



# FCC RADIO TEST REPORT

FCC ID : PPQ-WP8333V5  
Equipment : 802.11ac Tri Band PoE Access Point  
Brand Name : LITE-ON, WatchGuard  
Model Name : WP8333V5, C-110, AP325  
Applicant : LITE-ON Technology Corp.  
Bldg. C, 90, Chien 1 Rd., Chung-Ho, New Taipei  
City, 23585 Taiwan  
Manufacturer (1) : Lite-On Network Communication (Dongguan)  
Limited  
30#Keji Rd., Yin Hu Industrial Area, Qingxi  
Town, DongGuan City, Guangdong, China  
Manufacturer (2) : LITE-ON Technology Corp. Networking Plant  
No. 101, Neihuan N. Rd., Nanzi Processing Export,  
Nanzi Dist., Kaohsiung City 811, Taiwan  
Standard : 47 CFR FCC Part 15.407

The product was received on Feb. 20, 2020, and testing was started from Feb. 24, 2020 and completed on Feb. 26, 2020. We, SPORTON INTERNATIONAL INC. EMC & Wireless Communications Laboratory, would like to declare that the tested sample has been evaluated in accordance with the procedures given in ANSI C63.10-2013 and shown compliance with the applicable technical standards.

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

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



Approved by: Cliff Chang

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



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## History of this test report



## Summary of Test Result

Report Clause	Ref Std. Clause	Test Items	Result (PASS/FAIL)	Remark
1.1.2	15.203	Antenna Requirement	PASS	-
3.1	15.407(a)	Emission Bandwidth	PASS	-
3.2	15.407(a)	Maximum Conducted Output Power	PASS	-
3.2.1	15.407(a)	Peak Power Spectral Density	PASS	-
3.4	15.407(b)	Unwanted Emissions	PASS	-

**Declaration of Conformity:**

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

**Comments and Explanations:**

The declared of product specification for EUT presented in the report are provided by the manufacturer, and the manufacturer takes all the responsibilities for the accuracy of product specification.

Reviewed by: Sam Chen

Report Producer: Wendy Pan



# 1 General Description

## 1.1 Information

### 1.1.1 RF General Information

Frequency Range (MHz)	IEEE Std. 802.11	Ch. Frequency (MHz)	Channel Number
5250-5350	a, n (HT20), ac (VHT20), n (HT40), ac (VHT40), ac (VHT80)	5260-5320	52-64 [4]
5470-5725		5500-5720	100-144 [12]
5250-5350	n (HT40), ac (VHT40), 5470-5725	5270-5310	54-62 [2]
5470-5725		5510-5710	102-142 [6]
5250-5350	ac (VHT80)	5290	58 [1]
5470-5725		5530-5690	106-138 [3]

Band	Mode	BWch (MHz)	Nant
5.25-5.35GHz	802.11a	20	2TX
5.25-5.35GHz	802.11n HT20	20	2TX
5.25-5.35GHz	802.11ac VHT20	20	2TX
5.25-5.35GHz	802.11n HT40	40	2TX
5.25-5.35GHz	802.11ac VHT40	40	2TX
5.25-5.35GHz	802.11ac VHT80	80	2TX
5.47-5.725GHz	802.11a	20	2TX
5.47-5.725GHz	802.11n HT20	20	2TX
5.47-5.725GHz	802.11ac VHT20	20	2TX
5.47-5.725GHz	802.11n HT40	40	2TX
5.47-5.725GHz	802.11ac VHT40	40	2TX
5.47-5.725GHz	802.11ac VHT80	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

Set	Ant.	Port	Brand	P/N		Antenna Type	Connector	Radio
1	1	1	LYNwave	MLX19X-126AA1-A		PIFA Antenna	I-PEX	R1
	2	2	LYNwave	MLX19X-126AA1-A		PIFA Antenna	I-PEX	R1
	3	1	LYNwave	MLX19X-126AA1-A		PIFA Antenna	I-PEX	R2
	4	2	LYNwave	MLX19X-126AA1-A		PIFA Antenna	I-PEX	R2
	5	1	LYNwave	MLX19X-126AA1-A		PCB Antenna	I-PEX	R4
	6	1	LYNwave	MLX19X-126AA1-A		PCB Antenna	I-PEX	R3
	7	2	LYNwave	MLX19X-126AA1-A		PCB Antenna	I-PEX	R3

Ant.	Gain (dBi)											
	Radio 1		Radio 2				Radio 3				Radio 4	
	2.4G	5G B1	5G B2	5G B3	5G B4	2.4G	5G B1	5G B2	5G B3	5G B4	BT	
1	6.3	-	-	-	-	-	-	-	-	-	-	-
2	6.5	-	-	-	-	-	-	-	-	-	-	-
3	-	5.6	5.8	6.1	5.9	-	-	-	-	-	-	-
4	-	5.6	6.0	5.4	4.6	-	-	-	-	-	-	-
5	-	-	-	-	-	6.5	4.7	4.7	5.6	6.0	-	-
6	-	-	-	-	-	6.5	4.8	5.4	5.8	5.5	-	-
7	-	-	-	-	-	-	-	-	-	-	2.1	

Note: The above information was declared by manufacturer.

The EUT contain Radio 3 (2.4G)/(5G) RF module (Model Name: WM862FEMD / FCC ID: PQ-WM862FEMD).

**For 2.4GHz function:**

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

**Radio 1**

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

**Radio 3**

Ant. 6 and Ant. 7 could transmit/receive simultaneously.

**For 5GHz function:**

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

**Radio 2**

Ant. 3 and Ant. 4 could transmit/receive simultaneously.

**Radio 3**

Ant. 6 and Ant. 7 could transmit/receive simultaneously.

**For Bluetooth function:**

For bluetooth mode (1TX/1RX)

Only Ant. 5 can be used as transmitting/receiving antenna.



### 1.1.3 Mode Test Duty Cycle

Mode	DC	DCF(dB)	T(s)	VBW(Hz) ≥ 1/T
802.11a	0.961	0.17	2.066m	1k
802.11ac VHT20	0.985	0.07	n/a (DC>=0.98)	n/a (DC>=0.98)
802.11ac VHT40	0.971	0.13	2.437m	1k
802.11ac VHT80	0.94	0.27	1.15m	1k

Note:

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

### 1.1.4 EUT Operational Condition

EUT Power Type	From Power Adapter or PoE			
Beamforming Function	<input type="checkbox"/>	With beamforming	<input checked="" type="checkbox"/>	Without beamforming
Weather Band	<input checked="" type="checkbox"/>	With 5600~5650MHz	<input type="checkbox"/>	Without 5600~5650MHz
Function	<input type="checkbox"/>	Outdoor P2M	<input checked="" type="checkbox"/>	Indoor P2M
Function	<input type="checkbox"/>	Fixed P2P	<input type="checkbox"/>	Client
Test Software Version	QRCT V3.0.210			

Note: The above information was declared by manufacturer.

### 1.1.5 Table for Multiple Listing

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

Brand Name	Model Name	Description
LITE-ON	WP8333V5	All the models are identical, the difference model for difference brand
WatchGuard	C-110, AP325	served as marketing strategy.

From the above models, model: AP325 was selected as representative model for the test and its data was recorded in this report.

### 1.1.6 Table for Explanation of Flash

Brand name	Model name	Flash
winbond	25Q256JVFQ	32M+32M



### 1.1.7 Table for Class II Change

This product is an extension of original one reported under Sporton project number: FR741722-10AB

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

Modifications	Performance Checking
Adding 5GHz band 2 and band 3 (5250~5350 MHz, 5470~5725 MHz) for this device.	<ol style="list-style-type: none"><li>1. Emission Bandwidth.</li><li>2. Maximum Conducted Output Power.</li><li>3. Peak Power Spectral Density.</li><li>4. Unwanted Emissions above 1GHz</li></ol>



## 1.2 Applicable Standards

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

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

## 1.3 Testing Location Information

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

Test Condition	Test Site No.	Test Engineer	Test Environment	Test Date
RF Conducted	TH02-CB	Justin Lin	20.6-21.3°C / 59-60%	Feb. 25, 2020 ~ Feb. 26, 2020
Radiated > 1GHz	03CH06-CB	Justin Lin	20.5-21.2°C / 59-61 %	Feb. 24, 2020 ~ Feb. 25, 2020

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
Radiated Emission (1GHz ~ 18GHz)	4.3 dB	Confidence levels of 95%
Radiated Emission (18GHz ~ 40GHz)	5.1 dB	Confidence levels of 95%
Conducted Emission	2.4 dB	Confidence levels of 95%
Output Power Measurement	1.5 dB	Confidence levels of 95%
Power Density Measurement	2.4 dB	Confidence levels of 95%
Bandwidth Measurement	2%	Confidence levels of 95%



## 2 Test Configuration of EUT

### 2.1 Test Channel Mode

Mode	Power Setting
802.11a_Nss1,(6Mbps)_2TX	-
5260MHz	17.5
5300MHz	17
5320MHz	17
5500MHz	17
5580MHz	17
5700MHz	17
5720MHz Straddle 5.47-5.725GHz	17
5720MHz Straddle 5.725-5.85GHz	17
802.11ac VHT20_Nss1,(MCS0)_2TX	-
5260MHz	18
5300MHz	17.5
5320MHz	17.5
5500MHz	17
5580MHz	17
5700MHz	17
5720MHz Straddle 5.47-5.725GHz	17
5720MHz Straddle 5.725-5.85GHz	17
802.11ac VHT40_Nss1,(MCS0)_2TX	-
5270MHz	20
5310MHz	17.5
5510MHz	17
5550MHz	19.5
5670MHz	19
5710MHz Straddle 5.47-5.725GHz	19.5
5710MHz Straddle 5.725-5.85GHz	19.5
802.11ac VHT80_Nss1,(MCS0)_2TX	-
5290MHz	17.5
5530MHz	17.5
5610MHz	20
5690MHz Straddle 5.47-5.725GHz	20.5
5690MHz Straddle 5.725-5.85GHz	20.5

Note:VHT20/VHT40 covers HT20/HT40, due to same modulation. The power setting for HT20 and HT40 are the same or lower than VHT20 and VHT40.



## 2.2 The Worst Case Measurement Configuration

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

The Worst Case Mode for Following Conformance Tests	
Tests Item	Unwanted Emissions
Test Condition	Radiated measurement If EUT consist of multiple antenna assembly (multiple antenna are used in EUT regardless of spatial multiplexing MIMO configuration), the radiated test should be performed with highest antenna gain of each antenna type.
Operating Mode > 1GHz	CTX

The EUT was performed at X axis, Y axis and Z axis and the worst case was found at X axis. So the measurement will follow this same test configuration.

The Worst Case Mode for Following Conformance Tests	
Tests Item	Simultaneous Transmission Analysis - Co-location RF Exposure Evaluation
Operating Mode	
1	WLAN 2.4GHz (Radio 1) + WLAN 5GHz (Radio 2) + WLAN 2.4GHz (Radio 3) + Bluetooth (Radio 4)
2	WLAN 2.4GHz (Radio 1) + WLAN 5GHz (Radio 2) + WLAN 5GHz (Radio 3) + Bluetooth (Radio 4)

Refer to Sporton Test Report No.: FA741722-11 for Co-location RF Exposure Evaluation.

Note: The PoE and Adapter were for measurement only, would not be marketed.

The PoE and Adapter information as below:

Support Unit	Brand	Model Number
PoE	Ruckus	740-64214-001
Adapter	APD	WB-18D12FU

## 2.3 EUT Operation during Test

The EUT was programmed to be in continuously transmitting mode.

## 2.4 Accessories

N/A



## 2.5 Support Equipment

For Radiated:

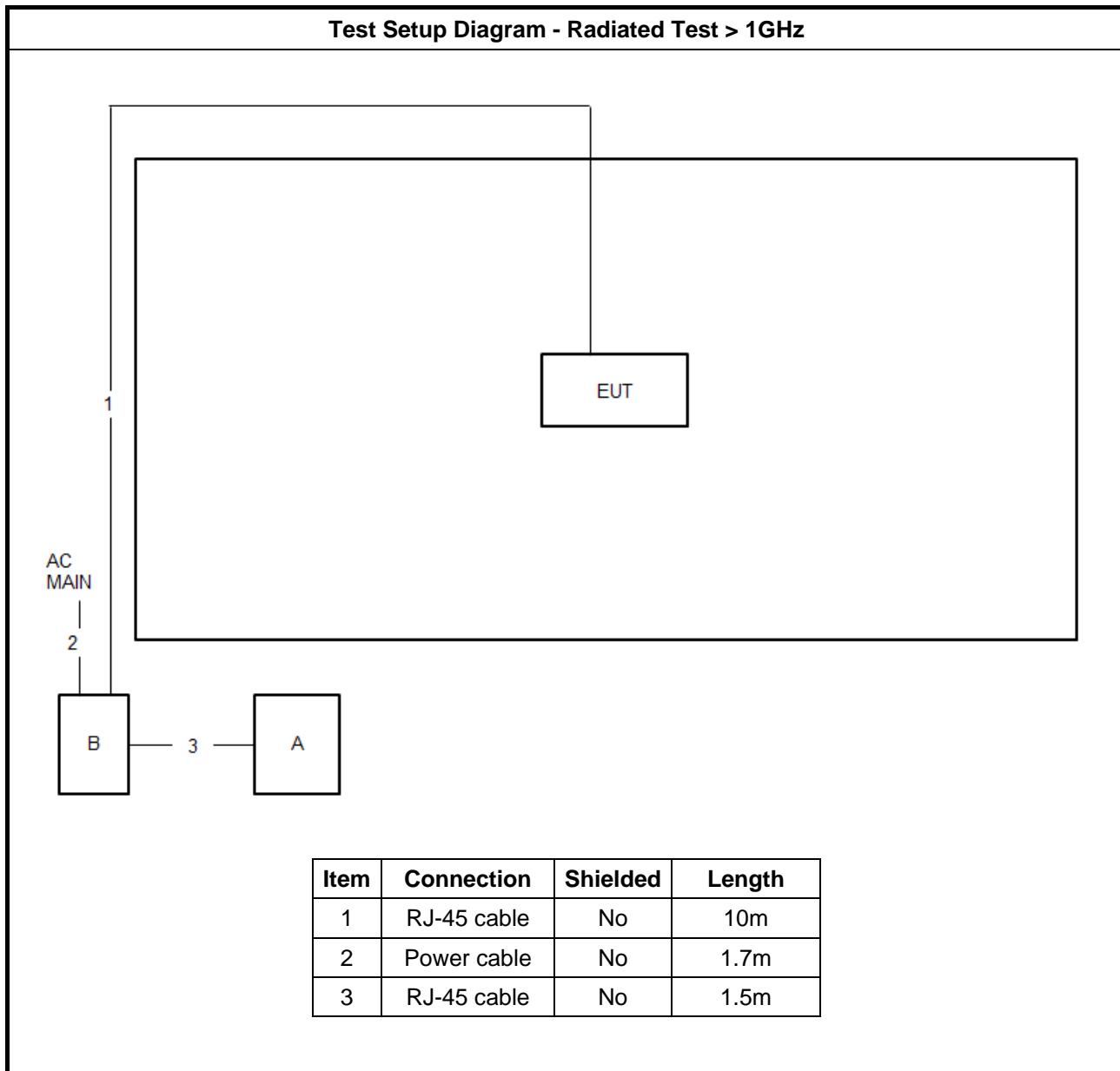
Support Equipment				
No.	Equipment	Brand Name	Model Name	FCC ID
A	Notebook	DELL	E4300	N/A
B	PoE	Ruckus	740-64214-001	N/A

For RF Conducted:

Support Equipment				
No.	Equipment	Brand Name	Model Name	FCC ID
A	Notebook	DELL	E4300	N/A
B	AC Adapter	APD	WB-18D12FU	N/A



## 2.6 Test Setup Diagram





### 3 Transmitter Test Result

#### 3.1 Emission Bandwidth

##### 3.1.1 Emission Bandwidth Limit

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

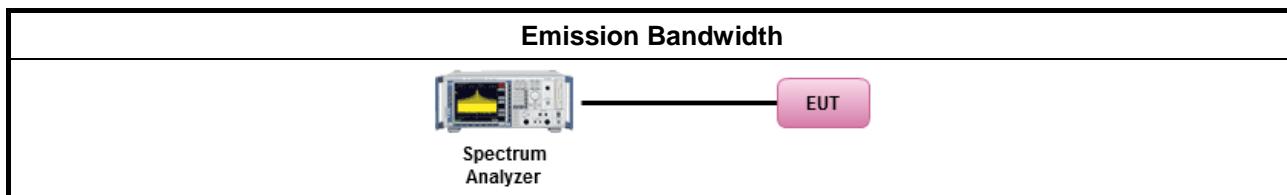
##### 3.1.2 Measuring Instruments

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

##### 3.1.3 Test Procedures

Test Method	
▪	For the emission bandwidth shall be measured using one of the options below:
<input checked="" type="checkbox"/>	Refer as FCC KDB 789033, clause C for EBW and clause D for OBW measurement.
<input type="checkbox"/>	Refer as ANSI C63.10, clause 6.9.1 for occupied bandwidth testing.
<input type="checkbox"/>	Refer as IC RSS-Gen, clause 4.6 for bandwidth testing.

##### 3.1.4 Test Setup



##### 3.1.5 Test Result of Emission Bandwidth

Refer as Appendix A



## 3.2 Maximum Conducted Output Power

### 3.2.1 Maximum Conducted Output Power Limit

Maximum Conducted Output Power Limit	
<b>UNII Devices</b>	
<input type="checkbox"/> For the 5.15-5.25 GHz band:	<ul style="list-style-type: none"><li>Outdoor AP: the maximum conducted output power (<math>P_{out}</math>) shall not exceed the lesser of 1 W. If <math>G_{TX} &gt; 6</math> dBi, then <math>P_{out} = 30 - (G_{TX} - 6)</math>. e.i.r.p. at any elevation angle above 30 degrees <math>\leq 125</math> mW [21 dBm]</li><li>Indoor AP: the maximum conducted output power (<math>P_{out}</math>) shall not exceed the lesser of 1 W. If <math>G_{TX} &gt; 6</math> dBi, then <math>P_{out} = 30 - (G_{TX} - 6)</math></li><li>Point-to-point AP: the maximum conducted output power (<math>P_{out}</math>) shall not exceed the lesser of 1 W. If <math>G_{TX} &gt; 23</math> dBi, then <math>P_{out} = 30 - (G_{TX} - 23)</math>.</li><li>Mobile or Portable Client: the maximum conducted output power (<math>P_{out}</math>) shall not exceed the lesser of 250 mW. If <math>G_{TX} &gt; 6</math> dBi, then <math>P_{out} = 24 - (G_{TX} - 6)</math>.</li></ul>
<input checked="" type="checkbox"/> For the 5.25-5.35 GHz band, the maximum conducted output power ( $P_{out}$ ) shall not exceed the lesser of 250 mW or $11$ dBm + $10 \log B$ , where B is the 26 dB emission bandwidth in MHz. If $G_{TX} > 6$ dBi, then $P_{out} = 24 - (G_{TX} - 6)$ .	
<input checked="" type="checkbox"/> For the 5.47-5.725 GHz band, the maximum conducted output power ( $P_{out}$ ) shall not exceed the lesser of 250 mW or $11$ dBm + $10 \log B$ , where B is the 26 dB emission bandwidth in MHz. If $G_{TX} > 6$ dBi, then $P_{out} = 24 - (G_{TX} - 6)$ .	
<input checked="" type="checkbox"/> For the 5.725-5.85 GHz band:	<ul style="list-style-type: none"><li>Point-to-multipoint systems (P2M): the maximum conducted output power (<math>P_{out}</math>) shall not exceed the lesser of 1 W. If <math>G_{TX} &gt; 6</math> dBi, then <math>P_{out} = 30 - (G_{TX} - 6)</math>.</li><li>Point-to-point systems (P2P): the maximum conducted output power (<math>P_{out}</math>) shall not exceed the lesser of 1 W.</li></ul>
<b>LE-LAN Devices</b>	
<input type="checkbox"/> For the 5.15-5.25 GHz band, the maximum e.i.r.p. shall not exceed 200 mW or $10 + 10 \log B$ , dBm, whichever power is less. B is the 99% emission bandwidth in MHz.	
<input type="checkbox"/> For the 5.25-5.35 GHz band, the maximum e.i.r.p. shall not exceed 1.0 W or $17 + 10 \log B$ , dBm, whichever power is less. B is the 99% emission bandwidth in MHz	
<input type="checkbox"/> For the 5.47-5.6 GHz band and 5.65-5.725 GHz band, the maximum e.i.r.p. shall not exceed 1.0 W or $17 + 10 \log B$ , dBm, whichever power is less. B is the 99% emission bandwidth in MHz	
<input type="checkbox"/> For the 5.725-5.85 GHz band:	<ul style="list-style-type: none"><li>Point-to-multipoint systems (P2M): the maximum conducted output power (<math>P_{out}</math>) shall not exceed the lesser of 1 W. If <math>G_{TX} &gt; 6</math> dBi, then <math>P_{out} = 30 - (G_{TX} - 6)</math>.</li><li>Point-to-point systems (P2P): the maximum conducted output power (<math>P_{out}</math>) shall not exceed the lesser of 1 W.</li></ul>
$P_{out}$ = maximum conducted output power in dBm, $G_{TX}$ = the maximum transmitting antenna directional gain in dBi.	



### 3.2.2 Measuring Instruments

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

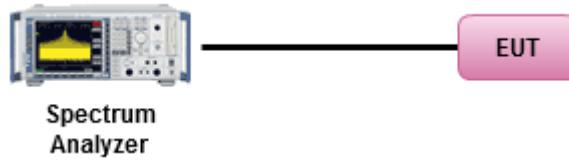
### 3.2.3 Test Procedures

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

### 3.2.4 Test Setup

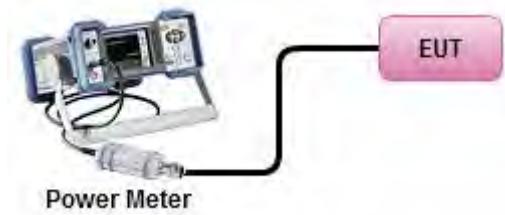
For Straddle channel test:

#### RF Output Power (Spectrum Analyzer)



For other test:

#### RF Output Power (Power Meter)



### 3.2.5 Test Result of Maximum Conducted Output Power

Refer as Appendix B



### 3.3 Peak Power Spectral Density

#### 3.3.1 Peak Power Spectral Density Limit

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

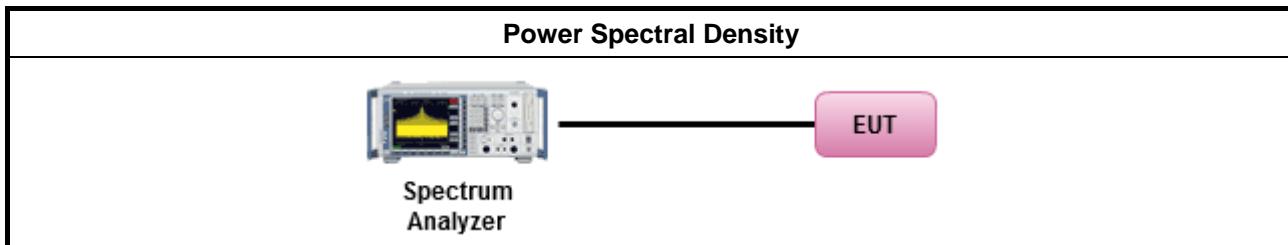


### 3.3.3 Test Procedures

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



### 3.3.4 Test Setup



### 3.3.5 Test Result of Peak Power Spectral Density

Refer as Appendix C



### 3.4 Unwanted Emissions

#### 3.4.1 Transmitter Unwanted Emissions Limit

Unwanted emissions below 1 GHz and restricted band emissions above 1GHz limit			
Frequency Range (MHz)	Field Strength (uV/m)	Field Strength (dBuV/m)	Measure Distance (m)
0.009~0.490	2400/F(kHz)	48.5 - 13.8	300
0.490~1.705	24000/F(kHz)	33.8 - 23	30
1.705~30.0	30	29	30
30~88	100	40	3
88~216	150	43.5	3
216~960	200	46	3
Above 960	500	54	3

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

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

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



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

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

### 3.4.2 Measuring Instruments

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

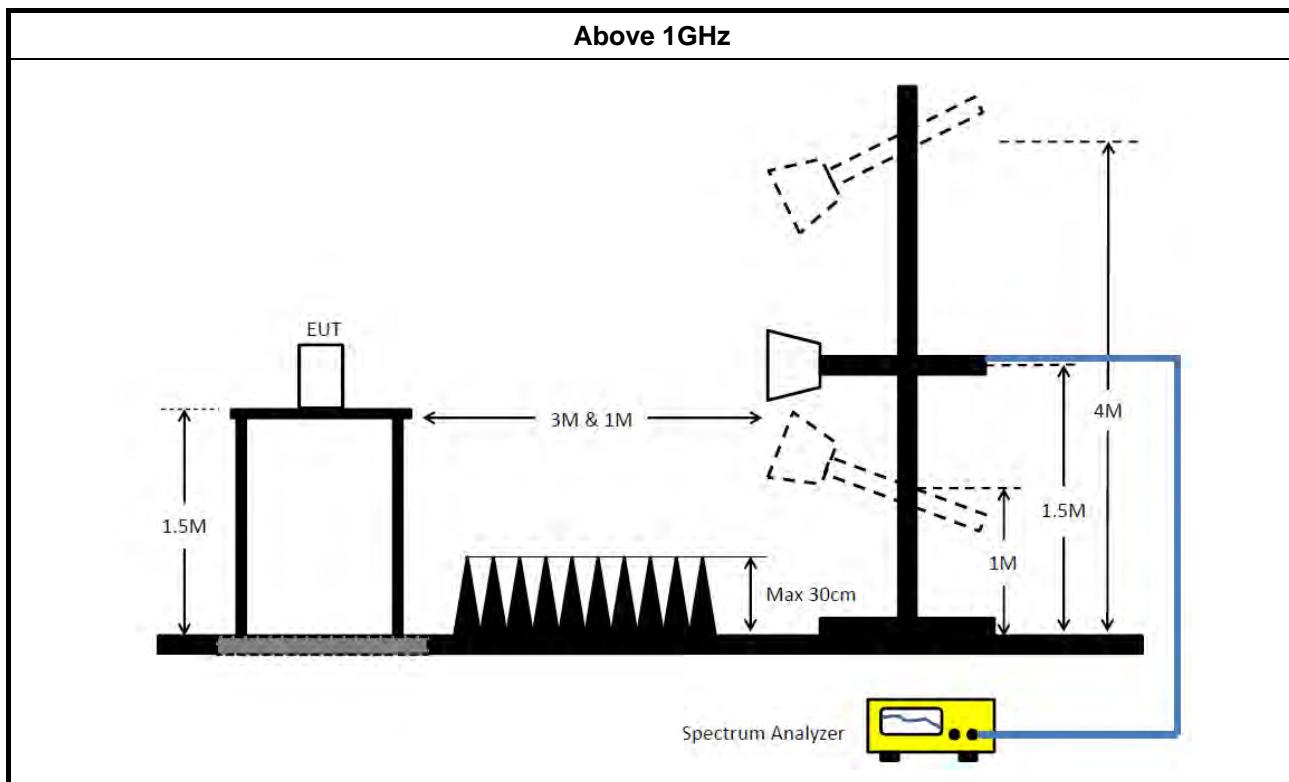


### 3.4.3 Test Procedures

Test Method	
<ul style="list-style-type: none"><li>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).</li></ul>	
<ul style="list-style-type: none"><li>The average emission levels shall be measured in [duty cycle <math>\geq</math> 98 or duty factor].</li></ul>	
<ul style="list-style-type: none"><li>For the transmitter unwanted emissions shall be measured using following options below:</li></ul>	
<ul style="list-style-type: none"><li>Refer as FCC KDB 789033, clause G2) for unwanted emissions into non-restricted bands.</li></ul>	
<ul style="list-style-type: none"><li>Refer as FCC KDB 789033, clause G1) for unwanted emissions into restricted bands.</li></ul>	
	<input type="checkbox"/> Refer as FCC KDB 789033, G6) Method AD (Trace Averaging).
	<input checked="" type="checkbox"/> Refer as FCC KDB 789033, G6) Method VB (Reduced VBW).
	<input type="checkbox"/> Refer as ANSI C63.10, clause 11.12.2.5.3 (Reduced VBW). $VBW \geq 1/T$ , where T is pulse time.
	<input type="checkbox"/> Refer as ANSI C63.10, clause 7.5 average value of pulsed emissions.
	<input checked="" type="checkbox"/> Refer as FCC KDB 789033, clause G5) measurement procedure peak limit.
	<input type="checkbox"/> Refer as ANSI C63.10, clause 4.1.4.2.2 measurement procedure peak limit.
	<ul style="list-style-type: none"><li>For radiated measurement.</li></ul>
	<ul style="list-style-type: none"><li>Refer as ANSI C63.10, clause 6.4 for radiated emissions below 30 MHz and test distance is 3m.</li></ul>
	<ul style="list-style-type: none"><li>Refer as ANSI C63.10, clause 6.5 for radiated emissions 30 MHz to 1 GHz and test distance is 3m.</li></ul>
	<ul style="list-style-type: none"><li>Refer as ANSI C63.10, clause 6.6 for radiated emissions above 1GHz.</li></ul>
<ul style="list-style-type: none"><li>The any unwanted emissions level shall not exceed the fundamental emission level.</li></ul>	
<ul style="list-style-type: none"><li>All amplitude of spurious emissions that are attenuated by more than 20 dB below the permissible value has no need to be reported.</li></ul>	



### 3.4.4 Test Setup



### 3.4.5 Measurement Results Calculation

The measured Level is calculated using:

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

### 3.4.6 Test Result of Transmitter Unwanted Emissions

Refer as Appendix D



## 4 Test Equipment and Calibration Data

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Calibration Due Date	Remark
Horn Antenna	SCHWARZBECK	BBHA9120D	9120D-1292	1GHz~18GHz	Jul. 17, 2019	Jul. 16, 2020	Radiation (03CH06-CB)
Horn Antenna	SCHWARZBECK	BBHA 9170	BBHA9170507	15GHz ~ 40GHz	Jun. 12, 2019	Jun. 11, 2020	Radiation (03CH06-CB)
Pre-Amplifier	Agilent	83017A	MY53270064	0.5GHz ~ 26.5GHz	May 08, 2019	May 07, 2020	Radiation (03CH06-CB)
Pre-Amplifier	MITEQ	TTA1840-35-HG	1864479	18GHz ~ 40GHz	Jul. 03, 2019	Jul. 02, 2020	Radiation (03CH06-CB)
Spectrum analyzer	R&S	FSP40	100080	9kHz~40GHz	Oct. 21, 2019	Oct. 20, 2020	Radiation (03CH06-CB)
RF Cable-high	HUBER+SUHNER	RG402	High Cable-05	1GHz~18GHz	Oct. 07, 2019	Oct. 06, 2020	Radiation (03CH06-CB)
RF Cable-high	HUBER+SUHNER	RG402	High Cable-05+24	1GHz~18GHz	Oct. 07, 2019	Oct. 06, 2020	Radiation (03CH06-CB)
RF Cable-high	Woken	RG402	High Cable-40G#1	18GHz ~ 40 GHz	Jul. 24, 2019	Jul. 23, 2020	Radiation (03CH06-CB)
RF Cable-high	Woken	RG402	High Cable-40G#2	18GHz ~ 40 GHz	Jul. 24, 2019	Jul. 23, 2020	Radiation (03CH06-CB)
Spectrum analyzer	R&S	FSV40	101027	9kHz~40GHz	Jul. 02, 2019	Jul. 01, 2020	Conducted (TH02-CB)
Power Sensor	Anritsu	MA2411B	1126203	300MHz~40GHz	Sep. 11, 2019	Sep. 10, 2020	Conducted (TH02-CB)
Power Meter	Anritsu	ML2495A	1210004	300MHz~40GHz	Sep. 11, 2019	Sep. 10, 2020	Conducted (TH02-CB)
RF Cable-high	Woken	RG402	High Cable-01	1 GHz – 26.5 GHz	Oct. 07, 2019	Oct. 06, 2020	Conducted (TH02-CB)
RF Cable-high	Woken	RG402	High Cable-02	1 GHz – 26.5 GHz	Oct. 07, 2019	Oct. 06, 2020	Conducted (TH02-CB)
RF Cable-high	Woken	RG402	High Cable-3	1 GHz – 26.5 GHz	Oct. 07, 2019	Oct. 06, 2020	Conducted (TH02-CB)
RF Cable-high	Woken	RG402	High Cable-04	1 GHz – 26.5 GHz	Oct. 07, 2019	Oct. 06, 2020	Conducted (TH02-CB)
RF Cable-high	Woken	RG402	High Cable-05	1 GHz – 26.5 GHz	Oct. 07, 2019	Oct. 06, 2020	Conducted (TH02-CB)

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

**Summary**

Mode	Max-N dB (Hz)	Max-OBW (Hz)	ITU-Code	Min-N dB (Hz)	Min-OBW (Hz)
5.25-5.35GHz	-	-	-	-	-
802.11a_Nss1,(6Mbps)_2TX	19.05M	16.404M	16M4D1D	18.78M	16.38M
802.11ac VHT20_Nss1,(MCS0)_2TX	20.01M	17.58M	17M6D1D	19.86M	17.569M
802.11ac VHT40_Nss1,(MCS0)_2TX	39.6M	35.926M	35M9D1D	39.36M	35.891M
802.11ac VHT80_Nss1,(MCS0)_2TX	83.52M	75.664M	75M7D1D	83.16M	75.642M
5.47-5.725GHz	-	-	-	-	-
802.11a_Nss1,(6Mbps)_2TX	18.93M	16.394M	16M4D1D	14.525M	13.226M
802.11ac VHT20_Nss1,(MCS0)_2TX	19.86M	17.577M	17M6D1D	14.945M	13.821M
802.11ac VHT40_Nss1,(MCS0)_2TX	39.66M	35.94M	35M9D1D	35.663M	32.949M
802.11ac VHT80_Nss1,(MCS0)_2TX	83.52M	75.779M	75M8D1D	76.415M	72.58M
5.725-5.85GHz	-	-	-	-	-
802.11a_Nss1,(6Mbps)_2TX	3.135M	3.439M	3M44D1D	3.12M	3.388M
802.11ac VHT20_Nss1,(MCS0)_2TX	3.75M	3.926M	3M93D1D	3.75M	3.925M
802.11ac VHT40_Nss1,(MCS0)_2TX	3.12M	3.617M	3M62D1D	3.105M	3.487M
802.11ac VHT80_Nss1,(MCS0)_2TX	3.12M	4.789M	4M79D1D	3.105M	4.37M

**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

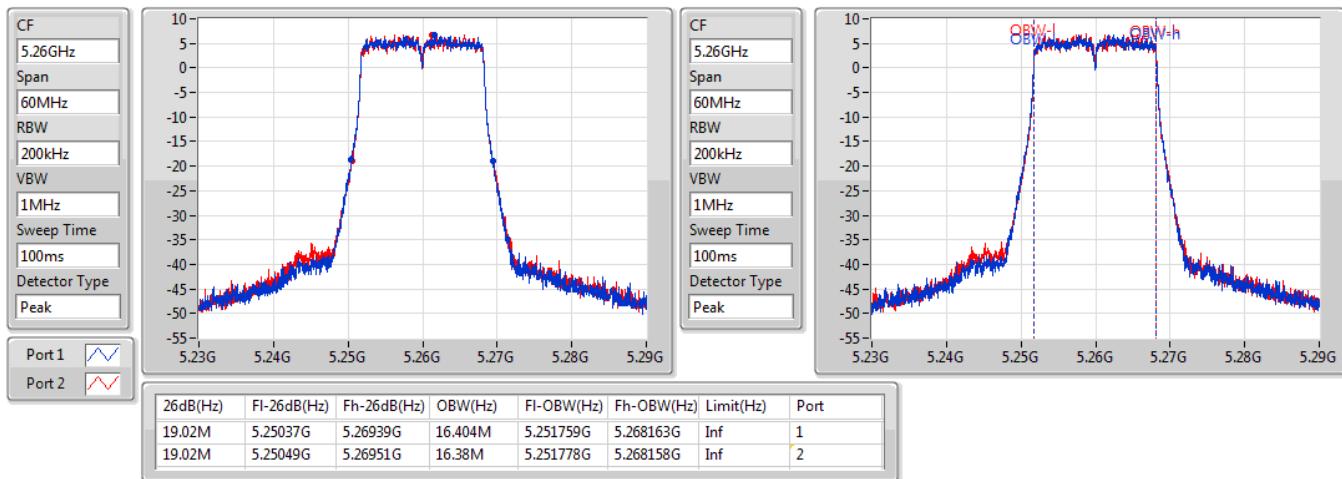
Mode	Result	Limit (Hz)	Port 1-dB (Hz)	Port 1-OBW (Hz)	Port 2-dB (Hz)	Port 2-OBW (Hz)
802.11a_Nss1,(6Mbps)_2TX	-	-	-	-	-	-
5260MHz	Pass	Inf	19.02M	16.404M	19.02M	16.38M
5300MHz	Pass	Inf	19.05M	16.394M	18.9M	16.385M
5320MHz	Pass	Inf	19.02M	16.392M	18.78M	16.384M
5500MHz	Pass	Inf	18.84M	16.339M	18.93M	16.382M
5580MHz	Pass	Inf	18.87M	16.373M	18.9M	16.379M
5700MHz	Pass	Inf	18.84M	16.394M	18.87M	16.383M
5720MHz Straddle 5.47-5.725GHz	Pass	Inf	14.525M	13.25M	14.56M	13.226M
5720MHz Straddle 5.725-5.85GHz	Pass	500k	3.12M	3.388M	3.135M	3.439M
802.11ac VHT20_Nss1,(MCS0)_2TX	-	-	-	-	-	-
5260MHz	Pass	Inf	20.01M	17.58M	19.92M	17.572M
5300MHz	Pass	Inf	19.86M	17.577M	19.86M	17.571M
5320MHz	Pass	Inf	19.92M	17.569M	19.89M	17.569M
5500MHz	Pass	Inf	19.71M	17.496M	19.86M	17.565M
5580MHz	Pass	Inf	19.77M	17.55M	19.74M	17.568M
5700MHz	Pass	Inf	19.77M	17.577M	19.83M	17.577M
5720MHz Straddle 5.47-5.725GHz	Pass	Inf	14.945M	13.821M	14.963M	13.822M
5720MHz Straddle 5.725-5.85GHz	Pass	500k	3.75M	3.925M	3.75M	3.926M
802.11ac VHT40_Nss1,(MCS0)_2TX	-	-	-	-	-	-
5270MHz	Pass	Inf	39.48M	35.926M	39.6M	35.92M
5310MHz	Pass	Inf	39.36M	35.891M	39.54M	35.918M
5510MHz	Pass	Inf	39.36M	35.94M	39.48M	35.87M
5550MHz	Pass	Inf	39.24M	35.928M	39.66M	35.888M
5670MHz	Pass	Inf	39.18M	35.834M	39.54M	35.879M
5710MHz Straddle 5.47-5.725GHz	Pass	Inf	35.663M	32.949M	35.925M	33.021M
5710MHz Straddle 5.725-5.85GHz	Pass	500k	3.105M	3.487M	3.12M	3.617M
802.11ac VHT80_Nss1,(MCS0)_2TX	-	-	-	-	-	-
5290MHz	Pass	Inf	83.52M	75.664M	83.16M	75.642M
5530MHz	Pass	Inf	82.92M	75.779M	83.4M	75.634M
5610MHz	Pass	Inf	82.2M	75.623M	83.52M	75.62M
5690MHz Straddle 5.47-5.725GHz	Pass	Inf	76.415M	72.587M	76.803M	72.58M
5690MHz Straddle 5.725-5.85GHz	Pass	500k	3.105M	4.37M	3.12M	4.789M

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

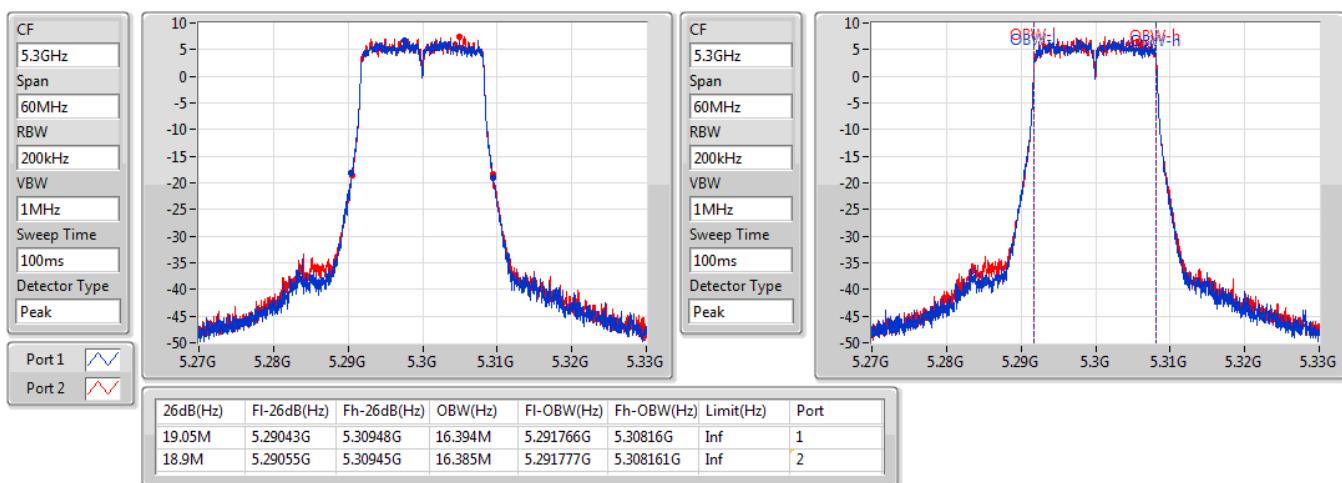
Port X-OBW = Port X 99% occupied bandwidth;

