHT40	40	4
5.8G	VHT40	40	4
5.2G	VHT40,BF	40	4
5.8G	VHT40,BF	40	4
5.2G	VHT80	80	4
5.8G	VHT80	80	4
5.2G	VHT80,BF	80	4
5.8G	VHT80,BF	80	4

Note:

- ♦ 5.2G/5.2G-I(IC) is the 5.2GHz Band (5.15-5.25GHz).
- ♦ 5.8G/5.8G-I(IC) is the 5.8GHz Band (5.725-5.850GHz).
- ♦ 11a, HT20 and HT40 use a combination of OFDM-BPSK, QPSK, 16QAM, 64QAM modulation.
- ♦ VHT20, VHT40, 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
<2.4GHz and Zigbee Antenna Gain>

Ant.	Brand	Model Name	Antenna Type	Connector	Gain (dBi)	
					2.4GHz	Zigbee
1	Airgain	N24X2H2YN-W98U	PIFA	U.FL	4.6	-
2	Airgain	N24X2H2YW-B95U	PIFA	U.FL	4.6	-
3	-	-	PCB printed IFA	N/A	-	4
4	-	-	PCB printed IFA	N/A	-	4

<5GHz Antenna Gain>

Ant.	Brand	Model Name	Antenna Type	Connector	Gain (dBi)	
					5GHz Band 1	5GHz Band 4
5	Airgain	N5X35B2YN-E57U	PIFA	U.FL	2.89	4.34
6	Airgain	N5X35B2YN-R137U	PIFA	U.FL	4.38	4.53
7	Airgain	N5X35B2YW-G80U	PIFA	U.FL	3.65	3.49
8	Airgain	N5X35BYN-A100U	PIFA	U.FL	5.40	4.62

<5GHz Directional Gain>

Stream	Directional Gain (dBi)	
	5GHz Band 1	5GHz Band 4
4T1S	7.02	7.06
4T2S	4.14	4.11

Note: The EUT has eight antennas.

<For 2.4GHz Band>**For IEEE 802.11b/g Mode (1TX/1RX)**

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

Both Ant. 1 and Ant. 2 support transmit and receive functions, but only one of them will be used at one time.

The Ant. 2 generated the worst case, so it was selected to test and record in the report.

For IEEE 802.11n Mode (2TX/2RX)

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

Ant. 1 and Ant. 2 could transmit/receive simultaneously.

<For Zigbee Band> (1TX/1RX)

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

Both Ant. 3 and Ant. 4 support transmit and receive functions, but only one of them will be used at one time.

The Ant. 4 generated the worst case, so it was selected to test and record in the report.

<For 5GHz Band >**For IEEE 802.11a/n/ac mode (4TX/4RX):**

Ant. 5, Ant. 6, Ant. 7 and Ant. 8 can be used as transmitting/receiving antenna.

Ant. 5, Ant. 6, Ant. 7 and Ant. 8 could transmit/receive simultaneously.

1.1.3 Mode Test Duty Cycle

<For Non-Beamforming Mode> and <For Beamforming Mode 4T1S>

Mode	DC	T(s)	VBW(Hz) $\geq 1/T$
VHT20	0.989	n/a (DC $\geq$ 0.98)	n/a (DC $\geq$ 0.98)
VHT20,BF	0.924	3.453m	300
VHT40	0.975	2.423m	1k
VHT40,BF	0.955	1.698m	1k
VHT80	0.958	1.143m	1k
VHT80,BF	0.965	4.22m	300

<For Beamforming Mode 4T2S>

Mode	DC	T(s)	VBW(Hz) $\geq 1/T$
VHT20,BF	0.949	4.322m	300
VHT40,BF	0.955	2.147m	1k
VHT80,BF	0.958	6.282m	300

1.1.4 EUT Operational Condition

EUT Power Type	From Power Adapter		
Beamforming Function	☒	With beamforming	☐ Without beamforming

Note: The product has beamforming function for 802.11n/ac in 5GHz.

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				
☐	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
☒	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	Paul Chen	25°C / 65%	Oct. 28, 2016~Nov. 18, 2016
Radiated	03CH01-CB	Steven Liang	22°C / 54%	Nov. 14, 2016~Nov. 18, 2016
AC Conduction	CO02-CB	Ryo Fan	23°C / 61%	Nov. 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

<For Non-Beamforming Mode> and <For Beamforming Mode 4T1S>

Band	Mode	BWch (MHz)	Nss-Min	Nant	Ch. (MHz)	Range	Power Setting
5.2G	VHT20	20	1,(M0)	4	5180	L	22
5.2G	VHT20	20	1,(M0)	4	5200	M	23
5.2G	VHT20	20	1,(M0)	4	5240	H	23
5.8G	VHT20	20	1,(M0)	4	5745	L	22
5.8G	VHT20	20	1,(M0)	4	5785	M	20
5.8G	VHT20	20	1,(M0)	4	5825	H	21
5.2G	VHT40	40	1,(M0)	4	5190	L	17
5.2G	VHT40	40	1,(M0)	4	5230	H	24
5.8G	VHT40	40	1,(M0)	4	5755	L	22
5.8G	VHT40	40	1,(M0)	4	5795	H	22
5.2G	VHT80	80	1,(M0)	4	5210	S	18
5.8G	VHT80	80	1,(M0)	4	5775	S	23
5.2G	VHT20,BF	20	1,(M0)	4	5180	L	22
5.2G	VHT20,BF	20	1,(M0)	4	5200	M	22
5.2G	VHT20,BF	20	1,(M0)	4	5240	H	22
5.8G	VHT20,BF	20	1,(M0)	4	5745	L	22
5.8G	VHT20,BF	20	1,(M0)	4	5785	M	22
5.8G	VHT20,BF	20	1,(M0)	4	5825	H	22
5.2G	VHT40,BF	40	1,(M0)	4	5190	L	21
5.2G	VHT40,BF	40	1,(M0)	4	5230	H	22
5.8G	VHT40,BF	40	1,(M0)	4	5755	L	23
5.8G	VHT40,BF	40	1,(M0)	4	5795	H	23
5.2G	VHT80,BF	80	1,(M0)	4	5210	S	18
5.8G	VHT80,BF	80	1,(M0)	4	5775	S	23

<For Beamforming Mode 4T2S>

Band	Mode	BWch (MHz)	Nss-Min	Nant	Ch. (MHz)	Range	Power Setting
5.2G	VHT20,BF	20	2,(M0)	4	5180	L	21
5.2G	VHT20,BF	20	2,(M0)	4	5200	M	21
5.2G	VHT20,BF	20	2,(M0)	4	5240	H	22
5.8G	VHT20,BF	20	2,(M0)	4	5745	L	24
5.8G	VHT20,BF	20	2,(M0)	4	5785	M	24
5.8G	VHT20,BF	20	2,(M0)	4	5825	H	24
5.2G	VHT40,BF	40	2,(M0)	4	5190	L	19
5.2G	VHT40,BF	40	2,(M0)	4	5230	H	22
5.8G	VHT40,BF	40	2,(M0)	4	5755	L	24
5.8G	VHT40,BF	40	2,(M0)	4	5795	H	24
5.2G	VHT80,BF	80	2,(M0)	4	5210	S	20
5.8G	VHT80,BF	80	2,(M0)	4	5775	S	24

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.
- ♦ There are two modes of EUT, one is beamforming mode, and the other is non-beamforming mode for 802.11n/ac in 5GHz, Beamforming mode and non-beamforming mode has been test and record in this test report.
- ♦ Customer requests additional beamfomring mode 4T2S.

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	CTX
1	WiFi 5GHz Function

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

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	CTX
1	WiFi 5GHz Function
Operating Mode > 1GHz	CTX

The Worst Case Mode for Following Conformance Tests	
Tests Item	Simultaneous Transmission Analysis
Operating Mode	
1	WLAN 2.4GHz + WLAN 5GHz + Zigbee
Refer to Sporton Test Report No.: FA6O2615 for Co-location RF Exposure Evaluation.	

Note: The EUT can only be used at Y axis position

2.3 EUT Operation during Test

For non-beamforming mode:

The EUT was programmed to be in continuously transmitting mode.

For beamforming mode:

For Conducted Mode:

The EUT was programmed to be in continuously transmitting mode.

For Radiated Mode:

During the test, the following programs under WIN 7 were executed.

The program was executed as follows:

1. During the test, the EUT operation to normal function.
2. Executed command fixed test channel under Telnet.
3. Executed "Lantest.exe " to link with the remote workstation to receive and transmit packet by WLAN module and transmit duty cycle no less 98%

2.4 Accessories

Accessories					
No.	Equipment Name	Brand Name	Model Name	Rating	Remark
1	AC Adapter	DIRECTV	EPS17R0-36	INPUT: 120V ~ 1.8A 60Hz OUTPUT: 25.2V, 2.86A 72W	AC power cable: Non-Shielded, 1.9m DC power cable: Non-Shielded, 1.3m
Other					
No.	Equipment Name	Brand Name	Model Name	Rating	
1	Hard Drive	WD	WD20EURX-25T0FY0	5VDC, 0.60A 12VDC, 0.45A	

2.5 Support Equipment

For Test Site No: CO01-CB

Support Equipment				
No.	Equipment	Brand Name	Model Name	FCC ID
1	NB	DELL	E6430	DoC
2	Flash disk3.0	ADATA	C103	DoC
3	SIM Card	DirecTV	N/A	DoC

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

Support Equipment				
No.	Equipment	Brand Name	Model Name	FCC ID
1	Notebook	DELL	E4300	DoC

<For Non-Beamforming Mode> (Above 1GHz)

Support Equipment				
No.	Equipment	Brand Name	Model Name	FCC ID
1	Notebook	DELL	E4300	DoC

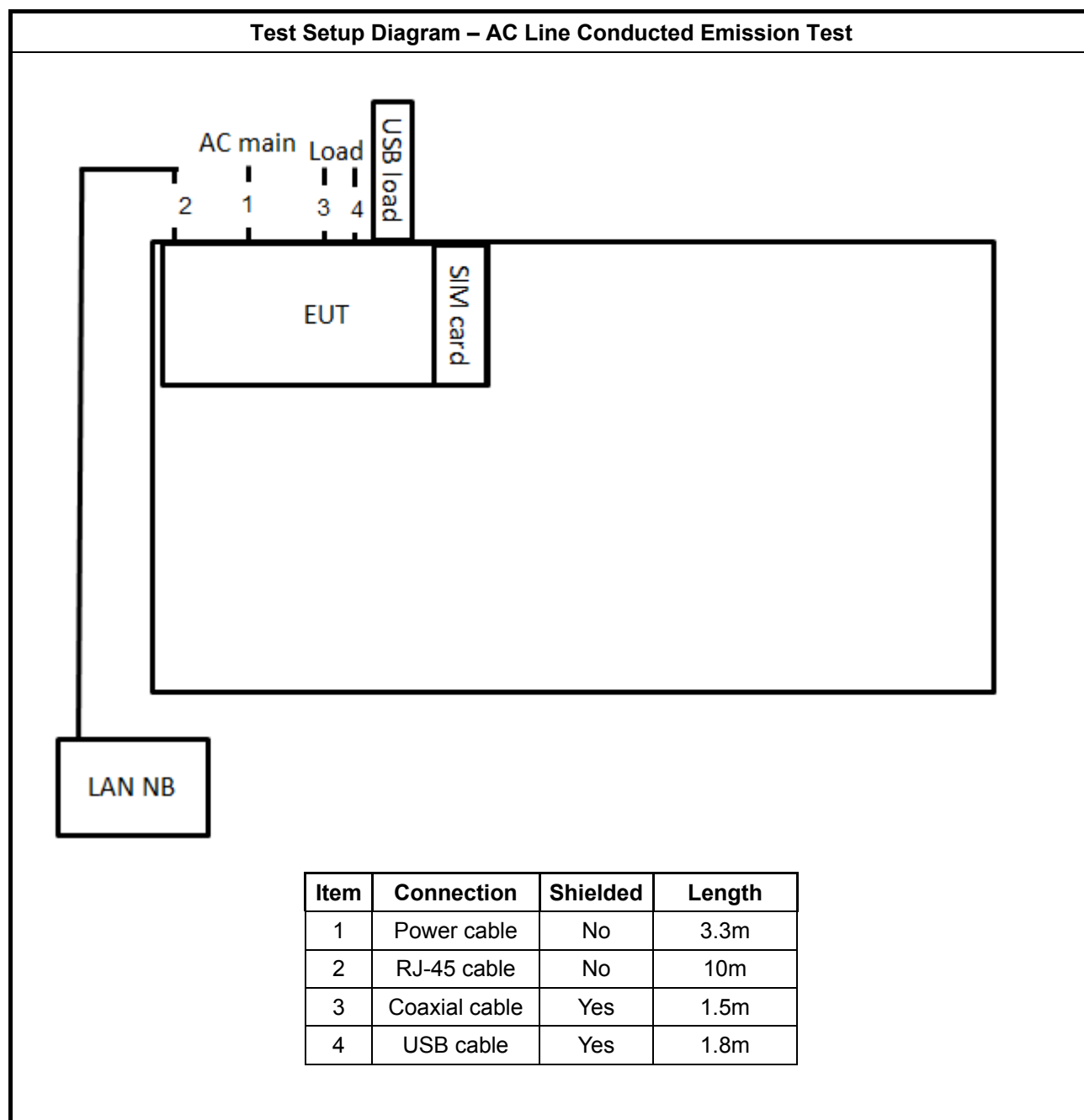
<For Beamforming Mode> (Above 1GHz)

Support Equipment				
No.	Equipment	Brand Name	Model Name	FCC ID
1	Notebook	DELL	E4300	DoC
2	Notebook	DELL	E4300	DoC
3	WLAN module	Quantenna	N/A	N/A

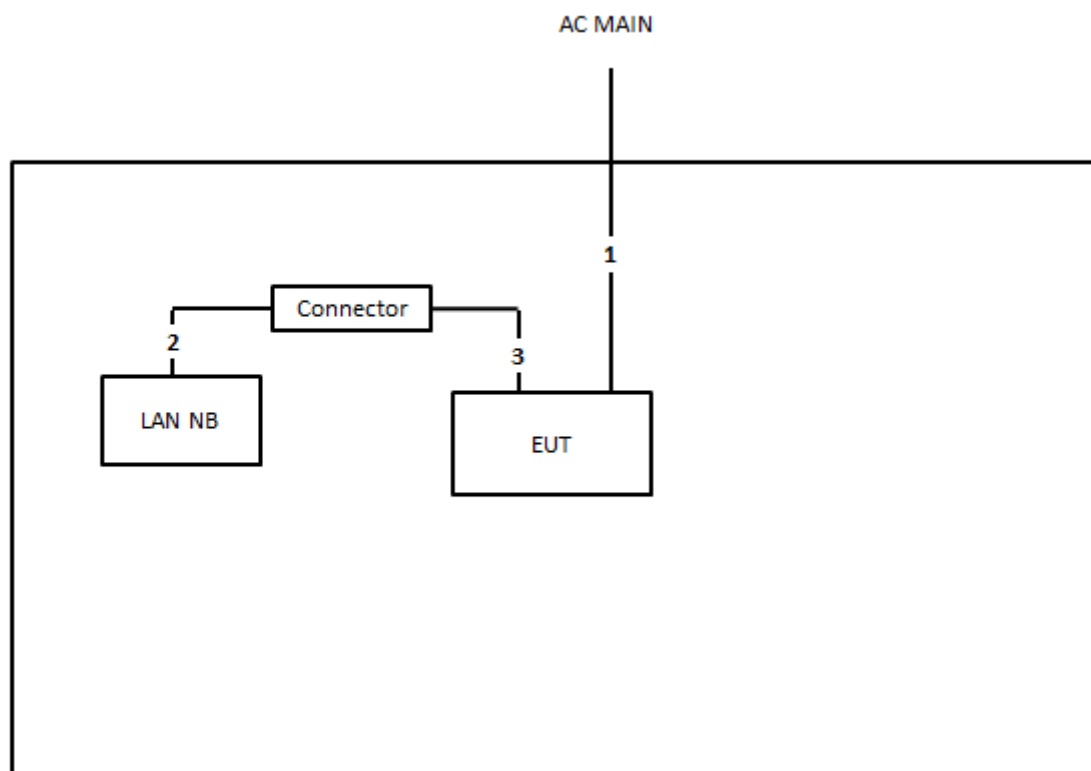
For Test Site No: TH01-CB

Support Equipment				
No.	Equipment	Brand Name	Model Name	FCC ID
1	Notebook	DELL	E4300	DoC

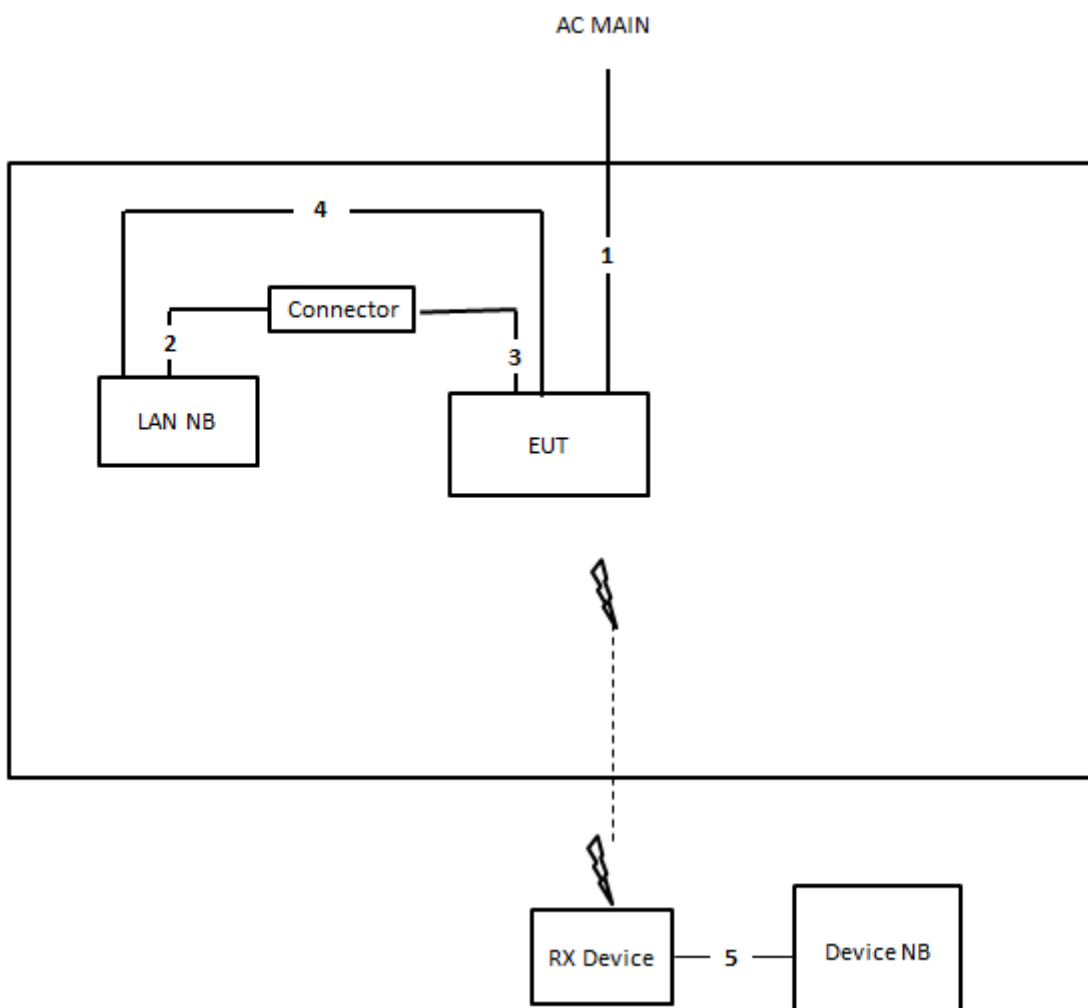
2.6 Test Setup Diagram



**Test Setup Diagram –
Radiated Test < 1GHz and Radiated Test > 1GHz (For Non-Beamforming Mode)**



Item	Connection	Shielded	Length
1	Power cable	No	3.3m
2	RS-232 cable	No	0.4m
3	Console cable	No	2m

Test Setup Diagram - Radiated Test > 1GHz (For Beamforming Mode)


Item	Connection	Shielded	Length
1	Power cable	No	3.3m
2	RS-232 cable	No	0.4m
3	Console cable	No	2m
4	RJ-45 cable	No	1.5m
5	RJ-45 cable	No	10m

3 Transmitter Test Result

3.1 AC Power-line Conducted Emissions

3.1.1 AC Power-line Conducted Emissions Limit

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

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

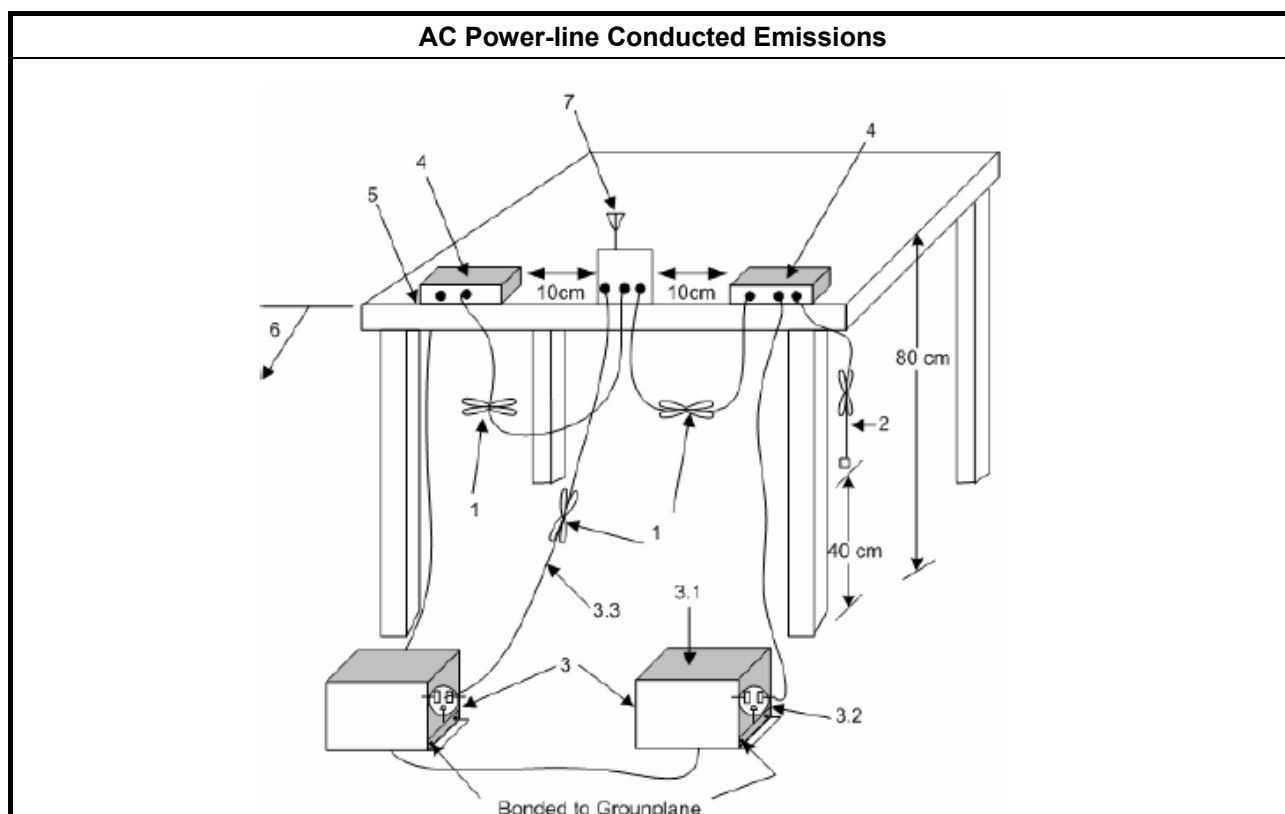
3.1.2 Measuring Instruments

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

3.1.3 Test Procedures

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

3.1.4 Test Setup





3.1.5 Test Result of AC Power-line Conducted Emissions

Refer as Appendix A

3.2 Emission Bandwidth

3.2.1 Emission Bandwidth Limit

Emission Bandwidth Limit	
UNII Devices	
☒	For the 5.15-5.25 GHz band, N/A
☐	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.
☐	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.
☒	For the 5.725-5.85 GHz band, 6 dB emission bandwidth $\geq$ 500kHz.
LE-LAN Devices	
☐	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.
☐	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
☐	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
☐	For the 5.725-5.85 GHz band, 6 dB emission bandwidth $\geq$ 500kHz.

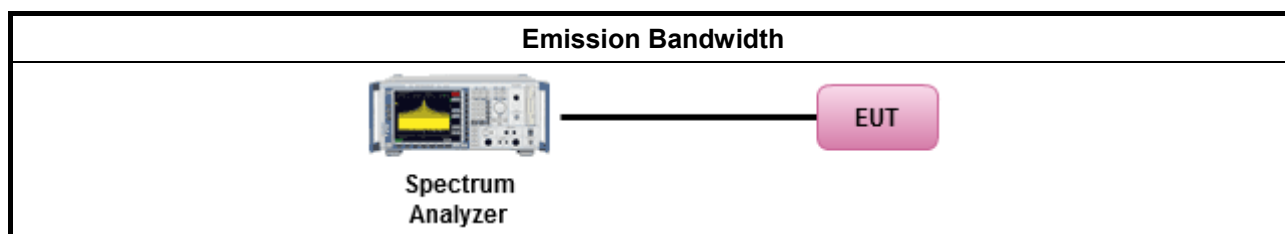
3.2.2 Measuring Instruments

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

3.2.3 Test Procedures

Test Method	
For the emission bandwidth shall be measured using one of the options below:	
☒	Refer as FCC KDB 789033, clause C for EBW and clause D for OBW measurement.
☐	Refer as ANSI C63.10, clause 6.9.1 for occupied bandwidth testing.
☒	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	
☒ For the 5.15-5.25 GHz band:	
☐	- 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 $P_{Out} = 24 - (G_{TX} - 6)$.
☐	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 dBm + 10 log B, where B is the 26 dB emission bandwidth in MHz. If $G_{TX} > 6$ dBi, then $P_{Out} = 24 - (G_{TX} - 6)$.
☐	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 dBm + 10 log B, where B is the 26 dB emission bandwidth in MHz. If $G_{TX} > 6$ dBi, then $P_{Out} = 24 - (G_{TX} - 6)$.
☒ For the 5.725-5.85 GHz band:	
☐	- 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	
☐	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.
☐	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
☐	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
☐ For the 5.725-5.85 GHz band:	
☐	- 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.	

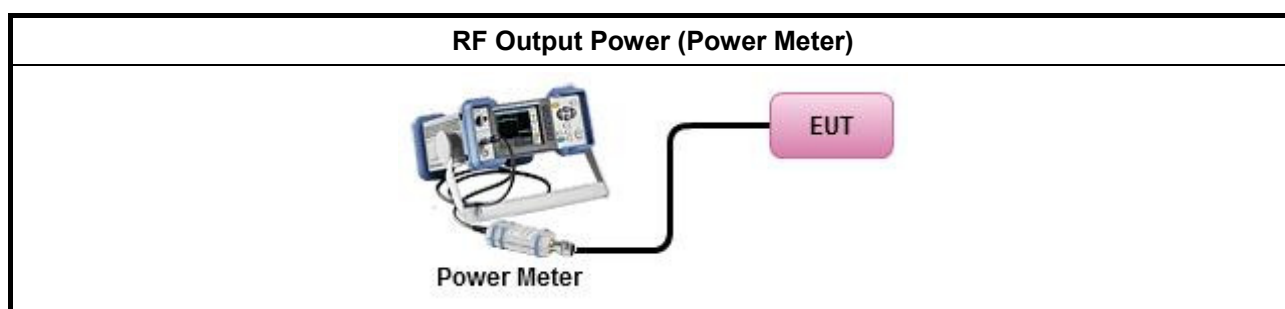
3.3.2 Measuring Instruments

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

3.3.3 Test Procedures

Test Method	
Maximum Conducted Output Power	
	[duty cycle $\geq$ 98% or external video / power trigger]
☐	Refer as FCC KDB 789033, clause E Method SA-1 (spectral trace averaging).
☐	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
☐	Refer as FCC KDB 789033, clause E Method SA-2 (spectral trace averaging).
☐	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
☒	Refer as FCC KDB 789033, clause E Method PM-G (using an RF average power meter).
For conducted measurement.	
	- If the EUT supports multiple transmit chains using options given below: Refer as FCC KDB 662911, In-band power measurements. Using the measure-and-sum approach, measured all transmit ports individually. Sum the power (in linear power units e.g., mW) of all ports for each individual sample and save them. - If multiple transmit chains, EIRP calculation could be following as methods: $P_{total} = P_1 + P_2 + \dots + P_n$ (calculated in linear unit [mW] and transfer to log unit [dBm]) $EIRP_{total} = P_{total} + DG$

3.3.4 Test Setup



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	
☒ For the 5.15-5.25 GHz band:	
	- 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 $PPSD = 11 - (G_{TX} - 6)$.
☐ For the 5.25-5.35 GHz band, the peak power spectral density (PPSD) ≤ 11 dBm/MHz. If $G_{TX} > 6$ dBi, then $PPSD = 11 - (G_{TX} - 6)$.	
☐ For the 5.47-5.725 GHz band, the peak power spectral density (PPSD) ≤ 11 dBm/MHz. If $G_{TX} > 6$ dBi, then $PPSD = 11 - (G_{TX} - 6)$.	
☒ For the 5.725-5.85 GHz band:	
	- 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	
☐ 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.	
☐ 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.	
	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 $0^\circ \leq \theta < 8^\circ$; $-13 - 0.716 (\theta - 8)$ dBW/MHz for $8^\circ \leq \theta < 40^\circ$; $-35.9 - 1.22 (\theta - 40)$ dBW/MHz for $40^\circ \leq \theta \leq 45^\circ$; -42 dBW/MHz for $\theta > 45^\circ$
☐ 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.	
☐ For the 5.725-5.85 GHz band:	
	- 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.	

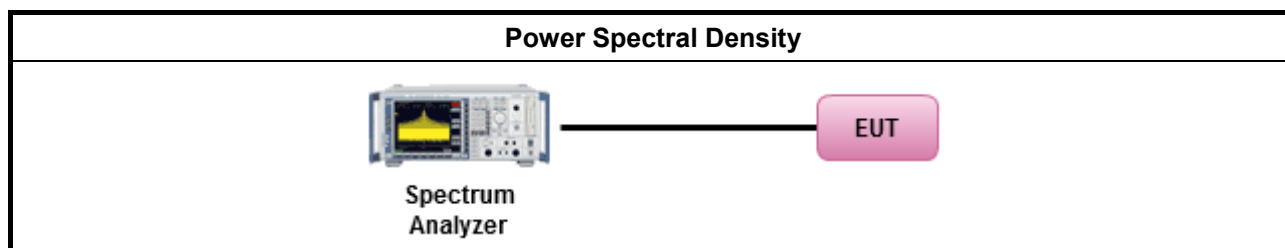
3.4.2 Measuring Instruments

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

3.4.3 Test Procedures

Test Method	
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:	
☐ Refer as FCC KDB 789033, F)5) 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]	
☒ Refer as FCC KDB 789033, clause E Method SA-1 (spectral trace averaging).	
☐ 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	
☒ Refer as FCC KDB 789033, clause E Method SA-2 (spectral trace averaging).	
☐ Refer as FCC KDB 789033, clause E Method SA-2 Alt. (RMS detection with slow sweep speed)	
For conducted measurement.	
If the EUT supports multiple transmit chains using options given below:	
☒ Option 1: Measure and sum the spectra across the outputs. Refer as FCC KDB 662911, In-band power spectral density (PSD). Sample all transmit ports simultaneously using a spectrum analyzer for each transmit port. Where the trace bin-by-bin of each transmit port summing can be performed. (i.e., in the first spectral bin of output 1 is summed with that in the first spectral bin of output 2 and that from the first spectral bin of output 3, and so on up to the NTX output to obtain the value for the first frequency bin of the summed spectrum.). Add up the amplitude (power) values for the different transmit chains and use this as the new data trace.	
☐ Option 2: Measure and sum spectral maxima across the outputs. With this technique, spectra are measured at each output of the device at the required resolution bandwidth. The maximum value (peak) of each spectrum is determined. These maximum values are then summed mathematically in linear power units across the outputs. These operations shall be performed separately over frequency spans that have different out-of-band or spurious emission limits,	
☐ 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.	
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).

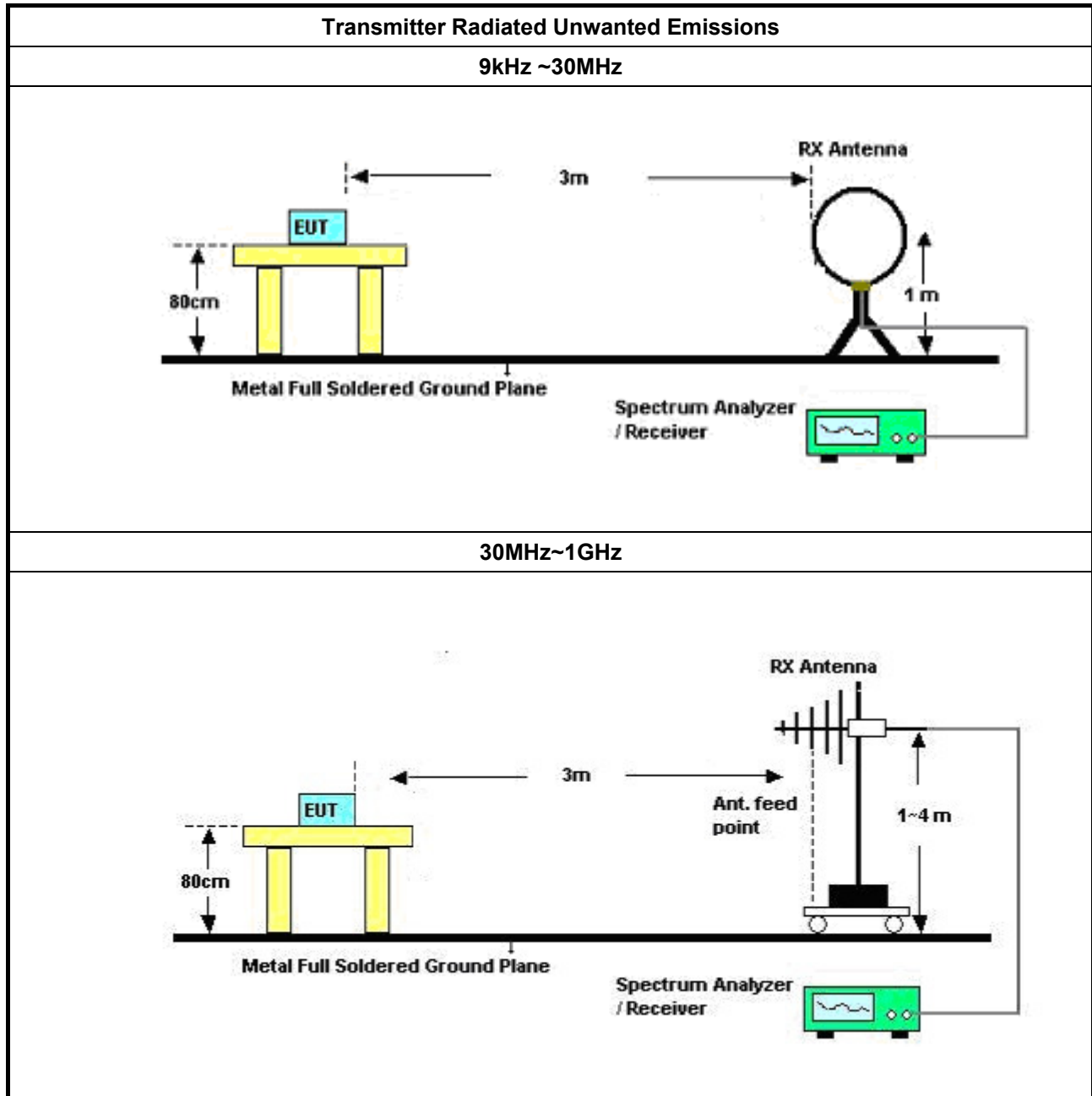
3.5.2 Measuring Instruments

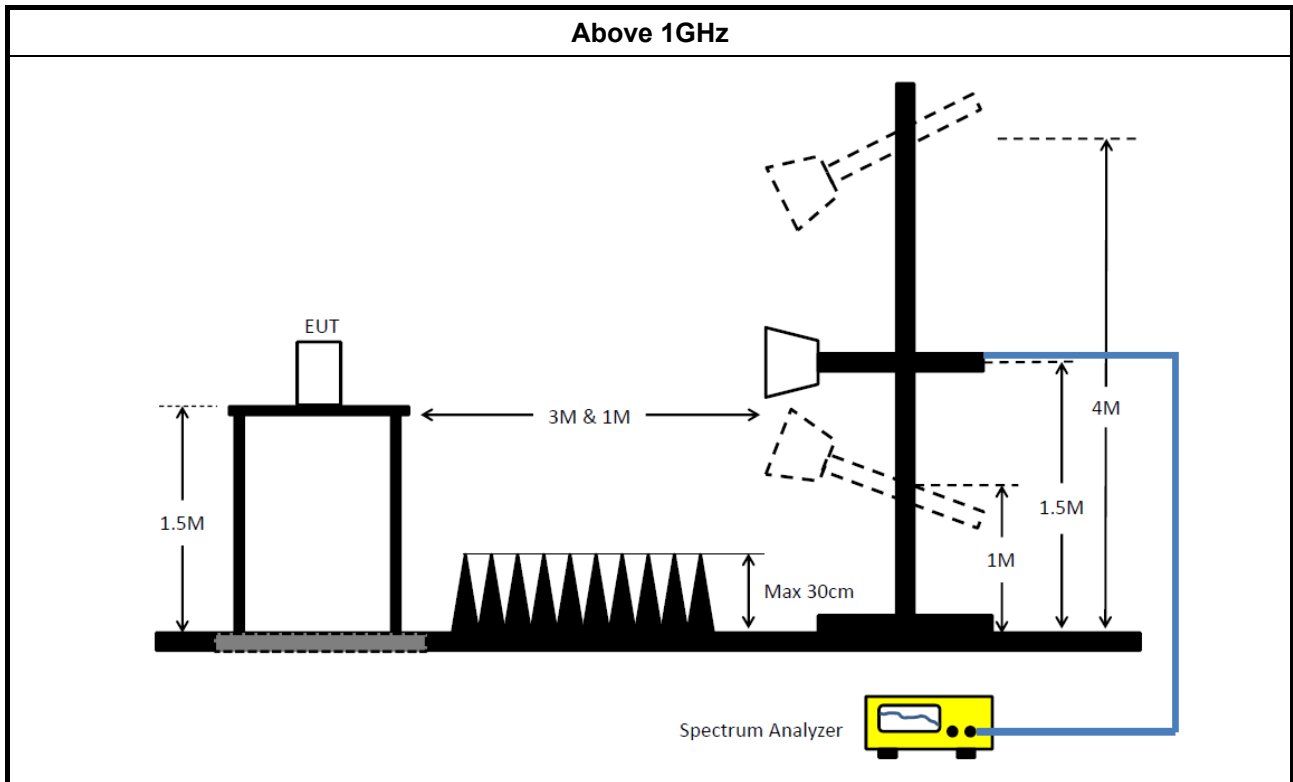
Refer a test equipment and calibration data table in this test report.

3.5.3 Test Procedures

Test Method	
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).	
The average emission levels shall be measured in [duty cycle $\geq$ 98 or duty factor].	
For the transmitter unwanted emissions shall be measured using following options below:	
	Refer as FCC KDB 789033, clause H)2) for unwanted emissions into non-restricted bands.
	Refer as FCC KDB 789033, clause H)1) for unwanted emissions into restricted bands.
	☐ Refer as FCC KDB 789033, H)6) Method AD (Trace Averaging).
	☒ Refer as FCC KDB 789033, H)6) Method VB (Reduced VBW).
	☐ Refer as ANSI C63.10, clause 4.2.3.2.3 (Reduced VBW). VBW $\geq$ 1/T, where T is pulse time.
	☐ Refer as ANSI C63.10, clause 4.2.3.2.4 average value of pulsed emissions.
	☒ Refer as FCC KDB 789033, clause H)5) measurement procedure peak limit.
	☐ Refer as ANSI C63.10, clause 4.2.3.2.2 measurement procedure peak limit.
	For radiated measurement.
	Refer as ANSI C63.10, clause 6.4 for radiated emissions below 30 MHz and test distance is 3m.
	Refer as ANSI C63.10, clause 6.5 for radiated emissions 30 MHz to 1 GHz and test distance is 3m.
	Refer as ANSI C63.10, clause 6.6 for radiated emissions above 1GHz.
	The any unwanted emissions level shall not exceed the fundamental emission level.
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	
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	
N/A	
IEEE Std. 802.11	
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.	

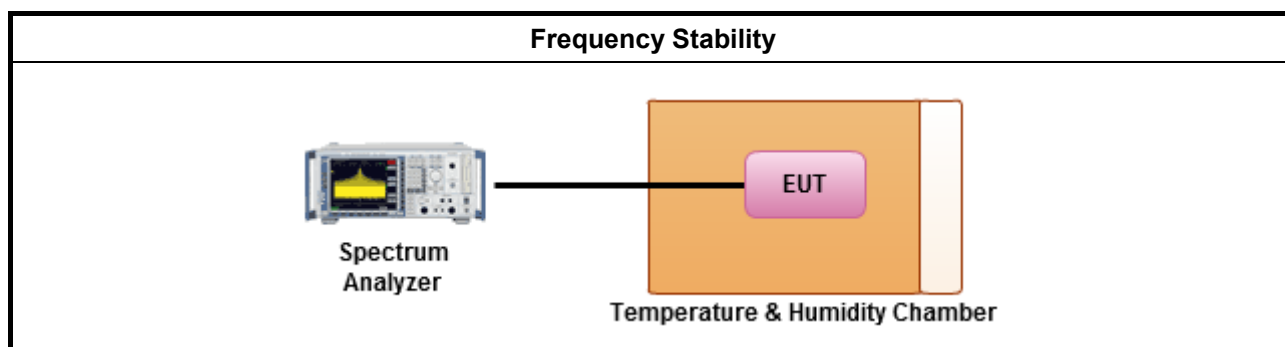
3.6.2 Measuring Instruments

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

3.6.3 Test Procedures

Test Method	
Refer as ANSI C63.10, clause 6.8 for frequency stability tests	
	Frequency stability with respect to ambient temperature
	Frequency stability when varying supply voltage
	Extreme temperature is 0°C~50°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
LISN	Schwarzbeck	NSLK 8127	8127650	9kHz ~ 30MHz	Nov. 16, 2015	Conduction (CO02-CB)
LISN	Schwarzbeck	NSLK 8127	8127647	9kHz ~ 30MHz	Dec. 23, 2015	Conduction (CO02-CB)
EMI Receiver	Agilent	N9038A	MY52260140	9kHz ~ 8.4GHz	Jan. 18, 2016	Conduction (CO02-CB)
Pulse Limiter	Schwarzbeck	VTSD 9561F	9561-F073	9kHz ~ 30MHz	Sep. 29, 2016	Conduction (CO02-CB)
COND Cable	Woken	Cable	01	0.15MHz ~ 30MHz	Dec. 01, 2015	Conduction (CO02-CB)
Software	Audix	E3	6.120210n	-	N.C.R.	Conduction (CO02-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	WM	TF-130N-R1	923365	26GHz ~ 40GHz	Feb. 23, 2016	Radiation (03CH01-CB)
Spectrum Analyzer	R&S	FSP40	100304	9kHz ~ 40GHz	May 05, 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	Oct. 24, 2016	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	Oct. 24, 2016	Radiation (03CH01-CB)
RF Cable-high	Woken	High Cable-40G-1	N/A	18GHz ~ 40 GHz	Oct. 24, 2016	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)



FCC Test Report

Report No. : FR6O2615AC

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Remark
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	CTX								
Level (dBuV) Date: 2016-11-15 Time: 15:53:29									
	Freq	Level	Over Limit	Limit Line	Read Level	LISN Factor	Cable Loss	Remark	Pol/Phase
	MHz	dBuV	dB	dBuV	dBuV	dB	dB		
1	0.1500	34.73	-21.27	56.00	24.61	9.96	0.16	Average	NEUTRAL
2	0.1500	43.13	-22.87	66.00	33.01	9.96	0.16	QP	NEUTRAL
3	0.8992	26.26	-19.74	46.00	16.10	9.97	0.19	Average	NEUTRAL
4	0.8992	33.12	-22.88	56.00	22.96	9.97	0.19	QP	NEUTRAL
5	1.0211	28.24	-17.76	46.00	18.08	9.97	0.19	Average	NEUTRAL
6	1.0211	37.91	-18.09	56.00	27.75	9.97	0.19	QP	NEUTRAL
7	1.0997	28.95	-17.05	46.00	18.78	9.97	0.20	Average	NEUTRAL
8	1.0997	41.73	-14.27	56.00	31.56	9.97	0.20	QP	NEUTRAL
9	1.1844	27.94	-18.06	46.00	17.77	9.97	0.20	Average	NEUTRAL
10	1.1844	40.07	-15.93	56.00	29.90	9.97	0.20	QP	NEUTRAL
11	15.9698	22.07	-27.93	50.00	11.38	10.24	0.45	Average	NEUTRAL
12	15.9698	29.04	-30.96	60.00	18.35	10.24	0.45	QP	NEUTRAL

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

AC Power-line Conducted Emissions Result									
Operating Mode	1			Power Phase			Line		
Operating Function	CTX								
Level (dBuV) Date: 2016-11-15 Time: 15:51:02									
	Freq	Level	Over	Limit	Read	LISN	Cable	Remark	Pol/Phase
	MHz	dBuV	Limit	Line	Level	Factor	Loss		
			dB	dBuV	dBuV	dB	dB		
1	0.1540	34.46	-21.32	55.78	24.34	9.96	0.16	Average	LINE
2	0.1540	42.35	-23.43	65.78	32.23	9.96	0.16	QP	LINE
3	0.9331	27.65	-18.35	46.00	17.41	10.05	0.19	Average	LINE
4	0.9331	34.17	-21.83	56.00	23.93	10.05	0.19	QP	LINE
5	1.0211	28.63	-17.37	46.00	18.39	10.05	0.19	Average	LINE
6	1.0211	38.75	-17.25	56.00	28.51	10.05	0.19	QP	LINE
7	1.0997	29.17	-16.83	46.00	18.92	10.05	0.20	Average	LINE
8	1.0997	42.20	-13.80	56.00	31.95	10.05	0.20	QP	LINE
9	1.1844	28.20	-17.80	46.00	17.94	10.06	0.20	Average	LINE
10	1.1844	40.71	-15.29	56.00	30.45	10.06	0.20	QP	LINE
11	15.8014	22.33	-27.67	50.00	11.64	10.24	0.45	Average	LINE
12	15.8014	29.06	-30.94	60.00	18.37	10.24	0.45	QP	LINE

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



Summary

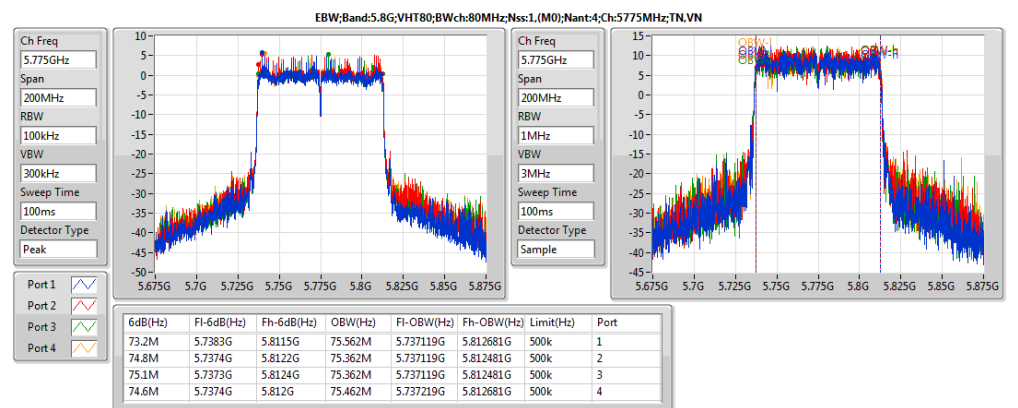
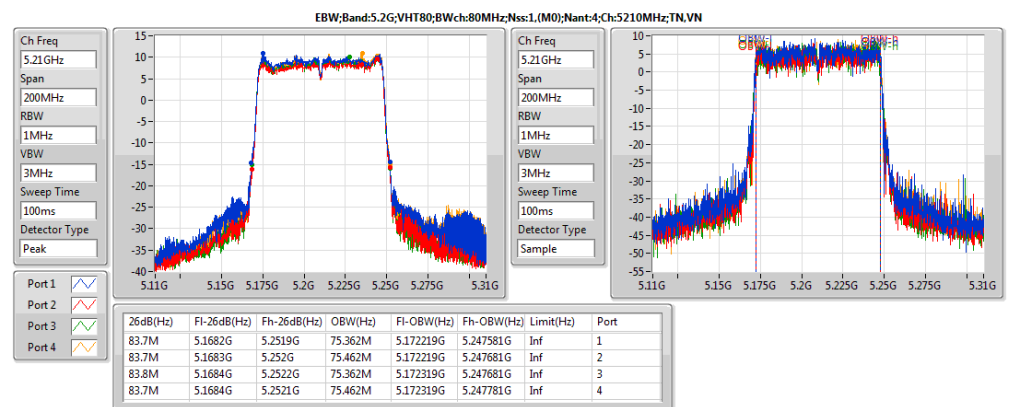
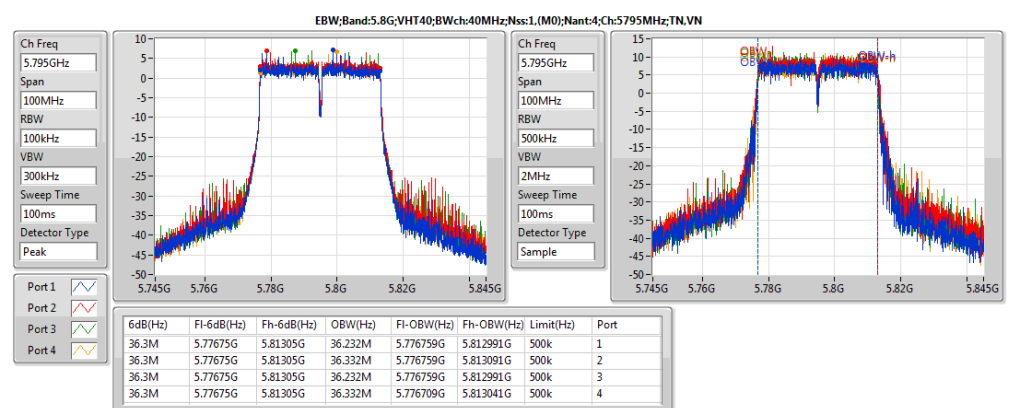
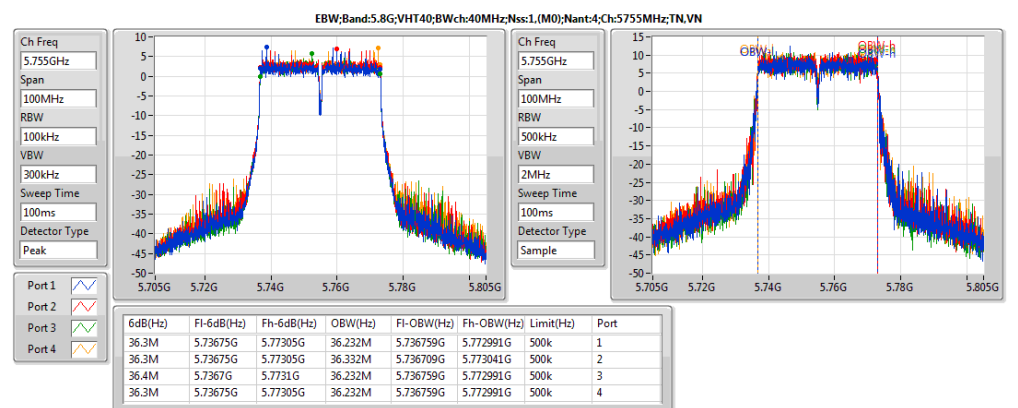
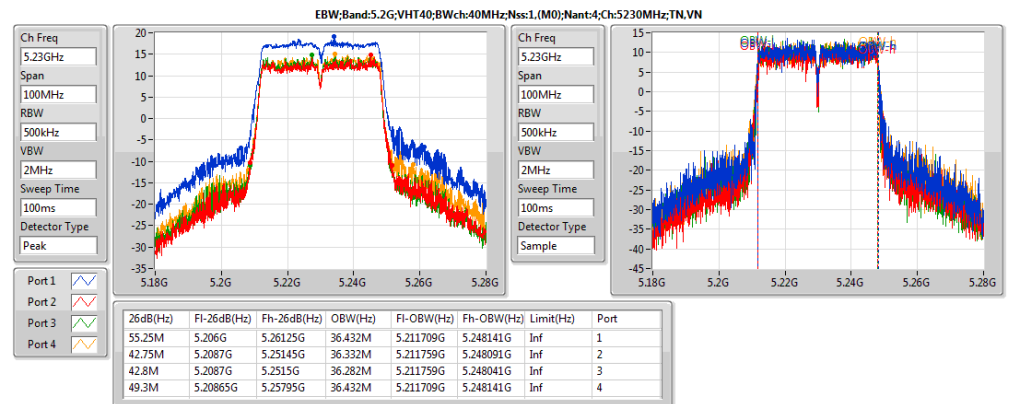
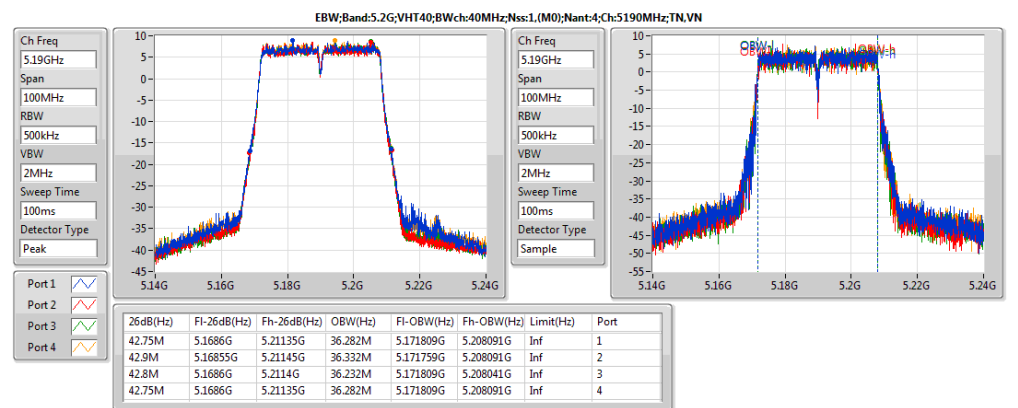
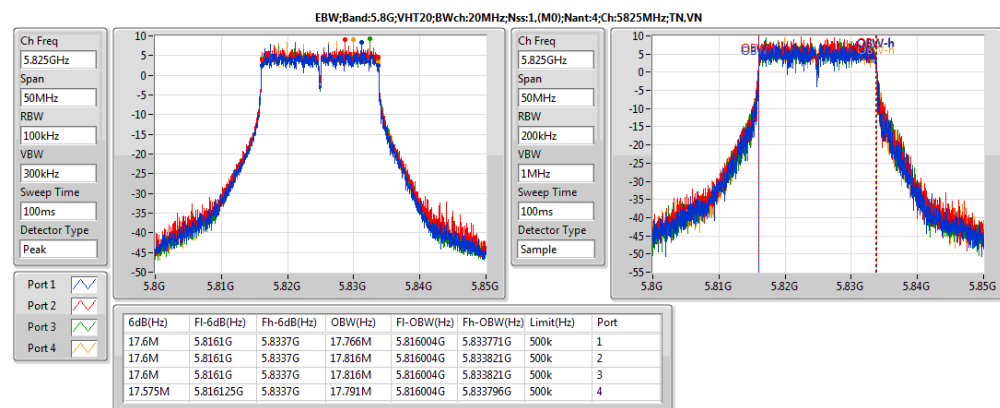
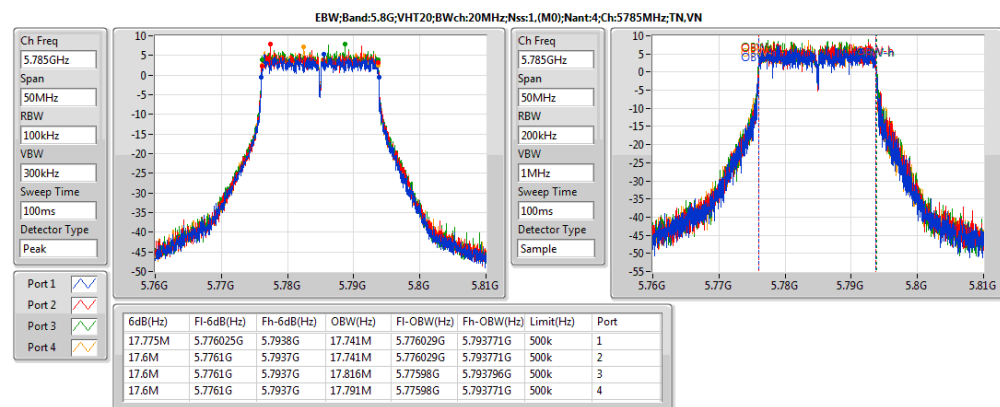
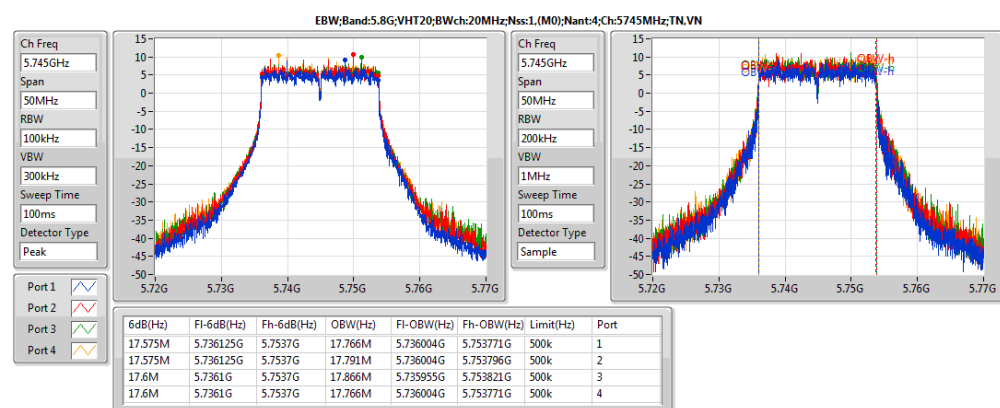
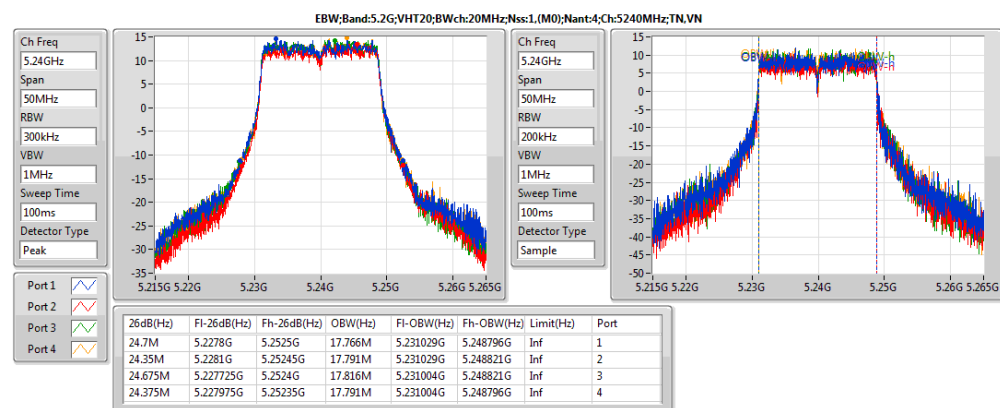
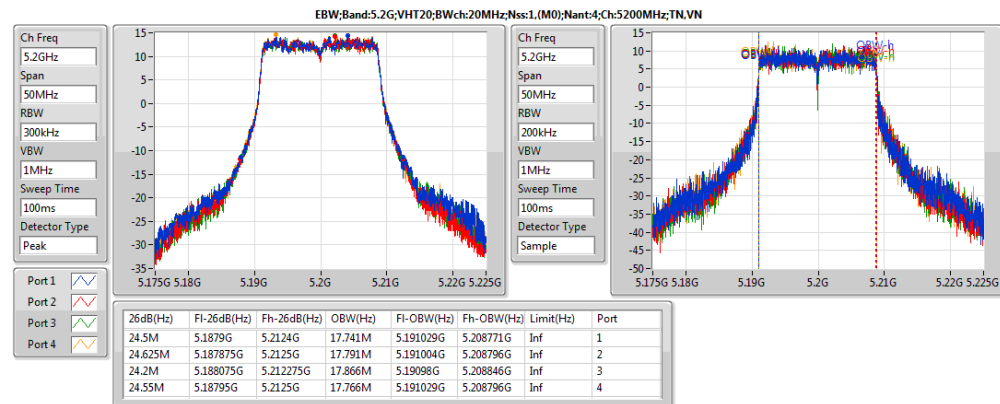
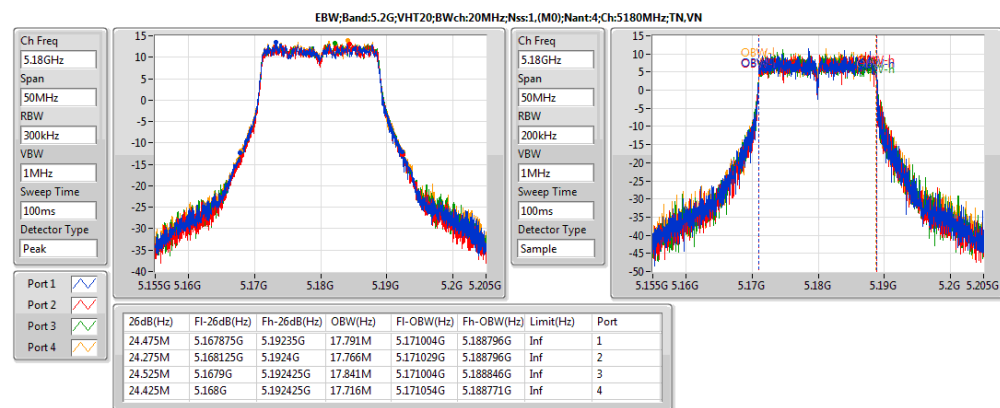
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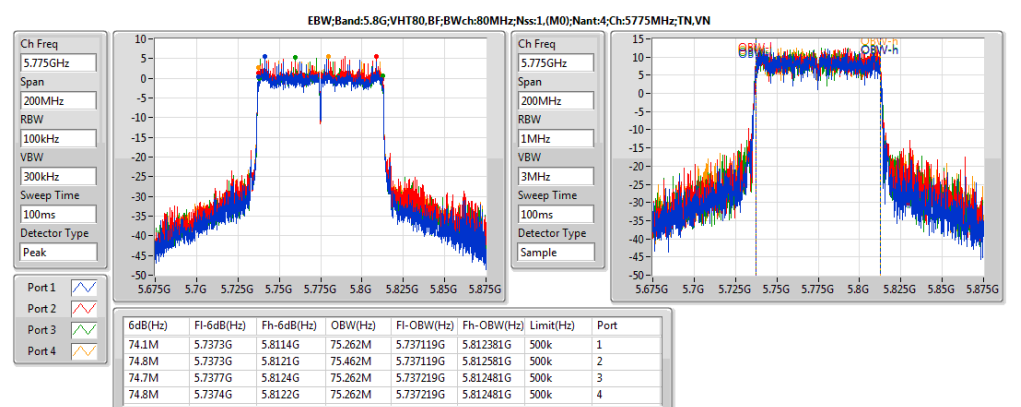
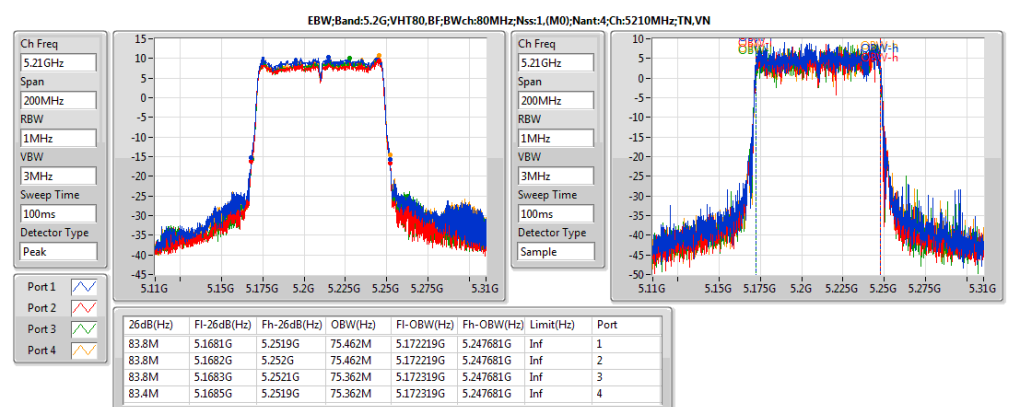
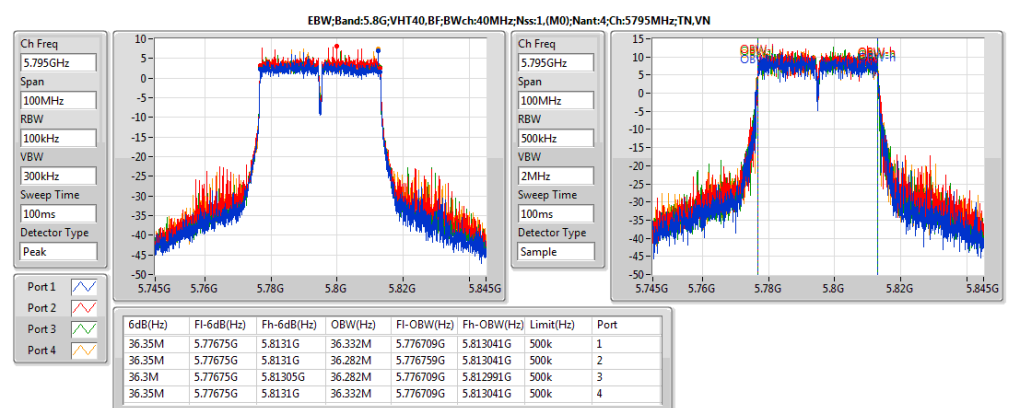
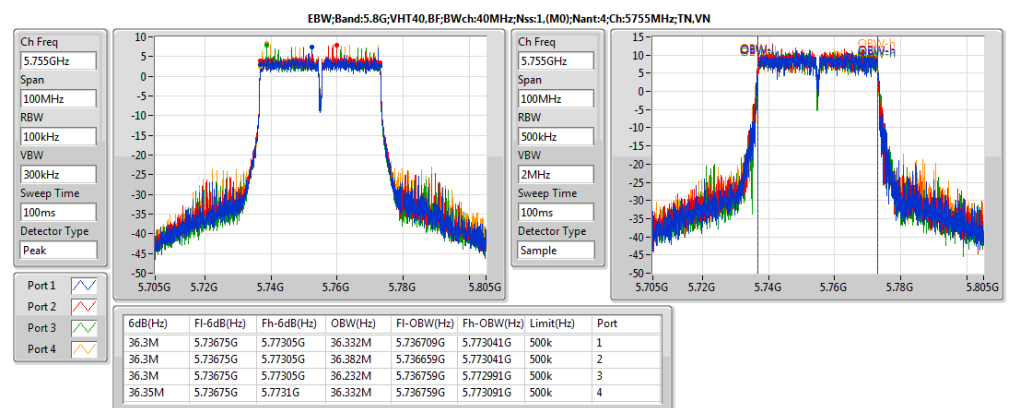
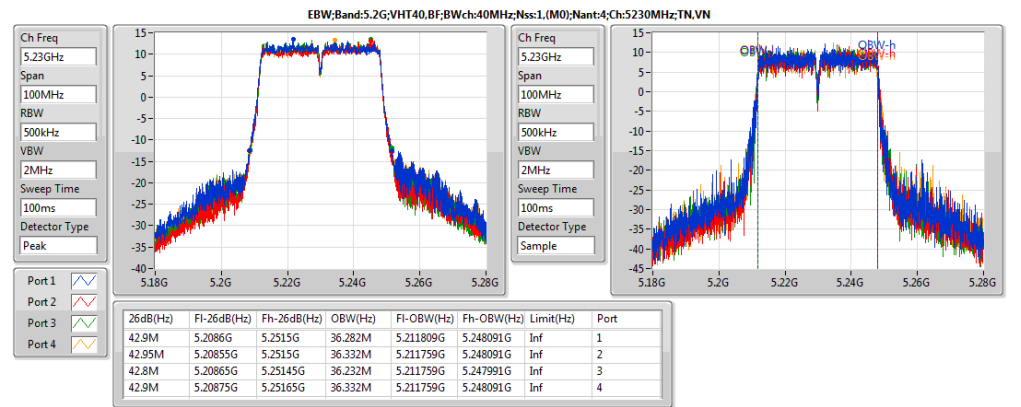
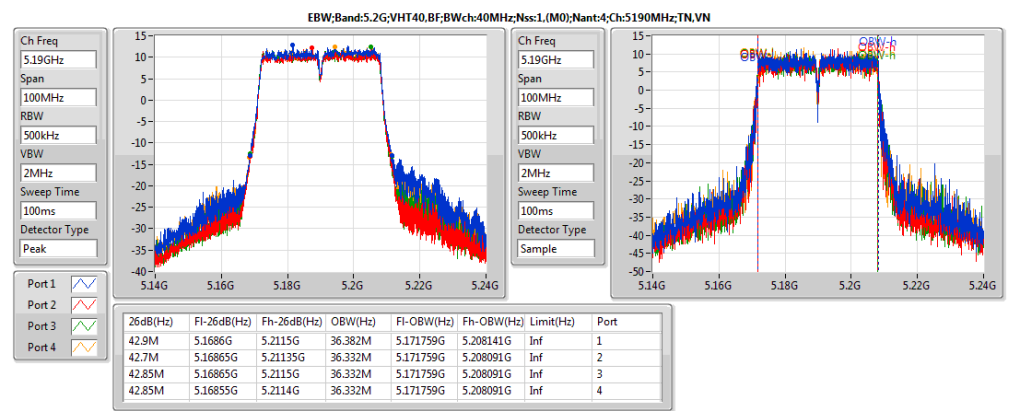
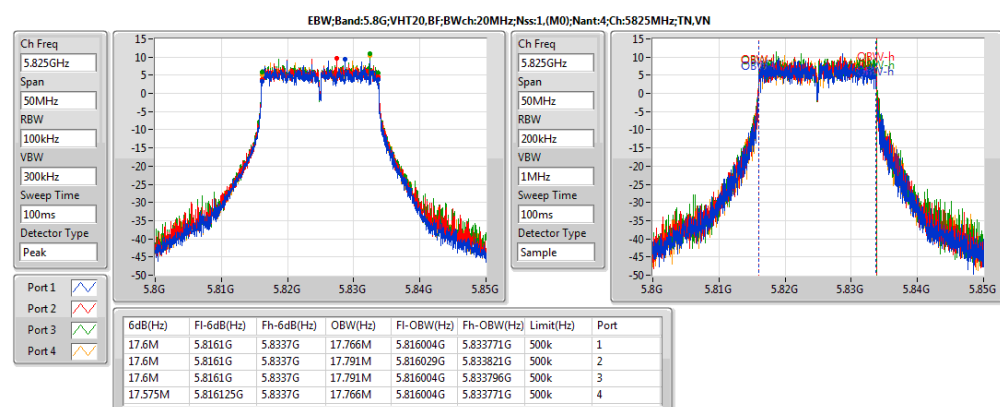
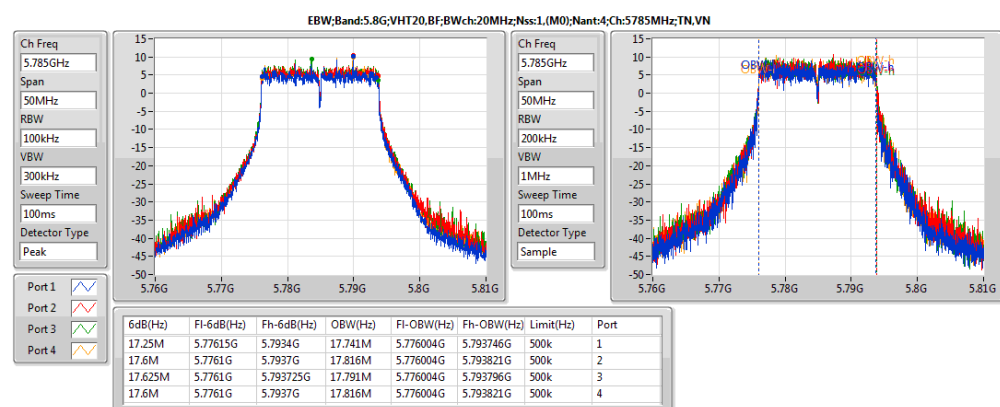
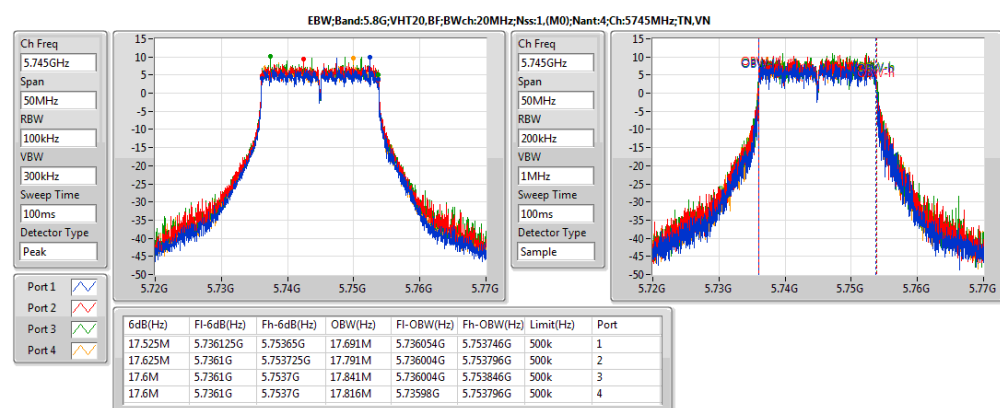
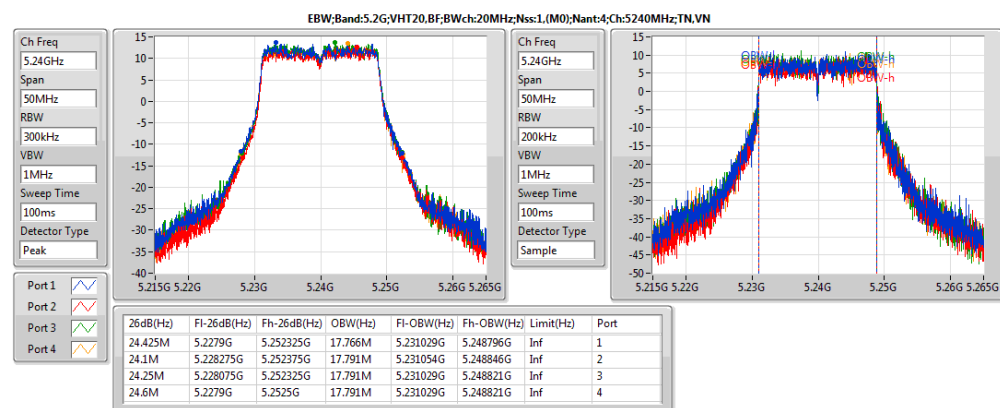
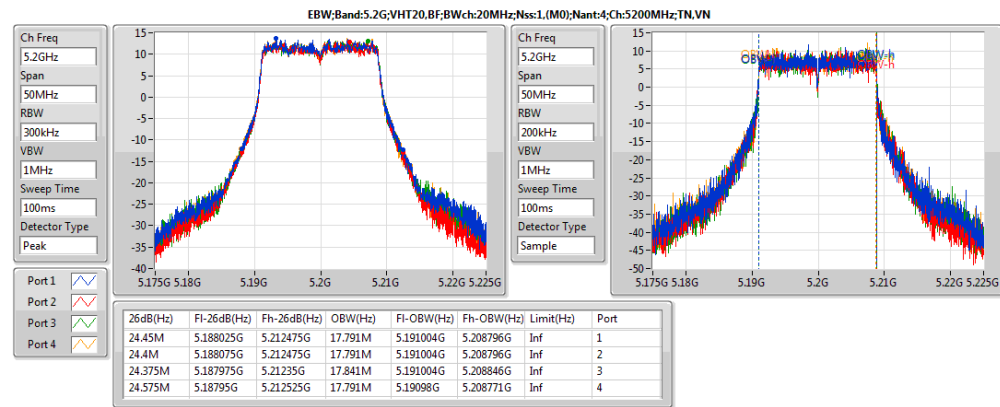
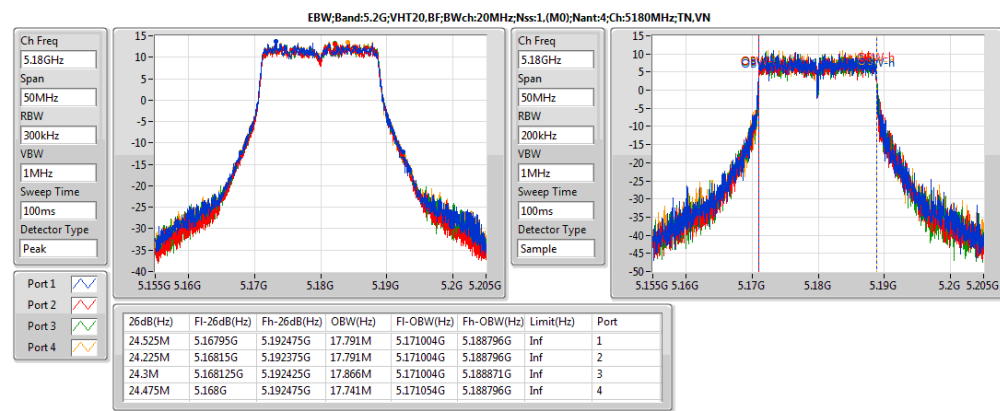
Mode	Max-N dB (Hz)	Max-OBW (Hz)	ITU-Code	Min-N dB (Hz)	Min-OBW (Hz)
5.2G;VHT20;Nss1,(M0);Ntx4	24.7M	17.866M	17M9D1D	24.2M	17.716M
5.8G;VHT20;Nss1,(M0);Ntx4	17.775M	17.866M	17M9D1D	17.575M	17.741M
5.2G;VHT40;Nss1,(M0);Ntx4	55.25M	36.432M	36M4D1D	42.75M	36.232M
5.8G;VHT40;Nss1,(M0);Ntx4	36.4M	36.332M	36M3D1D	36.3M	36.232M
5.2G;VHT80;Nss1,(M0);Ntx4	83.8M	75.462M	75M5D1D	83.7M	75.362M
5.8G;VHT80;Nss1,(M0);Ntx4	75.1M	75.562M	75M6D1D	73.2M	75.362M
5.2G;VHT20,BF;Nss1,(M0);Ntx4	24.6M	17.866M	17M9D1D	24.1M	17.741M
5.8G;VHT20,BF;Nss1,(M0);Ntx4	17.625M	17.841M	17M8D1D	17.25M	17.691M
5.2G;VHT40,BF;Nss1,(M0);Ntx4	42.95M	36.382M	36M4D1D	42.7M	36.232M
5.8G;VHT40,BF;Nss1,(M0);Ntx4	36.35M	36.382M	36M4D1D	36.3M	36.232M
5.2G;VHT80,BF;Nss1,(M0);Ntx4	83.8M	75.462M	75M5D1D	83.4M	75.362M
5.8G;VHT80,BF;Nss1,(M0);Ntx4	74.8M	75.462M	75M5D1D	74.1M	75.262M



Result

Mode	Result	Limit	P1-N dB (Hz)	P1-OBW (Hz)	P2-N dB (Hz)	P2-OBW (Hz)	P3-N dB (Hz)	P3-OBW (Hz)	P4-N dB (Hz)	P4-OBW (Hz)
5.2G;VHT20;Nss1,(M0);Ntx4;5180	Pass	Inf	24.475M	17.791M	24.275M	17.766M	24.525M	17.841M	24.425M	17.716M
5.2G;VHT20;Nss1,(M0);Ntx4;5200	Pass	Inf	24.5M	17.741M	24.625M	17.791M	24.2M	17.866M	24.55M	17.766M
5.2G;VHT20;Nss1,(M0);Ntx4;5240	Pass	Inf	24.7M	17.766M	24.35M	17.791M	24.675M	17.816M	24.375M	17.791M
5.8G;VHT20;Nss1,(M0);Ntx4;5745	Pass	500k	17.575M	17.766M	17.575M	17.791M	17.6M	17.866M	17.6M	17.766M
5.8G;VHT20;Nss1,(M0);Ntx4;5785	Pass	500k	17.775M	17.741M	17.6M	17.741M	17.6M	17.816M	17.6M	17.791M
5.8G;VHT20;Nss1,(M0);Ntx4;5825	Pass	500k	17.6M	17.766M	17.6M	17.816M	17.6M	17.816M	17.575M	17.791M
5.2G;VHT40;Nss1,(M0);Ntx4;5190	Pass	Inf	42.75M	36.282M	42.9M	36.332M	42.8M	36.232M	42.75M	36.282M
5.2G;VHT40;Nss1,(M0);Ntx4;5230	Pass	Inf	55.25M	36.432M	42.75M	36.332M	42.8M	36.282M	49.3M	36.432M
5.8G;VHT40;Nss1,(M0);Ntx4;5755	Pass	500k	36.3M	36.232M	36.3M	36.332M	36.4M	36.232M	36.3M	36.232M
5.8G;VHT40;Nss1,(M0);Ntx4;5795	Pass	500k	36.3M	36.232M	36.3M	36.332M	36.3M	36.232M	36.3M	36.332M
5.2G;VHT80;Nss1,(M0);Ntx4;5210	Pass	Inf	83.7M	75.362M	83.7M	75.462M	83.8M	75.362M	83.7M	75.462M
5.8G;VHT80;Nss1,(M0);Ntx4;5775	Pass	500k	73.2M	75.562M	74.8M	75.362M	75.1M	75.362M	74.6M	75.462M
5.2G;VHT20,BF;Nss1,(M0);Ntx4;5180	Pass	Inf	24.525M	17.791M	24.225M	17.791M	24.3M	17.866M	24.475M	17.741M
5.2G;VHT20,BF;Nss1,(M0);Ntx4;5200	Pass	Inf	24.45M	17.791M	24.4M	17.791M	24.375M	17.841M	24.575M	17.791M
5.2G;VHT20,BF;Nss1,(M0);Ntx4;5240	Pass	Inf	24.425M	17.766M	24.1M	17.791M	24.25M	17.791M	24.6M	17.791M
5.8G;VHT20,BF;Nss1,(M0);Ntx4;5745	Pass	500k	17.525M	17.691M	17.625M	17.791M	17.6M	17.841M	17.6M	17.816M
5.8G;VHT20,BF;Nss1,(M0);Ntx4;5785	Pass	500k	17.25M	17.741M	17.6M	17.816M	17.625M	17.791M	17.6M	17.816M
5.8G;VHT20,BF;Nss1,(M0);Ntx4;5825	Pass	500k	17.6M	17.766M	17.6M	17.791M	17.6M	17.791M	17.575M	17.766M
5.2G;VHT40,BF;Nss1,(M0);Ntx4;5190	Pass	Inf	42.9M	36.382M	42.7M	36.332M	42.85M	36.332M	42.85M	36.332M
5.2G;VHT40,BF;Nss1,(M0);Ntx4;5230	Pass	Inf	42.9M	36.282M	42.95M	36.332M	42.8M	36.232M	42.9M	36.332M
5.8G;VHT40,BF;Nss1,(M0);Ntx4;5755	Pass	500k	36.3M	36.332M	36.3M	36.382M	36.3M	36.232M	36.35M	36.332M
5.8G;VHT40,BF;Nss1,(M0);Ntx4;5795	Pass	500k	36.35M	36.332M	36.35M	36.282M	36.3M	36.282M	36.35M	36.332M
5.2G;VHT80,BF;Nss1,(M0);Ntx4;5210	Pass	Inf	83.8M	75.462M	83.8M	75.462M	83.8M	75.362M	83.4M	75.362M
5.8G;VHT80,BF;Nss1,(M0);Ntx4;5775	Pass	500k	74.1M	75.262M	74.8M	75.462M	74.7M	75.262M	74.8M	75.262M







