



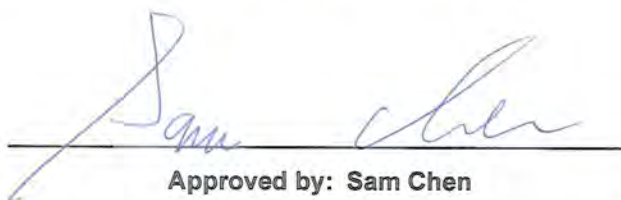
FCC RADIO TEST REPORT

FCC ID : MSQ-RTAXHY00
Equipment : Wireless-AX1800 Dual Band WiFi 6 Router
Brand Name : ASUS
Model Name : RT-AX56U
Applicant : ASUSTeK COMPUTER INC.
4F, No. 150, Li-Te Rd., Peitou, Taipei 112, Taiwan
Manufacturer : ARCADYAN TECHNOLOGY (VIETNAM) CO., LTD.
Ba Thien Industrial Park, Ba Hien commune, Binh
Xuyen district, Vinh Phuc Province
Standard : 47 CFR FCC Part 15.247

The product was received on Jun. 17, 2019, and testing was started from Jun. 18, 2019 and completed on Aug. 14, 2019. We, SPORTON INTERNATIONAL INC. EMC & Wireless Communications Laboratory, would like to declare that the tested sample has been evaluated in accordance with the procedures given in ANSI C63.10-2013 and shown compliance with the applicable technical standards.

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

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



Approved by: Sam Chen

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



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TEL : 886-3-656-9065
FAX : 886-3-656-9085
Report Template No.: CB Ver1.0



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

Band	Mode	BWch (MHz)	Nant
2.4-2.4835GHz	802.11b	20	2TX
2.4-2.4835GHz	802.11g	20	2TX
2.4-2.4835GHz	802.11n HT20	20	2TX
2.4-2.4835GHz	802.11n HT20-BF	20	2TX
2.4-2.4835GHz	VHT20	20	2TX
2.4-2.4835GHz	VHT20-BF	20	2TX
2.4-2.4835GHz	802.11ax HEW20	20	2TX
2.4-2.4835GHz	802.11ax HEW20-BF	20	2TX
2.4-2.4835GHz	802.11n HT40	40	2TX
2.4-2.4835GHz	802.11n HT40-BF	40	2TX
2.4-2.4835GHz	VHT40	40	2TX
2.4-2.4835GHz	VHT40-BF	40	2TX
2.4-2.4835GHz	802.11ax HEW40	40	2TX
2.4-2.4835GHz	802.11ax HEW40-BF	40	2TX

Note:

- ♦ 11b mode uses a combination of DSSS-DBPSK, DQPSK, CCK modulation.
- ♦ 11g, HT20 and HT40 use a combination of OFDM-BPSK, QPSK, 16QAM, 64QAM modulation.
- ♦ VHT20, VHT40 use a combination of OFDM-BPSK, QPSK, 16QAM, 64QAM, 256QAM, 1024QAM modulation.
- ♦ HEW20, HEW40 use a combination of OFDMA-BPSK, QPSK, 16QAM, 64QAM, 256QAM, 1024QAM modulation.
- ♦ BWch is the nominal channel bandwidth.
- ♦ Nss-Min is the minimum number of spatial streams.
- ♦ Nant is the number of outputs. e.g., 2(2,3) means have 2 outputs for port 2 and port 3. 2 means have 2 outputs for port 1 and port 2.



1.1.2 Antenna Information

Set	Ant.	Port	Brand	Model Name	Type	Connector	Gain (dBi)	
							2.4GHz	5GHz
1	1	1	Walsin	RFDPA181314IMLB901	Dipole	I-PEX	1.93	1.97
	2	2	Walsin	RFDPA181317IMLB901	Dipole	I-PEX	1.96	1.98
2	1	1	Walsin	RFDPA181314IMLB902	Dipole	I-PEX	1.86	1.91
	2	2	Walsin	RFDPA181317IMLB902	Dipole	I-PEX	1.72	1.94
3	1	1	Whayu	C660-510476-A	Dipole	I-PEX	1.91	1.90
	2	2	Whayu	C660-510477-A	Dipole	I-PEX	1.93	1.96

Note1: The above information was declared by manufacturer.

Note2: The EUT has three sets of antenna, and each set contains two antennas.

Because Set 1, Set 2 and Set 3 are the same type antennas, only the higher gain antenna "Set 1 antenna" was tested.

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

Port 1 and Port 2 could transmit/receive simultaneously.

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

Port 1 and Port 2 could transmit/receive simultaneously.

1.1.3 Mode Test Duty Cycle

Mode	DC	DCF(dB)	T(s)	VBW(Hz) $\geq 1/T$
802.11b	0.992	0.03	n/a (DC $\geq$ 0.98)	n/a (DC $\geq$ 0.98)
802.11g	0.958	0.19	2.066m	1k
VHT20	0.992	0.03	n/a (DC $\geq$ 0.98)	n/a (DC $\geq$ 0.98)
VHT20-BF	0.992	0.03	n/a (DC $\geq$ 0.98)	n/a (DC $\geq$ 0.98)
802.11ax HEW20	0.995	0.02	n/a (DC $\geq$ 0.98)	n/a (DC $\geq$ 0.98)
802.11ax HEW20-BF	0.956	0.2	2.926m	1k
VHT40	0.989	0.05	n/a (DC $\geq$ 0.98)	n/a (DC $\geq$ 0.98)
VHT40-BF	0.992	0.03	n/a (DC $\geq$ 0.98)	n/a (DC $\geq$ 0.98)
802.11ax HEW40	0.989	0.05	n/a (DC $\geq$ 0.98)	n/a (DC $\geq$ 0.98)
802.11ax HEW40-BF	0.953	0.21	4.359m	300

Note:

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

**1.1.4 EUT Operational Condition**

EUT Power Type	From power adapter			
Beamforming Function	☒	With beamforming	☐	Without beamforming
	The product has beamforming function for n/VHT/ax in 2.4GHz and n/ac/ax in 5GHz.			
Function	☒	Point-to-multipoint	☐	Point-to-point
Test Software Version	MTool_3.1.0.3			

Note: The above information was declared by manufacturer.

1.1.5 Table for Multiple Listing

There are two EUT, the detail information as following:

EUT	SKU	LAN Transformer		WAN Transformer	
		Brand Name	Model Name	Brand Name	Model Name
1	1	SWAPnet	NS773602	BOTHHAND	GST5009W
2	2	Mingtek	HN36201HF	SWAPnet	NS892402

Note: For RF Conducted and Radiated above 1GHz tests, only EUT 1 was tested and recorded in this test report.



1.2 Applicable Standards

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

- ♦ 47 CFR FCC Part 15
- ♦ ANSI C63.10-2013
- ♦ FCC KDB 558074 D01 v05r02
- ♦ FCC KDB 662911 D01 v02r01

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	TH02-CB	Eddie Weng	24~26°C / 54~58%	Jul. 05, 2019~Jul. 06, 2019
Radiated below 1GHz	03CH03-CB	Welson Chen	24.4~25.7°C / 62~64%	Jun. 18, 2019~Aug. 07, 2019
Radiated above 1GHz	03CH06-CB	Welson Chen	22.1~24.8°C / 50~61%	Jun. 18, 2019~Aug. 07, 2019
AC Conduction	CO02-CB	Max Lin	22~23°C / 61~62%	Jul. 31, 2019~Aug. 14, 2019

Test site Designation No. TW0006 with FCC.

Test site registered number IC 4086B with Industry Canada.

1.4 Measurement Uncertainty

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

Test Items	Uncertainty	Remark
Conducted Emission (150kHz ~ 30MHz)	2.0 dB	Confidence levels of 95%
Radiated Emission (30MHz ~ 1,000MHz)	4.3 dB	Confidence levels of 95%
Radiated Emission (1GHz ~ 18GHz)	4.3 dB	Confidence levels of 95%
Radiated Emission (18GHz ~ 40GHz)	5.1 dB	Confidence levels of 95%
Conducted Emission	2.4 dB	Confidence levels of 95%
Output Power Measurement	1.5 dB	Confidence levels of 95%
Power Density Measurement	2.4 dB	Confidence levels of 95%
Bandwidth Measurement	2%	Confidence levels of 95%



2 Test Configuration of EUT

2.1 Test Channel Mode

Mode	Power Setting
802.11b_Nss1,(1Mbps)_2TX	-
2412MHz	106
2437MHz	107
2462MHz	108
802.11g_Nss1,(6Mbps)_2TX	-
2412MHz	84
2417MHz	91
2437MHz	108
2457MHz	94
2462MHz	85
VHT20_Nss2,(MCS0)_2TX	-
2412MHz	78
2417MHz	91
2437MHz	108
2457MHz	92
2462MHz	87
802.11ax HEW20_Nss2,(MCS0)_2TX	-
2412MHz	78
2417MHz	91
2437MHz	108
2457MHz	92
2462MHz	87
VHT20-BF_Nss1,(MCS0)_2TX	-
2412MHz	83
2417MHz	86
2437MHz	107
2457MHz	90
2462MHz	89
VHT40-BF_Nss1,(MCS0)_2TX	-
2422MHz	78
2427MHz	80
2437MHz	89
2447MHz	86
2452MHz	85
802.11ax HEW20-BF_Nss1,(MCS0)_2TX	-
2412MHz	83



Mode	Power Setting
2417MHz	86
2437MHz	107
2457MHz	90
2462MHz	89
802.11ax HEW40-BF_Nss1,(MCS0)_2TX	-
2422MHz	78
2427MHz	80
2437MHz	89
2447MHz	86
2452MHz	85

Note:

- ♦ VHT20/VHT40 covers HT20/HT40, due to same modulation. The power setting for HT20 and HT40 are the same or lower than VHT20 and VHT40.
- ♦ There are two modes of EUT, one is beamforming mode, and the other is non-beamforming mode for n/VHT/ax in 2.4GHz and n/ac/ax in 5GHz. For Nss1: After evaluating, beamforming mode has been evaluated to be the worst case, so it was selected to test and record in this test report.

2.2 The Worst Case Measurement Configuration

The Worst Case Mode for Following Conformance Tests	
Tests Item	AC power-line conducted emissions
Condition	AC power-line conducted measurement for line and neutral
Operating Mode	CTX
1	WLAN 2.4GHz - EUT 1 + Adapter 1
2	WLAN 2.4GHz - EUT 1 + Adapter 2
Mode 1 has been evaluated to be the worst case among Mode 1~2, thus measurement for Mode 3 will follow this same test mode.	
3	WLAN 5GHz - EUT 1 + Adapter 1
For operating mode 1 is the worst case and it was record in this test report.	

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
1	WLAN 2.4GHz - EUT 1 + Adapter 1
2	WLAN 2.4GHz - EUT 1 + Adapter 2
Mode 2 has been evaluated to be the worst case among Mode 1~2, thus measurement for Mode 3 will follow this same test mode.	
3	WLAN5 GHz - EUT 1 + Adapter 2
Mode 2 has been evaluated to be the worst case among Mode 1~3, thus measurement for Mode 4 will follow this same test mode.	
4	WLAN 2.4GHz - EUT 2 + Adapter 2
For operating mode 4 is the worst case and it was record in this test report.	
Operating Mode > 1GHz	CTX



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

The Worst Case Mode for Following Conformance Tests	
Tests Item	Simultaneous Transmission Analysis - Co-location RF Exposure Evaluation
Operating Mode	
1	WLAN 2.4GHz + WLAN 5GHz
Refer to Sporton Test Report No.: FA961004 for Co-location RF Exposure Evaluation.	

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

2.3 EUT Operation during Test

For CTX Mode:

For non-beamforming mode:

The EUT was programmed to be in continuously transmitting mode.

For beamforming mode:

For Conducted Mode:

The EUT was programmed to be in continuously transmitting mode.

For Radiated Mode:

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

The program was executed as follows:

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

For Normal Link:

During the test, the EUT operation to normal function.



2.4 Accessories

Accessories				
No.	Equipment Name	Brand Name	Model Name	Rating
1	Adapter 1	LEI	MU24B1120200-A1	INPUT: 100-240V ~ 50/60Hz, 0.7A OUTPUT: 12V, 2A
2	Adapter 2	APD	WB-24J12FU	INPUT: 100-240V ~ 50-60Hz, 0.7A Max. OUTPUT: 12V, 2A
No.	Other			
3	RJ-45 cable*1: Non-shielded, 1.5m			

2.5 Support Equipment

For AC Conduction:

Support Equipment				
No.	Equipment	Brand Name	Model Name	FCC ID
A	HDD3.0	WD	WDBACY5000AWT	N/A
B	HDD3.0	WD	WDBACY5000AWT	N/A
C	NB	DELL	E6430	N/A

For Radiated (below 1GHz) and RF Conducted:

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

For Radiated (above 1GHz):

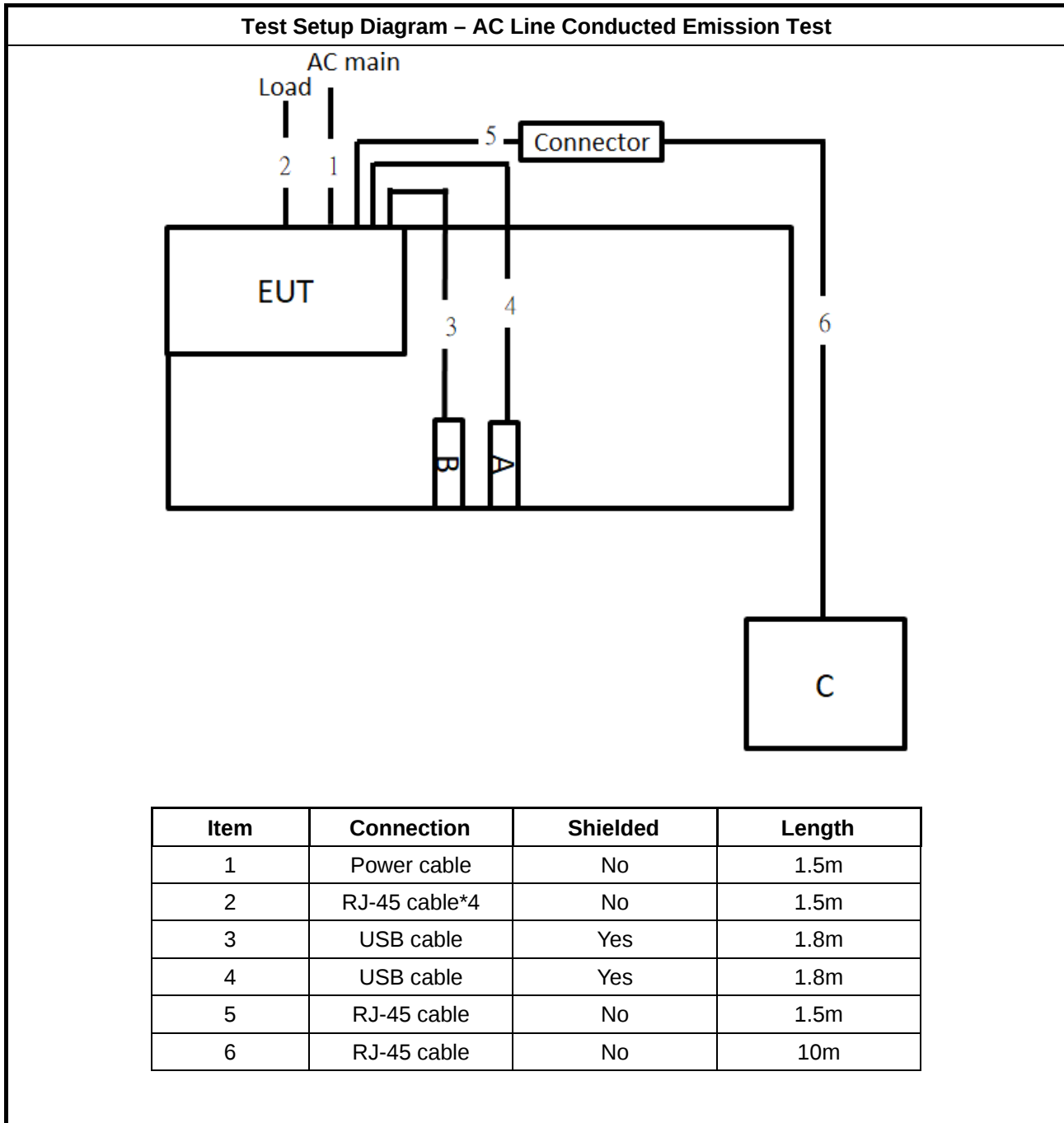
For non-beamforming mode:

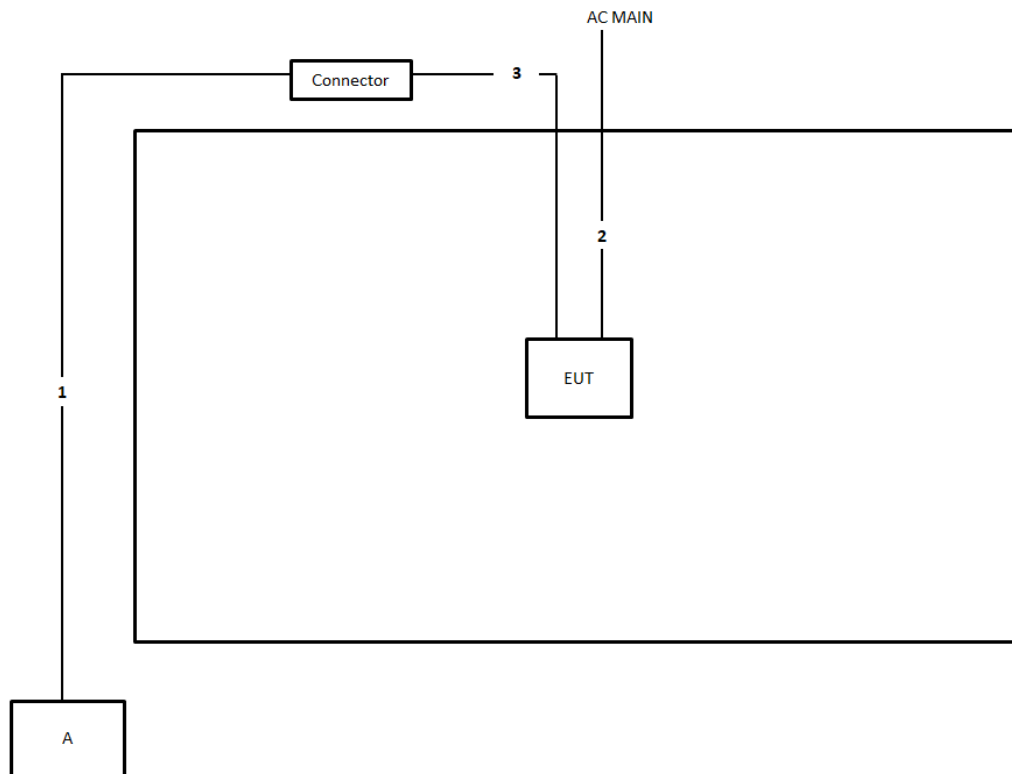
Support Equipment				
No.	Equipment	Brand Name	Model Name	FCC ID
A	NB	DELL	E4300	N/A

For beamforming mode:

Support Equipment				
No.	Equipment	Brand Name	Model Name	FCC ID
A	NB	DELL	E4300	N/A
B	NB	DELL	E4300	N/A
C	AP (RX Device)	ASUS	RT-AX88U	MSQ-RTAXHP00

2.6 Test Setup Diagram

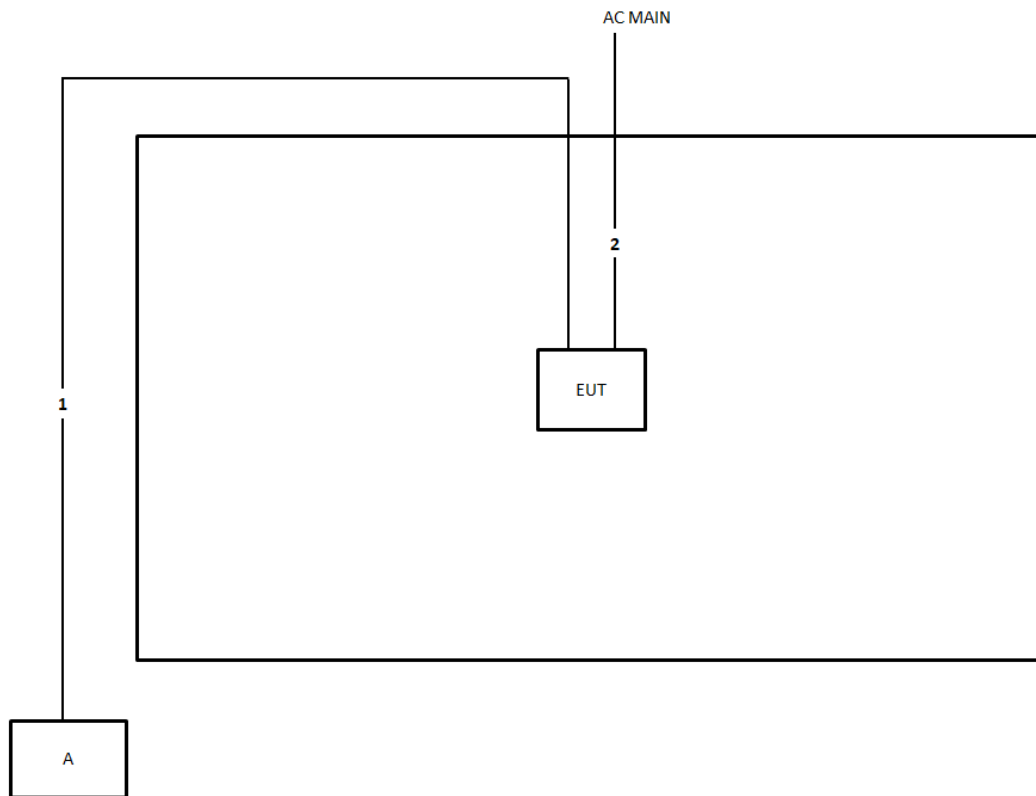


Test Setup Diagram - Radiated Test < 1GHz


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

Test Setup Diagram - Radiated Test > 1GHz

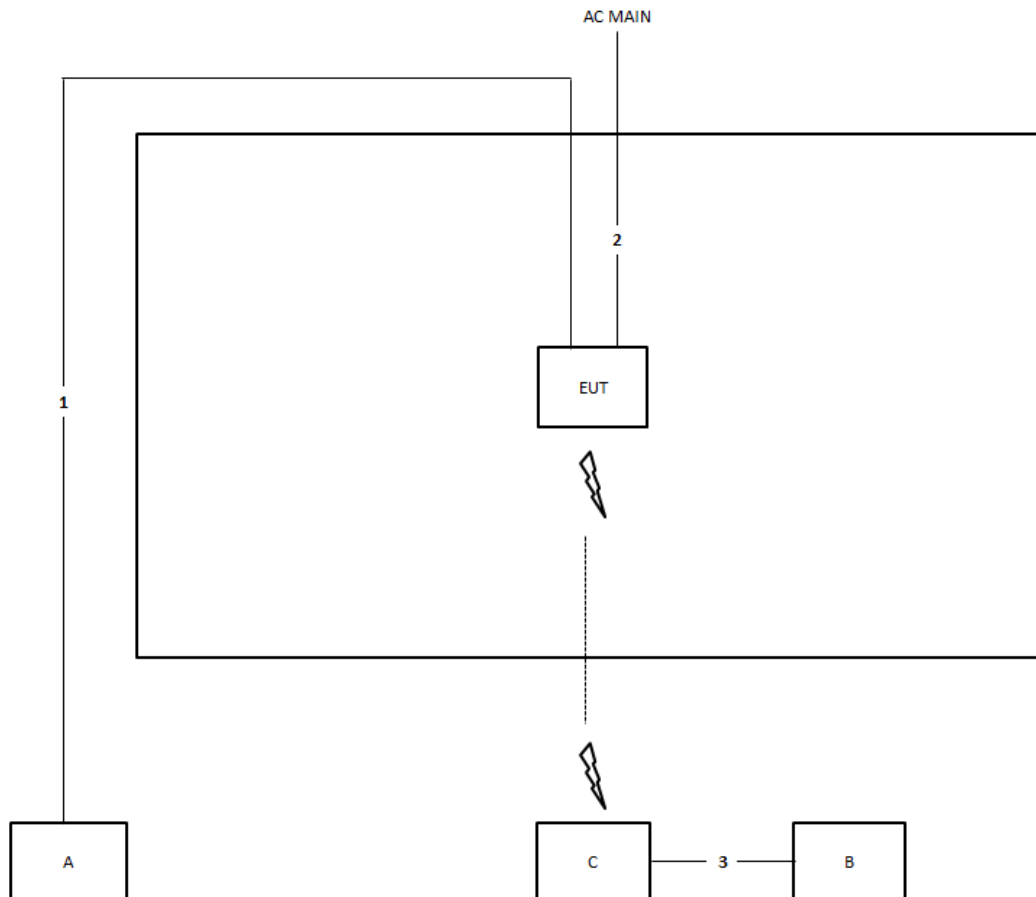
For non-beamforming mode:



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

Test Setup Diagram - Radiated Test > 1GHz

For beamforming mode:



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



3 Transmitter Test Result

3.1 AC Power-line Conducted Emissions

3.1.1 AC Power-line Conducted Emissions Limit

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

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

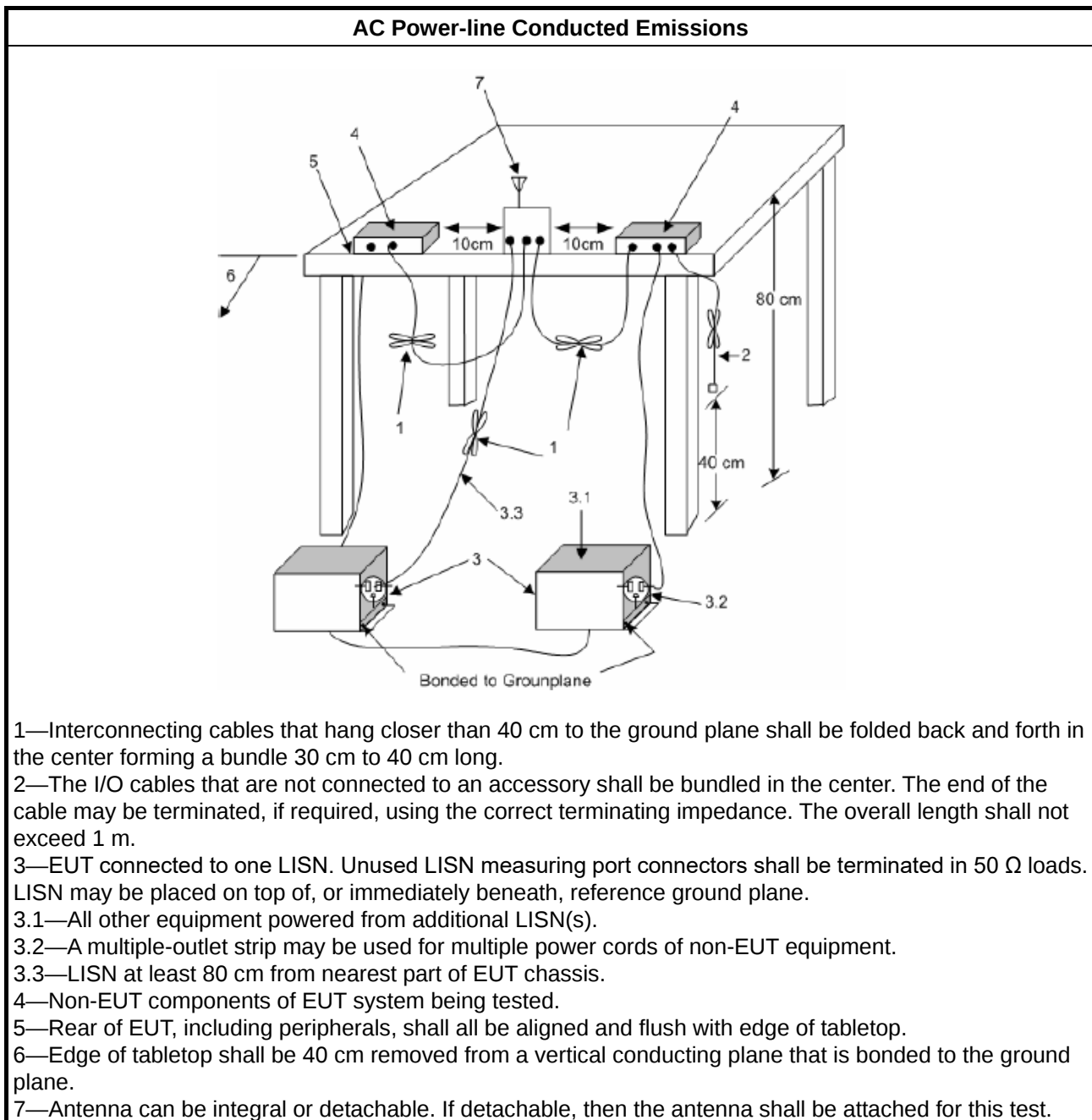
3.1.2 Measuring Instruments

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

3.1.3 Test Procedures

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

3.1.4 Test Setup



3.1.5 Test Result of AC Power-line Conducted Emissions

Refer as Appendix A

3.2 DTS Bandwidth

3.2.1 6dB Bandwidth Limit

6dB Bandwidth Limit	
Systems using digital modulation techniques:	
▪	6 dB bandwidth $\geq$ 500 kHz.

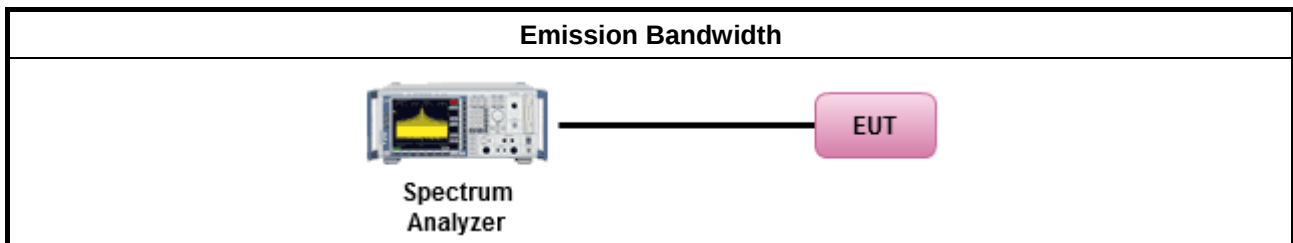
3.2.2 Measuring Instruments

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

3.2.3 Test Procedures

Test Method	
▪	For the emission bandwidth shall be measured using one of the options below:
☒	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



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

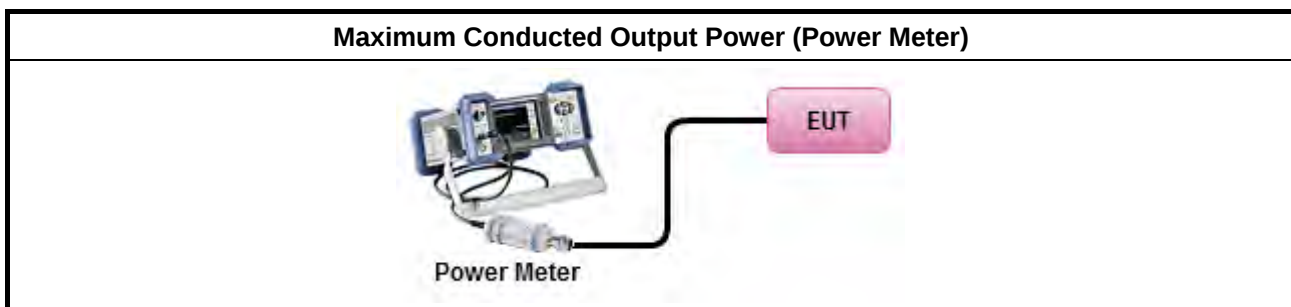
Refer a test equipment and calibration data table in this test report.

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 $\geq$ 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 $\geq$ 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: $P_{total} = P_1 + P_2 + \dots + P_n$ (calculated in linear unit [mW] and transfer to log unit [dBm]) $EIRP_{total} = P_{total} + DG$

3.3.4 Test Setup



3.3.5 Test Result of Maximum Conducted Output Power

Refer as Appendix C



3.4 Power Spectral Density

3.4.1 Power Spectral Density Limit

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

3.4.2 Measuring Instruments

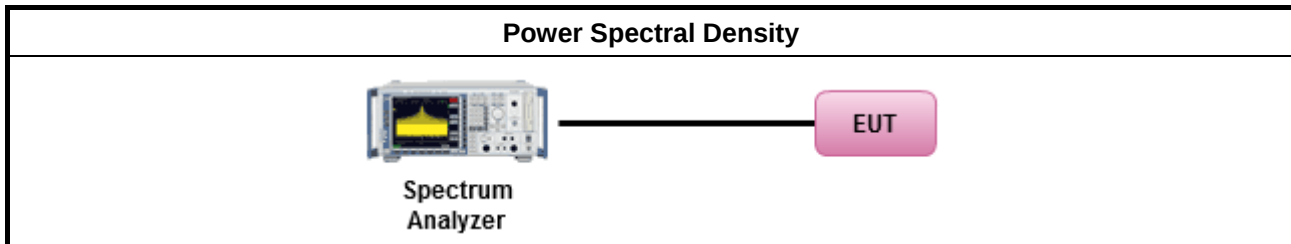
Refer a test equipment and calibration data table in this test report.

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 $\geq 98\%$ or external video / power trigger]
☐ Refer as FCC KDB 558074, clause 8.4 & C63.10 clause 11.10.3 Method AVGPS-1.
☐ Refer as FCC KDB 558074, clause 8.4 & C63.10 clause 11.10.5 Method AVGPS-2.
☐ Refer as FCC KDB 558074, clause 8.4 & C63.10 clause 11.10.7 Method AVGPS-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 AVGPS-1A. (alternative).
☐ Refer as FCC KDB 558074, clause 8.4 & C63.10 clause 11.10.6 Method AVGPS-2A. (alternative)
☐ Refer as FCC KDB 558074, clause 8.4 & C63.10 clause 11.10.8 Method AVGPS-3A. (alternative)
▪ For conducted measurement.
▪ If The EUT supports multiple transmit chains using options given below:
☒ Option 1: Measure and sum the spectra across the outputs. Refer as FCC KDB 662911, In-band power spectral density (PSD). Sample all transmit ports simultaneously using a spectrum analyzer for each transmit port. Where the trace bin-by-bin of each transmit port summing can be performed. (i.e., in the first spectral bin of output 1 is summed with that in the first spectral bin of output 2 and that from the first spectral bin of output 3, and so on up to the NTX output to obtain the value for the first frequency bin of the summed spectrum.). Add up the amplitude (power) values for the different transmit chains and use this as the new data trace.
☐ Option 2: Measure and sum spectral maxima across the outputs. With this technique, spectra are measured at each output of the device at the required resolution bandwidth. The maximum value (peak) of each spectrum is determined. These maximum values are then summed mathematically in linear power units across the outputs. These operations shall be performed separately over frequency spans that have different out-of-band or spurious emission limits,

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

3.4.4 Test Setup



3.4.5 Test Result of Power Spectral Density

Refer as Appendix D

3.5 Emissions in Non-restricted Frequency Bands

3.5.1 Emissions in Non-restricted Frequency Bands Limit

Un-restricted Band Emissions Limit	
RF output power procedure	Limit (dBc)
Peak output power procedure	20
Average output power procedure	30
Note 1: If the peak output power procedure is used to measure the fundamental emission power to demonstrate compliance to requirements, then the peak conducted output power measured within any 100 kHz outside the authorized frequency band shall be attenuated by at least 20 dB relative to the maximum measured in-band peak PSD level. Note 2: If the average output power procedure is used to measure the fundamental emission power to demonstrate compliance to requirements, then the power in any 100 kHz outside of the authorized frequency band shall be attenuated by at least 30 dB relative to the maximum measured in-band average PSD level.	

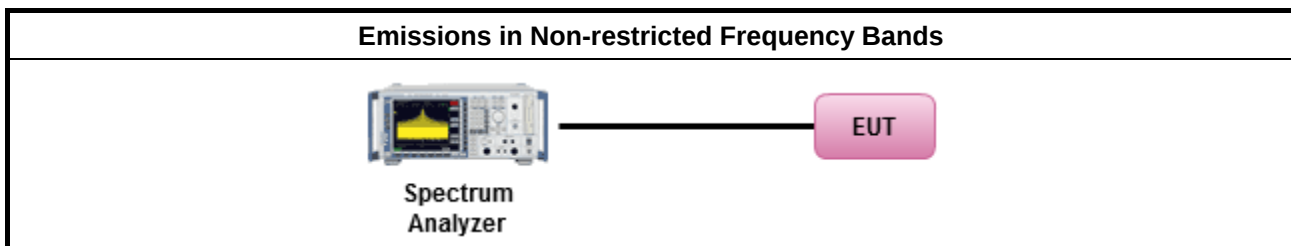
3.5.2 Measuring Instruments

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

3.5.3 Test Procedures

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

3.5.4 Test Setup



3.5.5 Test Result of Emissions in Non-restricted Frequency Bands

Refer as Appendix E



3.6 Emissions in Restricted Frequency Bands

3.6.1 Emissions in Restricted Frequency Bands Limit

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

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

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

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

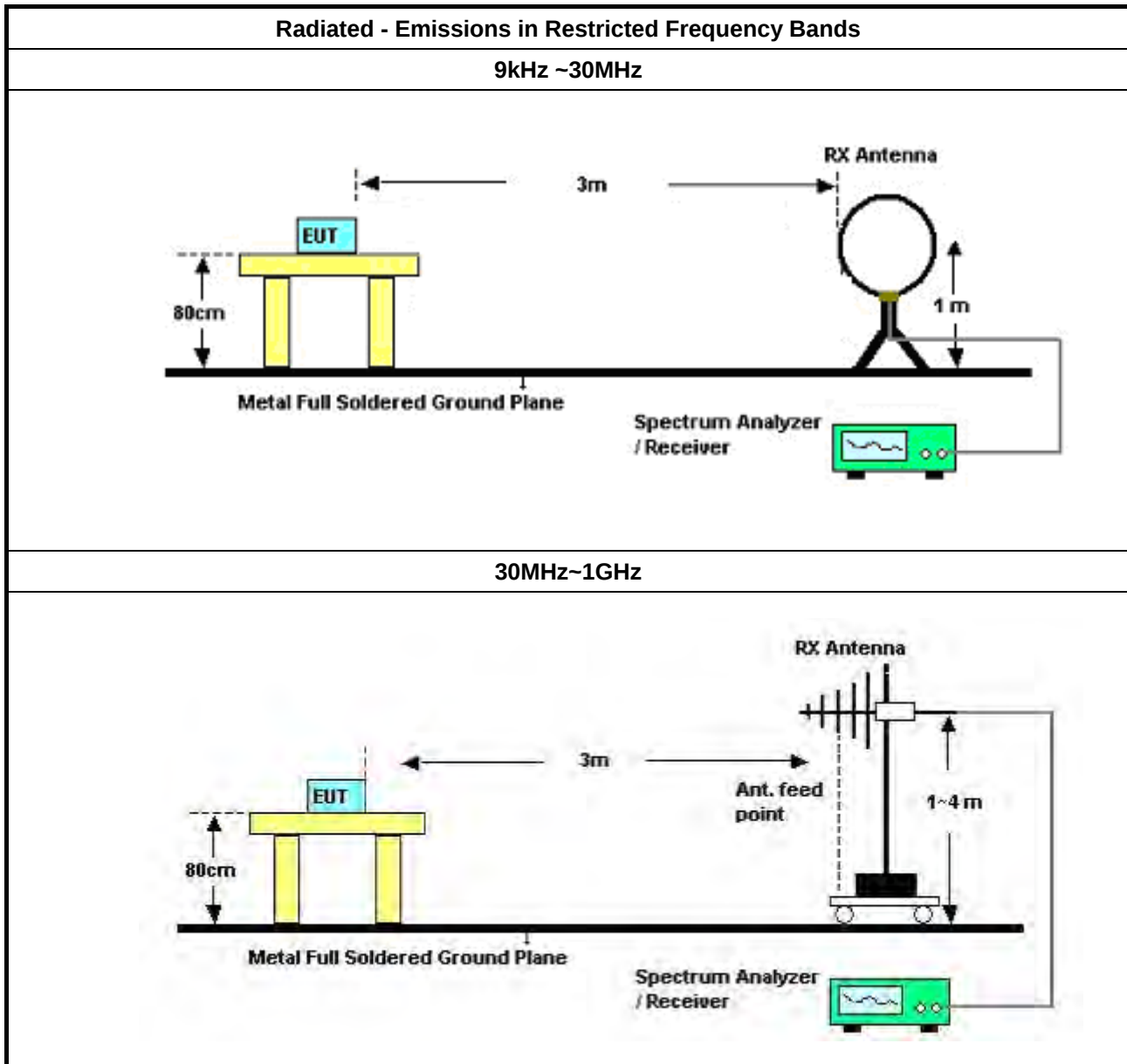
3.6.2 Measuring Instruments

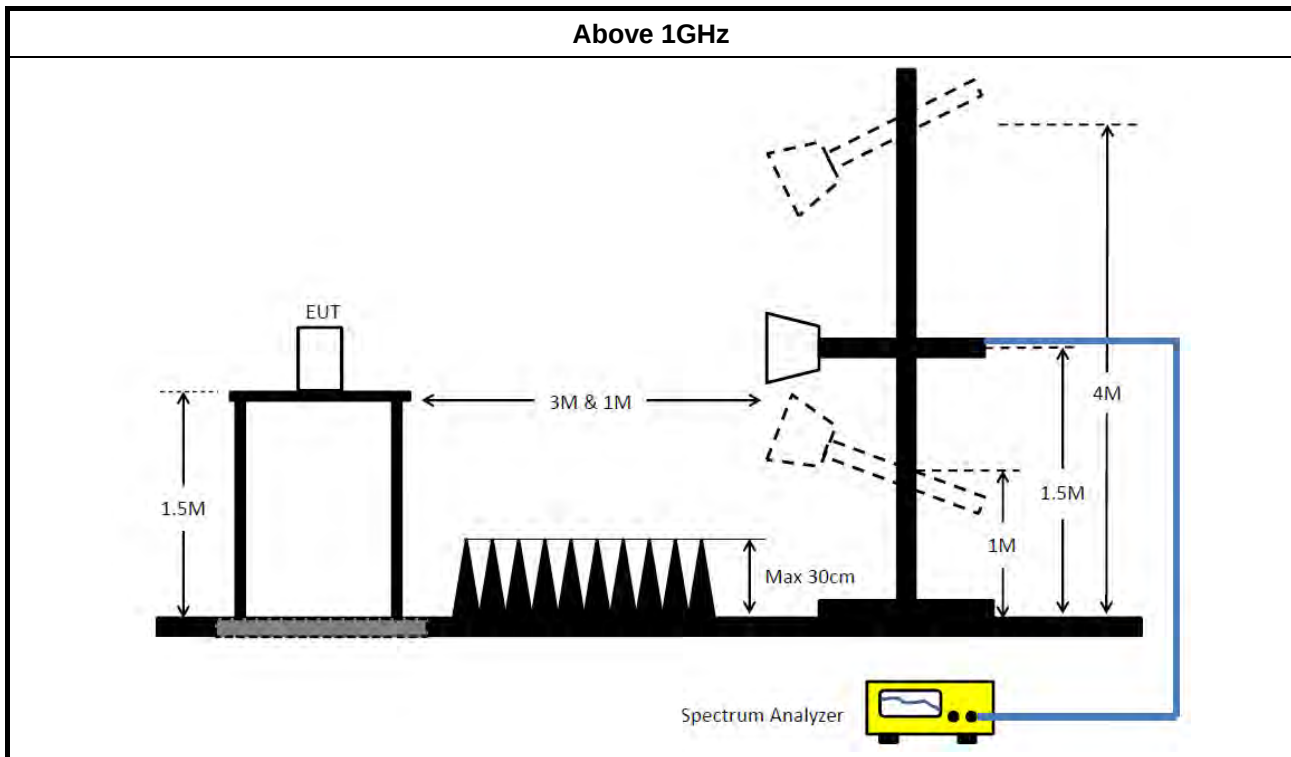
Refer a test equipment and calibration data table in this test report.

