



FCC Test Report

FCC ID : VW3FAST3890V3
Equipment : Docsis 3.1 Voice Gateway
Brand Name : Samgemcom
Model Name : F@ST3890 V3
Multiple Listing : F@ST3890 V3XXXXXXXXXXXX (X=0-9,A-Z or blank for marketing purpose)
Applicant : Sagemcom Broadband SAS
250, route de l'Empereur 92848
Rueil-Malmaison cedex – France
Manufacturer : Sagemcom Broadband SAS
250, route de l'Empereur 92848
Rueil-Malmaison cedex – France
Standard : 47 CFR FCC Part 15.407

The product was received on Apr. 18, 2019, and testing was started from Apr. 18, 2019 and completed on May 06, 2019. We, SPORTON INTERNATIONAL INC. EMC & Wireless Communications Laboratory, would like to declare that the tested sample has been evaluated in accordance with the procedures given in ANSI C63.10-2013 and shown compliance with the applicable technical standards.

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

The test results in this 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: Allen Lin

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	-
3.3	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:

None

Reviewed by: Jackson Tsai

Report Producer: Ann Hou



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)	5260-5320	52-64 [4]
5470-5725		5500-5700	100-140 [8]
5250-5350	n (HT40), ac (VHT40)	5270-5310	54-62 [2]
5470-5725		5510-5670	102-134 [3]
5250-5350	ac (VHT80)	5290	58 [1]
5470-5725		5530	106 [1]

Non-Beamforming

Band	Mode	BWch (MHz)	Nant
5.25-5.35GHz	802.11a	20	4TX
5.47-5.725GHz	802.11a	20	4TX
5.25-5.35GHz	802.11ac VHT20	20	4TX
5.47-5.725GHz	802.11ac VHT20	20	4TX
5.25-5.35GHz	802.11ac VHT40	40	4TX
5.47-5.725GHz	802.11ac VHT40	40	4TX
5.25-5.35GHz	802.11ac VHT80	80	4TX
5.47-5.725GHz	802.11ac VHT80	80	4TX

Beamforming

Band	Mode	BWch (MHz)	Nant
5.25-5.35GHz	802.11ac VHT20-BF	20	4TX
5.47-5.725GHz	802.11ac VHT20-BF	20	4TX
5.25-5.35GHz	802.11ac VHT40-BF	40	4TX
5.47-5.725GHz	802.11ac VHT40-BF	40	4TX
5.25-5.35GHz	802.11ac VHT80-BF	80	4TX
5.47-5.725GHz	802.11ac VHT80-BF	80	4TX

Note:

- 11a, HT20 and HT40 use a combination of OFDM-BPSK, QPSK, 16QAM, 64QAM modulation.
- VHT20, VHT40, VHT80 use a combination of OFDM-BPSK, QPSK, 16QAM, 64QAM, 256QAM modulation.
- BWch is the nominal channel bandwidth.



1.1.2 Antenna Information

Ant.	Port	Gain (dBi)					Antenna Type	Connector	Brand	Model Name
		2.4G	U-NII-1	U-NII-2A	U-NII-2C	U-NII-3				
1	1	3.04	4.12	3.59	3	3.93	PCB	I-PEX	PEGATRON	FAST3890v3
2	2	3	3.55	4.22	4.39	4.11	PCB	I-PEX	PEGATRON	FAST3890v3
3	3	3.81	3.91	5.03	5.12	4.95	PCB	I-PEX	PEGATRON	FAST3890v3
4	4	3.18	3.44	3.25	3.25	4.1	PCB	I-PEX	PEGATRON	FAST3890v3
Correlated Gain		7.59	7.38	6.99	7.46	7.8	-	-	-	-

Note 1: The EUT has four antennas.

For 2.4GHz function:

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

Ant. 1 (port 1), Ant. 2 (port 2), Ant. 3 (port 3) and Ant. 4 (port 4) could transmit/receive simultaneously.

For 5GHz function:

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

Ant. 1 (port 1), Ant. 2 (port 2), Ant. 3 (port 3) and Ant. 4 (port 4) could transmit/receive simultaneously.



1.1.3 EUT Information

Operational Condition				
EUT Power Type		From AC Adapter		
EUT Function	<input type="checkbox"/>	Outdoor	<input checked="" type="checkbox"/>	Indoor
	<input type="checkbox"/>	Fixed P2P	<input type="checkbox"/>	Client
Beamforming Function	<input checked="" type="checkbox"/>	With beamforming	<input type="checkbox"/>	Without beamforming
TPC Function	<input checked="" type="checkbox"/>	With TPC Function	<input type="checkbox"/>	Without TPC Function
Weather Band	<input type="checkbox"/>	With 5600~5650MHz	<input checked="" type="checkbox"/>	Without 5600~5650MHz
Type of EUT				
<input checked="" type="checkbox"/>	Stand-alone			
<input type="checkbox"/>	Combined (EUT where the radio part is fully integrated within another device)			
	Combined Equipment - Brand Name / Model No.: ...			
<input type="checkbox"/>	Plug-in radio (EUT intended for a variety of host systems)			
	Host System - Brand Name / Model No.: ...			
<input type="checkbox"/>	Other: ...			

1.1.4 Mode Test Duty Cycle

Non-Beamforming

Mode	DC	DCF(dB)	T(s)	VBW(Hz) $\geq 1/T$
802.11a	0.952	0.21	2.066m	1k
802.11ac VHT20	0.986	0.06	n/a (DC ≥ 0.98)	n/a (DC ≥ 0.98)
802.11ac VHT40	0.957	0.19	954.688u	3k
802.11ac VHT80	0.945	0.25	1.93m	1k

Note. If DC < 0.98, the DCF was added while measuring Output power and PSD.

Beamforming

Mode	DC	DCF(dB)	T(s)	VBW(Hz) $\geq 1/T$
802.11ac VHT20-BF	0.929	0.32	3.839m	300
802.11ac VHT40-BF	0.942	0.26	4.611m	300
802.11ac VHT80-BF	0.932	0.31	5.1m	300

Note. If DC < 0.98, the DCF was added while measuring Output power and PSD.

1.1.5 Table for Permissive Change

This product is an extension of original one reported under Sporton project number: FR941813AN
Below is the table for the change of the product with respect to the original one.

Modifications	Performance Checking
U-NII-2A and U-NII-2C were added	Emission Bandwidth, Maximum Conducted Output Power , Peak Power Spectral Density, Unwanted Emissions were evaluated.
AC Adapter (MSA-Z3800IC12.0-48W-P) was replaced by AC Adapter (NBS42E120350VU)	The worst case of AC Conduction and Radiated Unwanted Emissions data were evaluated, and the test result of original test report was found to be the worst case scenario.



1.2 Testing Applied Standards

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

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

1.3 Testing Location Information

Testing Location				
<input checked="" 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	
Test site Designation No. TW1190 with FCC.				
<input type="checkbox"/>	JHUBEI	ADD : No.8, Ln. 724, Bo'ai St., Zhubei City, Hsinchu County, Taiwan (R.O.C.)		
		TEL : 886-3-656-9065	FAX : 886-3-656-9085	
Test site Designation No. TW0006 with FCC.				