**802.11a\_Nss1,(6Mbps)\_2TX**
**EBW**
**5260MHz**

25/02/2020

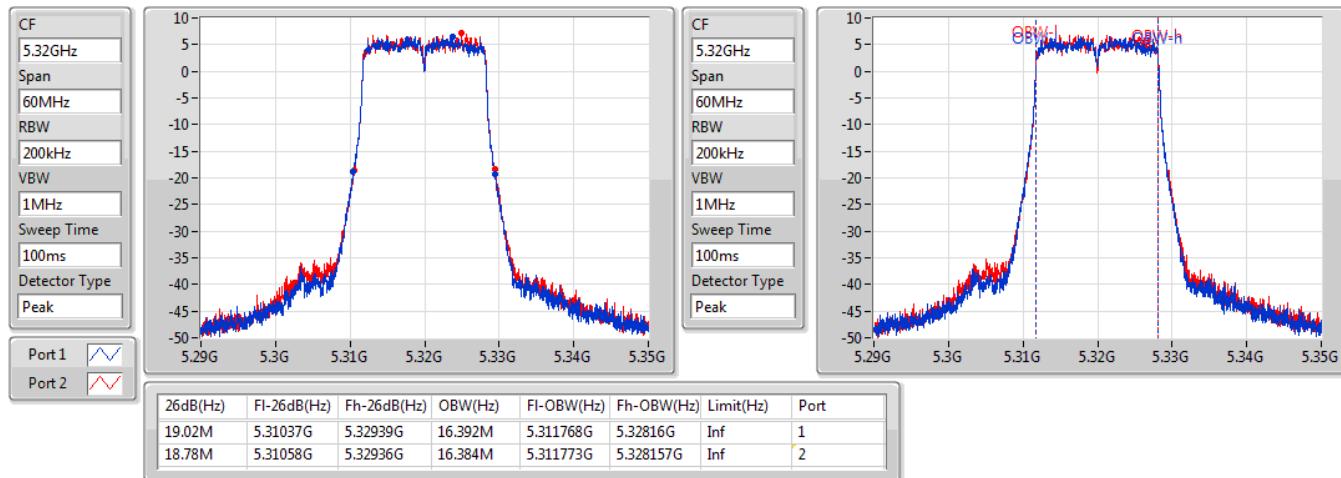

**802.11a\_Nss1,(6Mbps)\_2TX**
**EBW**
**5300MHz**

25/02/2020

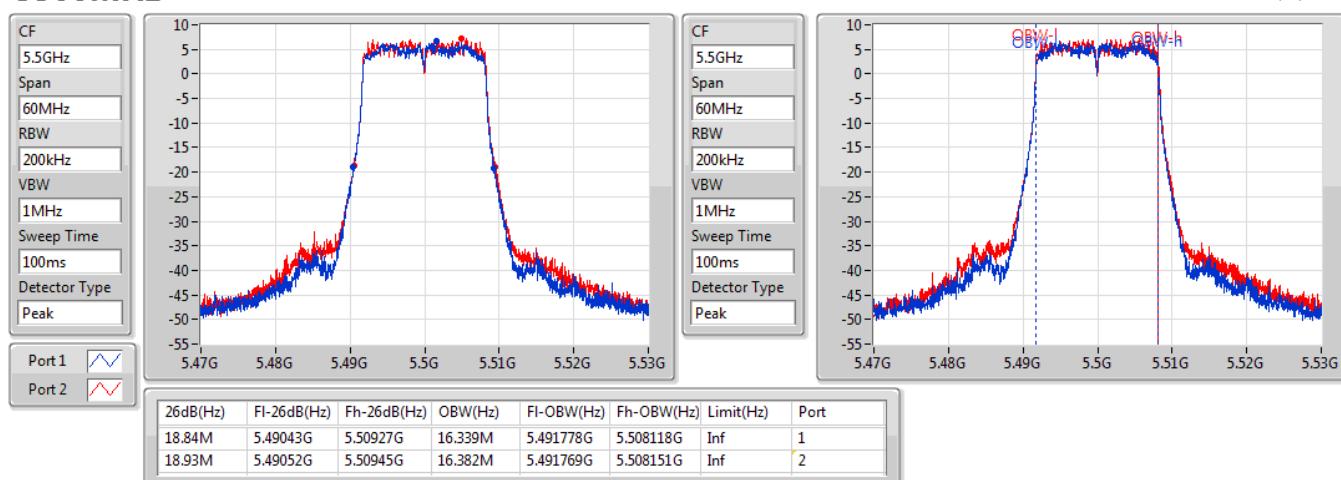


**802.11a\_Nss1,(6Mbps)\_2TX**
**EBW**
**5320MHz**

25/02/2020

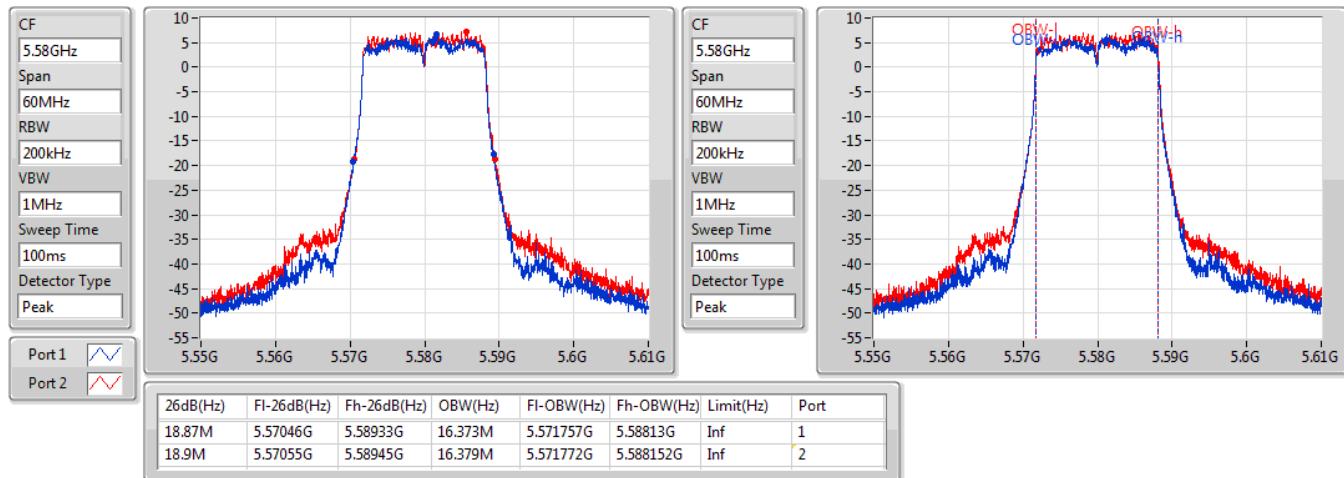

**802.11a\_Nss1,(6Mbps)\_2TX**
**EBW**
**5500MHz**

25/02/2020

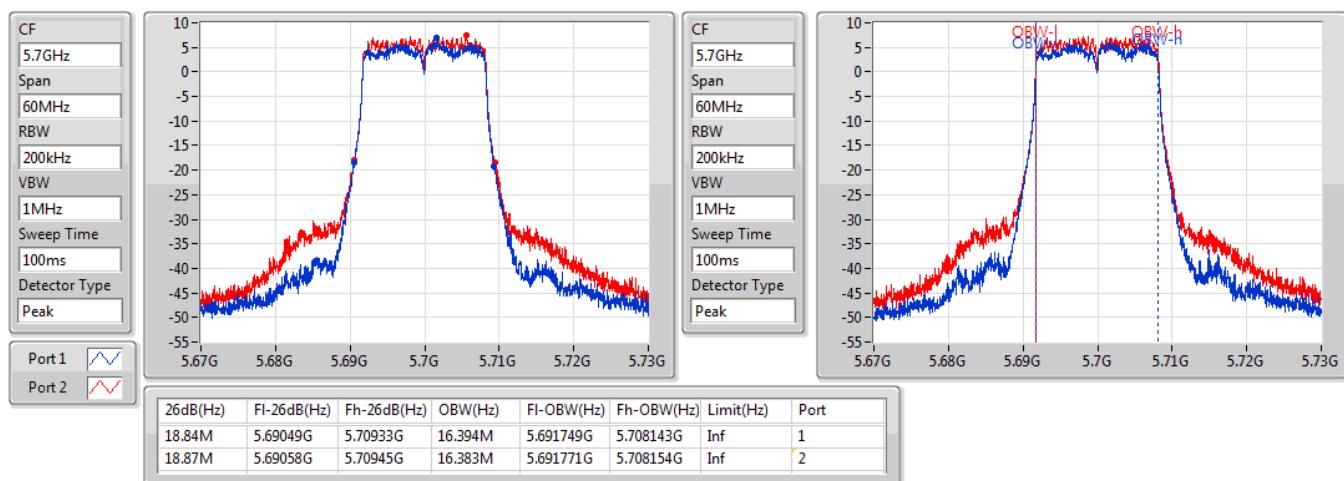


**802.11a\_Nss1,(6Mbps)\_2TX**
**EBW**
**5580MHz**

25/02/2020

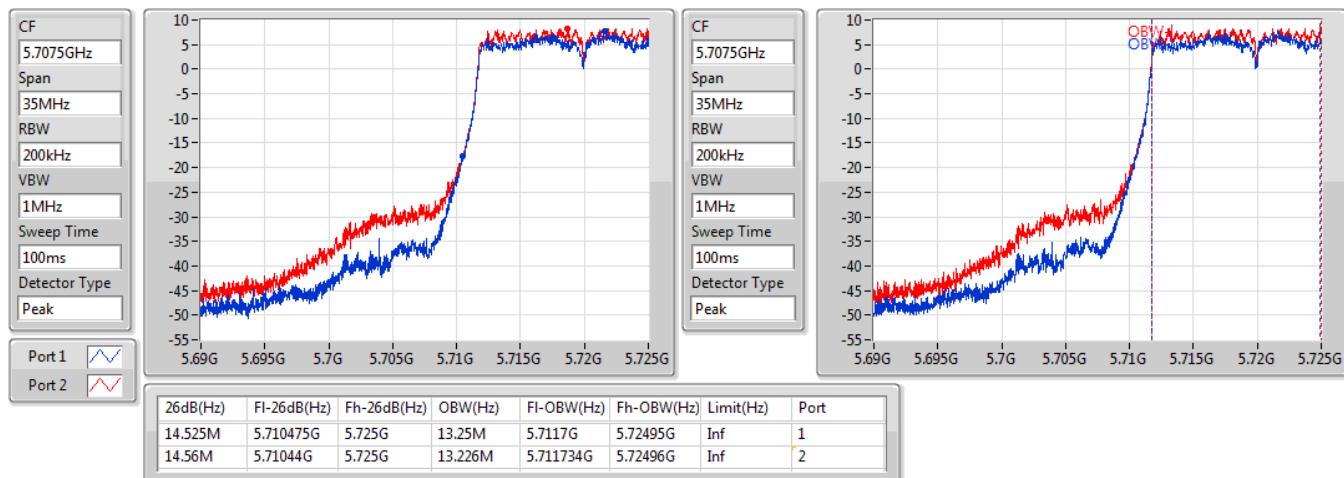

**802.11a\_Nss1,(6Mbps)\_2TX**
**EBW**
**5700MHz**

25/02/2020

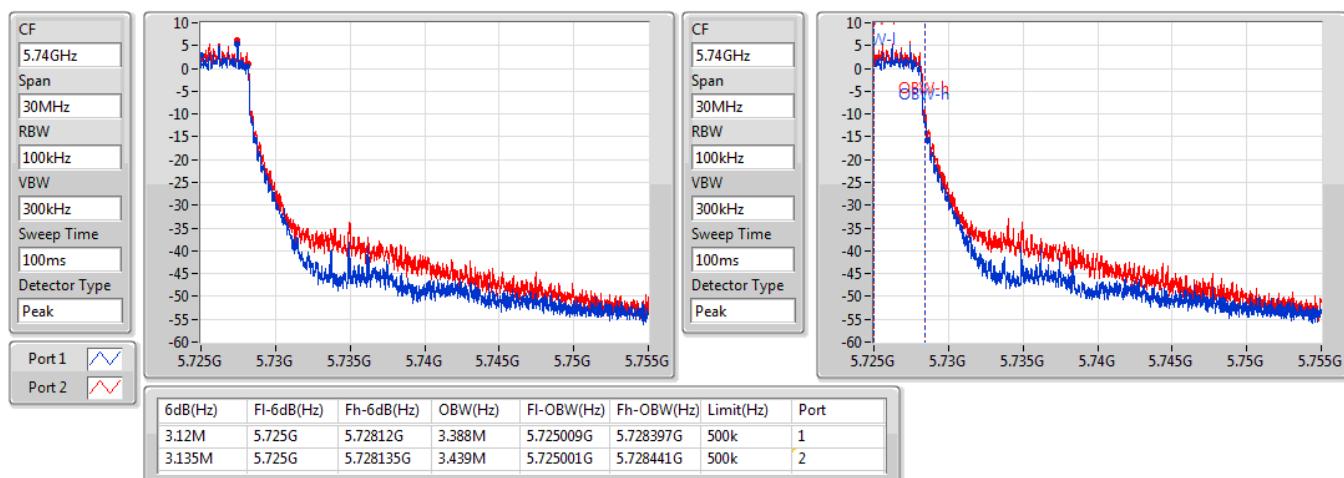


**802.11a\_Nss1,(6Mbps)\_2TX**
**EBW**
**5720MHz Straddle 5.47-5.725GHz**

25/02/2020

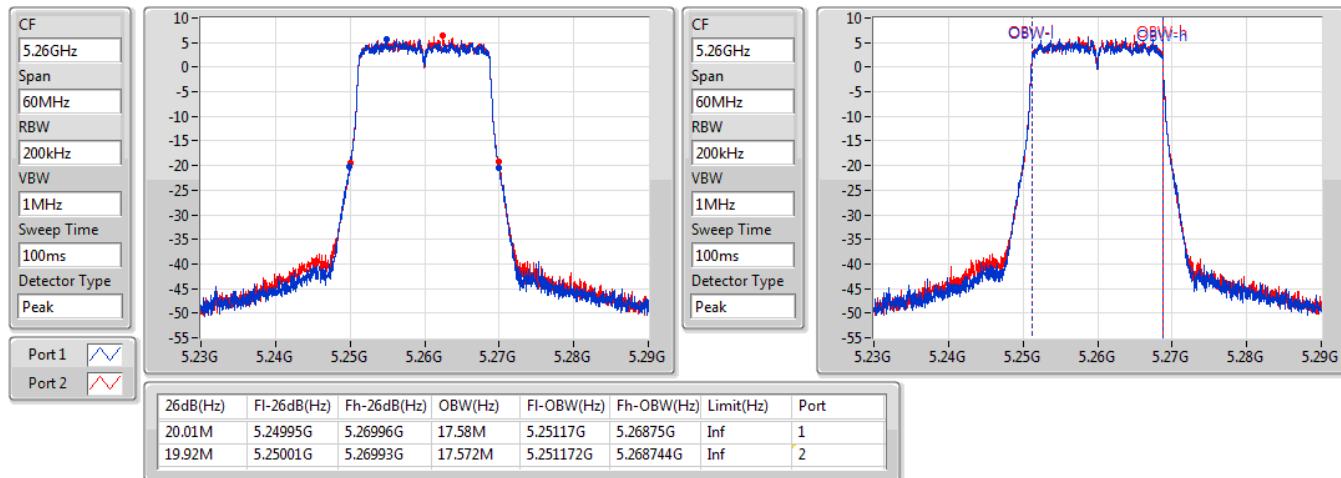

**802.11a\_Nss1,(6Mbps)\_2TX**
**EBW**
**5720MHz Straddle 5.725-5.85GHz**

25/02/2020

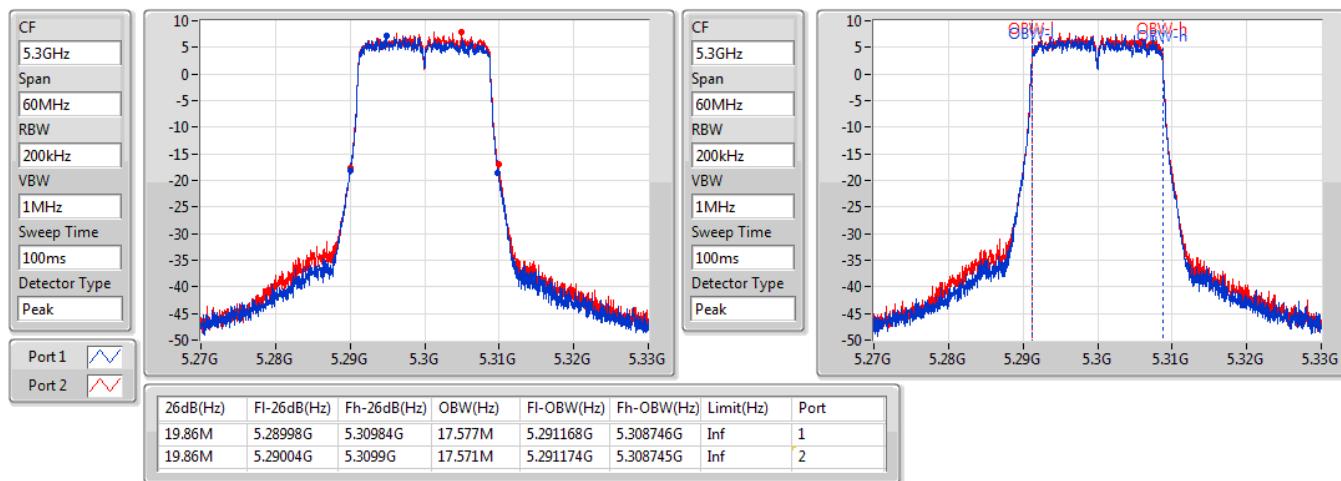


**802.11ac VHT20\_Nss1,(MCS0)\_2TX**
**EBW**
**5260MHz**

25/02/2020

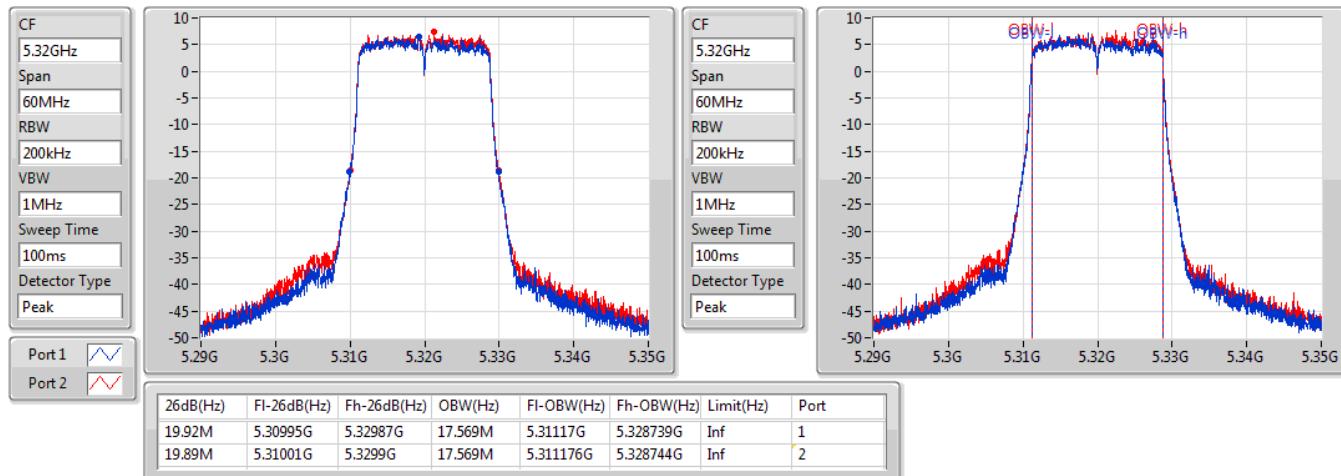

**802.11ac VHT20\_Nss1,(MCS0)\_2TX**
**EBW**
**5300MHz**

25/02/2020

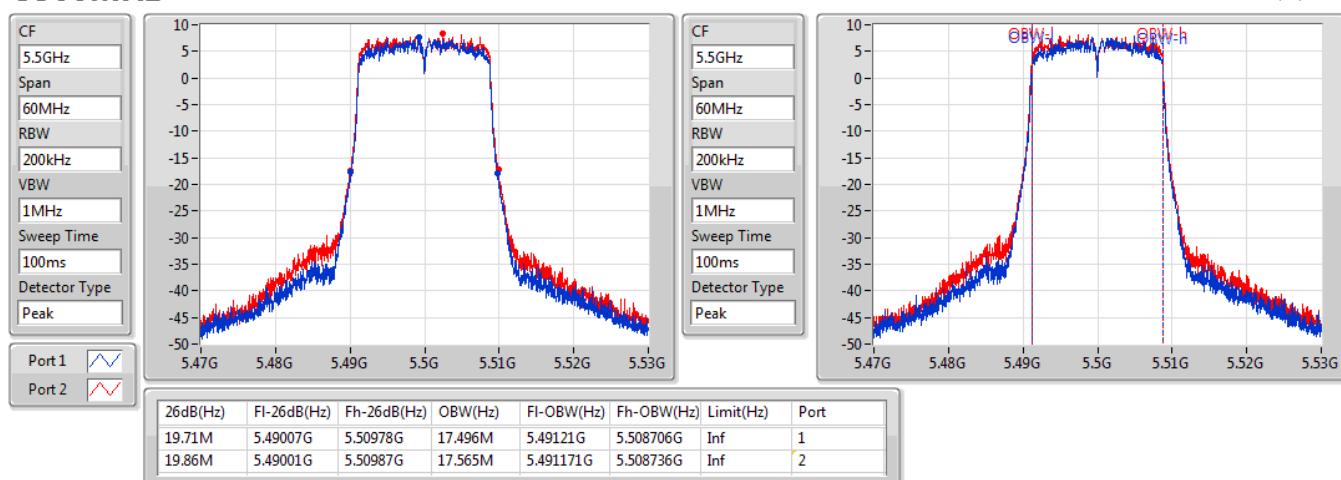


**802.11ac VHT20\_Nss1,(MCS0)\_2TX**
**EBW**
**5320MHz**

25/02/2020

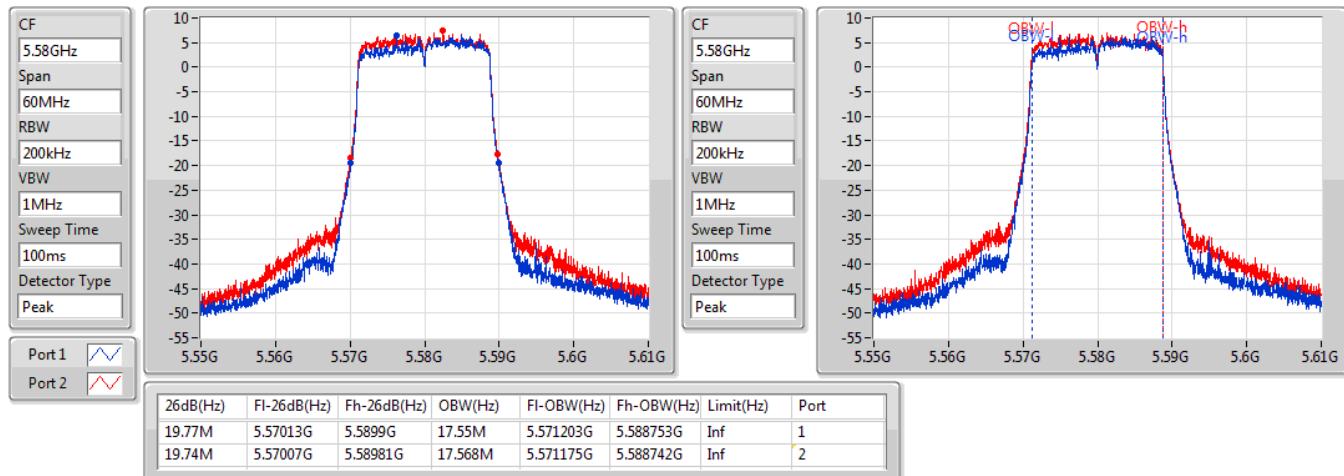

**802.11ac VHT20\_Nss1,(MCS0)\_2TX**
**EBW**
**5500MHz**

25/02/2020

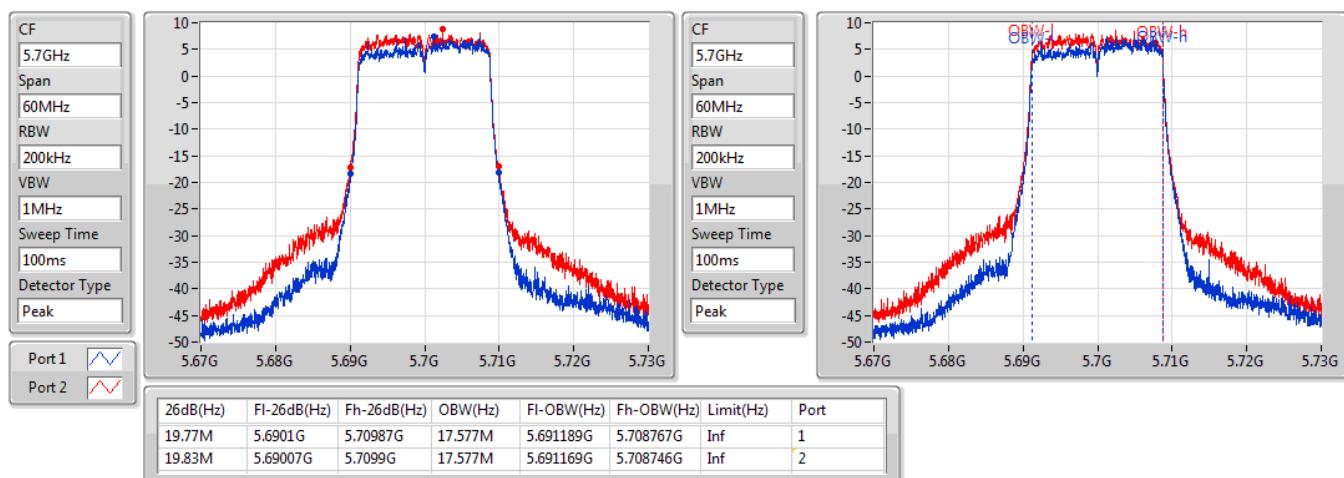


**802.11ac VHT20\_Nss1,(MCS0)\_2TX**
**EBW**
**5580MHz**

25/02/2020

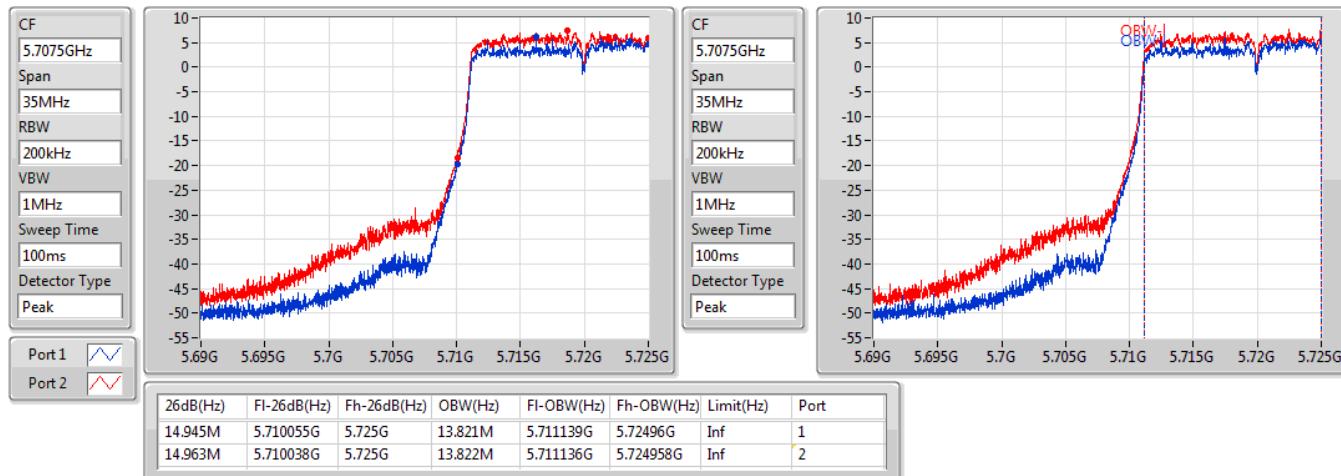

**802.11ac VHT20\_Nss1,(MCS0)\_2TX**
**EBW**
**5700MHz**

25/02/2020

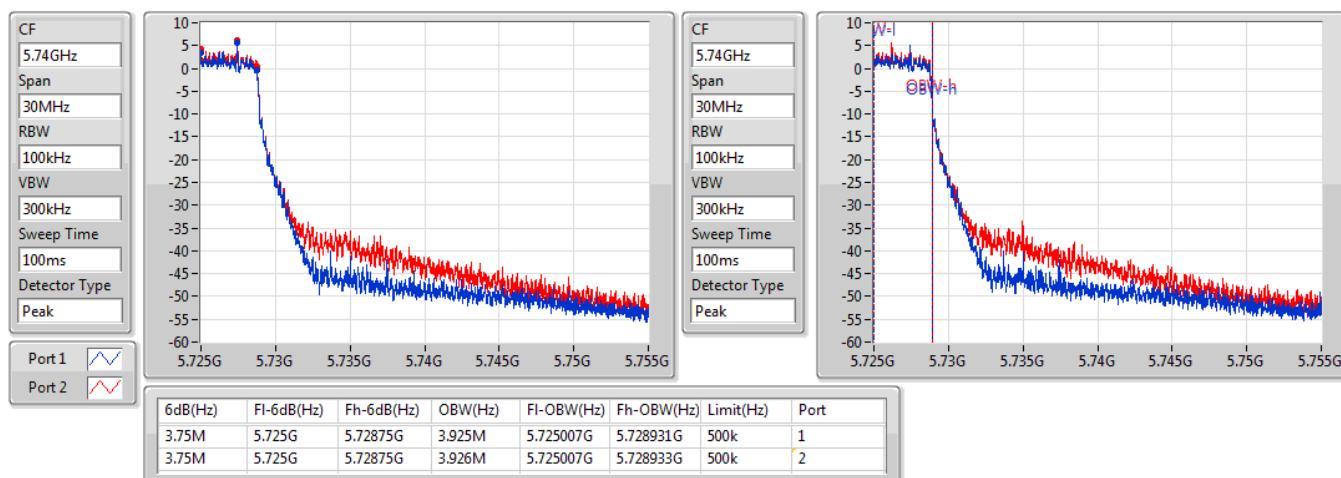


**802.11ac VHT20\_Nss1,(MCS0)\_2TX**
**EBW**
**5720MHz Straddle 5.47-5.725GHz**

26/02/2020

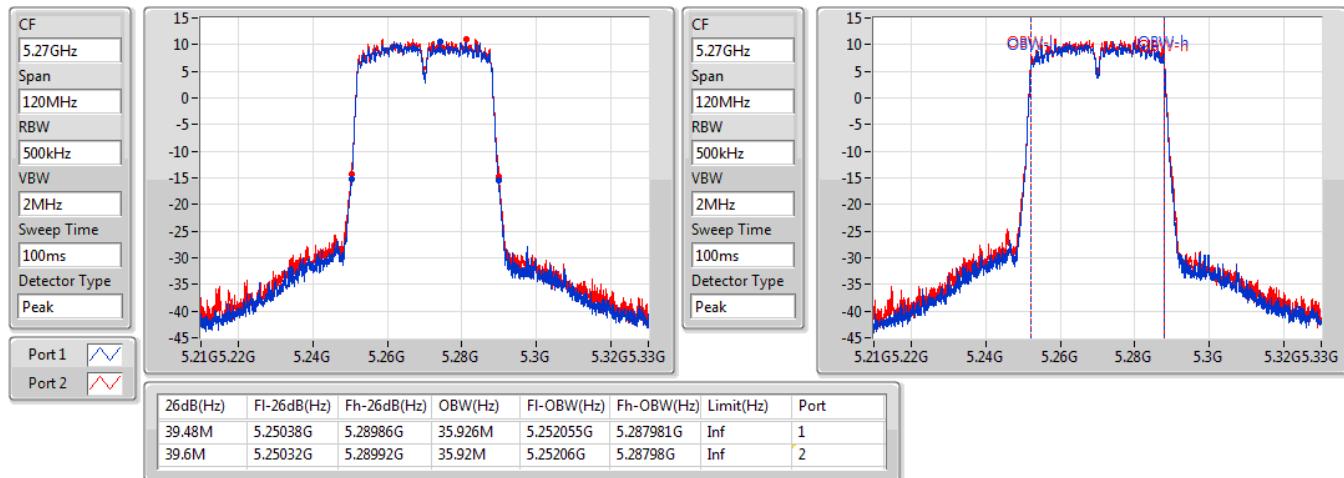

**802.11ac VHT20\_Nss1,(MCS0)\_2TX**
**EBW**
**5720MHz Straddle 5.725-5.85GHz**

26/02/2020

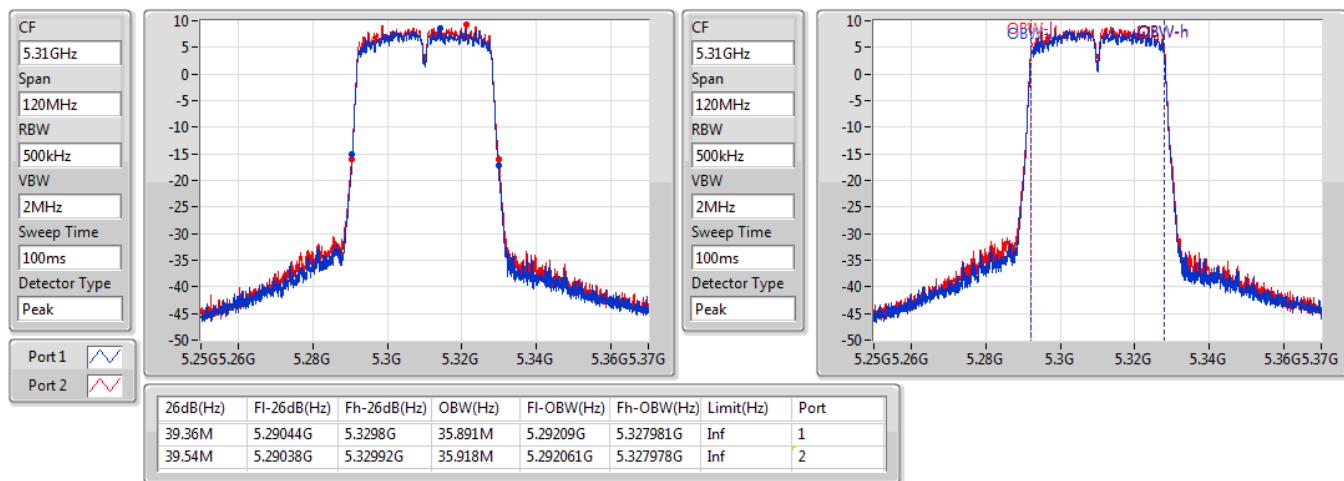


**802.11ac VHT40\_Nss1,(MCS0)\_2TX**
**EBW**
**5270MHz**

26/02/2020

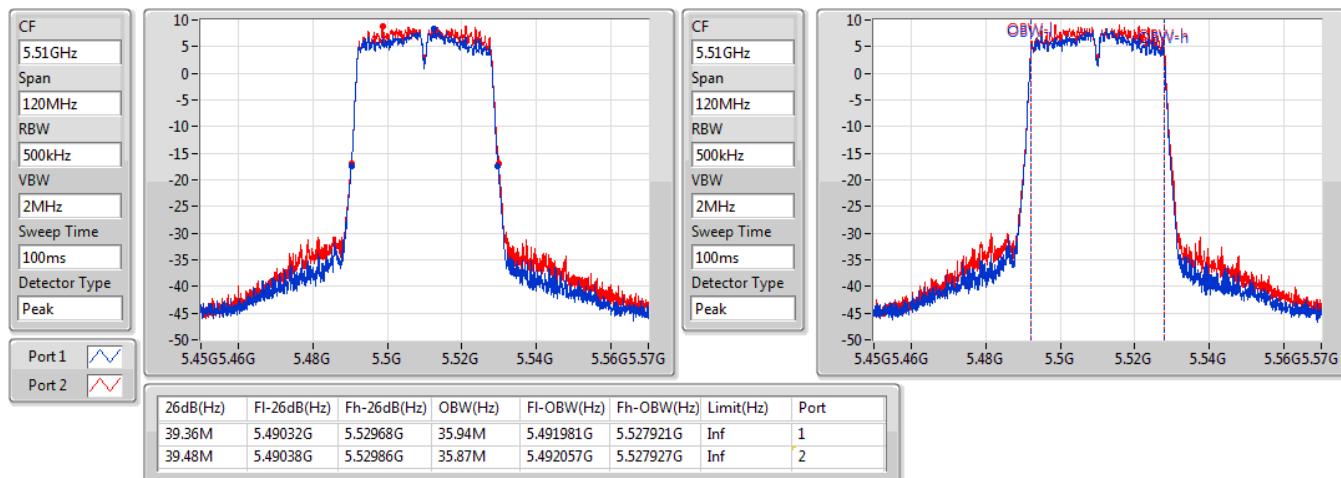

**802.11ac VHT40\_Nss1,(MCS0)\_2TX**
**EBW**
**5310MHz**

26/02/2020

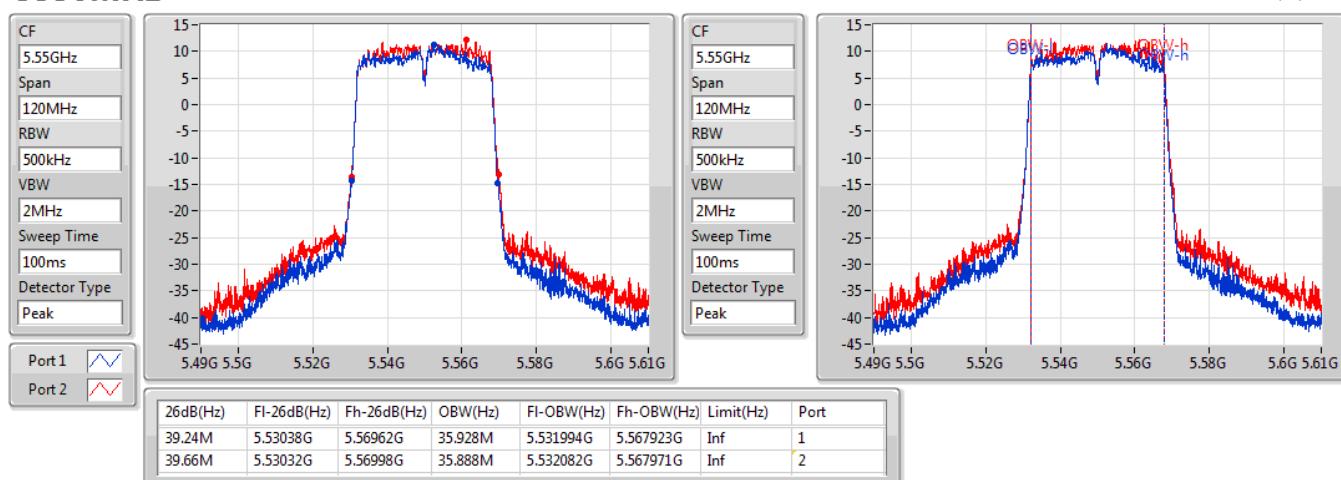


**802.11ac VHT40\_Nss1,(MCS0)\_2TX**
**EBW**
**5510MHz**

26/02/2020

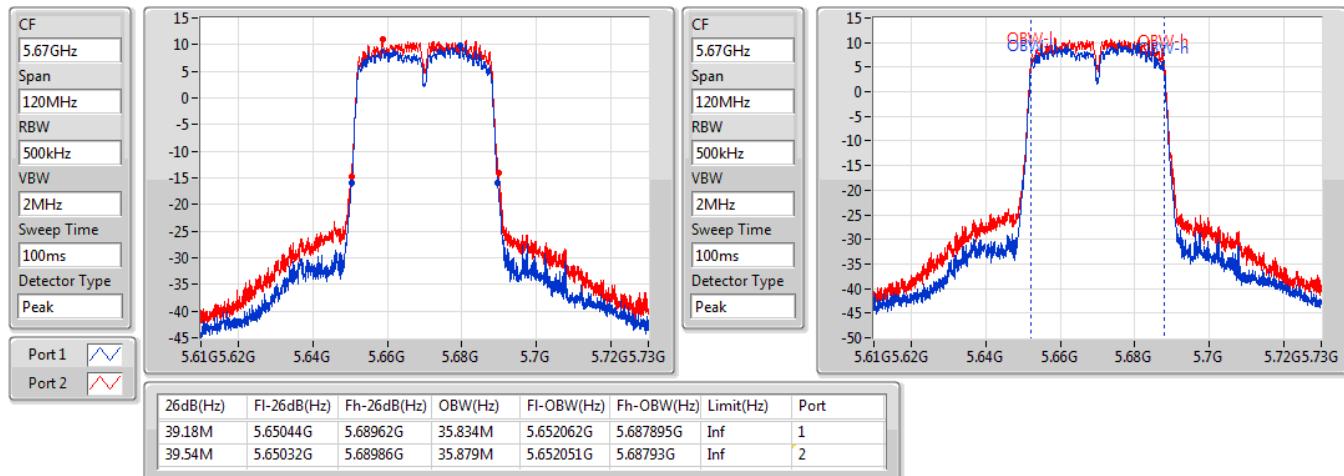

**802.11ac VHT40\_Nss1,(MCS0)\_2TX**
**EBW**
**5550MHz**

26/02/2020

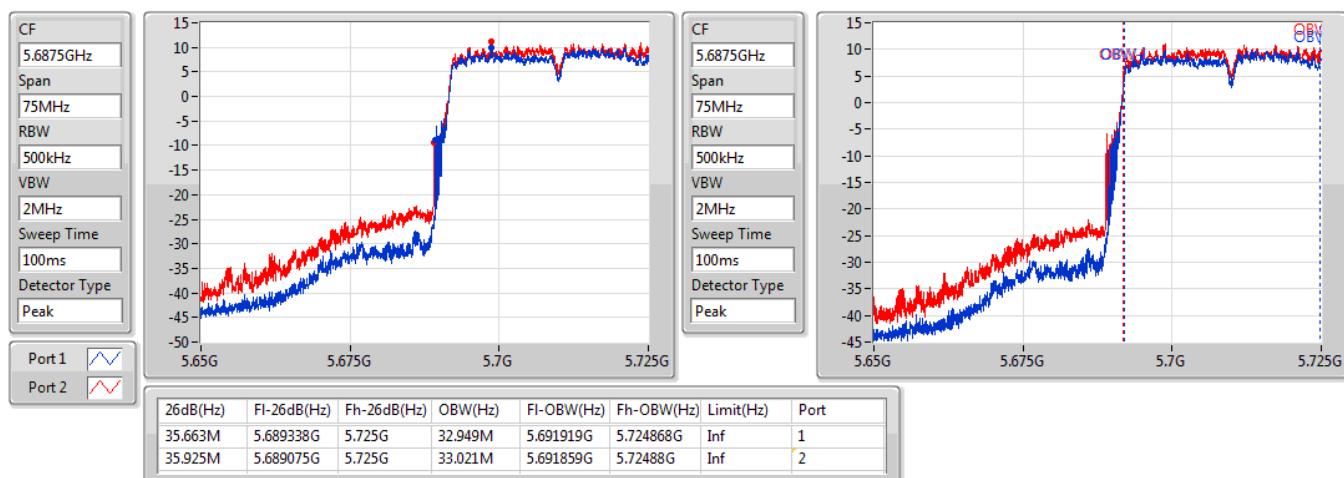


**802.11ac VHT40\_Nss1,(MCS0)\_2TX**
**EBW**
**5670MHz**

26/02/2020

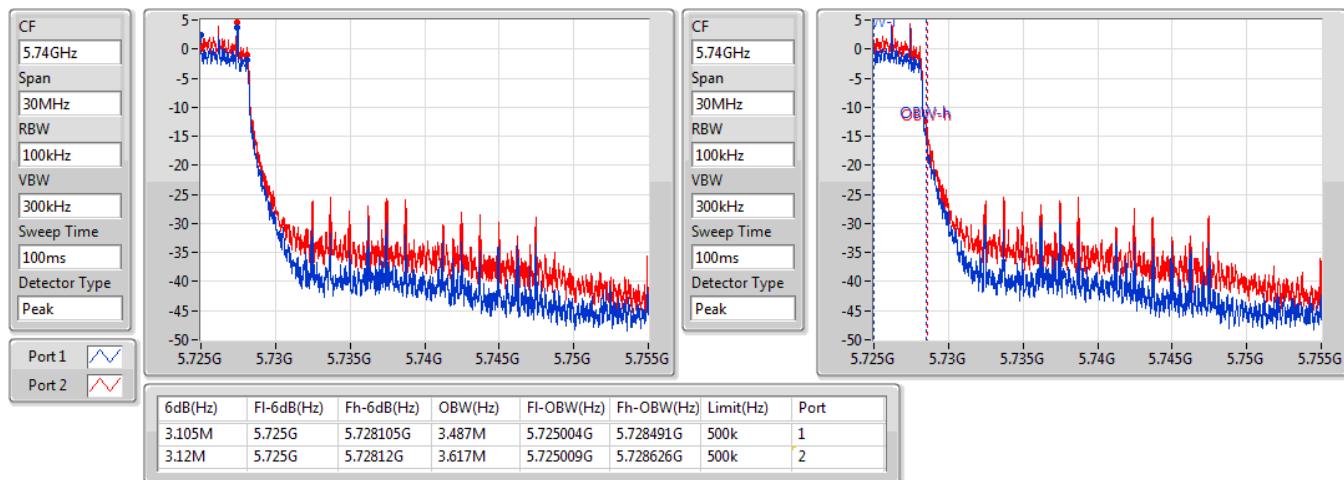

**802.11ac VHT40\_Nss1,(MCS0)\_2TX**
**EBW**
**5710MHz Straddle 5.47-5.725GHz**

26/02/2020

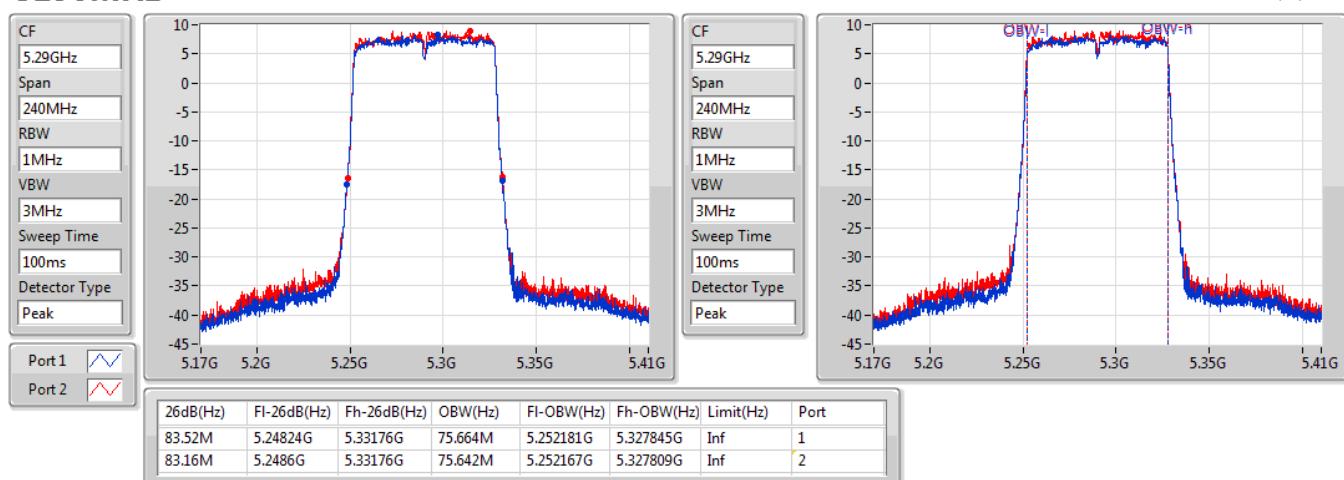


**802.11ac VHT40\_Nss1,(MCS0)\_2TX**
**EBW**
**5710MHz Straddle 5.725-5.85GHz**

26/02/2020

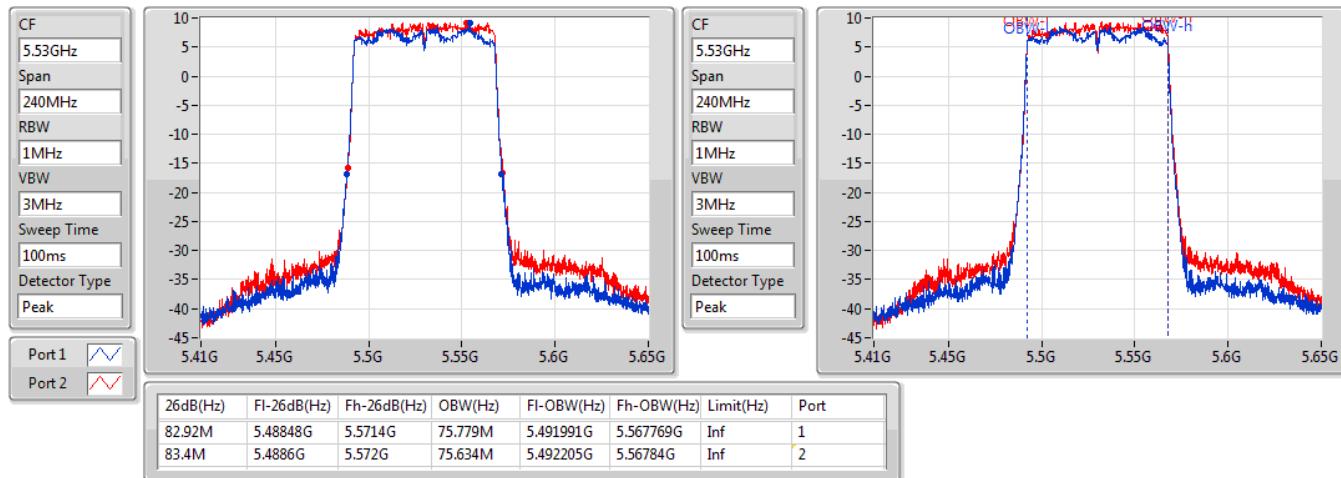

**802.11ac VHT80\_Nss1,(MCS0)\_2TX**
**EBW**
**5290MHz**

26/02/2020

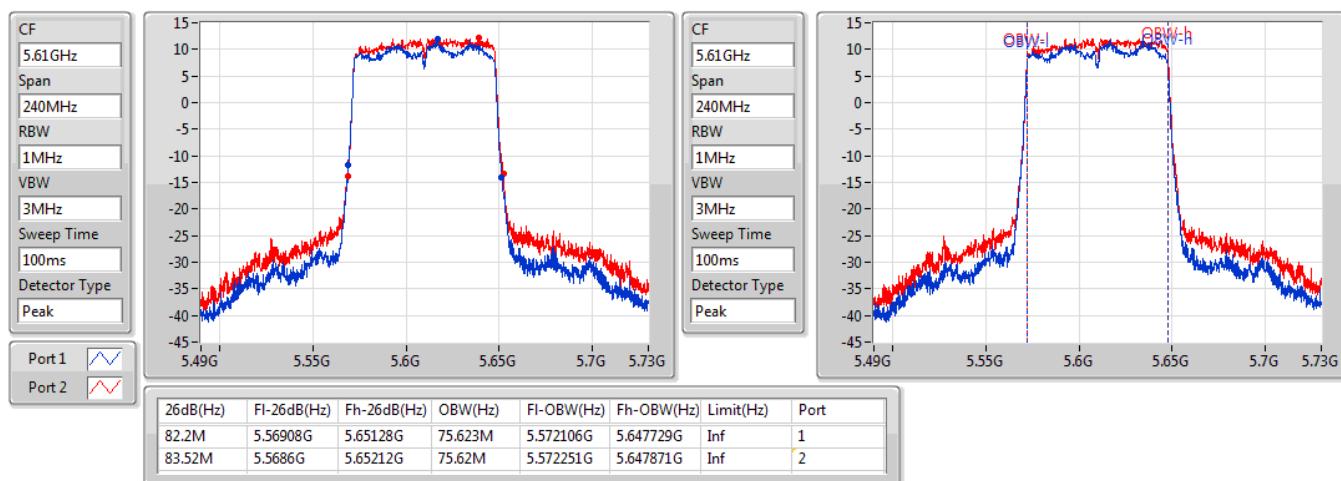


**802.11ac VHT80\_Nss1,(MCS0)\_2TX**
**EBW**
**5530MHz**

26/02/2020

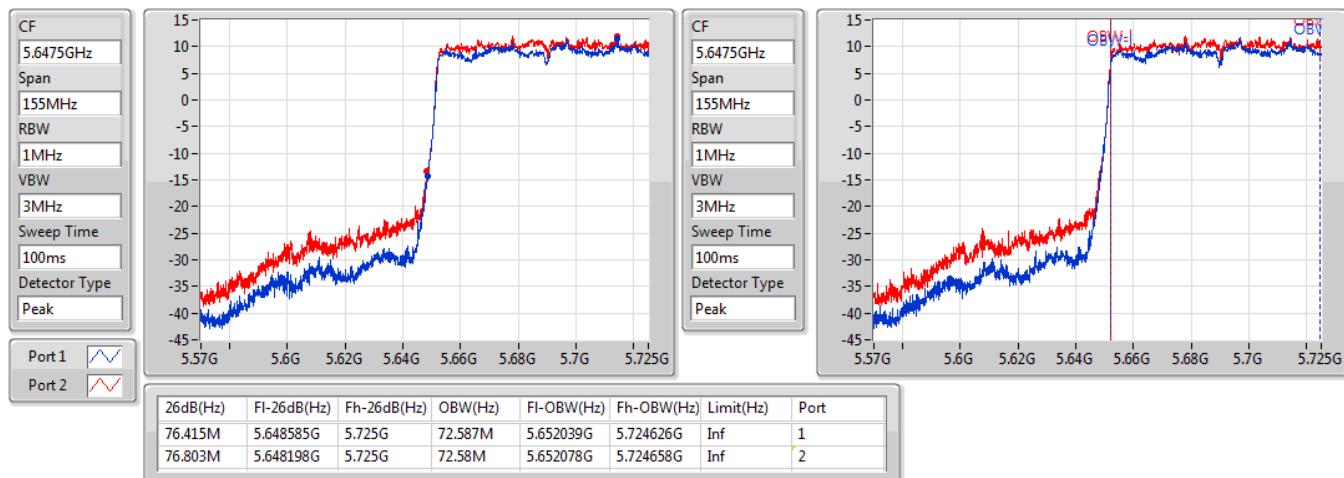

**802.11ac VHT80\_Nss1,(MCS0)\_2TX**
**EBW**
**5610MHz**

26/02/2020

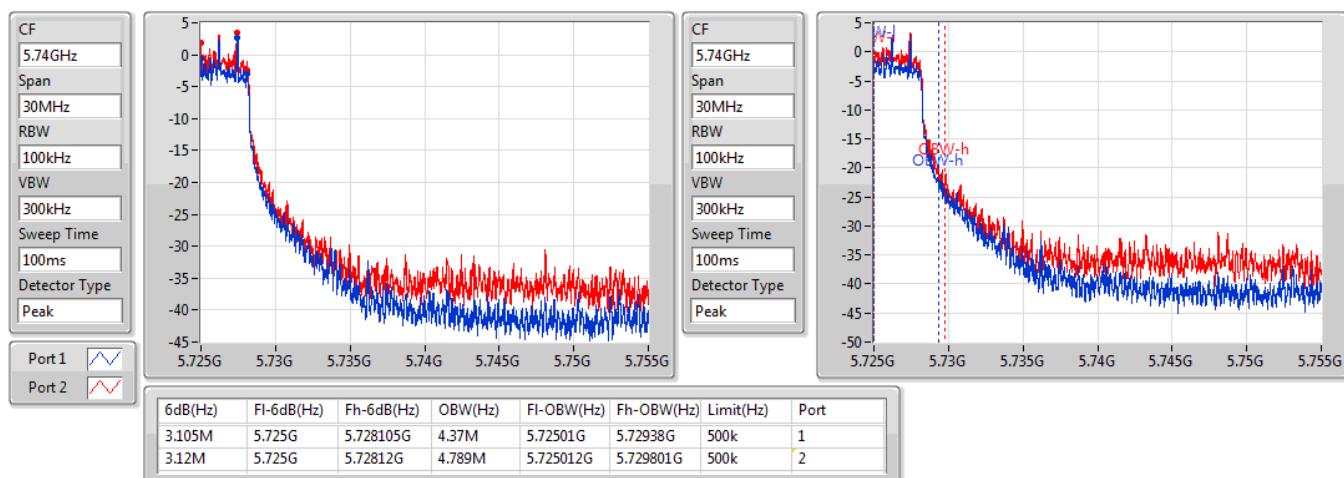


**802.11ac VHT80\_Nss1,(MCS0)\_2TX**
**EBW**
**5690MHz Straddle 5.47-5.725GHz**

26/02/2020


**802.11ac VHT80\_Nss1,(MCS0)\_2TX**
**EBW**
**5690MHz Straddle 5.725-5.85GHz**

26/02/2020



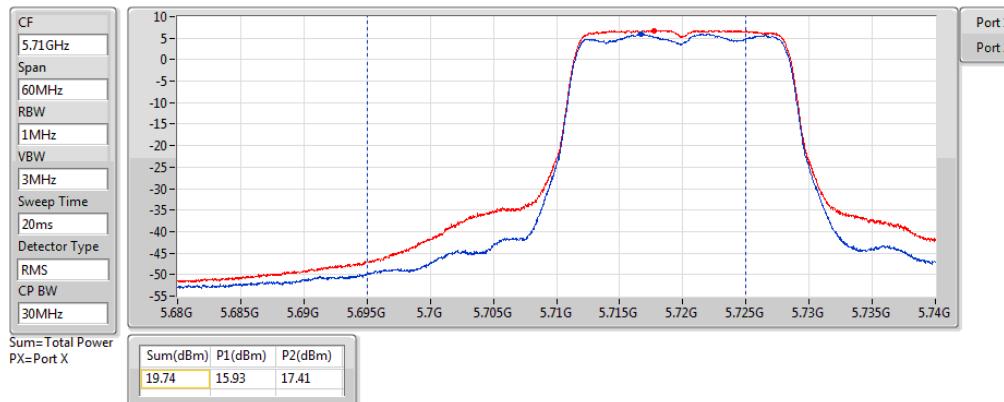
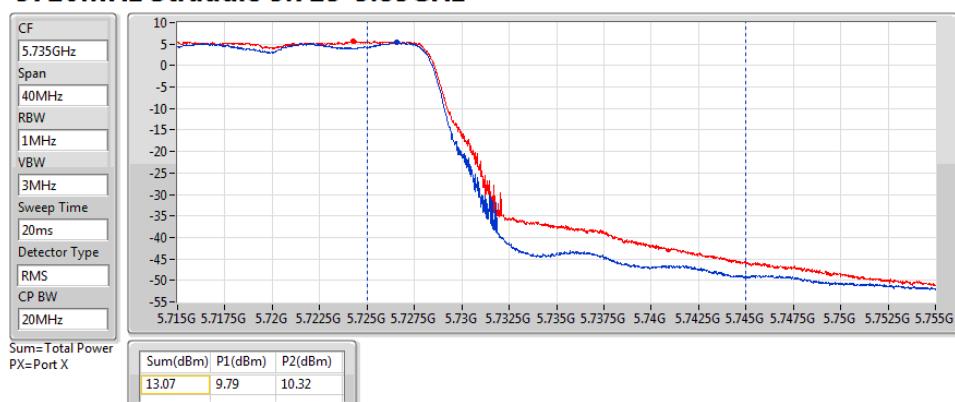
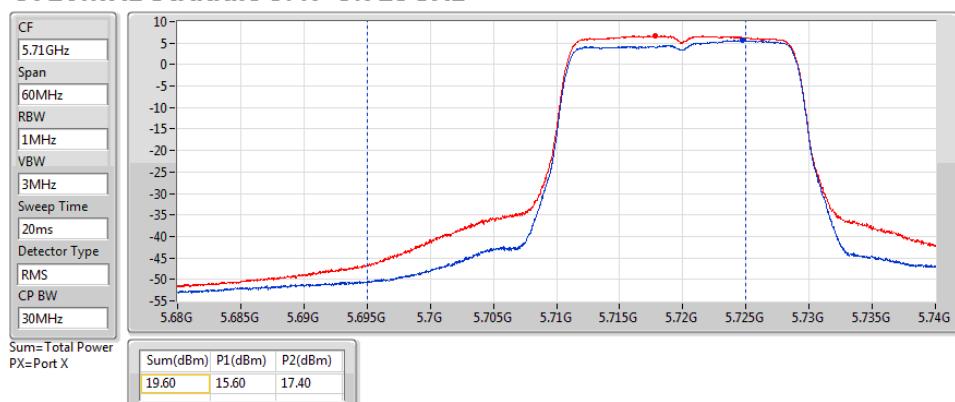
**Summary**

Mode	Total Power (dBm)	Total Power (W)
5.25-5.35GHz	-	-
802.11a_Nss1,(6Mbps)_2TX	20.65	0.11614
802.11ac VHT20_Nss1,(MCS0)_2TX	21.44	0.13932
802.11ac VHT40_Nss1,(MCS0)_2TX	23.54	0.22594
802.11ac VHT80_Nss1,(MCS0)_2TX	20.85	0.12162
5.47-5.725GHz	-	-
802.11a_Nss1,(6Mbps)_2TX	20.94	0.12417
802.11ac VHT20_Nss1,(MCS0)_2TX	21.03	0.12677
802.11ac VHT40_Nss1,(MCS0)_2TX	23.51	0.22439
802.11ac VHT80_Nss1,(MCS0)_2TX	23.68	0.23335
5.725-5.85GHz	-	-
802.11a_Nss1,(6Mbps)_2TX	13.07	0.02028
802.11ac VHT20_Nss1,(MCS0)_2TX	13.63	0.02307
802.11ac VHT40_Nss1,(MCS0)_2TX	11.36	0.01368
802.11ac VHT80_Nss1,(MCS0)_2TX	10.08	0.01019

**Result**

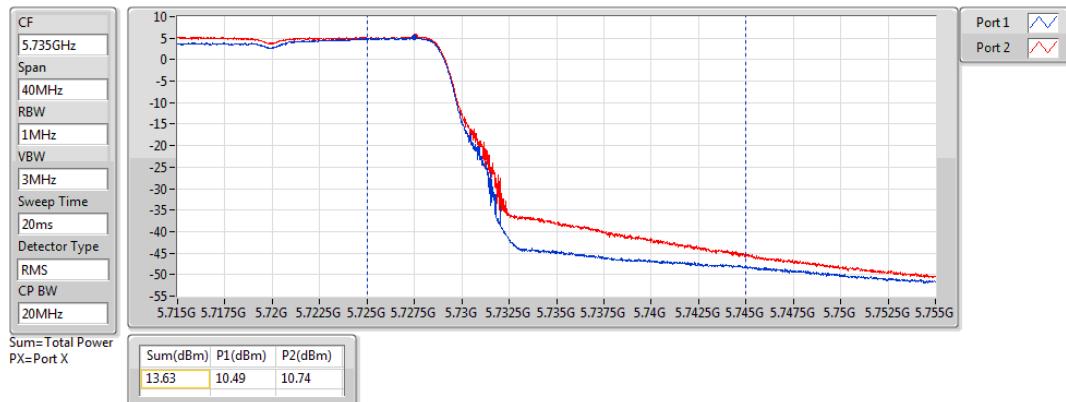
Mode	Result	DG (dBi)	Port 1 (dBm)	Port 2 (dBm)	Total Power (dBm)	Power Limit (dBm)
802.11a_Nss1,(6Mbps)_2TX	-	-	-	-	-	-
5260MHz	Pass	6.00	17.68	16.97	20.35	23.79
5300MHz	Pass	6.00	17.44	17.80	20.63	23.76
5320MHz	Pass	6.00	17.32	17.93	20.65	23.74
5500MHz	Pass	6.10	17.45	18.17	20.84	23.65
5580MHz	Pass	6.10	17.32	18.16	20.77	23.66
5700MHz	Pass	6.10	17.19	18.57	20.94	23.65
5720MHz Straddle 5.47-5.725GHz	Pass	6.10	15.93	17.41	19.74	22.52
5720MHz Straddle 5.725-5.85GHz	Pass	5.90	9.79	10.32	13.07	30.00
802.11ac VHT20_Nss1,(MCS0)_2TX	-	-	-	-	-	-
5260MHz	Pass	6.00	18.18	18.67	21.44	23.98
5300MHz	Pass	6.00	17.77	18.48	21.15	23.98
5320MHz	Pass	6.00	17.85	18.55	21.22	23.98
5500MHz	Pass	6.10	17.65	18.34	21.02	23.85
5580MHz	Pass	6.10	17.51	18.47	21.03	23.85
5700MHz	Pass	6.10	17.14	18.61	20.95	23.86
5720MHz Straddle 5.47-5.725GHz	Pass	6.10	15.60	17.40	19.60	22.64
5720MHz Straddle 5.725-5.85GHz	Pass	5.90	10.49	10.74	13.63	30.00
802.11ac VHT40_Nss1,(MCS0)_2TX	-	-	-	-	-	-
5270MHz	Pass	6.00	20.40	20.65	23.54	23.98
5310MHz	Pass	6.00	18.14	18.57	21.37	23.98
5510MHz	Pass	6.10	17.54	18.37	20.99	23.88
5550MHz	Pass	6.10	19.98	20.97	23.51	23.88
5670MHz	Pass	6.10	19.42	20.54	23.03	23.88
5710MHz Straddle 5.47-5.725GHz	Pass	6.10	19.51	20.63	23.12	23.88
5710MHz Straddle 5.725-5.85GHz	Pass	5.90	7.55	9.02	11.36	30.00
802.11ac VHT80_Nss1,(MCS0)_2TX	-	-	-	-	-	-
5290MHz	Pass	6.00	17.66	18.02	20.85	23.98
5530MHz	Pass	6.10	17.67	18.52	21.13	23.88
5610MHz	Pass	6.10	20.10	21.01	23.59	23.88
5690MHz Straddle 5.47-5.725GHz	Pass	6.10	20.10	21.17	23.68	23.88
5690MHz Straddle 5.725-5.85GHz	Pass	5.90	6.23	7.77	10.08	30.00

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

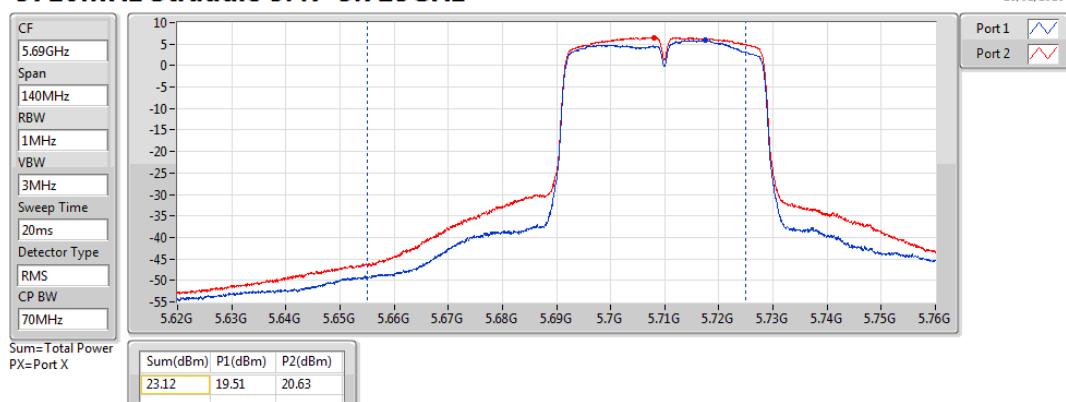
**802.11a\_Nss1,(6Mbps)\_2TX**
**5720MHz Straddle 5.47-5.725GHz**

**AV Power**
**802.11a\_Nss1,(6Mbps)\_2TX**
**5720MHz Straddle 5.725-5.85GHz**

**AV Power**
**802.11ac VHT20\_Nss1,(MCS0)\_2TX**
**5720MHz Straddle 5.47-5.725GHz**

**AV Power**

**802.11ac VHT20\_Nss1,(MCS0)\_2TX**
**AV Power**
**5720MHz Straddle 5.725-5.85GHz**

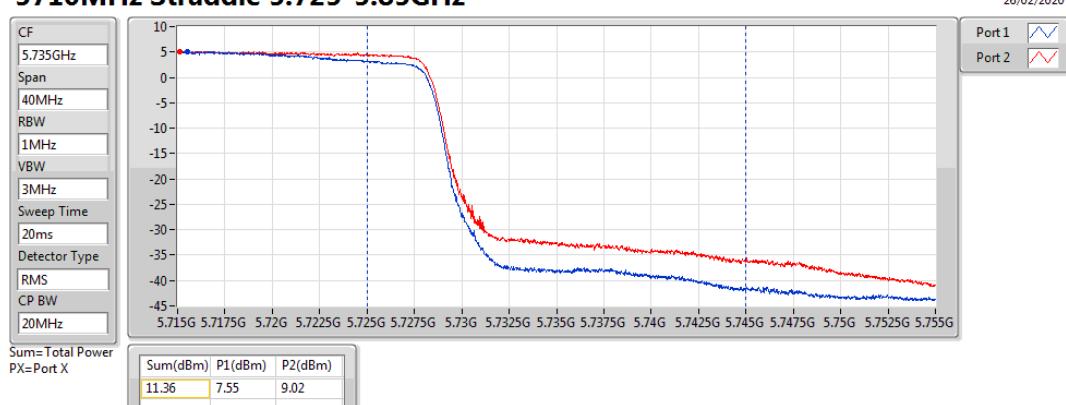
26/02/2020

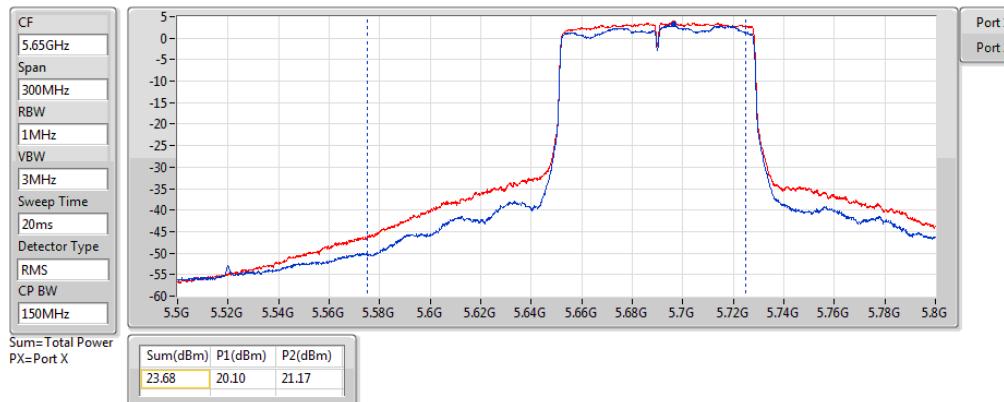
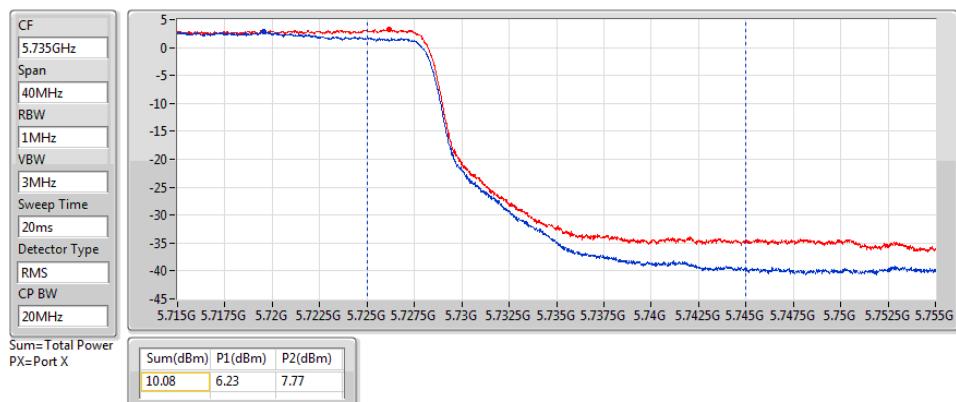

**802.11ac VHT40\_Nss1,(MCS0)\_2TX**
**AV Power**
**5710MHz Straddle 5.47-5.725GHz**

26/02/2020


**802.11ac VHT40\_Nss1,(MCS0)\_2TX**
**AV Power**
**5710MHz Straddle 5.725-5.85GHz**

26/02/2020



**802.11ac VHT80\_Nss1,(MCS0)\_2TX**
**5690MHz Straddle 5.47-5.725GHz**

**AV Power**
**802.11ac VHT80\_Nss1,(MCS0)\_2TX**
**5690MHz Straddle 5.725-5.85GHz**

**AV Power**

**Summary**

Mode	PD (dBm/RBW)
5.25-5.35GHz	-
