



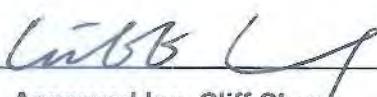
FCC RADIO TEST REPORT

FCC ID : TE7RE205V3
Equipment : AC750 Wi-Fi Range Extender
Brand Name : tp-link
Model Name : RE205
Applicant : TP-Link Technologies Co., Ltd.
Building 24 (floors 1,3,4,5) and 28 (floors 1-4)
Central Science and Technology Park, Nanshan,
Shenzhen, China, 518057
Manufacturer : TP-Link Technologies Co., Ltd.
Building 24 (floors 1,3,4,5) and 28 (floors 1-4)
Central Science and Technology Park, Nanshan,
Shenzhen, China, 518057
Standard : 47 CFR FCC Part 15.247

The product was received on Nov. 13, 2019, and testing was started from Nov. 26, 2019 and completed on Dec. 09, 2019. We, SPORTON INTERNATIONAL INC. EMC & Wireless Communications Laboratory, would like to declare that the tested sample has been evaluated in accordance with the procedures given in ANSI C63.10-2013 and shown compliance with the applicable technical standards.

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

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


Approved by: Cliff Chang

SPORTON INTERNATIONAL INC. EMC & Wireless Communications Laboratory
No. 52, Huaya 1st Rd., Guishan Dist., Taoyuan City, Taiwan (R.O.C.)



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Appendix A. Test Results of AC Power-line Conducted Emissions**Appendix B. Test Results of DTS Bandwidth****Appendix C. Test Results of Maximum Conducted Output Power****Appendix D. Test Results of Power Spectral Density****Appendix E. Test Results of Emissions in Non-restricted Frequency Bands****Appendix F. Test Results of Emissions in Restricted Frequency Bands****Appendix G. Test Results of Radiated Emission Co-location****Appendix H. Test Photos****Photographs of EUT v01**



History of this test report



Summary of Test Result

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

Declaration of Conformity:

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

Comments and Explanations:

1. The test configuration, test mode and test software were written in this test report are declared by the manufacturer.
2. The declared of product specification for EUT presented in the report are provided by the manufacturer, and the manufacturer takes all the responsibilities for the accuracy of product specification.

Reviewed by: Sam Chen

Report Producer: Viola Huang



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
2.4-2.4835GHz	802.11b	20	2TX
2.4-2.4835GHz	802.11g	20	2TX
2.4-2.4835GHz	802.11n HT20	20	2TX
2.4-2.4835GHz	802.11n HT40	40	2TX

Note:

- 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.	2.4GHz Port	5GHz Port	Brand	Product Number	Antenna Type	Connector	Gain (dBi)
1	1	1	tp-link	3101502793	Dipole Antenna	N/A	Note1
2	2	-	tp-link	3101502792	Dipole Antenna	N/A	

Note1:

Ant.	Gain (dBi)				
	2.4GHz	5GHz Band 1	5GHz Band 2	5GHz Band 3	5GHz Band 4
1	1.95	2.2	2.3	2.6	1.9
2	1.95	-	-	-	-

Note2: The above information was declared by manufacturer.

Note3: The EUT has two antennas.

For WLAN 2.4GHz function (2TX/2RX):

Port 1 and Port 2 could transmit/receive simultaneously.

For WLAN 5GHz function (1TX/1RX):

Only Port 1 could transmit/receive simultaneously.

1.1.3 Mode Test Duty Cycle

Mode	DC	DCF(dB)	T(s)	VBW(Hz) $\geq 1/T$
802.11b	0.992	0.03	n/a (DC ≥ 0.98)	n/a (DC ≥ 0.98)
802.11g	0.946	0.24	1.4m	1k
802.11n HT20	0.938	0.28	1.3m	1k
802.11n HT40	0.892	0.5	637.5u	3k

Note:

- DC is Duty Cycle.
- DCF is Duty Cycle Factor.

1.1.4 EUT Operational Condition

EUT Power Type	Internal power supply			
Beamforming Function	<input type="checkbox"/>	With beamforming	<input checked="" type="checkbox"/>	Without beamforming
Function	<input checked="" type="checkbox"/>	Point-to-multipoint	<input type="checkbox"/>	Point-to-point
Test Software Version	QATool_Dbg.exe			

Note: The above information was declared by manufacturer.



1.1.5 Table for EUT support function

Function	Supports type
AP router	Master
Extender	Master + Slave without radar detection

Note: The EUT supports AP and Extender mode, only Extender mode was tested and recorded in this test report by manufacturer request.



1.2 Applicable 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 v05r02
- ♦ FCC KDB 662911 D01 v02r01
- ♦ FCC KDB 414788 D01 v01r01

1.3 Testing Location Information

Testing Location				
<input type="checkbox"/>	HWA YA	ADD : No. 52, Huaya 1st Rd., Guishan Dist., Taoyuan City, Taiwan (R.O.C.) TEL : 886-3-327-3456 FAX : 886-3-327-0973		
<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	TH02-CB	Justin Lin	23.2~24.1°C / 53~55%	Dec. 02, 2019
Radiated below 1GHz	03CH05-CB	Eason Chen	23.8~24.6°C / 59~62%	Nov. 26, 2019 ~ Nov. 27, 2019
Radiated above 1GHz	03CH01-CB	Justin Lin	22.4~23.6°C / 59~63%	Nov. 27, 2019 ~ Nov. 30, 2019
AC Conduction	CO02-CB	Rick Yeh	21~22°C / 50~51%	Dec. 09, 2019

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)	2.0 dB	Confidence levels of 95%
Radiated Emission (30MHz ~ 1,000MHz)	4.3 dB	Confidence levels of 95%
Radiated Emission (1GHz ~ 18GHz)	4.3 dB	Confidence levels of 95%
Radiated Emission (18GHz ~ 40GHz)	5.1 dB	Confidence levels of 95%
Conducted Emission	2.4 dB	Confidence levels of 95%
Output Power Measurement	1.5 dB	Confidence levels of 95%
Power Density Measurement	2.4 dB	Confidence levels of 95%
Bandwidth Measurement	2%	Confidence levels of 95%



2 Test Configuration of EUT

2.1 Test Channel Mode

Mode	PowerSetting
802.11b_Nss1,(1Mbps)_2TX	-
2412MHz	21
2437MHz	24
2462MHz	23
802.11g_Nss1,(6Mbps)_2TX	-
2412MHz	1B
2417MHz	20
2437MHz	28
2457MHz	1F
2462MHz	1A
802.11n HT20_Nss1,(MCS0)_2TX	-
2412MHz	19
2417MHz	21
2437MHz	28
2457MHz	1F
2462MHz	1A
802.11n HT40_Nss1,(MCS0)_2TX	-
2422MHz	12
2427MHz	15
2437MHz	1B
2447MHz	15
2452MHz	12



2.2 The Worst Case Measurement Configuration

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

The Worst Case Mode for Following Conformance Tests	
Tests Item	DTS Bandwidth Maximum Conducted Output Power Power Spectral Density Emissions in Non-restricted Frequency Bands
Test Condition	Conducted measurement at transmit chains

The Worst Case Mode for Following Conformance Tests	
Tests Item	Emissions in Restricted 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	Extender mode - EUT in Y axis
2	Extender mode - EUT in Z axis

For operating mode 1 is the worst case and it was record in this test report.

Operating Mode > 1GHz	CTX The EUT was performed at Y axis and Z axis position, and the worst case was found at Y axis. So the measurement will follow this same test configuration.
1	EUT in Y axis

The Worst Case Mode for Following Conformance Tests	
Tests Item	Simultaneous Transmission Analysis - Radiated Emission Co-location
Test Condition	Radiated measurement
Operating Mode	Normal Link
1	WLAN 2.4GHz + WLAN 5GHz

Refer to Appendix G for Radiated Emission Co-location.



The Worst Case Mode for Following Conformance Tests	
Tests Item	Simultaneous Transmission Analysis - Co-location RF Exposure Evaluation
Operating Mode	
1	WLAN 2.4GHz + WLAN 5GHz

Refer to Sporton Test Report No.: FA892823-02 for Co-location RF Exposure Evaluation.

2.3 EUT Operation during Test

For CTX Mode:

The EUT was programmed to be in continuously transmitting mode.

For Normal Link:

During the test, the EUT operation to normal function.

2.4 Accessories

N/A



2.5 Support Equipment

For AC Conduction:

Support Equipment				
No.	Equipment	Brand Name	Model Name	FCC ID
A	LAN NB	DELL	E6430	N/A
B	2.4G NB	DELL	E6430	N/A
C	5G NB	DELL	E6430	N/A
D	AP Router	ASUS	RP-N53	MSQ-RPN53

For Radiated (below 1GHz):

Support Equipment				
No.	Equipment	Brand Name	Model Name	FCC ID
A	NB	DELL	E4300	N/A
B	NB	DELL	E4300	N/A
C	NB	DELL	E4300	N/A
D	WLAN AP	NETGEAR	WNDR3300v2	PY309300116

For Radiated (above 1GHz):

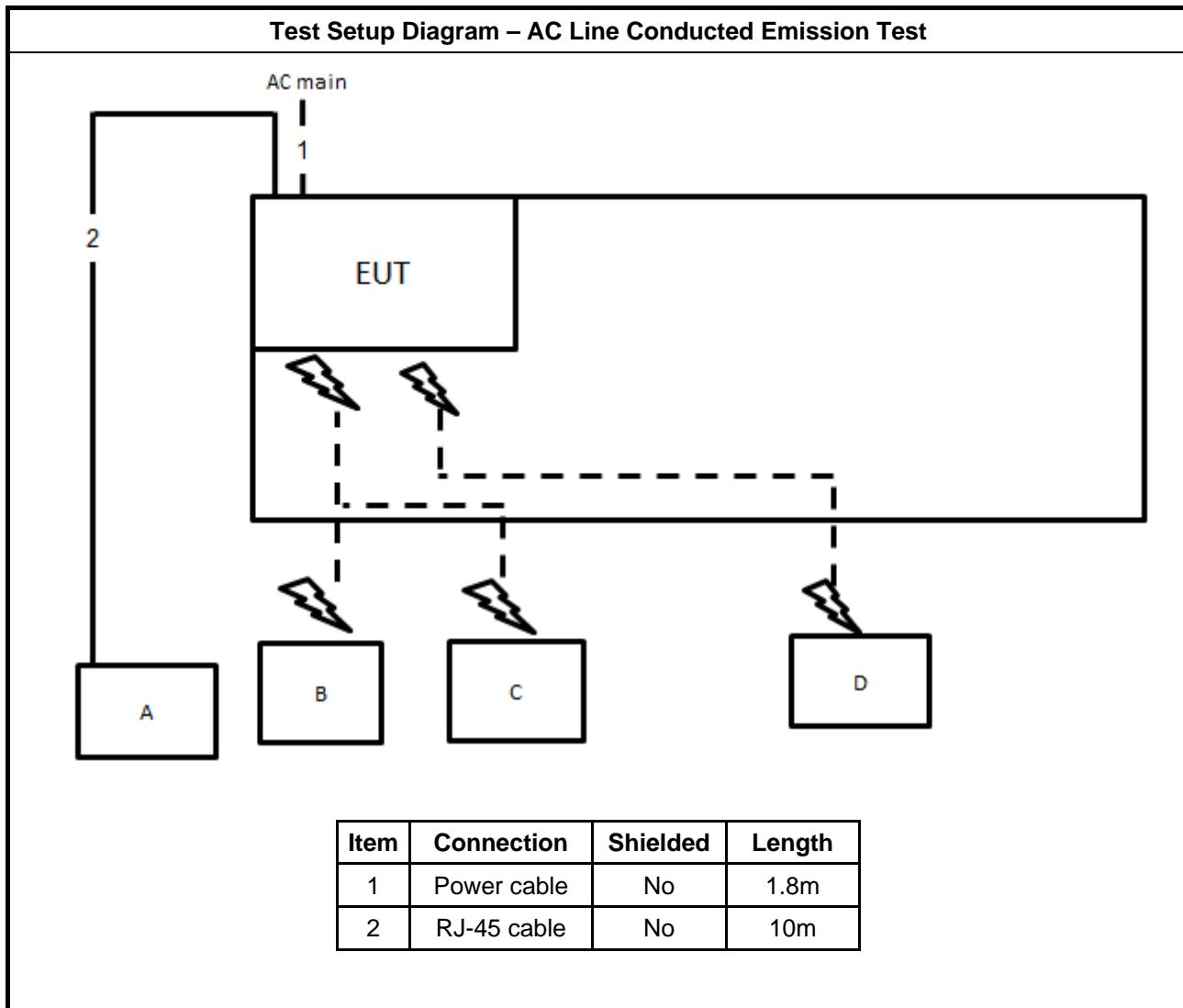
Support Equipment				
No.	Equipment	Brand Name	Model Name	FCC ID
A	NB	DELL	E4300	N/A

For RF Conducted:

Support Equipment				
No.	Equipment	Brand Name	Model Name	FCC ID
A	NB	DELL	E4300	N/A

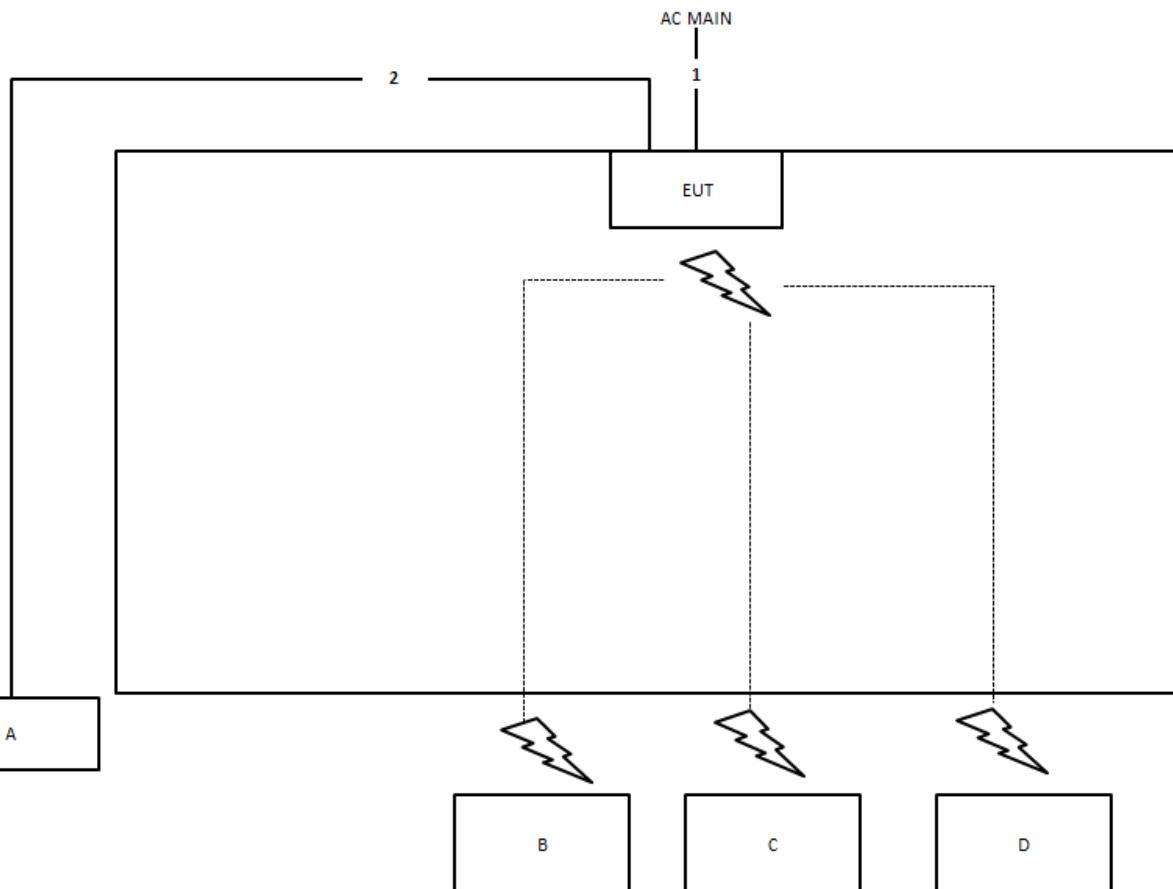


2.6 Test Setup Diagram





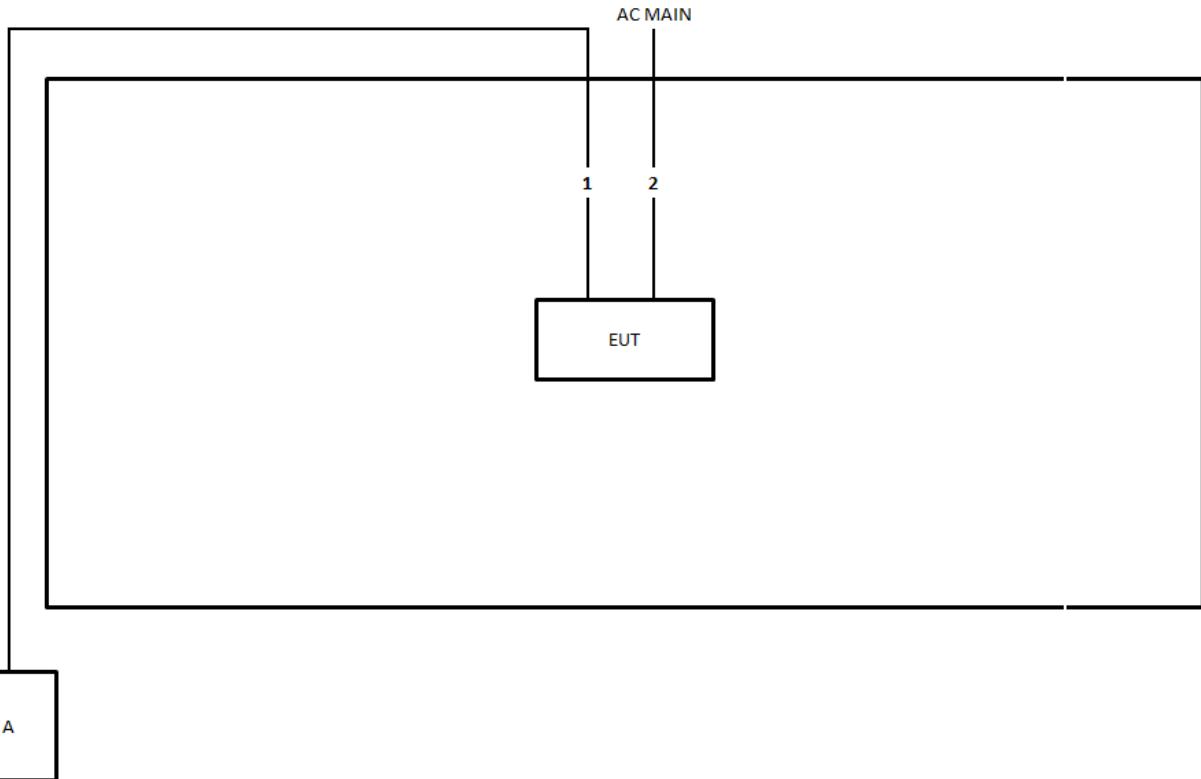
Test Setup Diagram - Radiated Test < 1GHz



Item	Connection	Shielded	Length
1	Power cable	No	1.8m
2	RJ-45 cable	No	10m



Test Setup Diagram - Radiated Test > 1GHz



Item	Connection	Shielded	Length
1	RJ-45 cable	No	10m
2	Power cable	No	1.8m



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

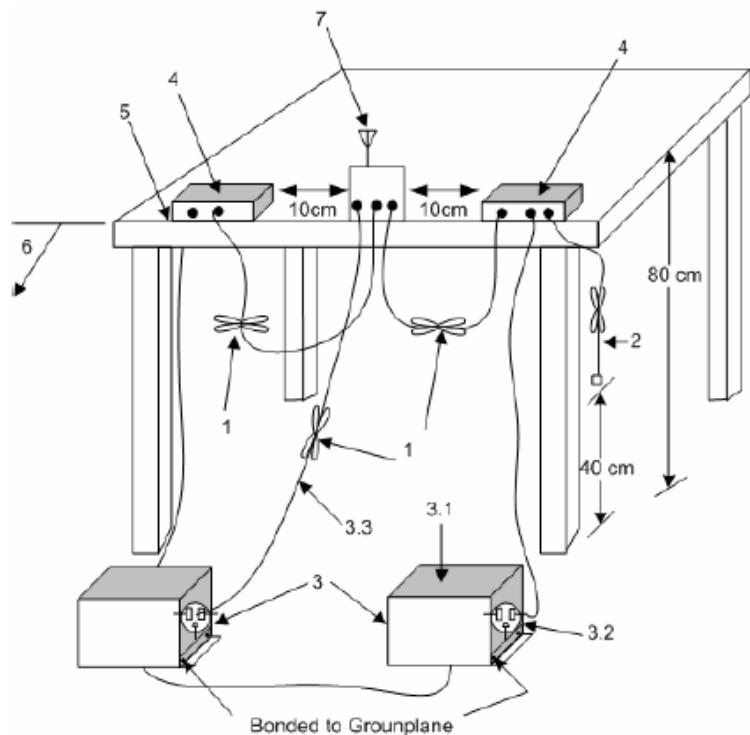
Refer a test equipment and calibration data table in this test report.

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

AC Power-line Conducted Emissions



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

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:
▪ 6 dB bandwidth \geq 500 kHz.

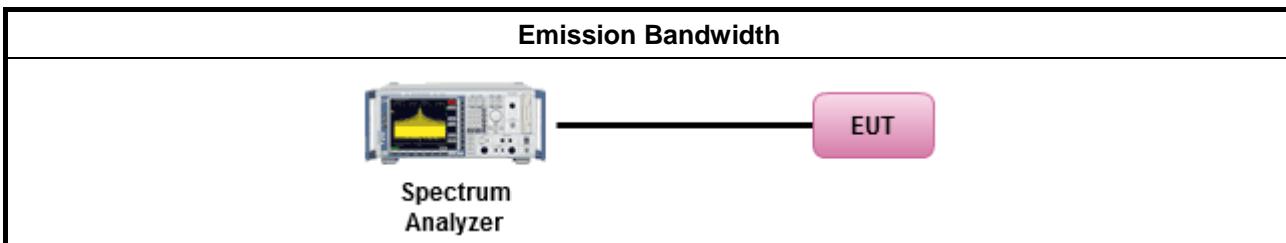
3.2.2 Measuring Instruments

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

3.2.3 Test Procedures

Test Method
▪ For the emission bandwidth shall be measured using one of the options below:
<input checked="" type="checkbox"/> Refer as FCC KDB 558074, clause 8.2 & C63.10 clause 11.8.1 Option 1 for 6 dB bandwidth measurement.
<input type="checkbox"/> Refer as FCC KDB 558074, clause 8.2 & C63.10 clause 11.8.2 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	
	<ul style="list-style-type: none">▪ If $G_{TX} \leq 6$ dBi, then $P_{Out} \leq 30$ dBm (1 W)
	<ul style="list-style-type: none">▪ Point-to-multipoint systems (P2M): If $G_{TX} > 6$ dBi, then $P_{Out} = 30 - (G_{TX} - 6)$ dBm
	<ul style="list-style-type: none">▪ Point-to-point systems (P2P): If $G_{TX} > 6$ dBi, then $P_{Out} = 30 - (G_{TX} - 6)/3$ dBm
	<ul style="list-style-type: none">▪ Smart antenna system (SAS):<ul style="list-style-type: none">- 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	
▪ Maximum Peak Conducted Output Power	<input type="checkbox"/> Refer as FCC KDB 558074, clause 8.3.1.1 & C63.10 clause 11.9.1.1 (RBW \geq EBW method). <input type="checkbox"/> Refer as FCC KDB 558074, clause 8.3.1.3 & C63.10 clause 11.9.1.3 (peak power meter).
▪ Maximum Conducted Output Power	<p>[duty cycle \geq 98% or external video / power trigger]</p> <input type="checkbox"/> Refer as FCC KDB 558074, clause 8.3.2.2 & C63.10 clause 11.9.2.2.2 Method AVGSA-1. <input type="checkbox"/> Refer as FCC KDB 558074, clause 8.3.2.2 & C63.10 clause 11.9.2.2.3 Method AVGSA-1A. (alternative)
	duty cycle $<$ 98% and average over on/off periods with duty factor
	<input type="checkbox"/> Refer as FCC KDB 558074, clause 8.3.2.2 & C63.10 clause 11.9.2.2.4 Method AVGSA-2. <input type="checkbox"/> Refer as FCC KDB 558074, clause 8.3.2.2 & C63.10 clause 11.9.2.2.5 Method AVGSA-2A (alternative) <input type="checkbox"/> Refer as FCC KDB 558074, clause 8.3.2.2 & C63.10 clause 11.9.2.2.6 Method AVGSA-3 <input type="checkbox"/> Refer as FCC KDB 558074, clause 8.3.2.2 & C63.10 clause 11.9.2.2.7 Method AVGSA-3A (alternative)
	Measurement using a power meter (PM)
	<input type="checkbox"/> Refer as FCC KDB 558074, clause 8.3.2.3 & C63.10 clause 11.9.2.3.1 Method AVGPM (using an RF average power meter). <input checked="" type="checkbox"/> Refer as FCC KDB 558074, clause 8.3.2.3 & C63.10 clause 11.9.2.3.2 Method AVGPM-G (using an gate RF average power meter).
▪ 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.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

Maximum Conducted Output Power (Power Meter)



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
▪ Power Spectral Density (PSD) $\leq 8 \text{ dBm/3kHz}$

3.4.2 Measuring Instruments

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

3.4.3 Test Procedures

Test Method
▪ Peak power spectral density procedures that the same method as used to determine the conducted output power. If maximum peak conducted output power was measured to demonstrate compliance to the output power limit, then the peak PSD procedure below (Method PKPSD) shall be used. If maximum conducted output power was measured to demonstrate compliance to the output power limit, then one of the average PSD procedures shall be used, as applicable based on the following criteria (the peak PSD procedure is also an acceptable option).
<input checked="" type="checkbox"/> Refer as FCC KDB 558074, clause 8.4 & C63.10 clause 11.10.2 Method PKPSD. [duty cycle $\geq 98\%$ or external video / power trigger]
<input type="checkbox"/> Refer as FCC KDB 558074, clause 8.4 & C63.10 clause 11.10.3 Method AVGPSD-1.
<input type="checkbox"/> Refer as FCC KDB 558074, clause 8.4 & C63.10 clause 11.10.5 Method AVGPSD-2.
<input type="checkbox"/> Refer as FCC KDB 558074, clause 8.4 & C63.10 clause 11.10.7 Method AVGPSD-3.
duty cycle $< 98\%$ and average over on/off periods with duty factor
<input type="checkbox"/> Refer as FCC KDB 558074, clause 8.4 & C63.10 clause 11.10.4 Method AVGPSD-1A. (alternative).
<input type="checkbox"/> Refer as FCC KDB 558074, clause 8.4 & C63.10 clause 11.10.6 Method AVGPSD-2A. (alternative)
<input type="checkbox"/> Refer as FCC KDB 558074, clause 8.4 & C63.10 clause 11.10.8 Method AVGPSD-3A. (alternative)
▪ For conducted measurement.
<input type="checkbox"/> If The EUT supports multiple transmit chains using options given below:
<input checked="" type="checkbox"/> Option 1: Measure and sum the spectra across the outputs. Refer as FCC KDB 662911, In-band power spectral density (PSD). Sample all transmit ports simultaneously using a spectrum analyzer for each transmit port. Where the trace bin-by-bin of each transmit port summing can be performed. (i.e., in the first spectral bin of output 1 is summed with that in the first spectral bin of output 2 and that from the first spectral bin of output 3, and so on up to the NTX output to obtain the value for the first frequency bin of the summed spectrum.). Add up the amplitude (power) values for the different transmit chains and use this as the new data trace.
<input type="checkbox"/> Option 2: Measure and sum spectral maxima across the outputs. With this technique, spectra are measured at each output of the device at the required resolution bandwidth. The maximum value (peak) of each spectrum is determined. These maximum values are then summed mathematically in linear power units across the outputs. These operations shall be performed separately over frequency spans that have different out-of-band or spurious emission limits,



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

Power Spectral Density



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 (dBc)
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.

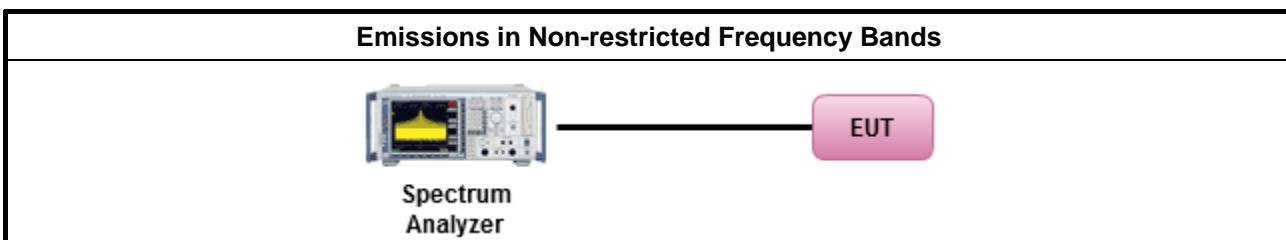
3.5.2 Measuring Instruments

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

3.5.3 Test Procedures

Test Method
▪ Refer as FCC KDB 558074, clause 8.5 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.

Note 3: Using the distance of 1m during the test for above 18 GHz, and the test value to correct for the distance factor at 3m.

3.6.2 Measuring Instruments

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



3.6.3 Test Procedures

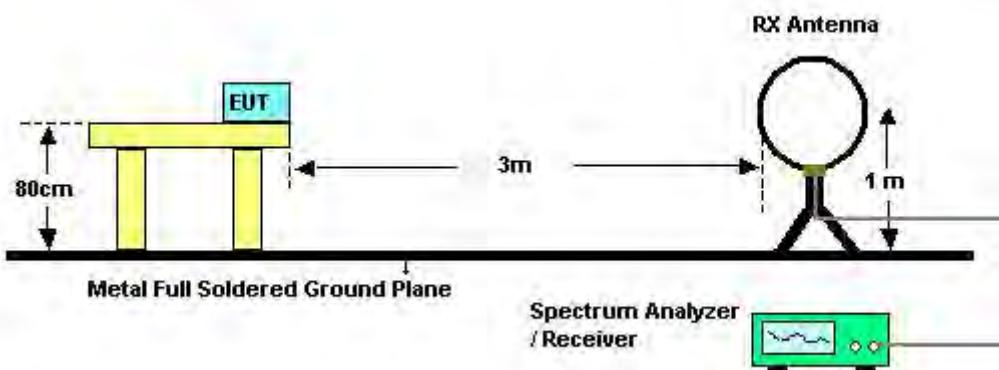
Test Method	
▪ The average emission levels shall be measured in [duty cycle \geq 98 or duty factor].	
▪ Refer as ANSI C63.10, clause 6.10.3 band-edge testing shall be performed at the lowest frequency channel and highest frequency channel within the allowed operating band.	
▪ For the transmitter unwanted emissions shall be measured using following options below:	
	▪ Refer as FCC KDB 558074, clause 8.6 for unwanted emissions into restricted bands.
	<input type="checkbox"/> Refer as FCC KDB 558074, clause 8.6 & C63.10 clause 11.12.2.5.1(trace averaging for duty cycle \geq 98%).
	<input type="checkbox"/> Refer as FCC KDB 558074, clause 8.6 & C63.10 clause 11.12.2.5.2(trace averaging + duty factor).
	<input checked="" type="checkbox"/> Refer as FCC KDB 558074, clause 8.6 & C63.10 clause 11.12.2.5.3(Reduced VBW \geq 1/T).
	<input type="checkbox"/> Refer as ANSI C63.10, clause 11.12.2.5.3 (Reduced VBW). VBW \geq 1/T, where T is pulse time.
	<input type="checkbox"/> Refer as ANSI C63.10, clause 7.5 average value of pulsed emissions.
	<input checked="" type="checkbox"/> Refer as FCC KDB 558074, clause 8.6 & C63.10 clause 11.12.2.4 measurement procedure peak limit.
▪ For the transmitter band-edge emissions shall be measured using following options below:	
	▪ Refer as FCC KDB 558074 clause 8.7 & C63.10 clause 11.13.1, 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.
	▪ Refer as FCC KDB 558074, clause 8.7 (ANSI C63.10, clause 6.10.6) for marker-delta method for band-edge measurements.
	▪ Refer as FCC KDB 558074, clause 8.7 for narrower resolution bandwidth (100kHz) using the band power and summing the spectral levels (i.e., 1 MHz).
	▪ 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
	▪ 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.



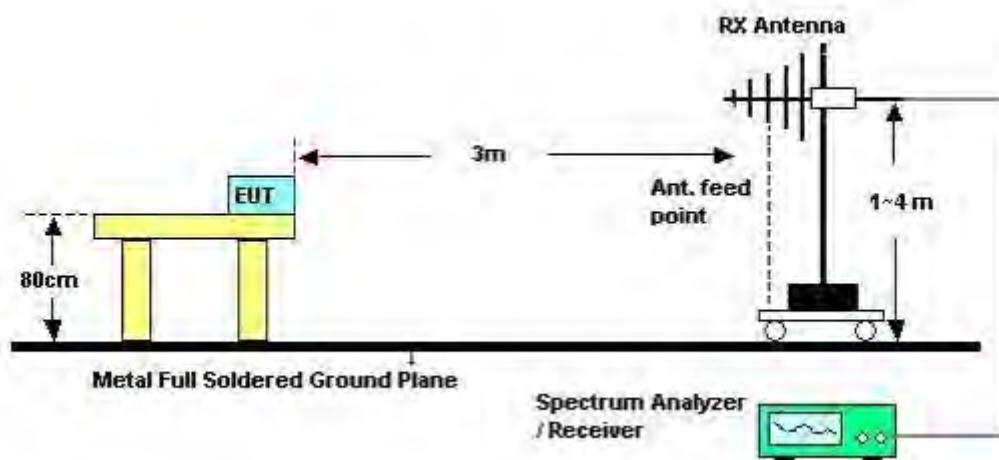
3.6.4 Test Setup

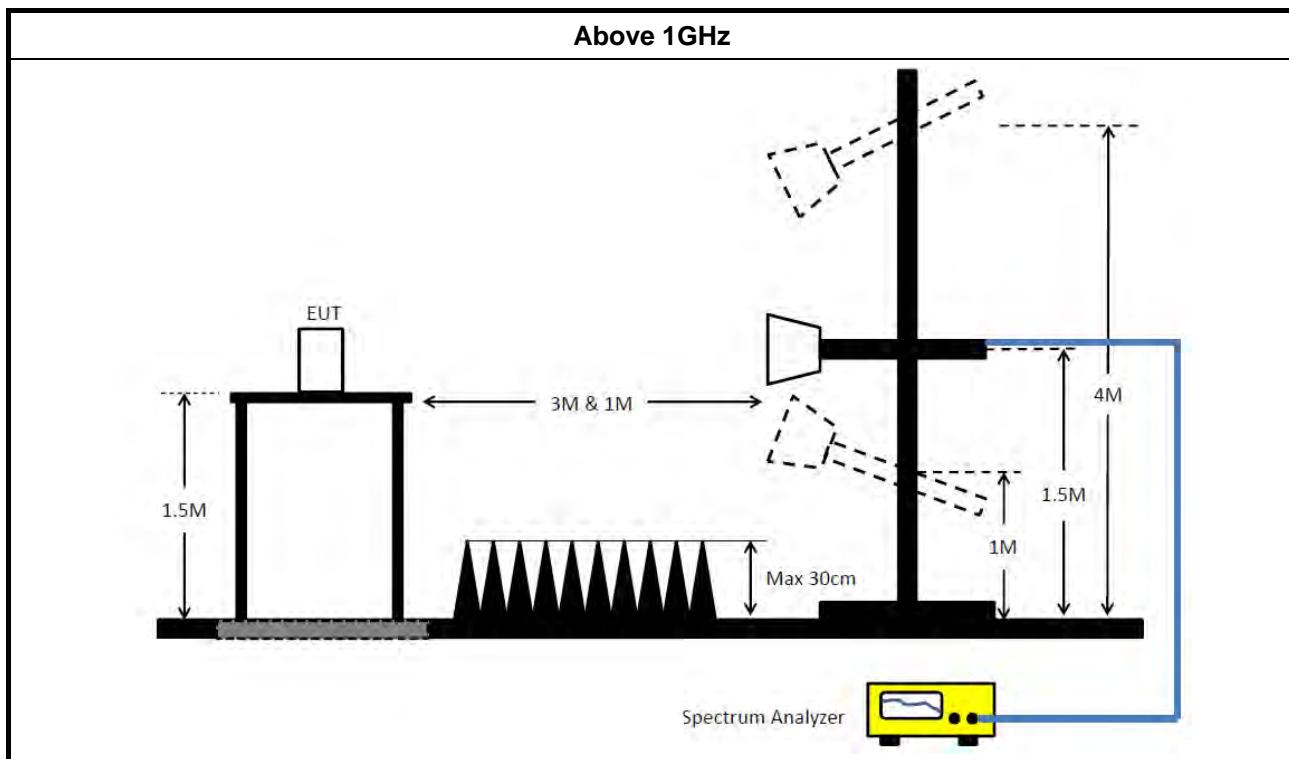
Radiated - Emissions in Restricted Frequency Bands

9kHz ~30MHz



30MHz~1GHz





3.6.5 Measurement Results Calculation

The measured Level is calculated using:

Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level.

3.6.6 Emissions in Restricted Frequency Bands (Below 30MHz)

There is a comparison data of both open-field test site and alternative test site - semi-Anechoic chamber according to KDB414788 Radiated Test Site, and the result came out very similar.

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

The radiated emissions were investigated from 9 kHz or the lowest frequency generated within the device, up to the 10 harmonic or 40 GHz, whichever is appropriate.

