



FCC RADIO TEST REPORT

FCC ID : UIDW21
Equipment : Wireless Router
Brand Name : ARRIS
Model Name : W21
Applicant : ARRIS
3871 Lakefield Drive Suite 300, Suwanee, Georgia,
30024 United States
Manufacturer : ARRIS
3871 Lakefield Drive Suite 300, Suwanee, Georgia,
30024 United States
Standard : 47 CFR FCC Part 15.407

The product was received on Jun. 03, 2019, and testing was started from Sep. 12, 2019 and completed on Oct. 09, 2019. We, SPORTON INTERNATIONAL INC. EMC & Wireless Communications Laboratory, would like to declare that the tested sample has been evaluated in accordance with the procedures given in ANSI C63.10-2013 and shown compliance with the applicable technical standards.

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

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

Approved by: Sam Chen

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



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Appendix A. Test Results of AC Power-line Conducted Emissions**Appendix B. Test Results of Emission Bandwidth****Appendix C. Test Results of Maximum Conducted Output Power****Appendix D. Test Results of Peak Power Spectral Density****Appendix E. Test Results of Unwanted Emissions****Appendix F. Test Photos****Photographs of EUT v01**



History of this test report



Summary of Test Result

Report Clause	Ref Std. Clause	Test Items	Result (PASS/FAIL)	Remark
1.1.2	15.203	Antenna Requirement	PASS	-
3.1	15.207	AC Power-line Conducted Emissions	PASS	-
3.2	15.407(a)	Emission Bandwidth	PASS	-
3.3	15.407(a)	Maximum Conducted Output Power	PASS	-
3.4	15.407(a)	Peak Power Spectral Density	PASS	-
3.5	15.407(b)	Unwanted Emissions	PASS	-

Declaration of Conformity:

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

Comments and Explanations:

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

Reviewed by: Sam Chen**Report Producer: Viola Huang**



1 General Description

1.1 Information

1.1.1 RF General Information

Frequency Range (MHz)	IEEE Std. 802.11	Ch. Frequency (MHz)	Channel Number
5150-5250	a, n (HT20), ac (VHT20), ax (HEW20)	5180-5240	36-48 [4]
5725-5850		5745-5825	149-165 [5]
5150-5250	n (HT40), ac (VHT40), ax (HEW40)	5190-5230	38-46 [2]
5725-5850		5755-5795	151-159 [2]
5150-5250	ac (VHT80), ax (HEW80)	5210	42 [1]
5725-5850		5775	155 [1]

Band	Mode	BWch (MHz)	Nant
5.15-5.25GHz	802.11a	20	2TX
5.15-5.25GHz	802.11n HT20	20	2TX
5.15-5.25GHz	802.11ac VHT20	20	2TX
5.15-5.25GHz	802.11ax HEW20	20	2TX
5.15-5.25GHz	802.11n HT40	40	2TX
5.15-5.25GHz	802.11ac VHT40	40	2TX
5.15-5.25GHz	802.11ax HEW40	40	2TX
5.15-5.25GHz	802.11ac VHT80	80	2TX
5.15-5.25GHz	802.11ax HEW80	80	2TX
5.725-5.85GHz	802.11a	20	4TX
5.725-5.85GHz	802.11n HT20	20	4TX
5.725-5.85GHz	802.11ac VHT20	20	4TX
5.725-5.85GHz	802.11ax HEW20	20	4TX
5.725-5.85GHz	802.11n HT40	40	4TX
5.725-5.85GHz	802.11ac VHT40	40	4TX
5.725-5.85GHz	802.11ax HEW40	40	4TX
5.725-5.85GHz	802.11ac VHT80	80	4TX
5.725-5.85GHz	802.11ax HEW80	80	4TX



Note:

- 11a, HT20 and HT40 use a combination of OFDM-BPSK, QPSK, 16QAM, 64QAM modulation.
- VHT20, VHT40, VHT80 use a combination of OFDM-BPSK, QPSK, 16QAM, 64QAM, 256QAM, 1024QAM modulation.
- HEW20, HEW40, HEW80 use a combination of OFDMA-BPSK, QPSK, 16QAM, 64QAM, 256QAM, 1024QAM modulation.
- BWch is the nominal channel bandwidth.
- Nss-Min is the minimum number of spatial streams.
- Nant is the number of outputs. e.g., 2(2,3) means have 2 outputs for port 2 and port 3. 2 means have 2 outputs for port 1 and port 2.



1.1.2 Antenna Information

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

Note1:

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

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



Note2: The above information was declared by manufacturer.

Note3: The EUT has eight set antennas.

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

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

For 2TX/2RX:

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

Port 1 and Port 2 could receive simultaneously.

For Radio 2 (5GHz band 4)

For 4TX/4RX:

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

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

1.1.3 Mode Test Duty Cycle

Mode	DC	DCF(dB)
802.11a	0.953	0.21
802.11ac VHT20	0.986	0.06
802.11ac VHT40	0.973	0.12
802.11ac VHT80	0.943	0.25
802.11ax HEW20	0.981	0.08
802.11ax HEW40	0.964	0.16
802.11ax HEW80	0.929	0.32

Note:

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

1.1.4 EUT Operational Condition

EUT Power Type	From Power Adapter		
Beamforming Function	<input type="checkbox"/>	With beamforming	<input checked="" type="checkbox"/> Without beamforming
Function	<input type="checkbox"/>	Outdoor P2M	<input checked="" type="checkbox"/> Indoor P2M
	<input type="checkbox"/>	Fixed P2P	<input type="checkbox"/> Client
Test Software Version	Mtool_3.1.0.1		

Note: The above information was declared by manufacturer.

**1.1.5 Table for radio information**

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



1.2 Applicable Standards

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

- ♦ 47 CFR FCC Part 15
- ♦ ANSI C63.10-2013
- ♦ FCC KDB 789033 D02 v02r01
- ♦ FCC KDB 662911 D01 v02r01
- ♦ FCC KDB 412172 D01 v01r01
- ♦ FCC KDB 414788 D01 v01r01

1.3 Testing Location Information

Testing Location				
<input type="checkbox"/>	HWA YA	ADD : No. 52, Huaya 1st Rd., Guishan Dist., Taoyuan City, Taiwan (R.O.C.) TEL : 886-3-327-3456 FAX : 886-3-327-0973		
<input checked="" type="checkbox"/>	JHUBEI	ADD : No.8, Lane 724, Bo-ai St., Jhubei City, HsinChu County 302, Taiwan, R.O.C. TEL : 886-3-656-9065 FAX : 886-3-656-9085		

Test Condition	Test Site No.	Test Engineer	Test Environment	Test Date
RF Conducted	TH01-CB	Ekko Hsieh	24.8~25.5°C / 64~66%	Sep. 16, 2019 ~ Sep. 18, 2019
Radiated below 1GHz	03CH05-CB	KJ Chang	24.4~25.7°C / 58~63%	Oct. 07, 2019
Radiated above 1GHz	03CH05-CB	KJ Chang	24.4~25.7°C / 58~63%	Sep. 12, 2019 ~ Oct. 07, 2019
AC Conduction	CO01-CB	Rick Yeh	25~26°C / 42~46%	Oct. 09, 2019

Test site Designation No. TW0006 with FCC

Test site registered number IC 4086D with Industry Canada.

1.4 Measurement Uncertainty

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

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



2 Test Configuration of EUT

2.1 Test Channel Mode

Mode	PowerSetting
802.11a_Nss1,(6Mbps)_2TX	-
5180MHz	78
5200MHz	99
5240MHz	106
802.11a_Nss1,(6Mbps)_4TX	-
5745MHz	92
5785MHz	93
5825MHz	94
802.11ac VHT20_Nss1,(MCS0)_2TX	-
5180MHz	81
5200MHz	95
5240MHz	106
802.11ac VHT20_Nss1,(MCS0)_4TX	-
5745MHz	94
5785MHz	94
5825MHz	94
802.11ac VHT40_Nss1,(MCS0)_2TX	-
5190MHz	73
5230MHz	93
802.11ac VHT40_Nss1,(MCS0)_4TX	-
5755MHz	93
5795MHz	93
802.11ac VHT80_Nss1,(MCS0)_2TX	-
5210MHz	75
802.11ac VHT80_Nss1,(MCS0)_4TX	-
5775MHz	84
802.11ax HEW20_Nss1,(MCS0)_2TX	-
5180MHz	81
5200MHz	95
5240MHz	104
802.11ax HEW20_Nss1,(MCS0)_4TX	-
5745MHz	93
5785MHz	93
5825MHz	93
802.11ax HEW40_Nss1,(MCS0)_2TX	-
5190MHz	73



Mode	PowerSetting
5230MHz	93
802.11ax HEW40_Nss1,(MCS0)_4TX	-
5755MHz	92
5795MHz	93
802.11ax HEW80_Nss1,(MCS0)_2TX	-
5210MHz	75
802.11ax HEW80_Nss1,(MCS0)_4TX	-
5775MHz	84

Note:

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



2.2 The Worst Case Measurement Configuration

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

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

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

The Worst Case Mode for Following Conformance Tests	
Tests Item	Unwanted Emissions
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	EUT-2.4GHz_Radio 1
2	EUT-5GHz band 1_Radio 1
3	EUT-5GHz band 4_Radio 2

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

Operating Mode > 1GHz	CTX
1	EUT-5GHz



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 band 1 + WLAN 5GHz band 4

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

Note: The EUT can only use Y axis position.

2.3 EUT Operation during Test

The EUT was programmed to be in continuously transmitting mode.

2.4 Accessories

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

2.5 Support Equipment

For AC Conduction:

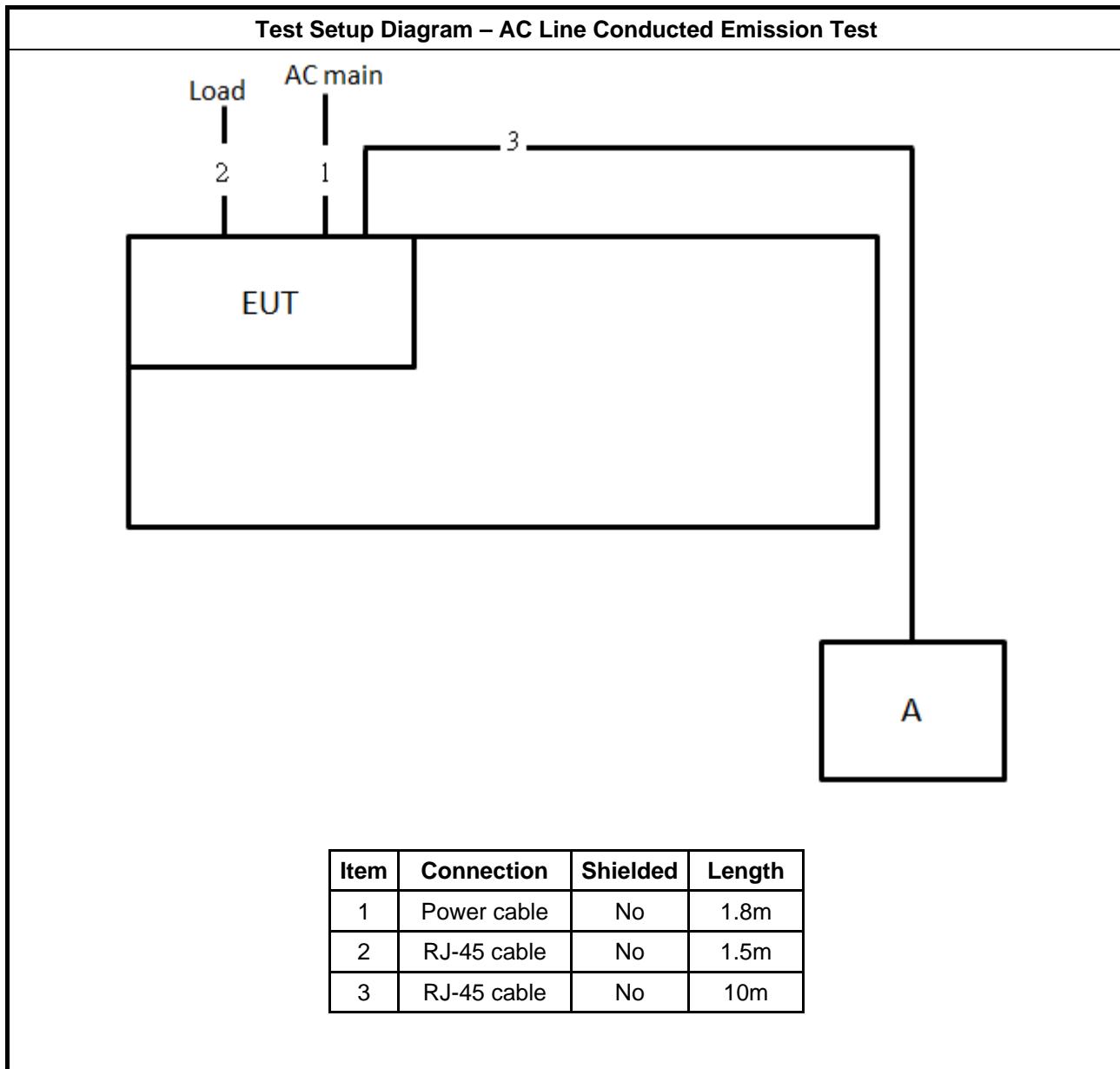
Support Equipment				
No.	Equipment	Brand Name	Model Name	FCC ID
A	LAN NB	DELL	E6430	N/A

For Radiated and RF Conducted:

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

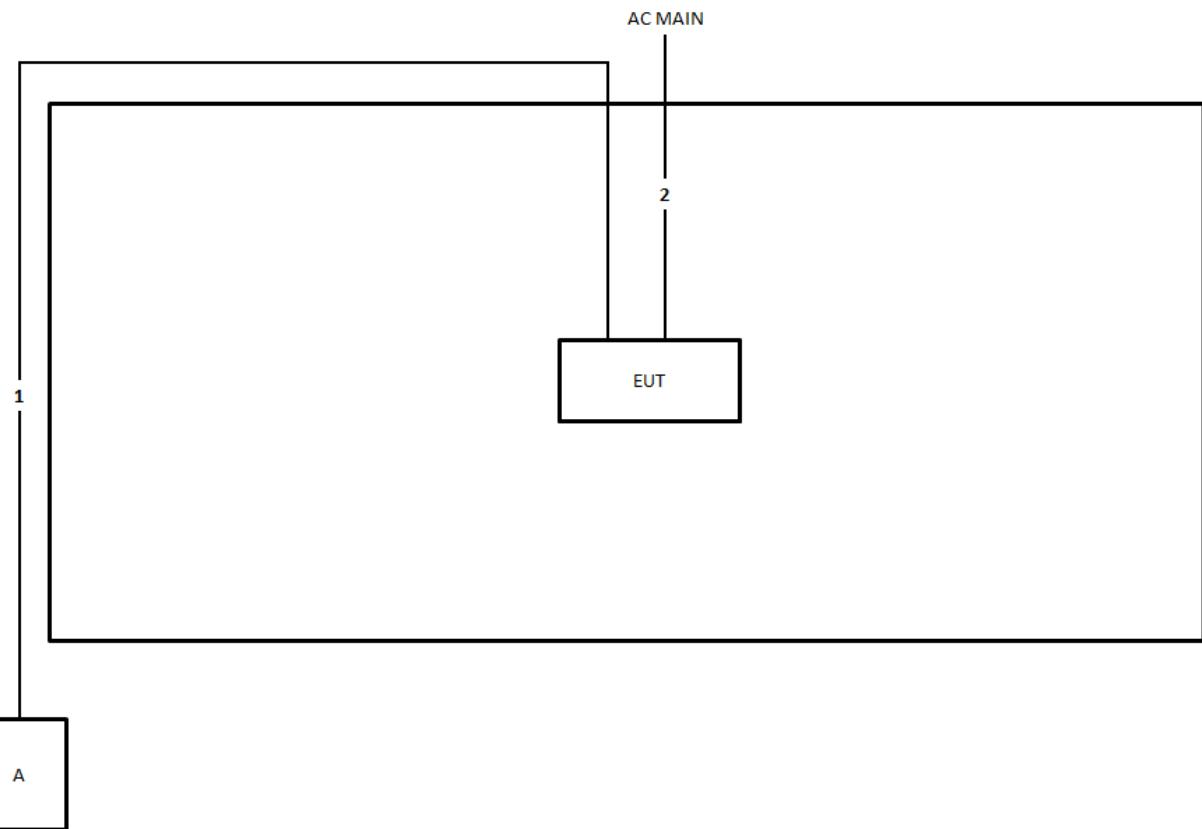


2.6 Test Setup Diagram





Test Setup Diagram - Radiated Test



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



3 Transmitter Test Result

3.1 AC Power-line Conducted Emissions

3.1.1 AC Power-line Conducted Emissions Limit

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

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

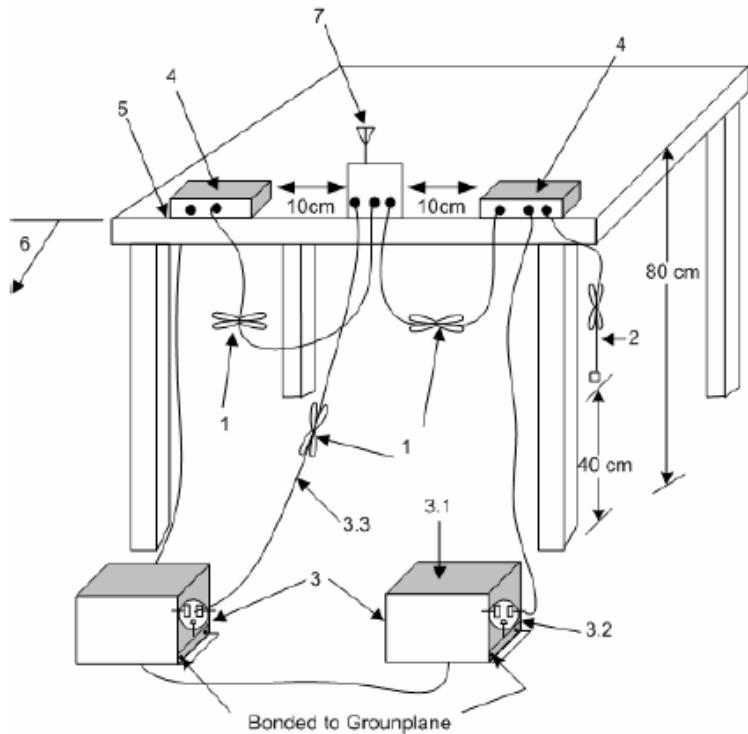
3.1.2 Measuring Instruments

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

3.1.3 Test Procedures

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

3.1.4 Test Setup



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

3.1.5 Test Result of AC Power-line Conducted Emissions

Refer as Appendix A



3.2 Emission Bandwidth

3.2.1 Emission Bandwidth Limit

Emission Bandwidth Limit	
UNII Devices	
<input checked="" type="checkbox"/>	For the 5.15-5.25 GHz band, N/A
<input type="checkbox"/>	For the 5.25-5.35 GHz band, the maximum conducted output power shall not exceed the lesser of 250 mW or $11 \text{ dBm} + 10 \log B$, where B is the 26 dB emission bandwidth in MHz.
<input type="checkbox"/>	For the 5.47-5.725 GHz band, the maximum conducted output power shall not exceed the lesser of 250 mW or $11 \text{ dBm} + 10 \log B$, where B is the 26 dB emission bandwidth in MHz.
<input checked="" type="checkbox"/>	For the 5.725-5.85 GHz band, 6 dB emission bandwidth $\geq 500\text{kHz}$.
LE-LAN Devices	
<input type="checkbox"/>	For the band 5.15-5.25 GHz, the maximum e.i.r.p. shall not exceed 200 mW or $10 + 10 \log B$, dBm, whichever power is less. B is the 99% emission bandwidth in MHz.
<input type="checkbox"/>	For the 5.25-5.35 GHz band, the maximum e.i.r.p. shall not exceed 1.0 W or $17 + 10 \log B$, dBm, whichever power is less. B is the 99% emission bandwidth in MHz
<input type="checkbox"/>	For the 5.47-5.6 GHz band and 5.65-5.725 GHz band, the maximum e.i.r.p. shall not exceed 1.0 W or $17 + 10 \log B$, dBm, whichever power is less. B is the 99% emission bandwidth in MHz
<input type="checkbox"/>	For the 5.725-5.85 GHz band, 6 dB emission bandwidth $\geq 500\text{kHz}$.

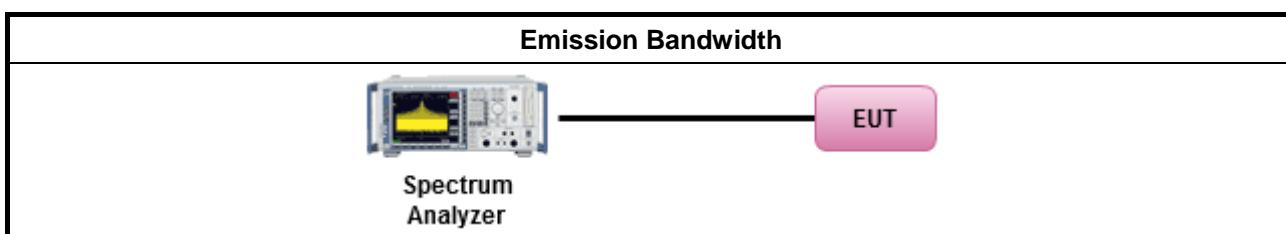
3.2.2 Measuring Instruments

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

3.2.3 Test Procedures

Test Method	
▪	For the emission bandwidth shall be measured using one of the options below:
<input checked="" type="checkbox"/>	Refer as FCC KDB 789033, clause C for EBW and clause D for OBW measurement.
<input type="checkbox"/>	Refer as ANSI C63.10, clause 6.9.1 for occupied bandwidth testing.
<input type="checkbox"/>	Refer as IC RSS-Gen, clause 4.6 for 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	
UNII Devices	
<input checked="" type="checkbox"/> For the 5.15-5.25 GHz band:	<ul style="list-style-type: none">Outdoor AP: the maximum conducted output power (P_{out}) shall not exceed the lesser of 1 W. If $G_{TX} > 6$ dBi, then $P_{out} = 30 - (G_{TX} - 6)$. e.i.r.p. at any elevation angle above 30 degrees ≤ 125 mW [21 dBm]Indoor AP: the maximum conducted output power (P_{out}) shall not exceed the lesser of 1 W. If $G_{TX} > 6$ dBi, then $P_{out} = 30 - (G_{TX} - 6)$Point-to-point AP: the maximum conducted output power (P_{out}) shall not exceed the lesser of 1 W. If $G_{TX} > 23$ dBi, then $P_{out} = 30 - (G_{TX} - 23)$.Mobile or Portable Client: the maximum conducted output power (P_{out}) shall not exceed the lesser of 250 mW. If $G_{TX} > 6$ dBi, then $P_{out} = 24 - (G_{TX} - 6)$.
<input type="checkbox"/> For the 5.25-5.35 GHz band, the maximum conducted output power (P_{out}) shall not exceed the lesser of 250 mW or 11 dBm + $10 \log B$, where B is the 26 dB emission bandwidth in MHz. If $G_{TX} > 6$ dBi, then $P_{out} = 24 - (G_{TX} - 6)$.	
<input type="checkbox"/> For the 5.47-5.725 GHz band, the maximum conducted output power (P_{out}) shall not exceed the lesser of 250 mW or 11 dBm + $10 \log B$, where B is the 26 dB emission bandwidth in MHz. If $G_{TX} > 6$ dBi, then $P_{out} = 24 - (G_{TX} - 6)$.	
<input checked="" type="checkbox"/> For the 5.725-5.85 GHz band:	<ul style="list-style-type: none">Point-to-multipoint systems (P2M): the maximum conducted output power (P_{out}) shall not exceed the lesser of 1 W. If $G_{TX} > 6$ dBi, then $P_{out} = 30 - (G_{TX} - 6)$.Point-to-point systems (P2P): the maximum conducted output power (P_{out}) shall not exceed the lesser of 1 W.
LE-LAN Devices	
<input type="checkbox"/> For the 5.15-5.25 GHz band, the maximum e.i.r.p. shall not exceed 200 mW or $10 + 10 \log B$, dBm, whichever power is less. B is the 99% emission bandwidth in MHz.	
<input type="checkbox"/> For the 5.25-5.35 GHz band, the maximum e.i.r.p. shall not exceed 1.0 W or $17 + 10 \log B$, dBm, whichever power is less. B is the 99% emission bandwidth in MHz	
<input type="checkbox"/> For the 5.47-5.6 GHz band and 5.65-5.725 GHz band, the maximum e.i.r.p. shall not exceed 1.0 W or $17 + 10 \log B$, dBm, whichever power is less. B is the 99% emission bandwidth in MHz	
<input type="checkbox"/> For the 5.725-5.85 GHz band:	<ul style="list-style-type: none">Point-to-multipoint systems (P2M): the maximum conducted output power (P_{out}) shall not exceed the lesser of 1 W. If $G_{TX} > 6$ dBi, then $P_{out} = 30 - (G_{TX} - 6)$.Point-to-point systems (P2P): the maximum conducted output power (P_{out}) shall not exceed the lesser of 1 W.
P_{out} = maximum conducted output power in dBm, G_{TX} = the maximum transmitting antenna directional gain in dBi.	



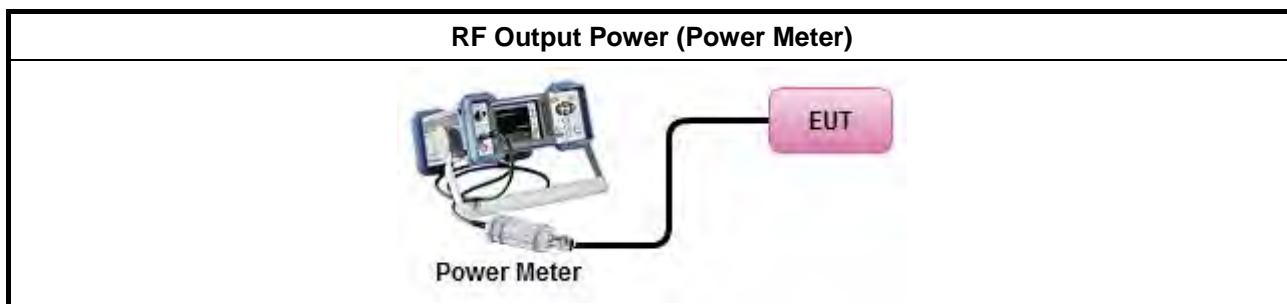
3.3.2 Measuring Instruments

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

3.3.3 Test Procedures

Test Method	
▪ Maximum Conducted Output Power	
	Average over on/off periods with duty factor
	<input type="checkbox"/> Refer as FCC KDB 789033, clause E Method SA-2 (spectral trace averaging).
	<input type="checkbox"/> Refer as FCC KDB 789033, clause E Method SA-2 Alt. (RMS detection with slow sweep speed)
	Wideband RF power meter and average over on/off periods with duty factor
	<input checked="" type="checkbox"/> Refer as FCC KDB 789033, clause E Method PM-G (using an RF average power meter).
▪ For conducted measurement.	
	<ul style="list-style-type: none">▪ If the EUT supports multiple transmit chains using options given below: Refer as FCC KDB 662911, In-band power measurements. Using the measure-and-sum approach, measured all transmit ports individually. Sum the power (in linear power units e.g., mW) of all ports for each individual sample and save them.▪ If multiple transmit chains, EIRP calculation could be following as methods: $P_{total} = P_1 + P_2 + \dots + P_n$ (calculated in linear unit [mW] and transfer to log unit [dBm]) $EIRP_{total} = P_{total} + DG$

3.3.4 Test Setup



3.3.5 Test Result of Maximum Conducted Output Power

Refer as Appendix C



3.4 Peak Power Spectral Density

3.4.1 Peak Power Spectral Density Limit

Peak Power Spectral Density Limit	
UNII Devices	
<input checked="" type="checkbox"/> For the 5.15-5.25 GHz band:	<ul style="list-style-type: none">Outdoor AP: the peak power spectral density (PPSD) shall not exceed the lesser of 17dBm/MHz. If $G_{TX} > 6$ dBi, then $P_{Out} = 17 - (G_{TX} - 6)$.Indoor AP: the peak power spectral density (PPSD) shall not exceed the lesser of 17dBm/MHz. If $G_{TX} > 6$ dBi, then $P_{Out} = 17 - (G_{TX} - 6)$.Point-to-point AP: the peak power spectral density (PPSD) shall not exceed the lesser of 17dBm/MHz. If $G_{TX} > 23$ dBi, then $P_{Out} = 17 - (G_{TX} - 23)$.Mobile or Portable Client: the peak power spectral density (PPSD) ≤ 11 dBm/MHz. If $G_{TX} > 6$ dBi, then $PPSD = 11 - (G_{TX} - 6)$.
<input type="checkbox"/> For the 5.25-5.35 GHz band, the peak power spectral density (PPSD) ≤ 11 dBm/MHz. If $G_{TX} > 6$ dBi, then $PPSD = 11 - (G_{TX} - 6)$.	
<input type="checkbox"/> For the 5.47-5.725 GHz band, the peak power spectral density (PPSD) ≤ 11 dBm/MHz. If $G_{TX} > 6$ dBi, then $PPSD = 11 - (G_{TX} - 6)$.	
<input checked="" type="checkbox"/> For the 5.725-5.85 GHz band:	<ul style="list-style-type: none">Point-to-multipoint systems (P2M): the peak power spectral density (PPSD) ≤ 30 dBm/500kHz. If $G_{TX} > 6$ dBi, then $PPSD = 30 - (G_{TX} - 6)$.Point-to-point systems (P2P): the peak power spectral density (PPSD) ≤ 30 dBm/500kHz.
LE-LAN Devices	
<input type="checkbox"/> For the 5.15-5.25 GHz band, the e.i.r.p. peak power spectral density (PPSD) ≤ 10 dBm/MHz.	
<input type="checkbox"/> For the 5.25-5.35 GHz band, the peak power spectral density (PPSD) ≤ 11 dBm/MHz.	
<input type="checkbox"/> For the 5.47-5.6 GHz band and 5.65-5.725 GHz band, the peak power spectral density (PPSD) ≤ 11 dBm/MHz.	<ul style="list-style-type: none">e.i.r.p. greater than 200 mW shall comply with the following e.i.r.p. at different elevations, where θ is the angle above the local horizontal plane (of the Earth) as shown below: -13 dBW/MHz for $0^\circ \leq \theta < 8^\circ$; -13 - 0.716 (θ-8) dBW/MHz for $8^\circ \leq \theta < 40^\circ$ -35.9 - 1.22 (θ-40) dBW/MHz for $40^\circ \leq \theta \leq 45^\circ$; -42 dBW/MHz for $\theta > 45^\circ$
<input type="checkbox"/> For the 5.725-5.85 GHz band:	<ul style="list-style-type: none">Point-to-multipoint systems (P2M): the peak power spectral density (PPSD) ≤ 30 dBm/500kHz. If $G_{TX} > 6$ dBi, then $PPSD = 30 - (G_{TX} - 6)$.Point-to-point systems (P2P): the peak power spectral density (PPSD) ≤ 30 dBm/500kHz.
PPSD = peak power spectral density that the same method as used to determine the conducted output power shall be used to determine the power spectral density. And power spectral density in dBm/MHz G_{TX} = the maximum transmitting antenna directional gain in dBi.	

3.4.2 Measuring Instruments

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

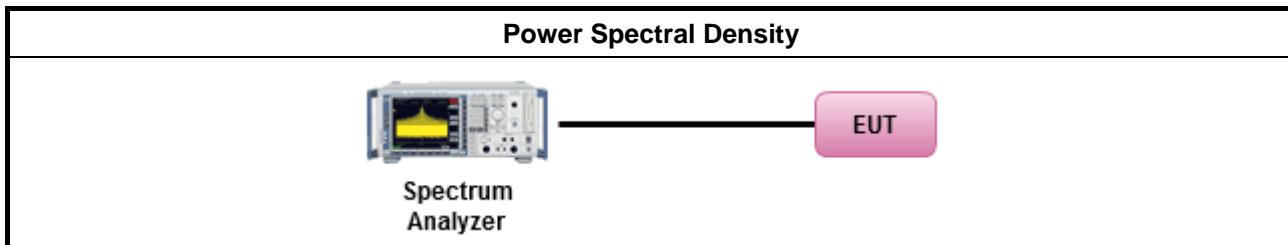


3.4.3 Test Procedures

Test Method	
<ul style="list-style-type: none">Peak power spectral density procedures that the same method as used to determine the conducted output power shall be used to determine the peak power spectral density and use the peak search function on the spectrum analyzer to find the peak of the spectrum. For the peak power spectral density shall be measured using below options:	
<ul style="list-style-type: none"><input type="checkbox"/> Refer as FCC KDB 789033, F5) power spectral density can be measured using resolution bandwidths < 1 MHz provided that the results are integrated over 1 MHz bandwidth [duty cycle \geq 98% or external video / power trigger]	
<ul style="list-style-type: none"><input checked="" type="checkbox"/> Refer as FCC KDB 789033, clause E Method SA-1 (spectral trace averaging).	
<ul style="list-style-type: none"><input type="checkbox"/> Refer as FCC KDB 789033, clause E Method SA-1 Alt. (RMS detection with slow sweep speed) duty cycle < 98% and average over on/off periods with duty factor	
<ul style="list-style-type: none"><input checked="" type="checkbox"/> Refer as FCC KDB 789033, clause E Method SA-2 (spectral trace averaging).	
<ul style="list-style-type: none"><input type="checkbox"/> Refer as FCC KDB 789033, clause E Method SA-2 Alt. (RMS detection with slow sweep speed)	
<ul style="list-style-type: none">For conducted measurement.	
<ul style="list-style-type: none">If the EUT supports multiple transmit chains using options given below:	
<ul style="list-style-type: none"><input checked="" type="checkbox"/> Option 1: Measure and sum the spectra across the outputs. Refer as FCC KDB 662911, In-band power spectral density (PSD). Sample all transmit ports simultaneously using a spectrum analyzer for each transmit port. Where the trace bin-by-bin of each transmit port summing can be performed. (i.e., in the first spectral bin of output 1 is summed with that in the first spectral bin of output 2 and that from the first spectral bin of output 3, and so on up to the NTX output to obtain the value for the first frequency bin of the summed spectrum.). Add up the amplitude (power) values for the different transmit chains and use this as the new data trace.	
<ul style="list-style-type: none"><input type="checkbox"/> Option 2: Measure and sum spectral maxima across the outputs. With this technique, spectra are measured at each output of the device at the required resolution bandwidth. The maximum value (peak) of each spectrum is determined. These maximum values are then summed mathematically in linear power units across the outputs. These operations shall be performed separately over frequency spans that have different out-of-band or spurious emission limits,	
<ul style="list-style-type: none"><input type="checkbox"/> Option 3: Measure and add $10 \log(N)$ dB, where N is the number of transmit chains. Refer as FCC KDB 662911, In-band power spectral density (PSD). Performed at each transmit chains and each transmit chains shall be compared with the limit have been reduced with $10 \log(N)$. Or each transmit chains shall be add $10 \log(N)$ to compared with the limit.	
<ul style="list-style-type: none">If multiple transmit chains, EIRP PPSD calculation could be following as methods: $PPSD_{total} = PPSD_1 + PPSD_2 + \dots + PPSD_n$ (calculated in linear unit [mW] and transfer to log unit [dBm]) $EIRP_{total} = PPSD_{total} + DG$	



3.4.4 Test Setup



3.4.5 Test Result of Peak Power Spectral Density

Refer as Appendix D



3.5 Unwanted Emissions

3.5.1 Transmitter Unwanted Emissions Limit

Unwanted emissions below 1 GHz and restricted band emissions above 1GHz 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.

Un-restricted band emissions above 1GHz Limit	
Operating Band	Limit
<input checked="" type="checkbox"/> 5.15 - 5.25 GHz	e.i.r.p. -27 dBm [68.2 dBuV/m@3m]
<input type="checkbox"/> 5.25 - 5.35 GHz	e.i.r.p. -27 dBm [68.2 dBuV/m@3m]
<input type="checkbox"/> 5.47 - 5.725 GHz	e.i.r.p. -27 dBm [68.2 dBuV/m@3m]
<input checked="" type="checkbox"/> 5.725 - 5.85 GHz	all emissions shall be limited to a level of -27 dBm/MHz at 75 MHz or more above or below the band edge increasing linearly to 10 dBm/MHz at 25 MHz above or below the band edge, and from 25 MHz above or below the band edge increasing linearly to a level of 15.6 dBm/MHz at 5 MHz above or below the band edge, and from 5 MHz above or below the band edge increasing linearly to a level of 27 dBm/MHz at the band edge.

Note 1: 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).



linear distance for field-strength measurements, inverse of linear distance-squared for power-density measurements).

3.5.2 Measuring Instruments

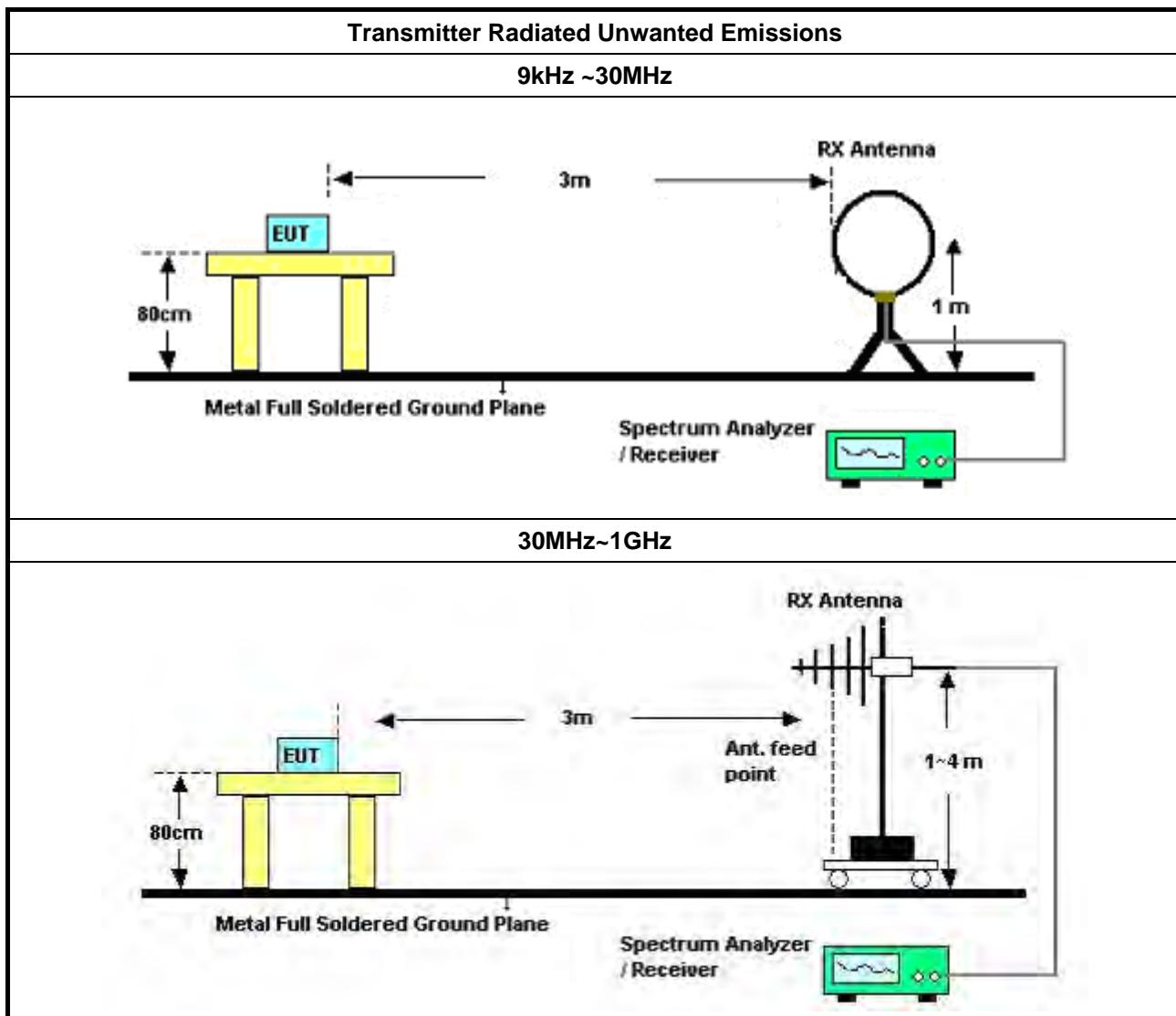
Refer a test equipment and calibration data table in this test report.

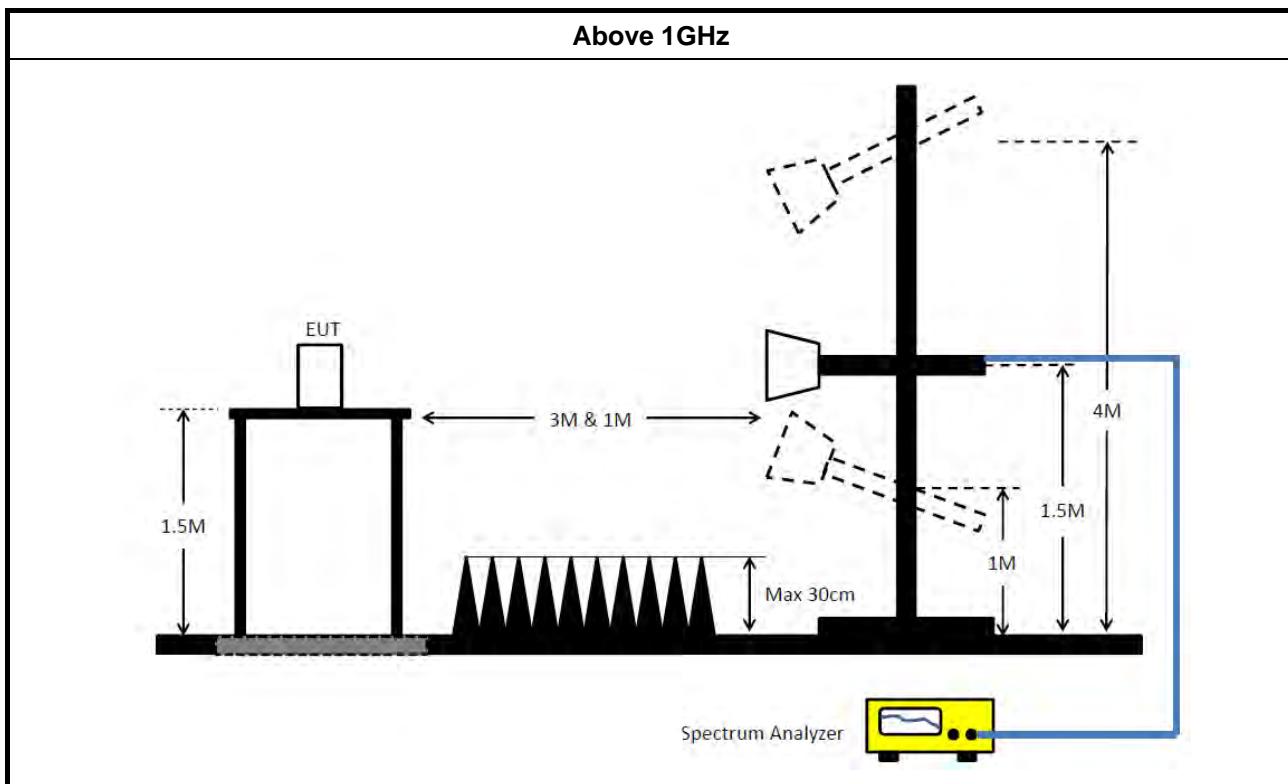
3.5.3 Test Procedures

Test Method	
▪ 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. Measurements shall not be performed at a distance greater than 30 m for frequencies above 30 MHz, unless it can be further demonstrated that measurements at a distance of 30 m or less are impractical. 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).	
▪ The average emission levels shall be measured in [duty cycle \geq 98 or duty factor].	
▪ For the transmitter unwanted emissions shall be measured using following options below:	
▪ Refer as FCC KDB 789033, clause G)2) for unwanted emissions into non-restricted bands.	
▪ Refer as FCC KDB 789033, clause G)1) for unwanted emissions into restricted bands.	
	<input type="checkbox"/> Refer as FCC KDB 789033, G)6) Method AD (Trace Averaging).
	<input checked="" type="checkbox"/> Refer as FCC KDB 789033, G)6) Method VB (Reduced VBW).
	<input type="checkbox"/> Refer as ANSI C63.10, clause 11.12.2.5.3 (Reduced VBW). VBW \geq 1/T, where T is pulse time.
	<input type="checkbox"/> Refer as ANSI C63.10, clause 7.5 average value of pulsed emissions.
	<input checked="" type="checkbox"/> Refer as FCC KDB 789033, clause G)5) measurement procedure peak limit.
	<input type="checkbox"/> Refer as ANSI C63.10, clause 4.1.4.2.2 measurement procedure peak limit.
▪ For radiated measurement.	
	<input type="checkbox"/> Refer as ANSI C63.10, clause 6.4 for radiated emissions below 30 MHz and test distance is 3m.
	<input type="checkbox"/> Refer as ANSI C63.10, clause 6.5 for radiated emissions 30 MHz to 1 GHz and test distance is 3m.
	<input type="checkbox"/> Refer as ANSI C63.10, clause 6.6 for radiated emissions above 1GHz.
▪ The any unwanted emissions level shall not exceed the fundamental emission level.	
▪ All amplitude of spurious emissions that are attenuated by more than 20 dB below the permissible value has no need to be reported.	



