



FCC Test Report

Equipment : AC1350 High Power Wireless Dual Band Router
Brand Name : TP-Link
Model No. : Archer C58HP
FCC ID : TE7C58HP
Standard : 47 CFR FCC Part 15.247
Operating Band : 2400 MHz – 2483.5 MHz
Function : Point-to-multipoint; Point-to-point
Applicant : TP-Link Technologies Co., Ltd.
Building 24 (floors 1,3,4,5) and 28 (floors1-4)
Central Science and Technology Park,Shennan Rd,
Nanshan, Shenzhen,China
Manufacturer : TP-Link Technologies Co., Ltd.
Building 24 (floors 1,3,4,5) and 28 (floors1-4)
Central Science and Technology Park,Shennan Rd,
Nanshan, Shenzhen,China

The product sample received on Aug. 22, 2016 and completely tested on Jan. 05, 2017. We, SPORTON, would like to declare that the tested sample has been evaluated in accordance with the procedures given in ANSI C63.10-2013 and shown compliance with the applicable technical standards.

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


Sam Chen
SPORTON INTERNATIONAL INC.





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Summary of Test Result

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



Revision History

Report No.	Version	Description	Issued Date
FR681501AA	Rev. 01	Initial issue of report.	Nov. 09, 2016
FR681501AA	Rev. 02	Adding the band edge emissions test of 802.11b/g/n(HT20) 2417 MHz, 2457 MHz and 802.11n(HT40) 2427 MHz, 2447 MHz.	Jan. 06, 2017

1 General Description

1.1 Information

1.1.1 RF General Information

Frequency Range (MHz)	IEEE Std. 802.11	Ch. Frequency (MHz)	Channel Number
2400-2483.5	b, g, n (HT20)	2412-2462	1-11 [11]
2400-2483.5	n (HT40)	2422-2452	3-9 [7]

Band	Mode	BWch (MHz)	Nant
2.4G	11b	20	3
2.4G	11g	20	3
2.4G	HT20	20	3
2.4G	HT40	40	3

Note:

- 2.4G is the 2.4GHz Band (2.4-2.4835GHz).
- 11b mode uses a combination of DSSS-DBPSK, DQPSK, CCK modulation.
- 11g, HT20 and HT40 use a combination of OFDM-BPSK, QPSK, 16QAM, 64QAM modulation.
- BWch is the nominal channel bandwidth.
- Nss-Min is the minimum number of spatial streams.
- Nant is the number of outputs. e.g., 2(2,3) means have 2 outputs for port 2 and port 3. 2 means have 2 outputs for port 1 and port 2.

1.1.2 Antenna Information

Ant.	Brand	Product Number	Type	Connector	Antenna Gain (dBi)		
					2.4GHz	5GHz Band 1	5GHz Band 4
1	TP-LINK	3101500905	Dipole	RP-SMA-F	6.45	4.54	3.34
2	TP-LINK	3101500905	Dipole	RP-SMA-F	6.45	4.54	3.34
3	TP-LINK	3101500905	Dipole	RP-SMA-F	6.45	-	-

Ant.	Loss of Cable (dB)			True Gain (dBi)		
	2.4GHz	5GHz Band 1	5GHz Band 4	2.4GHz	5GHz Band 1	5GHz Band 4
1	1.20	1.50	1.50	5.25	3.04	1.84
2	0.80	1.80	1.80	5.65	2.74	1.54
3	1.00	-	-	5.45	-	-

Note: The EUT has three antennas.

For 2.4GHz WLAN function (3TX/3RX):

Ant. 1, Ant. 2 and Ant. 3 could transmit/receive simultaneously.

For 5GHz WLAN function (2TX/2RX):

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



1.1.3 Mode Test Duty Cycle

Mode	DC	T(s)	VBW(Hz) ≥ 1/T
11b	0.996	n/a (DC>=0.98)	n/a (DC>=0.98)
11g	0.976	2.025m	1k
HT20	0.973	1.889m	1k
HT40	0.961	928.75u	3k

1.1.4 EUT Operational Condition

EUT Power Type	From power adapter		
Beamforming Function	<input type="checkbox"/> With beamforming	<input checked="" type="checkbox"/> Without beamforming	



1.2 Testing Applied Standards

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

- ◆ 47 CFR FCC Part 15
- ◆ ANSI C63.10-2013
- ◆ FCC KDB 558074 D01 v03r05
- ◆ FCC KDB 662911 D01 v02r01

1.3 Testing Location Information

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

Test Condition	Test Site No.	Test Engineer	Test Environment	Test Date
RF Conducted	TH01-CB	Serway Li	24°C / 50%	Oct. 26, 2016
Radiated	03CH01-CB	Jay Luo	22°C / 54%	Sep. 12, 2016~Jan. 05, 2017
AC Conduction	CO01-CB	Hank Yang	22°C / 59%	Sep. 06, 2016

Test site Designation No. TW0006 with FCC.

Test site registered number IC 4086D with Industry Canada.



1.4 Measurement Uncertainty

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

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



2 Test Configuration of EUT

2.1 Test Channel Mode

Band	Mode	BWch (MHz)	Nss-Min	Nant	Ch. (MHz)	Range	Power Setting
2.4G	11b	20	1	3	2412	L	18
2.4G	11b	20	1	3	2417	L	18.5
2.4G	11b	20	1	3	2437	M	23.5
2.4G	11b	20	1	3	2457	M	19
2.4G	11b	20	1	3	2462	H	17.5
2.4G	11g	20	1	3	2412	L	13
2.4G	11g	20	1	3	2417	L	16
2.4G	11g	20	1	3	2437	M	21
2.4G	11g	20	1	3	2457	M	17
2.4G	11g	20	1	3	2462	H	15
2.4G	HT20	20	1,(M0)	3	2412	L	14
2.4G	HT20	20	1,(M0)	3	2417	L	17
2.4G	HT20	20	1,(M0)	3	2437	M	21.5
2.4G	HT20	20	1,(M0)	3	2457	M	17
2.4G	HT20	20	1,(M0)	3	2462	H	13
2.4G	HT40	40	1,(M0)	3	2422	L	13.5
2.4G	HT40	40	1,(M0)	3	2427	L	13.5
2.4G	HT40	40	1,(M0)	3	2437	M	19.5
2.4G	HT40	40	1,(M0)	3	2447	L	13
2.4G	HT40	40	1,(M0)	3	2452	H	13

Note:

- ♦ Test range channel consist of L (Low Ch.), M (Middle Ch.), H (High Ch.), S (Single Ch.) and C (Straddle Band Ch.).

2.2 The Worst Case Measurement Configuration

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

The Worst Case Mode for Following Conformance Tests	
Tests Item	DTS Bandwidth Maximum Conducted Output Power Power Spectral Density
Test Condition	Conducted measurement at transmit chains

The Worst Case Mode for Following Conformance Tests	
Tests Item	Emissions in Non-restricted Frequency Bands Emissions in Restricted Frequency Bands
Test Condition	Radiated measurement If EUT consist of multiple antenna assembly (multiple antenna are used in EUT regardless of spatial multiplexing MIMO configuration), the radiated test should be performed with highest antenna gain of each antenna type.
Operating Mode < 1GHz	Normal Link
1	EUT Y axis
2	EUT Z axis
For operating mode 2 is the worst case and it was record in this test report.	
Operating Mode > 1GHz	CTX
1	EUT Y axis
2	EUT Z axis
Mode 2 has been evaluated to be the worst case after evaluating. Consequently, measurement will follow this same test mode.	

The Worst Case Mode for Following Conformance Tests	
Tests Item	Simultaneous Transmission Analysis
Test Condition	Radiated measurement
Operating Mode	Normal Link
1	EUT Y axis-WLAN 2.4GHz + WLAN 5GHz
2	EUT Z axis-WLAN 2.4GHz + WLAN 5GHz
For operating mode 2 is the worst case and it was record in this test report.	
Refer to Sporton Test Report No.: FA681501 for Co-location RF Exposure Evaluation and Appendix G for Radiated Emission Co-location.	



2.3 EUT Operation during Test

For CTX Mode:

The EUT was programmed to be in continuously transmitting mode.

For Normal Link:

During the test, the EUT operation to normal function.

2.4 Accessories

Accessories				
No.	Equipment Name	Brand Name	Model No.	Rating
1	Adapter	TP-LINK	T120150-2B1	Input: 100-240V~50/60Hz 0.6A Output: 12V, 1.5A
No.	Description			
2	Antenna mount*3			

2.5 Support Equipment

For Test Site No: CO01-CB

Support Equipment				
No.	Equipment	Brand Name	Model Name	FCC ID
1	NB*4	DELL	E6430	DoC
2	AP Router	Planex	GW-AP54SGX	KA220030603014-1

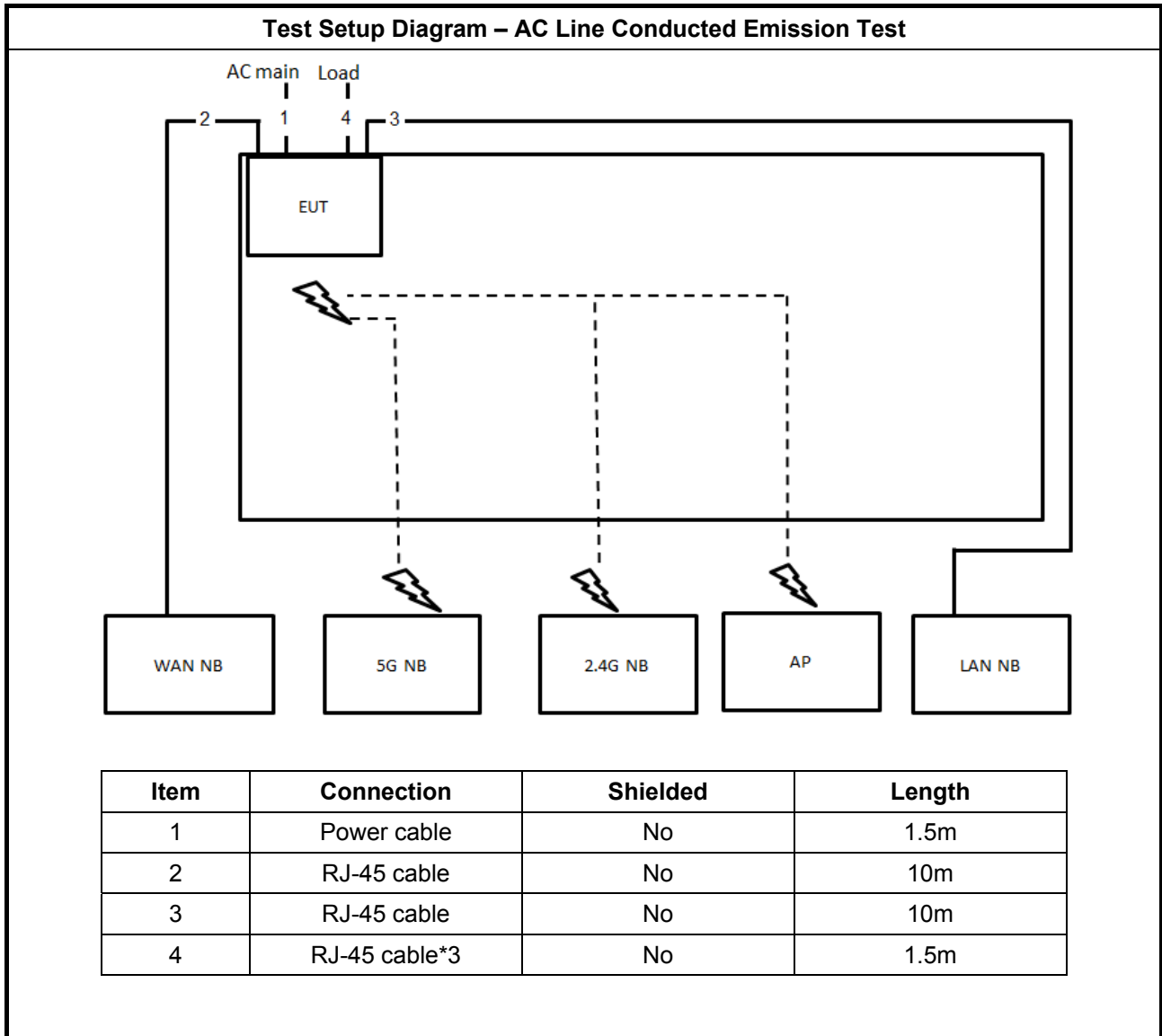
For Test Site No: 03CH01-CB (below 1GHz)

Support Equipment				
No.	Equipment	Brand Name	Model Name	FCC ID
1	NB*2	DELL	E4300	DoC
2	NB*2	Apple	Mac Book	DoC
3	Wireless ac AP	Netgear	R6300V2	PY313200227

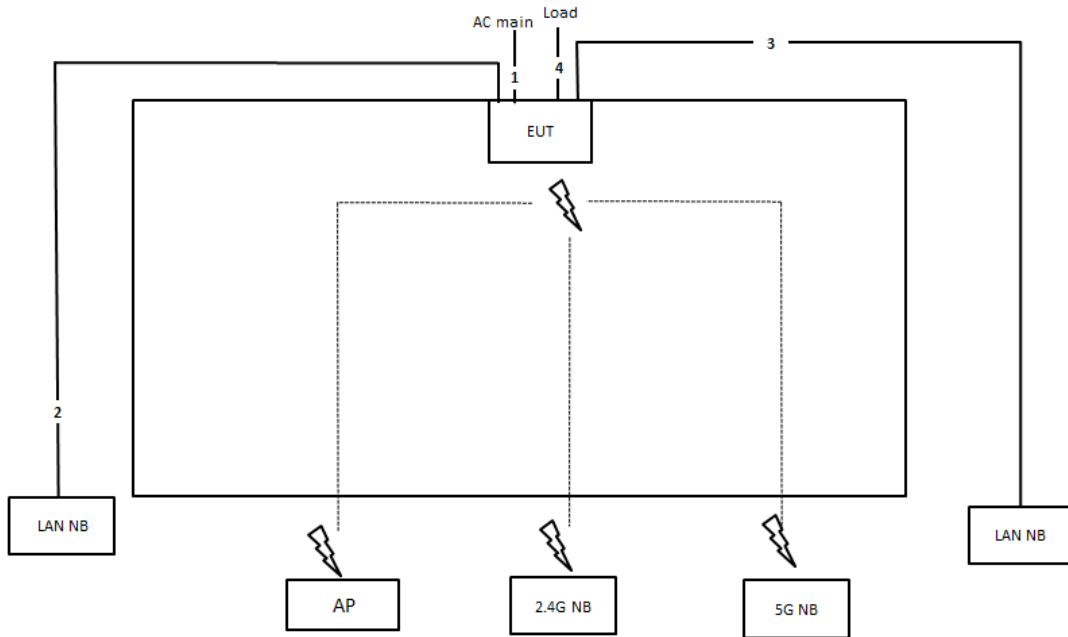
For Test Site No: 03CH01-CB (above 1GHz) and TH01-CB

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

2.6 Test Setup Diagram

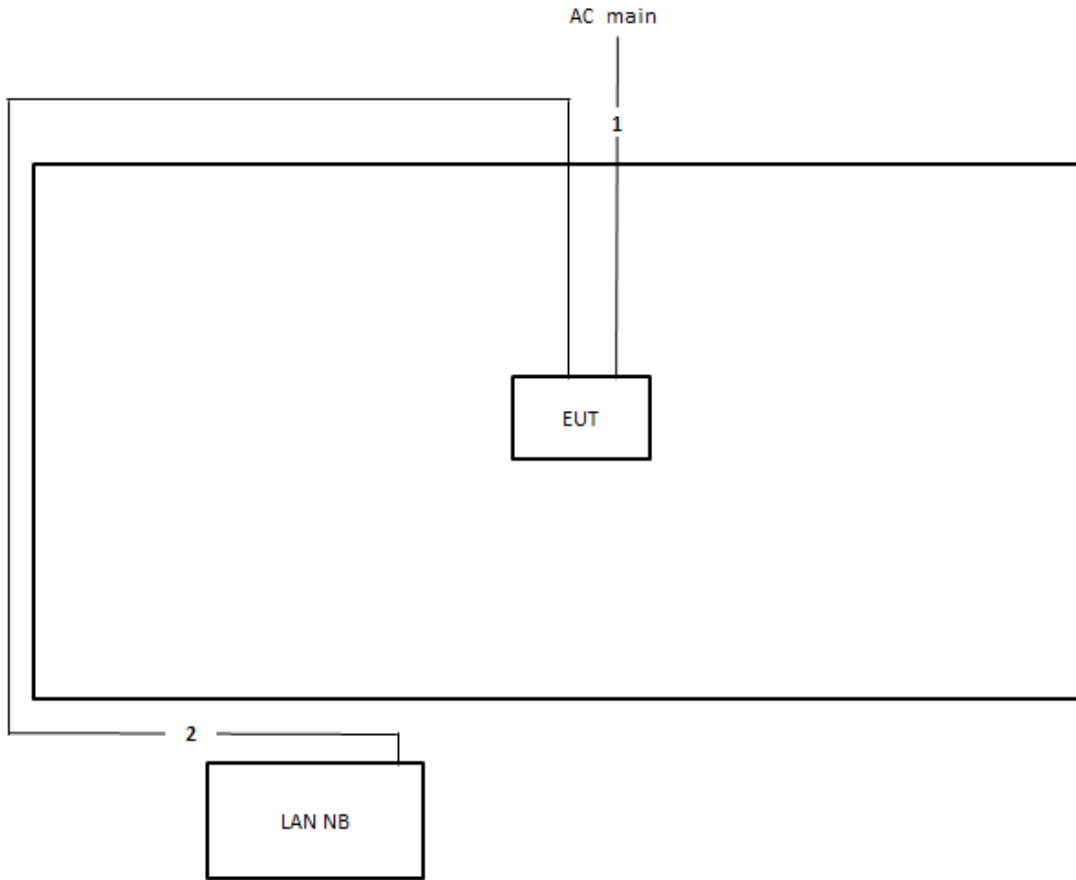


Test Setup Diagram - Radiated Test < 1GHz



Item	Connection	Shielded	Length
1	Power cable	No	1.5m
2	RJ-45 cable	No	10m
3	RJ-45 cable	No	10m
4	RJ-45 cable*3	No	1.5m

Test Setup Diagram - Radiated Test > 1GHz



Item	Connection	Shielded	Length
1	Power cable	No	1.5m
2	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.

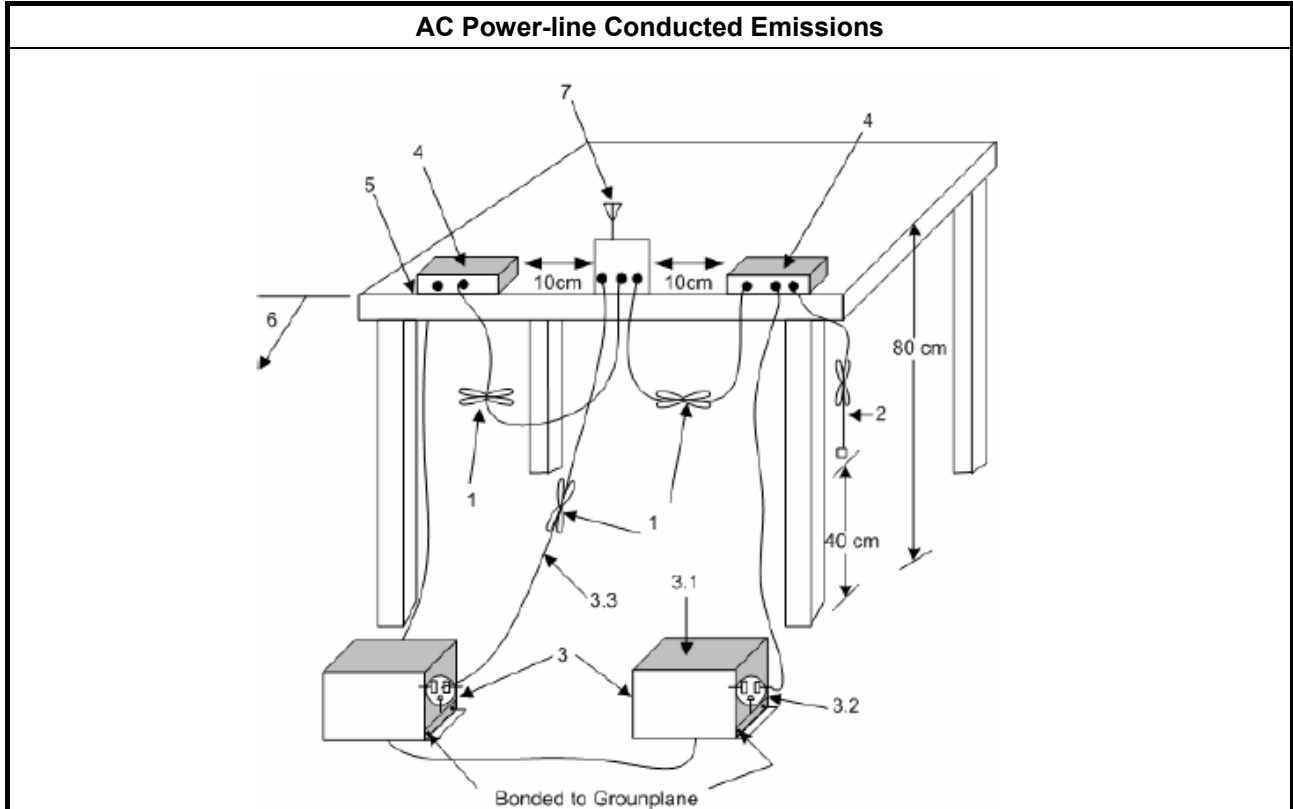
3.1.2 Measuring Instruments

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

3.1.3 Test Procedures

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

3.1.4 Test Setup





3.1.5 Test Result of AC Power-line Conducted Emissions

Refer as Appendix A

3.2 DTS Bandwidth

3.2.1 6dB Bandwidth Limit

6dB Bandwidth Limit
Systems using digital modulation techniques:
<ul style="list-style-type: none"> ▪ 6 dB bandwidth \geq 500 kHz.

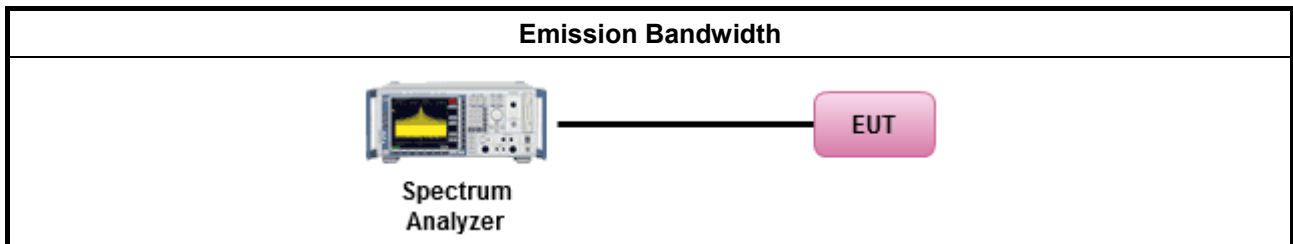
3.2.2 Measuring Instruments

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

3.2.3 Test Procedures

Test Method
<ul style="list-style-type: none"> ▪ For the emission bandwidth shall be measured using one of the options below:
<input checked="" type="checkbox"/> Refer as FCC KDB 558074, clause 8.1 Option 1 for 6 dB bandwidth measurement.
<input type="checkbox"/> Refer as FCC KDB 558074, clause 8.2 Option 2 for 6 dB bandwidth measurement.
<input type="checkbox"/> Refer as ANSI C63.10, clause 6.9.1 for occupied bandwidth testing.

3.2.4 Test Setup



3.2.5 Test Result of Emission Bandwidth

Refer as Appendix B

3.3 Maximum Conducted Output Power

3.3.1 Maximum Conducted Output Power Limit

Maximum Conducted Output Power Limit	
	▪ If $G_{TX} \leq 6$ dBi, then $P_{Out} \leq 30$ dBm (1 W)
	▪ Point-to-multipoint systems (P2M): If $G_{TX} > 6$ dBi, then $P_{Out} = 30 - (G_{TX} - 6)$ dBm
	▪ Point-to-point systems (P2P): If $G_{TX} > 6$ dBi, then $P_{Out} = 30 - (G_{TX} - 6)/3$ dBm
	▪ Smart antenna system (SAS):
	- Single beam: If $G_{TX} > 6$ dBi, then $P_{Out} = 30 - (G_{TX} - 6)/3$ dBm
	- Overlap beam: If $G_{TX} > 6$ dBi, then $P_{Out} = 30 - (G_{TX} - 6)/3$ dBm
	- Aggregate power on all beams: If $G_{TX} > 6$ dBi, then $P_{Out} = 30 - (G_{TX} - 6)/3 + 8$ dB dBm
P_{Out} = maximum peak conducted output power or maximum conducted output power in dBm, G_{TX} = the maximum transmitting antenna directional gain in dBi.	

