



# FCC RADIO TEST REPORT

FCC ID : UIDW21  
Equipment : Wireless Router  
Brand Name : ARRIS  
Model Name : W21  
Applicant : ARRIS  
3871 Lakefield Drive Suite 300, Suwanee, Georgia,  
30024 United States  
Manufacturer : ARRIS  
3871 Lakefield Drive Suite 300, Suwanee, Georgia,  
30024 United States  
Standard : 47 CFR FCC Part 15.247

The product was received on Jun. 03, 2019, and testing was started from Sep. 12, 2019 and completed on Oct. 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: Sam Chen

**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 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), VHT20, ax (HEW20)	2412-2462	1-11 [11]
2400-2483.5	n (HT40), VHT40, ax (HEW40)	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	VHT20	20	2TX
2.4-2.4835GHz	802.11ax HEW20	20	2TX
2.4-2.4835GHz	802.11n HT40	40	2TX
2.4-2.4835GHz	VHT40	40	2TX
2.4-2.4835GHz	802.11ax HEW40	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.
- VHT20, VHT40 use a combination of OFDM-BPSK, QPSK, 16QAM, 64QAM, 256QAM, 1024QAM modulation.
- HEW20, HEW40 use a combination of OFDMA-BPSK, QPSK, 16QAM, 64QAM, 256QAM, 1024QAM 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

Set	2.4G port	5G Band 1 port	5G Band 4 port	Brand Name	Model Name	Antenna Type	Connector	Gain (dBi)
1	1	-	-	WHAYU	C1335-510379-A	PCB antenna	I-PEX	Note 1
2	2	-	-	WHAYU	C1335-510382-A	PCB antenna	I-PEX	
3	-	1	-	WHAYU	C1335-510380-A	PCB antenna	I-PEX	
4	-	2	-	WHAYU	C1335-510383-A	PCB antenna	I-PEX	
5	-	-	4	WHAYU	C1335-510381-A	PCB antenna	I-PEX	
6	-	-	3	WHAYU	C1335-510384-A	PCB antenna	I-PEX	
7	-	-	2	WHAYU	C1335-510385-A	PCB antenna	I-PEX	
8	-	-	1	WHAYU	C1335-510386-A	PCB antenna	I-PEX	

Note1:

Set	Antenn Gain (dBi)		
	2.4GHz	5GHz Band 1	5GHz Band 4
1	3.81	-	-
2	3.59	-	-
3	-	4.80	-
4	-	4.03	-
5	-	-	5.28
6	-	-	3.47
7	-	-	4.74
8	-	-	4.21

Set	Directional gain (dBi)		
	2.4GHz	5GHz Band 1	5GHz Band 4
1	4.73	-	-
2	4.73	-	-
3	-	6.04	-
4	-	6.04	-
5	-	-	7.95
6	-	-	7.95
7	-	-	7.95
8	-	-	7.95



Note2: The above information was declared by manufacturer.

Note3: The EUT has eight set antennas.

The EUT has two radios, Radio 1 supports WLAN 2.4GHz (802.11b/g/n/ac/ax mode) and WLAN 5GHz band 1 (802.11a/n/ac/ax mode), Radio 2 supports WLAN 5GHz band 4 (802.11a/n/ac/ax mode) function.

#### For Radio 1 (2.4GHz) and (5GHz band 1)

##### For 2TX/2RX:

Port 1 and Port 2 can be use as transmitting/receiving antenna

Port 1 and Port 2 could receive simultaneously.

##### For Radio 2 (5GHz band 4)

##### For 4TX/4RX:

Port 1, Port 2, Port 3 and Port 4 can be use as transmitting/receiving antenna

Port 1, Port 2, Port 3 and Port 4 could receive simultaneously.

### 1.1.3 Mode Test Duty Cycle

Mode	DC	DCF(dB)
802.11b	0.952	0.21
802.11g	0.951	0.22
VHT20	0.983	0.07
VHT40	0.971	0.13
802.11ax HEW20	0.981	0.08
802.11ax HEW40	0.964	0.16

Note:

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

### 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
Function	<input checked="" type="checkbox"/>	Point-to-multipoint	<input type="checkbox"/>	Point-to-point
Test Software Version	Mtool_3.1.0.1			

Note: The above information was declared by manufacturer.

**1.1.5 Table for radio information**

Radio	2.4GHz	5GHz
1	V	V (Band 1)
2	X	V (Band 4)



## 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	TH01-CB	Ekko Hsieh	24.8~25.5°C / 64~66%	Sep. 16, 2019 ~ Sep. 18, 2019
Radiated below 1GHz	03CH05-CB	KJ Chang	24.4~25.7°C / 58~63%	Oct. 07, 2019
Radiated above 1GHz	03CH05-CB	KJ Chang	24.4~25.7°C / 58~63%	Sep. 12, 2019 ~ Oct. 07, 2019
AC Conduction	CO01-CB	Rick Yeh	25~26°C / 42~46%	Oct. 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	107
2437MHz	113
2462MHz	115
802.11g_Nss1,(6Mbps)_2TX	-
2412MHz	100
2417MHz	111
2437MHz	115
2457MHz	114
2462MHz	105
VHT20_Nss1,(MCS0)_2TX	-
2412MHz	99
2417MHz	107
2437MHz	115
2457MHz	113
2462MHz	102
802.11ax HEW20_Nss1,(MCS0)_2TX	-
2412MHz	99
2417MHz	107
2437MHz	114
2457MHz	113
2462MHz	102
VHT40_Nss1,(MCS0)_2TX	-
2422MHz	93
2437MHz	99
2452MHz	93
802.11ax HEW40_Nss1,(MCS0)_2TX	-
2422MHz	93
2437MHz	99
2452MHz	93

**Note:**

- VHT20/VHT40 covers HT20/HT40, due to same modulation. The power setting for 802.11n HT20 and HT40 are the same or lower than 802.11ac VHT20 and VHT40.



## 2.2 The Worst Case Measurement Configuration

The Worst Case Mode for Following Conformance Tests	
<b>Tests Item</b>	AC power-line conducted emissions
<b>Condition</b>	AC power-line conducted measurement for line and neutral
<b>Operating Mode</b>	CTX
1	EUT-2.4GHz_Radio 1
2	EUT-5GHz band 1_Radio 1
3	EUT-5GHz band 4_Radio 2

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

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

The Worst Case Mode for Following Conformance Tests	
<b>Tests Item</b>	Emissions in Restricted Frequency Bands
<b>Test Condition</b>	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.
<b>Operating Mode &lt; 1GHz</b>	CTX
1	EUT-2.4GHz_Radio 1
2	EUT-5GHz band 1_Radio 1
3	EUT-5GHz band 4_Radio 2

For operating mode 2 is the worst case and it was record in this test report.

<b>Operating Mode &gt; 1GHz</b>	CTX
1	EUT-2.4GHz

The Worst Case Mode for Following Conformance Tests	
<b>Tests Item</b>	Simultaneous Transmission Analysis - Co-location RF Exposure Evaluation
<b>Operating Mode</b>	
1	WLAN 2.4GHz + WLAN 5GHz band 1 + WLAN 5GHz band 4

Refer to Sporton Test Report No.: FA932906 for Co-location RF Exposure Evaluation.

Note: The EUT can only use Y axis position.



## 2.3 EUT Operation during Test

The EUT was programmed to be in continuously transmitting mode.

## 2.4 Accessories

Accessories				
Equipment Name	Brand Name	Model Name	P/N	Rating
Adapter	APD	WB-30C12FU	AREP05649	INPUT: 100-240V~, 50-60Hz, 0.9AMax. OUTPUT: 12V, 2.5A

## 2.5 Support Equipment

For AC Conduction:

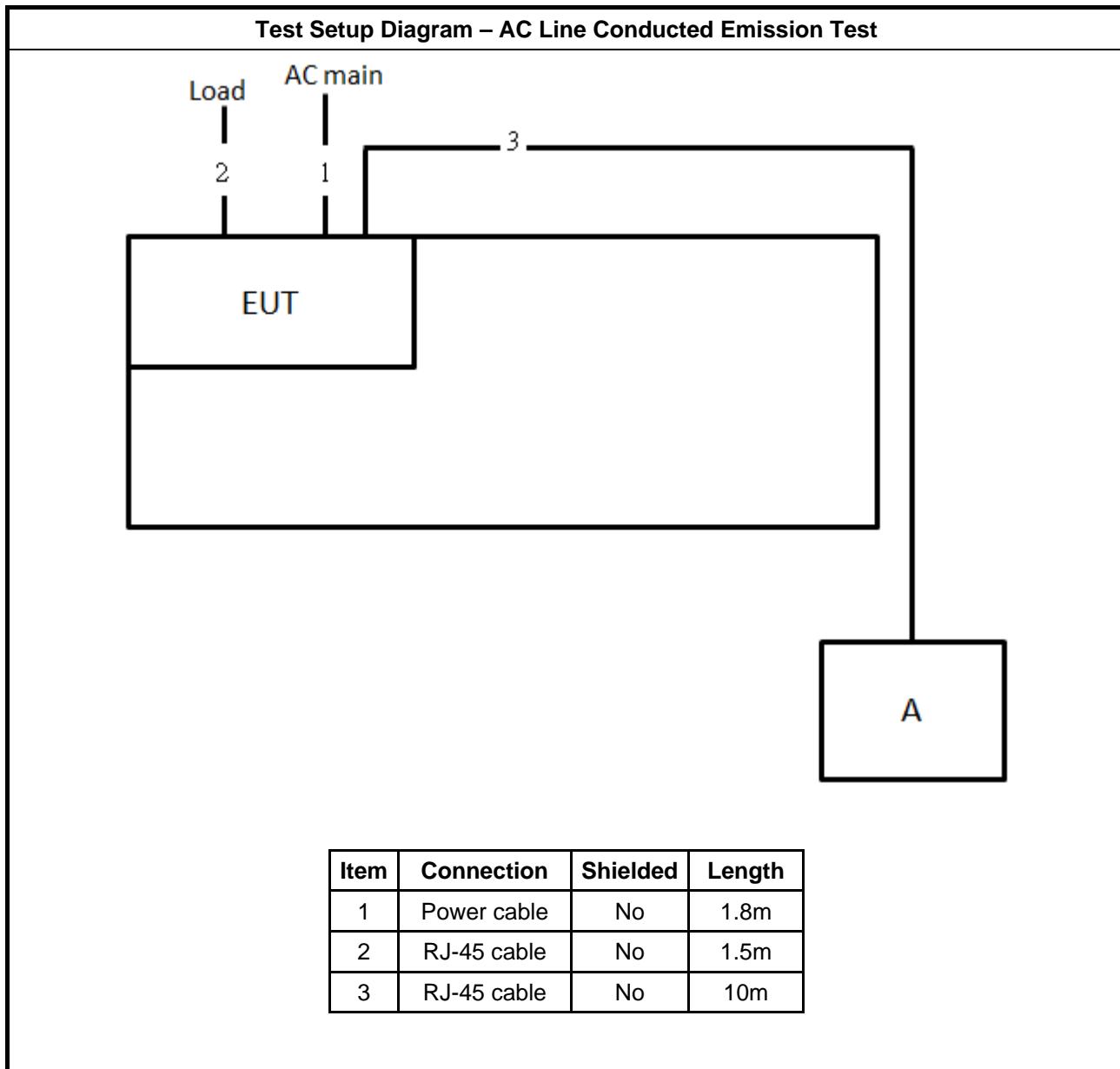
Support Equipment				
No.	Equipment	Brand Name	Model Name	FCC ID
A	LAN NB	DELL	E6430	N/A

For Radiated and RF Conducted:

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

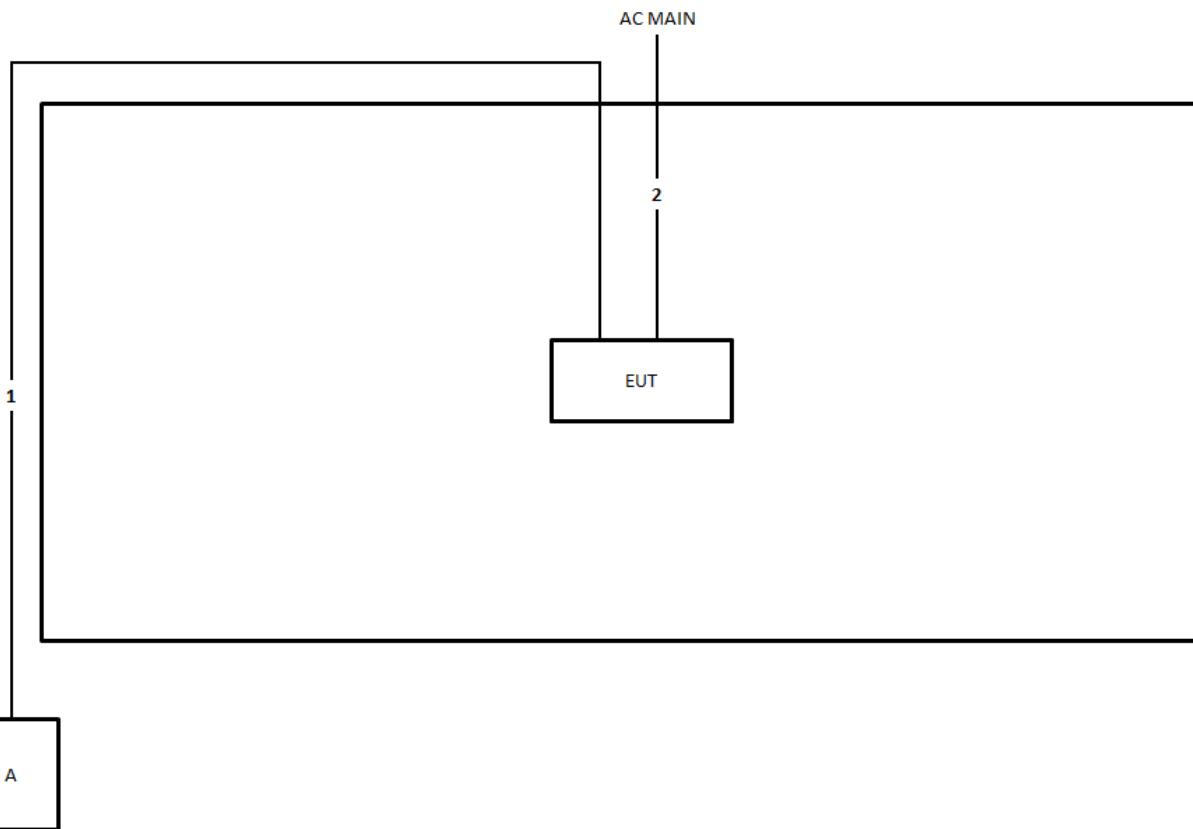


## 2.6 Test Setup Diagram





## Test Setup Diagram - Radiated Test



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.

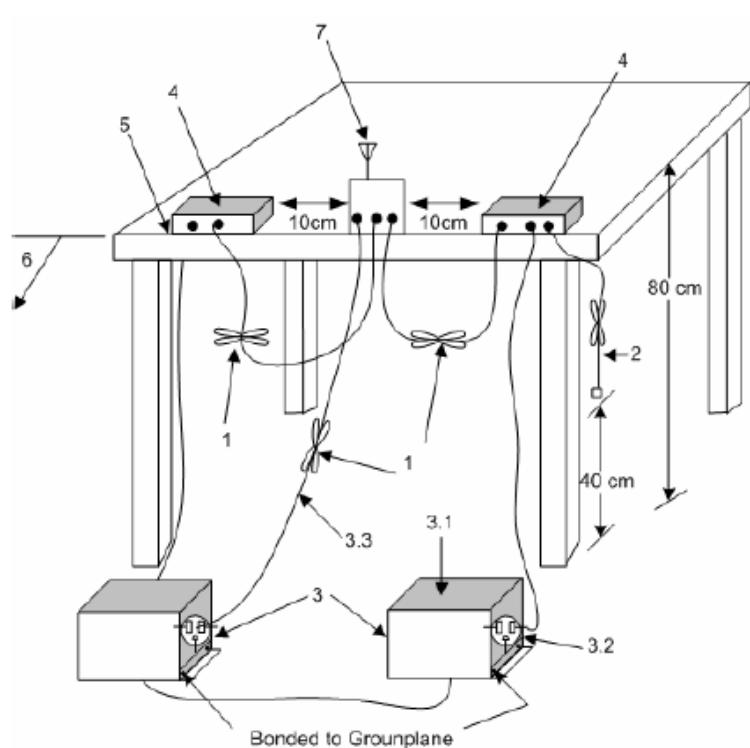
##### 3.1.2 Measuring Instruments

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



- 1—Interconnecting cables that hang closer than 40 cm to the ground plane shall be folded back and forth in the center forming a bundle 30 cm to 40 cm long.
- 2—The I/O cables that are not connected to an accessory shall be bundled in the center. The end of the cable may be terminated, if required, using the correct terminating impedance. The overall length shall not exceed 1 m.
- 3—EUT connected to one LISN. Unused LISN measuring port connectors shall be terminated in  $50\ \Omega$  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
<b>Systems using digital modulation techniques:</b>
▪ 6 dB bandwidth $\geq$ 500 kHz.

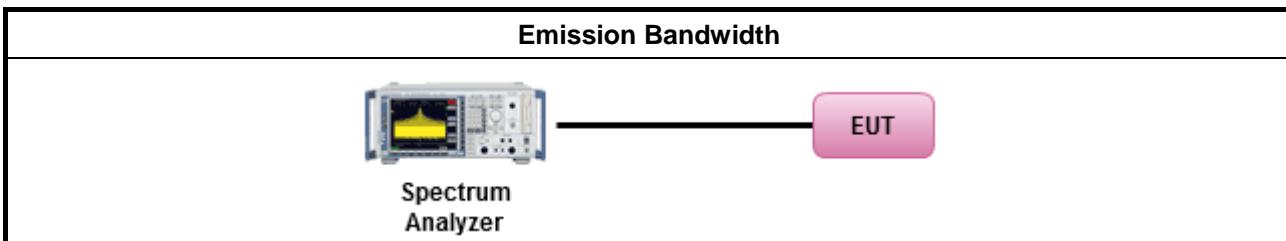
### 3.2.2 Measuring Instruments

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"><li>▪ If <math>G_{TX} \leq 6</math> dBi, then <math>P_{Out} \leq 30</math> dBm (1 W)</li></ul>
	<ul style="list-style-type: none"><li>▪ Point-to-multipoint systems (P2M): If <math>G_{TX} &gt; 6</math> dBi, then <math>P_{Out} = 30 - (G_{TX} - 6)</math> dBm</li></ul>
	<ul style="list-style-type: none"><li>▪ Point-to-point systems (P2P): If <math>G_{TX} &gt; 6</math> dBi, then <math>P_{Out} = 30 - (G_{TX} - 6)/3</math> dBm</li></ul>
	<ul style="list-style-type: none"><li>▪ Smart antenna system (SAS):<ul style="list-style-type: none"><li>- Single beam: If <math>G_{TX} &gt; 6</math> dBi, then <math>P_{Out} = 30 - (G_{TX} - 6)/3</math> dBm</li><li>- Overlap beam: If <math>G_{TX} &gt; 6</math> dBi, then <math>P_{Out} = 30 - (G_{TX} - 6)/3</math> dBm</li><li>- Aggregate power on all beams: If <math>G_{TX} &gt; 6</math> dBi, then <math>P_{Out} = 30 - (G_{TX} - 6)/3 + 8</math> dB dBm</li></ul></li></ul>

$P_{Out}$  = 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 <math>\geq</math> 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 checked="" 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 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"><li>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.</li><li>If multiple transmit chains, EIRP calculation could be following as methods: <math>P_{total} = P_1 + P_2 + \dots + P_n</math> (calculated in linear unit [mW] and transfer to log unit [dBm]) <math>EIRP_{total} = P_{total} + DG</math></li></ul>



### 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).

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]

Refer as FCC KDB 558074, clause 8.4 & C63.10 clause 11.10.3 Method AVGPSD-1.

Refer as FCC KDB 558074, clause 8.4 & C63.10 clause 11.10.5 Method AVGPSD-2.

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

Refer as FCC KDB 558074, clause 8.4 & C63.10 clause 11.10.4 Method AVGPSD-1A.  
(alternative).

Refer as FCC KDB 558074, clause 8.4 & C63.10 clause 11.10.6 Method AVGPSD-2A.  
(alternative)

Refer as FCC KDB 558074, clause 8.4 & C63.10 clause 11.10.8 Method AVGPSD-3A.  
(alternative)

- For conducted measurement.

- If The EUT supports multiple transmit chains using options given below:

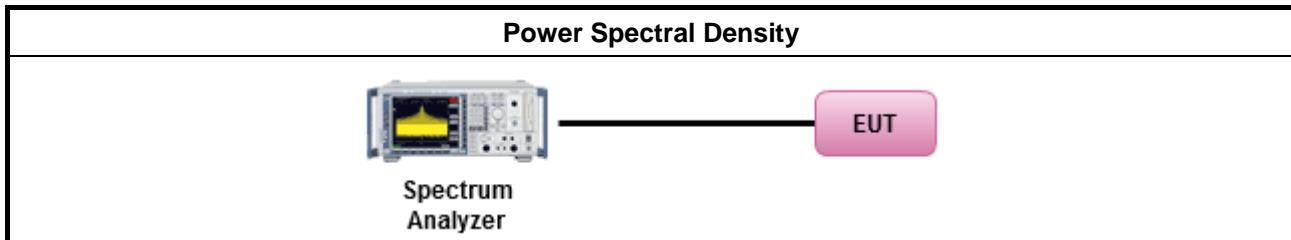
Option 1: Measure and sum the spectra across the outputs. Refer as FCC KDB 662911, In-band power spectral density (PSD). Sample all transmit ports simultaneously using a spectrum analyzer for each transmit port. Where the trace bin-by-bin of each transmit port summing can be performed. (i.e., in the first spectral bin of output 1 is summed with that in the first spectral bin of output 2 and that from the first spectral bin of output 3, and so on up to the NTX output to obtain the value for the first frequency bin of the summed spectrum.). Add up the amplitude (power) values for the different transmit chains and use this as the new data trace.

Option 2: Measure and sum spectral maxima across the outputs. With this technique, spectra are measured at each output of the device at the required resolution bandwidth. The maximum value (peak) of each spectrum is determined. These maximum values are then summed mathematically in linear power units across the outputs. These operations shall be performed separately over frequency spans that have different out-of-band or spurious emission limits,



Option 3: Measure and add  $10 \log(N)$  dB, where N is the number of transmit chains. Refer as FCC KDB 662911, In-band power spectral density (PSD). Performed at each transmit chains and each transmit chains shall be compared with the limit have been reduced with  $10 \log(N)$ . Or each transmit chains shall be add  $10 \log(N)$  to compared with the limit.

### 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 (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.

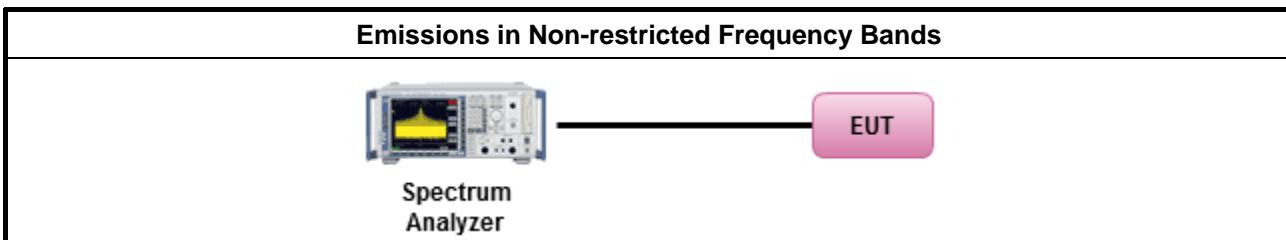
#### 3.5.2 Measuring Instruments

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.

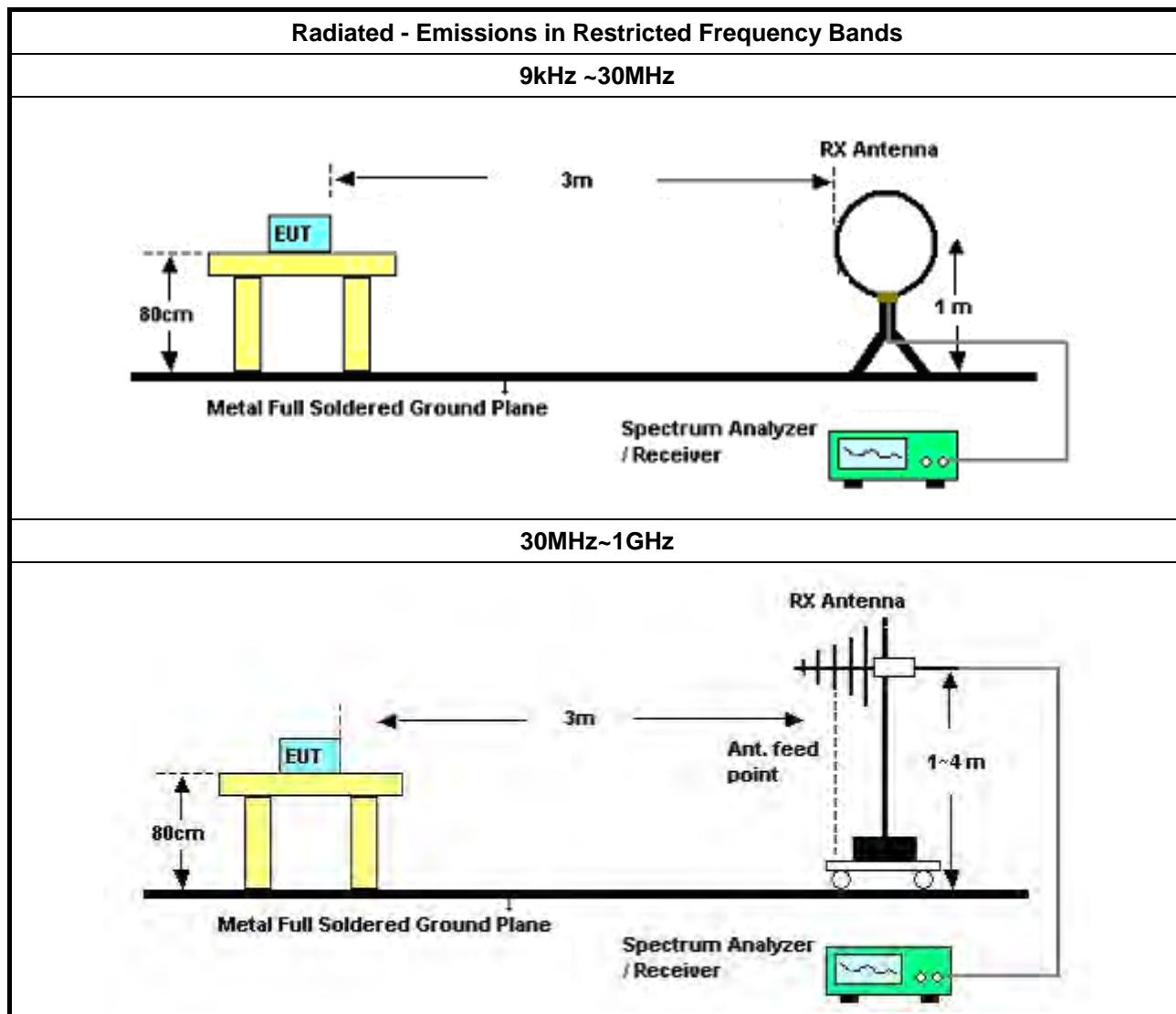


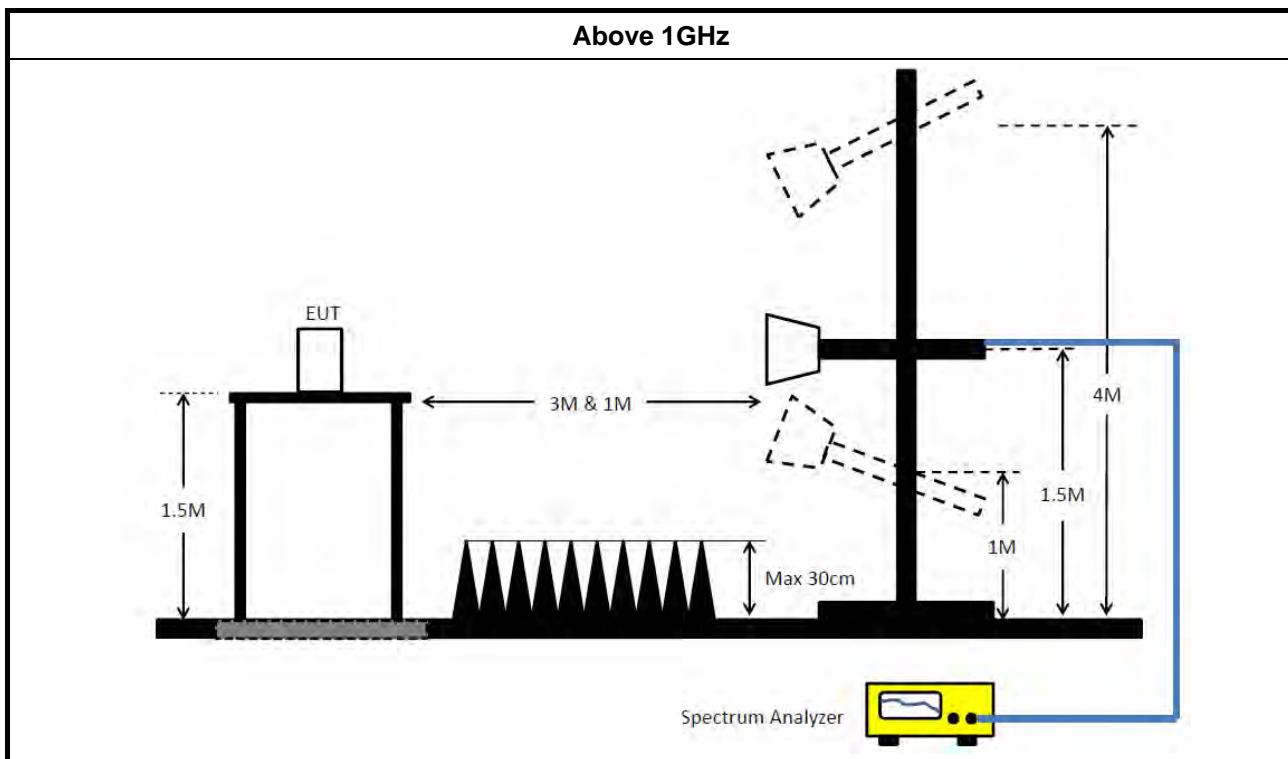
### 3.6.3 Test Procedures

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





### 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

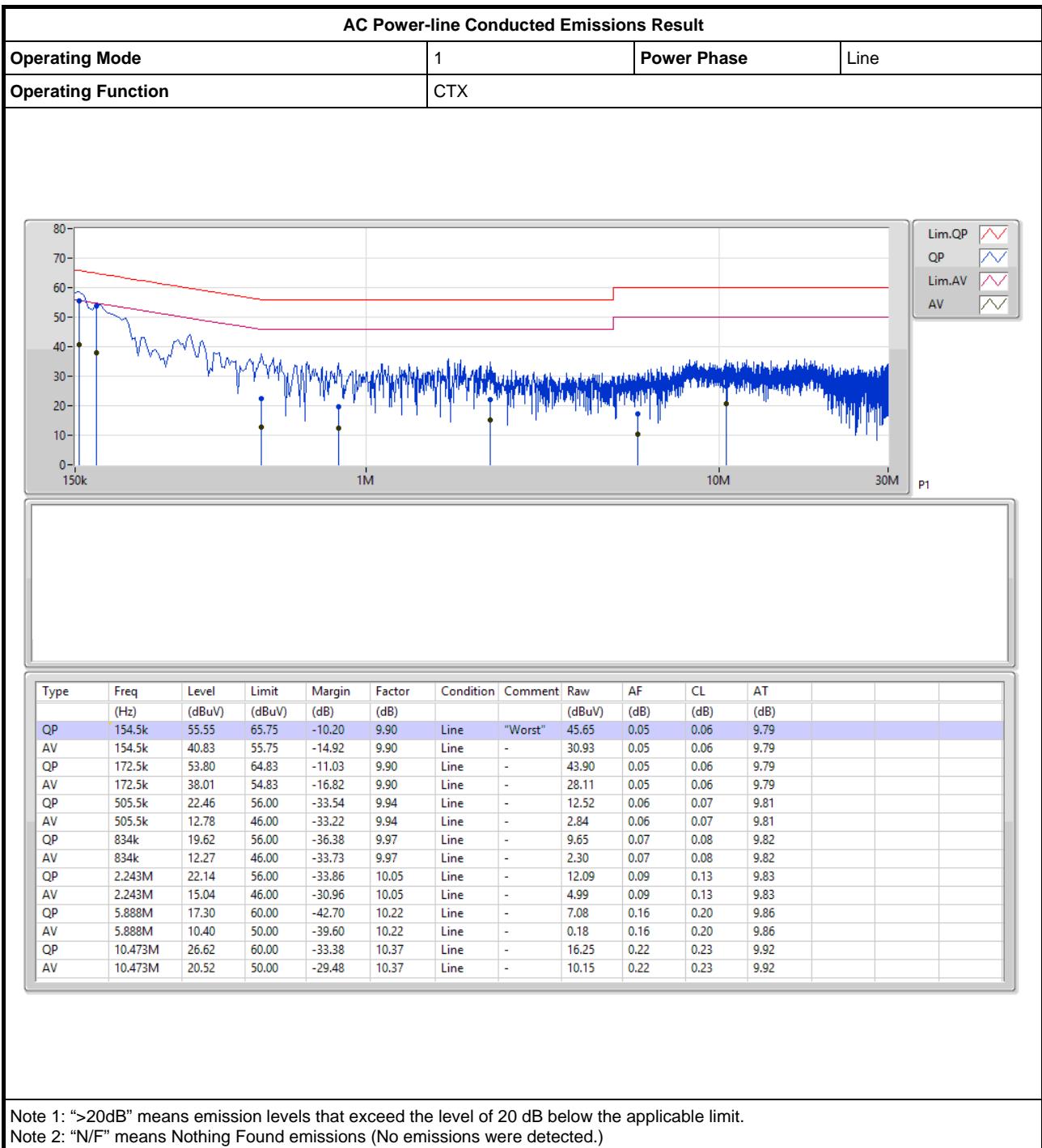
Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Calibration Due Date	Remark
EMI Receiver	Agilent	N9038A	My52260123	9kHz ~ 8.45GHz	Jan. 28, 2019	Jan. 29, 2020	Conduction (CO01-CB)
LISN	F.C.C.	FCC-LISN-50-16-2	04083	150kHz ~ 100MHz	Dec. 24, 2018	Dec. 23, 2019	Conduction (CO01-CB)
LISN	Schwarzbeck	NSLK 8127	8127647	9kHz ~ 30MHz	Jan. 11, 2019	Jan. 10, 2020	Conduction (CO01-CB)
COND Cable	Woken	Cable	Low cable-CO01	9kHz ~ 30MHz	May 21, 2019	May 20, 2020	Conduction (CO01-CB)
Software	Audix	E3	6.120210n	-	N.C.R.	N.C.R.	Conduction (CO01-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)
Horn Antenna	SCHWARZBECK	BBHA9120D	BBHA 9120D-1291	1GHz~18GHz	Oct. 12, 2018	Oct. 11, 2019	Radiation (03CH05-CB)
Horn Antenna	SCHWARZBECK	BBHA 9170	BBHA9170507	15GHz ~ 40GHz	Jun. 12, 2019	Jun. 11, 2020	Radiation (03CH05-CB)
Pre-Amplifier	EMCI	EMC330N	980331	20MHz ~ 3GHz	May 02, 2019	May 01, 2020	Radiation (03CH05-CB)
Pre-Amplifier	EMCI	EMC12630SE	980287	1GHz – 26.5GHz	Mar. 28, 2019	Mar. 27, 2020	Radiation (03CH05-CB)
Pre-Amplifier	MITEQ	TTA1840-35-HG	1864479	18GHz ~ 40GHz	Jul. 03, 2019	Jul. 02, 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)
RF Cable-high	Woken	RG402	High Cable-04	1GHz~18GHz	Oct. 08, 2018	Oct. 07, 2019	Radiation (03CH05-CB)
RF Cable-high	Woken	RG402	High Cable-04	1GHz~18GHz	Oct. 07, 2019	Oct. 06, 2020	Radiation (03CH05-CB)
RF Cable-high	Woken	RG402	High Cable-04+23	30MHz~18GHz	Oct. 08, 2018	Oct. 07, 2019	Radiation (03CH05-CB)
RF Cable-high	Woken	RG402	High Cable-04+23	30MHz~18GHz	Oct. 07, 2019	Oct. 06, 2020	Radiation (03CH05-CB)
RF Cable-high	Woken	RG402	High Cable-40G#1	18GHz ~ 40 GHz	Jul. 24, 2019	Jul. 23, 2020	Radiation (03CH05-CB)
RF Cable-high	Woken	RG402	High Cable-40G#2	18GHz ~ 40 GHz	Jul. 24, 2019	Jul. 23, 2020	Radiation (03CH05-CB)
Spectrum analyzer	R&S	FSV40	100979	9kHz~40GHz	Feb. 25, 2019	Feb. 24, 2020	Conducted (TH01-CB)

