FCC RADIO TEST REPORT

FCC ID	:	UIDW31
Equipment	:	Wireless Router
Brand Name	:	ARRIS
Model Name	:	W31, W30
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 Jul. 18, 2018, and testing was started from Jul. 23, 2018 and completed on Dec. 26, 2018. 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 variant 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.)

Table of Contents

History of this test report **3**

Summary of Test Result **4**

1 General Description **5**

1.1 Information 5
1.2 Testing Applied Standards 10
1.3 Testing Location Information 10
1.4 Measurement Uncertainty 11

2 Test Configuration of EUT **12**

2.1 Test Channel Mode 12
2.2 The Worst Case Measurement Configuration 13
2.3 EUT Operation during Test 14
2.4 Accessories 15
2.5 Support Equipment 15
2.6 Test Setup Diagram 16

3 Transmitter Test Result **18**

3.1 AC Power-line Conducted Emissions 18
3.2 DTS Bandwidth 20
3.3 Maximum Conducted Output Power 21
3.4 Power Spectral Density 24
3.5 Emissions in Non-restricted Frequency Bands 26
3.6 Emissions in Restricted Frequency Bands 27

4 Test Equipment and Calibration Data **31**

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

Report No.	Version	Description	Issued Date
FR842742-01AA	01	Initial issue of report	Jan. 07, 2019

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: Cindy Peng

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), ac (VHT20), ax (HEW20)	2412-2462	1-11 [11]
2400-2483.5	n (HT40), ac (VHT40), ax (HEW40)	2422-2452	3-9 [7]

Band	Mode	BWch (MHz)	Nant
2.4-2.4835GHz	802.11b	20	4TX
2.4-2.4835GHz	802.11g	20	4TX
2.4-2.4835GHz	802.11n HT20	20	4TX
2.4-2.4835GHz	802.11ac VHT20	20	4TX
2.4-2.4835GHz	802.11ax HEW20	20	4TX
2.4-2.4835GHz	802.11n HT40	40	4TX
2.4-2.4835GHz	802.11ac VHT40	40	4TX
2.4-2.4835GHz	802.11ax HEW40	40	4TX

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

Ant.	Brand	Model Name	Antenna Type	Connector	Gain (dBi)
1	PEGATRON	RFPCA2620-01_Rev02	Dual band PCB dipole antenna	I-PEX	Note
2	PEGATRON	RFPCA2620-02_Rev02	Dual band PCB dipole antenna	I-PEX	
3	PEGATRON	RFPCA2620-03_Rev01	Dual band PCB dipole antenna	I-PEX	
4	PEGATRON	RFPCA2620-04_Rev02	Dual band PCB dipole antenna	I-PEX	
5	PEGATRON	RFPCA2307-02 Rev02	PCB dipole antenna	I-PEX	
6	PEGATRON	RFPCA2211-03 Rev01	PCB dipole antenna	I-PEX	
7	PEGATRON	RFPCA2211-04 Rev02	PCB dipole antenna	I-PEX	
8	PEGATRON	RFPCA1806-03 Rev01	PCB dipole antenna	I-PEX	
9	PEGATRON	RFPCA3508-05_Rev02	PCB antenna	I-PEX	
10	PEGATRON	RFPCA1806-03 Rev01	PCB dipole antenna	I-PEX	

Note:

Ant.	Port	Uncorrelated (dBi)			Correlated (dBi)			(dBi)
		2.4GHz	5GHz Band 1~2	5GHz Band 3~4	2.4GHz	5GHz Band 1~2	5GHz Band 3~4	Bluetooth
1	1	4.22	5.71	-	5.35	6.23		-
2	2	4.22	5.71	-	5.35	6.23		-
3	3	4.22	5.71	-	5.35	6.23		-
4	4	4.22	5.71	-	5.35	6.23		-
5	1	-	-	5.82	-	-	6.93	-
6	2	-	-	5.82	-	-	6.93	-
7	3	-	-	5.82	-	-	6.93	-
8	4	-	-	5.82	-	-	6.93	-
9	1	-	-	-	-	-	-	4.12
10	-	-	5.23	5.23	-	-	-	-

Note 1: The above information was declared by manufacturer.

Note 2: The EUT has ten antennas.

For Radio 1

WLAN 2.4GHz Functions

For IEEE 802.11b/g/n/ac/ax mode (4TX, 4RX):

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

WLAN 5GHz Functions (1RX):

Ant. 10 only supports the antenna receive function.

For Radio 3

WLAN 5GHz Band 1~2 Functions

For IEEE 802.11a/n/ac/ax mode (4TX, 4RX):

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

For Radio 2

WLAN 5GHz Band 3~4 Functions

For IEEE 802.11a/n/ac/ax mode (4TX, 4RX):

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

For Radio 4

Bluetooth Functions (1TX, 1RX):

Only Port 1 could transmit/receive simultaneously.

1.1.3 Table for Radio Type

Radio No.	2.4GHz	5GHz Band 1~2	5GHz Band 3~4	Bluetooth
Radio 1	V	Only RX function	Only RX function	-
Radio 2	-	-	V	-
Radio 3	-	V	-	-
Radio 4	-	-	-	V

1.1.4 Mode Test Duty Cycle

Mode	DC	DCF(dB)	T(s)	VBW(Hz) ≥ 1/T
802.11b	0.983	0.074	n/a (DC>=0.98)	n/a (DC>=0.98)
802.11ax HEW20	0.98	0.088	n/a (DC>=0.98)	n/a (DC>=0.98)
802.11ax HEW40	0.965	0.155	775u	3k

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

1.1.5 EUT Operational Condition

EUT Power Type	From power adapter			
Beamforming Function	☐	With beamforming	☒	Without beamforming
Function	☒	Point-to-multipoint	☐	Point-to-point
Test Software Version	accessMTool(version 3.0.0.6)			

1.1.6 Table for EUT Functions

Type of Function	2.4GHz	5GHz Band 1~2	5GHz Band 3~4
Master (AP Router)	V	V	V
Master (Extender)	-	-	V
Bridge (Client without radar detection)	-	-	V
Client without radar detection	-	-	V

1.1.7 Table for Multiple Listing

The model names in the following table are all refer to the identical product.

Model Name	Color of Device's Bottom
W31	Matte Black
W30	Silver

From the above models, model name "W31" was selected as representative model for the test and its data was recorded in this report.

1.1.8 Table for Class II Change

This product is an extension of original one reported under Sporton project number: FR842742AA

Below is the table for the change of the product with respect to the original one.

Modifications	Performance Checking
1. Adding an adapter (Model Name: NBS42D120350VU).	1. AC Power-line Conducted Emissions. 2. Emissions in Restricted Frequency Bands Below 1GHz.
2. Adding the 802.11ax mode for WLAN 2.4GHz and WLAN 5GHz.	1. DTS Bandwidth. 2. Maximum Conducted Output Power. 3. Power Spectral Density. 4. Emissions in Non-restricted Frequency Bands. 5. Emissions in Restricted Frequency Bands Above 1GHz.
3. Adding the 160MHz. 4. Adding the WLAN 5GHz band 2 and band 3 (5250~5350 MHz, 5470~5725 MHz) for this device.	It doesn't need to verify WLAN 2.4GHz test.
5. Updating the WIFI chip (BCM43684KRFBG) version to B1 from A1. The difference between A1 (original) and B1 (new) as below: (1) No functional RF changes versus A1. (2) MAC/PHY related bug fixes and optimizations. (3) Power and yield optimizations.	Emissions in Restricted Frequency Bands Above 1 GHz for 802.11b 2462 MHz only, and it is max power channel of original test report. (The test results are based on original output power to re-test.)
6. Updating the 802.11ac data rate and data modulation of WLAN 2.4GHz to “MCS 0-11, 1024QAM” from “MCS 0-9, 256QAM”.	It doesn't affect the test result.
7. Adding the Master (Extender), Bridge (Client without radar detection) and Client without radar detection modes for WLAN 5GHz band 3 and band 4 (5470~5725 MHz, 5725~5850 MHz).	It doesn't need to verify RF test.
8. Changing the internal structure of housing. 9. Changing the housing color to black from white. 10. Removing USB port. 11. Changing the equipment name to “Wireless Router” from “W31”. Based on the modification above. 12. Adding a new model name “W30” which the color of device’s bottom is silver.	It does not affect the test.

1.2 Testing Applied Standards

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

- 47 CFR FCC Part 15
- ANSI C63.10-2013
- FCC KDB 558074 D01 v05
- FCC KDB 662911 D01 v02r01

1.3 Testing Location Information

Testing Location			
☐	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
☒	JHUBEI	ADD :	No.8, Lane 724, Bo-ai St., Jhubei City, HsinChu County 302, Taiwan, R.O.C.
		TEL :	886-3-656-9065 FAX : 886-3-656-9085

Test Condition	Test Site No.	Test Engineer	Test Environment	Test Date
RF Conducted	TH01-CB	Serway Li, Caster Chang, Owen Hsu	22°C / 55%	Jul. 24, 2018~Dec. 26, 2018
Radiated Below 1GHz	03CH01-CB	Stim Sung	22°C / 54%	Dec. 24, 2018
Radiated Above 1GHz	03CH01-CB	Stim Sung	22°C / 54%	Jul. 23, 2018~Dec. 21, 2018
AC Conduction	CO02-CB	Ryo Fan	22°C / 58%	Dec. 21, 2018

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)	3.6 dB	Confidence levels of 95%
Radiated Emission (1GHz ~ 18GHz)	3.7 dB	Confidence levels of 95%
Radiated Emission (18GHz ~ 40GHz)	3.5 dB	Confidence levels of 95%
Conducted Emission	1.7 dB	Confidence levels of 95%
Output Power Measurement	1.33 dB	Confidence levels of 95%
Power Density Measurement	1.27 dB	Confidence levels of 95%
Bandwidth Measurement	9.74×10^{-8}	Confidence levels of 95%

2 Test Configuration of EUT

2.1 Test Channel Mode

Mode	Power Setting
802.11ax HEW20_Nss1,(MCS0)_4TX	-
2412MHz	79
2417MHz	90
2422MHz	92
2427MHz	97
2432MHz	97
2437MHz	97
2442MHz	97
2447MHz	97
2452MHz	92
2457MHz	90
2462MHz	78
802.11ax HEW40_Nss1,(MCS0)_4TX	-
2422MHz	69
2427MHz	74
2432MHz	75
2437MHz	81
2452MHz	81

2.2 The Worst Case Measurement Configuration

The Worst Case Mode for Following Conformance Tests	
Tests Item	AC power-line conducted emissions
Condition	AC power-line conducted measurement for line and neutral
Operating Mode	CTX
	There are four modes as below: Mode 1: EUT - Radio 1 (WLAN 2.4GHz) Mode 2: EUT - Radio 3 (WLAN 5GHz Band 1~2) Mode 3: EUT - Radio 2 (WLAN 5GHz Band 3~4) Mode 4: EUT - Radio 4 (Bluetooth) The worst case was found from Mode 2 of original test. So the measurement will follow this same test configuration.
1	EUT - Radio 3 (WLAN 5GHz Band 1~2) + Adapter 2

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

The Worst Case Mode for Following Conformance Tests	
Tests Item	Emissions in Restricted Frequency Bands
Test Condition	Radiated measurement If EUT consist of multiple antenna assembly (multiple antenna are used in EUT regardless of spatial multiplexing MIMO configuration), the radiated test should be performed with highest antenna gain of each antenna type.
Operating Mode < 1GHz	CTX
	There are four modes as below: Mode 1: EUT in Y axis - Radio 1 (WLAN 2.4GHz) Mode 2: EUT in Y axis - Radio 3 (WLAN 5GHz Band 1~2) Mode 3: EUT in Y axis - Radio 2 (WLAN 5GHz Band 3~4) Mode 4: EUT in Y axis - Radio 4 (Bluetooth) The worst case was found from Mode 1 of original test. So the measurement will follow this same test configuration.
1	EUT in Y axis - Radio 1 (WLAN 2.4GHz) + Adapter 2
Operating Mode > 1GHz	CTX
1	EUT in Y axis

The Worst Case Mode for Following Conformance Tests	
Tests Item	Simultaneous Transmission Analysis - Co-location RF Exposure Evaluation
Operating Mode	
1	Radio 1 (WLAN 2.4GHz) + Radio 3 (WLAN 5GHz Band 1~2) + Radio 2 (WLAN 5GHz Band 3~4) + Radio 4 (Bluetooth)
Refer to Sporton Test Report No.: FA842742-01 for Co-location RF Exposure Evaluation.	

Note 1: The EUT can only be used at Y axis position.

2.3 EUT Operation during Test

The EUT was programmed to be in continuously transmitting mode.

2.4 Accessories

Accessories					
No.	Equipment Name	Brand Name	Model Name	P/N	Rating
1	Adapter 1	APD	WA-36L12FU	AREP05681	INPUT: 100-120V ~, 60Hz, 0.9A Max OUTPUT: 12V, 3A
2	Adapter 2	NetBit	NBS42D120 350VU	AREP05751	INPUT: 100-120V ~, 50/60Hz, 1.0A OUTPUT: 12.0V, 3.5A

Note: The adapter does not affect the test result of radio tests, so only adapter 2 was tested and recorded in this report.

2.5 Support Equipment

For Test Site No: CO02-CB

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

For Test Site No: 03CH01-CB

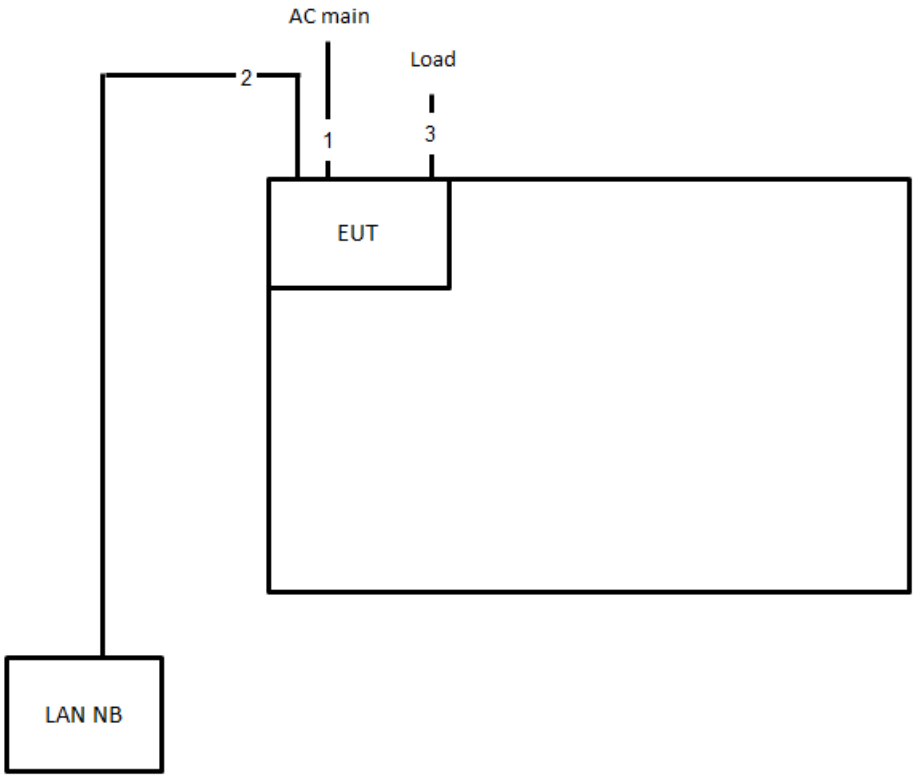
Support Equipment				
No.	Equipment	Brand Name	Model Name	FCC ID
1	NB	DELL	E4300	N/A

For Test Site No: TH01-CB

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

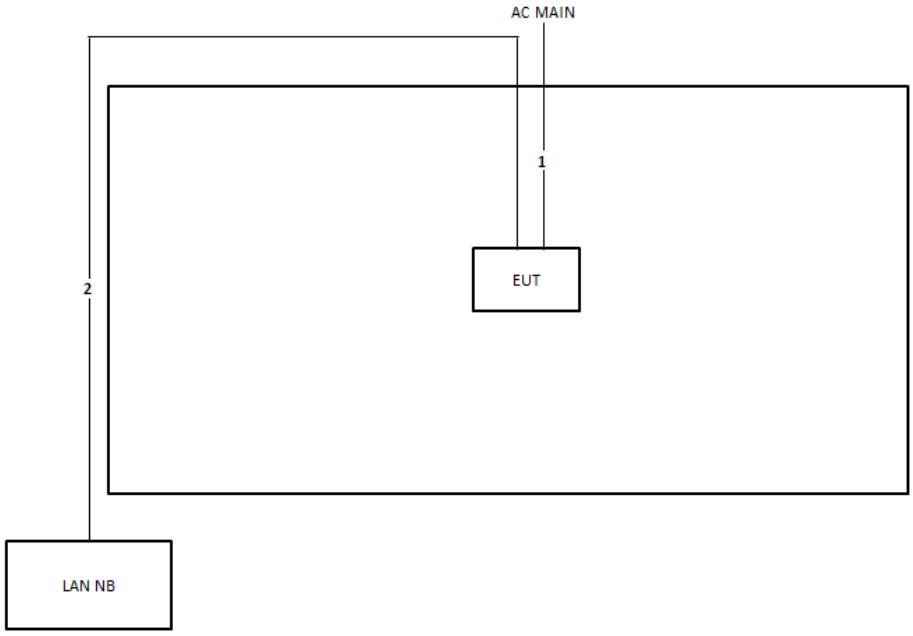
2.6 Test Setup Diagram

Test Setup Diagram – AC Line Conducted Emission Test



Item	Connection	Shielded	Length
1	Power cable	No	1.8m
2	RJ-45 cable	No	10m
3	RJ-45 cable*3	No	1.5m

Test Setup Diagram - Radiated Test



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

3 Transmitter Test Result

3.1 AC Power-line Conducted Emissions

3.1.1 AC Power-line Conducted Emissions Limit

AC Power-line Conducted Emissions Limit		
Frequency Emission (MHz)	**Quasi-Peak**	**Average**
0.15-0.5	66 - 56 *	56 - 46 *
0.5-5	56	46
5-30	60	50
Note 1: * Decreases with the logarithm of the frequency.		

3.1.2 Measuring Instruments

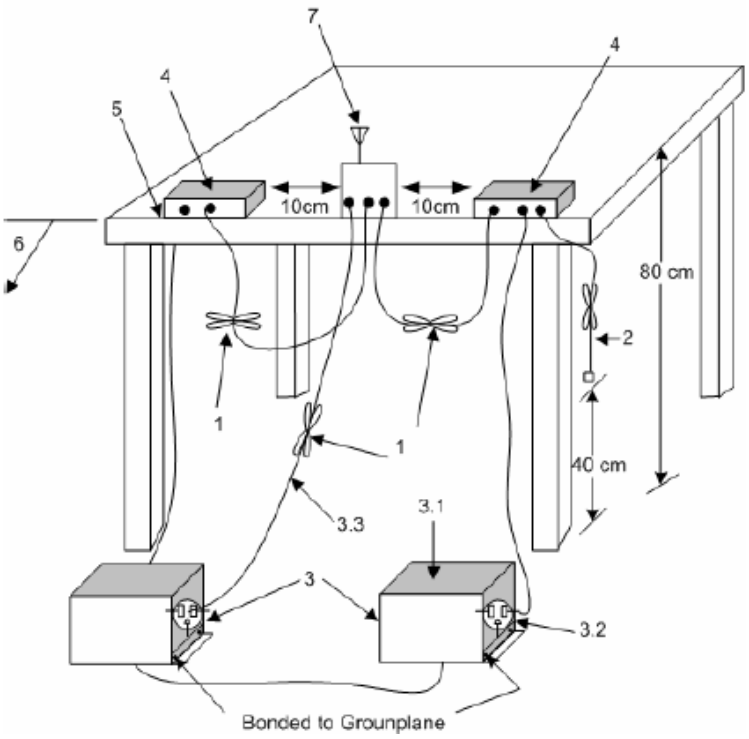
Refer a test equipment and calibration data table in this test report.

3.1.3 Test Procedures

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

3.1.4 Test Setup

AC Power-line Conducted Emissions



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

3.1.5 Test Result of AC Power-line Conducted Emissions

Refer as Appendix A

3.2 DTS Bandwidth

3.2.1 6dB Bandwidth Limit

6dB Bandwidth Limit
Systems using digital modulation techniques:
▪ 6 dB bandwidth ≥ 500 kHz.

3.2.2 Measuring Instruments

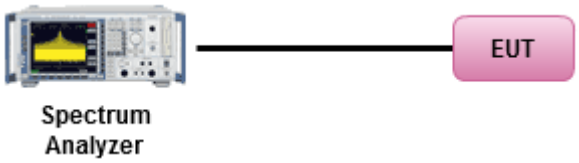
Refer a test equipment and calibration data table in this test report.

3.2.3 Test Procedures

Test Method	
▪ For the emission bandwidth shall be measured using one of the options below:	
	☒ Refer as FCC KDB 558074, clause 8.2 & C63.10 clause 11.8.1 Option 1 for 6 dB bandwidth measurement.
	☐ Refer as FCC KDB 558074, clause 8.2 & C63.10 clause 11.8.2 Option 2 for 6 dB bandwidth measurement.
	☐ Refer as ANSI C63.10, clause 6.9.1 for occupied bandwidth testing.

3.2.4 Test Setup

Emission Bandwidth



3.2.5 Test Result of Emission Bandwidth

Refer as Appendix B

3.3 Maximum Conducted Output Power

3.3.1 Maximum Conducted Output Power Limit

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

3.3.2 Measuring Instruments

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

3.3.3 Test Procedures

Test Method	
▪ Maximum Peak Conducted Output Power	
	☐ Refer as FCC KDB 558074, clause 8.3.1.1 & C63.10 clause 11.9.1.1 (RBW ≥ EBW method).
	☐ Refer as FCC KDB 558074, clause 8.3.1.3 & C63.10 clause 11.9.1.3 (peak power meter).
▪ Maximum Conducted Output Power	
	[duty cycle ≥ 98% or external video / power trigger]
	☐ Refer as FCC KDB 558074, clause 8.3.2.2 & C63.10 clause 11.9.2.2.2 Method AVGSA-1.
	☐ 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
	☐ Refer as FCC KDB 558074, clause 8.3.2.2 & C63.10 clause 11.9.2.2.4 Method AVGSA-2.
	☐ Refer as FCC KDB 558074, clause 8.3.2.2 & C63.10 clause 11.9.2.2.5 Method AVGSA-2A (alternative)
	☐ Refer as FCC KDB 558074, clause 8.3.2.2 & C63.10 clause 11.9.2.2.6 Method AVGSA-3
	☐ 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)
	☒ 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).
	☐ 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.	
	▪ If the EUT supports multiple transmit chains using options given below: Refer as FCC KDB 662911, In-band power measurements. Using the measure-and-sum approach, measured all transmit ports individually. Sum the power (in linear power units e.g., mW) of all ports for each individual sample and save them.
	▪ If multiple transmit chains, EIRP calculation could be following as methods: $P_{total} = P_1 + P_2 + \ldots + P_n$ (calculated in linear unit [mW] and transfer to log unit [dBm]) $EIRP_{total} = P_{total} + DG$

3.3.4 Test Setup

Maximum Conducted Output Power (Power Meter)

3.3.5 Test Result of Maximum Conducted Output Power

Refer as Appendix C

3.4 Power Spectral Density

3.4.1 Power Spectral Density Limit

Power Spectral Density Limit
▪ Power Spectral Density (PSD) ≤ 8 dBm/3kHz

3.4.2 Measuring Instruments

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

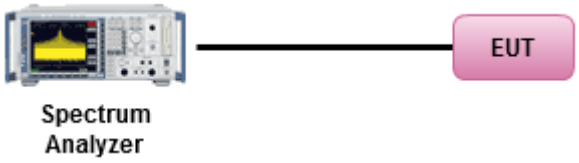
3.4.3 Test Procedures

Test Method		
▪ 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 ≥ 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

Power Spectral Density



3.4.5 Test Result of Power Spectral Density

Refer as Appendix D

3.5 Emissions in Non-restricted Frequency Bands

3.5.1 Emissions in Non-restricted Frequency Bands Limit

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

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

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

3.5.2 Measuring Instruments

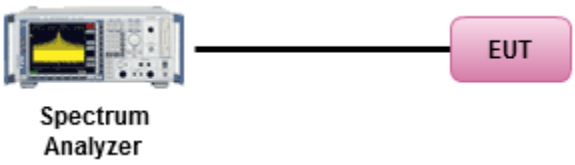
Refer a test equipment and calibration data table in this test report.

3.5.3 Test Procedures

Test Method
▪ Refer as FCC KDB 558074, clause 8.5 for unwanted emissions into non-restricted bands.

3.5.4 Test Setup

Emissions in Non-restricted Frequency Bands



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.