802.11a_Nss1,(6Mbps)_2TX	7.86
802.11ac VHT20_Nss1,(MCS0)_2TX	8.06
802.11ac VHT40_Nss1,(MCS0)_2TX	7.41
802.11ac VHT80_Nss1,(MCS0)_2TX	1.68
5.47-5.725GHz	-
802.11a_Nss1,(6Mbps)_2TX	8.13
802.11ac VHT20_Nss1,(MCS0)_2TX	8.05
802.11ac VHT40_Nss1,(MCS0)_2TX	7.79
802.11ac VHT80_Nss1,(MCS0)_2TX	5.15
5.725-5.85GHz	-
802.11a_Nss1,(6Mbps)_2TX	6.27
802.11ac VHT20_Nss1,(MCS0)_2TX	6.45
802.11ac VHT40_Nss1,(MCS0)_2TX	4.57
802.11ac VHT80_Nss1,(MCS0)_2TX	2.64

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



## Result

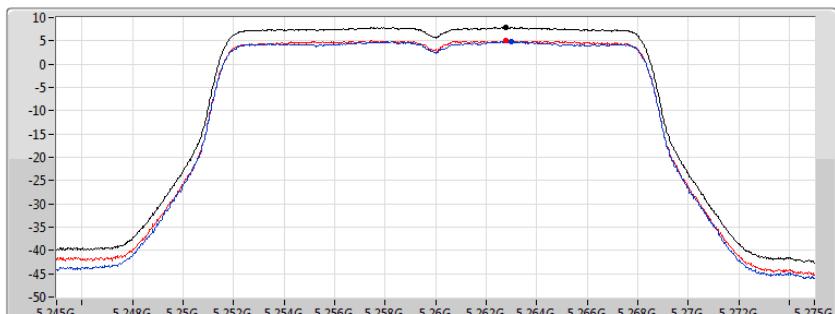
Mode	Result	DG (dBi)	Port 1 (dBm/RBW)	Port 2 (dBm/RBW)	PD (dBm/RBW)	PD Limit (dBm/RBW)
802.11a_Nss1,(6Mbps)_2TX	-	-	-	-	-	-
5260MHz	Pass	8.91	4.85	5.06	7.86	8.09
5300MHz	Pass	8.91	4.73	4.90	7.78	8.09
5320MHz	Pass	8.91	4.77	4.99	7.82	8.09
5500MHz	Pass	8.77	5.15	5.43	8.13	8.23
5580MHz	Pass	8.77	4.80	5.24	7.94	8.23
5700MHz	Pass	8.77	4.82	5.51	8.07	8.23
5720MHz Straddle 5.47-5.725GHz	Pass	8.77	4.78	5.60	8.13	8.23
5720MHz Straddle 5.725-5.85GHz	Pass	8.28	2.88	3.97	6.27	27.72
802.11ac VHT20_Nss1,(MCS0)_2TX	-	-	-	-	-	-
5260MHz	Pass	8.91	4.87	5.29	8.03	8.09
5300MHz	Pass	8.91	4.73	5.33	7.90	8.09
5320MHz	Pass	8.91	4.99	5.30	8.06	8.09
5500MHz	Pass	8.77	5.04	5.15	8.05	8.23
5580MHz	Pass	8.77	4.66	5.03	7.82	8.23
5700MHz	Pass	8.77	4.47	5.37	7.89	8.23
5720MHz Straddle 5.47-5.725GHz	Pass	8.77	4.36	5.43	7.77	8.23
5720MHz Straddle 5.725-5.85GHz	Pass	8.28	3.09	3.79	6.45	27.72
802.11ac VHT40_Nss1,(MCS0)_2TX	-	-	-	-	-	-
5270MHz	Pass	8.91	4.42	4.57	7.41	8.09
5310MHz	Pass	8.91	2.29	2.58	5.33	8.09
5510MHz	Pass	8.77	2.29	2.46	5.32	8.23
5550MHz	Pass	8.77	4.72	4.87	7.74	8.23
5670MHz	Pass	8.77	3.85	4.51	7.12	8.23
5710MHz Straddle 5.47-5.725GHz	Pass	8.77	4.65	5.27	7.79	8.23
5710MHz Straddle 5.725-5.85GHz	Pass	8.28	0.55	2.39	4.57	27.72
802.11ac VHT80_Nss1,(MCS0)_2TX	-	-	-	-	-	-
5290MHz	Pass	8.91	-1.40	-1.15	1.68	8.09
5530MHz	Pass	8.77	-1.15	-0.86	1.90	8.23
5610MHz	Pass	8.77	1.67	1.94	4.79	8.23
5690MHz Straddle 5.47-5.725GHz	Pass	8.77	2.05	2.42	5.15	8.23
5690MHz Straddle 5.725-5.85GHz	Pass	8.28	-1.19	0.43	2.64	27.72

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

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

**802.11a\_Nss1,(6Mbps)\_2TX**
**PSD**
**5260MHz**

CF
5.26GHz
Span
30MHz
RBW
1MHz
VBW
3MHz
Sweep Time
20ms
Detector Type
RMS



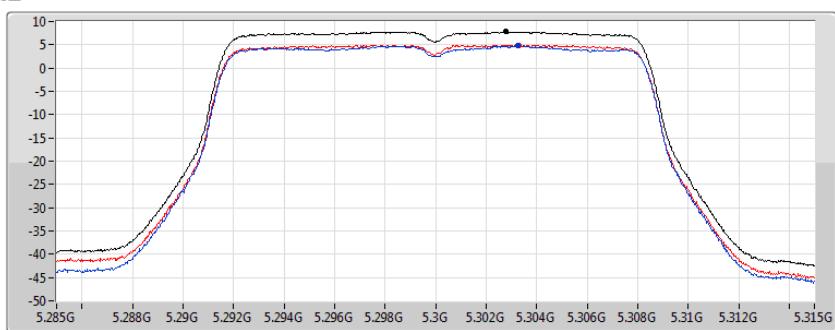
25/02/2020

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

Sum	PD	Port 1	Port 2
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
7.86	7.86	4.85	5.06

**802.11a\_Nss1,(6Mbps)\_2TX**
**PSD**
**5300MHz**

CF
5.3GHz
Span
30MHz
RBW
1MHz
VBW
3MHz
Sweep Time
20ms
Detector Type
RMS



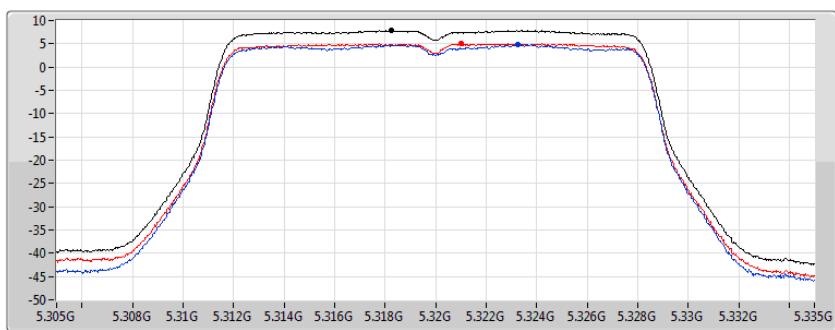
25/02/2020

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

Sum	PD	Port 1	Port 2
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
7.78	7.78	4.73	4.90

**802.11a\_Nss1,(6Mbps)\_2TX**
**PSD**
**5320MHz**

CF
5.32GHz
Span
30MHz
RBW
1MHz
VBW
3MHz
Sweep Time
20ms
Detector Type
RMS



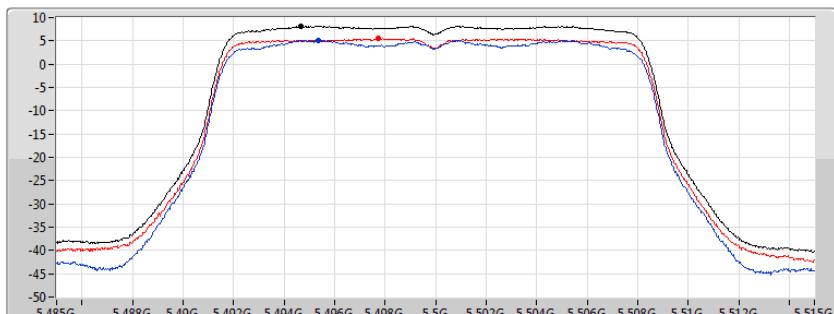
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Port 1	<input type="checkbox"/>
Port 2	<input checked="" type="checkbox"/>

Sum	PD	Port 1	Port 2
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
7.82	7.82	4.77	4.99

**802.11a\_Nss1,(6Mbps)\_2TX**
**PSD**
**5500MHz**

CF  
5.5GHz  
Span  
30MHz  
RBW  
1MHz  
VBW  
3MHz  
Sweep Time  
20ms  
Detector Type  
RMS



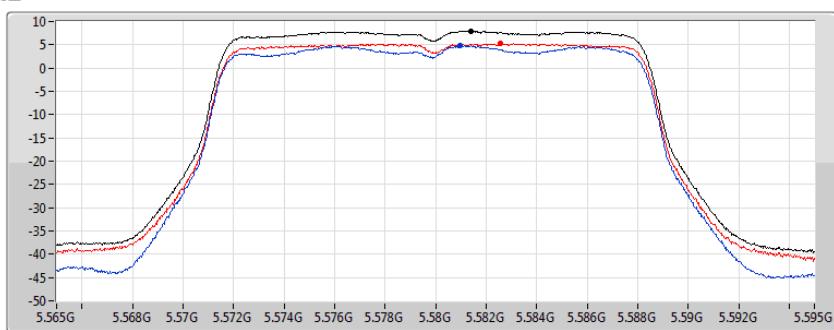
25/02/2020

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

Sum	PD	Port 1	Port 2
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
8.13	8.13	5.15	5.43

**802.11a\_Nss1,(6Mbps)\_2TX**
**PSD**
**5580MHz**

CF  
5.58GHz  
Span  
30MHz  
RBW  
1MHz  
VBW  
3MHz  
Sweep Time  
20ms  
Detector Type  
RMS



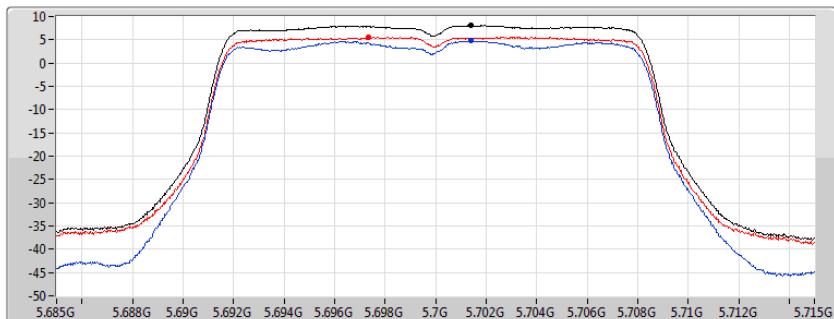
25/02/2020

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

Sum	PD	Port 1	Port 2
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
7.94	7.94	4.80	5.24

**802.11a\_Nss1,(6Mbps)\_2TX**
**PSD**
**5700MHz**

CF  
5.7GHz  
Span  
30MHz  
RBW  
1MHz  
VBW  
3MHz  
Sweep Time  
20ms  
Detector Type  
RMS



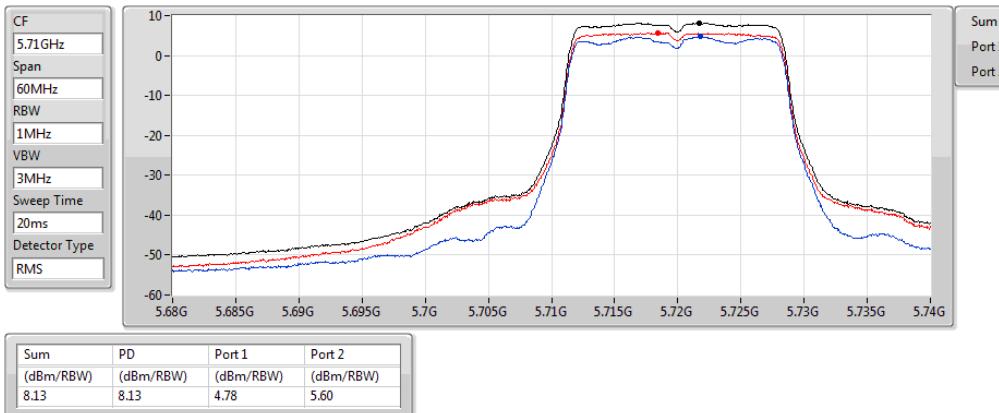
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Port 1	<input type="checkbox"/>
Port 2	<input checked="" type="checkbox"/>

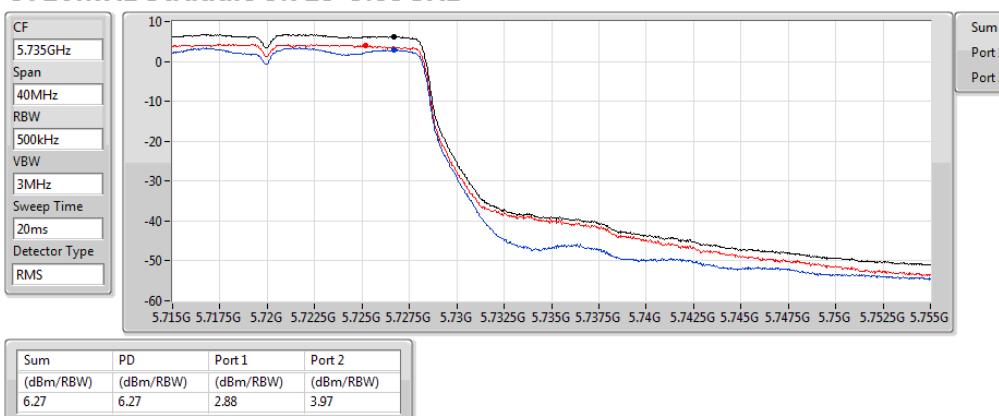
Sum	PD	Port 1	Port 2
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
8.07	8.07	4.82	5.51

**802.11a\_Nss1,(6Mbps)\_2TX**
**PSD**
**5720MHz Straddle 5.47-5.725GHz**

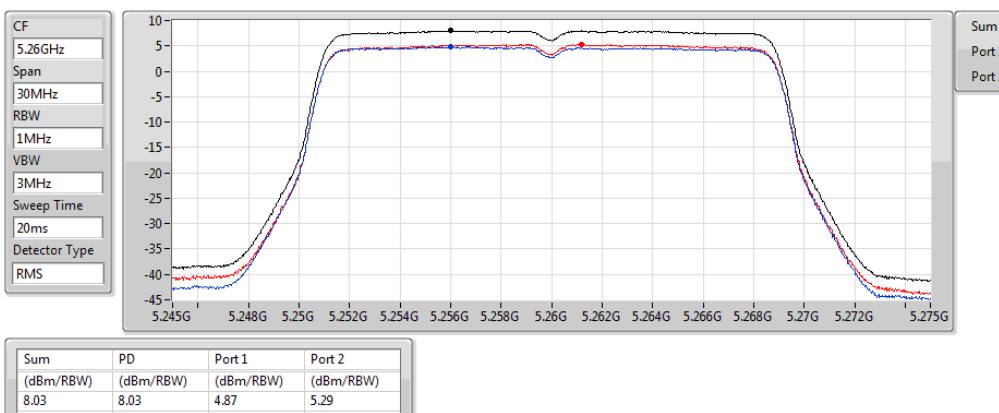
25/02/2020


**802.11a\_Nss1,(6Mbps)\_2TX**
**PSD**
**5720MHz Straddle 5.725-5.85GHz**

25/02/2020

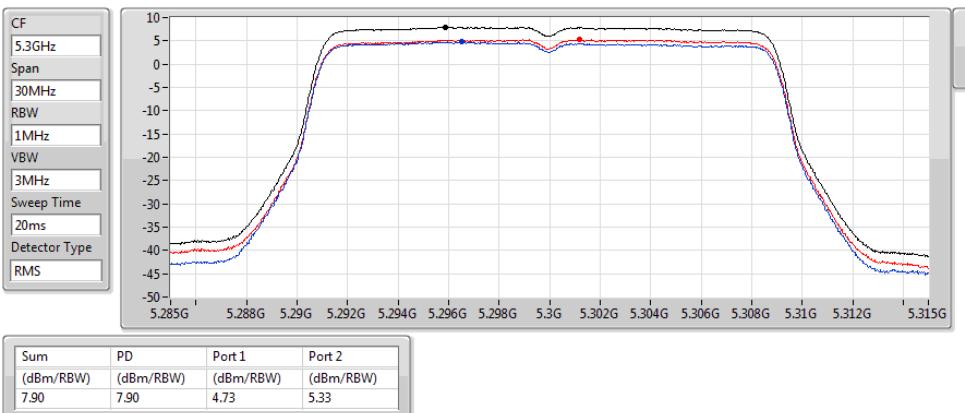

**802.11ac VHT20\_Nss1,(MCS0)\_2TX**
**PSD**
**5260MHz**

25/02/2020

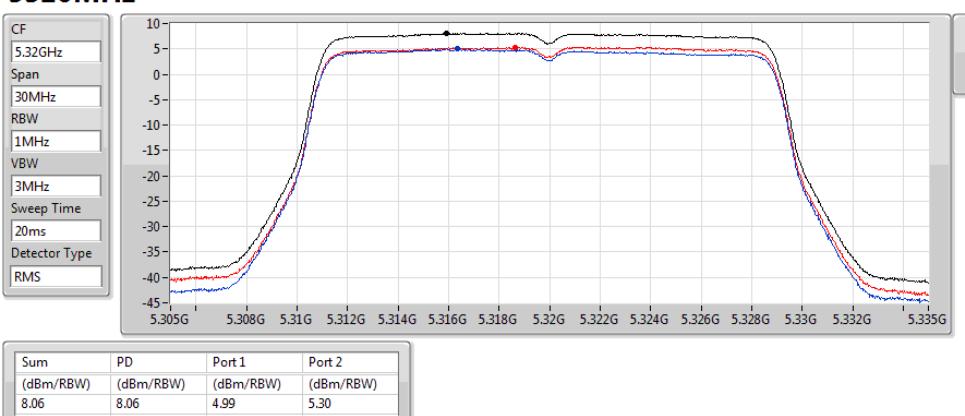


**802.11ac VHT20\_Nss1,(MCS0)\_2TX**
**PSD**
**5300MHz**

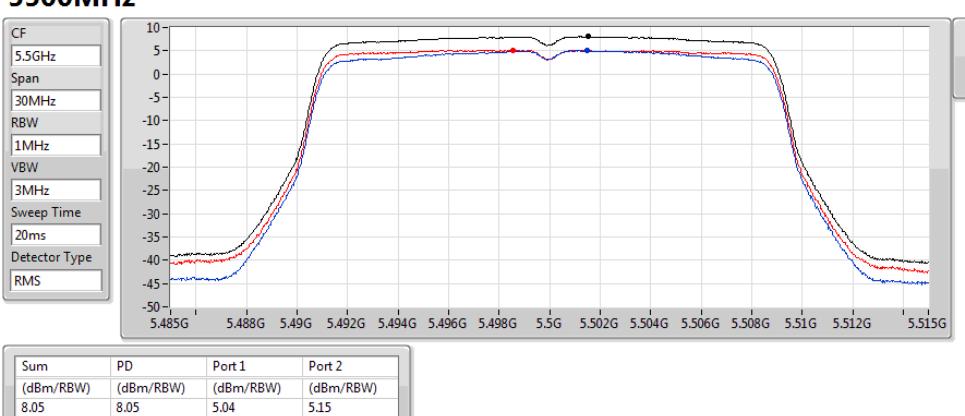
25/02/2020


**802.11ac VHT20\_Nss1,(MCS0)\_2TX**
**PSD**
**5320MHz**

25/02/2020

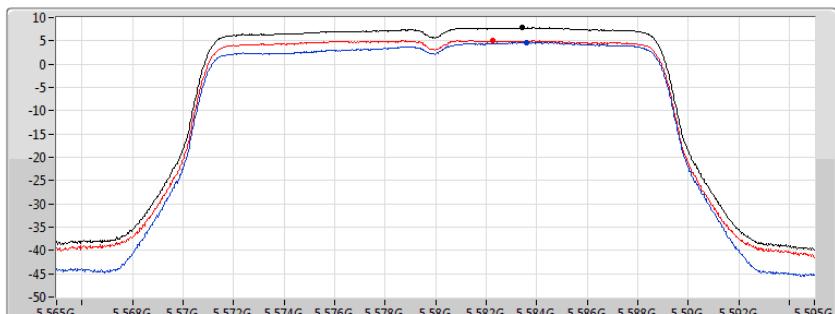

**802.11ac VHT20\_Nss1,(MCS0)\_2TX**
**PSD**
**5500MHz**

25/02/2020



**802.11ac VHT20\_Nss1,(MCS0)\_2TX**
**PSD**
**5580MHz**

CF
5.58GHz
Span
30MHz
RBW
1MHz
VBW
3MHz
Sweep Time
20ms
Detector Type
RMS



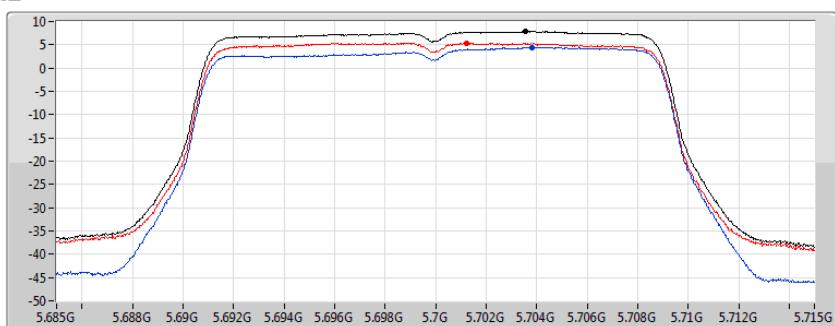
25/02/2020

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

Sum	PD	Port 1	Port 2
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
7.82	7.82	4.66	5.03

**802.11ac VHT20\_Nss1,(MCS0)\_2TX**
**PSD**
**5700MHz**

CF
5.7GHz
Span
30MHz
RBW
1MHz
VBW
3MHz
Sweep Time
20ms
Detector Type
RMS



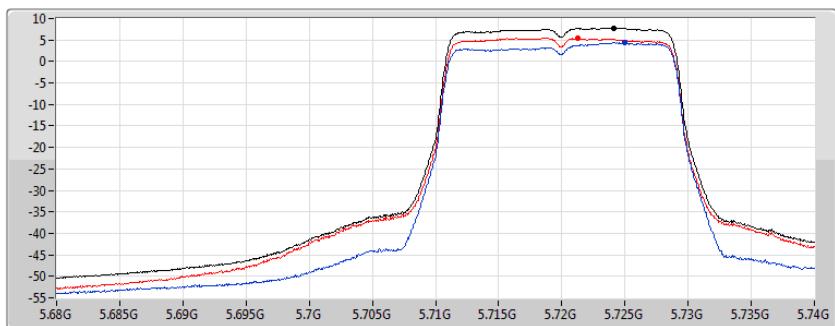
26/02/2020

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

Sum	PD	Port 1	Port 2
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
7.89	7.89	4.47	5.37

**802.11ac VHT20\_Nss1,(MCS0)\_2TX**
**PSD**
**5720MHz Straddle 5.47-5.725GHz**

CF
5.71GHz
Span
60MHz
RBW
1MHz
VBW
3MHz
Sweep Time
20ms
Detector Type
RMS



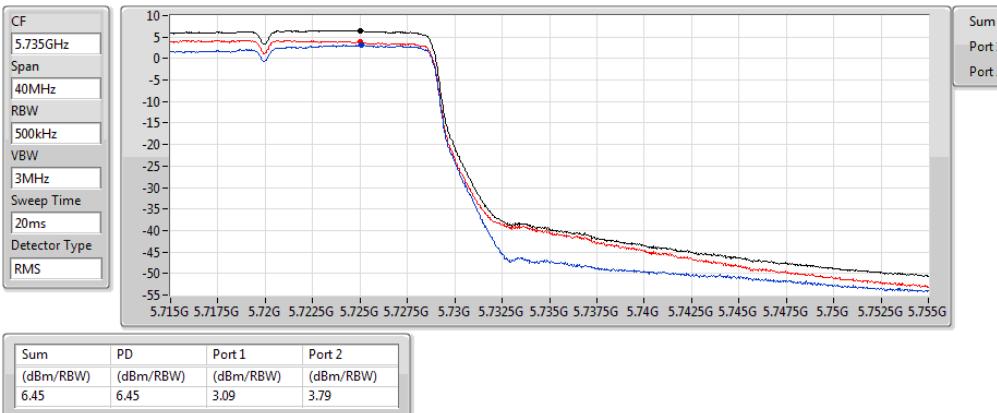
26/02/2020

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

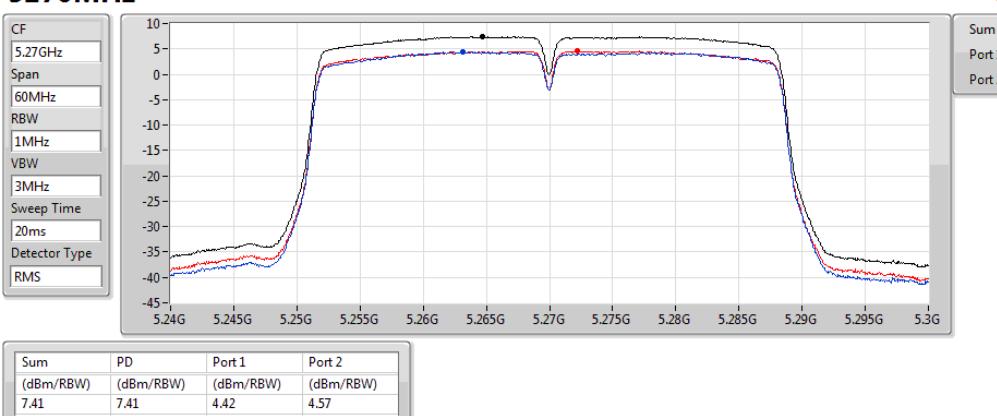
Sum	PD	Port 1	Port 2
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
7.77	7.77	4.36	5.43

**802.11ac VHT20\_Nss1,(MCS0)\_2TX**
**PSD**
**5720MHz Straddle 5.725-5.85GHz**

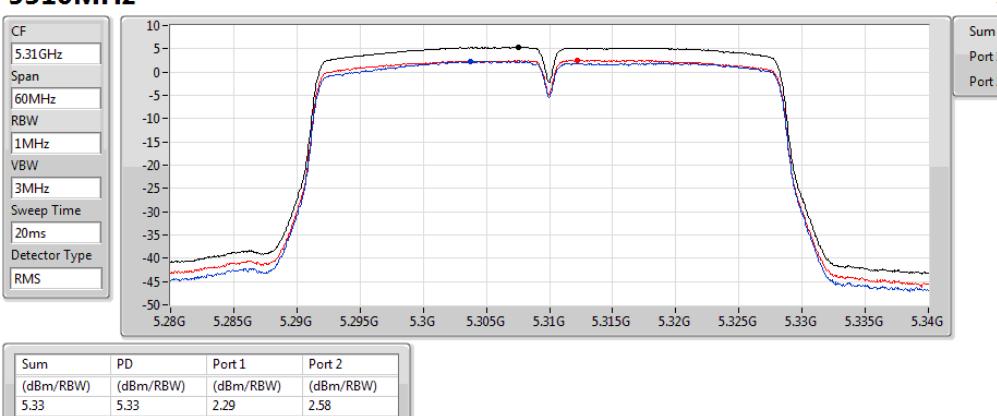
26/02/2020


**802.11ac VHT40\_Nss1,(MCS0)\_2TX**
**PSD**
**5270MHz**

26/02/2020

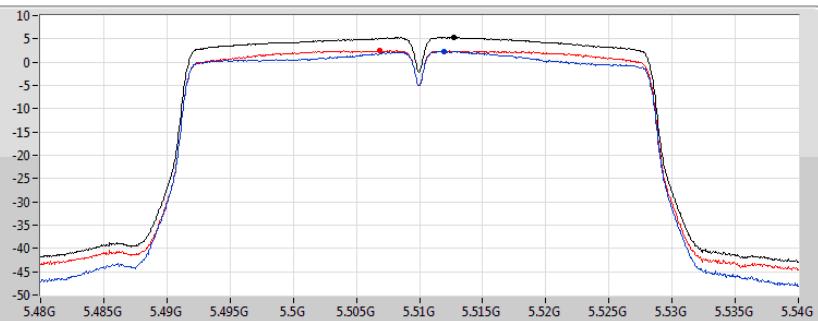

**802.11ac VHT40\_Nss1,(MCS0)\_2TX**
**PSD**
**5310MHz**

26/02/2020



**802.11ac VHT40\_Nss1,(MCS0)\_2TX**
**PSD**
**5510MHz**

CF  
5.51GHz  
Span  
60MHz  
RBW  
1MHz  
VBW  
3MHz  
Sweep Time  
20ms  
Detector Type  
RMS