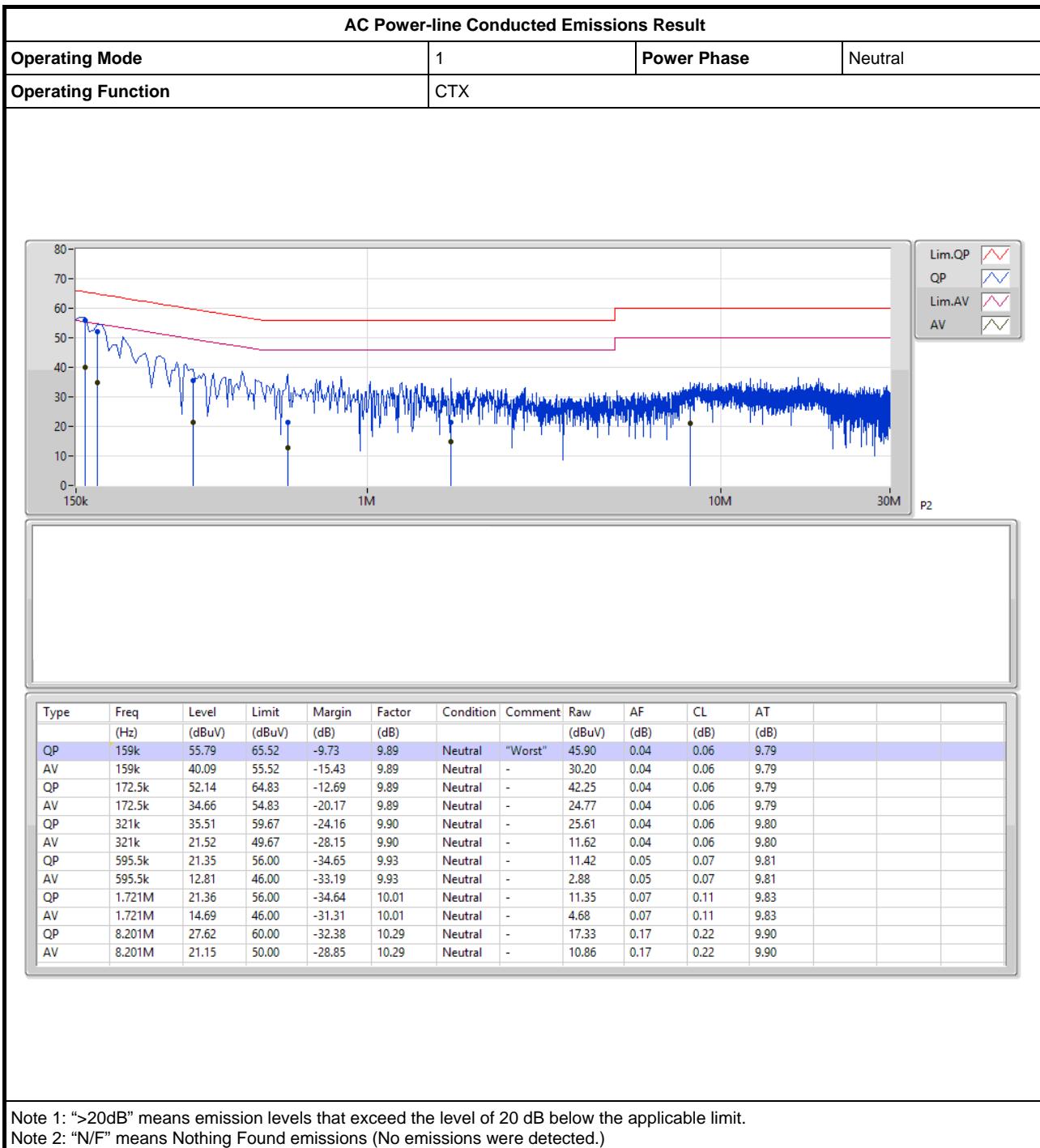
**FCC RADIO TEST REPORT****Report No. : FR932906AA**

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Calibration Due Date	Remark
RF Cable-high	Woken	RG402	High Cable-06	1 GHz – 26.5 GHz	Oct. 08, 2018	Oct. 07, 2019	Conducted (TH01-CB)
RF Cable-high	Woken	RG402	High Cable-07	1 GHz – 26.5 GHz	Oct. 08, 2018	Oct. 07, 2019	Conducted (TH01-CB)
RF Cable-high	Woken	RG402	High Cable-08	1 GHz – 26.5 GHz	Oct. 08, 2018	Oct. 07, 2019	Conducted (TH01-CB)
RF Cable-high	Woken	RG402	High Cable-09	1 GHz – 26.5 GHz	Oct. 08, 2018	Oct. 07, 2019	Conducted (TH01-CB)
RF Cable-high	Woken	RG402	High Cable-10	1 GHz – 26.5 GHz	Oct. 08, 2018	Oct. 07, 2019	Conducted (TH01-CB)
RF Cable-high	Woken	RG402	High Cable-28	1 GHz – 26.5 GHz	Nov. 19, 2018	Nov. 18, 2019	Conducted (TH01-CB)
Power Sensor	Agilent	E9327A	US40442088	50MHz~18GHz	Jan. 15, 2019	Jan. 14, 2020	Conducted (TH01-CB)
Power Meter	Agilent	E4416A	GB41291199	50MHz~18GHz	Jan. 15, 2019	Jan. 14, 2020	Conducted (TH01-CB)

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

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)
2.4-2.4835GHz	-	-	-	-	-
802.11b_Nss1,(1Mbps)_2TX	8.025M	13.093M	13M1G1D	6.575M	10.695M
802.11g_Nss1,(6Mbps)_2TX	16.35M	26.212M	26M2D1D	16.275M	16.667M
VHT20_Nss1,(MCS0)_2TX	17.575M	27.736M	27M7D1D	17.3M	17.816M
802.11ax HEW20_Nss1,(MCS0)_2TX	18.875M	27.536M	27M5D1D	18.25M	19.015M
VHT40_Nss1,(MCS0)_2TX	36.35M	36.582M	36M6D1D	35.65M	36.232M
802.11ax HEW40_Nss1,(MCS0)_2TX	37.6M	37.781M	37M8D1D	36.65M	37.481M

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

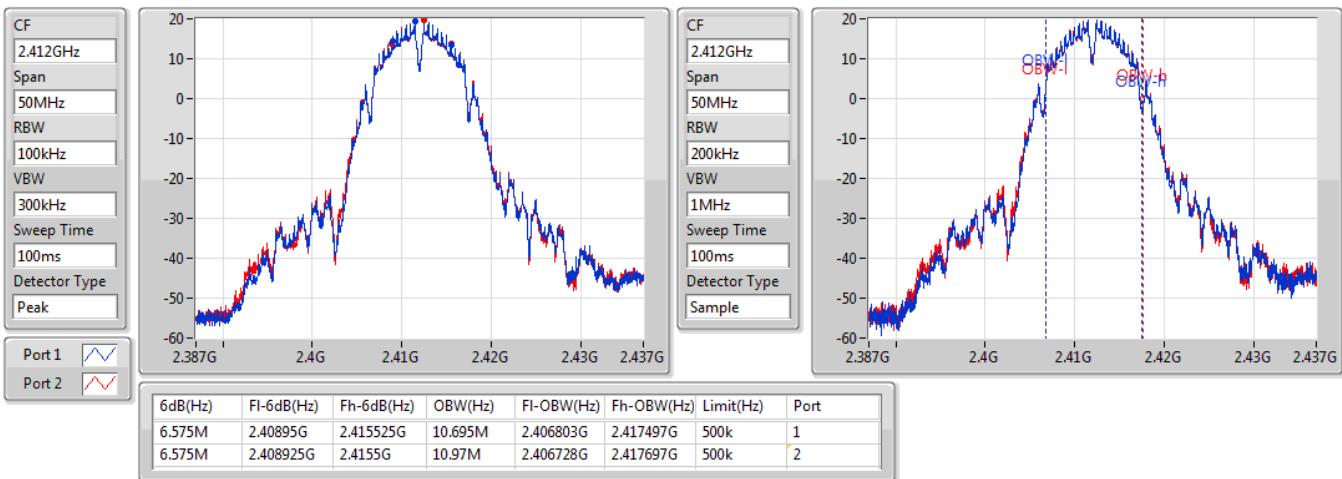
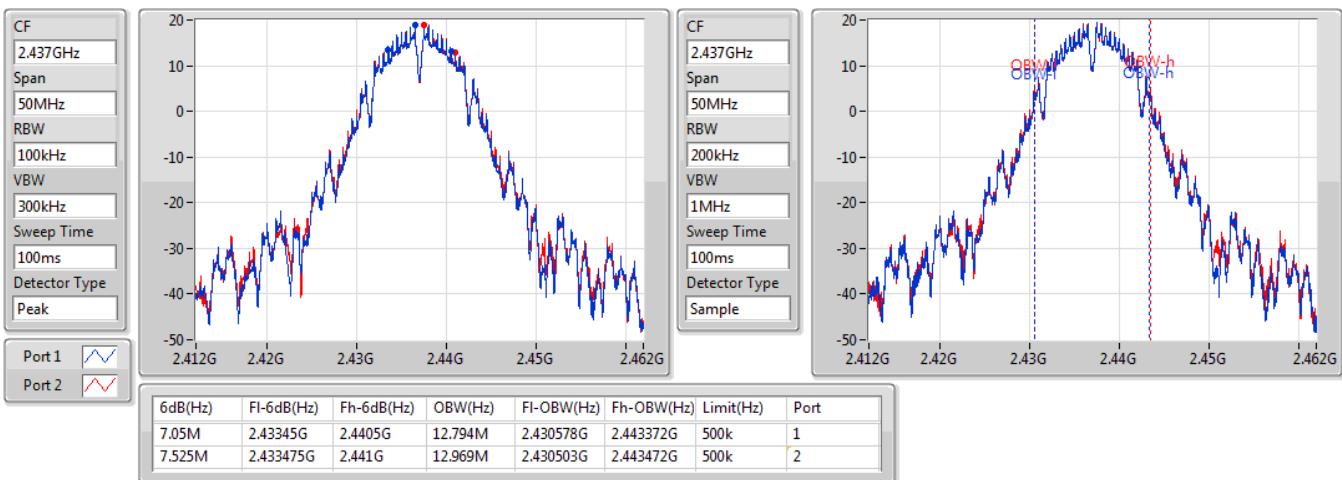
**Min-N dB** = Minimum 6dB down bandwidth; **Min-OBW** = Minimum 99% occupied bandwidth;



## Result

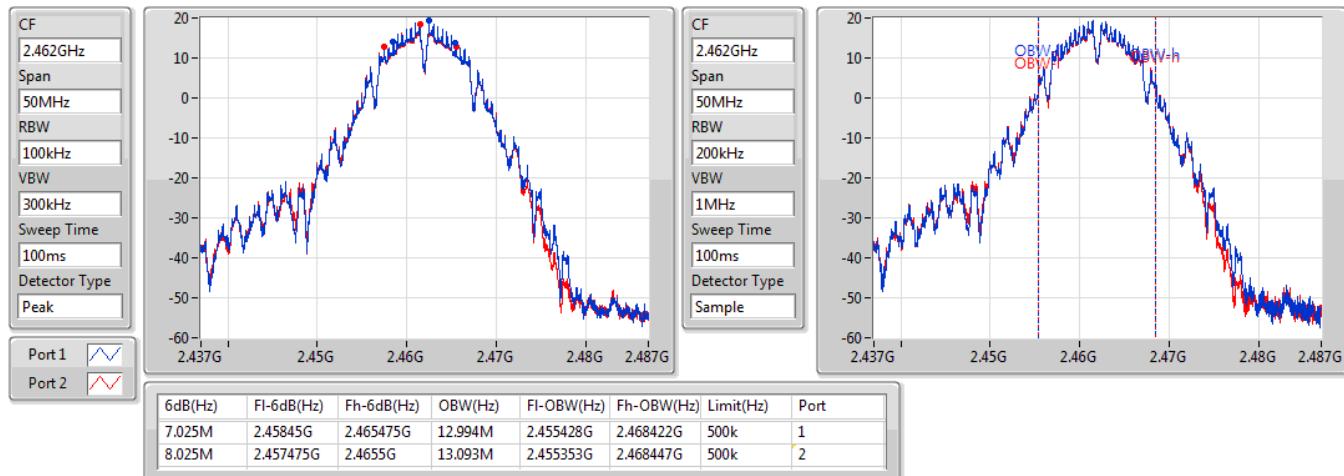
Mode	Result	Limit (Hz)	Port 1-N dB (Hz)	Port 1-OBW (Hz)	Port 2-N dB (Hz)	Port 2-OBW (Hz)
802.11b_Nss1,(1Mbps)_2TX	-	-	-	-	-	-
2412MHz	Pass	500k	6.575M	10.695M	6.575M	10.97M
2437MHz	Pass	500k	7.05M	12.794M	7.525M	12.969M
2462MHz	Pass	500k	7.025M	12.994M	8.025M	13.093M
802.11g_Nss1,(6Mbps)_2TX	-	-	-	-	-	-
2412MHz	Pass	500k	16.3M	16.692M	16.275M	16.667M
2437MHz	Pass	500k	16.325M	25.412M	16.35M	26.212M
2462MHz	Pass	500k	16.325M	16.942M	16.325M	17.291M
VHT20_Nss1,(MCS0)_2TX	-	-	-	-	-	-
2412MHz	Pass	500k	17.3M	17.816M	17.575M	17.816M
2437MHz	Pass	500k	17.55M	26.987M	17.55M	27.736M
2462MHz	Pass	500k	17.55M	17.941M	17.575M	17.966M
802.11ax HEW20_Nss1,(MCS0)_2TX	-	-	-	-	-	-
2412MHz	Pass	500k	18.625M	19.015M	18.5M	19.04M
2437MHz	Pass	500k	18.675M	26.962M	18.25M	27.536M
2462MHz	Pass	500k	18.75M	19.065M	18.875M	19.09M
VHT40_Nss1,(MCS0)_2TX	-	-	-	-	-	-
2422MHz	Pass	500k	36M	36.232M	36.3M	36.332M
2437MHz	Pass	500k	36.35M	36.582M	36.35M	36.582M
2452MHz	Pass	500k	36M	36.232M	35.65M	36.232M
802.11ax HEW40_Nss1,(MCS0)_2TX	-	-	-	-	-	-
2422MHz	Pass	500k	37.25M	37.531M	36.65M	37.581M
2437MHz	Pass	500k	37.6M	37.781M	37.6M	37.781M
2452MHz	Pass	500k	37.25M	37.481M	36.7M	37.631M

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

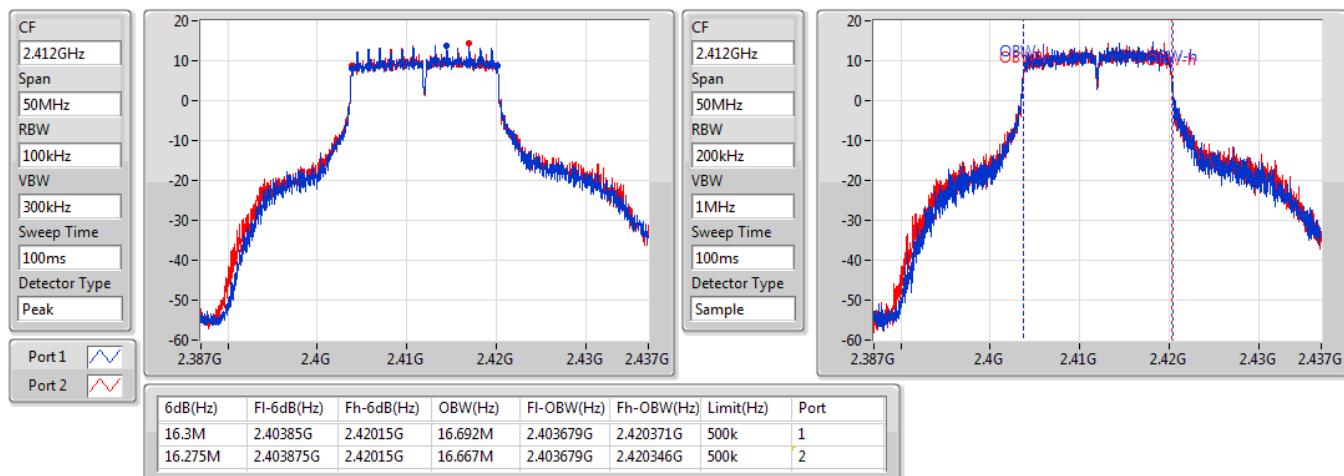
**802.11b\_Nss1,(1Mbps)\_2TX**
**EBW**
**2412MHz**

**802.11b\_Nss1,(1Mbps)\_2TX**
**EBW**
**2437MHz**


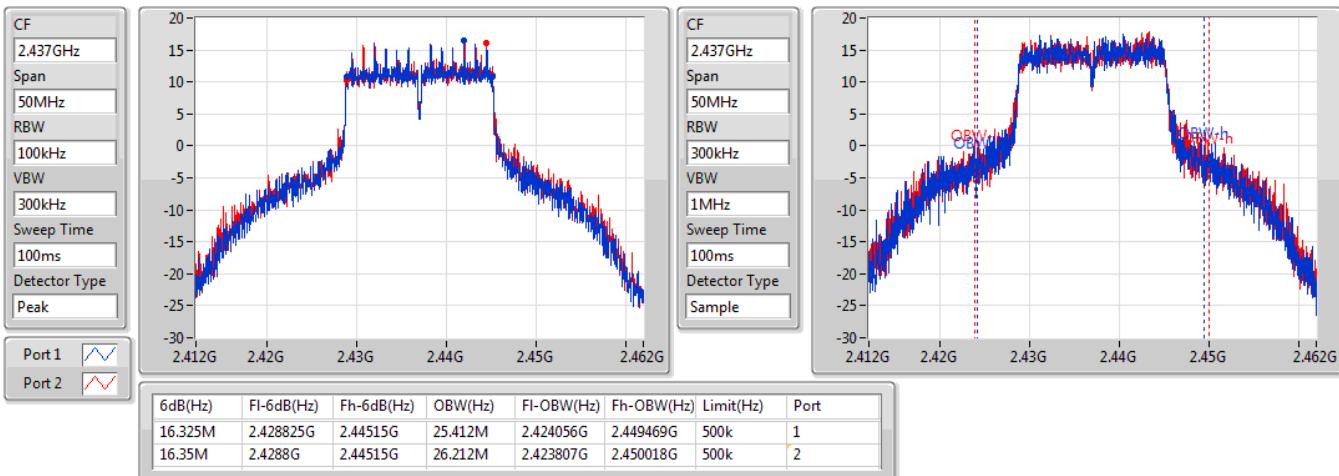
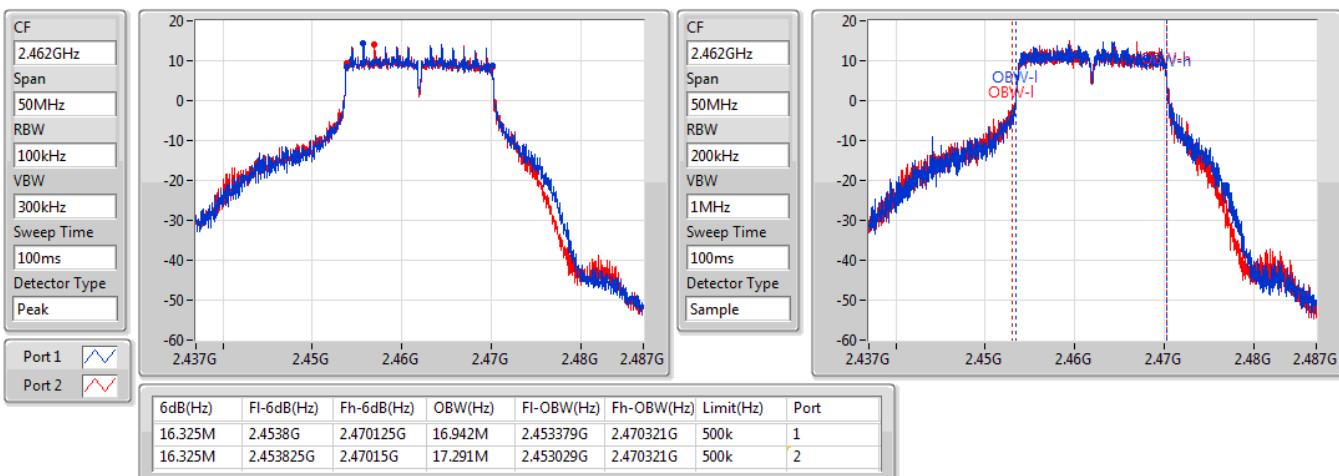
**802.11b\_Nss1,(1Mbps)\_2TX**
**EBW**
**2462MHz**

16/09/2019


**802.11g\_Nss1,(6Mbps)\_2TX**
**EBW**
**2412MHz**

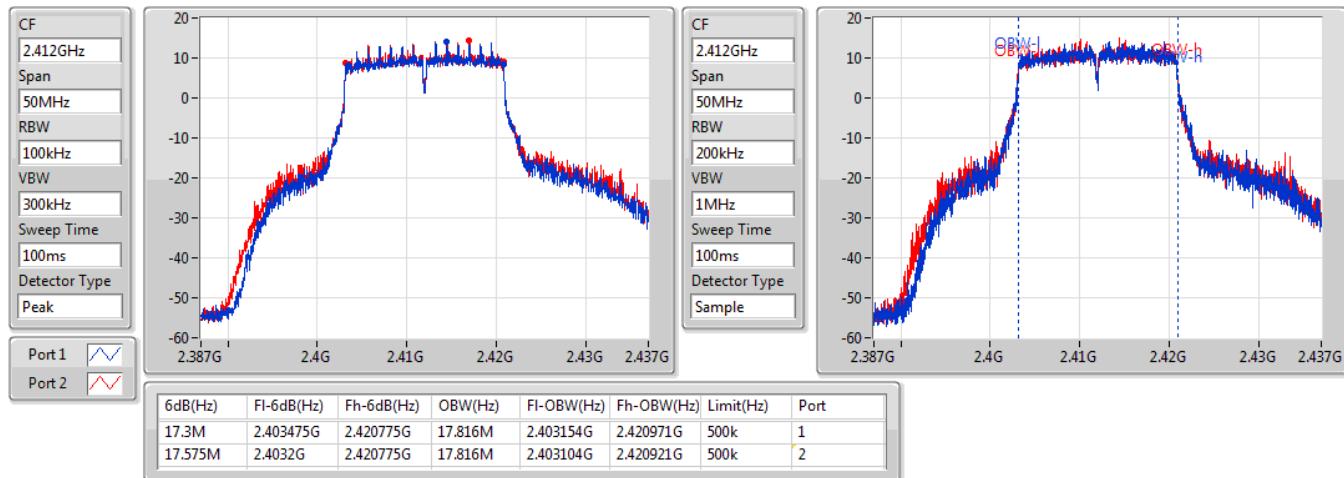
16/09/2019



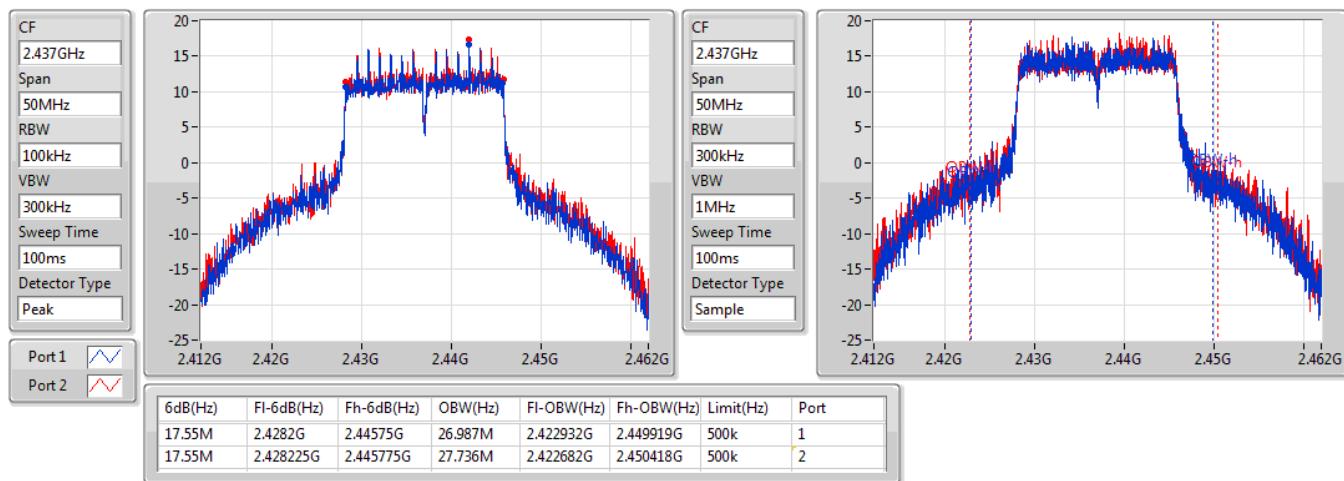
**802.11g\_Nss1,(6Mbps)\_2TX**
**EBW**
**2437MHz**