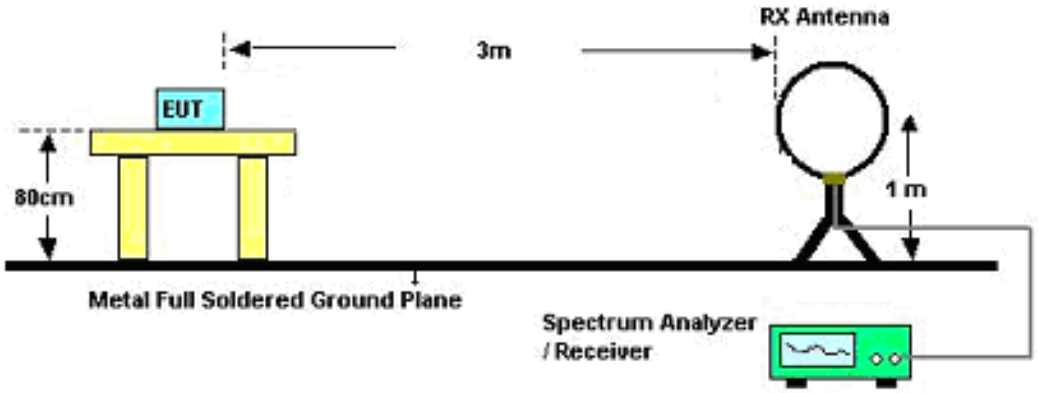
3.6.3 Test Procedures

Test Method			
▪ The average emission levels shall be measured in [duty cycle ≥ 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.		
		☐	Refer as FCC KDB 558074, clause 8.6 & C63.10 clause 11.12.2.5.1(trace averaging for duty cycle ≥98%).
		☐	Refer as FCC KDB 558074, clause 8.6 & C63.10 clause 11.12.2.5.2(trace averaging + duty factor).
		☒	Refer as FCC KDB 558074, clause 8.6 & C63.10 clause 11.12.2.5.3(Reduced VBW≥1/T).
		☐	Refer as ANSI C63.10, clause 11.12.2.5.3 (Reduced VBW). VBW ≥ 1/T, where T is pulse time.
		☐	Refer as ANSI C63.10, clause 7.5 average value of pulsed emissions.
		☒	Refer as FCC KDB 558074, clause 8.6 & C63.10 clause 11.12.2.4 measurement procedure peak limit.
▪ For the transmitter band-edge emissions shall be measured using following options below:			
	▪ Refer as FCC KDB 558074 clause 8.7 & C63.10 clause 11.13.1, When the performing peak or average radiated measurements, emissions within 2 MHz of the authorized band edge may be measured using the marker-delta method described below.		
	▪ Refer as FCC KDB 558074, clause 8.7 (ANSI C63.10, clause 6.10.6) for marker-delta method for band-edge measurements.		
	▪ Refer as FCC KDB 558074, clause 8.7 for narrower resolution bandwidth (100kHz) using the band power and summing the spectral levels (i.e., 1 MHz).		
	▪ For conducted unwanted emissions into restricted bands (absolute emission limits). Devices with multiple transmit chains using options given below: (1) Measure and sum the spectra across the outputs or (2) Measure and add 10 log(N) dB		
	▪ For FCC KDB 662911 The methodology described here may overestimate array gain, thereby resulting in apparent failures to satisfy the out-of-band limits even if the device is actually compliant. In such cases, compliance may be demonstrated by performing radiated tests around the frequencies at which the apparent failures occurred.		

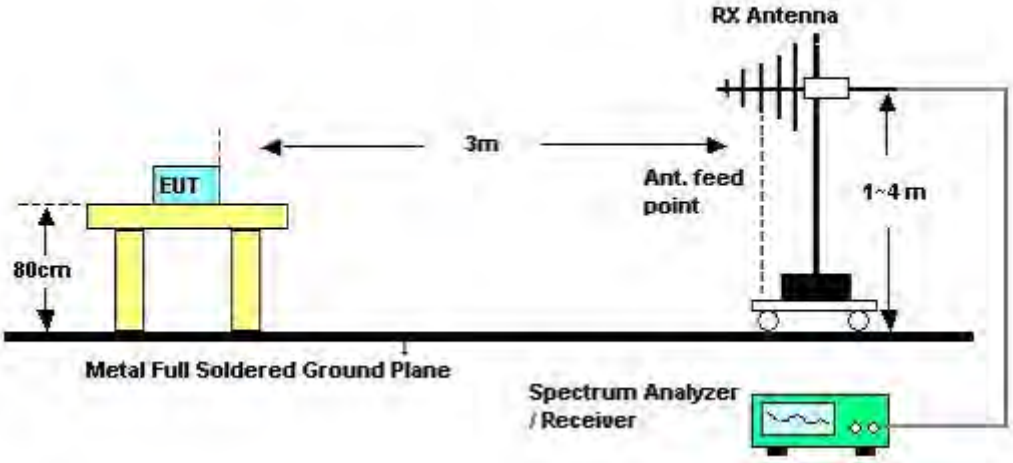
3.6.4 Test Setup

Radiated - Emissions in Restricted Frequency Bands

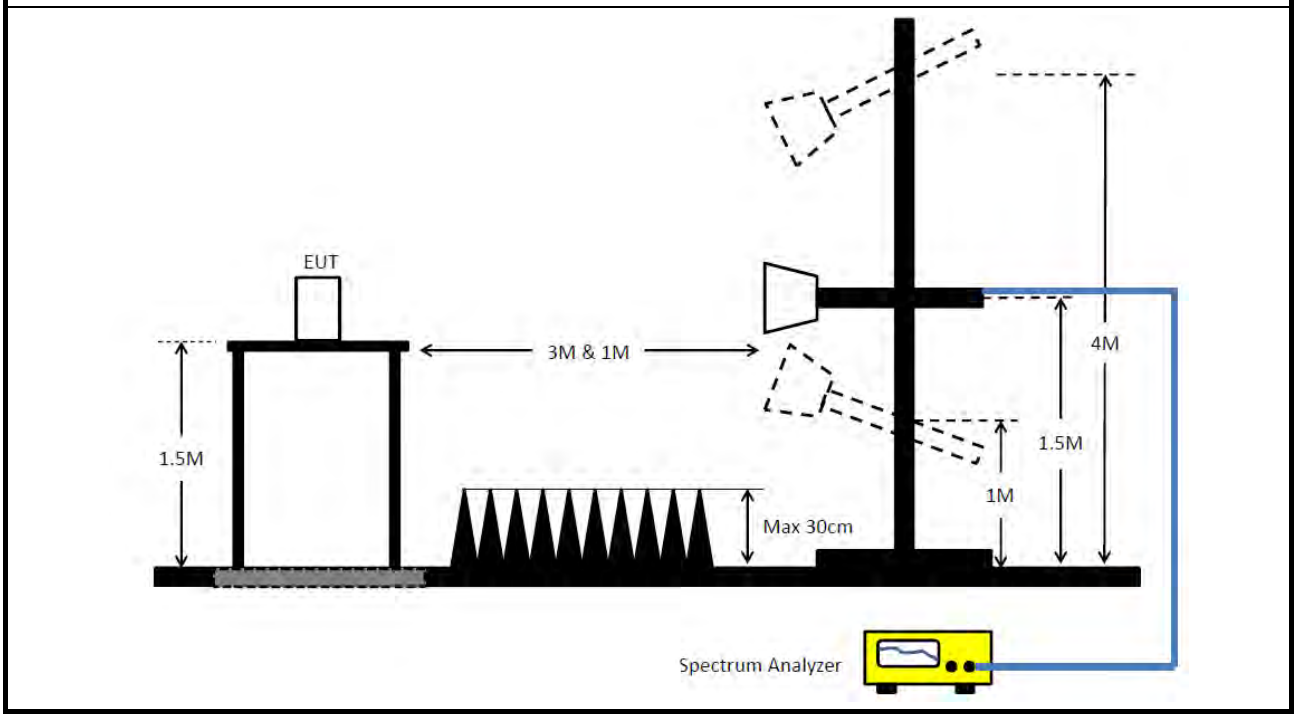
9kHz ~30MHz



30MHz~1GHz



Above 1GHz



3.6.5 Emissions in Restricted Frequency Bands (Below 30MHz)

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

3.6.6 Test Result of Emissions in Restricted Frequency Bands

Refer as Appendix F

4 Test Equipment and Calibration Data

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Calibration Due Date	Remark
LISN	Schwarzbeck	NSLK 8127	8127650	9kHz ~ 30MHz	Nov. 21, 2018	Nov. 20, 2019	Conduction (CO02-CB)
LISN	Schwarzbeck	NSLK 8127	8127478	9kHz ~ 30MHz	Nov. 05, 2018	Nov. 04, 2019	Conduction (CO02-CB)
EMI Receiver	Agilent	N9038A	MY52260140	9kHz ~ 8.4GHz	Jan. 17, 2018	Jan. 16, 2019	Conduction (CO02-CB)
COND Cable	Woken	Cable	2	0.15MHz ~ 30MHz	Nov. 06, 2018	Nov. 05, 2019	Conduction (CO02-CB)
Software	Audix	E3	6.120210n	-	N.C.R.	N.C.R.	Conduction (CO02-CB)
Loop Antenna	Teseq	HLA 6120	24155	9kHz - 30 MHz	Mar. 16, 2018	Mar. 15, 2019	Radiation (03CH01-CB)
BILOG ANTENNA with 6dB Attenuator	TESEQ & EMCI	CBL6112D & N-6-06	37880 & AT-N0609	20MHz ~ 2GHz	Aug. 27, 2018	Aug. 26, 2019	Radiation (03CH01-CB)
Horn Antenna	EMCO	3115	00075790	750MHz ~ 18GHz	Nov. 20, 2017	Nov. 19, 2018	Radiation (03CH01-CB)
Horn Antenna	EMCO	3115	00075790	750MHz ~ 18GHz	Nov. 13, 2018	Nov. 12, 2019	Radiation (03CH01-CB)
Horn Antenna	Schwarzbeck	BBHA 9170	BBHA9170252	15GHz ~ 40GHz	Jun. 28, 2018	Jun. 27, 2019	Radiation (03CH01-CB)
Pre-Amplifier	EMCI	EMC330N	980332	20MHz ~ 3GHz	May 02, 2018	May 01, 2019	Radiation (03CH01-CB)
Pre-Amplifier	Agilent	8449B	3008A02310	1GHz ~ 26.5GHz	Jan. 09, 2018	Jan. 08, 2019	Radiation (03CH01-CB)
Pre-Amplifier	MITEQ	TTA1840-35-HG	1864479	18GHz ~ 40GHz	Jul. 04, 2018	Jul. 03, 2019	Radiation (03CH01-CB)
Spectrum Analyzer	R&S	FSP40	100056	9kHz ~ 40GHz	Nov. 23, 2017	Nov. 22, 2018	Radiation (03CH01-CB)
Spectrum analyzer	R&S	FSP40	100080	9kHz~40GHz	Oct. 03, 2018	Oct. 02, 2019	Radiation (03CH01-CB)
EMI Test Receiver	R&S	ESCS	100359	9kHz ~ 2.75GHz	Jul. 03, 2018	Jul. 02, 2019	Radiation (03CH01-CB)
RF Cable-low	Woken	Low Cable-16+17	N/A	30 MHz ~ 1 GHz	Oct. 08, 2018	Oct. 07, 2019	Radiation (03CH01-CB)
RF Cable-high	Woken	High Cable-16	N/A	1 GHz ~ 18 GHz	Oct. 11, 2017	Oct. 10, 2018	Radiation (03CH01-CB)

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Calibration Due Date	Remark
RF Cable-high	Woken	High Cable-16	N/A	1 GHz ~ 18 GHz	Oct. 08, 2018	Oct. 07, 2019	Radiation (03CH01-CB)
RF Cable-high	Woken	High Cable-16+17	N/A	1 GHz ~ 18 GHz	Oct. 11, 2017	Oct. 10, 2018	Radiation (03CH01-CB)
RF Cable-high	Woken	High Cable-16+17	N/A	1 GHz ~ 18 GHz	Oct. 08, 2018	Oct. 07, 2019	Radiation (03CH01-CB)
RF Cable-high	Woken	High Cable-40G#1	N/A	18GHz ~ 40 GHz	Oct. 11, 2017	Oct. 10, 2018	Radiation (03CH01-CB)
RF Cable-high	Woken	High Cable-40G#1	N/A	18GHz ~ 40 GHz	Jul. 27, 2018	Jul. 26, 2019	Radiation (03CH01-CB)
RF Cable-high	Woken	High Cable-40G#2	N/A	18GHz ~ 40 GHz	Oct. 11, 2017	Oct. 10, 2018	Radiation (03CH01-CB)
RF Cable-high	Woken	High Cable-40G#2	N/A	18GHz ~ 40 GHz	Jul. 27, 2018	Jul. 26, 2019	Radiation (03CH01-CB)
Spectrum analyzer	R&S	FSV40	101027	9kHz~40GHz	Jun. 22, 2018	Jun. 21, 2019	Conducted (TH01-CB)
RF Cable-high	Woken	RG402	High Cable-06	1 GHz – 26.5 GHz	Oct. 11, 2017	Oct. 10, 2018	Conducted (TH01-CB)
RF Cable-high	Woken	RG402	High Cable-07	1 GHz –26.5 GHz	Oct. 11, 2017	Oct. 10, 2018	Conducted (TH01-CB)
RF Cable-high	Woken	RG402	High Cable-08	1 GHz –26.5 GHz	Oct. 11, 2017	Oct. 10, 2018	Conducted (TH01-CB)
RF Cable-high	Woken	RG402	High Cable-09	1 GHz –26.5 GHz	Oct. 11, 2017	Oct. 10, 2018	Conducted (TH01-CB)
RF Cable-high	Woken	RG402	High Cable-10	1 GHz –26.5 GHz	Oct. 11, 2017	Oct. 10, 2018	Conducted (TH01-CB)
Power Sensor	Agilent	U2021XA	MY53410001	50MHz~18GHz	Nov. 20, 2017	Nov. 19, 2018	Conducted (TH01-CB)
Power Sensor	Agilent	U2021XA	MY53410001	50MHz~18GHz	Nov. 05, 2018	Nov. 04, 2019	Conducted (TH01-CB)

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

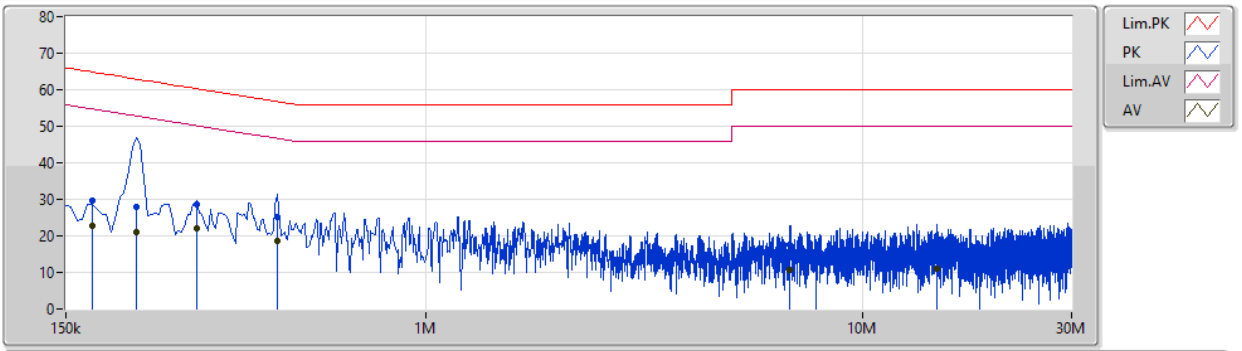
N.C.R. means Non-Calibration required.

Summary

Mode	Result	Type	Freq (Hz)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Factor (dB)	Condition
Mode 1	Pass	AV	280.5k	22.55	50.80	-28.25	10.05	Neutral

Mode 1

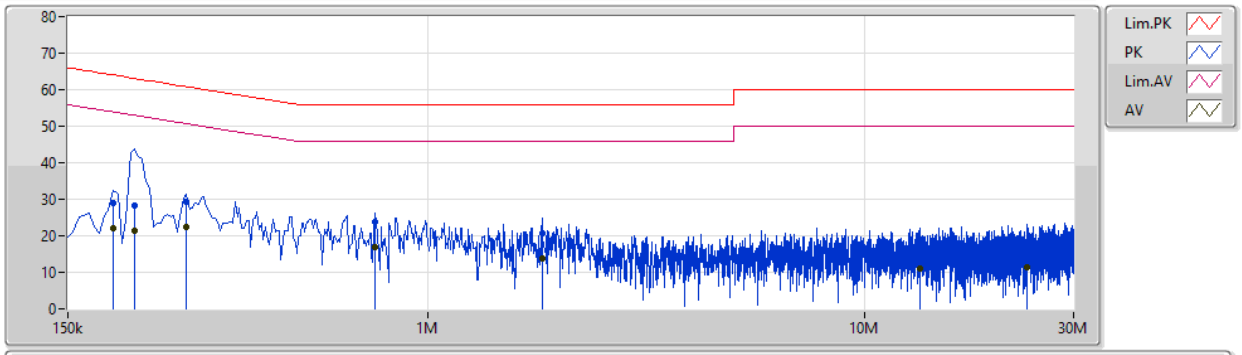
21/12/2018



Type	Freq	Level	Limit	Margin	Factor	Condition	Comment	Raw	AF	CL	AT
	(Hz)	(dBuV)	(dBuV)	(dB)	(dB)			(dBuV)	(dB)	(dB)	(dB)
QP	172.5k	29.61	64.83	-35.22	10.06	Line	-	19.55	0.04	0.15	9.87
AV	172.5k	22.73	54.83	-32.10	10.06	Line	-	12.67	0.04	0.15	9.87
QP	217.5k	28.10	62.92	-34.82	10.05	Line	-	18.05	0.04	0.14	9.87
AV	217.5k	21.19	52.92	-31.73	10.05	Line	-	11.14	0.04	0.14	9.87
QP	298.5k	28.79	60.28	-31.49	10.04	Line	-	18.75	0.04	0.13	9.87
AV	298.5k	21.92	50.28	-28.36	10.04	Line	-	11.88	0.04	0.13	9.87
QP	456k	25.28	56.76	-31.48	10.04	Line	-	15.24	0.04	0.13	9.87
AV	456k	18.46	46.76	-28.30	10.04	Line	"Worst"	8.42	0.04	0.13	9.87
QP	6.788M	17.57	60.00	-42.43	10.22	Line	-	7.35	0.19	0.14	9.89
AV	6.788M	10.67	50.00	-39.33	10.22	Line	-	0.45	0.19	0.14	9.89
QP	14.789M	18.09	60.00	-41.91	10.49	Line	-	7.60	0.34	0.22	9.93
AV	14.789M	11.17	50.00	-38.83	10.49	Line	-	0.68	0.34	0.22	9.93

Mode 1

21/12/2018



Type	Freq	Level	Limit	Margin	Factor	Condition	Comment	Raw	AF	CL	AT
	(Hz)	(dBuV)	(dBuV)	(dB)	(dB)			(dBuV)	(dB)	(dB)	(dB)
QP	190.5k	29.05	64.01	-34.96	10.06	Neutral	-	18.99	0.05	0.14	9.87
AV	190.5k	22.20	54.01	-31.81	10.06	Neutral	-	12.14	0.05	0.14	9.87
QP	213k	28.16	63.09	-34.93	10.06	Neutral	-	18.10	0.05	0.14	9.87
AV	213k	21.44	53.09	-31.65	10.06	Neutral	-	11.38	0.05	0.14	9.87
QP	280.5k	29.46	60.80	-31.34	10.05	Neutral	-	19.41	0.05	0.13	9.87
AV	280.5k	22.55	50.80	-28.25	10.05	Neutral	"Worst"	12.50	0.05	0.13	9.87
QP	757.5k	23.63	56.00	-32.37	10.11	Neutral	-	13.52	0.06	0.18	9.87
AV	757.5k	16.90	46.00	-29.10	10.11	Neutral	-	6.79	0.06	0.18	9.87
QP	1.829M	20.52	56.00	-35.48	10.19	Neutral	-	10.33	0.08	0.23	9.88
AV	1.829M	13.67	46.00	-32.33	10.19	Neutral	-	3.48	0.08	0.23	9.88
QP	13.326M	17.78	60.00	-42.22	10.36	Neutral	-	7.42	0.24	0.20	9.92
AV	13.326M	10.89	50.00	-39.11	10.36	Neutral	-	0.53	0.24	0.20	9.92
QP	23.442M	18.27	60.00	-41.73	10.57	Neutral	-	7.70	0.35	0.25	9.97
AV	23.442M	11.52	50.00	-38.48	10.57	Neutral	-	0.95	0.35	0.25	9.97

Summary

Mode	Max-N dB (Hz)	Max-OBW (Hz)	ITU-Code	Min-N dB (Hz)	Min-OBW (Hz)
2.4-2.4835GHz	-	-	-	-	-
802.11ax HEW20_Nss1,(MCS0)_4TX	18.975M	18.966M	19M0D1D	18.45M	18.891M
802.11ax HEW40_Nss1,(MCS0)_4TX	37.55M	37.631M	37M6D1D	36.25M	37.431M

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

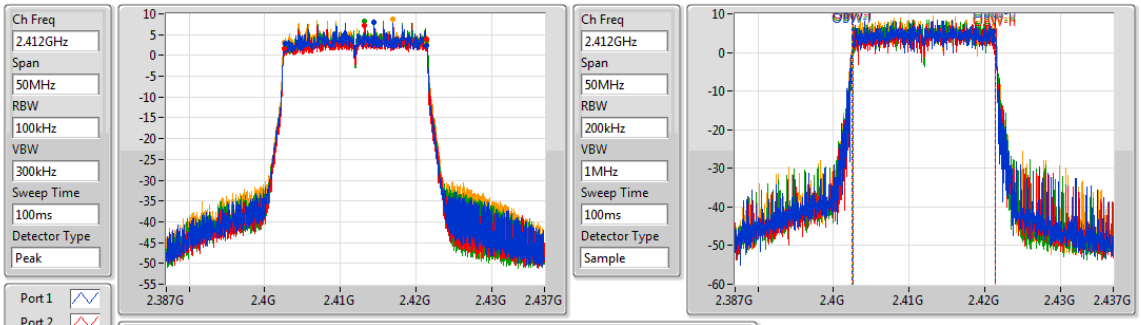
Mode	Result	Limit (Hz)	Port 1-N dB (Hz)	Port 1-OBW (Hz)	Port 2-N dB (Hz)	Port 2-OBW (Hz)	Port 3-N dB (Hz)	Port 3-OBW (Hz)	Port 4-N dB (Hz)	Port 4-OBW (Hz)
802.11ax HEW20_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-	-	-
2412MHz	Pass	500k	18.65M	18.941M	18.875M	18.941M	18.725M	18.891M	18.85M	18.966M
2437MHz	Pass	500k	18.975M	18.941M	18.9M	18.916M	18.925M	18.941M	18.925M	18.966M
2462MHz	Pass	500k	18.45M	18.916M	18.525M	18.966M	18.85M	18.941M	18.925M	18.916M
802.11ax HEW40_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-	-	-
2422MHz	Pass	500k	37.25M	37.431M	36.25M	37.431M	37.25M	37.531M	37.5M	37.481M
2437MHz	Pass	500k	37.45M	37.581M	36.75M	37.631M	36.45M	37.531M	36.6M	37.481M
2452MHz	Pass	500k	37.2M	37.481M	37.55M	37.631M	37.55M	37.631M	36.3M	37.481M

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

802.11ax HEW20_Nss1,(MCS0)_4TX — EBW

2412MHz

31/07/2018

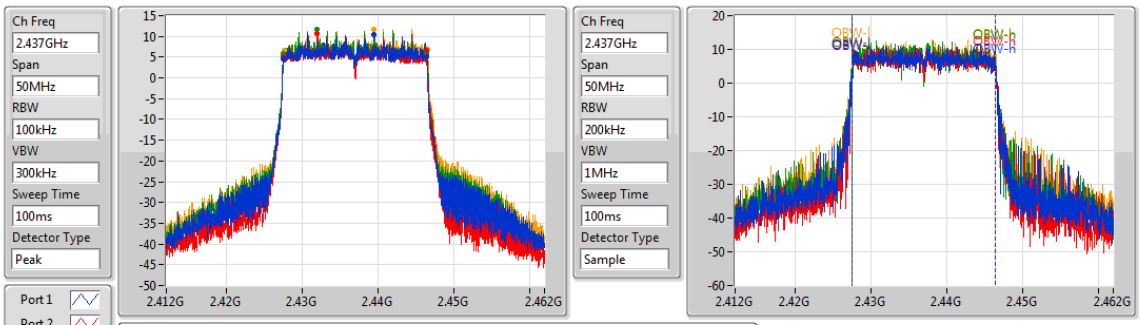


6dB(Hz)	Fl-6dB(Hz)	Fh-6dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
18.65M	2.4028G	2.42145G	18.941M	2.402505G	2.421445G	500k	1
18.875M	2.40255G	2.421425G	18.941M	2.40253G	2.42147G	500k	2
18.725M	2.402725G	2.42145G	18.891M	2.402555G	2.421445G	500k	3
18.85M	2.402575G	2.421425G	18.966M	2.402505G	2.42147G	500k	4