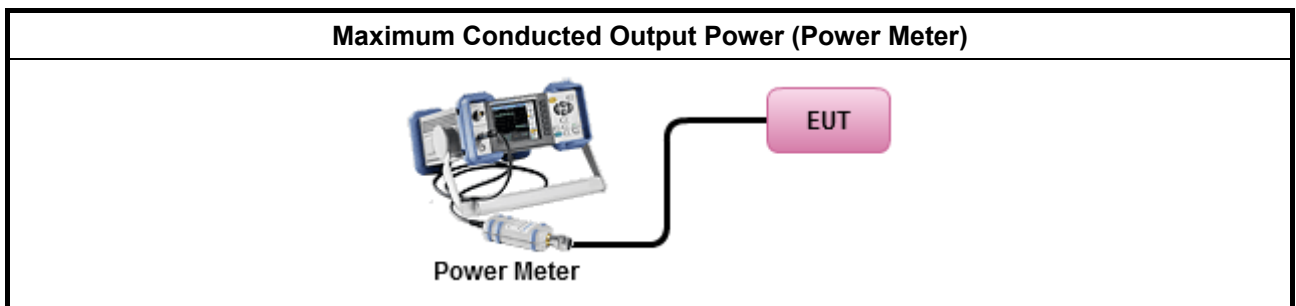
3.3.2 Measuring Instruments

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

3.3.3 Test Procedures

Test Method	
<ul style="list-style-type: none"> Maximum Peak Conducted Output Power 	
<input type="checkbox"/>	Refer as FCC KDB 558074, clause 9.1.1 Option 1 (RBW ≥ EBW method).
<input type="checkbox"/>	Refer as FCC KDB 558074, clause 9.1.2 Option 2 (peak power meter for VBW ≥ DTS BW)
<ul style="list-style-type: none"> Maximum Conducted Output Power 	
[duty cycle ≥ 98% or external video / power trigger]	
<input type="checkbox"/>	Refer as FCC KDB 558074, clause 9.2.2.2 Method AVGSA-1 (spectral trace averaging).
<input type="checkbox"/>	Refer as FCC KDB 558074, clause 9.2.2.3 Method AVGSA-1 Alt. (slow sweep speed)
duty cycle < 98% and average over on/off periods with duty factor	
<input type="checkbox"/>	Refer as FCC KDB 558074, clause 9.2.2.4 Method AVGSA-2 (spectral trace averaging).
<input type="checkbox"/>	Refer as FCC KDB 558074, clause 9.2.2.5 Method AVGSA-2 Alt. (slow sweep speed)
RF power meter and average over on/off periods with duty factor or gated trigger	
<input checked="" type="checkbox"/>	Refer as FCC KDB 558074, clause 9.2.3 Method AVGPM-G (using an RF average power meter).
<input type="checkbox"/>	Refer as FCC KDB 558074, clause 9.1.2 PKPM1 Peak power meter method.
<ul style="list-style-type: none"> For conducted measurement. 	
<ul style="list-style-type: none"> If the EUT supports multiple transmit chains using options given below: Refer as FCC KDB 662911, In-band power measurements. Using the measure-and-sum approach, measured all transmit ports individually. Sum the power (in linear power units e.g., mW) of all ports for each individual sample and save them. 	
<ul style="list-style-type: none"> If multiple transmit chains, EIRP calculation could be following as methods: $P_{total} = P_1 + P_2 + \dots + P_n$ (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 Power Spectral Density

3.4.1 Power Spectral Density Limit

Power Spectral Density Limit
<ul style="list-style-type: none"> ▪ Power Spectral Density (PSD) \leq 8 dBm/3kHz

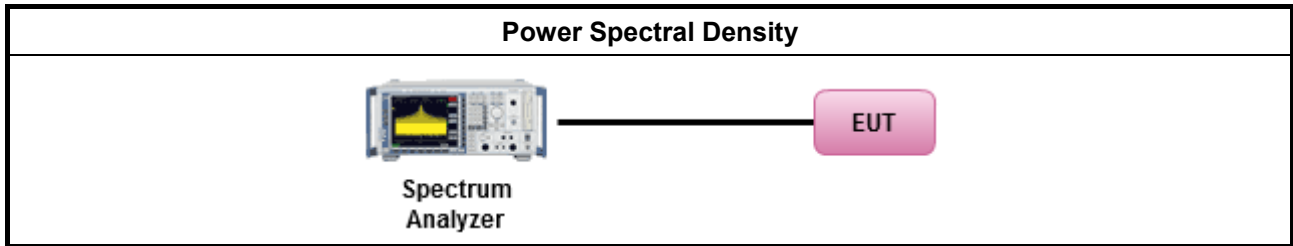
3.4.2 Measuring Instruments

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

3.4.3 Test Procedures

Test Method
<ul style="list-style-type: none"> ▪ Peak power spectral density procedures that the same method as used to determine the conducted output power. If maximum peak conducted output power was measured to demonstrate compliance to the output power limit, then the peak PSD procedure below (Method PKPSD) shall be used. If maximum conducted output power was measured to demonstrate compliance to the output power limit, then one of the average PSD procedures shall be used, as applicable based on the following criteria (the peak PSD procedure is also an acceptable option).
<input checked="" type="checkbox"/> Refer as FCC KDB 558074, clause 10.2 Method PKPSD (RBW=3-100kHz; Detector=peak). [duty cycle \geq 98% or external video / power trigger]
<input type="checkbox"/> Refer as FCC KDB 558074, clause 10.3 Method AVGPSD-1 (spectral trace averaging).
<input type="checkbox"/> Refer as FCC KDB 558074, clause 10.4 Method AVGPSD-2 (slow sweep speed) duty cycle < 98% and average over on/off periods with duty factor
<input type="checkbox"/> Refer as FCC KDB 558074, clause 10.5 Method AVGPSD-1 Alt (spectral trace averaging).
<input type="checkbox"/> Refer as FCC KDB 558074, clause 10.6 Method AVGPSD-2 Alt. (slow sweep speed)
<ul style="list-style-type: none"> ▪ For conducted measurement.
<ul style="list-style-type: none"> ▪ If The EUT supports multiple transmit chains using options given below: <ul style="list-style-type: none"> <input checked="" type="checkbox"/> Option 1: Measure and sum the spectra across the outputs. Refer as FCC KDB 662911, In-band power spectral density (PSD). Sample all transmit ports simultaneously using a spectrum analyzer for each transmit port. Where the trace bin-by-bin of each transmit port summing can be performed. (i.e., in the first spectral bin of output 1 is summed with that in the first spectral bin of output 2 and that from the first spectral bin of output 3, and so on up to the NTX output to obtain the value for the first frequency bin of the summed spectrum.). Add up the amplitude (power) values for the different transmit chains and use this as the new data trace. <input type="checkbox"/> Option 2: Measure and sum spectral maxima across the outputs. With this technique, spectra are measured at each output of the device at the required resolution bandwidth. The maximum value (peak) of each spectrum is determined. These maximum values are then summed mathematically in linear power units across the outputs. These operations shall be performed separately over frequency spans that have different out-of-band or spurious emission limits, <input type="checkbox"/> Option 3: Measure and add 10 log(N) dB, where N is the number of transmit chains. Refer as FCC KDB 662911, In-band power spectral density (PSD). Performed at each transmit chains and each transmit chains shall be compared with the limit have been reduced with 10 log(N). Or each transmit chains shall be add 10 log(N) to compared with the limit.

3.4.4 Test Setup



3.4.5 Test Result of Power Spectral Density

Refer as Appendix D

3.5 Emissions in Non-restricted Frequency Bands

3.5.1 Emissions in Non-restricted Frequency Bands Limit

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

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

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

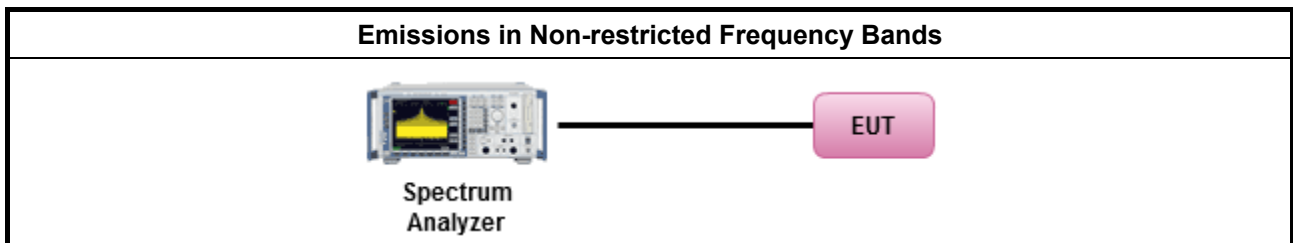
3.5.2 Measuring Instruments

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

3.5.3 Test Procedures

Test Method
<ul style="list-style-type: none"> Refer as FCC KDB 558074, clause 11 for unwanted emissions into non-restricted bands.

3.5.4 Test Setup



3.5.5 Test Result of Emissions in Non-restricted Frequency Bands

Refer as Appendix E

3.6 Emissions in Restricted Frequency Bands

3.6.1 Emissions in Restricted Frequency Bands Limit

Restricted Band Emissions Limit			
Frequency Range (MHz)	Field Strength (uV/m)	Field Strength (dBuV/m)	Measure Distance (m)
0.009~0.490	2400/F(kHz)	48.5 - 13.8	300
0.490~1.705	24000/F(kHz)	33.8 - 23	30
1.705~30.0	30	29	30
30~88	100	40	3
88~216	150	43.5	3
216~960	200	46	3
Above 960	500	54	3

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

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

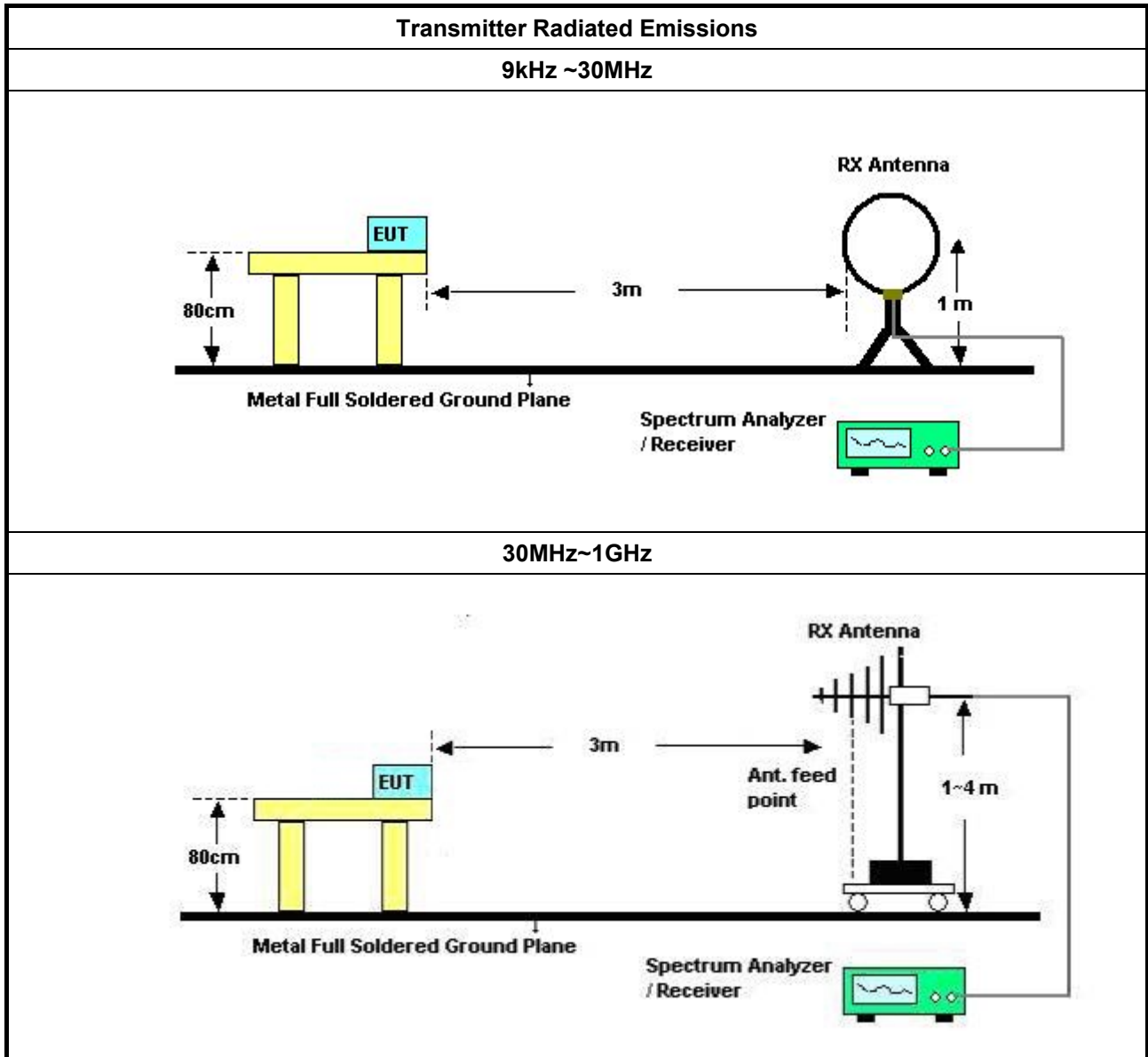
3.6.2 Measuring Instruments

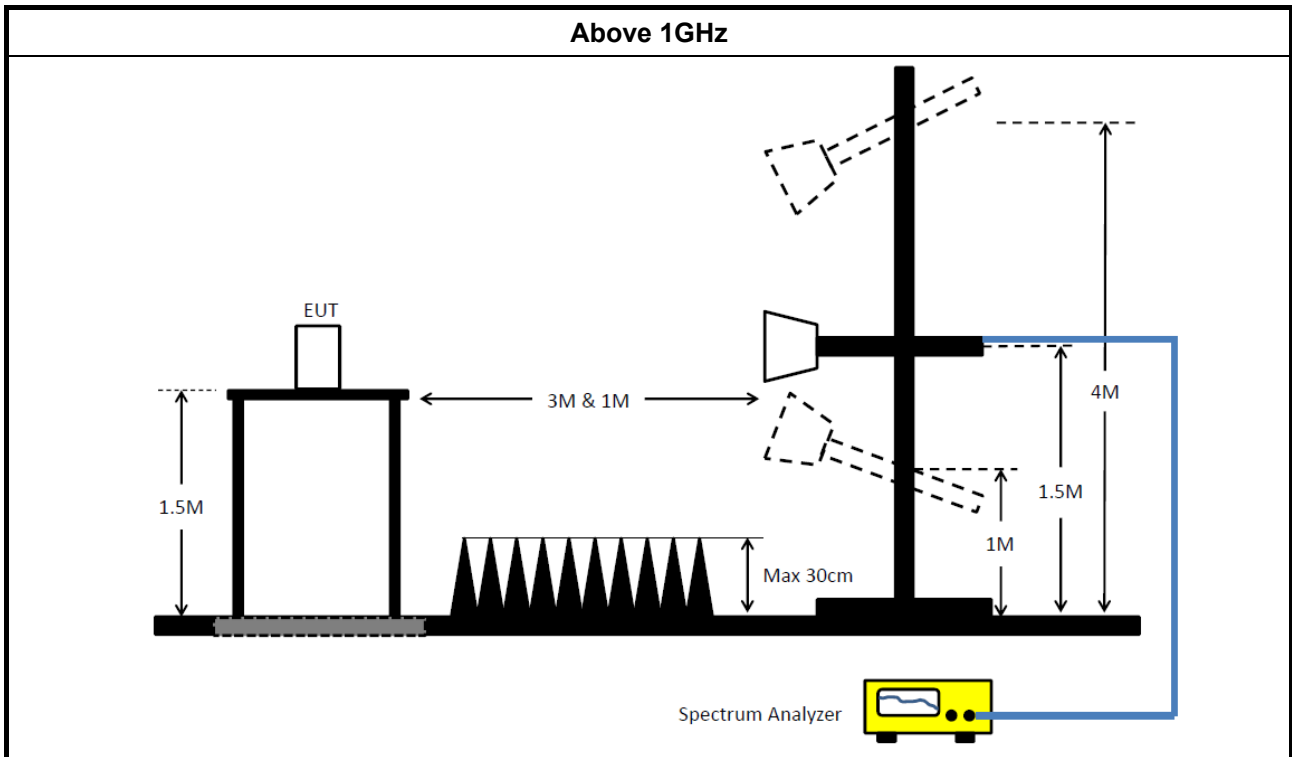
Refer a test equipment and calibration data table in this test report.

3.6.3 Test Procedures

Test Method	
<ul style="list-style-type: none"> ▪ The average emission levels shall be measured in [duty cycle ≥ 98 or duty factor]. 	
<ul style="list-style-type: none"> ▪ Refer as ANSI C63.10, clause 6.9.2.2 band-edge testing shall be performed at the lowest frequency channel and highest frequency channel within the allowed operating band. 	
<ul style="list-style-type: none"> ▪ For the transmitter unwanted emissions shall be measured using following options below: 	
	<ul style="list-style-type: none"> ▪ Refer as FCC KDB 558074, clause 12 for unwanted emissions into restricted bands.
	<input type="checkbox"/> Refer as FCC KDB 558074, clause 12.2.5.1 Option 1 (trace averaging for duty cycle $\geq 98\%$)
	<input type="checkbox"/> Refer as FCC KDB 558074, clause 12.2.5.2 Option 2 (trace averaging + duty factor).
	<input checked="" type="checkbox"/> Refer as FCC KDB 558074, clause 12.2.5.3 Option 3 (Reduced VBW $\geq 1/T$).
	<input type="checkbox"/> Refer as ANSI C63.10, clause 4.2.3.2.3 (Reduced VBW). VBW $\geq 1/T$, where T is pulse time.
	<input type="checkbox"/> Refer as ANSI C63.10, clause 4.2.3.2.4 average value of pulsed emissions.
	<input checked="" type="checkbox"/> Refer as FCC KDB 558074, clause 12.2.4 measurement procedure peak limit.
<ul style="list-style-type: none"> ▪ For the transmitter band-edge emissions shall be measured using following options below: 	
	<ul style="list-style-type: none"> ▪ Refer as FCC KDB 558074 clause 13.1, When the performing peak or average radiated measurements, emissions within 2 MHz of the authorized band edge may be measured using the marker-delta method described below.
	<ul style="list-style-type: none"> ▪ Refer as FCC KDB 558074, clause 13.2 (ANSI C63.10, clause 6.9.3) for marker-delta method for band-edge measurements.
	<ul style="list-style-type: none"> ▪ Refer as FCC KDB 558074, clause 13.3 for narrower resolution bandwidth (100kHz) using the band power and summing the spectral levels (i.e., 1 MHz).
<ul style="list-style-type: none"> ▪ For conducted and cabinet radiation measurement, refer as FCC KDB 558074, clause 12.2.2. 	
	<ul style="list-style-type: none"> ▪ For conducted unwanted emissions into restricted bands (absolute emission limits). Devices with multiple transmit chains using options given below: (1) Measure and sum the spectra across the outputs or (2) Measure and add 10 log(N) dB
	<ul style="list-style-type: none"> ▪ For FCC KDB 662911 The methodology described here may overestimate array gain, thereby resulting in apparent failures to satisfy the out-of-band limits even if the device is actually compliant. In such cases, compliance may be demonstrated by performing radiated tests around the frequencies at which the apparent failures occurred.

3.6.4 Test Setup





3.6.5 Transmitter Radiated 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.

3.6.6 Test Result of Transmitter Radiated Unwanted Emissions

Refer as Appendix F



4 Test Equipment and Calibration Data

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Remark
EMI Receiver	Agilent	N9038A	My52260123	9kHz ~ 8.45GHz	Jan. 27, 2016	Conduction (CO01-CB)
LISN	F.C.C.	FCC-LISN-50-16-2	04083	150kHz ~ 100MHz	Dec. 08, 2015	Conduction (CO01-CB)
LISN	Schwarzbeck	NSLK 8127	8127647	9kHz ~ 30MHz	Dec. 23, 2015	Conduction (CO01-CB)
COND Cable	Woken	Cable	01	150kHz ~ 30MHz	May 24, 2016	Conduction (CO01-CB)
Software	Audix	E3	6.120210n	-	N.C.R.	Conduction (CO01-CB)
BILOG ANTENNA	TESEQ	CBL6112D	37880	20MHz ~ 2GHz	Aug. 30, 2016	Radiation (03CH01-CB)
Horn Antenna	SCHWARZBECK	BBHA 9120 D	BBHA 9120 D 1370	1GHz~18GHz	Jul. 07, 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	Nov. 13, 2015	Radiation (03CH01-CB)
Pre-Amplifier	MITEQ	TTA1840-35-HG	1864479	18GHz ~ 40GHz	Jun. 28, 2016	Radiation (03CH01-CB)
Spectrum Analyzer	R&S	FSP40	100056	9kHz ~ 40GHz	Oct. 27, 2015	Radiation (03CH01-CB)
Spectrum Analyzer	R&S	FSP40	100056	9kHz ~ 40GHz	Nov. 21, 2016	Radiation (03CH01-CB)
EMI Test	R&S	ESCS	100355	9kHz ~ 2.75GHz	May 16, 2016	Radiation (03CH01-CB)
RF Cable-low	Woken	Low Cable-1	N/A	30 MHz ~ 1 GHz	Nov. 02, 2015	Radiation (03CH01-CB)
RF Cable-high	Woken	High Cable-16	N/A	1 GHz ~ 18 GHz	Nov. 02, 2015	Radiation (03CH01-CB)
RF Cable-high	Woken	High Cable-16	N/A	1 GHz ~ 18 GHz	Oct. 24, 2016	Radiation (03CH01-CB)
RF Cable-high	Woken	High Cable-17	N/A	1 GHz ~ 18 GHz	Nov. 02, 2015	Radiation (03CH01-CB)
RF Cable-high	Woken	High Cable-17	N/A	1 GHz ~ 18 GHz	Oct. 24, 2016	Radiation (03CH01-CB)
RF Cable-high	Woken	High Cable-40G-1	N/A	18GHz ~ 40 GHz	Nov. 02, 2015	Radiation (03CH01-CB)
RF Cable-high	Woken	High Cable-40G-1	N/A	18GHz ~ 40 GHz	Oct. 24, 2016	Radiation (03CH01-CB)
RF Cable-high	Woken	High Cable-40G-2	N/A	18GHz ~ 40 GHz	Nov. 02, 2015	Radiation (03CH01-CB)
RF Cable-high	Woken	High Cable-40G-2	N/A	18GHz ~ 40 GHz	Oct. 24, 2016	Radiation (03CH01-CB)

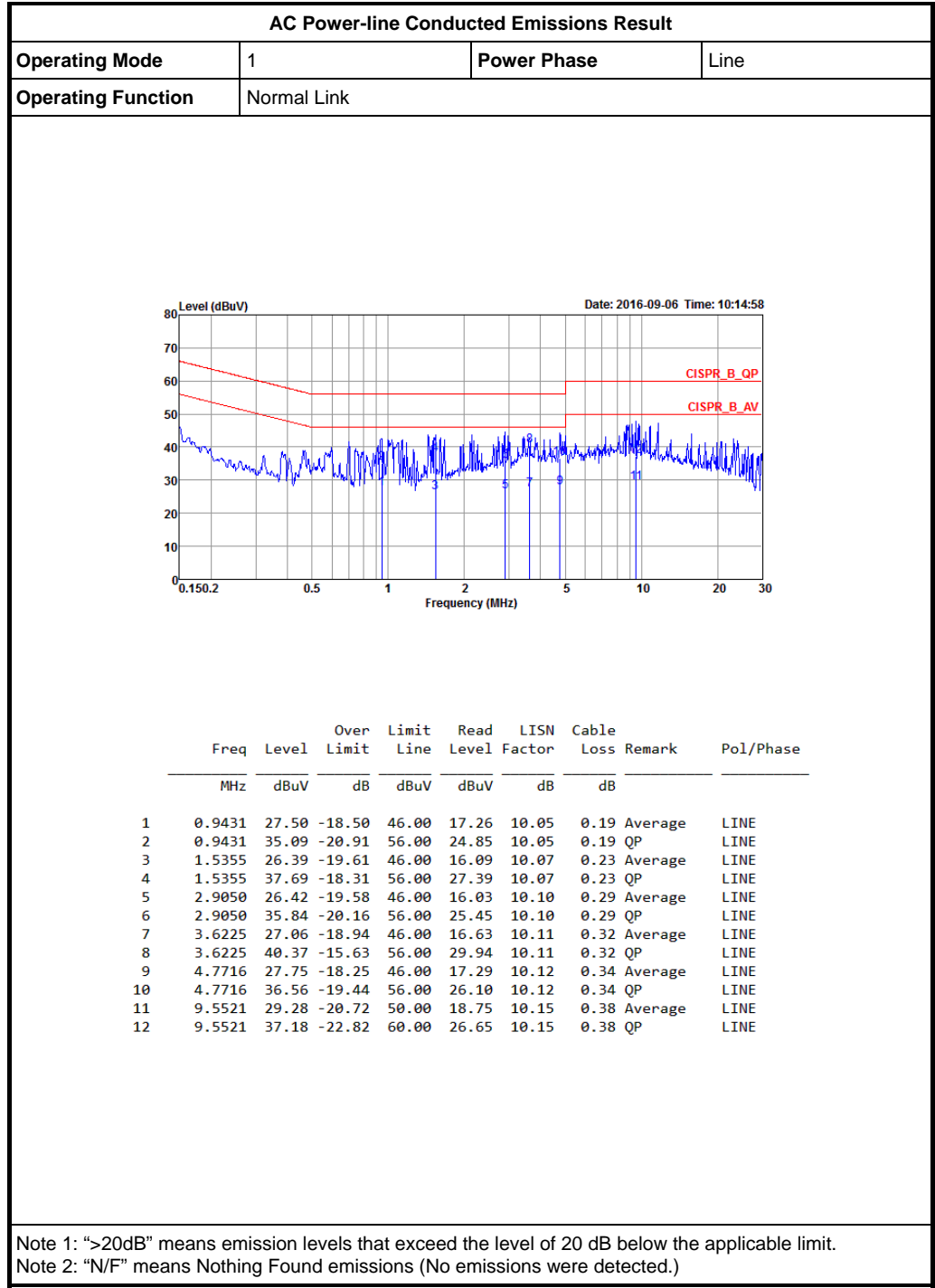
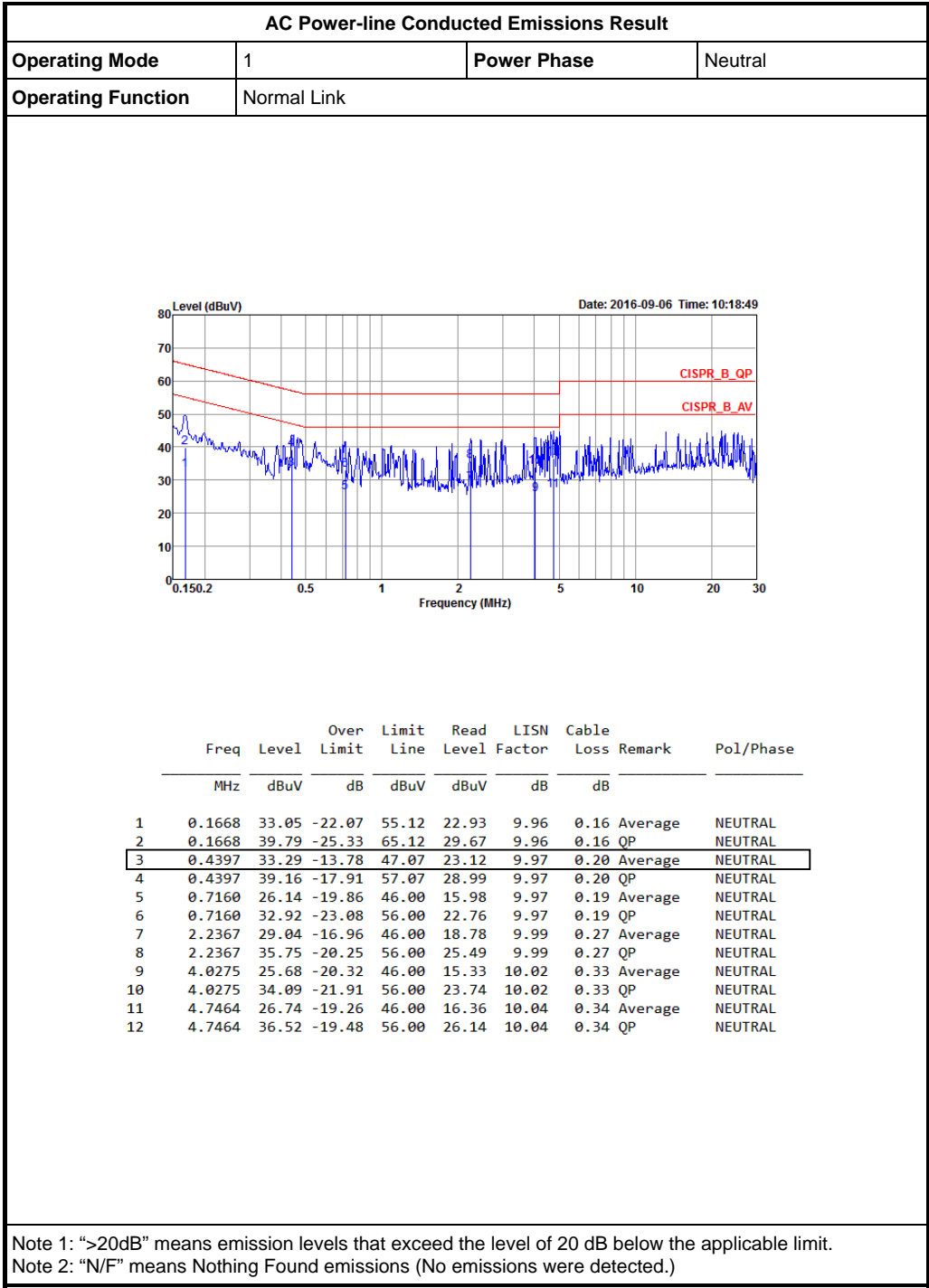


Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Remark
Test Software	Audix	E3	6.2009-10-7	N/A	N/A	Radiation (03CH01-CB)
Loop Antenna	Teseq	HLA 6120	24155	9kHz - 30 MHz	Mar. 16, 2016*	Radiation (03CH01-CB)
Spectrum analyzer	R&S	FSV40	100979	9kHz~40GHz	Dec. 09, 2015	Conducted (TH01-CB)
RF Cable-high	Woken	RG402	High Cable-6	1 GHz – 26.5 GHz	Nov. 02, 2015	Conducted (TH01-CB)
RF Cable-high	Woken	RG402	High Cable-7	1 GHz – 26.5 GHz	Nov. 02, 2015	Conducted (TH01-CB)
RF Cable-high	Woken	RG402	High Cable-8	1 GHz – 26.5 GHz	Nov. 02, 2015	Conducted (TH01-CB)
RF Cable-high	Woken	RG402	High Cable-9	1 GHz – 26.5 GHz	Nov. 02, 2015	Conducted (TH01-CB)
RF Cable-high	Woken	RG402	High Cable-10	1 GHz – 26.5 GHz	Nov. 02, 2015	Conducted (TH01-CB)
Power Sensor	Agilent	U2021XA	MY53410001	50MHz~18GHz	Nov. 02, 2015	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.



