FCC Test Report

Equipment	:	802.11a/b/g/n/ac Wireless Access Point
Brand Name	:	CISCO
Model No.	:	MR70-HW
FCC ID	:	UDX-60067010
Standard	:	47 CFR FCC Part 15.407
Operating Band	:	5150 MHz – 5250 MHz 5725 MHz – 5850 MHz
Applicant	:	Cisco Systems, Inc. 170 West Tasman Drive, San Jose, CA 95134 USA
Manufacturer	:	Cisco Systems, Inc. 170 West Tasman Drive, San Jose, CA 95134 USA
Function	:	☒ Outdoor; ☒ Indoor; ☐ Fixed P2P ☐ Client

The product sample received on Aug. 22, 2017 and completely tested on Sep. 05, 2017. We, SPORTON, 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 test results in this report apply exclusively to the tested model / sample. Without written approval of SPORTON INTERNATIONAL INC., the test report shall not be reproduced except in full.

Cliff Chang
SPORTON INTERNATIONAL INC.

Testing Laboratory
1190

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Summary of Test Result

Conformance Test Specifications			
Report Clause	**Ref. Std. Clause**	**Description**	**Result**
1.1.2	15.203	Antenna Requirement	Complied
3.1	15.207	AC Power-line Conducted Emissions	Complied
3.2	15.407(a)	Emission Bandwidth	Complied
3.3	15.407(a)	Maximum Conducted Output Power	Complied
3.4	15.407(a)	Peak Power Spectral Density	Complied
3.5	15.407(b)	Unwanted Emissions	Complied
3.6	15.407(g)	Frequency Stability	Complied

Revision History

Report No.	Version	Description	Issued Date
FR782229AB	Rev. 01	Initial issue of report	Oct. 05, 2017
FR782229AB	Rev. 02	1. Revising the Model Name and FCC ID. 2. Revising the Photographs of EUT. 3. Adding duty cycle plots and test procedure.	Jan. 11, 2018
FR782229AB	Rev. 03	Revising the FCC ID.	Jan. 12, 2018

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)	5180-5240	36-48 [4]
5725-5850		5745-5825	149-165 [5]
5150-5250	n (HT40), ac (VHT40)	5190-5230	38-46 [2]
5725-5850		5755-5795	151-159 [2]
5150-5250	ac (VHT80)	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	802.11n HT20-BF	20	2TX
5.15-5.25GHz	802.11ac VHT20	20	2TX
5.15-5.25GHz	802.11ac VHT20-BF	20	2TX
5.15-5.25GHz	802.11n HT40	40	2TX
5.15-5.25GHz	802.11n HT40-BF	40	2TX
5.15-5.25GHz	802.11ac VHT40	40	2TX
5.15-5.25GHz	802.11ac VHT40-BF	40	2TX
5.15-5.25GHz	802.11ac VHT80	80	2TX
5.15-5.25GHz	802.11ac VHT80-BF	80	2TX
5.725-5.85GHz	802.11a	20	2TX
5.725-5.85GHz	802.11n HT20	20	2TX
5.725-5.85GHz	802.11n HT20-BF	20	2TX
5.725-5.85GHz	802.11ac VHT20	20	2TX
5.725-5.85GHz	802.11ac VHT20-BF	20	2TX
5.725-5.85GHz	802.11n HT40	40	2TX
5.725-5.85GHz	802.11n HT40-BF	40	2TX
5.725-5.85GHz	802.11ac VHT40	40	2TX
5.725-5.85GHz	802.11ac VHT40-BF	40	2TX
5.725-5.85GHz	802.11ac VHT80	80	2TX
5.725-5.85GHz	802.11ac VHT80-BF	80	2TX

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 modulation.
- BWch is the nominal channel bandwidth.
- Nss-Min is the minimum number of spatial streams.
- Nant is the number of outputs. e.g., 2(2,3) means have 2 outputs for port 2 and port 3. 2 means have 2 outputs for port 1 and port 2.

1.1.2 Antenna Information

Ant.	Port	Brand	Model Name	Antenna Type	Connector	Gain (dBi)	
						2.4GHz	5GHz
1	1	WNC	48XKAA1Z.SGA.X02	Dipole Antenna	I-PEX	4.84	4.87
2	2	WNC	48XKAA1Z.SGA.X02	Dipole Antenna	I-PEX	4.37	4.86
2TX Correlated Composite Gain(dBi)						4.96	5.15

Note: The EUT has two antennas.

2.4GHz Functions

For IEEE 802.11b/g/n/ac mode (2TX, 2RX):

Ant. 1 and Ant. 2 could transmit/receive simultaneously.

5GHz Functions

For IEEE 802.11a/n/ac mode (2TX, 2RX):

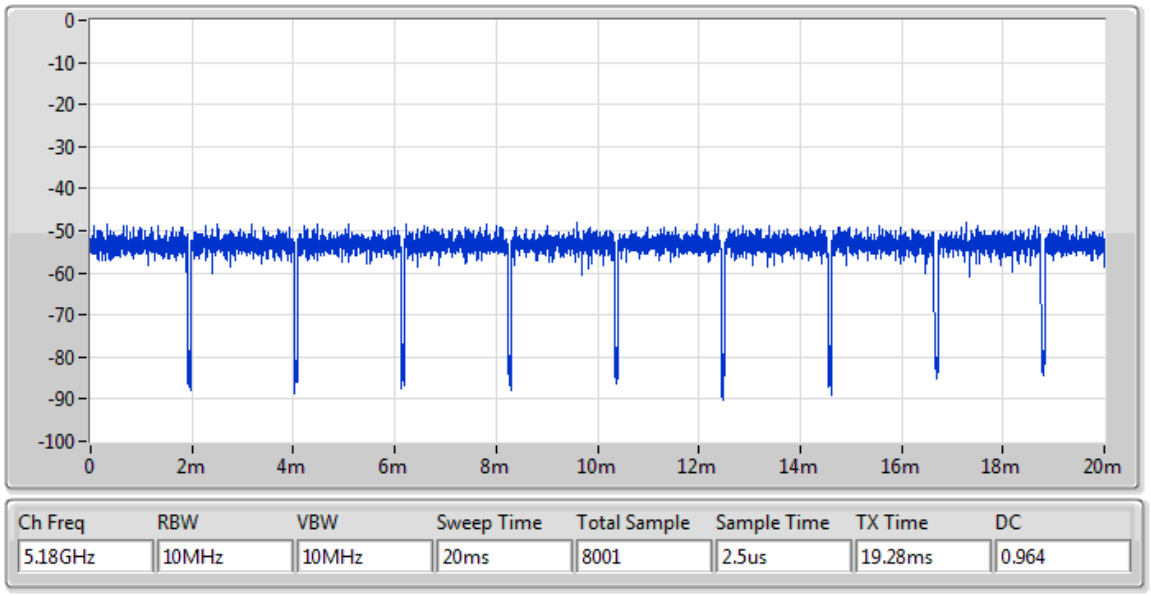
Ant. 1 and Ant. 2 could transmit/receive simultaneously.

1.1.3 Mode Test Duty Cycle

Mode	DC	DCF(dB)	T(s)	VBW(Hz) ≥ 1/T
802.11a	0.964	0.159	2.033m	1k
802.11ac VHT20	0.984	0.07	n/a (DC>=0.98)	n/a (DC>=0.98)
802.11ac VHT20-BF	0.911	0.405	1.823m	1k
802.11ac VHT40	0.961	0.173	2.403m	1k
802.11ac VHT40-BF	0.913	0.395	1.753m	1k
802.11ac VHT80	0.926	0.334	1.125m	1k
802.11ac VHT80-BF	0.885	0.531	2.015m	1k

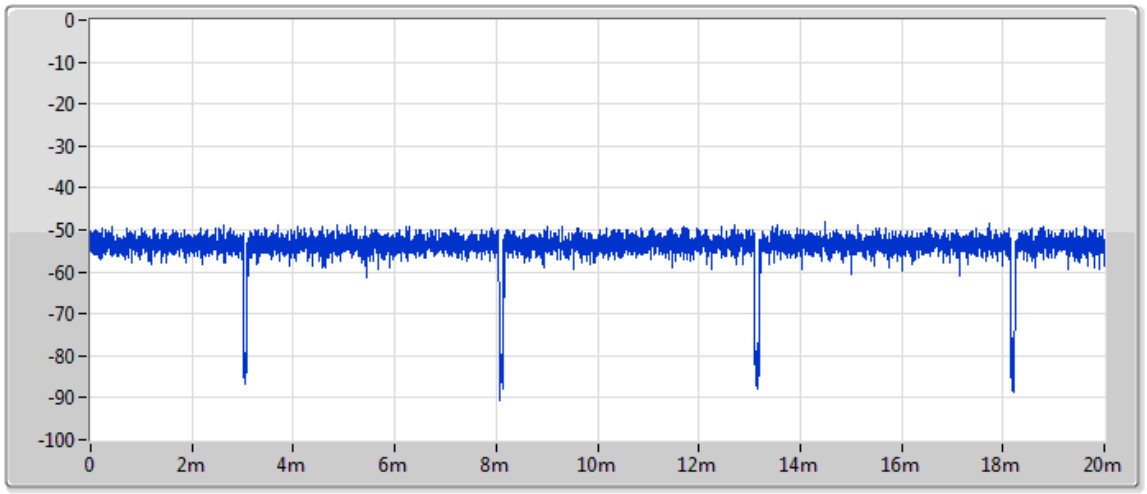
Note:
The test procedure refers to ANSI C63.10:2013 clause 11.6 b). The ON and OFF times of the transmitted signal is measured by spectrum analyzer and the setting as follows:
1) Set the center frequency of the instrument to the center frequency of the transmission.
2) Set RBW ≥ OBW if possible; otherwise, set RBW to the largest available value.
3) Set VBW ≥ RBW. Set detector = peak or average.
The measured result and plots are recorded in 1.1.3.

Mode
802.11a



Mode
802.11ac VHT20

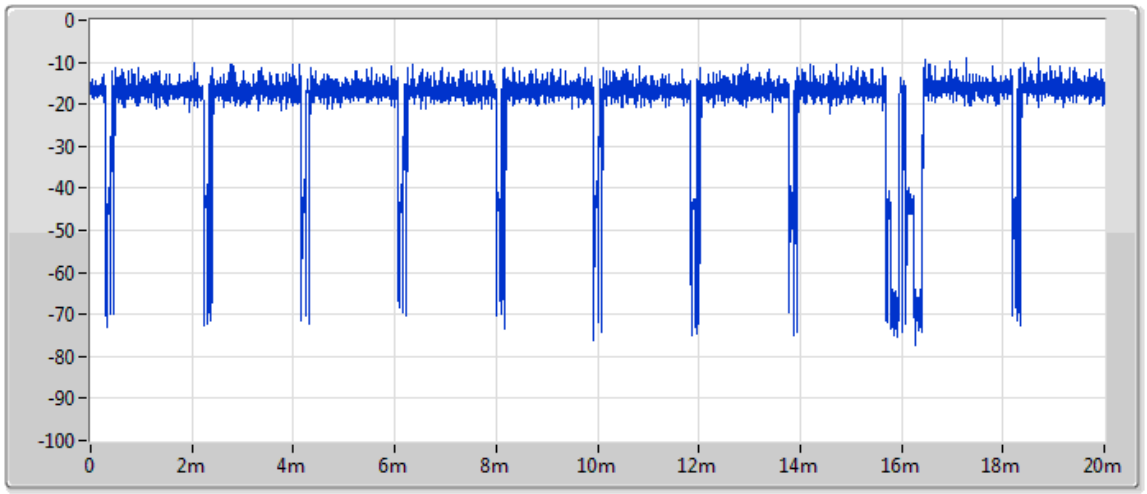
DC;VHT20;BWch:20



Ch Freq	RBW	VBW	Sweep Time	Total Sample	Sample Time	TX Time	DC
5.18GHz	10MHz	10MHz	20ms	8001	2.5us	19.6825ms	0.984

Mode
802.11ac VHT20-BF

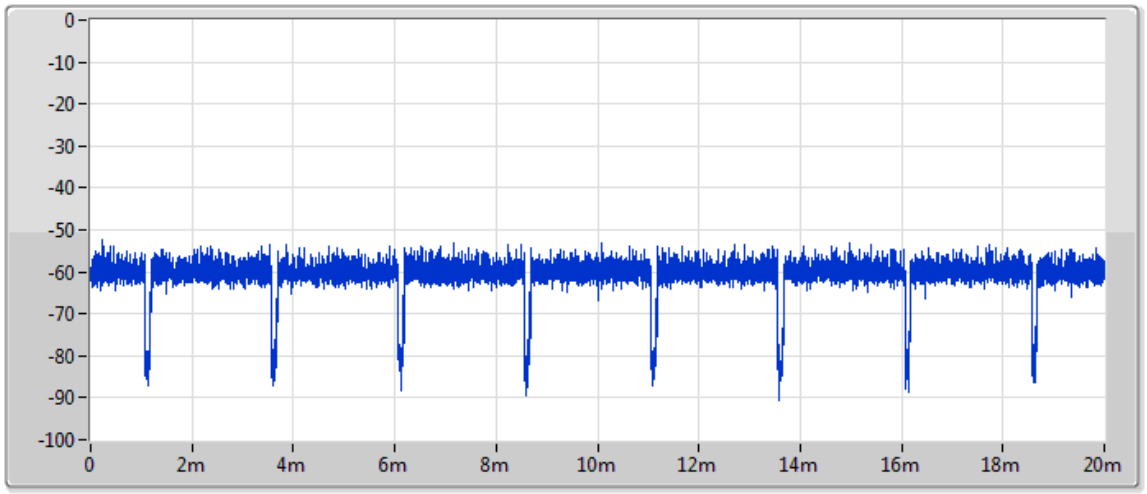
DC;VHT20,BF;BWch:20



Ch Freq	RBW	VBW	Sweep Time	Total Sample	Sample Time	TX Time	DC
5.18GHz	10MHz	10MHz	20ms	8001	2.5us	18.2175ms	0.911

Mode
802.11ac VHT40

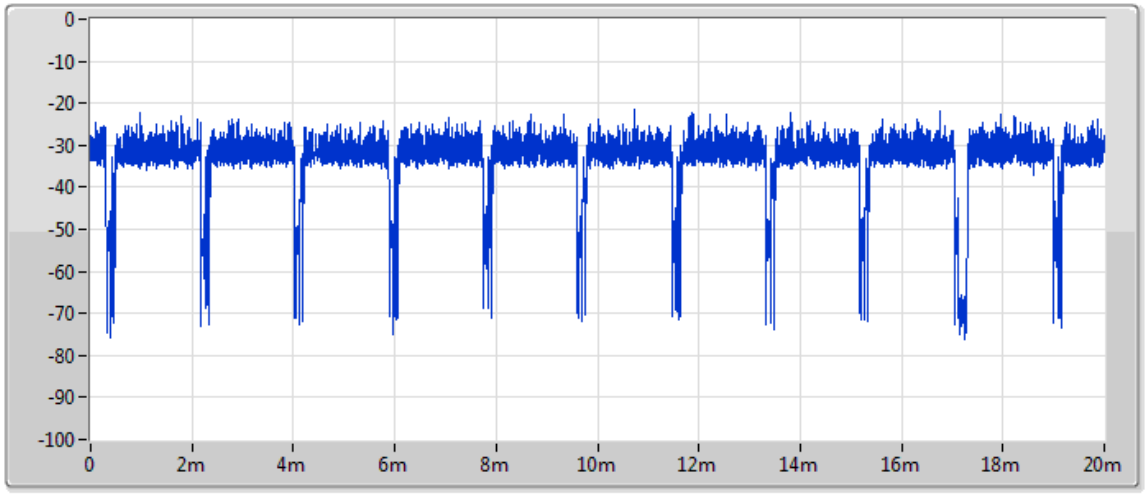
DC;VHT40;BWch:40



Ch Freq	RBW	VBW	Sweep Time	Total Sample	Sample Time	TX Time	DC
5.19GHz	10MHz	10MHz	20ms	8001	2.5us	19.225ms	0.961

Mode
802.11ac VHT40-BF

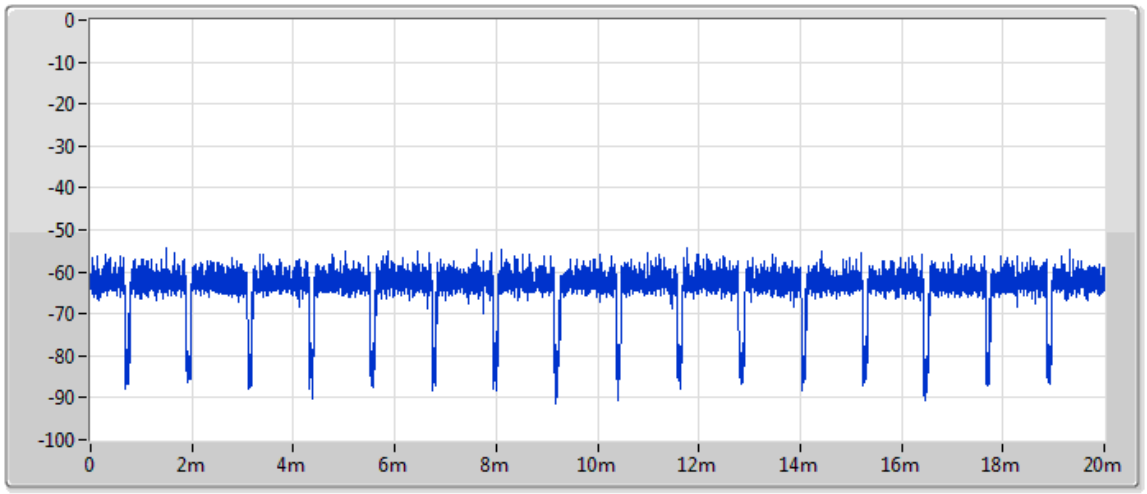
DC;VHT40,BF;BWch:40



Ch Freq	RBW	VBW	Sweep Time	Total Sample	Sample Time	TX Time	DC
5.19GHz	10MHz	10MHz	20ms	8001	2.5us	18.2675ms	0.913

Mode
802.11ac VHT80

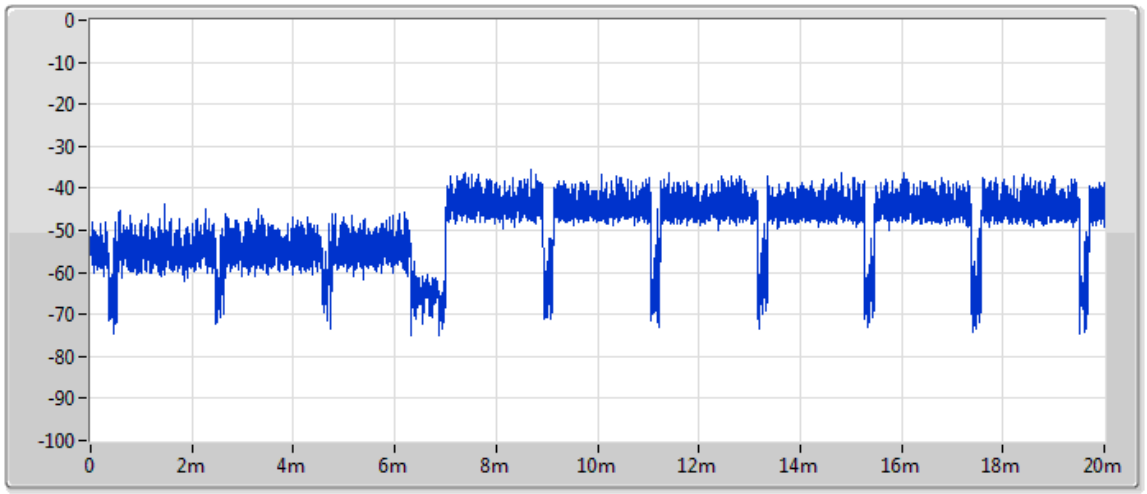
DC;VHT80;BWch:80



Ch Freq	RBW	VBW	Sweep Time	Total Sample	Sample Time	TX Time	DC
5.21GHz	10MHz	10MHz	20ms	8001	2.5us	18.525ms	0.926

Mode
802.11ac VHT80-BF

DC;VHT80,BF;BWch:80



Ch Freq	RBW	VBW	Sweep Time	Total Sample	Sample Time	TX Time	DC
5.21GHz	10MHz	10MHz	20ms	8001	2.5us	15.1525ms	0.758

1.1.4 EUT Operational Condition

EUT Power Type	From Power Adapter or PoE			
Beamforming Function	☒	With beamforming for 802.11n/ac in 2.4GHz/5GHz.	☐	Without beamforming

1.2 Testing Applied Standards

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

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

1.3 Testing Location Information

Testing Location			
☐	HWA YA	ADD :	No. 52, Hwa Ya 1st Rd., Kwei-Shan Hsiang, Tao Yuan Hsien, Taiwan, R.O.C.
		TEL : 886-3-327-3456	FAX : 886-3-318-0055
☒	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	Gary Chu & Ron Huang	26.9°C / 62%	Sep. 04, 2017
Radiated	03CH01-CB	Justin Lin & Paul Chen	22°C / 54%	Aug. 31, 2017 ~ Sep. 05, 2017
AC Conduction	CO01-CB	Deven Huang	23°C / 60%	Sep. 05, 2017

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)	3.2 dB	Confidence levels of 95%
Radiated Emission (30MHz ~ 1,000MHz)	3.6 dB	Confidence levels of 95%
Radiated Emission (1GHz ~ 18GHz)	3.7 dB	Confidence levels of 95%
Radiated Emission (18GHz ~ 40GHz)	3.5 dB	Confidence levels of 95%
Conducted Emission	1.7 dB	Confidence levels of 95%
Output Power Measurement	1.33 dB	Confidence levels of 95%
Power Density Measurement	1.27 dB	Confidence levels of 95%
Bandwidth Measurement	9.74×10^{-8}	Confidence levels of 95%
Frequency Stability	6.06×10^{-8}	Confidence levels of 95%

2 Test Configuration of EUT

2.1 Test Channel Mode

For indoor use Band 1 and indoor / outdoor use Band 4

Mode	Power Setting
802.11a_(6Mbps)_2TX	-
5180MHz	21
5200MHz	21
5240MHz	21
5745MHz	20
5785MHz	20
5825MHz	23
802.11ac VHT20_Nss1,(MCS0)_2TX	-
5180MHz	19
5200MHz	23
5240MHz	21
5745MHz	23
5785MHz	23
5825MHz	23
802.11ac VHT40_Nss1,(MCS0)_2TX	-
5190MHz	15.5
5230MHz	20.5
5755MHz	23
5795MHz	23
802.11ac VHT80_Nss1,(MCS0)_2TX	-
5210MHz	13.5
5775MHz	19.5
802.11ac VHT20-BF_Nss1,(MCS0)_2TX	-
5180MHz	21
5200MHz	21
5240MHz	21
5745MHz	21
5785MHz	21
5825MHz	21
802.11ac VHT40-BF_Nss1,(MCS0)_2TX	-
5190MHz	20
5230MHz	21
5755MHz	21
5795MHz	21
802.11ac VHT80-BF_Nss1,(MCS0)_2TX	-
5210MHz	19
5775MHz	21

For outdoor use Band 1

Mode	Power Setting
802.11a_(6Mbps)_2TX	-
5180MHz	13
5200MHz	13
5240MHz	12.5
802.11ac VHT20_Nss1,(MCS0)_2TX	-
5180MHz	13
5200MHz	13
5240MHz	12.5
802.11ac VHT40_Nss1,(MCS0)_2TX	-
5190MHz	13
5230MHz	12.5
802.11ac VHT80_Nss1,(MCS0)_2TX	-
5210MHz	13.5
802.11ac VHT20-BF_Nss1,(MCS0)_2TX	-
5180MHz	16
5200MHz	15.5
5240MHz	15.5
802.11ac VHT40-BF_Nss1,(MCS0)_2TX	-
5190MHz	15.5
5230MHz	15.5
802.11ac VHT80-BF_Nss1,(MCS0)_2TX	-
5210MHz	15.5

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.
- There are two modes of EUT for 802.11ac in 2.4GHz/5GHz. One is beamforming mode, and the other is non-beamforming mode. Both modes have been tested and recorded in this test report.

2.2 The Worst Case Measurement Configuration

The Worst Case Mode for Following Conformance Tests	
Tests Item	AC power-line conducted emissions
Condition	AC power-line conducted measurement for line and neutral
Operating Mode	Normal Link
1	EUT + Adapter
2	EUT + PoE
For operating mode 2 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 Frequency Stability
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	Normal Link
1	EUT in Y axis + Adapter
2	EUT in Z axis + Adapter
Mode 2 has been evaluated to be the worst case among Mode 1~2, thus measurement for Mode 3 will follow this same test mode.	
3	EUT in Z axis + PoE
For operating mode 2 is the worst case and it was record in this test report.	
Operating Mode > 1GHz	CTX
	The EUT was performed at Y axis and Z axis position for Radiated emission above 1GHz test, and the worst case was found at Z axis. So the measurement will follow this same test configuration.
1	EUT in Z axis

The Worst Case Mode for Following Conformance Tests	
Tests Item	Simultaneous Transmission Analysis - Radiated Emission Co-location
Test Condition	Radiated measurement
Operating Mode	Normal Link
	The EUT was performed at Y axis and Z axis position for radiated emission below 1GHz test, and the worst case was found at Z axis. So the measurement will follow this same test configuration.
1	WLAN 2.4GHz + WLAN 5GHz
Refer to Appendix A for Radiated Emission Co-location.	

The Worst Case Mode for Following Conformance Tests	
Tests Item	Simultaneous Transmission Analysis - Co-location RF Exposure Evaluation
Operating Mode	
1	WLAN 2.4GHz + WLAN 5GHz
Refer to Sporton Test Report No.: FA782229 for Co-location RF Exposure Evaluation.	

Note1: The PoE was for measurement only, would not be marketed.

The PoE information as below:

Support Unit	Brand	Model Number
PoE	CISCO	MA-INJ-4

2.3 EUT Operation during Test

For CTX Mode:

non-beamforming mode:

The EUT was programmed to be in continuously transmitting mode.

beamforming mode:

For Conducted Mode:

The EUT was programmed to be in continuously transmitting mode.

For Radiated Mode:

During the test, the following programs under WIN 7 were executed.
The program was executed as follows:
1. During the test, the EUT operation to normal function.
2. Executed command fixed test channel under Telnet.
3. Executed "Lantest.exe" to link with the remote workstation to transmit and receive packet by RX Device and transmit duty cycle no less than 98%.

For Normal Link:

During the test, the EUT operation to normal function.

2.4 Accessories

Accessories			
Equipment Name	**Brand Name**	**Model Name**	**Rating**
Adapter	CISCO	KSAS0361200250HU	INPUT: 100-240V ~ 50/60Hz 1.0A OUTPUT: 12V, 2.5A
Other			
Wall-mounted rack*1			

2.5 Support Equipment

For Test Site No: CO01-CB

Support Equipment				
No.	**Equipment**	**Brand Name**	**Model Name**	**FCC ID**
1	NB	DELL	E6430	DoC
2	NB	DELL	E6430	DoC
3	NB	DELL	E6430	DoC
4	PoE	CISCO	MA-INJ-4	DoC

For Test Site No: 03CH01-CB (below 1GHz)

Support Equipment				
No.	**Equipment**	**Brand Name**	**Model Name**	**FCC ID**
1	NB	DELL	E4300	DoC
2	NB	Apple	Mac Book	DoC
3	NB	Apple	Mac Book	DoC

For Test Site No: 03CH01-CB (above 1GHz)
<For Non-Beamforming Mode>

Support Equipment				
No.	**Equipment**	**Brand Name**	**Model Name**	**FCC ID**
1	NB	DELL	E4300	DoC

<For Beamforming Mode>

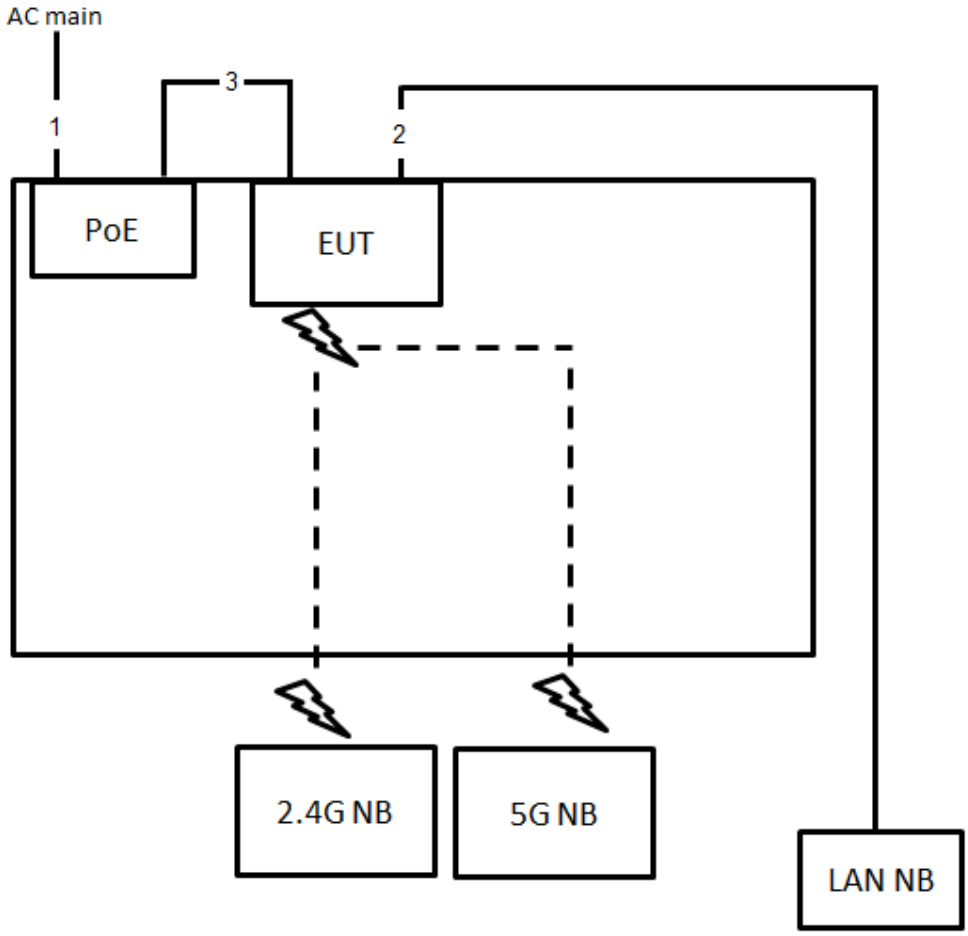
Support Equipment				
No.	**Equipment**	**Brand Name**	**Model Name**	**FCC ID**
1	NB	DELL	E4300	DoC
2	NB	DELL	E4300	DoC
3	RX Device	CISCO	GR60-HW	UDX-60067010

For Test Site No: TH01-CB

Support Equipment				
No.	**Equipment**	**Brand Name**	**Model Name**	**FCC ID**
1	NB	DELL	E4300	DoC

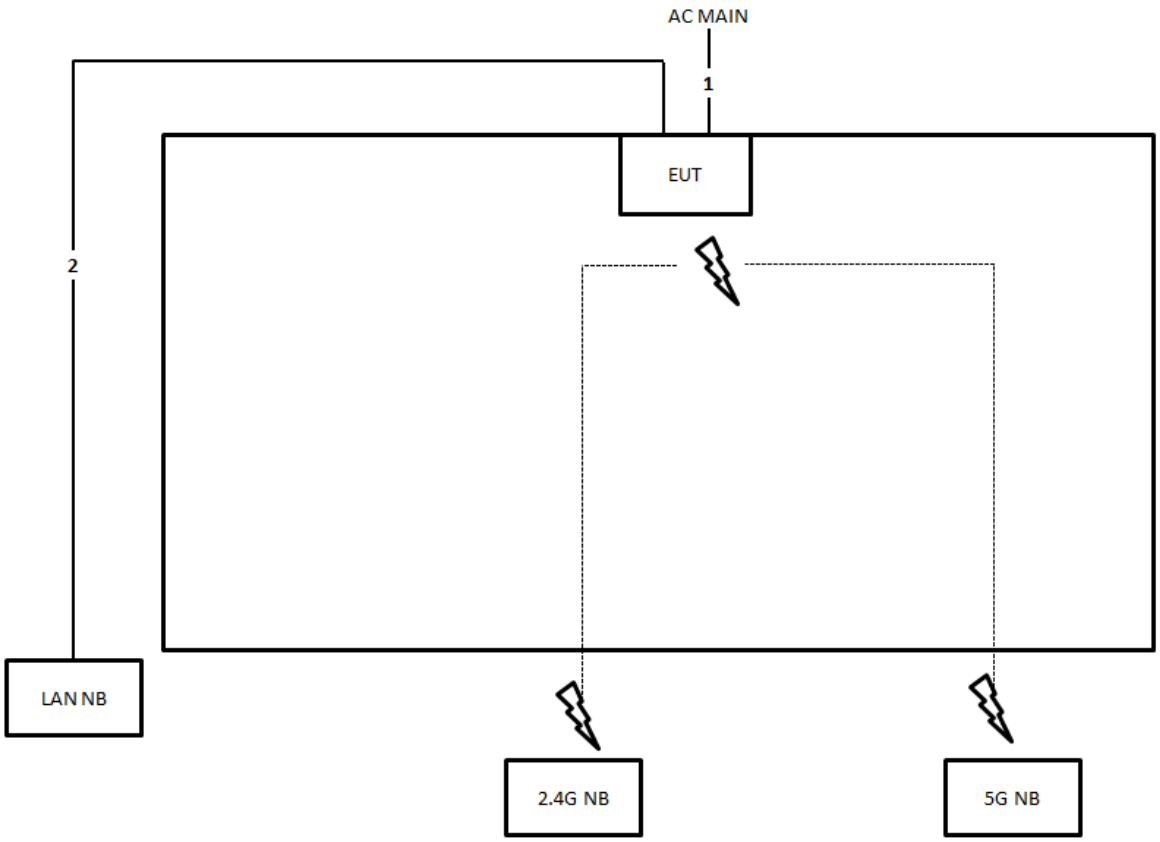
2.6 Test Setup Diagram

Test Setup Diagram – AC Line Conducted Emission Test



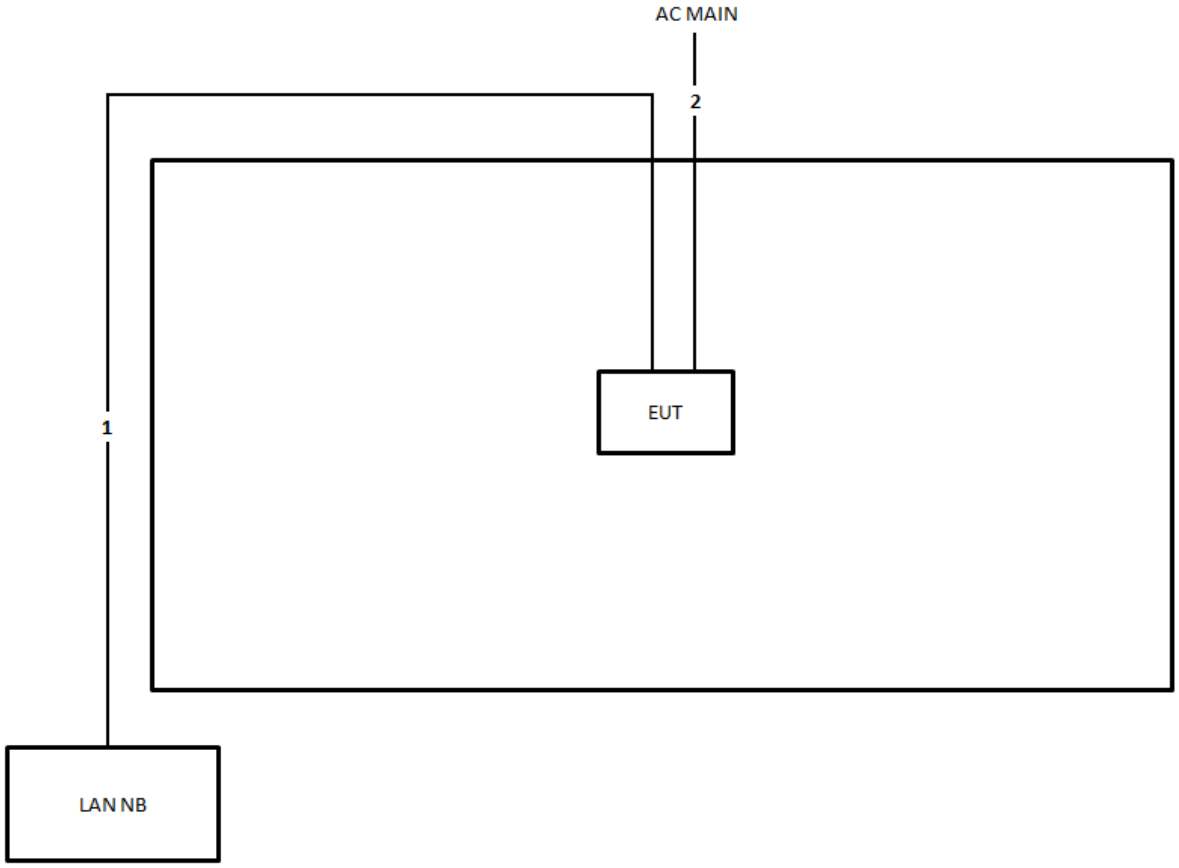
Item	Connection	Shielded	Length
1	Power cable	No	1.5m
2	RJ-45 cable	No	10m
3	RJ-45 cable	No	1.5m

Test Setup Diagram - Radiated Test < 1GHz



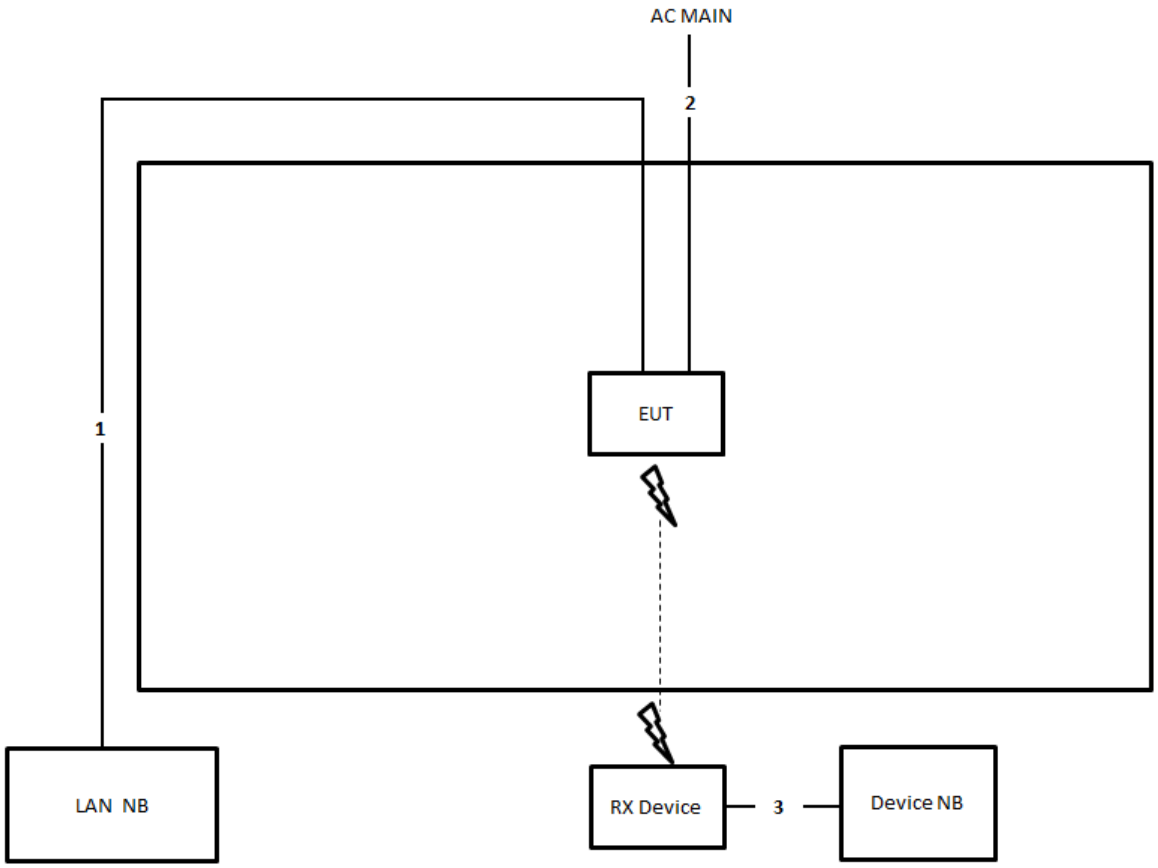
Item	Connection	Shielded	Length
1	Power cable	No	1.5m
2	RJ-45 cable	No	10m

Test Setup Diagram - Radiated Test > 1GHz / For Non-Beamforming Mode



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

Test Setup Diagram - Radiated Test > 1GHz / For Beamforming Mode



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

3 Transmitter Test Result

3.1 AC Power-line Conducted Emissions

3.1.1 AC Power-line Conducted Emissions Limit

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

3.1.2 Measuring Instruments

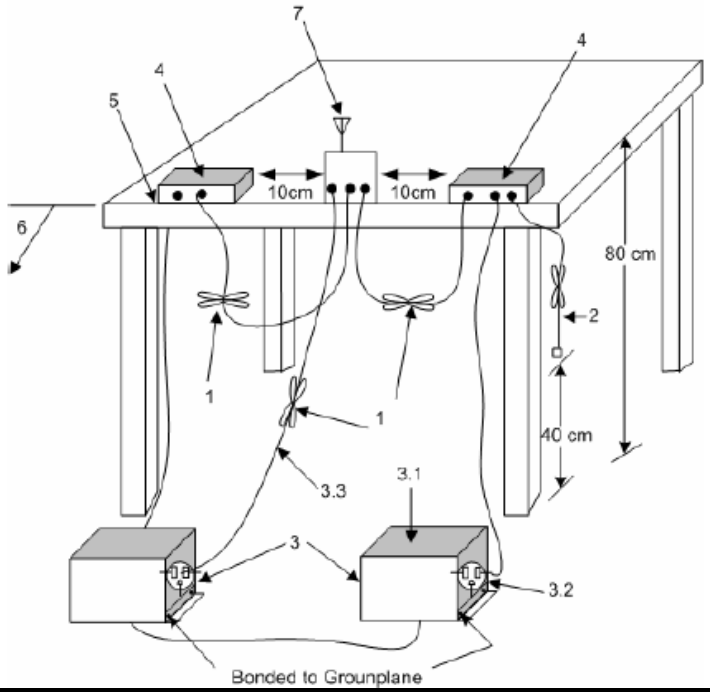
Refer a test equipment and calibration data table in this test report.

3.1.3 Test Procedures

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

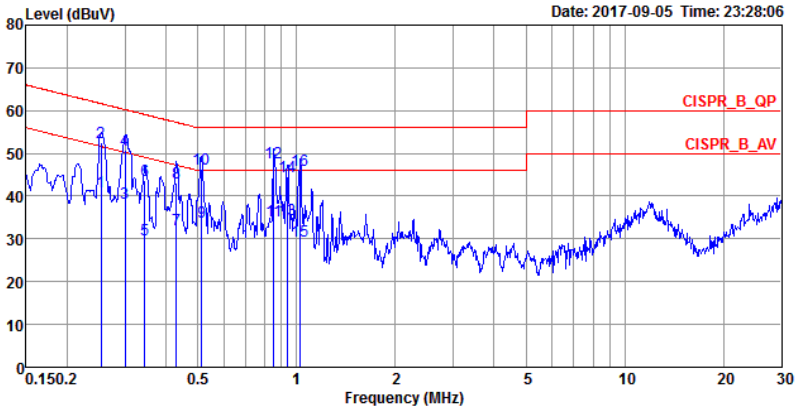
3.1.4 Test Setup

AC Power-line Conducted Emissions



3.1.5 Test Result of AC Power-line Conducted Emissions

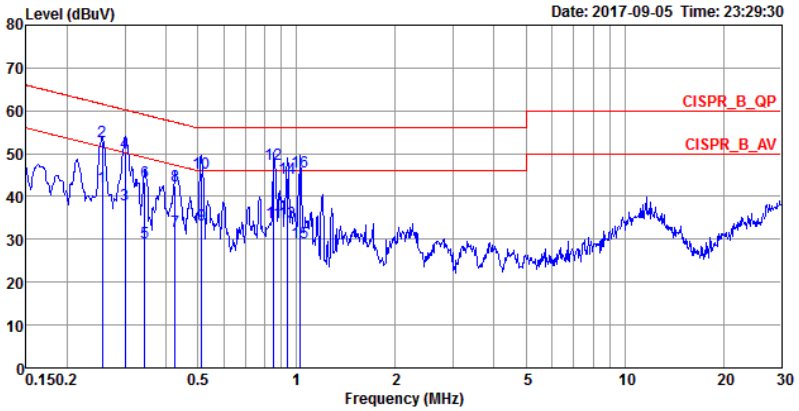
AC Power-line Conducted Emissions Result			
Operating Mode	2	**Power Phase**	Neutral
Operating Function	Normal Link		



	Freq	Level	Over Limit	Limit Line	Read Level	LISN Factor	Cable Loss	Remark	Pol/Phase
	MHz	dBuV	dB	dBuV	dBuV	dB	dB		
1	0.2535	40.93	-10.71	51.64	30.76	10.08	0.09	Average	NEUTRAL
2	0.2535	52.59	-9.05	61.64	42.42	10.08	0.09	QP	NEUTRAL
3	0.3003	38.32	-11.92	50.24	28.11	10.15	0.06	Average	NEUTRAL
4	0.3003	50.69	-9.55	60.24	40.48	10.15	0.06	QP	NEUTRAL
5	0.3446	29.83	-19.26	49.09	19.60	10.19	0.04	Average	NEUTRAL
6	0.3446	43.82	-15.27	59.09	33.59	10.19	0.04	QP	NEUTRAL
7	0.4305	32.06	-15.18	47.24	21.79	10.25	0.02	Average	NEUTRAL
8	0.4305	43.04	-14.20	57.24	32.77	10.25	0.02	QP	NEUTRAL
9	0.5128	33.86	-12.14	46.00	23.58	10.22	0.06	Average	NEUTRAL
10	0.5128	46.23	-9.77	56.00	35.95	10.22	0.06	QP	NEUTRAL
11	0.8528	34.30	-11.70	46.00	24.04	10.10	0.16	Average	NEUTRAL
12	0.8528	47.85	-8.15	56.00	37.59	10.10	0.16	QP	NEUTRAL
13	0.9381	34.41	-11.59	46.00	24.16	10.07	0.18	Average	NEUTRAL
14	0.9381	44.60	-11.40	56.00	34.35	10.07	0.18	QP	NEUTRAL
15	1.0211	29.50	-16.50	46.00	19.26	10.05	0.19	Average	NEUTRAL
16	1.0211	46.01	-9.99	56.00	35.77	10.05	0.19	QP	NEUTRAL

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

AC Power-line Conducted Emissions Result			
Operating Mode	2	**Power Phase**	Line
Operating Function	Normal Link		



	Freq	Level	Over Limit	Limit Line	Read Level	LISN Factor	Cable Loss	Remark	Pol/Phase
	MHz	dBuV	dB	dBuV	dBuV	dB	dB		
1	0.2562	42.23	-9.33	51.56	32.22	9.92	0.09	Average	LINE
2	0.2562	52.73	-8.83	61.56	42.72	9.92	0.09	QP	LINE
3	0.3003	38.18	-12.06	50.24	28.19	9.93	0.06	Average	LINE
4	0.3003	50.26	-9.98	60.24	40.27	9.93	0.06	QP	LINE
5	0.3446	29.34	-19.75	49.09	19.36	9.94	0.04	Average	LINE
6	0.3446	43.34	-15.75	59.09	33.36	9.94	0.04	QP	LINE
7	0.4260	31.91	-15.42	47.33	21.94	9.95	0.02	Average	LINE
8	0.4260	42.46	-14.87	57.33	32.49	9.95	0.02	QP	LINE
9	0.5128	33.28	-12.72	46.00	23.27	9.95	0.06	Average	LINE
10	0.5128	45.59	-10.41	56.00	35.58	9.95	0.06	QP	LINE
11	0.8528	33.87	-12.13	46.00	23.75	9.96	0.16	Average	LINE
12	0.8528	47.44	-8.56	56.00	37.32	9.96	0.16	QP	LINE
13	0.9381	33.86	-12.14	46.00	23.72	9.96	0.18	Average	LINE
14	0.9381	44.33	-11.67	56.00	34.19	9.96	0.18	QP	LINE
15	1.0211	29.22	-16.78	46.00	19.07	9.96	0.19	Average	LINE
16	1.0211	45.75	-10.25	56.00	35.60	9.96	0.19	QP	LINE

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

3.2 Emission Bandwidth

3.2.1 Emission Bandwidth Limit

Emission Bandwidth Limit	
UNII Devices	
☒	For the 5.15-5.25 GHz band, N/A
☐	For the 5.25-5.35 GHz band, the maximum conducted output power shall not exceed the lesser of 250 mW or 11 dBm + 10 log B, where B is the 26 dB emission bandwidth in MHz.
☐	For the 5.47-5.725 GHz band, the maximum conducted output power shall not exceed the lesser of 250 mW or 11 dBm + 10 log B, where B is the 26 dB emission bandwidth in MHz.
☒	For the 5.725-5.85 GHz band, 6 dB emission bandwidth ≥ 500kHz.
LE-LAN Devices	
☐	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.
☐	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
☐	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
☐	For the 5.725-5.85 GHz band, 6 dB emission bandwidth ≥ 500kHz.

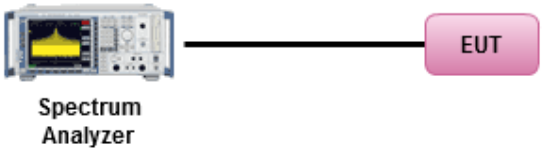
3.2.2 Measuring Instruments

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

3.2.3 Test Procedures

Test Method		
▪	For the emission bandwidth shall be measured using one of the options below:	
	☒	Refer as FCC KDB 789033, clause C for EBW and clause D for OBW measurement.
	☐	Refer as ANSI C63.10, clause 6.9.1 for occupied bandwidth testing.
	☒	Refer as IC RSS-Gen, clause 4.6 for bandwidth testing.