802.11ax HEW20_Nss1,(MCS0)_4TX — EBW

2437MHz

31/07/2018

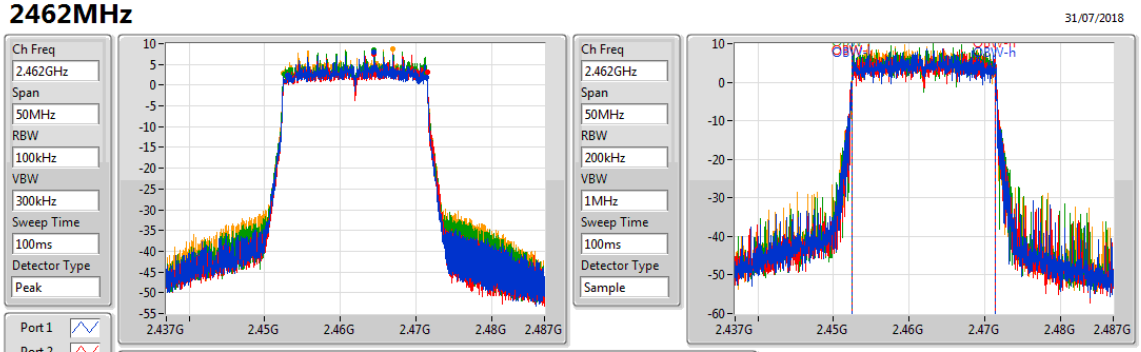


6dB(Hz)	Fl-6dB(Hz)	Fh-6dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
18.975M	2.427475G	2.44645G	18.941M	2.427505G	2.446445G	500k	1
18.9M	2.4275G	2.4464G	18.916M	2.427505G	2.44642G	500k	2
18.925M	2.4275G	2.446425G	18.941M	2.42748G	2.44642G	500k	3
18.925M	2.42755G	2.446475G	18.966M	2.427505G	2.44647G	500k	4

802.11ax HEW20_Nss1,(MCS0)_4TX — EBW

2462MHz

31/07/2018

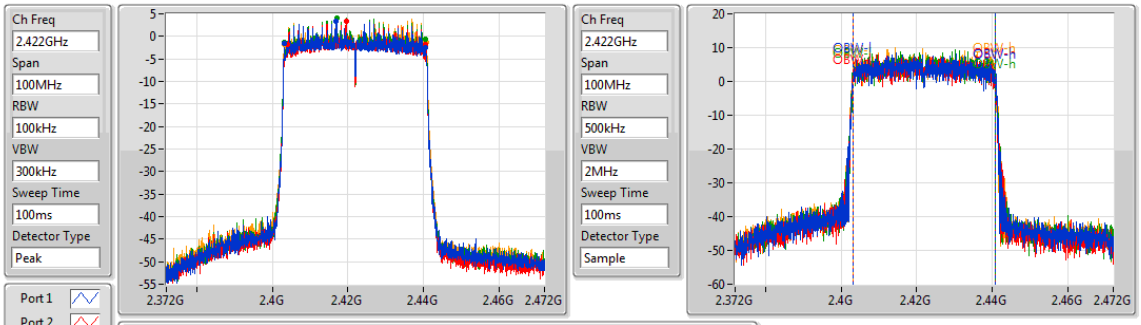


6dB(Hz)	Fl-6dB(Hz)	Fh-6dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
18.45M	2.452975G	2.471425G	18.916M	2.452505G	2.47142G	500k	1
18.525M	2.45295G	2.471475G	18.966M	2.452505G	2.47147G	500k	2
18.85M	2.452575G	2.471425G	18.941M	2.452505G	2.471445G	500k	3
18.925M	2.452525G	2.47145G	18.916M	2.452505G	2.47142G	500k	4

802.11ax HEW40_Nss1,(MCS0)_4TX EBW

2422MHz

31/07/2018

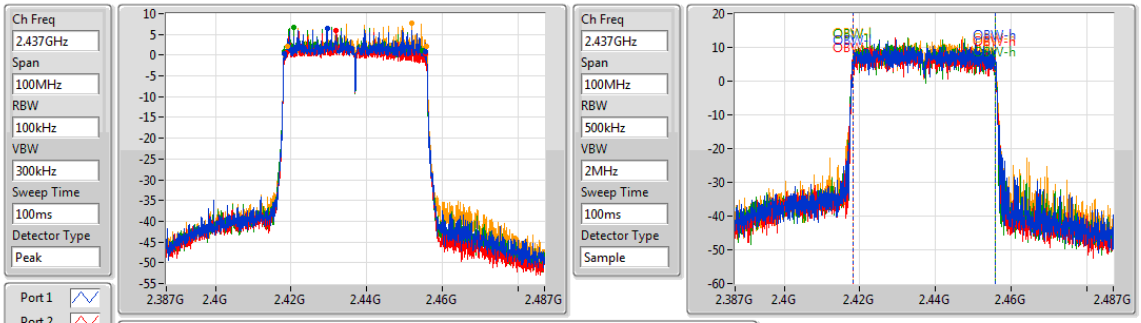


6dB(Hz)	Fl-6dB(Hz)	Fh-6dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
37.25M	2.4032G	2.44045G	37.431M	2.403259G	2.440691G	500k	1
36.25M	2.40415G	2.4404G	37.431M	2.403259G	2.440691G	500k	2
37.25M	2.4032G	2.44045G	37.531M	2.403209G	2.440741G	500k	3
37.5M	2.40325G	2.44075G	37.481M	2.403259G	2.440741G	500k	4

802.11ax HEW40_Nss1,(MCS0)_4TX EBW

2437MHz

31/07/2018

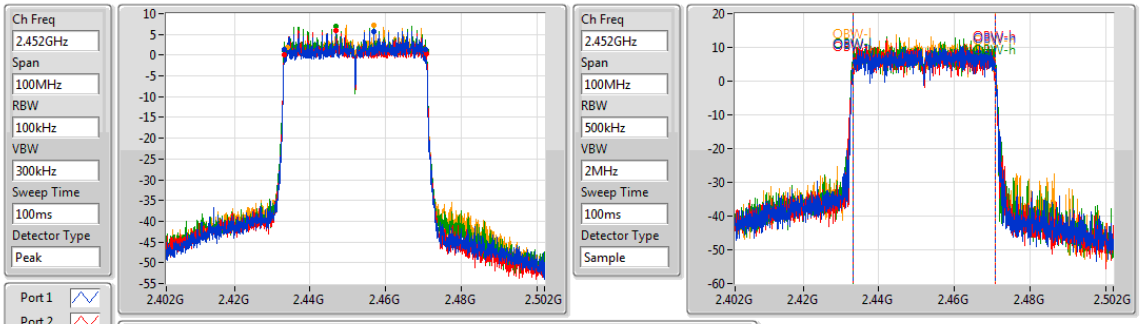


6dB(Hz)	Fl-6dB(Hz)	Fh-6dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
37.45M	2.4182G	2.45565G	37.581M	2.418159G	2.455741G	500k	1
36.75M	2.4187G	2.45545G	37.631M	2.418109G	2.455741G	500k	2
36.45M	2.41825G	2.4547G	37.531M	2.418159G	2.455691G	500k	3
36.6M	2.41915G	2.45575G	37.481M	2.418209G	2.455691G	500k	4

802.11ax HEW40_Nss1,(MCS0)_4TX EBW

2452MHz

31/07/2018



6dB(Hz)	Fl-6dB(Hz)	Fh-6dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
37.2M	2.43325G	2.47045G	37.481M	2.433259G	2.470741G	500k	1
37.55M	2.43325G	2.4708G	37.631M	2.433159G	2.470791G	500k	2
37.55M	2.43315G	2.4707G	37.631M	2.433109G	2.470741G	500k	3
36.3M	2.43415G	2.47045G	37.481M	2.433259G	2.470741G	500k	4

Summary

Mode	Total Power (dBm)	Total Power (W)
2.4-2.4835GHz	-	-
802.11ax HEW20_Nss1,(MCS0)_4TX	29.93	0.98401
802.11ax HEW40_Nss1,(MCS0)_4TX	25.77	0.37757

Result

Mode	Result	DG (dBi)	Port 1 (dBm)	Port 2 (dBm)	Port 3 (dBm)	Port 4 (dBm)	Total Power (dBm)	Power Limit (dBm)
802.11ax HEW20_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-
2412MHz	Pass	4.22	19.79	17.49	19.89	19.52	25.29	30.00
2417MHz	Pass	4.22	22.47	20.25	22.28	22.18	27.90	30.00
2422MHz	Pass	4.22	23.16	21.38	23.02	22.71	28.64	30.00
2427MHz	Pass	4.22	23.55	23.08	24.18	24.65	29.93	30.00
2432MHz	Pass	4.22	23.49	22.82	23.79	24.81	29.81	30.00
2437MHz	Pass	4.22	23.58	22.93	24.26	24.65	29.92	30.00
2442MHz	Pass	4.22	23.42	23.13	24.13	24.68	29.90	30.00
2447MHz	Pass	4.22	23.58	22.93	24.26	24.65	29.92	30.00
2452MHz	Pass	4.22	22.20	22.03	22.910	23.44	28.70	30.00
2457MHz	Pass	4.22	22.56	21.11	22.08	21.85	27.95	30.00
2462MHz	Pass	4.22	19.56	17.98	19.19	19.21	25.05	30.00
802.11ax HEW40_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-
2422MHz	Pass	4.22	17.55	17.61	16.11	16.82	23.09	30.00
2427MHz	Pass	4.22	18.41	18.64	17.02	17.94	24.07	30.00
2432MHz	Pass	4.22	18.52	18.79	17.33	18.21	24.27	30.00
2437MHz	Pass	4.22	20.06	20.28	19.11	19.45	25.77	30.00
2452MHz	Pass	4.22	20.08	20.23	19.07	19.41	25.74	30.00

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

Summary

Mode	PD (dBm/RBW)
2.4-2.4835GHz	-
802.11ax HEW20_Nss1,(MCS0)_4TX	3.22
802.11ax HEW40_Nss1,(MCS0)_4TX	-3.42

RBW=3kHz.

Result

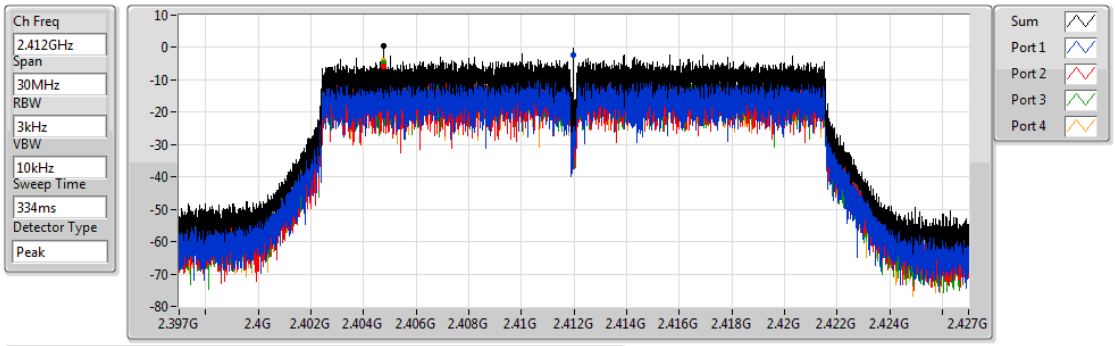
Mode	Result	DG (dBi)	Port 1 (dBm/RBW)	Port 2 (dBm/RBW)	Port 3 (dBm/RBW)	Port 4 (dBm/RBW)	PD (dBm/RBW)	PD Limit (dBm/RBW)
802.11ax HEW20_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-
2412MHz	Pass	5.35	-2.37	-5.86	-4.88	-4.15	0.56	8.00
2437MHz	Pass	5.35	1.02	-3.84	-2.42	0.07	3.22	8.00
2462MHz	Pass	5.35	-3.02	-7.74	-4.22	-6.04	-0.90	8.00
802.11ax HEW40_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-
2422MHz	Pass	5.35	-11.91	-12.76	-9.95	-10.57	-6.81	8.00
2437MHz	Pass	5.35	-8.83	-9.09	-8.40	-6.96	-3.42	8.00
2452MHz	Pass	5.35	-9.04	-8.23	-7.91	-8.22	-3.99	8.00

DG = Directional Gain; RBW=3kHz;
PD = trace bin-by-bin of each transmits port summing can be performed maximum power density; **Port X** = Port Xpower density;

802.11ax HEW20_Nss1,(MCS0)_4TX PSD

2412MHz

31/07/2018

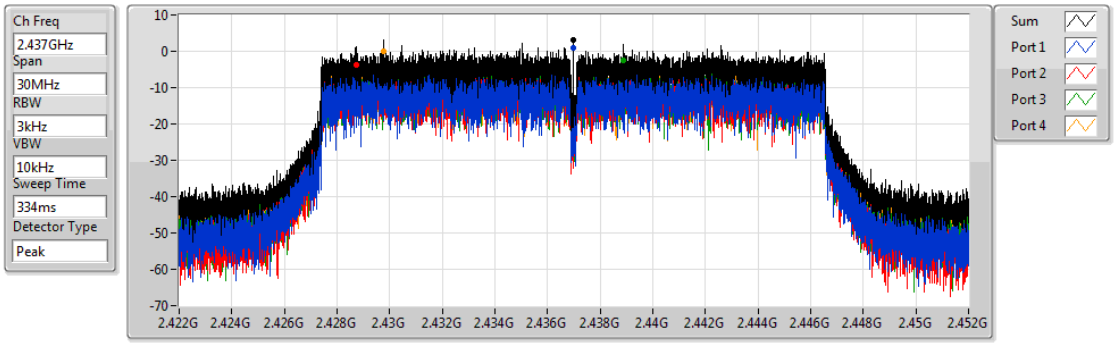


Sum	PD	Port 1	Port 2	Port 3	Port 4
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
0.56	0.56	-2.37	-5.86	-4.88	-4.15

802.11ax HEW20_Nss1,(MCS0)_4TX PSD

2437MHz

31/07/2018

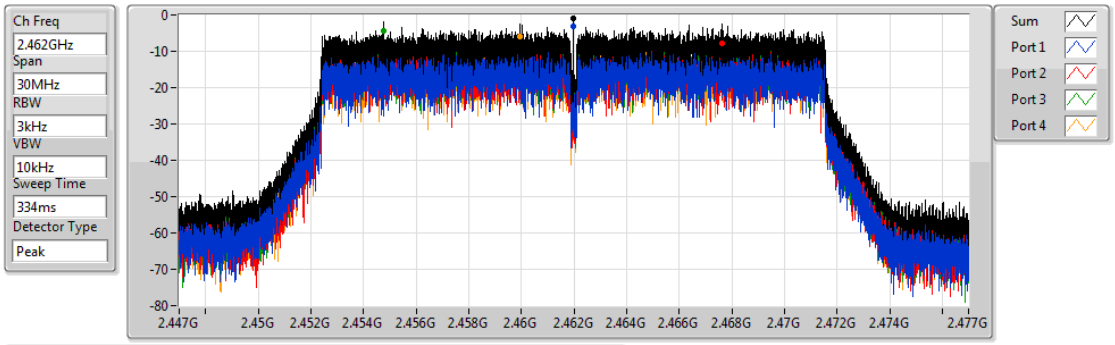


Sum	PD	Port 1	Port 2	Port 3	Port 4
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
3.22	3.22	1.02	-3.84	-2.42	0.07

802.11ax HEW20_Nss1,(MCS0)_4TX PSD

2462MHz

31/07/2018

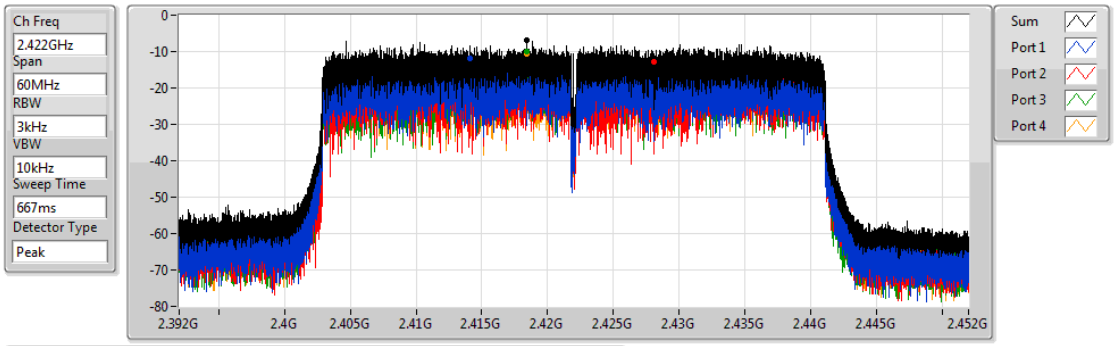


Sum	PD	Port 1	Port 2	Port 3	Port 4
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
-0.90	-0.90	-3.02	-7.74	-4.22	-6.04

802.11ax HEW40_Nss1,(MCS0)_4TX PSD

2422MHz

31/07/2018

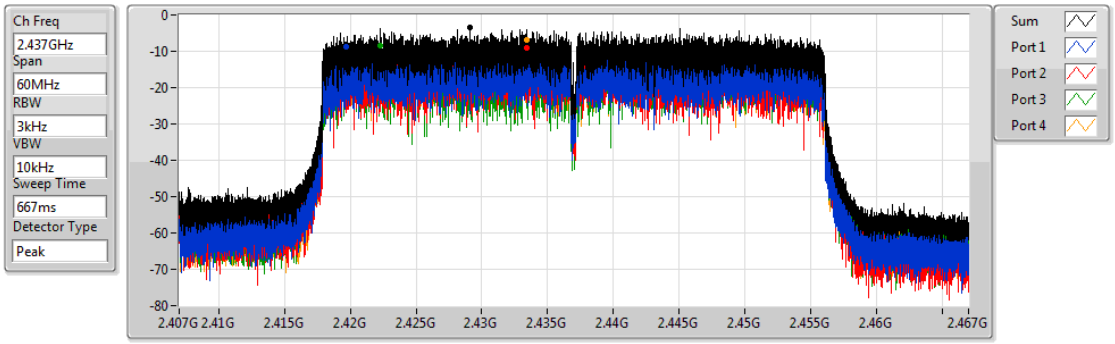


Sum	PD	Port 1	Port 2	Port 3	Port 4
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
-6.81	-6.81	-11.91	-12.76	-9.95	-10.57

802.11ax HEW40_Nss1,(MCS0)_4TX PSD

2437MHz

31/07/2018

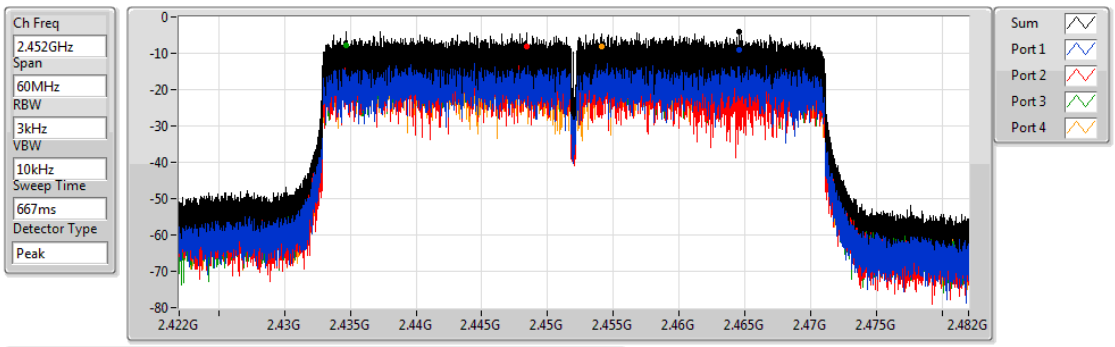


Sum	PD	Port 1	Port 2	Port 3	Port 4
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
-3.42	-3.42	-8.83	-9.09	-8.40	-6.96

802.11ax HEW40_Nss1,(MCS0)_4TX PSD

2452MHz

31/07/2018



Sum	PD	Port 1	Port 2	Port 3	Port 4
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
-3.99	-3.99	-9.04	-8.23	-7.91	-8.22

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	-	-	-	-	-	-	-	-	-	-	-	-	-
802.11ax HEW20_Nss1,(MCS0)_4TX	Pass	2.444422G	14.16	-15.84	2.307575G	-53.22	2.39992G	-26.94	2.48646G	-51.37	15.10753G	-44.57	2
802.11ax HEW40_Nss1,(MCS0)_4TX	Pass	2.434402G	7.63	-22.37	2.11848G	-52.95	2.39984G	-45.40	2.48398G	-36.29	24.554075G	-45.47	3

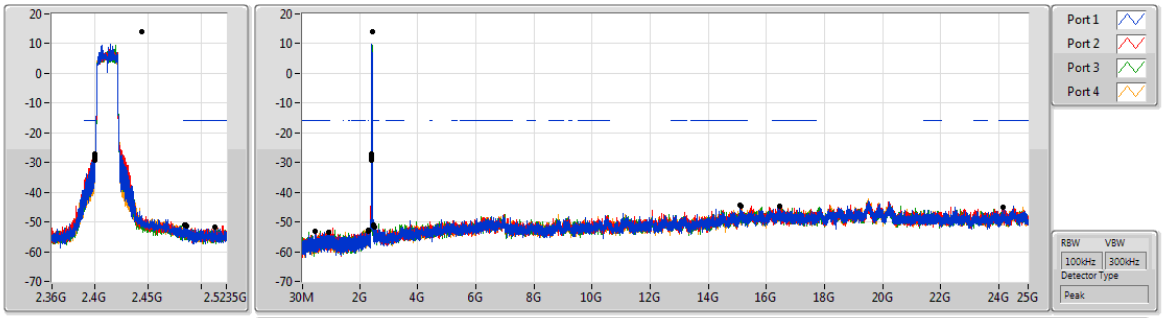
Result

Mode	Result	Ref (Hz)	Ref (dBm)	Limit (dBm)	Freq (Hz)	Level (dBm)	Freq (Hz)	Level (dBm)	Freq (Hz)	Level (dBm)	Freq (Hz)	Level (dBm)	Port
802.11ax HEW20_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-	-	-	-	-	-
2412MHz	Pass	2.444422G	14.16	-15.84	936.37M	-53.43	2.39968G	-28.03	2.48454G	-51.04	15.087864G	-44.47	1
2412MHz	Pass	2.444422G	14.16	-15.84	2.307575G	-53.22	2.39992G	-26.94	2.48646G	-51.37	15.10753G	-44.57	2
2412MHz	Pass	2.444422G	14.16	-15.84	457.555M	-53.14	2.39992G	-28.39	2.5123G	-51.64	16.453311G	-44.61	3
2412MHz	Pass	2.444422G	14.16	-15.84	2.309905G	-52.82	2.39976G	-29.12	2.48518G	-51.11	24.126226G	-44.94	4
2437MHz	Pass	2.444422G	14.16	-15.84	2.300585G	-52.97	2.3992G	-39.88	2.48678G	-46.46	24.491469G	-44.71	1
2437MHz	Pass	2.444422G	14.16	-15.84	459.885M	-52.65	2.3988G	-39.57	2.48478G	-45.36	24.530803G	-44.51	2
2437MHz	Pass	2.444422G	14.16	-15.84	2.14564G	-52.15	2.39952G	-40.97	2.48454G	-46.09	16.487026G	-42.81	3
2437MHz	Pass	2.444422G	14.16	-15.84	732.495M	-52.41	2.39592G	-42.15	2.48382G	-45.93	16.765172G	-44.39	4
2462MHz	Pass	2.444422G	14.16	-15.84	1.960405G	-53.02	2.39952G	-50.37	2.48358G	-38.35	16.442073G	-44.32	1
2462MHz	Pass	2.444422G	14.16	-15.84	2.30874G	-52.85	2.3992G	-49.73	2.48446G	-38.07	21.965673G	-44.67	2
2462MHz	Pass	2.444422G	14.16	-15.84	2.158455G	-52.06	2.39704G	-49.94	2.48366G	-37.81	16.399929G	-45.51	3
2462MHz	Pass	2.444422G	14.16	-15.84	2.10137G	-53.02	2.39696G	-51.45	2.48366G	-39.17	24.468993G	-45.02	4
802.11ax HEW40_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-	-	-	-	-	-
2422MHz	Pass	2.434402G	7.63	-22.37	2.16199G	-52.95	2.39888G	-43.06	2.48494G	-50.83	17.542668G	-44.87	1
2422MHz	Pass	2.434402G	7.63	-22.37	2.30855G	-51.88	2.39616G	-43.30	2.48686G	-51.75	24.16424G	-44.09	2
2422MHz	Pass	2.434402G	7.63	-22.37	2.044055G	-52.99	2.39712G	-41.86	2.54446G	-51.90	16.359143G	-44.36	3
2422MHz	Pass	2.434402G	7.63	-22.37	501.74M	-52.44	2.39904G	-45.13	2.48382G	-50.49	24.469938G	-44.80	4
2437MHz	Pass	2.434402G	7.63	-22.37	790.28M	-52.60	2.39856G	-39.93	2.48462G	-44.18	24.500788G	-44.67	1
2437MHz	Pass	2.434402G	7.63	-22.37	2.179165G	-52.11	2.39888G	-38.18	2.48542G	-46.33	24.509202G	-44.41	2
2437MHz	Pass	2.434402G	7.63	-22.37	2.133365G	-51.61	2.39824G	-37.66	2.48542G	-44.48	16.272202G	-44.65	3
2437MHz	Pass	2.434402G	7.63	-22.37	508.61M	-51.97	2.39952G	-40.03	2.48398G	-44.57	24.893427G	-44.88	4
2452MHz	Pass	2.434402G	7.63	-22.37	484.565M	-52.95	2.39968G	-47.67	2.48622G	-39.42	24.455915G	-44.19	1
2452MHz	Pass	2.434402G	7.63	-22.37	2.128785G	-52.90	2.39936G	-46.00	2.48398G	-36.77	24.526029G	-45.18	2
2452MHz	Pass	2.434402G	7.63	-22.37	2.11848G	-52.95	2.39984G	-45.40	2.48398G	-36.29	24.554075G	-45.47	3
2452MHz	Pass	2.434402G	7.63	-22.37	746.77M	-52.38	2.39984G	-46.19	2.48398G	-41.78	16.409625G	-44.40	4