3.6.3 Test Procedures

Test Method	
The average emission levels shall be measured in [duty cycle ≥ 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 $\geq 98\%$).
	☐ 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 $\geq 1/T$).
	☐ Refer as ANSI C63.10, clause 11.12.2.5.3 (Reduced VBW). VBW $\geq 1/T$, 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





3.6.5 Measurement Results Calculation

The measured Level is calculated using:

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

3.6.6 Emissions in Restricted Frequency Bands (Below 30MHz)

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

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

3.6.7 Test Result of Emissions in Restricted Frequency Bands

Refer as Appendix F



4 Test Equipment and Calibration Data

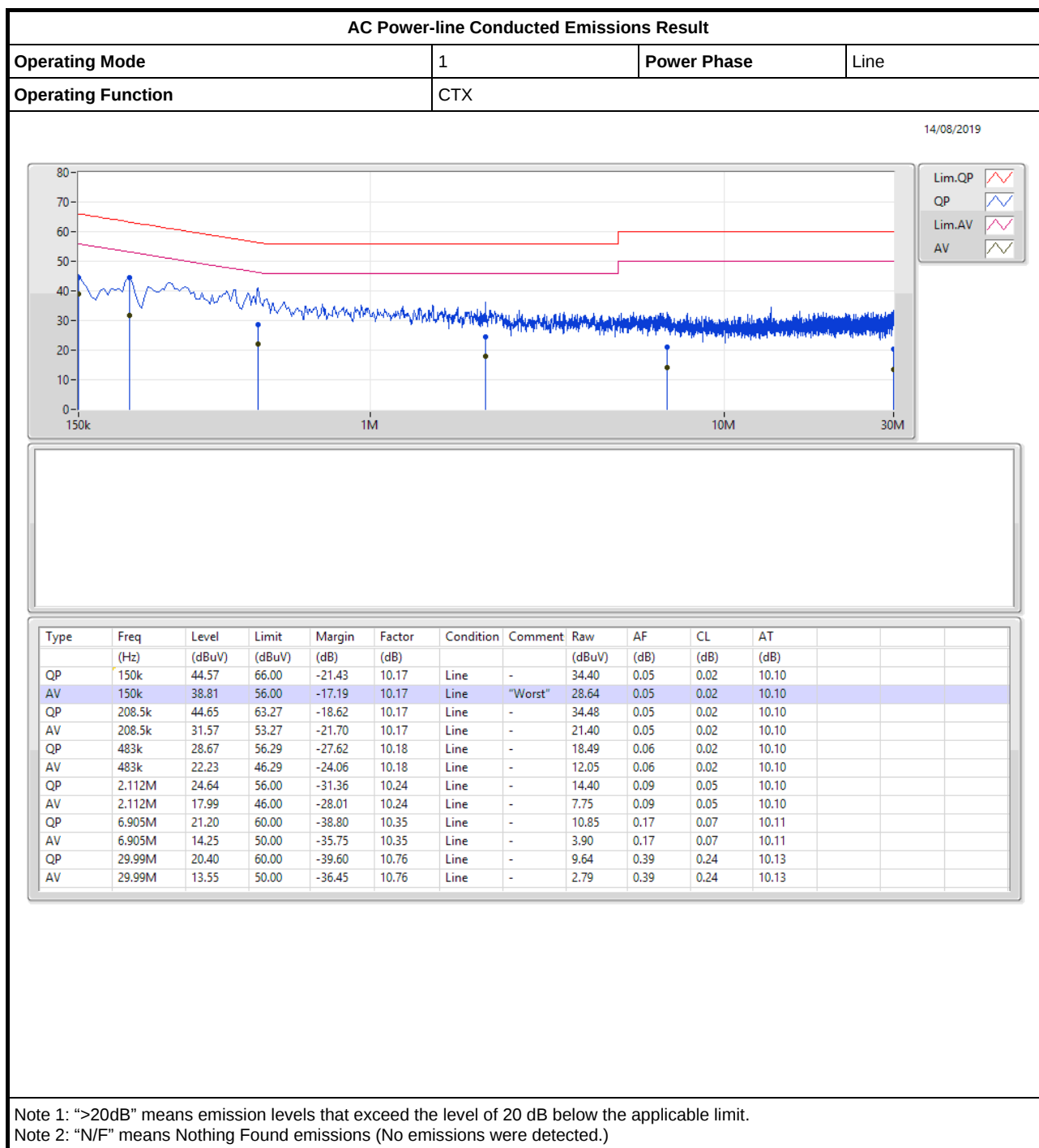
Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Calibration Due Date	Remark
LISN	Schwarzbeck	NSLK 8127	8127650	9kHz ~ 30MHz	Nov. 21, 2018	Nov. 20, 2019	Conduction (CO02-CB)
LISN	Schwarzbeck	NSLK 8127	8127478	9kHz ~ 30MHz	Nov. 05, 2018	Nov. 04, 2019	Conduction (CO02-CB)
EMI Receiver	Agilent	N9038A	MY52260140	9kHz ~ 8.4GHz	Jan. 16, 2019	Jan. 15, 2020	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. 29, 2019	Mar. 28, 2020	Radiation (03CH03-CB)
Bilog Antenna with 6 dB attenuator	Schaffner	CBL6112B & N-6-06	2928 & AT-N0607	20MHz ~ 2GHz	Jan. 02, 2019	Jan. 01, 2020	Radiation (03CH03-CB)
Pre-Amplifier	Agilent	8447D	2944A10259	9kHz ~ 1.3GHz	Jan. 16, 2019	Jan. 15, 2020	Radiation (03CH03-CB)
Spectrum Analyzer	R&S	FSP40	100056	9kHz ~ 40GHz	Jan. 31, 2019	Jan. 30, 2020	Radiation (03CH03-CB)
EMI Test Receiver	R&S	ESCS	826547/017	9kHz ~ 2.75GHz	May 15, 2019	May 14, 2020	Radiation (03CH03-CB)
RF Cable-low	Woken	RG402	Low Cable-02+27	25MHz ~ 1GHz	Oct. 08, 2018	Oct. 07, 2019	Radiation (03CH03-CB)
Horn Antenna	SCHWARZBECK	BBHA9120D	9120D-1292	1GHz~18GHz	Jul. 20, 2018	Jul. 19, 2019	Radiation (03CH06-CB)
Horn Antenna	SCHWARZBECK	BBHA9120D	9120D-1292	1GHz~18GHz	Jul. 17, 2019	Jul. 16, 2020	Radiation (03CH06-CB)
Horn Antenna	SCHWARZBECK	BBHA 9170	BBHA91705 07	15GHz ~ 40GHz	Jun. 12, 2019	Jun. 11, 2020	Radiation (03CH06-CB)
Pre-Amplifier	Agilent	83017A	MY53270064	0.5GHz ~ 26.5GHz	May 08, 2019	May 07, 2020	Radiation (03CH06-CB)
Pre-Amplifier	MITEQ	TTA1840-35 -HG	1864479	18GHz ~ 40GHz	Jul. 04, 2018	Jul. 03, 2019	Radiation (03CH06-CB)
Pre-Amplifier	MITEQ	TTA1840-35 -HG	1864479	18GHz ~ 40GHz	Jul. 03, 2019	Jul. 02, 2020	Radiation (03CH06-CB)
Spectrum analyzer	R&S	FSP40	100080	9kHz~40GHz	Oct. 03, 2018	Oct. 02, 2019	Radiation (03CH06-CB)
RF Cable-high	HUBER+SUHNER	RG402	High Cable-05	1GHz~18GHz	Oct. 08, 2018	Oct. 07, 2019	Radiation (03CH06-CB)
RF Cable-high	HUBER+SUHNER	RG402	High Cable-05+24	1GHz~18GHz	Oct. 08, 2018	Oct. 07, 2019	Radiation (03CH06-CB)
RF Cable-high	Woken	RG402	High Cable-40G#1	18GHz ~ 40 GHz	Jul. 27, 2018	Jul. 26, 2019	Radiation (03CH06-CB)
RF Cable-high	Woken	RG402	High Cable-40G#1	18GHz ~ 40 GHz	Jul. 24, 2019	Jul. 23, 2020	Radiation (03CH06-CB)

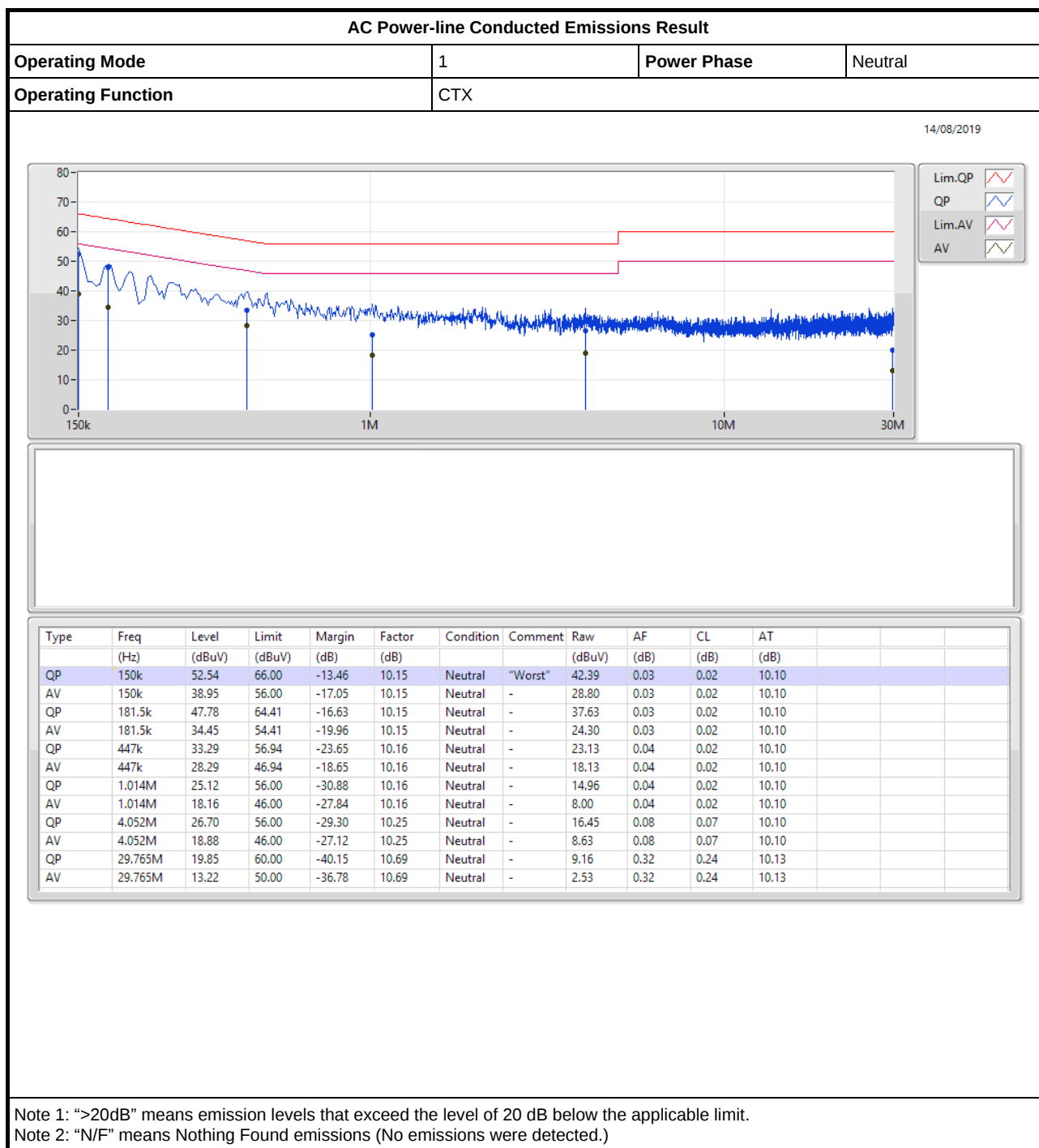


Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Calibration Due Date	Remark
RF Cable-high	Woken	RG402	High Cable-40G#2	18GHz ~ 40 GHz	Jul. 27, 2018	Jul. 26, 2019	Radiation (03CH06-CB)
RF Cable-high	Woken	RG402	High Cable-40G#2	18GHz ~ 40 GHz	Jul. 24, 2019	Jul. 23, 2020	Radiation (03CH06-CB)
Spectrum analyzer	R&S	FSV40	101027	9kHz~40GHz	Jul. 02, 2019	Jul. 01, 2020	Conducted (TH02-CB)
Power Sensor	Anritsu	MA2411B	1126203	300MHz~40GHz	Sep. 03, 2018	Sep. 02, 2019	Conducted (TH02-CB)
Power Meter	Anritsu	ML2495A	1210004	300MHz~40GHz	Sep. 03, 2018	Sep. 02, 2019	Conducted (TH02-CB)
RF Cable-high	Woken	RG402	High Cable-01	1 GHz – 26.5 GHz	Oct. 08, 2018	Oct. 07, 2019	Conducted (TH02-CB)
RF Cable-high	Woken	RG402	High Cable-02	1 GHz – 26.5 GHz	Oct. 08, 2018	Oct. 07, 2019	Conducted (TH02-CB)
RF Cable-high	Woken	RG402	High Cable-3	1 GHz – 26.5 GHz	Oct. 24, 2018	Oct. 23, 2019	Conducted (TH02-CB)
RF Cable-high	Woken	RG402	High Cable-04	1 GHz – 26.5 GHz	Oct. 08, 2018	Oct. 07, 2019	Conducted (TH02-CB)
RF Cable-high	Woken	RG402	High Cable-05	1 GHz – 26.5 GHz	Oct. 08, 2018	Oct. 07, 2019	Conducted (TH02-CB)

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

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





Summary

Mode	Max-N dB (Hz)	Max-OBW (Hz)	ITU-Code	Min-N dB (Hz)	Min-OBW (Hz)
2.4-2.4835GHz	-	-	-	-	-
802.11b_Nss1,(1Mbps)_2TX	7.05M	10.886M	10M9G1D	6.575M	10.425M
802.11g_Nss1,(6Mbps)_2TX	16.35M	17.37M	17M4D1D	16.325M	16.568M
VHT20_Nss2,(MCS0)_2TX	17.575M	18.134M	18M1D1D	17.55M	17.729M
802.11ax HEW20_Nss2,(MCS0)_2TX	18.975M	19.187M	19M2D1D	18.825M	18.95M
VHT20-BF_Nss1,(MCS0)_2TX	17.575M	18.198M	18M2D1D	17.575M	17.738M
VHT40-BF_Nss1,(MCS0)_2TX	36.35M	36.303M	36M3D1D	36.25M	36.176M
802.11ax HEW20-BF_Nss1,(MCS0)_2TX	18.925M	19.147M	19M1D1D	18.65M	18.939M
802.11ax HEW40-BF_Nss1,(MCS0)_2TX	37.6M	37.637M	37M6D1D	36.95M	37.508M

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

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

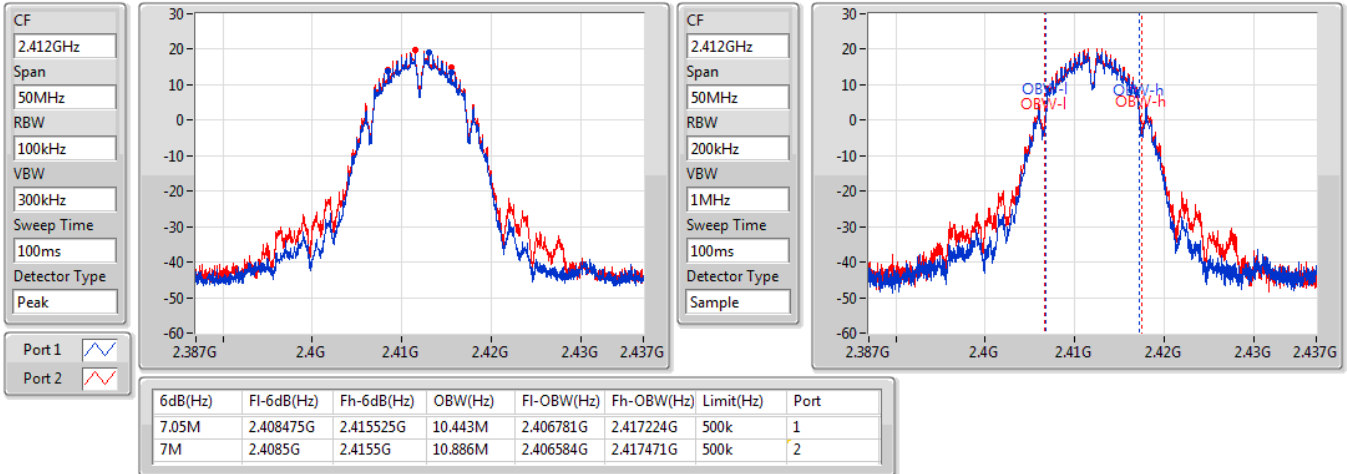
Result

Mode	Result	Limit (Hz)	Port 1-N dB (Hz)	Port 1-OBW (Hz)	Port 2-N dB (Hz)	Port 2-OBW (Hz)
802.11b_Nss1,(1Mbps)_2TX	-	-	-	-	-	-
2412MHz	Pass	500k	7.05M	10.443M	7M	10.886M
2437MHz	Pass	500k	6.575M	10.425M	7.025M	10.82M
2462MHz	Pass	500k	7M	10.453M	7.025M	10.826M
802.11g_Nss1,(6Mbps)_2TX	-	-	-	-	-	-
2412MHz	Pass	500k	16.325M	16.616M	16.325M	16.61M
2437MHz	Pass	500k	16.325M	16.742M	16.325M	17.37M
2462MHz	Pass	500k	16.35M	16.595M	16.325M	16.568M
VHT20_Nss2,(MCS0)_2TX	-	-	-	-	-	-
2412MHz	Pass	500k	17.55M	17.729M	17.575M	17.777M
2437MHz	Pass	500k	17.575M	17.922M	17.55M	18.134M
2462MHz	Pass	500k	17.575M	17.776M	17.575M	17.739M
802.11ax HEW20_Nss2,(MCS0)_2TX	-	-	-	-	-	-
2412MHz	Pass	500k	18.975M	18.95M	18.9M	18.951M
2437MHz	Pass	500k	18.975M	19.079M	18.825M	19.187M
2462MHz	Pass	500k	18.95M	18.98M	18.9M	18.989M
VHT20-BF_Nss1,(MCS0)_2TX	-	-	-	-	-	-
2412MHz	Pass	500k	17.575M	17.738M	17.575M	17.791M
2437MHz	Pass	500k	17.575M	17.881M	17.575M	18.198M
2462MHz	Pass	500k	17.575M	17.738M	17.575M	17.765M
VHT40-BF_Nss1,(MCS0)_2TX	-	-	-	-	-	-
2422MHz	Pass	500k	36.3M	36.303M	36.3M	36.208M
2437MHz	Pass	500k	36.3M	36.176M	36.35M	36.267M
2452MHz	Pass	500k	36.3M	36.222M	36.25M	36.269M
802.11ax HEW20-BF_Nss1,(MCS0)_2TX	-	-	-	-	-	-
2412MHz	Pass	500k	18.875M	18.957M	18.9M	18.979M
2437MHz	Pass	500k	18.875M	19.009M	18.65M	19.147M
2462MHz	Pass	500k	18.925M	18.97M	18.825M	18.939M
802.11ax HEW40-BF_Nss1,(MCS0)_2TX	-	-	-	-	-	-
2422MHz	Pass	500k	36.95M	37.637M	37.25M	37.508M
2437MHz	Pass	500k	37.6M	37.599M	37.45M	37.556M
2452MHz	Pass	500k	37.5M	37.566M	37.45M	37.593M

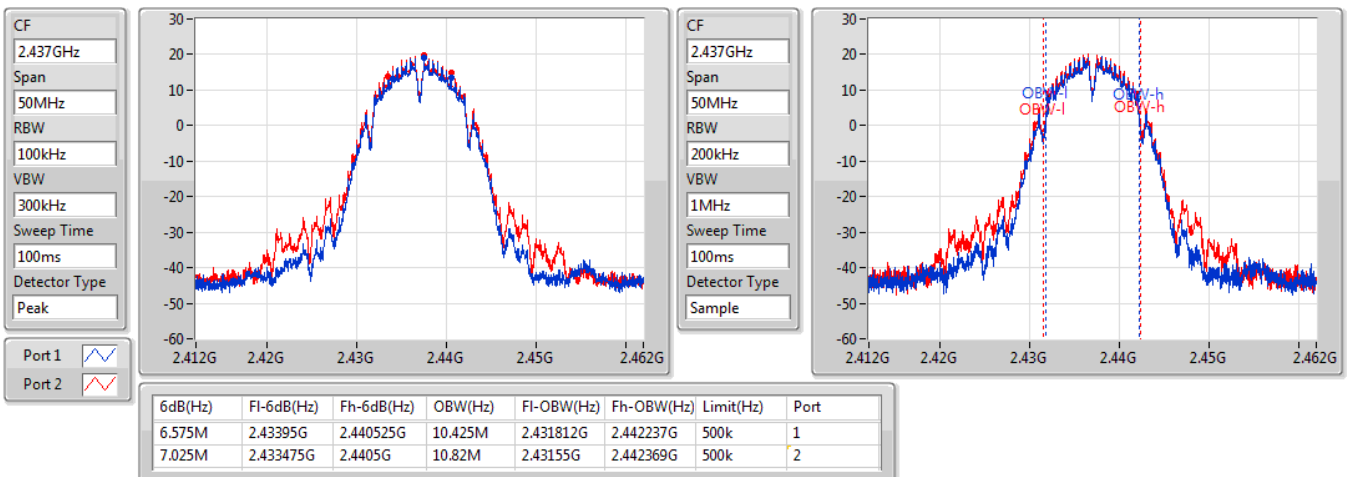
Port X-N dB = Port X 6dB down bandwidth; Port X-OBW = Port X 99% occupied bandwidth;