**802.11g\_Nss1,(6Mbps)\_2TX**
**EBW**
**2462MHz**


**VHT20\_Nss1,(MCS0)\_2TX**
**EBW**
**2412MHz**

17/09/2019

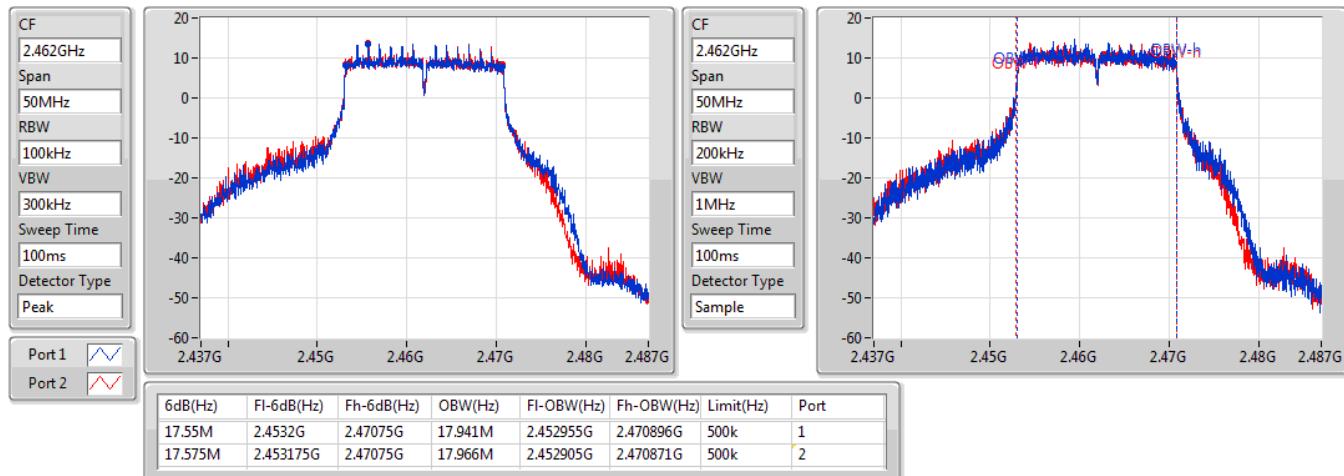

**VHT20\_Nss1,(MCS0)\_2TX**
**EBW**
**2437MHz**

17/09/2019

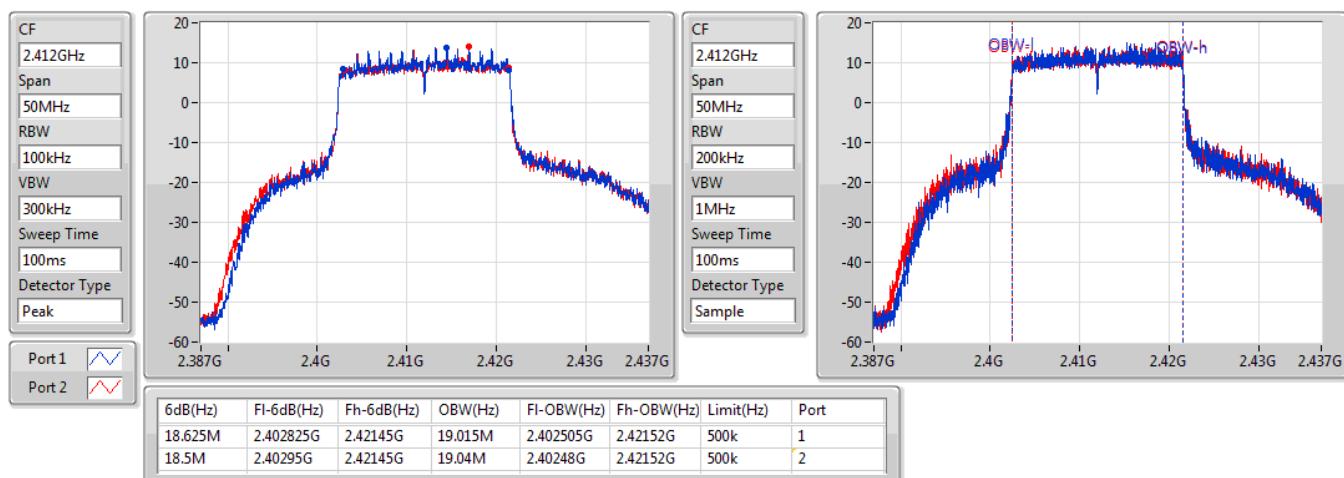


**VHT20\_Nss1,(MCS0)\_2TX**
**EBW**
**2462MHz**

17/09/2019

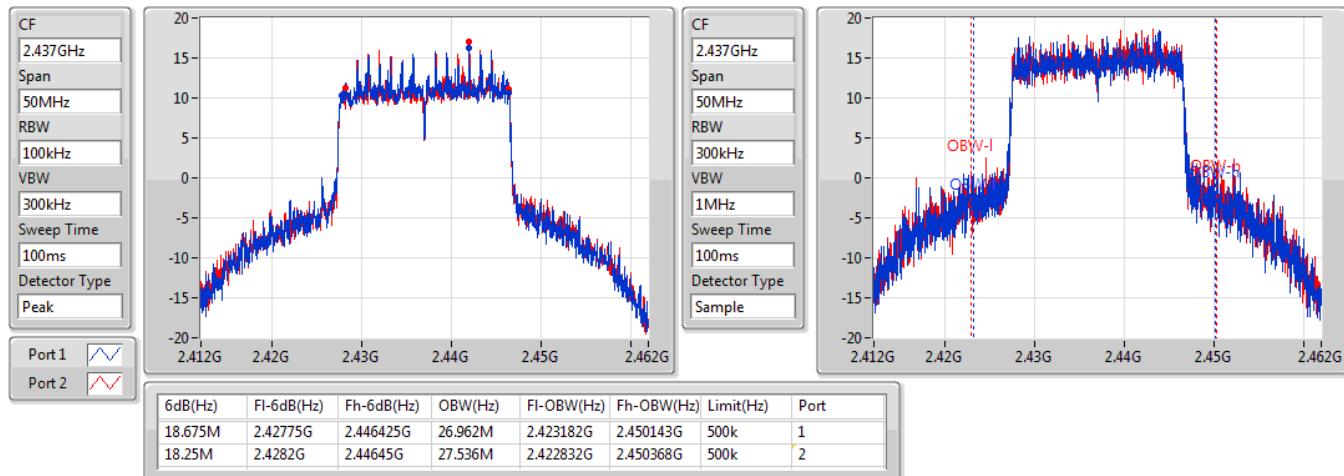

**802.11ax HEW20\_Nss1,(MCS0)\_2TX**
**EBW**
**2412MHz**

16/09/2019

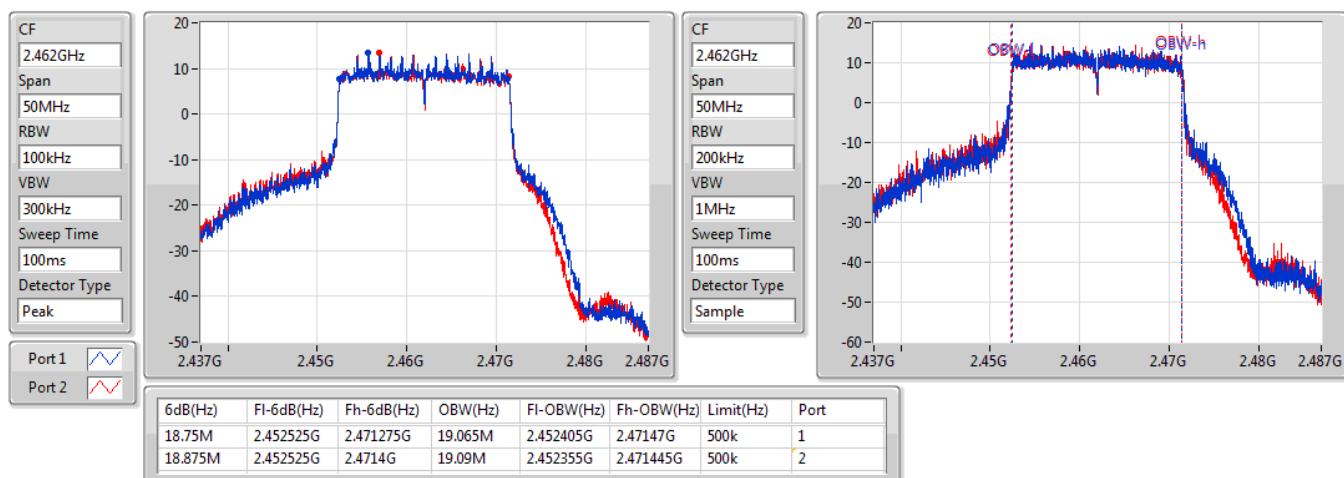


**802.11ax HEW20\_Nss1,(MCS0)\_2TX**
**EBW**
**2437MHz**

16/09/2019

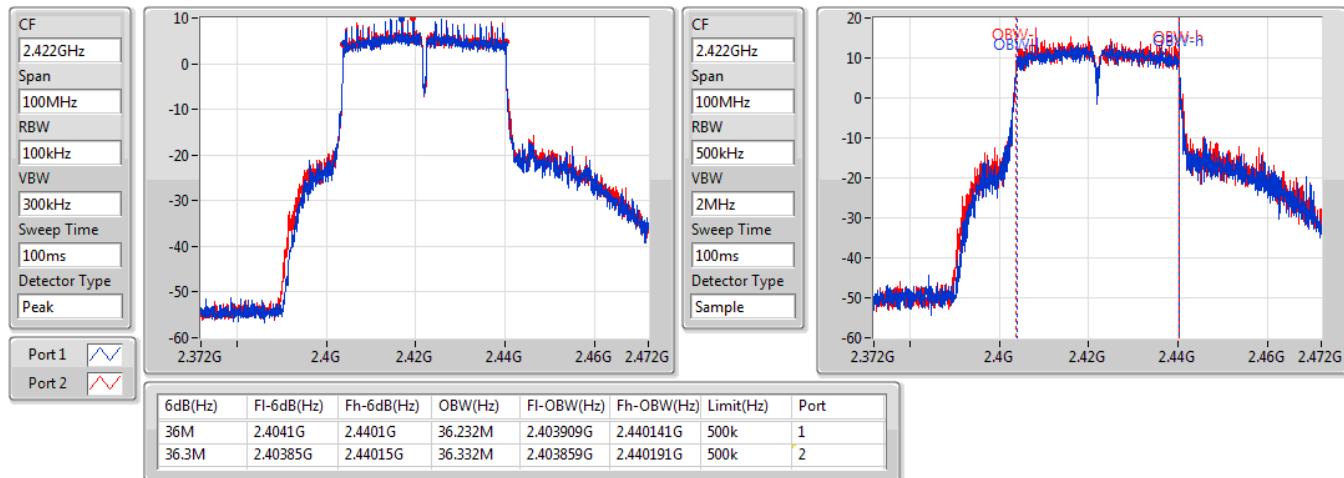

**802.11ax HEW20\_Nss1,(MCS0)\_2TX**
**EBW**
**2462MHz**

16/09/2019

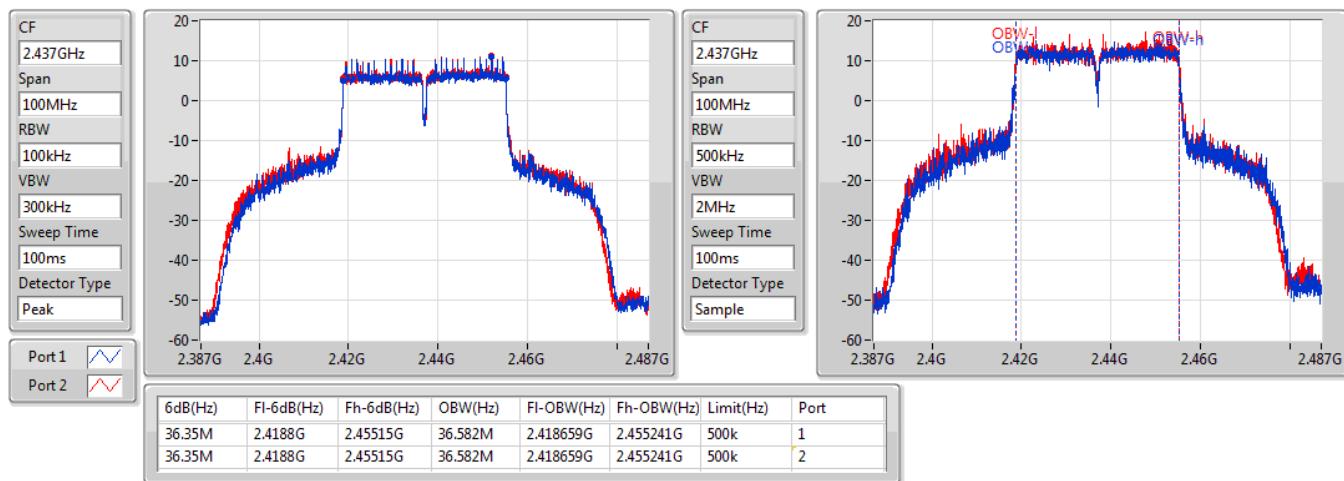


**VHT40\_Nss1,(MCS0)\_2TX**
**EBW**
**2422MHz**

17/09/2019

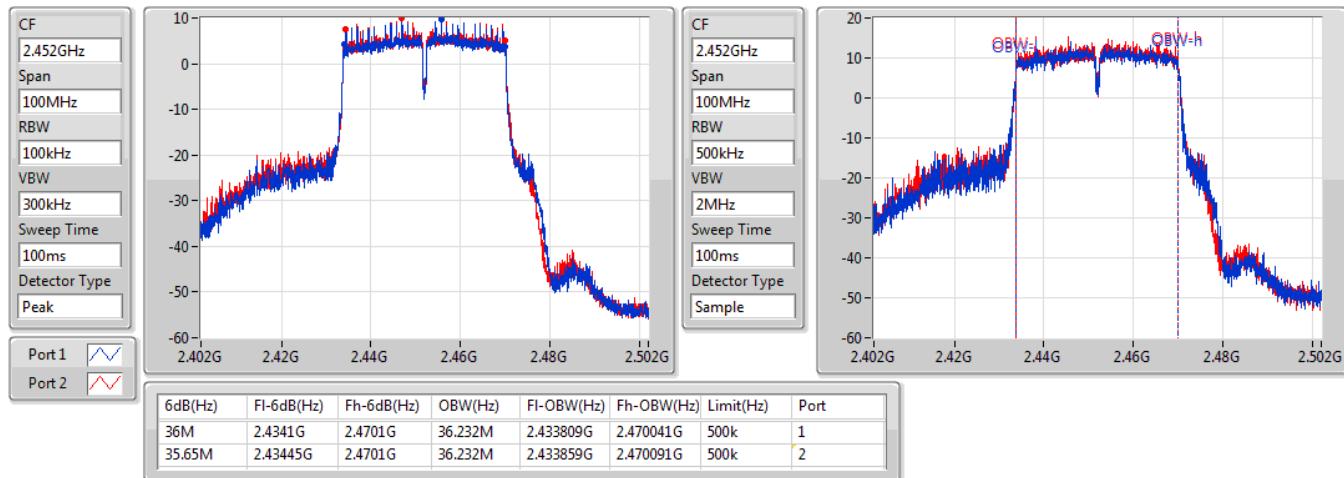

**VHT40\_Nss1,(MCS0)\_2TX**
**EBW**
**2437MHz**

17/09/2019

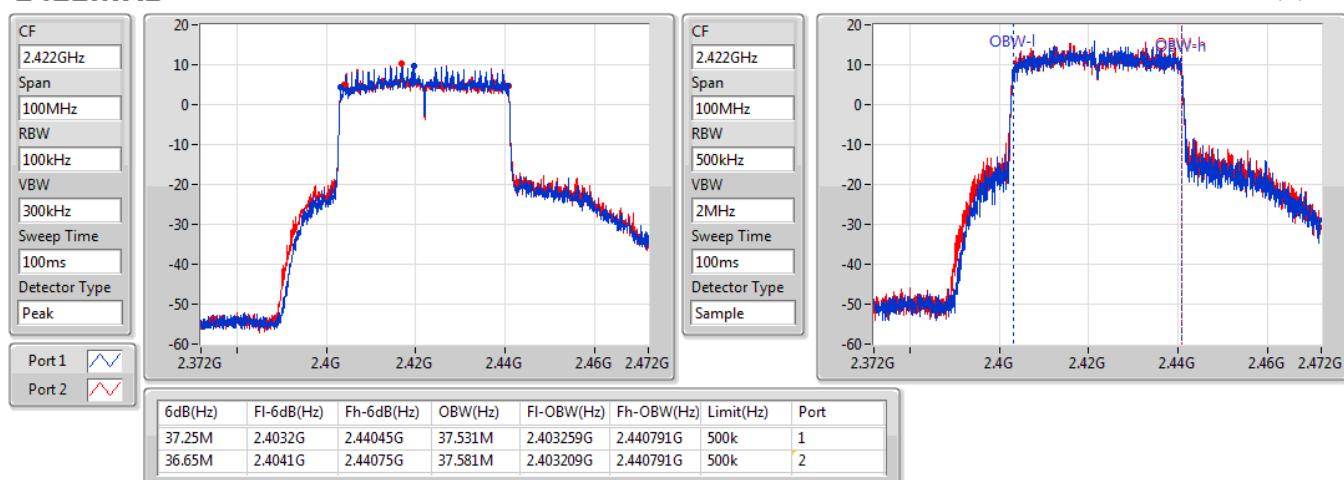


**VHT40\_Nss1,(MCS0)\_2TX**
**EBW**
**2452MHz**

17/09/2019

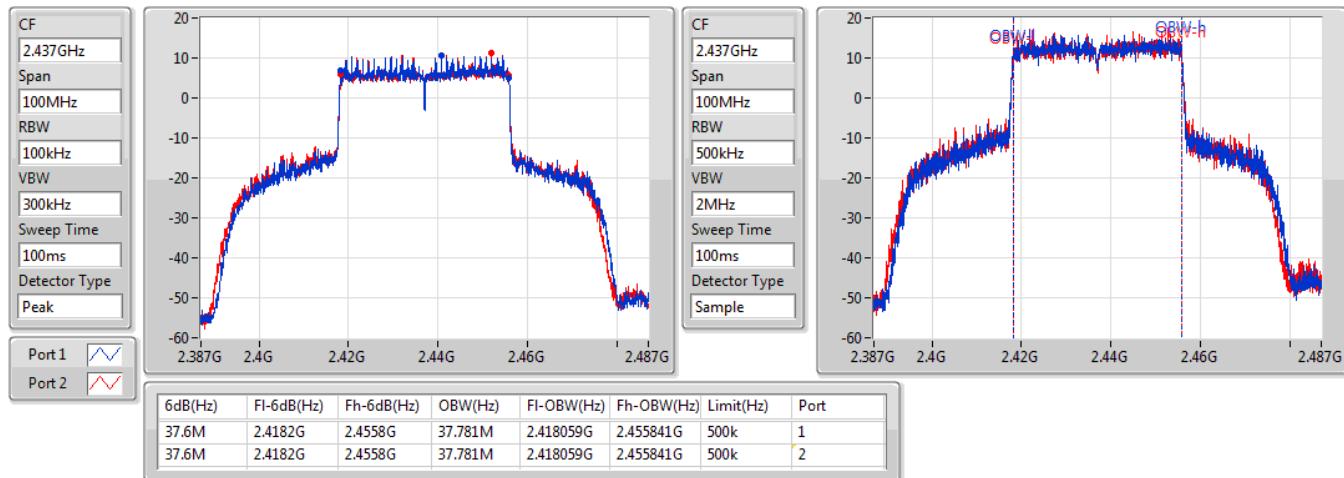

**802.11ax HEW40\_Nss1,(MCS0)\_2TX**
**EBW**
**2422MHz**

16/09/2019

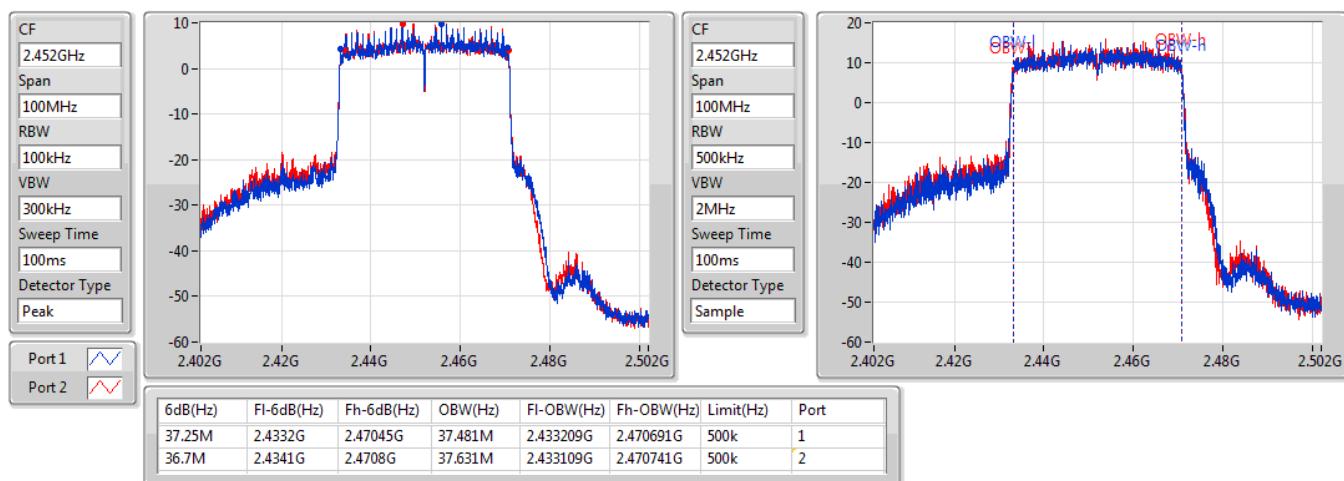


**802.11ax HEW40\_Nss1,(MCS0)\_2TX**
**EBW**
**2437MHz**

16/09/2019


**802.11ax HEW40\_Nss1,(MCS0)\_2TX**
**EBW**
**2452MHz**

16/09/2019



**Summary**

Mode	Total Power (dBm)	Total Power (W)
2.4-2.4835GHz	-	-
802.11b_Nss1,(1Mbps)_2TX	29.96	0.99083
802.11g_Nss1,(6Mbps)_2TX	29.97	0.99312
VHT20_Nss1,(MCS0)_2TX	29.87	0.97051
802.11ax HEW20_Nss1,(MCS0)_2TX	29.98	0.99541
VHT40_Nss1,(MCS0)_2TX	27.68	0.58614
802.11ax HEW40_Nss1,(MCS0)_2TX	28.02	0.63387

**Result**

Mode	Result	DG (dBi)	Port 1 (dBm)	Port 2 (dBm)	Total Power (dBm)	Power Limit (dBm)
802.11b_Nss1,(1Mbps)_2TX	-	-	-	-	-	-
2412MHz	Pass	3.81	26.87	26.95	29.92	30.00
2437MHz	Pass	3.81	26.91	26.98	29.96	30.00
2462MHz	Pass	3.81	26.89	26.74	29.83	30.00
802.11g_Nss1,(6Mbps)_2TX	-	-	-	-	-	-
2412MHz	Pass	3.81	24.95	25.11	28.04	30.00
2417MHz	Pass	3.81	26.87	26.82	29.86	30.00
2437MHz	Pass	3.81	26.93	26.98	29.97	30.00
2457MHz	Pass	3.81	26.89	26.78	29.85	30.00
2462MHz	Pass	3.81	25.04	24.96	28.01	30.00
VHT20_Nss1,(MCS0)_2TX	-	-	-	-	-	-
2412MHz	Pass	3.81	24.78	24.77	27.79	30.00
2417MHz	Pass	3.81	26.28	26.28	29.29	30.00
2437MHz	Pass	3.81	26.80	26.91	29.87	30.00
2457MHz	Pass	3.81	26.64	26.51	29.59	30.00
2462MHz	Pass	3.81	24.35	24.31	27.34	30.00
802.11ax HEW20_Nss1,(MCS0)_2TX	-	-	-	-	-	-
2412MHz	Pass	3.81	24.85	25.04	27.96	30.00
2417MHz	Pass	3.81	26.38	26.42	29.41	30.00
2437MHz	Pass	3.81	26.91	27.02	29.98	30.00
2457MHz	Pass	3.81	26.88	26.75	29.83	30.00
2462MHz	Pass	3.81	24.84	24.72	27.79	30.00
VHT40_Nss1,(MCS0)_2TX	-	-	-	-	-	-
2422MHz	Pass	3.81	23.41	23.59	26.51	30.00
2437MHz	Pass	3.81	24.64	24.70	27.68	30.00
2452MHz	Pass	3.81	23.06	23.45	26.27	30.00
802.11ax HEW40_Nss1,(MCS0)_2TX	-	-	-	-	-	-
2422MHz	Pass	3.81	23.65	23.89	26.78	30.00
2437MHz	Pass	3.81	24.97	25.05	28.02	30.00
2452MHz	Pass	3.81	23.34	23.68	26.52	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	7.86
802.11g_Nss1,(6Mbps)_2TX	4.90
VHT20_Nss1,(MCS0)_2TX	4.23
802.11ax HEW20_Nss1,(MCS0)_2TX	4.81
VHT40_Nss1,(MCS0)_2TX	0.22
802.11ax HEW40_Nss1,(MCS0)_2TX	-1.20

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	4.73	4.80	5.82	7.86	8.00
2437MHz	Pass	4.73	4.95	4.74	6.92	8.00
2462MHz	Pass	4.73	4.45	4.16	6.61	8.00
802.11g_Nss1,(6Mbps)_2TX	-	-	-	-	-	-
2412MHz	Pass	4.73	-0.04	1.18	3.62	8.00
2437MHz	Pass	4.73	1.63	2.14	4.90	8.00
2462MHz	Pass	4.73	-0.39	0.61	3.15	8.00
VHT20_Nss1,(MCS0)_2TX	-	-	-	-	-	-
2412MHz	Pass	4.73	-0.36	-0.57	2.01	8.00
2437MHz	Pass	4.73	1.07	2.18	4.23	8.00
2462MHz	Pass	4.73	-0.71	-0.89	1.86	8.00
802.11ax HEW20_Nss1,(MCS0)_2TX	-	-	-	-	-	-
2412MHz	Pass	4.73	-0.29	0.17	2.90	8.00
2437MHz	Pass	4.73	1.53	2.06	4.81	8.00
2462MHz	Pass	4.73	-0.74	0.57	2.97	8.00
VHT40_Nss1,(MCS0)_2TX	-	-	-	-	-	-
2422MHz	Pass	4.73	-3.18	-2.82	0.01	8.00
2437MHz	Pass	4.73	-2.78	-2.66	0.22	8.00
2452MHz	Pass	4.73	-4.18	-3.43	-0.78	8.00
802.11ax HEW40_Nss1,(MCS0)_2TX	-	-	-	-	-	-
2422MHz	Pass	4.73	-4.33	-4.35	-1.33	8.00
2437MHz	Pass	4.73	-4.25	-4.17	-1.20	8.00
2452MHz	Pass	4.73	-5.09	-4.88	-1.97	8.00

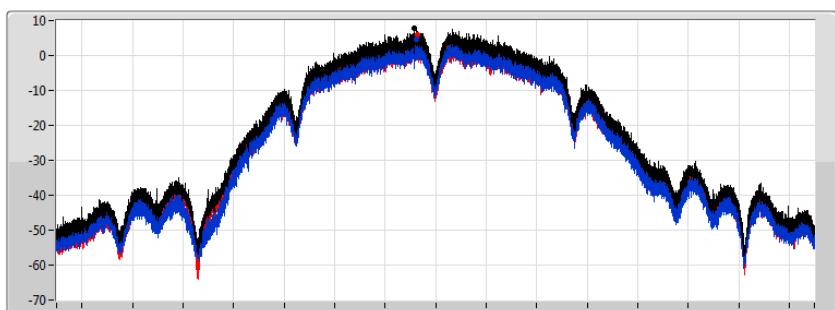
**DG** = Directional Gain; RBW=3 kHz;

**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**

16/09/2019

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

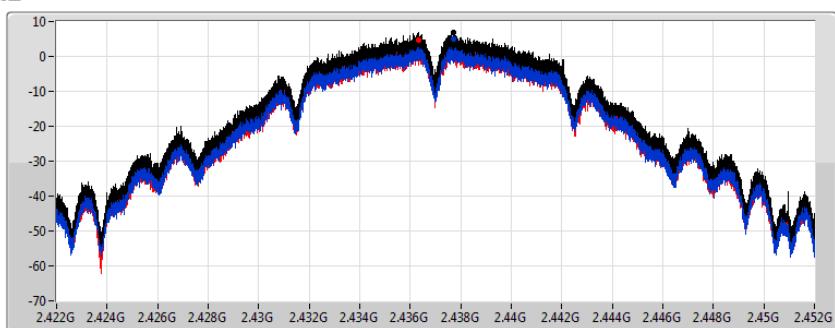


Sum  
Port 1  
Port 2

**802.11b\_Nss1,(1Mbps)\_2TX**
**PSD**
**2437MHz**

16/09/2019

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



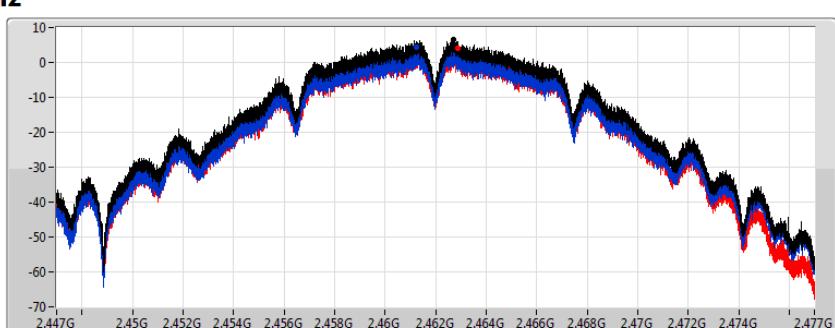
Sum  
Port 1  
Port 2

Sum	PD	Port 1	Port 2
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
6.92	6.92	4.95	4.74

**802.11b\_Nss1,(1Mbps)\_2TX**
**PSD**
**2462MHz**

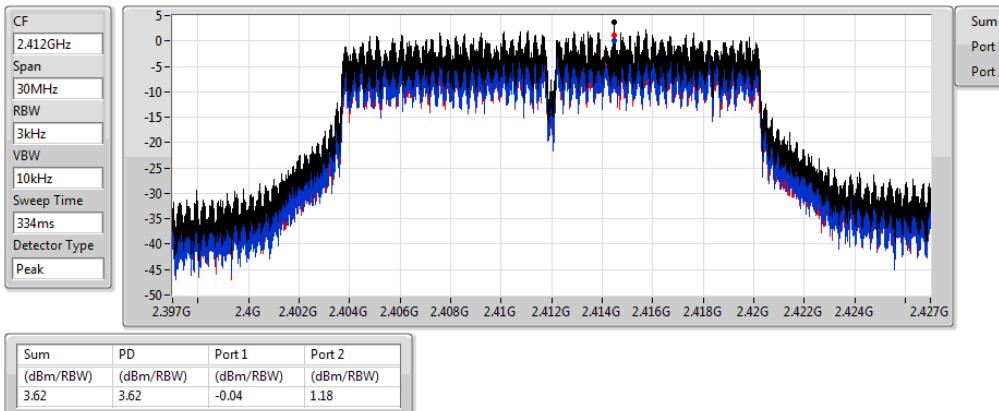
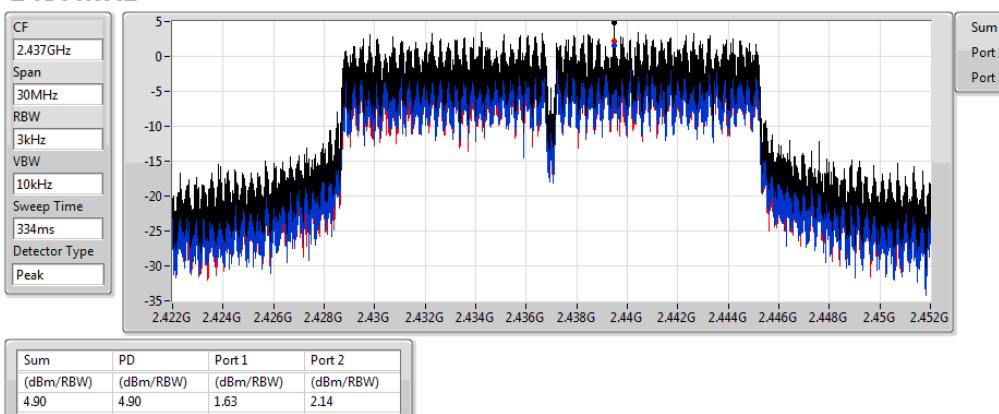
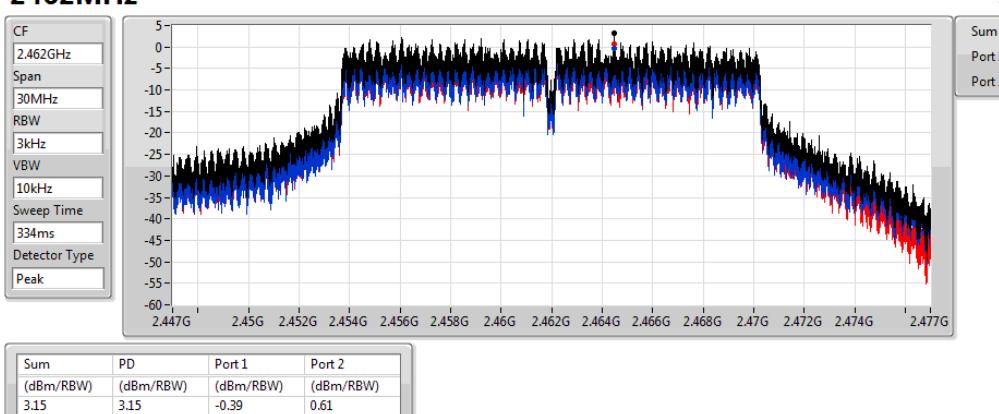
16/09/2019

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



Sum  
Port 1  
Port 2

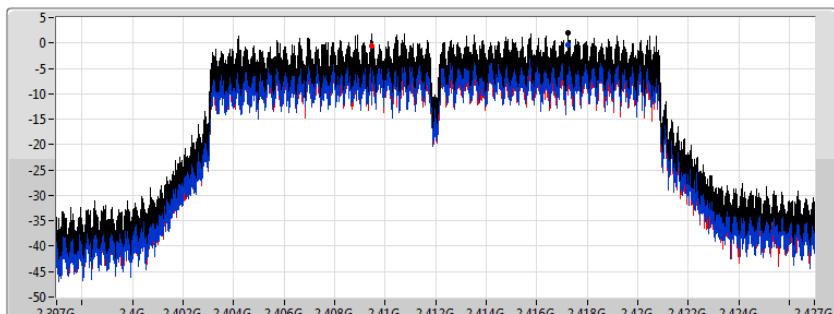
Sum	PD	Port 1	Port 2
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
6.61	6.61	4.45	4.16

**802.11g\_Nss1,(6Mbps)\_2TX**
**2412MHz**

**PSD**
**802.11g\_Nss1,(6Mbps)\_2TX**
**2437MHz**

**PSD**
**802.11g\_Nss1,(6Mbps)\_2TX**
**2462MHz**

**PSD**

**VHT20\_Nss1,(MCS0)\_2TX**
**PSD**
**2412MHz**

17/09/2019

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



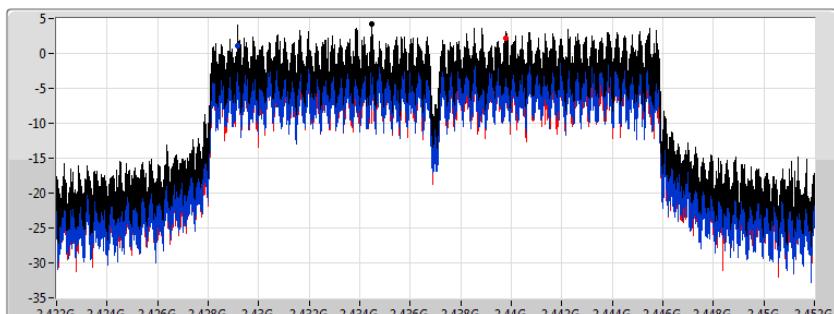
Sum	<input checked="" type="checkbox"/>
Port 1	<input checked="" type="checkbox"/>
Port 2	<input checked="" type="checkbox"/>

Sum	PD	Port 1	Port 2
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
2.01	2.01	-0.36	-0.57

**VHT20\_Nss1,(MCS0)\_2TX**
**PSD**
**2437MHz**

17/09/2019

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



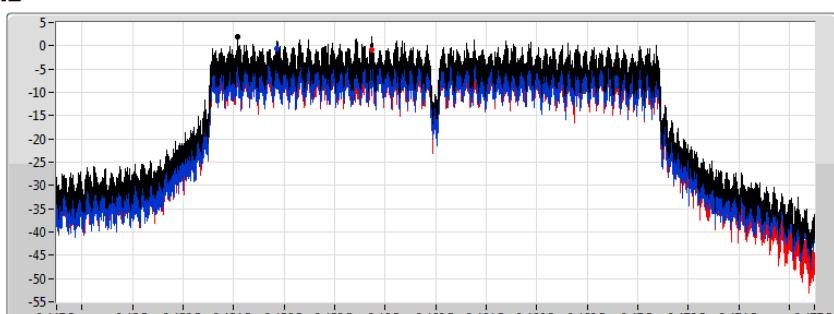
Sum	<input checked="" type="checkbox"/>
Port 1	<input checked="" type="checkbox"/>
Port 2	<input checked="" type="checkbox"/>

Sum	PD	Port 1	Port 2
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
4.23	4.23	1.07	2.18

**VHT20\_Nss1,(MCS0)\_2TX**
**PSD**
**2462MHz**

17/09/2019

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

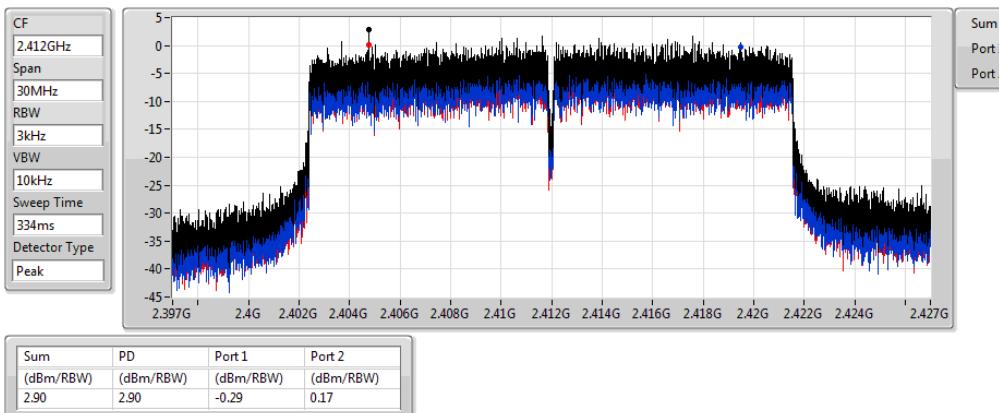


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Port 1	<input checked="" type="checkbox"/>
Port 2	<input checked="" type="checkbox"/>

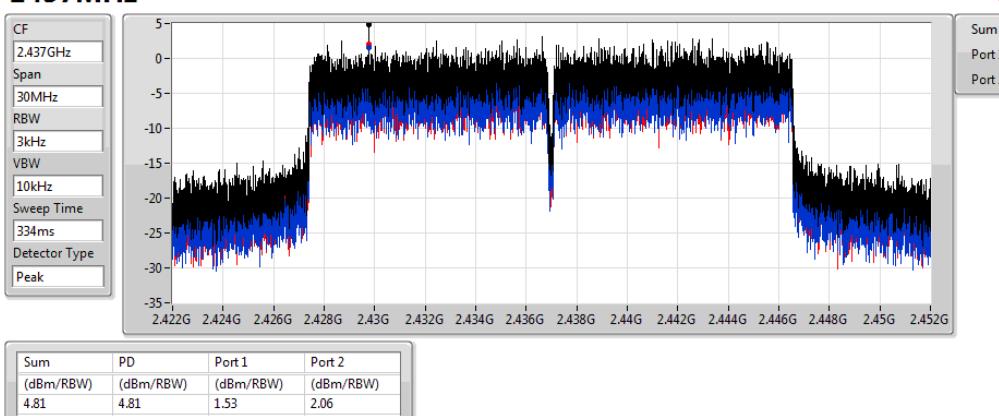
Sum	PD	Port 1	Port 2
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
1.86	1.86	-0.71	-0.89

**802.11ax HEW20\_Nss1,(MCS0)\_2TX**
**PSD**
**2412MHz**

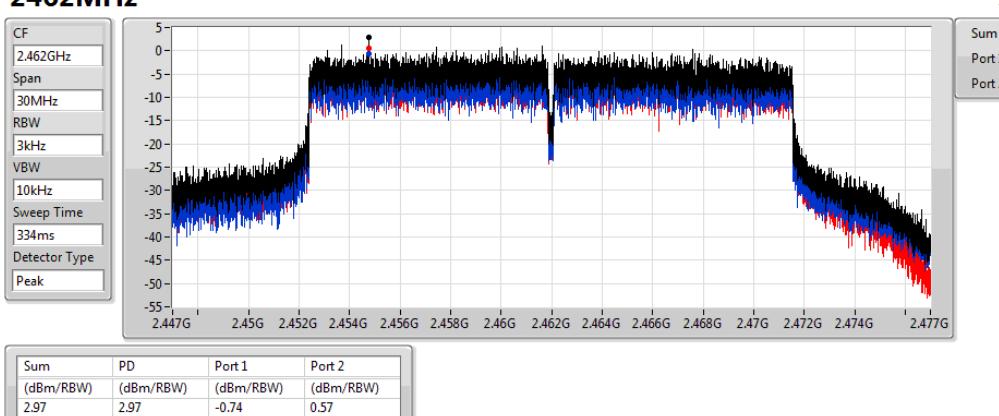
16/09/2019


**802.11ax HEW20\_Nss1,(MCS0)\_2TX**
**PSD**
**2437MHz**

16/09/2019


**802.11ax HEW20\_Nss1,(MCS0)\_2TX**
**PSD**
**2462MHz**

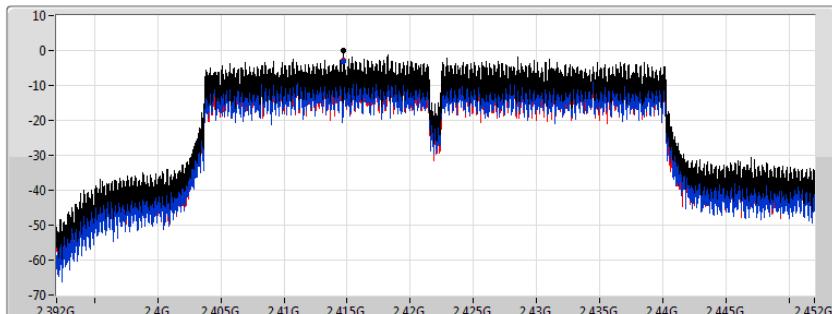
16/09/2019



**VHT40\_Nss1,(MCS0)\_2TX**
**PSD**
**2422MHz**

17/09/2019

CF	2.422GHz
Span	60MHz
RBW	3kHz
VBW	10kHz
Sweep Time	667ms
Detector Type	Peak

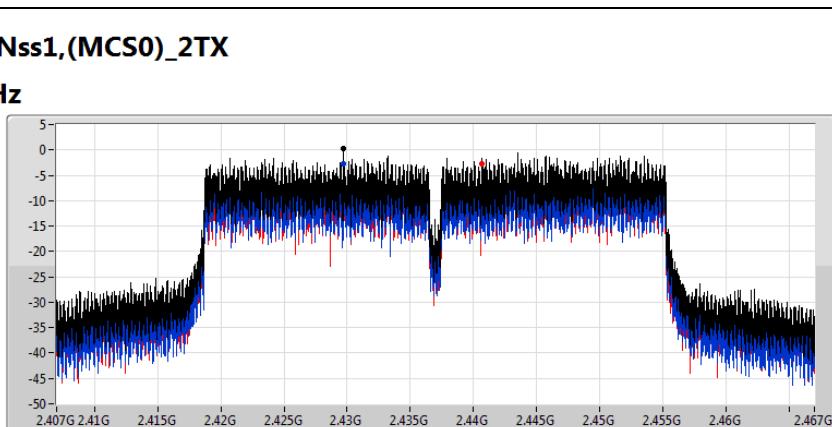


Sum	<input checked="" type="checkbox"/>
Port 1	<input checked="" type="checkbox"/>
Port 2	<input checked="" type="checkbox"/>

**VHT40\_Nss1,(MCS0)\_2TX**
**PSD**
**2437MHz**

17/09/2019

CF	2.437GHz
Span	60MHz
RBW	3kHz
VBW	10kHz
Sweep Time	667ms
Detector Type	Peak

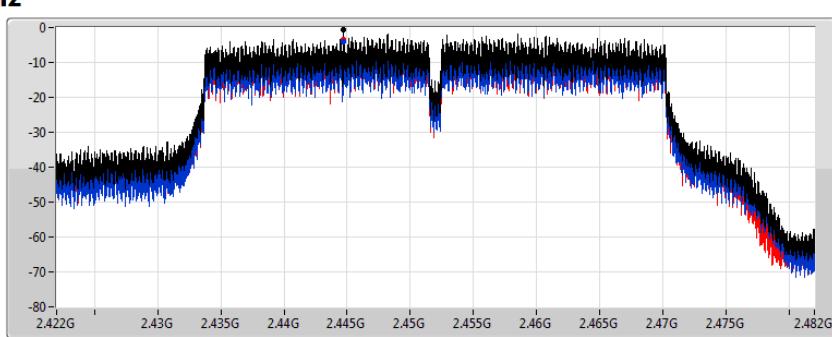


Sum	<input checked="" type="checkbox"/>
Port 1	<input checked="" type="checkbox"/>
Port 2	<input checked="" type="checkbox"/>

**VHT40\_Nss1,(MCS0)\_2TX**
**PSD**
**2452MHz**

17/09/2019

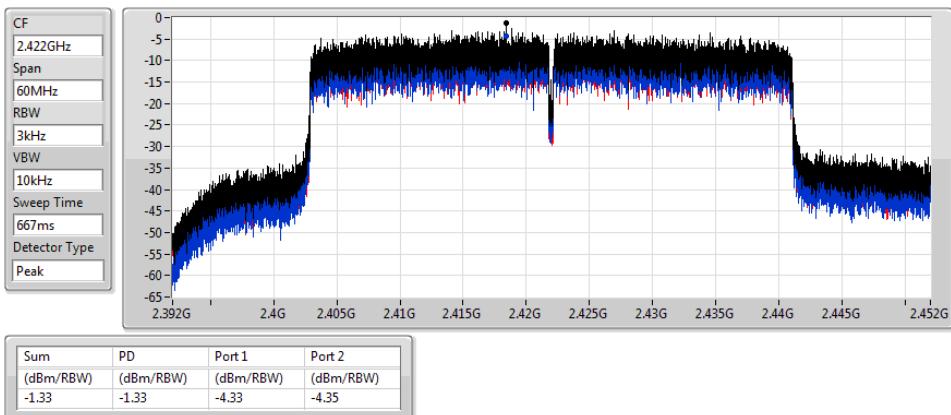
CF	2.452GHz
Span	60MHz
RBW	3kHz
VBW	10kHz
Sweep Time	667ms
Detector Type	Peak



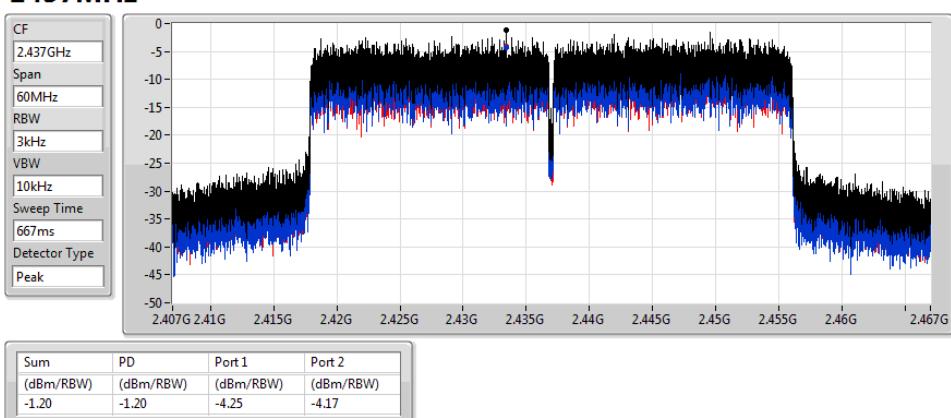
Sum	<input checked="" type="checkbox"/>
Port 1	<input checked="" type="checkbox"/>
Port 2	<input checked="" type="checkbox"/>

**802.11ax HEW40\_Nss1,(MCS0)\_2TX**
**PSD**
**2422MHz**

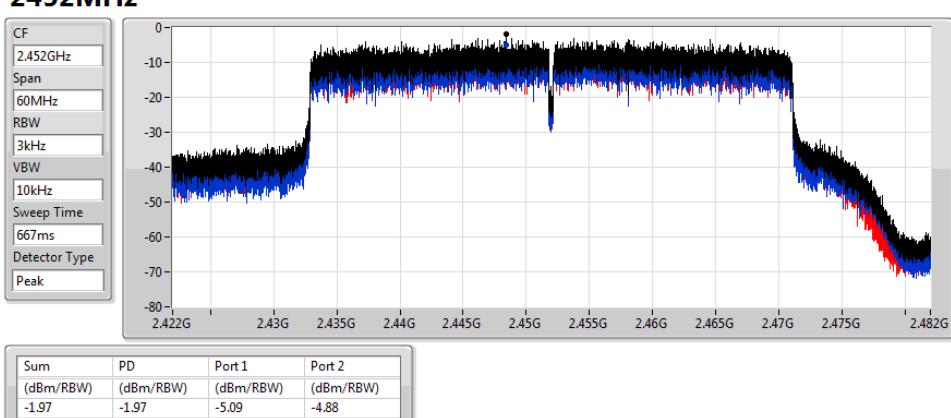
16/09/2019


**802.11ax HEW40\_Nss1,(MCS0)\_2TX**
**PSD**
**2437MHz**

16/09/2019


**802.11ax HEW40\_Nss1,(MCS0)\_2TX**
**PSD**
**2452MHz**

16/09/2019



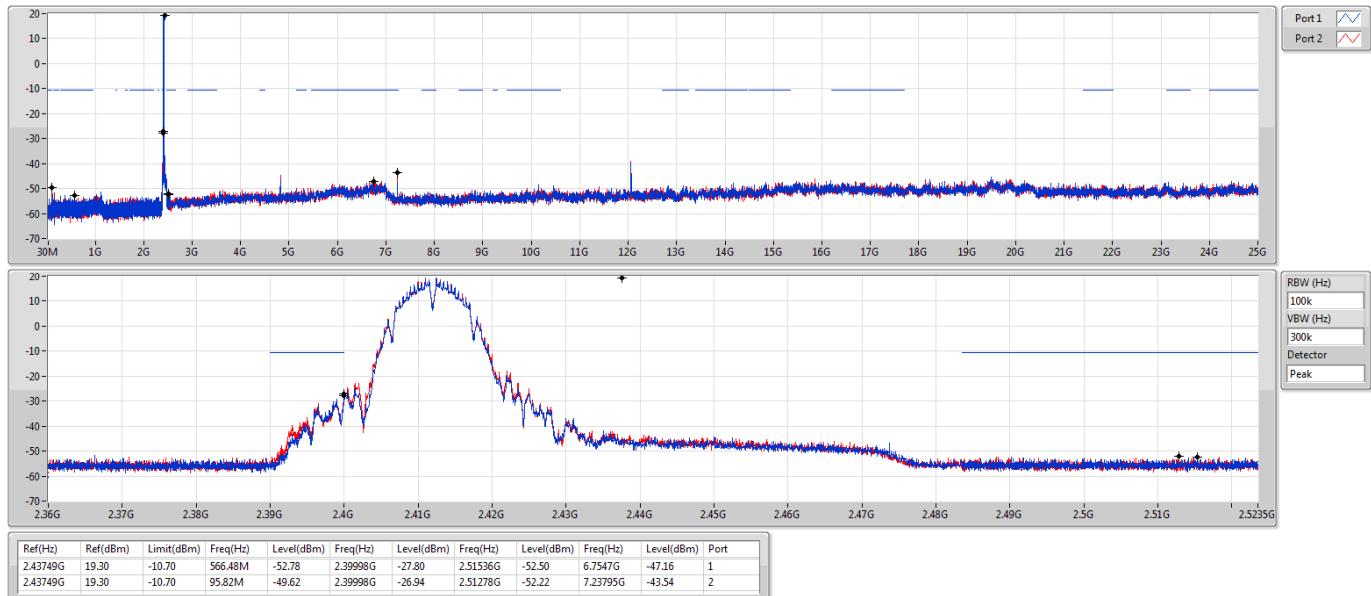
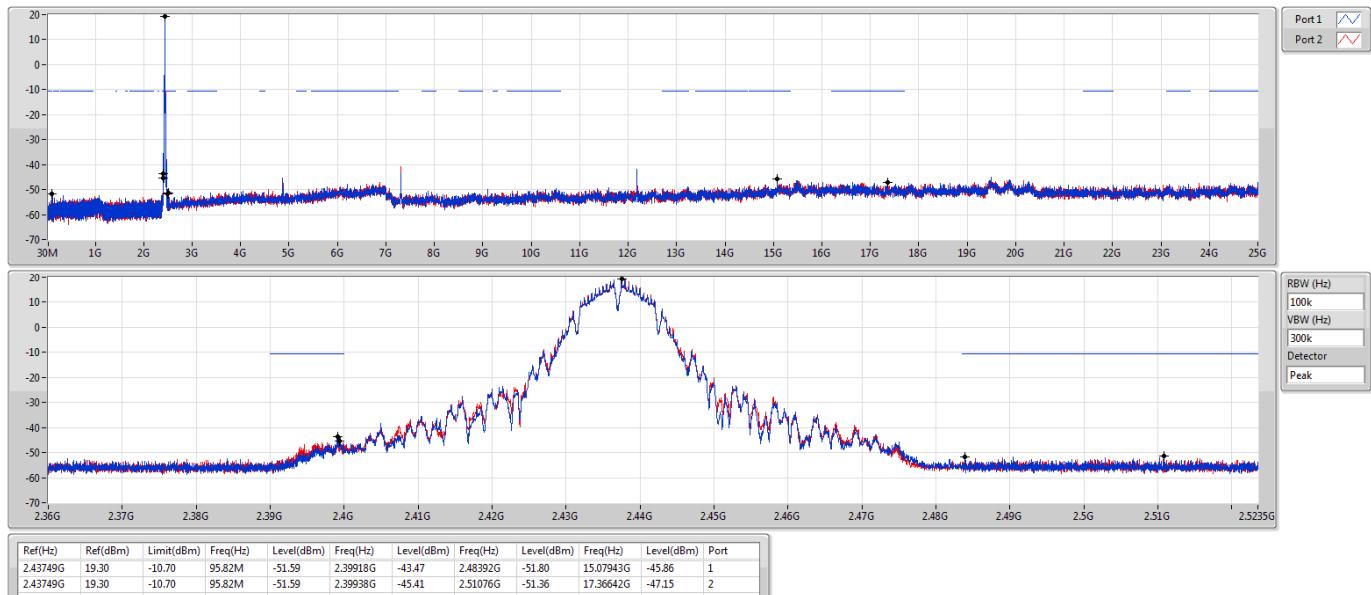
**Summary**