802.11ax HEW20_Nss1,(MCS0)_4TX CSE NdB

2412MHz

26/12/2018

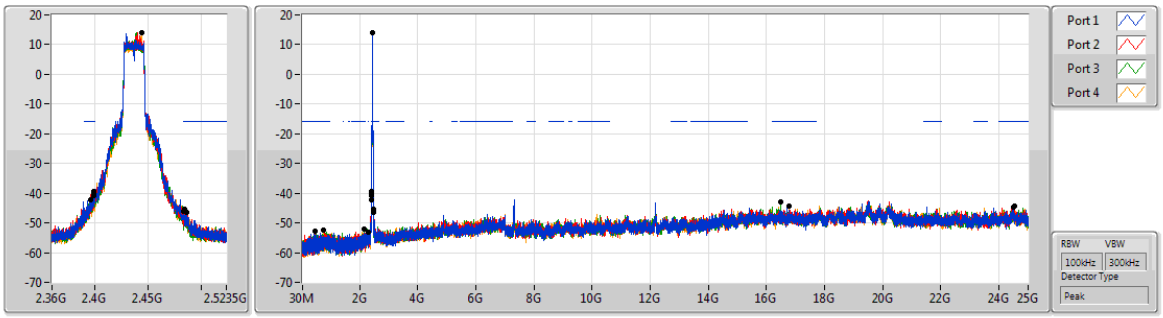


Ref(Hz)	Ref(dBm)	Limit(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Port
2.444422G	14.16	-15.84	936.37M	-53.43	2.39968G	-28.03	2.48454G	-51.04	15.087864G	-44.47	1
2.444422G	14.16	-15.84	2.307575G	-53.22	2.39992G	-26.94	2.48646G	-51.37	15.10753G	-44.57	2
2.444422G	14.16	-15.84	457.555M	-53.14	2.39992G	-28.39	2.5123G	-51.64	16.453311G	-44.61	3
2.444422G	14.16	-15.84	2.309905G	-52.82	2.39976G	-29.12	2.48518G	-51.11	24.126226G	-44.94	4

802.11ax HEW20_Nss1,(MCS0)_4TX CSE NdB

2437MHz

26/12/2018

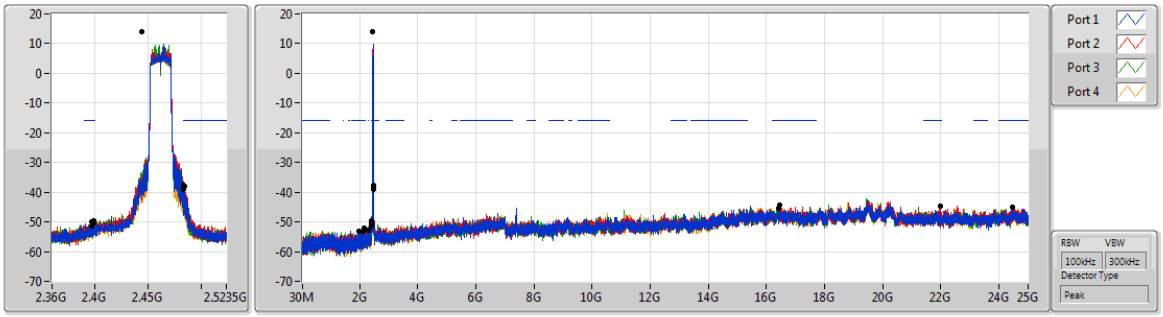


Ref(Hz)	Ref(dBm)	Limit(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Port
2.444422G	14.16	-15.84	2.300585G	-52.97	2.3992G	-39.88	2.48678G	-46.46	24.491469G	-44.71	1
2.444422G	14.16	-15.84	459.885M	-52.65	2.3988G	-39.57	2.48478G	-45.36	24.530803G	-44.51	2
2.444422G	14.16	-15.84	2.14564G	-52.15	2.39952G	-40.97	2.48454G	-46.09	16.487026G	-42.81	3
2.444422G	14.16	-15.84	732.495M	-52.41	2.39592G	-42.15	2.48382G	-45.93	16.765172G	-44.39	4

802.11ax HEW20_Nss1,(MCS0)_4TX CSE NdB

2462MHz

26/12/2018

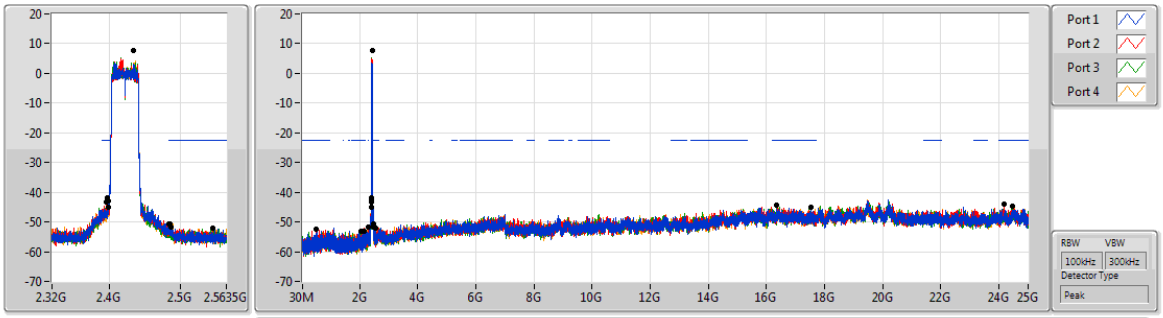


Ref(Hz)	Ref(dBm)	Limit(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Port
2.444422G	14.16	-15.84	1.960405G	-53.02	2.39952G	-50.37	2.48358G	-38.35	16.442073G	-44.32	1
2.444422G	14.16	-15.84	2.30874G	-52.85	2.3992G	-49.73	2.48446G	-38.07	21.965673G	-44.67	2
2.444422G	14.16	-15.84	2.158455G	-52.06	2.39704G	-49.94	2.48366G	-37.81	16.399929G	-45.51	3
2.444422G	14.16	-15.84	2.10137G	-53.02	2.39696G	-51.45	2.48366G	-39.17	24.468993G	-45.02	4

802.11ax HEW40_Nss1,(MCS0)_4TX CSE NdB

2422MHz

26/12/2018

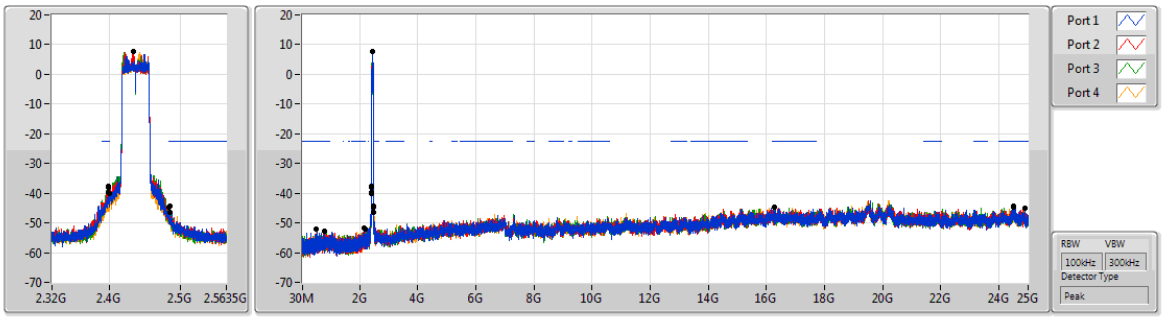


Ref(Hz)	Ref(dBm)	Limit(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Port
2.434402G	7.63	-22.37	2.16199G	-52.95	2.39888G	-43.06	2.48494G	-50.83	17.542668G	-44.87	1
2.434402G	7.63	-22.37	2.30855G	-51.88	2.39616G	-43.30	2.48686G	-51.75	24.16424G	-44.09	2
2.434402G	7.63	-22.37	2.044055G	-52.99	2.39712G	-41.86	2.54446G	-51.90	16.359143G	-44.36	3
2.434402G	7.63	-22.37	501.74M	-52.44	2.39904G	-45.13	2.48382G	-50.49	24.469938G	-44.80	4

802.11ax HEW40_Nss1,(MCS0)_4TX CSE NdB

2437MHz

26/12/2018

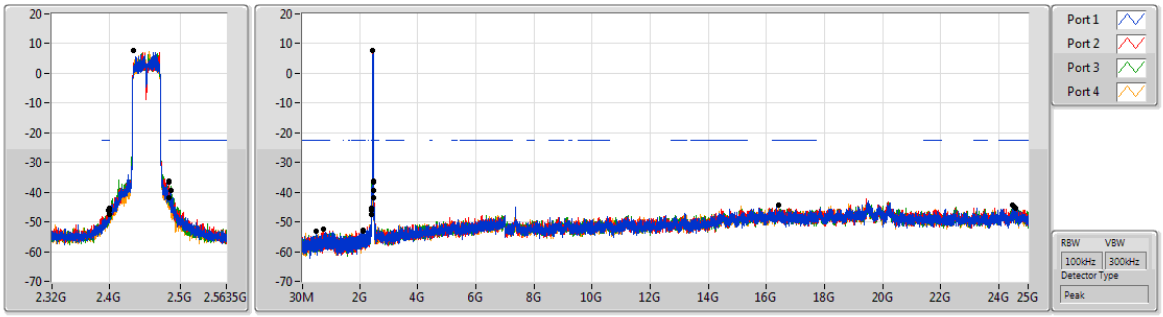


Ref(Hz)	Ref(dBm)	Limit(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Port
2.434402G	7.63	-22.37	790.28M	-52.60	2.39856G	-39.93	2.48462G	-44.18	24.500788G	-44.67	1
2.434402G	7.63	-22.37	2.179165G	-52.11	2.39888G	-38.18	2.48542G	-46.33	24.509202G	-44.41	2
2.434402G	7.63	-22.37	2.133365G	-51.61	2.39824G	-37.66	2.48542G	-44.48	16.272202G	-44.65	3
2.434402G	7.63	-22.37	508.61M	-51.97	2.39952G	-40.03	2.48398G	-44.57	24.893427G	-44.88	4

802.11ax HEW40_Nss1,(MCS0)_4TX CSE NdB

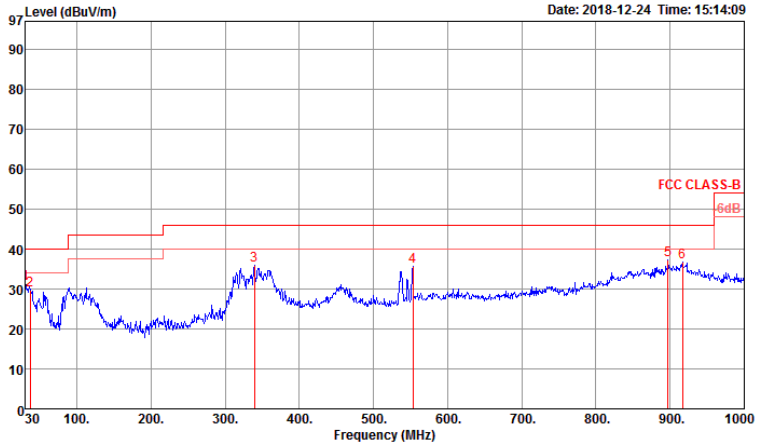
2452MHz

26/12/2018



Ref(Hz)	Ref(dBm)	Limit(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Port
2.434402G	7.63	-22.37	484.565M	-52.95	2.39968G	-47.67	2.48622G	-39.42	24.455915G	-44.19	1
2.434402G	7.63	-22.37	2.128785G	-52.90	2.39936G	-46.00	2.48398G	-36.77	24.526029G	-45.18	2
2.434402G	7.63	-22.37	2.11848G	-52.95	2.39984G	-45.40	2.48398G	-36.29	24.554075G	-45.47	3
2.434402G	7.63	-22.37	746.77M	-52.38	2.39984G	-46.19	2.48398G	-41.78	16.409625G	-44.40	4

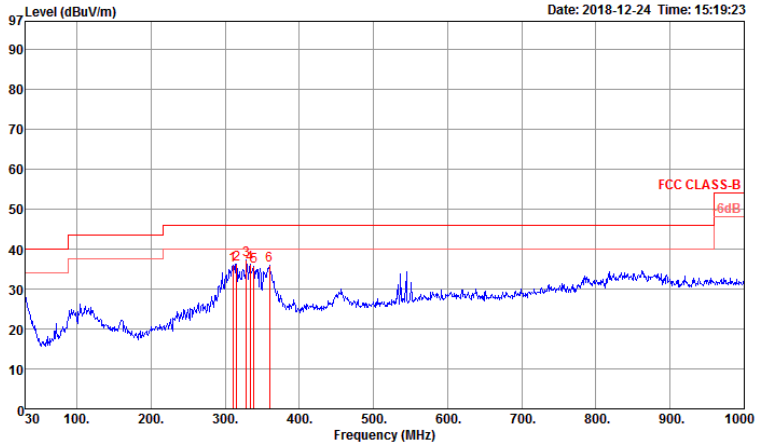
RSE below 1GHz Result			
Operating Mode	1	**Polarization**	Vertical
Operating Function	CTX		



	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	30.00	31.31	40.00	-8.69	35.85	0.75	26.00	31.29	300	360	Peak	VERTICAL
2	36.79	29.83	40.00	-10.17	38.51	0.79	22.02	31.49	300	360	Peak	VERTICAL
3	339.43	36.07	46.00	-9.93	44.93	2.31	20.70	31.87	300	360	Peak	VERTICAL
4	552.83	35.58	46.00	-10.42	40.07	2.87	24.80	32.16	300	360	Peak	VERTICAL
5	897.18	37.21	46.00	-8.79	38.60	3.61	27.15	32.15	300	360	Peak	VERTICAL
6	916.58	36.86	46.00	-9.14	38.25	3.67	27.10	32.16	300	360	Peak	VERTICAL

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

RSE below 1GHz Result			
Operating Mode	1	**Polarization**	Horizontal
Operating Function	CTX		



	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	310.33	35.93	46.00	-10.07	45.82	2.16	19.80	31.85	100	0	Peak	HORIZONTAL
2	315.18	36.27	46.00	-9.73	46.04	2.19	19.90	31.86	100	0	Peak	HORIZONTAL
3	328.76	37.38	46.00	-8.62	46.80	2.26	20.18	31.86	100	0	Peak	HORIZONTAL
4	333.61	36.13	46.00	-9.87	45.36	2.28	20.35	31.86	100	0	Peak	HORIZONTAL
5	338.46	35.57	46.00	-10.43	44.52	2.30	20.62	31.87	100	0	Peak	HORIZONTAL
6	359.80	35.88	46.00	-10.12	44.03	2.38	21.35	31.88	100	0	Peak	HORIZONTAL

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.)

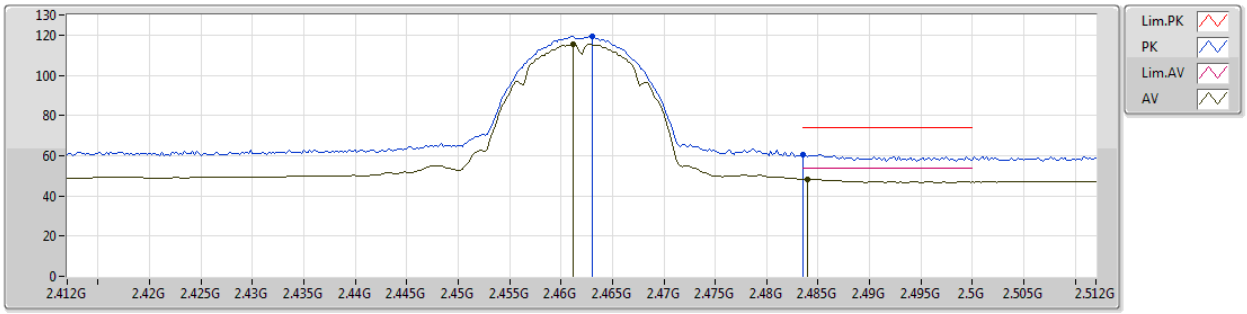
For 802.11b 2462 MHz:
Summary

Mode	Result	Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comments
2.4-2.4835GHz	-	-	-	-	-	-	-	-	-	-	-	-
802.11b_Nss1,(1Mbps)_4TX	Pass	AV	2.484G	48.38	54.00	-5.62	31.73	3	Vertical	286	1.45	-

802.11b_Nss1,(1Mbps)_4TX

2462MHz_TX

21/12/2018



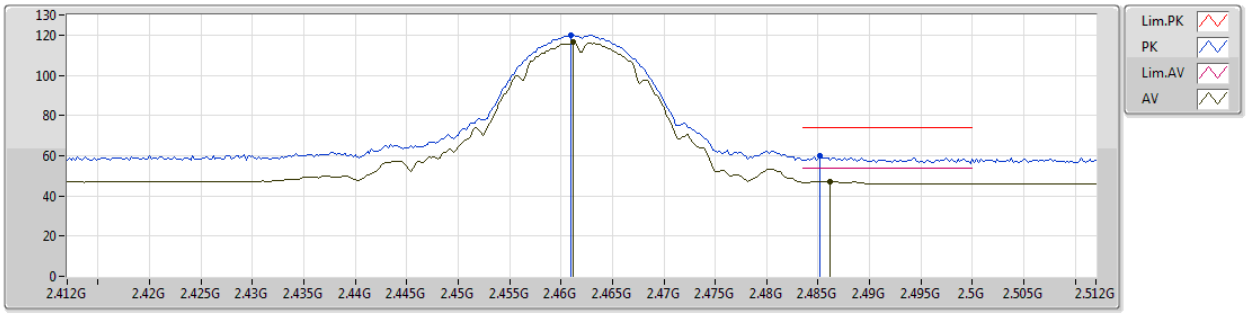
EUT Y_4TX
Setting 96
02-L-3
FSU(100050)

Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comments
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)	
PK	2.463G	119.31	Inf	-Inf	31.68	3	Vertical	286	1.45	-
AV	2.4612G	115.58	Inf	-Inf	31.68	3	Vertical	286	1.45	-
PK	2.483502G	60.37	74.00	-13.63	31.73	3	Vertical	286	1.45	-
AV	2.484G	48.38	54.00	-5.62	31.73	3	Vertical	286	1.45	-

802.11b_Nss1,(1Mbps)_4TX

2462MHz_TX

21/12/2018



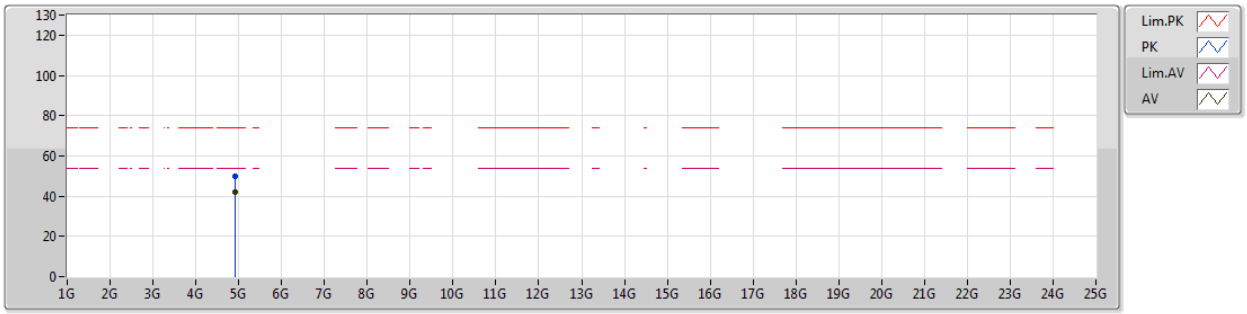
EUT Y_4TX
Setting 96
01-W-3
FSU

Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comments
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)	
PK	2.461G	120.13	Inf	-Inf	30.93	3	Horizontal	349	1.49	-
AV	2.4612G	116.45	Inf	-Inf	30.93	3	Horizontal	349	1.49	-
PK	2.4852G	60.22	74.00	-13.78	30.97	3	Horizontal	349	1.49	-
AV	2.4862G	47.32	54.00	-6.68	30.97	3	Horizontal	349	1.49	-

802.11b_Nss1,(1Mbps)_4TX

2462MHz_TX

21/12/2018



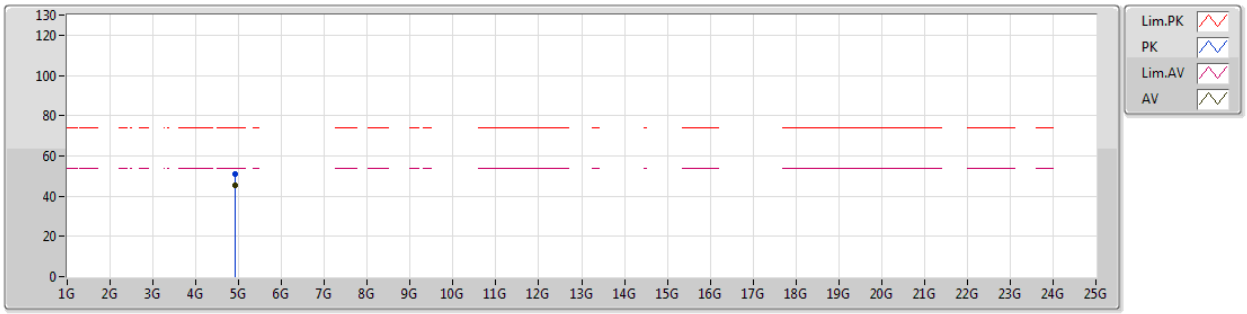
EUT Y_4TX
Setting 96
01-W-3
FSU

Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comments
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)	
PK	4.92389G	49.60	74.00	-24.40	4.08	3	Vertical	352	1.13	-
AV	4.92395G	42.21	54.00	-11.79	4.08	3	Vertical	352	1.13	-

802.11b_Nss1,(1Mbps)_4TX

2462MHz_TX

21/12/2018



EUT Y_4TX
Setting 96
01-W-3
FSU

Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comments
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)	
PK	4.92402G	51.11	74.00	-22.89	4.08	3	Horizontal	124	1.65	-
AV	4.92398G	45.55	54.00	-8.45	4.08	3	Horizontal	124	1.65	-

For 802.11ax:

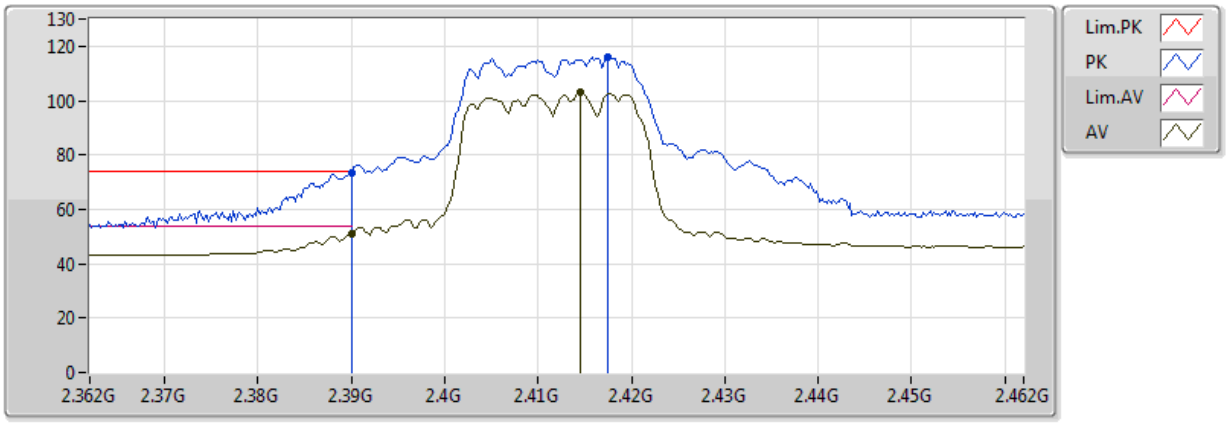
Summary

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 HEW20_Nss1,(MCS0)_4TX	Pass	AV	2.389998G	53.95	54.00	-0.05	30.97	3	Horizontal	93	1.91	-

802.11ax HEW20_Nss1,(MCS0)_4TX

2412MHz_TX

27/07/2018



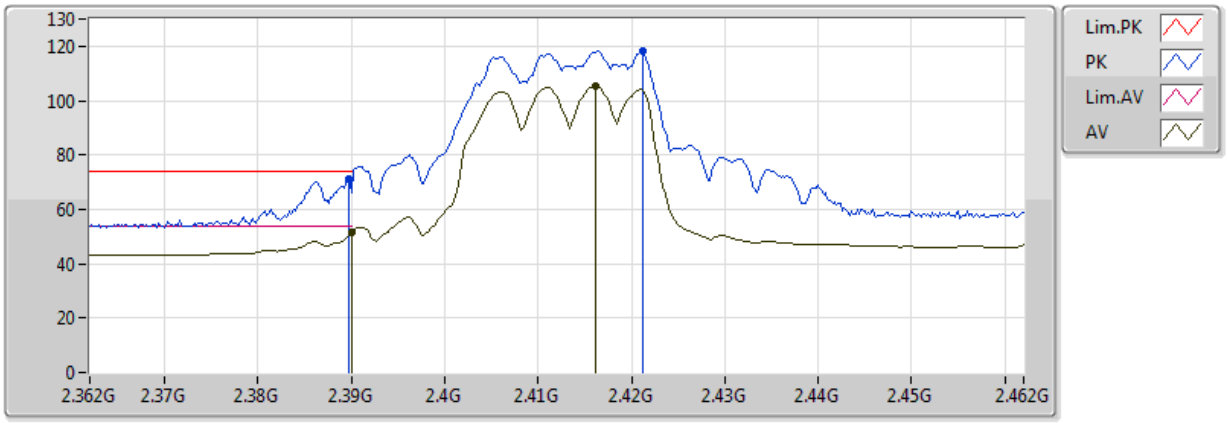
EUT Y_4TX
Setting 79
01-L-3
FSP

Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comments
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)	
PK	2.389998G	73.64	74.00	-0.36	30.97	3	Vertical	78	1.98	-
AV	2.389998G	50.85	54.00	-3.15	30.97	3	Vertical	78	1.98	-
PK	2.4174G	116.00	Inf	-Inf	30.98	3	Vertical	78	1.98	-
AV	2.4146G	102.90	Inf	-Inf	30.97	3	Vertical	78	1.98	-