3.6.7 Test Result of Emissions in Restricted Frequency Bands

Refer as Appendix F



4 Test Equipment and Calibration Data

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Calibration Due Date	Remark
LISN	Schwarzbeck	NSLK 8127	8127650	9kHz ~ 30MHz	Nov. 21, 2019	Nov. 20, 2020	Conduction (CO02-CB)
LISN	Schwarzbeck	NSLK 8127	8127478	9kHz ~ 30MHz	Oct. 30, 2019	Oct. 29, 2020	Conduction (CO02-CB)
EMI Receiver	Agilent	N9038A	MY52260140	9kHz ~ 8.4GHz	Jan. 16, 2019	Jan. 15, 2020	Conduction (CO02-CB)
COND Cable	Woken	Cable	2	0.15MHz ~ 30MHz	Oct. 21, 2019	Oct. 20, 2020	Conduction (CO02-CB)
Software	Audix	E3	6.120210n	-	N.C.R.	N.C.R.	Conduction (CO02-CB)
Bilog Antenna with 6dB Attenuator	TESE & EMCI	CBL 6112D & N-6-06	35236 & AT-N0610	30MHz ~ 2GHz	Mar. 28, 2019	Mar. 27, 2020	Radiation (03CH05-CB)
Loop Antenna	Teseq	HLA 6120	24155	9kHz - 30 MHz	Mar. 29, 2019	Mar. 28, 2020	Radiation (03CH05-CB)
Pre-Amplifier	EMCI	EMC330N	980331	20MHz ~ 3GHz	May 01, 2019	Apr. 30, 2020	Radiation (03CH05-CB)
Spectrum Analyzer	R&S	FSP40	100304	9kHz ~ 40GHz	Aug. 15, 2019	Aug. 14, 2020	Radiation (03CH05-CB)
EMI Test Receiver	R&S	ESCS	826547/017	9kHz ~ 2.75GHz	May 15, 2019	May 14, 2020	Radiation (03CH05-CB)
RF Cable-low	Woken	RG402	LOW Cable-04+23	30MHz-1GHz	Oct. 07, 2019	Oct. 06, 2020	Radiation (03CH05-CB)
Horn Antenna	ETS-LINDGREN	3115	00075790	750MHz ~ 18GHz	Nov. 04, 2019	Nov. 03, 2020	Radiation (03CH01-CB)
Horn Antenna	Schwarzbeck	BBHA 9170	BBHA9170252	15GHz ~ 40GHz	Jun. 27, 2019	Jun. 26, 2020	Radiation (03CH01-CB)
Pre-Amplifier	Agilent	8449B	3008A02310	1GHz ~ 26.5GHz	Jan. 08, 2019	Jan. 07, 2020	Radiation (03CH01-CB)
Pre-Amplifier	MITEQ	TTA1840-35-H G	1864479	18GHz ~ 40GHz	Jul. 03, 2019	Jul. 02, 2020	Radiation (03CH01-CB)
Spectrum Analyzer	R&S	FSP40	100056	9kHz ~ 40GHz	Jan. 31, 2019	Jan. 30, 2020	Radiation (03CH01-CB)
RF Cable-high	Woken	RG402	High Cable-16	1 GHz ~ 18 GHz	Oct. 07, 2019	Oct. 06, 2020	Radiation (03CH01-CB)
RF Cable-high	Woken	RG402	High Cable-16+17	1 GHz ~ 18 GHz	Oct. 07, 2019	Oct. 06, 2020	Radiation (03CH01-CB)
RF Cable-high	Woken	RG402	High Cable-40G#1	18GHz ~ 40 GHz	Jul. 24, 2019	Jul. 23, 2020	Radiation (03CH01-CB)
RF Cable-high	Woken	RG402	High Cable-40G#2	18GHz ~ 40 GHz	Jul. 24, 2019	Jul. 23, 2020	Radiation (03CH01-CB)
Spectrum analyzer	R&S	FSV40	101027	9kHz~40GHz	Jul. 02, 2019	Jul. 01, 2020	Conducted (TH02-CB)

**FCC RADIO TEST REPORT****Report No. : FR892823-02AA**

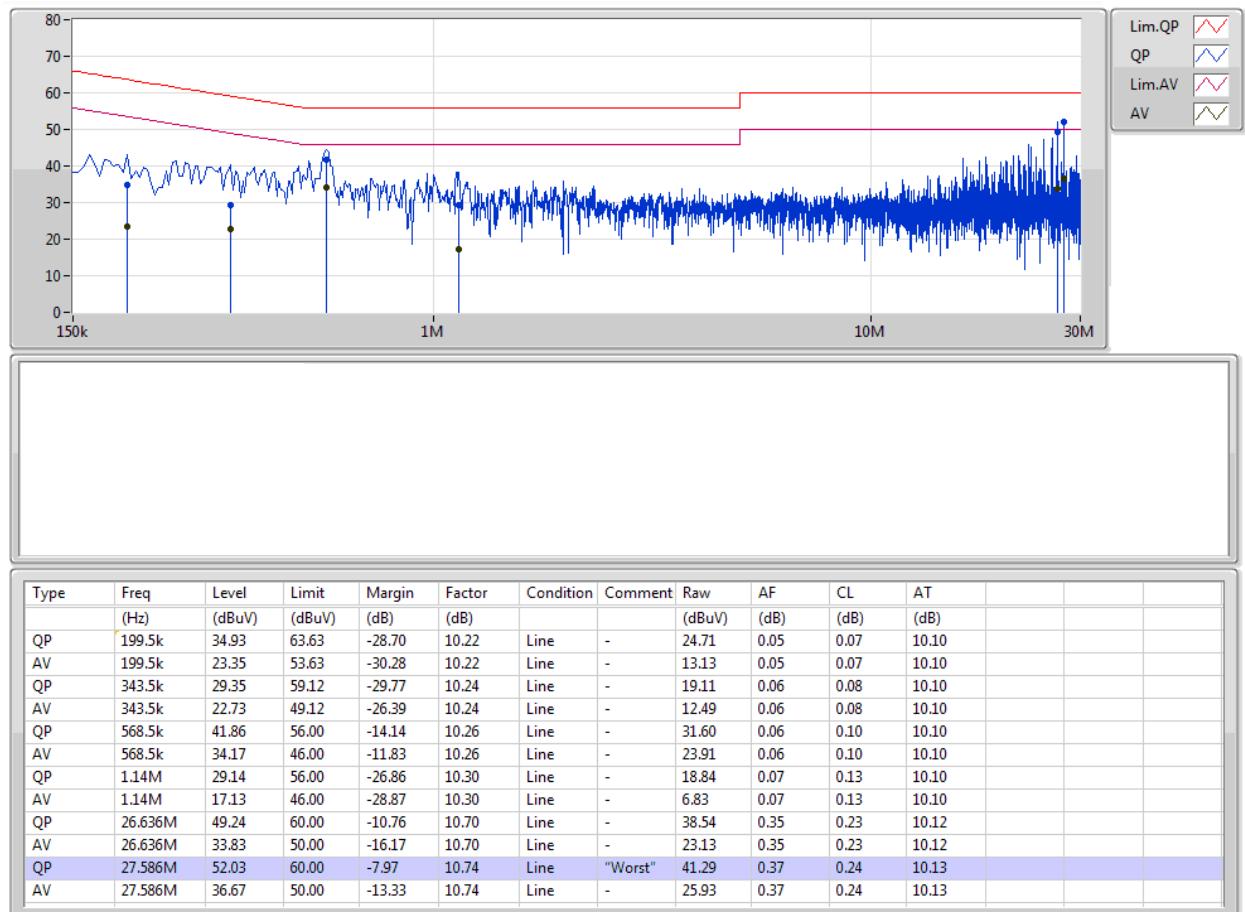
Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Calibration Due Date	Remark
Power Sensor	Anritsu	MA2411B	1126203	300MHz~40GHz	Sep. 11, 2019	Sep. 10, 2020	Conducted (TH02-CB)
Power Meter	Anritsu	ML2495A	1210004	300MHz~40GHz	Sep. 11, 2019	Sep. 10, 2020	Conducted (TH02-CB)
RF Cable-high	Woken	RG402	High Cable-01	1 GHz – 26.5 GHz	Oct. 07, 2019	Oct. 06, 2020	Conducted (TH02-CB)
RF Cable-high	Woken	RG402	High Cable-02	1 GHz – 26.5 GHz	Oct. 07, 2019	Oct. 06, 2020	Conducted (TH02-CB)
RF Cable-high	Woken	RG402	High Cable-3	1 GHz – 26.5 GHz	Oct. 07, 2019	Oct. 06, 2020	Conducted (TH02-CB)
RF Cable-high	Woken	RG402	High Cable-04	1 GHz – 26.5 GHz	Oct. 07, 2019	Oct. 06, 2020	Conducted (TH02-CB)
RF Cable-high	Woken	RG402	High Cable-05	1 GHz – 26.5 GHz	Oct. 07, 2019	Oct. 06, 2020	Conducted (TH02-CB)

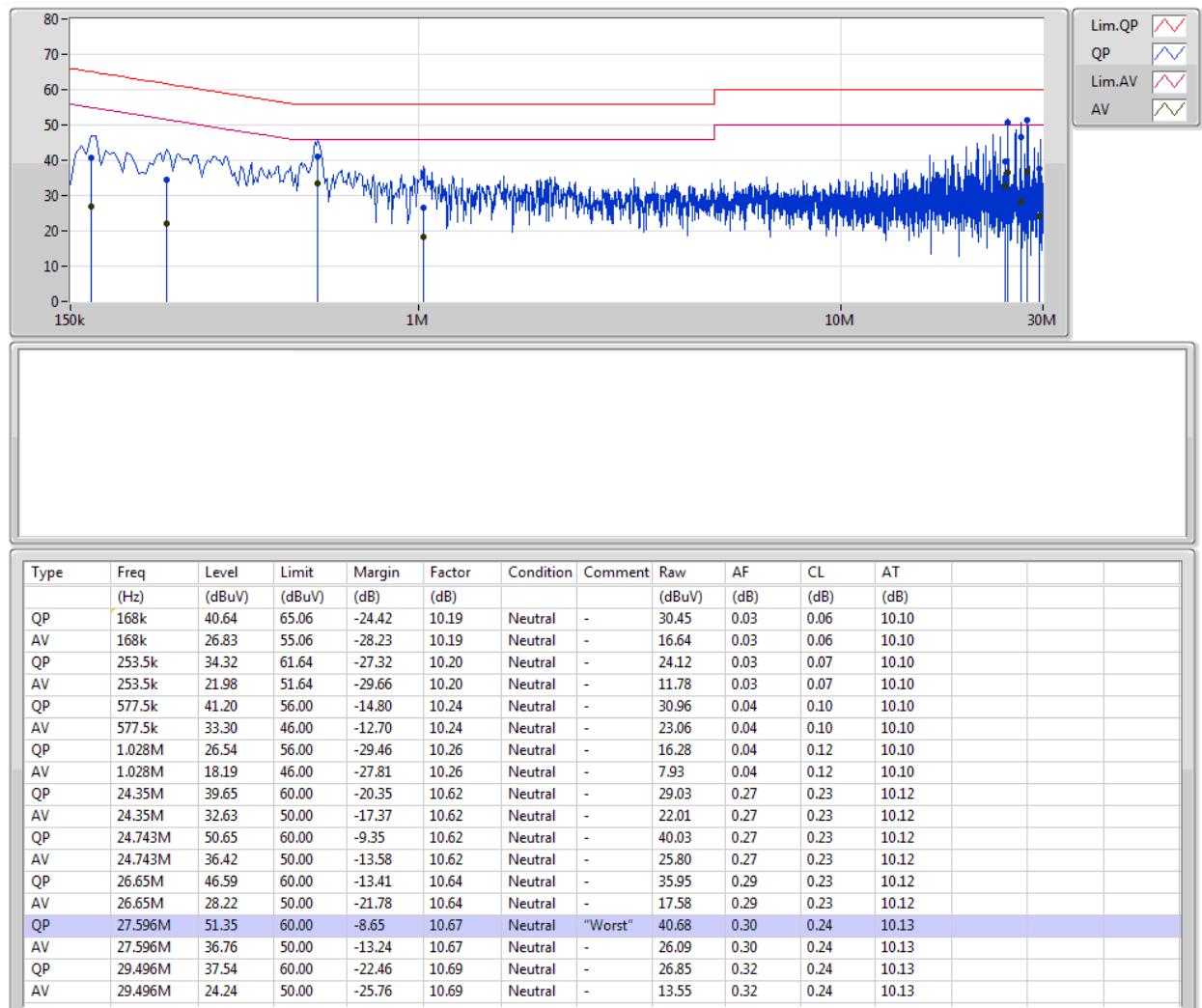
Note: Calibration Interval of instruments listed above is one year.

N.C.R. means Non-Calibration required.

**Summary**

Mode	Result	Type	Freq (Hz)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Factor (dB)	Condition
Mode 1	Pass	QP	27.586M	52.03	60.00	-7.97	10.74	Line





**Summary**

Mode	Max-N dB (Hz)	Max-OBW (Hz)	ITU-Code	Min-N dB (Hz)	Min-OBW (Hz)
2.4-2.4835GHz	-	-	-	-	-
802.11b_Nss1,(1Mbps)_2TX	10.075M	15.767M	15M8G1D	10.05M	14.718M
802.11g_Nss1,(6Mbps)_2TX	15.1M	21.889M	21M9D1D	15.075M	16.367M
802.11n HT20_Nss1,(MCS0)_2TX	15.675M	23.088M	23M1D1D	15.05M	17.541M
802.11n HT40_Nss1,(MCS0)_2TX	15.1M	17.591M	17M6D1D	12.6M	17.491M

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

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

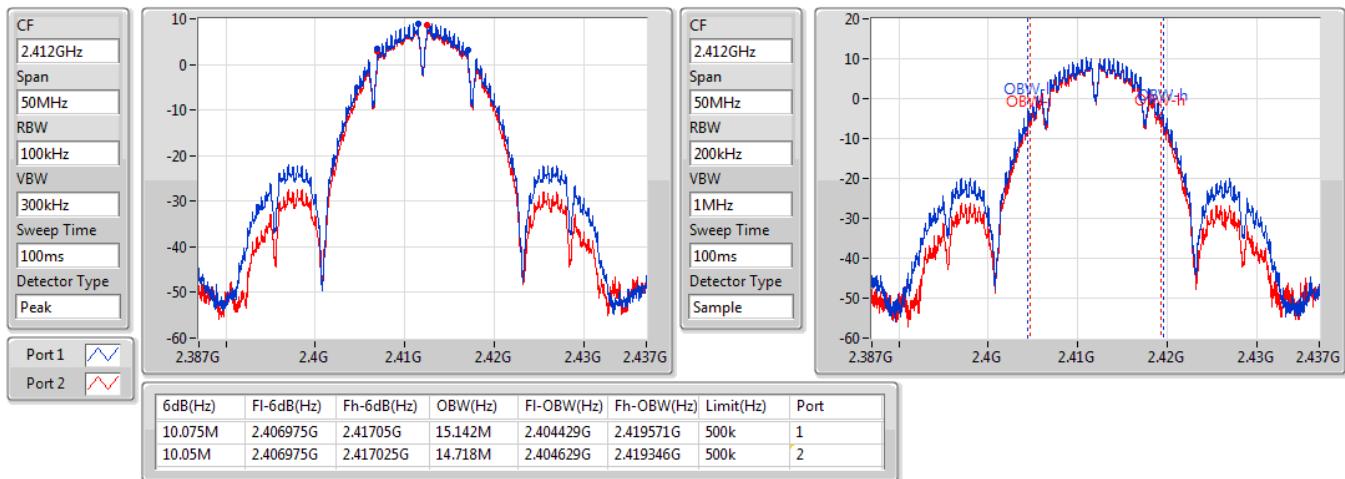
**Result**

Mode	Result	Limit (Hz)	Port 1-N dB (Hz)	Port 1-OBW (Hz)	Port 2-N dB (Hz)	Port 2-OBW (Hz)
802.11b_Nss1,(1Mbps)_2TX	-	-	-	-	-	-
2412MHz	Pass	500k	10.075M	15.142M	10.05M	14.718M
2437MHz	Pass	500k	10.075M	15.767M	10.075M	15.117M
2462MHz	Pass	500k	10.075M	15.742M	10.075M	15.317M
802.11g_Nss1,(6Mbps)_2TX	-	-	-	-	-	-
2412MHz	Pass	500k	15.075M	16.467M	15.075M	16.367M
2437MHz	Pass	500k	15.1M	21.889M	15.1M	20.615M
2462MHz	Pass	500k	15.1M	16.442M	15.075M	16.367M
802.11n HT20_Nss1,(MCS0)_2TX	-	-	-	-	-	-
2412MHz	Pass	500k	15.075M	17.591M	15.05M	17.541M
2437MHz	Pass	500k	15.1M	23.088M	15.05M	22.589M
2462MHz	Pass	500k	15.125M	17.566M	15.675M	17.591M
802.11n HT40_Nss1,(MCS0)_2TX	-	-	-	-	-	-
2422MHz	Pass	500k	15.1M	17.541M	14.15M	17.541M
2437MHz	Pass	500k	14.6M	17.591M	12.6M	17.591M
2452MHz	Pass	500k	15M	17.491M	15.05M	17.491M

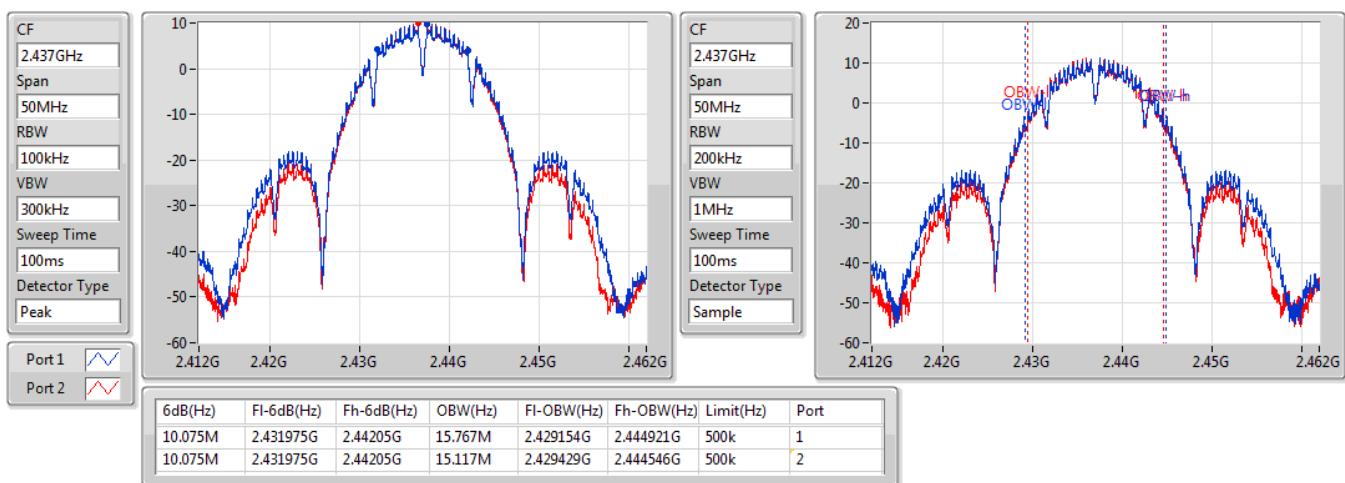
Port X-N dB = Port X 6dB down bandwidth; Port X-OBW = Port X 99% occupied bandwidth;

802.11b_Nss1,(1Mbps)_2TX
EBW
2412MHz

02/12/2019

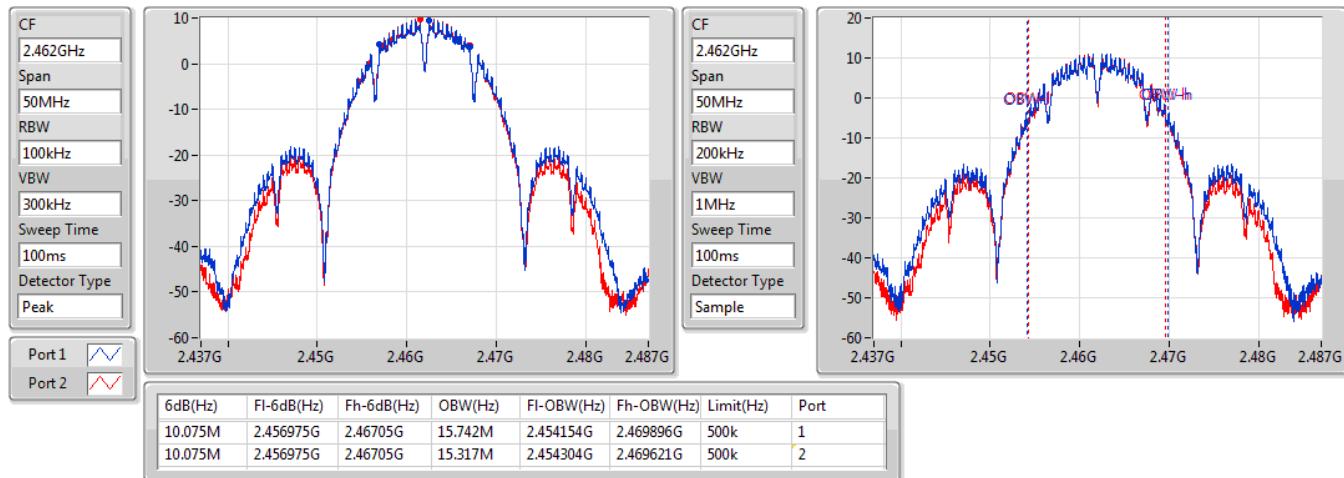

802.11b_Nss1,(1Mbps)_2TX
EBW
2437MHz

02/12/2019

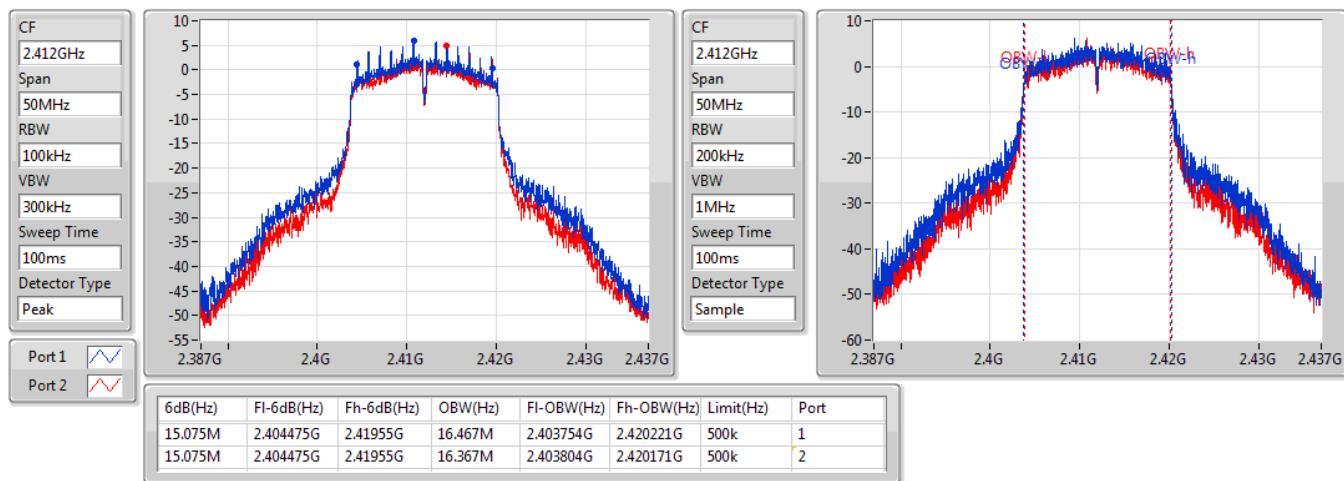


802.11b_Nss1,(1Mbps)_2TX
EBW
2462MHz

02/12/2019

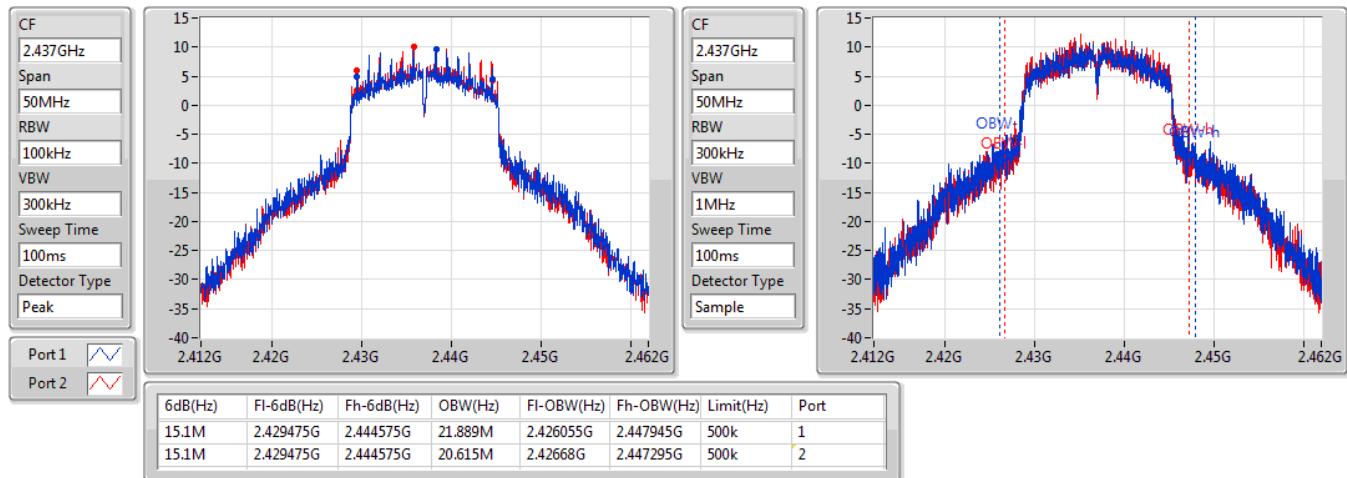

802.11g_Nss1,(6Mbps)_2TX
EBW
2412MHz

02/12/2019

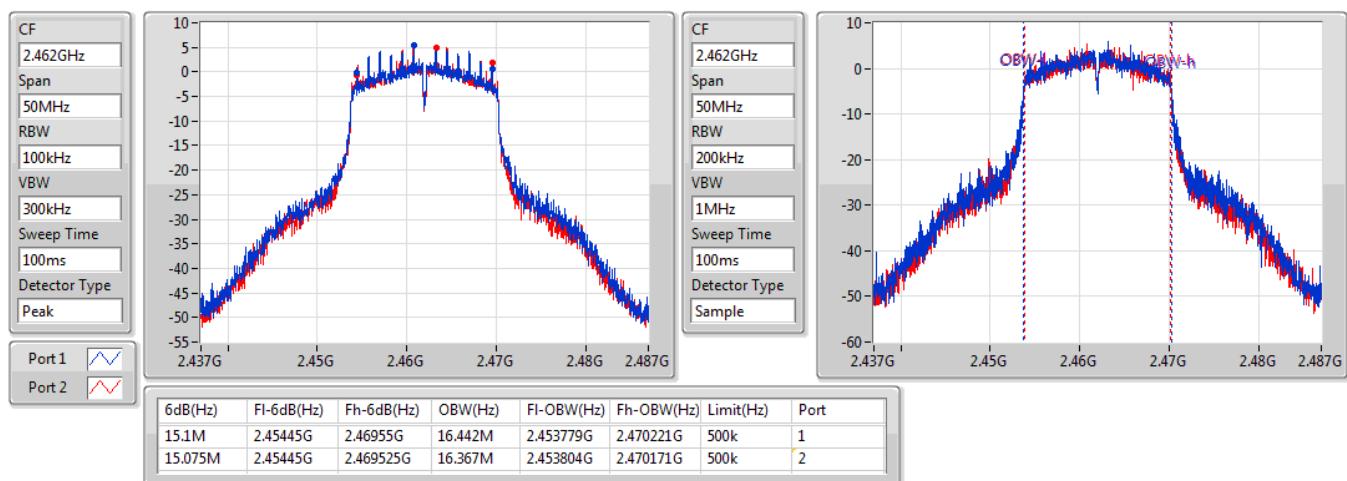


802.11g_Nss1,(6Mbps)_2TX
EBW
2437MHz

02/12/2019

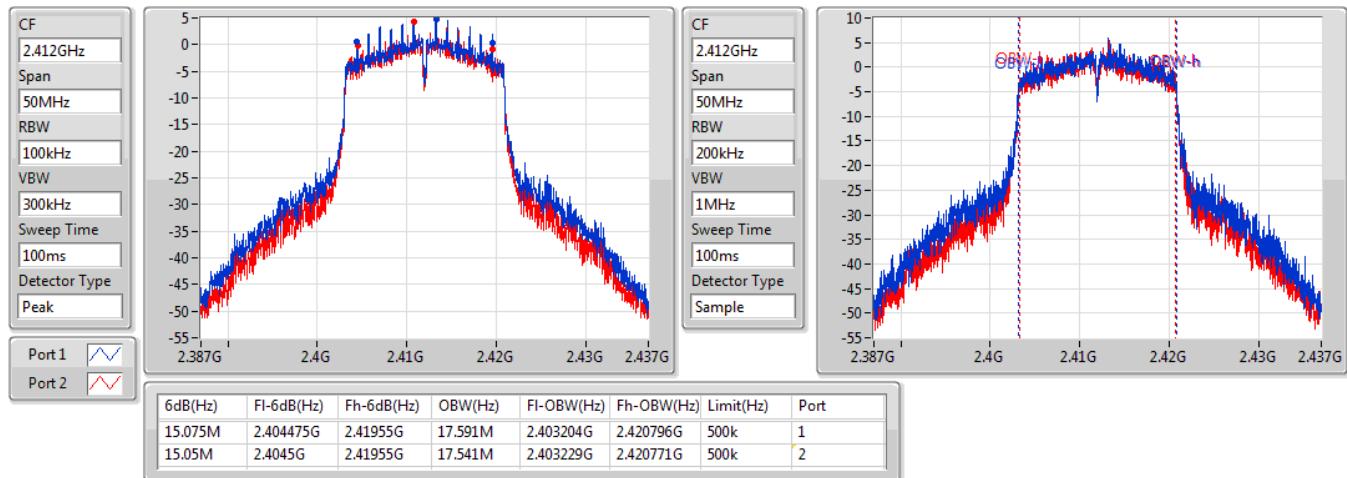

802.11g_Nss1,(6Mbps)_2TX
EBW
2462MHz

02/12/2019

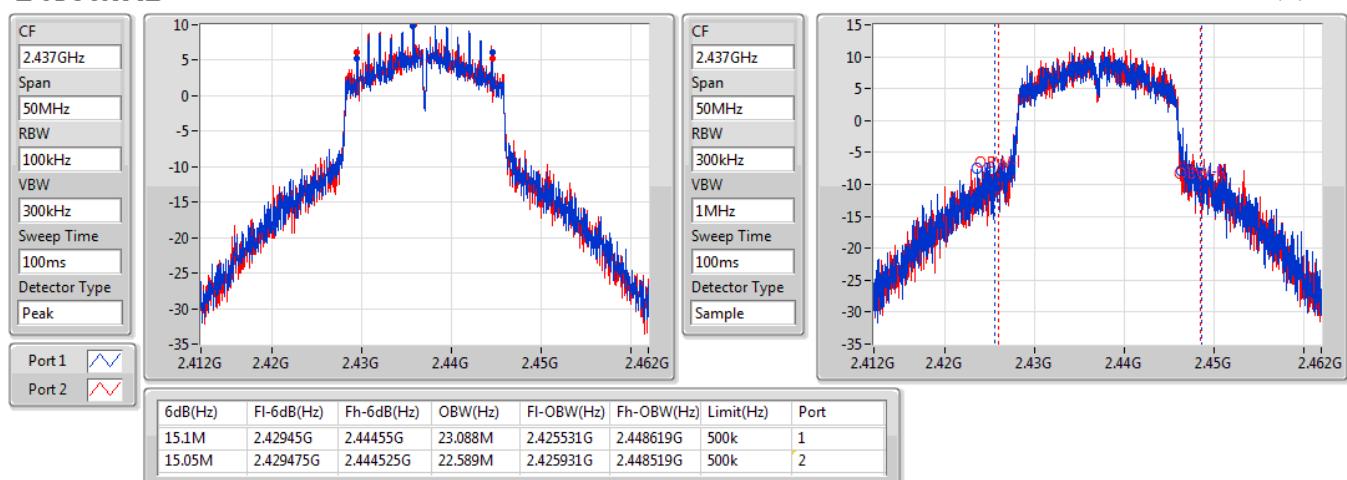


802.11n HT20_Nss1,(MCS0)_2TX
EBW
2412MHz

02/12/2019

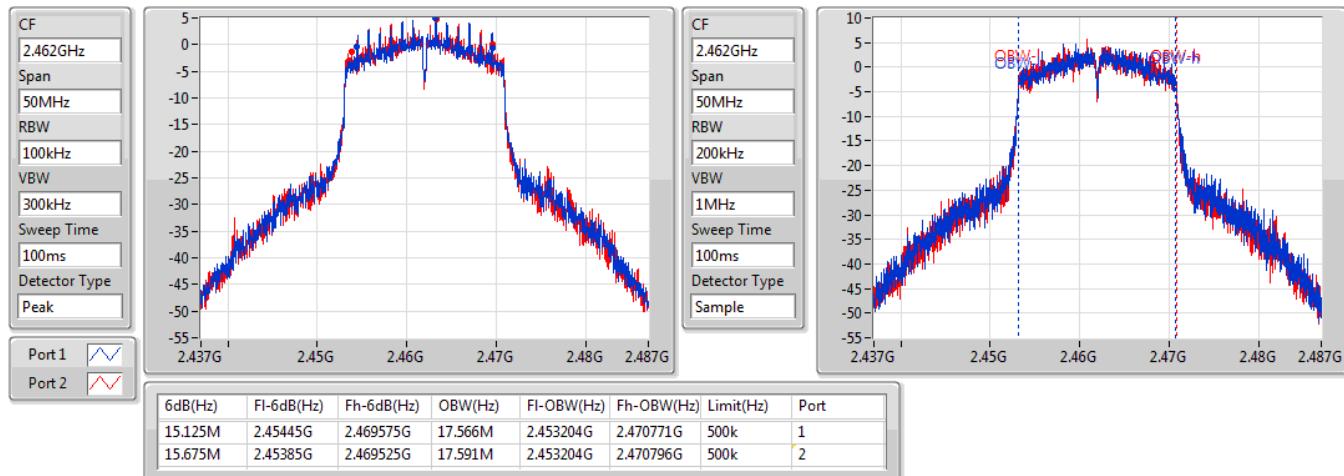

802.11n HT20_Nss1,(MCS0)_2TX
EBW
2437MHz

02/12/2019

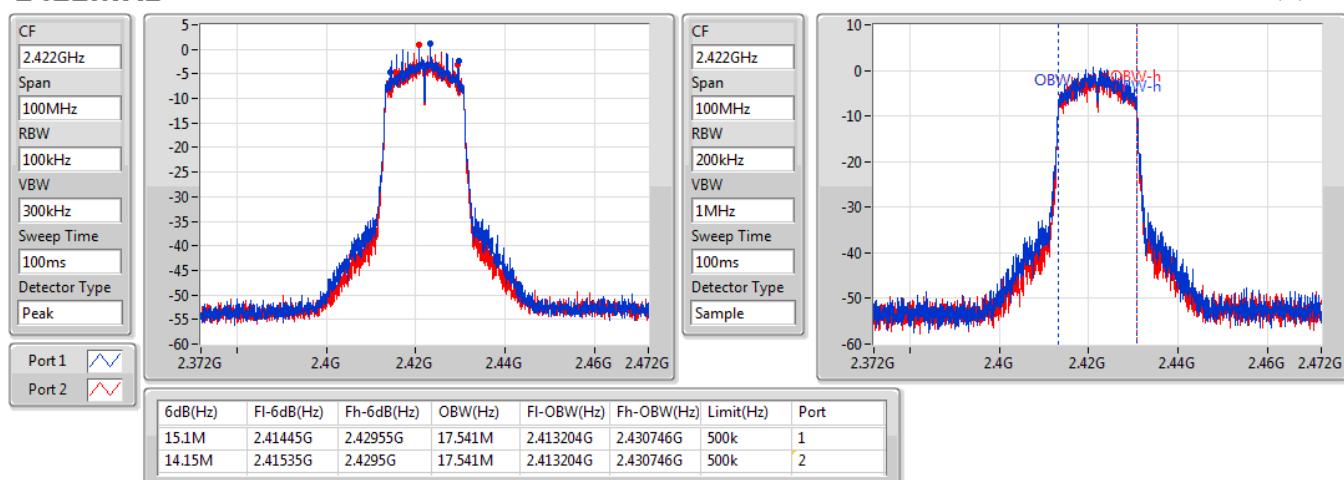


802.11n HT20_Nss1,(MCS0)_2TX
EBW
2462MHz

02/12/2019

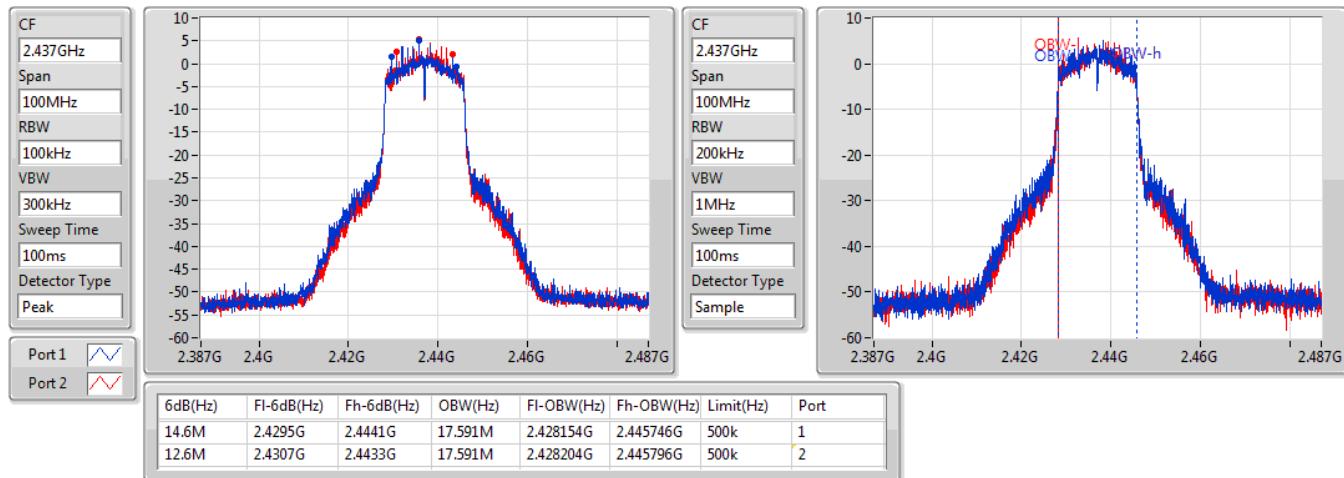

802.11n HT40_Nss1,(MCS0)_2TX
EBW
2422MHz

02/12/2019

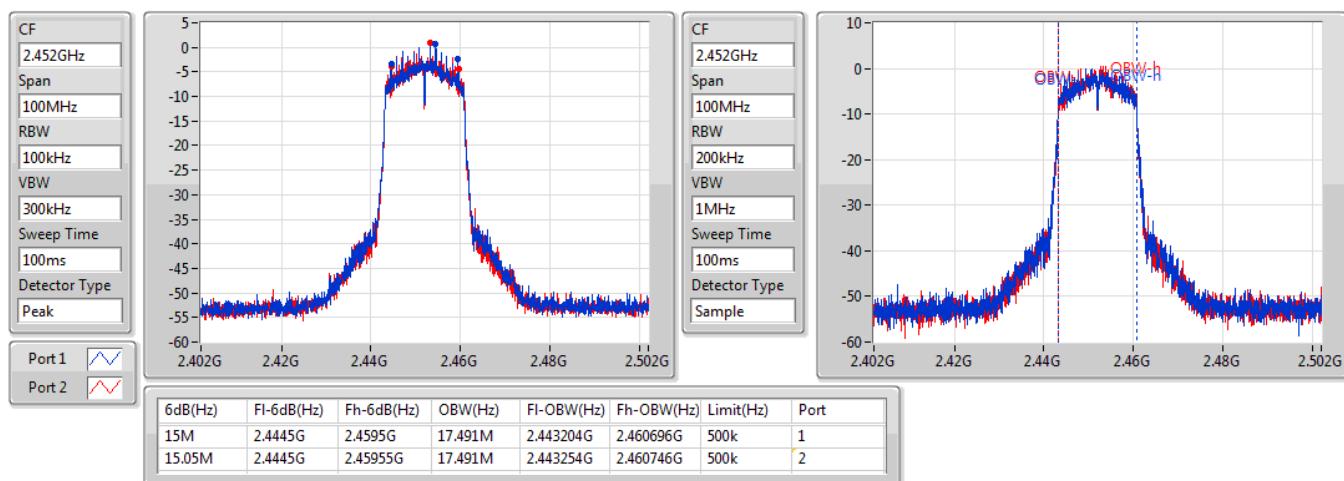


802.11n HT40_Nss1,(MCS0)_2TX
EBW
2437MHz

02/12/2019


802.11n HT40_Nss1,(MCS0)_2TX
EBW
2452MHz

02/12/2019



**Summary**

Mode	Total Power (dBm)	Total Power (W)
2.4-2.4835GHz	-	-
802.11b_Nss1,(1Mbps)_2TX	23.12	0.20512
802.11g_Nss1,(6Mbps)_2TX	22.86	0.19320
802.11n HT20_Nss1,(MCS0)_2TX	22.91	0.19543
802.11n HT40_Nss1,(MCS0)_2TX	17.97	0.06266

**Result**

Mode	Result	DG (dBi)	Port 1 (dBm)	Port 2 (dBm)	Total Power (dBm)	Power Limit (dBm)
802.11b_Nss1,(1Mbps)_2TX	-	-	-	-	-	-
2412MHz	Pass	1.95	19.34	18.74	22.06	30.00
2437MHz	Pass	1.95	20.19	20.03	23.12	30.00
2462MHz	Pass	1.95	20.01	20.08	23.06	30.00
802.11g_Nss1,(6Mbps)_2TX	-	-	-	-	-	-
2412MHz	Pass	1.95	16.04	15.35	18.72	30.00
2417MHz	Pass	1.95	18.23	17.76	21.01	30.00
2437MHz	Pass	1.95	19.71	19.99	22.86	30.00
2457MHz	Pass	1.95	17.14	17.11	20.14	30.00
2462MHz	Pass	1.95	15.24	15.28	18.27	30.00
802.11n HT20_Nss1,(MCS0)_2TX	-	-	-	-	-	-
2412MHz	Pass	1.95	14.96	14.41	17.70	30.00
2417MHz	Pass	1.95	18.36	17.89	21.14	30.00
2437MHz	Pass	1.95	19.71	20.09	22.91	30.00
2457MHz	Pass	1.95	16.98	16.86	19.93	30.00
2462MHz	Pass	1.95	15.20	15.35	18.29	30.00
802.11n HT40_Nss1,(MCS0)_2TX	-	-	-	-	-	-
2422MHz	Pass	1.95	11.46	10.67	14.09	30.00
2427MHz	Pass	1.95	12.87	12.46	15.68	30.00
2437MHz	Pass	1.95	15.17	14.73	17.97	30.00
2447MHz	Pass	1.95	12.30	12.46	15.39	30.00
2452MHz	Pass	1.95	10.98	11.00	14.00	30.00

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

**Summary**

Mode	PD (dBm/RBW)
2.4-2.4835GHz	-
802.11b_Nss1,(1Mbps)_2TX	-8.61
802.11g_Nss1,(6Mbps)_2TX	-4.46
802.11n HT20_Nss1,(MCS0)_2TX	-3.51
802.11n HT40_Nss1,(MCS0)_2TX	-8.36

RBW=3 kHz.