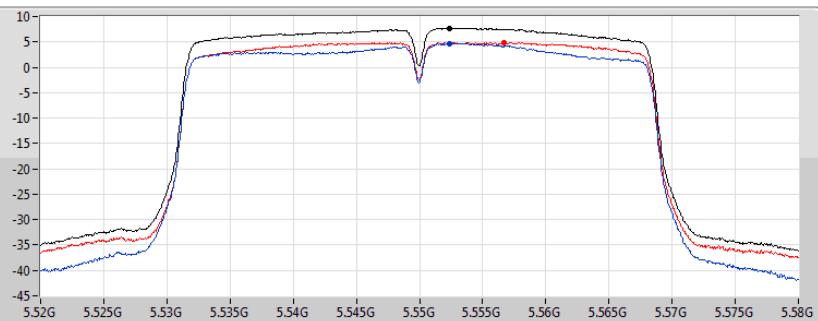


26/02/2020

Sum   
Port 1   
Port 2

**802.11ac VHT40\_Nss1,(MCS0)\_2TX**
**PSD**
**5550MHz**

CF  
5.55GHz  
Span  
60MHz  
RBW  
1MHz  
VBW  
3MHz  
Sweep Time  
20ms  
Detector Type  
RMS

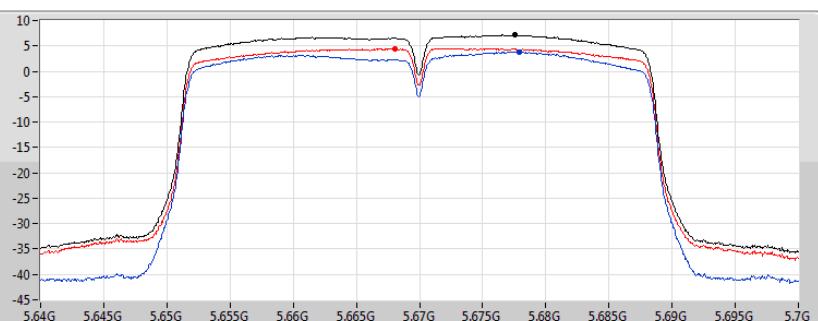


26/02/2020

Sum   
Port 1   
Port 2

**802.11ac VHT40\_Nss1,(MCS0)\_2TX**
**PSD**
**5670MHz**

CF  
5.67GHz  
Span  
60MHz  
RBW  
1MHz  
VBW  
3MHz  
Sweep Time  
20ms  
Detector Type  
RMS



26/02/2020

Sum   
Port 1   
Port 2

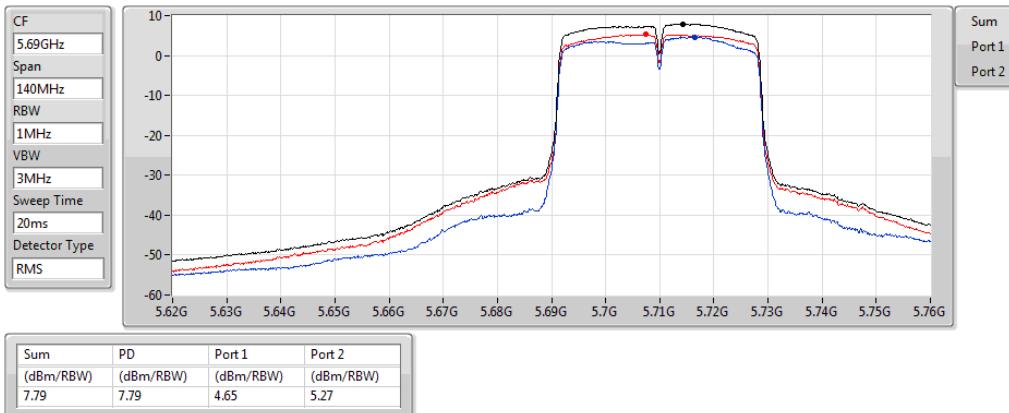
Sum	PD	Port 1	Port 2
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
5.32	5.32	2.29	2.46

Sum	PD	Port 1	Port 2
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
7.74	7.74	4.72	4.87

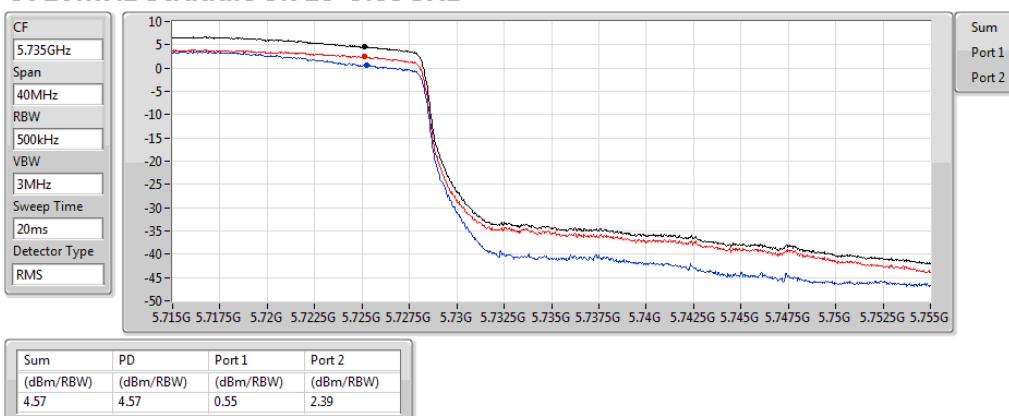
Sum	PD	Port 1	Port 2
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
7.12	7.12	3.85	4.51

**802.11ac VHT40\_Nss1,(MCS0)\_2TX**
**PSD**
**5710MHz Straddle 5.47-5.725GHz**

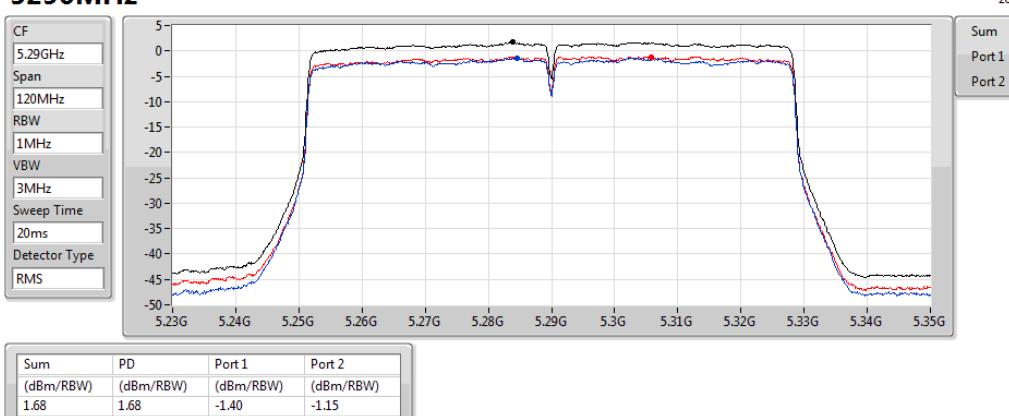
26/02/2020


**802.11ac VHT40\_Nss1,(MCS0)\_2TX**
**PSD**
**5710MHz Straddle 5.725-5.85GHz**

26/02/2020

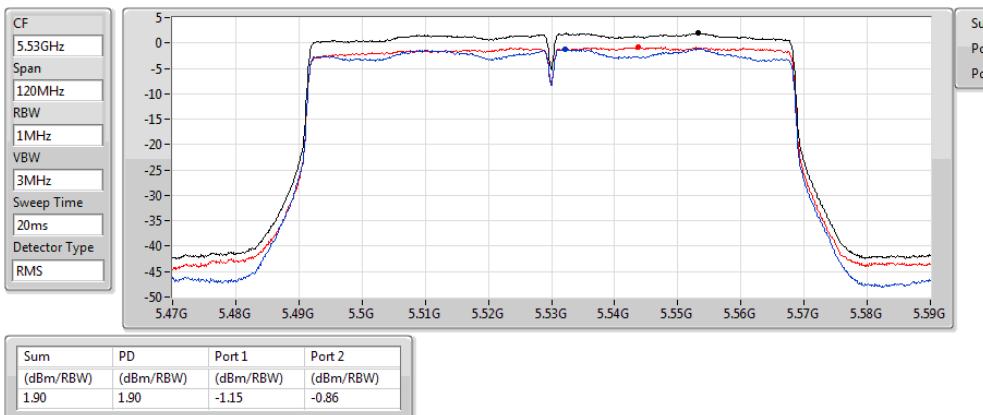

**802.11ac VHT80\_Nss1,(MCS0)\_2TX**
**PSD**
**5290MHz**

26/02/2020

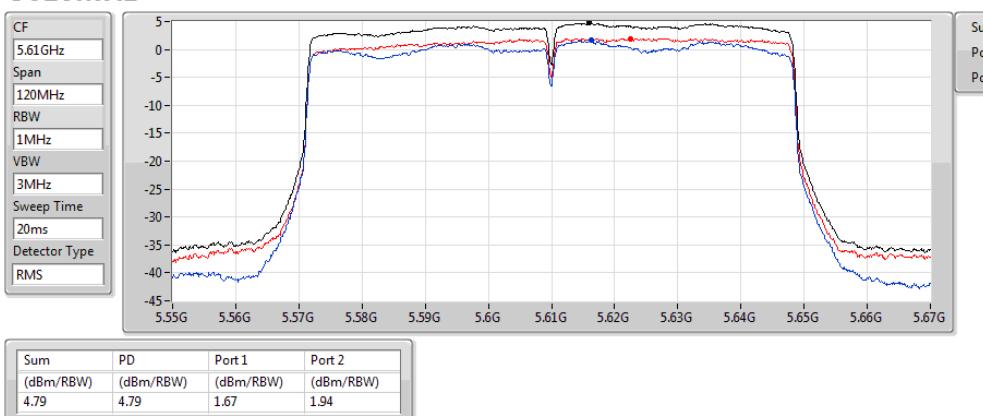


**802.11ac VHT80\_Nss1,(MCS0)\_2TX**
**PSD**
**5530MHz**

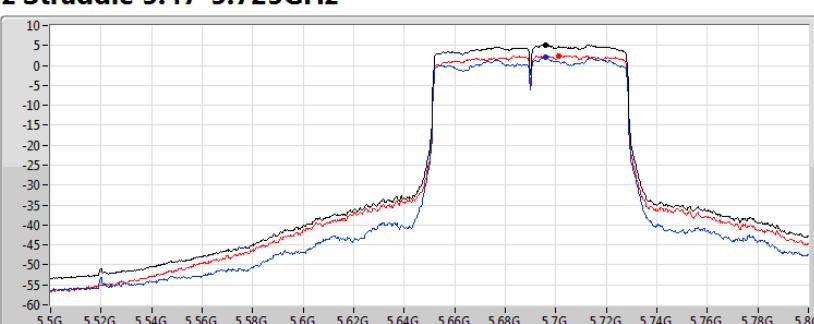
26/02/2020


**802.11ac VHT80\_Nss1,(MCS0)\_2TX**
**PSD**
**5610MHz**

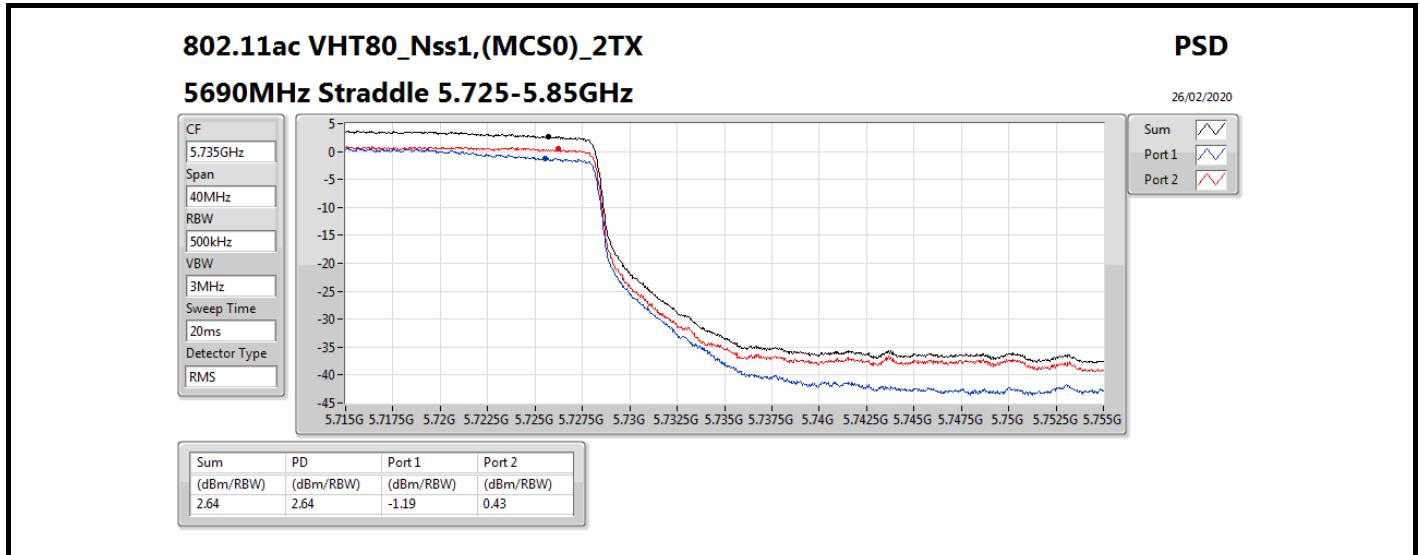
26/02/2020


**802.11ac VHT80\_Nss1,(MCS0)\_2TX**
**PSD**
**5690MHz Straddle 5.47-5.725GHz**

26/02/2020

**CF**
**5.65GHz**
**Span**
**300MHz**
**RBW**
**1MHz**
**VBW**
**3MHz**
**Sweep Time**
**20ms**
**Detector Type**
**RMS**


Sum	PD	Port 1	Port 2
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
5.15	5.15	2.05	2.42

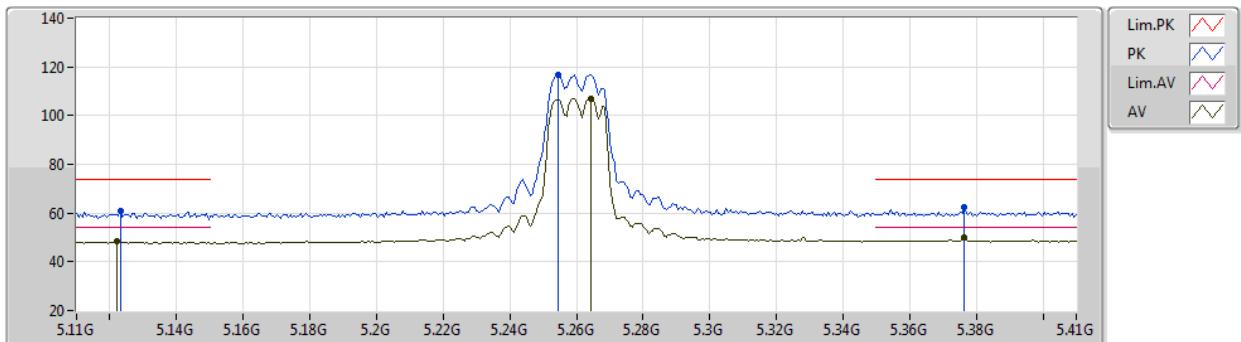


**Summary**

Mode	Result	Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comments
5.25-5.35GHz	-	-	-	-	-	-	-	-	-	-	-
802.11a_Nss1,(6Mbps)_2TX	Pass	AV	5.35G	53.99	54.00	-0.01	3	Vertical	12	1.78	-

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

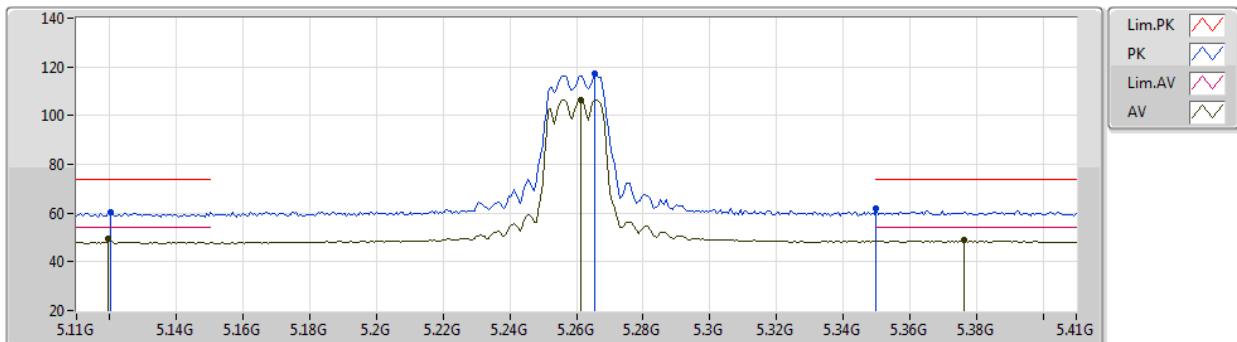
24/02/2020

**5260MHz\_TX**

 EUT X\_2TX  
 Setting 18  
 02-D-A-3-10

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Raw (dBuV)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	AF (dB)	CL (dB)	PA (dB)	
PK	5.1232G	60.91	74.00	-13.09	51.81	3	Vertical	10	1.80	-	33.52	5.96	30.38	
AV	5.122G	48.25	54.00	-5.75	39.15	3	Vertical	10	1.80	-	33.52	5.96	30.38	
PK	5.2546G	116.89	Inf	-Inf	107.57	3	Vertical	10	1.80	-	33.71	6.03	30.42	
AV	5.2642G	107.02	Inf	-Inf	97.69	3	Vertical	10	1.80	-	33.73	6.03	30.43	
PK	5.3764G	62.23	74.00	-11.77	52.72	3	Vertical	10	1.80	-	33.88	6.09	30.46	
AV	5.3764G	49.86	54.00	-4.14	40.35	3	Vertical	10	1.80	-	33.88	6.09	30.46	

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

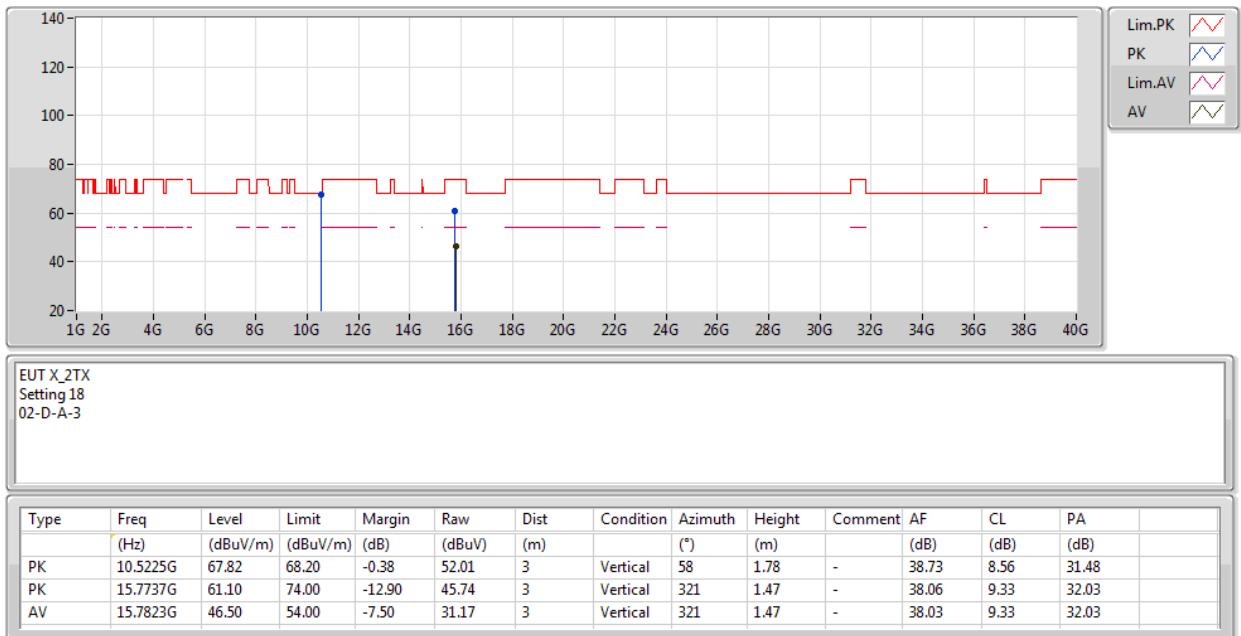
24/02/2020

**5260MHz\_TX**

 EUT X\_2TX  
 Setting 18  
 02-D-A-3-10

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Raw (dBuV)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	AF (dB)	CL (dB)	PA (dB)	
PK	5.1202G	60.18	74.00	-13.82	51.08	3	Horizontal	13	1.82	-	33.52	5.96	30.38	
AV	5.1196G	49.34	54.00	-4.66	40.24	3	Horizontal	13	1.82	-	33.52	5.96	30.38	
PK	5.2654G	117.04	Inf	-Inf	107.71	3	Horizontal	13	1.82	-	33.73	6.03	30.43	
AV	5.2612G	106.47	Inf	-Inf	97.14	3	Horizontal	13	1.82	-	33.72	6.03	30.42	
PK	5.35G	61.80	74.00	-12.20	52.33	3	Horizontal	13	1.82	-	33.85	6.07	30.45	
AV	5.3764G	48.80	54.00	-5.20	39.29	3	Horizontal	13	1.82	-	33.88	6.09	30.46	

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

24/02/2020

**5260MHz\_TX**


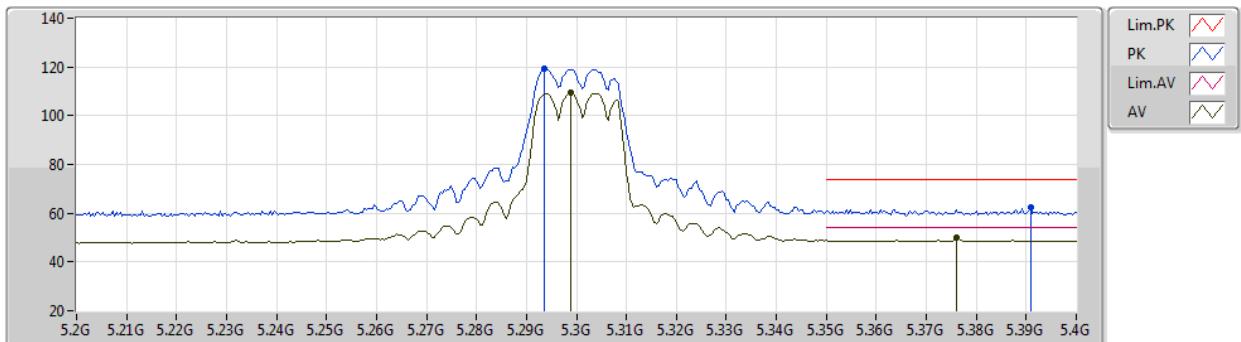
**802.11a\_Nss1,(6Mbps)\_2TX**

24/02/2020

**5260MHz\_TX**


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

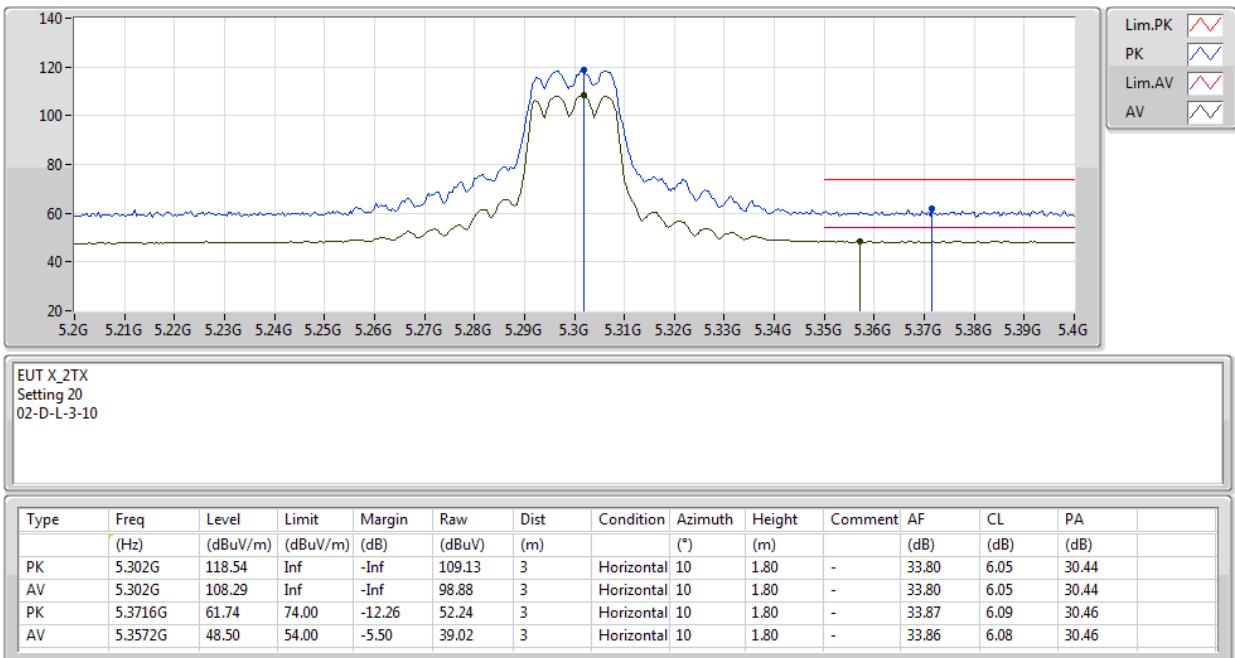
24/02/2020

**5300MHz\_TX**

 EUT X\_2TX  
 Setting 20  
 02-D-L-3-10

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Raw (dBuV)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	AF (dB)	CL (dB)	PA (dB)	
PK	5.2936G	119.32	Inf	-Inf	109.92	3	Vertical	14	1.90	-	33.79	6.05	30.44	
AV	5.2988G	109.27	Inf	-Inf	99.86	3	Vertical	14	1.90	-	33.80	6.05	30.44	
PK	5.3908G	62.40	74.00	-11.60	52.88	3	Vertical	14	1.90	-	33.89	6.10	30.47	
AV	5.376G	50.05	54.00	-3.95	40.54	3	Vertical	14	1.90	-	33.88	6.09	30.46	

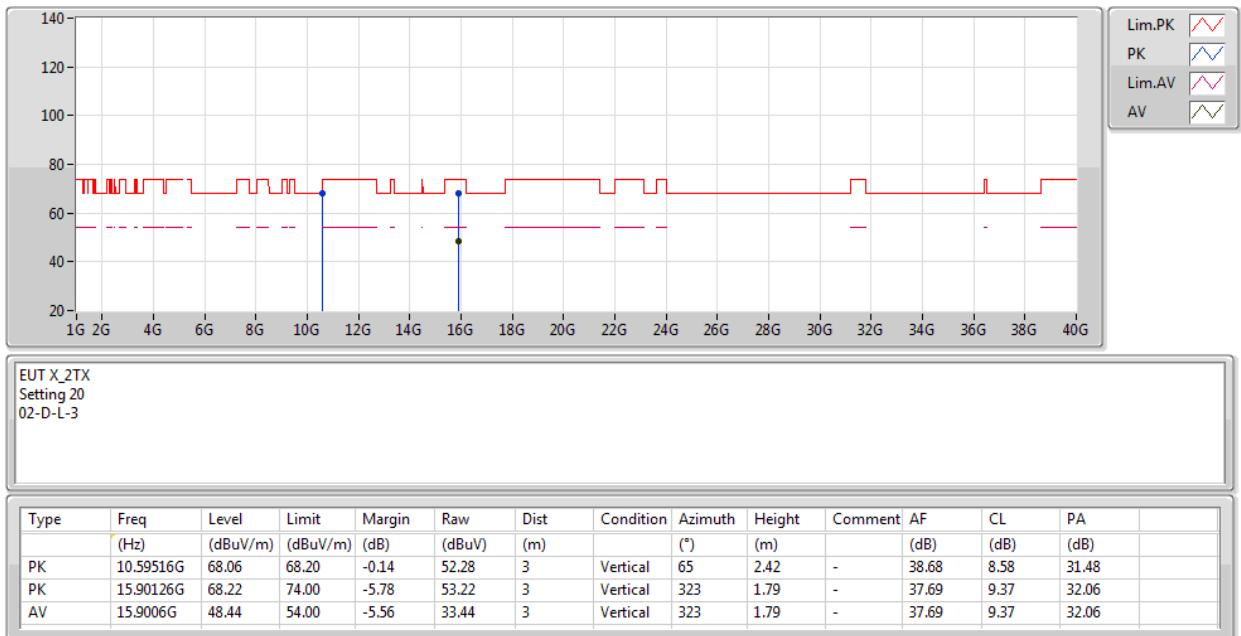
**802.11a\_Nss1,(6Mbps)\_2TX**

24/02/2020

**5300MHz\_TX**


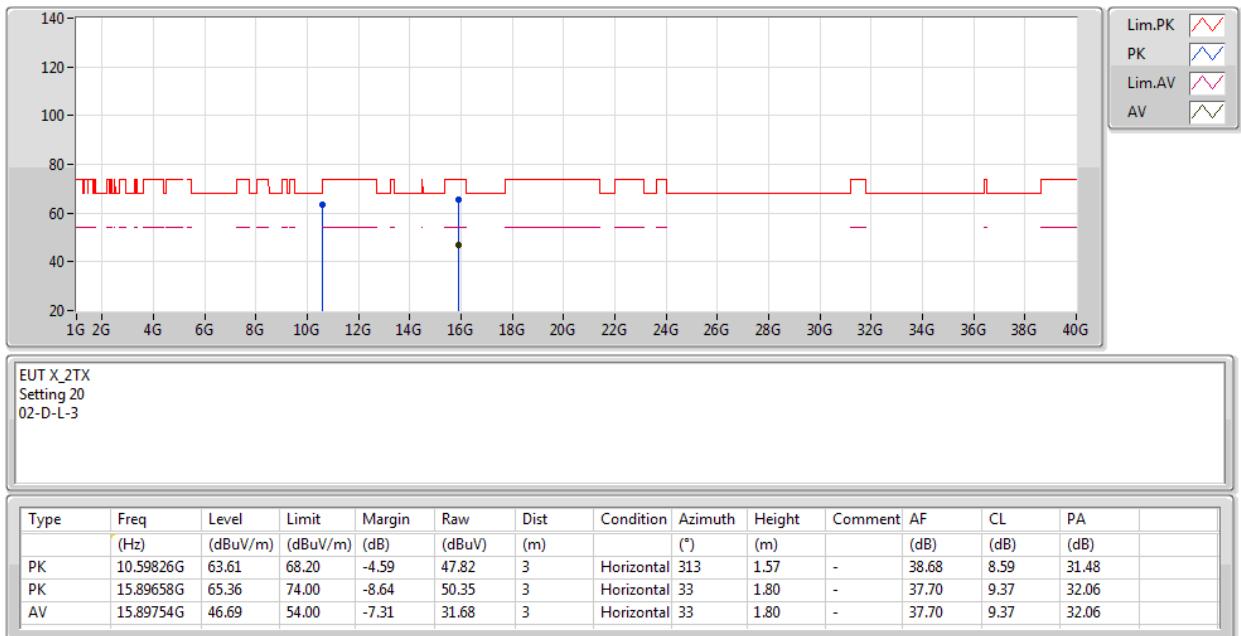
**802.11a\_Nss1,(6Mbps)\_2TX**

24/02/2020

**5300MHz\_TX**


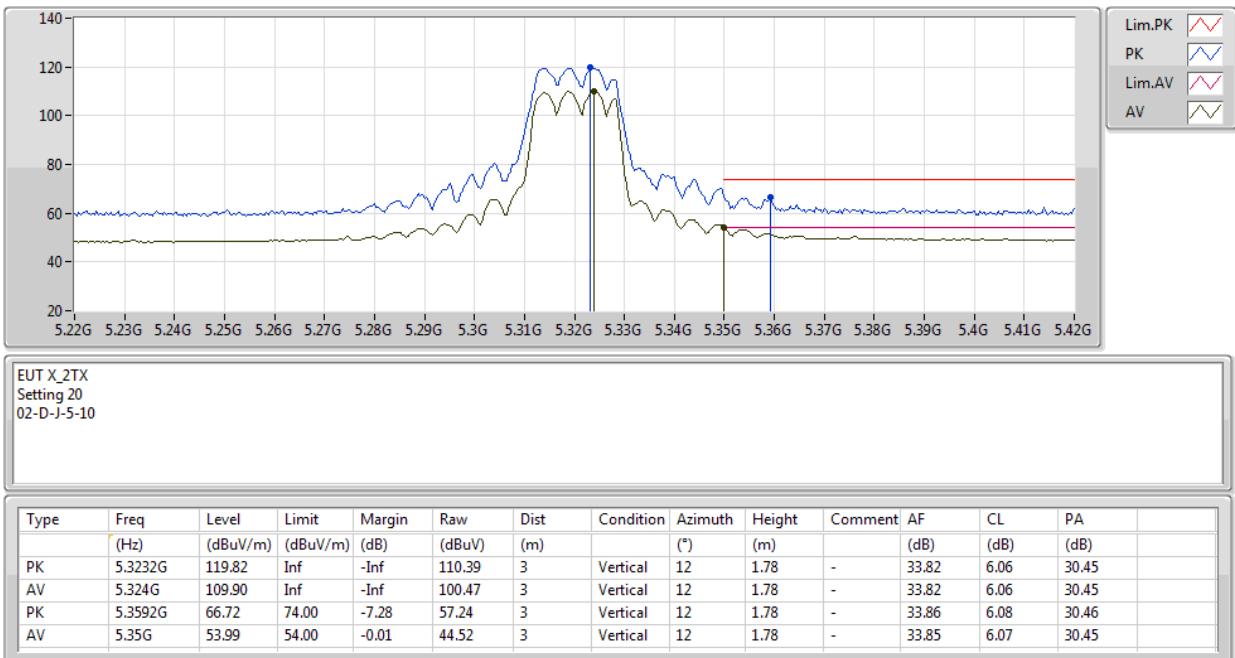
**802.11a\_Nss1,(6Mbps)\_2TX**

24/02/2020

**5300MHz\_TX**


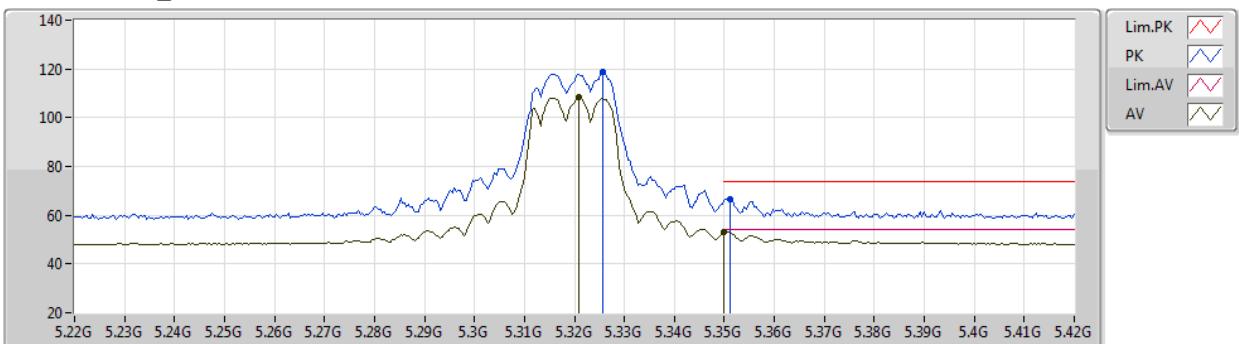
**802.11a\_Nss1,(6Mbps)\_2TX**

24/02/2020

**5320MHz\_TX**


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

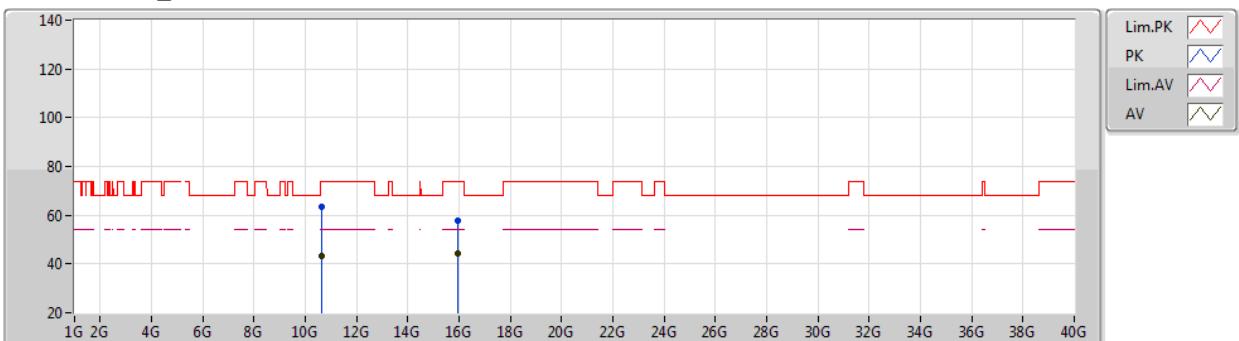
24/02/2020

**5320MHz\_TX**

 EUT\_X\_2TX  
 Setting 20  
 02-D-A-3-10

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Raw (dBuV)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	AF (dB)	CL (dB)	PA (dB)	
PK	5.3256G	118.58	Inf	-Inf	109.14	3	Horizontal	25	2.23	-	33.83	6.06	30.45	
AV	5.3208G	108.30	Inf	-Inf	98.87	3	Horizontal	25	2.23	-	33.82	6.06	30.45	
PK	5.3512G	66.77	74.00	-7.23	57.30	3	Horizontal	25	2.23	-	33.85	6.08	30.46	
AV	5.35G	53.28	54.00	-0.72	43.81	3	Horizontal	25	2.23	-	33.85	6.07	30.45	

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

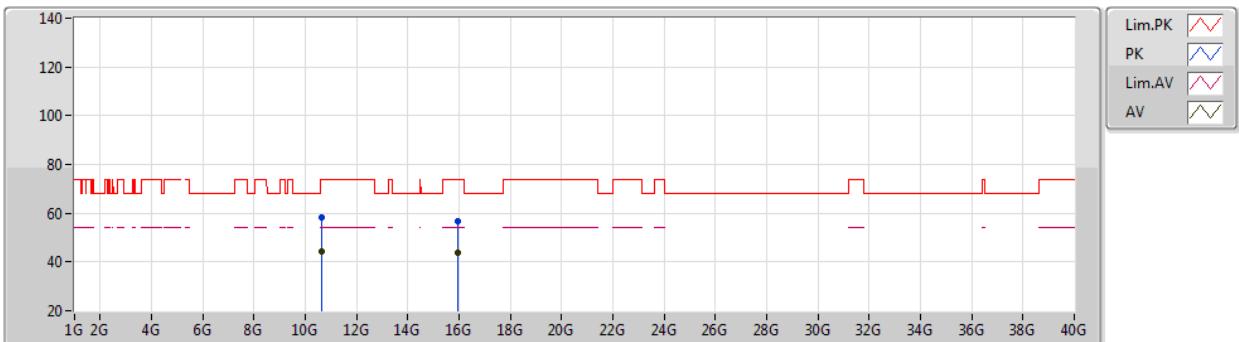
24/02/2020

**5320MHz\_TX**

 EUT X\_2TX  
 Setting 20  
 02-D-J-5

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Raw (dBuV)	Dist (m)	Condition	Azimuth (*)	Height (m)	Comment	AF (dB)	CL (dB)	PA (dB)	
PK	10.64126G	63.26	74.00	-10.74	47.49	3	Vertical	63	2.35	-	38.65	8.60	31.48	
AV	10.64216G	43.44	54.00	-10.56	27.67	3	Vertical	63	2.35	-	38.65	8.60	31.48	
PK	15.9525G	57.59	74.00	-16.41	42.74	3	Vertical	46	1.80	-	37.54	9.38	32.07	
AV	15.95184G	44.17	54.00	-9.83	29.32	3	Vertical	46	1.80	-	37.54	9.38	32.07	

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

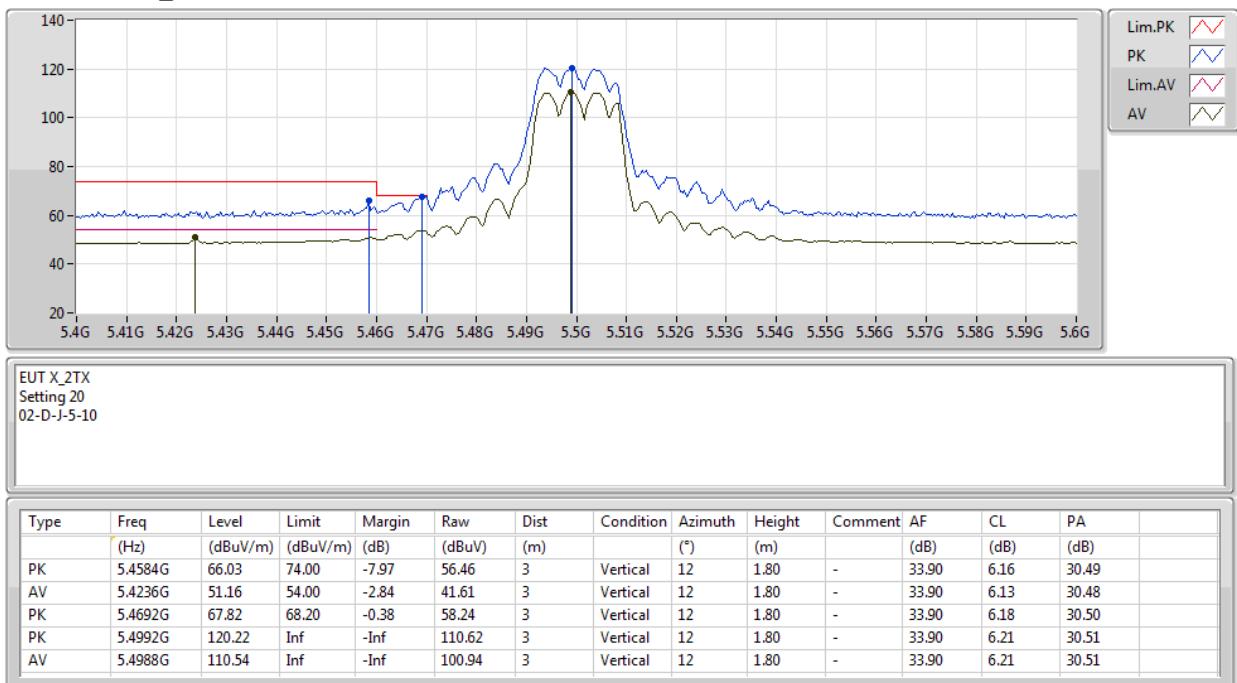
24/02/2020

**5320MHz\_TX**

 EUT X\_2TX  
 Setting 20  
 02-D-J-5

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Raw (dBuV)	Dist (m)	Condition	Azimuth (*)	Height (m)	Comment	AF (dB)	CL (dB)	PA (dB)	
PK	10.63628G	58.35	74.00	-15.65	42.58	3	Horizontal	313	1.55	-	38.65	8.60	31.48	
AV	10.63676G	44.06	54.00	-9.94	28.29	3	Horizontal	313	1.55	-	38.65	8.60	31.48	
PK	15.95448G	56.85	74.00	-17.15	42.01	3	Horizontal	307	1.80	-	37.53	9.38	32.07	
AV	15.95034G	44.01	54.00	-9.99	29.16	3	Horizontal	307	1.80	-	37.54	9.38	32.07	