802.11b_Nss1,(1Mbps)_2TX
EBW
2412MHz

05/07/2019

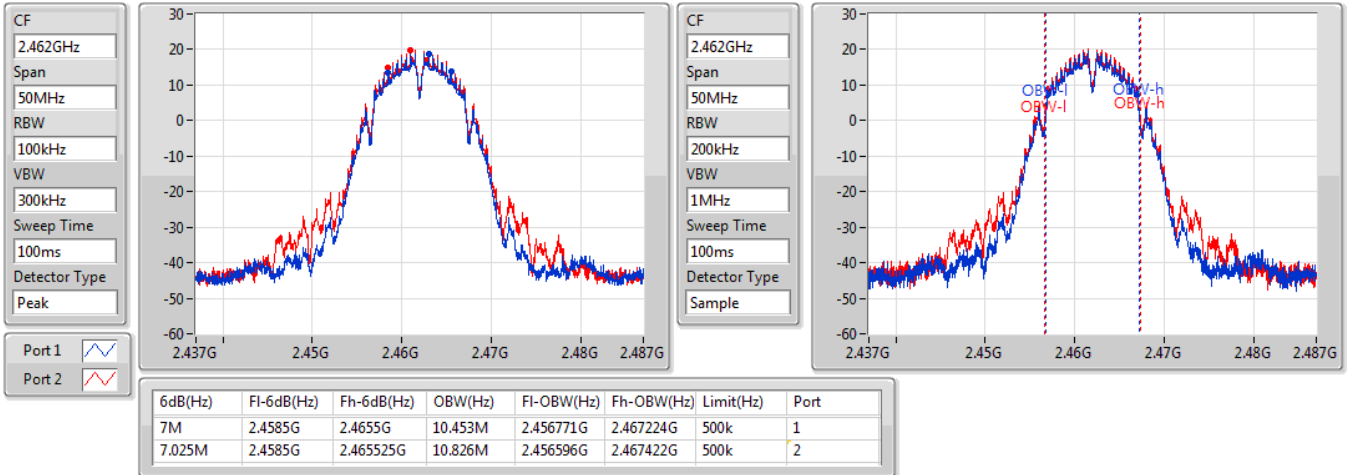

802.11b_Nss1,(1Mbps)_2TX
EBW
2437MHz

05/07/2019

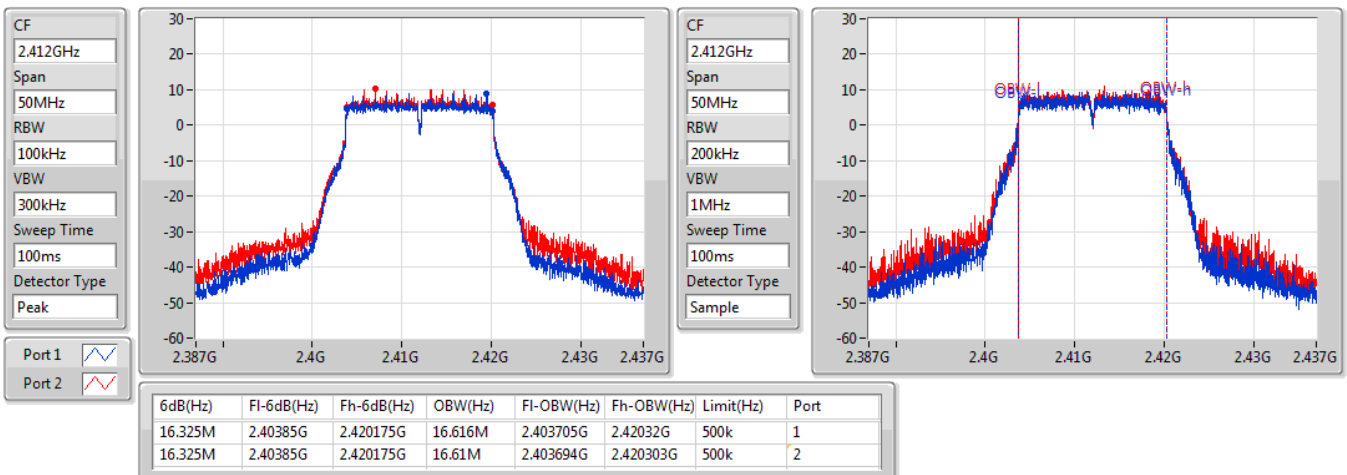


802.11b_Nss1,(1Mbps)_2TX
EBW
2462MHz

05/07/2019

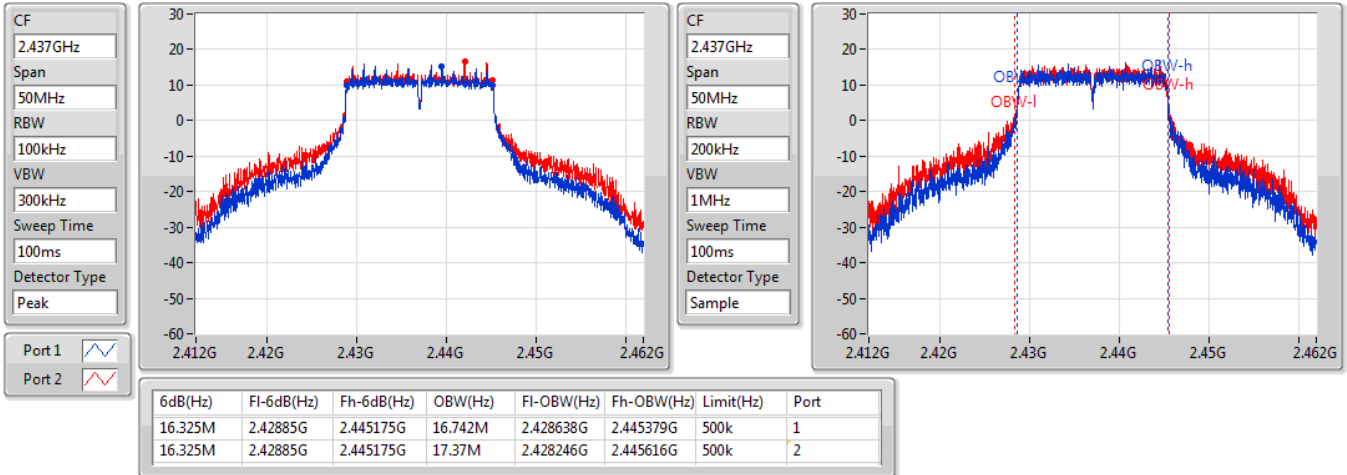

802.11g_Nss1,(6Mbps)_2TX
EBW
2412MHz

05/07/2019

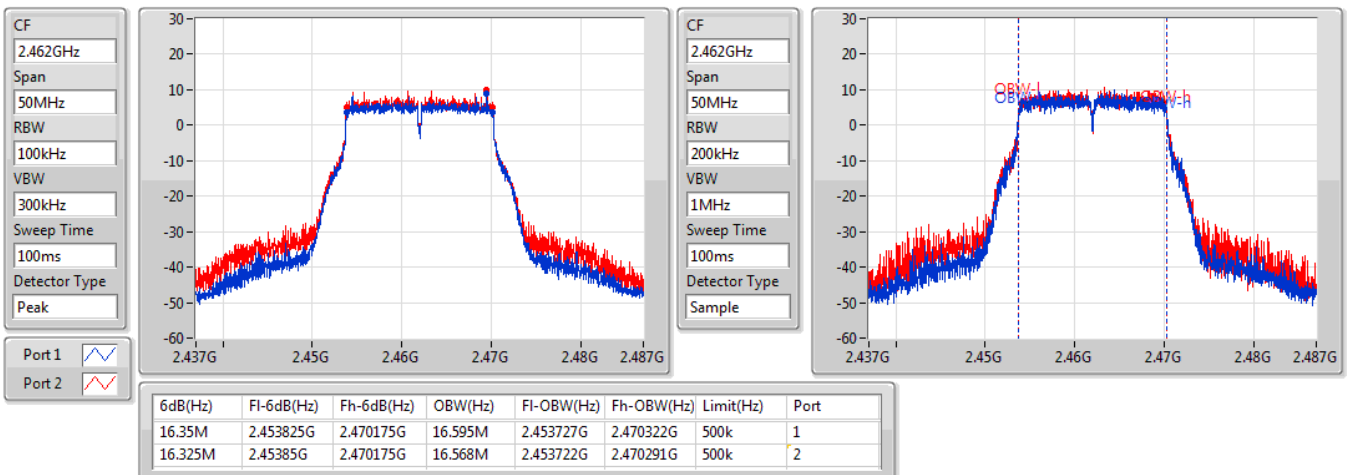


802.11g_Nss1,(6Mbps)_2TX
EBW
2437MHz

05/07/2019

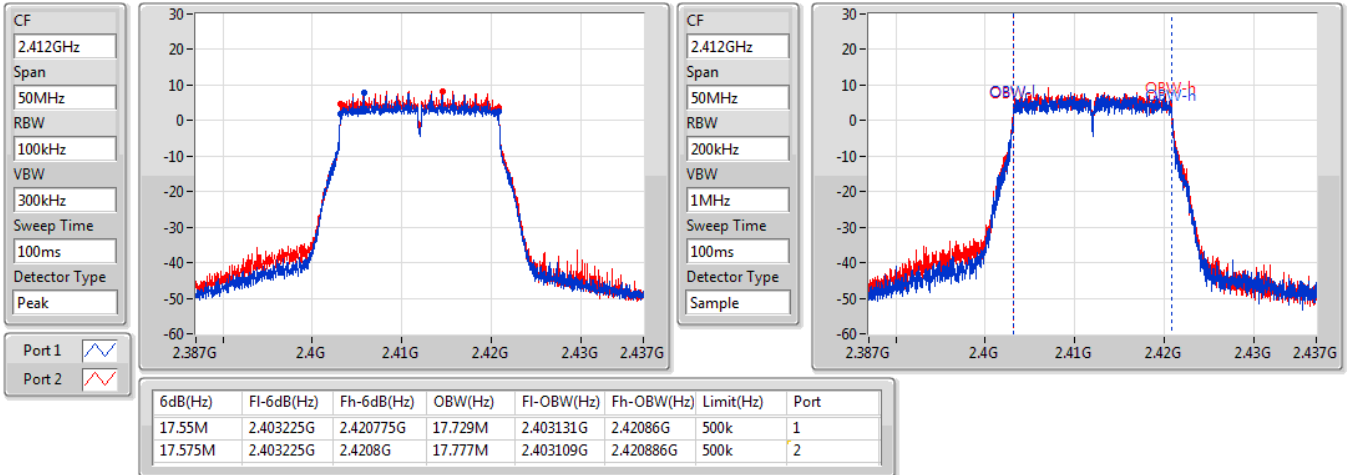

802.11g_Nss1,(6Mbps)_2TX
EBW
2462MHz

05/07/2019

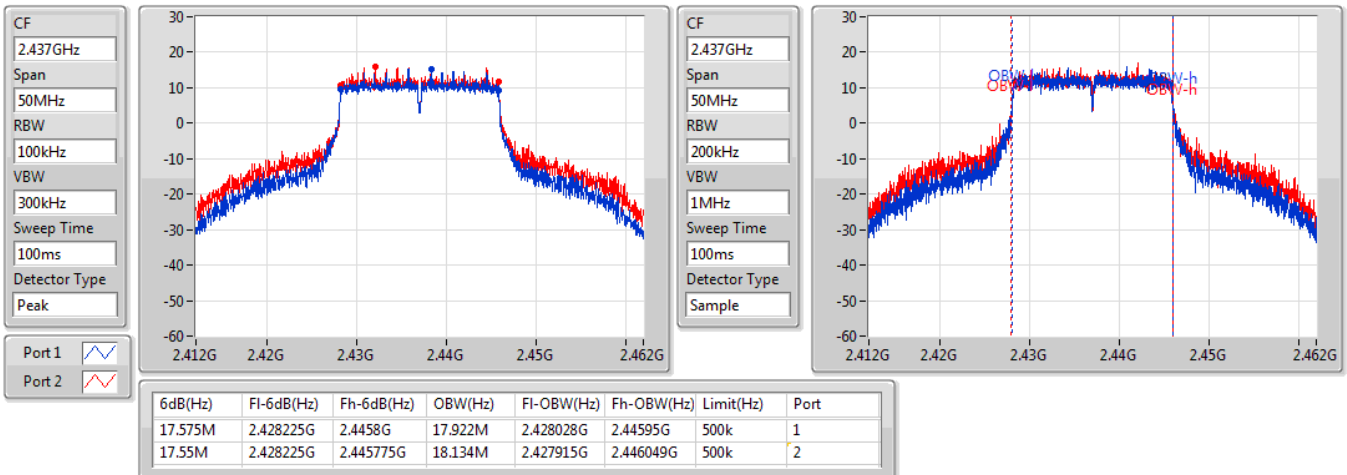


VHT20_Nss2,(MCS0)_2TX
EBW
2412MHz

05/07/2019

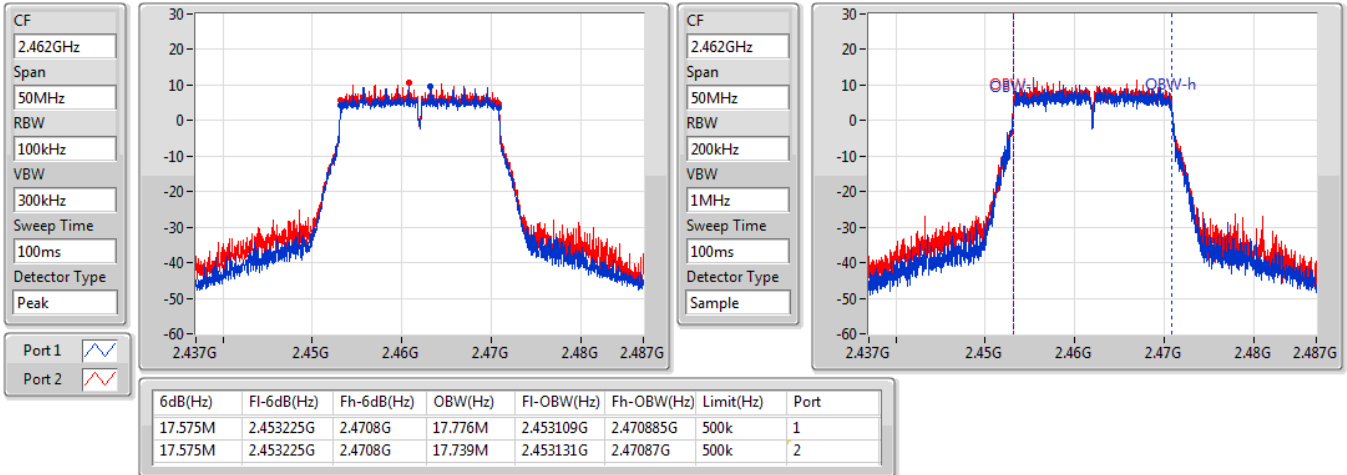

VHT20_Nss2,(MCS0)_2TX
EBW
2437MHz

05/07/2019

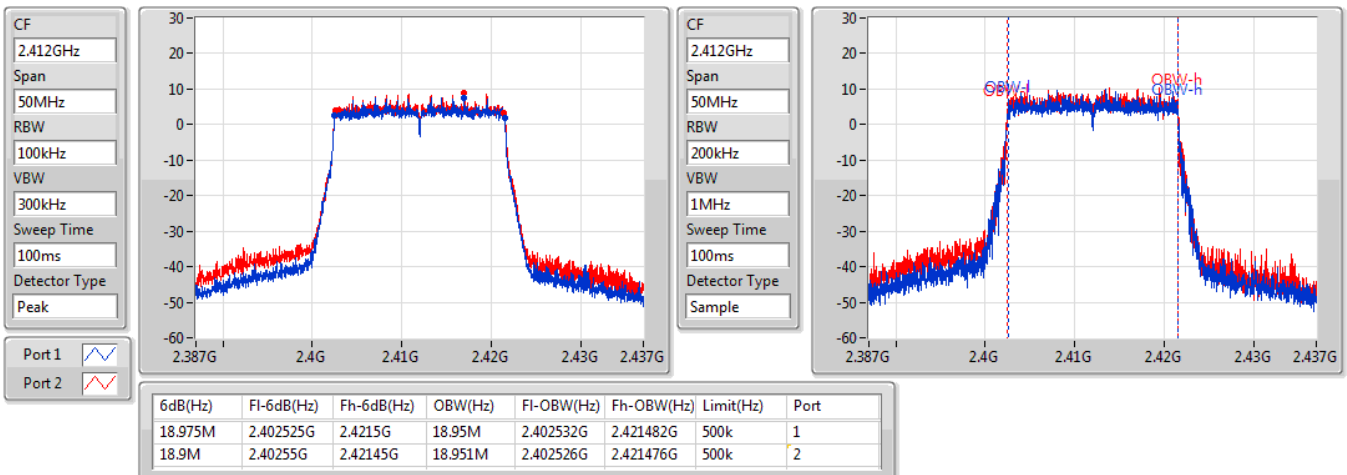


VHT20_Nss2,(MCS0)_2TX
EBW
2462MHz

05/07/2019

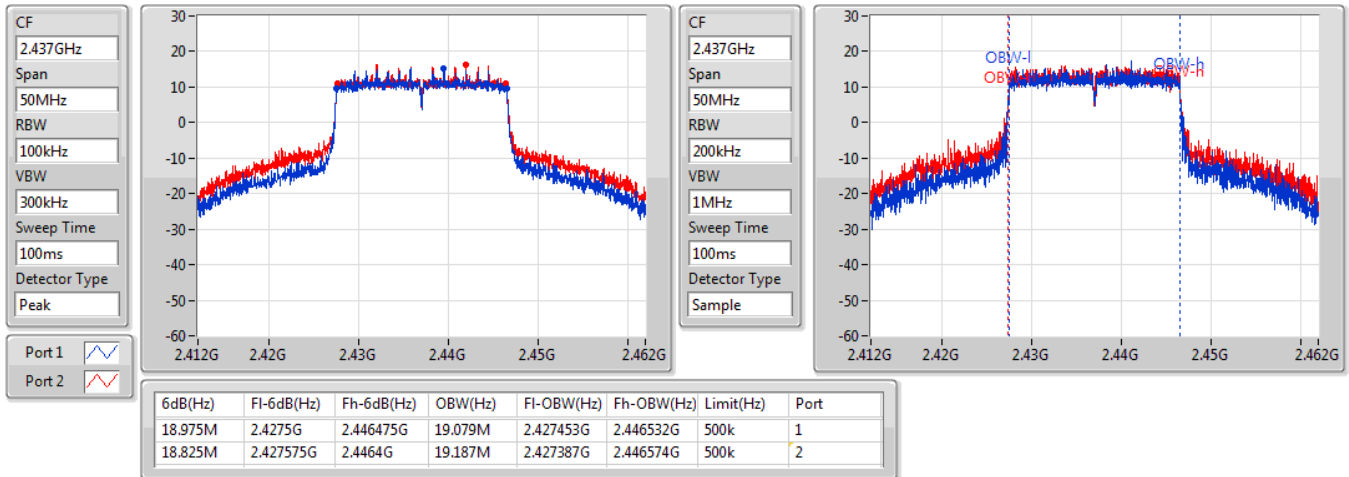

802.11ax HEW20_Nss2,(MCS0)_2TX
EBW
2412MHz

05/07/2019

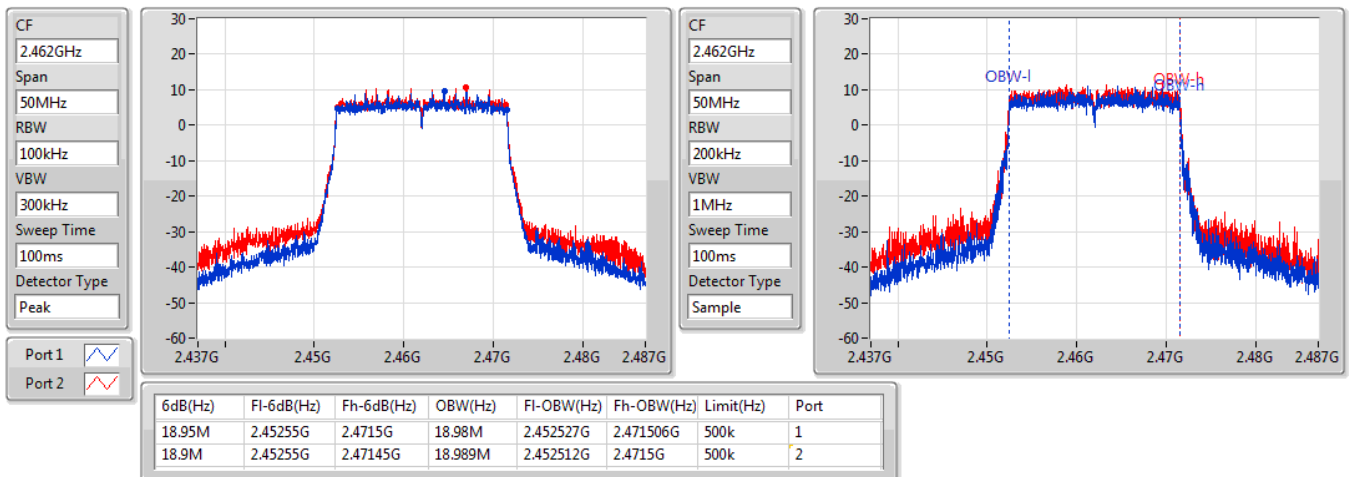


802.11ax HEW20_Nss2,(MCS0)_2TX
EBW
2437MHz

05/07/2019

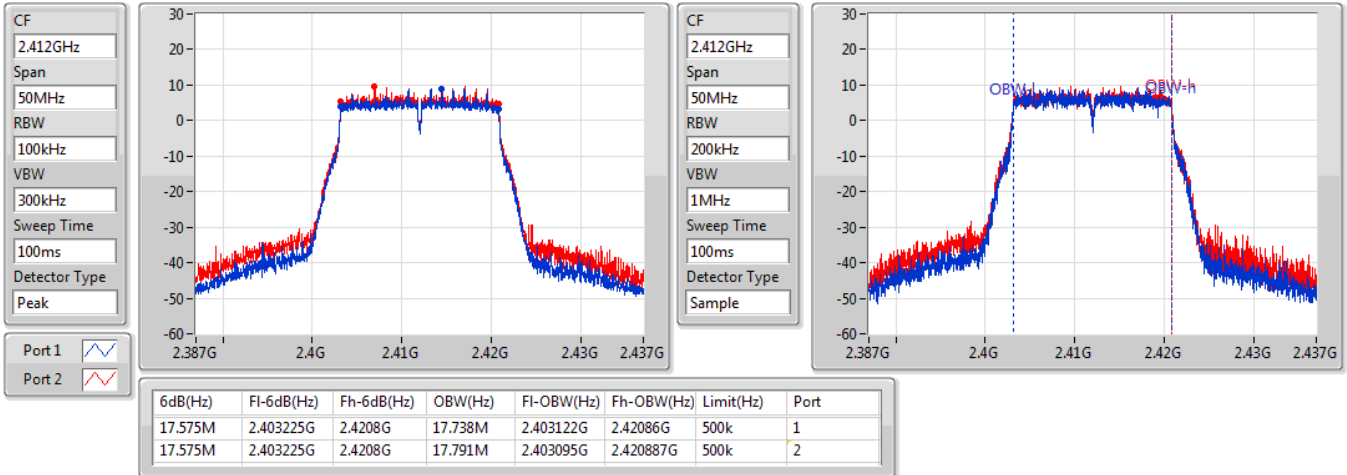

802.11ax HEW20_Nss2,(MCS0)_2TX
EBW
2462MHz

05/07/2019

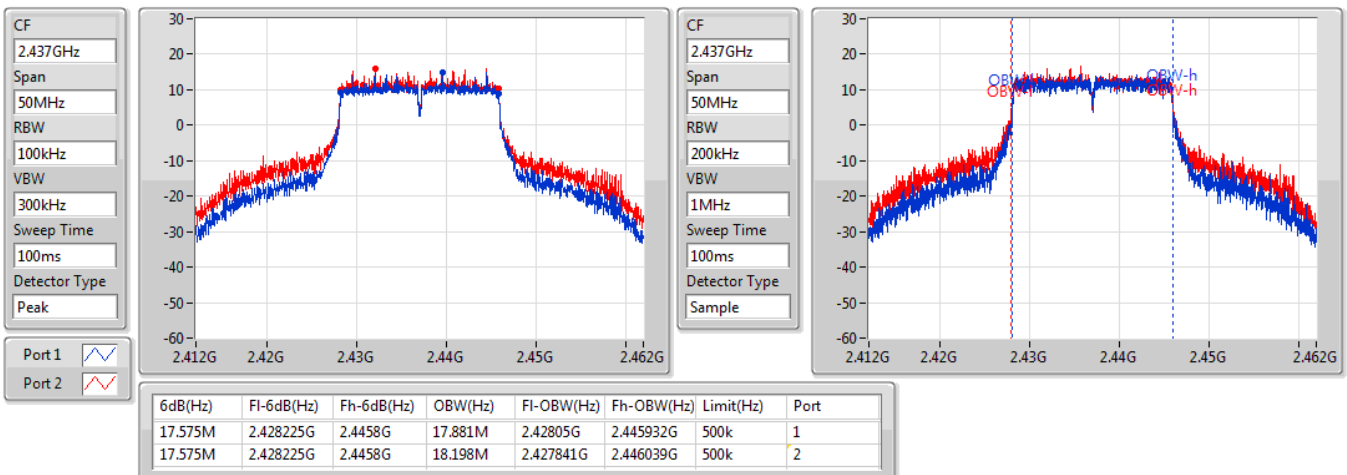


VHT20-BF_Nss1,(MCS0)_2TX
EBW
2412MHz

05/07/2019

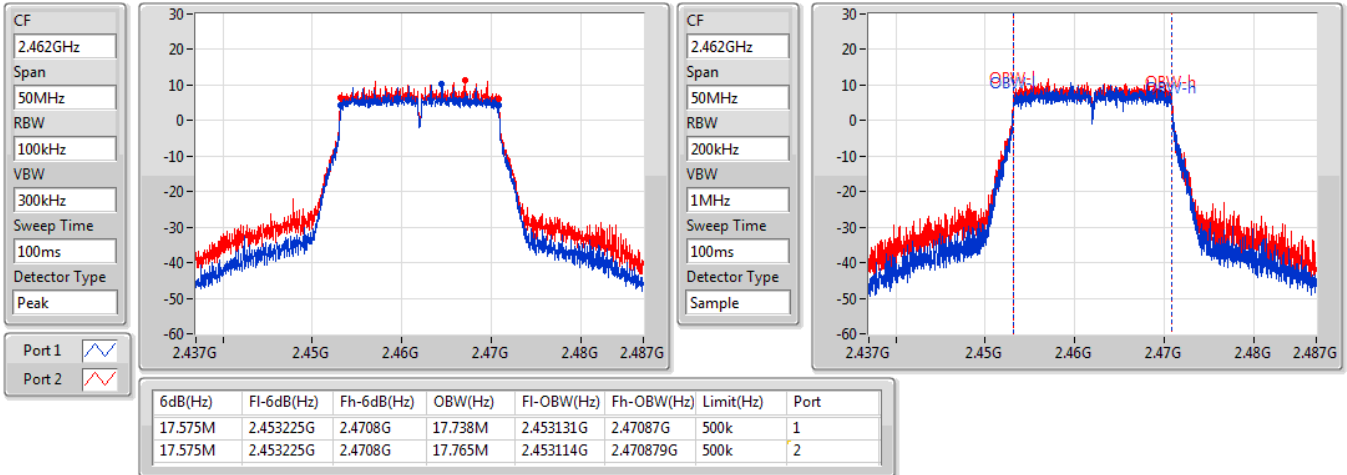

VHT20-BF_Nss1,(MCS0)_2TX
EBW
2437MHz

05/07/2019

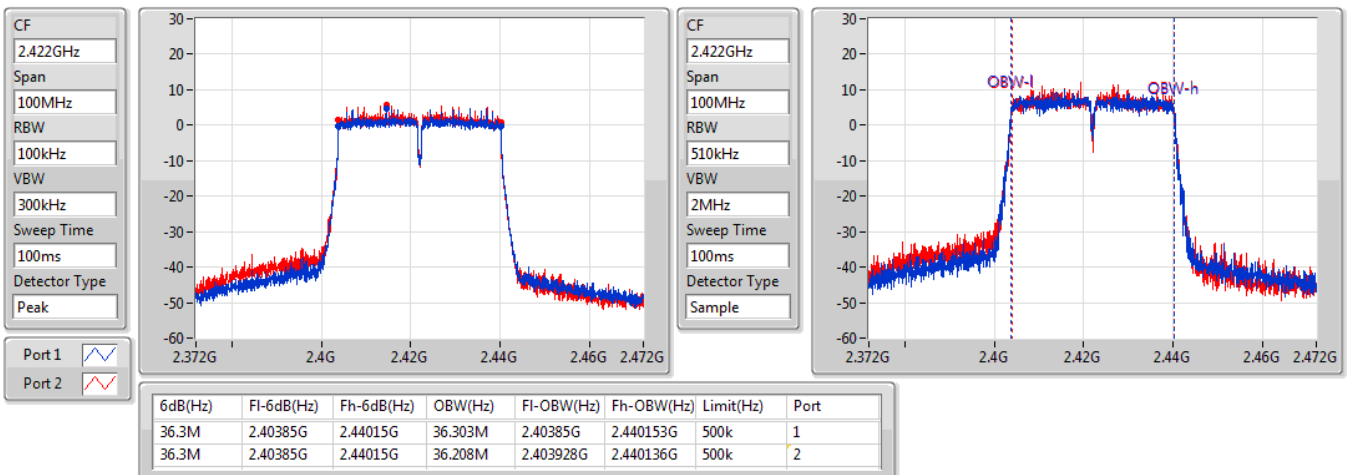


VHT20-BF_Nss1,(MCS0)_2TX
2462MHz

05/07/2019

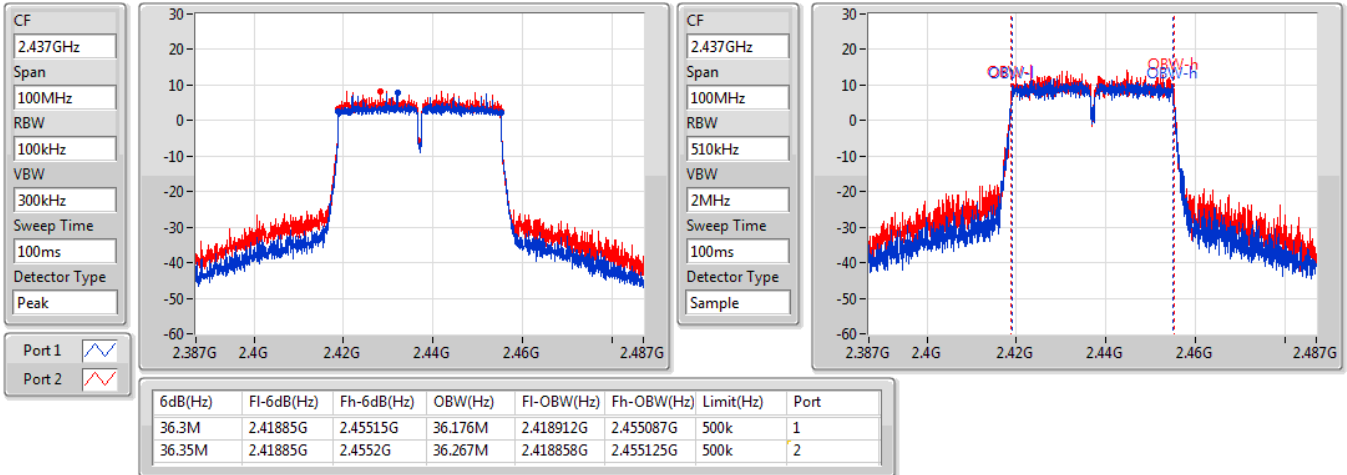

VHT40-BF_Nss1,(MCS0)_2TX
2422MHz

05/07/2019

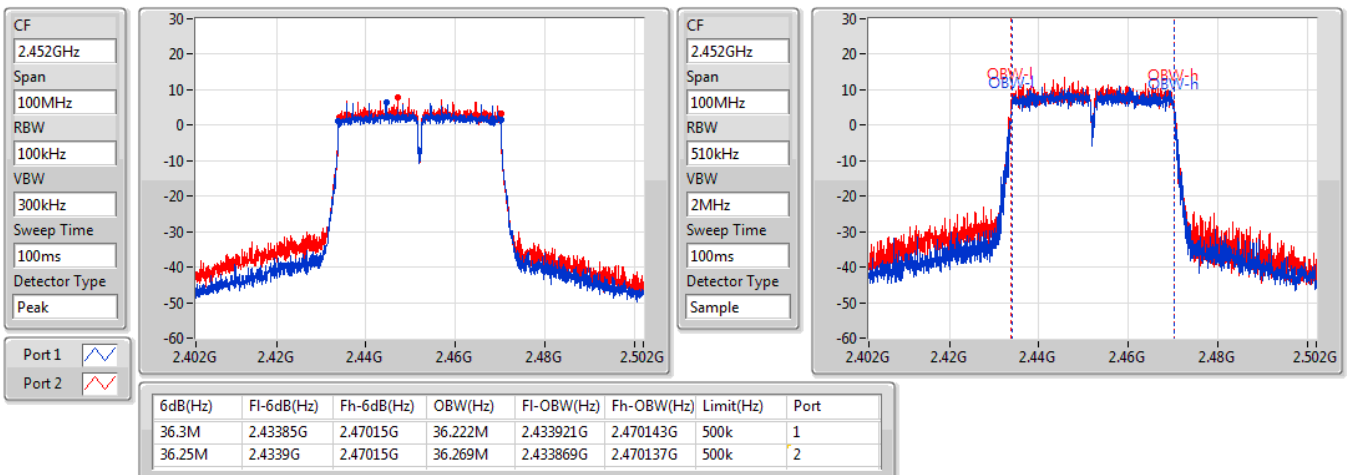


VHT40-BF_Nss1,(MCS0)_2TX
EBW
2437MHz

05/07/2019

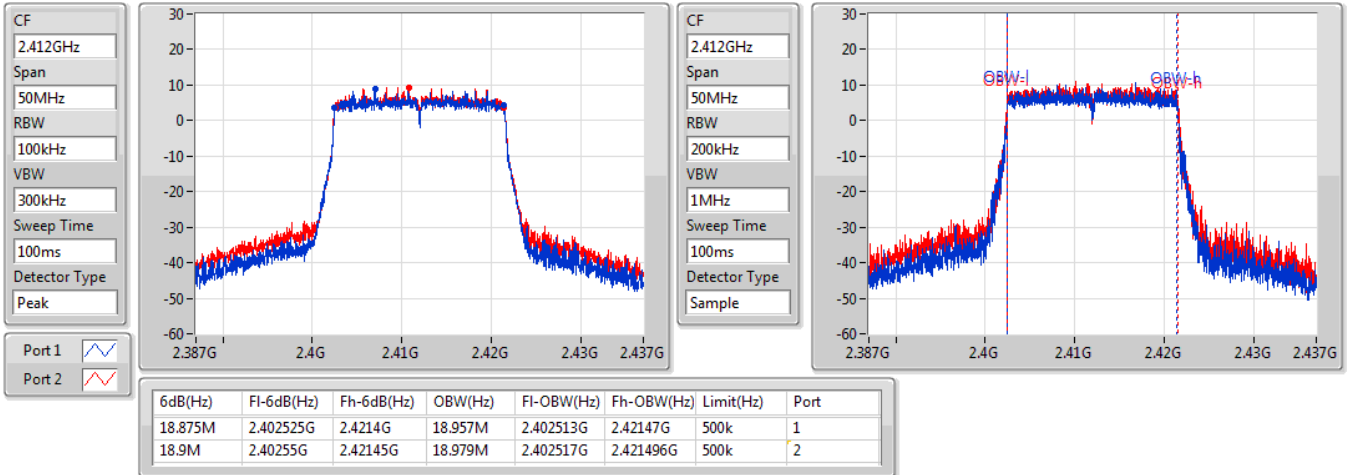

VHT40-BF_Nss1,(MCS0)_2TX
EBW
2452MHz

05/07/2019

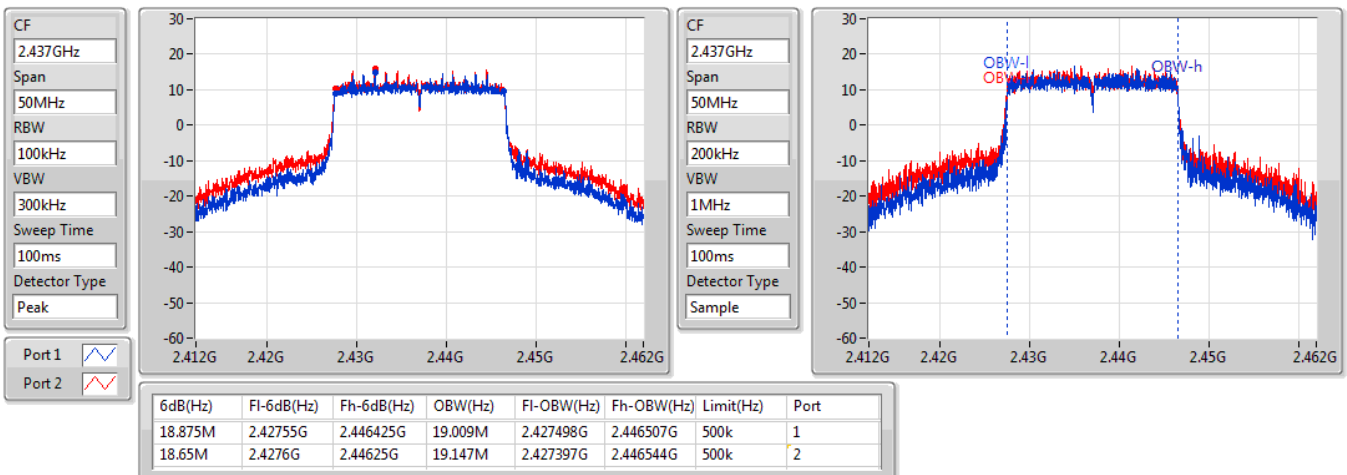


802.11ax HEW20-BF_Nss1,(MCS0)_2TX
EBW
2412MHz

05/07/2019

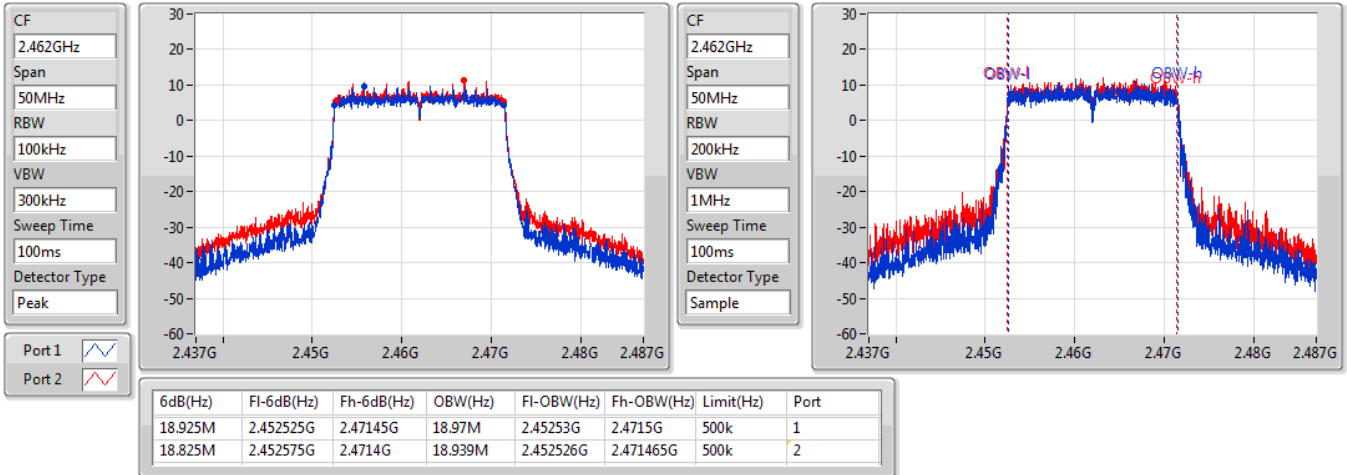

802.11ax HEW20-BF_Nss1,(MCS0)_2TX
EBW
2437MHz

05/07/2019

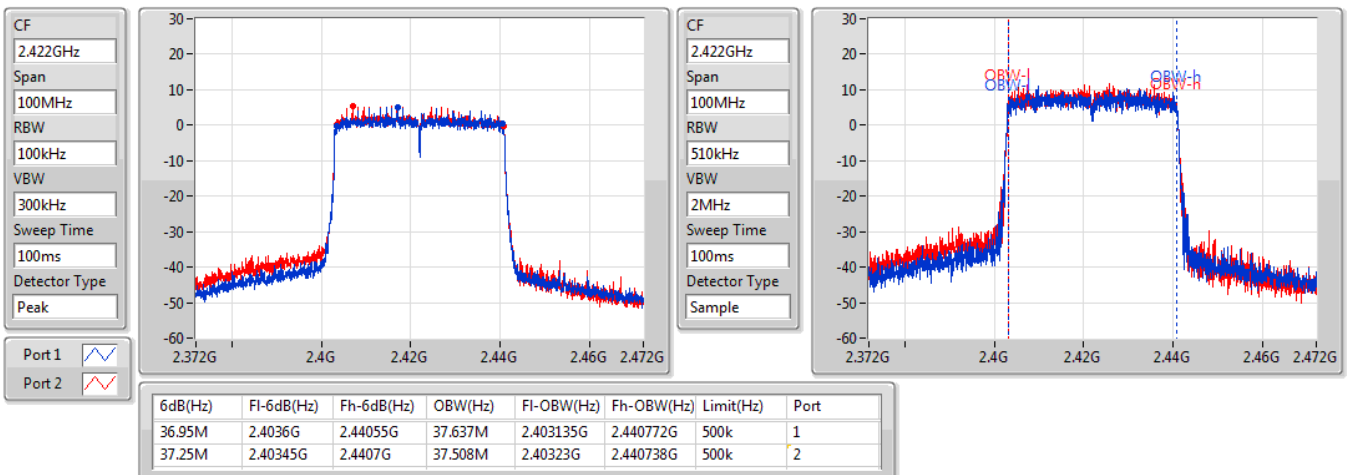


802.11ax HEW20-BF_Nss1,(MCS0)_2TX
EBW
2462MHz

05/07/2019

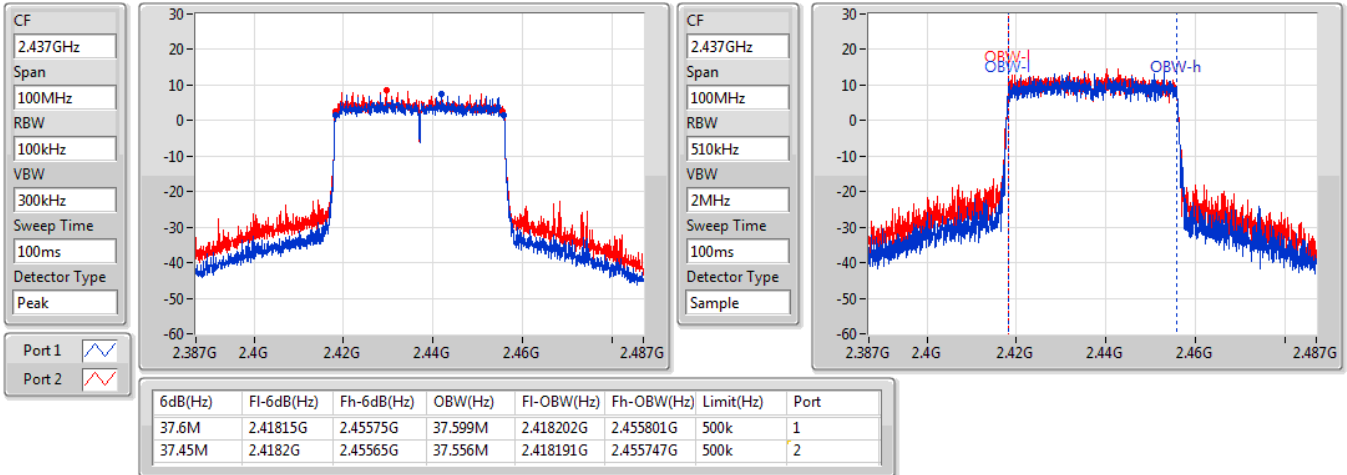

802.11ax HEW40-BF_Nss1,(MCS0)_2TX
EBW
2422MHz

05/07/2019

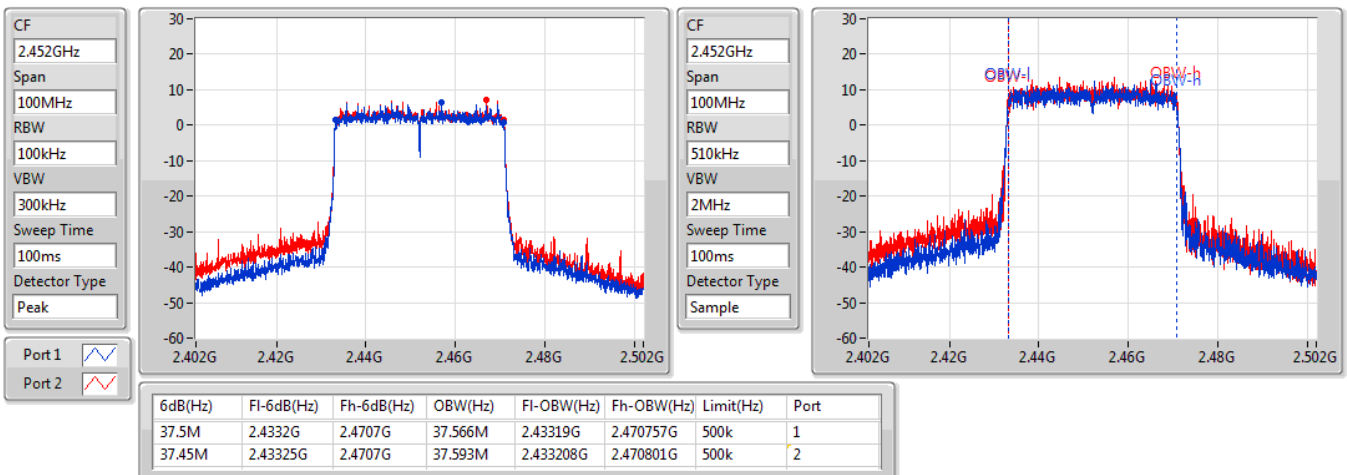


802.11ax HEW40-BF_Nss1,(MCS0)_2TX
EBW
2437MHz

05/07/2019


802.11ax HEW40-BF_Nss1,(MCS0)_2TX
EBW
2452MHz

05/07/2019





Average Power Result

Appendix C

Summary

Mode	Total Power (dBm)	Total Power (W)
2.4-2.4835GHz	-	-
802.11b_Nss1,(1Mbps)_2TX	29.88	0.97275
802.11g_Nss1,(6Mbps)_2TX	29.80	0.95499
VHT20_Nss2,(MCS0)_2TX	29.79	0.95280
802.11ax HEW20_Nss2,(MCS0)_2TX	29.89	0.97499
VHT20-BF_Nss1,(MCS0)_2TX	29.32	0.85507
VHT40-BF_Nss1,(MCS0)_2TX	25.42	0.34834
802.11ax HEW20-BF_Nss1,(MCS0)_2TX	29.57	0.90573
802.11ax HEW40-BF_Nss1,(MCS0)_2TX	25.41	0.34754



Average Power Result

Appendix C

Result

Mode	Result	DG (dBi)	Port 1 (dBm)	Port 2 (dBm)	Total Power (dBm)	Power Limit (dBm)
802.11b_Nss1,(1Mbps)_2TX	-	-	-	-	-	-
2412MHz	Pass	1.96	26.34	27.21	29.81	30.00
2437MHz	Pass	1.96	26.42	27.28	29.88	30.00
2462MHz	Pass	1.96	26.26	27.17	29.75	30.00
802.11g_Nss1,(6Mbps)_2TX	-	-	-	-	-	-
2412MHz	Pass	1.96	20.69	21.52	24.14	30.00
2417MHz	Pass	1.96	22.22	23.61	25.98	30.00
2437MHz	Pass	1.96	26.40	27.14	29.80	30.00
2457MHz	Pass	1.96	23.02	24.07	26.59	30.00
2462MHz	Pass	1.96	20.74	21.42	24.10	30.00
VHT20_Nss2,(MCS0)_2TX	-	-	-	-	-	-
2412MHz	Pass	1.95	19.00	19.87	22.47	30.00
2417MHz	Pass	1.95	22.11	23.29	25.75	30.00
2437MHz	Pass	1.95	26.61	26.94	29.79	30.00
2457MHz	Pass	1.95	21.75	22.85	25.35	30.00
2462MHz	Pass	1.95	21.11	21.97	24.57	30.00
802.11ax HEW20_Nss2,(MCS0)_2TX	-	-	-	-	-	-
2412MHz	Pass	1.95	19.37	20.33	22.89	30.00
2417MHz	Pass	1.95	22.58	23.58	26.12	30.00
2437MHz	Pass	1.95	26.49	27.24	29.89	30.00
2457MHz	Pass	1.95	21.75	22.81	25.32	30.00
2462MHz	Pass	1.95	21.25	22.41	24.88	30.00
VHT20-BF_Nss1,(MCS0)_2TX	-	-	-	-	-	-
2412MHz	Pass	4.96	20.27	21.14	23.74	30.00
2417MHz	Pass	4.96	21.09	22.00	24.58	30.00
2437MHz	Pass	4.96	25.94	26.65	29.32	30.00
2457MHz	Pass	4.96	21.32	22.33	24.86	30.00
2462MHz	Pass	4.96	21.53	22.68	25.15	30.00
VHT40-BF_Nss1,(MCS0)_2TX	-	-	-	-	-	-
2422MHz	Pass	4.96	19.44	20.01	22.74	30.00
2427MHz	Pass	4.96	19.88	20.28	23.09	30.00
2437MHz	Pass	4.96	22.01	22.78	25.42	30.00
2447MHz	Pass	4.96	21.13	21.81	24.49	30.00
2452MHz	Pass	4.96	20.71	21.49	24.13	30.00
802.11ax HEW20-BF_Nss1,(MCS0)_2TX	-	-	-	-	-	-
2412MHz	Pass	4.96	20.43	21.54	24.03	30.00
2417MHz	Pass	4.96	21.30	21.99	24.67	30.00
2437MHz	Pass	4.96	26.18	26.91	29.57	30.00
2457MHz	Pass	4.96	21.55	22.20	24.90	30.00
2462MHz	Pass	4.96	21.49	22.66	25.12	30.00
802.11ax HEW40-BF_Nss1,(MCS0)_2TX	-	-	-	-	-	-
2422MHz	Pass	4.96	19.56	20.05	22.82	30.00
2427MHz	Pass	4.96	19.95	20.52	23.25	30.00
2437MHz	Pass	4.96	22.01	22.76	25.41	30.00



Average Power Result

Appendix C

Mode	Result	DG (dBi)	Port 1 (dBm)	Port 2 (dBm)	Total Power (dBm)	Power Limit (dBm)
2447MHz	Pass	4.96	21.20	21.98	24.62	30.00
2452MHz	Pass	4.96	21.02	21.67	24.37	30.00

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

Summary

Mode	PD (dBm/RBW)
2.4-2.4835GHz	-
802.11b_Nss1,(1Mbps)_2TX	7.41
802.11g_Nss1,(6Mbps)_2TX	4.00
VHT20_Nss2,(MCS0)_2TX	2.83
802.11ax HEW20_Nss2,(MCS0)_2TX	1.91
VHT20-BF_Nss1,(MCS0)_2TX	4.85
VHT40-BF_Nss1,(MCS0)_2TX	-2.83
802.11ax HEW20-BF_Nss1,(MCS0)_2TX	3.60
802.11ax HEW40-BF_Nss1,(MCS0)_2TX	-3.47

RBW=3 kHz.

Result

Mode	Result	DG (dBi)	Port 1 (dBm/RBW)	Port 2 (dBm/RBW)	PD (dBm/RBW)	PD Limit (dBm/RBW)
802.11b_Nss1,(1Mbps)_2TX	-	-	-	-	-	-
2412MHz	Pass	4.96	3.99	4.95	6.75	8.00
2437MHz	Pass	4.96	5.52	6.03	7.41	8.00
2462MHz	Pass	4.96	6.40	5.70	7.39	8.00
802.11g_Nss1,(6Mbps)_2TX	-	-	-	-	-	-
2412MHz	Pass	4.96	-4.73	-2.69	-0.89	8.00
2437MHz	Pass	4.96	1.00	1.60	4.00	8.00
2462MHz	Pass	4.96	-4.78	-2.63	-0.87	8.00
VHT20_Nss2,(MCS0)_2TX	-	-	-	-	-	-
2412MHz	Pass	1.95	-6.72	-4.69	-3.97	8.00
2437MHz	Pass	1.95	0.49	2.03	2.83	8.00
2462MHz	Pass	1.95	-4.14	-3.27	-2.41	8.00
802.11ax HEW20_Nss2,(MCS0)_2TX	-	-	-	-	-	-
2412MHz	Pass	1.95	-8.01	-6.64	-4.61	8.00
2437MHz	Pass	1.95	-0.04	0.43	1.91	8.00
2462MHz	Pass	1.95	-5.78	-3.69	-2.76	8.00
VHT20-BF_Nss1,(MCS0)_2TX	-	-	-	-	-	-
2412MHz	Pass	4.96	-5.84	-4.67	-2.65	8.00
2437MHz	Pass	4.96	1.70	2.02	4.85	8.00
2462MHz	Pass	4.96	-4.69	-3.49	-1.05	8.00
VHT40-BF_Nss1,(MCS0)_2TX	-	-	-	-	-	-
2422MHz	Pass	4.96	-8.51	-8.82	-7.49	8.00
2437MHz	Pass	4.96	-5.83	-5.27	-2.83	8.00
2452MHz	Pass	4.96	-6.90	-7.02	-5.77	8.00
802.11ax HEW20-BF_Nss1,(MCS0)_2TX	-	-	-	-	-	-
2412MHz	Pass	4.96	-6.34	-4.43	-2.46	8.00
2437MHz	Pass	4.96	0.12	1.31	3.60	8.00
2462MHz	Pass	4.96	-5.03	-3.09	-1.50	8.00
802.11ax HEW40-BF_Nss1,(MCS0)_2TX	-	-	-	-	-	-
2422MHz	Pass	4.96	-9.80	-7.97	-6.07	8.00
2437MHz	Pass	4.96	-6.10	-5.92	-3.47	8.00
2452MHz	Pass	4.96	-8.34	-6.75	-4.98	8.00

DG = Directional Gain; RBW=3 kHz;

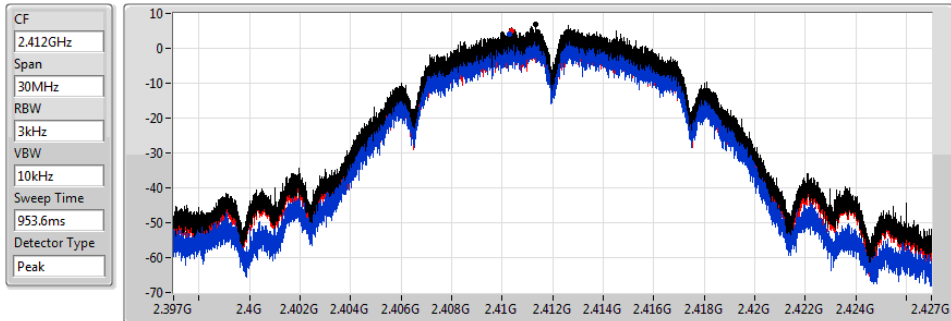
PD = trace bin-by-bin of each transmits port summing can be performed maximum power density; **Port X** = Port X power density;

802.11b_Nss1,(1Mbps)_2TX

PSD

2412MHz

05/07/2019



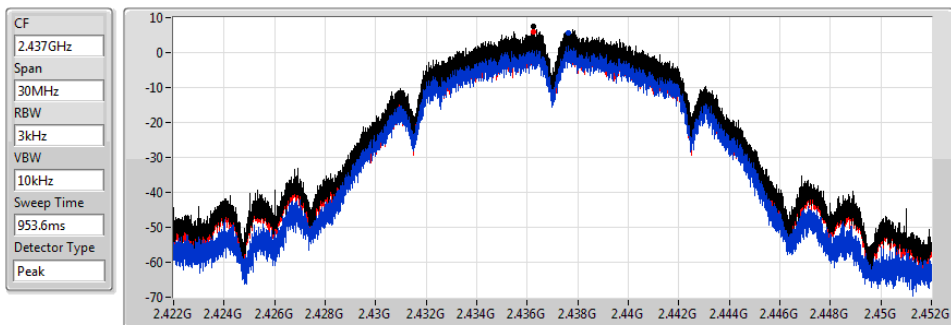
Sum	PD	Port 1	Port 2
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
6.75	6.75	3.99	4.95

802.11b_Nss1,(1Mbps)_2TX

PSD

2437MHz

05/07/2019



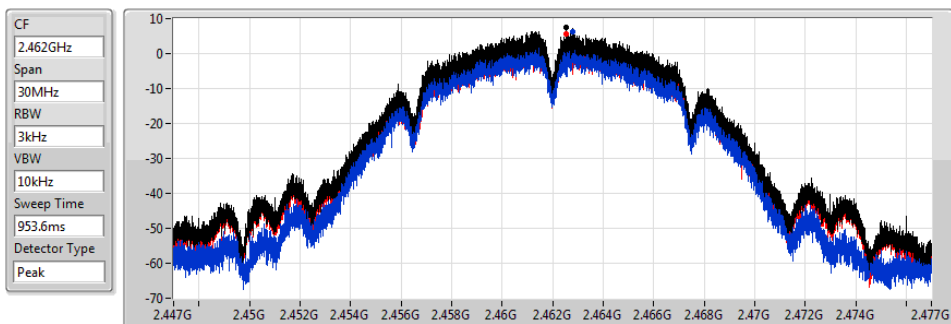
Sum	PD	Port 1	Port 2
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
7.41	7.41	5.52	6.03

802.11b_Nss1,(1Mbps)_2TX

PSD

2462MHz

05/07/2019



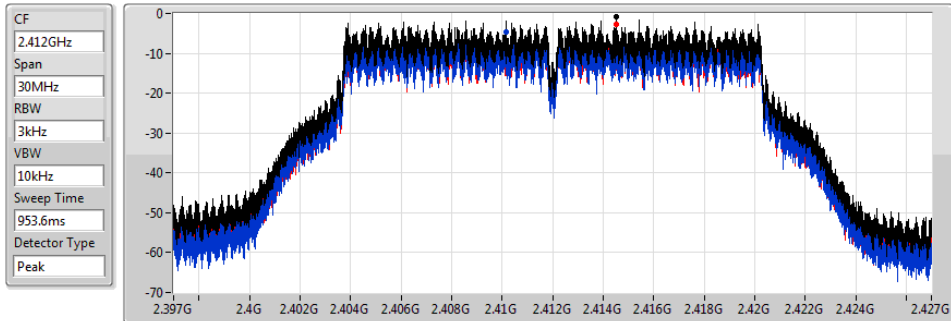
Sum	PD	Port 1	Port 2
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
7.39	7.39	6.40	5.70

802.11g_Nss1,(6Mbps)_2TX

PSD

2412MHz

05/07/2019



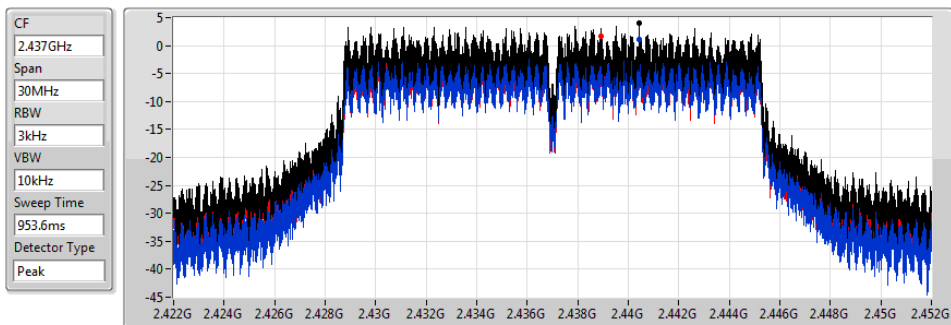
Sum	PD	Port 1	Port 2
(dBm/Hz)	(dBm/Hz)	(dBm/Hz)	(dBm/Hz)
-0.89	-0.89	-4.73	-2.69

802.11g_Nss1,(6Mbps)_2TX

PSD

2437MHz

05/07/2019



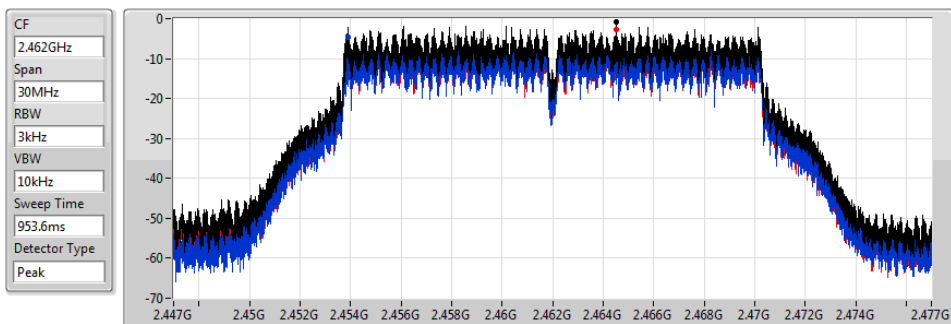
Sum	PD	Port 1	Port 2
(dBm/Hz)	(dBm/Hz)	(dBm/Hz)	(dBm/Hz)
4.00	4.00	1.00	1.60

802.11g_Nss1,(6Mbps)_2TX

PSD

2462MHz

05/07/2019



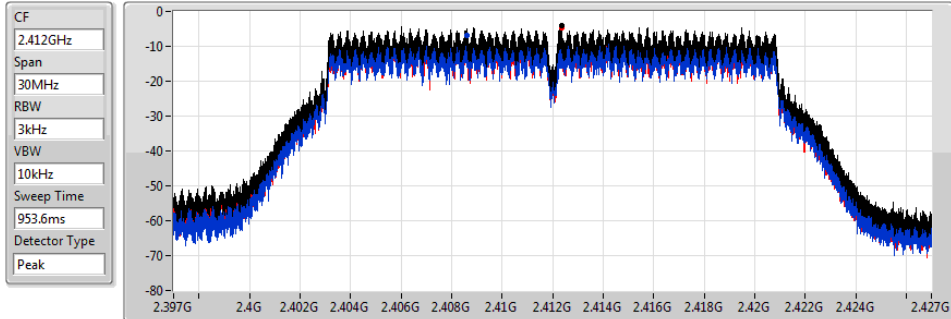
Sum	PD	Port 1	Port 2
(dBm/Hz)	(dBm/Hz)	(dBm/Hz)	(dBm/Hz)
-0.87	-0.87	-4.78	-2.63

VHT20_Nss2,(MCS0)_2TX

PSD

2412MHz

05/07/2019



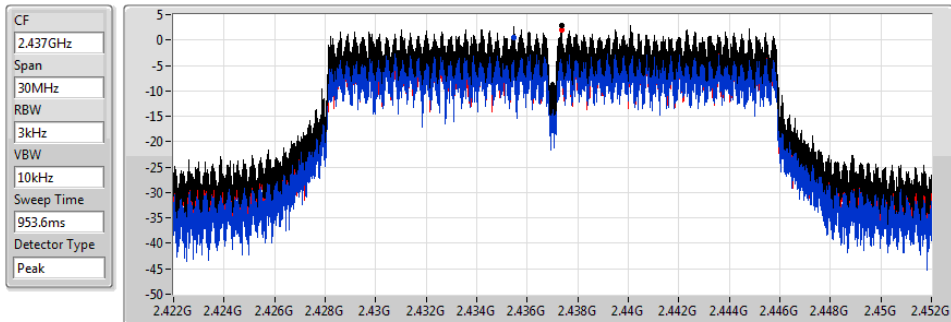
Sum	PD	Port 1	Port 2
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
-3.97	-3.97	-6.72	-4.69

VHT20_Nss2,(MCS0)_2TX

PSD

2437MHz

05/07/2019



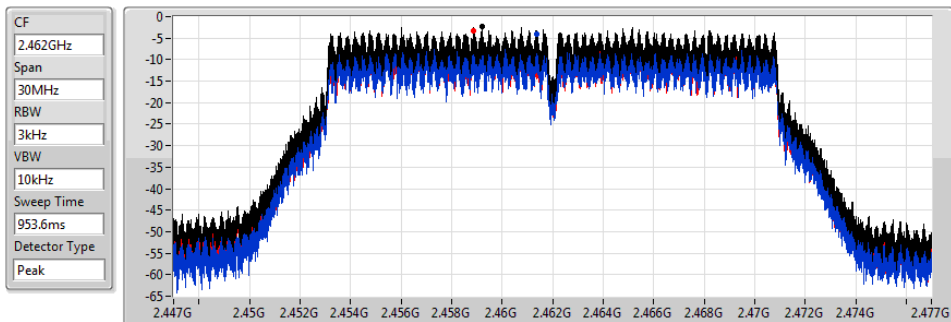
Sum	PD	Port 1	Port 2
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
2.83	2.83	0.49	2.03