**Result**

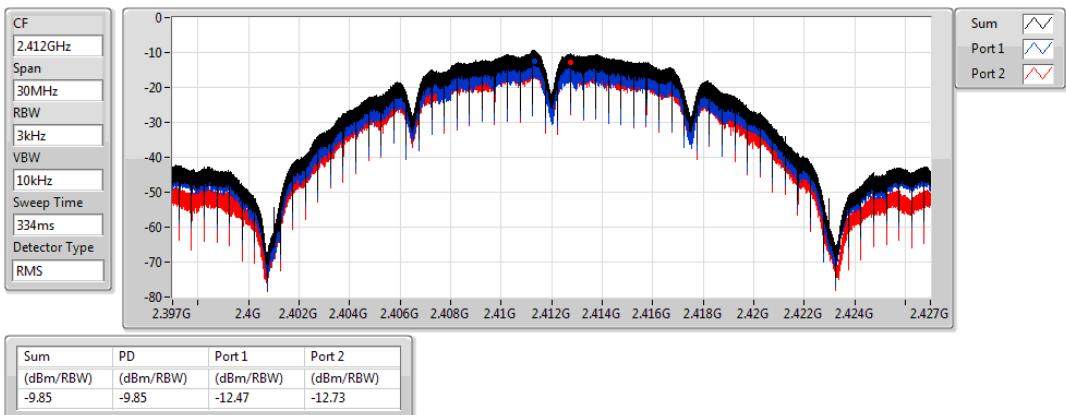
Mode	Result	DG (dBi)	Port 1 (dBm/RBW)	Port 2 (dBm/RBW)	PD (dBm/RBW)	PD Limit (dBm/RBW)
802.11b_Nss1,(1Mbps)_2TX	-	-	-	-	-	-
2412MHz	Pass	4.96	-12.47	-12.73	-9.85	8.00
2437MHz	Pass	4.96	-11.54	-11.32	-8.61	8.00
2462MHz	Pass	4.96	-11.84	-11.34	-8.72	8.00
802.11g_Nss1,(6Mbps)_2TX	-	-	-	-	-	-
2412MHz	Pass	4.96	-10.00	-11.74	-8.97	8.00
2437MHz	Pass	4.96	-7.19	-6.56	-4.46	8.00
2462MHz	Pass	4.96	-11.05	-11.21	-9.37	8.00
802.11n HT20_Nss1,(MCS0)_2TX	-	-	-	-	-	-
2412MHz	Pass	4.96	-10.79	-11.49	-9.26	8.00
2437MHz	Pass	4.96	-7.14	-5.76	-3.51	8.00
2462MHz	Pass	4.96	-11.56	-11.71	-8.83	8.00
802.11n HT40_Nss1,(MCS0)_2TX	-	-	-	-	-	-
2422MHz	Pass	4.96	-14.58	-15.77	-12.97	8.00
2437MHz	Pass	4.96	-10.44	-10.69	-8.36	8.00
2452MHz	Pass	4.96	-15.67	-15.21	-13.26	8.00

DG = Directional Gain; RBW=3 kHz;

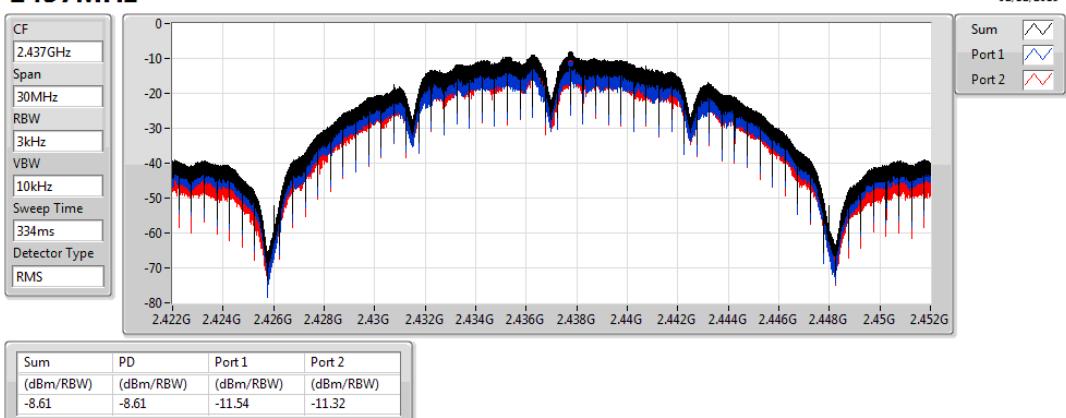
PD = trace bin-by-bin of each transmits port summing can be performed maximum power density; **Port X** = Port X power density;

802.11b_Nss1,(1Mbps)_2TX
PSD
2412MHz

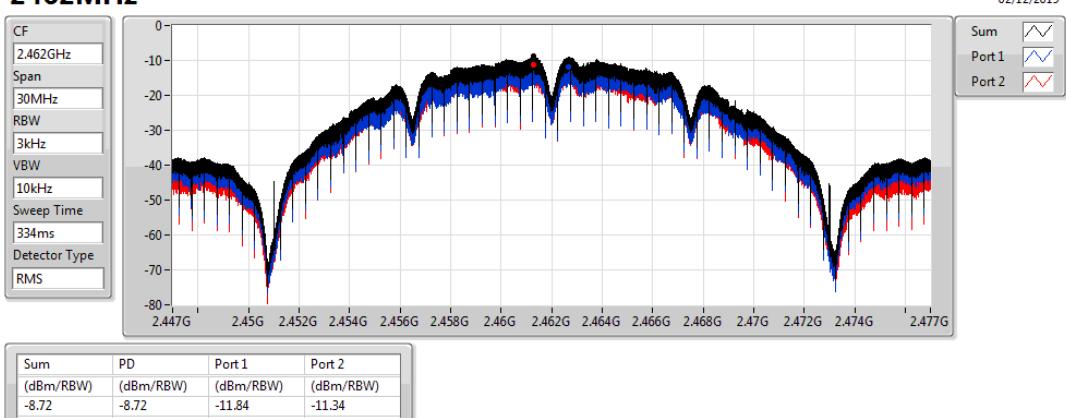
02/12/2019


802.11b_Nss1,(1Mbps)_2TX
PSD
2437MHz

02/12/2019


802.11b_Nss1,(1Mbps)_2TX
PSD
2462MHz

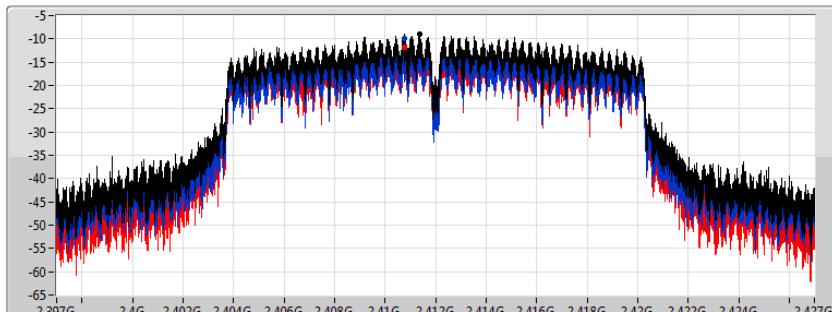
02/12/2019



802.11g_Nss1,(6Mbps)_2TX
PSD
2412MHz

02/12/2019

CF
2.412GHz
Span
30MHz
RBW
3kHz
VBW
10kHz
Sweep Time
334ms
Detector Type
Peak



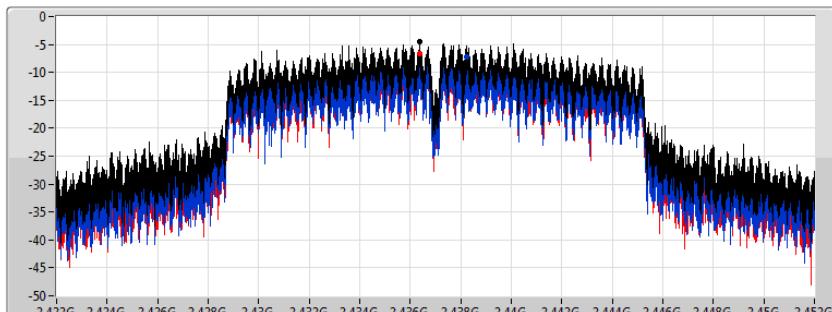
Sum
Port 1
Port 2

Sum	PD	Port 1	Port 2
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
-8.97	-8.97	-10.00	-11.74

802.11g_Nss1,(6Mbps)_2TX
PSD
2437MHz

02/12/2019

CF
2.437GHz
Span
30MHz
RBW
3kHz
VBW
10kHz
Sweep Time
334ms
Detector Type
Peak



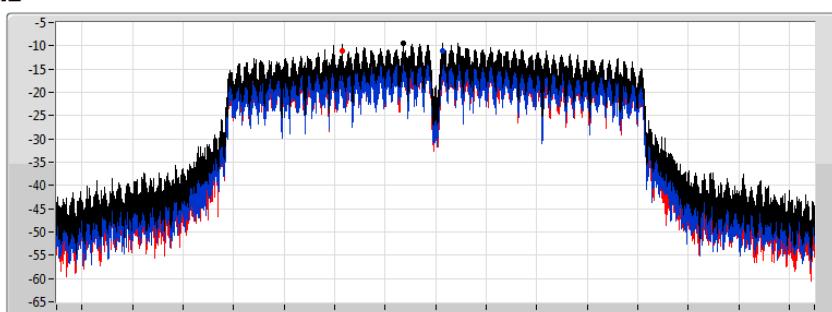
Sum
Port 1
Port 2

Sum	PD	Port 1	Port 2
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
-4.46	-4.46	-7.19	-6.56

802.11g_Nss1,(6Mbps)_2TX
PSD
2462MHz

02/12/2019

CF
2.462GHz
Span
30MHz
RBW
3kHz
VBW
10kHz
Sweep Time
334ms
Detector Type
Peak

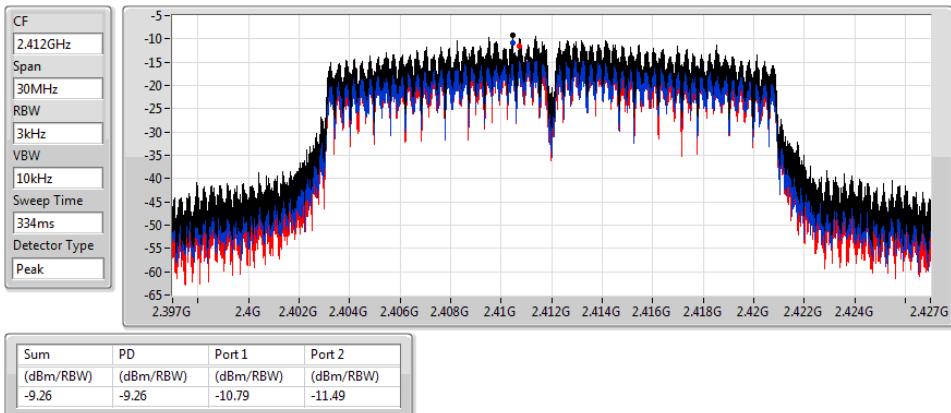


Sum
Port 1
Port 2

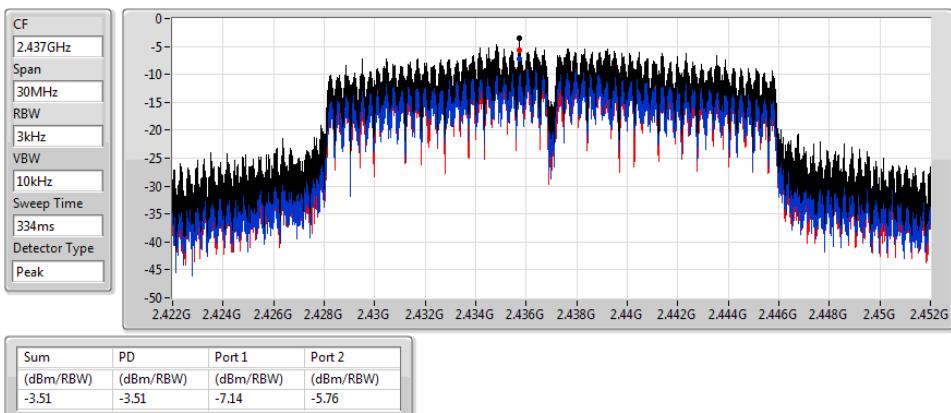
Sum	PD	Port 1	Port 2
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
-9.37	-9.37	-11.05	-11.21

802.11n HT20_Nss1,(MCS0)_2TX
PSD
2412MHz

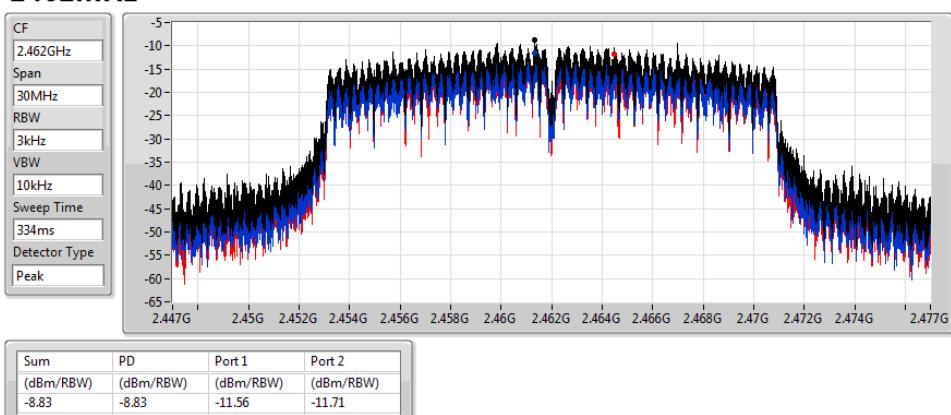
02/12/2019


802.11n HT20_Nss1,(MCS0)_2TX
PSD
2437MHz

02/12/2019

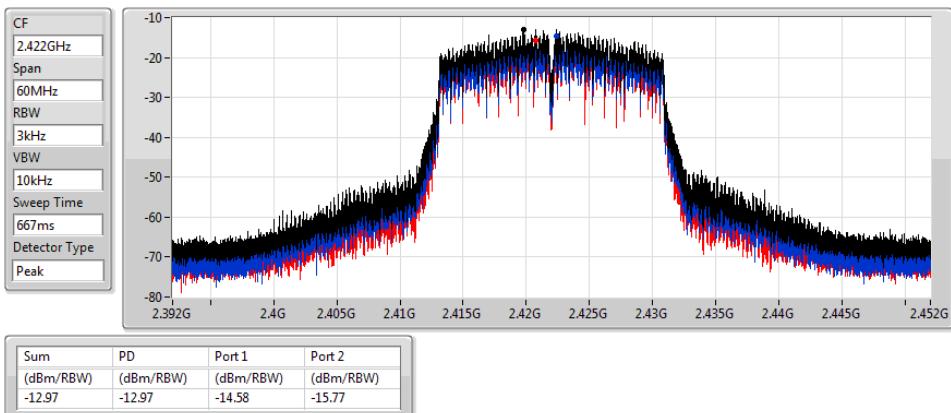

802.11n HT20_Nss1,(MCS0)_2TX
PSD
2462MHz

02/12/2019

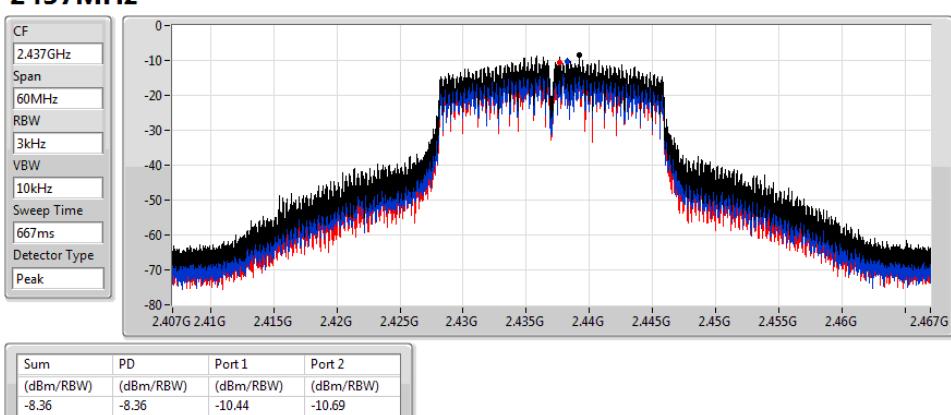


802.11n HT40_Nss1,(MCS0)_2TX
PSD
2422MHz

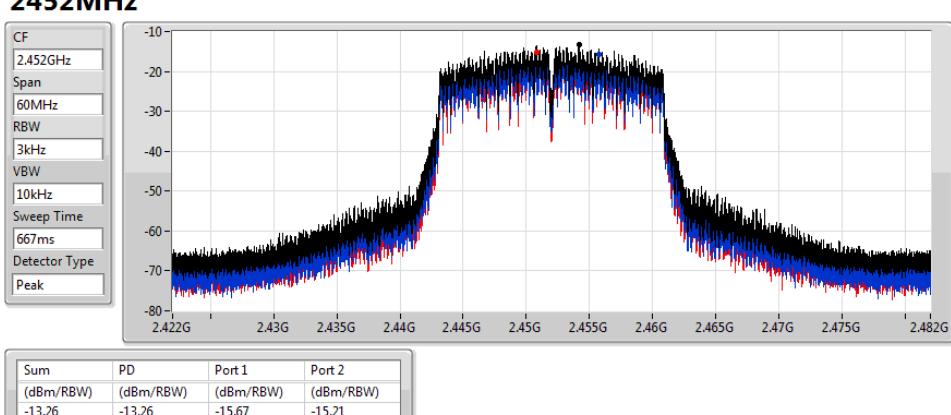
02/12/2019


802.11n HT40_Nss1,(MCS0)_2TX
PSD
2437MHz

02/12/2019


802.11n HT40_Nss1,(MCS0)_2TX
PSD
2452MHz

02/12/2019

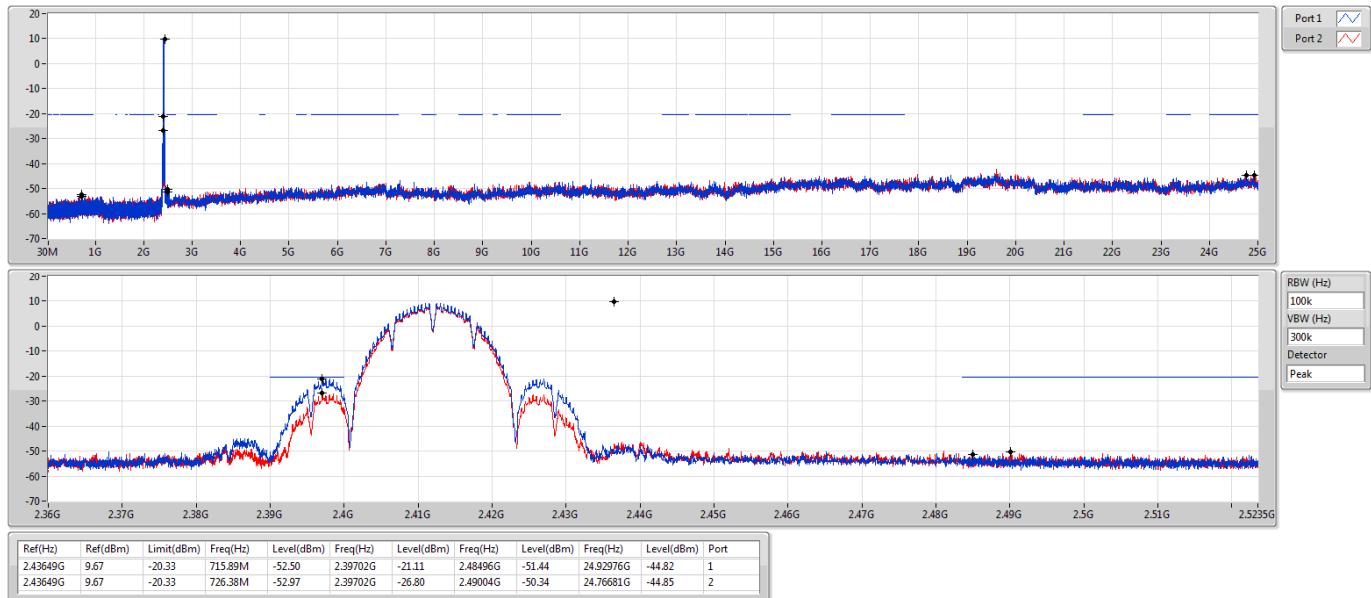
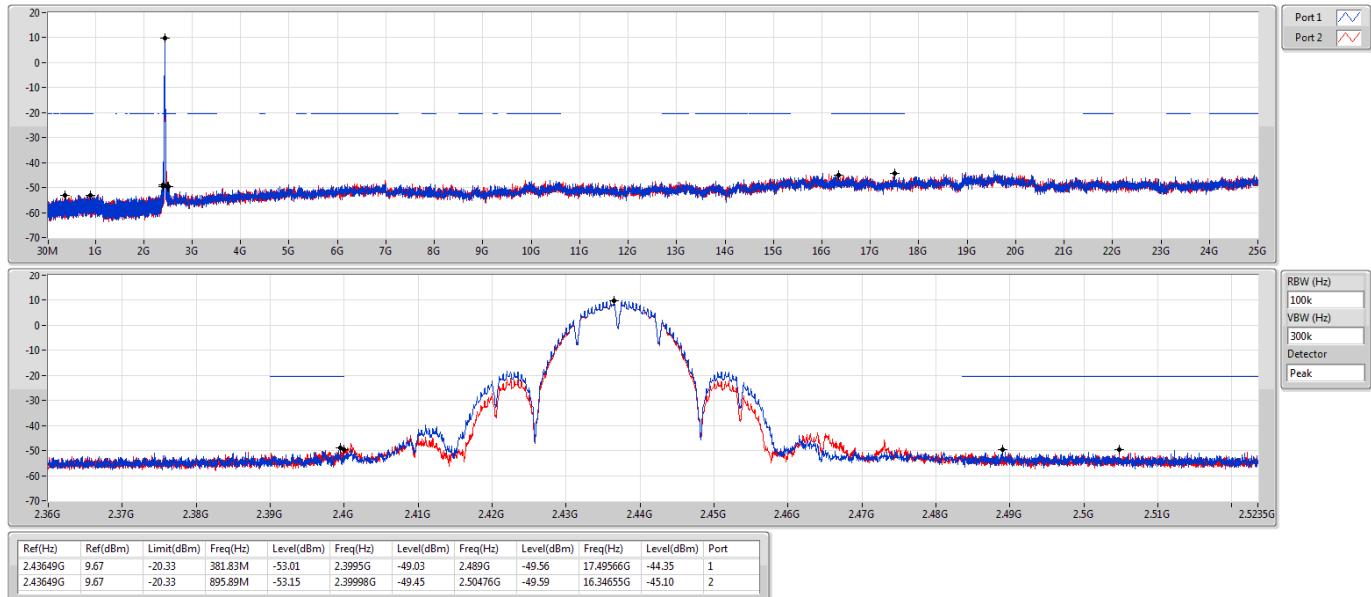


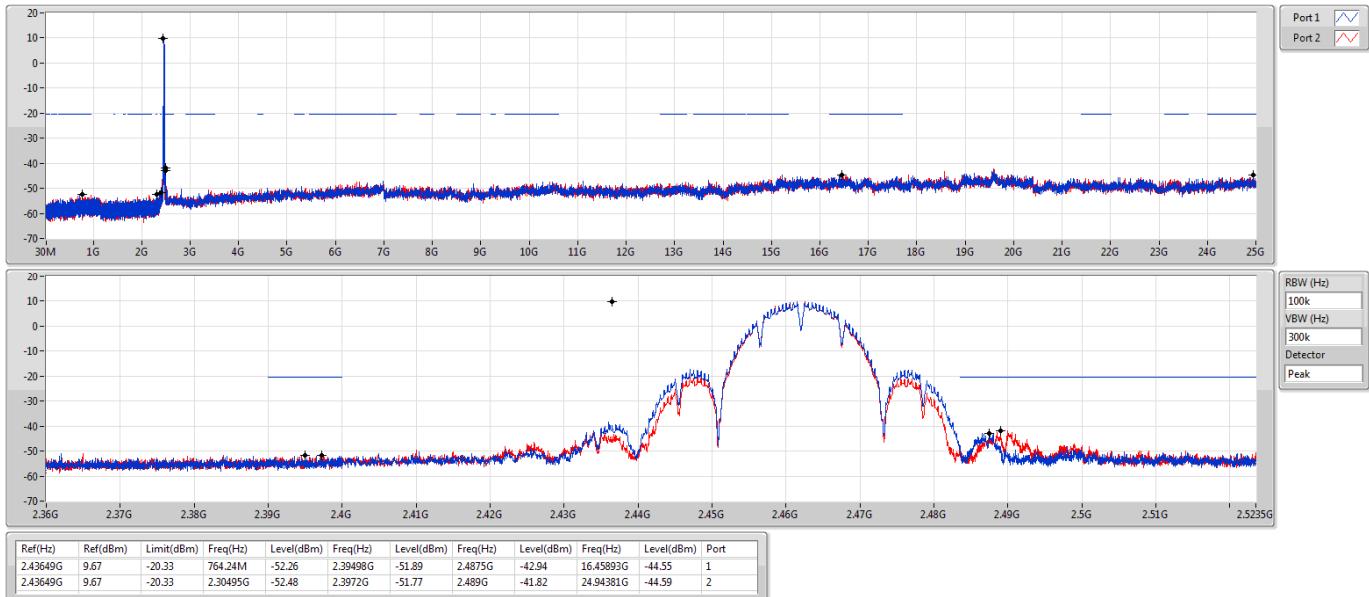
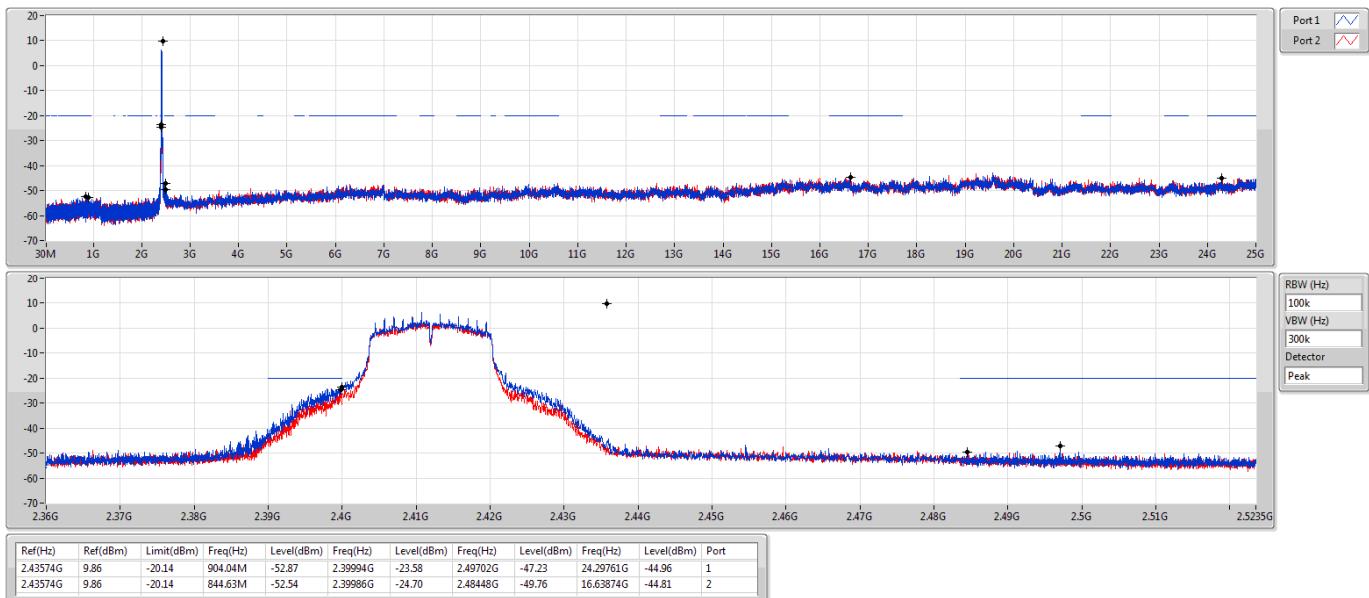
**Summary**

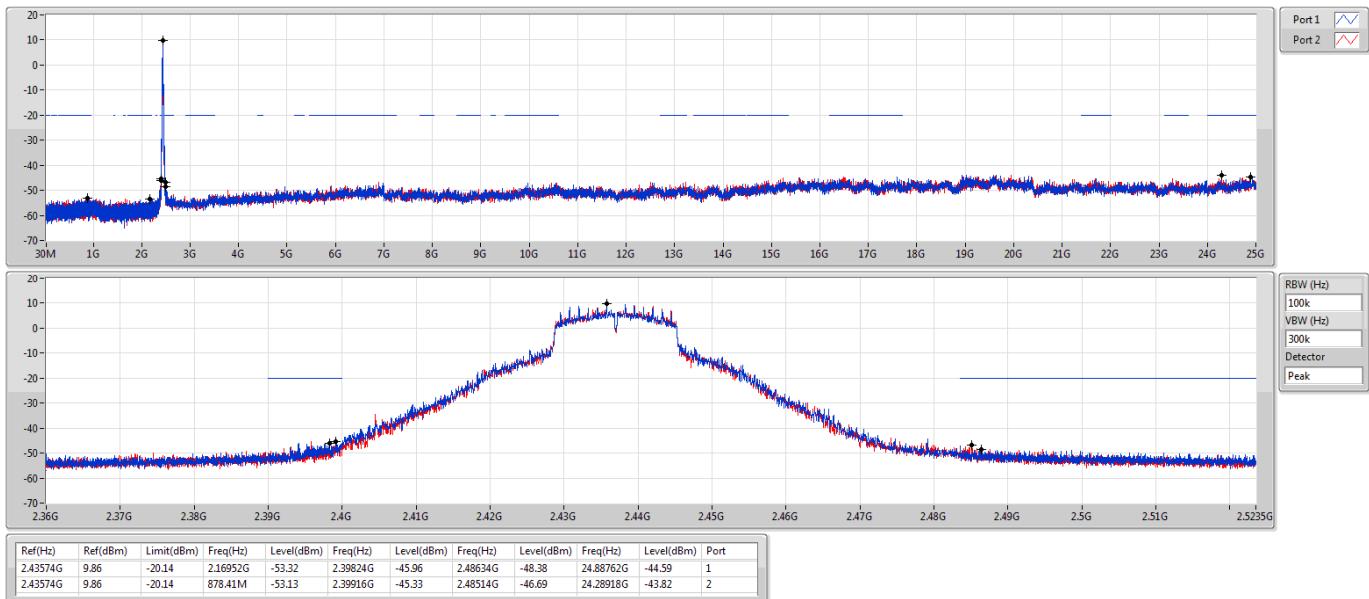
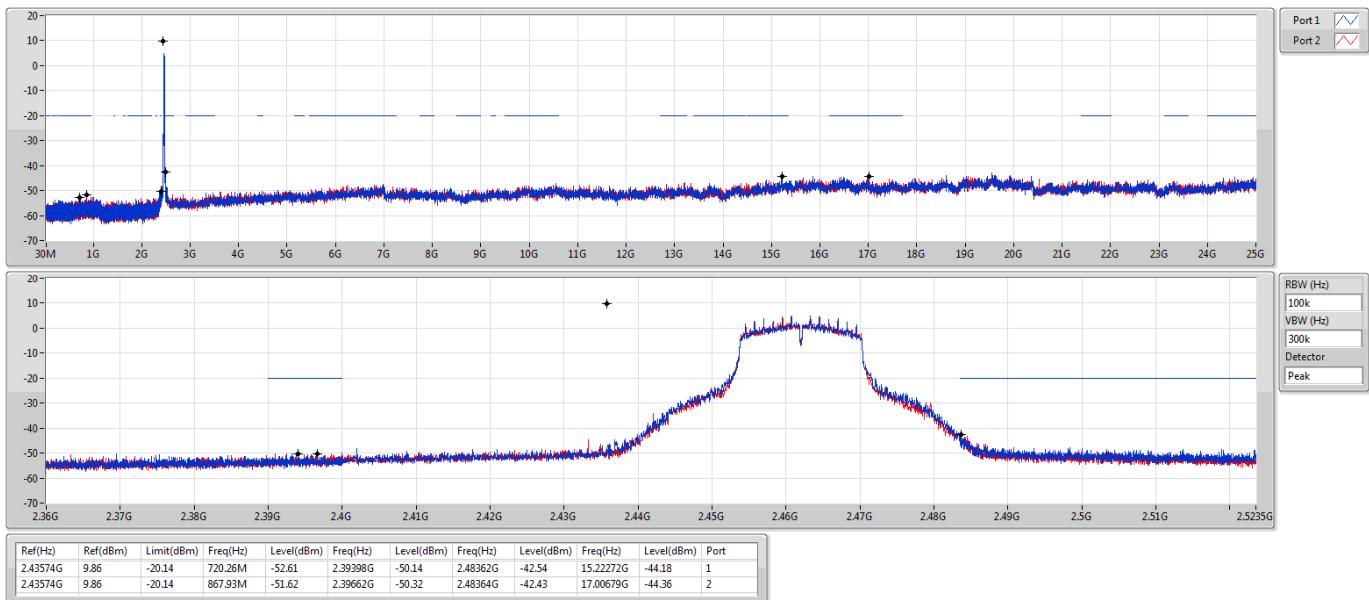
Mode	Result	Ref (Hz)	Ref (dBm)	Limit (dBm)	Freq (Hz)	Level (dBm)	Freq (Hz)	Level (dBm)	Freq (Hz)	Level (dBm)	Freq (Hz)	Level (dBm)	Port
2.4-2.4835GHz	-	-	-	-	-	-	-	-	-	-	-	-	-
802.11b_Nss1,(1Mbps)_2TX	Pass	2.43649G	9.67	-20.33	715.89M	-52.50	2.39702G	-21.11	2.48496G	-51.44	24.92976G	-44.82	1
802.11g_Nss1,(6Mbps)_2TX	Pass	2.43574G	9.86	-20.14	904.04M	-52.87	2.39994G	-23.58	2.49702G	-47.23	24.29761G	-44.96	1
802.11n HT20_Nss1,(MCS0)_2TX	Pass	2.43574G	9.73	-20.27	1.9505G	-53.28	2.3999G	-25.56	2.48826G	-47.53	16.54884G	-44.98	1
802.11n HT40_Nss1,(MCS0)_2TX	Pass	2.43574G	5.45	-24.55	381.52M	-53.14	2.3974G	-49.98	2.4995G	-48.50	24.78685G	-44.32	2