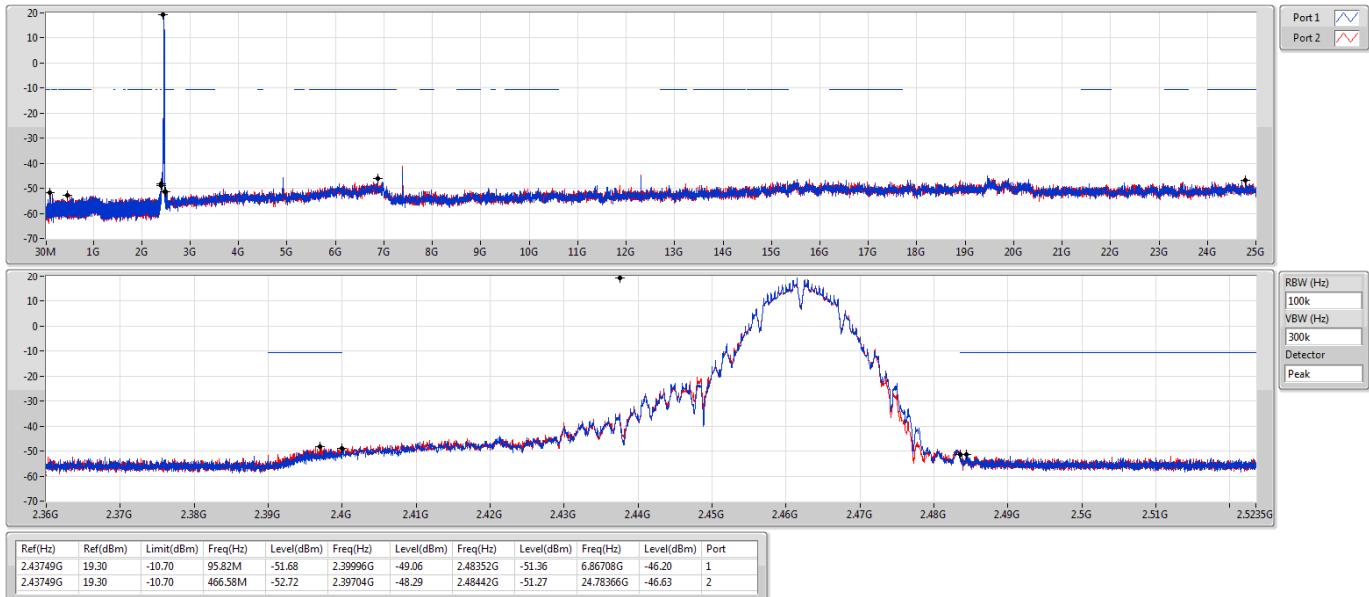
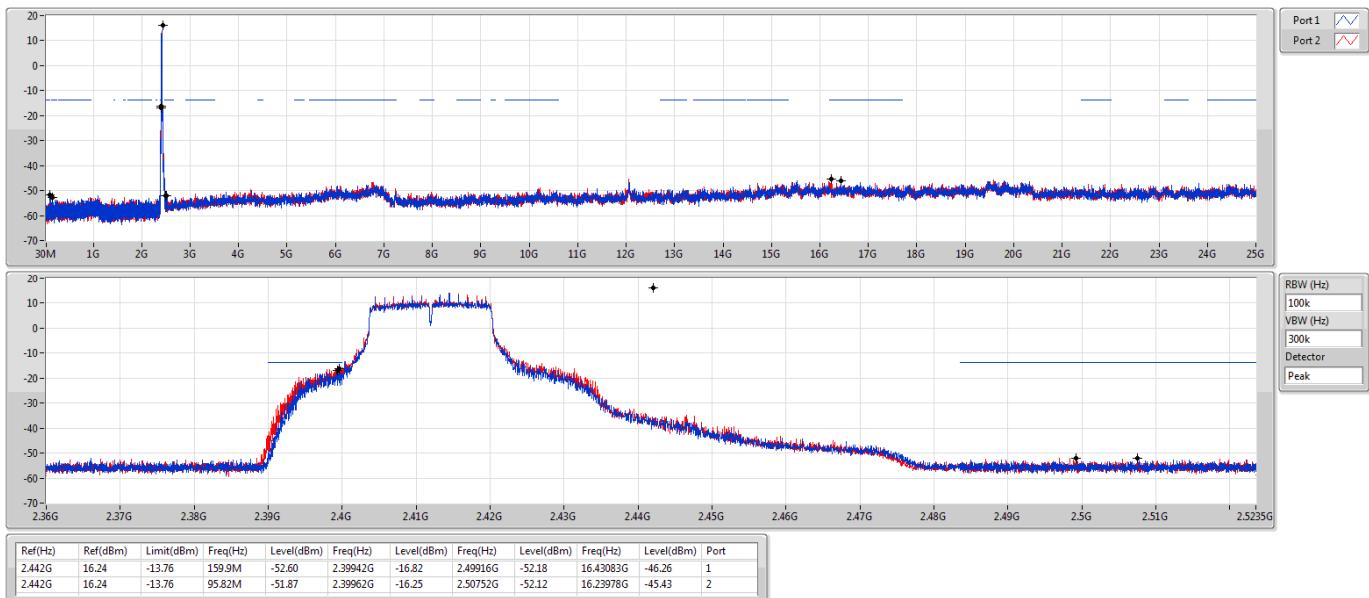
Mode	Result	Ref (Hz)	Ref (dBm)	Limit (dBm)	Freq (Hz)	Level (dBm)	Freq (Hz)	Level (dBm)	Freq (Hz)	Level (dBm)	Freq (Hz)	Level (dBm)	Port
2.4-2.4835GHz	-	-	-	-	-	-	-	-	-	-	-	-	-
802.11b_Nss1,(1Mbps)_2TX	Pass	2.43749G	19.30	-10.70	95.82M	-49.62	2.39998G	-26.94	2.51278G	-52.22	7.23795G	-43.54	2
802.11g_Nss1,(6Mbps)_2TX	Pass	2.442G	16.24	-13.76	95.82M	-51.87	2.39962G	-16.25	2.50752G	-52.12	16.23978G	-45.43	2
VHT20_Nss1,(MCS0)_2TX	Pass	2.44196G	16.88	-13.12	930.25M	-52.69	2.39972G	-15.02	2.50628G	-51.50	24.21332G	-43.69	2
802.11ax HEW20_Nss1,(MCS0)_2TX	Pass	2.43198G	16.10	-13.90	95.82M	-50.94	2.39966G	-14.31	2.51698G	-52.38	16.48703G	-46.67	2
VHT40_Nss1,(MCS0)_2TX	Pass	2.45198G	11.34	-18.66	800.59M	-51.79	2.39944G	-19.31	2.48422G	-47.46	24.74478G	-44.30	2
802.11ax HEW40_Nss1,(MCS0)_2TX	Pass	2.45198G	11.40	-18.60	415.87M	-52.02	2.39948G	-18.95	2.48422G	-47.44	6.56842G	-46.54	2

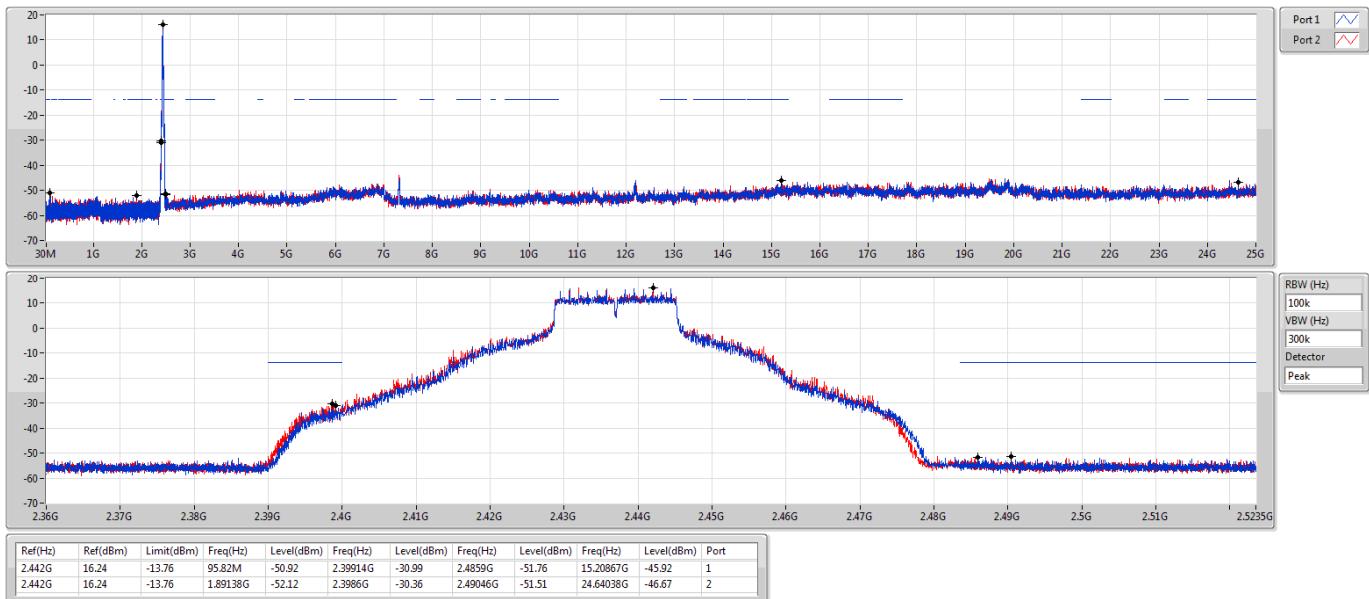
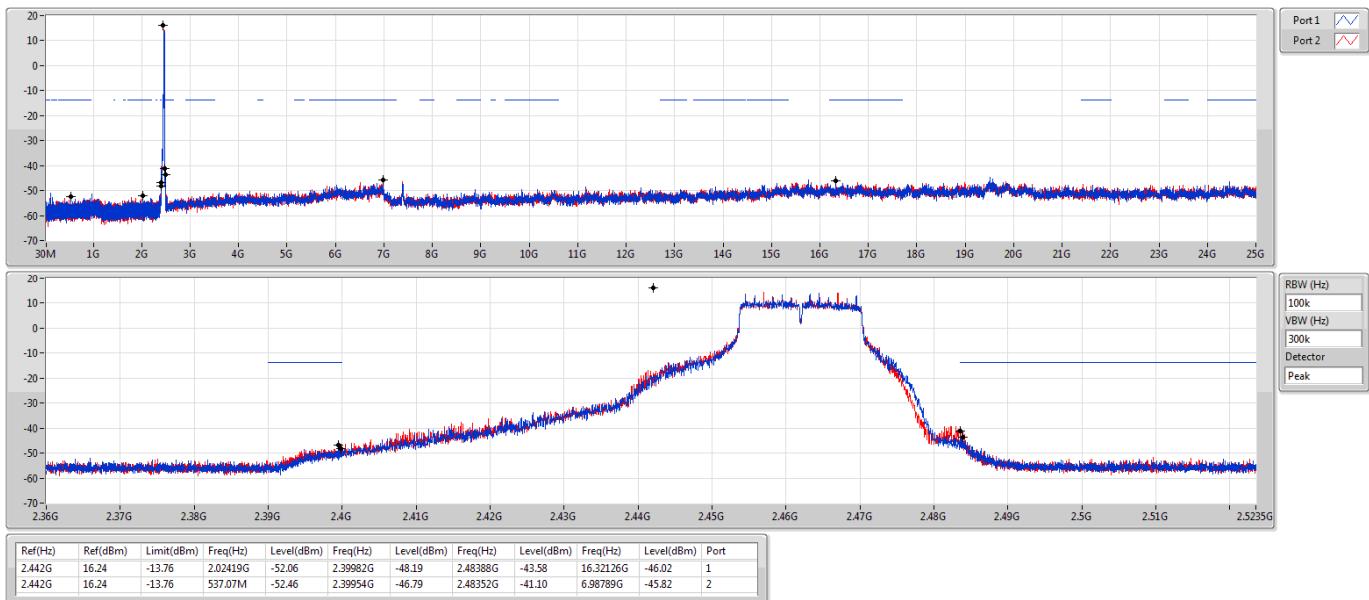


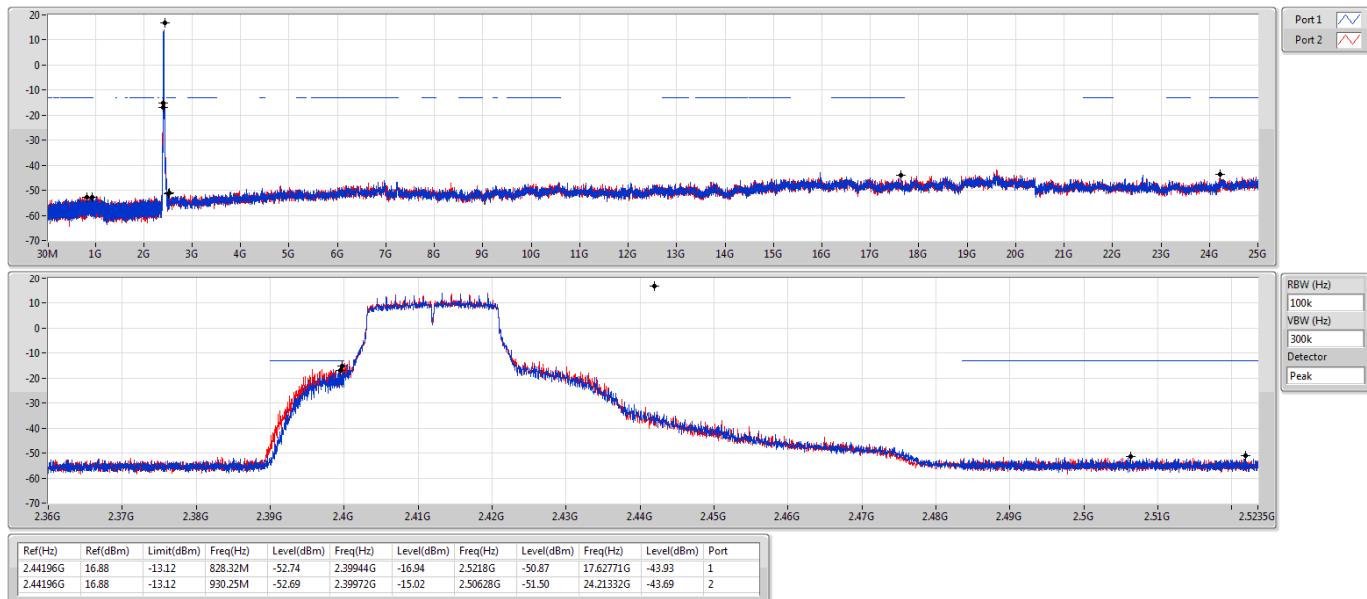
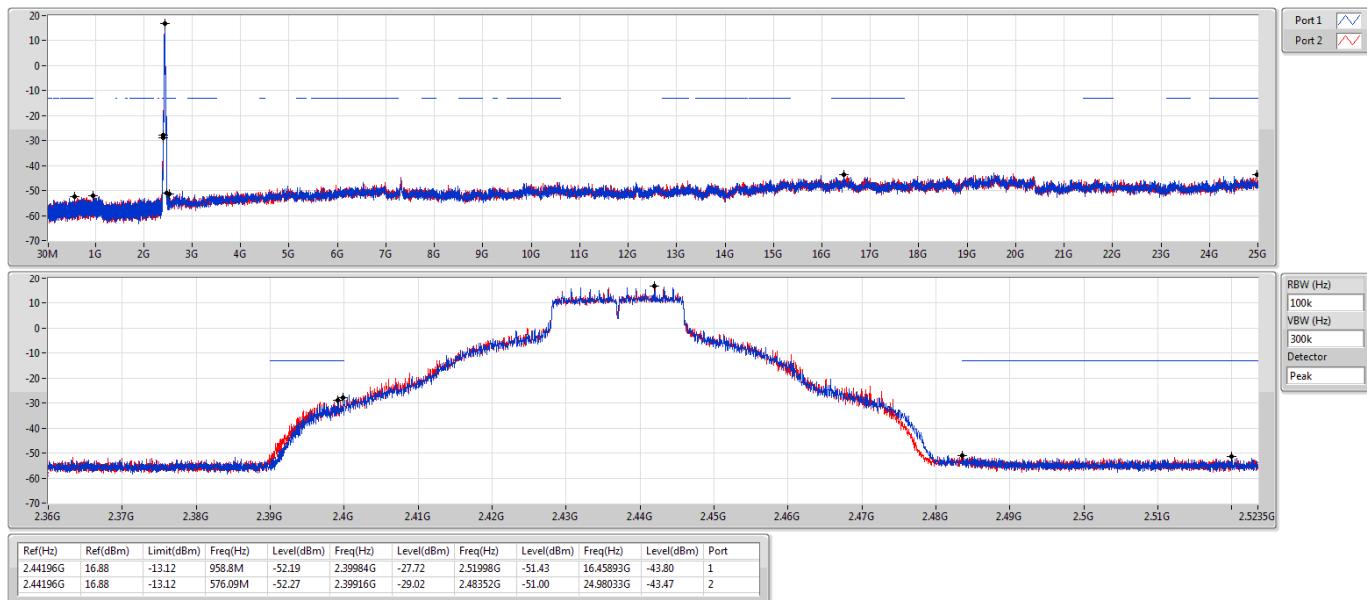
## Result

Mode	Result	Ref (Hz)	Ref (dBm)	Limit (dBm)	Freq (Hz)	Level (dBm)	Port						
802.11b_Nss1,(1Mbps)_2TX	-	-	-	-	-	-	-	-	-	-	-	-	-
2412MHz	Pass	2.43749G	19.30	-10.70	566.48M	-52.78	2.39998G	-27.80	2.51536G	-52.50	6.7547G	-47.16	1
2412MHz	Pass	2.43749G	19.30	-10.70	95.82M	-49.62	2.39998G	-26.94	2.51278G	-52.22	7.23795G	-43.54	2
2437MHz	Pass	2.43749G	19.30	-10.70	95.82M	-51.59	2.39918G	-43.47	2.48392G	-51.80	15.07943G	-45.86	1
2437MHz	Pass	2.43749G	19.30	-10.70	95.82M	-51.59	2.39938G	-45.41	2.51076G	-51.36	17.36642G	-47.15	2
2462MHz	Pass	2.43749G	19.30	-10.70	95.82M	-51.68	2.39996G	-49.06	2.48352G	-51.36	6.86708G	-46.20	1
2462MHz	Pass	2.43749G	19.30	-10.70	466.58M	-52.72	2.39704G	-48.29	2.48442G	-51.27	24.78366G	-46.63	2
802.11g_Nss1,(6Mbps)_2TX	-	-	-	-	-	-	-	-	-	-	-	-	-
2412MHz	Pass	2.442G	16.24	-13.76	159.9M	-52.60	2.39942G	-16.82	2.49916G	-52.18	16.43083G	-46.26	1
2412MHz	Pass	2.442G	16.24	-13.76	95.82M	-51.87	2.39962G	-16.25	2.50752G	-52.12	16.23978G	-45.43	2
2437MHz	Pass	2.442G	16.24	-13.76	95.82M	-50.92	2.39914G	-30.99	2.4859G	-51.76	15.20867G	-45.92	1
2437MHz	Pass	2.442G	16.24	-13.76	1.89138G	-52.12	2.3986G	-30.36	2.49046G	-51.51	24.64038G	-46.67	2
2462MHz	Pass	2.442G	16.24	-13.76	2.02419G	-52.06	2.39982G	-48.19	2.48388G	-43.58	16.32126G	-46.02	1
2462MHz	Pass	2.442G	16.24	-13.76	537.07M	-52.46	2.39954G	-46.79	2.48352G	-41.10	6.98789G	-45.82	2
VHT20_Nss1,(MCS0)_2TX	-	-	-	-	-	-	-	-	-	-	-	-	-
2412MHz	Pass	2.44196G	16.88	-13.12	828.32M	-52.74	2.39944G	-16.94	2.5218G	-50.87	17.62771G	-43.93	1
2412MHz	Pass	2.44196G	16.88	-13.12	930.25M	-52.69	2.39972G	-15.02	2.50628G	-51.50	24.21332G	-43.69	2
2437MHz	Pass	2.44196G	16.88	-13.12	958.8M	-52.19	2.39984G	-27.72	2.51998G	-51.43	16.45893G	-43.80	1
2437MHz	Pass	2.44196G	16.88	-13.12	576.09M	-52.27	2.39916G	-29.02	2.48352G	-51.00	24.98033G	-43.47	2
2462MHz	Pass	2.44196G	16.88	-13.12	930.84M	-52.54	2.39924G	-47.77	2.48384G	-41.74	16.37464G	-44.41	1
2462MHz	Pass	2.44196G	16.88	-13.12	841.42M	-52.46	2.39768G	-47.57	2.4838G	-40.21	21.65381G	-44.51	2
802.11ax HEW20_Nss1,(MCS0)_2TX	-	-	-	-	-	-	-	-	-	-	-	-	-
2412MHz	Pass	2.43198G	16.10	-13.90	159.9M	-50.74	2.39654G	-15.27	2.48918G	-51.83	6.91204G	-46.57	1
2412MHz	Pass	2.43198G	16.10	-13.90	95.82M	-50.94	2.39966G	-14.31	2.51698G	-52.38	16.48703G	-46.67	2
2437MHz	Pass	2.43198G	16.10	-13.90	159.9M	-52.00	2.39794G	-30.04	2.48532G	-51.21	21.47962G	-45.84	1
2437MHz	Pass	2.43198G	16.10	-13.90	95.82M	-52.18	2.39982G	-28.65	2.48548G	-50.77	6.69008G	-46.53	2
2462MHz	Pass	2.43198G	16.10	-13.90	95.82M	-51.88	2.39912G	-47.76	2.48374G	-42.25	24.96629G	-46.92	1
2462MHz	Pass	2.43198G	16.10	-13.90	159.9M	-52.84	2.39972G	-46.20	2.48374G	-41.11	6.75751G	-46.91	2
VHT40_Nss1,(MCS0)_2TX	-	-	-	-	-	-	-	-	-	-	-	-	-
2422MHz	Pass	2.45198G	11.34	-18.66	649.73M	-51.60	2.3964G	-21.17	2.49142G	-51.27	16.40682G	-44.32	1
2422MHz	Pass	2.45198G	11.34	-18.66	804.59M	-52.07	2.39852G	-20.36	2.50826G	-51.46	24.9411G	-44.10	2
2437MHz	Pass	2.45198G	11.34	-18.66	710.13M	-52.50	2.39952G	-20.06	2.48626G	-48.25	16.20209G	-44.62	1
2437MHz	Pass	2.45198G	11.34	-18.66	800.59M	-51.79	2.39944G	-19.31	2.48422G	-47.46	24.74478G	-44.30	2
2452MHz	Pass	2.45198G	11.34	-18.66	906.78M	-52.07	2.3994G	-37.39	2.48502G	-43.19	24.89904G	-44.00	1
2452MHz	Pass	2.45198G	11.34	-18.66	897.34M	-52.06	2.39944G	-37.32	2.48506G	-40.46	15.19525G	-43.89	2
802.11ax HEW40_Nss1,(MCS0)_2TX	-	-	-	-	-	-	-	-	-	-	-	-	-
2422MHz	Pass	2.45198G	11.40	-18.60	159.96M	-53.23	2.3996G	-21.32	2.51234G	-52.45	16.38438G	-46.81	1
2422MHz	Pass	2.45198G	11.40	-18.60	159.96M	-52.37	2.39736G	-20.45	2.52418G	-52.02	24.98598G	-46.76	2
2437MHz	Pass	2.45198G	11.40	-18.60	904.49M	-52.78	2.39828G	-19.93	2.48518G	-48.41	15.15599G	-46.61	1
2437MHz	Pass	2.45198G	11.40	-18.60	415.87M	-52.02	2.39948G	-18.95	2.48422G	-47.44	6.56842G	-46.54	2
2452MHz	Pass	2.45198G	11.40	-18.60	787.7M	-52.12	2.39972G	-35.99	2.48774G	-43.49	6.88253G	-45.86	1
2452MHz	Pass	2.45198G	11.40	-18.60	95.84M	-52.28	2.3998G	-35.34	2.48598G	-41.45	16.43487G	-46.75	2

**802.11b\_Nss1,(1Mbps)\_2TX**
**2412MHz**

**802.11b\_Nss1,(1Mbps)\_2TX**
**2437MHz**


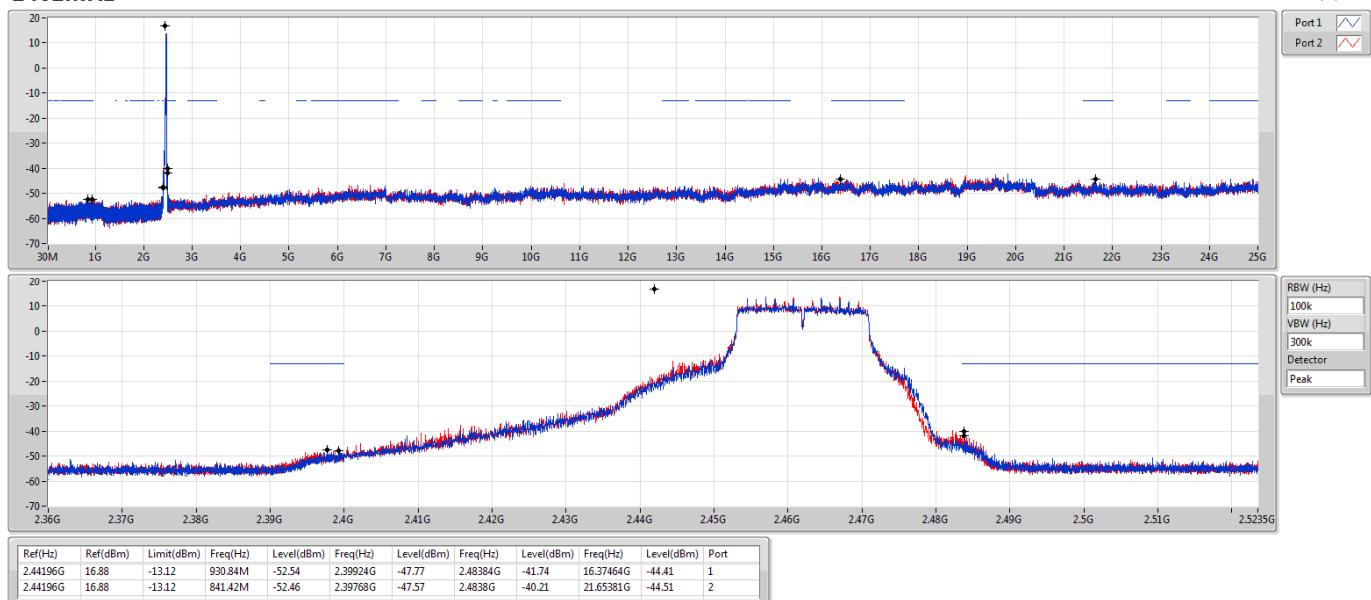
**802.11b\_Nss1,(1Mbps)\_2TX**
**CSE NdB**
**2462MHz**

**802.11g\_Nss1,(6Mbps)\_2TX**
**CSE NdB**
**2412MHz**


**802.11g\_Nss1,(6Mbps)\_2TX**
**CSE NdB**
**2437MHz**

**802.11g\_Nss1,(6Mbps)\_2TX**
**CSE NdB**
**2462MHz**


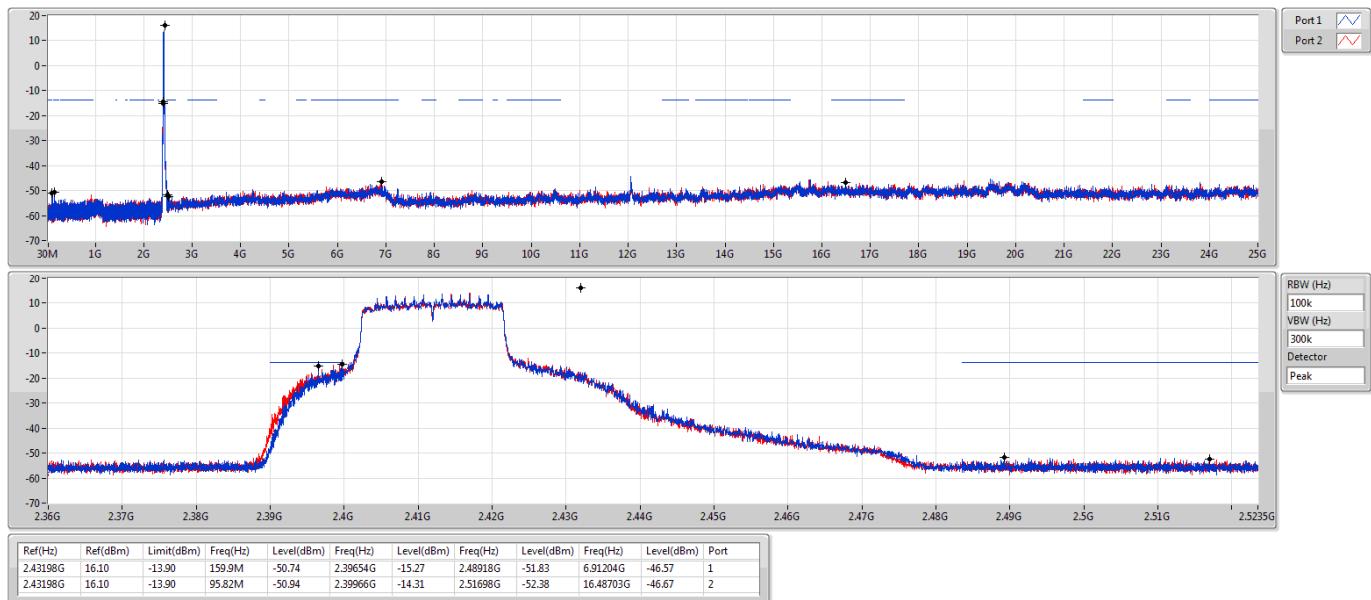
**VHT20\_Nss1,(MCS0)\_2TX**
**2412MHz**

**VHT20\_Nss1,(MCS0)\_2TX**
**2437MHz**


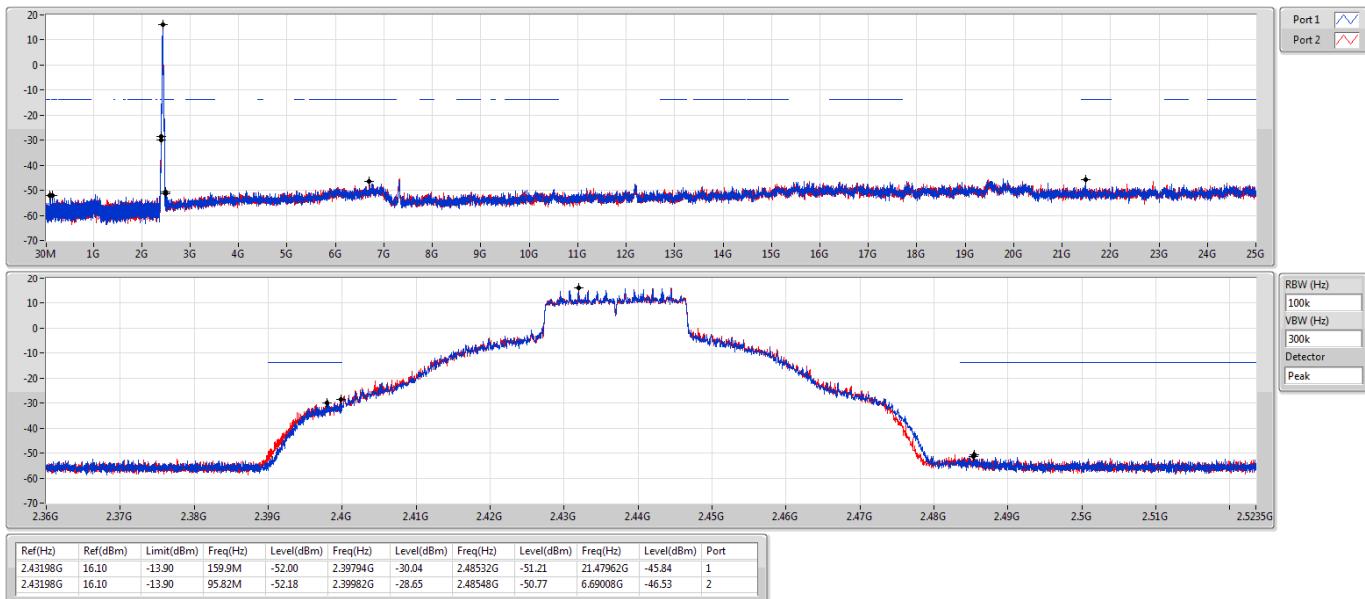
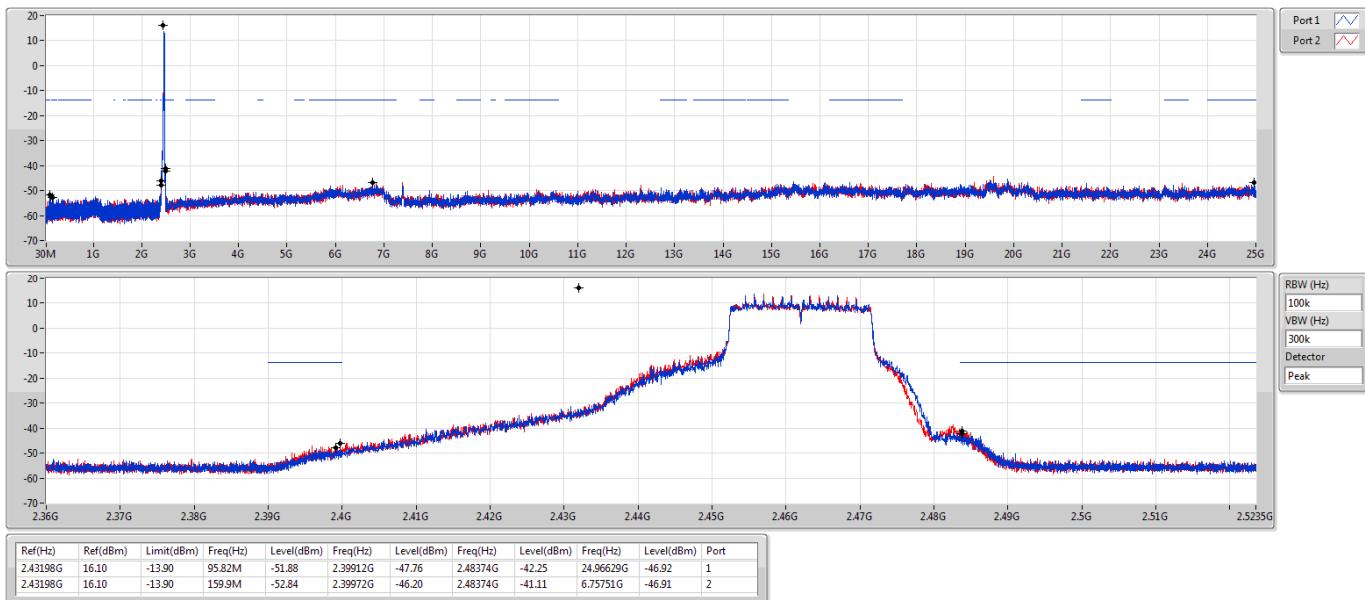
**VHT20\_Nss1,(MCS0)\_2TX**
**2462MHz**
**CSE NdB**