3.5.4 Test Setup





3.5.5 Measurement Results Calculation

The measured Level is calculated using:

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

3.5.6 Transmitter Unwanted Emissions (Below 30MHz)

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

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

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

3.5.7 Test Result of Transmitter Unwanted Emissions

Refer as Appendix E



4 Test Equipment and Calibration Data

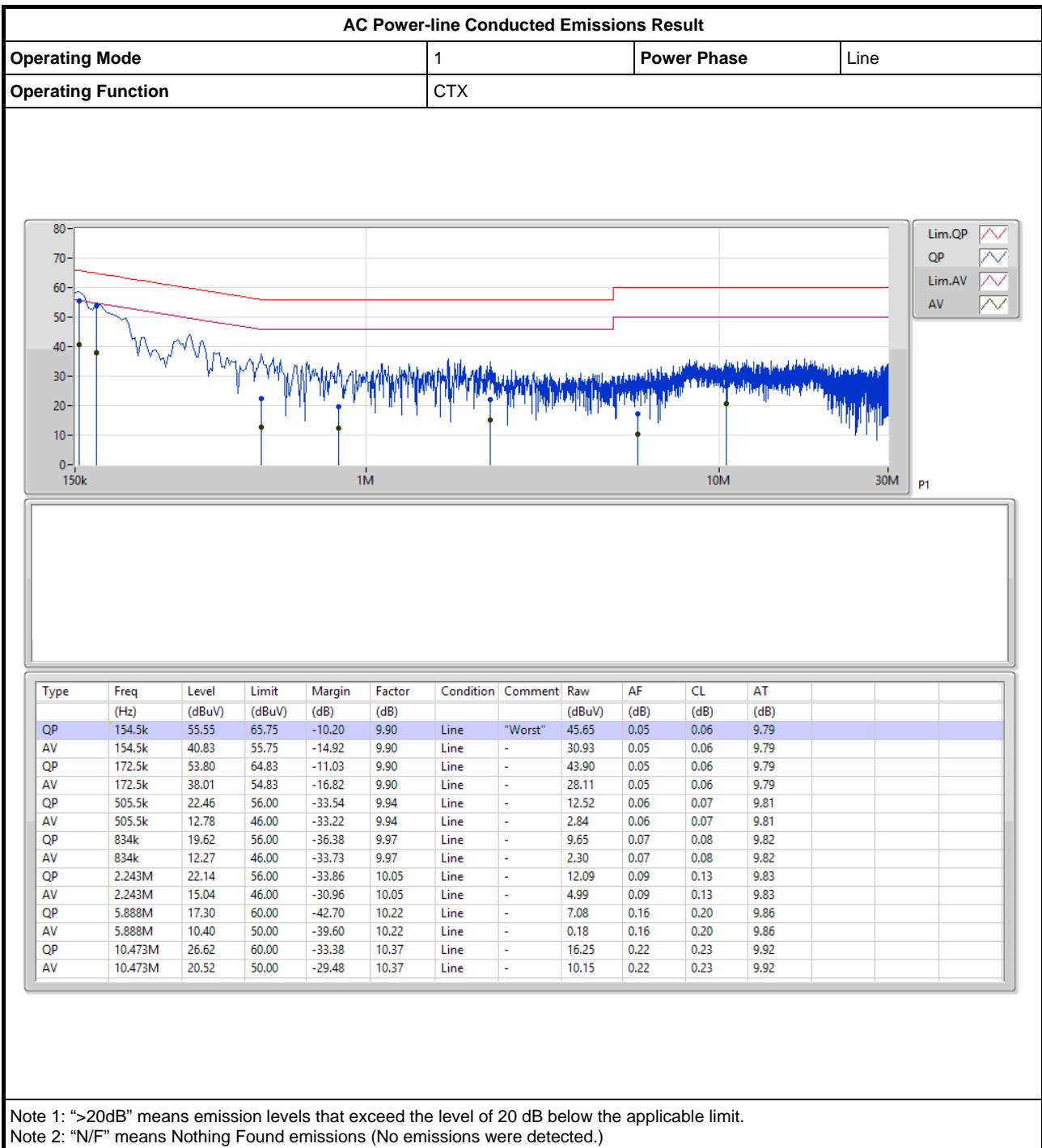
Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Calibration Due Date	Remark
EMI Receiver	Agilent	N9038A	My52260123	9kHz ~ 8.45GHz	Jan. 28, 2019	Jan. 29, 2020	Conduction (CO01-CB)
LISN	F.C.C.	FCC-LISN-50-16-2	04083	150kHz ~ 100MHz	Dec. 24, 2018	Dec. 23, 2019	Conduction (CO01-CB)
LISN	Schwarzbeck	NSLK 8127	8127647	9kHz ~ 30MHz	Jan. 11, 2019	Jan. 10, 2020	Conduction (CO01-CB)
COND Cable	Woken	Cable	Low cable-CO01	9kHz ~ 30MHz	May 21, 2019	May 20, 2020	Conduction (CO01-CB)
Software	Audix	E3	6.120210n	-	N.C.R.	N.C.R.	Conduction (CO01-CB)
Bilog Antenna with 6dB Attenuator	TESE & EMCI	CBL 6112D & N-6-06	35236 & AT-N0610	30MHz ~ 2GHz	Mar. 28, 2019	Mar. 27, 2020	Radiation (03CH05-CB)
Loop Antenna	Teseq	HLA 6120	24155	9kHz - 30 MHz	Mar. 29, 2019	Mar. 28, 2020	Radiation (03CH05-CB)
Horn Antenna	SCHWARZBECK	BBHA9120D	BBHA9120D-1291	1GHz~18GHz	Oct. 12, 2018	Oct. 11, 2019	Radiation (03CH05-CB)
Horn Antenna	SCHWARZBECK	BBHA 9170	BBHA9170507	15GHz ~ 40GHz	Jun. 12, 2019	Jun. 11, 2020	Radiation (03CH05-CB)
Pre-Amplifier	EMCI	EMC330N	980331	20MHz ~ 3GHz	May 02, 2019	May 01, 2020	Radiation (03CH05-CB)
Pre-Amplifier	EMCI	EMC12630SE	980287	1GHz – 26.5GHz	Mar. 28, 2019	Mar. 27, 2020	Radiation (03CH05-CB)
Pre-Amplifier	MITEQ	TTA1840-35-HG	1864479	18GHz ~ 40GHz	Jul. 03, 2019	Jul. 02, 2020	Radiation (03CH05-CB)
Spectrum Analyzer	R&S	FSP40	100304	9kHz ~ 40GHz	Aug, 15, 2019	Aug, 14, 2020	Radiation (03CH05-CB)
EMI Test Receiver	R&S	ESCS	826547/017	9kHz ~ 2.75GHz	May 15, 2019	May 14, 2020	Radiation (03CH05-CB)
RF Cable-low	Woken	RG402	LOW Cable-04+23	30MHz~1GHz	Oct. 07, 2019	Oct. 06, 2020	Radiation (03CH05-CB)
RF Cable-high	Woken	RG402	High Cable-04	1GHz~18GHz	Oct. 08, 2018	Oct. 07, 2019	Radiation (03CH05-CB)
RF Cable-high	Woken	RG402	High Cable-04	1GHz~18GHz	Oct. 07, 2019	Oct. 06, 2020	Radiation (03CH05-CB)
RF Cable-high	Woken	RG402	High Cable-04+23	30MHz~18GHz	Oct. 08, 2018	Oct. 07, 2019	Radiation (03CH05-CB)
RF Cable-high	Woken	RG402	High Cable-04+23	30MHz~18GHz	Oct. 07, 2019	Oct. 06, 2020	Radiation (03CH05-CB)
RF Cable-high	Woken	RG402	High Cable-40G#1	18GHz ~ 40 GHz	Jul. 24, 2019	Jul. 23, 2020	Radiation (03CH05-CB)
RF Cable-high	Woken	RG402	High Cable-40G#2	18GHz ~ 40 GHz	Jul. 24, 2019	Jul. 23, 2020	Radiation (03CH05-CB)
Spectrum analyzer	R&S	FSV40	100979	9kHz~40GHz	Feb. 25, 2019	Feb. 24, 2020	Conducted (TH01-CB)

**FCC RADIO TEST REPORT****Report No. : FR932906AB**

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

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

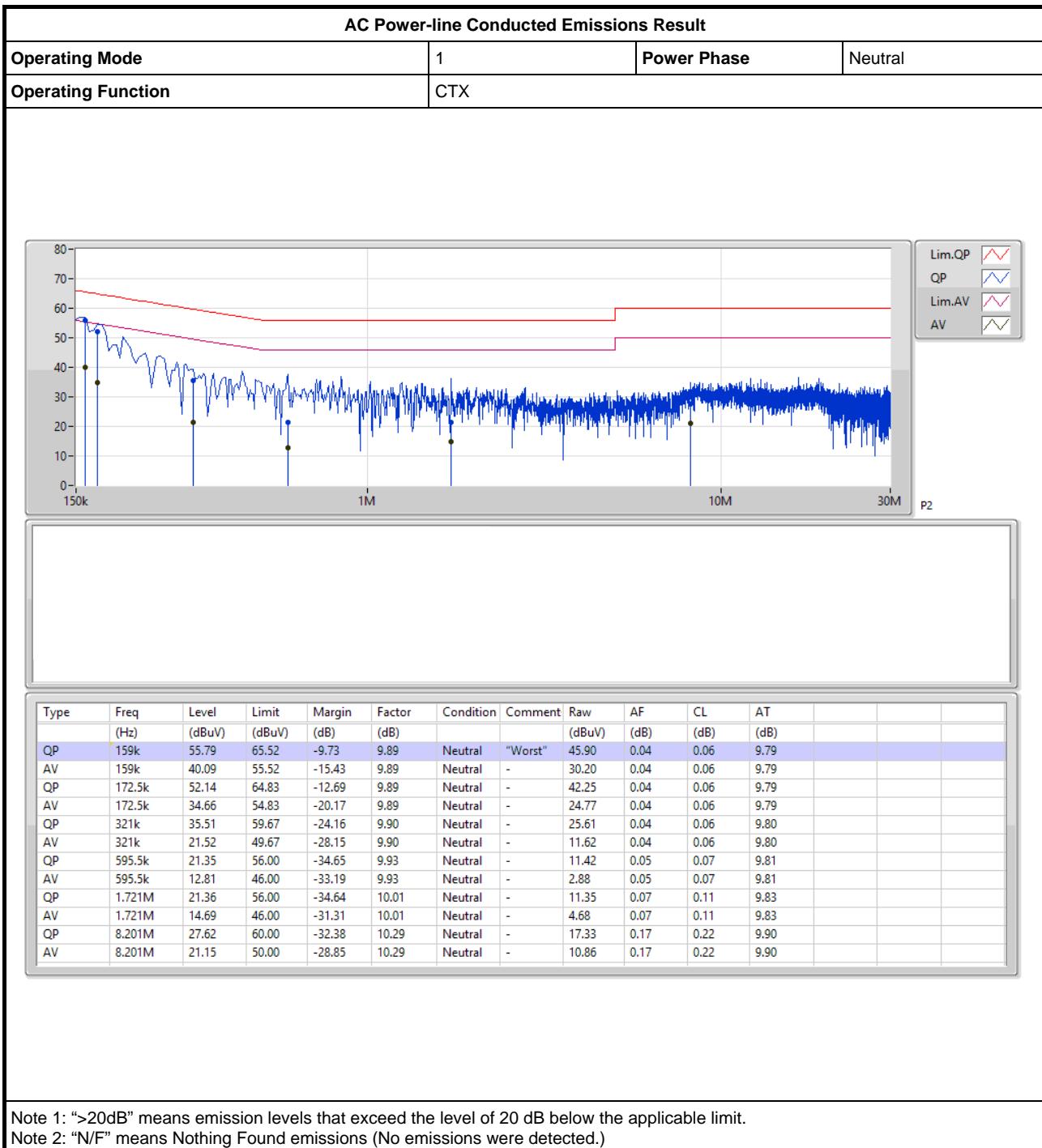
N.C.R. means Non-Calibration required.





AC Power-line Conducted Emissions Result

Appendix A



Summary

Mode	Max-N dB (Hz)	Max-OBW (Hz)	ITU-Code	Min-N dB (Hz)	Min-OBW (Hz)
5.15-5.25GHz	-	-	-	-	-
802.11a_Nss1,(6Mbps)_2TX	43.4M	19.529M	19M5D1D	21.275M	16.485M
802.11ac VHT20_Nss1,(MCS0)_2TX	45.425M	19.779M	19M8D1D	21.7M	17.688M
802.11ac VHT40_Nss1,(MCS0)_2TX	73.3M	36.417M	36M4D1D	39.75M	36.22M
802.11ac VHT80_Nss1,(MCS0)_2TX	81.8M	75.788M	75M8D1D	81.3M	75.599M
802.11ax HEW20_Nss1,(MCS0)_2TX	42.025M	19.636M	19M6D1D	21.675M	18.945M
802.11ax HEW40_Nss1,(MCS0)_2TX	46.4M	37.648M	37M6D1D	39.75M	37.543M
802.11ax HEW80_Nss1,(MCS0)_2TX	81.7M	77.116M	77M1D1D	81.4M	76.919M
5.725-5.85GHz	-	-	-	-	-
802.11a_Nss1,(6Mbps)_4TX	16.325M	16.819M	16M8D1D	8.775M	16.367M
802.11ac VHT20_Nss1,(MCS0)_4TX	17.575M	18.011M	18M0D1D	15.6M	17.567M
802.11ac VHT40_Nss1,(MCS0)_4TX	36.3M	36.45M	36M4D1D	33.5M	36.05M
802.11ac VHT80_Nss1,(MCS0)_4TX	75.6M	75.883M	75M9D1D	62.5M	74.826M
802.11ax HEW20_Nss1,(MCS0)_4TX	18.975M	19.134M	19M1D1D	15.075M	18.64M
802.11ax HEW40_Nss1,(MCS0)_4TX	37.4M	37.781M	37M8D1D	33.85M	37.363M
802.11ax HEW80_Nss1,(MCS0)_4TX	76.4M	76.942M	76M9D1D	63.7M	76.723M

Max-N dB = Maximum 6dB down bandwidth for 5.725-5.85GHz band / Maximum 26dB down bandwidth for other band;

Max-OBW = Maximum99% occupied bandwidth;

Min-N dB = Minimum 6dB down bandwidth for 5.725-5.85GHz band / Maximum 26dB down bandwidth for other band;

Min-OBW = Minimum 99% occupied bandwidth;



Result

Mode	Result	Limit (Hz)	Port 1-N dB (Hz)	Port 1-OBW (Hz)	Port 2-N dB (Hz)	Port 2-OBW (Hz)	Port 3-N dB (Hz)	Port 3-OBW (Hz)	Port 4-N dB (Hz)	Port 4-OBW (Hz)
802.11a_Nss1,(6Mbps)_2TX	-	-	-	-	-	-	-	-	-	-
5180MHz	Pass	Inf	21.275M	16.485M	21.45M	16.579M				
5200MHz	Pass	Inf	39.15M	16.846M	42.05M	17.216M				
5240MHz	Pass	Inf	43.05M	18.115M	43.4M	19.529M				
802.11a_Nss1,(6Mbps)_4TX	-	-	-	-	-	-	-	-	-	-
5745MHz	Pass	500k	16.075M	16.819M	16.325M	16.624M	8.775M	16.367M	16.325M	16.634M
5785MHz	Pass	500k	15.625M	16.639M	16.3M	16.497M	15.375M	16.602M	16.325M	16.606M
5825MHz	Pass	500k	13.125M	16.593M	15.3M	16.491M	14.775M	16.661M	16.3M	16.632M
802.11ac VHT20_Nss1,(MCS0)_2TX	-	-	-	-	-	-	-	-	-	-
5180MHz	Pass	Inf	21.7M	17.688M	21.975M	17.72M				
5200MHz	Pass	Inf	35.925M	17.828M	37.65M	17.883M				
5240MHz	Pass	Inf	45.425M	19.056M	42.475M	19.779M				
802.11ac VHT20_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-	-	-
5745MHz	Pass	500k	17.35M	17.94M	17.575M	17.814M	15.75M	17.919M	17.575M	17.844M
5785MHz	Pass	500k	17.525M	17.896M	16.925M	17.763M	16.925M	18.011M	17.55M	17.862M
5825MHz	Pass	500k	15.6M	17.567M	17.525M	17.767M	16.275M	17.916M	17.55M	17.833M
802.11ac VHT40_Nss1,(MCS0)_2TX	-	-	-	-	-	-	-	-	-	-
5190MHz	Pass	Inf	40.2M	36.22M	39.75M	36.32M				
5230MHz	Pass	Inf	73.3M	36.417M	61.95M	36.319M				
802.11ac VHT40_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-	-	-
5755MHz	Pass	500k	35.4M	36.418M	35.7M	36.251M	35.7M	36.325M	36.3M	36.399M
5795MHz	Pass	500k	33.5M	36.05M	35.9M	36.228M	33.85M	36.231M	36.3M	36.45M
802.11ac VHT80_Nss1,(MCS0)_2TX	-	-	-	-	-	-	-	-	-	-
5210MHz	Pass	Inf	81.8M	75.788M	81.3M	75.599M				
802.11ac VHT80_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-	-	-
5775MHz	Pass	500k	70.1M	74.826M	75.6M	75.534M	62.5M	74.859M	75M	75.883M
802.11ax HEW20_Nss1,(MCS0)_2TX	-	-	-	-	-	-	-	-	-	-
5180MHz	Pass	Inf	21.675M	18.976M	21.75M	18.945M				
5200MHz	Pass	Inf	37.275M	19.114M	39.075M	19.078M				
5240MHz	Pass	Inf	42.025M	19.227M	41.55M	19.636M				
802.11ax HEW20_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-	-	-
5745MHz	Pass	500k	17.4M	18.64M	18.975M	19.037M	15.55M	18.909M	18.775M	19.034M
5785MHz	Pass	500k	16.25M	19.062M	18.95M	19.069M	17.45M	18.697M	18.725M	18.989M
5825MHz	Pass	500k	15.075M	19.134M	18.975M	19.042M	18.3M	18.931M	18.775M	19.026M
802.11ax HEW40_Nss1,(MCS0)_2TX	-	-	-	-	-	-	-	-	-	-
5190MHz	Pass	Inf	40M	37.543M	39.75M	37.596M				
5230MHz	Pass	Inf	46.4M	37.627M	43.95M	37.648M				
802.11ax HEW40_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-	-	-
5755MHz	Pass	500k	37.3M	37.726M	37.15M	37.582M	33.85M	37.781M	37.4M	37.726M
5795MHz	Pass	500k	35.45M	37.363M	37.25M	37.584M	35.3M	37.651M	37.1M	37.602M
802.11ax HEW80_Nss1,(MCS0)_2TX	-	-	-	-	-	-	-	-	-	-
5210MHz	Pass	Inf	81.7M	76.919M	81.4M	77.116M				



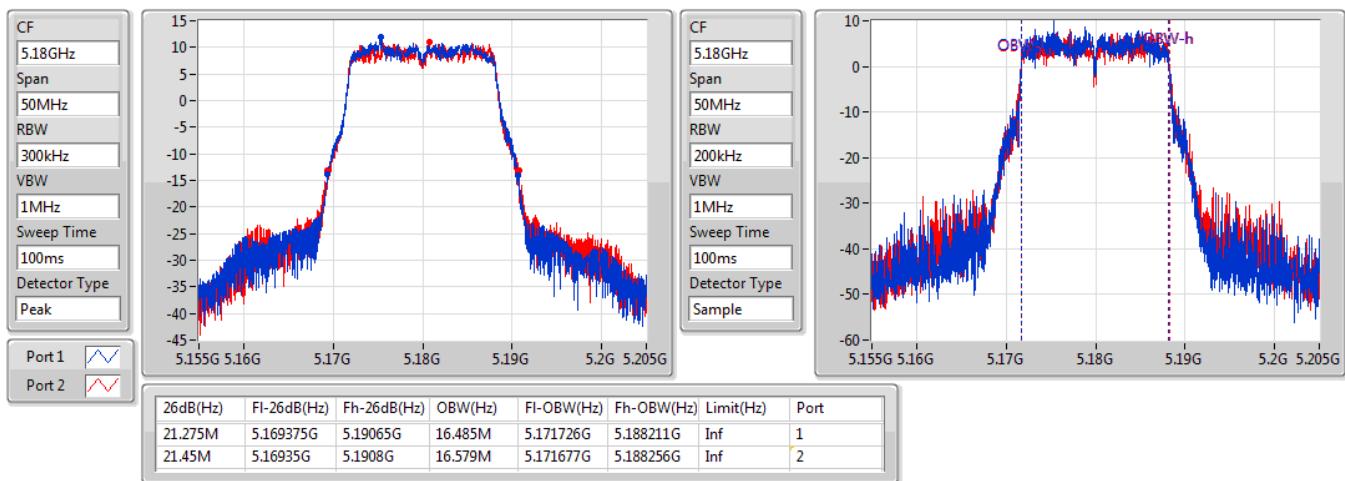
802.11ax HEW80_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-	-	-
5775MHz	Pass	500k	70.6M	76.723M	76.4M	76.942M	63.7M	76.928M	75.7M	76.865M

Port X-N dB = Port X 6dB down bandwidth for 5.725-5.85GHz band / 26dB down bandwidth for other band

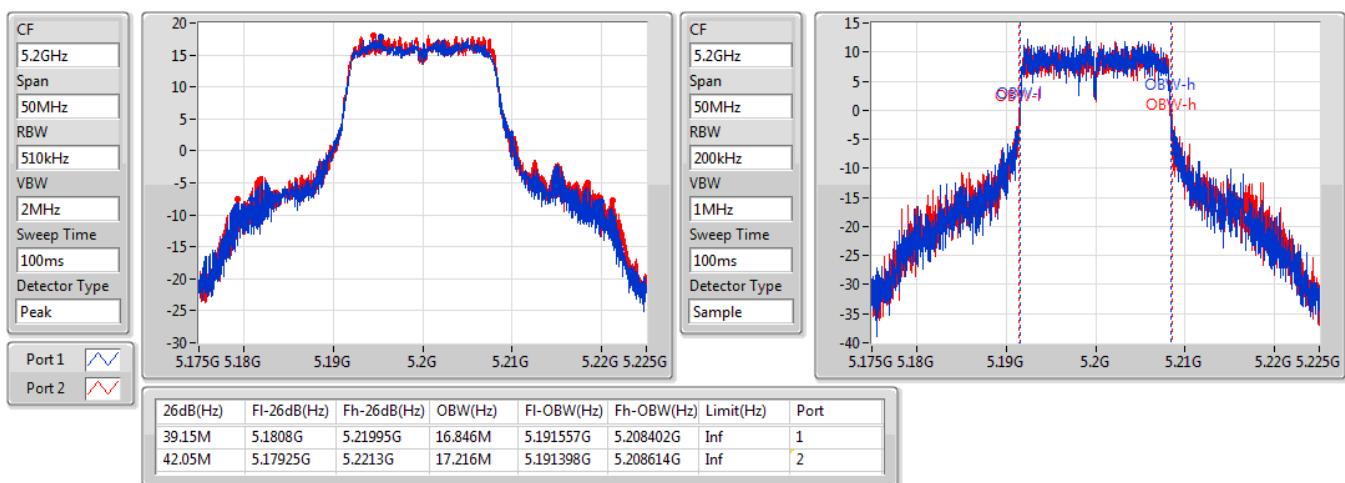
Port X-OBW = Port X 99% occupied bandwidth;

802.11a_Nss1,(6Mbps)_2TX
EBW
5180MHz

18/09/2019

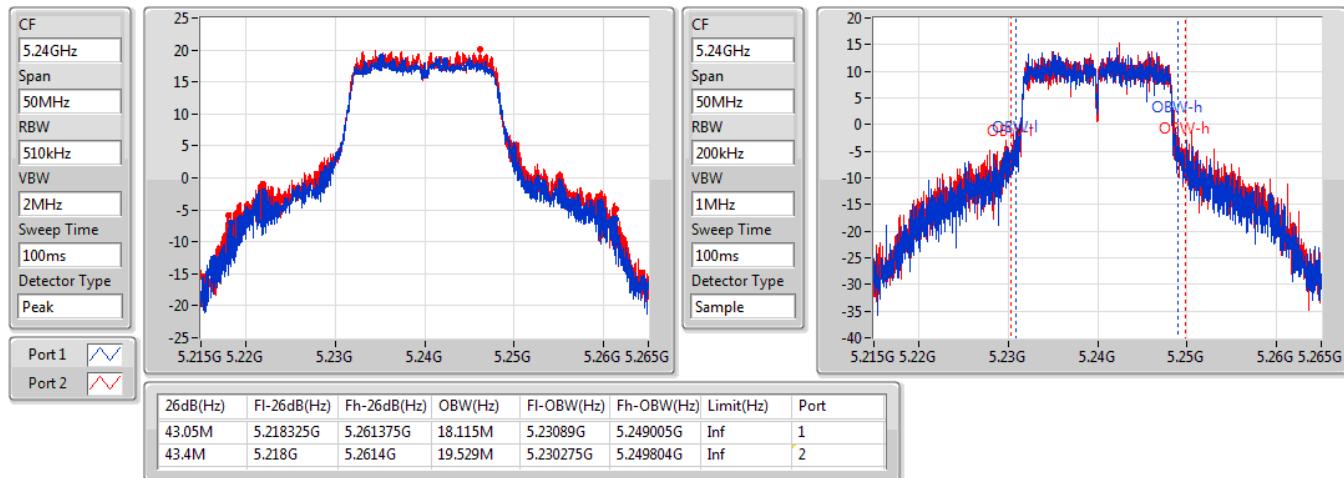

802.11a_Nss1,(6Mbps)_2TX
EBW
5200MHz

18/09/2019

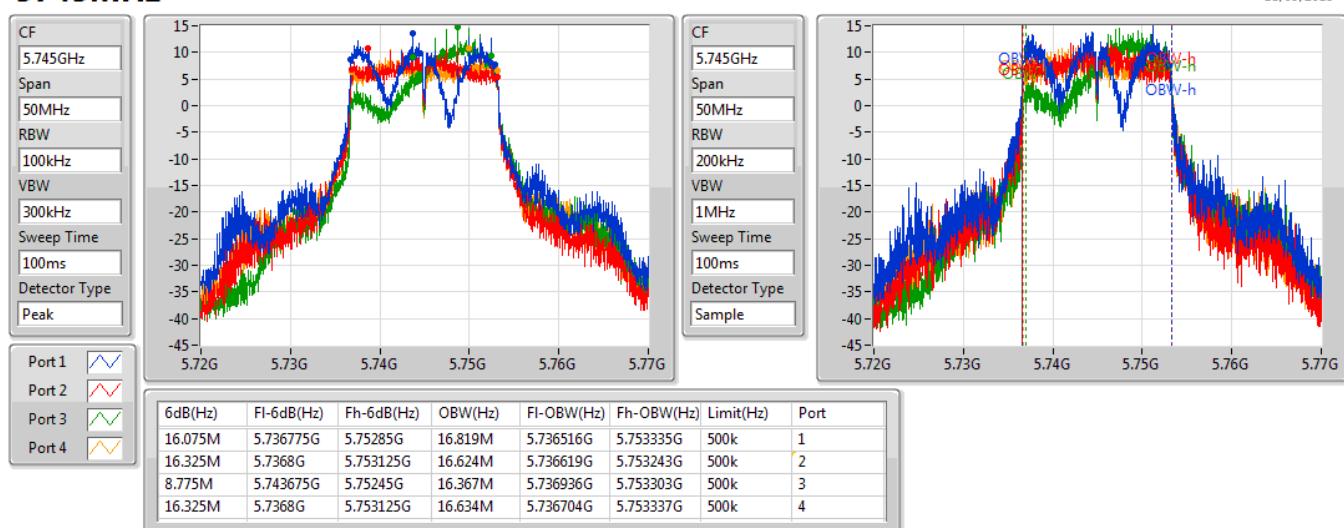


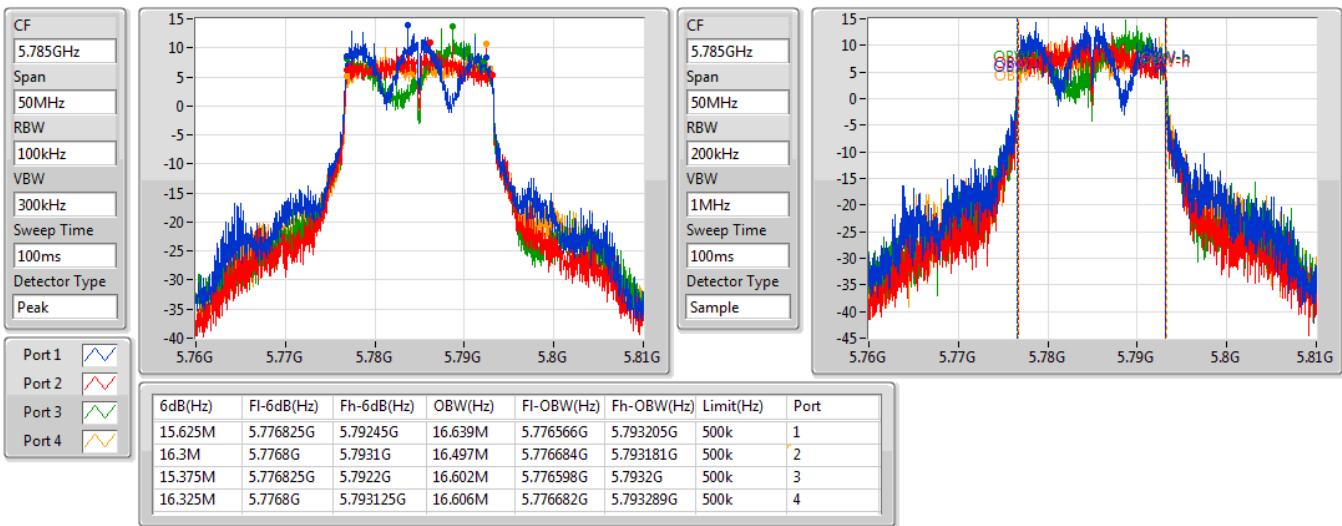
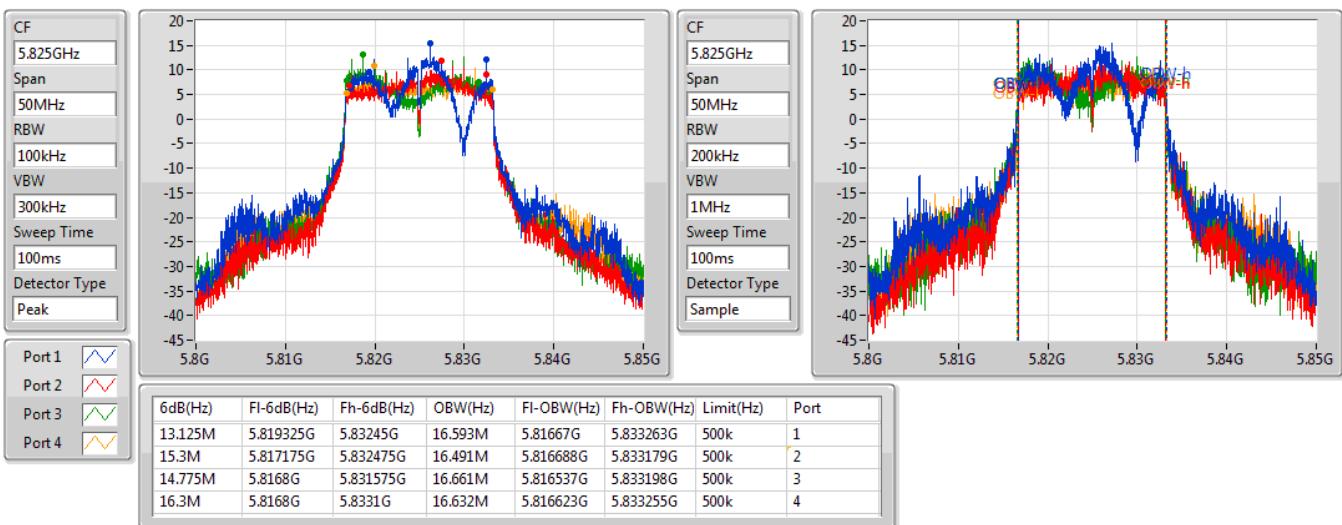
802.11a_Nss1,(6Mbps)_2TX
EBW
5240MHz