802.11ax HEW20_Nss1,(MCS0)_4TX

2412MHz_TX

27/07/2018



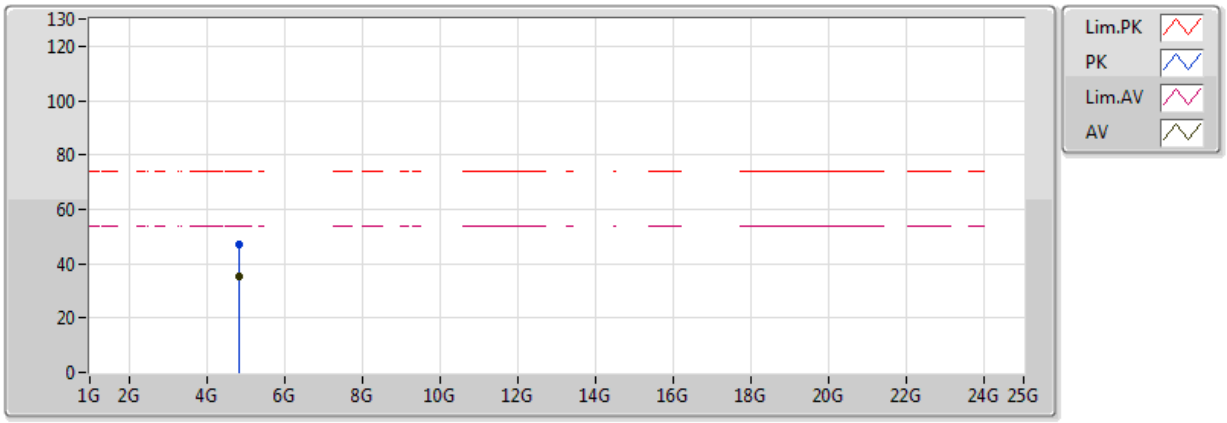
EUT Y_4TX
Setting 79
01-L-3
FSP

Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comments
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)	
PK	2.3898G	70.93	74.00	-3.07	30.97	3	Horizontal	199	1.51	-
AV	2.389998G	51.29	54.00	-2.71	30.97	3	Horizontal	199	1.51	-
PK	2.4212G	117.98	Inf	-Inf	30.99	3	Horizontal	199	1.51	-
AV	2.4162G	105.17	Inf	-Inf	30.98	3	Horizontal	199	1.51	-

802.11ax HEW20_Nss1,(MCS0)_4TX

2412MHz_TX

27/07/2018



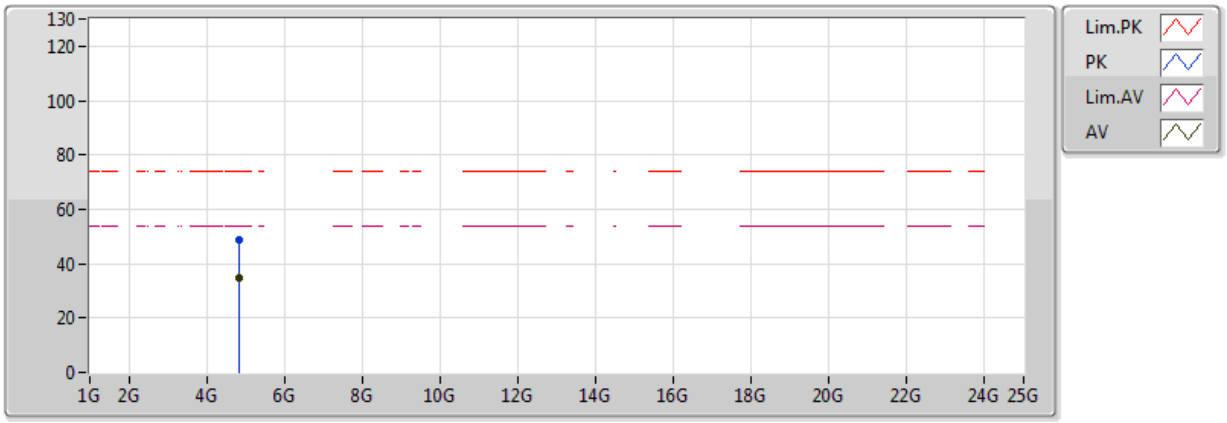
EUT Y_4TX
Setting 79
01-L-3
FSP

Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comments
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)	
PK	4.82422G	47.13	74.00	-26.87	4.00	3	Vertical	170	1.65	-
AV	4.82395G	35.50	54.00	-18.50	4.00	3	Vertical	170	1.65	-

802.11ax HEW20_Nss1,(MCS0)_4TX

2412MHz_TX

27/07/2018

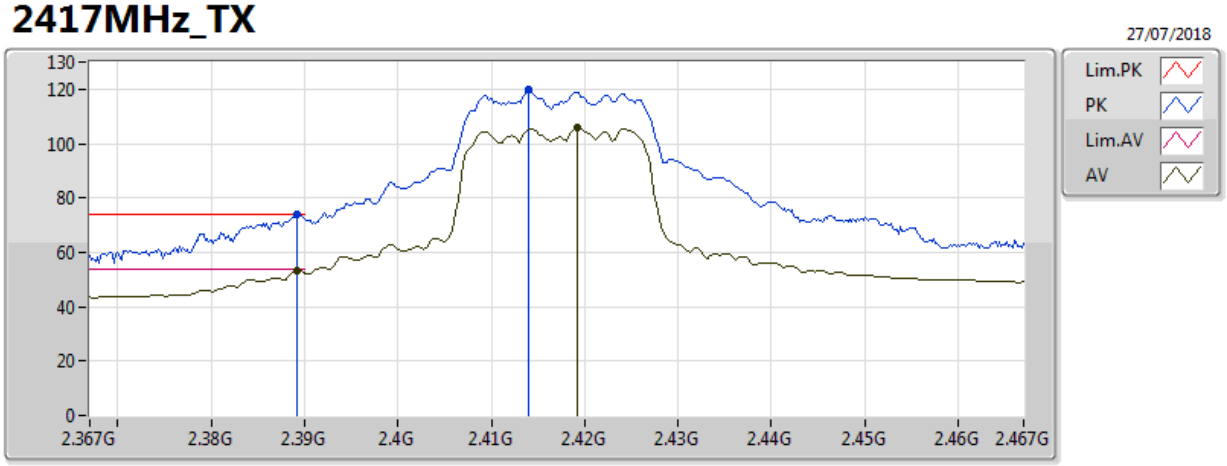


EUT Y_4TX
Setting 79
01-L-3
FSP

Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comments
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)	
PK	4.82395G	48.84	74.00	-25.16	4.00	3	Horizontal	181	1.89	-
AV	4.82394G	34.64	54.00	-19.36	4.00	3	Horizontal	181	1.89	-

802.11ax HEW20_Nss1,(MCS0)_4TX

2417MHz_TX



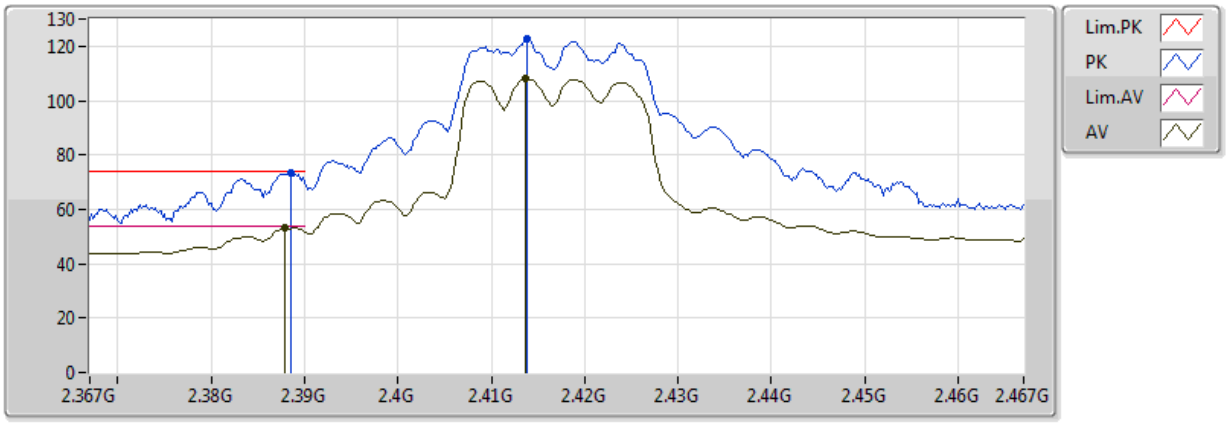
EUT Y_4TX
Setting 90
01-L-3
FSP

Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comments
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)	
PK	2.3892G	73.86	74.00	-0.14	30.97	3	Vertical	51	1.68	-
AV	2.3892G	53.24	54.00	-0.76	30.97	3	Vertical	51	1.68	-
PK	2.414G	119.80	Inf	-Inf	30.97	3	Vertical	51	1.68	-
AV	2.4192G	105.73	Inf	-Inf	30.99	3	Vertical	51	1.68	-

802.11ax HEW20_Nss1,(MCS0)_4TX

2417MHz_TX

27/07/2018



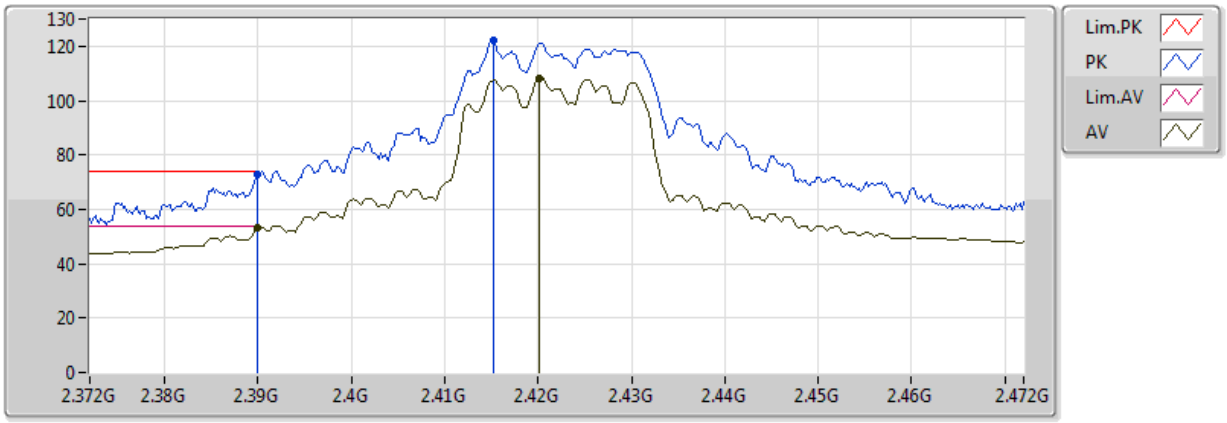
EUT Y_4TX
Setting 90
01-L-3
FSP

Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comments
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)	
PK	2.3886G	73.14	74.00	-0.86	30.97	3	Horizontal	168	1.94	-
AV	2.3878G	53.05	54.00	-0.95	30.97	3	Horizontal	168	1.94	-
PK	2.4138G	122.99	Inf	-Inf	30.97	3	Horizontal	168	1.94	-
AV	2.4136G	108.01	Inf	-Inf	30.97	3	Horizontal	168	1.94	-

802.11ax HEW20_Nss1,(MCS0)_4TX

2422MHz_TX

27/07/2018



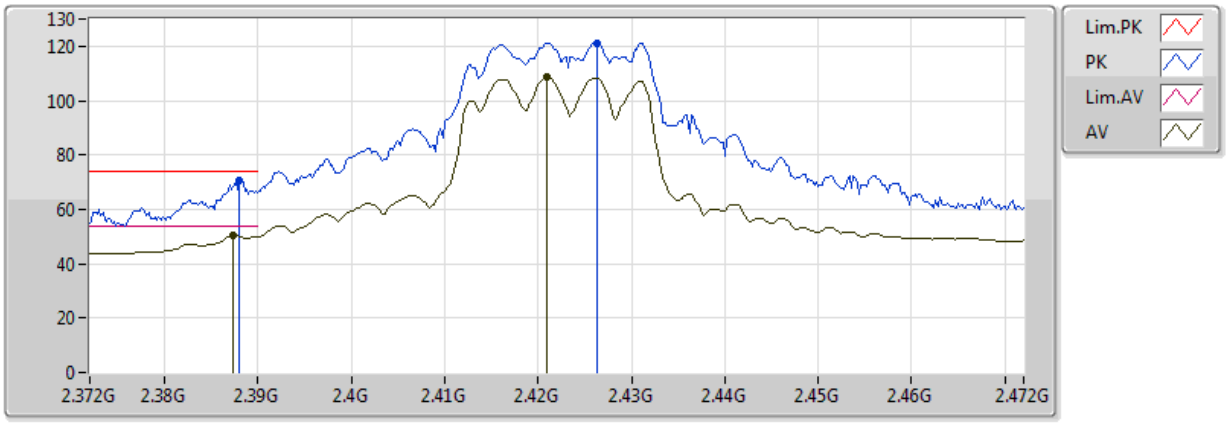
EUT Y_4TX
Setting 92
01-L-3
FSP

Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comments
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)	
PK	2.389998G	72.99	74.00	-1.01	30.97	3	Vertical	291	2.17	-
AV	2.389998G	53.16	54.00	-0.84	30.97	3	Vertical	291	2.17	-
PK	2.4152G	122.13	Inf	-Inf	30.97	3	Vertical	291	2.17	-
AV	2.4202G	108.29	Inf	-Inf	30.99	3	Vertical	291	2.17	-

802.11ax HEW20_Nss1,(MCS0)_4TX

2422MHz_TX

27/07/2018



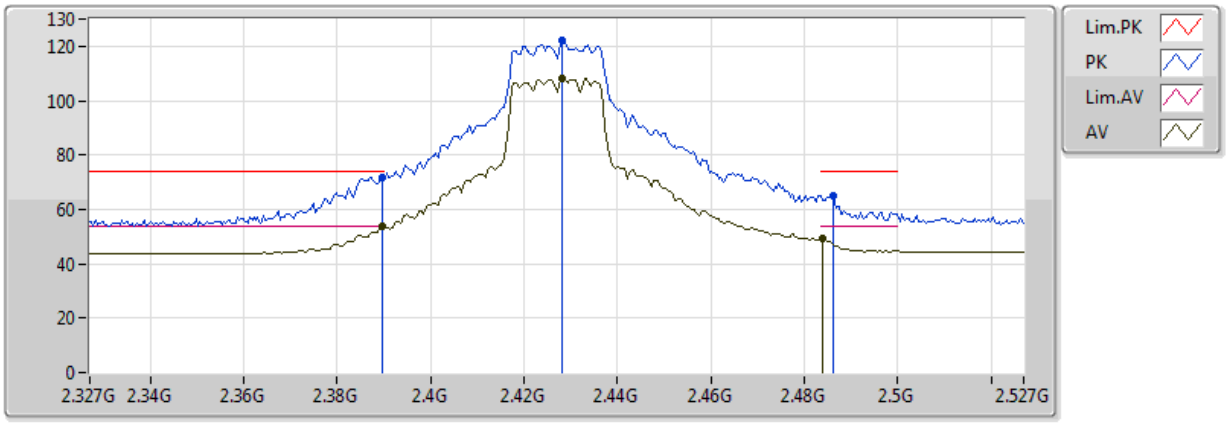
EUT Y_4TX
Setting 92
01-L-3
FSP

Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comments
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)	
PK	2.388G	70.40	74.00	-3.60	30.97	3	Horizontal	198	1.35	-
AV	2.3874G	50.40	54.00	-3.60	30.97	3	Horizontal	198	1.35	-
PK	2.4264G	121.24	Inf	-Inf	31.01	3	Horizontal	198	1.35	-
AV	2.421G	108.47	Inf	-Inf	30.99	3	Horizontal	198	1.35	-

802.11ax HEW20_Nss1,(MCS0)_4TX

2427MHz_TX

27/07/2018



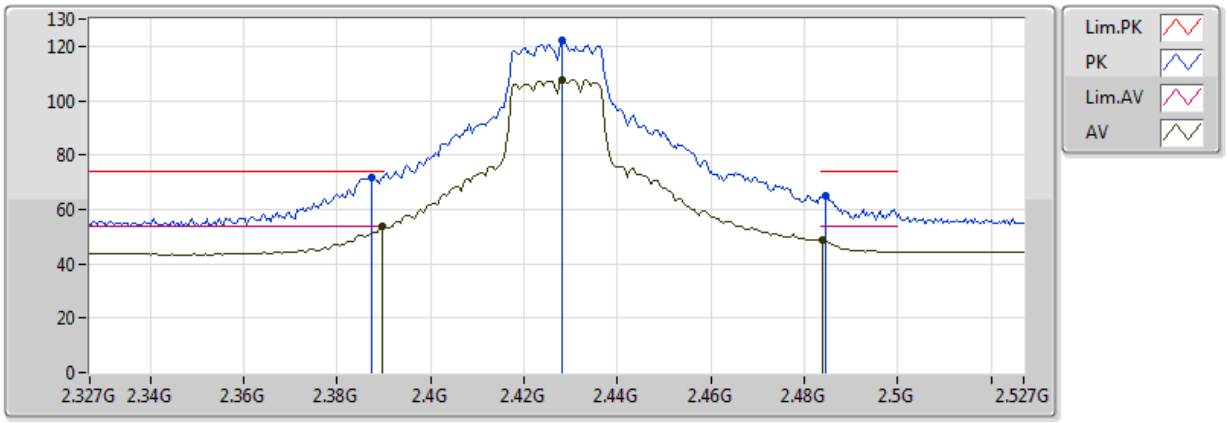
EUT Y_4TX
Setting 100
01-L-3
FSP

Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comments
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)	
PK	2.3898G	71.71	74.00	-2.29	30.97	3	Vertical	51	1.56	-
AV	2.3898G	53.90	54.00	-0.10	30.97	3	Vertical	51	1.56	-
PK	2.4282G	122.01	Inf	-Inf	31.01	3	Vertical	51	1.56	-
AV	2.4282G	108.05	Inf	-Inf	31.01	3	Vertical	51	1.56	-
PK	2.4862G	65.24	74.00	-8.76	31.18	3	Vertical	51	1.56	-
AV	2.4838G	49.07	54.00	-4.93	31.17	3	Vertical	51	1.56	-

802.11ax HEW20_Nss1,(MCS0)_4TX

2427MHz_TX

27/07/2018

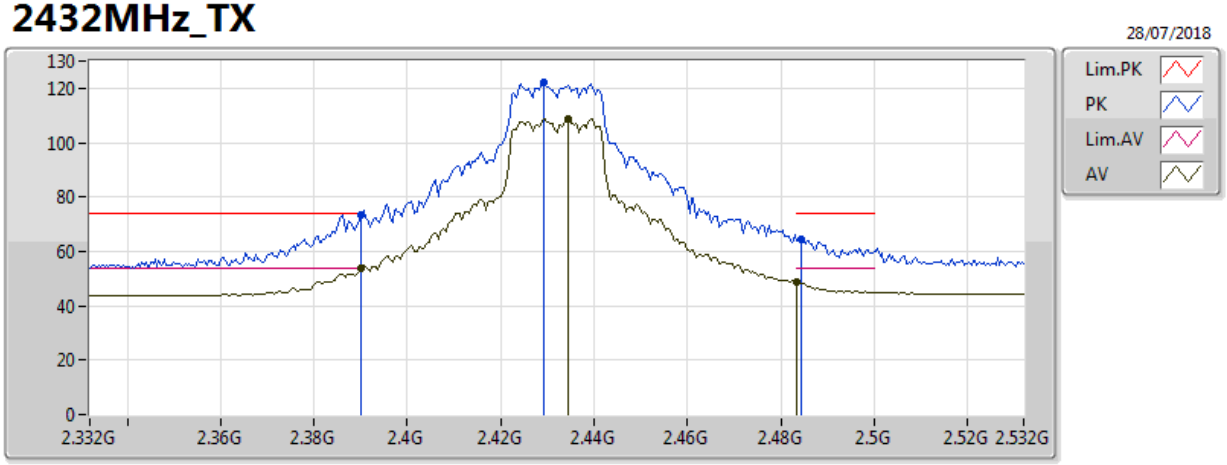


EUT Y_4TX
Setting 100
01-L-3
FSP

Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comments
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)	
PK	2.3874G	71.76	74.00	-2.24	30.97	3	Horizontal	51	1.56	-
AV	2.3898G	53.94	54.00	-0.06	30.97	3	Horizontal	51	1.56	-
PK	2.4282G	122.13	Inf	-Inf	31.01	3	Horizontal	51	1.56	-
AV	2.4282G	107.70	Inf	-Inf	31.01	3	Horizontal	51	1.56	-
PK	2.4846G	65.21	74.00	-8.79	31.17	3	Horizontal	51	1.56	-
AV	2.4838G	48.83	54.00	-5.17	31.17	3	Horizontal	51	1.56	-

802.11ax HEW20_Nss1,(MCS0)_4TX

2432MHz_TX

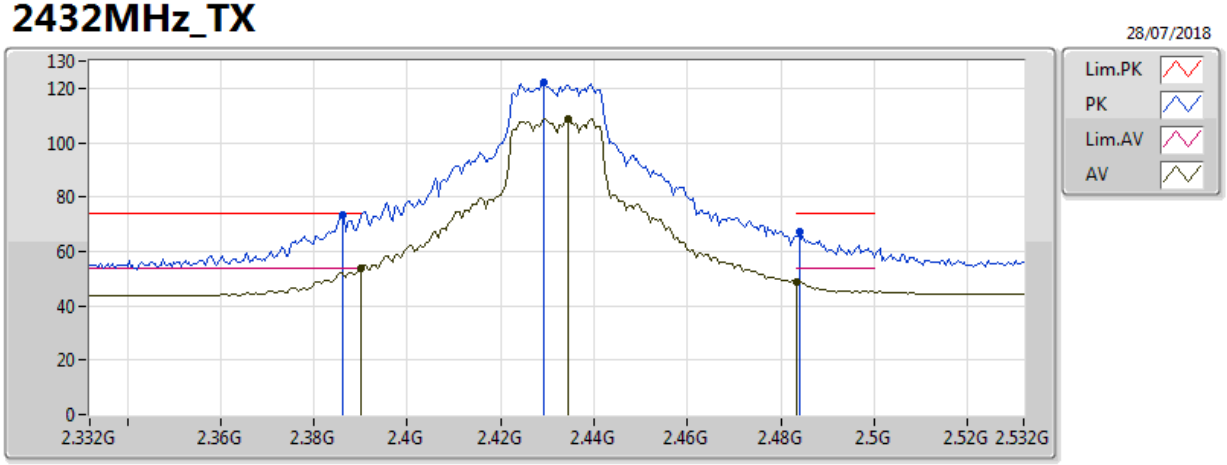


EUT Y_4TX
Setting 104
01-L-3
FSP

Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comments
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)	
PK	2.389998G	73.33	74.00	-0.67	30.97	3	Vertical	93	1.91	-
AV	2.389998G	53.57	54.00	-0.43	30.97	3	Vertical	93	1.91	-
PK	2.4292G	122.11	Inf	-Inf	31.01	3	Vertical	93	1.91	-
AV	2.4344G	108.80	Inf	-Inf	31.03	3	Vertical	93	1.91	-
PK	2.4844G	64.61	74.00	-9.39	31.17	3	Vertical	93	1.91	-
AV	2.483502G	48.64	54.00	-5.36	31.17	3	Vertical	93	1.91	-