3.2.4 Test Setup

Emission Bandwidth
 Spectrum Analyzer

3.2.5 Test Result of Emission Bandwidth

For indoor use Band 1 and indoor / outdoor use Band 4
Summary

Mode	Max-N dB (Hz)	Max-OBW (Hz)	ITU-Code	Min-N dB (Hz)	Min-OBW (Hz)
802.11a_(6Mbps)_2TX	-	-	-	-	-
5.15-5.25GHz	41.925M	18.116M	18M1D1D	37.425M	16.867M
5.725-5.85GHz	16.3M	33.683M	33M7D1D	16.05M	16.492M
802.11ac VHT20_Nss1,(MCS0)_2TX	-	-	-	-	-
5.15-5.25GHz	48.425M	28.461M	28M5D1D	26.45M	17.666M
5.725-5.85GHz	17.575M	35.932M	35M9D1D	3.74M	9.535M
802.11ac VHT40_Nss1,(MCS0)_2TX	-	-	-	-	-
5.15-5.25GHz	89.05M	38.181M	38M2D1D	39.6M	35.932M
5.725-5.85GHz	35M	70.015M	70M0D1D	30.05M	59.17M
802.11ac VHT80_Nss1,(MCS0)_2TX	-	-	-	-	-
5.15-5.25GHz	83.6M	75.762M	75M8D1D	83.2M	75.662M
5.725-5.85GHz	75.1M	76.462M	76M5D1D	72.5M	75.862M
802.11ac VHT20-BF_Nss1,(MCS0)_2TX	-	-	-	-	-
5.15-5.25GHz	21.95M	17.666M	17M7D1D	20.775M	17.616M
5.725-5.85GHz	17.575M	17.691M	17M7D1D	17.25M	17.591M
802.11ac VHT40-BF_Nss1,(MCS0)_2TX	-	-	-	-	-
5.15-5.25GHz	46.35M	36.082M	36M1D1D	39.45M	35.982M
5.725-5.85GHz	35.6M	36.082M	36M1D1D	35M	35.982M
802.11ac VHT80-BF_Nss1,(MCS0)_2TX	-	-	-	-	-
5.15-5.25GHz	83.2M	75.662M	75M7D1D	82.4M	75.562M
5.725-5.85GHz	75.3M	75.862M	75M9D1D	71.9M	75.662M

Max-N dB = Maximum 6dB down bandwidth for 5.725-5.85GHz band / Maximum 26dB down bandwidth for other band;
Max-OBW = Maximum 99% 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;

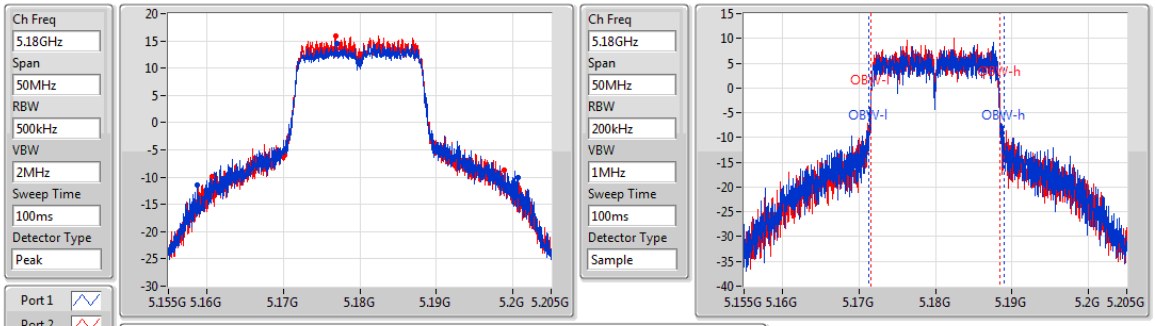
Result

Mode	Result	Limit (Hz)	Port 1-N dB (Hz)	Port 1-OBW (Hz)	Port 2-N dB (Hz)	Port 2-OBW (Hz)
802.11a_(6Mbps)_2TX	-	-	-	-	-	-
5180MHz	Pass	Inf	41.925M	17.741M	38.125M	16.867M
5200MHz	Pass	Inf	39.725M	16.942M	37.425M	16.942M
5240MHz	Pass	Inf	38.75M	17.091M	41.35M	18.116M
5745MHz	Pass	500k	16.3M	16.942M	16.3M	16.492M
5785MHz	Pass	500k	16.275M	16.842M	16.275M	16.517M
5825MHz	Pass	500k	16.05M	33.683M	16.275M	26.837M
802.11ac VHT20_Nss1,(MCS0)_2TX	-	-	-	-	-	-
5180MHz	Pass	Inf	27.65M	17.716M	26.45M	17.666M
5200MHz	Pass	Inf	48.3M	28.461M	48.425M	28.436M
5240MHz	Pass	Inf	41.2M	18.066M	41.875M	18.541M
5745MHz	Pass	500k	17.525M	35.932M	17.175M	27.086M
5785MHz	Pass	500k	17.575M	35.357M	16.75M	27.236M
5825MHz	Pass	500k	17.575M	35.357M	17.3M	28.886M
802.11ac VHT40_Nss1,(MCS0)_2TX	-	-	-	-	-	-
5190MHz	Pass	Inf	39.6M	35.932M	39.8M	35.982M
5230MHz	Pass	Inf	85.65M	36.732M	89.05M	38.181M
5755MHz	Pass	500k	33.2M	70.015M	35M	59.17M
5795MHz	Pass	500k	34.45M	67.666M	30.05M	63.468M
802.11ac VHT80_Nss1,(MCS0)_2TX	-	-	-	-	-	-
5210MHz	Pass	Inf	83.2M	75.762M	83.6M	75.662M
5775MHz	Pass	500k	75.1M	76.462M	72.5M	75.862M
802.11ac VHT20-BF_Nss1,(MCS0)_2TX	-	-	-	-	-	-
5180MHz	Pass	Inf	21.95M	17.641M	21.15M	17.641M
5200MHz	Pass	Inf	20.9M	17.666M	20.775M	17.616M
5240MHz	Pass	Inf	21.675M	17.641M	21.225M	17.666M
5745MHz	Pass	500k	17.55M	17.691M	17.575M	17.591M
5785MHz	Pass	500k	17.55M	17.691M	17.55M	17.616M
5825MHz	Pass	500k	17.25M	17.691M	17.55M	17.591M
802.11ac VHT40-BF_Nss1,(MCS0)_2TX	-	-	-	-	-	-
5190MHz	Pass	Inf	39.45M	35.982M	39.75M	35.982M
5230MHz	Pass	Inf	41.45M	36.082M	46.35M	36.082M
5755MHz	Pass	500k	35M	36.082M	35.6M	35.982M
5795MHz	Pass	500k	35.05M	36.082M	35.05M	36.032M
802.11ac VHT80-BF_Nss1,(MCS0)_2TX	-	-	-	-	-	-
5210MHz	Pass	Inf	83.2M	75.662M	82.4M	75.562M
5775MHz	Pass	500k	75.3M	75.862M	71.9M	75.662M

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_(6Mbps)_2TX **EBW**

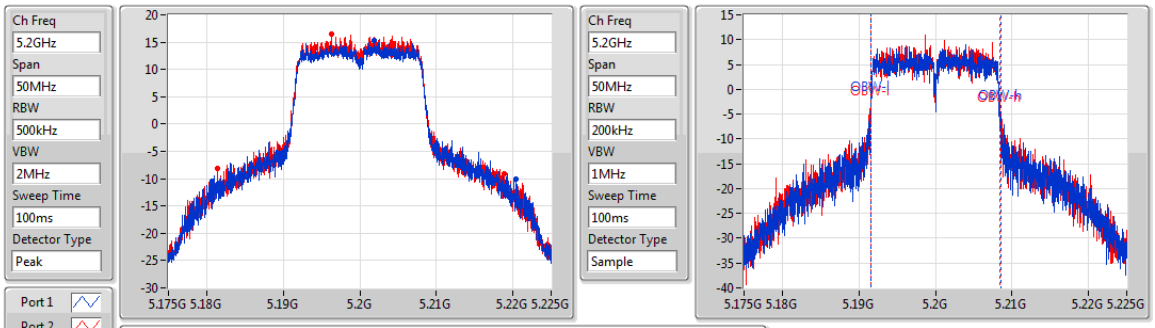
5180MHz



26dB(Hz)	Fl-26dB(Hz)	Fh-26dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
41.925M	5.15875G	5.200675G	17.741M	5.171279G	5.18902G	Inf	1
38.125M	5.160725G	5.19885G	16.867M	5.171554G	5.188421G	Inf	2

802.11a_(6Mbps)_2TX **EBW**

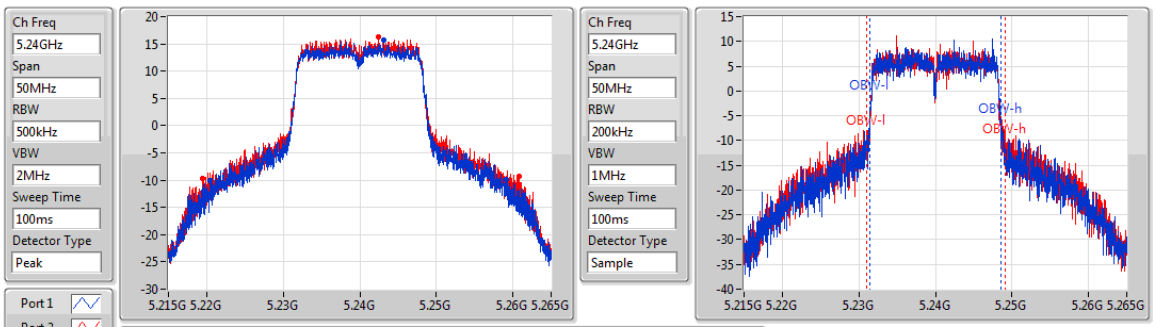
5200MHz



26dB(Hz)	Fl-26dB(Hz)	Fh-26dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
39.725M	5.180725G	5.22045G	16.942M	5.191579G	5.208521G	Inf	1
37.425M	5.181475G	5.2189G	16.942M	5.191529G	5.208471G	Inf	2

802.11a_(6Mbps)_2TX **EBW**

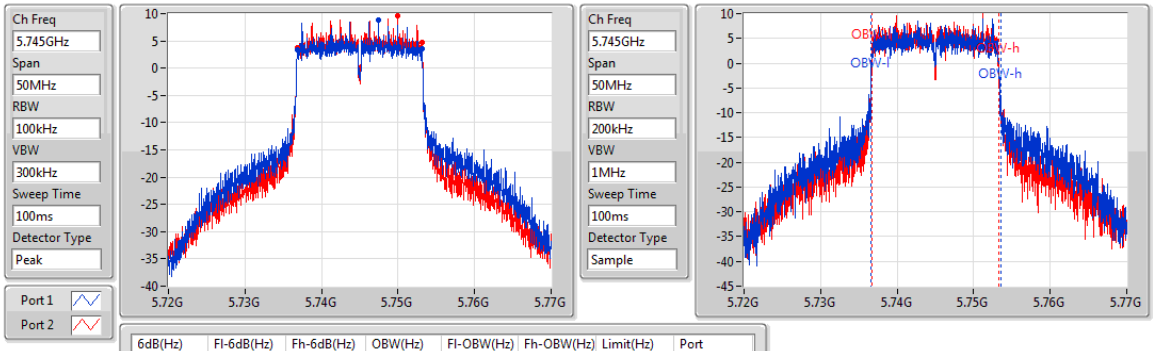
5240MHz



26dB(Hz)	Fl-26dB(Hz)	Fh-26dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
38.75M	5.220425G	5.259175G	17.091M	5.231429G	5.248521G	Inf	1
41.35M	5.21945G	5.2608G	18.116M	5.230955G	5.24907G	Inf	2

802.11a_(6Mbps)_2TX **EBW**

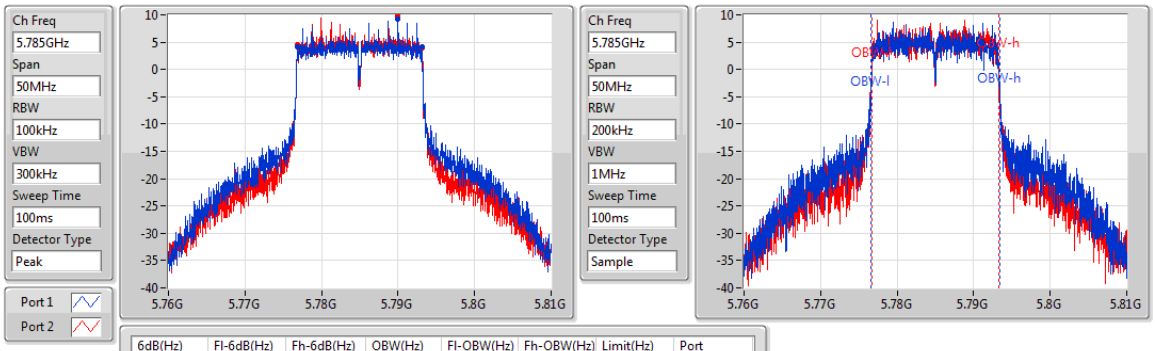
5745MHz



6dB(Hz)	Fl-6dB(Hz)	Fh-6dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
16.3M	5.736825G	5.753125G	16.942M	5.736604G	5.753546G	500k	1
16.3M	5.736825G	5.753125G	16.492M	5.736729G	5.753221G	500k	2

802.11a_(6Mbps)_2TX **EBW**

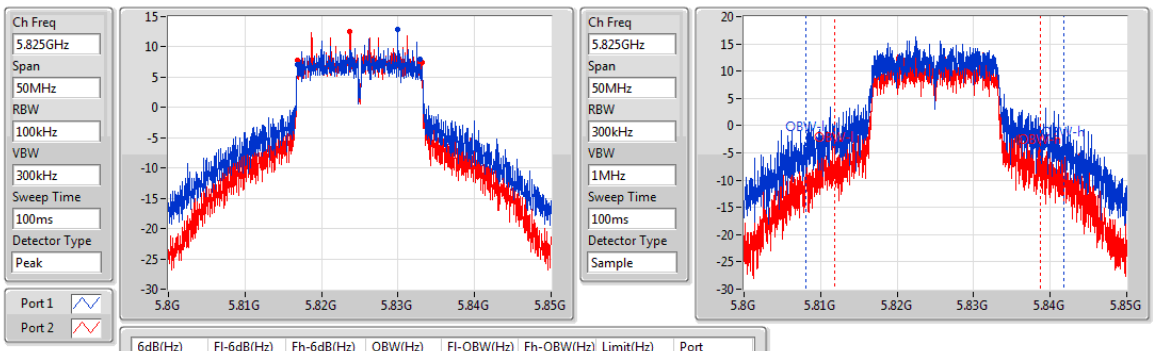
5785MHz



6dB(Hz)	Fl-6dB(Hz)	Fh-6dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
16.275M	5.77685G	5.793125G	16.842M	5.776579G	5.793421G	500k	1
16.275M	5.77685G	5.793125G	16.517M	5.776704G	5.793221G	500k	2

802.11a_(6Mbps)_2TX **EBW**

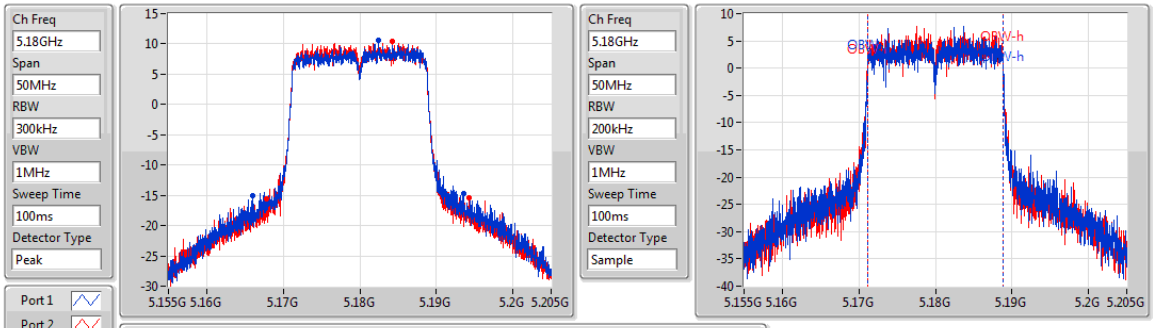
5825MHz



6dB(Hz)	Fl-6dB(Hz)	Fh-6dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
16.05M	5.816825G	5.832875G	33.683M	5.808058G	5.841742G	500k	1
16.275M	5.81685G	5.833125G	26.837M	5.811832G	5.838668G	500k	2

802.11ac VHT20_Nss1,(MCS0)_2TX EBW

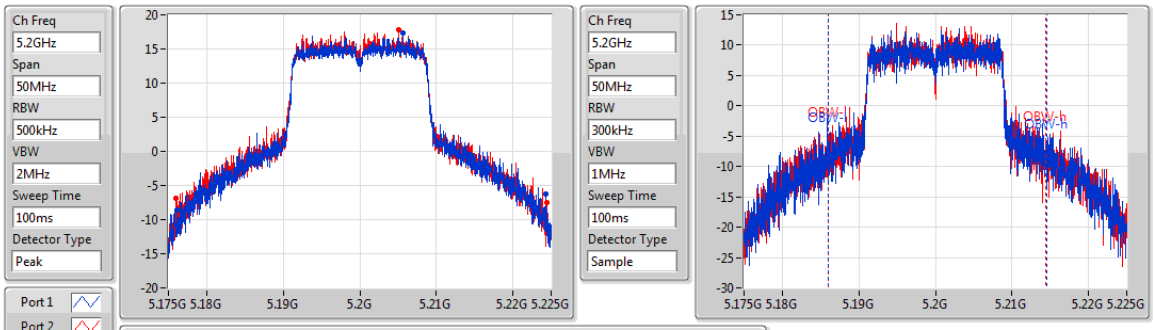
5180MHz



26dB(Hz)	Fl-26dB(Hz)	Fh-26dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
27.65M	5.16595G	5.1936G	17.716M	5.171129G	5.188846G	Inf	1
26.45M	5.167875G	5.194325G	17.666M	5.171129G	5.188796G	Inf	2

802.11ac VHT20_Nss1,(MCS0)_2TX EBW

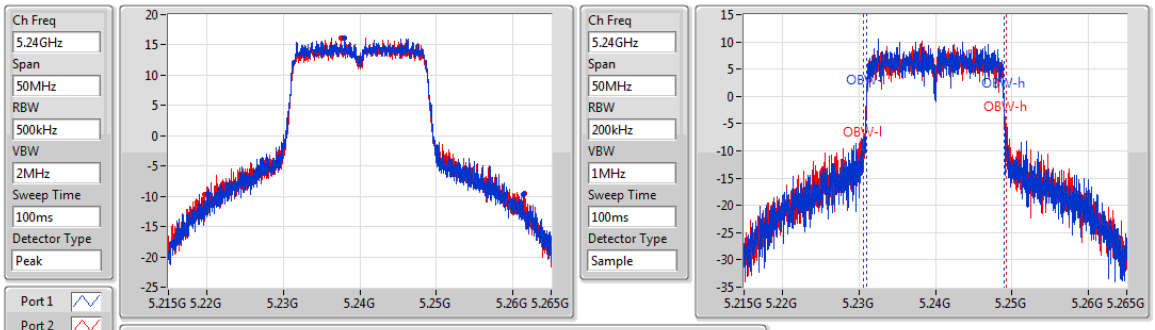
5200MHz



26dB(Hz)	Fl-26dB(Hz)	Fh-26dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
48.3M	5.17605G	5.22435G	28.461M	5.186057G	5.214518G	Inf	1
48.425M	5.176025G	5.22445G	28.436M	5.185957G	5.214393G	Inf	2

802.11ac VHT20_Nss1,(MCS0)_2TX EBW

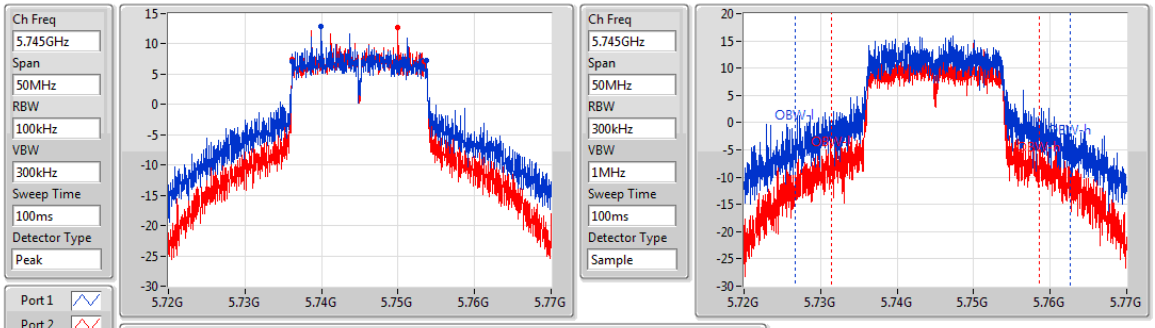
5240MHz



26dB(Hz)	Fl-26dB(Hz)	Fh-26dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
41.2M	5.220125G	5.261325G	18.066M	5.230955G	5.24902G	Inf	1
41.875M	5.2197G	5.261575G	18.541M	5.230655G	5.249195G	Inf	2

802.11ac VHT20_Nss1,(MCS0)_2TX EBW

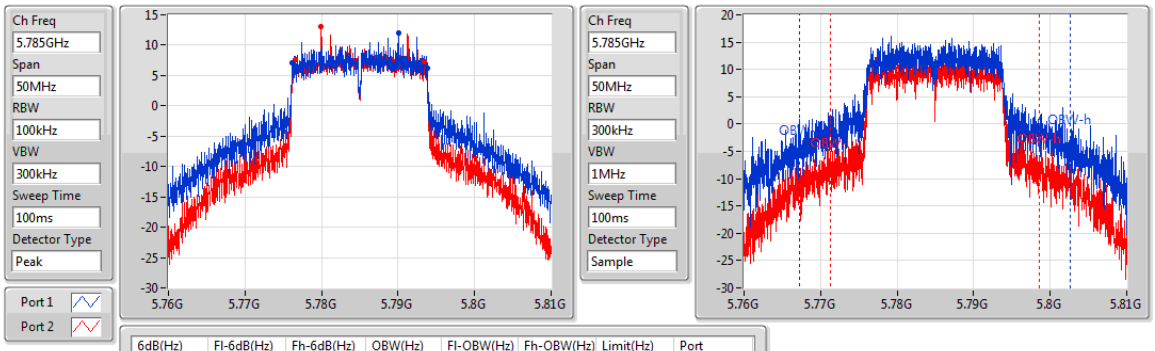
5745MHz



6dB(Hz)	Fl-6dB(Hz)	Fh-6dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
17.525M	5.7362G	5.753725G	35.932M	5.726734G	5.762666G	500k	1
17.175M	5.7362G	5.753375G	27.086M	5.731432G	5.758518G	500k	2

802.11ac VHT20_Nss1,(MCS0)_2TX EBW

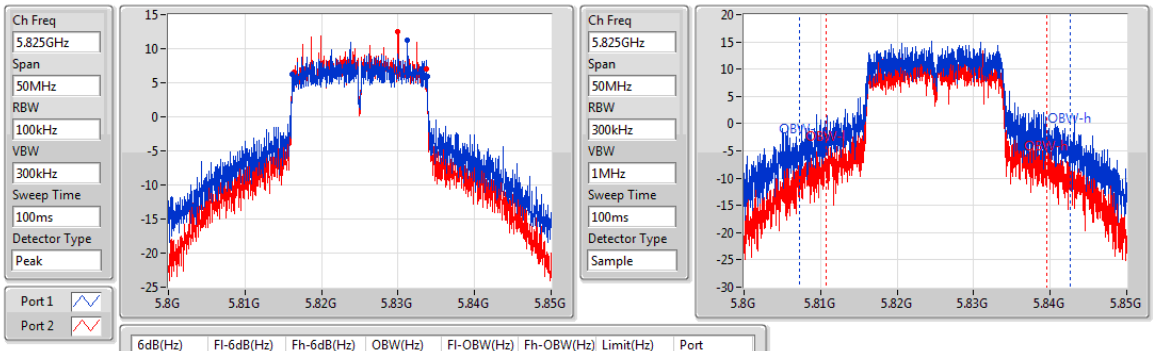
5785MHz



6dB(Hz)	Fl-6dB(Hz)	Fh-6dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
17.575M	5.7762G	5.793775G	35.357M	5.767259G	5.802616G	500k	1
16.75M	5.776625G	5.793375G	27.236M	5.771332G	5.798568G	500k	2

802.11ac VHT20_Nss1,(MCS0)_2TX EBW

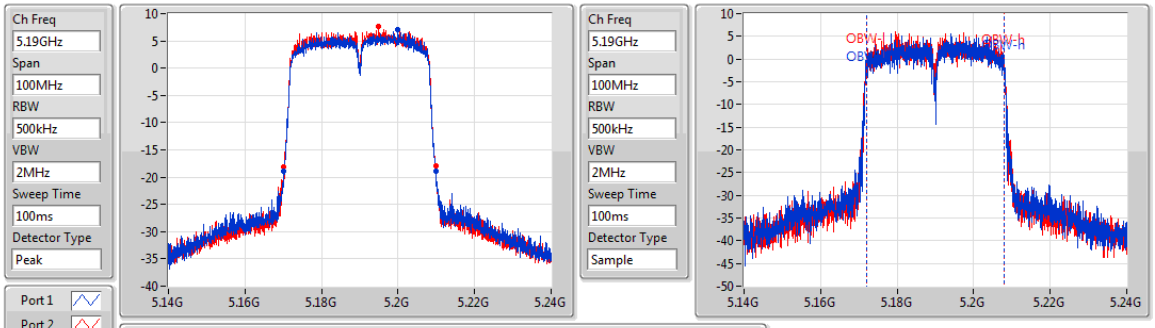
5825MHz



6dB(Hz)	Fl-6dB(Hz)	Fh-6dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
17.575M	5.8162G	5.833775G	35.357M	5.807234G	5.842591G	500k	1
17.3M	5.81645G	5.83375G	28.886M	5.810732G	5.839618G	500k	2

802.11ac VHT40_Nss1,(MCS0)_2TX EBW

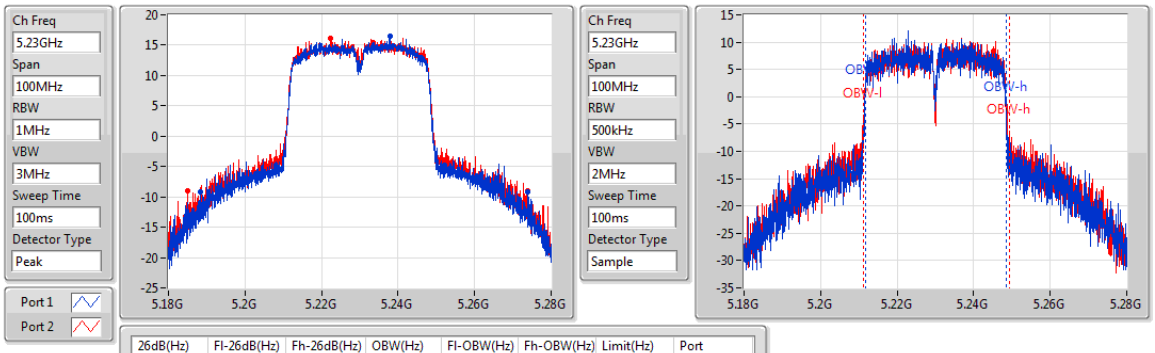
5190MHz



26dB(Hz)	Fl-26dB(Hz)	Fh-26dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
39.6M	5.1702G	5.2098G	35.932M	5.172009G	5.207941G	Inf	1
39.8M	5.17015G	5.20995G	35.982M	5.172009G	5.207991G	Inf	2

802.11ac VHT40_Nss1,(MCS0)_2TX EBW

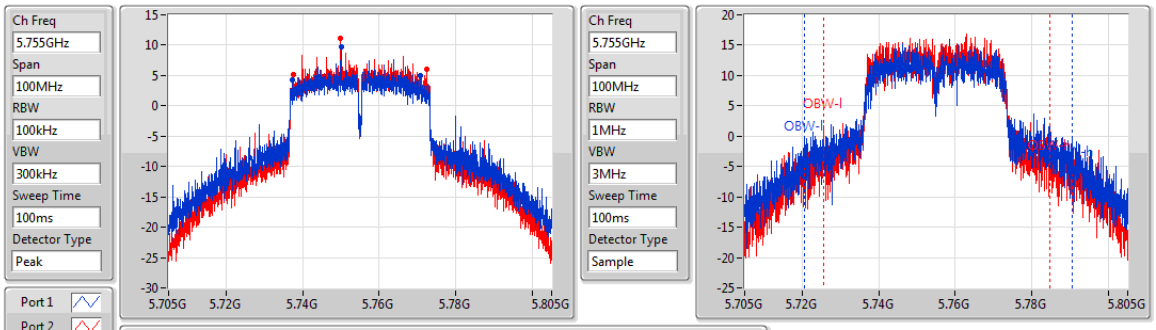
5230MHz



26dB(Hz)	Fl-26dB(Hz)	Fh-26dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
85.65M	5.18835G	5.274G	36.732M	5.211659G	5.248391G	Inf	1
89.05M	5.1849G	5.27395G	38.181M	5.211159G	5.24934G	Inf	2

802.11ac VHT40_Nss1,(MCS0)_2TX EBW

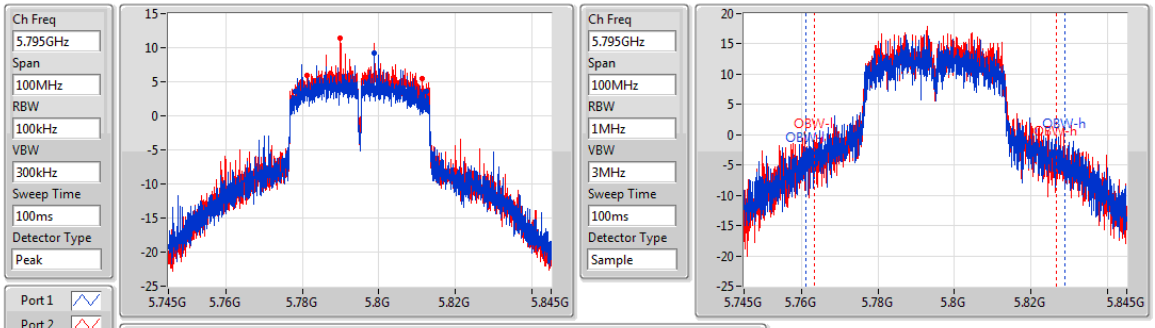
5755MHz



6dB(Hz)	Fl-6dB(Hz)	Fh-6dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
33.2M	5.73745G	5.77065G	70.015M	5.720467G	5.790482G	500k	1
35M	5.7375G	5.7725G	59.17M	5.725615G	5.784785G	500k	2

802.11ac VHT40_Nss1,(MCS0)_2TX EBW

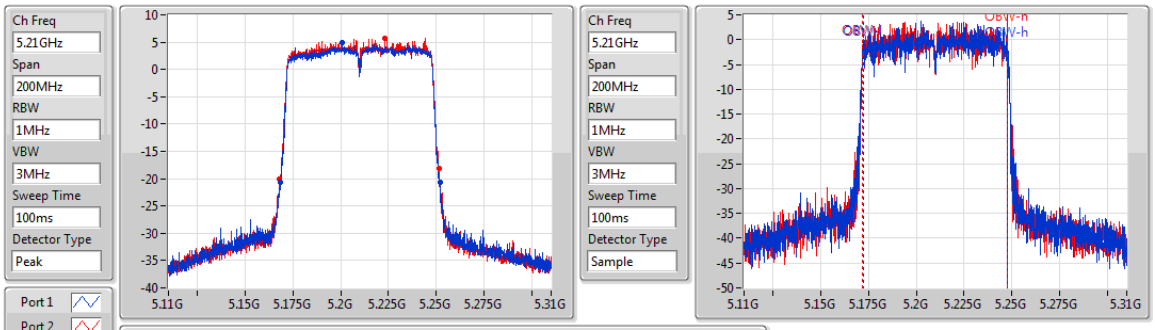
5795MHz



6dB(Hz)	Fl-6dB(Hz)	Fh-6dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
34.45M	5.77805G	5.8125G	67.666M	5.761067G	5.828733G	500k	1
30.05M	5.7812G	5.81125G	63.468M	5.763266G	5.826734G	500k	2

802.11ac VHT80_Nss1,(MCS0)_2TX EBW

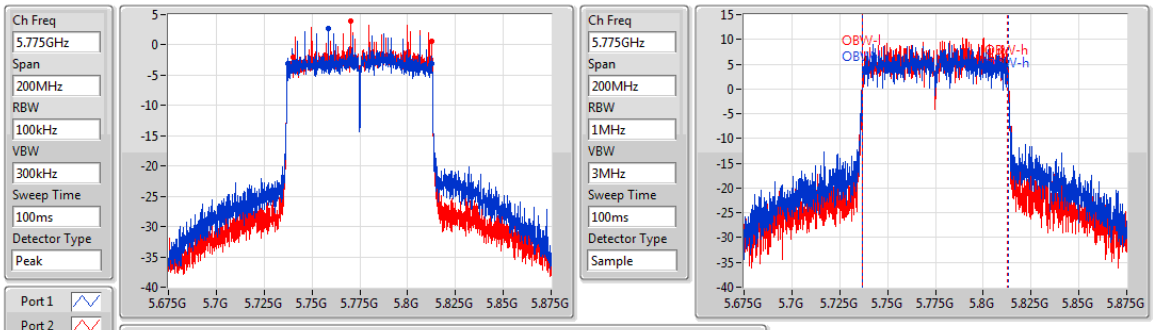
5210MHz



26dB(Hz)	Fl-26dB(Hz)	Fh-26dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
83.2M	5.1686G	5.2518G	75.762M	5.172119G	5.247881G	Inf	1
83.6M	5.168G	5.2516G	75.662M	5.172019G	5.247681G	Inf	2

802.11ac VHT80_Nss1,(MCS0)_2TX EBW

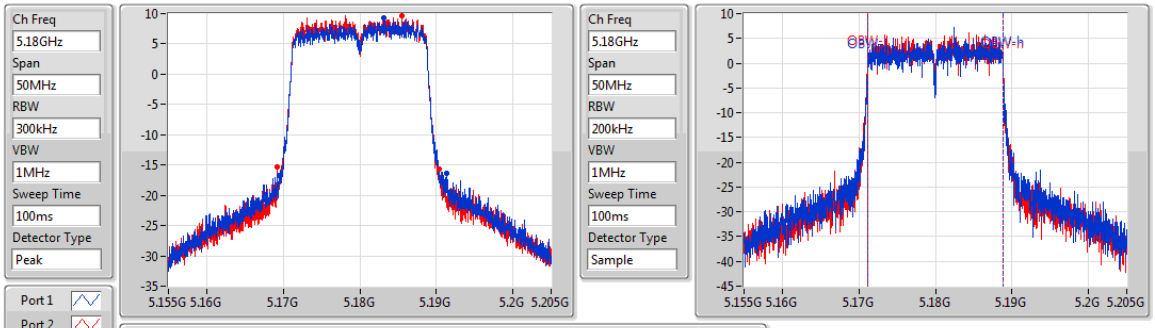
5775MHz



6dB(Hz)	Fl-6dB(Hz)	Fh-6dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
75.1M	5.7374G	5.8125G	76.462M	5.736719G	5.813181G	500k	1
72.5M	5.74G	5.8125G	75.862M	5.737019G	5.812881G	500k	2

802.11ac VHT20-BF_Nss1,(MCS0)_2TX EBW

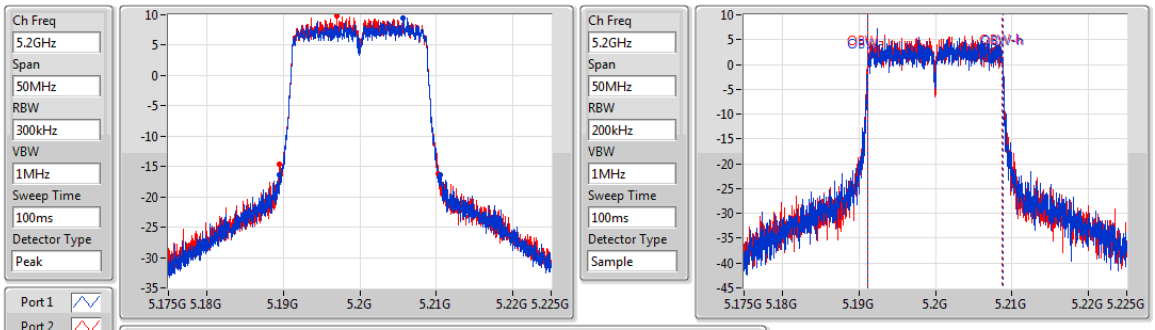
5180MHz



26dB(Hz)	Fl-26dB(Hz)	Fh-26dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
21.95M	5.169425G	5.191375G	17.641M	5.171154G	5.188796G	Inf	1
21.15M	5.16925G	5.1904G	17.641M	5.171154G	5.188796G	Inf	2

802.11ac VHT20-BF_Nss1,(MCS0)_2TX EBW

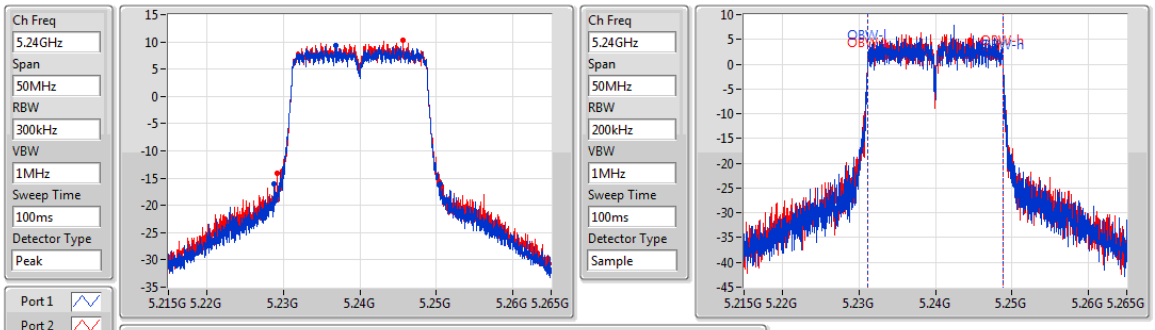
5200MHz



26dB(Hz)	Fl-26dB(Hz)	Fh-26dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
20.9M	5.18955G	5.21045G	17.666M	5.191129G	5.208796G	Inf	1
20.775M	5.189525G	5.2103G	17.616M	5.191154G	5.208771G	Inf	2

802.11ac VHT20-BF_Nss1,(MCS0)_2TX EBW

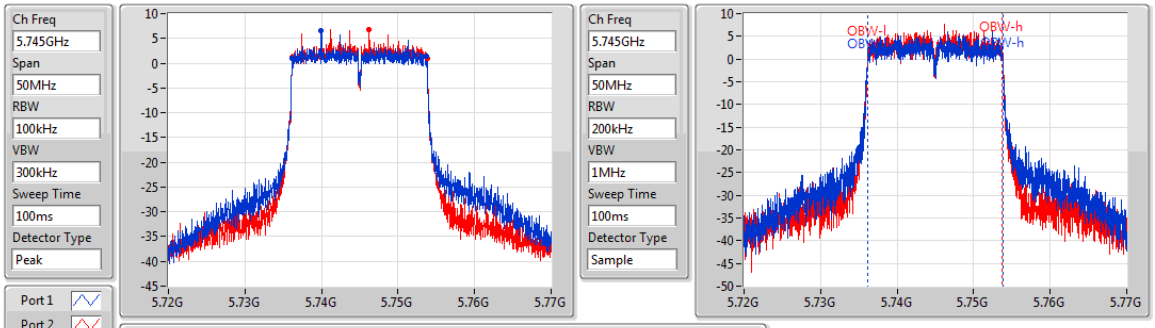
5240MHz



26dB(Hz)	Fl-26dB(Hz)	Fh-26dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
21.675M	5.228825G	5.2505G	17.641M	5.231154G	5.248796G	Inf	1
21.225M	5.2292G	5.250425G	17.666M	5.231129G	5.248796G	Inf	2

802.11ac VHT20-BF_Nss1,(MCS0)_2TX **EBW**

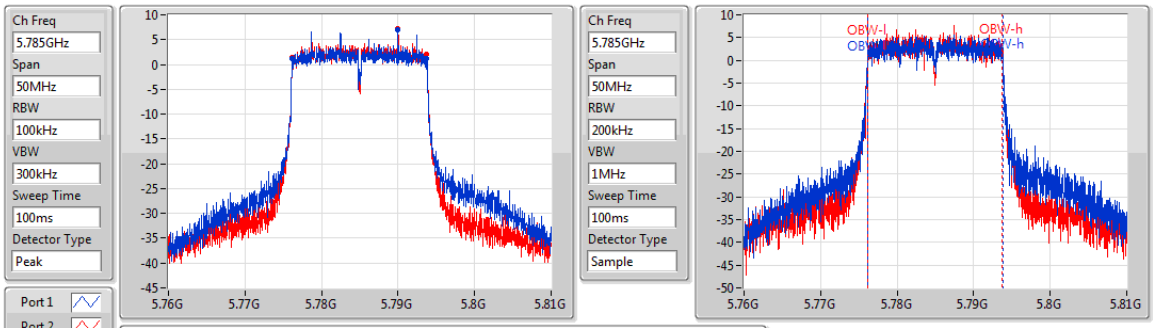
5745MHz



6dB(Hz)	Fl-6dB(Hz)	Fh-6dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
17.55M	5.7362G	5.75375G	17.691M	5.736104G	5.753796G	500k	1
17.575M	5.7362G	5.753775G	17.591M	5.736154G	5.753746G	500k	2

802.11ac VHT20-BF_Nss1,(MCS0)_2TX **EBW**

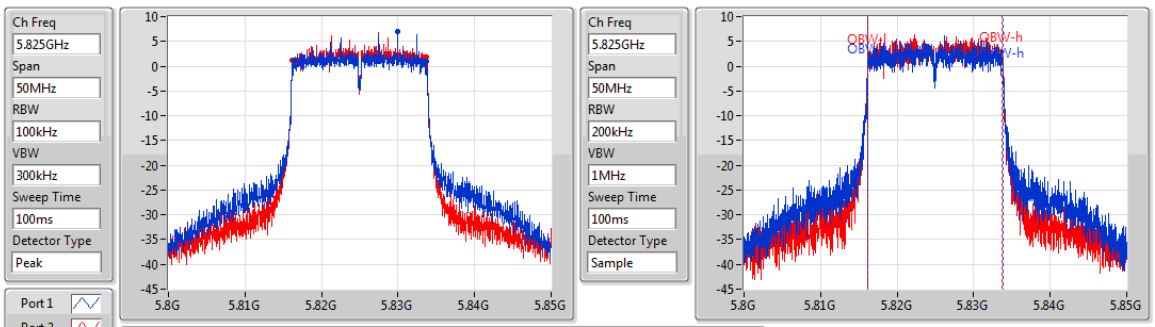
5785MHz



6dB(Hz)	Fl-6dB(Hz)	Fh-6dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
17.55M	5.7762G	5.79375G	17.691M	5.776129G	5.793821G	500k	1
17.55M	5.7762G	5.79375G	17.616M	5.776154G	5.793771G	500k	2

802.11ac VHT20-BF_Nss1,(MCS0)_2TX **EBW**

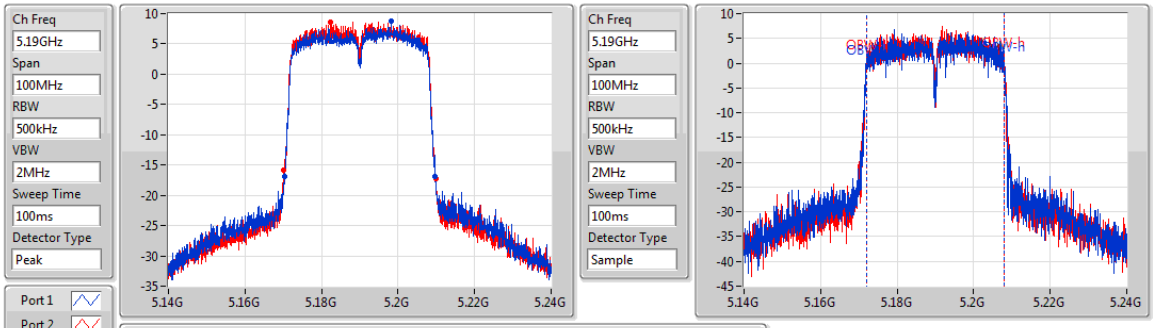
5825MHz



6dB(Hz)	Fl-6dB(Hz)	Fh-6dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
17.25M	5.816475G	5.833725G	17.691M	5.816129G	5.833821G	500k	1
17.55M	5.8162G	5.83375G	17.591M	5.816179G	5.833771G	500k	2

802.11ac VHT40-BF_Nss1,(MCS0)_2TX EBW

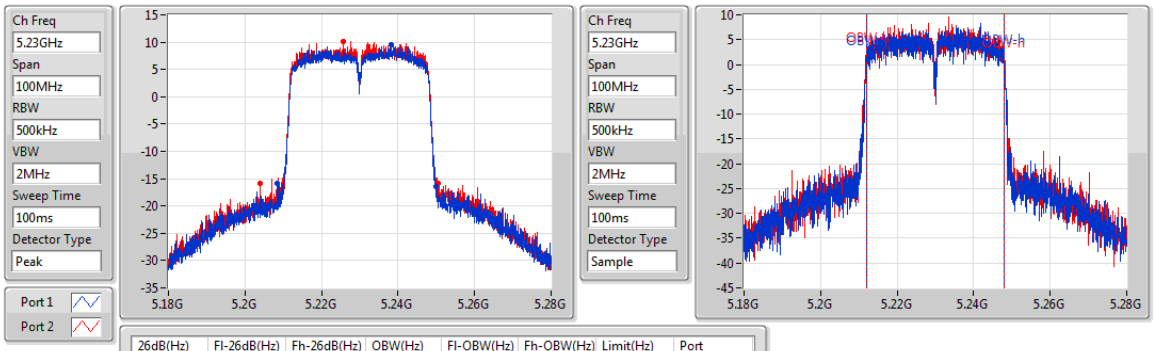
5190MHz



26dB(Hz)	Fl-26dB(Hz)	Fh-26dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
39.45M	5.1703G	5.20975G	35.982M	5.171959G	5.207941G	Inf	1
39.75M	5.17005G	5.2098G	35.982M	5.172009G	5.207991G	Inf	2

802.11ac VHT40-BF_Nss1,(MCS0)_2TX EBW

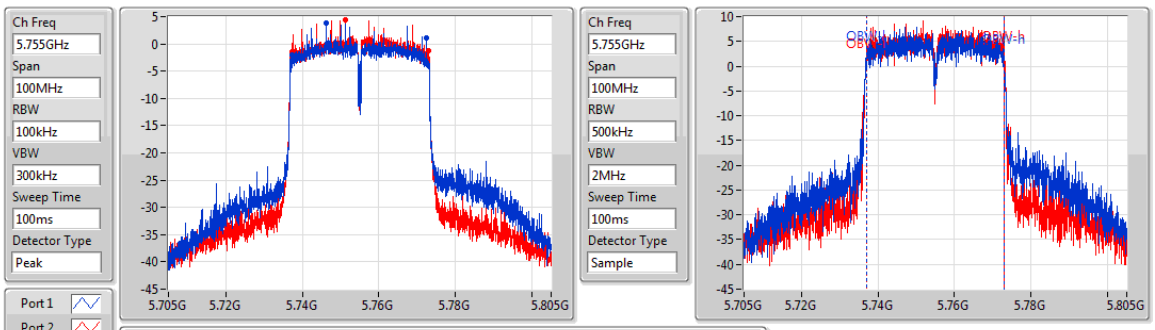
5230MHz



26dB(Hz)	Fl-26dB(Hz)	Fh-26dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
41.45M	5.2085G	5.24995G	36.082M	5.211909G	5.247991G	Inf	1
46.35M	5.204G	5.25035G	36.082M	5.211909G	5.247991G	Inf	2

802.11ac VHT40-BF_Nss1,(MCS0)_2TX EBW

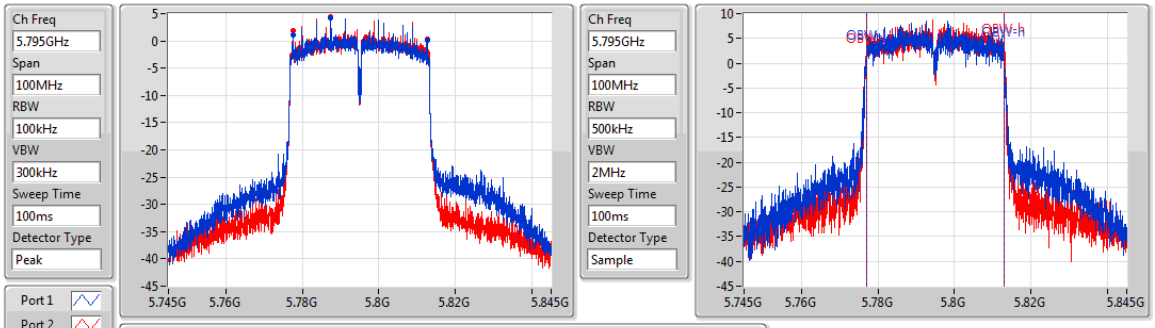
5755MHz



6dB(Hz)	Fl-6dB(Hz)	Fh-6dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
35M	5.73745G	5.77245G	36.082M	5.736909G	5.772991G	500k	1
35.6M	5.73725G	5.77285G	35.982M	5.736959G	5.772941G	500k	2

802.11ac VHT40-BF_Nss1,(MCS0)_2TX EBW

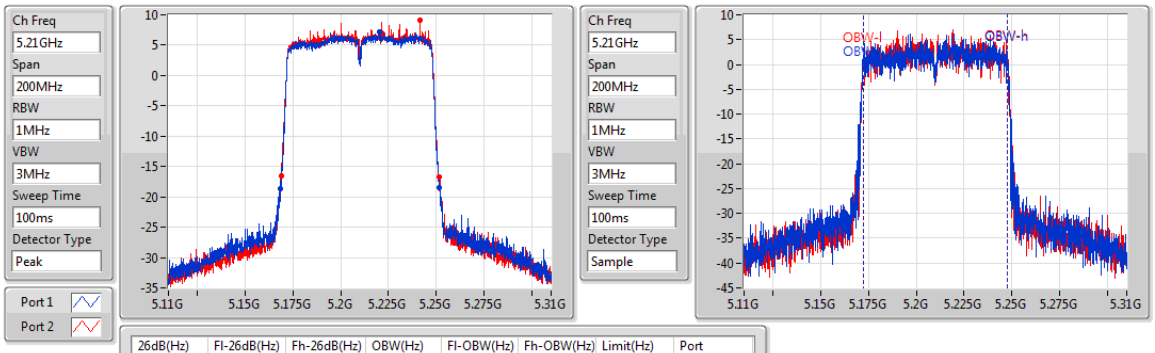
5795MHz



6dB(Hz)	Fl-6dB(Hz)	Fh-6dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
35.05M	5.7775G	5.81255G	36.082M	5.776909G	5.812991G	500k	1
35.05M	5.7775G	5.81255G	36.032M	5.776959G	5.812991G	500k	2