18/09/2019


802.11a_Nss1,(6Mbps)_4TX
EBW
5745MHz

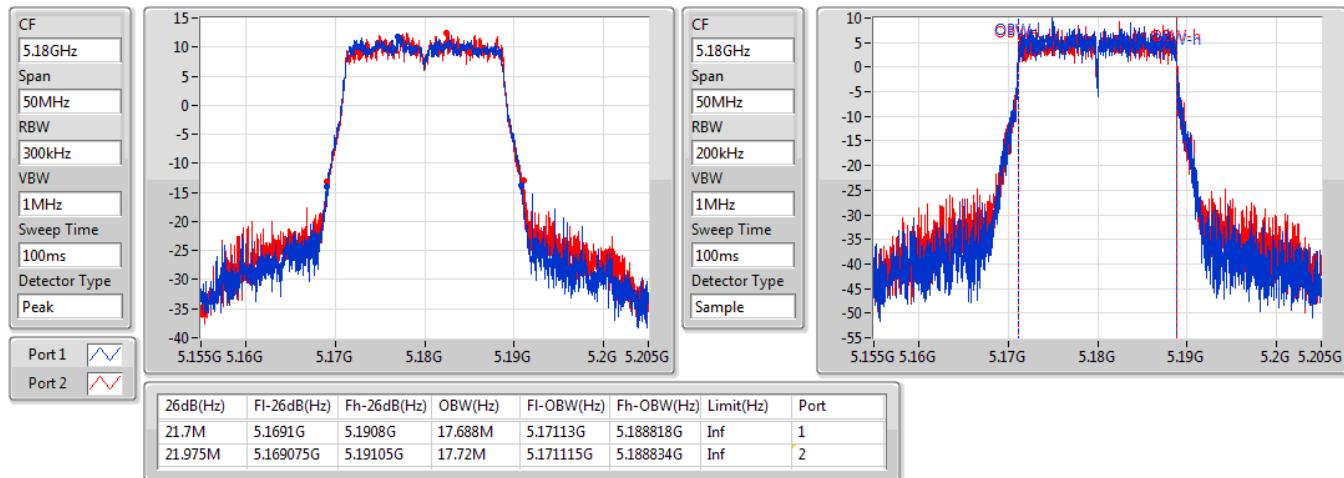
18/09/2019



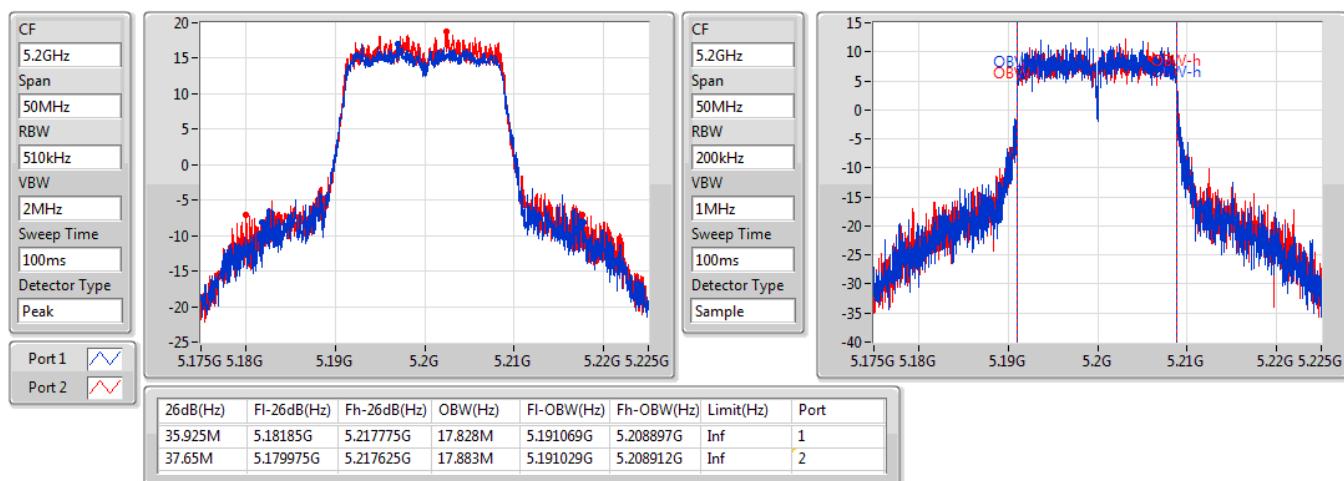
802.11a_Nss1,(6Mbps)_4TX
EBW
5785MHz

802.11a_Nss1,(6Mbps)_4TX
EBW
5825MHz


802.11ac VHT20_Nss1,(MCS0)_2TX
EBW
5180MHz

18/09/2019

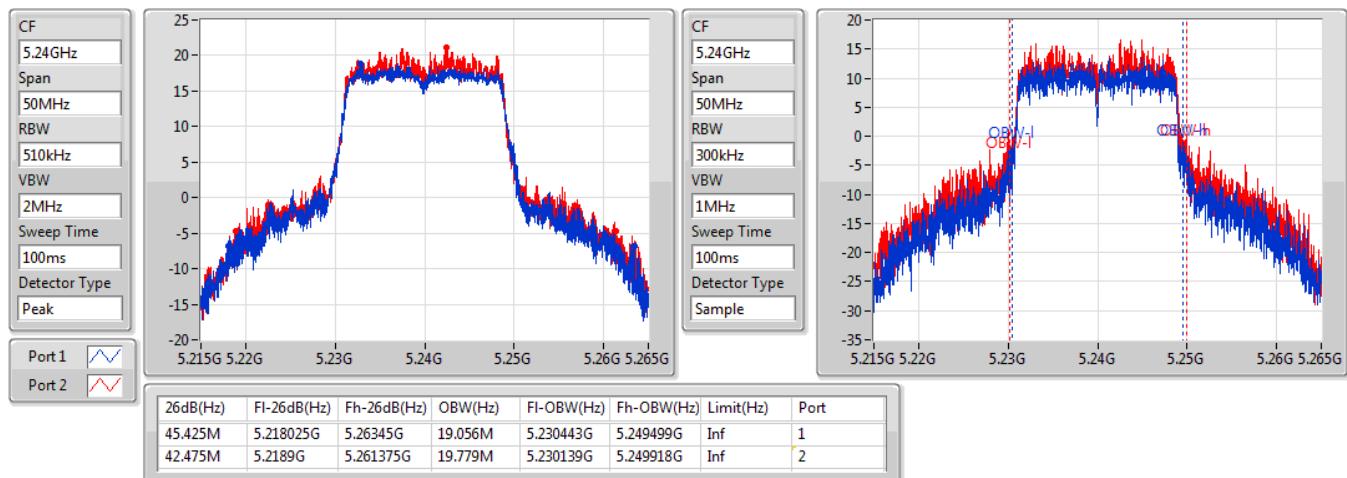

802.11ac VHT20_Nss1,(MCS0)_2TX
EBW
5200MHz

18/09/2019

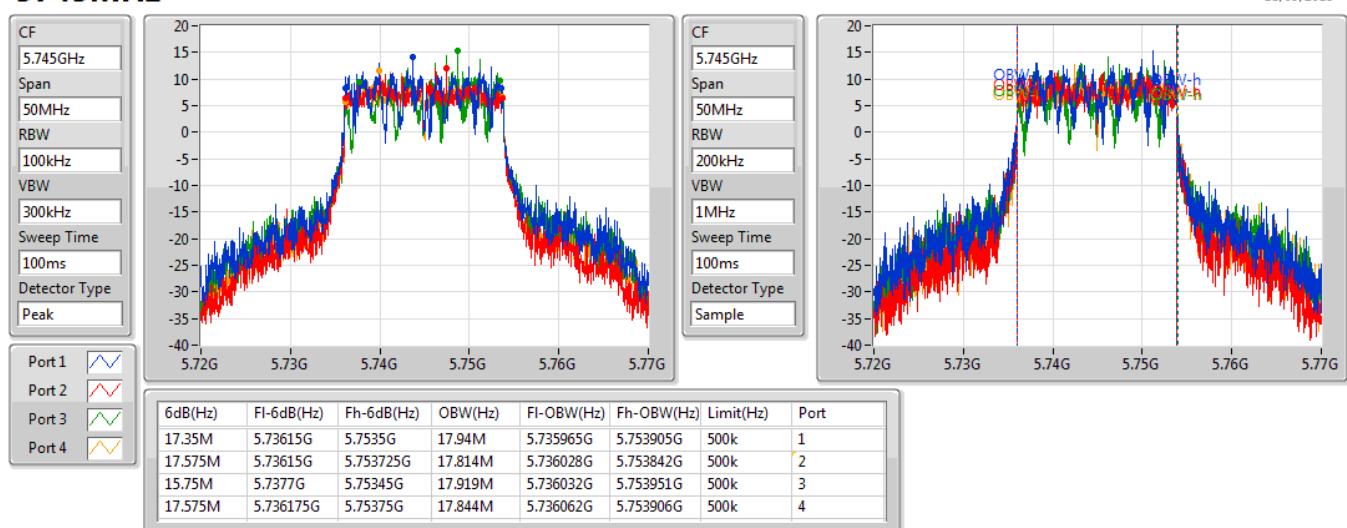


802.11ac VHT20_Nss1,(MCS0)_2TX
EBW
5240MHz

18/09/2019

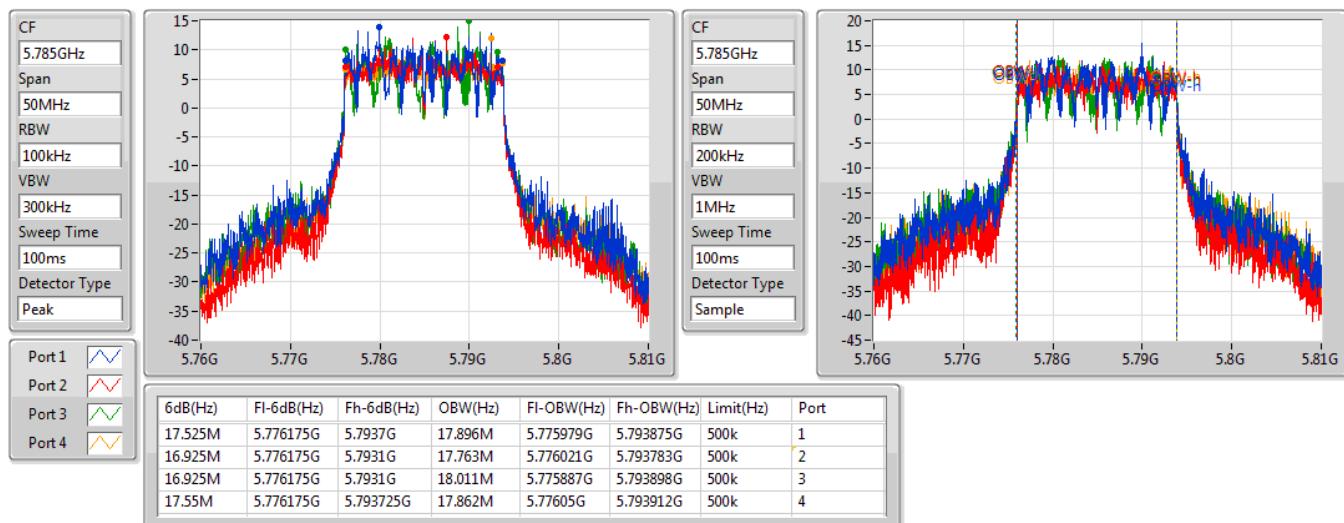

802.11ac VHT20_Nss1,(MCS0)_4TX
EBW
5745MHz

18/09/2019

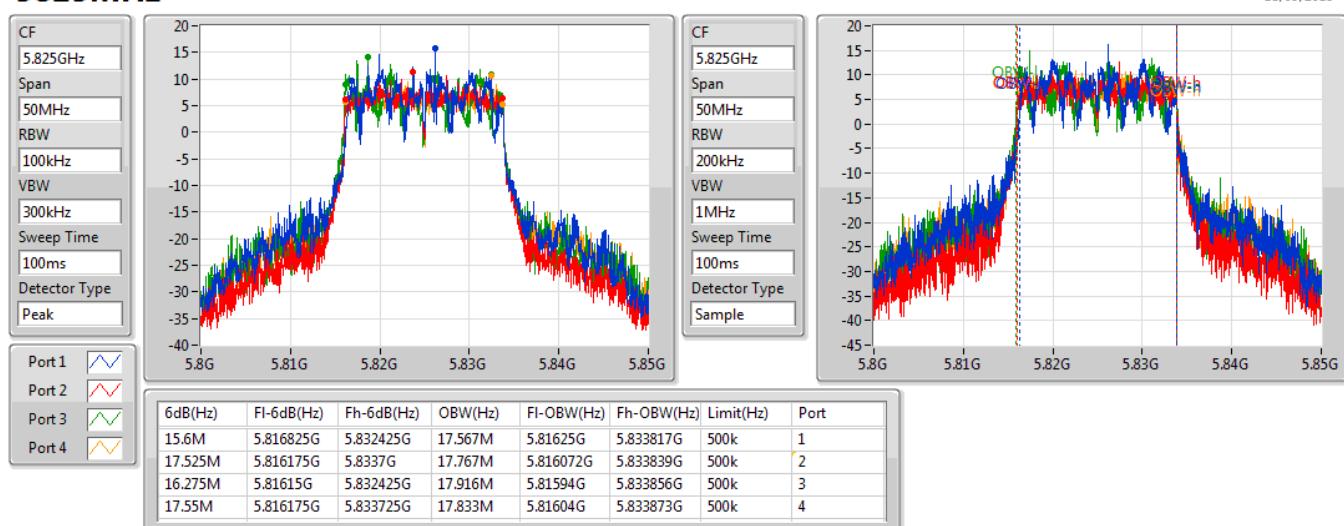


802.11ac VHT20_Nss1,(MCS0)_4TX
EBW
5785MHz

18/09/2019

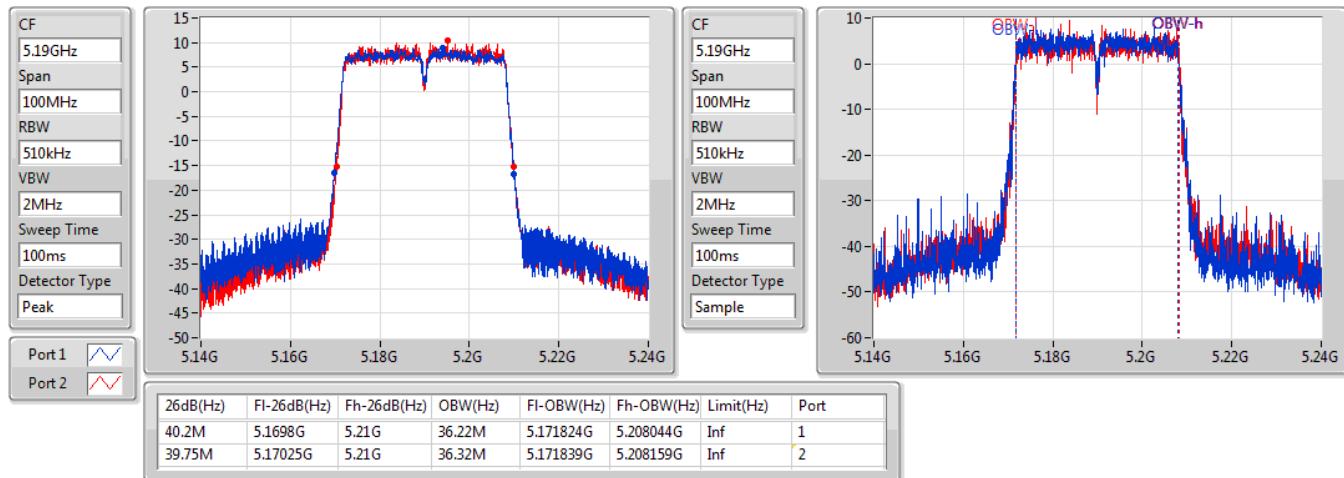

802.11ac VHT20_Nss1,(MCS0)_4TX
EBW
5825MHz

18/09/2019

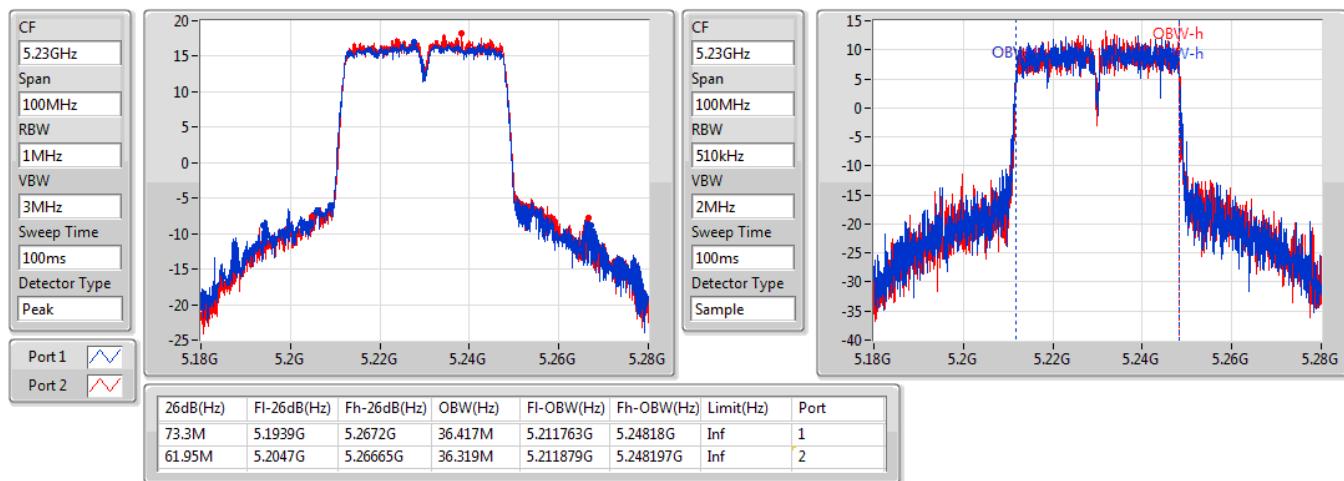


802.11ac VHT40_Nss1,(MCS0)_2TX
EBW
5190MHz

18/09/2019

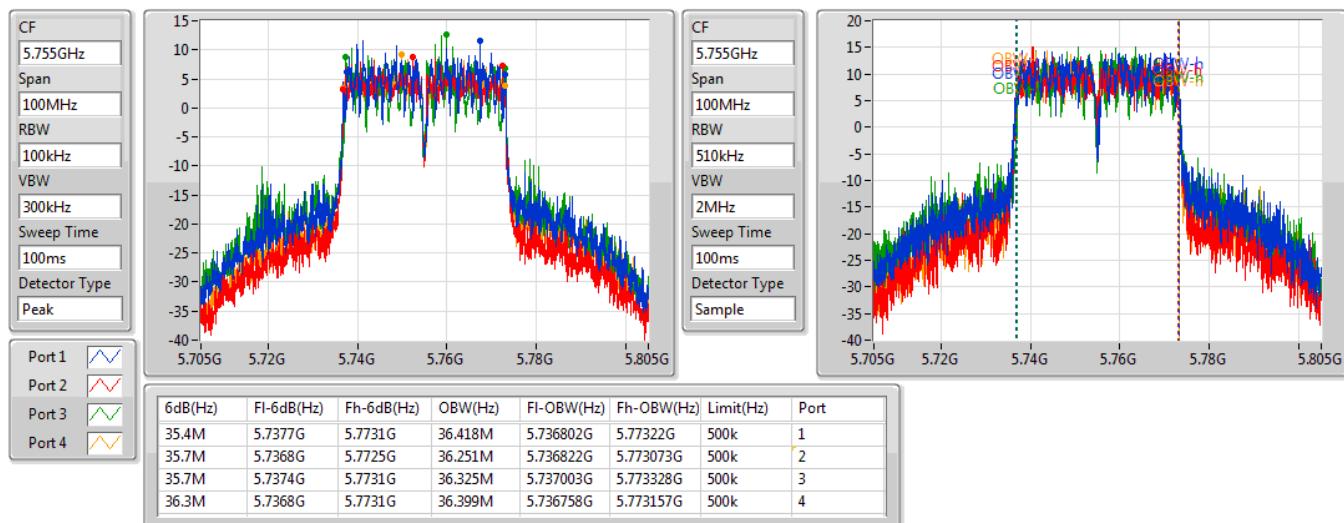

802.11ac VHT40_Nss1,(MCS0)_2TX
EBW
5230MHz

18/09/2019

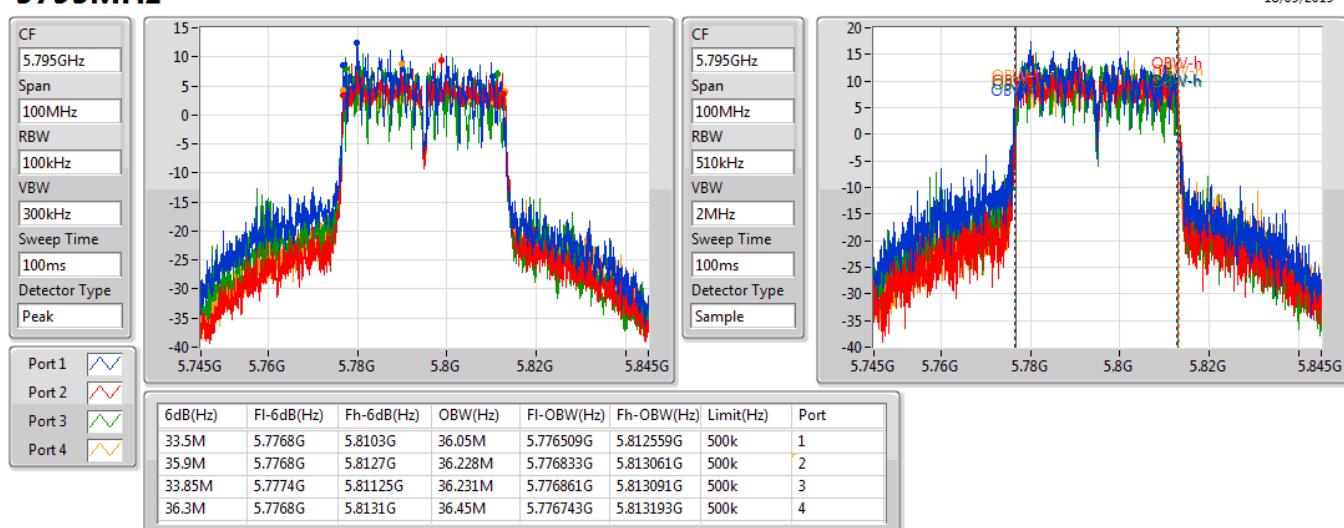


802.11ac VHT40_Nss1,(MCS0)_4TX
EBW
5755MHz

18/09/2019

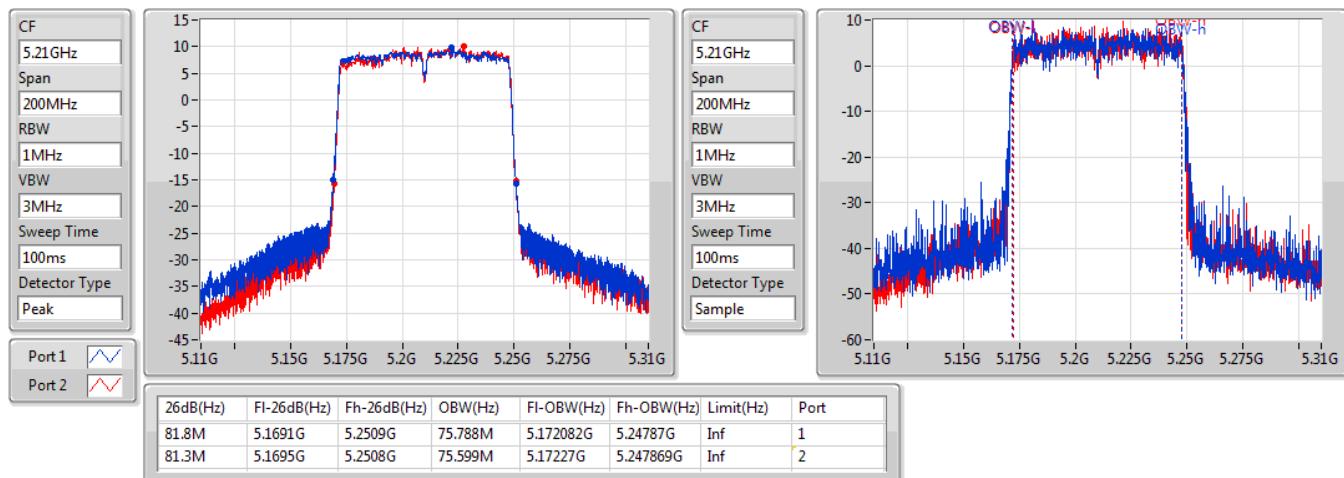

802.11ac VHT40_Nss1,(MCS0)_4TX
EBW
5795MHz

18/09/2019

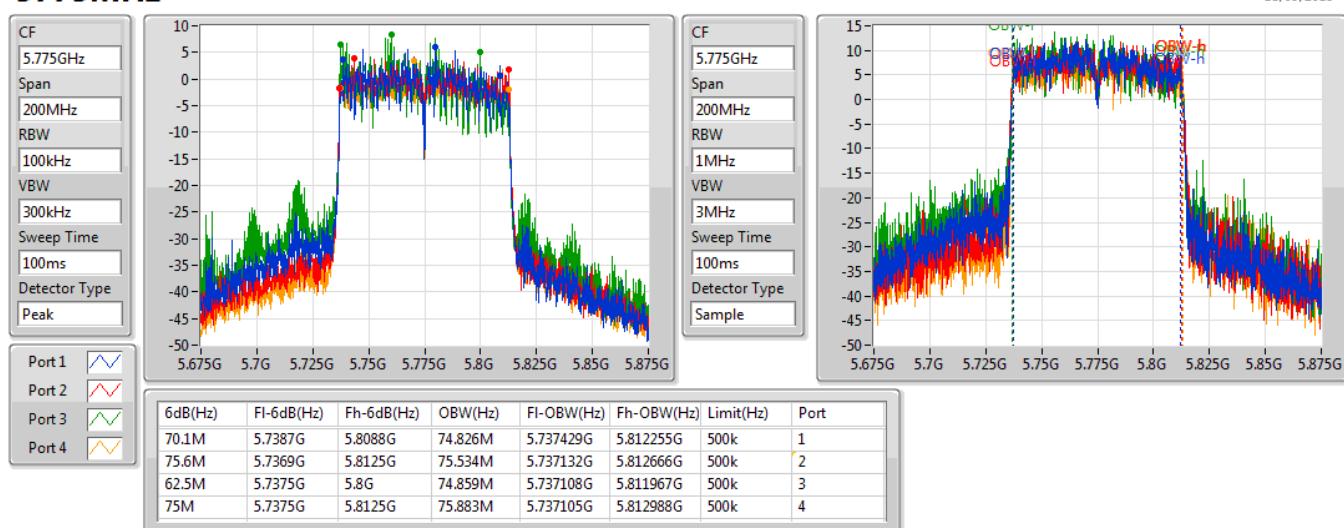


802.11ac VHT80_Nss1,(MCS0)_2TX
EBW
5210MHz

18/09/2019

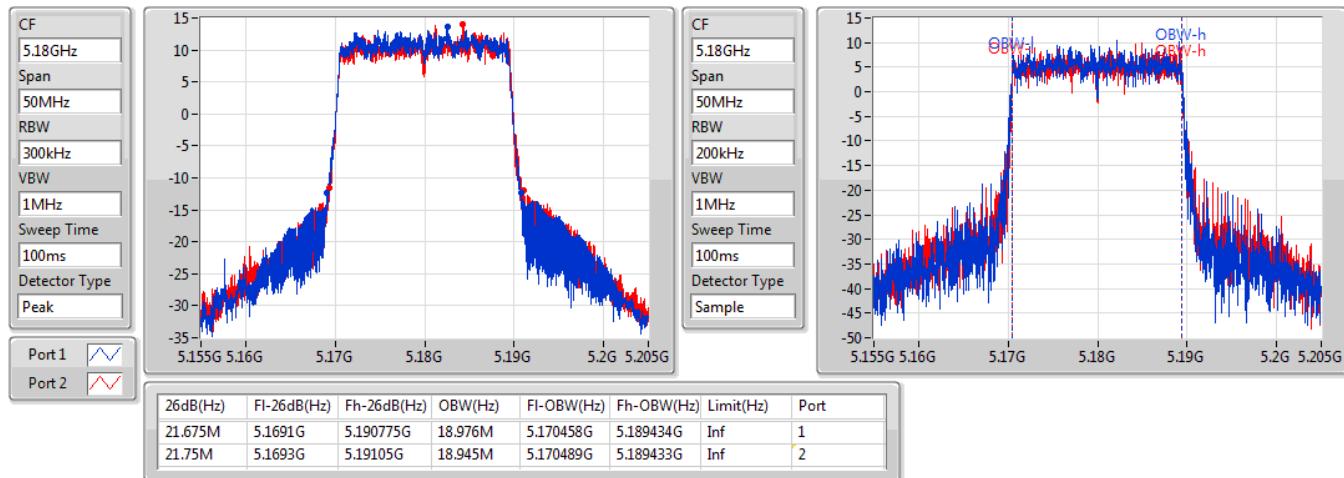

802.11ac VHT80_Nss1,(MCS0)_4TX
EBW
5775MHz

18/09/2019

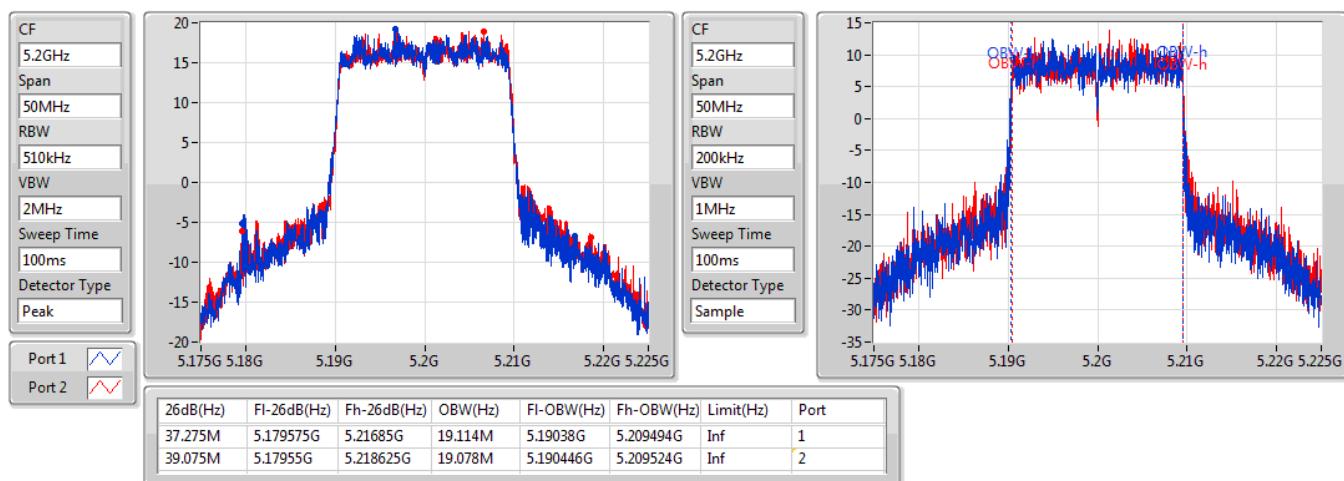


802.11ax HEW20_Nss1,(MCS0)_2TX
EBW
5180MHz

18/09/2019

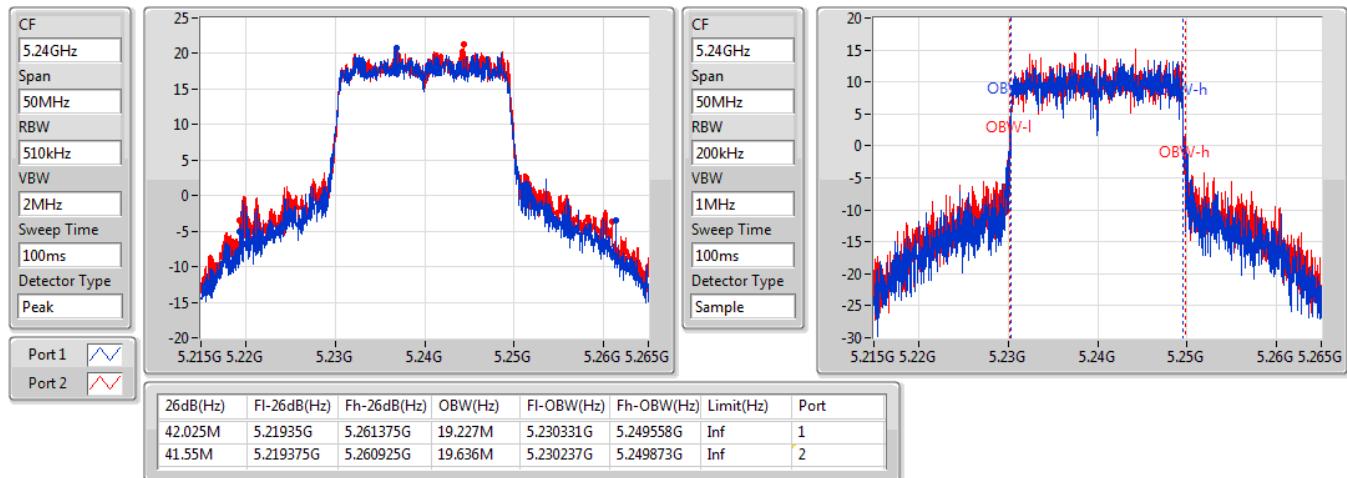

802.11ax HEW20_Nss1,(MCS0)_2TX
EBW
5200MHz

18/09/2019

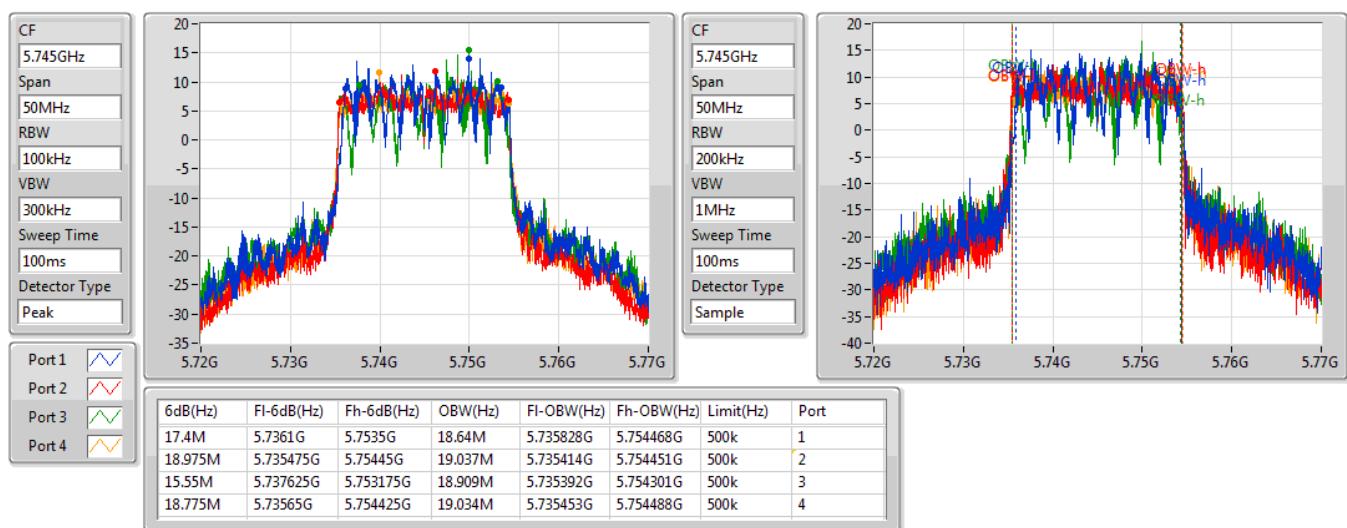


802.11ax HEW20_Nss1,(MCS0)_2TX
EBW
5240MHz

18/09/2019

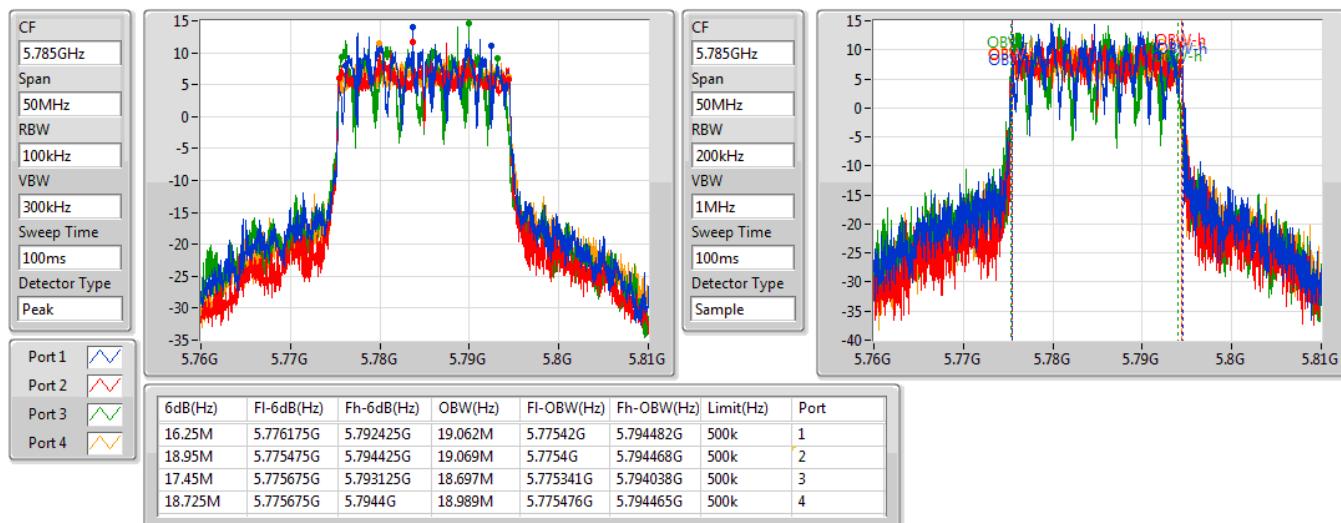

802.11ax HEW20_Nss1,(MCS0)_4TX
EBW
5745MHz

18/09/2019

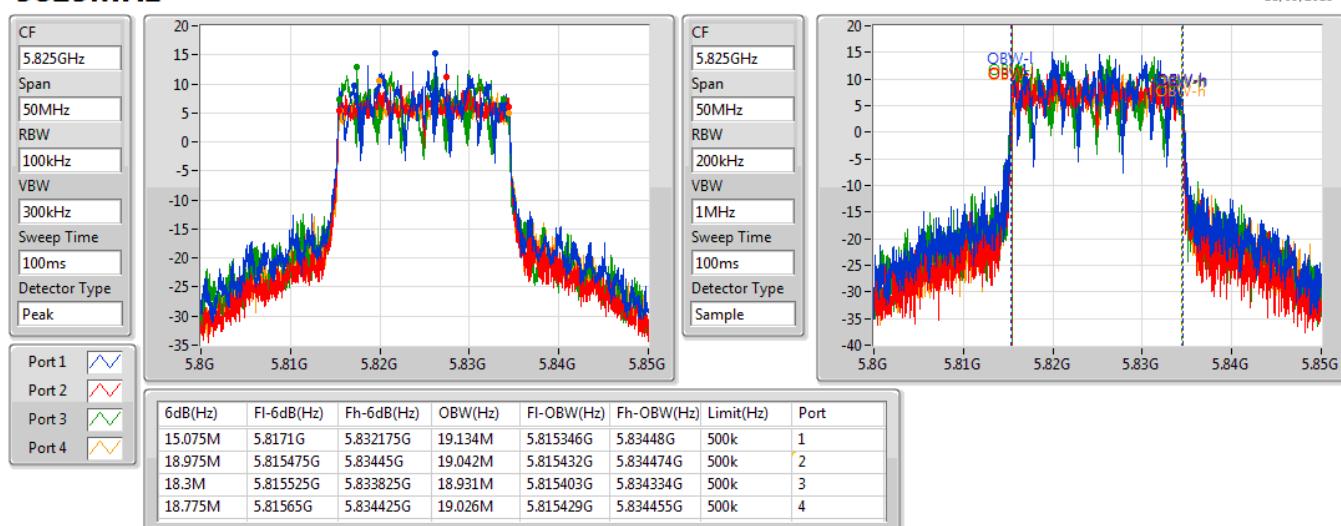


802.11ax HEW20_Nss1,(MCS0)_4TX
EBW
5785MHz

18/09/2019

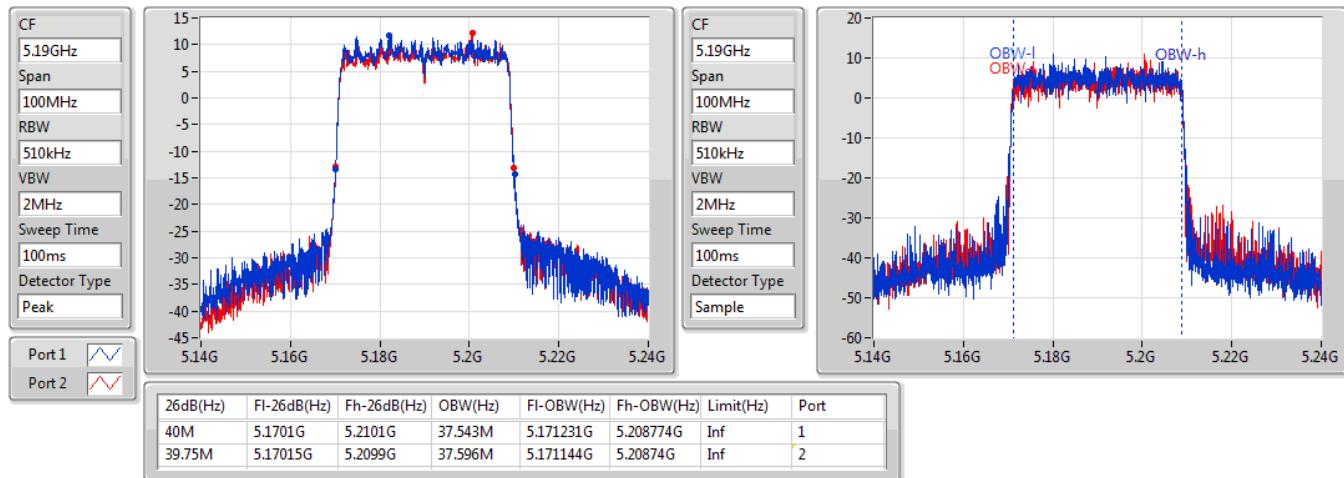

802.11ax HEW20_Nss1,(MCS0)_4TX
EBW
5825MHz

18/09/2019

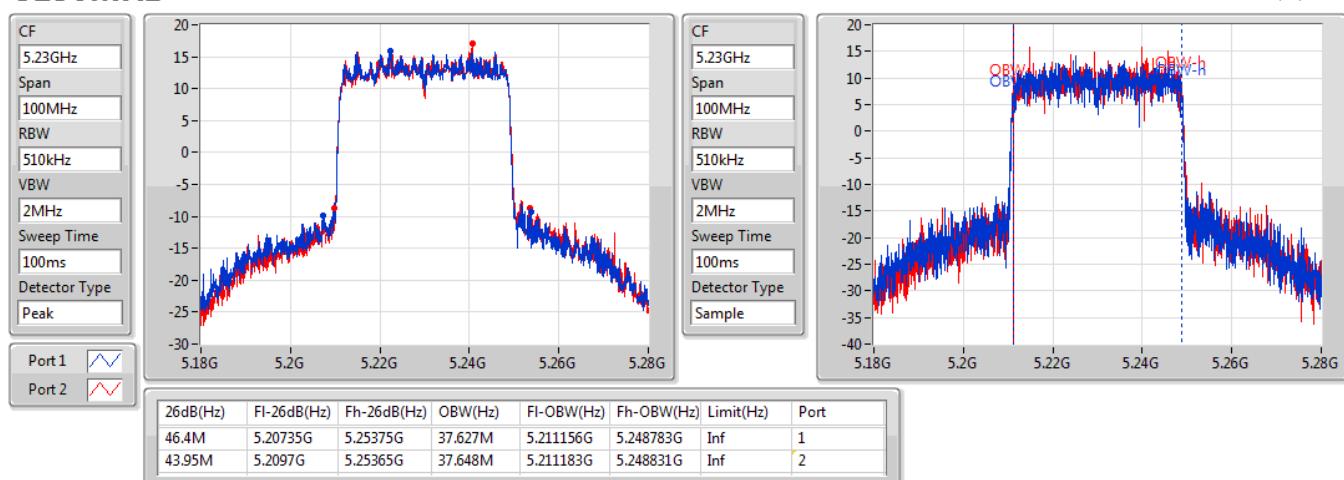


802.11ax HEW40_Nss1,(MCS0)_2TX
EBW
5190MHz

18/09/2019

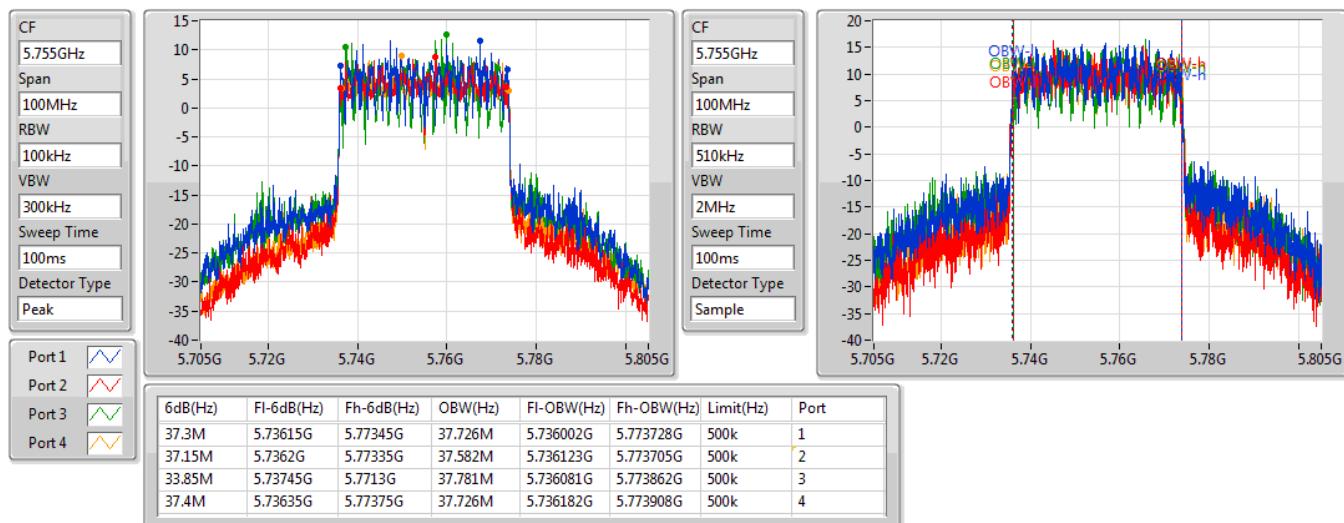

802.11ax HEW40_Nss1,(MCS0)_2TX
EBW
5230MHz

18/09/2019

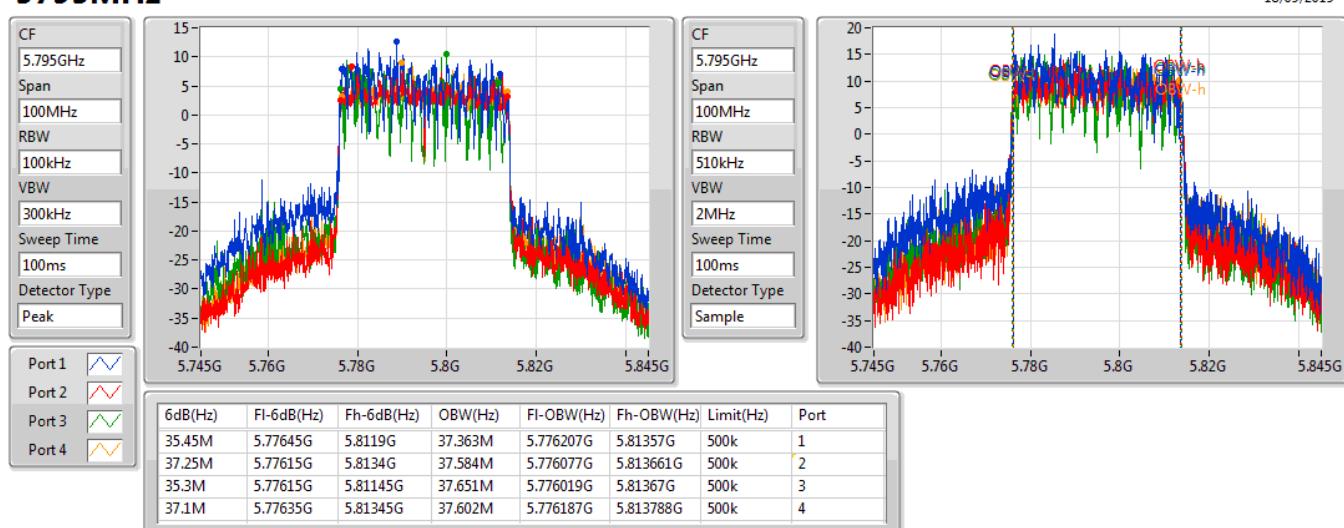


802.11ax HEW40_Nss1,(MCS0)_4TX
EBW
5755MHz

18/09/2019

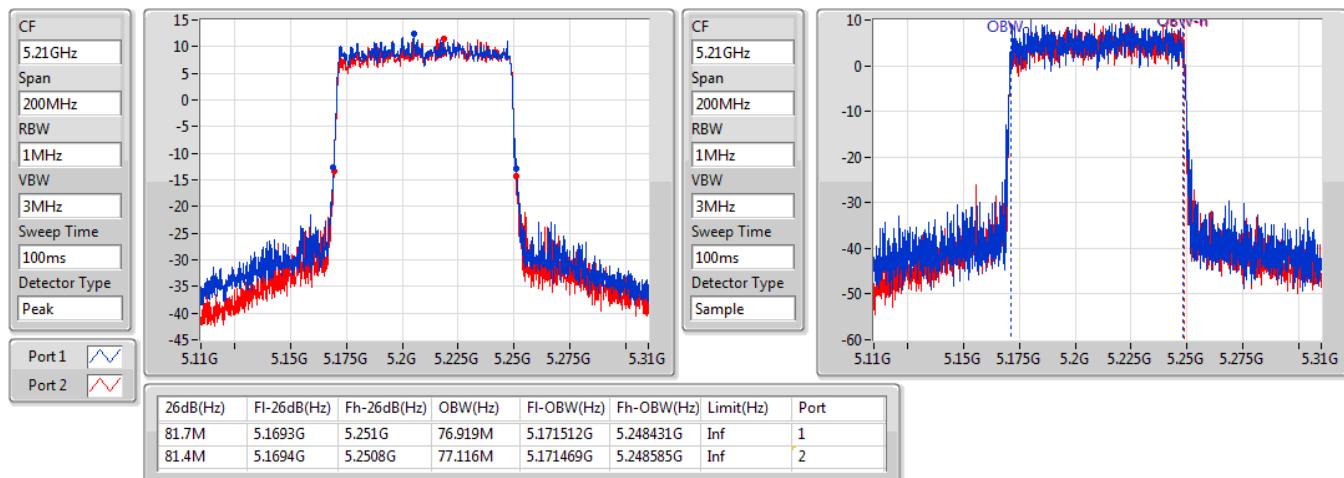

802.11ax HEW40_Nss1,(MCS0)_4TX
EBW
5795MHz

18/09/2019

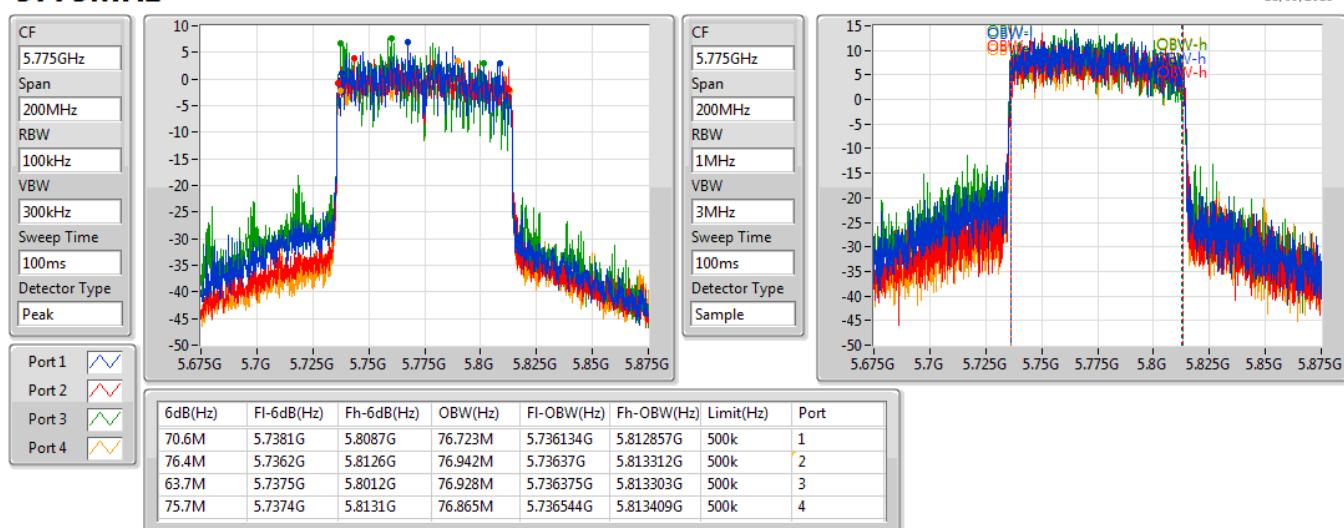


802.11ax HEW80_Nss1,(MCS0)_2TX
EBW
5210MHz

18/09/2019


802.11ax HEW80_Nss1,(MCS0)_4TX
EBW
5775MHz

18/09/2019



**Summary**

Mode	Total Power (dBm)	Total Power (W)
5.15-5.25GHz	-	-
802.11a_Nss1,(6Mbps)_2TX	29.16	0.82414
802.11ac VHT20_Nss1,(MCS0)_2TX	29.11	0.81470
802.11ac VHT40_Nss1,(MCS0)_2TX	26.89	0.48865
802.11ac VHT80_Nss1,(MCS0)_2TX	22.43	0.17498
802.11ax HEW20_Nss1,(MCS0)_2TX	29.04	0.80168
802.11ax HEW40_Nss1,(MCS0)_2TX	27.10	0.51286
802.11ax HEW80_Nss1,(MCS0)_2TX	22.87	0.19364
5.725-5.85GHz	-	-
802.11a_Nss1,(6Mbps)_4TX	29.86	0.96828
802.11ac VHT20_Nss1,(MCS0)_4TX	29.99	0.99770
802.11ac VHT40_Nss1,(MCS0)_4TX	29.98	0.99541
802.11ac VHT80_Nss1,(MCS0)_4TX	27.38	0.54702
802.11ax HEW20_Nss1,(MCS0)_4TX	29.99	0.99770
802.11ax HEW40_Nss1,(MCS0)_4TX	29.96	0.99083
802.11ax HEW80_Nss1,(MCS0)_4TX	28.00	0.63096

**Result**

Mode	Result	DG (dB) i	Port 1 (dBm)	Port 2 (dBm)	Port 3 (dBm)	Port 4 (dBm)	Total Power (dBm)	Power Limit (dBm)
802.11a_Nss1,(6Mbps)_2TX	-	-	-	-	-	-	-	-
5180MHz	Pass	4.80	20.14	20.16			23.16	30.00
5200MHz	Pass	4.80	24.92	24.87			27.91	30.00
5240MHz	Pass	4.80	26.01	26.28			29.16	30.00
802.11a_Nss1,(6Mbps)_4TX	-	-	-	-	-	-	-	-
5745MHz	Pass	5.28	24.30	23.69	23.58	23.40	29.78	30.00
5785MHz	Pass	5.28	24.52	23.55	23.63	23.36	29.81	30.00
5825MHz	Pass	5.28	24.40	23.55	23.86	23.48	29.86	30.00
802.11ac VHT20_Nss1,(MCS0)_2TX	-	-	-	-	-	-	-	-
5180MHz	Pass	4.80	21.31	21.12			24.23	30.00
5200MHz	Pass	4.80	24.29	24.22			27.27	30.00
5240MHz	Pass	4.80	26.10	26.09			29.11	30.00
802.11ac VHT20_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-
5745MHz	Pass	5.28	24.51	23.75	23.76	23.79	29.99	30.00
5785MHz	Pass	5.28	24.26	23.52	23.82	23.64	29.84	30.00
5825MHz	Pass	5.28	23.99	23.48	24.25	23.34	29.80	30.00
802.11ac VHT40_Nss1,(MCS0)_2TX	-	-	-	-	-	-	-	-
5190MHz	Pass	4.80	19.39	19.04			22.23	30.00
5230MHz	Pass	4.80	23.86	23.89			26.89	30.00
802.11ac VHT40_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-
5755MHz	Pass	5.28	24.66	23.57	24.03	23.46	29.98	30.00
5795MHz	Pass	5.28	24.82	23.33	23.47	23.37	29.81	30.00
802.11ac VHT80_Nss1,(MCS0)_2TX	-	-	-	-	-	-	-	-
5210MHz	Pass	4.80	19.62	19.21			22.43	30.00
802.11ac VHT80_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-
5775MHz	Pass	5.28	21.58	21.38	21.74	20.66	27.38	30.00
802.11ax HEW20_Nss1,(MCS0)_2TX	-	-	-	-	-	-	-	-
5180MHz	Pass	4.80	21.60	21.49			24.56	30.00
5200MHz	Pass	4.80	24.55	24.40			27.49	30.00
5240MHz	Pass	4.80	25.84	26.21			29.04	30.00
802.11ax HEW20_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-
5745MHz	Pass	5.28	24.36	23.88	23.85	23.75	29.99	30.00
5785MHz	Pass	5.28	24.03	23.65	24.29	23.46	29.89	30.00
5825MHz	Pass	5.28	24.23	23.46	24.15	23.33	29.83	30.00
802.11ax HEW40_Nss1,(MCS0)_2TX	-	-	-	-	-	-	-	-
5190MHz	Pass	4.80	19.76	19.25			22.52	30.00
5230MHz	Pass	4.80	24.04	24.14			27.10	30.00
802.11ax HEW40_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-
5755MHz	Pass	5.28	24.68	23.61	23.74	23.64	29.96	30.00
5795MHz	Pass	5.28	25.01	23.64	23.35	23.46	29.94	30.00



Average Power

Appendix C

802.11ax HEW80_Nss1,(MCS0)_2TX	-	-	-	-	-	-	-	-
5210MHz	Pass	4.80	20.03	19.68			22.87	30.00
802.11ax HEW80_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-
5775MHz	Pass	5.28	22.50	21.83	22.27	21.21	28.00	30.00

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

**Summary**

Mode	PD (dBm/RBW)
5.15-5.25GHz	-
802.11a_Nss1,(6Mbps)_2TX	14.46
802.11ac VHT20_Nss1,(MCS0)_2TX	14.97
802.11ac VHT40_Nss1,(MCS0)_2TX	10.31
802.11ac VHT80_Nss1,(MCS0)_2TX	3.19
802.11ax HEW20_Nss1,(MCS0)_2TX	14.56
802.11ax HEW40_Nss1,(MCS0)_2TX	10.26
802.11ax HEW80_Nss1,(MCS0)_2TX	3.47
5.725-5.85GHz	-
802.11a_Nss1,(6Mbps)_4TX	15.41
802.11ac VHT20_Nss1,(MCS0)_4TX	15.36
802.11ac VHT40_Nss1,(MCS0)_4TX	12.98
802.11ac VHT80_Nss1,(MCS0)_4TX	8.07
802.11ax HEW20_Nss1,(MCS0)_4TX	15.09
802.11ax HEW40_Nss1,(MCS0)_4TX	13.00
802.11ax HEW80_Nss1,(MCS0)_4TX	8.46

RBW = 500 kHz for 5.725-5.85GHz band / 1MHz for other band;



Result

Mode	Result	DG (dB)	Port 1 (dBm/RBW)	Port 2 (dBm/RBW)	Port 3 (dBm/RBW)	Port 4 (dBm/RBW)	PD (dBm/RBW)	PD Limit (dBm/RBW)
802.11a_Nss1,(6Mbps)_2TX	-	-	-	-	-	-	-	-
5180MHz	Pass	6.04	7.55	6.87			9.91	16.96
5200MHz	Pass	6.04	10.85	10.88			13.74	16.96
5240MHz	Pass	6.04	11.53	11.67			14.46	16.96
802.11a_Nss1,(6Mbps)_4TX	-	-	-	-	-	-	-	-
5745MHz	Pass	7.95	11.26	8.84	11.29	8.75	15.41	28.05
5785MHz	Pass	7.95	11.35	8.87	10.64	8.78	14.96	28.05
5825MHz	Pass	7.95	12.15	8.89	10.62	8.46	15.22	28.05
802.11ac VHT20_Nss1,(MCS0)_2TX	-	-	-	-	-	-	-	-
5180MHz	Pass	6.04	7.80	7.40			10.45	16.96
5200MHz	Pass	6.04	10.32	10.14			13.16	16.96
5240MHz	Pass	6.04	11.99	12.04			14.97	16.96
802.11ac VHT20_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-
5745MHz	Pass	7.95	10.57	9.14	10.46	8.78	15.36	28.05
5785MHz	Pass	7.95	11.34	9.07	11.19	8.56	14.95	28.05
5825MHz	Pass	7.95	11.75	8.76	11.59	8.18	15.16	28.05
802.11ac VHT40_Nss1,(MCS0)_2TX	-	-	-	-	-	-	-	-
5190MHz	Pass	6.04	2.94	2.36			5.49	16.96
5230MHz	Pass	6.04	7.37	7.43			10.31	16.96
802.11ac VHT40_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-
5755MHz	Pass	7.95	8.76	6.59	7.94	6.12	12.77	28.05
5795MHz	Pass	7.95	10.04	6.21	8.24	5.73	12.98	28.05
802.11ac VHT80_Nss1,(MCS0)_2TX	-	-	-	-	-	-	-	-
5210MHz	Pass	6.04	0.51	0.09			3.19	16.96
802.11ac VHT80_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-
5775MHz	Pass	7.95	3.46	2.12	3.91	0.54	8.07	28.05
802.11ax HEW20_Nss1,(MCS0)_2TX	-	-	-	-	-	-	-	-
5180MHz	Pass	6.04	7.91	7.34			10.54	16.96
5200MHz	Pass	6.04	10.37	10.13			13.18	16.96
5240MHz	Pass	6.04	11.66	11.64			14.56	16.96
802.11ax HEW20_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-
5745MHz	Pass	7.95	10.25	8.89	10.44	8.51	15.09	28.05
5785MHz	Pass	7.95	11.12	8.78	11.01	8.24	14.58	28.05
5825MHz	Pass	7.95	11.42	8.16	11.10	7.98	14.65	28.05
802.11ax HEW40_Nss1,(MCS0)_2TX	-	-	-	-	-	-	-	-
5190MHz	Pass	6.04	3.19	2.35			5.63	16.96
5230MHz	Pass	6.04	7.50	7.32			10.26	16.96
802.11ax HEW40_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-
5755MHz	Pass	7.95	8.44	6.42	7.89	5.93	12.59	28.05
5795MHz	Pass	7.95	9.67	6.18	8.93	5.89	13.00	28.05



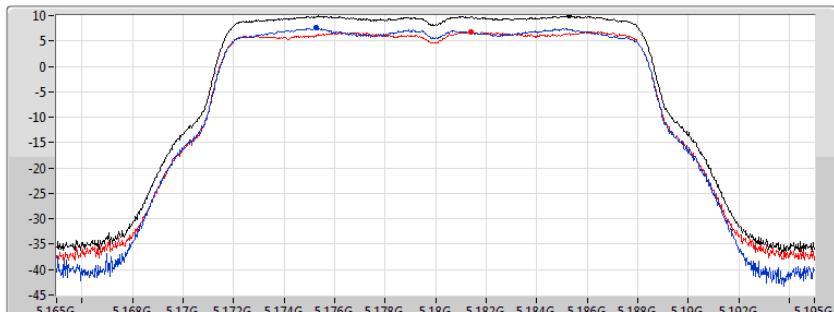
802.11ax HEW80_Nss1,(MCS0)_2TX	-	-	-	-	-	-	-	-
5210MHz	Pass	6.04	0.73	0.35			3.47	16.96
802.11ax HEW80_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-
5775MHz	Pass	7.95	4.41	2.03	4.71	1.13	8.46	28.05

DG = Directional Gain; **RBW** = 500 kHz for 5.725-5.85GHz band / 1MHz for other band;