Summary

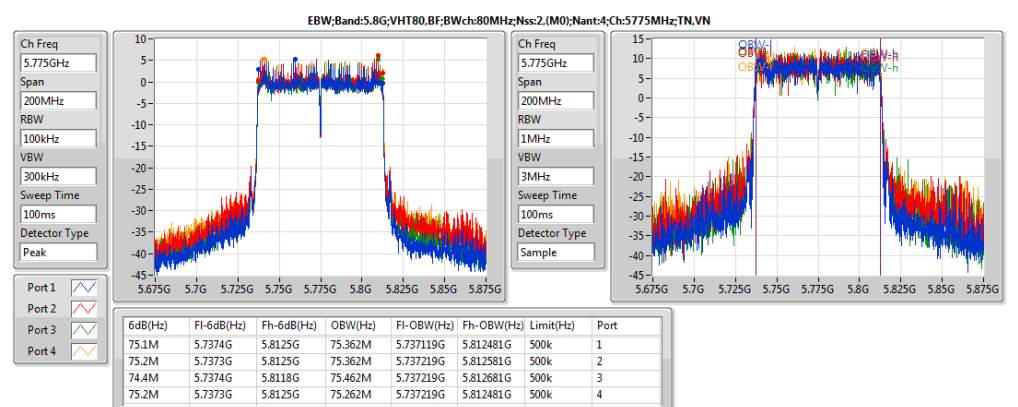
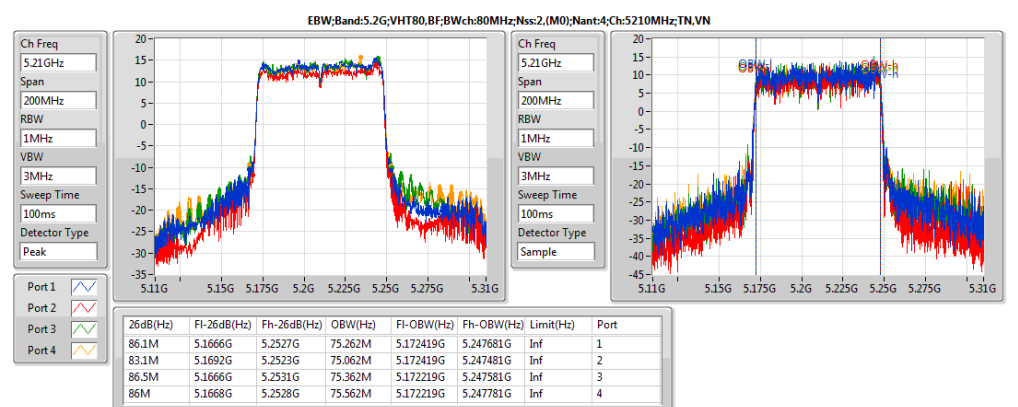
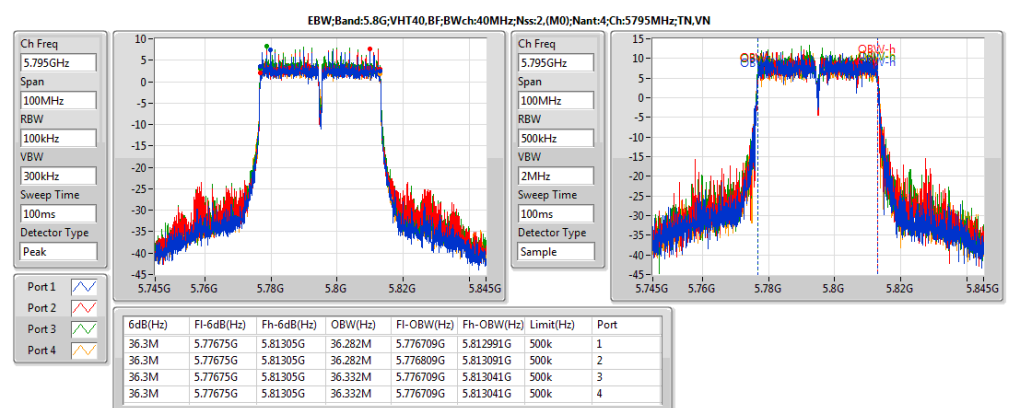
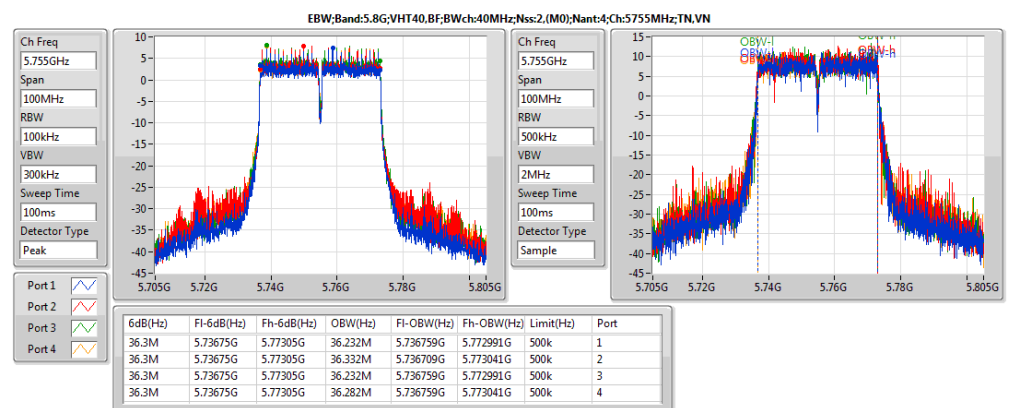
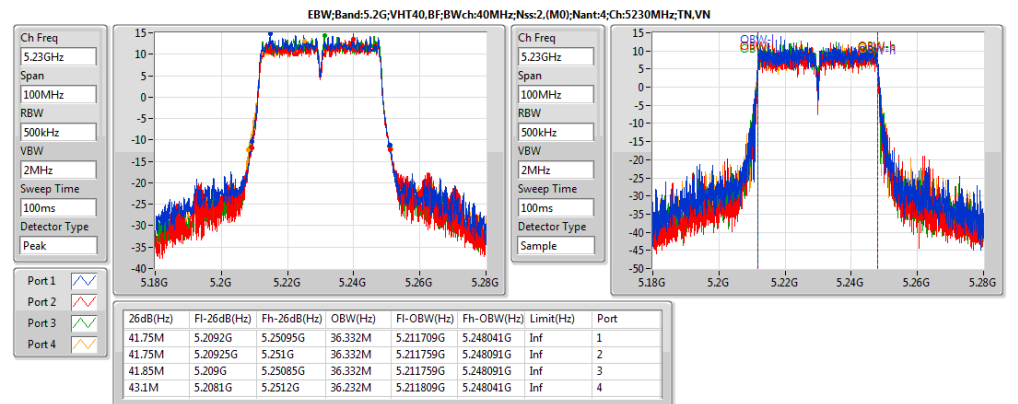
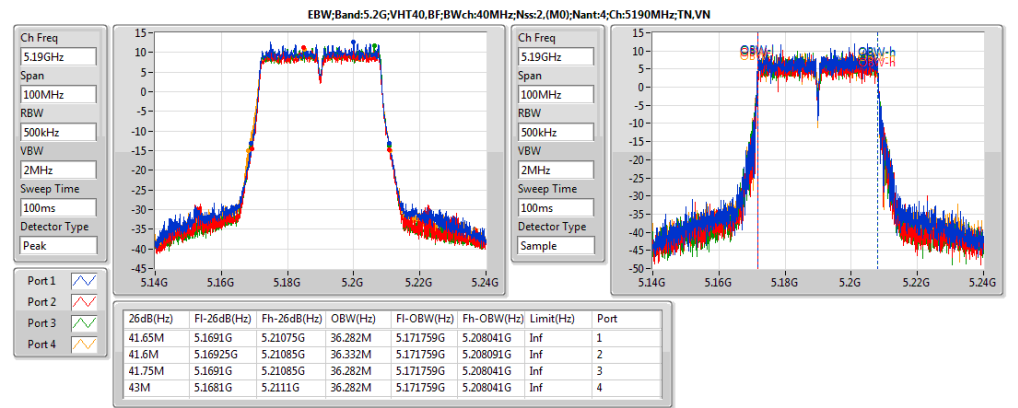
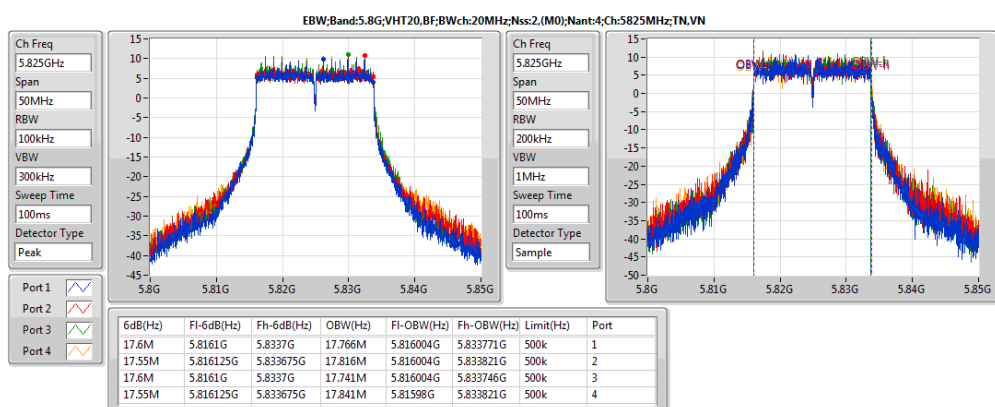
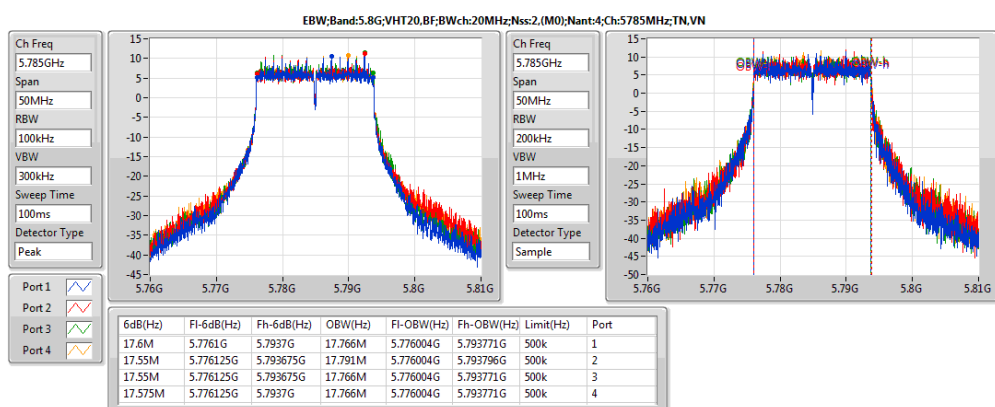
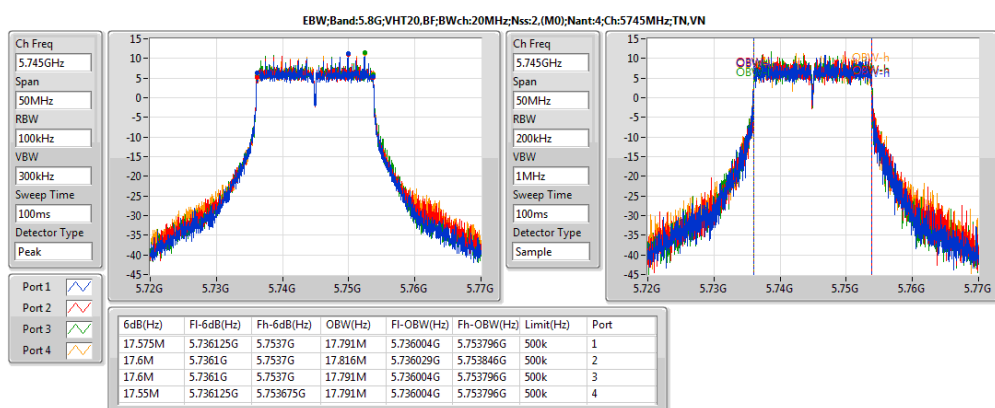
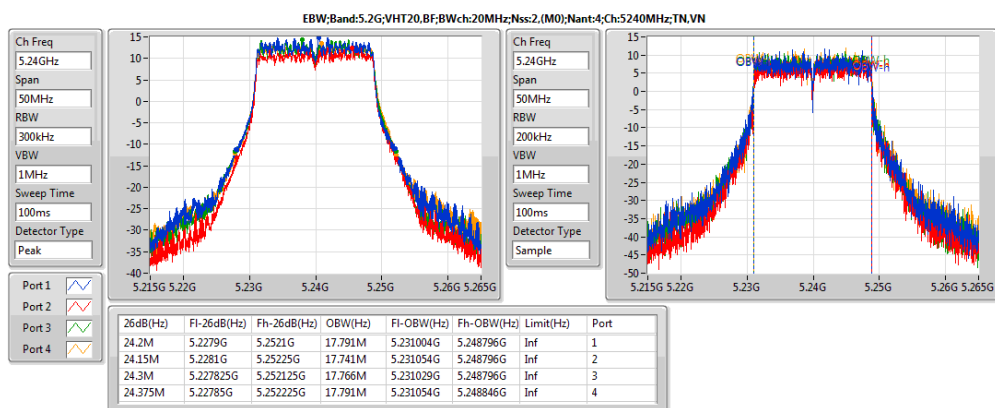
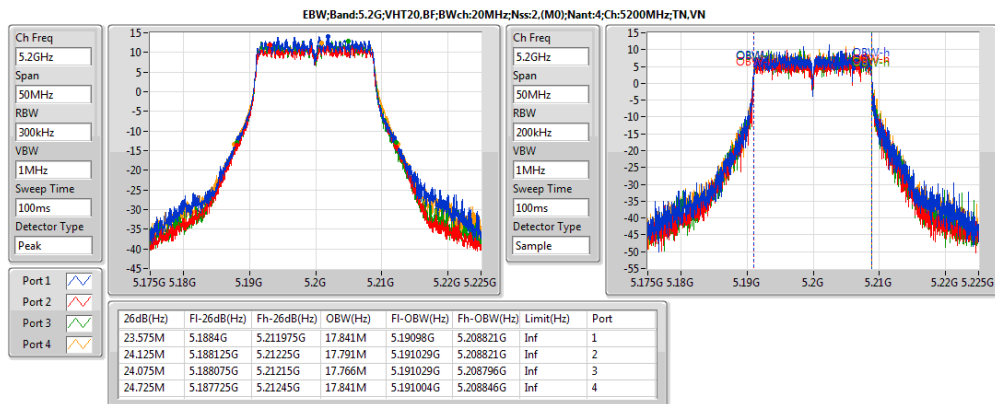
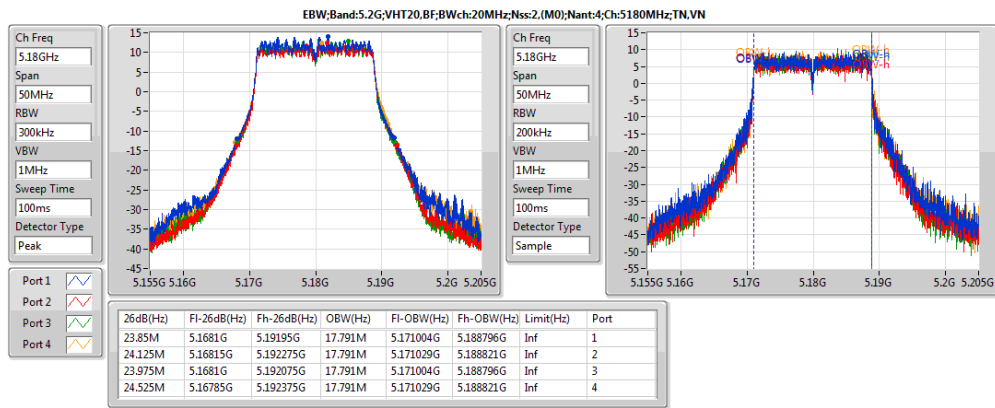
<For Beamforming Mode 4T2S>

Mode	Max-N dB (Hz)	Max-OBW (Hz)	ITU-Code	Min-N dB (Hz)	Min-OBW (Hz)
5.2G;VHT20,BF;Nss2,(M0);Ntx4	24.725M	17.841M	17M8D1D	23.575M	17.741M
5.8G;VHT20,BF;Nss2,(M0);Ntx4	17.6M	17.841M	17M8D1D	17.55M	17.741M
5.2G;VHT40,BF;Nss2,(M0);Ntx4	43.1M	36.332M	36M3D1D	41.6M	36.232M
5.8G;VHT40,BF;Nss2,(M0);Ntx4	36.3M	36.332M	36M3D1D	36.3M	36.232M
5.2G;VHT80,BF;Nss2,(M0);Ntx4	86.5M	75.562M	75M6D1D	83.1M	75.062M
5.8G;VHT80,BF;Nss2,(M0);Ntx4	75.2M	75.462M	75M5D1D	74.4M	75.262M



Result

Mode	Result	Limit (Hz)	P1-N dB (Hz)	P1-OBW (Hz)	P2-N dB (Hz)	P2-OBW (Hz)	P3-N dB (Hz)	P3-OBW (Hz)	P4-N dB (Hz)	P4-OBW (Hz)
5.2G;VHT20,BF;Nss2,(M0);Ntx4;5180	Pass	Inf	23.85M	17.791M	24.125M	17.791M	23.975M	17.791M	24.525M	17.791M
5.2G;VHT20,BF;Nss2,(M0);Ntx4;5200	Pass	Inf	23.575M	17.841M	24.125M	17.791M	24.075M	17.766M	24.725M	17.841M
5.2G;VHT20,BF;Nss2,(M0);Ntx4;5240	Pass	Inf	24.2M	17.791M	24.15M	17.741M	24.3M	17.766M	24.375M	17.791M
5.8G;VHT20,BF;Nss2,(M0);Ntx4;5745	Pass	500k	17.575M	17.791M	17.6M	17.816M	17.6M	17.791M	17.55M	17.791M
5.8G;VHT20,BF;Nss2,(M0);Ntx4;5785	Pass	500k	17.6M	17.766M	17.55M	17.791M	17.55M	17.766M	17.575M	17.766M
5.8G;VHT20,BF;Nss2,(M0);Ntx4;5825	Pass	500k	17.6M	17.766M	17.55M	17.816M	17.6M	17.741M	17.55M	17.841M
5.2G;VHT40,BF;Nss2,(M0);Ntx4;5190	Pass	Inf	41.65M	36.282M	41.6M	36.332M	41.75M	36.282M	43M	36.282M
5.2G;VHT40,BF;Nss2,(M0);Ntx4;5230	Pass	Inf	41.75M	36.332M	41.75M	36.332M	41.85M	36.332M	43.1M	36.232M
5.8G;VHT40,BF;Nss2,(M0);Ntx4;5755	Pass	500k	36.3M	36.232M	36.3M	36.332M	36.3M	36.232M	36.3M	36.282M
5.8G;VHT40,BF;Nss2,(M0);Ntx4;5795	Pass	500k	36.3M	36.282M	36.3M	36.282M	36.3M	36.332M	36.3M	36.332M
5.2G;VHT80,BF;Nss2,(M0);Ntx4;5210	Pass	Inf	86.1M	75.262M	83.1M	75.062M	86.5M	75.362M	86M	75.562M
5.8G;VHT80,BF;Nss2,(M0);Ntx4;5775	Pass	500k	75.1M	75.362M	75.2M	75.362M	74.4M	75.462M	75.2M	75.262M





Summary

<For Non-Beamforming Mode> and <For Beamforming Mode 4T1S>

Mode	Sum (dBm)	Sum (W)	EIRP (dBm)	EIRP (W)
5.2G;VHT20;Nss1,(M0);Ntx4	29.17	0.82604	34.57	2.86418
5.8G;VHT20;Nss1,(M0);Ntx4	27.98	0.62806	32.60	1.8197
5.2G;VHT40;Nss1,(M0);Ntx4	29.90	0.97724	35.30	3.38844
5.8G;VHT40;Nss1,(M0);Ntx4	27.82	0.60534	32.44	1.75388
5.2G;VHT80;Nss1,(M0);Ntx4	24.81	0.30269	30.21	1.04954
5.8G;VHT80;Nss1,(M0);Ntx4	28.35	0.68391	32.97	1.98153
5.2G;VHT20,BF;Nss1,(M0);Ntx4	27.92	0.61944	34.94	3.11889
5.8G;VHT20,BF;Nss1,(M0);Ntx4	27.79	0.60117	34.85	3.05492
5.2G;VHT40,BF;Nss1,(M0);Ntx4	27.89	0.61518	34.91	3.09742
5.8G;VHT40,BF;Nss1,(M0);Ntx4	28.54	0.7145	35.60	3.63078
5.2G;VHT80,BF;Nss1,(M0);Ntx4	24.69	0.29444	31.71	1.48252
5.8G;VHT80,BF;Nss1,(M0);Ntx4	28.43	0.69663	35.49	3.53997



Result

Mode	Result	DG (dBi)	EIRP (dBm)	EIRP Lim. (dBm)	Sum (dBm)	Sum Lim. (dBm)	P1 (dBm)	P2 (dBm)	P3 (dBm)	P4 (dBm)
5.2G;VHT20;Nss1,(M0);Ntx4;5180	Pass	5.40	33.61	36.00	28.21	30.00	22.21	22.31	21.77	22.44
5.2G;VHT20;Nss1,(M0);Ntx4;5200	Pass	5.40	34.56	36.00	29.16	30.00	23.33	23.04	22.63	23.49
5.2G;VHT20;Nss1,(M0);Ntx4;5240	Pass	5.40	34.57	36.00	29.17	30.00	22.95	23.32	22.81	23.48
5.8G;VHT20;Nss1,(M0);Ntx4;5745	Pass	4.62	32.60	36.00	27.98	30.00	21.70	22.35	21.76	22.01
5.8G;VHT20;Nss1,(M0);Ntx4;5785	Pass	4.62	30.70	36.00	26.08	30.00	19.94	20.28	19.76	20.22
5.8G;VHT20;Nss1,(M0);Ntx4;5825	Pass	4.62	31.41	36.00	26.79	30.00	20.77	20.99	20.34	20.93
5.2G;VHT40;Nss1,(M0);Ntx4;5190	Pass	5.40	29.00	36.00	23.60	30.00	18.38	17.65	15.20	18.38
5.2G;VHT40;Nss1,(M0);Ntx4;5230	Pass	5.40	35.30	36.00	29.90	30.00	24.46	23.69	23.27	24.00
5.8G;VHT40;Nss1,(M0);Ntx4;5755	Pass	4.62	32.44	36.00	27.82	30.00	21.65	22.17	21.15	22.16
5.8G;VHT40;Nss1,(M0);Ntx4;5795	Pass	4.62	32.31	36.00	27.69	30.00	21.51	22.17	21.33	21.63
5.2G;VHT80;Nss1,(M0);Ntx4;5210	Pass	5.40	30.21	36.00	24.81	30.00	19.43	18.32	18.18	19.09
5.8G;VHT80;Nss1,(M0);Ntx4;5775	Pass	4.62	32.97	36.00	28.35	30.00	22.24	22.70	21.87	22.47
5.2G;VHT20,BF;Nss1,(M0);Ntx4;5180	Pass	7.02	34.79	36.00	27.77	28.98	21.93	21.71	21.47	21.89
5.2G;VHT20,BF;Nss1,(M0);Ntx4;5200	Pass	7.02	34.86	36.00	27.84	28.98	21.98	21.81	21.65	21.82
5.2G;VHT20,BF;Nss1,(M0);Ntx4;5240	Pass	7.02	34.94	36.00	27.92	28.98	22.12	21.52	22.14	21.77
5.8G;VHT20,BF;Nss1,(M0);Ntx4;5745	Pass	7.06	34.84	36.00	27.78	28.94	21.40	22.05	21.42	22.13
5.8G;VHT20,BF;Nss1,(M0);Ntx4;5785	Pass	7.06	34.85	36.00	27.79	28.94	21.35	22.08	21.72	21.89
5.8G;VHT20,BF;Nss1,(M0);Ntx4;5825	Pass	7.06	34.61	36.00	27.55	28.94	21.62	21.77	20.94	21.74
5.2G;VHT40,BF;Nss1,(M0);Ntx4;5190	Pass	7.02	34.59	36.00	27.57	28.98	22.33	21.04	21.05	21.66
5.2G;VHT40,BF;Nss1,(M0);Ntx4;5230	Pass	7.02	34.91	36.00	27.89	28.98	22.42	21.53	21.67	21.82
5.8G;VHT40,BF;Nss1,(M0);Ntx4;5755	Pass	7.06	35.60	36.00	28.54	28.94	22.45	22.76	21.93	22.88
5.8G;VHT40,BF;Nss1,(M0);Ntx4;5795	Pass	7.06	35.23	36.00	28.17	28.94	22.27	22.31	21.66	22.34
5.2G;VHT80,BF;Nss1,(M0);Ntx4;5210	Pass	7.02	31.71	36.00	24.69	28.98	19.27	18.16	18.38	18.79
5.8G;VHT80,BF;Nss1,(M0);Ntx4;5775	Pass	7.06	35.49	36.00	28.43	28.94	22.20	22.64	21.85	22.89



Summary

<For Beamforming Mode 4T2S>

Mode	Sum (dBm)	Sum (W)	EIRP (dBm)	EIRP (W)
5.2G;VHT20,BF;Nss2,(M0);Ntx4	29.44	0.87902	33.58	2.28034
5.8G;VHT20,BF;Nss2,(M0);Ntx4	29.95	0.98855	34.06	2.54683
5.2G;VHT40,BF;Nss2,(M0);Ntx4	29.39	0.86896	33.53	2.25424
5.8G;VHT40,BF;Nss2,(M0);Ntx4	29.60	0.91201	33.71	2.34963
5.2G;VHT80,BF;Nss2,(M0);Ntx4	27.73	0.59293	31.87	1.53815
5.8G;VHT80,BF;Nss2,(M0);Ntx4	29.60	0.91201	33.71	2.34963



Result

Mode	Result	DG (dBi)	Sum (dBm)	Sum Lim. (dBm)	EIRP (dBm)	EIRP Lim. (dBm)	P1 (dBm)	P2 (dBm)	P3 (dBm)	P4 (dBm)
5.2G;VHT20,BF;Nss2,(M0);Ntx4;5180	Pass	4.14	28.61	30.00	32.75	36.00	23.83	21.02	23.15	21.80
5.2G;VHT20,BF;Nss2,(M0);Ntx4;5200	Pass	4.14	28.72	30.00	32.86	36.00	24.25	20.93	22.84	22.11
5.2G;VHT20,BF;Nss2,(M0);Ntx4;5240	Pass	4.14	29.44	30.00	33.58	36.00	24.51	22.08	23.85	22.84
5.8G;VHT20,BF;Nss2,(M0);Ntx4;5745	Pass	4.11	29.95	30.00	34.06	36.00	23.42	23.75	24.48	23.99
5.8G;VHT20,BF;Nss2,(M0);Ntx4;5785	Pass	4.11	29.63	30.00	33.74	36.00	22.54	23.37	24.13	24.18
5.8G;VHT20,BF;Nss2,(M0);Ntx4;5825	Pass	4.11	29.63	30.00	33.74	36.00	23.30	23.33	23.71	24.06
5.2G;VHT40,BF;Nss2,(M0);Ntx4;5190	Pass	4.14	27.09	30.00	31.23	36.00	22.84	18.59	21.57	20.17
5.2G;VHT40,BF;Nss2,(M0);Ntx4;5230	Pass	4.14	29.39	30.00	33.53	36.00	24.88	21.33	23.74	22.74
5.8G;VHT40,BF;Nss2,(M0);Ntx4;5755	Pass	4.11	29.60	30.00	33.71	36.00	23.39	23.12	24.19	23.53
5.8G;VHT40,BF;Nss2,(M0);Ntx4;5795	Pass	4.11	29.36	30.00	33.47	36.00	23.02	23.24	23.47	23.59
5.2G;VHT80,BF;Nss2,(M0);Ntx4;5210	Pass	4.14	27.73	30.00	31.87	36.00	23.27	19.58	21.99	21.18
5.8G;VHT80,BF;Nss2,(M0);Ntx4;5775	Pass	4.11	29.60	30.00	33.71	36.00	23.07	23.44	24.03	23.73



Summary

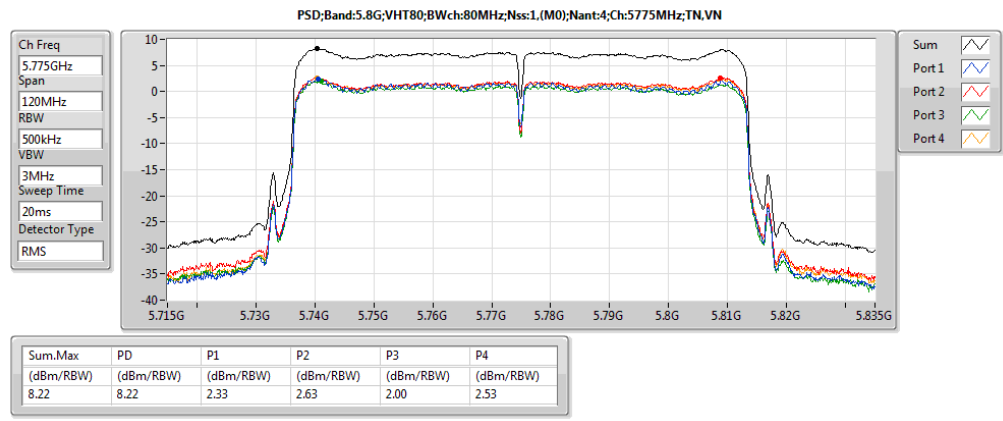
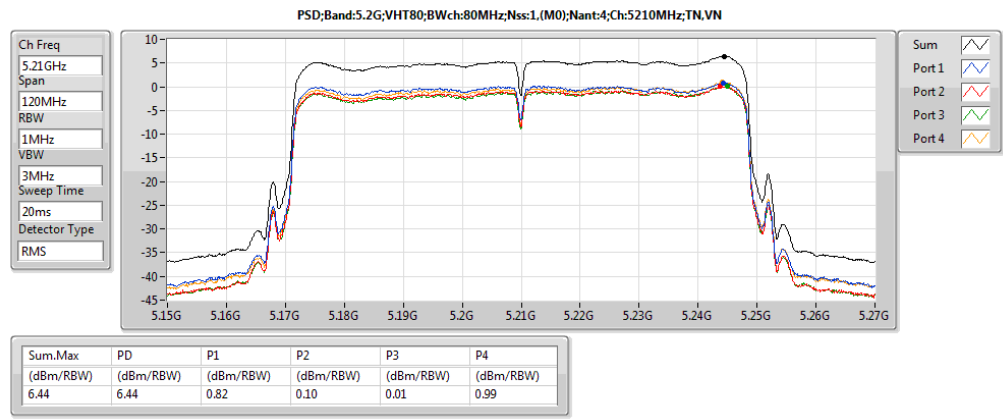
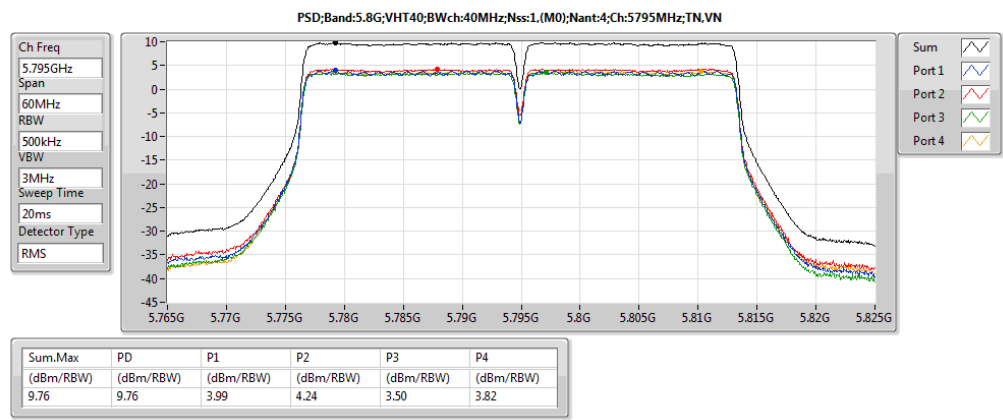
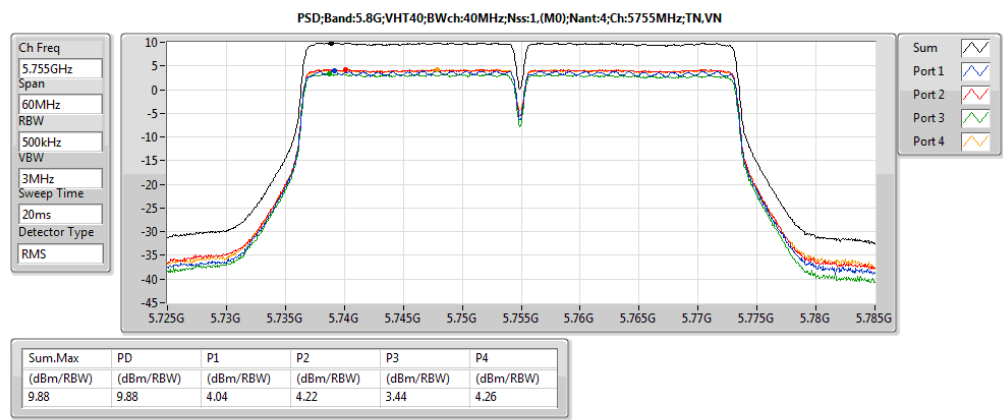
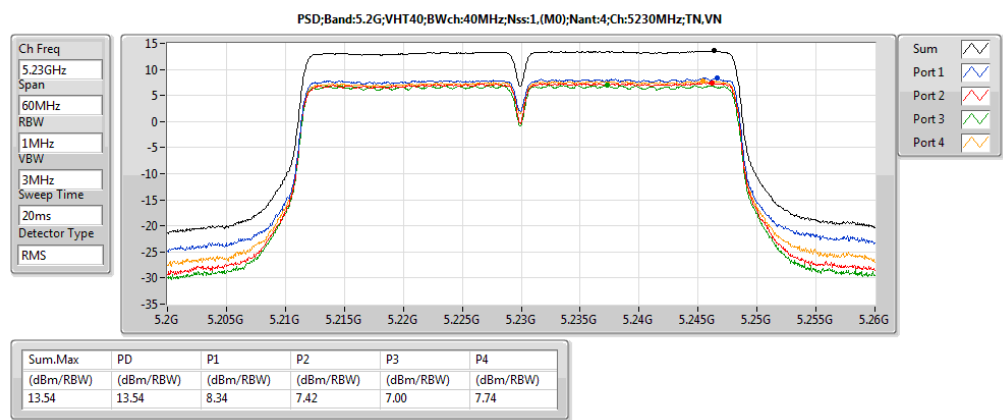
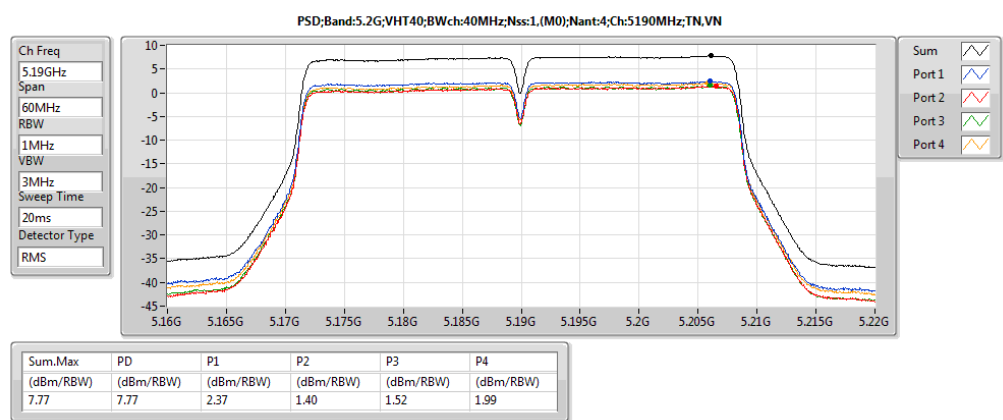
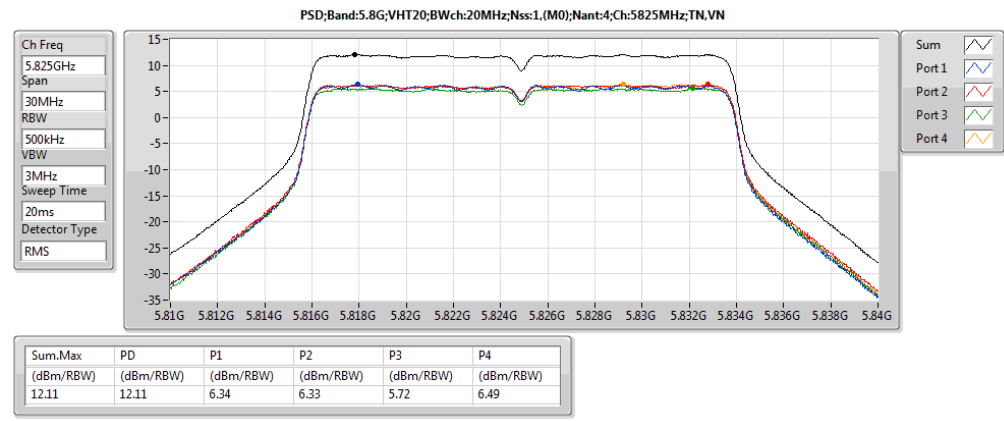
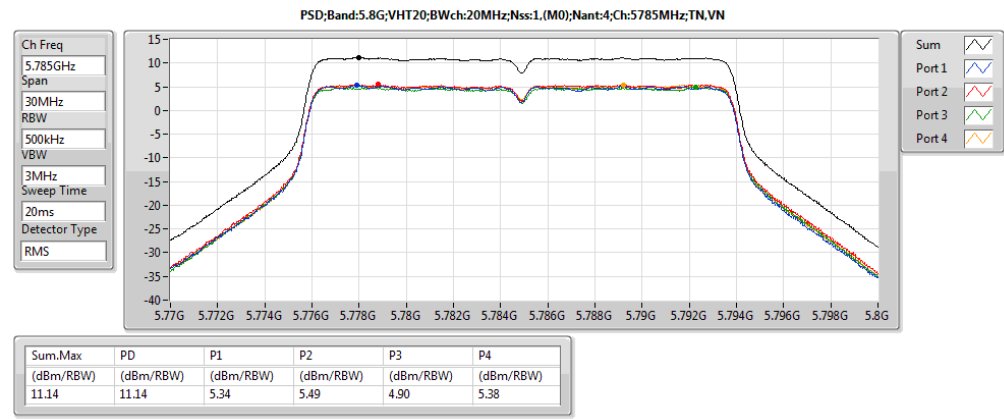
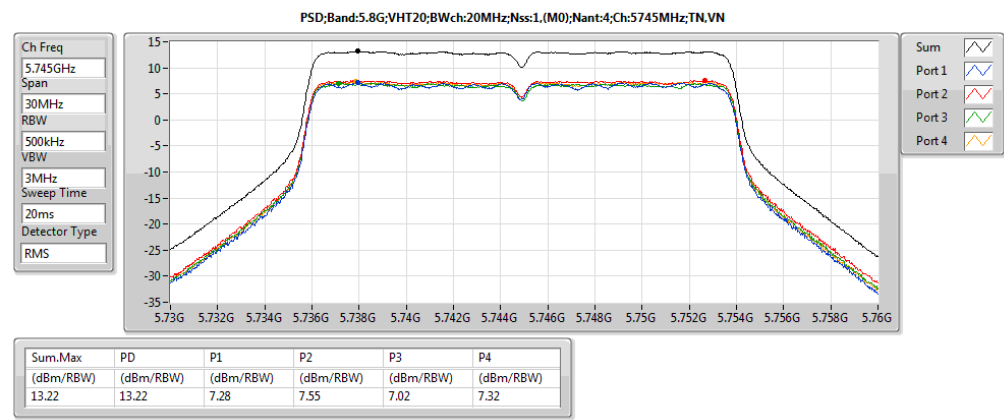
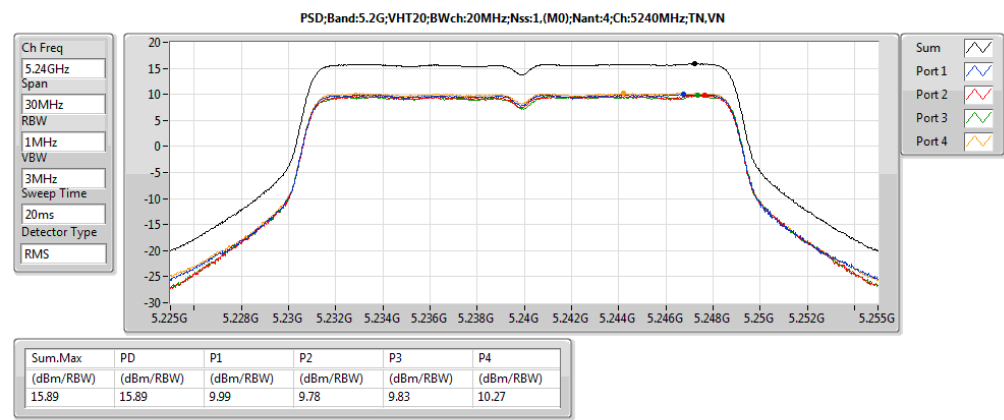
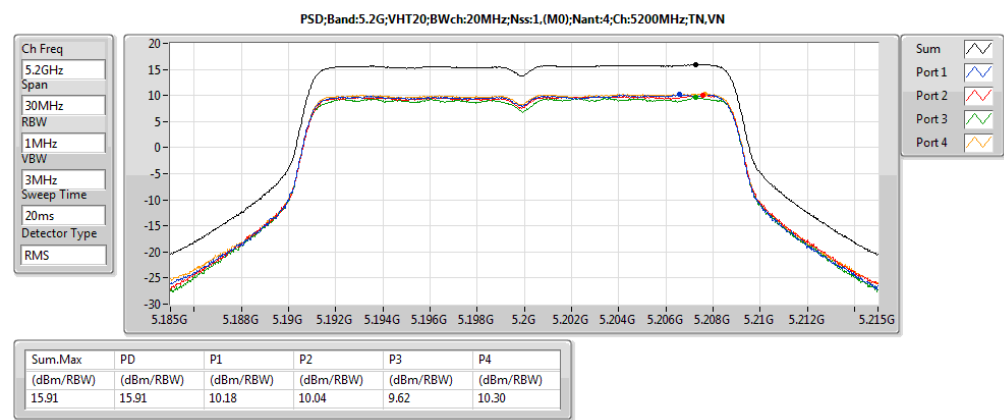
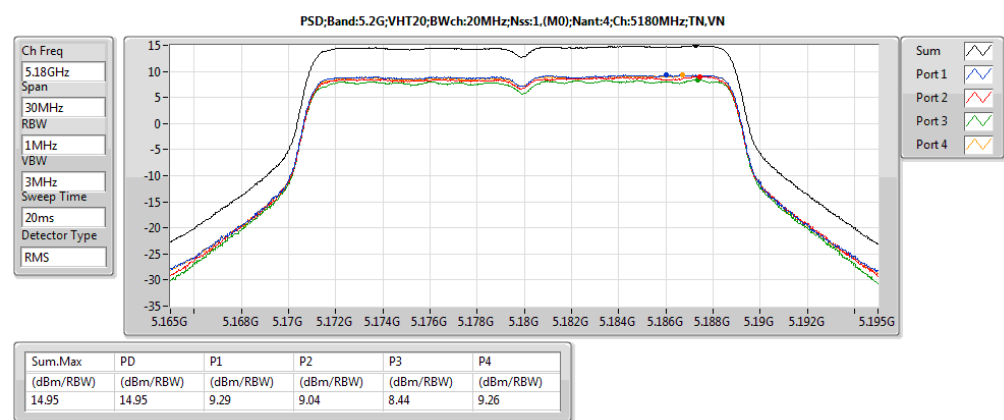
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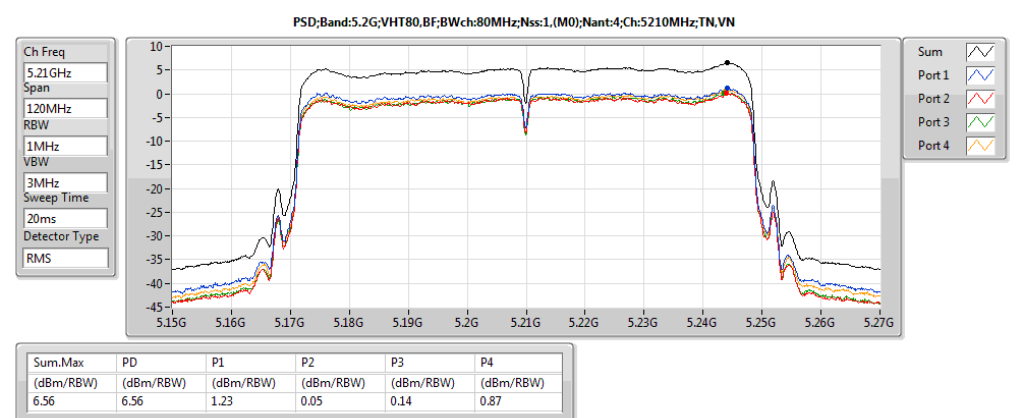
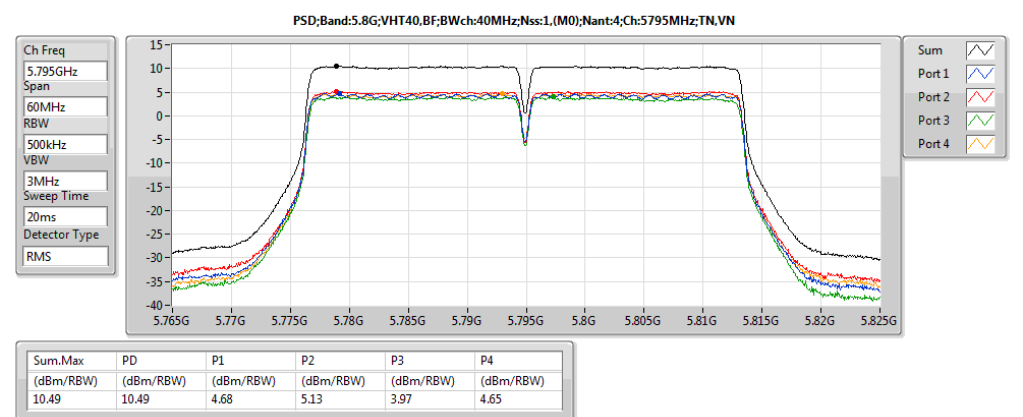
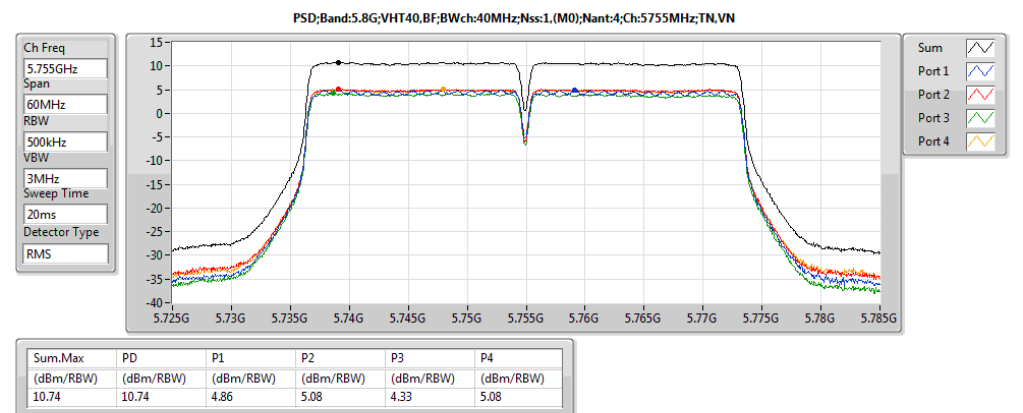
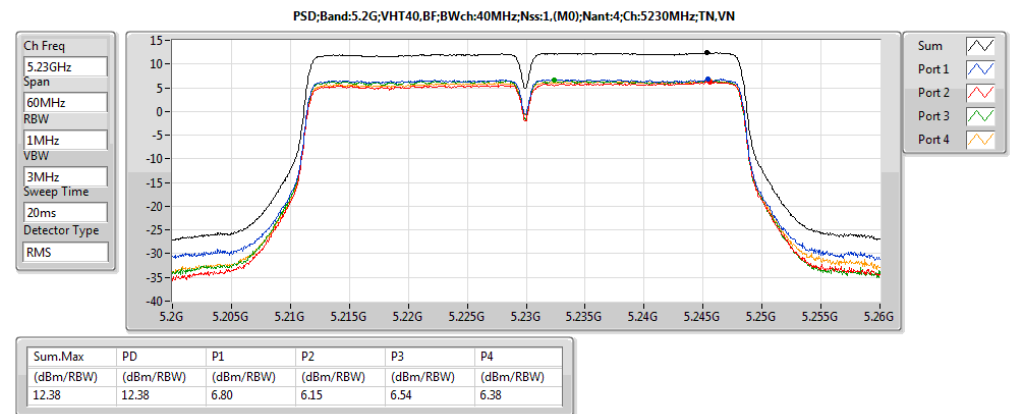
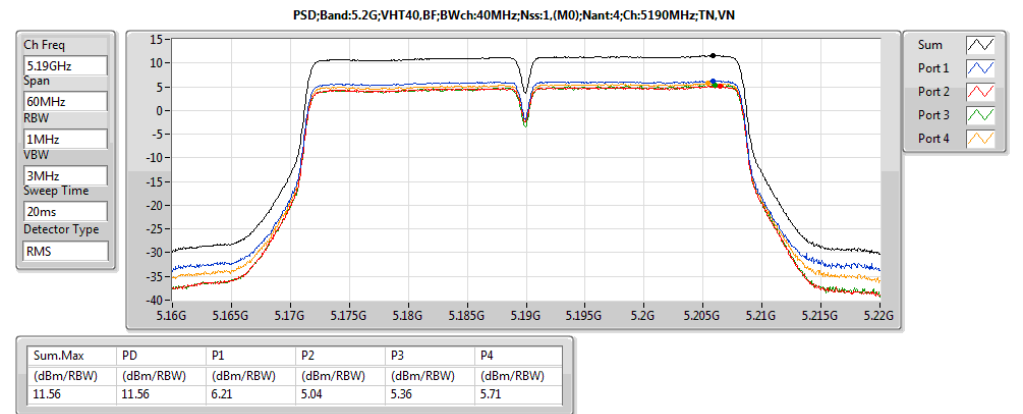
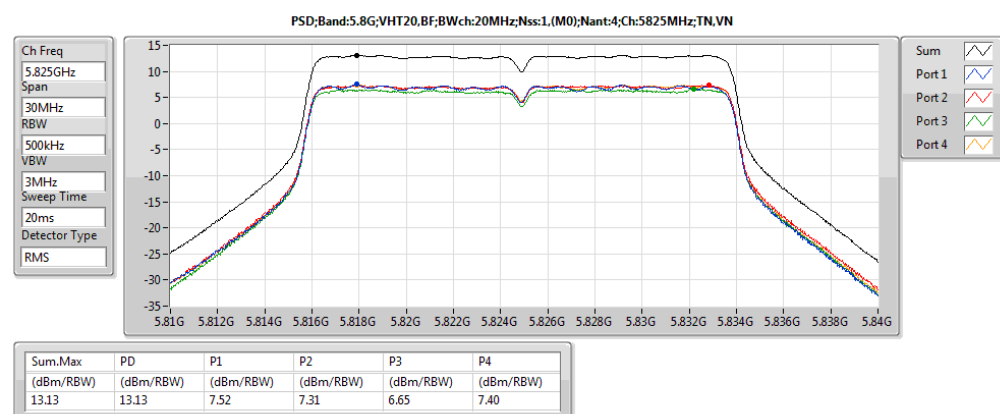
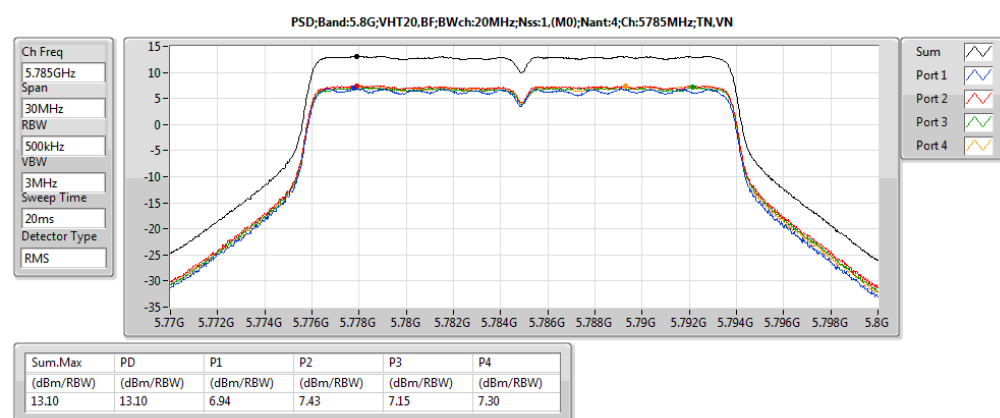
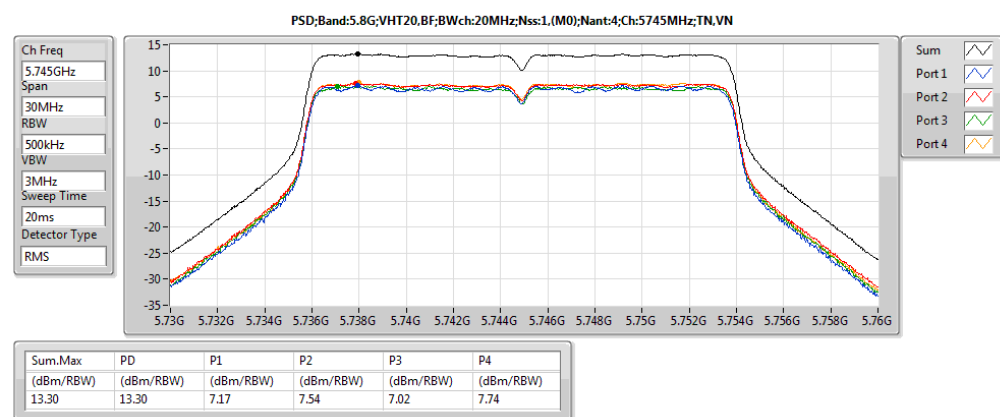
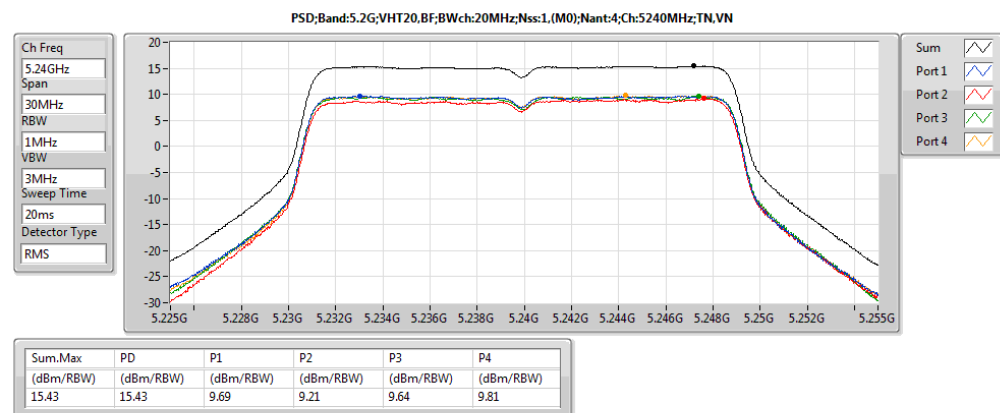
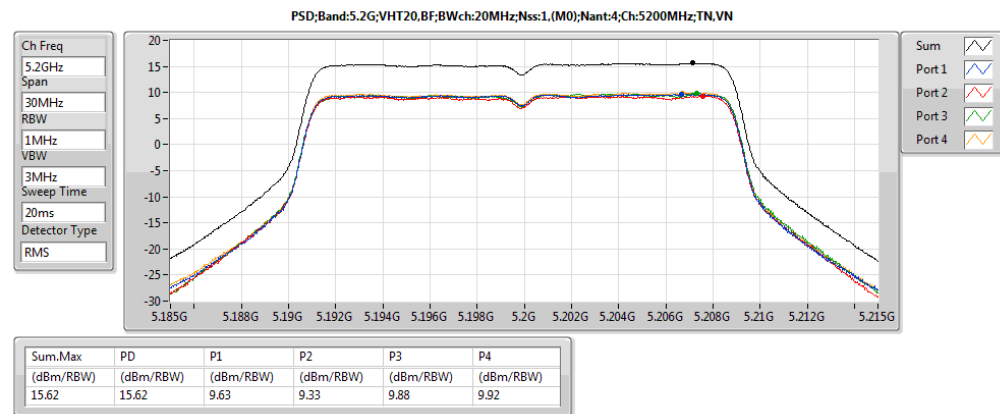
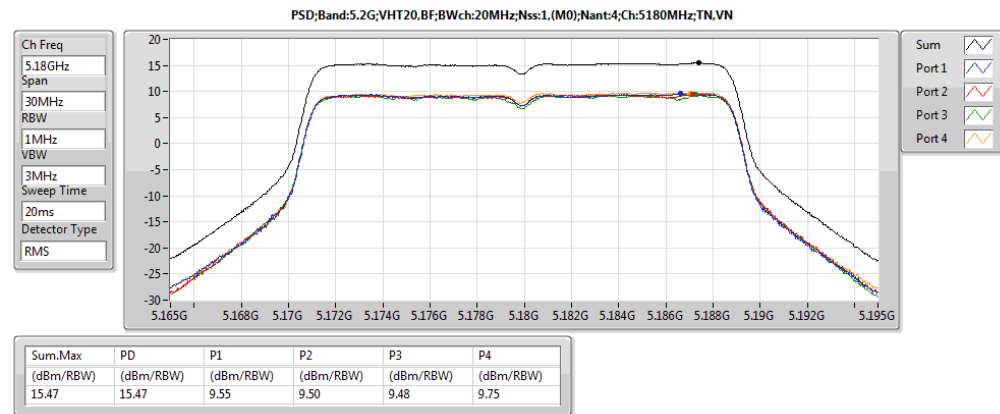
Mode	PD (dBm/RBW)
5.2G;VHT20;Nss1,(M0);Ntx4	15.91
5.8G;VHT20;Nss1,(M0);Ntx4	13.22
5.2G;VHT40;Nss1,(M0);Ntx4	13.54
5.8G;VHT40;Nss1,(M0);Ntx4	9.88
5.2G;VHT80;Nss1,(M0);Ntx4	6.44
5.8G;VHT80;Nss1,(M0);Ntx4	8.22
5.2G;VHT20,BF;Nss1,(M0);Ntx4	15.62
5.8G;VHT20,BF;Nss1,(M0);Ntx4	13.30
5.2G;VHT40,BF;Nss1,(M0);Ntx4	12.38
5.8G;VHT40,BF;Nss1,(M0);Ntx4	10.74
5.2G;VHT80,BF;Nss1,(M0);Ntx4	6.56
5.8G;VHT80,BF;Nss1,(M0);Ntx4	8.34



Result

Mode	Result	Meas.RBW (Hz)	Lim.RBW (Hz)	DG (dBi)	PD (dBm/RBW)	PD.Limit (dBm/RBW)	EIRP.PD (dBm/RBW)	P1 (dBm/RBW)	P2 (dBm/RBW)	P3 (dBm/RBW)	P4 (dBm/RBW)
5.2G;VHT20;Nss1,(M0);Ntx4;5180	Pass	1M	1M	7.02	14.95	15.98	21.97	9.29	9.04	8.44	9.26
5.2G;VHT20;Nss1,(M0);Ntx4;5200	Pass	1M	1M	7.02	15.91	15.98	22.93	10.18	10.04	9.62	10.30
5.2G;VHT20;Nss1,(M0);Ntx4;5240	Pass	1M	1M	7.02	15.89	15.98	22.91	9.99	9.78	9.83	10.27
5.8G;VHT20;Nss1,(M0);Ntx4;5745	Pass	500k	500k	7.06	13.22	28.94	20.28	7.28	7.55	7.02	7.32
5.8G;VHT20;Nss1,(M0);Ntx4;5785	Pass	500k	500k	7.06	11.14	28.94	18.20	5.34	5.49	4.90	5.38
5.8G;VHT20;Nss1,(M0);Ntx4;5825	Pass	500k	500k	7.06	12.11	28.94	19.17	6.34	6.33	5.72	6.49
5.2G;VHT40;Nss1,(M0);Ntx4;5190	Pass	1M	1M	7.02	7.77	15.98	14.79	2.37	1.40	1.52	1.99
5.2G;VHT40;Nss1,(M0);Ntx4;5230	Pass	1M	1M	7.02	13.54	15.98	20.56	8.34	7.42	7.00	7.74
5.8G;VHT40;Nss1,(M0);Ntx4;5755	Pass	500k	500k	7.06	9.88	28.94	16.94	4.04	4.22	3.44	4.26
5.8G;VHT40;Nss1,(M0);Ntx4;5795	Pass	500k	500k	7.06	9.76	28.94	16.82	3.99	4.24	3.50	3.82
5.2G;VHT80;Nss1,(M0);Ntx4;5210	Pass	1M	1M	7.02	6.44	15.98	13.46	0.82	0.10	0.01	0.99
5.8G;VHT80;Nss1,(M0);Ntx4;5775	Pass	500k	500k	7.06	8.22	28.94	15.28	2.33	2.63	2.00	2.53
5.2G;VHT20,BF;Nss1,(M0);Ntx4;5180	Pass	1M	1M	7.02	15.47	15.98	22.49	9.55	9.50	9.48	9.75
5.2G;VHT20,BF;Nss1,(M0);Ntx4;5200	Pass	1M	1M	7.02	15.62	15.98	22.64	9.63	9.33	9.88	9.92
5.2G;VHT20,BF;Nss1,(M0);Ntx4;5240	Pass	1M	1M	7.02	15.43	15.98	22.45	9.69	9.21	9.64	9.81
5.8G;VHT20,BF;Nss1,(M0);Ntx4;5745	Pass	500k	500k	7.06	13.30	28.94	20.36	7.17	7.54	7.02	7.74
5.8G;VHT20,BF;Nss1,(M0);Ntx4;5785	Pass	500k	500k	7.06	13.10	28.94	20.16	6.94	7.43	7.15	7.30
5.8G;VHT20,BF;Nss1,(M0);Ntx4;5825	Pass	500k	500k	7.06	13.13	28.94	20.19	7.52	7.31	6.65	7.40
5.2G;VHT40,BF;Nss1,(M0);Ntx4;5190	Pass	1M	1M	7.02	11.56	15.98	18.58	6.21	5.04	5.36	5.71
5.2G;VHT40,BF;Nss1,(M0);Ntx4;5230	Pass	1M	1M	7.02	12.38	15.98	19.40	6.80	6.15	6.54	6.38
5.8G;VHT40,BF;Nss1,(M0);Ntx4;5755	Pass	500k	500k	7.06	10.74	28.94	17.80	4.86	5.08	4.33	5.08
5.8G;VHT40,BF;Nss1,(M0);Ntx4;5795	Pass	500k	500k	7.06	10.49	28.94	17.55	4.68	5.13	3.97	4.65
5.2G;VHT80,BF;Nss1,(M0);Ntx4;5210	Pass	1M	1M	7.02	6.56	15.98	13.58	1.23	0.05	0.14	0.87
5.8G;VHT80,BF;Nss1,(M0);Ntx4;5775	Pass	500k	500k	7.06	8.34	28.94	15.40	2.35	2.41	1.85	2.82







Summary

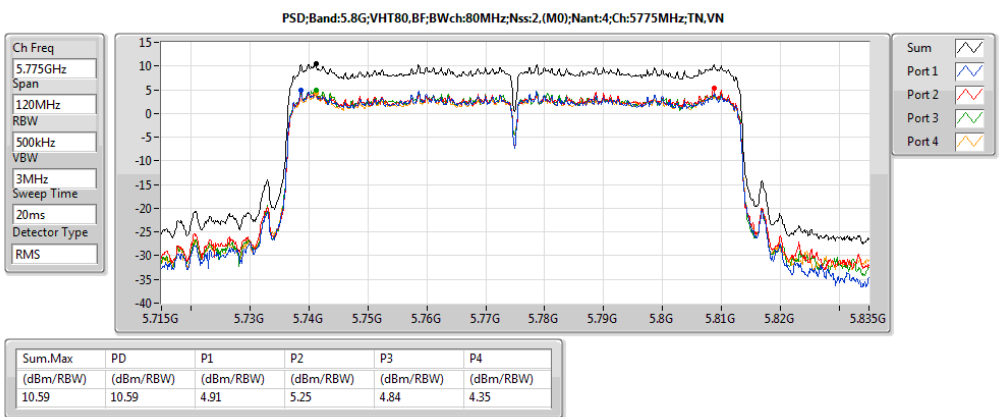
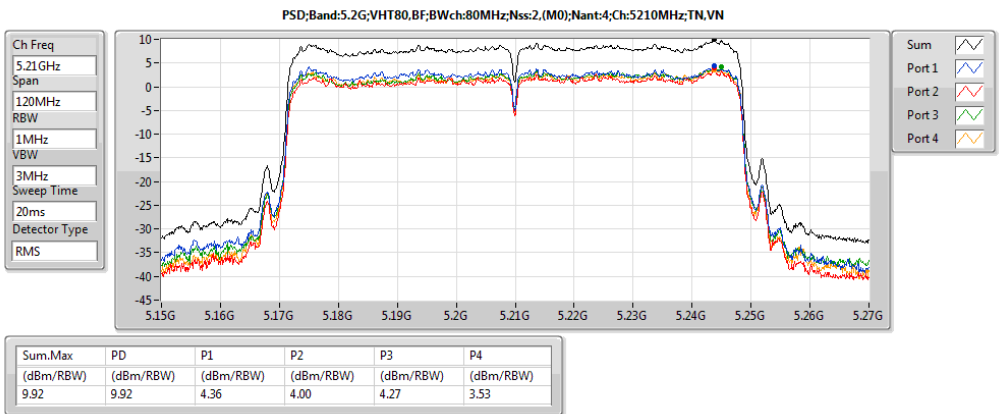
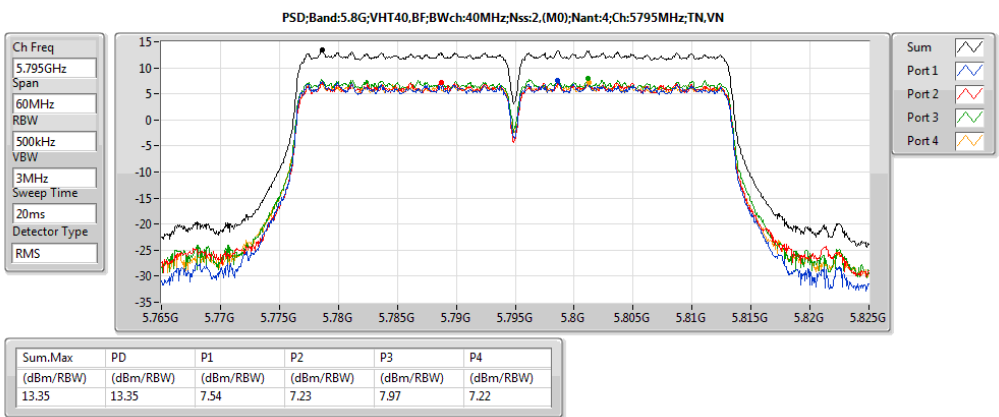
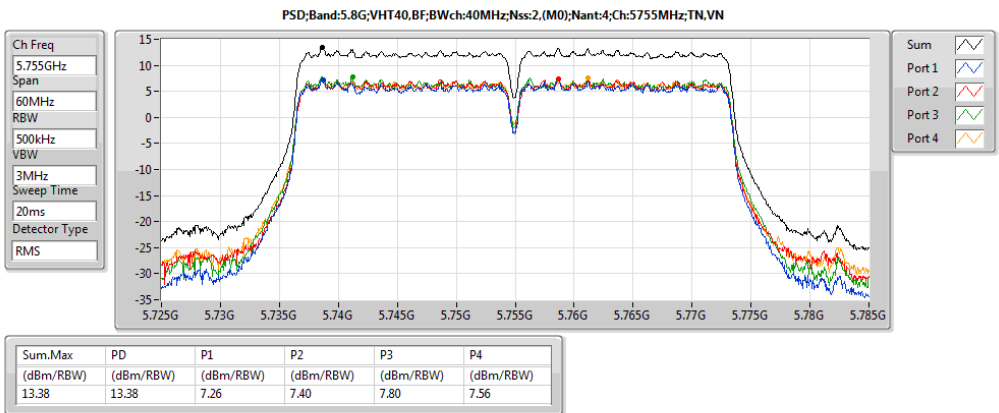
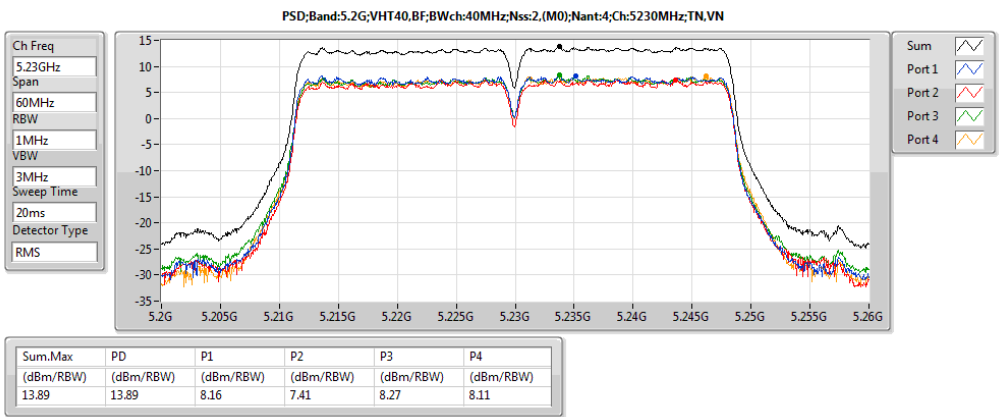
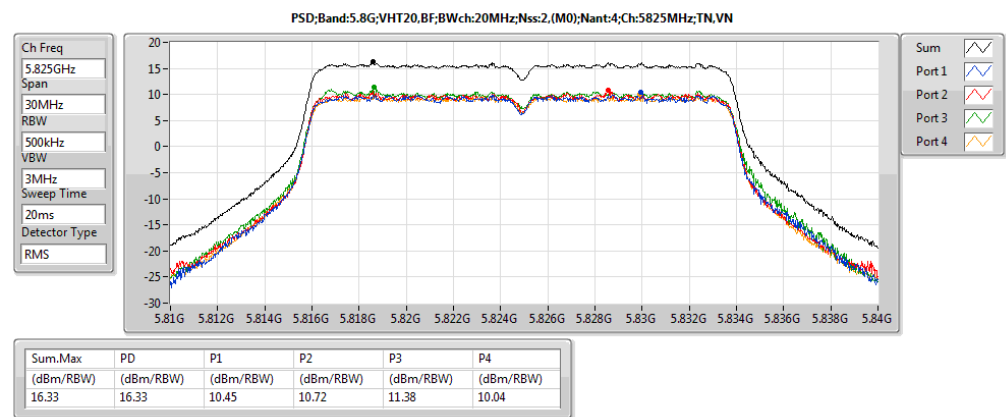
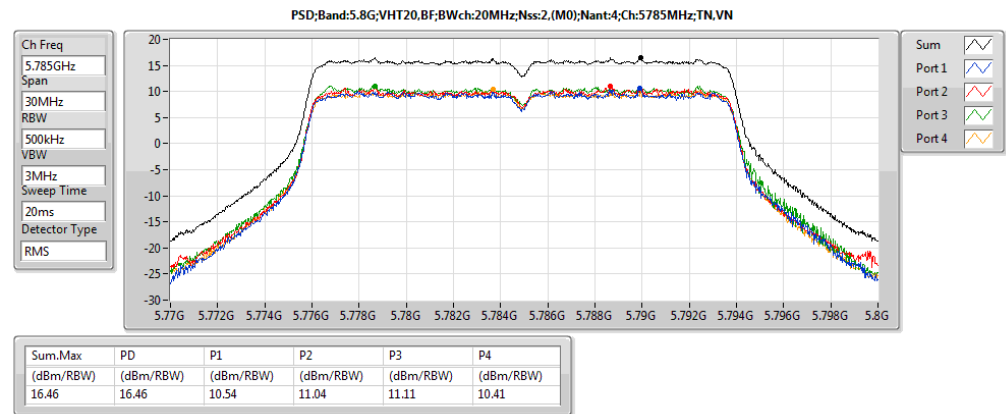
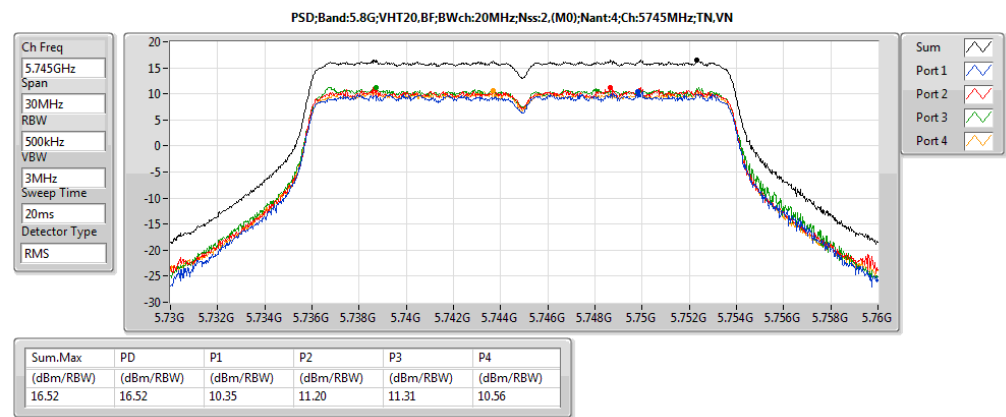
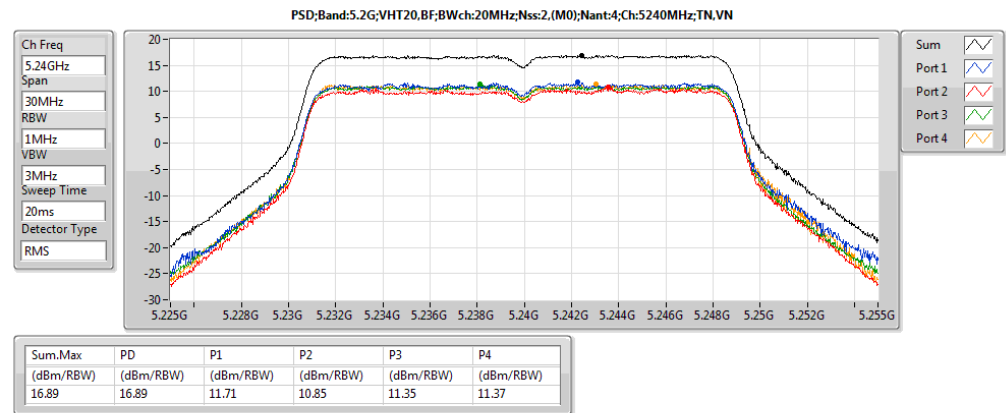
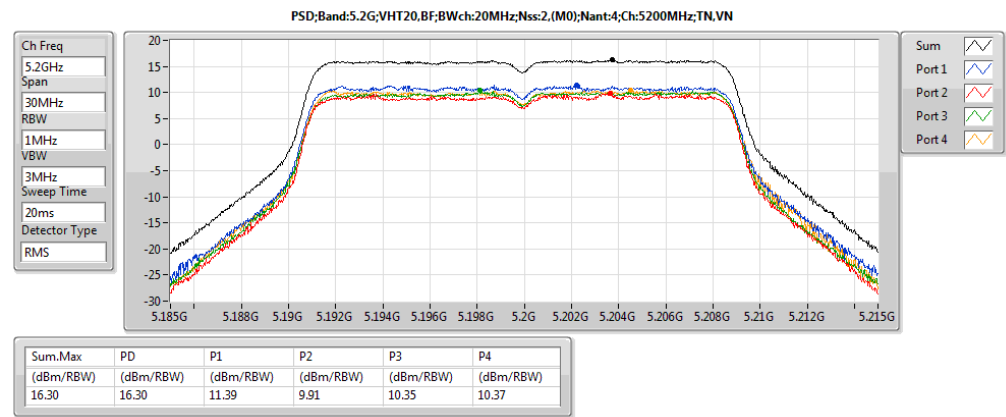
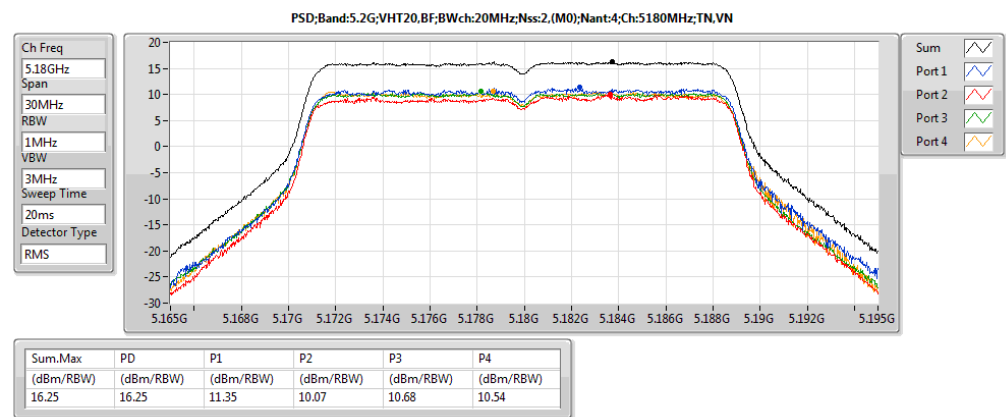
<For Beamforming Mode 4T2S>

Mode	PD (dBm/RBW)	EIRP.PD (dBm/RBW)
5.2G;VHT20,BF;Nss2,(M0);Ntx4	16.89	21.03
5.8G;VHT20,BF;Nss2,(M0);Ntx4	16.52	20.63
5.2G;VHT40,BF;Nss2,(M0);Ntx4	13.89	18.03
5.8G;VHT40,BF;Nss2,(M0);Ntx4	13.38	17.49
5.2G;VHT80,BF;Nss2,(M0);Ntx4	9.92	14.06
5.8G;VHT80,BF;Nss2,(M0);Ntx4	10.59	14.70



Result

Mode	Result	Meas.RBW (Hz)	Lim.RBW (Hz)	BWCF (dB)	DG (dBi)	PD (dBm/RBW)	PD.Limit (dBm/RBW)	EIRP.PD (dBm/RBW)	P1 (dBm/RBW)	P2 (dBm/RBW)	P3 (dBm/RBW)	P4 (dBm/RBW)
5.2G;VHT20,BF;Nss2,(M0);Ntx4;5180	Pass	1M	1M	0.00	4.14	16.25	17.00	20.39	11.35	10.07	10.68	10.54
5.2G;VHT20,BF;Nss2,(M0);Ntx4;5200	Pass	1M	1M	0.00	4.14	16.30	17.00	20.44	11.39	9.91	10.35	10.37
5.2G;VHT20,BF;Nss2,(M0);Ntx4;5240	Pass	1M	1M	0.00	4.14	16.89	17.00	21.03	11.71	10.85	11.35	11.37
5.8G;VHT20,BF;Nss2,(M0);Ntx4;5745	Pass	500k	500k	0.00	4.11	16.52	30.00	20.63	10.35	11.20	11.31	10.56
5.8G;VHT20,BF;Nss2,(M0);Ntx4;5785	Pass	500k	500k	0.00	4.11	16.46	30.00	20.57	10.54	11.04	11.11	10.41
5.8G;VHT20,BF;Nss2,(M0);Ntx4;5825	Pass	500k	500k	0.00	4.11	16.33	30.00	20.44	10.45	10.72	11.38	10.04
5.2G;VHT40,BF;Nss2,(M0);Ntx4;5190	Pass	1M	1M	0.00	4.14	11.73	17.00	15.87	6.58	5.03	5.97	5.96
5.2G;VHT40,BF;Nss2,(M0);Ntx4;5230	Pass	1M	1M	0.00	4.14	13.89	17.00	18.03	8.16	7.41	8.27	8.11
5.8G;VHT40,BF;Nss2,(M0);Ntx4;5755	Pass	500k	500k	0.00	4.11	13.38	30.00	17.49	7.26	7.40	7.80	7.56
5.8G;VHT40,BF;Nss2,(M0);Ntx4;5795	Pass	500k	500k	0.00	4.11	13.35	30.00	17.46	7.54	7.23	7.97	7.22
5.2G;VHT80,BF;Nss2,(M0);Ntx4;5210	Pass	1M	1M	0.00	4.14	9.92	17.00	14.06	4.36	4.00	4.27	3.53
5.8G;VHT80,BF;Nss2,(M0);Ntx4;5775	Pass	500k	500k	0.00	4.11	10.59	30.00	14.70	4.91	5.25	4.84	4.35





RSE below 1GHz Result												
Operating Mode		1			Polarization			Horizontal				
Operating Function		CTX										
Level (dBuV/m) Date: 2016-11-14 Time: 18:07:07												
	Freq	Level	Limit	Over	Read	Cable	Preamp	Antenna		T/Pos	A/Pos	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB	dB/m		deg	cm	
1	125.06	39.16	43.50	-4.34	52.29	1.10	32.38	18.15	HORIZONTAL	183	100	Peak
2	191.02	38.94	43.50	-4.56	54.51	1.37	32.33	15.39	HORIZONTAL	68	100	Peak
3	274.44	39.24	46.00	-6.76	50.63	1.64	32.29	19.26	HORIZONTAL	281	200	Peak
4	350.10	40.48	46.00	-5.52	49.92	1.84	32.28	21.00	HORIZONTAL	18	100	Peak
5	450.01	40.29	46.00	-5.71	47.53	2.07	32.31	23.00	HORIZONTAL	231	100	Peak
6	524.70	40.84	46.00	-5.16	46.86	2.24	32.36	24.10	HORIZONTAL	218	100	Peak
7	773.02	39.24	46.00	-6.76	42.41	2.72	32.24	26.35	HORIZONTAL	111	200	Peak
8	946.65	42.77	46.00	-3.23	43.23	3.01	31.25	27.78	HORIZONTAL	141	100	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.)

RSE below 1GHz Result												
Operating Mode		1				Power Phase				Vertical		
Operating Function		CTX										
Level (dBuV/m) Date: 2016-11-14 Time: 18:04:27												
	Freq	Level	Limit	Over	Read	Cable	Preamp	Antenna		T/Pos	A/Pos	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB	dB/m		deg	cm	
1	134.76	39.92	43.50	-3.58	53.29	1.14	32.37	17.86	VERTICAL	360	300	QP
2	228.85	42.20	46.00	-3.80	56.33	1.49	32.31	16.69	VERTICAL	359	300	Peak
3	254.07	42.56	46.00	-3.44	54.33	1.57	32.30	18.96	VERTICAL	359	300	Peak
4	303.54	42.39	46.00	-3.61	53.26	1.71	32.28	19.70	VERTICAL	359	300	QP
5	335.55	42.40	46.00	-3.60	52.26	1.80	32.28	20.62	VERTICAL	360	300	QP
6	524.70	42.07	46.00	-3.93	48.09	2.24	32.36	24.10	VERTICAL	232	100	Peak
7	773.99	42.77	46.00	-3.23	45.94	2.72	32.24	26.35	VERTICAL	290	300	Peak
8	945.68	42.59	46.00	-3.41	43.05	3.01	31.25	27.78	VERTICAL	297	300	Peak

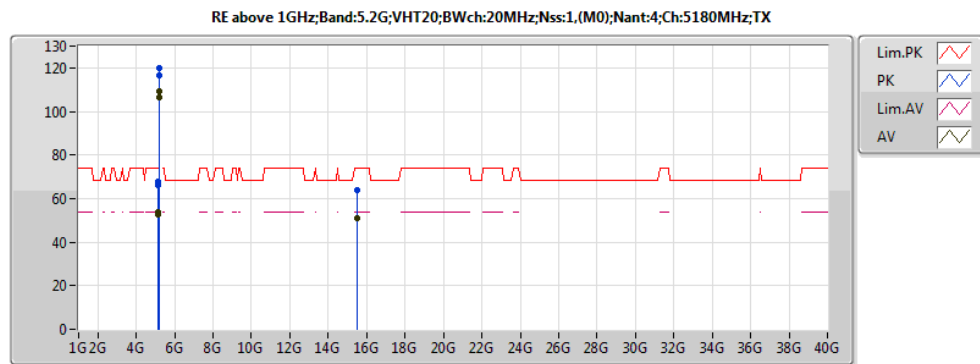
Note 1: ">20dB" means emission levels that exceed the level of 20 dB below the applicable limit.

Note 2: "N/F" means Nothing Found emissions (No emissions were detected.)