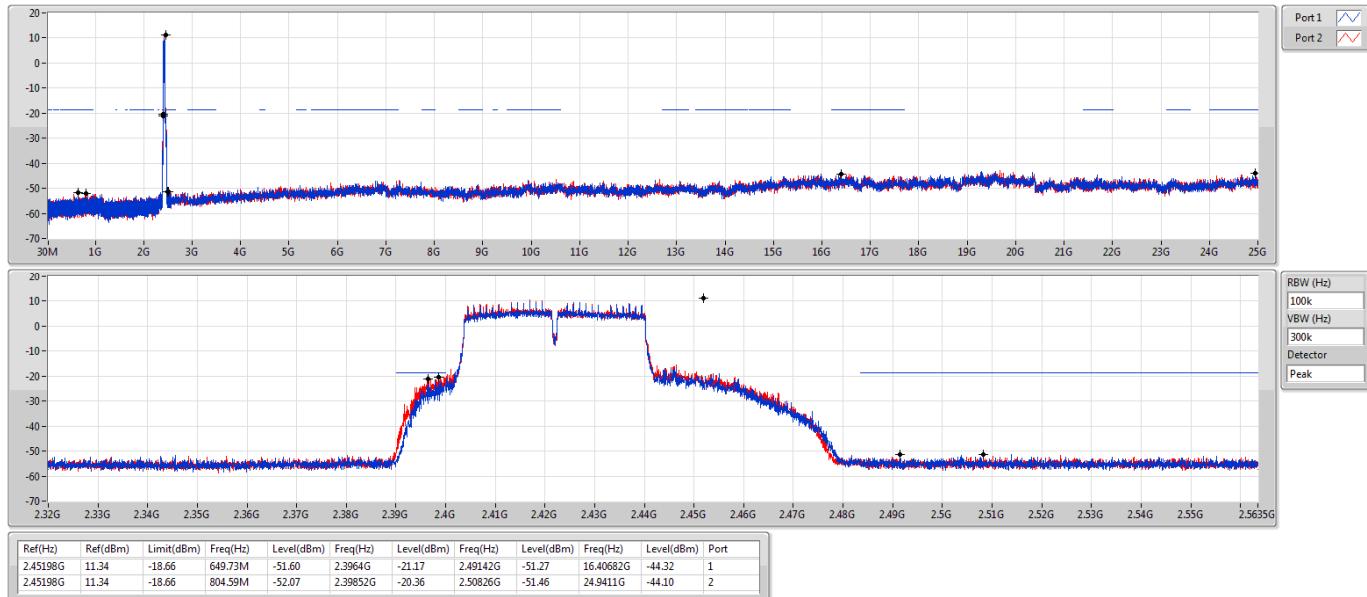
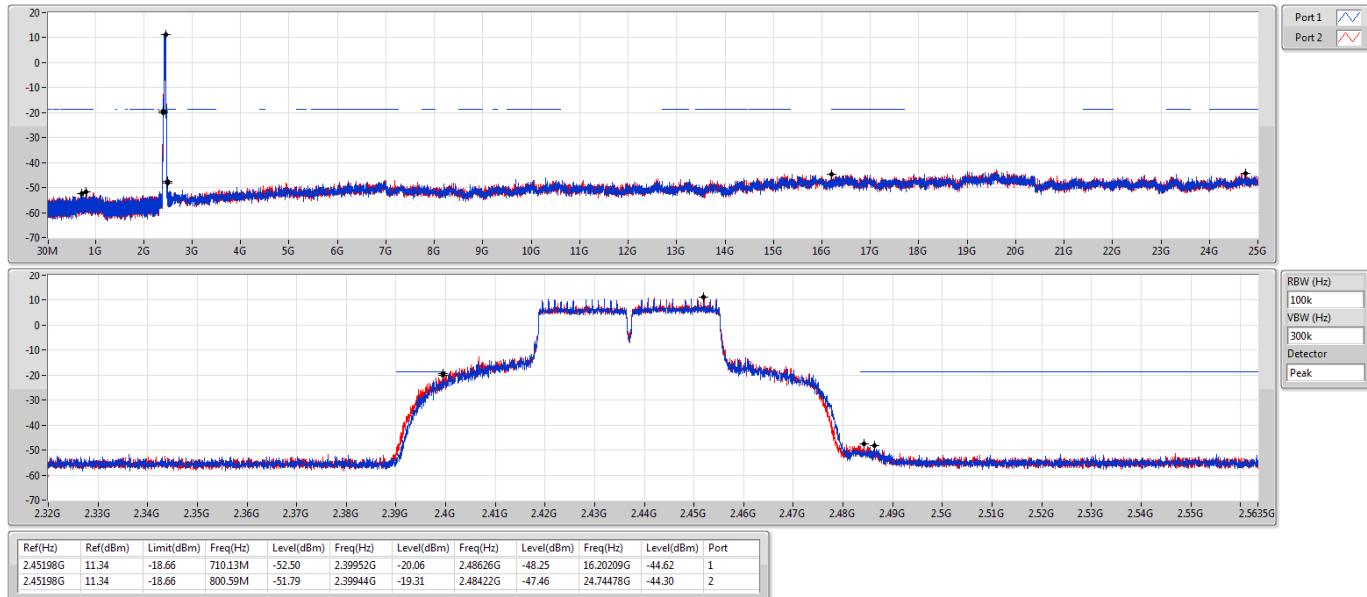
17/09/2019

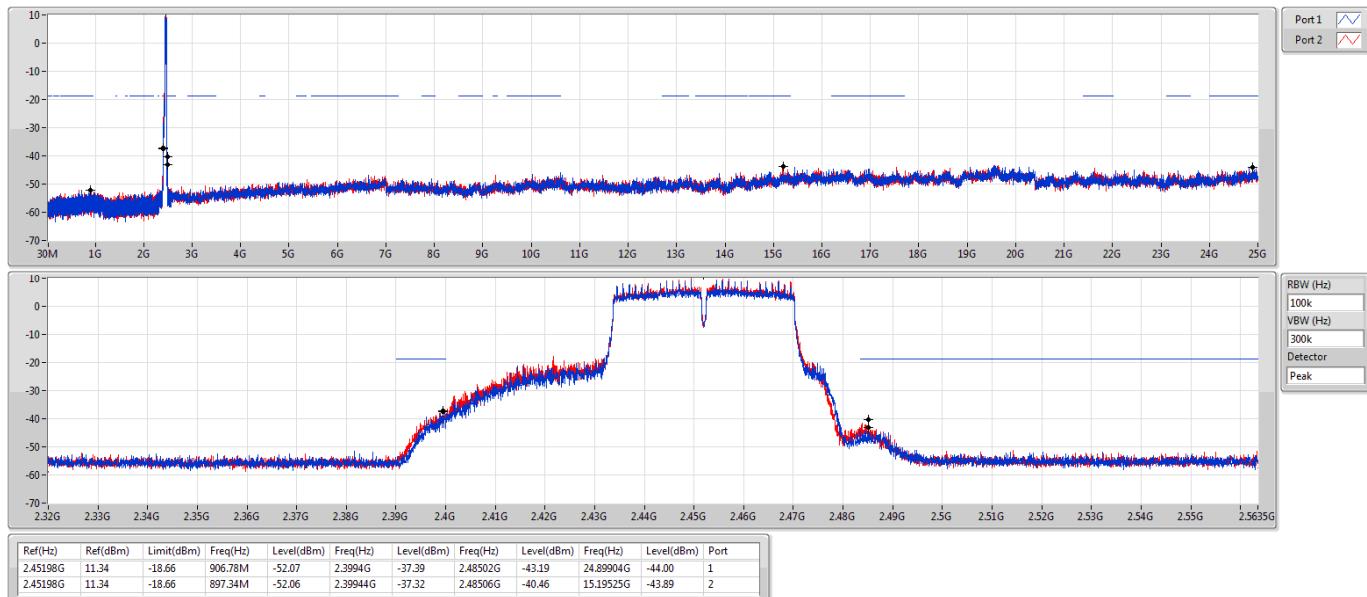

**802.11ax HEW20\_Nss1,(MCS0)\_2TX**
**2412MHz**
**CSE NdB**

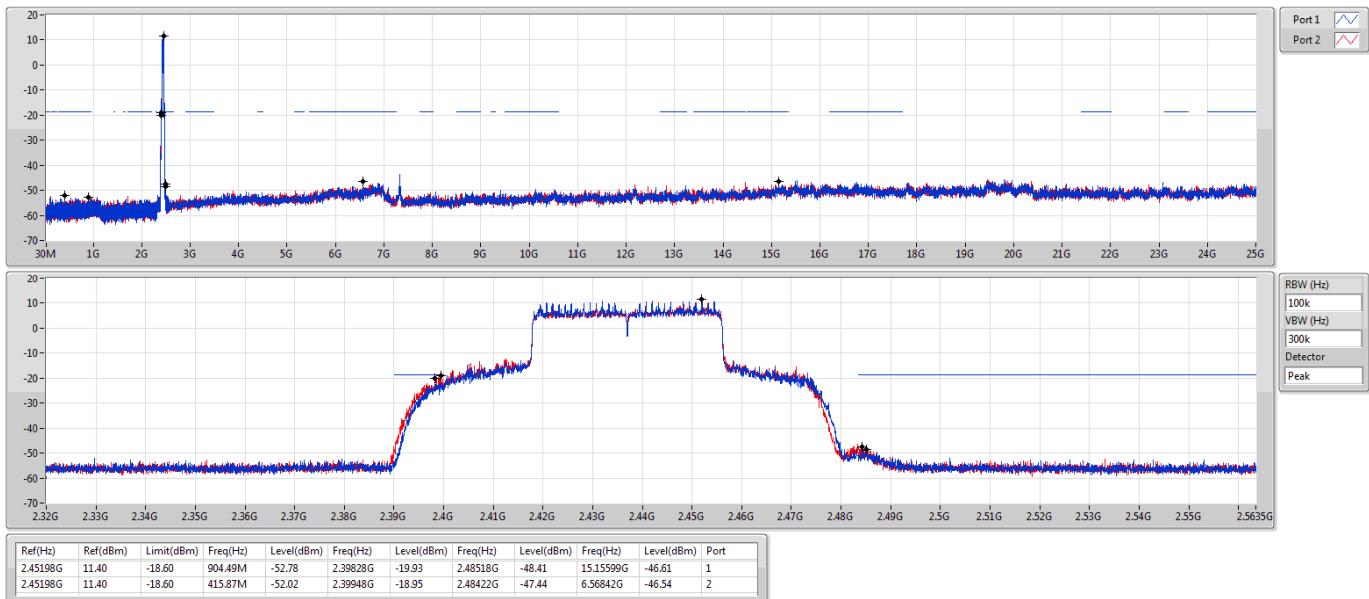
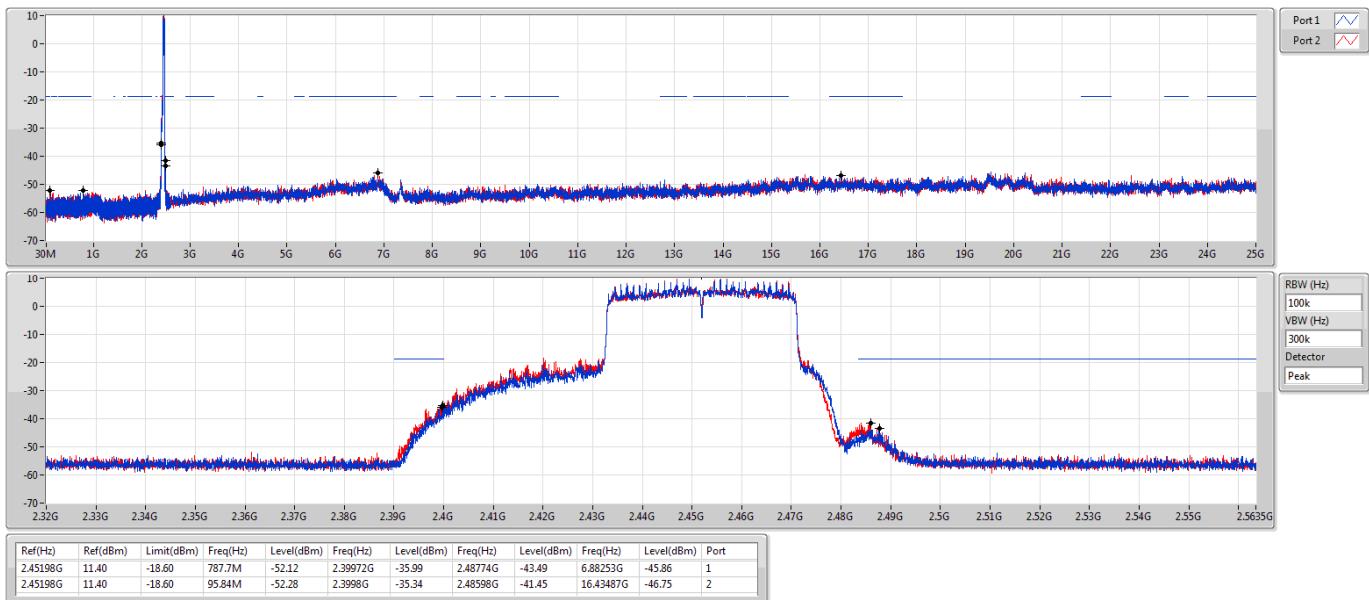
16/09/2019



**802.11ax HEW20\_Nss1,(MCS0)\_2TX**
**CSE NdB**
**2437MHz**

**802.11ax HEW20\_Nss1,(MCS0)\_2TX**
**CSE NdB**
**2462MHz**


**VHT40\_Nss1,(MCS0)\_2TX**
**2422MHz**

**VHT40\_Nss1,(MCS0)\_2TX**
**2437MHz**


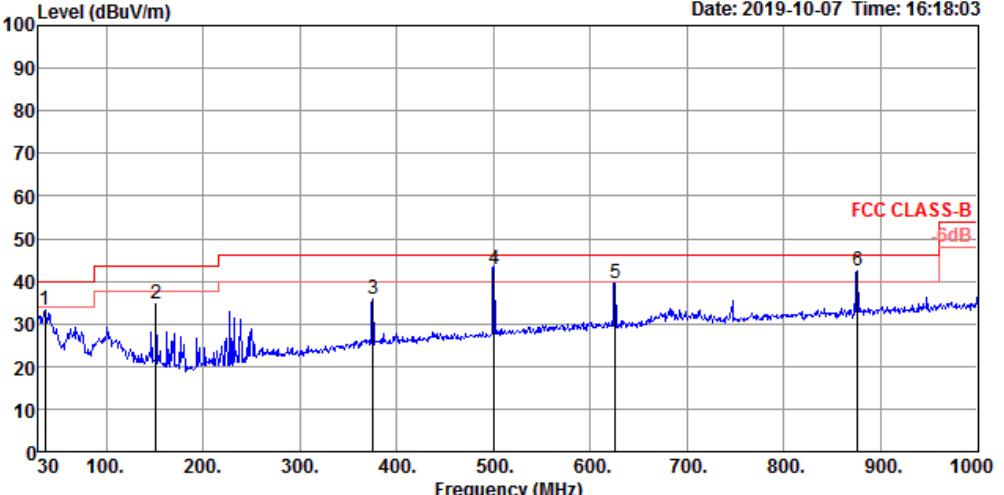
**VHT40\_Nss1,(MCS0)\_2TX**
**2452MHz**

**802.11ax HEW40\_Nss1,(MCS0)\_2TX**
**2422MHz**


**802.11ax HEW40\_Nss1,(MCS0)\_2TX**
**CSE NdB**
**2437MHz**

**802.11ax HEW40\_Nss1,(MCS0)\_2TX**
**CSE NdB**
**2452MHz**




## RSE below 1GHz Result

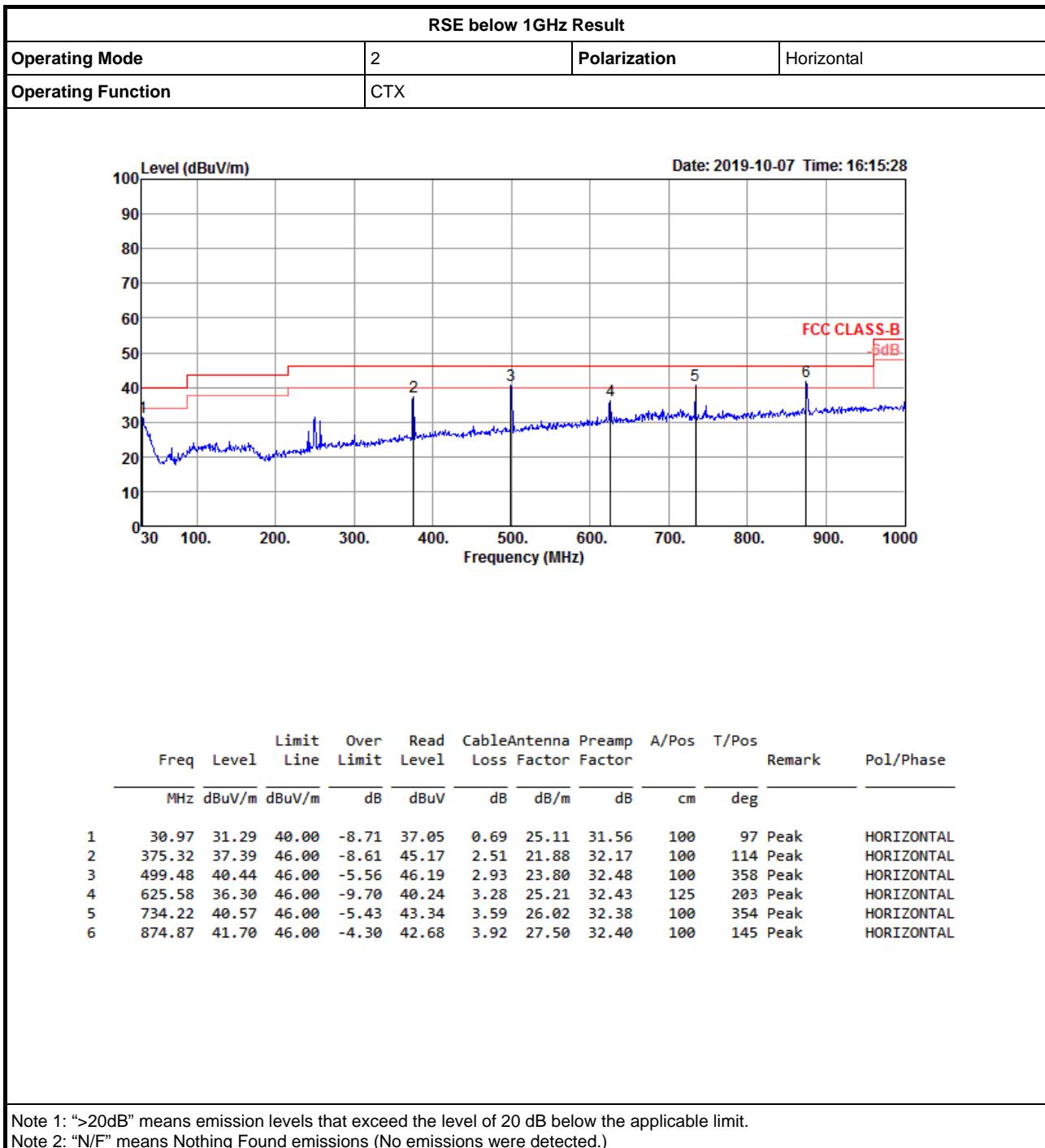
## Appendix F.1

RSE below 1GHz Result																																																																																																														
Operating Mode		2		Polarization		Vertical																																																																																																								
Operating Function		CTX																																																																																																												
																																																																																																														
		<table><thead><tr><th>Freq</th><th>Level</th><th>Limit</th><th>Over</th><th>Read</th><th>Cable</th><th>Antenna</th><th>Preamp</th><th>A/Pos</th><th>T/Pos</th><th>Remark</th><th>Pol/Phase</th></tr><tr><th>MHz</th><th>dBuV/m</th><th>dBuV/m</th><th>Line</th><th>Limit</th><th>Level</th><th>Loss</th><th>Factor</th><th>Factor</th><th></th><th></th><th></th></tr></thead><tbody><tr><td>1</td><td>36.79</td><td>33.19</td><td>40.00</td><td>-6.81</td><td>42.21</td><td>0.78</td><td>21.69</td><td>31.49</td><td>150</td><td>207</td><td>Peak</td></tr><tr><td>2</td><td>151.25</td><td>34.52</td><td>43.50</td><td>-8.98</td><td>48.04</td><td>1.56</td><td>16.86</td><td>31.94</td><td>100</td><td>27</td><td>Peak</td></tr><tr><td>3</td><td>375.32</td><td>35.76</td><td>46.00</td><td>-10.24</td><td>43.54</td><td>2.51</td><td>21.88</td><td>32.17</td><td>150</td><td>281</td><td>Peak</td></tr><tr><td>4</td><td>500.45</td><td>42.88</td><td>46.00</td><td>-3.12</td><td>48.59</td><td>2.94</td><td>23.83</td><td>32.48</td><td>150</td><td>249</td><td>QP</td></tr><tr><td>5</td><td>625.58</td><td>39.39</td><td>46.00</td><td>-6.61</td><td>43.33</td><td>3.28</td><td>25.21</td><td>32.43</td><td>100</td><td>260</td><td>Peak</td></tr><tr><td>6</td><td>875.84</td><td>42.30</td><td>46.00</td><td>-3.70</td><td>43.28</td><td>3.92</td><td>27.50</td><td>32.40</td><td>200</td><td>360</td><td>Peak</td></tr></tbody></table>													Freq	Level	Limit	Over	Read	Cable	Antenna	Preamp	A/Pos	T/Pos	Remark	Pol/Phase	MHz	dBuV/m	dBuV/m	Line	Limit	Level	Loss	Factor	Factor				1	36.79	33.19	40.00	-6.81	42.21	0.78	21.69	31.49	150	207	Peak	2	151.25	34.52	43.50	-8.98	48.04	1.56	16.86	31.94	100	27	Peak	3	375.32	35.76	46.00	-10.24	43.54	2.51	21.88	32.17	150	281	Peak	4	500.45	42.88	46.00	-3.12	48.59	2.94	23.83	32.48	150	249	QP	5	625.58	39.39	46.00	-6.61	43.33	3.28	25.21	32.43	100	260	Peak	6	875.84	42.30	46.00	-3.70	43.28	3.92	27.50	32.40	200	360	Peak
Freq	Level	Limit	Over	Read	Cable	Antenna	Preamp	A/Pos	T/Pos	Remark	Pol/Phase																																																																																																			
MHz	dBuV/m	dBuV/m	Line	Limit	Level	Loss	Factor	Factor																																																																																																						
1	36.79	33.19	40.00	-6.81	42.21	0.78	21.69	31.49	150	207	Peak																																																																																																			
2	151.25	34.52	43.50	-8.98	48.04	1.56	16.86	31.94	100	27	Peak																																																																																																			
3	375.32	35.76	46.00	-10.24	43.54	2.51	21.88	32.17	150	281	Peak																																																																																																			
4	500.45	42.88	46.00	-3.12	48.59	2.94	23.83	32.48	150	249	QP																																																																																																			
5	625.58	39.39	46.00	-6.61	43.33	3.28	25.21	32.43	100	260	Peak																																																																																																			
6	875.84	42.30	46.00	-3.70	43.28	3.92	27.50	32.40	200	360	Peak																																																																																																			
Note 1: ">20dB" means emission levels that exceed the level of 20 dB below the applicable limit.																																																																																																														
Note 2: "N/F" means Nothing Found emissions (No emissions were detected.)																																																																																																														



## RSE below 1GHz Result

Appendix F.1

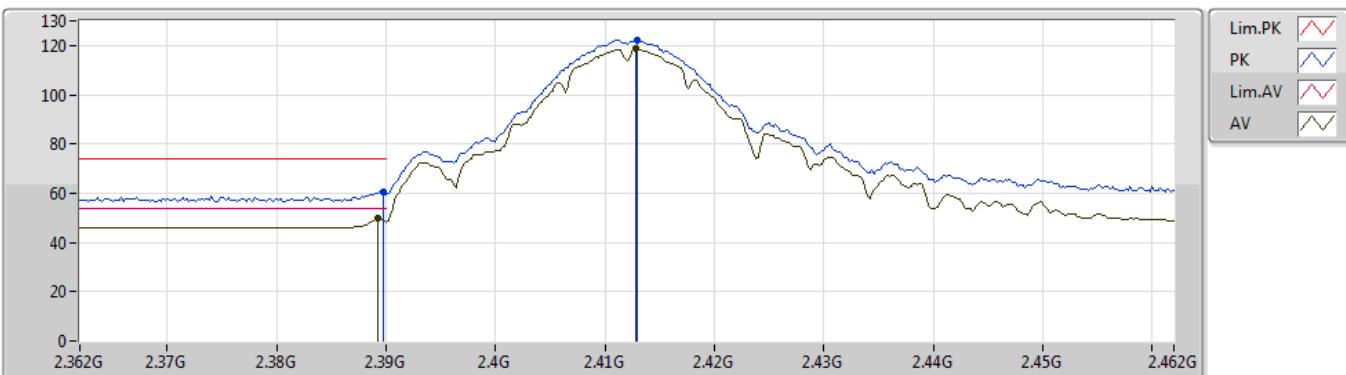


**Summary**

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	-	-	-	-	-	-	-	-	-	-	-	-
802.11ax HEW40_Nss1,(MCS0)_2TX	Pass	AV	2.39G	53.94	54.00	-0.06	31.20	3	Horizontal	15	2.99	-

**802.11b\_Nss1,(1Mbps)\_2TX**

12/09/2019

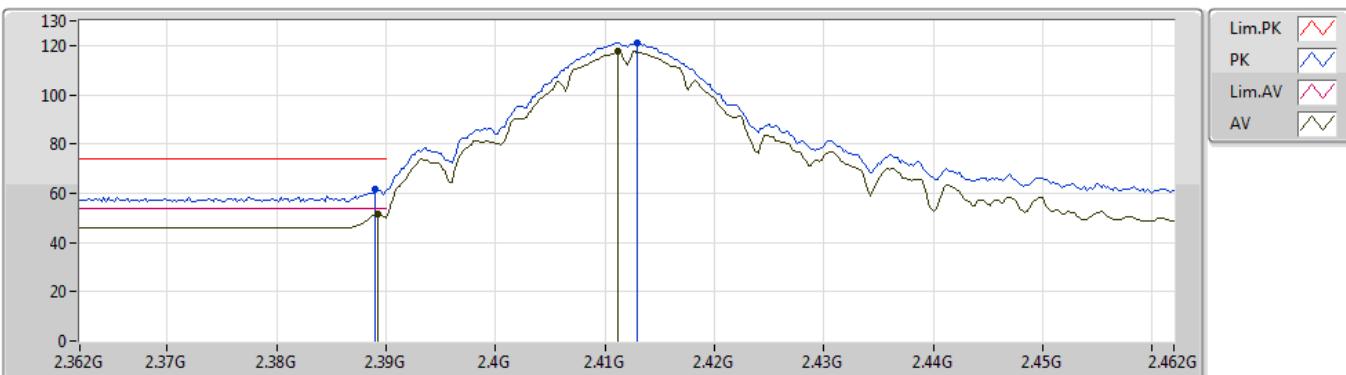
**2412MHz\_TX**


EUT Y\_2TX  
 Setting 117  
 02-B-4  
 FSU(100015)

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV)
PK	2.3898G	60.75	74.00	-13.25	31.20	3	Vertical	139	2.32	-	29.55
AV	2.3892G	49.62	54.00	-4.38	31.20	3	Vertical	139	2.32	-	18.42
PK	2.413G	122.30	Inf	-Inf	31.26	3	Vertical	139	2.32	-	91.04
AV	2.4128G	118.60	Inf	-Inf	31.26	3	Vertical	139	2.32	-	87.34

**802.11b\_Nss1,(1Mbps)\_2TX**

12/09/2019

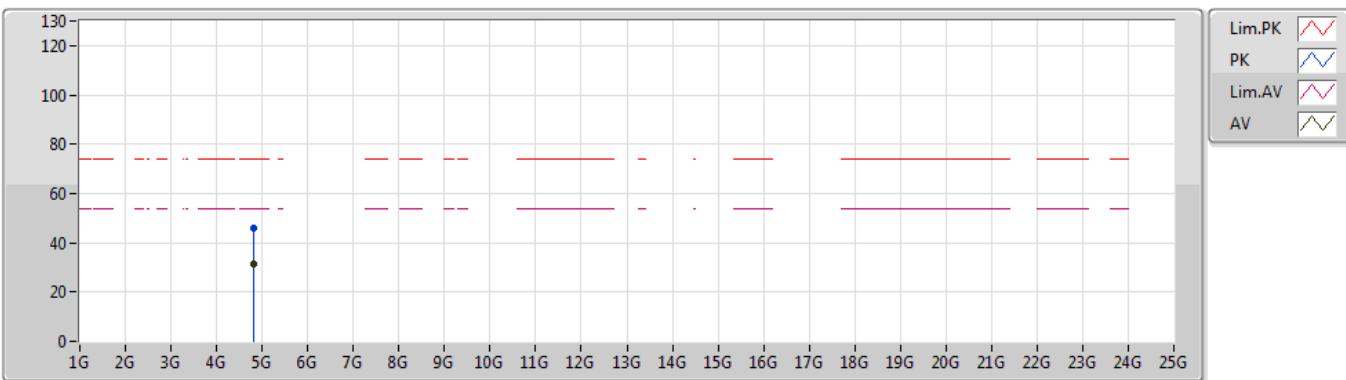
**2412MHz\_TX**

 EUT Y\_2TX  
 Setting 117  
 02-B-4  
 FSU(100015)

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	61.44	74.00	-12.56	31.20	3	Horizontal	2	2.45	-	30.24			
AV	2.3892G	51.58	54.00	-2.42	31.20	3	Horizontal	2	2.45	-	20.38			
PK	2.413G	121.19	Inf	-Inf	31.26	3	Horizontal	2	2.45	-	89.93			
AV	2.4112G	117.55	Inf	-Inf	31.25	3	Horizontal	2	2.45	-	86.30			

## 802.11b\_Nss1,(1Mbps)\_2TX

12/09/2019

### 2412MHz\_TX

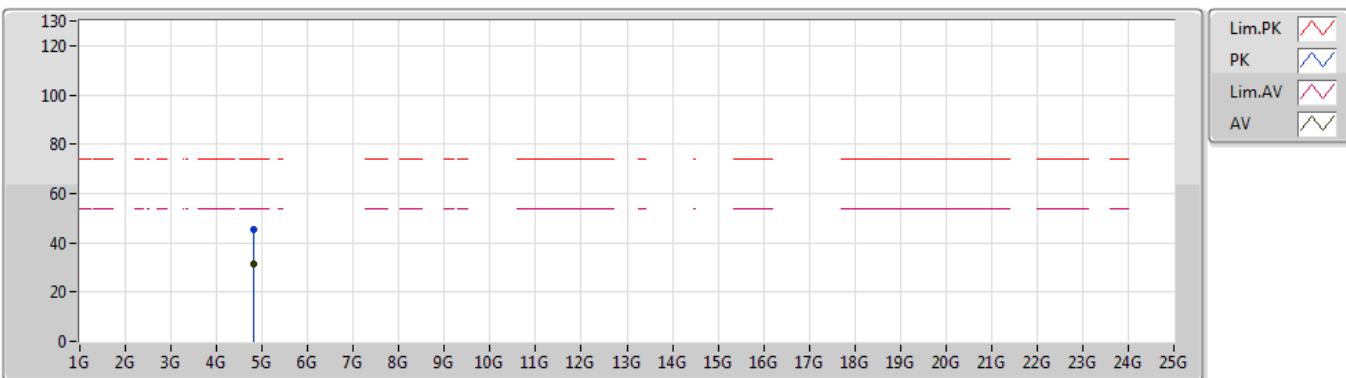


EUT Y\_2TX  
Setting 117  
02-B-4  
FSU(100015)

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV)				
PK	4.82432G	45.88	74.00	-28.12	7.17	3	Vertical	97	2.23	-	38.71				
AV	4.82388G	31.56	54.00	-22.44	7.17	3	Vertical	97	2.23	-	24.39				

**802.11b\_Nss1,(1Mbps)\_2TX**

12/09/2019

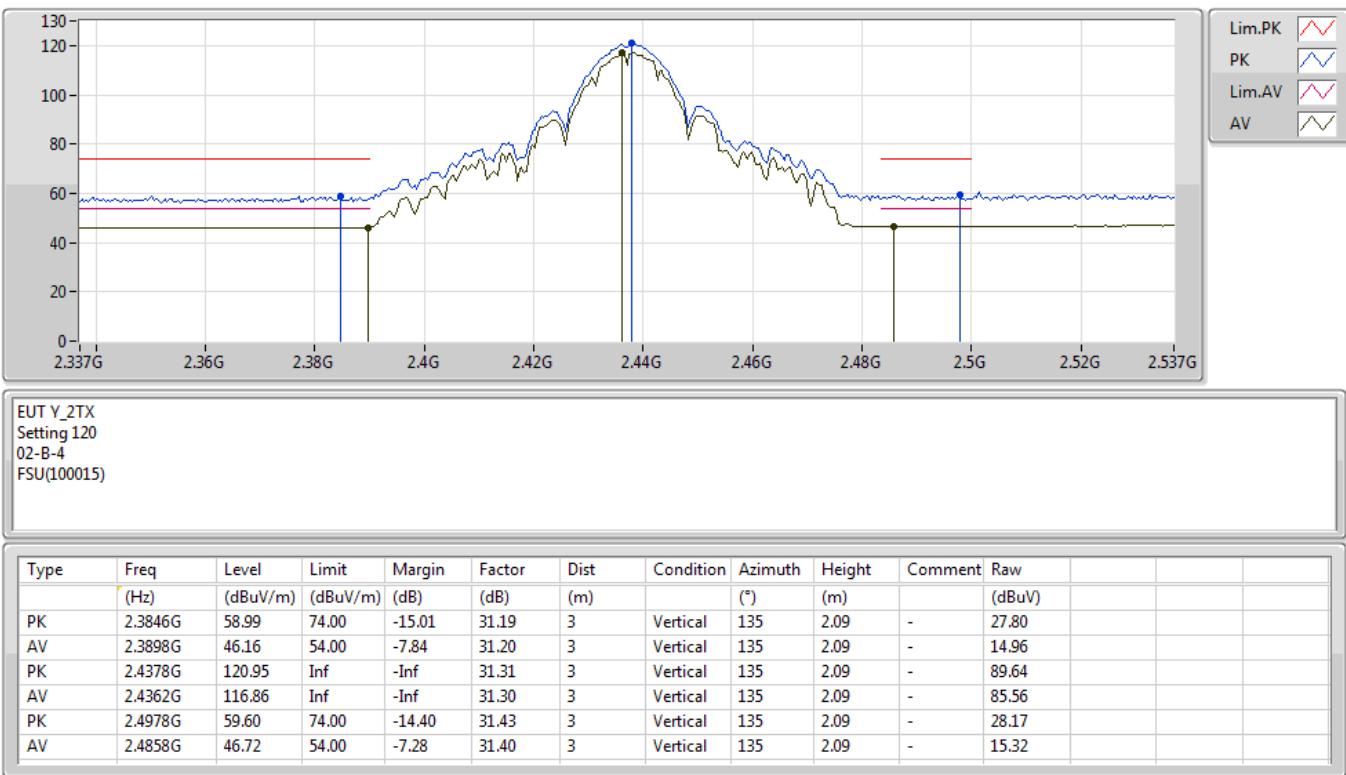
**2412MHz\_TX**


EUT Y\_2TX  
 Setting 117  
 02-B-4  
 FSU(100015)

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV)			
PK	4.824014G	45.26	74.00	-28.74	7.17	3	Horizontal	347	1.32	-	38.09			
AV	4.82406G	31.50	54.00	-22.50	7.17	3	Horizontal	347	1.32	-	24.33			