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

802.11a_Nss1,(6Mbps)_2TX
PSD
5180MHz

CF
5.18GHz
Span
30MHz
RBW
1MHz
VBW
3MHz
Sweep Time
20ms
Detector Type
RMS



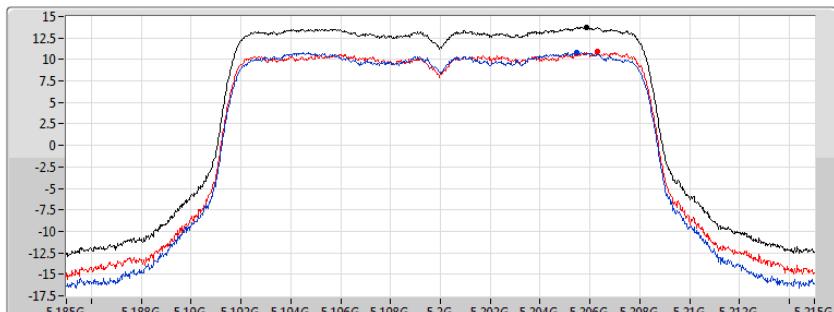
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Sum
Port 1
Port 2

Sum	PD	Port 1	Port 2
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
9.91	9.91	7.55	6.87

802.11a_Nss1,(6Mbps)_2TX
PSD
5200MHz

CF
5.2GHz
Span
30MHz
RBW
1MHz
VBW
3MHz
Sweep Time
20ms
Detector Type
RMS



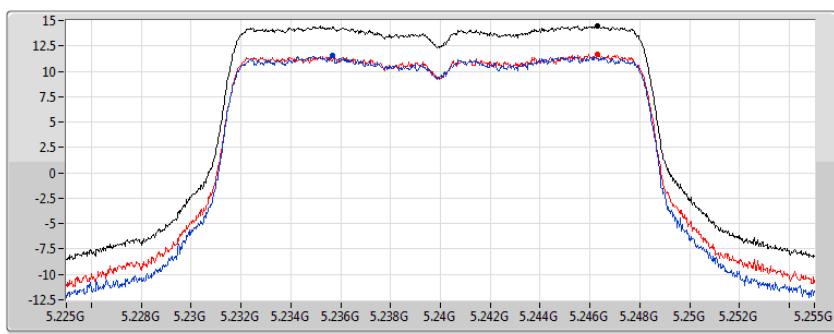
18/09/2019

Sum
Port 1
Port 2

Sum	PD	Port 1	Port 2
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
13.74	13.74	10.85	10.88

802.11a_Nss1,(6Mbps)_2TX
PSD
5240MHz

CF
5.24GHz
Span
30MHz
RBW
1MHz
VBW
3MHz
Sweep Time
20ms
Detector Type
RMS



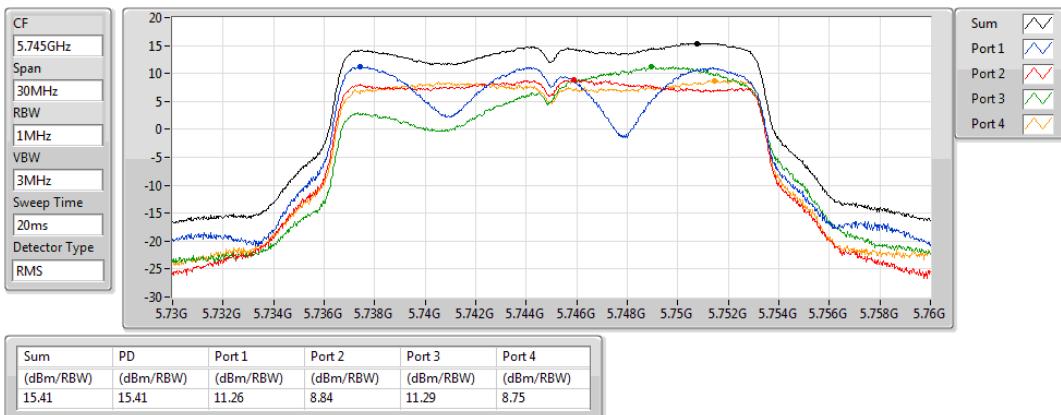
18/09/2019

Sum
Port 1
Port 2

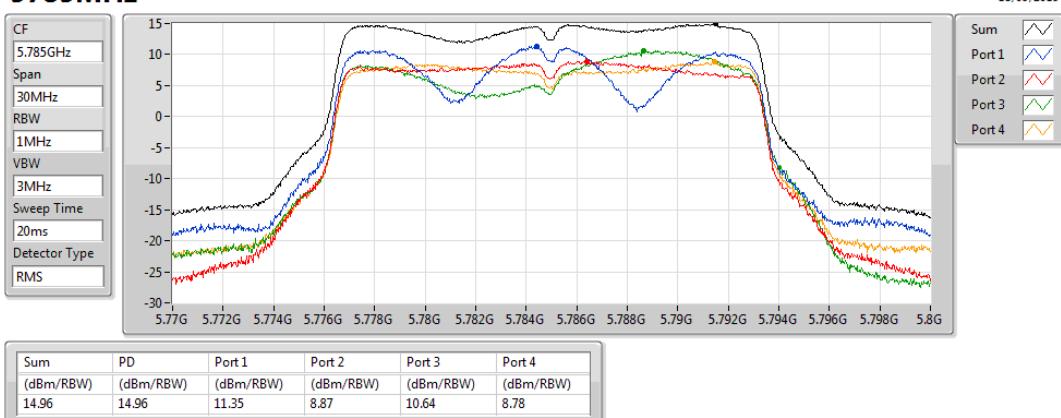
Sum	PD	Port 1	Port 2
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
14.46	14.46	11.53	11.67

802.11a_Nss1,(6Mbps)_4TX
PSD
5745MHz

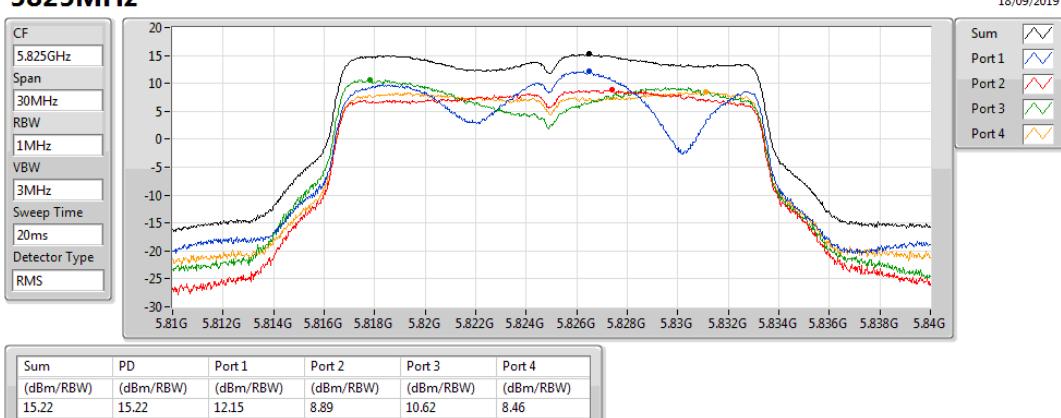
18/09/2019


802.11a_Nss1,(6Mbps)_4TX
PSD
5785MHz

18/09/2019

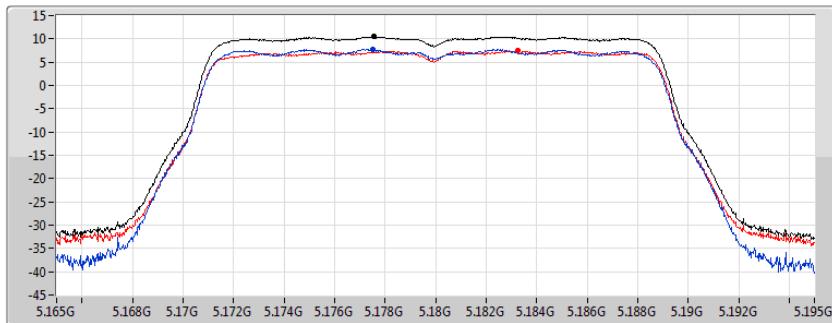

802.11a_Nss1,(6Mbps)_4TX
PSD
5825MHz

18/09/2019



802.11ac VHT20_Nss1,(MCS0)_2TX
PSD
5180MHz

CF
5.18GHz
Span
30MHz
RBW
1MHz
VBW
3MHz
Sweep Time
20ms
Detector Type
RMS



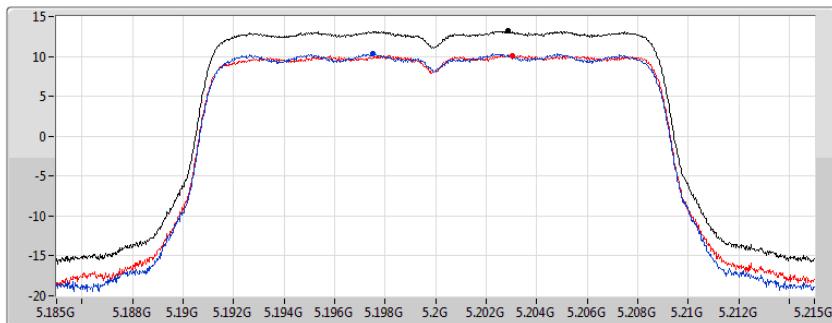
18/09/2019

Sum	✓
Port 1	✓
Port 2	✓

Sum	PD	Port 1	Port 2
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
10.45	10.45	7.80	7.40

802.11ac VHT20_Nss1,(MCS0)_2TX
PSD
5200MHz

CF
5.2GHz
Span
30MHz
RBW
1MHz
VBW
3MHz
Sweep Time
20ms
Detector Type
RMS



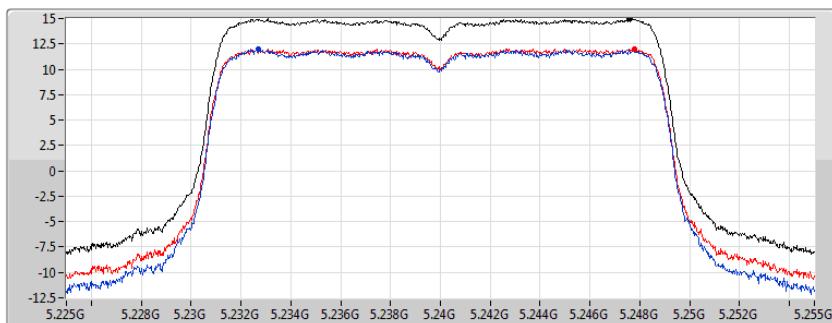
18/09/2019

Sum	✓
Port 1	✓
Port 2	✓

Sum	PD	Port 1	Port 2
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
13.16	13.16	10.32	10.14

802.11ac VHT20_Nss1,(MCS0)_2TX
PSD
5240MHz

CF
5.24GHz
Span
30MHz
RBW
1MHz
VBW
3MHz
Sweep Time
20ms
Detector Type
RMS



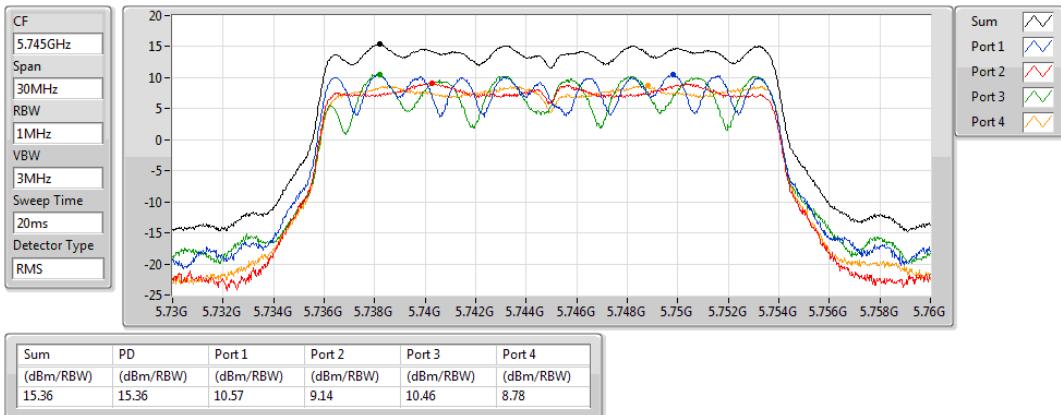
18/09/2019

Sum	✓
Port 1	✓
Port 2	✓

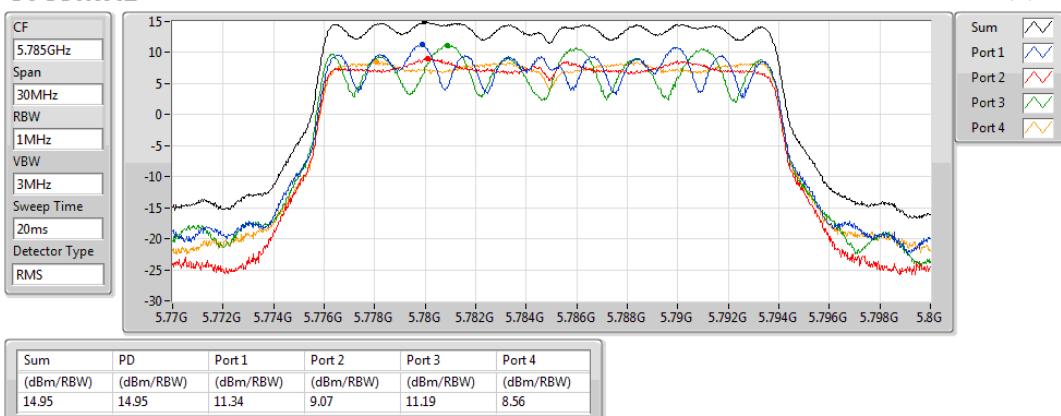
Sum	PD	Port 1	Port 2
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
14.97	14.97	11.99	12.04

802.11ac VHT20_Nss1,(MCS0)_4TX
PSD
5745MHz

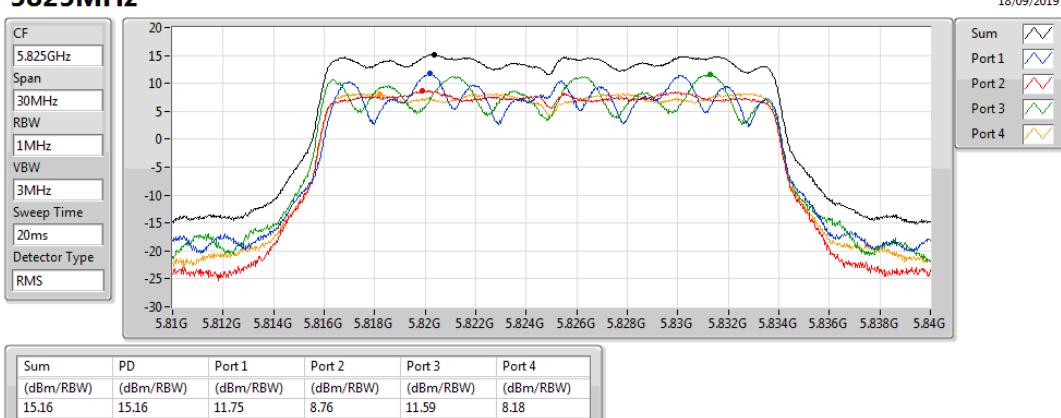
18/09/2019


802.11ac VHT20_Nss1,(MCS0)_4TX
PSD
5785MHz

18/09/2019


802.11ac VHT20_Nss1,(MCS0)_4TX
PSD
5825MHz

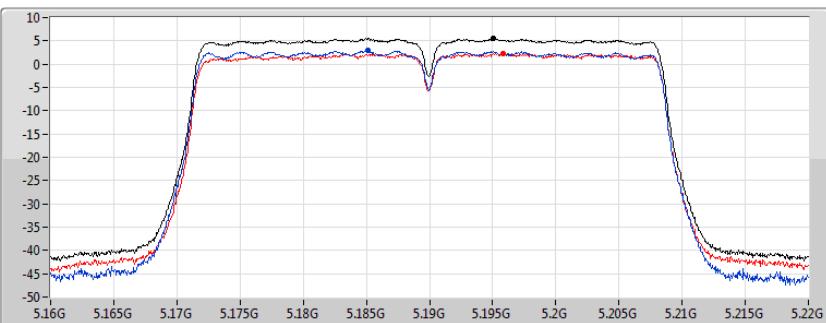
18/09/2019



802.11ac VHT40_Nss1,(MCS0)_2TX
PSD
5190MHz

18/09/2019

CF
5.19GHz
Span
60MHz
RBW
1MHz
VBW
3MHz
Sweep Time
20ms
Detector Type
RMS



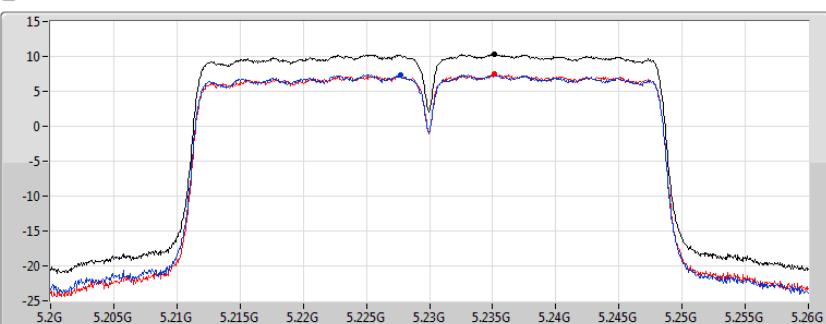
Sum	<input checked="" type="checkbox"/>
Port 1	<input type="checkbox"/>
Port 2	<input type="checkbox"/>

Sum	PD	Port 1	Port 2
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
5.49	5.49	2.94	2.36

802.11ac VHT40_Nss1,(MCS0)_2TX
PSD
5230MHz

18/09/2019

CF
5.23GHz
Span
60MHz
RBW
1MHz
VBW
3MHz
Sweep Time
20ms
Detector Type
RMS



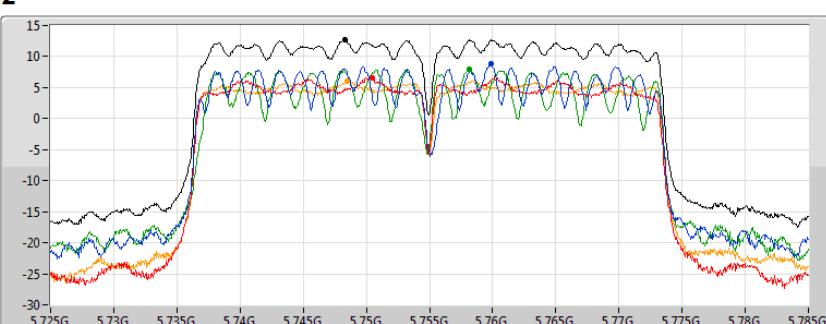
Sum	<input checked="" type="checkbox"/>
Port 1	<input type="checkbox"/>
Port 2	<input type="checkbox"/>

Sum	PD	Port 1	Port 2
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
10.31	10.31	7.37	7.43

802.11ac VHT40_Nss1,(MCS0)_4TX
PSD
5755MHz

18/09/2019

CF
5.755GHz
Span
60MHz
RBW
1MHz
VBW
3MHz
Sweep Time
20ms
Detector Type
RMS

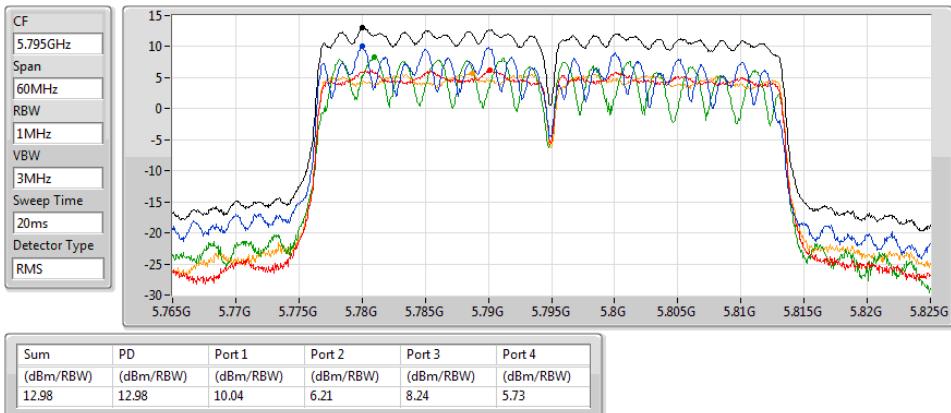


Sum	<input checked="" type="checkbox"/>
Port 1	<input type="checkbox"/>
Port 2	<input type="checkbox"/>
Port 3	<input type="checkbox"/>
Port 4	<input type="checkbox"/>

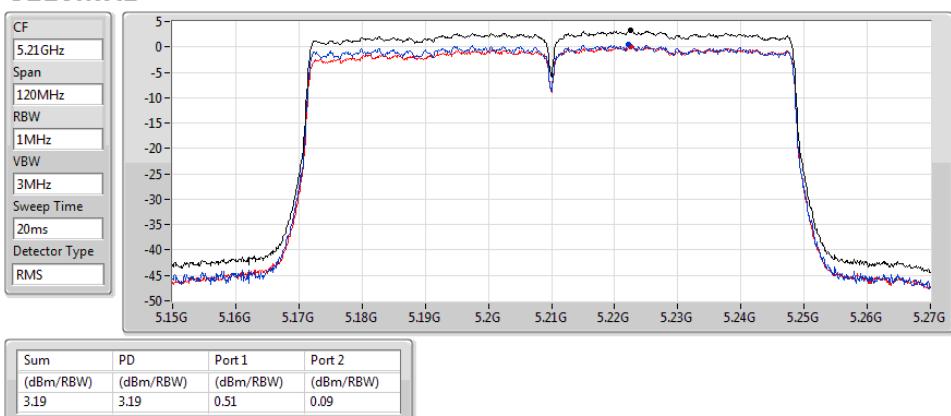
Sum	PD	Port 1	Port 2	Port 3	Port 4
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
12.77	12.77	8.76	6.59	7.94	6.12

802.11ac VHT40_Nss1,(MCS0)_4TX
PSD
5795MHz

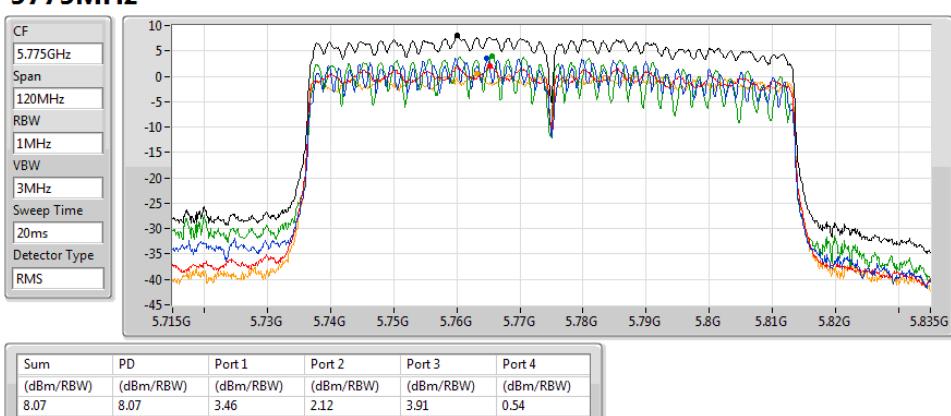
18/09/2019


802.11ac VHT80_Nss1,(MCS0)_2TX
PSD
5210MHz

18/09/2019

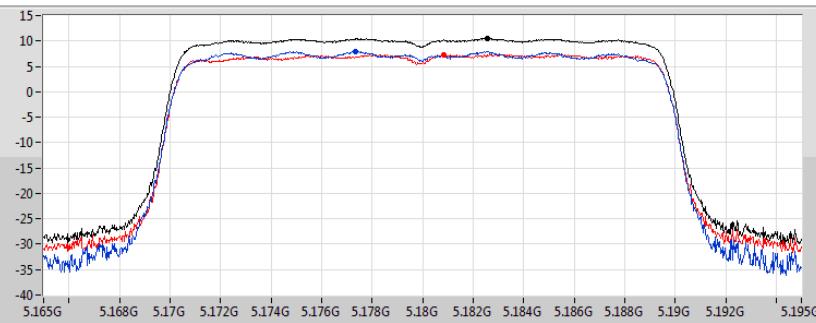

802.11ac VHT80_Nss1,(MCS0)_4TX
PSD
5775MHz

18/09/2019



802.11ax HEW20_Nss1,(MCS0)_2TX
PSD
5180MHz

CF
5.18GHz
Span
30MHz
RBW
1MHz
VBW
3MHz
Sweep Time
20ms
Detector Type
RMS



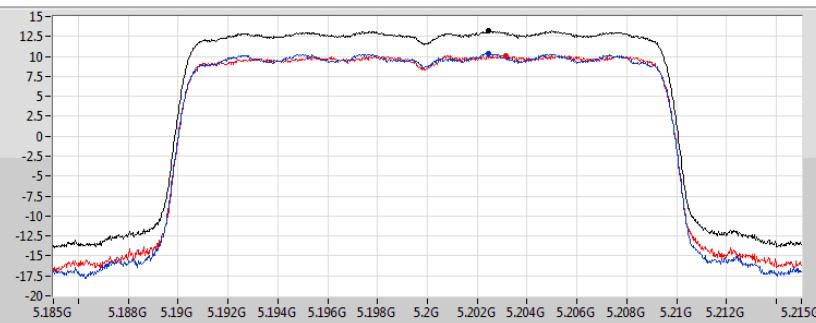
18/09/2019

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

Sum	PD	Port 1	Port 2
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
10.54	10.54	7.91	7.34

802.11ax HEW20_Nss1,(MCS0)_2TX
PSD
5200MHz

CF
5.2GHz
Span
30MHz
RBW
1MHz
VBW
3MHz
Sweep Time
20ms
Detector Type
RMS



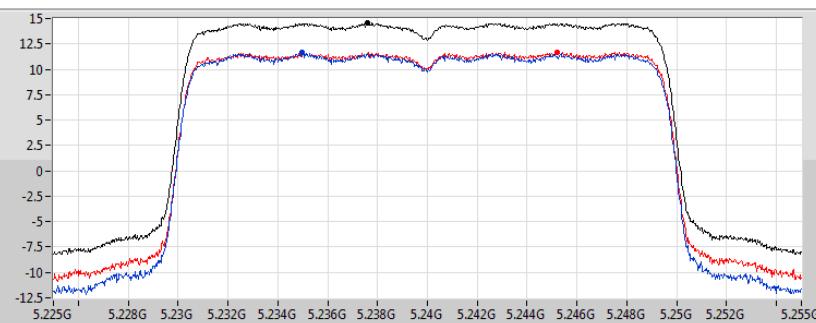
18/09/2019

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

Sum	PD	Port 1	Port 2
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
13.18	13.18	10.37	10.13

802.11ax HEW20_Nss1,(MCS0)_2TX
PSD
5240MHz

CF
5.24GHz
Span
30MHz
RBW
1MHz
VBW
3MHz
Sweep Time
20ms
Detector Type
RMS



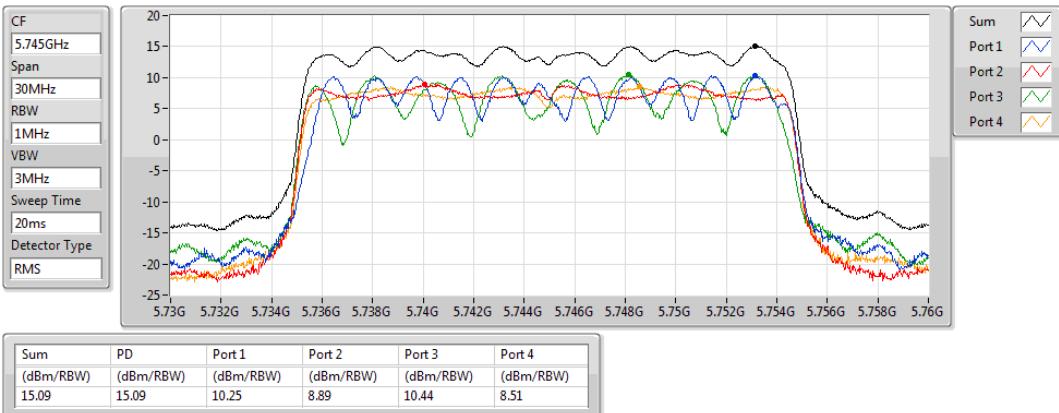
18/09/2019

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

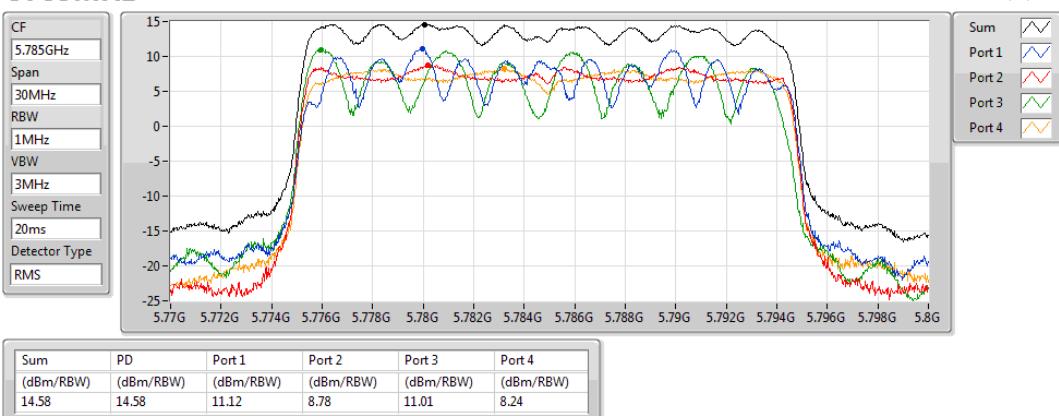
Sum	PD	Port 1	Port 2
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
14.56	14.56	11.66	11.64

802.11ax HEW20_Nss1,(MCS0)_4TX
PSD
5745MHz

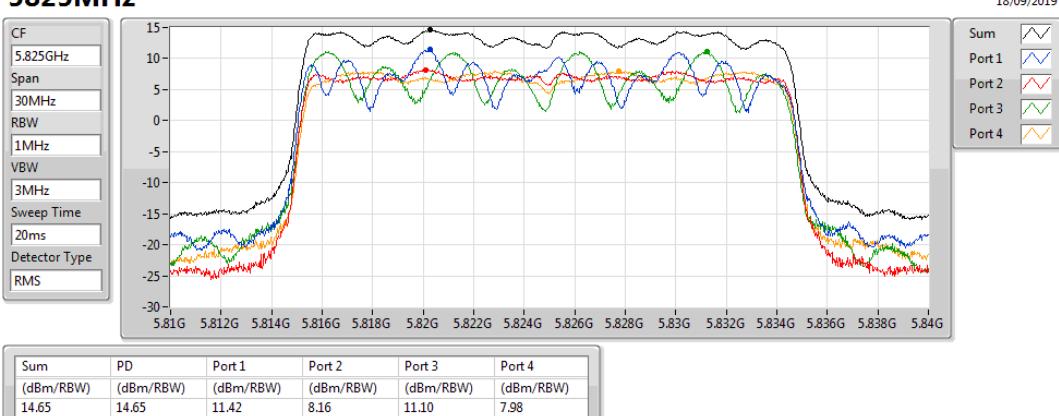
18/09/2019

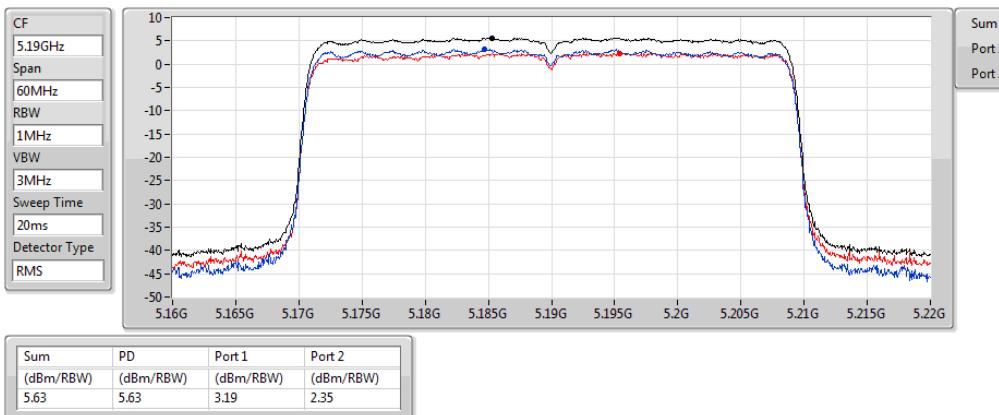
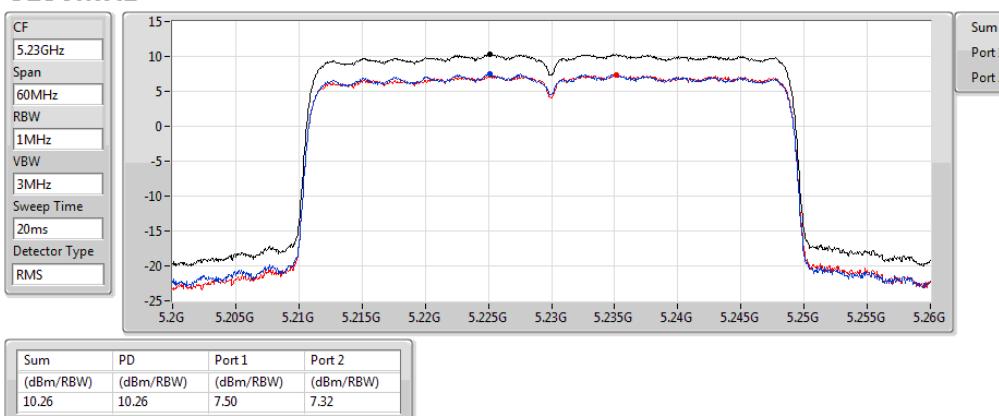
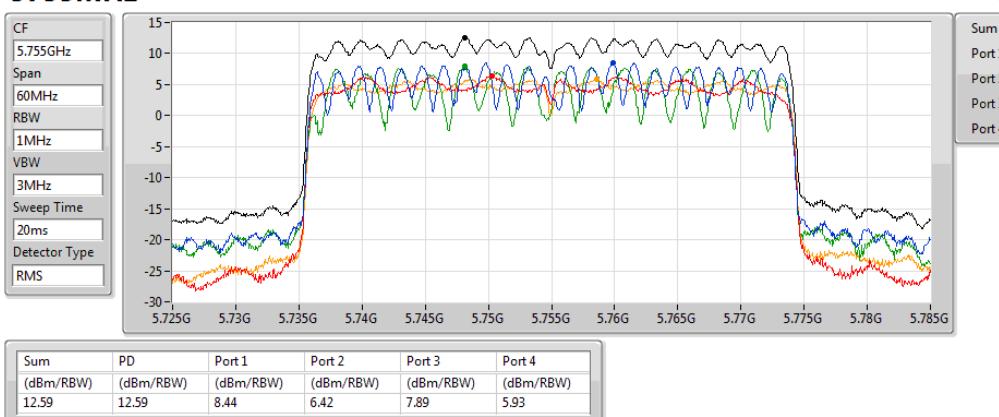

802.11ax HEW20_Nss1,(MCS0)_4TX
PSD
5785MHz

18/09/2019


802.11ax HEW20_Nss1,(MCS0)_4TX
PSD
5825MHz

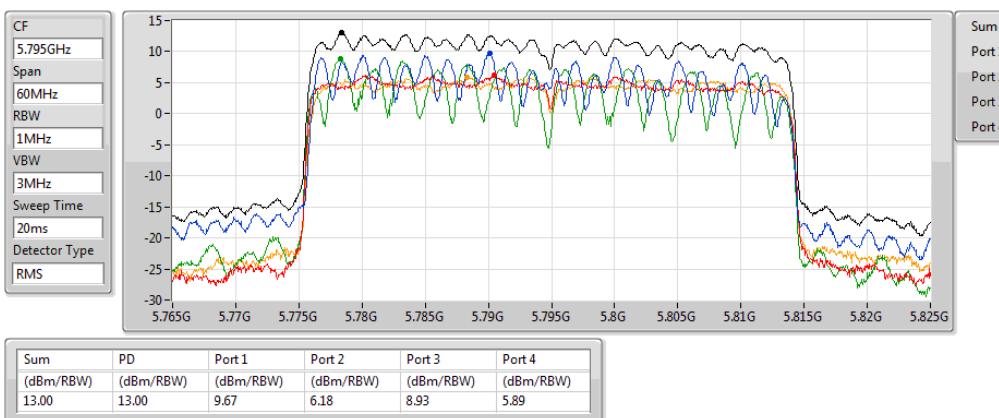
18/09/2019



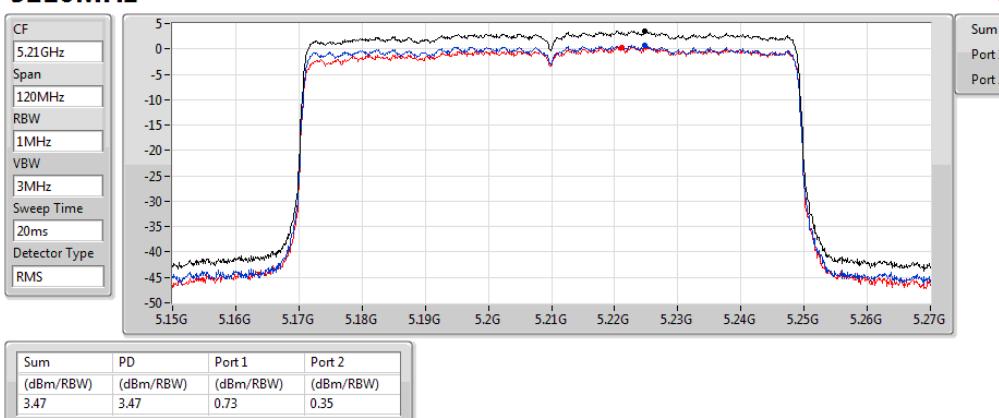
802.11ax HEW40_Nss1,(MCS0)_2TX
PSD
5190MHz

802.11ax HEW40_Nss1,(MCS0)_2TX
PSD
5230MHz

802.11ax HEW40_Nss1,(MCS0)_4TX
PSD
5755MHz


802.11ax HEW40_Nss1,(MCS0)_4TX
PSD
5795MHz

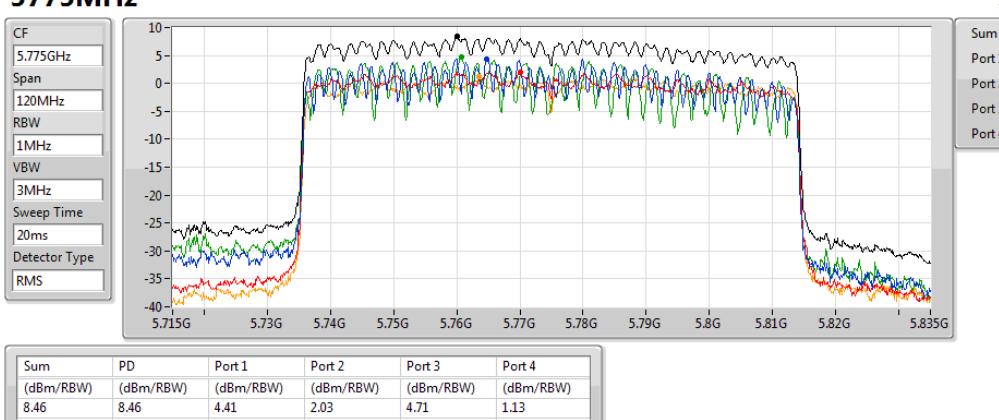
18/09/2019


802.11ax HEW80_Nss1,(MCS0)_2TX
PSD
5210MHz

18/09/2019


802.11ax HEW80_Nss1,(MCS0)_4TX
PSD
5775MHz

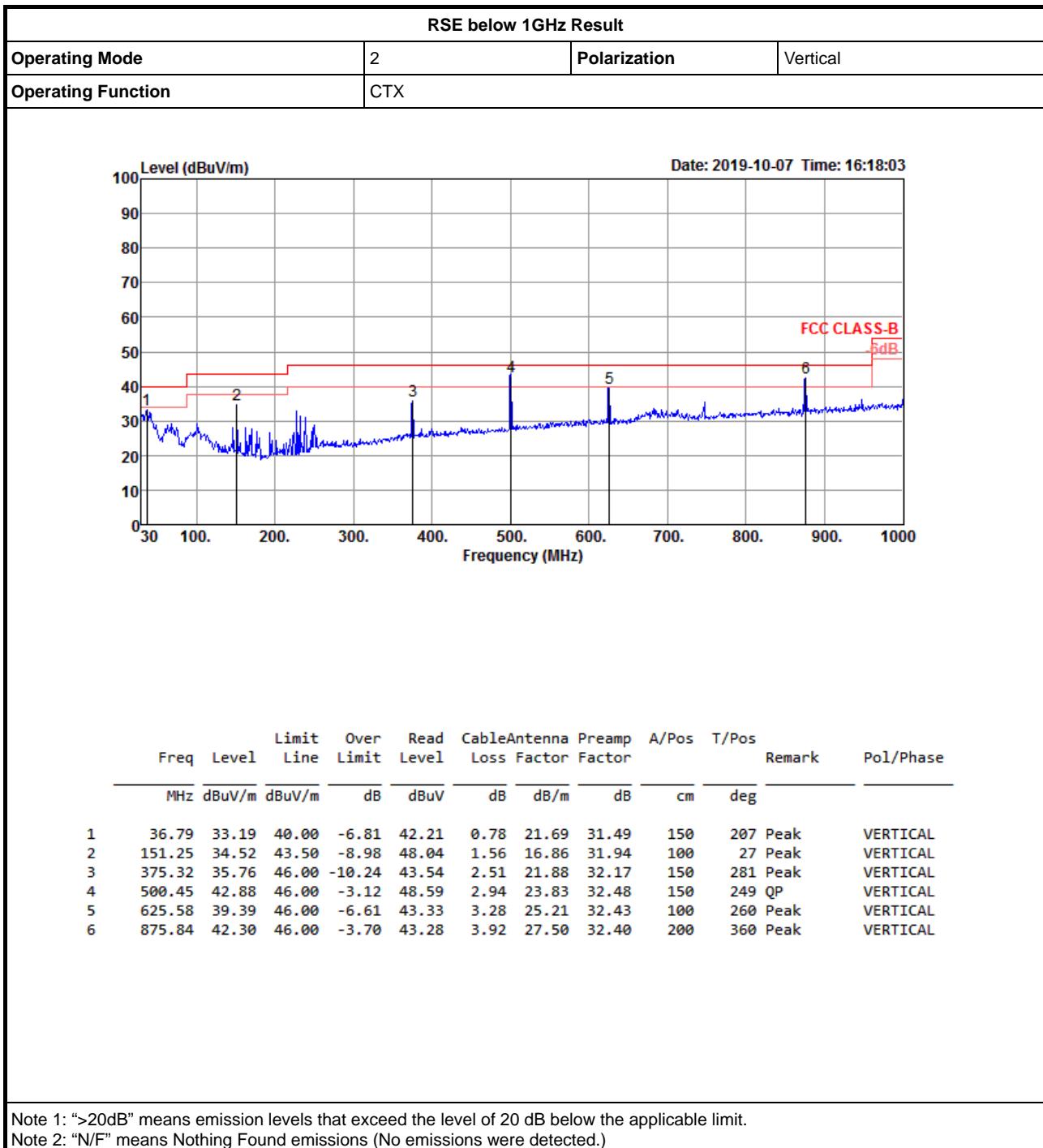
18/09/2019





RSE below 1GHz Result

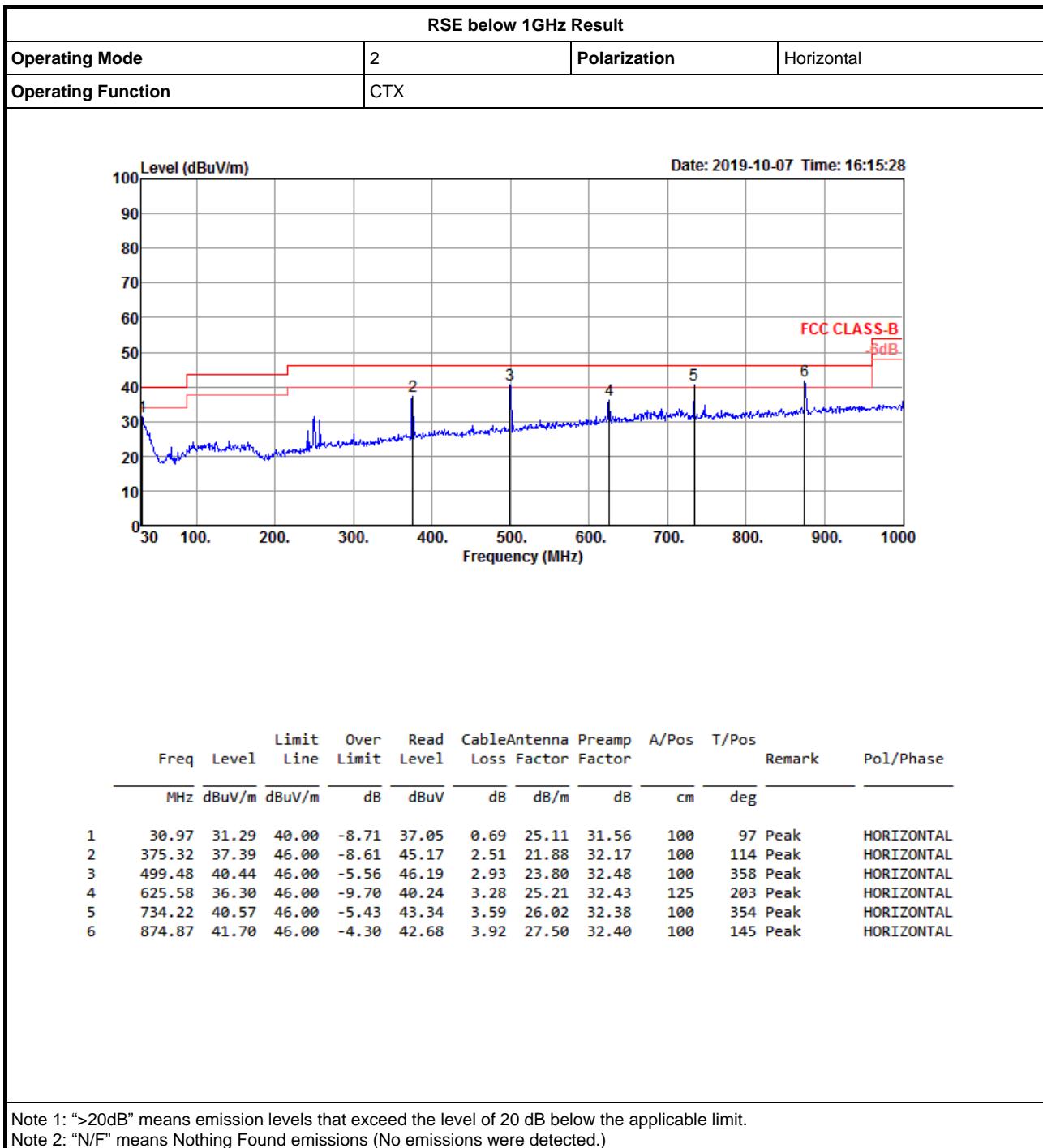
Appendix E.1





RSE below 1GHz Result

Appendix E.1

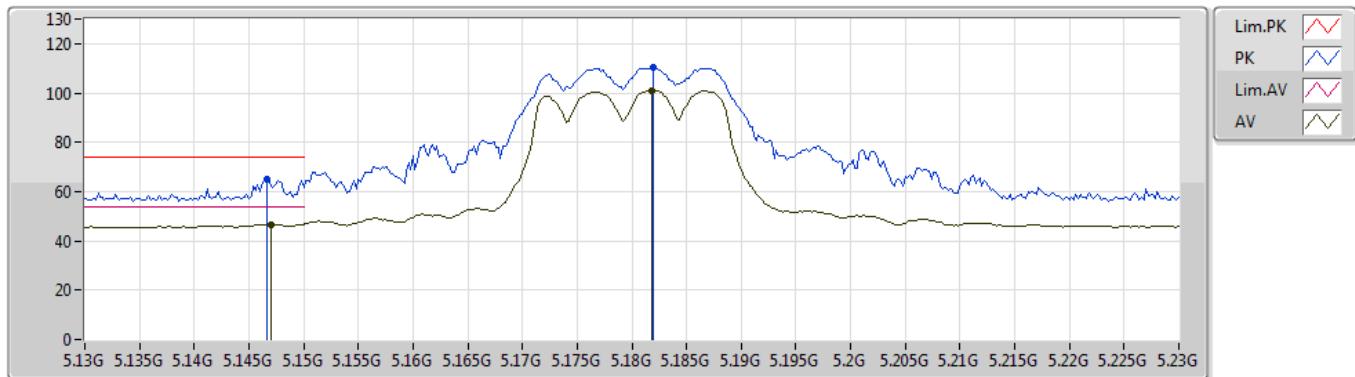


**Summary**

Mode	Result	Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comments
5.725-5.85GHz	-	-	-	-	-	-	-	-	-	-	-	-
802.11ax HEW20_Nss1,(MCS0)_4TX	Pass	PK	17.36238G	68.18	68.20	-0.02	21.46	3	Vertical	240	1.58	-