VHT20_Nss2,(MCS0)_2TX

PSD

2462MHz

05/07/2019



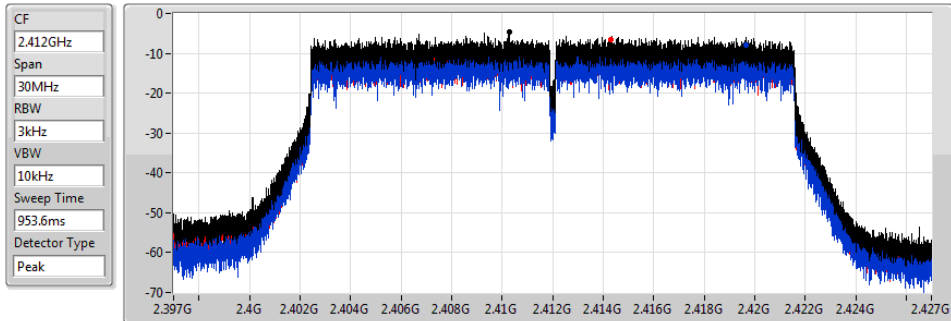
Sum	PD	Port 1	Port 2
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
-2.41	-2.41	-4.14	-3.27

802.11ax HEW20_Nss2,(MCS0)_2TX

PSD

2412MHz

05/07/2019



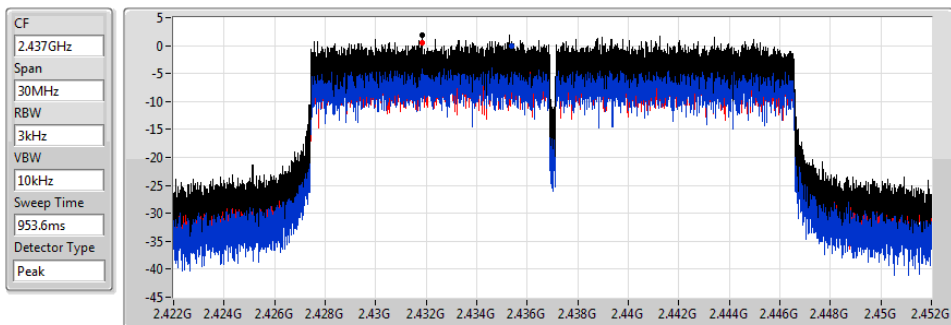
Sum	PD	Port 1	Port 2
(dBm/Hz)	(dBm/Hz)	(dBm/Hz)	(dBm/Hz)
-4.61	-4.61	-8.01	-6.64

802.11ax HEW20_Nss2,(MCS0)_2TX

PSD

2437MHz

05/07/2019



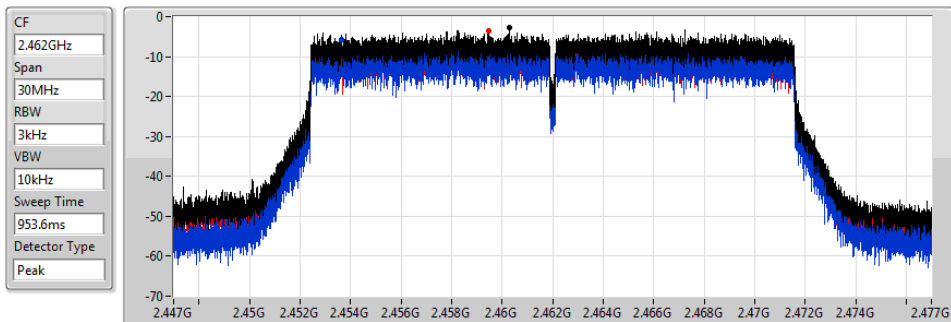
Sum	PD	Port 1	Port 2
(dBm/Hz)	(dBm/Hz)	(dBm/Hz)	(dBm/Hz)
1.91	1.91	-0.04	0.43

802.11ax HEW20_Nss2,(MCS0)_2TX

PSD

2462MHz

05/07/2019



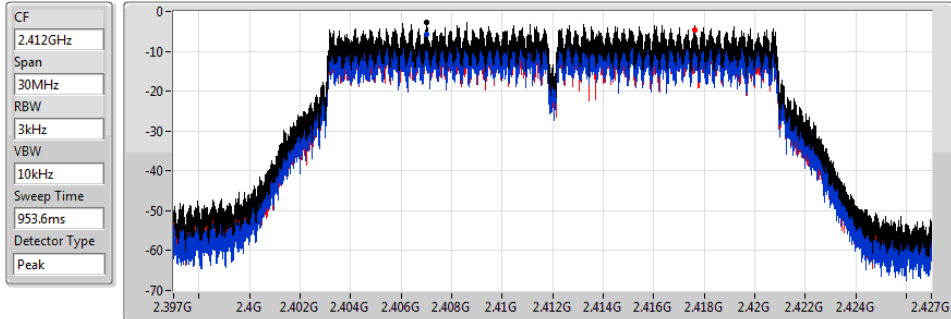
Sum	PD	Port 1	Port 2
(dBm/Hz)	(dBm/Hz)	(dBm/Hz)	(dBm/Hz)
-2.76	-2.76	-5.78	-3.69

VHT20-BF_Nss1,(MCS0)_2TX

PSD

2412MHz

05/07/2019



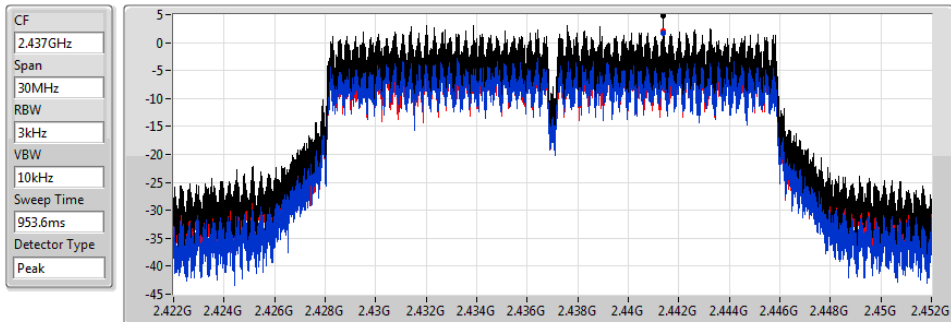
Sum	PD	Port 1	Port 2
(dBm/Hz)	(dBm/Hz)	(dBm/Hz)	(dBm/Hz)
-2.65	-2.65	-5.84	-4.67

VHT20-BF_Nss1,(MCS0)_2TX

PSD

2437MHz

05/07/2019



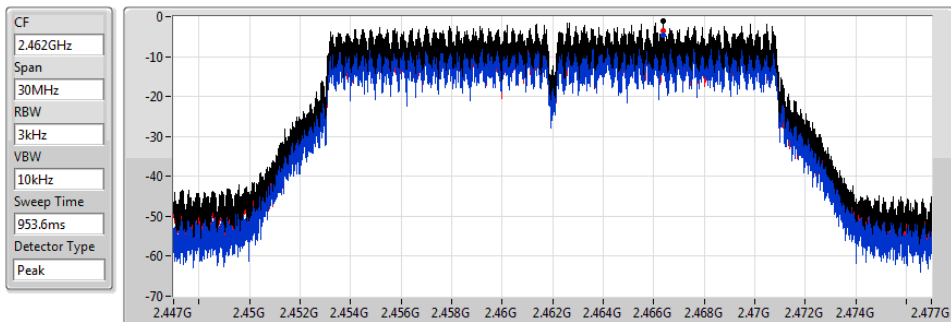
Sum	PD	Port 1	Port 2
(dBm/Hz)	(dBm/Hz)	(dBm/Hz)	(dBm/Hz)
4.85	4.85	1.70	2.02

VHT20-BF_Nss1,(MCS0)_2TX

PSD

2462MHz

05/07/2019



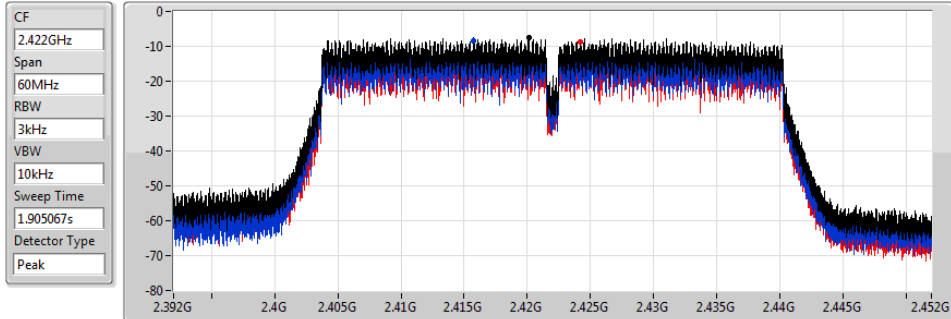
Sum	PD	Port 1	Port 2
(dBm/Hz)	(dBm/Hz)	(dBm/Hz)	(dBm/Hz)
-1.05	-1.05	-4.69	-3.49

VHT40-BF_Nss1,(MCS0)_2TX

PSD

2422MHz

05/07/2019



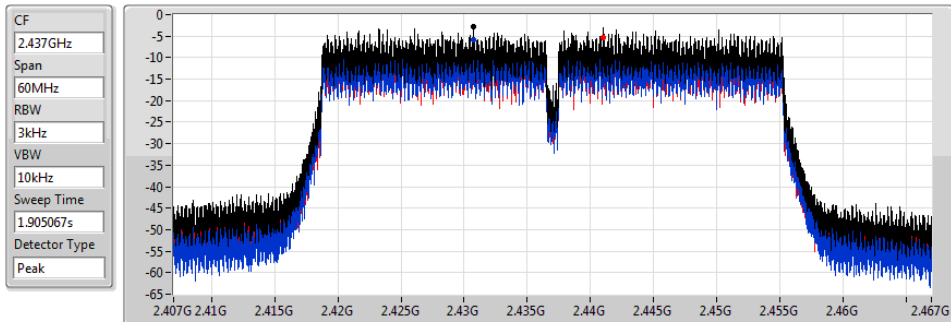
Sum	PD	Port 1	Port 2
(dBm/Hz)	(dBm/Hz)	(dBm/Hz)	(dBm/Hz)
-7.49	-7.49	-8.51	-8.82

VHT40-BF_Nss1,(MCS0)_2TX

PSD

2437MHz

05/07/2019



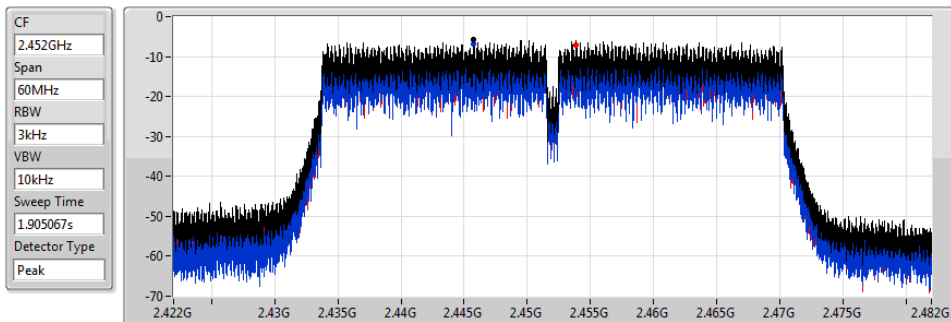
Sum	PD	Port 1	Port 2
(dBm/Hz)	(dBm/Hz)	(dBm/Hz)	(dBm/Hz)
-2.83	-2.83	-5.83	-5.27

VHT40-BF_Nss1,(MCS0)_2TX

PSD

2452MHz

05/07/2019



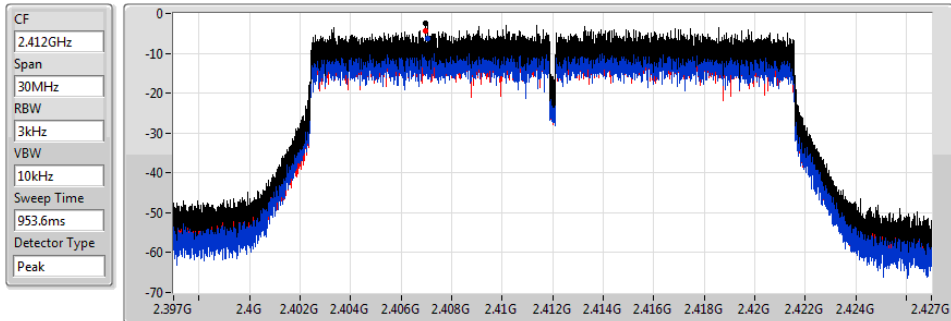
Sum	PD	Port 1	Port 2
(dBm/Hz)	(dBm/Hz)	(dBm/Hz)	(dBm/Hz)
-5.77	-5.77	-6.90	-7.02

802.11ax HEW20-BF_Nss1,(MCS0)_2TX

PSD

2412MHz

05/07/2019



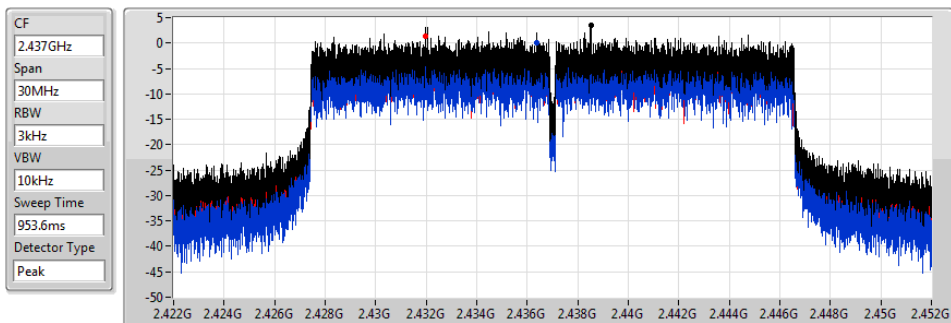
Sum	PD	Port 1	Port 2
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
-2.46	-2.46	-6.34	-4.43

802.11ax HEW20-BF_Nss1,(MCS0)_2TX

PSD

2437MHz

05/07/2019



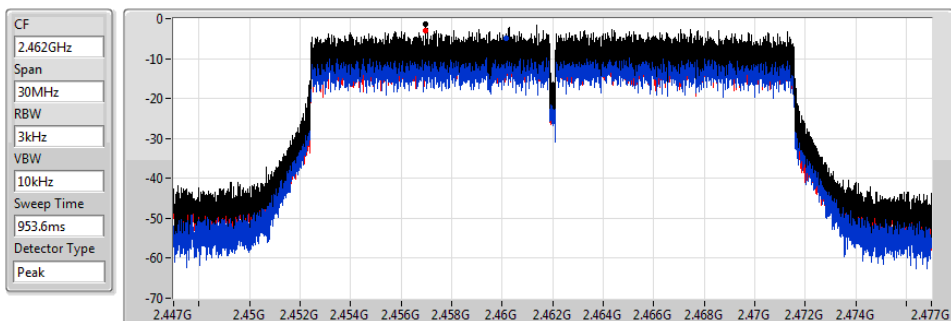
Sum	PD	Port 1	Port 2
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
3.60	3.60	0.12	1.31

802.11ax HEW20-BF_Nss1,(MCS0)_2TX

PSD

2462MHz

05/07/2019



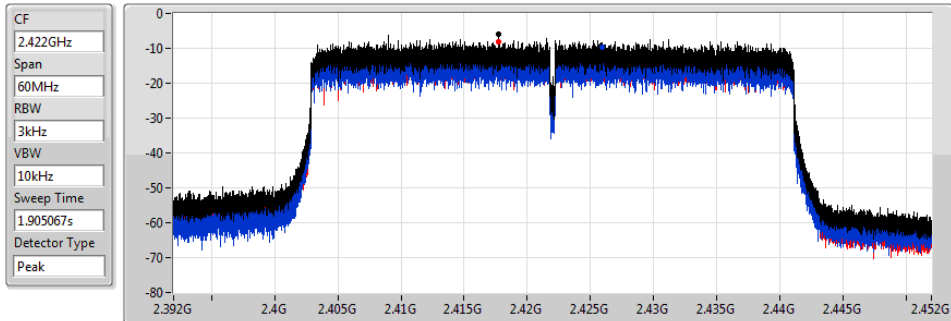
Sum	PD	Port 1	Port 2
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
-1.50	-1.50	-5.03	-3.09

802.11ax HEW40-BF_Nss1,(MCS0)_2TX

PSD

2422MHz

05/07/2019



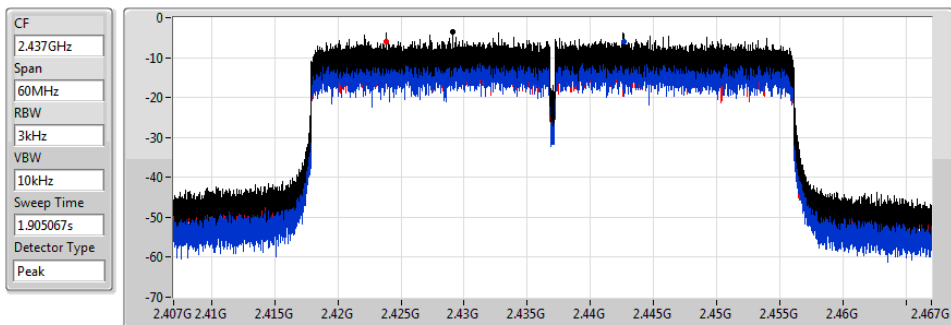
Sum	PD	Port 1	Port 2
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
-6.07	-6.07	-9.80	-7.97

802.11ax HEW40-BF_Nss1,(MCS0)_2TX

PSD

2437MHz

05/07/2019



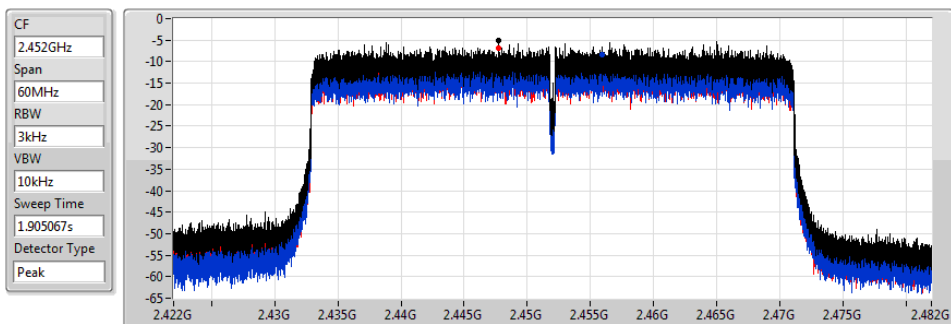
Sum	PD	Port 1	Port 2
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
-3.47	-3.47	-6.10	-5.92

802.11ax HEW40-BF_Nss1,(MCS0)_2TX

PSD

2452MHz

05/07/2019



Sum	PD	Port 1	Port 2
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
-4.98	-4.98	-8.34	-6.75

Summary

Mode	Result	Ref (Hz)	Ref (dBm)	Limit (dBm)	Freq (Hz)	Level (dBm)	Freq (Hz)	Level (dBm)	Freq (Hz)	Level (dBm)	Freq (Hz)	Level (dBm)	Port
2.4-2.4835GHz	-	-	-	-	-	-	-	-	-	-	-	-	-
802.11b_Nss1,(1Mbps)_2TX	Pass	2.43603G	19.41	-10.59	2.30961G	-49.57	2.39902G	-26.65	2.51262G	-48.41	7.23795G	-44.55	2
802.11g_Nss1,(6Mbps)_2TX	Pass	2.43453G	14.61	-15.39	2.30961G	-50.81	2.39924G	-28.81	2.51074G	-50.42	24.7359G	-45.37	2
VHT20_Nss2,(MCS0)_2TX	Pass	2.44451G	13.92	-16.08	2.30991G	-49.56	2.3998G	-34.23	2.48384G	-40.89	24.9129G	-44.94	2
802.11ax HEW20_Nss2,(MCS0)_2TX	Pass	2.44325G	14.56	-15.44	2.30379G	-49.77	2.39866G	-33.47	2.48462G	-41.01	24.95224G	-45.42	2
VHT20-BF_Nss1,(MCS0)_2TX	Pass	2.42952G	13.64	-16.36	2.30874G	-51.94	2.3995G	-30.35	2.48826G	-51.25	24.92976G	-44.54	2
VHT40-BF_Nss1,(MCS0)_2TX	Pass	2.43453G	7.11	-22.89	2.30855G	-50.61	2.39952G	-31.66	2.48358G	-39.07	24.91306G	-44.68	2
802.11ax HEW20-BF_Nss1,(MCS0)_2TX	Pass	2.43202G	15.48	-14.52	2.30029G	-51.45	2.39908G	-30.73	2.49692G	-50.66	24.90167G	-43.76	2
802.11ax HEW40-BF_Nss1,(MCS0)_2TX	Pass	2.42826G	6.97	-23.03	2.30798G	-51.52	2.39972G	-29.84	2.48822G	-36.63	24.88782G	-44.42	2



CSE(Non-restricted Band) Result

Appendix E

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
802.11b_Nss1,(1Mbps)_2TX	-	-	-	-	-	-	-	-	-	-	-	-	-
2412MHz	Pass	2.43603G	19.41	-10.59	2.3067G	-49.34	2.399G	-33.27	2.48438G	-48.11	7.23514G	-45.23	1
2412MHz	Pass	2.43603G	19.41	-10.59	2.30961G	-49.57	2.39902G	-26.65	2.51262G	-48.41	7.23795G	-44.55	2
2437MHz	Pass	2.43603G	19.41	-10.59	2.30292G	-50.74	2.39896G	-46.19	2.4843G	-47.15	24.90447G	-45.34	1
2437MHz	Pass	2.43603G	19.41	-10.59	2.30641G	-49.90	2.39634G	-45.68	2.48468G	-46.50	24.92414G	-44.90	2
2462MHz	Pass	2.43603G	19.41	-10.59	2.0504G	-51.15	2.399G	-46.93	2.48558G	-43.74	24.98033G	-44.73	1
2462MHz	Pass	2.43603G	19.41	-10.59	1.64032G	-48.94	2.3923G	-46.44	2.48856G	-43.98	24.90167G	-45.32	2
802.11g_Nss1,(6Mbps)_2TX	-	-	-	-	-	-	-	-	-	-	-	-	-
2412MHz	Pass	2.43453G	14.61	-15.39	2.3G	-52.66	2.39974G	-34.05	2.48664G	-49.80	24.941G	-44.61	1
2412MHz	Pass	2.43453G	14.61	-15.39	2.30961G	-50.81	2.39924G	-28.81	2.51074G	-50.42	24.7359G	-45.37	2
2437MHz	Pass	2.43453G	14.61	-15.39	2.30175G	-49.84	2.39984G	-39.84	2.48502G	-44.57	24.92414G	-44.29	1
2437MHz	Pass	2.43453G	14.61	-15.39	2.30932G	-50.12	2.39948G	-35.04	2.48412G	-39.46	24.80895G	-44.76	2
2462MHz	Pass	2.43453G	14.61	-15.39	2.0504G	-52.27	2.39808G	-50.06	2.48358G	-43.56	24.92976G	-45.00	1
2462MHz	Pass	2.43453G	14.61	-15.39	2.19894G	-52.59	2.39996G	-49.45	2.4839G	-38.76	24.91571G	-44.64	2
VHT20_Nss2,(MCS0)_2TX	-	-	-	-	-	-	-	-	-	-	-	-	-
2412MHz	Pass	2.44451G	13.92	-16.08	2.15758G	-53.76	2.39986G	-38.29	2.48472G	-51.89	24.42123G	-45.34	1
2412MHz	Pass	2.44451G	13.92	-16.08	2.30554G	-51.38	2.3995G	-35.17	2.49388G	-51.98	24.81176G	-45.36	2
2437MHz	Pass	2.44451G	13.92	-16.08	2.3G	-50.39	2.39892G	-39.47	2.48758G	-45.26	24.50833G	-45.10	1
2437MHz	Pass	2.44451G	13.92	-16.08	2.30991G	-49.56	2.3998G	-34.23	2.48384G	-40.89	24.9129G	-44.94	2
2462MHz	Pass	2.44451G	13.92	-16.08	2.0504G	-52.36	2.39726G	-50.26	2.48424G	-42.83	24.83424G	-44.71	1
2462MHz	Pass	2.44451G	13.92	-16.08	2.30583G	-51.44	2.39784G	-49.23	2.48388G	-37.23	24.92976G	-44.53	2
802.11ax HEW20_Nss2,(MCS0)_2TX	-	-	-	-	-	-	-	-	-	-	-	-	-
2412MHz	Pass	2.44325G	14.56	-15.44	2.3035G	-53.54	2.39978G	-38.76	2.49084G	-51.65	24.94381G	-45.43	1
2412MHz	Pass	2.44325G	14.56	-15.44	2.30233G	-52.64	2.39986G	-35.72	2.5039G	-51.50	24.9129G	-44.89	2
2437MHz	Pass	2.44325G	14.56	-15.44	2.30262G	-50.99	2.3996G	-38.21	2.4836G	-44.09	24.80333G	-45.04	1
2437MHz	Pass	2.44325G	14.56	-15.44	2.30379G	-49.77	2.39966G	-33.47	2.48462G	-41.01	24.95224G	-45.42	2
2462MHz	Pass	2.44325G	14.56	-15.44	2.0504G	-52.60	2.39392G	-49.98	2.4846G	-40.42	24.92976G	-45.04	1
2462MHz	Pass	2.44325G	14.56	-15.44	2.30466G	-51.87	2.3995G	-49.39	2.4837G	-34.78	24.89324G	-44.55	2
VHT20-BF_Nss1,(MCS0)_2TX	-	-	-	-	-	-	-	-	-	-	-	-	-
2412MHz	Pass	2.42952G	13.64	-16.36	2.30466G	-51.21	2.39976G	-35.36	2.4859G	-51.24	24.93538G	-44.49	1
2412MHz	Pass	2.42952G	13.64	-16.36	2.30874G	-51.94	2.3995G	-30.35	2.48826G	-51.25	24.92976G	-44.54	2
2437MHz	Pass	2.42952G	13.64	-16.36	2.3035G	-50.75	2.3998G	-38.50	2.48414G	-45.01	24.83985G	-45.47	1
2437MHz	Pass	2.42952G	13.64	-16.36	2.30059G	-50.17	2.39946G	-33.89	2.49206G	-42.32	24.88481G	-45.18	2
2462MHz	Pass	2.42952G	13.64	-16.36	2.30175G	-51.81	2.39896G	-49.01	2.48392G	-39.54	24.85109G	-44.50	1
2462MHz	Pass	2.42952G	13.64	-16.36	2.3067G	-52.00	2.39966G	-48.84	2.4839G	-34.72	24.84266G	-44.74	2
VHT40-BF_Nss1,(MCS0)_2TX	-	-	-	-	-	-	-	-	-	-	-	-	-
2422MHz	Pass	2.43453G	7.11	-22.89	2.30054G	-52.57	2.3998G	-40.29	2.48394G	-49.57	24.92428G	-44.83	1
2422MHz	Pass	2.43453G	7.11	-22.89	2.30454G	-51.17	2.39988G	-36.50	2.48794G	-50.39	24.92708G	-45.13	2
2437MHz	Pass	2.43453G	7.11	-22.89	2.30426G	-51.53	2.39948G	-35.29	2.48454G	-43.02	24.87379G	-45.48	1
2437MHz	Pass	2.43453G	7.11	-22.89	2.30855G	-50.61	2.39952G	-31.66	2.48358G	-39.07	24.91306G	-44.68	2
2452MHz	Pass	2.43453G	7.11	-22.89	2.30283G	-52.01	2.39608G	-46.99	2.4851G	-40.81	24.92989G	-45.22	1
2452MHz	Pass	2.43453G	7.11	-22.89	2.30683G	-51.34	2.3998G	-43.48	2.48358G	-35.83	24.83173G	-44.40	2
802.11ax HEW20-BF_Nss1,(MCS0)_2TX	-	-	-	-	-	-	-	-	-	-	-	-	-
2412MHz	Pass	2.43202G	15.48	-14.52	2.30408G	-52.66	2.399G	-34.80	2.48538G	-50.75	24.86233G	-45.12	1
2412MHz	Pass	2.43202G	15.48	-14.52	2.30029G	-51.45	2.39908G	-30.73	2.49692G	-50.66	24.90167G	-43.76	2
2437MHz	Pass	2.43202G	15.48	-14.52	2.30991G	-50.90	2.39872G	-39.18	2.48362G	-44.85	24.97471G	-45.21	1
2437MHz	Pass	2.43202G	15.48	-14.52	2.30379G	-50.09	2.39948G	-33.97	2.48378G	-40.98	24.95786G	-45.25	2
2462MHz	Pass	2.43202G	15.48	-14.52	2.30932G	-52.68	2.39778G	-49.46	2.48358G	-37.71	24.91571G	-45.56	1

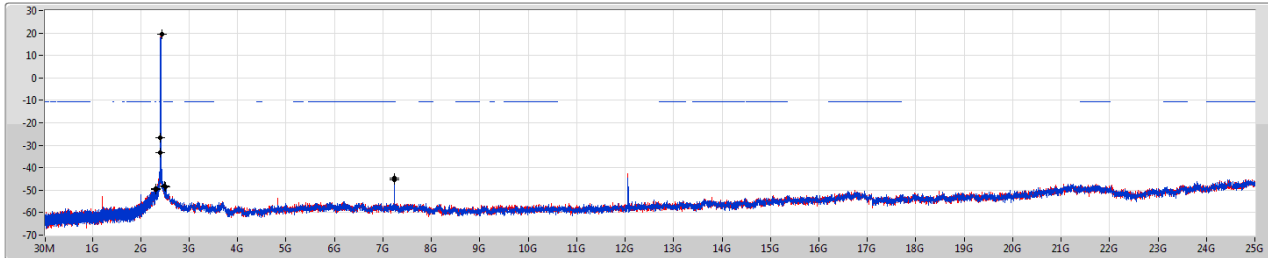
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2462MHz	Pass	2.43202G	15.48	-14.52	2.30175G	-51.83	2.39608G	-48.49	2.48388G	-34.52	24.96348G	-44.87	2
802.11ax HEW40-BF_Nss1.(MCS0)_2TX	-	-	-	-	-	-	-	-	-	-	-	-	-
2422MHz	Pass	2.42826G	6.97	-23.03	2.30139G	-53.25	2.3996G	-40.37	2.48598G	-49.75	24.80929G	-45.60	1
2422MHz	Pass	2.42826G	6.97	-23.03	2.30426G	-51.14	2.397G	-35.24	2.48698G	-49.82	24.94671G	-45.32	2
2437MHz	Pass	2.42826G	6.97	-23.03	2.30512G	-51.88	2.39976G	-35.36	2.48702G	-42.19	24.84855G	-45.18	1
2437MHz	Pass	2.42826G	6.97	-23.03	2.30798G	-51.52	2.39972G	-29.84	2.48822G	-36.63	24.88782G	-44.42	2
2452MHz	Pass	2.42826G	6.97	-23.03	2.30826G	-52.03	2.39952G	-46.97	2.48366G	-40.83	24.95513G	-45.07	1
2452MHz	Pass	2.42826G	6.97	-23.03	2.30111G	-51.42	2.39572G	-42.46	2.48826G	-36.35	24.92708G	-45.42	2

802.11b_Nss1,(1Mbps)_2TX

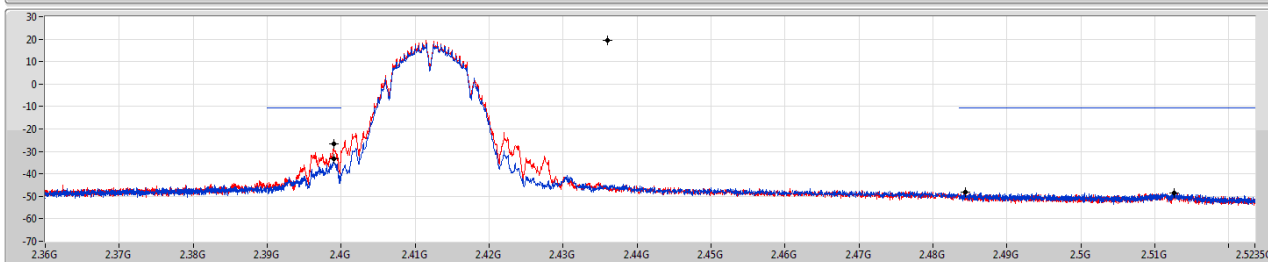
2412MHz

CSE NdB

05/07/2019



Port 1
Port 2



RBW (Hz)
100k
VBW (Hz)
300k
Detector
Peak

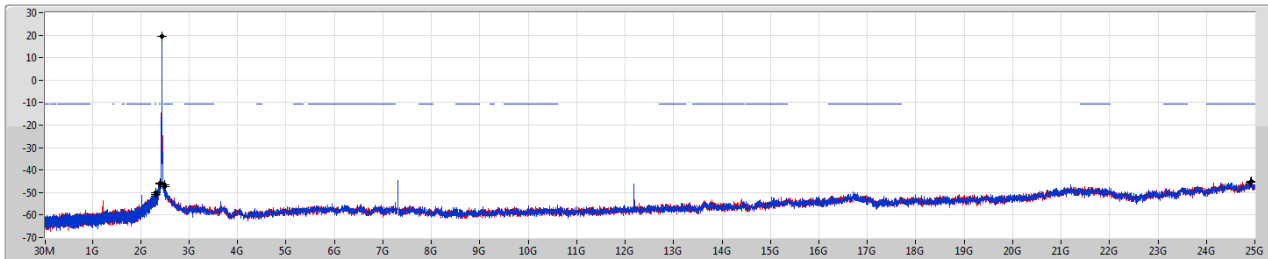
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2.43603G	19.41	-10.59	2.3067G	-49.34	2.399G	-33.27	2.48438G	-48.11	7.23514G	-45.23	1
2.43603G	19.41	-10.59	2.30961G	-49.57	2.39902G	-26.65	2.51262G	-48.41	7.23795G	-44.55	2

802.11b_Nss1,(1Mbps)_2TX

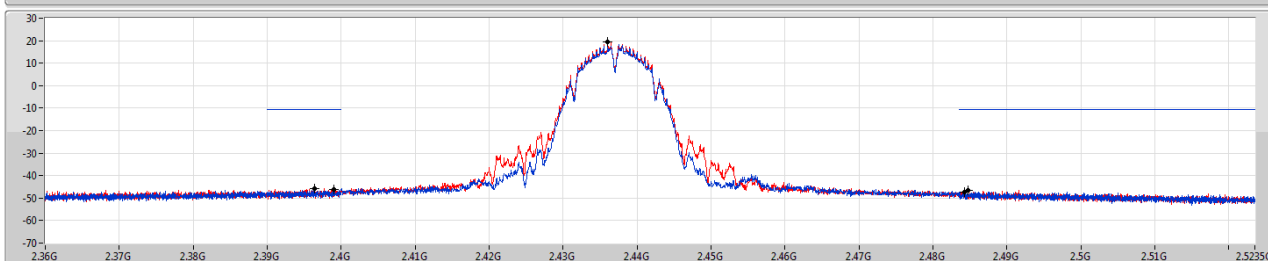
2437MHz

CSE NdB

05/07/2019



Port 1
Port 2



RBW (Hz)
100k
VBW (Hz)
300k
Detector
Peak

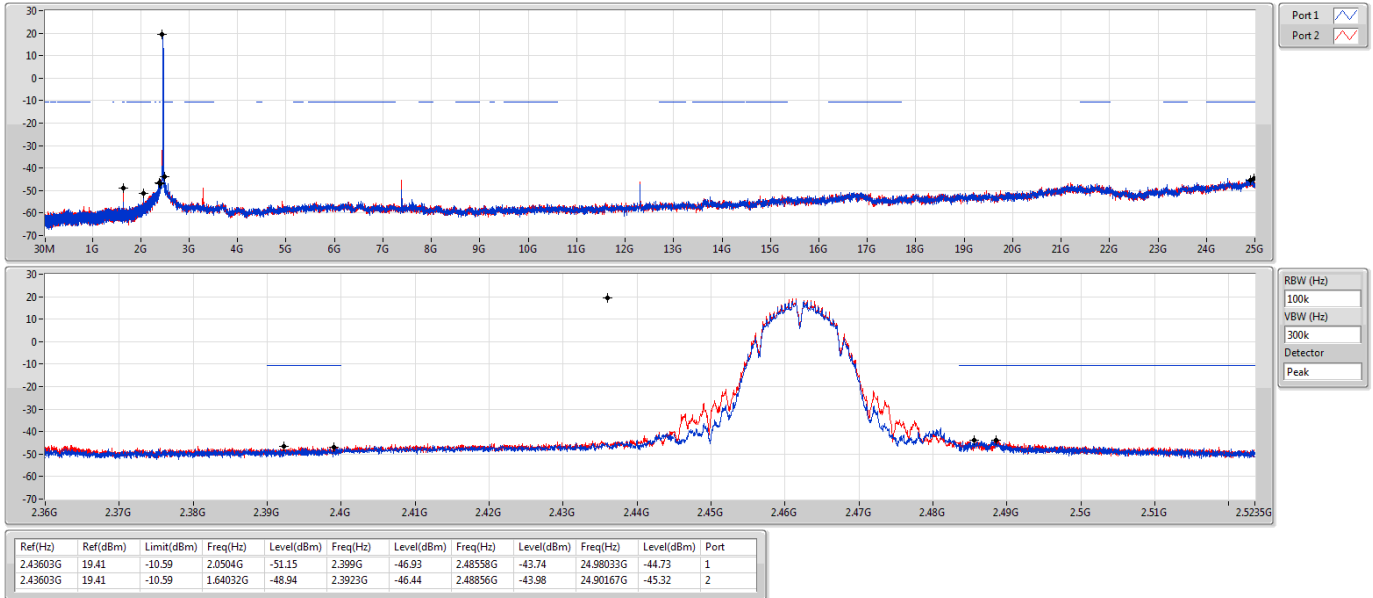
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2.43603G	19.41	-10.59	2.30292G	-50.74	2.39896G	-46.19	2.4843G	-47.15	24.90447G	-45.34	1
2.43603G	19.41	-10.59	2.30641G	-49.90	2.39634G	-45.68	2.48468G	-46.50	24.92414G	-44.90	2

802.11b_Nss1,(1Mbps)_2TX

2462MHz

CSE NdB

05/07/2019

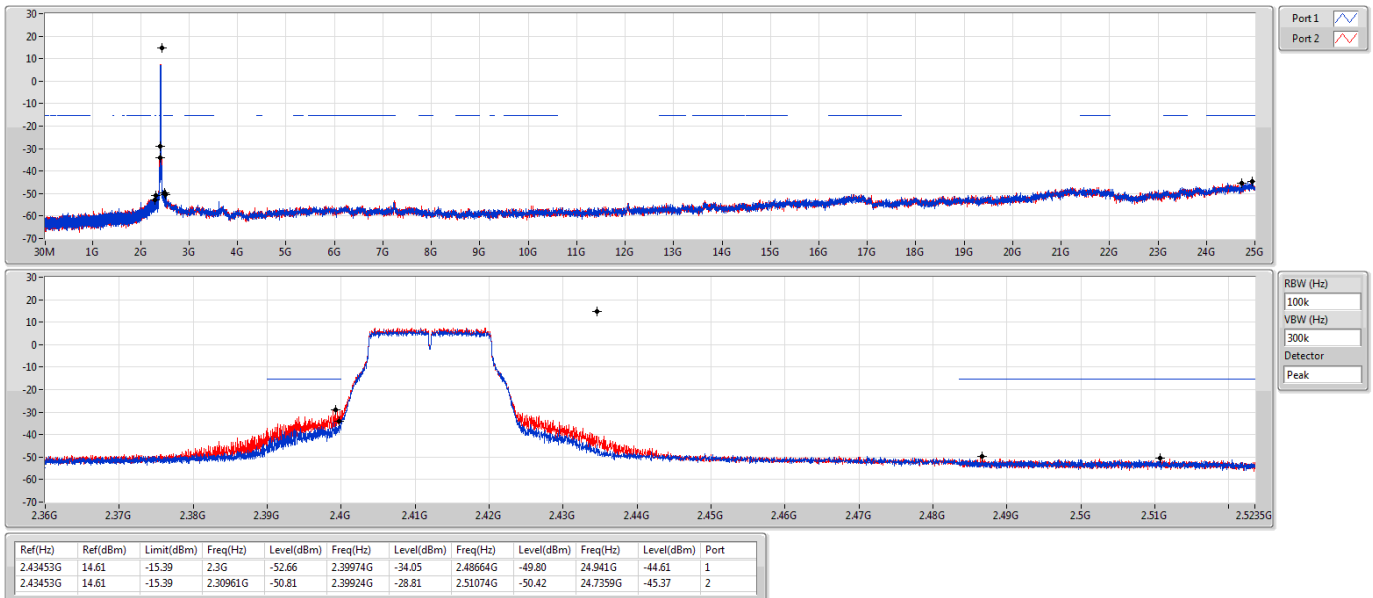


802.11g_Nss1,(6Mbps)_2TX

2412MHz

CSE NdB

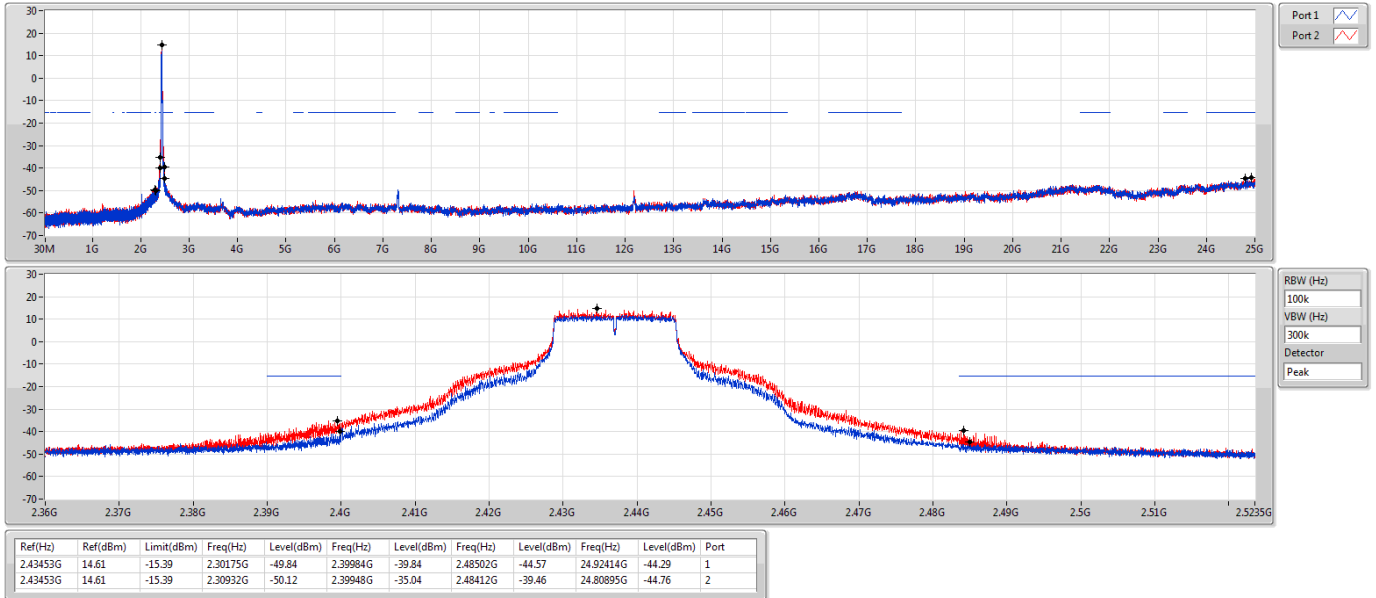
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802.11g_Nss1,(6Mbps)_2TX