802.11ac VHT80-BF_Nss1,(MCS0)_2TX EBW

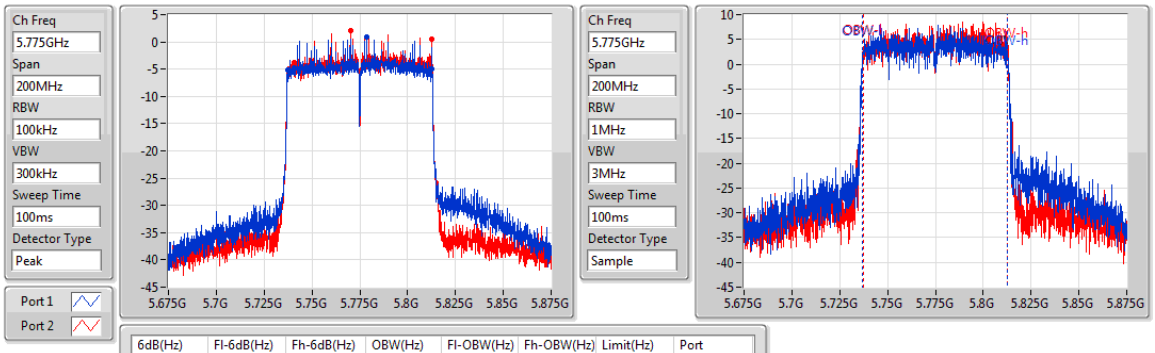
5210MHz



26dB(Hz)	Fl-26dB(Hz)	Fh-26dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
83.2M	5.1685G	5.2517G	75.662M	5.172119G	5.247781G	Inf	1
82.4M	5.1689G	5.2513G	75.562M	5.172219G	5.247781G	Inf	2

802.11ac VHT80-BF_Nss1,(MCS0)_2TX EBW

5775MHz



6dB(Hz)	Fl-6dB(Hz)	Fh-6dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
75.3M	5.7374G	5.8127G	75.862M	5.737019G	5.812881G	500k	1
71.9M	5.7406G	5.8125G	75.662M	5.737119G	5.812781G	500k	2

For outdoor use Band 1

Summary

Mode	Max-N dB (Hz)	Max-OBW (Hz)	ITU-Code	Min-N dB (Hz)	Min-OBW (Hz)
802.11a_(6Mbps)_2TX	-	-	-	-	-
5.15-5.25GHz	19.3M	16.442M	16M4D1D	18.825M	16.392M
802.11ac VHT20_Nss1,(MCS0)_2TX	-	-	-	-	-
5.15-5.25GHz	20.45M	17.641M	17M6D1D	19.925M	17.616M
802.11ac VHT40_Nss1,(MCS0)_2TX	-	-	-	-	-
5.15-5.25GHz	39.75M	35.982M	36M0D1D	39.1M	35.882M
802.11ac VHT80_Nss1,(MCS0)_2TX	-	-	-	-	-
5.15-5.25GHz	83.6M	75.762M	75M8D1D	83.1M	75.562M
802.11ac VHT20-BF_Nss1,(MCS0)_2TX	-	-	-	-	-
5.15-5.25GHz	20.475M	17.641M	17M6D1D	19.95M	17.591M
802.11ac VHT40-BF_Nss1,(MCS0)_2TX	-	-	-	-	-
5.15-5.25GHz	39.65M	36.032M	36M0D1D	39.45M	35.932M
802.11ac VHT80-BF_Nss1,(MCS0)_2TX	-	-	-	-	-
5.15-5.25GHz	83.4M	75.862M	75M9D1D	83.3M	75.562M

Max-N dB = Maximum 6dB down bandwidth for 5.725-5.85GHz band / Maximum 26dB down bandwidth for other band;
Max-OBW = Maximum 99% 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;

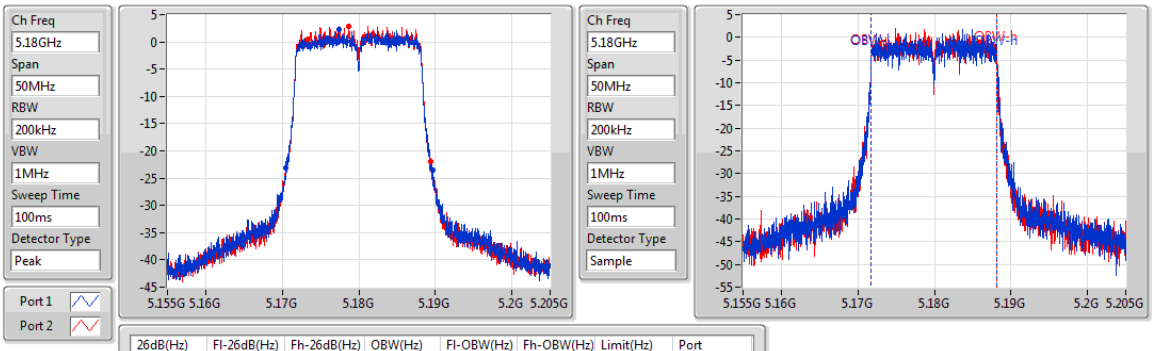
Result

Mode	Result	Limit (Hz)	Port 1-N dB (Hz)	Port 1-OBW (Hz)	Port 2-N dB (Hz)	Port 2-OBW (Hz)
802.11a_(6Mbps)_2TX	-	-	-	-	-	-
5180MHz	Pass	Inf	19.3M	16.417M	18.9M	16.392M
5200MHz	Pass	Inf	19.225M	16.442M	18.9M	16.417M
5240MHz	Pass	Inf	18.9M	16.392M	18.825M	16.392M
802.11ac VHT20_Nss1,(MCS0)_2TX	-	-	-	-	-	-
5180MHz	Pass	Inf	20.45M	17.616M	19.925M	17.616M
5200MHz	Pass	Inf	20.25M	17.641M	19.925M	17.616M
5240MHz	Pass	Inf	20.375M	17.616M	20.2M	17.616M
802.11ac VHT40_Nss1,(MCS0)_2TX	-	-	-	-	-	-
5190MHz	Pass	Inf	39.75M	35.932M	39.4M	35.982M
5230MHz	Pass	Inf	39.4M	35.882M	39.1M	35.982M
802.11ac VHT80_Nss1,(MCS0)_2TX	-	-	-	-	-	-
5210MHz	Pass	Inf	83.6M	75.562M	83.1M	75.762M
802.11ac VHT20-BF_Nss1,(MCS0)_2TX	-	-	-	-	-	-
5180MHz	Pass	Inf	20.425M	17.616M	20.4M	17.591M
5200MHz	Pass	Inf	20.475M	17.641M	19.95M	17.591M
5240MHz	Pass	Inf	19.975M	17.641M	19.95M	17.616M
802.11ac VHT40-BF_Nss1,(MCS0)_2TX	-	-	-	-	-	-
5190MHz	Pass	Inf	39.65M	35.932M	39.6M	35.982M
5230MHz	Pass	Inf	39.45M	35.982M	39.55M	36.032M
802.11ac VHT80-BF_Nss1,(MCS0)_2TX	-	-	-	-	-	-
5210MHz	Pass	Inf	83.3M	75.562M	83.4M	75.862M

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_(6Mbps)_2TX **EBW**

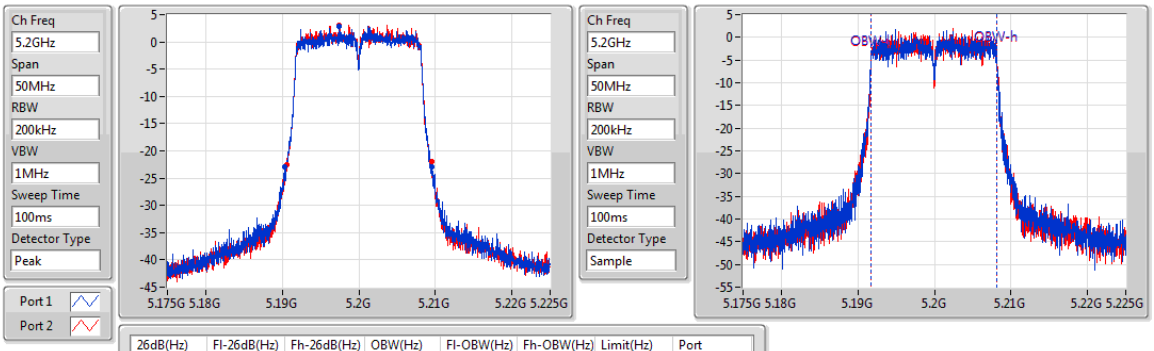
5180MHz



26dB(Hz)	Fl-26dB(Hz)	Fh-26dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
19.3M	5.170425G	5.189725G	16.417M	5.171754G	5.188171G	Inf	1
18.9M	5.1705G	5.1894G	16.392M	5.171779G	5.188171G	Inf	2

802.11a_(6Mbps)_2TX **EBW**

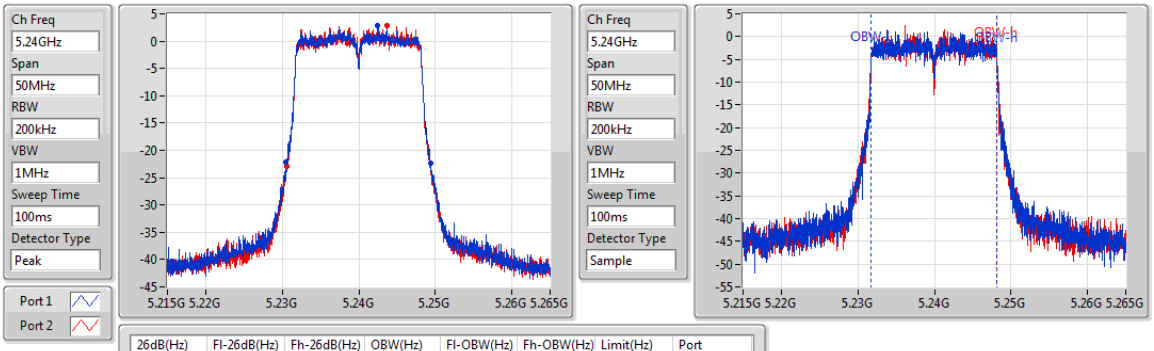
5200MHz



26dB(Hz)	Fl-26dB(Hz)	Fh-26dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
19.225M	5.190375G	5.2096G	16.442M	5.191729G	5.208171G	Inf	1
18.9M	5.1906G	5.2095G	16.417M	5.191754G	5.208171G	Inf	2

802.11a_(6Mbps)_2TX **EBW**

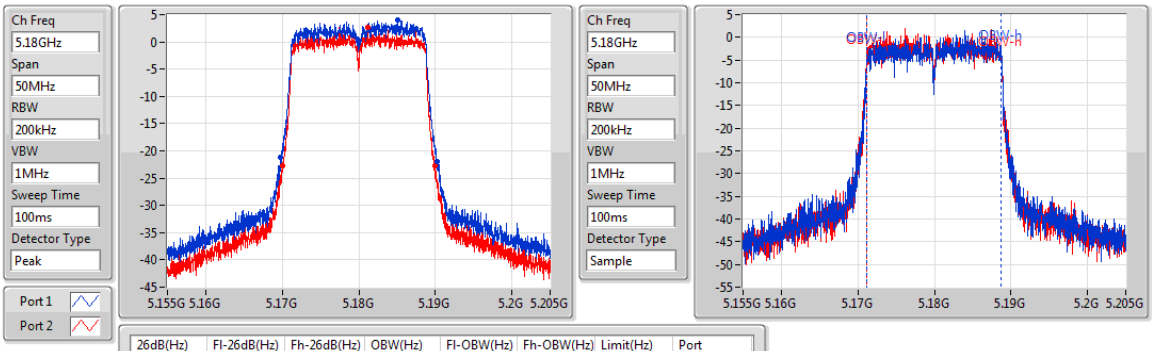
5240MHz



26dB(Hz)	Fl-26dB(Hz)	Fh-26dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
18.9M	5.230525G	5.249425G	16.392M	5.231779G	5.248171G	Inf	1
18.825M	5.23055G	5.249375G	16.392M	5.231754G	5.248146G	Inf	2

802.11ac VHT20_Nss1,(MCS0)_2TX **EBW**

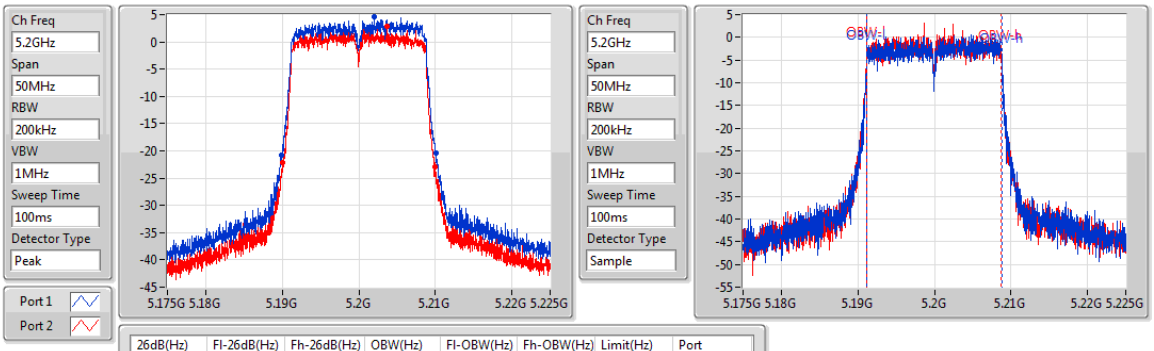
5180MHz



26dB(Hz)	Fl-26dB(Hz)	Fh-26dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
20.45M	5.16975G	5.1902G	17.616M	5.171154G	5.188771G	Inf	1
19.925M	5.169975G	5.1899G	17.616M	5.171154G	5.188771G	Inf	2

802.11ac VHT20_Nss1,(MCS0)_2TX **EBW**

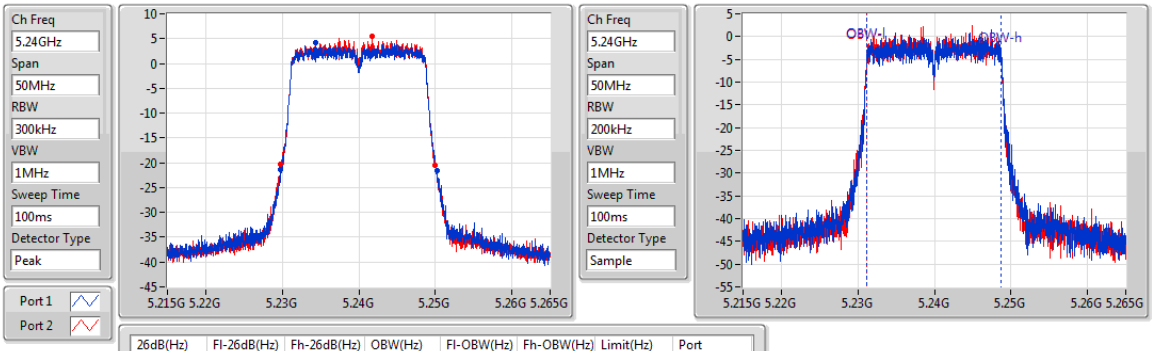
5200MHz



26dB(Hz)	Fl-26dB(Hz)	Fh-26dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
20.25M	5.18985G	5.2101G	17.641M	5.191154G	5.208796G	Inf	1
19.925M	5.190075G	5.21G	17.616M	5.191154G	5.208771G	Inf	2

802.11ac VHT20_Nss1,(MCS0)_2TX **EBW**

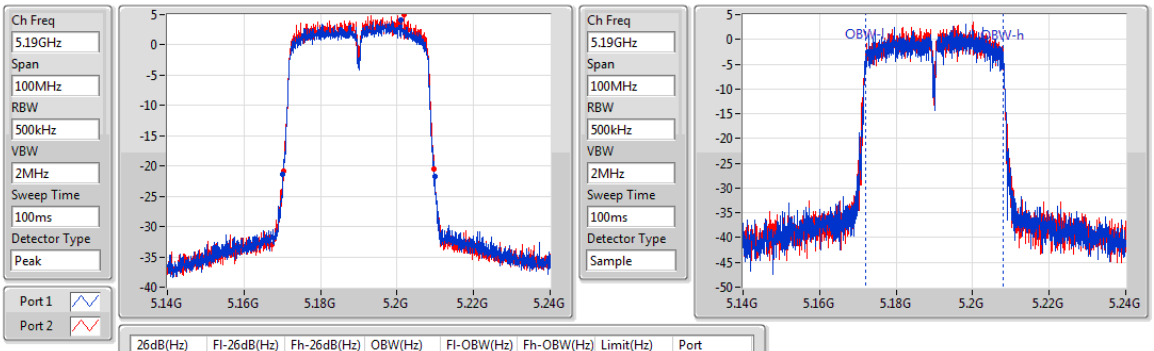
5240MHz



26dB(Hz)	Fl-26dB(Hz)	Fh-26dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
20.375M	5.229825G	5.2502G	17.616M	5.231154G	5.248771G	Inf	1
20.2M	5.229825G	5.250025G	17.616M	5.231154G	5.248771G	Inf	2

802.11ac VHT40_Nss1,(MCS0)_2TX **EBW**

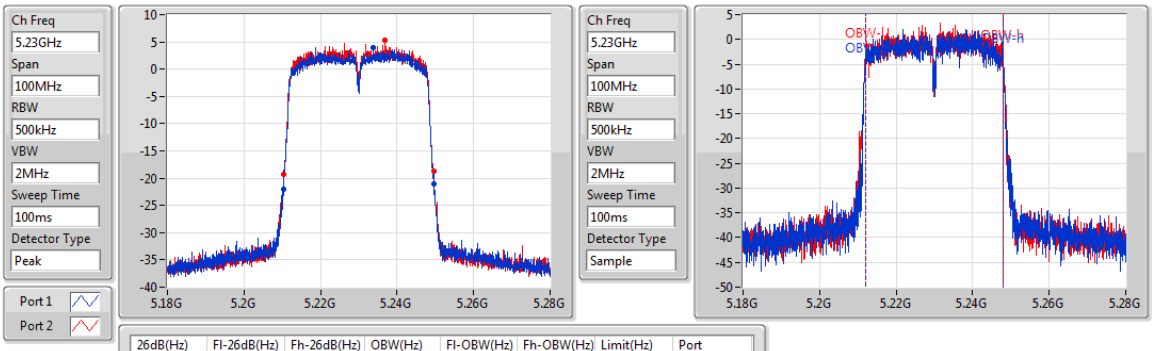
5190MHz



26dB(Hz)	Fl-26dB(Hz)	Fh-26dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
39.75M	5.17015G	5.2099G	35.932M	5.172009G	5.207941G	Inf	1
39.4M	5.17035G	5.20975G	35.982M	5.171959G	5.207941G	Inf	2

802.11ac VHT40_Nss1,(MCS0)_2TX **EBW**

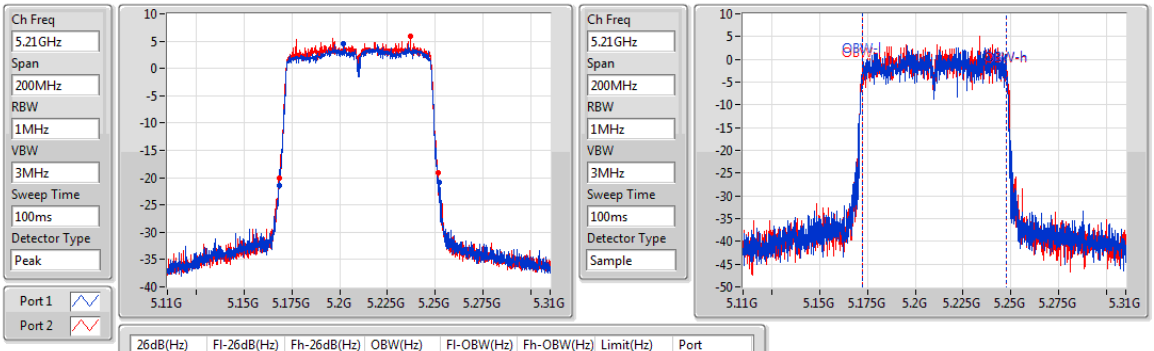
5230MHz



26dB(Hz)	Fl-26dB(Hz)	Fh-26dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
39.4M	5.21025G	5.24965G	35.882M	5.212059G	5.247941G	Inf	1
39.1M	5.2104G	5.2495G	35.982M	5.211959G	5.247941G	Inf	2

802.11ac VHT80_Nss1,(MCS0)_2TX **EBW**

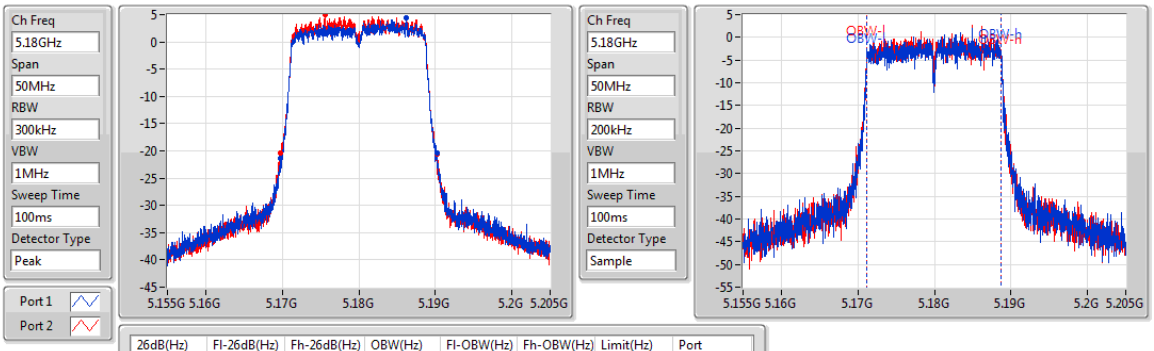
5210MHz



26dB(Hz)	Fl-26dB(Hz)	Fh-26dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
83.6M	5.1683G	5.2519G	75.562M	5.172219G	5.247781G	Inf	1
83.1M	5.1683G	5.2514G	75.762M	5.172119G	5.247881G	Inf	2

802.11ac VHT20-BF_Nss1,(MCS0)_2TX EBW

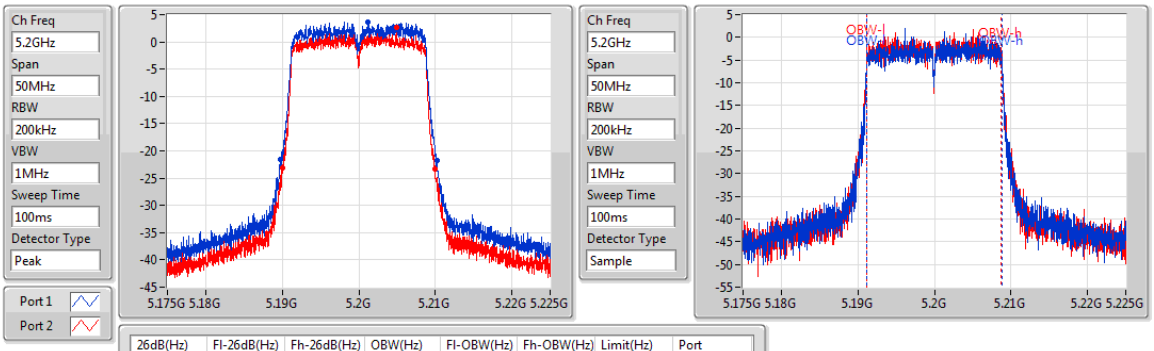
5180MHz



26dB(Hz)	Fl-26dB(Hz)	Fh-26dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
20.425M	5.169775G	5.1902G	17.616M	5.171154G	5.188771G	Inf	1
20.4M	5.169775G	5.190175G	17.591M	5.171179G	5.188771G	Inf	2

802.11ac VHT20-BF_Nss1,(MCS0)_2TX EBW

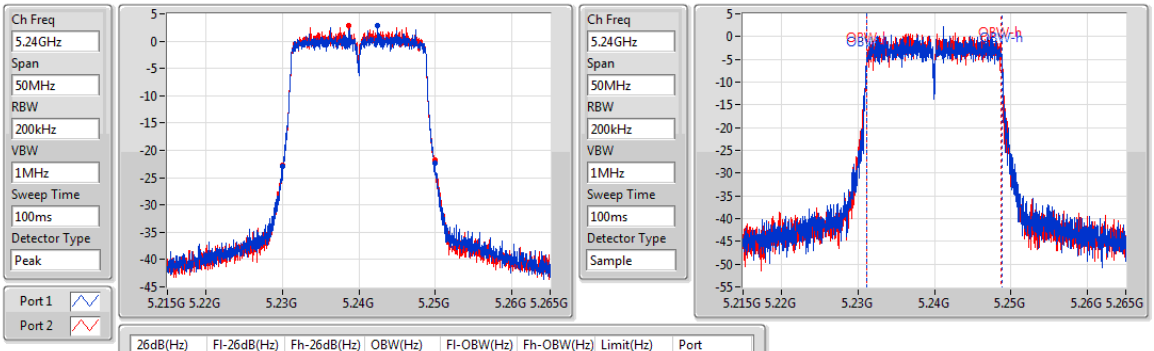
5200MHz



26dB(Hz)	Fl-26dB(Hz)	Fh-26dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
20.475M	5.1897G	5.210175G	17.641M	5.191154G	5.208796G	Inf	1
19.95M	5.189975G	5.209925G	17.591M	5.191179G	5.208771G	Inf	2

802.11ac VHT20-BF_Nss1,(MCS0)_2TX EBW

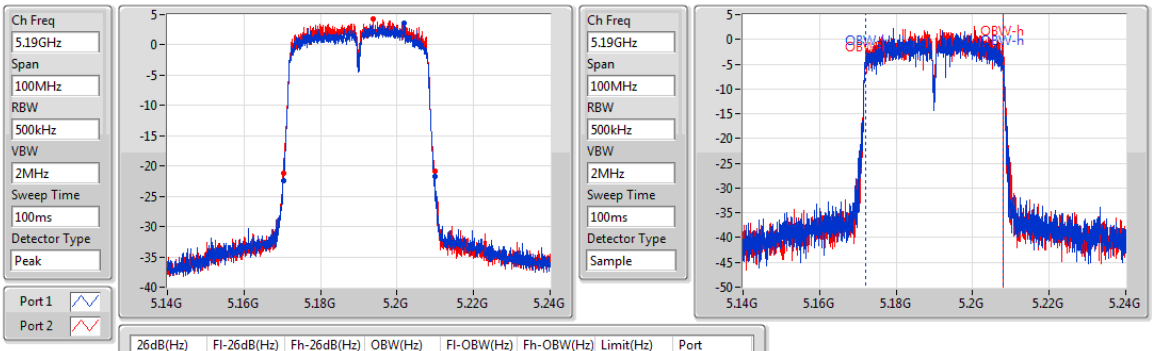
5240MHz



26dB(Hz)	Fl-26dB(Hz)	Fh-26dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
19.975M	5.23G	5.249975G	17.641M	5.231154G	5.248796G	Inf	1
19.95M	5.23005G	5.25G	17.616M	5.231154G	5.248771G	Inf	2

802.11ac VHT40-BF_Nss1,(MCS0)_2TX **EBW**

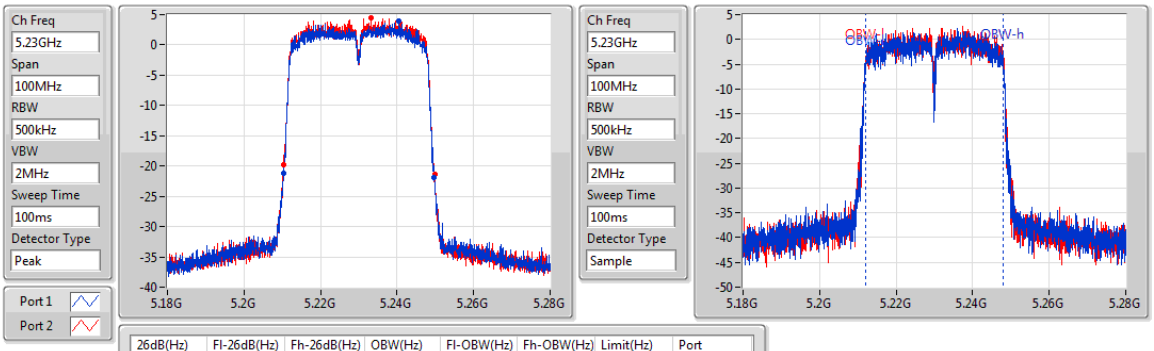
5190MHz



26dB(Hz)	Fl-26dB(Hz)	Fh-26dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
39.65M	5.17025G	5.2099G	35.932M	5.171959G	5.207891G	Inf	1
39.6M	5.17025G	5.20985G	35.982M	5.172009G	5.207991G	Inf	2

802.11ac VHT40-BF_Nss1,(MCS0)_2TX **EBW**

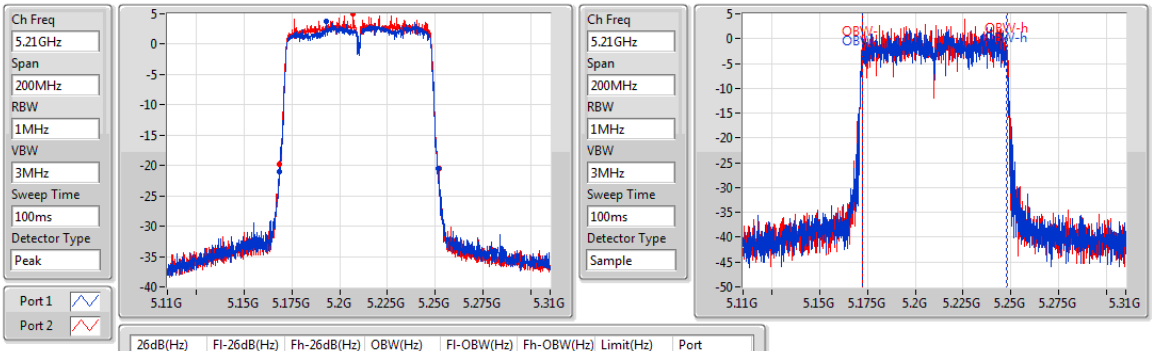
5230MHz



26dB(Hz)	Fl-26dB(Hz)	Fh-26dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
39.45M	5.2103G	5.24975G	35.982M	5.211959G	5.247941G	Inf	1
39.55M	5.21025G	5.2498G	36.032M	5.211959G	5.247991G	Inf	2

802.11ac VHT80-BF_Nss1,(MCS0)_2TX **EBW**

5210MHz



26dB(Hz)	Fl-26dB(Hz)	Fh-26dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
83.3M	5.1683G	5.2516G	75.562M	5.172119G	5.247681G	Inf	1
83.4M	5.1685G	5.2519G	75.862M	5.172119G	5.247981G	Inf	2

3.3 Maximum Conducted Output Power

3.3.1 Maximum Conducted Output Power Limit

Maximum Conducted Output Power Limit	
UNII Devices	
☒	For the 5.15-5.25 GHz band:
	▪ 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 ≤ 125mW [21dBm]
	▪ 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).
☐	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).
☐	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).
☒	For the 5.725-5.85 GHz band:
	▪ 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	
☐	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.
☐	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
☐	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
☐	For the 5.725-5.85 GHz band:
	▪ 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
	☐ Refer as FCC KDB 789033, clause E Method SA-2 (spectral trace averaging).
	☐ 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
	☒ Refer as FCC KDB 789033, clause E Method PM-G (using an RF average power meter).
▪ For conducted measurement.	
	▪ If the EUT supports multiple transmit chains using options given below: Refer as FCC KDB 662911, In-band power measurements. Using the measure-and-sum approach, measured all transmit ports individually. Sum the power (in linear power units e.g., mW) of all ports for each individual sample and save them.
	▪ If multiple transmit chains, EIRP calculation could be following as methods: $P_{total} = P_1 + P_2 +$ + P_n (calculated in linear unit [mW] and transfer to log unit [dBm]) $EIRP_{total} = P_{total} + DG$

3.3.4 Test Setup

RF Output Power (Power Meter)


3.3.5 Test Result of Maximum Conducted Output Power

For indoor use Band 1 and indoor / outdoor use Band 4
Summary

Mode	Total Power (dBm)	Total Power (W)	EIRP (dBm)	EIRP (W)
802.11a_(6Mbps)_2TX	-	-	-	-
5.15-5.25GHz	23.87	0.24378	28.74	0.74817
5.725-5.85GHz	25.69	0.37068	30.56	1.13763
802.11ac VHT20_Nss1,(MCS0)_2TX	-	-	-	-
5.15-5.25GHz	25.58	0.36141	30.45	1.10917
5.725-5.85GHz	25.84	0.38371	30.71	1.17761
802.11ac VHT40_Nss1,(MCS0)_2TX	-	-	-	-
5.15-5.25GHz	23.96	0.24889	28.83	0.76384
5.725-5.85GHz	26.15	0.41210	31.02	1.26474
802.11ac VHT80_Nss1,(MCS0)_2TX	-	-	-	-
5.15-5.25GHz	16.63	0.04603	21.50	0.14125
5.725-5.85GHz	22.27	0.16866	27.14	0.51761
802.11ac VHT20-BF_Nss1,(MCS0)_2TX	-	-	-	-
5.15-5.25GHz	21.04	0.12706	26.19	0.41591
5.725-5.85GHz	21.00	0.12589	26.15	0.41210
802.11ac VHT40-BF_Nss1,(MCS0)_2TX	-	-	-	-
5.15-5.25GHz	21.09	0.12853	26.24	0.42073
5.725-5.85GHz	21.22	0.13243	26.37	0.43351
802.11ac VHT80-BF_Nss1,(MCS0)_2TX	-	-	-	-
5.15-5.25GHz	18.95	0.07852	24.10	0.25704
5.725-5.85GHz	21.06	0.12764	26.21	0.41783

Result

Mode	Result	DG	Port 1	Port 2	Total Power	Power Limit
		(dBi)	(dBm)	(dBm)	(dBm)	(dBm)
802.11a_(6Mbps)_2TX	-	-	-	-	-	-
5180MHz	Pass	4.87	20.16	20.65	23.42	30.00
5200MHz	Pass	4.87	20.39	20.81	23.62	30.00
5240MHz	Pass	4.87	20.78	20.93	23.87	30.00
5745MHz	Pass	4.87	19.37	19.90	22.65	30.00
5785MHz	Pass	4.87	19.68	20.00	22.85	30.00
5825MHz	Pass	4.87	22.46	22.88	25.69	30.00
802.11ac VHT20_Nss1,(MCS0)_2TX	-	-	-	-	-	-
5180MHz	Pass	4.87	18.51	18.85	21.69	30.00
5200MHz	Pass	4.87	22.40	22.73	25.58	30.00
5240MHz	Pass	4.87	20.73	20.91	23.83	30.00
5720MHz Straddle 5.725-5.85GHz	Pass	4.87	14.58	14.70	17.65	30.00
5745MHz	Pass	4.87	22.52	22.82	25.68	30.00
5785MHz	Pass	4.87	22.86	22.79	25.84	30.00
5825MHz	Pass	4.87	22.41	22.91	25.68	30.00
802.11ac VHT40_Nss1,(MCS0)_2TX	-	-	-	-	-	-
5190MHz	Pass	4.87	15.40	15.84	18.64	30.00
5230MHz	Pass	4.87	20.89	21.01	23.96	30.00
5755MHz	Pass	4.87	22.21	23.20	25.74	30.00
5795MHz	Pass	4.87	22.55	23.66	26.15	30.00
802.11ac VHT80_Nss1,(MCS0)_2TX	-	-	-	-	-	-
5210MHz	Pass	4.87	13.47	13.77	16.63	30.00
5775MHz	Pass	4.87	18.93	19.56	22.27	30.00
802.11ac VHT20-BF_Nss1,(MCS0)_2TX	-	-	-	-	-	-
5180MHz	Pass	5.15	17.22	17.71	20.48	30.00
5200MHz	Pass	5.15	17.66	18.05	20.87	30.00
5240MHz	Pass	5.15	17.89	18.17	21.04	30.00
5745MHz	Pass	5.15	17.45	18.04	20.77	30.00
5785MHz	Pass	5.15	17.83	18.14	21.00	30.00
5825MHz	Pass	5.15	17.53	18.24	20.91	30.00
802.11ac VHT40-BF_Nss1,(MCS0)_2TX	-	-	-	-	-	-
5190MHz	Pass	5.15	16.68	17.30	20.01	30.00
5230MHz	Pass	5.15	17.95	18.21	21.09	30.00
5755MHz	Pass	5.15	17.70	18.43	21.09	30.00
5795MHz	Pass	5.15	17.98	18.42	21.22	30.00
802.11ac VHT80-BF_Nss1,(MCS0)_2TX	-	-	-	-	-	-
5210MHz	Pass	5.15	15.81	16.06	18.95	30.00
5775MHz	Pass	5.15	17.92	18.18	21.06	30.00

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

For outdoor use Band 1
Summary

Mode	Total Power (dBm)	Total Power (W)	EIRP (dBm)	EIRP (W)
802.11a_(6Mbps)_2TX	-	-	-	-
5.15-5.25GHz	16.05	0.04027	20.92	0.12359
802.11ac VHT20_Nss1,(MCS0)_2TX	-	-	-	-
5.15-5.25GHz	16.07	0.04046	20.94	0.12417
802.11ac VHT40_Nss1,(MCS0)_2TX	-	-	-	-
5.15-5.25GHz	16.10	0.04074	20.97	0.12503
802.11ac VHT80_Nss1,(MCS0)_2TX	-	-	-	-
5.15-5.25GHz	16.08	0.04055	20.95	0.12445
802.11ac VHT20-BF_Nss1,(MCS0)_2TX	-	-	-	-
5.15-5.25GHz	15.83	0.03828	20.98	0.12531
802.11ac VHT40-BF_Nss1,(MCS0)_2TX	-	-	-	-
5.15-5.25GHz	15.73	0.03741	20.88	0.12246
802.11ac VHT80-BF_Nss1,(MCS0)_2TX	-	-	-	-
5.15-5.25GHz	15.51	0.03556	20.66	0.11641

Result

Mode	Result	DG	Port 1	Port 2	Total Power	Power Limit
		(dBi)	(dBm)	(dBm)	(dBm)	(dBm)
802.11a_(6Mbps)_2TX	-	-	-	-	-	-
5180MHz	Pass	4.87	12.62	13.16	15.91	30.00
5200MHz	Pass	4.87	12.77	13.30	16.05	30.00
5240MHz	Pass	4.87	12.58	12.87	15.74	30.00
802.11ac VHT20_Nss1,(MCS0)_2TX	-	-	-	-	-	-
5180MHz	Pass	4.87	12.60	12.94	15.79	30.00
5200MHz	Pass	4.87	12.81	13.29	16.07	30.00
5240MHz	Pass	4.87	12.43	12.97	15.72	30.00
802.11ac VHT40_Nss1,(MCS0)_2TX	-	-	-	-	-	-
5190MHz	Pass	4.87	12.80	13.37	16.10	30.00
5230MHz	Pass	4.87	12.51	12.94	15.74	30.00
802.11ac VHT80_Nss1,(MCS0)_2TX	-	-	-	-	-	-
5210MHz	Pass	4.87	12.84	13.29	16.08	30.00
802.11ac VHT20-BF_Nss1,(MCS0)_2TX	-	-	-	-	-	-
5180MHz	Pass	5.15	12.46	13.15	15.83	30.00
5200MHz	Pass	5.15	12.28	12.66	15.48	30.00
5240MHz	Pass	5.15	12.38	12.97	15.69	30.00
802.11ac VHT40-BF_Nss1,(MCS0)_2TX	-	-	-	-	-	-
5190MHz	Pass	5.15	12.28	12.78	15.55	30.00
5230MHz	Pass	5.15	12.53	12.90	15.73	30.00
802.11ac VHT80-BF_Nss1,(MCS0)_2TX	-	-	-	-	-	-
5210MHz	Pass	5.15	12.28	12.71	15.51	30.00

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

Elevation Angle Above 30 Degree Power Table

Mode	Conducted Setting	Elevation angle above 30 Gain (dBi)	Directional Gain (power) (dBi)	Port 1 (dBm)	Port 2 (dBm)	Total Power (dBm)	Power Limit (dBm)	Elevation angle above 30 EIRP (dBm)	Elevation angle above 30 EIRP Limit (dBm)
802.11a_(6Mbps)_2TX	-		-	-	-	-	-		
5180MHz	13	4.87	4.87	12.62	13.16	15.91	30.00	20.78	21.00
5200MHz	13	4.87	4.87	12.77	13.30	16.05	30.00	20.92	21.00
5240MHz	12.5	4.87	4.87	12.58	12.87	15.74	30.00	20.61	21.00
802.11ac VHT20_Nss1,(MCS0)_2TX	-	-	-	-	-	-	-	-	-
5180MHz	13	4.87	4.87	12.60	12.94	15.79	30.00	20.66	21.00
5200MHz	13	4.87	4.87	12.81	13.29	16.07	30.00	20.94	21.00
5240MHz	12.5	4.87	4.87	12.43	12.97	15.72	30.00	20.59	21.00
802.11ac VHT40_Nss1,(MCS0)_2TX	-	-	-	-	-	-	-	-	-
5190MHz	13	4.87	4.87	12.80	13.37	16.10	30.00	20.97	21.00
5230MHz	12.5	4.87	4.87	12.51	12.94	15.74	30.00	20.61	21.00
802.11ac VHT80_Nss1,(MCS0)_2TX	-	-	-	-	-	-	-	-	-
5210MHz	13.5	4.87	4.87	12.84	13.29	16.08	30.00	20.95	21.00
802.11ac VHT20-BF_Nss1,(MCS0)_2TX	-	-	-	-	-	-	-	-	-
5180MHz	16	5.15	5.15	12.46	13.15	15.83	30.00	20.98	21.00
5200MHz	15.5	5.15	5.15	12.28	12.66	15.48	30.00	20.63	21.00
5240MHz	15.5	5.15	5.15	12.38	12.97	15.69	30.00	20.84	21.00
802.11ac VHT40-BF_Nss1,(MCS0)_2TX	-	-	-	-	-	-	-	-	-
5190MHz	15.5	5.15	5.15	12.28	12.78	15.55	30.00	20.70	21.00
5230MHz	15.5	5.15	5.15	12.53	12.90	15.73	30.00	20.88	21.00
802.11ac VHT80-BF_Nss1,(MCS0)_2TX	-	-	-	-	-	-	-	-	-
5210MHz	15.5	5.15	5.15	12.28	12.71	15.51	30.00	20.66	21.00

Note:
1. For CDD mode power measurements; array Gain=0 dB (i.e., no array gain) for Nant≦4.
2. EIRP = Total Power + Directional Gain.

3.4 Peak Power Spectral Density

3.4.1 Peak Power Spectral Density Limit

Peak Power Spectral Density Limit	
UNII Devices	
☒	For the 5.15-5.25 GHz band:
	▪ 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)..
☐	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).
☐	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).
☒	For the 5.725-5.85 GHz band:
	▪ 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	
☐	For the 5.15-5.25 GHz band, the peak power spectral density (PPSD) ≤ 4 dBm/MHz and the e.i.r.p. peak power spectral density (PPSD) ≤ 10 dBm/MHz.
☐	For the 5.25-5.35 GHz band, the peak power spectral density (PPSD) ≤ 11 dBm/MHz and the e.i.r.p. peak power spectral density (PPSD) ≤ 17 dBm/MHz.
	▪ 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° ≤ θ < 8° ; -13 − 0.716 (θ-8) dBW/MHz for 8° ≤ θ < 40° -35.9 − 1.22 (θ-40) dBW/MHz for 40° ≤ θ ≤ 45° ; -42 dBW/MHz for θ > 45°
☐	For the 5.47-5.6 GHz band and 5.65-5.725 GHz band, the peak power spectral density (PPSD) ≤ 11 dBm/MHz and the e.i.r.p. peak power spectral density (PPSD) ≤ 17 dBm/MHz.
☐	For the 5.725-5.85 GHz band:
	▪ 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 he 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.	

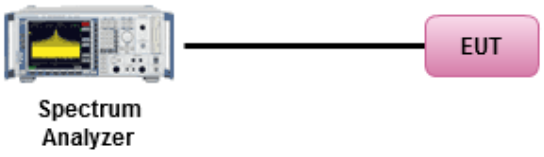
3.4.2 Measuring Instruments

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

3.4.3 Test Procedures

Test Method	
▪ 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:	
	☐ Refer as FCC KDB 789033, F)5) power spectral density can be measured using resolution bandwidths < 1 MHz provided that the results are integrated over 1 MHz bandwidth
	[duty cycle ≥ 98% or external video / power trigger]
	☒ Refer as FCC KDB 789033, clause E Method SA-1 (spectral trace averaging).
	☐ 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
	☒ Refer as FCC KDB 789033, clause E Method SA-2 (spectral trace averaging).
	☐ Refer as FCC KDB 789033, clause E Method SA-2 Alt. (RMS detection with slow sweep speed)
▪ For conducted measurement.	
	▪ If the EUT supports multiple transmit chains using options given below:
	☒ Option 1: Measure and sum the spectra across the outputs. Refer as FCC KDB 662911, In-band power spectral density (PSD). Sample all transmit ports simultaneously using a spectrum analyzer for each transmit port. Where the trace bin-by-bin of each transmit port summing can be performed. (i.e., in the first spectral bin of output 1 is summed with that in the first spectral bin of output 2 and that from the first spectral bin of output 3, and so on up to the NTX output to obtain the value for the first frequency bin of the summed spectrum.). Add up the amplitude (power) values for the different transmit chains and use this as the new data trace.
	☐ Option 2: Measure and sum spectral maxima across the outputs. With this technique, spectra are measured at each output of the device at the required resolution bandwidth. The maximum value (peak) of each spectrum is determined. These maximum values are then summed mathematically in linear power units across the outputs. These operations shall be performed separately over frequency spans that have different out-of-band or spurious emission limits,
	☐ Option 3: Measure and add 10 log(N) dB, where N is the number of transmit chains. Refer as FCC KDB 662911, In-band power spectral density (PSD). Performed at each transmit chains and each transmit chains shall be compared with the limit have been reduced with 10 log(N). Or each transmit chains shall be add 10 log(N) to compared with the limit.
	▪ If multiple transmit chains, EIRP PPSD calculation could be following as methods: $PPSD_{total} = PPSD_1 + PPSD_2 +$ + $PPSD_n$ (calculated in linear unit [mW] and transfer to log unit [dBm]) $EIRP_{total} = PPSD_{total} + DG$

3.4.4 Test Setup

Power Spectral Density


3.4.5 Test Result of Peak Power Spectral Density

For indoor use Band 1 and indoor / outdoor use Band 4
Summary

Mode	PD (dBm/RBW)	EIRP PD (dBm/RBW)
802.11a_(6Mbps)_2TX	-	-
5.15-5.25GHz	11.24	16.39
5.725-5.85GHz	11.39	16.54
802.11ac VHT20_Nss1,(MCS0)_2TX	-	-
5.15-5.25GHz	12.40	17.55
5.725-5.85GHz	11.30	16.45
802.11ac VHT40_Nss1,(MCS0)_2TX	-	-
5.15-5.25GHz	8.35	13.50
5.725-5.85GHz	8.97	14.12
802.11ac VHT80_Nss1,(MCS0)_2TX	-	-
5.15-5.25GHz	-2.46	2.69
5.725-5.85GHz	2.06	7.21
802.11ac VHT20-BF_Nss1,(MCS0)_2TX	-	-
5.15-5.25GHz	8.35	13.50
5.725-5.85GHz	7.01	12.16
802.11ac VHT40-BF_Nss1,(MCS0)_2TX	-	-
5.15-5.25GHz	5.87	11.02
5.725-5.85GHz	4.49	9.64
802.11ac VHT80-BF_Nss1,(MCS0)_2TX	-	-
5.15-5.25GHz	0.29	5.44
5.725-5.85GHz	0.87	6.02

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

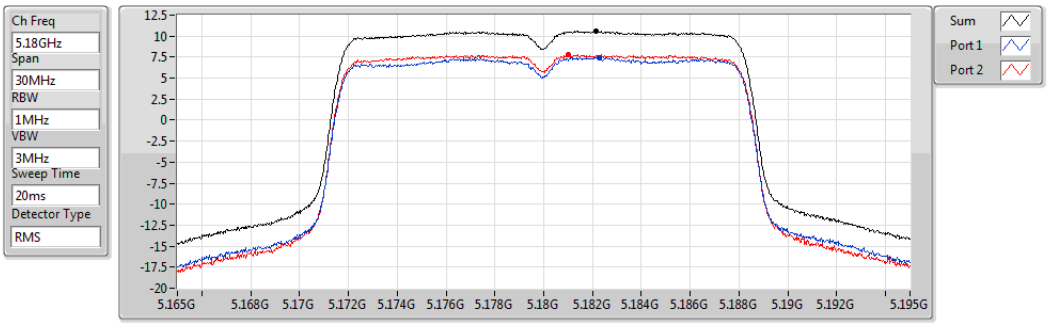
Result

Mode	Result	DG (dBi)	Port 1 (dBm/RBW)	Port 2 (dBm/RBW)	PD (dBm/RBW)	PD Limit (dBm/RBW)
802.11a_(6Mbps)_2TX	-	-	-	-	-	-
5180MHz	Pass	5.15	7.43	7.78	10.58	17.00
5200MHz	Pass	5.15	7.89	8.09	10.88	17.00
5240MHz	Pass	5.15	8.29	8.28	11.24	17.00
5745MHz	Pass	5.15	5.53	6.15	8.75	30.00
5785MHz	Pass	5.15	5.75	6.09	8.76	30.00
5825MHz	Pass	5.15	8.10	8.84	11.39	30.00
802.11ac VHT20_Nss1,(MCS0)_2TX	-	-	-	-	-	-
5180MHz	Pass	5.15	5.44	5.82	8.62	17.00
5200MHz	Pass	5.15	9.24	9.60	12.40	17.00
5240MHz	Pass	5.15	7.64	7.96	10.73	17.00
5720MHz Straddle 5.725-5.85GHz	Pass	5.15	5.90	6.49	9.19	30.00
5745MHz	Pass	5.15	8.01	8.57	11.26	30.00
5785MHz	Pass	5.15	8.31	8.44	11.30	30.00
5825MHz	Pass	5.15	7.76	8.60	11.13	30.00
802.11ac VHT40_Nss1,(MCS0)_2TX	-	-	-	-	-	-
5190MHz	Pass	5.15	0.06	0.22	3.11	17.00
5230MHz	Pass	5.15	5.37	5.39	8.35	17.00
5755MHz	Pass	5.15	4.95	6.29	8.63	30.00
5795MHz	Pass	5.15	5.38	6.59	8.97	30.00
802.11ac VHT80_Nss1,(MCS0)_2TX	-	-	-	-	-	-
5210MHz	Pass	5.15	-5.34	-5.29	-2.46	17.00
5775MHz	Pass	5.15	-1.13	-0.51	2.06	30.00
802.11ac VHT20-BF_Nss1,(MCS0)_2TX	-	-	-	-	-	-
5180MHz	Pass	5.15	4.72	5.21	7.94	17.00
5200MHz	Pass	5.15	4.96	5.52	8.16	17.00
5240MHz	Pass	5.15	5.15	5.63	8.35	17.00
5745MHz	Pass	5.15	3.54	4.41	6.92	30.00
5785MHz	Pass	5.15	3.74	4.39	7.01	30.00
5825MHz	Pass	5.15	3.36	4.37	6.83	30.00
802.11ac VHT40-BF_Nss1,(MCS0)_2TX	-	-	-	-	-	-
5190MHz	Pass	5.15	1.64	1.88	4.76	17.00
5230MHz	Pass	5.15	2.89	3.02	5.87	17.00
5755MHz	Pass	5.15	1.04	1.76	4.32	30.00
5795MHz	Pass	5.15	1.42	1.73	4.49	30.00
802.11ac VHT80-BF_Nss1,(MCS0)_2TX	-	-	-	-	-	-
5210MHz	Pass	5.15	-2.70	-2.63	0.29	17.00
5775MHz	Pass	5.15	-2.27	-1.79	0.87	30.00