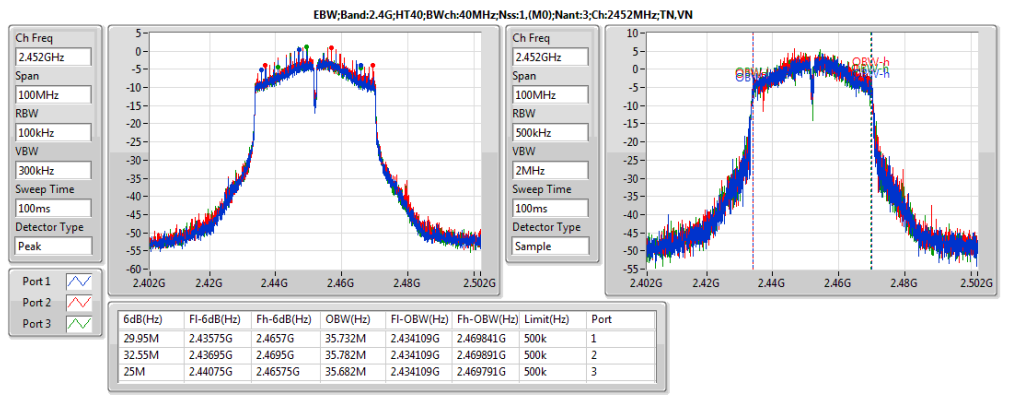
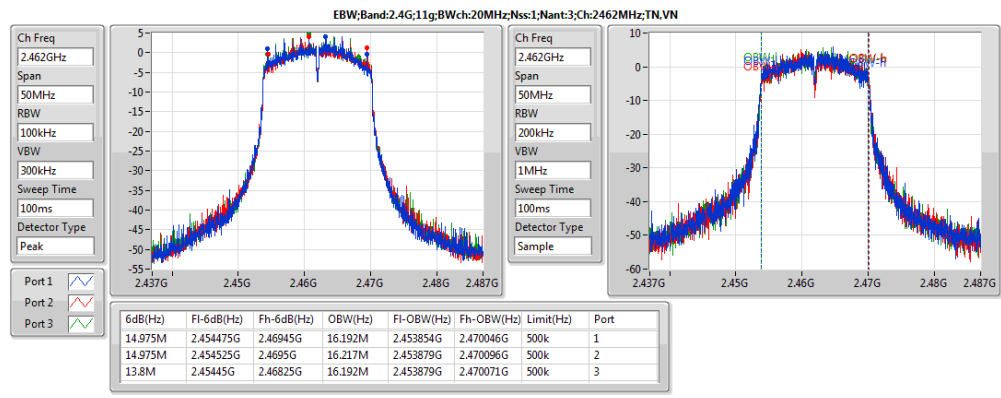
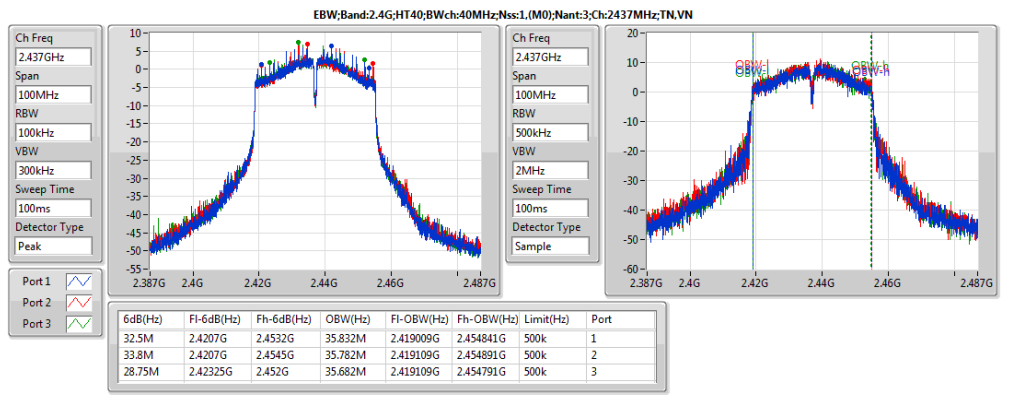
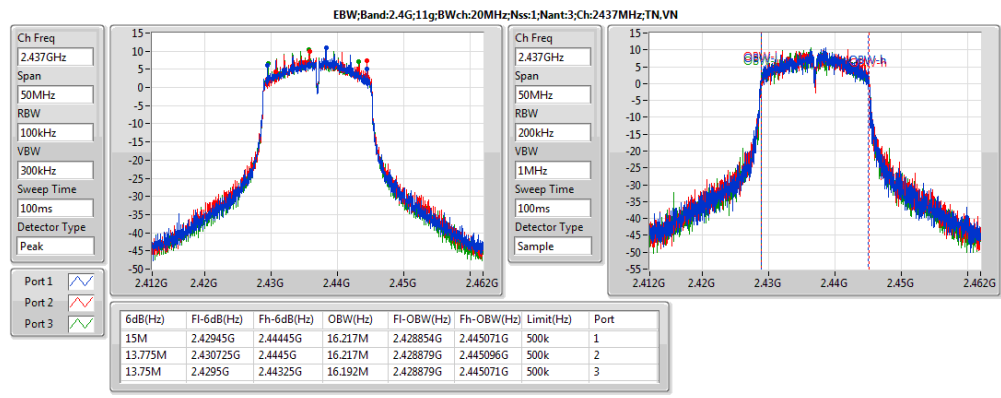
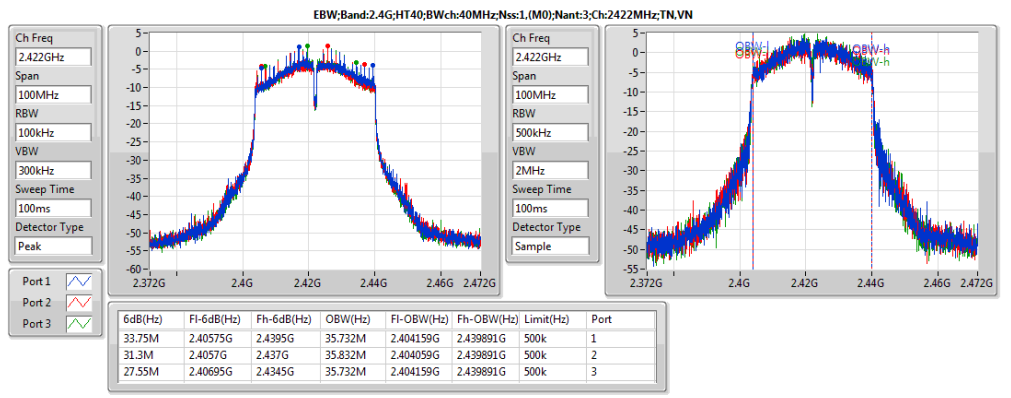
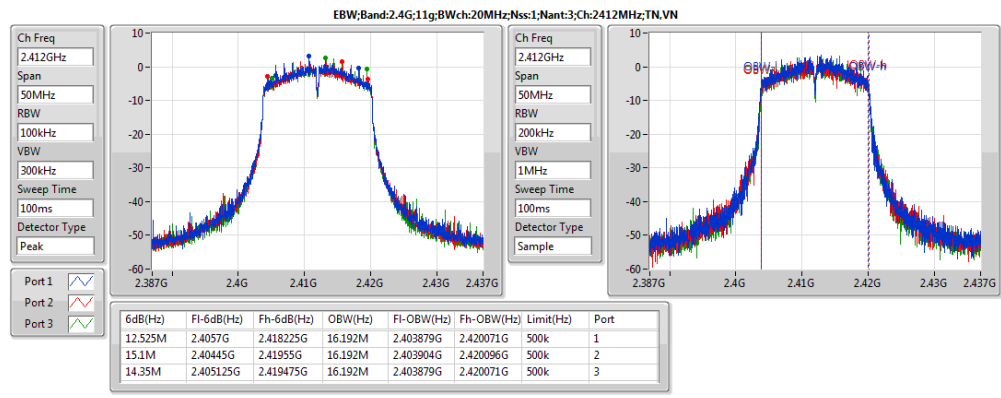
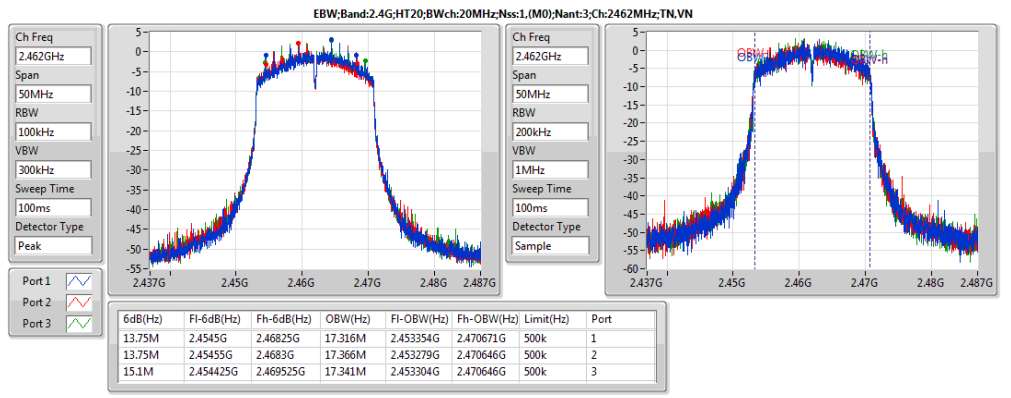
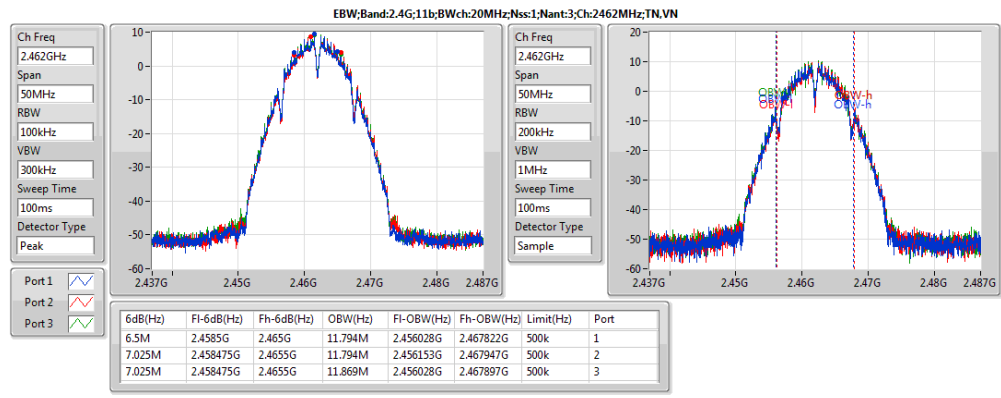
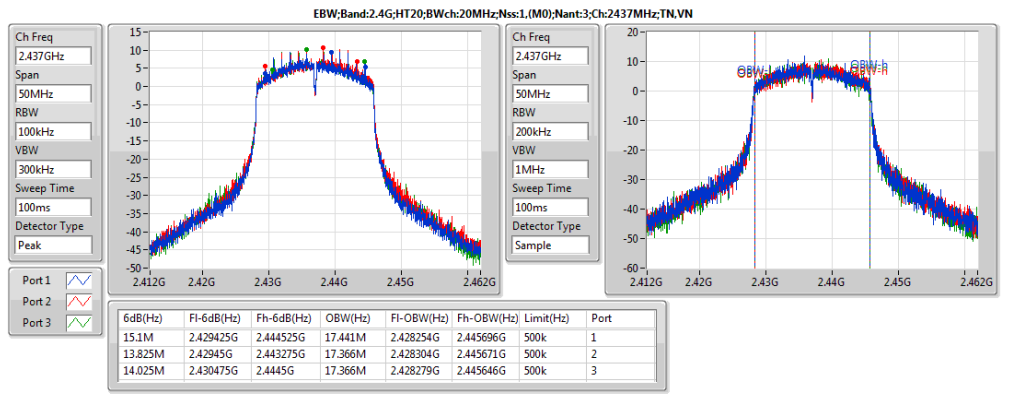
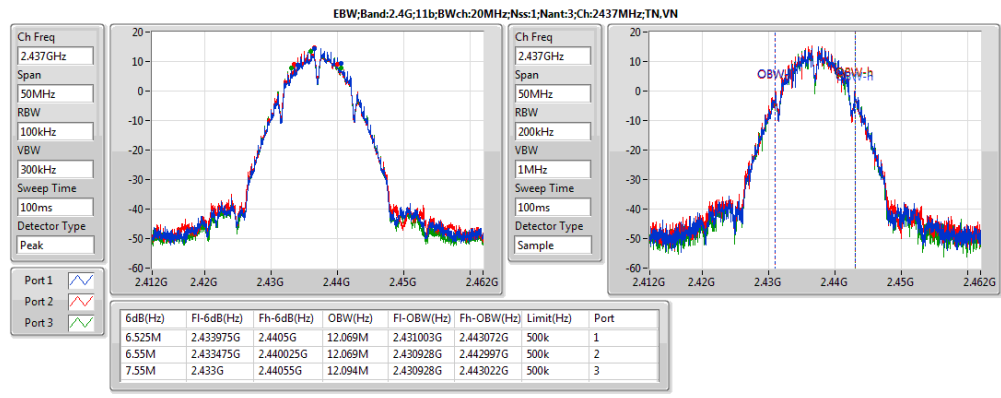
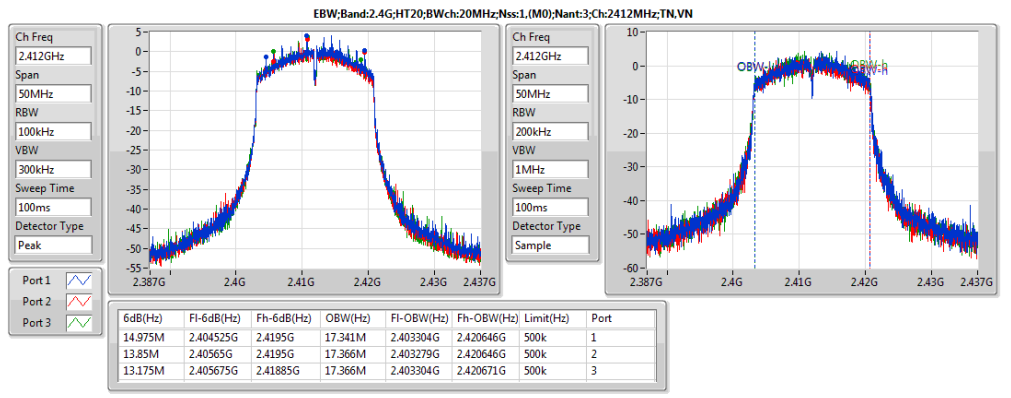
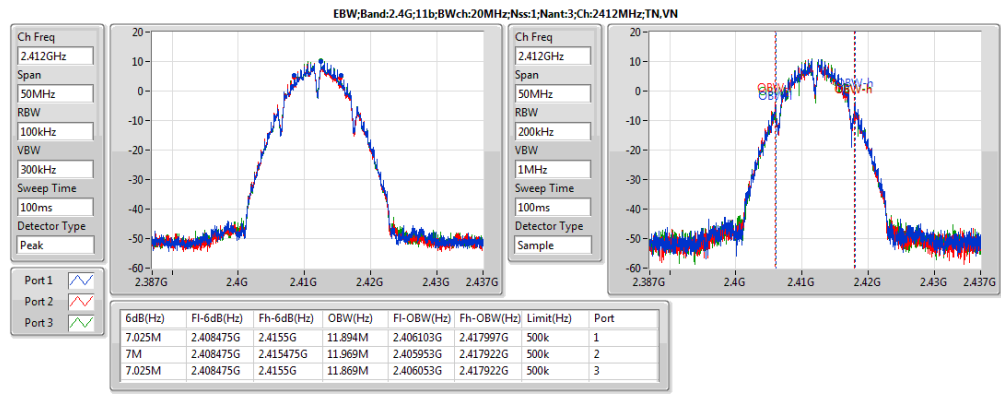


Summary

Mode	Max-N dB (Hz)	Max-OBW (Hz)	ITU-Code	Min-N dB (Hz)	Min-OBW (Hz)
2.4G;11b:Nss1:Ntx3	7.55M	12.094M	12M1G1D	6.5M	11.794M
2.4G;11g:Nss1:Ntx3	15.1M	16.217M	16M2D1D	12.525M	16.192M
2.4G;HT20:Nss1,(M0):Ntx3	15.1M	17.441M	17M4D1D	13.175M	17.316M
2.4G;HT40:Nss1,(M0):Ntx3	33.8M	35.832M	35M8D1D	25M	35.682M

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)
2.4G:11b:Nss1:Ntx3:2412	Pass	500k	7.025M	11.894M	7M	11.969M	7.025M	11.869M
2.4G:11b:Nss1:Ntx3:2437	Pass	500k	6.525M	12.069M	6.55M	12.069M	7.55M	12.094M
2.4G:11b:Nss1:Ntx3:2462	Pass	500k	6.5M	11.794M	7.025M	11.794M	7.025M	11.869M
2.4G:11g:Nss1:Ntx3:2412	Pass	500k	12.525M	16.192M	15.1M	16.192M	14.35M	16.192M
2.4G:11g:Nss1:Ntx3:2437	Pass	500k	15M	16.217M	13.775M	16.217M	13.75M	16.192M
2.4G:11g:Nss1:Ntx3:2462	Pass	500k	14.975M	16.192M	14.975M	16.217M	13.8M	16.192M
2.4G:HT20:Nss1,(M0):Ntx3:2412	Pass	500k	14.975M	17.341M	13.85M	17.366M	13.175M	17.366M
2.4G:HT20:Nss1,(M0):Ntx3:2437	Pass	500k	15.1M	17.441M	13.825M	17.366M	14.025M	17.366M
2.4G:HT20:Nss1,(M0):Ntx3:2462	Pass	500k	13.75M	17.316M	13.75M	17.366M	15.1M	17.341M
2.4G:HT40:Nss1,(M0):Ntx3:2422	Pass	500k	33.75M	35.732M	31.3M	35.832M	27.55M	35.732M
2.4G:HT40:Nss1,(M0):Ntx3:2437	Pass	500k	32.5M	35.832M	33.8M	35.782M	28.75M	35.682M
2.4G:HT40:Nss1,(M0):Ntx3:2452	Pass	500k	29.95M	35.732M	32.55M	35.782M	25M	35.682M





Summary

Mode	Sum (dBm)	Sum (W)	EIRP (dBm)	EIRP (W)
2.4G;11b:Nss1:Ntx3	28.97	0.78886	34.62	2.89734
2.4G;11g:Nss1:Ntx3	26.89	0.48865	32.54	1.79473
2.4G;HT20:Nss1,(M0):Ntx3	26.57	0.45394	32.22	1.66725
2.4G;HT40:Nss1,(M0):Ntx3	25.41	0.34754	31.06	1.27644

Result

Mode	Result	DG (dBi)	Sum (dBm)	Sum Lim. (dBm)	EIRP (dBm)	EIRP Lim. (dBm)	P1 (dBm)	P2 (dBm)	P3 (dBm)
2.4G:11b:Nss1:Ntx3:2412	Pass	5.65	24.28	30.00	29.93	36.00	19.45	19.86	19.20
2.4G:11b:Nss1:Ntx3:2437	Pass	5.65	28.97	30.00	34.62	36.00	23.94	24.69	23.92
2.4G:11b:Nss1:Ntx3:2462	Pass	5.65	23.04	30.00	28.69	36.00	18.11	18.54	18.14
2.4G:11g:Nss1:Ntx3:2412	Pass	5.65	19.27	30.00	24.92	36.00	14.47	14.84	14.16
2.4G:11g:Nss1:Ntx3:2437	Pass	5.65	26.89	30.00	32.54	36.00	21.93	22.59	21.78
2.4G:11g:Nss1:Ntx3:2462	Pass	5.65	21.04	30.00	26.69	36.00	15.90	16.60	16.28
2.4G:HT20:Nss1,(M0):Ntx3:2412	Pass	5.65	19.90	30.00	25.55	36.00	15.00	15.65	14.68
2.4G:HT20:Nss1,(M0):Ntx3:2437	Pass	5.65	26.57	30.00	32.22	36.00	21.70	22.27	21.37
2.4G:HT20:Nss1,(M0):Ntx3:2462	Pass	5.65	18.92	30.00	24.57	36.00	14.02	14.44	13.97
2.4G:HT40:Nss1,(M0):Ntx3:2422	Pass	5.65	19.65	30.00	25.30	36.00	14.83	15.31	14.46
2.4G:HT40:Nss1,(M0):Ntx3:2437	Pass	5.65	25.41	30.00	31.06	36.00	20.44	21.10	20.34
2.4G:HT40:Nss1,(M0):Ntx3:2452	Pass	5.65	19.40	30.00	25.05	36.00	14.84	15.00	13.97