802.11a_Nss1,(6Mbps)_2TX

14/09/2019

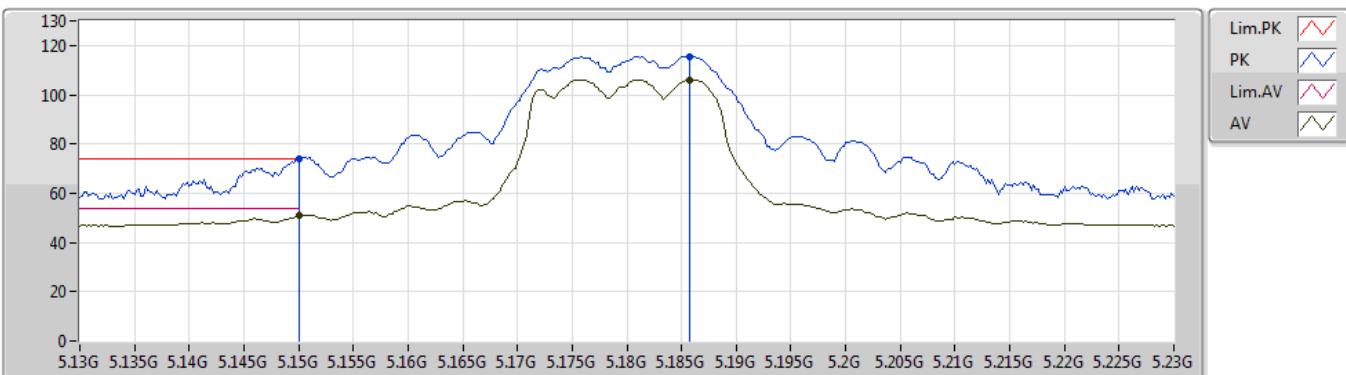
5180MHz_TX


EUT Y_2TX
 Setting 78
 02-E-2-10
 FSU

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV)				
PK	5.1466G	64.83	74.00	-9.17	7.94	3	Vertical	306	1.28	-	56.89				
AV	5.147G	46.77	54.00	-7.23	7.94	3	Vertical	306	1.28	-	38.83				
PK	5.182G	110.17	Inf	-Inf	8.02	3	Vertical	306	1.28	-	102.15				
AV	5.1818G	101.08	Inf	-Inf	8.02	3	Vertical	306	1.28	-	93.06				

802.11a_Nss1,(6Mbps)_2TX

14/09/2019

5180MHz_TX


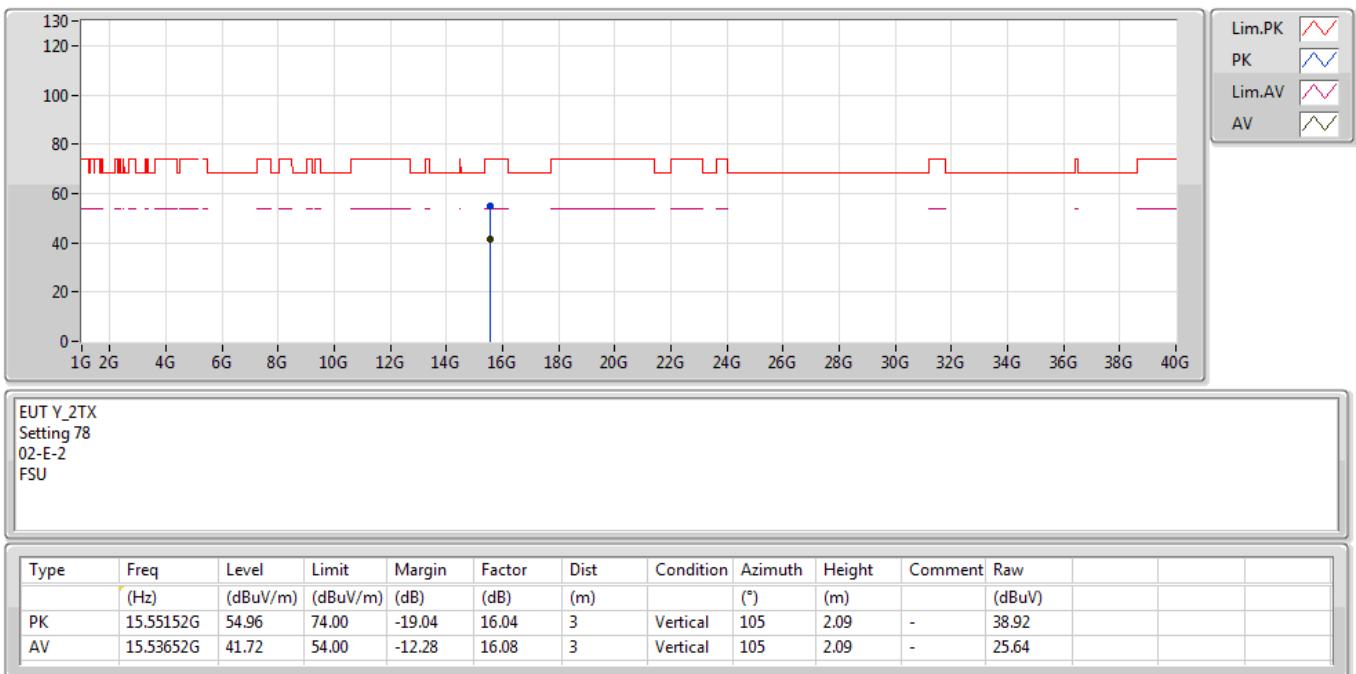
EUT Y_2TX
Setting 78
02-E-2-10
FSU

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV)			
PK	5.15G	73.92	74.00	-0.08	7.94	3	Horizontal	253	1.63	-	65.98			
AV	5.15G	50.78	54.00	-3.22	7.94	3	Horizontal	253	1.63	-	42.84			
PK	5.1858G	115.68	Inf	-Inf	8.03	3	Horizontal	253	1.63	-	107.65			
AV	5.1858G	106.16	Inf	-Inf	8.03	3	Horizontal	253	1.63	-	98.13			

802.11a_Nss1,(6Mbps)_2TX

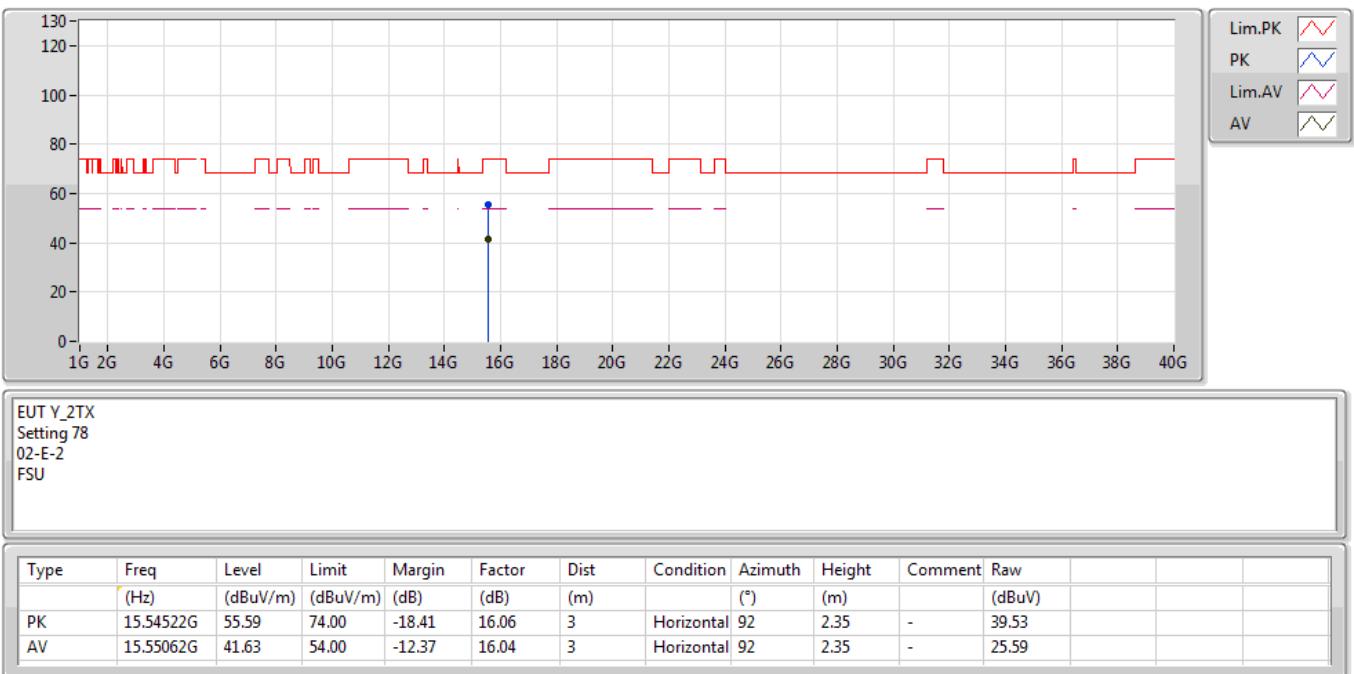
14/09/2019

5180MHz_TX



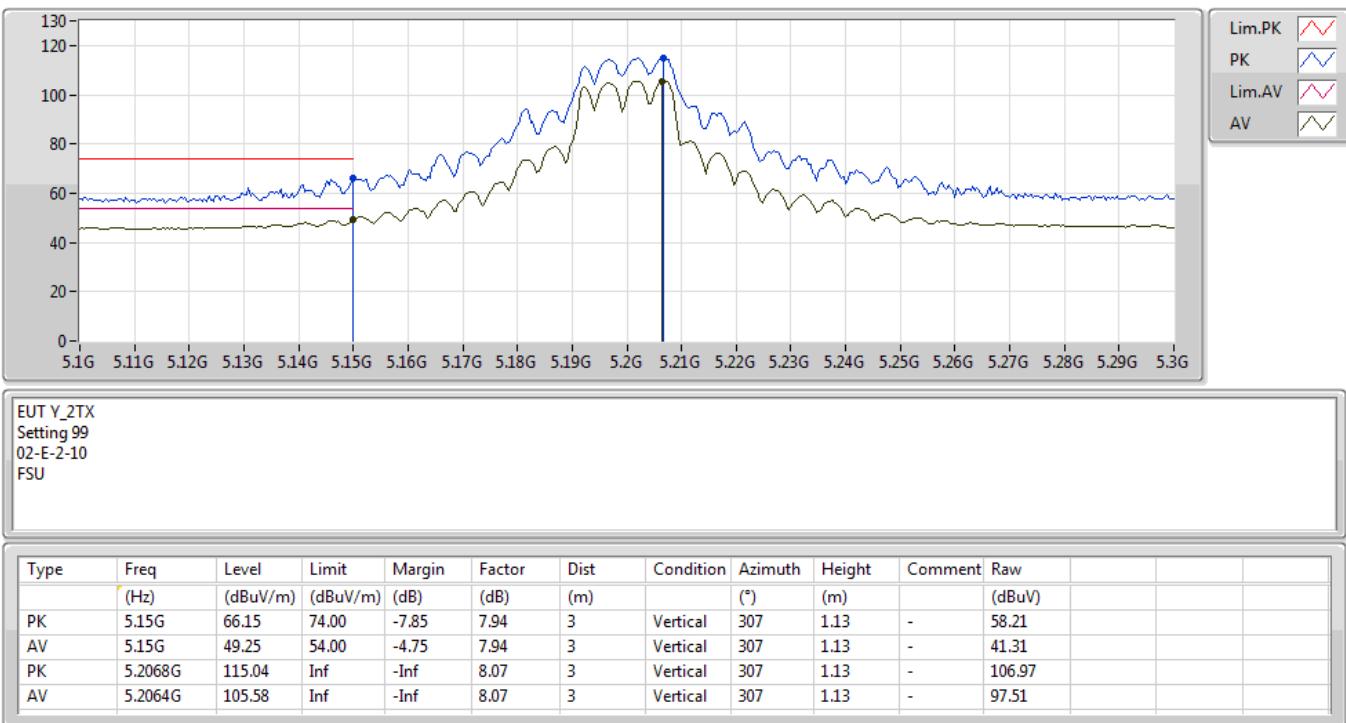
802.11a_Nss1,(6Mbps)_2TX

14/09/2019

5180MHz_TX


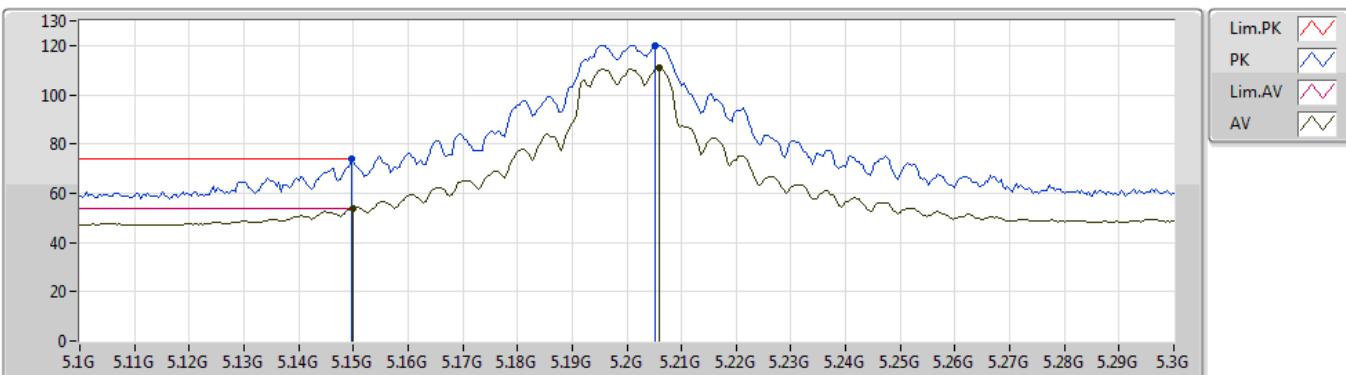
802.11a_Nss1,(6Mbps)_2TX

14/09/2019

5200MHz_TX


802.11a_Nss1,(6Mbps)_2TX

14/09/2019

5200MHz_TX


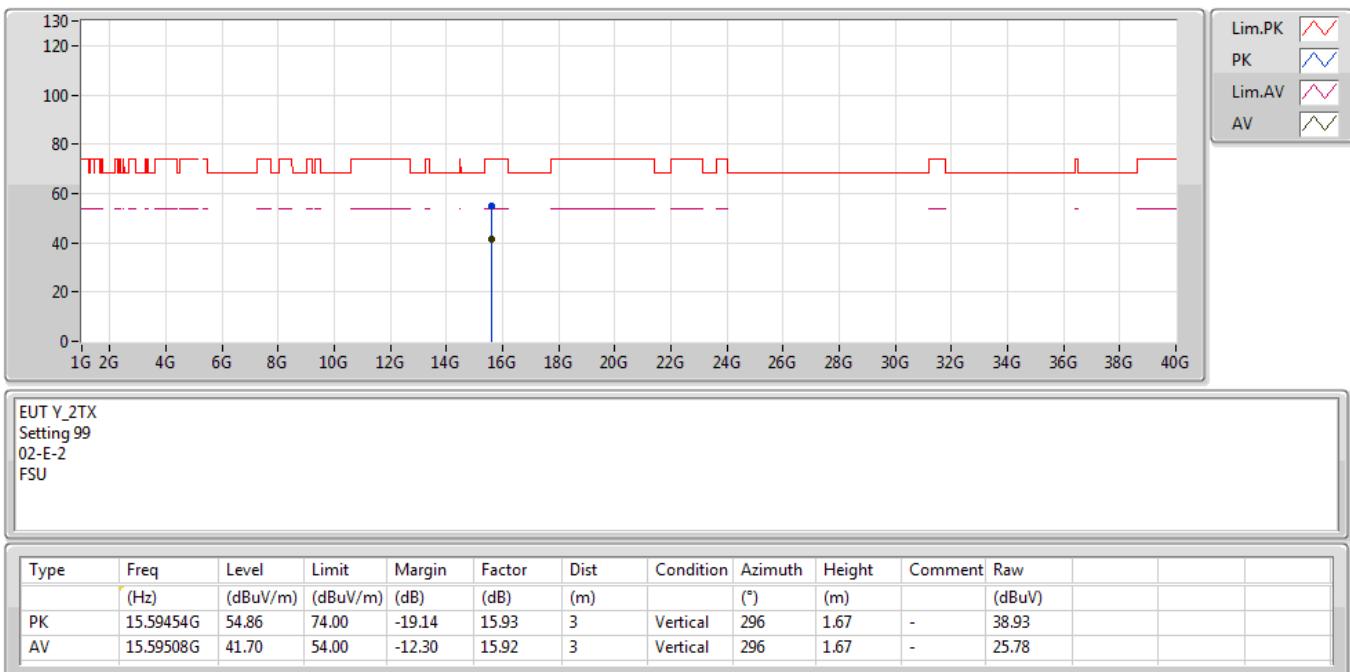
EUT Y_2TX
 Setting 99
 02-E-2-10
 FSU

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV)			
PK	5.1496G	73.84	74.00	-0.16	7.94	3	Horizontal	257	1.50	-	65.90			
AV	5.15G	53.93	54.00	-0.07	7.94	3	Horizontal	257	1.50	-	45.99			
PK	5.2052G	120.04	Inf	-Inf	8.07	3	Horizontal	257	1.50	-	111.97			
AV	5.206G	110.80	Inf	-Inf	8.07	3	Horizontal	257	1.50	-	102.73			

802.11a_Nss1,(6Mbps)_2TX

14/09/2019

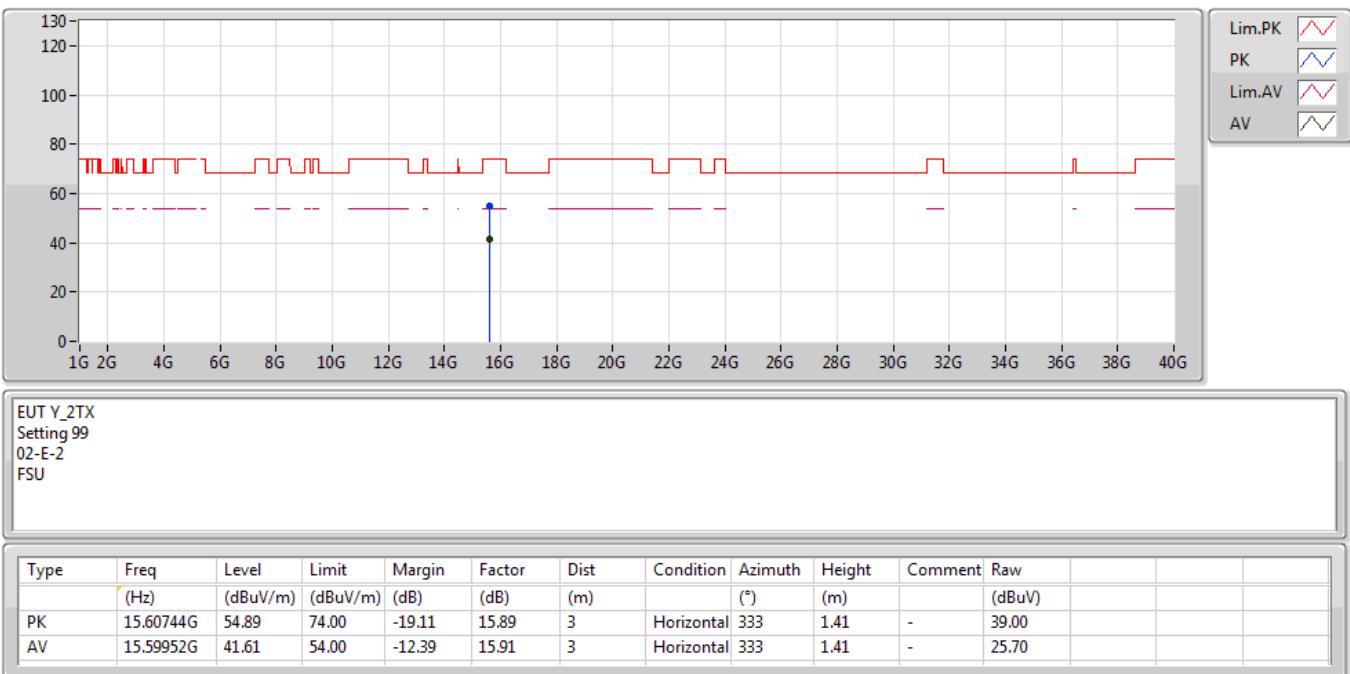
5200MHz_TX



802.11a_Nss1,(6Mbps)_2TX

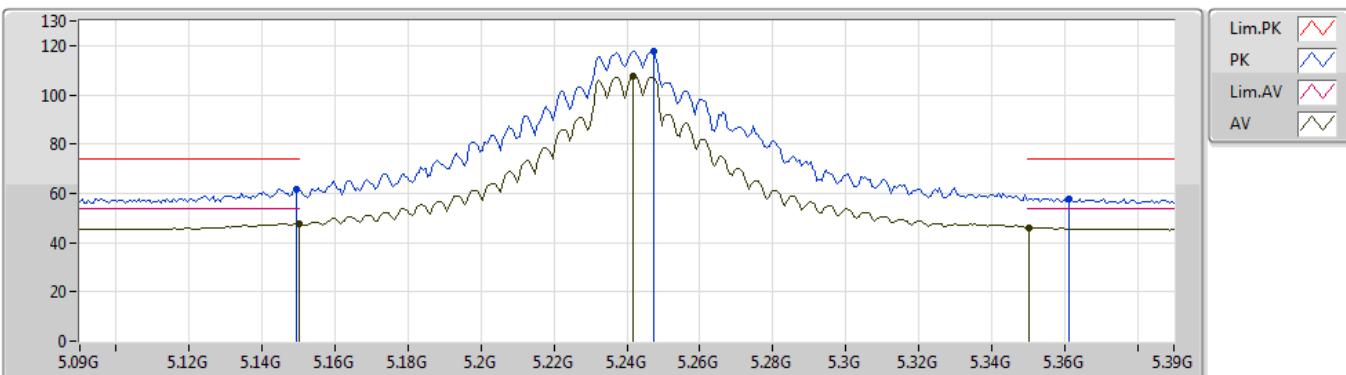
14/09/2019

5200MHz_TX



802.11a_Nss1,(6Mbps)_2TX

14/09/2019

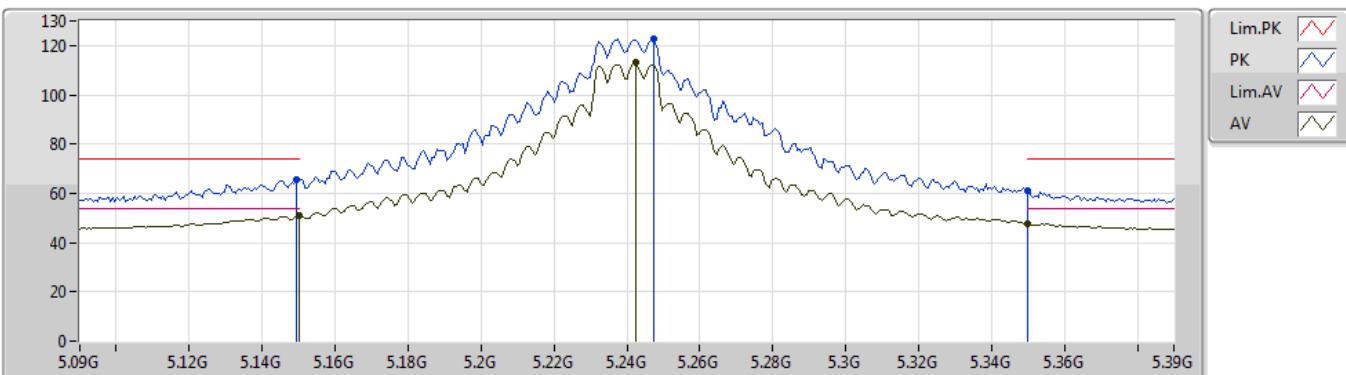
5240MHz_TX


EUT Y_2TX
Setting 117
02-E-2-10
FSU

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV)			
PK	5.1494G	61.79	74.00	-12.21	7.94	3	Vertical	306	1.42	-	53.85			
AV	5.15G	47.83	54.00	-6.17	7.94	3	Vertical	306	1.42	-	39.89			
PK	5.2472G	117.83	Inf	-Inf	8.13	3	Vertical	306	1.42	-	109.70			
AV	5.2418G	107.83	Inf	-Inf	8.12	3	Vertical	306	1.42	-	99.71			
PK	5.3612G	57.97	74.00	-16.03	8.29	3	Vertical	306	1.42	-	49.68			
AV	5.3504G	46.09	54.00	-7.91	8.28	3	Vertical	306	1.42	-	37.81			

802.11a_Nss1,(6Mbps)_2TX

14/09/2019

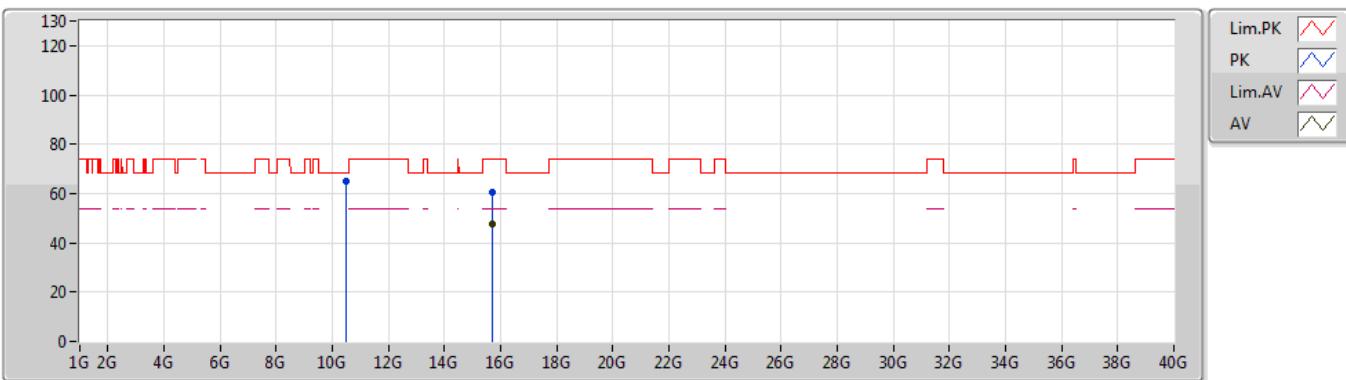
5240MHz_TX


EUT Y_2TX
 Setting 117
 02-E-2-10
 FSU

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV)			
PK	5.1494G	65.76	74.00	-8.24	7.94	3	Horizontal	93	1.43	-	57.82			
AV	5.15G	50.91	54.00	-3.09	7.94	3	Horizontal	93	1.43	-	42.97			
PK	5.2472G	122.76	Inf	-Inf	8.13	3	Horizontal	93	1.43	-	114.63			
AV	5.2424G	113.03	Inf	-Inf	8.12	3	Horizontal	93	1.43	-	104.91			
PK	5.35G	61.04	74.00	-12.96	8.28	3	Horizontal	93	1.43	-	52.76			
AV	5.35G	47.58	54.00	-6.42	8.28	3	Horizontal	93	1.43	-	39.30			

802.11a_Nss1,(6Mbps)_2TX

14/09/2019

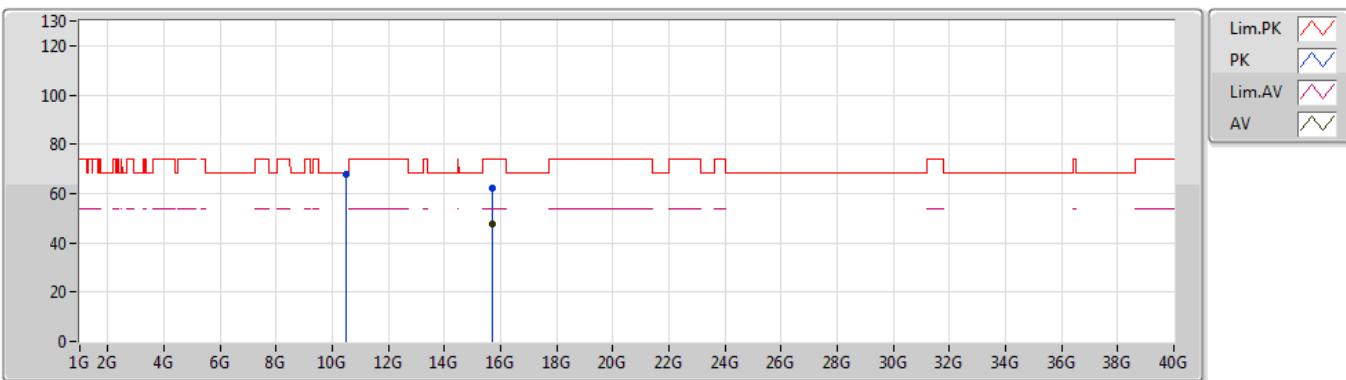
5240MHz_TX

 EUT Y_2TX
 Setting 117
 02-E-2
 FSU

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV)			
PK	10.47772G	64.81	68.20	-3.39	14.59	3	Vertical	153	2.34	-	50.22			
PK	15.71868G	60.57	74.00	-13.43	15.61	3	Vertical	126	1.50	-	44.96			
AV	15.72402G	47.39	54.00	-6.61	15.59	3	Vertical	126	1.50	-	31.80			

802.11a_Nss1,(6Mbps)_2TX

14/09/2019

5240MHz_TX

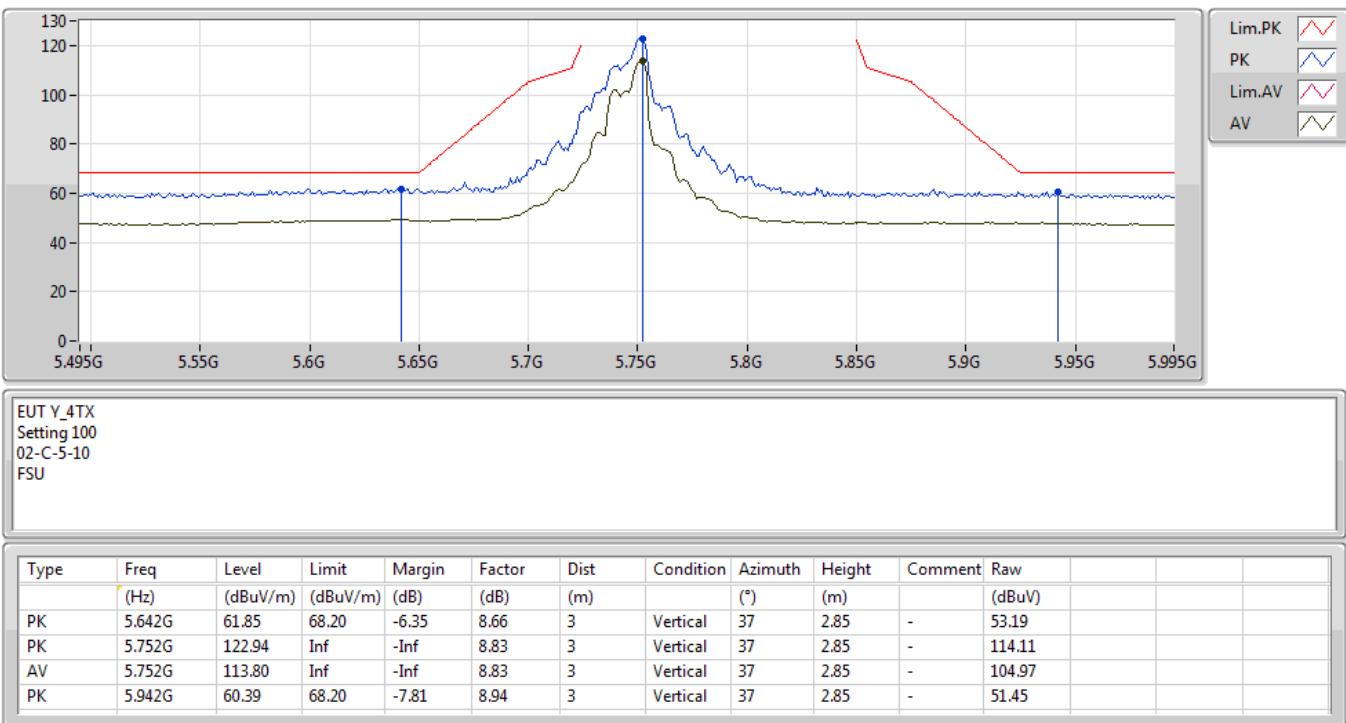


EUT Y_2TX
Setting 117
02-E-2
FSU

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV)				
PK	10.47784G	67.89	68.20	-0.31	14.59	3	Horizontal	75	1.50	-	53.30				
PK	15.72408G	62.11	74.00	-11.89	15.59	3	Horizontal	134	1.36	-	46.52				
AV	15.72402G	47.87	54.00	-6.13	15.59	3	Horizontal	134	1.36	-	32.28				

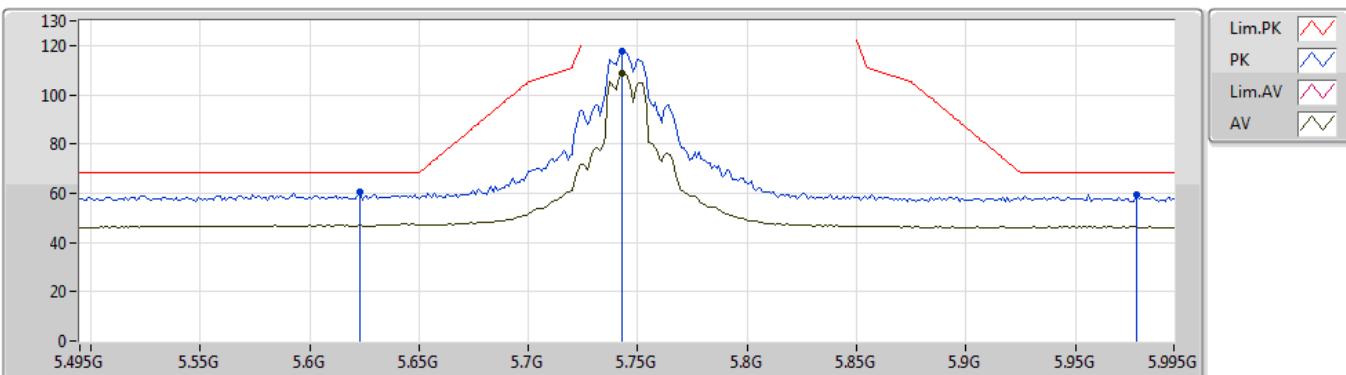
802.11a_Nss1,(6Mbps)_4TX

14/09/2019

5745MHz_TX


802.11a_Nss1,(6Mbps)_4TX

14/09/2019

5745MHz_TX


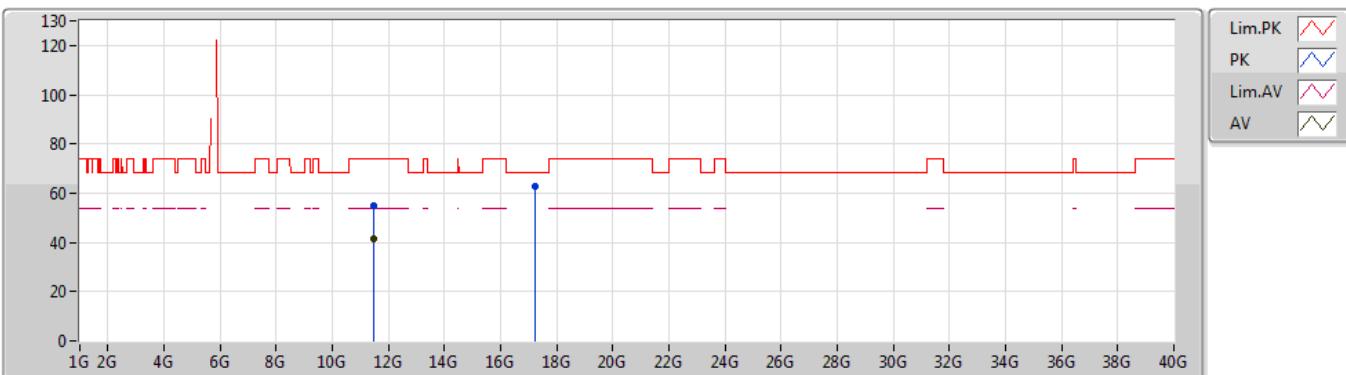
EUT Y_4TX
 Setting 100
 02-C-5-10
 FSU

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV)			
PK	5.623G	60.25	68.20	-7.95	8.61	3	Horizontal	187	1.50	-	51.64			
PK	5.743G	117.88	Inf	-Inf	8.82	3	Horizontal	187	1.50	-	109.06			
AV	5.743G	108.68	Inf	-Inf	8.82	3	Horizontal	187	1.50	-	99.86			
PK	5.978G	59.46	68.20	-8.74	8.94	3	Horizontal	187	1.50	-	50.52			

802.11a_Nss1,(6Mbps)_4TX

18/09/2019

5745MHz_TX

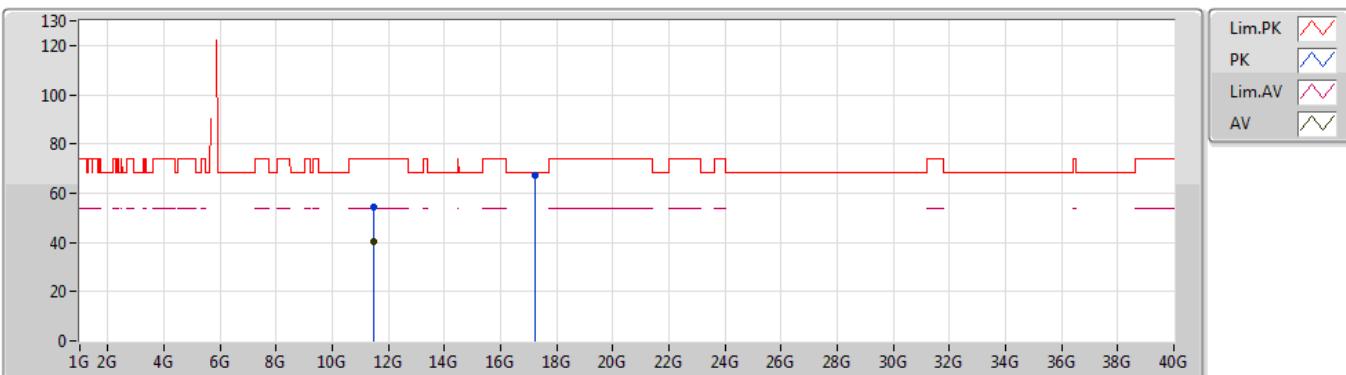


EUT Y_4TX
Setting 100
02-C-5
FSU

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV)			
PK	11.47662G	54.92	74.00	-19.08	14.87	3	Vertical	52	2.99	-	40.05			
AV	11.4897G	41.20	54.00	-12.80	14.89	3	Vertical	52	2.99	-	26.31			
PK	17.2158G	62.63	68.20	-5.57	20.59	3	Vertical	48	1.78	-	42.04			

802.11a_Nss1,(6Mbps)_4TX

18/09/2019

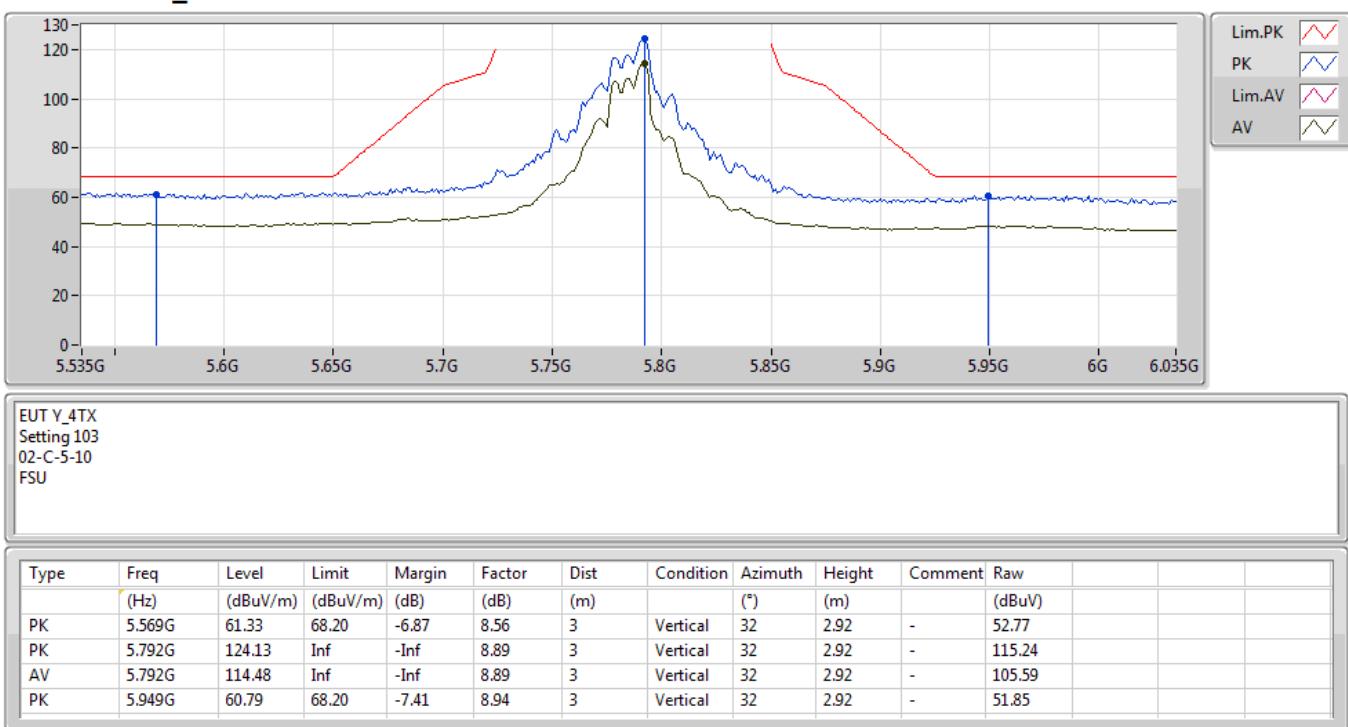
5745MHz_TX


EUT Y_4TX
 Setting 100
 02-C-5
 FSU

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV)			
PK	11.48106G	54.39	74.00	-19.61	14.87	3	Horizontal	193	1.52	-	39.52			
AV	11.4969G	40.59	54.00	-13.41	14.90	3	Horizontal	193	1.52	-	25.69			
PK	17.2512G	67.42	68.20	-0.78	20.81	3	Horizontal	337	1.99	-	46.61			

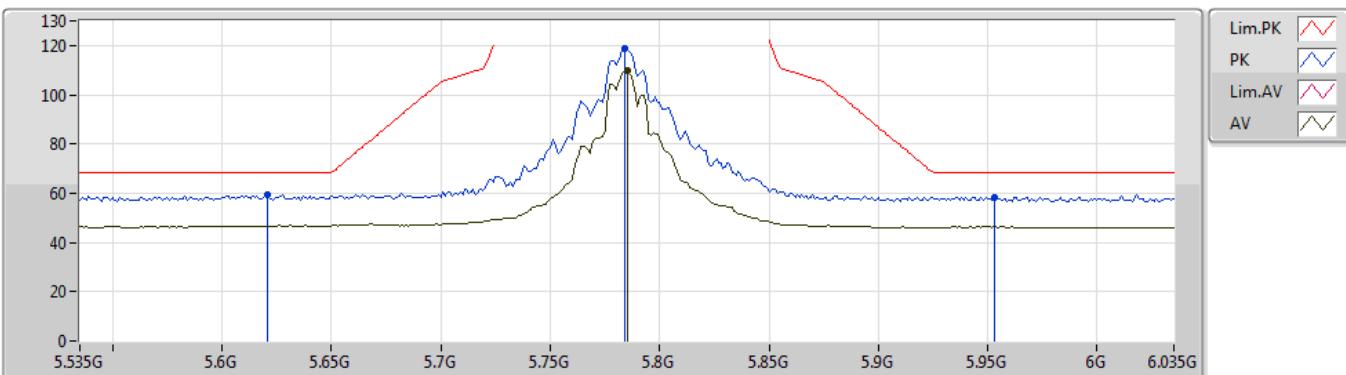
802.11a_Nss1,(6Mbps)_4TX

14/09/2019

5785MHz_TX


802.11a_Nss1,(6Mbps)_4TX

14/09/2019

5785MHz_TX


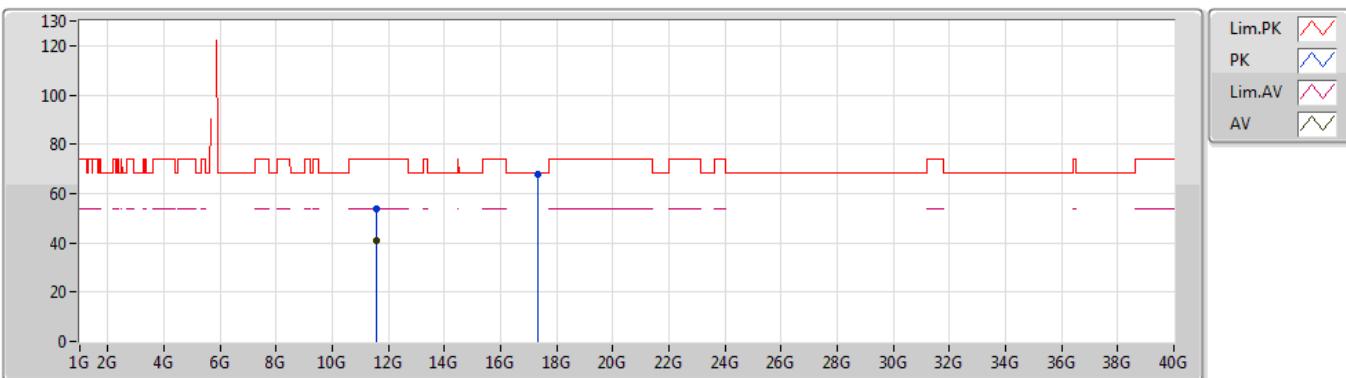
EUT Y_4TX
 Setting 103
 02-C-5-10
 FSU

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV)			
PK	5.621G	59.33	68.20	-8.87	8.61	3	Horizontal	195	1.25	-	50.72			
PK	5.784G	119.01	Inf	-Inf	8.88	3	Horizontal	195	1.25	-	110.13			
AV	5.785G	109.70	Inf	-Inf	8.88	3	Horizontal	195	1.25	-	100.82			
PK	5.953G	58.47	68.20	-9.73	8.92	3	Horizontal	195	1.25	-	49.55			