DG = Directional Gain; **RBW** = 500kHz 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_(6Mbps)_2TX **PSD**

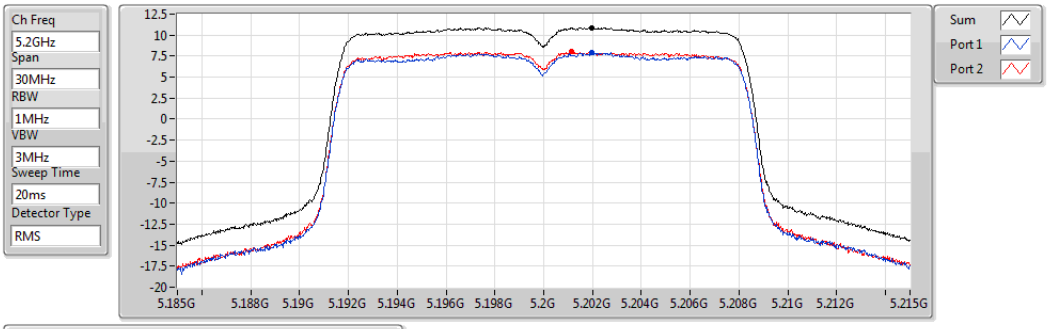
5180MHz



Sum	PD	Port 1	Port 2
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
10.58	10.58	7.43	7.78

802.11a_(6Mbps)_2TX **PSD**

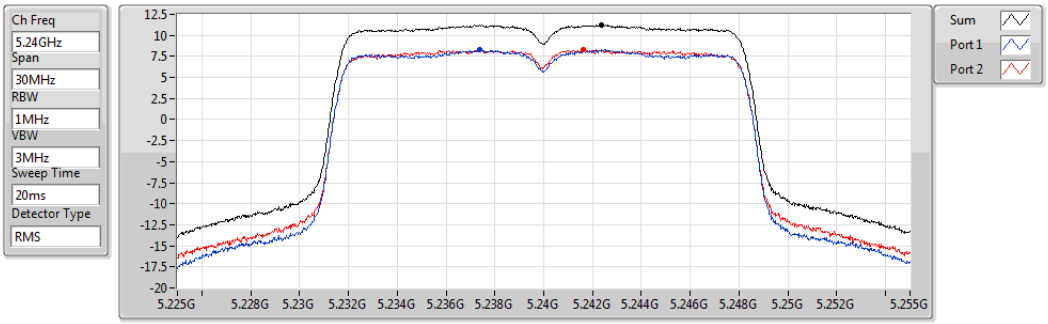
5200MHz



Sum	PD	Port 1	Port 2
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
10.88	10.88	7.89	8.09

802.11a_(6Mbps)_2TX **PSD**

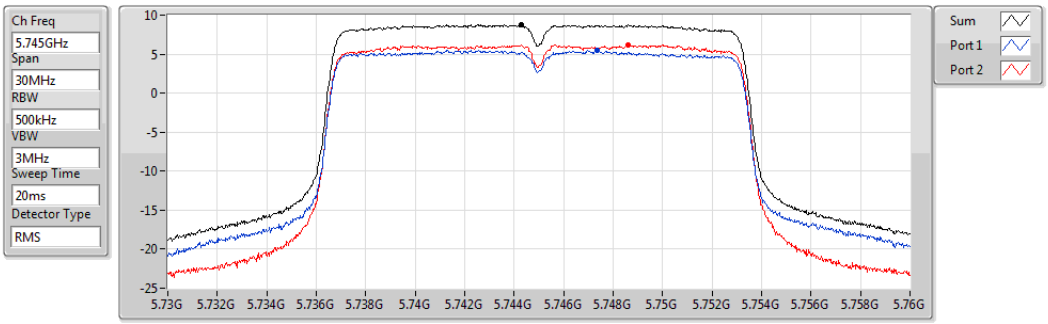
5240MHz



Sum	PD	Port 1	Port 2
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
11.24	11.24	8.29	8.28

802.11a_(6Mbps)_2TX **PSD**

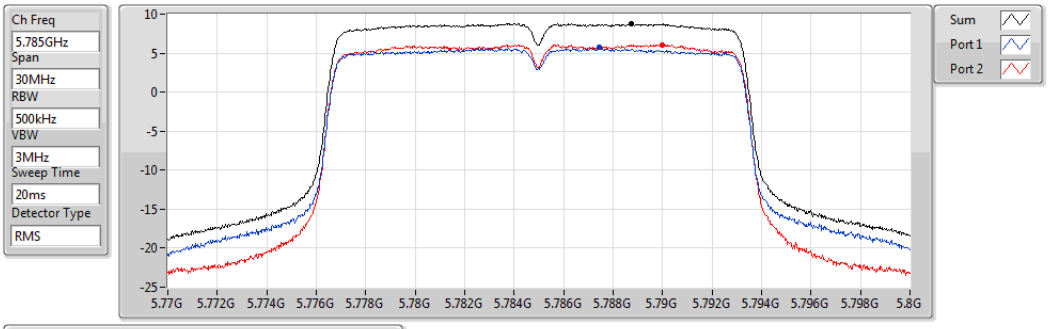
5745MHz



Sum	PD	Port 1	Port 2
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
8.75	8.75	5.53	6.15

802.11a_(6Mbps)_2TX **PSD**

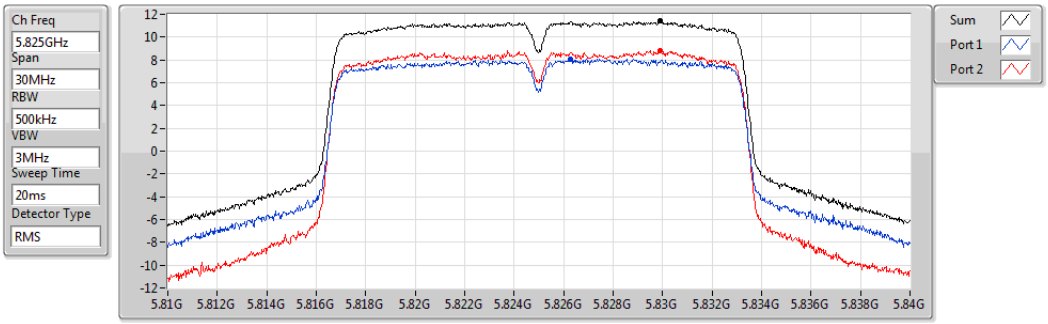
5785MHz



Sum	PD	Port 1	Port 2
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
8.76	8.76	5.75	6.09

802.11a_(6Mbps)_2TX **PSD**

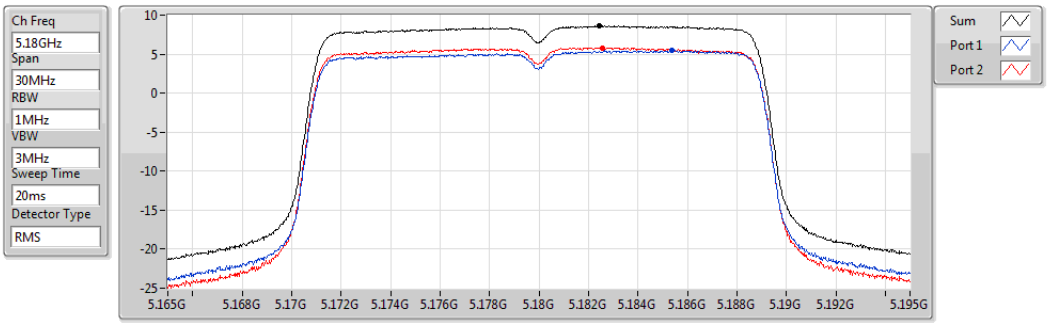
5825MHz



Sum	PD	Port 1	Port 2
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
11.39	11.39	8.10	8.84

802.11ac VHT20_Nss1,(MCS0)_2TX **PSD**

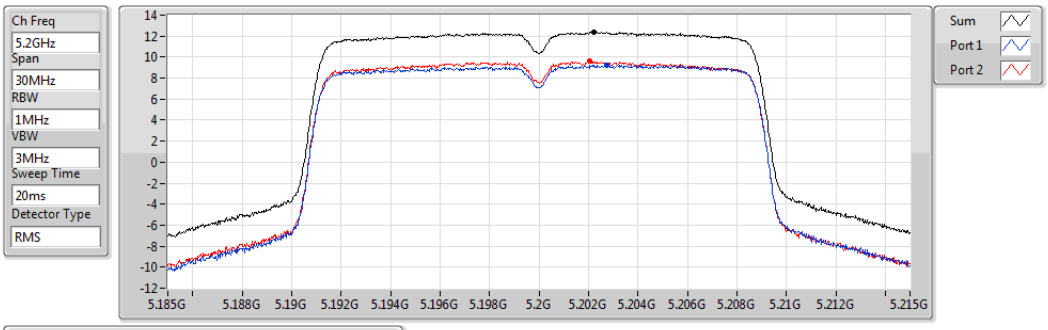
5180MHz



Sum	PD	Port 1	Port 2
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
8.62	8.62	5.44	5.82

802.11ac VHT20_Nss1,(MCS0)_2TX **PSD**

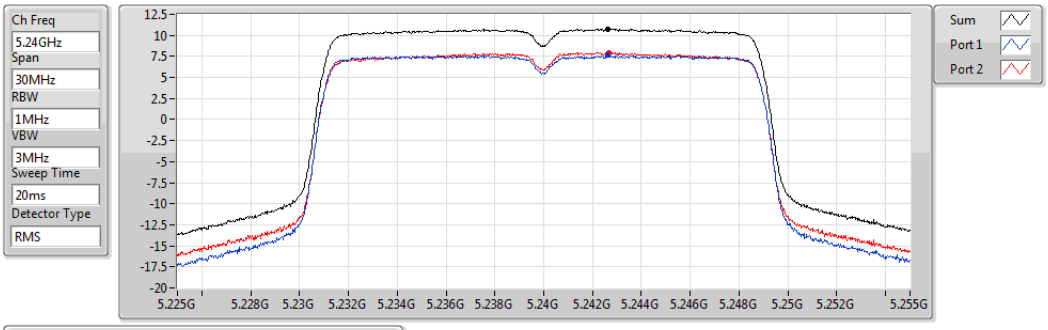
5200MHz



Sum	PD	Port 1	Port 2
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
12.40	12.40	9.24	9.60

802.11ac VHT20_Nss1,(MCS0)_2TX **PSD**

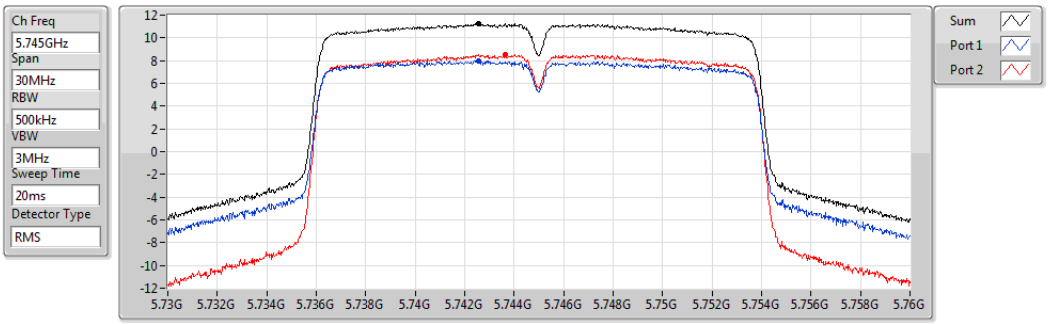
5240MHz



Sum	PD	Port 1	Port 2
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
10.73	10.73	7.64	7.96

802.11ac VHT20_Nss1,(MCS0)_2TX **PSD**

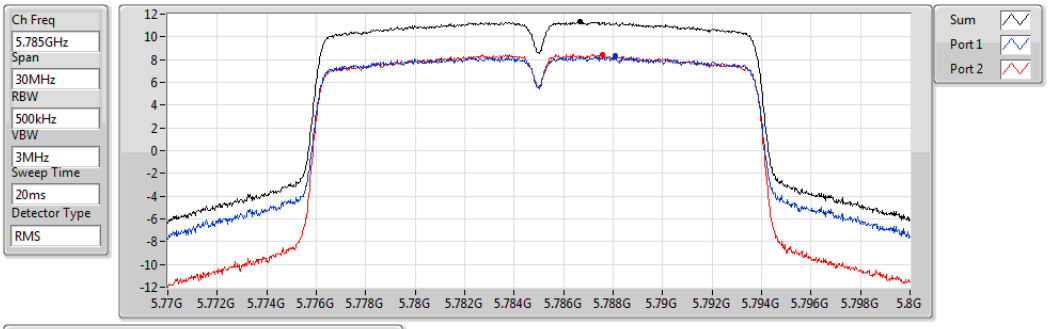
5745MHz



Sum	PD	Port 1	Port 2
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
11.26	11.26	8.01	8.57

802.11ac VHT20_Nss1,(MCS0)_2TX **PSD**

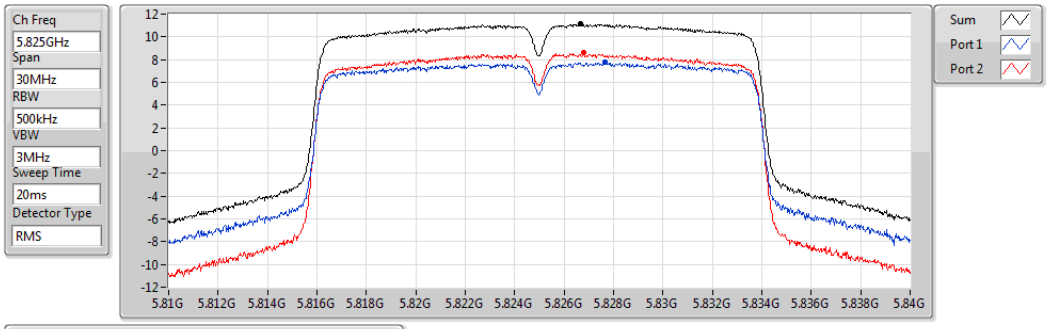
5785MHz



Sum	PD	Port 1	Port 2
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
11.30	11.30	8.31	8.44

802.11ac VHT20_Nss1,(MCS0)_2TX **PSD**

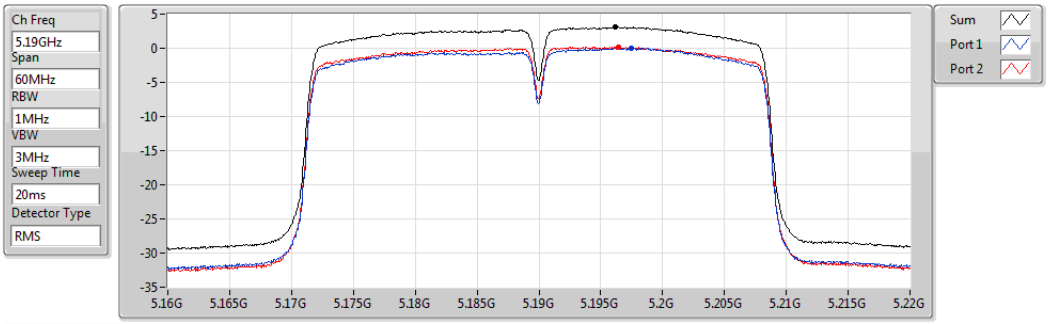
5825MHz



Sum	PD	Port 1	Port 2
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
11.13	11.13	7.76	8.60

802.11ac VHT40_Nss1,(MCS0)_2TX PSD

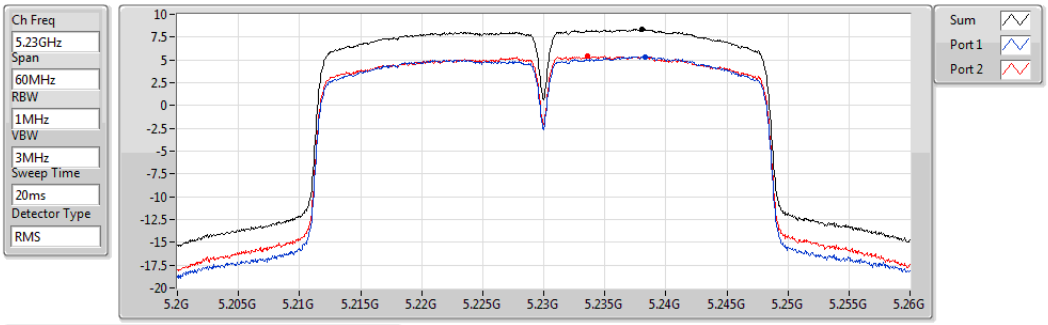
5190MHz



Sum	PD	Port 1	Port 2
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
3.11	3.11	0.06	0.22

802.11ac VHT40_Nss1,(MCS0)_2TX PSD

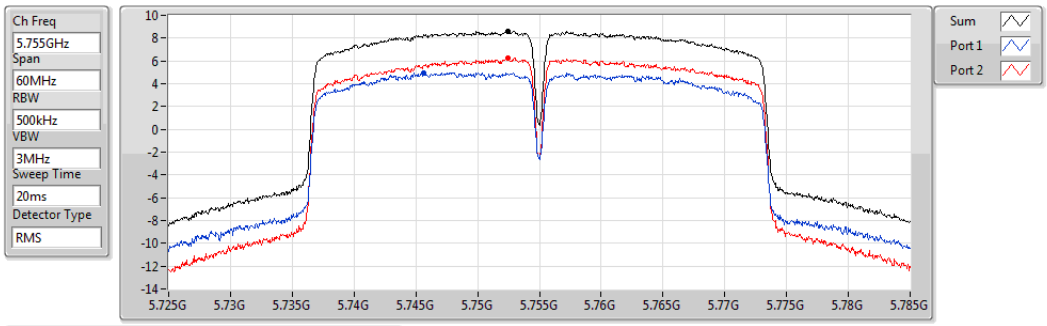
5230MHz



Sum	PD	Port 1	Port 2
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
8.35	8.35	5.37	5.39

802.11ac VHT40_Nss1,(MCS0)_2TX PSD

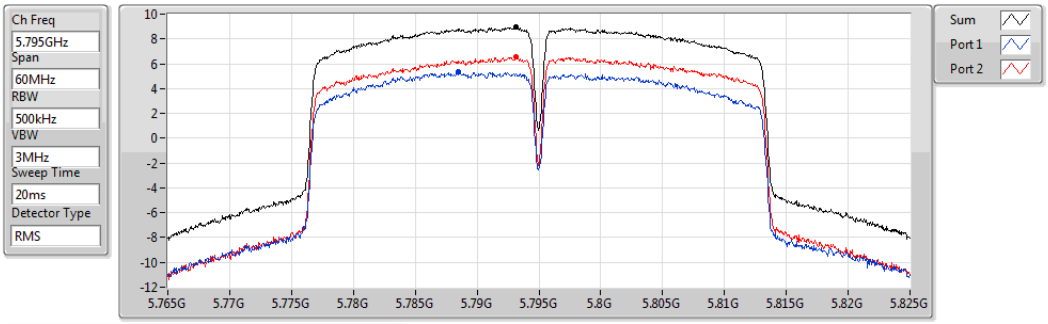
5755MHz



Sum	PD	Port 1	Port 2
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
8.63	8.63	4.95	6.29

802.11ac VHT40_Nss1,(MCS0)_2TX PSD

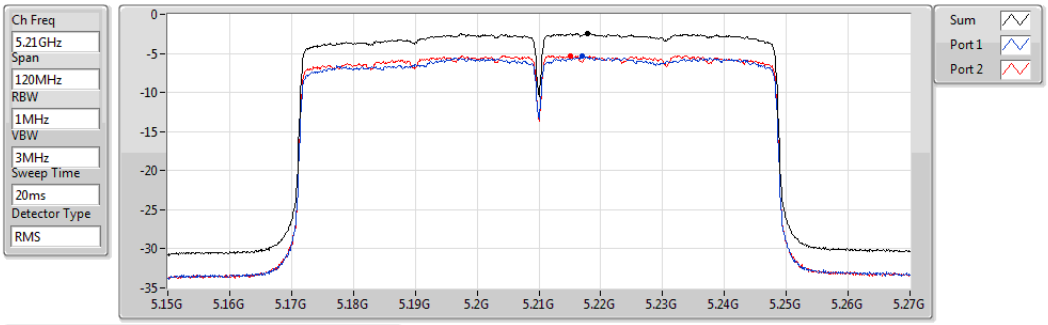
5795MHz



Sum	PD	Port 1	Port 2
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
8.97	8.97	5.38	6.59

802.11ac VHT80_Nss1,(MCS0)_2TX PSD

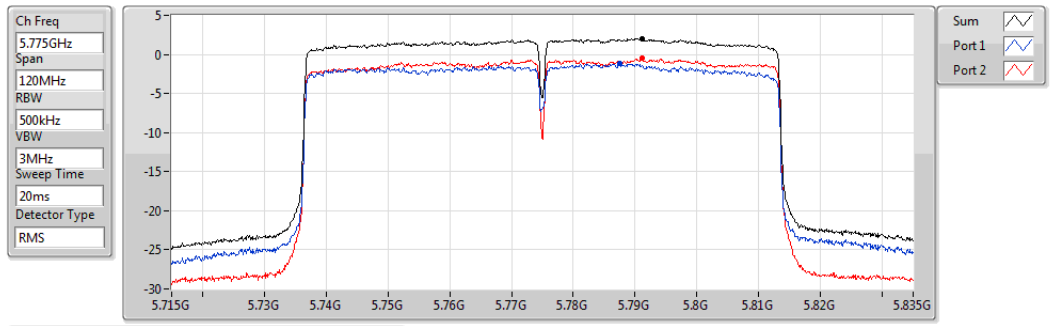
5210MHz



Sum	PD	Port 1	Port 2
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
-2.46	-2.46	-5.34	-5.29

802.11ac VHT80_Nss1,(MCS0)_2TX PSD

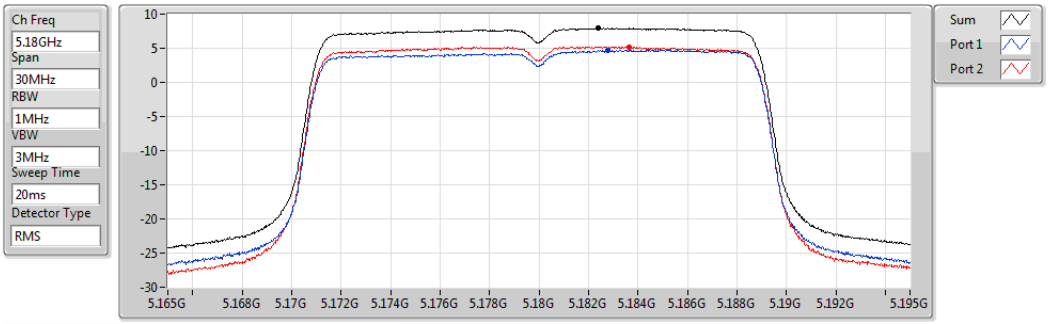
5775MHz



Sum	PD	Port 1	Port 2
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
2.06	2.06	-1.13	-0.51

802.11ac VHT20-BF_Nss1,(MCS0)_2TX PSD

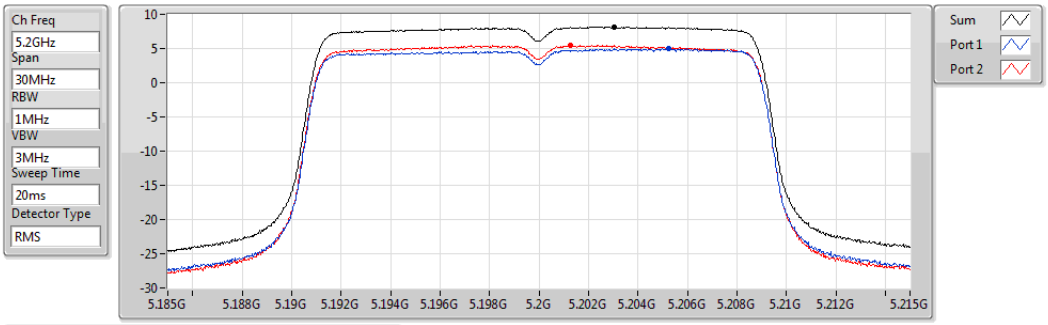
5180MHz



Sum	PD	Port 1	Port 2
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
7.94	7.94	4.72	5.21

802.11ac VHT20-BF_Nss1,(MCS0)_2TX PSD

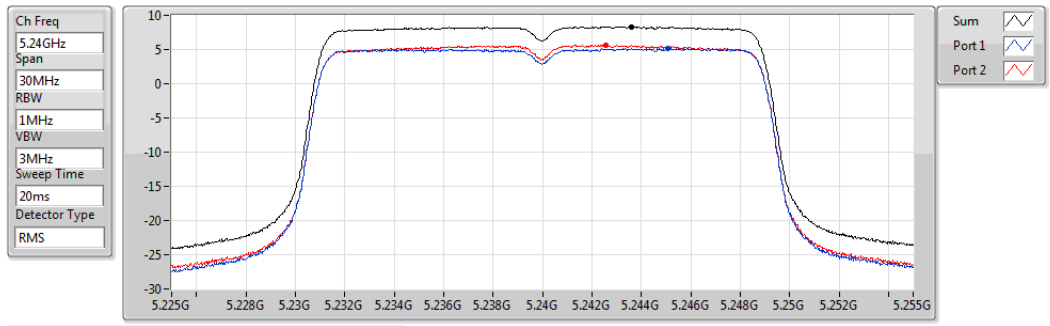
5200MHz



Sum	PD	Port 1	Port 2
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
8.16	8.16	4.96	5.52

802.11ac VHT20-BF_Nss1,(MCS0)_2TX PSD

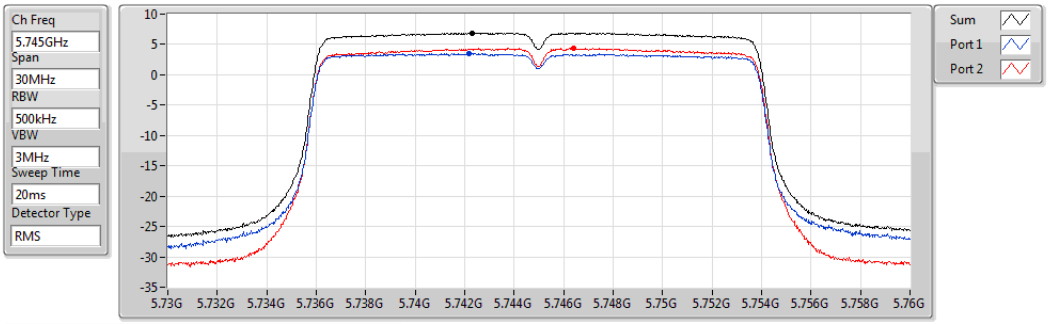
5240MHz



Sum	PD	Port 1	Port 2
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
8.35	8.35	5.15	5.63

802.11ac VHT20-BF_Nss1,(MCS0)_2TX PSD

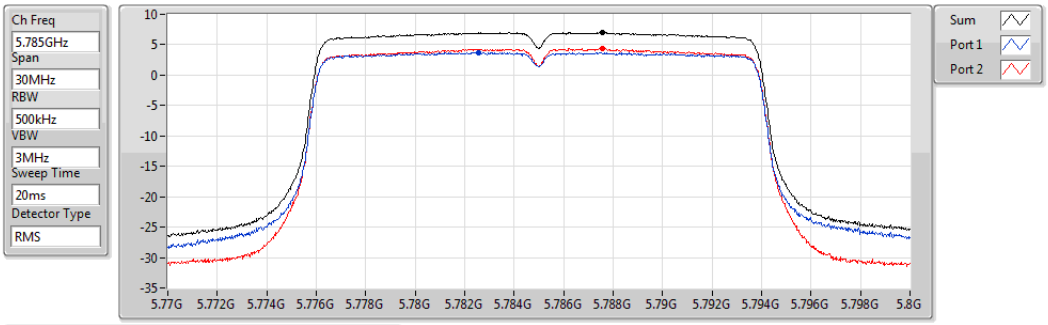
5745MHz



Sum	PD	Port 1	Port 2
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
6.92	6.92	3.54	4.41

802.11ac VHT20-BF_Nss1,(MCS0)_2TX PSD

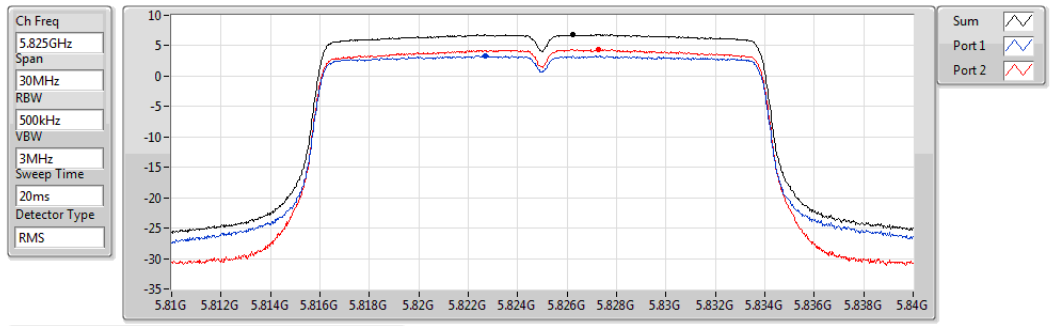
5785MHz



Sum	PD	Port 1	Port 2
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
7.01	7.01	3.74	4.39

802.11ac VHT20-BF_Nss1,(MCS0)_2TX PSD

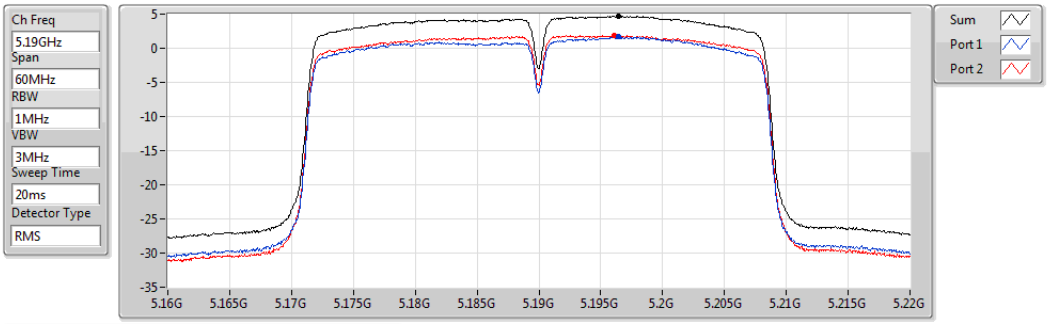
5825MHz



Sum	PD	Port 1	Port 2
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
6.83	6.83	3.36	4.37

802.11ac VHT40-BF_Nss1,(MCS0)_2TX PSD

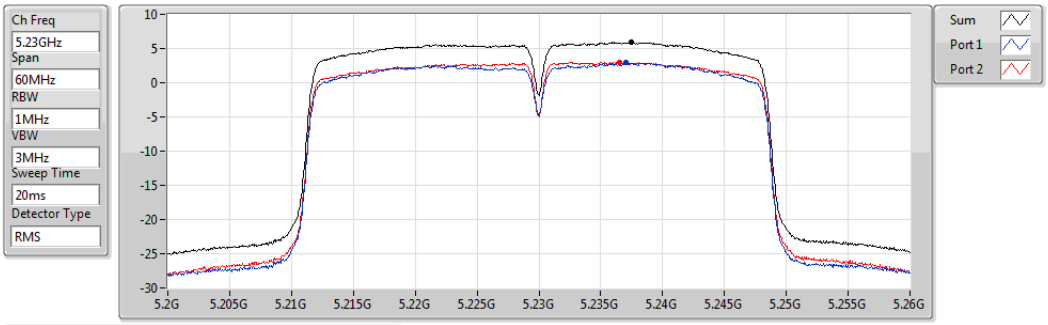
5190MHz



Sum	PD	Port 1	Port 2
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
4.76	4.76	1.64	1.88

802.11ac VHT40-BF_Nss1,(MCS0)_2TX PSD

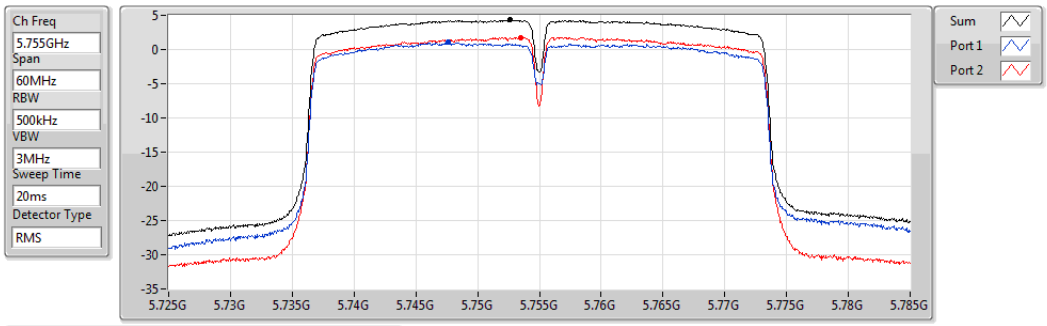
5230MHz



Sum	PD	Port 1	Port 2
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
5.87	5.87	2.89	3.02

802.11ac VHT40-BF_Nss1,(MCS0)_2TX PSD

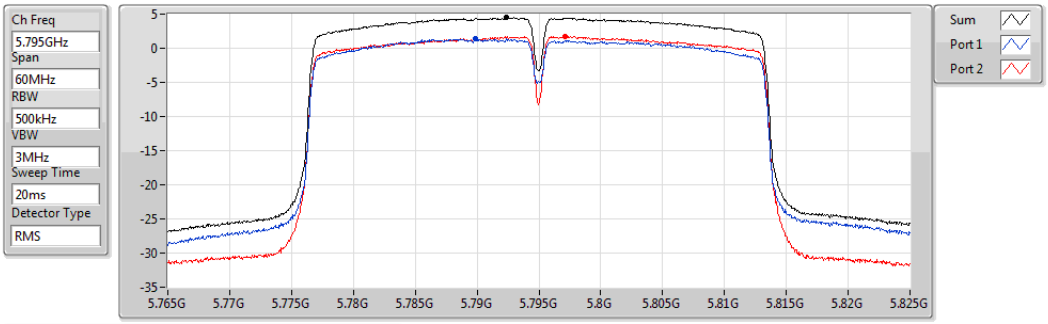
5755MHz



Sum	PD	Port 1	Port 2
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
4.32	4.32	1.04	1.76

802.11ac VHT40-BF_Nss1,(MCS0)_2TX PSD

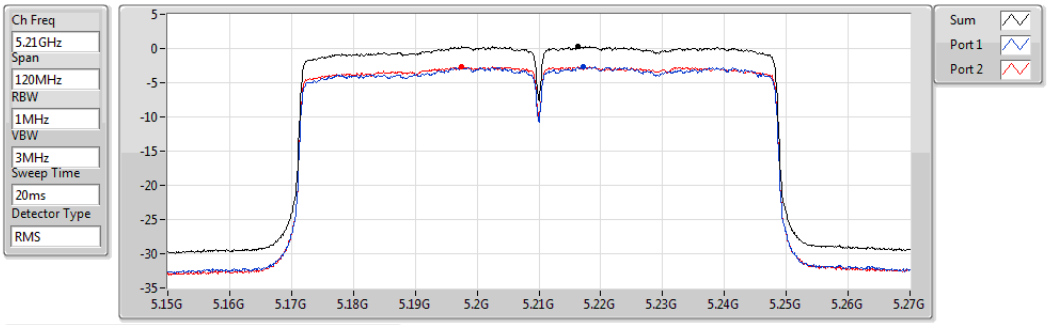
5795MHz



Sum	PD	Port 1	Port 2
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
4.49	4.49	1.42	1.73

802.11ac VHT80-BF_Nss1,(MCS0)_2TX PSD

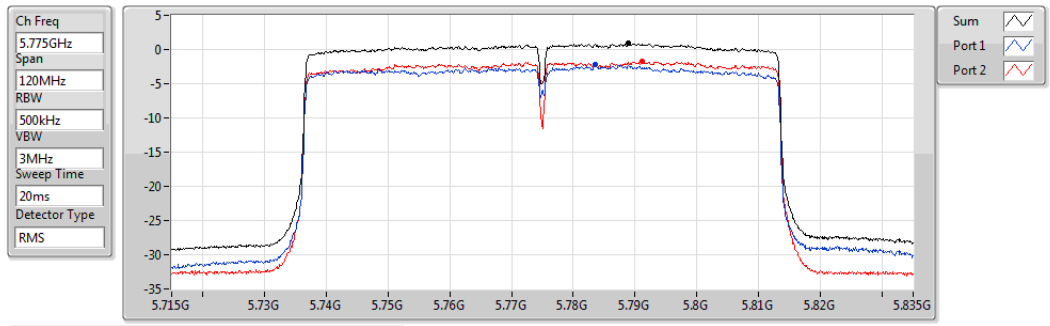
5210MHz



Sum	PD	Port 1	Port 2
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
0.29	0.29	-2.70	-2.63

802.11ac VHT80-BF_Nss1,(MCS0)_2TX PSD

5775MHz



Sum	PD	Port 1	Port 2
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
0.87	0.87	-2.27	-1.79

For outdoor use Band 1
Summary

Mode	PD (dBm/RBW)	EIRP PD (dBm/RBW)
802.11a_(6Mbps)_2TX	-	-
5.15-5.25GHz	3.54	8.69
802.11ac VHT20_Nss1,(MCS0)_2TX	-	-
5.15-5.25GHz	3.02	8.17
802.11ac VHT40_Nss1,(MCS0)_2TX	-	-
5.15-5.25GHz	0.56	5.71
802.11ac VHT80_Nss1,(MCS0)_2TX	-	-
5.15-5.25GHz	-2.95	2.20
802.11ac VHT20-BF_Nss1,(MCS0)_2TX	-	-
5.15-5.25GHz	3.16	8.31
802.11ac VHT40-BF_Nss1,(MCS0)_2TX	-	-
5.15-5.25GHz	0.50	5.65
802.11ac VHT80-BF_Nss1,(MCS0)_2TX	-	-
5.15-5.25GHz	-3.26	1.89

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

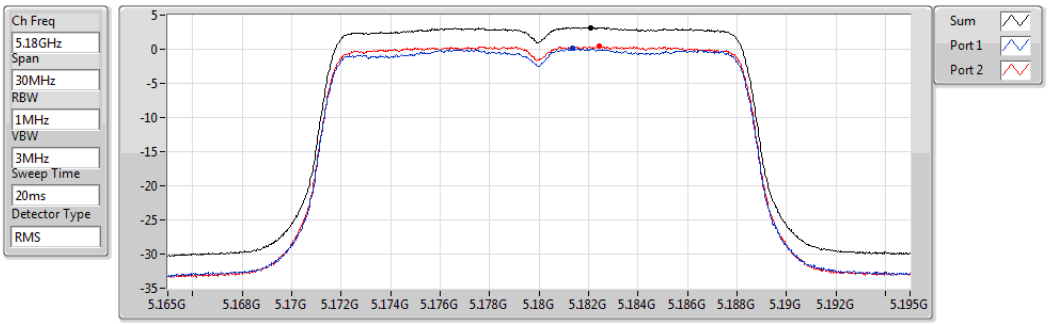
Result

Mode	Result	DG (dBi)	Port 1 (dBm/RBW)	Port 2 (dBm/RBW)	PD (dBm/RBW)	PD Limit (dBm/RBW)
802.11a_(6Mbps)_2TX	-	-	-	-	-	-
5180MHz	Pass	5.15	0.16	0.40	3.19	17.00
5200MHz	Pass	5.15	0.46	0.63	3.54	17.00
5240MHz	Pass	5.15	0.28	0.29	3.24	17.00
802.11ac VHT20_Nss1,(MCS0)_2TX	-	-	-	-	-	-
5180MHz	Pass	5.15	-0.49	-0.21	2.59	17.00
5200MHz	Pass	5.15	-0.17	0.28	3.02	17.00
5240MHz	Pass	5.15	-0.58	0.04	2.71	17.00
802.11ac VHT40_Nss1,(MCS0)_2TX	-	-	-	-	-	-
5190MHz	Pass	5.15	-2.42	-2.27	0.56	17.00
5230MHz	Pass	5.15	-2.78	-2.62	0.23	17.00
802.11ac VHT80_Nss1,(MCS0)_2TX	-	-	-	-	-	-
5210MHz	Pass	5.15	-5.91	-5.67	-2.95	17.00
802.11ac VHT20-BF_Nss1,(MCS0)_2TX	-	-	-	-	-	-
5180MHz	Pass	5.15	-0.04	0.44	3.16	17.00
5200MHz	Pass	5.15	-0.38	0.09	2.81	17.00
5240MHz	Pass	5.15	-0.22	0.43	3.10	17.00
802.11ac VHT40-BF_Nss1,(MCS0)_2TX	-	-	-	-	-	-
5190MHz	Pass	5.15	-2.78	-2.56	0.32	17.00
5230MHz	Pass	5.15	-2.50	-2.43	0.50	17.00
802.11ac VHT80-BF_Nss1,(MCS0)_2TX	-	-	-	-	-	-
5210MHz	Pass	5.15	-6.25	-6.15	-3.26	17.00

DG = Directional Gain; **RBW** = 500kHz 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_(6Mbps)_2TX **PSD**

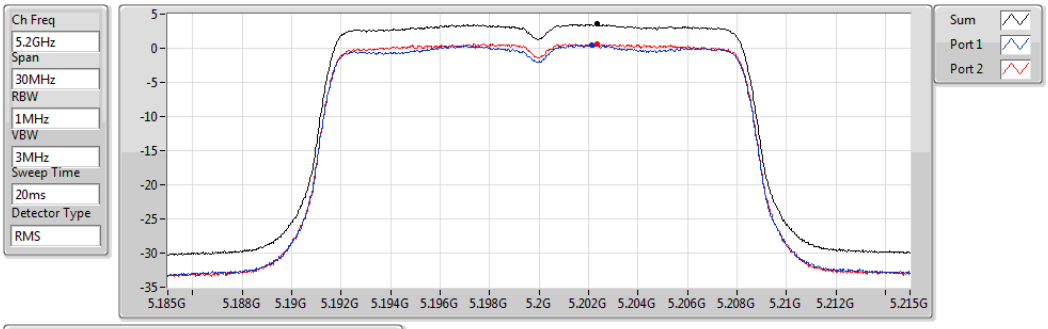
5180MHz



Sum	PD	Port 1	Port 2
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
3.19	3.19	0.16	0.40

802.11a_(6Mbps)_2TX **PSD**

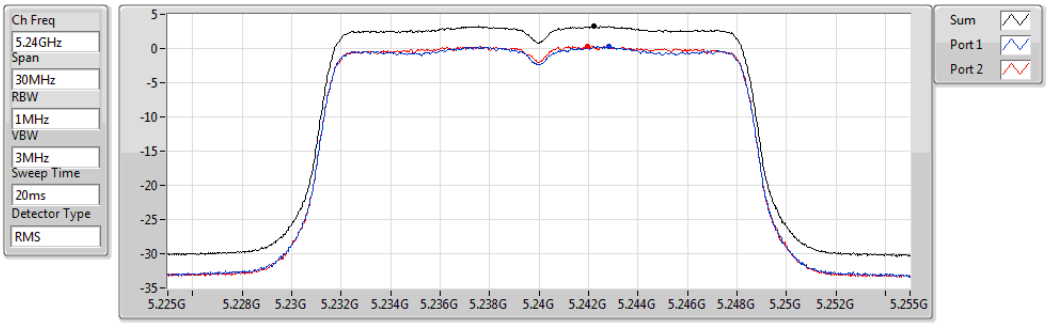
5200MHz



Sum	PD	Port 1	Port 2
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
3.54	3.54	0.46	0.63

802.11a_(6Mbps)_2TX **PSD**

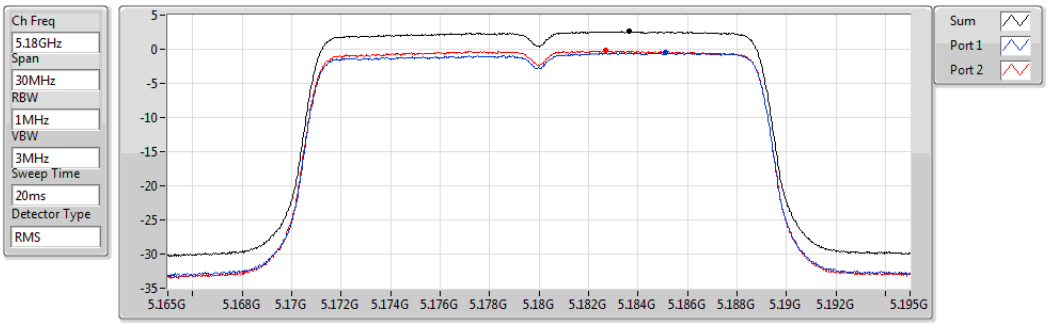
5240MHz



Sum	PD	Port 1	Port 2
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
3.24	3.24	0.28	0.29

802.11ac VHT20_Nss1,(MCS0)_2TX **PSD**

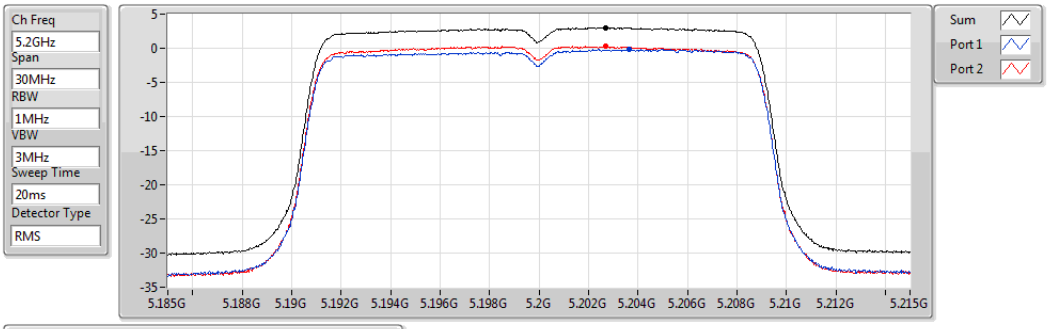
5180MHz



Sum	PD	Port 1	Port 2
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
2.59	2.59	-0.49	-0.21

802.11ac VHT20_Nss1,(MCS0)_2TX **PSD**

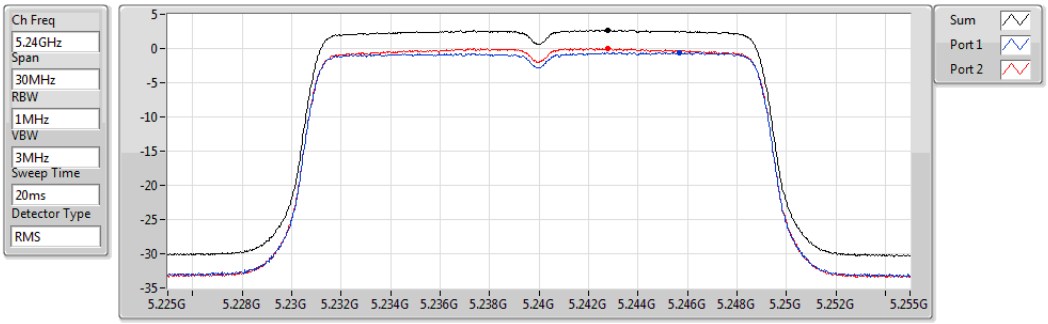
5200MHz



Sum	PD	Port 1	Port 2
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
3.02	3.02	-0.17	0.28

802.11ac VHT20_Nss1,(MCS0)_2TX **PSD**

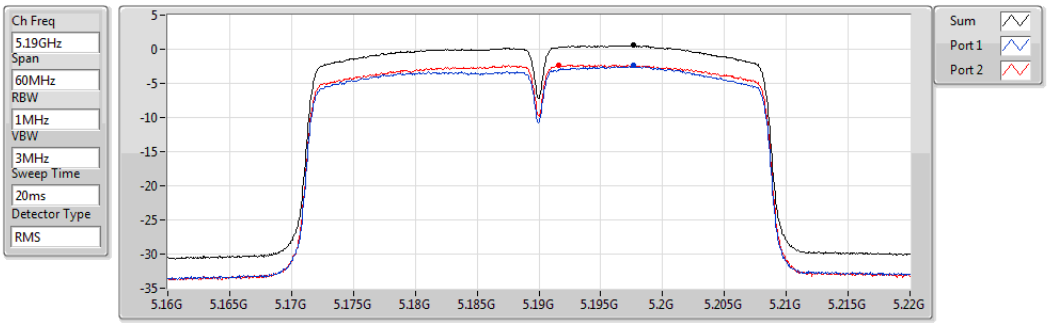
5240MHz



Sum	PD	Port 1	Port 2
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
2.71	2.71	-0.58	0.04

802.11ac VHT40_Nss1,(MCS0)_2TX **PSD**

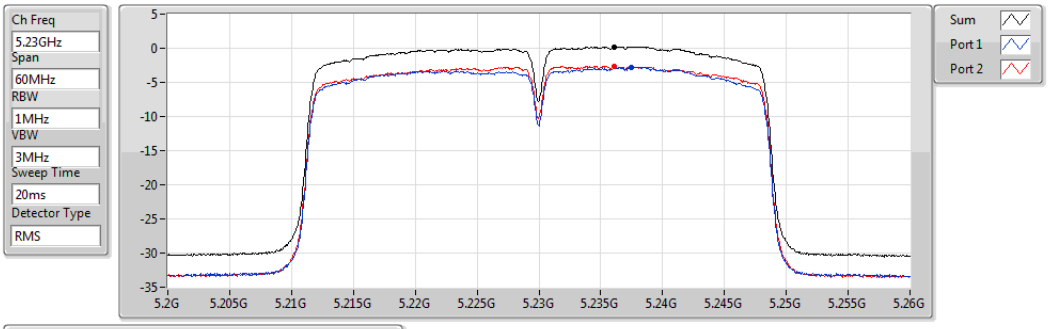
5190MHz



Sum	PD	Port 1	Port 2
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
0.56	0.56	-2.42	-2.27

802.11ac VHT40_Nss1,(MCS0)_2TX **PSD**

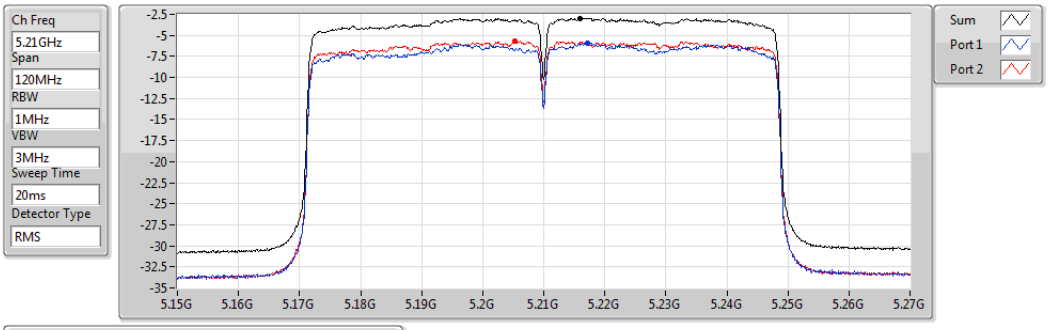
5230MHz



Sum	PD	Port 1	Port 2
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
0.23	0.23	-2.78	-2.62