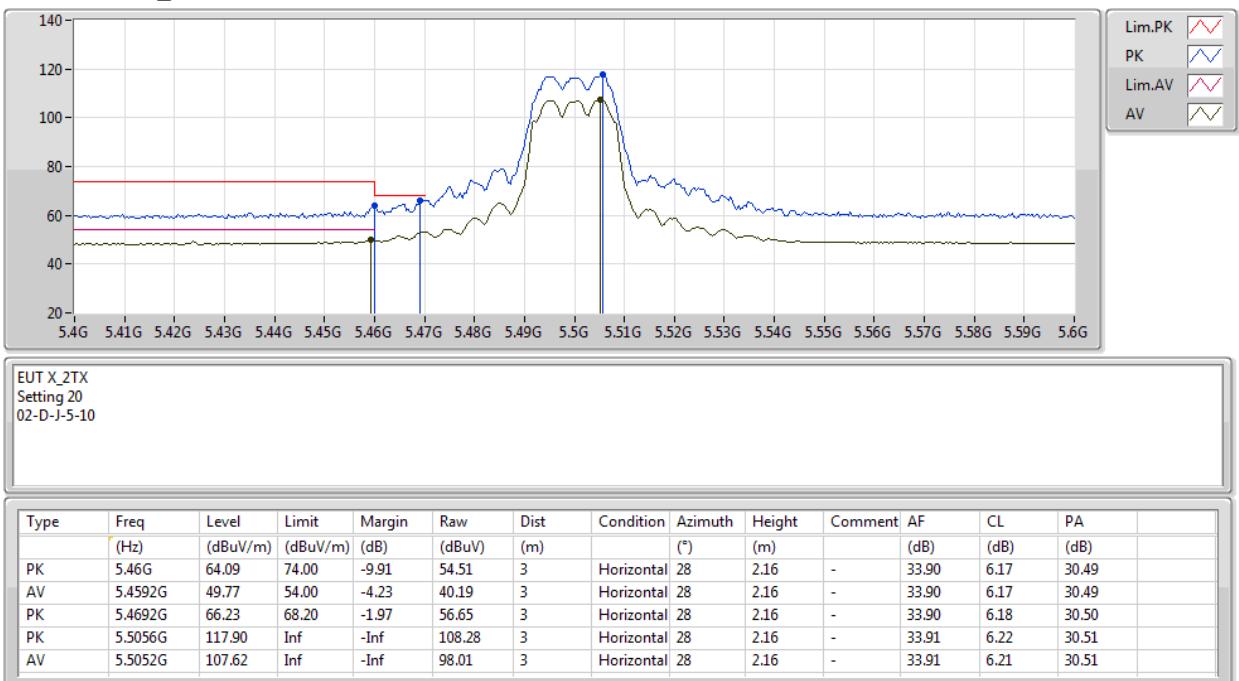
**802.11a\_Nss1,(6Mbps)\_2TX**

24/02/2020

**5500MHz\_TX**


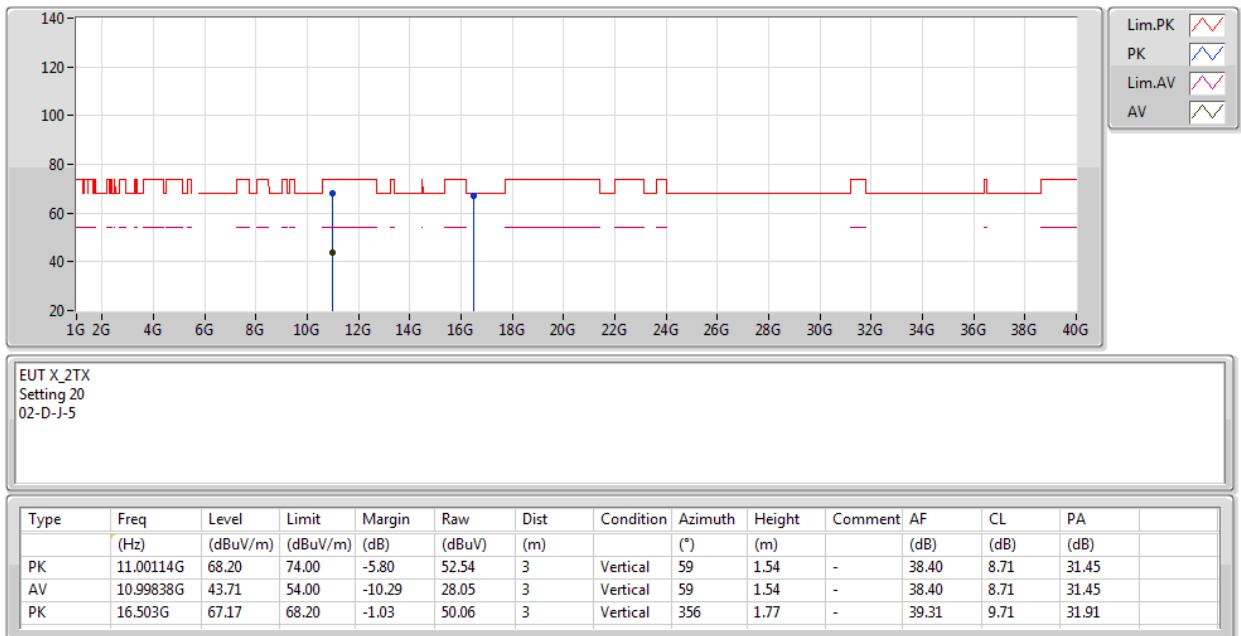
**802.11a\_Nss1,(6Mbps)\_2TX**

24/02/2020

**5500MHz\_TX**


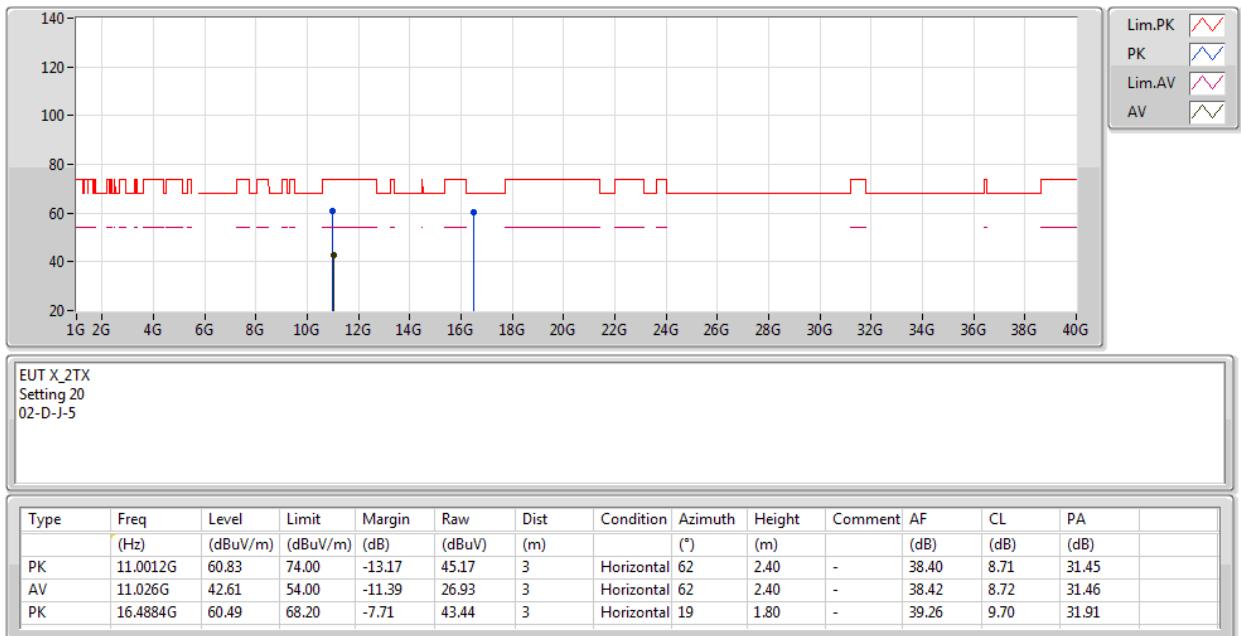
**802.11a\_Nss1,(6Mbps)\_2TX**

24/02/2020

**5500MHz\_TX**


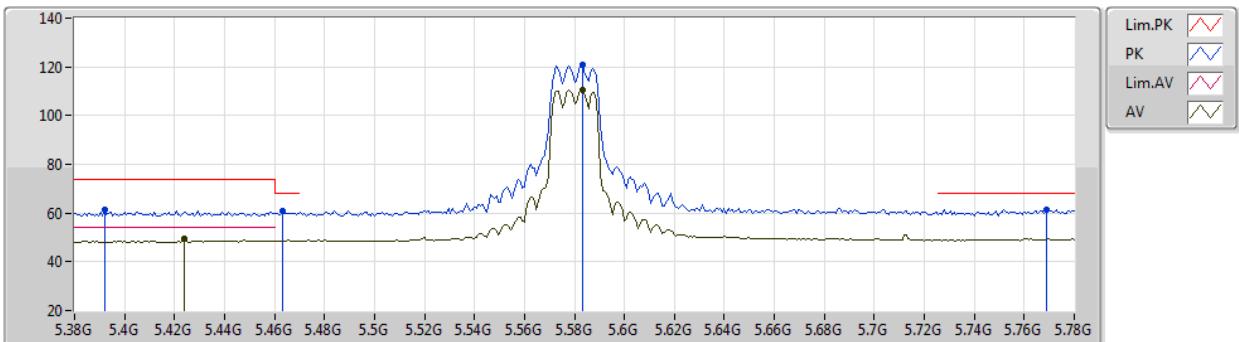
**802.11a\_Nss1,(6Mbps)\_2TX**

24/02/2020

**5500MHz\_TX**


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

24/02/2020

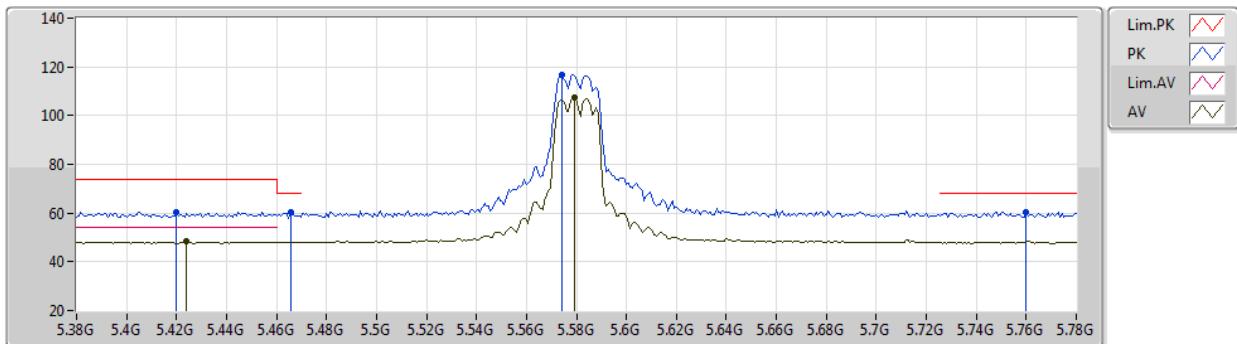
**5580MHz\_TX**


EUT\_X\_2TX  
Setting 20  
02-D-J-5-10

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Raw (dBuV)	Dist (m)	Condition (°)	Azimuth (m)	Height (m)	Comment (dB)	AF (dB)	CL (dB)	PA (dB)	
PK	5.392G	61.18	74.00	-12.82	51.66	3	Vertical	346	1.80	-	33.89	6.10	30.47	
AV	5.424G	49.59	54.00	-4.41	40.04	3	Vertical	346	1.80	-	33.90	6.13	30.48	
PK	5.4632G	60.78	68.20	-7.42	51.21	3	Vertical	346	1.80	-	33.90	6.17	30.50	
PK	5.5832G	120.70	Inf	-Inf	110.97	3	Vertical	346	1.80	-	33.98	6.28	30.53	
AV	5.5832G	110.44	Inf	-Inf	100.71	3	Vertical	346	1.80	-	33.98	6.28	30.53	
PK	5.7688G	61.48	68.20	-6.72	51.87	3	Vertical	346	1.80	-	33.80	6.38	30.57	

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

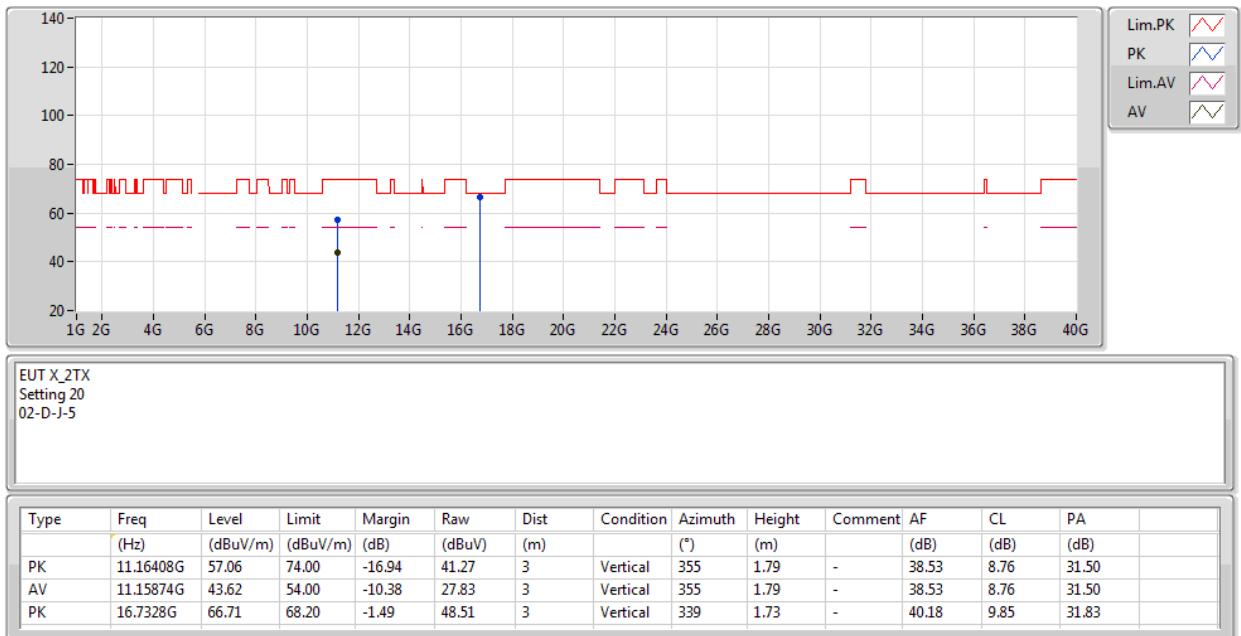
24/02/2020

**5580MHz\_TX**

 EUT X\_2TX  
 Setting 20  
 02-D-J-5-10

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Raw (dBuV)	Dist (m)	Condition	Azimuth	Height (m)	Comment (dB)	AF (dB)	CL (dB)	PA (dB)	
PK	5.42G	60.54	74.00	-13.46	51.00	3	Horizontal	4	2.40	-	33.90	6.12	30.48	
AV	5.424G	48.70	54.00	-5.30	39.15	3	Horizontal	4	2.40	-	33.90	6.13	30.48	
PK	5.4656G	60.40	68.20	-7.80	50.83	3	Horizontal	4	2.40	-	33.90	6.17	30.50	
PK	5.5744G	116.76	Inf	-Inf	107.03	3	Horizontal	4	2.40	-	33.97	6.28	30.52	
AV	5.5792G	107.18	Inf	-Inf	97.45	3	Horizontal	4	2.40	-	33.98	6.28	30.53	
PK	5.76G	60.51	68.20	-7.69	50.90	3	Horizontal	4	2.40	-	33.80	6.38	30.57	

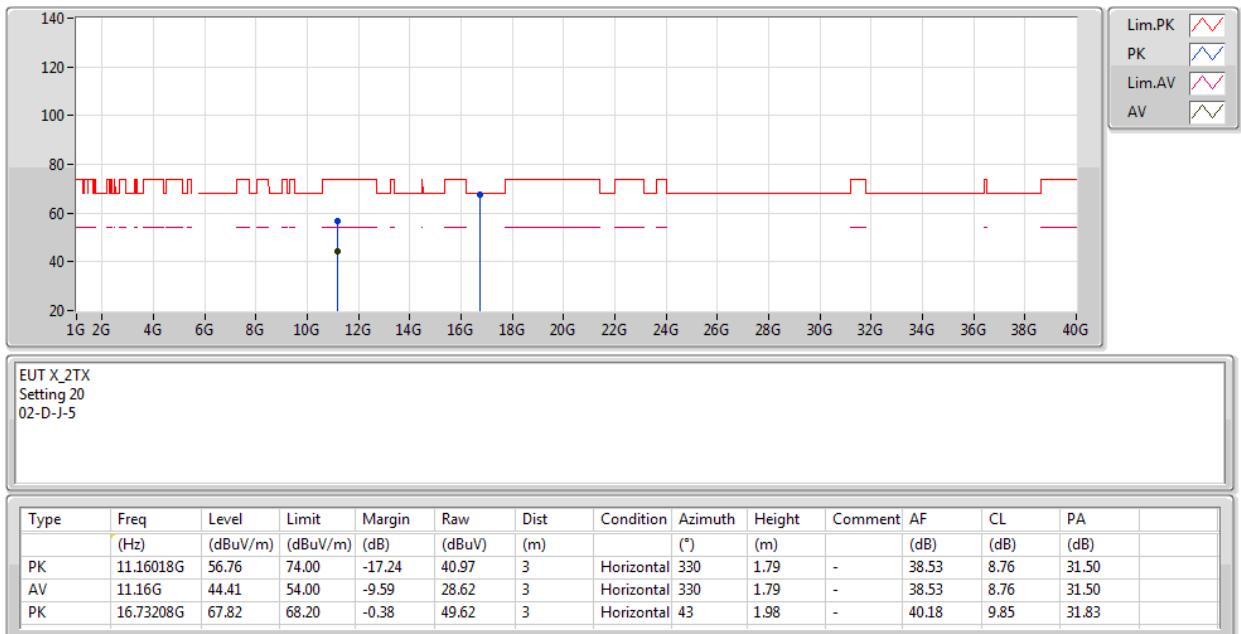
**802.11a\_Nss1,(6Mbps)\_2TX**

24/02/2020

**5580MHz\_TX**


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

24/02/2020

**5580MHz\_TX**


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

24/02/2020

**5700MHz\_TX**

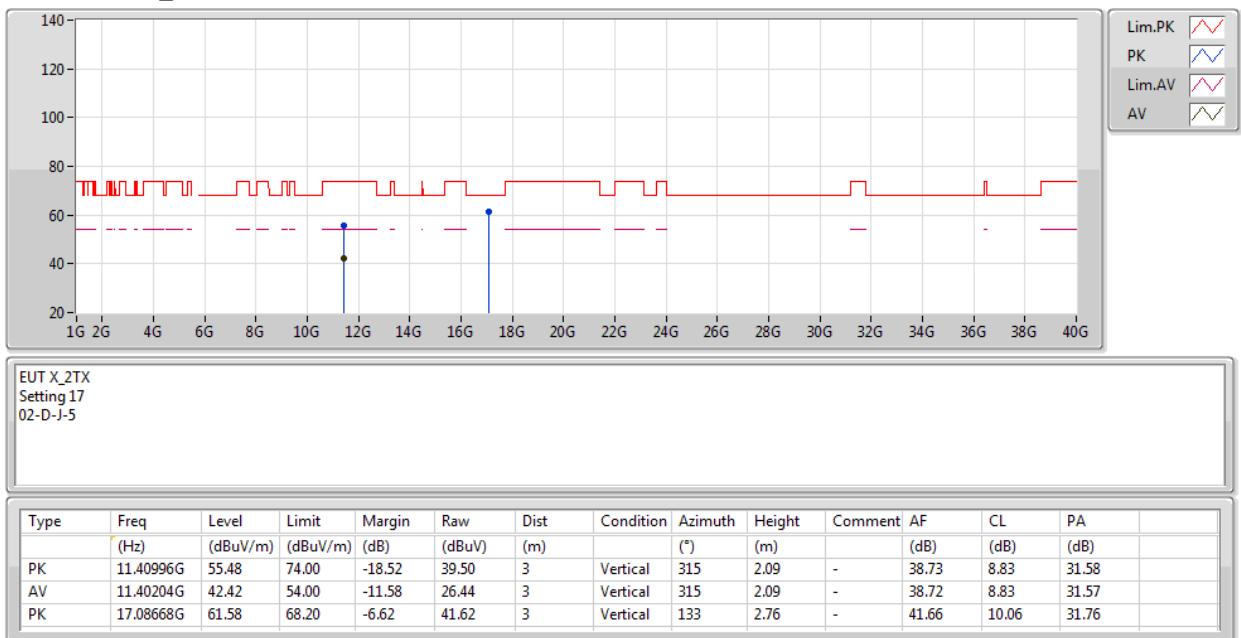

**802.11a\_Nss1,(6Mbps)\_2TX**

24/02/2020

**5700MHz\_TX**

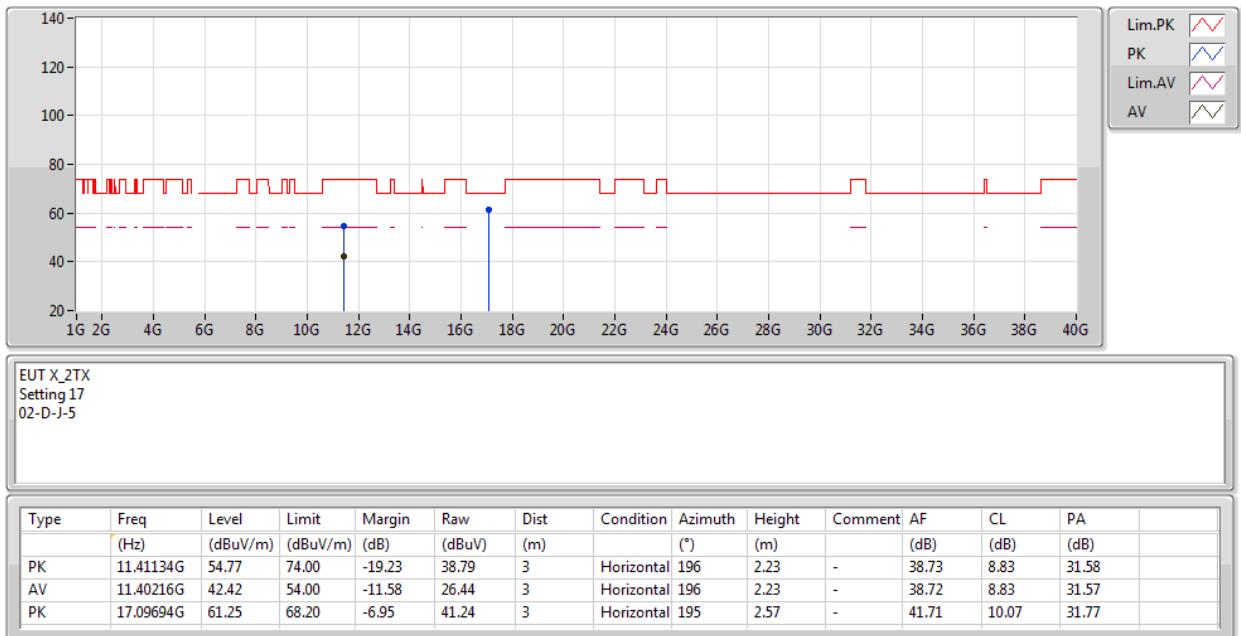

**802.11a\_Nss1,(6Mbps)\_2TX**

24/02/2020

**5700MHz\_TX**


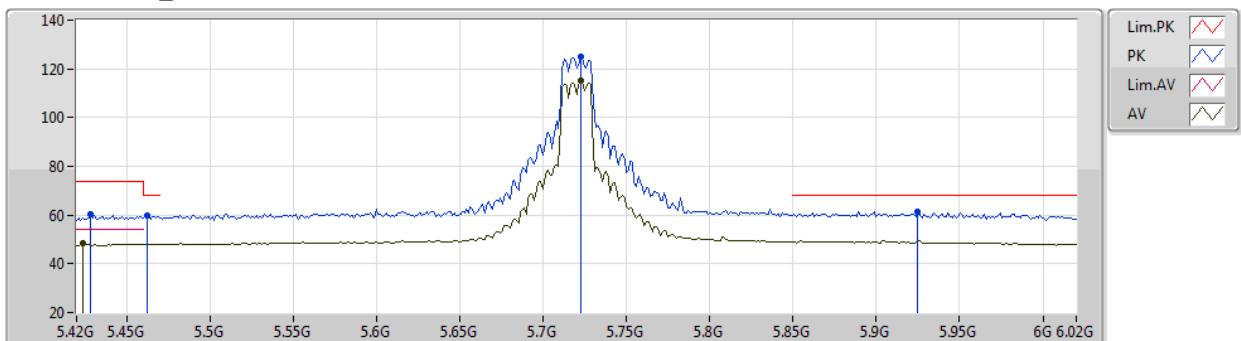
**802.11a\_Nss1,(6Mbps)\_2TX**

24/02/2020

**5700MHz\_TX**


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

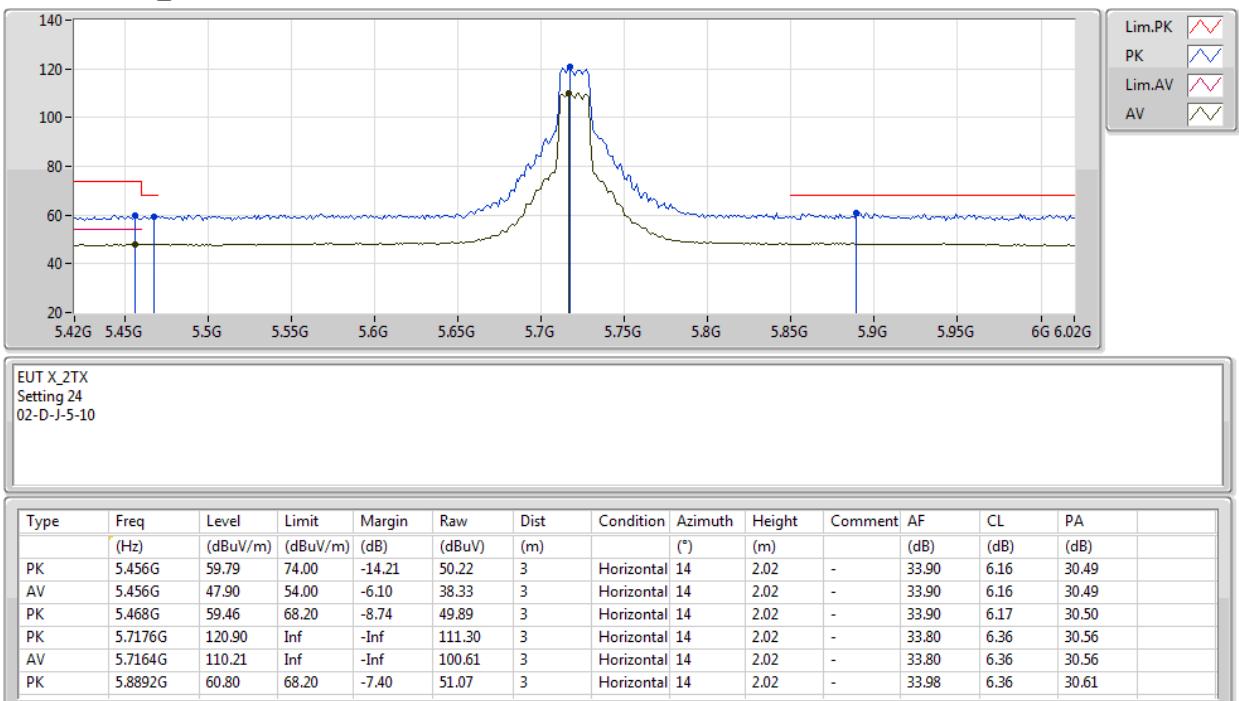
24/02/2020

**5720MHz\_TX**

 EUT\_X\_2TX  
 Setting 24  
 02-D-J-5-10

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Raw (dBuV)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	AF (dB)	CL (dB)	PA (dB)	
PK	5.4284G	60.09	74.00	-13.91	50.54	3	Vertical	347	1.73	-	33.90	6.13	30.48	
AV	5.4236G	48.44	54.00	-5.56	38.89	3	Vertical	347	1.73	-	33.90	6.13	30.48	
PK	5.462G	59.64	68.20	-8.56	50.06	3	Vertical	347	1.73	-	33.90	6.17	30.49	
PK	5.7224G	125.05	Inf	-Inf	115.45	3	Vertical	347	1.73	-	33.80	6.36	30.56	
AV	5.7224G	115.05	Inf	-Inf	105.45	3	Vertical	347	1.73	-	33.80	6.36	30.56	
PK	5.925G	61.47	68.20	-6.73	51.69	3	Vertical	347	1.73	-	34.05	6.34	30.61	

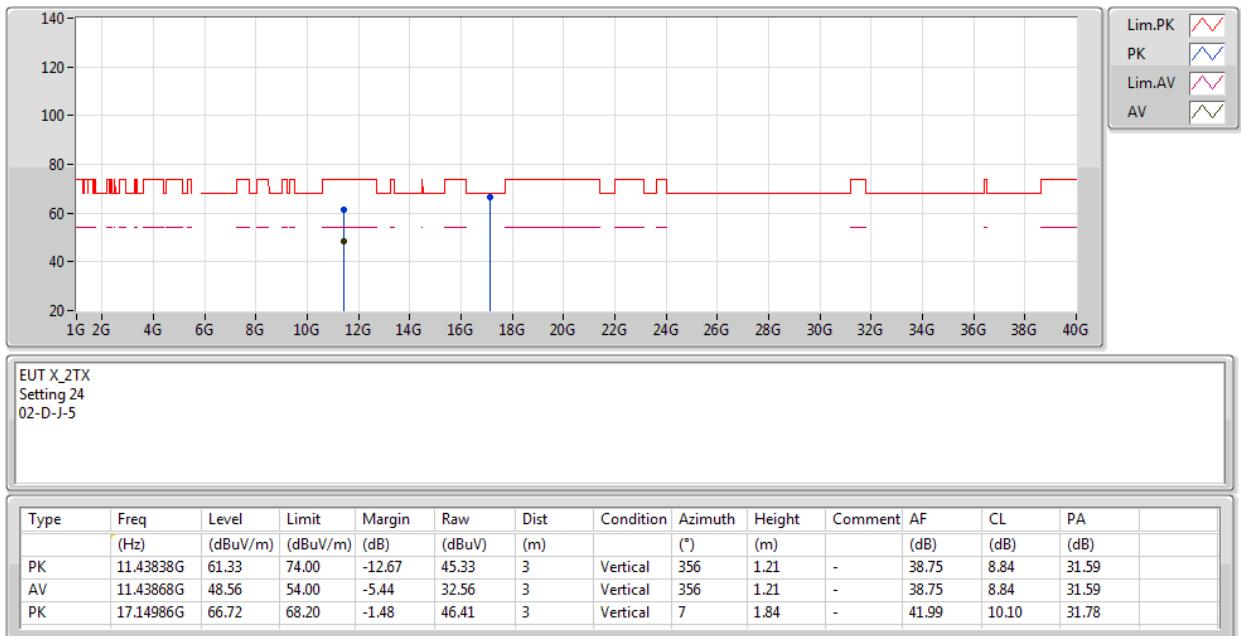
**802.11a\_Nss1,(6Mbps)\_2TX**

24/02/2020

**5720MHz\_TX**


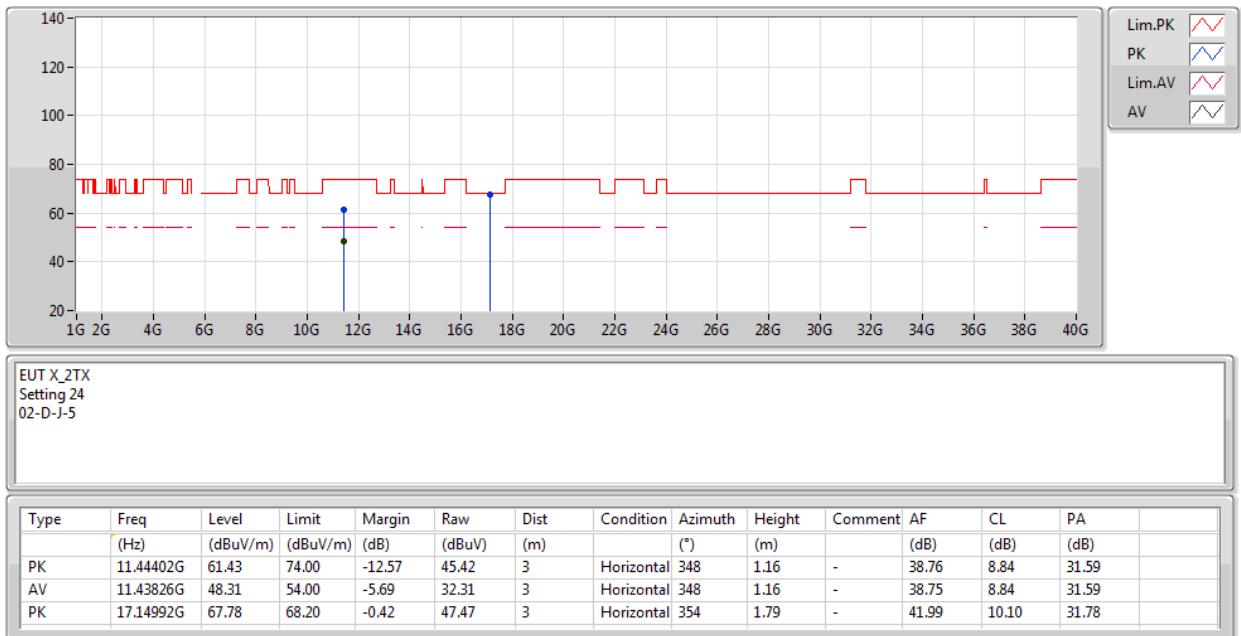
**802.11a\_Nss1,(6Mbps)\_2TX**

24/02/2020

**5720MHz\_TX**


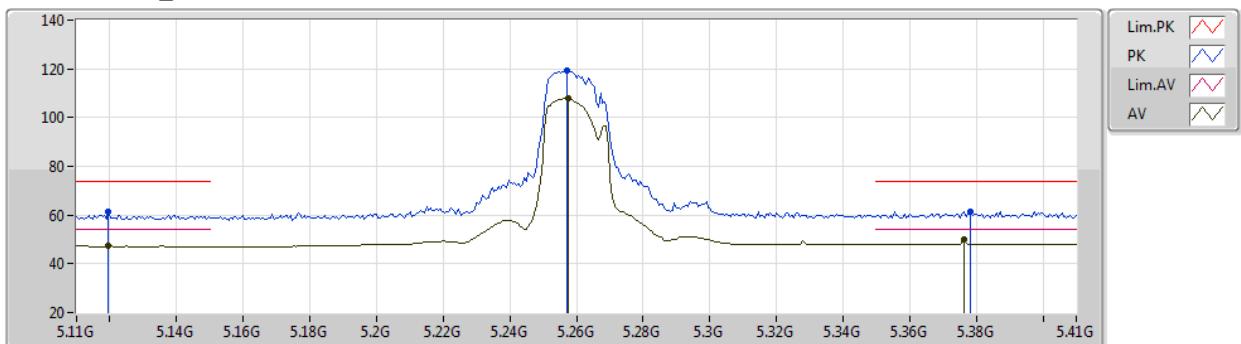
**802.11a\_Nss1,(6Mbps)\_2TX**

24/02/2020

**5720MHz\_TX**


**802.11ac VHT20\_Nss1,(MCS0)\_2TX**

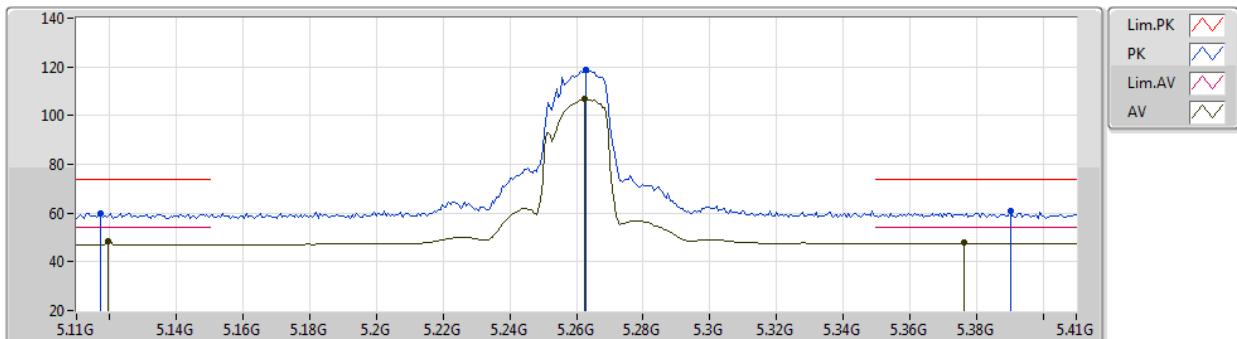
24/02/2020

**5260MHz\_TX**

 EUT X\_2TX  
 Setting 20  
 02-D-L-3-10

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Raw (dBuV)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment (dB)	AF (dB)	CL (dB)	PA (dB)	
PK	5.1196G	61.38	74.00	-12.62	52.28	3	Vertical	10	1.82	-	33.52	5.96	30.38	
AV	5.1196G	47.33	54.00	-6.67	38.23	3	Vertical	10	1.82	-	33.52	5.96	30.38	
PK	5.257G	119.13	Inf	-Inf	109.81	3	Vertical	10	1.82	-	33.71	6.03	30.42	
AV	5.2576G	107.88	Inf	-Inf	98.55	3	Vertical	10	1.82	-	33.72	6.03	30.42	
PK	5.3782G	61.53	74.00	-12.47	52.02	3	Vertical	10	1.82	-	33.88	6.09	30.46	
AV	5.3764G	49.78	54.00	-4.22	40.27	3	Vertical	10	1.82	-	33.88	6.09	30.46	

**802.11ac VHT20\_Nss1,(MCS0)\_2TX**

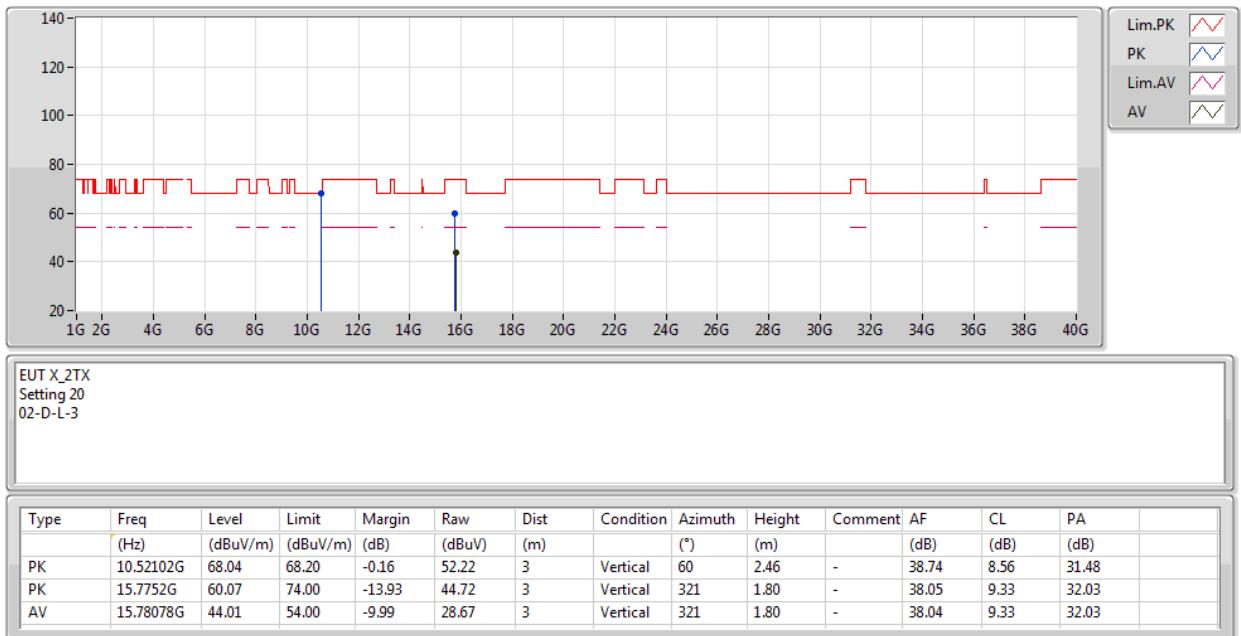
24/02/2020

**5260MHz\_TX**

 EUT X\_2TX  
 Setting 20  
 02-D-L-3-10

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Raw (dBuV)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	AF (dB)	CL (dB)	PA (dB)	
PK	5.1172G	60.08	74.00	-13.92	50.98	3	Horizontal	15	1.79	-	33.52	5.96	30.38	
AV	5.1196G	48.63	54.00	-5.37	39.53	3	Horizontal	15	1.79	-	33.52	5.96	30.38	
PK	5.263G	118.79	Inf	-Inf	109.46	3	Horizontal	15	1.79	-	33.73	6.03	30.43	
AV	5.2624G	106.74	Inf	-Inf	97.41	3	Horizontal	15	1.79	-	33.72	6.03	30.42	
PK	5.3902G	60.71	74.00	-13.29	51.19	3	Horizontal	15	1.79	-	33.89	6.10	30.47	
AV	5.3764G	48.04	54.00	-5.96	38.53	3	Horizontal	15	1.79	-	33.88	6.09	30.46	

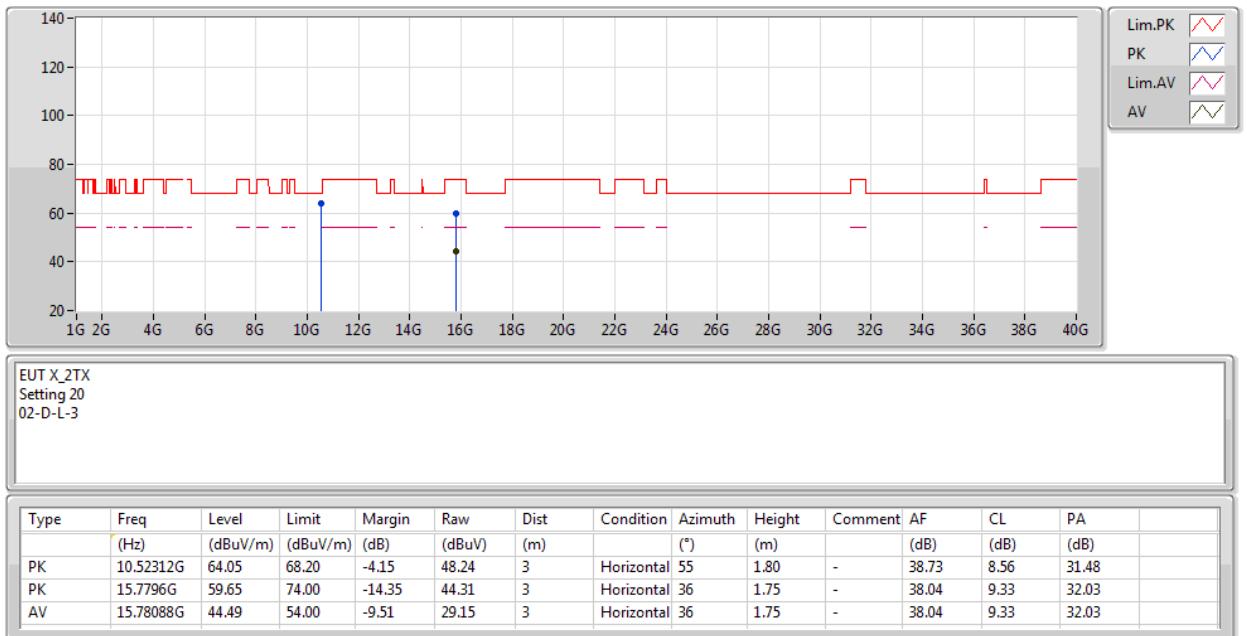
**802.11ac VHT20\_Nss1,(MCS0)\_2TX**

24/02/2020

**5260MHz\_TX**


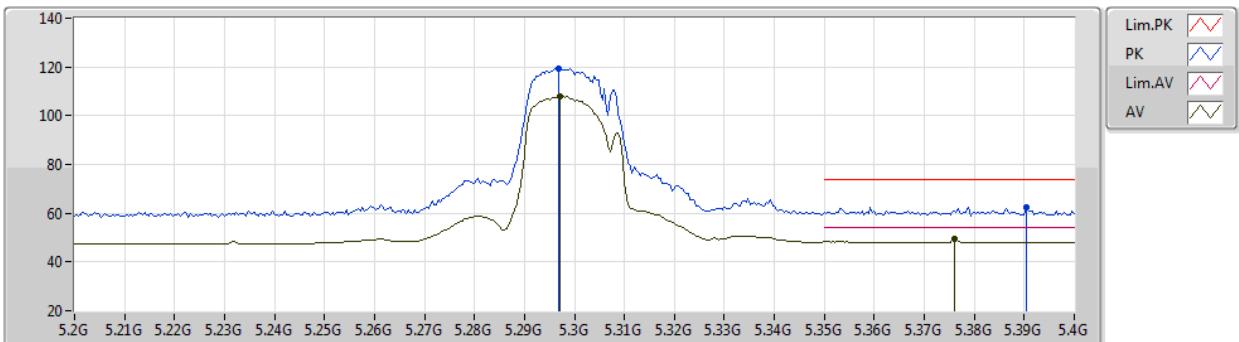
**802.11ac VHT20\_Nss1,(MCS0)\_2TX**

24/02/2020

**5260MHz\_TX**


**802.11ac VHT20\_Nss1,(MCS0)\_2TX**

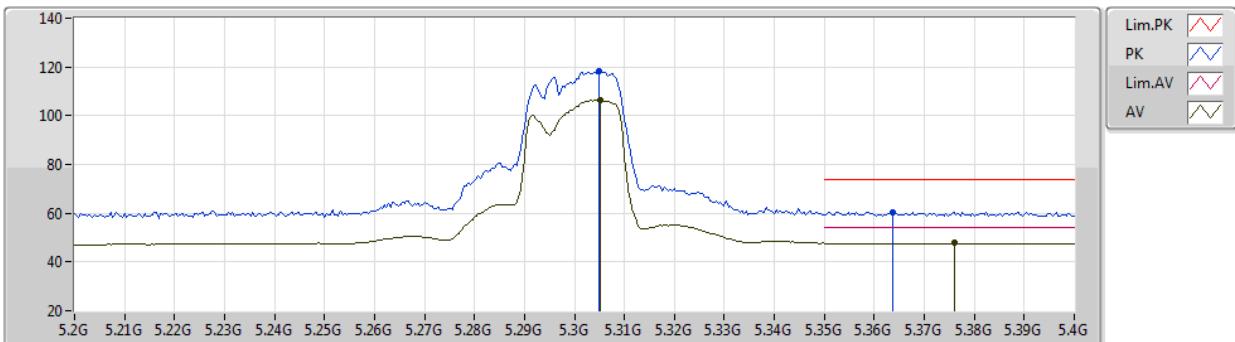
24/02/2020

**5300MHz\_TX**

 EUT X\_2TX  
 Setting 19.5  
 02-D-L-3-10

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Raw (dBuV)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	AF (dB)	CL (dB)	PA (dB)	
PK	5.2968G	119.47	Inf	-Inf	110.07	3	Vertical	10	1.89	-	33.79	6.05	30.44	
AV	5.2972G	107.85	Inf	-Inf	98.45	3	Vertical	10	1.89	-	33.79	6.05	30.44	
PK	5.3904G	62.64	74.00	-11.36	53.12	3	Vertical	10	1.89	-	33.89	6.10	30.47	
AV	5.376G	49.69	54.00	-4.31	40.18	3	Vertical	10	1.89	-	33.88	6.09	30.46	

**802.11ac VHT20\_Nss1,(MCS0)\_2TX**

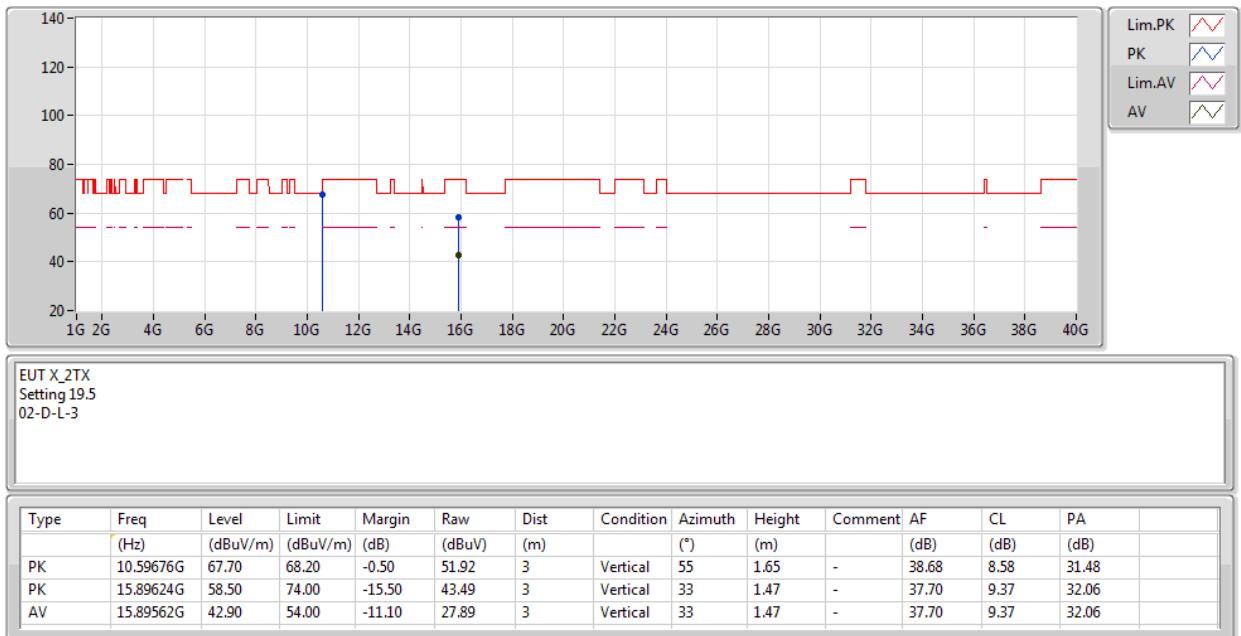
24/02/2020

**5300MHz\_TX**

 EUT X\_2TX  
 Setting 19.5  
 02-D-L-3-10

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Raw (dBuV)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	AF (dB)	CL (dB)	PA (dB)	
PK	5.3048G	118.07	Inf	-Inf	108.66	3	Horizontal	12	1.79	-	33.80	6.05	30.44	
AV	5.3052G	106.36	Inf	-Inf	96.94	3	Horizontal	12	1.79	-	33.81	6.05	30.44	
PK	5.3636G	60.59	74.00	-13.41	51.11	3	Horizontal	12	1.79	-	33.86	6.08	30.46	
AV	5.376G	47.95	54.00	-6.05	38.44	3	Horizontal	12	1.79	-	33.88	6.09	30.46	