Test Condition	Test Site No.	Test Engineer	Test Environment	Test Date
RF Conducted	TH01-HY	Andy	23.7~25.2°C / 59.6~61.3%	26/Apr/2019~06/May/2019
Radiated	03CH09-HY	Lego	22.3~24.2°C / 65.1~68.2%	18/Apr/2019~06/May/2019

1.4 Measurement Uncertainty

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

Test Items	Uncertainty	Remark
Conducted Emission (150kHz ~ 30MHz)	3.54 dB	Confidence levels of 95%
Radiated Emission (9kHz ~ 30MHz)	1.6 dB	Confidence levels of 95%
Radiated Emission (30MHz ~ 1,000MHz)	4.3 dB	Confidence levels of 95%
Radiated Emission (1GHz ~ 18GHz)	3.9 dB	Confidence levels of 95%
Radiated Emission (18GHz ~ 40GHz)	3.5 dB	Confidence levels of 95%
Conducted Emission	1.3 dB	Confidence levels of 95%
Temperature	0.7 °C	Confidence levels of 95%
Humidity	4 %	Confidence levels of 95%



2 Test Configuration of EUT

2.1 Test Condition

Condition Item	Abbreviation/Remark	Remark
TnomVnom	Tnom	20°C
	Vnom	120V

2.2 Test Channel Mode

Test Software Version	accessMTool 3.0.0.2
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Non-Beamforming

Mode	PowerSetting
802.11a_Nss1,(6Mbps)_4TX	-
5260MHz	69
5300MHz	69
5320MHz	69
5500MHz	67
5580MHz	67
5700MHz	68
802.11ac VHT20_Nss1,(MCS0)_4TX	-
5260MHz	69
5300MHz	69
5320MHz	69
5500MHz	67
5580MHz	66
5700MHz	62
802.11ac VHT40_Nss1,(MCS0)_4TX	-
5270MHz	72
5310MHz	71
5510MHz	65
5550MHz	72
5670MHz	72
802.11ac VHT80_Nss1,(MCS0)_4TX	-
5290MHz	63
5530MHz	57
5610MHz	72

**Beamforming**

Mode	PowerSetting
802.11ac VHT20-BF_Nss1,(MCS0)_4TX	-
5260MHz	68
5300MHz	68
5320MHz	68
5500MHz	67
5580MHz	66
5700MHz	67
802.11ac VHT40-BF_Nss1,(MCS0)_4TX	-
5270MHz	69
5310MHz	67
5510MHz	60
5550MHz	65
5670MHz	67
802.11ac VHT80-BF_Nss1,(MCS0)_4TX	-
5290MHz	63
5530MHz	57
5610MHz	65



2.3 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
1	Adapter mode
Operating Mode > 1GHz	CTX
Orthogonal Planes of EUT	<p style="text-align: center;">Y Plane</p> 
Worst Planes of EUT	V

The Worst Case Mode for Following Conformance Tests	
Tests Item	Simultaneous Transmission Analysis
Test Condition	Radiated measurement
Operating Mode	Normal Link
1	WLAN 2.4GHz +WLAN 5GHz

Refer to Sporton Test Report No.: FA941813-01 for Co-location RF Exposure Evaluation and FR941813AN for Appendix F for Radiated Emission Co-location.



2.4 Accessories and Support Equipment

Accessories				
AC Adapter	Brand Name	SAGEMCOM	Model Name	NBS42E120350VU
	Manufacturer	NetBIT	P/N	191476468-xx
	Power Rating	I/P: 200-240Vac; 1A; O/P: 12Vdc, 3.5A		
	Power Cord	1.85 meter, non-shielded cable, w/o ferrite core		
Power Cable	Brand Name	Sagemcom	Model Name	MSA-Z3800IC12.0-48W-P
	Manufacturer	MOSO	P/N	191377516
	Signal Line	0.9 meter, non-shielded cable, w/o ferrite core		
RJ11 Cable	Brand Name	N/A	Model Name	N/A
	Power Cord	1.45 meter, non-shielded cable		
RJ45 Cable	Brand Name	N/A	Model Name	N/A
	Power Cord	1.45 meter, non-shielded cable		

Reminder: Regarding to more detail and other information, please refer to user manual.

Support Equipment – RF Conducted				
No.	Equipment	Brand Name	Model Name	FCC ID
1	Notebook	DELL	E5410	DoC
2	Adapter for Notebook	DELL	HA65NM130	DoC
3	AC Power Source	GW	APS-9102	N/A

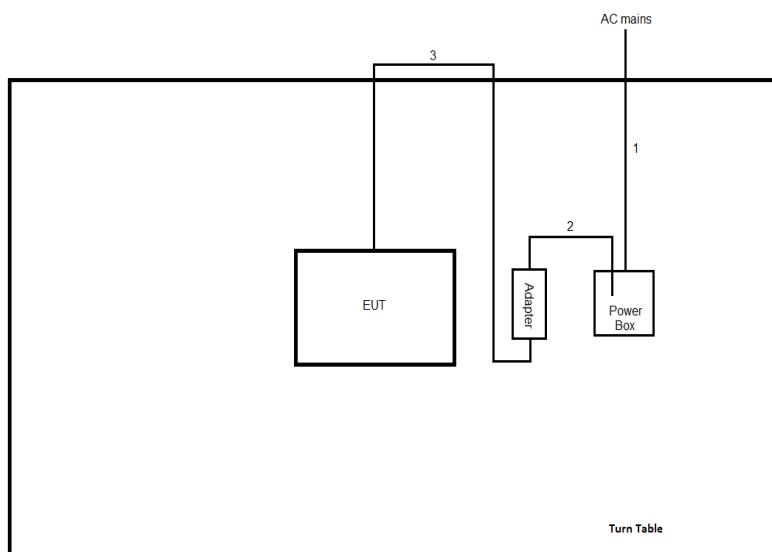
Support Equipment – Radiated Emission				
No.	Equipment	Brand Name	Model Name	FCC ID
1	Notebook	Dell	PP13S	DoC
2	Client	N/A	N/A	N/A

Note: Support equipment No.2 was provided by customer.



2.5 Test Setup Diagram

Test Setup Diagram - Radiated Test



Item	Connection	Shielded	Length
1	AC Power line	No	1.5
2	AC Power line	No	1.5
3	DC Power line	No	0.9

3 Transmitter Test Result

3.1 Emission Bandwidth

3.1.1 Emission Bandwidth Limit

Emission Bandwidth Limit	
UNII Devices	
<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, N/A
<input checked="" type="checkbox"/>	For the 5.47-5.725 GHz band, N/A
<input checked="" type="checkbox"/>	For the 5.725-5.85 GHz band, 6 dB emission bandwidth \geq 500kHz.