CSE NdB

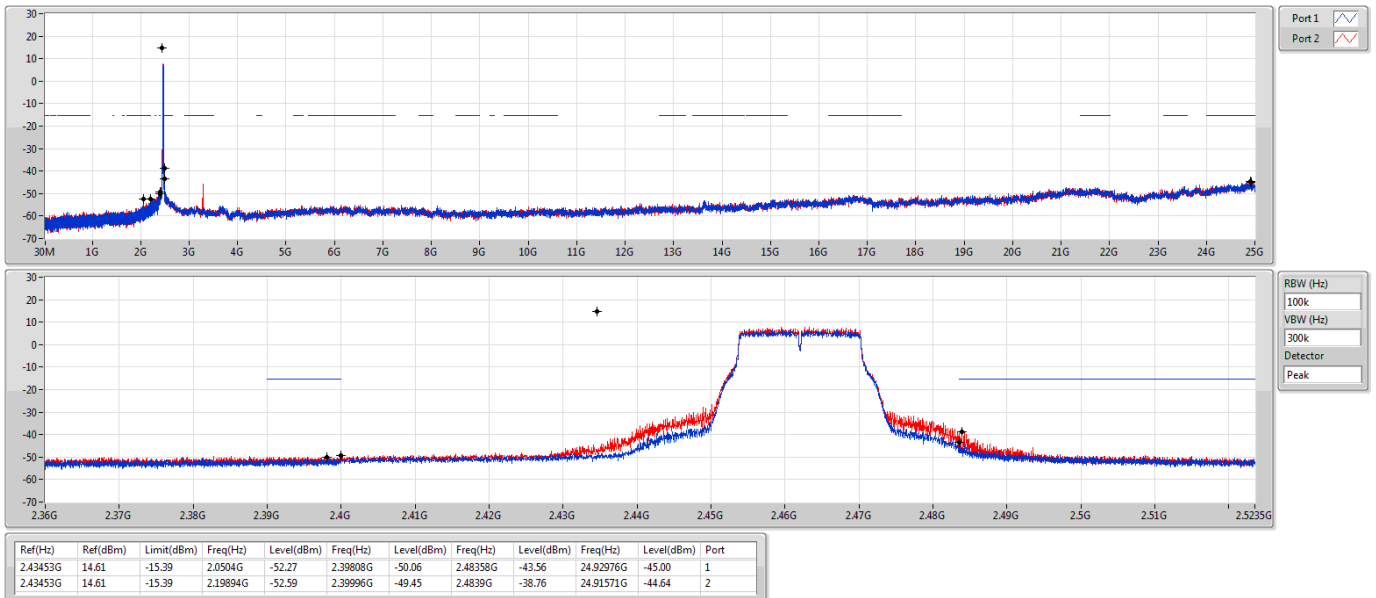
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802.11g_Nss1,(6Mbps)_2TX

CSE NdB

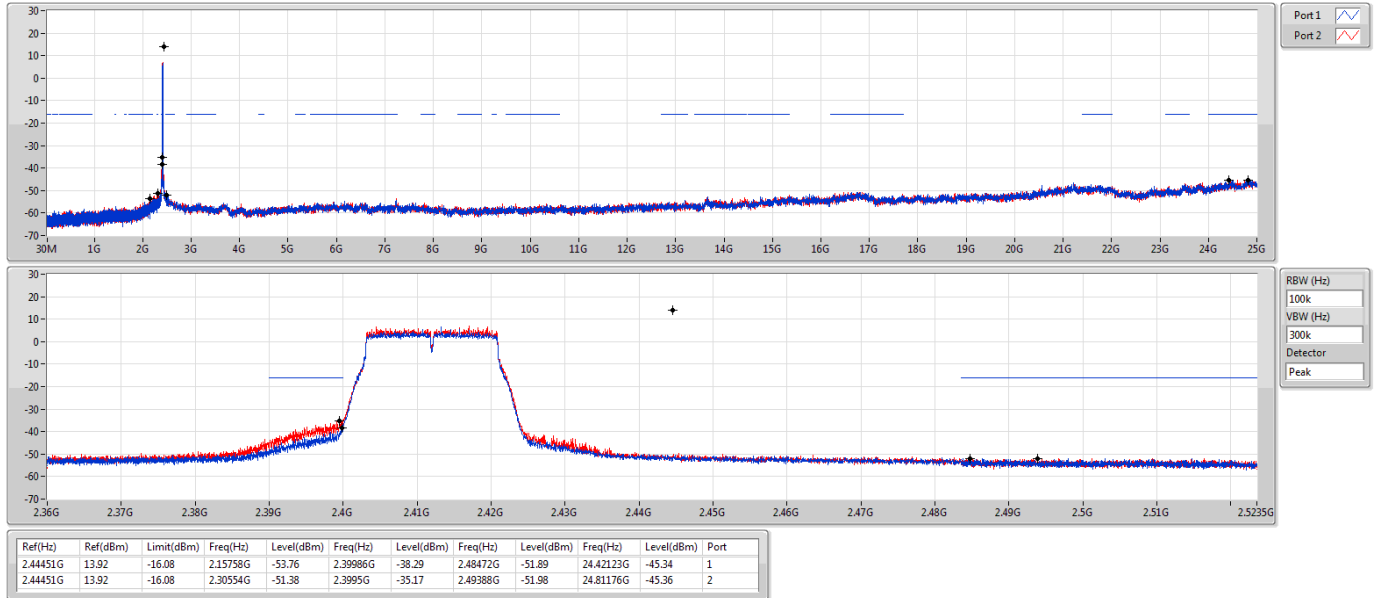
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VHT20_Nss2,(MCS0)_2TX

CSE NdB

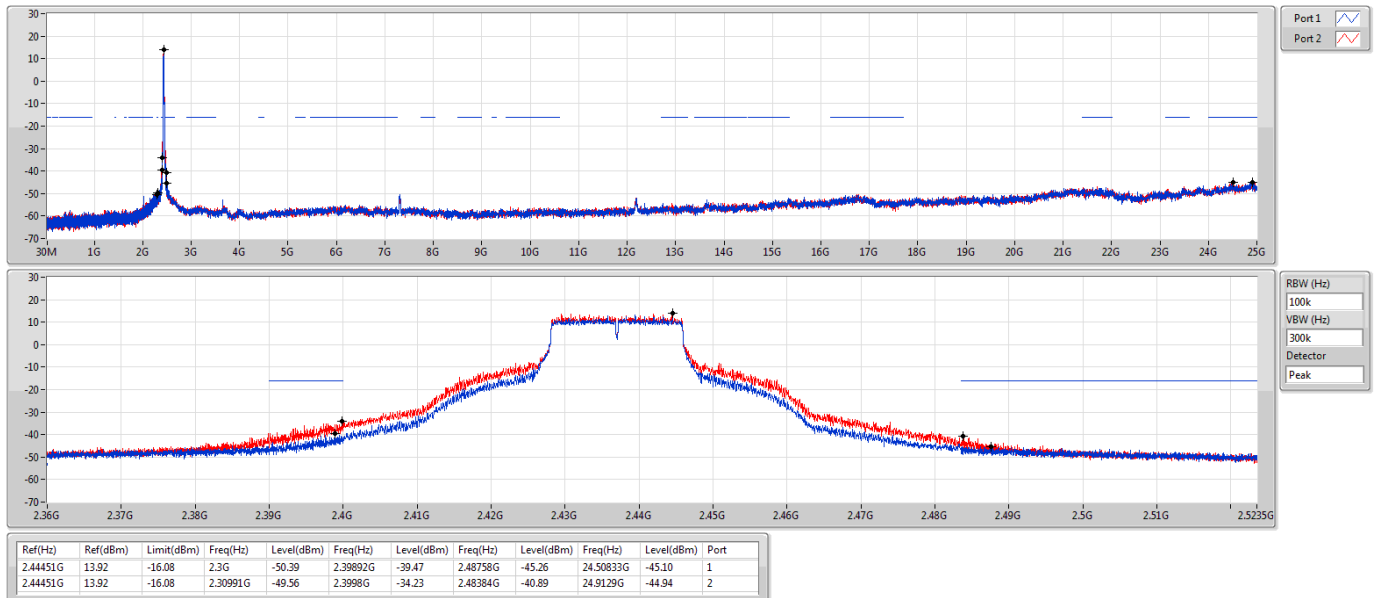
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VHT20_Nss2,(MCS0)_2TX

CSE NdB

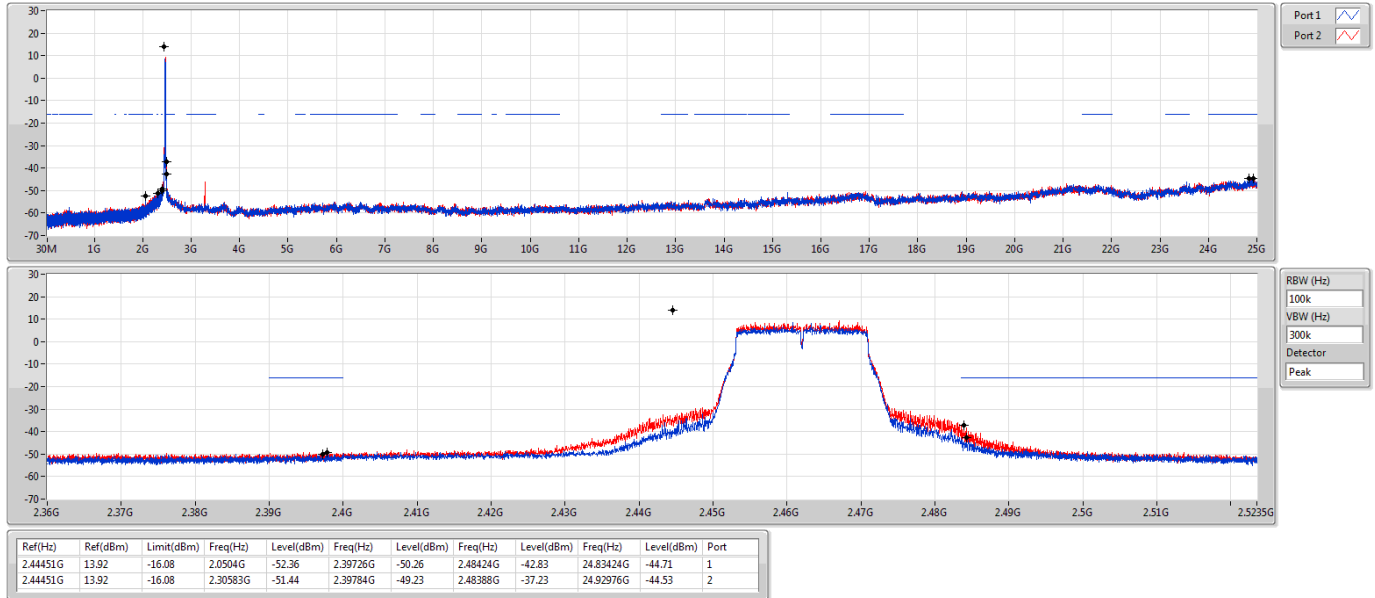
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VHT20_Nss2,(MCS0)_2TX

CSE NdB

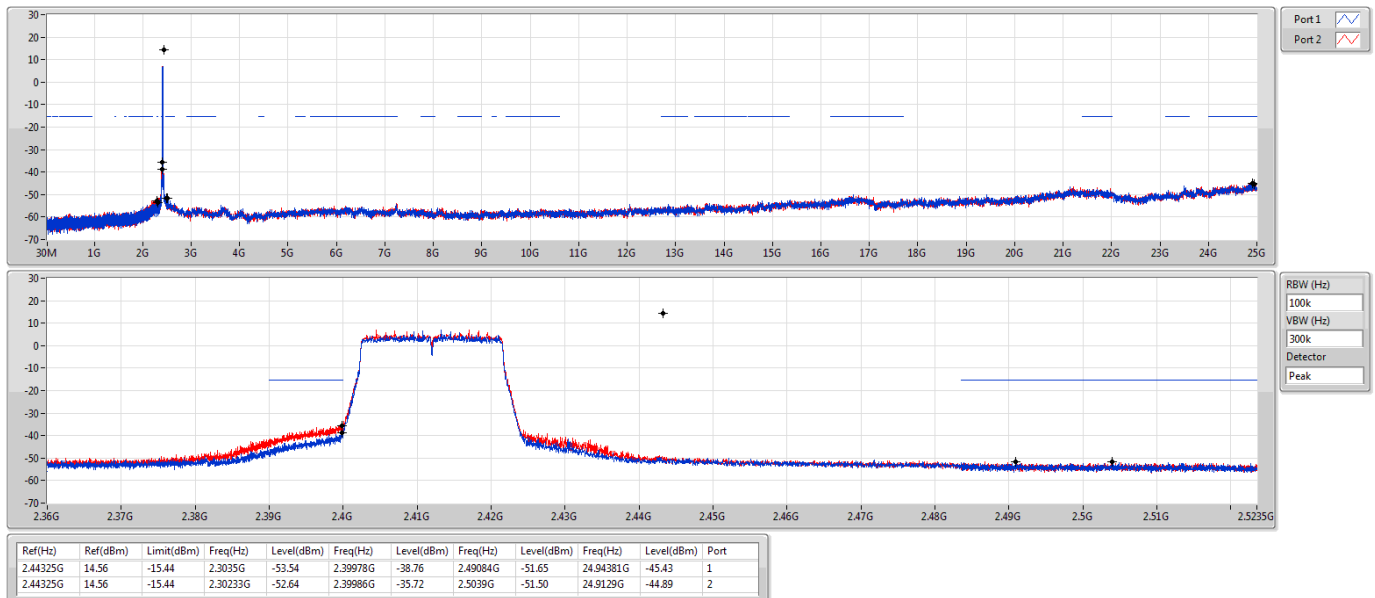
2462MHz



802.11ax HEW20_Nss2,(MCS0)_2TX

CSE NdB

2412MHz

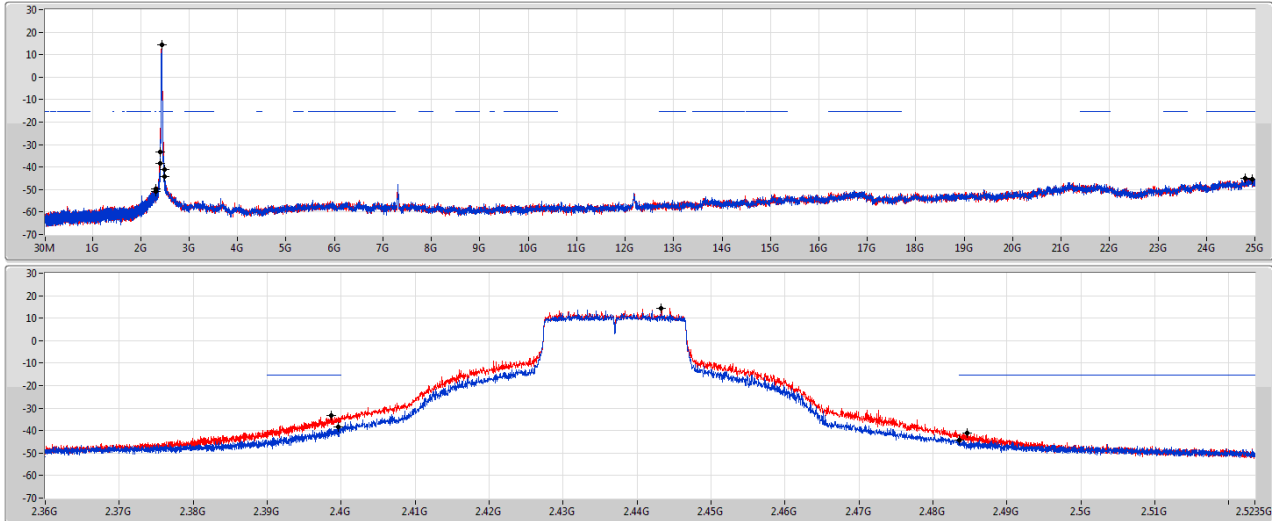


802.11ax HEW20_Nss2,(MCS0)_2TX

CSE NdB

2437MHz

05/07/2019



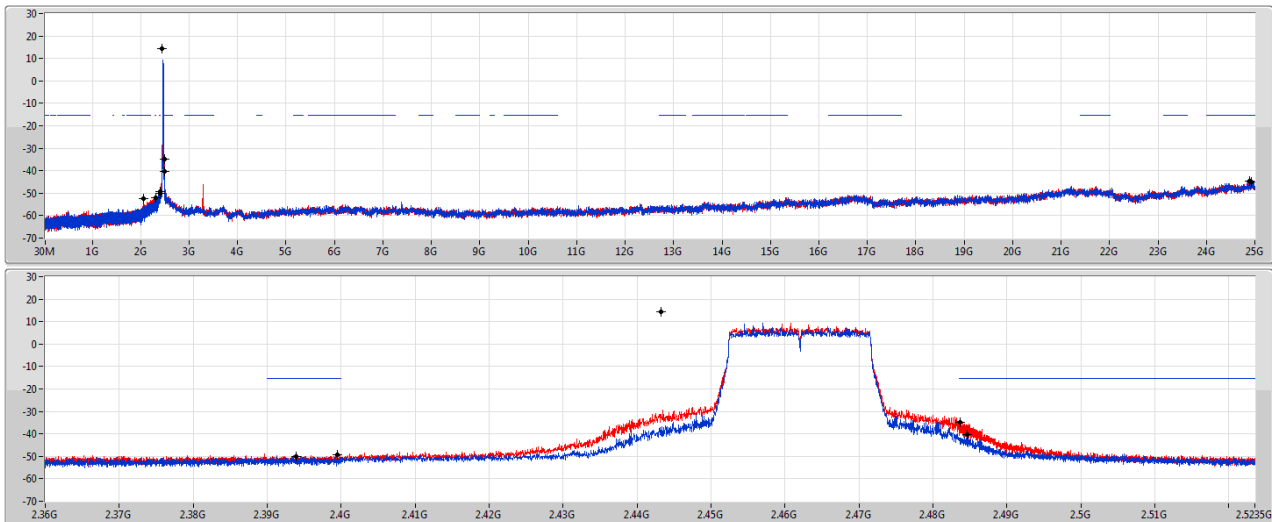
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2.44325G	14.56	-15.44	2.30262G	-50.99	2.3996G	-38.21	2.4836G	-44.09	24.80333G	-45.04	1
2.44325G	14.56	-15.44	2.30379G	-49.77	2.39866G	-33.47	2.48462G	-41.01	24.85224G	-45.42	2

802.11ax HEW20_Nss2,(MCS0)_2TX

CSE NdB

2462MHz

05/07/2019

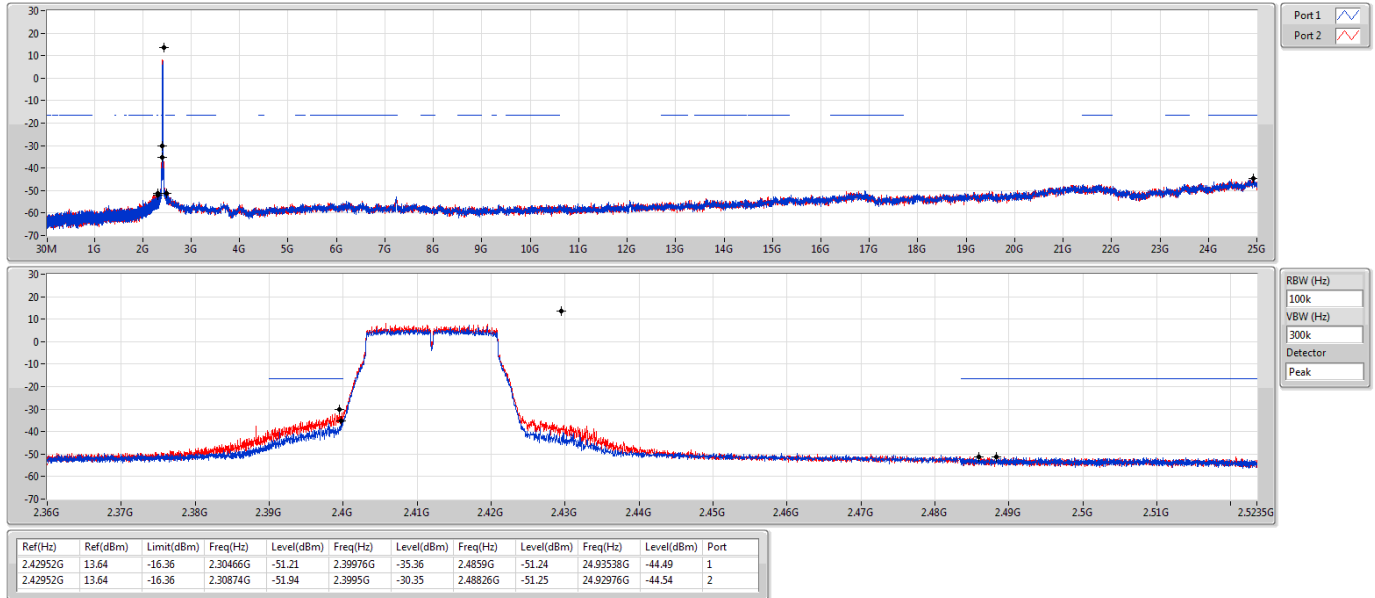


Ref(Hz)	Ref(dBm)	Limit(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Port
2.44325G	14.56	-15.44	2.0504G	-52.60	2.39392G	-49.98	2.4846G	-40.42	24.82976G	-45.04	1
2.44325G	14.56	-15.44	2.30466G	-51.87	2.3995G	-49.39	2.4837G	-34.78	24.89324G	-44.55	2

VHT20-BF_Nss1,(MCS0)_2TX

CSE NdB

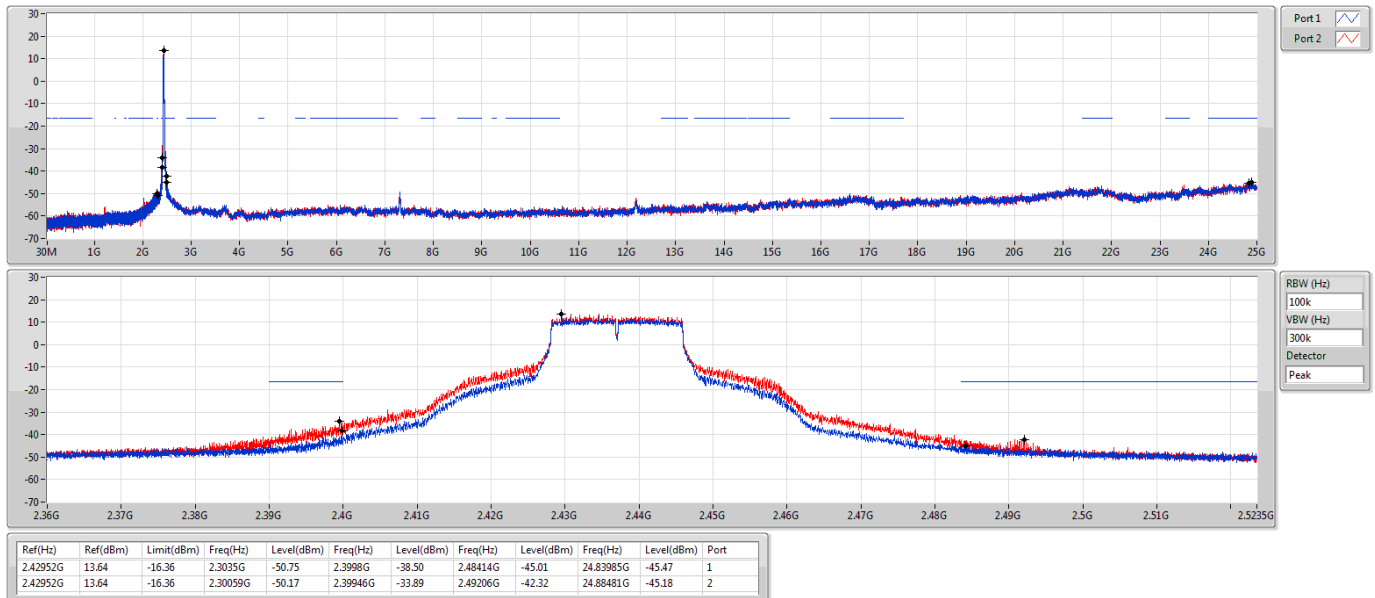
2412MHz



VHT20-BF_Nss1,(MCS0)_2TX

CSE NdB

2437MHz

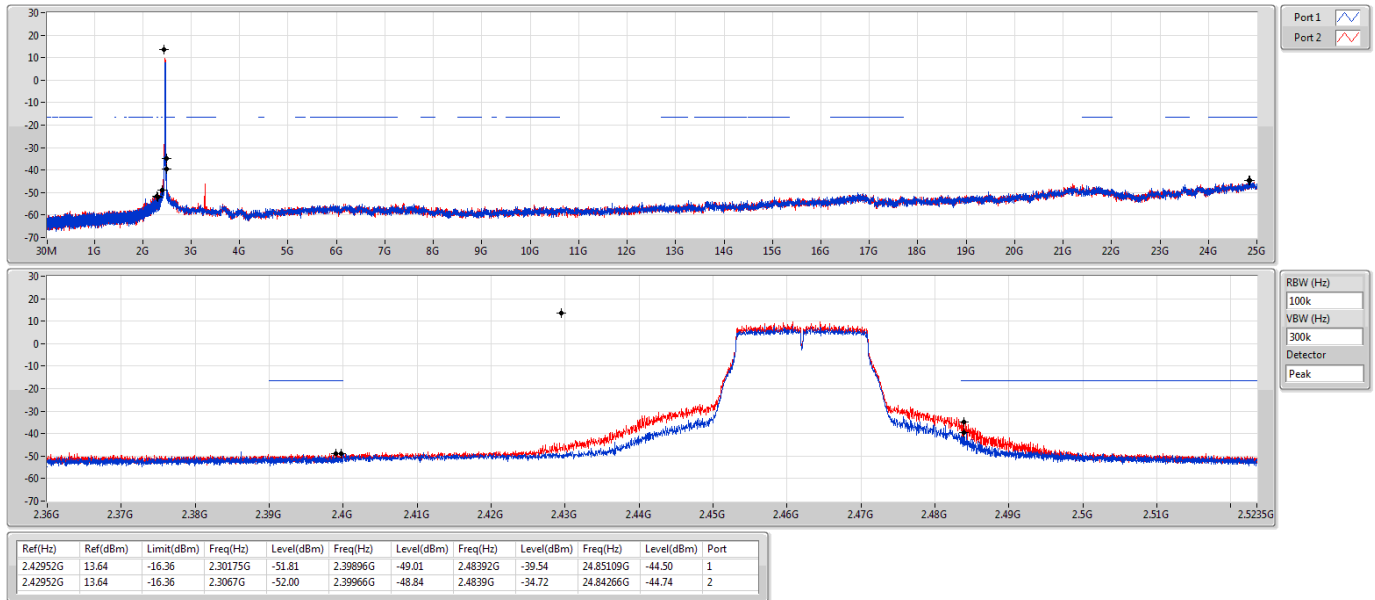


VHT20-BF_Nss1,(MCS0)_2TX

2462MHz

CSE NdB

05/07/2019

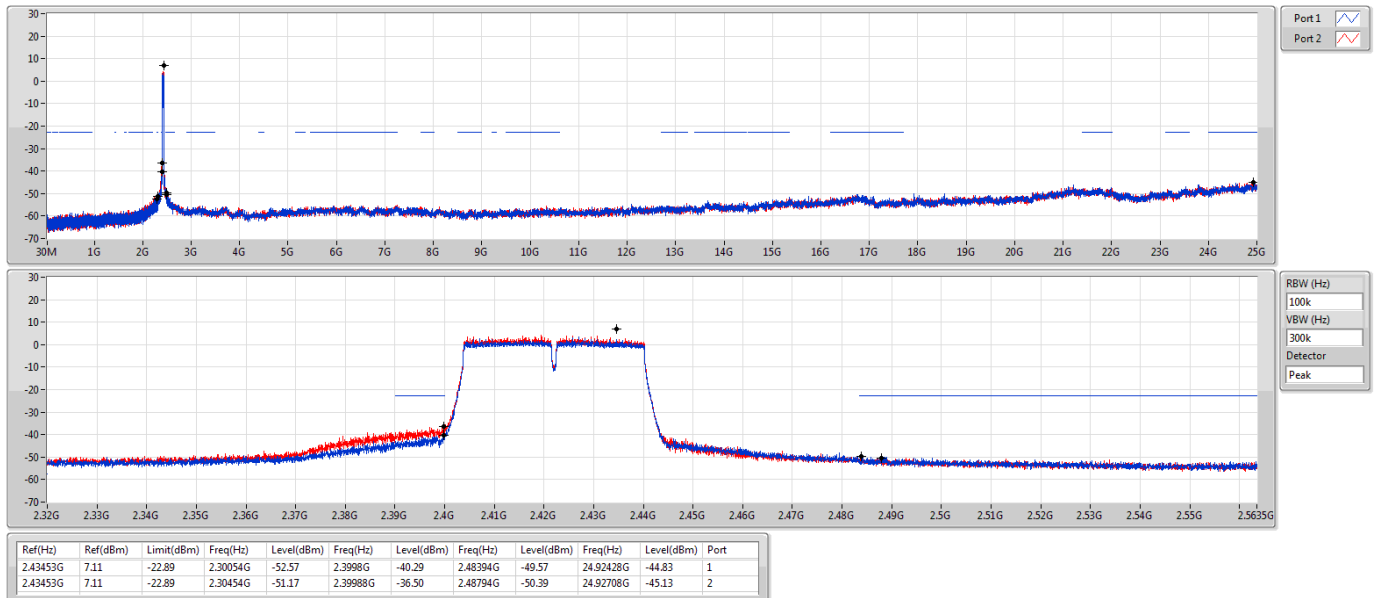


VHT40-BF_Nss1,(MCS0)_2TX

2422MHz

CSE NdB

05/07/2019

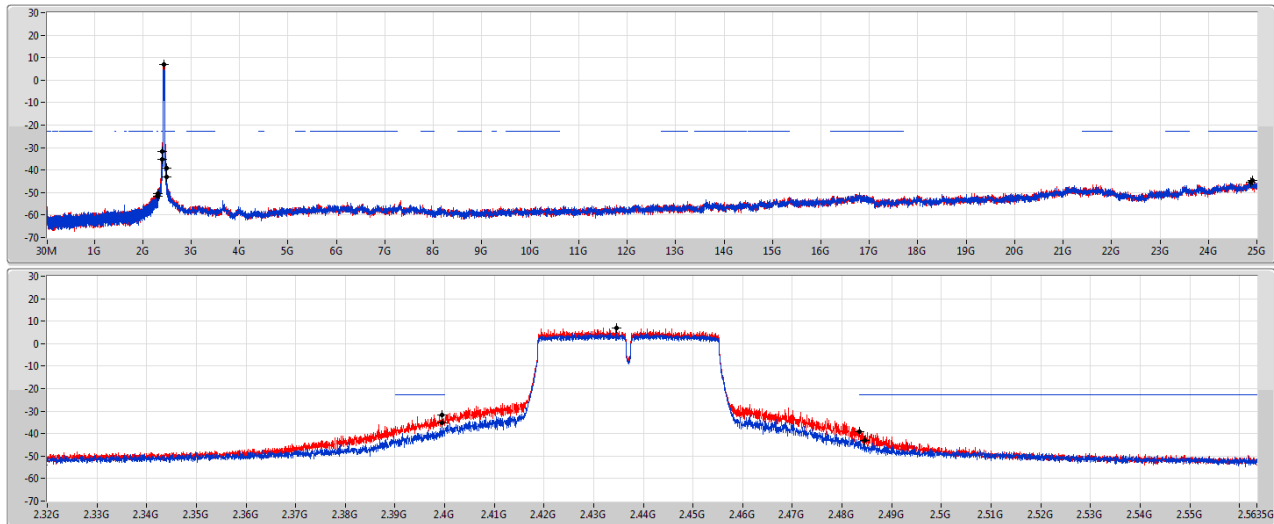


VHT40-BF_Nss1,(MCS0)_2TX

2437MHz

CSE NdB

05/07/2019

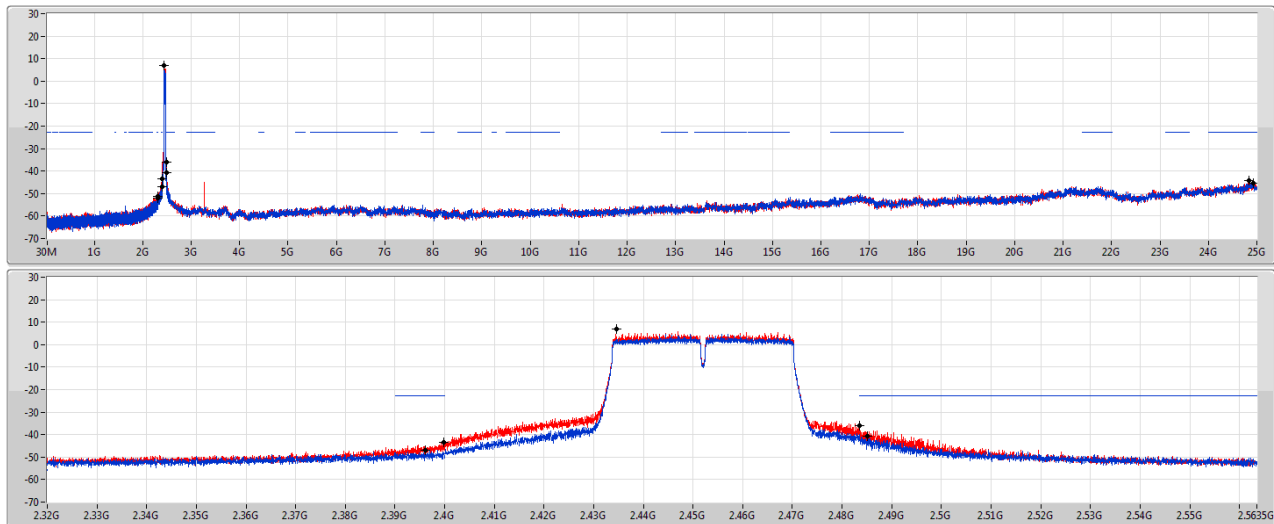


VHT40-BF_Nss1,(MCS0)_2TX

2452MHz

CSE NdB

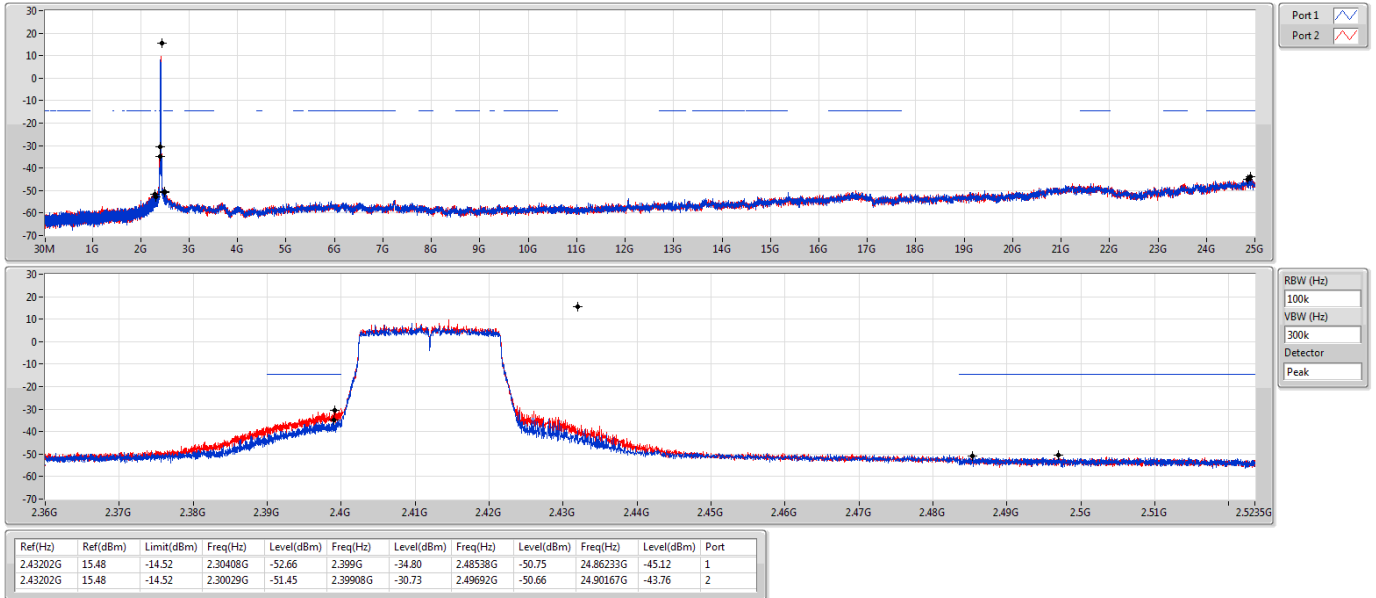
05/07/2019



802.11ax HEW20-BF_Nss1,(MCS0)_2TX

CSE NdB

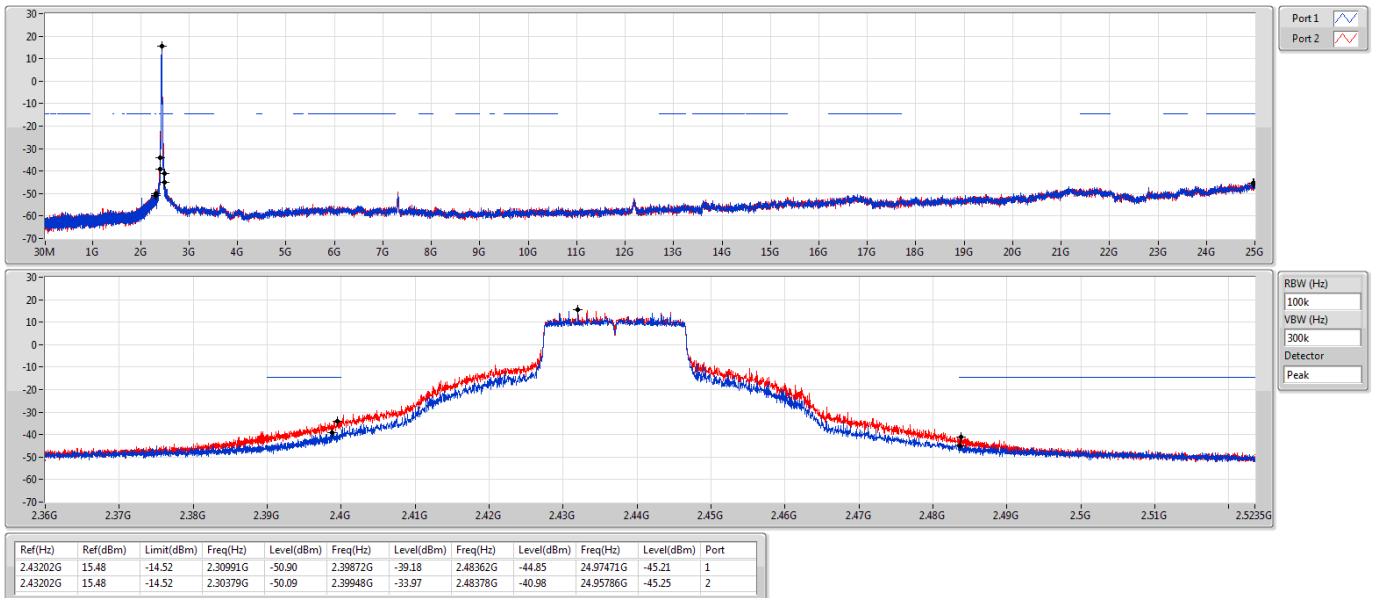
2412MHz



802.11ax HEW20-BF_Nss1,(MCS0)_2TX

CSE NdB

2437MHz

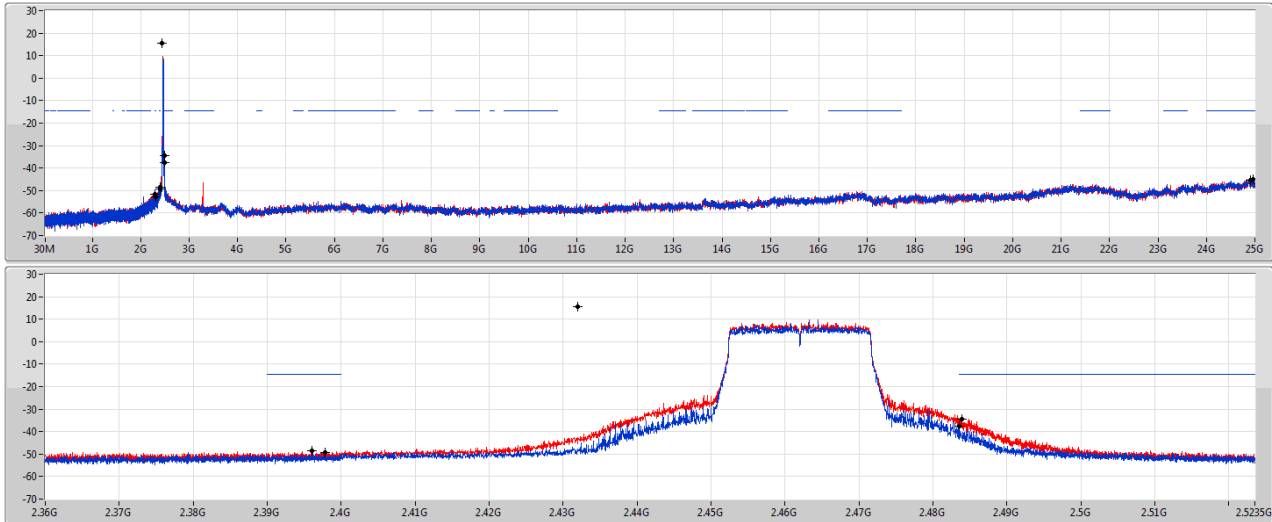


802.11ax HEW20-BF_Nss1,(MCS0)_2TX

2462MHz

CSE NdB

05/07/2019



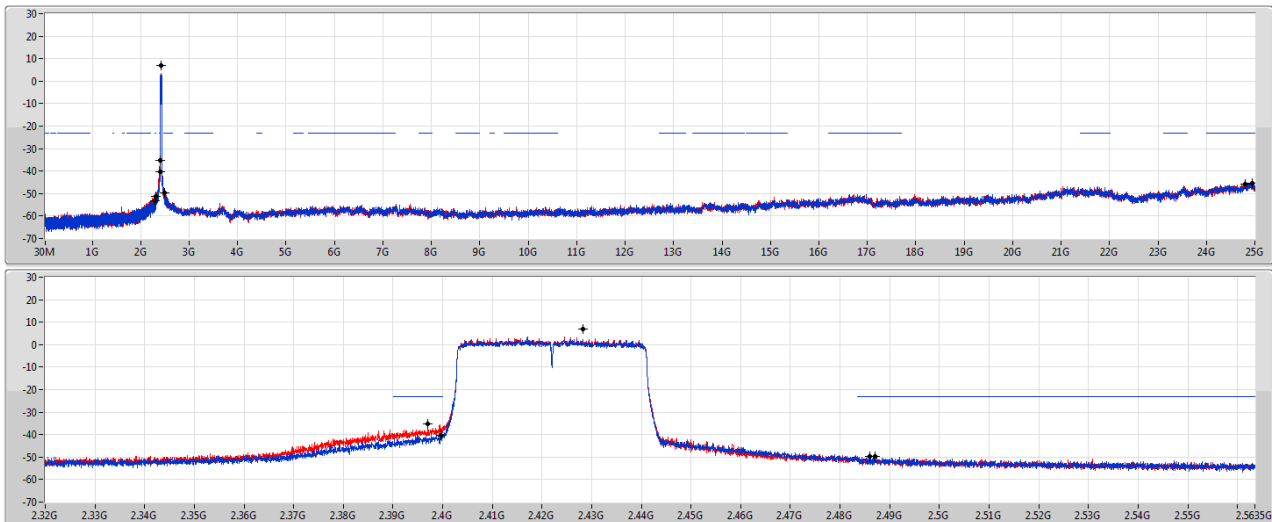
Ref(Hz)	Ref(dBm)	Limit(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Port
2.43202G	15.48	-14.52	2.30932G	-52.68	2.39778G	-49.46	2.48358G	-37.71	2.491571G	-45.56	1
2.43202G	15.48	-14.52	2.30175G	-51.83	2.39608G	-48.49	2.48388G	-34.52	2.496348G	-44.87	2