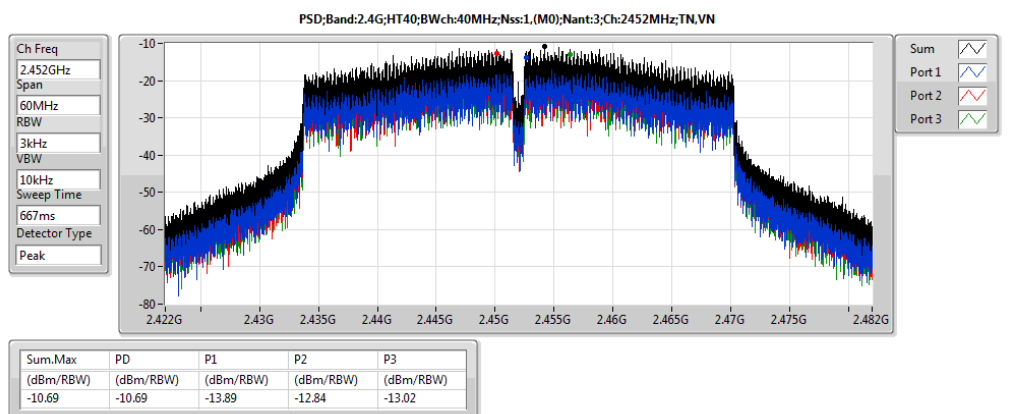
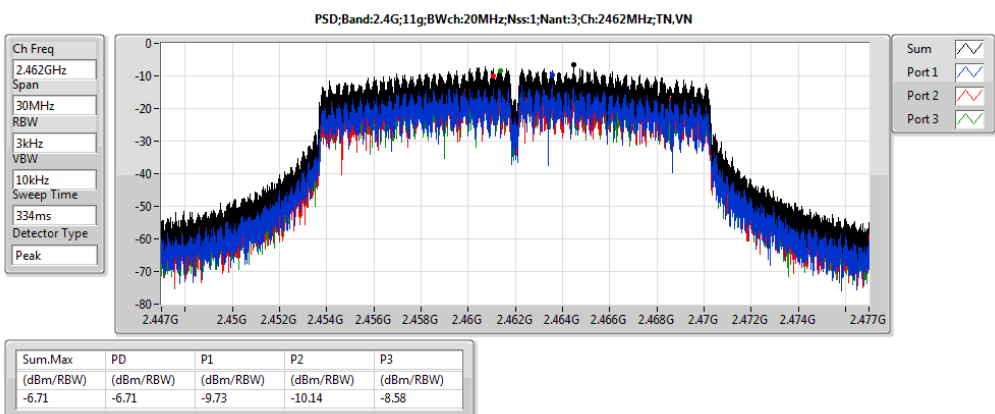
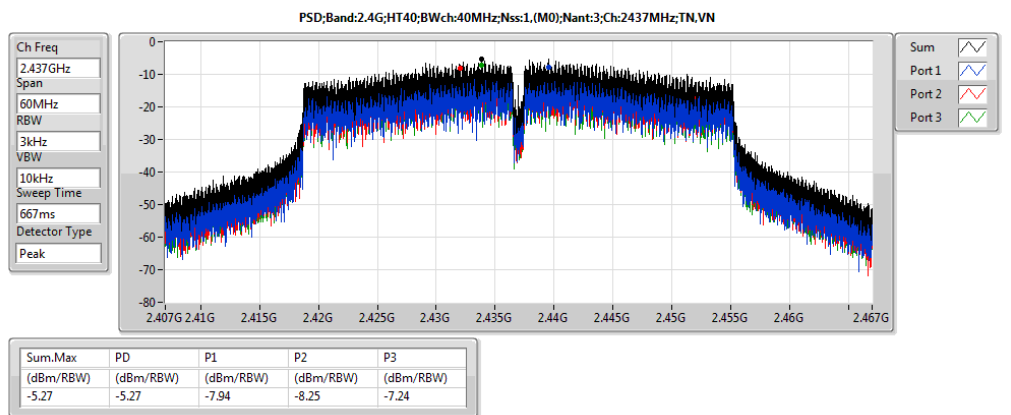
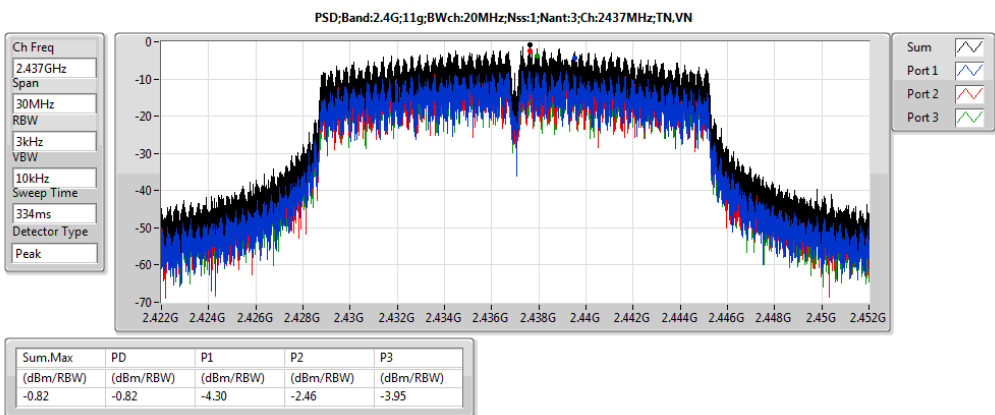
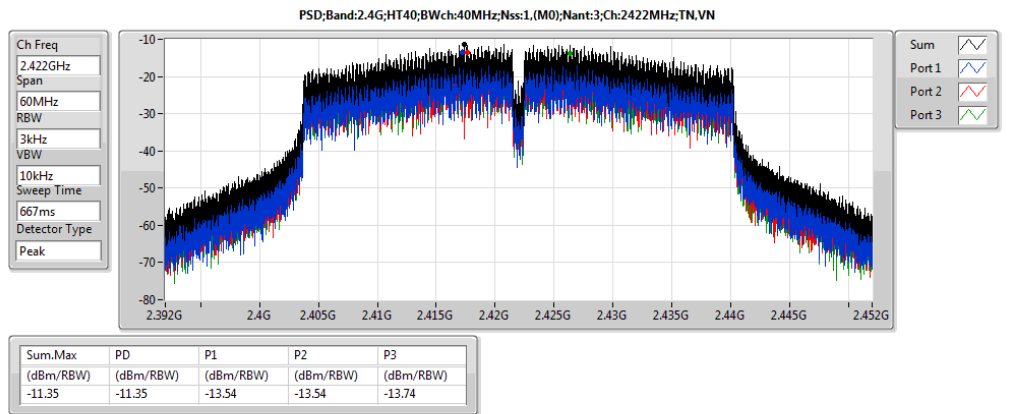
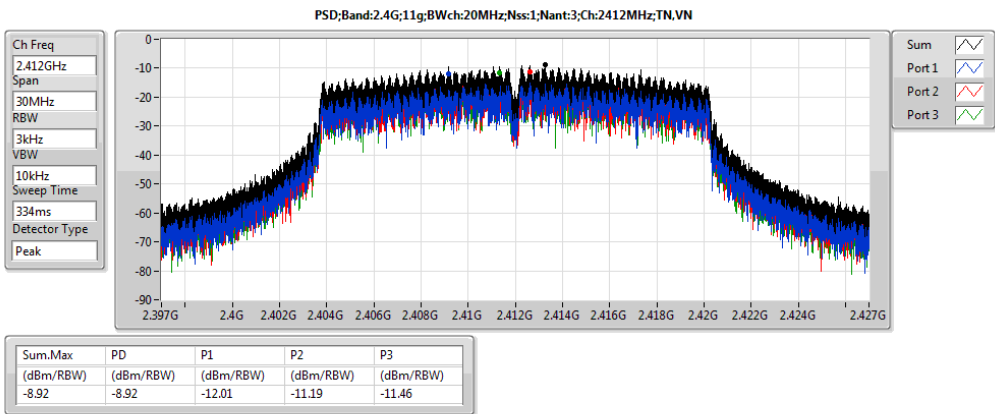
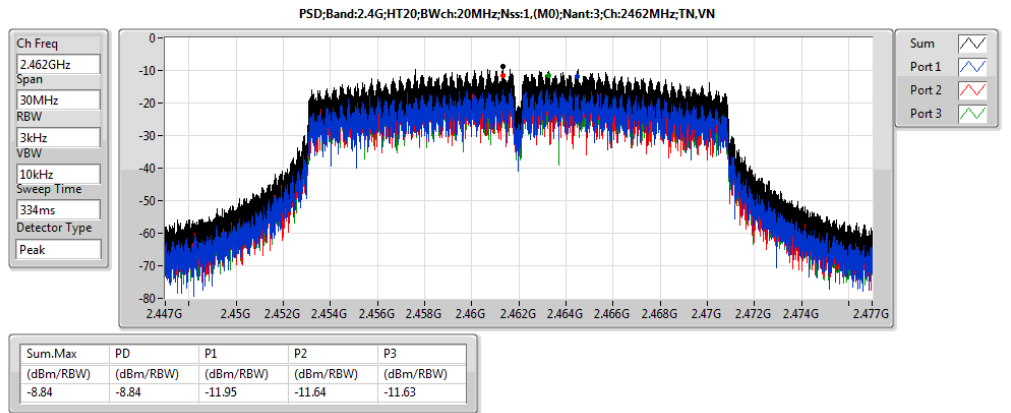
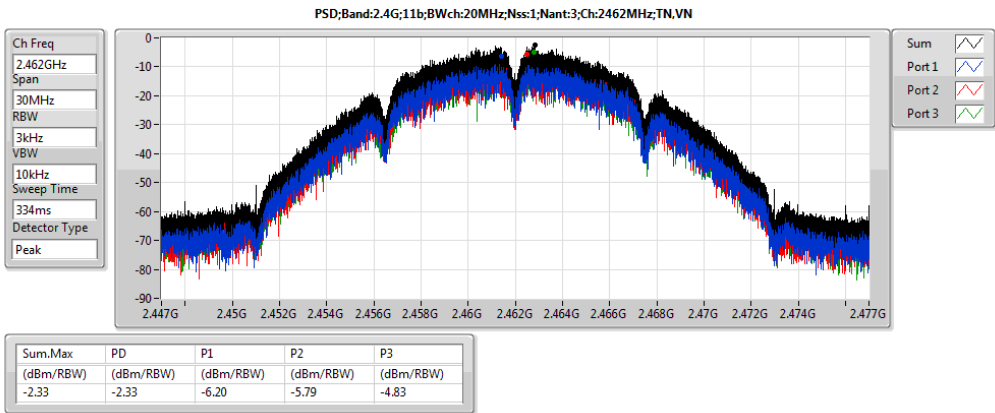
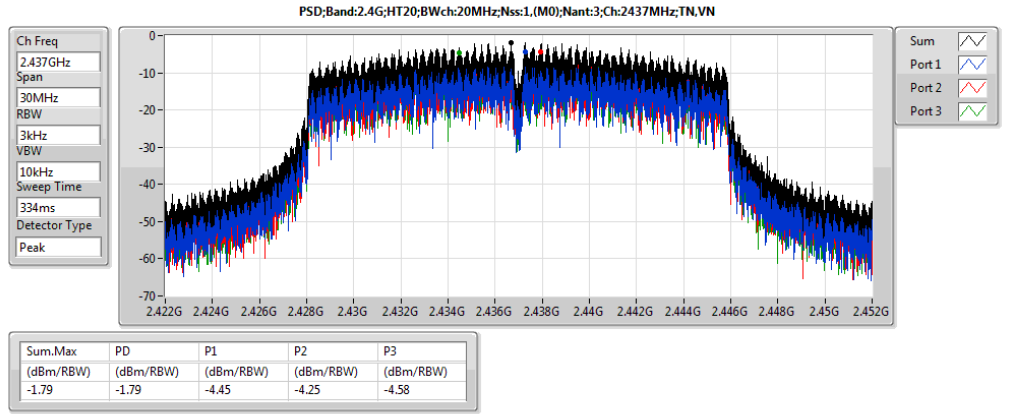
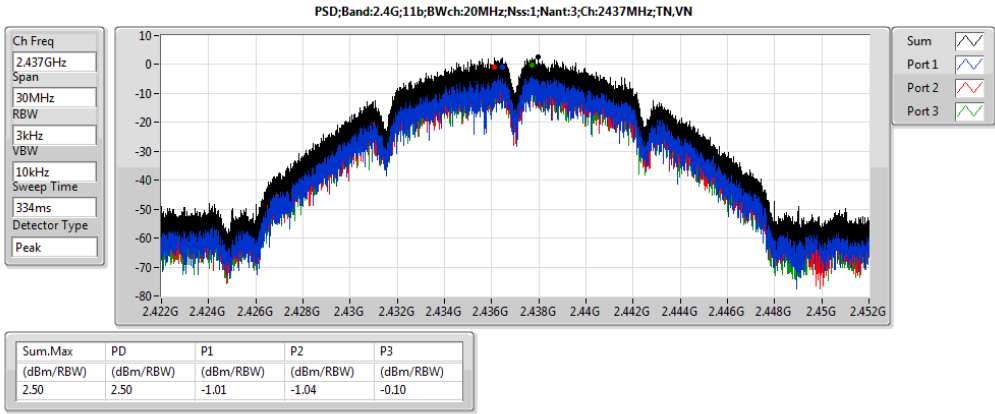
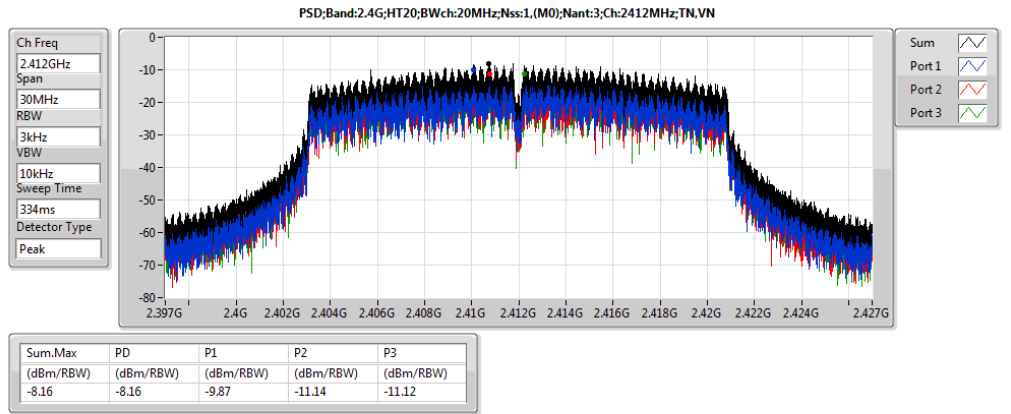
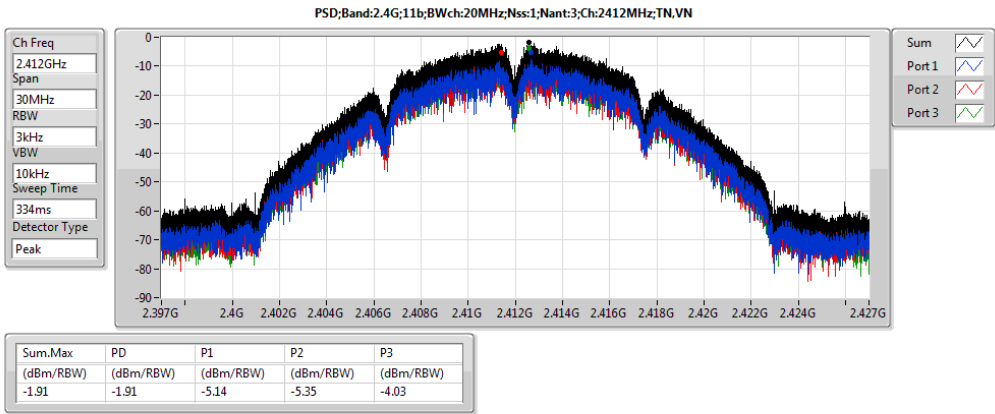


Summary

Mode	PD (dBm/RBW)	EIRP.PD (dBm/RBW)
2.4G;11b;Nss1;Ntx3	2.50	12.72
2.4G;11g;Nss1;Ntx3	-0.82	9.40
2.4G;HT20;Nss1,(M0);Ntx3	-1.79	8.43
2.4G;HT40;Nss1,(M0);Ntx3	-5.27	4.95

Result

Mode	Result	Meas.RBW (Hz)	Lim.RBW (Hz)	BWCF (dB)	DG (dBi)	PD (dBm/RBW)	PD.Limit (dBm/RBW)	EIRP.PD (dBm/RBW)	EIRP.PD.Li m (dBm/RBW)	P1 (dBm/RBW)	P2 (dBm/RBW)	P3 (dBm/RBW)
2.4G;11b;Nss1;Ntx3;2412	Pass	3k	3k	0.00	10.22	-1.91	3.78	8.31	Inf	-5.14	-5.35	-4.03
2.4G;11b;Nss1;Ntx3;2437	Pass	3k	3k	0.00	10.22	2.50	3.78	12.72	Inf	-1.01	-1.04	-0.10
2.4G;11b;Nss1;Ntx3;2462	Pass	3k	3k	0.00	10.22	-2.33	3.78	7.89	Inf	-6.20	-5.79	-4.83
2.4G;11g;Nss1;Ntx3;2412	Pass	3k	3k	0.00	10.22	-8.92	3.78	1.30	Inf	-12.01	-11.19	-11.46
2.4G;11g;Nss1;Ntx3;2437	Pass	3k	3k	0.00	10.22	-0.82	3.78	9.40	Inf	-4.30	-2.46	-3.95
2.4G;11g;Nss1;Ntx3;2462	Pass	3k	3k	0.00	10.22	-6.71	3.78	3.51	Inf	-9.73	-10.14	-8.58
2.4G;HT20;Nss1,(M0);Ntx3;2412	Pass	3k	3k	0.00	10.22	-8.16	3.78	2.06	Inf	-9.87	-11.14	-11.12
2.4G;HT20;Nss1,(M0);Ntx3;2437	Pass	3k	3k	0.00	10.22	-1.79	3.78	8.43	Inf	-4.45	-4.25	-4.58
2.4G;HT20;Nss1,(M0);Ntx3;2462	Pass	3k	3k	0.00	10.22	-8.84	3.78	1.38	Inf	-11.95	-11.64	-11.63
2.4G;HT40;Nss1,(M0);Ntx3;2422	Pass	3k	3k	0.00	10.22	-11.35	3.78	-1.13	Inf	-13.54	-13.54	-13.74
2.4G;HT40;Nss1,(M0);Ntx3;2437	Pass	3k	3k	0.00	10.22	-5.27	3.78	4.95	Inf	-7.94	-8.25	-7.24
2.4G;HT40;Nss1,(M0);Ntx3;2452	Pass	3k	3k	0.00	10.22	-10.69	3.78	-0.47	Inf	-13.89	-12.84	-13.02





Summary

Mode	Result	Ref (Hz)	Ref (dBm)	Limit (dBm)	Freq (Hz)	Level (dBm)	Freq (Hz)	Level (dBm)	Freq (Hz)	Level (dBm)	Freq (Hz)	Level (dBm)	Port
2.4G;HT40:Nss1,(M0):Ntx3;2422	Pass	2.434402G	7.24	-22.76	902.49M	-59.74	2.39968G	-31.85	2.49646G	-55.78	2.599959G	-53.04	2



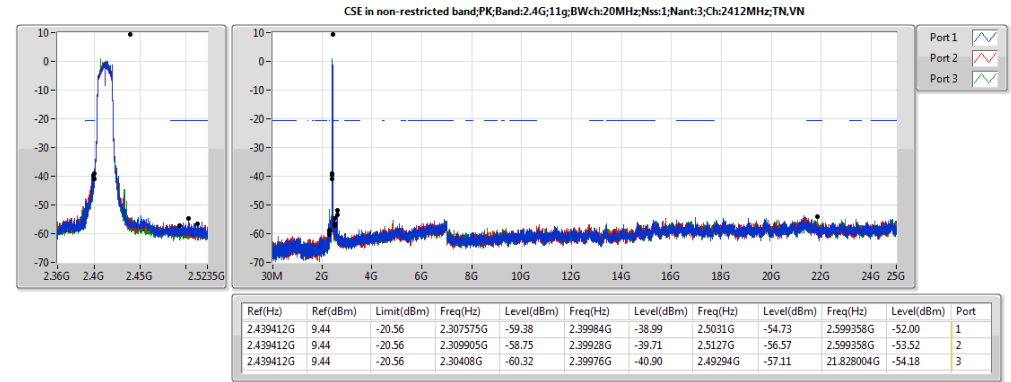
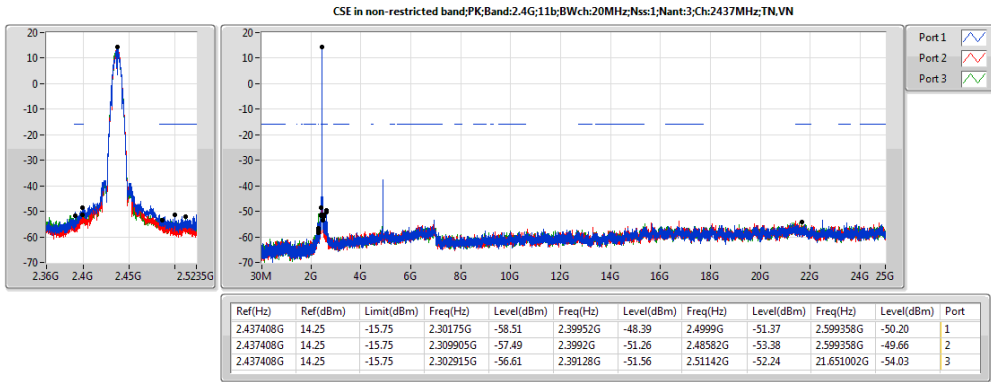
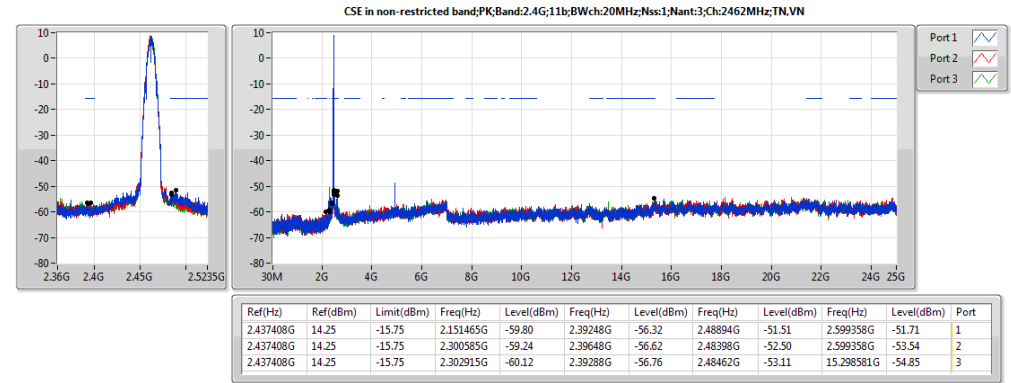
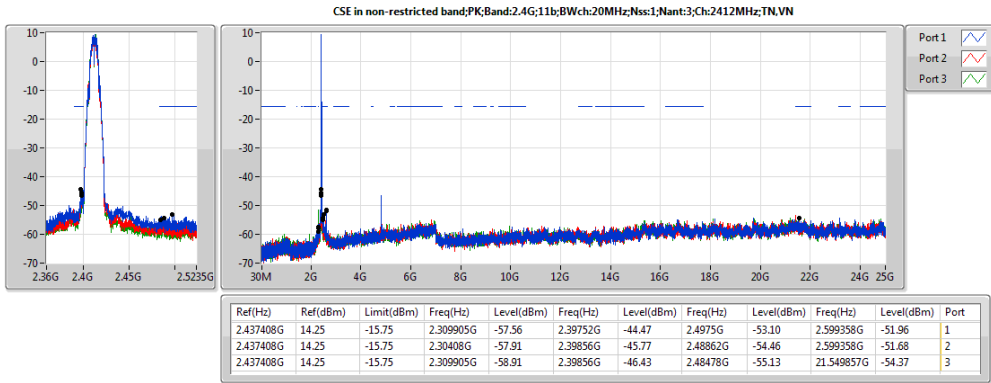
Result