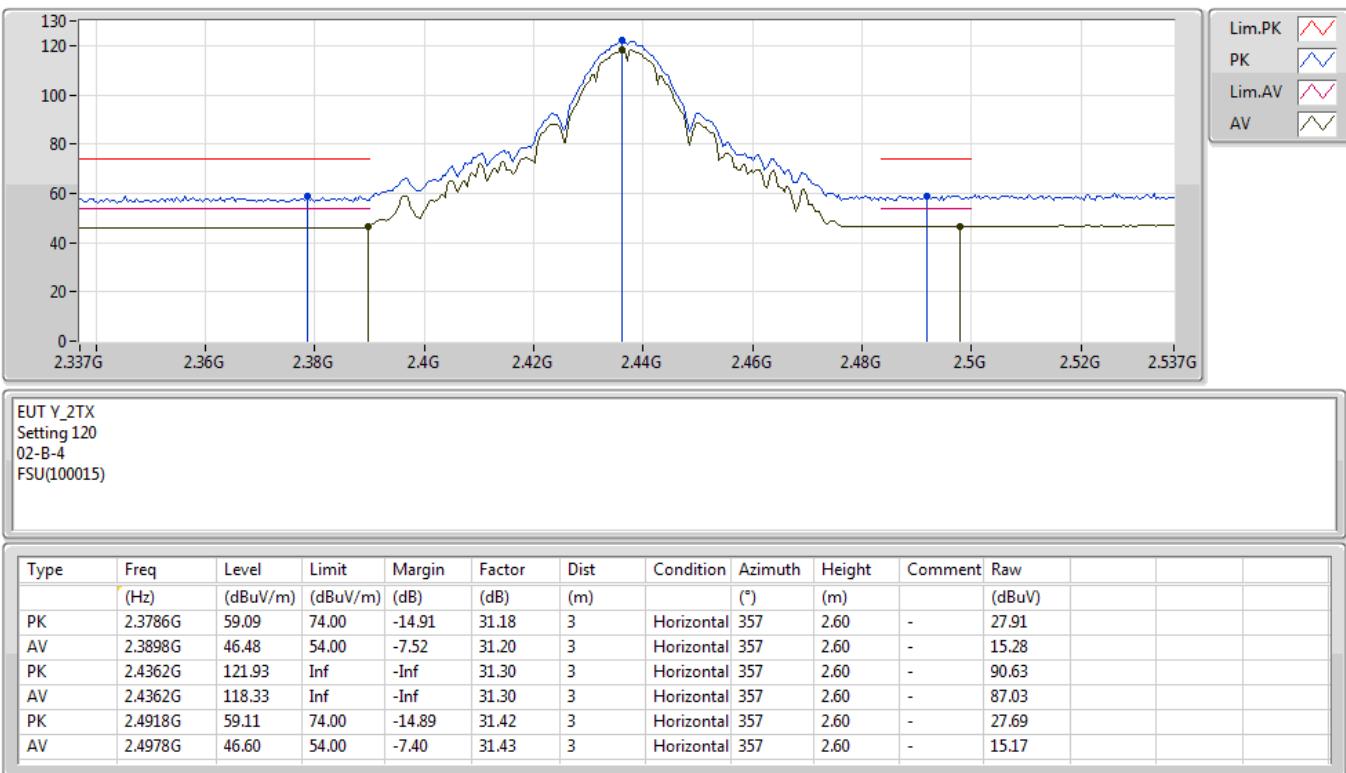
**802.11b\_Nss1,(1Mbps)\_2TX**

13/09/2019

**2437MHz\_TX**


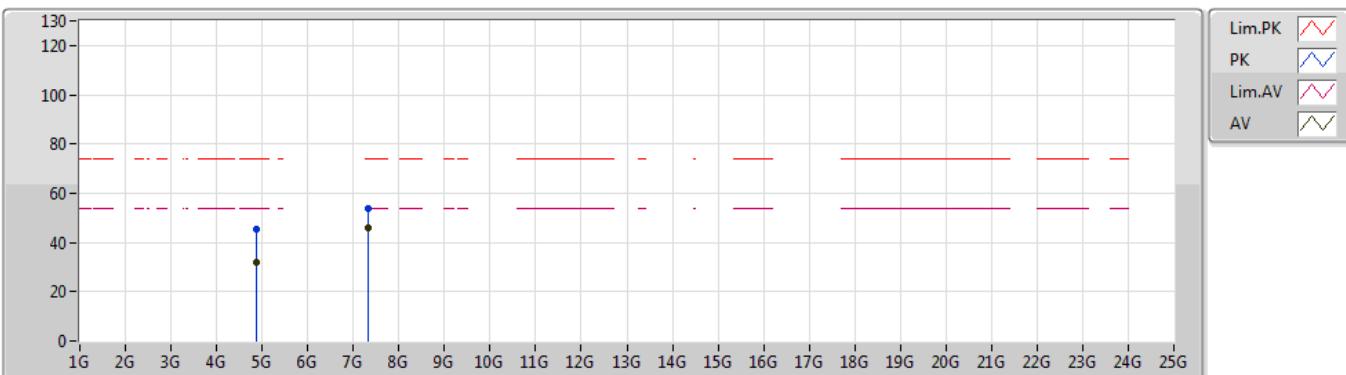
**802.11b\_Nss1,(1Mbps)\_2TX**

13/09/2019

**2437MHz\_TX**


**802.11b\_Nss1,(1Mbps)\_2TX**

13/09/2019

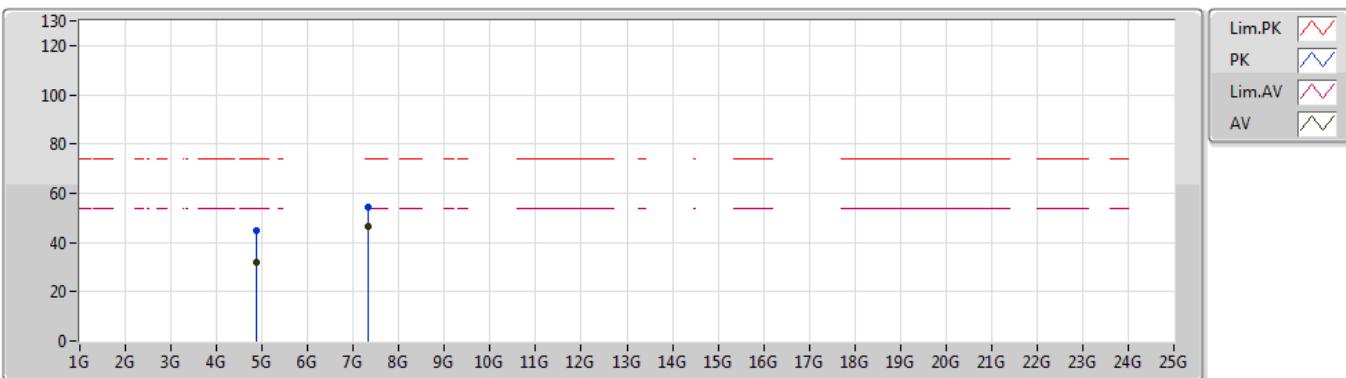
**2437MHz\_TX**


EUT Y\_2TX  
 Setting 120  
 02-B-4  
 FSU(100015)

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV)			
PK	4.87342G	45.11	74.00	-28.89	7.28	3	Vertical	153	1.56	-	37.83			
AV	4.87406G	32.03	54.00	-21.97	7.28	3	Vertical	153	1.56	-	24.75			
PK	7.31142G	54.06	74.00	-19.94	10.55	3	Vertical	91	1.76	-	43.51			
AV	7.31022G	45.93	54.00	-8.07	10.54	3	Vertical	91	1.76	-	35.39			

**802.11b\_Nss1,(1Mbps)\_2TX**

13/09/2019

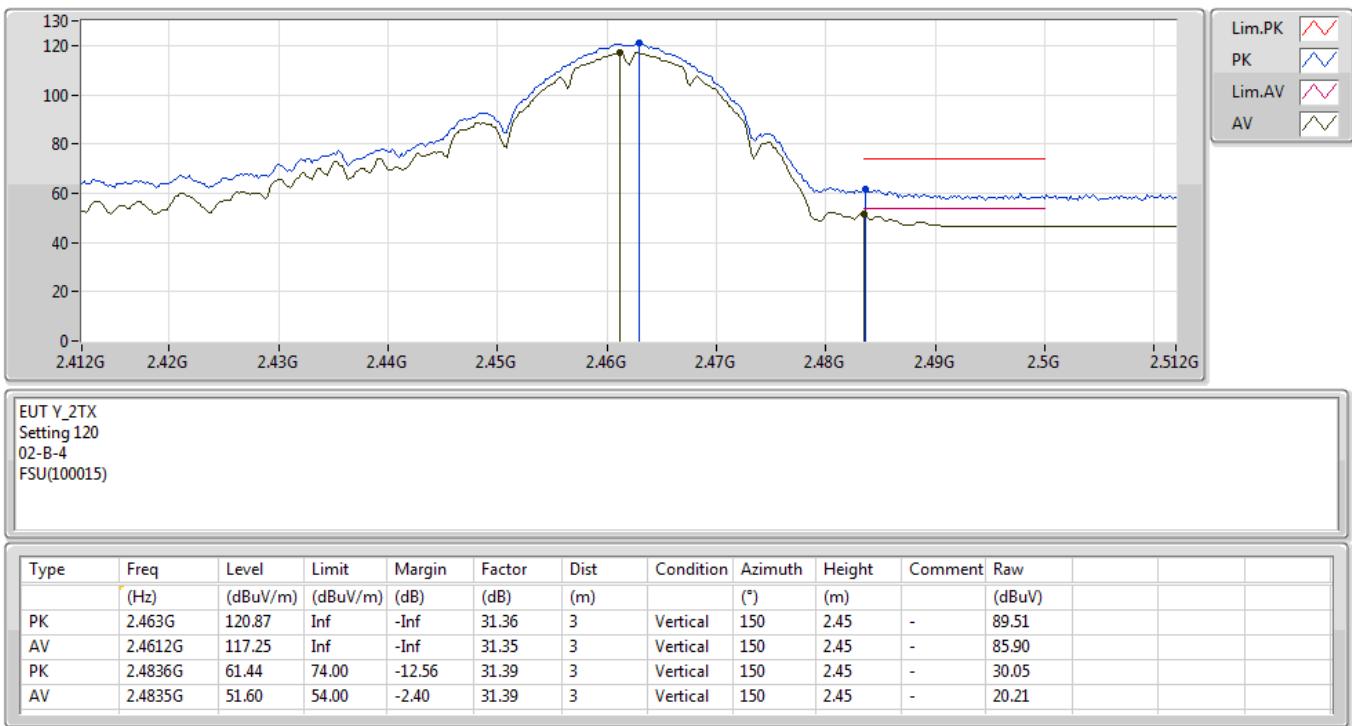
**2437MHz\_TX**


EUT Y\_2TX  
 Setting 120  
 02-B-4  
 FSU(100015)

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV)			
PK	4.8749G	44.67	74.00	-29.33	7.28	3	Horizontal	153	1.57	-	37.39			
AV	4.874G	32.08	54.00	-21.92	7.28	3	Horizontal	153	1.57	-	24.80			
PK	7.31166G	54.45	74.00	-19.55	10.55	3	Horizontal	100	1.78	-	43.90			
AV	7.31022G	46.36	54.00	-7.64	10.54	3	Horizontal	100	1.78	-	35.82			

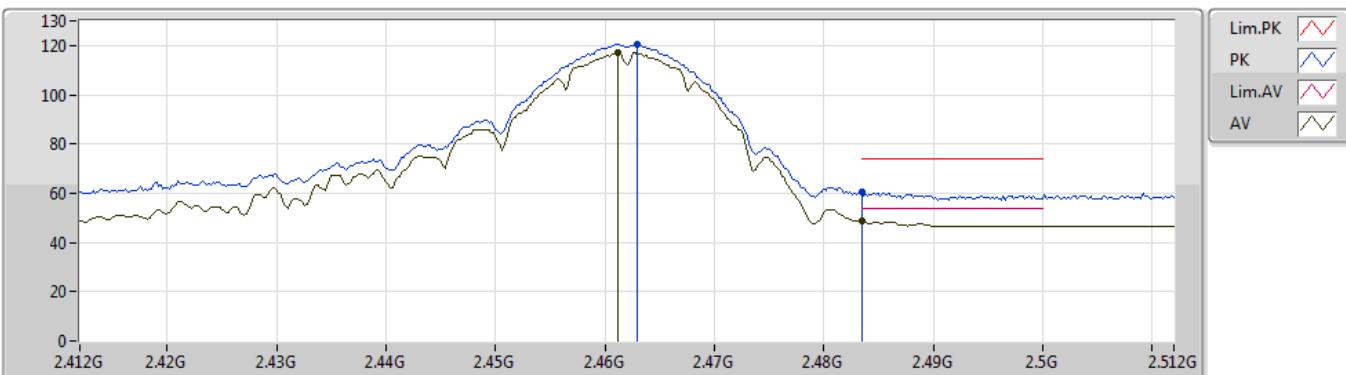
**802.11b\_Nss1,(1Mbps)\_2TX**

12/09/2019

**2462MHz\_TX**


**802.11b\_Nss1,(1Mbps)\_2TX**

12/09/2019

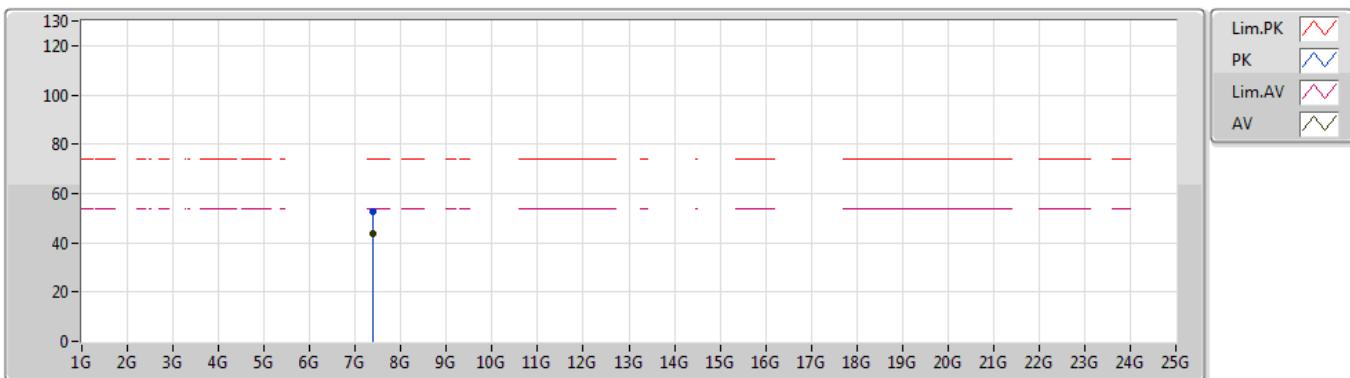
**2462MHz\_TX**


EUT Y\_2TX  
 Setting 120  
 02-B-4  
 FSU(100015)

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	120.63	Inf	-Inf	31.36	3	Horizontal	343	2.84	-	89.27			
AV	2.4612G	117.09	Inf	-Inf	31.35	3	Horizontal	343	2.84	-	85.74			
PK	2.4835G	60.66	74.00	-13.34	31.39	3	Horizontal	343	2.84	-	29.27			
AV	2.4835G	49.00	54.00	-5.00	31.39	3	Horizontal	343	2.84	-	17.61			

**802.11b\_Nss1,(1Mbps)\_2TX**

12/09/2019

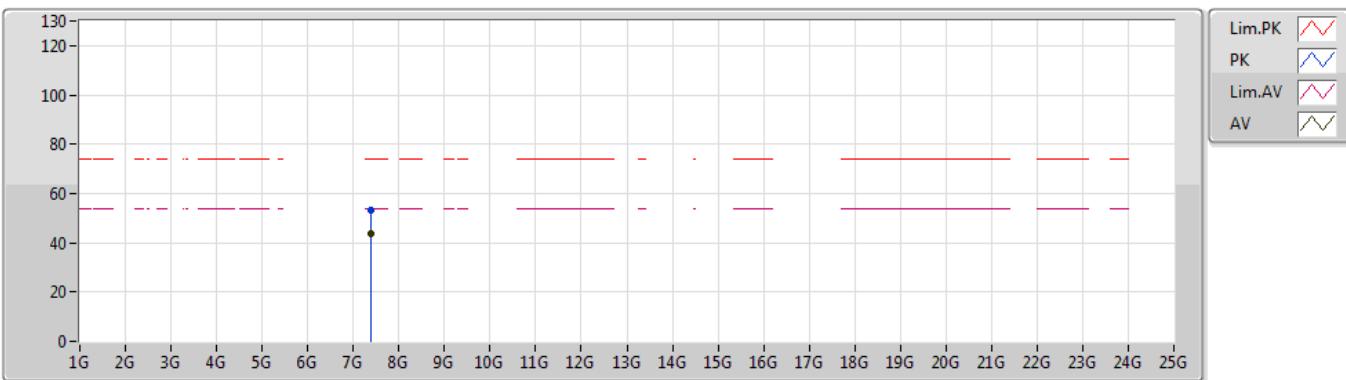
**2462MHz\_TX**


EUT Y\_2TX  
 Setting 120  
 02-B-4  
 FSU(100015)

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV)			
PK	7.38642G	52.83	74.00	-21.17	10.76	3	Vertical	268	1.55	-	42.07			
AV	7.38522G	43.97	54.00	-10.03	10.76	3	Vertical	268	1.55	-	33.21			

**802.11b\_Nss1,(1Mbps)\_2TX**

12/09/2019

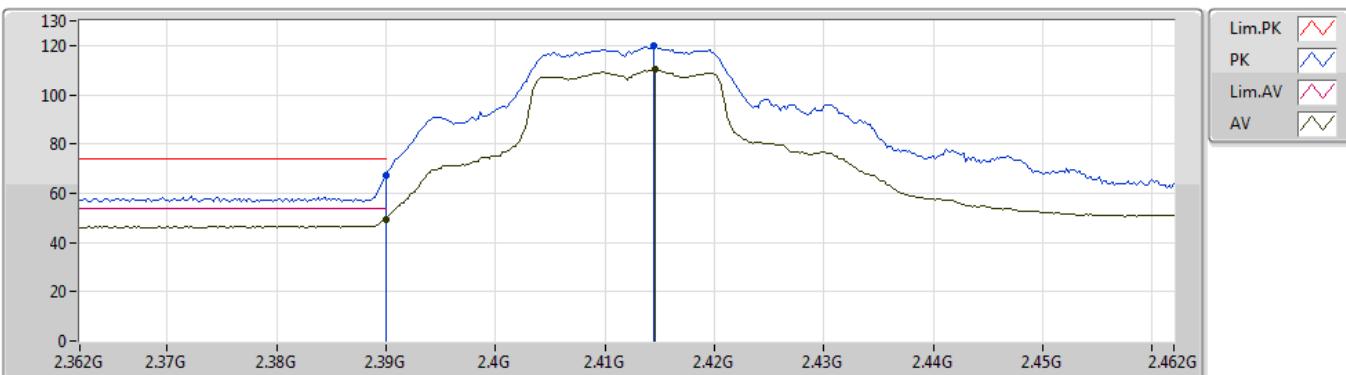
**2462MHz\_TX**


EUT Y\_2TX  
 Setting 120  
 02-B-4  
 FSU(100015)

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV)			
PK	7.38654G	53.05	74.00	-20.95	10.76	3	Horizontal	174	1.63	-	42.29			
AV	7.38522G	43.53	54.00	-10.47	10.76	3	Horizontal	174	1.63	-	32.77			

**802.11g\_Nss1,(6Mbps)\_2TX**

12/09/2019

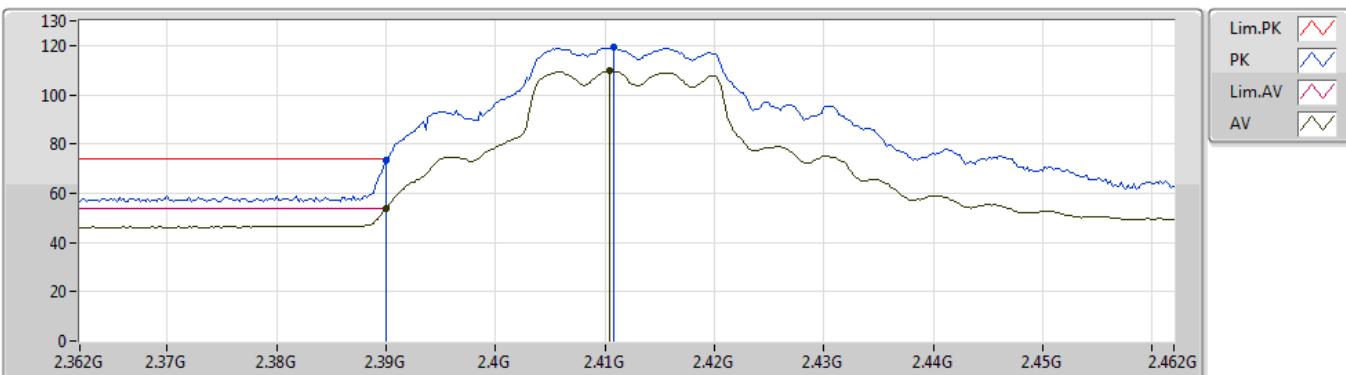
**2412MHz\_TX**


EUT Y\_2TX  
 Setting 100  
 02-B-4  
 FSU(100015)

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	67.21	74.00	-6.79	31.20	3	Vertical	151	2.48	-	36.01			
AV	2.39G	49.51	54.00	-4.49	31.20	3	Vertical	151	2.48	-	18.31			
PK	2.4144G	119.65	Inf	-Inf	31.26	3	Vertical	151	2.48	-	88.39			
AV	2.4146G	110.12	Inf	-Inf	31.26	3	Vertical	151	2.48	-	78.86			

**802.11g\_Nss1,(6Mbps)\_2TX**

12/09/2019

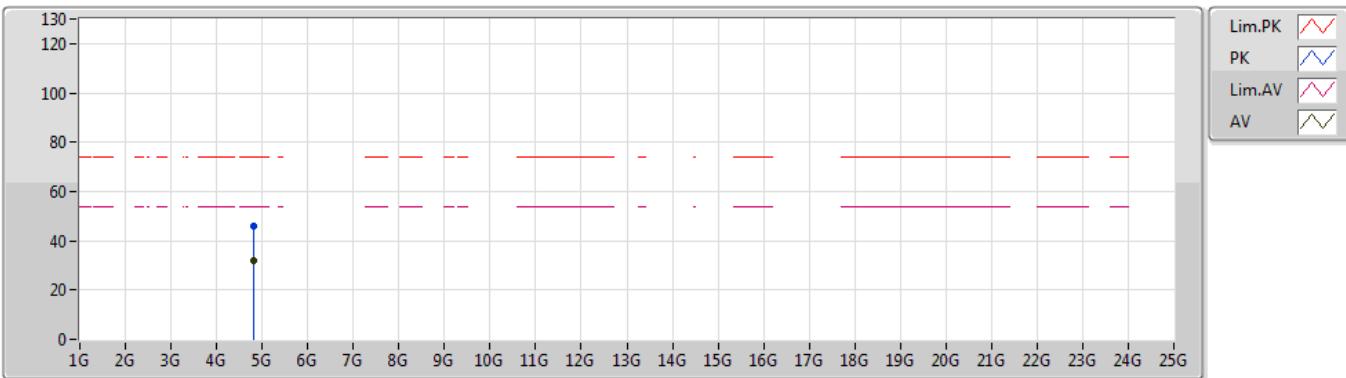
**2412MHz\_TX**

 EUT Y\_2TX  
 Setting 100  
 02-B-4  
 FSU(100015)

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	73.55	74.00	-0.45	31.20	3	Horizontal	312	2.21	-	42.35			
AV	2.39G	53.78	54.00	-0.22	31.20	3	Horizontal	312	2.21	-	22.58			
PK	2.4108G	119.14	Inf	-Inf	31.25	3	Horizontal	312	2.21	-	87.89			
AV	2.4104G	109.56	Inf	-Inf	31.25	3	Horizontal	312	2.21	-	78.31			

**802.11g\_Nss1,(6Mbps)\_2TX**

12/09/2019

**2412MHz\_TX**

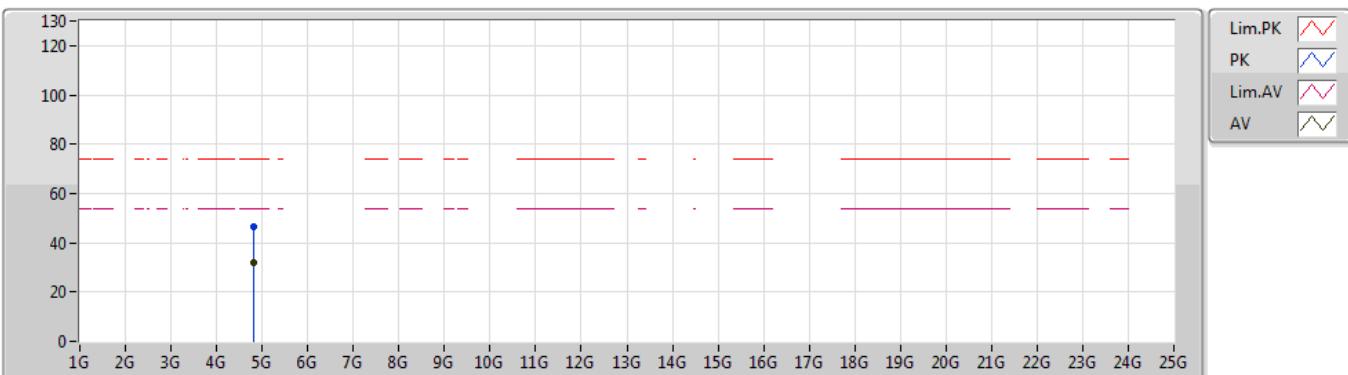


EUT Y\_2TX  
Setting 100  
02-B-4  
FSU(100015)

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV)
PK	4.82352G	45.79	74.00	-28.21	7.16	3	Vertical	258	2.52	-	38.63
AV	4.82326G	31.97	54.00	-22.03	7.16	3	Vertical	258	2.52	-	24.81

**802.11g\_Nss1,(6Mbps)\_2TX**

12/09/2019

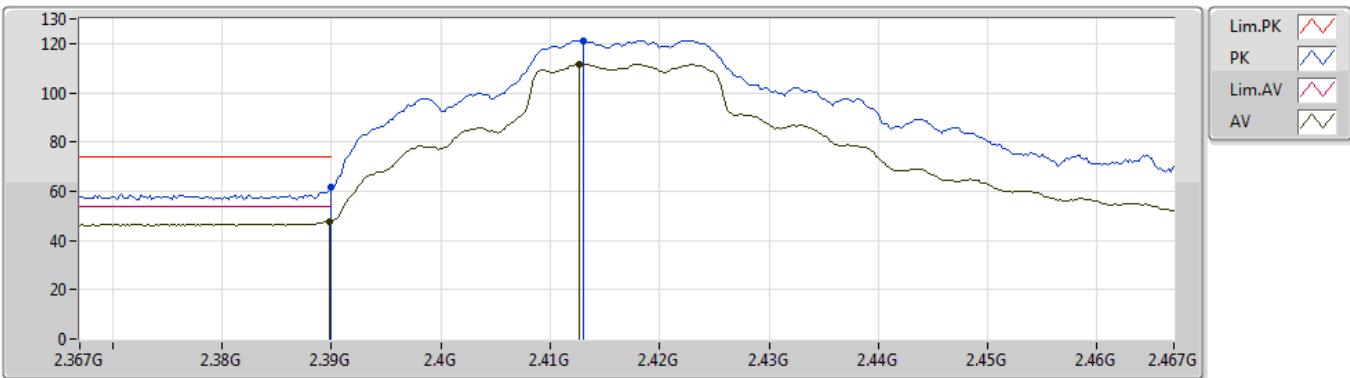
**2412MHz\_TX**


EUT Y\_2TX  
 Setting 100  
 02-B-4  
 FSU(100015)

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV)			
PK	4.8244G	46.56	74.00	-27.44	7.17	3	Horizontal	268	1.48	-	39.39			
AV	4.8244G	31.89	54.00	-22.11	7.17	3	Horizontal	268	1.48	-	24.72			

**802.11g\_Nss1,(6Mbps)\_2TX**

12/09/2019

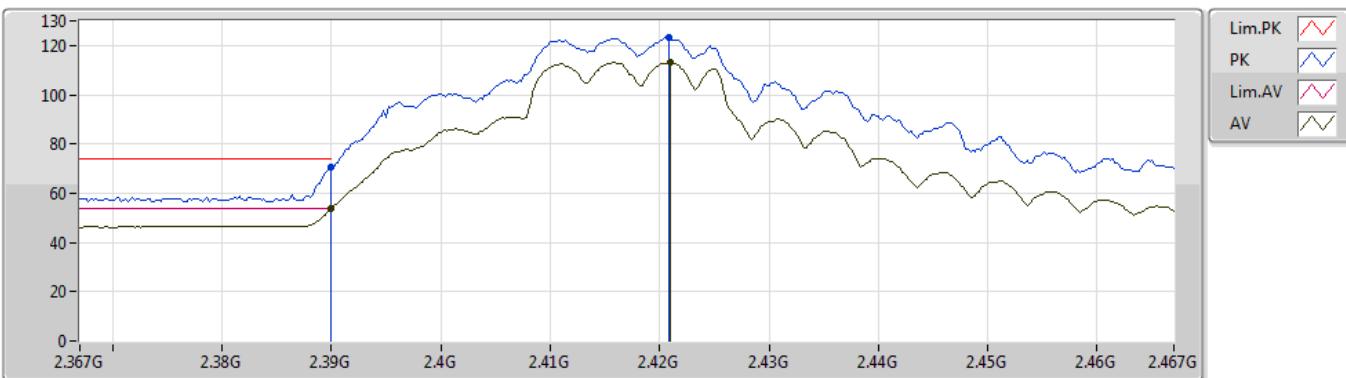
**2417MHz\_TX**


EUT Y\_2TX  
 Setting 111  
 02-B-4  
 FSU(100015)

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	61.40	74.00	-12.60	31.20	3	Vertical	144	2.47	-	30.20			
AV	2.3898G	47.84	54.00	-6.16	31.20	3	Vertical	144	2.47	-	16.64			
PK	2.413G	121.29	Inf	-Inf	31.26	3	Vertical	144	2.47	-	90.03			
AV	2.4126G	111.58	Inf	-Inf	31.26	3	Vertical	144	2.47	-	80.32			

**802.11g\_Nss1,(6Mbps)\_2TX**

12/09/2019

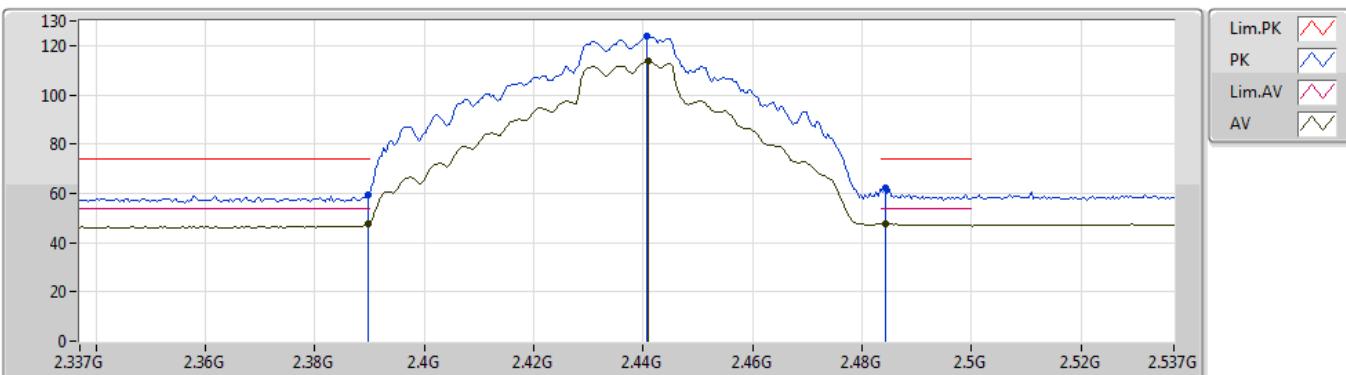
**2417MHz\_TX**


EUT Y\_2TX  
Setting 111  
02-B-4  
FSU(100015)

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	70.51	74.00	-3.49	31.20	3	Horizontal	3	2.98	-	39.31			
AV	2.39G	53.81	54.00	-0.19	31.20	3	Horizontal	3	2.98	-	22.61			
PK	2.4208G	123.13	Inf	-Inf	31.27	3	Horizontal	3	2.98	-	91.86			
AV	2.421G	113.40	Inf	-Inf	31.27	3	Horizontal	3	2.98	-	82.13			

**802.11g\_Nss1,(6Mbps)\_2TX**

12/09/2019

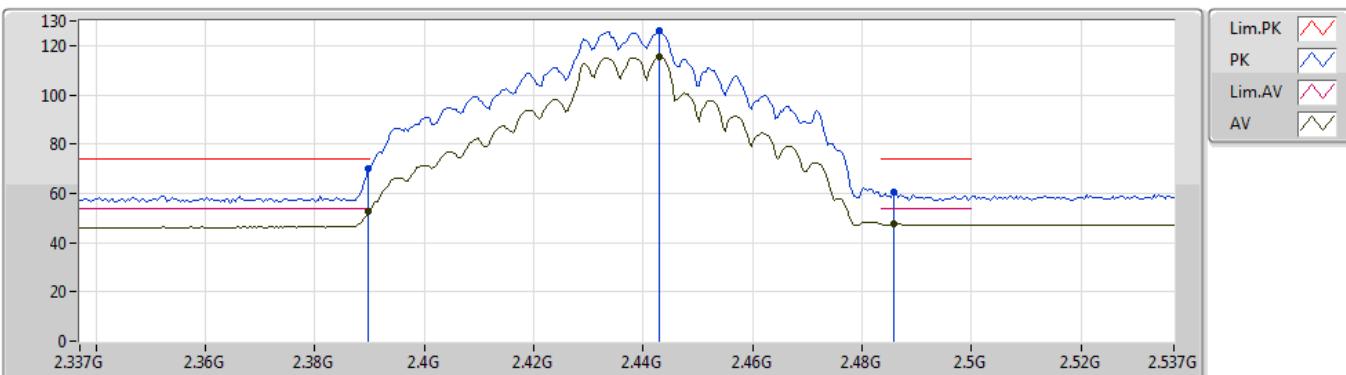
**2437MHz\_TX**


EUT Y\_2TX  
 Setting 120  
 02-B-4  
 FSU(100015)

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV)			
PK	2.3898G	59.45	74.00	-14.55	31.20	3	Vertical	142	2.28	-	28.25			
AV	2.3898G	47.63	54.00	-6.37	31.20	3	Vertical	142	2.28	-	16.43			
PK	2.4406G	123.85	Inf	-Inf	31.31	3	Vertical	142	2.28	-	92.54			
AV	2.441G	113.59	Inf	-Inf	31.32	3	Vertical	142	2.28	-	82.27			
PK	2.4842G	62.37	74.00	-11.63	31.39	3	Vertical	142	2.28	-	30.98			
AV	2.4842G	47.90	54.00	-6.10	31.39	3	Vertical	142	2.28	-	16.51			

**802.11g\_Nss1,(6Mbps)\_2TX**

12/09/2019

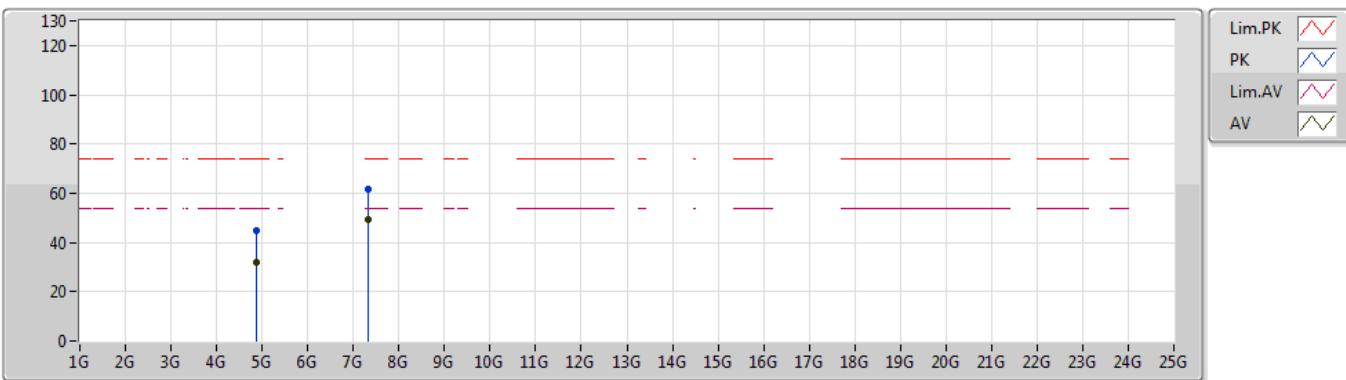
**2437MHz\_TX**


EUT Y\_2TX  
Setting 120  
02-B-4  
FSU(100015)

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV)			
PK	2.3898G	70.23	74.00	-3.77	31.20	3	Horizontal	9	2.68	-	39.03			
AV	2.3898G	52.85	54.00	-1.15	31.20	3	Horizontal	9	2.68	-	21.65			
PK	2.443G	125.81	Inf	-Inf	31.32	3	Horizontal	9	2.68	-	94.49			
AV	2.443G	115.30	Inf	-Inf	31.32	3	Horizontal	9	2.68	-	83.98			
PK	2.4858G	60.60	74.00	-13.40	31.40	3	Horizontal	9	2.68	-	29.20			
AV	2.4858G	47.55	54.00	-6.45	31.40	3	Horizontal	9	2.68	-	16.15			

**802.11g\_Nss1,(6Mbps)\_2TX**

12/09/2019

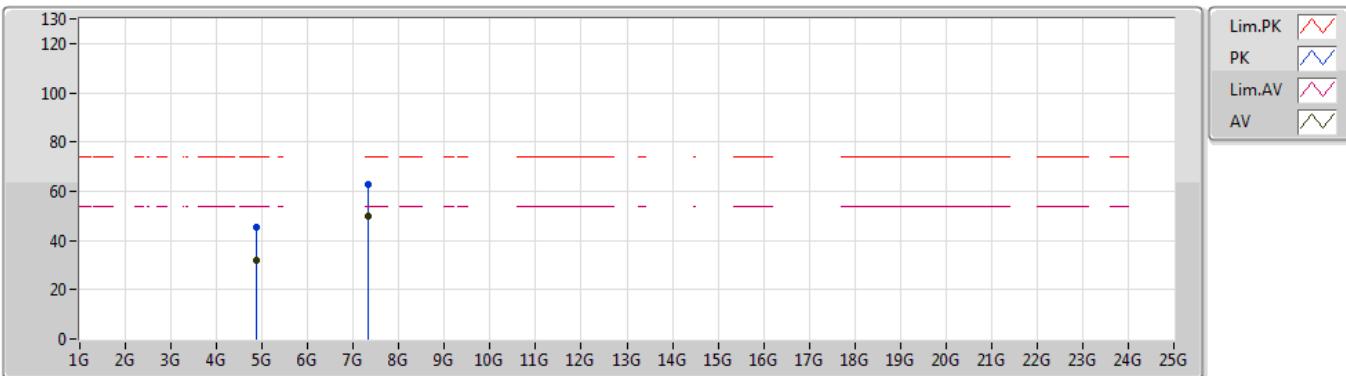
**2437MHz\_TX**

EUT Y\_2TX  
Setting 120  
02-B-4  
FSU(100015)

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV)			
PK	4.87418G	44.96	74.00	-29.04	7.28	3	Vertical	284	2.40	-	37.68			
AV	4.8742G	31.76	54.00	-22.24	7.28	3	Vertical	284	2.40	-	24.48			
PK	7.31406G	61.62	74.00	-12.38	10.56	3	Vertical	174	2.57	-	51.06			
AV	7.31322G	49.13	54.00	-4.87	10.56	3	Vertical	174	2.57	-	38.57			

**802.11g\_Nss1,(6Mbps)\_2TX**

12/09/2019

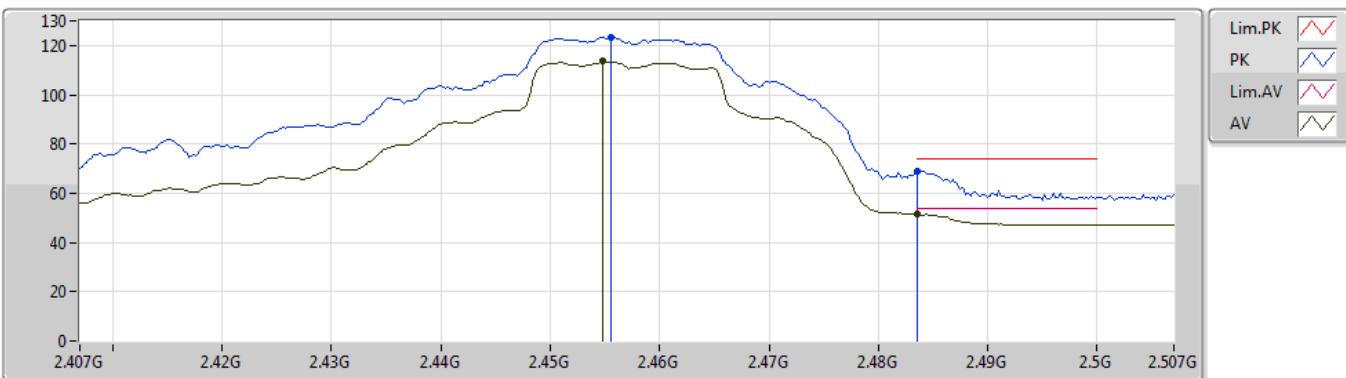
**2437MHz\_TX**


EUT Y\_2TX  
 Setting 120  
 02-B-4  
 FSU(100015)