802.11ax HEW40-BF_Nss1,(MCS0)_2TX

2422MHz

CSE NdB

05/07/2019

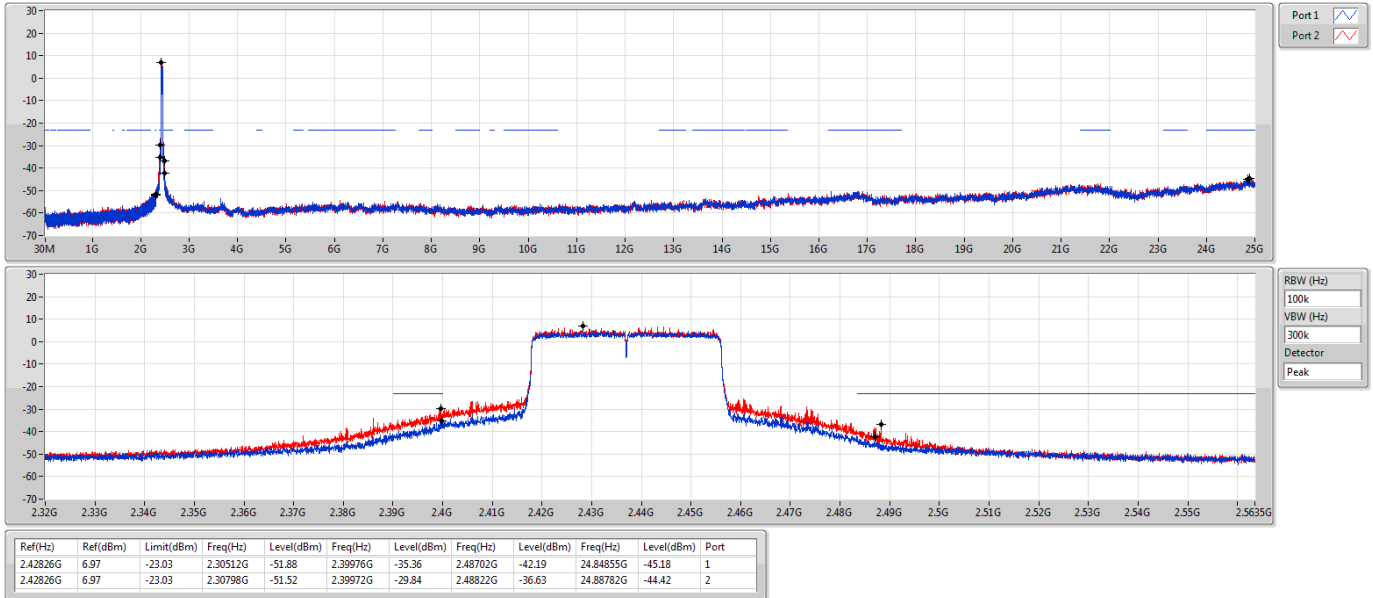


Ref(Hz)	Ref(dBm)	Limit(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Port
2.42826G	6.97	-23.03	2.30139G	-53.25	2.3996G	-40.37	2.48598G	-49.75	2.490929G	-45.60	1
2.42826G	6.97	-23.03	2.30426G	-51.14	2.397G	-35.24	2.48698G	-49.82	2.494671G	-45.32	2

802.11ax HEW40-BF_Nss1,(MCS0)_2TX

CSE NdB

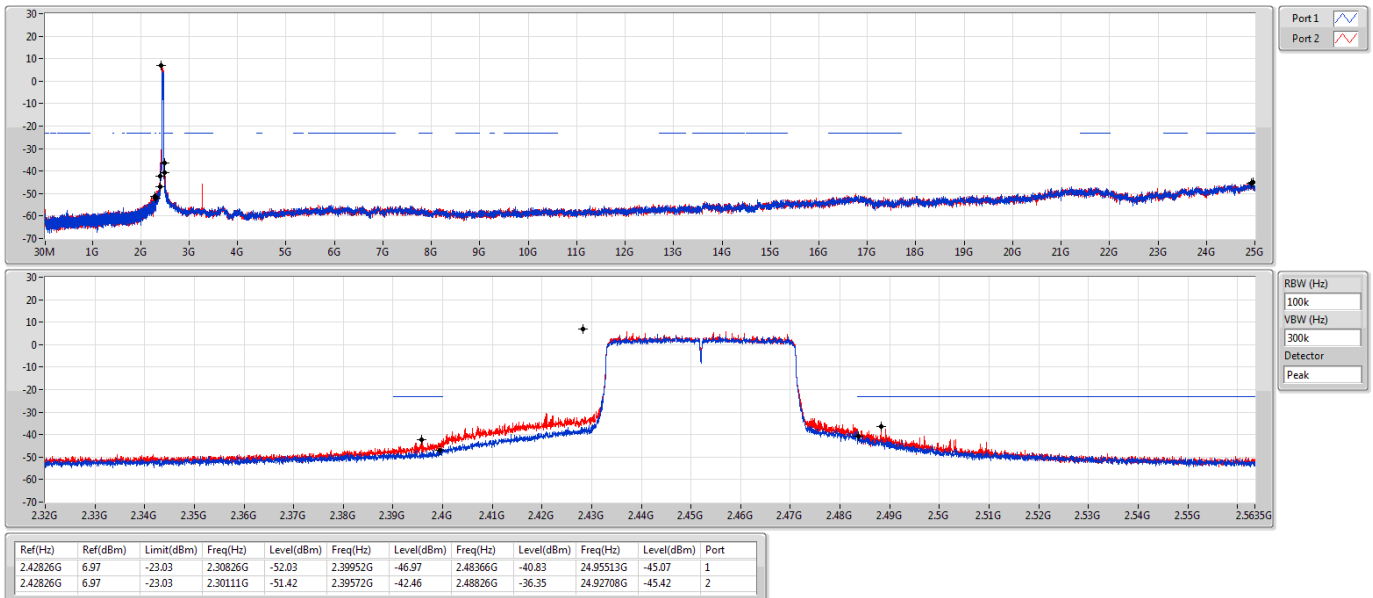
2437MHz

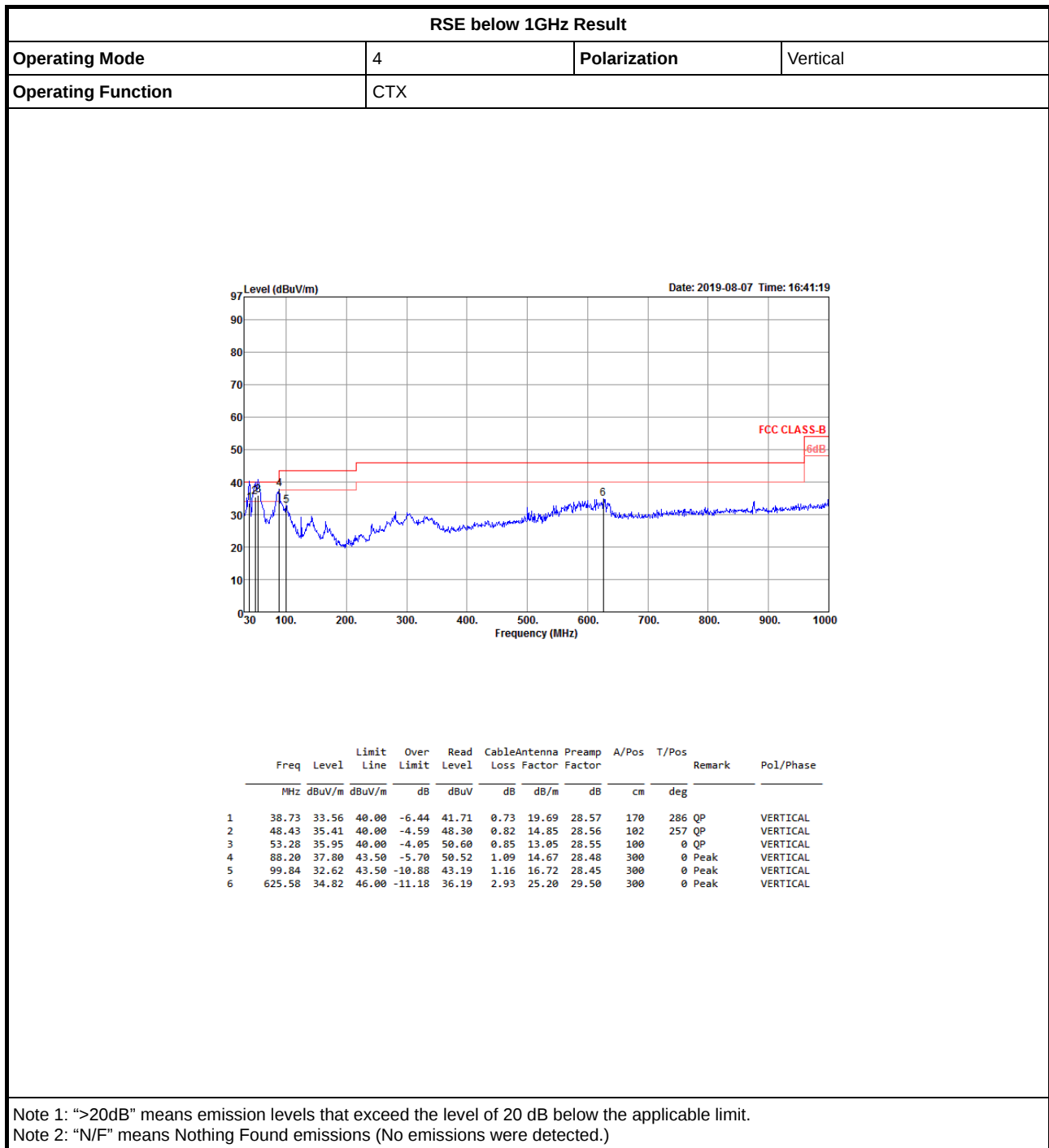


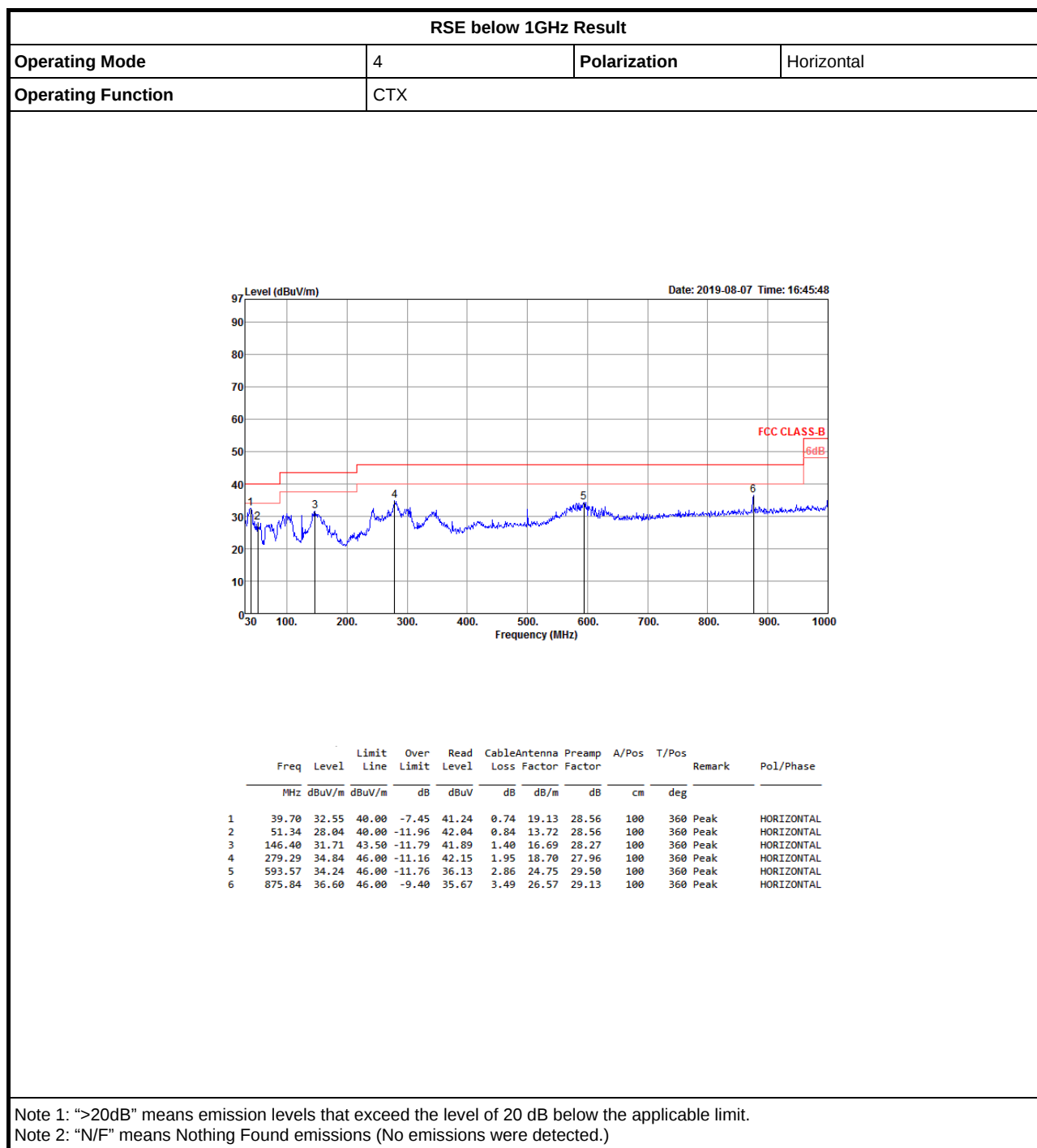
802.11ax HEW40-BF_Nss1,(MCS0)_2TX

CSE NdB

2452MHz









RSE TX above 1GHz Result

Appendix F.2

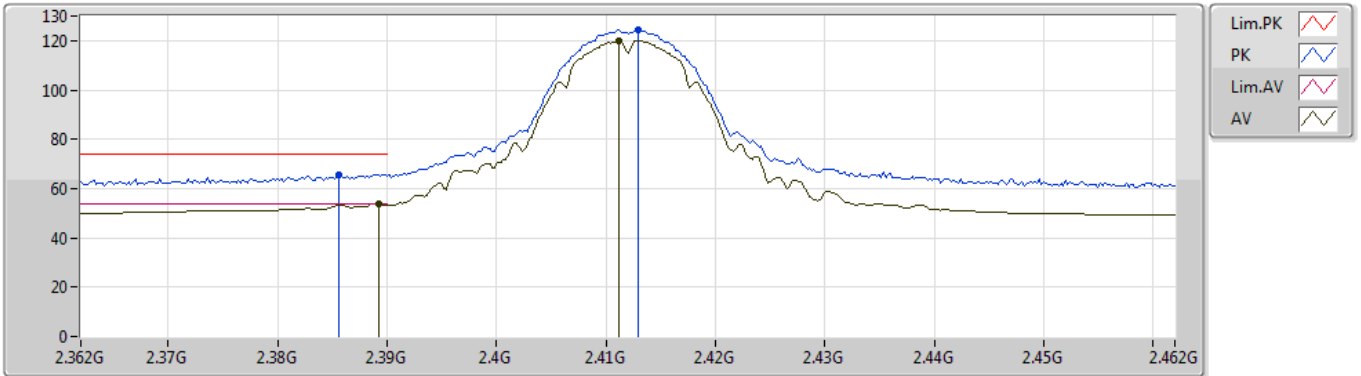
Summary

Mode	Result	Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comments
2.4-2.4835GHz	-	-	-	-	-	-	-	-	-	-	-	-
802.11b_Nss1,(1Mbps)_2TX	Pass	AV	2.3892G	53.98	54.00	-0.02	32.13	3	Vertical	16	2.32	-

802.11b_Nss1,(1Mbps)_2TX

20/06/2019

2412MHz_TX



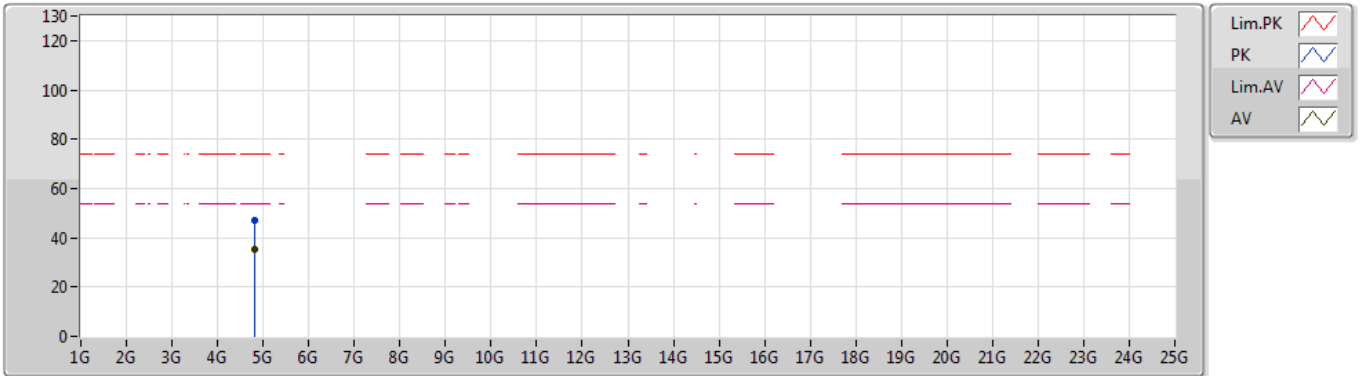
EUT_Z_2TX
Setting 108
06-K-3
FSP
EUT #5 / ANT WS0604

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment				
PK	2.3856G	65.84	74.00	-8.16	32.11	3	Vertical	16	2.32	-				
AV	2.3892G	53.98	54.00	-0.02	32.13	3	Vertical	16	2.32	-				
PK	2.413G	124.50	Inf	-Inf	32.20	3	Vertical	16	2.32	-				
AV	2.4112G	120.16	Inf	-Inf	32.19	3	Vertical	16	2.32	-				

802.11b_Nss1,(1Mbps)_2TX

20/06/2019

2412MHz_TX



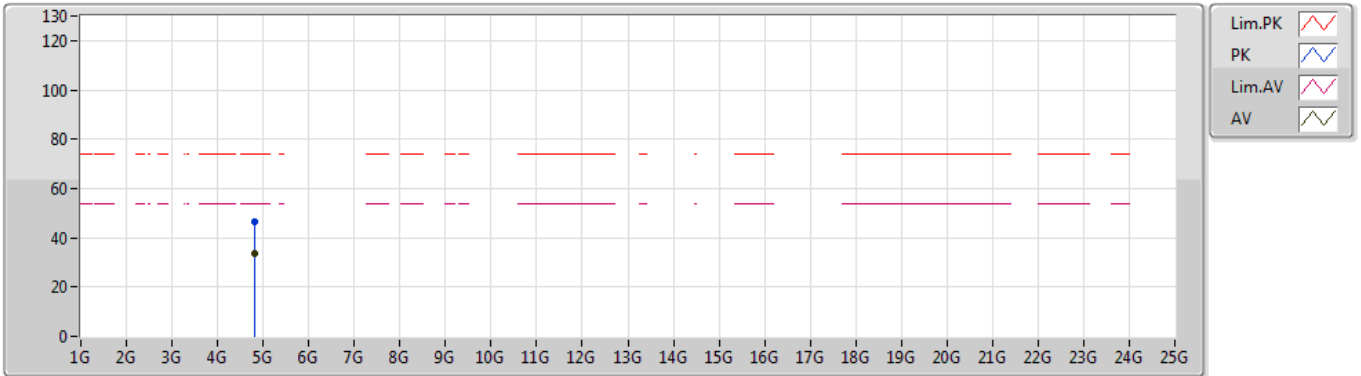
EUT Z_2TX
Setting 108
03-C-5
FSP
EUT #5 / ANT WS0604

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment				
PK	4.824G	47.08	74.00	-26.92	5.11	3	Vertical	158	2.27	-				
AV	4.82394G	35.56	54.00	-18.44	5.11	3	Vertical	158	2.27	-				

802.11b_Nss1,(1Mbps)_2TX

20/06/2019

2412MHz_TX



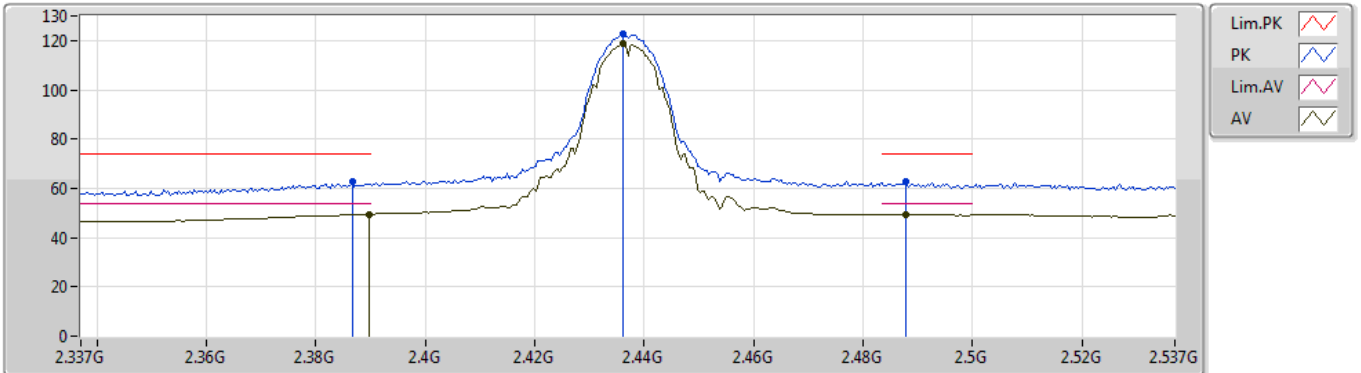
EUT_Z_2TX
Setting 108
03-C-5
FSP
EUT #5 / ANT WS0604

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment				
PK	4.82436G	46.66	74.00	-27.34	5.11	3	Horizontal	142	1.06	-				
AV	4.82404G	33.37	54.00	-20.63	5.11	3	Horizontal	142	1.06	-				

802.11b_Nss1,(1Mbps)_2TX

20/06/2019

2437MHz_TX



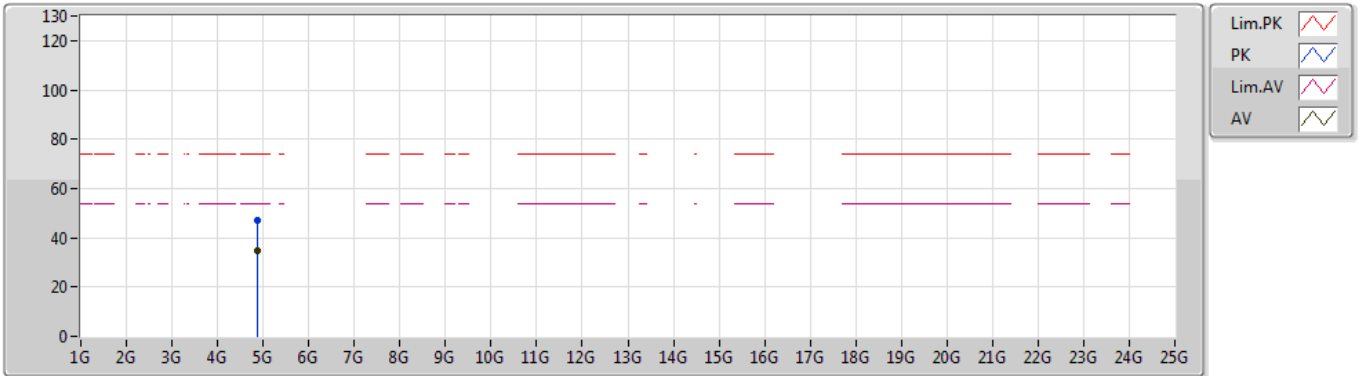
EUT Z_2TX
Setting 108
06-K-3
FSP
EUT #5 / ANT WS0604

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment
PK	2.3866G	62.68	74.00	-11.32	32.11	3	Vertical	243	1.89	-
AV	2.3898G	49.57	54.00	-4.43	32.13	3	Vertical	243	1.89	-
PK	2.4362G	122.45	Inf	-Inf	32.27	3	Vertical	243	1.89	-
AV	2.4362G	118.56	Inf	-Inf	32.27	3	Vertical	243	1.89	-
PK	2.4878G	62.75	74.00	-11.25	32.42	3	Vertical	243	1.89	-
AV	2.4878G	49.47	54.00	-4.53	32.42	3	Vertical	243	1.89	-

802.11b_Nss1,(1Mbps)_2TX

20/06/2019

2437MHz_TX



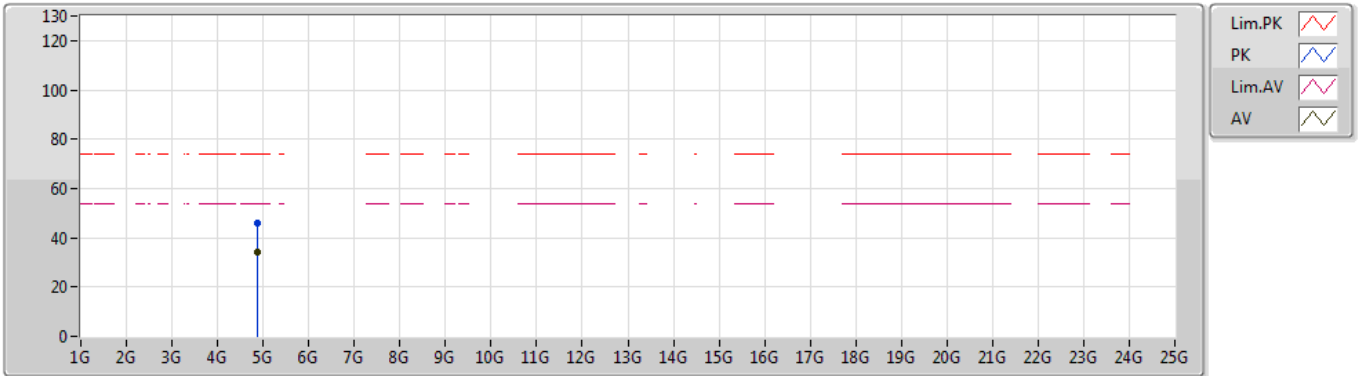
EUT Z_2TX
Setting 108
03-C-5
FSP
EUT #5 / ANT WS0604

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment				
PK	4.87538G	47.20	74.00	-26.80	5.24	3	Vertical	39	2.41	-				
AV	4.8713G	34.98	54.00	-19.02	5.23	3	Vertical	39	2.41	-				

802.11b_Nss1,(1Mbps)_2TX

20/06/2019

2437MHz_TX



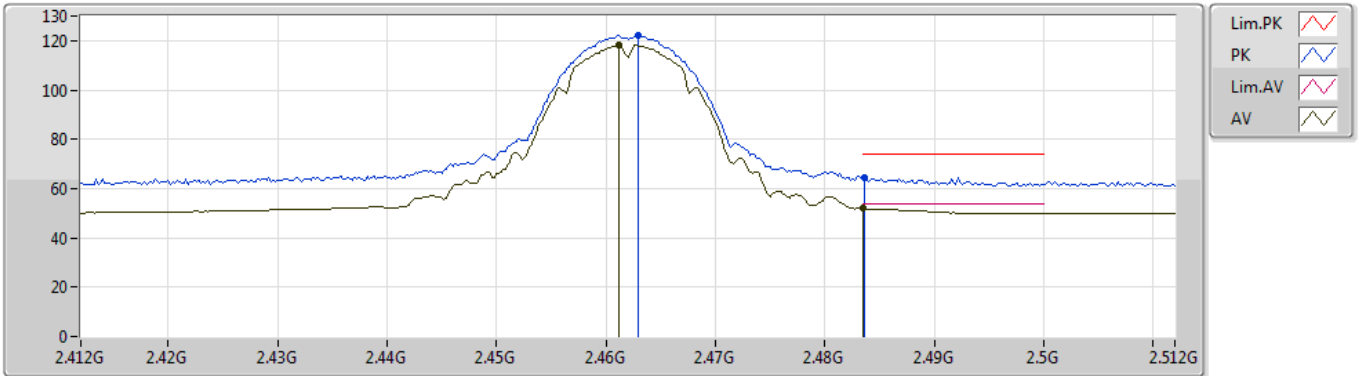
EUT_Z_2TX
Setting 108
03-C-5
FSP
EUT #5 / ANT WS0604

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment				
PK	4.87266G	46.11	74.00	-27.89	5.24	3	Horizontal	0	2.53	-				
AV	4.87266G	33.94	54.00	-20.06	5.24	3	Horizontal	0	2.53	-				

802.11b_Nss1,(1Mbps)_2TX

20/06/2019

2462MHz_TX



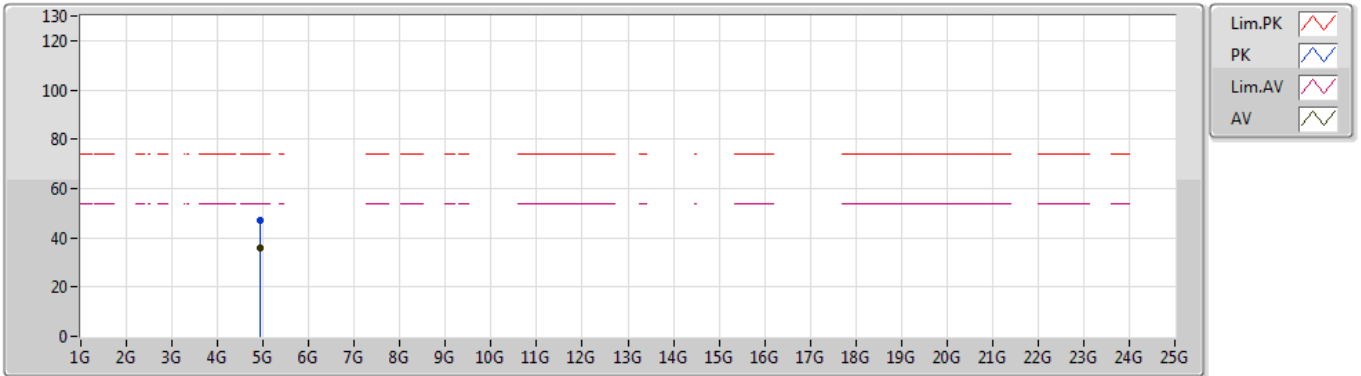
EUT_Z_2TX
Setting 108
06-K-3
FSP
EUT #5 / ANT WS0604

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment				
PK	2.463G	122.19	Inf	-Inf	32.35	3	Vertical	207	1.40	-				
AV	2.4612G	118.15	Inf	-Inf	32.34	3	Vertical	207	1.40	-				
PK	2.4836G	64.24	74.00	-9.76	32.41	3	Vertical	207	1.40	-				
AV	2.4835G	51.96	54.00	-2.04	32.41	3	Vertical	207	1.40	-				

802.11b_Nss1,(1Mbps)_2TX

20/06/2019

2462MHz_TX



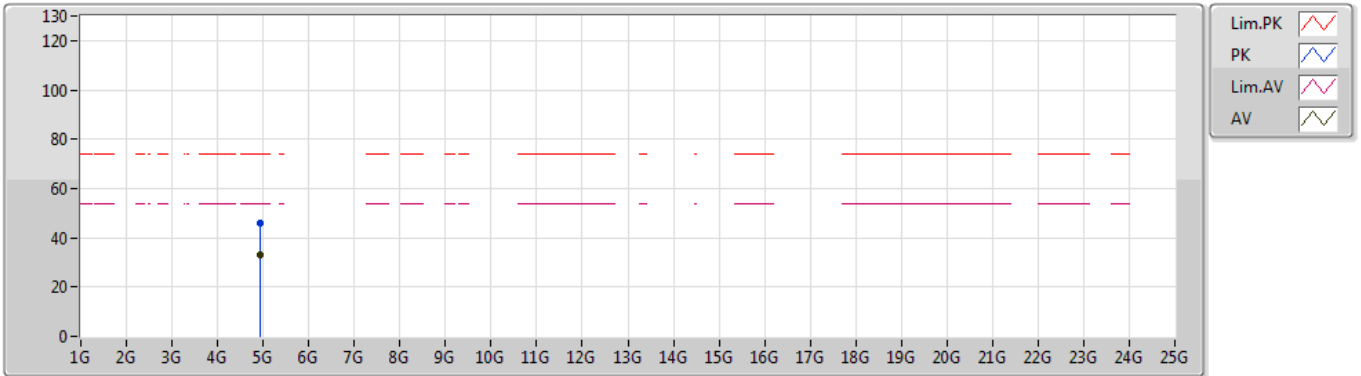
EUT_Z_2TX
Setting 108
03-C-5
FSP
EUT #5 / ANT WS0604

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment				
PK	4.9244G	47.18	74.00	-26.82	5.36	3	Vertical	25	2.73	-				
AV	4.92396G	36.11	54.00	-17.89	5.36	3	Vertical	25	2.73	-				

802.11b_Nss1,(1Mbps)_2TX

20/06/2019

2462MHz_TX



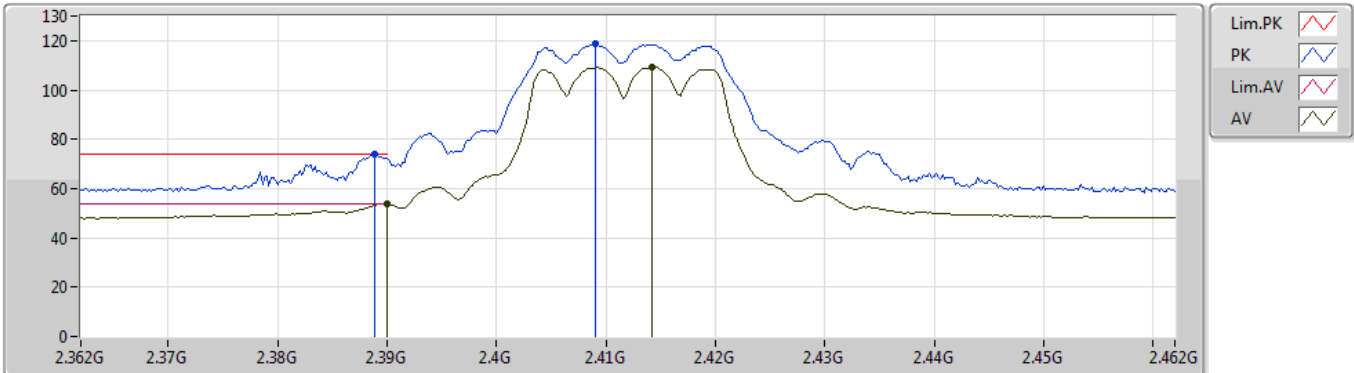
EUT Z_2TX
Setting 108
03-C-5
FSP
EUT #5 / ANT WS0604

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment				
PK	4.92392G	45.99	74.00	-28.01	5.36	3	Horizontal	103	2.71	-				
AV	4.92405G	33.19	54.00	-20.81	5.36	3	Horizontal	103	2.71	-				

802.11g_Nss1,(6Mbps)_2TX

20/06/2019

2412MHz_TX



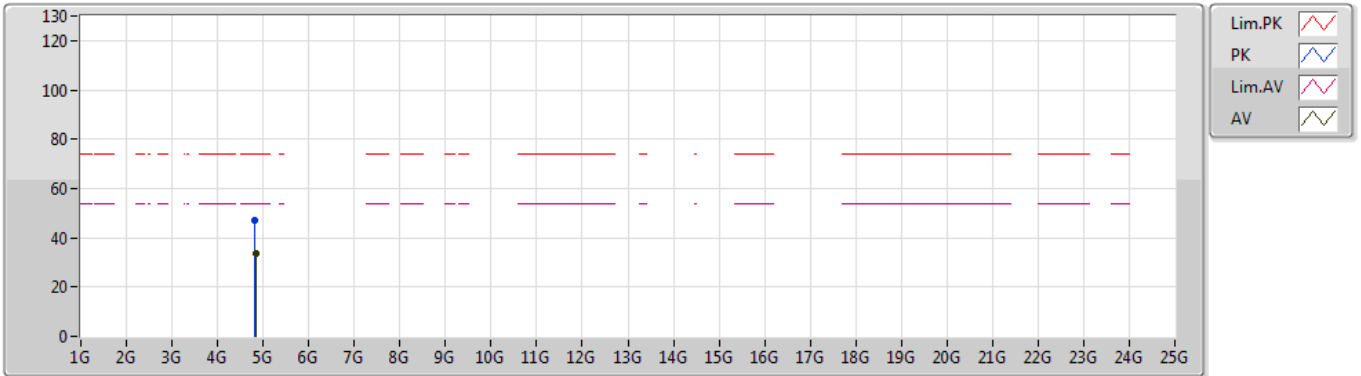
EUT Z_2TX
Setting 84
06-K-3
FSP
EUT #5 / ANT WS0604

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment				
PK	2.3888G	73.83	74.00	-0.17	32.12	3	Vertical	19	2.27	-				
AV	2.39G	53.96	54.00	-0.04	32.13	3	Vertical	19	2.27	-				
PK	2.409G	118.52	Inf	-Inf	32.19	3	Vertical	19	2.27	-				
AV	2.4142G	109.37	Inf	-Inf	32.20	3	Vertical	19	2.27	-				

802.11g_Nss1,(6Mbps)_2TX

02/07/2019

2412MHz_TX



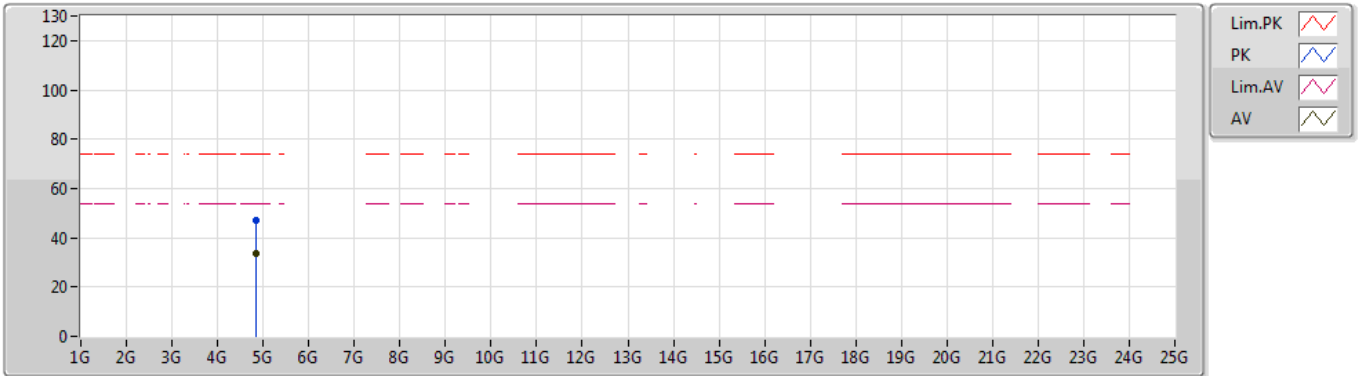
EUT Z_2TX
Setting 84
06-S-5
FSP
EUT #5 / ANT WS0604

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment				
PK	4.81752G	46.95	74.00	-27.05	6.68	3	Vertical	325	1.66	-				
AV	4.82964G	33.50	54.00	-20.50	6.70	3	Vertical	325	1.66	-				

802.11g_Nss1,(6Mbps)_2TX

02/07/2019

2412MHz_TX



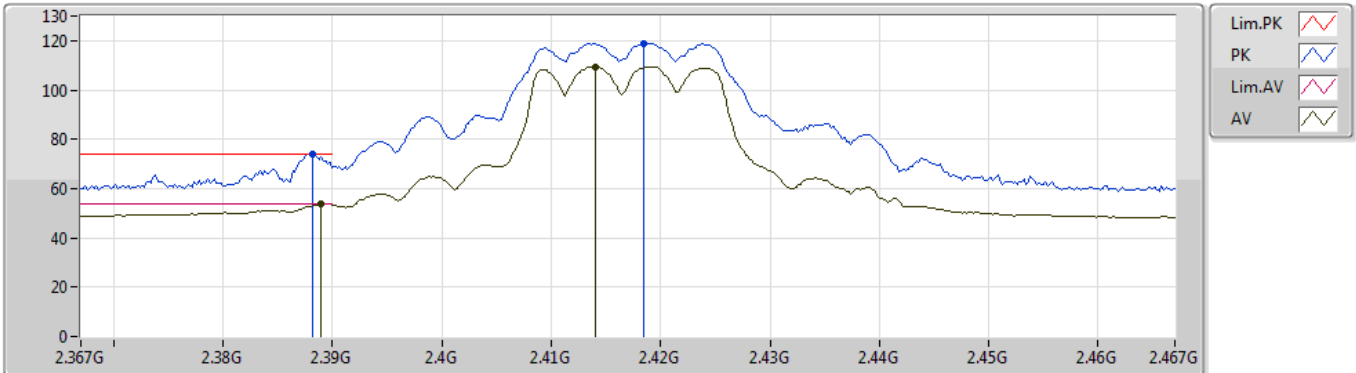
EUT Z_2TX
Setting 84
06-S-5
FSP
EUT #5 / ANT WS0604

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment				
PK	4.83396G	47.00	74.00	-27.00	6.72	3	Horizontal	154	2.12	-				
AV	4.83088G	33.54	54.00	-20.46	6.72	3	Horizontal	154	2.12	-				

802.11g_Nss1,(6Mbps)_2TX

02/07/2019

2417MHz_TX



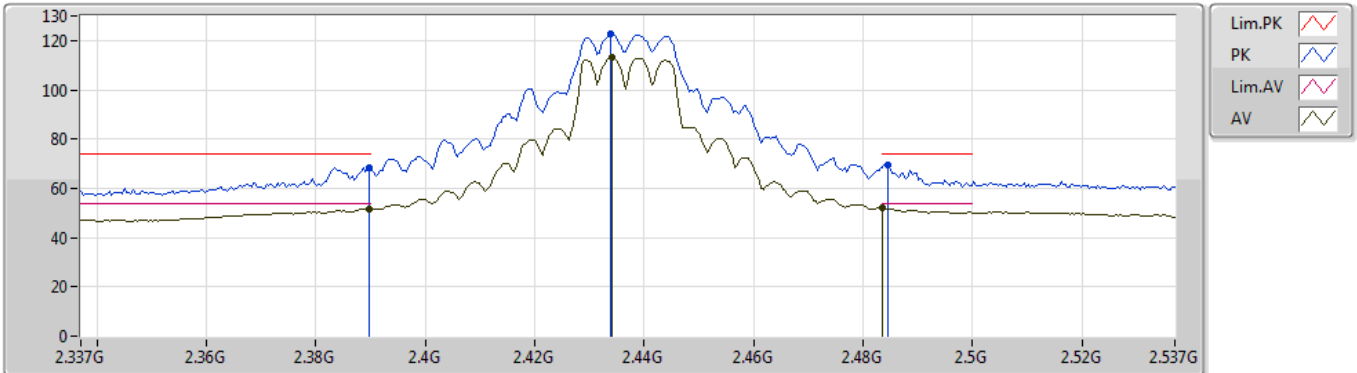
EUT Z_2TX
Setting 91
06-S-5
FSP
EUT #5 / ANT WS0604