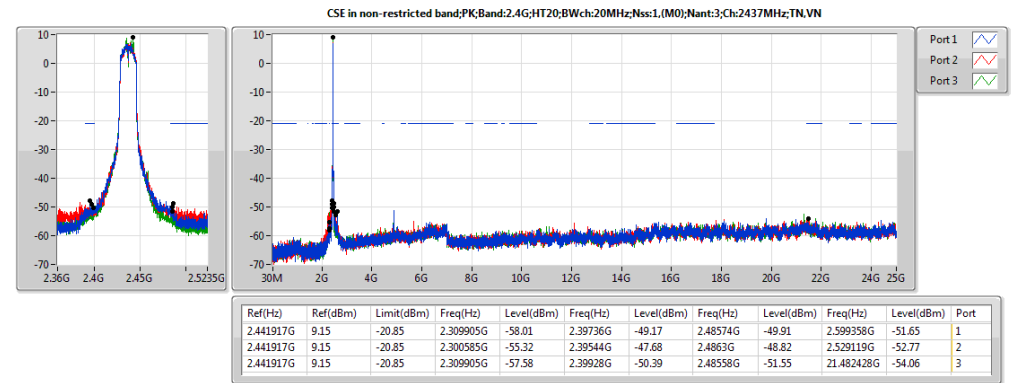
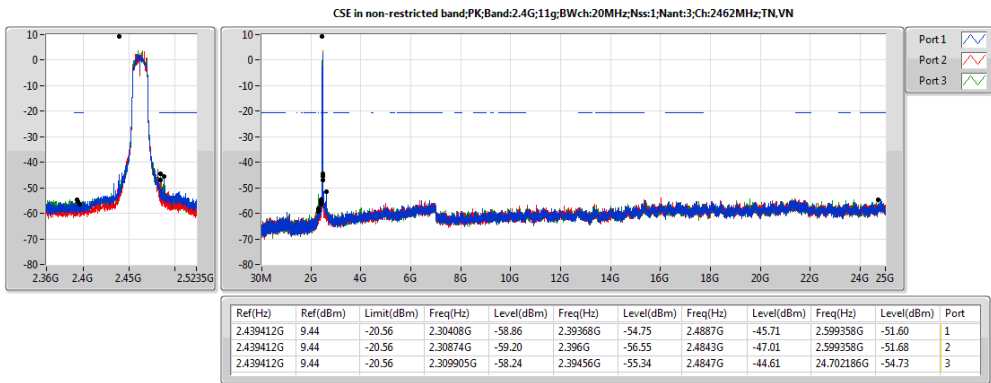
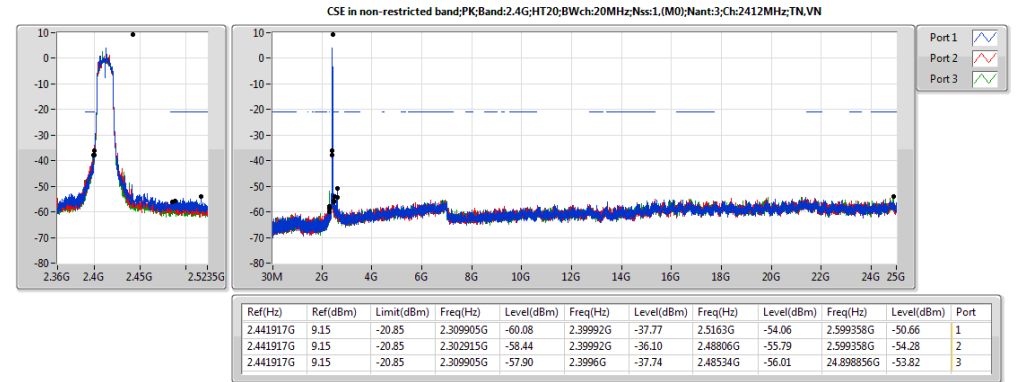
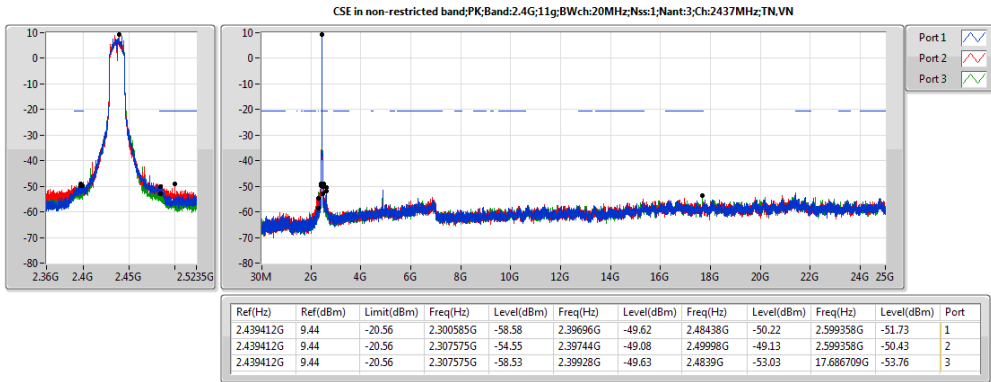
Mode	Result	Ref (Hz)	Ref (dBm)	Limit (dBm)	Freq (Hz)	Level (dBm)	Freq (Hz)	Level (dBm)	Freq (Hz)	Level (dBm)	Freq (Hz)	Level (dBm)	Port
2.4G:11b:Nss1:Ntx3:2412	Pass	2.437408G	14.25	-15.75	2.309905G	-57.56	2.39752G	-44.47	2.4975G	-53.10	2.599358G	-51.96	1
2.4G:11b:Nss1:Ntx3:2412	Pass	2.437408G	14.25	-15.75	2.30408G	-57.91	2.39856G	-45.77	2.48862G	-54.46	2.599358G	-51.68	2
2.4G:11b:Nss1:Ntx3:2412	Pass	2.437408G	14.25	-15.75	2.309905G	-58.91	2.39856G	-46.43	2.48478G	-55.13	21.549857G	-54.37	3
2.4G:11b:Nss1:Ntx3:2437	Pass	2.437408G	14.25	-15.75	2.30175G	-58.51	2.39952G	-48.39	2.4999G	-51.37	2.599358G	-50.20	1
2.4G:11b:Nss1:Ntx3:2437	Pass	2.437408G	14.25	-15.75	2.309905G	-57.49	2.3992G	-51.26	2.48582G	-53.38	2.599358G	-49.66	2
2.4G:11b:Nss1:Ntx3:2437	Pass	2.437408G	14.25	-15.75	2.302915G	-56.61	2.39128G	-51.56	2.51142G	-52.24	21.651002G	-54.03	3
2.4G:11b:Nss1:Ntx3:2462	Pass	2.437408G	14.25	-15.75	2.151465G	-59.80	2.39248G	-56.32	2.48894G	-51.51	2.599358G	-51.71	1
2.4G:11b:Nss1:Ntx3:2462	Pass	2.437408G	14.25	-15.75	2.300585G	-59.24	2.39648G	-56.62	2.48398G	-52.50	2.599358G	-53.54	2
2.4G:11b:Nss1:Ntx3:2462	Pass	2.437408G	14.25	-15.75	2.302915G	-60.12	2.39288G	-56.76	2.48462G	-53.11	15.298581G	-54.85	3
2.4G:11g:Nss1:Ntx3:2412	Pass	2.439412G	9.44	-20.56	2.307575G	-59.38	2.39984G	-38.99	2.5031G	-54.73	2.599358G	-52.00	1
2.4G:11g:Nss1:Ntx3:2412	Pass	2.439412G	9.44	-20.56	2.309905G	-58.75	2.39928G	-39.71	2.5127G	-56.57	2.599358G	-53.52	2
2.4G:11g:Nss1:Ntx3:2412	Pass	2.439412G	9.44	-20.56	2.30408G	-60.32	2.39976G	-40.90	2.49294G	-57.11	21.828004G	-54.18	3
2.4G:11g:Nss1:Ntx3:2437	Pass	2.439412G	9.44	-20.56	2.300585G	-58.58	2.39696G	-49.62	2.48438G	-50.22	2.599358G	-51.73	1
2.4G:11g:Nss1:Ntx3:2437	Pass	2.439412G	9.44	-20.56	2.307575G	-54.55	2.39744G	-49.08	2.49998G	-49.13	2.599358G	-50.43	2
2.4G:11g:Nss1:Ntx3:2437	Pass	2.439412G	9.44	-20.56	2.307575G	-58.53	2.39928G	-49.63	2.4839G	-53.03	17.686709G	-53.76	3
2.4G:11g:Nss1:Ntx3:2462	Pass	2.439412G	9.44	-20.56	2.30408G	-58.86	2.39368G	-54.75	2.4887G	-45.71	2.599358G	-51.60	1
2.4G:11g:Nss1:Ntx3:2462	Pass	2.439412G	9.44	-20.56	2.30874G	-59.20	2.396G	-56.55	2.4843G	-47.01	2.599358G	-51.68	2
2.4G:11g:Nss1:Ntx3:2462	Pass	2.439412G	9.44	-20.56	2.309905G	-58.24	2.39456G	-55.34	2.4847G	-44.61	24.702186G	-54.73	3
2.4G:HT20:Nss1,(M0):Ntx3:2412	Pass	2.441917G	9.15	-20.85	2.309905G	-60.08	2.39992G	-37.77	2.5163G	-54.06	2.599358G	-50.66	1
2.4G:HT20:Nss1,(M0):Ntx3:2412	Pass	2.441917G	9.15	-20.85	2.302915G	-58.44	2.39992G	-36.10	2.48806G	-55.79	2.599358G	-54.28	2
2.4G:HT20:Nss1,(M0):Ntx3:2412	Pass	2.441917G	9.15	-20.85	2.309905G	-57.90	2.3996G	-37.74	2.48534G	-56.01	24.898856G	-53.82	3
2.4G:HT20:Nss1,(M0):Ntx3:2437	Pass	2.441917G	9.15	-20.85	2.309905G	-58.01	2.39736G	-49.17	2.48574G	-49.91	2.599358G	-51.65	1
2.4G:HT20:Nss1,(M0):Ntx3:2437	Pass	2.441917G	9.15	-20.85	2.300585G	-55.32	2.39544G	-47.68	2.4863G	-48.82	2.529119G	-52.77	2
2.4G:HT20:Nss1,(M0):Ntx3:2437	Pass	2.441917G	9.15	-20.85	2.309905G	-57.58	2.39928G	-50.39	2.48558G	-51.55	21.482428G	-54.06	3
2.4G:HT20:Nss1,(M0):Ntx3:2462	Pass	2.441917G	9.15	-20.85	2.300585G	-58.78	2.3964G	-57.49	2.48398G	-49.18	2.599358G	-51.01	1
2.4G:HT20:Nss1,(M0):Ntx3:2462	Pass	2.441917G	9.15	-20.85	2.300585G	-58.15	2.396G	-57.28	2.48414G	-47.47	2.599358G	-52.99	2
2.4G:HT20:Nss1,(M0):Ntx3:2462	Pass	2.441917G	9.15	-20.85	2.30641G	-59.22	2.3956G	-57.13	2.48582G	-50.32	21.493666G	-54.33	3
2.4G:HT40:Nss1,(M0):Ntx3:2422	Pass	2.434402G	7.24	-22.76	2.300535G	-59.93	2.3992G	-33.60	2.49998G	-55.35	2.599959G	-51.75	1
2.4G:HT40:Nss1,(M0):Ntx3:2422	Pass	2.434402G	7.24	-22.76	902.49M	-59.74	2.39968G	-31.85	2.49646G	-55.78	2.599959G	-53.04	2
2.4G:HT40:Nss1,(M0):Ntx3:2422	Pass	2.434402G	7.24	-22.76	2.300535G	-58.99	2.39744G	-35.01	2.5115G	-57.02	21.788776G	-53.76	3
2.4G:HT40:Nss1,(M0):Ntx3:2437	Pass	2.434402G	7.24	-22.76	2.30626G	-58.57	2.39888G	-42.32	2.48574G	-47.36	2.599959G	-50.99	1
2.4G:HT40:Nss1,(M0):Ntx3:2437	Pass	2.434402G	7.24	-22.76	2.305115G	-59.38	2.39952G	-38.04	2.48398G	-48.38	2.599959G	-51.26	2
2.4G:HT40:Nss1,(M0):Ntx3:2437	Pass	2.434402G	7.24	-22.76	2.30168G	-57.17	2.39664G	-41.60	2.48558G	-49.31	21.743903G	-54.83	3
2.4G:HT40:Nss1,(M0):Ntx3:2452	Pass	2.434402G	7.24	-22.76	2.309695G	-60.68	2.39984G	-56.28	2.48718G	-48.30	2.599959G	-51.75	1
2.4G:HT40:Nss1,(M0):Ntx3:2452	Pass	2.434402G	7.24	-22.76	2.15741G	-59.57	2.39504G	-55.41	2.48734G	-47.00	2.599959G	-52.54	2
2.4G:HT40:Nss1,(M0):Ntx3:2452	Pass	2.434402G	7.24	-22.76	2.30626G	-59.43	2.39936G	-56.44	2.48446G	-48.91	16.998583G	-54.93	3

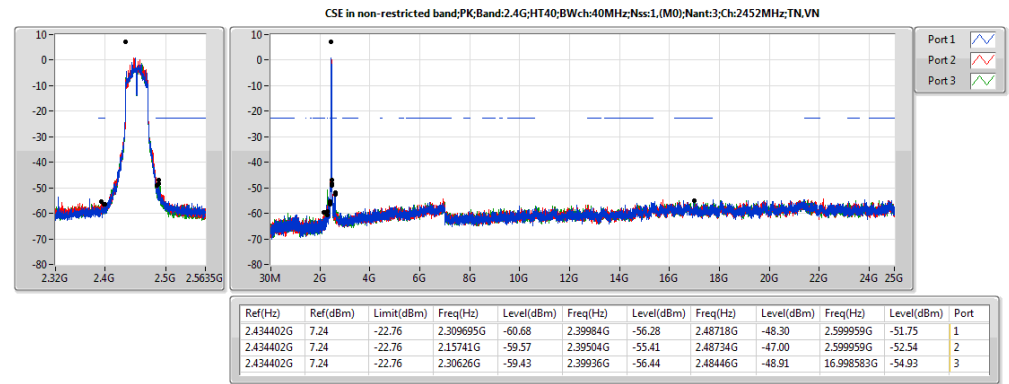
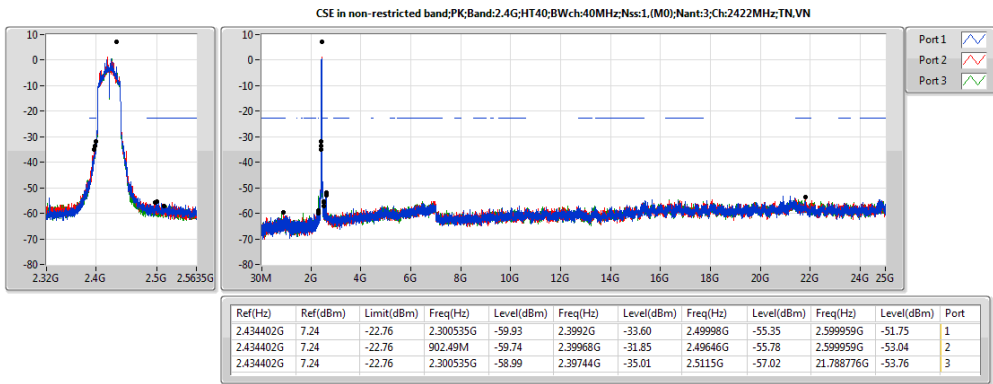
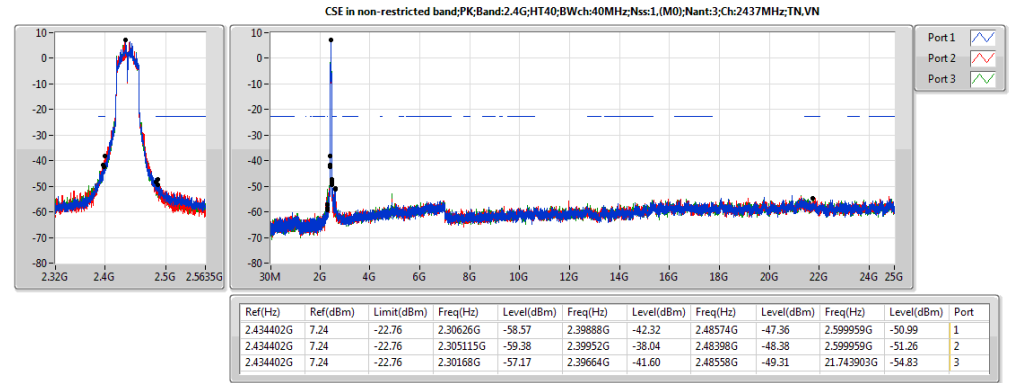
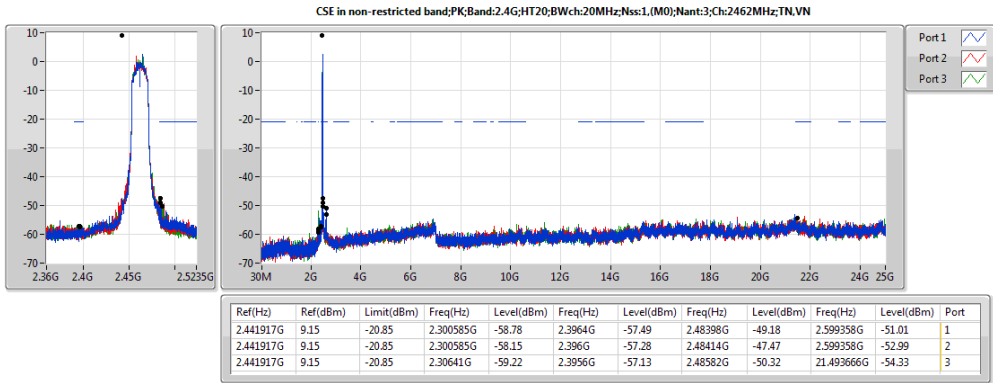


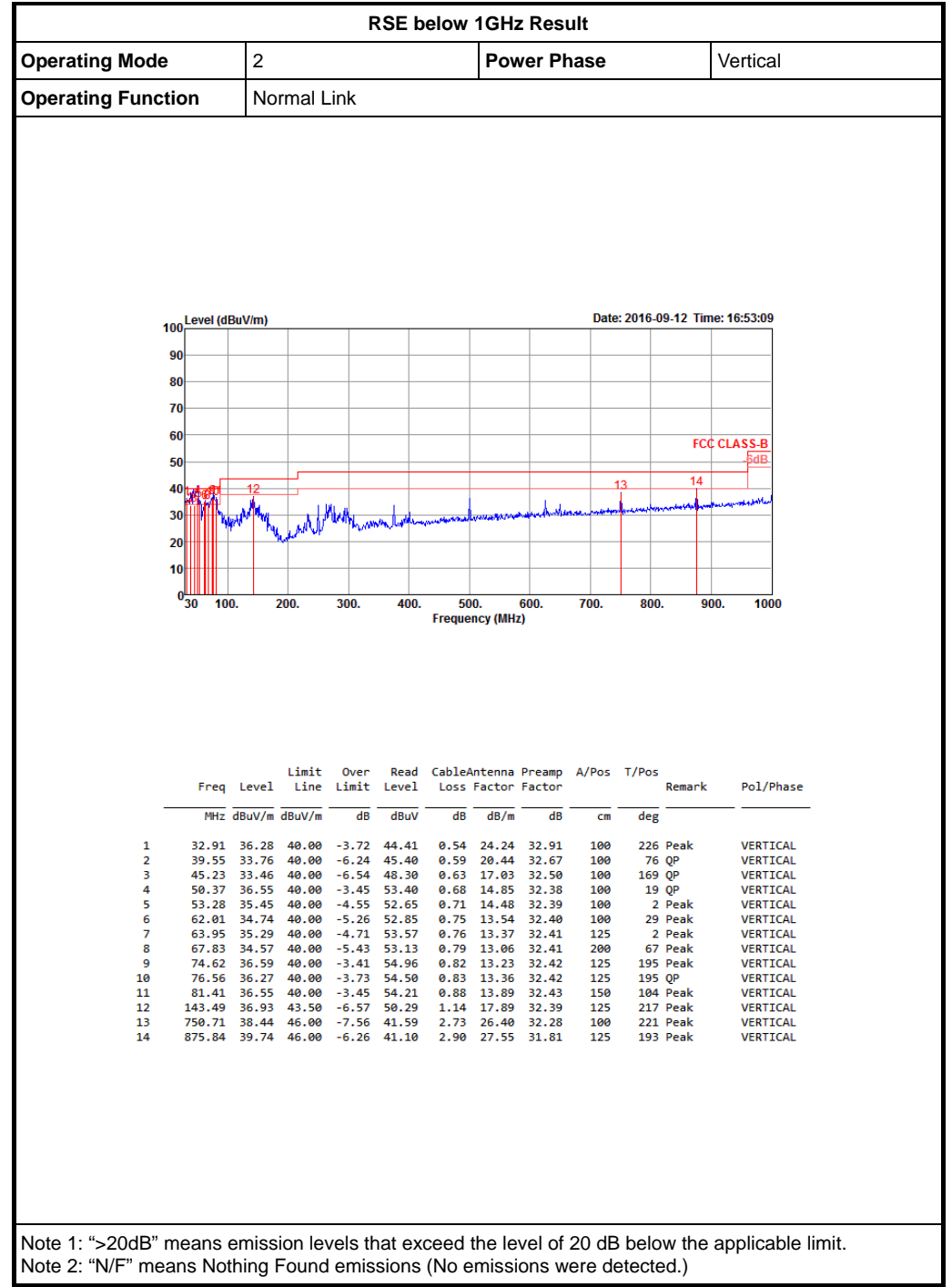
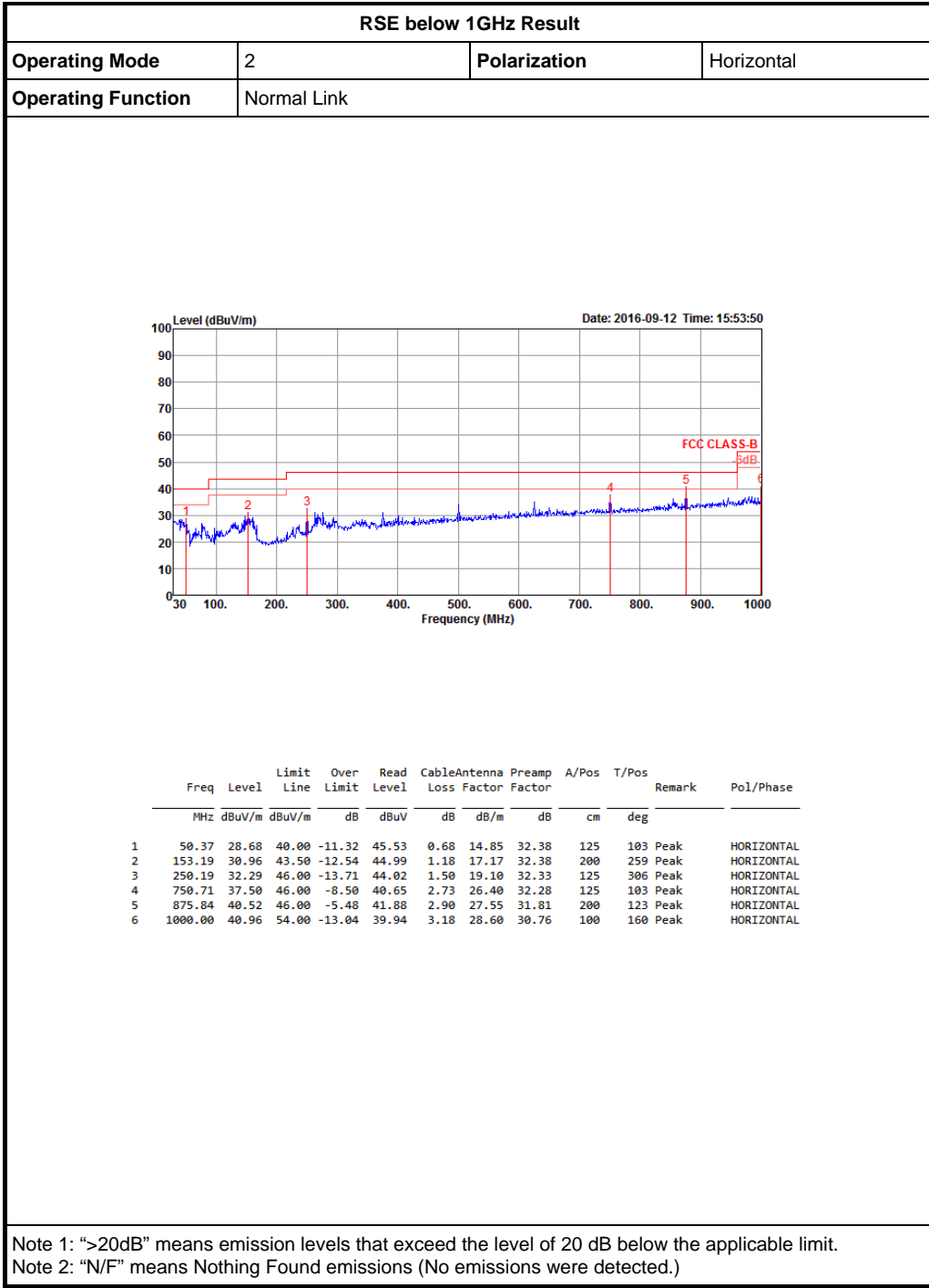
CSEndB Result

Appendix E





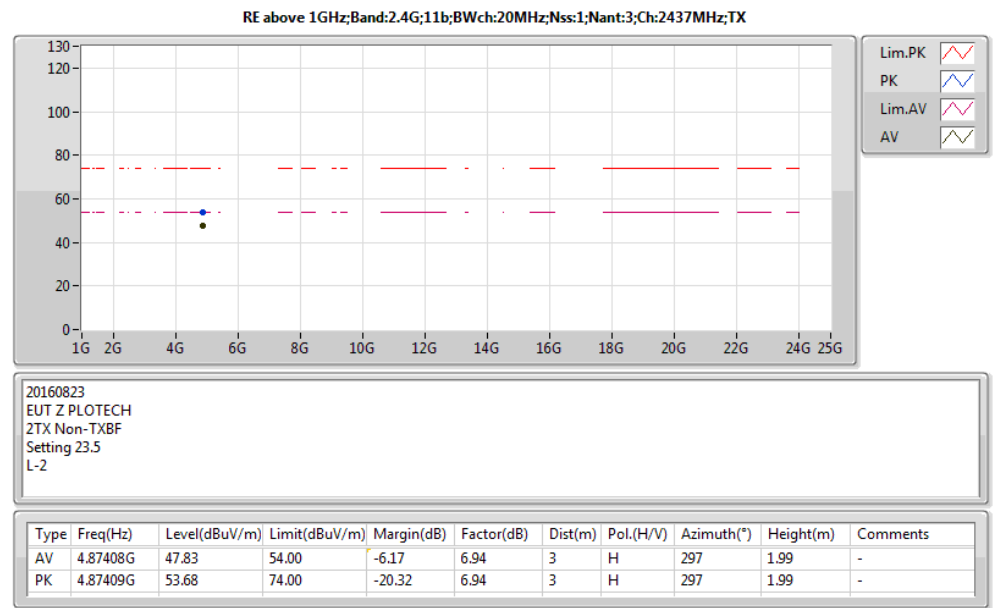
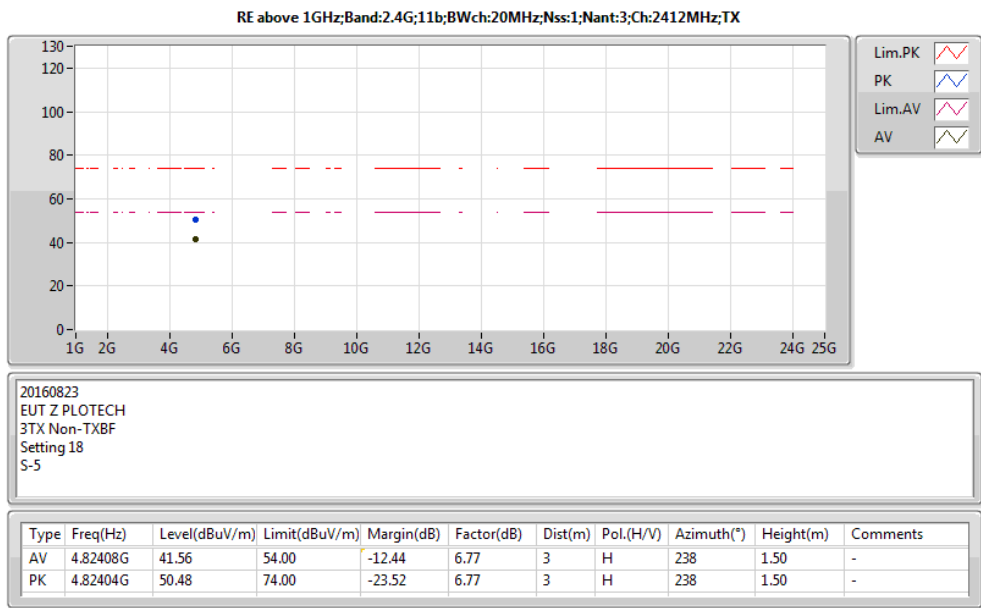
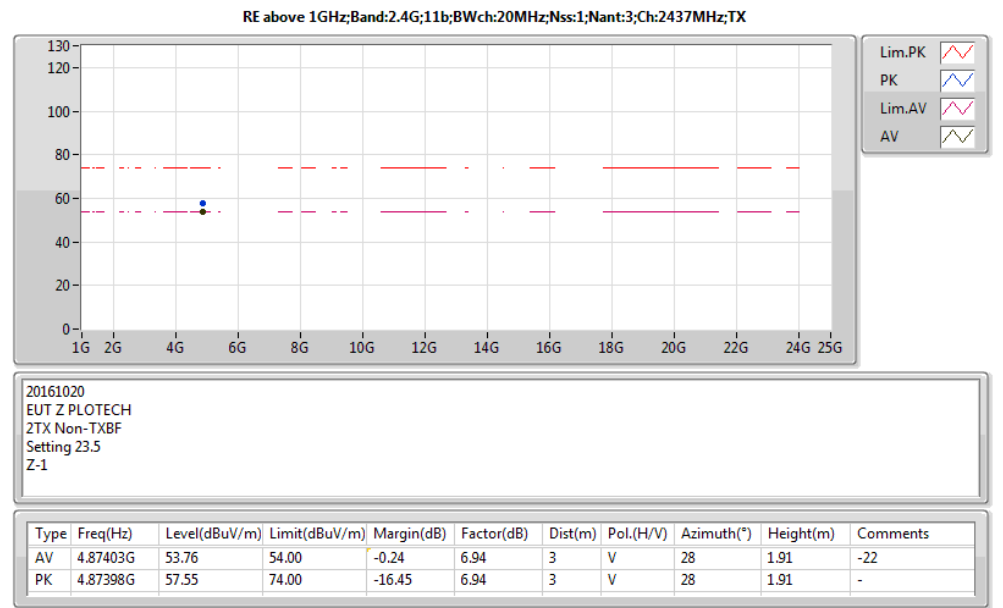
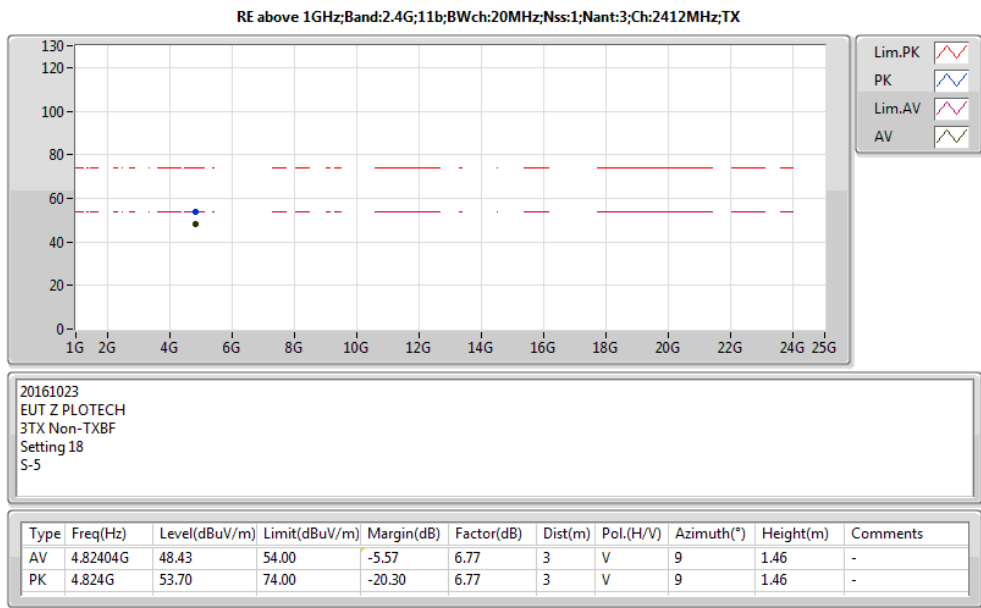
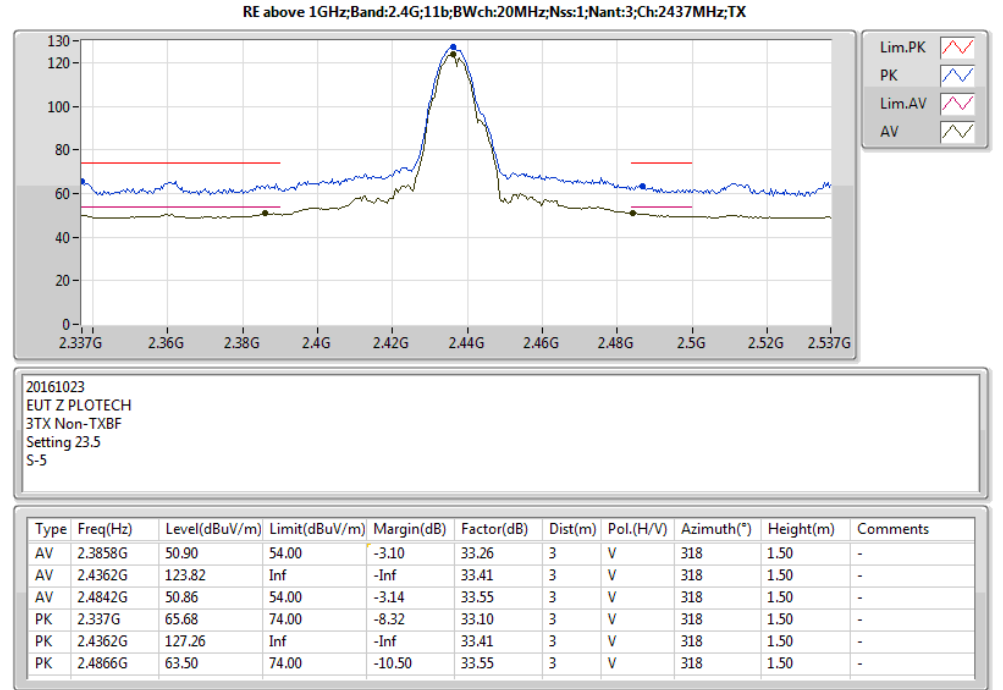
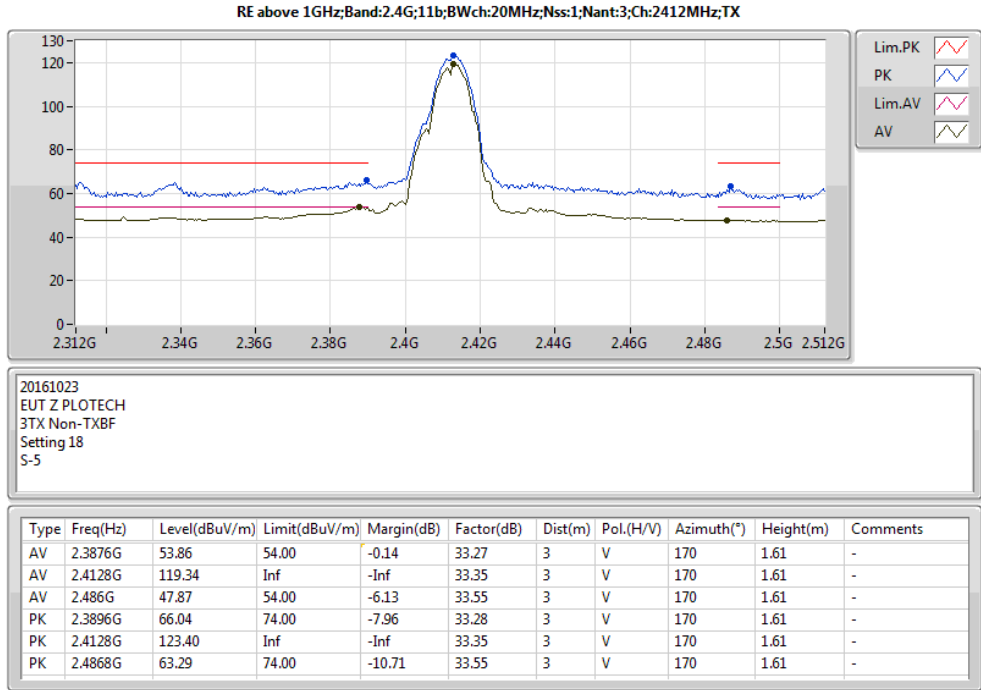