802.11ax HEW20_Nss1,(MCS0)_4TX

2432MHz_TX

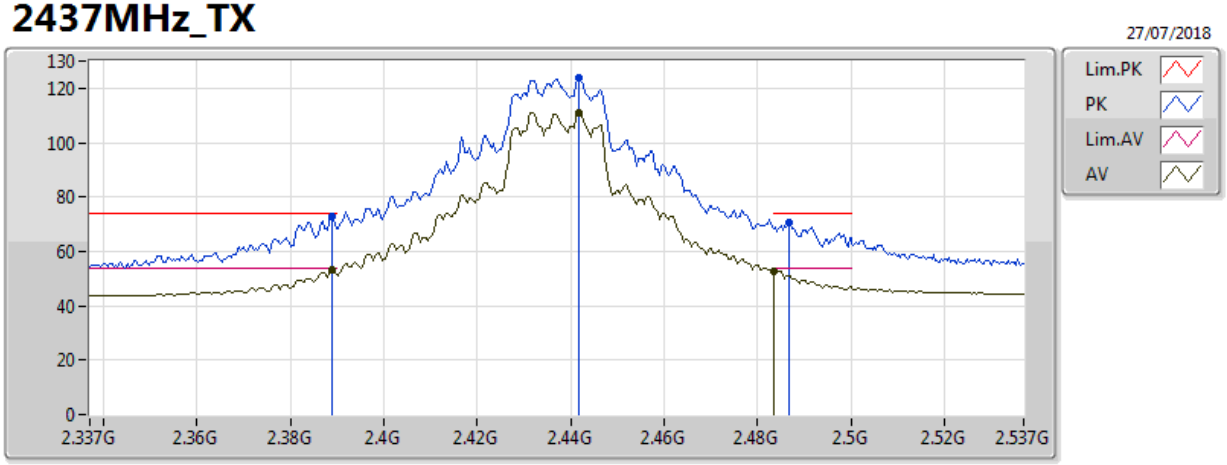


EUT Y_4TX
Setting 104
01-L-3
FSP

Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comments
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)	
PK	2.386G	73.28	74.00	-0.72	30.97	3	Horizontal	93	1.91	-
AV	2.389998G	53.95	54.00	-0.05	30.97	3	Horizontal	93	1.91	-
PK	2.4292G	122.18	Inf	-Inf	31.01	3	Horizontal	93	1.91	-
AV	2.4344G	108.85	Inf	-Inf	31.03	3	Horizontal	93	1.91	-
PK	2.484G	67.15	74.00	-6.85	31.17	3	Horizontal	93	1.91	-
AV	2.483502G	48.82	54.00	-5.18	31.17	3	Horizontal	93	1.91	-

802.11ax HEW20_Nss1,(MCS0)_4TX

2437MHz_TX



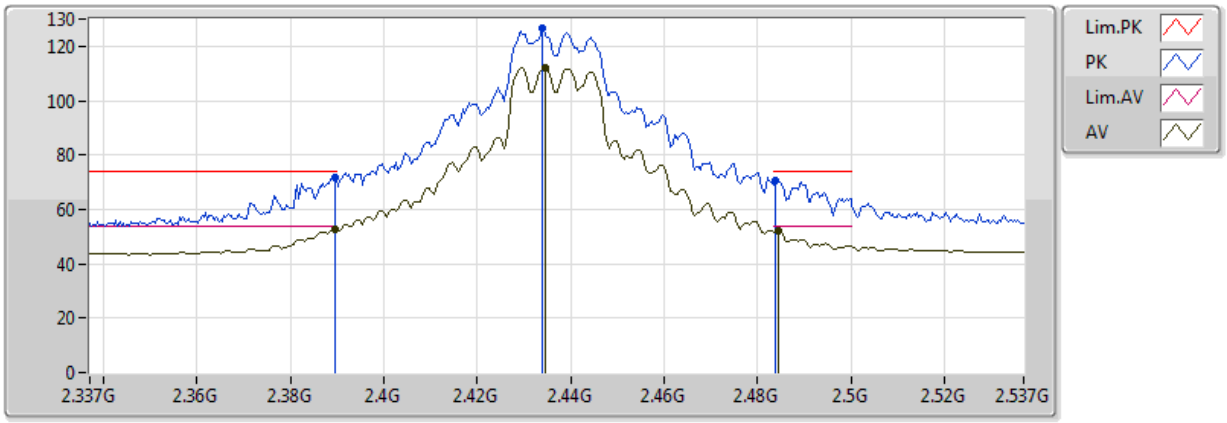
EUT Y_4TX
Setting 109
01-L-3
FSP

Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comments
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)	
PK	2.389G	72.99	74.00	-1.01	30.97	3	Vertical	93	2.09	-
AV	2.389G	53.31	54.00	-0.69	30.97	3	Vertical	93	2.09	-
PK	2.4418G	123.79	Inf	-Inf	31.05	3	Vertical	93	2.09	-
AV	2.4418G	111.05	Inf	-Inf	31.05	3	Vertical	93	2.09	-
PK	2.4866G	70.67	74.00	-3.33	31.18	3	Vertical	93	2.09	-
AV	2.483502G	52.76	54.00	-1.24	31.17	3	Vertical	93	2.09	-

802.11ax HEW20_Nss1,(MCS0)_4TX

2437MHz_TX

27/07/2018



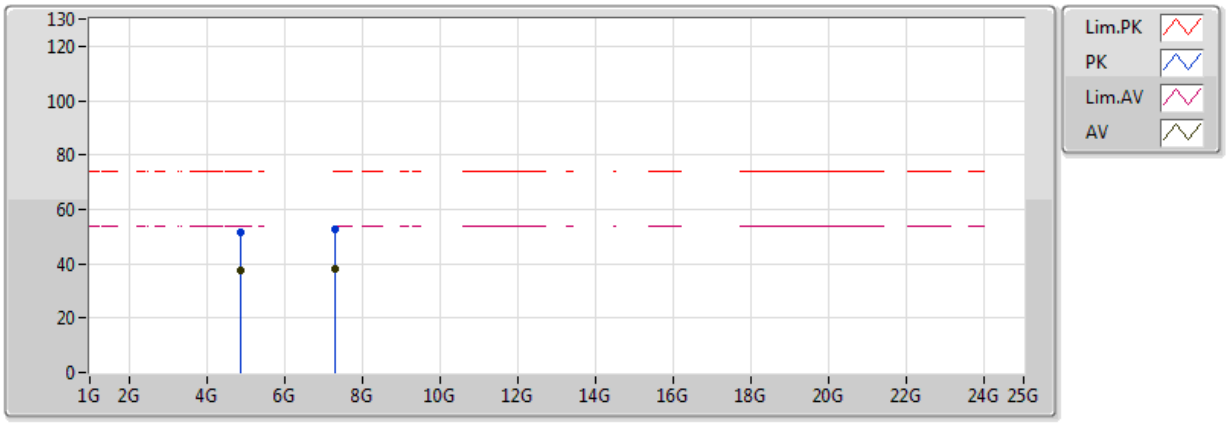
EUT Y_4TX
Setting 109
01-L-3
FSP

Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comments
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)	
PK	2.3894G	71.96	74.00	-2.04	30.97	3	Horizontal	184	1.71	-
AV	2.3894G	52.43	54.00	-1.57	30.97	3	Horizontal	184	1.71	-
PK	2.4338G	126.45	Inf	-Inf	31.03	3	Horizontal	184	1.71	-
AV	2.4346G	112.08	Inf	-Inf	31.03	3	Horizontal	184	1.71	-
PK	2.4838G	70.68	74.00	-3.32	31.17	3	Horizontal	184	1.71	-
AV	2.4846G	52.09	54.00	-1.91	31.17	3	Horizontal	184	1.71	-

802.11ax HEW20_Nss1,(MCS0)_4TX

2437MHz_TX

27/07/2018

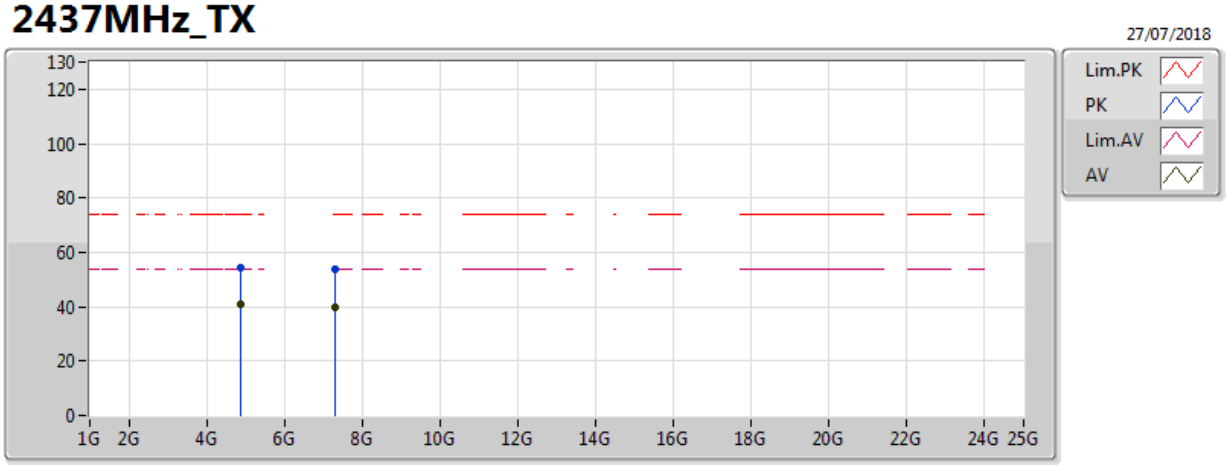


EUT Y_4TX
Setting 109
01-L-3
FSP

Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comments
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)	
PK	4.87521G	51.79	74.00	-22.21	4.21	3	Vertical	6	1.80	-
AV	4.87397G	37.34	54.00	-16.66	4.20	3	Vertical	6	1.80	-
PK	7.30979G	52.53	74.00	-21.47	9.75	3	Vertical	59	1.50	-
AV	7.31079G	38.16	54.00	-15.84	9.75	3	Vertical	59	1.50	-

802.11ax HEW20_Nss1,(MCS0)_4TX

2437MHz_TX



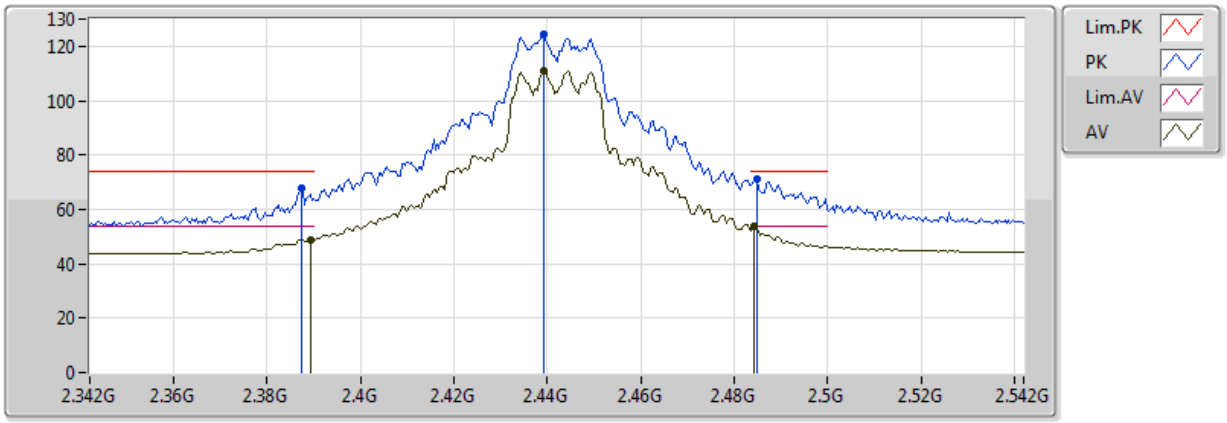
EUT Y_4TX
Setting 109
01-L-3
FSP

Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comments
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)	
PK	4.87395G	54.56	74.00	-19.44	4.20	3	Horizontal	82	1.50	-
AV	4.87386G	41.09	54.00	-12.91	4.20	3	Horizontal	82	1.50	-
PK	7.31125G	53.63	74.00	-20.37	9.75	3	Horizontal	248	1.92	-
AV	7.31089G	39.84	54.00	-14.16	9.75	3	Horizontal	248	1.92	-

802.11ax HEW20_Nss1,(MCS0)_4TX

2442MHz_TX

27/07/2018



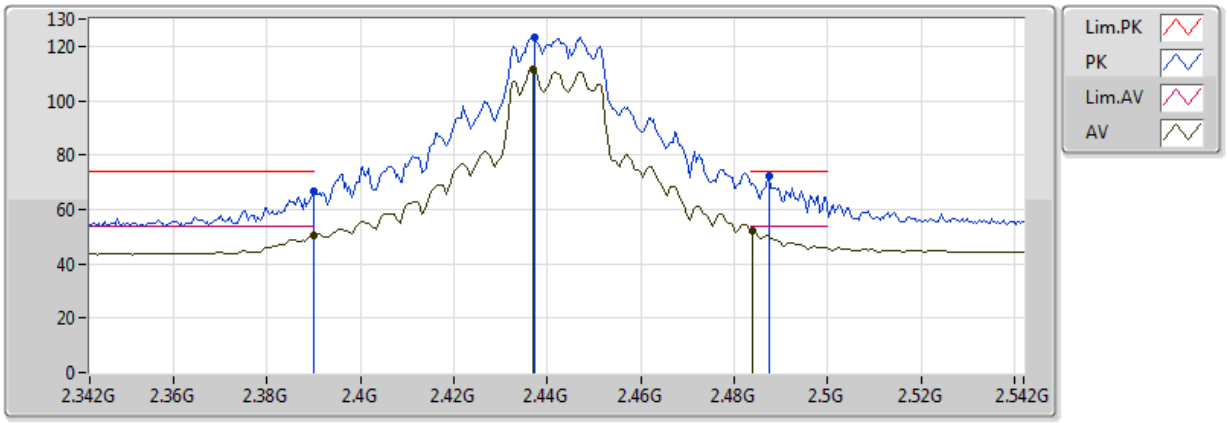
EUT Y_4TX
Setting 99
01-L-3
FSP

Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comments
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)	
PK	2.3872G	67.75	74.00	-6.25	30.97	3	Vertical	94	2.09	-
AV	2.3892G	48.95	54.00	-5.05	30.97	3	Vertical	94	2.09	-
PK	2.4392G	124.21	Inf	-Inf	31.04	3	Vertical	94	2.09	-
AV	2.4392G	110.93	Inf	-Inf	31.04	3	Vertical	94	2.09	-
PK	2.4848G	70.99	74.00	-3.01	31.17	3	Vertical	94	2.09	-
AV	2.4844G	53.55	54.00	-0.45	31.17	3	Vertical	94	2.09	-

802.11ax HEW20_Nss1,(MCS0)_4TX

2442MHz_TX

27/07/2018



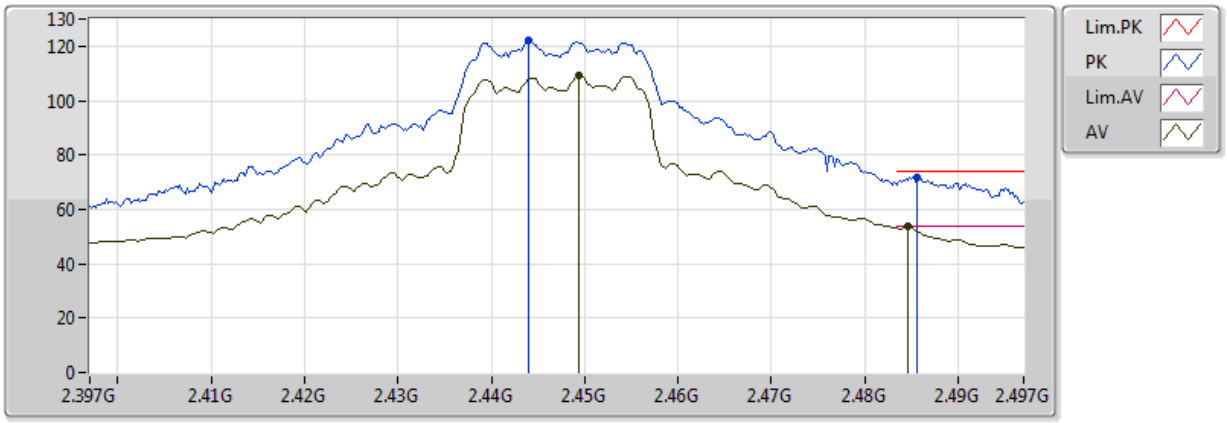
EUT Y_4TX
Setting 105
01-L-3
FSP

Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comments
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)	
PK	2.389998G	66.66	74.00	-7.34	30.97	3	Horizontal	182	1.73	-
AV	2.389998G	50.52	54.00	-3.48	30.97	3	Horizontal	182	1.73	-
PK	2.4372G	123.10	Inf	-Inf	31.04	3	Horizontal	182	1.73	-
AV	2.4368G	111.62	Inf	-Inf	31.04	3	Horizontal	182	1.73	-
PK	2.4876G	72.31	74.00	-1.69	31.19	3	Horizontal	182	1.73	-
AV	2.484G	52.36	54.00	-1.64	31.17	3	Horizontal	182	1.73	-

802.11ax HEW20_Nss1,(MCS0)_4TX

2447MHz_TX

27/07/2018



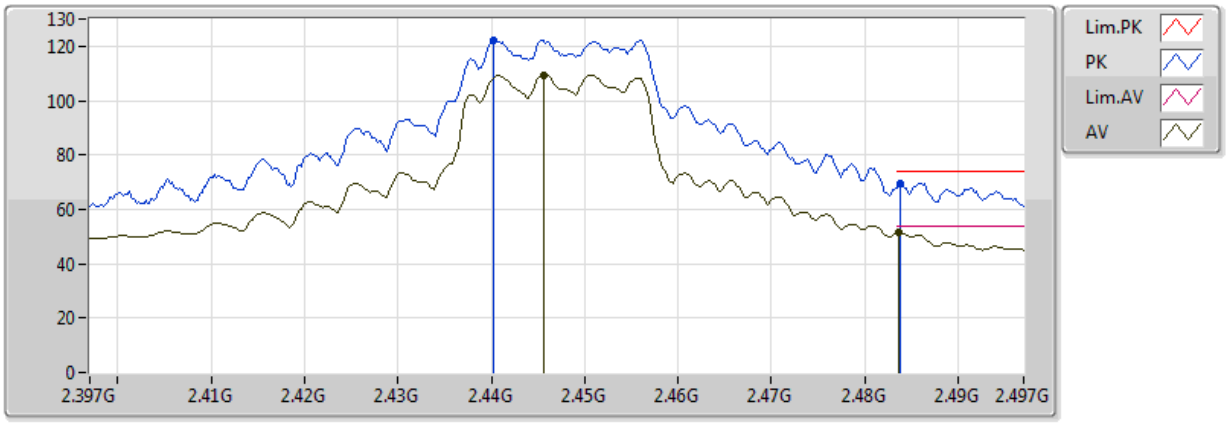
EUT Y_4TX
Setting 99
01-L-3
FSP

Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comments
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)	
PK	2.444G	122.22	Inf	-Inf	31.06	3	Vertical	44	1.78	-
AV	2.4494G	109.00	Inf	-Inf	31.07	3	Vertical	44	1.78	-
PK	2.4856G	71.83	74.00	-2.17	31.18	3	Vertical	44	1.78	-
AV	2.4846G	53.52	54.00	-0.48	31.18	3	Vertical	44	1.78	-

802.11ax HEW20_Nss1,(MCS0)_4TX

2447MHz_TX

27/07/2018



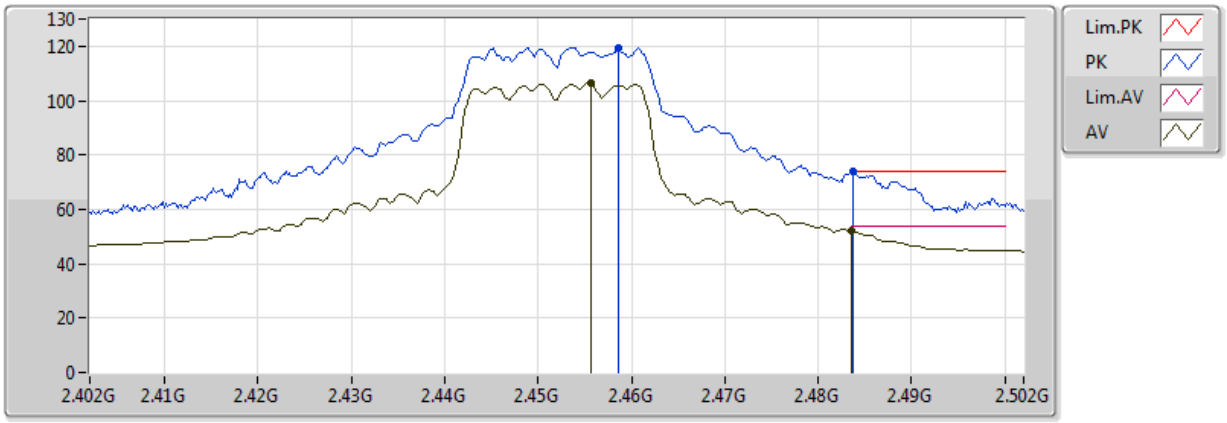
EUT Y_4TX
Setting 99
01-L-3
FSP

Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comments
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)	
PK	2.4402G	122.06	Inf	-Inf	31.05	3	Horizontal	192	1.66	-
AV	2.4456G	109.38	Inf	-Inf	31.06	3	Horizontal	192	1.66	-
PK	2.4838G	69.50	74.00	-4.50	31.17	3	Horizontal	192	1.66	-
AV	2.4836G	51.28	54.00	-2.72	31.17	3	Horizontal	192	1.66	-

802.11ax HEW20_Nss1,(MCS0)_4TX

2452MHz_TX

27/07/2018



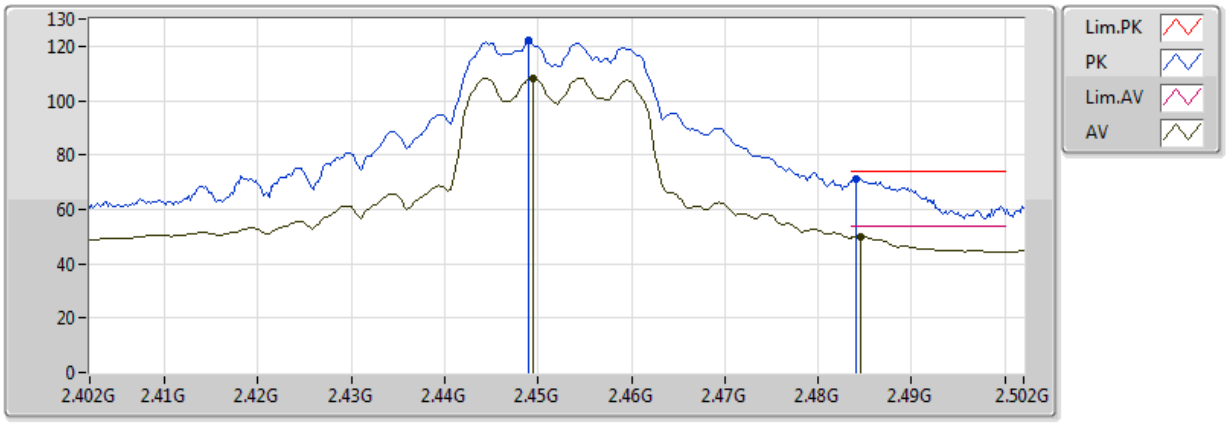
EUT Y_4TX
Setting 92
01-L-3
FSP

Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comments
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)	
PK	2.4586G	119.52	Inf	-Inf	31.10	3	Vertical	48	1.81	-
AV	2.4556G	106.41	Inf	-Inf	31.09	3	Vertical	48	1.81	-
PK	2.4838G	73.85	74.00	-0.15	31.17	3	Vertical	48	1.81	-
AV	2.483502G	51.96	54.00	-2.04	31.17	3	Vertical	48	1.81	-

802.11ax HEW20_Nss1,(MCS0)_4TX

2452MHz_TX

27/07/2018



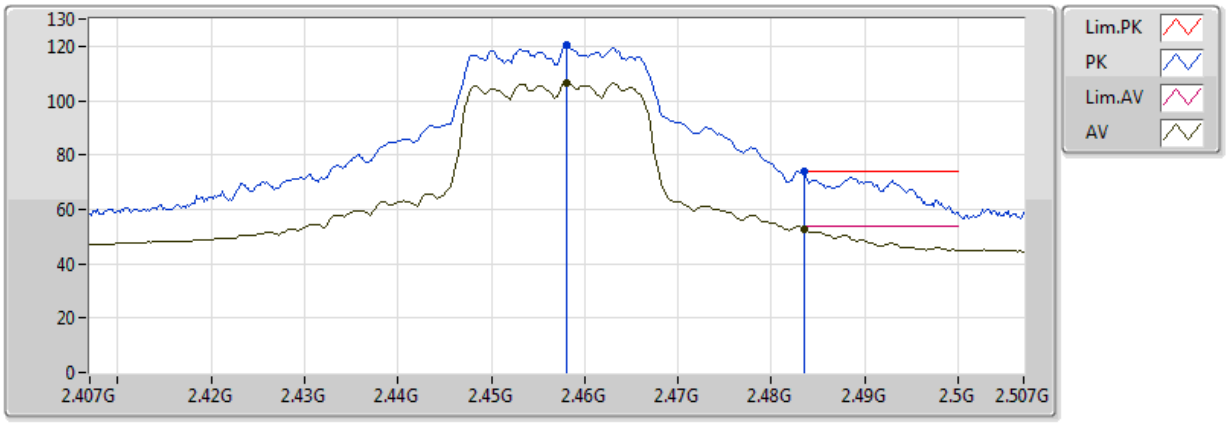
EUT Y_4TX
Setting 92
01-L-3
FSP

Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comments
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)	
PK	2.449G	122.34	Inf	-Inf	31.07	3	Horizontal	187	1.64	-
AV	2.4494G	108.41	Inf	-Inf	31.07	3	Horizontal	187	1.64	-
PK	2.484G	71.27	74.00	-2.73	31.17	3	Horizontal	187	1.64	-
AV	2.4846G	50.11	54.00	-3.89	31.17	3	Horizontal	187	1.64	-