802.11ac VHT80_Nss1,(MCS0)_2TX **PSD**

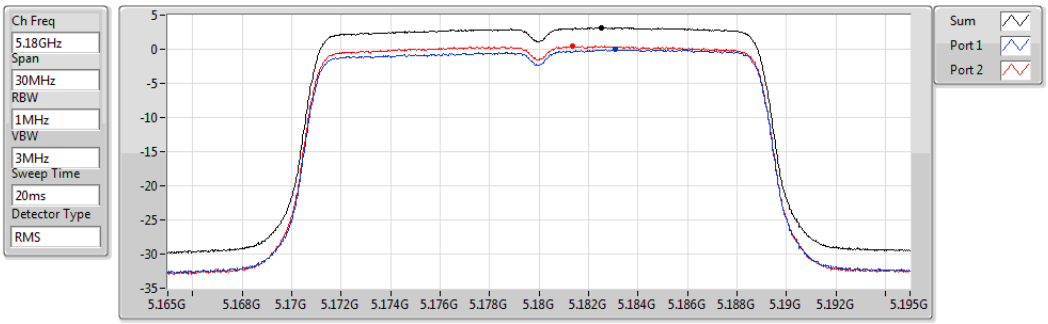
5210MHz



Sum	PD	Port 1	Port 2
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
-2.95	-2.95	-5.91	-5.67

802.11ac VHT20-BF_Nss1,(MCS0)_2TX **PSD**

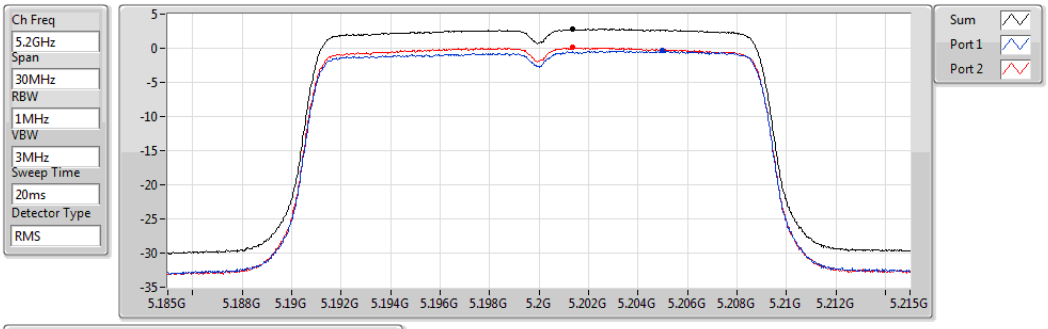
5180MHz



Sum	PD	Port 1	Port 2
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
3.16	3.16	-0.04	0.44

802.11ac VHT20-BF_Nss1,(MCS0)_2TX **PSD**

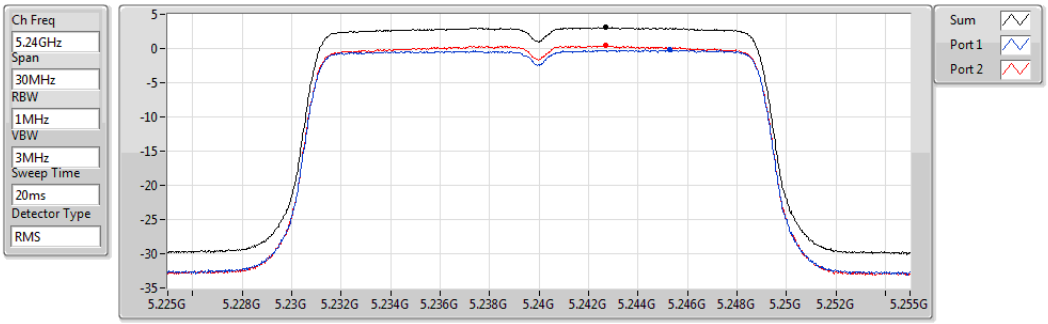
5200MHz



Sum	PD	Port 1	Port 2
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
2.81	2.81	-0.38	0.09

802.11ac VHT20-BF_Nss1,(MCS0)_2TX **PSD**

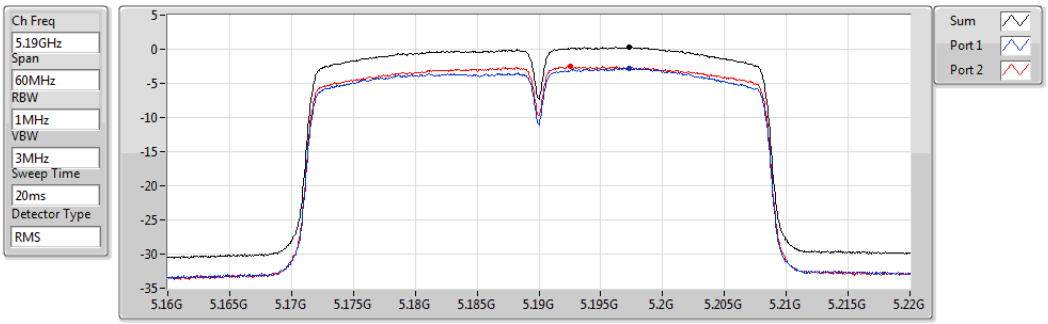
5240MHz



Sum	PD	Port 1	Port 2
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
3.10	3.10	-0.22	0.43

802.11ac VHT40-BF_Nss1,(MCS0)_2TX **PSD**

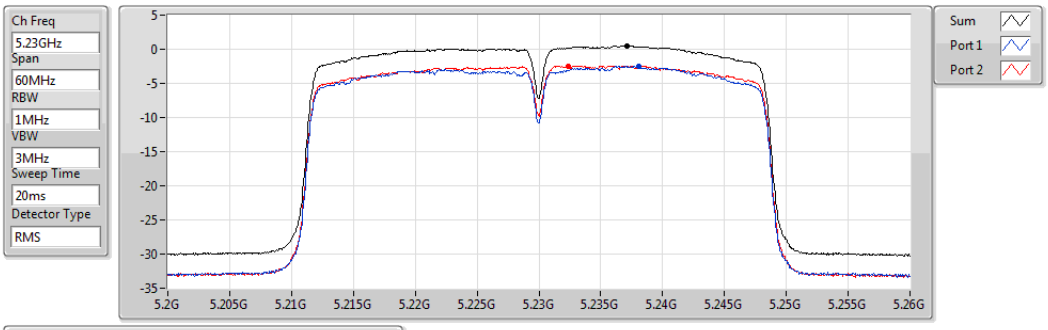
5190MHz



Sum	PD	Port 1	Port 2
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
0.32	0.32	-2.78	-2.56

802.11ac VHT40-BF_Nss1,(MCS0)_2TX **PSD**

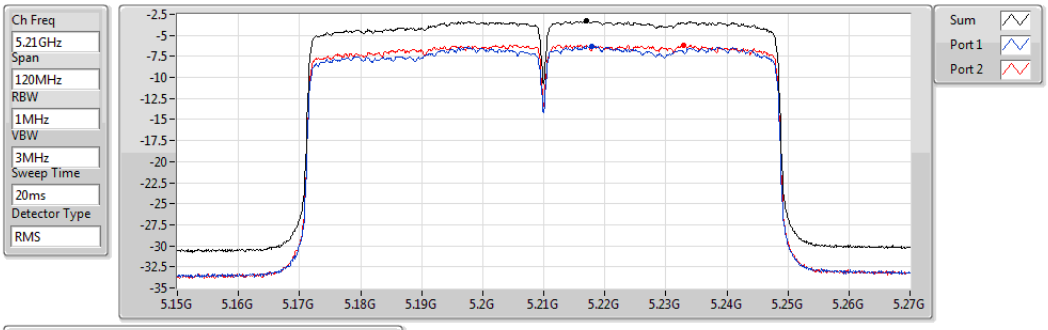
5230MHz



Sum	PD	Port 1	Port 2
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
0.50	0.50	-2.50	-2.43

802.11ac VHT80-BF_Nss1,(MCS0)_2TX **PSD**

5210MHz



Sum	PD	Port 1	Port 2
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
-3.26	-3.26	-6.25	-6.15

3.5 Unwanted Emissions

3.5.1 Transmitter Radiated 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.			

Un-restricted band emissions above 1GHz Limit	
Operating Band	**Limit**
5.15 - 5.25 GHz	e.i.r.p. -27 dBm [68.2 dBuV/m@3m]
5.25 - 5.35 GHz	e.i.r.p. -27 dBm [68.2 dBuV/m@3m]
5.47 - 5.725 GHz	e.i.r.p. -27 dBm [68.2 dBuV/m@3m]
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).	

3.5.2 Measuring Instruments

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

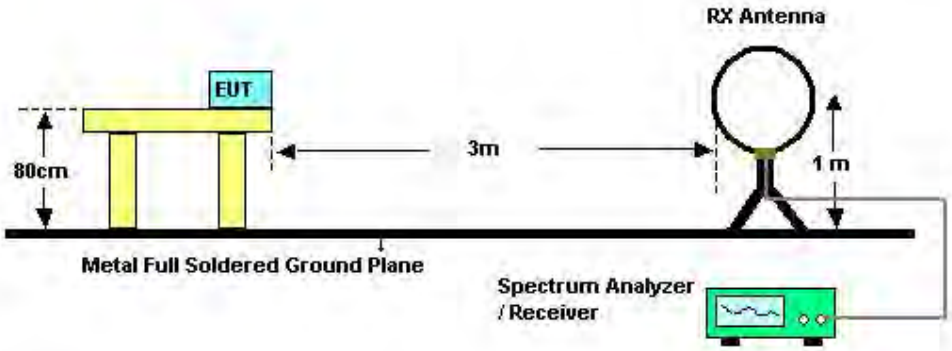
3.5.3 Test Procedures

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 ≥ 98 or duty factor].		
▪ For the transmitter unwanted emissions shall be measured using following options below:		
	▪ Refer as FCC KDB 789033, clause H)2) for unwanted emissions into non-restricted bands.	
	▪ Refer as FCC KDB 789033, clause H)1) for unwanted emissions into restricted bands.	
		☐ Refer as FCC KDB 789033, H)6) Method AD (Trace Averaging).
		☒ Refer as FCC KDB 789033, H)6) Method VB (Reduced VBW).
		☐ Refer as ANSI C63.10, clause 4.2.3.2.3 (Reduced VBW). VBW ≥ 1/T, where T is pulse time.
		☐ Refer as ANSI C63.10, clause 4.2.3.2.4 average value of pulsed emissions.
		☒ Refer as FCC KDB 789033, clause H)5) measurement procedure peak limit.
		☐ Refer as ANSI C63.10, clause 4.2.3.2.2 measurement procedure peak limit.
▪ For radiated measurement.		
	▪ Refer as ANSI C63.10, clause 6.4 for radiated emissions below 30 MHz and test distance is 3m.	
	▪ Refer as ANSI C63.10, clause 6.5 for radiated emissions 30 MHz to 1 GHz and test distance is 3m.	
	▪ 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.		

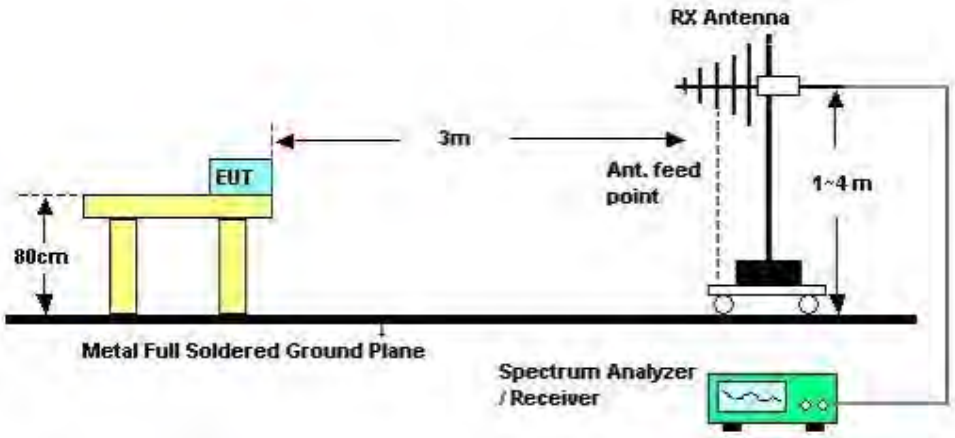
3.5.4 Test Setup

Transmitter Radiated Unwanted Emissions

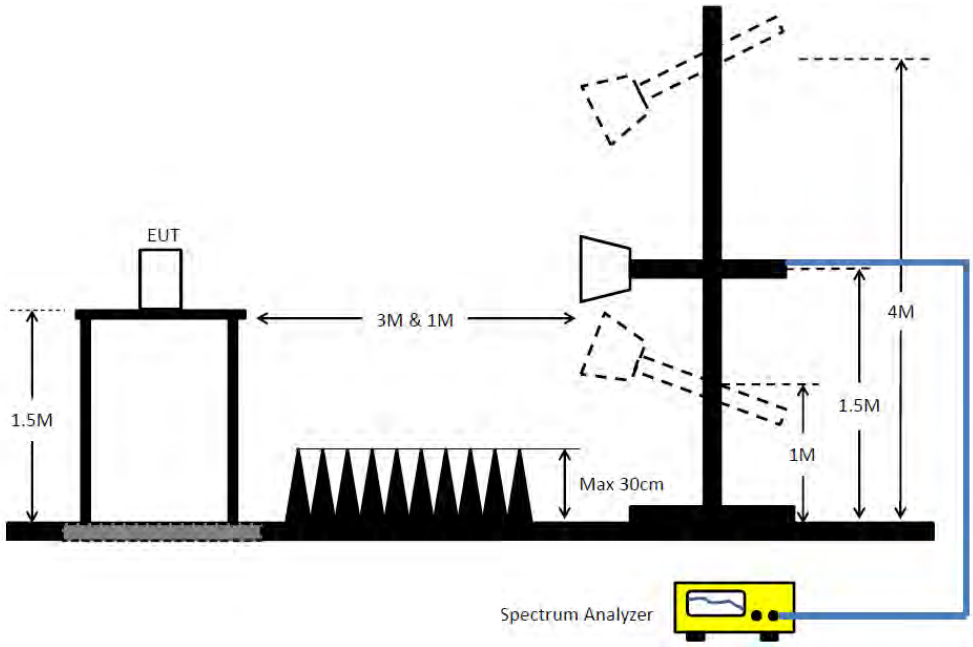
9kHz ~30MHz



30MHz~1GHz



Above 1GHz

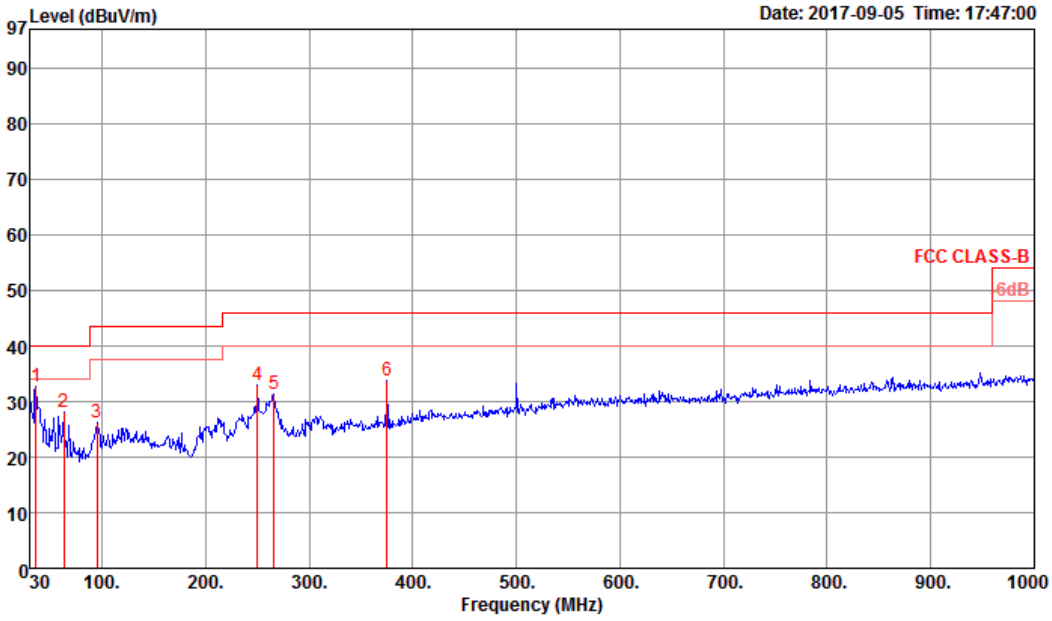


3.5.5 Transmitter Unwanted Emissions (Below 30MHz)

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

3.5.6 Test Result of Transmitter Unwanted Emissions

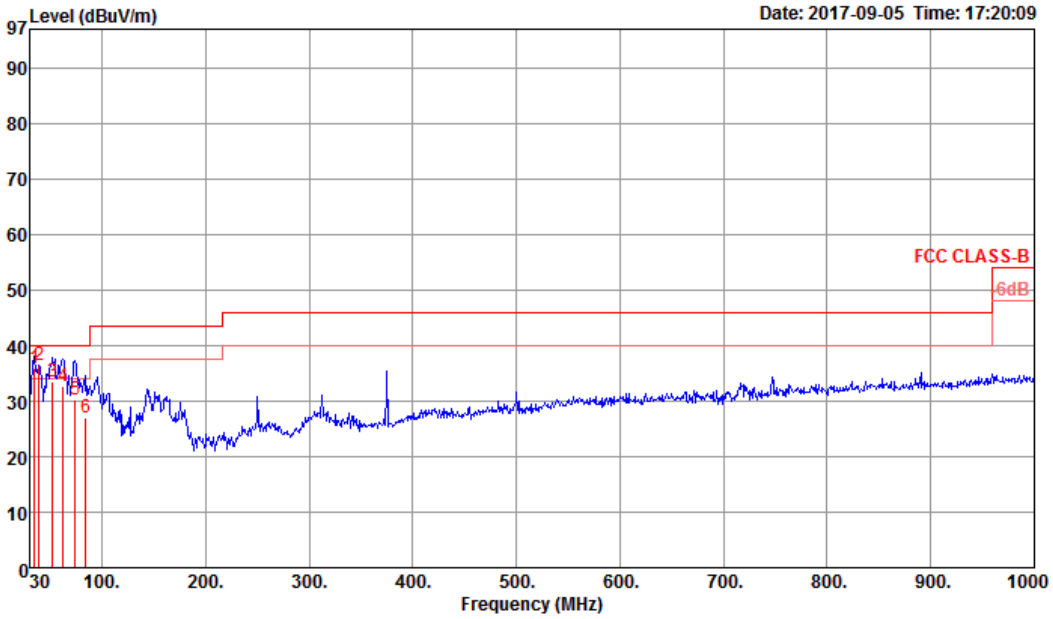
RSE below 1GHz Result			
Operating Mode	2	**Polarization**	Horizontal
Operating Function	Normal Link		



	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	35.82	32.71	40.00	-7.29	36.67	2.15	22.47	28.58	100	0	Peak	HORIZONTAL
2	62.98	28.04	40.00	-11.96	42.27	2.17	12.12	28.52	100	0	Peak	HORIZONTAL
3	94.99	26.29	43.50	-17.21	36.73	2.21	15.78	28.43	100	0	Peak	HORIZONTAL
4	250.19	33.07	46.00	-12.93	40.04	2.59	18.36	27.92	100	0	Peak	HORIZONTAL
5	265.71	31.35	46.00	-14.65	37.32	2.65	19.27	27.89	100	0	Peak	HORIZONTAL
6	375.32	33.88	46.00	-12.12	38.63	3.04	20.73	28.52	100	0	Peak	HORIZONTAL

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

RSE below 1GHz Result			
Operating Mode	2	**Polarization**	Vertical
Operating Function	Normal Link		



	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	34.85	35.89	40.00	-4.11	39.20	2.16	23.11	28.58	227	141	QP	VERTICAL
2	38.73	36.53	40.00	-3.47	42.44	2.12	20.55	28.58	100	221	Peak	VERTICAL
3	52.31	33.48	40.00	-6.52	46.40	2.17	13.47	28.56	100	74	QP	VERTICAL
4	62.01	32.76	40.00	-7.24	47.00	2.17	12.11	28.52	145	8	QP	VERTICAL
5	73.65	30.22	40.00	-9.78	44.10	2.19	12.42	28.49	100	8	QP	VERTICAL
6	84.32	26.95	40.00	-13.05	39.40	2.20	13.81	28.46	100	196	QP	VERTICAL

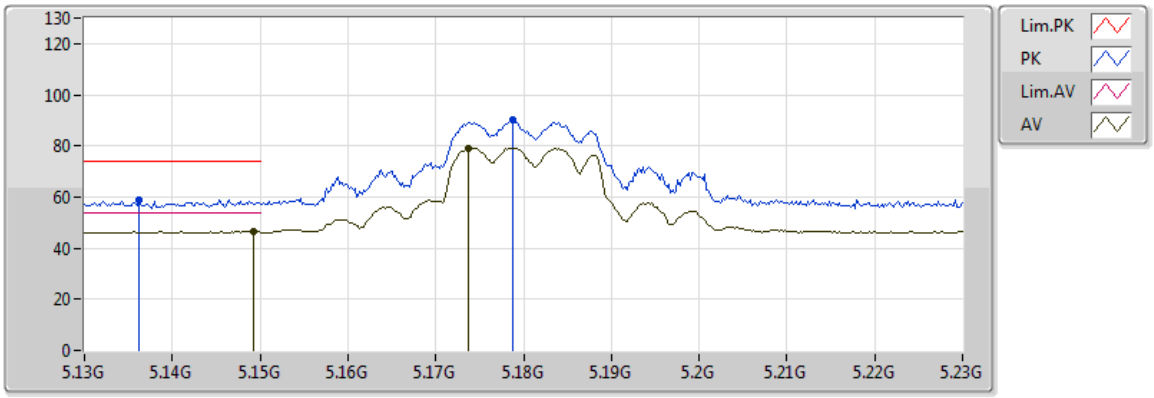
Note 1: “>20dB” means emission levels that exceed the level of 20 dB below the applicable limit.
Note 2: “N/F” means Nothing Found emissions (No emissions were detected.)

RSE Above 1GHz Result
Summary

Mode	Result	Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Pol. (H/V)	Azimuth (°)	Height (m)	Comments
802.11a_(6Mbps)_2TX	-	-	-	-	-	-	-	-	-	-	-	-
5.15-5.25GHz	Pass	AV	15.71736G	53.97	54.00	-0.03	17.64	3	V	325	2.19	-

802.11a_(6Mbps)_2TX

5180MHz_TX

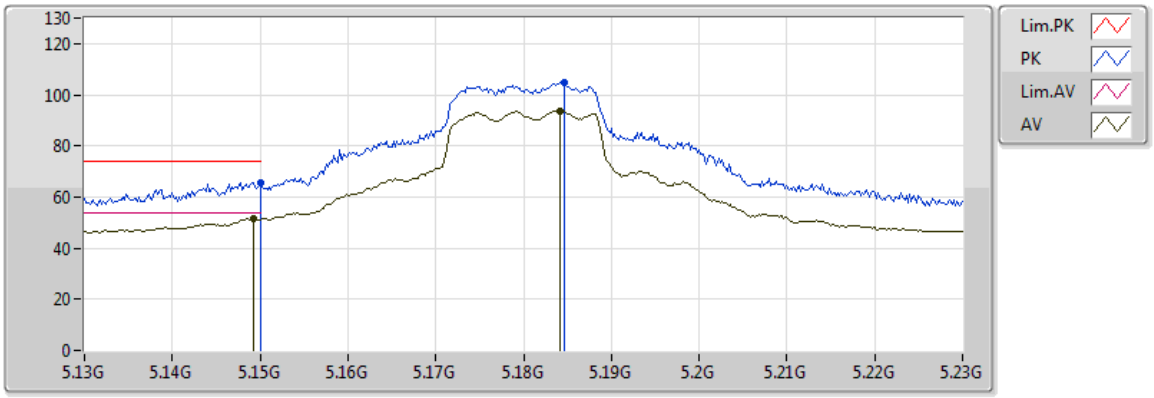


20170831
EUT Z_2TX
Setting 21
02-Z-1-10
FSU

Type	Freq(Hz)	Level(dBuV/m)	Limit(dBuV/m)	Margin(dB)	Factor(dB)	Dist(m)	Pol.(H/V)	Azimuth(°)	Height(m)	Comments
AV	5.1492G	46.40	54.00	-7.60	9.03	3	V	139	2.47	-
AV	5.1738G	79.17	Inf	-Inf	9.09	3	V	139	2.47	-
PK	5.1362G	58.89	74.00	-15.11	9.00	3	V	139	2.47	-
PK	5.1788G	89.96	Inf	-Inf	9.11	3	V	139	2.47	-

802.11a_(6Mbps)_2TX

5180MHz_TX

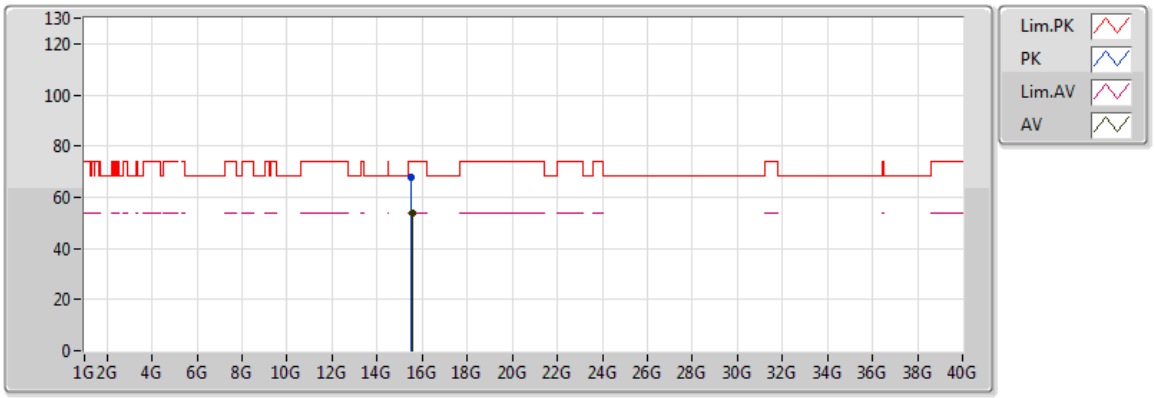


20170831
EUT Z_2TX
Setting 21
02-Z-1-10
FSU

Type	Freq(Hz)	Level(dBuV/m)	Limit(dBuV/m)	Margin(dB)	Factor(dB)	Dist(m)	Pol.(H/V)	Azimuth(°)	Height(m)	Comments
AV	5.1492G	51.69	54.00	-2.31	9.03	3	H	85	1.02	-
AV	5.1842G	93.79	Inf	-Inf	9.12	3	H	85	1.02	-
PK	5.149995G	65.60	74.00	-8.40	9.03	3	H	85	1.02	-
PK	5.1846G	104.87	Inf	-Inf	9.12	3	H	85	1.02	-

802.11a_(6Mbps)_2TX

5180MHz_TX

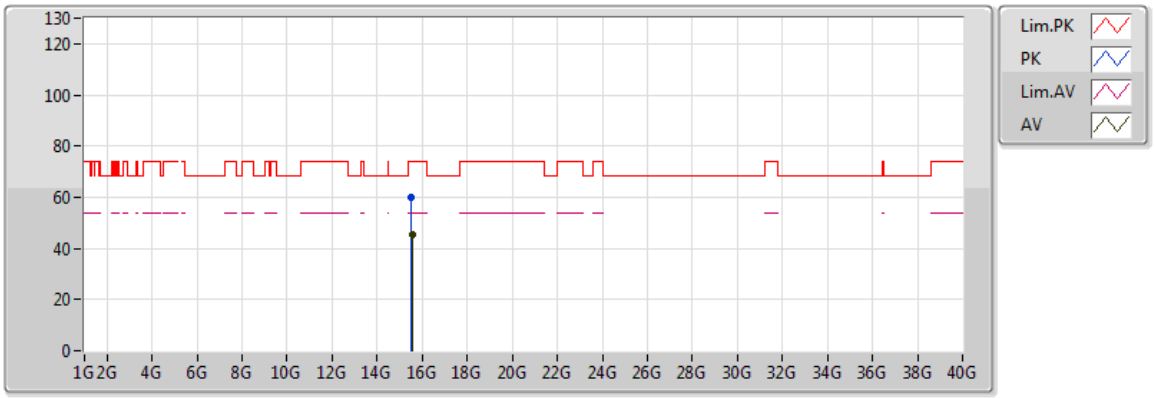


20170831
EUT Z_2TX
Setting 21
02-Z-1
FSU

Type	Freq(Hz)	Level(dBuV/m)	Limit(dBuV/m)	Margin(dB)	Factor(dB)	Dist(m)	Pol.(H/V)	Azimuth(°)	Height(m)	Comments
AV	15.54236G	53.57	54.00	-0.43	18.02	3	V	301	2.11	-
PK	15.5368G	67.73	74.00	-6.27	18.04	3	V	301	2.11	-

802.11a_(6Mbps)_2TX

5180MHz_TX

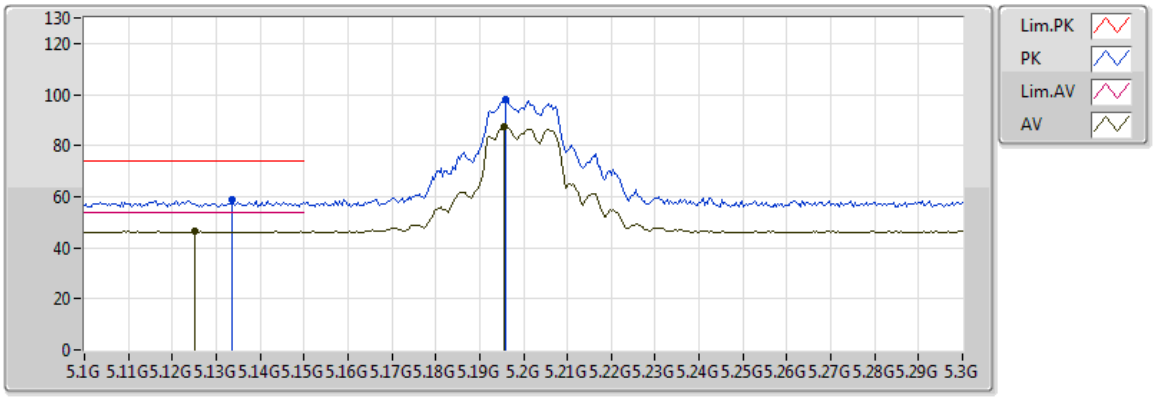


20170831
EUT Z_2TX
Setting 21
02-Z-1
FSU

Type	Freq(Hz)	Level(dBuV/m)	Limit(dBuV/m)	Margin(dB)	Factor(dB)	Dist(m)	Pol.(H/V)	Azimuth(°)	Height(m)	Comments
AV	15.5422G	45.45	54.00	-8.55	18.02	3	H	175	1.05	-
PK	15.53624G	59.95	74.00	-14.05	18.04	3	H	175	1.05	-

802.11a_(6Mbps)_2TX

5200MHz_TX

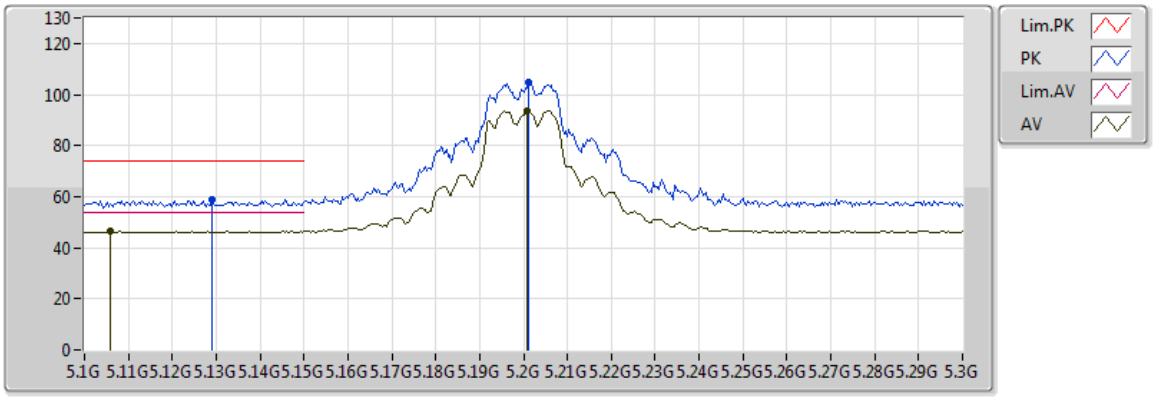


20170831
EUT Z_2TX
Setting 21
02-Z-1-10
FSU

Type	Freq(Hz)	Level(dBuV/m)	Limit(dBuV/m)	Margin(dB)	Factor(dB)	Dist(m)	Pol.(H/V)	Azimuth(°)	Height(m)	Comments
AV	5.1252G	46.51	54.00	-7.49	8.97	3	V	6	2.74	-
AV	5.1956G	87.20	Inf	-Inf	9.15	3	V	6	2.74	-
PK	5.1336G	58.97	74.00	-15.03	8.99	3	V	6	2.74	-
PK	5.196G	97.87	Inf	-Inf	9.15	3	V	6	2.74	-

802.11a_(6Mbps)_2TX

5200MHz_TX

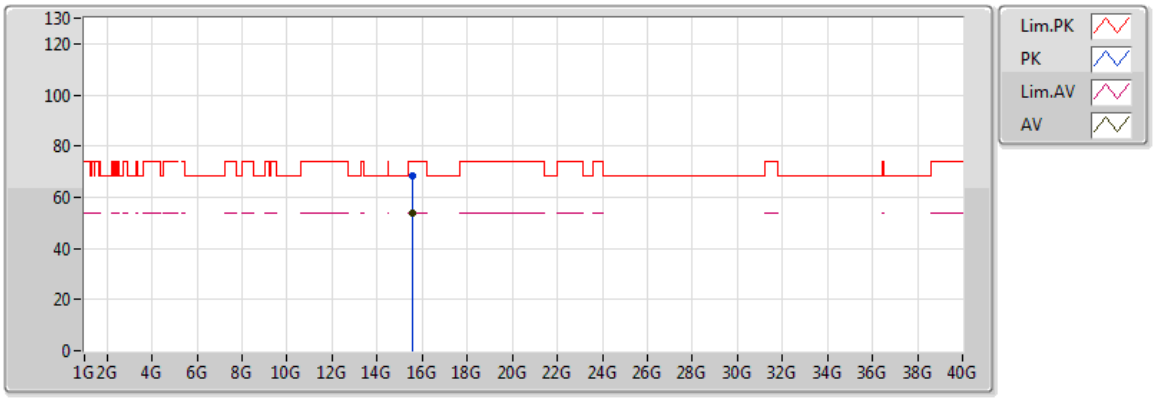


20170831
EUT Z_2TX
Setting 21
02-Z-1-10
FSU

Type	Freq(Hz)	Level(dBuV/m)	Limit(dBuV/m)	Margin(dB)	Factor(dB)	Dist(m)	Pol.(H/V)	Azimuth(°)	Height(m)	Comments
AV	5.106G	46.51	54.00	-7.49	8.93	3	H	87	1.02	-
AV	5.2008G	93.60	Inf	-Inf	9.16	3	H	87	1.02	-
PK	5.1292G	59.11	74.00	-14.89	8.98	3	H	87	1.02	-
PK	5.2012G	104.95	Inf	-Inf	9.16	3	H	87	1.02	-

802.11a_(6Mbps)_2TX

5200MHz_TX

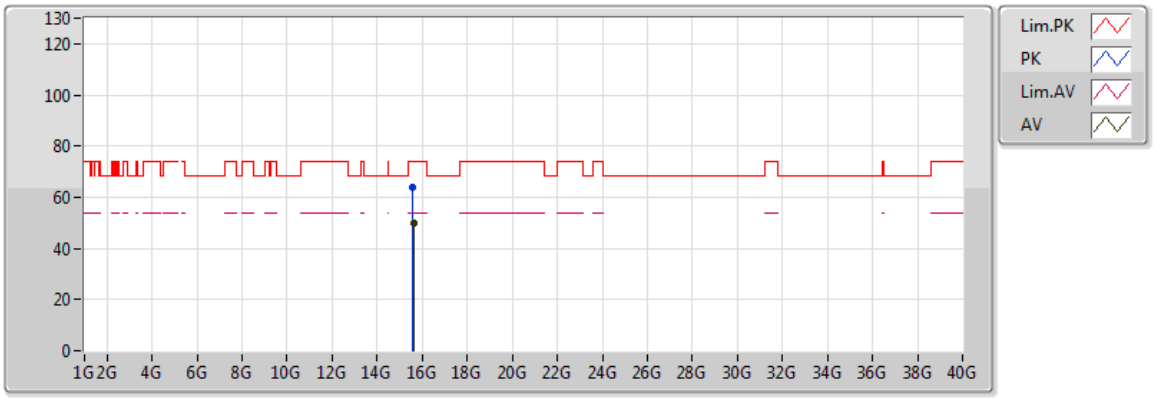


20170831
EUT Z_2TX
Setting 21
02-Z-1
FSU

Type	Freq(Hz)	Level(dBuV/m)	Limit(dBuV/m)	Margin(dB)	Factor(dB)	Dist(m)	Pol.(H/V)	Azimuth(°)	Height(m)	Comments
AV	15.59752G	53.68	54.00	-0.32	17.90	3	V	300	1.03	-
PK	15.598G	68.37	74.00	-5.63	17.90	3	V	300	1.03	-

802.11a_(6Mbps)_2TX

5200MHz_TX

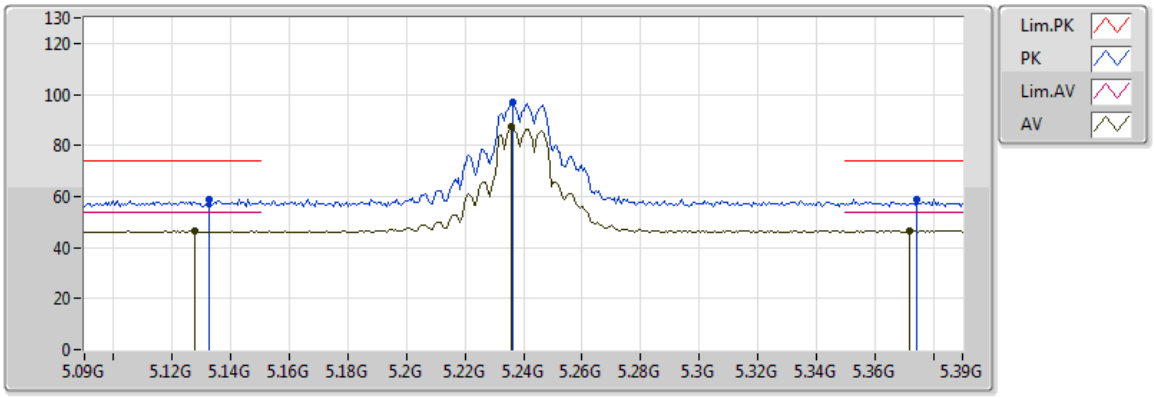


20170831
EUT Z_2TX
Setting 21
02-Z-1
FSU

Type	Freq(Hz)	Level(dBuV/m)	Limit(dBuV/m)	Margin(dB)	Factor(dB)	Dist(m)	Pol.(H/V)	Azimuth(°)	Height(m)	Comments
AV	15.60232G	49.61	54.00	-4.39	17.89	3	H	177	2.11	-
PK	15.5968G	64.02	74.00	-9.98	17.90	3	H	177	2.11	-

802.11a_(6Mbps)_2TX

5240MHz_TX

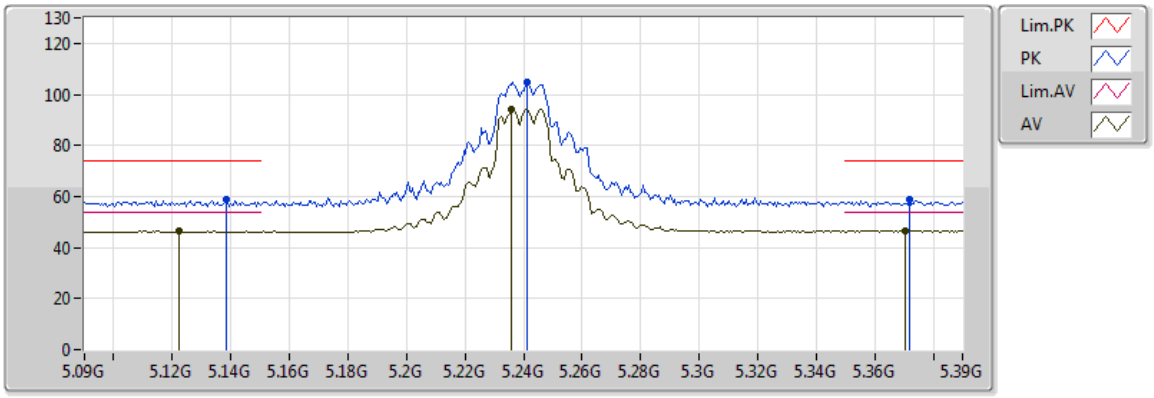


20170831
EUT Z_2TX
Setting 21.5
02-Z-1-10
FSU

Type	Freq(Hz)	Level(dBuV/m)	Limit(dBuV/m)	Margin(dB)	Factor(dB)	Dist(m)	Pol.(H/V)	Azimuth(°)	Height(m)	Comments
AV	5.1278G	46.43	54.00	-7.57	8.98	3	V	148	2.42	-
AV	5.2358G	87.19	Inf	-Inf	9.23	3	V	148	2.42	-
AV	5.372G	46.55	54.00	-7.45	9.47	3	V	148	2.42	-
PK	5.1326G	58.91	74.00	-15.09	8.99	3	V	148	2.42	-
PK	5.2364G	97.19	Inf	-Inf	9.23	3	V	148	2.42	-
PK	5.3744G	58.77	74.00	-15.23	9.48	3	V	148	2.42	-

802.11a_(6Mbps)_2TX

5240MHz_TX

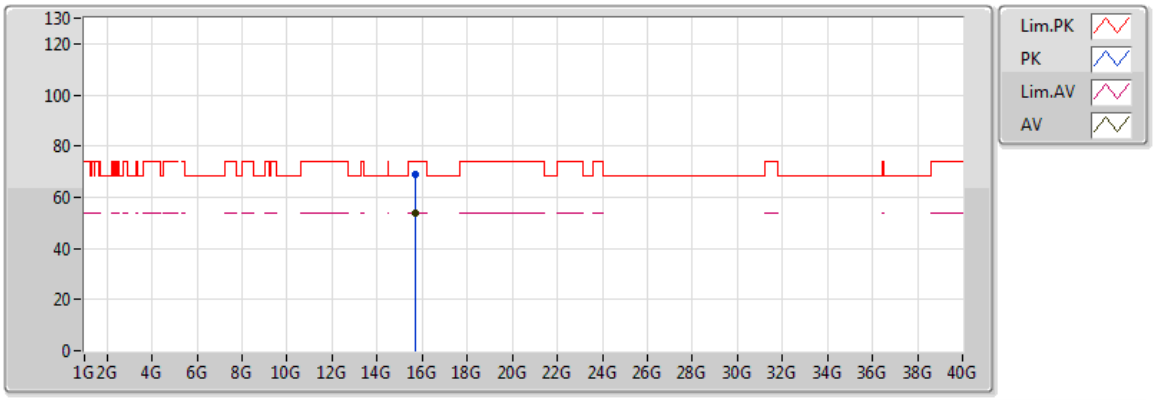


20170831
EUT Z_2TX
Setting 21.5
02-Z-1-10
FSU

Type	Freq(Hz)	Level(dBuV/m)	Limit(dBuV/m)	Margin(dB)	Factor(dB)	Dist(m)	Pol.(H/V)	Azimuth(°)	Height(m)	Comments
AV	5.1224G	46.51	54.00	-7.49	8.97	3	H	80	1.11	-
AV	5.2358G	94.30	Inf	-Inf	9.23	3	H	80	1.11	-
AV	5.3702G	46.57	54.00	-7.43	9.47	3	H	80	1.11	-
PK	5.1386G	58.88	74.00	-15.12	9.01	3	H	80	1.11	-
PK	5.2412G	104.94	Inf	-Inf	9.24	3	H	80	1.11	-
PK	5.372G	59.04	74.00	-14.96	9.47	3	H	80	1.11	-

802.11a_(6Mbps)_2TX

5240MHz_TX

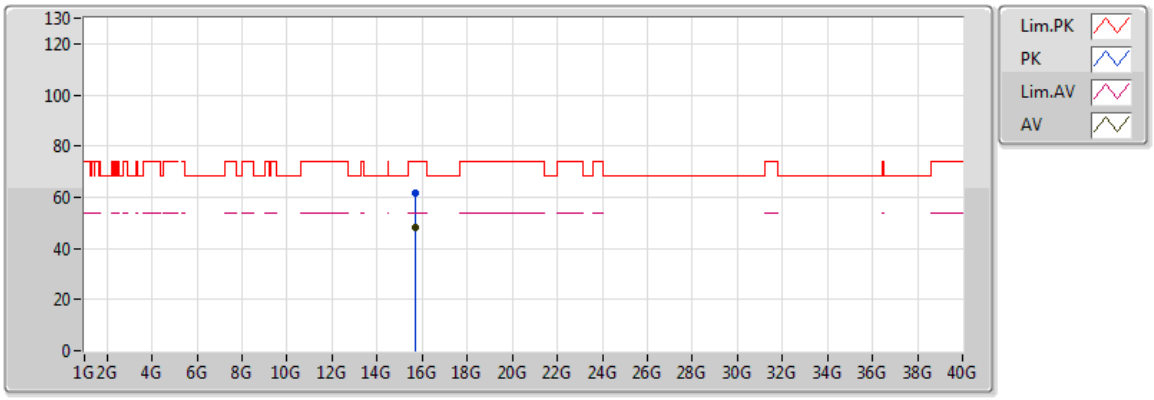


20170831
EUT Z_2TX
Setting 21.5
02-Z-1
FSU

Type	Freq(Hz)	Level(dBuV/m)	Limit(dBuV/m)	Margin(dB)	Factor(dB)	Dist(m)	Pol.(H/V)	Azimuth(°)	Height(m)	Comments
AV	15.71736G	53.97	54.00	-0.03	17.64	3	V	325	2.19	-
PK	15.71784G	68.75	74.00	-5.25	17.64	3	V	325	2.19	-

802.11a_(6Mbps)_2TX

5240MHz_TX

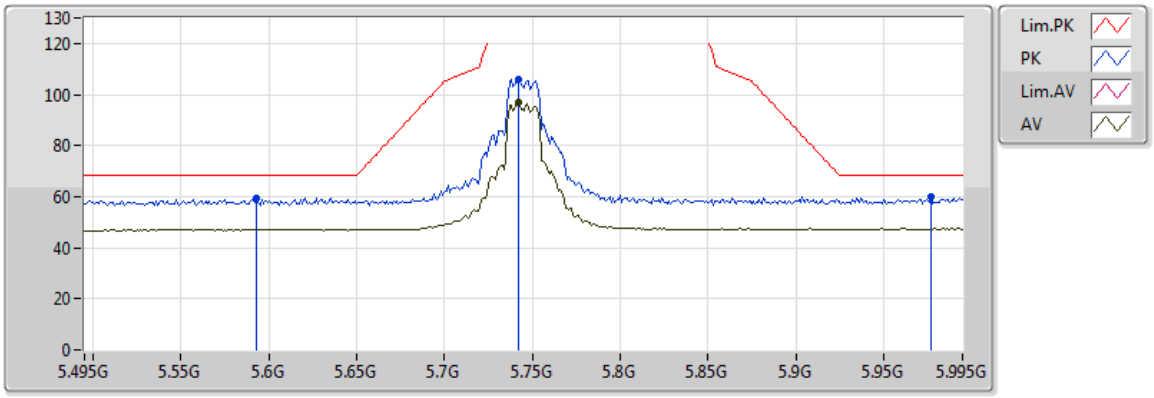


20170831
EUT Z_2TX
Setting 21.5
02-Z-1
FSU

Type	Freq(Hz)	Level(dBuV/m)	Limit(dBuV/m)	Margin(dB)	Factor(dB)	Dist(m)	Pol.(H/V)	Azimuth(°)	Height(m)	Comments
AV	15.71708G	48.35	54.00	-5.65	17.64	3	H	214	1.05	-
PK	15.71664G	61.80	74.00	-12.20	17.64	3	H	214	1.05	-

802.11a_(6Mbps)_2TX

5745MHz_TX

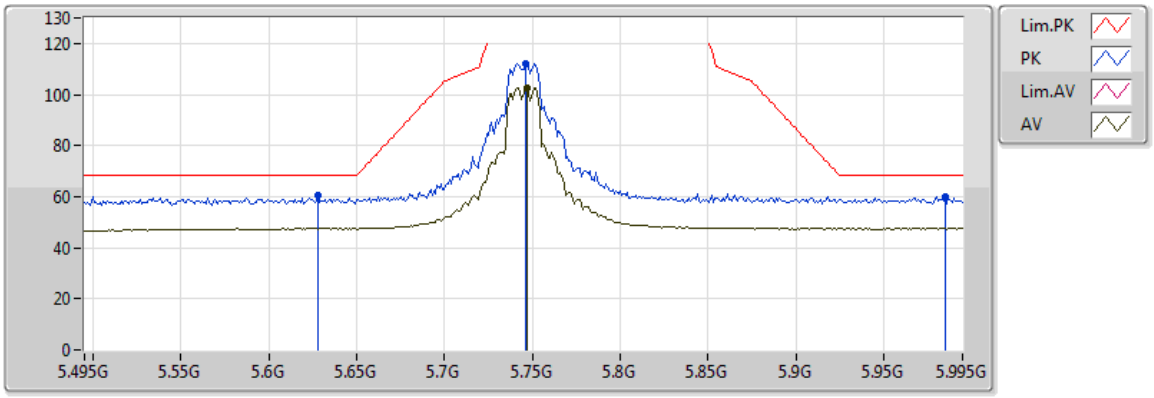


20170831
EUT Z_2TX
Setting 20
02-J-6-10
FSU

Type	Freq(Hz)	Level(dBuV/m)	Limit(dBuV/m)	Margin(dB)	Factor(dB)	Dist(m)	Pol.(H/V)	Azimuth(°)	Height(m)	Comments
AV	5.742G	96.66	Inf	-Inf	9.91	3	V	229	2.59	-
PK	5.593G	59.35	68.20	-8.85	9.87	3	V	229	2.59	-
PK	5.742G	106.00	Inf	-Inf	9.91	3	V	229	2.59	-
PK	5.977G	59.97	68.20	-8.23	10.17	3	V	229	2.59	-