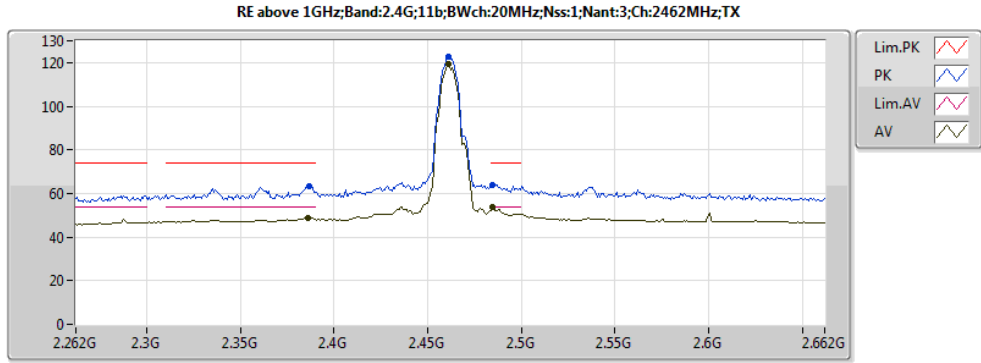




Summary

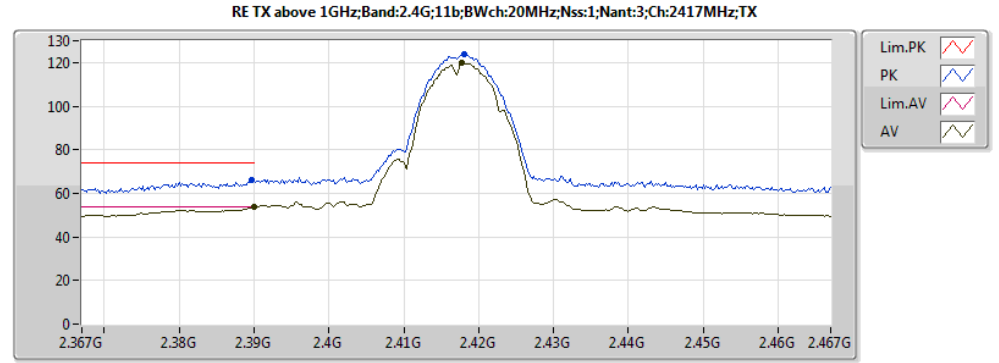
Mode	Result	Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Pol. (H/V)	Azimuth (°)	Height (m)	Comments
2.4G;HT20:Nss1,(M0);Ntx3:2462;TX	Pass	PK	2.4862G	73.95	74.00	-0.05	33.55	3	V	341	1.39	-





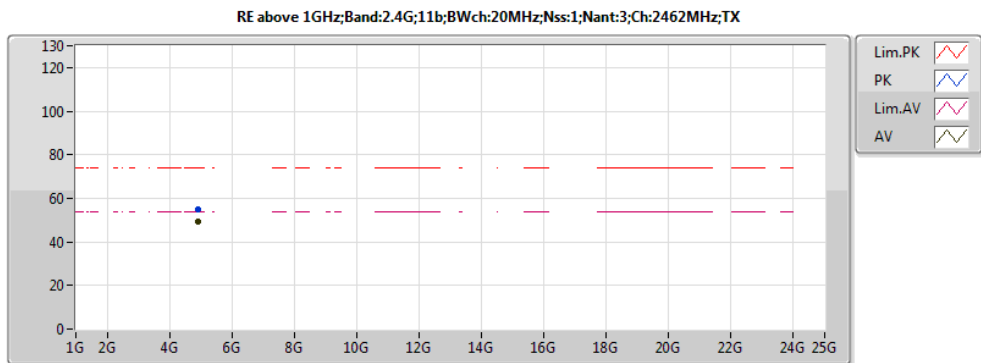
20161023
EUT Z PLOTECH
3TX Non-TXBF
Setting 17.5
S-5

Type	Freq(Hz)	Level(dBuV/m)	Limit(dBuV/m)	Margin(dB)	Factor(dB)	Dist(m)	Pol.(H/V)	Azimuth(°)	Height(m)	Comments
AV	2.386G	48.91	54.00	-5.09	33.26	3	V	21	1.67	-
AV	2.4612G	119.18	Inf	-Inf	33.48	3	V	21	1.67	-
AV	2.4844G	53.72	54.00	-0.28	33.55	3	V	21	1.67	-
PK	2.3868G	63.59	74.00	-10.41	33.27	3	V	21	1.67	-
PK	2.4612G	122.89	Inf	-Inf	33.48	3	V	21	1.67	-
PK	2.4844G	63.91	74.00	-10.09	33.55	3	V	21	1.67	-



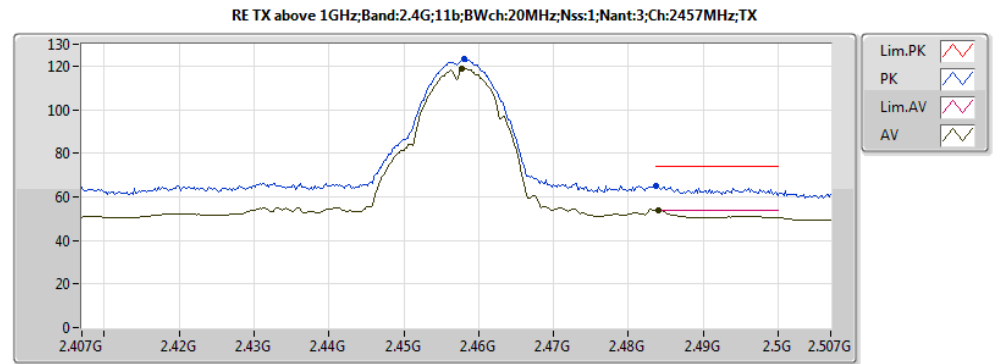
20170105
EUT Z PLOTECH
3TX Non-TXBF
Setting 18.5
M-1

Type	Freq(Hz)	Level(dBuV/m)	Limit(dBuV/m)	Margin(dB)	Factor(dB)	Dist(m)	Pol.(H/V)	Azimuth(°)	Height(m)	Comments
AV	2.39G	53.62	54.00	-0.38	34.11	3	V	185	1.44	-
AV	2.4178G	119.88	Inf	-Inf	34.20	3	V	185	1.44	-
PK	2.3896G	66.00	74.00	-8.00	34.11	3	V	185	1.44	-
PK	2.418G	124.07	Inf	-Inf	34.20	3	V	185	1.44	-



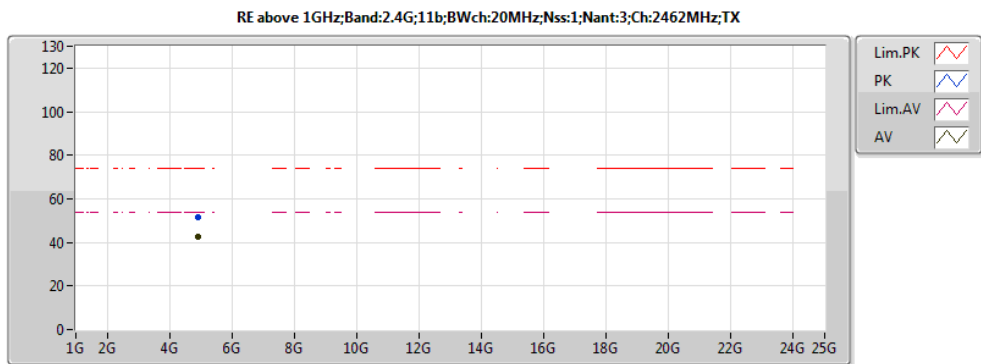
20161023
EUT Z PLOTECH
3TX Non-TXBF
Setting 17.5
S-5

Type	Freq(Hz)	Level(dBuV/m)	Limit(dBuV/m)	Margin(dB)	Factor(dB)	Dist(m)	Pol.(H/V)	Azimuth(°)	Height(m)	Comments
AV	4.92412G	49.23	54.00	-4.77	7.10	3	V	352	1.16	-
PK	4.92404G	54.65	74.00	-19.35	7.10	3	V	352	1.16	-



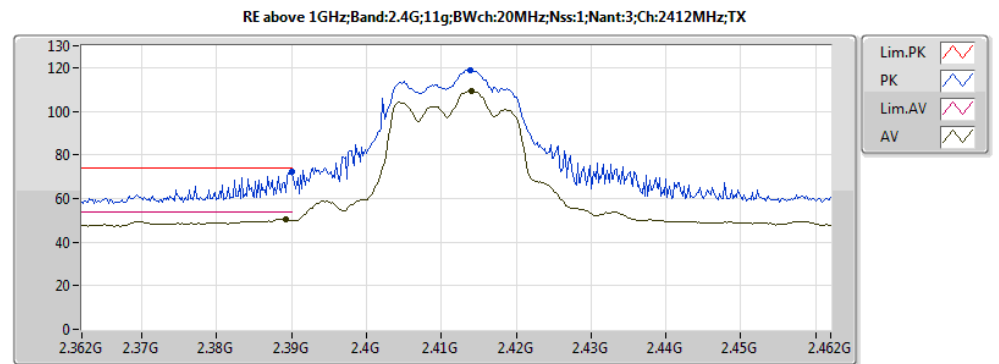
20170105
EUT Z PLOTECH
3TX Non-TXBF
Setting 19
M-1

Type	Freq(Hz)	Level(dBuV/m)	Limit(dBuV/m)	Margin(dB)	Factor(dB)	Dist(m)	Pol.(H/V)	Azimuth(°)	Height(m)	Comments
AV	2.4578G	119.03	Inf	-Inf	34.30	3	V	183	1.50	-
AV	2.484G	53.71	54.00	-0.29	34.37	3	V	183	1.50	-
PK	2.458G	123.16	Inf	-Inf	34.30	3	V	183	1.50	-
PK	2.4836G	65.03	74.00	-8.97	34.37	3	V	183	1.50	-



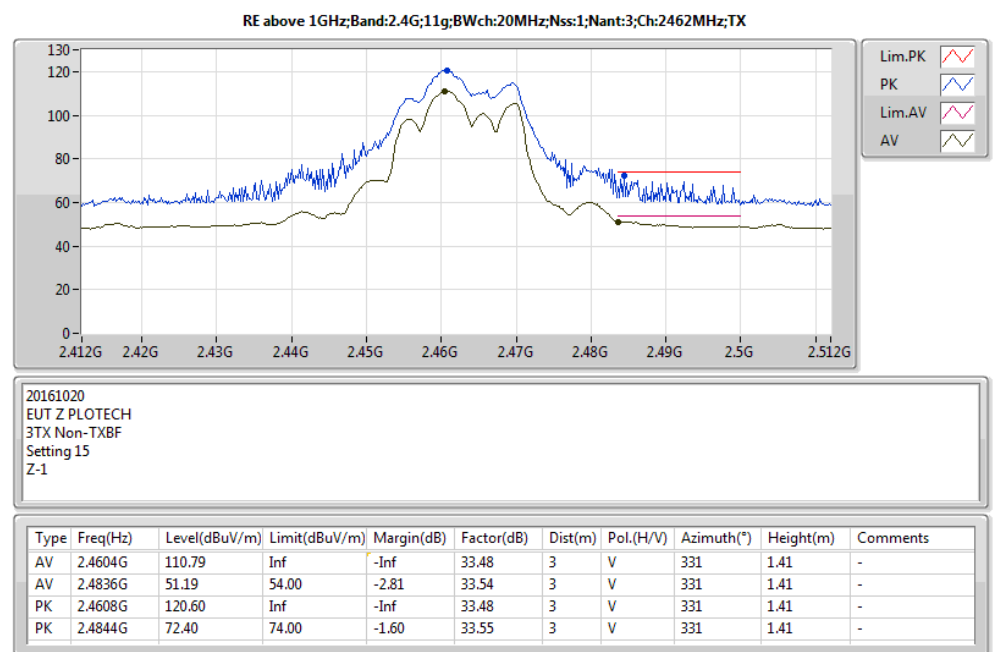
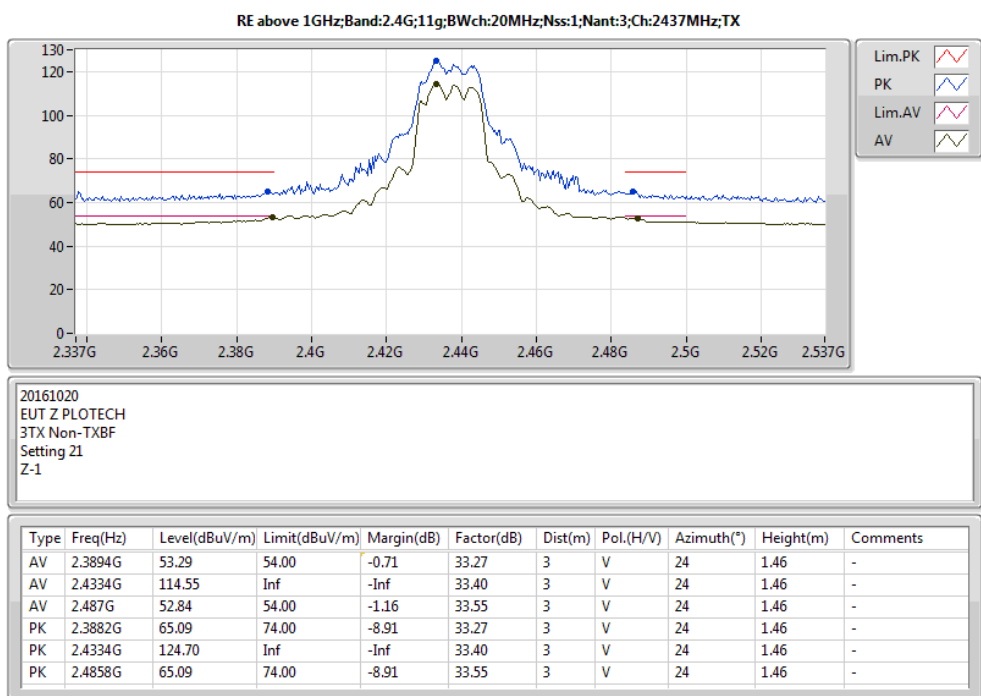
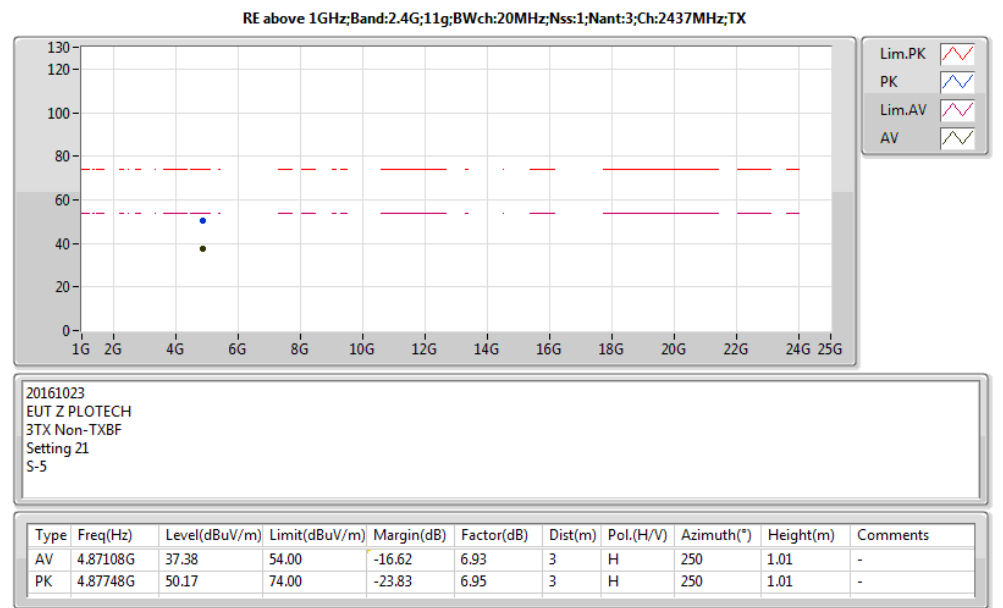
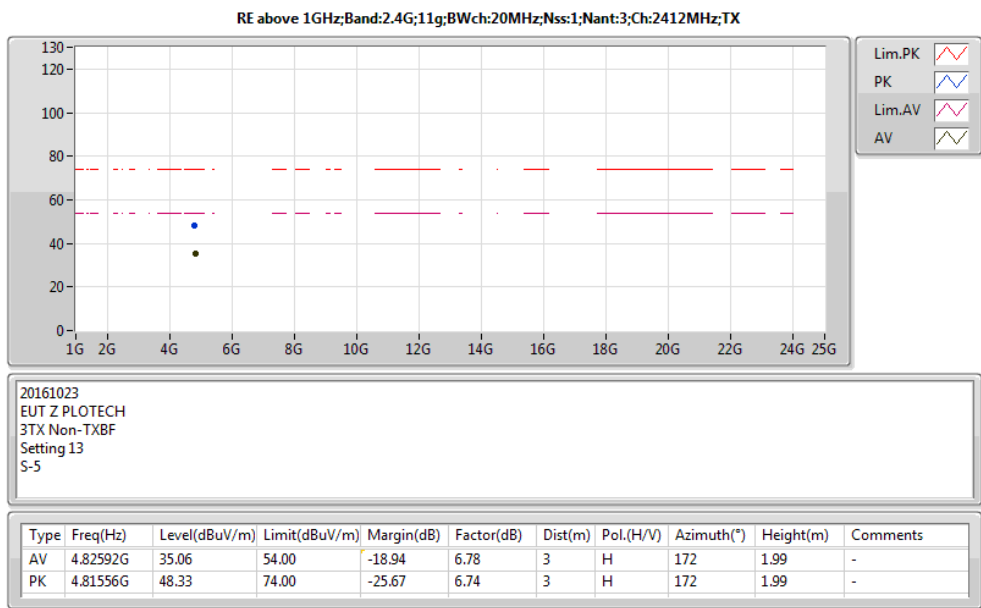
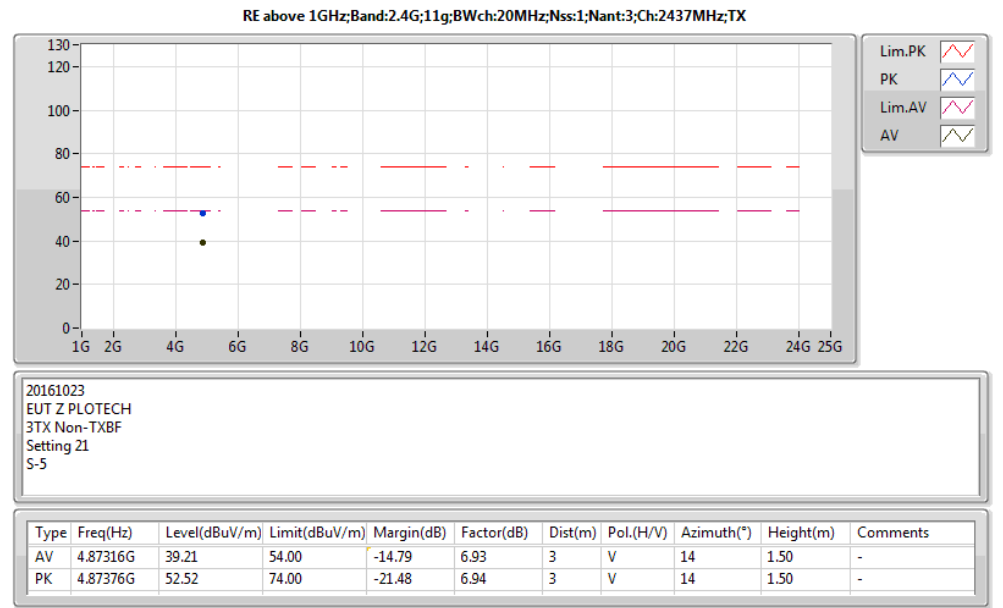
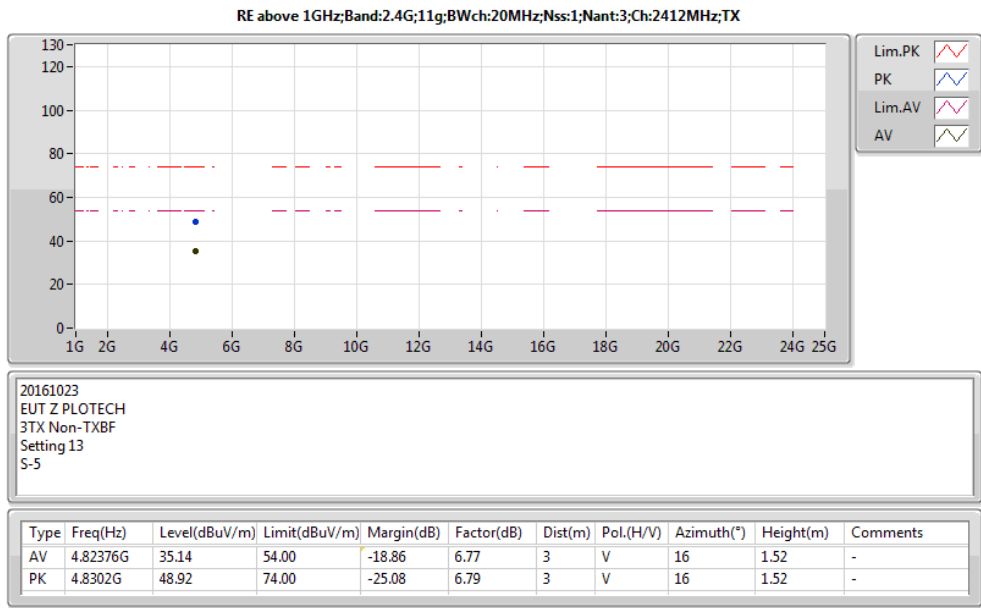
20161023
EUT Z PLOTECH
3TX Non-TXBF
Setting 17.5
S-5