**802.11ac VHT20\_Nss1,(MCS0)\_2TX**

24/02/2020

**5300MHz\_TX**


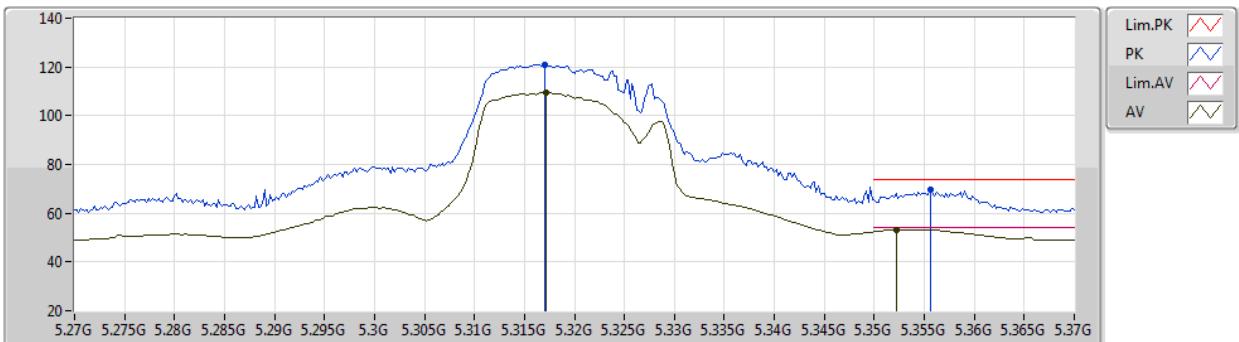
**802.11ac VHT20\_Nss1,(MCS0)\_2TX**

24/02/2020

**5300MHz\_TX**


**802.11ac VHT20\_Nss1,(MCS0)\_2TX**

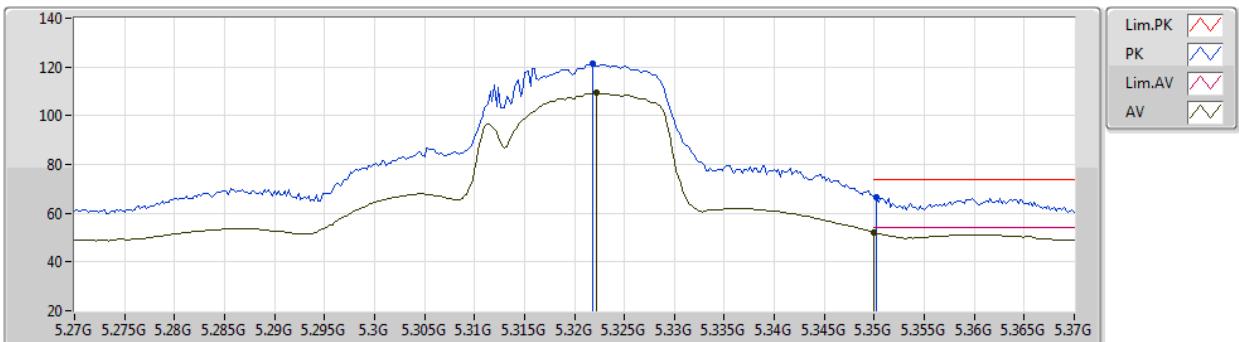
24/02/2020

**5320MHz\_TX**

 EUT\_X\_2TX  
 Setting 21  
 02-D-L-3-10

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Raw (dBuV)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	AF (dB)	CL (dB)	PA (dB)	
PK	5.317G	120.95	Inf	-Inf	111.52	3	Vertical	14	1.79	-	33.82	6.06	30.45	
AV	5.3172G	109.48	Inf	-Inf	100.05	3	Vertical	14	1.79	-	33.82	6.06	30.45	
PK	5.3556G	69.73	74.00	-4.27	60.25	3	Vertical	14	1.79	-	33.86	6.08	30.46	
AV	5.3552G	53.30	54.00	-0.70	43.83	3	Vertical	14	1.79	-	33.85	6.08	30.46	

**802.11ac VHT20\_Nss1,(MCS0)\_2TX**

24/02/2020

**5320MHz\_TX**

 EUT X\_2TX  
 Setting 21  
 02-D-L-3-10

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Raw (dBuV)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	AF (dB)	CL (dB)	PA (dB)	
PK	5.3218G	121.52	Inf	-Inf	112.09	3	Horizontal	29	2.26	-	33.82	6.06	30.45	
AV	5.3222G	109.23	Inf	-Inf	99.80	3	Horizontal	29	2.26	-	33.82	6.06	30.45	
PK	5.3502G	66.73	74.00	-7.27	57.26	3	Horizontal	29	2.26	-	33.85	6.08	30.46	
AV	5.35G	52.03	54.00	-1.97	42.56	3	Horizontal	29	2.26	-	33.85	6.07	30.45	

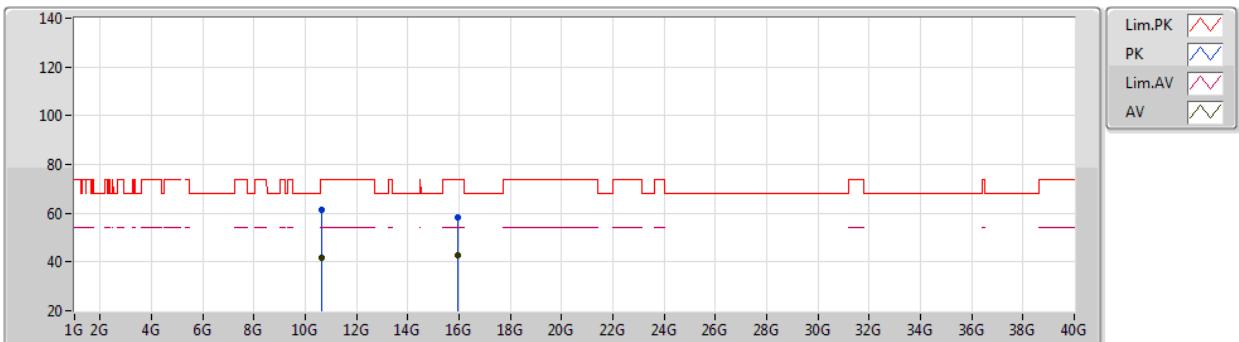
**802.11ac VHT20\_Nss1,(MCS0)\_2TX**

24/02/2020

**5320MHz\_TX**


**802.11ac VHT20\_Nss1,(MCS0)\_2TX**

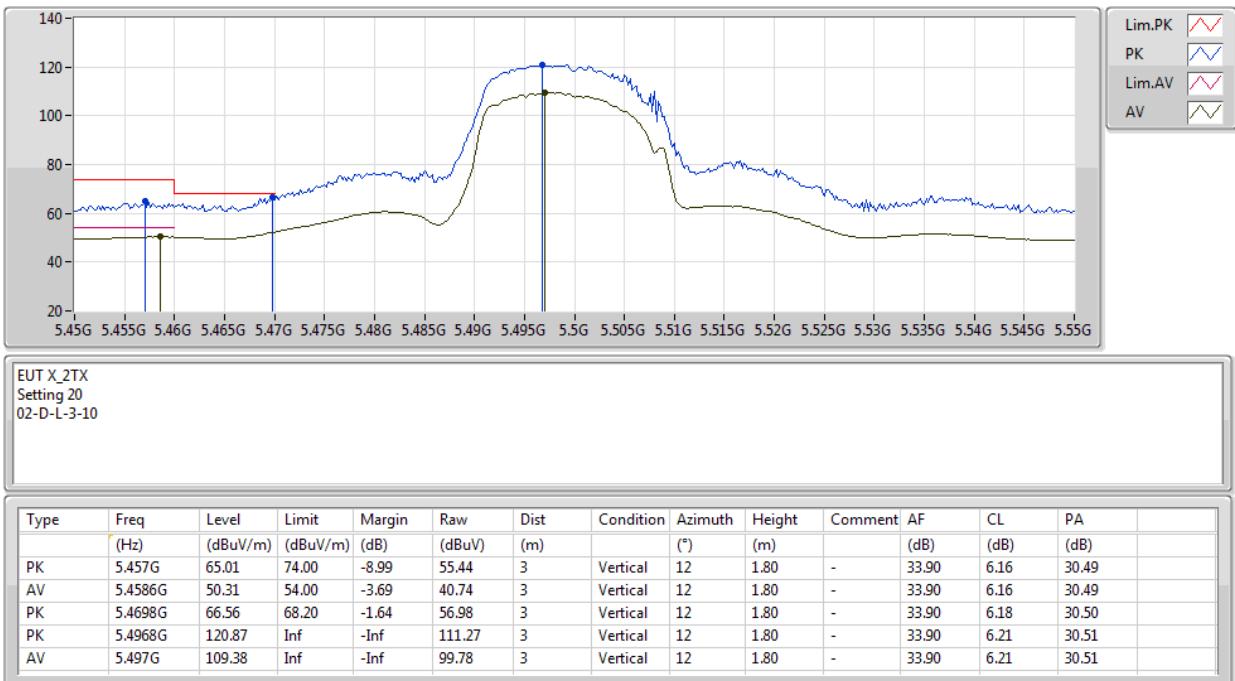
24/02/2020

**5320MHz\_TX**

 EUT\_X\_2TX  
 Setting 21  
 02-D-L-3

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Raw (dBuV)	Dist (m)	Condition	Azimuth (*)	Height (m)	Comment	AF (dB)	CL (dB)	PA (dB)	
PK	10.64124G	61.24	74.00	-12.76	45.47	3	Horizontal	60	1.65	-	38.65	8.60	31.48	
AV	10.6399G	41.93	54.00	-12.07	26.16	3	Horizontal	60	1.65	-	38.65	8.60	31.48	
PK	15.95816G	58.34	74.00	-15.66	43.50	3	Horizontal	322	1.73	-	37.52	9.39	32.07	
AV	15.96414G	42.80	54.00	-11.20	27.98	3	Horizontal	322	1.73	-	37.50	9.39	32.07	

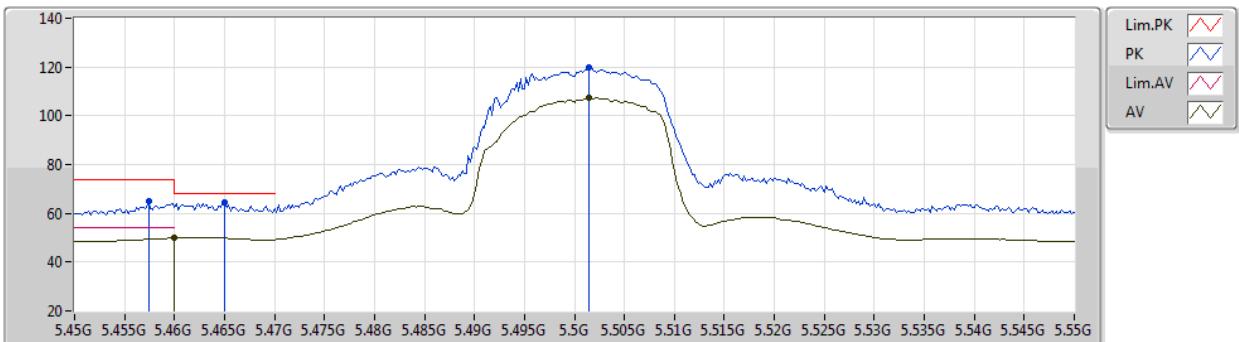
**802.11ac VHT20\_Nss1,(MCS0)\_2TX**

24/02/2020

**5500MHz\_TX**


**802.11ac VHT20\_Nss1,(MCS0)\_2TX**

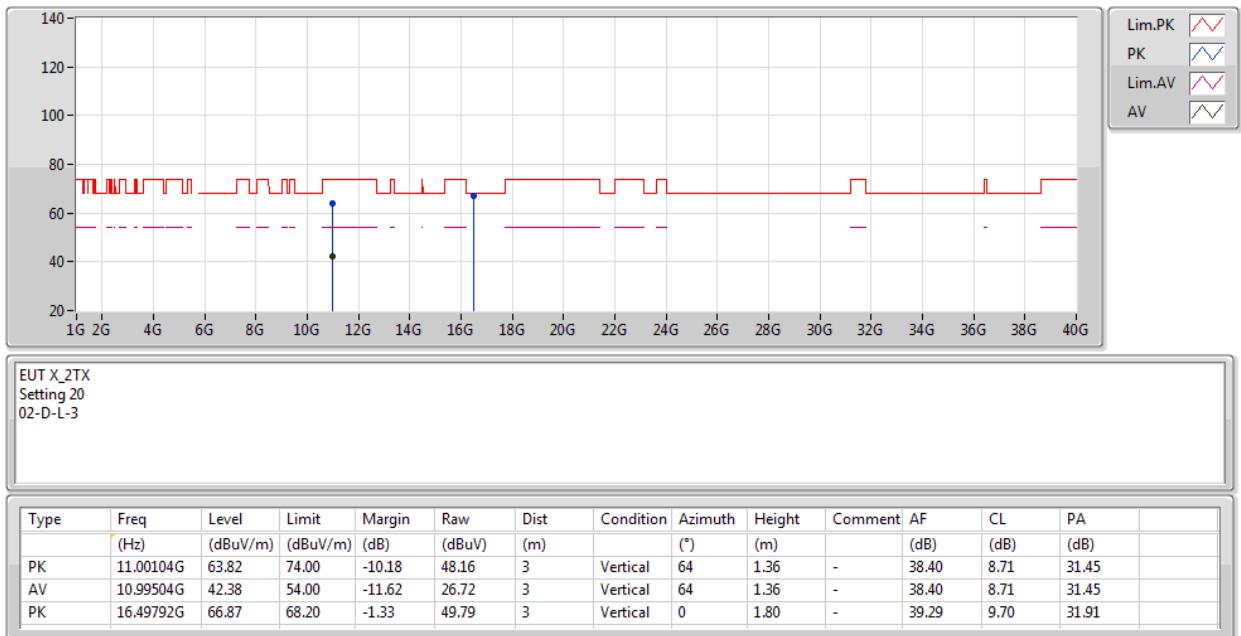
24/02/2020

**5500MHz\_TX**

 EUT X\_2TX  
 Setting 20  
 02-D-L-3-10

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Raw (dBuV)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment (dB)	AF (dB)	CL (dB)	PA (dB)
PK	5.4574G	64.92	74.00	-9.08	55.35	3	Horizontal	31	2.32	-	33.90	6.16	30.49
AV	5.46G	49.82	54.00	-4.18	40.24	3	Horizontal	31	2.32	-	33.90	6.17	30.49
PK	5.465G	64.31	68.20	-3.89	54.74	3	Horizontal	31	2.32	-	33.90	6.17	30.50
PK	5.5014G	119.58	Inf	-Inf	109.98	3	Horizontal	31	2.32	-	33.90	6.21	30.51
AV	5.5014G	107.22	Inf	-Inf	97.62	3	Horizontal	31	2.32	-	33.90	6.21	30.51

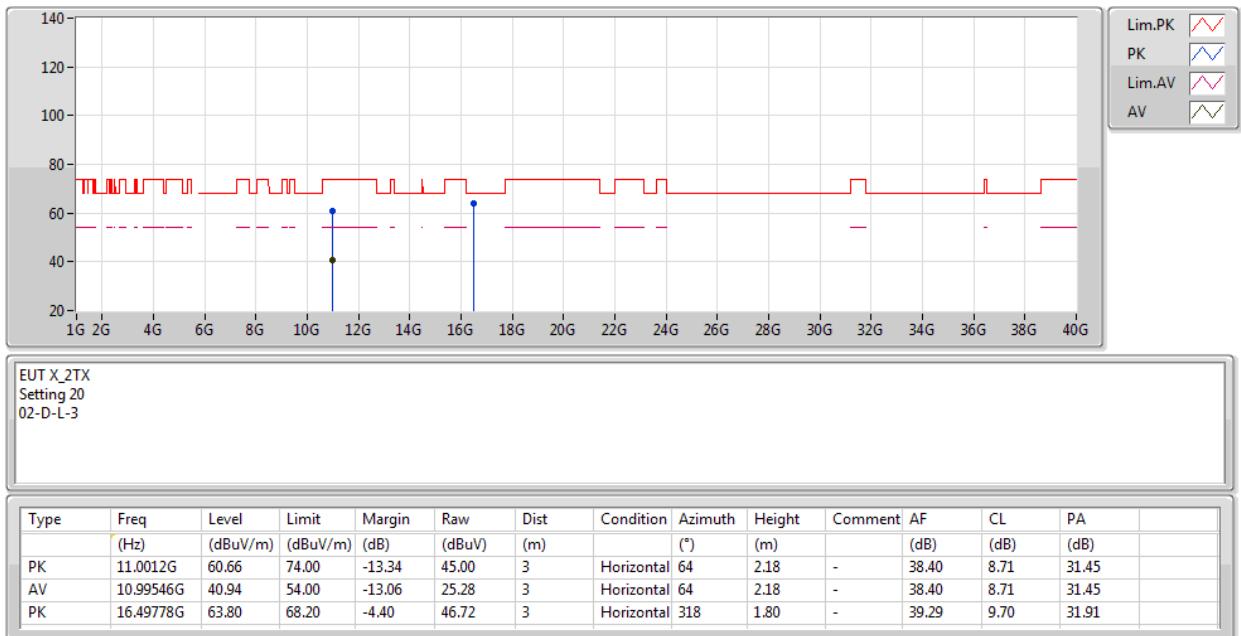
**802.11ac VHT20\_Nss1,(MCS0)\_2TX**

24/02/2020

**5500MHz\_TX**


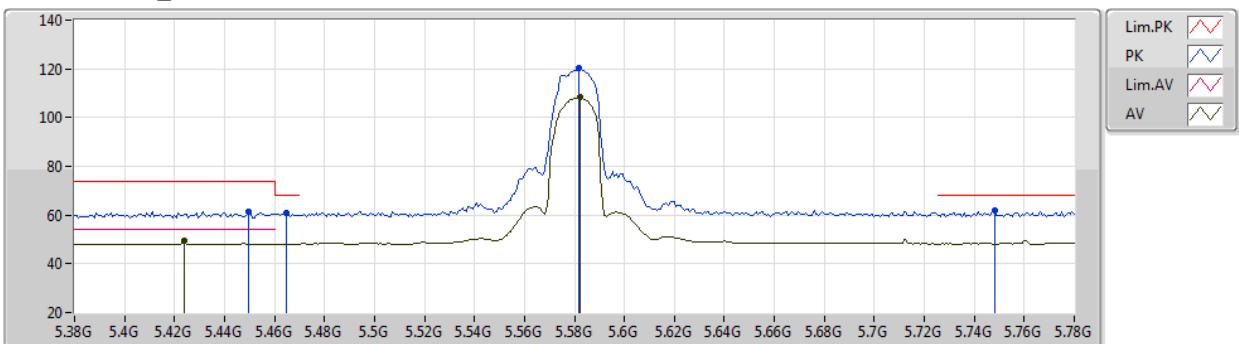
**802.11ac VHT20\_Nss1,(MCS0)\_2TX**

24/02/2020

**5500MHz\_TX**


**802.11ac VHT20\_Nss1,(MCS0)\_2TX**

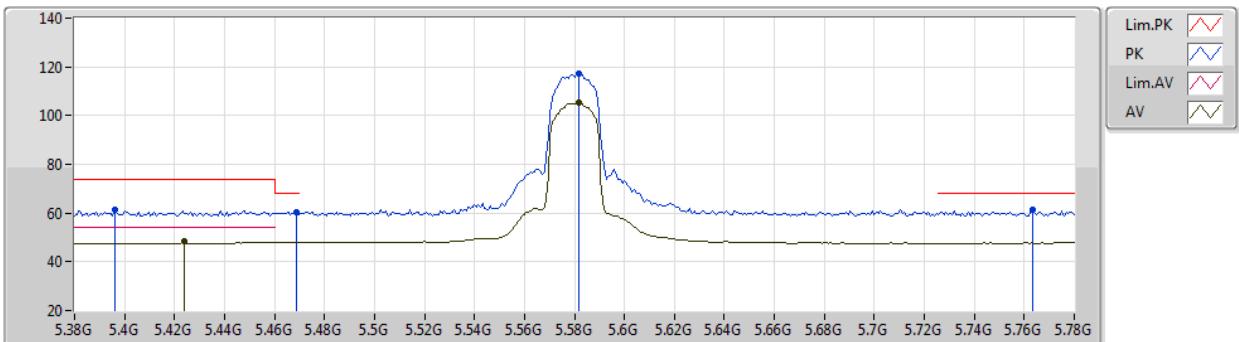
24/02/2020

**5580MHz\_TX**

 EUT X\_2TX  
 Setting 19.5  
 02-D-L-3-10

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Raw (dBuV)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment (dB)	AF (dB)	CL (dB)	PA (dB)	
PK	5.4496G	61.46	74.00	-12.54	51.90	3	Vertical	327	1.80	-	33.90	6.15	30.49	
AV	5.424G	49.74	54.00	-4.26	40.19	3	Vertical	327	1.80	-	33.90	6.13	30.48	
PK	5.4648G	60.91	68.20	-7.29	51.34	3	Vertical	327	1.80	-	33.90	6.17	30.50	
PK	5.5816G	120.45	Inf	-Inf	110.72	3	Vertical	327	1.80	-	33.98	6.28	30.53	
AV	5.5824G	108.34	Inf	-Inf	98.61	3	Vertical	327	1.80	-	33.98	6.28	30.53	
PK	5.748G	61.64	68.20	-6.56	52.04	3	Vertical	327	1.80	-	33.80	6.37	30.57	

**802.11ac VHT20\_Nss1,(MCS0)\_2TX**

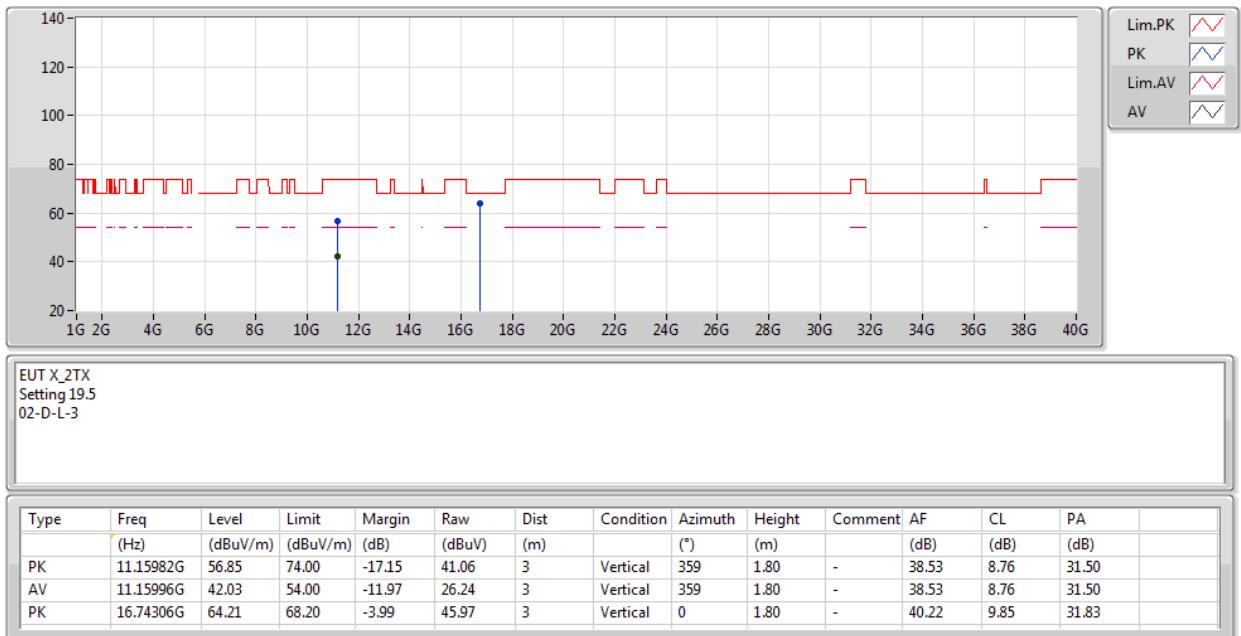
24/02/2020

**5580MHz\_TX**

 EUT\_X\_2TX  
 Setting 19.5  
 02-D-L-3-10

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Raw (dBuV)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	AF (dB)	CL (dB)	PA (dB)	
PK	5.396G	61.19	74.00	-12.81	51.66	3	Horizontal	26	1.85	-	33.90	6.10	30.47	
AV	5.424G	48.70	54.00	-5.30	39.15	3	Horizontal	26	1.85	-	33.90	6.13	30.48	
PK	5.4688G	60.55	68.20	-7.65	50.97	3	Horizontal	26	1.85	-	33.90	6.18	30.50	
PK	5.5816G	117.42	Inf	-Inf	107.69	3	Horizontal	26	1.85	-	33.98	6.28	30.53	
AV	5.5816G	105.21	Inf	-Inf	95.48	3	Horizontal	26	1.85	-	33.98	6.28	30.53	
PK	5.7632G	61.22	68.20	-6.98	51.61	3	Horizontal	26	1.85	-	33.80	6.38	30.57	

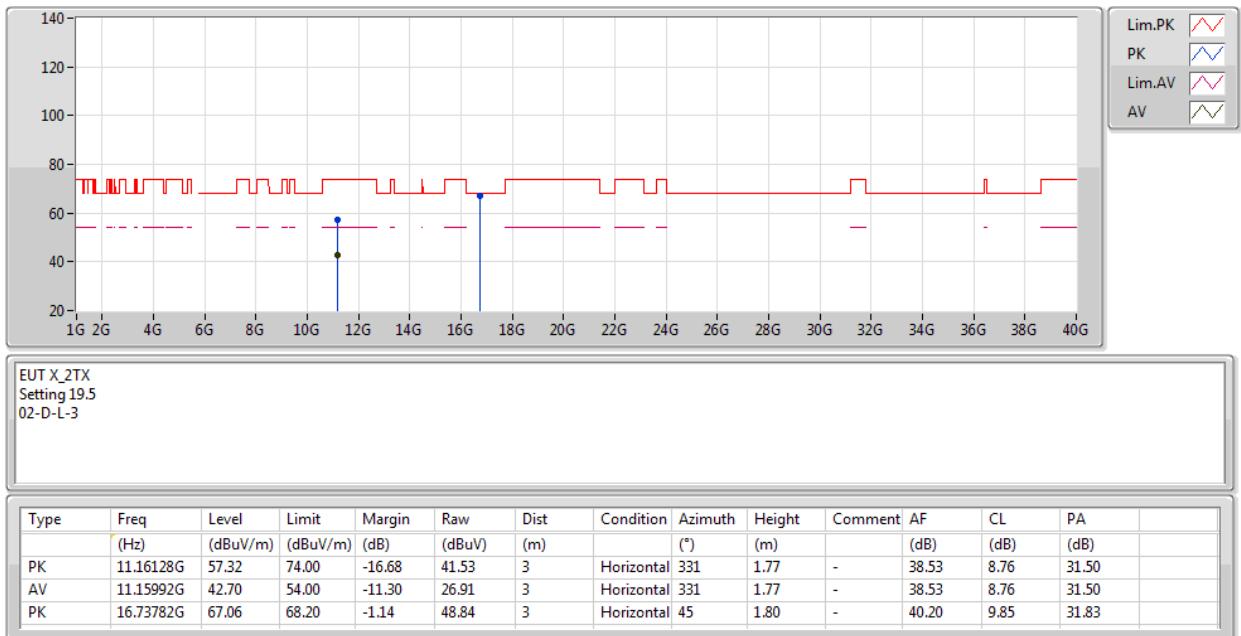
**802.11ac VHT20\_Nss1,(MCS0)\_2TX**

24/02/2020

**5580MHz\_TX**


**802.11ac VHT20\_Nss1,(MCS0)\_2TX**

24/02/2020

**5580MHz\_TX**


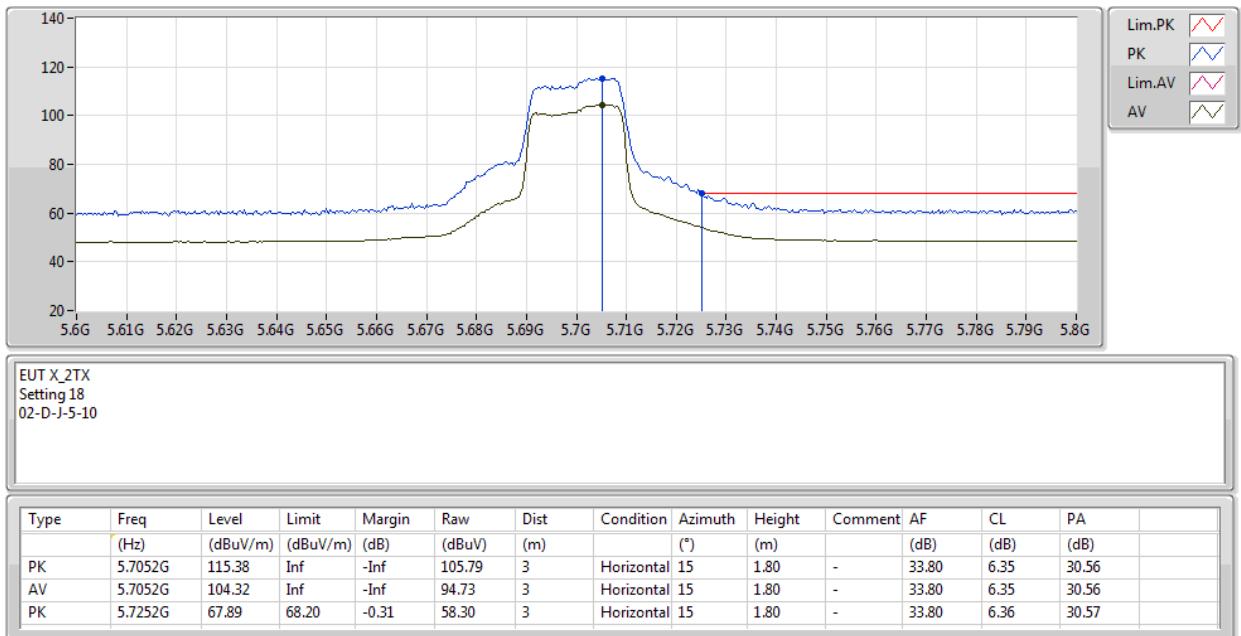
**802.11ac VHT20\_Nss1,(MCS0)\_2TX**

24/02/2020

**5700MHz\_TX**

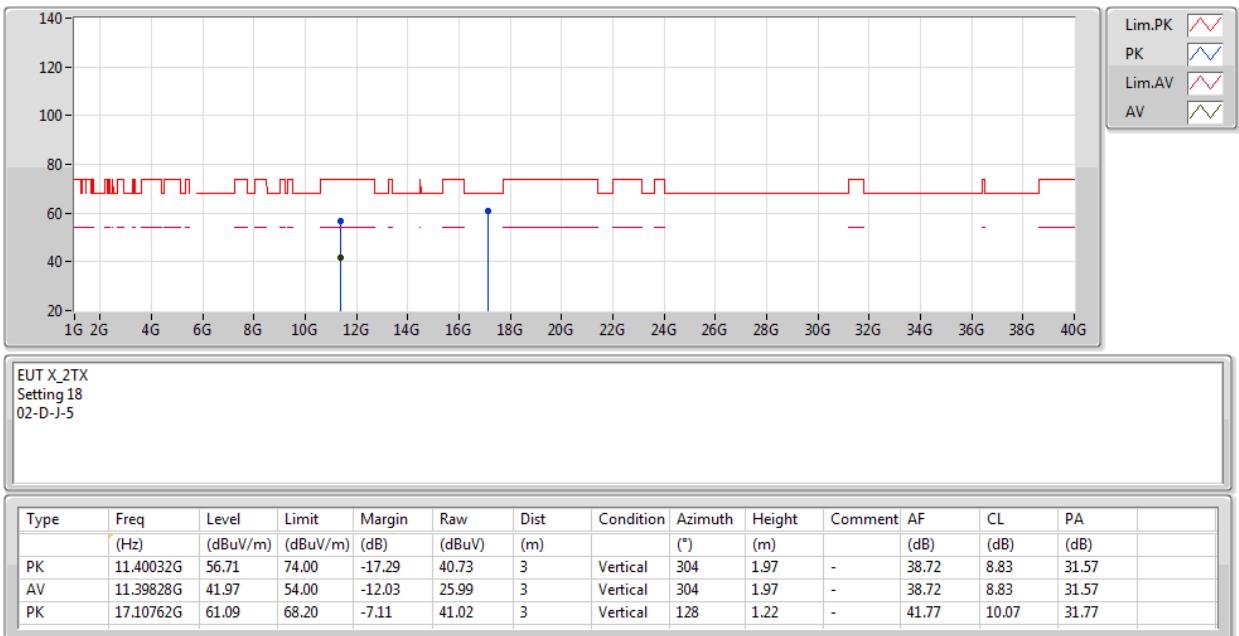

**802.11ac VHT20\_Nss1,(MCS0)\_2TX**

24/02/2020

**5700MHz\_TX**


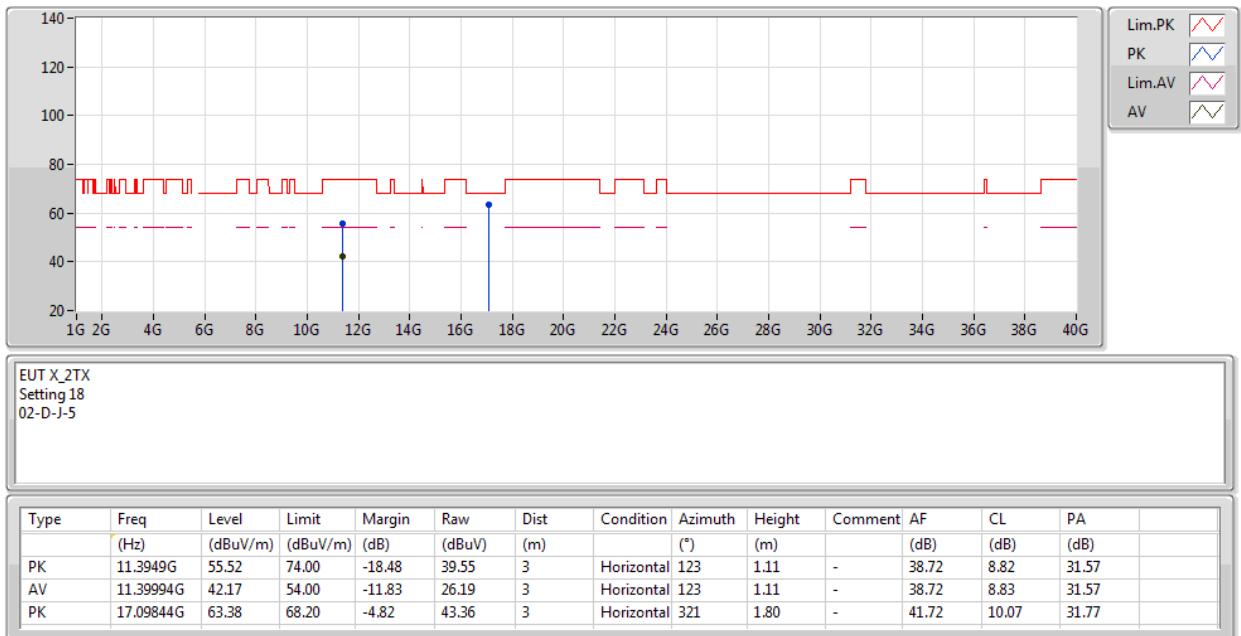
**802.11ac VHT20\_Nss1,(MCS0)\_2TX**

24/02/2020

**5700MHz\_TX**


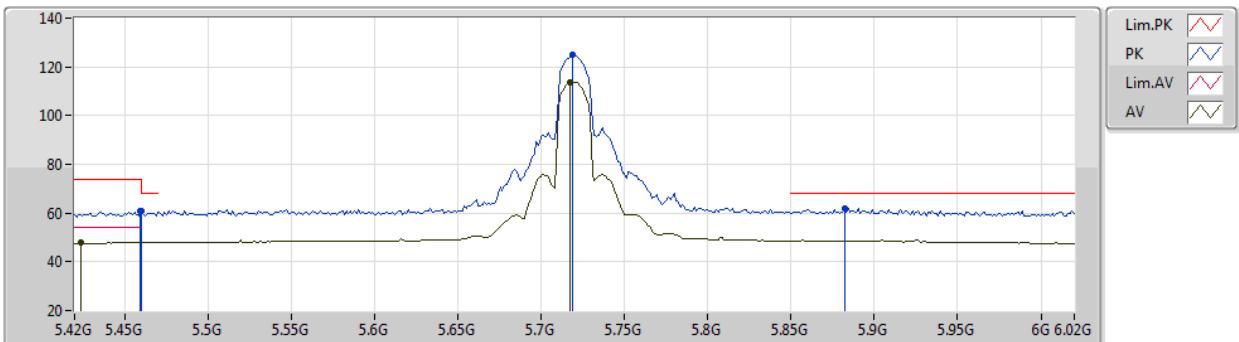
**802.11ac VHT20\_Nss1,(MCS0)\_2TX**

24/02/2020

**5700MHz\_TX**


**802.11ac VHT20\_Nss1,(MCS0)\_2TX**

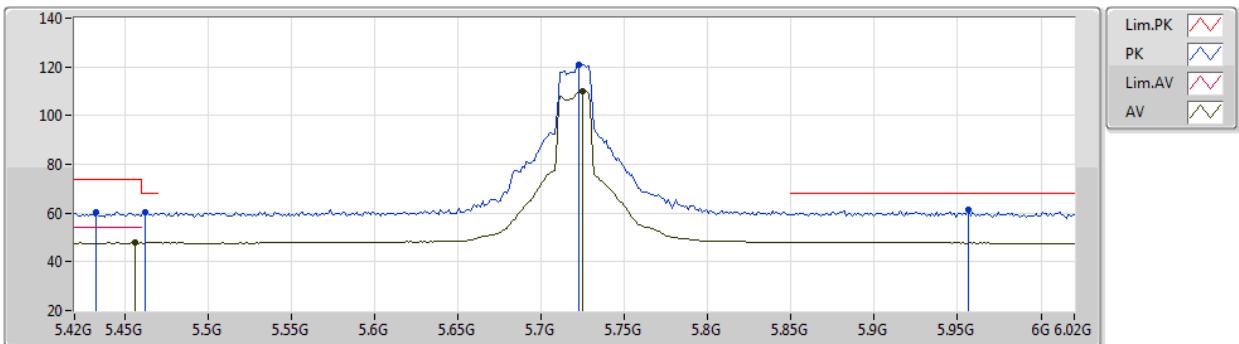
24/02/2020

**5720MHz Straddle 5.47-5.725GHz\_TX**

 EUT\_X\_2TX  
 Setting 24  
 02-D-J-5-10

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Raw (dBuV)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	AF (dB)	CL (dB)	PA (dB)	
PK	5.4596G	61.06	74.00	-12.94	51.48	3	Vertical	334	1.75	-	33.90	6.17	30.49	
AV	5.4236G	48.06	54.00	-5.94	38.51	3	Vertical	334	1.75	-	33.90	6.13	30.48	
PK	5.46G	61.06	68.20	-7.14	51.48	3	Vertical	334	1.75	-	33.90	6.17	30.49	
PK	5.7188G	124.91	Inf	-Inf	115.31	3	Vertical	334	1.75	-	33.80	6.36	30.56	
AV	5.7176G	113.78	Inf	-Inf	104.18	3	Vertical	334	1.75	-	33.80	6.36	30.56	
PK	5.882G	62.01	68.20	-6.19	52.29	3	Vertical	334	1.75	-	33.96	6.36	30.60	

**802.11ac VHT20\_Nss1,(MCS0)\_2TX**

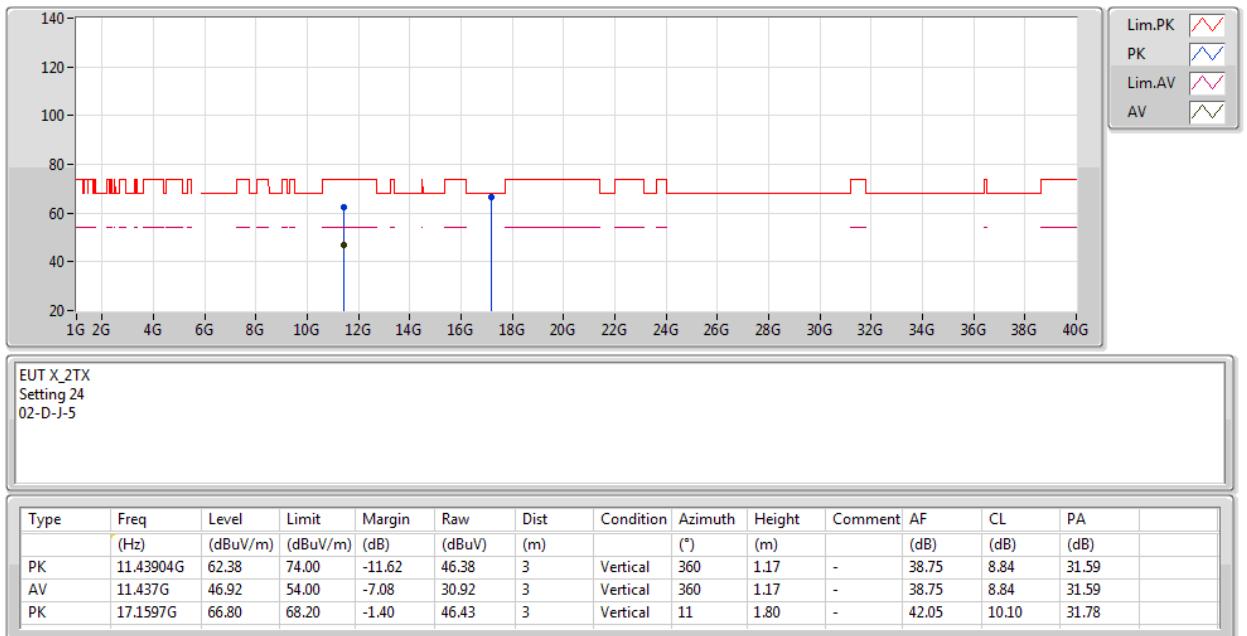
24/02/2020

**5720MHz Straddle 5.47-5.725GHz\_TX**

 EUT\_X\_2TX  
 Setting 24  
 02-D-J-5-10

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Raw (dBuV)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment (dB)	AF (dB)	CL (dB)	PA (dB)	
PK	5.4332G	60.52	74.00	-13.48	50.96	3	Horizontal	20	1.90	-	33.90	6.14	30.48	
PK	5.462G	60.09	68.20	-8.11	50.51	3	Horizontal	20	1.90	-	33.90	6.17	30.49	
AV	5.456G	47.79	54.00	-6.21	38.22	3	Horizontal	20	1.90	-	33.90	6.16	30.49	
PK	5.7224G	121.07	Inf	-Inf	111.47	3	Horizontal	20	1.90	-	33.80	6.36	30.56	
AV	5.7248G	110.02	Inf	-Inf	100.42	3	Horizontal	20	1.90	-	33.80	6.36	30.56	
PK	5.9564G	61.32	68.20	-6.88	51.51	3	Horizontal	20	1.90	-	34.11	6.32	30.62	

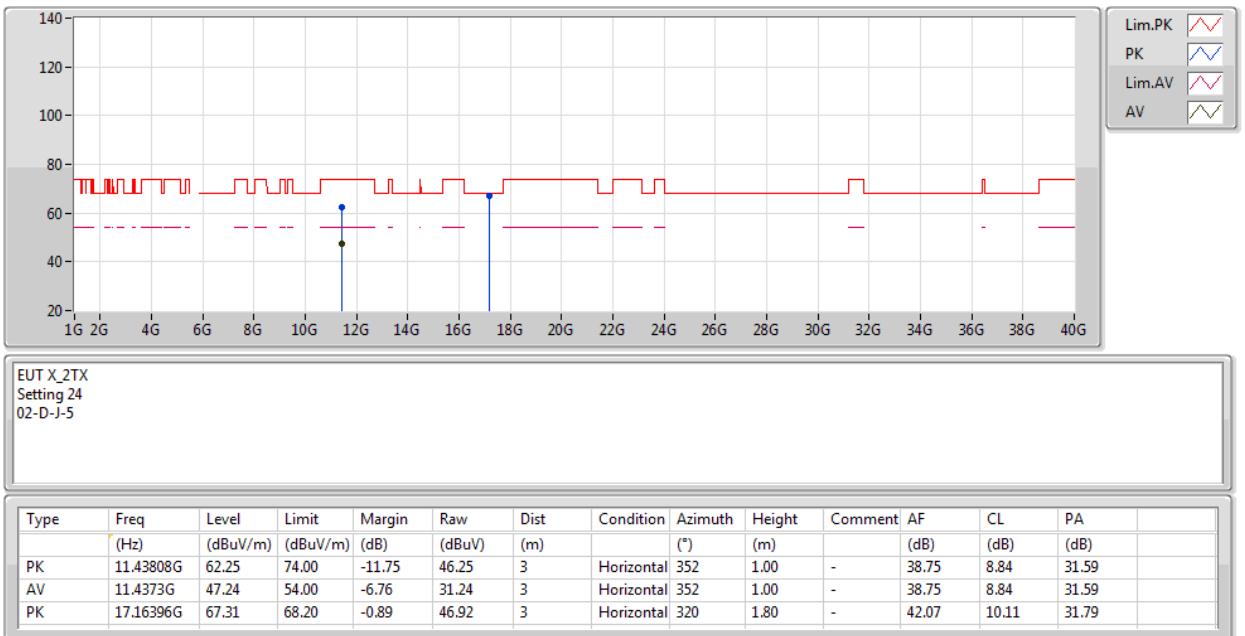
**802.11ac VHT20\_Nss1,(MCS0)\_2TX**

24/02/2020

**5720MHz Straddle 5.47-5.725GHz\_TX**


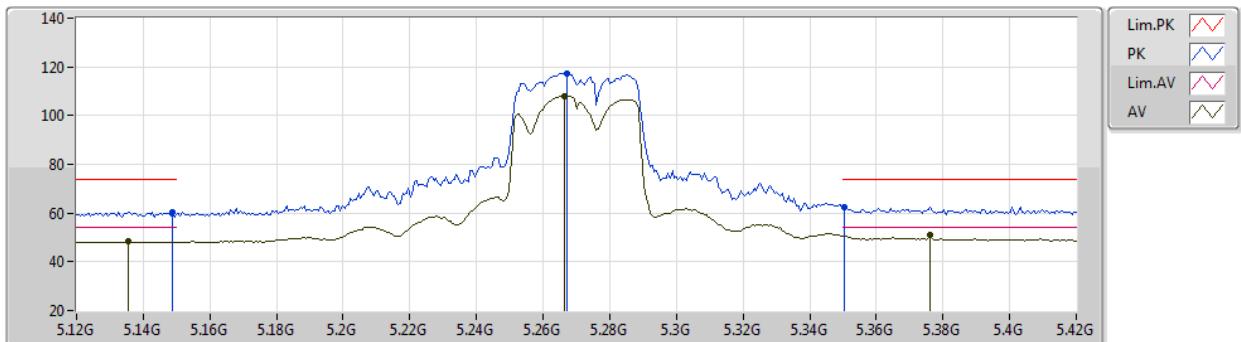
**802.11ac VHT20\_Nss1,(MCS0)\_2TX**

24/02/2020

**5720MHz Straddle 5.47-5.725GHz\_TX**


**802.11ac VHT40\_Nss1,(MCS0)\_2TX**

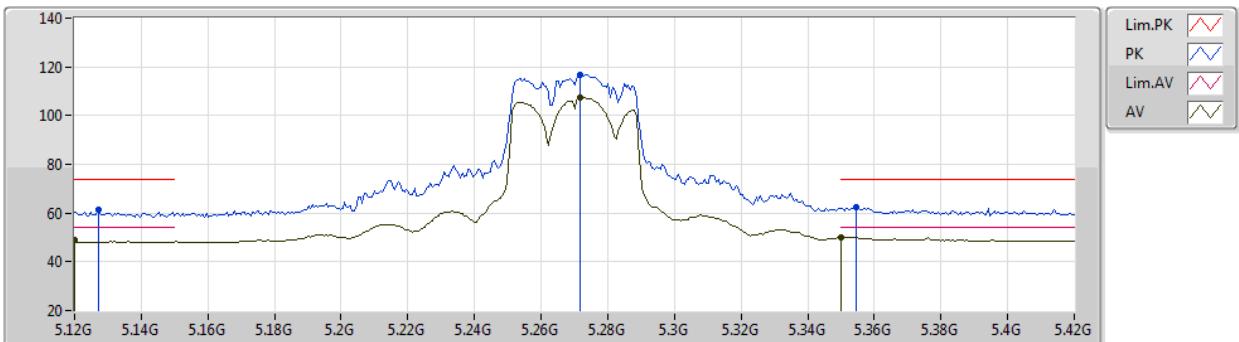
24/02/2020

**5270MHz\_TX**

 EUT\_X\_2TX  
 Setting 21  
 02-D-J-5-10

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Raw (dBuV)	Dist (m)	Condition (°)	Azimuth (°)	Height (m)	Comment (dB)	AF (dB)	CL (dB)	PA (dB)	
PK	5.1488G	60.53	74.00	-13.47	51.39	3	Vertical	14	1.80	-	33.55	5.97	30.38	
AV	5.1356G	48.26	54.00	-5.74	39.13	3	Vertical	14	1.80	-	33.54	5.97	30.38	
PK	5.267G	117.49	Inf	-Inf	108.16	3	Vertical	14	1.80	-	33.73	6.03	30.43	
AV	5.2664G	108.10	Inf	-Inf	98.77	3	Vertical	14	1.80	-	33.73	6.03	30.43	
PK	5.3504G	62.30	74.00	-11.70	52.83	3	Vertical	14	1.80	-	33.85	6.08	30.46	
AV	5.3762G	51.12	54.00	-2.88	41.61	3	Vertical	14	1.80	-	33.88	6.09	30.46	