802.11a_(6Mbps)_2TX

5745MHz_TX

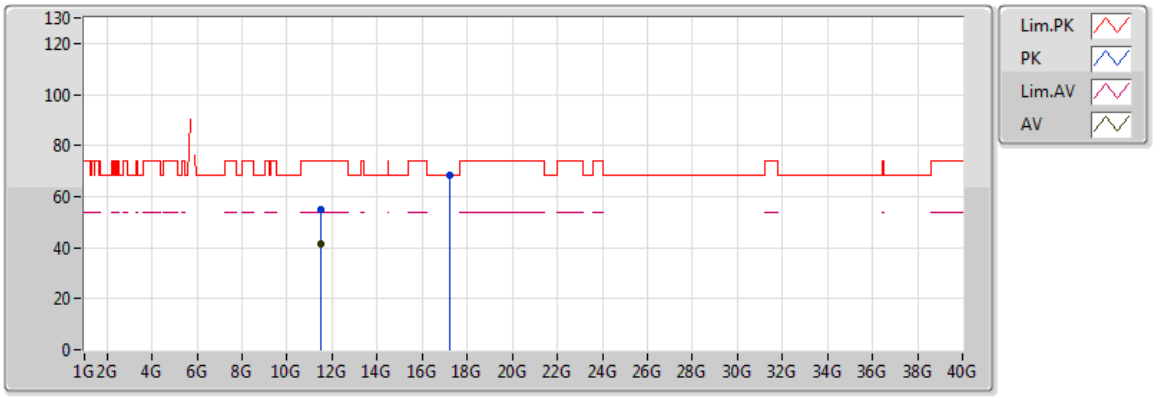


20170831
EUT Z_2TX
Setting 20
02-J-6-10
FSU

Type	Freq(Hz)	Level(dBuV/m)	Limit(dBuV/m)	Margin(dB)	Factor(dB)	Dist(m)	Pol.(H/V)	Azimuth(°)	Height(m)	Comments
AV	5.747G	102.62	Inf	-Inf	9.91	3	H	250	2.71	-
PK	5.628G	60.37	68.20	-7.83	9.89	3	H	250	2.71	-
PK	5.746G	112.31	Inf	-Inf	9.91	3	H	250	2.71	-
PK	5.985G	60.13	68.20	-8.07	10.18	3	H	250	2.71	-

802.11a_(6Mbps)_2TX

5745MHz_TX

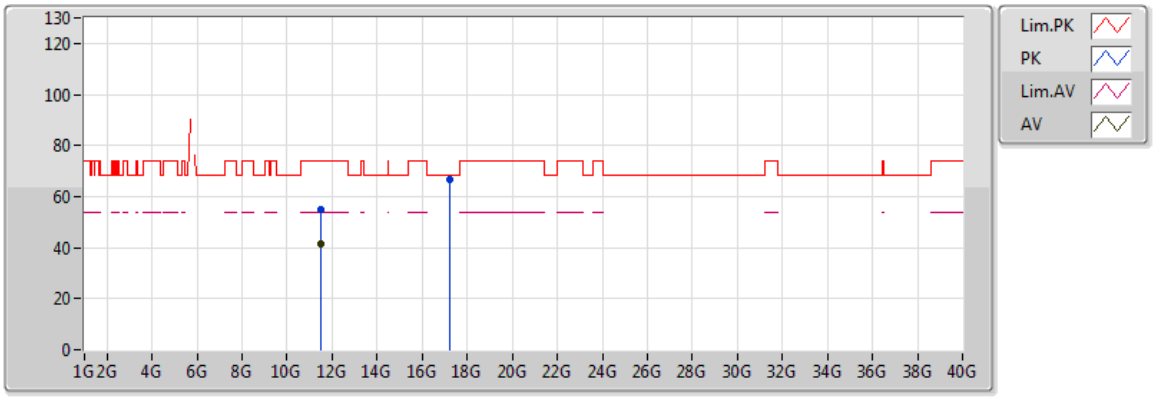


20170831
EUT Z_2TX
Setting 20
02-J-6
FSU

Type	Freq(Hz)	Level(dBuV/m)	Limit(dBuV/m)	Margin(dB)	Factor(dB)	Dist(m)	Pol.(H/V)	Azimuth(°)	Height(m)	Comments
AV	11.48564G	41.64	54.00	-12.36	16.36	3	V	1	2.28	-
PK	11.48192G	54.73	74.00	-19.27	16.36	3	V	1	2.28	-
PK	17.23688G	68.10	68.20	-0.10	22.28	3	V	342	2.54	-

802.11a_(6Mbps)_2TX

5745MHz_TX

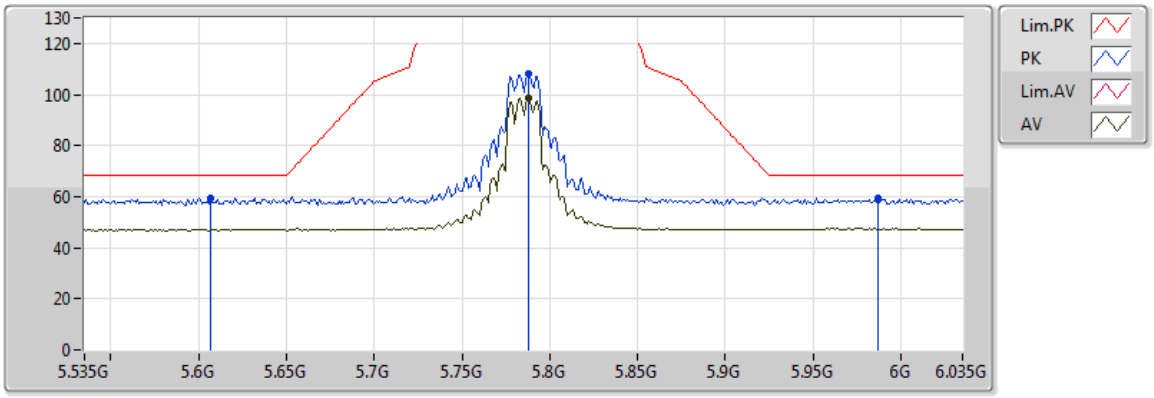


20170831
EUT Z_2TX
Setting 20
02-J-6
FSU

Type	Freq(Hz)	Level(dBuV/m)	Limit(dBuV/m)	Margin(dB)	Factor(dB)	Dist(m)	Pol.(H/V)	Azimuth(°)	Height(m)	Comments
AV	11.49468G	41.49	54.00	-12.51	16.37	3	H	181	1.56	-
PK	11.49552G	54.74	74.00	-19.26	16.37	3	H	181	1.56	-
PK	17.22712G	66.43	68.20	-1.77	22.23	3	H	305	2.66	-

802.11a_(6Mbps)_2TX

5785MHz_TX

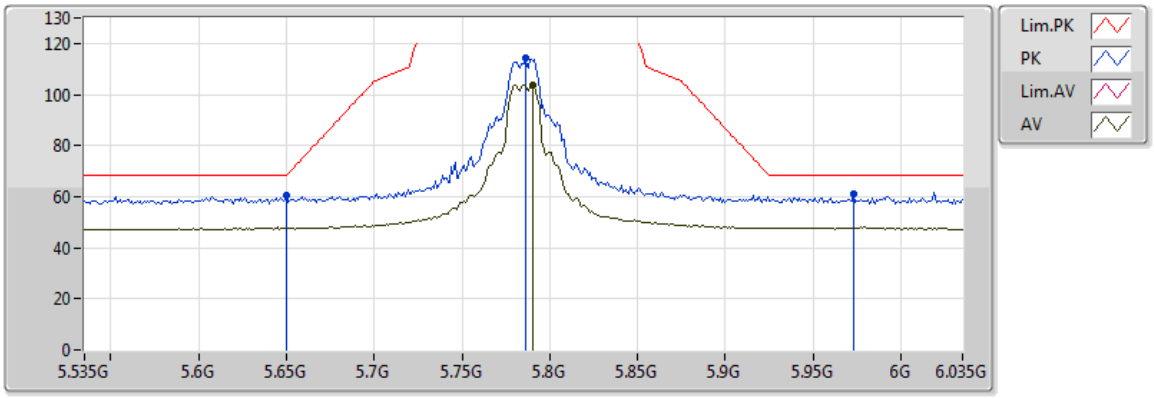


20170831
EUT Z_2TX
Setting 20
02-J-6-10
FSU

Type	Freq(Hz)	Level(dBuV/m)	Limit(dBuV/m)	Margin(dB)	Factor(dB)	Dist(m)	Pol.(H/V)	Azimuth(°)	Height(m)	Comments
AV	5.788G	98.77	Inf	-Inf	9.92	3	V	248	1.05	-
PK	5.607G	59.39	68.20	-8.81	9.88	3	V	248	1.05	-
PK	5.788G	108.38	Inf	-Inf	9.92	3	V	248	1.05	-
PK	5.987G	59.44	68.20	-8.76	10.18	3	V	248	1.05	-

802.11a_(6Mbps)_2TX

5785MHz_TX

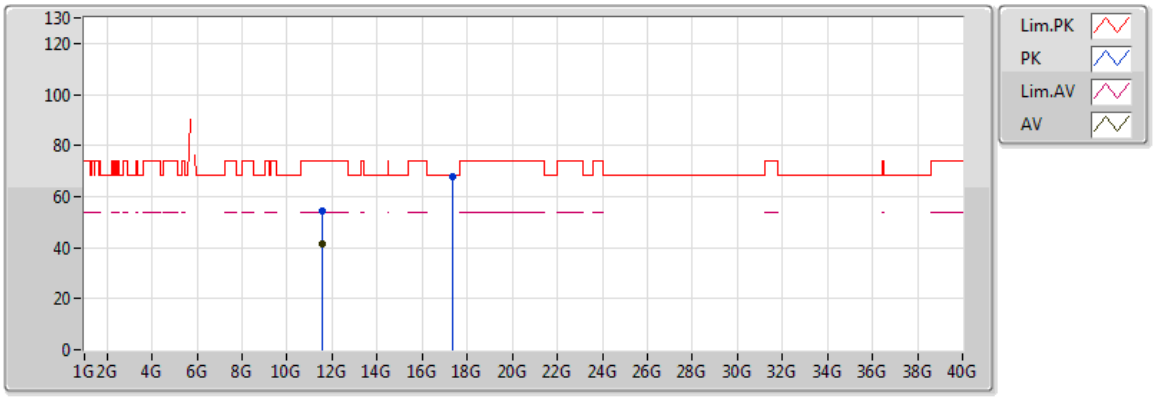


20170831
EUT Z_2TX
Setting 20
02-J-6-10
FSU

Type	Freq(Hz)	Level(dBuV/m)	Limit(dBuV/m)	Margin(dB)	Factor(dB)	Dist(m)	Pol.(H/V)	Azimuth(°)	Height(m)	Comments
AV	5.79G	103.88	Inf	-Inf	9.92	3	H	272	1.05	-
PK	5.65G	60.27	68.20	-7.93	9.89	3	H	272	1.05	-
PK	5.786G	114.08	Inf	-Inf	9.92	3	H	272	1.05	-
PK	5.973G	61.10	68.20	-7.10	10.16	3	H	272	1.05	-

802.11a_(6Mbps)_2TX

5785MHz_TX

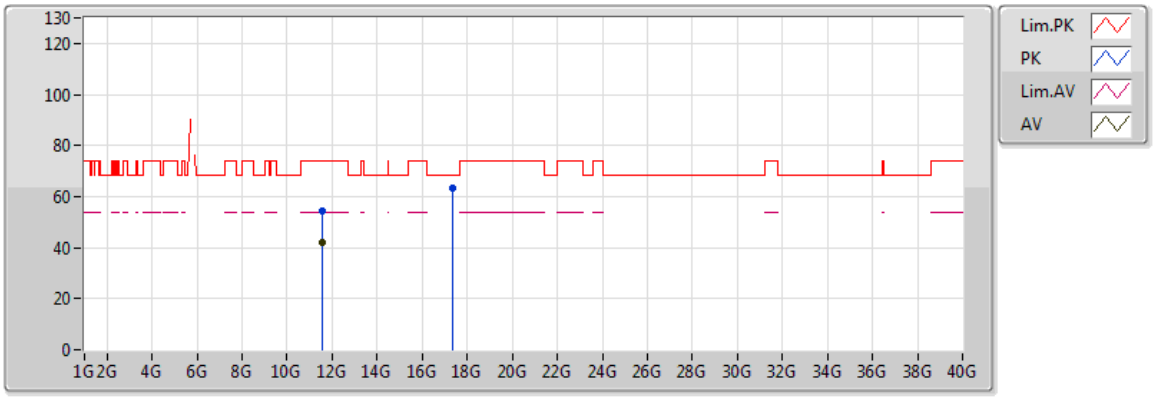


20170831
EUT Z_2TX
Setting 20
02-J-6
FSU

Type	Freq(Hz)	Level(dBuV/m)	Limit(dBuV/m)	Margin(dB)	Factor(dB)	Dist(m)	Pol.(H/V)	Azimuth(°)	Height(m)	Comments
AV	11.57648G	41.47	54.00	-12.53	16.46	3	V	346	1.89	-
PK	11.56452G	54.56	74.00	-19.44	16.45	3	V	346	1.89	-
PK	17.35712G	67.83	68.20	-0.37	22.98	3	V	285	2.06	-

802.11a_(6Mbps)_2TX

5785MHz_TX

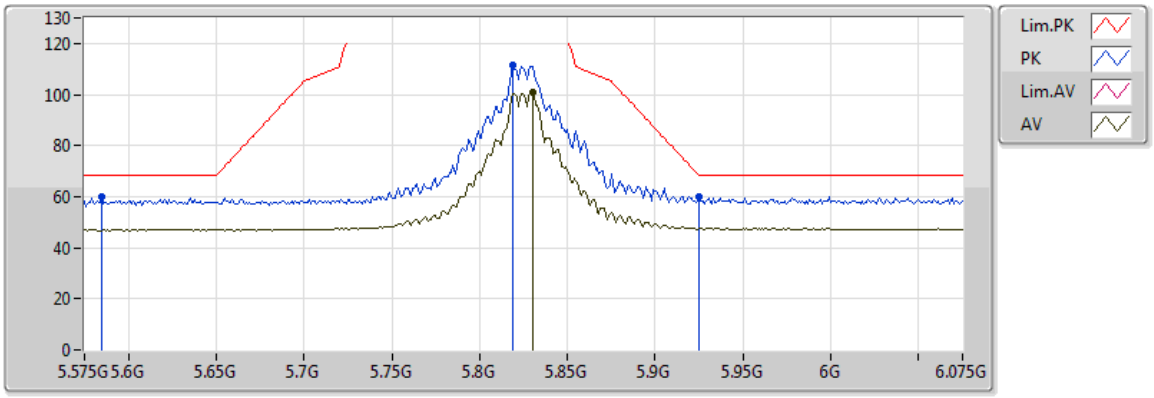


20170831
EUT Z_2TX
Setting 20
02-J-6
FSU

Type	Freq(Hz)	Level(dBuV/m)	Limit(dBuV/m)	Margin(dB)	Factor(dB)	Dist(m)	Pol.(H/V)	Azimuth(°)	Height(m)	Comments
AV	11.5758G	41.94	54.00	-12.06	16.46	3	H	69	1.96	-
PK	11.56048G	54.59	74.00	-19.41	16.44	3	H	69	1.96	-
PK	17.36208G	63.51	68.20	-4.69	23.01	3	H	318	2.06	-

802.11a_(6Mbps)_2TX

5825MHz_TX

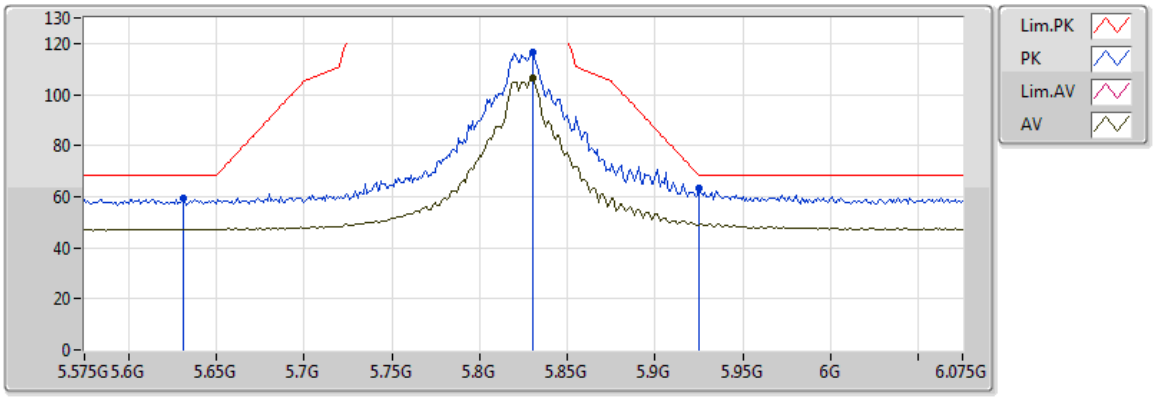


20170831
EUT Z_2TX
Setting 23
02-J-6-10
FSU

Type	Freq(Hz)	Level(dBuV/m)	Limit(dBuV/m)	Margin(dB)	Factor(dB)	Dist(m)	Pol.(H/V)	Azimuth(°)	Height(m)	Comments
AV	5.83G	100.80	Inf	-Inf	9.96	3	V	293	1.05	-
PK	5.585G	59.78	68.20	-8.42	9.87	3	V	293	1.05	-
PK	5.819G	111.54	Inf	-Inf	9.95	3	V	293	1.05	-
PK	5.925G	59.99	68.20	-8.21	10.09	3	V	293	1.05	-

802.11a_(6Mbps)_2TX

5825MHz_TX

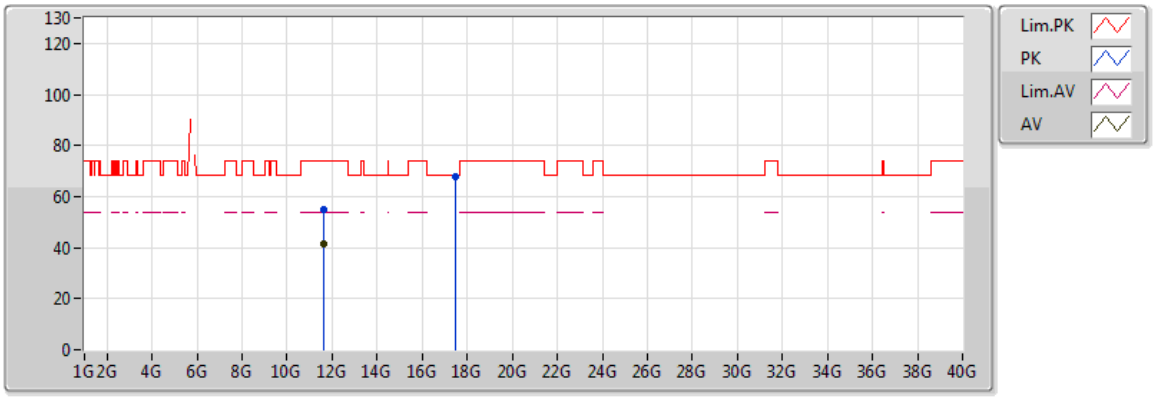


20170831
EUT Z_2TX
Setting 23
02-J-6-10
FSU

Type	Freq(Hz)	Level(dBuV/m)	Limit(dBuV/m)	Margin(dB)	Factor(dB)	Dist(m)	Pol.(H/V)	Azimuth(°)	Height(m)	Comments
AV	5.83G	106.26	Inf	-Inf	9.96	3	H	285	1.01	-
PK	5.631G	59.45	68.20	-8.75	9.89	3	H	285	1.01	-
PK	5.83G	116.30	Inf	-Inf	9.96	3	H	285	1.01	-
PK	5.925G	63.16	68.20	-5.04	10.09	3	H	285	1.01	-

802.11a_(6Mbps)_2TX

5825MHz_TX

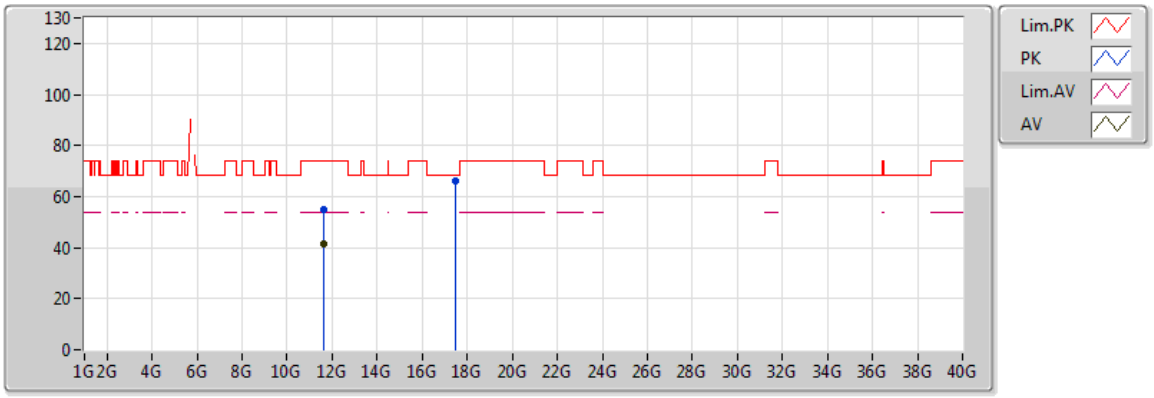


20170831
EUT Z_2TX
Setting 23
02-J-6
FSU

Type	Freq(Hz)	Level(dBuV/m)	Limit(dBuV/m)	Margin(dB)	Factor(dB)	Dist(m)	Pol.(H/V)	Azimuth(°)	Height(m)	Comments
AV	11.64728G	41.55	54.00	-12.45	16.54	3	V	327	2.00	-
PK	11.65164G	54.74	74.00	-19.26	16.54	3	V	327	2.00	-
PK	17.48922G	67.55	68.20	-0.65	23.75	3	V	295	1.62	-

802.11a_(6Mbps)_2TX

5825MHz_TX

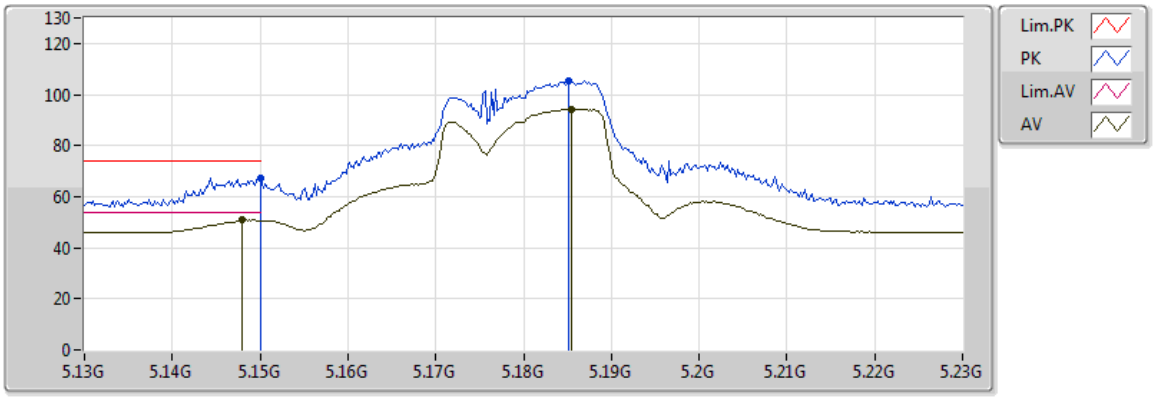


20170831
EUT Z_2TX
Setting 23
02-J-6
FSU

Type	Freq(Hz)	Level(dBuV/m)	Limit(dBuV/m)	Margin(dB)	Factor(dB)	Dist(m)	Pol.(H/V)	Azimuth(°)	Height(m)	Comments
AV	11.6508G	41.69	54.00	-12.31	16.54	3	H	280	2.45	-
PK	11.64776G	54.85	74.00	-19.15	16.54	3	H	280	2.45	-
PK	17.475G	66.22	68.20	-1.98	23.66	3	H	235	1.30	-

802.11ac VHT20_Nss1,(MCS0)_2TX

5180MHz_TX

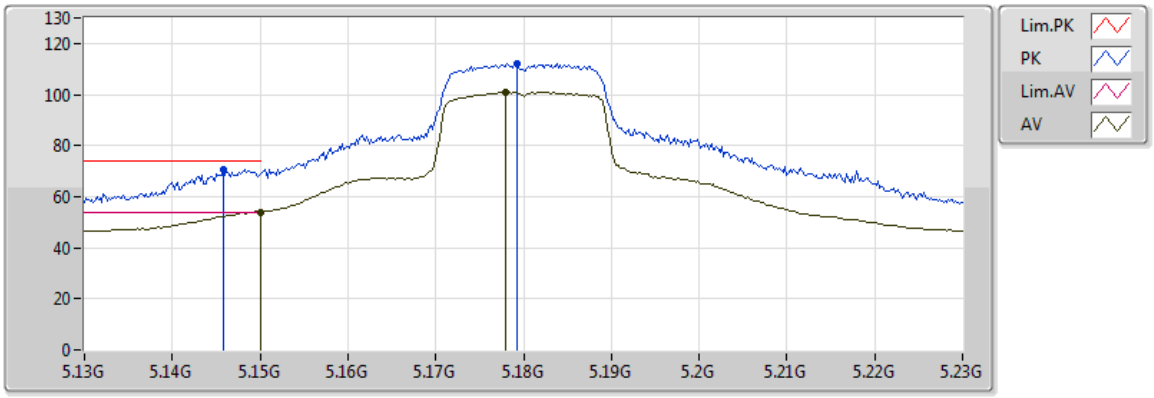


20170831
EUT Z_2TX
Setting 19
02-J-6-10
FSU

Type	Freq(Hz)	Level(dBuV/m)	Limit(dBuV/m)	Margin(dB)	Factor(dB)	Dist(m)	Pol.(H/V)	Azimuth(°)	Height(m)	Comments
AV	5.148G	50.99	54.00	-3.01	9.03	3	V	187	2.47	-
AV	5.1854G	94.31	Inf	-Inf	9.12	3	V	187	2.47	-
PK	5.149995G	67.24	74.00	-6.76	9.03	3	V	187	2.47	-
PK	5.1852G	105.31	Inf	-Inf	9.12	3	V	187	2.47	-

802.11ac VHT20_Nss1,(MCS0)_2TX

5180MHz_TX

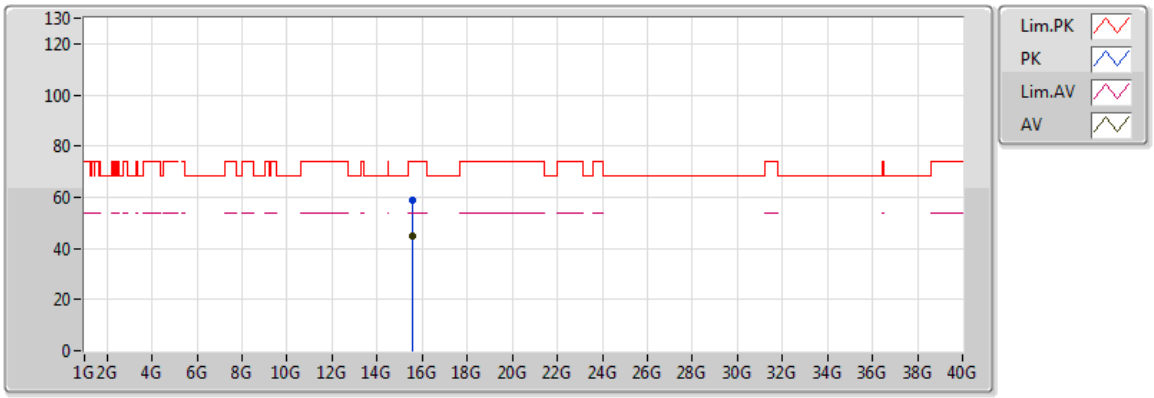


20170831
EUT Z_2TX
Setting 19
02-J-6-10
FSU

Type	Freq(Hz)	Level(dBuV/m)	Limit(dBuV/m)	Margin(dB)	Factor(dB)	Dist(m)	Pol.(H/V)	Azimuth(°)	Height(m)	Comments
AV	5.149995G	53.94	54.00	-0.06	9.03	3	H	97	1.00	-
AV	5.178G	100.85	Inf	-Inf	9.11	3	H	97	1.00	-
PK	5.1458G	70.72	74.00	-3.28	9.02	3	H	97	1.00	-
PK	5.1792G	111.97	Inf	-Inf	9.11	3	H	97	1.00	-

802.11ac VHT20_Nss1,(MCS0)_2TX

5180MHz_TX

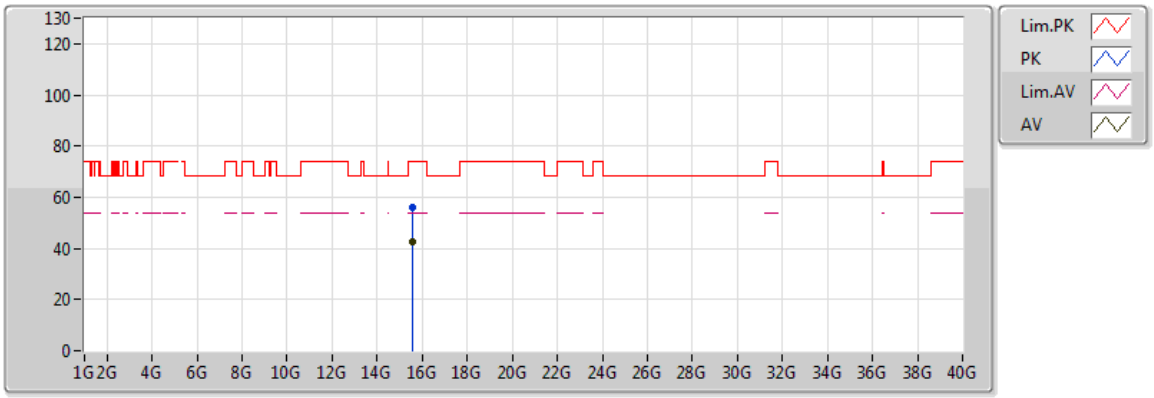


20170831
EUT Z_2TX
Setting 19
02-J-6
FSU

Type	Freq(Hz)	Level(dBuV/m)	Limit(dBuV/m)	Margin(dB)	Factor(dB)	Dist(m)	Pol.(H/V)	Azimuth(°)	Height(m)	Comments
AV	15.54366G	44.81	54.00	-9.19	18.02	3	V	318	2.70	-
PK	15.5447G	59.04	74.00	-14.96	18.02	3	V	318	2.70	-

802.11ac VHT20_Nss1,(MCS0)_2TX

5180MHz_TX

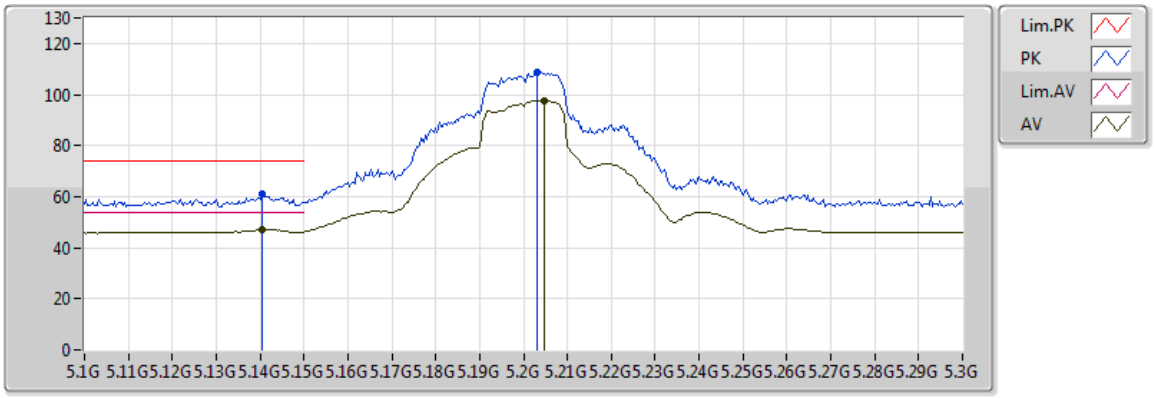


20170831
EUT Z_2TX
Setting 19
02-J-6
FSU

Type	Freq(Hz)	Level(dBuV/m)	Limit(dBuV/m)	Margin(dB)	Factor(dB)	Dist(m)	Pol.(H/V)	Azimuth(°)	Height(m)	Comments
AV	15.54416G	42.40	54.00	-11.60	18.02	3	H	11	1.67	-
PK	15.5399G	56.07	74.00	-17.93	18.03	3	H	11	1.67	-

802.11ac VHT20_Nss1,(MCS0)_2TX

5200MHz_TX

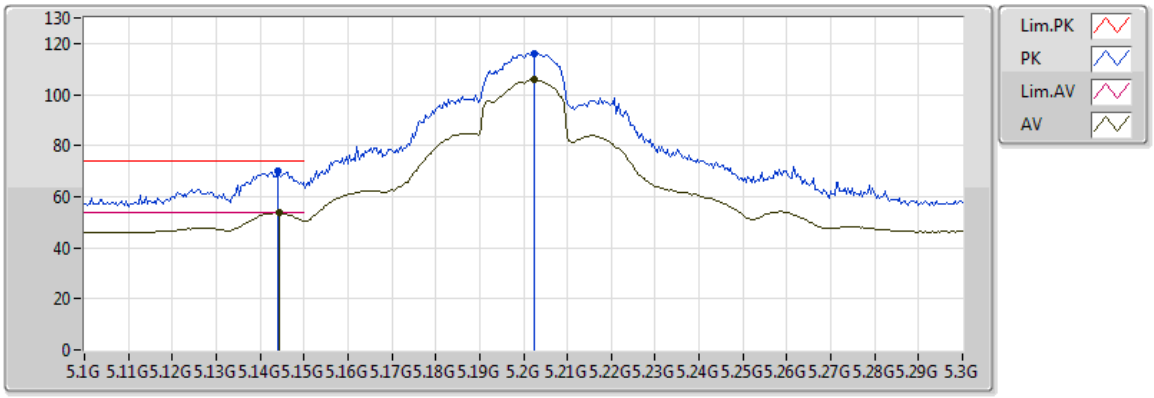


20170831
EUT Z_2TX
Setting 23
02-J-6-10
FSU

Type	Freq(Hz)	Level(dBuV/m)	Limit(dBuV/m)	Margin(dB)	Factor(dB)	Dist(m)	Pol.(H/V)	Azimuth(°)	Height(m)	Comments
AV	5.1404G	47.00	54.00	-7.00	9.01	3	V	22	2.74	-
AV	5.2048G	97.60	Inf	-Inf	9.17	3	V	22	2.74	-
PK	5.1404G	61.06	74.00	-12.94	9.01	3	V	22	2.74	-
PK	5.2032G	108.82	Inf	-Inf	9.17	3	V	22	2.74	-

802.11ac VHT20_Nss1,(MCS0)_2TX

5200MHz_TX

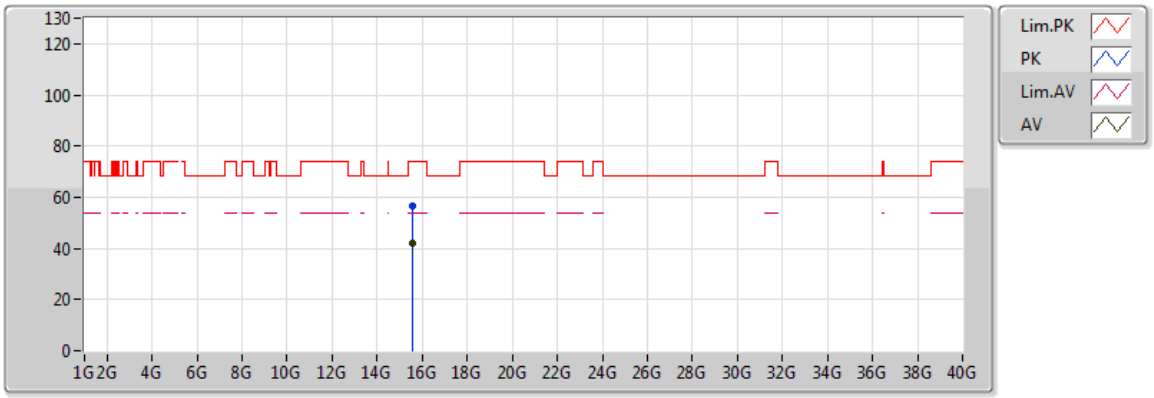


20170831
EUT Z_2TX
Setting 23
02-J-6-10
FSU

Type	Freq(Hz)	Level(dBuV/m)	Limit(dBuV/m)	Margin(dB)	Factor(dB)	Dist(m)	Pol.(H/V)	Azimuth(°)	Height(m)	Comments
AV	5.1444G	53.63	54.00	-0.37	9.02	3	H	83	1.05	-
AV	5.2024G	105.75	Inf	-Inf	9.16	3	H	83	1.05	-
PK	5.144G	70.03	74.00	-3.97	9.02	3	H	83	1.05	-
PK	5.2024G	116.21	Inf	-Inf	9.16	3	H	83	1.05	-

802.11ac VHT20_Nss1,(MCS0)_2TX

5200MHz_TX

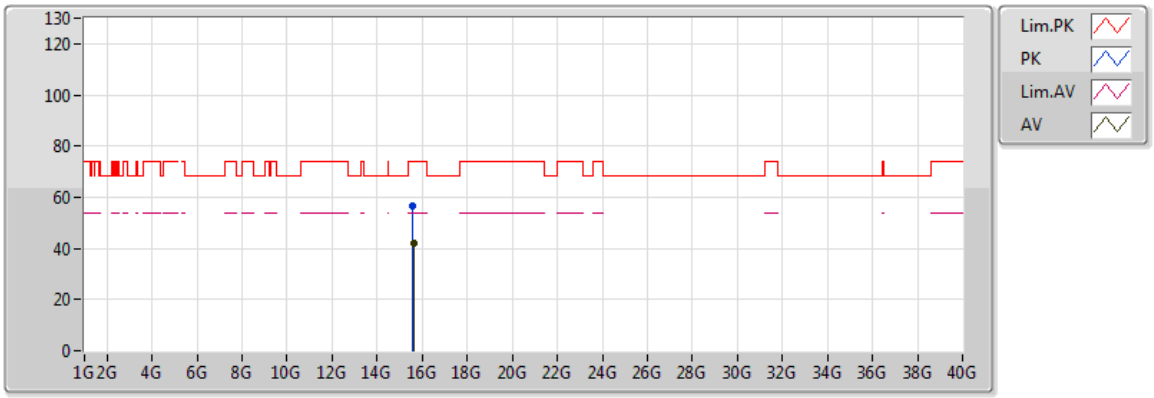


20170831
EUT Z_2TX
Setting 23
02-J-6
FSU

Type	Freq(Hz)	Level(dBuV/m)	Limit(dBuV/m)	Margin(dB)	Factor(dB)	Dist(m)	Pol.(H/V)	Azimuth(°)	Height(m)	Comments
AV	15.59052G	42.23	54.00	-11.77	17.92	3	V	55	2.28	-
PK	15.59812G	56.78	74.00	-17.22	17.90	3	V	55	2.28	-

802.11ac VHT20_Nss1,(MCS0)_2TX

5200MHz_TX

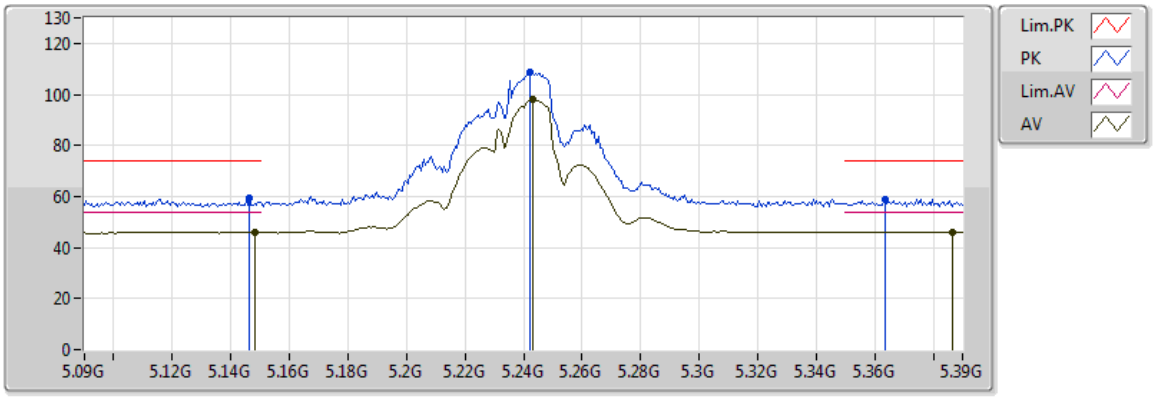


20170831
EUT Z_2TX
Setting 23
02-J-6
FSU

Type	Freq(Hz)	Level(dBuV/m)	Limit(dBuV/m)	Margin(dB)	Factor(dB)	Dist(m)	Pol.(H/V)	Azimuth(°)	Height(m)	Comments
AV	15.6016G	42.12	54.00	-11.88	17.89	3	H	203	1.07	-
PK	15.59536G	56.37	74.00	-17.63	17.91	3	H	203	1.07	-

802.11ac VHT20_Nss1,(MCS0)_2TX

5240MHz_TX

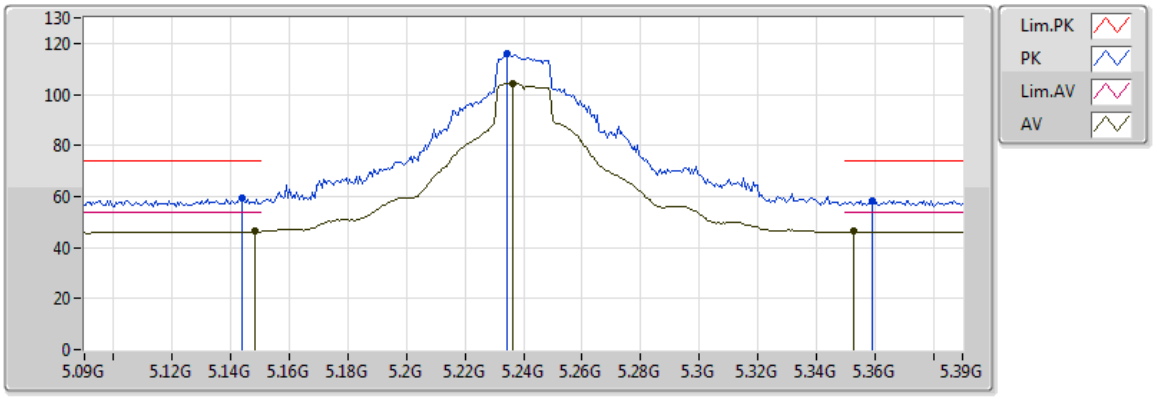


20170831
EUT Z_2TX
Setting 23
02-J-6-10
FSU

Type	Freq(Hz)	Level(dBuV/m)	Limit(dBuV/m)	Margin(dB)	Factor(dB)	Dist(m)	Pol.(H/V)	Azimuth(°)	Height(m)	Comments
AV	5.1482G	45.84	54.00	-8.16	9.03	3	V	178	2.54	-
AV	5.243G	97.83	Inf	-Inf	9.24	3	V	178	2.54	-
AV	5.3864G	46.10	54.00	-7.90	9.50	3	V	178	2.54	-
PK	5.1464G	59.16	74.00	-14.84	9.03	3	V	178	2.54	-
PK	5.2424G	108.85	Inf	-Inf	9.24	3	V	178	2.54	-
PK	5.3636G	58.75	74.00	-15.25	9.46	3	V	178	2.54	-

802.11ac VHT20_Nss1,(MCS0)_2TX

5240MHz_TX

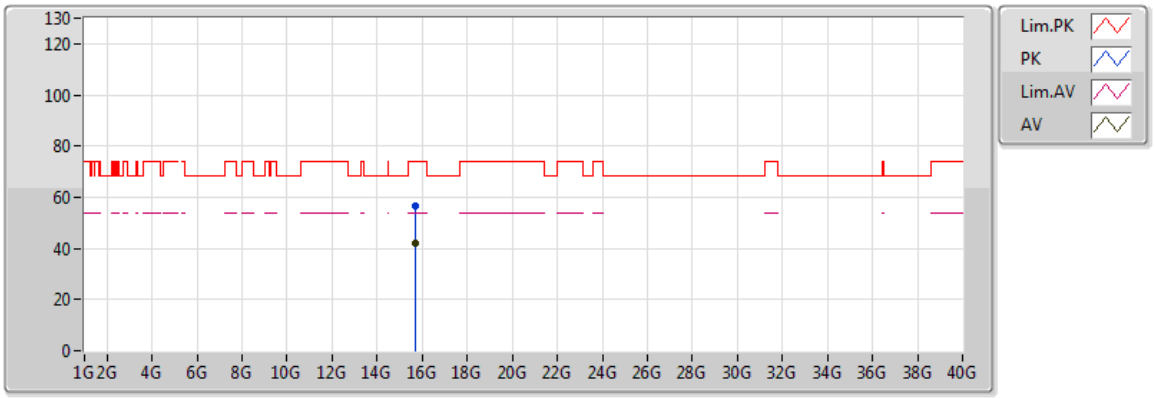


20170831
EUT Z_2TX
Setting 23
02-J-6-10
FSU

Type	Freq(Hz)	Level(dBuV/m)	Limit(dBuV/m)	Margin(dB)	Factor(dB)	Dist(m)	Pol.(H/V)	Azimuth(°)	Height(m)	Comments
AV	5.1482G	46.24	54.00	-7.76	9.03	3	H	108	2.59	-
AV	5.2364G	104.47	Inf	-Inf	9.23	3	H	108	2.59	-
AV	5.3528G	46.23	54.00	-7.77	9.44	3	H	108	2.59	-
PK	5.144G	59.12	74.00	-14.88	9.02	3	H	108	2.59	-
PK	5.2346G	115.83	Inf	-Inf	9.23	3	H	108	2.59	-
PK	5.3594G	58.47	74.00	-15.53	9.45	3	H	108	2.59	-

802.11ac VHT20_Nss1,(MCS0)_2TX

5240MHz_TX

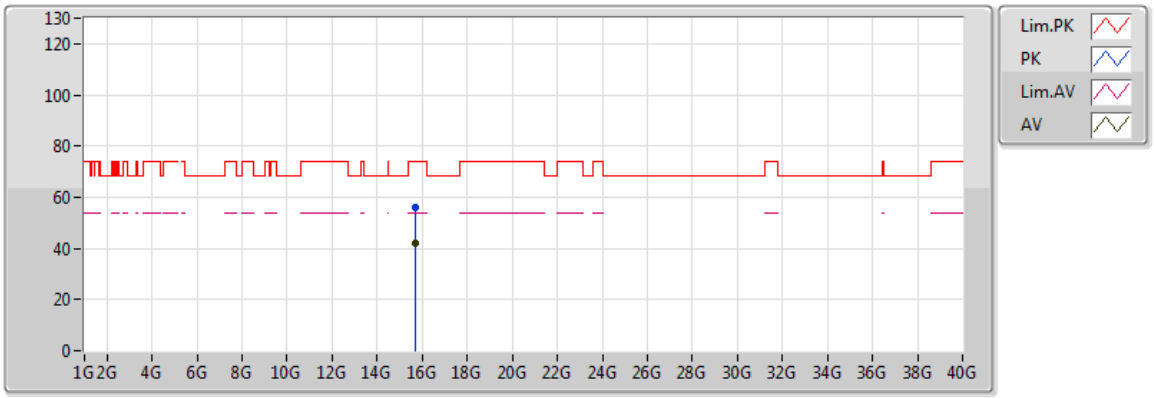


20170831
EUT Z_2TX
Setting 23
02-J-6
FSU

Type	Freq(Hz)	Level(dBuV/m)	Limit(dBuV/m)	Margin(dB)	Factor(dB)	Dist(m)	Pol.(H/V)	Azimuth(°)	Height(m)	Comments
AV	15.71252G	42.03	54.00	-11.97	17.65	3	V	75	1.99	-
PK	15.71344G	56.87	74.00	-17.13	17.65	3	V	75	1.99	-

802.11ac VHT20_Nss1,(MCS0)_2TX

5240MHz_TX

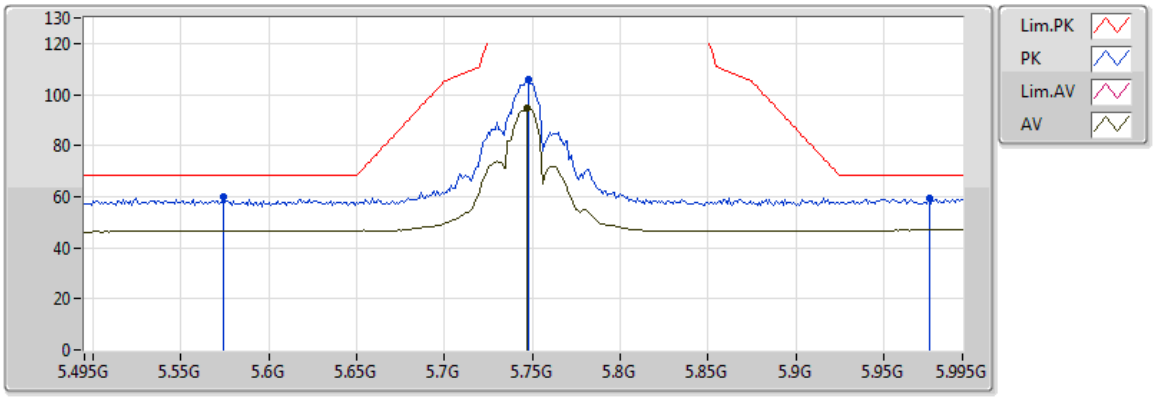


20170831
EUT Z_2TX
Setting 23
02-J-6
FSU

Type	Freq(Hz)	Level(dBuV/m)	Limit(dBuV/m)	Margin(dB)	Factor(dB)	Dist(m)	Pol.(H/V)	Azimuth(°)	Height(m)	Comments
AV	15.71524G	42.01	54.00	-11.99	17.65	3	H	258	2.43	-
PK	15.71512G	55.97	74.00	-18.03	17.65	3	H	258	2.43	-