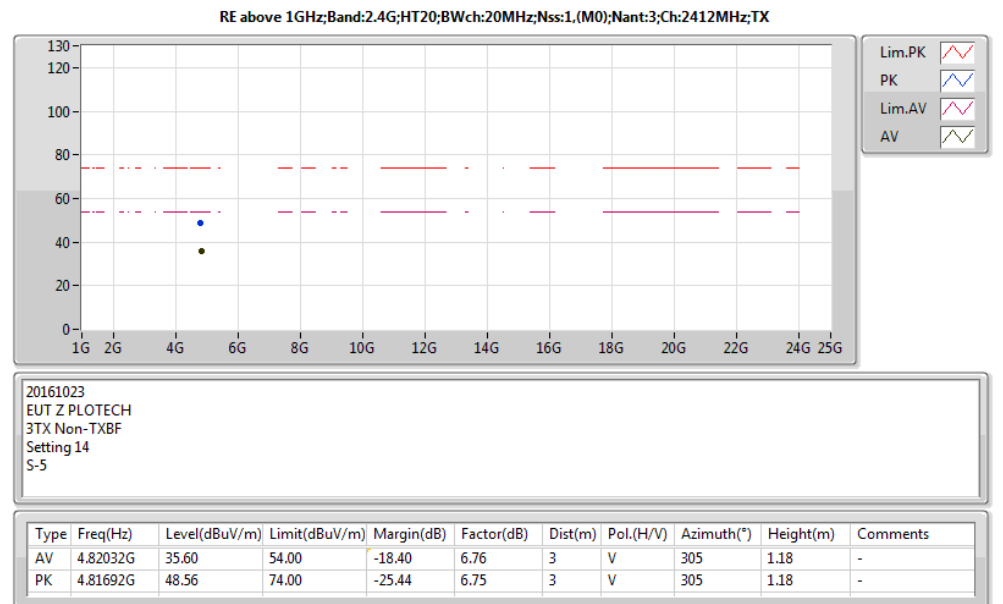
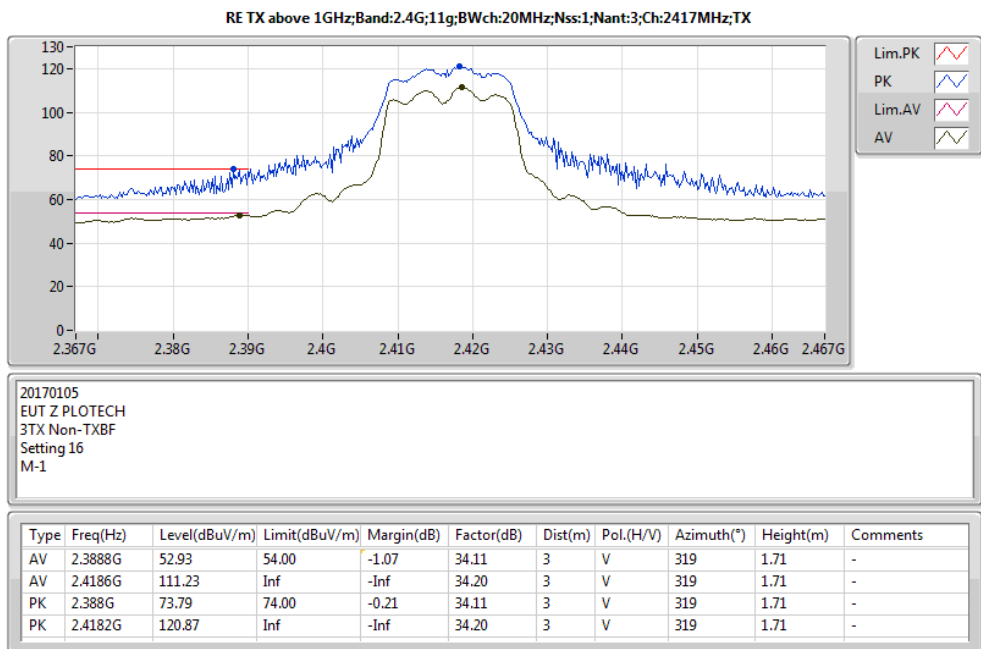
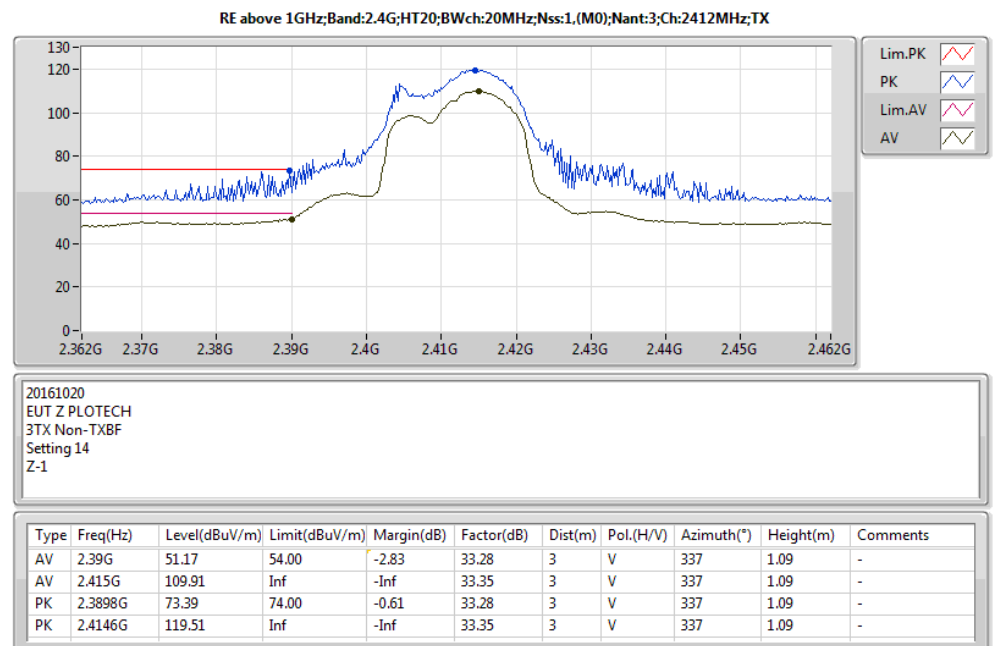
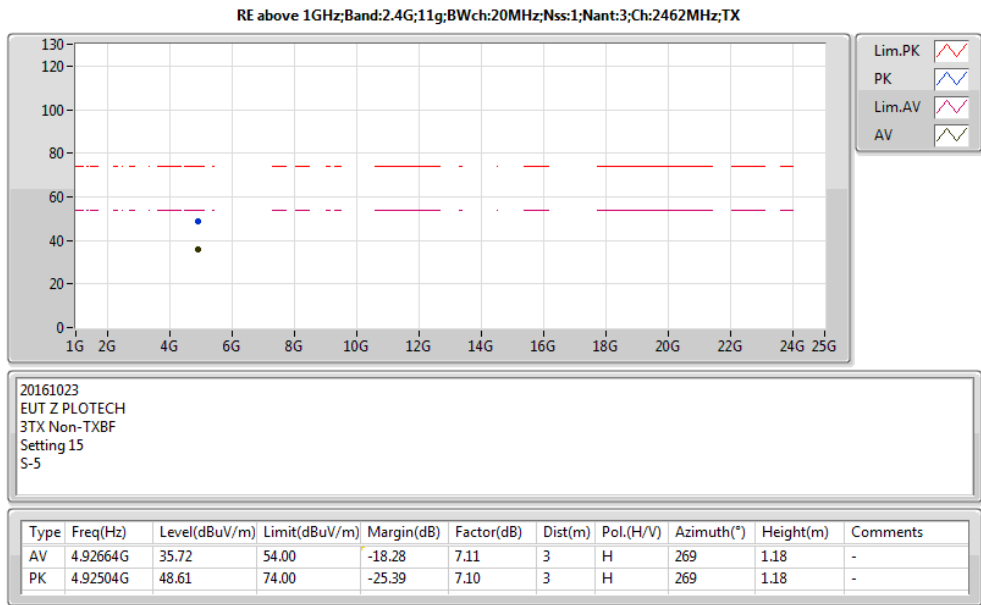
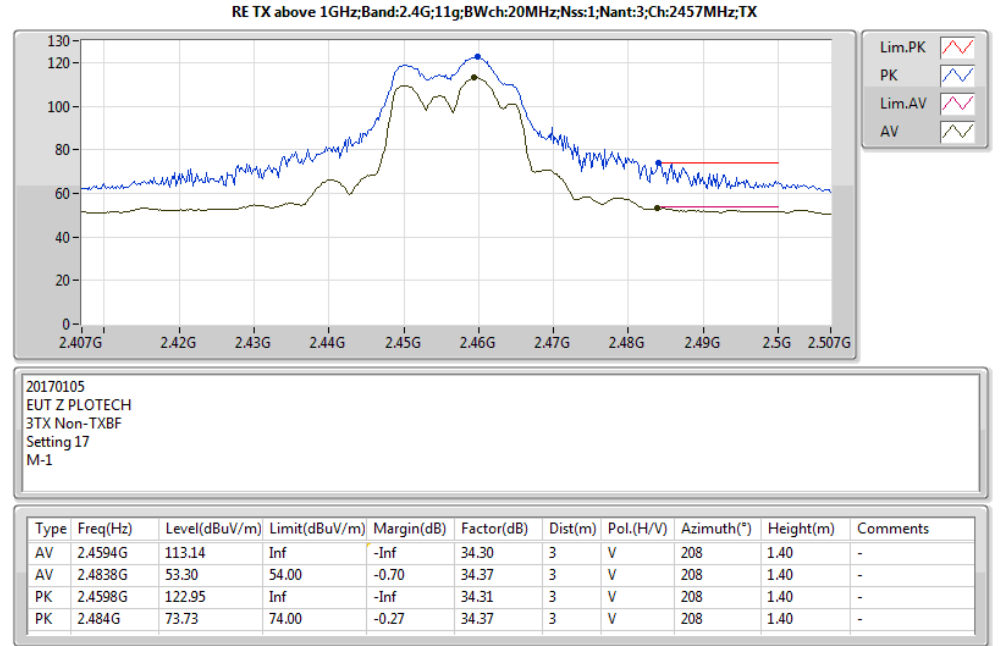
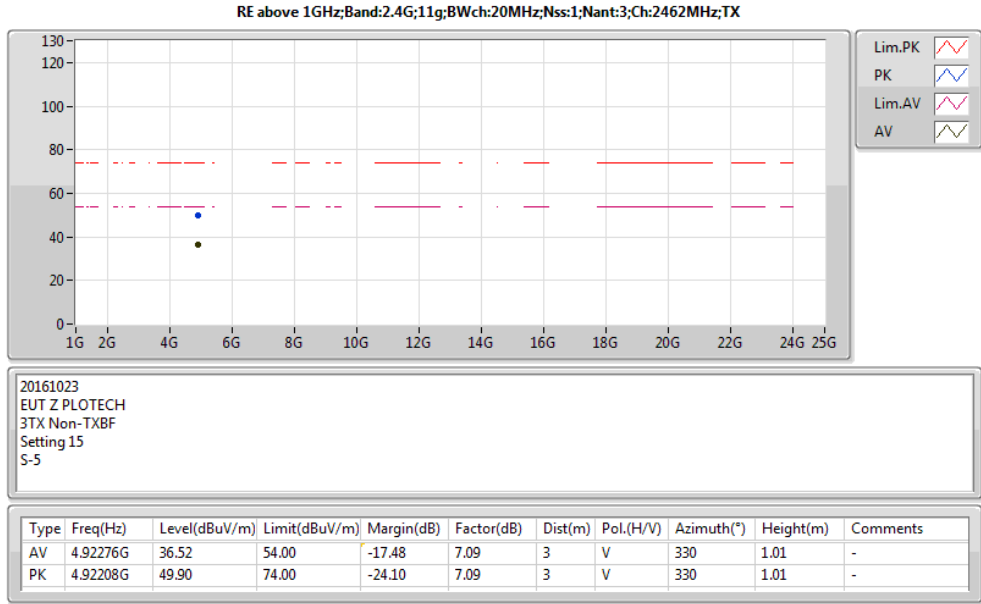
Type	Freq(Hz)	Level(dBuV/m)	Limit(dBuV/m)	Margin(dB)	Factor(dB)	Dist(m)	Pol.(H/V)	Azimuth(°)	Height(m)	Comments
AV	4.92408G	42.38	54.00	-11.62	7.10	3	H	229	1.00	-
PK	4.92396G	51.52	74.00	-22.48	7.10	3	H	229	1.00	-

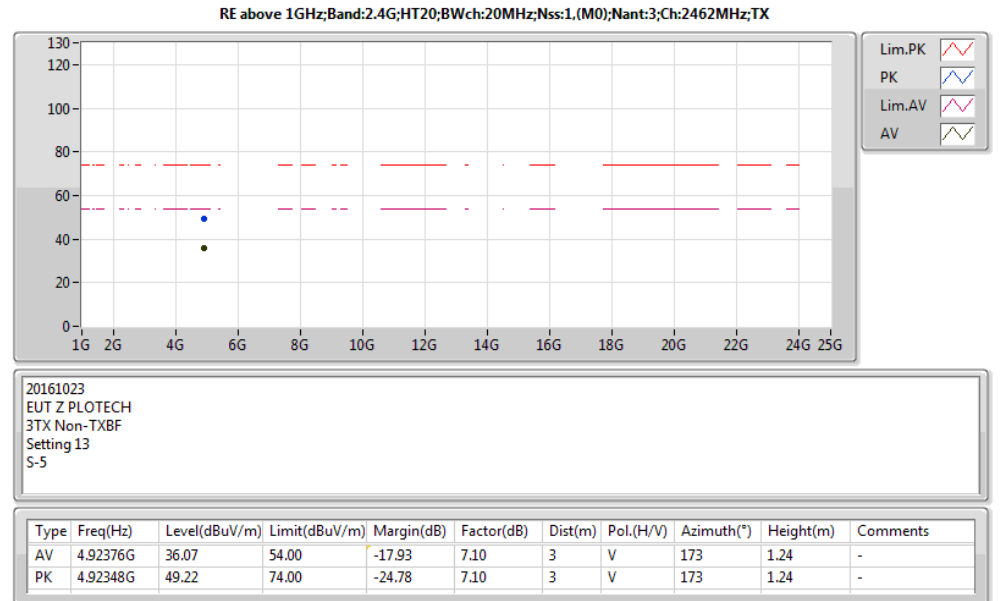
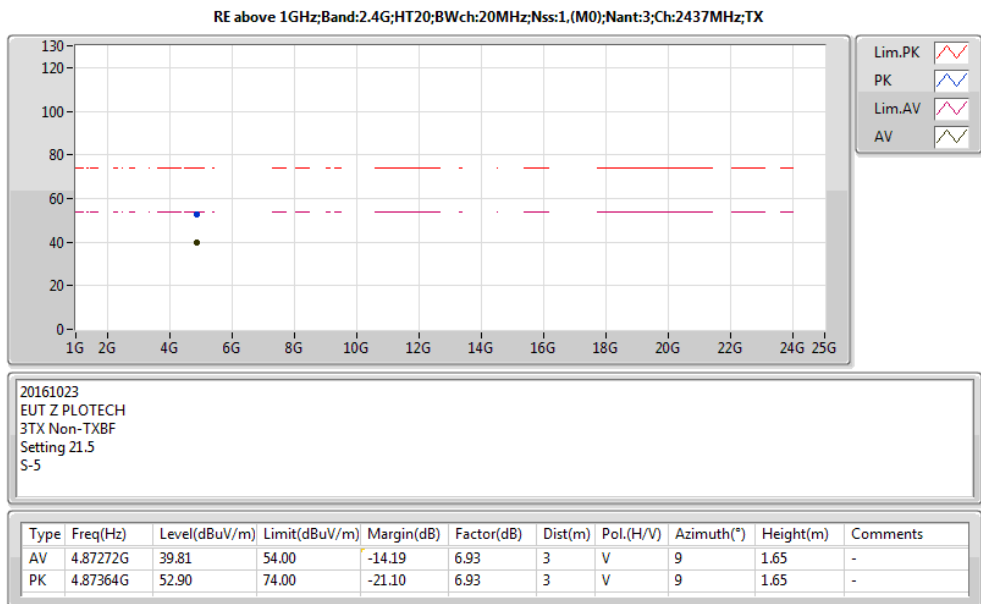
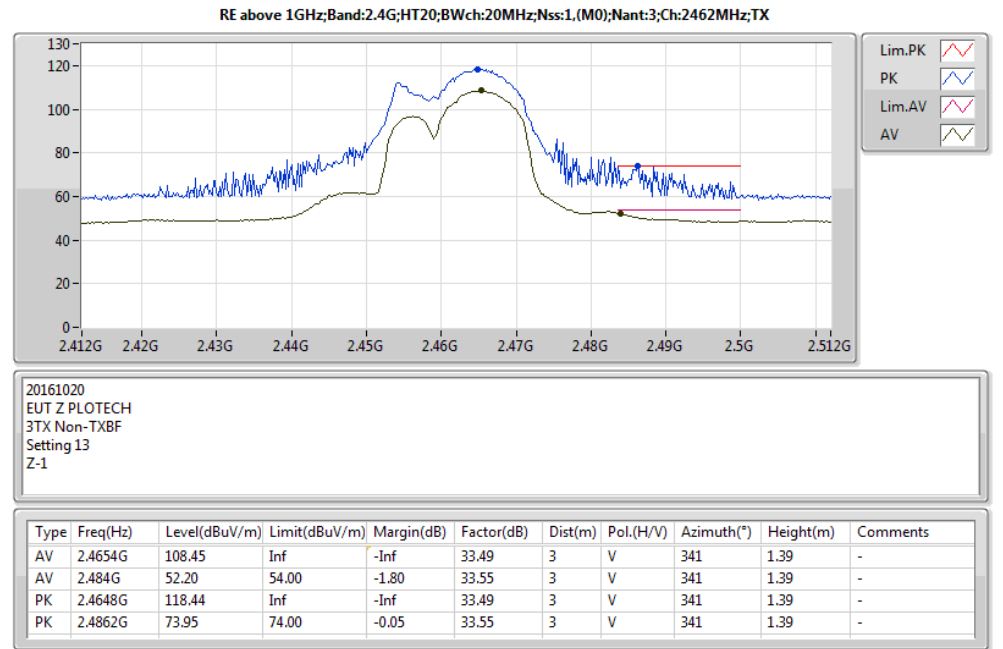
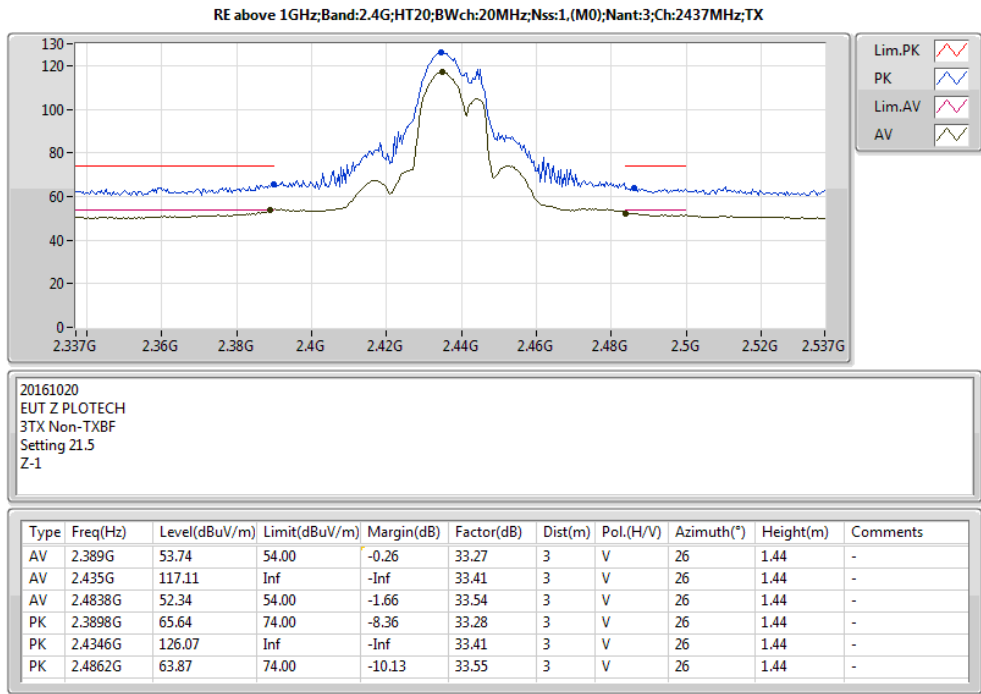
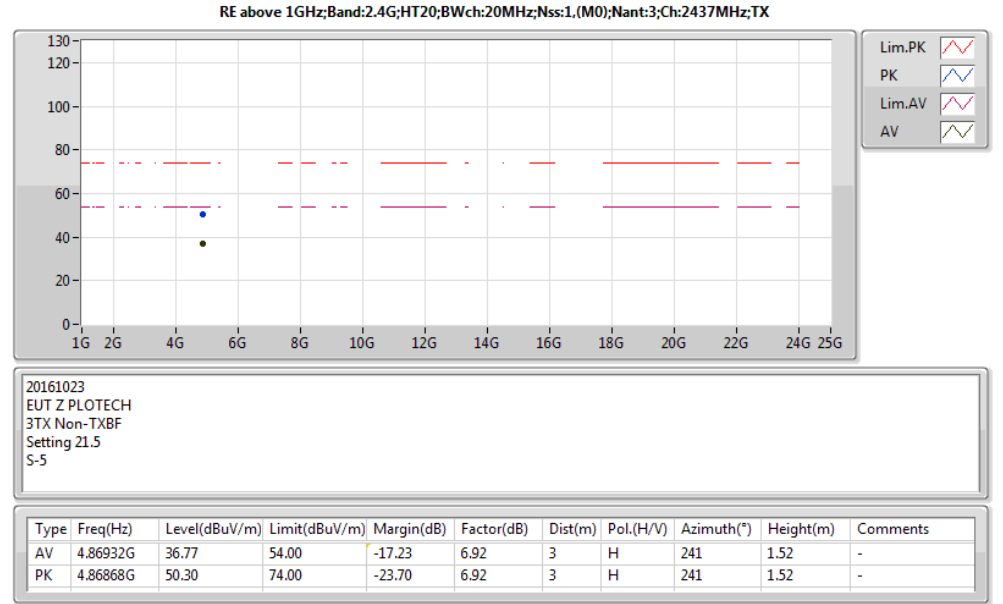
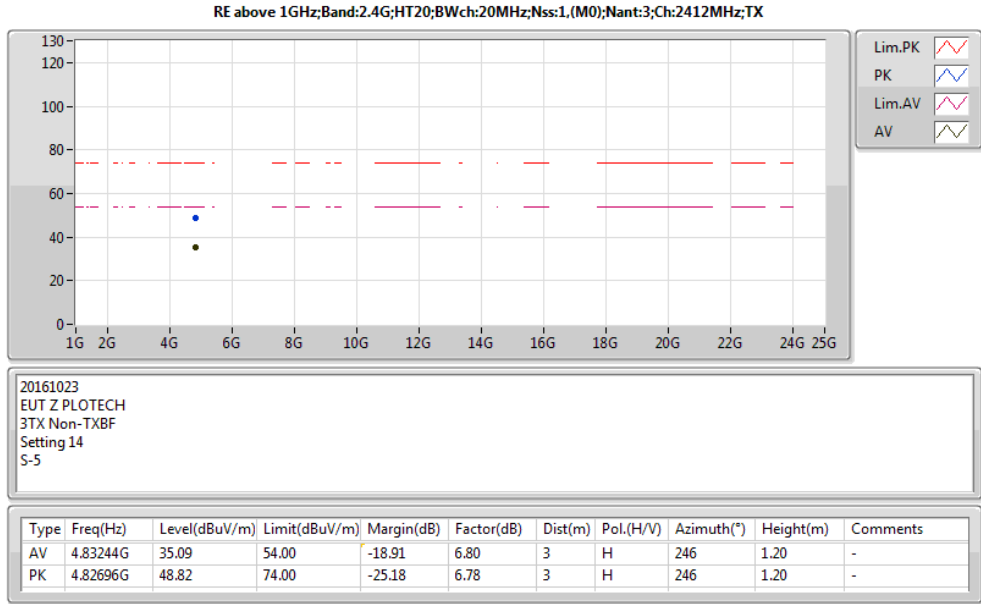