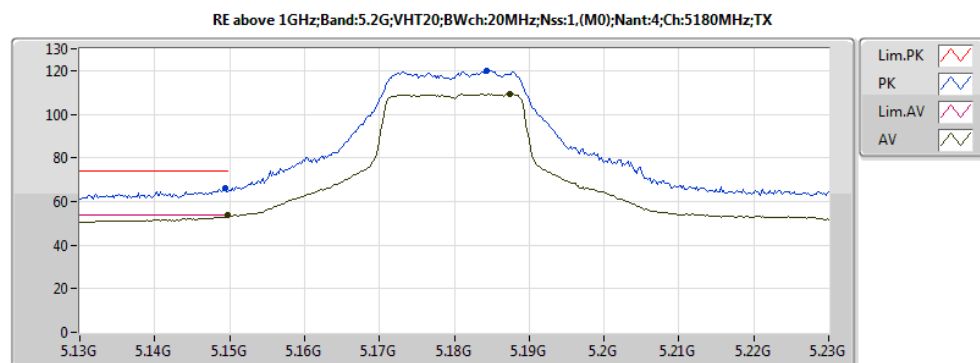
Summary

Mode	Result	Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Pol. (H/V)	Azimuth (°)	Height (m)	Comments
5.8G;VHT20;Nss1,(M0);Ntx4;5745;TX	Pass	PK	17.2356G	68.15	68.20	-0.05	24.19	3	V	277	2.84	-



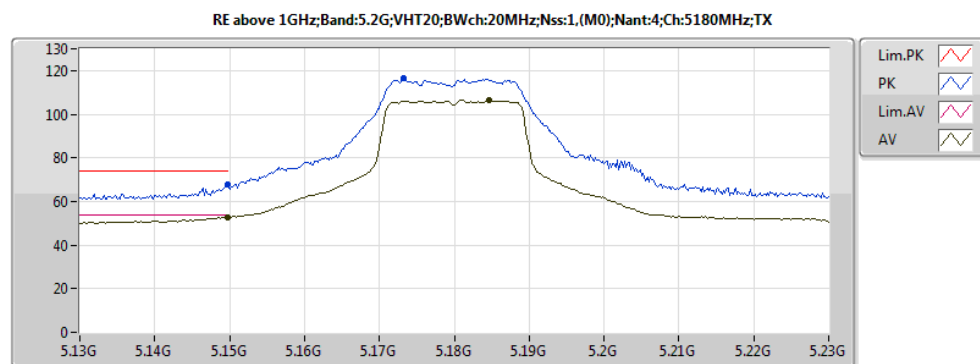
20161012
EUT Y_4TX
Setting 22
06-S-6

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	52.66	54.00	-1.34	7.92	3	H	193	1.00	-
AV	5.1846G	106.71	Inf	-Inf	7.96	3	H	193	1.00	-
AV	15.53504G	50.97	54.00	-3.03	19.35	3	H	0	1.04	-
PK	5.1498G	67.55	74.00	-6.45	7.92	3	H	193	1.00	-
PK	5.1732G	116.35	Inf	-Inf	7.95	3	H	193	1.00	-
PK	15.53524G	63.75	74.00	-10.25	19.34	3	H	0	1.04	-
AV	5.1498G	53.80	54.00	-0.20	7.92	3	V	264	2.21	-
AV	5.1874G	109.39	Inf	-Inf	7.97	3	V	264	2.21	-
AV	15.53574G	50.72	54.00	-3.28	19.34	3	V	55	1.02	-
PK	5.1494G	66.29	74.00	-7.71	7.92	3	V	264	2.21	-
PK	5.1844G	119.95	Inf	-Inf	7.96	3	V	264	2.21	-
PK	15.53596G	63.82	74.00	-10.18	19.34	3	V	55	1.02	-



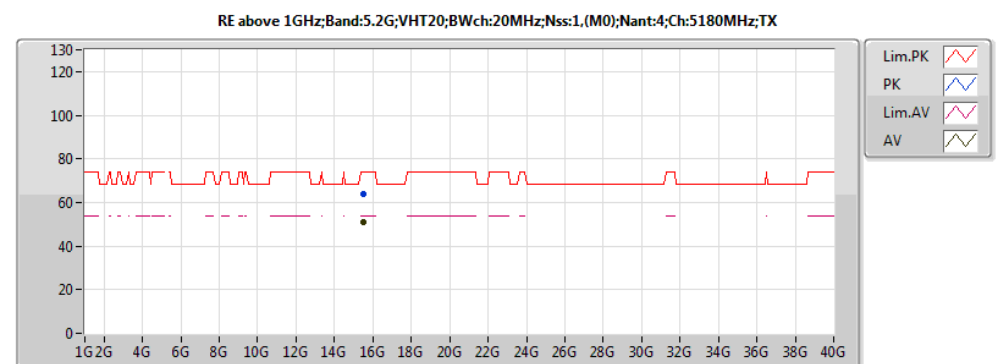
20161012
EUT Y_4TX
Setting 22
06-S-6-10

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	53.80	54.00	-0.20	7.92	3	V	264	2.21	-
AV	5.1874G	109.39	Inf	-Inf	7.97	3	V	264	2.21	-
PK	5.1494G	66.29	74.00	-7.71	7.92	3	V	264	2.21	-
PK	5.1844G	119.95	Inf	-Inf	7.96	3	V	264	2.21	-



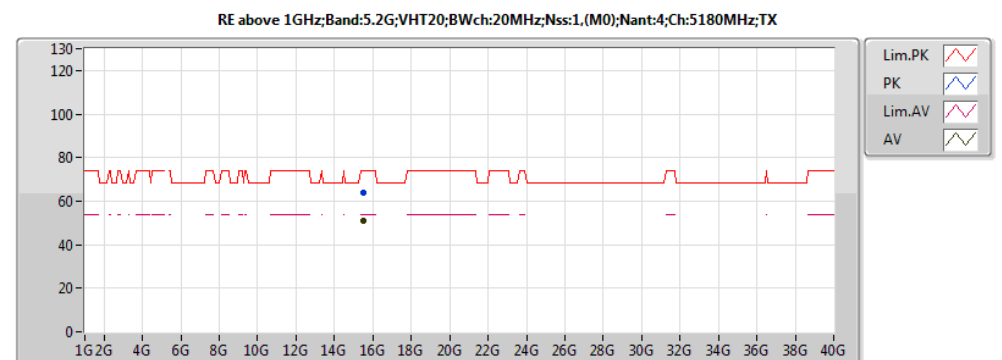
20161012
EUT Y_4TX
Setting 22
06-S-6-10

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	52.66	54.00	-1.34	7.92	3	H	193	1.00	-
AV	5.1846G	106.71	Inf	-Inf	7.96	3	H	193	1.00	-
PK	5.1498G	67.55	74.00	-6.45	7.92	3	H	193	1.00	-
PK	5.1732G	116.35	Inf	-Inf	7.95	3	H	193	1.00	-



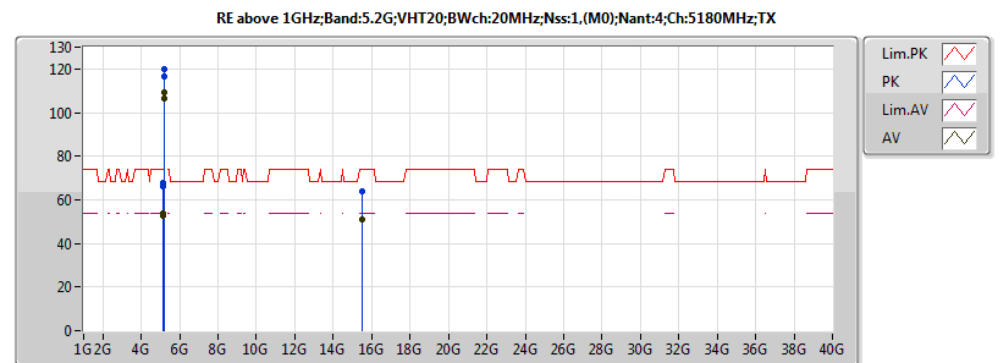
20161012
EUT Y_4TX
Setting 22
驗證5G
06-B-2

Type	Freq(Hz)	Level(dBuV/m)	Limit(dBuV/m)	Margin(dB)	Factor(dB)	Dist(m)	Pol.(H/V)	Azimuth(°)	Height(m)	Comments
AV	15.53574G	50.72	54.00	-3.28	19.34	3	V	55	1.02	-
PK	15.53596G	63.82	74.00	-10.18	19.34	3	V	55	1.02	-



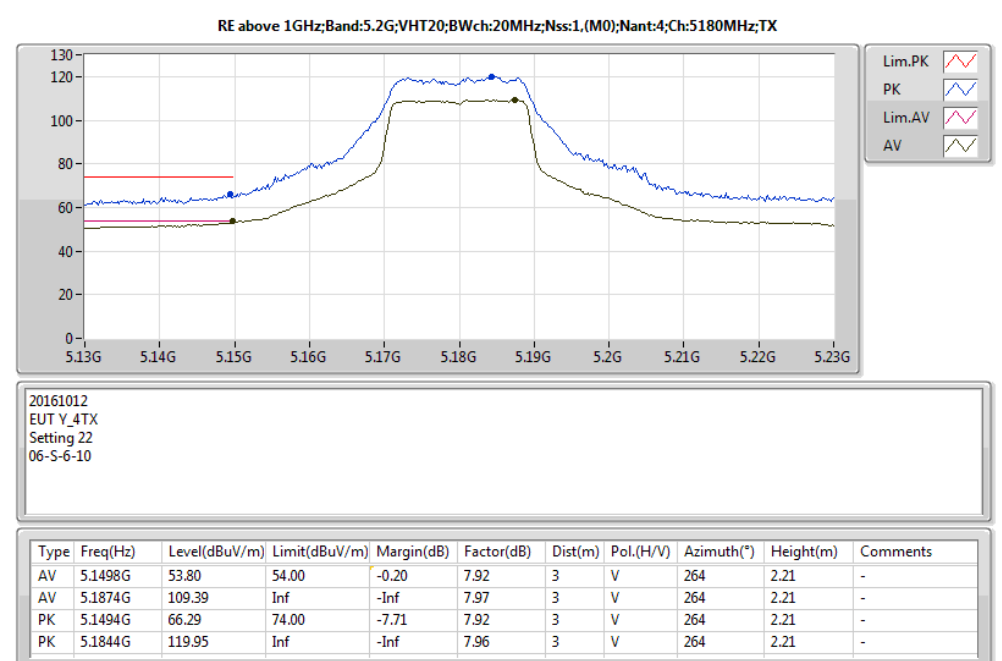
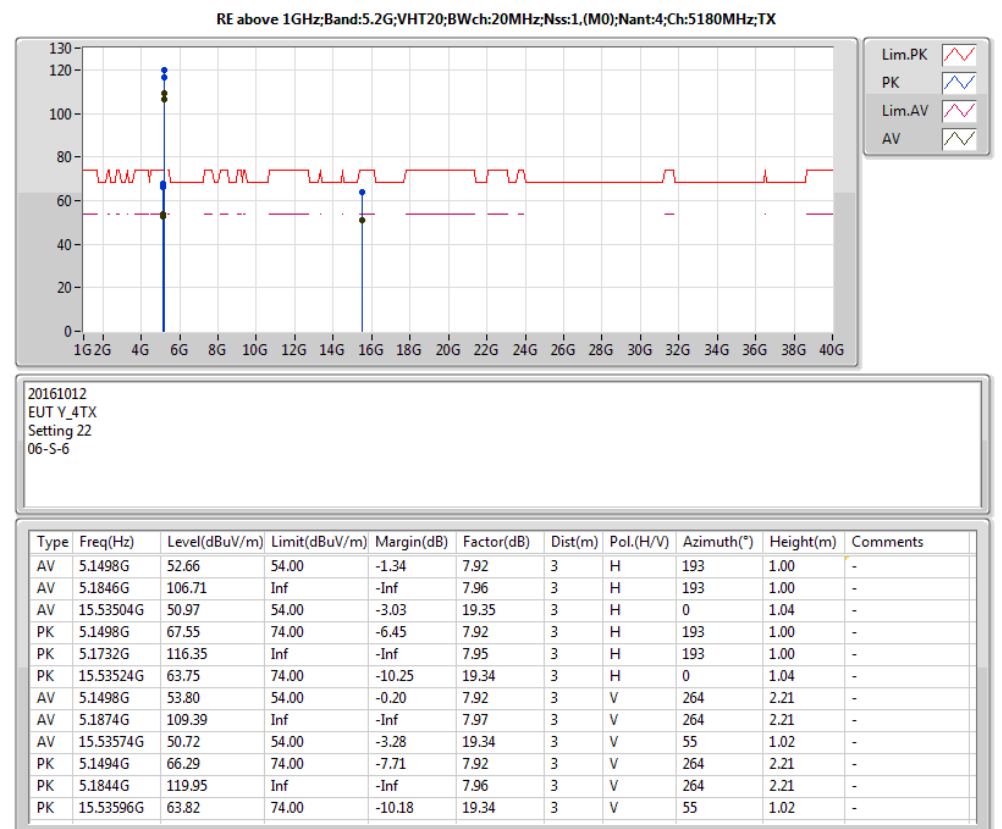
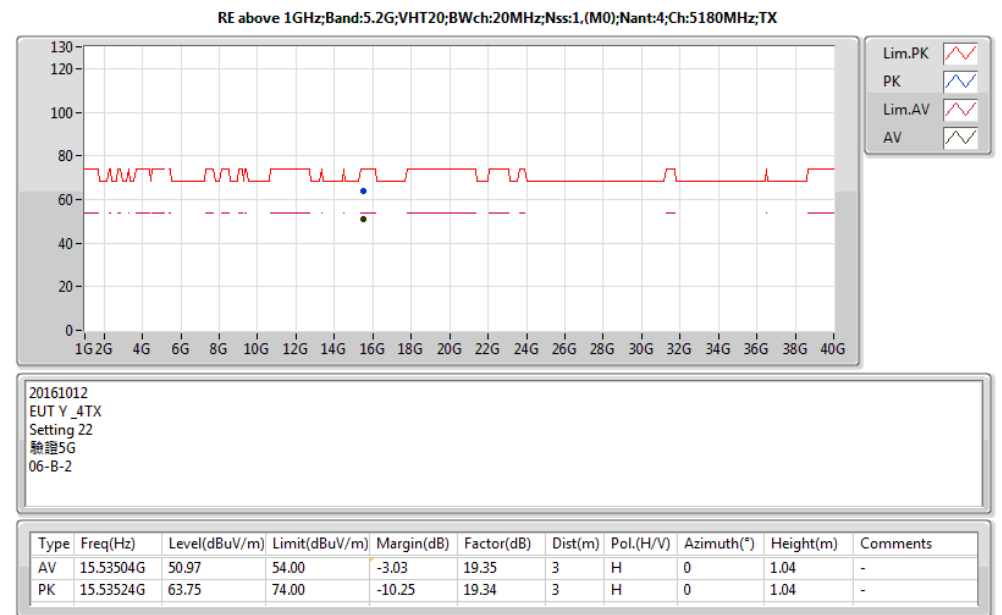
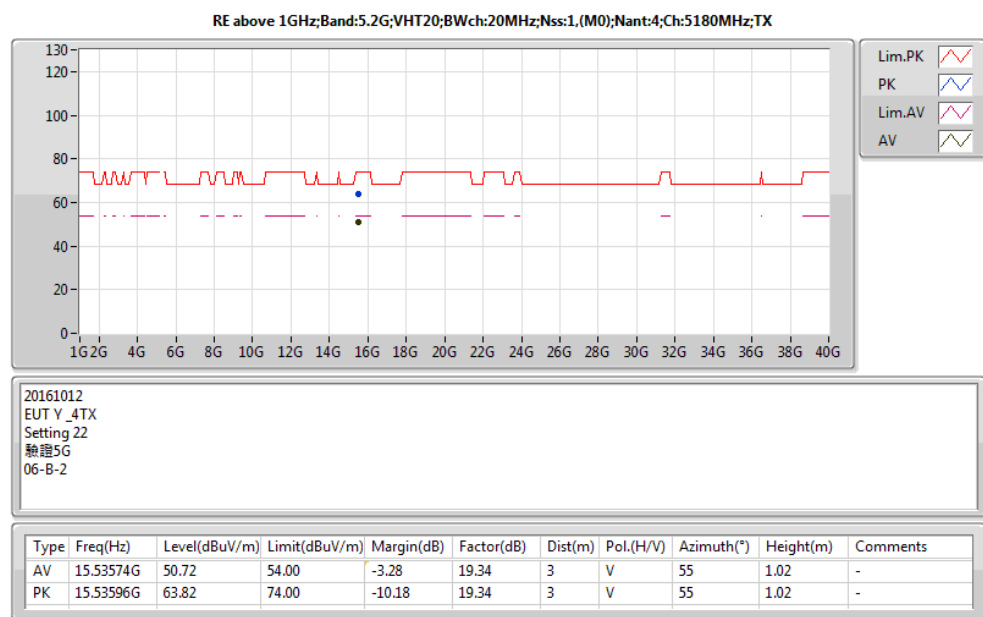
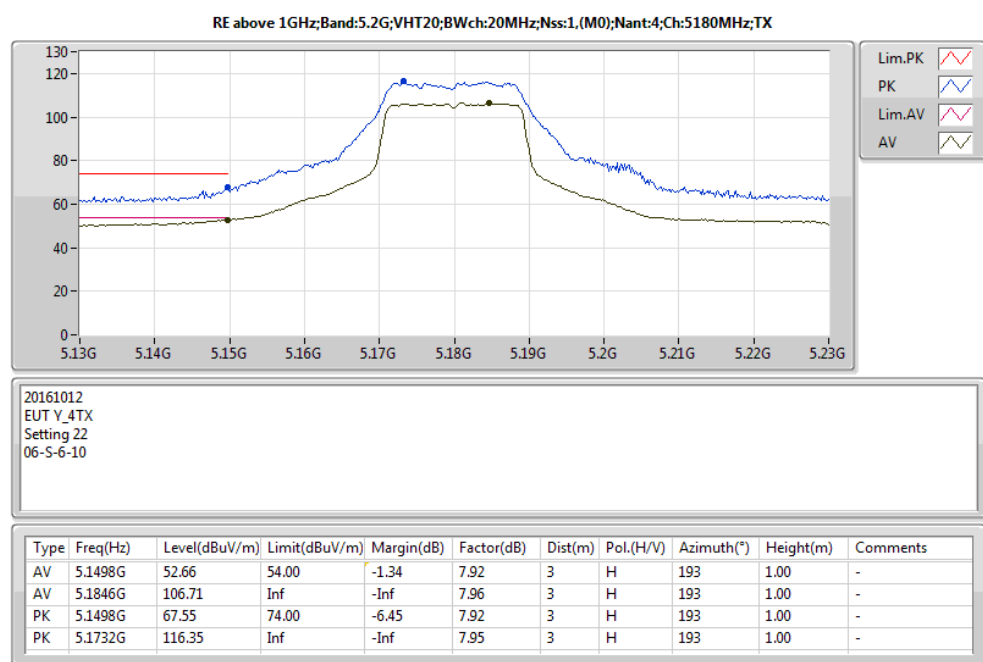
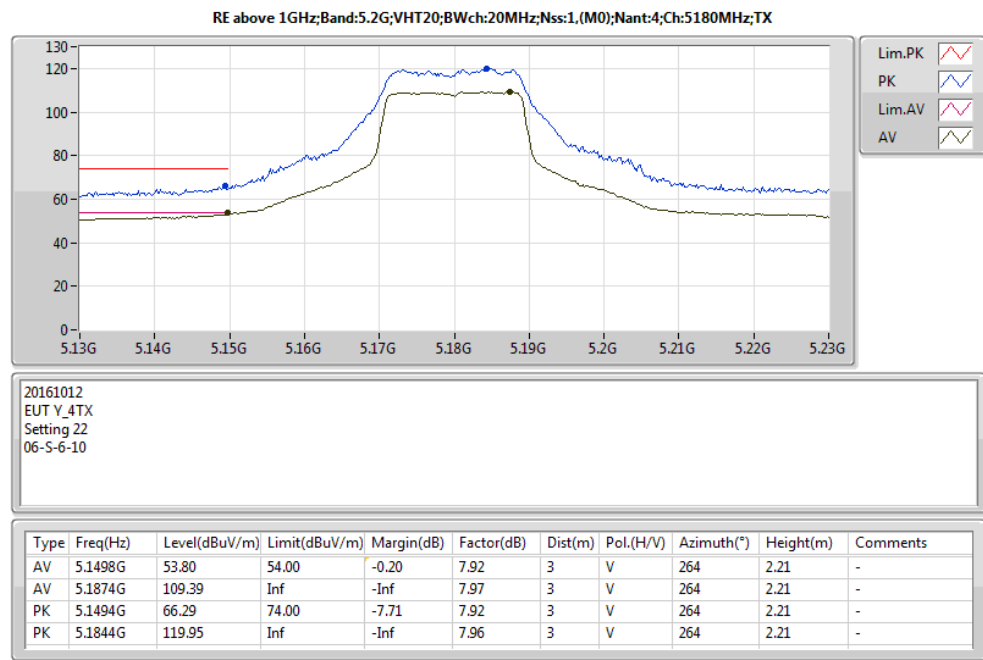
20161012
EUT Y_4TX
Setting 22
驗證5G
06-B-2

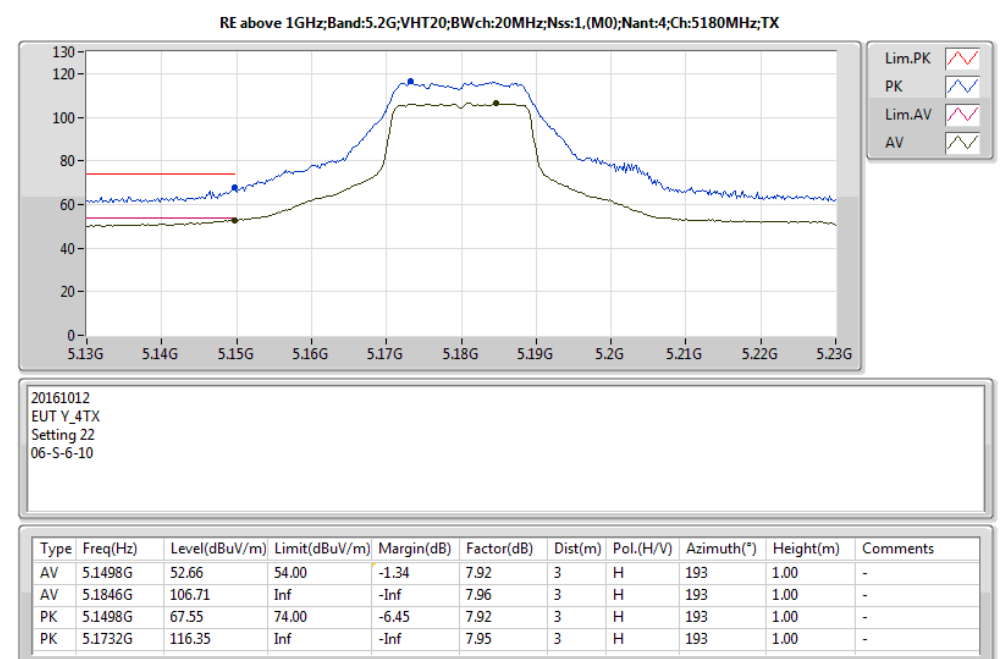
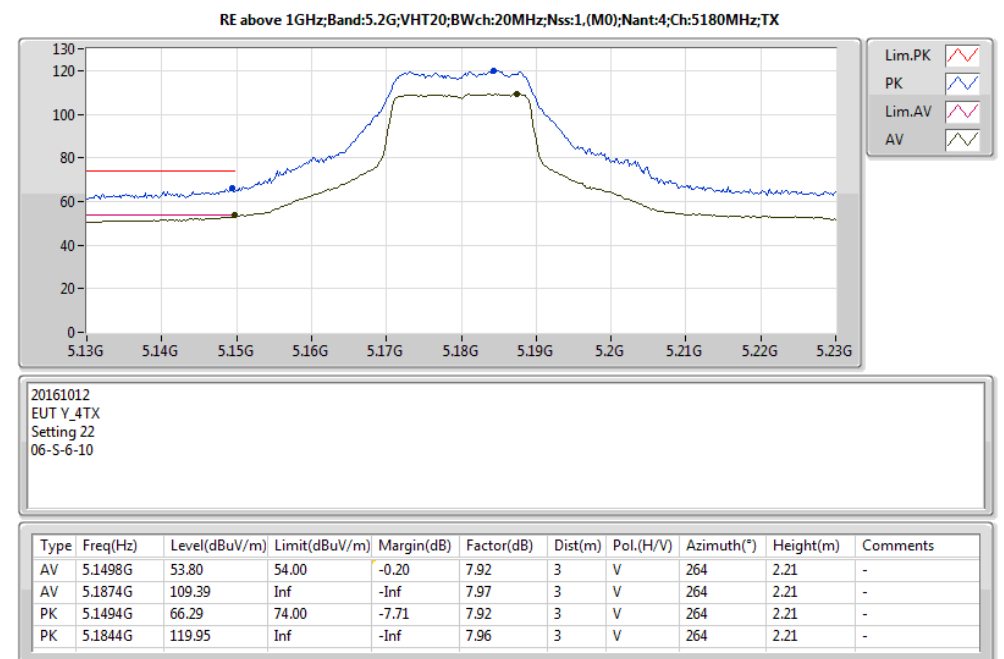
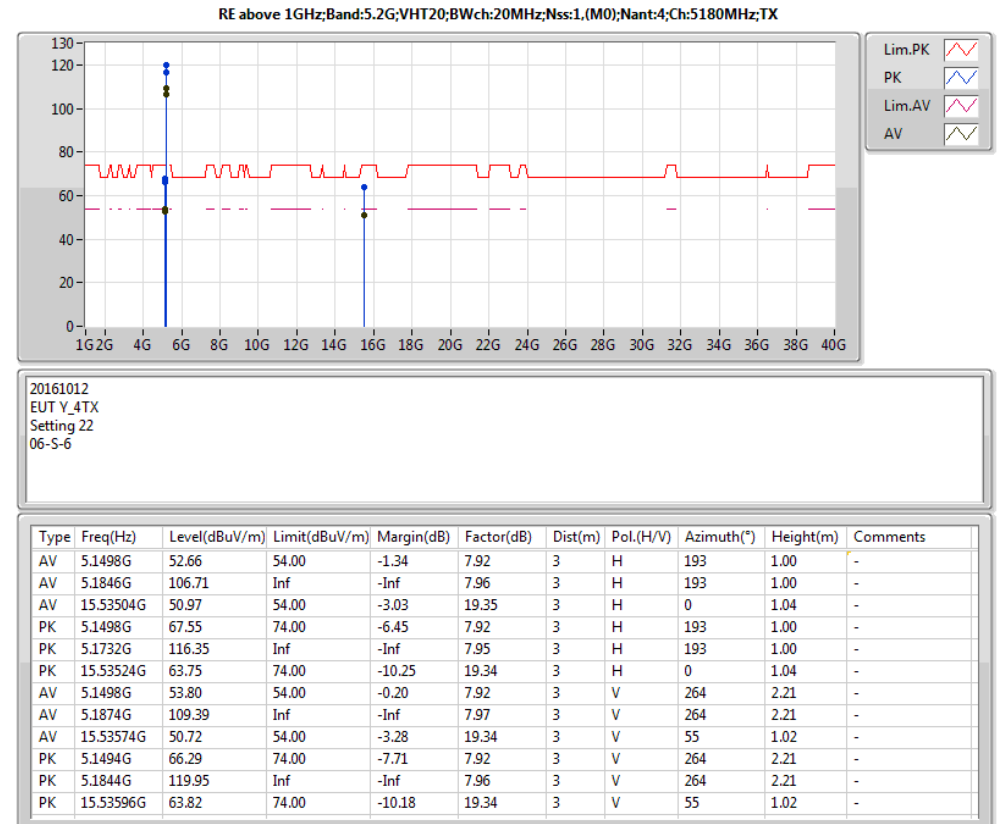
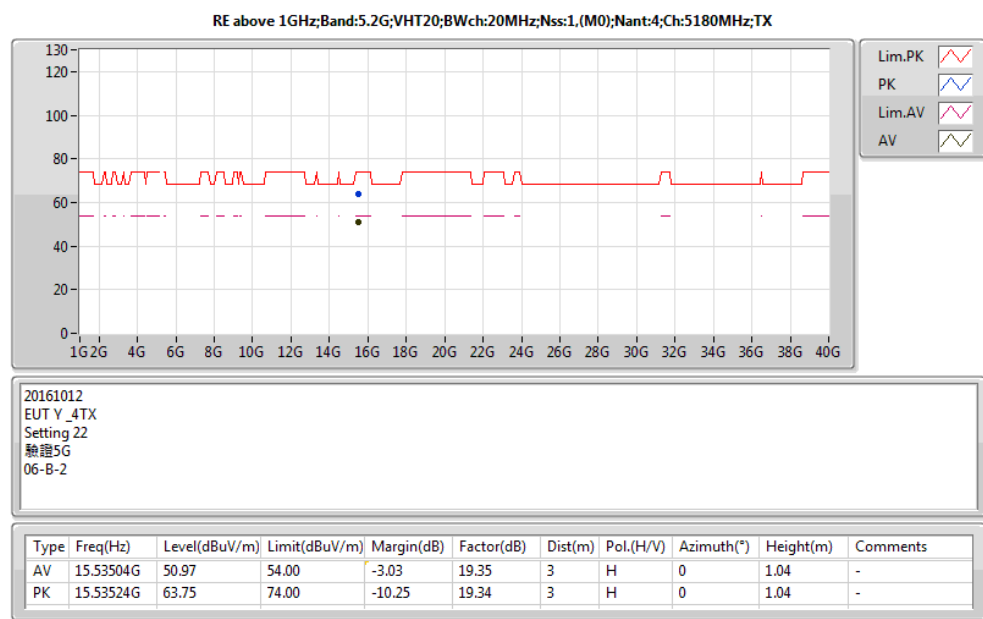
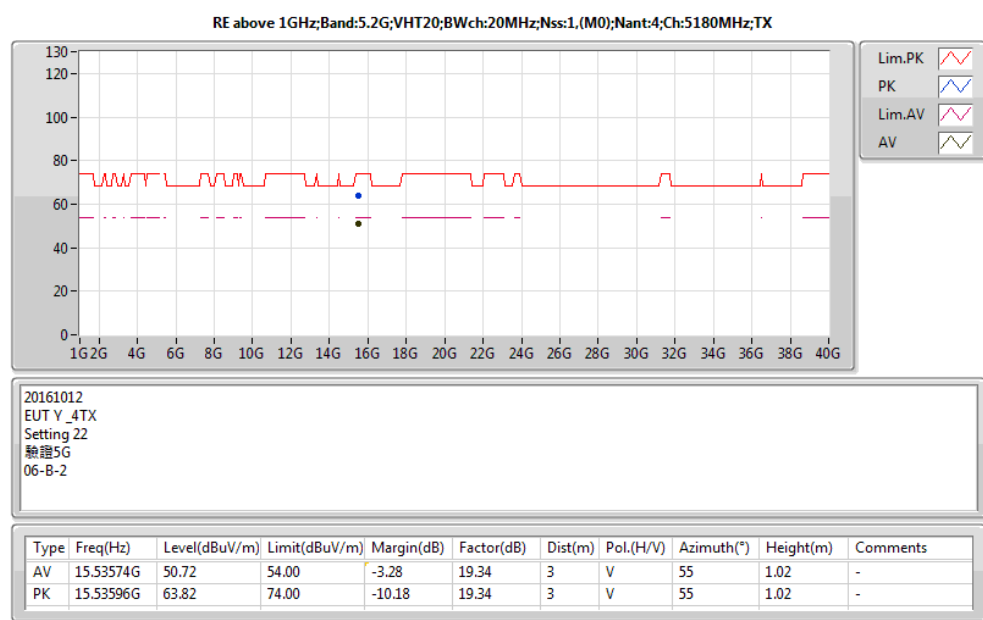
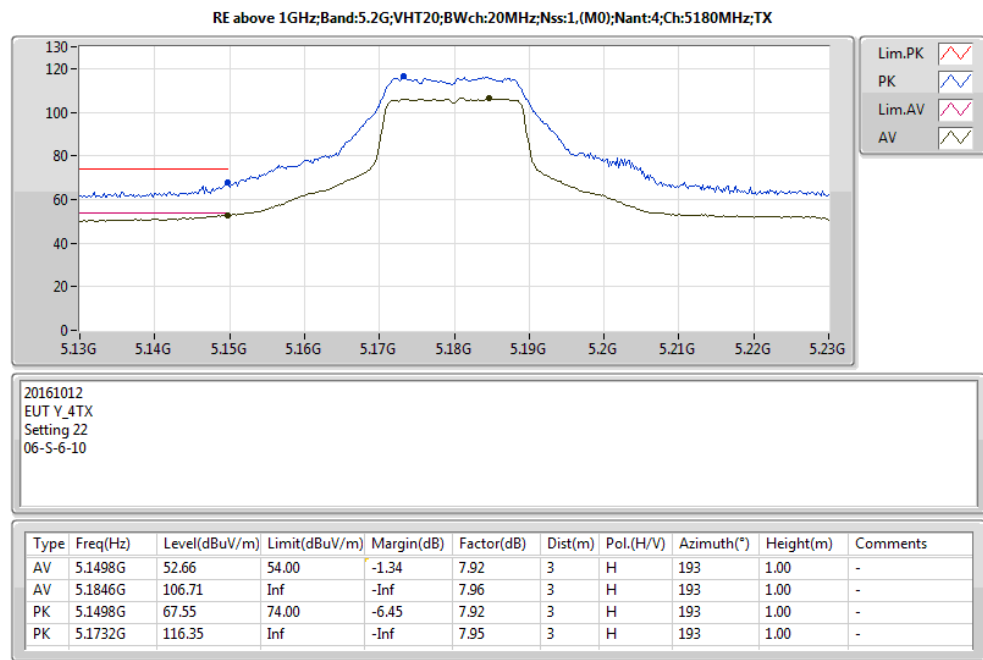
Type	Freq(Hz)	Level(dBuV/m)	Limit(dBuV/m)	Margin(dB)	Factor(dB)	Dist(m)	Pol.(H/V)	Azimuth(°)	Height(m)	Comments
AV	15.53504G	50.97	54.00	-3.03	19.35	3	H	0	1.04	-
PK	15.53524G	63.75	74.00	-10.25	19.34	3	H	0	1.04	-

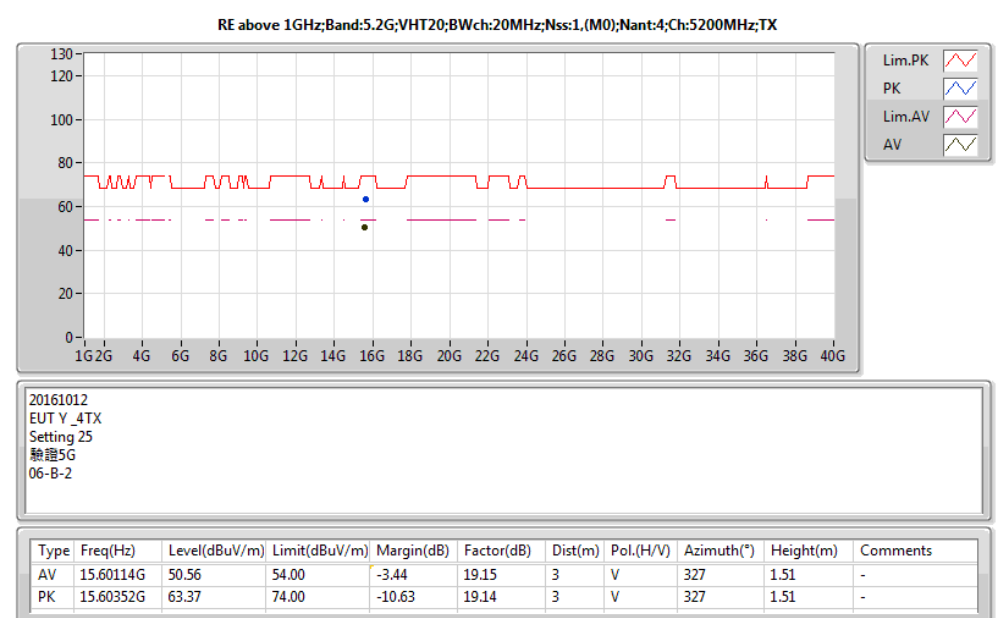
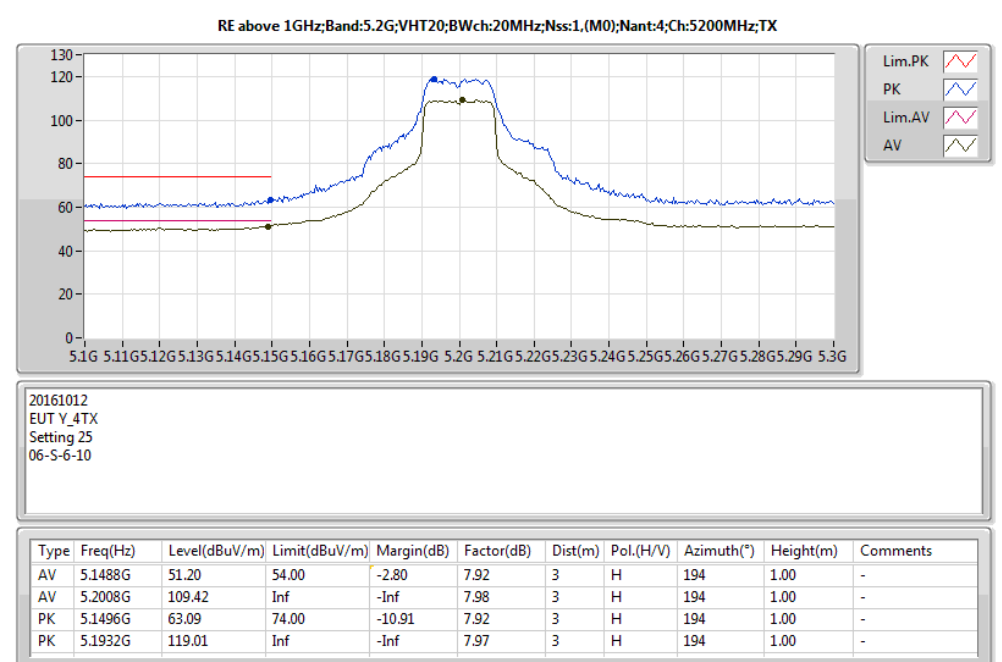
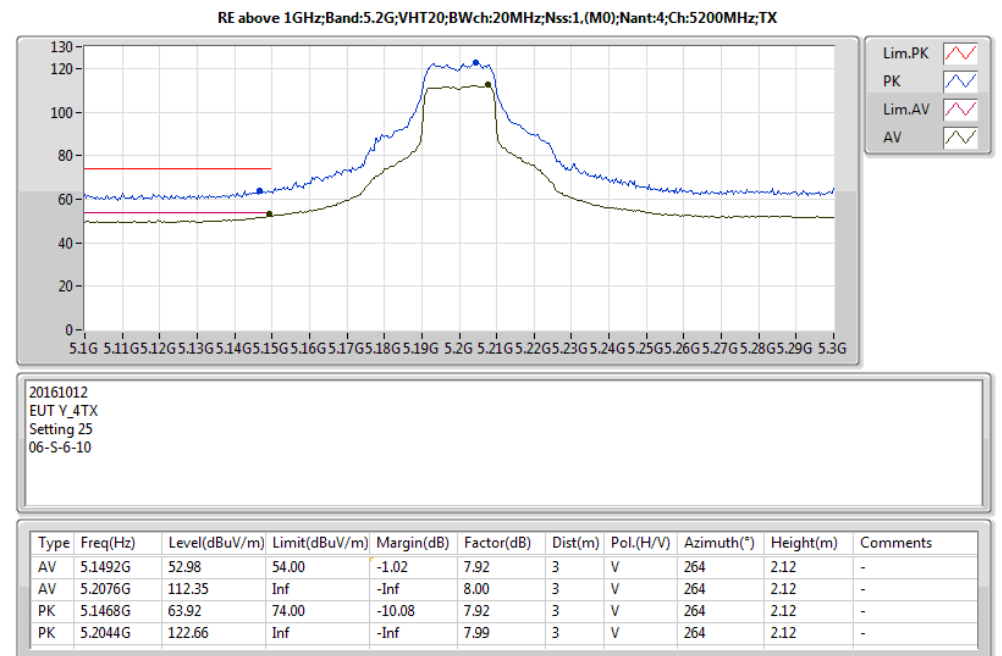
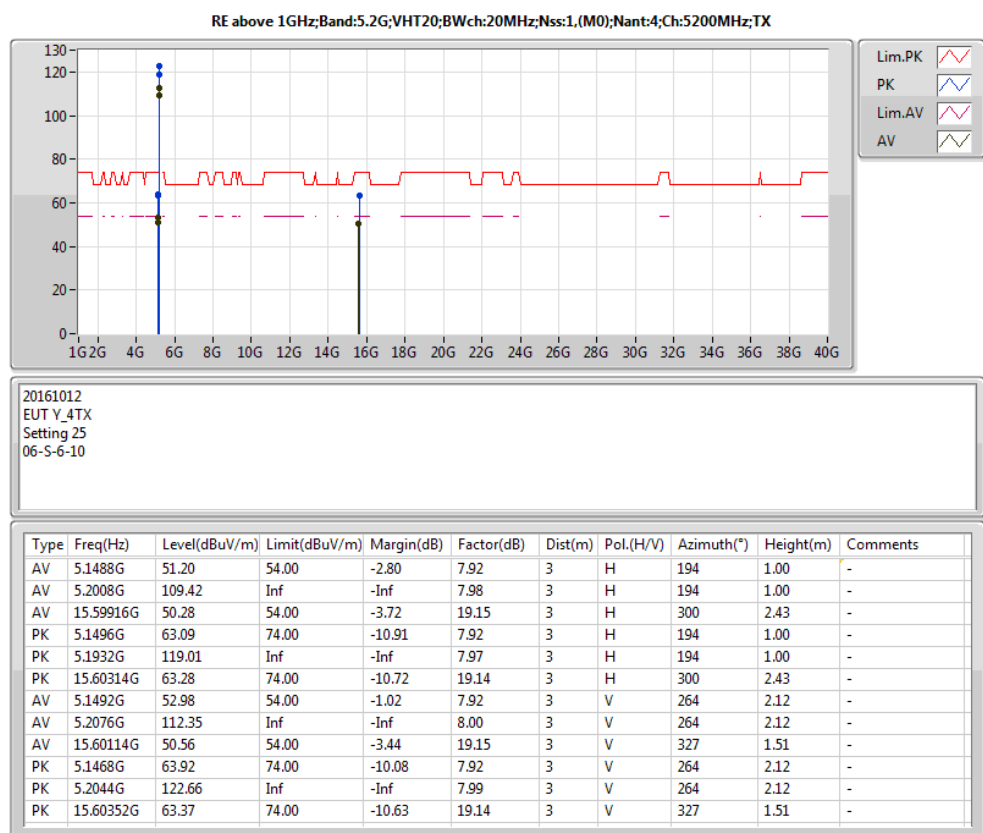
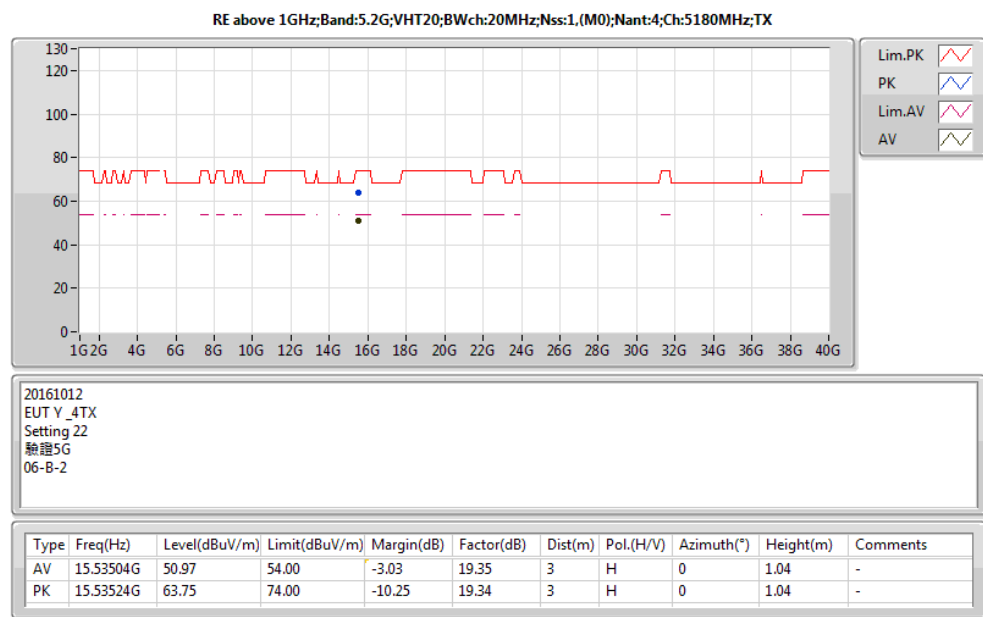
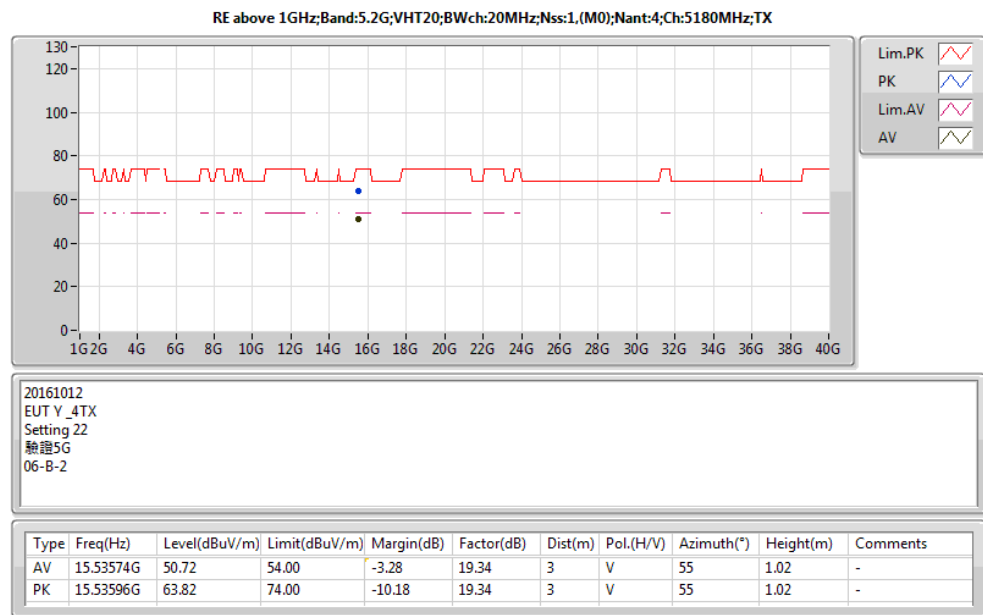


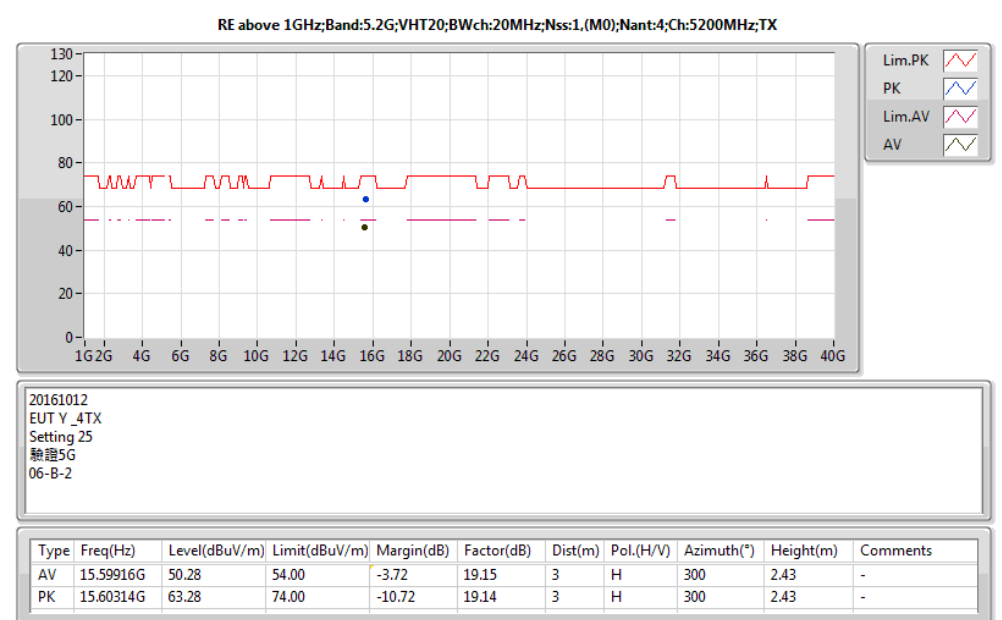
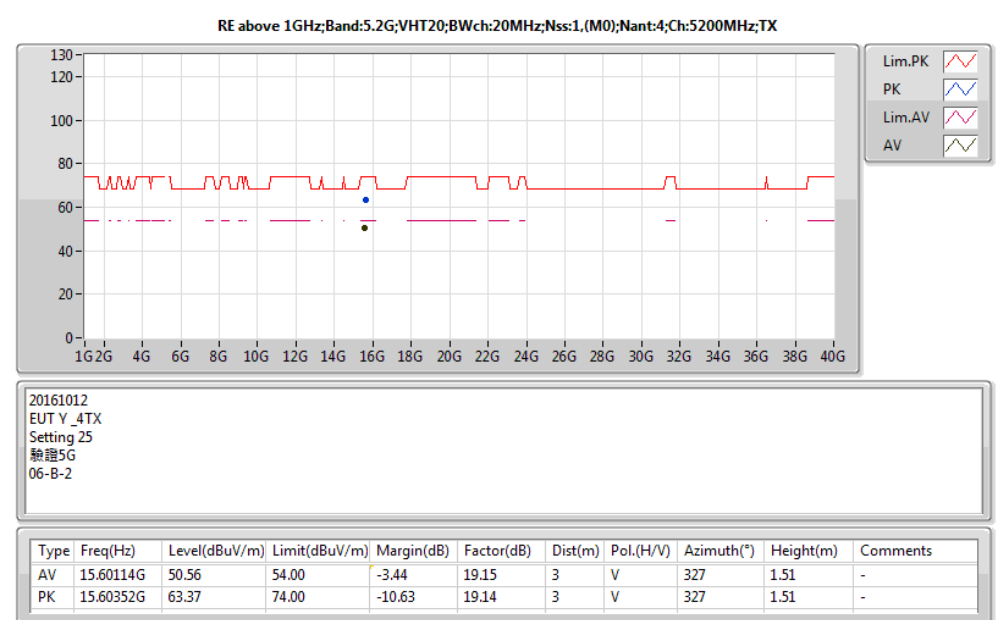
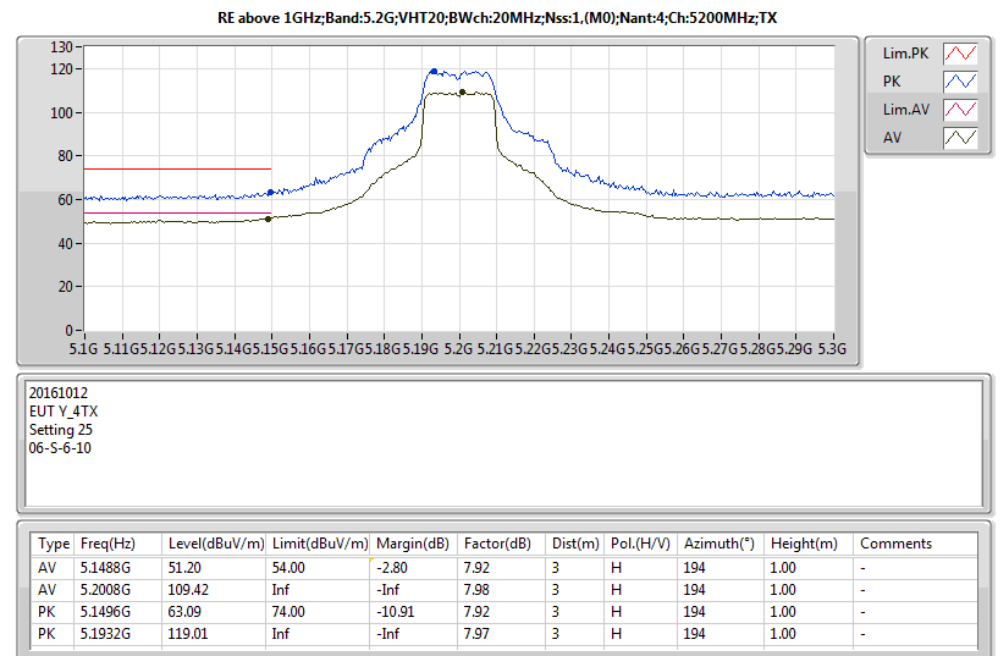
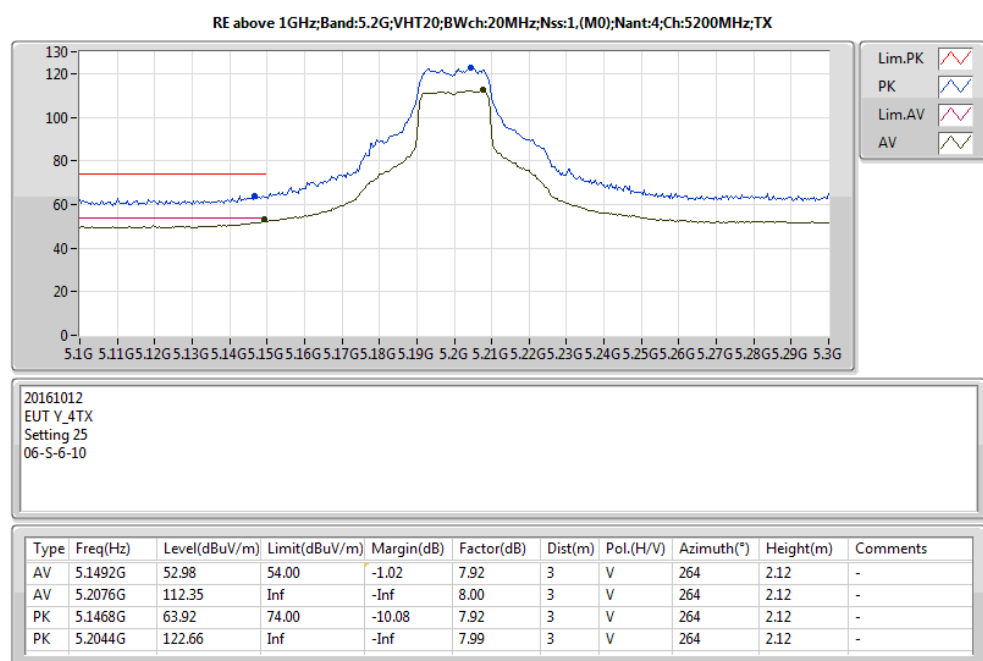
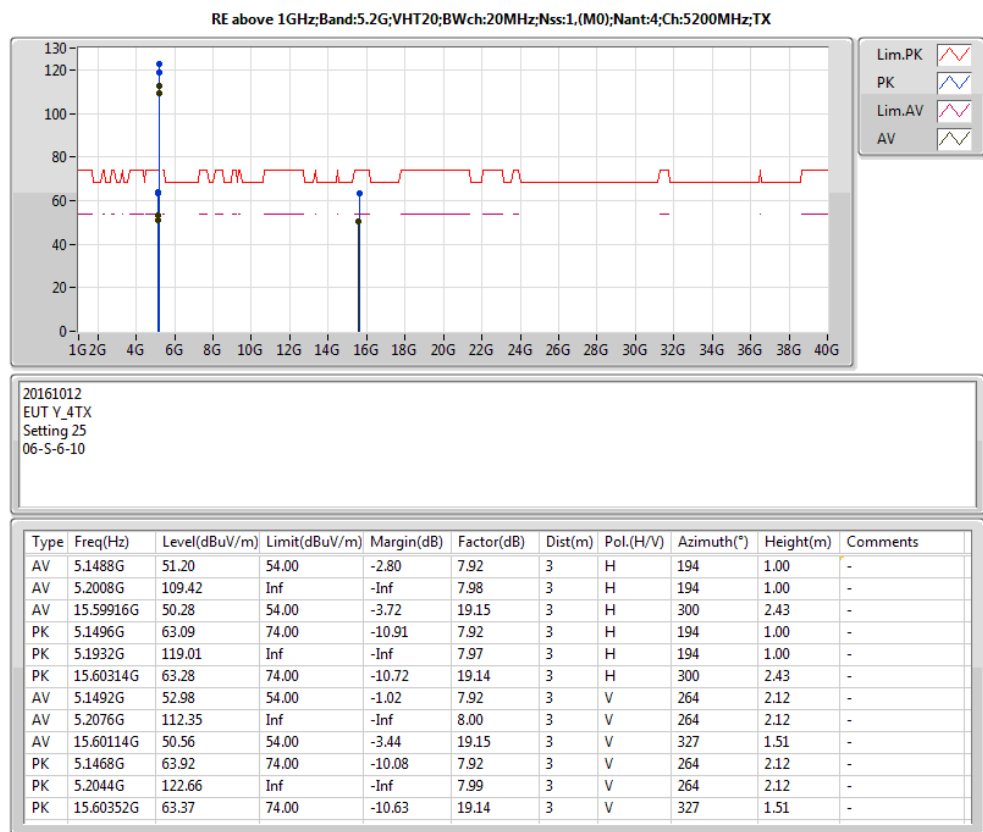
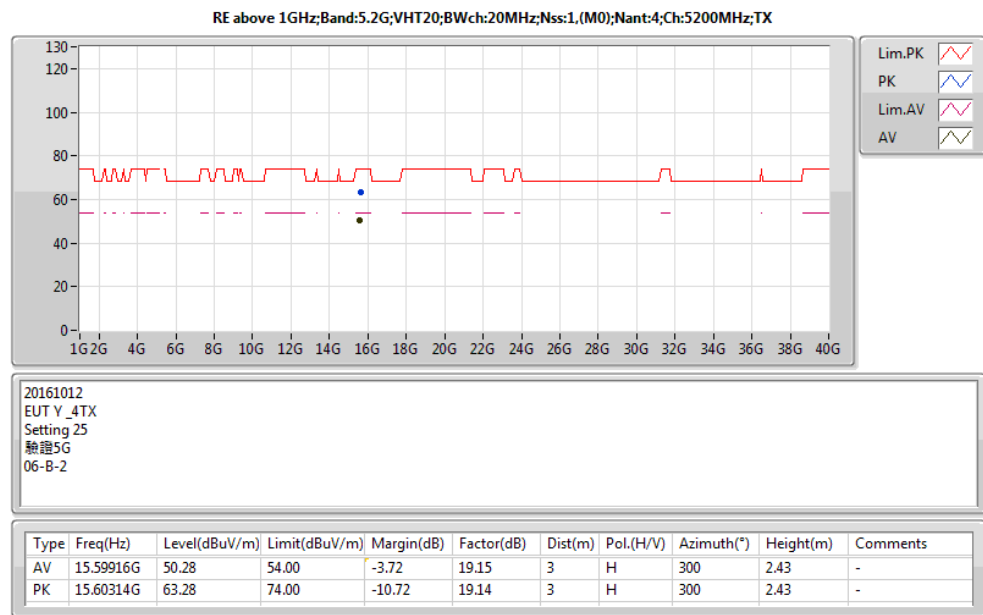
20161012
EUT Y_4TX
Setting 22
06-S-6

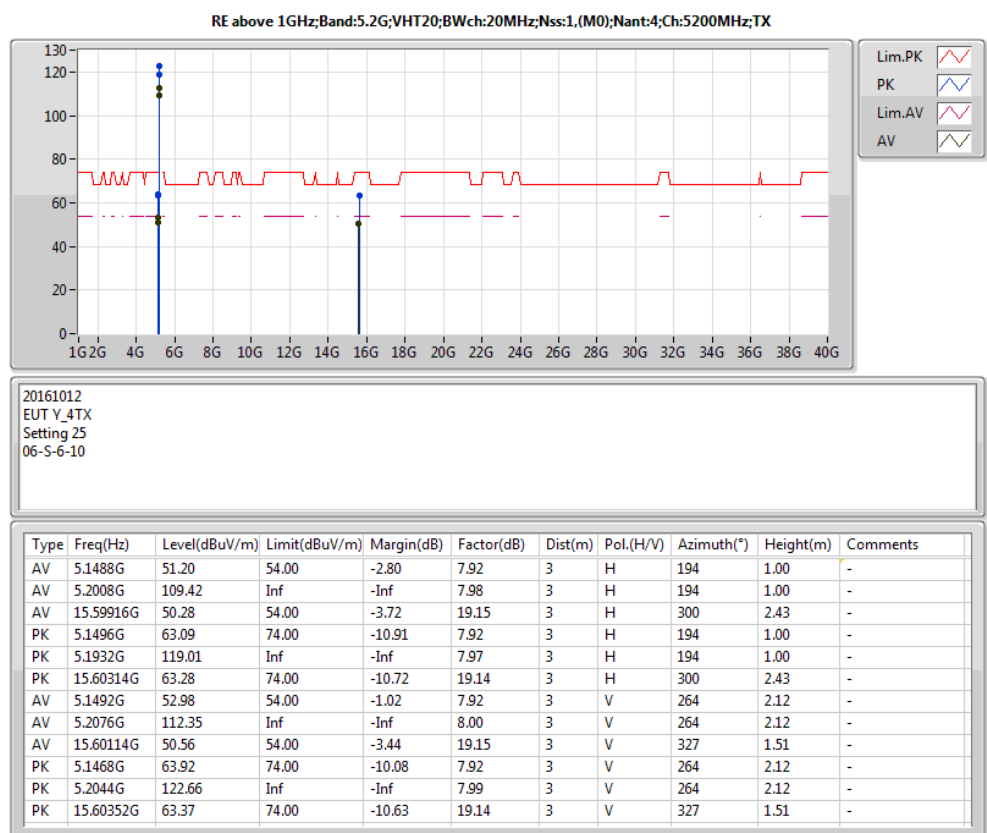
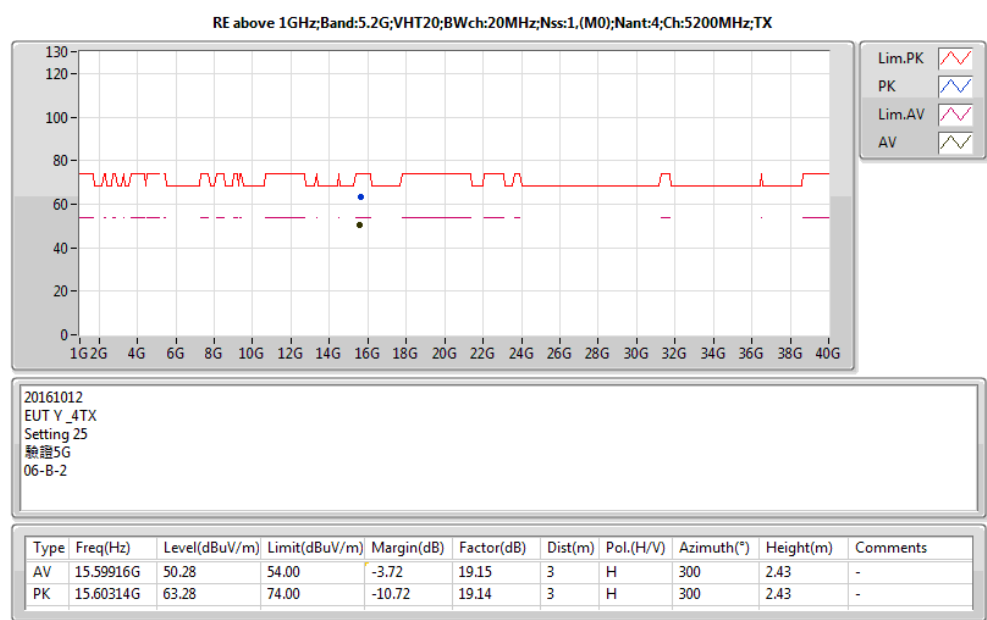
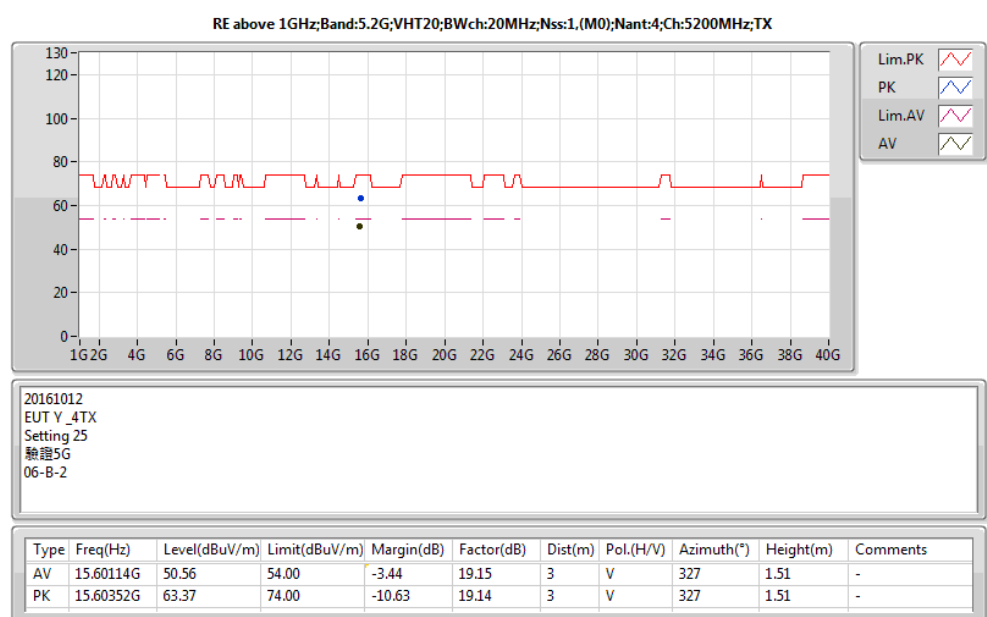
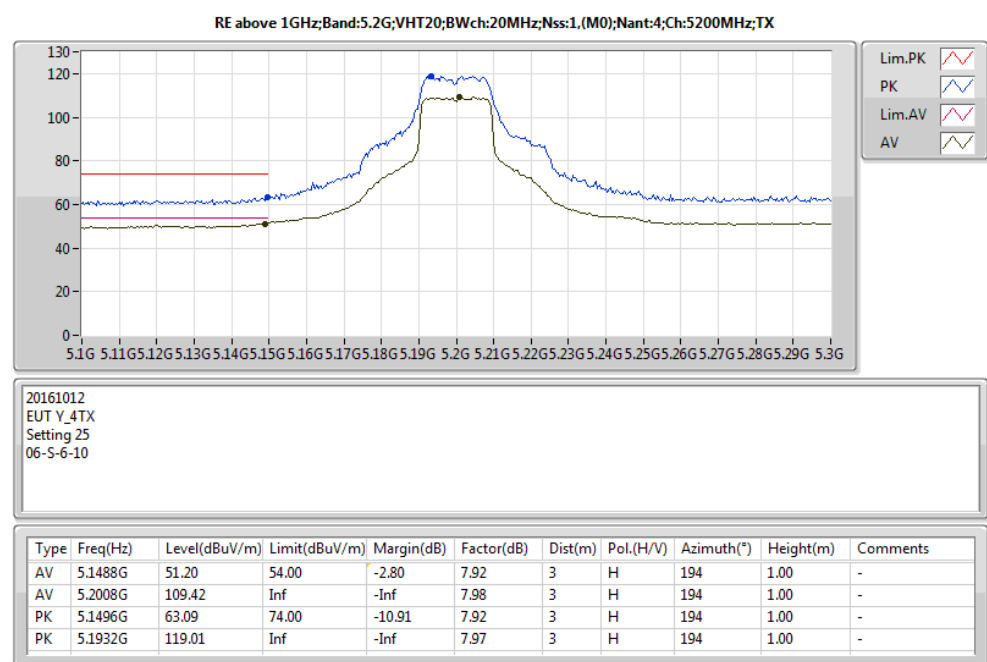
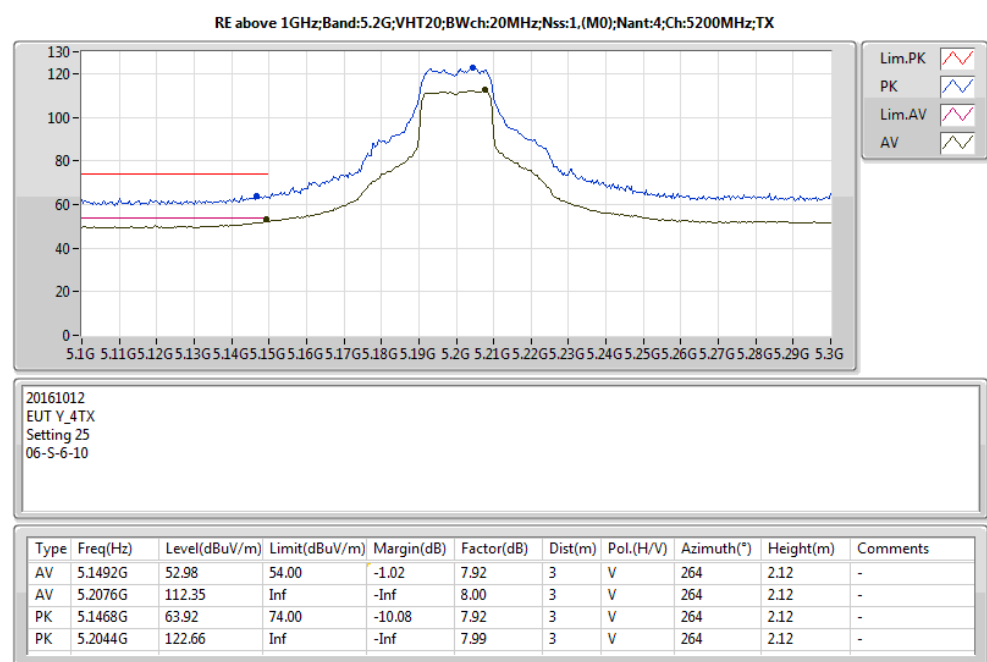
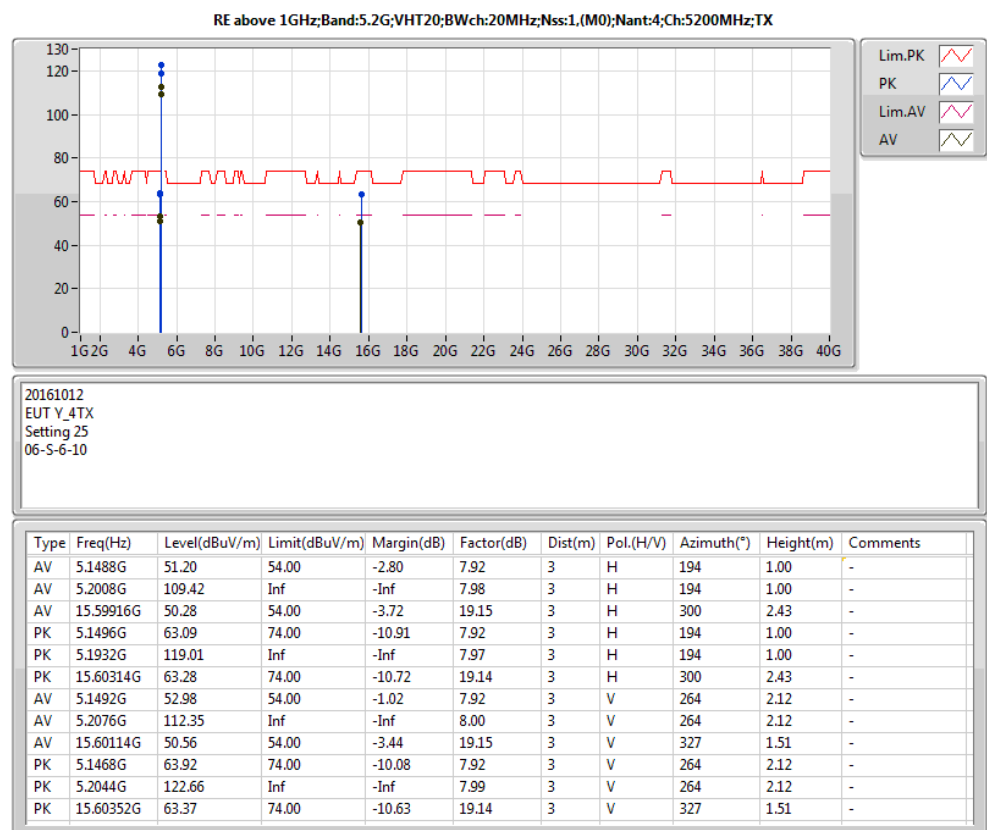
Type	Freq(Hz)	Level(dBuV/m)	Limit(dBuV/m)	Margin(dB)	Factor(dB)	Dist(m)	Pol.(H/V)	Azimuth(°)	Height(m)	Comments
AV	5.1498G	52.66	54.00	-1.34	7.92	3	H	193	1.00	-
AV	5.1846G	106.71	Inf	-Inf	7.96	3	H	193	1.00	-
AV	15.53504G	50.97	54.00	-3.03	19.35	3	H	0	1.04	-
PK	5.1498G	67.55	74.00	-6.45	7.92	3	H	193	1.00	-
PK	5.1732G	116.35	Inf	-Inf	7.95	3	H	193	1.00	-
PK	15.53524G	63.75	74.00	-10.25	19.34	3	H	0	1.04	-
AV	5.1498G	53.80	54.00	-0.20	7.92	3	V	264	2.21	-
AV	5.1874G	109.39	Inf	-Inf	7.97	3	V	264	2.21	-
AV	15.53574G	50.72	54.00	-3.28	19.34	3	V	55	1.02	-
PK	5.1494G	66.29	74.00	-7.71	7.92	3	V	264	2.21	-
PK	5.1844G	119.95	Inf	-Inf	7.96	3	V	264	2.21	-
PK	15.53596G	63.82	74.00	-10.18	19.34	3	V	55	1.02	-

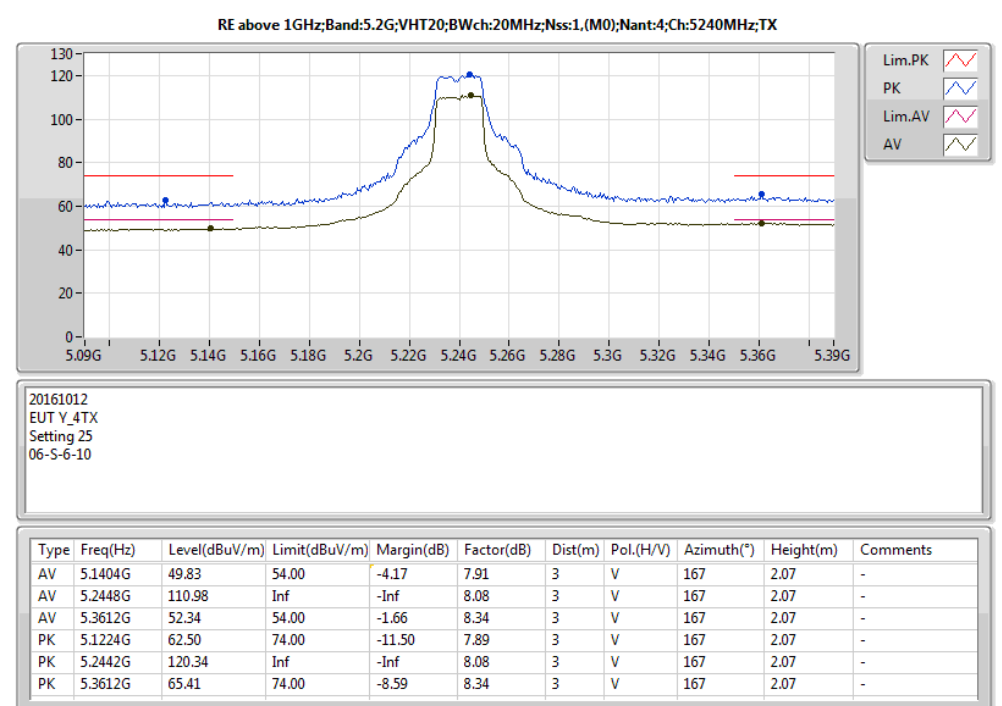
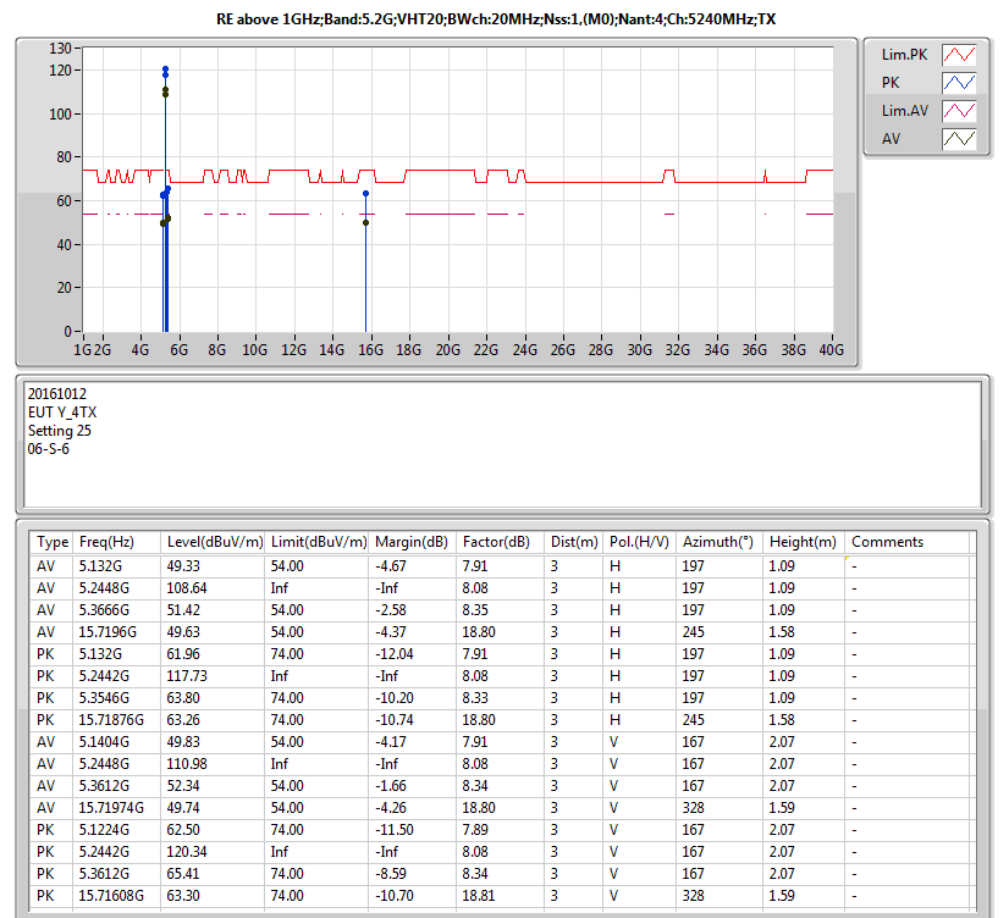
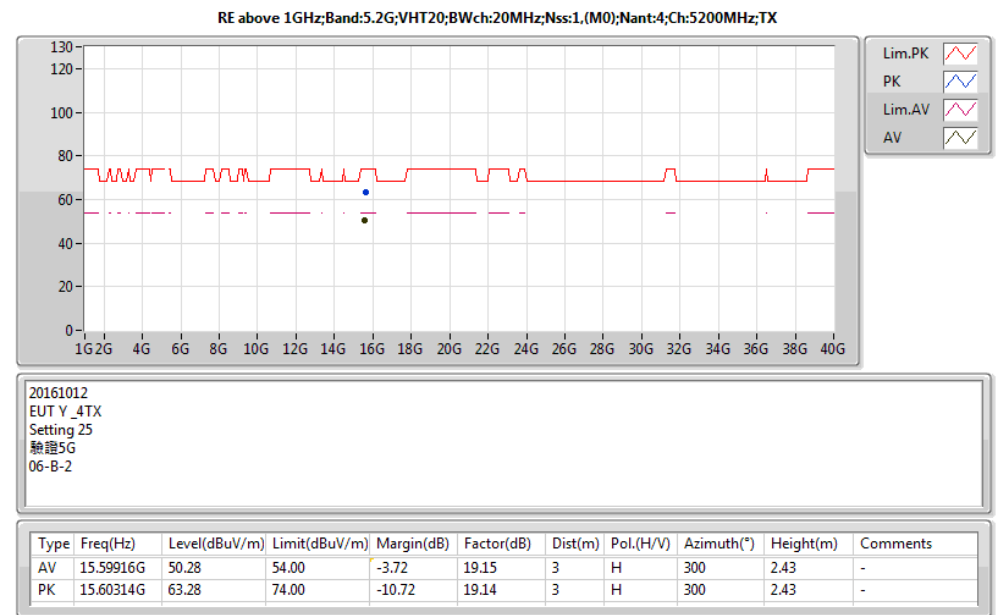
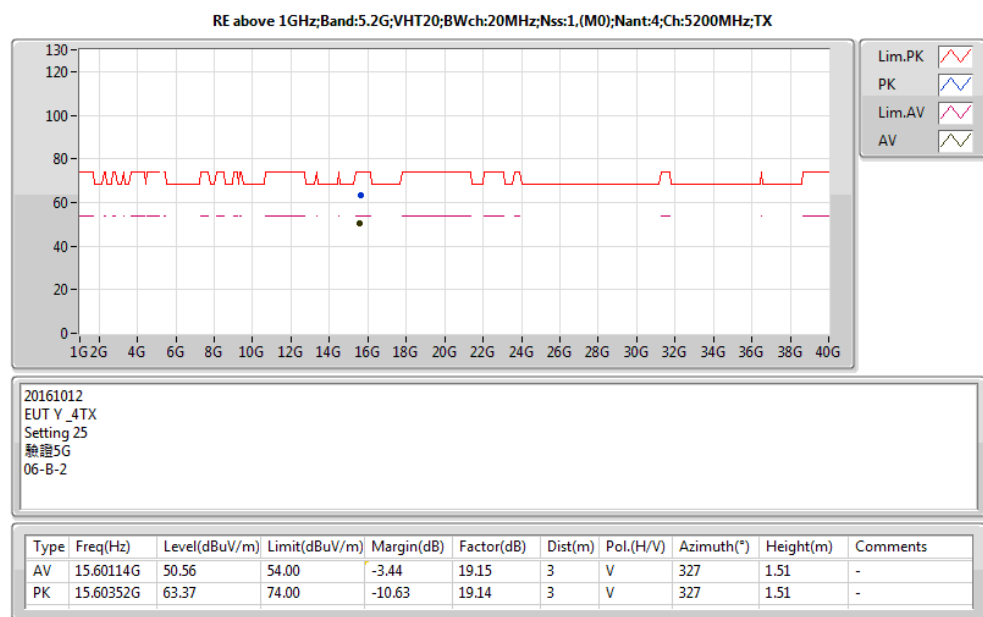
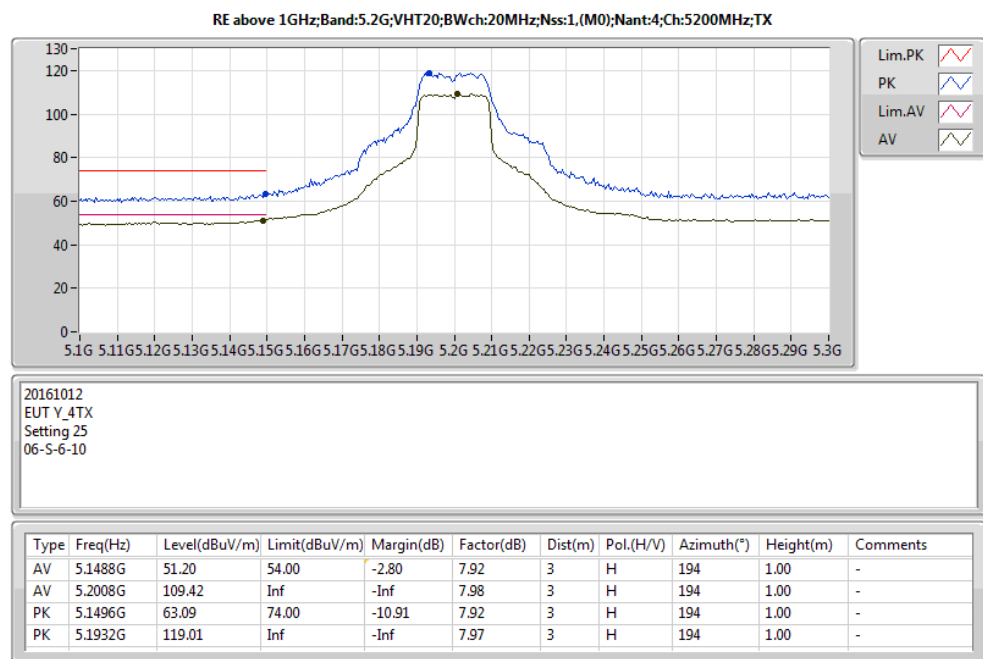
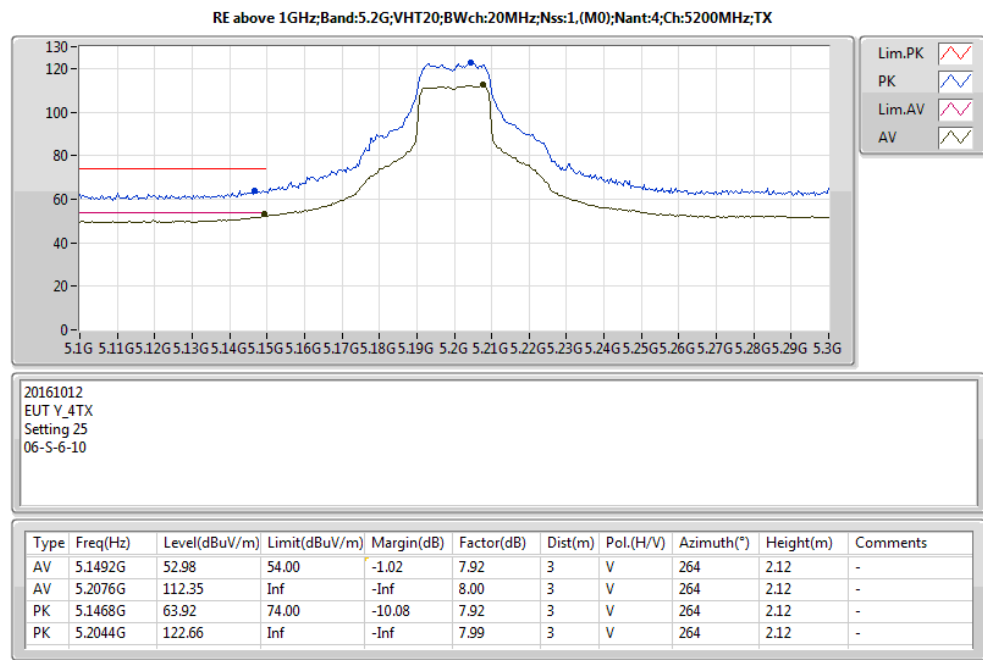


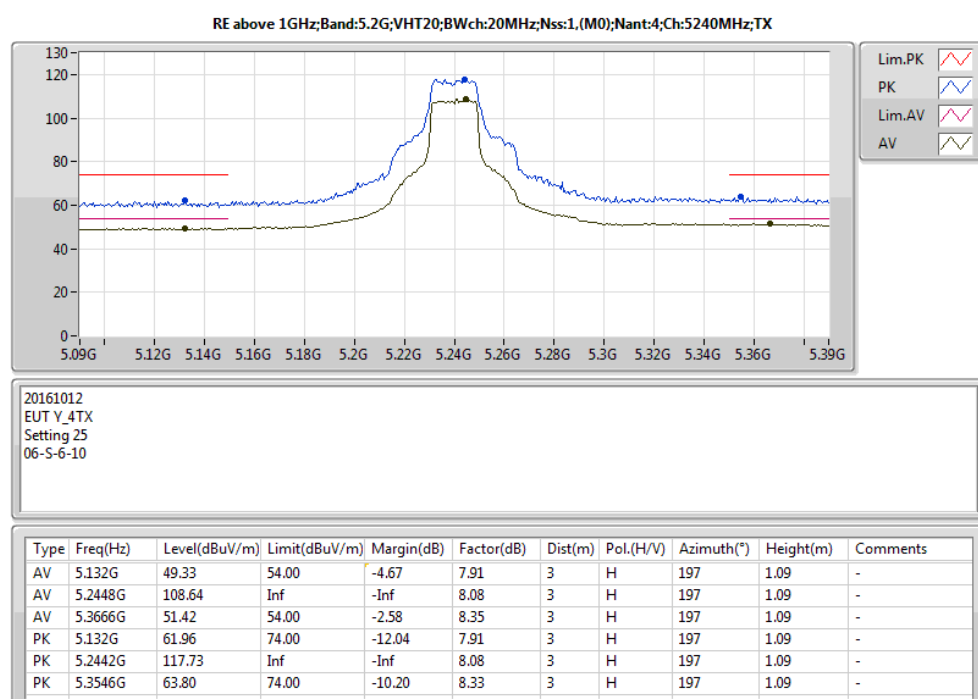
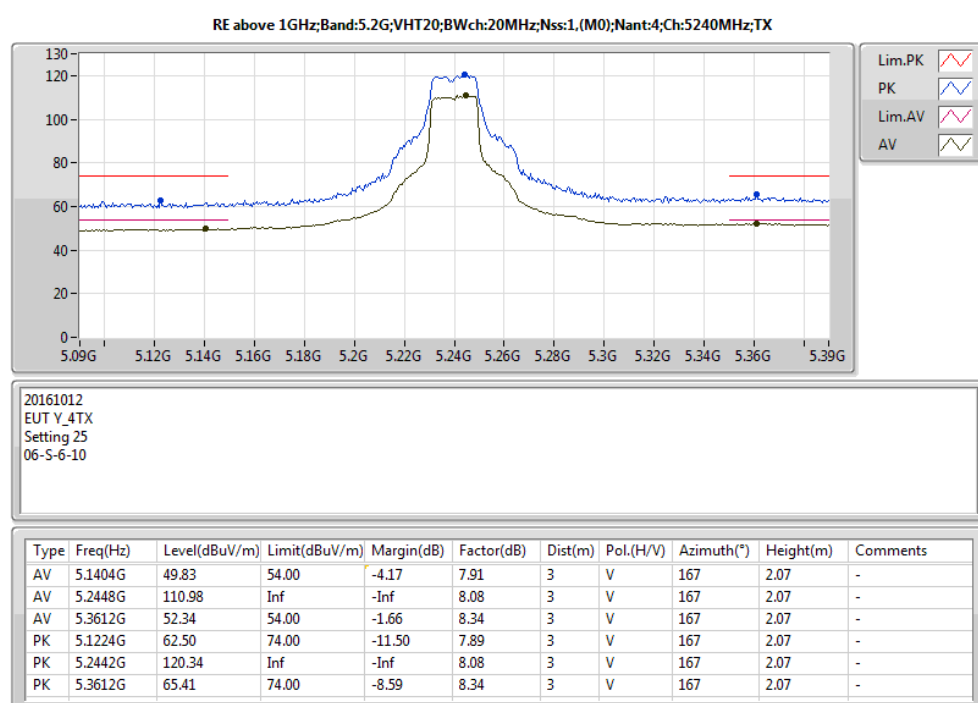
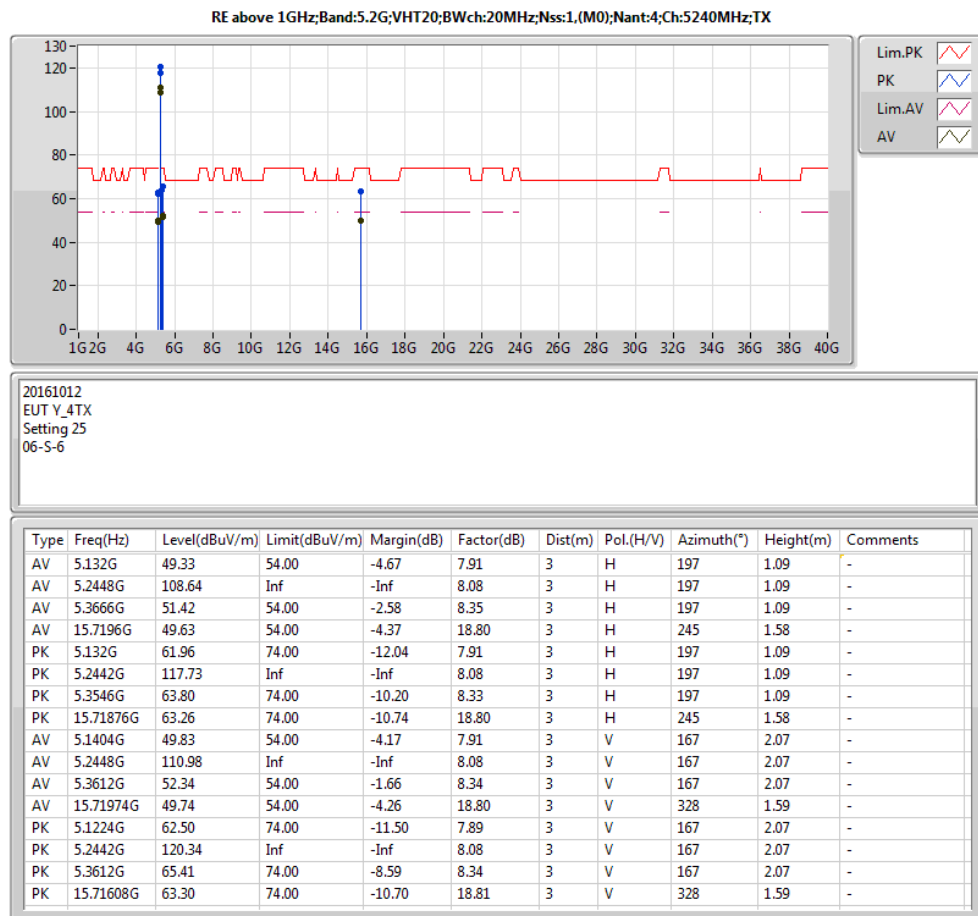
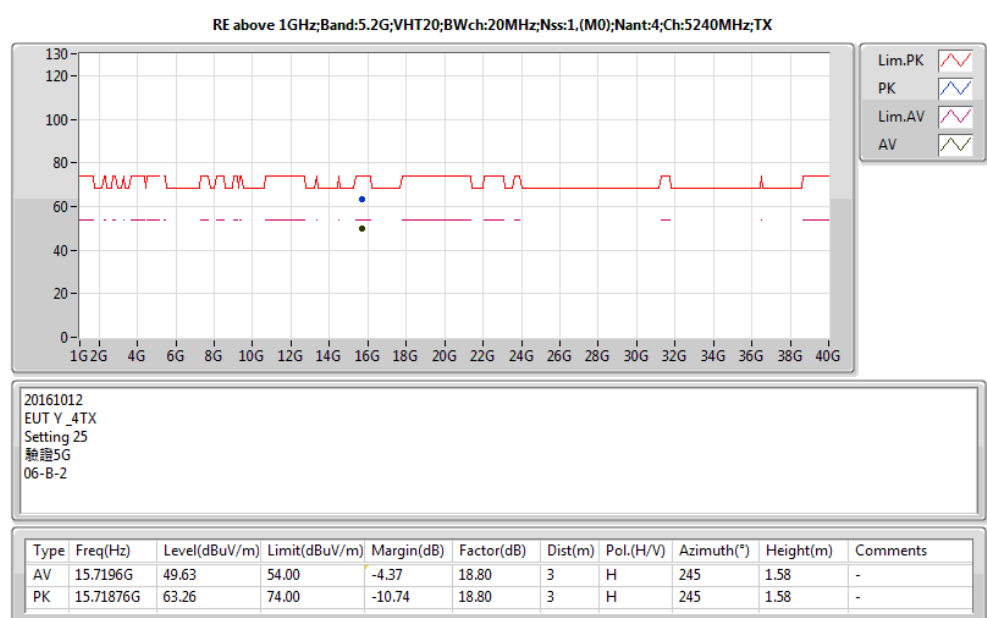
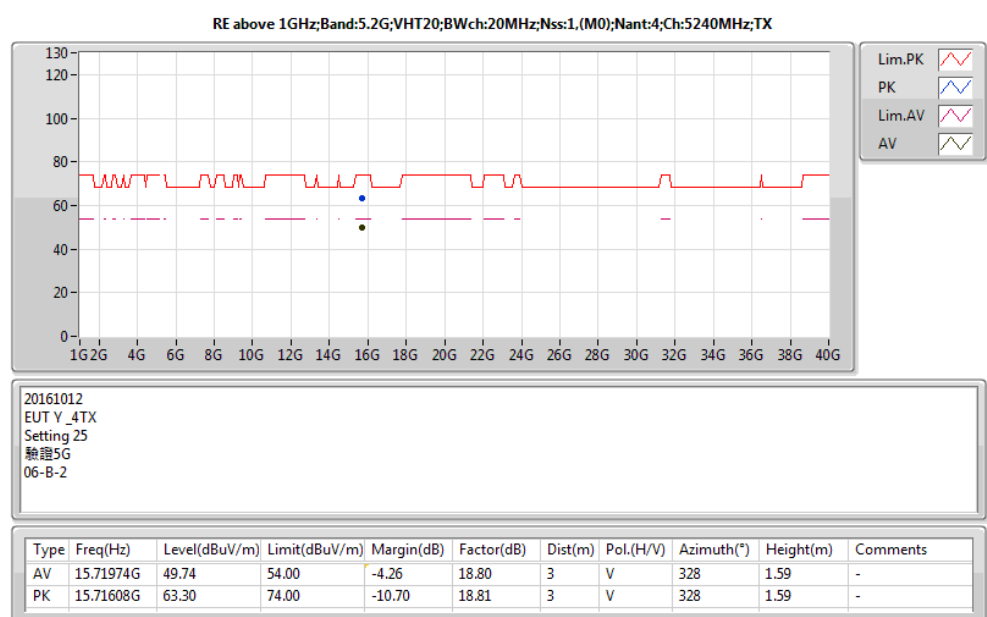
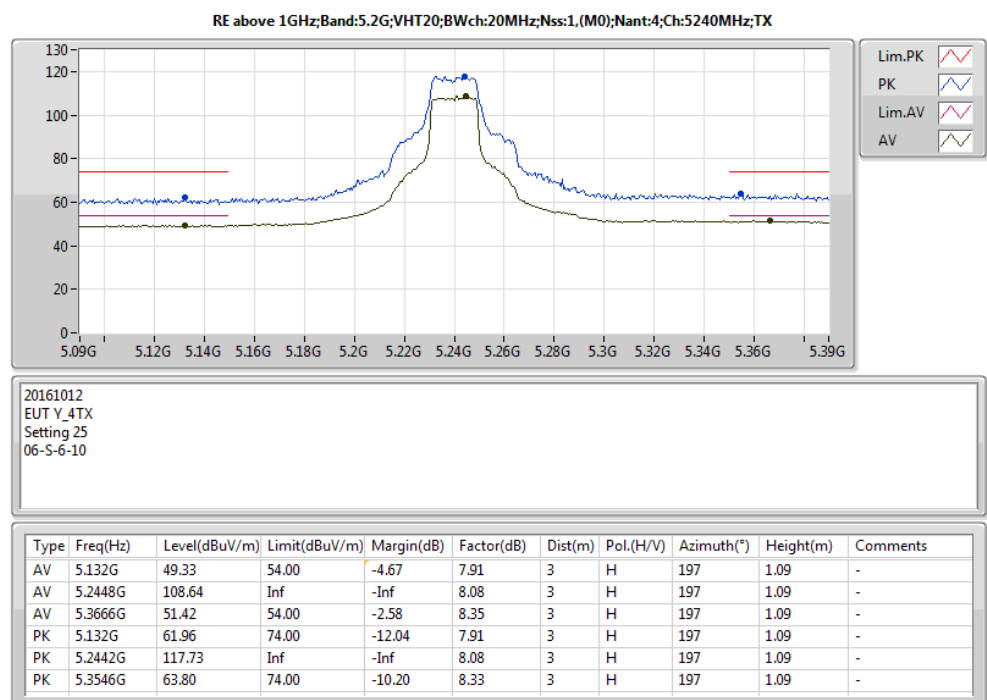