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV)			
PK	4.87462G	45.29	74.00	-28.71	7.28	3	Horizontal	147	1.64	-	38.01			
AV	4.87446G	31.84	54.00	-22.16	7.28	3	Horizontal	147	1.64	-	24.56			
PK	7.31796G	62.72	74.00	-11.28	10.57	3	Horizontal	99	1.71	-	52.15			
AV	7.31322G	49.95	54.00	-4.05	10.56	3	Horizontal	99	1.71	-	39.39			

**802.11g\_Nss1,(6Mbps)\_2TX**

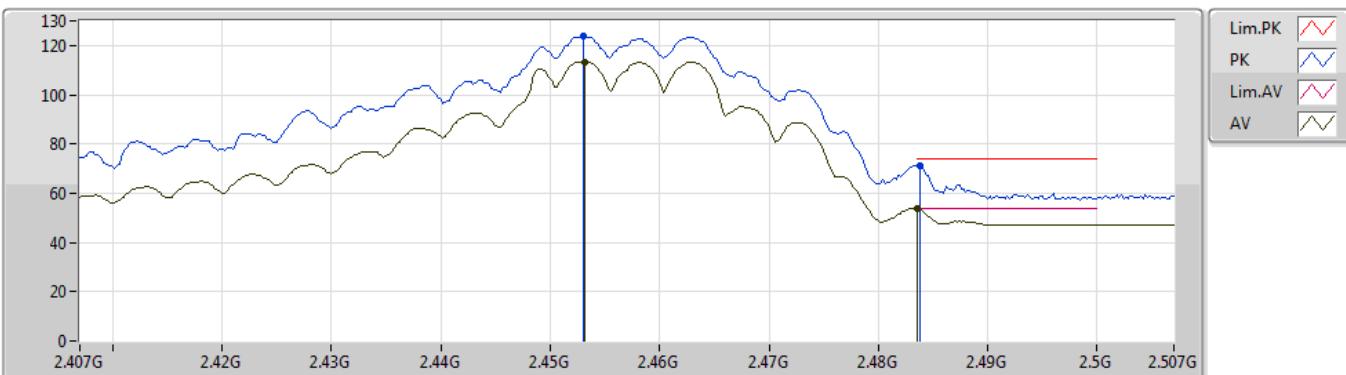
12/09/2019

**2457MHz\_TX**

 EUT Y\_2TX  
 Setting 117  
 02-B-4  
 FSU(100015)

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV)			
PK	2.4556G	123.31	Inf	-Inf	31.34	3	Vertical	140	2.22	-	91.97			
AV	2.4548G	113.53	Inf	-Inf	31.34	3	Vertical	140	2.22	-	82.19			
PK	2.4836G	69.16	74.00	-4.84	31.39	3	Vertical	140	2.22	-	37.77			
AV	2.4835G	51.39	54.00	-2.61	31.39	3	Vertical	140	2.22	-	20.00			

**802.11g\_Nss1,(6Mbps)\_2TX**

12/09/2019

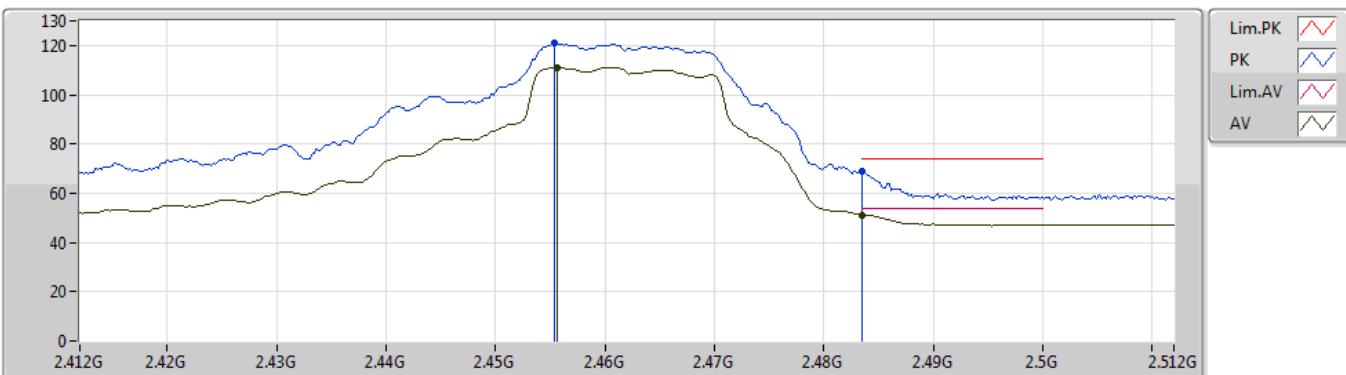
**2457MHz\_TX**


EUT Y\_2TX  
 Setting 117  
 02-B-4  
 FSU(100015)

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV)			
PK	2.453G	123.66	Inf	-Inf	31.33	3	Horizontal	7	2.94	-	92.33			
AV	2.4532G	113.43	Inf	-Inf	31.34	3	Horizontal	7	2.94	-	82.09			
PK	2.4838G	71.31	74.00	-2.69	31.39	3	Horizontal	7	2.94	-	39.92			
AV	2.4835G	53.83	54.00	-0.17	31.39	3	Horizontal	7	2.94	-	22.44			

**802.11g\_Nss1,(6Mbps)\_2TX**

12/09/2019

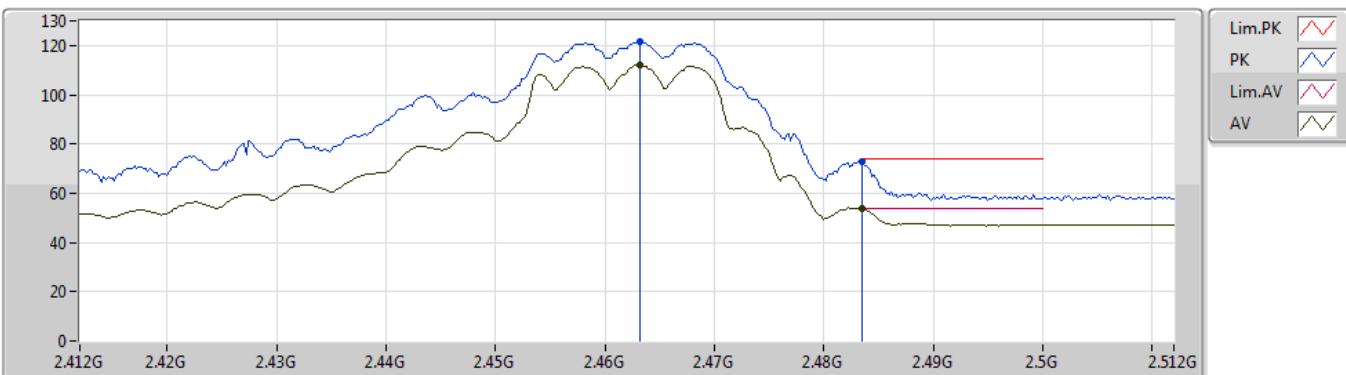
**2462MHz\_TX**


EUT Y\_2TX  
 Setting 105  
 02-B-4  
 FSU(100015)

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV)			
PK	2.4554G	120.86	Inf	-Inf	31.34	3	Vertical	137	2.24	-	89.52			
AV	2.4556G	111.17	Inf	-Inf	31.34	3	Vertical	137	2.24	-	79.83			
PK	2.4835G	69.08	74.00	-4.92	31.39	3	Vertical	137	2.24	-	37.69			
AV	2.4835G	51.19	54.00	-2.81	31.39	3	Vertical	137	2.24	-	19.80			

**802.11g\_Nss1,(6Mbps)\_2TX**

12/09/2019

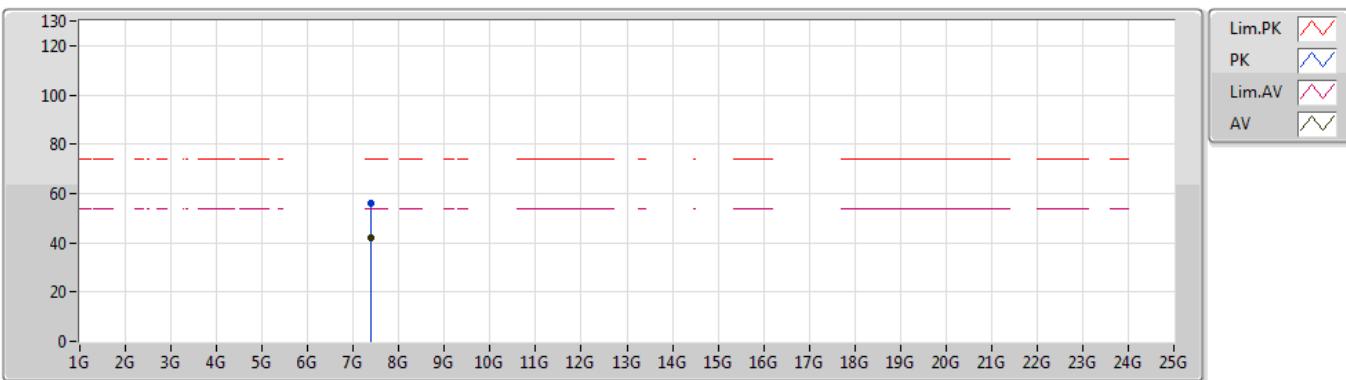
**2462MHz\_TX**


EUT Y\_2TX  
 Setting 105  
 02-B-4  
 FSU(100015)

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV)
PK	2.4632G	121.38	Inf	-Inf	31.36	3	Horizontal	9	2.88	-	90.02
AV	2.4632G	112.04	Inf	-Inf	31.36	3	Horizontal	9	2.88	-	80.68
PK	2.4835G	72.67	74.00	-1.33	31.39	3	Horizontal	9	2.88	-	41.28
AV	2.4835G	53.83	54.00	-0.17	31.39	3	Horizontal	9	2.88	-	22.44

**802.11g\_Nss1,(6Mbps)\_2TX**

12/09/2019

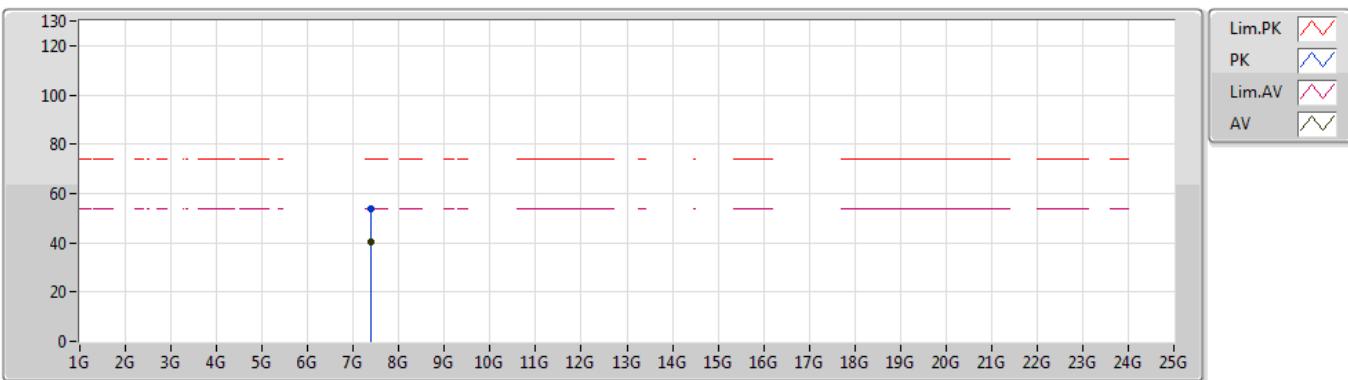
**2462MHz\_TX**


EUT Y\_2TX  
 Setting 105  
 02-B-4  
 FSU(100015)

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV)			
PK	7.38366G	55.88	74.00	-18.12	10.75	3	Vertical	129	2.55	-	45.13			
AV	7.3833G	41.86	54.00	-12.14	10.75	3	Vertical	129	2.55	-	31.11			

**802.11g\_Nss1,(6Mbps)\_2TX**

12/09/2019

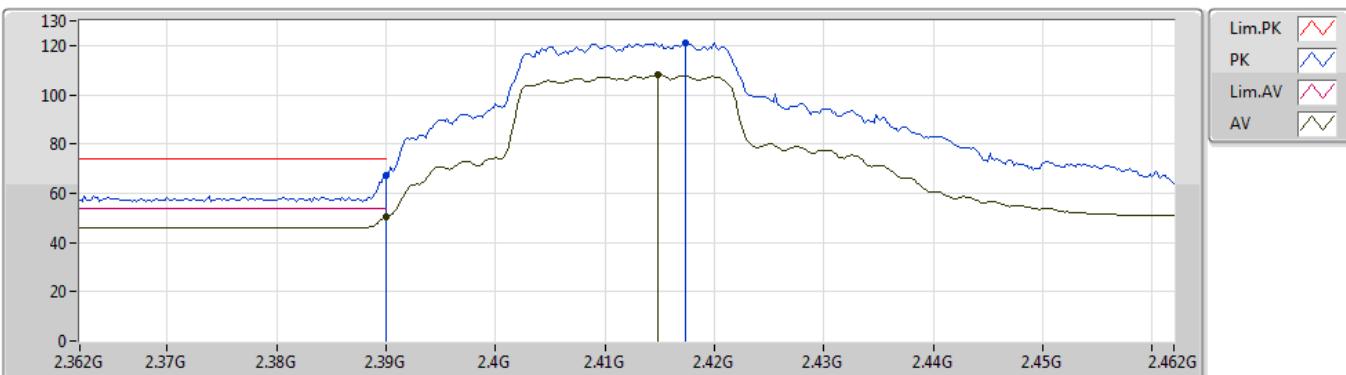
**2462MHz\_TX**


EUT Y\_2TX  
 Setting 105  
 02-B-4  
 FSU(100015)

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV)			
PK	7.37952G	53.59	74.00	-20.41	10.74	3	Horizontal	172	1.63	-	42.85			
AV	7.38324G	40.08	54.00	-13.92	10.75	3	Horizontal	172	1.63	-	29.33			

**802.11ax HEW20\_Nss1,(MCS0)\_2TX**

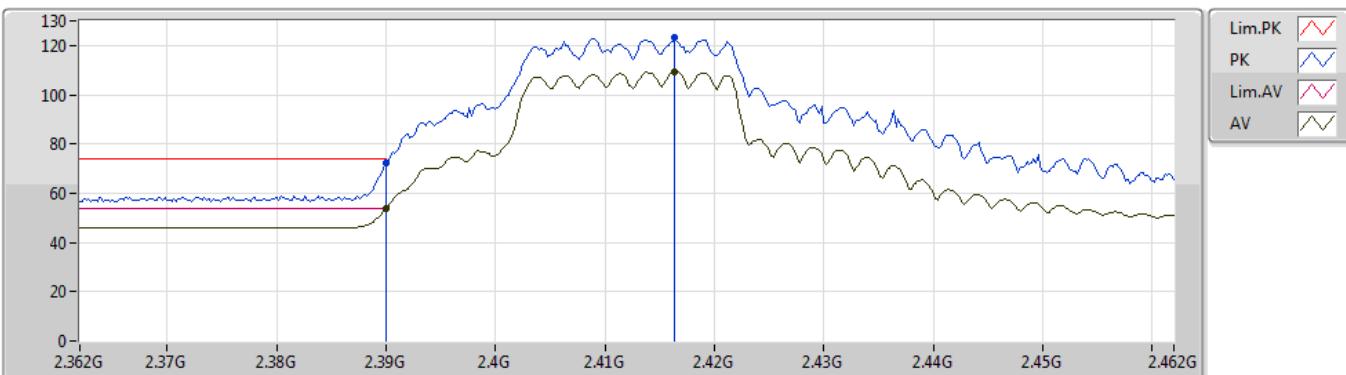
13/09/2019

**2412MHz\_TX**

 EUT Y\_2TX  
 Setting 99  
 02-B-4  
 FSU(100015)

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	67.15	74.00	-6.85	31.20	3	Vertical	146	2.48	-	35.95			
AV	2.39G	50.52	54.00	-3.48	31.20	3	Vertical	146	2.48	-	19.32			
PK	2.4174G	120.95	Inf	-Inf	31.27	3	Vertical	146	2.48	-	89.68			
AV	2.4148G	108.11	Inf	-Inf	31.26	3	Vertical	146	2.48	-	76.85			

**802.11ax HEW20\_Nss1,(MCS0)\_2TX**

13/09/2019

**2412MHz\_TX**


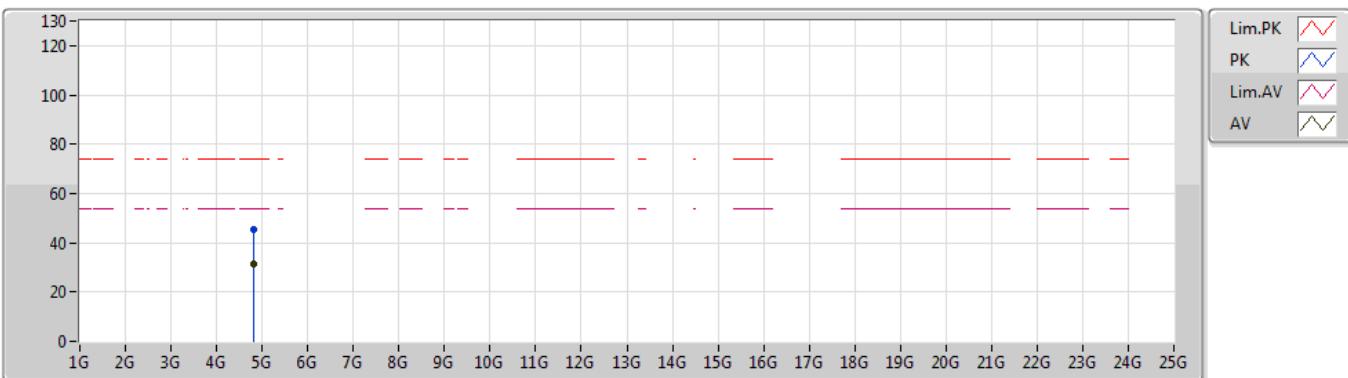
EUT Y\_2TX  
 Setting 99  
 02-B-4  
 FSU(100015)

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	72.54	74.00	-1.46	31.20	3	Horizontal	10	2.98	-	41.34			
AV	2.39G	53.76	54.00	-0.24	31.20	3	Horizontal	10	2.98	-	22.56			
PK	2.4164G	123.24	Inf	-Inf	31.27	3	Horizontal	10	2.98	-	91.97			
AV	2.4164G	109.16	Inf	-Inf	31.27	3	Horizontal	10	2.98	-	77.89			

**802.11ax HEW20\_Nss1,(MCS0)\_2TX**

13/09/2019

**2412MHz\_TX**

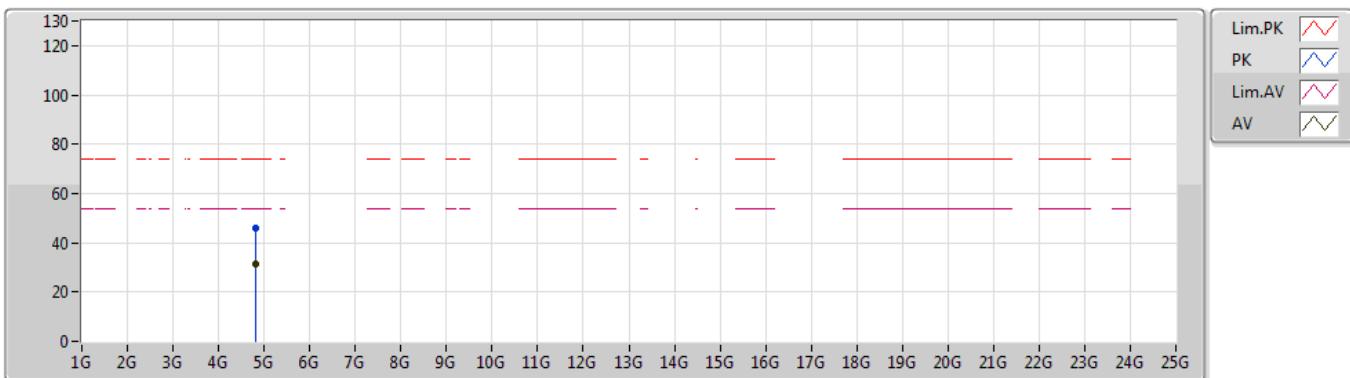


EUT Y\_2TX  
Setting 99  
02-B-4  
FSU(100015)

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV)				
PK	4.82404G	45.24	74.00	-28.76	7.17	3	Vertical	13	2.33	-	38.07				
AV	4.82436G	31.28	54.00	-22.72	7.17	3	Vertical	13	2.33	-	24.11				

**802.11ax HEW20\_Nss1,(MCS0)\_2TX**

13/09/2019

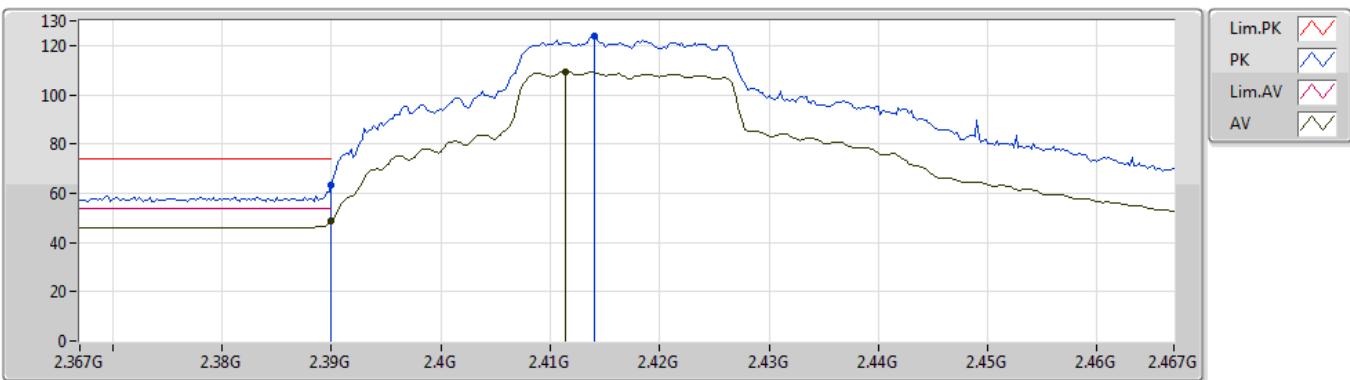
**2412MHz\_TX**


EUT Y\_2TX  
 Setting 99  
 02-B-4  
 FSU(100015)

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV)			
PK	4.82404G	45.72	74.00	-28.28	7.17	3	Horizontal	55	2.02	-	38.55			
AV	4.82476G	31.23	54.00	-22.77	7.17	3	Horizontal	55	2.02	-	24.06			

**802.11ax HEW20\_Nss1,(MCS0)\_2TX**

13/09/2019

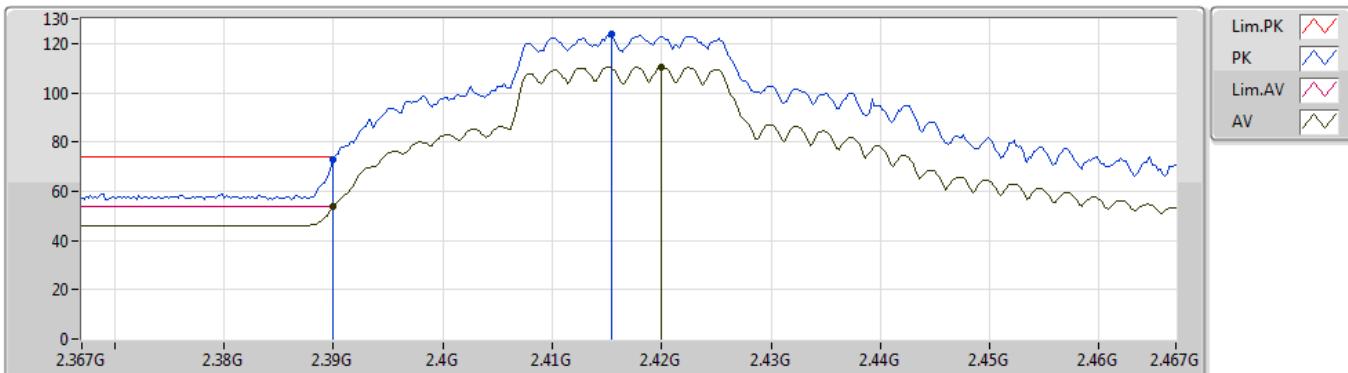
**2417MHz\_TX**


EUT Y\_2TX  
 Setting 107  
 02-B-4  
 FSU(100015)

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	63.59	74.00	-10.41	31.20	3	Vertical	142	2.27	-	32.39			
AV	2.39G	48.52	54.00	-5.48	31.20	3	Vertical	142	2.27	-	17.32			
PK	2.414G	123.78	Inf	-Inf	31.26	3	Vertical	142	2.27	-	92.52			
AV	2.4114G	109.38	Inf	-Inf	31.25	3	Vertical	142	2.27	-	78.13			

**802.11ax HEW20\_Nss1,(MCS0)\_2TX**

13/09/2019

**2417MHz\_TX**


EUT Y\_2TX  
 Setting 107  
 02-B-4  
 FSU(100015)

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	72.88	74.00	-1.12	31.20	3	Horizontal	11	2.99	-	41.68			
AV	2.39G	53.82	54.00	-0.18	31.20	3	Horizontal	11	2.99	-	22.62			
PK	2.4154G	124.03	Inf	-Inf	31.26	3	Horizontal	11	2.99	-	92.77			
AV	2.42G	110.57	Inf	-Inf	31.27	3	Horizontal	11	2.99	-	79.30			

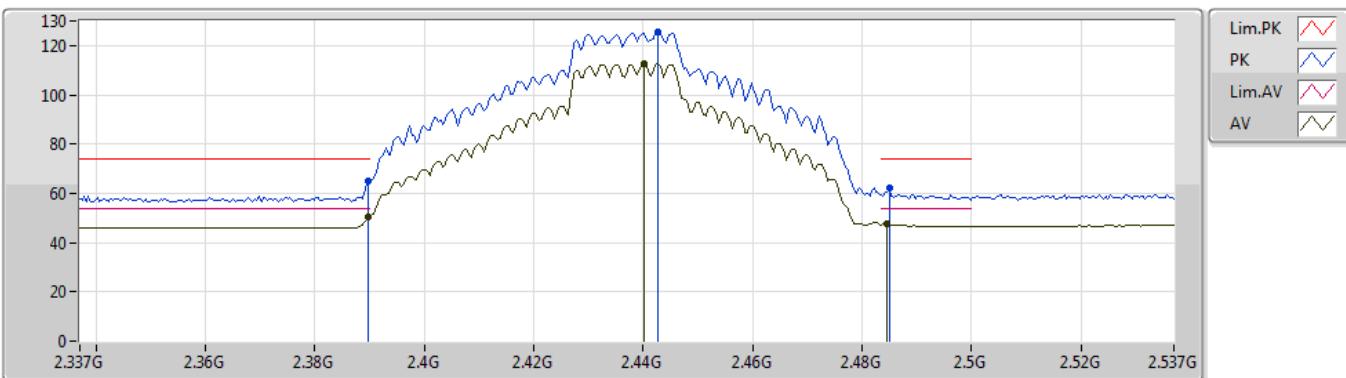
**802.11ax HEW20\_Nss1,(MCS0)\_2TX**

13/09/2019

**2437MHz\_TX**


**802.11ax HEW20\_Nss1,(MCS0)\_2TX**

13/09/2019

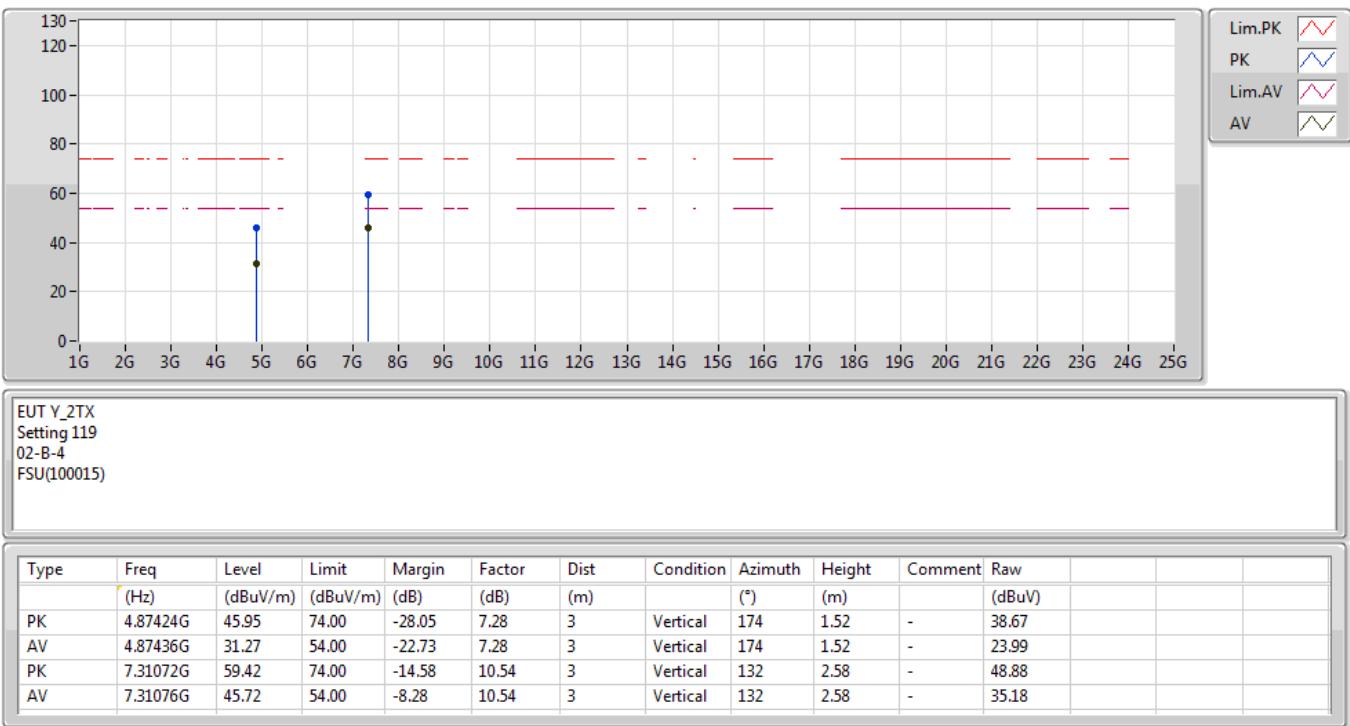
**2437MHz\_TX**


EUT Y\_2TX  
 Setting 119  
 02-B-4  
 FSU(100015)

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV)			
PK	2.3898G	64.79	74.00	-9.21	31.20	3	Horizontal	11	2.66	-	33.59			
AV	2.3898G	50.35	54.00	-3.65	31.20	3	Horizontal	11	2.66	-	19.15			
PK	2.4426G	125.70	Inf	-Inf	31.32	3	Horizontal	11	2.66	-	94.38			
AV	2.4402G	112.64	Inf	-Inf	31.31	3	Horizontal	11	2.66	-	81.33			
PK	2.485G	62.22	74.00	-11.78	31.40	3	Horizontal	11	2.66	-	30.82			
AV	2.4846G	47.72	54.00	-6.28	31.40	3	Horizontal	11	2.66	-	16.32			

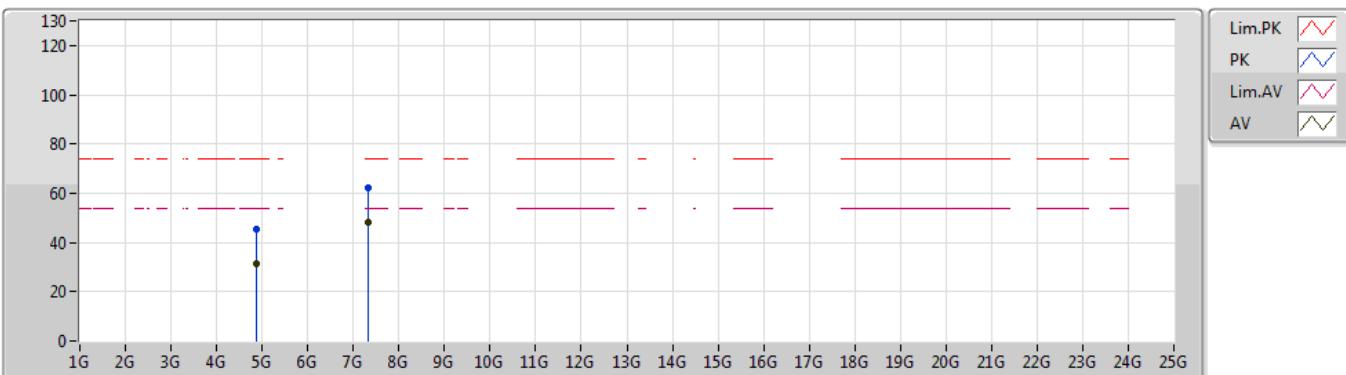
**802.11ax HEW20\_Nss1,(MCS0)\_2TX**

13/09/2019

**2437MHz\_TX**


**802.11ax HEW20\_Nss1,(MCS0)\_2TX**

13/09/2019

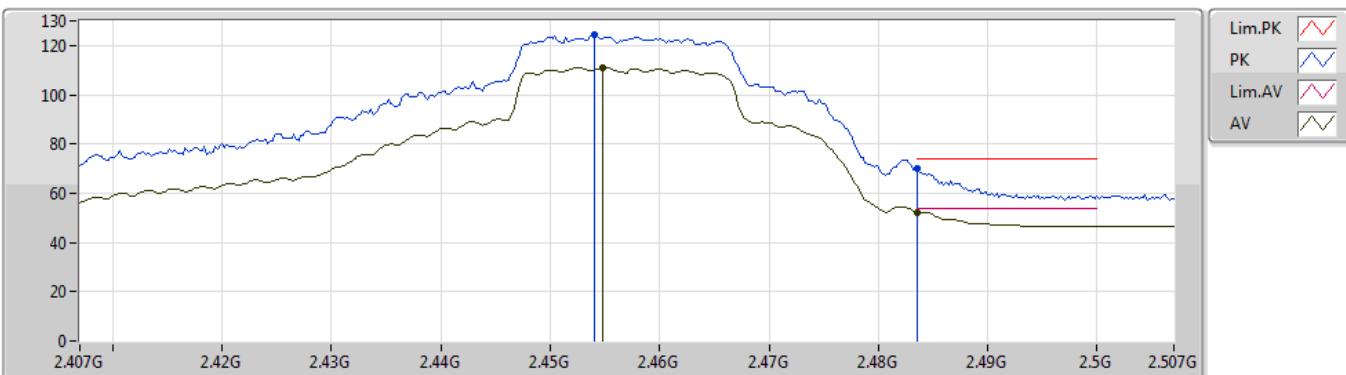
**2437MHz\_TX**


EUT Y\_2TX  
 Setting 119  
 02-B-4  
 FSU(100015)

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV)			
PK	4.87424G	45.33	74.00	-28.67	7.28	3	Horizontal	42	1.63	-	38.05			
AV	4.87456G	31.39	54.00	-22.61	7.28	3	Horizontal	42	1.63	-	24.11			
PK	7.31828G	62.31	74.00	-11.69	10.57	3	Horizontal	93	1.83	-	51.74			
AV	7.31092G	48.21	54.00	-5.79	10.54	3	Horizontal	93	1.83	-	37.67			

**802.11ax HEW20\_Nss1,(MCS0)\_2TX**

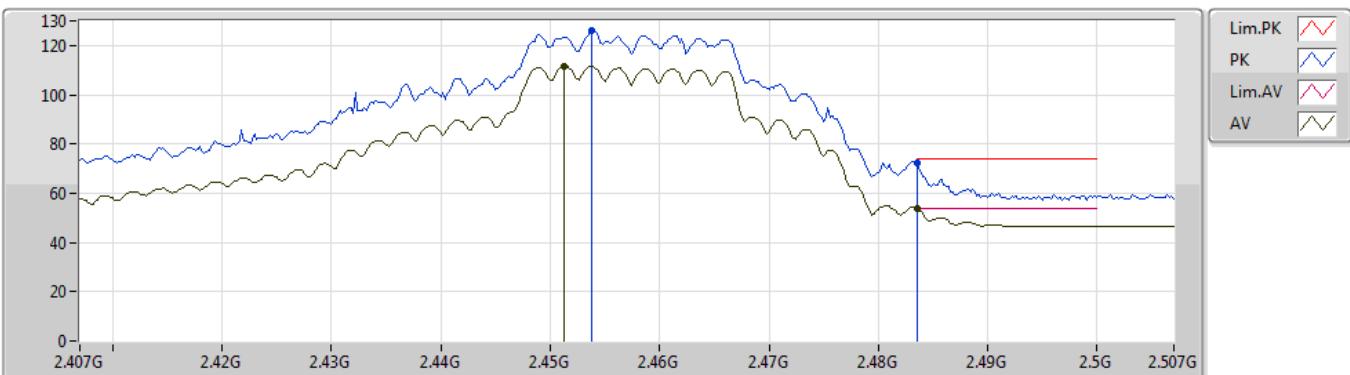
12/09/2019

**2457MHz\_TX**

 EUT Y\_2TX  
 Setting 113  
 02-B-4  
 FSU(100015)

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV)			
PK	2.454G	124.50	Inf	-Inf	31.34	3	Vertical	140	2.21	-	93.16			
AV	2.4548G	111.08	Inf	-Inf	31.34	3	Vertical	140	2.21	-	79.74			
PK	2.4835G	69.83	74.00	-4.17	31.39	3	Vertical	140	2.21	-	38.44			
AV	2.4835G	52.32	54.00	-1.68	31.39	3	Vertical	140	2.21	-	20.93			