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment
PK	2.3882G	73.84	74.00	-0.16	32.11	3	Vertical	89	2.18	-
AV	2.389G	53.76	54.00	-0.24	32.12	3	Vertical	89	2.18	-
PK	2.4184G	118.96	Inf	-Inf	32.21	3	Vertical	89	2.18	-
AV	2.414G	109.50	Inf	-Inf	32.20	3	Vertical	89	2.18	-

802.11g_Nss1,(6Mbps)_2TX

20/06/2019

2437MHz_TX



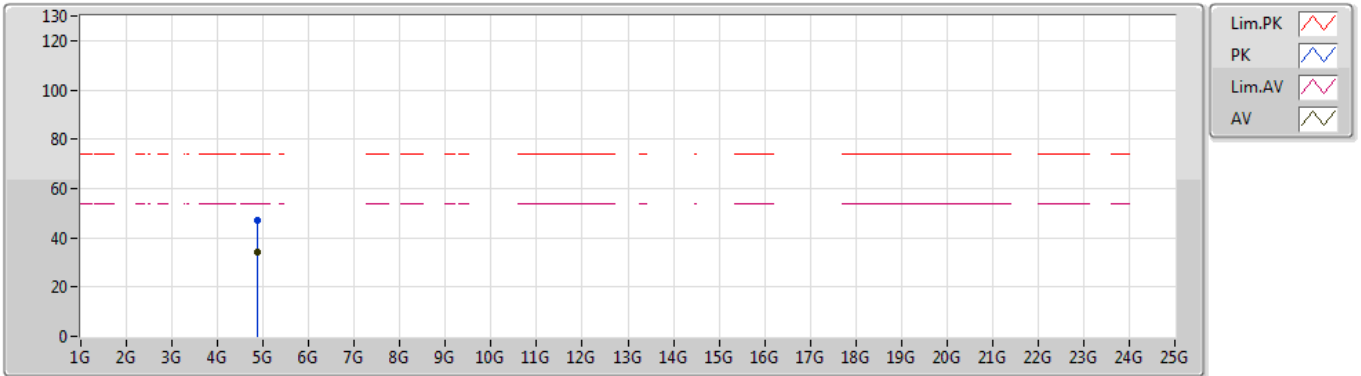
EUT Z_2TX
Setting 108
06-K-3
FSP
EUT #5 / ANT WS0604

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment
PK	2.3898G	68.58	74.00	-5.42	32.13	3	Vertical	206	1.41	-
AV	2.3898G	51.82	54.00	-2.18	32.13	3	Vertical	206	1.41	-
PK	2.4338G	122.60	Inf	-Inf	32.26	3	Vertical	206	1.41	-
AV	2.4342G	112.98	Inf	-Inf	32.27	3	Vertical	206	1.41	-
PK	2.4846G	69.56	74.00	-4.44	32.42	3	Vertical	206	1.41	-
AV	2.4835G	51.93	54.00	-2.07	32.41	3	Vertical	206	1.41	-

802.11g_Nss1,(6Mbps)_2TX

02/07/2019

2437MHz_TX



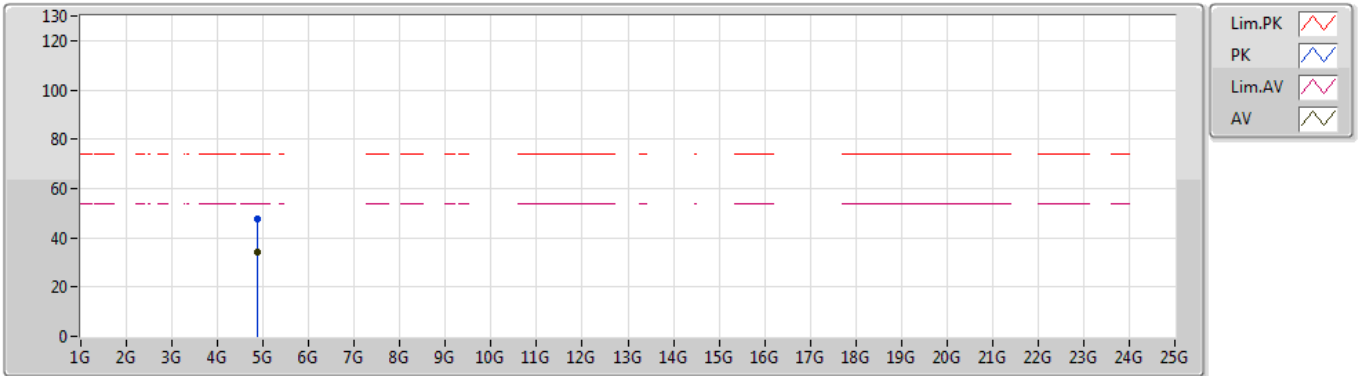
EUT Z_2TX
Setting 108
06-S-5
FSP
EUT #5 / ANT WS0604

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment				
PK	4.88272G	47.25	74.00	-26.75	6.84	3	Vertical	216	2.27	-				
AV	4.8754G	33.96	54.00	-20.04	6.83	3	Vertical	216	2.27	-				

802.11g_Nss1,(6Mbps)_2TX

02/07/2019

2437MHz_TX



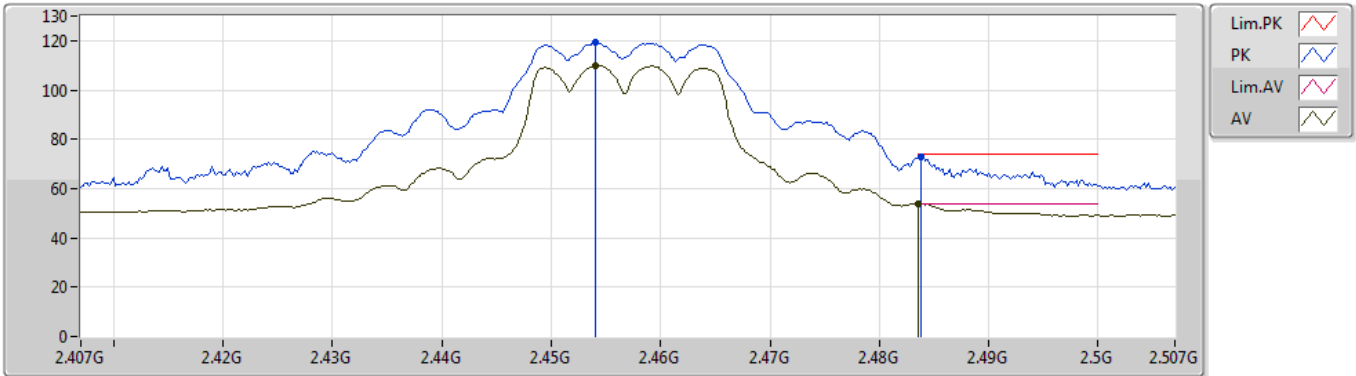
EUT Z_2TX
Setting 108
06-S-5
FSP
EUT #5 / ANT WS0604

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment				
PK	4.87092G	47.40	74.00	-26.60	6.82	3	Horizontal	260	1.56	-				
AV	4.87888G	33.95	54.00	-20.05	6.84	3	Horizontal	260	1.56	-				

802.11g_Nss1,(6Mbps)_2TX

02/07/2019

2457MHz_TX



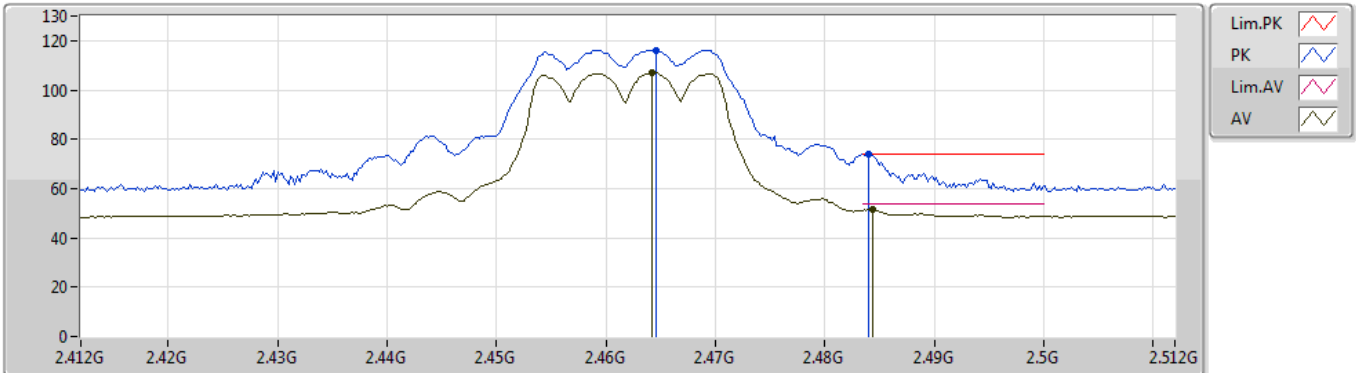
EUT Z_2TX
Setting 94
06-S-5
FSP
EUT #5 / ANT WS0604

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment			
PK	2.454G	119.34	Inf	-Inf	32.32	3	Vertical	78	2.06	-			
AV	2.454G	109.83	Inf	-Inf	32.32	3	Vertical	78	2.06	-			
PK	2.4838G	73.07	74.00	-0.93	32.41	3	Vertical	78	2.06	-			
AV	2.4835G	53.97	54.00	-0.03	32.41	3	Vertical	78	2.06	-			

802.11g_Nss1,(6Mbps)_2TX

20/06/2019

2462MHz_TX



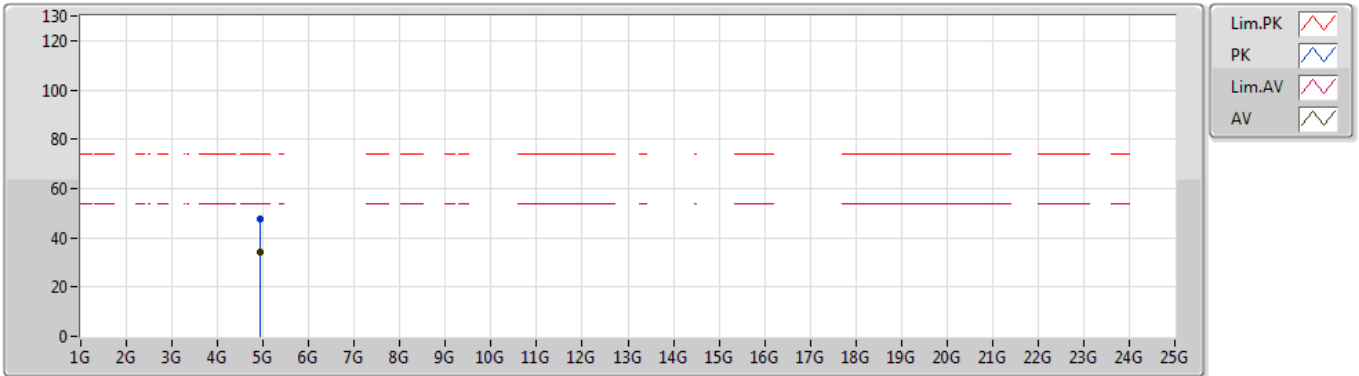
EUT Z_2TX
Setting 85
06-K-3
FSP
EUT #5 / ANT WS0604

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment				
PK	2.464G	116.26	Inf	-Inf	32.35	3	Vertical	207	1.38	-				
AV	2.464G	106.96	Inf	-Inf	32.35	3	Vertical	207	1.38	-				
PK	2.484G	73.93	74.00	-0.07	32.41	3	Vertical	207	1.38	-				
AV	2.484G	51.43	54.00	-2.57	32.42	3	Vertical	207	1.38	-				

802.11g_Nss1,(6Mbps)_2TX

02/07/2019

2462MHz_TX



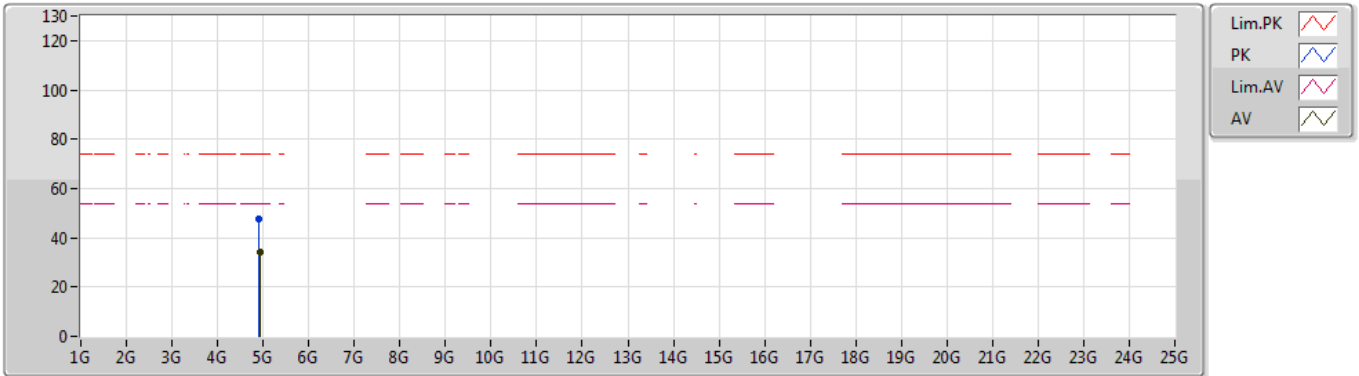
EUT Z_2TX
Setting 85
06-S-5
FSP
EUT #5 / ANT WS0604

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment				
PK	4.93136G	47.55	74.00	-26.45	6.98	3	Vertical	92	1.54	-				
AV	4.9248G	34.09	54.00	-19.91	6.95	3	Vertical	92	1.54	-				

802.11g_Nss1,(6Mbps)_2TX

02/07/2019

2462MHz_TX



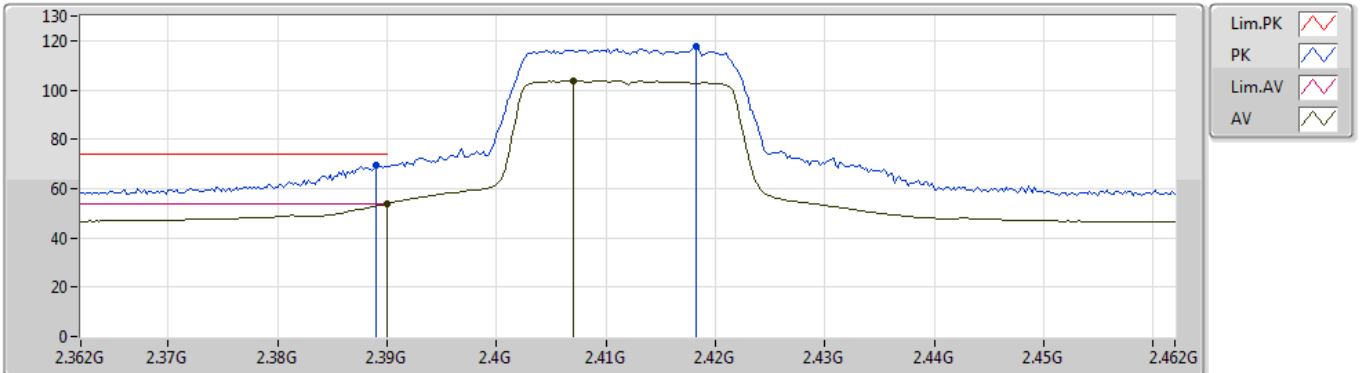
EUT Z_2TX
Setting 85
06-S-5
FSP
EUT #5 / ANT WS0604

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment				
PK	4.91712G	47.70	74.00	-26.30	6.94	3	Horizontal	279	2.47	-				
AV	4.9204G	33.96	54.00	-20.04	6.94	3	Horizontal	279	2.47	-				

802.11ax HEW20_Nss2,(MCS0)_2TX

20/06/2019

2412MHz_TX



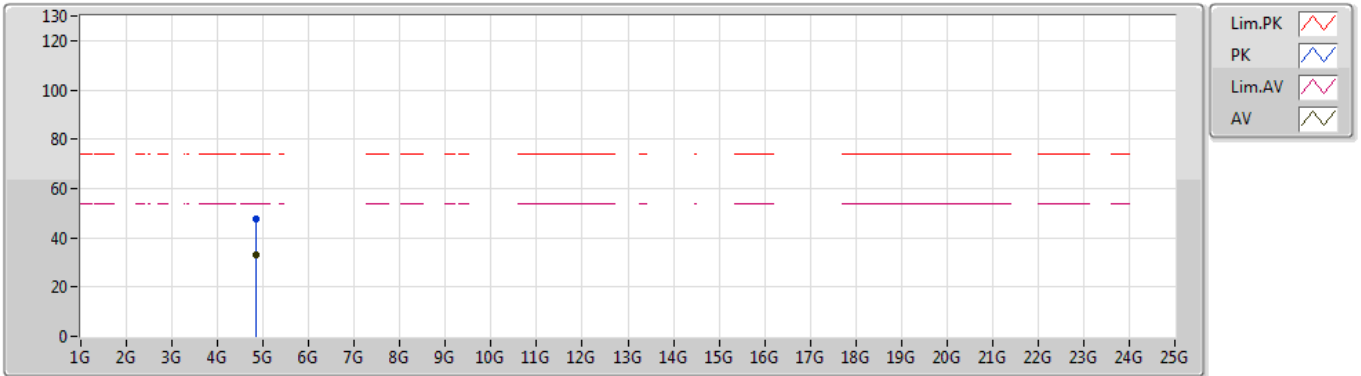
EUT_Z_2TX
Setting 78
06-K-3
FSP
EUT #5 / ANT WS0604

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment				
PK	2.389G	69.53	74.00	-4.47	32.12	3	Vertical	17	2.61	-				
AV	2.39G	53.85	54.00	-0.15	32.13	3	Vertical	17	2.61	-				
PK	2.4182G	117.49	Inf	-Inf	32.21	3	Vertical	17	2.61	-				
AV	2.407G	103.60	Inf	-Inf	32.19	3	Vertical	17	2.61	-				

802.11ax HEW20_Nss2,(MCS0)_2TX

02/07/2019

2412MHz_TX



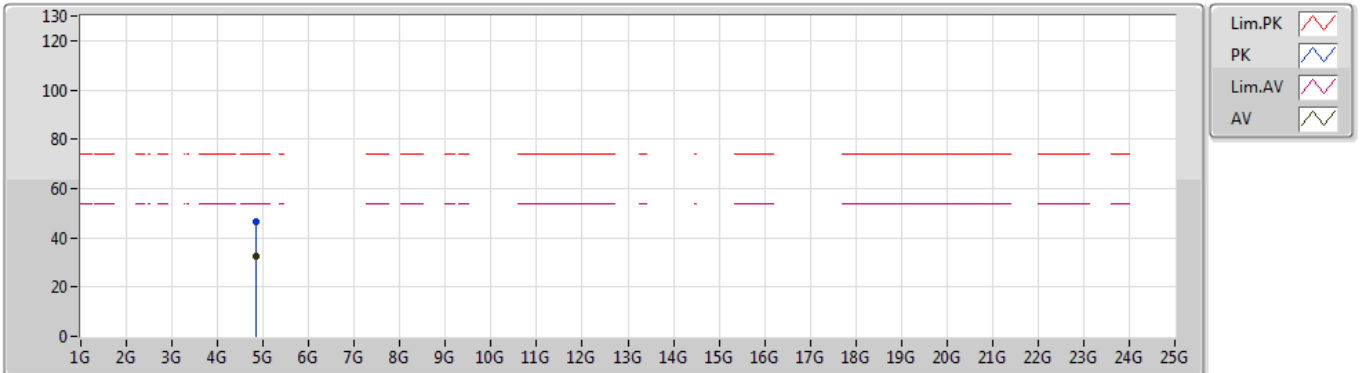
EUT Z_2TX
Setting 78
06-S-5
FSP
EUT #5 / ANT WS0604

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment				
PK	4.83048G	47.39	74.00	-26.61	6.72	3	Vertical	17	2.00	-				
AV	4.83044G	32.84	54.00	-21.16	6.72	3	Vertical	17	2.00	-				

802.11ax HEW20_Nss2,(MCS0)_2TX

02/07/2019

2412MHz_TX



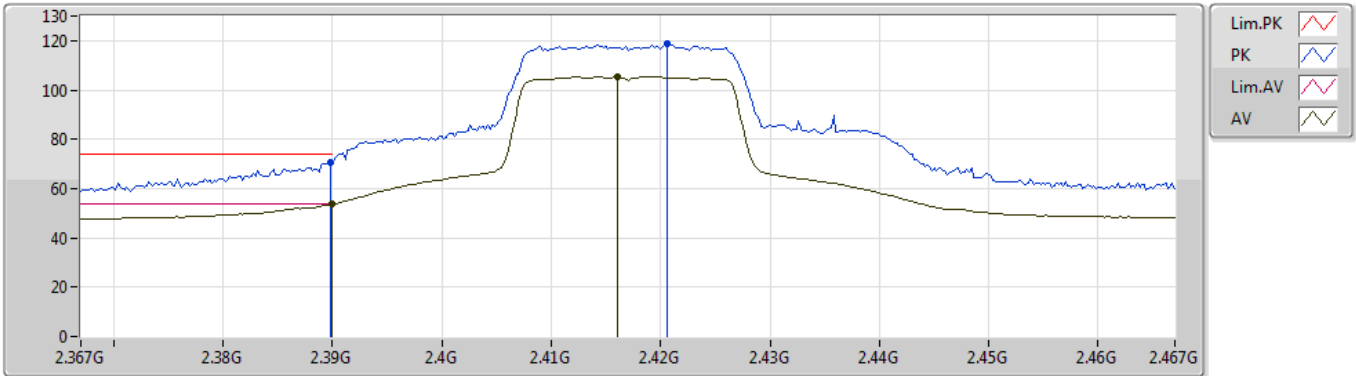
EUT Z_2TX
Setting 78
06-S-5
FSP
EUT #5 / ANT WS0604

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment				
PK	4.83008G	46.73	74.00	-27.27	6.72	3	Horizontal	131	1.49	-				
AV	4.82956G	32.77	54.00	-21.23	6.70	3	Horizontal	131	1.49	-				

802.11ax HEW20_Nss2,(MCS0)_2TX

03/07/2019

2417MHz_TX



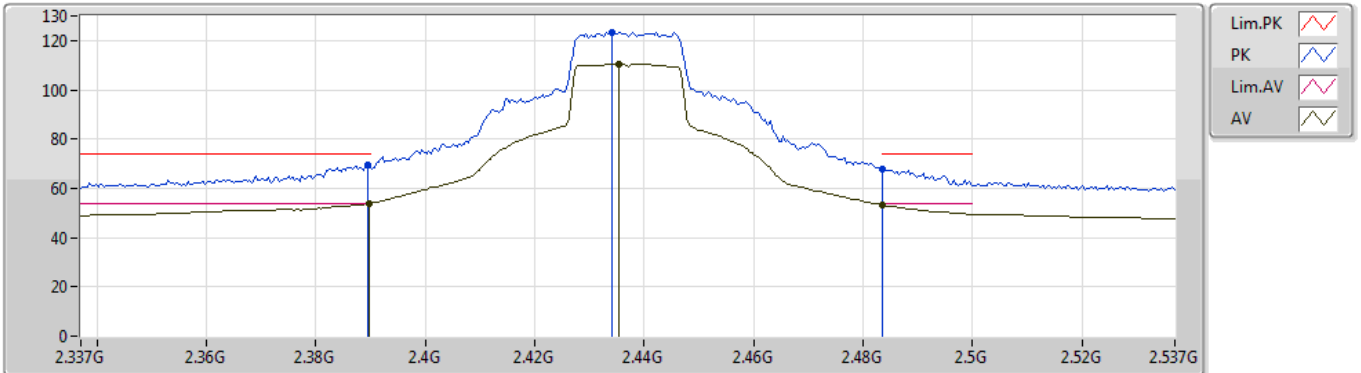
EUT Z_2TX
Setting 91
06-S-5
FSP
EUT #5 / ANT WS0604

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment
PK	2.3898G	70.58	74.00	-3.42	32.13	3	Vertical	201	1.88	-
AV	2.39G	53.81	54.00	-0.19	32.13	3	Vertical	201	1.88	-
PK	2.4206G	118.84	Inf	-Inf	32.23	3	Vertical	201	1.88	-
AV	2.416G	105.23	Inf	-Inf	32.21	3	Vertical	201	1.88	-

802.11ax HEW20_Nss2,(MCS0)_2TX

18/06/2019

2437MHz_TX



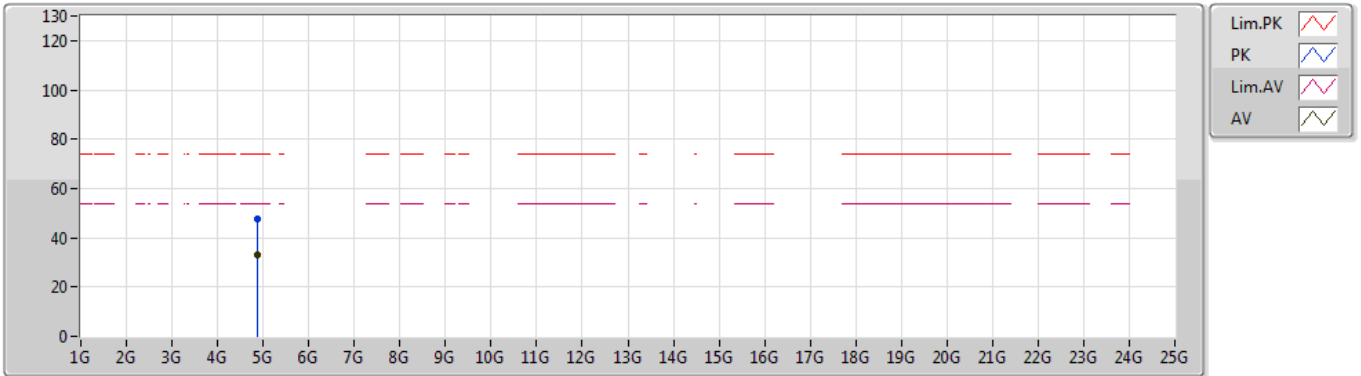
EUT Z_2TX
Setting 108
03-C-5
FSP
EUT #5 / ANT WS0604

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment
PK	2.3894G	69.24	74.00	-4.76	32.06	3	Vertical	84	2.08	-
AV	2.3898G	53.84	54.00	-0.16	32.06	3	Vertical	84	2.08	-
PK	2.4342G	123.45	Inf	-Inf	32.22	3	Vertical	84	2.08	-
AV	2.4354G	110.54	Inf	-Inf	32.23	3	Vertical	84	2.08	-
PK	2.4835G	67.81	74.00	-6.19	32.41	3	Vertical	84	2.08	-
AV	2.4835G	53.16	54.00	-0.84	32.41	3	Vertical	84	2.08	-

802.11ax HEW20_Nss2,(MCS0)_2TX

02/07/2019

2437MHz_TX



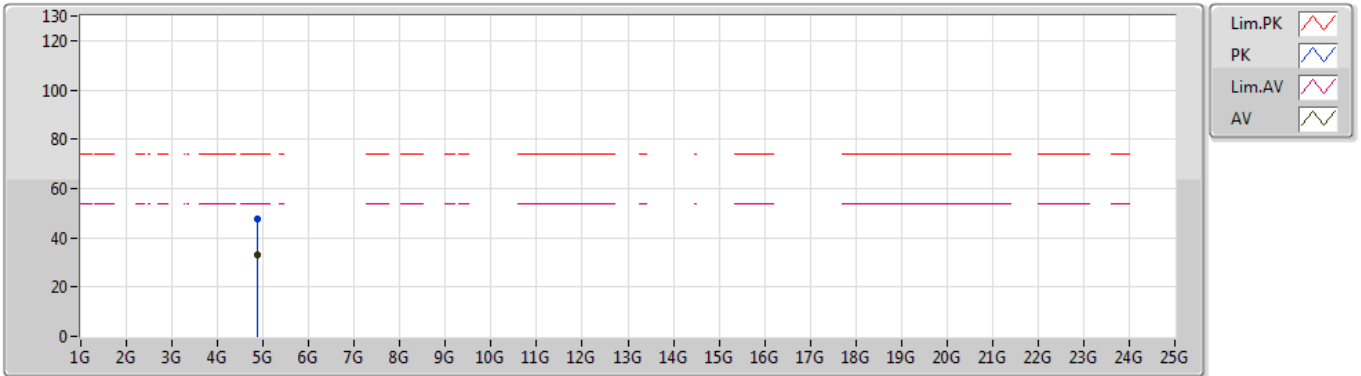
EUT Z_2TX
Setting 108
03-S-5
FSP
EUT #5 / ANT WS0604

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment				
PK	4.87544G	47.50	74.00	-26.50	6.83	3	Vertical	174	2.20	-				
AV	4.87476G	33.25	54.00	-20.75	6.82	3	Vertical	174	2.20	-				

802.11ax HEW20_Nss2,(MCS0)_2TX

02/07/2019

2437MHz_TX



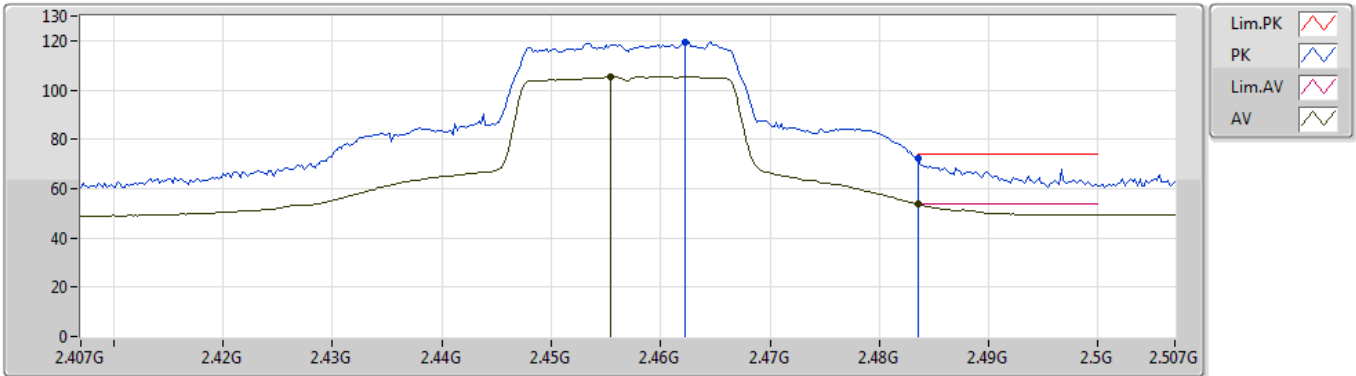
EUT Z_2TX
Setting 108
03-S-5
FSP
EUT #5 / ANT WS0604

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment				
PK	4.884G	47.53	74.00	-26.47	6.85	3	Horizontal	111	1.77	-				
AV	4.874G	33.23	54.00	-20.77	6.82	3	Horizontal	111	1.77	-				

802.11ax HEW20_Nss2,(MCS0)_2TX

03/07/2019

2457MHz_TX



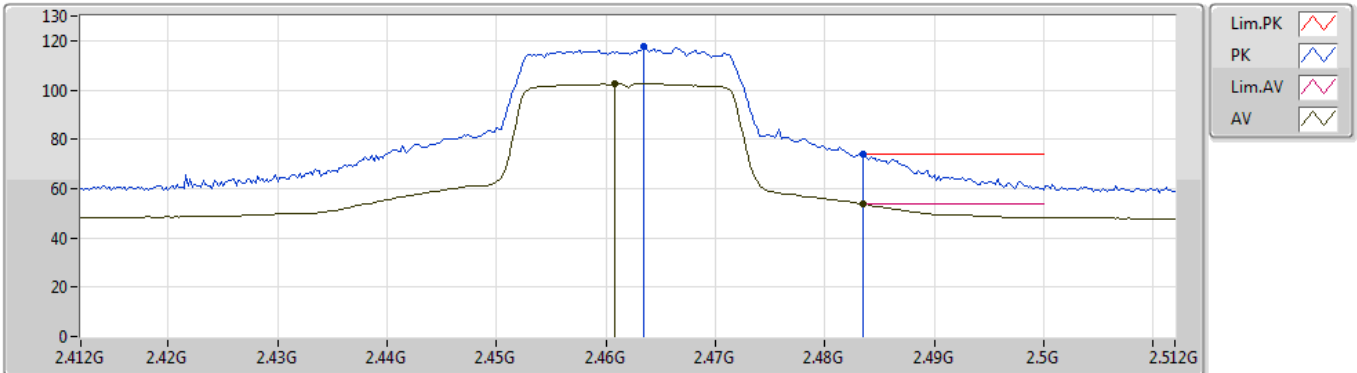
EUT Z_2TX
Setting 92
06-S-5
FSP
EUT #5 / ANT WS0604

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment
PK	2.4622G	119.57	Inf	-Inf	32.35	3	Vertical	203	1.44	-
AV	2.4554G	105.41	Inf	-Inf	32.32	3	Vertical	203	1.44	-
PK	2.4836G	72.15	74.00	-1.85	32.41	3	Vertical	203	1.44	-
AV	2.4836G	53.82	54.00	-0.18	32.41	3	Vertical	203	1.44	-

802.11ax HEW20_Nss2,(MCS0)_2TX

20/06/2019

2462MHz_TX



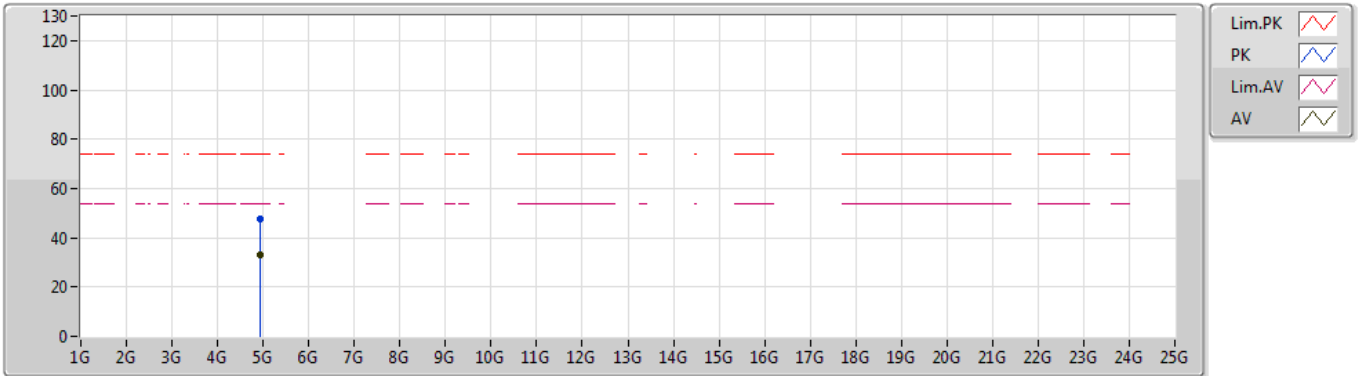
EUT Z_2TX
Setting 87
06-K-3
FSP
EUT #5 / ANT WS0604

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment			
PK	2.4634G	117.55	Inf	-Inf	32.35	3	Vertical	84	1.76	-			
AV	2.4608G	102.71	Inf	-Inf	32.34	3	Vertical	84	1.76	-			
PK	2.4835G	73.98	74.00	-0.02	32.41	3	Vertical	84	1.76	-			
AV	2.4835G	53.76	54.00	-0.24	32.41	3	Vertical	84	1.76	-			

802.11ax HEW20_Nss2,(MCS0)_2TX

02/07/2019

2462MHz_TX



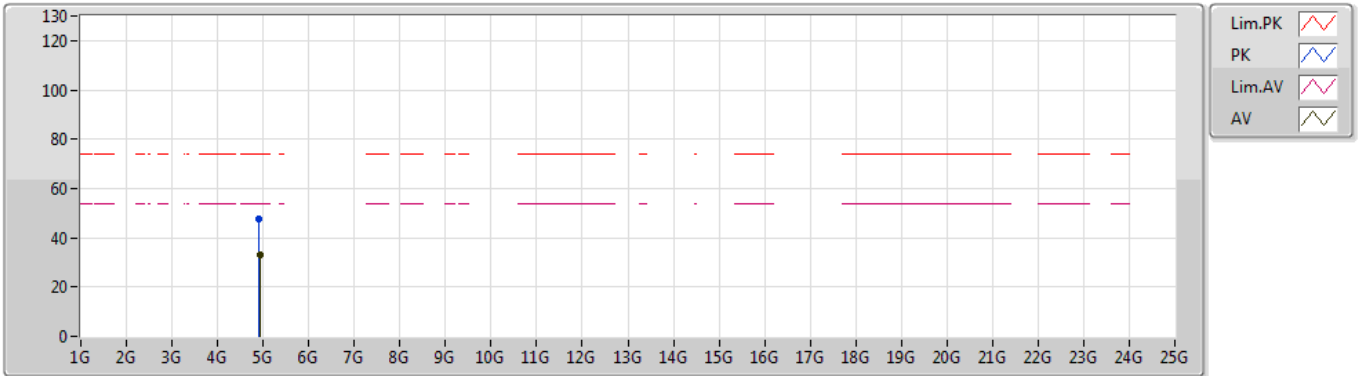
EUT Z_2TX
Setting 87
06-S-5
FSP
EUT #5 / ANT WS0604

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment				
PK	4.92396G	47.55	74.00	-26.45	6.95	3	Vertical	63	1.69	-				
AV	4.92348G	33.30	54.00	-20.70	6.95	3	Vertical	63	1.69	-				

802.11ax HEW20_Nss2,(MCS0)_2TX

02/07/2019

2462MHz_TX



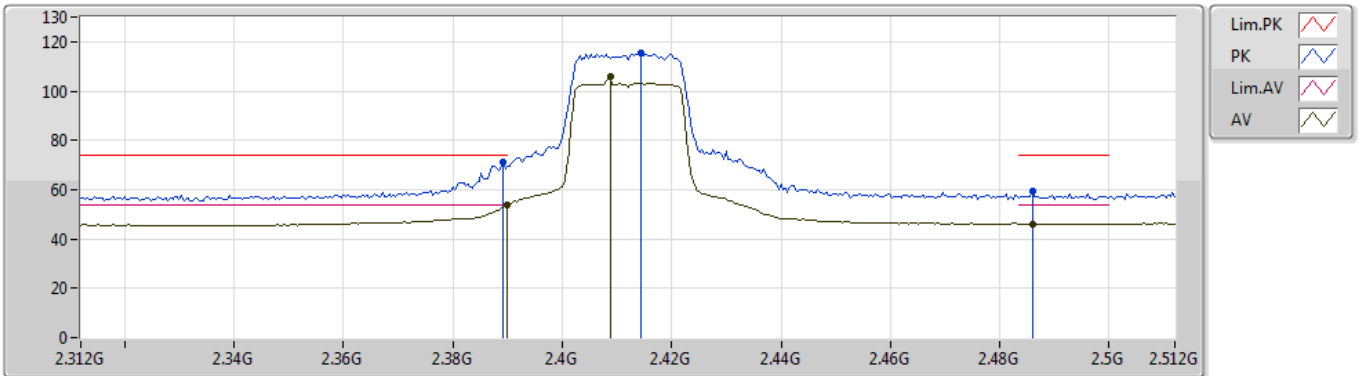
EUT Z_2TX
Setting 87
06-S-5
FSP
EUT #5 / ANT WS0604

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment				
PK	4.91516G	47.80	74.00	-26.20	6.93	3	Horizontal	70	1.26	-				
AV	4.92412G	33.32	54.00	-20.68	6.95	3	Horizontal	70	1.26	-				

802.11ax HEW20-BF_Nss1,(MCS0)_2TX

24/06/2019

2412MHz_TX



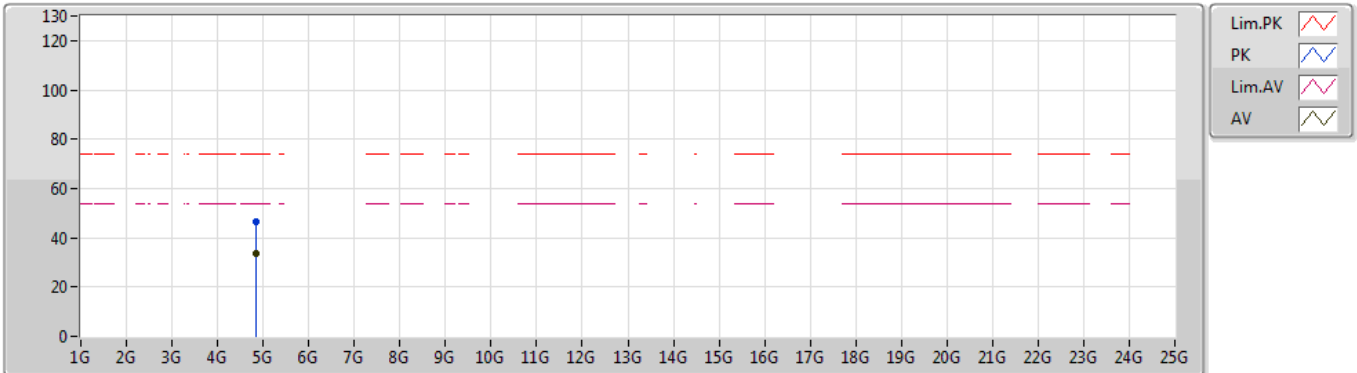
EUT Z_2TX
Setting 83
06-K-3
FSP
EUT #5 / ANT WS0604

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment				
PK	2.3892G	70.96	74.00	-3.04	32.13	3	Vertical	334	2.57	-				
AV	2.39G	53.70	54.00	-0.30	32.13	3	Vertical	334	2.57	-				
PK	2.4144G	115.38	Inf	-Inf	32.20	3	Vertical	334	2.57	-				
AV	2.4088G	105.90	Inf	-Inf	32.19	3	Vertical	334	2.57	-				
PK	2.486G	59.21	74.00	-14.79	32.42	3	Vertical	334	2.57	-				
AV	2.486G	46.22	54.00	-7.78	32.42	3	Vertical	334	2.57	-				

802.11ax HEW20-BF_Nss1,(MCS0)_2TX

02/07/2019

2412MHz_TX



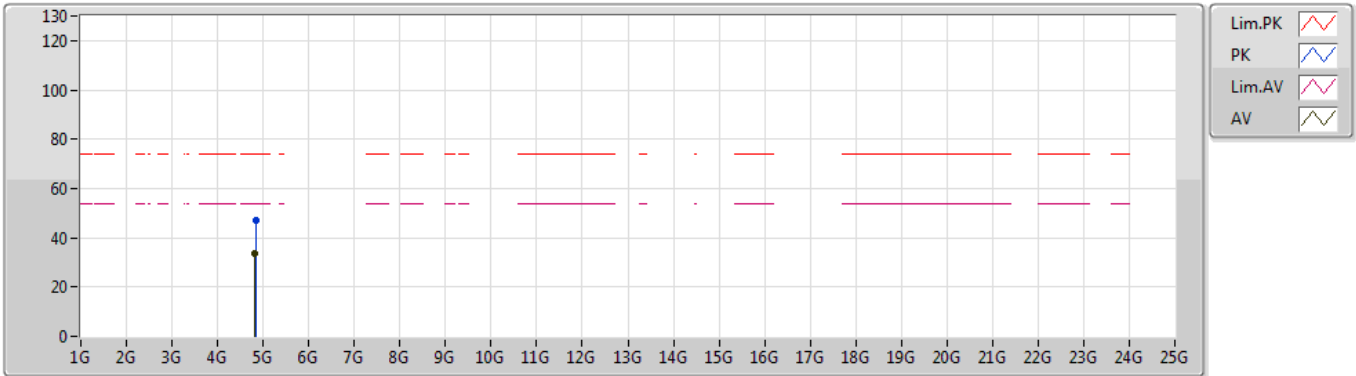
EUT_Z_2TX
Setting 83
06-S-5
FSP
EUT #5 / ANT WS0604