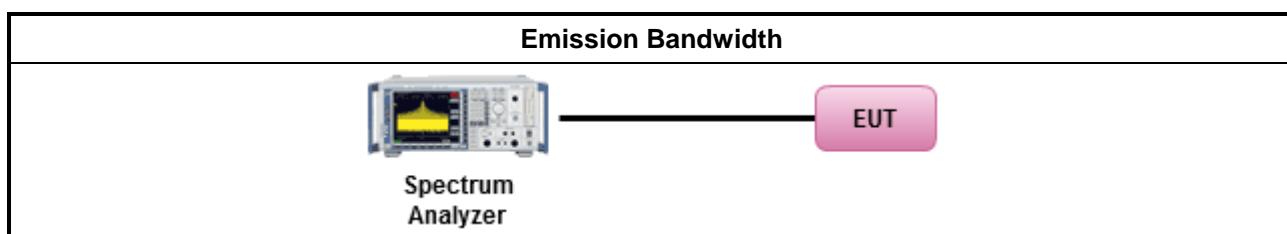
3.1.2 Measuring Instruments

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 KDB 789033, clause C for EBW and clause D for OBW measurement.
<input type="checkbox"/>	Refer as ANSI C63.10, clause 6.9.3 for occupied bandwidth testing.
<input type="checkbox"/>	Refer as IC RSS-Gen, clause 6.7 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	
UNII Devices	
<input type="checkbox"/> For the 5.15-5.25 GHz band:	<ul style="list-style-type: none">▪ Outdoor AP: the maximum conducted output power (P_{Out}) shall not exceed the lesser of 1 W. If $G_{TX} > 6 \text{ dBi}$, then $P_{Out} = 30 - (G_{TX} - 6)$. e.i.r.p. at any elevation angle above 30 degrees $\leq 125\text{mW}$ [21dBm]▪ Indoor AP: the maximum conducted output power (P_{Out}) shall not exceed the lesser of 1 W. If $G_{TX} > 6 \text{ dBi}$, then $P_{Out} = 30 - (G_{TX} - 6)$▪ Point-to-point AP: the maximum conducted output power (P_{Out}) shall not exceed the lesser of 1 W. If $G_{TX} > 23 \text{ dBi}$, then $P_{Out} = 30 - (G_{TX} - 23)$.▪ Mobile or Portable Client: the maximum conducted output power (P_{Out}) shall not exceed the lesser of 250 mW. If $G_{TX} > 6 \text{ dBi}$, then $P_{Out} = 24 - (G_{TX} - 6)$.
<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 $11 \text{ dBm} + 10 \log B$, where B is the 26 dB emission bandwidth in MHz. If $G_{TX} > 6 \text{ dBi}$, 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 $11 \text{ dBm} + 10 \log B$, where B is the 26 dB emission bandwidth in MHz. If $G_{TX} > 6 \text{ dBi}$, then $P_{Out} = 24 - (G_{TX} - 6)$.	
<input checked="" type="checkbox"/> For the 5.725-5.85 GHz band:	<ul style="list-style-type: none">▪ Point-to-multipoint systems (P2M): the maximum conducted output power (P_{Out}) shall not exceed the lesser of 1 W. If $G_{TX} > 6 \text{ dBi}$, then $P_{Out} = 30 - (G_{TX} - 6)$.▪ Point-to-point systems (P2P): the maximum conducted output power (P_{Out}) shall not exceed the lesser of 1 W.
<p>P_{Out} = maximum conducted output power in dBm, G_{TX} = the maximum transmitting antenna directional gain in dBi.</p>	

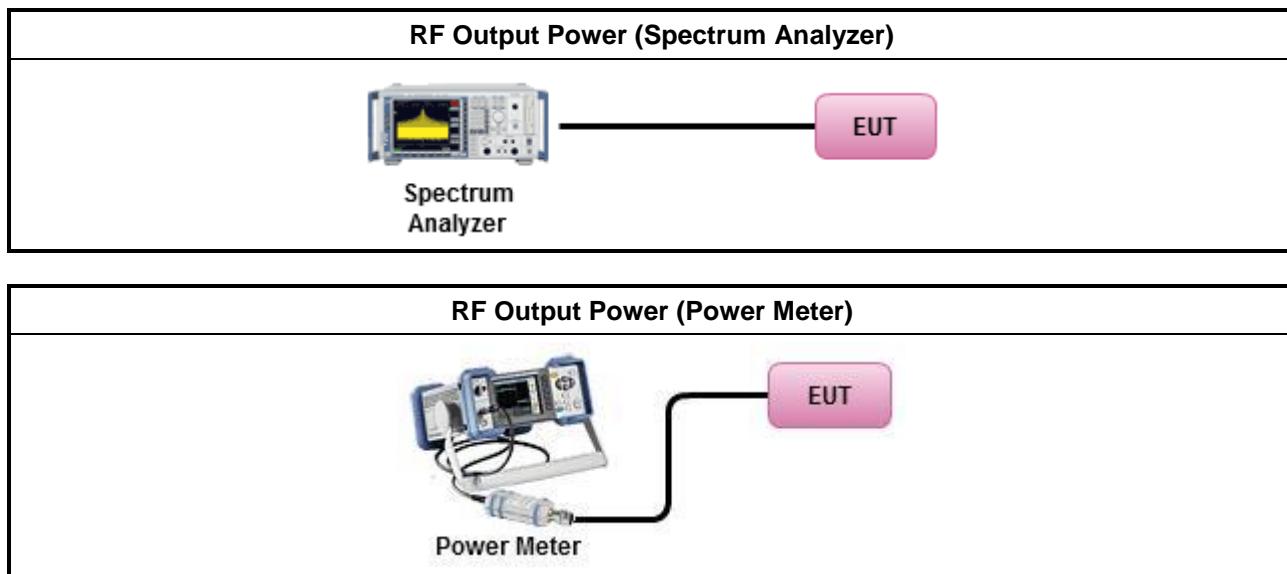
3.2.2 Measuring Instruments

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

3.2.3 Test Procedures

Test Method	
▪ Maximum Conducted Output Power	
Duty cycle ≥ 98%	<input type="checkbox"/> Refer as KDB 789033, clause E Method SA-2 (spectral trace averaging).
Duty cycle < 98%	<input checked="" type="checkbox"/> Refer as 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 type="checkbox"/> Refer as KDB 789033, clause E Method PM (using an RF average power meter).
▪ For conducted measurement.	
	<ul style="list-style-type: none">▪ If the EUT supports multiple transmit chains using options given below: Refer as KDB 662911, In-band power measurements. Using the measure-and-sum approach, measured all transmit ports individually. Sum the power (in linear power units e.g., mW) of all ports for each individual sample and save them.▪ If multiple transmit chains, EIRP calculation could be following as methods: $P_{total} = P_1 + P_2 + \dots + P_n$ (calculated in linear unit [mW] and transfer to log unit [dBm]) $EIRP_{total} = P_{total} + DG$

3.2.4 Test Setup



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	
UNII Devices	
<input type="checkbox"/> For the 5.15-5.25 GHz band:	<ul style="list-style-type: none">▪ Outdoor AP: the peak power spectral density (PPSD) shall not exceed the lesser of 17dBm/MHz. If $G_{TX} > 6$ dBi, then $P_{Out} = 17 - (G_{TX} - 6)$.▪ Indoor AP: the peak power spectral density (PPSD) shall not exceed the lesser of 17dBm/MHz. If $G_{TX} > 6$ dBi, then $P_{Out} = 17 - (G_{TX} - 6)$.▪ Point-to-point AP: the peak power spectral density (PPSD) shall not exceed the lesser of 17dBm/MHz. If $G_{TX} > 23$ dBi, then $P_{Out} = 17 - (G_{TX} - 23)$.▪ Mobile or Portable Client: the peak power spectral density (PPSD) ≤ 11 dBm/MHz. If $G_{TX} > 6$ dBi, then $PPSD = 11 - (G_{TX} - 6)$.
<input checked="" type="checkbox"/> For the 5.25-5.35 GHz band, the peak power spectral density (PPSD) ≤ 11 dBm/MHz. If $G_{TX} > 6$ dBi, then $PPSD = 11 - (G_{TX} - 6)$.	
<input checked="" type="checkbox"/> For the 5.47-5.725 GHz band, the peak power spectral density (PPSD) ≤ 11 dBm/MHz. If $G_{TX} > 6$ dBi, then $PPSD = 11 - (G_{TX} - 6)$.	
<input checked="" type="checkbox"/> For the 5.725-5.85 GHz band:	<ul style="list-style-type: none">▪ Point-to-multipoint systems (P2M): the peak power spectral density (PPSD) ≤ 30 dBm/500kHz. If $G_{TX} > 6$ dBi, then $PPSD = 30 - (G_{TX} - 6)$.▪ Point-to-point systems (P2P): the peak power spectral density (PPSD) ≤ 30 dBm/500kHz.
PPSD = peak power spectral density that he same method as used to determine the conducted output power shall be used to determine the power spectral density. And power spectral density in dBm/MHz G_{TX} = the maximum transmitting antenna directional gain in dBi.	