**802.11ac VHT40\_Nss1,(MCS0)\_2TX**

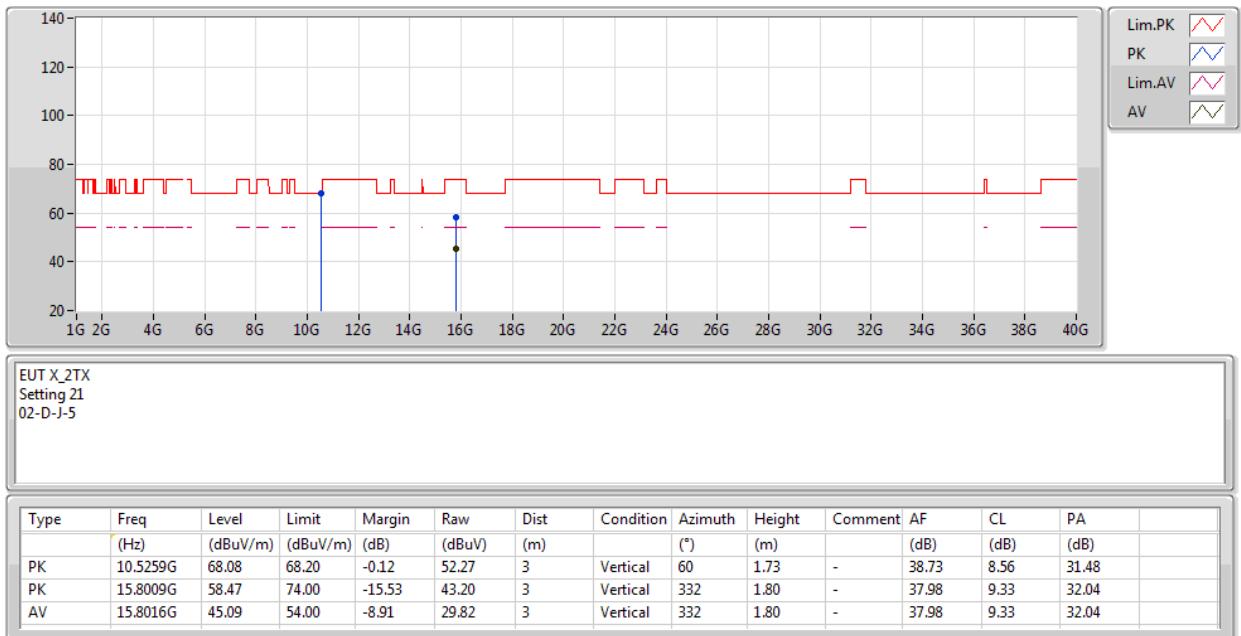
24/02/2020

**5270MHz\_TX**

 EUT\_X\_2TX  
 Setting 21  
 02-D-J-5-10

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Raw (dBuV)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	AF (dB)	CL (dB)	PA (dB)	
PK	5.1272G	61.22	74.00	-12.78	52.11	3	Horizontal	22	1.92	-	33.53	5.96	30.38	
AV	5.12G	49.04	54.00	-4.96	39.94	3	Horizontal	22	1.92	-	33.52	5.96	30.38	
PK	5.2718G	116.82	Inf	-Inf	107.47	3	Horizontal	22	1.92	-	33.74	6.04	30.43	
AV	5.2718G	107.53	Inf	-Inf	98.18	3	Horizontal	22	1.92	-	33.74	6.04	30.43	
PK	5.3546G	62.30	74.00	-11.70	52.83	3	Horizontal	22	1.92	-	33.85	6.08	30.46	
AV	5.35G	50.25	54.00	-3.75	40.78	3	Horizontal	22	1.92	-	33.85	6.08	30.46	

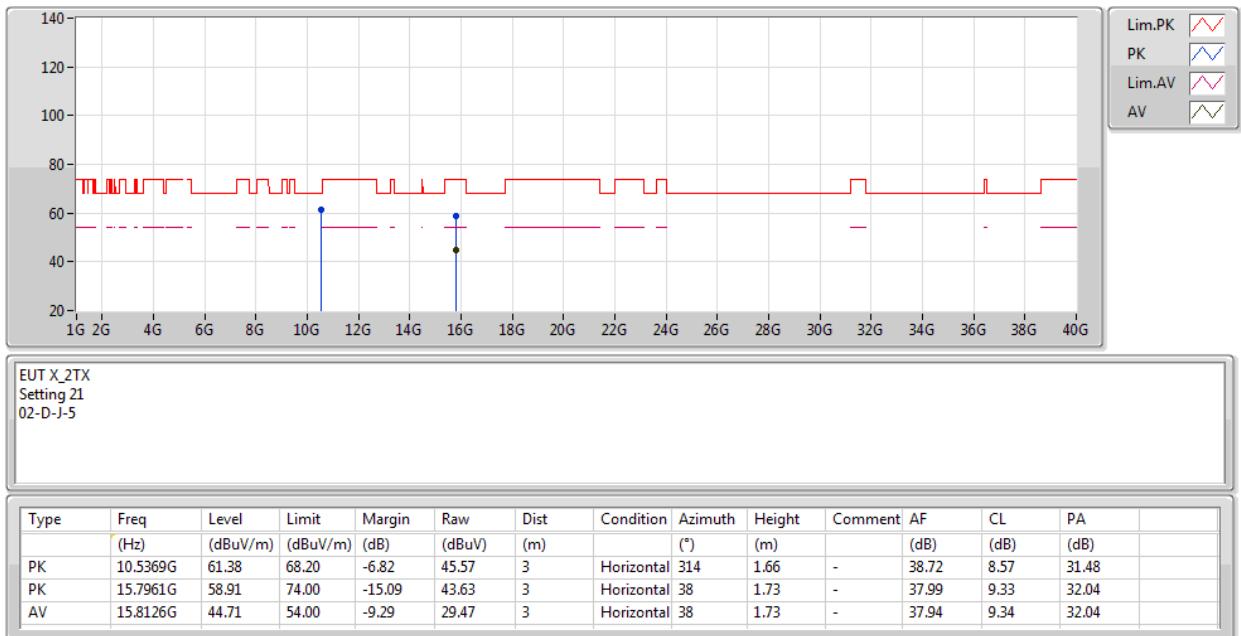
**802.11ac VHT40\_Nss1,(MCS0)\_2TX**

24/02/2020

**5270MHz\_TX**


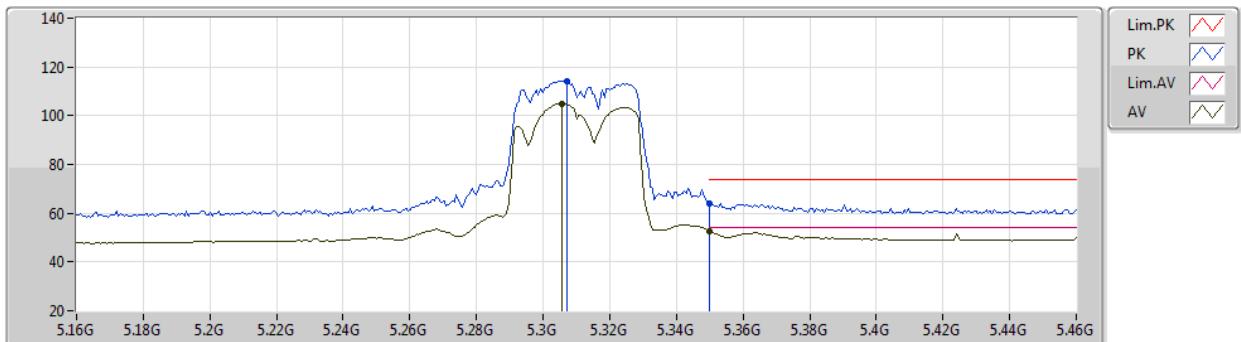
**802.11ac VHT40\_Nss1,(MCS0)\_2TX**

24/02/2020

**5270MHz\_TX**


**802.11ac VHT40\_Nss1,(MCS0)\_2TX**

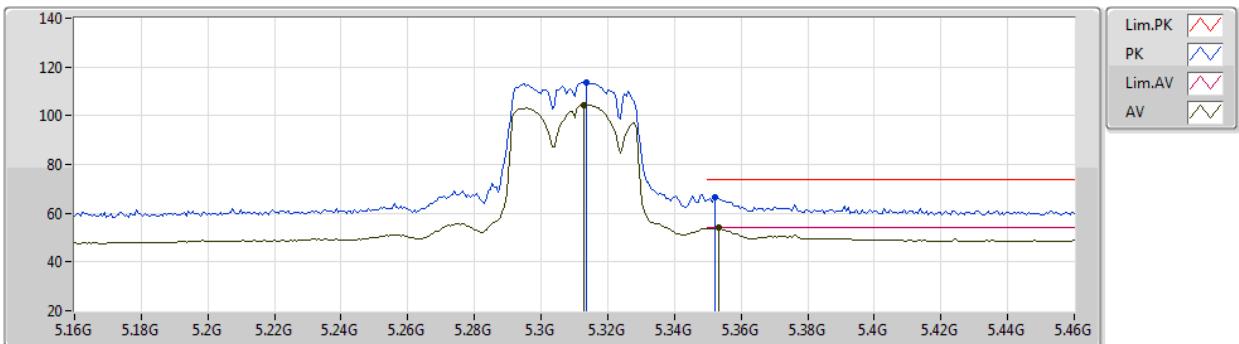
24/02/2020

**5310MHz\_TX**

 EUT X\_2TX  
 Setting 17.5  
 02-D-J-5-10

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Raw (dBuV)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	AF (dB)	CL (dB)	PA (dB)	
PK	5.307G	114.34	Inf	-Inf	104.92	3	Vertical	16	1.78	-	33.81	6.05	30.44	
AV	5.3058G	104.78	Inf	-Inf	95.36	3	Vertical	16	1.78	-	33.81	6.05	30.44	
PK	5.35G	63.91	74.00	-10.09	54.44	3	Vertical	16	1.78	-	33.85	6.08	30.46	
AV	5.35G	52.63	54.00	-1.37	43.16	3	Vertical	16	1.78	-	33.85	6.08	30.46	

**802.11ac VHT40\_Nss1,(MCS0)\_2TX**

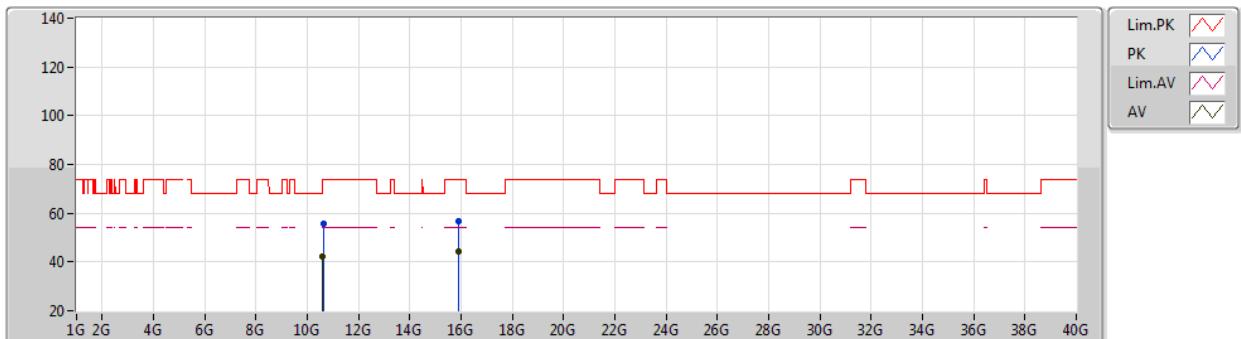
24/02/2020

**5310MHz\_TX**

 EUT X\_2TX  
 Setting 17.5  
 02-D-J-5-10

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Raw (dBuV)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	AF (dB)	CL (dB)	PA (dB)	
PK	5.3136G	113.73	Inf	-Inf	104.30	3	Horizontal	27	2.23	-	33.81	6.06	30.44	
AV	5.313G	104.34	Inf	-Inf	94.91	3	Horizontal	27	2.23	-	33.81	6.06	30.44	
PK	5.352G	66.49	74.00	-7.51	57.02	3	Horizontal	27	2.23	-	33.85	6.08	30.46	
AV	5.3532G	53.93	54.00	-0.07	44.46	3	Horizontal	27	2.23	-	33.85	6.08	30.46	

**802.11ac VHT40\_Nss1,(MCS0)\_2TX**

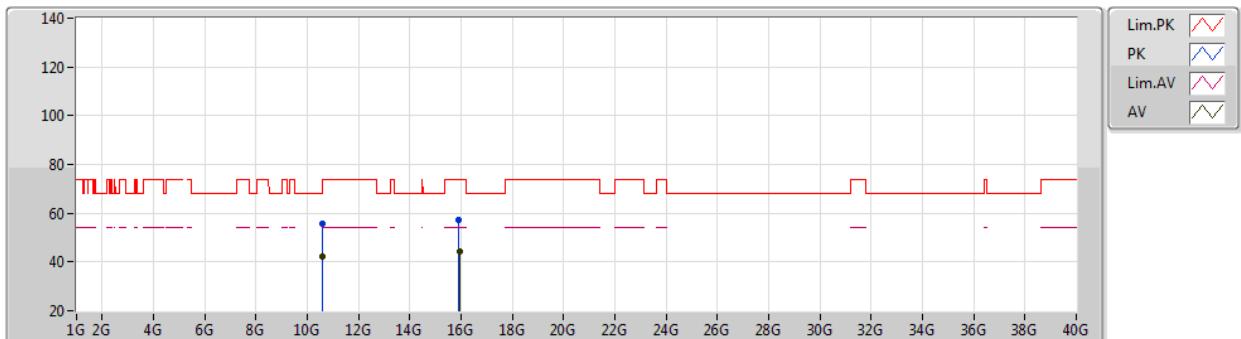
24/02/2020

**5310MHz\_TX**

 EUT\_X\_2TX  
 Setting 17.5  
 02-D-J-5

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Raw (dBuV)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	AF (dB)	CL (dB)	PA (dB)	
PK	10.62G	55.83	74.00	-18.17	40.05	3	Vertical	0	1.80	-	38.67	8.59	31.48	
AV	10.6083G	42.47	54.00	-11.53	26.69	3	Vertical	0	1.80	-	38.67	8.59	31.48	
PK	15.9076G	56.86	74.00	-17.14	41.88	3	Vertical	237	1.60	-	37.67	9.37	32.06	
AV	15.9097G	44.51	54.00	-9.49	29.54	3	Vertical	237	1.60	-	37.66	9.37	32.06	

**802.11ac VHT40\_Nss1,(MCS0)\_2TX**

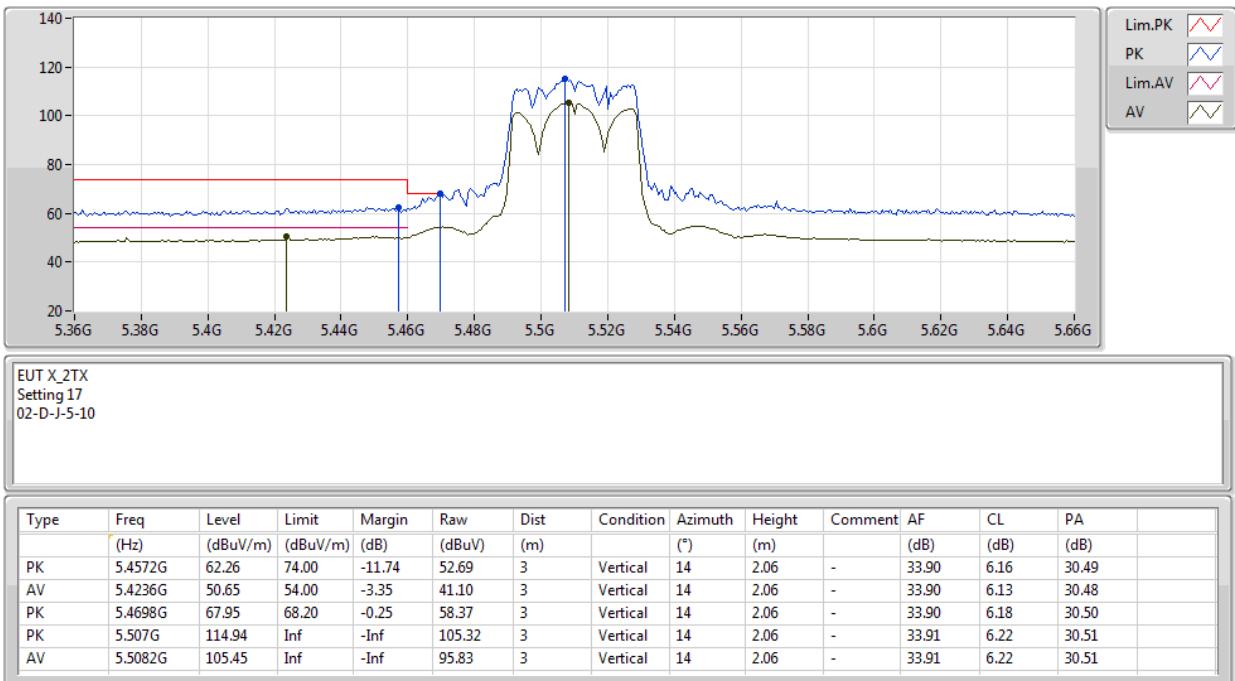
24/02/2020

**5310MHz\_TX**

 EUT\_X\_2TX  
 Setting 17.5  
 02-D-J-5

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Raw (dBuV)	Dist (m)	Condition	Azimuth (*)	Height (m)	Comment	AF (dB)	CL (dB)	PA (dB)	
PK	10.6066G	55.65	74.00	-18.35	39.86	3	Horizontal	224	1.26	-	38.68	8.59	31.48	
AV	10.6017G	42.50	54.00	-11.50	26.71	3	Horizontal	224	1.26	-	38.68	8.59	31.48	
PK	15.9206G	57.06	74.00	-16.94	42.12	3	Horizontal	139	2.52	-	37.63	9.37	32.06	
AV	15.9296G	44.36	54.00	-9.64	29.44	3	Horizontal	139	2.52	-	37.60	9.38	32.06	

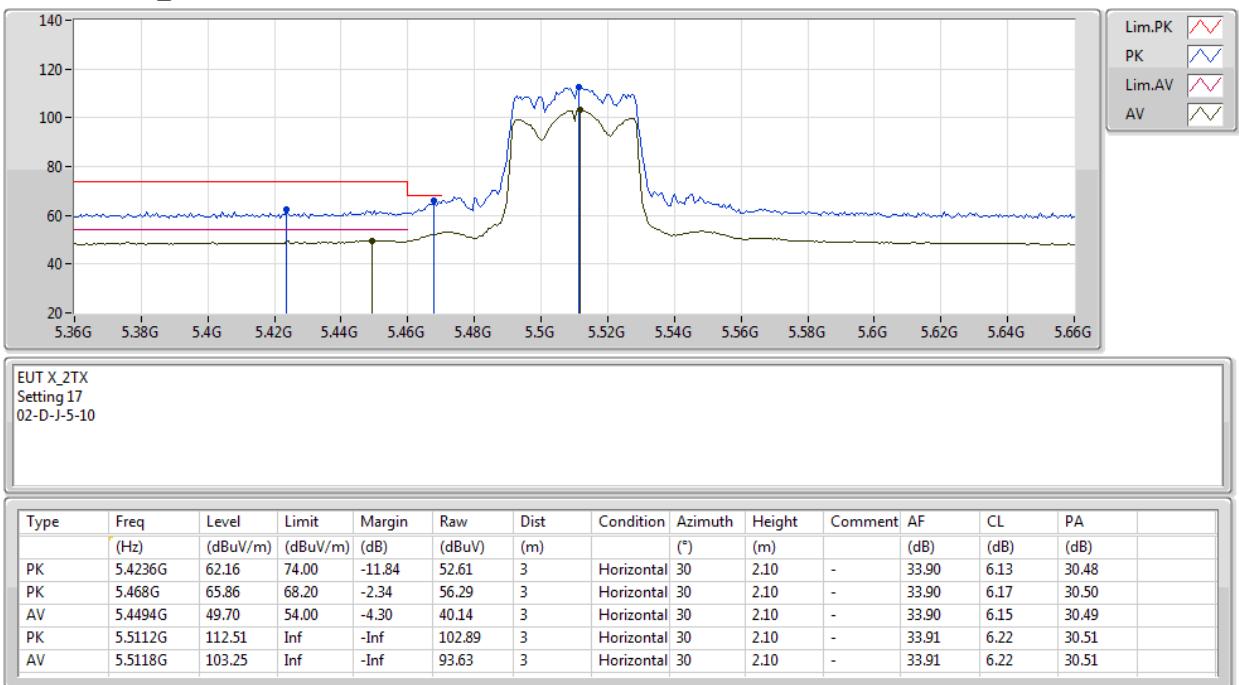
**802.11ac VHT40\_Nss1,(MCS0)\_2TX**

24/02/2020

**5510MHz\_TX**


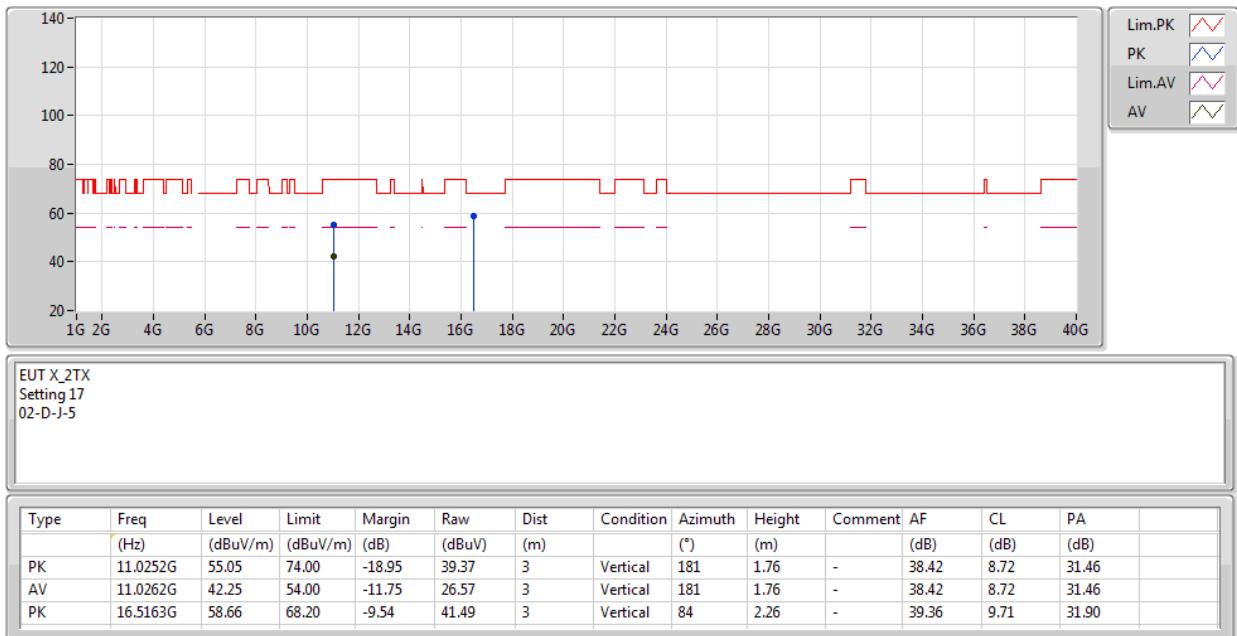
**802.11ac VHT40\_Nss1,(MCS0)\_2TX**

24/02/2020

**5510MHz\_TX**


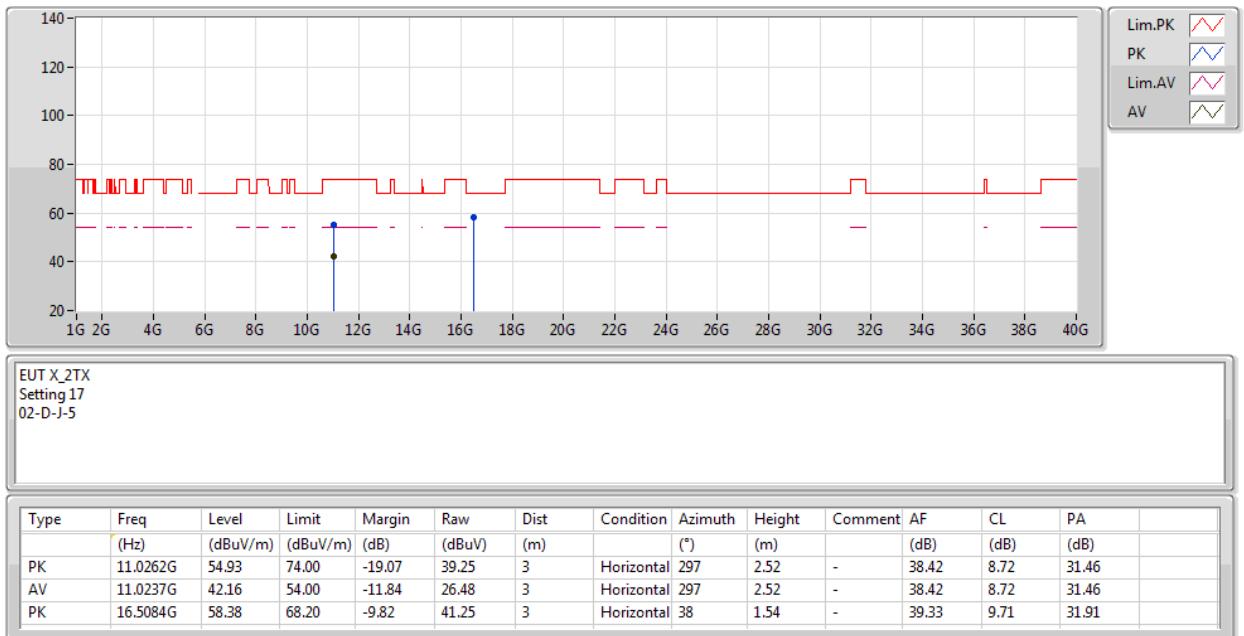
**802.11ac VHT40\_Nss1,(MCS0)\_2TX**

24/02/2020

**5510MHz\_TX**


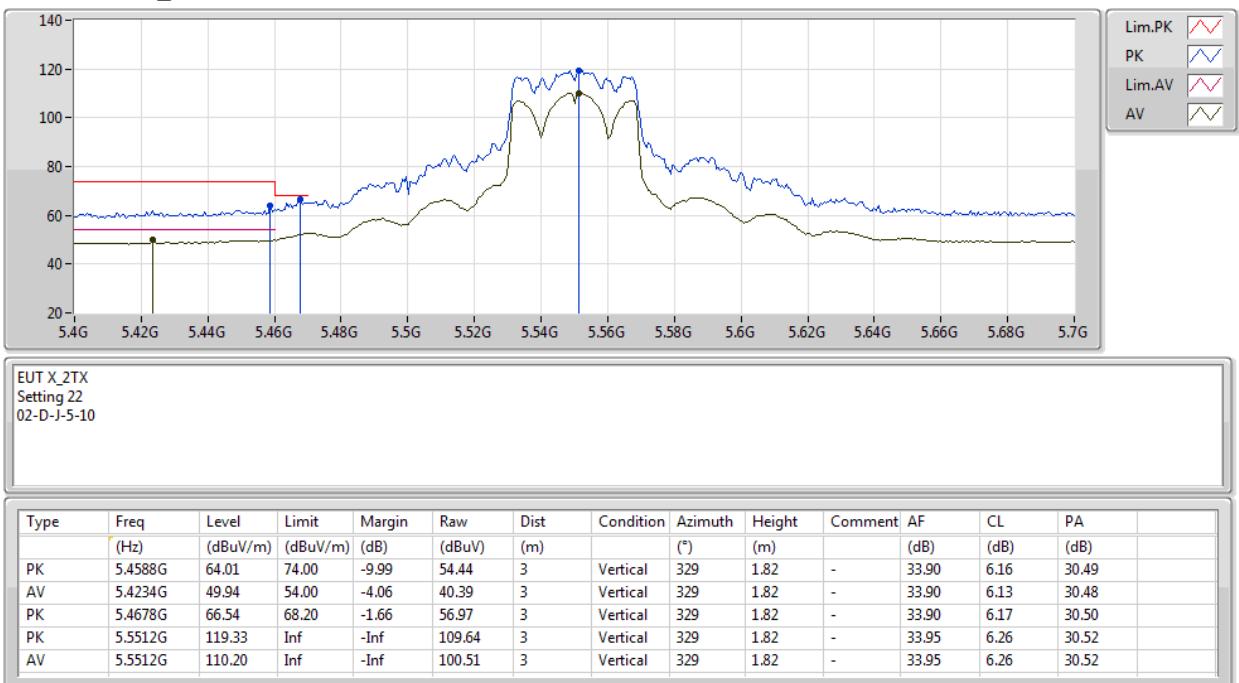
**802.11ac VHT40\_Nss1,(MCS0)\_2TX**

24/02/2020

**5510MHz\_TX**


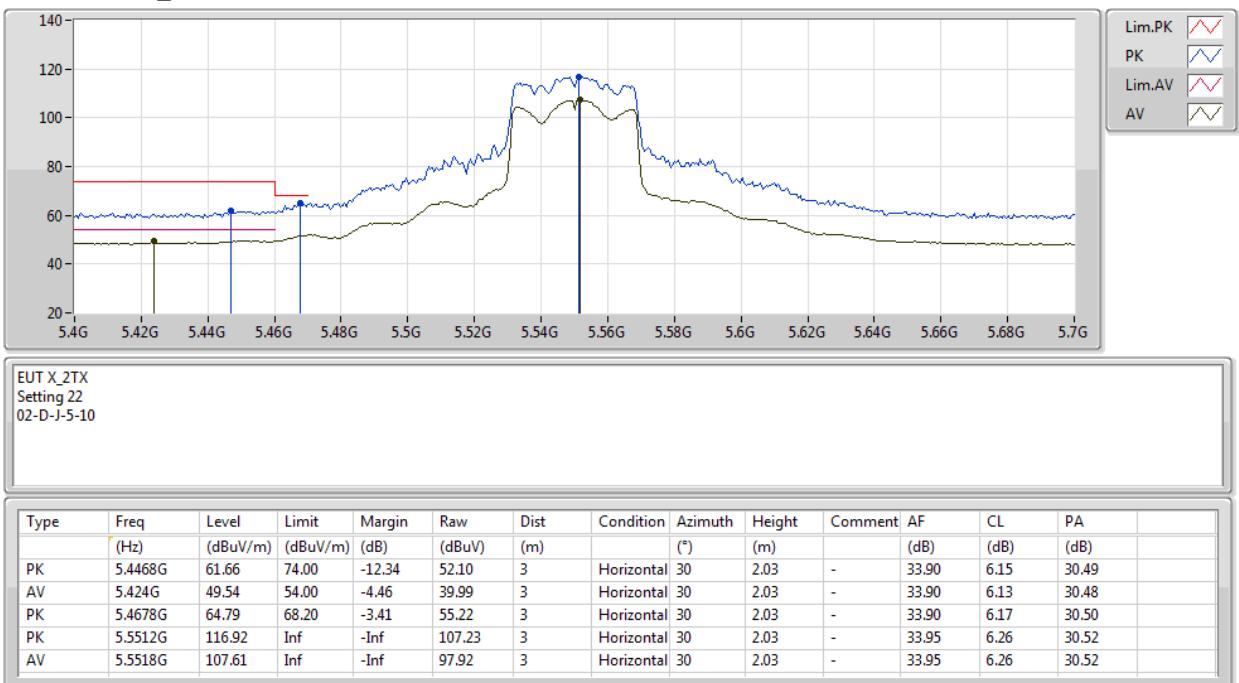
**802.11ac VHT40\_Nss1,(MCS0)\_2TX**

24/02/2020

**5550MHz\_TX**


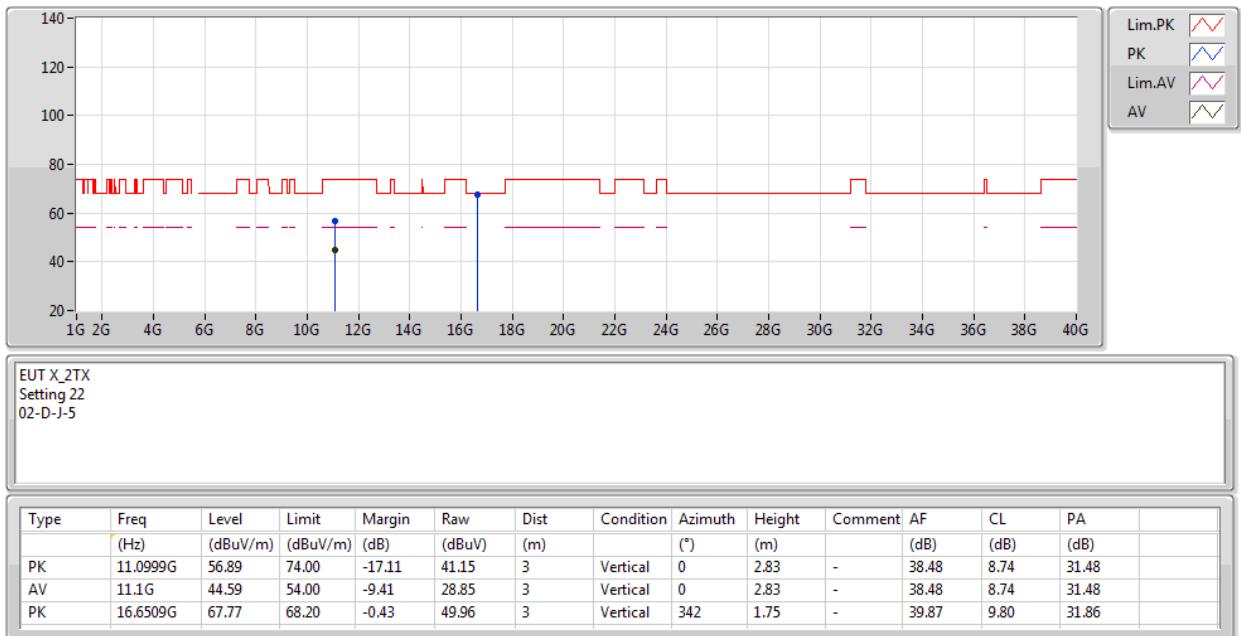
**802.11ac VHT40\_Nss1,(MCS0)\_2TX**

24/02/2020

**5550MHz\_TX**


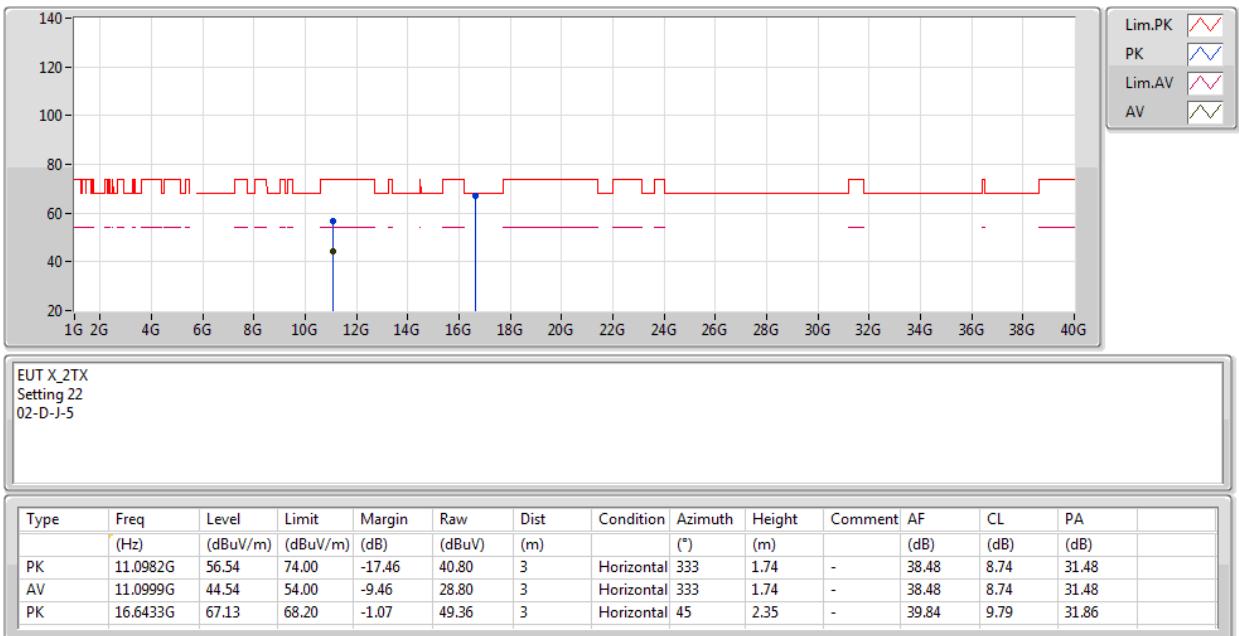
**802.11ac VHT40\_Nss1,(MCS0)\_2TX**

24/02/2020

**5550MHz\_TX**


**802.11ac VHT40\_Nss1,(MCS0)\_2TX**

24/02/2020

**5550MHz\_TX**


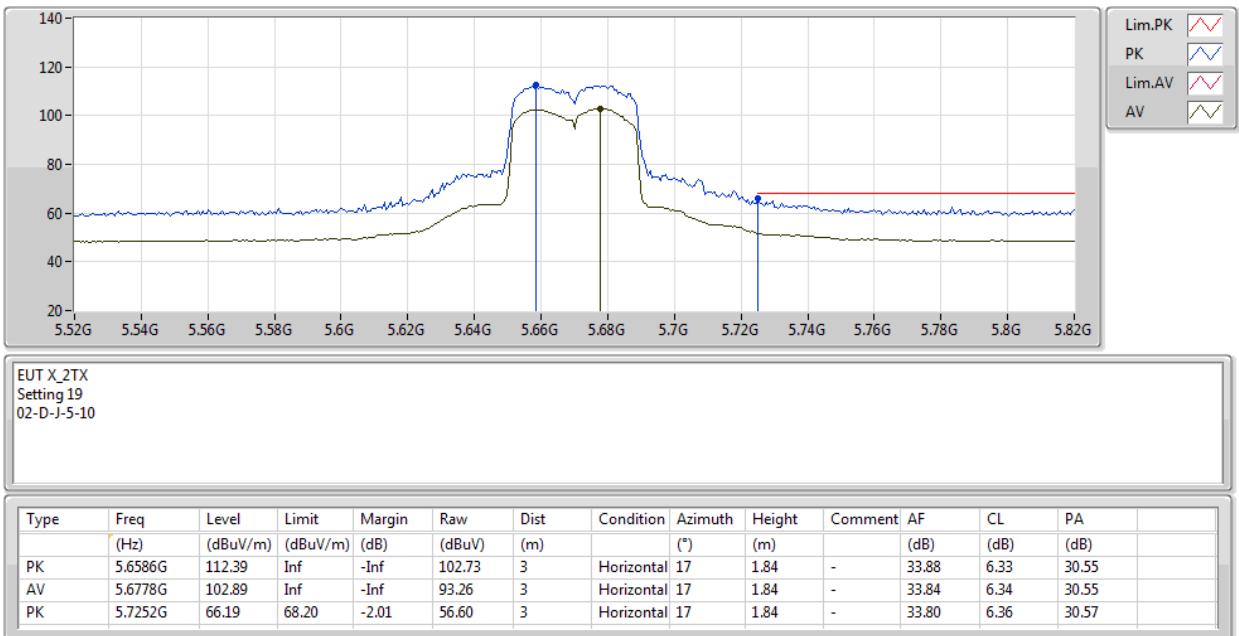
**802.11ac VHT40\_Nss1,(MCS0)\_2TX**

24/02/2020

**5670MHz\_TX**

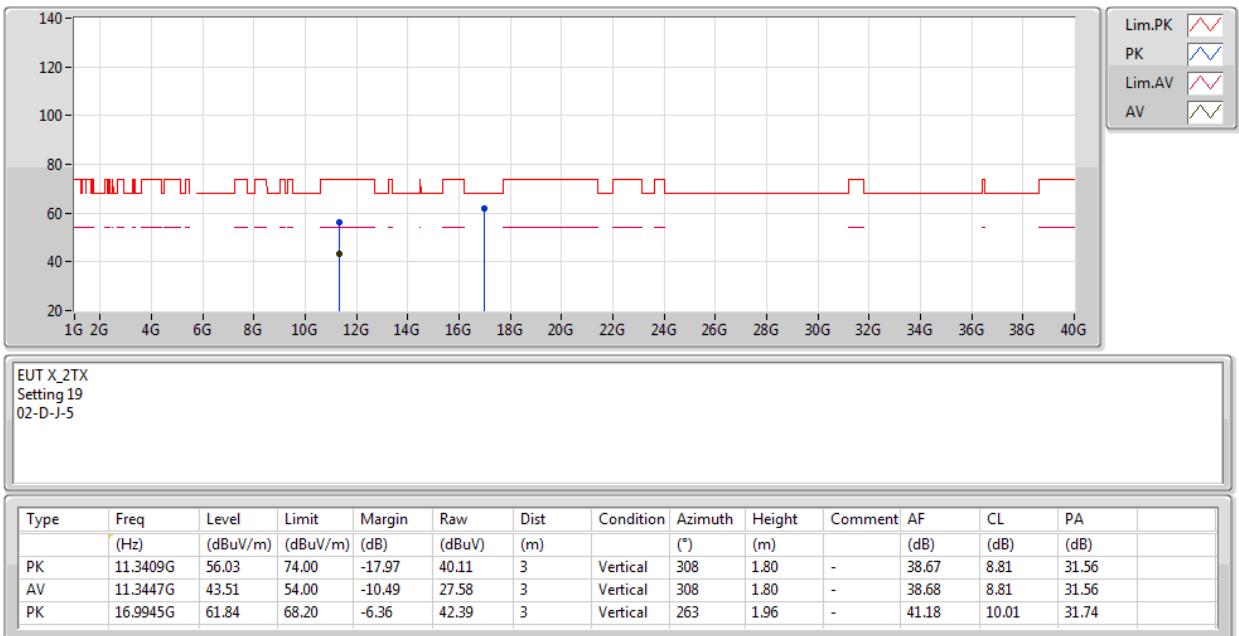

**802.11ac VHT40\_Nss1,(MCS0)\_2TX**

24/02/2020

**5670MHz\_TX**


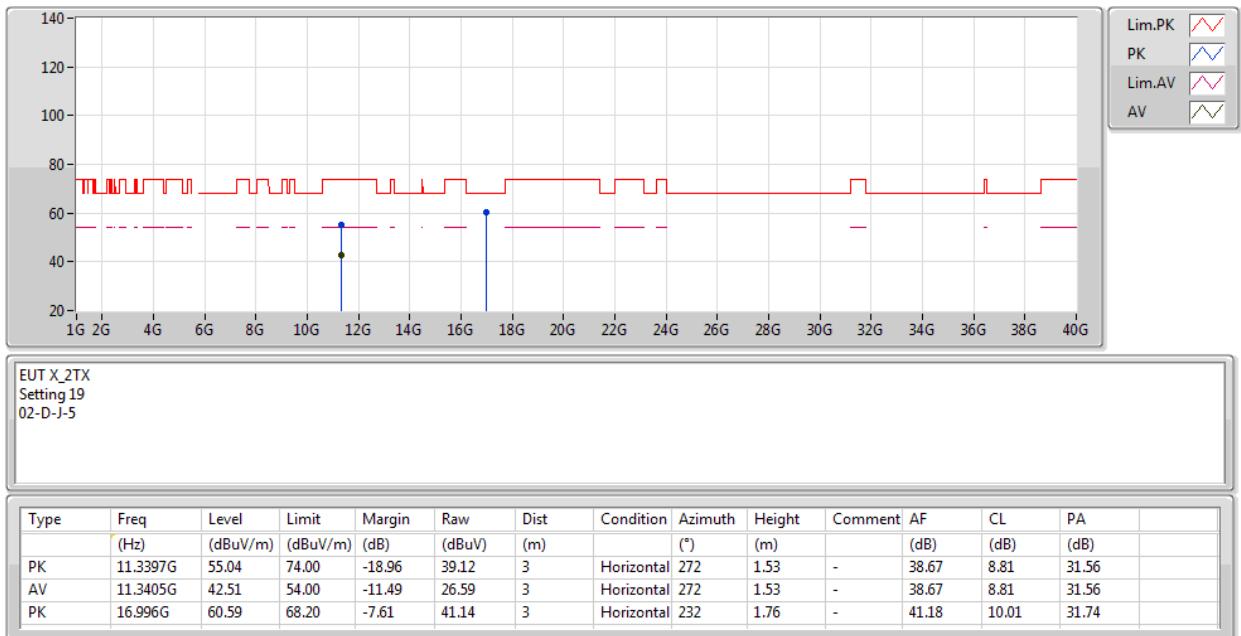
**802.11ac VHT40\_Nss1,(MCS0)\_2TX**

24/02/2020

**5670MHz\_TX**


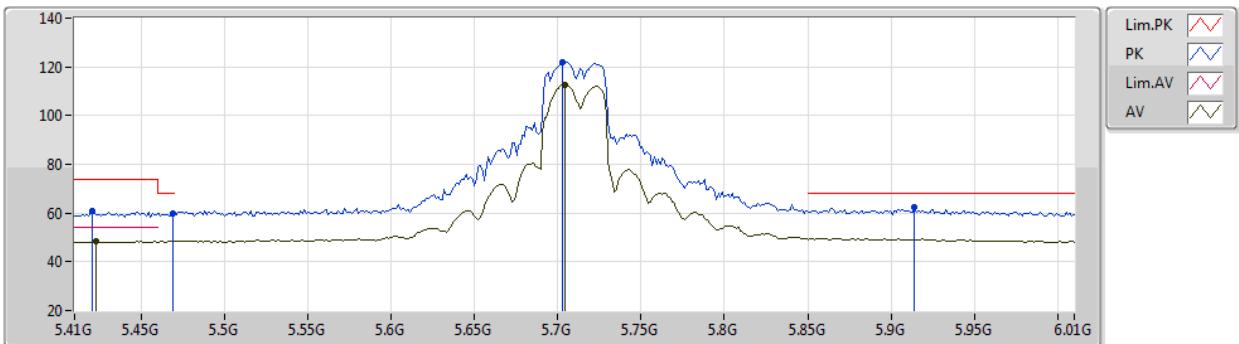
**802.11ac VHT40\_Nss1,(MCS0)\_2TX**

24/02/2020

**5670MHz\_TX**


**802.11ac VHT40\_Nss1,(MCS0)\_2TX**

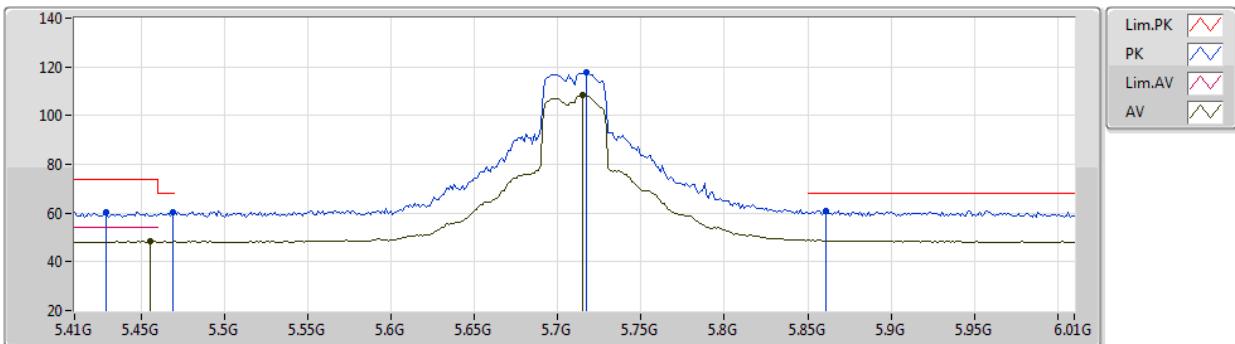
24/02/2020

**5710MHz Straddle 5.47-5.725GHz\_TX**

 EUT X\_2TX  
 Setting 24  
 02-D-J-5-10

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Raw (dBuV)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	AF (dB)	CL (dB)	PA (dB)	
PK	5.4208G	60.71	74.00	-13.29	51.17	3	Vertical	344	1.74	-	33.90	6.12	30.48	
AV	5.4232G	48.29	54.00	-5.71	38.74	3	Vertical	344	1.74	-	33.90	6.13	30.48	
PK	5.4688G	59.98	68.20	-8.22	50.40	3	Vertical	344	1.74	-	33.90	6.18	30.50	
PK	5.7028G	121.80	Inf	-Inf	112.21	3	Vertical	344	1.74	-	33.80	6.35	30.56	
AV	5.704G	112.55	Inf	-Inf	102.96	3	Vertical	344	1.74	-	33.80	6.35	30.56	
PK	5.914G	62.24	68.20	-5.96	52.48	3	Vertical	344	1.74	-	34.03	6.34	30.61	