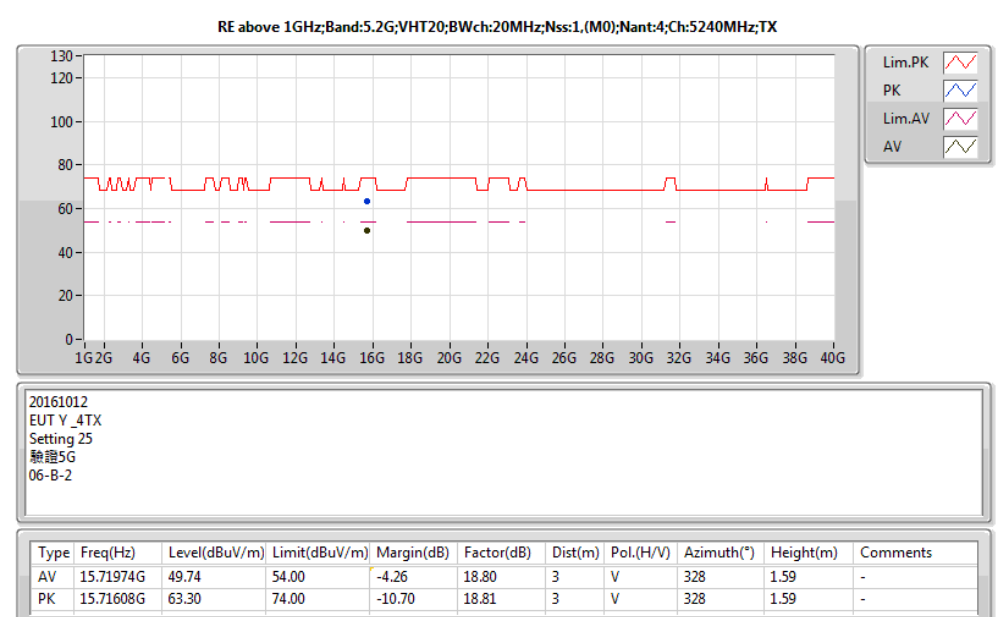
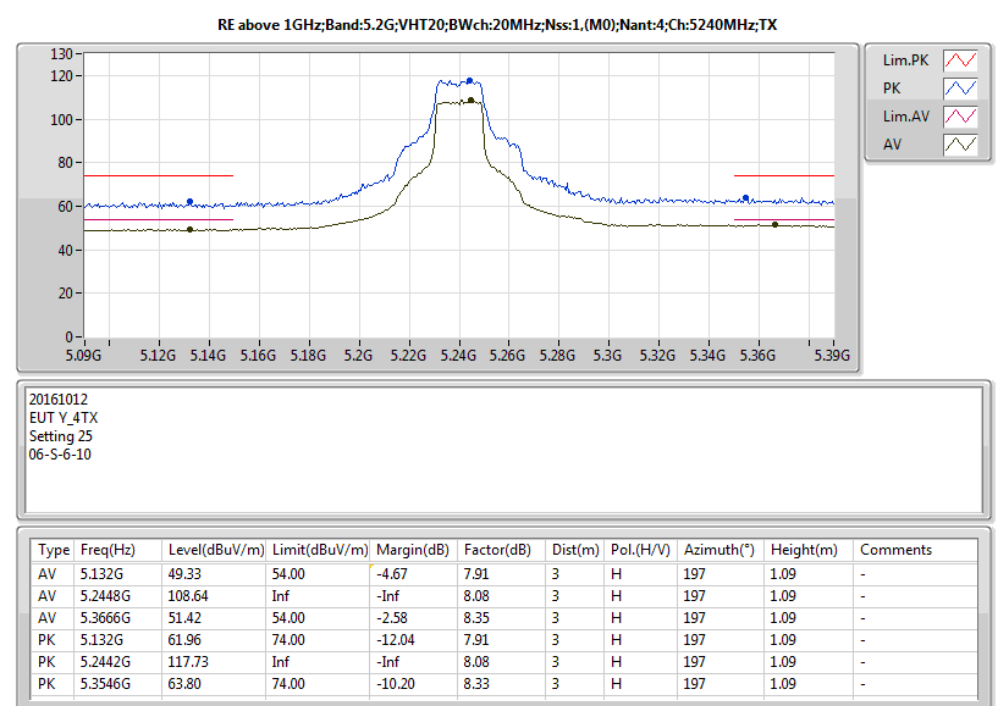
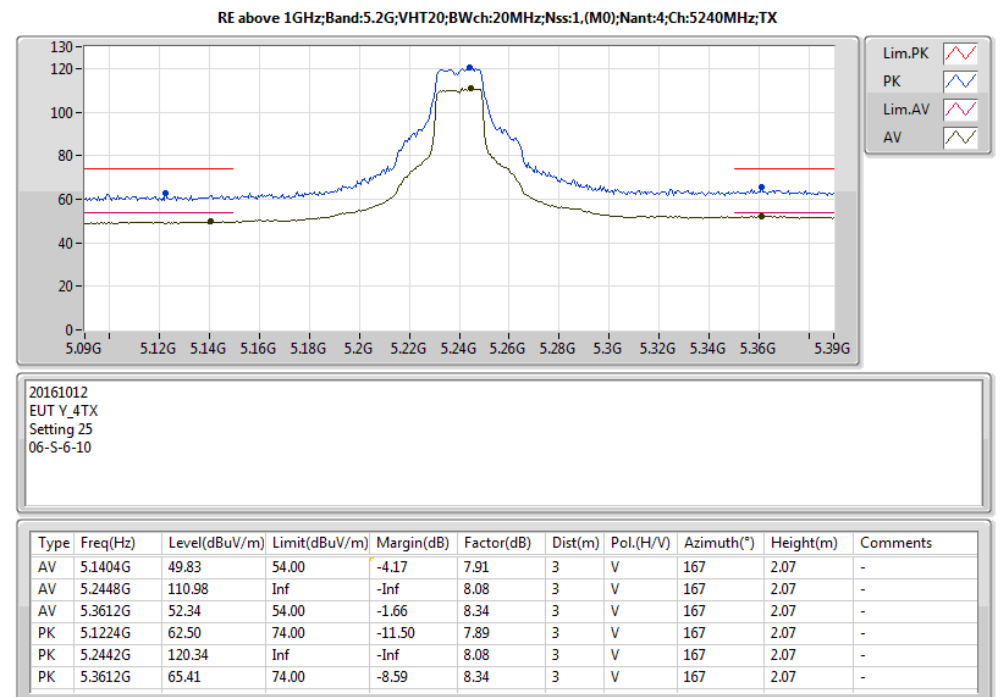
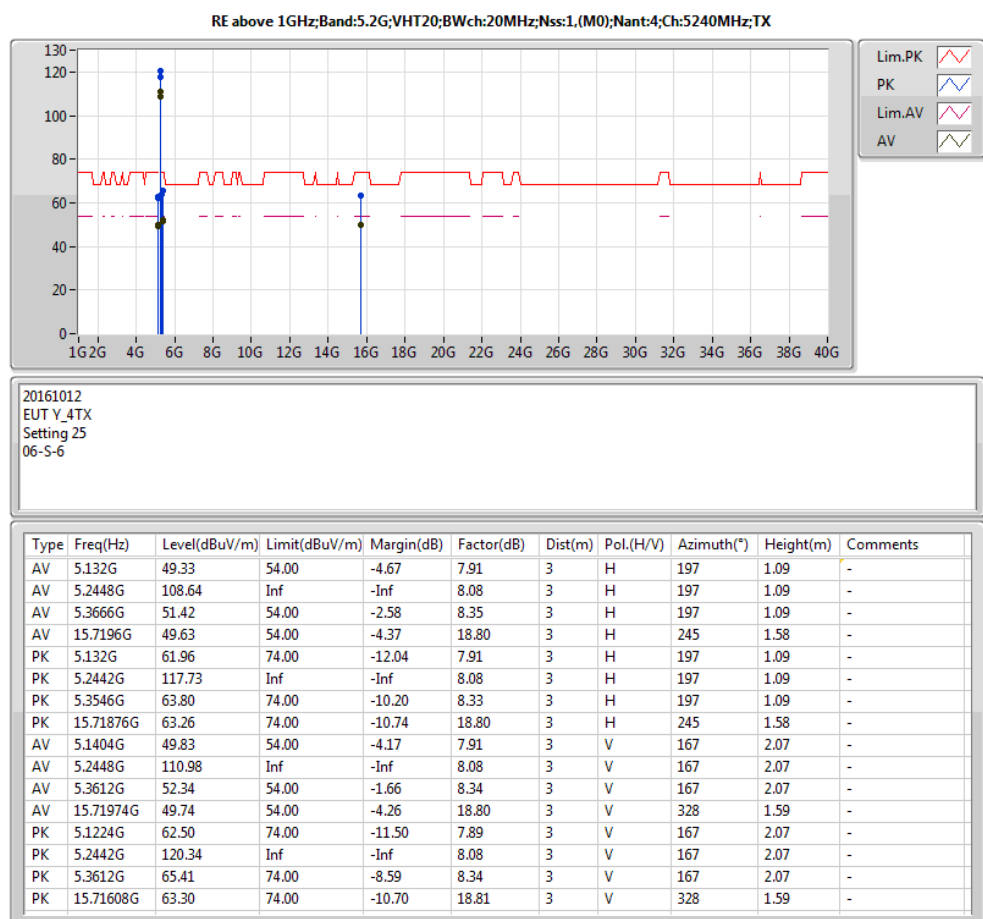
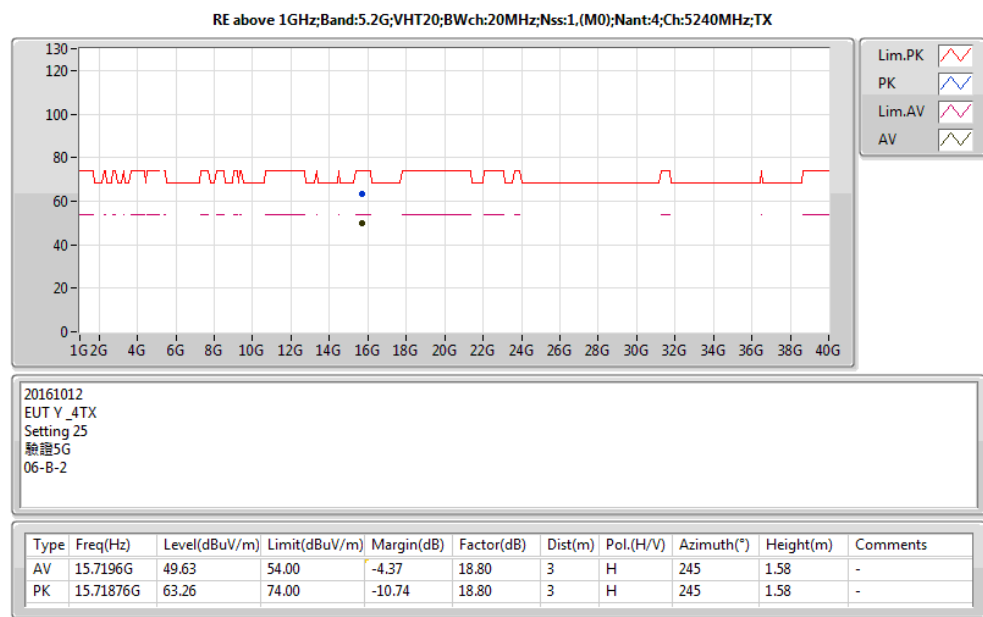
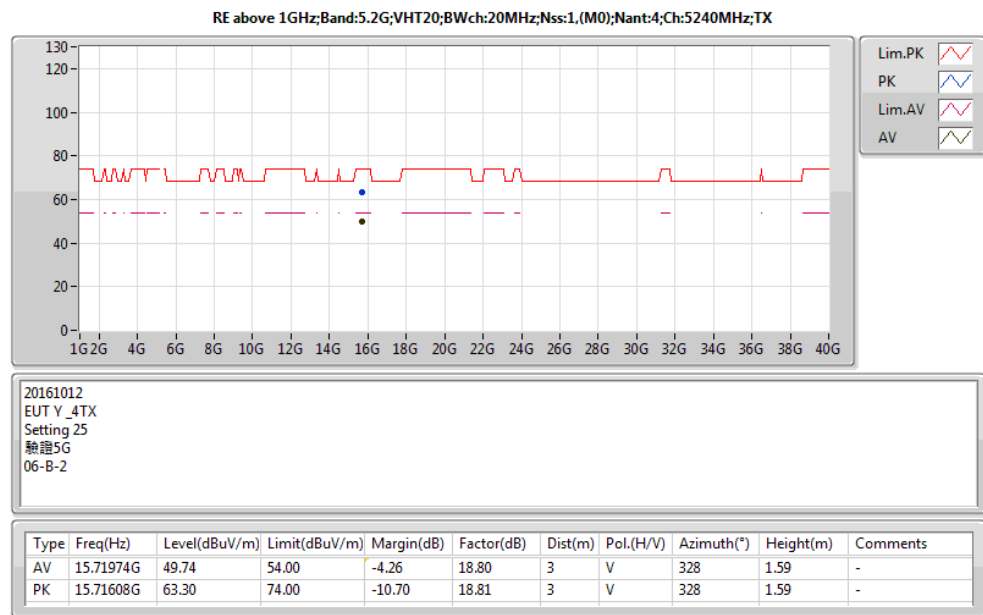


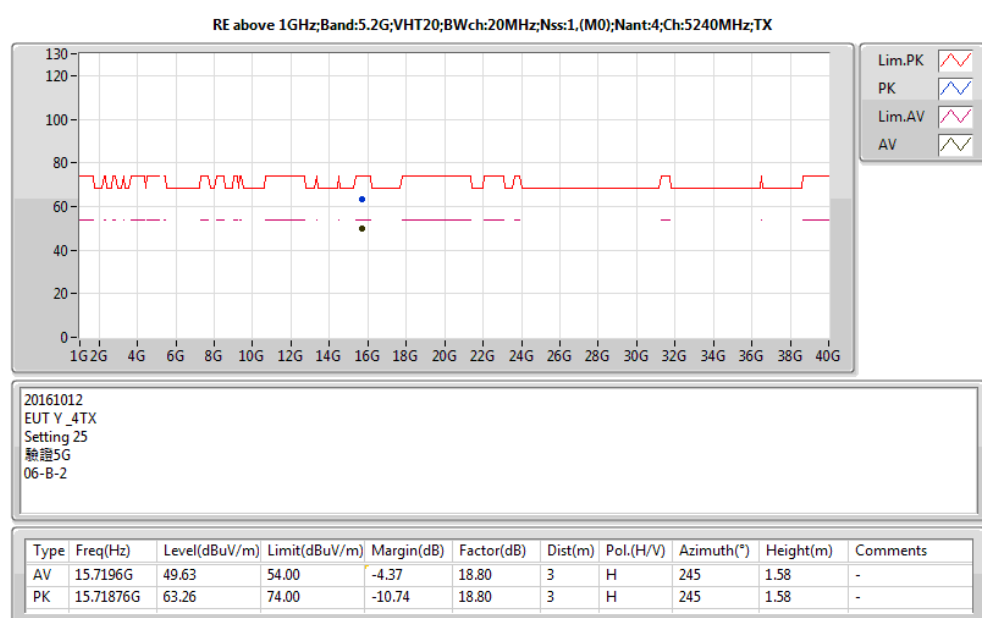
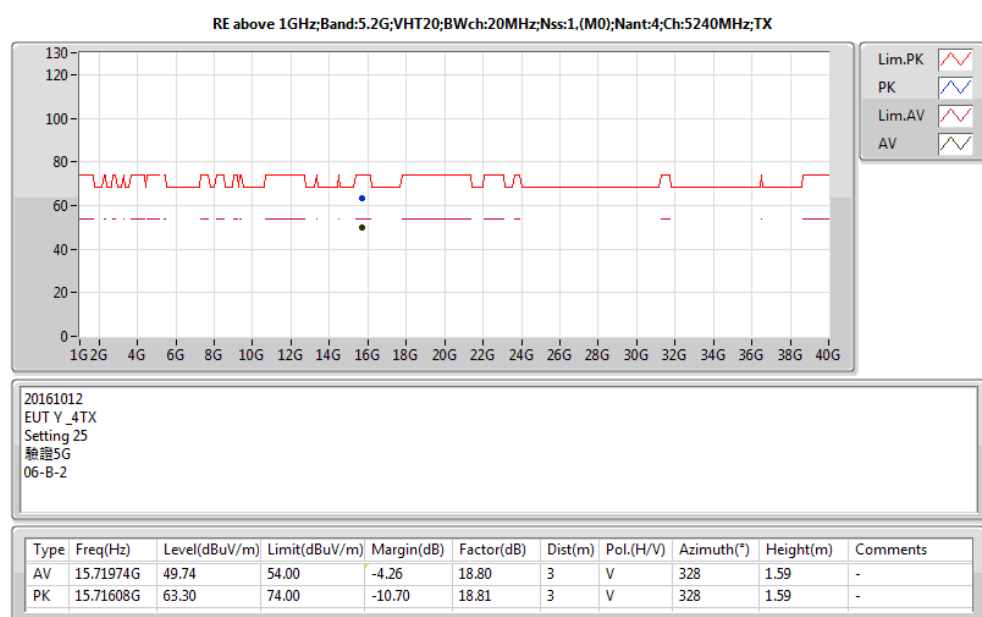
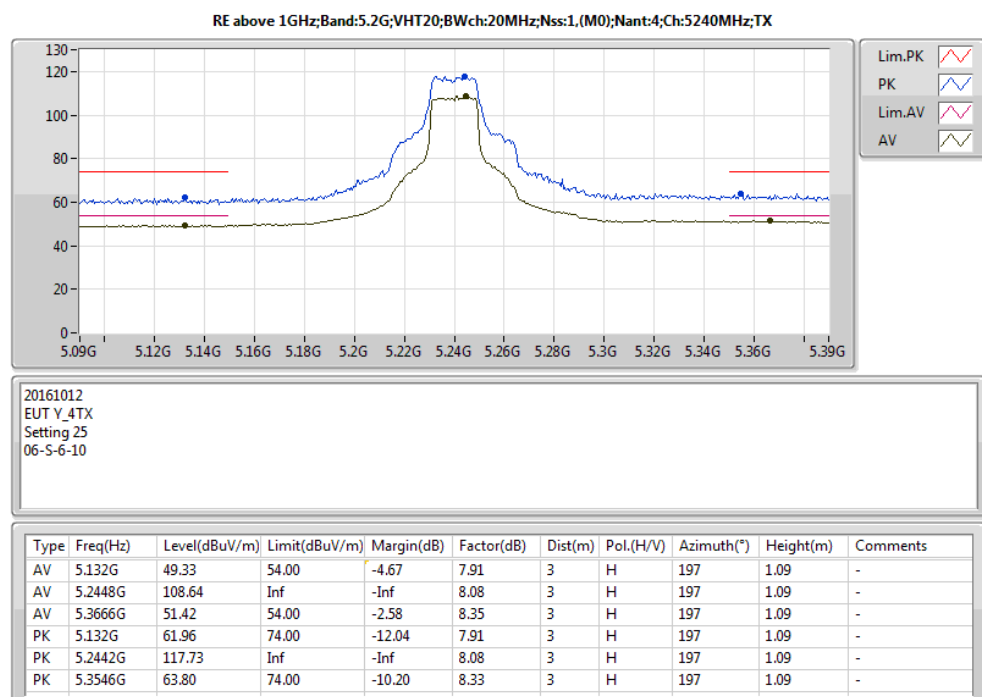
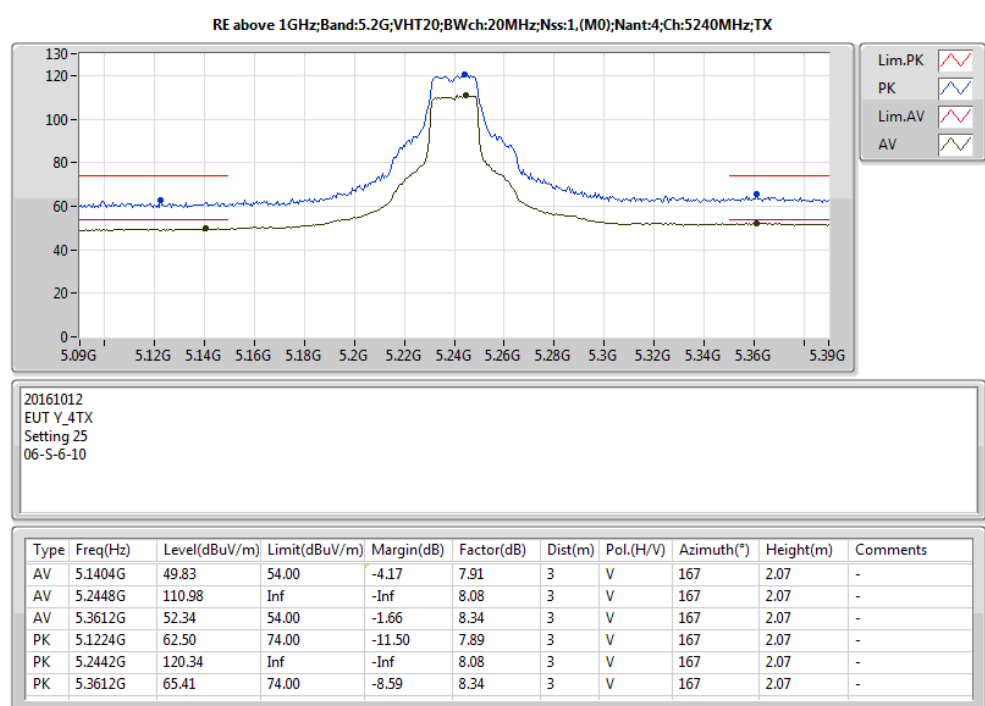
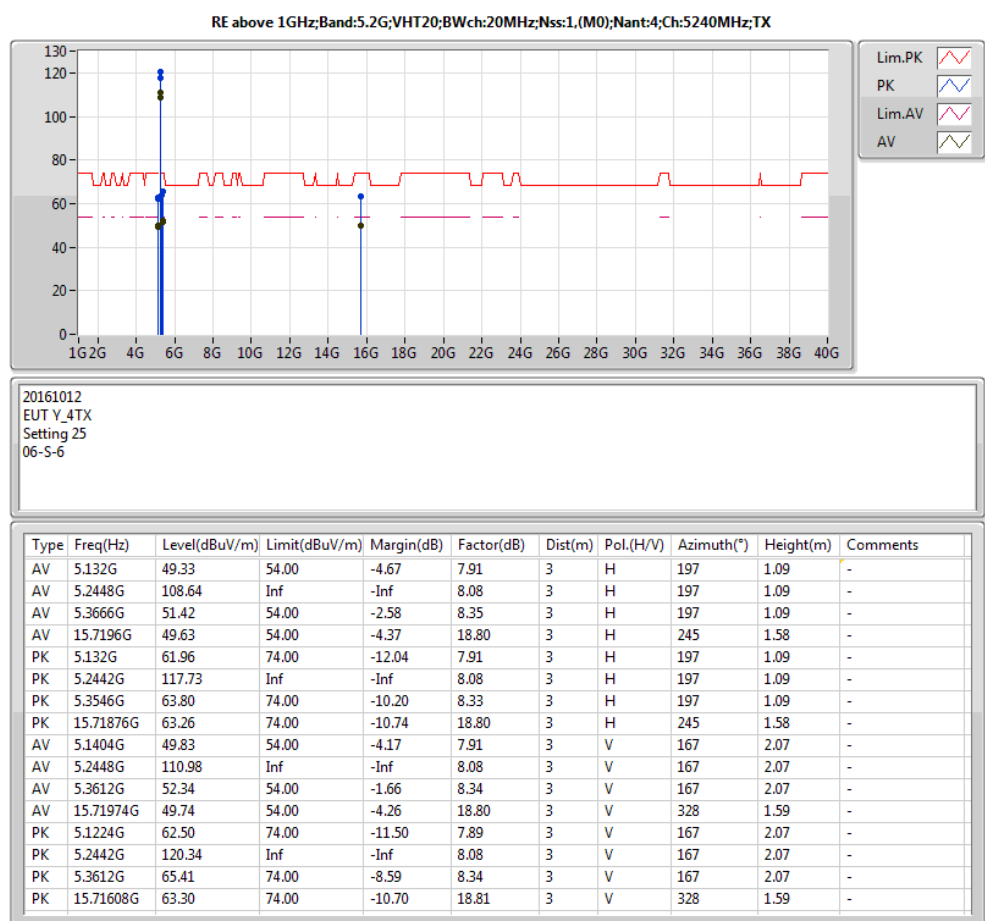
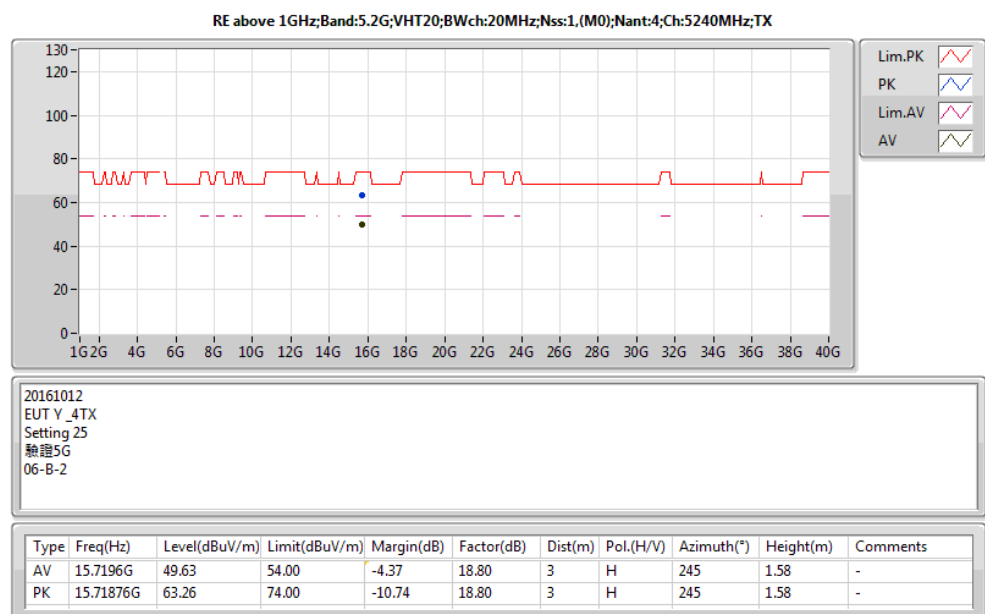


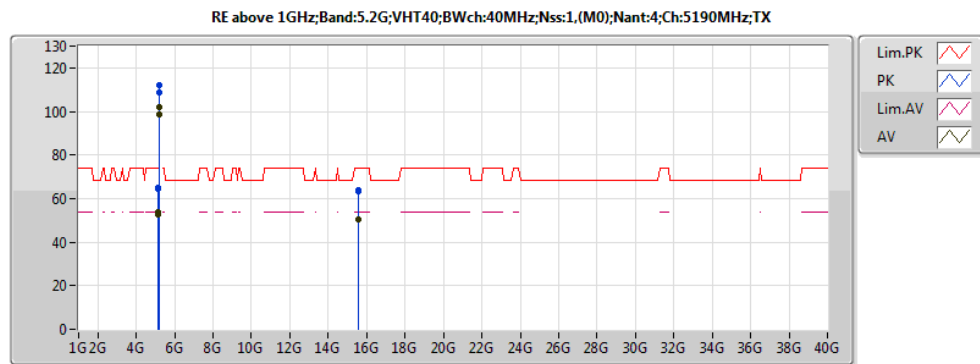






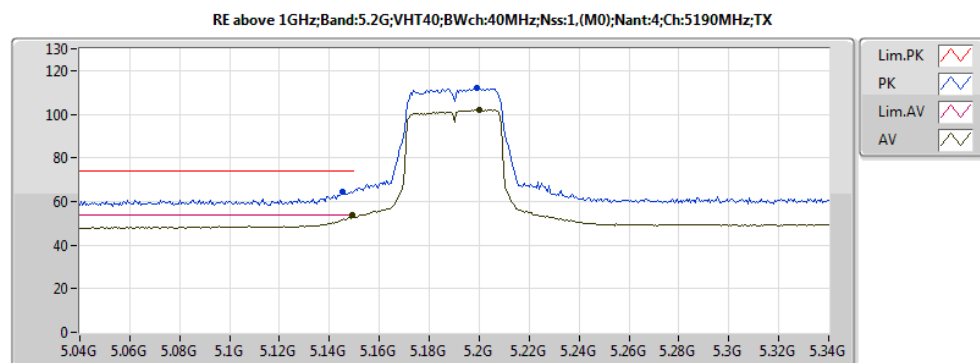






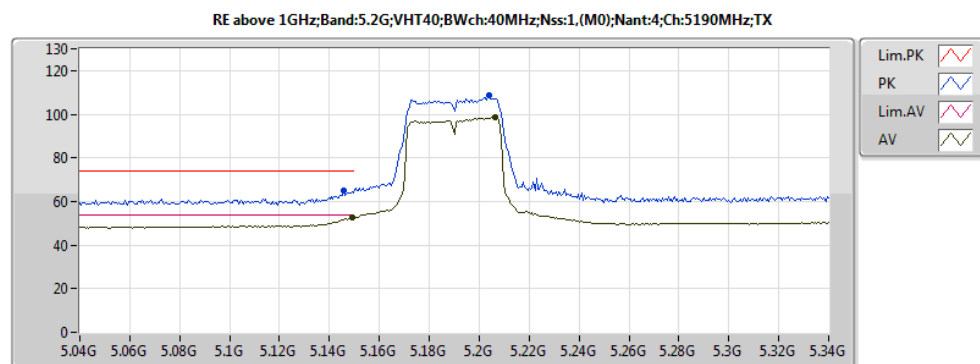
20161012
EUT Y_4TX
Setting 17
06-S-6

Type	Freq(Hz)	Level(dBuV/m)	Limit(dBuV/m)	Margin(dB)	Factor(dB)	Dist(m)	Pol.(H/V)	Azimuth(°)	Height(m)	Comments
AV	5.1492G	52.60	54.00	-1.40	7.92	3	H	158	1.50	-
AV	5.2062G	98.80	Inf	-Inf	7.99	3	H	158	1.50	-
AV	15.56974G	50.43	54.00	-3.57	19.24	3	H	153	1.50	-
PK	5.1456G	65.05	74.00	-8.95	7.92	3	H	158	1.50	-
PK	5.2038G	108.68	Inf	-Inf	7.99	3	H	158	1.50	-
PK	15.57108G	64.01	74.00	-9.99	19.24	3	H	153	1.50	-
AV	5.1492G	53.76	54.00	-0.24	7.92	3	V	263	2.13	-
AV	5.2002G	102.06	Inf	-Inf	7.98	3	V	263	2.13	-
AV	15.56828G	50.44	54.00	-3.56	19.25	3	V	247	1.18	-
PK	5.145G	64.66	74.00	-9.34	7.92	3	V	263	2.13	-
PK	5.199G	111.79	Inf	-Inf	7.98	3	V	263	2.13	-
PK	15.57258G	63.47	74.00	-10.53	19.23	3	V	247	1.18	-



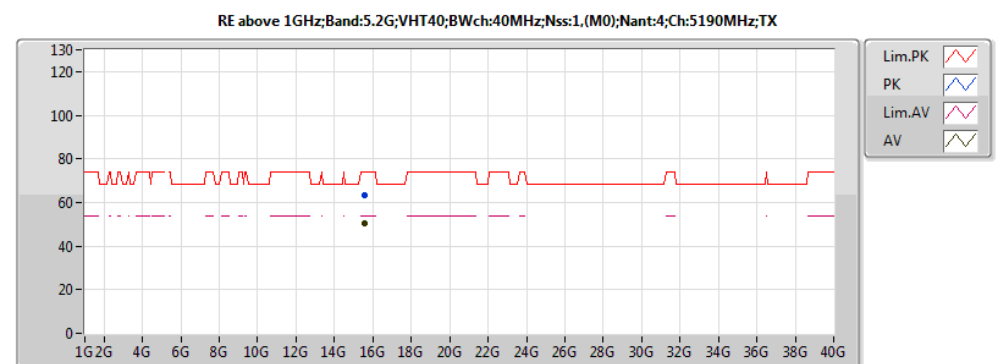
20161012
EUT Y_4TX
Setting 17
06-S-6-10

Type	Freq(Hz)	Level(dBuV/m)	Limit(dBuV/m)	Margin(dB)	Factor(dB)	Dist(m)	Pol.(H/V)	Azimuth(°)	Height(m)	Comments
AV	5.1492G	53.76	54.00	-0.24	7.92	3	V	263	2.13	-
AV	5.2002G	102.06	Inf	-Inf	7.98	3	V	263	2.13	-
PK	5.145G	64.66	74.00	-9.34	7.92	3	V	263	2.13	-
PK	5.199G	111.79	Inf	-Inf	7.98	3	V	263	2.13	-



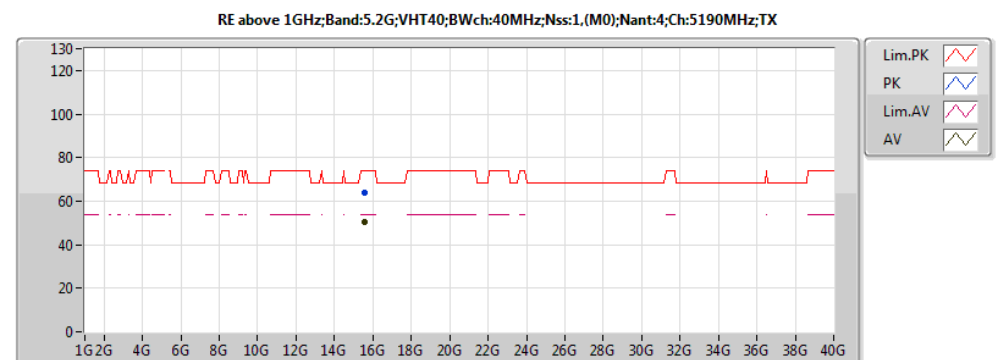
20161012
EUT Y_4TX
Setting 17
06-S-6-10

Type	Freq(Hz)	Level(dBuV/m)	Limit(dBuV/m)	Margin(dB)	Factor(dB)	Dist(m)	Pol.(H/V)	Azimuth(°)	Height(m)	Comments
AV	5.1492G	52.60	54.00	-1.40	7.92	3	H	158	1.50	-
AV	5.2062G	98.80	Inf	-Inf	7.99	3	H	158	1.50	-
PK	5.1456G	65.05	74.00	-8.95	7.92	3	H	158	1.50	-
PK	5.2038G	108.68	Inf	-Inf	7.99	3	H	158	1.50	-



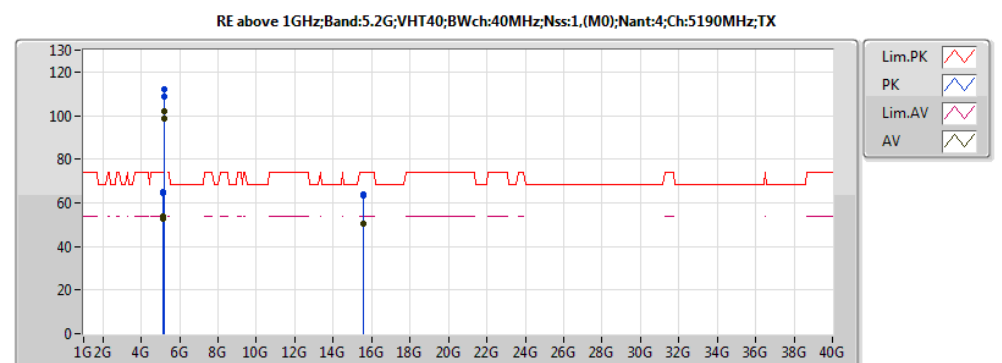
20161012
EUT Y_4TX
Setting 17
驗證5G
06-B-2

Type	Freq(Hz)	Level(dBuV/m)	Limit(dBuV/m)	Margin(dB)	Factor(dB)	Dist(m)	Pol.(H/V)	Azimuth(°)	Height(m)	Comments
AV	15.56828G	50.44	54.00	-3.56	19.25	3	V	247	1.18	-
PK	15.57258G	63.47	74.00	-10.53	19.23	3	V	247	1.18	-



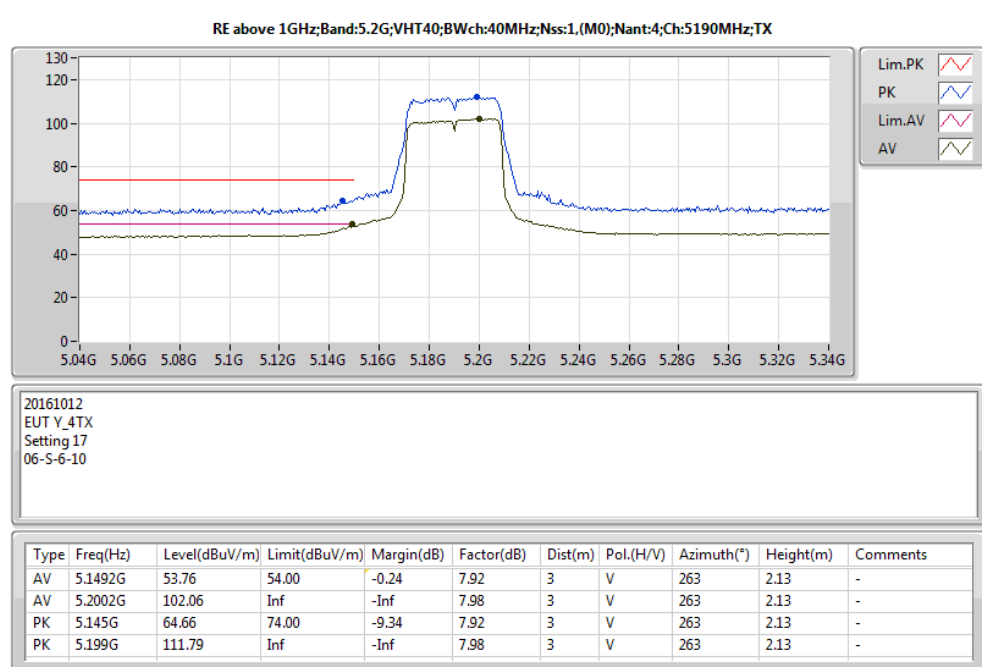
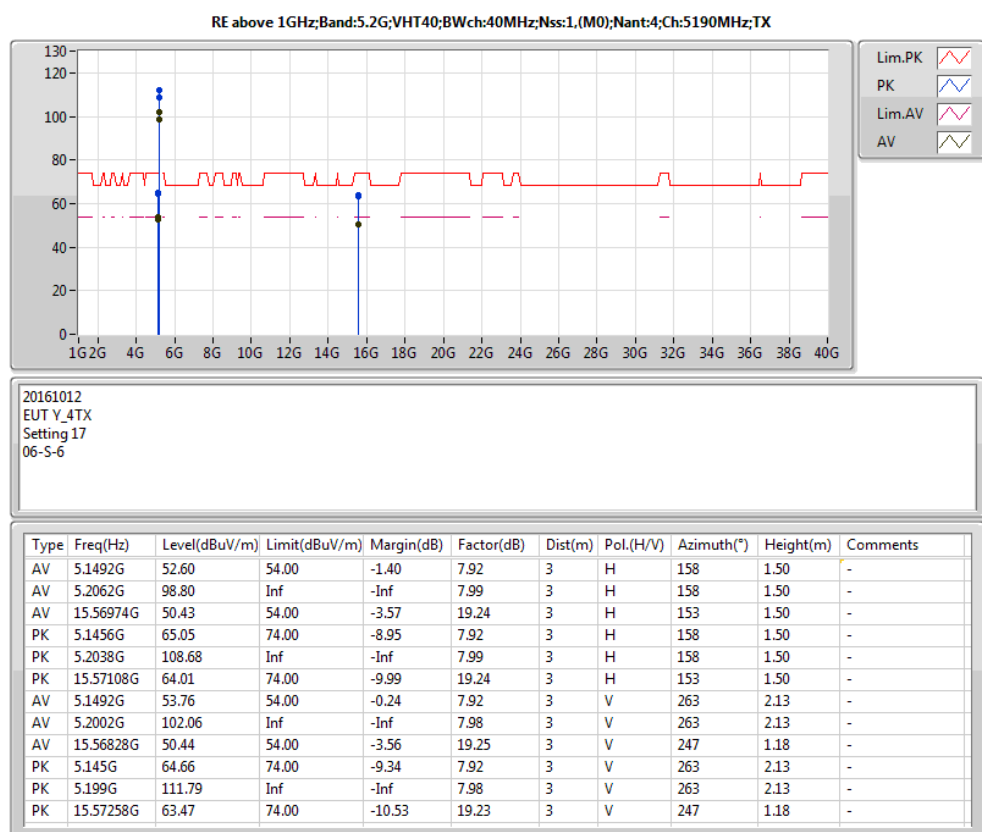
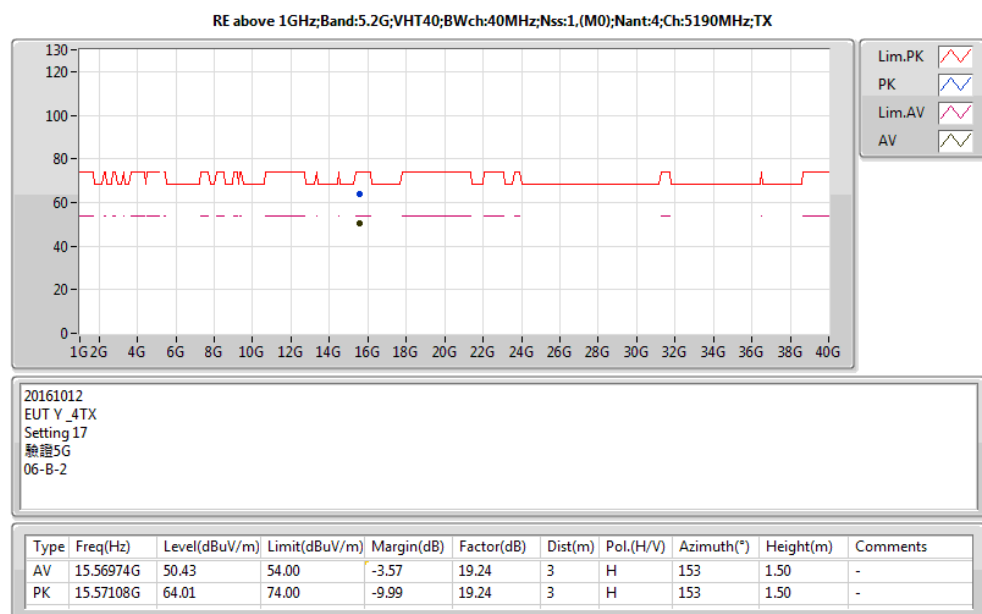
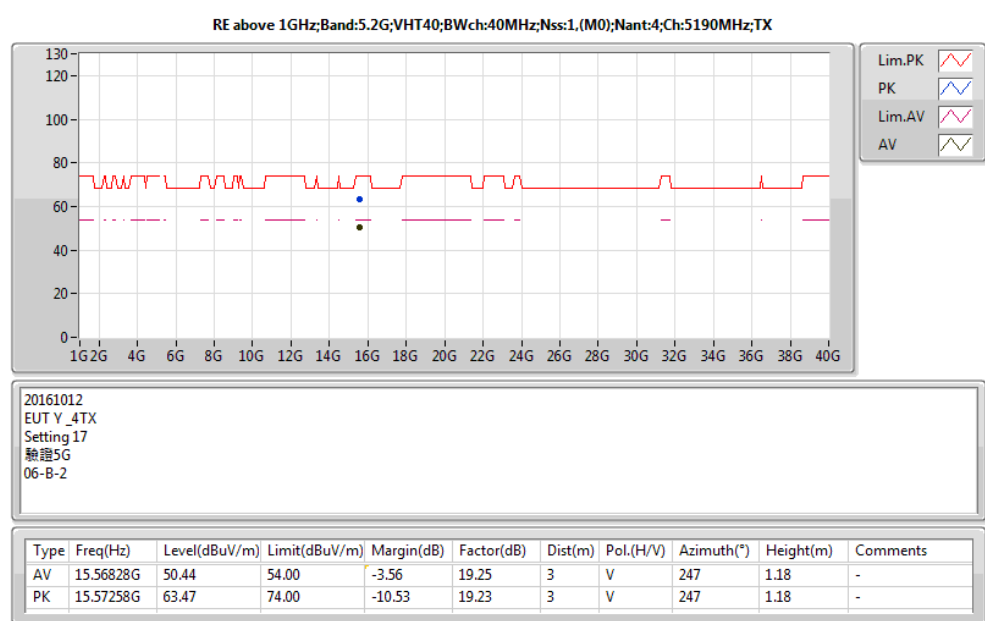
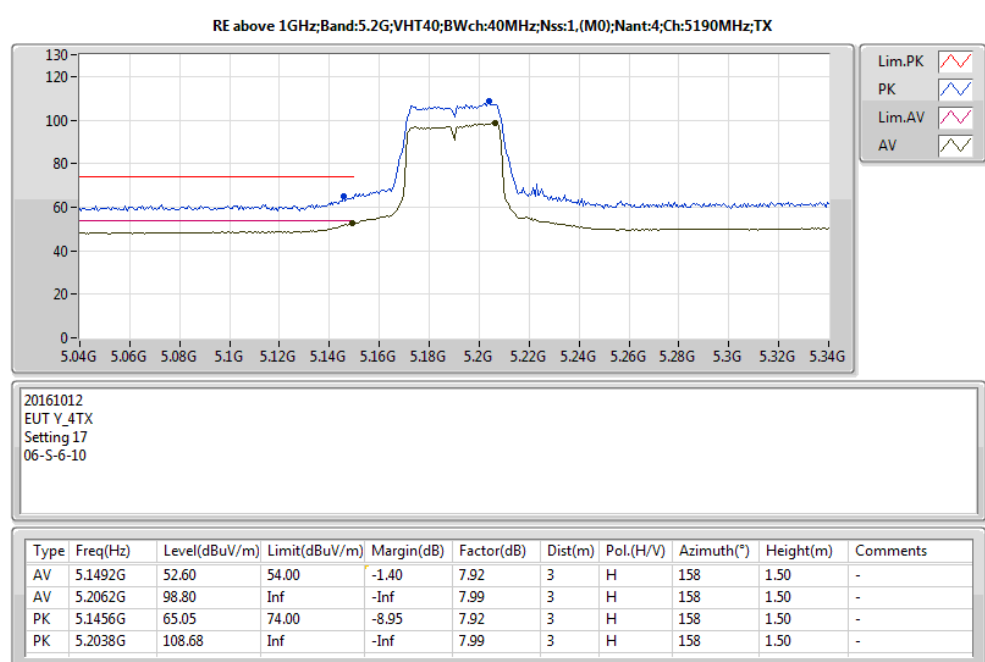
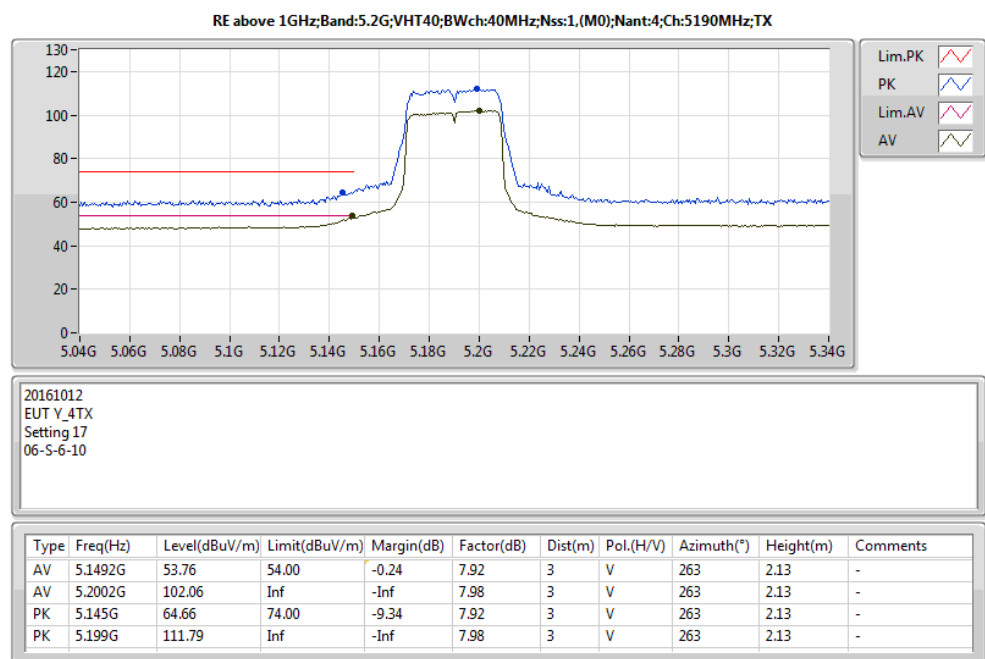
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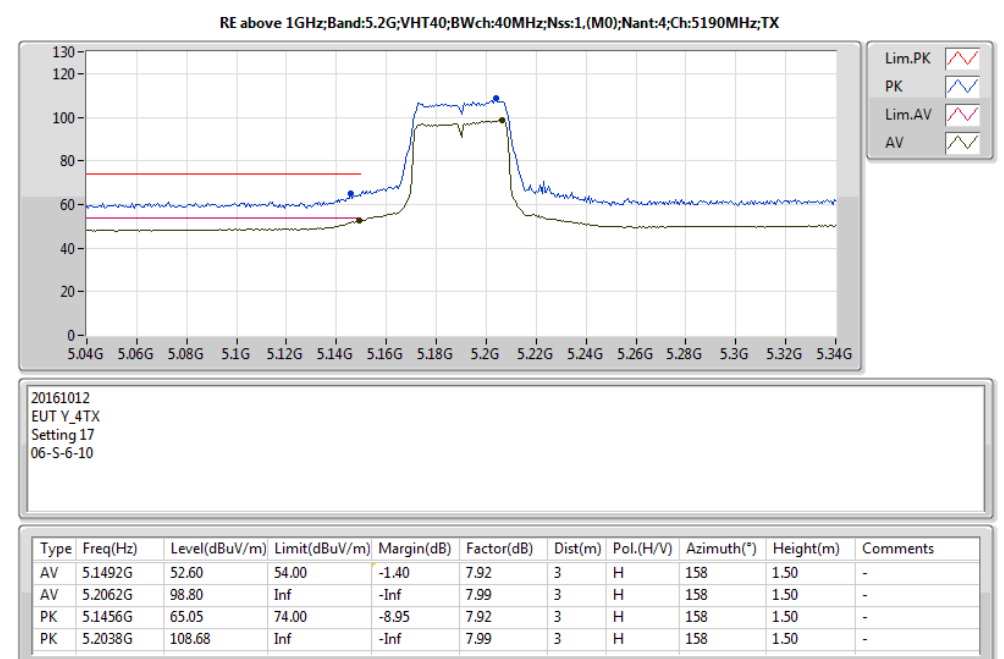
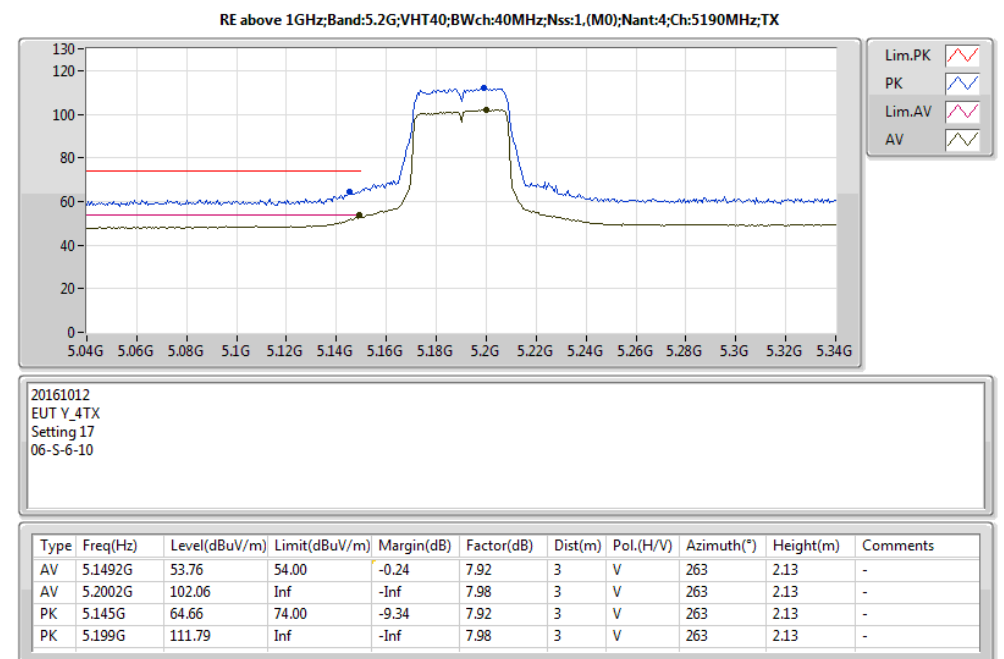
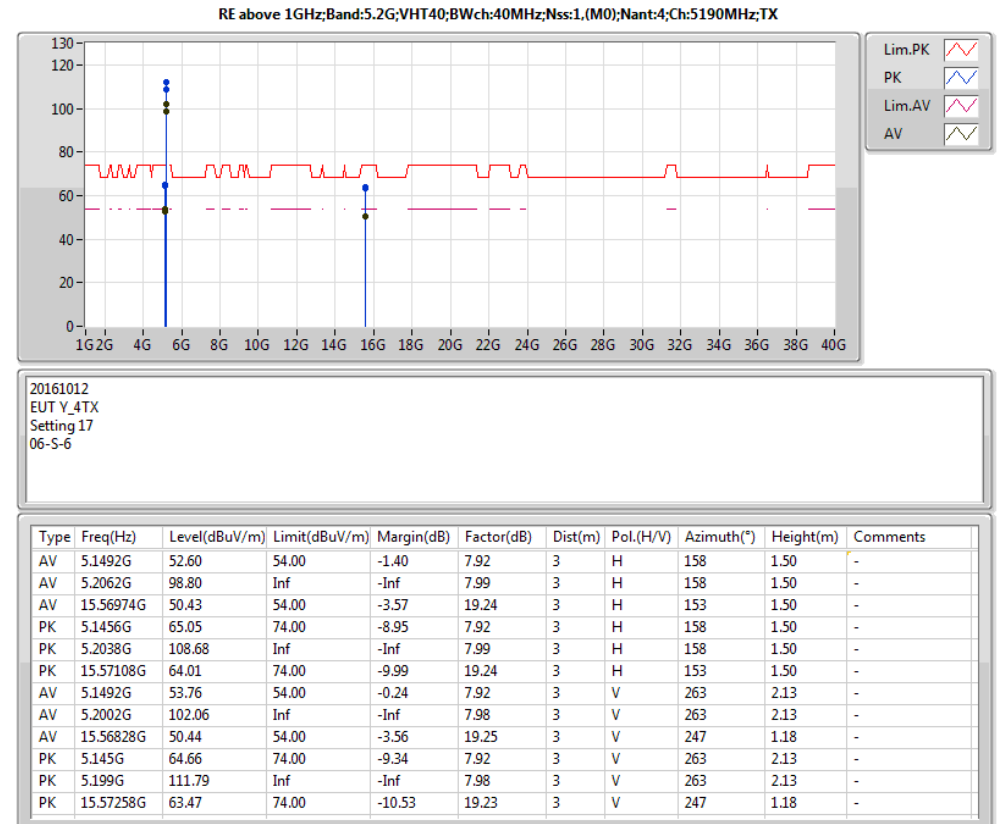
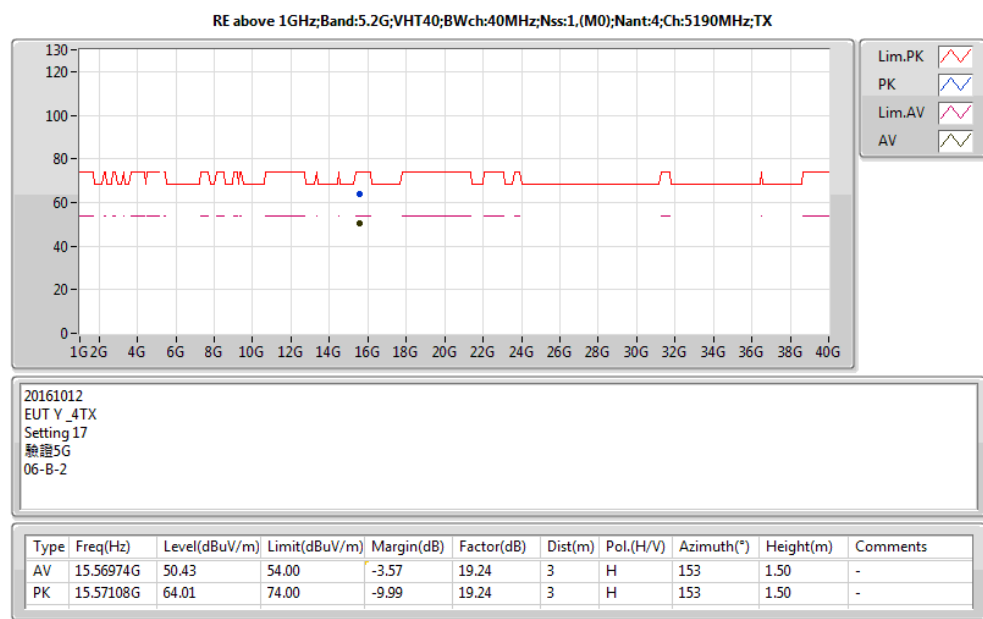
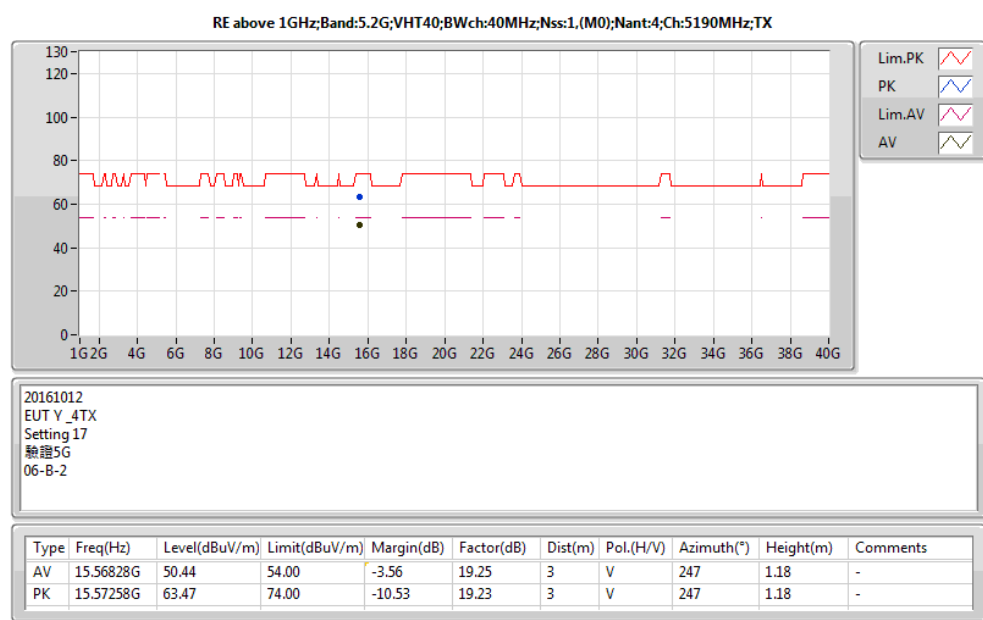
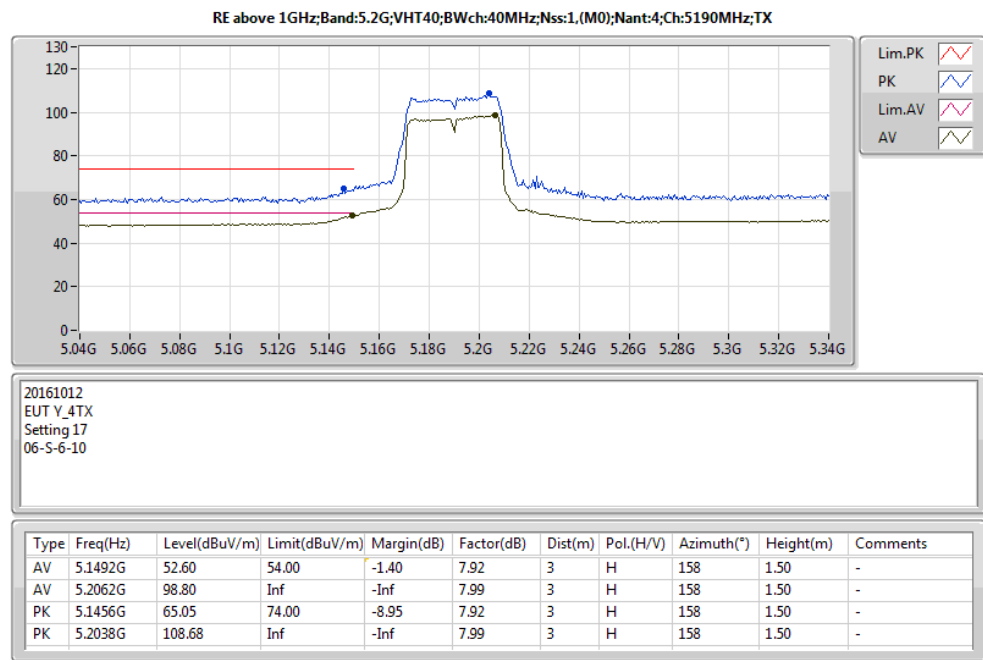
Type	Freq(Hz)	Level(dBuV/m)	Limit(dBuV/m)	Margin(dB)	Factor(dB)	Dist(m)	Pol.(H/V)	Azimuth(°)	Height(m)	Comments
AV	15.56974G	50.43	54.00	-3.57	19.24	3	H	153	1.50	-
PK	15.57108G	64.01	74.00	-9.99	19.24	3	H	153	1.50	-

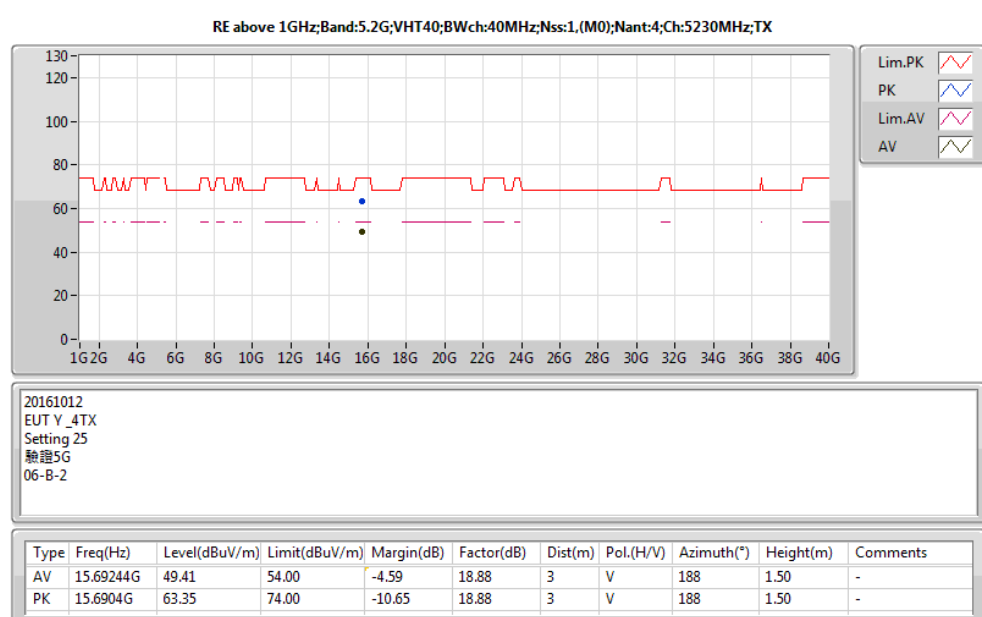
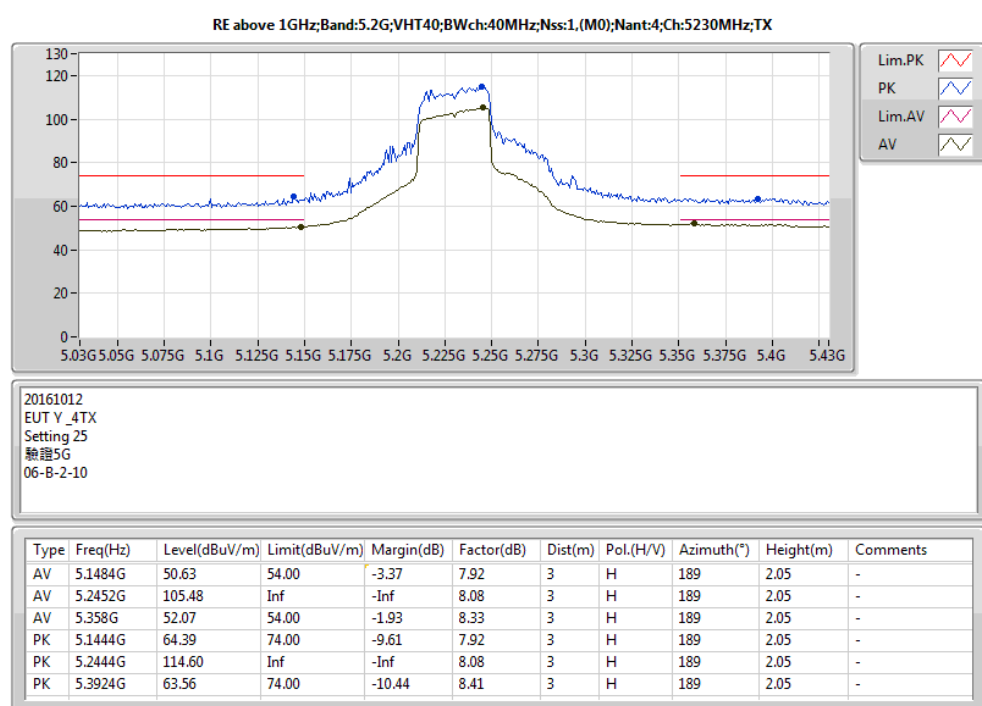
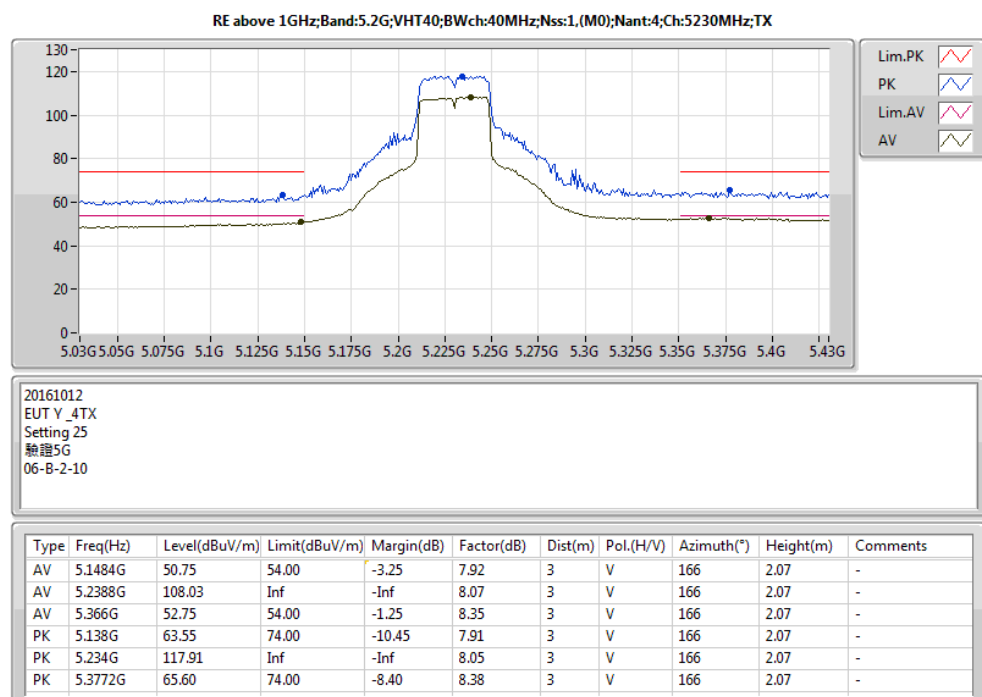
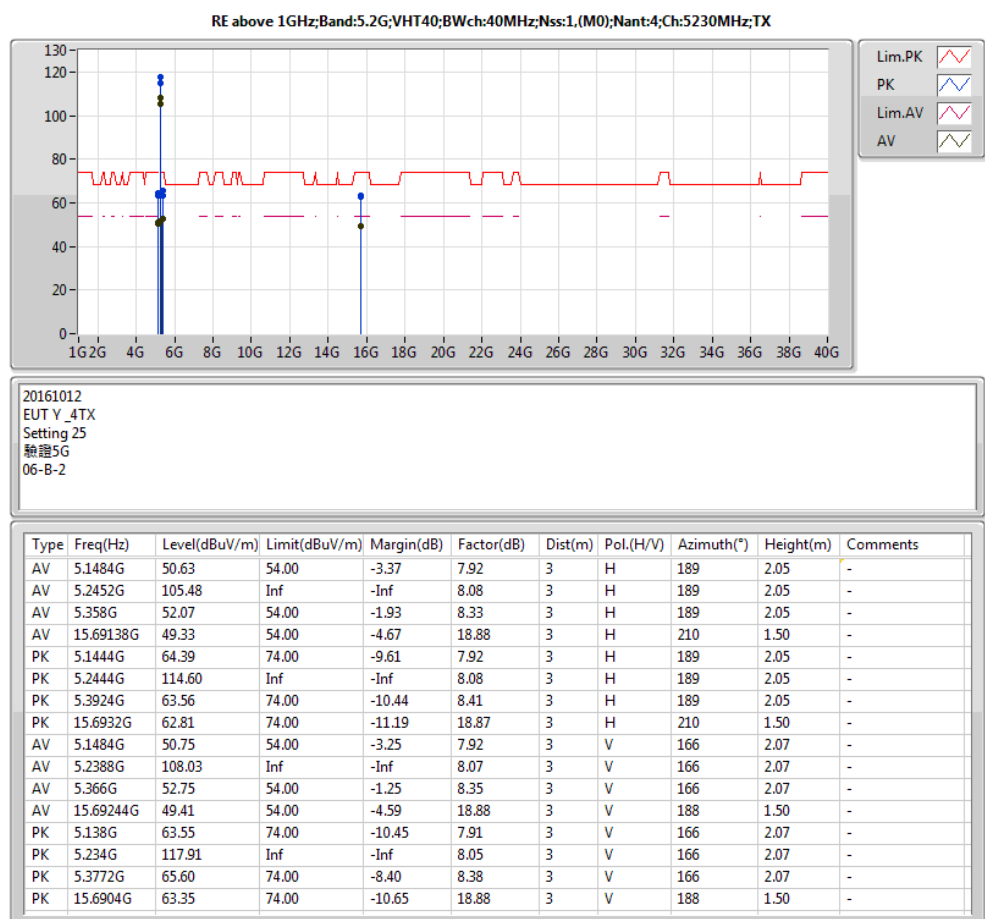
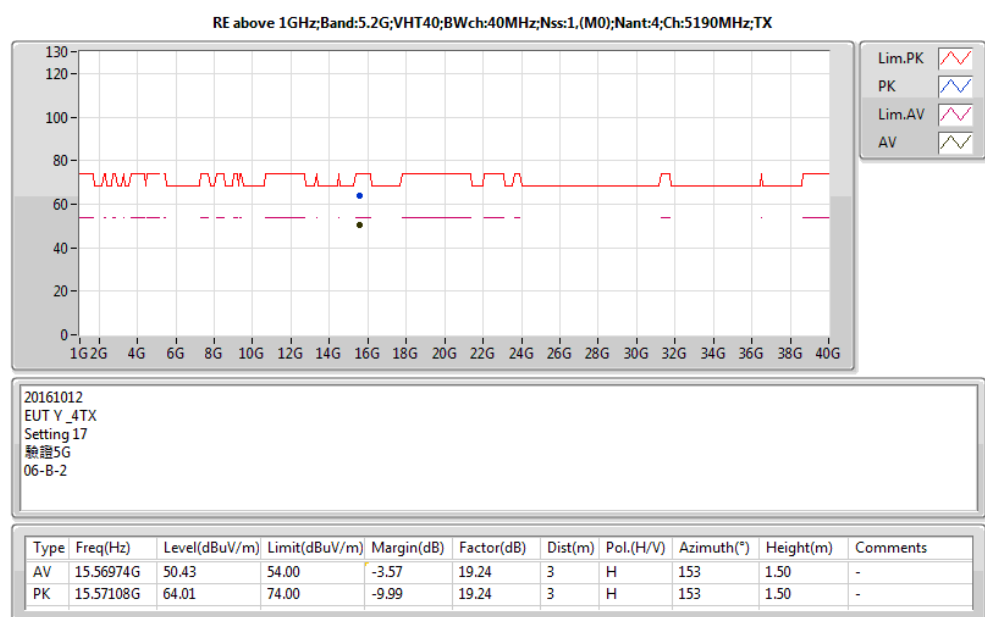
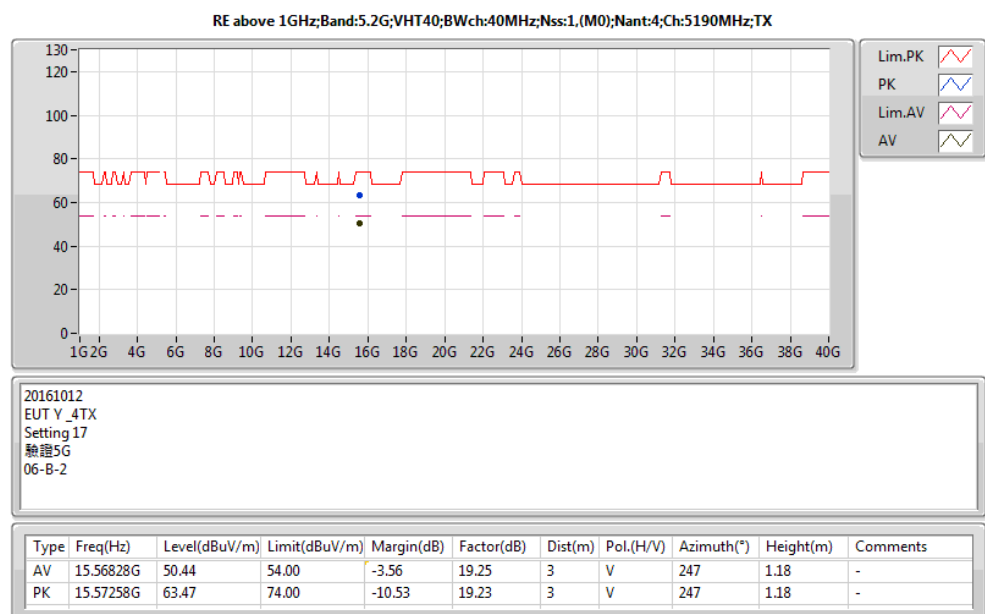


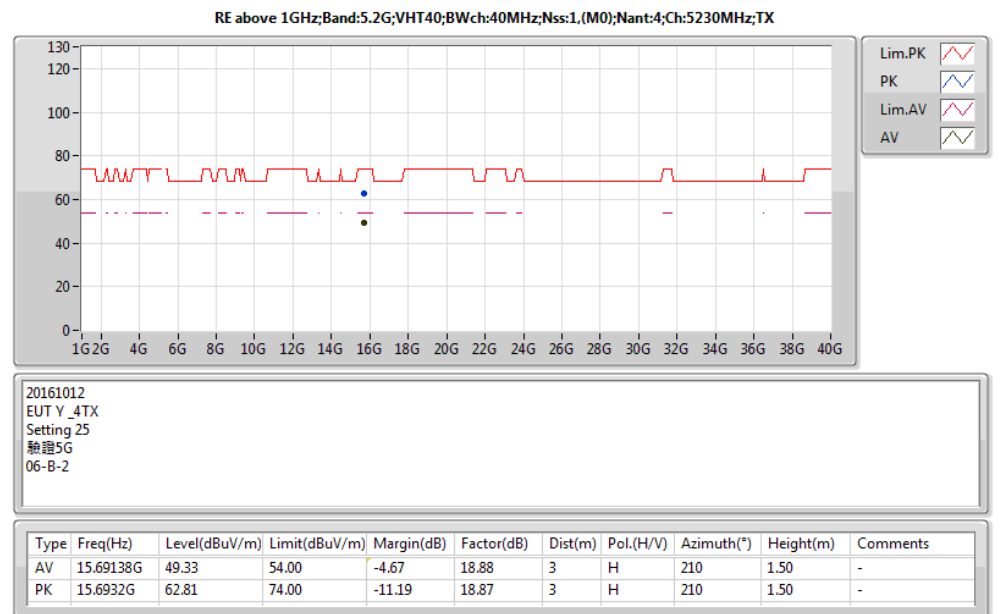
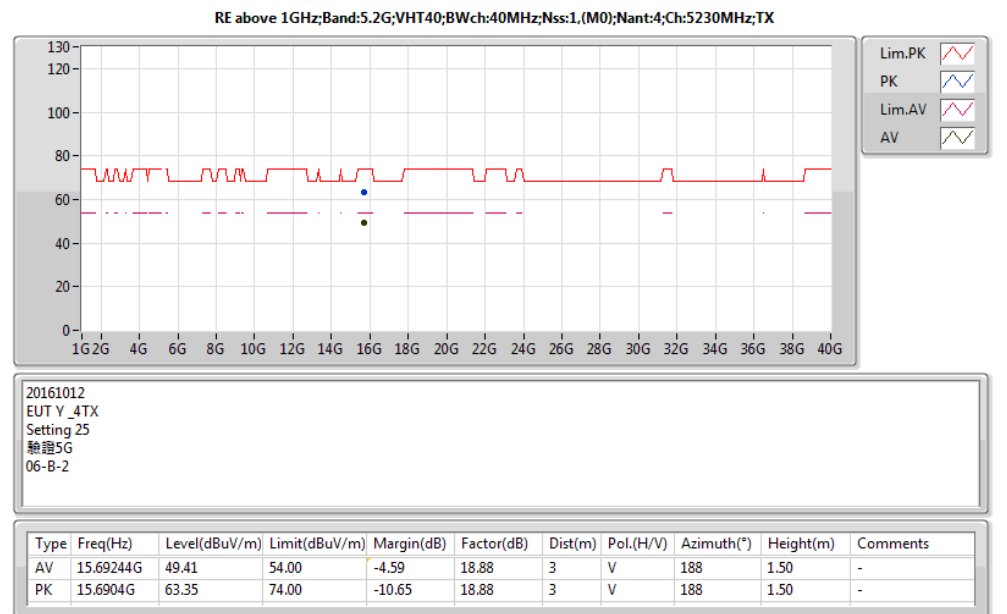
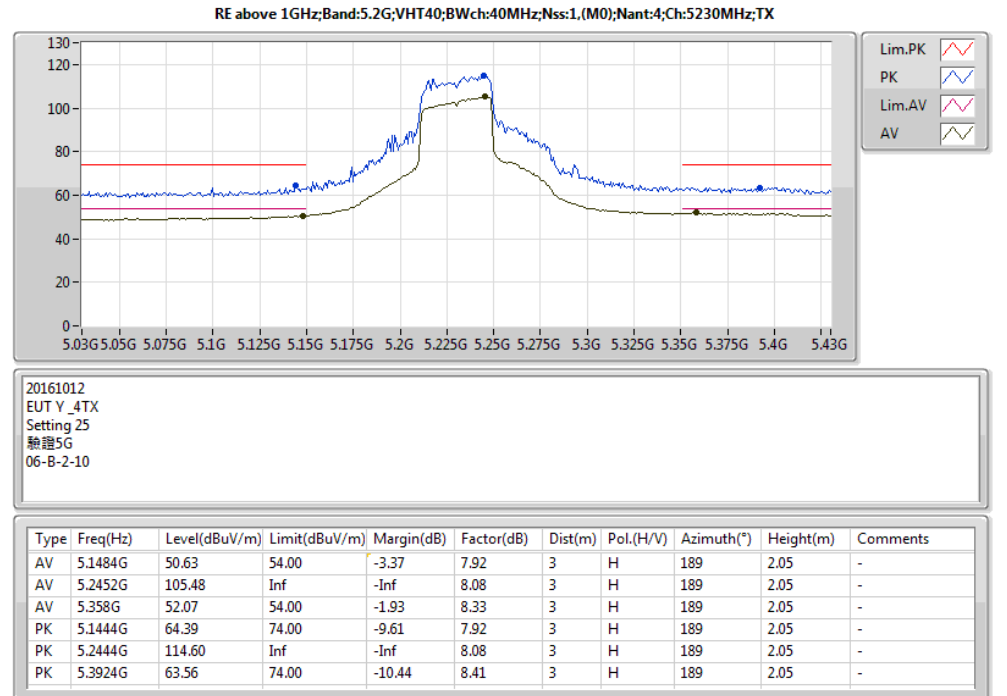
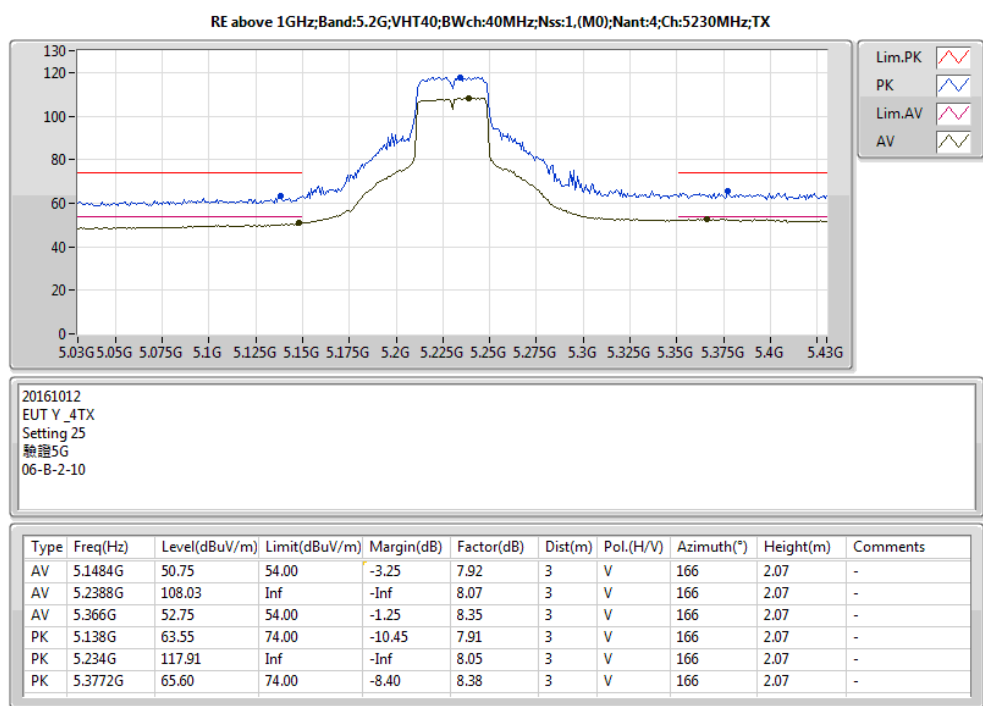
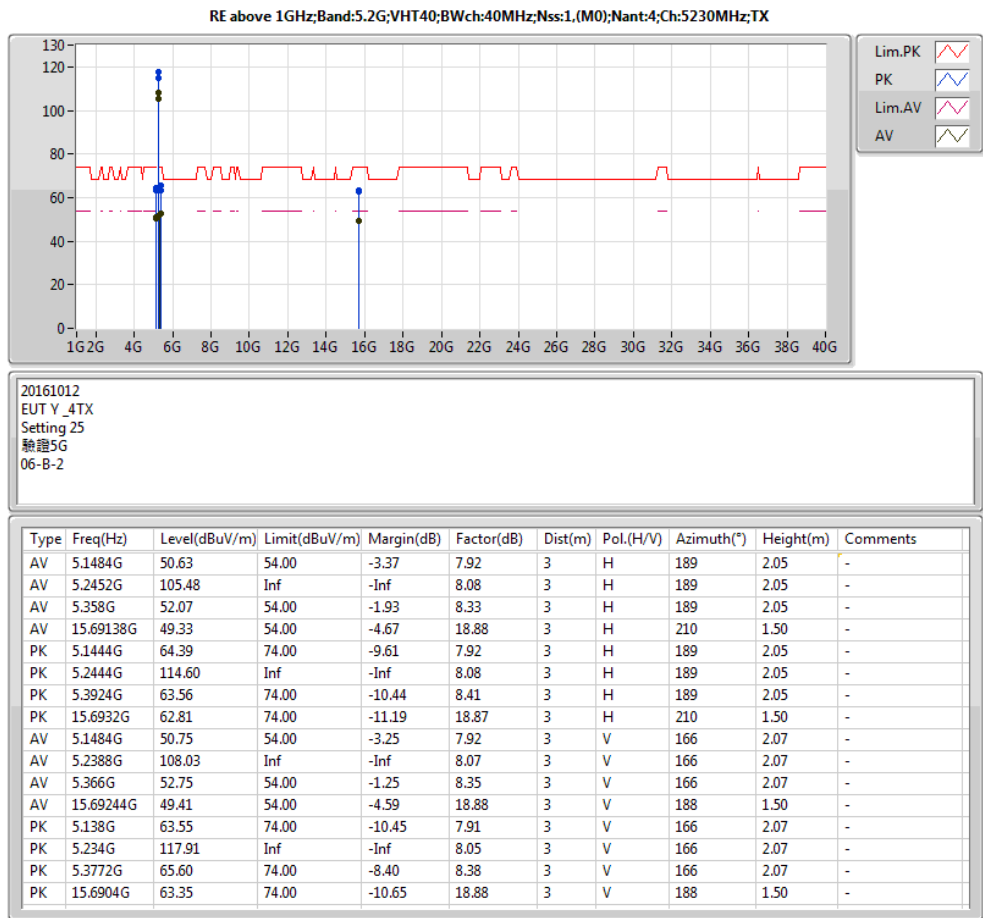
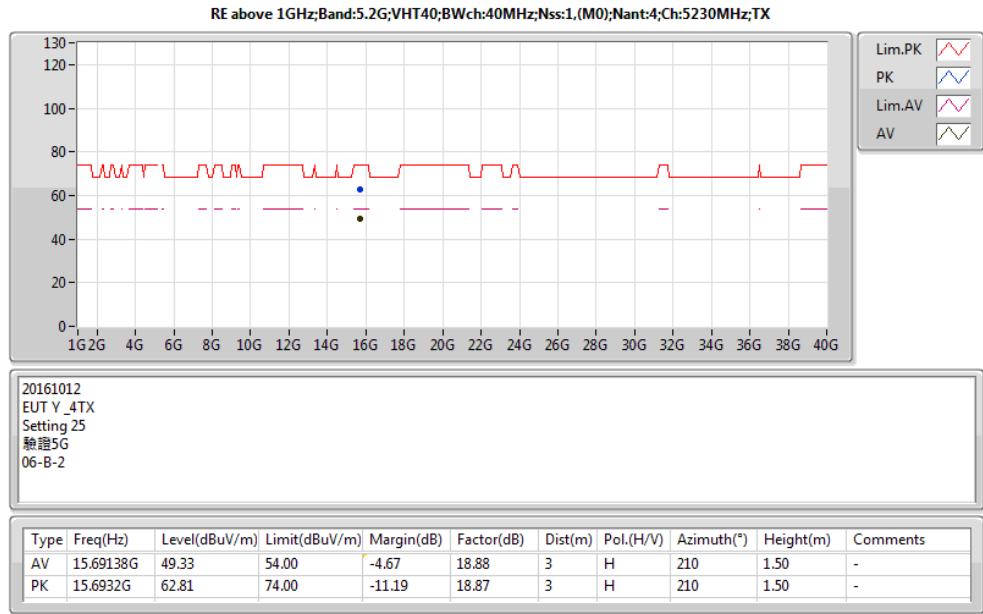
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Setting 17
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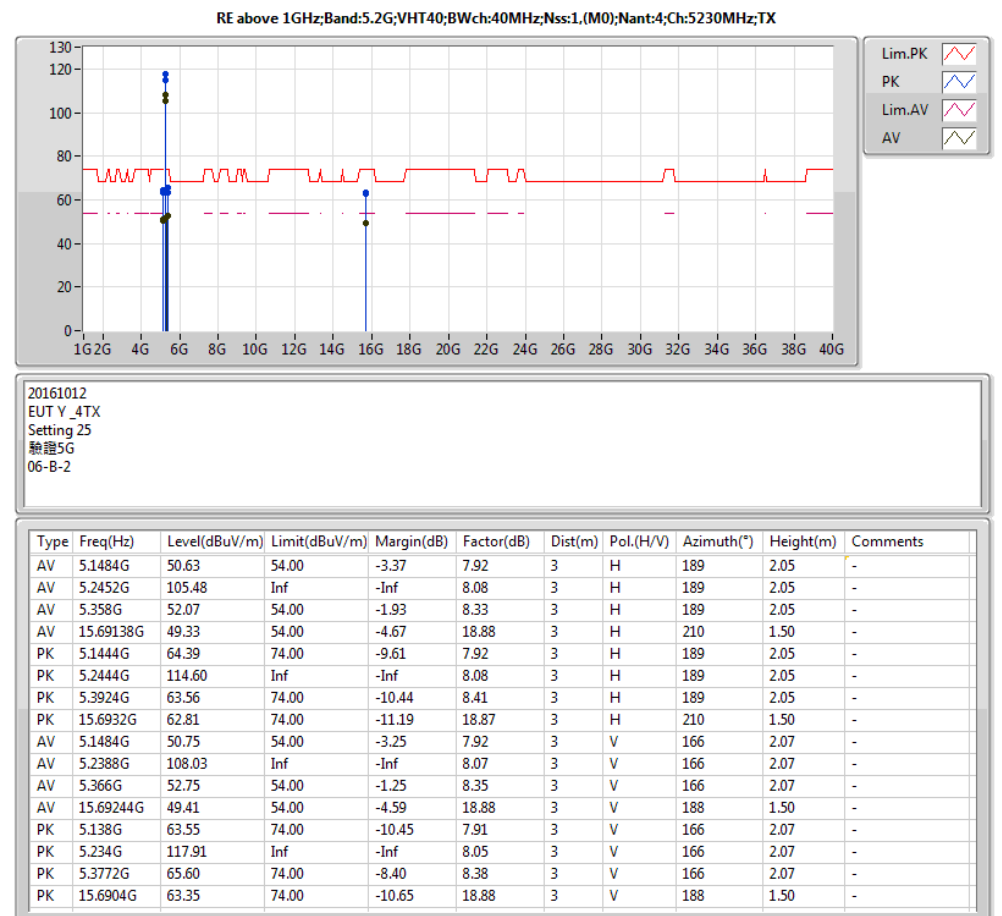
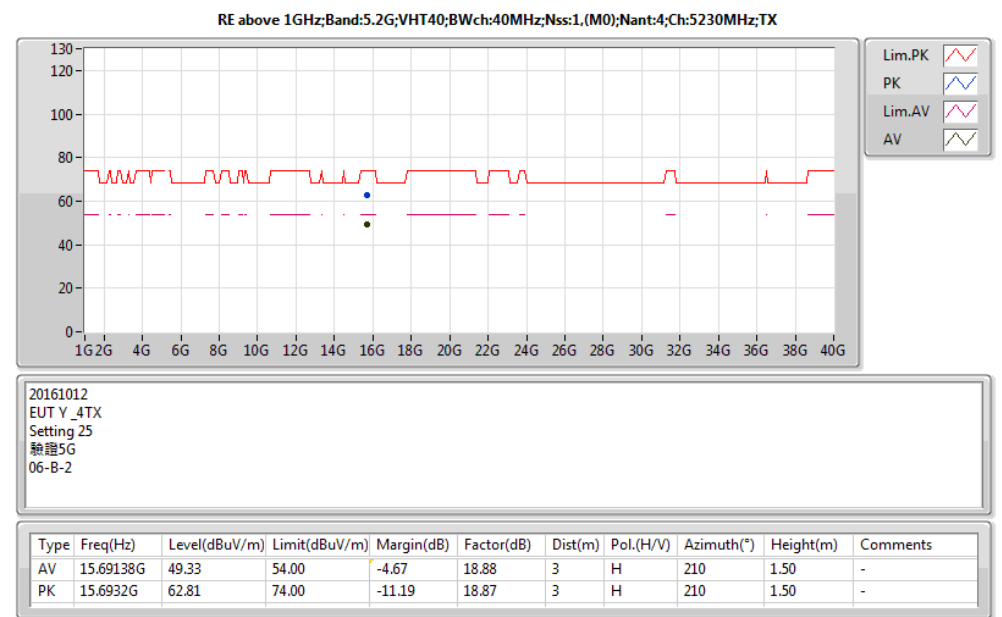
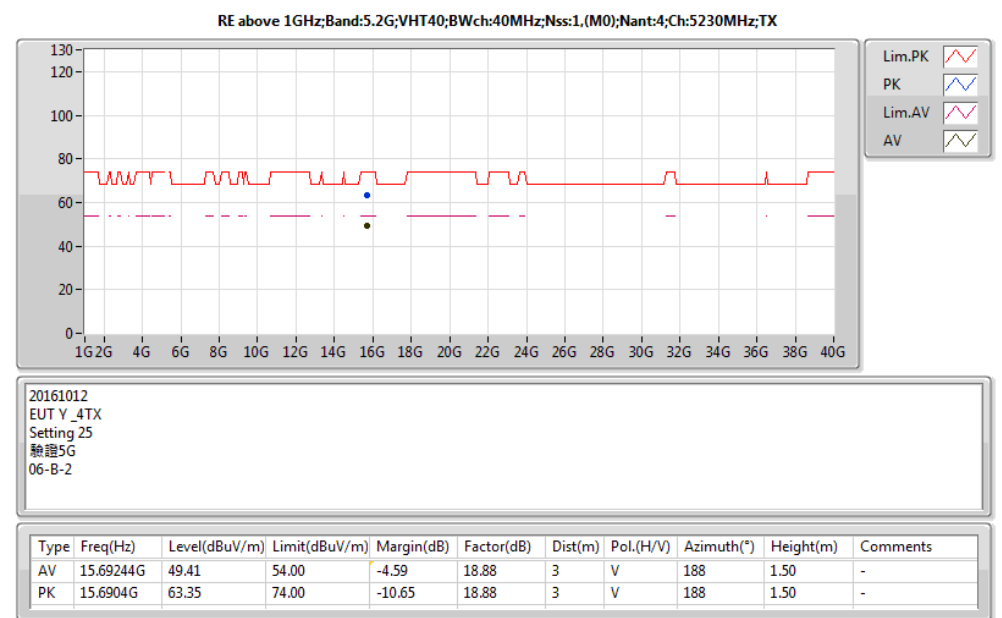
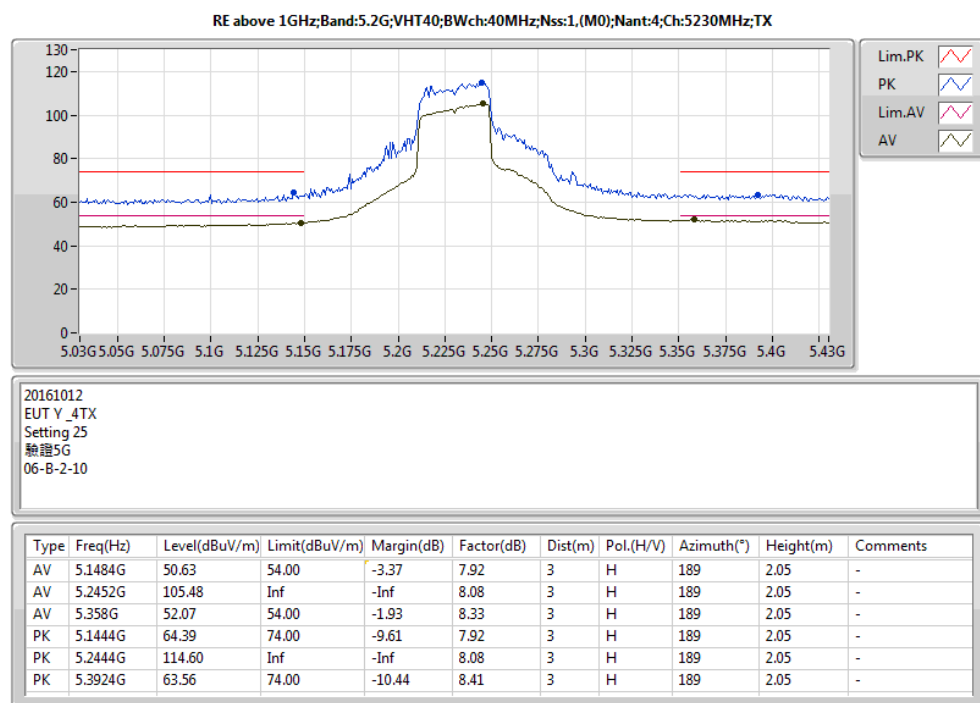
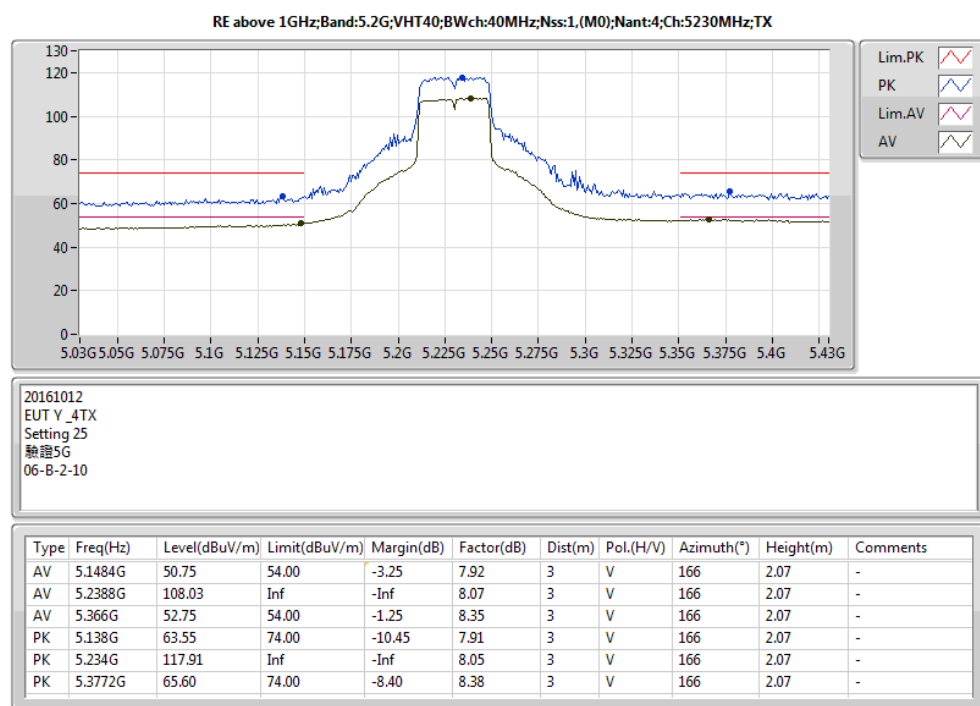
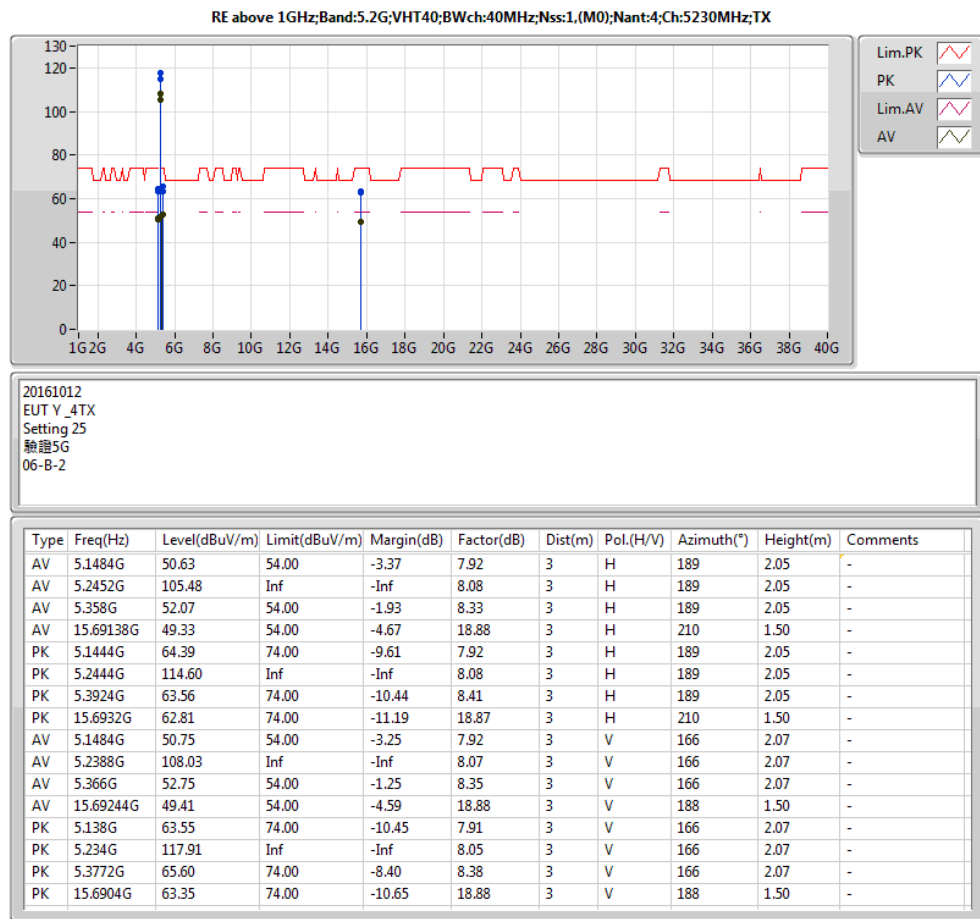
Type	Freq(Hz)	Level(dBuV/m)	Limit(dBuV/m)	Margin(dB)	Factor(dB)	Dist(m)	Pol.(H/V)	Azimuth(°)	Height(m)	Comments
AV	5.1492G	52.60	54.00	-1.40	7.92	3	H	158	1.50	-
AV	5.2062G	98.80	Inf	-Inf	7.99	3	H	158	1.50	-
AV	15.56974G	50.43	54.00	-3.57	19.24	3	H	153	1.50	-
PK	5.1456G	65.05	74.00	-8.95	7.92	3	H	158	1.50	-
PK	5.2038G	108.68	Inf	-Inf	7.99	3	H	158	1.50	-
PK	15.57108G	64.01	74.00	-9.99	19.24	3	H	153	1.50	-
AV	5.1492G	53.76	54.00	-0.24	7.92	3	V	263	2.13	-
AV	5.2002G	102.06	Inf	-Inf	7.98	3	V	263	2.13	-
AV	15.56828G	50.44	54.00	-3.56	19.25	3	V	247	1.18	-
PK	5.145G	64.66	74.00	-9.34	7.92	3	V	263	2.13	-
PK	5.199G	111.79	Inf	-Inf	7.98	3	V	263	2.13	-
PK	15.57258G	63.47	74.00	-10.53	19.23	3	V	247	1.18	-