802.11ac VHT20_Nss1,(MCS0)_2TX

5745MHz_TX

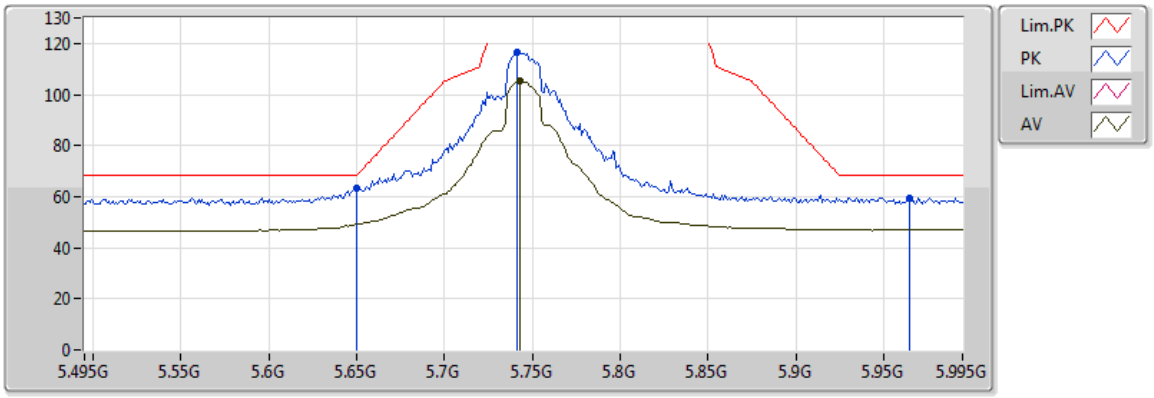


20170831
EUT Z_2TX
Setting 23
02-J-6-10
FSU

Type	Freq(Hz)	Level(dBuV/m)	Limit(dBuV/m)	Margin(dB)	Factor(dB)	Dist(m)	Pol.(H/V)	Azimuth(°)	Height(m)	Comments
AV	5.747G	94.95	Inf	-Inf	9.91	3	V	175	1.13	-
PK	5.574G	59.69	68.20	-8.51	9.86	3	V	175	1.13	-
PK	5.748G	106.10	Inf	-Inf	9.91	3	V	175	1.13	-
PK	5.976G	59.64	68.20	-8.56	10.17	3	V	175	1.13	-

802.11ac VHT20_Nss1,(MCS0)_2TX

5745MHz_TX

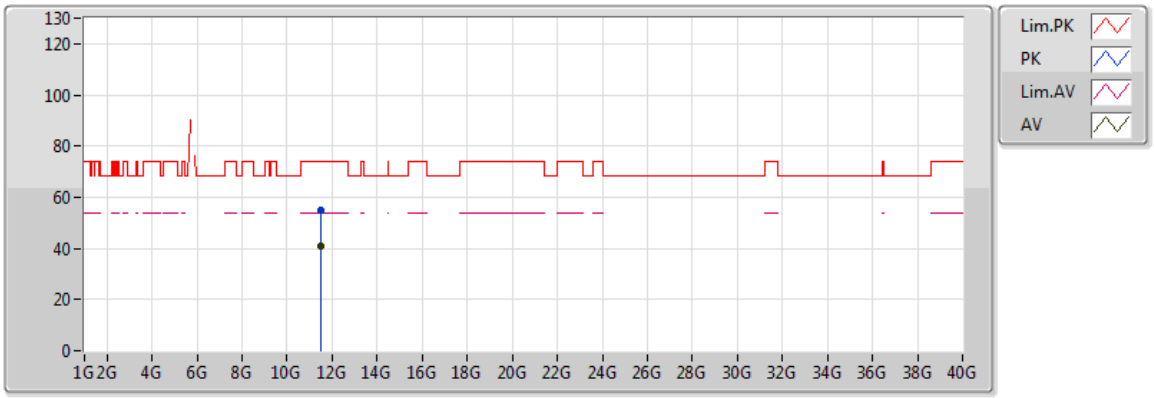


20170831
EUT Z_2TX
Setting 23
02-J-6-10
FSU

Type	Freq(Hz)	Level(dBuV/m)	Limit(dBuV/m)	Margin(dB)	Factor(dB)	Dist(m)	Pol.(H/V)	Azimuth(°)	Height(m)	Comments
AV	5.743G	105.51	Inf	-Inf	9.91	3	H	284	1.05	-
PK	5.65G	63.04	68.20	-5.16	9.89	3	H	284	1.05	-
PK	5.741G	116.56	Inf	-Inf	9.91	3	H	284	1.05	-
PK	5.965G	59.55	68.20	-8.65	10.15	3	H	284	1.05	-

802.11ac VHT20_Nss1,(MCS0)_2TX

5745MHz_TX

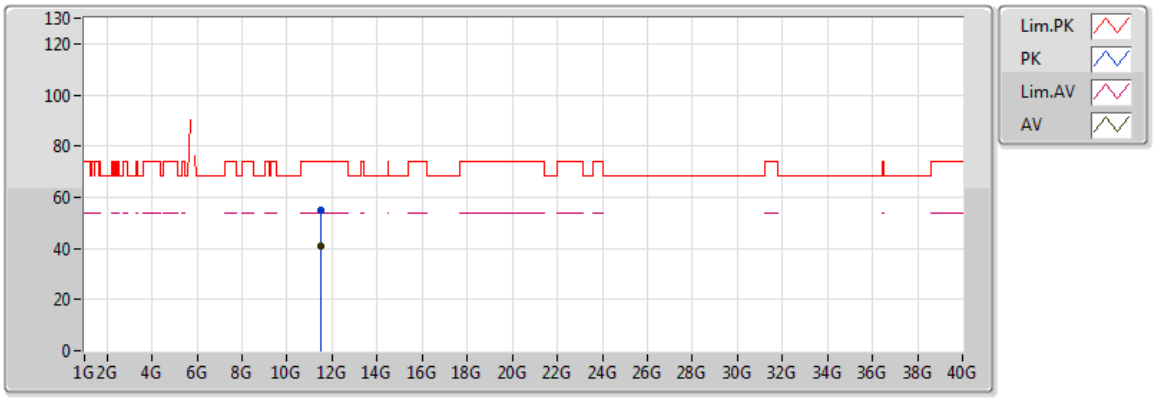


20170831
EUT Z_2TX
Setting 23
02-J-6
FSU

Type	Freq(Hz)	Level(dBuV/m)	Limit(dBuV/m)	Margin(dB)	Factor(dB)	Dist(m)	Pol.(H/V)	Azimuth(°)	Height(m)	Comments
AV	11.48552G	40.97	54.00	-13.03	16.36	3	V	323	2.12	-
PK	11.49824G	54.96	74.00	-19.04	16.37	3	V	323	2.12	-

802.11ac VHT20_Nss1,(MCS0)_2TX

5745MHz_TX

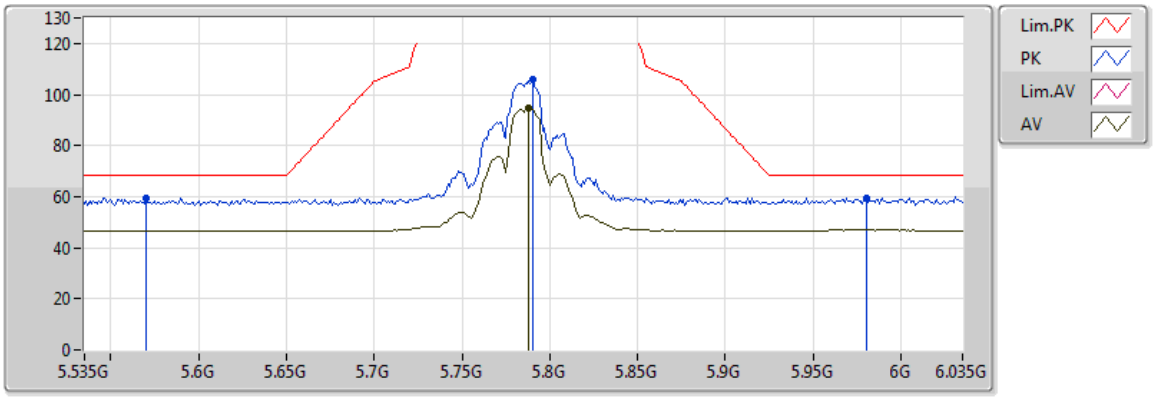


20170831
EUT Z_2TX
Setting 23
02-J-6
FSU

Type	Freq(Hz)	Level(dBuV/m)	Limit(dBuV/m)	Margin(dB)	Factor(dB)	Dist(m)	Pol.(H/V)	Azimuth(°)	Height(m)	Comments
AV	11.48504G	40.89	54.00	-13.11	16.36	3	H	146	2.40	-
PK	11.48512G	54.98	74.00	-19.02	16.36	3	H	146	2.40	-

802.11ac VHT20_Nss1,(MCS0)_2TX

5785MHz_TX

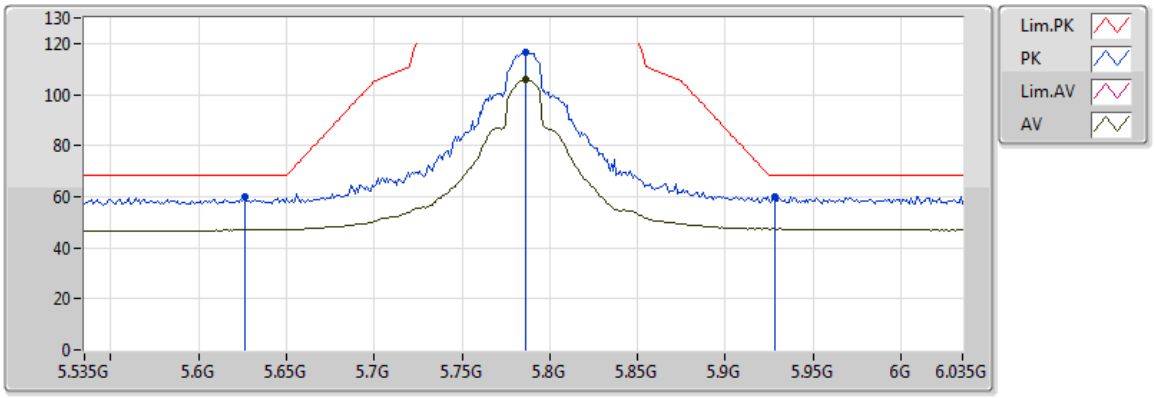


20170831
EUT Z_2TX
Setting 23
02-J-6-10
FSU

Type	Freq(Hz)	Level(dBuV/m)	Limit(dBuV/m)	Margin(dB)	Factor(dB)	Dist(m)	Pol.(H/V)	Azimuth(°)	Height(m)	Comments
AV	5.788G	94.43	Inf	-Inf	9.92	3	V	173	1.12	-
PK	5.57G	59.61	68.20	-8.59	9.85	3	V	173	1.12	-
PK	5.79G	105.94	Inf	-Inf	9.92	3	V	173	1.12	-
PK	5.98G	59.54	68.20	-8.66	10.17	3	V	173	1.12	-

802.11ac VHT20_Nss1,(MCS0)_2TX

5785MHz_TX

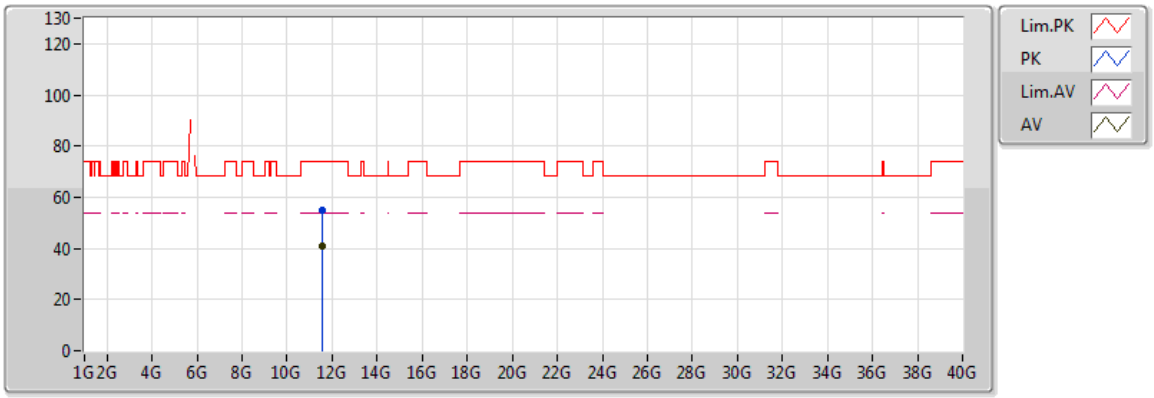


20170831
EUT Z_2TX
Setting 23
02-J-6-10
FSU

Type	Freq(Hz)	Level(dBuV/m)	Limit(dBuV/m)	Margin(dB)	Factor(dB)	Dist(m)	Pol.(H/V)	Azimuth(°)	Height(m)	Comments
AV	5.786G	105.92	Inf	-Inf	9.92	3	H	276	1.19	-
PK	5.626G	59.89	68.20	-8.31	9.89	3	H	276	1.19	-
PK	5.786G	116.57	Inf	-Inf	9.92	3	H	276	1.19	-
PK	5.928G	60.05	68.20	-8.15	10.10	3	H	276	1.19	-

802.11ac VHT20_Nss1,(MCS0)_2TX

5785MHz_TX

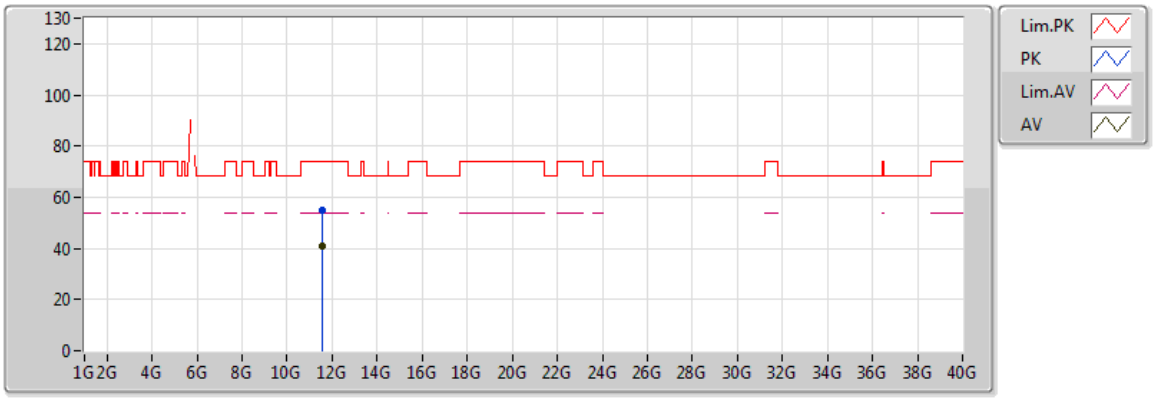


20170831
EUT Z_2TX
Setting 23
02-J-6
FSU

Type	Freq(Hz)	Level(dBuV/m)	Limit(dBuV/m)	Margin(dB)	Factor(dB)	Dist(m)	Pol.(H/V)	Azimuth(°)	Height(m)	Comments
AV	11.5784G	40.78	54.00	-13.22	16.46	3	V	356	1.47	-
PK	11.5726G	54.95	74.00	-19.05	16.45	3	V	356	1.47	-

802.11ac VHT20_Nss1,(MCS0)_2TX

5785MHz_TX

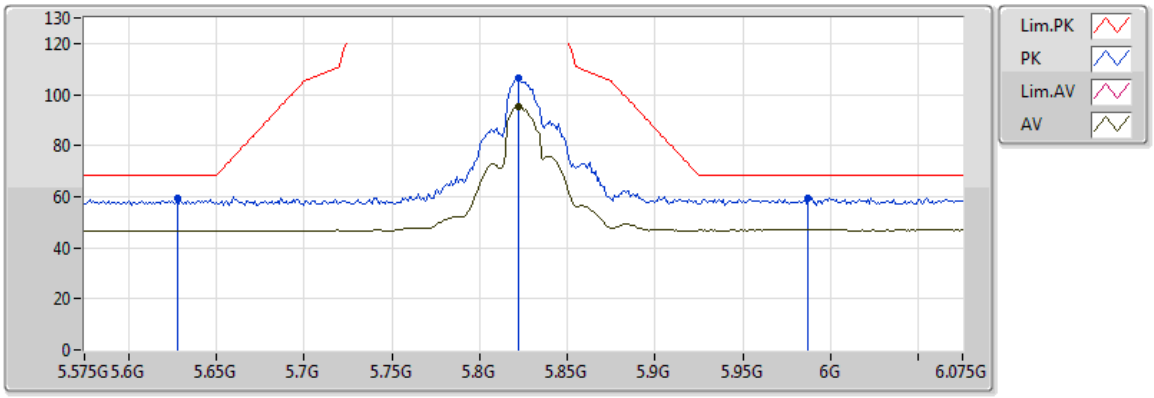


20170831
EUT Z_2TX
Setting 23
02-J-6
FSU

Type	Freq(Hz)	Level(dBuV/m)	Limit(dBuV/m)	Margin(dB)	Factor(dB)	Dist(m)	Pol.(H/V)	Azimuth(°)	Height(m)	Comments
AV	11.56104G	40.83	54.00	-13.17	16.44	3	H	33	2.45	-
PK	11.56604G	54.69	74.00	-19.31	16.45	3	H	33	2.45	-

802.11ac VHT20_Nss1,(MCS0)_2TX

5825MHz_TX

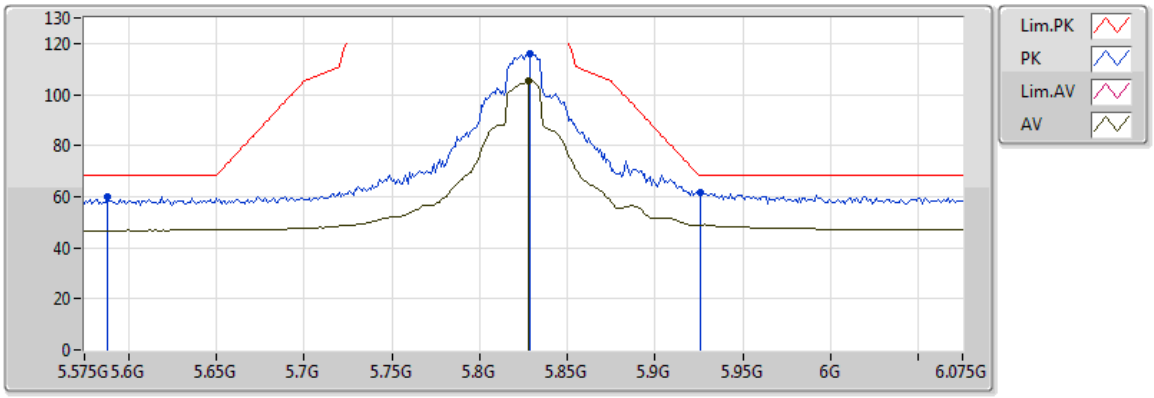


20170831
EUT Z_2TX
Setting 23
02-J-6-10
FSU

Type	Freq(Hz)	Level(dBuV/m)	Limit(dBuV/m)	Margin(dB)	Factor(dB)	Dist(m)	Pol.(H/V)	Azimuth(°)	Height(m)	Comments
AV	5.822G	95.23	Inf	-Inf	9.95	3	V	289	1.01	-
PK	5.628G	59.16	68.20	-9.04	9.89	3	V	289	1.01	-
PK	5.822G	106.31	Inf	-Inf	9.95	3	V	289	1.01	-
PK	5.987G	59.66	68.20	-8.54	10.18	3	V	289	1.01	-

802.11ac VHT20_Nss1,(MCS0)_2TX

5825MHz_TX

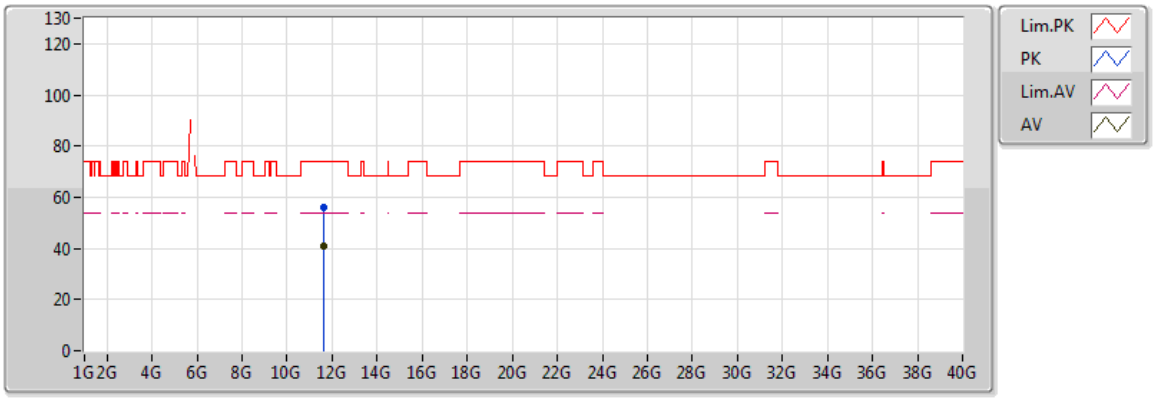


20170831
EUT Z_2TX
Setting 23
02-J-6-10
FSU

Type	Freq(Hz)	Level(dBuV/m)	Limit(dBuV/m)	Margin(dB)	Factor(dB)	Dist(m)	Pol.(H/V)	Azimuth(°)	Height(m)	Comments
AV	5.828G	105.39	Inf	-Inf	9.96	3	H	271	1.01	-
PK	5.588G	59.78	68.20	-8.42	9.87	3	H	271	1.01	-
PK	5.829G	116.03	Inf	-Inf	9.96	3	H	271	1.01	-
PK	5.926G	61.49	68.20	-6.71	10.10	3	H	271	1.01	-

802.11ac VHT20_Nss1,(MCS0)_2TX

5825MHz_TX

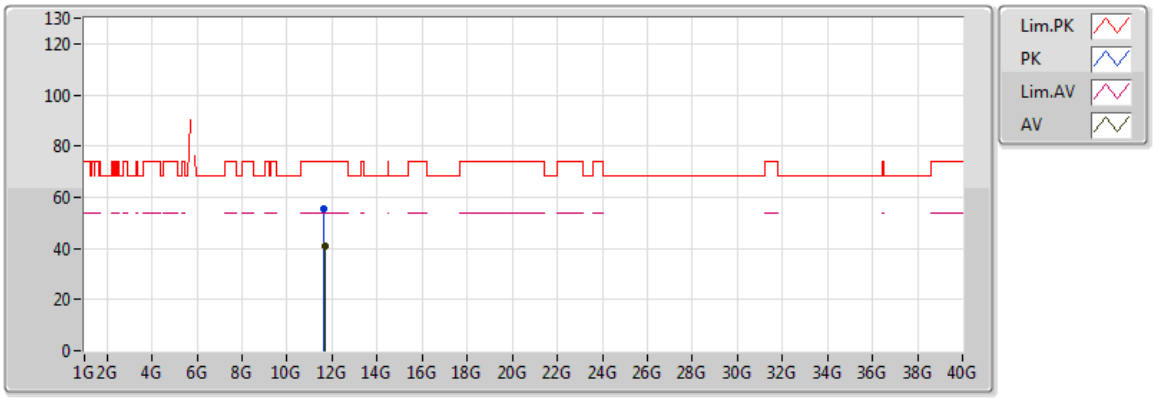


20170831
EUT Z_2TX
Setting 23
02-J-6
FSU

Type	Freq(Hz)	Level(dBuV/m)	Limit(dBuV/m)	Margin(dB)	Factor(dB)	Dist(m)	Pol.(H/V)	Azimuth(°)	Height(m)	Comments
AV	11.64688G	40.97	54.00	-13.03	16.54	3	V	198	2.44	-
PK	11.65232G	55.92	74.00	-18.08	16.54	3	V	198	2.44	-

802.11ac VHT20_Nss1,(MCS0)_2TX

5825MHz_TX

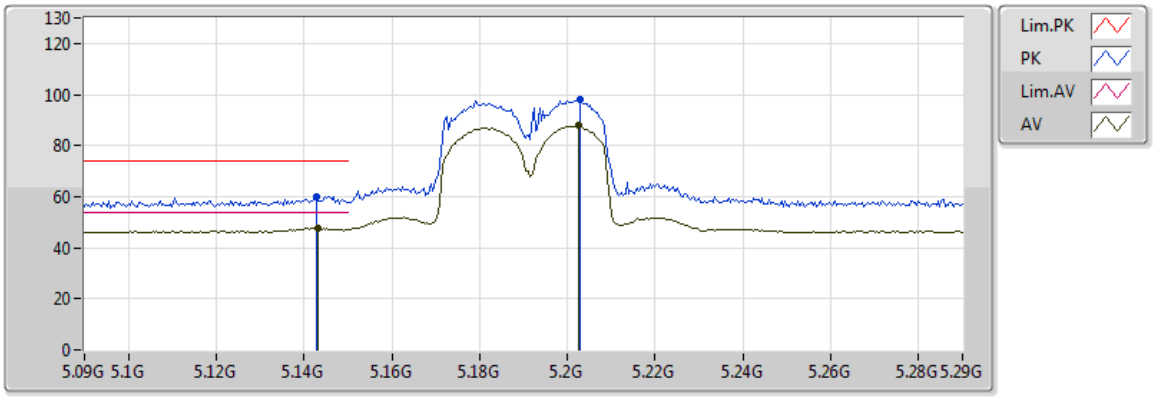


20170831
EUT Z_2TX
Setting 23
02-J-6
FSU

Type	Freq(Hz)	Level(dBuV/m)	Limit(dBuV/m)	Margin(dB)	Factor(dB)	Dist(m)	Pol.(H/V)	Azimuth(°)	Height(m)	Comments
AV	11.65676G	40.98	54.00	-13.02	16.55	3	H	247	1.19	-
PK	11.64884G	55.47	74.00	-18.53	16.54	3	H	247	1.19	-

802.11ac VHT40_Nss1,(MCS0)_2TX

5190MHz_TX

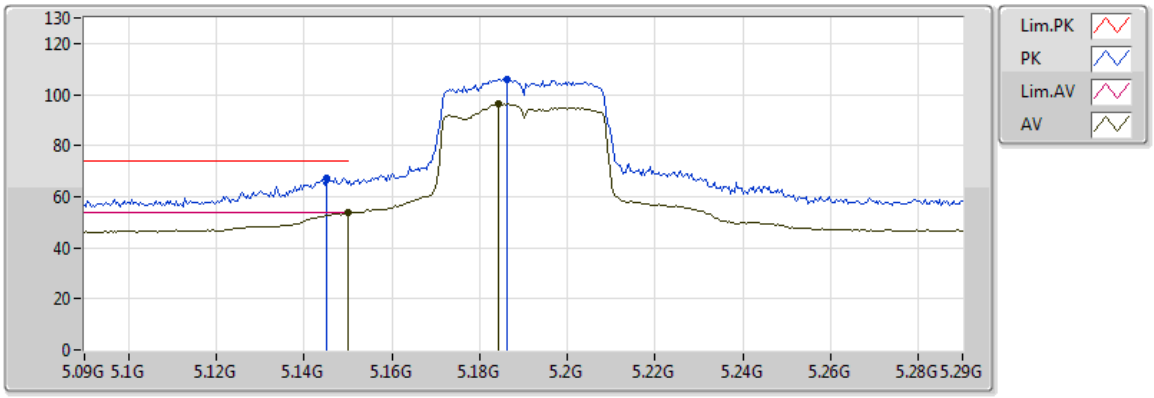


20170831
EUT Z_2TX
Setting 15.5
02-J-6-10
FSU

Type	Freq(Hz)	Level(dBuV/m)	Limit(dBuV/m)	Margin(dB)	Factor(dB)	Dist(m)	Pol.(H/V)	Azimuth(°)	Height(m)	Comments
AV	5.1432G	47.82	54.00	-6.18	9.02	3	V	289	1.05	-
AV	5.2024G	87.77	Inf	-Inf	9.16	3	V	289	1.05	-
PK	5.1428G	60.19	74.00	-13.81	9.02	3	V	289	1.05	-
PK	5.2028G	98.02	Inf	-Inf	9.17	3	V	289	1.05	-

802.11ac VHT40_Nss1,(MCS0)_2TX

5190MHz_TX

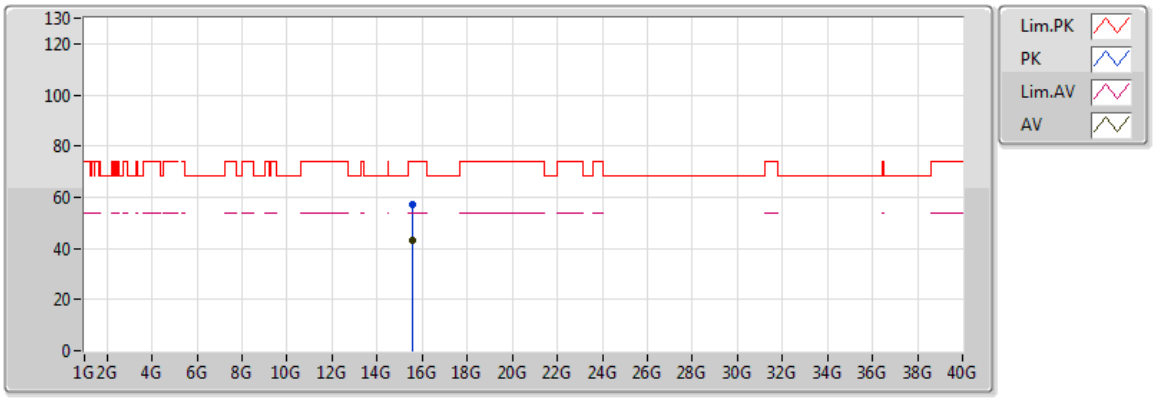


20170831
EUT Z_2TX
Setting 15.5
02-J-6-10
FSU

Type	Freq(Hz)	Level(dBuV/m)	Limit(dBuV/m)	Margin(dB)	Factor(dB)	Dist(m)	Pol.(H/V)	Azimuth(°)	Height(m)	Comments
AV	5.149995G	53.72	54.00	-0.28	9.03	3	H	111	1.02	-
AV	5.1844G	96.45	Inf	-Inf	9.12	3	H	111	1.02	-
PK	5.1452G	67.39	74.00	-6.61	9.02	3	H	111	1.02	-
PK	5.1864G	106.14	Inf	-Inf	9.13	3	H	111	1.02	-

802.11ac VHT40_Nss1,(MCS0)_2TX

5190MHz_TX

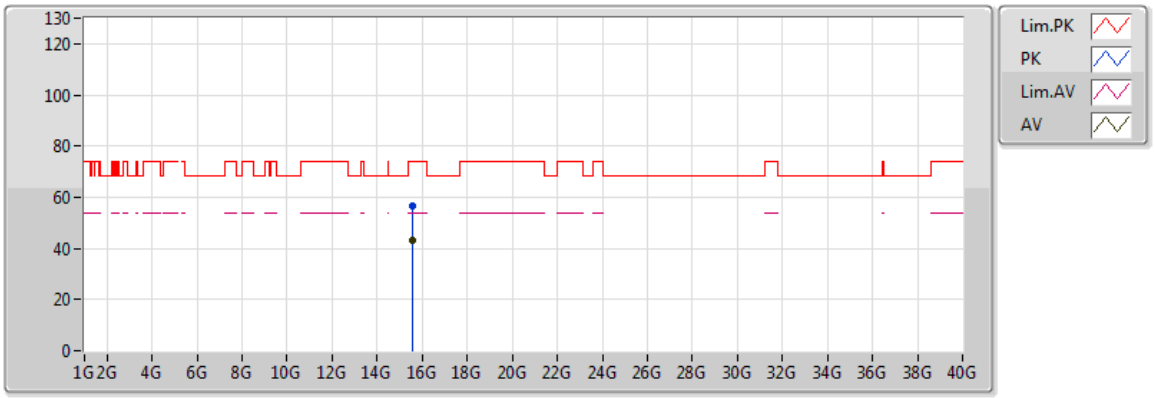


20170831
EUT Z_2TX
Setting 15.5
02-J-6
FSU

Type	Freq(Hz)	Level(dBuV/m)	Limit(dBuV/m)	Margin(dB)	Factor(dB)	Dist(m)	Pol.(H/V)	Azimuth(°)	Height(m)	Comments
AV	15.57568G	43.26	54.00	-10.74	17.95	3	V	5	1.10	-
PK	15.5628G	57.10	74.00	-16.90	17.98	3	V	5	1.10	-

802.11ac VHT40_Nss1,(MCS0)_2TX

5190MHz_TX

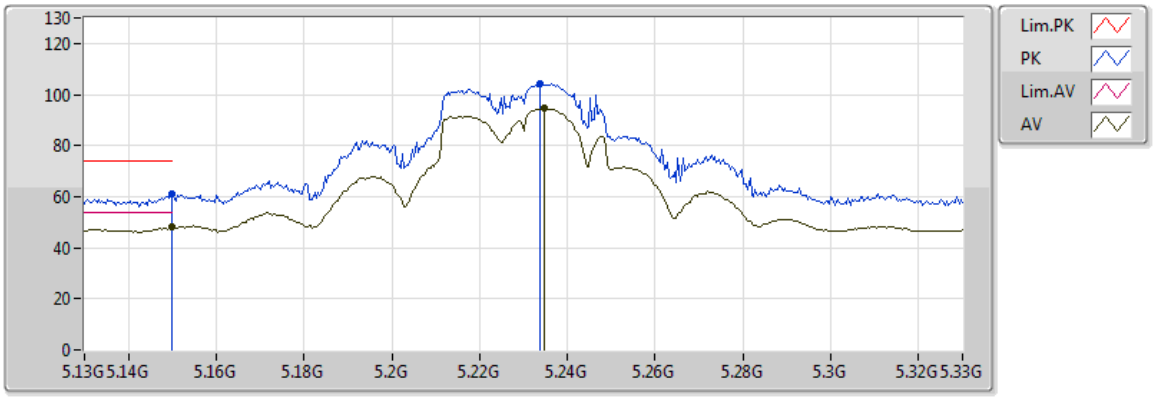


20170831
EUT Z_2TX
Setting 15.5
02-J-6
FSU

Type	Freq(Hz)	Level(dBuV/m)	Limit(dBuV/m)	Margin(dB)	Factor(dB)	Dist(m)	Pol.(H/V)	Azimuth(°)	Height(m)	Comments
AV	15.56176G	43.12	54.00	-10.88	17.98	3	H	155	2.16	-
PK	15.5678G	56.57	74.00	-17.43	17.97	3	H	155	2.16	-

802.11ac VHT40_Nss1,(MCS0)_2TX

5230MHz_TX

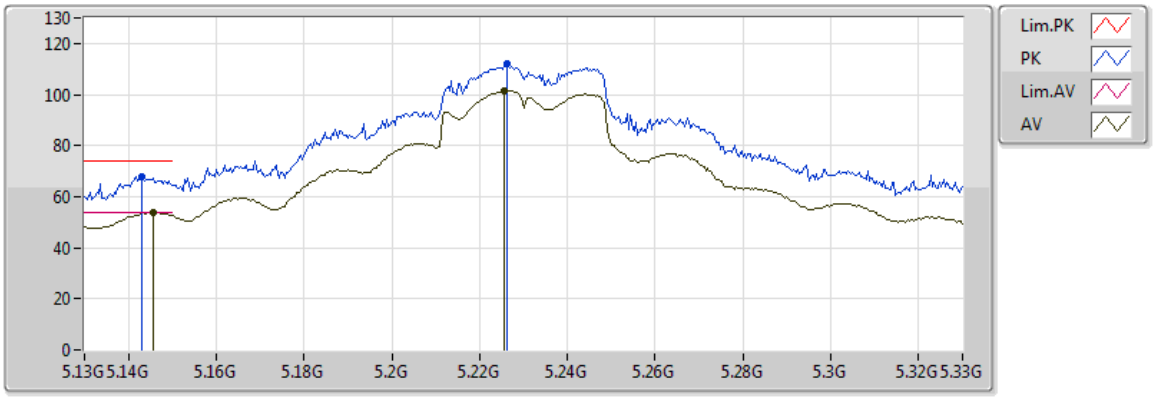


20170831
EUT Z_2TX
Setting 20.5
02-J-6-10
FSU

Type	Freq(Hz)	Level(dBuV/m)	Limit(dBuV/m)	Margin(dB)	Factor(dB)	Dist(m)	Pol.(H/V)	Azimuth(°)	Height(m)	Comments
AV	5.149995G	47.93	54.00	-6.07	9.03	3	V	151	2.68	-
AV	5.2348G	94.63	Inf	-Inf	9.23	3	V	151	2.68	-
PK	5.149995G	60.88	74.00	-13.12	9.03	3	V	151	2.68	-
PK	5.2336G	104.41	Inf	-Inf	9.22	3	V	151	2.68	-

802.11ac VHT40_Nss1,(MCS0)_2TX

5230MHz_TX

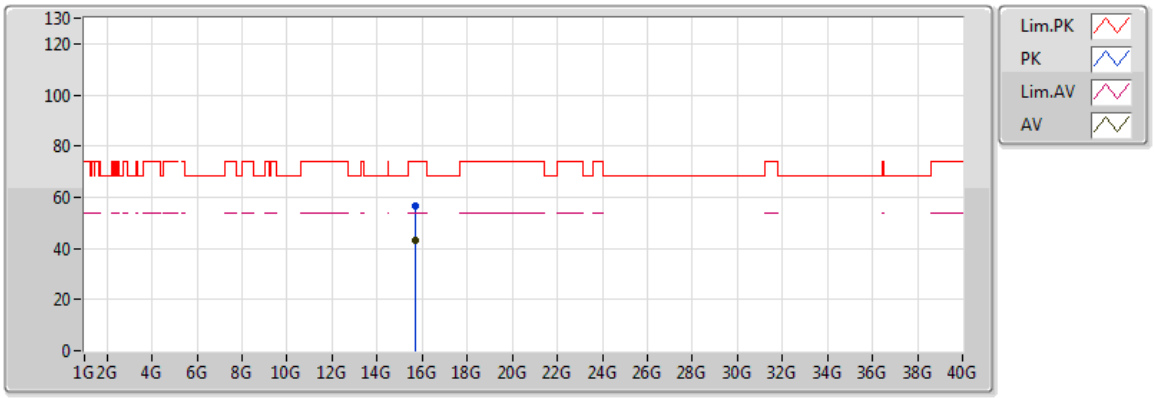


20170831
EUT Z_2TX
Setting 20.5
02-J-6-10
FSU

Type	Freq(Hz)	Level(dBuV/m)	Limit(dBuV/m)	Margin(dB)	Factor(dB)	Dist(m)	Pol.(H/V)	Azimuth(°)	Height(m)	Comments
AV	5.1456G	53.73	54.00	-0.27	9.02	3	H	287	1.02	-
AV	5.2256G	101.23	Inf	-Inf	9.21	3	H	287	1.02	-
PK	5.1432G	67.68	74.00	-6.32	9.02	3	H	287	1.02	-
PK	5.2264G	112.08	Inf	-Inf	9.21	3	H	287	1.02	-

802.11ac VHT40_Nss1,(MCS0)_2TX

5230MHz_TX

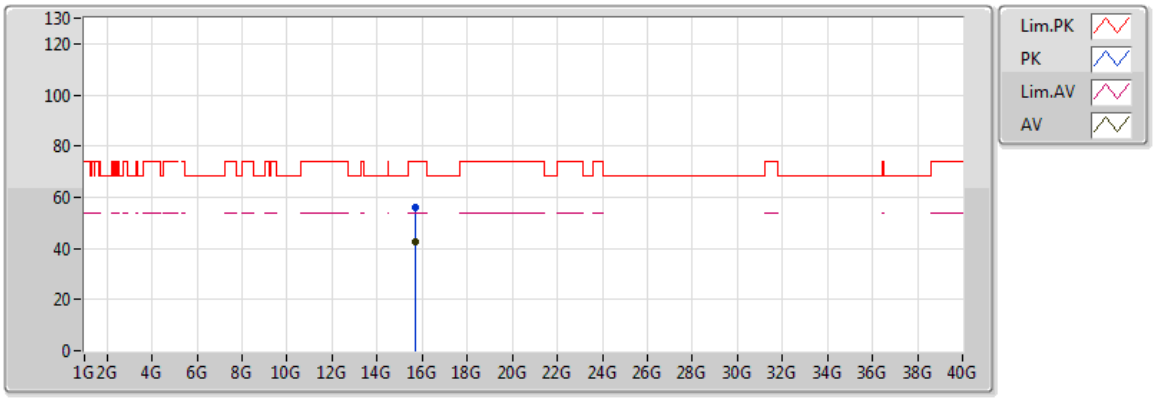


20170831
EUT Z_2TX
Setting 20.5
02-J-6
FSU

Type	Freq(Hz)	Level(dBuV/m)	Limit(dBuV/m)	Margin(dB)	Factor(dB)	Dist(m)	Pol.(H/V)	Azimuth(°)	Height(m)	Comments
AV	15.69188G	42.89	54.00	-11.11	17.70	3	V	327	1.04	-
PK	15.69252G	56.56	74.00	-17.44	17.70	3	V	327	1.04	-

802.11ac VHT40_Nss1,(MCS0)_2TX

5230MHz_TX

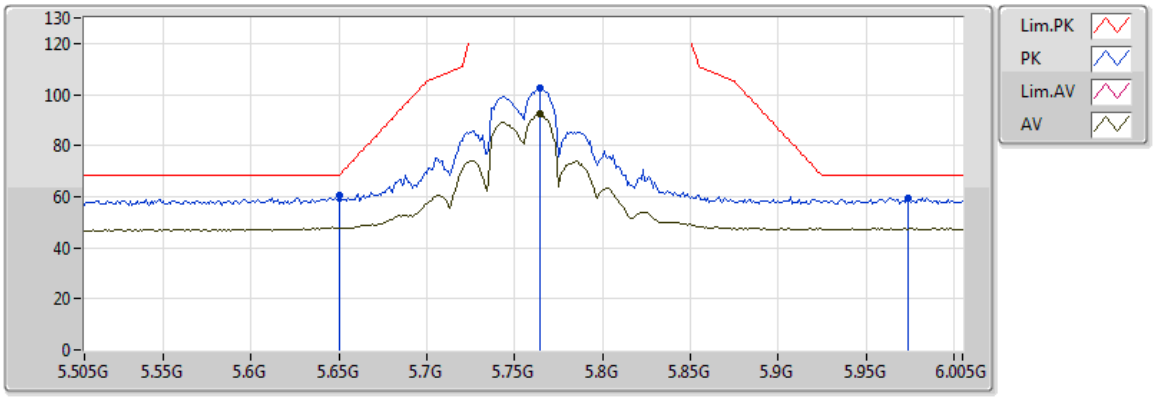


20170831
EUT Z_2TX
Setting 20.5
02-J-6
FSU

Type	Freq(Hz)	Level(dBuV/m)	Limit(dBuV/m)	Margin(dB)	Factor(dB)	Dist(m)	Pol.(H/V)	Azimuth(°)	Height(m)	Comments
AV	15.69208G	42.79	54.00	-11.21	17.70	3	H	106	1.56	-
PK	15.68796G	56.11	74.00	-17.89	17.71	3	H	106	1.56	-

802.11ac VHT40_Nss1,(MCS0)_2TX

5755MHz_TX

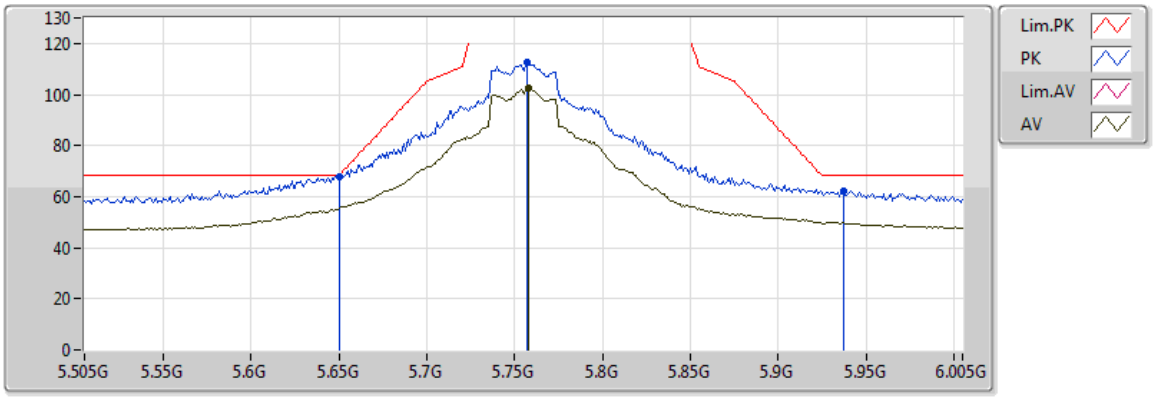


20170831
EUT Z_2TX
Setting 23
02-J-6-10
FSU

Type	Freq(Hz)	Level(dBuV/m)	Limit(dBuV/m)	Margin(dB)	Factor(dB)	Dist(m)	Pol.(H/V)	Azimuth(°)	Height(m)	Comments
AV	5.764G	92.21	Inf	-Inf	9.91	3	V	246	1.09	-
PK	5.65G	60.36	68.20	-7.84	9.89	3	V	246	1.09	-
PK	5.764G	102.41	Inf	-Inf	9.91	3	V	246	1.09	-
PK	5.974G	59.50	68.20	-8.70	10.16	3	V	246	1.09	-

802.11ac VHT40_Nss1,(MCS0)_2TX

5755MHz_TX

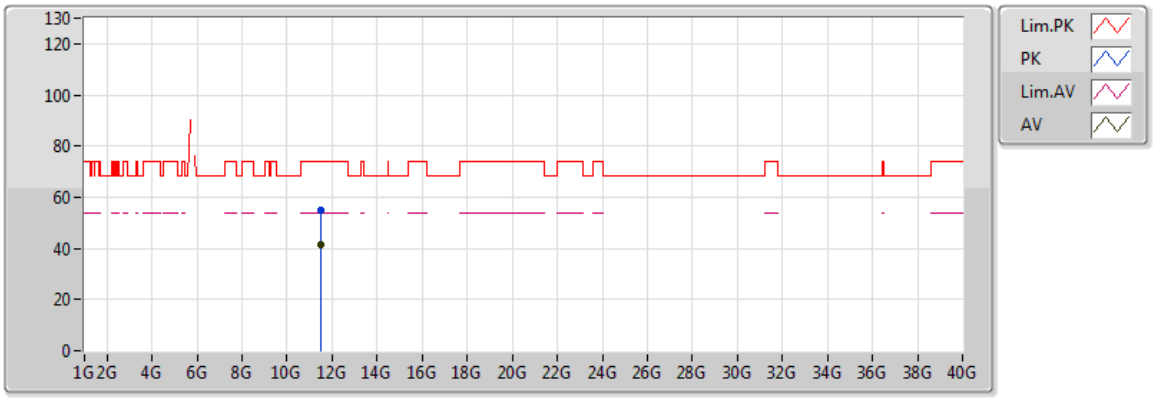


20170831
EUT Z_2TX
Setting 23
02-J-6-10
FSU

Type	Freq(Hz)	Level(dBuV/m)	Limit(dBuV/m)	Margin(dB)	Factor(dB)	Dist(m)	Pol.(H/V)	Azimuth(°)	Height(m)	Comments
AV	5.758G	102.34	Inf	-Inf	9.91	3	H	270	1.08	-
PK	5.65G	67.60	68.20	-0.60	9.89	3	H	270	1.08	-
PK	5.757G	112.59	Inf	-Inf	9.91	3	H	270	1.08	-
PK	5.937G	62.01	68.20	-6.19	10.11	3	H	270	1.08	-

802.11ac VHT40_Nss1,(MCS0)_2TX

5755MHz_TX

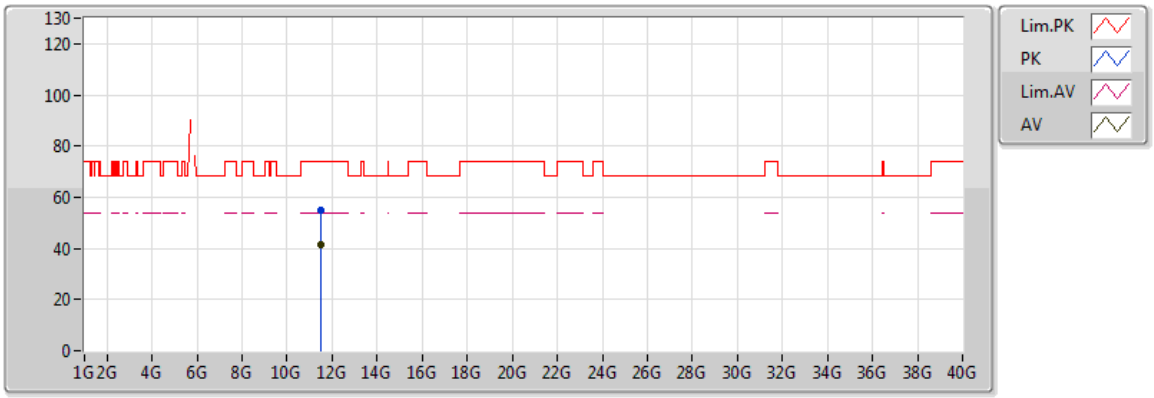


20170831
EUT Z_2TX
Setting 23
02-J-6
FSU

Type	Freq(Hz)	Level(dBuV/m)	Limit(dBuV/m)	Margin(dB)	Factor(dB)	Dist(m)	Pol.(H/V)	Azimuth(°)	Height(m)	Comments
AV	11.51332G	41.58	54.00	-12.42	16.39	3	V	223	1.78	-
PK	11.51892G	54.89	74.00	-19.11	16.40	3	V	223	1.78	-

802.11ac VHT40_Nss1,(MCS0)_2TX

5755MHz_TX

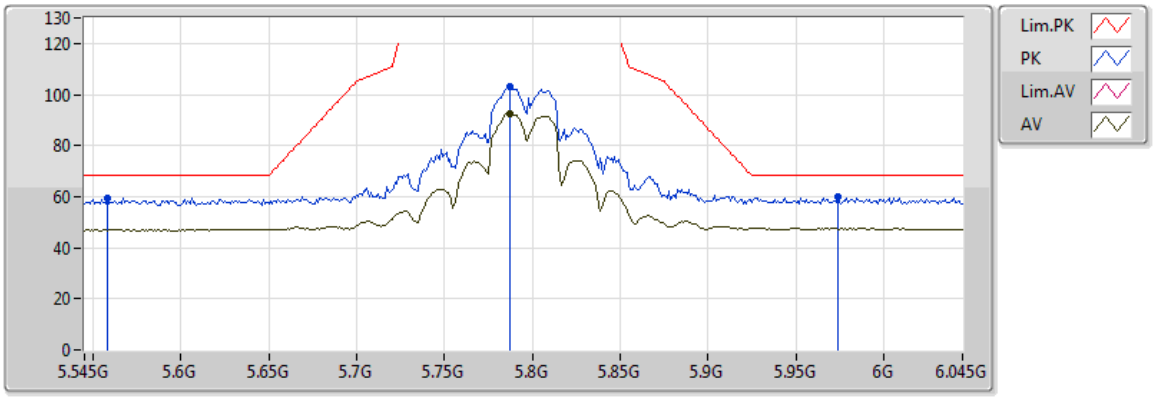


20170831
EUT Z_2TX
Setting 23
02-J-6
FSU

Type	Freq(Hz)	Level(dBuV/m)	Limit(dBuV/m)	Margin(dB)	Factor(dB)	Dist(m)	Pol.(H/V)	Azimuth(°)	Height(m)	Comments
AV	11.50172G	41.71	54.00	-12.29	16.38	3	H	122	1.10	-
PK	11.50236G	55.05	74.00	-18.95	16.38	3	H	122	1.10	-