802.11a_Nss1,(6Mbps)_4TX

14/09/2019

5785MHz_TX

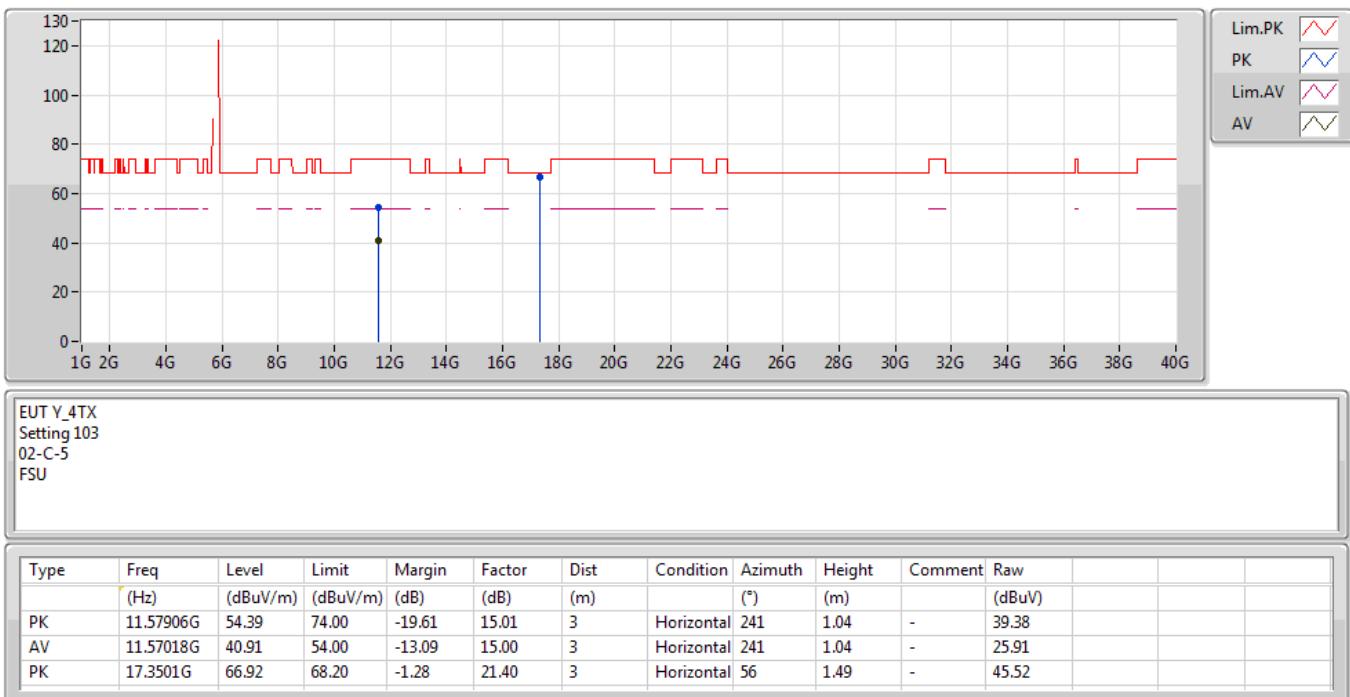


EUT Y_4TX
Setting 103
02-C-5
FSU

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV)				
PK	11.57264G	53.95	74.00	-20.05	15.00	3	Vertical	17	2.18	-	38.95				
AV	11.56784G	41.10	54.00	-12.90	14.99	3	Vertical	17	2.18	-	26.11				
PK	17.3364G	67.99	68.20	-0.21	21.31	3	Vertical	243	1.50	-	46.68				

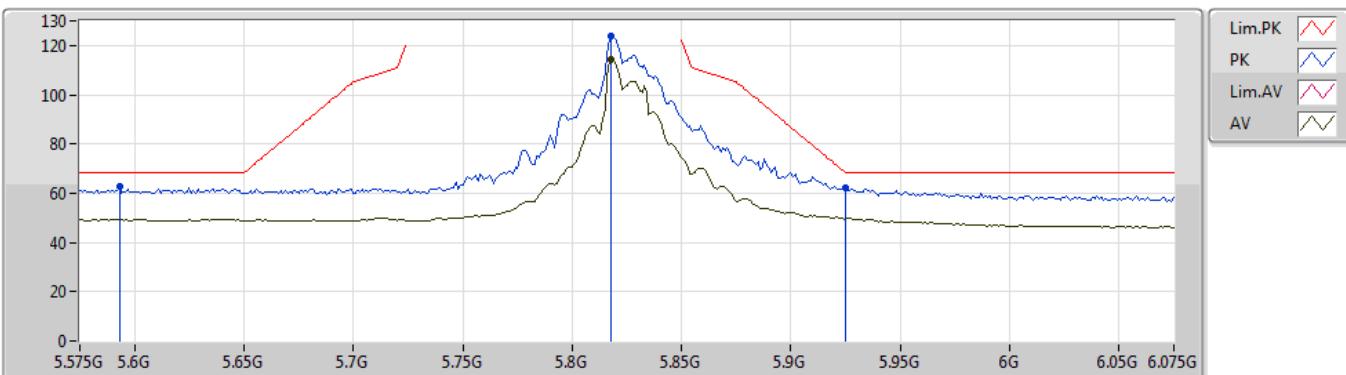
802.11a_Nss1,(6Mbps)_4TX

14/09/2019

5785MHz_TX


802.11a_Nss1,(6Mbps)_4TX

14/09/2019

5825MHz_TX


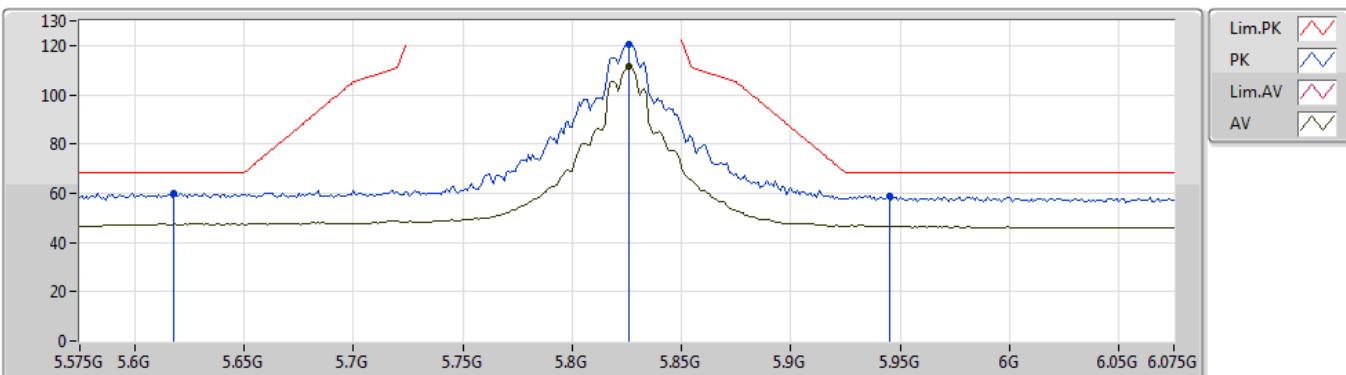
EUT Y_4TX
 Setting 110
 02-C-5-10
 FSU

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV)			
PK	5.593G	62.53	68.20	-5.67	8.58	3	Vertical	274	1.31	-	53.95			
PK	5.818G	123.85	Inf	-Inf	8.90	3	Vertical	274	1.31	-	114.95			
AV	5.818G	114.44	Inf	-Inf	8.90	3	Vertical	274	1.31	-	105.54			
PK	5.925G	62.20	68.20	-6.00	8.93	3	Vertical	274	1.31	-	53.27			

802.11a_Nss1,(6Mbps)_4TX

14/09/2019

5825MHz_TX

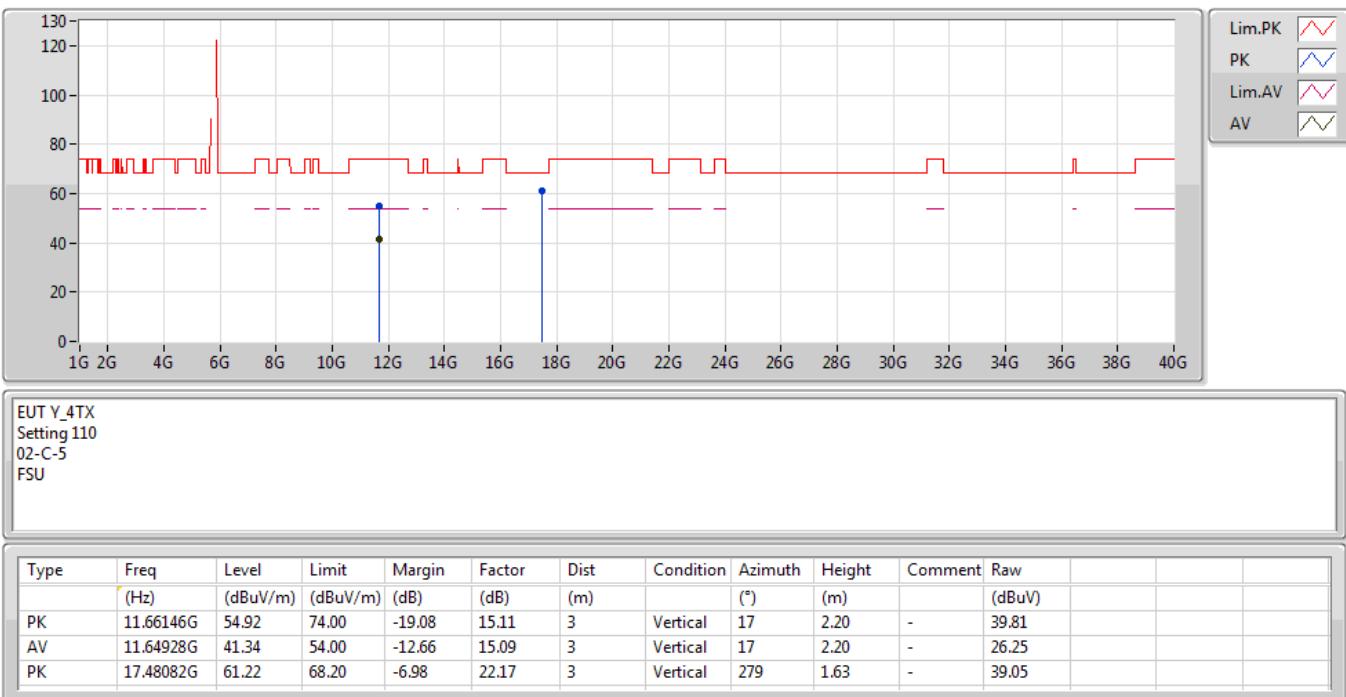


EUT Y_4TX
 Setting 110
 02-C-5-10
 FSU

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV)			
PK	5.618G	60.22	68.20	-7.98	8.61	3	Horizontal	200	1.44	-	51.61			
PK	5.826G	120.44	Inf	-Inf	8.91	3	Horizontal	200	1.44	-	111.53			
AV	5.826G	111.64	Inf	-Inf	8.91	3	Horizontal	200	1.44	-	102.73			
PK	5.945G	59.06	68.20	-9.14	8.94	3	Horizontal	200	1.44	-	50.12			

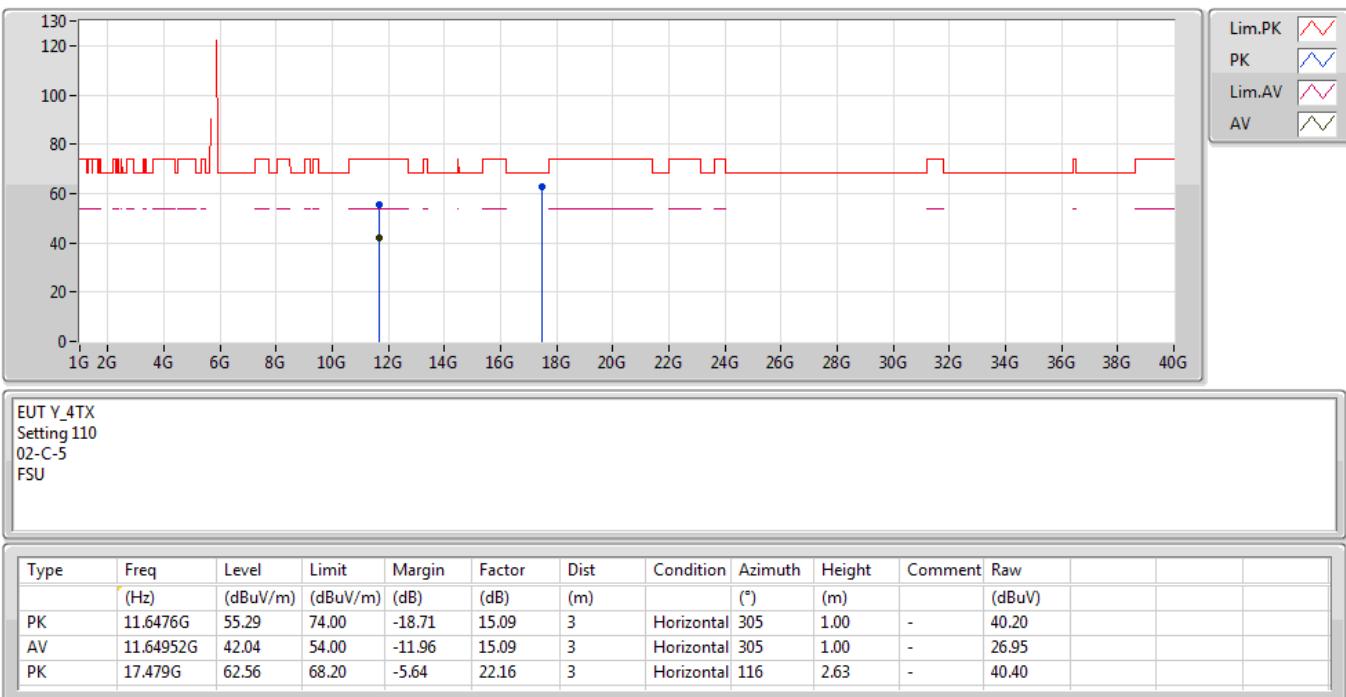
802.11a_Nss1,(6Mbps)_4TX

14/09/2019

5825MHz_TX


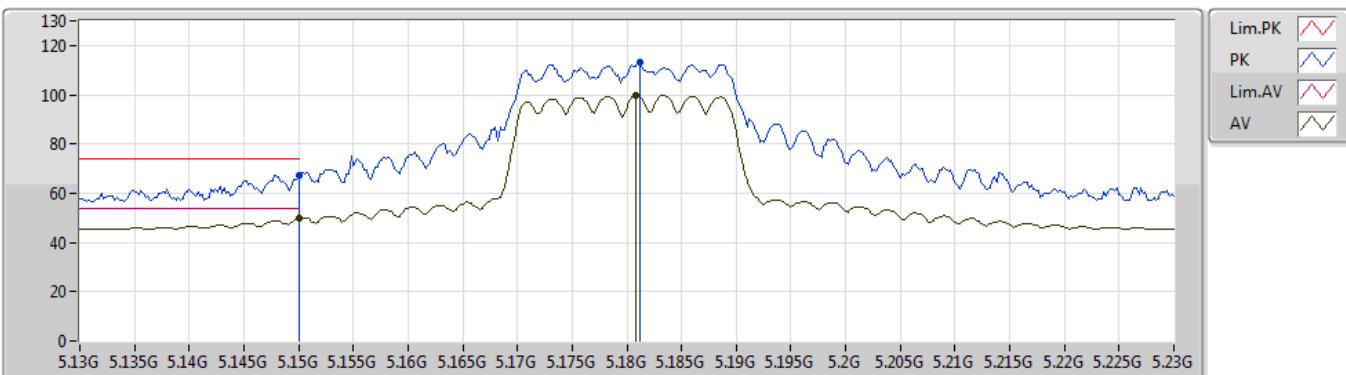
802.11a_Nss1,(6Mbps)_4TX

14/09/2019

5825MHz_TX


802.11ax HEW20_Nss1,(MCS0)_2TX

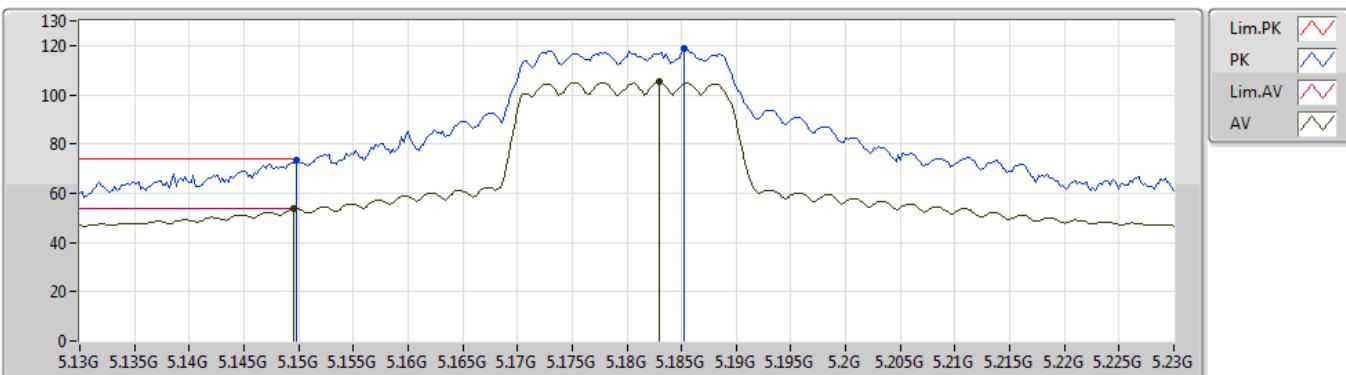
14/09/2019

5180MHz_TX

 EUT Y_2TX
 Setting 81
 02-E-2-10
 FSU

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV)			
PK	5.15G	67.06	74.00	-6.94	7.94	3	Vertical	294	1.15	-	59.12			
AV	5.15G	49.71	54.00	-4.29	7.94	3	Vertical	294	1.15	-	41.77			
PK	5.1812G	113.37	Inf	-Inf	8.02	3	Vertical	294	1.15	-	105.35			
AV	5.1808G	99.73	Inf	-Inf	8.02	3	Vertical	294	1.15	-	91.71			

802.11ax HEW20_Nss1,(MCS0)_2TX

14/09/2019

5180MHz_TX


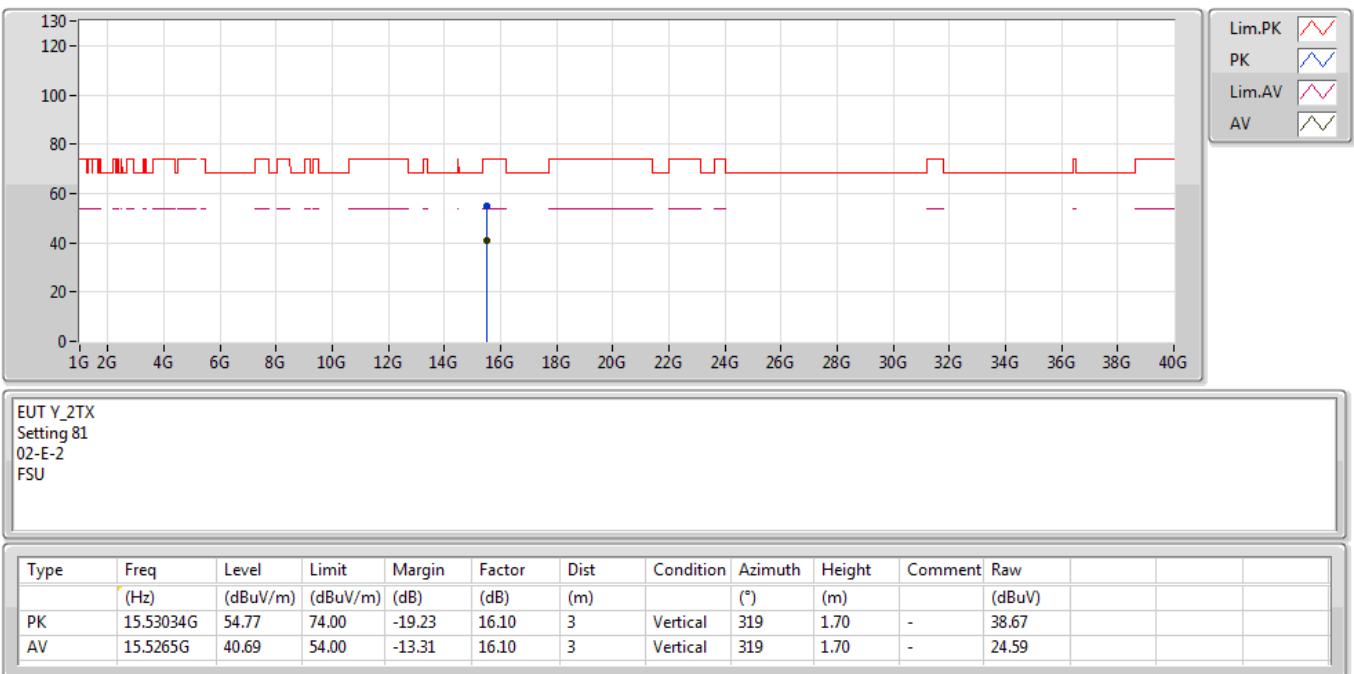
EUT Y_2TX
 Setting 81
 02-E-2-10
 FSU

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV)			
PK	5.1498G	73.31	74.00	-0.69	7.94	3	Horizontal	269	1.62	-	65.37			
AV	5.1496G	53.55	54.00	-0.45	7.94	3	Horizontal	269	1.62	-	45.61			
PK	5.1852G	118.92	Inf	-Inf	8.03	3	Horizontal	269	1.62	-	110.89			
AV	5.183G	105.10	Inf	-Inf	8.02	3	Horizontal	269	1.62	-	97.08			

802.11ax HEW20_Nss1,(MCS0)_2TX

14/09/2019

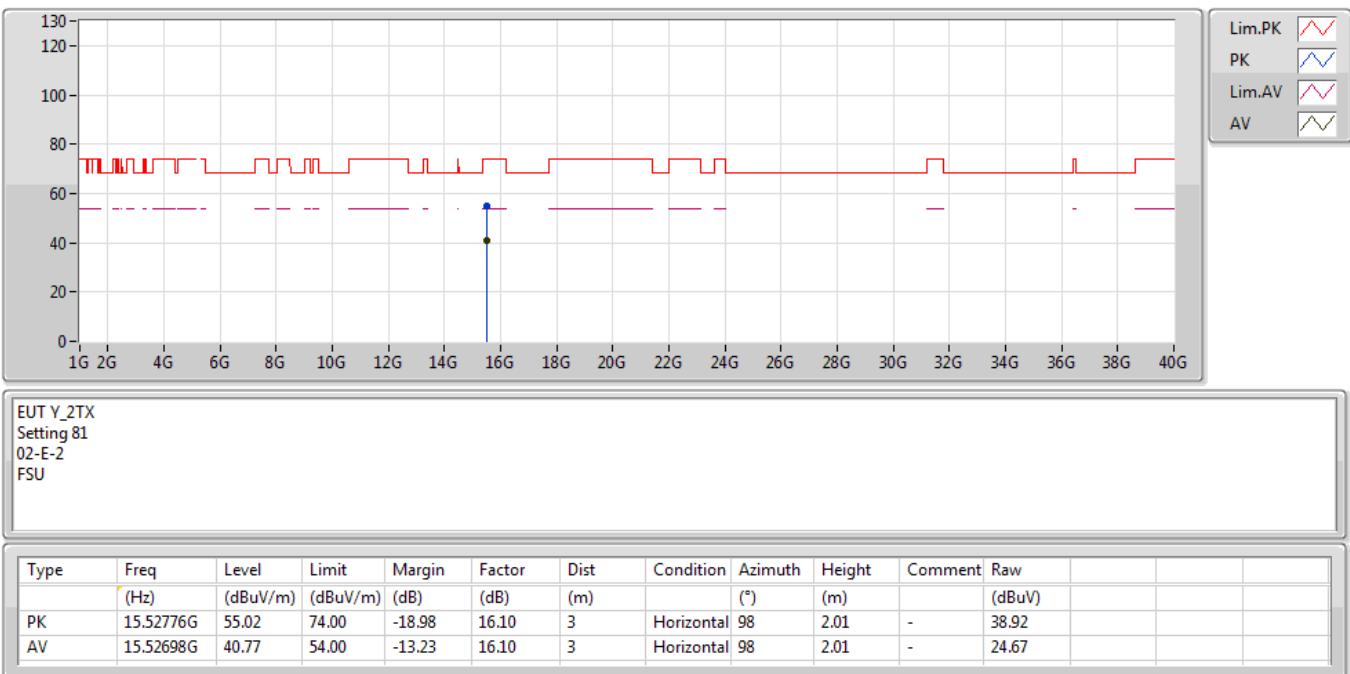
5180MHz_TX



802.11ax HEW20_Nss1,(MCS0)_2TX

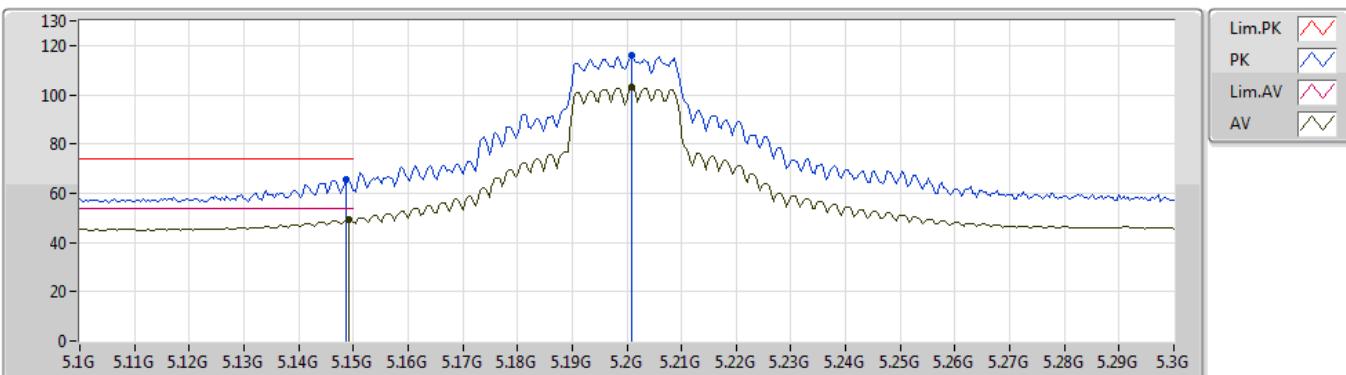
14/09/2019

5180MHz_TX



802.11ax HEW20_Nss1,(MCS0)_2TX

14/09/2019

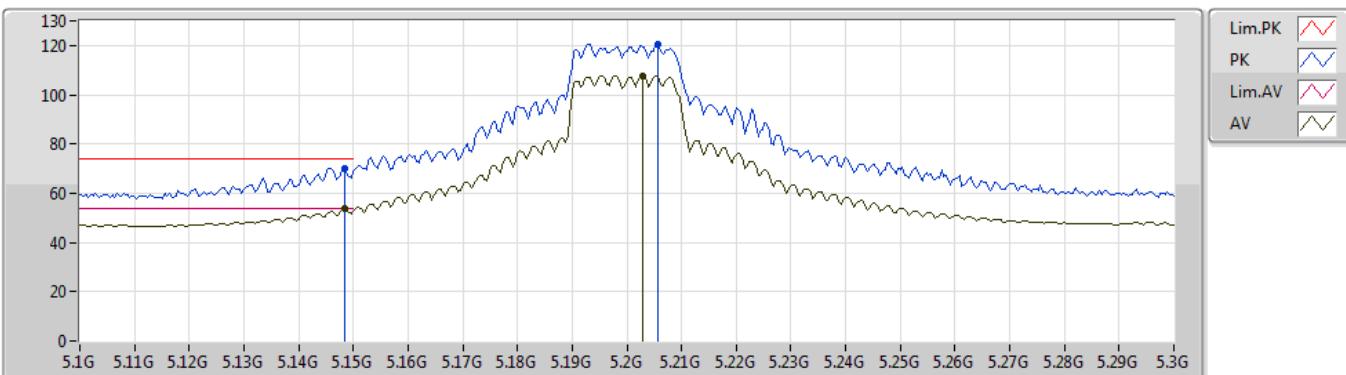
5200MHz_TX


EUT Y_2TX
 Setting 95
 02-E-2-10
 FSU

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV)			
PK	5.1488G	65.38	74.00	-8.62	7.94	3	Vertical	291	1.24	-	57.44			
AV	5.1492G	49.40	54.00	-4.60	7.94	3	Vertical	291	1.24	-	41.46			
PK	5.2008G	116.00	Inf	-Inf	8.06	3	Vertical	291	1.24	-	107.94			
AV	5.2008G	102.92	Inf	-Inf	8.06	3	Vertical	291	1.24	-	94.86			

802.11ax HEW20_Nss1,(MCS0)_2TX

14/09/2019

5200MHz_TX


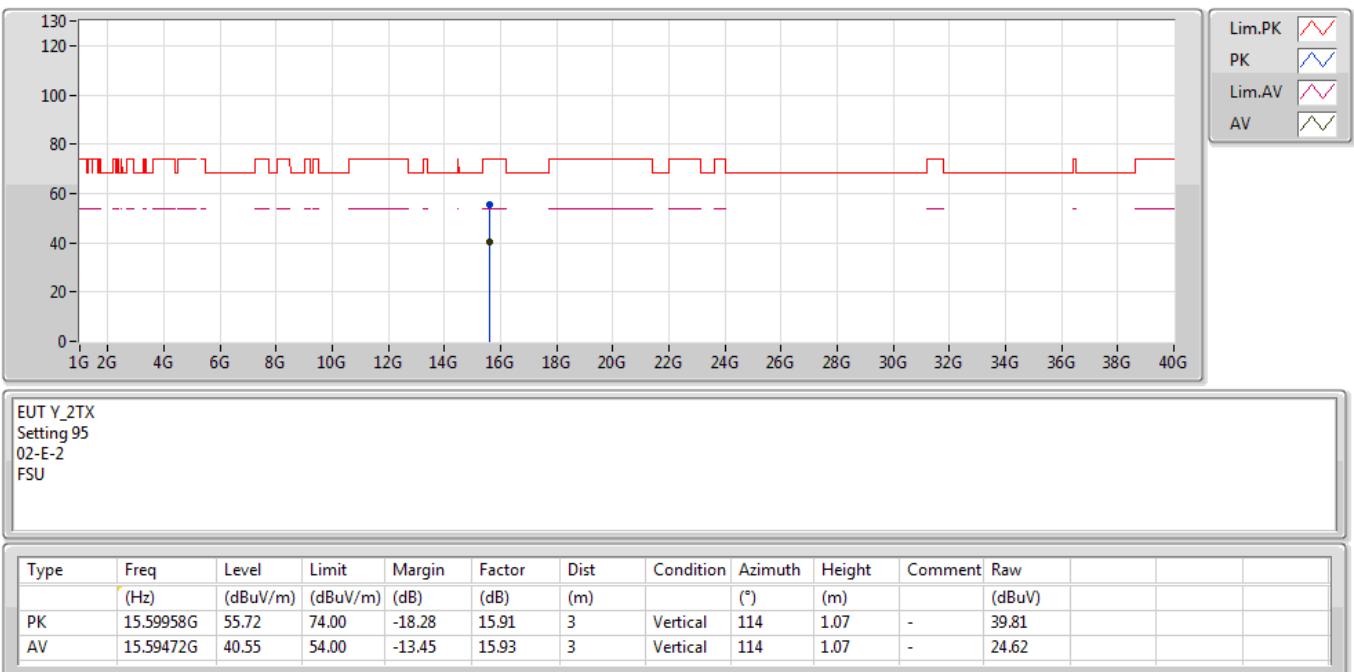
EUT Y_2TX
 Setting 95
 02-E-2-10
 FSU

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV)			
PK	5.1484G	70.19	74.00	-3.81	7.94	3	Horizontal	247	1.60	-	62.25			
AV	5.1484G	53.53	54.00	-0.47	7.94	3	Horizontal	247	1.60	-	45.59			
PK	5.2056G	120.46	Inf	-Inf	8.07	3	Horizontal	247	1.60	-	112.39			
AV	5.2028G	107.67	Inf	-Inf	8.06	3	Horizontal	247	1.60	-	99.61			

802.11ax HEW20_Nss1,(MCS0)_2TX

14/09/2019

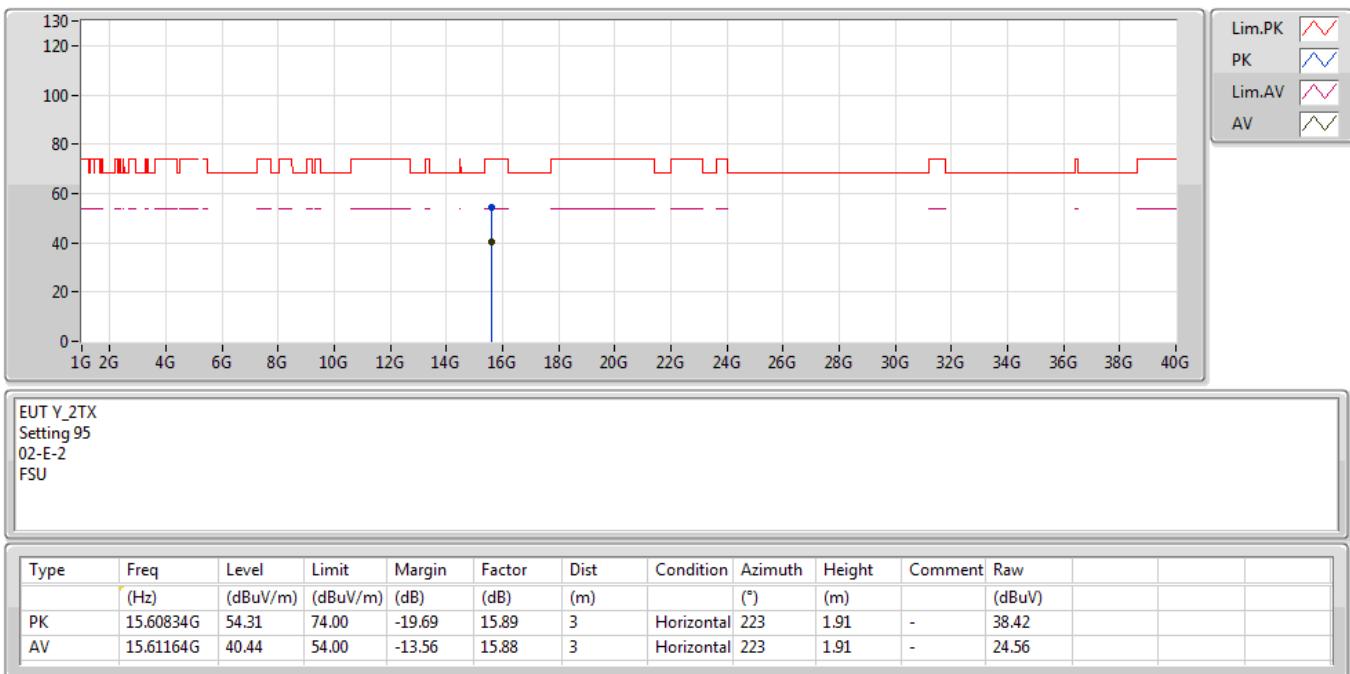
5200MHz_TX



802.11ax HEW20_Nss1,(MCS0)_2TX

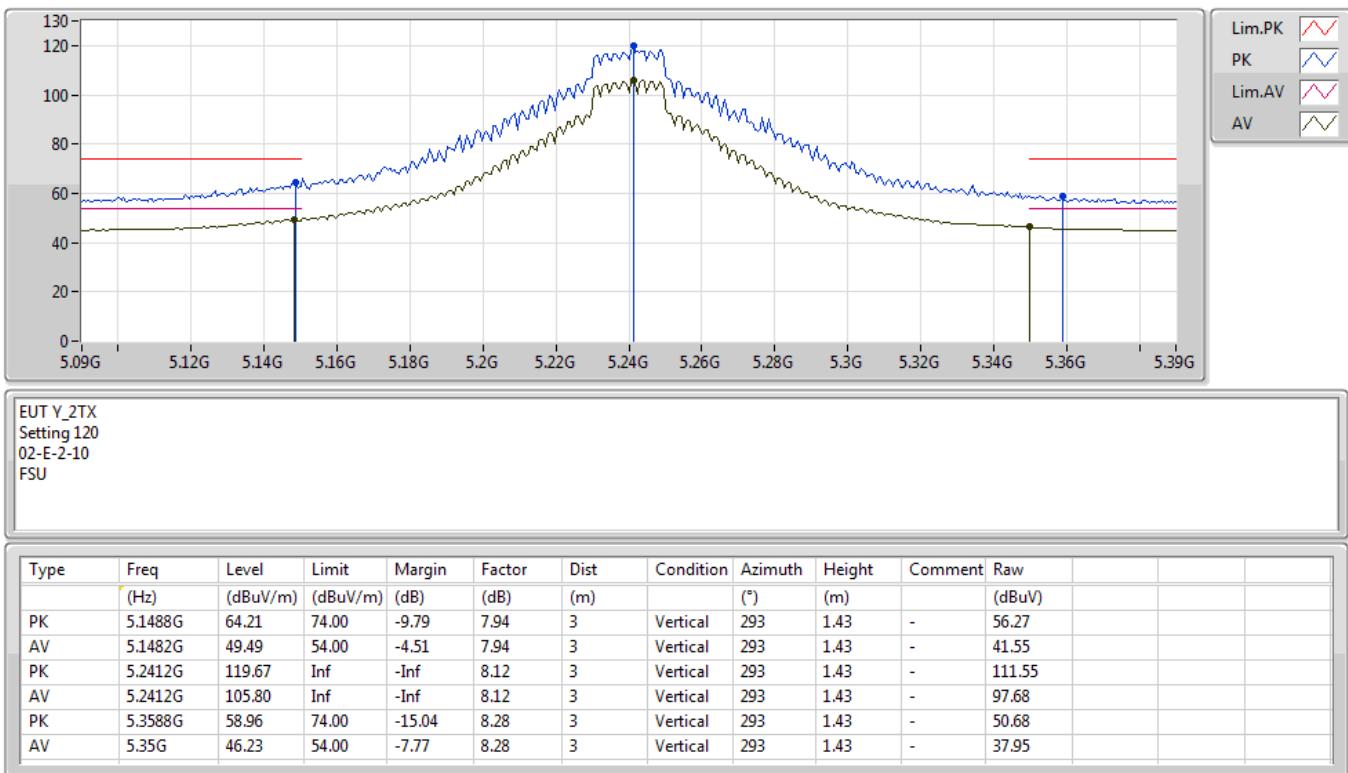
14/09/2019

5200MHz_TX



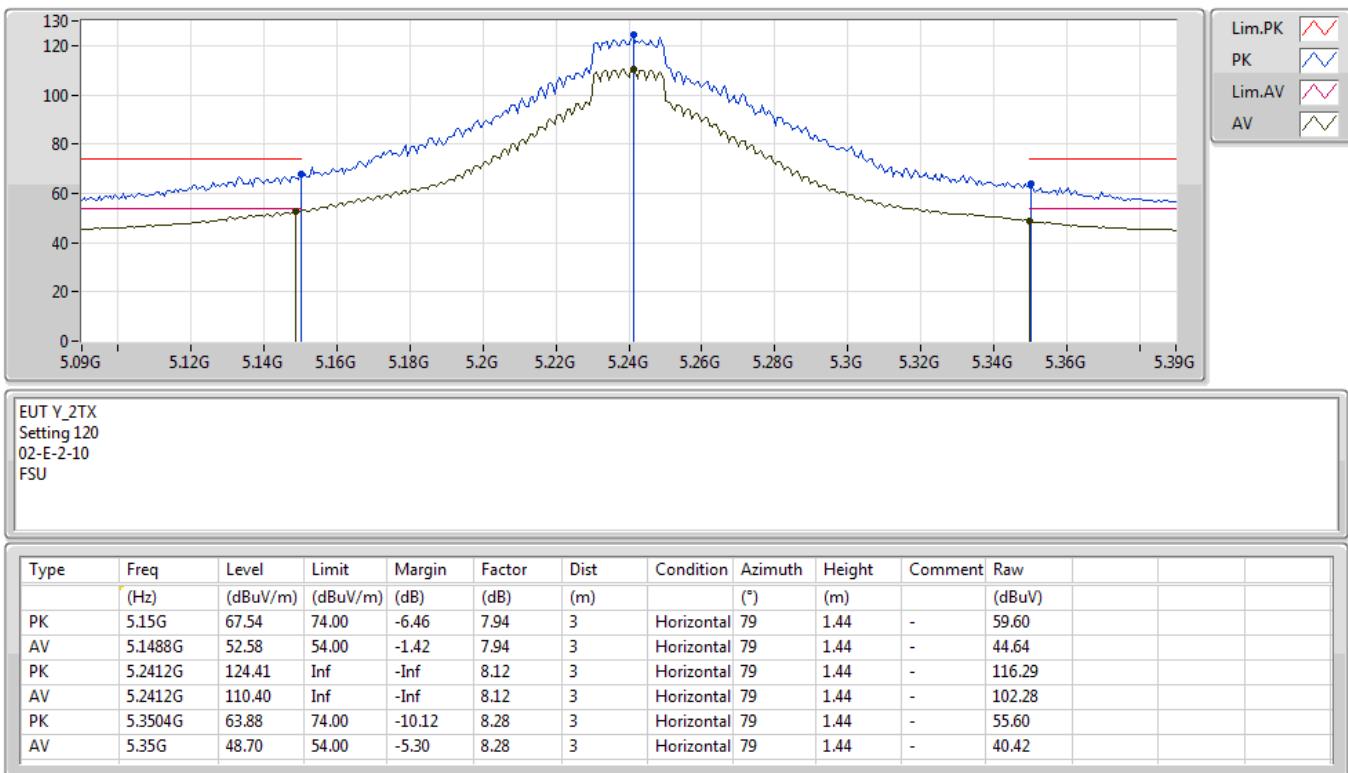
802.11ax HEW20_Nss1,(MCS0)_2TX

14/09/2019

5240MHz_TX


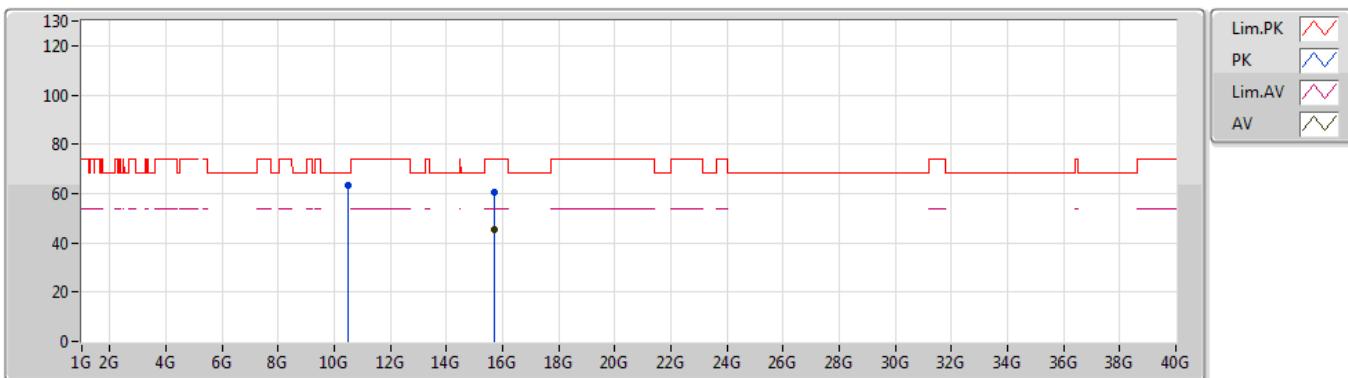
802.11ax HEW20_Nss1,(MCS0)_2TX

14/09/2019

5240MHz_TX


802.11ax HEW20_Nss1,(MCS0)_2TX

14/09/2019

5240MHz_TX


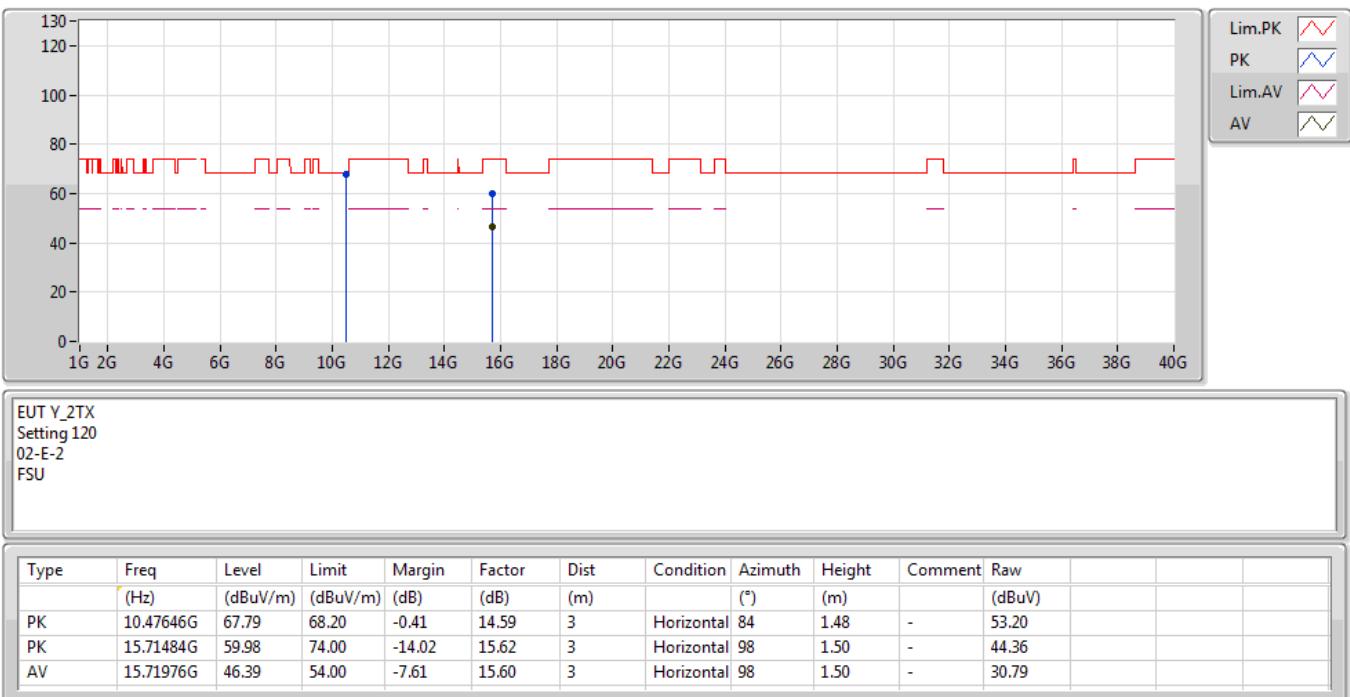
EUT Y_2TX
 Setting 120
 02-E-2
 FSU

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV)			
PK	10.47646G	63.15	68.20	-5.05	14.59	3	Vertical	154	2.35	-	48.56			
PK	15.72174G	60.45	74.00	-13.55	15.60	3	Vertical	118	1.54	-	44.85			
AV	15.7194G	45.41	54.00	-8.59	15.60	3	Vertical	118	1.54	-	29.81			