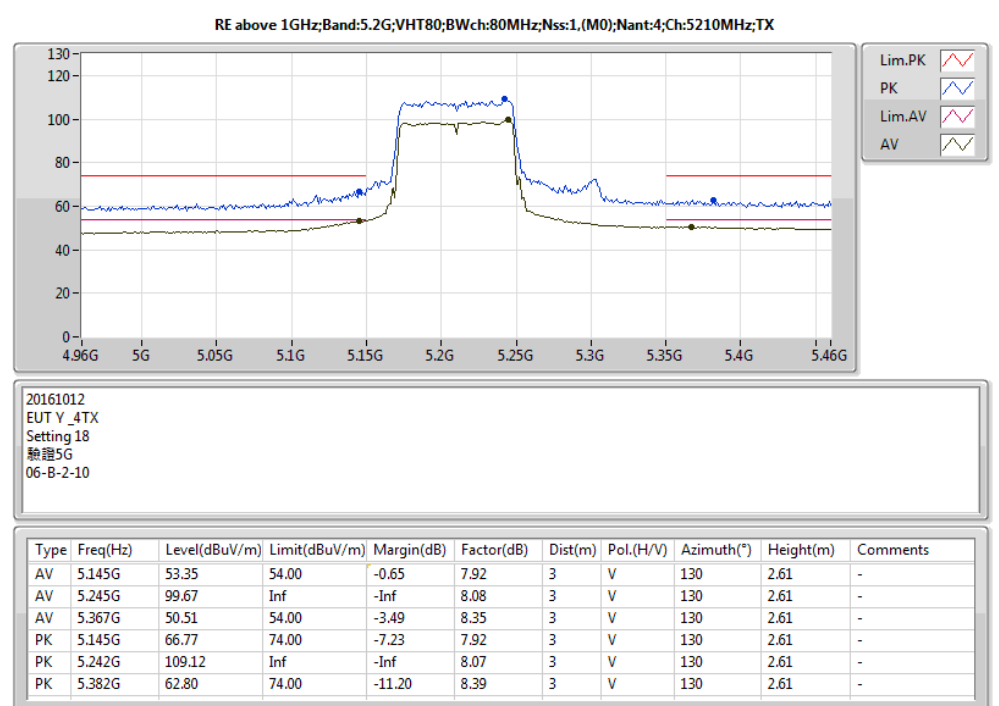
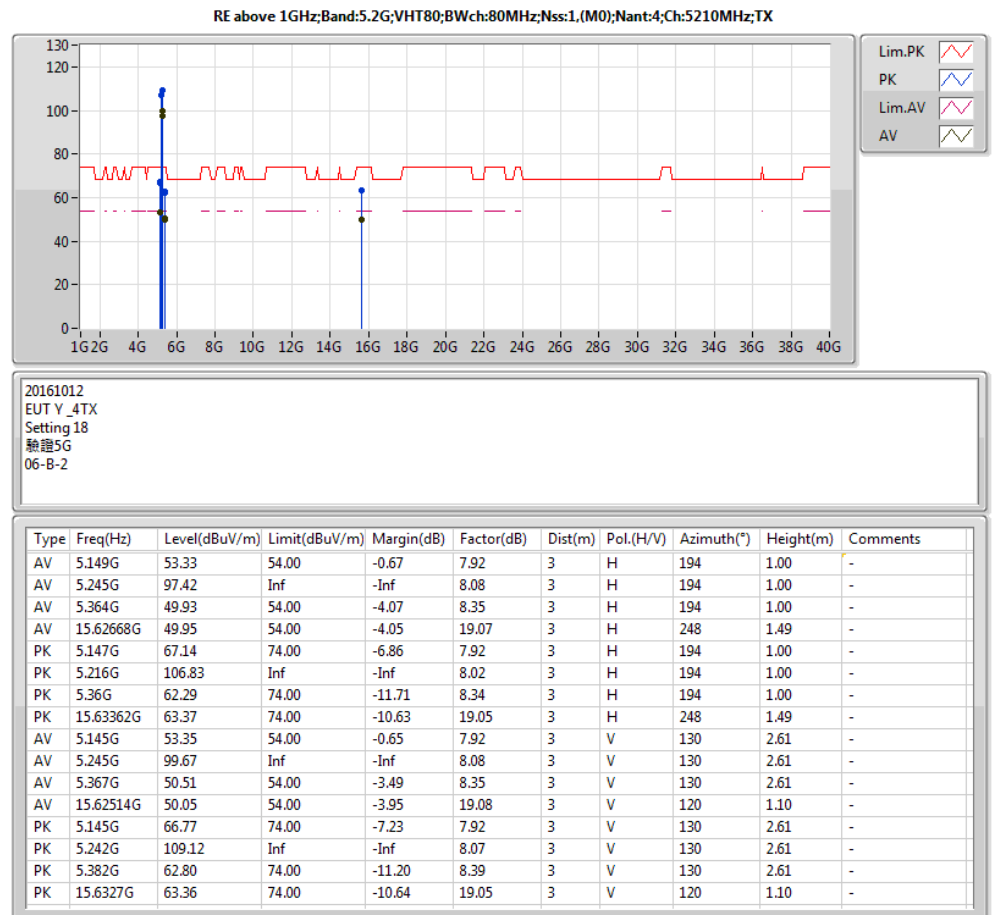
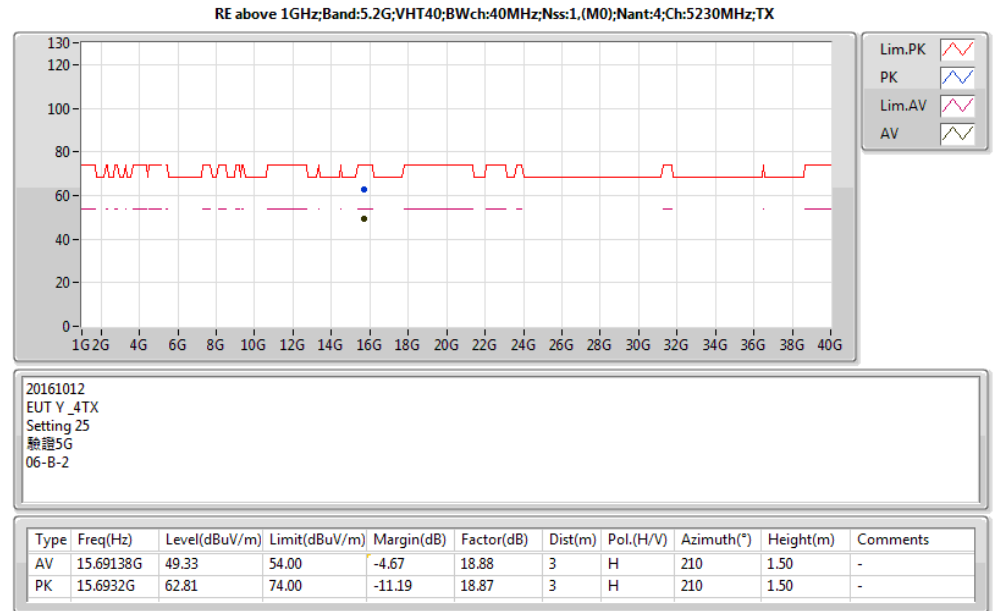
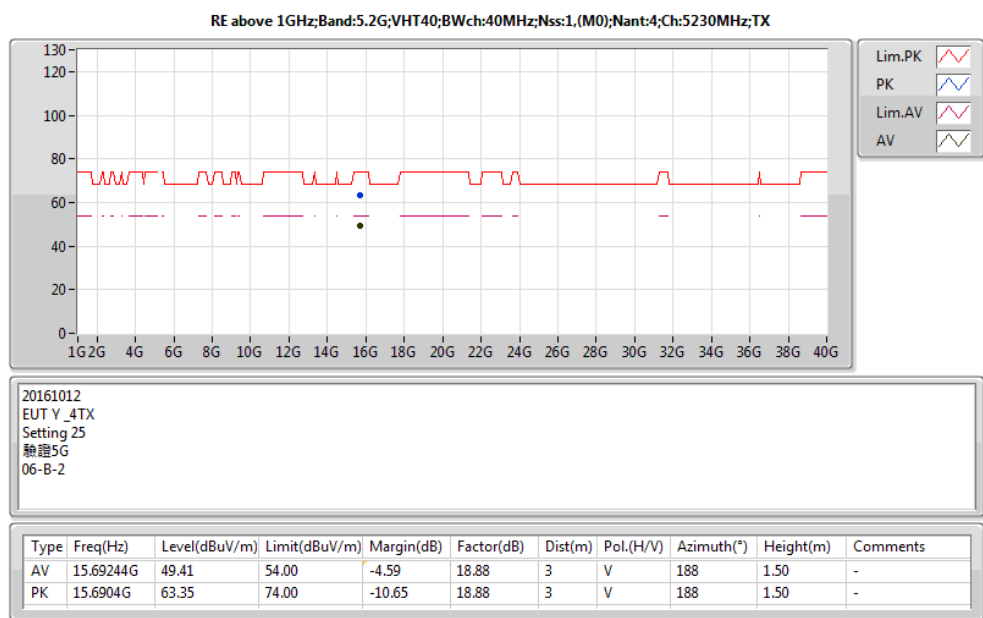
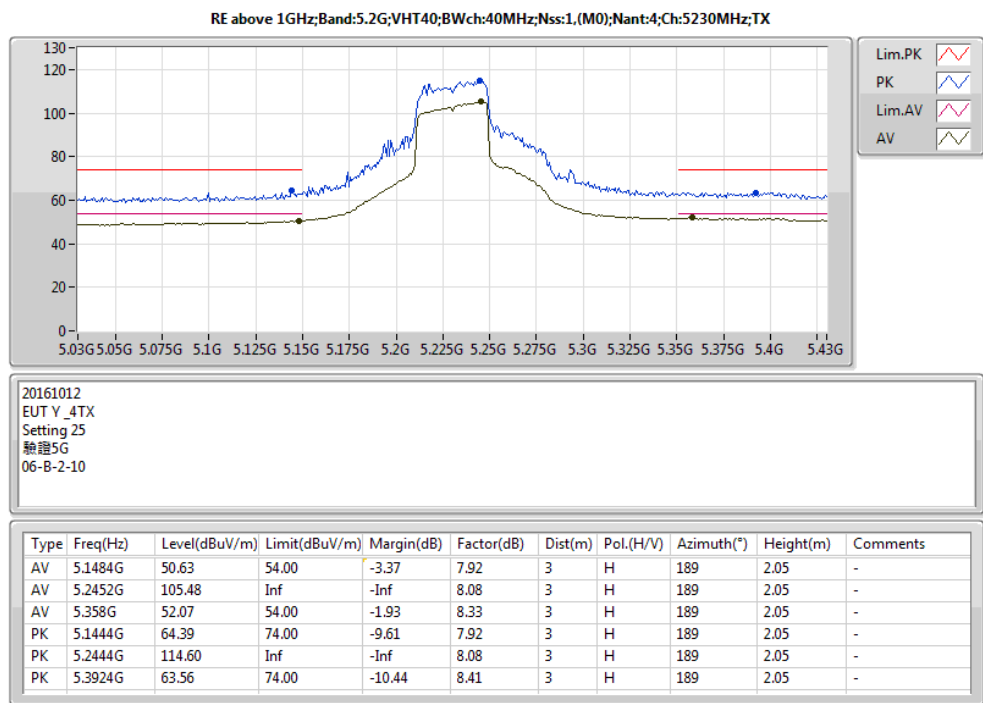
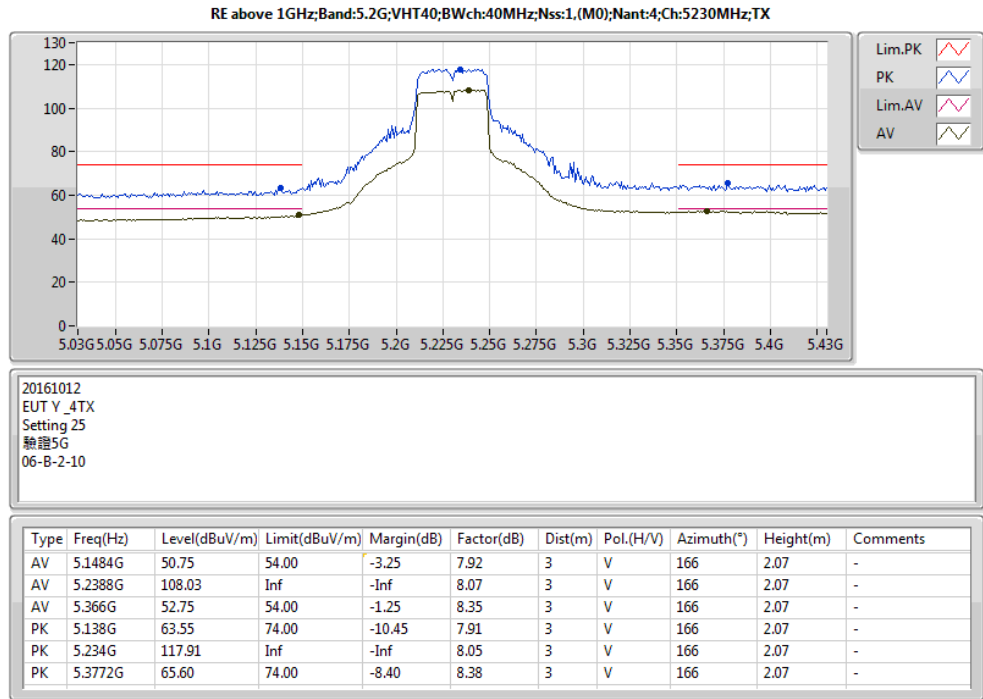


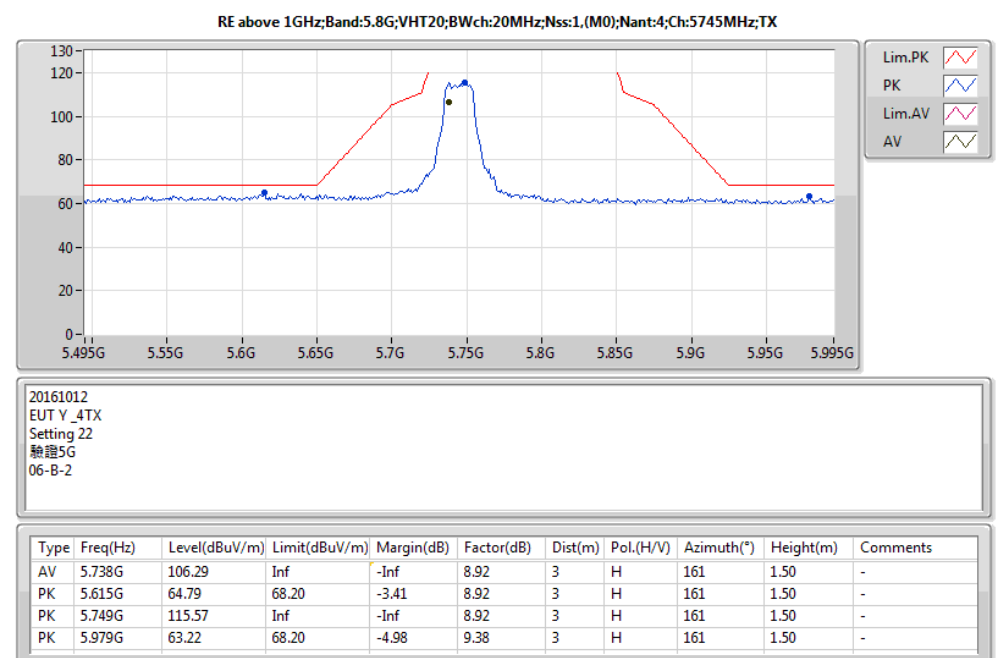
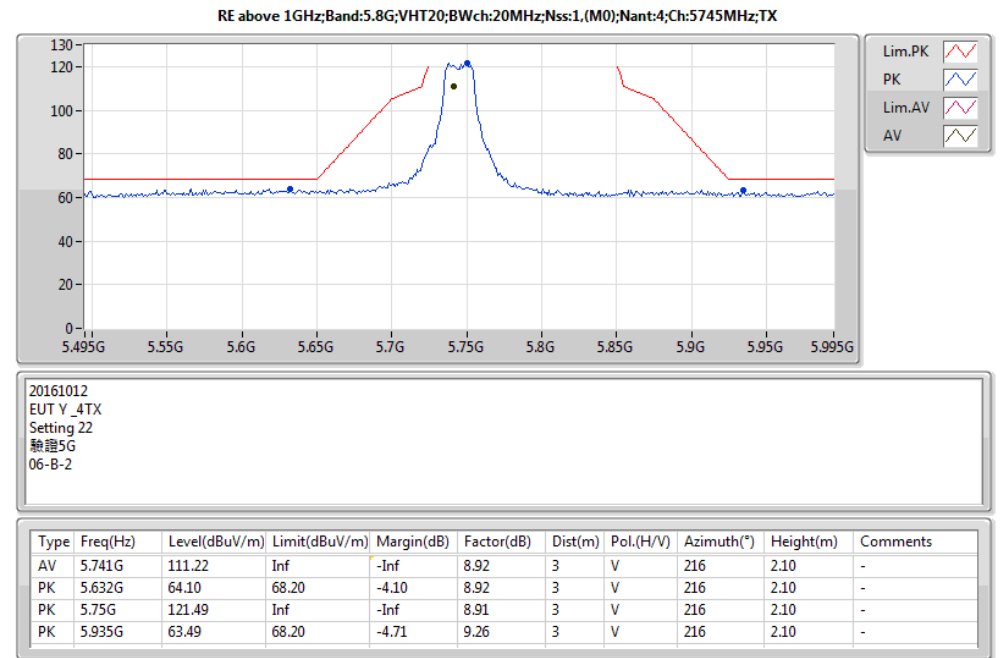
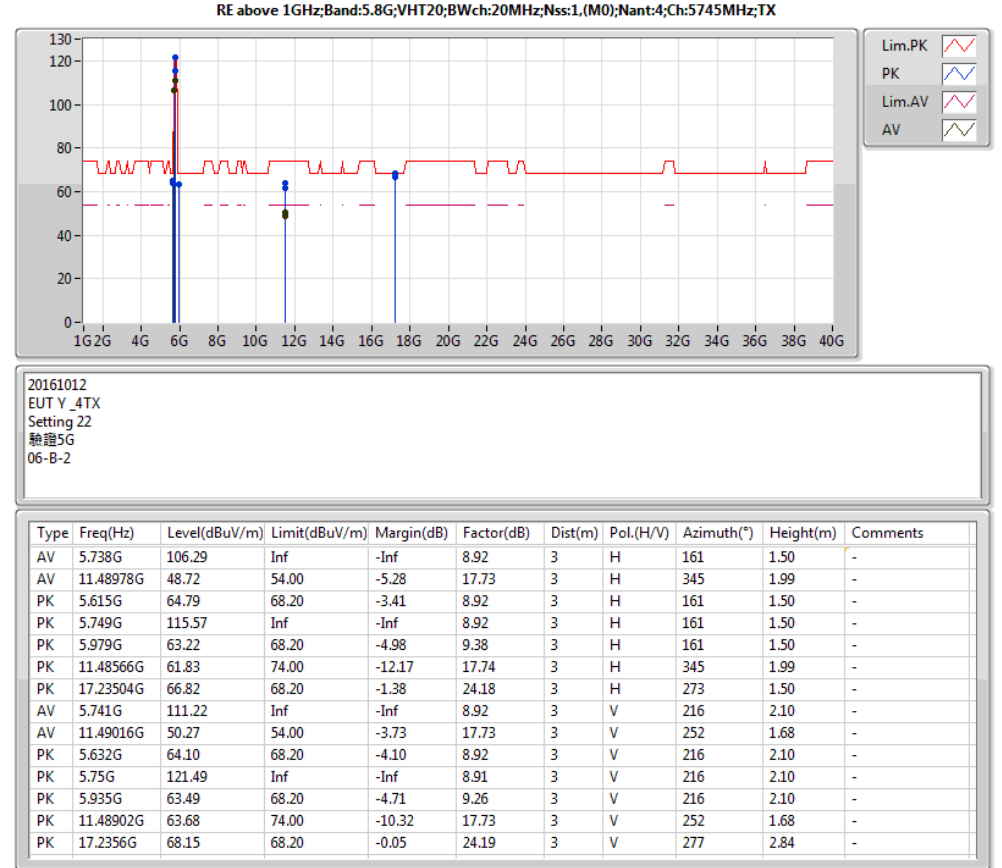
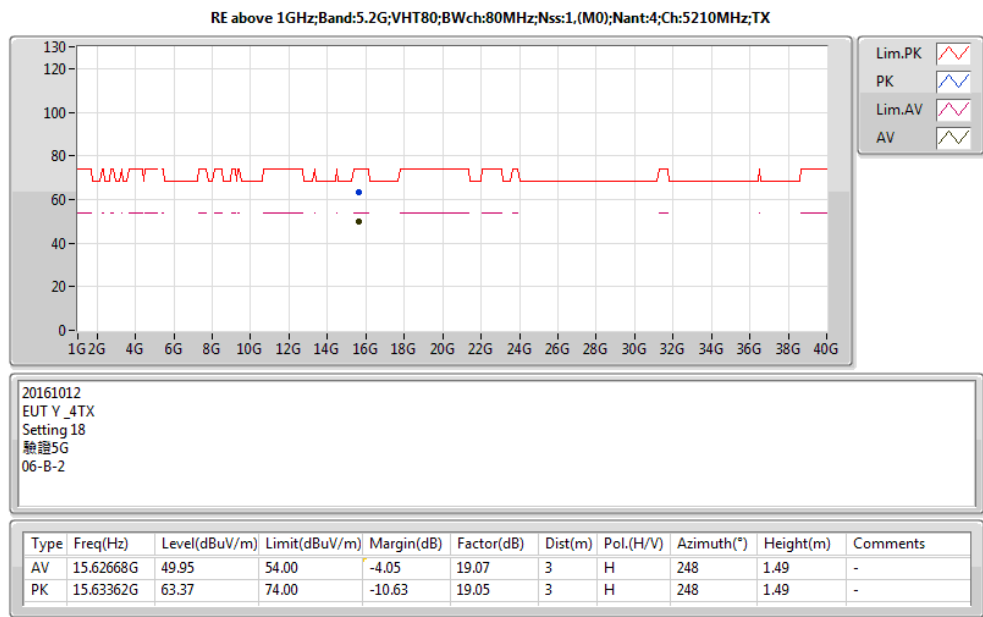
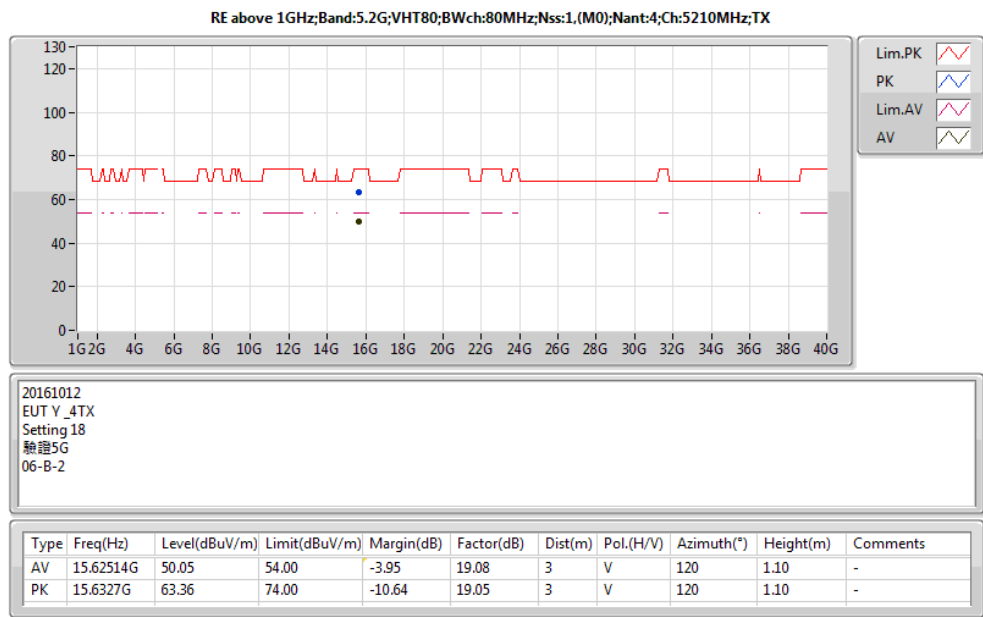
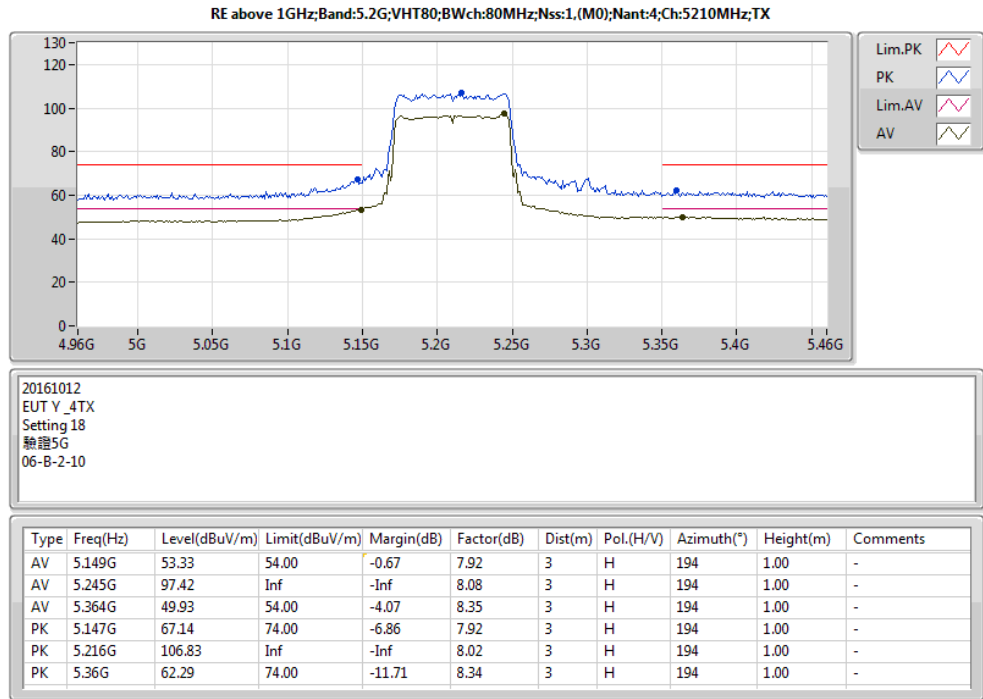


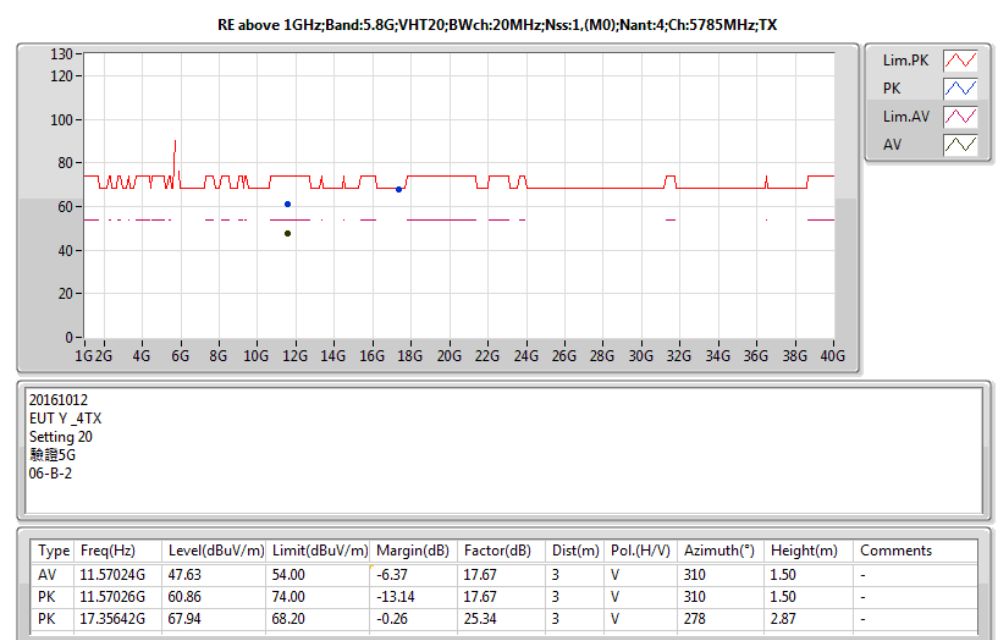
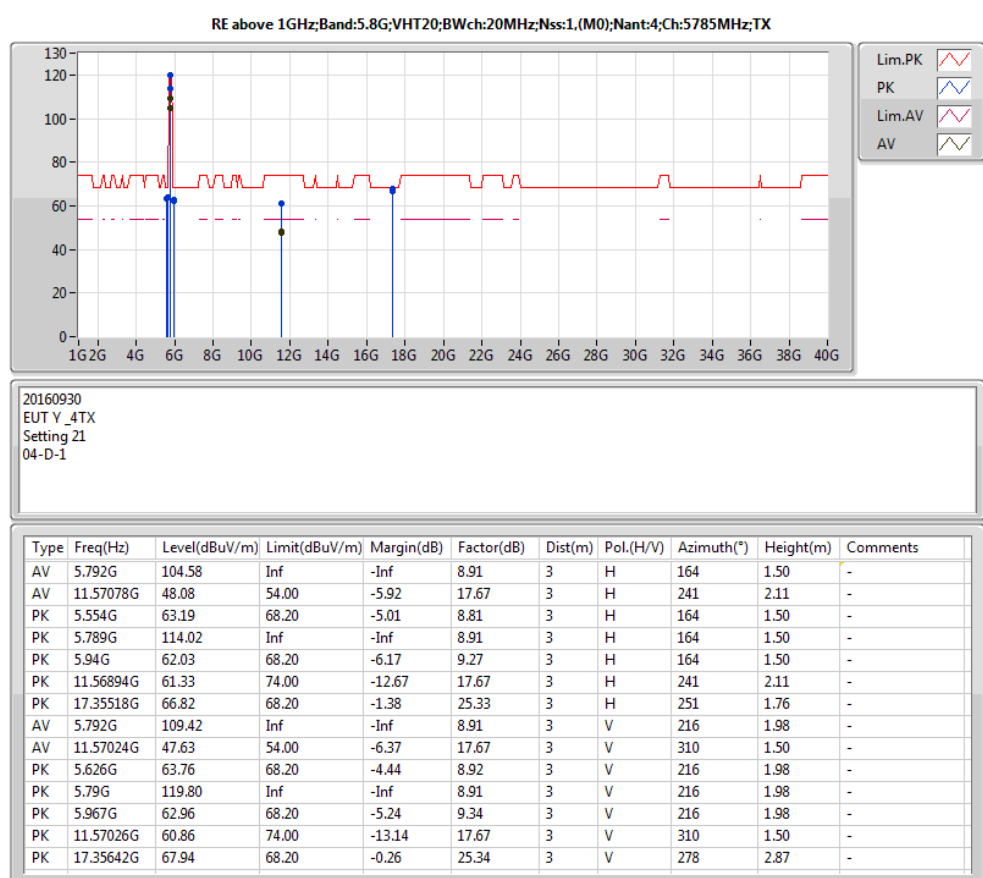
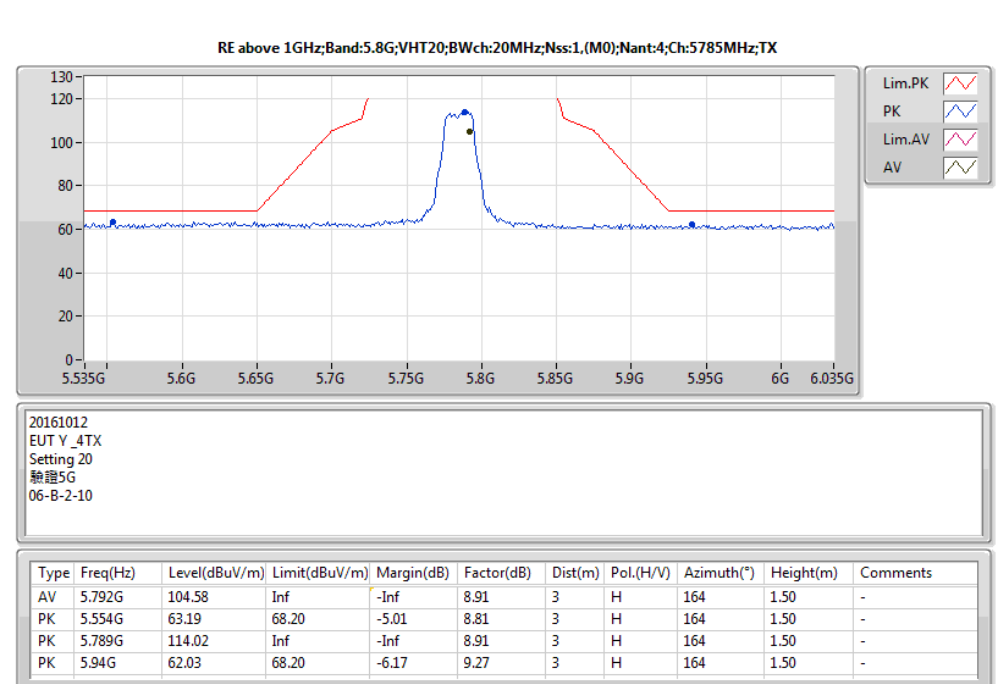
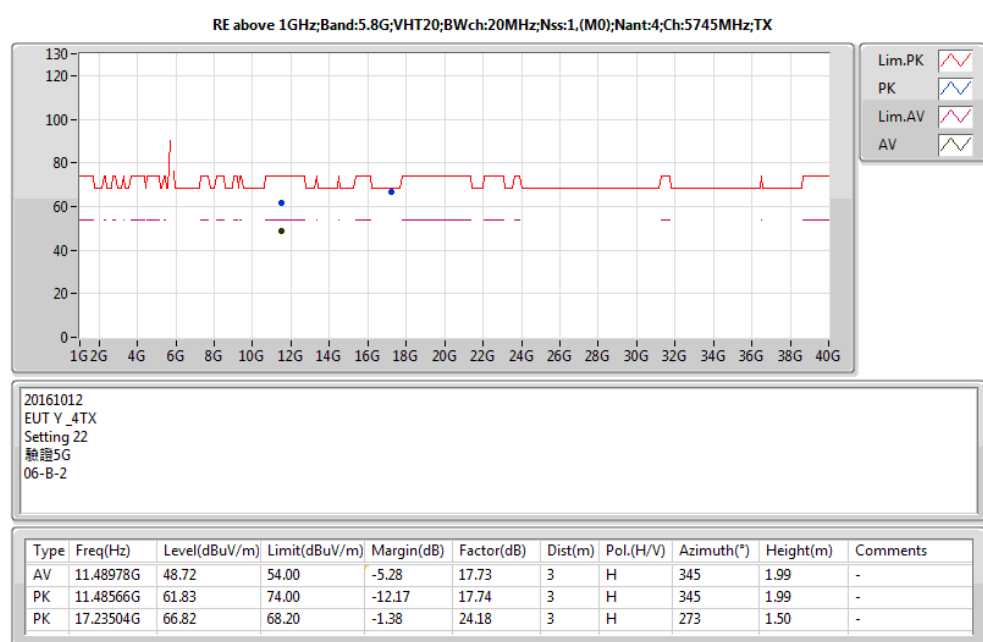
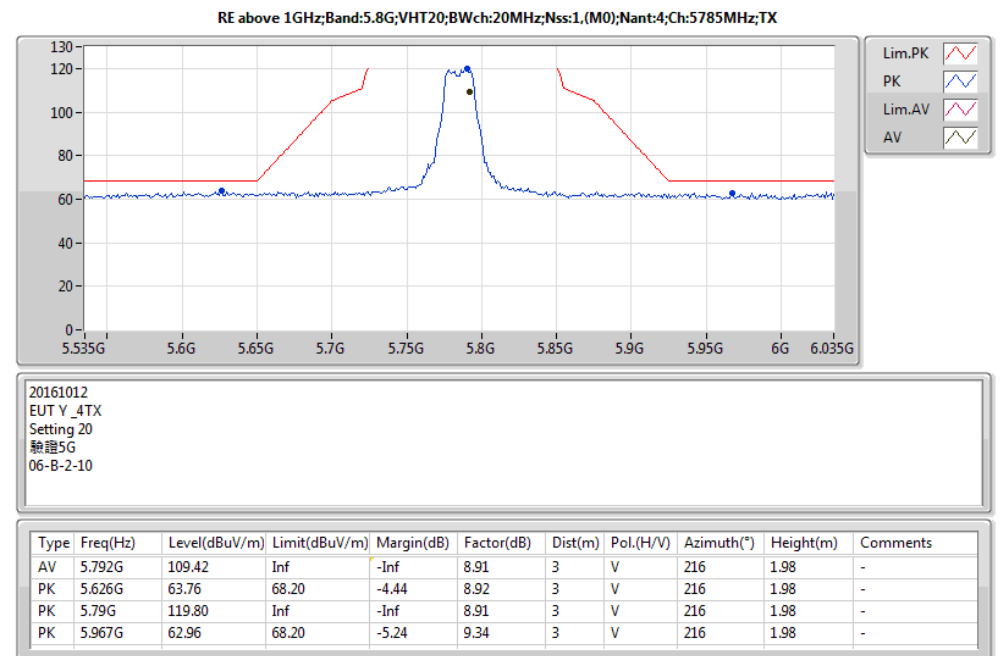
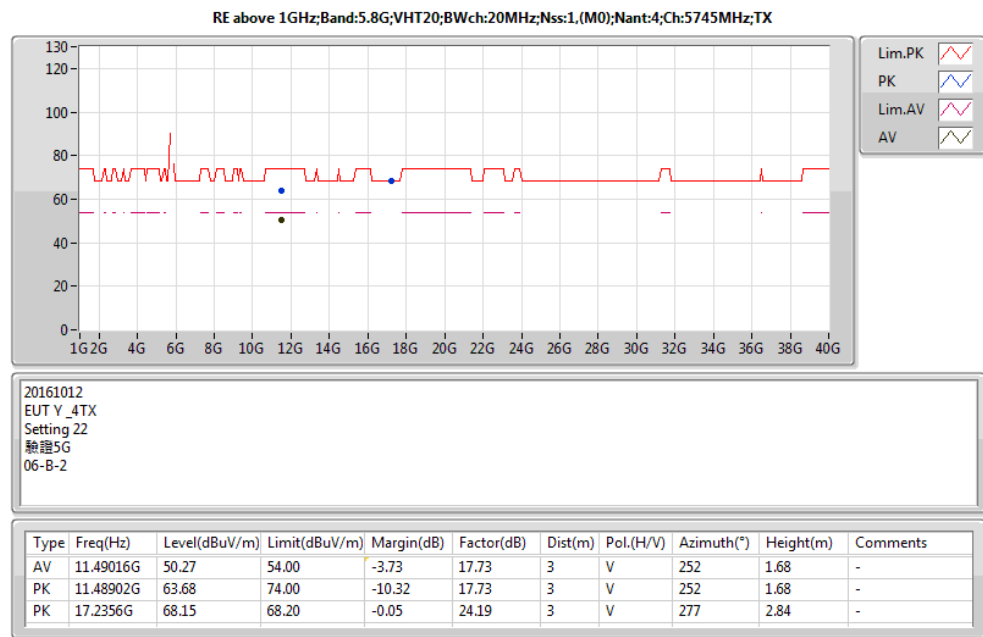


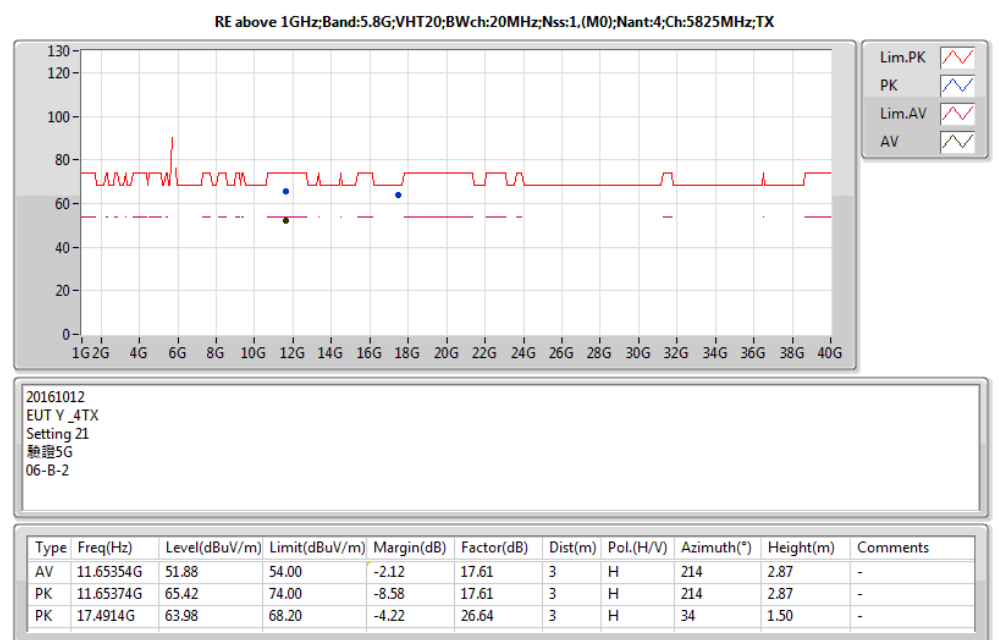
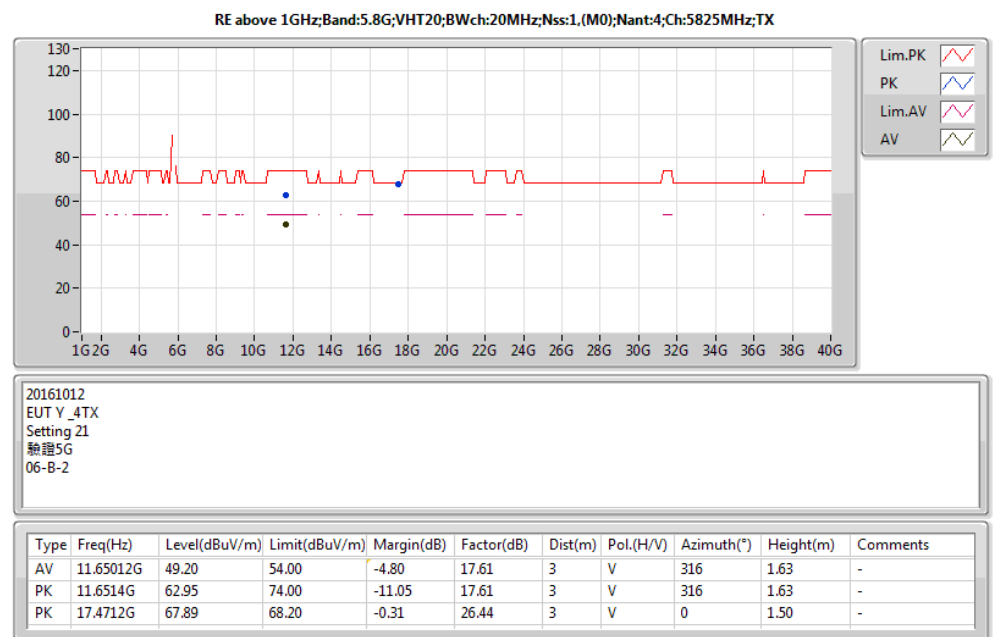
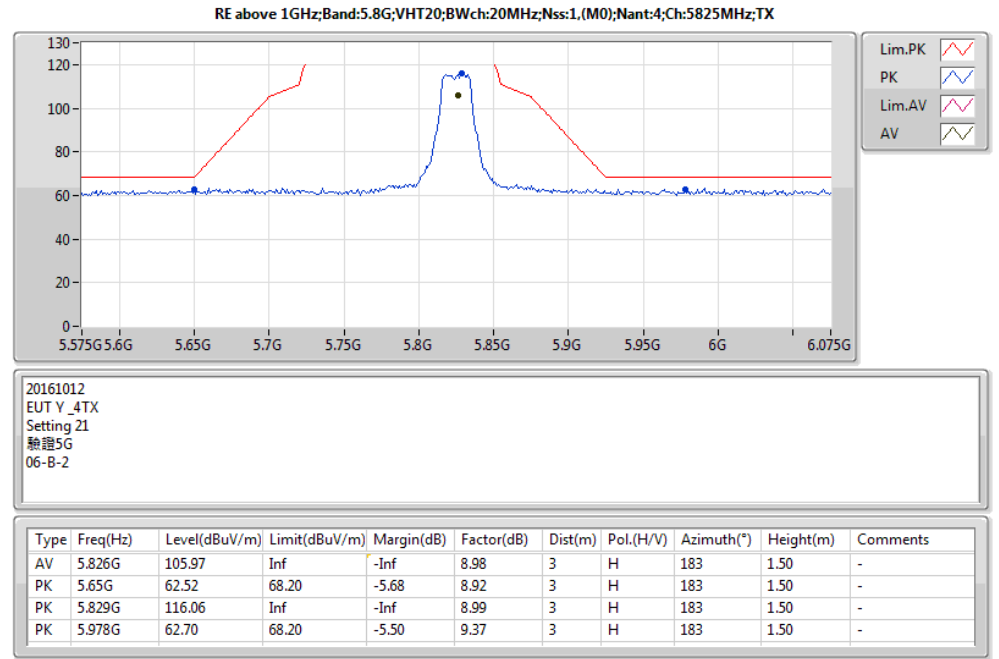
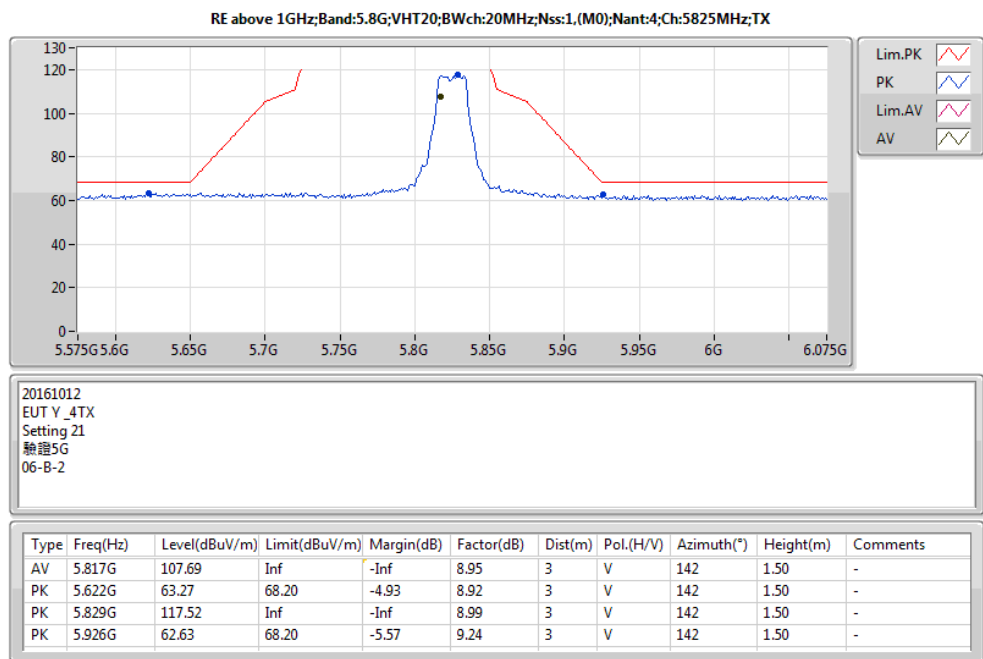
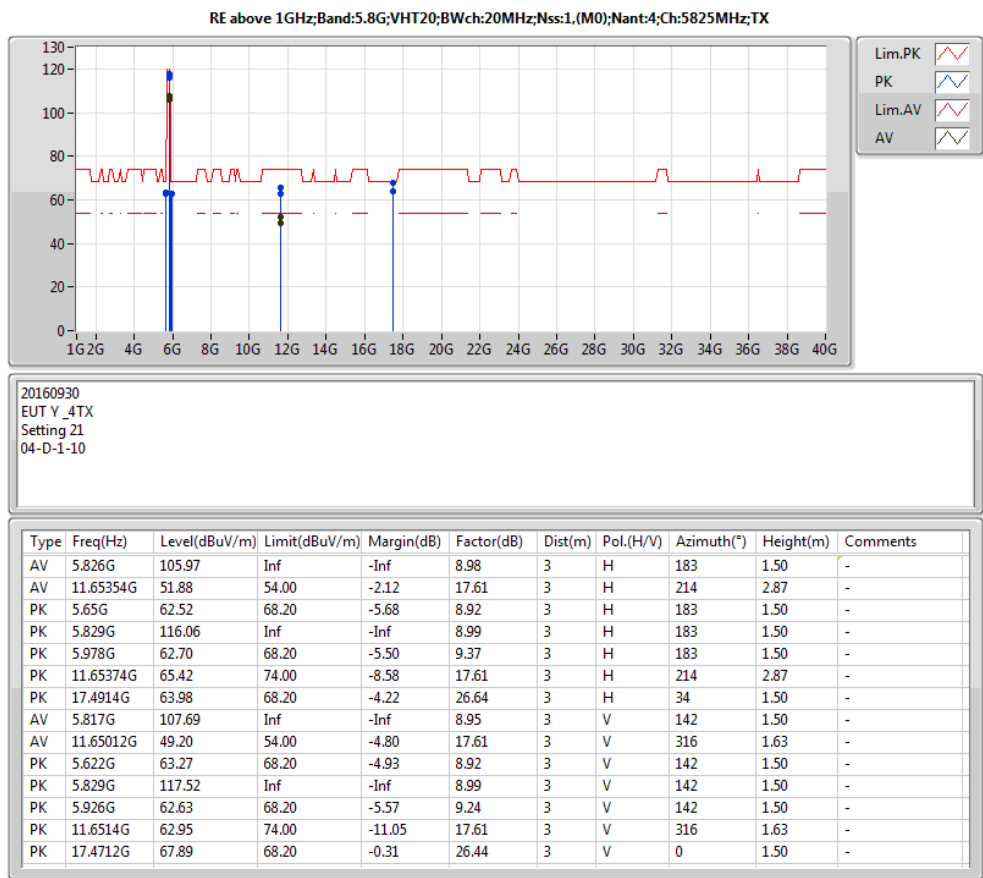
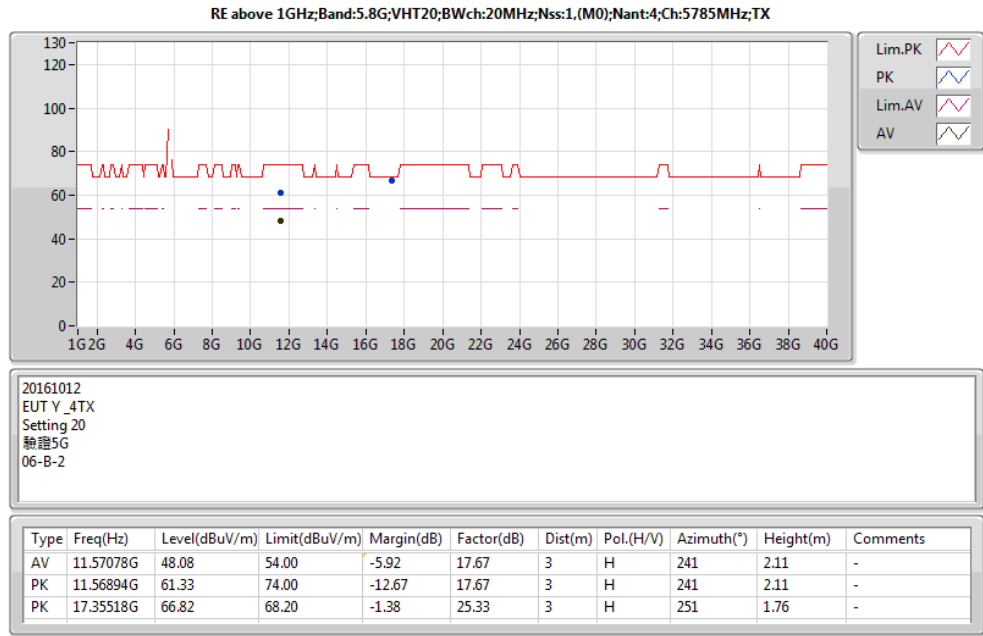


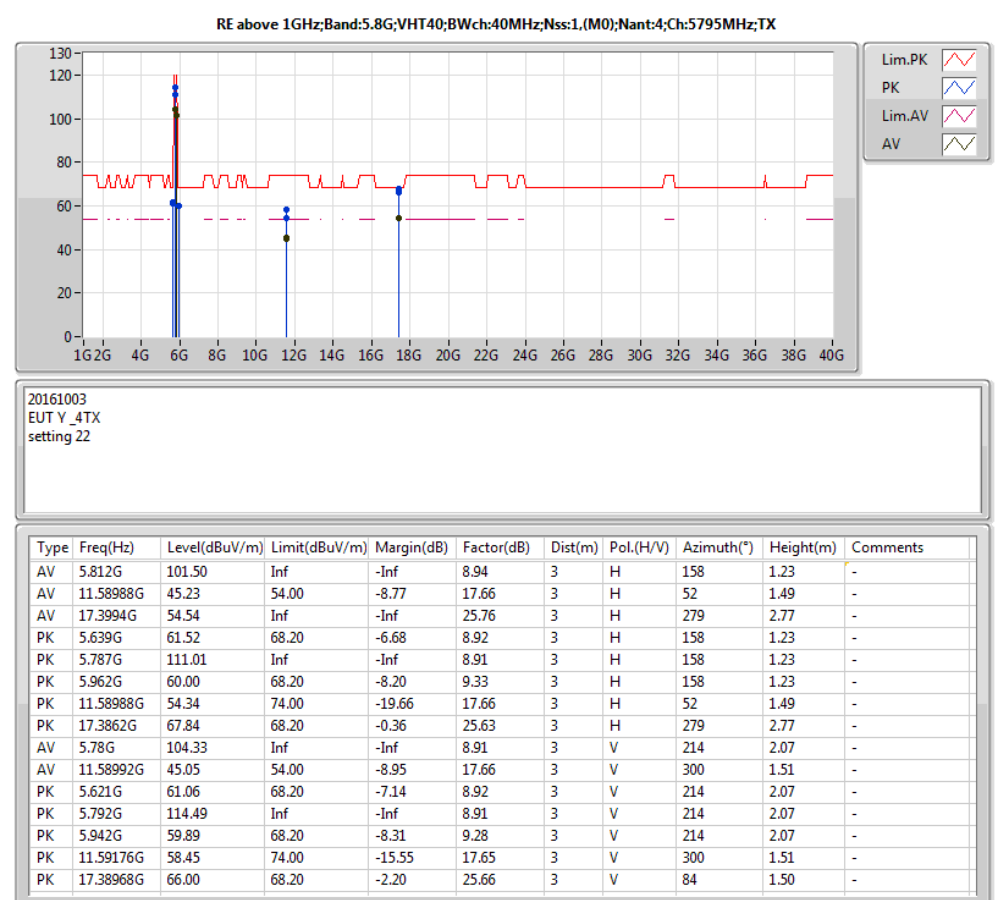
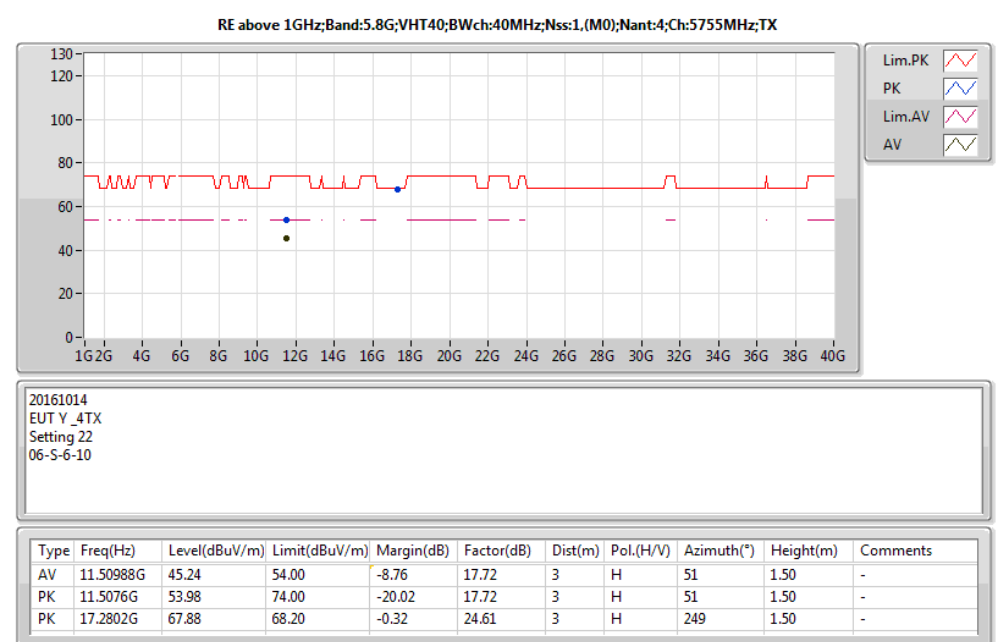
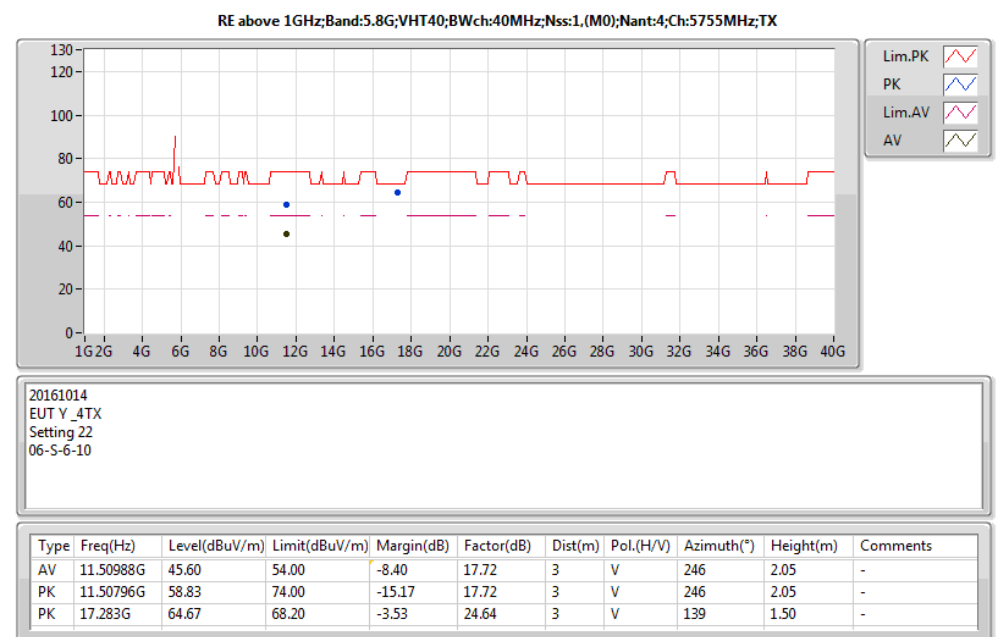
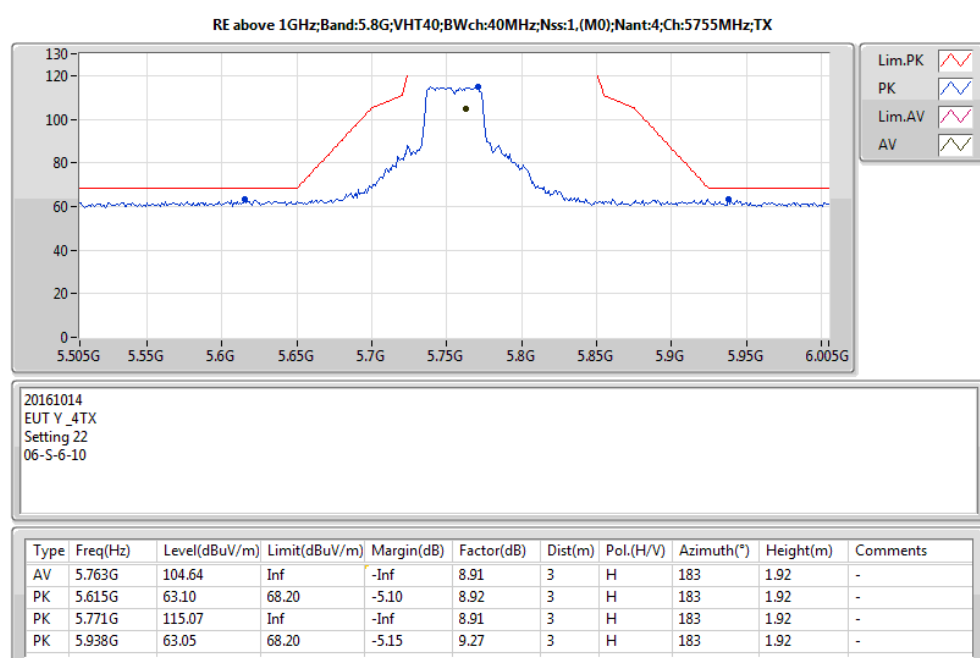
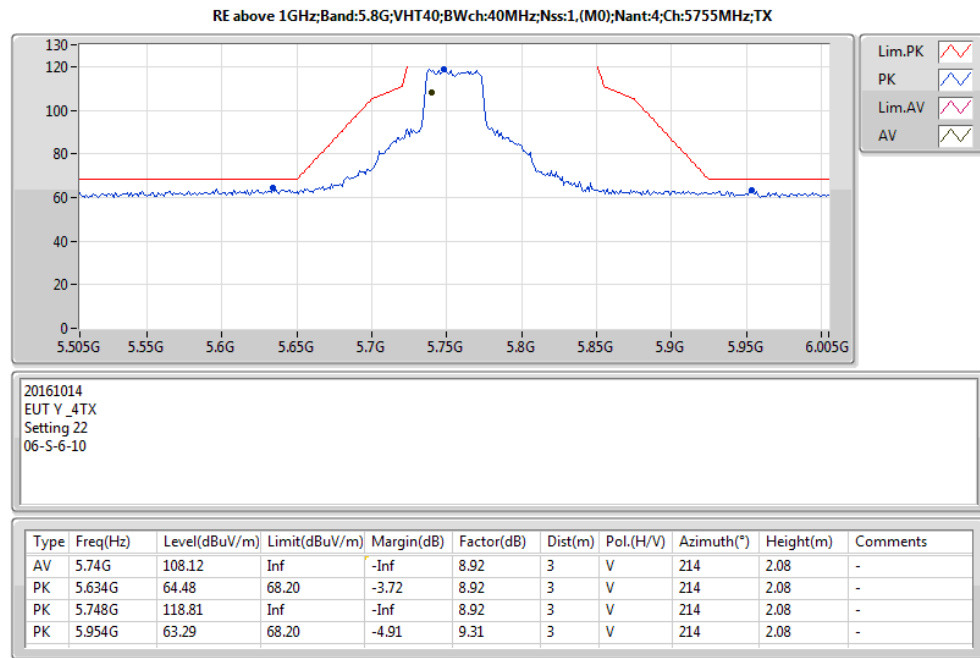
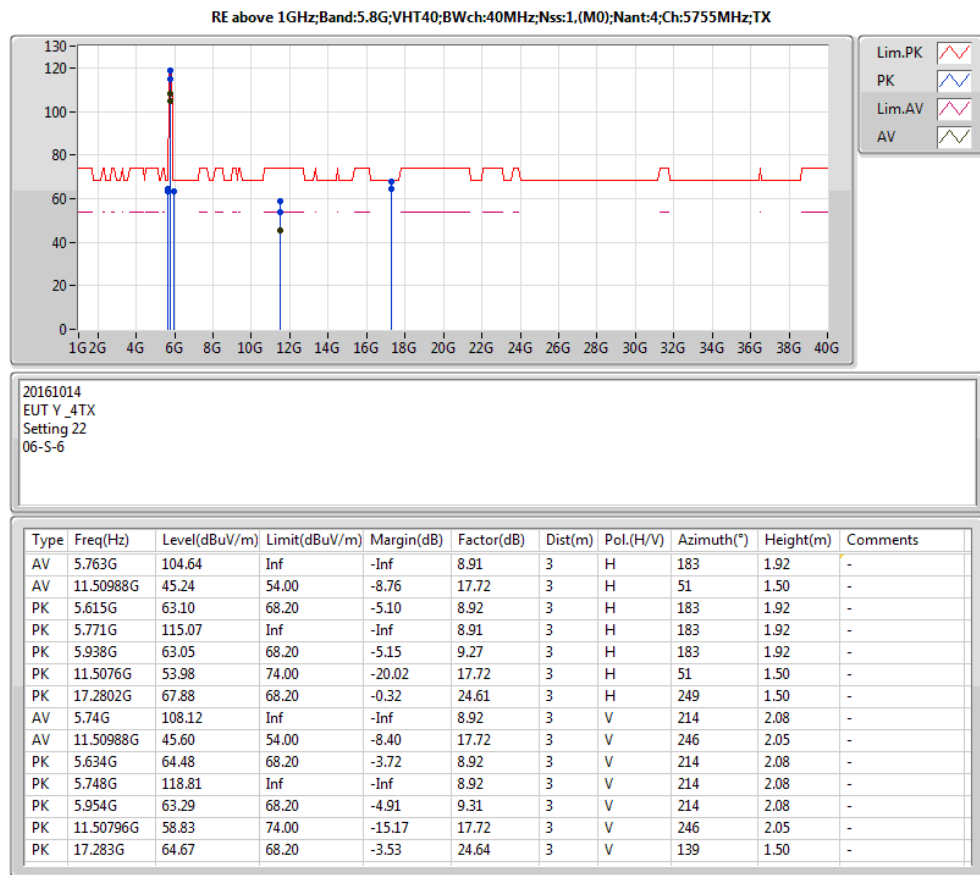


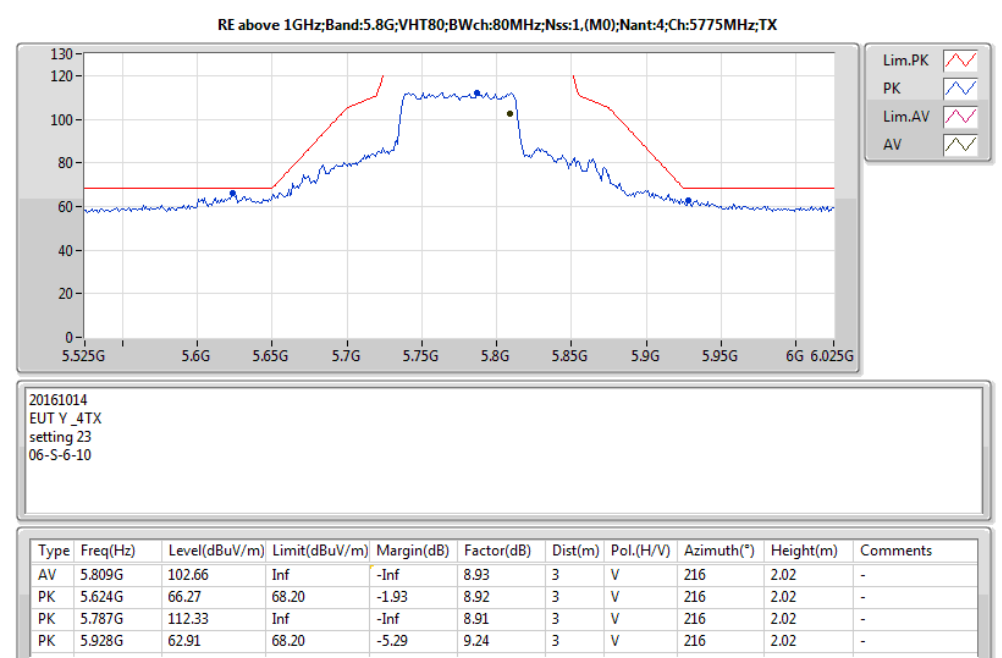
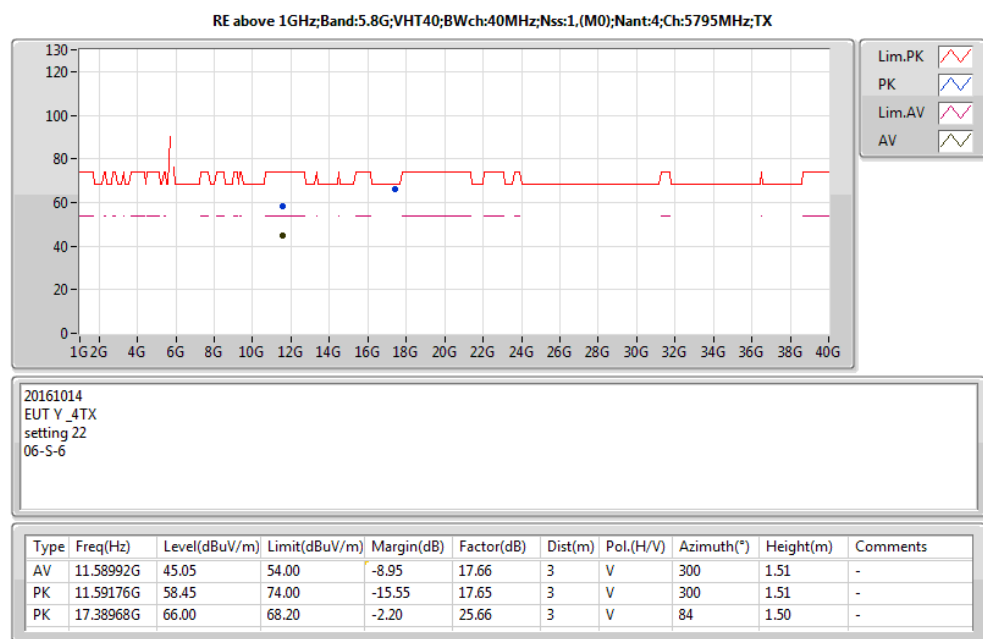
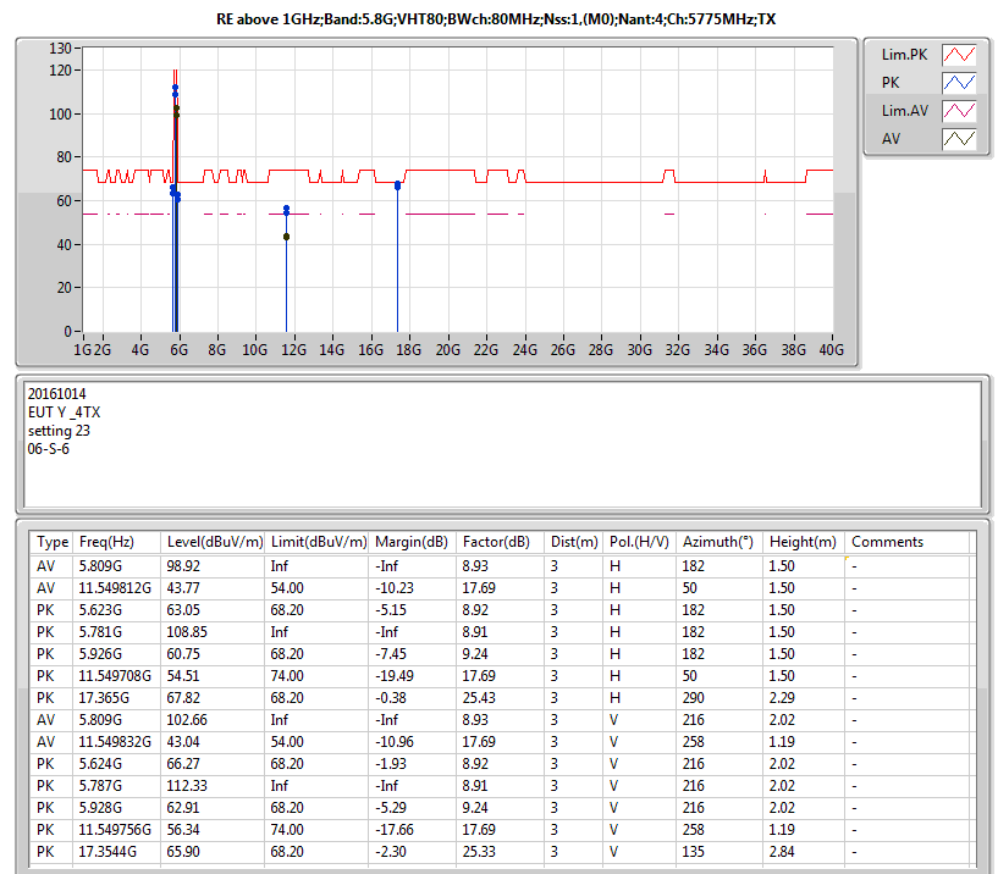
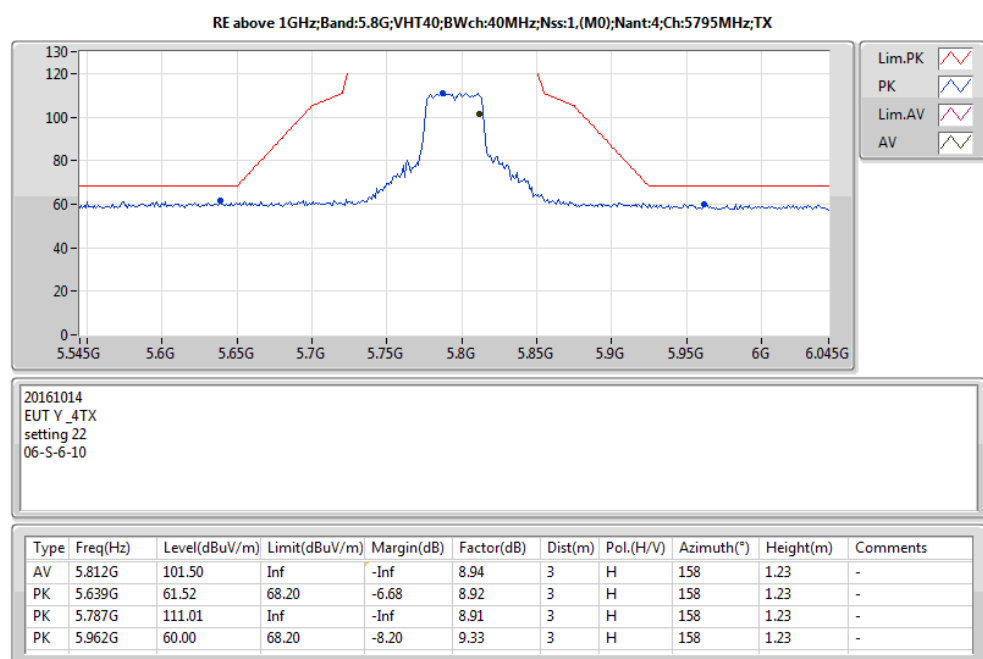
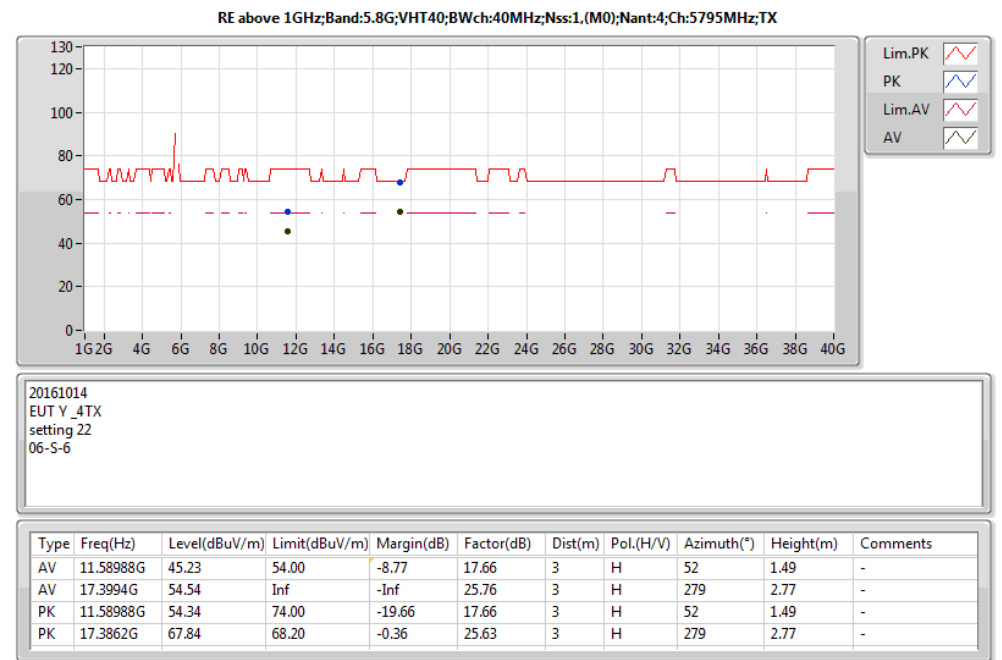
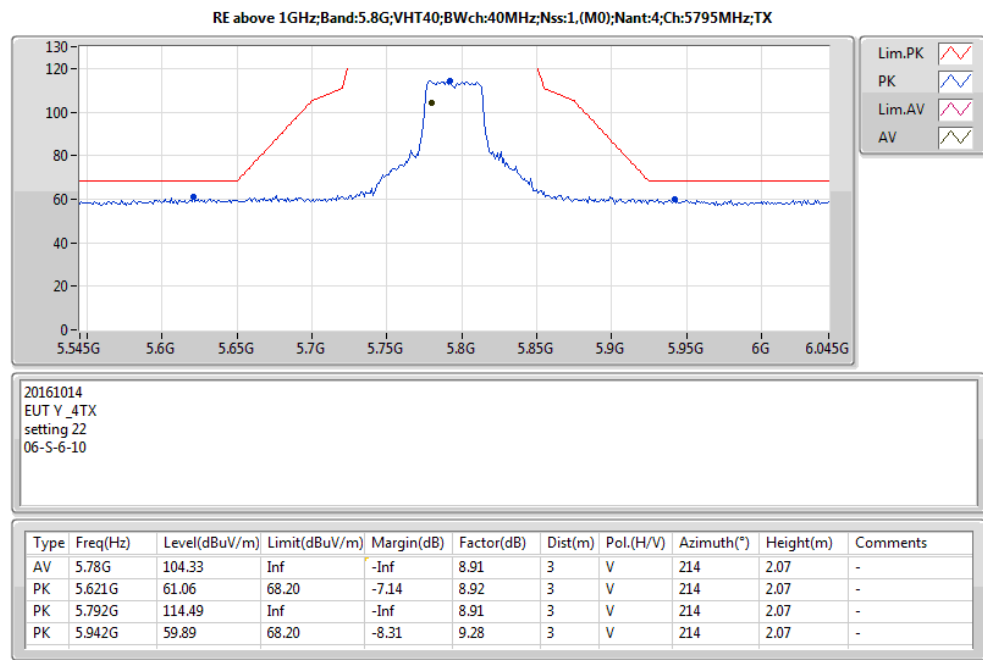