Result

Mode	Result	Ref (Hz)	Ref (dBm)	Limit (dBm)	Freq (Hz)	Level (dBm)	Port						
802.11b_Nss1,(1Mbps)_2TX	-	-	-	-	-	-	-	-	-	-	-	-	-
2412MHz	Pass	2.43649G	9.67	-20.33	715.89M	-52.50	2.39702G	-21.11	2.48496G	-51.44	24.92976G	-44.82	1
2412MHz	Pass	2.43649G	9.67	-20.33	726.38M	-52.97	2.39702G	-26.80	2.49004G	-50.34	24.76681G	-44.85	2
2437MHz	Pass	2.43649G	9.67	-20.33	381.83M	-53.01	2.3995G	-49.03	2.489G	-49.56	17.49566G	-44.35	1
2437MHz	Pass	2.43649G	9.67	-20.33	895.89M	-53.15	2.39998G	-49.45	2.50476G	-49.59	16.34655G	-45.10	2
2462MHz	Pass	2.43649G	9.67	-20.33	764.24M	-52.26	2.39498G	-51.89	2.4875G	-42.94	16.45893G	-44.55	1
2462MHz	Pass	2.43649G	9.67	-20.33	2.30495G	-52.48	2.3972G	-51.77	2.489G	-41.82	24.94381G	-44.59	2
802.11g_Nss1,(6Mbps)_2TX	-	-	-	-	-	-	-	-	-	-	-	-	-
2412MHz	Pass	2.43574G	9.86	-20.14	904.04M	-52.87	2.39994G	-23.58	2.49702G	-47.23	24.29761G	-44.96	1
2412MHz	Pass	2.43574G	9.86	-20.14	844.63M	-52.54	2.39986G	-24.70	2.48448G	-49.76	16.63874G	-44.81	2
2437MHz	Pass	2.43574G	9.86	-20.14	2.16952G	-53.32	2.39824G	-45.96	2.48634G	-48.38	24.88762G	-44.59	1
2437MHz	Pass	2.43574G	9.86	-20.14	878.41M	-53.13	2.39916G	-45.33	2.48514G	-46.69	24.28918G	-43.82	2
2462MHz	Pass	2.43574G	9.86	-20.14	720.26M	-52.61	2.39398G	-50.14	2.48362G	-42.54	15.22272G	-44.18	1
2462MHz	Pass	2.43574G	9.86	-20.14	867.93M	-51.62	2.39662G	-50.32	2.48364G	-42.43	17.00679G	-44.36	2
802.11n HT20_Nss1,(MCS0)_2TX	-	-	-	-	-	-	-	-	-	-	-	-	-
2412MHz	Pass	2.43574G	9.73	-20.27	1.9505G	-53.28	2.3999G	-25.56	2.48826G	-47.53	16.54884G	-44.98	1
2412MHz	Pass	2.43574G	9.73	-20.27	683.27M	-51.90	2.39978G	-27.26	2.49402G	-50.34	23.28336G	-44.89	2
2437MHz	Pass	2.43574G	9.73	-20.27	944.82M	-52.44	2.3995G	-40.12	2.4845G	-46.65	16.60784G	-44.14	1
2437MHz	Pass	2.43574G	9.73	-20.27	872.88M	-52.34	2.39642G	-43.28	2.4861G	-46.55	24.92414G	-44.57	2
2462MHz	Pass	2.43574G	9.73	-20.27	842.01M	-52.03	2.39572G	-50.32	2.48386G	-39.16	24.91009G	-44.79	1
2462MHz	Pass	2.43574G	9.73	-20.27	552.79M	-53.32	2.3983G	-49.71	2.48354G	-39.27	17.52375G	-44.21	2
802.11n HT40_Nss1,(MCS0)_2TX	-	-	-	-	-	-	-	-	-	-	-	-	-
2422MHz	Pass	2.43574G	5.45	-24.55	950.87M	-53.19	2.39924G	-49.40	2.48914G	-50.88	16.47133G	-44.43	1
2422MHz	Pass	2.43574G	5.45	-24.55	860.13M	-52.99	2.39908G	-49.87	2.50786G	-50.69	24.95232G	-44.48	2
2437MHz	Pass	2.43574G	5.45	-24.55	781.41M	-53.20	2.39708G	-50.19	2.49642G	-48.75	16.92286G	-44.59	1
2437MHz	Pass	2.43574G	5.45	-24.55	381.52M	-53.14	2.3974G	-49.98	2.4995G	-48.50	24.78685G	-44.32	2
2452MHz	Pass	2.43574G	5.45	-24.55	877.87M	-53.03	2.39312G	-51.18	2.48354G	-49.67	16.46011G	-45.03	1
2452MHz	Pass	2.43574G	5.45	-24.55	2.30483G	-52.71	2.395G	-51.48	2.50286G	-49.54	17.02943G	-45.25	2

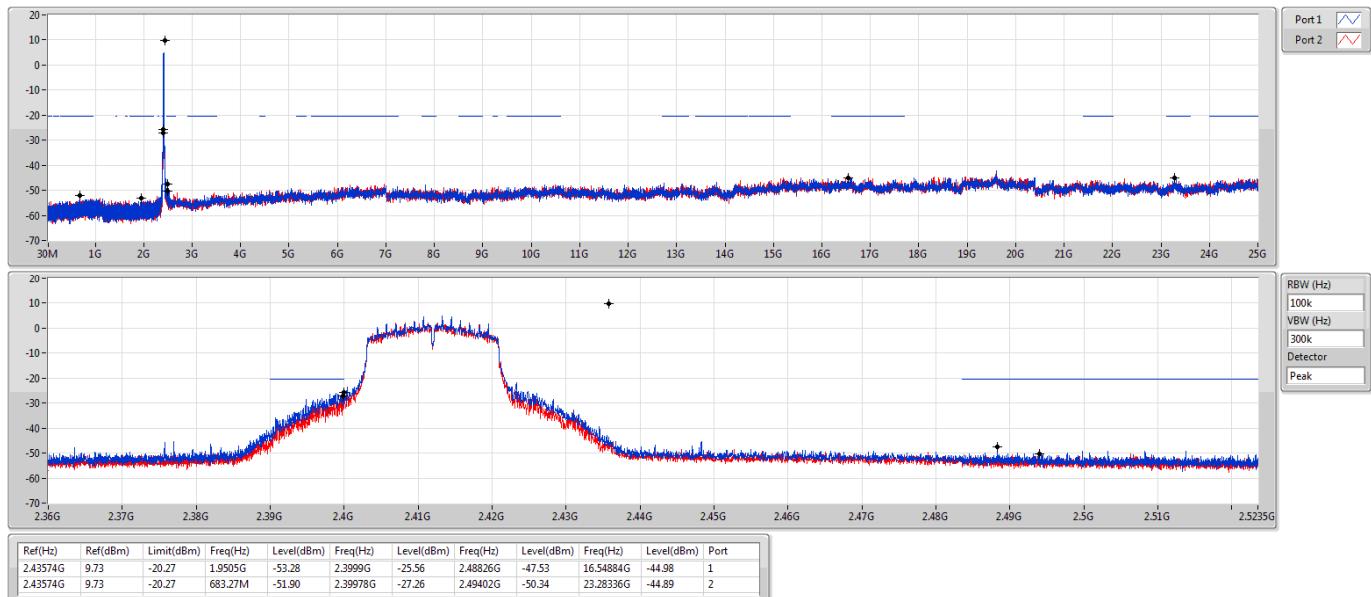
802.11b_Nss1,(1Mbps)_2TX
2412MHz

802.11b_Nss1,(1Mbps)_2TX
2437MHz


802.11b_Nss1,(1Mbps)_2TX
CSE NdB
2462MHz

802.11g_Nss1,(6Mbps)_2TX
CSE NdB
2412MHz


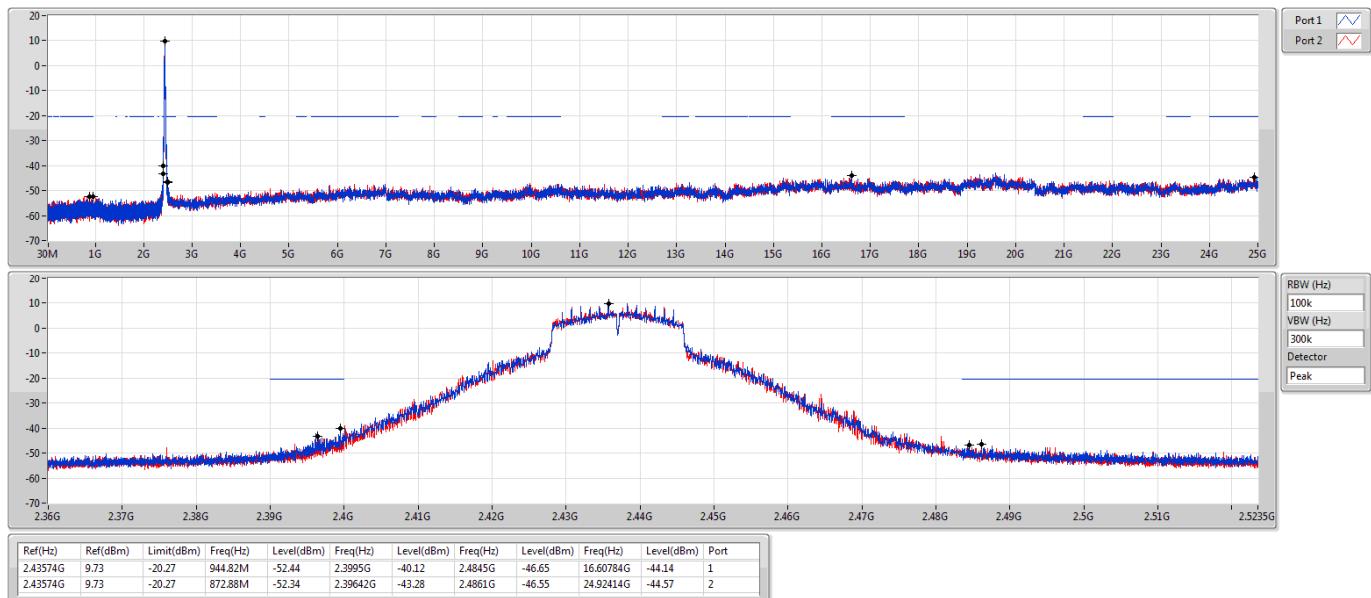
802.11g_Nss1,(6Mbps)_2TX
CSE NdB
2437MHz

802.11g_Nss1,(6Mbps)_2TX
CSE NdB
2462MHz


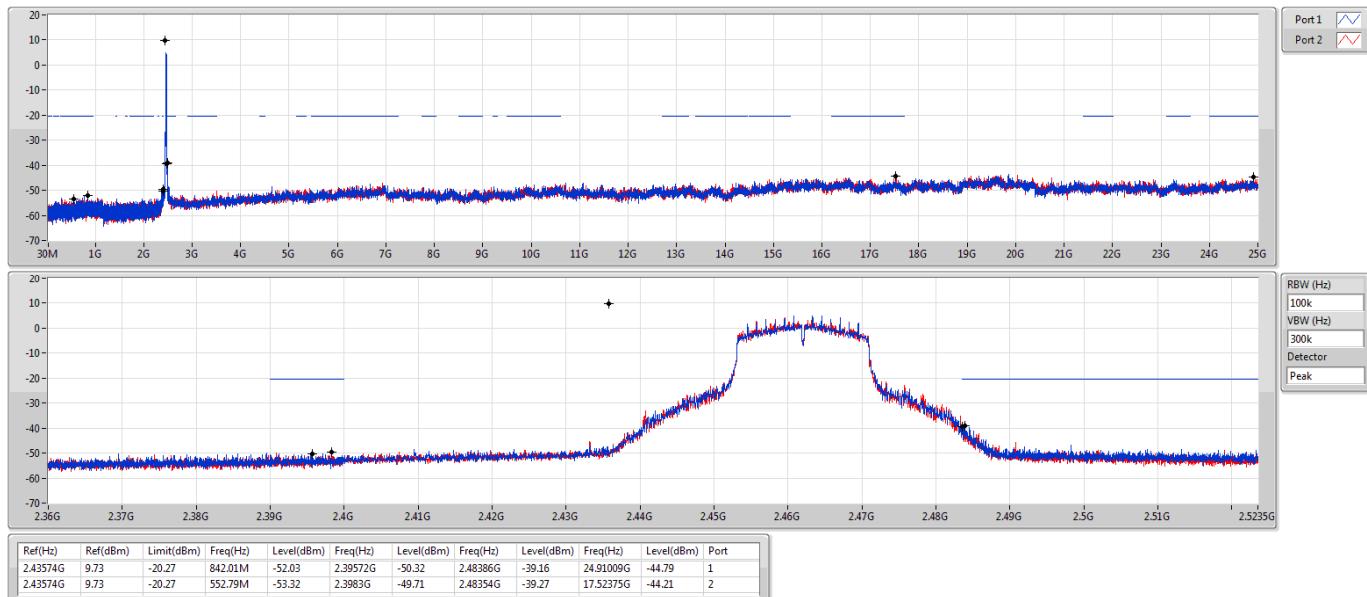
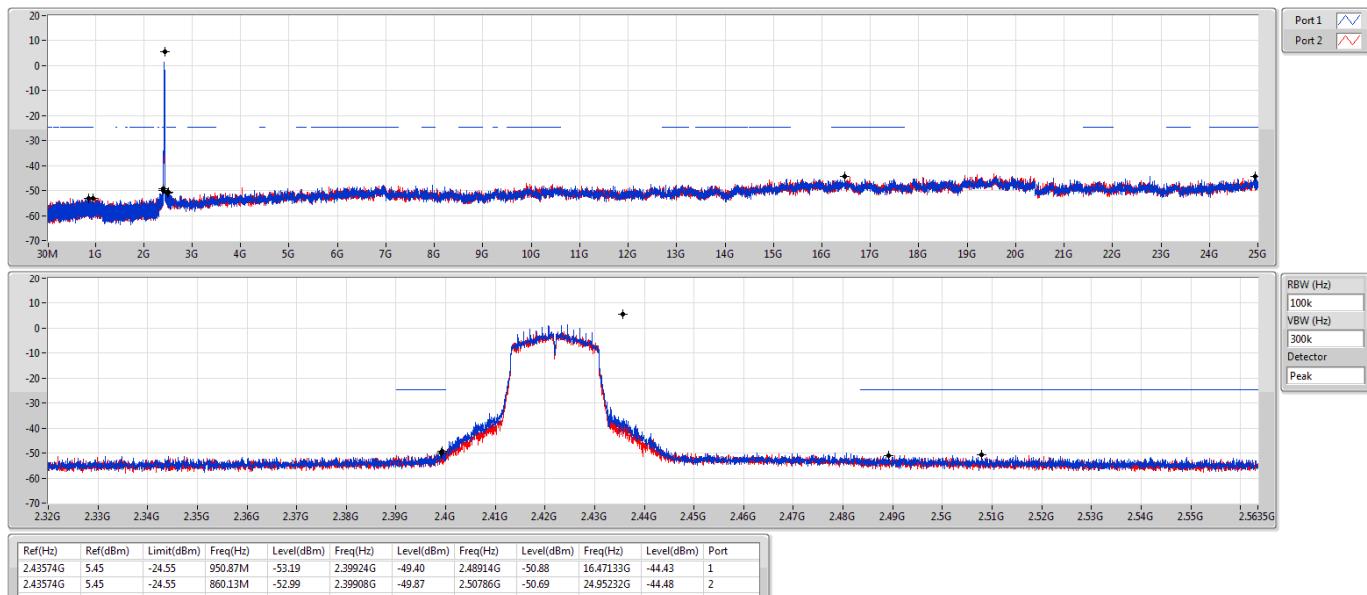
802.11n HT20_Nss1,(MCS0)_2TX
CSE NdB
2412MHz

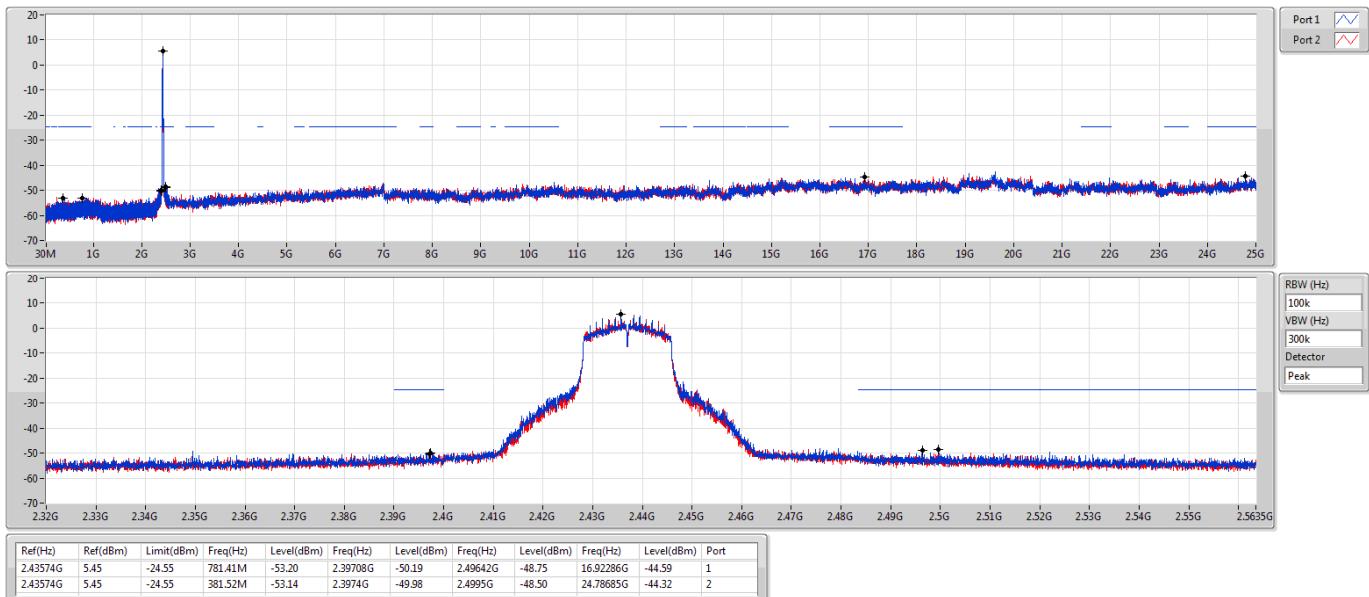
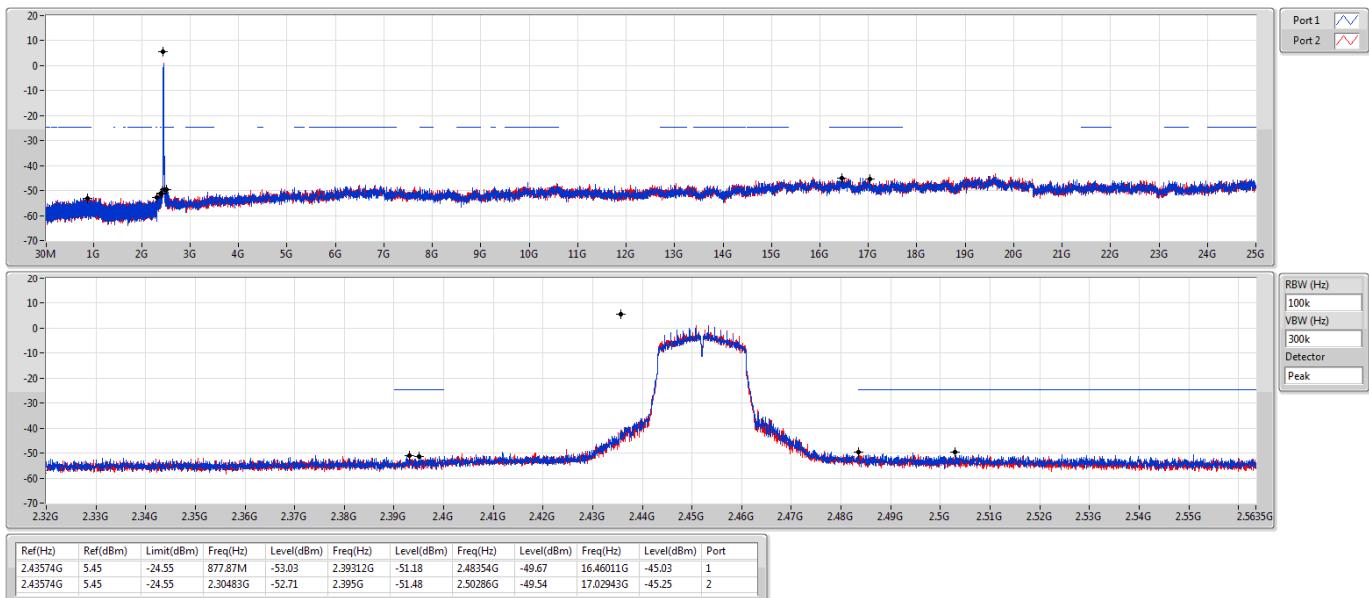
02/12/2019


802.11n HT20_Nss1,(MCS0)_2TX
CSE NdB
2437MHz

02/12/2019



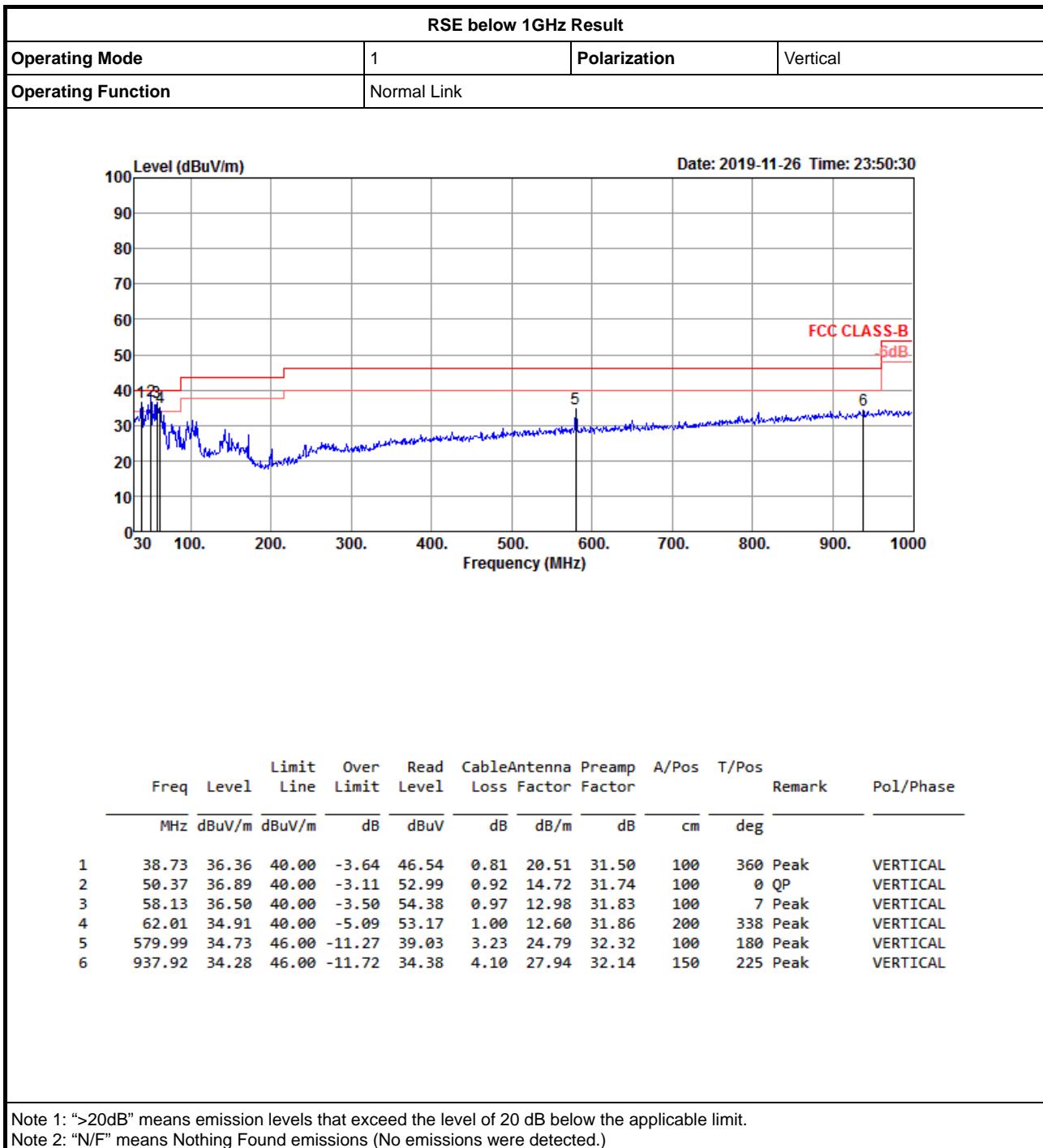
802.11n HT20_Nss1,(MCS0)_2TX
CSE NdB
2462MHz

802.11n HT40_Nss1,(MCS0)_2TX
CSE NdB
2422MHz


802.11n HT40_Nss1,(MCS0)_2TX
CSE NdB
2437MHz

802.11n HT40_Nss1,(MCS0)_2TX
CSE NdB
2452MHz




RSE below 1GHz Result

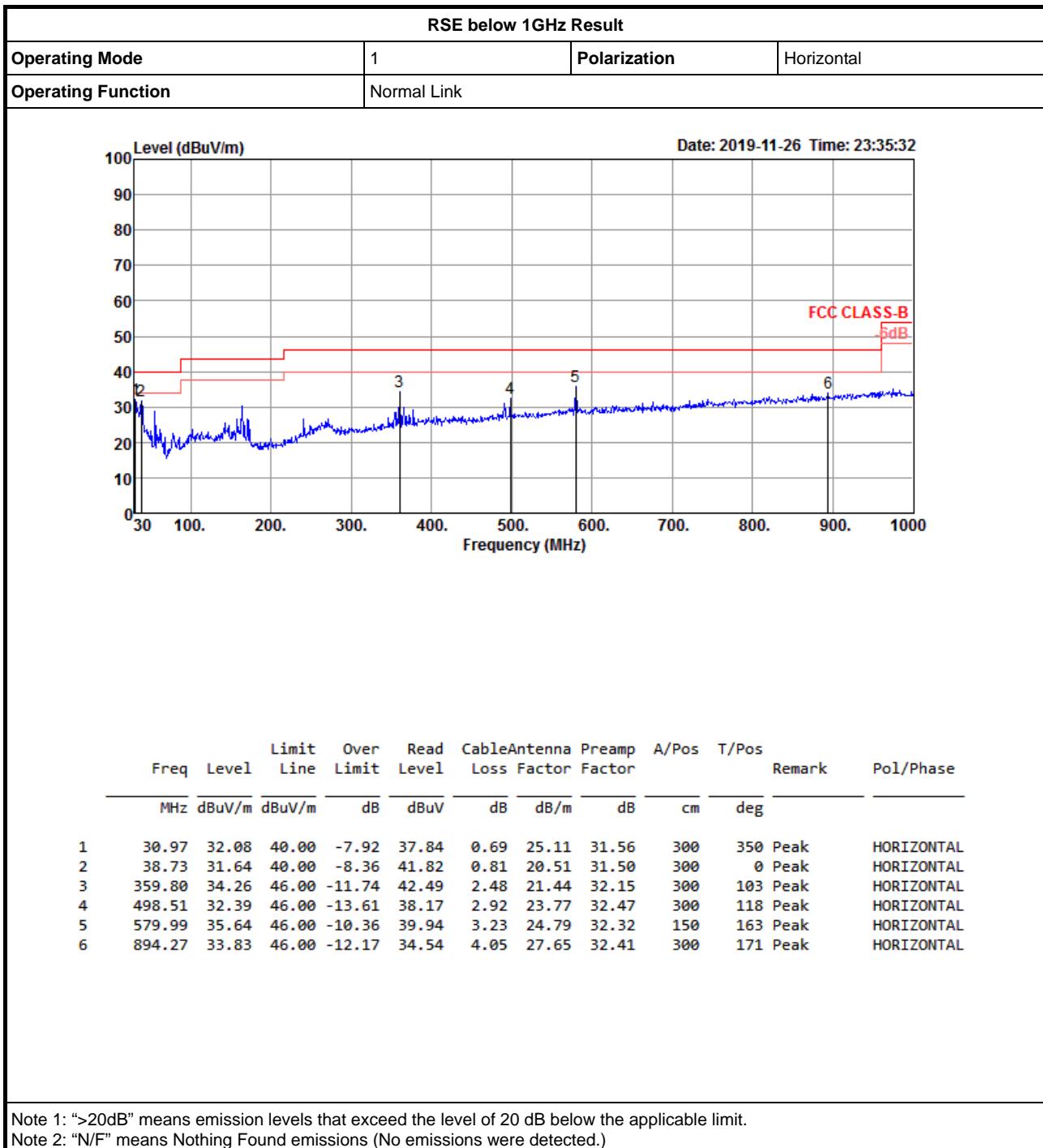
Appendix F.1





RSE below 1GHz Result

Appendix F.1

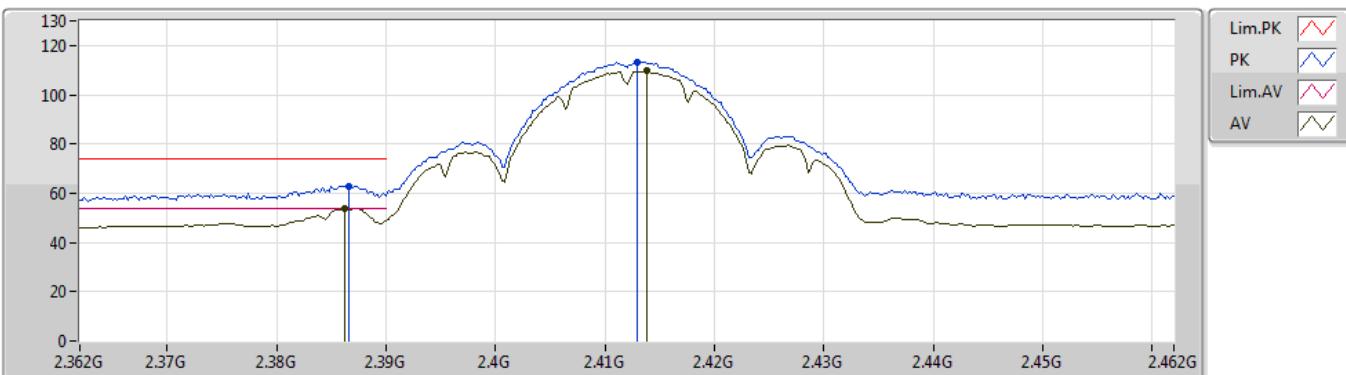


**Summary**

Mode	Result	Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comments
2.4-2.4835GHz	-	-	-	-	-	-	-	-	-	-	-	-
802.11b_Nss1,(1Mbps)_2TX	Pass	AV	2.39G	53.97	54.00	-0.03	31.20	3	Vertical	121	1.49	-

802.11b_Nss1,(1Mbps)_2TX

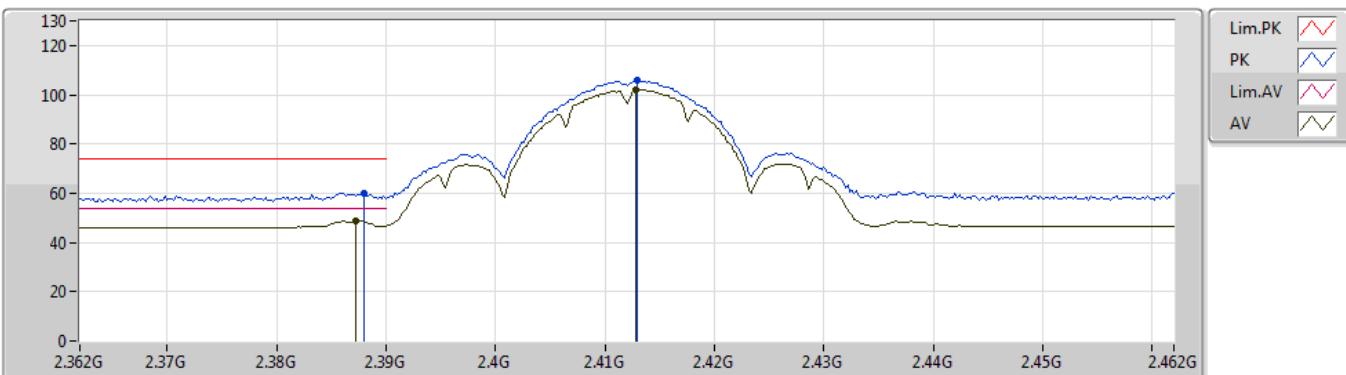
27/11/2019

2412MHz_TX

 EUT Y_2TX
 Setting 21
 02-B-J-5

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV)			
PK	2.3866G	62.91	74.00	-11.09	31.20	3	Vertical	130	1.48	-	31.71			
AV	2.3862G	53.96	54.00	-0.04	31.20	3	Vertical	130	1.48	-	22.76			
PK	2.413G	113.46	Inf	-Inf	31.26	3	Vertical	130	1.48	-	82.20			
AV	2.4138G	109.67	Inf	-Inf	31.26	3	Vertical	130	1.48	-	78.41			

802.11b_Nss1,(1Mbps)_2TX

27/11/2019

2412MHz_TX

 EUT Y_2TX
 Setting 21
 02-B-J-5

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV)			
PK	2.388G	59.83	74.00	-14.17	31.20	3	Horizontal	127	1.69	-	28.63			
AV	2.3872G	48.74	54.00	-5.26	31.20	3	Horizontal	127	1.69	-	17.54			
PK	2.413G	105.96	Inf	-Inf	31.26	3	Horizontal	127	1.69	-	74.70			
AV	2.4128G	101.98	Inf	-Inf	31.26	3	Horizontal	127	1.69	-	70.72			

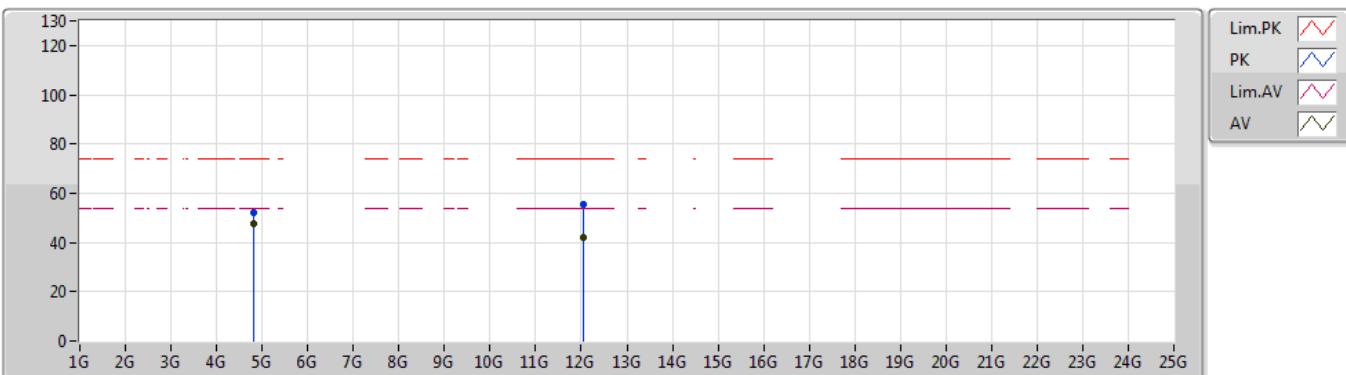
802.11b_Nss1,(1Mbps)_2TX

27/11/2019

2412MHz_TX


802.11b_Nss1,(1Mbps)_2TX

27/11/2019

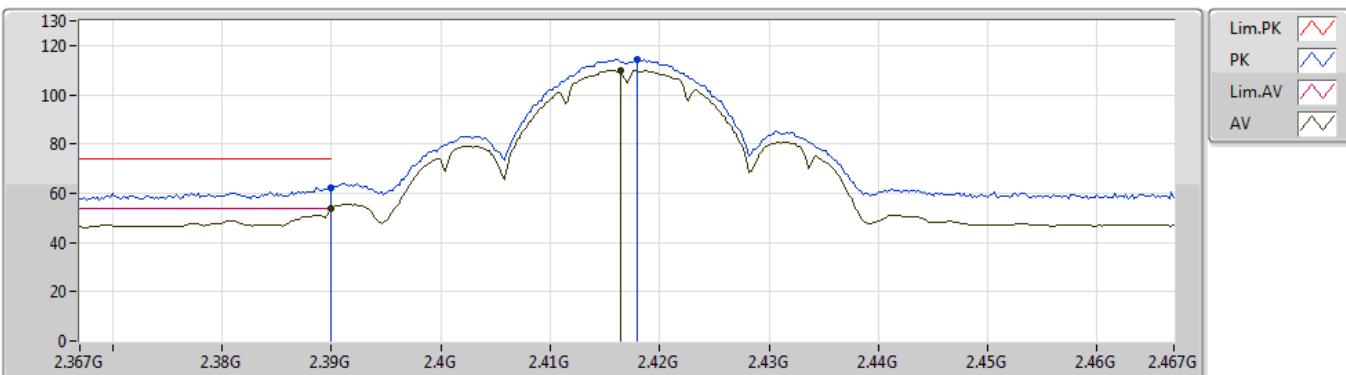
2412MHz_TX


EUT Y_2TX
Setting 21
02-B-J-5

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV)			
PK	4.82402G	52.05	74.00	-21.95	7.17	3	Horizontal	105	1.49	-	44.88			
AV	4.824G	47.58	54.00	-6.42	7.17	3	Horizontal	105	1.49	-	40.41			
PK	12.05997G	55.67	74.00	-18.33	15.57	3	Horizontal	80	1.49	-	40.10			
AV	12.0602G	42.08	54.00	-11.92	15.57	3	Horizontal	80	1.49	-	26.51			

802.11b_Nss1,(1Mbps)_2TX

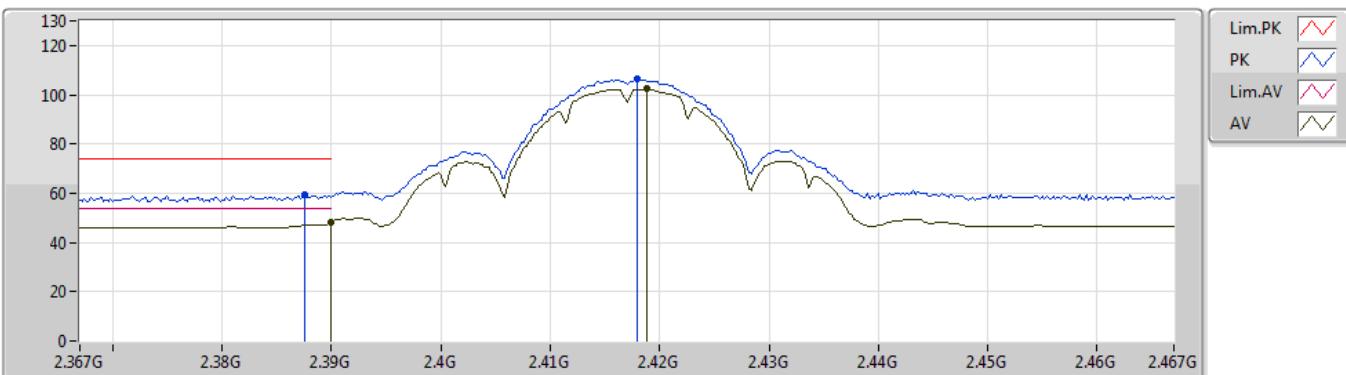
27/11/2019

2417MHz_TX

 EUT Y_2TX
 Setting 22
 02-B-J-5

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV)			
PK	2.39G	62.24	74.00	-11.76	31.20	3	Vertical	121	1.49	-	31.04			
AV	2.39G	53.97	54.00	-0.03	31.20	3	Vertical	121	1.49	-	22.77			
PK	2.418G	114.38	Inf	-Inf	31.27	3	Vertical	121	1.49	-	83.11			
AV	2.4164G	110.10	Inf	-Inf	31.27	3	Vertical	121	1.49	-	78.83			