802.11ac VHT40_Nss1,(MCS0)_2TX

5795MHz_TX

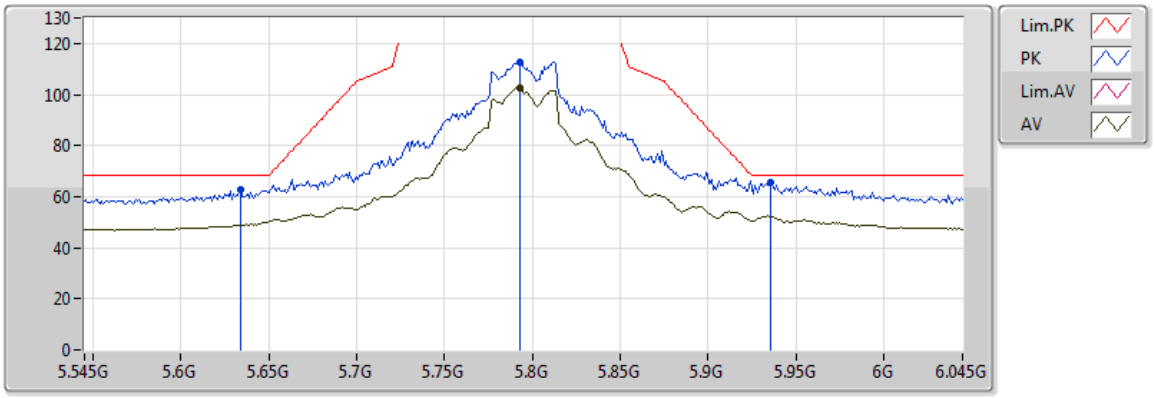


20170831
EUT Z_2TX
Setting 23
02-J-6-10
FSU

Type	Freq(Hz)	Level(dBuV/m)	Limit(dBuV/m)	Margin(dB)	Factor(dB)	Dist(m)	Pol.(H/V)	Azimuth(°)	Height(m)	Comments
AV	5.787G	92.72	Inf	-Inf	9.92	3	V	246	1.14	-
PK	5.558G	59.30	68.20	-8.90	9.84	3	V	246	1.14	-
PK	5.787G	103.20	Inf	-Inf	9.92	3	V	246	1.14	-
PK	5.974G	60.02	68.20	-8.18	10.16	3	V	246	1.14	-

802.11ac VHT40_Nss1,(MCS0)_2TX

5795MHz_TX

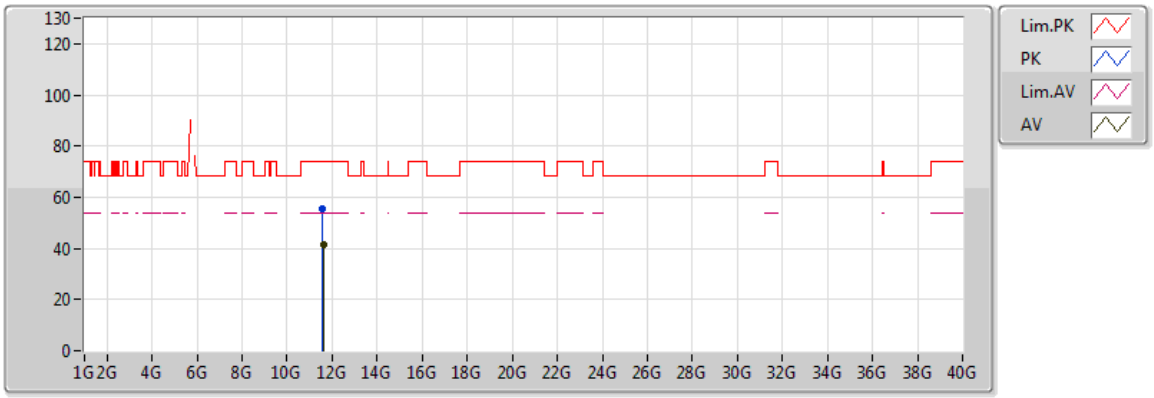


20170831
EUT Z_2TX
Setting 23
02-J-6-10
FSU

Type	Freq(Hz)	Level(dBuV/m)	Limit(dBuV/m)	Margin(dB)	Factor(dB)	Dist(m)	Pol.(H/V)	Azimuth(°)	Height(m)	Comments
AV	5.793G	102.50	Inf	-Inf	9.92	3	H	288	1.33	-
PK	5.634G	62.84	68.20	-5.36	9.89	3	H	288	1.33	-
PK	5.793G	112.57	Inf	-Inf	9.92	3	H	288	1.33	-
PK	5.936G	65.54	68.20	-2.66	10.11	3	H	288	1.33	-

802.11ac VHT40_Nss1,(MCS0)_2TX

5795MHz_TX

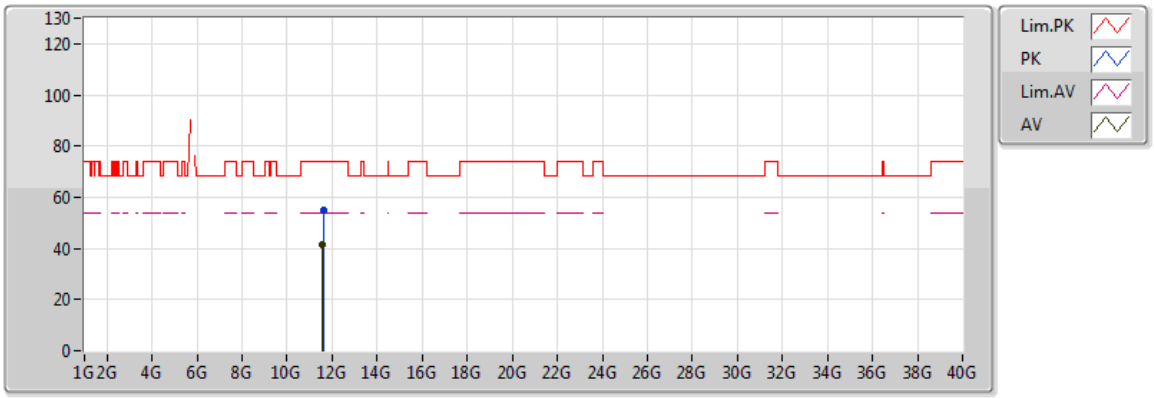


20170831
EUT Z_2TX
Setting 23
02-J-6
FSU

Type	Freq(Hz)	Level(dBuV/m)	Limit(dBuV/m)	Margin(dB)	Factor(dB)	Dist(m)	Pol.(H/V)	Azimuth(°)	Height(m)	Comments
AV	11.59476G	41.66	54.00	-12.34	16.48	3	V	220	1.03	-
PK	11.58G	55.56	74.00	-18.44	16.46	3	V	220	1.03	-

802.11ac VHT40_Nss1,(MCS0)_2TX

5795MHz_TX

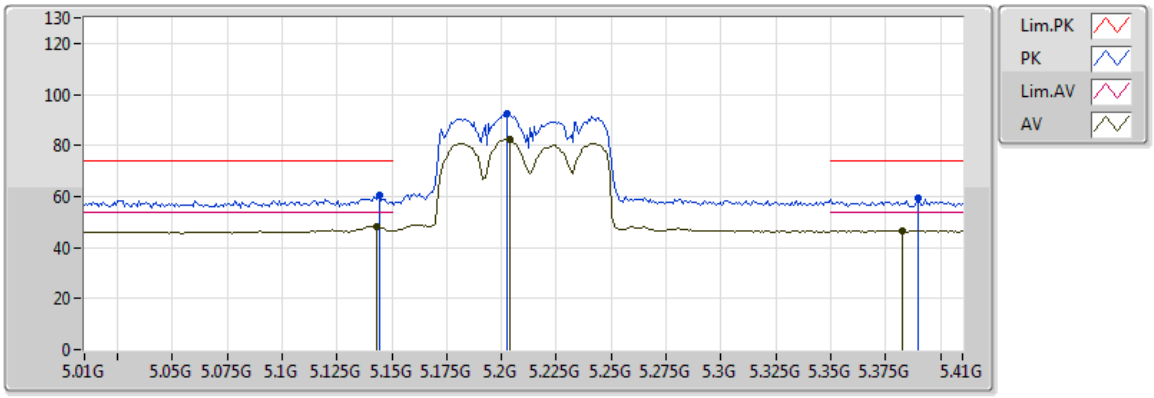


20170831
EUT Z_2TX
Setting 23
02-J-6
FSU

Type	Freq(Hz)	Level(dBuV/m)	Limit(dBuV/m)	Margin(dB)	Factor(dB)	Dist(m)	Pol.(H/V)	Azimuth(°)	Height(m)	Comments
AV	11.59136G	41.63	54.00	-12.37	16.47	3	H	102	2.01	-
PK	11.59524G	54.77	74.00	-19.23	16.48	3	H	102	2.01	-

802.11ac VHT80_Nss1,(MCS0)_2TX

5210MHz_TX

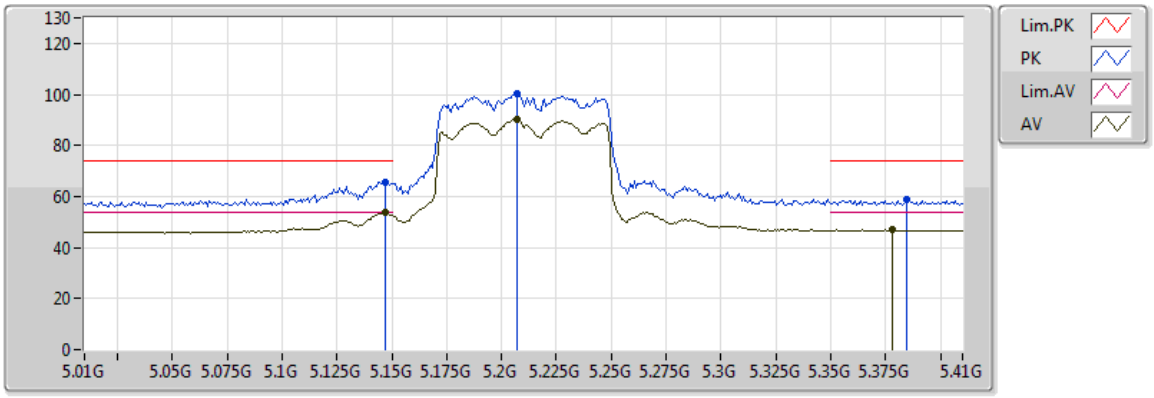


20170831
EUT Z_2TX
Setting 13.5
02-J-6-10
FSU

Type	Freq(Hz)	Level(dBuV/m)	Limit(dBuV/m)	Margin(dB)	Factor(dB)	Dist(m)	Pol.(H/V)	Azimuth(°)	Height(m)	Comments
AV	5.1428G	48.25	54.00	-5.75	9.02	3	V	281	1.13	-
AV	5.2036G	82.52	Inf	-Inf	9.17	3	V	281	1.13	-
AV	5.3828G	46.75	54.00	-7.25	9.49	3	V	281	1.13	-
PK	5.1444G	60.45	74.00	-13.55	9.02	3	V	281	1.13	-
PK	5.2028G	92.21	Inf	-Inf	9.17	3	V	281	1.13	-
PK	5.39G	59.48	74.00	-14.52	9.50	3	V	281	1.13	-

802.11ac VHT80_Nss1,(MCS0)_2TX

5210MHz_TX

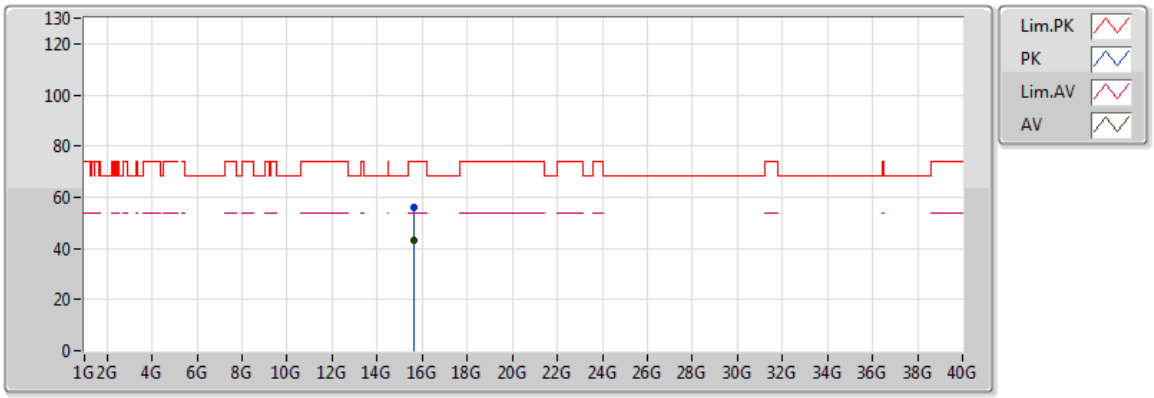


20170831
EUT Z_2TX
Setting 13.5
02-J-6-10
FSU

Type	Freq(Hz)	Level(dBuV/m)	Limit(dBuV/m)	Margin(dB)	Factor(dB)	Dist(m)	Pol.(H/V)	Azimuth(°)	Height(m)	Comments
AV	5.1468G	53.78	54.00	-0.22	9.03	3	H	270	1.18	-
AV	5.2068G	90.16	Inf	-Inf	9.17	3	H	270	1.18	-
AV	5.378G	47.01	54.00	-6.99	9.48	3	H	270	1.18	-
PK	5.1468G	65.50	74.00	-8.50	9.03	3	H	270	1.18	-
PK	5.2068G	100.22	Inf	-Inf	9.17	3	H	270	1.18	-
PK	5.3844G	59.11	74.00	-14.89	9.49	3	H	270	1.18	-

802.11ac VHT80_Nss1,(MCS0)_2TX

5210MHz_TX

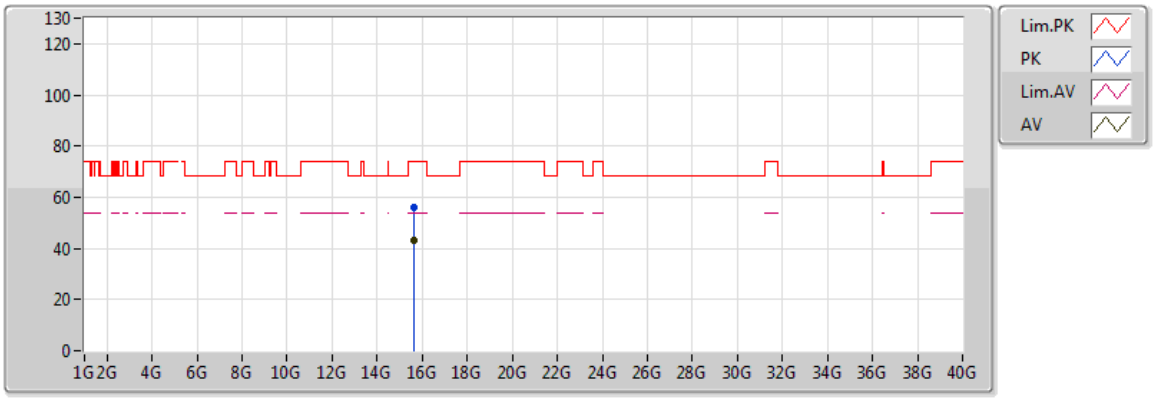


20170831
EUT Z_2TX
Setting 13.5
02-J-6
FSU

Type	Freq(Hz)	Level(dBuV/m)	Limit(dBuV/m)	Margin(dB)	Factor(dB)	Dist(m)	Pol.(H/V)	Azimuth(°)	Height(m)	Comments
AV	15.6275G	43.02	54.00	-10.98	17.84	3	V	187	2.40	-
PK	15.62973G	55.89	74.00	-18.11	17.83	3	V	187	2.40	-

802.11ac VHT80_Nss1,(MCS0)_2TX

5210MHz_TX

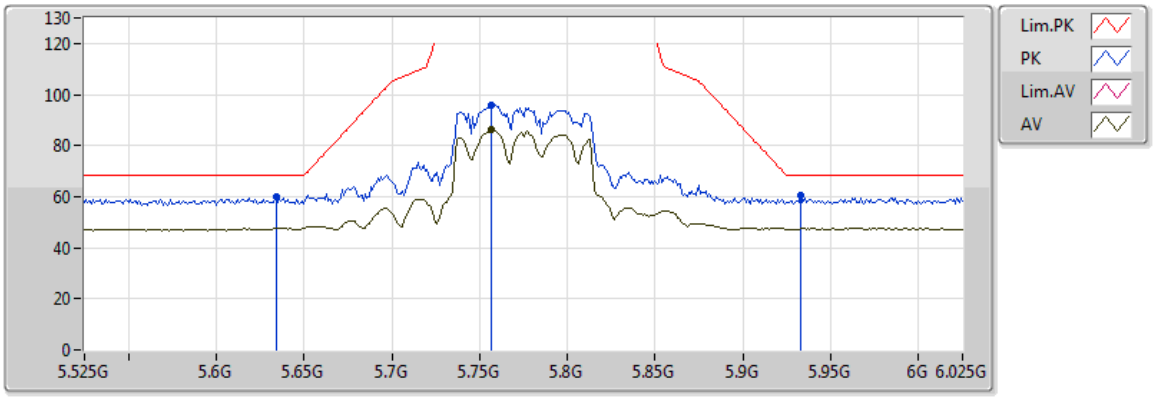


20170831
EUT Z_2TX
Setting 13.5
02-J-6
FSU

Type	Freq(Hz)	Level(dBuV/m)	Limit(dBuV/m)	Margin(dB)	Factor(dB)	Dist(m)	Pol.(H/V)	Azimuth(°)	Height(m)	Comments
AV	15.63172G	42.99	54.00	-11.01	17.83	3	H	87	1.80	-
PK	15.62876G	56.24	74.00	-17.76	17.84	3	H	87	1.80	-

802.11ac VHT80_Nss1,(MCS0)_2TX

5775MHz_TX

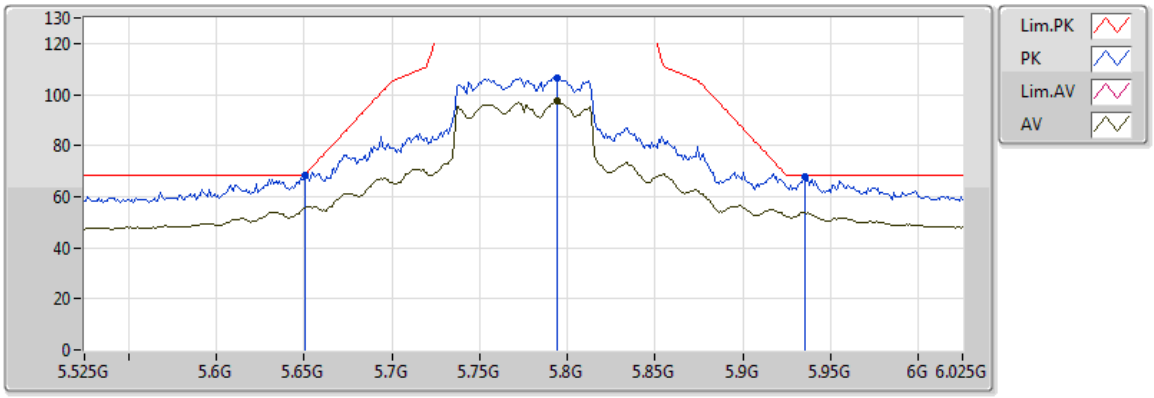


20170831
EUT Z_2TX
Setting 19.5
02-J-6-10
FSU

Type	Freq(Hz)	Level(dBuV/m)	Limit(dBuV/m)	Margin(dB)	Factor(dB)	Dist(m)	Pol.(H/V)	Azimuth(°)	Height(m)	Comments
AV	5.757G	86.05	Inf	-Inf	9.91	3	V	162	1.10	-
PK	5.634G	59.70	68.20	-8.50	9.89	3	V	162	1.10	-
PK	5.757G	95.84	Inf	-Inf	9.91	3	V	162	1.10	-
PK	5.933G	60.38	68.20	-7.82	10.11	3	V	162	1.10	-

802.11ac VHT80_Nss1,(MCS0)_2TX

5775MHz_TX

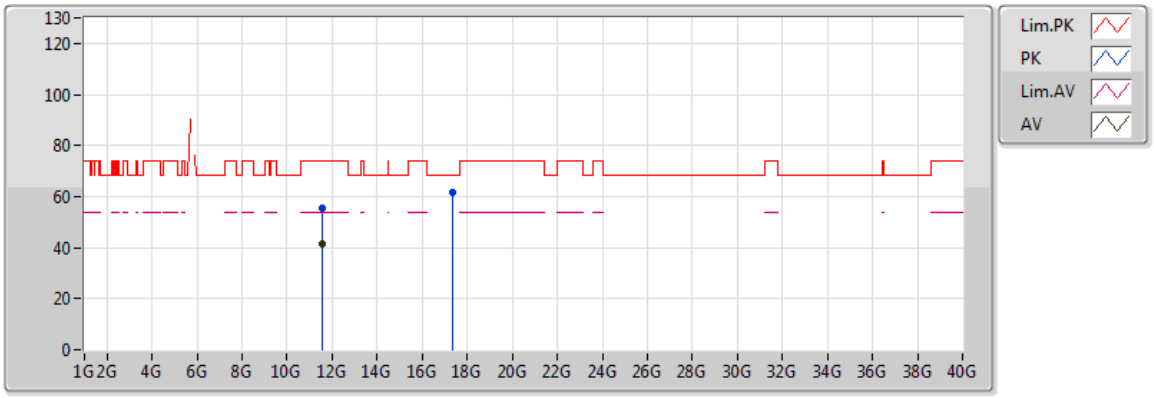


20170831
EUT Z_2TX
Setting 19.5
02-J-6-10
FSU

Type	Freq(Hz)	Level(dBuV/m)	Limit(dBuV/m)	Margin(dB)	Factor(dB)	Dist(m)	Pol.(H/V)	Azimuth(°)	Height(m)	Comments
AV	5.794G	97.40	Inf	-Inf	9.92	3	H	273	1.06	-
PK	5.651G	68.27	68.94	-0.67	9.89	3	H	273	1.06	-
PK	5.794G	106.72	Inf	-Inf	9.92	3	H	273	1.06	-
PK	5.935G	67.61	68.20	-0.59	10.11	3	H	273	1.06	-

802.11ac VHT80_Nss1,(MCS0)_2TX

5775MHz_TX

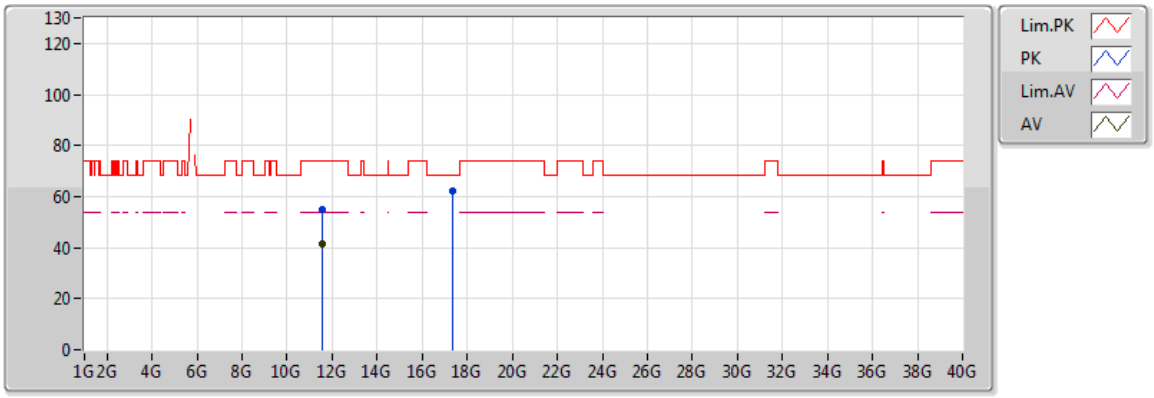


20170831
EUT Z_2TX
Setting 19.5
02-J-6
FSU

Type	Freq(Hz)	Level(dBuV/m)	Limit(dBuV/m)	Margin(dB)	Factor(dB)	Dist(m)	Pol.(H/V)	Azimuth(°)	Height(m)	Comments
AV	11.55111G	41.62	54.00	-12.38	16.43	3	V	47	1.22	-
PK	11.55042G	55.41	74.00	-18.59	16.43	3	V	47	1.22	-
PK	17.32471G	61.54	68.20	-6.66	22.79	3	V	29	2.15	-

802.11ac VHT80_Nss1,(MCS0)_2TX

5775MHz_TX

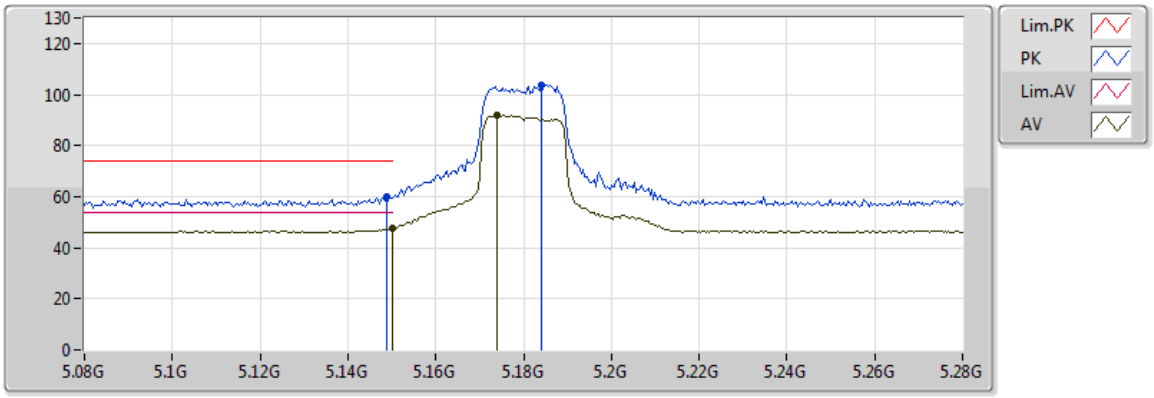


20170831
EUT Z_2TX
Setting 19.5
02-J-6
FSU

Type	Freq(Hz)	Level(dBuV/m)	Limit(dBuV/m)	Margin(dB)	Factor(dB)	Dist(m)	Pol.(H/V)	Azimuth(°)	Height(m)	Comments
AV	11.55104G	41.58	54.00	-12.42	16.43	3	H	66	1.24	-
PK	11.5523G	55.05	74.00	-18.95	16.43	3	H	66	1.24	-
PK	17.32373G	62.01	68.20	-6.19	22.79	3	H	0	2.46	-

802.11ac VHT20-BF_Nss1,(MCS0)_2TX

5180MHz_TX

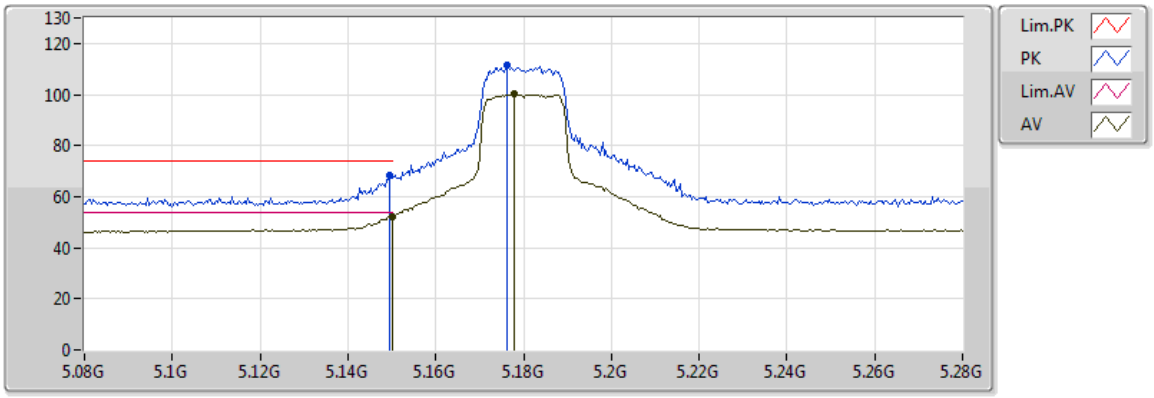


20170831
EUT Z_2TX
Setting 21 (Max setting)
02-J-6-10
FSU

Type	Freq(Hz)	Level(dBuV/m)	Limit(dBuV/m)	Margin(dB)	Factor(dB)	Dist(m)	Pol.(H/V)	Azimuth(°)	Height(m)	Comments
AV	5.149995G	47.64	54.00	-6.36	9.03	3	V	43	1.58	-
AV	5.174G	92.09	Inf	-Inf	9.09	3	V	43	1.58	-
PK	5.1488G	59.68	74.00	-14.32	9.03	3	V	43	1.58	-
PK	5.184G	103.94	Inf	-Inf	9.12	3	V	43	1.58	-

802.11ac VHT20-BF_Nss1,(MCS0)_2TX

5180MHz_TX

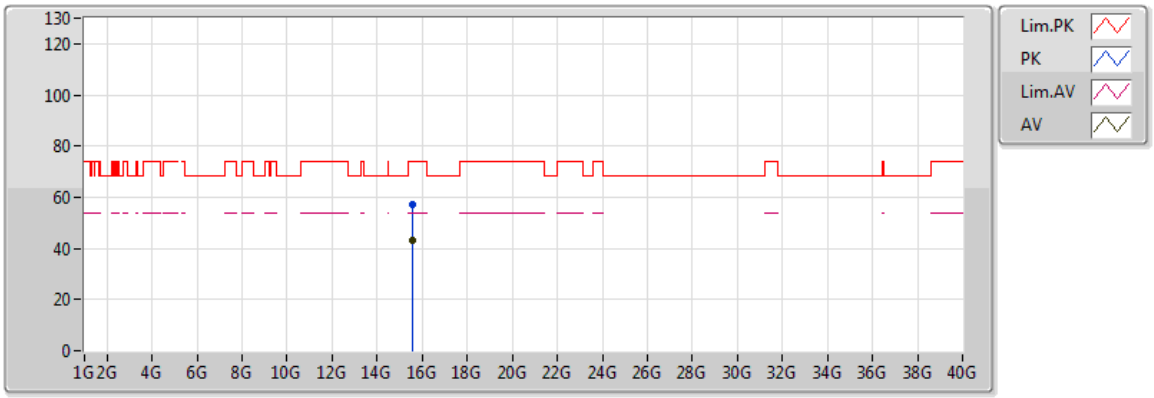


20170831
EUT Z_2TX
Setting 21 (Max setting)
02-J-6-10
FSU

Type	Freq(Hz)	Level(dBuV/m)	Limit(dBuV/m)	Margin(dB)	Factor(dB)	Dist(m)	Pol.(H/V)	Azimuth(°)	Height(m)	Comments
AV	5.149995G	52.21	54.00	-1.79	9.03	3	H	80	2.19	-
AV	5.178G	100.10	Inf	-Inf	9.11	3	H	80	2.19	-
PK	5.1496G	68.32	74.00	-5.68	9.03	3	H	80	2.19	-
PK	5.1764G	111.71	Inf	-Inf	9.10	3	H	80	2.19	-

802.11ac VHT20-BF_Nss1,(MCS0)_2TX

5180MHz_TX

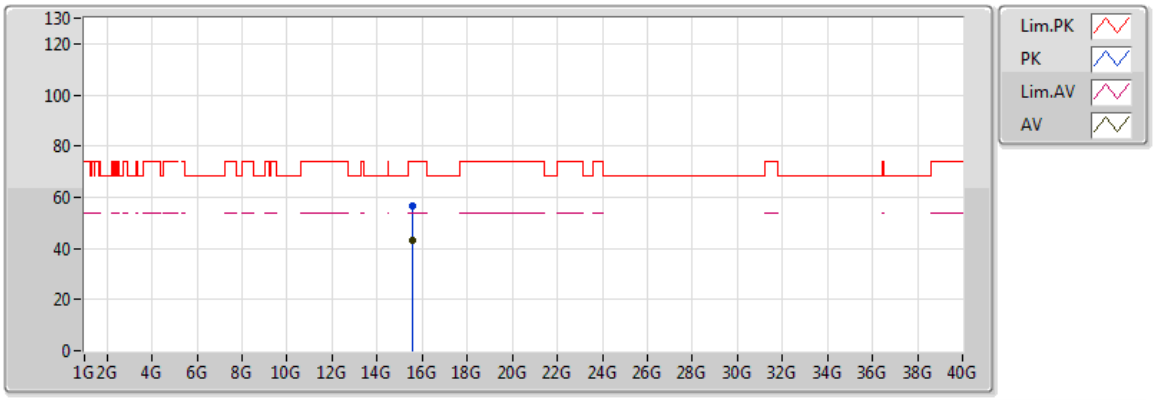


20170831
EUT Z_2TX
Setting 21 (Max setting)
02-J-6-10
FSU

Type	Freq(Hz)	Level(dBuV/m)	Limit(dBuV/m)	Margin(dB)	Factor(dB)	Dist(m)	Pol.(H/V)	Azimuth(°)	Height(m)	Comments
AV	15.54037G	43.40	54.00	-10.60	18.03	3	V	72	1.40	-
PK	15.53826G	56.90	74.00	-17.10	18.03	3	V	72	1.40	-

802.11ac VHT20-BF_Nss1,(MCS0)_2TX

5180MHz_TX

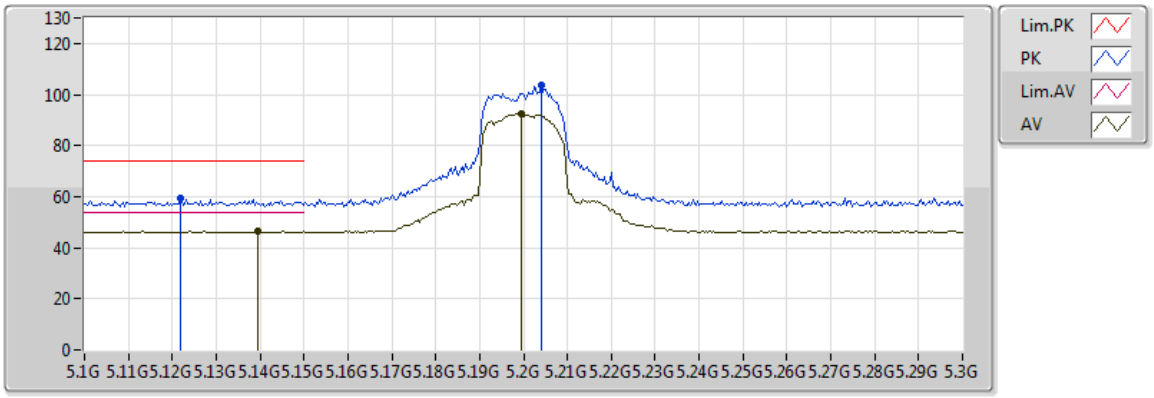


20170831
EUT Z_2TX
Setting 21 (Max setting)
02-J-6-10
FSU

Type	Freq(Hz)	Level(dBuV/m)	Limit(dBuV/m)	Margin(dB)	Factor(dB)	Dist(m)	Pol.(H/V)	Azimuth(°)	Height(m)	Comments
AV	15.54037G	43.25	54.00	-10.75	18.03	3	H	332	1.28	-
PK	15.53984G	56.86	74.00	-17.14	18.03	3	H	332	1.28	-

802.11ac VHT20-BF_Nss1,(MCS0)_2TX

5200MHz_TX

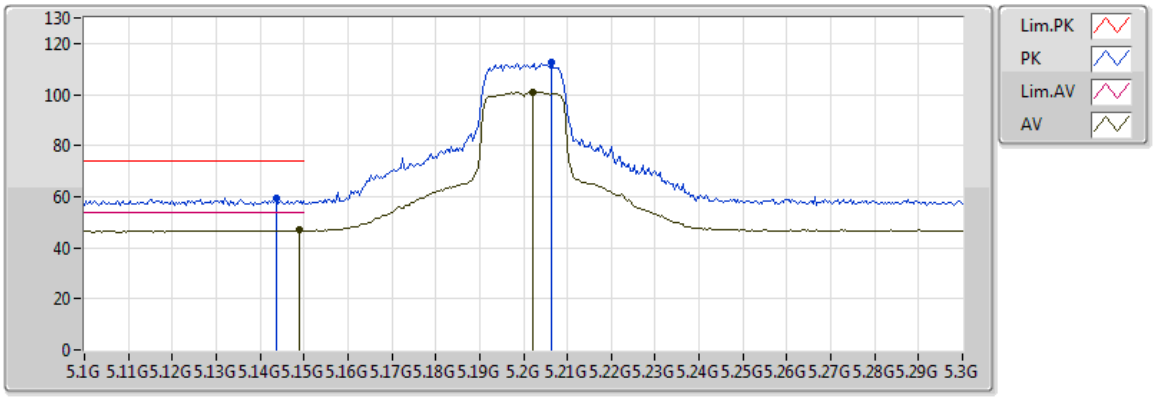


20170831
EUT Z_2TX
Setting 21 (Max setting)
02-J-6-10
FSU

Type	Freq(Hz)	Level(dBuV/m)	Limit(dBuV/m)	Margin(dB)	Factor(dB)	Dist(m)	Pol.(H/V)	Azimuth(°)	Height(m)	Comments
AV	5.1396G	46.47	54.00	-7.53	9.01	3	V	148	2.54	-
AV	5.1996G	92.26	Inf	-Inf	9.16	3	V	148	2.54	-
PK	5.122G	59.53	74.00	-14.47	8.96	3	V	148	2.54	-
PK	5.204G	103.66	Inf	-Inf	9.17	3	V	148	2.54	-

802.11ac VHT20-BF_Nss1,(MCS0)_2TX

5200MHz_TX

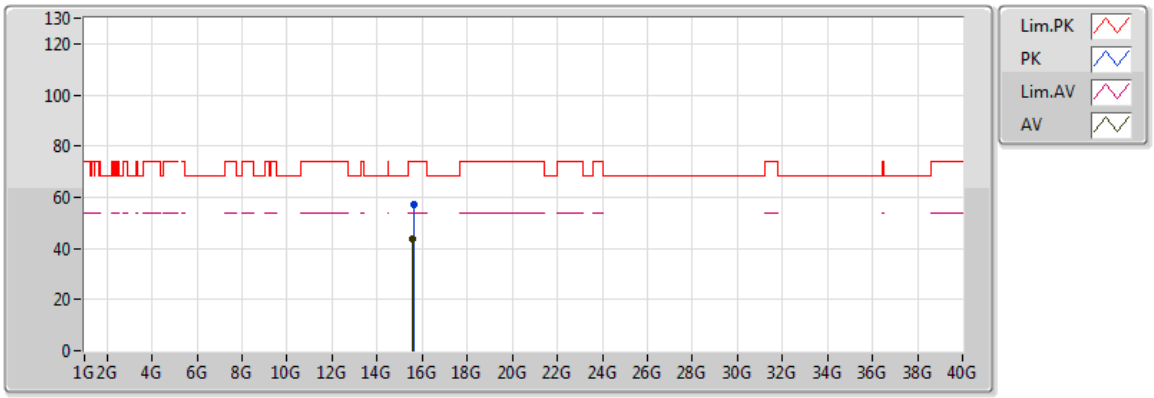


20170831
EUT Z_2TX
Setting 21 (Max setting)
02-J-6-10
FSU

Type	Freq(Hz)	Level(dBuV/m)	Limit(dBuV/m)	Margin(dB)	Factor(dB)	Dist(m)	Pol.(H/V)	Azimuth(°)	Height(m)	Comments
AV	5.1488G	46.88	54.00	-7.12	9.03	3	H	73	1.06	-
AV	5.202G	101.12	Inf	-Inf	9.16	3	H	73	1.06	-
PK	5.1436G	59.41	74.00	-14.59	9.02	3	H	73	1.06	-
PK	5.2064G	112.48	Inf	-Inf	9.17	3	H	73	1.06	-

802.11ac VHT20-BF_Nss1,(MCS0)_2TX

5200MHz_TX

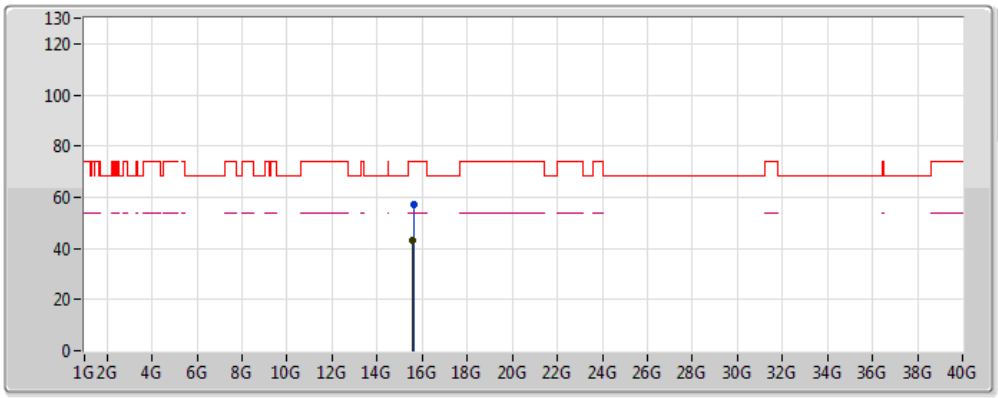


20170831
EUT Z_2TX
Setting 21 (Max setting)
02-J-6-10
FSU

Type	Freq(Hz)	Level(dBuV/m)	Limit(dBuV/m)	Margin(dB)	Factor(dB)	Dist(m)	Pol.(H/V)	Azimuth(°)	Height(m)	Comments
AV	15.595G	43.43	54.00	-10.57	17.91	3	V	103	1.39	-
PK	15.60768G	57.39	74.00	-16.61	17.88	3	V	103	1.39	-

802.11ac VHT20-BF_Nss1,(MCS0)_2TX

5200MHz_TX

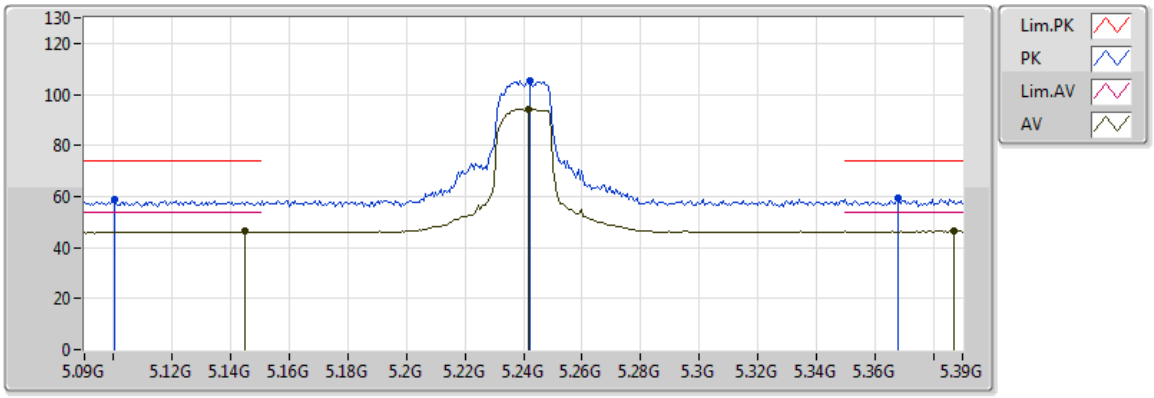


20170831
EUT Z_2TX
Setting 21 (Max setting)
02-J-6-10
FSU

Type	Freq(Hz)	Level(dBuV/m)	Limit(dBuV/m)	Margin(dB)	Factor(dB)	Dist(m)	Pol.(H/V)	Azimuth(°)	Height(m)	Comments
AV	15.59328G	43.37	54.00	-10.63	17.91	3	H	41	2.38	-
PK	15.60188G	56.96	74.00	-17.04	17.89	3	H	41	2.38	-

802.11ac VHT20-BF_Nss1,(MCS0)_2TX

5240MHz_TX

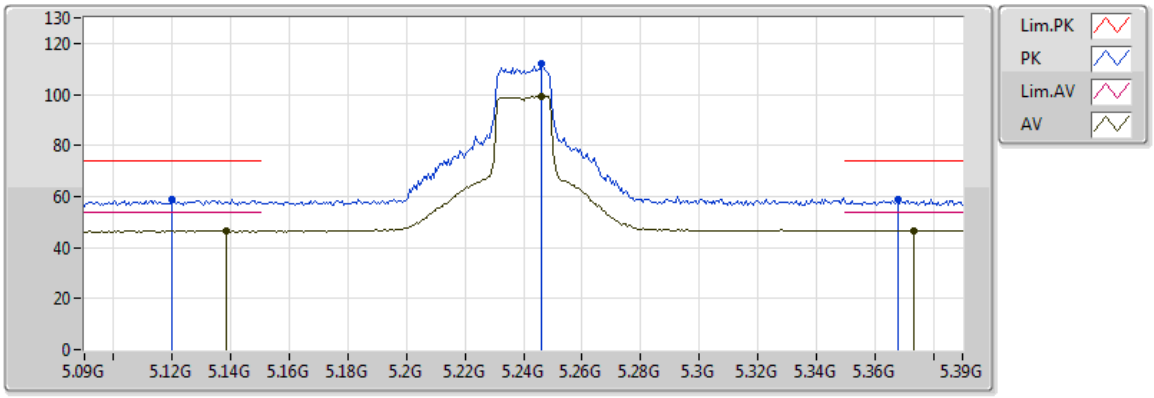


20170831
EUT Z_2TX
Setting 21 (Max setting)
02-J-6-10
FSU

Type	Freq(Hz)	Level(dBuV/m)	Limit(dBuV/m)	Margin(dB)	Factor(dB)	Dist(m)	Pol.(H/V)	Azimuth(°)	Height(m)	Comments
AV	5.1446G	46.24	54.00	-7.76	9.02	3	V	182	2.71	-
AV	5.2418G	94.40	Inf	-Inf	9.24	3	V	182	2.71	-
AV	5.387G	46.47	54.00	-7.53	9.50	3	V	182	2.71	-
PK	5.1002G	58.62	74.00	-15.38	8.91	3	V	182	2.71	-
PK	5.2424G	105.12	Inf	-Inf	9.24	3	V	182	2.71	-
PK	5.3678G	59.30	74.00	-14.70	9.47	3	V	182	2.71	-

802.11ac VHT20-BF_Nss1,(MCS0)_2TX

5240MHz_TX

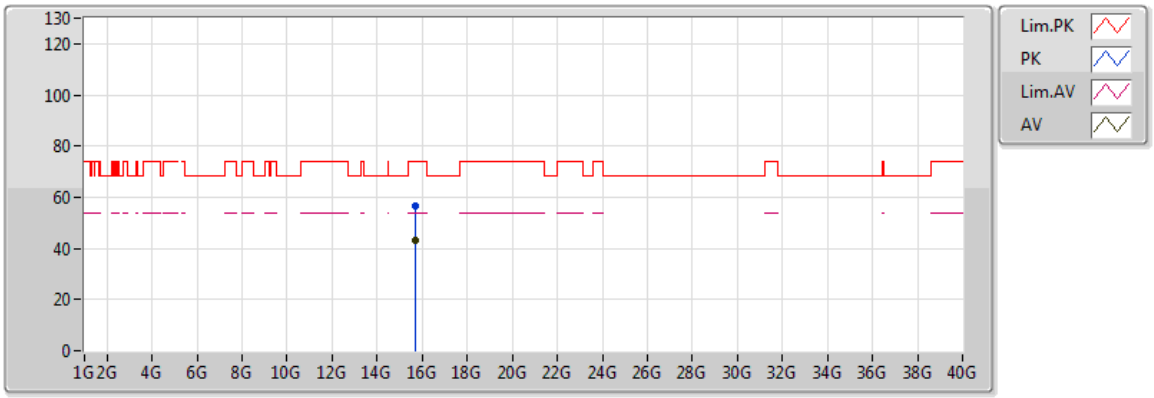


20170831
EUT Z_2TX
Setting 21 (Max setting)
02-J-6-10
FSU

Type	Freq(Hz)	Level(dBuV/m)	Limit(dBuV/m)	Margin(dB)	Factor(dB)	Dist(m)	Pol.(H/V)	Azimuth(°)	Height(m)	Comments
AV	5.1386G	46.58	54.00	-7.42	9.01	3	H	62	1.23	-
AV	5.246G	99.40	Inf	-Inf	9.25	3	H	62	1.23	-
AV	5.3732G	46.72	54.00	-7.28	9.47	3	H	62	1.23	-
PK	5.12G	58.75	74.00	-15.25	8.96	3	H	62	1.23	-
PK	5.246G	111.97	Inf	-Inf	9.25	3	H	62	1.23	-
PK	5.3678G	58.99	74.00	-15.01	9.47	3	H	62	1.23	-

802.11ac VHT20-BF_Nss1,(MCS0)_2TX

5240MHz_TX

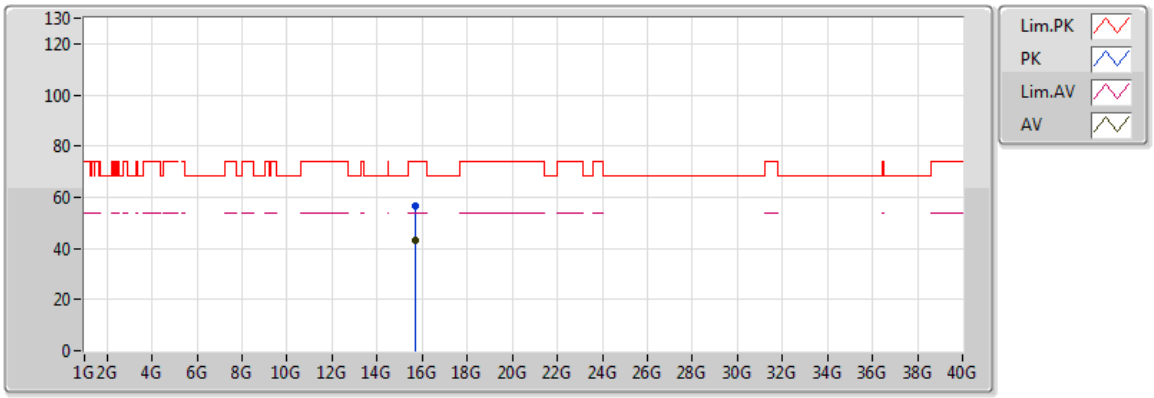


20170831
EUT Z_2TX
Setting 21 (Max setting)
02-J-6-10
FSU

Type	Freq(Hz)	Level(dBuV/m)	Limit(dBuV/m)	Margin(dB)	Factor(dB)	Dist(m)	Pol.(H/V)	Azimuth(°)	Height(m)	Comments
AV	15.71012G	42.93	54.00	-11.07	17.66	3	V	20	1.87	-
PK	15.71504G	56.80	74.00	-17.20	17.65	3	V	20	1.87	-

802.11ac VHT20-BF_Nss1,(MCS0)_2TX

5240MHz_TX



20170831
EUT Z_2TX
Setting 21 (Max setting)
02-J-6-10
FSU

Type	Freq(Hz)	Level(dBuV/m)	Limit(dBuV/m)	Margin(dB)	Factor(dB)	Dist(m)	Pol.(H/V)	Azimuth(°)	Height(m)	Comments
AV	15.71128G	43.04	54.00	-10.96	17.66	3	H	67	2.12	-
PK	15.7116G	56.81	74.00	-17.19	17.66	3	H	67	2.12	-