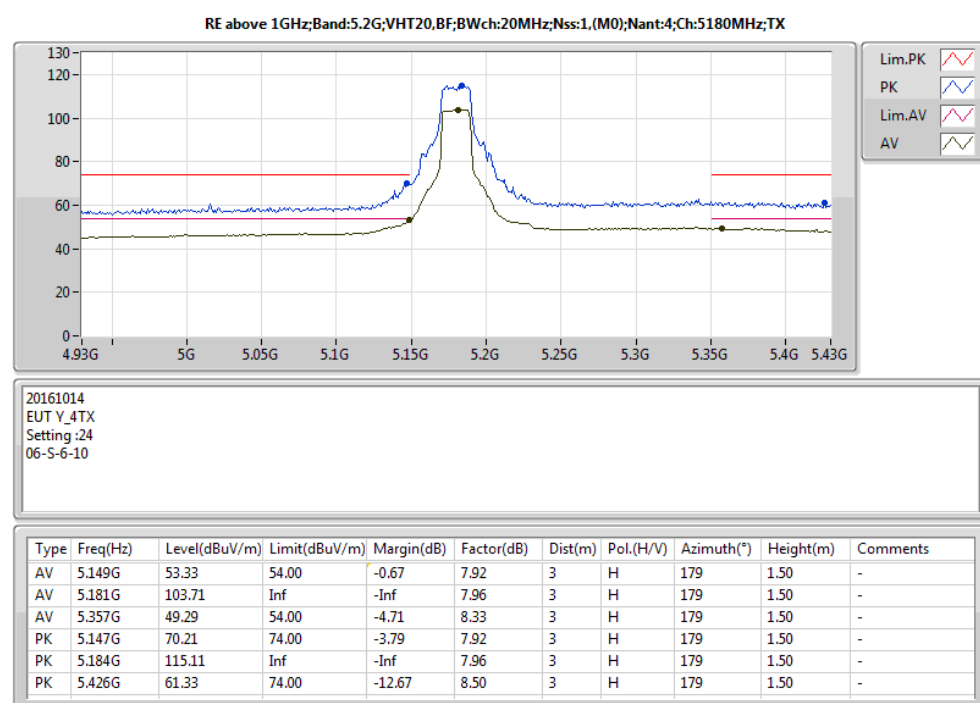
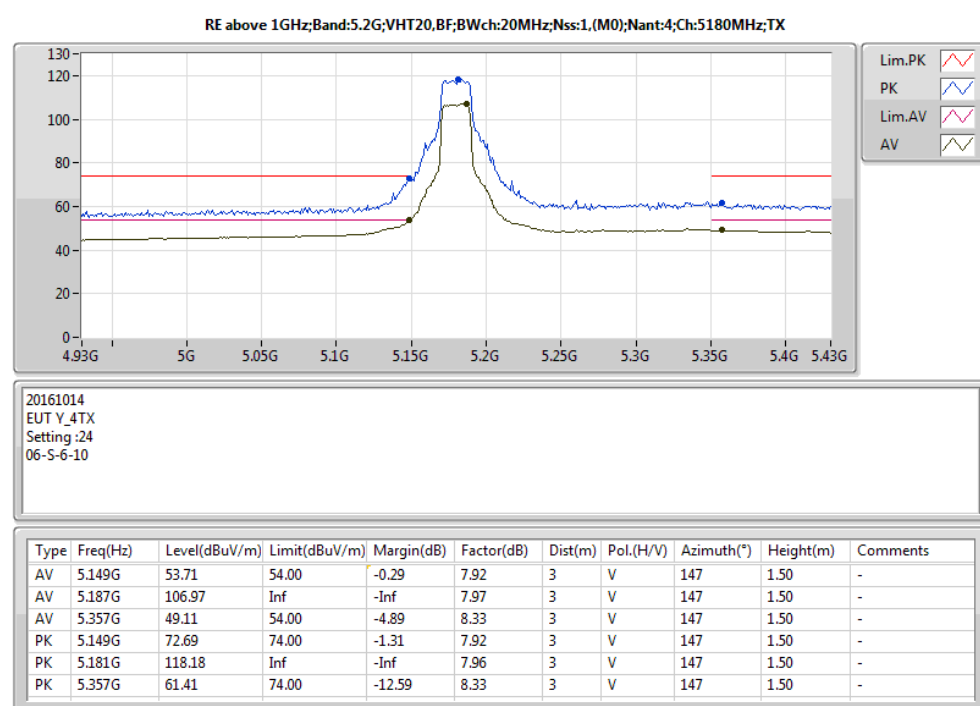
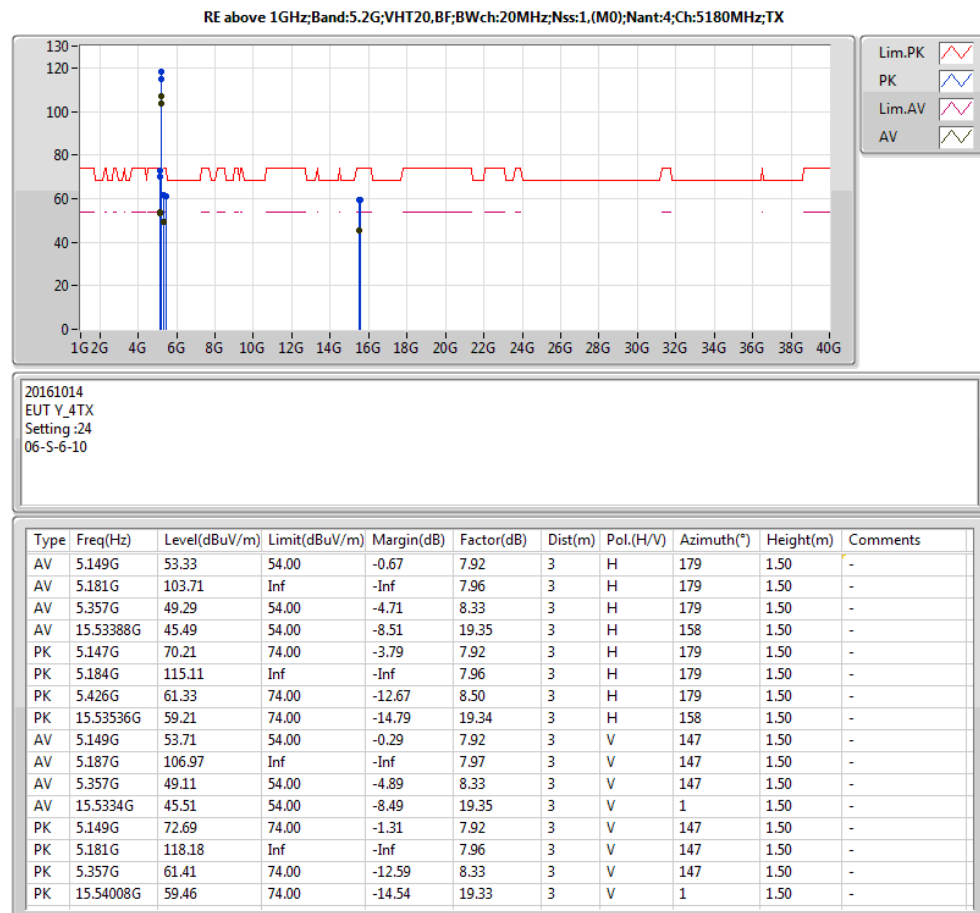
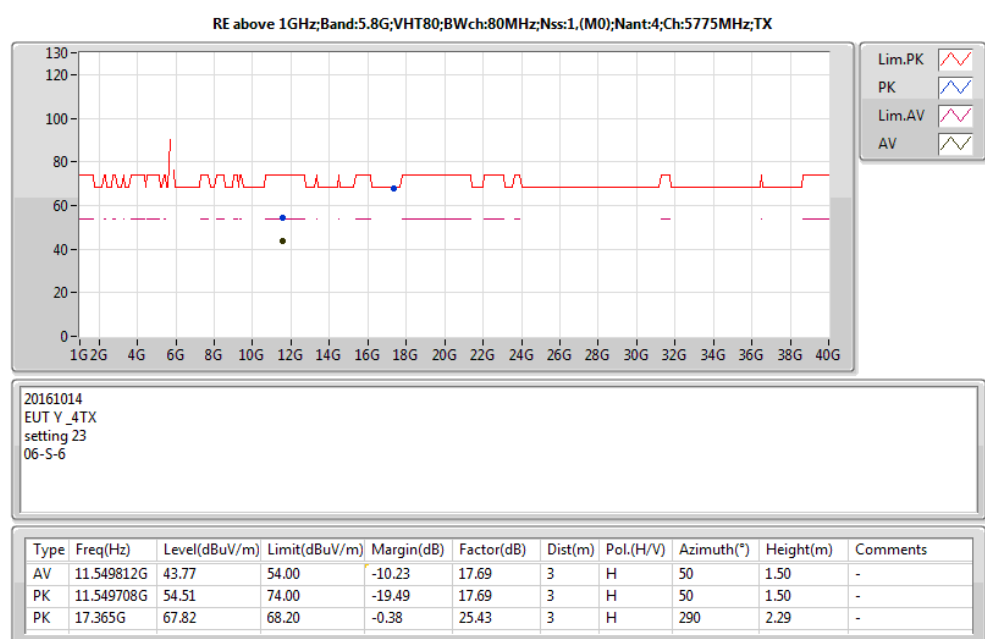
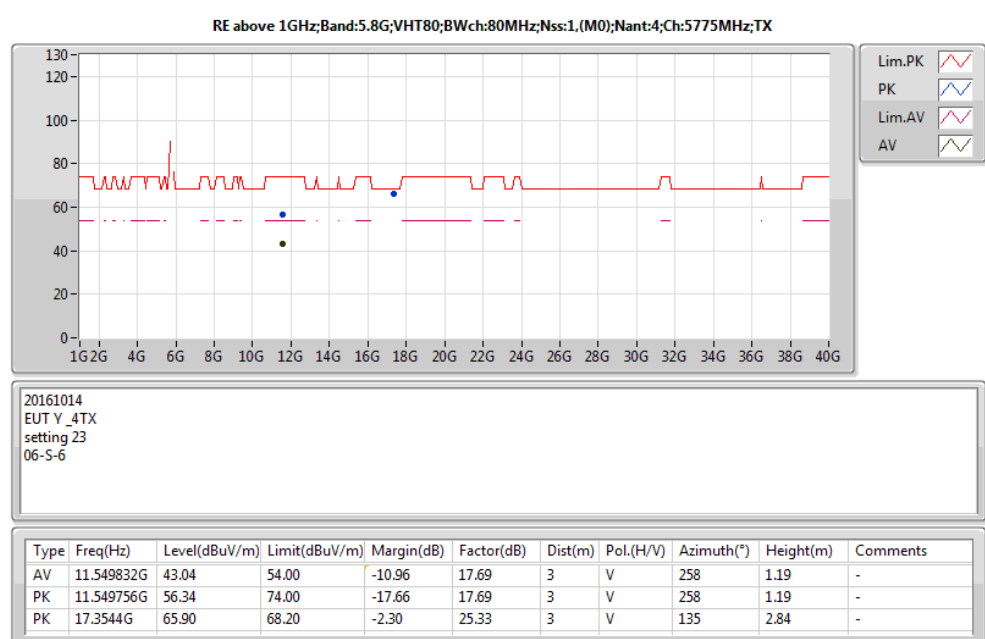
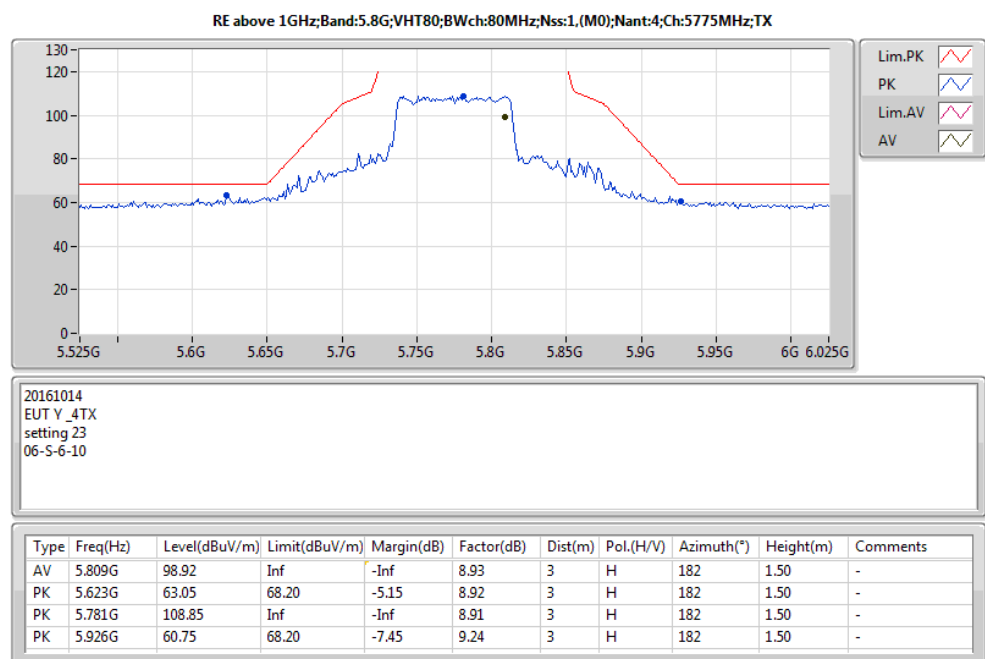


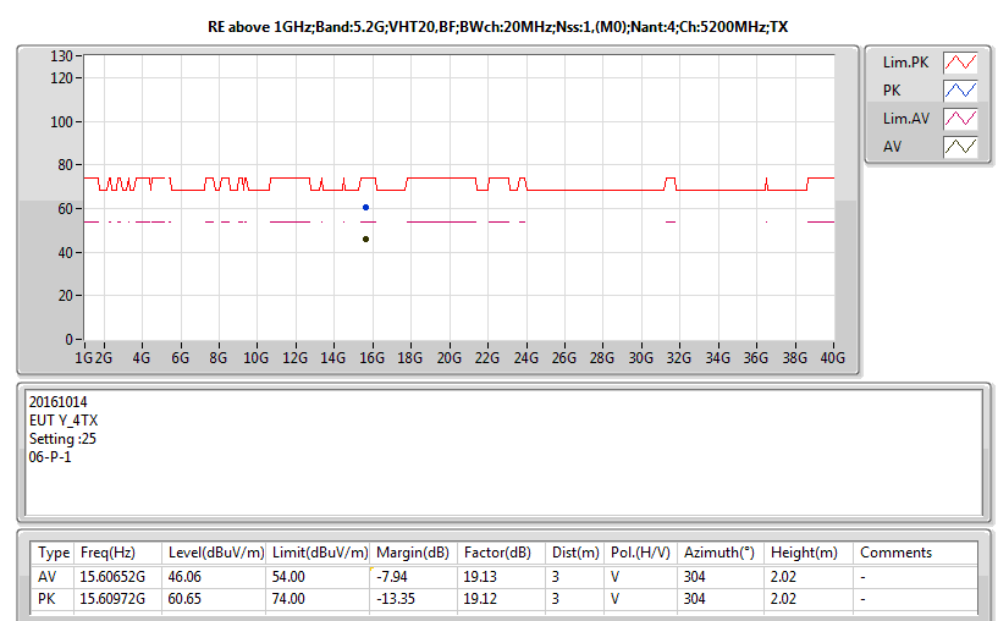
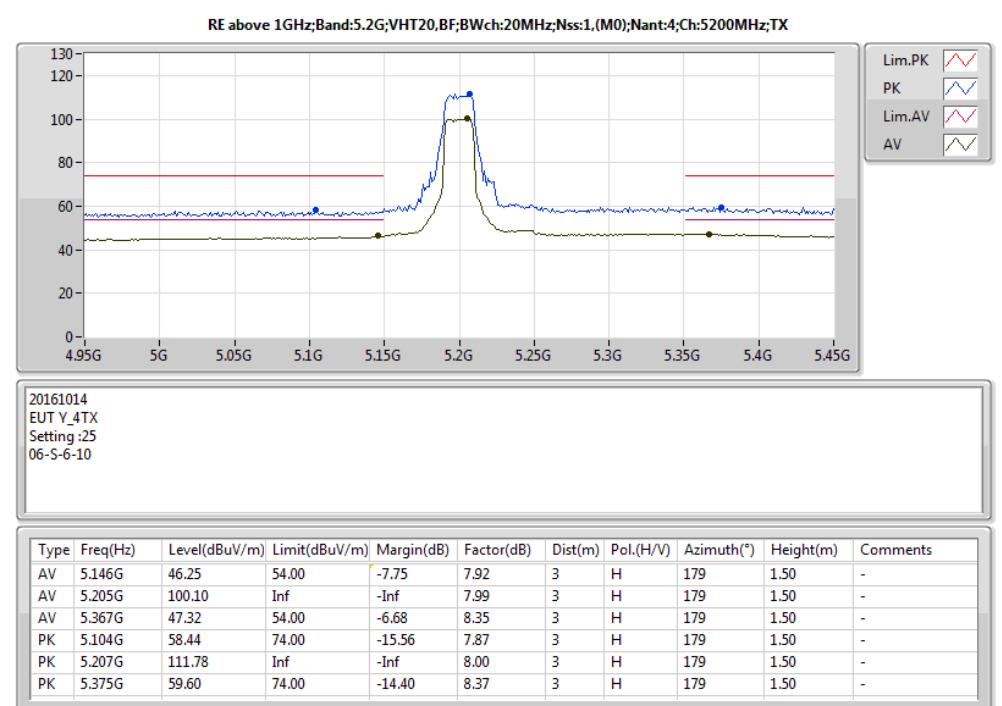
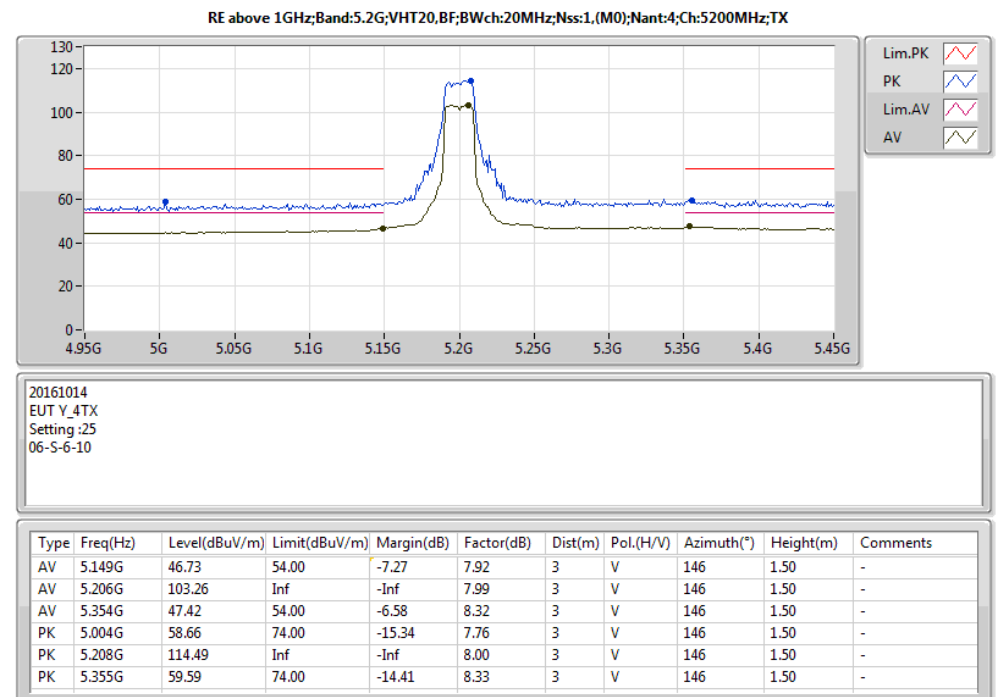
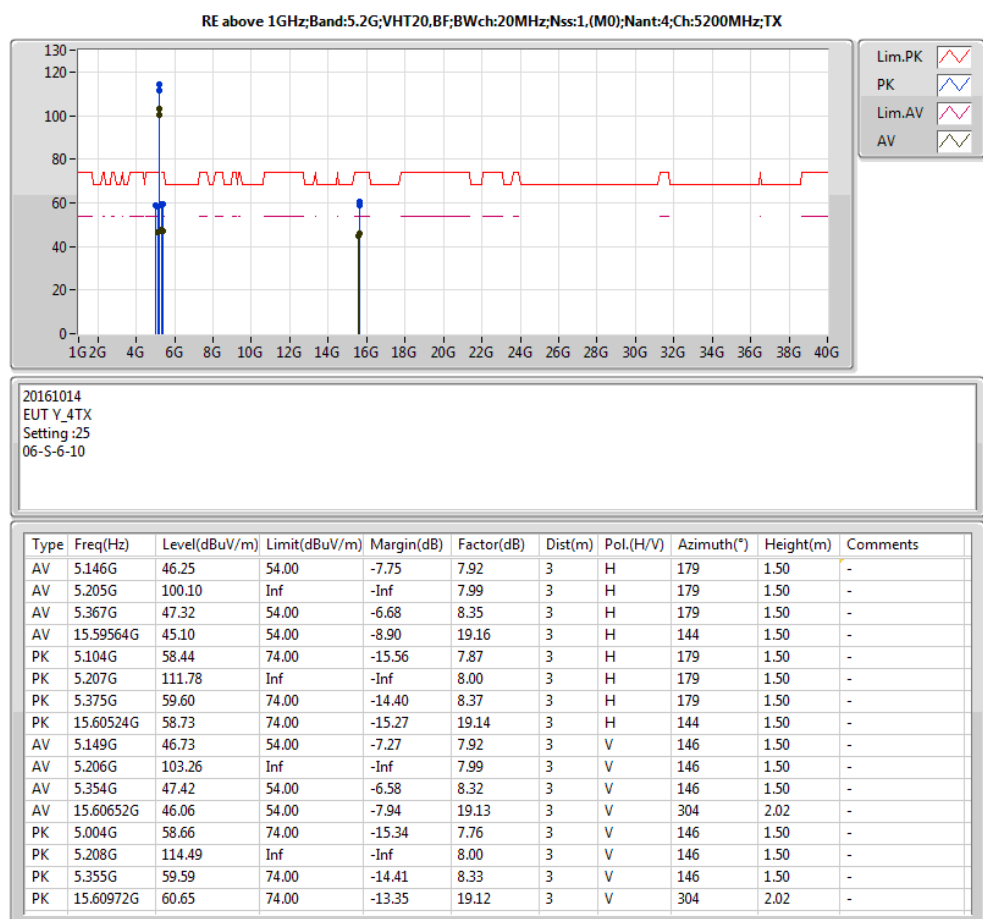
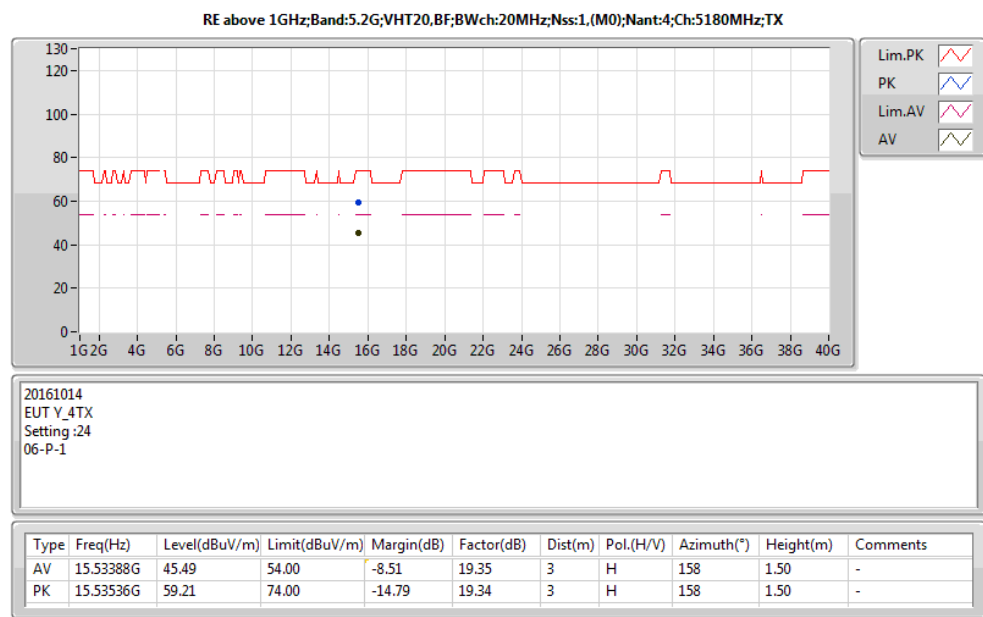
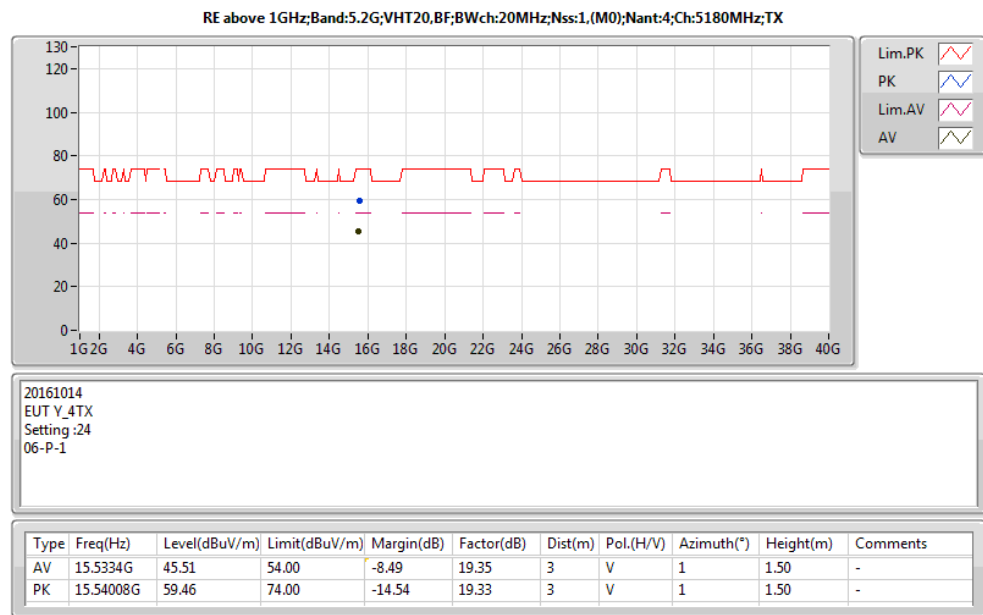


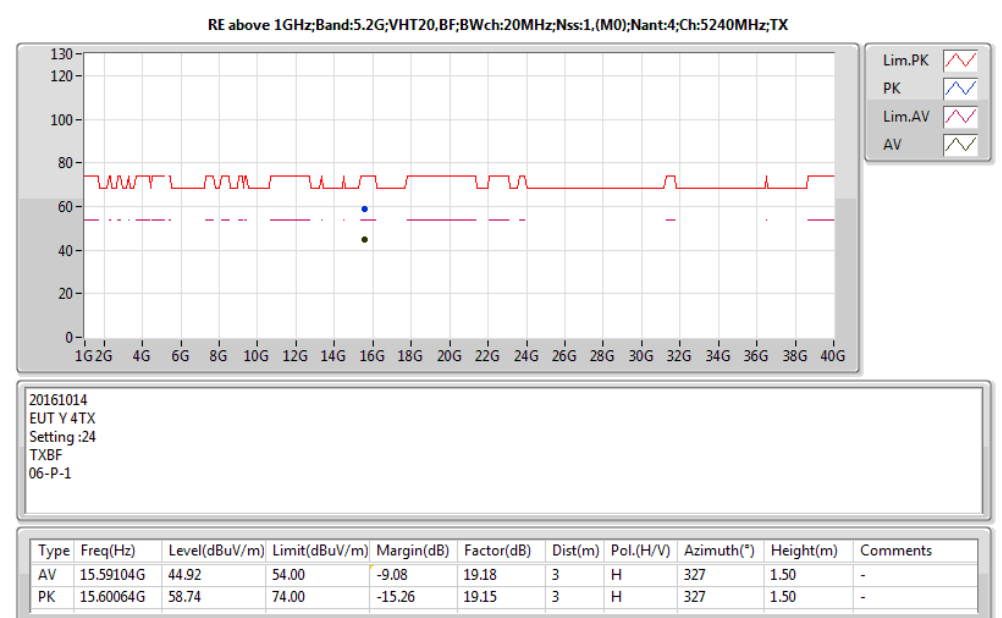
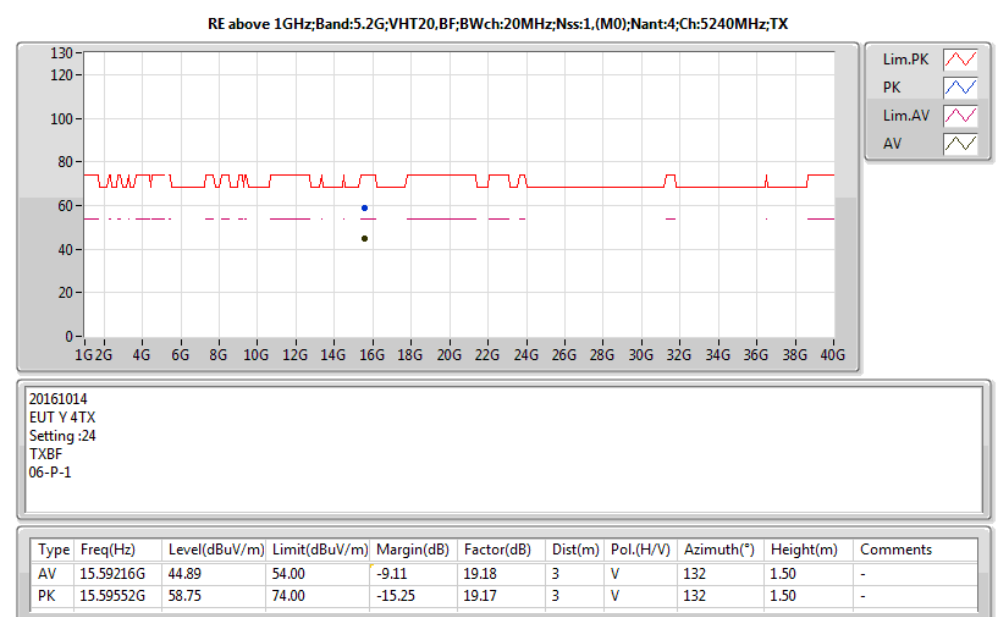
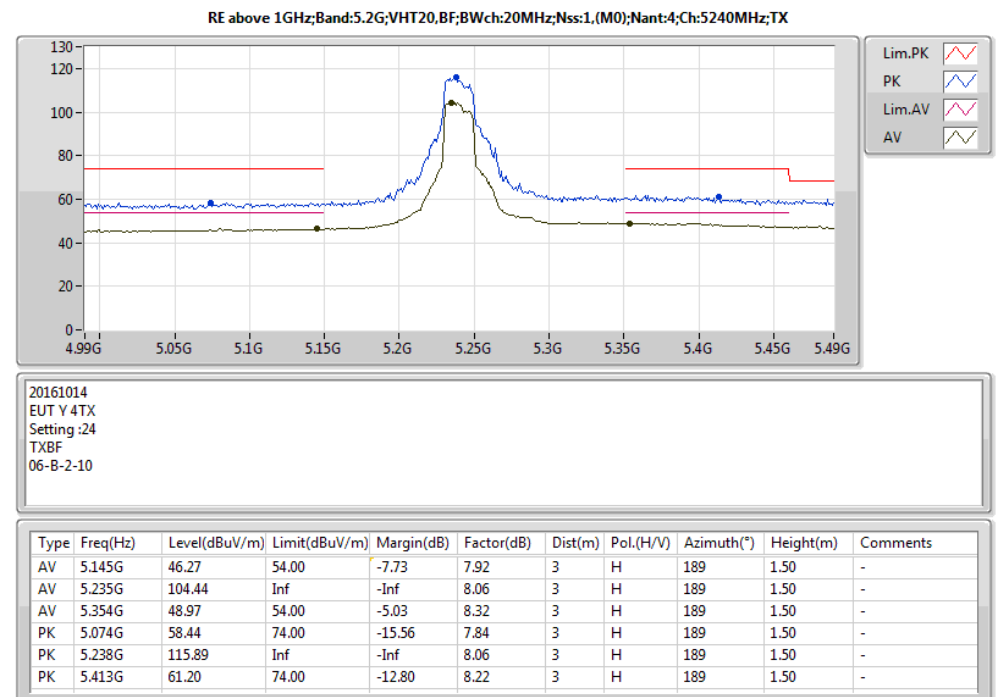
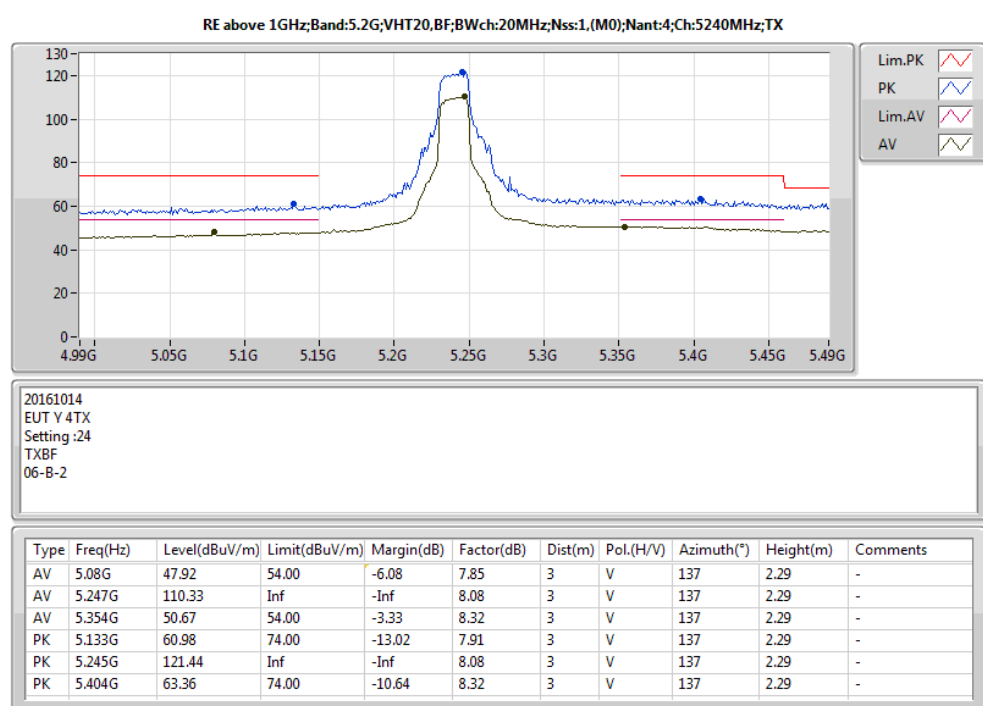
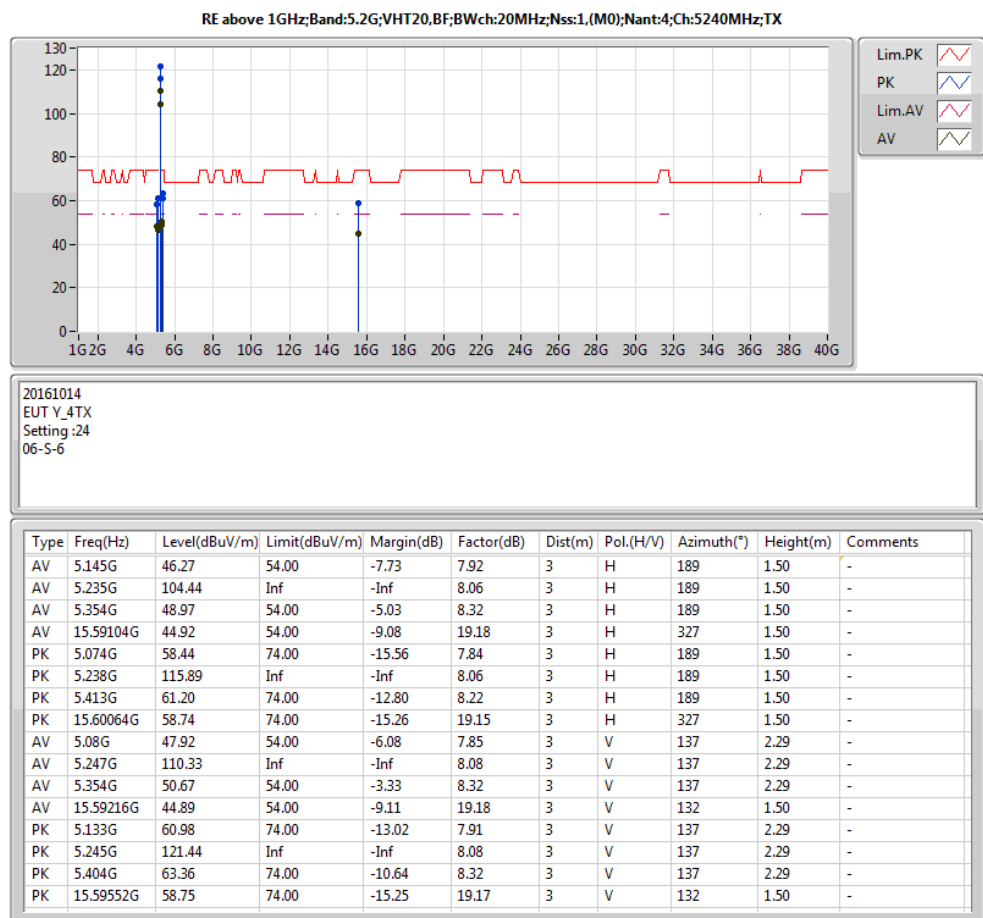
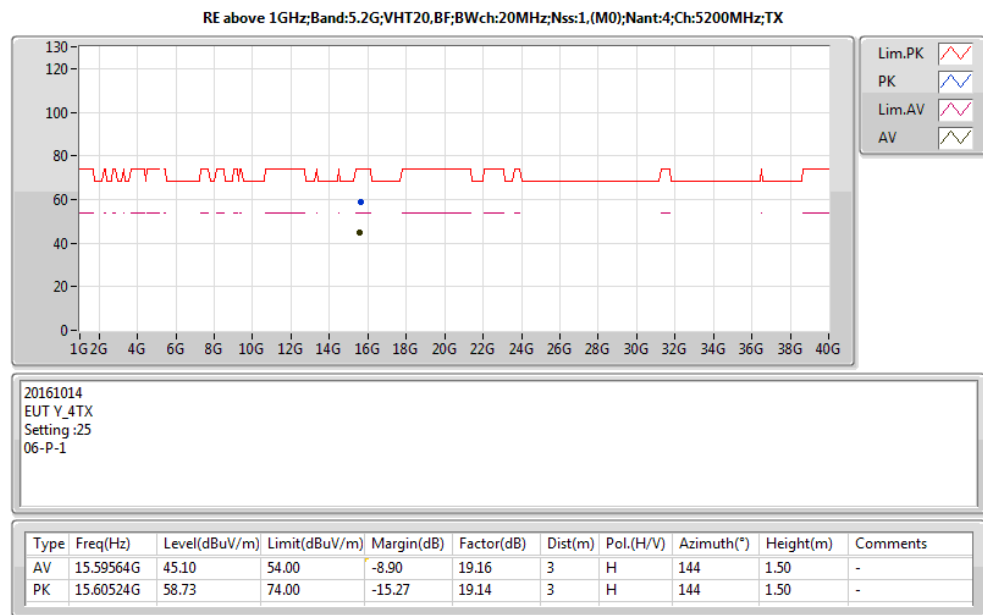


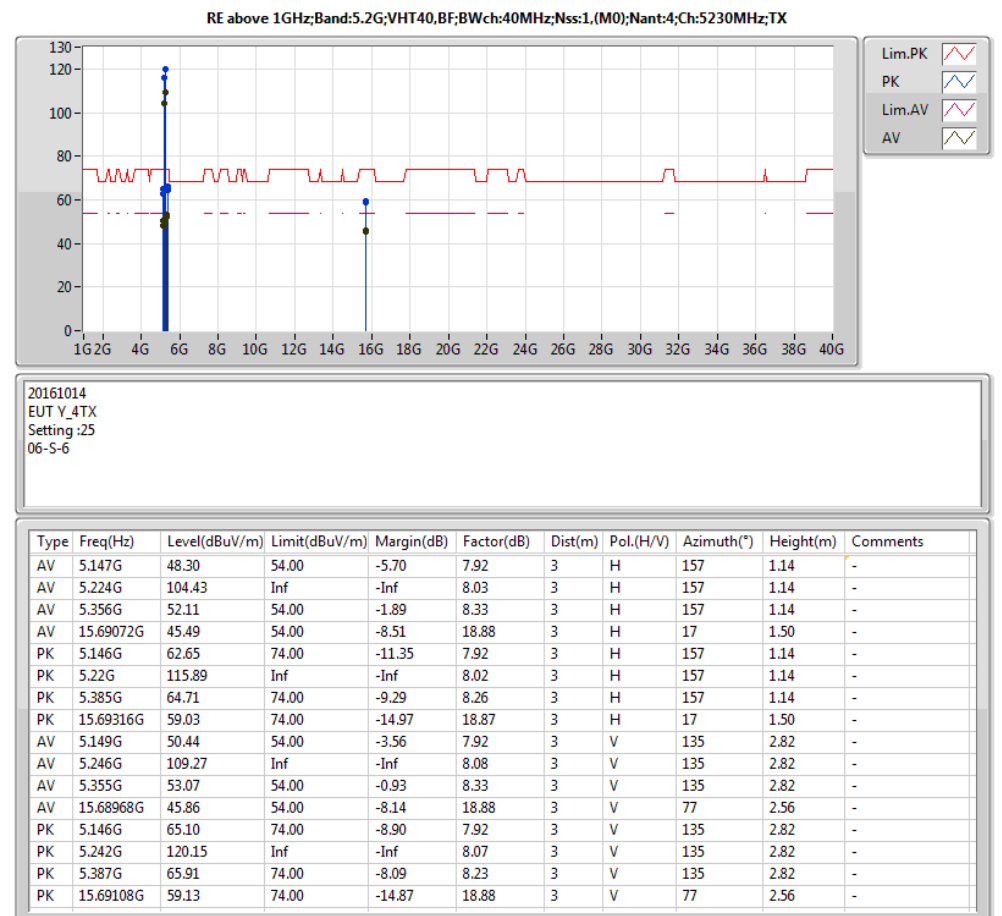
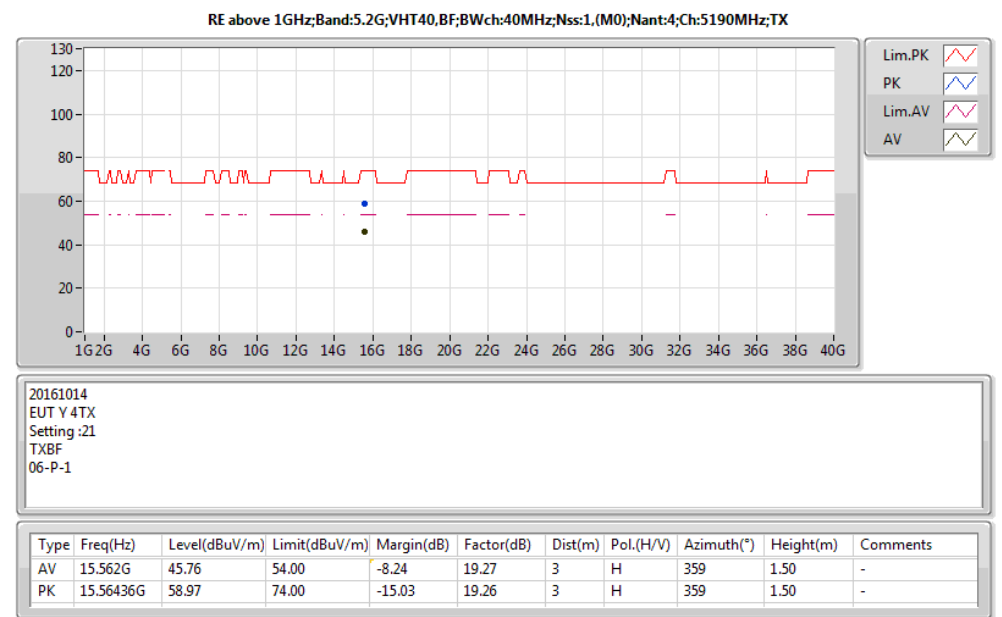
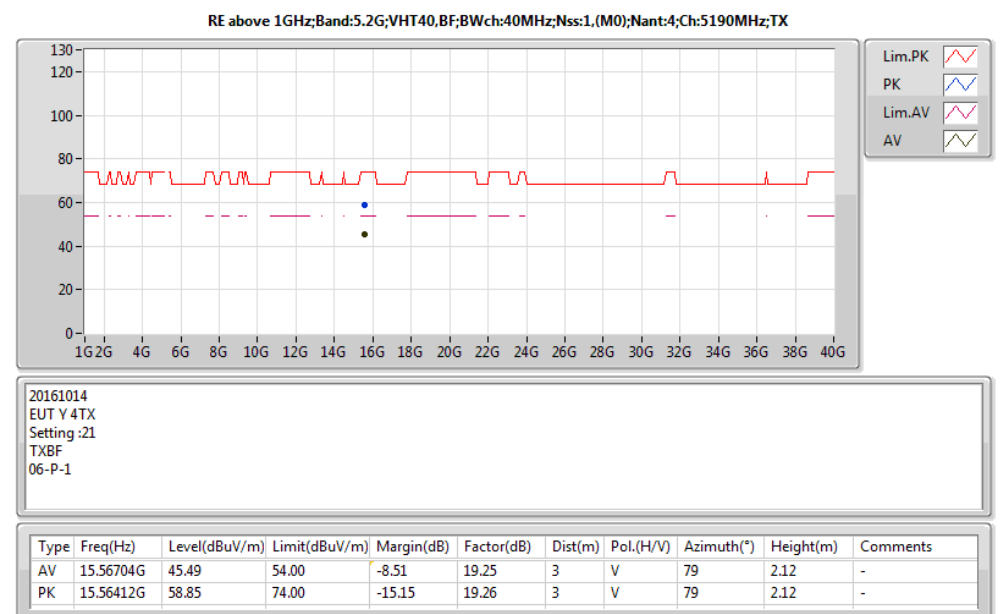
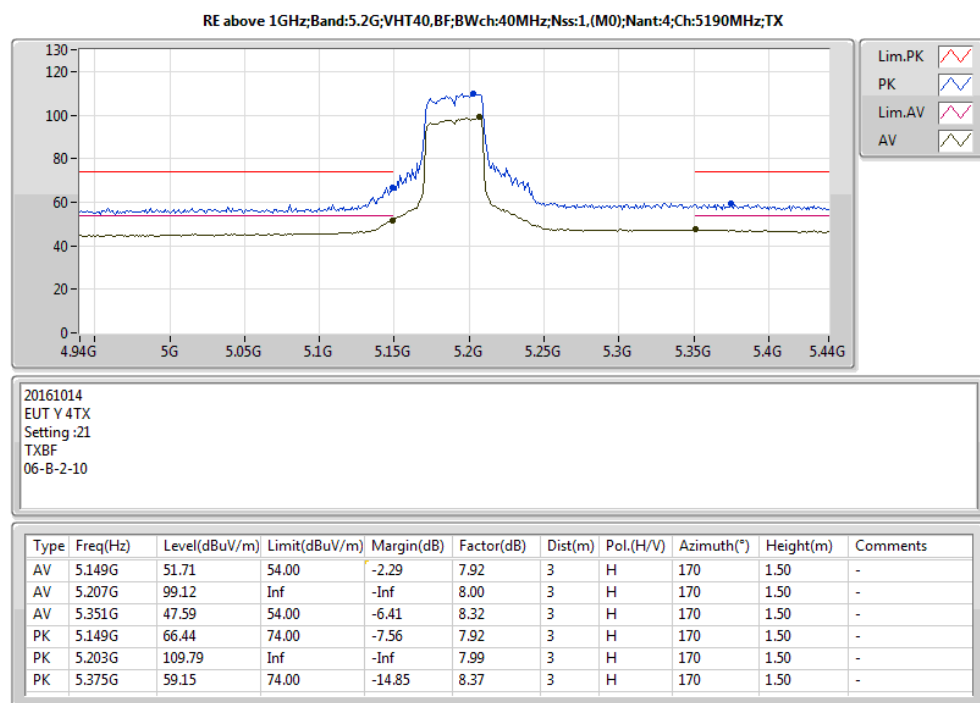
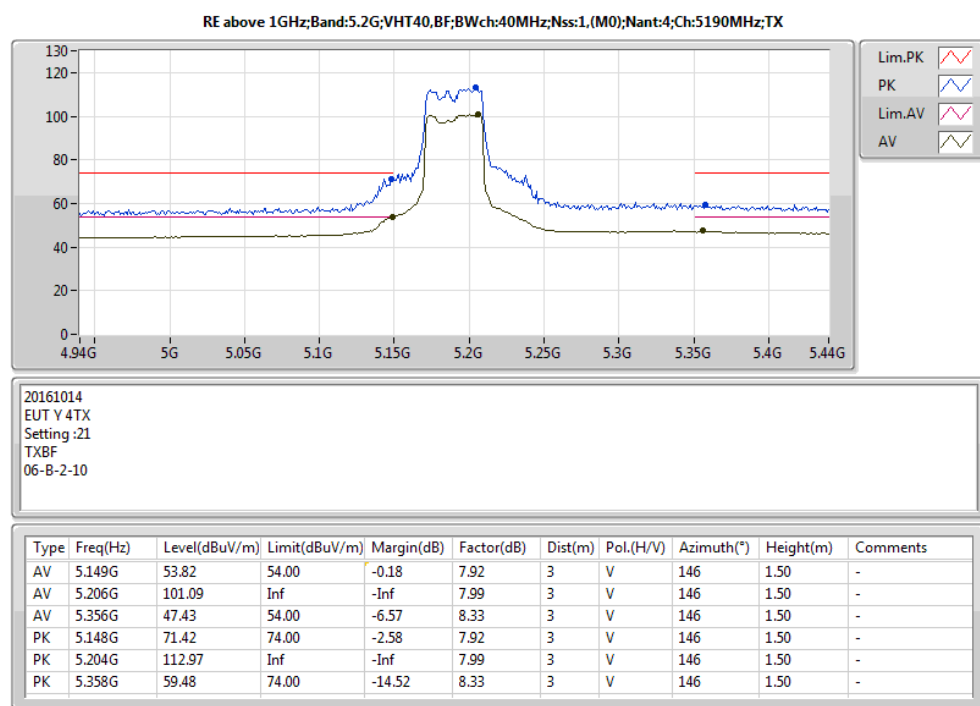
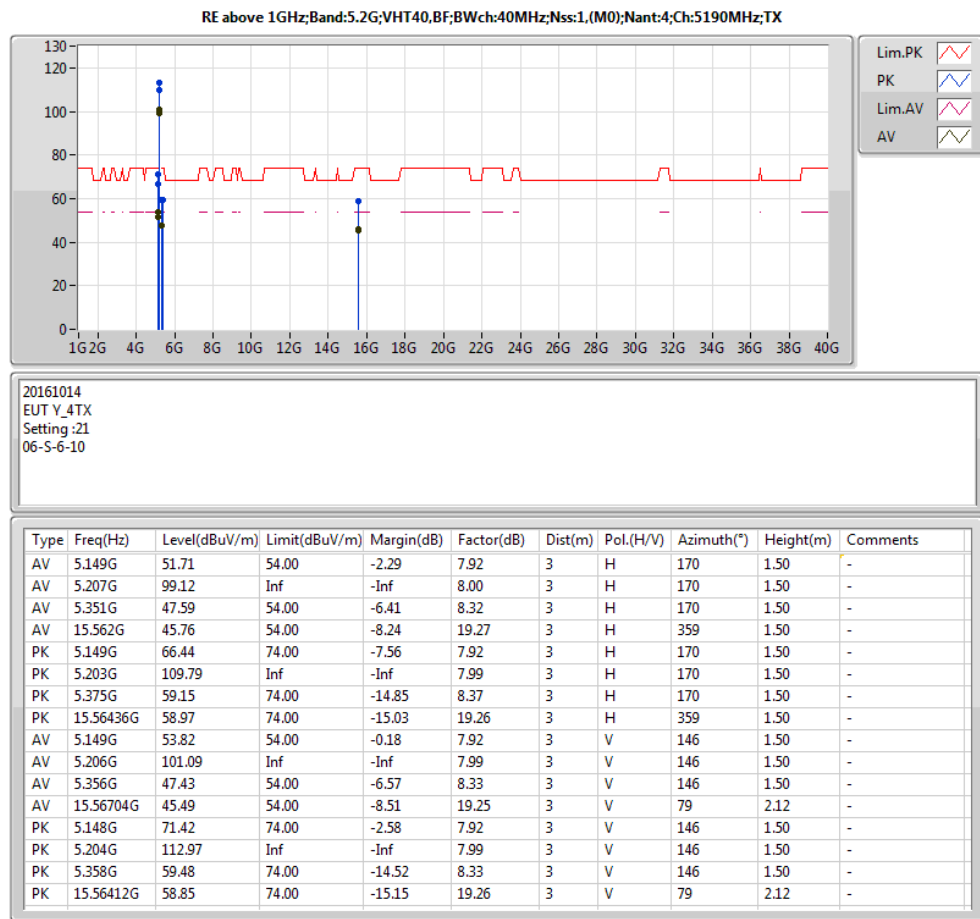


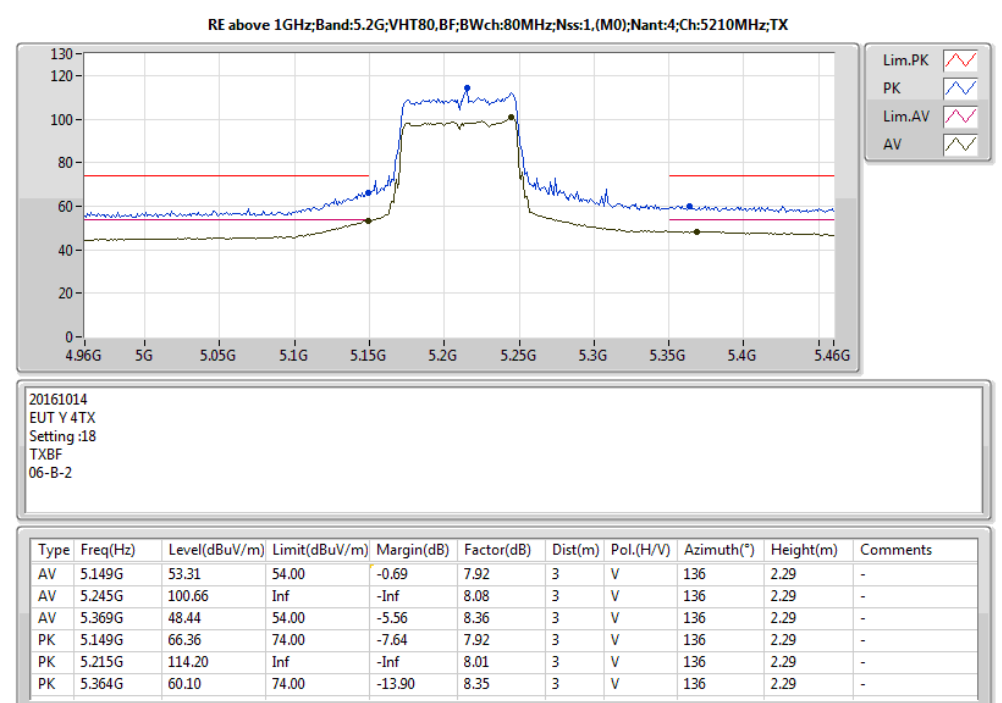
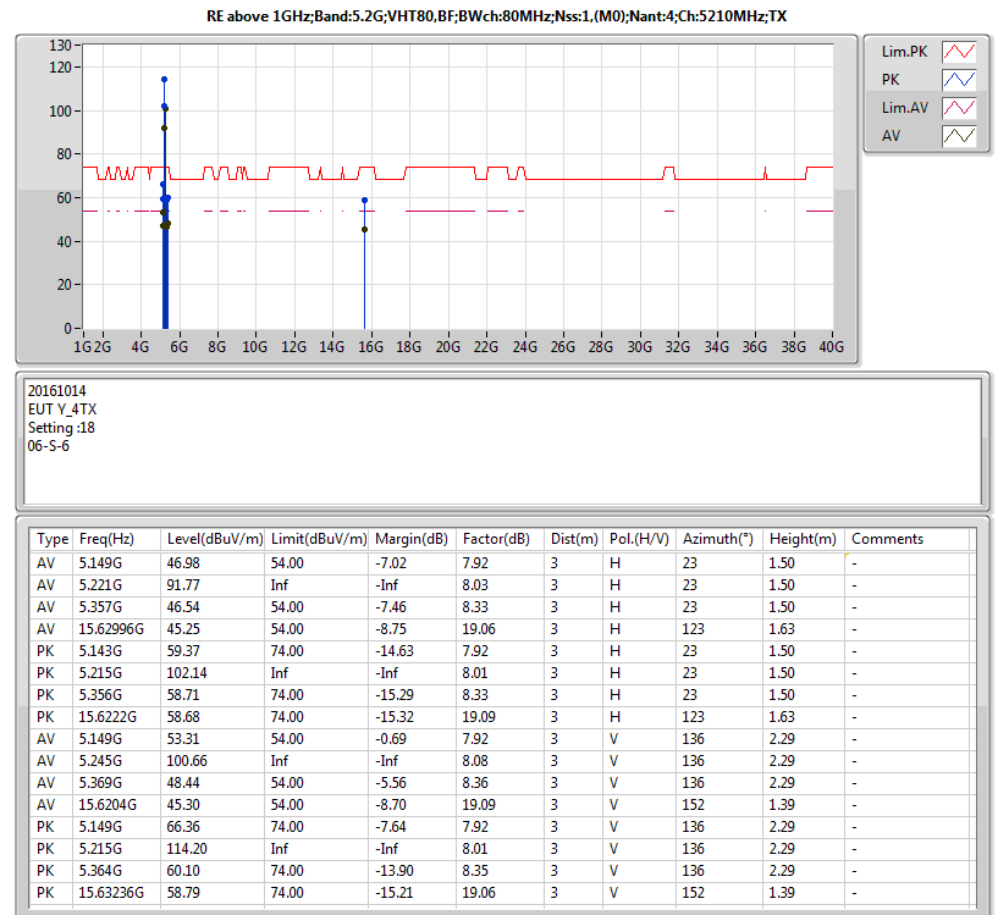
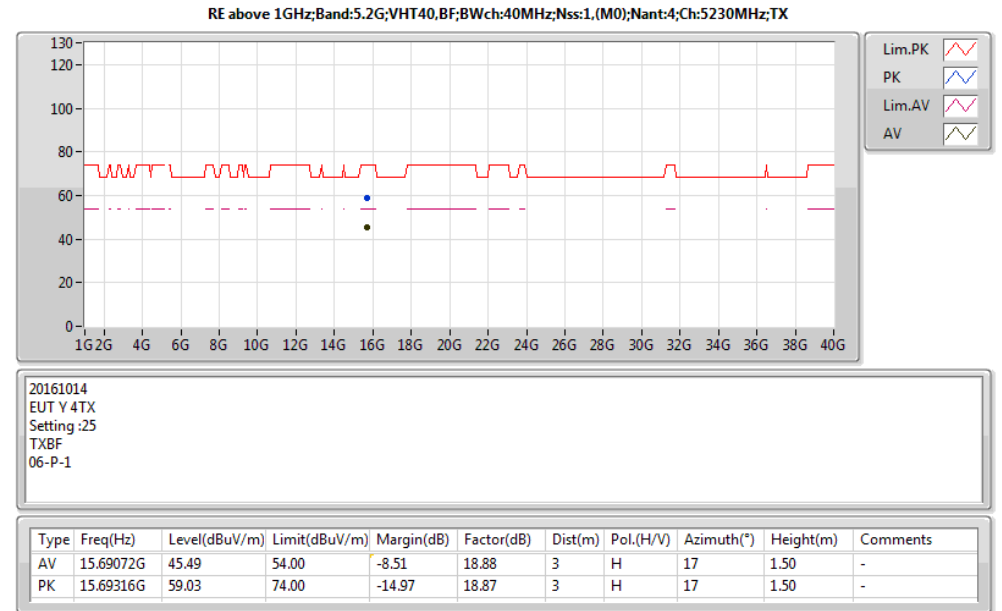
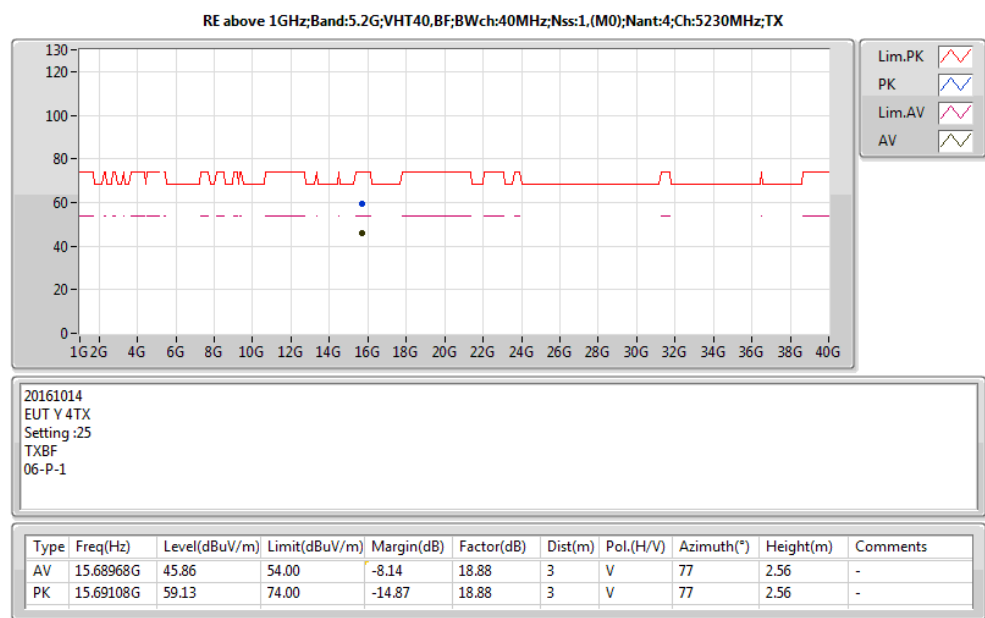
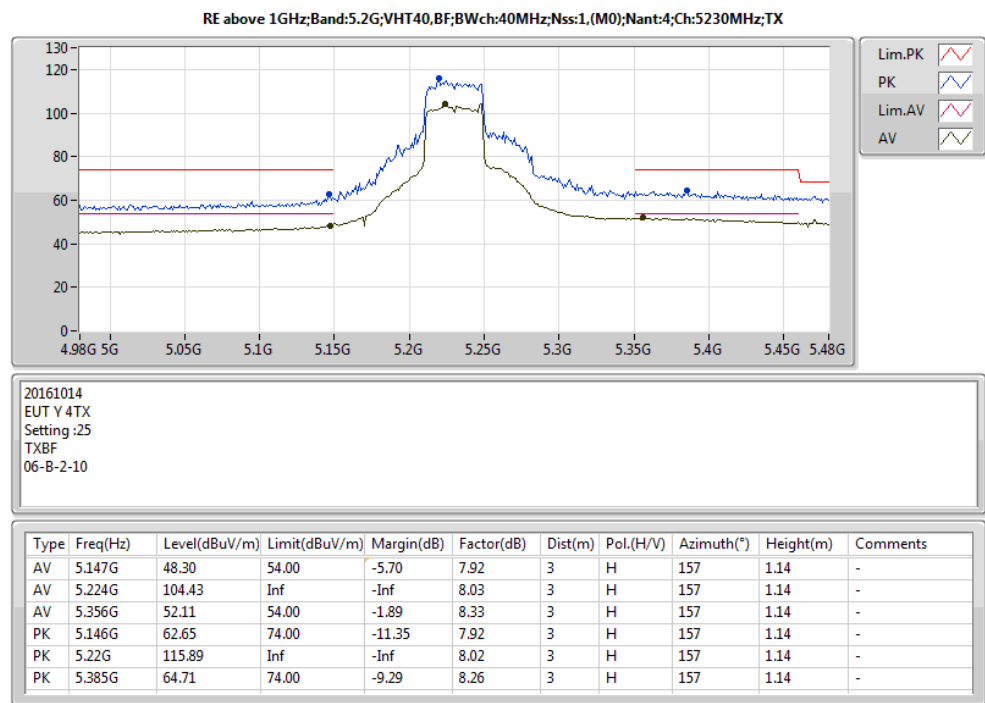
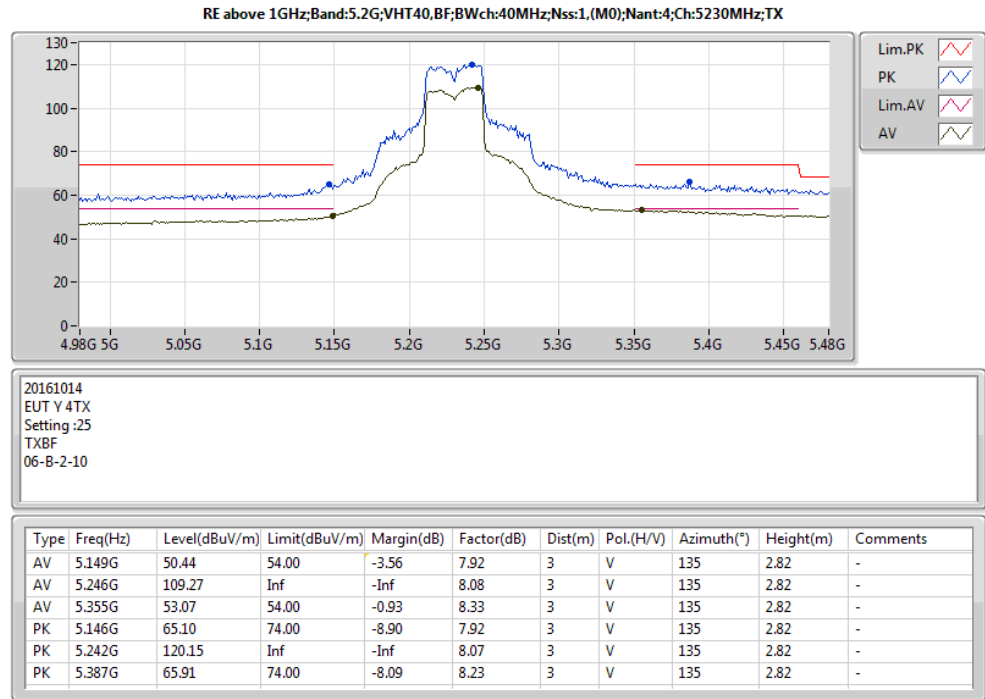


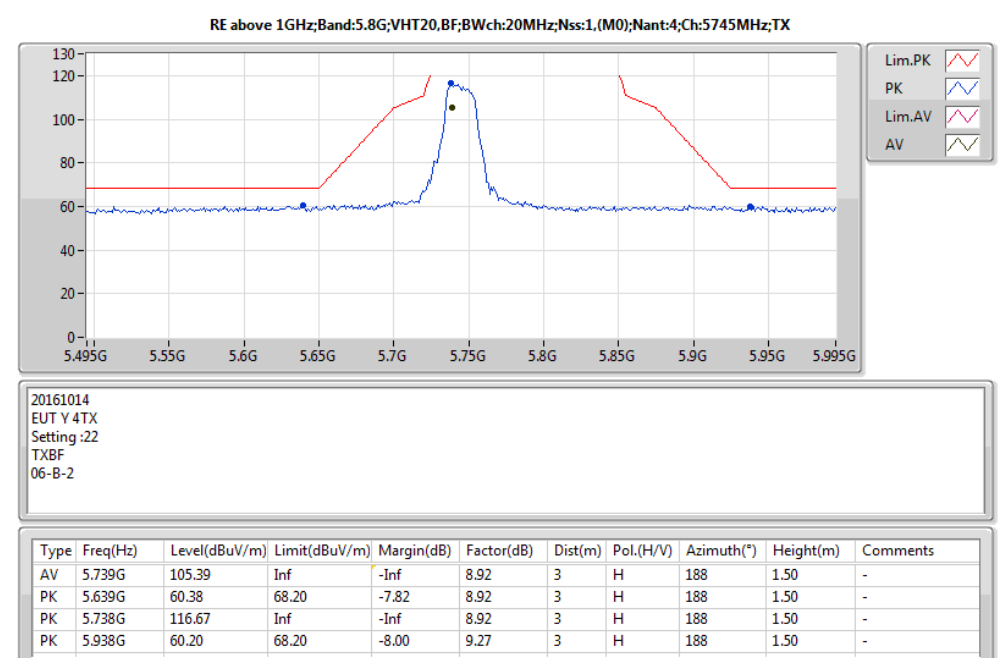
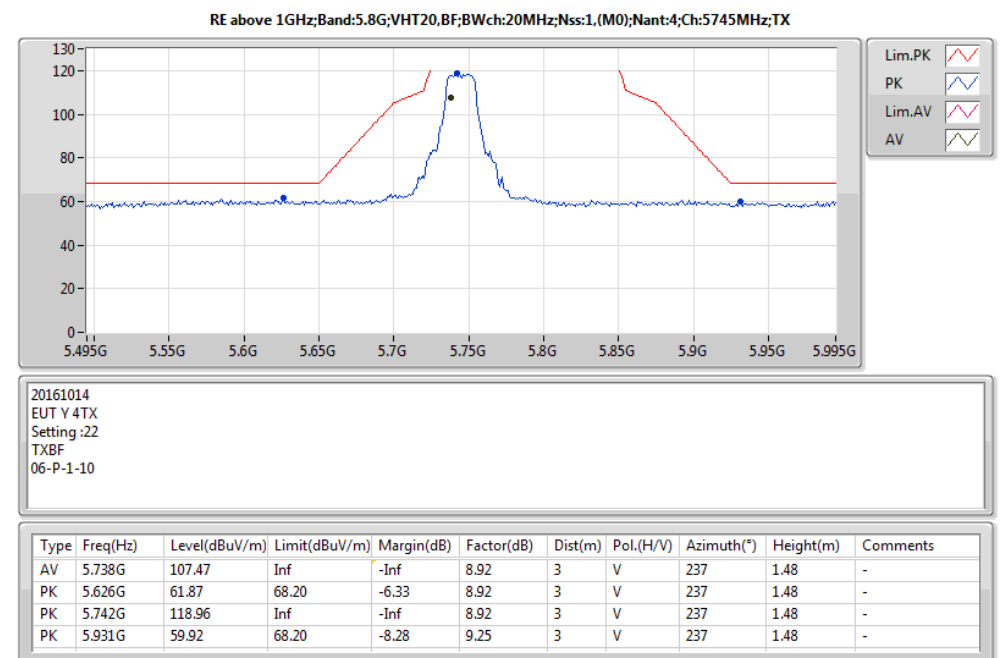
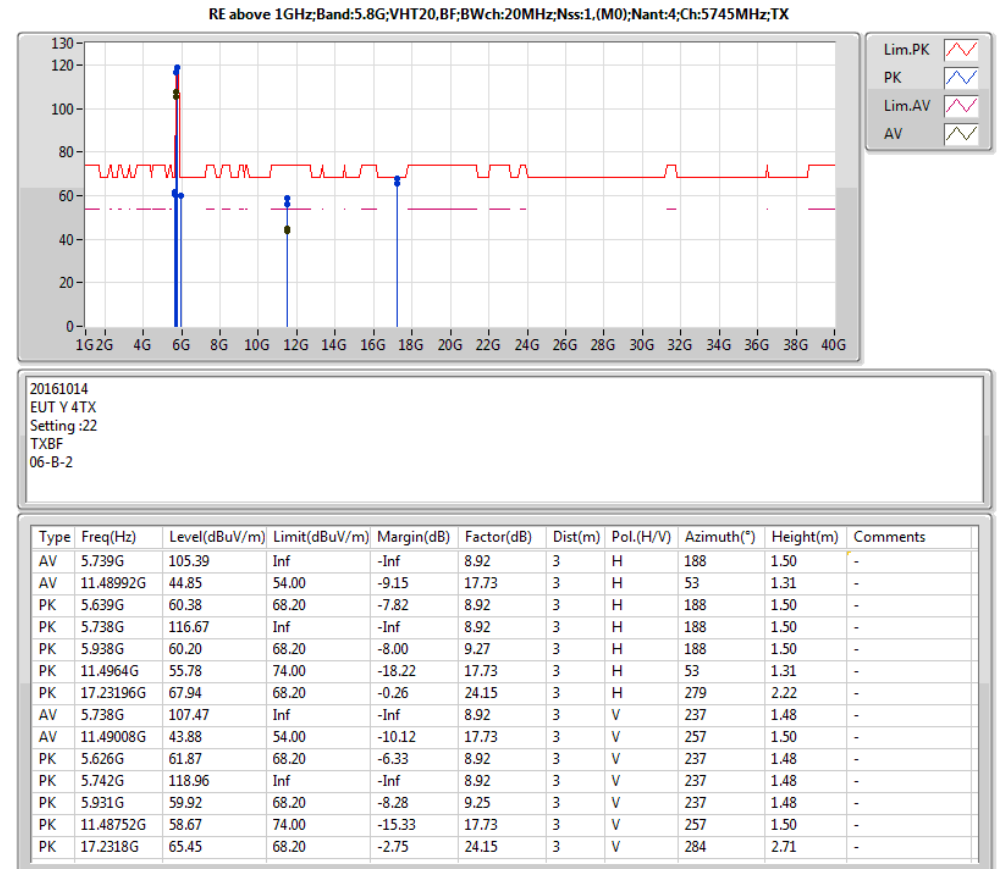
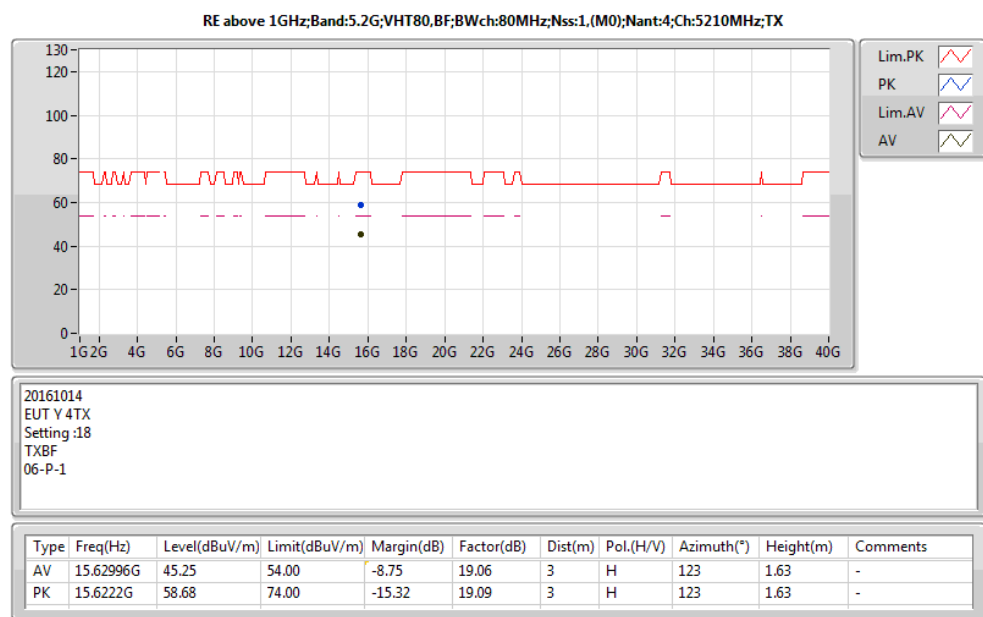
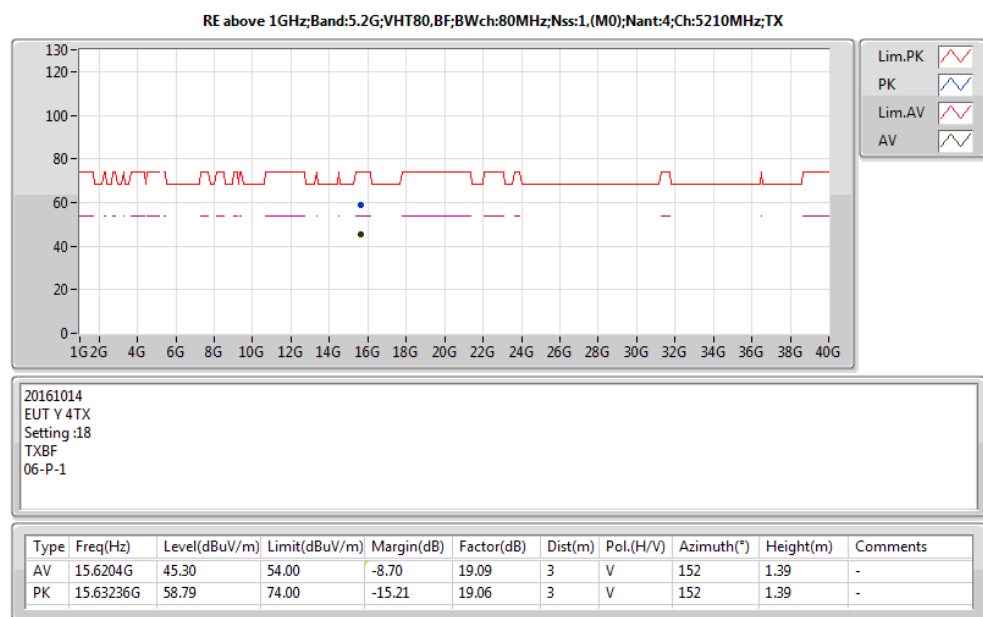
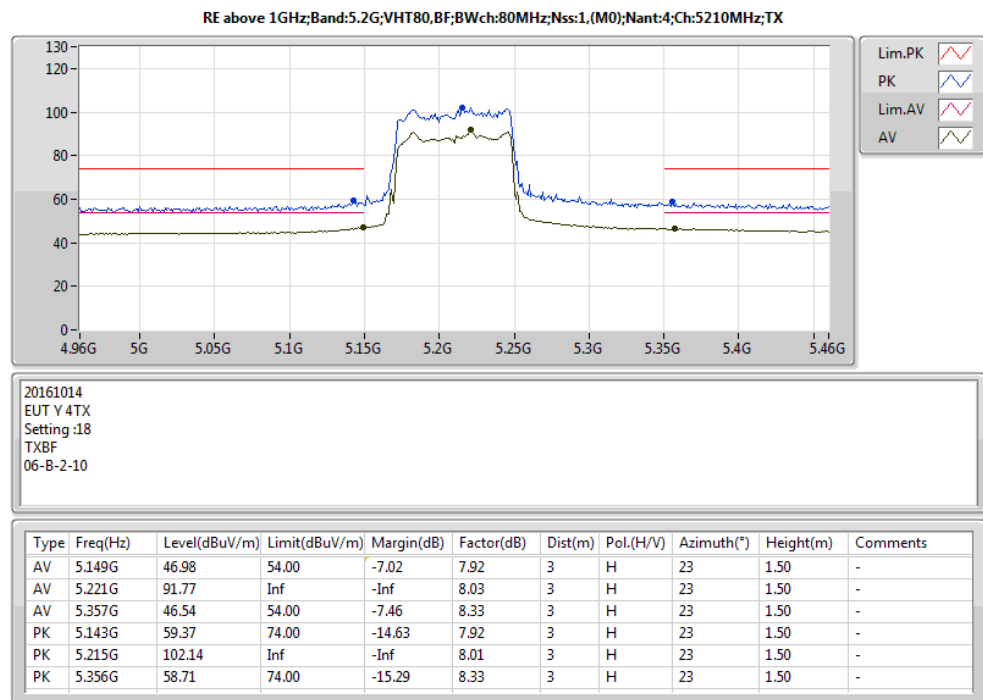


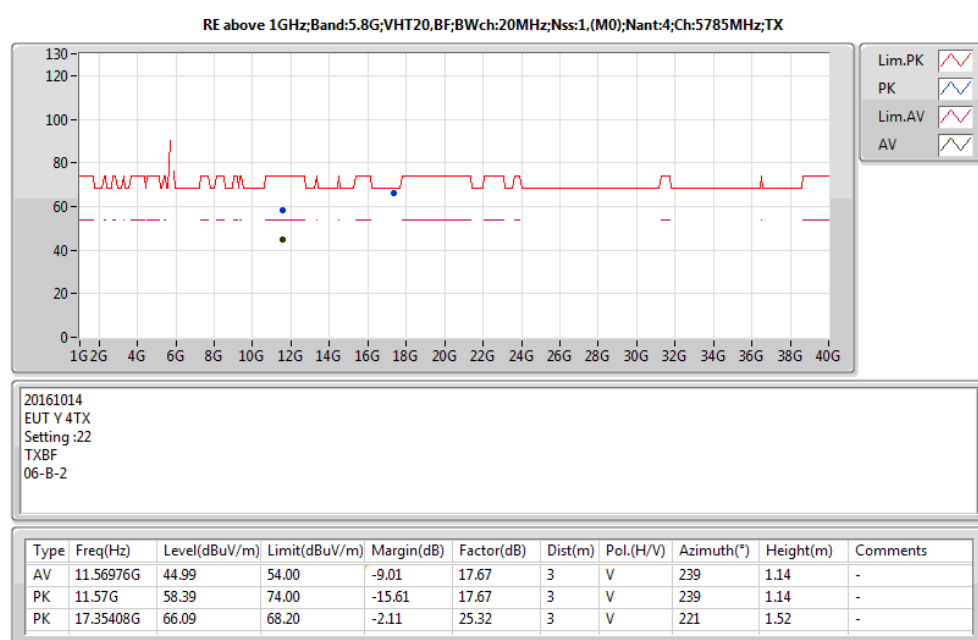
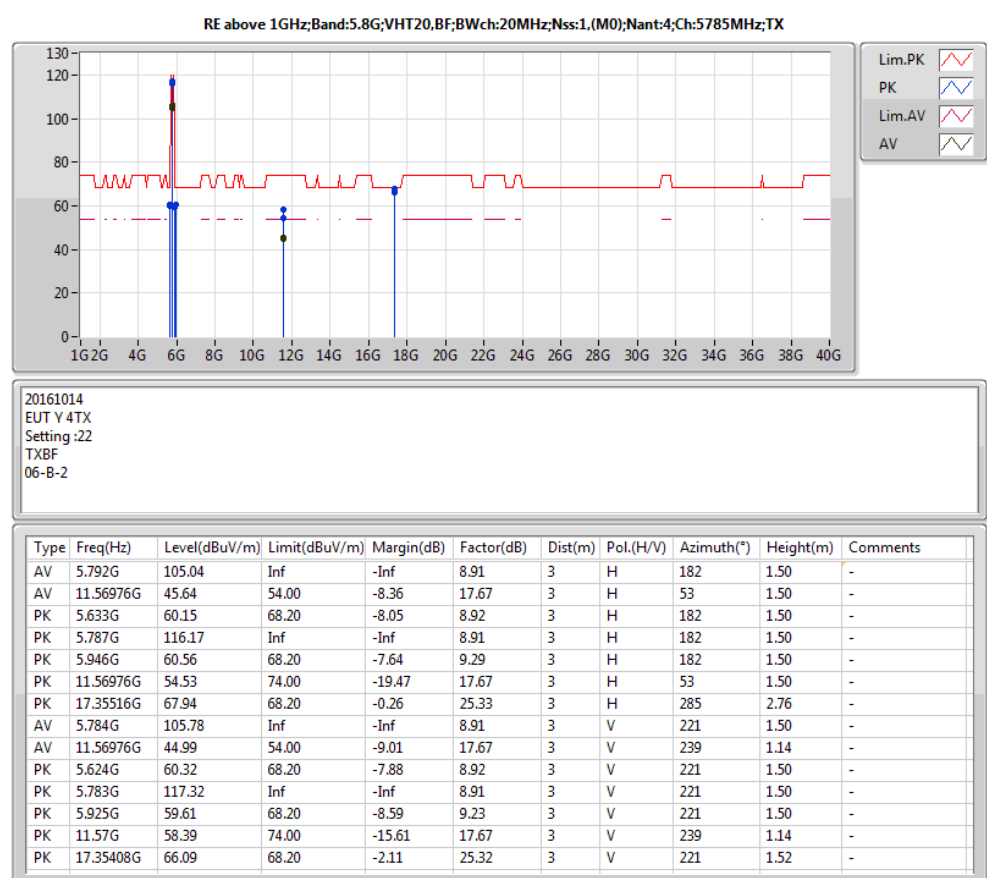
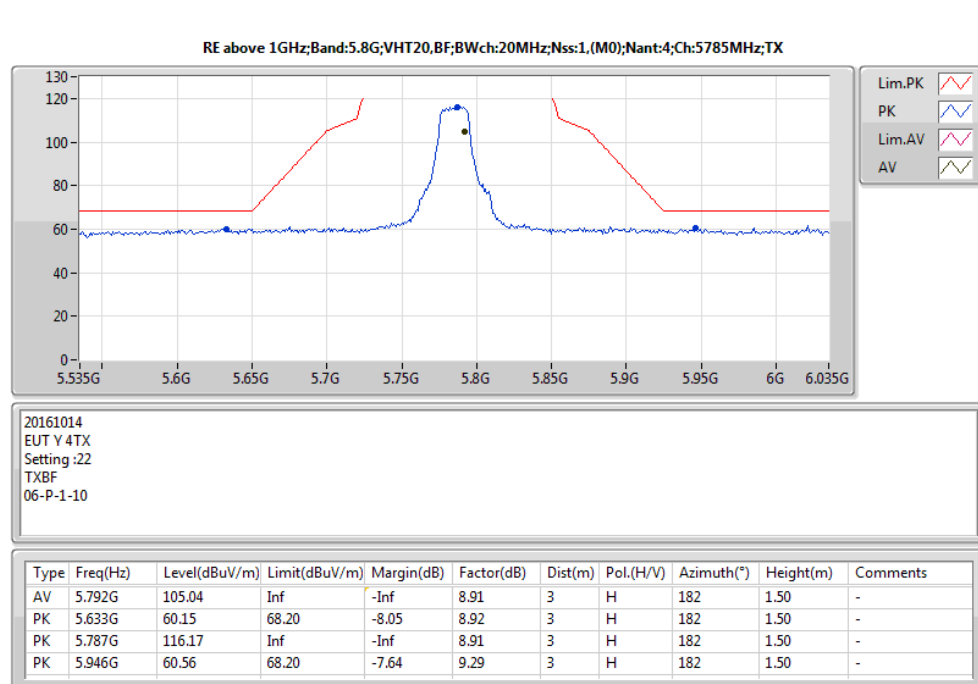
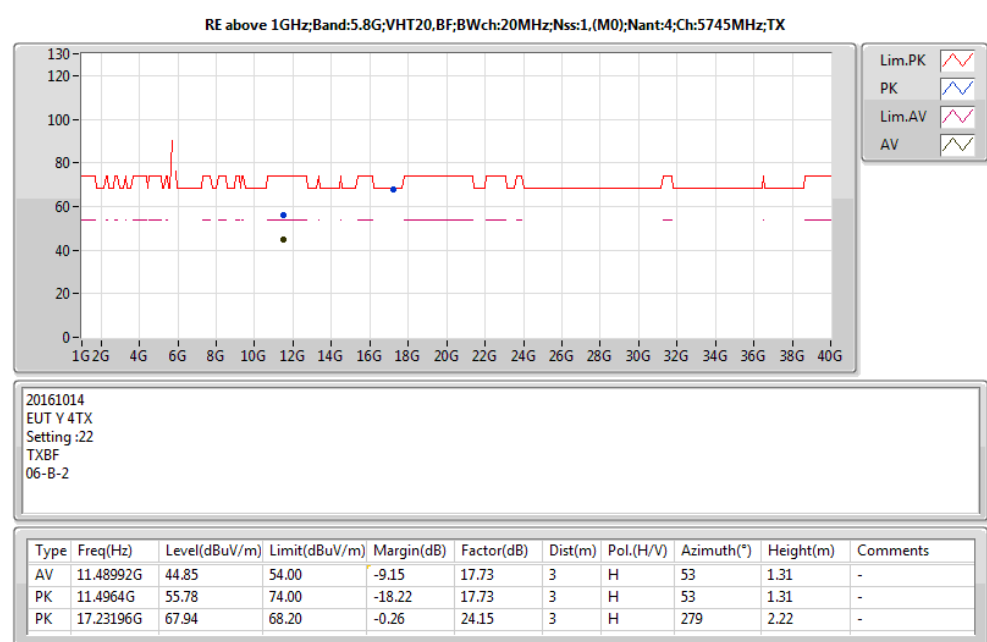
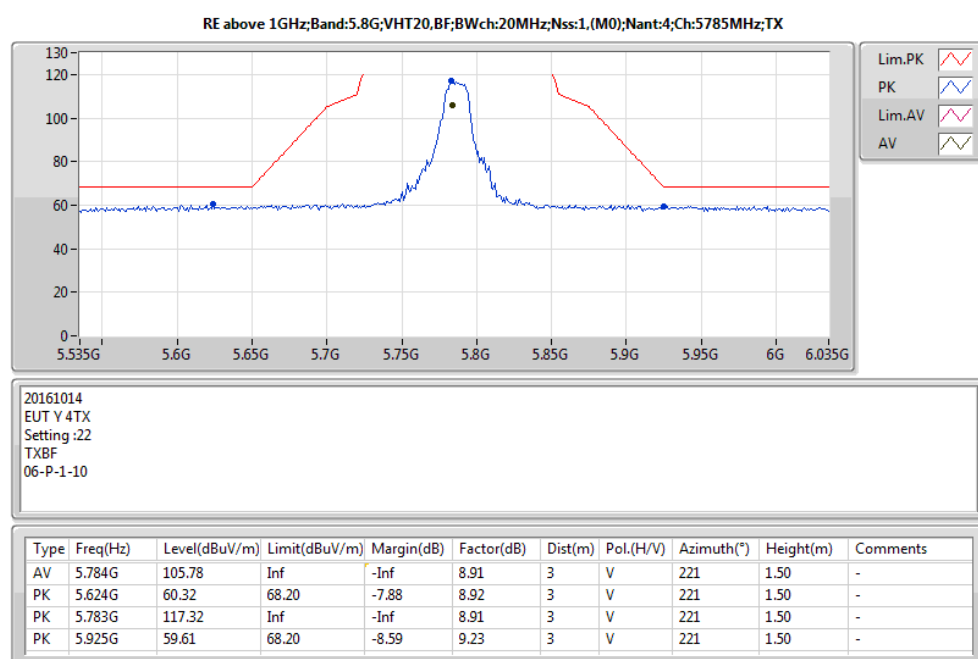
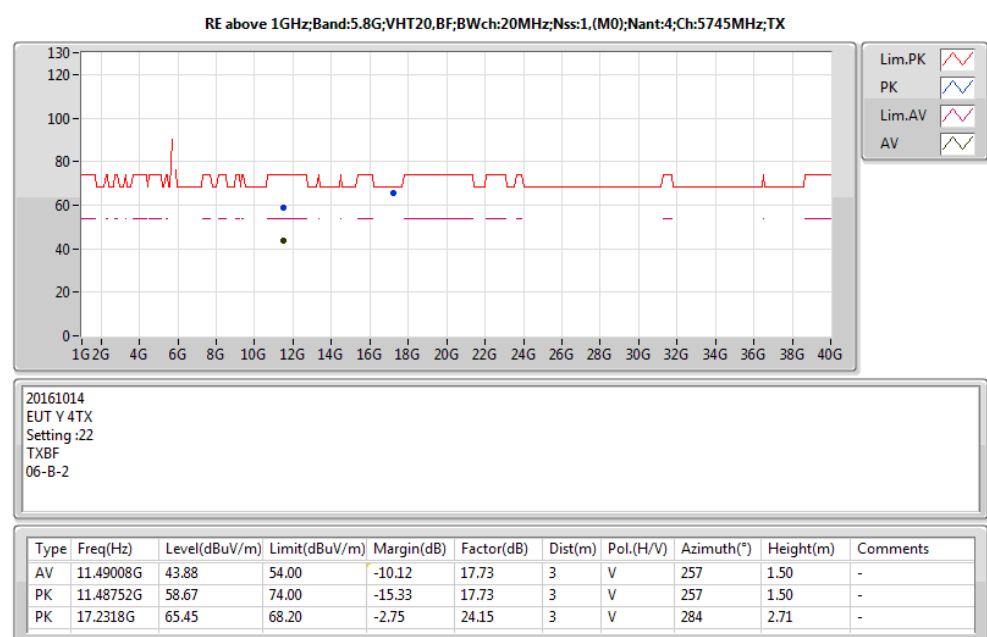