802.11b_Nss1,(1Mbps)_2TX

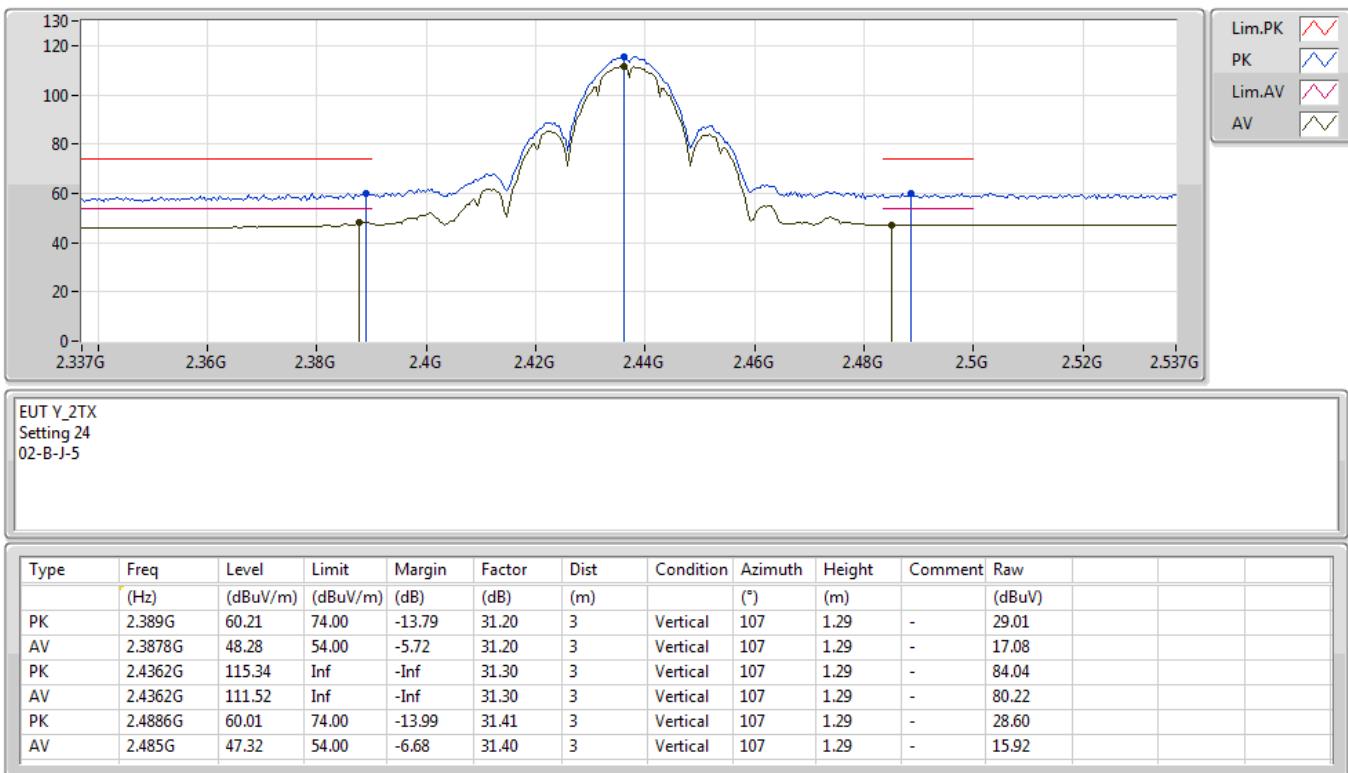
27/11/2019

2417MHz_TX

 EUT Y_2TX
 Setting 22
 02-B-J-5

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV)			
PK	2.3876G	59.32	74.00	-14.68	31.20	3	Horizontal	135	1.69	-	28.12			
AV	2.39G	48.37	54.00	-5.63	31.20	3	Horizontal	135	1.69	-	17.17			
PK	2.418G	106.28	Inf	-Inf	31.27	3	Horizontal	135	1.69	-	75.01			
AV	2.4188G	102.38	Inf	-Inf	31.27	3	Horizontal	135	1.69	-	71.11			

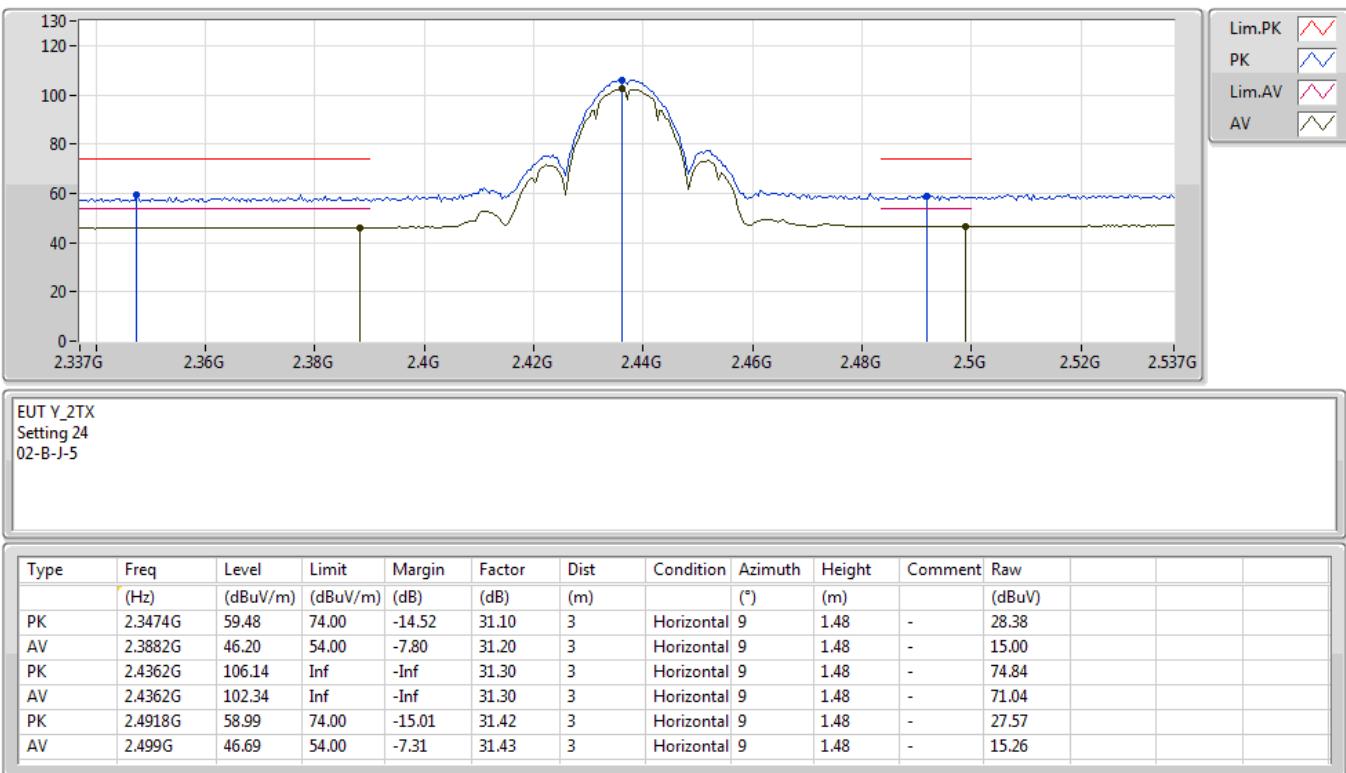
802.11b_Nss1,(1Mbps)_2TX

27/11/2019

2437MHz_TX


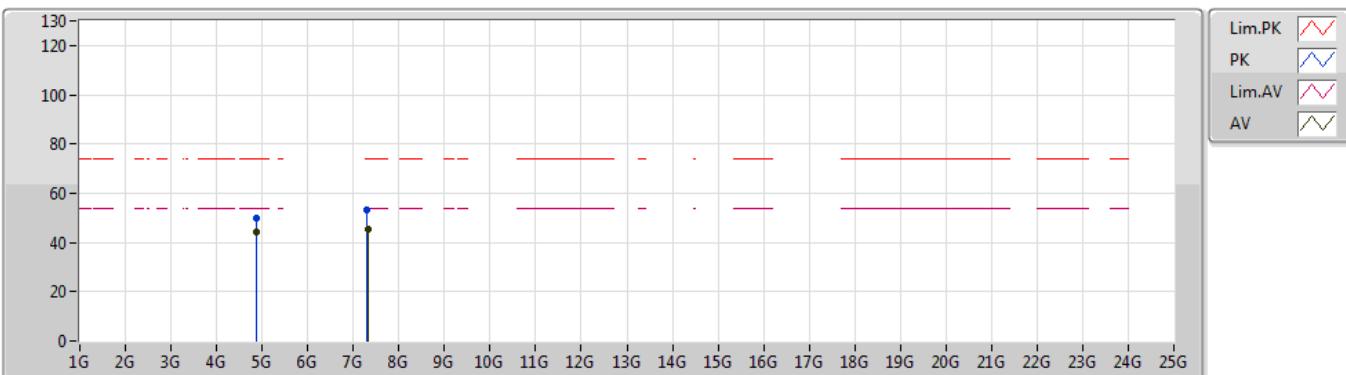
802.11b_Nss1,(1Mbps)_2TX

27/11/2019

2437MHz_TX


802.11b_Nss1,(1Mbps)_2TX

27/11/2019

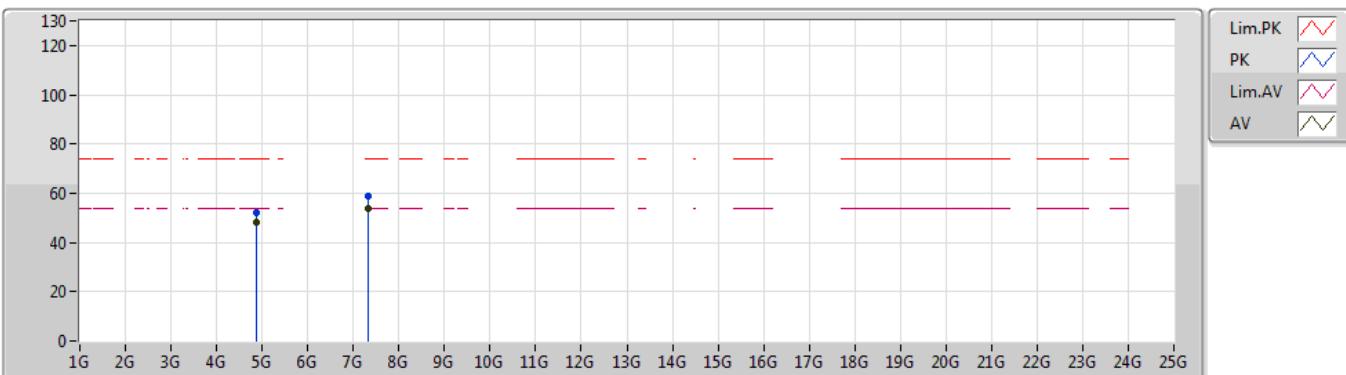
2437MHz_TX


EUT Y_2TX
Setting 24
02-B-C-4

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV)			
PK	4.87402G	49.63	74.00	-24.37	7.28	3	Vertical	310	1.74	-	42.35			
AV	4.87408G	44.21	54.00	-9.79	7.28	3	Vertical	310	1.74	-	36.93			
PK	7.31002G	53.29	74.00	-20.71	10.54	3	Vertical	102	1.60	-	42.75			
AV	7.31176G	45.48	54.00	-8.52	10.55	3	Vertical	102	1.60	-	34.93			

802.11b_Nss1,(1Mbps)_2TX

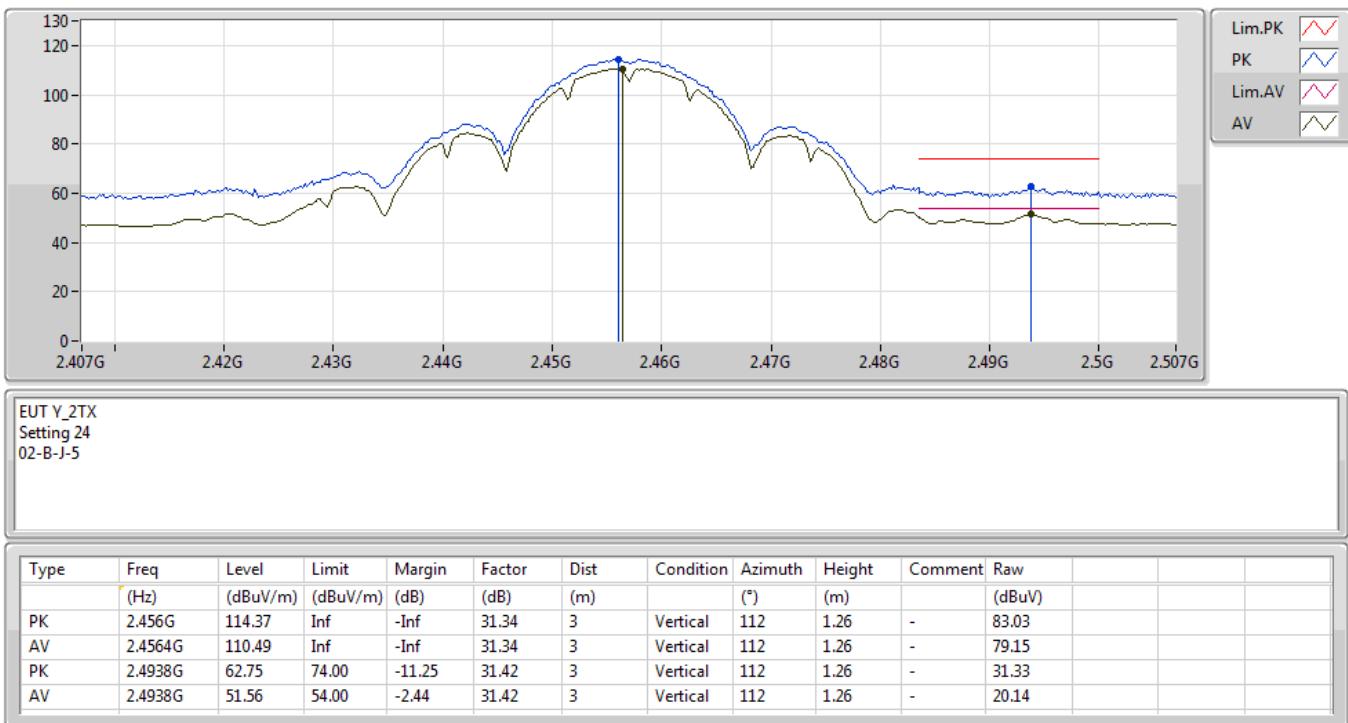
27/11/2019

2437MHz_TX

 EUT Y_2TX
 Setting 24
 02-B-C-4

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV)			
PK	4.87402G	51.90	74.00	-22.10	7.28	3	Horizontal	180	2.30	-	44.62			
AV	4.87402G	48.06	54.00	-5.94	7.28	3	Horizontal	180	2.30	-	40.78			
PK	7.31194G	59.06	74.00	-14.94	10.55	3	Horizontal	205	1.72	-	48.51			
AV	7.31176G	53.81	54.00	-0.19	10.55	3	Horizontal	205	1.72	-	43.26			

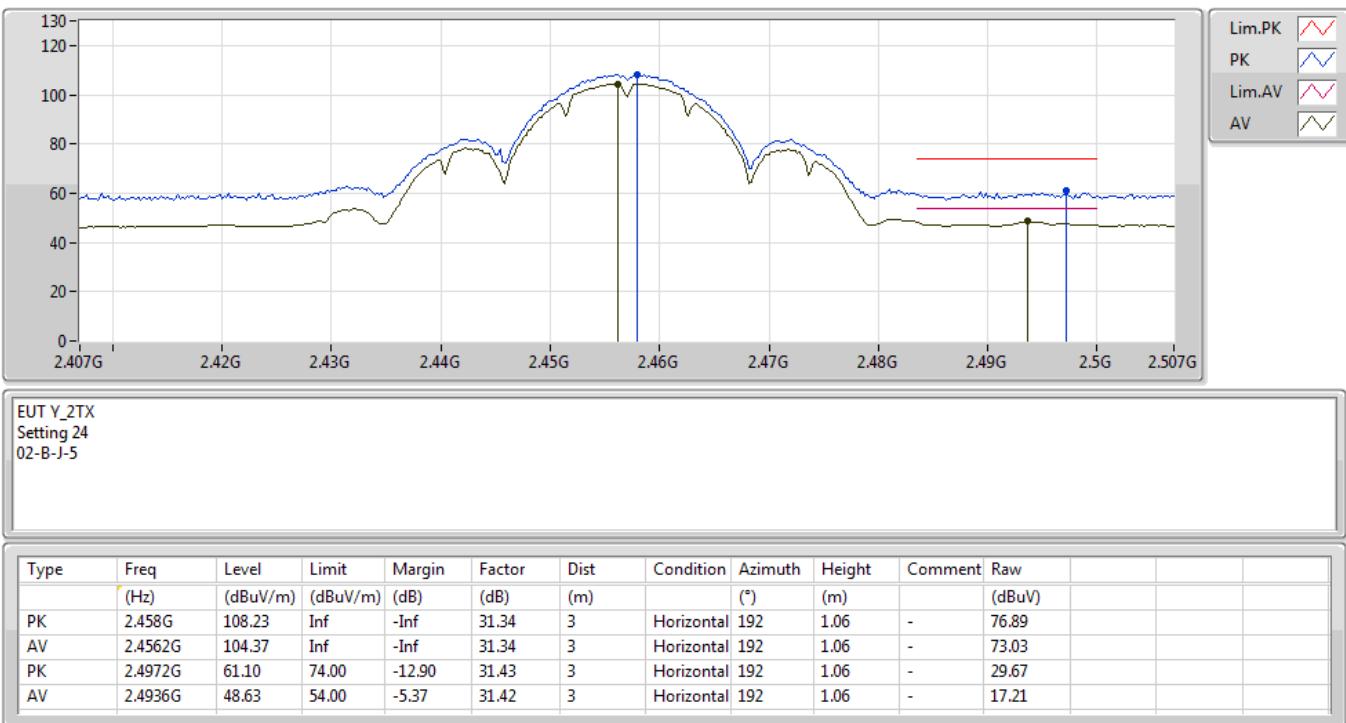
802.11b_Nss1,(1Mbps)_2TX

27/11/2019

2457MHz_TX


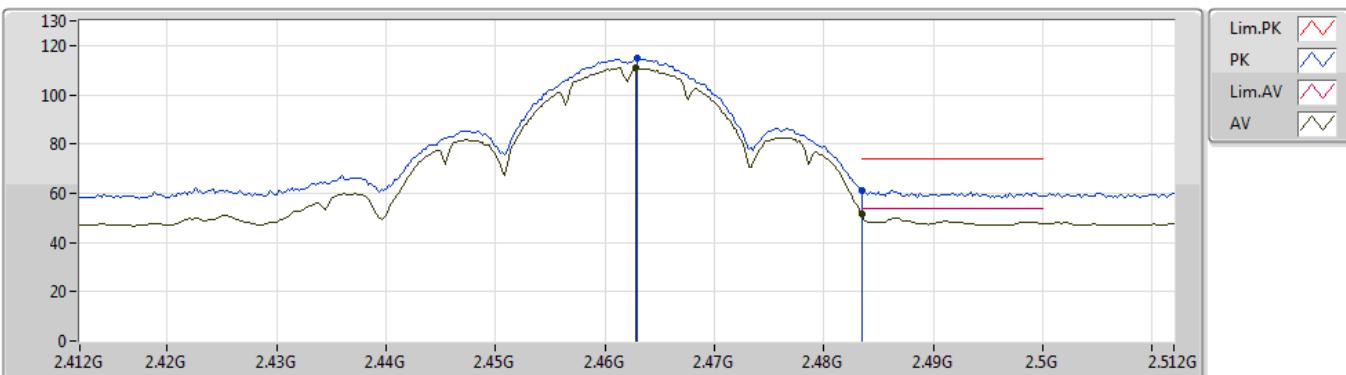
802.11b_Nss1,(1Mbps)_2TX

27/11/2019

2457MHz_TX


802.11b_Nss1,(1Mbps)_2TX

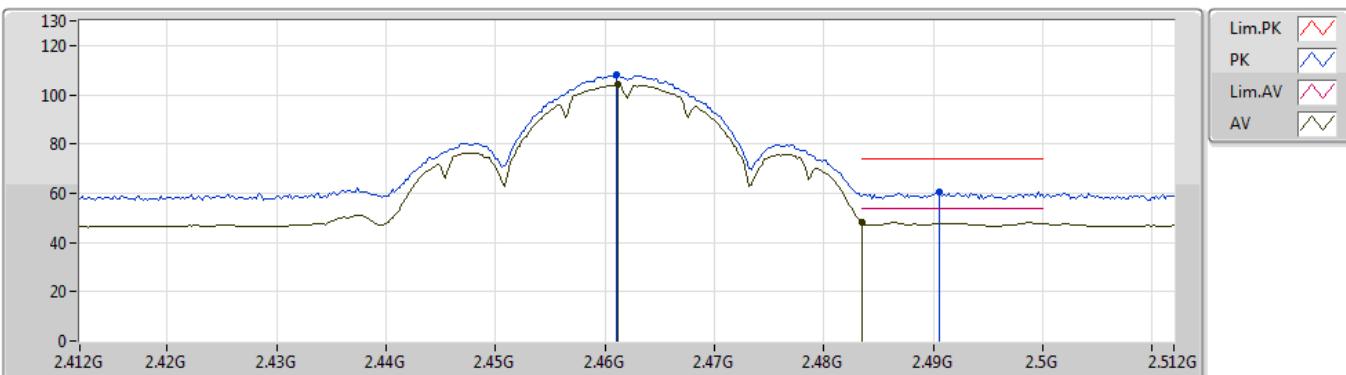
27/11/2019

2462MHz_TX

 EUT Y_2TX
 Setting 23
 02-B-J-5

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV)			
PK	2.463G	114.77	Inf	-Inf	31.36	3	Vertical	101	1.83	-	83.41			
AV	2.4628G	110.74	Inf	-Inf	31.36	3	Vertical	101	1.83	-	79.38			
PK	2.4835G	61.13	74.00	-12.87	31.39	3	Vertical	101	1.83	-	29.74			
AV	2.4835G	51.64	54.00	-2.36	31.39	3	Vertical	101	1.83	-	20.25			

802.11b_Nss1,(1Mbps)_2TX

27/11/2019

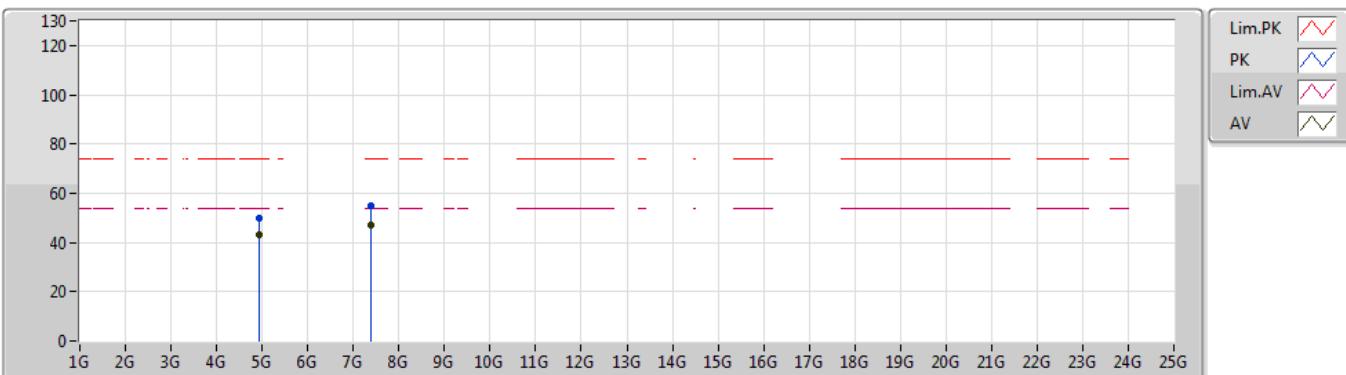
2462MHz_TX


EUT Y_2TX
Setting 23
02-B-J-5

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV)
PK	2.461G	107.87	Inf	-Inf	31.35	3	Horizontal	195	1.07	-	76.52
AV	2.4612G	104.10	Inf	-Inf	31.35	3	Horizontal	195	1.07	-	72.75
PK	2.4906G	60.59	74.00	-13.41	31.41	3	Horizontal	195	1.07	-	29.18
AV	2.4835G	48.41	54.00	-5.59	31.39	3	Horizontal	195	1.07	-	17.02

802.11b_Nss1,(1Mbps)_2TX

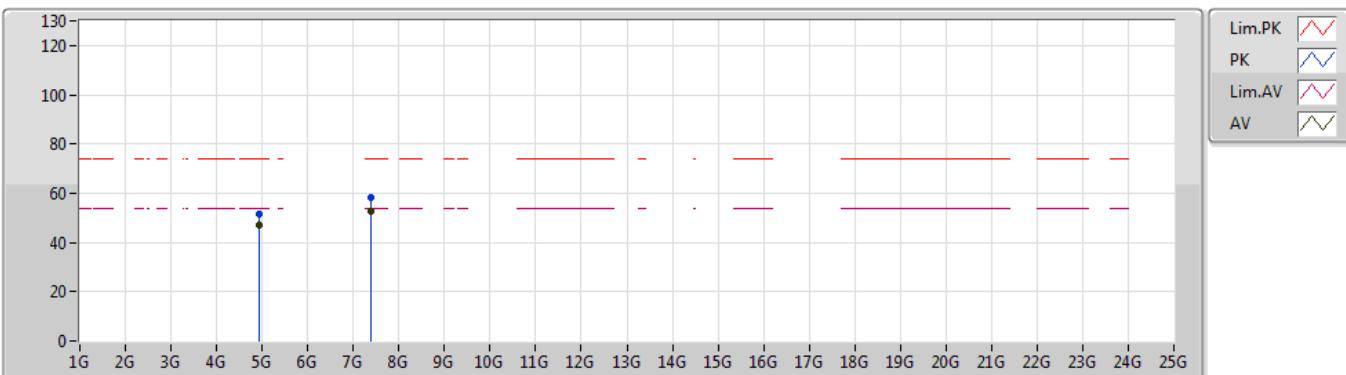
27/11/2019

2462MHz_TX

 EUT Y_2TX
 Setting 23
 02-B-J-5

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV)			
PK	4.92392G	49.72	74.00	-24.28	7.40	3	Vertical	75	1.49	-	42.32			
AV	4.92402G	43.34	54.00	-10.66	7.40	3	Vertical	75	1.49	-	35.94			
PK	7.38646G	54.69	74.00	-19.31	10.76	3	Vertical	229	2.97	-	43.93			
AV	7.38676G	47.16	54.00	-6.84	10.76	3	Vertical	229	2.97	-	36.40			

802.11b_Nss1,(1Mbps)_2TX

27/11/2019

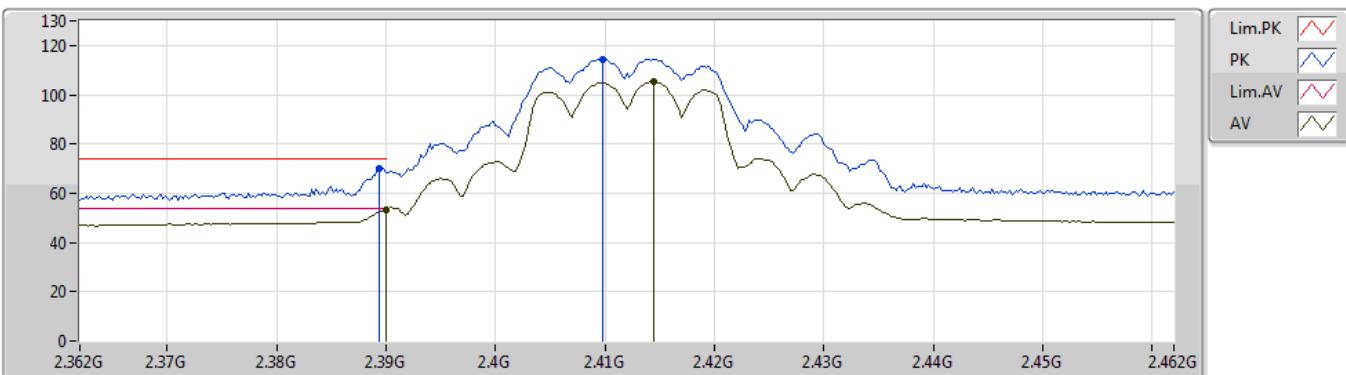
2462MHz_TX


EUT Y_2TX
Setting 23
02-B-J-5

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV)			
PK	4.92404G	51.47	74.00	-22.53	7.40	3	Horizontal	169	2.10	-	44.07			
AV	4.92402G	46.97	54.00	-7.03	7.40	3	Horizontal	169	2.10	-	39.57			
PK	7.38512G	58.48	74.00	-15.52	10.76	3	Horizontal	152	1.78	-	47.72			
AV	7.38676G	52.65	54.00	-1.35	10.76	3	Horizontal	152	1.78	-	41.89			

802.11g_Nss1,(6Mbps)_2TX

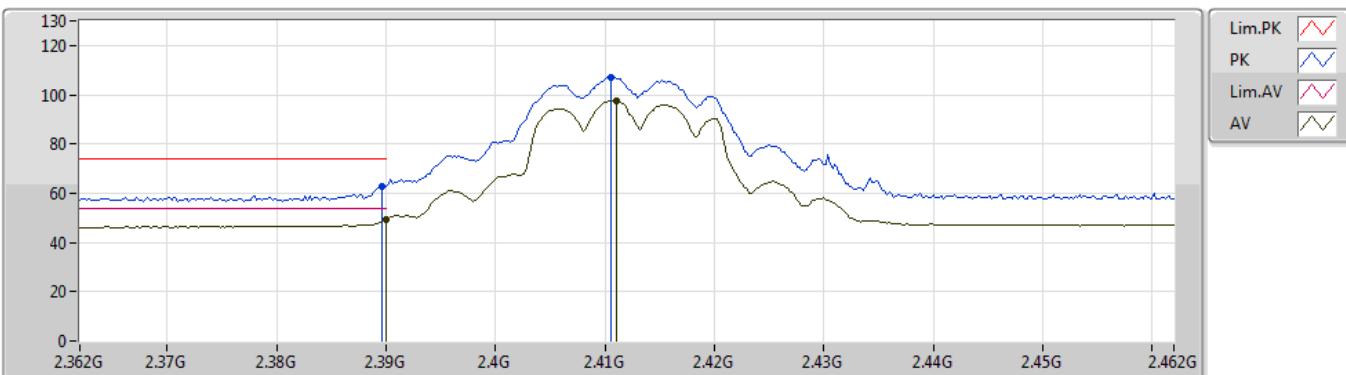
27/11/2019

2412MHz_TX

 EUT Y_2TX
 Setting 1B
 02-B-P-2

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV)			
PK	2.3894G	70.13	74.00	-3.87	31.20	3	Vertical	157	2.49	-	38.93			
AV	2.39G	53.50	54.00	-0.50	31.20	3	Vertical	157	2.49	-	22.30			
PK	2.4098G	114.55	Inf	-Inf	31.25	3	Vertical	157	2.49	-	83.30			
AV	2.4144G	105.29	Inf	-Inf	31.26	3	Vertical	157	2.49	-	74.03			

802.11g_Nss1,(6Mbps)_2TX

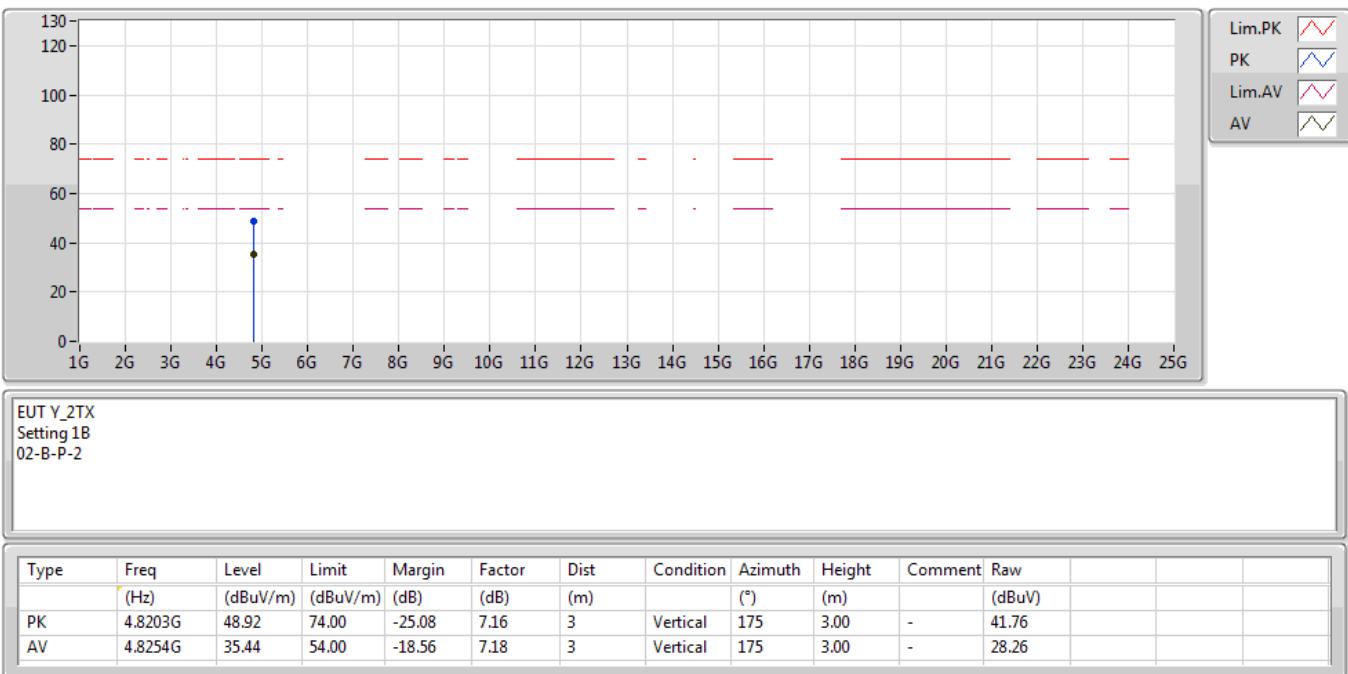
27/11/2019

2412MHz_TX

 EUT Y_2TX
 Setting 1B
 02-B-P-2

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV)			
PK	2.3896G	62.68	74.00	-11.32	31.20	3	Horizontal	323	2.28	-	31.48			
AV	2.39G	49.16	54.00	-4.84	31.20	3	Horizontal	323	2.28	-	17.96			
PK	2.4106G	106.95	Inf	-Inf	31.25	3	Horizontal	323	2.28	-	75.70			
AV	2.411G	97.72	Inf	-Inf	31.25	3	Horizontal	323	2.28	-	66.47			

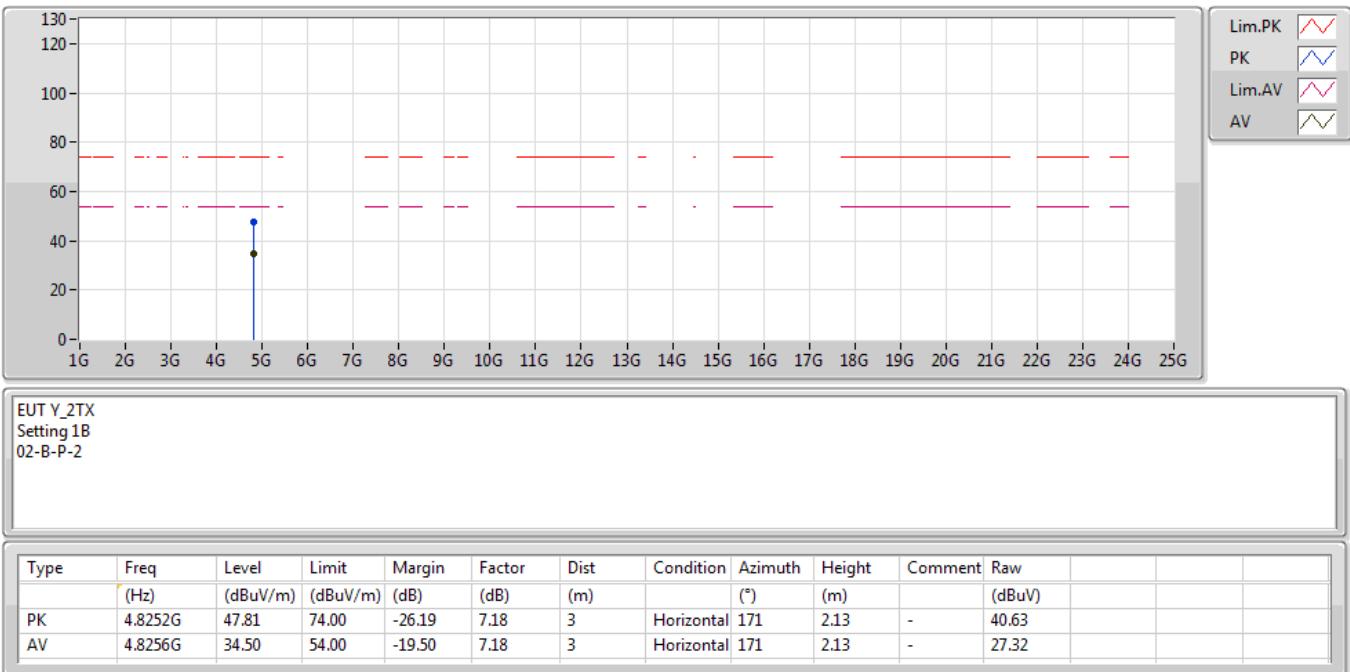
802.11g_Nss1,(6Mbps)_2TX

28/11/2019

2412MHz_TX

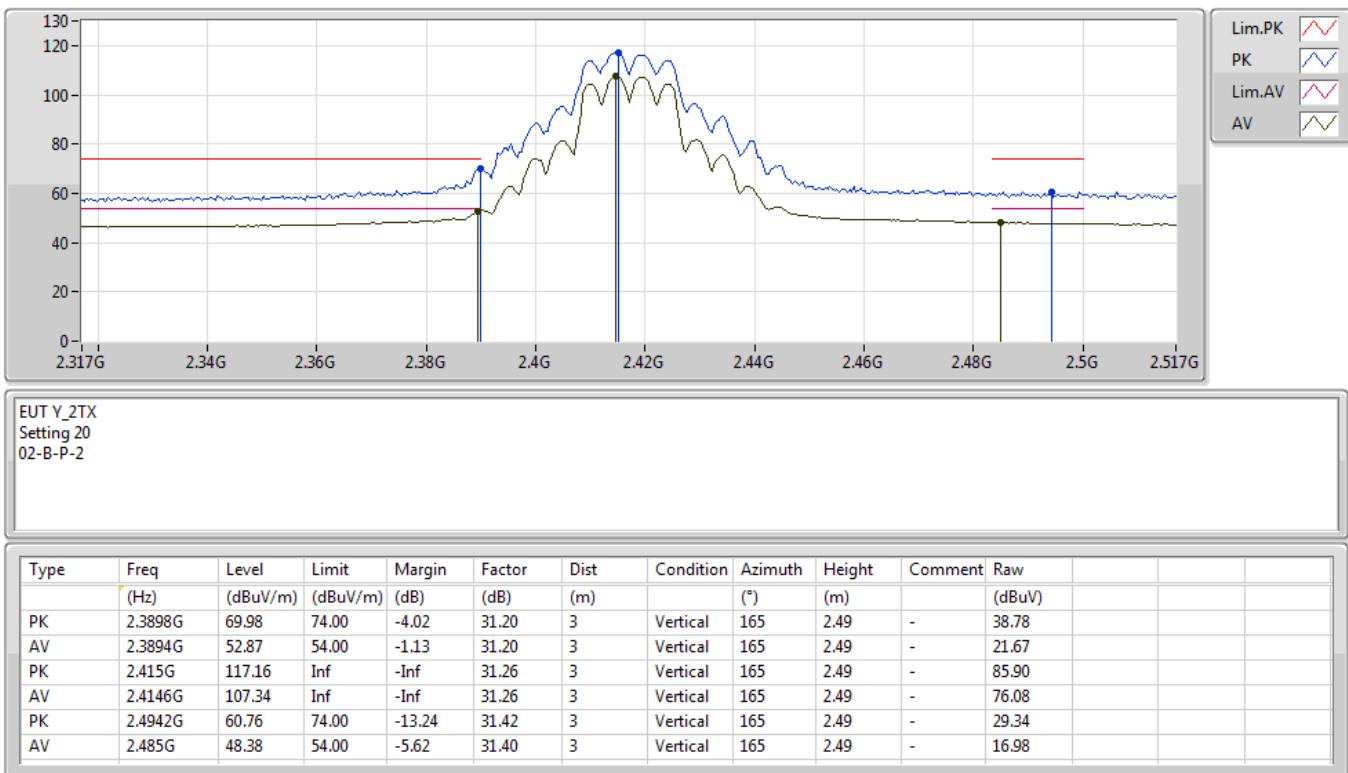
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28/11/2019