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment				
PK	4.83268G	46.63	74.00	-27.37	6.72	3	Vertical	289	1.34	-				
AV	4.82976G	33.43	54.00	-20.57	6.70	3	Vertical	289	1.34	-				

802.11ax HEW20-BF_Nss1,(MCS0)_2TX

02/07/2019

2412MHz_TX



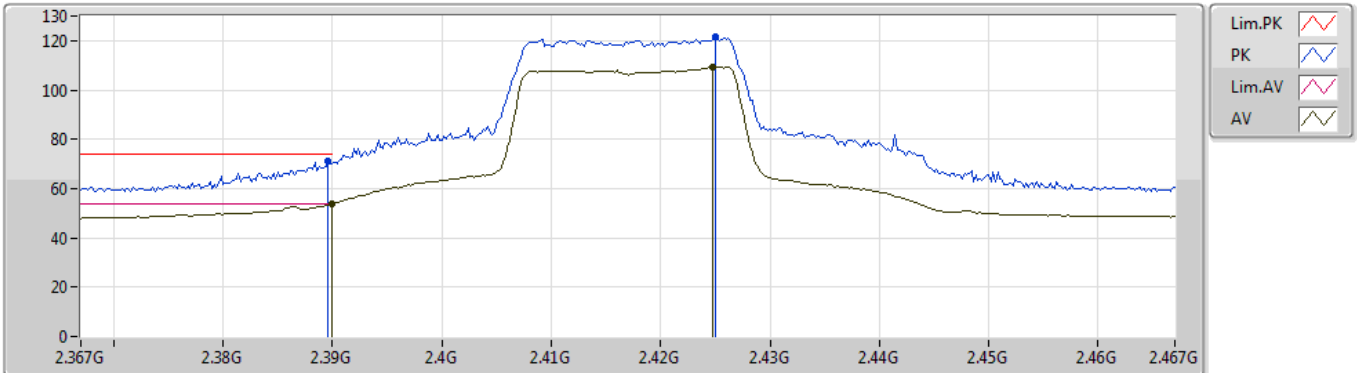
EUT_Z_2TX
Setting 83
06-S-5
FSP
EUT #5 / ANT WS0604

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment				
PK	4.83056G	47.22	74.00	-26.78	6.72	3	Horizontal	92	1.71	-				
AV	4.82688G	33.43	54.00	-20.57	6.70	3	Horizontal	92	1.71	-				

802.11ax HEW20-BF_Nss1,(MCS0)_2TX

02/07/2019

2417MHz_TX



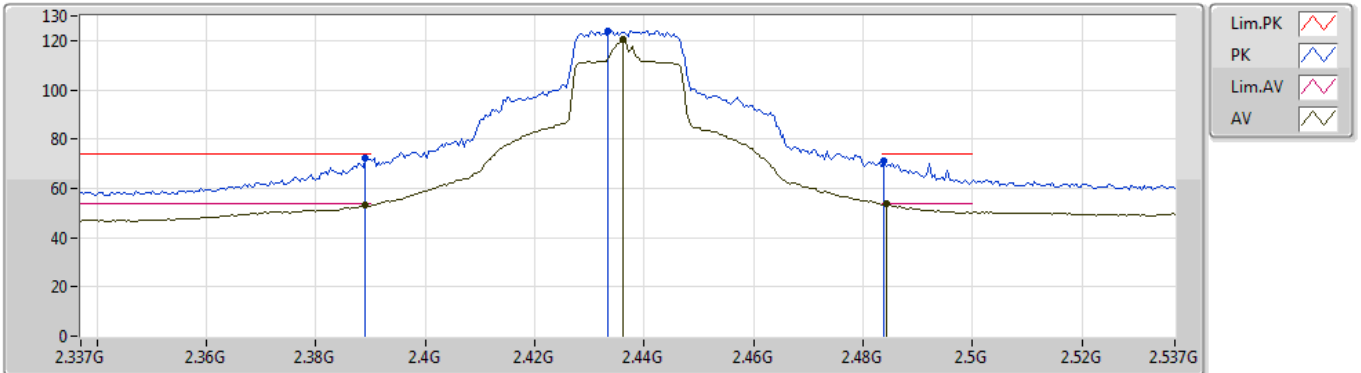
EUT Z_2TX
Setting 86
06-S-5
FSP
EUT #5 / ANT WS0604

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment				
PK	2.3896G	71.02	74.00	-2.98	32.13	3	Vertical	77	1.97	-				
AV	2.39G	53.92	54.00	-0.08	32.13	3	Vertical	77	1.97	-				
PK	2.425G	121.81	Inf	-Inf	32.23	3	Vertical	77	1.97	-				
AV	2.4248G	109.23	Inf	-Inf	32.23	3	Vertical	77	1.97	-				

802.11ax HEW20-BF_Nss1,(MCS0)_2TX

20/06/2019

2437MHz_TX



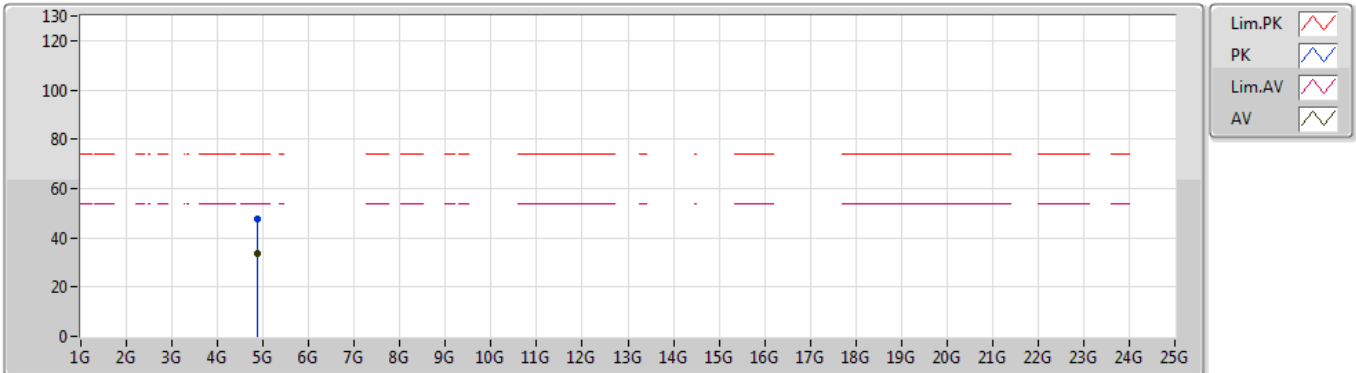
EUT_Z_2TX
Setting 107
06-K-3
FSP
EUT #5 / ANT WS0604

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment
PK	2.389G	72.38	74.00	-1.62	32.12	3	Vertical	204	1.44	-
AV	2.389G	53.13	54.00	-0.87	32.12	3	Vertical	204	1.44	-
PK	2.4334G	123.92	Inf	-Inf	32.26	3	Vertical	204	1.44	-
AV	2.4362G	120.20	Inf	-Inf	32.27	3	Vertical	204	1.44	-
PK	2.4838G	71.07	74.00	-2.93	32.41	3	Vertical	204	1.44	-
AV	2.4842G	53.84	54.00	-0.16	32.42	3	Vertical	204	1.44	-

802.11ax HEW20-BF_Nss1,(MCS0)_2TX

02/07/2019

2437MHz_TX



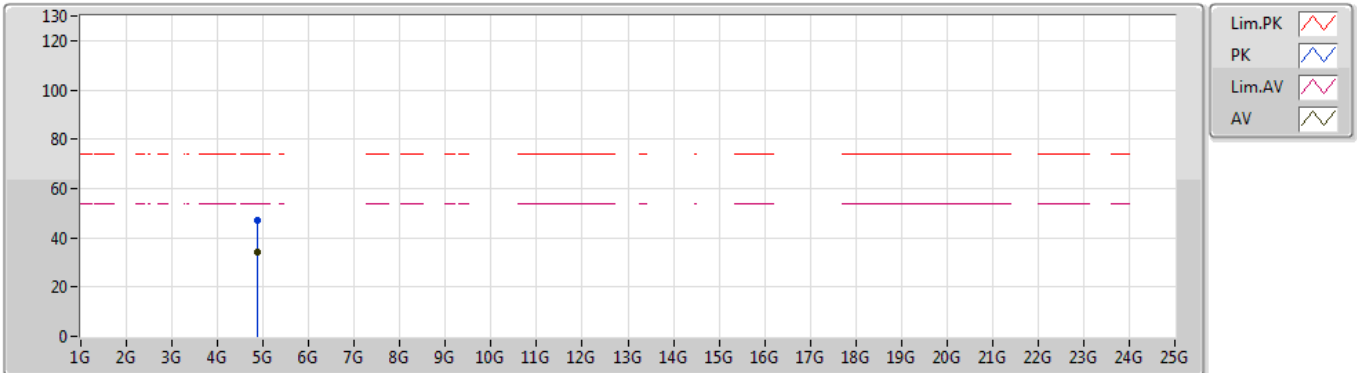
EUT Z_2TX
Setting 107
06-S-5
FSP
EUT #5 / ANT WS0604

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment				
PK	4.87104G	47.89	74.00	-26.11	6.82	3	Vertical	118	1.96	-				
AV	4.87364G	33.75	54.00	-20.25	6.82	3	Vertical	118	1.96	-				

802.11ax HEW20-BF_Nss1,(MCS0)_2TX

02/07/2019

2437MHz_TX



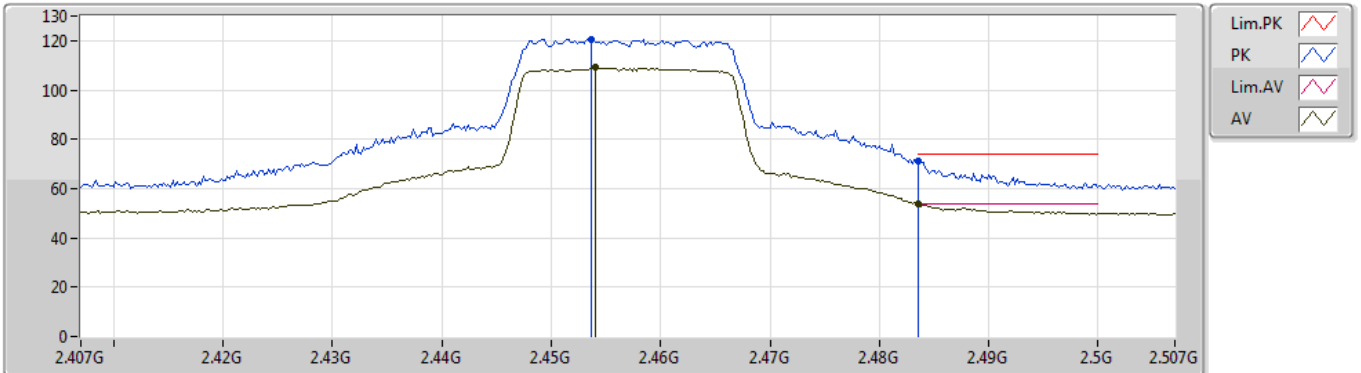
EUT Z_2TX
Setting 107
06-S-5
FSP
EUT #5 / ANT WS0604

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment				
PK	4.8646G	47.05	74.00	-26.95	6.80	3	Horizontal	7	2.39	-				
AV	4.87772G	33.94	54.00	-20.06	6.84	3	Horizontal	7	2.39	-				

802.11ax HEW20-BF_Nss1,(MCS0)_2TX

02/07/2019

2457MHz_TX



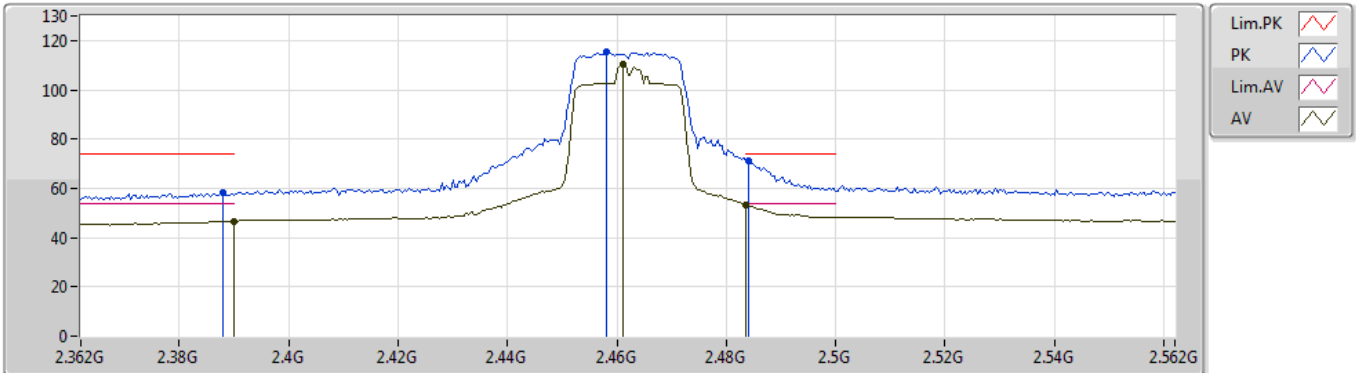
EUT_Z_2TX
Setting 90
06-S-5
FSP
EUT #5 / ANT WS0604

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment
PK	2.4536G	120.45	Inf	-Inf	32.32	3	Vertical	239	2.70	-
PK	2.4835G	71.02	74.00	-2.98	32.41	3	Vertical	239	2.70	-
AV	2.4836G	53.89	54.00	-0.11	32.41	3	Vertical	239	2.70	-
AV	2.454G	109.02	Inf	-Inf	32.32	3	Vertical	239	2.70	-

802.11ax HEW20-BF_Nss1,(MCS0)_2TX

24/06/2019

2462MHz_TX



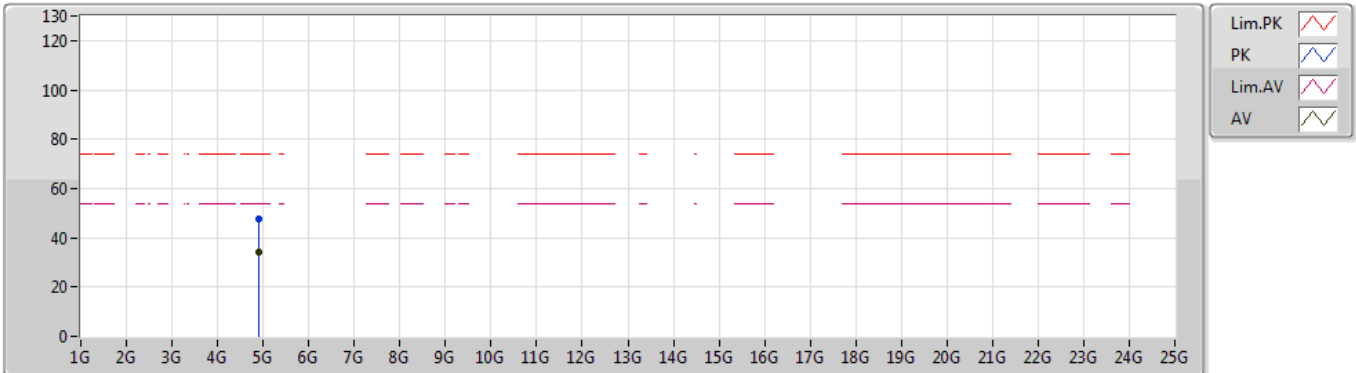
EUT_Z_2TX
Setting 89
06-K-3
FSP
EUT #5 / ANT WS0604

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment				
PK	2.388G	58.34	74.00	-15.66	32.11	3	Vertical	260	1.94	-				
AV	2.39G	46.61	54.00	-7.39	32.13	3	Vertical	260	1.94	-				
PK	2.458G	115.37	Inf	-Inf	32.34	3	Vertical	260	1.94	-				
AV	2.4612G	110.35	Inf	-Inf	32.34	3	Vertical	260	1.94	-				
PK	2.484G	71.15	74.00	-2.85	32.41	3	Vertical	260	1.94	-				
AV	2.4835G	53.51	54.00	-0.49	32.41	3	Vertical	260	1.94	-				

802.11ax HEW20-BF_Nss1,(MCS0)_2TX

02/07/2019

2462MHz_TX



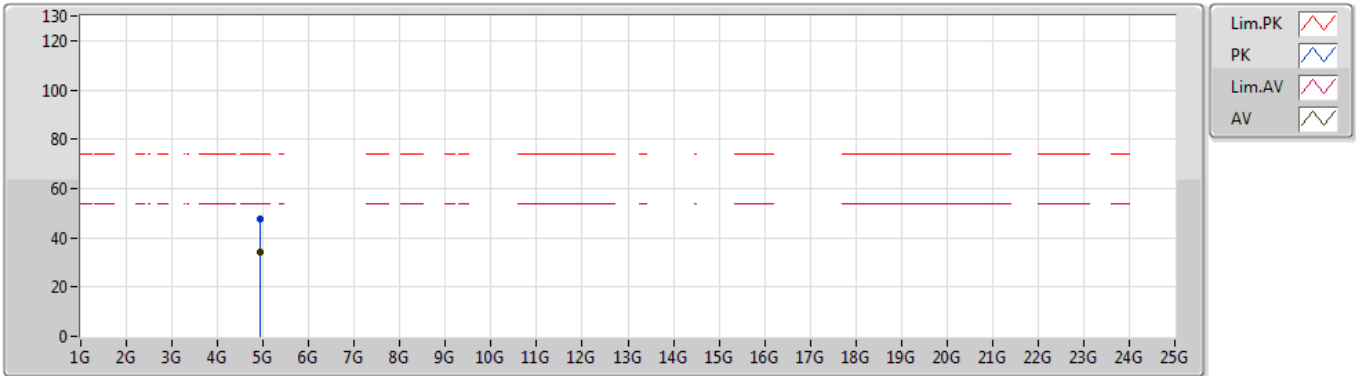
EUT_Z_2TX
Setting 89
06-S-5
FSP
EUT #5 / ANT WS0604

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment				
PK	4.91712G	47.73	74.00	-26.27	6.94	3	Vertical	317	1.98	-				
AV	4.91476G	34.00	54.00	-20.00	6.93	3	Vertical	317	1.98	-				

802.11ax HEW20-BF_Nss1,(MCS0)_2TX

02/07/2019

2462MHz_TX



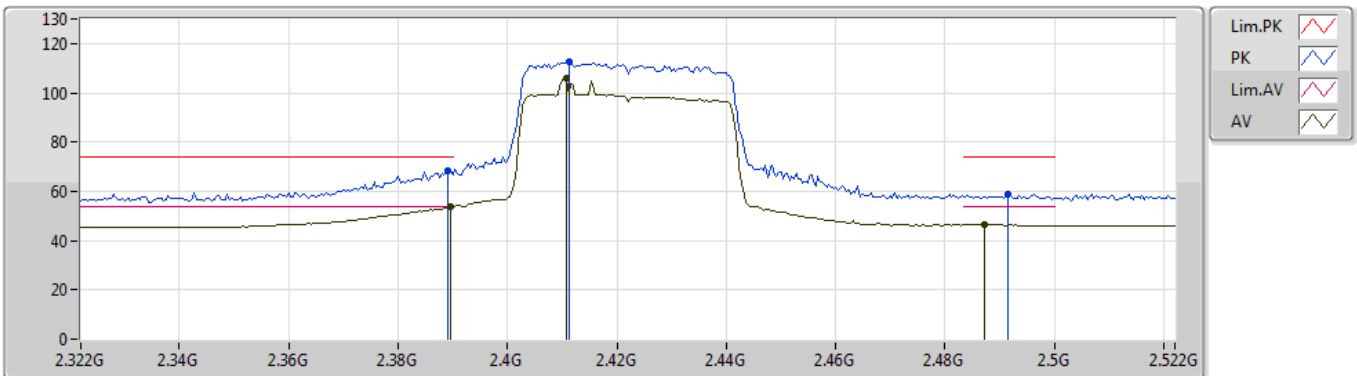
EUT_Z_2TX
Setting 89
06-S-5
FSP
EUT #5 / ANT WS0604

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment				
PK	4.92084G	47.70	74.00	-26.30	6.94	3	Horizontal	148	2.10	-				
AV	4.92056G	33.93	54.00	-20.07	6.94	3	Horizontal	148	2.10	-				

802.11ax HEW40-BF_Nss1,(MCS0)_2TX

24/06/2019

2422MHz_TX



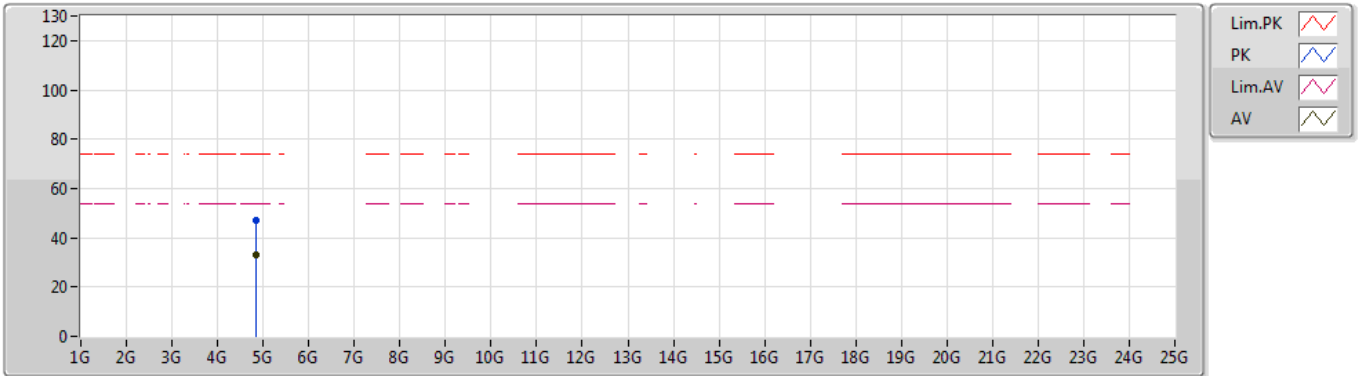
EUT_Z_2TX
Setting 78
06-K-3
FSP
EUT #5 / ANT WS0604

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment				
PK	2.3892G	68.54	74.00	-5.46	32.13	3	Vertical	18	2.65	-				
AV	2.3896G	53.72	54.00	-0.28	32.13	3	Vertical	18	2.65	-				
PK	2.4112G	112.38	Inf	-Inf	32.19	3	Vertical	18	2.65	-				
AV	2.4108G	106.10	Inf	-Inf	32.19	3	Vertical	18	2.65	-				
PK	2.4916G	58.81	74.00	-15.19	32.43	3	Vertical	18	2.65	-				
AV	2.4872G	46.56	54.00	-7.44	32.42	3	Vertical	18	2.65	-				

802.11ax HEW40-BF_Nss1,(MCS0)_2TX

02/07/2019

2422MHz_TX



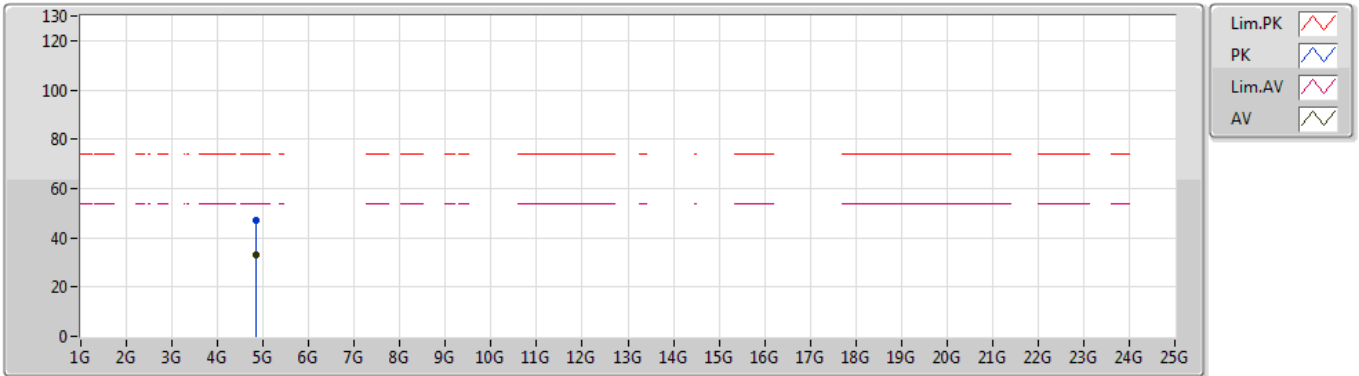
EUT_Z_2TX
Setting 78
06-S-5
FSP
EUT #5 / ANT WS0604

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment				
PK	4.8356G	46.87	74.00	-27.13	6.72	3	Vertical	327	1.95	-				
AV	4.84208G	32.94	54.00	-21.06	6.74	3	Vertical	327	1.95	-				

802.11ax HEW40-BF_Nss1,(MCS0)_2TX

02/07/2019

2422MHz_TX



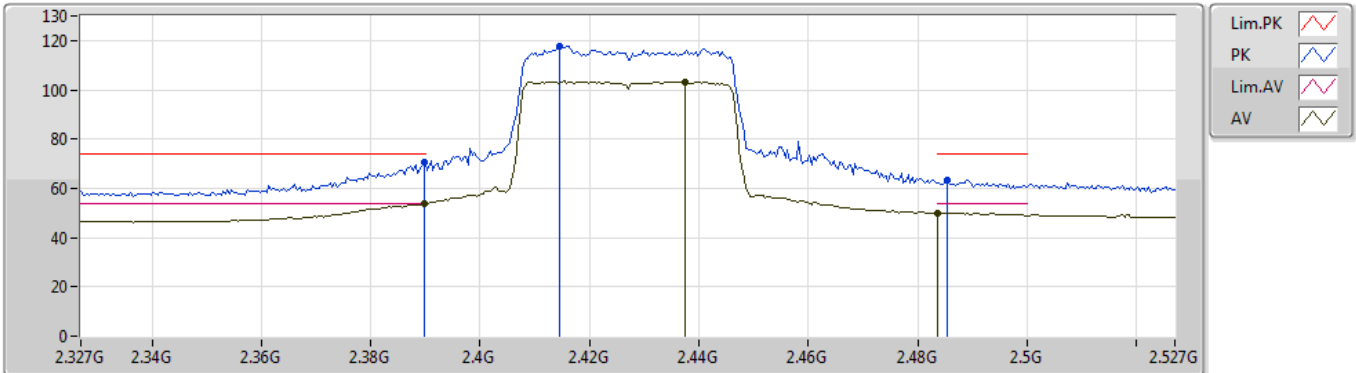
EUT_Z_2TX
Setting 78
06-S-5
FSP
EUT #5 / ANT WS0604

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment				
PK	4.84232G	47.11	74.00	-26.89	6.74	3	Horizontal	171	1.16	-				
AV	4.84472G	33.02	54.00	-20.98	6.75	3	Horizontal	171	1.16	-				

802.11ax HEW40-BF_Nss1,(MCS0)_2TX

03/07/2019

2427MHz_TX



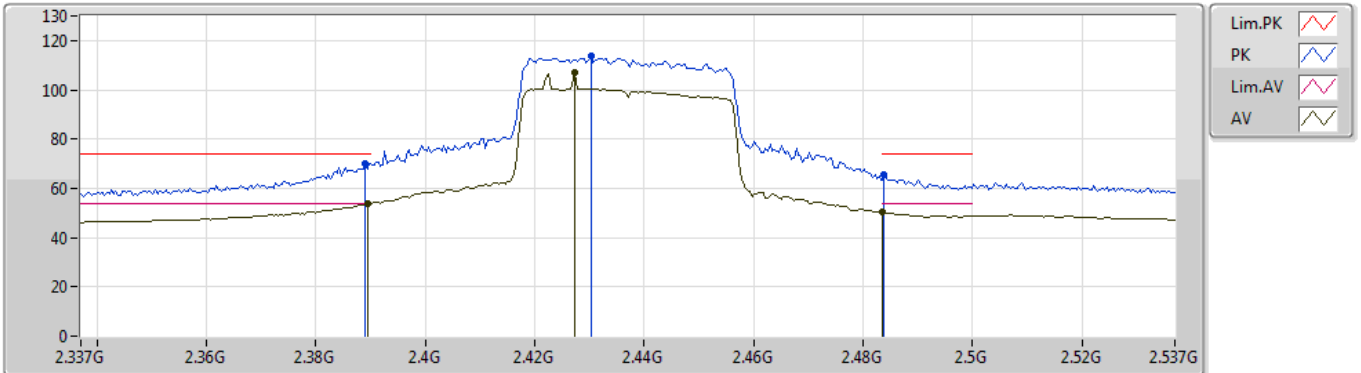
EUT Z_2TX
Setting 80
06-S-5
FSP
EUT #5 / ANT WS0604

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment				
PK	2.3898G	70.79	74.00	-3.21	32.13	3	Vertical	144	2.14	-				
AV	2.3898G	53.91	54.00	-0.09	32.13	3	Vertical	144	2.14	-				
PK	2.4146G	117.54	Inf	-Inf	32.20	3	Vertical	144	2.14	-				
PK	2.4854G	63.53	74.00	-10.47	32.42	3	Vertical	144	2.14	-				
AV	2.4835G	50.08	54.00	-3.92	32.41	3	Vertical	144	2.14	-				
AV	2.4374G	103.21	Inf	-Inf	32.27	3	Vertical	144	2.14	-				

802.11ax HEW40-BF_Nss1,(MCS0)_2TX

24/06/2019

2437MHz_TX



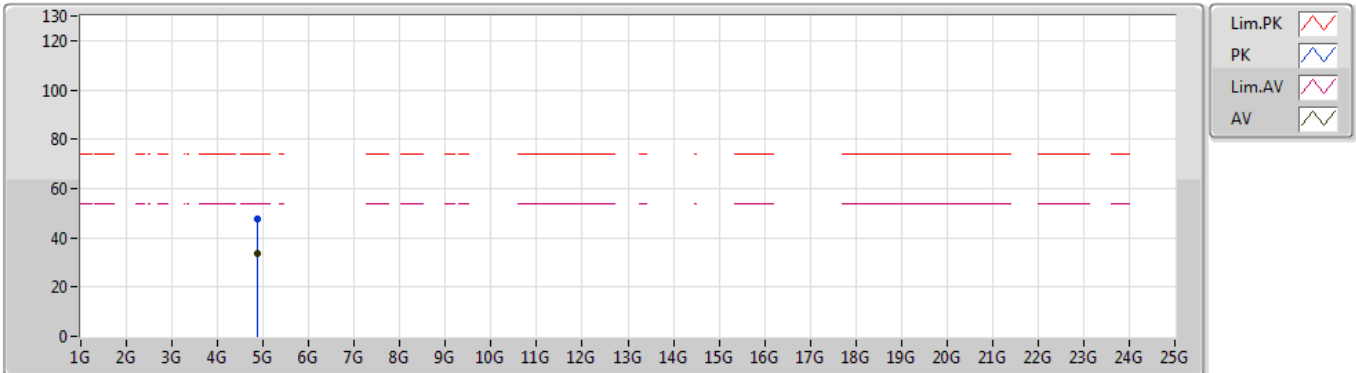
EUT Z_2TX
Setting 89
06-K-3
FSP
EUT #5 / ANT WS0604

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment
PK	2.389G	70.21	74.00	-3.79	32.12	3	Vertical	29	2.44	-
AV	2.3894G	53.86	54.00	-0.14	32.13	3	Vertical	29	2.44	-
PK	2.4302G	113.67	Inf	-Inf	32.25	3	Vertical	29	2.44	-
AV	2.4274G	106.94	Inf	-Inf	32.24	3	Vertical	29	2.44	-
PK	2.4838G	65.60	74.00	-8.40	32.41	3	Vertical	29	2.44	-
AV	2.4835G	50.20	54.00	-3.80	32.41	3	Vertical	29	2.44	-

802.11ax HEW40-BF_Nss1,(MCS0)_2TX

02/07/2019

2437MHz_TX



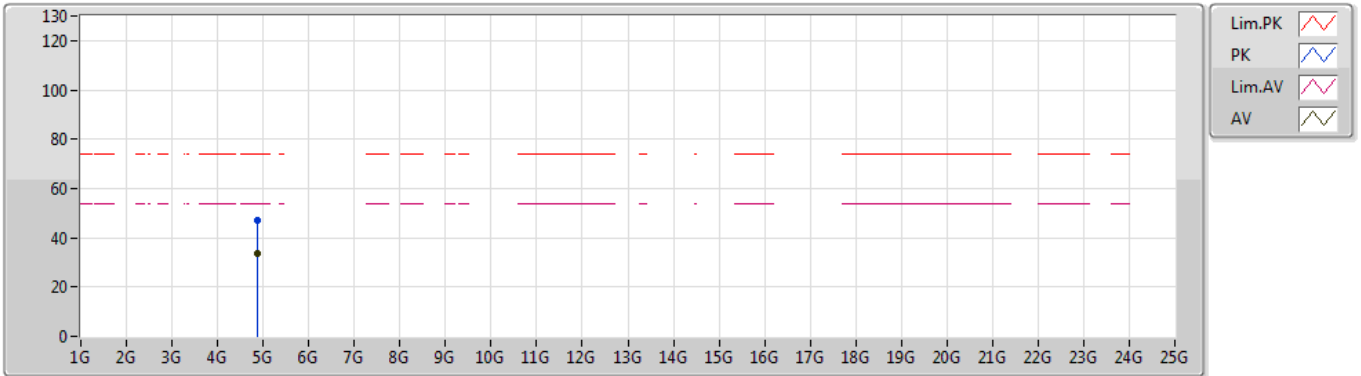
EUT_Z_2TX
Setting 89
06-S-5
FSP
EUT #5 / ANT WS0604

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment				
PK	4.87764G	47.39	74.00	-26.61	6.84	3	Vertical	267	1.54	-				
AV	4.87568G	33.36	54.00	-20.64	6.83	3	Vertical	267	1.54	-				

802.11ax HEW40-BF_Nss1,(MCS0)_2TX

02/07/2019

2437MHz_TX



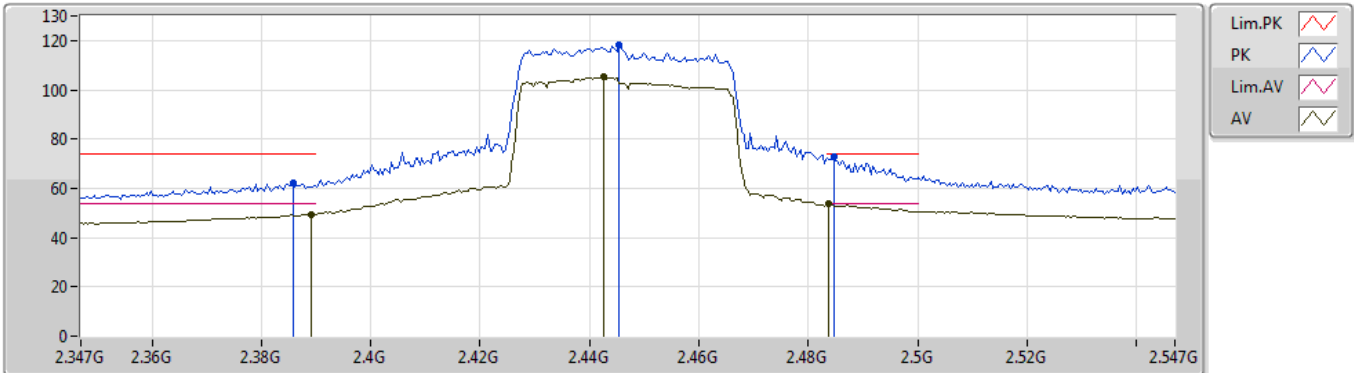
EUT_Z_2TX
Setting 89
06-S-5
FSP
EUT #5 / ANT WS0604

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment				
PK	4.87308G	47.15	74.00	-26.85	6.82	3	Horizontal	238	2.19	-				
AV	4.88272G	33.37	54.00	-20.63	6.84	3	Horizontal	238	2.19	-				

802.11ax HEW40-BF_Nss1,(MCS0)_2TX

03/07/2019

2447MHz_TX



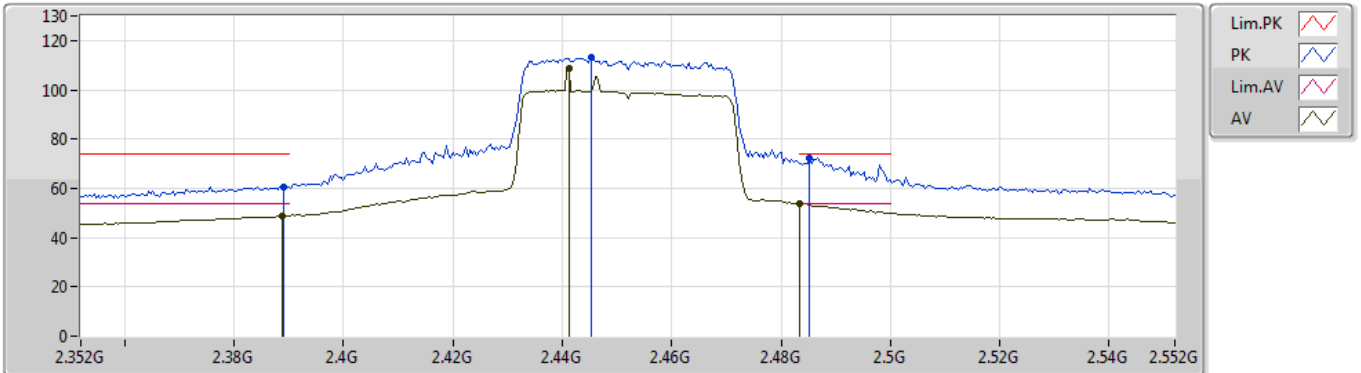
EUT_Z_2TX
Setting 86
06-S-5
FSP
EUT #5 / ANT WS0604

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment
PK	2.3858G	62.26	74.00	-11.74	32.11	3	Vertical	219	1.48	-
AV	2.389G	49.47	54.00	-4.53	32.12	3	Vertical	219	1.48	-
PK	2.4454G	117.97	Inf	-Inf	32.30	3	Vertical	219	1.48	-
PK	2.4846G	72.94	74.00	-1.06	32.42	3	Vertical	219	1.48	-
AV	2.4838G	53.60	54.00	-0.40	32.41	3	Vertical	219	1.48	-
AV	2.4426G	105.11	Inf	-Inf	32.28	3	Vertical	219	1.48	-

802.11ax HEW40-BF_Nss1,(MCS0)_2TX

24/06/2019

2452MHz_TX



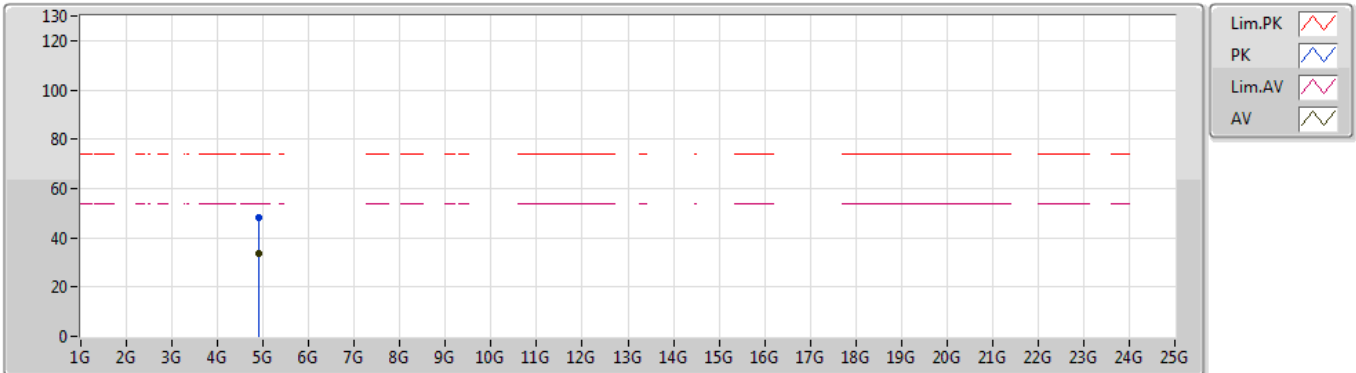
EUT_Z_2TX
Setting 85
06-K-3
FSP
EUT #5 / ANT WS0604

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment
PK	2.3892G	60.62	74.00	-13.38	32.13	3	Vertical	22	2.11	-
AV	2.3888G	48.91	54.00	-5.09	32.12	3	Vertical	22	2.11	-
PK	2.4452G	113.08	Inf	-Inf	32.30	3	Vertical	22	2.11	-
AV	2.4412G	108.94	Inf	-Inf	32.28	3	Vertical	22	2.11	-
PK	2.4852G	72.39	74.00	-1.61	32.42	3	Vertical	22	2.11	-
AV	2.4835G	53.73	54.00	-0.27	32.41	3	Vertical	22	2.11	-

802.11ax HEW40-BF_Nss1,(MCS0)_2TX

02/07/2019

2452MHz_TX



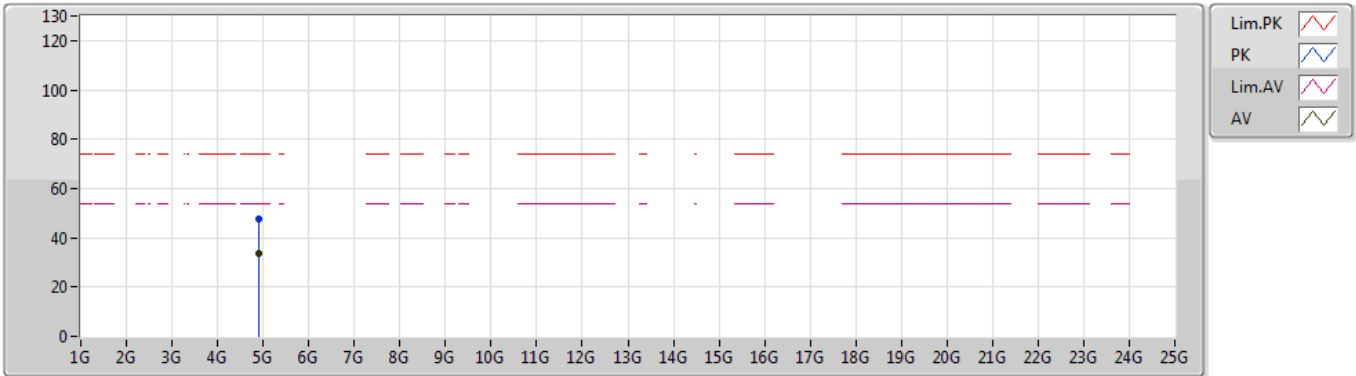
EUT Z_2TX
Setting 85
06-S-5
FSP
EUT #5 / ANT WS0604

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment				
PK	4.91088G	48.36	74.00	-25.64	6.93	3	Vertical	104	1.37	-				
AV	4.90416G	33.69	54.00	-20.31	6.90	3	Vertical	104	1.37	-				

802.11ax HEW40-BF_Nss1,(MCS0)_2TX

02/07/2019

2452MHz_TX



EUT_Z_2TX
Setting 85
06-S-5
FSP
EUT #5 / ANT WS0604

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment				
PK	4.90988G	47.43	74.00	-26.57	6.92	3	Horizontal	166	1.95	-				
AV	4.90624G	33.57	54.00	-20.43	6.90	3	Horizontal	166	1.95	-				



RSE Co-location Result

Appendix G