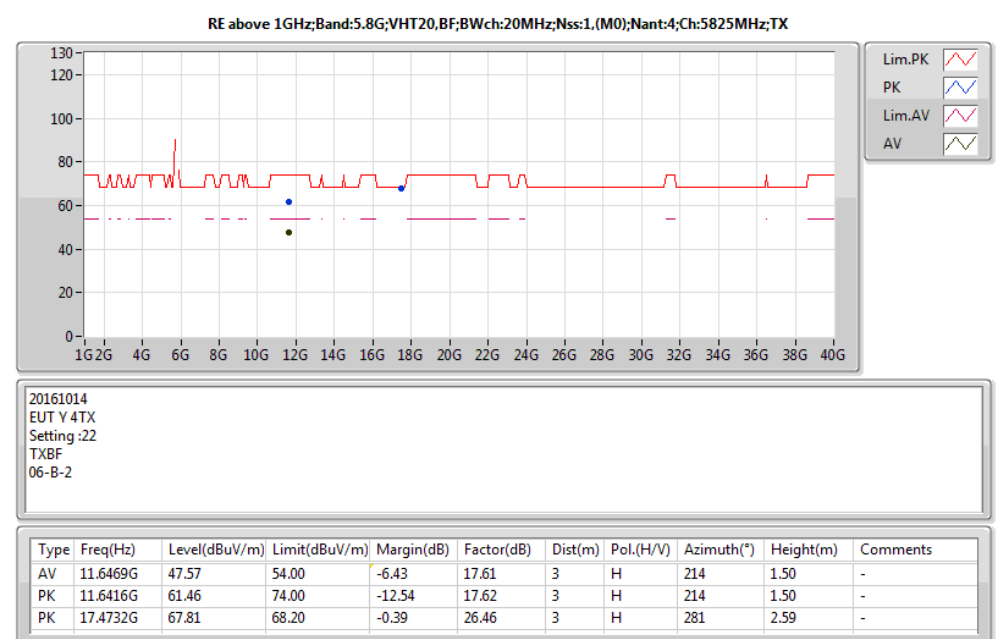
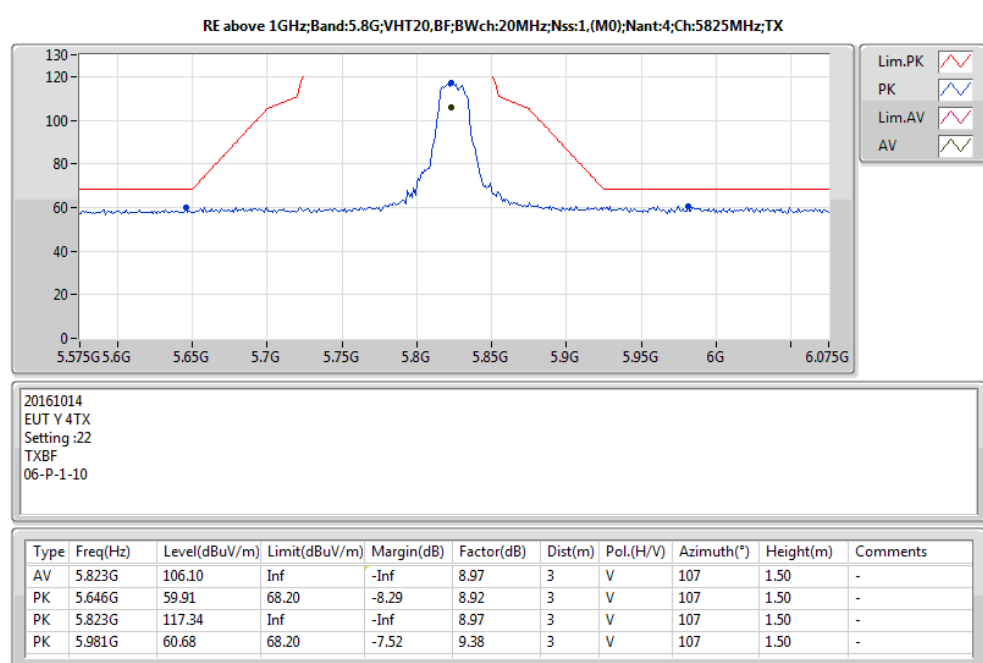
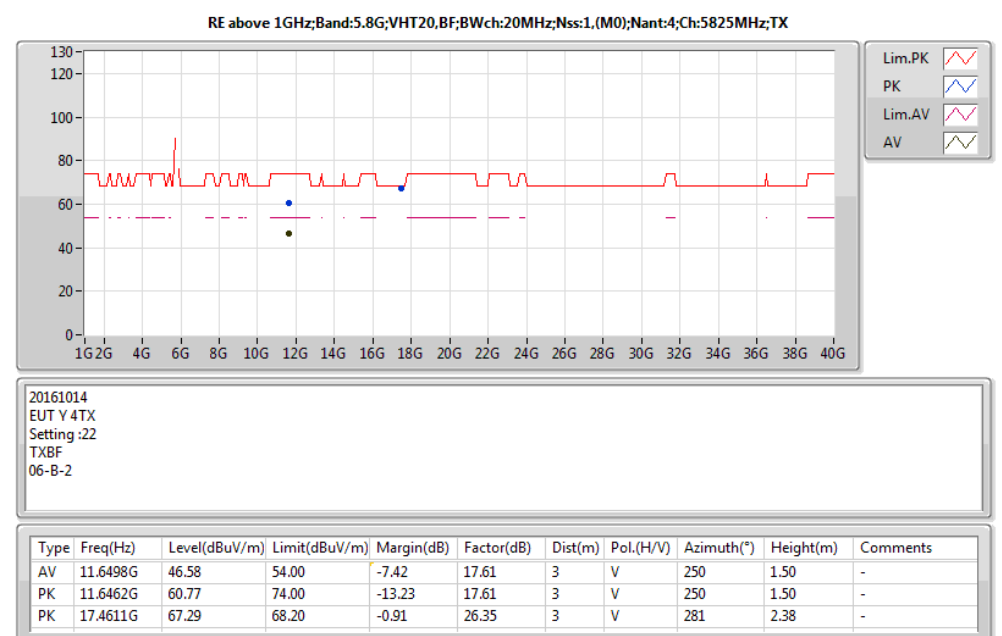
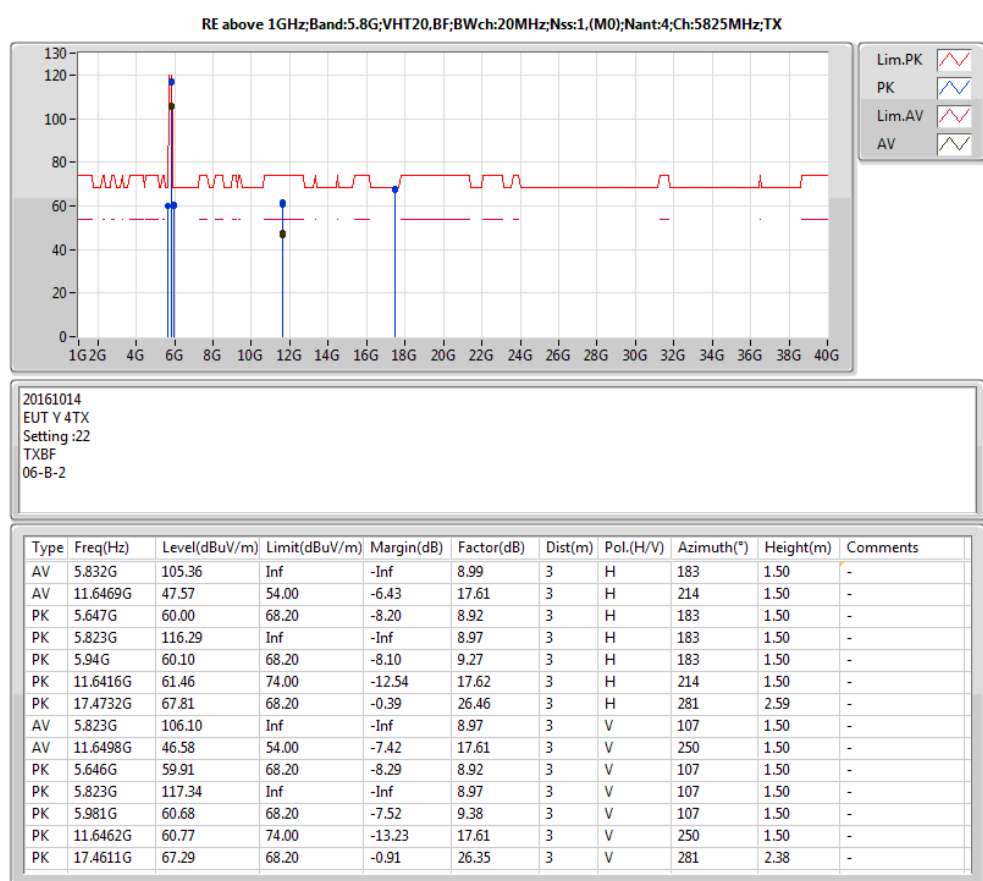
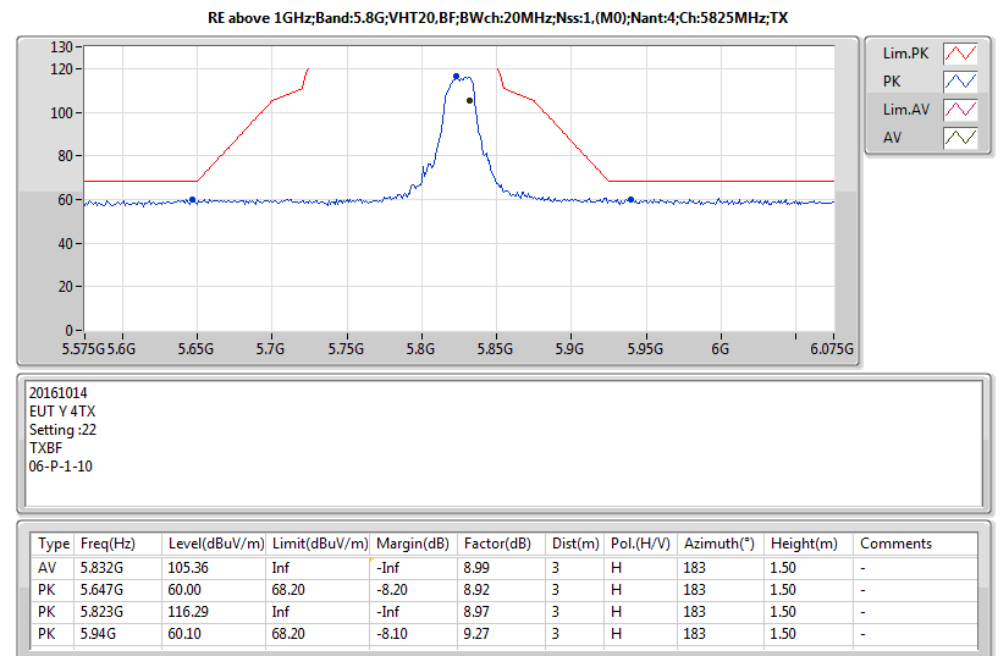
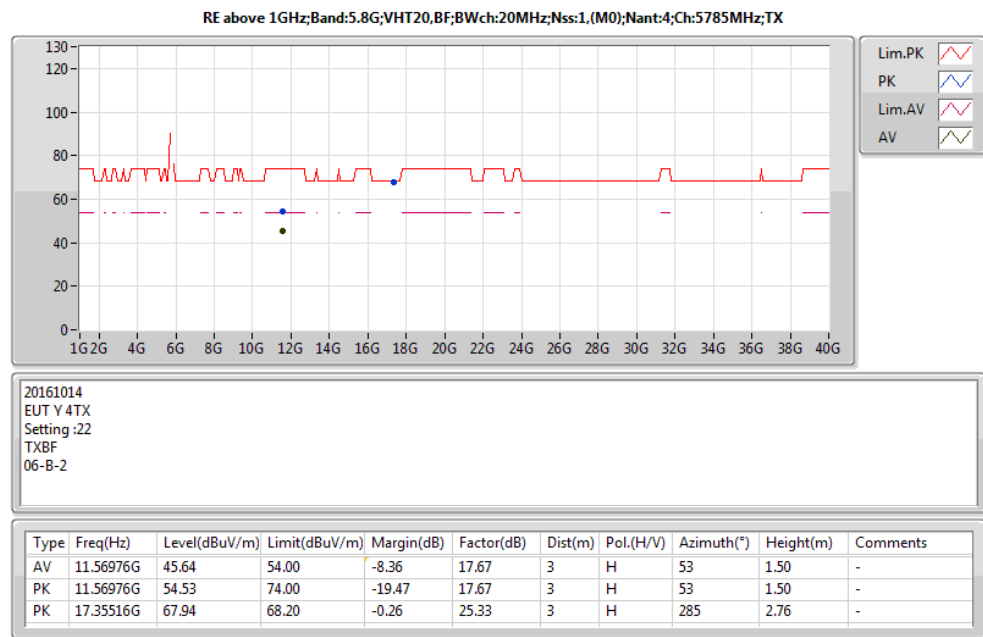


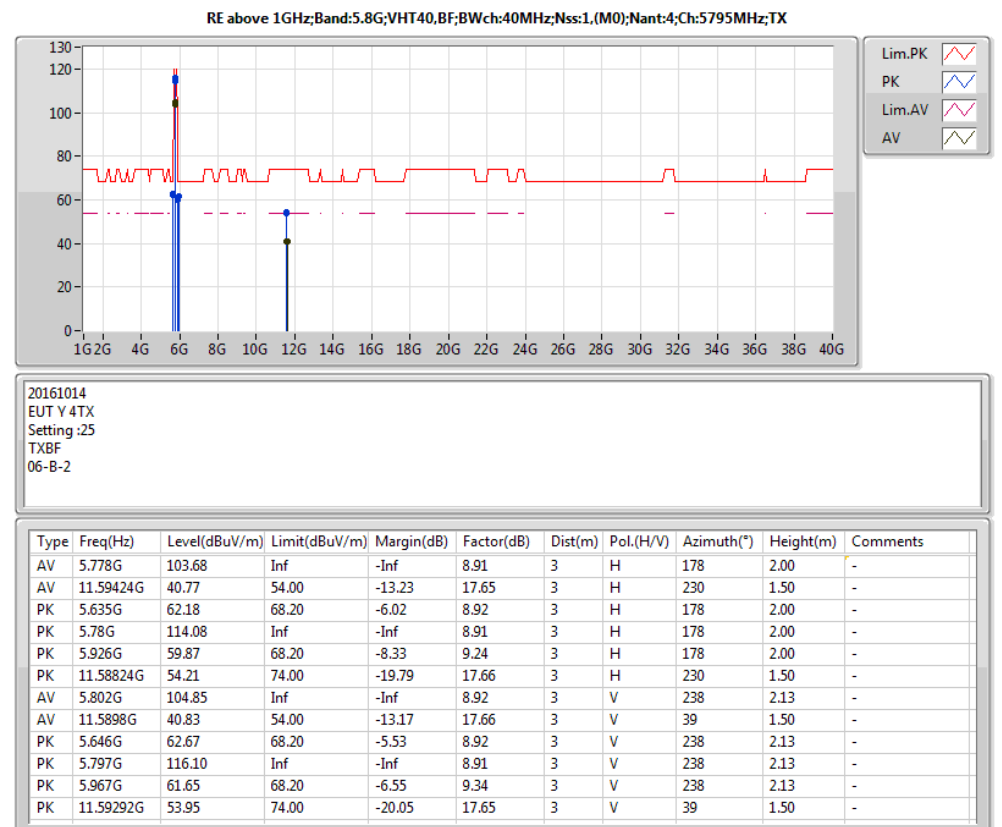
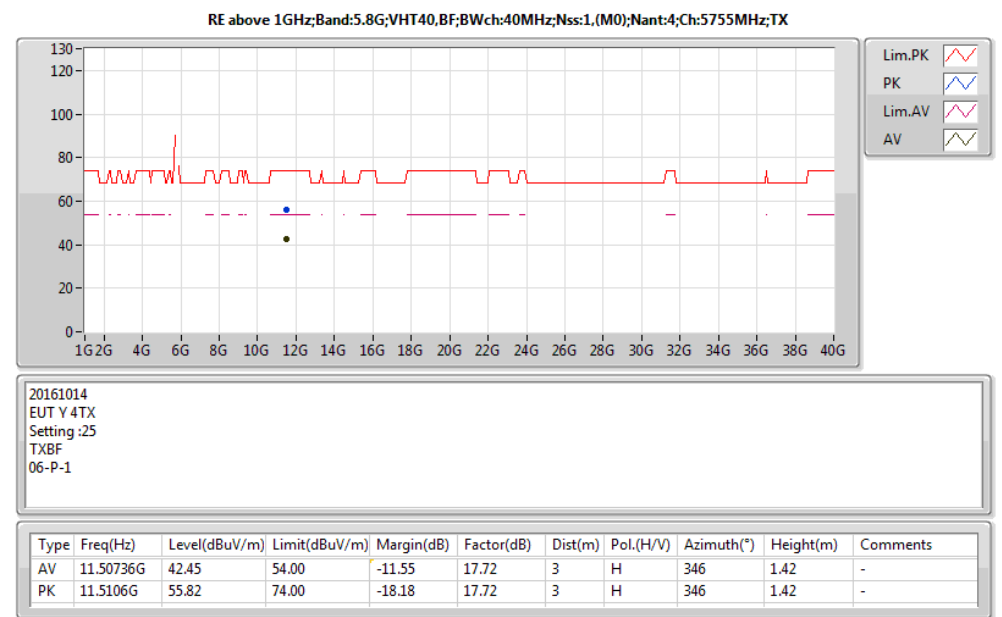
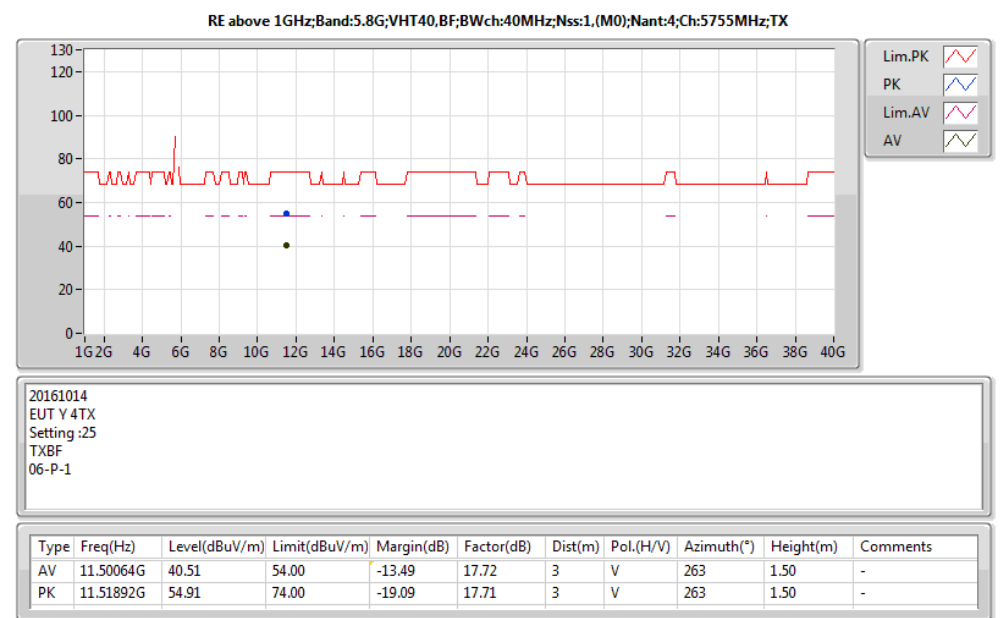
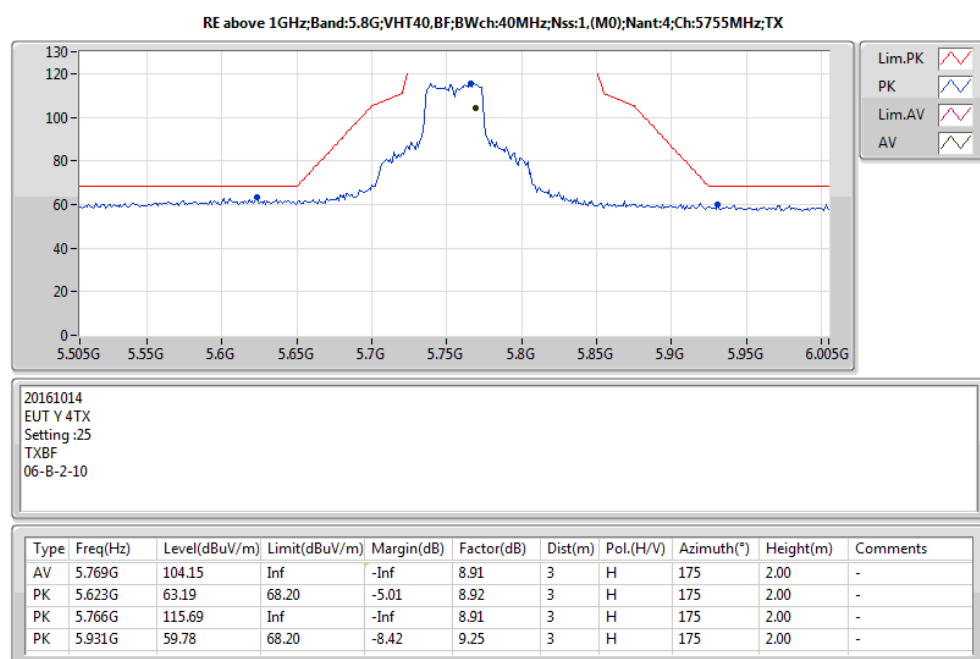
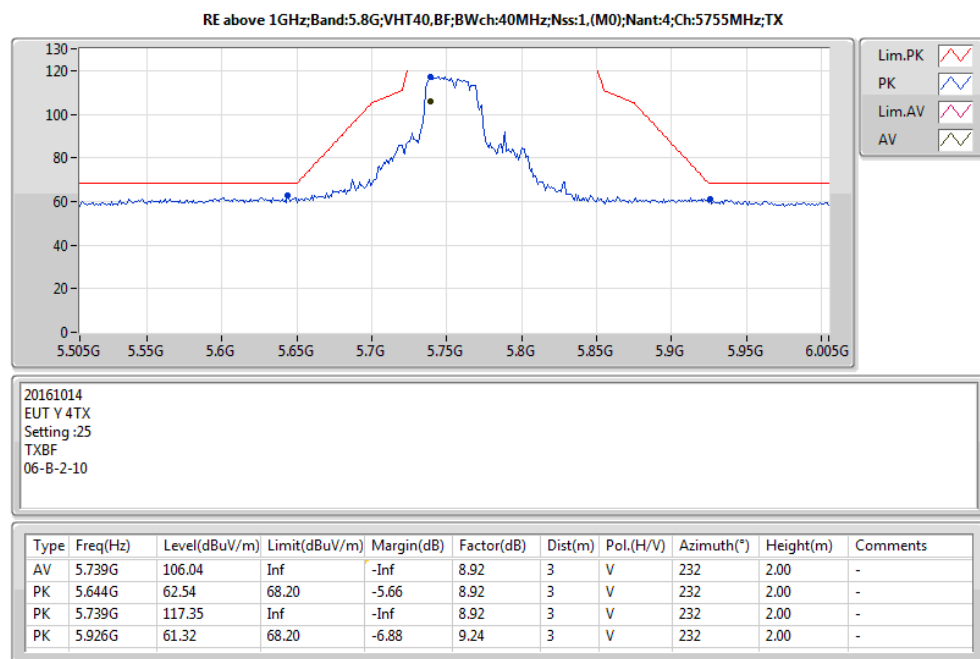
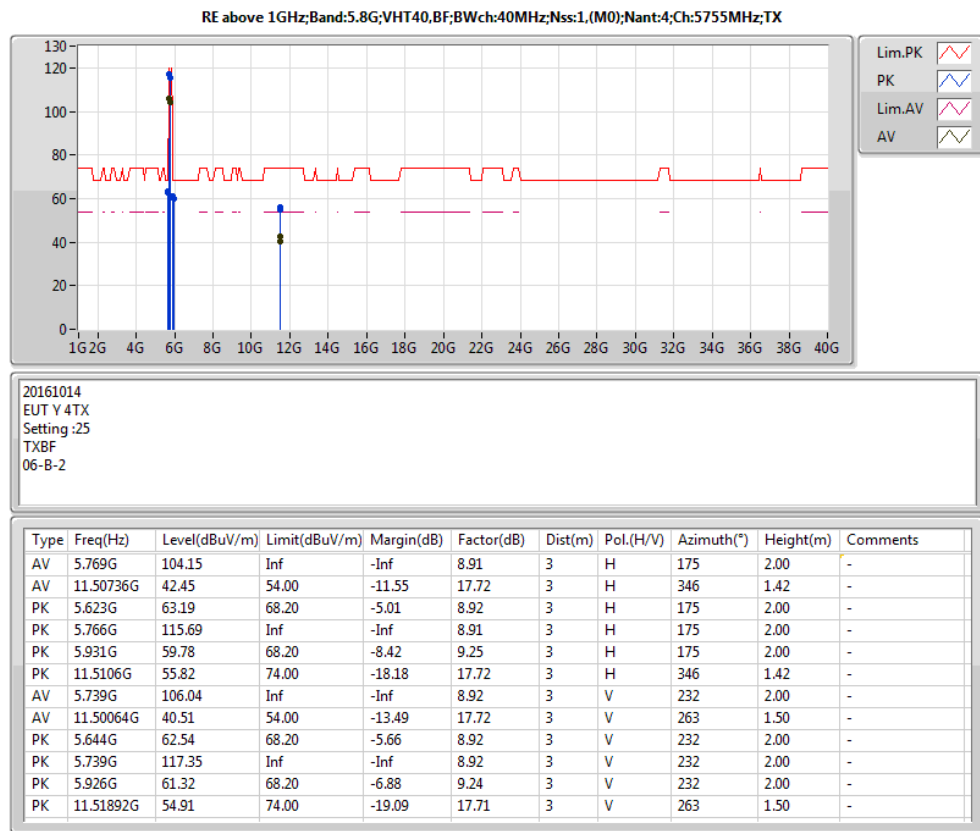


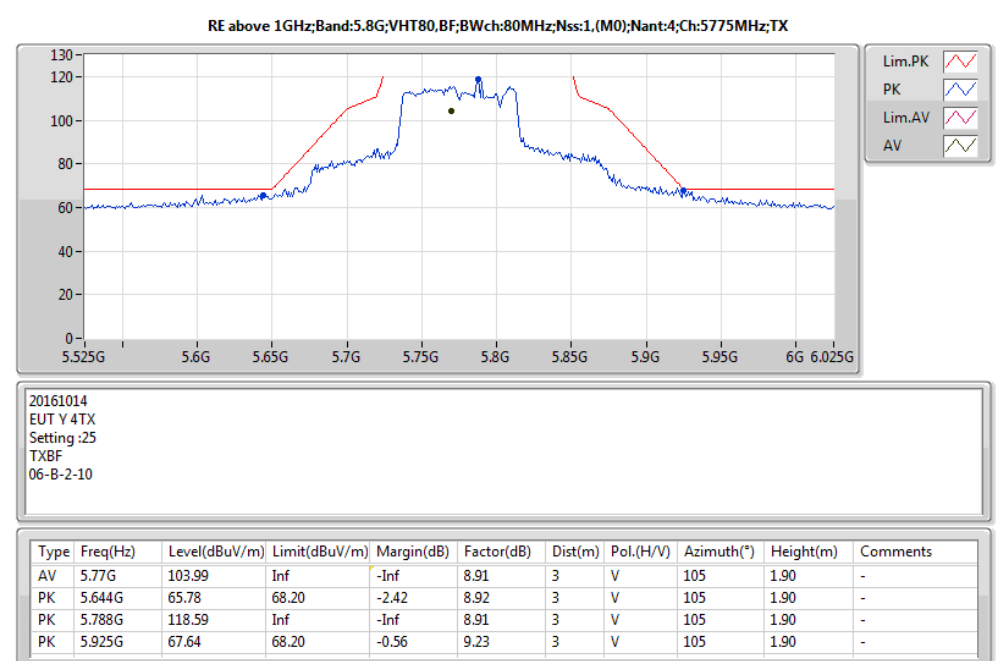
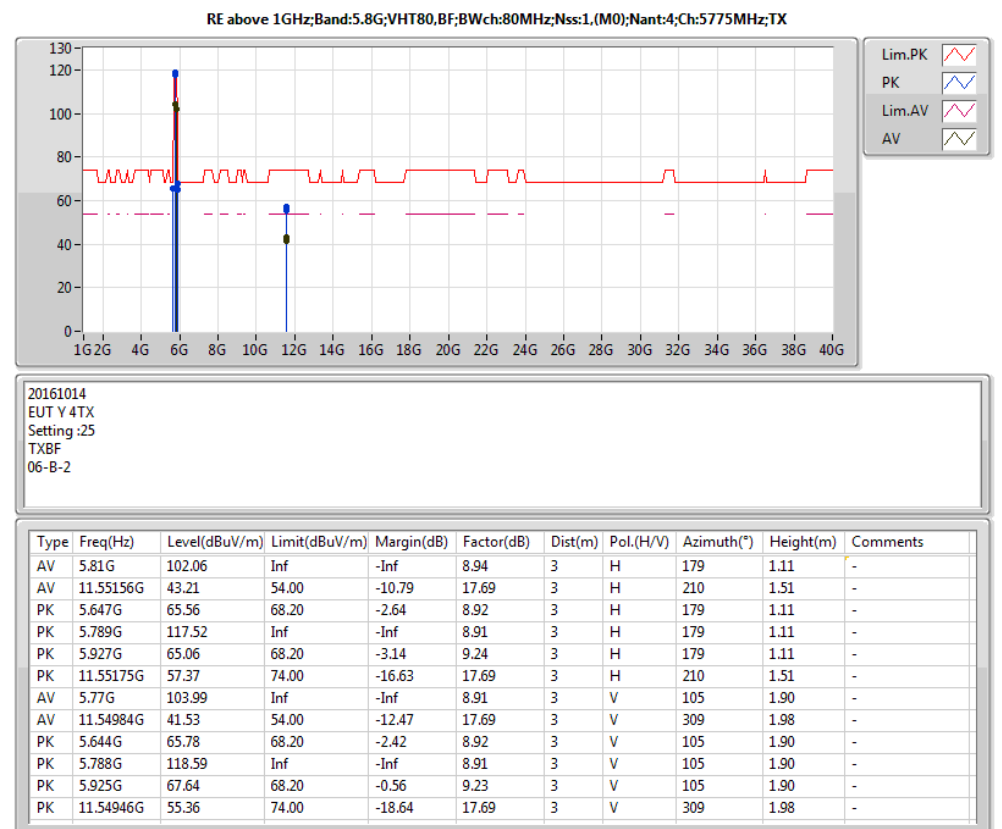
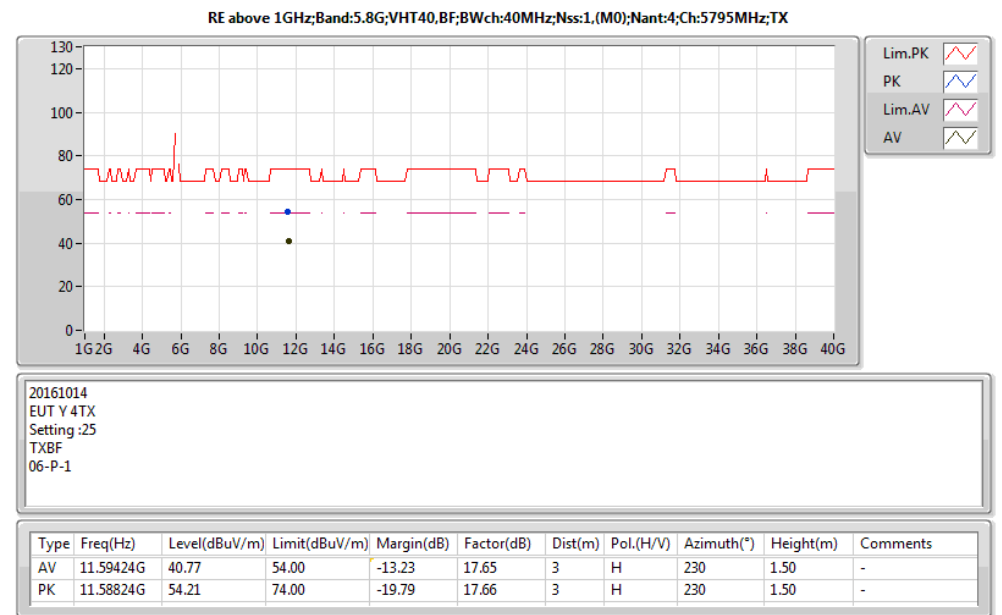
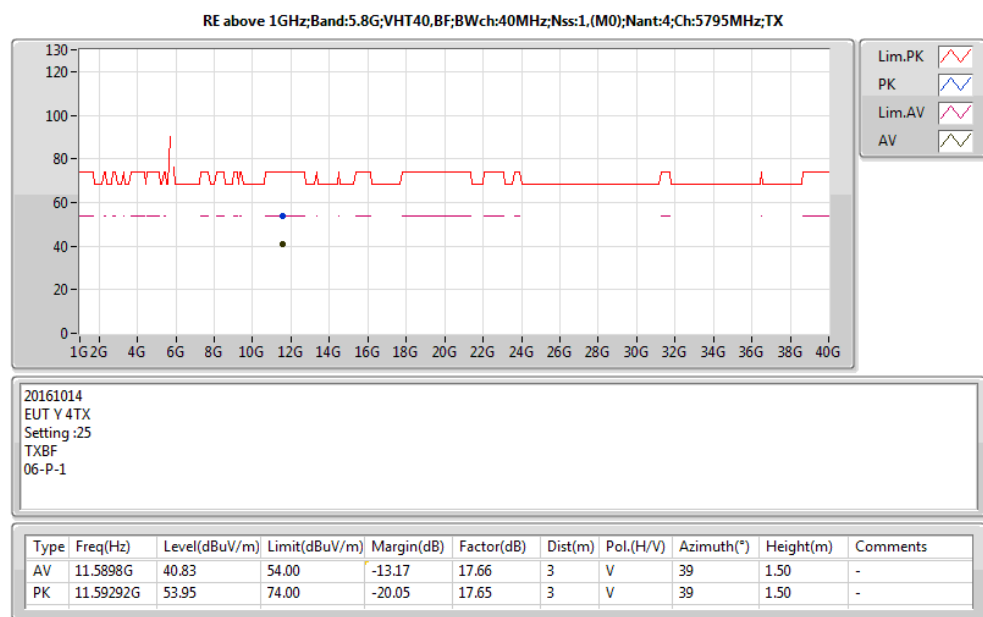
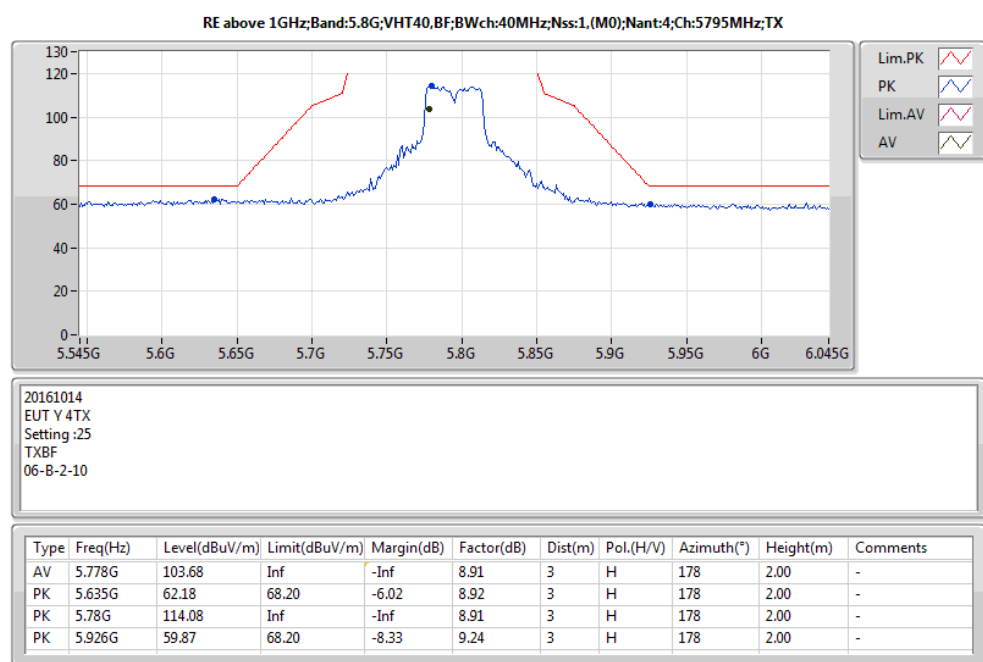
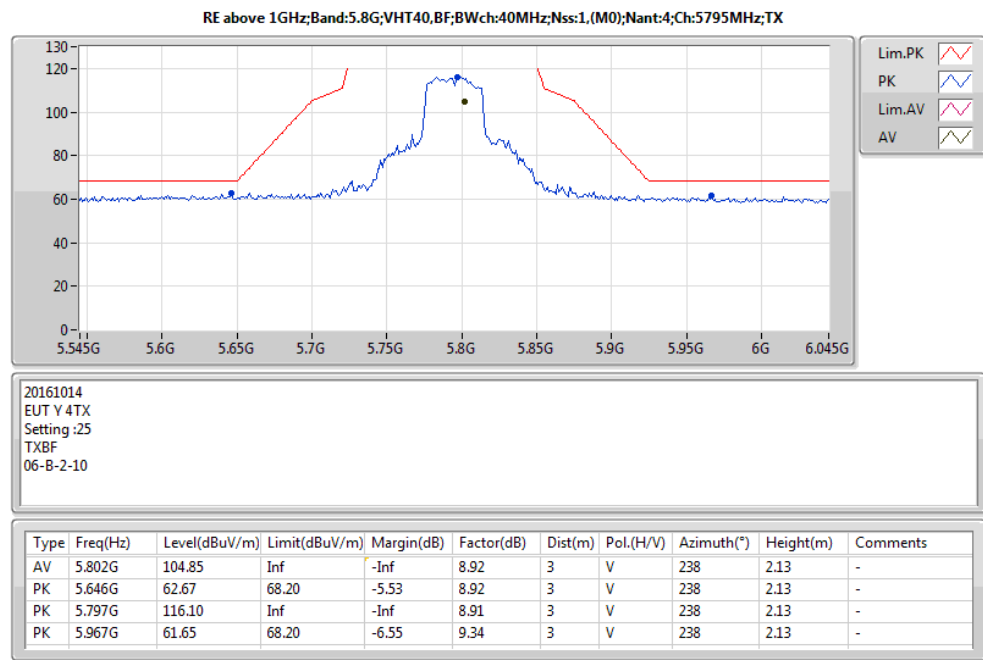


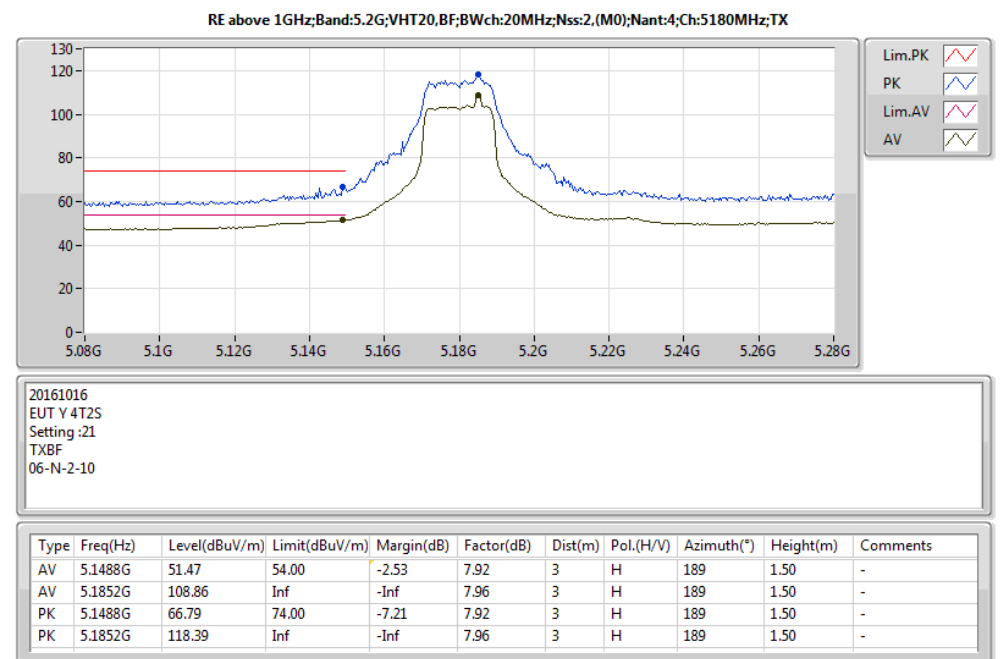
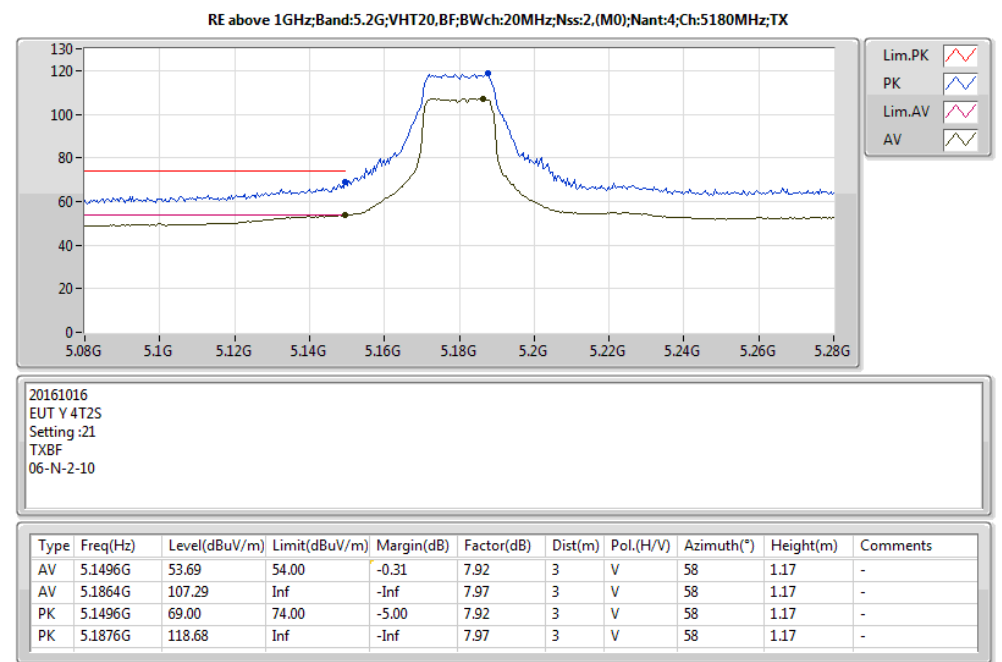
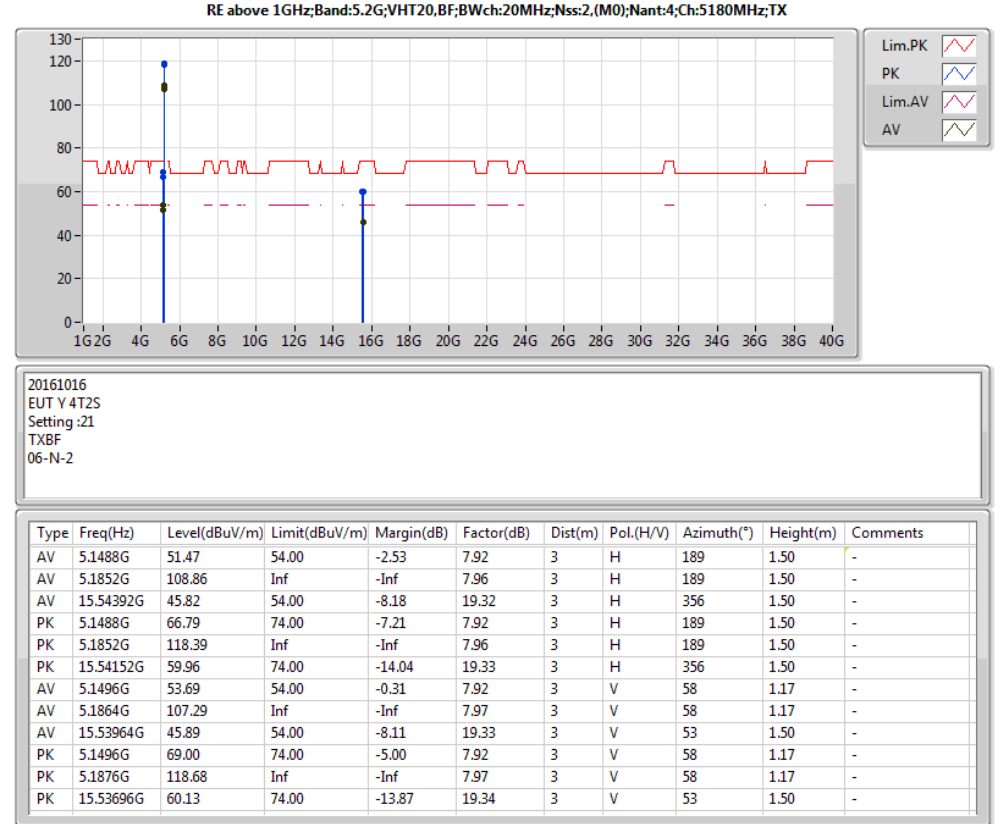
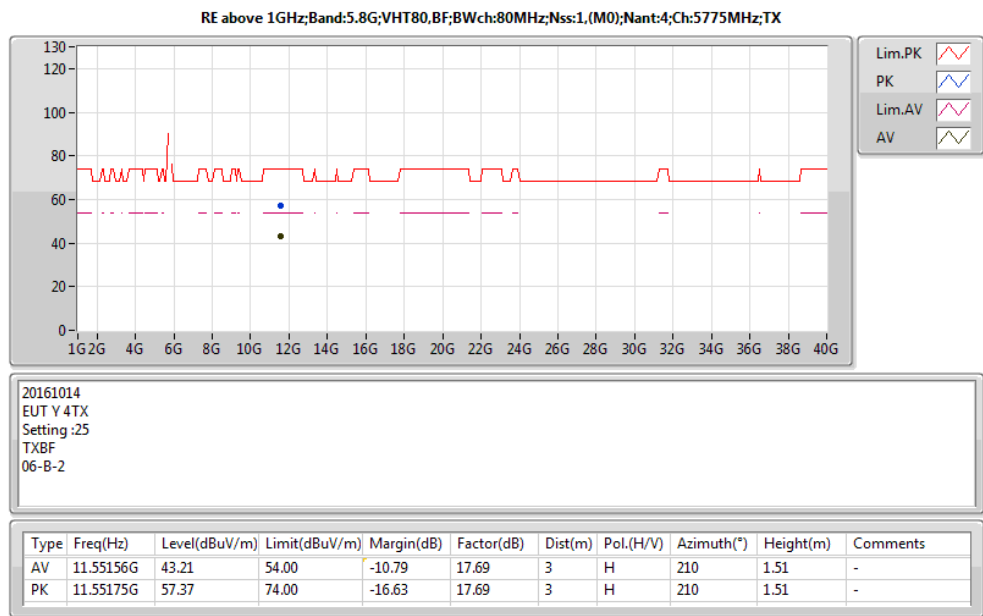
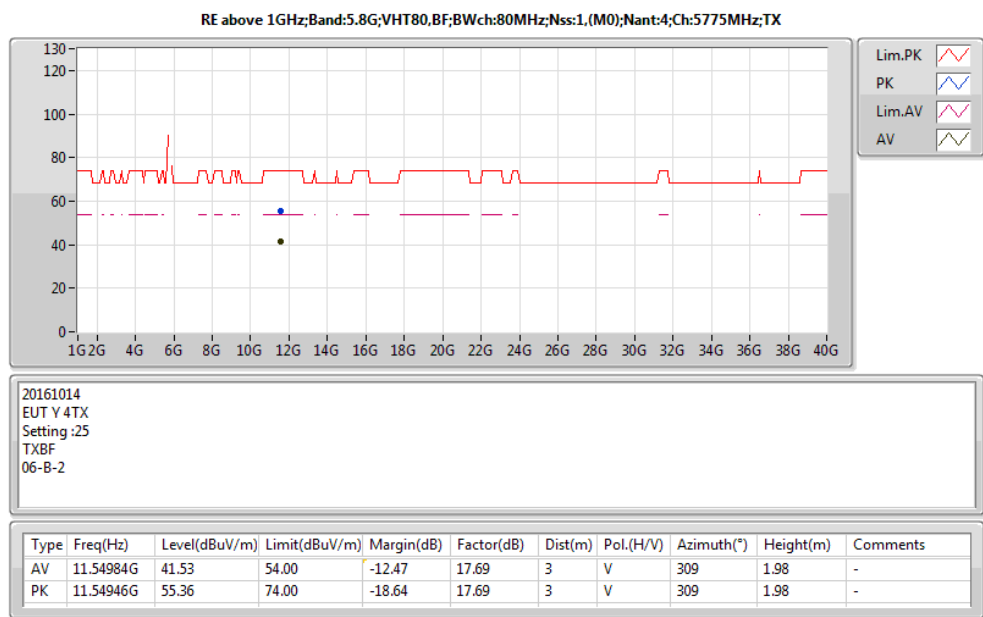
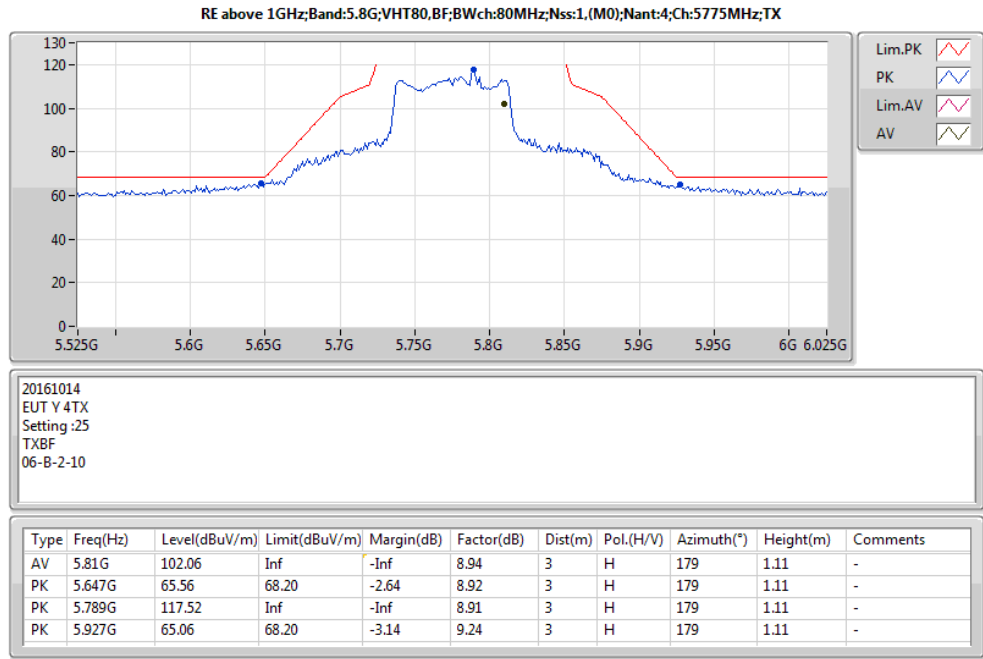


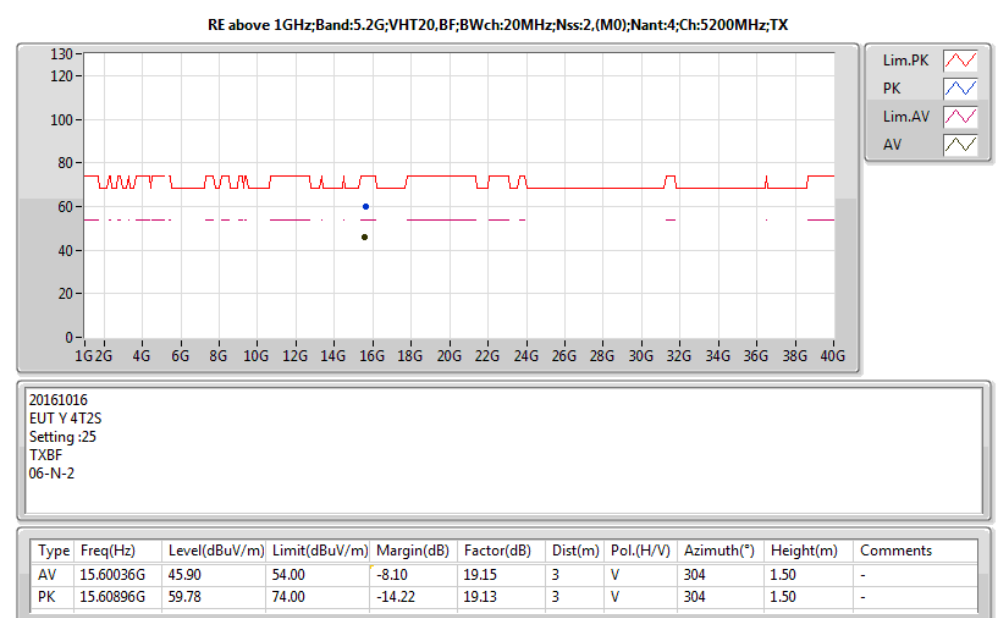
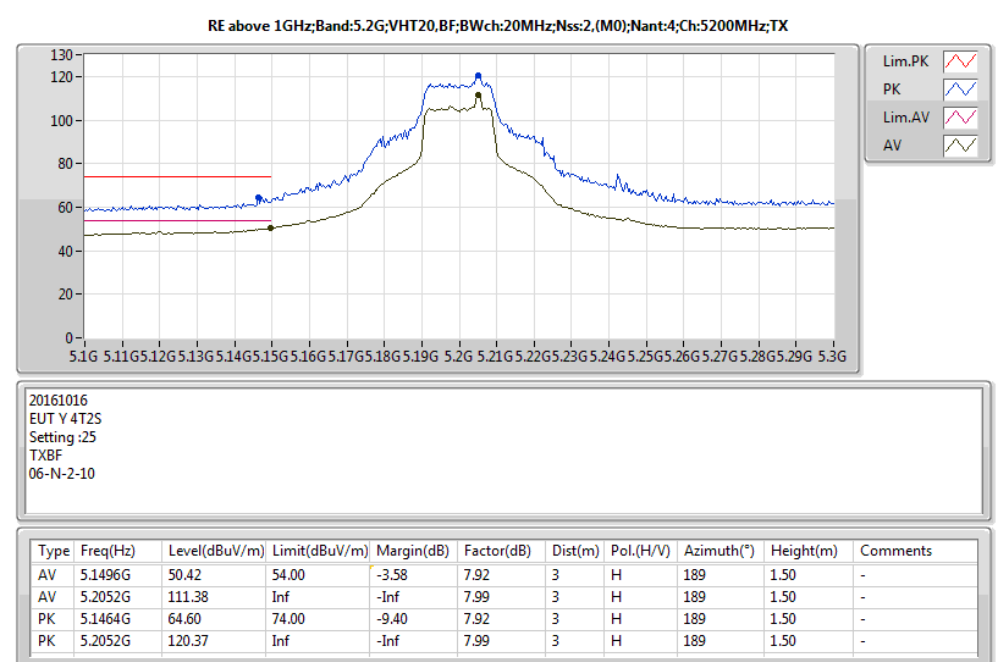
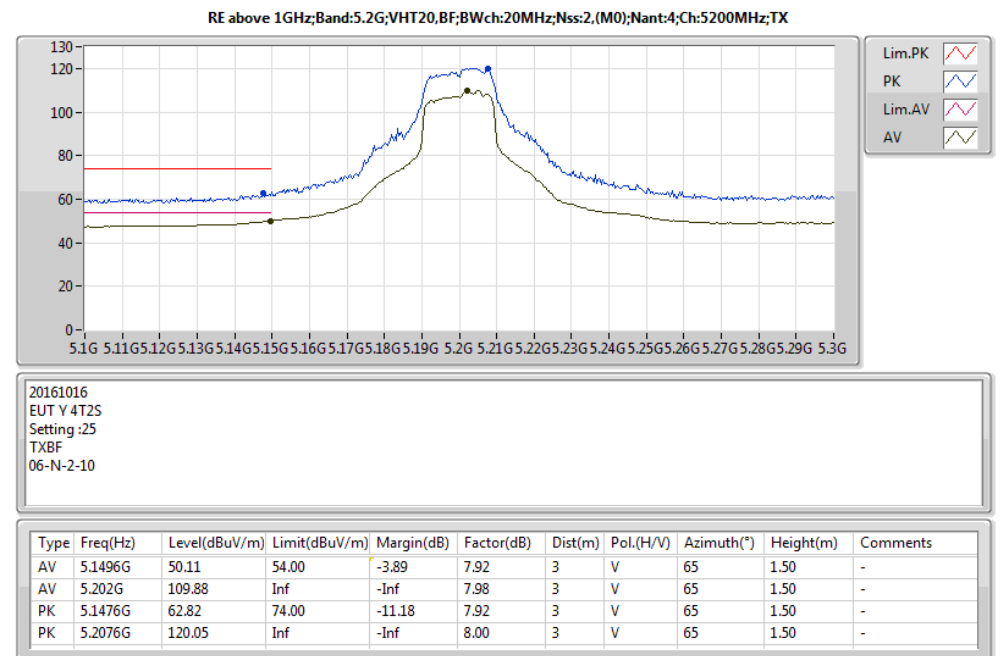
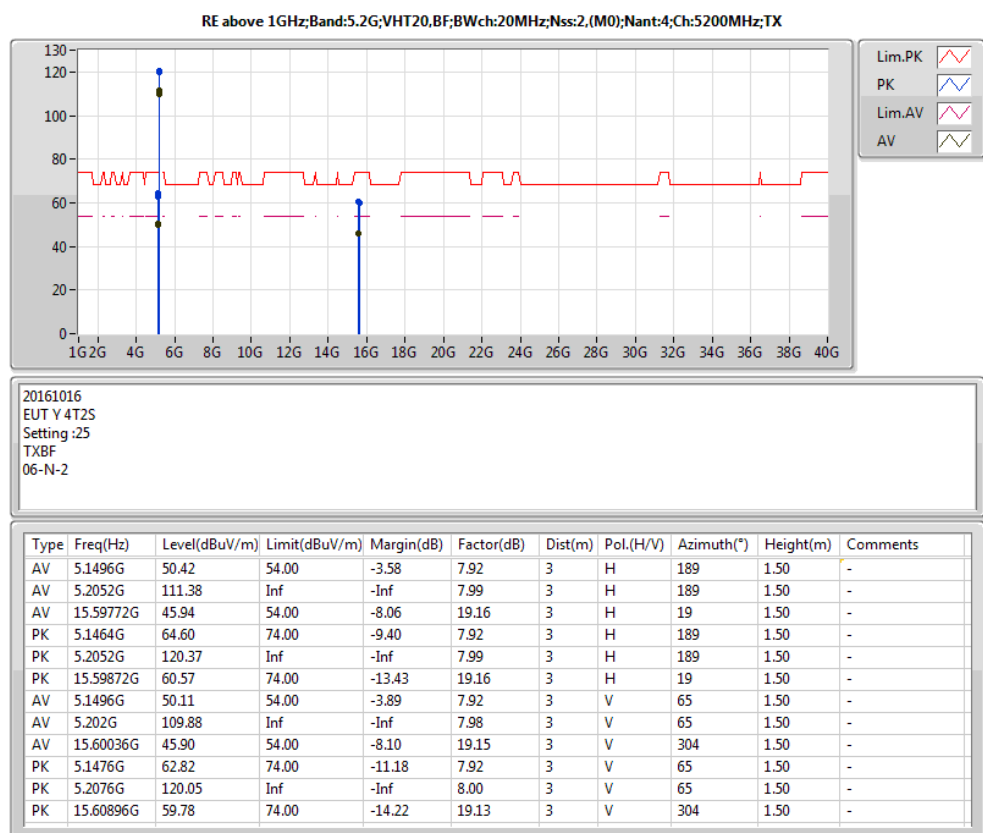
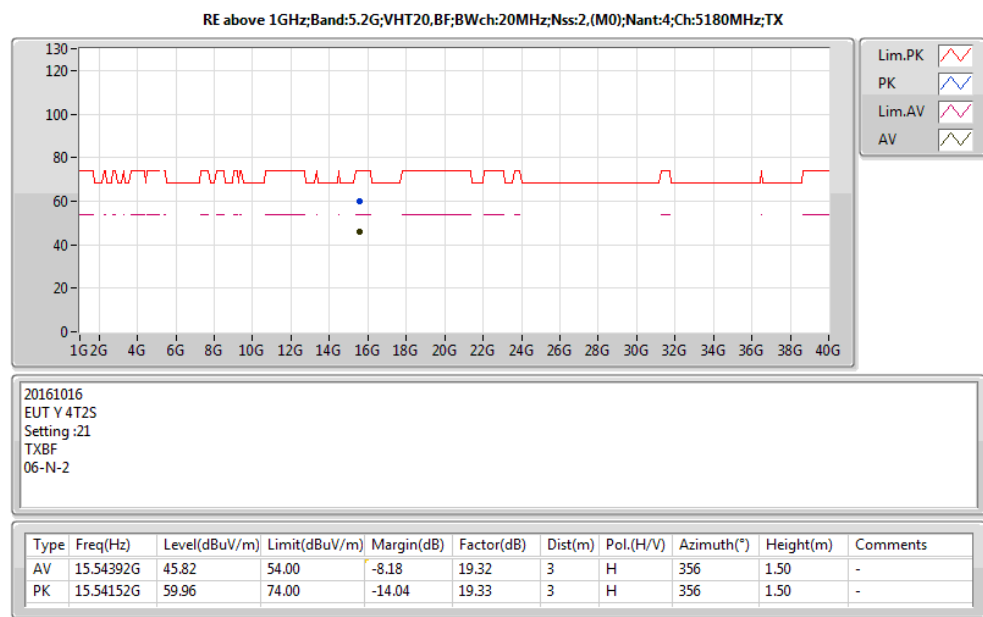
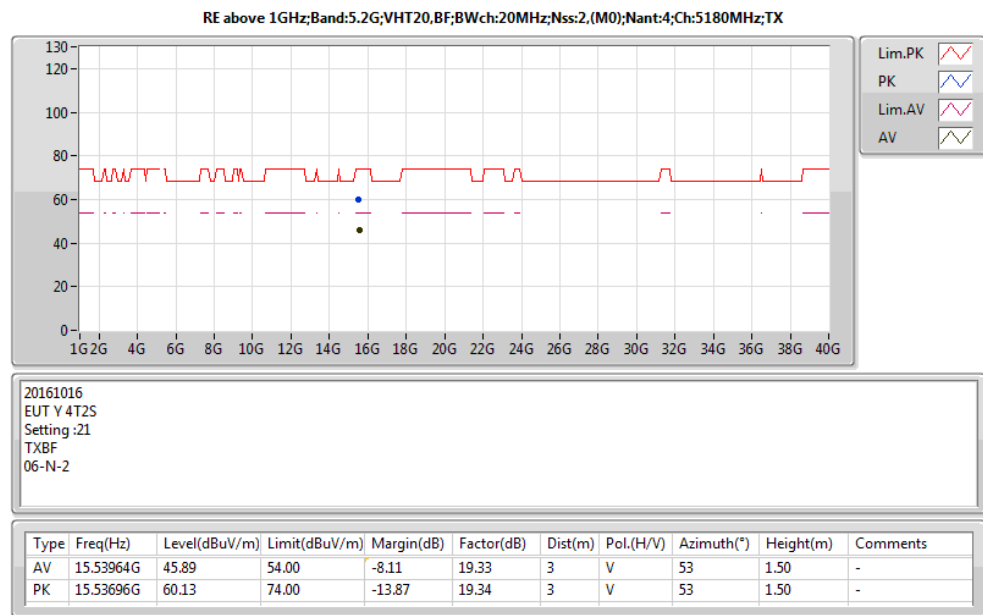


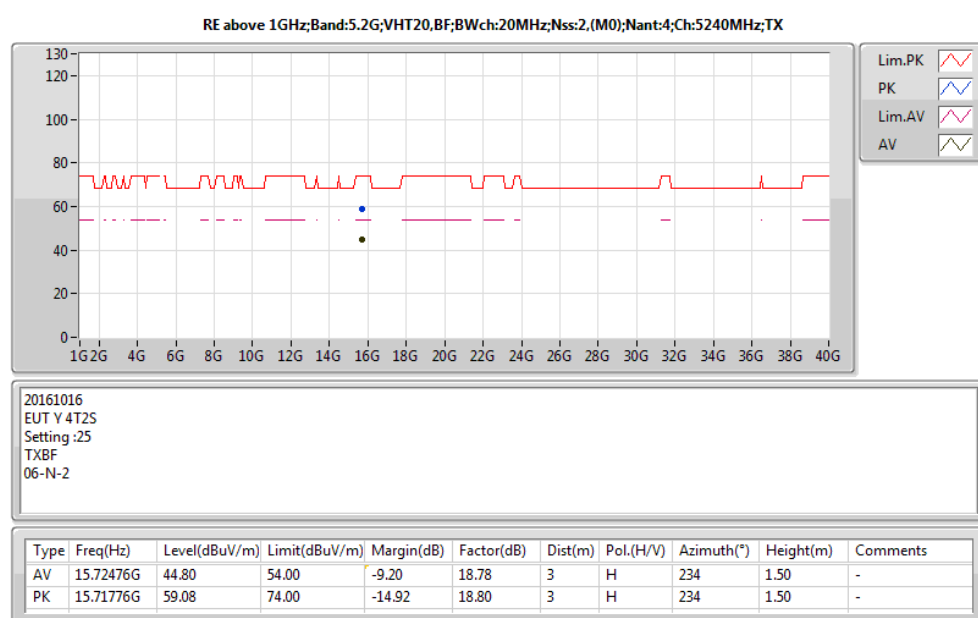
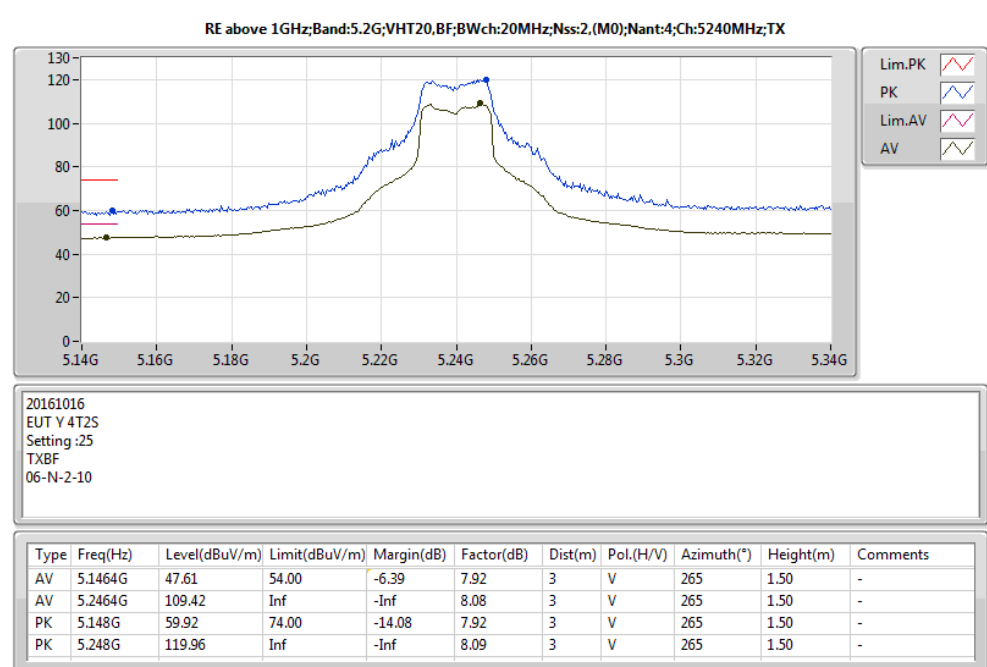
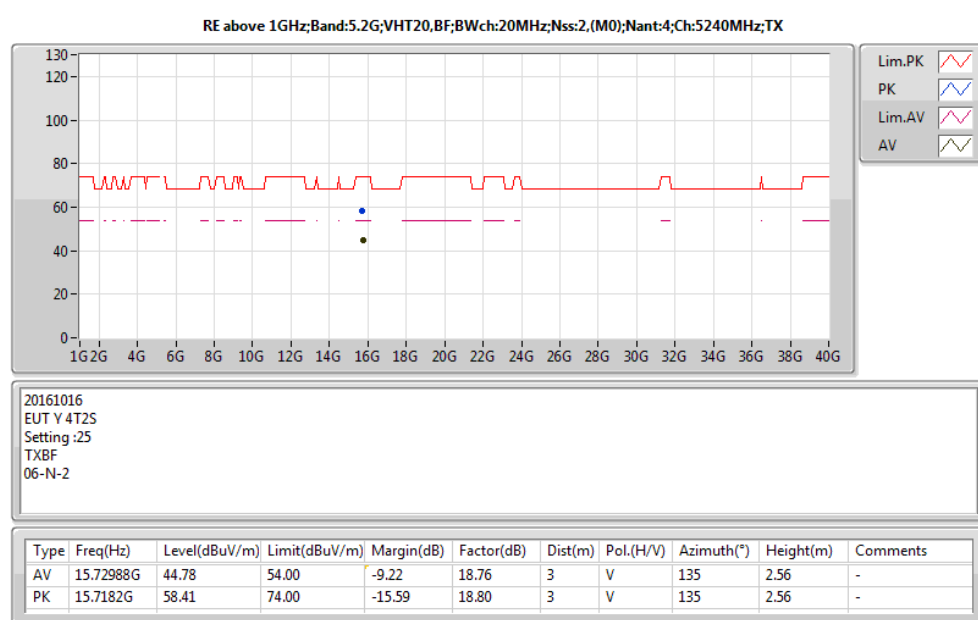
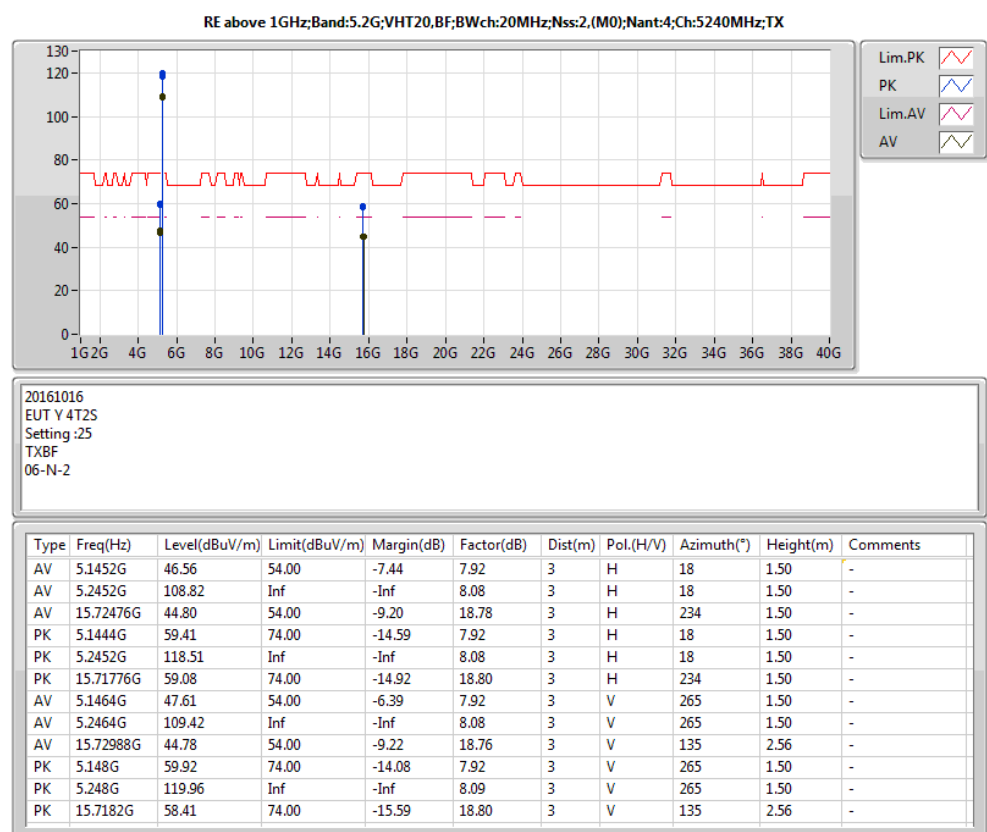
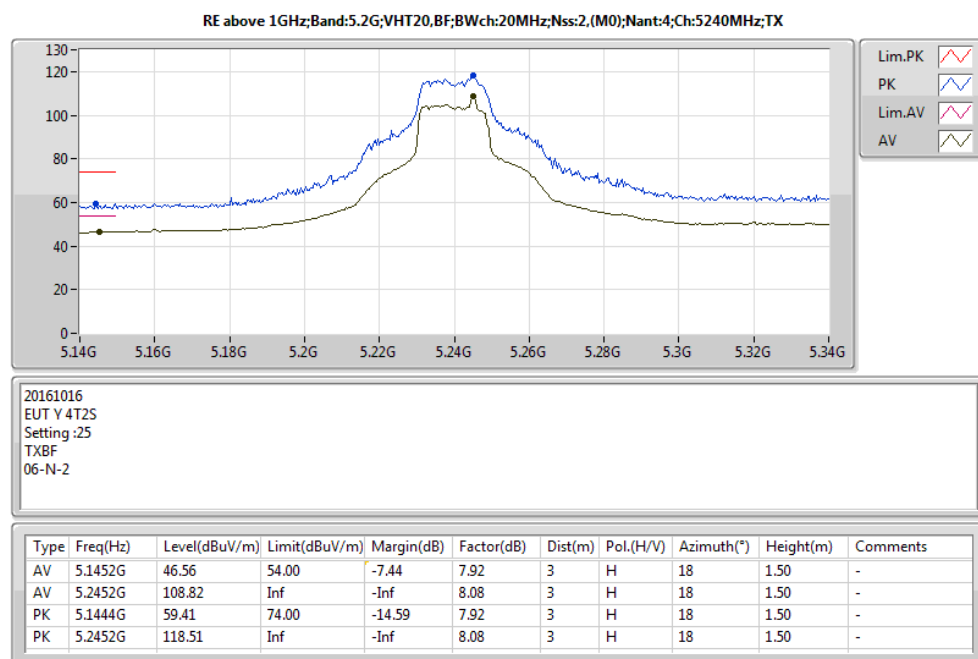
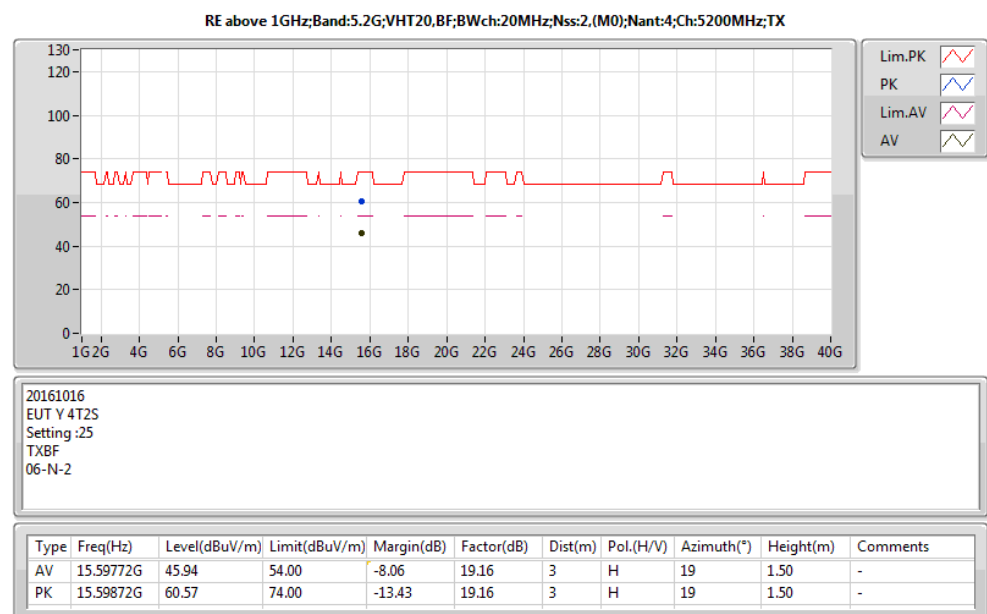


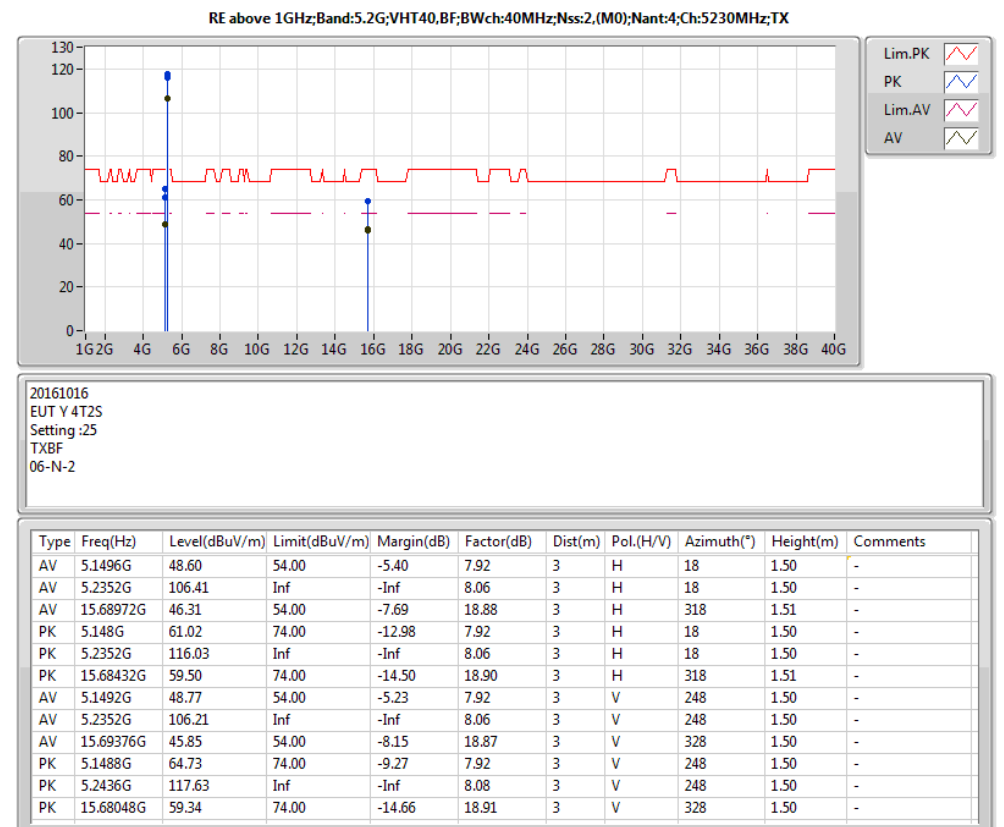
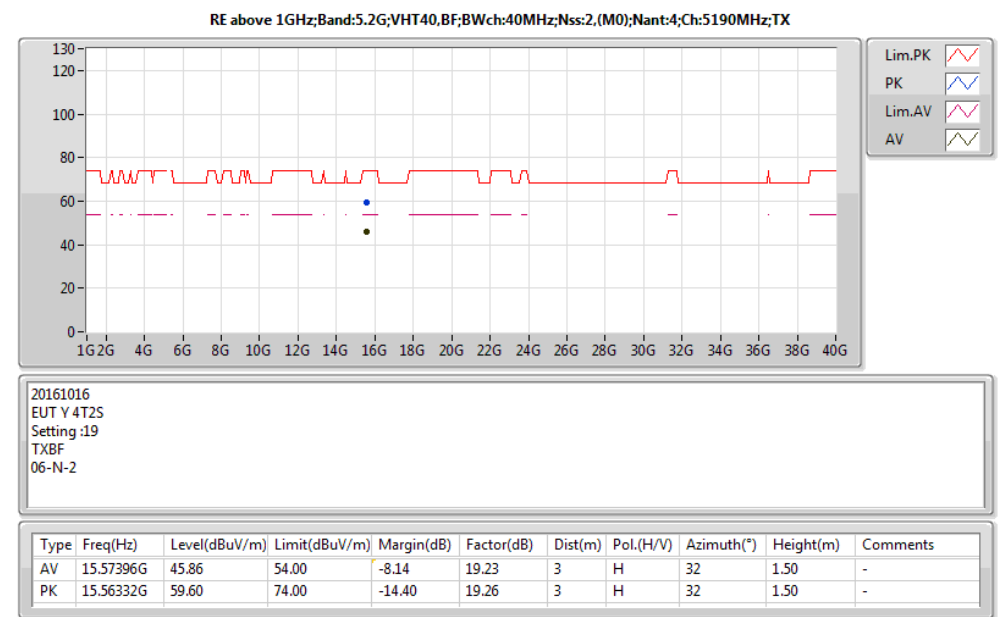
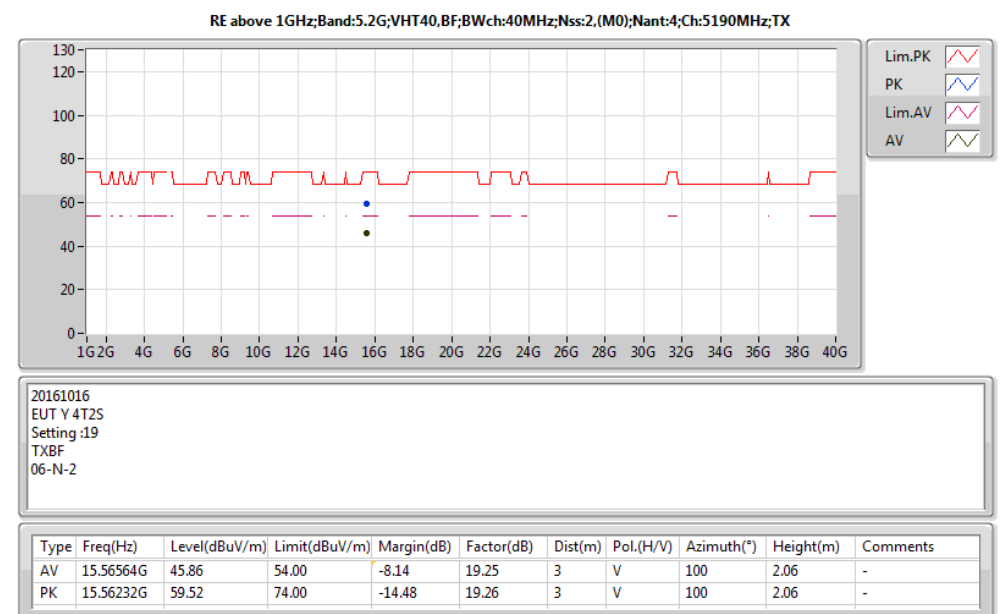
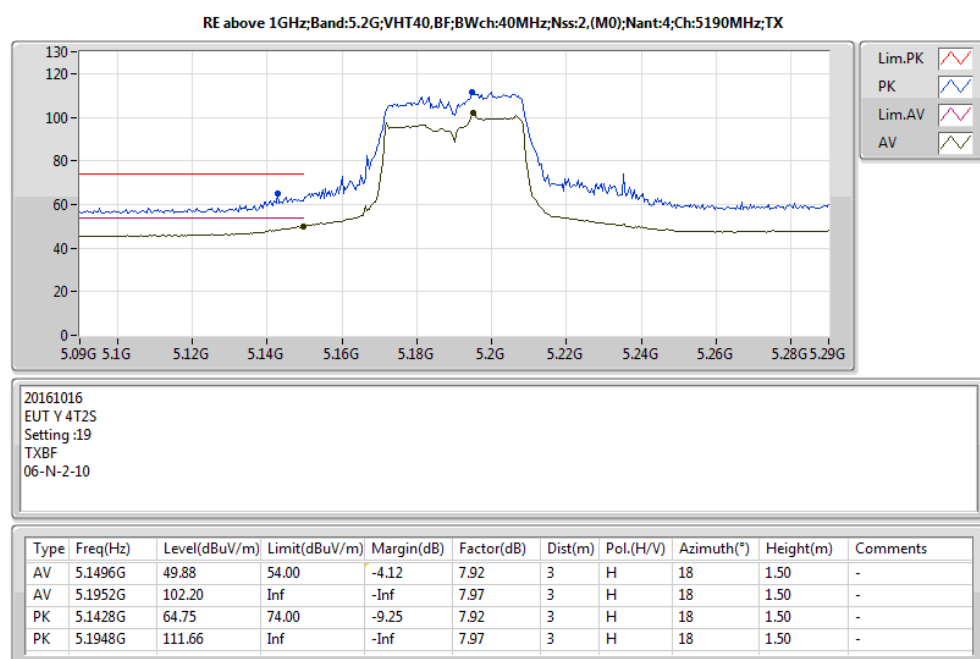
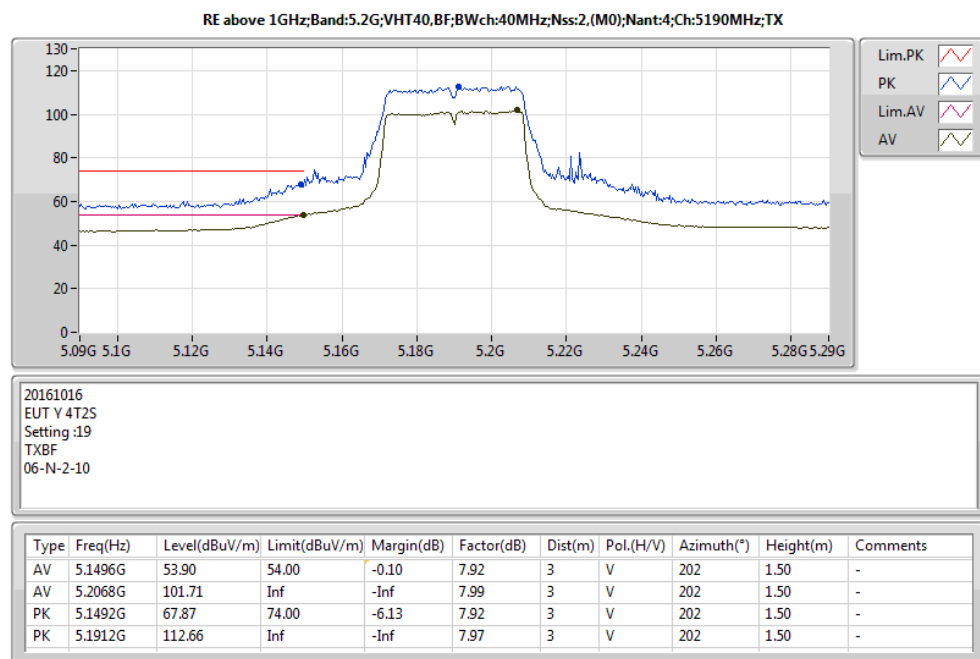
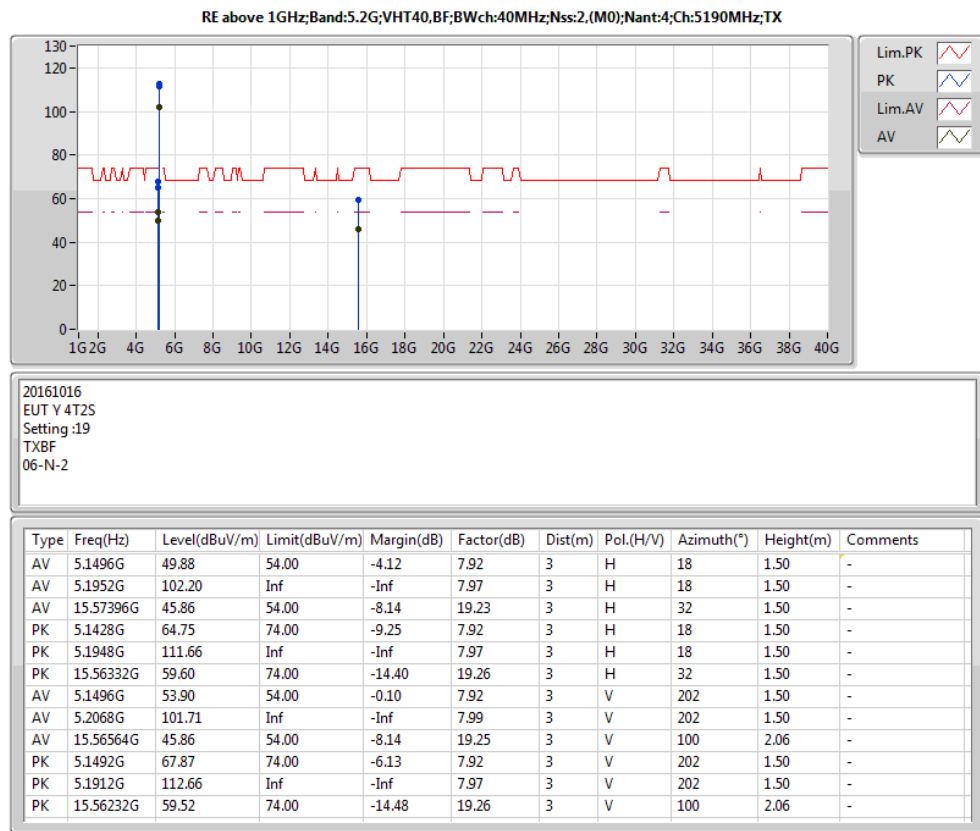