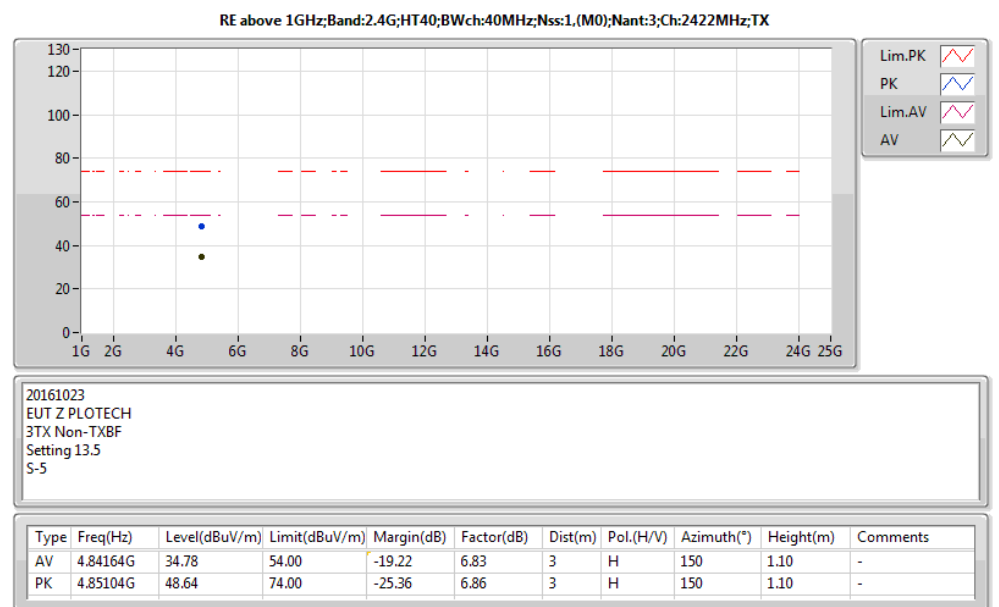
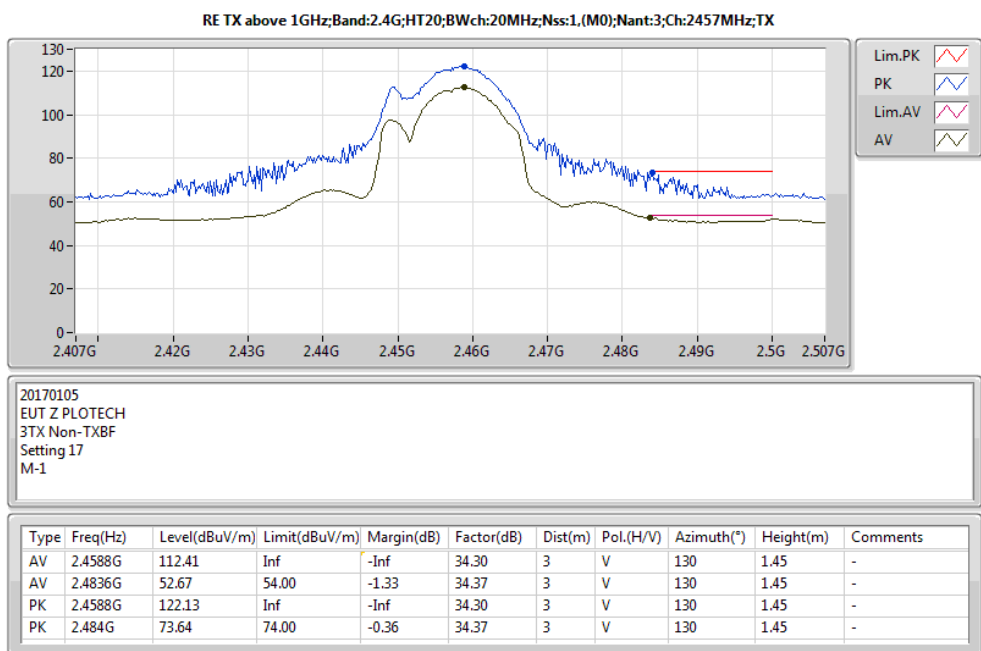
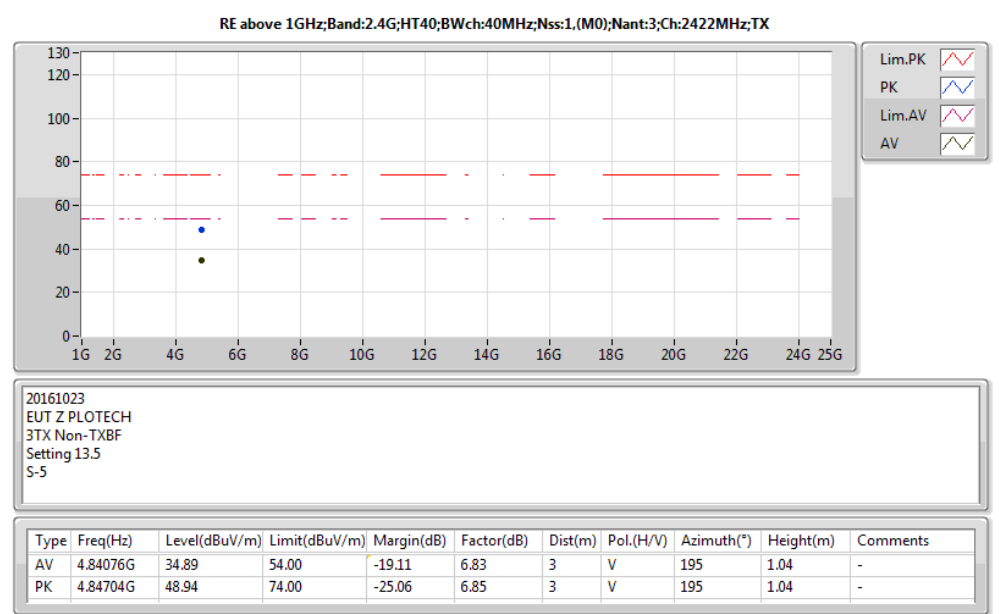
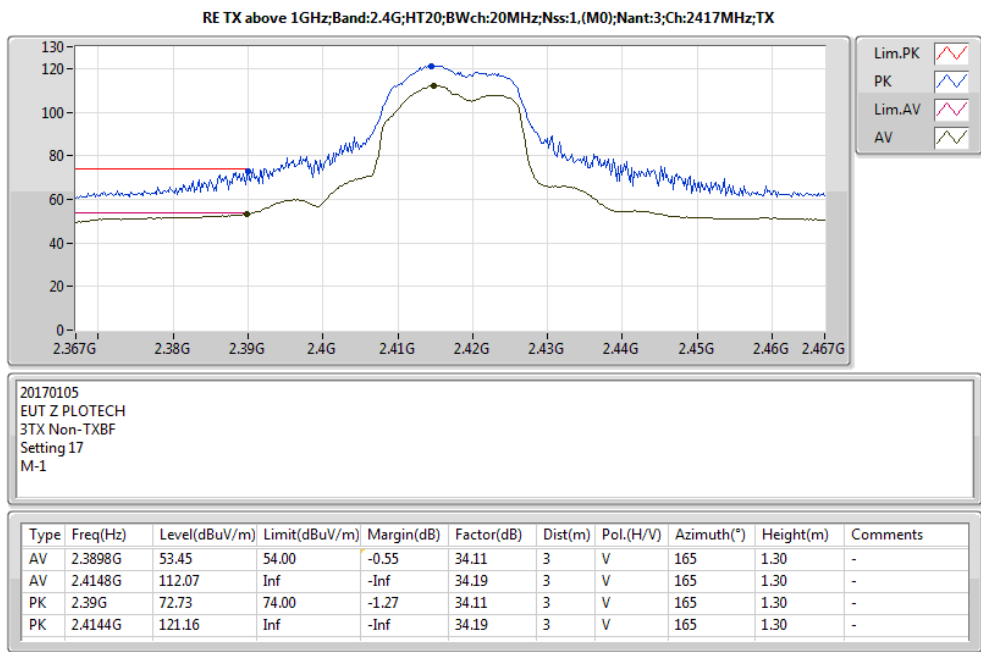
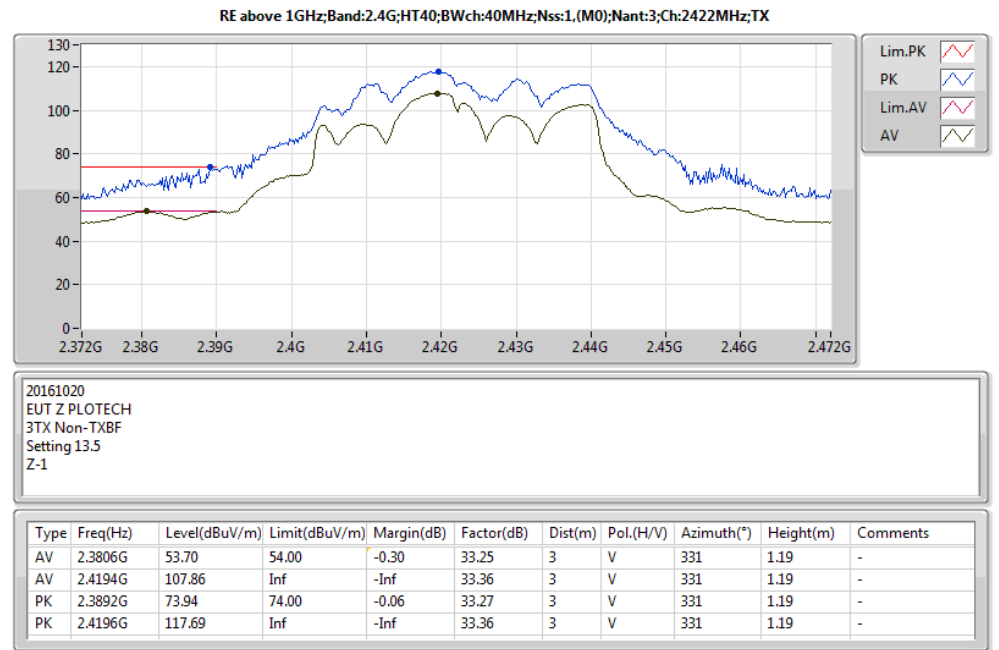
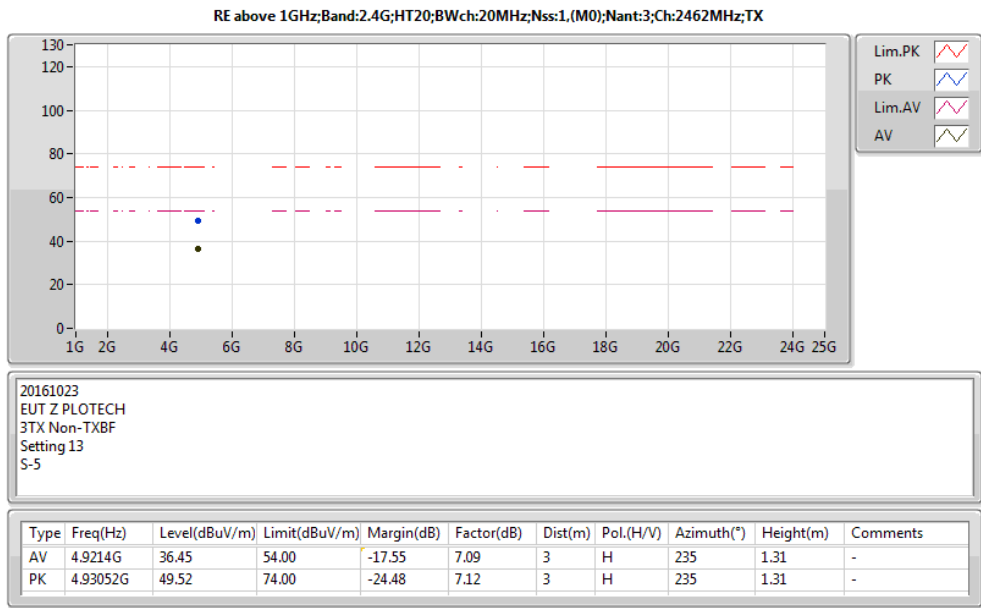
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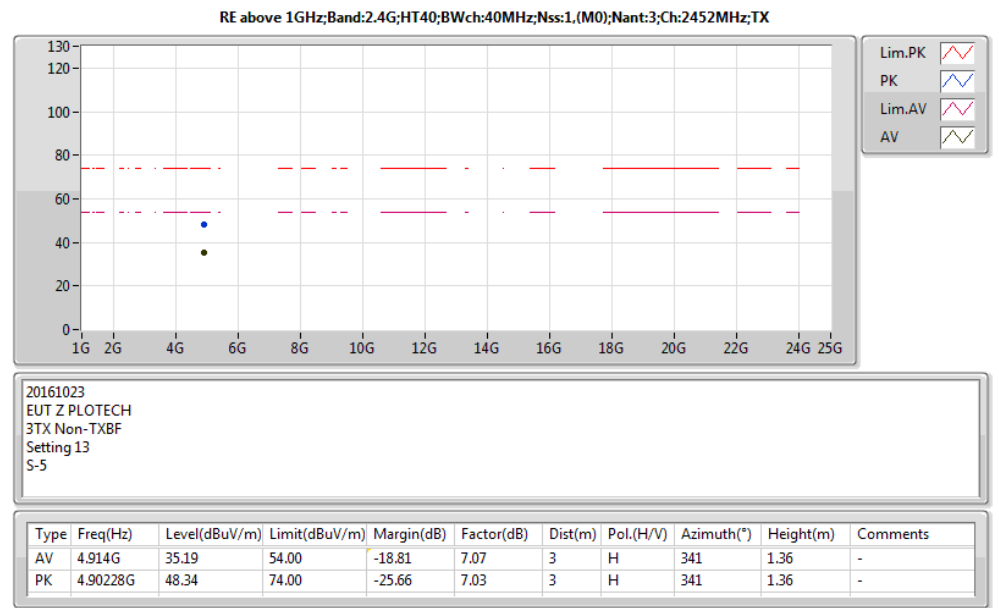
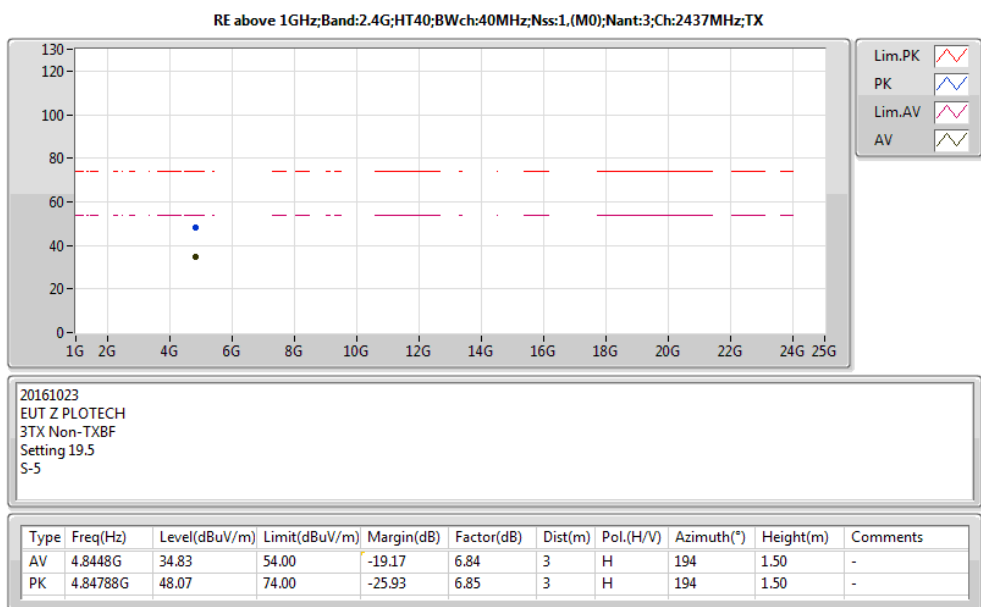
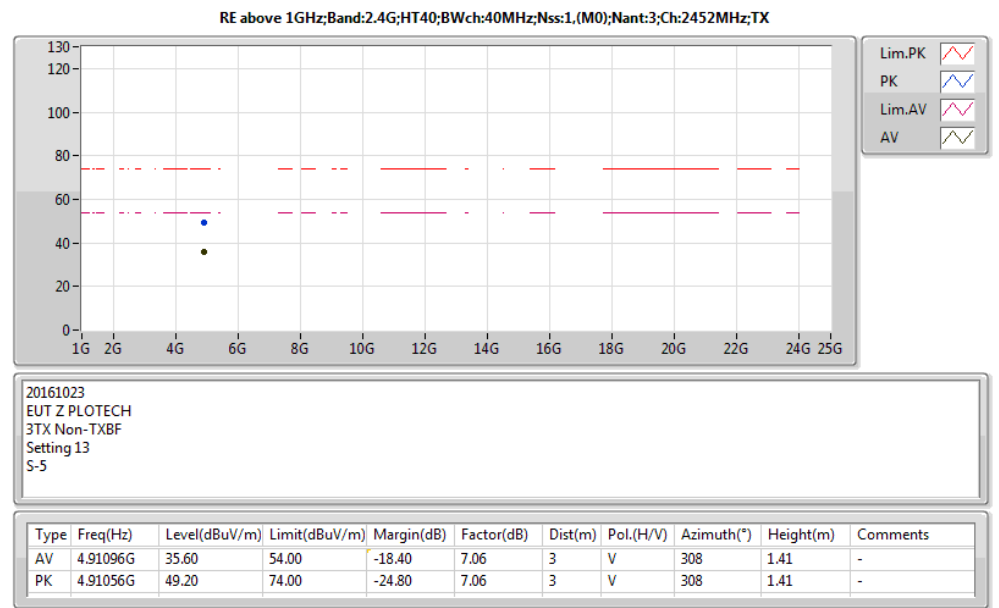
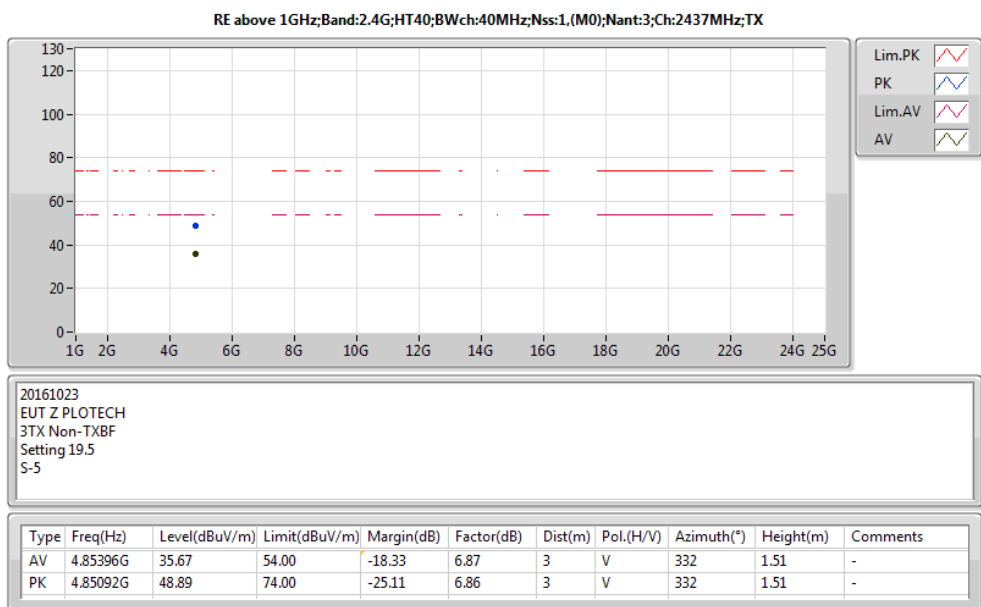
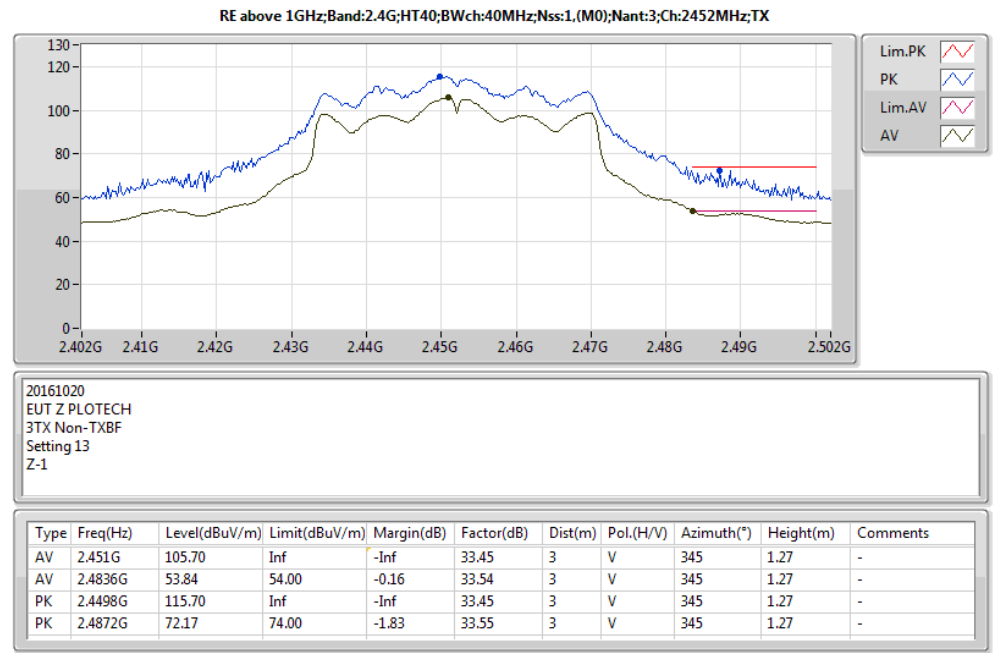
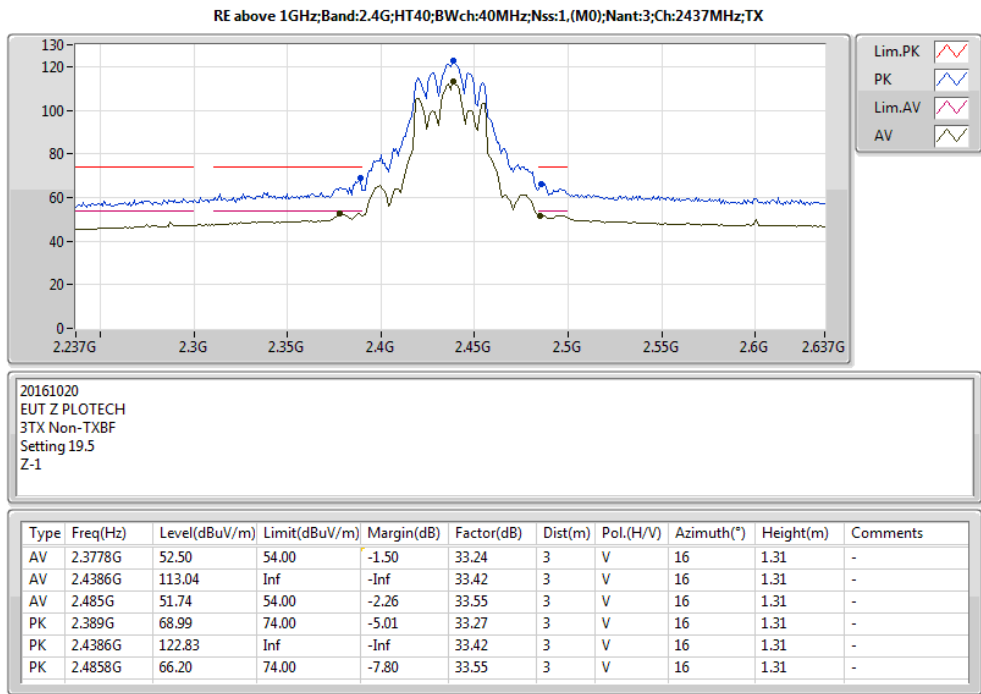
Type	Freq(Hz)	Level(dBuV/m)	Limit(dBuV/m)	Margin(dB)	Factor(dB)	Dist(m)	Pol.(H/V)	Azimuth(°)	Height(m)	Comments
AV	2.3892G	50.48	54.00	-3.52	33.27	3	V	33	1.50	-
AV	2.414G	109.22	Inf	-Inf	33.35	3	V	33	1.50	-
PK	2.39G	72.46	74.00	-1.54	33.28	3	V	33	1.50	-
PK	2.4138G	118.97	Inf	-Inf	33.35	3	V	33	1.50	-



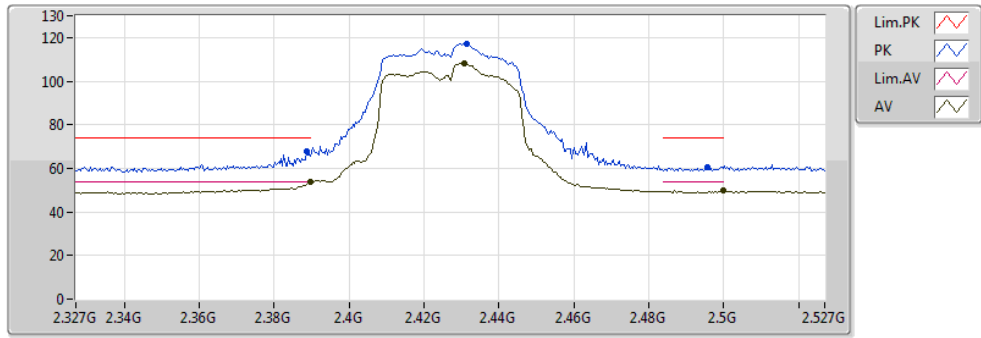








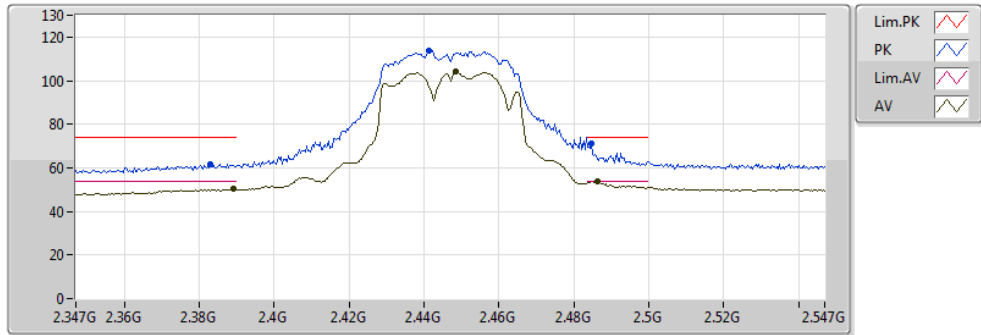
RE TX above 1GHz;Band:2.4G;HT40;BWch:40MHz;Nss:1.(M0);Nant:3;Ch:2427MHz;TX



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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	2.3898G	53.90	54.00	-0.10	34.11	3	V	102	1.48	-
AV	2.4306G	107.97	Inf	-Inf	34.23	3	V	102	1.48	-
AV	2.4998G	49.82	54.00	-4.18	34.41	3	V	102	1.48	-
PK	2.3886G	67.76	74.00	-6.24	34.11	3	V	102	1.48	-
PK	2.4314G	117.17	Inf	-Inf	34.23	3	V	102	1.48	-
PK	2.4958G	60.34	74.00	-13.66	34.40	3	V	102	1.48	-

RE TX above 1GHz;Band:2.4G;HT40;BWch:40MHz;Nss:1.(M0);Nant:3;Ch:2447MHz;TX



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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	2.389G	50.18	54.00	-3.82	34.11	3	V	209	1.50	-
AV	2.4486G	104.02	Inf	-Inf	34.28	3	V	209	1.50	-
AV	2.4862G	53.69	54.00	-0.31	34.37	3	V	209	1.50	-
PK	2.383G	61.58	74.00	-12.42	34.09	3	V	209	1.50	-
PK	2.4414G	113.67	Inf	-Inf	34.26	3	V	209	1.50	-
PK	2.4846G	71.13	74.00	-2.87	34.37	3	V	209	1.50	-