2412MHz_TX


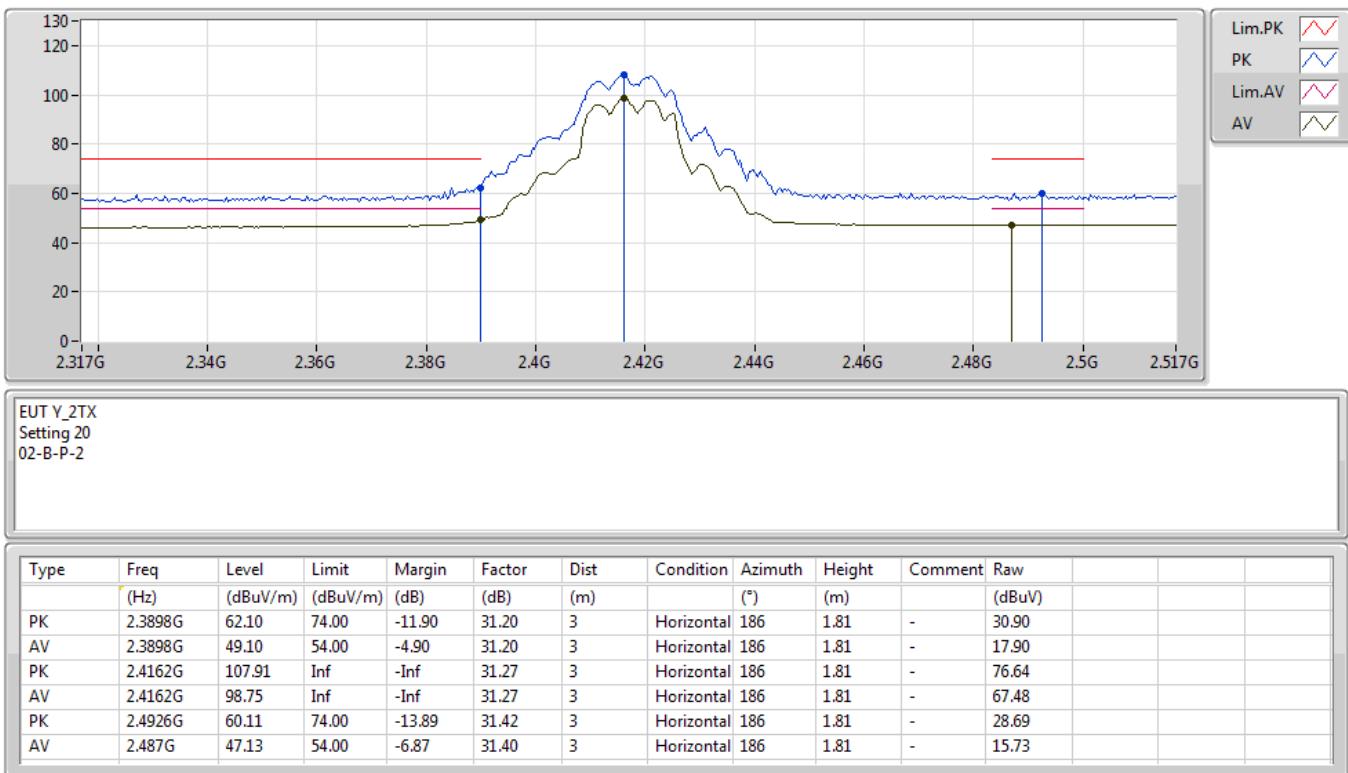
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27/11/2019

2417MHz_TX


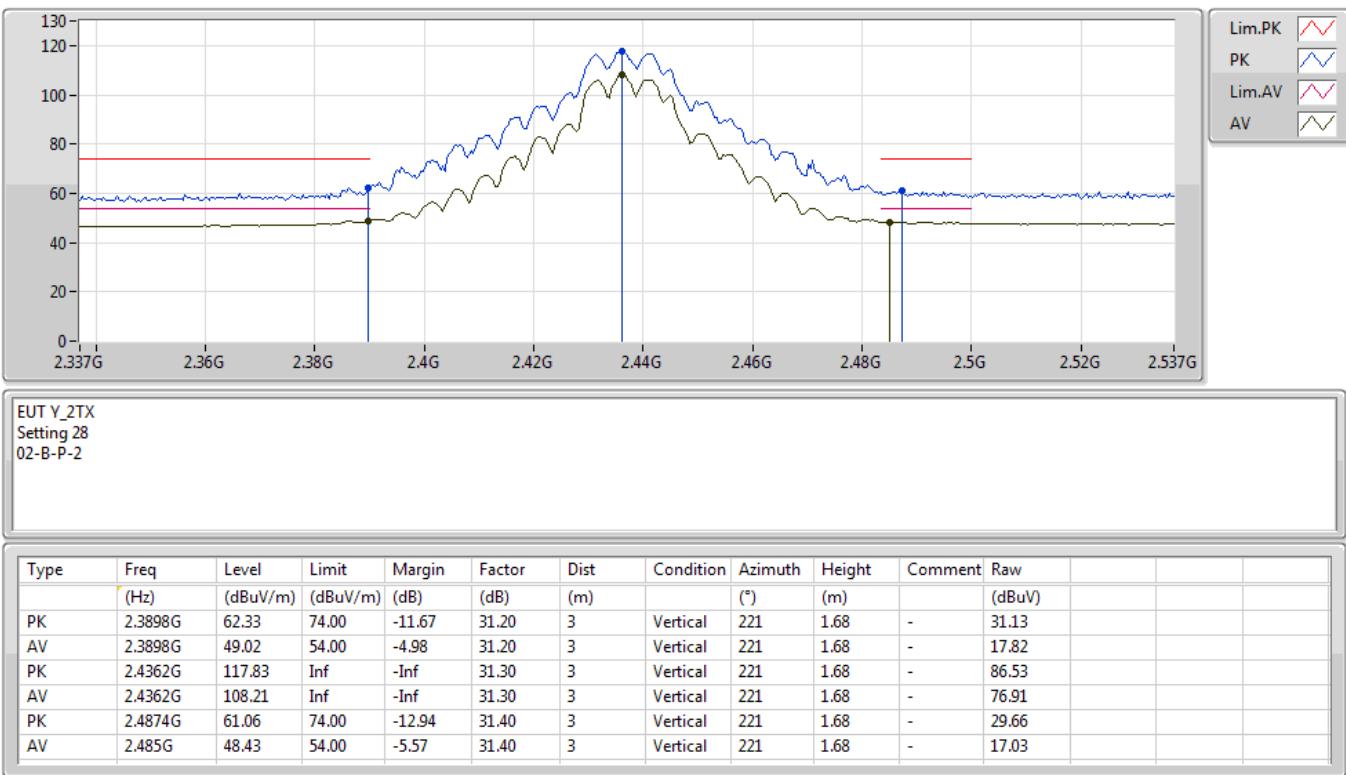
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27/11/2019

2417MHz_TX


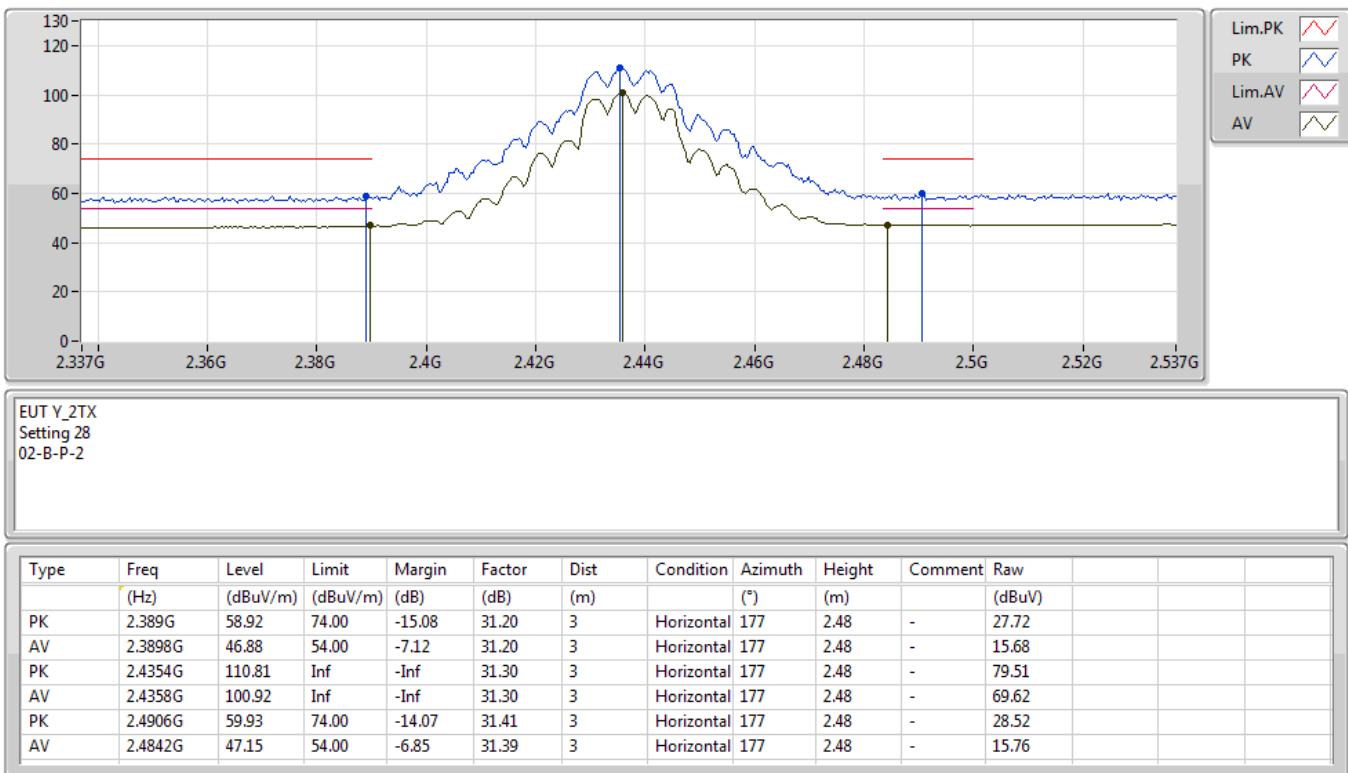
802.11g_Nss1,(6Mbps)_2TX

27/11/2019

2437MHz_TX


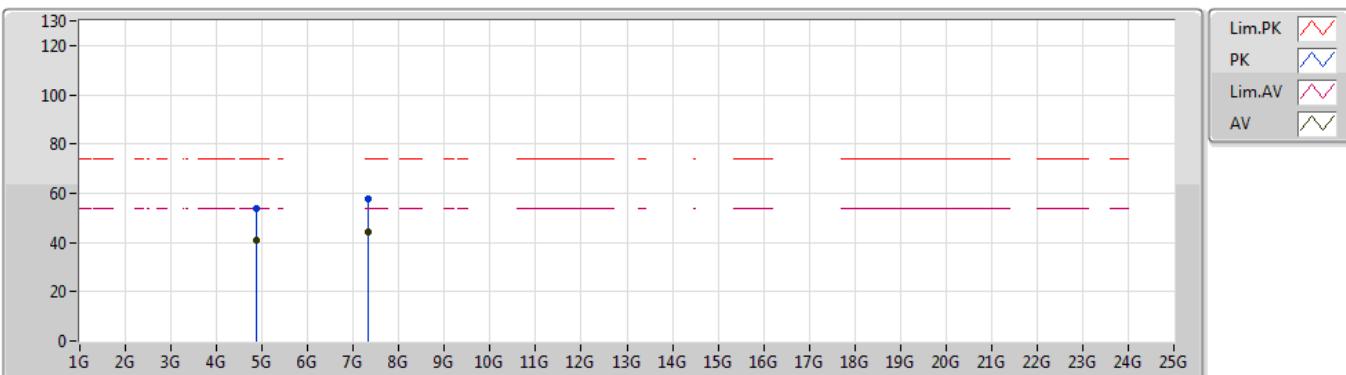
802.11g_Nss1,(6Mbps)_2TX

27/11/2019

2437MHz_TX


802.11g_Nss1,(6Mbps)_2TX

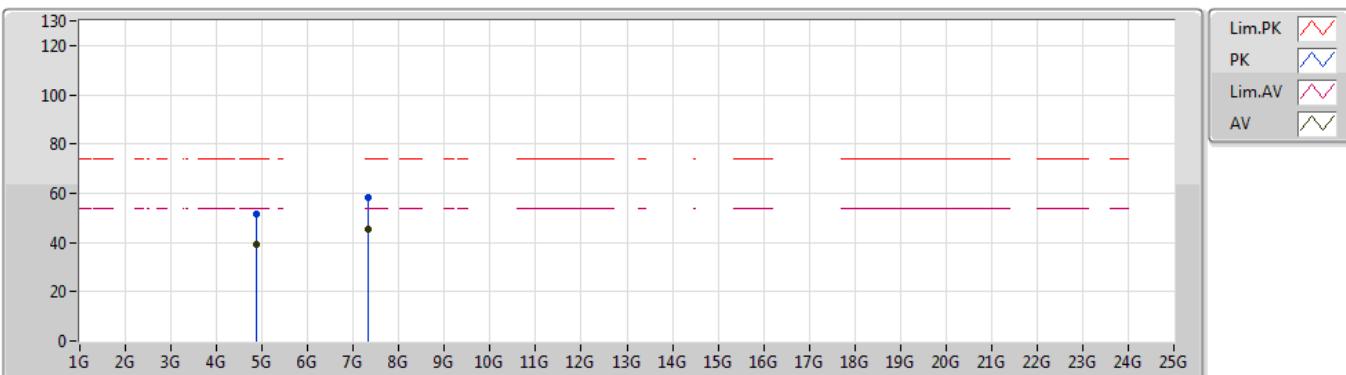
28/11/2019

2437MHz_TX

 EUT Y_2TX
 Setting 28
 02-B-P-2

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV)			
PK	4.8702G	53.58	74.00	-20.42	7.27	3	Vertical	158	2.81	-	46.31			
AV	4.8751G	40.75	54.00	-13.25	7.29	3	Vertical	158	2.81	-	33.46			
PK	7.3149G	57.87	74.00	-16.13	10.56	3	Vertical	168	1.81	-	47.31			
AV	7.3126G	44.36	54.00	-9.64	10.56	3	Vertical	168	1.81	-	33.80			

802.11g_Nss1,(6Mbps)_2TX

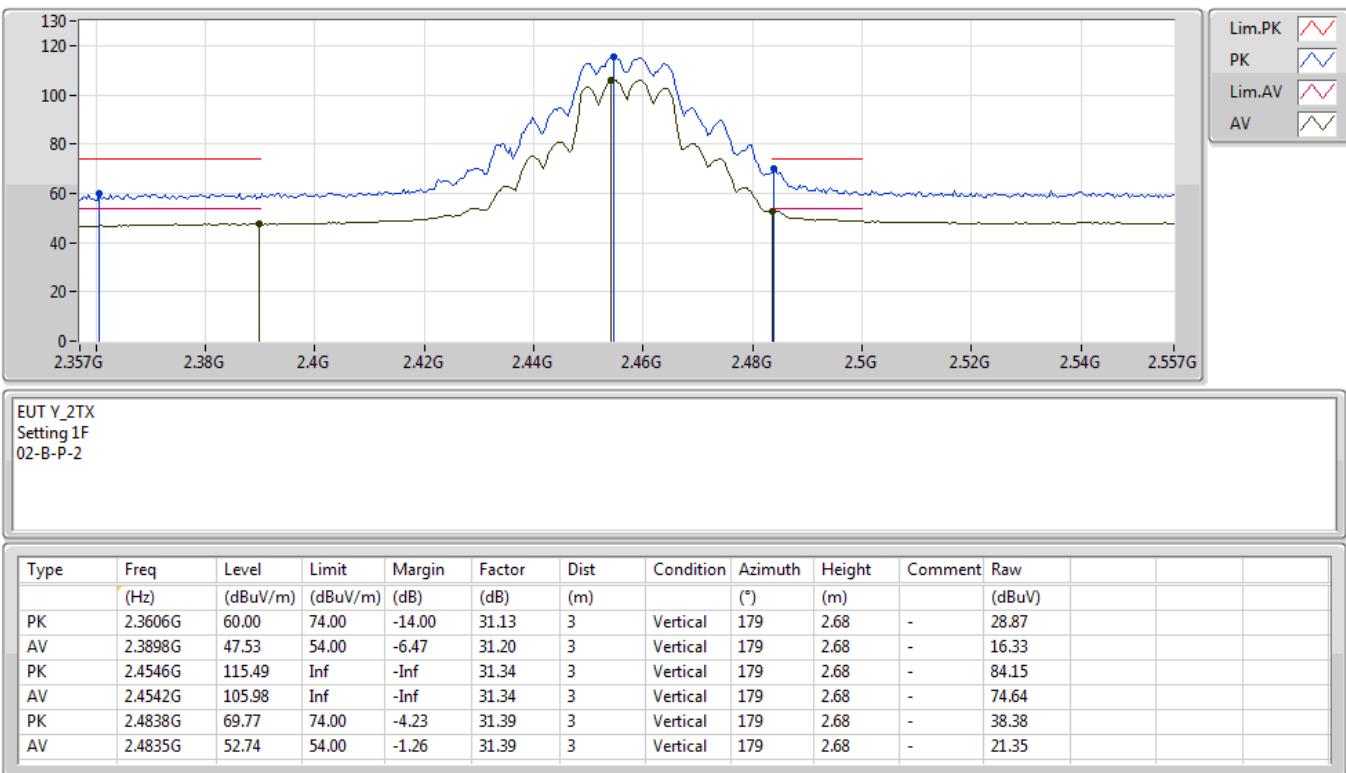
28/11/2019

2437MHz_TX

 EUT Y_2TX
 Setting 28
 02-B-P-2

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV)			
PK	4.8765G	51.55	74.00	-22.45	7.30	3	Horizontal	193	1.99	-	44.25			
AV	4.8757G	39.00	54.00	-15.00	7.29	3	Horizontal	193	1.99	-	31.71			
PK	7.3147G	58.55	74.00	-15.45	10.56	3	Horizontal	202	1.79	-	47.99			
AV	7.3125G	45.66	54.00	-8.34	10.56	3	Horizontal	202	1.79	-	35.10			

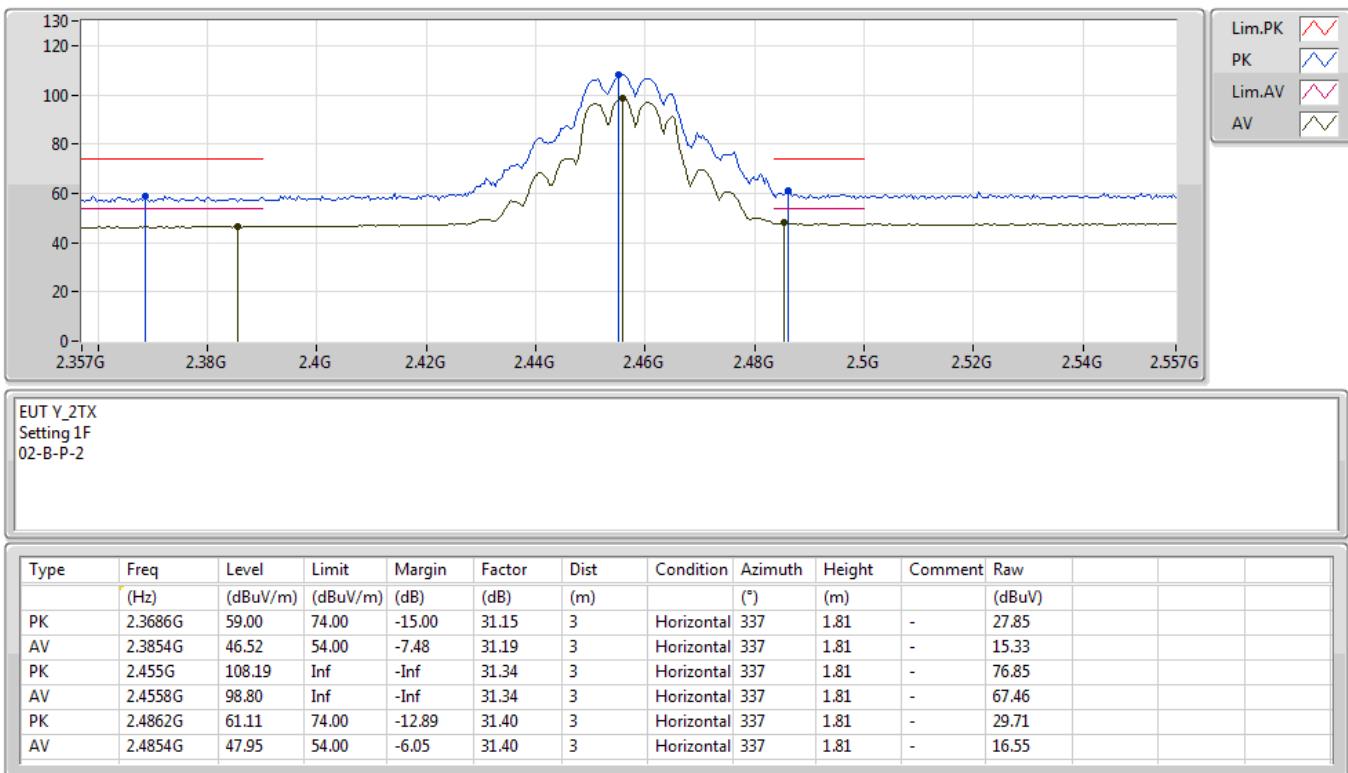
802.11g_Nss1,(6Mbps)_2TX

27/11/2019

2457MHz_TX


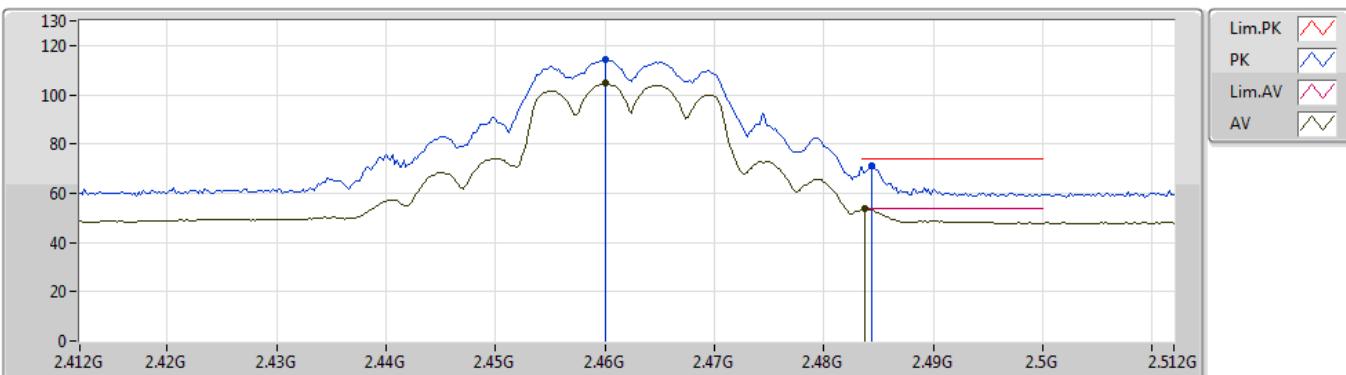
802.11g_Nss1,(6Mbps)_2TX

27/11/2019

2457MHz_TX


802.11g_Nss1,(6Mbps)_2TX

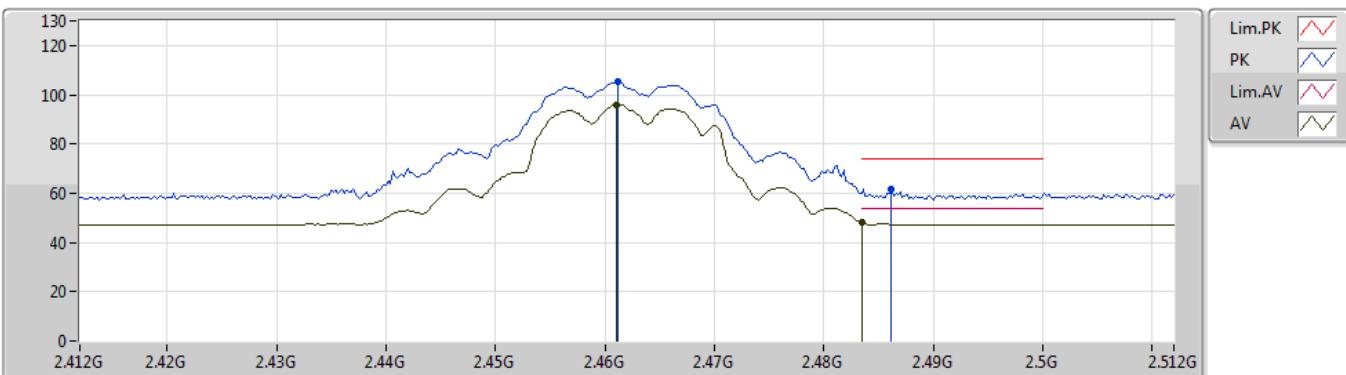
27/11/2019

2462MHz_TX

 EUT Y_2TX
 Setting 1A
 02-B-P-2

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV)			
PK	2.46G	114.36	Inf	-Inf	31.35	3	Vertical	153	2.24	-	83.01			
AV	2.46G	104.59	Inf	-Inf	31.35	3	Vertical	153	2.24	-	73.24			
PK	2.4844G	70.95	74.00	-3.05	31.40	3	Vertical	153	2.24	-	39.55			
AV	2.4838G	53.52	54.00	-0.48	31.39	3	Vertical	153	2.24	-	22.13			

802.11g_Nss1,(6Mbps)_2TX

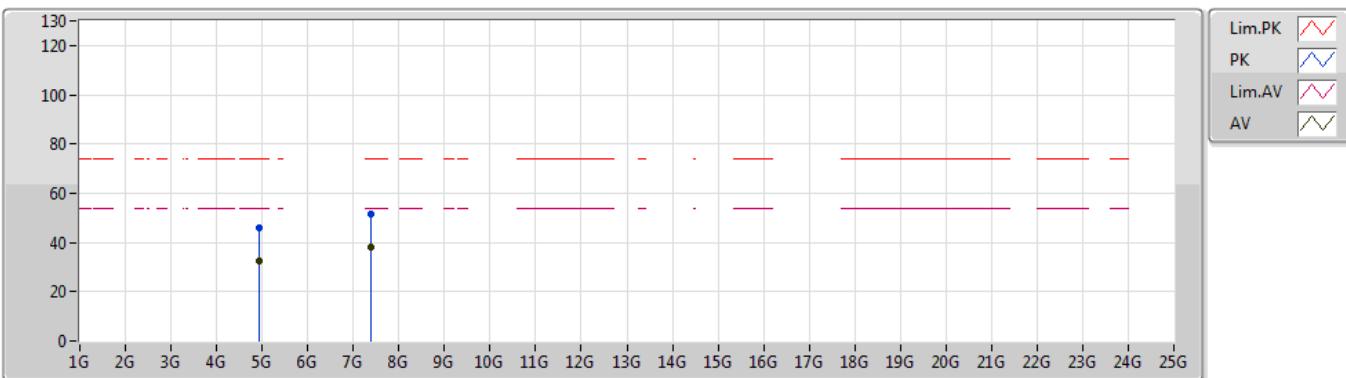
27/11/2019

2462MHz_TX

 EUT Y_2TX
 Setting 1A
 02-B-P-2

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV)
PK	2.4612G	105.35	Inf	-Inf	31.35	3	Horizontal	189	1.75	-	74.00
AV	2.461G	96.09	Inf	-Inf	31.35	3	Horizontal	189	1.75	-	64.74
PK	2.4862G	61.80	74.00	-12.20	31.40	3	Horizontal	189	1.75	-	30.40
AV	2.4835G	48.17	54.00	-5.83	31.39	3	Horizontal	189	1.75	-	16.78

802.11g_Nss1,(6Mbps)_2TX

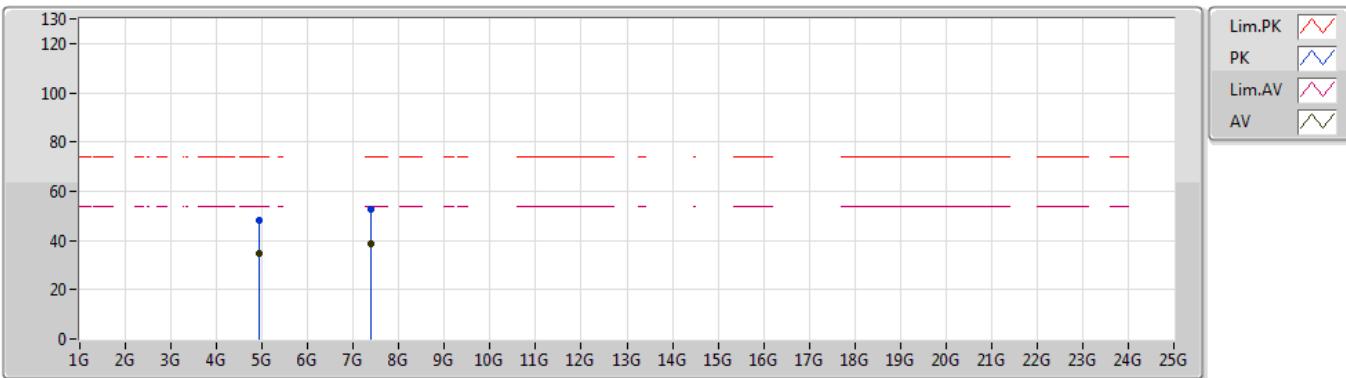
28/11/2019

2462MHz_TX

 EUT Y_2TX
 Setting 1A
 02-B-P-2

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV)			
PK	4.9294G	45.71	74.00	-28.29	7.43	3	Vertical	313	2.84	-	38.28			
AV	4.9258G	32.50	54.00	-21.50	7.42	3	Vertical	313	2.84	-	25.08			
PK	7.3859G	51.58	74.00	-22.42	10.76	3	Vertical	171	1.93	-	40.82			
AV	7.3859G	37.89	54.00	-16.11	10.76	3	Vertical	171	1.93	-	27.13			

802.11g_Nss1,(6Mbps)_2TX

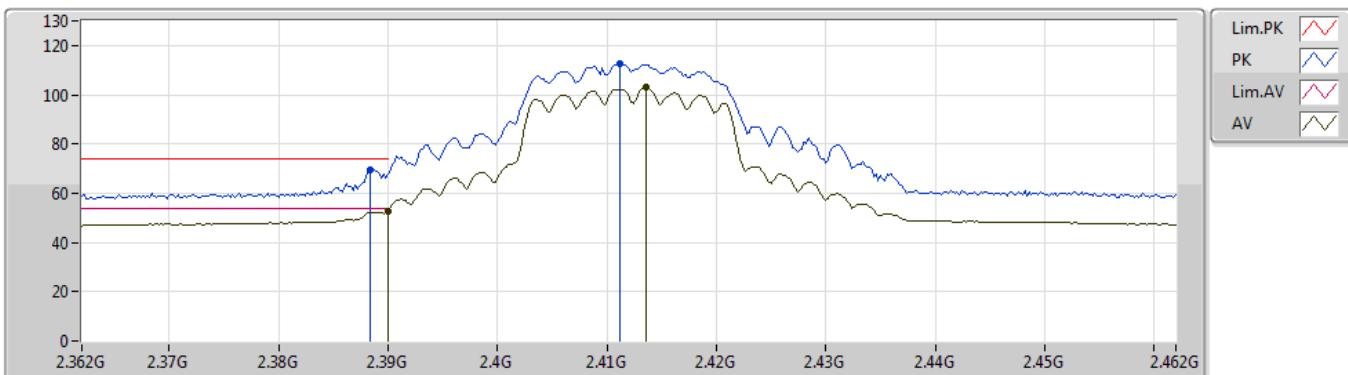
28/11/2019

2462MHz_TX

 EUT Y_2TX
 Setting 1A
 02-B-P-2

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV)			
PK	4.9204G	48.37	74.00	-25.63	7.39	3	Horizontal	183	1.86	-	40.98			
AV	4.9259G	34.55	54.00	-19.45	7.42	3	Horizontal	183	1.86	-	27.13			
PK	7.3835G	52.84	74.00	-21.16	10.75	3	Horizontal	189	1.74	-	42.09			
AV	7.3834G	38.70	54.00	-15.30	10.75	3	Horizontal	189	1.74	-	27.95			

802.11n HT20_Nss1,(MCS0)_2TX

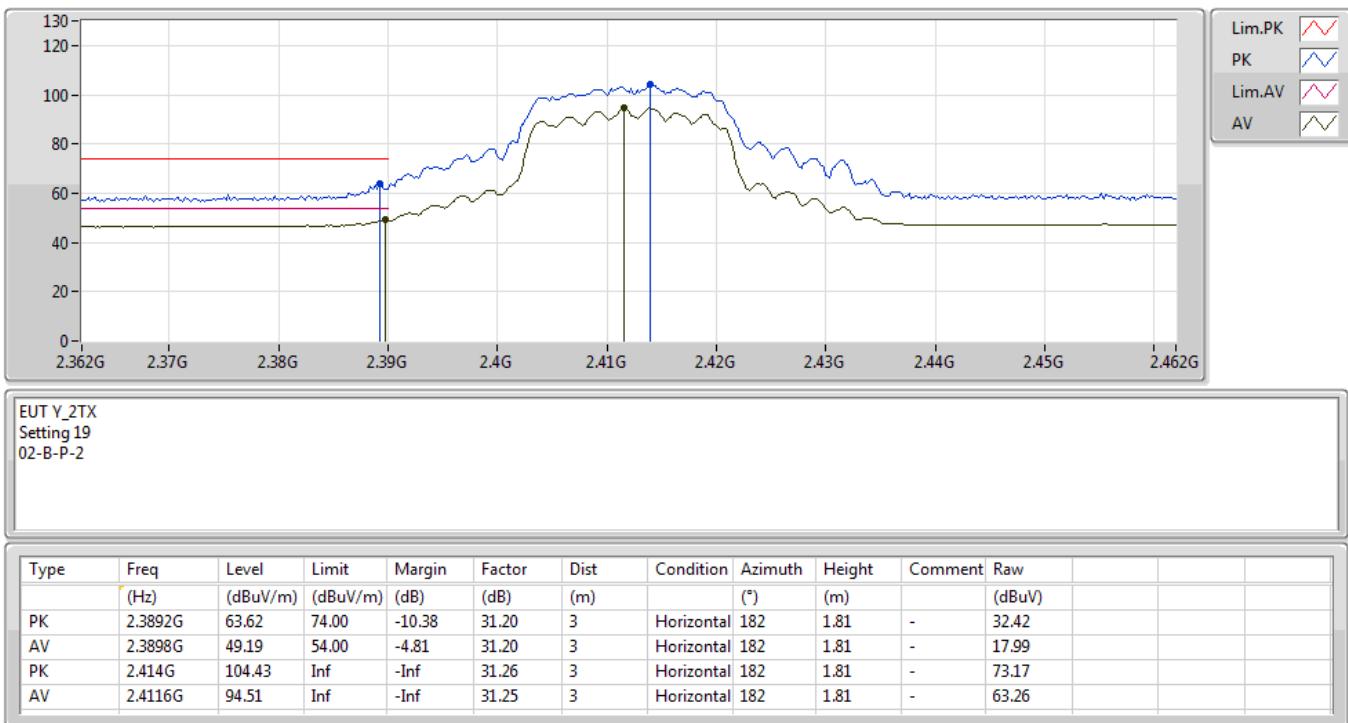
27/11/2019

2412MHz_TX

 EUT Y_2TX
 Setting 19
 02-B-P-2

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV)			
PK	2.3884G	69.57	74.00	-4.43	31.20	3	Vertical	138	2.81	-	38.37			
AV	2.39G	52.93	54.00	-1.07	31.20	3	Vertical	138	2.81	-	21.73			
PK	2.4112G	112.79	Inf	-Inf	31.25	3	Vertical	138	2.81	-	81.54			
AV	2.4136G	102.97	Inf	-Inf	31.26	3	Vertical	138	2.81	-	71.71			