**802.11ax HEW20\_Nss1,(MCS0)\_2TX**

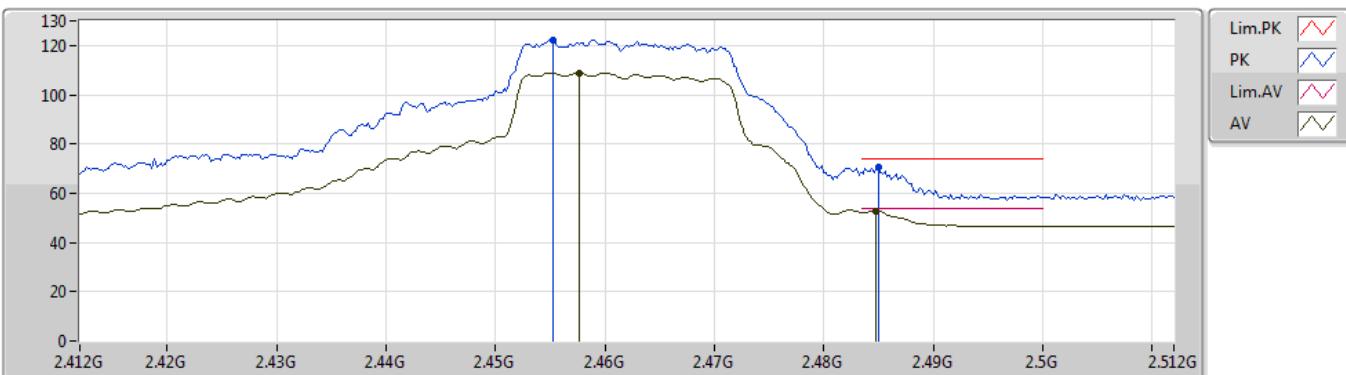
12/09/2019

**2457MHz\_TX**

 EUT Y\_2TX  
 Setting 113  
 02-B-4  
 FSU(100015)

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV)			
PK	2.4538G	126.05	Inf	-Inf	31.34	3	Horizontal	14	2.64	-	94.71			
AV	2.4512G	111.56	Inf	-Inf	31.33	3	Horizontal	14	2.64	-	80.23			
PK	2.4835G	72.32	74.00	-1.68	31.39	3	Horizontal	14	2.64	-	40.93			
AV	2.4835G	53.89	54.00	-0.11	31.39	3	Horizontal	14	2.64	-	22.50			

**802.11ax HEW20\_Nss1,(MCS0)\_2TX**

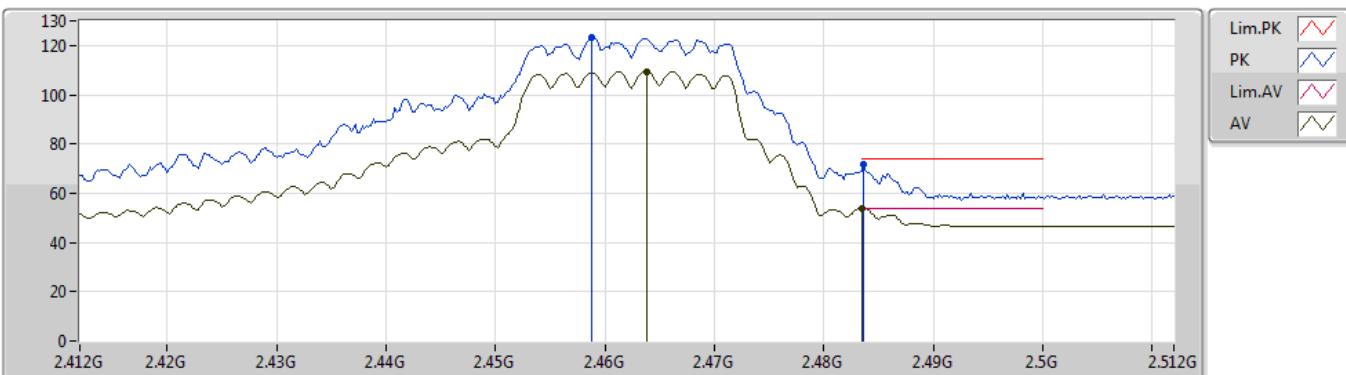
13/09/2019

**2462MHz\_TX**

 EUT Y\_2TX  
 Setting 102  
 02-B-4  
 FSU(100015)

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV)			
PK	2.4552G	122.32	Inf	-Inf	31.34	3	Vertical	141	2.22	-	90.98			
AV	2.4576G	108.89	Inf	-Inf	31.34	3	Vertical	141	2.22	-	77.55			
PK	2.485G	70.55	74.00	-3.45	31.40	3	Vertical	141	2.22	-	39.15			
AV	2.4848G	52.91	54.00	-1.09	31.40	3	Vertical	141	2.22	-	21.51			

**802.11ax HEW20\_Nss1,(MCS0)\_2TX**

13/09/2019

**2462MHz\_TX**


EUT Y\_2TX  
 Setting 102  
 02-B-4  
 FSU(100015)

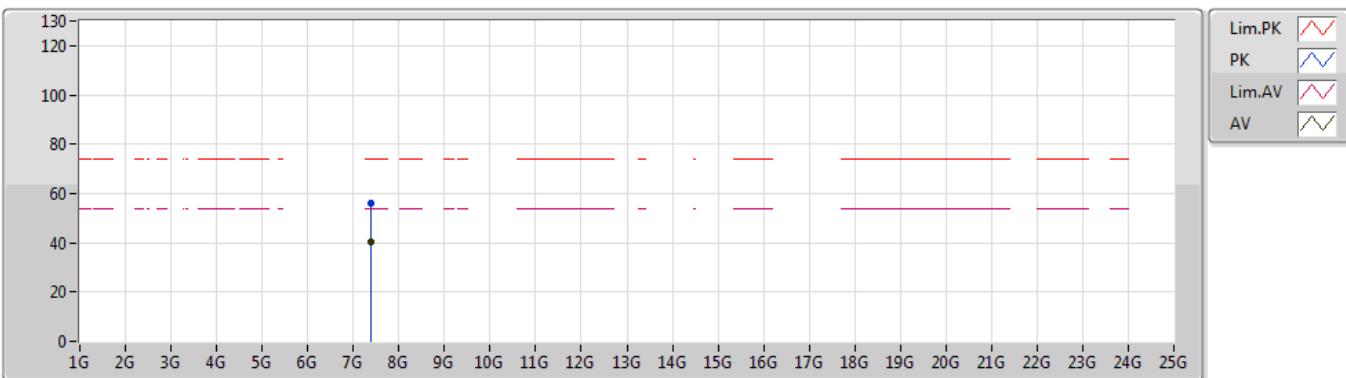
Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV)			
PK	2.4588G	123.50	Inf	-Inf	31.34	3	Horizontal	14	2.87	-	92.16			
AV	2.4638G	109.52	Inf	-Inf	31.36	3	Horizontal	14	2.87	-	78.16			
PK	2.4836G	71.78	74.00	-2.22	31.39	3	Horizontal	14	2.87	-	40.39			
AV	2.4835G	53.90	54.00	-0.10	31.39	3	Horizontal	14	2.87	-	22.51			



## 802.11ax HEW20\_Nss1,(MCS0)\_2TX

13/09/2019

## 2462MHz\_TX

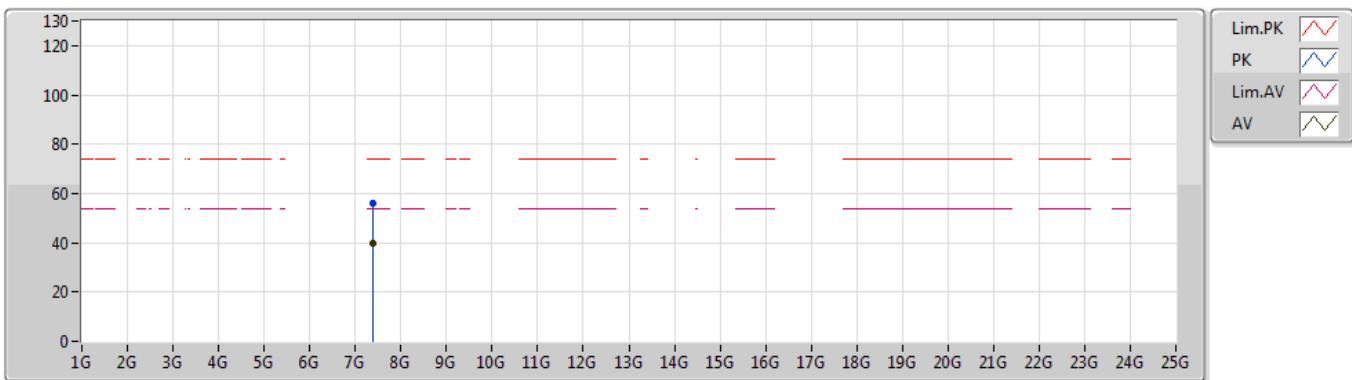


EUT Y\_2TX  
Setting 102  
02-B-4  
FSU(100015)

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV)
PK	7.3845G	55.89	74.00	-18.11	10.76	3	Vertical	169	2.56	-	45.13
AV	7.3846G	40.36	54.00	-13.64	10.76	3	Vertical	169	2.56	-	29.60

**802.11ax HEW20\_Nss1,(MCS0)\_2TX**

13/09/2019

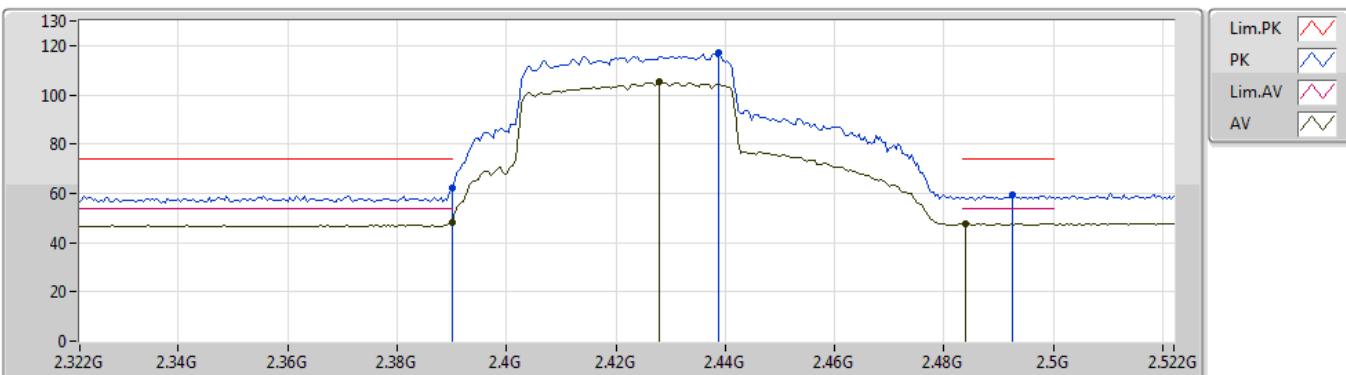
**2462MHz\_TX**


EUT Y\_2TX  
 Setting 102  
 02-B-4  
 FSU(100015)

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV)			
PK	7.3847G	55.80	74.00	-18.20	10.76	3	Horizontal	90	1.83	-	45.04			
AV	7.38472G	39.68	54.00	-14.32	10.76	3	Horizontal	90	1.83	-	28.92			

**802.11ax HEW40\_Nss1,(MCS0)\_2TX**

13/09/2019

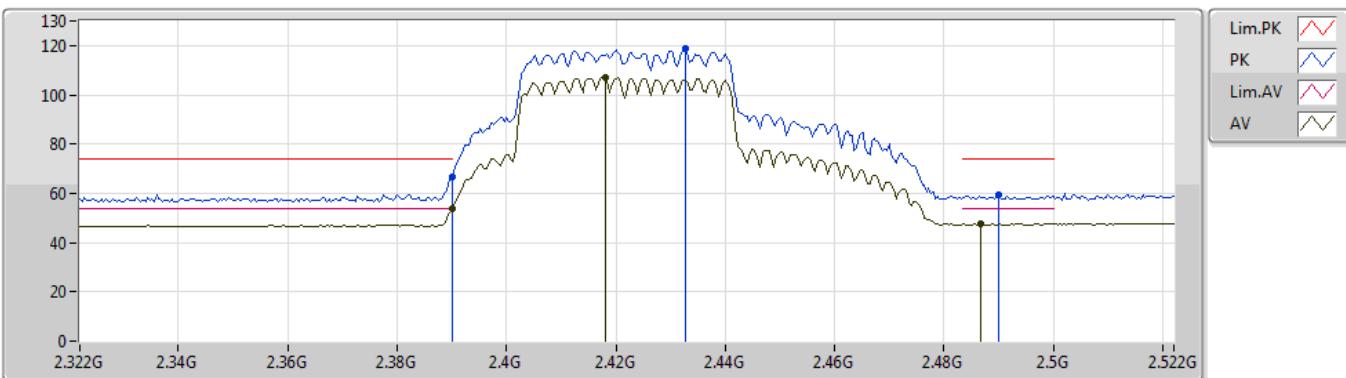
**2422MHz\_TX**


EUT Y\_2TX  
 Setting 93  
 02-B-4  
 FSU(100015)

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	62.04	74.00	-11.96	31.20	3	Vertical	147	1.79	-	30.84			
AV	2.39G	48.42	54.00	-5.58	31.20	3	Vertical	147	1.79	-	17.22			
PK	2.4388G	117.13	Inf	-Inf	31.31	3	Vertical	147	1.79	-	85.82			
AV	2.428G	105.14	Inf	-Inf	31.28	3	Vertical	147	1.79	-	73.86			
PK	2.4924G	59.29	74.00	-14.71	31.42	3	Vertical	147	1.79	-	27.87			
AV	2.484G	47.86	54.00	-6.14	31.39	3	Vertical	147	1.79	-	16.47			

**802.11ax HEW40\_Nss1,(MCS0)\_2TX**

13/09/2019

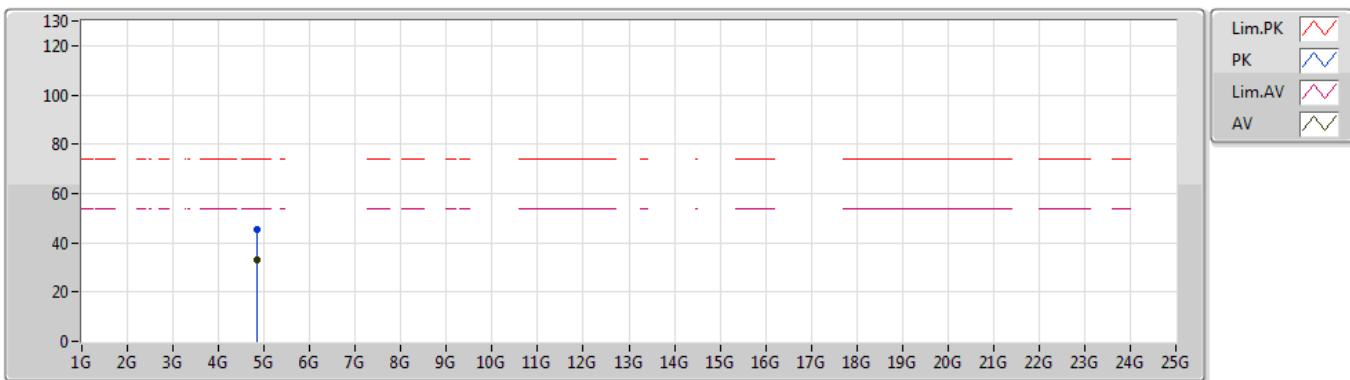
**2422MHz\_TX**


EUT Y\_2TX  
 Setting 93  
 02-B-4  
 FSU(100015)

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	66.65	74.00	-7.35	31.20	3	Horizontal	15	2.99	-	35.45			
AV	2.39G	53.94	54.00	-0.06	31.20	3	Horizontal	15	2.99	-	22.74			
PK	2.4328G	118.61	Inf	-Inf	31.29	3	Horizontal	15	2.99	-	87.32			
AV	2.418G	107.09	Inf	-Inf	31.27	3	Horizontal	15	2.99	-	75.82			
PK	2.49G	59.34	74.00	-14.66	31.41	3	Horizontal	15	2.99	-	27.93			
AV	2.4868G	47.58	54.00	-6.42	31.40	3	Horizontal	15	2.99	-	16.18			

**802.11ax HEW40\_Nss1,(MCS0)\_2TX**

13/09/2019

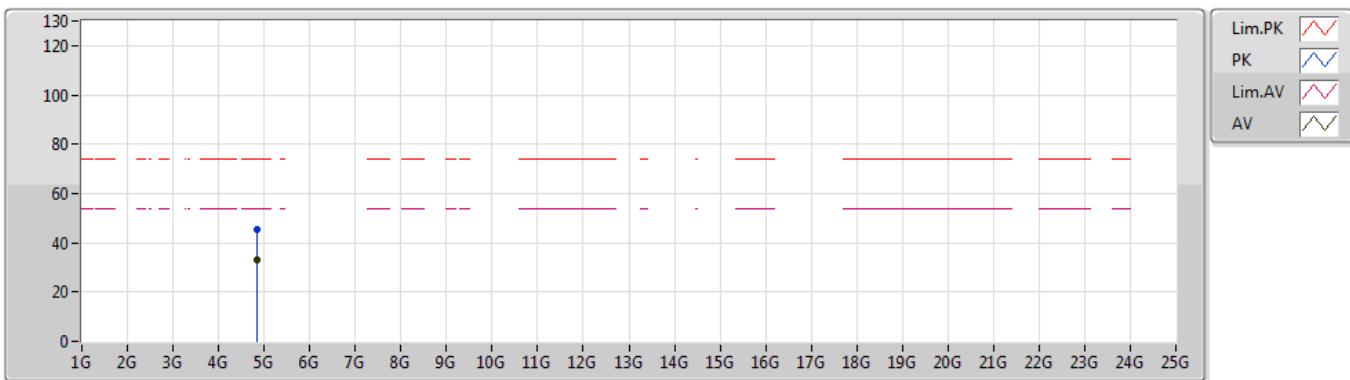
**2422MHz\_TX**


EUT Y\_2TX  
 Setting 93  
 02-B-4  
 FSU(100015)

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV)			
PK	4.84436G	45.34	74.00	-28.66	7.21	3	Vertical	123	2.46	-	38.13			
AV	4.84456G	33.12	54.00	-20.88	7.21	3	Vertical	123	2.46	-	25.91			

**802.11ax HEW40\_Nss1,(MCS0)\_2TX**

13/09/2019

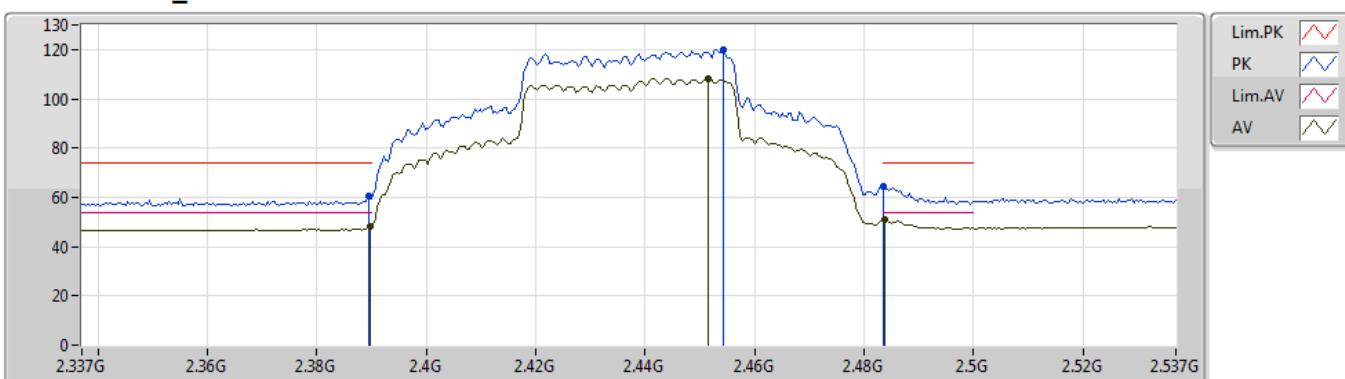
**2422MHz\_TX**


EUT Y\_2TX  
 Setting 93  
 02-B-4  
 FSU(100015)

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV)			
PK	4.84476G	45.29	74.00	-28.71	7.22	3	Horizontal	324	1.53	-	38.07			
AV	4.84488G	33.06	54.00	-20.94	7.22	3	Horizontal	324	1.53	-	25.84			

**802.11ax HEW40\_Nss1,(MCS0)\_2TX**

13/09/2019

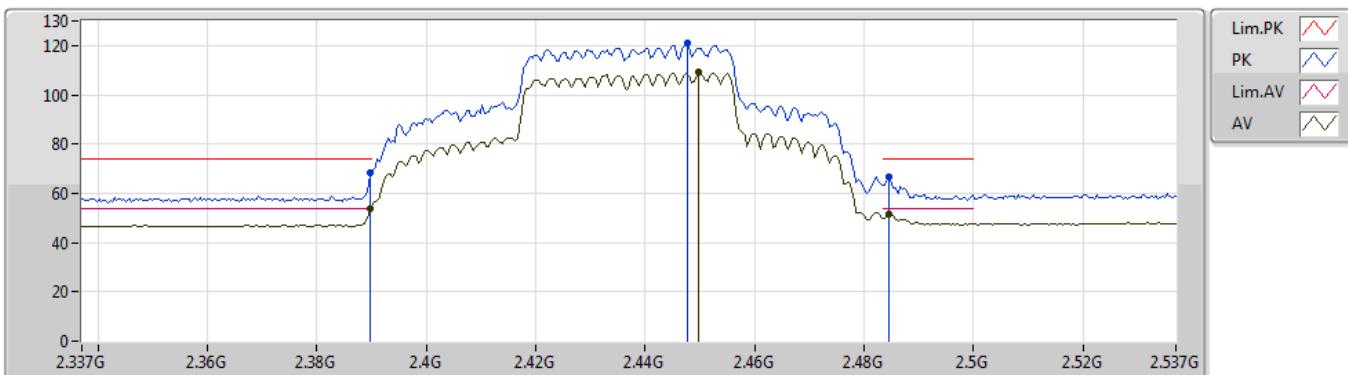
**2437MHz\_TX**


EUT Y\_2TX  
 Setting 101  
 02-B-4  
 FSU(100015)

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	60.74	74.00	-13.26	31.20	3	Vertical	138	2.24	-	29.54			
AV	2.3898G	48.38	54.00	-5.62	31.20	3	Vertical	138	2.24	-	17.18			
PK	2.4542G	119.90	Inf	-Inf	31.34	3	Vertical	138	2.24	-	88.56			
AV	2.4514G	108.13	Inf	-Inf	31.33	3	Vertical	138	2.24	-	76.80			
PK	2.4835G	64.70	74.00	-9.30	31.39	3	Vertical	138	2.24	-	33.31			
AV	2.4838G	50.95	54.00	-3.05	31.39	3	Vertical	138	2.24	-	19.56			

**802.11ax HEW40\_Nss1,(MCS0)\_2TX**

13/09/2019

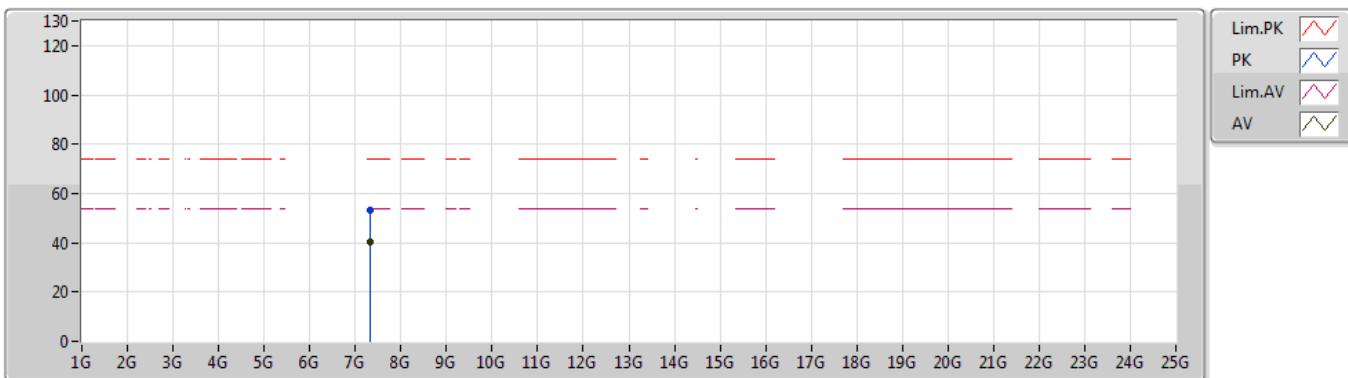
**2437MHz\_TX**


EUT Y\_2TX  
 Setting 101  
 02-B-4  
 FSU(100015)

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (*)	Height (m)	Comment	Raw (dBuV)			
PK	2.3898G	68.16	74.00	-5.84	31.20	3	Horizontal	7	2.64	-	36.96			
AV	2.3898G	53.79	54.00	-0.21	31.20	3	Horizontal	7	2.64	-	22.59			
PK	2.4478G	121.11	Inf	-Inf	31.33	3	Horizontal	7	2.64	-	89.78			
AV	2.4498G	109.04	Inf	-Inf	31.33	3	Horizontal	7	2.64	-	77.71			
PK	2.4846G	66.70	74.00	-7.30	31.40	3	Horizontal	7	2.64	-	35.30			
AV	2.4846G	51.50	54.00	-2.50	31.40	3	Horizontal	7	2.64	-	20.10			

**802.11ax HEW40\_Nss1,(MCS0)\_2TX**

13/09/2019

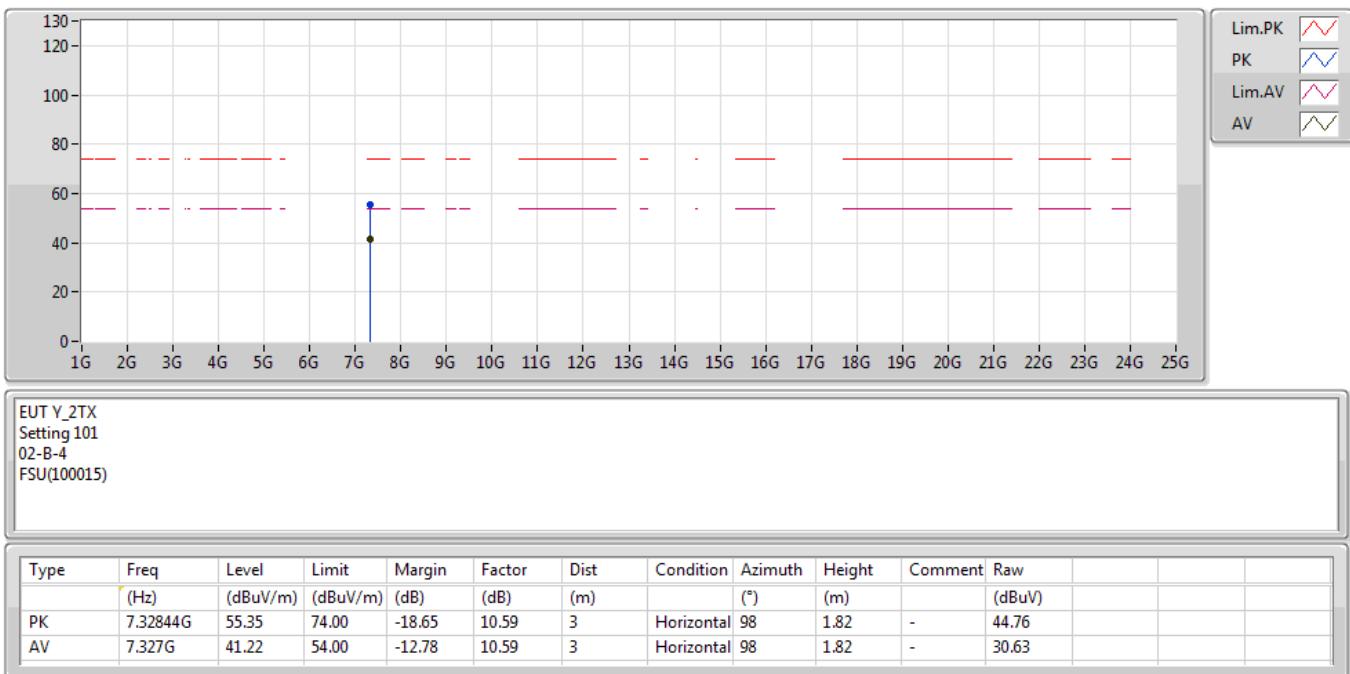
**2437MHz\_TX**


EUT Y\_2TX  
 Setting 101  
 02-B-4  
 FSU(100015)

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV)			
PK	7.3196G	53.32	74.00	-20.68	10.57	3	Vertical	169	2.66	-	42.75			
AV	7.31924G	40.24	54.00	-13.76	10.57	3	Vertical	169	2.66	-	29.67			

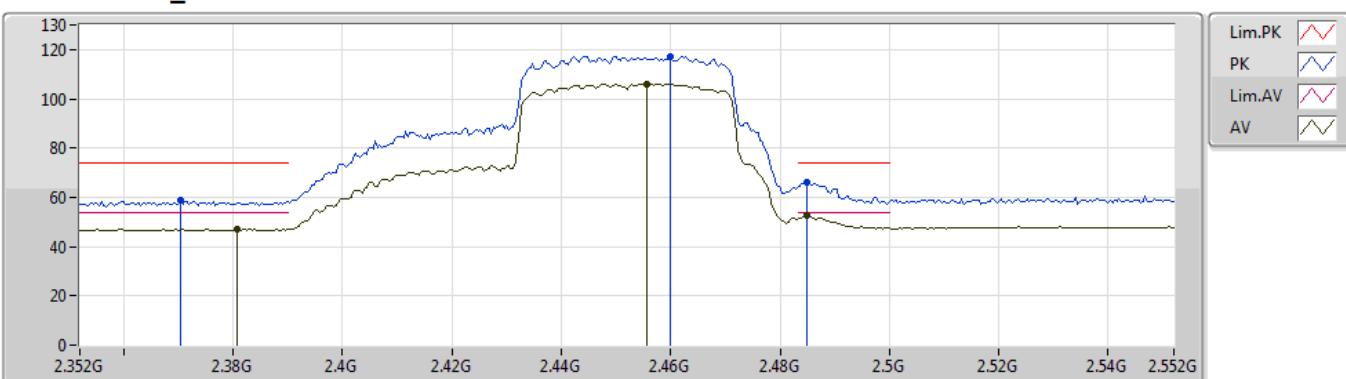
**802.11ax HEW40\_Nss1,(MCS0)\_2TX**

13/09/2019

**2437MHz\_TX**


**802.11ax HEW40\_Nss1,(MCS0)\_2TX**

13/09/2019

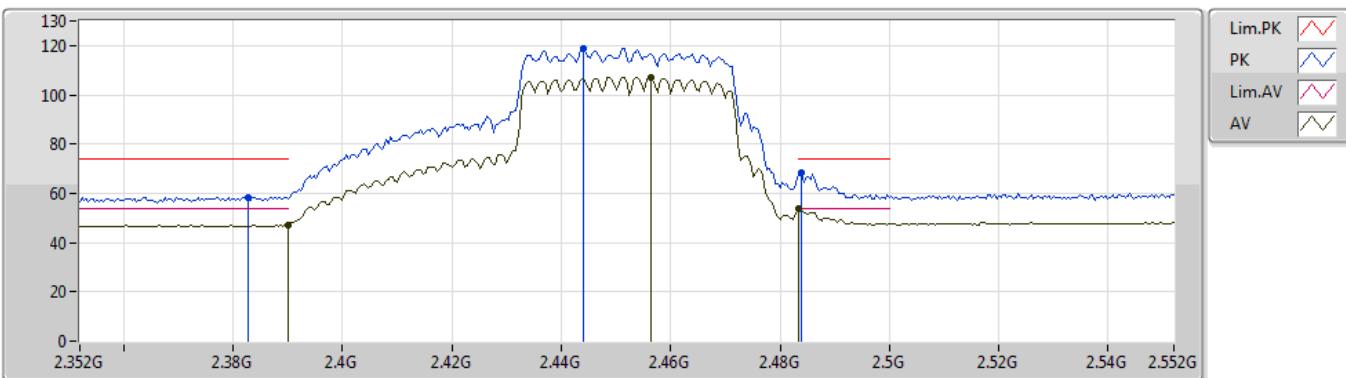
**2452MHz\_TX**


EUT Y\_2TX  
 Setting 93  
 02-B-4  
 FSU(100015)

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV)			
PK	2.3704G	58.87	74.00	-15.13	31.16	3	Vertical	150	2.27	-	27.71			
AV	2.3808G	47.13	54.00	-6.87	31.19	3	Vertical	150	2.27	-	15.94			
PK	2.46G	117.33	Inf	-Inf	31.35	3	Vertical	150	2.27	-	85.98			
AV	2.4556G	106.12	Inf	-Inf	31.34	3	Vertical	150	2.27	-	74.78			
PK	2.4848G	66.35	74.00	-7.65	31.40	3	Vertical	150	2.27	-	34.95			
AV	2.4848G	52.51	54.00	-1.49	31.40	3	Vertical	150	2.27	-	21.11			

**802.11ax HEW40\_Nss1,(MCS0)\_2TX**

13/09/2019

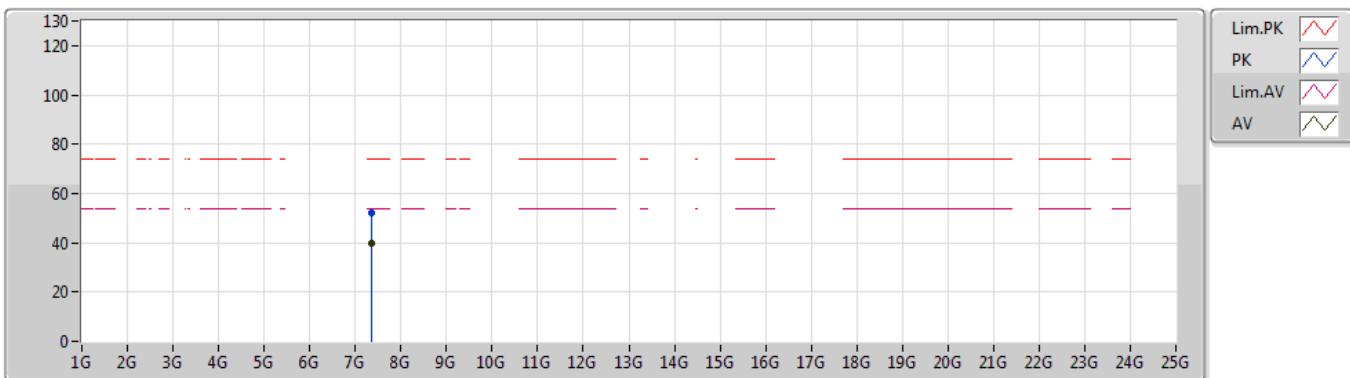
**2452MHz\_TX**


EUT Y\_2TX  
 Setting 93  
 02-B-4  
 FSU(100015)

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (*)	Height (m)	Comment	Raw (dBuV)			
PK	2.3828G	58.50	74.00	-15.50	31.19	3	Horizontal	4	2.66	-	27.31			
AV	2.39G	46.96	54.00	-7.04	31.20	3	Horizontal	4	2.66	-	15.76			
PK	2.444G	118.84	Inf	-Inf	31.32	3	Horizontal	4	2.66	-	87.52			
AV	2.4564G	106.98	Inf	-Inf	31.34	3	Horizontal	4	2.66	-	75.64			
PK	2.484G	68.09	74.00	-5.91	31.39	3	Horizontal	4	2.66	-	36.70			
AV	2.48351G	53.77	54.00	-0.23	31.39	3	Horizontal	4	2.66	-	22.38			

**802.11ax HEW40\_Nss1,(MCS0)\_2TX**

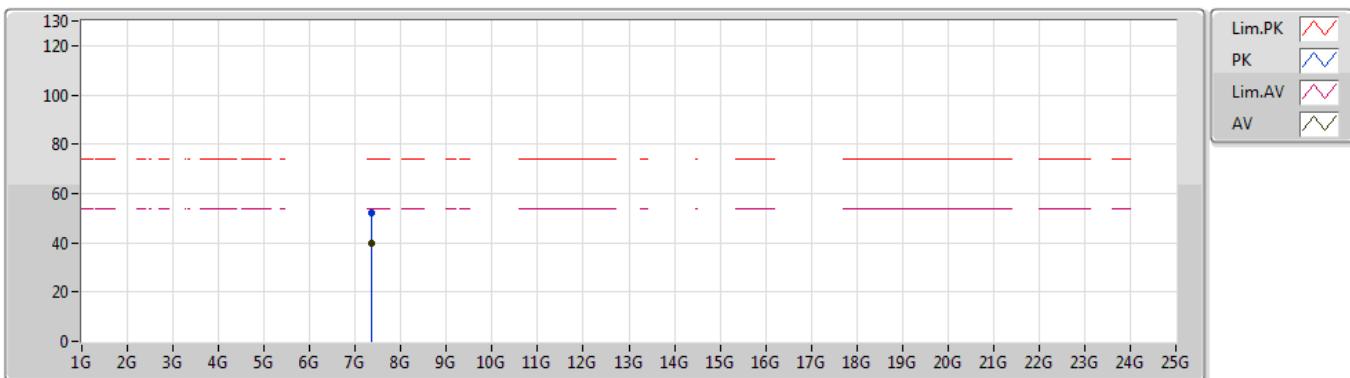
13/09/2019

**2452MHz\_TX**

 EUT Y\_2TX  
 Setting 93  
 02-B-4  
 FSU(100015)

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV)			
PK	7.35776G	52.13	74.00	-21.87	10.69	3	Vertical	174	2.64	-	41.44			
AV	7.35592G	39.66	54.00	-14.34	10.68	3	Vertical	174	2.64	-	28.98			

**802.11ax HEW40\_Nss1,(MCS0)\_2TX**

13/09/2019

**2452MHz\_TX**


EUT Y\_2TX  
 Setting 93  
 02-B-4  
 FSU(100015)

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV)			
PK	7.36104G	52.11	74.00	-21.89	10.68	3	Horizontal	99	1.84	-	41.43			
AV	7.35584G	39.84	54.00	-14.16	10.68	3	Horizontal	99	1.84	-	29.16			