3.3.2 Measuring Instruments

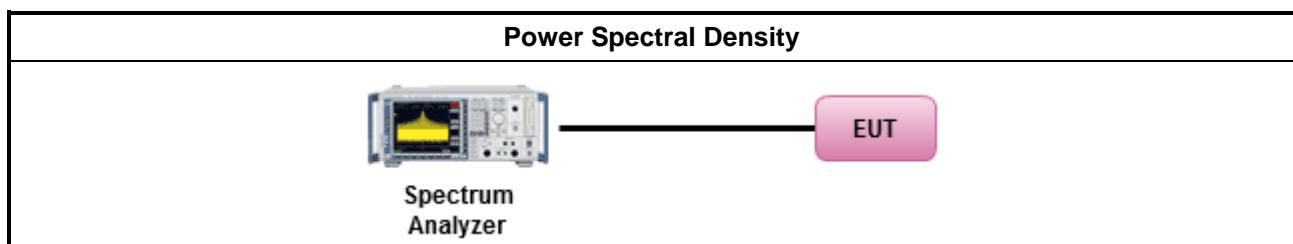
Refer a test equipment and calibration data table in this test report.



3.3.3 Test Procedures

Test Method	
<ul style="list-style-type: none">▪ 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:	
	<input type="checkbox"/> Refer as 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%
	<input checked="" type="checkbox"/> Refer as KDB 789033, clause E Method SA-2 (spectral trace averaging).
	Duty cycle < 98%
	<input checked="" type="checkbox"/> Refer as KDB 789033, clause E Method SA-2 Alt. (RMS detection with slow sweep speed)
<ul style="list-style-type: none">▪ For conducted measurement.	
	<ul style="list-style-type: none">▪ If the EUT supports multiple transmit chains using options given below:
	<ul style="list-style-type: none">▪ Measure and sum the spectra across the outputs. Refer as KDB 662911, In-band power spectral density (PPSD). Sample all transmit ports simultaneously using a spectrum analyzer for each transmit port. Where the trace bin-by-bin of each transmit port summing can be performed. (i.e., in the first spectral bin of output 1 is summed with that in the first spectral bin of output 2 and that from the first spectral bin of output 3, and so on up to the NTX output to obtain the value for the first frequency bin of the summed spectrum.). Add up the amplitude (power) values for the different transmit chains and use this as the new data trace.
	<ul style="list-style-type: none">▪ If multiple transmit chains, EIRP PPSD calculation could be following as methods: $\text{PPSD}_{\text{total}} = \text{PPSD}_1 + \text{PPSD}_2 + \dots + \text{PPSD}_n$(calculated in linear unit [mW] and transfer to log unit [dBm]) $\text{EIRP}_{\text{total}} = \text{PPSD}_{\text{total}} + \text{DG}$

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 Radiated Unwanted Emissions Limit

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

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

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

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
5.15 - 5.25 GHz	e.i.r.p. -27 dBm [68.2 dBuV/m@3m]
5.25 - 5.35 GHz	e.i.r.p. -27 dBm [68.2 dBuV/m@3m]
5.47 - 5.725 GHz	e.i.r.p. -27 dBm [68.2 dBuV/m@3m]
5.725 - 5.85 GHz	5.650-5700 GHz: e.i.r.p. -27 ~ 10 dBm [68.2 ~ 105.2 dBuV/m@3m] 5.700-5720 GHz: e.i.r.p. 10 ~ 15.6 dBm [105.2 ~ 110.8 dBuV/m@3m] 5.720-5725 GHz: e.i.r.p. 15.6 ~ 27 dBm [110.8 ~ 122.2 dBuV/m@3m] 5.850-5.855 GHz: e.i.r.p. 27 ~ 15.6 dBm [122.2 ~ 110.8 dBuV/m@3m] 5.855-5.875 GHz: e.i.r.p. 15.6 ~ 10 dBm [110.8 ~ 105.2 dBuV/m@3m] 5.875-5.925 GHz: e.i.r.p. 10 ~ -27 dBm [105.2 ~ 68.2 dBuV/m@3m] Other un-restricted band: e.i.r.p. -27 dBm [68.2 dBuV/m@3m]
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).	