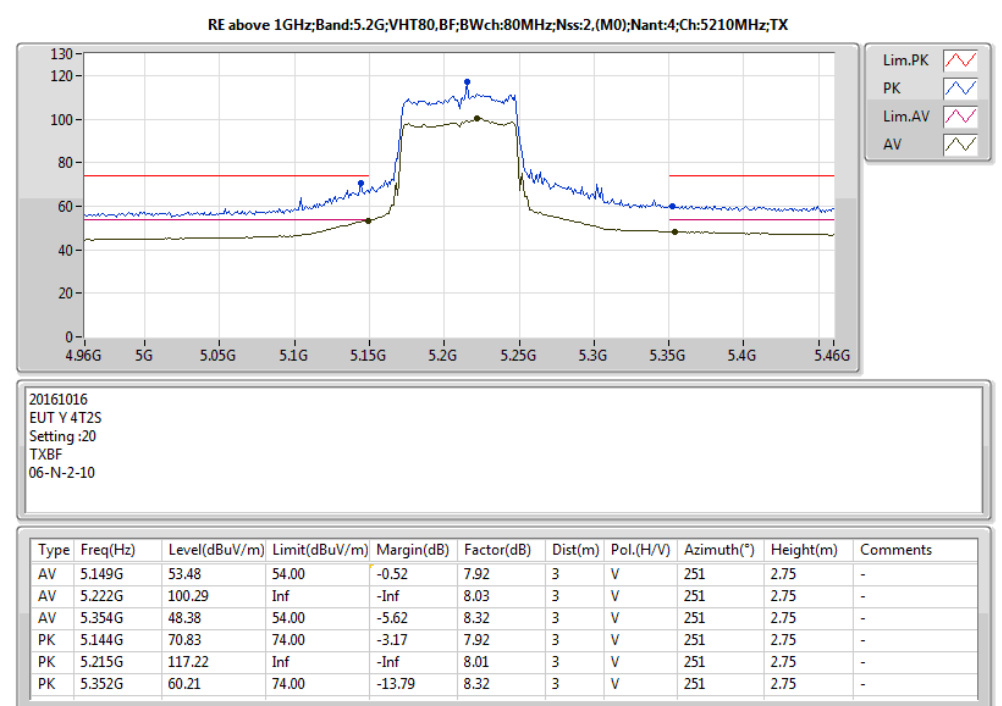
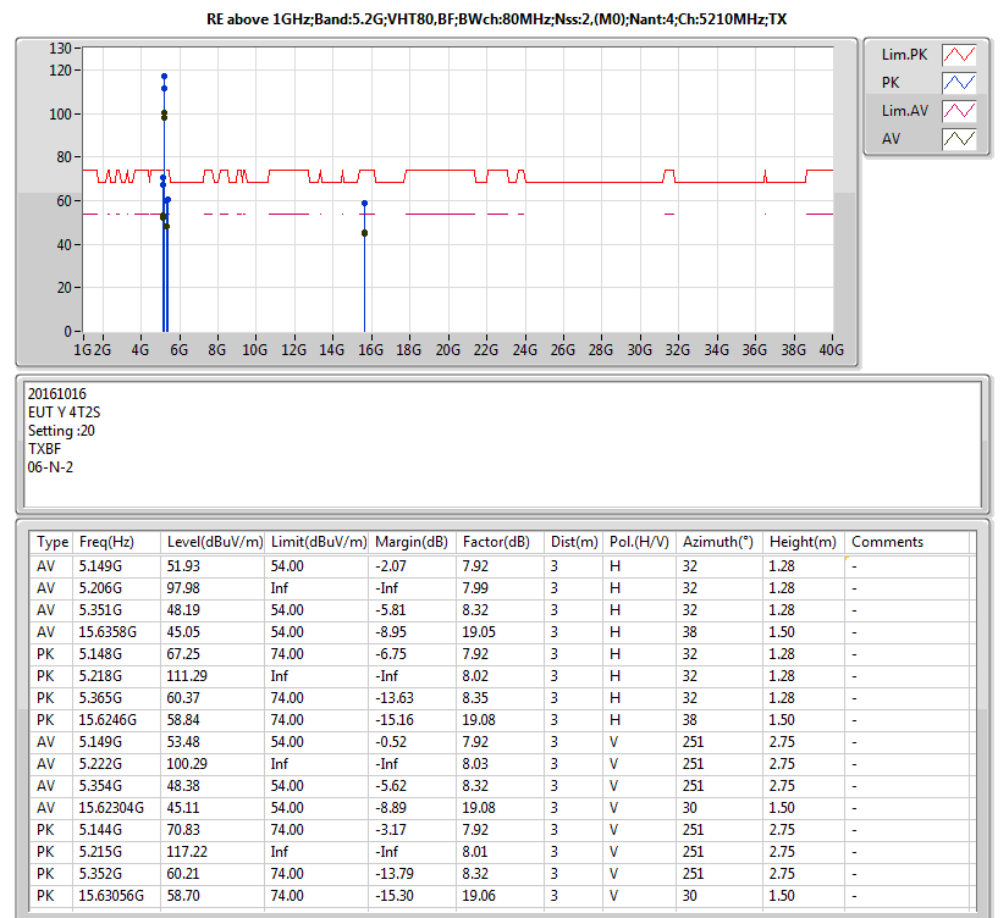
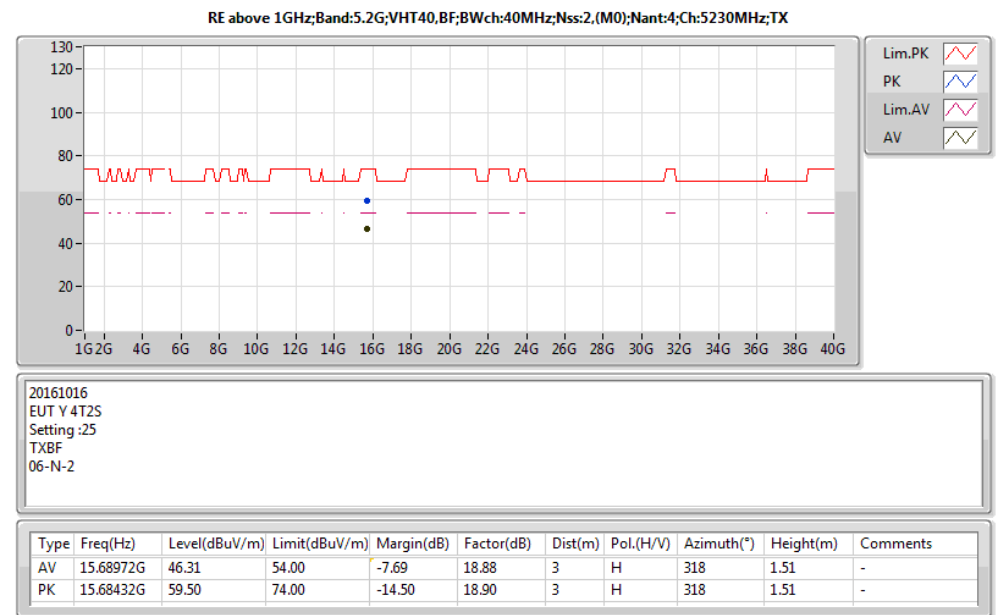
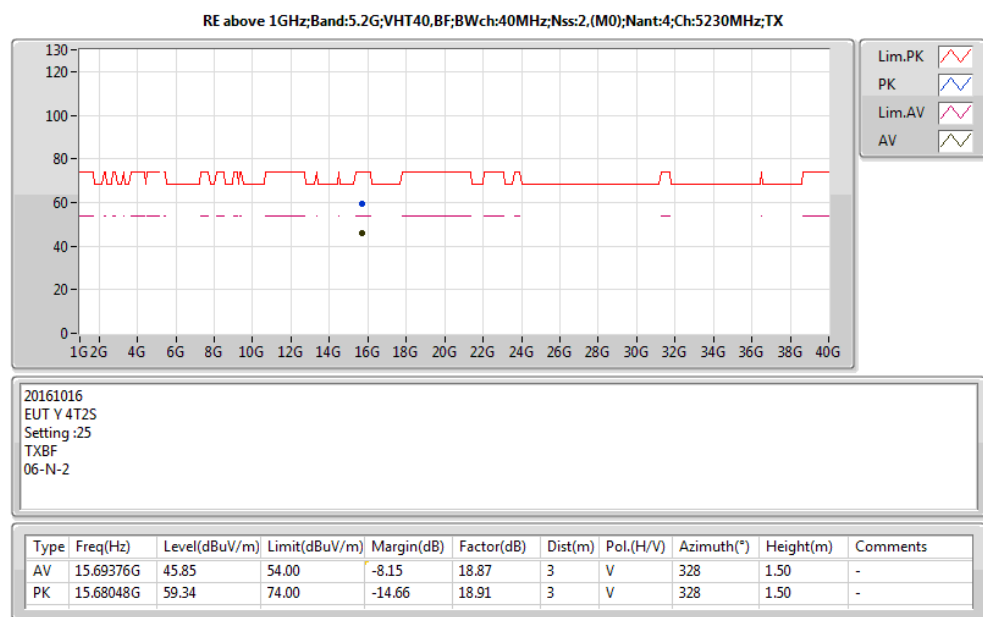
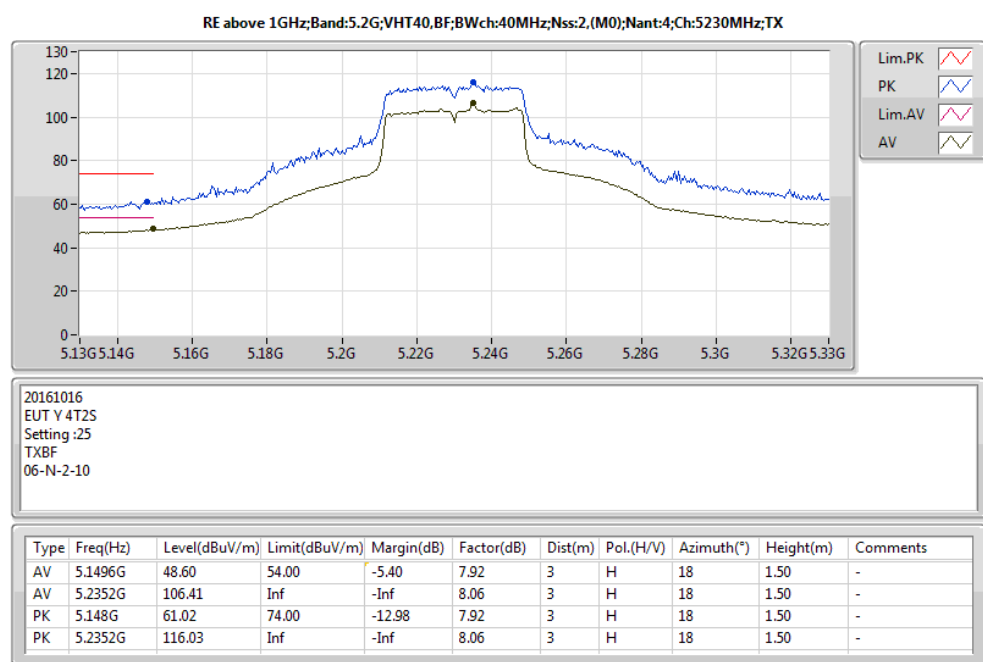
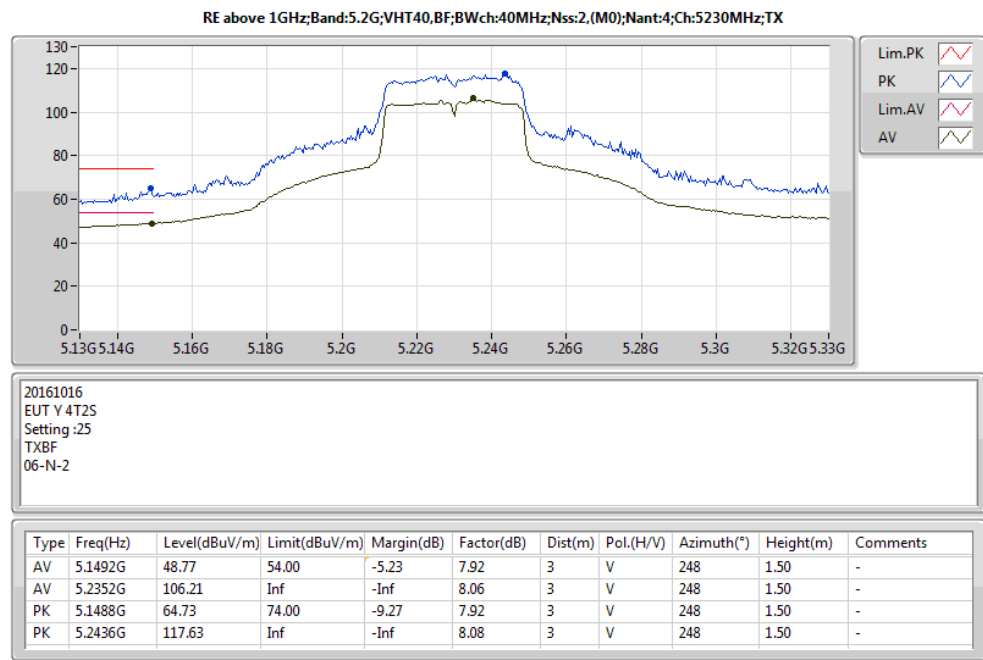


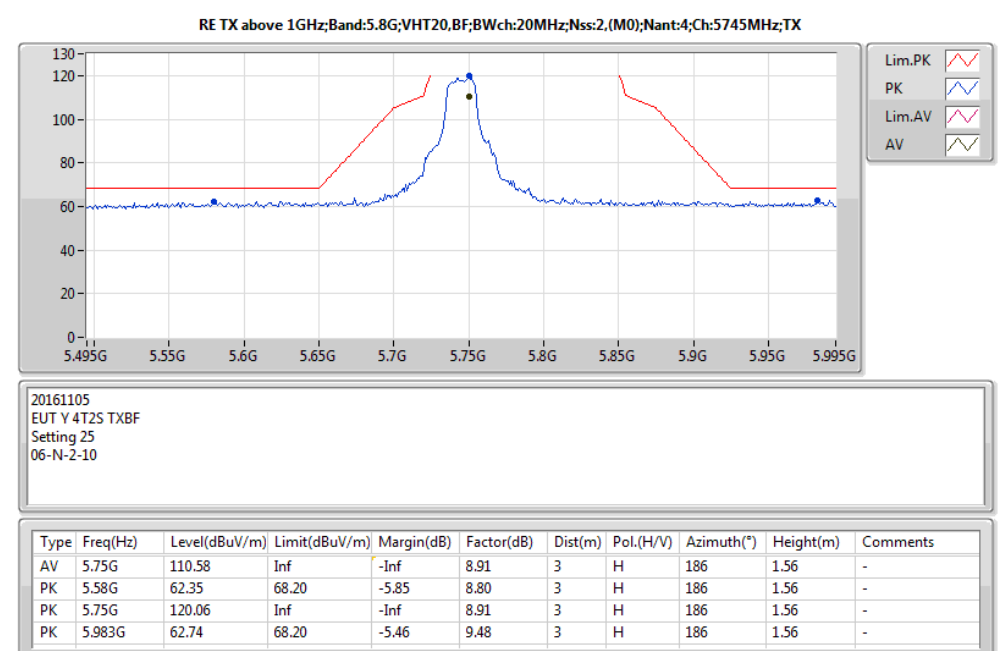
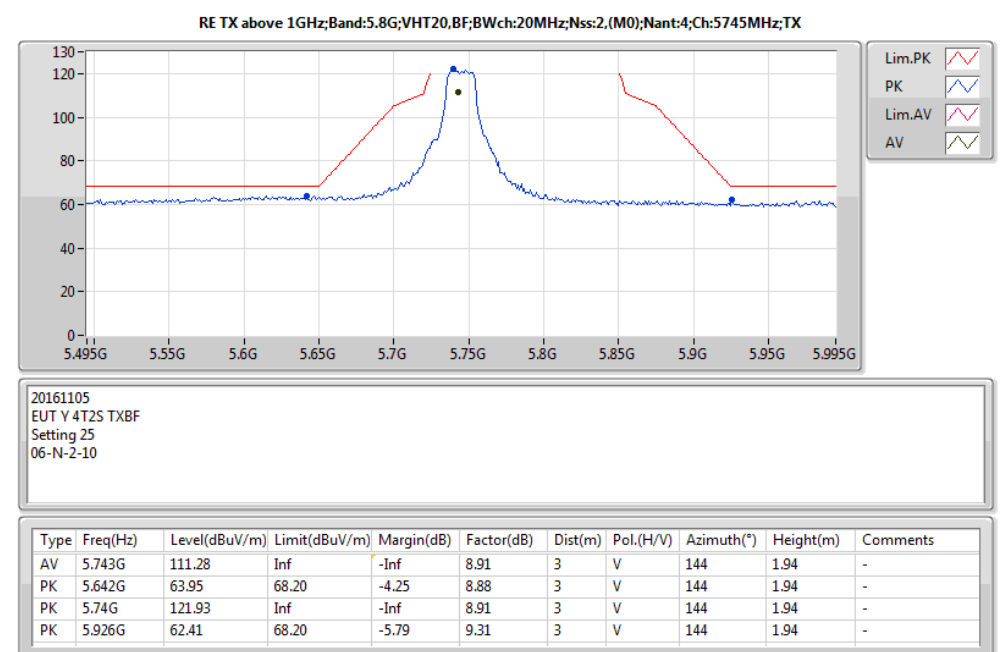
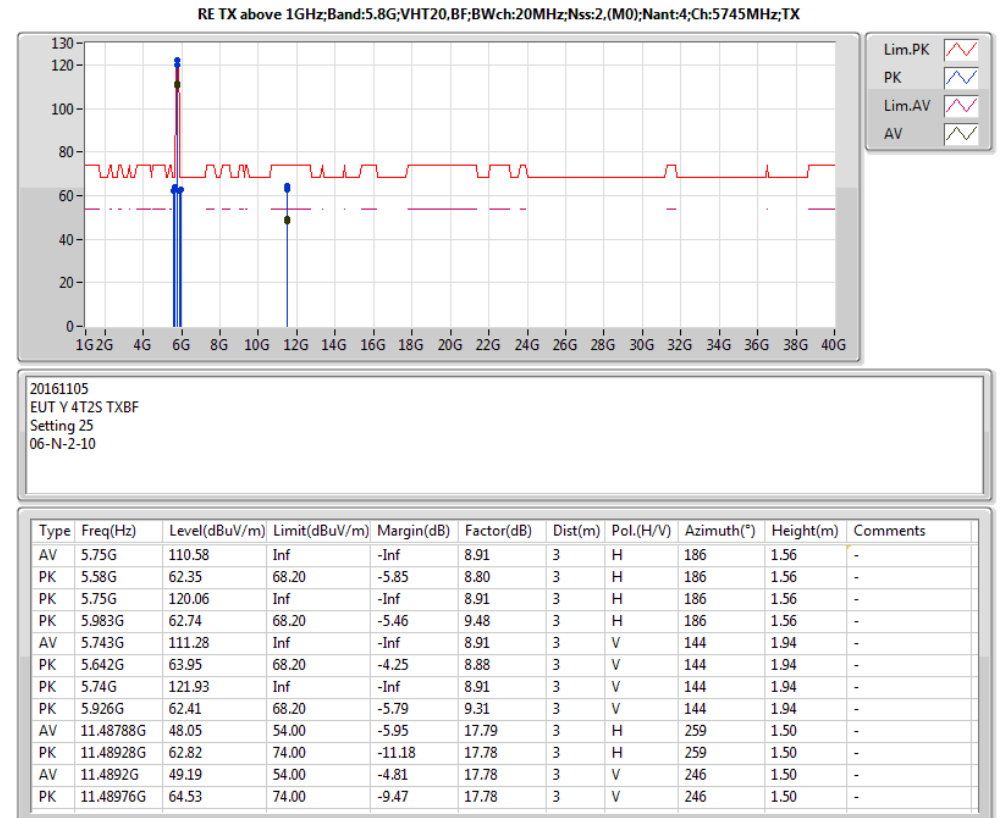
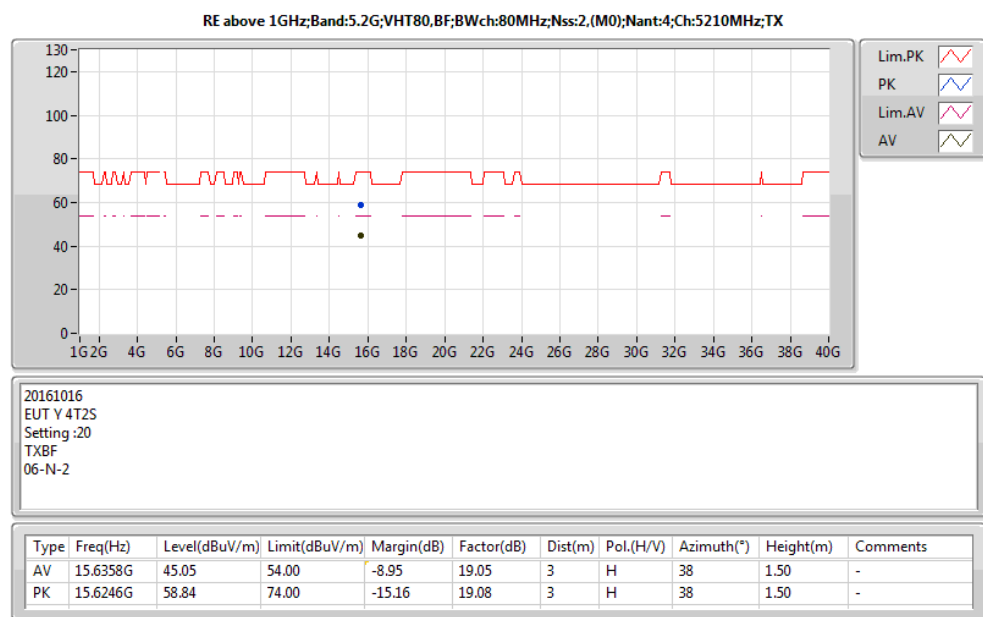
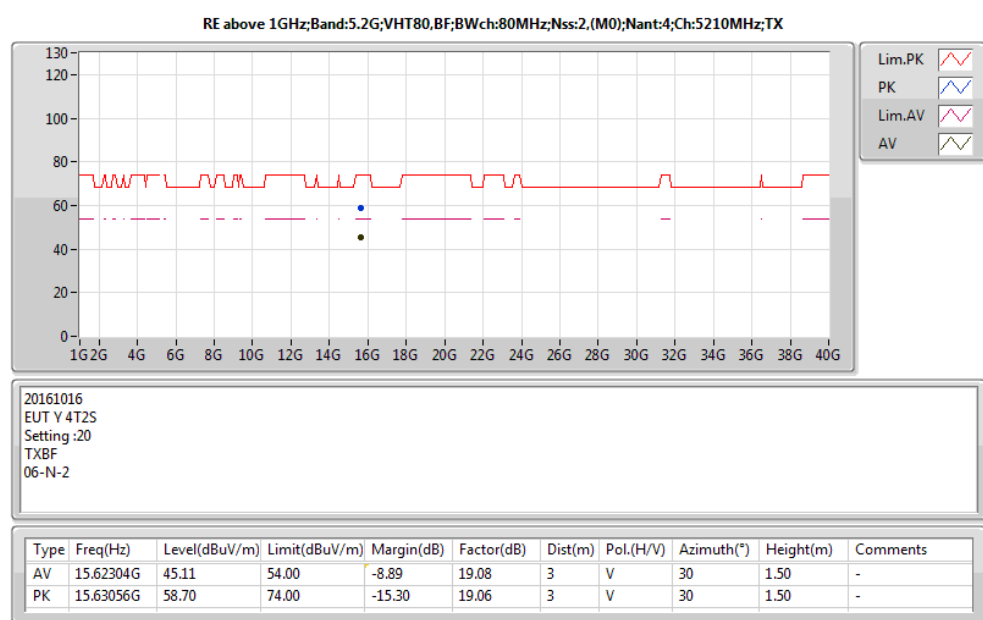
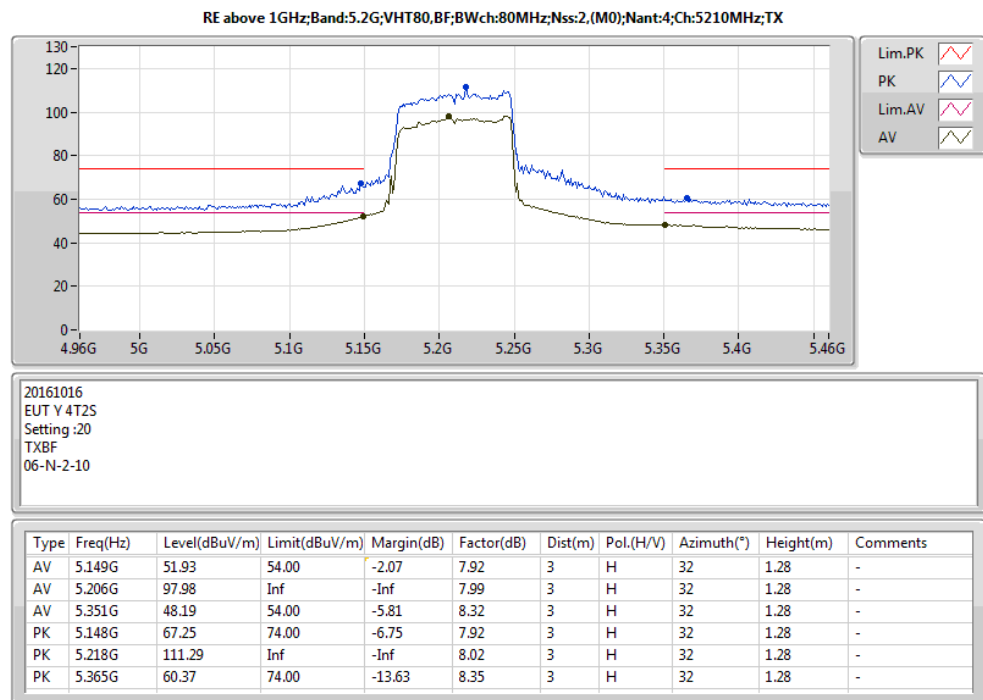


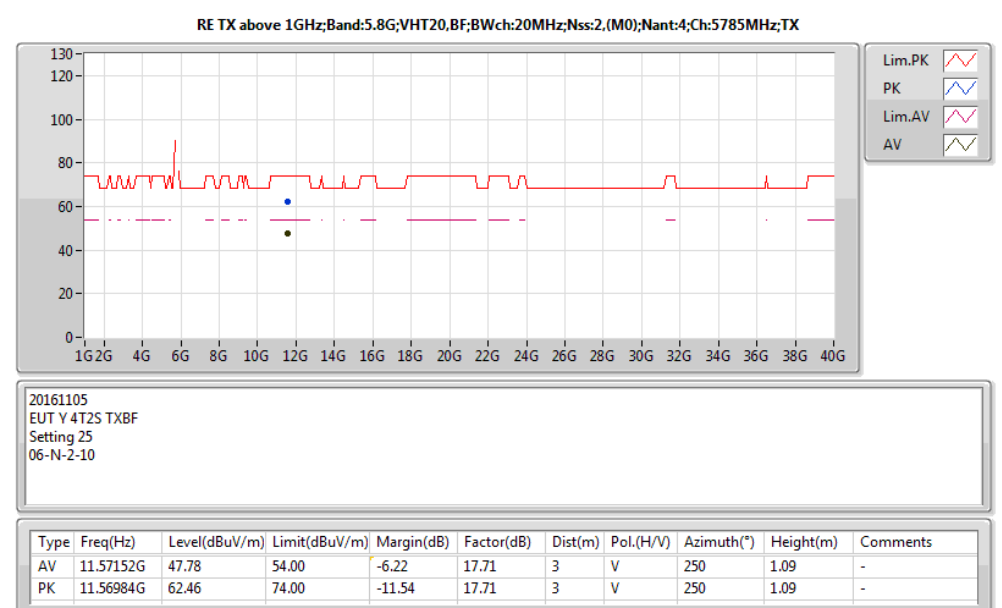
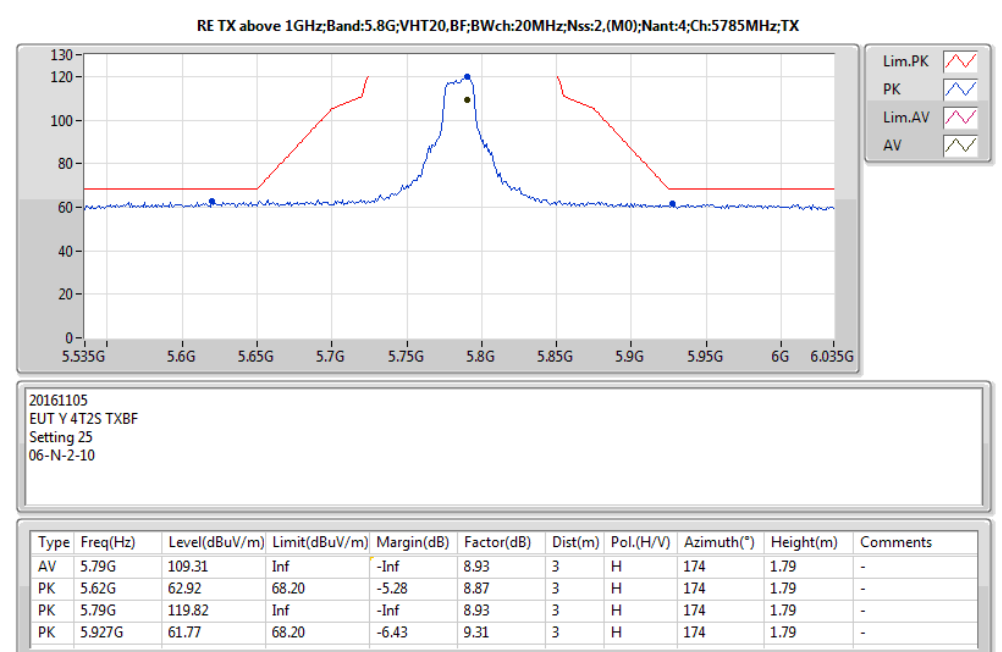
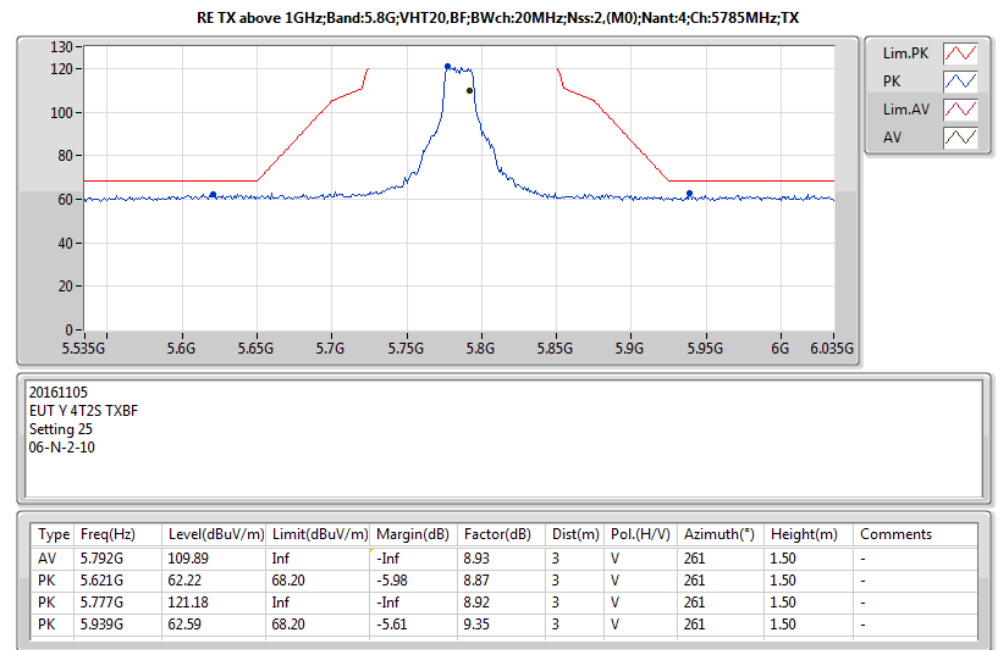
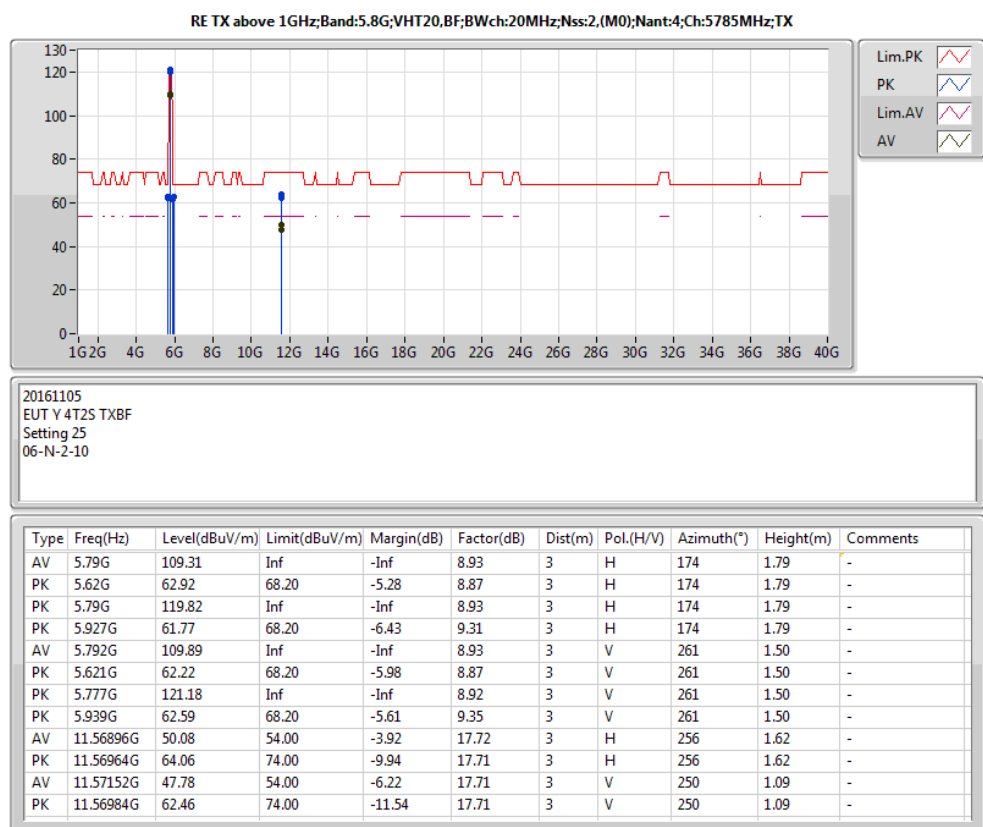
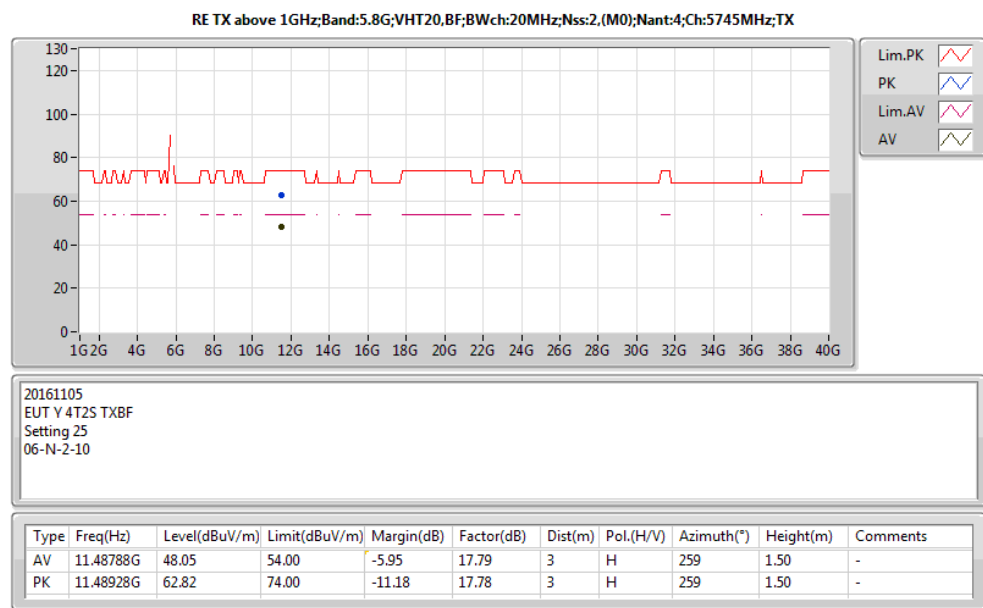
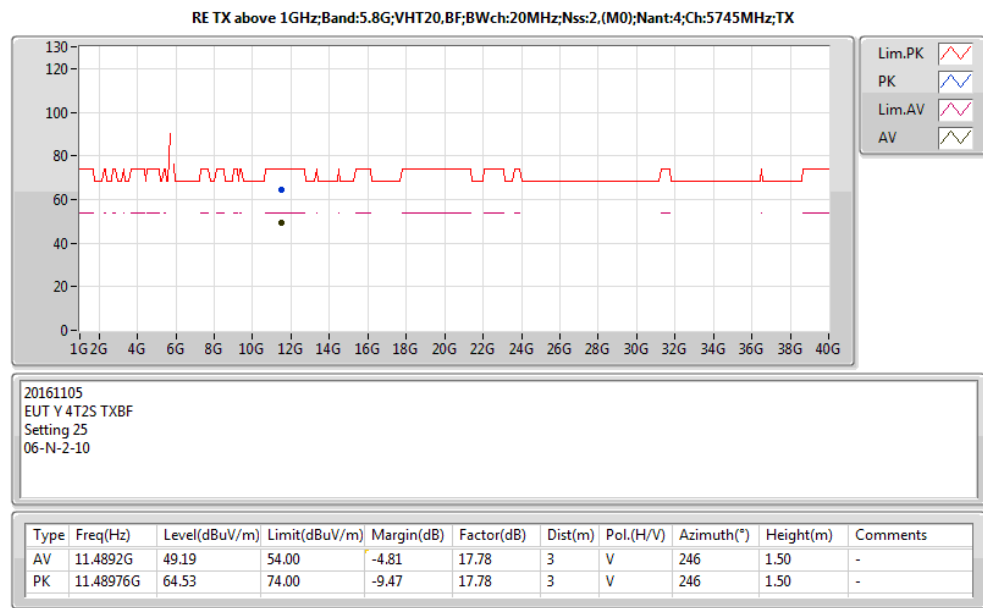




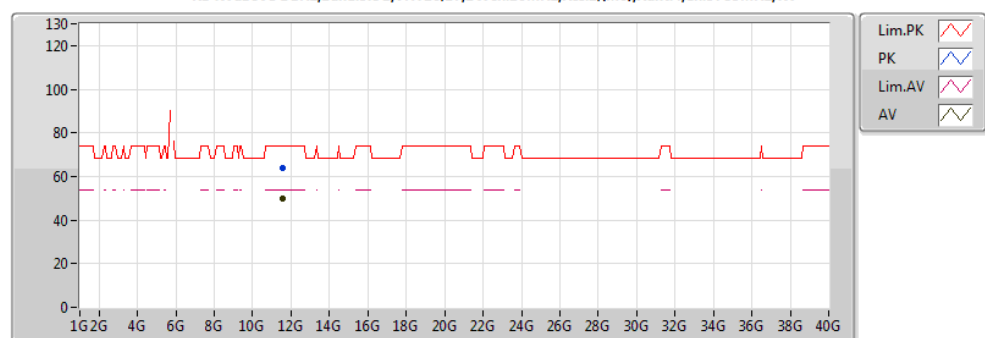








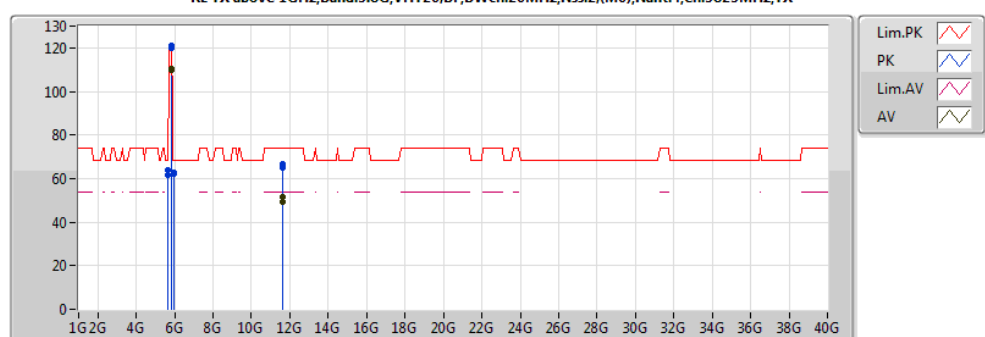
RE TX above 1GHz;Band:5.8G;VHT20,BF;BWch:20MHz;Nss:2,(M0);Nant:4;Ch:5785MHz;TX



20161105
EUT Y 4T2S TXBF
Setting 25
06-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	11.56896G	50.08	54.00	-3.92	17.72	3	H	256	1.62	-
PK	11.56964G	64.06	74.00	-9.94	17.71	3	H	256	1.62	-

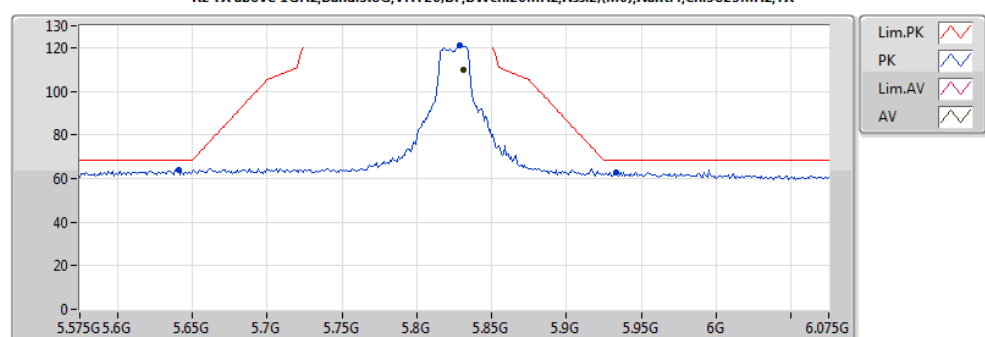
RE TX above 1GHz;Band:5.8G;VHT20,BF;BWch:20MHz;Nss:2,(M0);Nant:4;Ch:5825MHz;TX



20161105
EUT Y 4T2S TXBF
Setting 25
06-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	5.83G	110.21	Inf	-Inf	9.02	3	H	168	1.50	-
PK	5.613G	61.58	68.20	-6.62	8.87	3	H	168	1.50	-
PK	5.83G	119.97	Inf	-Inf	9.02	3	H	168	1.50	-
PK	5.962G	62.24	68.20	-5.96	9.42	3	H	168	1.50	-
AV	5.831G	110.09	Inf	-Inf	9.02	3	V	144	1.50	-
PK	5.641G	64.05	68.20	-4.15	8.88	3	V	144	1.50	-
PK	5.829G	121.20	Inf	-Inf	9.02	3	V	144	1.50	-
PK	5.933G	62.97	68.20	-5.23	9.33	3	V	144	1.50	-
AV	11.65396G	51.63	54.00	-2.37	17.64	3	H	258	1.15	-
PK	11.64976G	66.84	74.00	-7.16	17.64	3	H	258	1.15	-
AV	11.65056G	49.51	54.00	-4.49	17.64	3	V	256	1.07	-
PK	11.64984G	64.74	74.00	-9.26	17.64	3	V	256	1.07	-

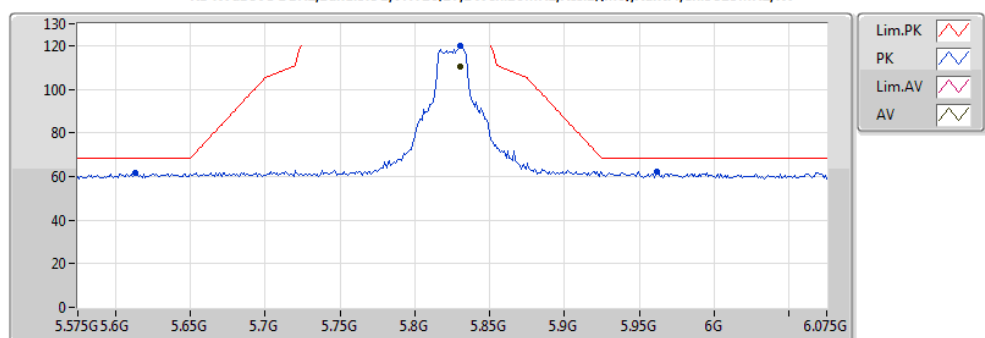
RE TX above 1GHz;Band:5.8G;VHT20,BF;BWch:20MHz;Nss:2,(M0);Nant:4;Ch:5825MHz;TX



20161105
EUT Y 4T2S TXBF
Setting 25
06-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	5.831G	110.09	Inf	-Inf	9.02	3	V	144	1.50	-
PK	5.641G	64.05	68.20	-4.15	8.88	3	V	144	1.50	-
PK	5.829G	121.20	Inf	-Inf	9.02	3	V	144	1.50	-
PK	5.933G	62.97	68.20	-5.23	9.33	3	V	144	1.50	-

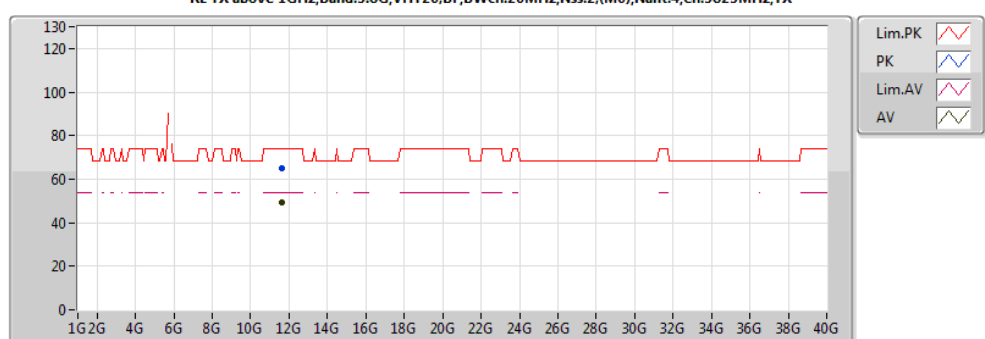
RE TX above 1GHz;Band:5.8G;VHT20,BF;BWch:20MHz;Nss:2,(M0);Nant:4;Ch:5825MHz;TX



20161105
EUT Y 4T2S TXBF
Setting 25
06-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	5.83G	110.21	Inf	-Inf	9.02	3	H	168	1.50	-
PK	5.613G	61.58	68.20	-6.62	8.87	3	H	168	1.50	-
PK	5.83G	119.97	Inf	-Inf	9.02	3	H	168	1.50	-
PK	5.962G	62.24	68.20	-5.96	9.42	3	H	168	1.50	-

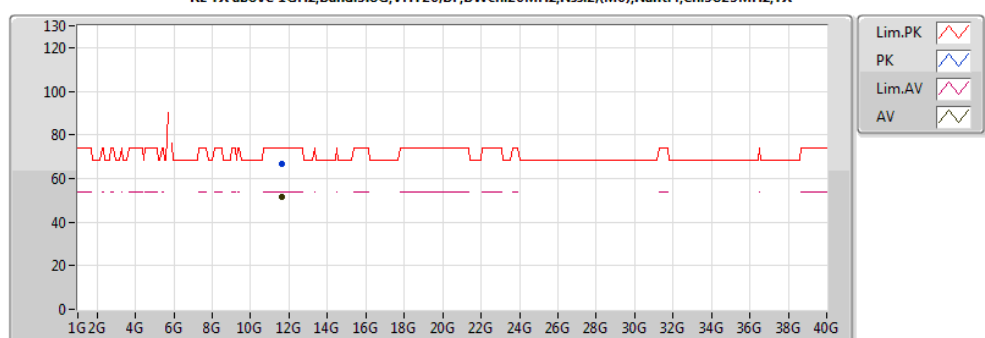
RE TX above 1GHz;Band:5.8G;VHT20,BF;BWch:20MHz;Nss:2,(M0);Nant:4;Ch:5825MHz;TX



20161105
EUT Y 4T2S TXBF
Setting 25
06-N-2-10

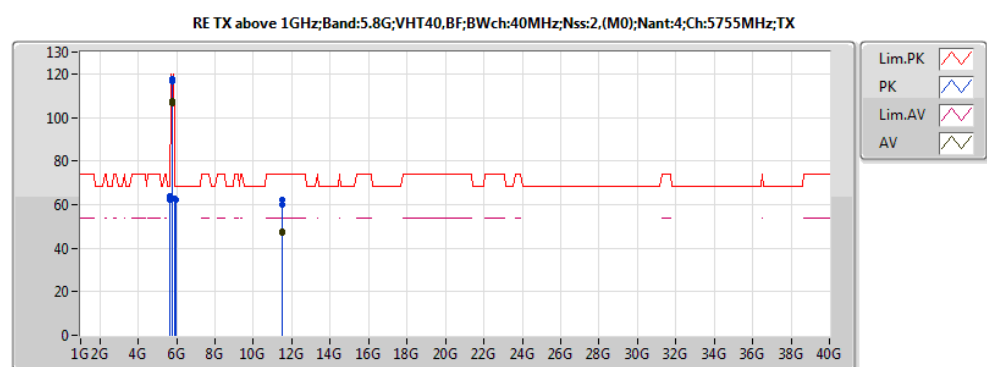
Type	Freq(Hz)	Level(dBuV/m)	Limit(dBuV/m)	Margin(dB)	Factor(dB)	Dist(m)	Pol.(H/V)	Azimuth(°)	Height(m)	Comments
AV	11.65056G	49.51	54.00	-4.49	17.64	3	V	256	1.07	-
PK	11.64984G	64.74	74.00	-9.26	17.64	3	V	256	1.07	-

RE TX above 1GHz;Band:5.8G;VHT20,BF;BWch:20MHz;Nss:2,(M0);Nant:4;Ch:5825MHz;TX



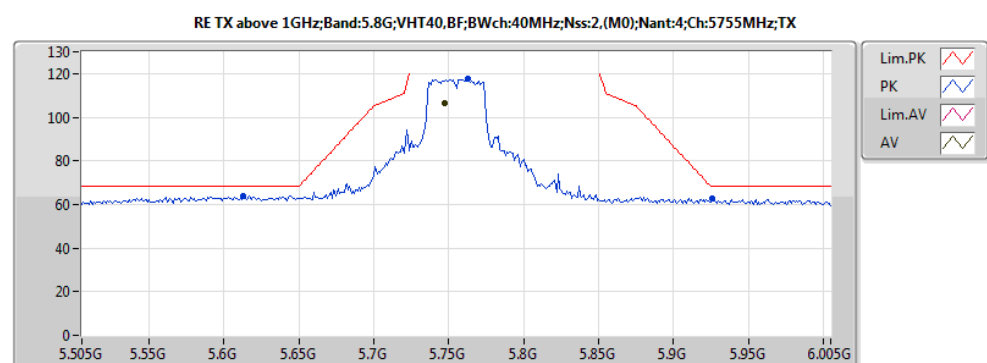
20161105
EUT Y 4T2S TXBF
Setting 25
06-N-2-10

Type	Freq(Hz)	Level(dBuV/m)	Limit(dBuV/m)	Margin(dB)	Factor(dB)	Dist(m)	Pol.(H/V)	Azimuth(°)	Height(m)	Comments
AV	11.65396G	51.63	54.00	-2.37	17.64	3	H	258	1.15	-
PK	11.64976G	66.84	74.00	-7.16	17.64	3	H	258	1.15	-



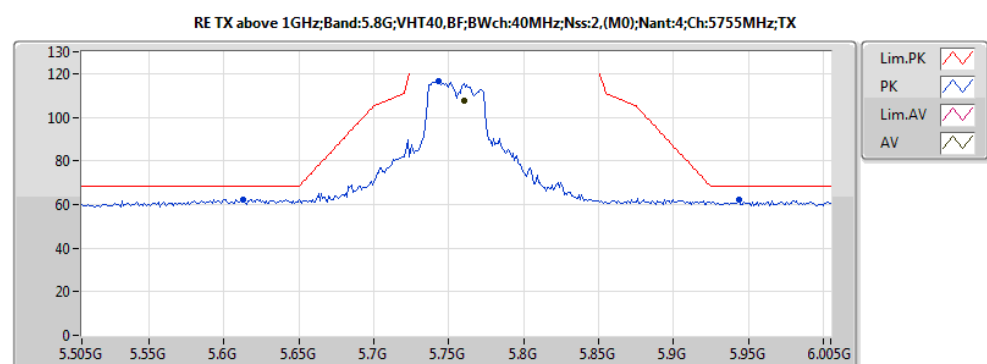
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EUT Y 4T2S TXBF
Setting 25
06-N-2-10

Type	Freq(Hz)	Level(dBuV/m)	Limit(dBuV/m)	Margin(dB)	Factor(dB)	Dist(m)	Pol.(H/V)	Azimuth(°)	Height(m)	Comments
AV	5.76G	107.81	Inf	-Inf	8.92	3	H	175	1.78	-
PK	5.613G	62.45	68.20	-5.75	8.87	3	H	175	1.78	-
PK	5.743G	116.61	Inf	-Inf	8.91	3	H	175	1.78	-
PK	5.944G	62.01	68.20	-6.19	9.36	3	H	175	1.78	-
AV	5.747G	106.73	Inf	-Inf	8.91	3	V	143	2.36	-
PK	5.613G	63.77	68.20	-4.43	8.87	3	V	143	2.36	-
PK	5.763G	117.73	Inf	-Inf	8.92	3	V	143	2.36	-
PK	5.926G	62.84	68.20	-5.36	9.31	3	V	143	2.36	-
AV	11.50828G	46.96	54.00	-7.04	17.77	3	H	337	2.27	-
PK	11.51348G	60.07	74.00	-13.93	17.76	3	H	337	2.27	-
AV	11.50956G	47.41	54.00	-6.59	17.77	3	V	14	2.29	-
PK	11.5098G	61.98	74.00	-12.02	17.77	3	V	14	2.29	-



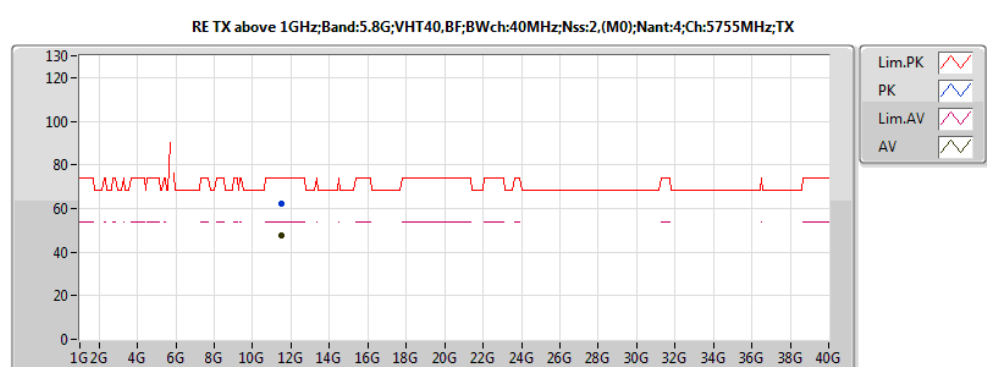
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EUT Y 4T2S TXBF
Setting 25
06-N-2-10

Type	Freq(Hz)	Level(dBuV/m)	Limit(dBuV/m)	Margin(dB)	Factor(dB)	Dist(m)	Pol.(H/V)	Azimuth(°)	Height(m)	Comments
AV	5.747G	106.73	Inf	-Inf	8.91	3	V	143	2.36	-
PK	5.613G	63.77	68.20	-4.43	8.87	3	V	143	2.36	-
PK	5.763G	117.73	Inf	-Inf	8.92	3	V	143	2.36	-
PK	5.926G	62.84	68.20	-5.36	9.31	3	V	143	2.36	-



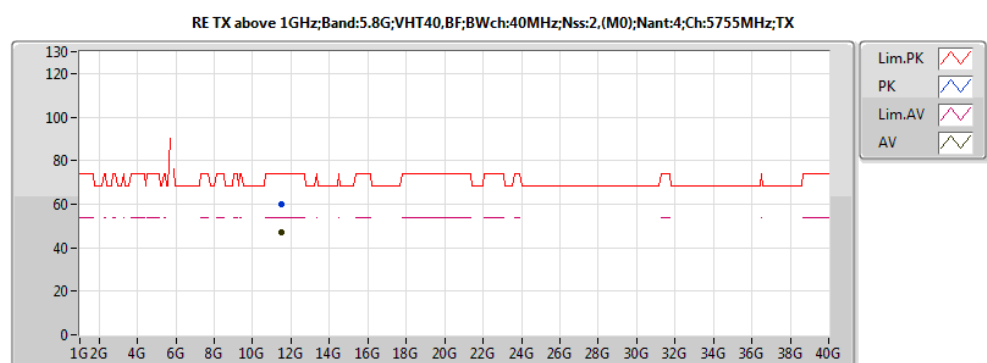
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EUT Y 4T2S TXBF
Setting 25
06-N-2-10

Type	Freq(Hz)	Level(dBuV/m)	Limit(dBuV/m)	Margin(dB)	Factor(dB)	Dist(m)	Pol.(H/V)	Azimuth(°)	Height(m)	Comments
AV	5.76G	107.81	Inf	-Inf	8.92	3	H	175	1.78	-
PK	5.613G	62.45	68.20	-5.75	8.87	3	H	175	1.78	-
PK	5.743G	116.61	Inf	-Inf	8.91	3	H	175	1.78	-
PK	5.944G	62.01	68.20	-6.19	9.36	3	H	175	1.78	-



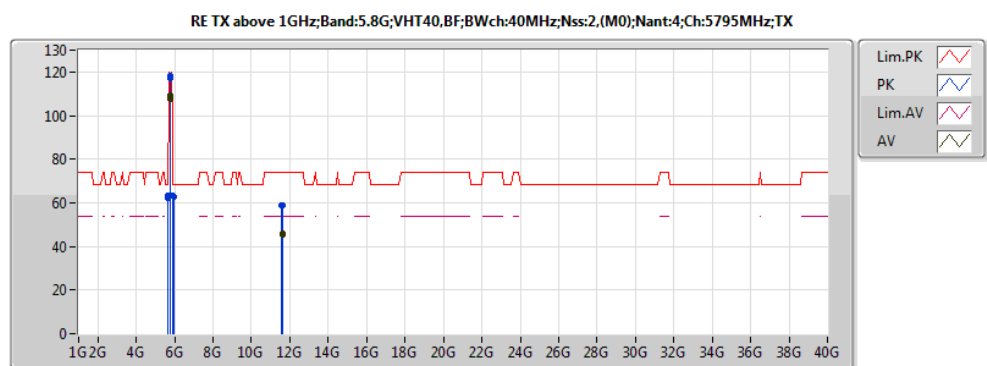
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EUT Y 4T2S TXBF
Setting 25
06-N-2-10

Type	Freq(Hz)	Level(dBuV/m)	Limit(dBuV/m)	Margin(dB)	Factor(dB)	Dist(m)	Pol.(H/V)	Azimuth(°)	Height(m)	Comments
AV	11.50956G	47.41	54.00	-6.59	17.77	3	V	14	2.29	-
PK	11.5098G	61.98	74.00	-12.02	17.77	3	V	14	2.29	-



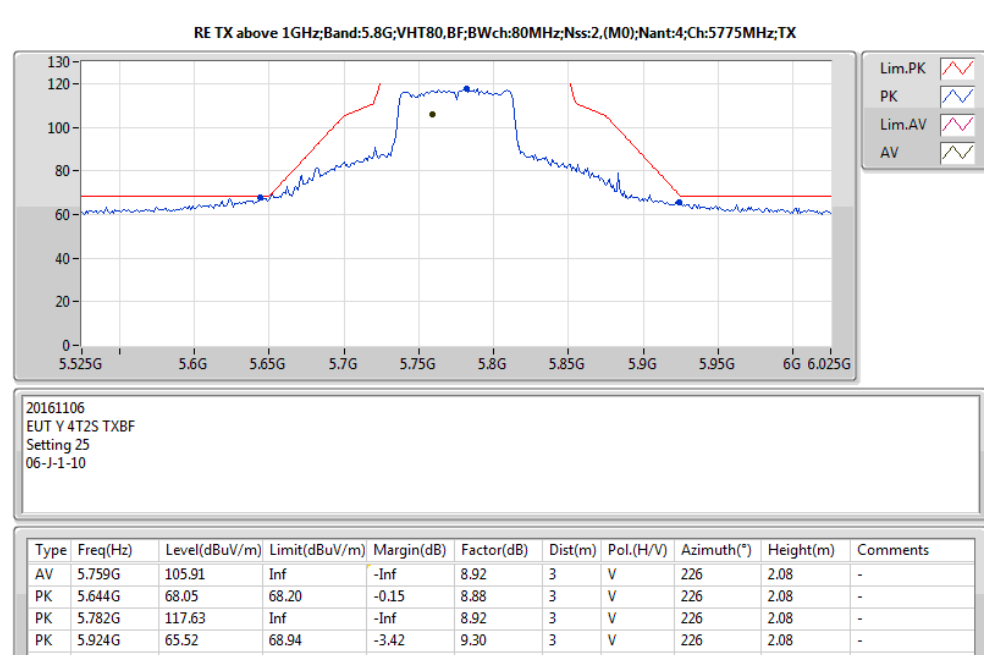
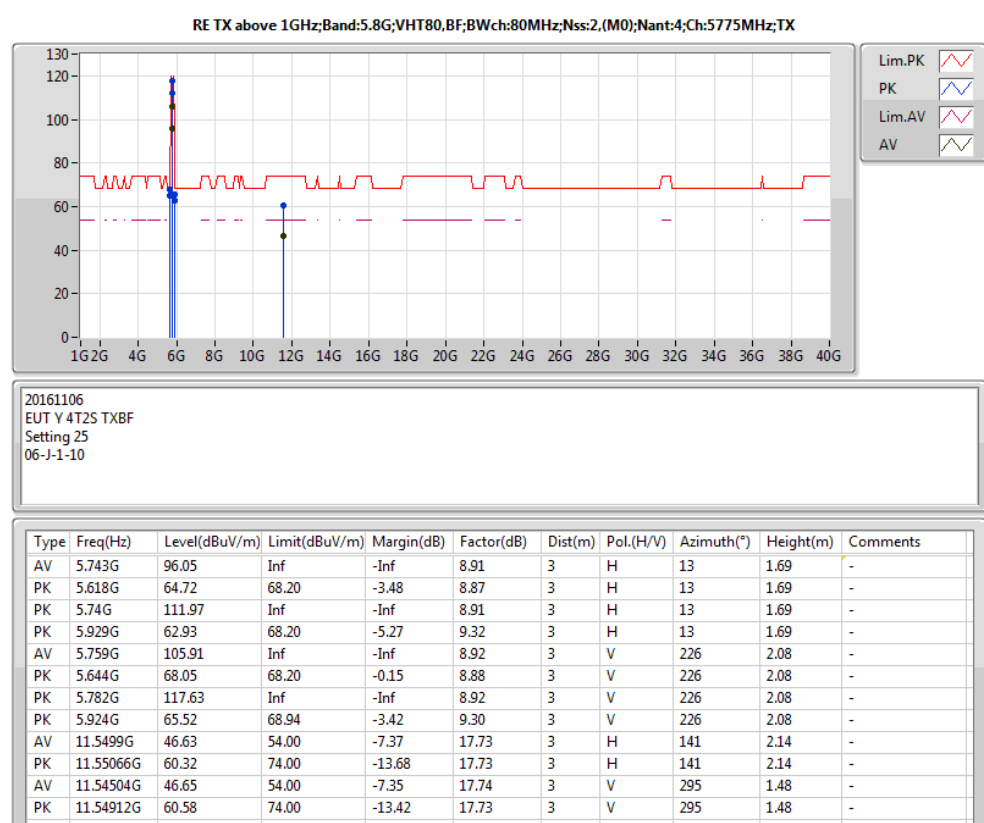
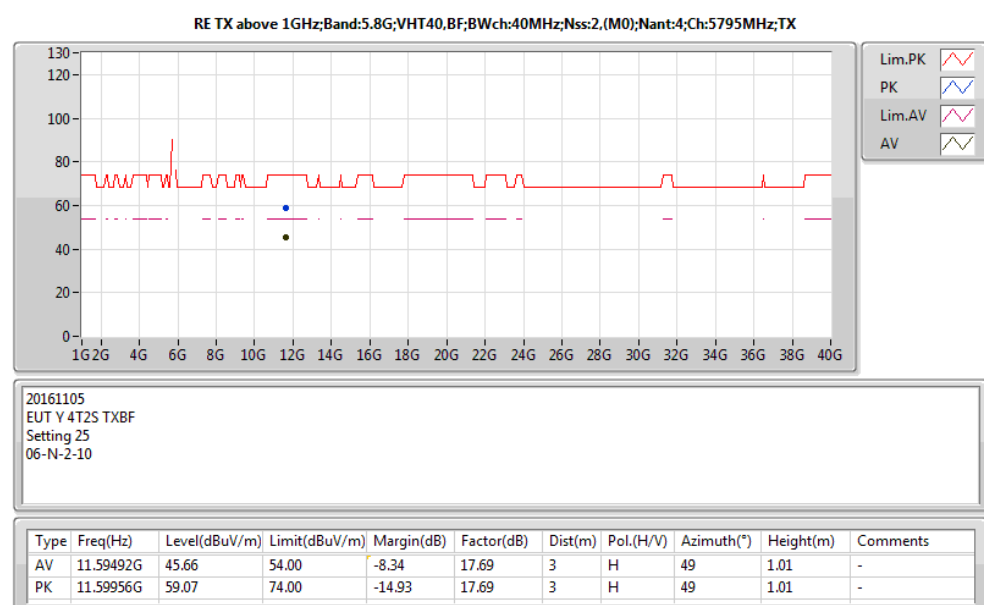
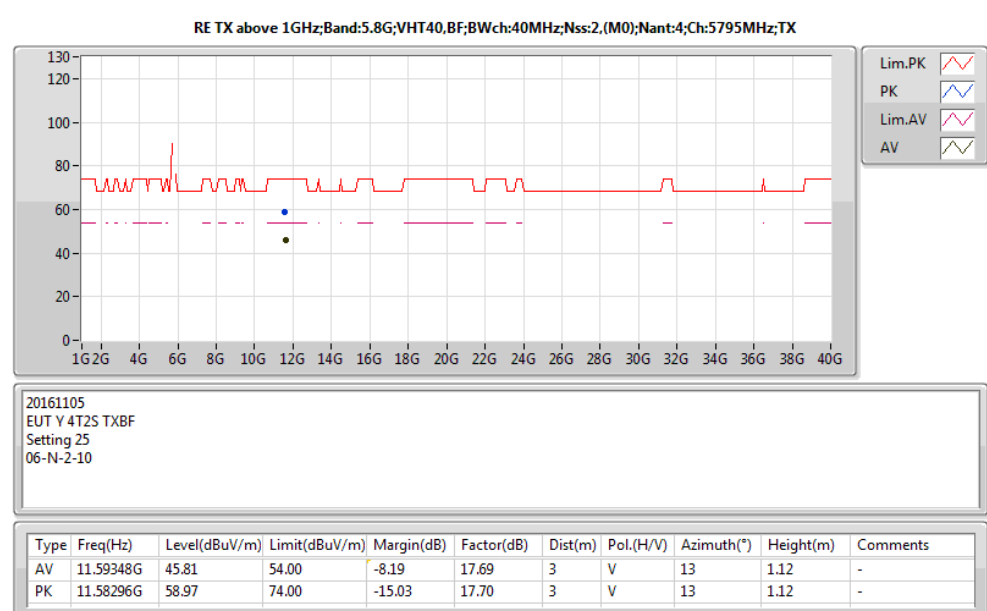
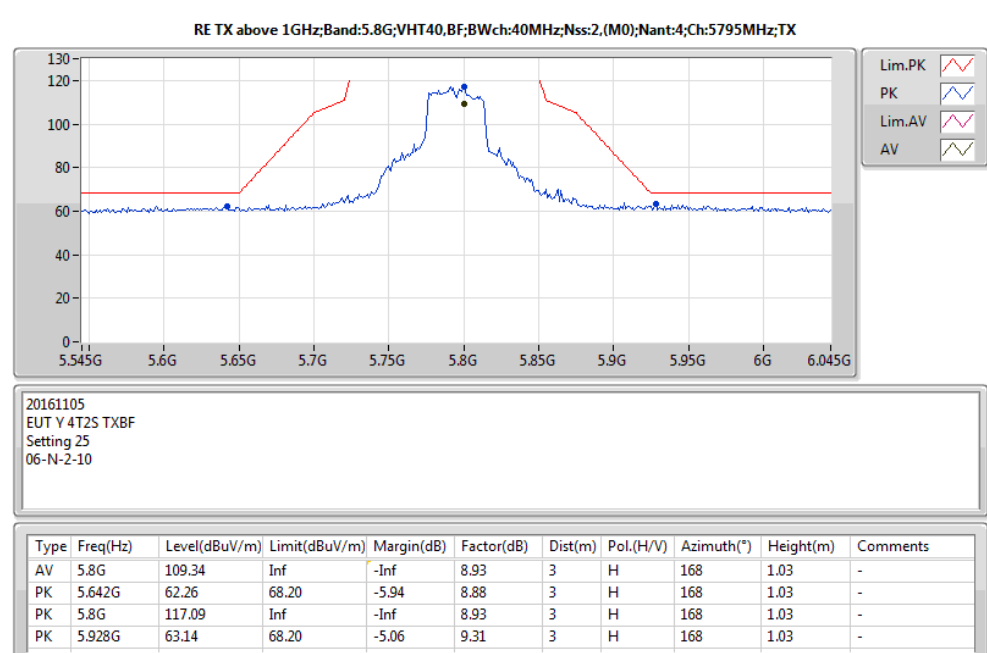
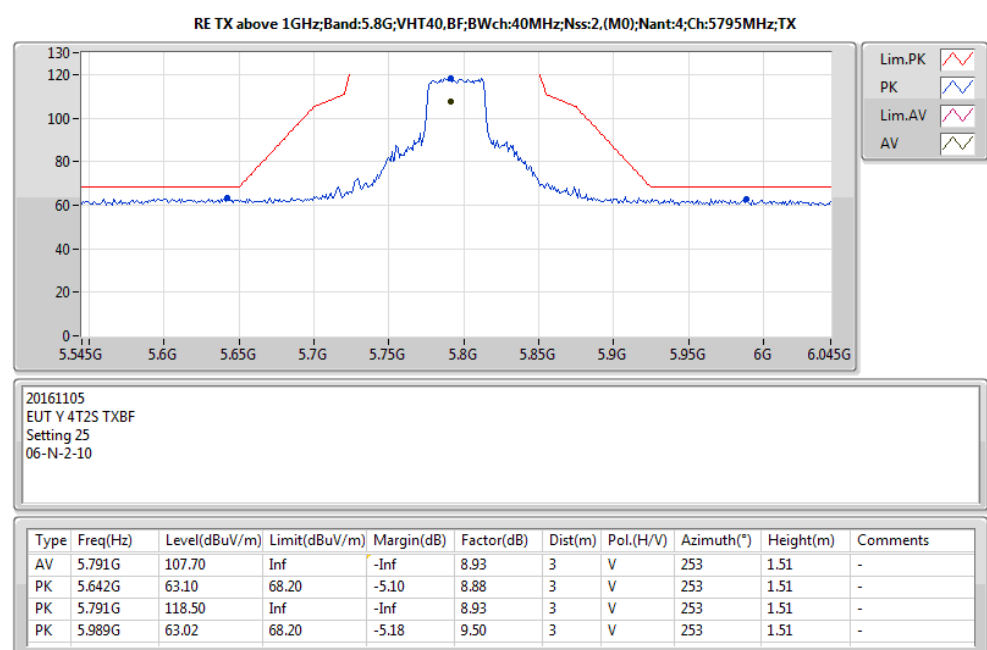
20161105
EUT Y 4T2S TXBF
Setting 25
06-N-2-10

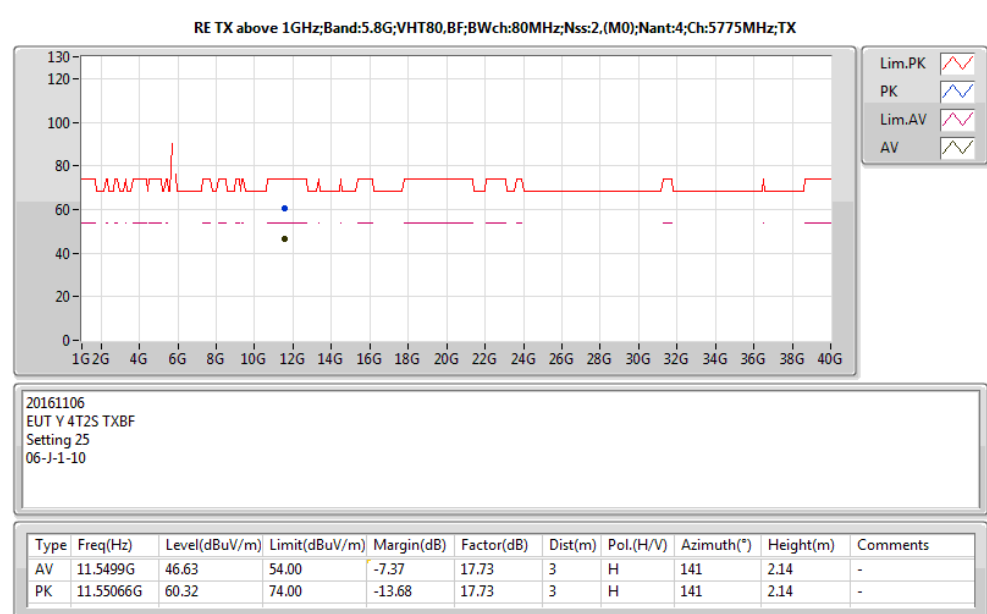
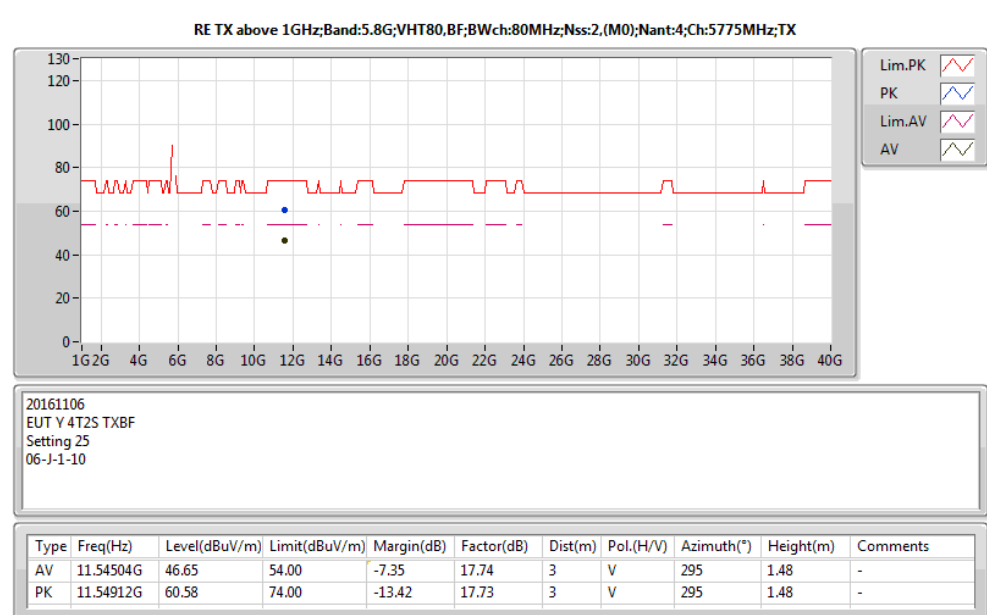
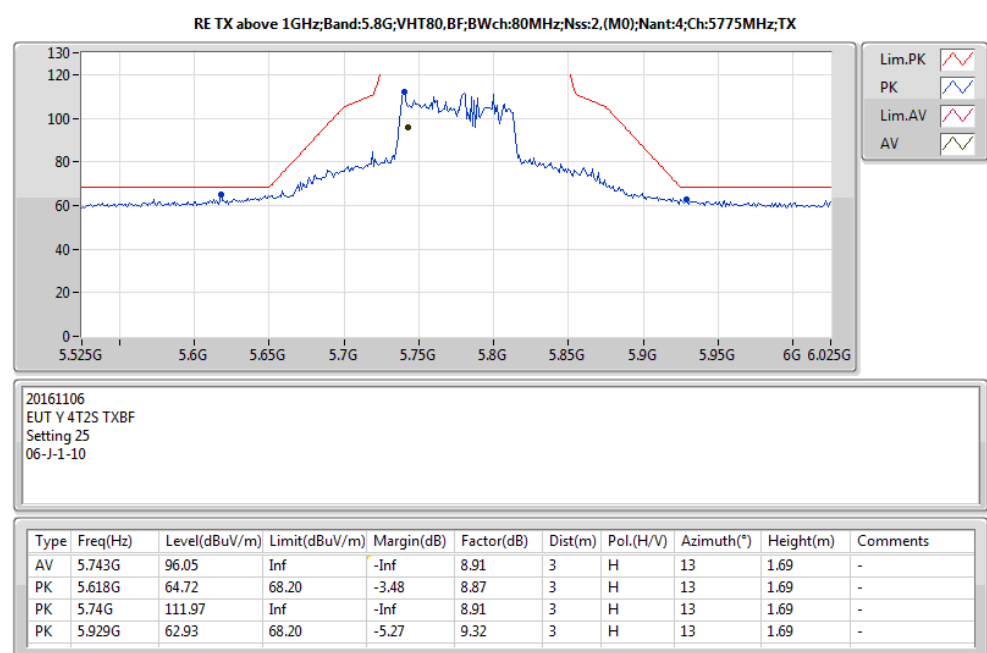
Type	Freq(Hz)	Level(dBuV/m)	Limit(dBuV/m)	Margin(dB)	Factor(dB)	Dist(m)	Pol.(H/V)	Azimuth(°)	Height(m)	Comments
AV	11.50828G	46.96	54.00	-7.04	17.77	3	H	337	2.27	-
PK	11.51348G	60.07	74.00	-13.93	17.76	3	H	337	2.27	-



20161105
EUT Y 4T2S TXBF
Setting 25
06-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	5.8G	109.34	Inf	-Inf	8.93	3	H	168	1.03	-
PK	5.642G	62.26	68.20	-5.94	8.88	3	H	168	1.03	-
PK	5.8G	117.09	Inf	-Inf	8.93	3	H	168	1.03	-
PK	5.928G	63.14	68.20	-5.06	9.31	3	H	168	1.03	-
AV	5.791G	107.70	Inf	-Inf	8.93	3	V	253	1.51	-
PK	5.642G	63.10	68.20	-5.10	8.88	3	V	253	1.51	-
PK	5.791G	118.50	Inf	-Inf	8.93	3	V	253	1.51	-
PK	5.989G	63.02	68.20	-5.18	9.50	3	V	253	1.51	-
AV	11.59492G	45.66	54.00	-8.34	17.69	3	H	49	1.01	-
PK	11.59956G	59.07	74.00	-14.93	17.69	3	H	49	1.01	-
AV	11.59348G	45.81	54.00	-8.19	17.69	3	V	13	1.12	-
PK	11.58296G	58.97	74.00	-15.03	17.70	3	V	13	1.12	-







Mode: 20 MHz / Ant. 6

Voltage vs. Frequency Stability

Voltage	Measurement Frequency (MHz)			
(V)	5200 MHz			
	0 Minute	2 Minute	5 Minute	10 Minute
126.50	5199.9128	5199.9125	5199.9116	5199.9106
110.00	5199.9123	5199.9118	5199.9117	5199.9113
93.50	5199.9117	5199.9110	5199.9103	5199.9094
Max. Deviation (MHz)	0.0883	0.0890	0.0897	0.0906
Max. Deviation (ppm)	16.98	17.12	17.25	17.42
Result	Pass			

Temperature vs. Frequency Stability

Temperature	Measurement Frequency (MHz)			
(°C)	5200 MHz			
	0 Minute	2 Minute	5 Minute	10 Minute
0	5199.9152	5199.9151	5199.9145	5199.9138
10	5199.9135	5199.9131	5199.9127	5199.9123
20	5199.9123	5199.9121	5199.9114	5199.9106
30	5199.9107	5199.9097	5199.9092	5199.9088
40	5199.9088	5199.9085	5199.9075	5199.9072
50	5199.9079	5199.9076	5199.9070	5199.9065
Max. Deviation (MHz)	0.0921	0.0924	0.0930	0.0935
Max. Deviation (ppm)	17.71	17.77	17.88	17.98
Result	Pass			

Mode: 40 MHz / Ant. 6

Voltage vs. Frequency Stability

Voltage	Measurement Frequency (MHz)			
(V)	5190 MHz			
	0 Minute	2 Minute	5 Minute	10 Minute
126.50	5189.9125	5189.9115	5189.9109	5189.9102
110.00	5189.9123	5189.9115	5189.9108	5189.9098
93.50	5189.9120	5189.9118	5189.9112	5189.9102
Max. Deviation (MHz)	0.0880	0.0885	0.0892	0.0902
Max. Deviation (ppm)	16.96	17.05	17.19	17.38
Result	Pass			

Temperature vs. Frequency Stability

Temperature	Measurement Frequency (MHz)			
(°C)	5190 MHz			
	0 Minute	2 Minute	5 Minute	10 Minute
0	5189.9144	5189.9141	5189.9133	5189.9130
10	5189.9133	5189.9131	5189.9129	5189.9121
20	5189.9123	5189.9120	5189.9113	5189.9108
30	5189.9107	5189.9106	5189.9103	5189.9102
40	5189.9091	5189.9082	5189.9075	5189.9069
50	5189.9088	5189.9084	5189.9076	5189.9070
Max. Deviation (MHz)	0.0912	0.0918	0.0925	0.0931
Max. Deviation (ppm)	17.57	17.69	17.82	17.94
Result	Pass			

Voltage vs. Frequency Stability

Voltage	Measurement Frequency (MHz)			
(V)	5785 MHz			
	0 Minute	2 Minute	5 Minute	10 Minute
126.50	5784.9130	5784.9123	5784.9119	5784.9109
110.00	5784.9123	5784.9118	5784.9116	5784.9110
93.50	5784.9122	5784.9114	5784.9110	5784.9107
Max. Deviation (MHz)	0.0878	0.0886	0.0890	0.0893
Max. Deviation (ppm)	15.18	15.32	15.38	15.44
Result	Pass			

Temperature vs. Frequency Stability

Temperature	Measurement Frequency (MHz)			
(°C)	5785 MHz			
	0 Minute	2 Minute	5 Minute	10 Minute
0	5784.9141	5784.9136	5784.9132	5784.9129
10	5784.9134	5784.9124	5784.9115	5784.9108
20	5784.9123	5784.9117	5784.9108	5784.9100
30	5784.9107	5784.9104	5784.9097	5784.9094
40	5784.9087	5784.9082	5784.9078	5784.9075
50	5784.9067	5784.9058	5784.9056	5784.9046
Max. Deviation (MHz)	0.0933	0.0942	0.0944	0.0954
Max. Deviation (ppm)	16.13	16.28	16.32	16.49
Result	Pass			

Voltage vs. Frequency Stability

Voltage	Measurement Frequency (MHz)			
(V)	5755 MHz			
	0 Minute	2 Minute	5 Minute	10 Minute
126.50	5754.9127	5754.9126	5754.9117	5754.9115
110.00	5754.9123	5754.9118	5754.9108	5754.9103
93.50	5754.9113	5754.9105	5754.9098	5754.9091
Max. Deviation (MHz)	0.0887	0.0895	0.0902	0.0909
Max. Deviation (ppm)	15.41	15.55	15.67	15.79
Result	Pass			

Temperature vs. Frequency Stability

Temperature	Measurement Frequency (MHz)			
(°C)	5755 MHz			
	0 Minute	2 Minute	5 Minute	10 Minute
0	5754.9161	5754.9152	5754.9151	5754.9148
10	5754.9141	5754.9134	5754.9132	5754.9130
20	5754.9123	5754.9115	5754.9109	5754.9108
30	5754.9107	5754.9097	5754.9088	5754.9085
40	5754.9103	5754.9094	5754.9090	5754.9087
50	5754.9087	5754.9077	5754.9073	5754.9072
Max. Deviation (MHz)	0.0913	0.0923	0.0927	0.0928
Max. Deviation (ppm)	15.86	16.04	16.11	16.13
Result	Pass			



Mode: 80 MHz / Ant. 6
Voltage vs. Frequency Stability

Voltage	Measurement Frequency (MHz)			
(V)	5210 MHz			
	0 Minute	2 Minute	5 Minute	10 Minute
126.50	5209.9125	5209.9122	5209.9112	5209.9108
110.00	5209.9123	5209.9117	5209.9108	5209.9100
93.50	5209.9121	5209.9120	5209.9119	5209.9113
Max. Deviation (MHz)	0.0879	0.0883	0.0892	0.0900
Max. Deviation (ppm)	16.87	16.95	17.12	17.27
Result	Pass			

Temperature vs. Frequency Stability

Temperature	Measurement Frequency (MHz)			
(°C)	5210 MHz			
	0 Minute	2 Minute	5 Minute	10 Minute
0	5209.9144	5209.9135	5209.9130	5209.9125
10	5209.9141	5209.9132	5209.9130	5209.9125
20	5209.9123	5209.9119	5209.9110	5209.9104
30	5209.9107	5209.9106	5209.9096	5209.9090
40	5209.9091	5209.9086	5209.9085	5209.9081
50	5209.9088	5209.9084	5209.9079	5209.9074
Max. Deviation (MHz)	0.0912	0.0916	0.0921	0.0926
Max. Deviation (ppm)	17.50	17.58	17.68	17.77
Result	Pass			

Voltage vs. Frequency Stability

Voltage	Measurement Frequency (MHz)			
(V)	5775 MHz			
	0 Minute	2 Minute	5 Minute	10 Minute
126.50	5774.9130	5774.9121	5774.9114	5774.9112
110.00	5774.9123	5774.9121	5774.9111	5774.9102
93.50	5774.9116	5774.9112	5774.9102	5774.9093
Max. Deviation (MHz)	0.0884	0.0888	0.0898	0.0907
Max. Deviation (ppm)	15.31	15.38	15.55	15.71
Result	Pass			

Temperature vs. Frequency Stability

Temperature	Measurement Frequency (MHz)			
(°C)	5775 MHz			
	0 Minute	2 Minute	5 Minute	10 Minute
0	5774.9135	5774.9129	5774.9122	5774.9117
10	5774.9129	5774.9120	5774.9110	5774.9103
20	5774.9123	5774.9119	5774.9109	5774.9101
30	5774.9107	5774.9101	5774.9091	5774.9087
40	5774.9093	5774.9089	5774.9080	5774.9070
50	5774.9080	5774.9075	5774.9071	5774.9061
Max. Deviation (MHz)	0.0920	0.0925	0.0929	0.0939
Max. Deviation (ppm)	15.93	16.02	16.09	16.26
Result	Pass			