802.11ax HEW20_Nss1,(MCS0)_4TX

2457MHz_TX

27/07/2018



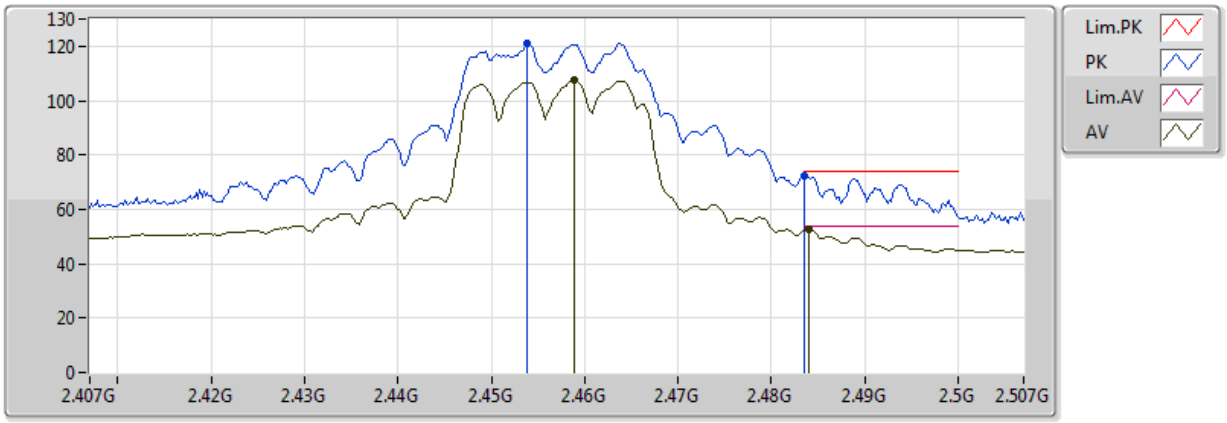
EUT Y_4TX
Setting 90
01-L-3
FSP

Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comments
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)	
PK	2.458G	120.47	Inf	-Inf	31.10	3	Vertical	45	1.49	-
AV	2.458G	106.56	Inf	-Inf	31.10	3	Vertical	45	1.49	-
PK	2.483502G	73.82	74.00	-0.18	31.17	3	Vertical	45	1.49	-
AV	2.483502G	52.86	54.00	-1.14	31.17	3	Vertical	45	1.49	-

802.11ax HEW20_Nss1,(MCS0)_4TX

2457MHz_TX

27/07/2018



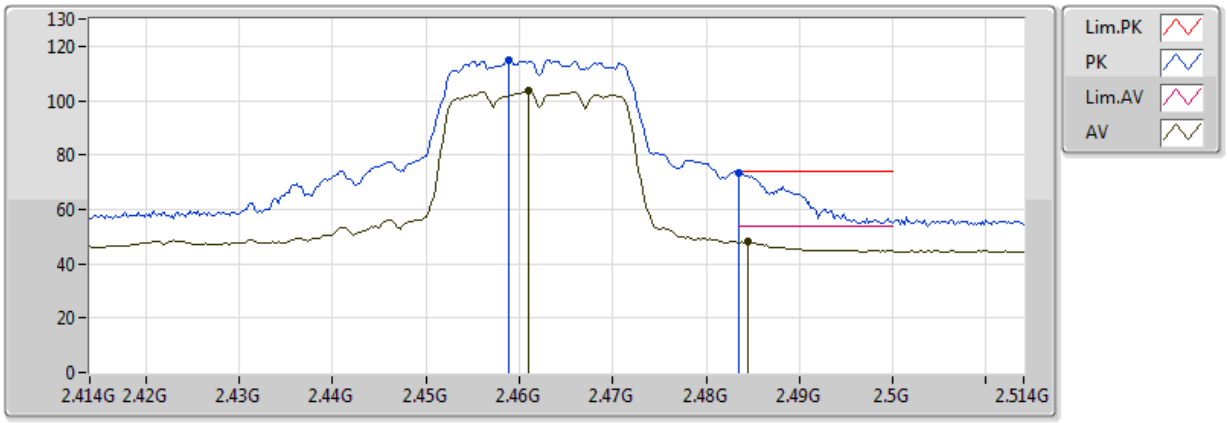
EUT Y_4TX
Setting 90
01-L-3
FSP

Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comments
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)	
PK	2.4538G	121.14	Inf	-Inf	31.09	3	Horizontal	199	1.84	-
AV	2.4588G	107.54	Inf	-Inf	31.10	3	Horizontal	199	1.84	-
PK	2.483502G	72.38	74.00	-1.62	31.17	3	Horizontal	199	1.84	-
AV	2.484G	52.63	54.00	-1.37	31.17	3	Horizontal	199	1.84	-

802.11ax HEW20_Nss1,(MCS0)_4TX

2462MHz_TX

27/07/2018



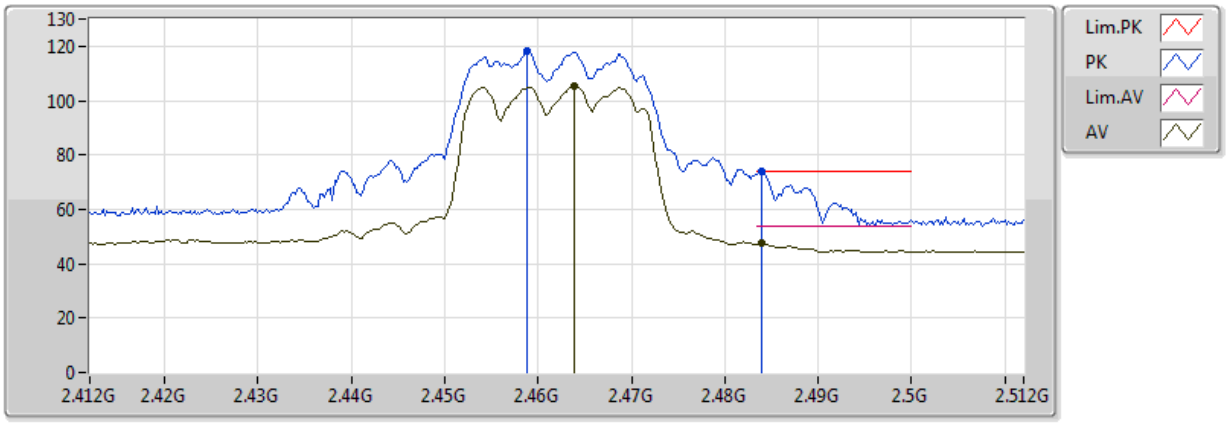
EUT Y_4TX
Setting 78
01-L-3
FSP

Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comments
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)	
PK	2.4588G	115.06	Inf	-Inf	31.10	3	Vertical	47	1.98	-
AV	2.461G	103.56	Inf	-Inf	31.11	3	Vertical	47	1.98	-
PK	2.483502G	73.51	74.00	-0.49	31.17	3	Vertical	47	1.98	-
AV	2.4844G	48.01	54.00	-5.99	31.17	3	Vertical	47	1.98	-

802.11ax HEW20_Nss1,(MCS0)_4TX

2462MHz_TX

27/07/2018



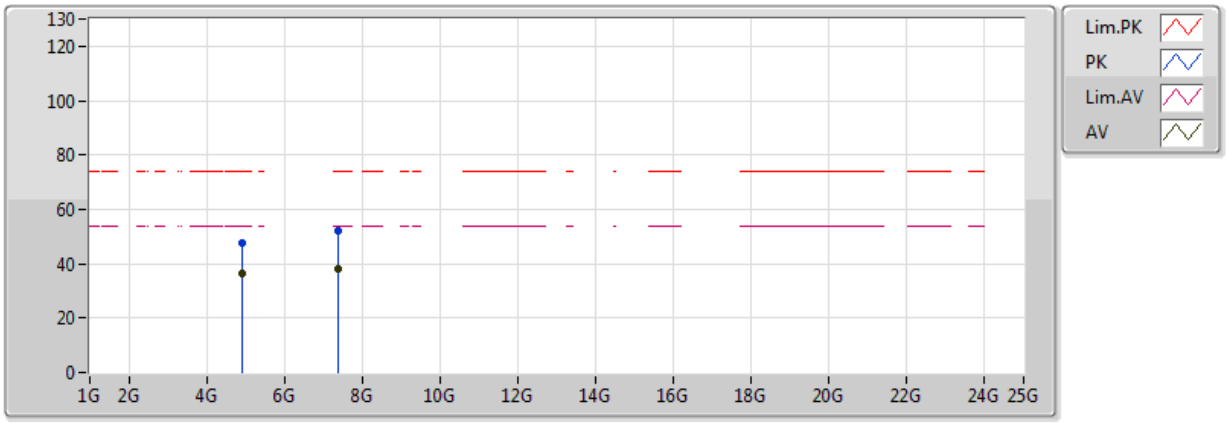
EUT Y_4TX
Setting 78
01-L-3
FSP

Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comments
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)	
PK	2.4588G	118.06	Inf	-Inf	31.10	3	Horizontal	195	1.70	-
AV	2.4638G	105.39	Inf	-Inf	31.12	3	Horizontal	195	1.70	-
PK	2.484G	73.86	74.00	-0.14	31.17	3	Horizontal	195	1.70	-
AV	2.484G	47.38	54.00	-6.62	31.17	3	Horizontal	195	1.70	-

802.11ax HEW20_Nss1,(MCS0)_4TX

2462MHz_TX

27/07/2018

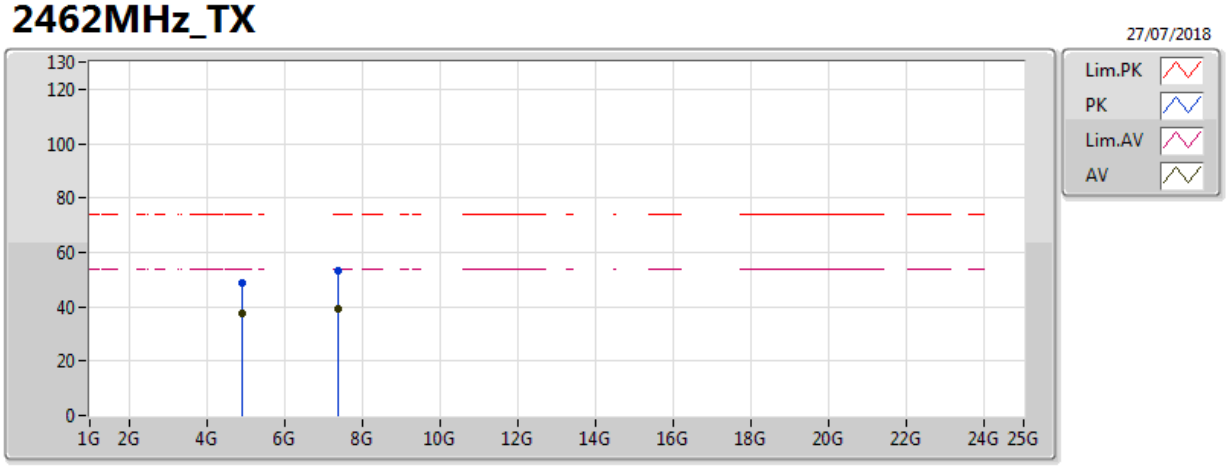


EUT Y_4TX
Setting 78
01-L-3
FSP

Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comments
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)	
PK	4.92406G	47.67	74.00	-26.33	4.40	3	Vertical	167	1.93	-
AV	4.92392G	36.21	54.00	-17.79	4.40	3	Vertical	167	1.93	-
PK	7.38837G	51.94	74.00	-22.06	9.77	3	Vertical	154	1.50	-
AV	7.38592G	37.98	54.00	-16.02	9.77	3	Vertical	154	1.50	-

802.11ax HEW20_Nss1,(MCS0)_4TX

2462MHz_TX



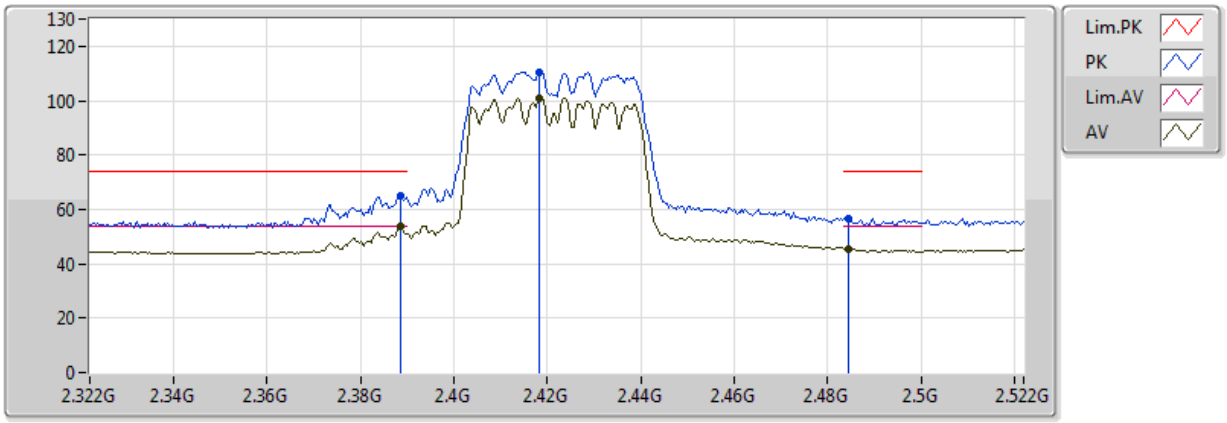
EUT Y_4TX
Setting 78
01-L-3
FSP

Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comments
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)	
PK	4.92376G	48.47	74.00	-25.53	4.40	3	Horizontal	193	2.88	-
AV	4.92393G	37.80	54.00	-16.20	4.40	3	Horizontal	193	2.88	-
PK	7.38626G	53.23	74.00	-20.77	9.77	3	Horizontal	259	1.89	-
AV	7.38594G	39.50	54.00	-14.50	9.77	3	Horizontal	259	1.89	-

802.11ax HEW40_Nss1,(MCS0)_4TX

2422MHz_TX

27/07/2018



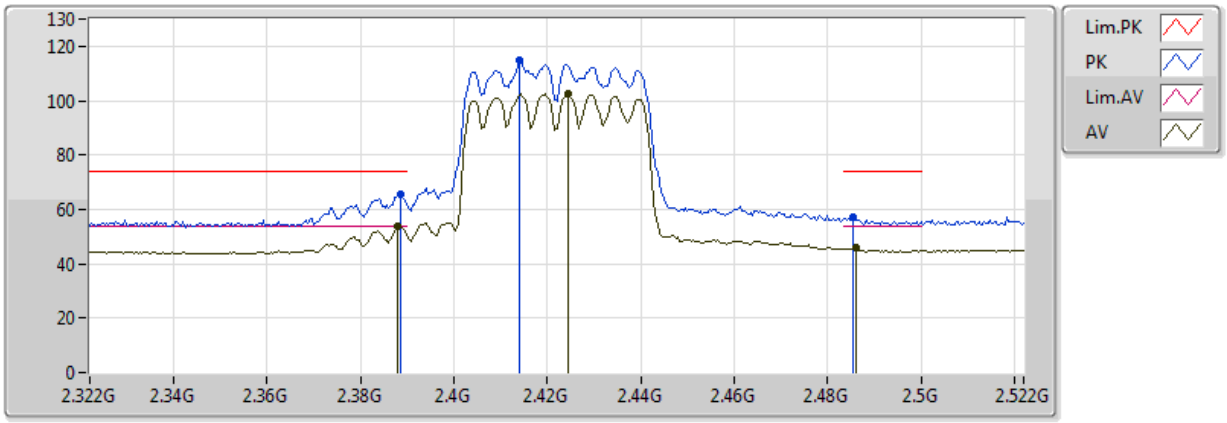
EUT Y_4TX
Setting 69
01-L-3
FSP

Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comments
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)	
PK	2.3884G	64.75	74.00	-9.25	30.97	3	Vertical	298	2.00	-
AV	2.3884G	53.92	54.00	-0.08	30.97	3	Vertical	298	2.00	-
PK	2.4184G	110.64	Inf	-Inf	30.98	3	Vertical	298	2.00	-
AV	2.4184G	101.14	Inf	-Inf	30.98	3	Vertical	298	2.00	-
PK	2.4844G	56.86	74.00	-17.14	31.17	3	Vertical	298	2.00	-
AV	2.4844G	45.64	54.00	-8.36	31.17	3	Vertical	298	2.00	-

802.11ax HEW40_Nss1,(MCS0)_4TX

2422MHz_TX

27/07/2018



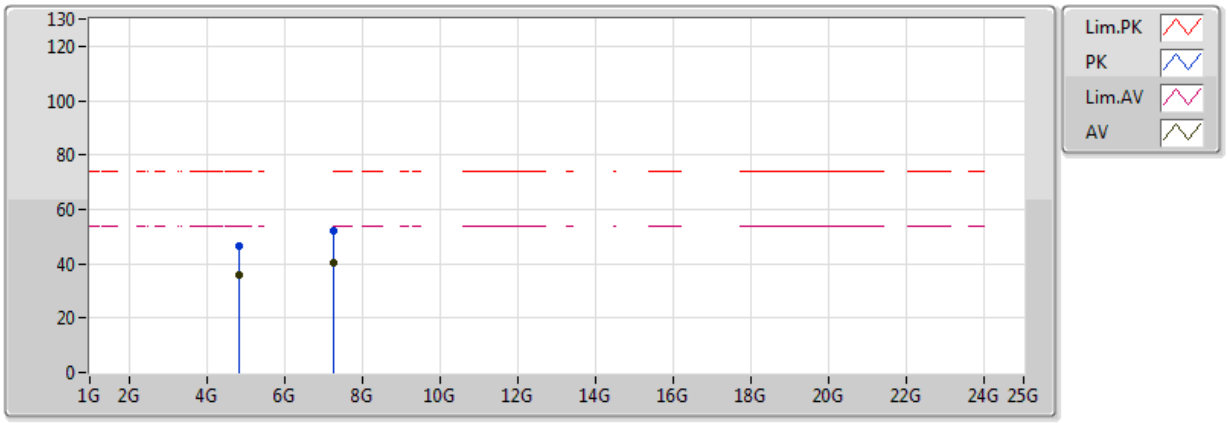
EUT Y_4TX
Setting 69
01-L-3
FSP

Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comments
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)	
PK	2.3884G	65.55	74.00	-8.45	30.97	3	Horizontal	182	1.70	-
AV	2.388G	53.76	54.00	-0.24	30.97	3	Horizontal	182	1.70	-
PK	2.414G	114.83	Inf	-Inf	30.97	3	Horizontal	182	1.70	-
AV	2.4244G	102.46	Inf	-Inf	31.00	3	Horizontal	182	1.70	-
PK	2.4856G	57.40	74.00	-16.60	31.18	3	Horizontal	182	1.70	-
AV	2.486G	45.72	54.00	-8.28	31.18	3	Horizontal	182	1.70	-

802.11ax HEW40_Nss1,(MCS0)_4TX

2422MHz_TX

27/07/2018



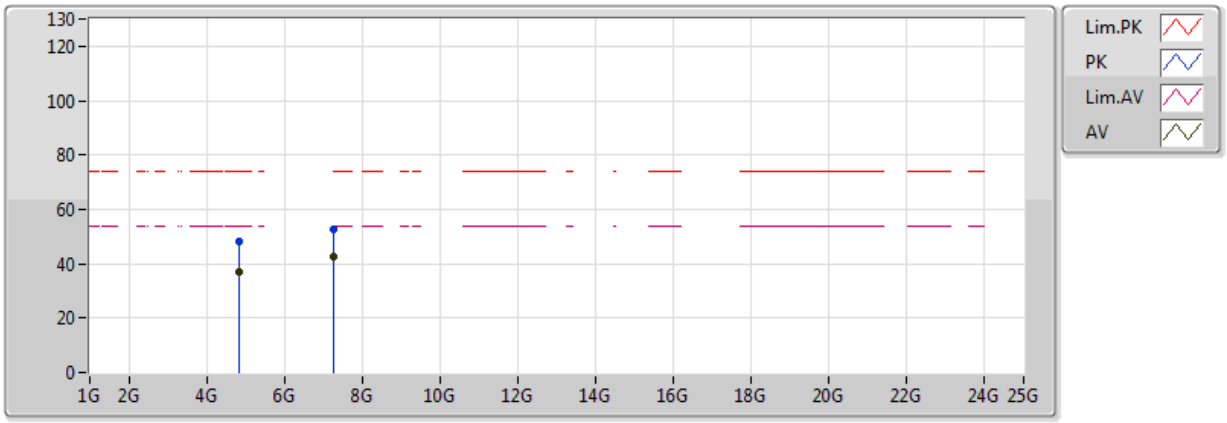
EUT Y_4TX
Setting 69
01-L-3
FSP

Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comments
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)	
PK	4.84369G	46.28	74.00	-27.72	4.08	3	Vertical	170	1.51	-
AV	4.84388G	36.02	54.00	-17.98	4.08	3	Vertical	170	1.51	-
PK	7.26631G	52.18	74.00	-21.82	9.73	3	Vertical	360	1.82	-
AV	7.26654G	40.21	54.00	-13.79	9.73	3	Vertical	360	1.82	-

802.11ax HEW40_Nss1,(MCS0)_4TX

2422MHz_TX

27/07/2018



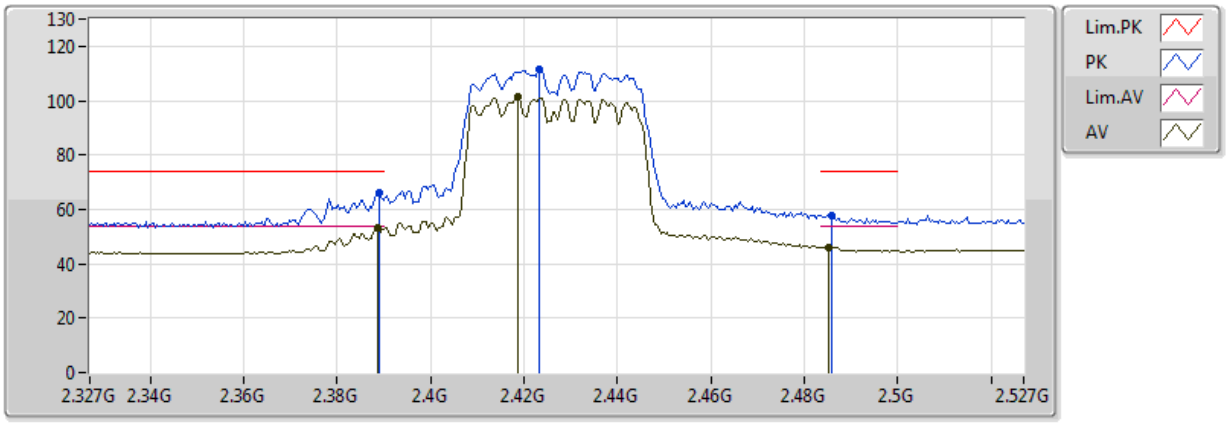
EUT Y_4TX
Setting 69
01-L-3
FSP

Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comments
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)	
PK	4.84406G	47.99	74.00	-26.01	4.08	3	Horizontal	200	2.56	-
AV	4.84397G	37.10	54.00	-16.90	4.08	3	Horizontal	200	2.56	-
PK	7.26633G	52.61	74.00	-21.39	9.73	3	Horizontal	255	1.78	-
AV	7.26598G	42.52	54.00	-11.48	9.73	3	Horizontal	255	1.78	-

802.11ax HEW40_Nss1,(MCS0)_4TX

2427MHz_TX

28/07/2018



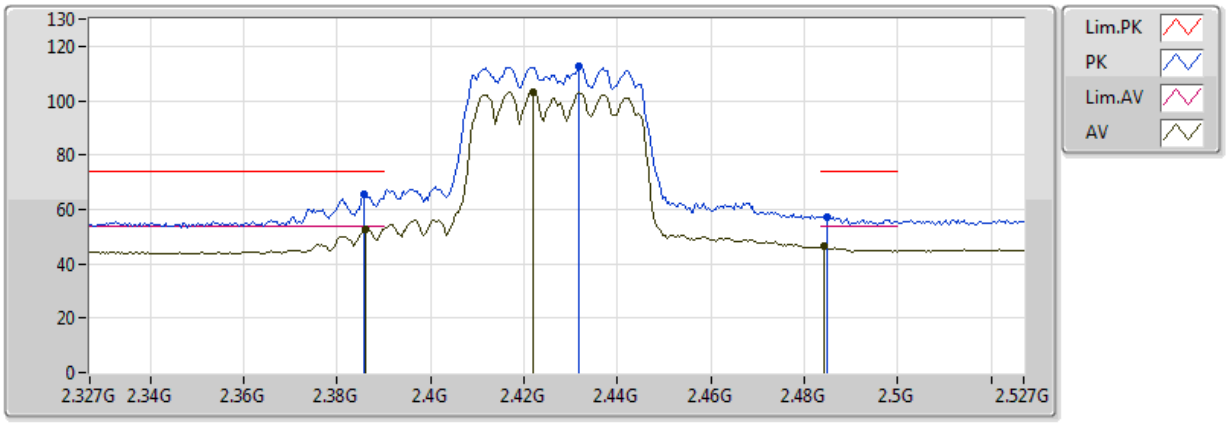
EUT Y_4TX
Setting 74
01-L-3
FSP

Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comments
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)	
PK	2.389G	66.30	74.00	-7.70	30.97	3	Vertical	300	2.01	-
AV	2.3886G	53.28	54.00	-0.72	30.97	3	Vertical	300	2.01	-
PK	2.4234G	111.28	Inf	-Inf	31.00	3	Vertical	300	2.01	-
AV	2.4186G	101.53	Inf	-Inf	30.98	3	Vertical	300	2.01	-
PK	2.4858G	57.72	74.00	-16.28	31.18	3	Vertical	300	2.01	-
AV	2.4854G	46.22	54.00	-7.78	31.18	3	Vertical	300	2.01	-