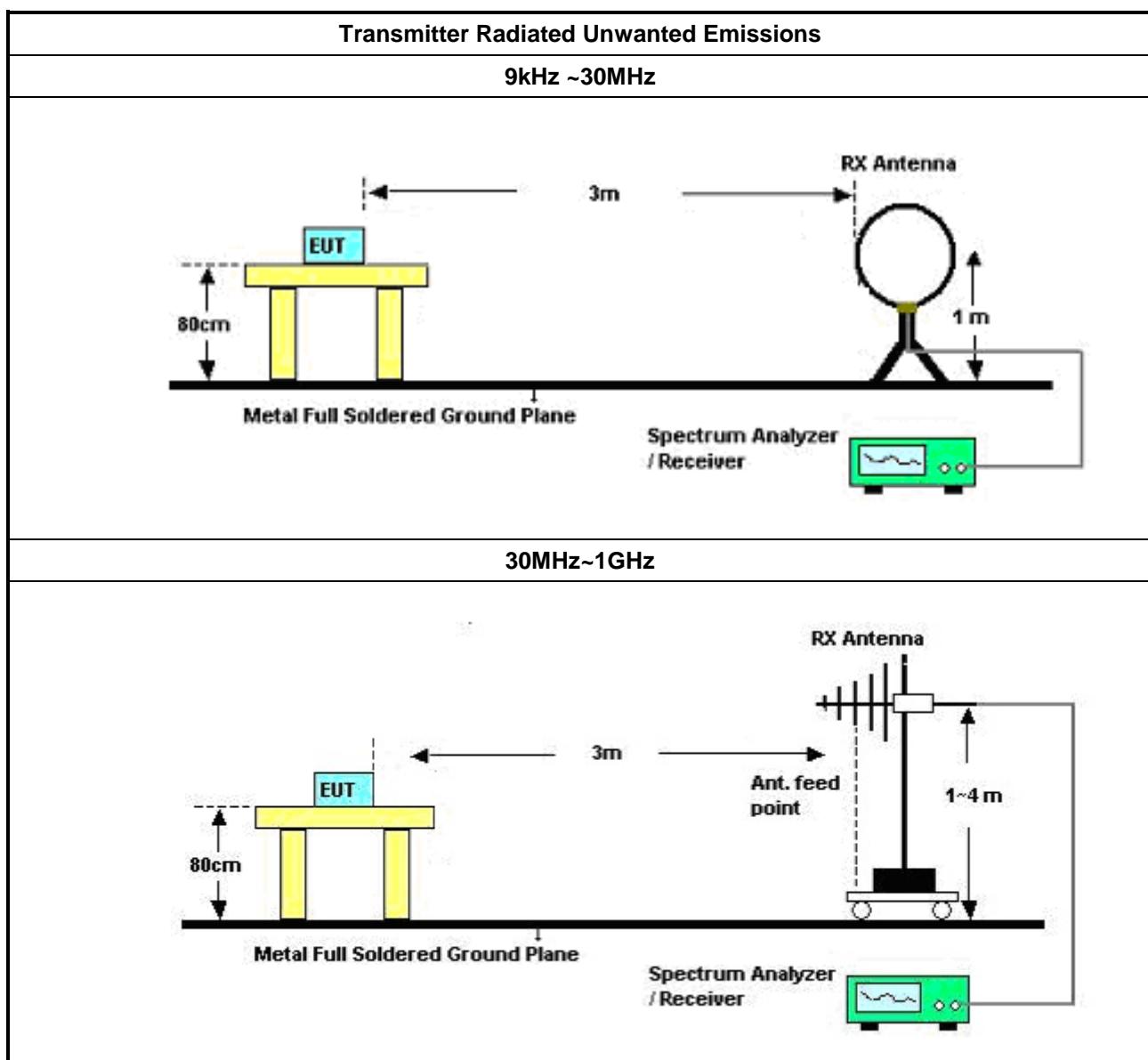
3.4.2 Measuring Instruments

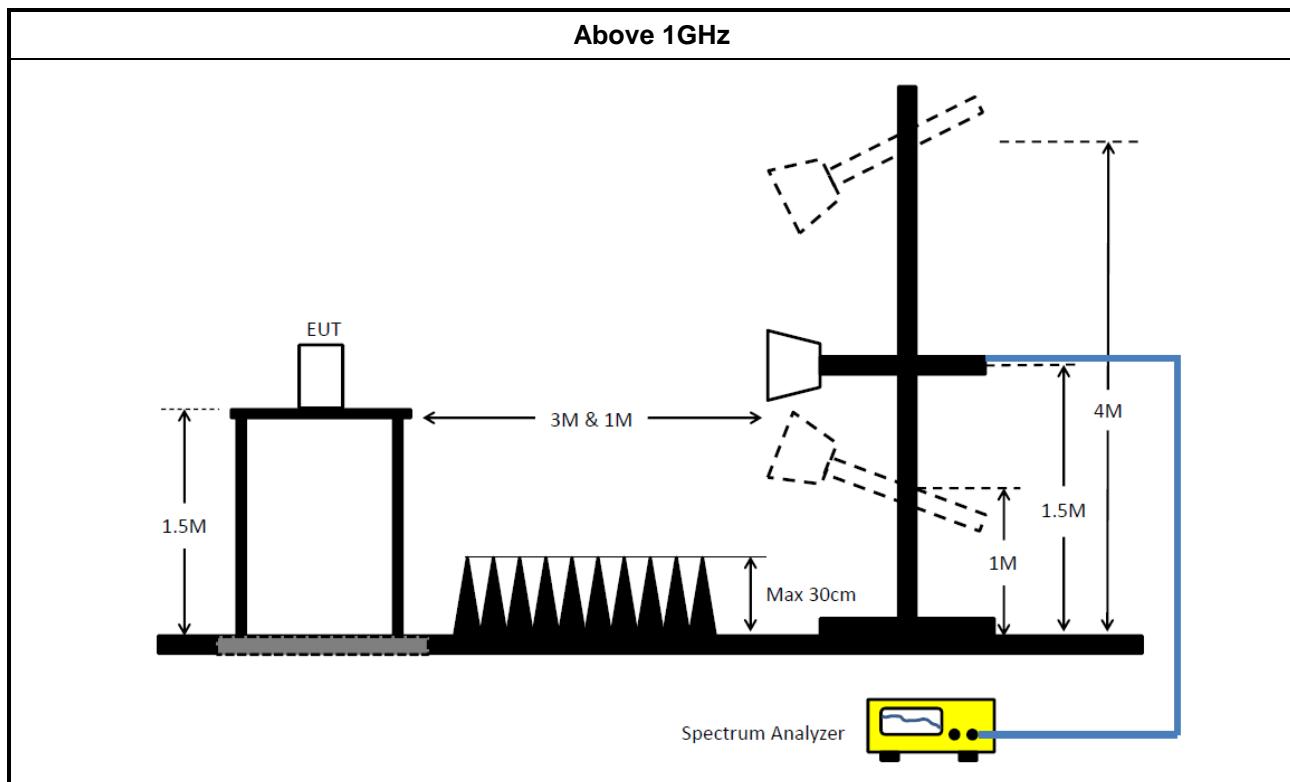
Refer a test equipment and calibration data table in this test report.

3.4.3 Test Procedures

Test Method	
<ul style="list-style-type: none">▪ 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).	
<ul style="list-style-type: none">▪ The average emission levels shall be measured in [duty cycle \geq 98 or duty factor].	
<ul style="list-style-type: none">▪ For the transmitter unwanted emissions shall be measured using following options below:	
<ul style="list-style-type: none">▪ Refer as KDB 789033, clause G2) for unwanted emissions into non-restricted bands.	
<ul style="list-style-type: none">▪ Refer as KDB 789033, clause G1) for unwanted emissions into restricted bands.	
<ul style="list-style-type: none"><input checked="" type="checkbox"/> Refer as KDB 789033, G6) Method VB (ANSI C63.10, clause 4.1.4.2.3), Reduced VBW.	
<ul style="list-style-type: none"><input checked="" type="checkbox"/> Refer as KDB 789033, clause G5) (ANSI C63.10, clause 4.1.4.2.2), measurement procedure peak limit.	
<ul style="list-style-type: none">▪ For radiated measurement.	
<ul style="list-style-type: none">▪ Refer as ANSI C63.10, clause 6.4 for radiated emissions below 30 MHz and test distance is 3m.	
<ul style="list-style-type: none">▪ Refer as ANSI C63.10, clause 6.5 for radiated emissions 30 MHz to 1 GHz and test distance is 3m.	
<ul style="list-style-type: none">▪ Refer as ANSI C63.10, clause 6.6 for radiated emissions above 1GHz.	
<ul style="list-style-type: none">▪ The any unwanted emissions level shall not exceed the fundamental emission level.	
<ul style="list-style-type: none">▪ All amplitude of spurious emissions that are attenuated by more than 20 dB below the permissible value has no need to be reported.	
<ul style="list-style-type: none">▪ Use the following spectrum analyzer settings:	
<ul style="list-style-type: none">▪ Set RBW=100 kHz for $f < 1$ GHz; VBW=3 * RBW; Sweep = auto; Detector function = peak; Trace = max hold.	
<ul style="list-style-type: none">▪ Set RBW = 1 MHz, VBW= 3MHz for $f \geq 1$ GHz for peak measurement. For average measurement, refer as 1.1.4.	
<ul style="list-style-type: none">▪ KDB 414788 Open-Field Test Sites and Chamber Correlation Justification.	
<ul style="list-style-type: none">▪ Based on FCC 15.31 (f) (2): measurements may be performed at a distance closer than that specified in regulations; however, an attempt should be made to avoid making measurements in the near field.	
<ul style="list-style-type: none">▪ Open-field site and chamber correlation testing had been performed and chamber measured test result is the worst case test result.	

3.4.4 Test Setup





3.4.5 Transmitter Unwanted Emissions (Below 30MHz)

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

3.4.6 Test Result of Transmitter Unwanted Emissions

Refer as Appendix D



4 Test Equipment and Calibration Data

Instrument for Conducted Test

Instrument	Manufacturer	Model No.	Serial No.	Spec.	Calibration Date	Calibration Due Date
Spectrum Analyzer	R&S	FSV 40	101500	10Hz~40GHz	18/Jul/2018	17/Jul/2019
Power Sensor	Anritsu	MA2411B	1339407	300MHz ~ 40GHz	17/Nov/2018	16/Nov/2019
Power Meter	Anritsu	ML2495A	1517010	300MHz ~ 40GHz	17/Nov/2018	16/Nov/2019
Cable 0.2m	HUBER	MY10710/4	RF Cable - 01	30MHz ~18G	10/Jan/2019	09/Jan/2020
Cable 0.2m	HUBER	MY10711/4	RF Cable - 02	30MHz ~18G	10/Jan/2019	09/Jan/2020
Cable 0.5m	HUBER	MY39470/4	RF Cable - 29	30MHz ~18G	10/Jan/2019	09/Jan/2020
SMB100A Signal Generator	R&S	SMB100A03	181147	100kHz~40GHz	12/Nov/2018	10/Nov/2020