802.11ax HEW20_Nss1,(MCS0)_2TX

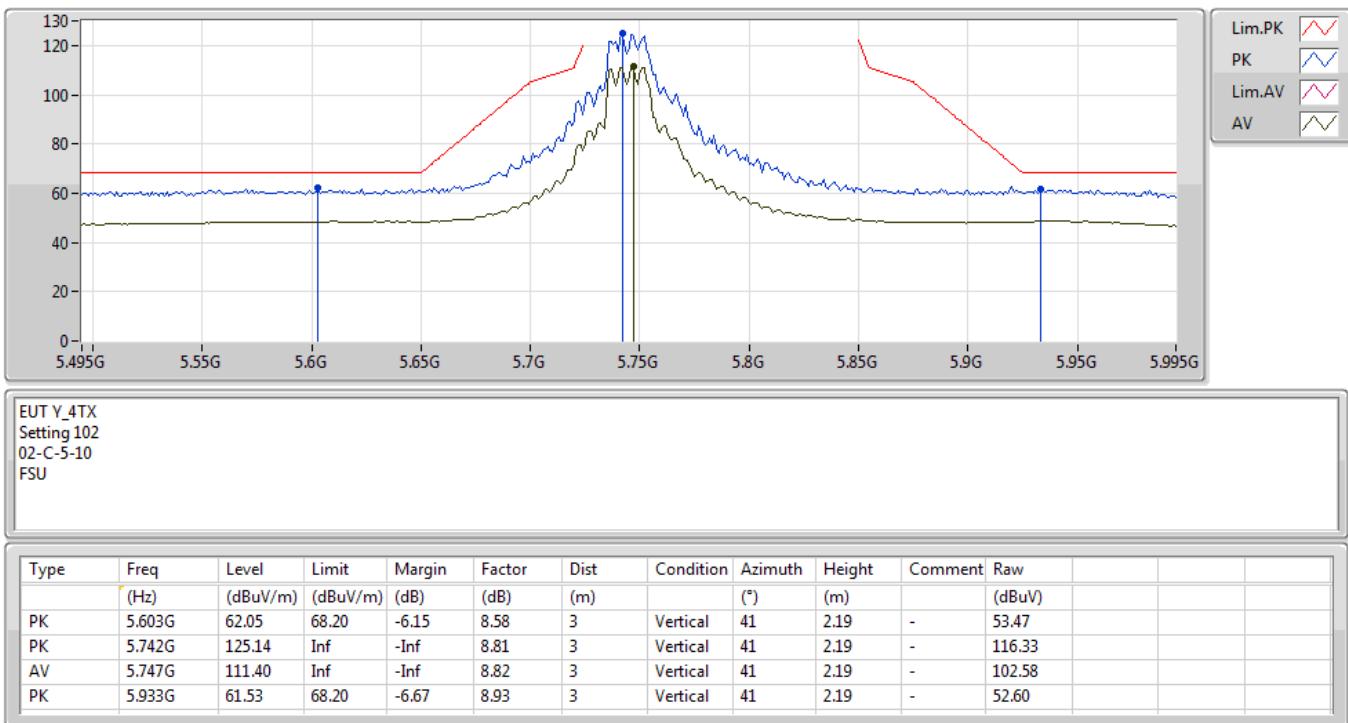
14/09/2019

5240MHz_TX



802.11ax HEW20_Nss1,(MCS0)_4TX

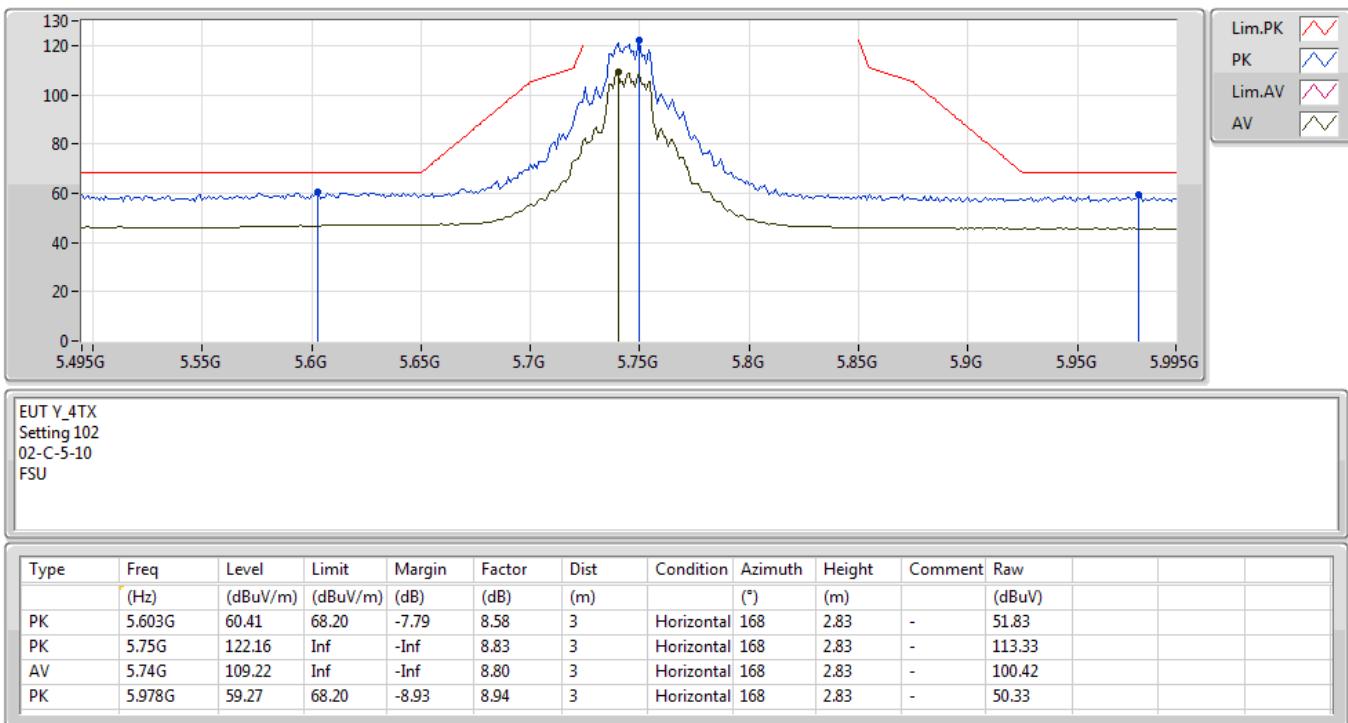
14/09/2019

5745MHz_TX


802.11ax HEW20_Nss1,(MCS0)_4TX

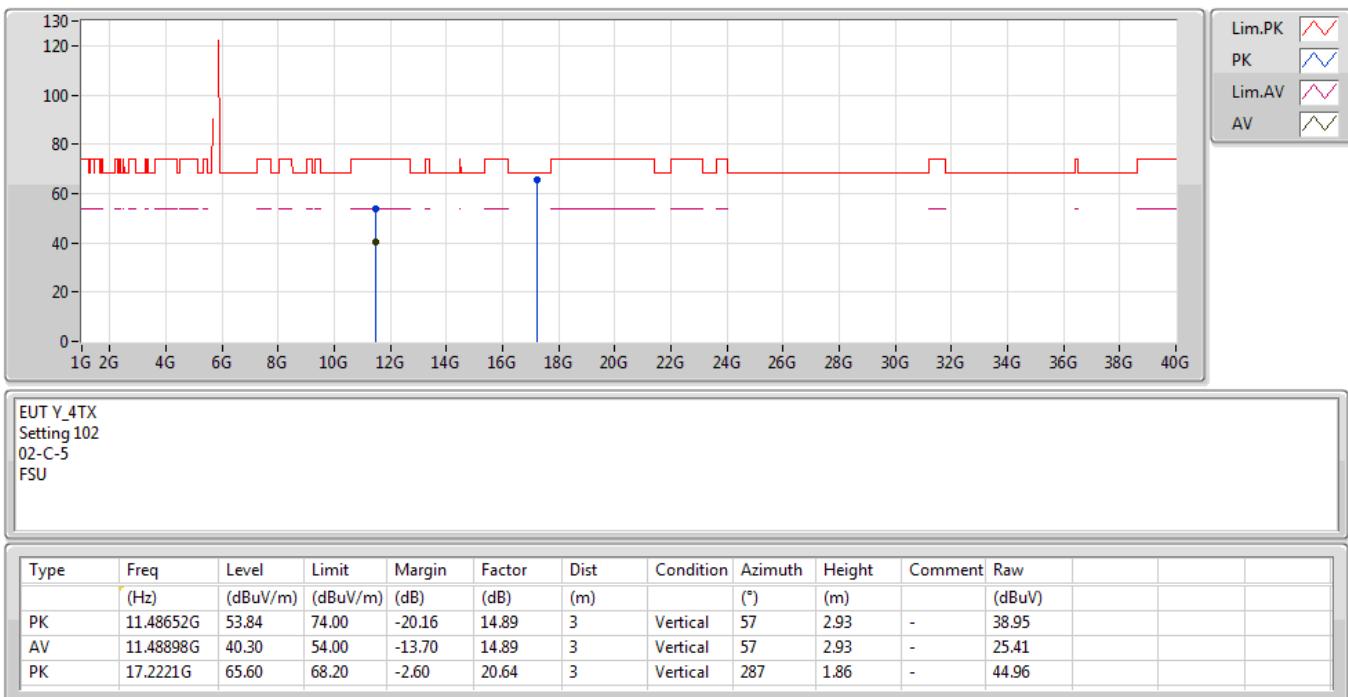
14/09/2019

5745MHz_TX



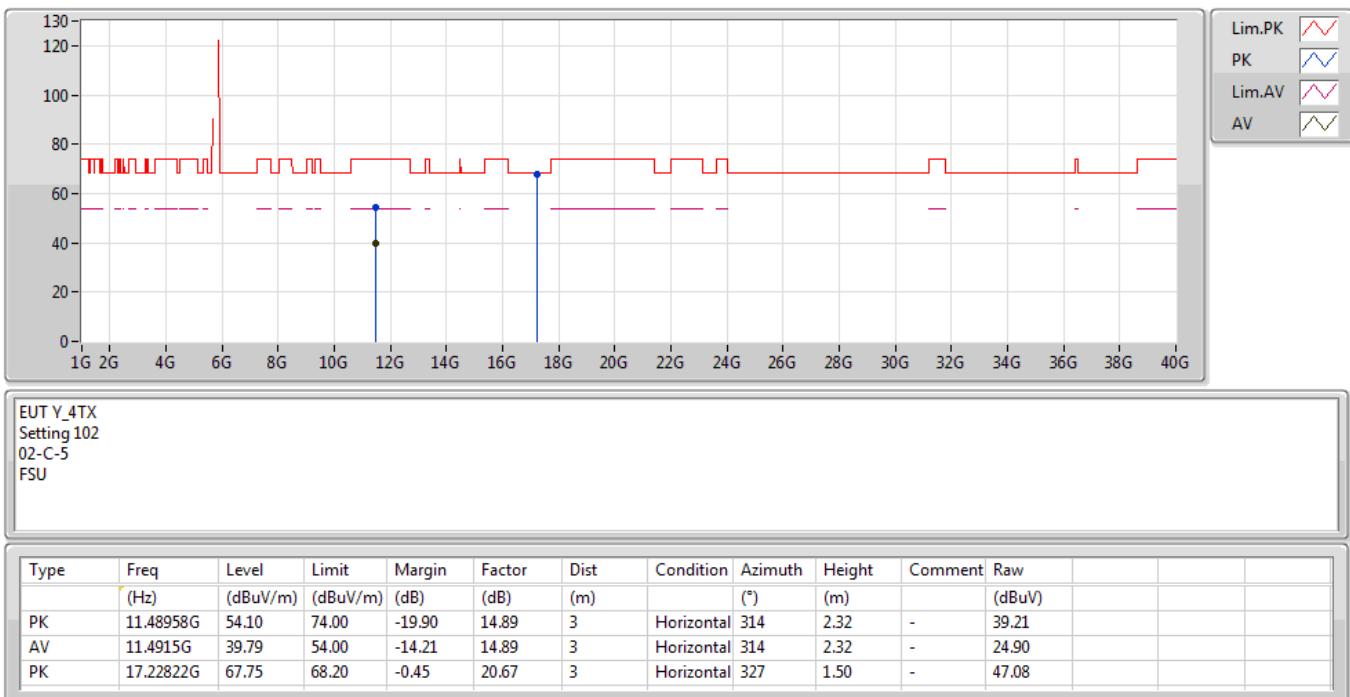
802.11ax HEW20_Nss1,(MCS0)_4TX

14/09/2019

5745MHz_TX


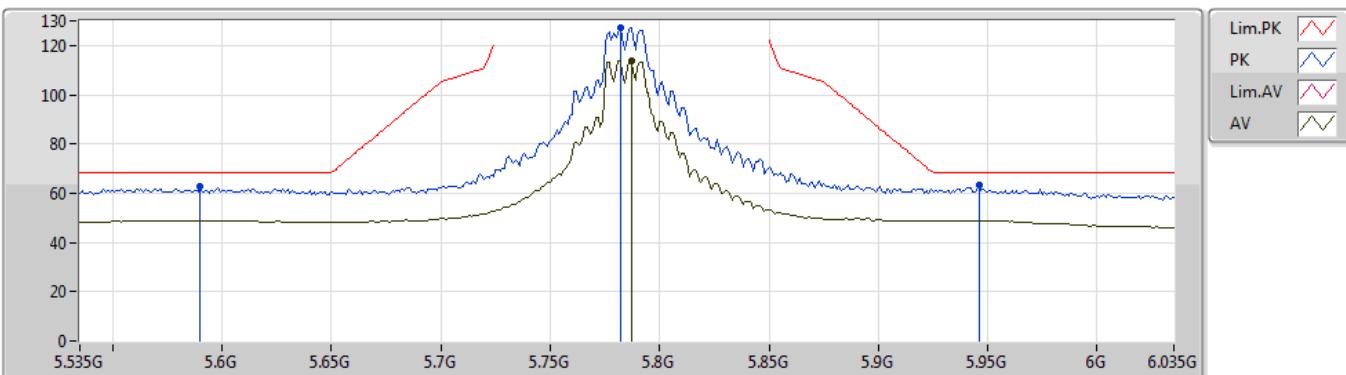
802.11ax HEW20_Nss1,(MCS0)_4TX

14/09/2019

5745MHz_TX


802.11ax HEW20_Nss1,(MCS0)_4TX

14/09/2019

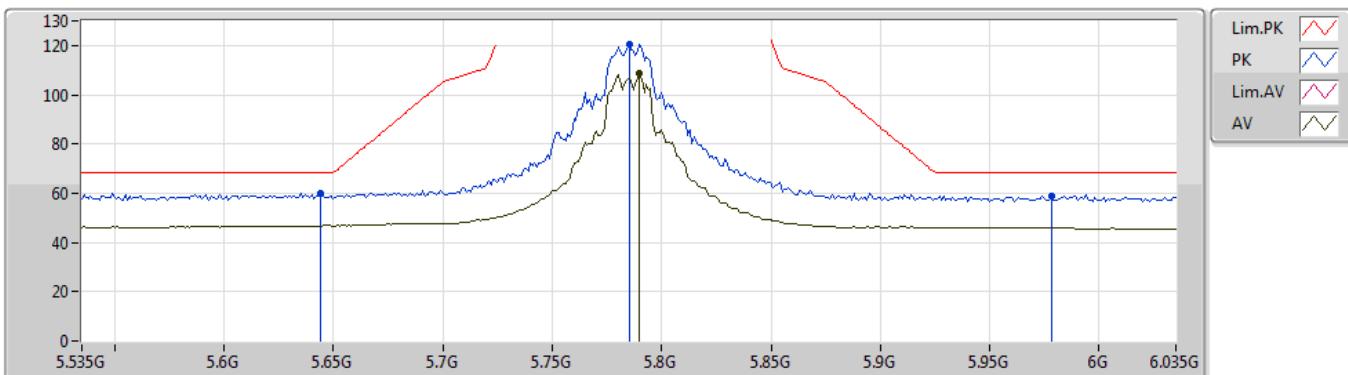
5785MHz_TX


EUT Y_4TX
 Setting 104
 02-E-2-10
 FSU

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV)			
PK	5.59G	62.61	68.20	-5.59	8.57	3	Vertical	22	2.20	-	54.04			
PK	5.782G	127.47	Inf	-Inf	8.88	3	Vertical	22	2.20	-	118.59			
AV	5.787G	113.87	Inf	-Inf	8.88	3	Vertical	22	2.20	-	104.99			
PK	5.946G	63.05	68.20	-5.15	8.94	3	Vertical	22	2.20	-	54.11			

802.11ax HEW20_Nss1,(MCS0)_4TX

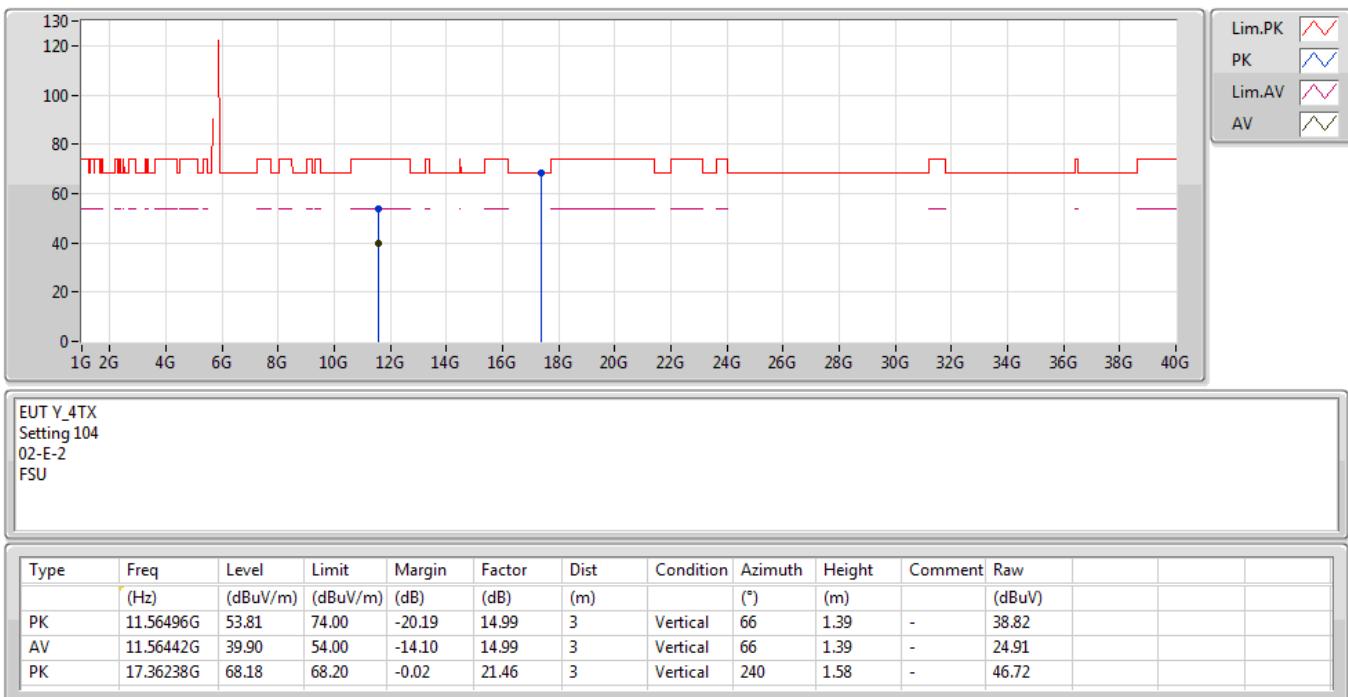
14/09/2019

5785MHz_TX

 EUT Y_4TX
 Setting 104
 02-E-2-10
 FSU

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV)			
PK	5.644G	60.05	68.20	-8.15	8.66	3	Horizontal	192	1.61	-	51.39			
PK	5.785G	120.38	Inf	-Inf	8.88	3	Horizontal	192	1.61	-	111.50			
AV	5.79G	108.62	Inf	-Inf	8.88	3	Horizontal	192	1.61	-	99.74			
PK	5.978G	59.05	68.20	-9.15	8.94	3	Horizontal	192	1.61	-	50.11			

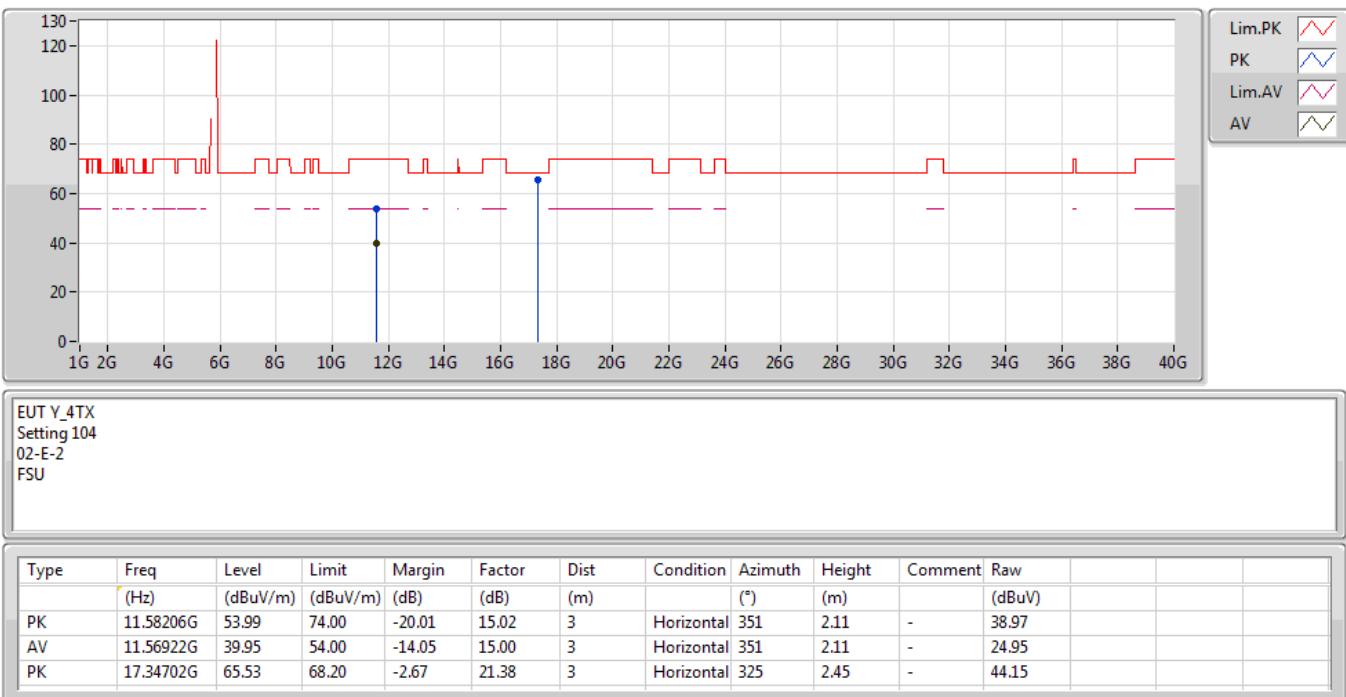
802.11ax HEW20_Nss1,(MCS0)_4TX

14/09/2019

5785MHz_TX


802.11ax HEW20_Nss1,(MCS0)_4TX

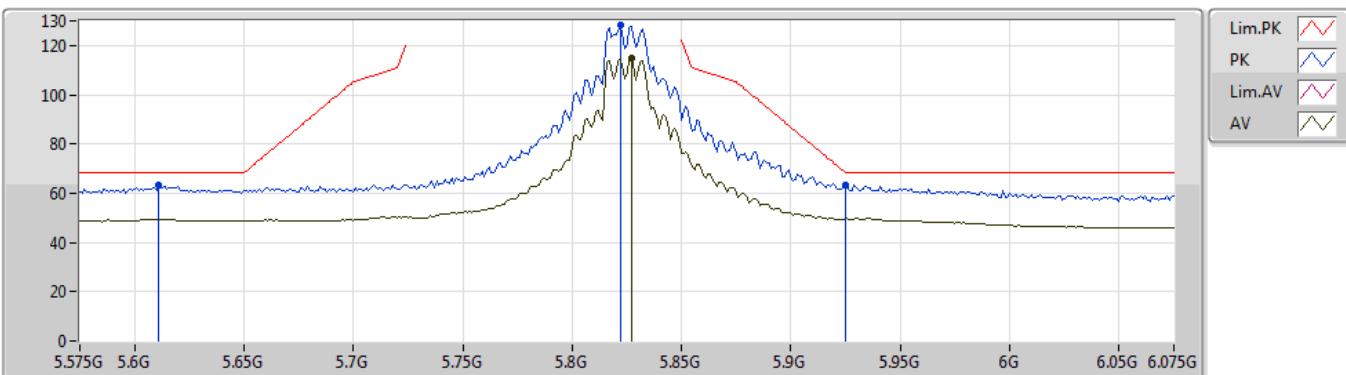
14/09/2019

5785MHz_TX


802.11ax HEW20_Nss1,(MCS0)_4TX

14/09/2019

5825MHz_TX



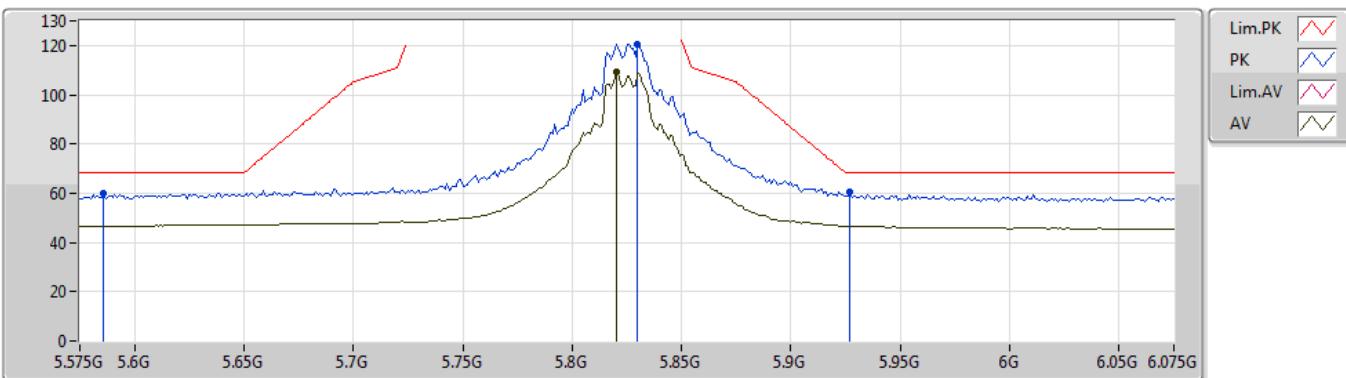
EUT Y_4TX
 Setting 110
 02-E-2-10
 FSU

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV)			
PK	5.611G	63.08	68.20	-5.12	8.61	3	Vertical	43	2.18	-	54.47			
PK	5.822G	128.43	Inf	-Inf	8.90	3	Vertical	43	2.18	-	119.53			
AV	5.827G	114.69	Inf	-Inf	8.91	3	Vertical	43	2.18	-	105.78			
PK	5.925G	63.49	68.20	-4.71	8.93	3	Vertical	43	2.18	-	54.56			

802.11ax HEW20_Nss1,(MCS0)_4TX

14/09/2019

5825MHz_TX



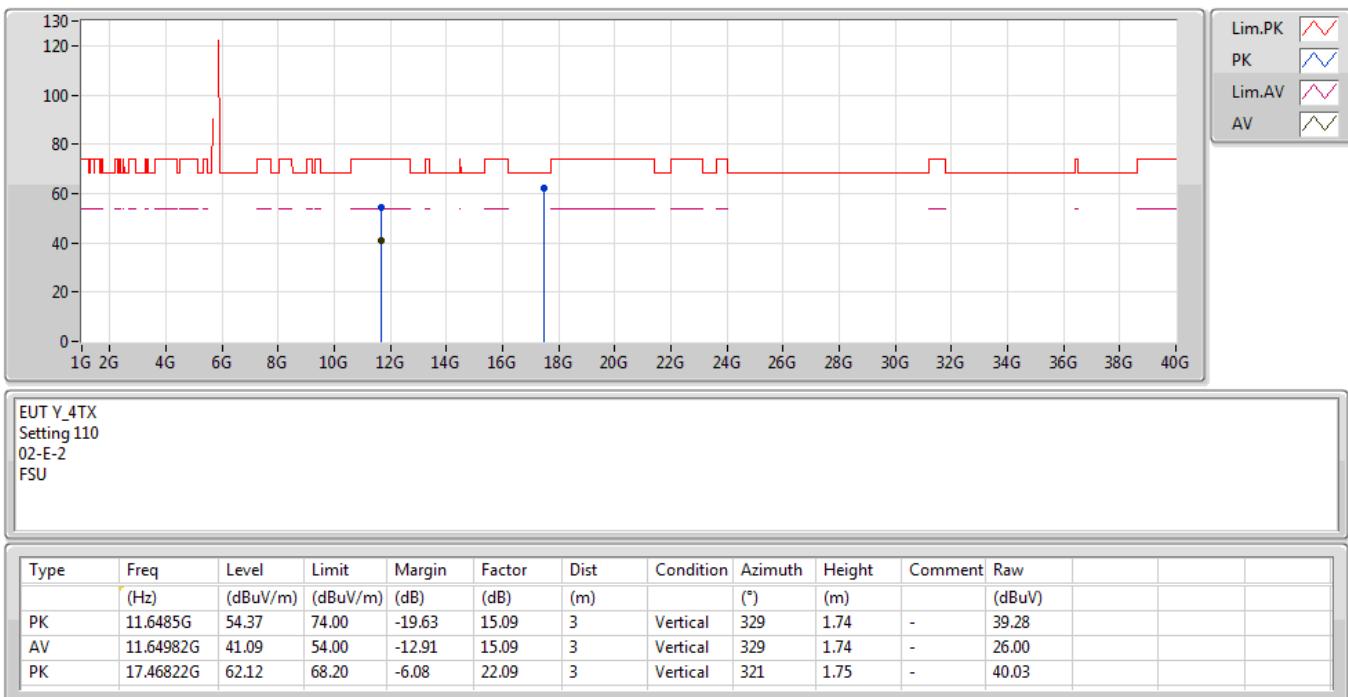
EUT Y_4TX
 Setting 110
 02-E-2-10
 FSU

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV)			
PK	5.586G	59.99	68.20	-8.21	8.57	3	Horizontal	201	1.53	-	51.42			
PK	5.83G	120.73	Inf	-Inf	8.91	3	Horizontal	201	1.53	-	111.82			
AV	5.82G	109.22	Inf	-Inf	8.90	3	Horizontal	201	1.53	-	100.32			
PK	5.927G	60.34	68.20	-7.86	8.93	3	Horizontal	201	1.53	-	51.41			

802.11ax HEW20_Nss1,(MCS0)_4TX

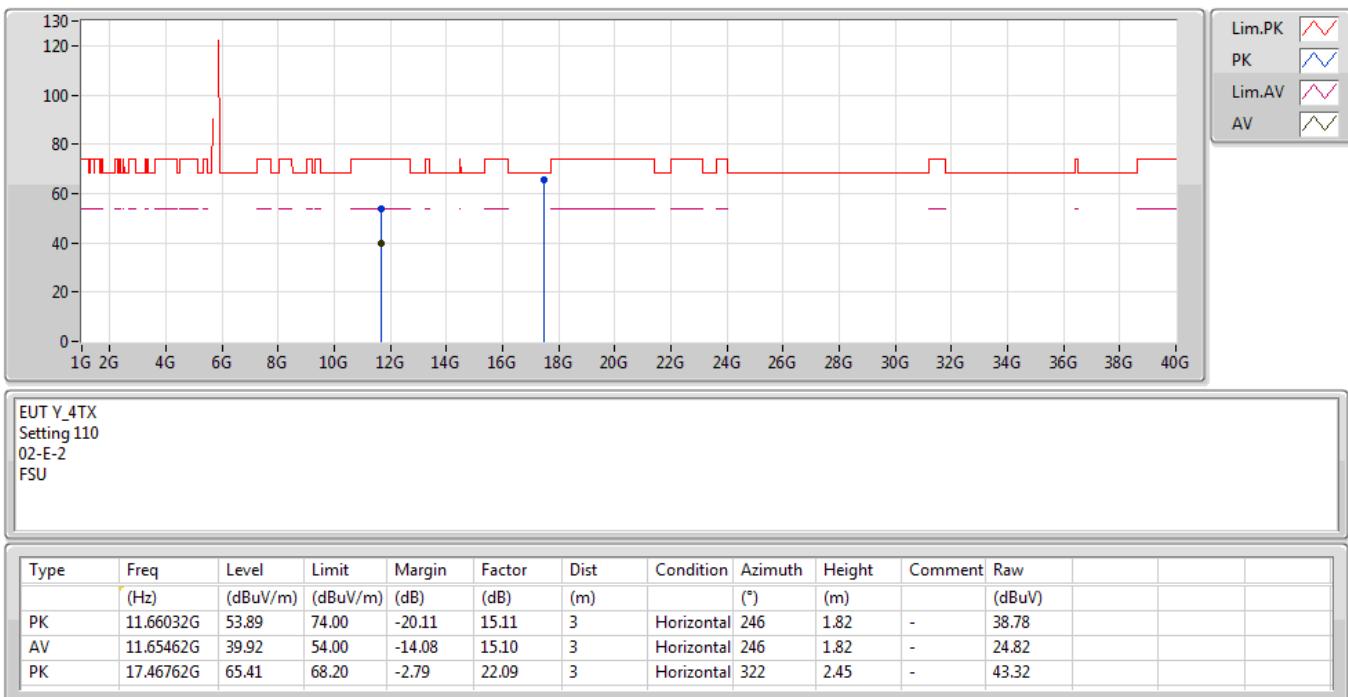
14/09/2019

5825MHz_TX



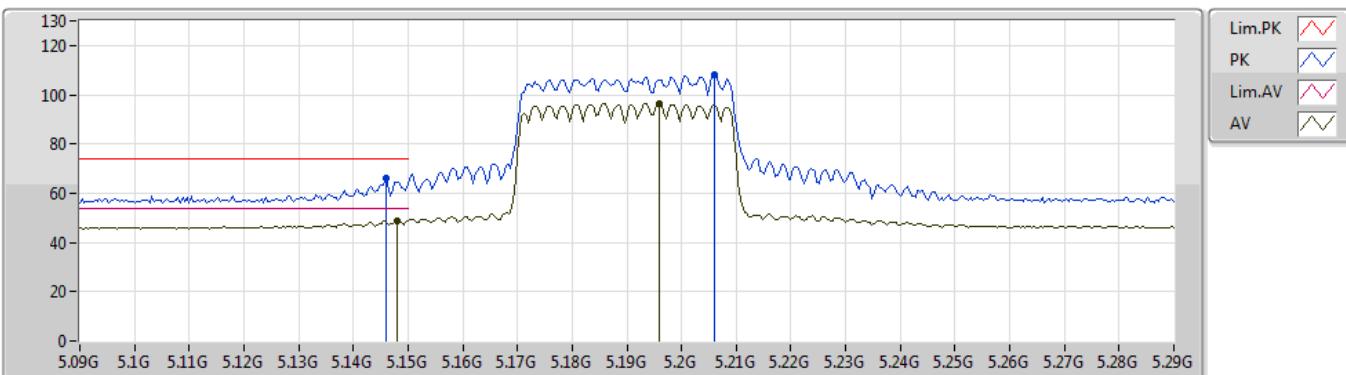
802.11ax HEW20_Nss1,(MCS0)_4TX

14/09/2019

5825MHz_TX


802.11ax HEW40_Nss1,(MCS0)_2TX

14/09/2019

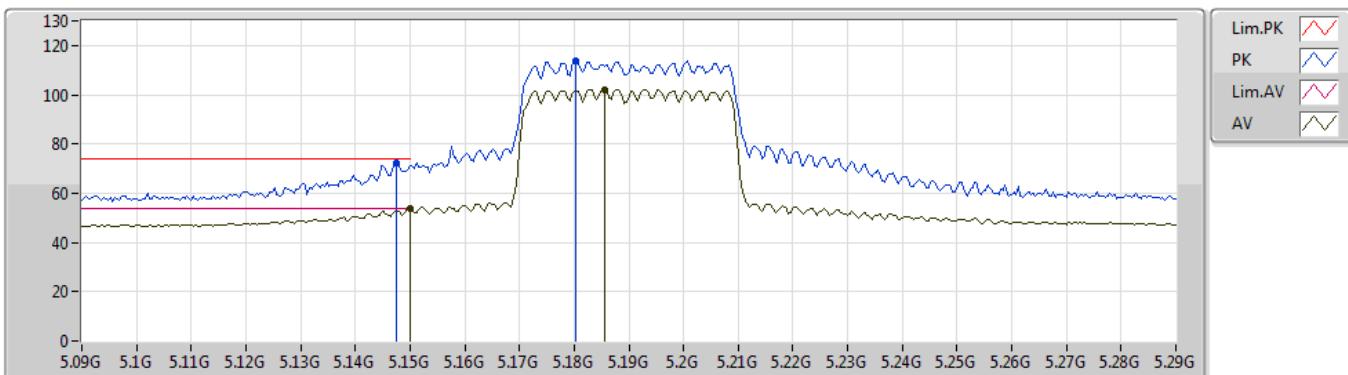
5190MHz_TX


EUT Y_2TX
Setting 73
02-E-2-10
FSU

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV)			
PK	5.146G	66.01	74.00	-7.99	7.94	3	Vertical	298	1.56	-	58.07			
AV	5.148G	48.69	54.00	-5.31	7.94	3	Vertical	298	1.56	-	40.75			
PK	5.206G	108.11	Inf	-Inf	8.07	3	Vertical	298	1.56	-	100.04			
AV	5.196G	96.62	Inf	-Inf	8.06	3	Vertical	298	1.56	-	88.56			

802.11ax HEW40_Nss1,(MCS0)_2TX

14/09/2019

5190MHz_TX


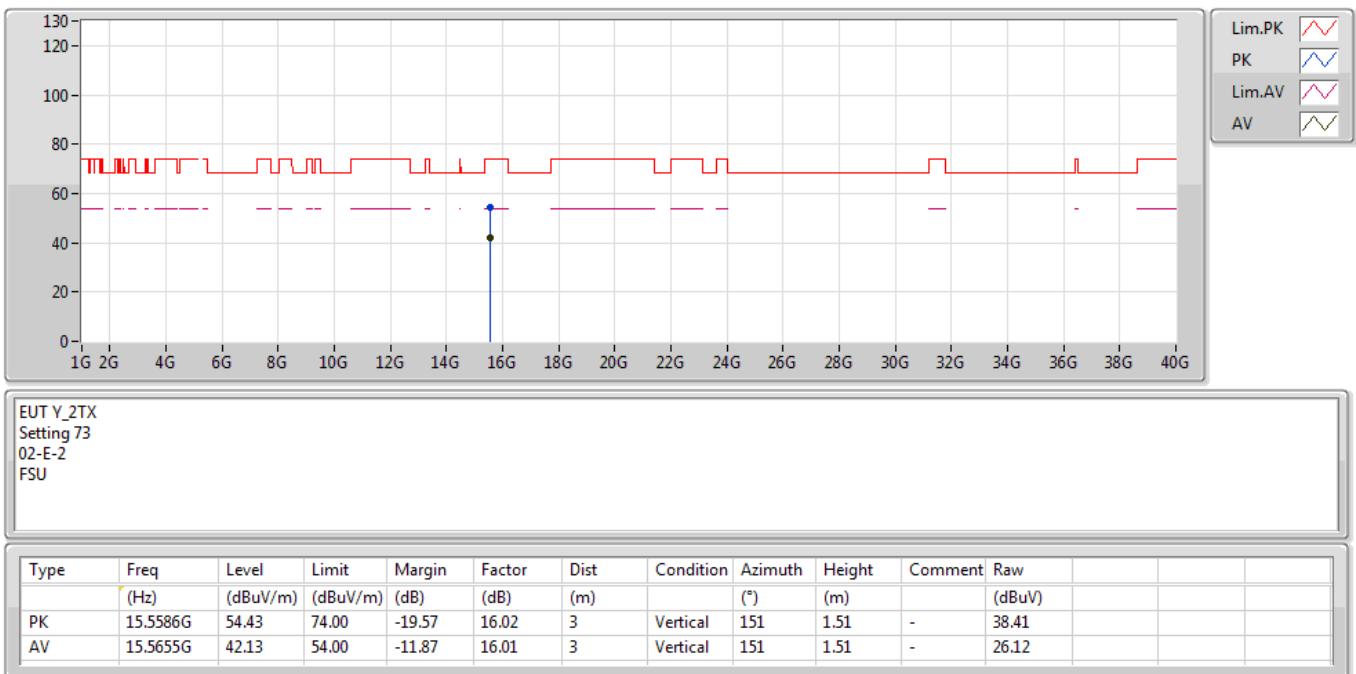
EUT Y_2TX
 Setting 73
 02-E-2-10
 FSU

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV)			
PK	5.1476G	72.24	74.00	-1.76	7.94	3	Horizontal	250	1.63	-	64.30			
AV	5.15G	53.90	54.00	-0.10	7.94	3	Horizontal	250	1.63	-	45.96			
PK	5.1804G	113.63	Inf	-Inf	8.02	3	Horizontal	250	1.63	-	105.61			
AV	5.1856G	102.05	Inf	-Inf	8.03	3	Horizontal	250	1.63	-	94.02			

802.11ax HEW40_Nss1,(MCS0)_2TX

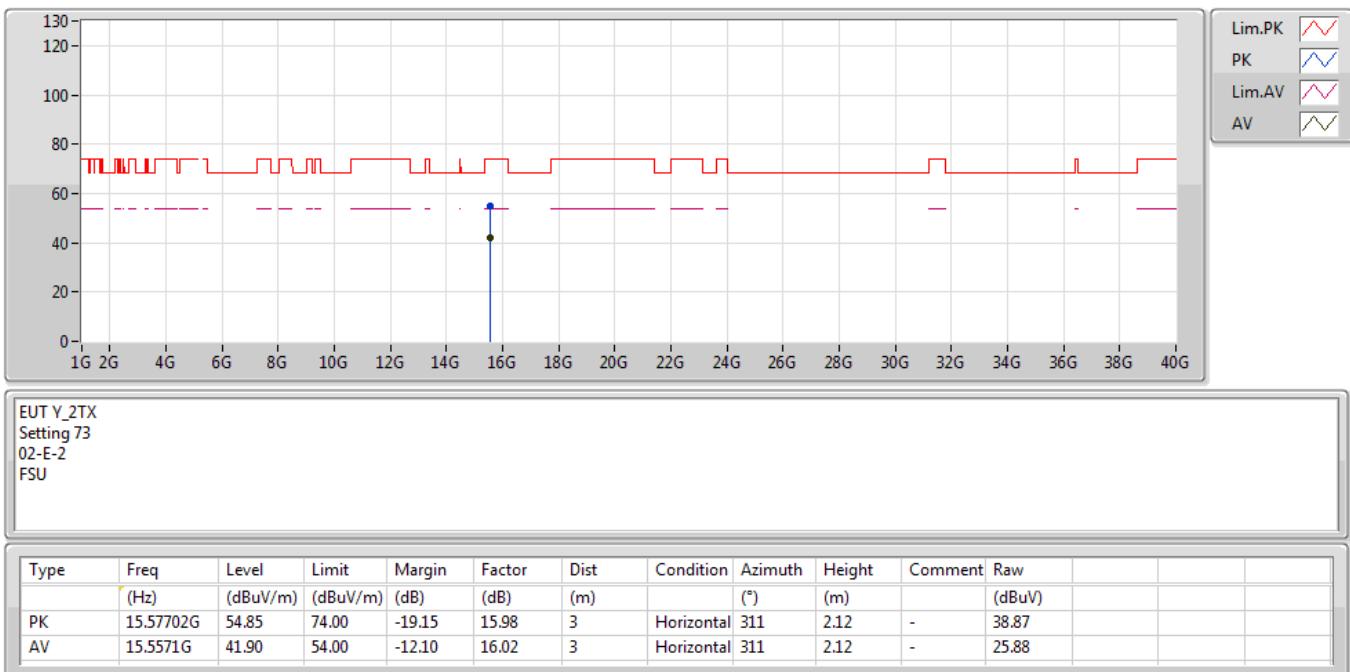
14/09/2019

5190MHz_TX



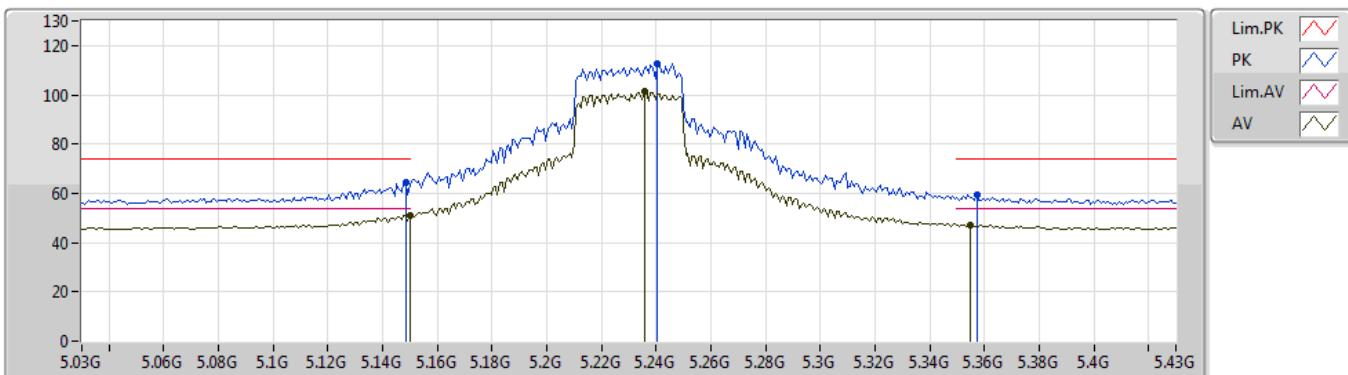
802.11ax HEW40_Nss1,(MCS0)_2TX

14/09/2019

5190MHz_TX


802.11ax HEW40_Nss1,(MCS0)_2TX

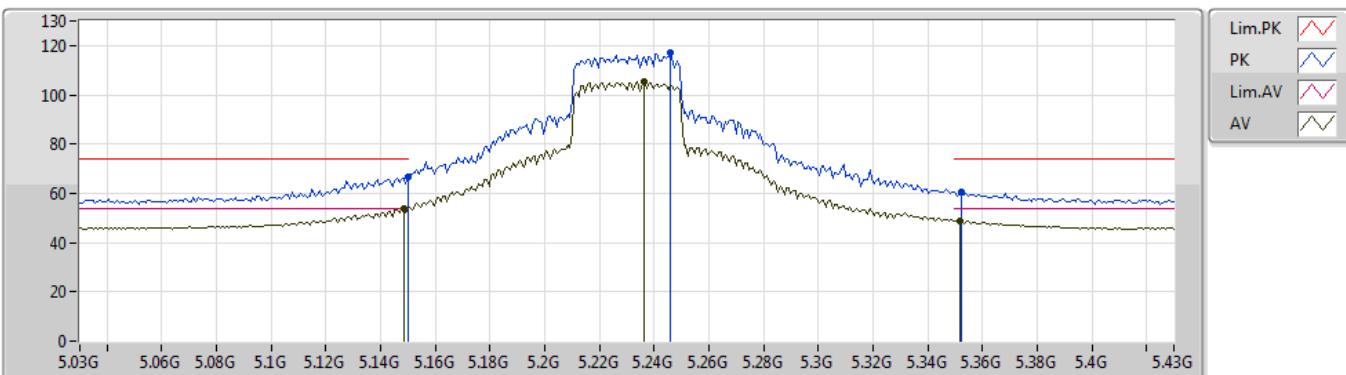
14/09/2019

5230MHz_TX

 EUT Y_2TX
 Setting 93
 02-E-2-10
 FSU

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV)			
PK	5.1484G	64.24	74.00	-9.76	7.94	3	Vertical	312	1.13	-	56.30			
AV	5.15G	51.13	54.00	-2.87	7.94	3	Vertical	312	1.13	-	43.19			
PK	5.2404G	112.90	Inf	-Inf	8.12	3	Vertical	312	1.13	-	104.78			
AV	5.2356G	101.36	Inf	-Inf	8.11	3	Vertical	312	1.13	-	93.25			
PK	5.3572G	59.29	74.00	-14.71	8.28	3	Vertical	312	1.13	-	51.01			
AV	5.3548G	47.13	54.00	-6.87	8.28	3	Vertical	312	1.13	-	38.85			