802.11ax HEW40_Nss1,(MCS0)_4TX

2427MHz_TX

28/07/2018

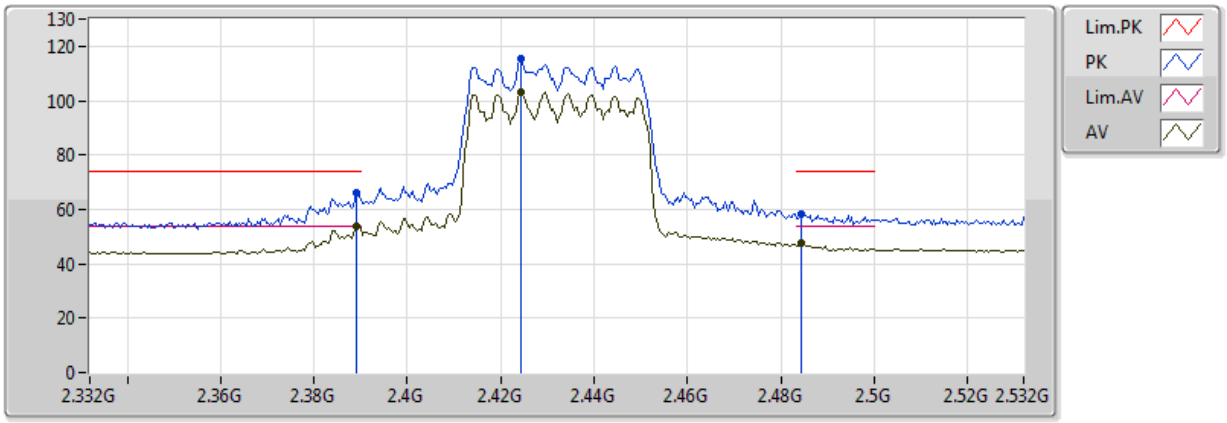


EUT Y_4TX
Setting 74
01-L-3
FSP

Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comments
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)	
PK	2.3858G	65.80	74.00	-8.20	30.97	3	Horizontal	184	1.69	-
AV	2.3862G	52.61	54.00	-1.39	30.97	3	Horizontal	184	1.69	-
PK	2.4318G	112.84	Inf	-Inf	31.02	3	Horizontal	184	1.69	-
AV	2.4218G	103.36	Inf	-Inf	30.99	3	Horizontal	184	1.69	-
PK	2.485G	57.25	74.00	-16.75	31.17	3	Horizontal	184	1.69	-
AV	2.4842G	46.35	54.00	-7.65	31.17	3	Horizontal	184	1.69	-

802.11ax HEW40_Nss1,(MCS0)_4TX

2432MHz_TX

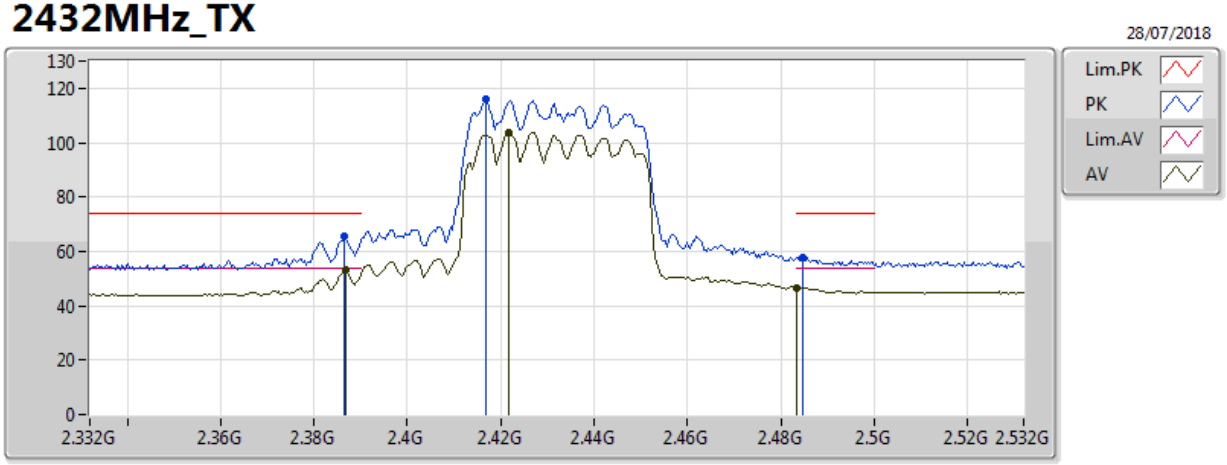


EUT Y_4TX
Setting 75
01-L-3
FSP

Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comments
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)	
PK	2.3892G	66.39	74.00	-7.61	30.97	3	Vertical	94	1.90	-
AV	2.3892G	53.88	54.00	-0.12	30.97	3	Vertical	94	1.90	-
PK	2.4244G	115.51	Inf	-Inf	31.00	3	Vertical	94	1.90	-
AV	2.4244G	103.13	Inf	-Inf	31.00	3	Vertical	94	1.90	-
PK	2.4844G	58.16	74.00	-15.84	31.17	3	Vertical	94	1.90	-
AV	2.4844G	47.73	54.00	-6.27	31.17	3	Vertical	94	1.90	-

802.11ax HEW40_Nss1,(MCS0)_4TX

2432MHz_TX



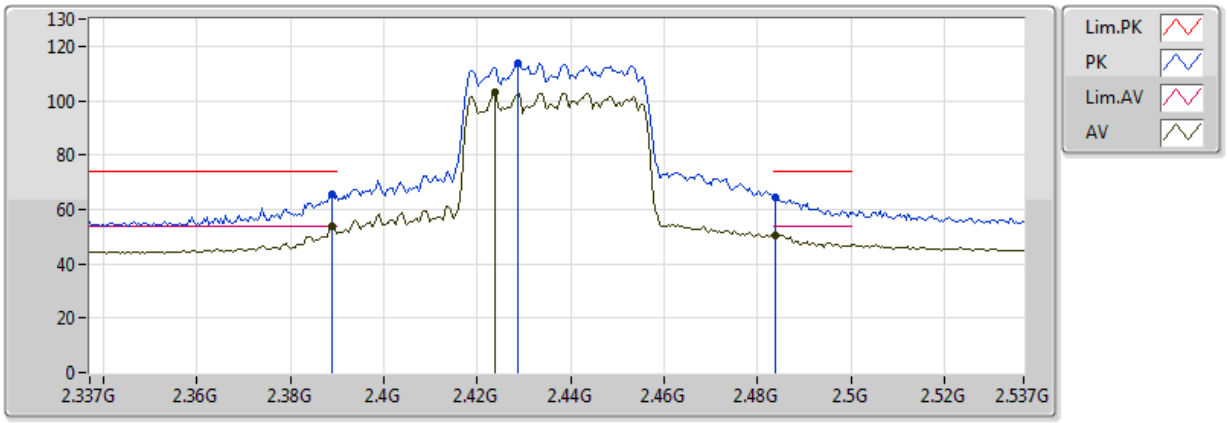
EUT Y_4TX
Setting 75
01-L-3
FSP

Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comments
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)	
PK	2.3864G	65.35	74.00	-8.65	30.97	3	Horizontal	182	1.70	-
AV	2.3868G	53.31	54.00	-0.69	30.97	3	Horizontal	182	1.70	-
PK	2.4168G	116.17	Inf	-Inf	30.98	3	Horizontal	182	1.70	-
AV	2.4216G	103.70	Inf	-Inf	30.99	3	Horizontal	182	1.70	-
PK	2.4848G	57.69	74.00	-16.31	31.18	3	Horizontal	182	1.70	-
AV	2.483502G	46.69	54.00	-7.31	31.17	3	Horizontal	182	1.70	-

802.11ax HEW40_Nss1,(MCS0)_4TX

2437MHz_TX

28/07/2018



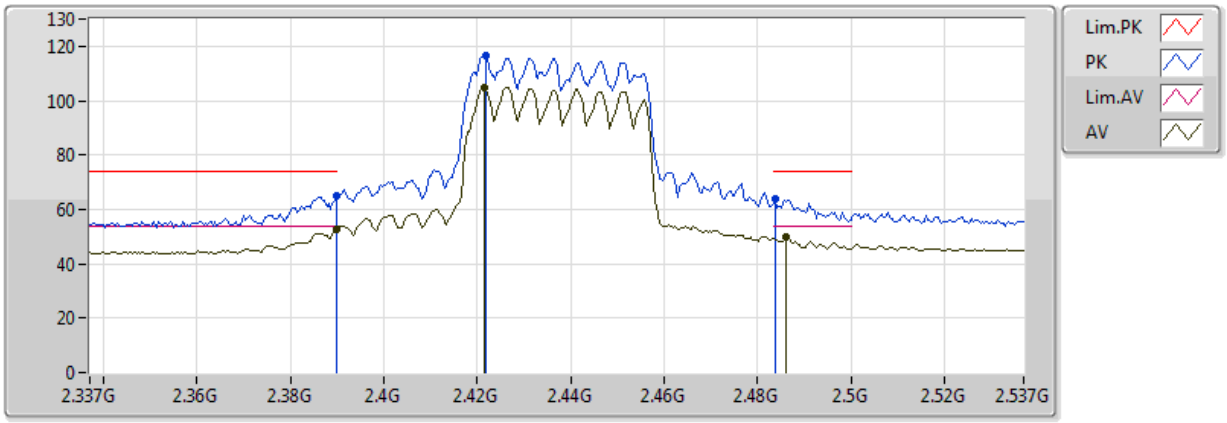
EUT Y_4TX
Setting 81
01-L-3
FSP

Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comments
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)	
PK	2.389G	65.47	74.00	-8.53	30.97	3	Vertical	50	2.17	-
AV	2.389G	53.83	54.00	-0.17	30.97	3	Vertical	50	2.17	-
PK	2.4286G	113.73	Inf	-Inf	31.01	3	Vertical	50	2.17	-
AV	2.4238G	102.89	Inf	-Inf	31.00	3	Vertical	50	2.17	-
PK	2.4838G	64.63	74.00	-9.37	31.17	3	Vertical	50	2.17	-
AV	2.4838G	50.36	54.00	-3.64	31.17	3	Vertical	50	2.17	-

802.11ax HEW40_Nss1,(MCS0)_4TX

2437MHz_TX

28/07/2018



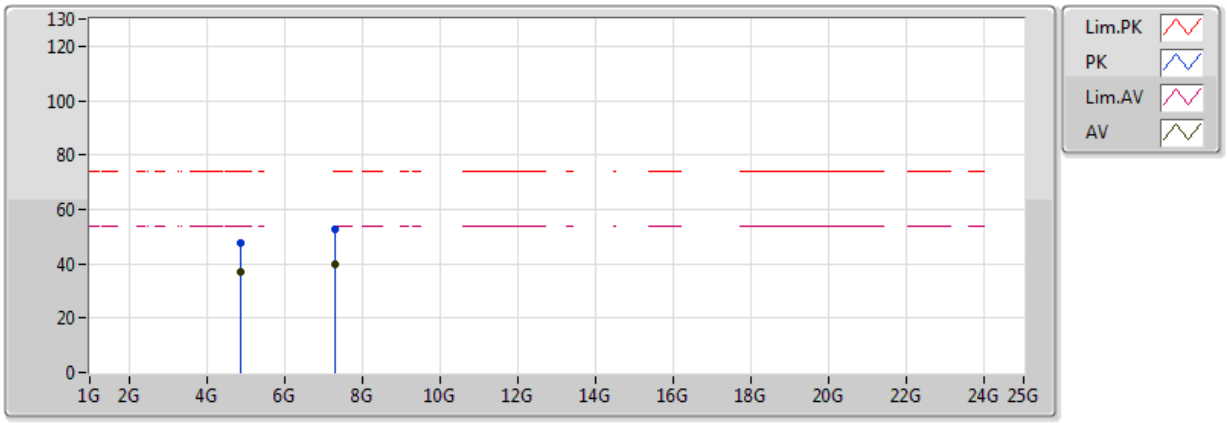
EUT Y_4TX
Setting 81
01-L-3
FSP

Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comments
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)	
PK	2.3898G	64.81	74.00	-9.19	30.97	3	Horizontal	201	1.52	-
AV	2.3898G	52.85	54.00	-1.15	30.97	3	Horizontal	201	1.52	-
PK	2.4218G	116.74	Inf	-Inf	30.99	3	Horizontal	201	1.52	-
AV	2.4214G	104.59	Inf	-Inf	30.99	3	Horizontal	201	1.52	-
PK	2.4838G	63.78	74.00	-10.22	31.17	3	Horizontal	201	1.52	-
AV	2.4862G	49.70	54.00	-4.30	31.18	3	Horizontal	201	1.52	-

802.11ax HEW40_Nss1,(MCS0)_4TX

2437MHz_TX

28/07/2018



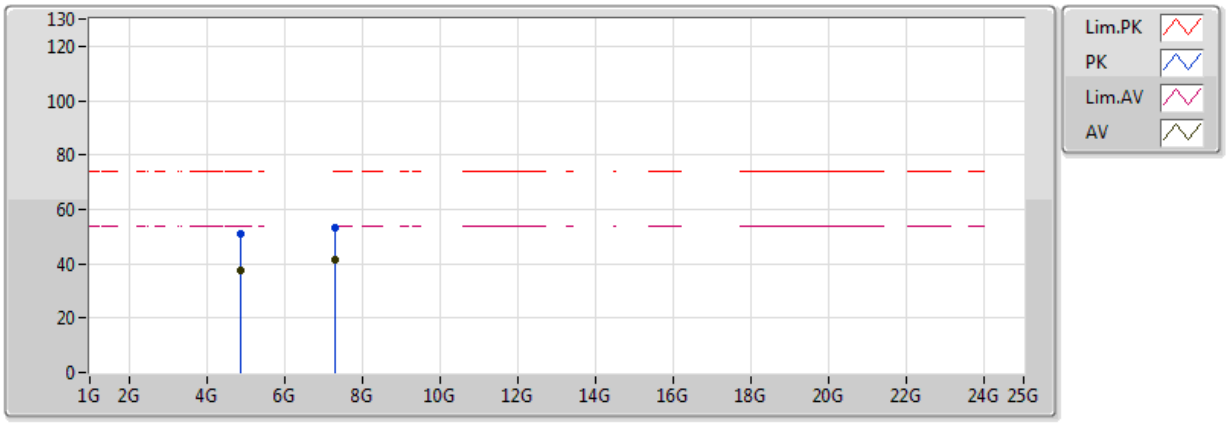
EUT Y_4TX
Setting 81
01-L-3
FSP

Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comments
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)	
PK	4.87414G	47.62	74.00	-26.38	4.20	3	Vertical	163	1.61	-
AV	4.87393G	37.22	54.00	-16.78	4.20	3	Vertical	163	1.61	-
PK	7.30983G	52.48	74.00	-21.52	9.75	3	Vertical	357	1.50	-
AV	7.30883G	39.89	54.00	-14.11	9.75	3	Vertical	357	1.50	-

802.11ax HEW40_Nss1,(MCS0)_4TX

2437MHz_TX

28/07/2018



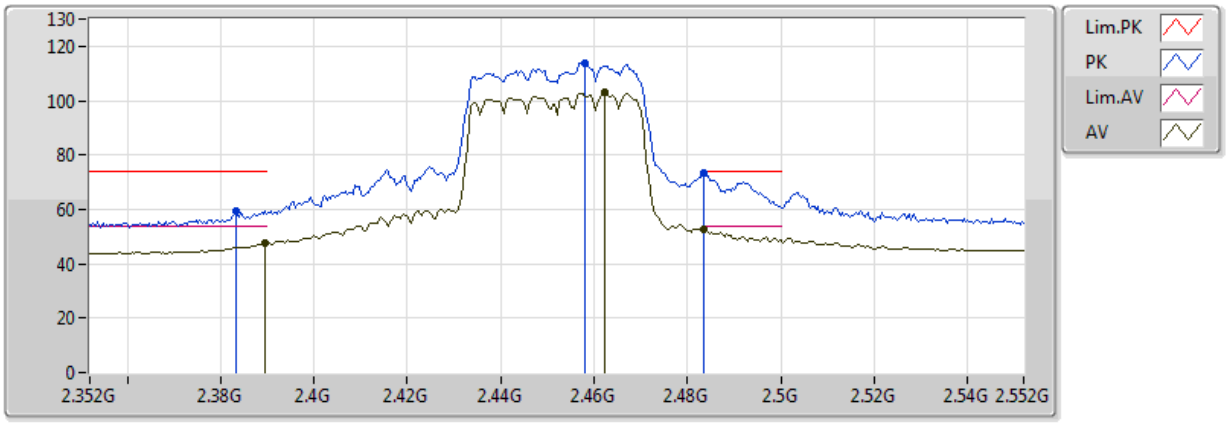
EUT Y_4TX
Setting 81
01-L-3
FSP

Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comments
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)	
PK	4.87426G	51.04	74.00	-22.96	4.20	3	Horizontal	110	1.48	-
AV	4.87416G	37.72	54.00	-16.28	4.20	3	Horizontal	110	1.48	-
PK	7.31071G	53.24	74.00	-20.76	9.75	3	Horizontal	242	1.91	-
AV	7.31106G	41.73	54.00	-12.27	9.75	3	Horizontal	242	1.91	-

802.11ax HEW40_Nss1,(MCS0)_4TX

2452MHz_TX

28/07/2018

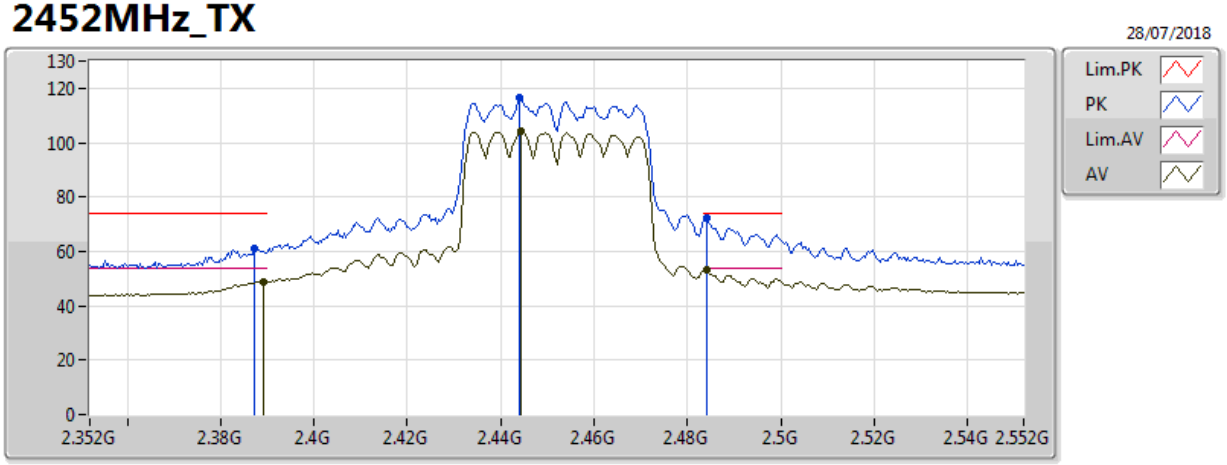


EUT Y_4TX
Setting 81
01-L-3
FSP

Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comments
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)	
PK	2.3832G	59.38	74.00	-14.62	30.98	3	Vertical	11	2.02	-
AV	2.3896G	47.39	54.00	-6.61	30.96	3	Vertical	11	2.02	-
PK	2.458G	113.84	Inf	-Inf	31.10	3	Vertical	11	2.02	-
AV	2.4624G	103.19	Inf	-Inf	31.11	3	Vertical	11	2.02	-
PK	2.483502G	73.67	74.00	-0.33	31.17	3	Vertical	11	2.02	-
AV	2.483502G	52.41	54.00	-1.59	31.17	3	Vertical	11	2.02	-

802.11ax HEW40_Nss1,(MCS0)_4TX

2452MHz_TX



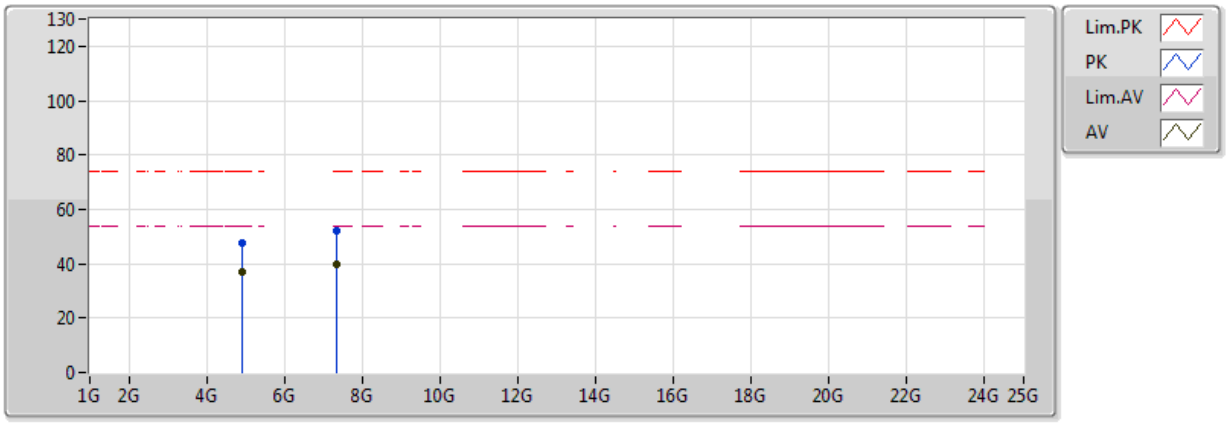
EUT Y_4TX
Setting 81
01-L-3
FSP

Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comments
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)	
PK	2.3872G	61.20	74.00	-12.80	30.97	3	Horizontal	182	1.62	-
AV	2.3892G	48.87	54.00	-5.13	30.97	3	Horizontal	182	1.62	-
PK	2.444G	116.60	Inf	-Inf	31.06	3	Horizontal	182	1.62	-
AV	2.4444G	103.98	Inf	-Inf	31.06	3	Horizontal	182	1.62	-
PK	2.484G	72.12	74.00	-1.88	31.17	3	Horizontal	182	1.62	-
AV	2.484G	53.39	54.00	-0.61	31.17	3	Horizontal	182	1.62	-

802.11ax HEW40_Nss1,(MCS0)_4TX

2452MHz_TX

28/07/2018



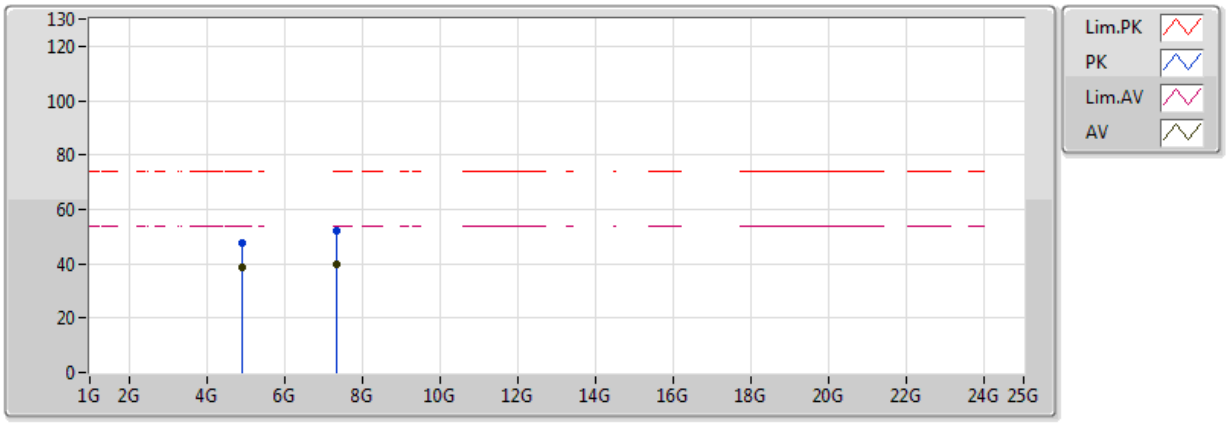
EUT Y_4TX
Setting 81
01-L-3
FSP

Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comments
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)	
PK	4.90399G	47.46	74.00	-26.54	4.33	3	Vertical	160	1.78	-
AV	4.90397G	37.08	54.00	-16.92	4.33	3	Vertical	160	1.78	-
PK	7.35737G	52.05	74.00	-21.95	9.76	3	Vertical	164	1.50	-
AV	7.35706G	39.52	54.00	-14.48	9.76	3	Vertical	164	1.50	-

802.11ax HEW40_Nss1,(MCS0)_4TX

2452MHz_TX

28/07/2018



EUT Y_4TX
Setting 81
01-L-3
FSP

Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comments
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)	
PK	4.90401G	47.52	74.00	-26.48	4.33	3	Horizontal	196	2.76	-
AV	4.9039G	38.39	54.00	-15.61	4.33	3	Horizontal	196	2.76	-
PK	7.35808G	52.29	74.00	-21.71	9.76	3	Horizontal	200	1.50	-
AV	7.35602G	39.72	54.00	-14.28	9.76	3	Horizontal	200	1.50	-