802.11n HT20_Nss1,(MCS0)_2TX

27/11/2019

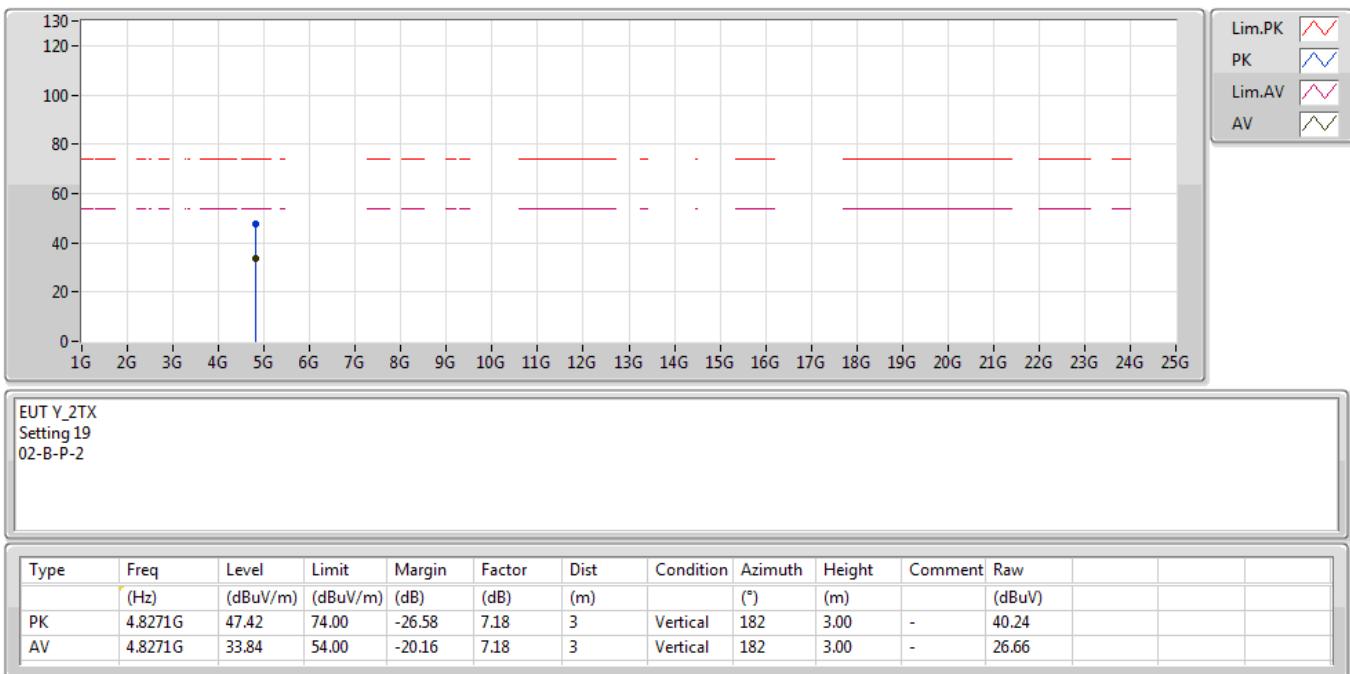
2412MHz_TX




802.11n HT20_Nss1,(MCS0)_2TX

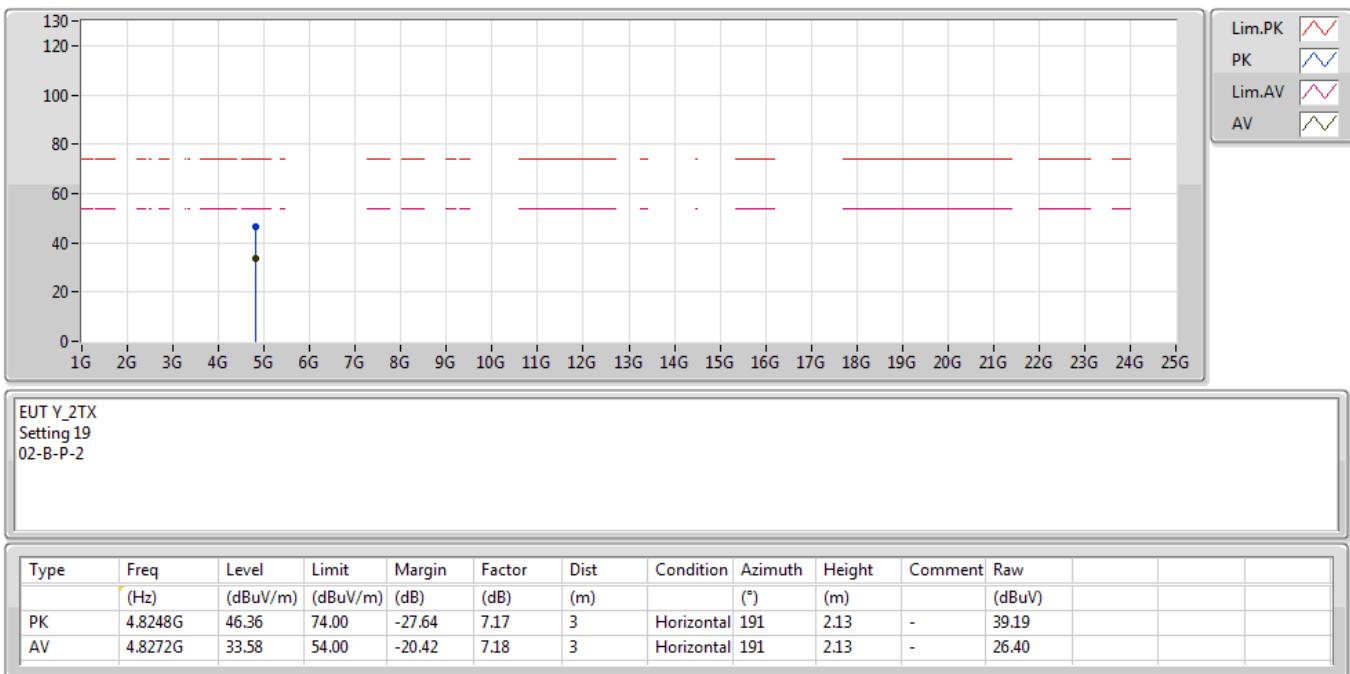
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2412MHz_TX



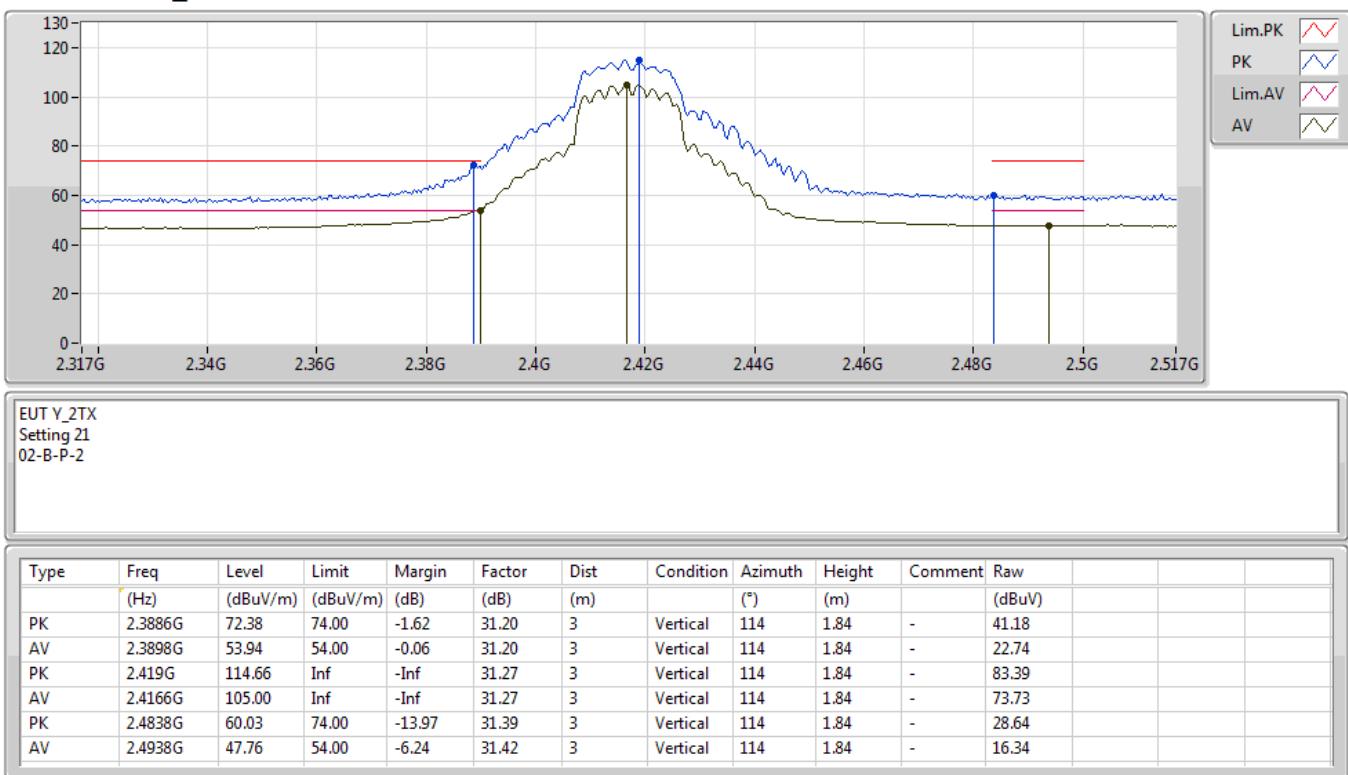
802.11n HT20_Nss1,(MCS0)_2TX

28/11/2019

2412MHz_TX


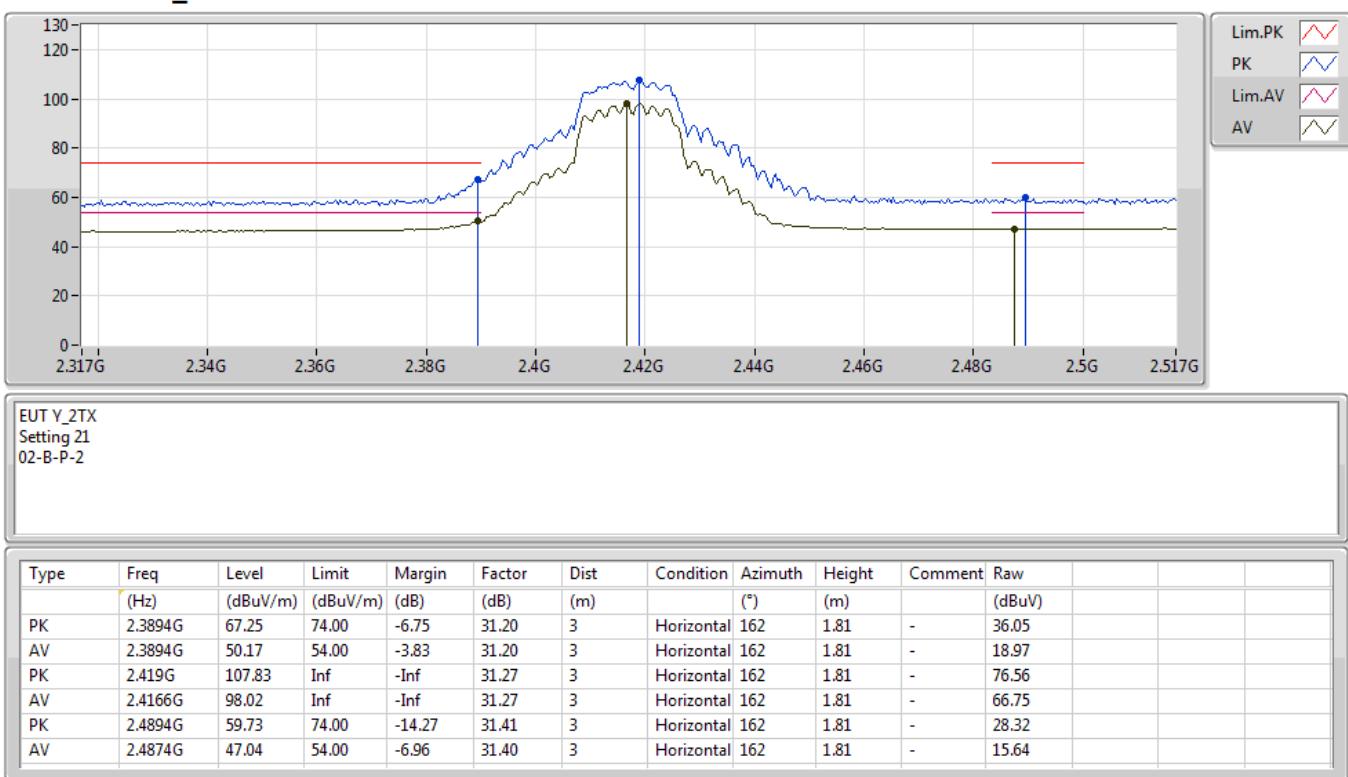
802.11n HT20_Nss1,(MCS0)_2TX

27/11/2019

2417MHz_TX


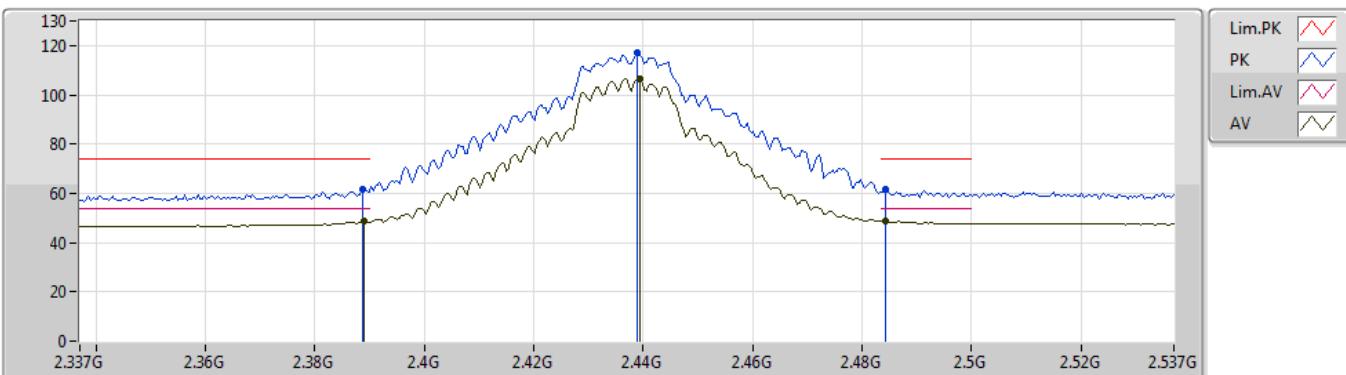
802.11n HT20_Nss1,(MCS0)_2TX

27/11/2019

2417MHz_TX


802.11n HT20_Nss1,(MCS0)_2TX

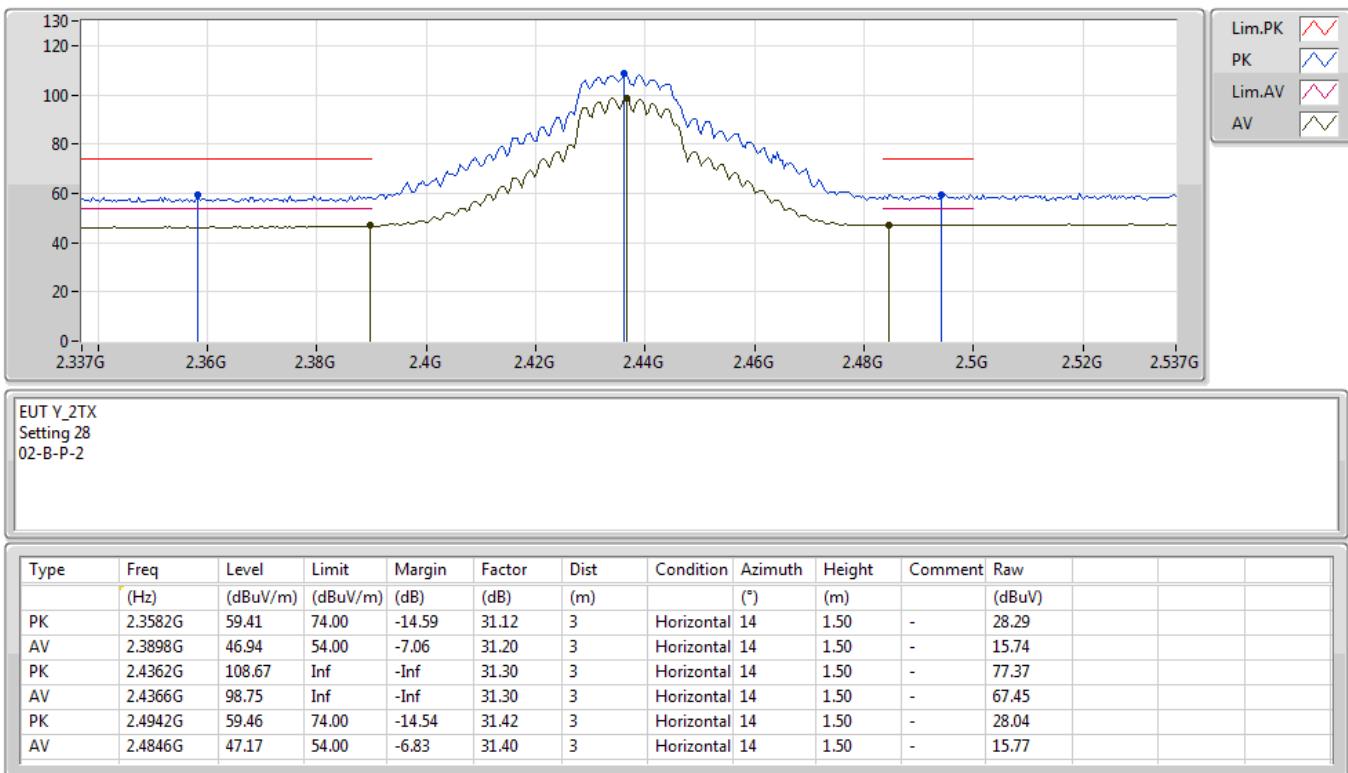
27/11/2019

2437MHz_TX

 EUT Y_2TX
 Setting 28
 02-B-P-2

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV)			
PK	2.3886G	61.87	74.00	-12.13	31.20	3	Vertical	214	1.26	-	30.67			
AV	2.389G	48.60	54.00	-5.40	31.20	3	Vertical	214	1.26	-	17.40			
PK	2.439G	116.93	Inf	-Inf	31.31	3	Vertical	214	1.26	-	85.62			
AV	2.4394G	106.34	Inf	-Inf	31.31	3	Vertical	214	1.26	-	75.03			
PK	2.4842G	61.43	74.00	-12.57	31.39	3	Vertical	214	1.26	-	30.04			
AV	2.4842G	48.84	54.00	-5.16	31.39	3	Vertical	214	1.26	-	17.45			

802.11n HT20_Nss1,(MCS0)_2TX

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2437MHz_TX




802.11n HT20_Nss1,(MCS0)_2TX

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2437MHz_TX





802.11n HT20_Nss1,(MCS0)_2TX

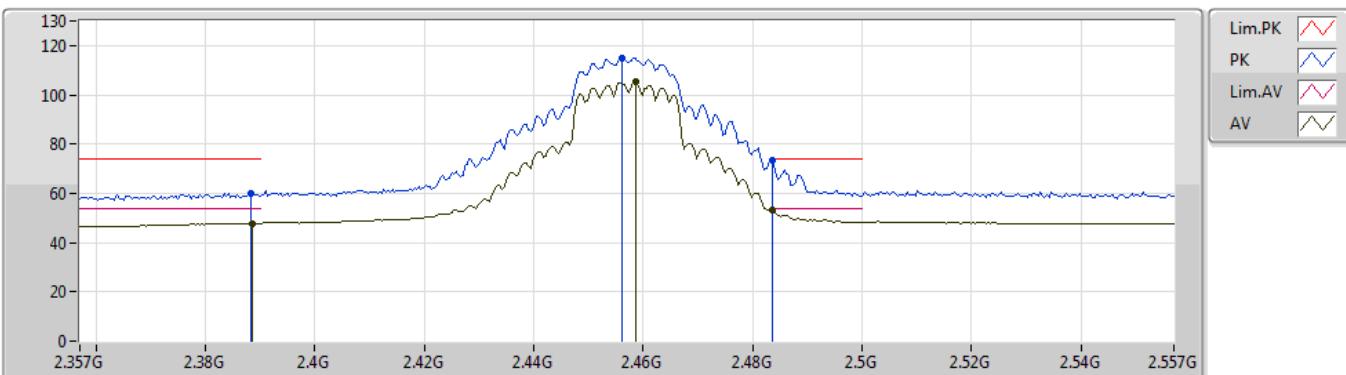
28/11/2019

2437MHz_TX



802.11n HT20_Nss1,(MCS0)_2TX

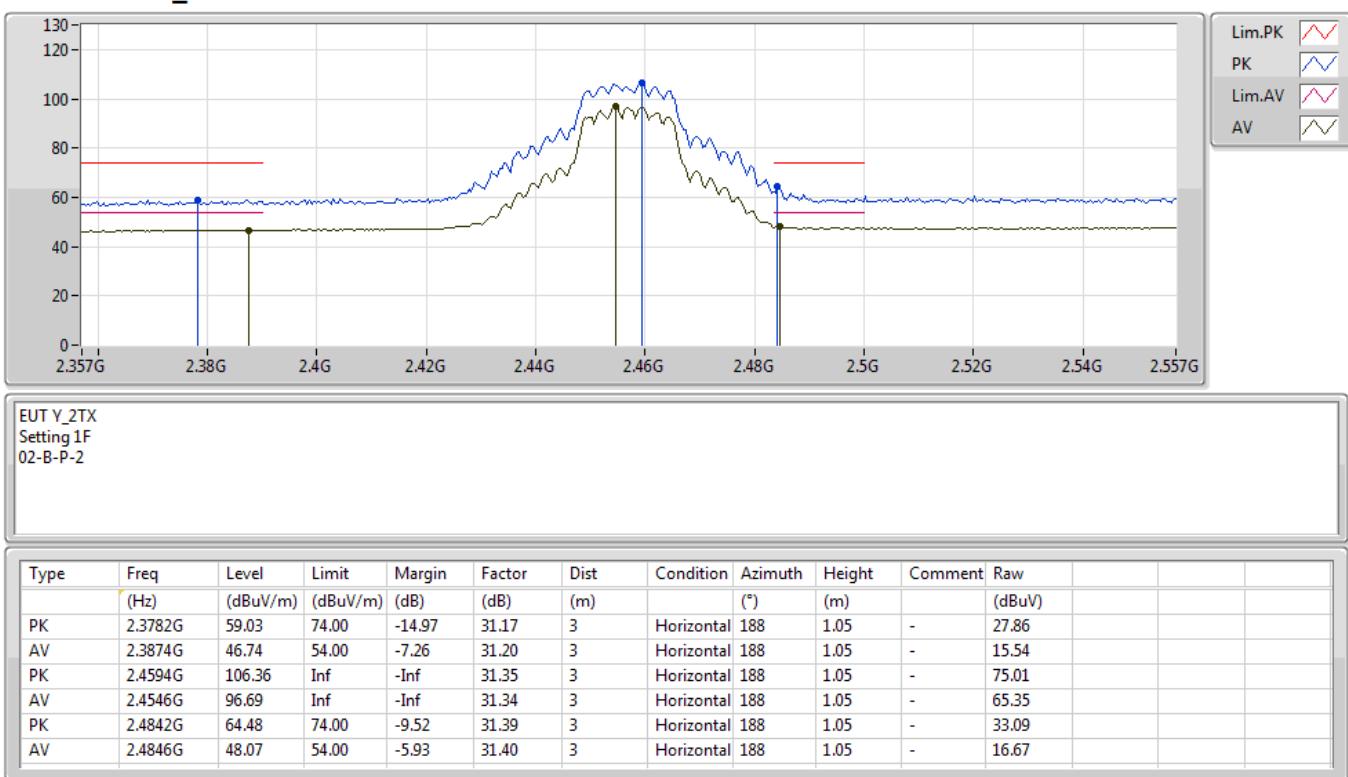
27/11/2019

2457MHz_TX

 EUT Y_2TX
 Setting 1F
 02-B-P-2

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV)			
PK	2.3882G	59.89	74.00	-14.11	31.20	3	Vertical	152	2.24	-	28.69			
AV	2.3886G	47.83	54.00	-6.17	31.20	3	Vertical	152	2.24	-	16.63			
PK	2.4562G	115.00	Inf	-Inf	31.34	3	Vertical	152	2.24	-	83.66			
AV	2.4586G	105.56	Inf	-Inf	31.34	3	Vertical	152	2.24	-	74.22			
PK	2.4835G	73.59	74.00	-0.41	31.39	3	Vertical	152	2.24	-	42.20			
AV	2.4835G	53.27	54.00	-0.73	31.39	3	Vertical	152	2.24	-	21.88			

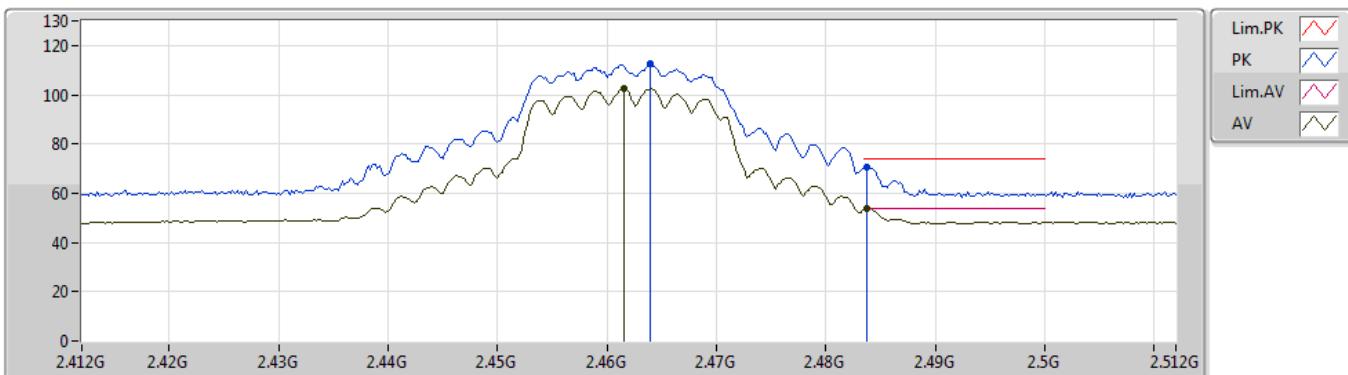
802.11n HT20_Nss1,(MCS0)_2TX

28/11/2019

2457MHz_TX


802.11n HT20_Nss1,(MCS0)_2TX

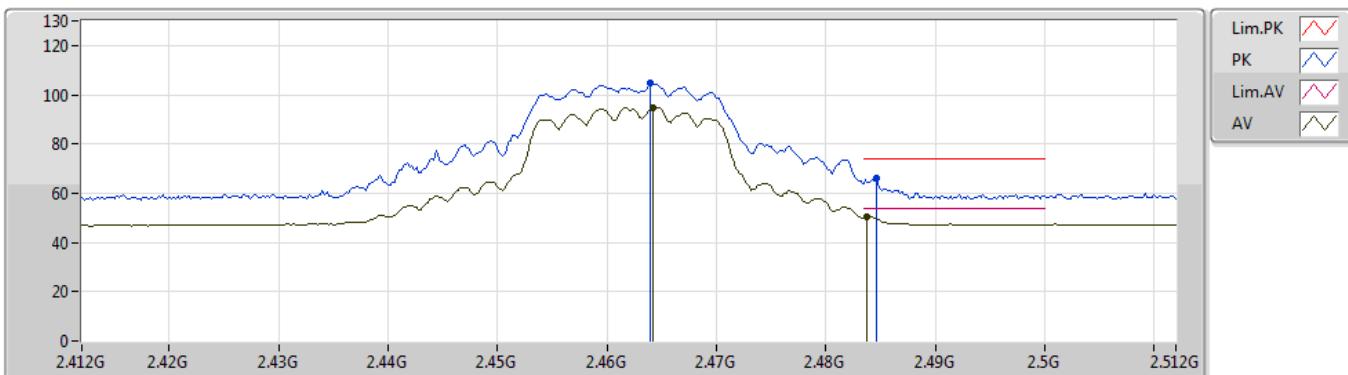
27/11/2019

2462MHz_TX

 EUT Y_2TX
 Setting 1A
 02-B-P-2

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV)			
PK	2.464G	112.53	Inf	-Inf	31.36	3	Vertical	131	1.70	-	81.17			
AV	2.4616G	102.60	Inf	-Inf	31.35	3	Vertical	131	1.70	-	71.25			
PK	2.4838G	70.52	74.00	-3.48	31.39	3	Vertical	131	1.70	-	39.13			
AV	2.4838G	53.80	54.00	-0.20	31.39	3	Vertical	131	1.70	-	22.41			

802.11n HT20_Nss1,(MCS0)_2TX

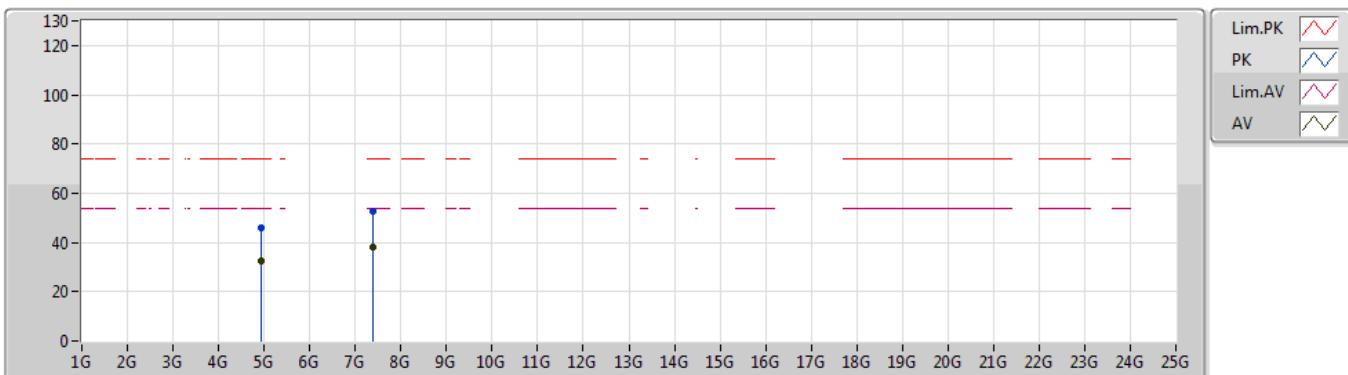
27/11/2019

2462MHz_TX

 EUT Y_2TX
 Setting 1A
 02-B-P-2

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV)			
PK	2.464G	104.60	Inf	-Inf	31.36	3	Horizontal	190	1.51	-	73.24			
AV	2.4642G	94.87	Inf	-Inf	31.36	3	Horizontal	190	1.51	-	63.51			
PK	2.4846G	66.01	74.00	-7.99	31.40	3	Horizontal	190	1.51	-	34.61			
AV	2.4838G	50.24	54.00	-3.76	31.39	3	Horizontal	190	1.51	-	18.85			

802.11n HT20_Nss1,(MCS0)_2TX

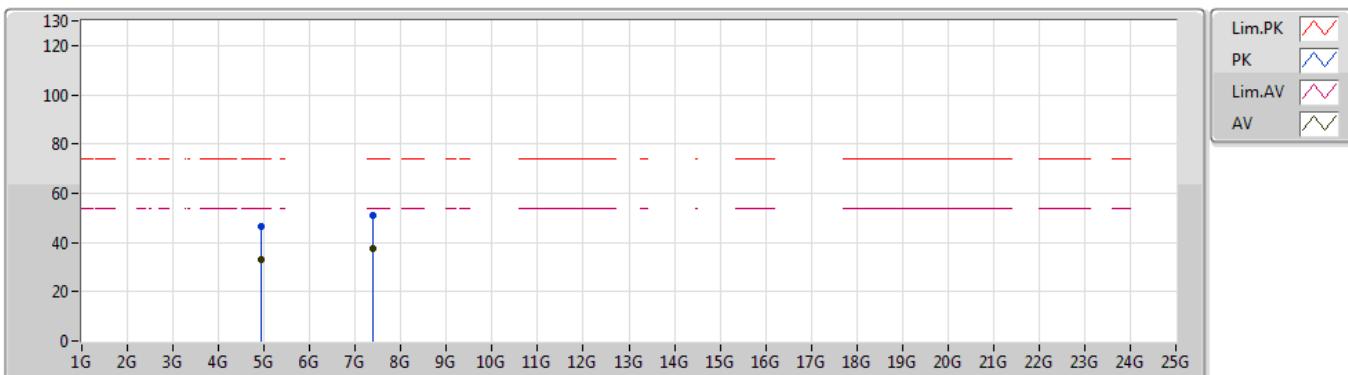
28/11/2019

2462MHz_TX

 EUT Y_2TX
 Setting 1A
 02-B-P-2

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV)			
PK	4.9247G	45.90	74.00	-28.10	7.40	3	Vertical	304	1.96	-	38.50			
AV	4.927G	32.44	54.00	-21.56	7.42	3	Vertical	304	1.96	-	25.02			
PK	7.3821G	52.68	74.00	-21.32	10.75	3	Vertical	207	1.03	-	41.93			
AV	7.3865G	38.31	54.00	-15.69	10.76	3	Vertical	207	1.03	-	27.55			

802.11n HT20_Nss1,(MCS0)_2TX

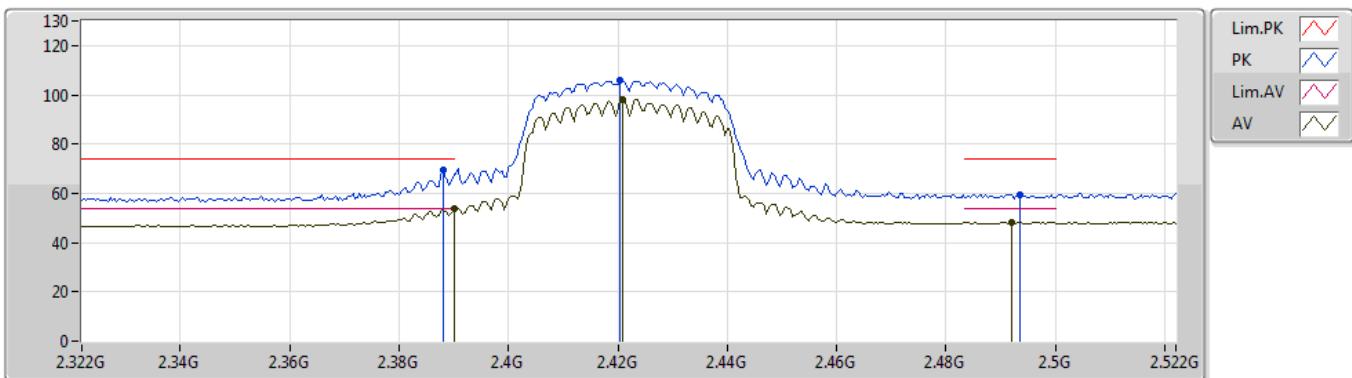
28/11/2019

2462MHz_TX

 EUT Y_2TX
 Setting 1A
 02-B-P-2

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV)			
PK	4.9272G	46.72	74.00	-27.28	7.42	3	Horizontal	167	2.13	-	39.30			
AV	4.9274G	33.16	54.00	-20.84	7.42	3	Horizontal	167	2.13	-	25.74			
PK	7.3789G	51.07	74.00	-22.93	10.73	3	Horizontal	175	2.57	-	40.34			
AV	7.3812G	37.27	54.00	-16.73	10.75	3	Horizontal	175	2.57	-	26.52			

802.11n HT40_Nss1,(MCS0)_2TX

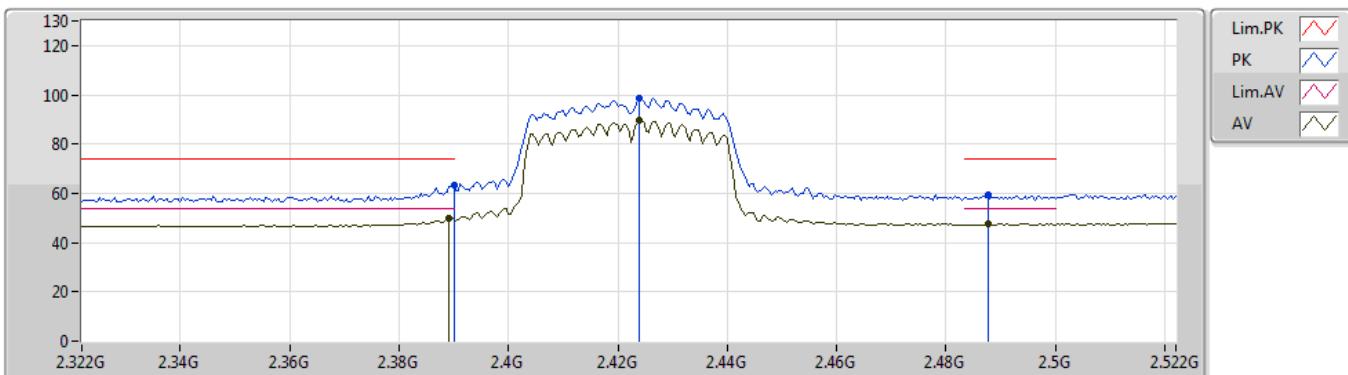
28/11/2019

2422MHz_TX

 EUT Y_2TX
 Setting 12
 02-B-P-2

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV)			
PK	2.388G	69.67	74.00	-4.33	31.20	3	Vertical	0	2.53	-	38.47			
AV	2.39G	53.97	54.00	-0.03	31.20	3	Vertical	0	2.53	-	22.77			
PK	2.4204G	106.02	Inf	-Inf	31.27	3	Vertical	0	2.53	-	74.75			
AV	2.4208G	98.33	Inf	-Inf	31.27	3	Vertical	0	2.53	-	67.06			
PK	2.4936G	59.63	74.00	-14.37	31.42	3	Vertical	0	2.53	-	28.21			
AV	2.492G	48.28	54.00	-5.72	31.42	3	Vertical	0	2.53	-	16.86			