Instrument for Radiated Test

Instrument	Manufacturer	Model No.	Serial No.	Spec.	Calibration Date	Calibration Due Date
3m Semi Anechoic Chamber	TDK	SAC-3M	03CH09-HY	30MHz ~ 1GHz	23/Apr/2018	22/Apr/2019
3m Semi Anechoic Chamber	TDK	SAC-3M	03CH09-HY	1GHz ~ 18GHz	14/Jun/2018	13/Jun/2019
Microwave Preamplifier	Agilent	8449B	3008A02096	1GHz ~ 26.5GHz	10/May/2018	09/May/2019
Amplifier	EMC	EMC9135	980232	9KHz~1GHz	27/Apr/2018	26/Apr/2019
EMI Test Receiver	R&S	ESR3	102052	9kHz ~ 3.6GHz	10/Apr/2018	09/Apr/2019
EXA Signal Analyzer	KEYSIGHT	N9010A	MY54200885	10Hz ~ 44GHz	31/Jul/2018	30/Jul/2019
Bilog Antenna & 5dB Attenuator	TESEQ & MTJ	CBL6111D & MTJ6102-05	35418 / 3	30MHz~1GHz	02/Oct/2018	03/Oct/2019
Double Ridged Guide Horn Antenna	SCHWARZBECK	BBHA 9120 D	BBHA9120 D 1534	1GHz~18GHz	30/Apr/2018	29/Apr/2019
Broadband Horn Antenna	SCHWARZBECK	BBHA 9170	BBHA9170339	15GHz ~ 40GHz	11/Apr/2018	10/Apr/2019
Preamplifier	MITEQ	TTA1840-35-H G	1864481	18GHz ~ 40GHz	24/Aug/2018	23/Aug/2019
Loop Antenna	TESEQ	HLA 6120	31244	9k-30MHz	29/Mar/2018	28/Mar/2019
LF-CABLE-20190218	Jye Bao	RG142	CB028	9kHz ~ 1GHz	18/Feb/2019	17/Febr/2020
RF Cable-high	HUBER+SUHNER	SUCOFLEX104	SN 556626/4 + 556627	1GHz ~ 40GHz	14/Mar/2019	13/Mar/2020

**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)_4TX	21.69M	16.702M	16M7D1D	21.42M	16.612M
802.11ac VHT20_Nss1,(MCS0)_4TX	21.93M	17.811M	17M8D1D	21.54M	17.721M
802.11ac VHT40_Nss1,(MCS0)_4TX	64.8M	36.342M	36M3D1D	39.78M	36.162M
802.11ac VHT80_Nss1,(MCS0)_4TX	82.2M	75.922M	75M9D1D	81.48M	75.682M
5.47-5.725GHz	-	-	-	-	-
802.11a_Nss1,(6Mbps)_4TX	21.6M	16.642M	16M6D1D	21.33M	16.552M
802.11ac VHT20_Nss1,(MCS0)_4TX	21.84M	17.811M	17M8D1D	21.45M	17.721M
802.11ac VHT40_Nss1,(MCS0)_4TX	63.78M	36.462M	36M5D1D	39.54M	36.162M
802.11ac VHT80_Nss1,(MCS0)_4TX	85.08M	75.922M	75M9D1D	81.48M	75.682M

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

Max-OBW = Maximum 99% occupied bandwidth;

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

Min-OBW = Minimum 99% occupied bandwidth;



Result

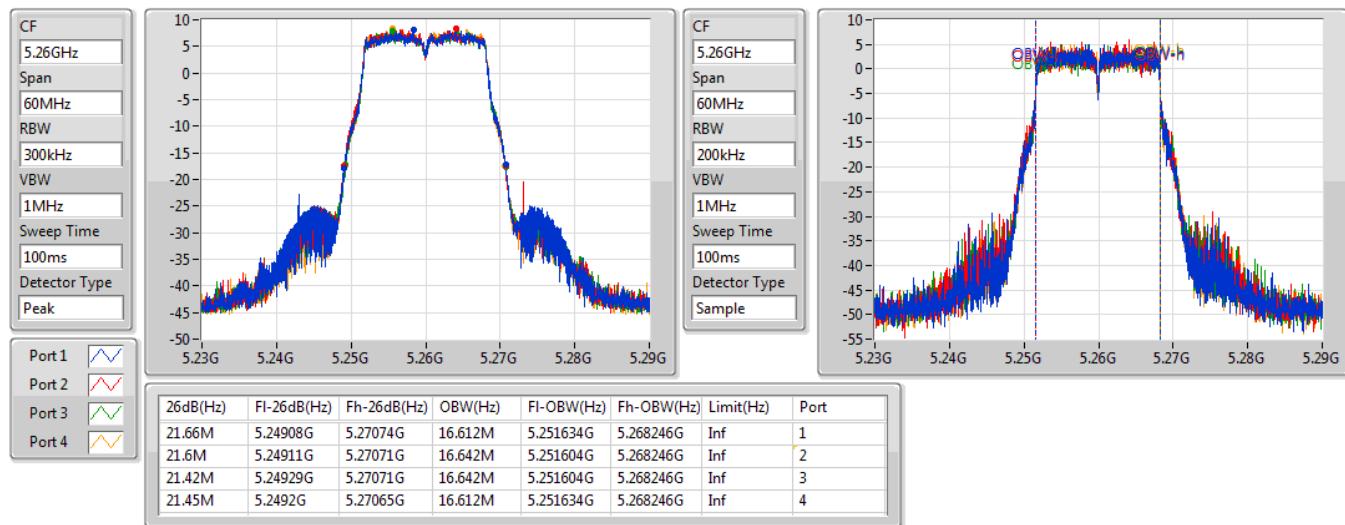
Mode	Result	Limit (Hz)	Port 1-N dB (Hz)	Port 1-OBW (Hz)	Port 2-N dB (Hz)	Port 2-OBW (Hz)	Port 3-N dB (Hz)	Port 3-OBW (Hz)	Port 4-N dB (Hz)	Port 4-OBW (Hz)
802.11a_Nss1,(6Mbps)_4TX	-	-	-	-	-	-	-	-	-	-
5260MHz	Pass	Inf	21.66M	16.612M	21.6M	16.642M	21.42M	16.642M	21.45M	16.612M
5300MHz	Pass	Inf	21.6M	16.672M	21.51M	16.672M	21.51M	16.612M	21.48M	16.612M
5320MHz	Pass	Inf	21.69M	16.612M	21.54M	16.702M	21.45M	16.612M	21.54M	16.642M
5500MHz	Pass	Inf	21.6M	16.642M	21.51M	16.612M	21.48M	16.612M	21.36M	16.642M
5580MHz	Pass	Inf	21.6M	16.612M	21.51M	16.552M	21.48M	16.552M	21.33M	16.582M
5700MHz	Pass	Inf	21.57M	16.612M	21.57M	16.582M	21.57M	16.582M	21.45M	16.582M
802.11ac VHT20_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-	-	-
5260MHz	Pass	Inf	21.9M	17.811M	21.75M	17.751M	21.69M	17.781M	21.63M	17.751M
5300MHz	Pass	Inf	21.93M	17.811M	21.66M	17.781M	21.6M	17.781M	21.54M	17.721M
5320MHz	Pass	Inf	21.87M	17.781M	21.57M	17.781M	21.81M	17.811M	21.81M	17.781M
5500MHz	Pass	Inf	21.78M	17.781M	21.72M	17.751M	21.72M	17.751M	21.48M	17.751M
5580MHz	Pass	Inf	21.78M	17.781M	21.54M	17.781M	21.63M	17.781M	21.6M	17.811M
5700MHz	Pass	Inf	21.84M	17.751M	21.45M	17.751M	21.45M	17.721M	21.54M	17.781M
802.11ac VHT40_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-	-	-
5270MHz	Pass	Inf	64.8M	36.222M	39.78M	36.222M	40.74M	36.162M	43.5M	36.282M
5310MHz	Pass	Inf	48M	36.222M	40.5M	36.282M	40.08M	36.282M	40.08M	36.342M
5510MHz	Pass	Inf	40.44M	36.282M	39.54M	36.222M	39.78M	36.282M	40.02M	36.162M
5550MHz	Pass	Inf	62.64M	36.342M	43.08M	36.222M	48.06M	36.222M	47.16M	36.402M
5670MHz	Pass	Inf	63.78M	36.222M	46.56M	36.222M	40.26M	36.462M	49.2M	36.222M
802.11ac VHT80_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-	-	-
5290MHz	Pass	Inf	82.2M	75.802M	81.6M	75.802M	81.48M	75.682M	81.48M	75.922M
5530MHz	Pass	Inf	82.44M	75.802M	81.96M	75.802M	81.6M	75.802M	81.6M	75.682M
5610MHz	Pass	Inf	85.08M	75.682M	81.96M	75.682M	81.48M	75.922M	83.4M	75.802M