**802.11ac VHT40\_Nss1,(MCS0)\_2TX**

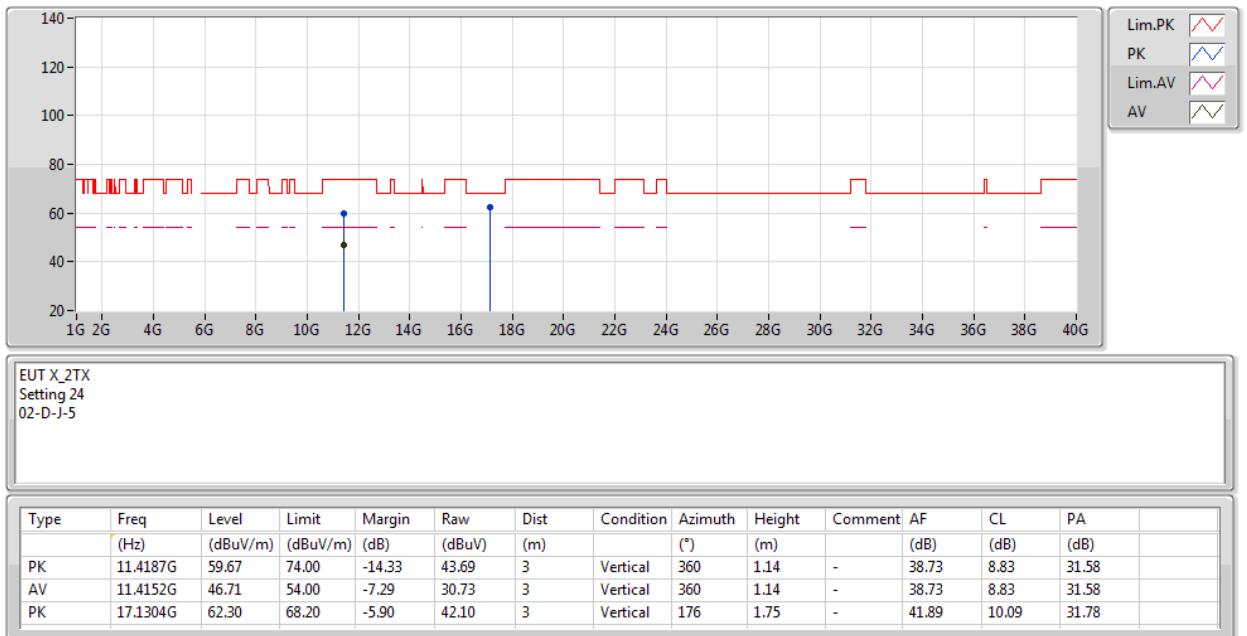
24/02/2020

**5710MHz Straddle 5.47-5.725GHz\_TX**

 EUT X\_2TX  
 Setting 24  
 02-D-J-5-10

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Raw (dBuV)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	AF (dB)	CL (dB)	PA (dB)	
PK	5.4292G	60.35	74.00	-13.65	50.80	3	Horizontal	17	1.82	-	33.90	6.13	30.48	
PK	5.4688G	60.14	68.20	-8.06	50.56	3	Horizontal	17	1.82	-	33.90	6.18	30.50	
AV	5.4556G	48.33	54.00	-5.67	38.76	3	Horizontal	17	1.82	-	33.90	6.16	30.49	
PK	5.7172G	117.91	Inf	-Inf	108.31	3	Horizontal	17	1.82	-	33.80	6.36	30.56	
AV	5.7148G	108.27	Inf	-Inf	98.67	3	Horizontal	17	1.82	-	33.80	6.36	30.56	
PK	5.8612G	61.00	68.20	-7.20	51.31	3	Horizontal	17	1.82	-	33.92	6.37	30.60	

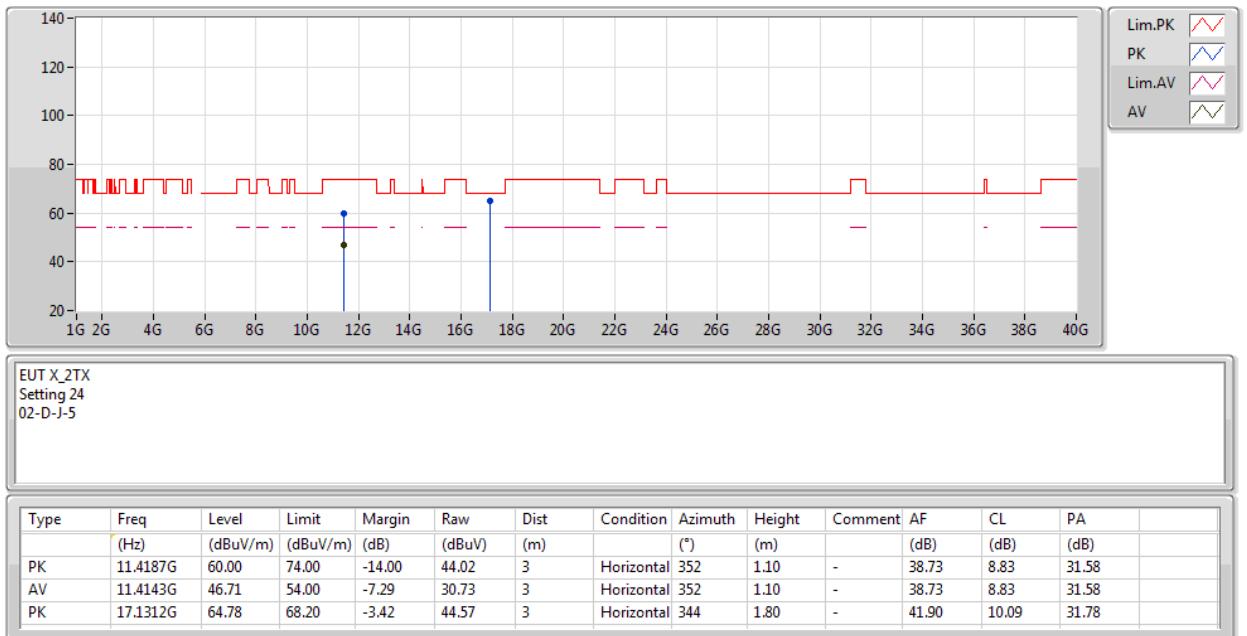
**802.11ac VHT40\_Nss1,(MCS0)\_2TX**

24/02/2020

**5710MHz Straddle 5.47-5.725GHz\_TX**


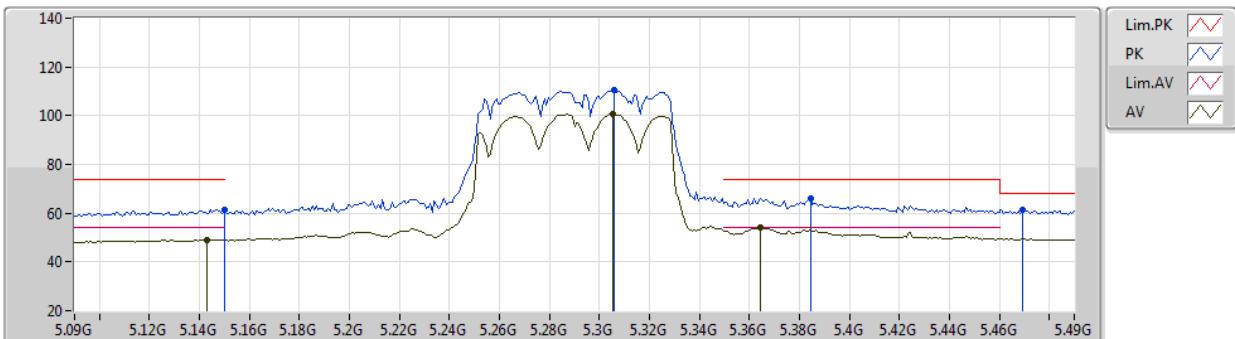
**802.11ac VHT40\_Nss1,(MCS0)\_2TX**

24/02/2020

**5710MHz Straddle 5.47-5.725GHz\_TX**


**802.11ac VHT80\_Nss1,(MCS0)\_2TX**

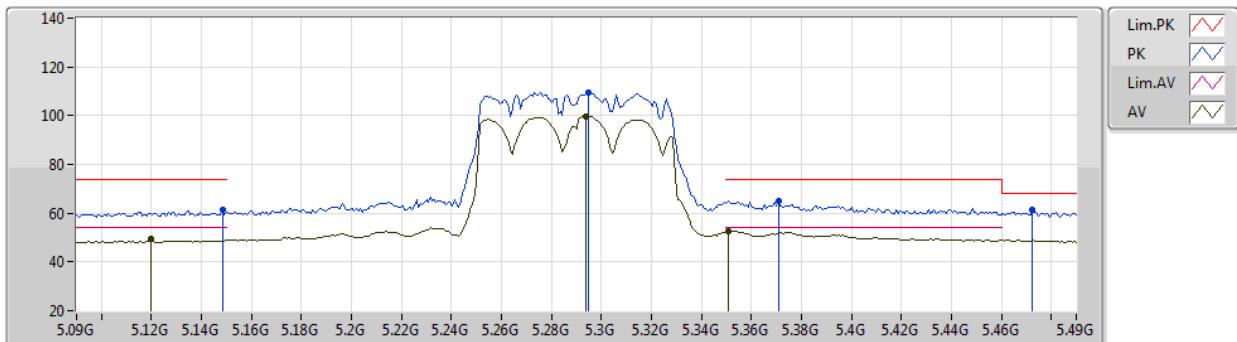
24/02/2020

**5290MHz\_TX**

 EUT\_X\_2TX  
 Setting 17.5  
 02-D-J-5-10

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Raw (dBuV)	Dist (m)	Condition	Azimuth (*)	Height (m)	Comment	AF (dB)	CL (dB)	PA (dB)	
PK	5.15G	61.22	74.00	-12.78	52.08	3	Vertical	12	1.79	-	33.55	5.97	30.38	
AV	5.1428G	49.15	54.00	-4.85	40.02	3	Vertical	12	1.79	-	33.54	5.97	30.38	
PK	5.306G	110.60	Inf	-Inf	101.18	3	Vertical	12	1.79	-	33.81	6.05	30.44	
AV	5.3052G	100.60	Inf	-Inf	91.18	3	Vertical	12	1.79	-	33.81	6.05	30.44	
PK	5.3844G	66.13	74.00	-7.87	56.63	3	Vertical	12	1.79	-	33.88	6.09	30.47	
AV	5.3644G	53.91	54.00	-0.09	44.43	3	Vertical	12	1.79	-	33.86	6.08	30.46	
PK	5.4692G	61.44	68.20	-6.76	51.86	3	Vertical	12	1.79	-	33.90	6.18	30.50	

**802.11ac VHT80\_Nss1,(MCS0)\_2TX**

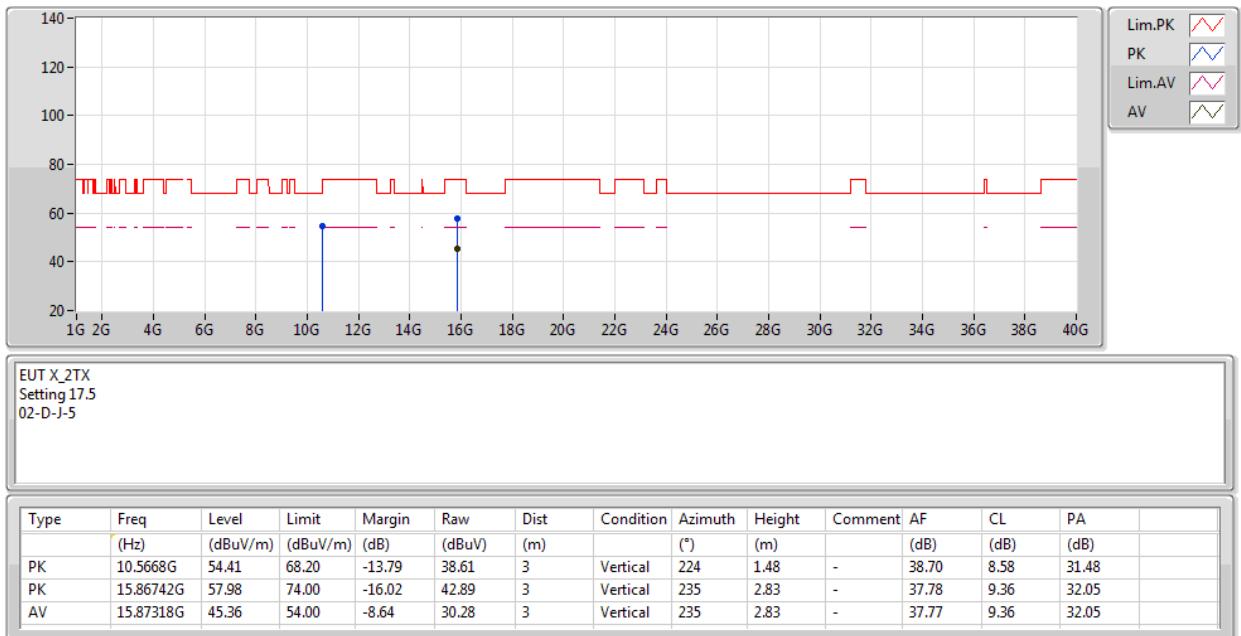
24/02/2020

**5290MHz\_TX**

 EUT\_X\_2TX  
 Setting 17.5  
 02-D-J-5-10

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Raw (dBuV)	Dist (m)	Condition	Azimuth (*)	Height (m)	Comment	AF (dB)	CL (dB)	PA (dB)	
PK	5.1484G	61.58	74.00	-12.42	52.44	3	Horizontal	13	1.80	-	33.55	5.97	30.38	
AV	5.1196G	49.32	54.00	-4.68	40.22	3	Horizontal	13	1.80	-	33.52	5.96	30.38	
PK	5.2948G	109.31	Inf	-Inf	99.91	3	Horizontal	13	1.80	-	33.79	6.05	30.44	
AV	5.294G	99.63	Inf	-Inf	90.23	3	Horizontal	13	1.80	-	33.79	6.05	30.44	
PK	5.3708G	65.04	74.00	-8.96	55.54	3	Horizontal	13	1.80	-	33.87	6.09	30.46	
AV	5.3508G	52.61	54.00	-1.39	43.14	3	Horizontal	13	1.80	-	33.85	6.08	30.46	
PK	5.4724G	61.28	68.20	-6.92	51.70	3	Horizontal	13	1.80	-	33.90	6.18	30.50	

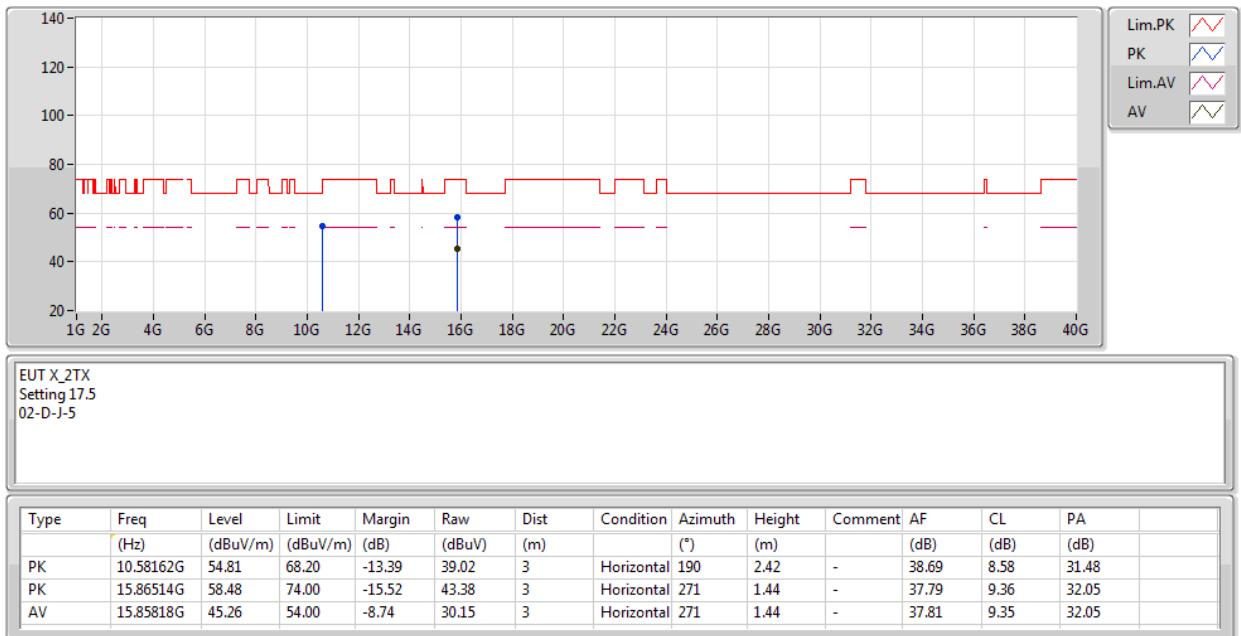
**802.11ac VHT80\_Nss1,(MCS0)\_2TX**

24/02/2020

**5290MHz\_TX**


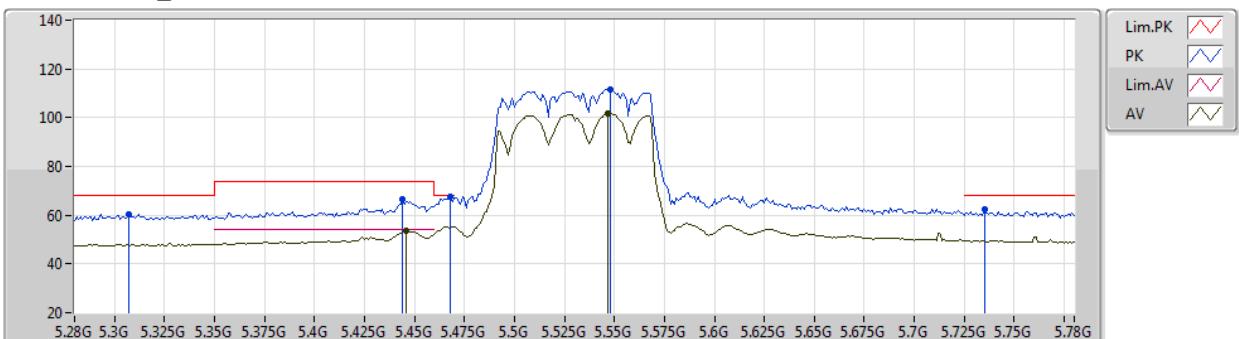
**802.11ac VHT80\_Nss1,(MCS0)\_2TX**

24/02/2020

**5290MHz\_TX**


**802.11ac VHT80\_Nss1,(MCS0)\_2TX**

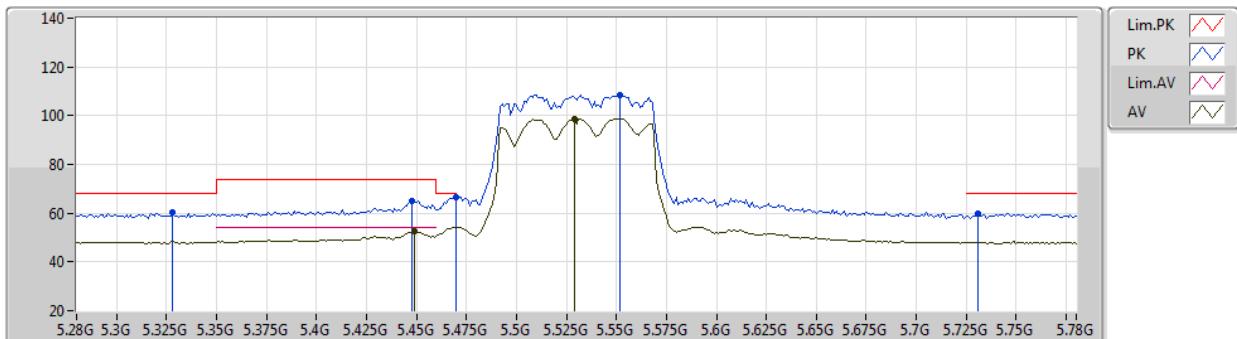
24/02/2020

**5530MHz\_TX**

 EUT\_X\_2TX  
 Setting 17.5  
 02-D-J-5-10

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Raw (dBuV)	Dist (m)	Condition	Azimuth (*)	Height (m)	Comment	AF (dB)	CL (dB)	PA (dB)	
PK	5.307G	60.32	68.20	-7.88	50.90	3	Vertical	333	1.75	-	33.81	6.05	30.44	
PK	5.444G	66.54	74.00	-7.46	56.98	3	Vertical	333	1.75	-	33.90	6.15	30.49	
AV	5.446G	53.57	54.00	-0.43	44.01	3	Vertical	333	1.75	-	33.90	6.15	30.49	
PK	5.468G	67.55	68.20	-0.65	57.98	3	Vertical	333	1.75	-	33.90	6.17	30.50	
PK	5.548G	111.72	Inf	-Inf	102.04	3	Vertical	333	1.75	-	33.95	6.25	30.52	
AV	5.547G	101.84	Inf	-Inf	92.16	3	Vertical	333	1.75	-	33.95	6.25	30.52	
PK	5.735G	62.66	68.20	-5.54	53.06	3	Vertical	333	1.75	-	33.80	6.37	30.57	

**802.11ac VHT80\_Nss1,(MCS0)\_2TX**

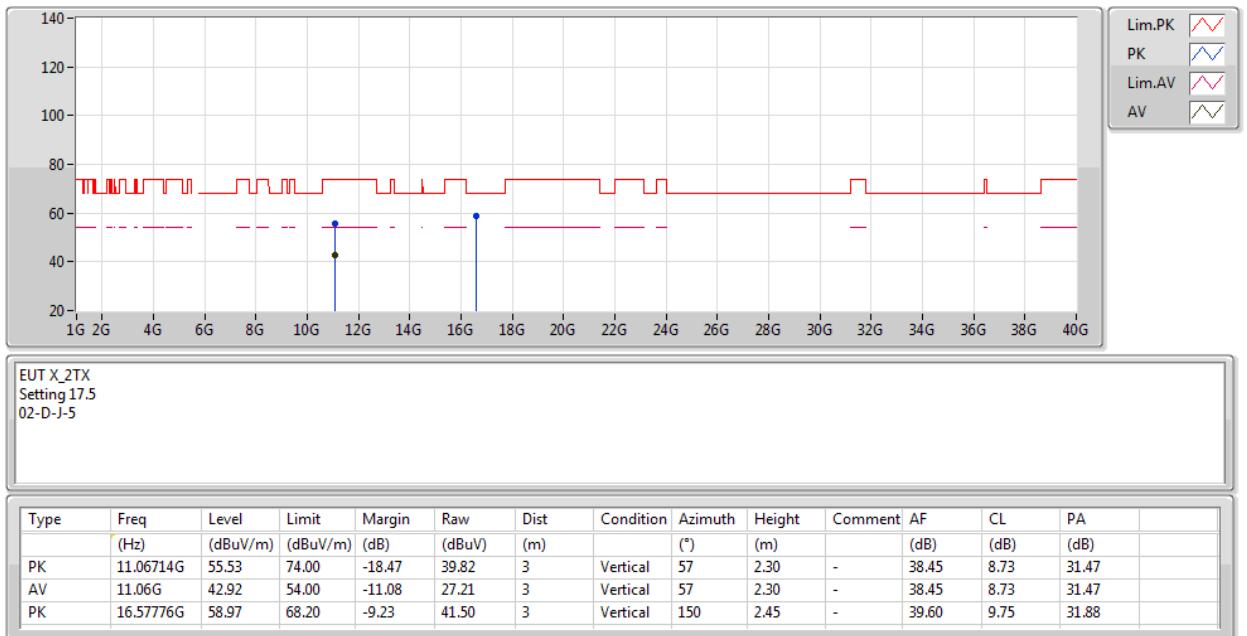
24/02/2020

**5530MHz\_TX**

 EUT\_X\_2TX  
 Setting 17.5  
 02-D-J-5-10

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Raw (dBuV)	Dist (m)	Condition	Azimuth (*)	Height (m)	Comment	AF (dB)	CL (dB)	PA (dB)	
PK	5.328G	60.54	68.20	-7.66	51.10	3	Horizontal	28	2.09	-	33.83	6.06	30.45	
PK	5.448G	65.11	74.00	-8.89	55.55	3	Horizontal	28	2.09	-	33.90	6.15	30.49	
AV	5.449G	52.51	54.00	-1.49	42.95	3	Horizontal	28	2.09	-	33.90	6.15	30.49	
PK	5.47G	66.47	68.20	-1.73	56.89	3	Horizontal	28	2.09	-	33.90	6.18	30.50	
PK	5.552G	108.46	Inf	-Inf	98.77	3	Horizontal	28	2.09	-	33.95	6.26	30.52	
AV	5.529G	98.59	Inf	-Inf	88.94	3	Horizontal	28	2.09	-	33.93	6.24	30.52	
PK	5.731G	59.95	68.20	-8.25	50.35	3	Horizontal	28	2.09	-	33.80	6.37	30.57	

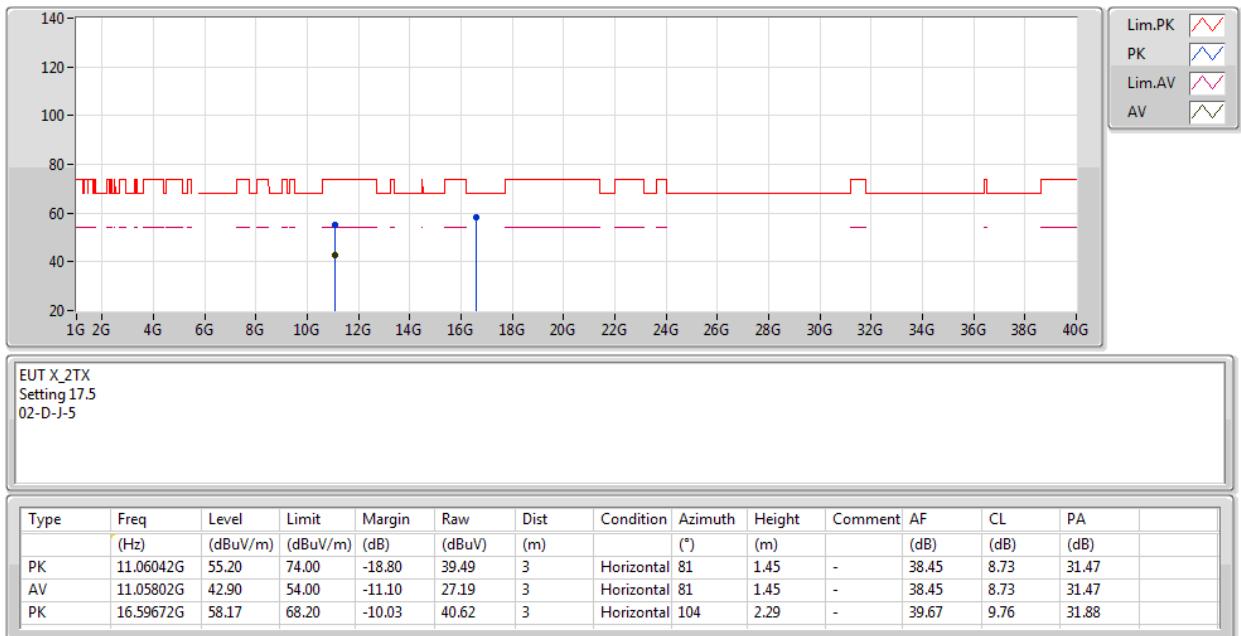
**802.11ac VHT80\_Nss1,(MCS0)\_2TX**

24/02/2020

**5530MHz\_TX**


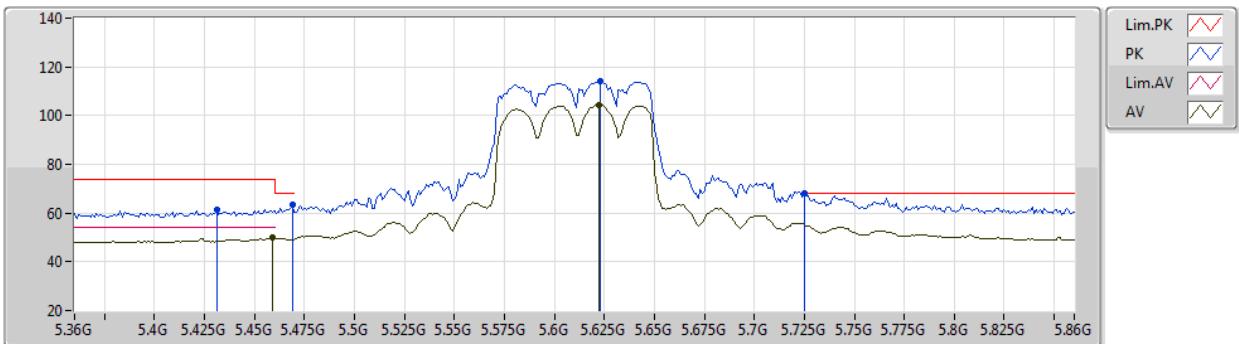
**802.11ac VHT80\_Nss1,(MCS0)\_2TX**

24/02/2020

**5530MHz\_TX**


**802.11ac VHT80\_Nss1,(MCS0)\_2TX**

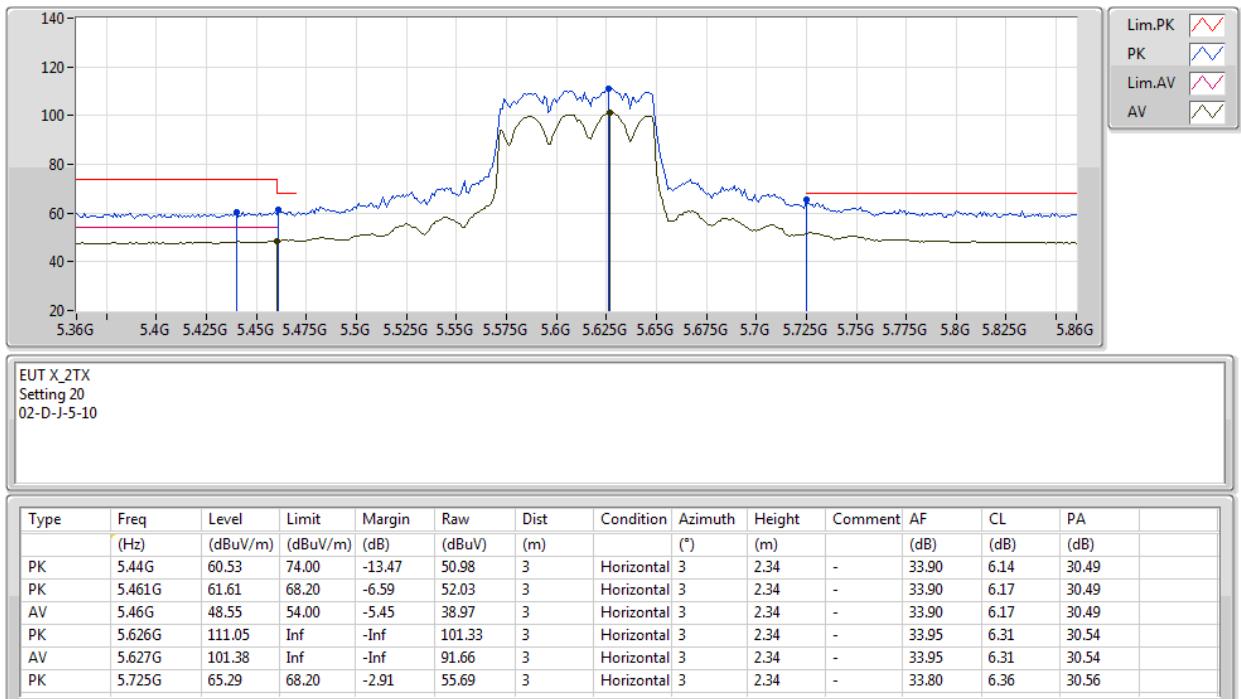
24/02/2020

**5610MHz\_TX**

 EUT\_X\_2TX  
 Setting 20  
 02-D-J-5-10

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Raw (dBuV)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	AF (dB)	CL (dB)	PA (dB)	
PK	5.431G	61.45	74.00	-12.55	51.90	3	Vertical	346	1.70	-	33.90	6.13	30.48	
PK	5.469G	63.54	68.20	-4.66	53.96	3	Vertical	346	1.70	-	33.90	6.18	30.50	
AV	5.459G	49.80	54.00	-4.20	40.23	3	Vertical	346	1.70	-	33.90	6.16	30.49	
PK	5.623G	114.39	Inf	-Inf	104.67	3	Vertical	346	1.70	-	33.95	6.31	30.54	
AV	5.622G	104.56	Inf	-Inf	94.83	3	Vertical	346	1.70	-	33.96	6.31	30.54	
PK	5.725G	68.00	68.20	-0.20	58.40	3	Vertical	346	1.70	-	33.80	6.36	30.56	

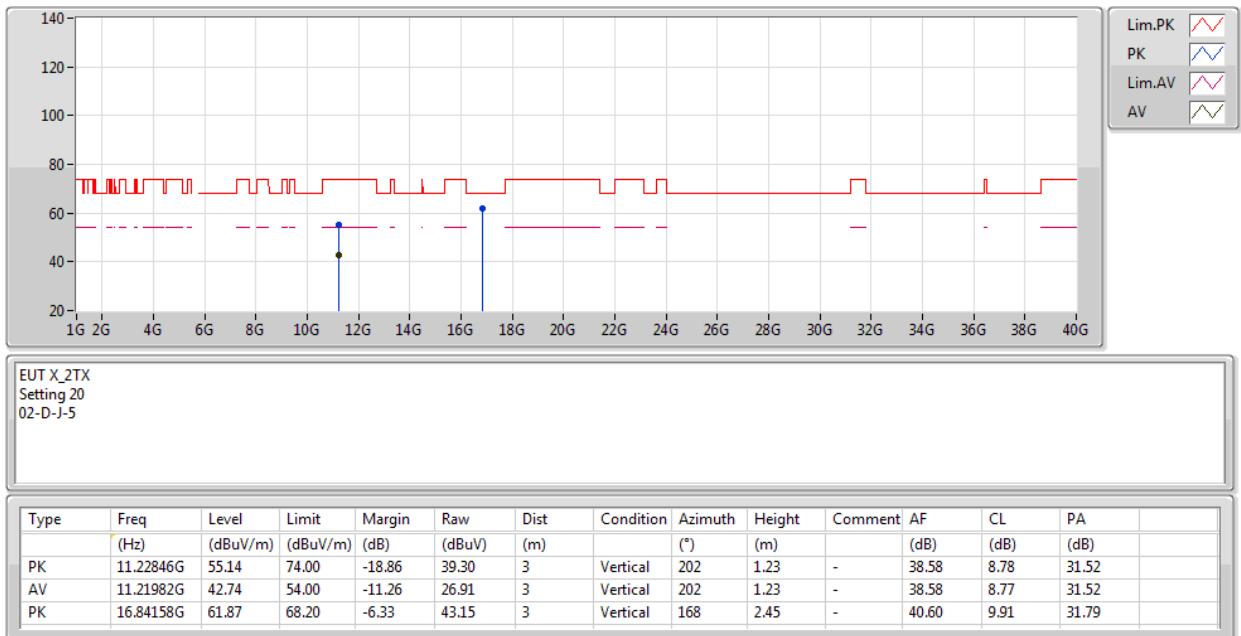
**802.11ac VHT80\_Nss1,(MCS0)\_2TX**

24/02/2020

**5610MHz\_TX**


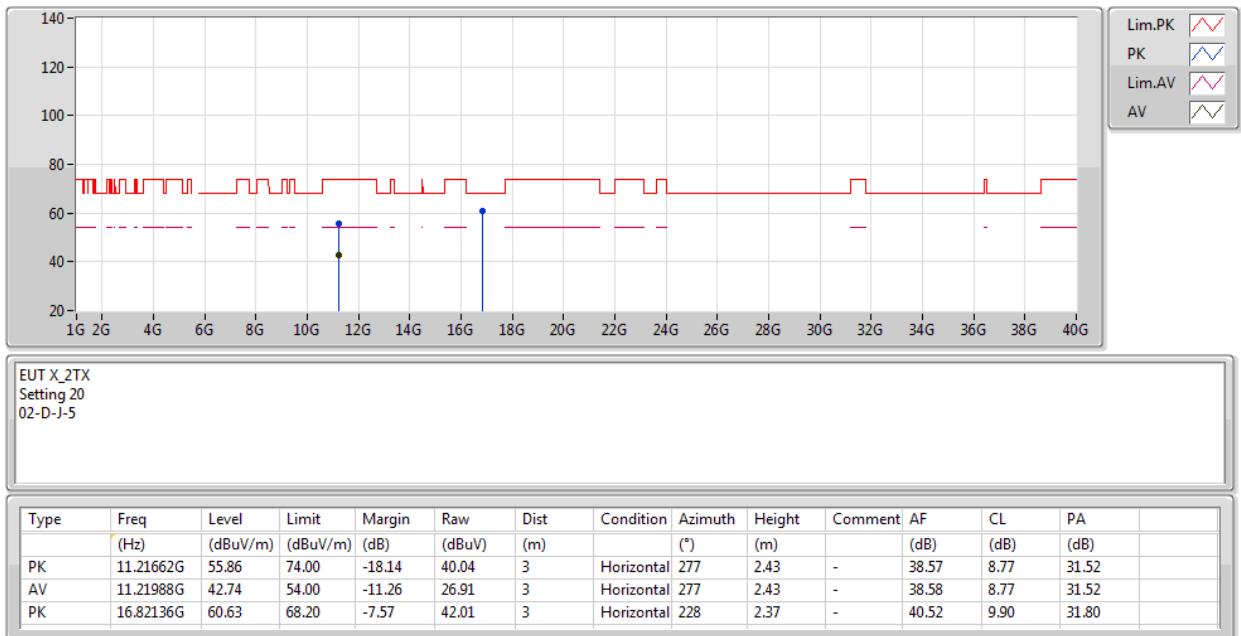
**802.11ac VHT80\_Nss1,(MCS0)\_2TX**

24/02/2020

**5610MHz\_TX**


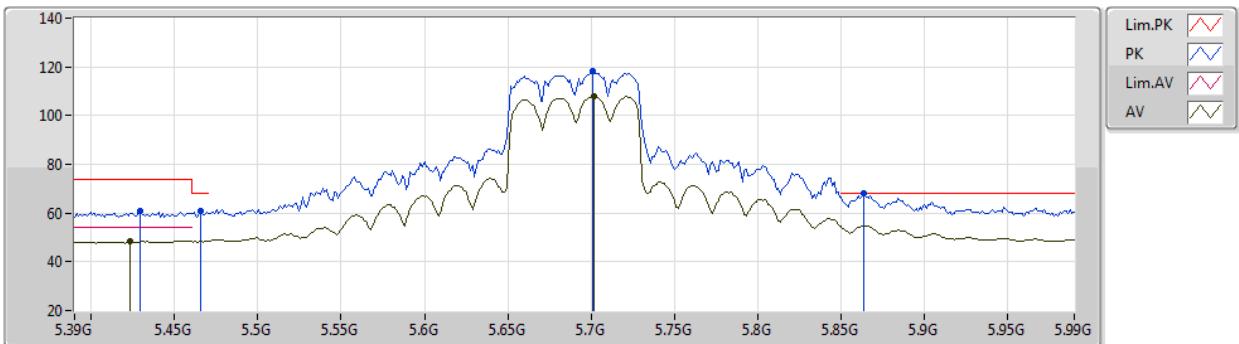
**802.11ac VHT80\_Nss1,(MCS0)\_2TX**

24/02/2020

**5610MHz\_TX**


**802.11ac VHT80\_Nss1,(MCS0)\_2TX**

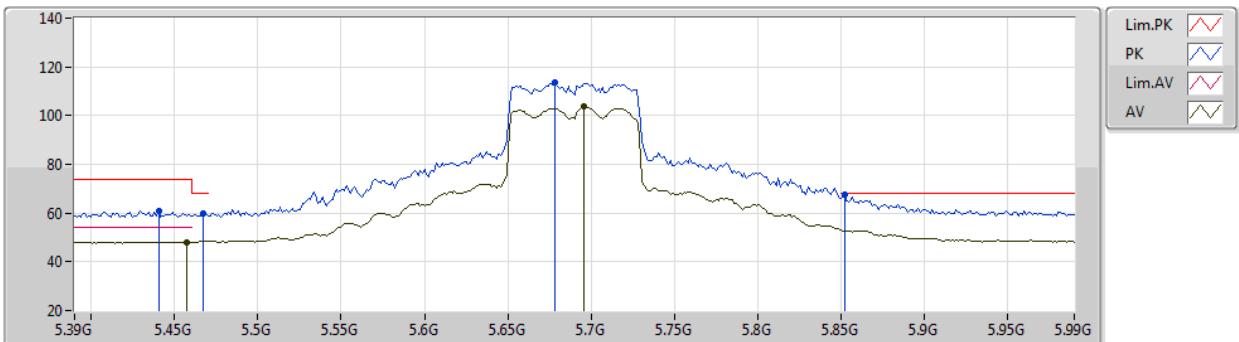
24/02/2020

**5690MHz\_TX**

 EUT\_X\_2TX  
 Setting 23.5  
 02-D-J-5-10

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Raw (dBuV)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	AF (dB)	CL (dB)	PA (dB)	
PK	5.4296G	60.74	74.00	-13.26	51.19	3	Vertical	345	1.74	-	33.90	6.13	30.48	
AV	5.4236G	48.41	54.00	-5.59	38.86	3	Vertical	345	1.74	-	33.90	6.13	30.48	
PK	5.4656G	60.83	68.20	-7.37	51.26	3	Vertical	345	1.74	-	33.90	6.17	30.50	
PK	5.7008G	118.10	Inf	-Inf	108.51	3	Vertical	345	1.74	-	33.80	6.35	30.56	
AV	5.702G	107.83	Inf	-Inf	98.24	3	Vertical	345	1.74	-	33.80	6.35	30.56	
PK	5.864G	67.97	68.20	-0.23	58.27	3	Vertical	345	1.74	-	33.93	6.37	30.60	

**802.11ac VHT80\_Nss1,(MCS0)\_2TX**

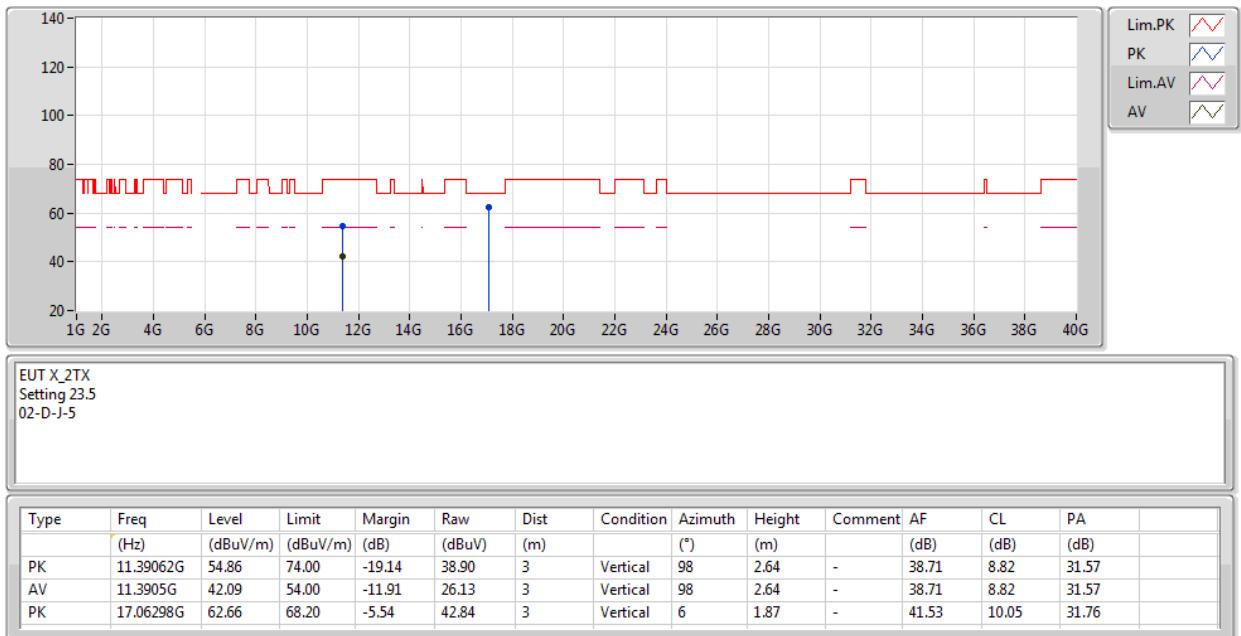
24/02/2020

**5690MHz\_TX**

 EUT\_X\_2TX  
 Setting 23.5  
 02-D-J-5-10

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Raw (dBuV)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment (dB)	AF (dB)	CL (dB)	PA (dB)	
PK	5.4404G	60.77	74.00	-13.23	51.22	3	Horizontal	17	2.04	-	33.90	6.14	30.49	
PK	5.4668G	60.05	68.20	-8.15	50.48	3	Horizontal	17	2.04	-	33.90	6.17	30.50	
AV	5.4572G	48.16	54.00	-5.84	38.59	3	Horizontal	17	2.04	-	33.90	6.16	30.49	
PK	5.678G	113.53	Inf	-Inf	103.90	3	Horizontal	17	2.04	-	33.84	6.34	30.55	
AV	5.696G	103.62	Inf	-Inf	94.02	3	Horizontal	17	2.04	-	33.81	6.35	30.56	
PK	5.852G	67.81	68.20	-0.39	58.14	3	Horizontal	17	2.04	-	33.90	6.37	30.60	

**802.11ac VHT80\_Nss1,(MCS0)\_2TX**

24/02/2020

**5690MHz\_TX**


**802.11ac VHT80\_Nss1,(MCS0)\_2TX**

24/02/2020

**5690MHz\_TX**