802.11ax HEW40_Nss1,(MCS0)_2TX

14/09/2019

5230MHz_TX


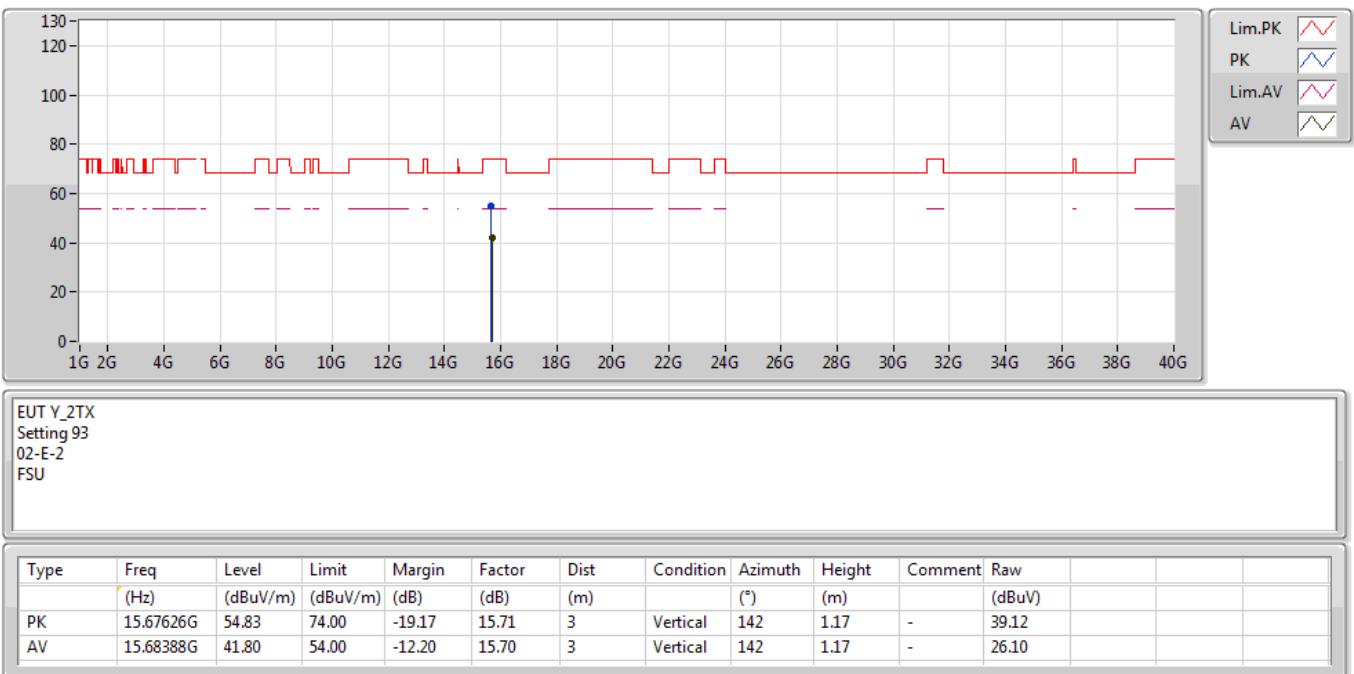
EUT Y_2TX
 Setting 93
 02-E-2-10
 FSU

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV)			
PK	5.15G	66.72	74.00	-7.28	7.94	3	Horizontal	61	1.46	-	58.78			
AV	5.1484G	53.54	54.00	-0.46	7.94	3	Horizontal	61	1.46	-	45.60			
PK	5.246G	116.97	Inf	-Inf	8.13	3	Horizontal	61	1.46	-	108.84			
AV	5.2364G	105.16	Inf	-Inf	8.11	3	Horizontal	61	1.46	-	97.05			
PK	5.3524G	60.62	74.00	-13.38	8.28	3	Horizontal	61	1.46	-	52.34			
AV	5.3516G	48.82	54.00	-5.18	8.28	3	Horizontal	61	1.46	-	40.54			

802.11ax HEW40_Nss1,(MCS0)_2TX

14/09/2019

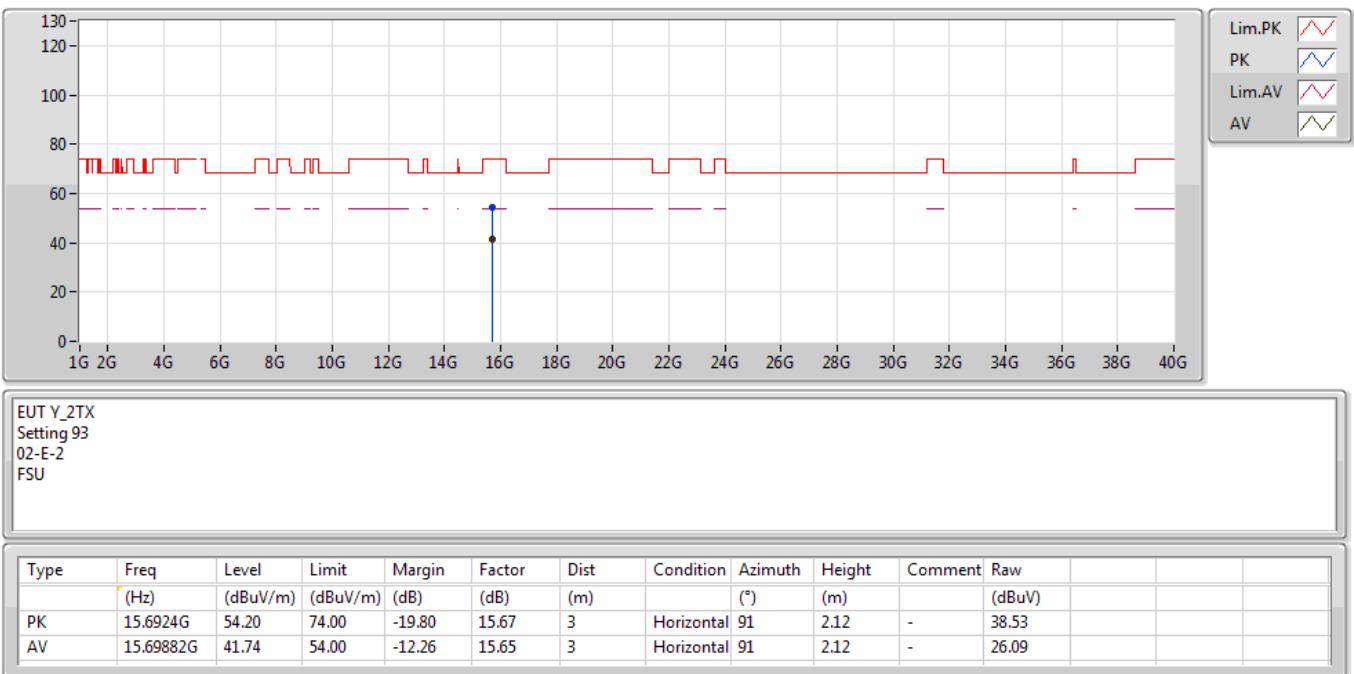
5230MHz_TX



802.11ax HEW40_Nss1,(MCS0)_2TX

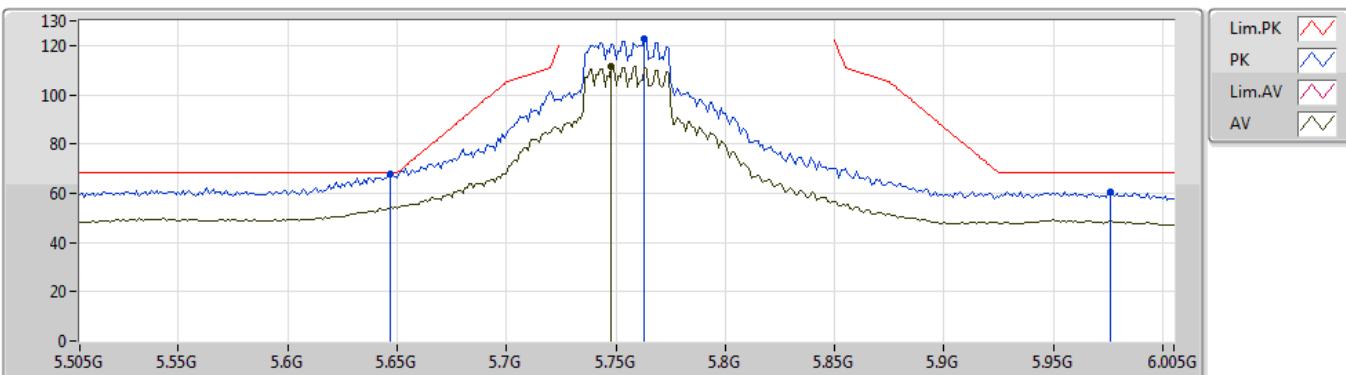
14/09/2019

5230MHz_TX



802.11ax HEW40_Nss1,(MCS0)_4TX

14/09/2019

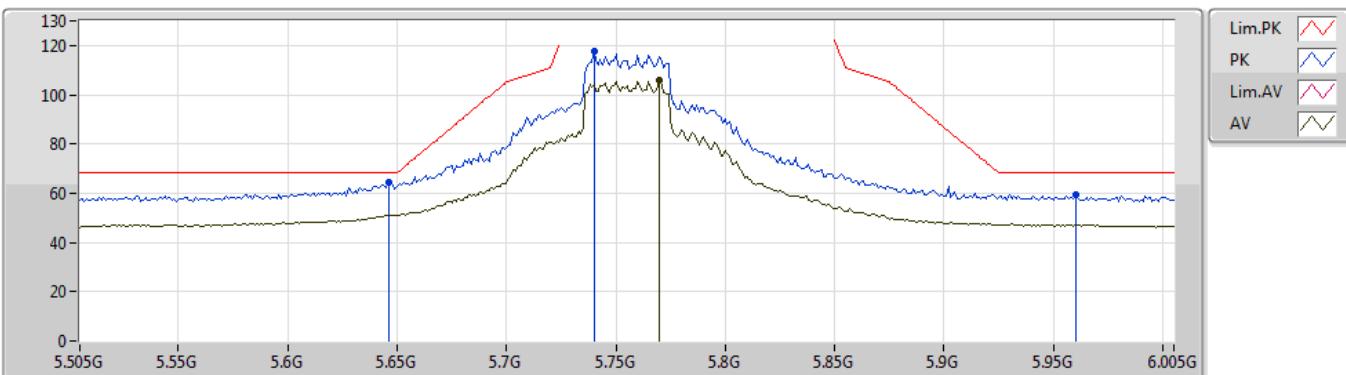
5755MHz_TX


EUT Y_4TX
 Setting 102
 02-E-2-10
 FSU

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV)			
PK	5.647G	67.81	68.20	-0.39	8.67	3	Vertical	36	2.93	-	59.14			
PK	5.763G	122.55	Inf	-Inf	8.84	3	Vertical	36	2.93	-	113.71			
AV	5.748G	111.29	Inf	-Inf	8.82	3	Vertical	36	2.93	-	102.47			
PK	5.976G	60.63	68.20	-7.57	8.94	3	Vertical	36	2.93	-	51.69			

802.11ax HEW40_Nss1,(MCS0)_4TX

14/09/2019

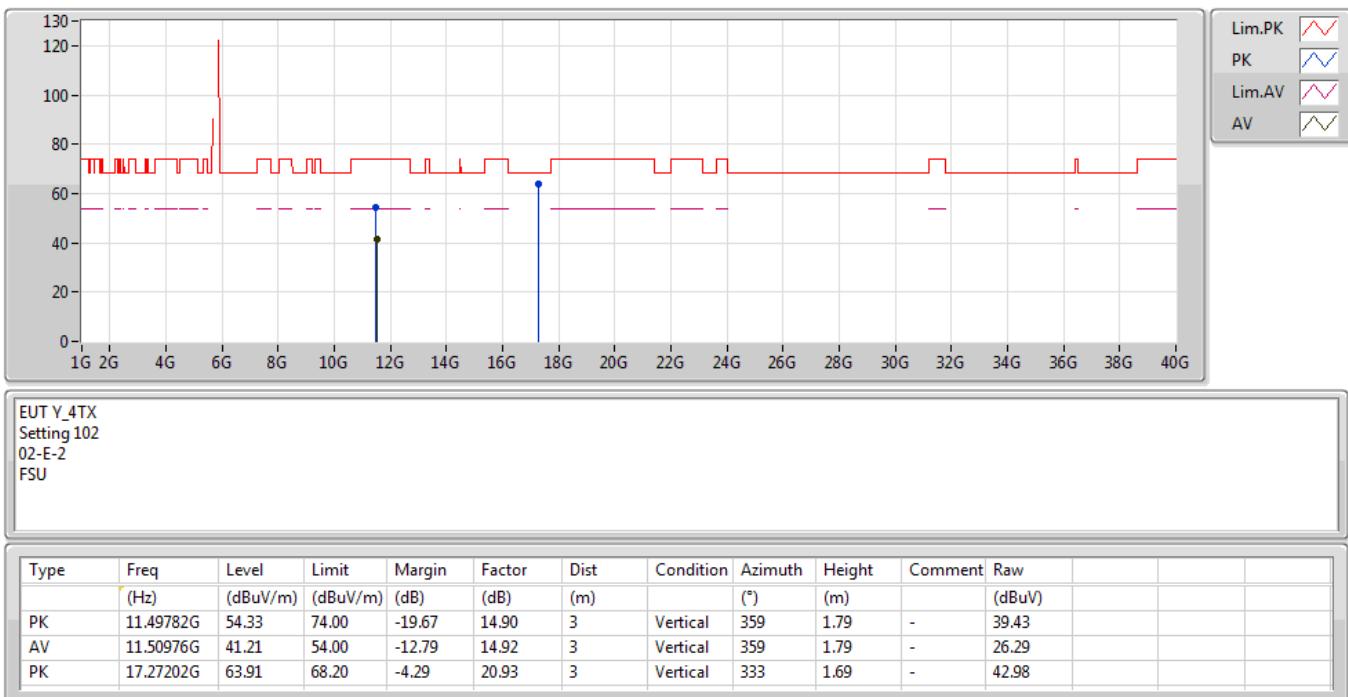
5755MHz_TX


EUT Y_4TX
 Setting 102
 02-E-2-10
 FSU

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV)			
PK	5.646G	64.18	68.20	-4.02	8.66	3	Horizontal	202	1.50	-	55.52			
PK	5.74G	117.45	Inf	-Inf	8.80	3	Horizontal	202	1.50	-	108.65			
AV	5.77G	105.72	Inf	-Inf	8.85	3	Horizontal	202	1.50	-	96.87			
PK	5.96G	59.18	68.20	-9.02	8.93	3	Horizontal	202	1.50	-	50.25			

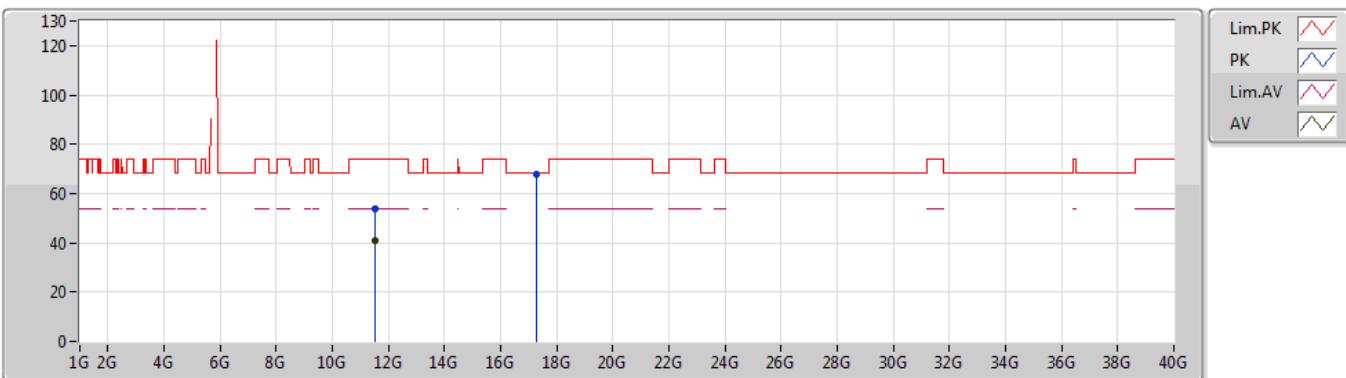
802.11ax HEW40_Nss1,(MCS0)_4TX

14/09/2019

5755MHz_TX


802.11ax HEW40_Nss1,(MCS0)_4TX

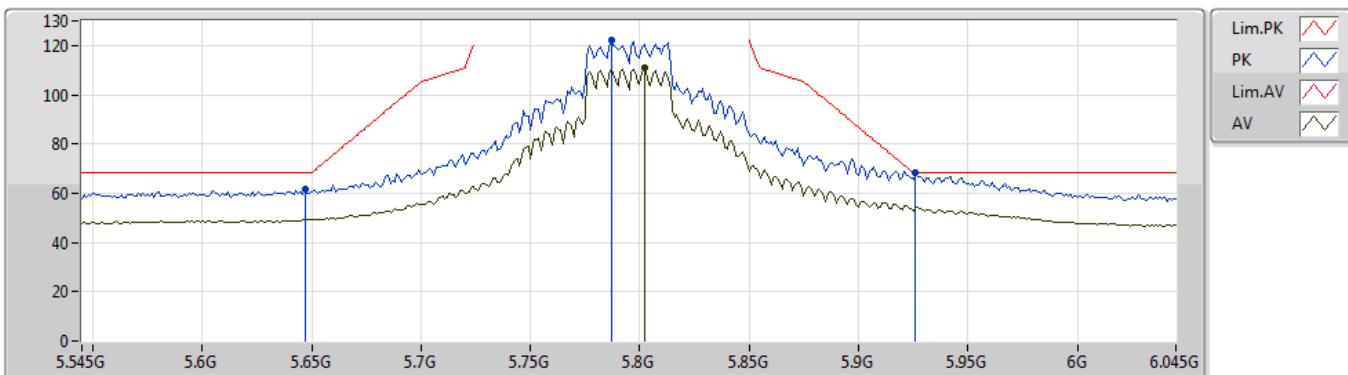
14/09/2019

5755MHz_TX

 EUT Y_4TX
 Setting 102
 02-E-2
 FSU

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV)			
PK	11.51942G	53.55	74.00	-20.45	14.94	3	Horizontal	243	2.11	-	38.61			
AV	11.5076G	40.92	54.00	-13.08	14.92	3	Horizontal	243	2.11	-	26.00			
PK	17.26602G	67.65	68.20	-0.55	20.89	3	Horizontal	342	1.79	-	46.76			

802.11ax HEW40_Nss1,(MCS0)_4TX

14/09/2019

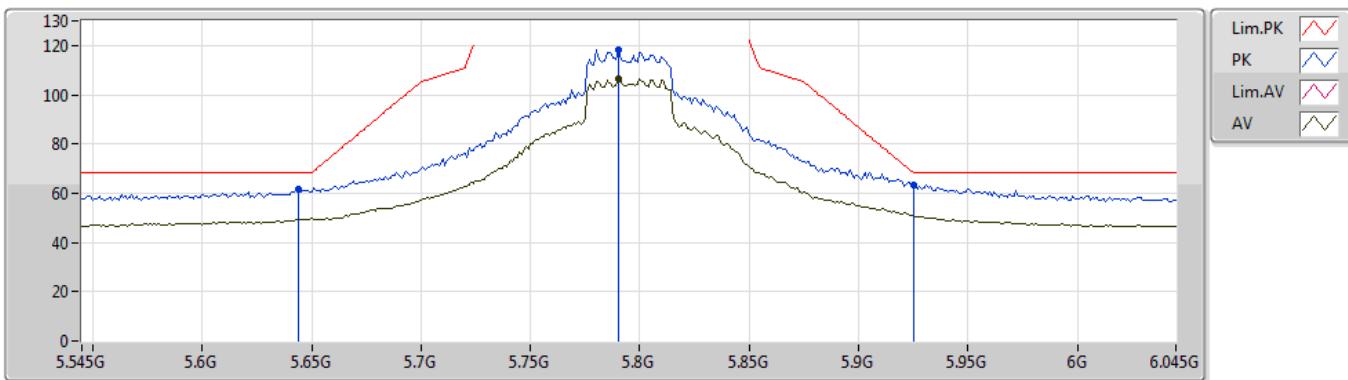
5795MHz_TX


EUT Y_4TX
 Setting 108
 02-E-2-10
 FSU

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV)			
PK	5.647G	61.49	68.20	-6.71	8.67	3	Vertical	39	2.10	-	52.82			
PK	5.787G	122.29	Inf	-Inf	8.88	3	Vertical	39	2.10	-	113.41			
AV	5.802G	110.67	Inf	-Inf	8.90	3	Vertical	39	2.10	-	101.77			
PK	5.926G	68.14	68.20	-0.06	8.93	3	Vertical	39	2.10	-	59.21			

802.11ax HEW40_Nss1,(MCS0)_4TX

14/09/2019

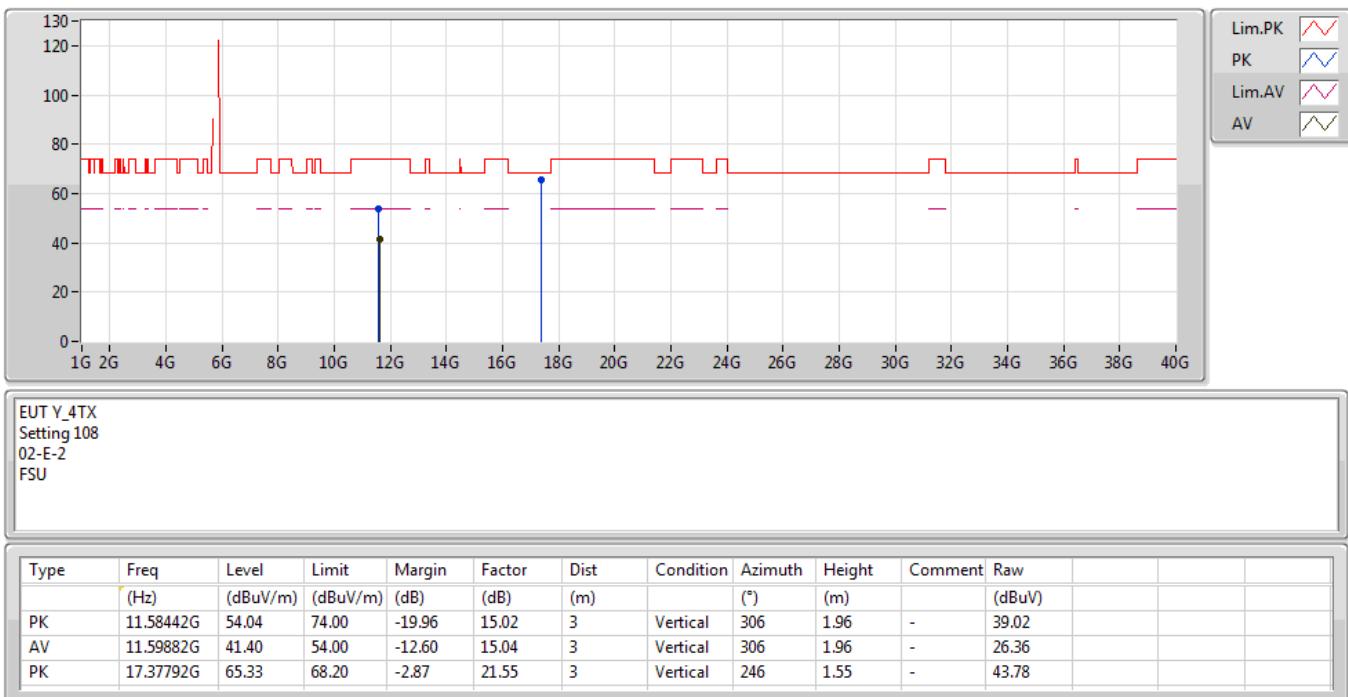
5795MHz_TX


EUT Y_4TX
 Setting 108
 02-E-2-10
 FSU

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV)			
PK	5.644G	61.48	68.20	-6.72	8.66	3	Horizontal	202	1.50	-	52.82			
PK	5.79G	118.38	Inf	-Inf	8.88	3	Horizontal	202	1.50	-	109.50			
AV	5.79G	106.63	Inf	-Inf	8.88	3	Horizontal	202	1.50	-	97.75			
PK	5.925G	63.46	68.20	-4.74	8.93	3	Horizontal	202	1.50	-	54.53			

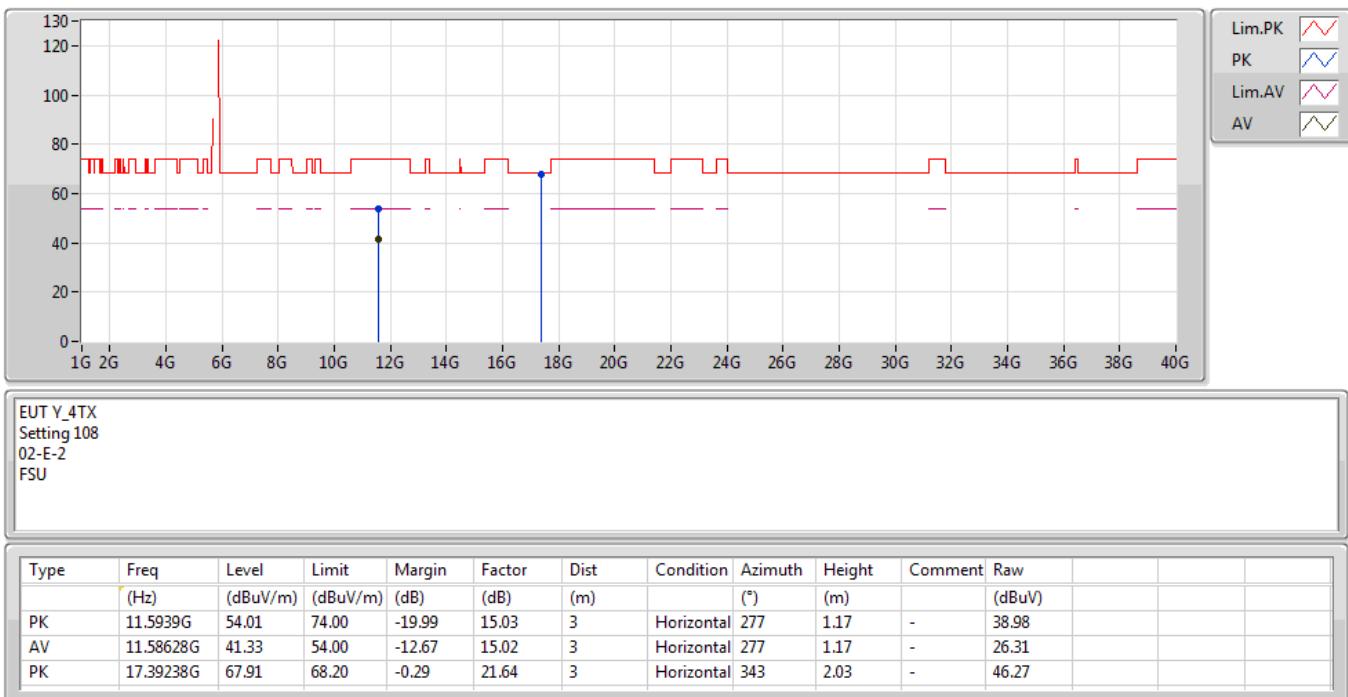
802.11ax HEW40_Nss1,(MCS0)_4TX

14/09/2019

5795MHz_TX


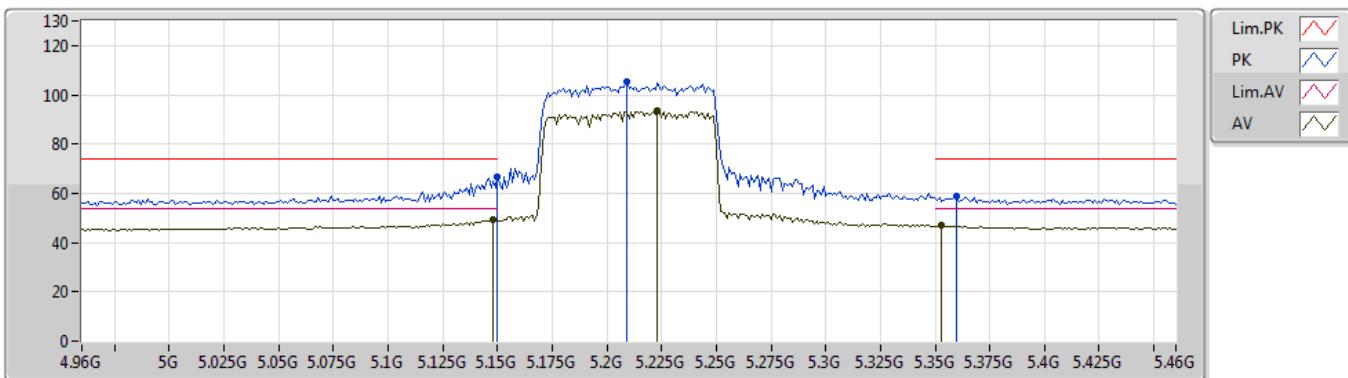
802.11ax HEW40_Nss1,(MCS0)_4TX

14/09/2019

5795MHz_TX


802.11ax HEW80_Nss1,(MCS0)_2TX

14/09/2019

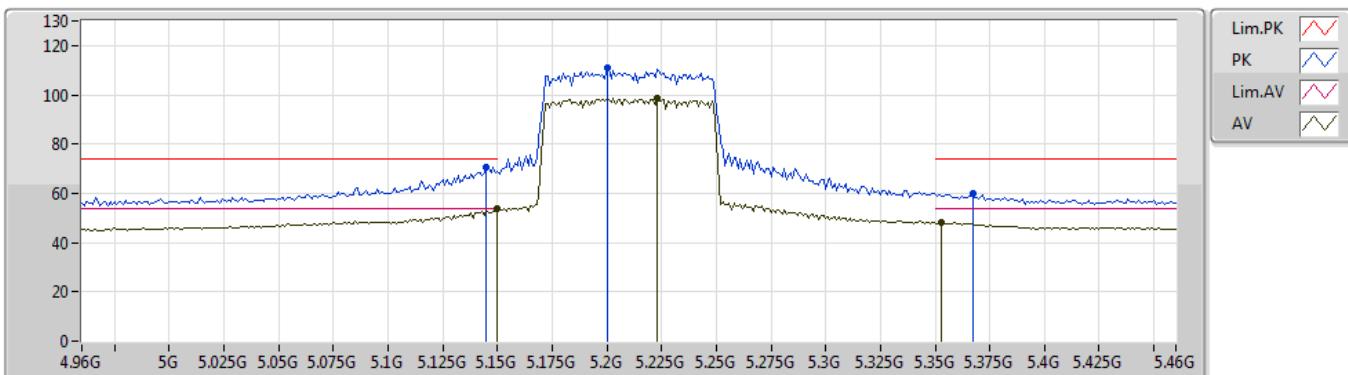
5210MHz_TX


EUT Y_2TX
 Setting 75
 02-E-2-10
 FSU

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV)			
PK	5.15G	66.71	74.00	-7.29	7.94	3	Vertical	308	1.02	-	58.77			
AV	5.148G	49.13	54.00	-4.87	7.94	3	Vertical	308	1.02	-	41.19			
PK	5.209G	105.27	Inf	-Inf	8.07	3	Vertical	308	1.02	-	97.20			
AV	5.223G	93.33	Inf	-Inf	8.10	3	Vertical	308	1.02	-	85.23			
PK	5.36G	58.66	74.00	-15.34	8.29	3	Vertical	308	1.02	-	50.37			
AV	5.353G	46.95	54.00	-7.05	8.28	3	Vertical	308	1.02	-	38.67			

802.11ax HEW80_Nss1,(MCS0)_2TX

14/09/2019

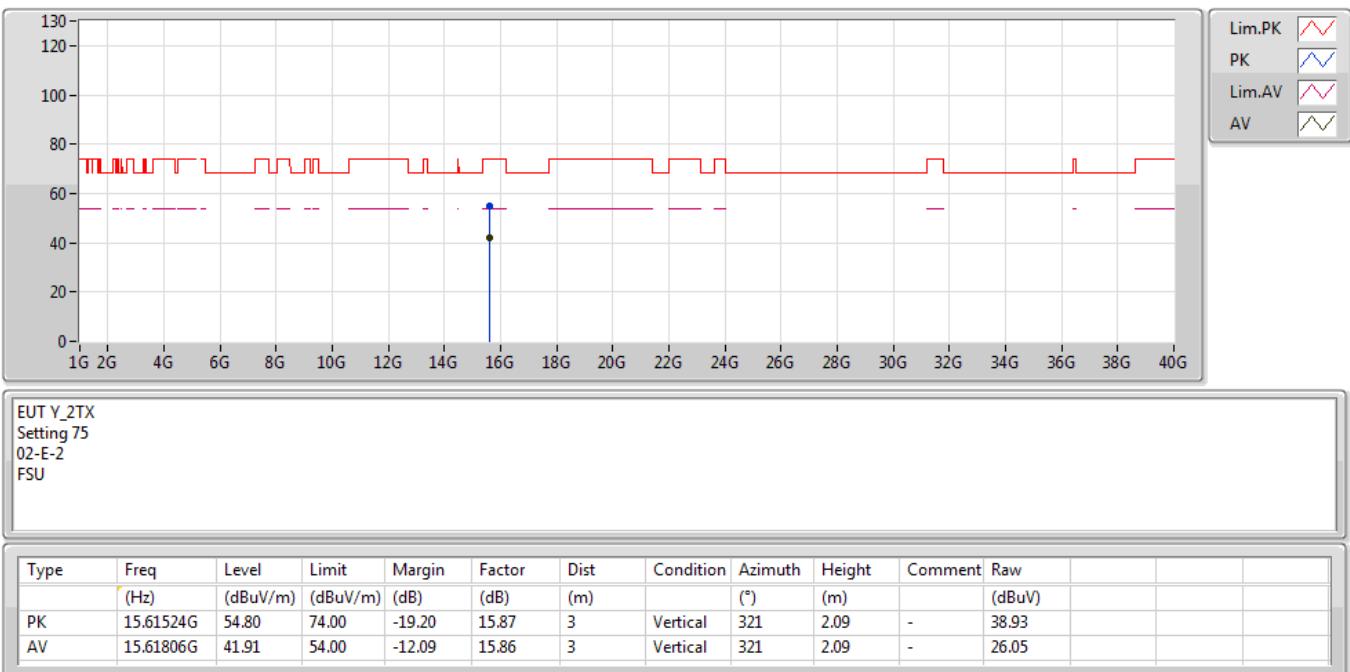
5210MHz_TX


EUT Y_2TX
 Setting 75
 02-E-2-10
 FSU

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV)			
PK	5.145G	70.84	74.00	-3.16	7.94	3	Horizontal	258	1.59	-	62.90			
AV	5.15G	53.71	54.00	-0.29	7.94	3	Horizontal	258	1.59	-	45.77			
PK	5.2G	110.99	Inf	-Inf	8.06	3	Horizontal	258	1.59	-	102.93			
AV	5.223G	98.81	Inf	-Inf	8.10	3	Horizontal	258	1.59	-	90.71			
PK	5.367G	59.83	74.00	-14.17	8.29	3	Horizontal	258	1.59	-	51.54			
AV	5.353G	47.93	54.00	-6.07	8.28	3	Horizontal	258	1.59	-	39.65			

802.11ax HEW80_Nss1,(MCS0)_2TX

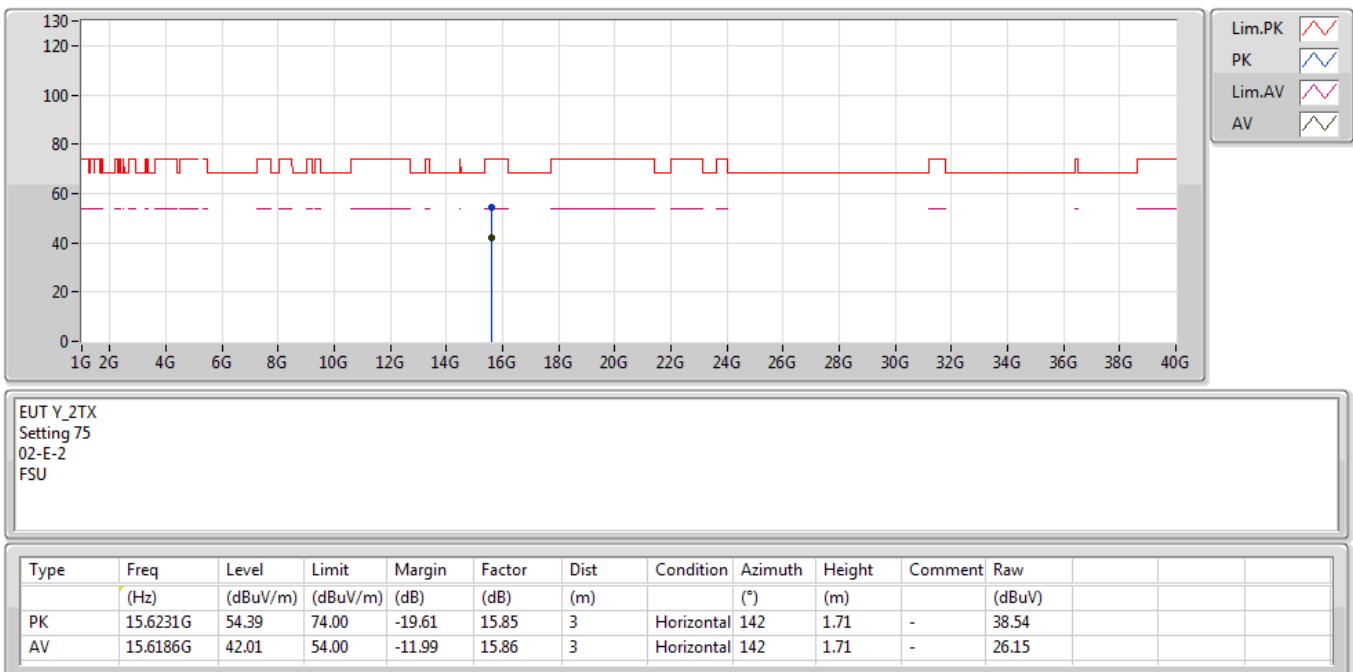
14/09/2019

5210MHz_TX


802.11ax HEW80_Nss1,(MCS0)_2TX

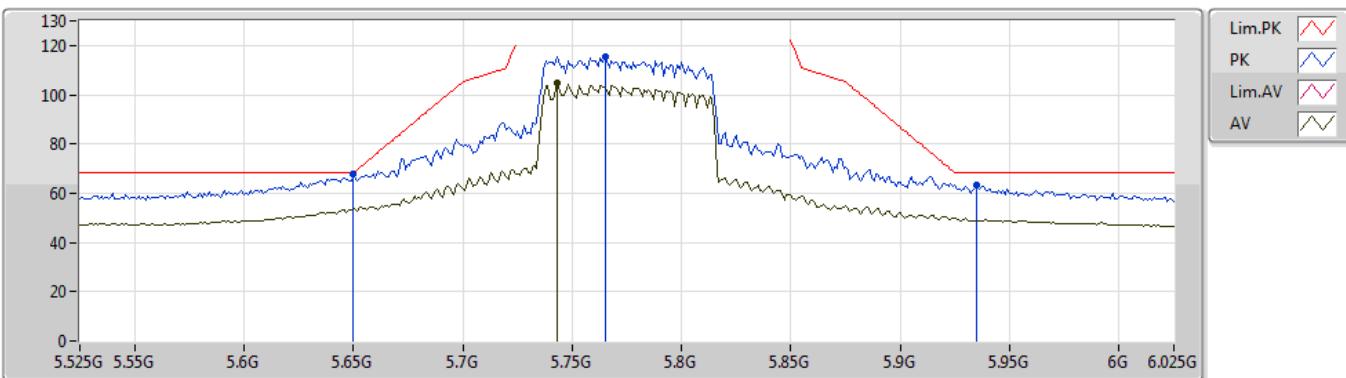
14/09/2019

5210MHz_TX



802.11ax HEW80_Nss1,(MCS0)_4TX

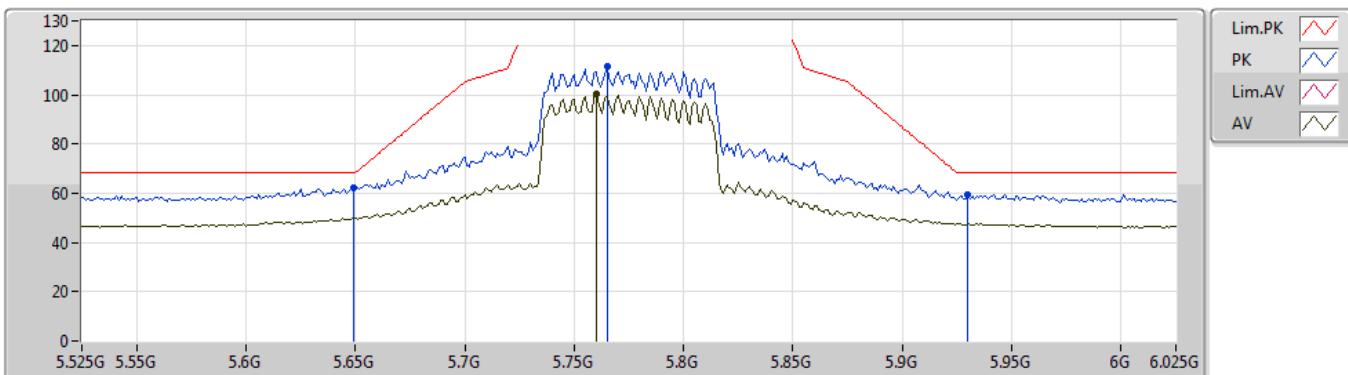
14/09/2019

5775MHz_TX

 EUT Y_4TX
 Setting 84
 02-E-2-10
 FSU

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV)			
PK	5.65G	67.71	68.20	-0.49	8.66	3	Vertical	27	2.60	-	59.05			
PK	5.765G	115.34	Inf	-Inf	8.84	3	Vertical	27	2.60	-	106.50			
AV	5.743G	104.70	Inf	-Inf	8.82	3	Vertical	27	2.60	-	95.88			
PK	5.935G	63.19	68.20	-5.01	8.93	3	Vertical	27	2.60	-	54.26			

802.11ax HEW80_Nss1,(MCS0)_4TX

14/09/2019

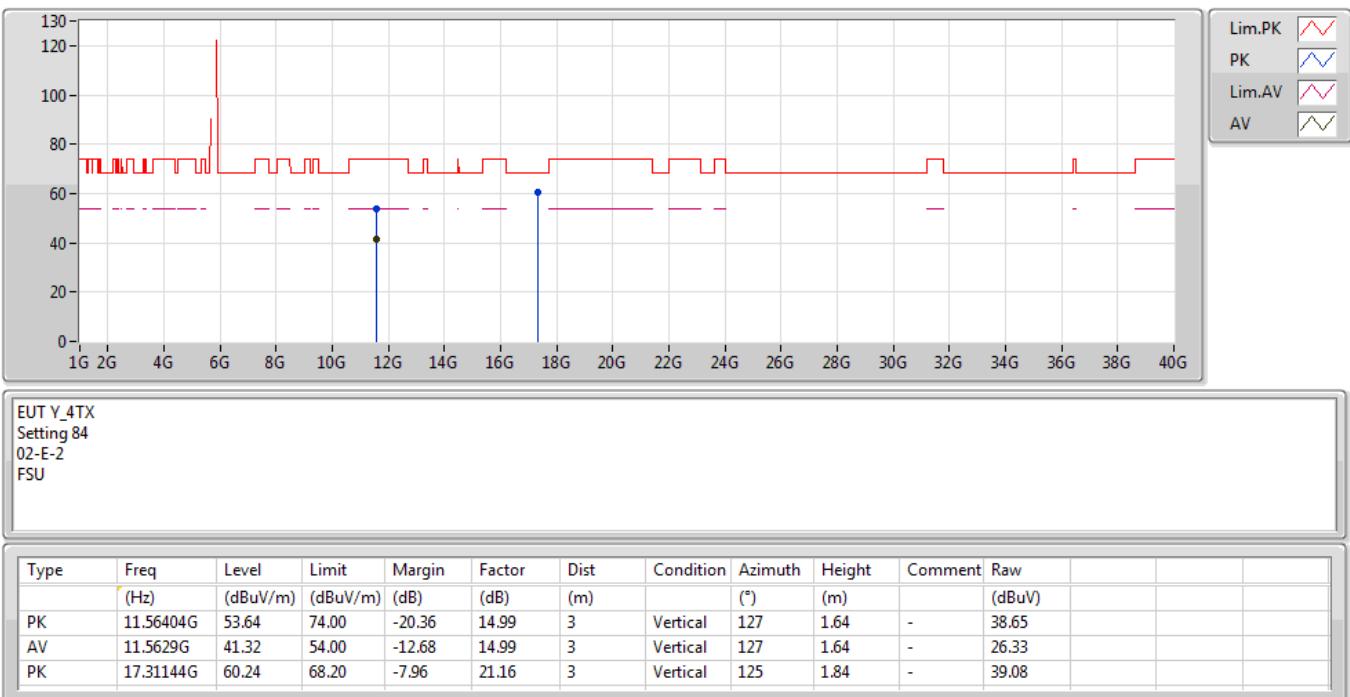
5775MHz_TX


EUT Y_4TX
 Setting 84
 02-E-2-10
 FSU

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV)			
PK	5.649G	62.01	68.20	-6.19	8.67	3	Horizontal	187	1.34	-	53.34			
PK	5.765G	111.25	Inf	-Inf	8.84	3	Horizontal	187	1.34	-	102.41			
AV	5.76G	100.21	Inf	-Inf	8.85	3	Horizontal	187	1.34	-	91.36			
PK	5.93G	59.51	68.20	-8.69	8.93	3	Horizontal	187	1.34	-	50.58			

802.11ax HEW80_Nss1,(MCS0)_4TX

14/09/2019

5775MHz_TX


802.11ax HEW80_Nss1,(MCS0)_4TX

14/09/2019

5775MHz_TX