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

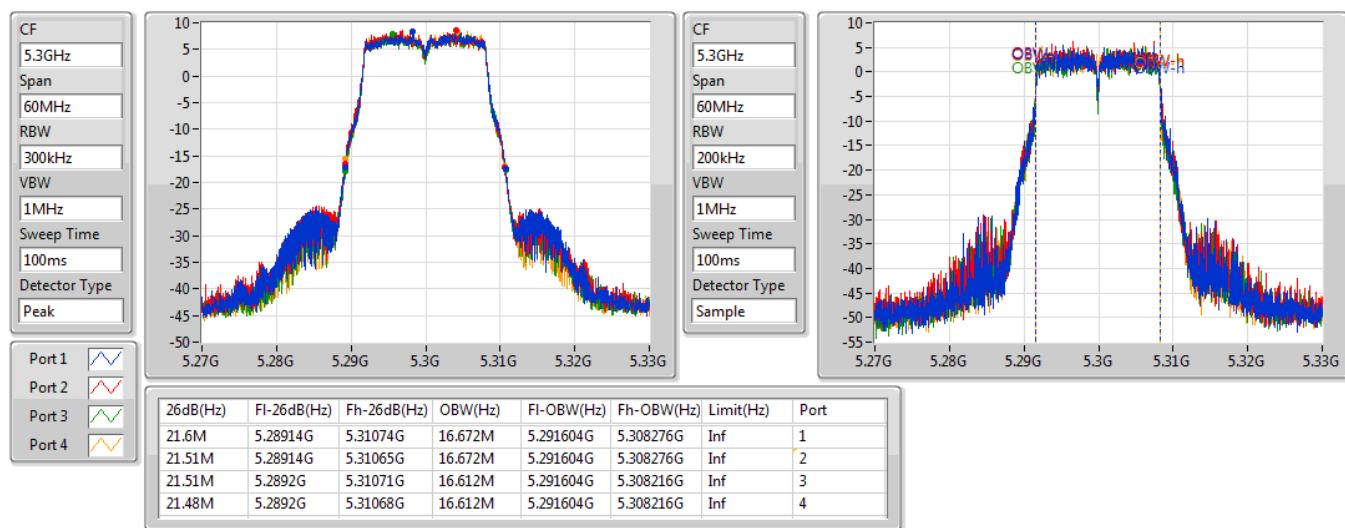
Port X-OBW = Port X 99% occupied bandwidth;