802.11n HT40_Nss1,(MCS0)_2TX

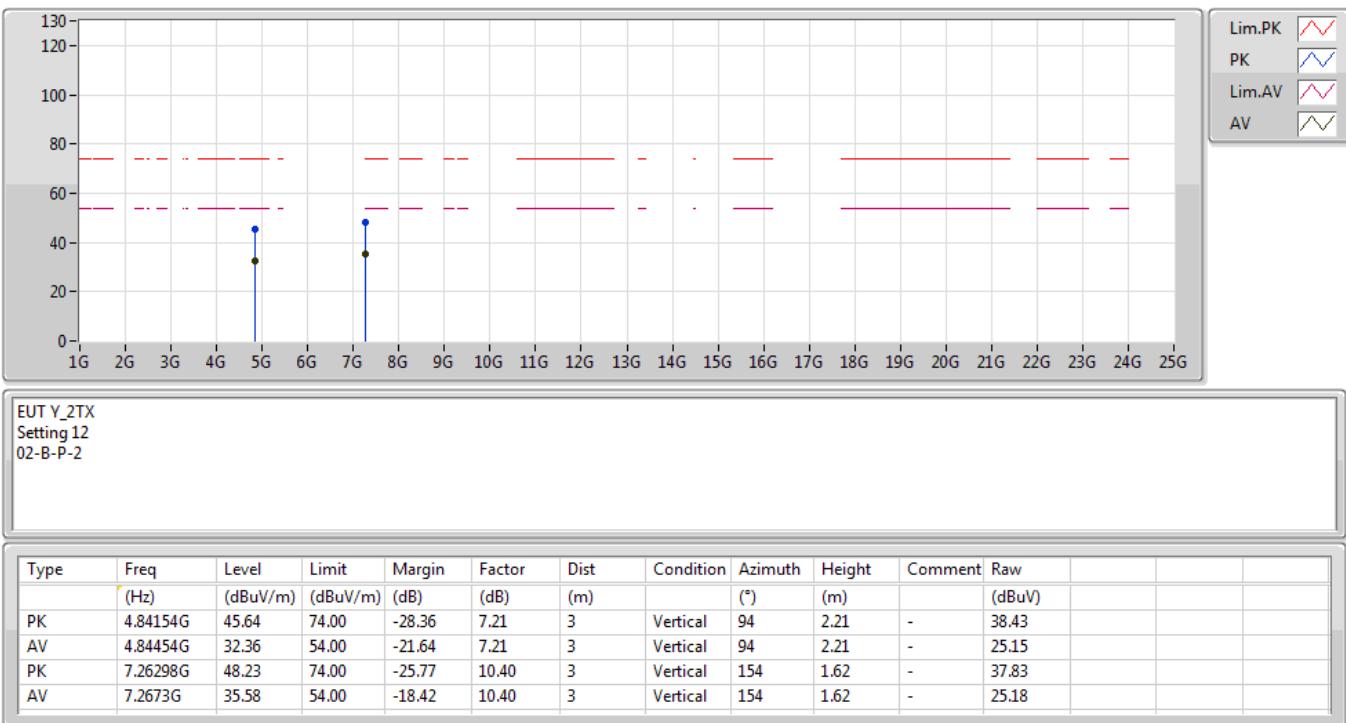
28/11/2019

2422MHz_TX

 EUT Y_2TX
 Setting 12
 02-B-P-2

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV)			
PK	2.39G	63.50	74.00	-10.50	31.20	3	Horizontal	186	1.66	-	32.30			
AV	2.3892G	49.74	54.00	-4.26	31.20	3	Horizontal	186	1.66	-	18.54			
PK	2.424G	98.46	Inf	-Inf	31.28	3	Horizontal	186	1.66	-	67.18			
AV	2.424G	89.43	Inf	-Inf	31.28	3	Horizontal	186	1.66	-	58.15			
PK	2.4876G	59.28	74.00	-14.72	31.41	3	Horizontal	186	1.66	-	27.87			
AV	2.4876G	47.68	54.00	-6.32	31.41	3	Horizontal	186	1.66	-	16.27			

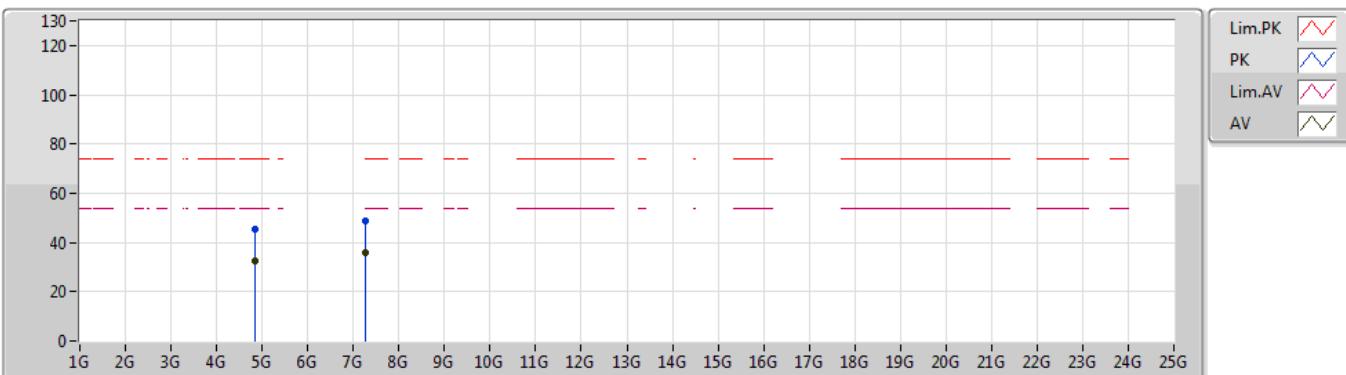
802.11n HT40_Nss1,(MCS0)_2TX

28/11/2019

2422MHz_TX


802.11n HT40_Nss1,(MCS0)_2TX

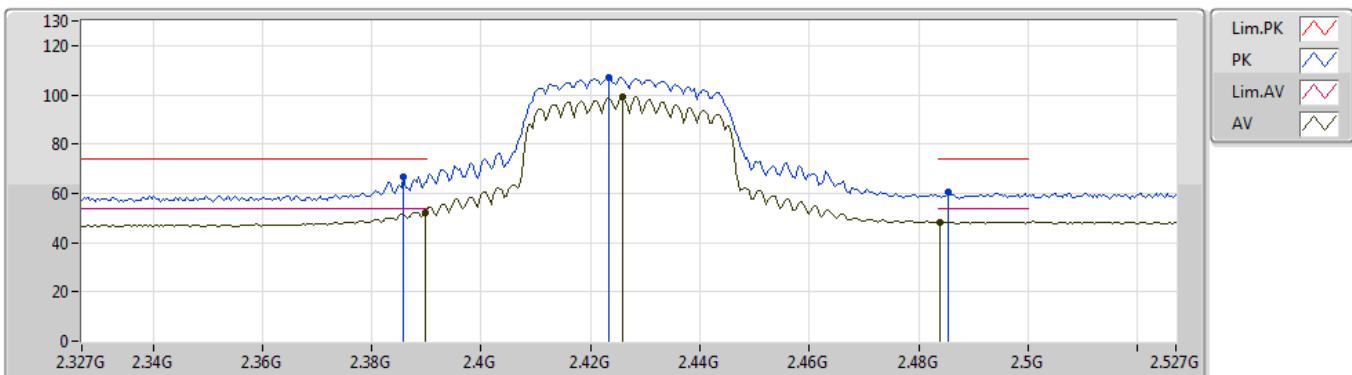
28/11/2019

2422MHz_TX

 EUT Y_2TX
 Setting 12
 02-B-P-2

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV)			
PK	4.84774G	45.35	74.00	-28.65	7.22	3	Horizontal	169	2.10	-	38.13			
AV	4.84038G	32.31	54.00	-21.69	7.21	3	Horizontal	169	2.10	-	25.10			
PK	7.263G	48.67	74.00	-25.33	10.40	3	Horizontal	249	1.66	-	38.27			
AV	7.26706G	35.59	54.00	-18.41	10.40	3	Horizontal	249	1.66	-	25.19			

802.11n HT40_Nss1,(MCS0)_2TX

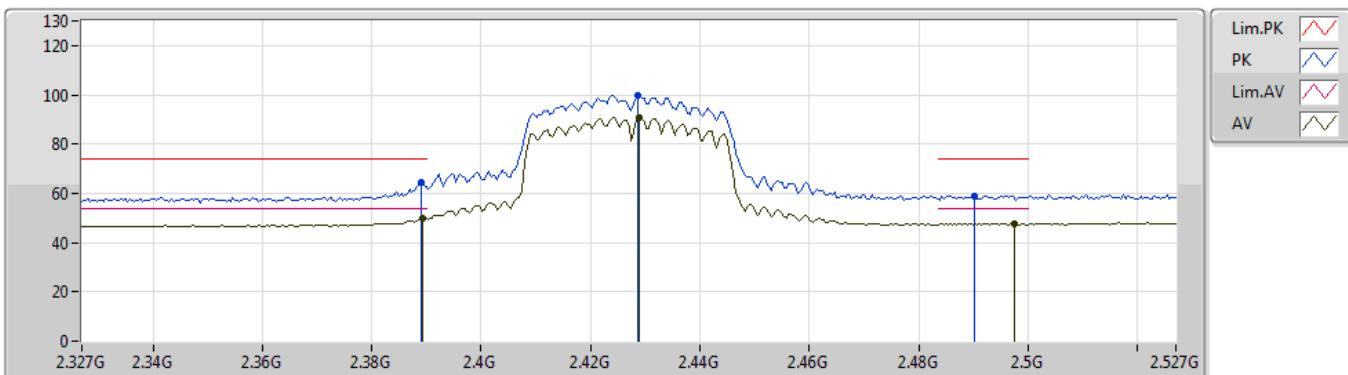
28/11/2019

2427MHz_TX

 EUT Y_2TX
 Setting 15
 02-B-P-2

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV)			
PK	2.3858G	66.88	74.00	-7.12	31.19	3	Vertical	355	2.49	-	35.69			
AV	2.3898G	52.38	54.00	-1.62	31.20	3	Vertical	355	2.49	-	21.18			
PK	2.4234G	106.95	Inf	-Inf	31.28	3	Vertical	355	2.49	-	75.67			
AV	2.4258G	99.10	Inf	-Inf	31.28	3	Vertical	355	2.49	-	67.82			
PK	2.4854G	60.54	74.00	-13.46	31.40	3	Vertical	355	2.49	-	29.14			
AV	2.4838G	48.46	54.00	-5.54	31.39	3	Vertical	355	2.49	-	17.07			

802.11n HT40_Nss1,(MCS0)_2TX

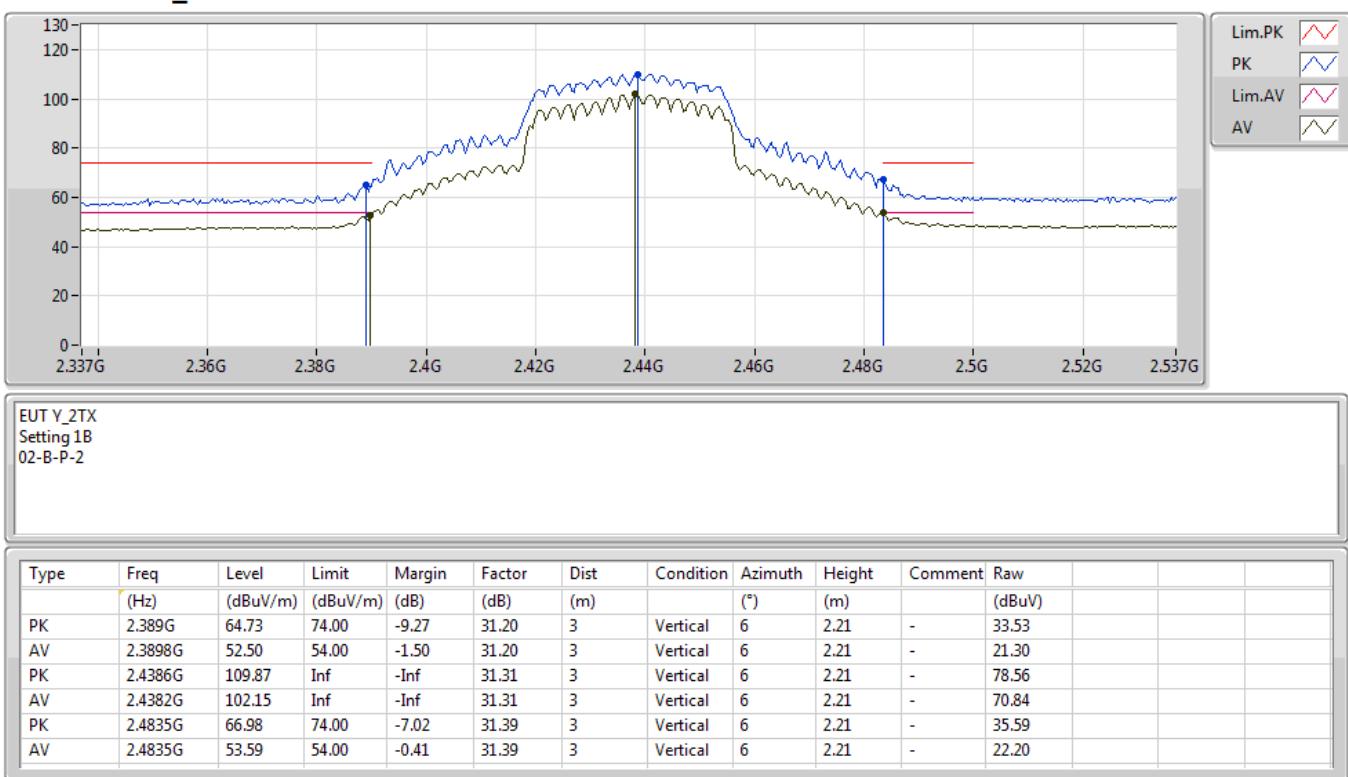
28/11/2019

2427MHz_TX

 EUT Y_2TX
 Setting 15
 02-B-P-2

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV)			
PK	2.389G	64.36	74.00	-9.64	31.20	3	Horizontal	195	1.65	-	33.16			
AV	2.3894G	49.96	54.00	-4.04	31.20	3	Horizontal	195	1.65	-	18.76			
PK	2.4286G	99.84	Inf	-Inf	31.29	3	Horizontal	195	1.65	-	68.55			
AV	2.429G	90.74	Inf	-Inf	31.29	3	Horizontal	195	1.65	-	59.45			
PK	2.4902G	59.08	74.00	-14.92	31.41	3	Horizontal	195	1.65	-	27.67			
AV	2.4974G	47.86	54.00	-6.14	31.43	3	Horizontal	195	1.65	-	16.43			

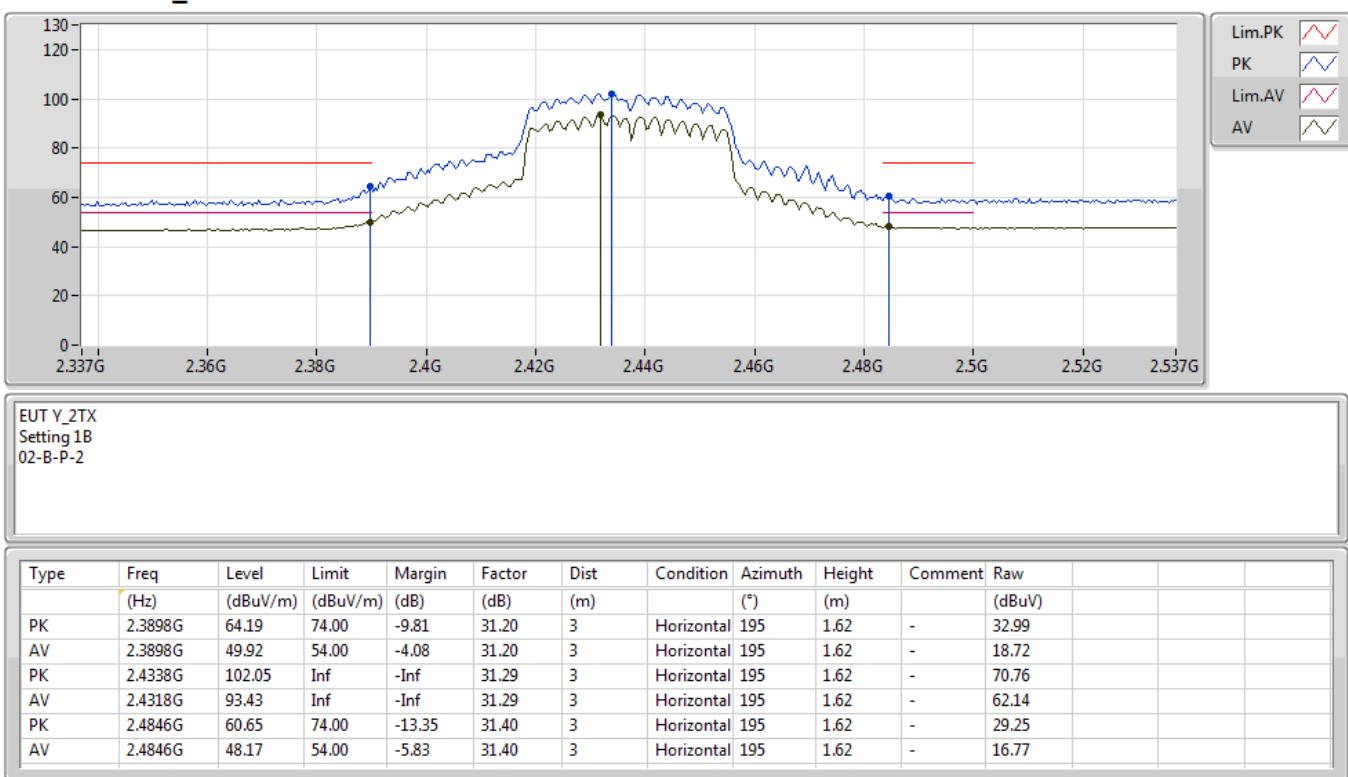
802.11n HT40_Nss1,(MCS0)_2TX

28/11/2019

2437MHz_TX


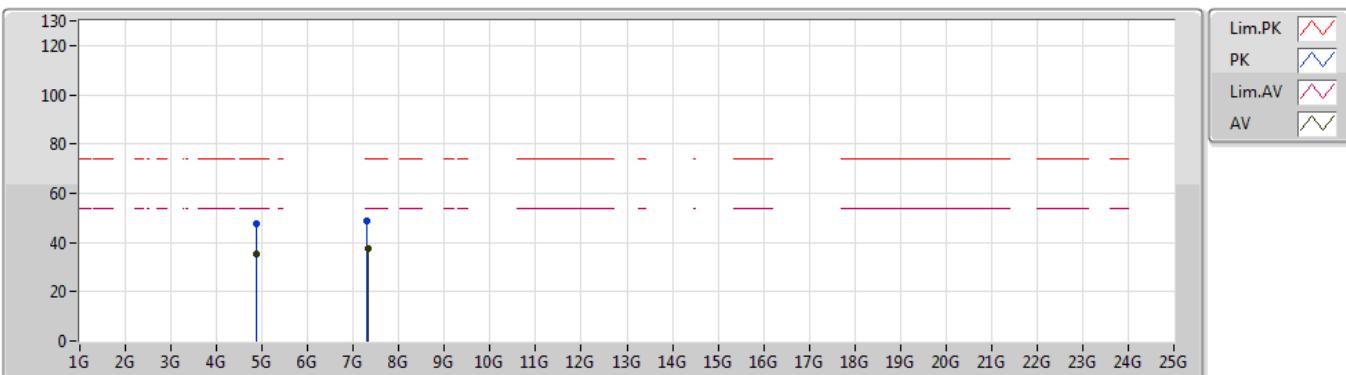
802.11n HT40_Nss1,(MCS0)_2TX

28/11/2019

2437MHz_TX


802.11n HT40_Nss1,(MCS0)_2TX

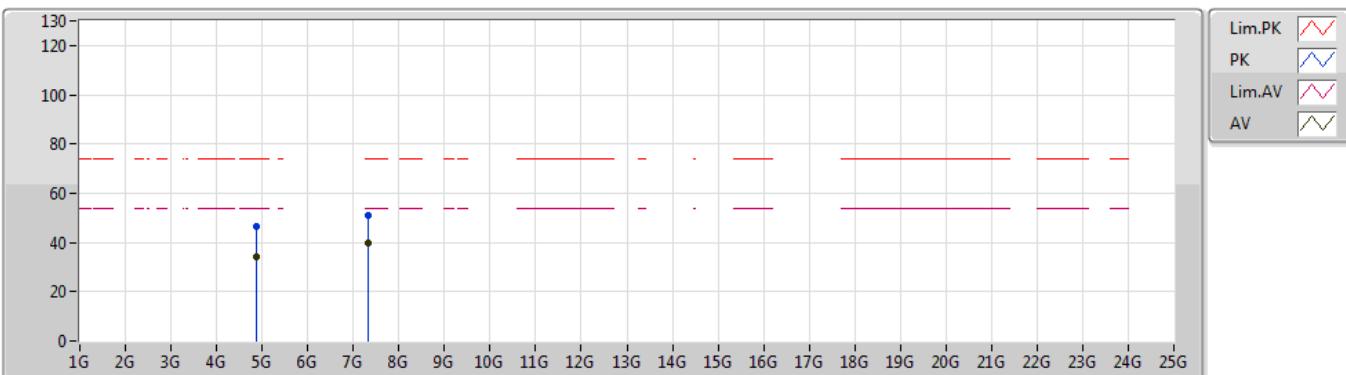
28/11/2019

2437MHz_TX

 EUT Y_2TX
 Setting 1B
 02-B-P-2

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV)			
PK	4.8747G	47.85	74.00	-26.15	7.28	3	Vertical	181	2.94	-	40.57			
AV	4.8747G	35.44	54.00	-18.56	7.28	3	Vertical	181	2.94	-	28.16			
PK	7.3085G	48.73	74.00	-25.27	10.54	3	Vertical	160	2.56	-	38.19			
AV	7.318G	37.58	54.00	-16.42	10.57	3	Vertical	160	2.56	-	27.01			

802.11n HT40_Nss1,(MCS0)_2TX

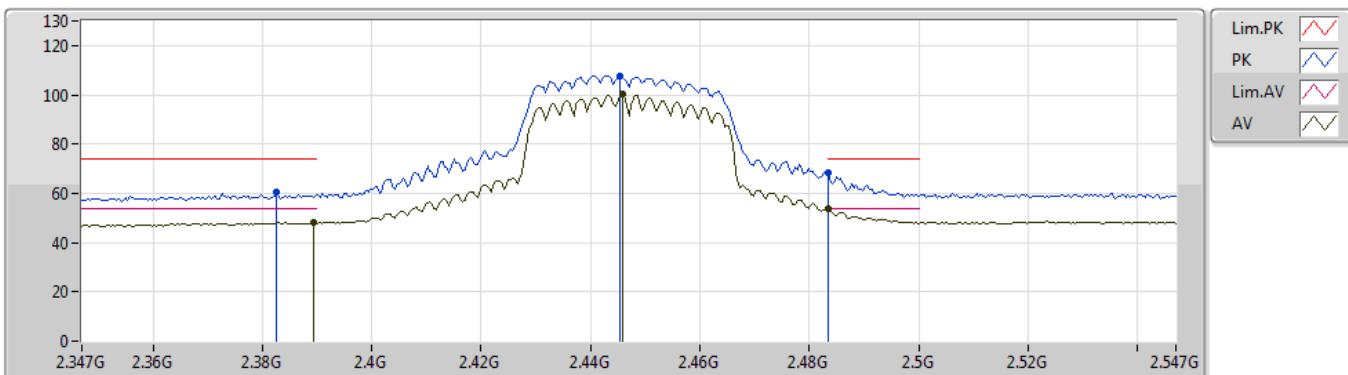
28/11/2019

2437MHz_TX

 EUT Y_2TX
 Setting 1B
 02-B-P-2

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV)			
PK	4.875G	46.39	74.00	-27.61	7.29	3	Horizontal	76	1.94	-	39.10			
AV	4.8672G	34.03	54.00	-19.97	7.27	3	Horizontal	76	1.94	-	26.76			
PK	7.3116G	51.16	74.00	-22.84	10.55	3	Horizontal	268	1.89	-	40.61			
AV	7.3142G	39.83	54.00	-14.17	10.56	3	Horizontal	268	1.89	-	29.27			

802.11n HT40_Nss1,(MCS0)_2TX

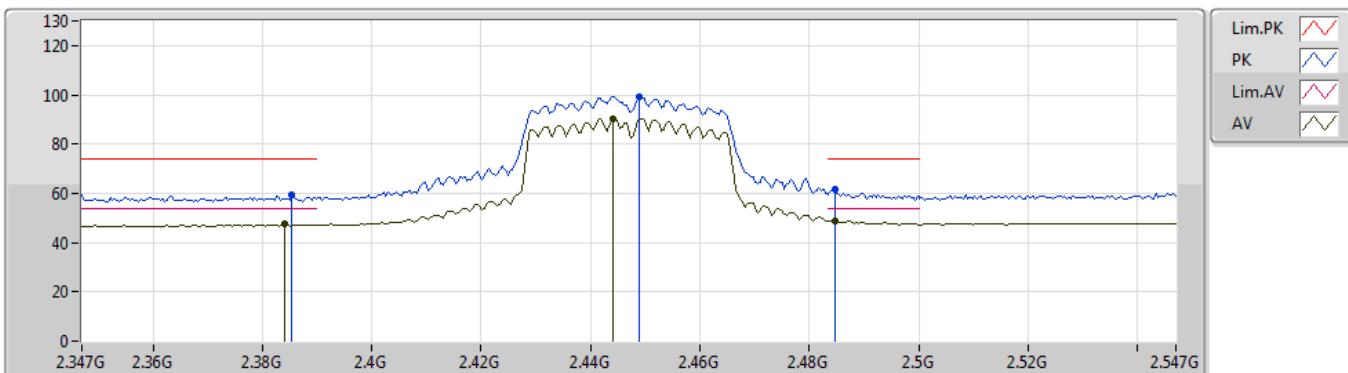
28/11/2019

2447MHz_TX

 EUT Y_2TX
 Setting 15
 02-B-P-2

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV)			
PK	2.3826G	60.51	74.00	-13.49	31.19	3	Vertical	173	2.74	-	29.32			
AV	2.3894G	48.05	54.00	-5.95	31.20	3	Vertical	173	2.74	-	16.85			
PK	2.4454G	107.82	Inf	-Inf	31.32	3	Vertical	173	2.74	-	76.50			
AV	2.4458G	100.14	Inf	-Inf	31.32	3	Vertical	173	2.74	-	68.82			
PK	2.4835G	68.50	74.00	-5.50	31.39	3	Vertical	173	2.74	-	37.11			
AV	2.4835G	53.71	54.00	-0.29	31.39	3	Vertical	173	2.74	-	22.32			

802.11n HT40_Nss1,(MCS0)_2TX

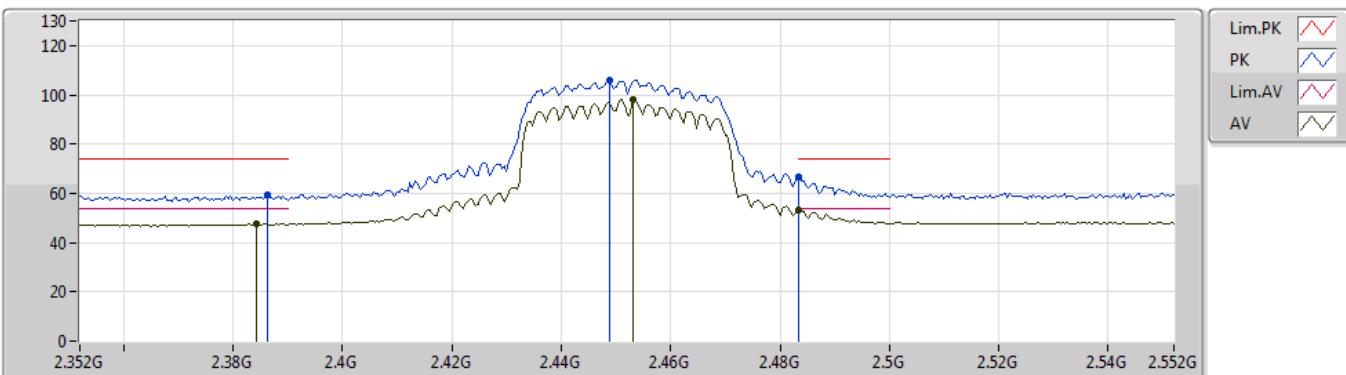
28/11/2019

2447MHz_TX

 EUT Y_2TX
 Setting 15
 02-B-P-2

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV)			
PK	2.3854G	59.17	74.00	-14.83	31.19	3	Horizontal	184	1.46	-	27.98			
AV	2.3842G	47.35	54.00	-6.65	31.19	3	Horizontal	184	1.46	-	16.16			
PK	2.449G	99.20	Inf	-Inf	31.33	3	Horizontal	184	1.46	-	67.87			
AV	2.4442G	90.27	Inf	-Inf	31.32	3	Horizontal	184	1.46	-	58.95			
PK	2.4846G	61.43	74.00	-12.57	31.40	3	Horizontal	184	1.46	-	30.03			
AV	2.4846G	48.83	54.00	-5.17	31.40	3	Horizontal	184	1.46	-	17.43			

802.11n HT40_Nss1,(MCS0)_2TX

28/11/2019

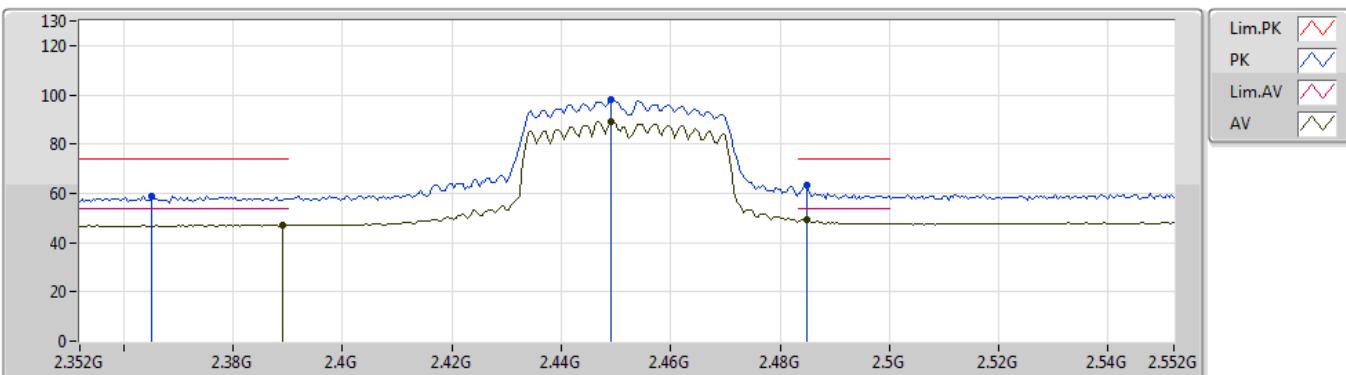
2452MHz_TX

 EUT Y_2TX
 Setting 12
 02-B-P-2

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV)			
PK	2.3864G	59.49	74.00	-14.51	31.20	3	Vertical	140	2.99	-	28.29			
AV	2.3844G	47.61	54.00	-6.39	31.19	3	Vertical	140	2.99	-	16.42			
PK	2.4488G	105.83	Inf	-Inf	31.33	3	Vertical	140	2.99	-	74.50			
AV	2.4532G	97.94	Inf	-Inf	31.34	3	Vertical	140	2.99	-	66.60			
PK	2.4835G	66.87	74.00	-7.13	31.39	3	Vertical	140	2.99	-	35.48			
AV	2.4835G	53.29	54.00	-0.71	31.39	3	Vertical	140	2.99	-	21.90			

802.11n HT40_Nss1,(MCS0)_2TX

28/11/2019

2452MHz_TX


 EUT Y_2TX
 Setting 12
 02-B-P-2

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV)			
PK	2.3652G	59.07	74.00	-14.93	31.15	3	Horizontal	195	1.48	-	27.92			
AV	2.3892G	47.28	54.00	-6.72	31.20	3	Horizontal	195	1.48	-	16.08			
PK	2.4492G	98.08	Inf	-Inf	31.33	3	Horizontal	195	1.48	-	66.75			
AV	2.4492G	88.99	Inf	-Inf	31.33	3	Horizontal	195	1.48	-	57.66			
PK	2.4848G	63.48	74.00	-10.52	31.40	3	Horizontal	195	1.48	-	32.08			
AV	2.4848G	49.09	54.00	-4.91	31.40	3	Horizontal	195	1.48	-	17.69			

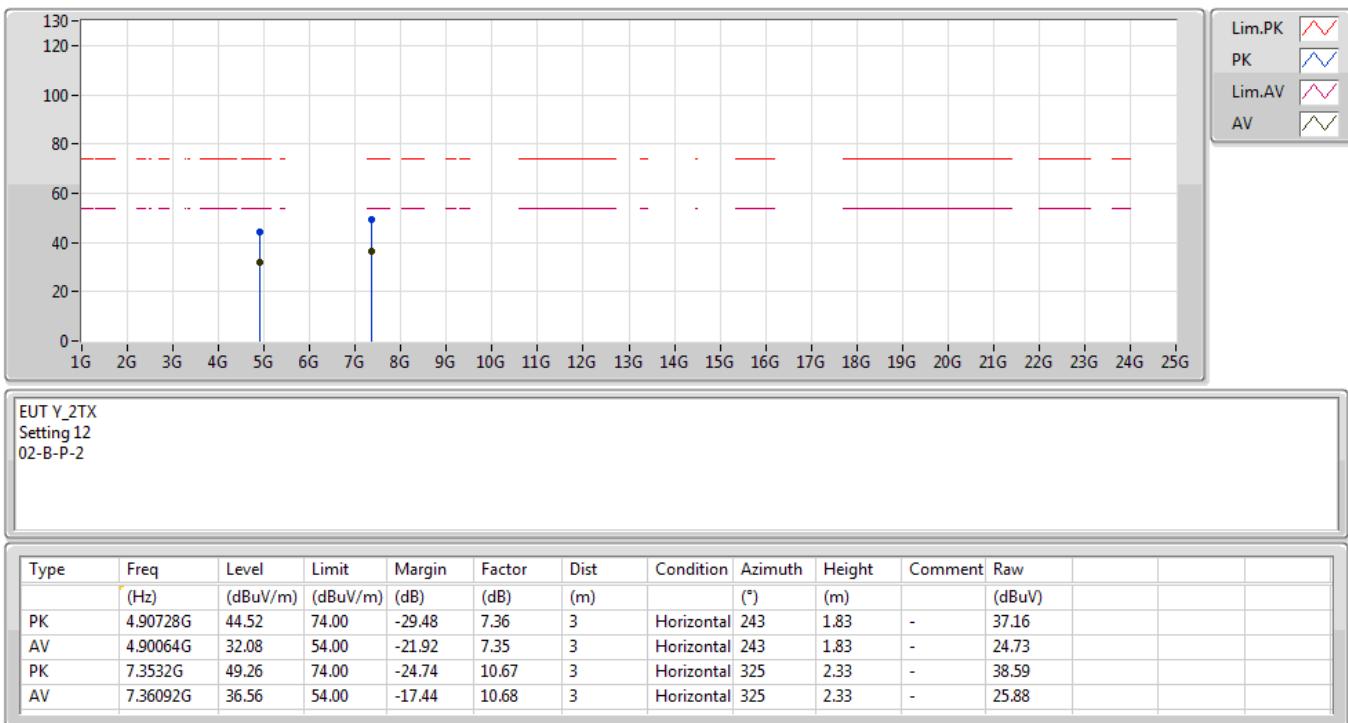
802.11n HT40_Nss1,(MCS0)_2TX

28/11/2019

2452MHz_TX


802.11n HT40_Nss1,(MCS0)_2TX

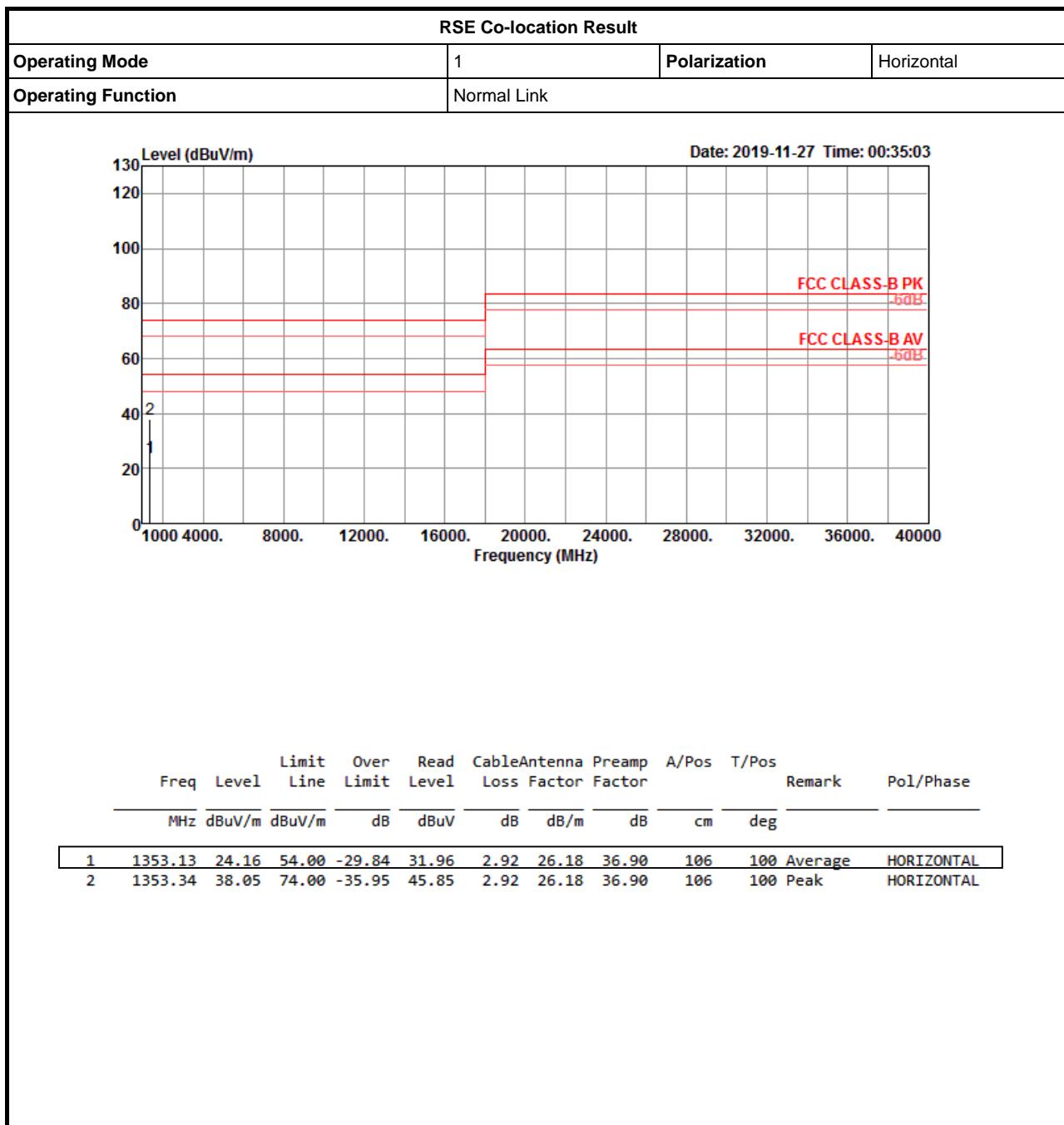
28/11/2019

2452MHz_TX




RSE Co-location Result

Appendix G





RSE Co-location Result

Appendix G