802.11a_Nss1,(6Mbps)_4TX
EBW
5260MHz

26/04/2019

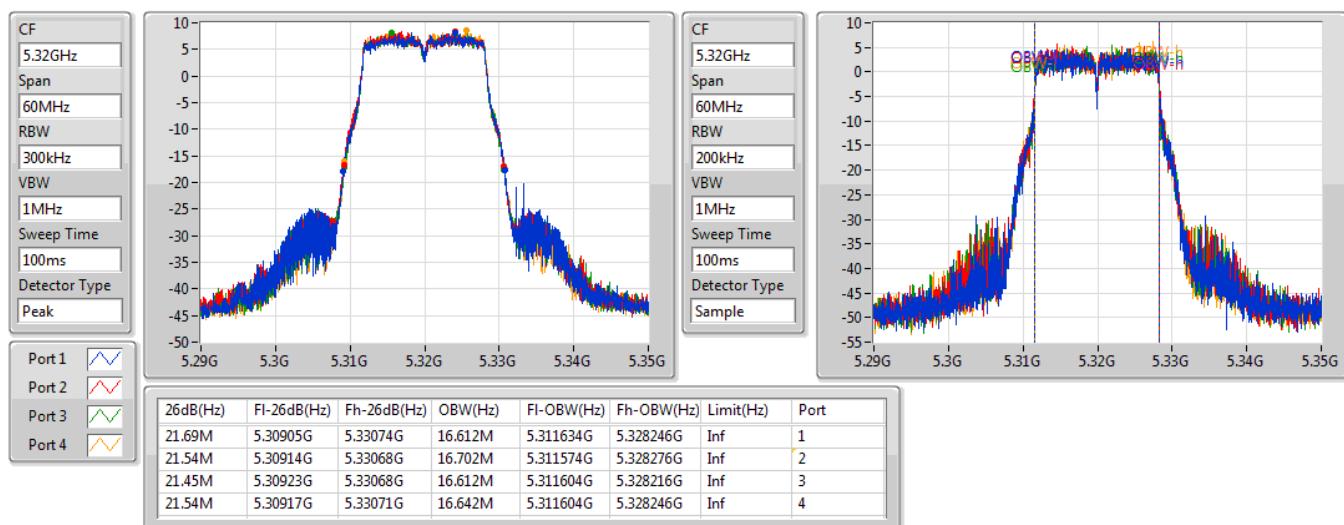

802.11a_Nss1,(6Mbps)_4TX
EBW
5300MHz

26/04/2019

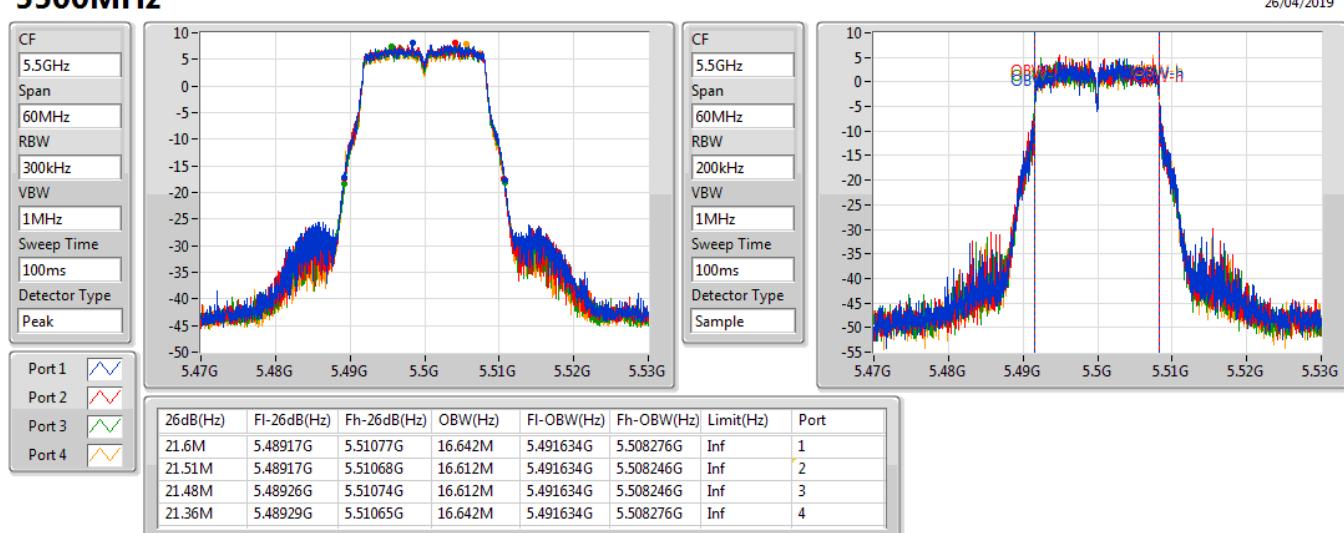


802.11a_Nss1,(6Mbps)_4TX
5320MHz
EBW

26/04/2019

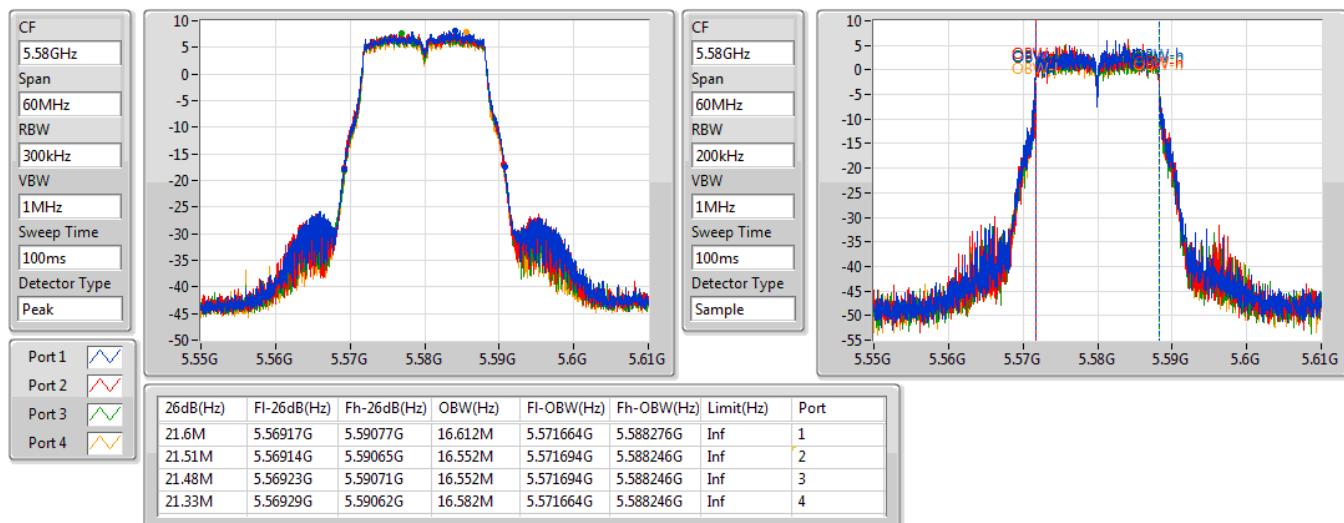

802.11a_Nss1,(6Mbps)_4TX
5500MHz
EBW

26/04/2019

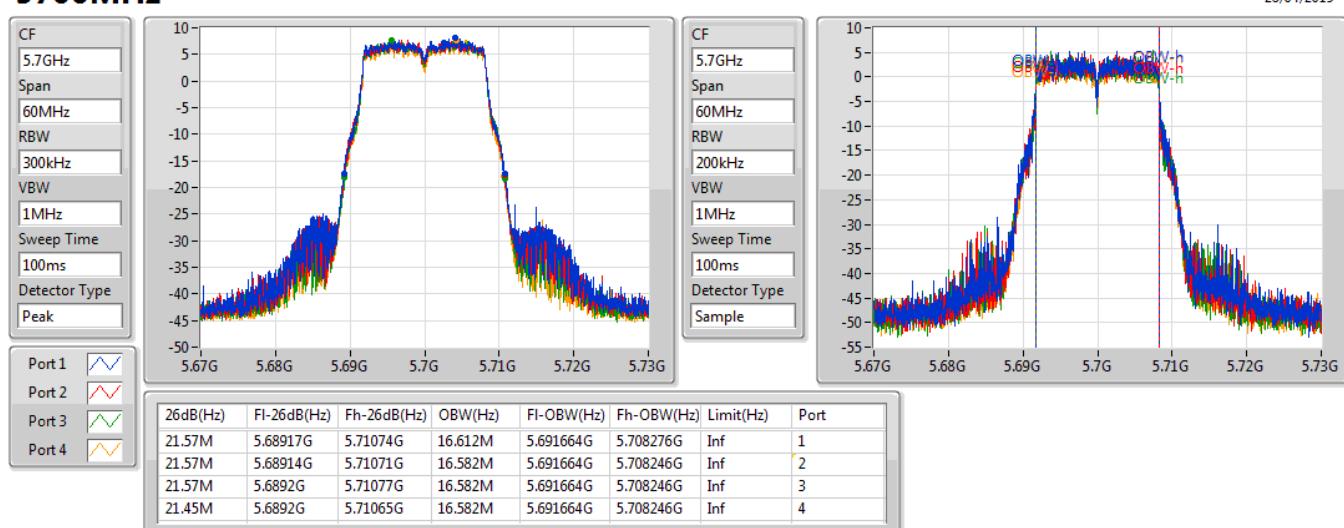


802.11a_Nss1,(6Mbps)_4TX
5580MHz
EBW

26/04/2019

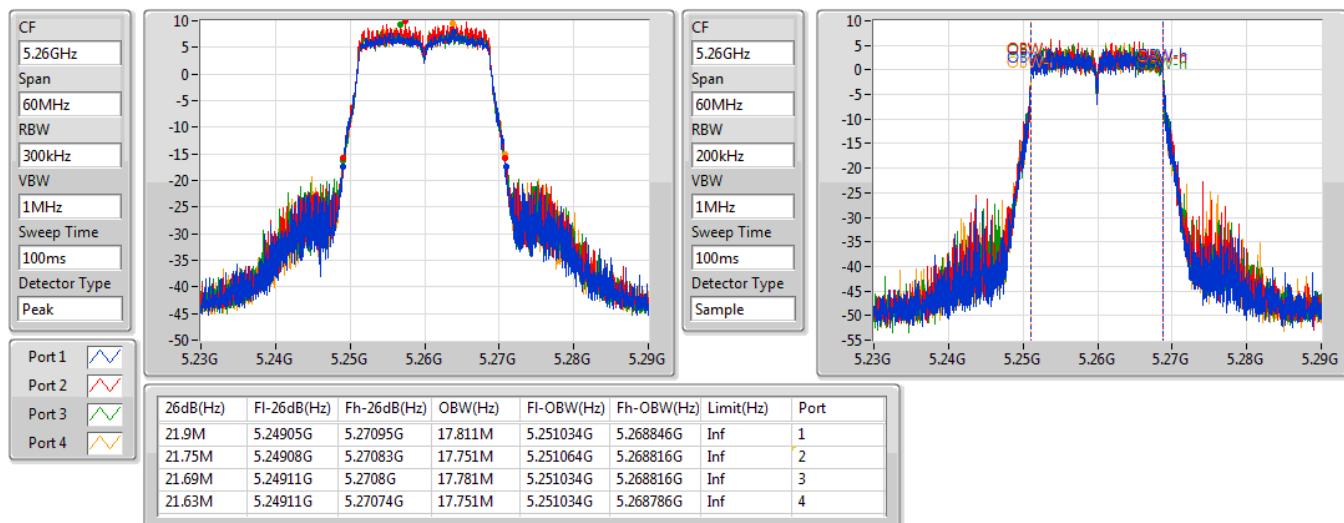

802.11a_Nss1,(6Mbps)_4TX
5700MHz
EBW

26/04/2019

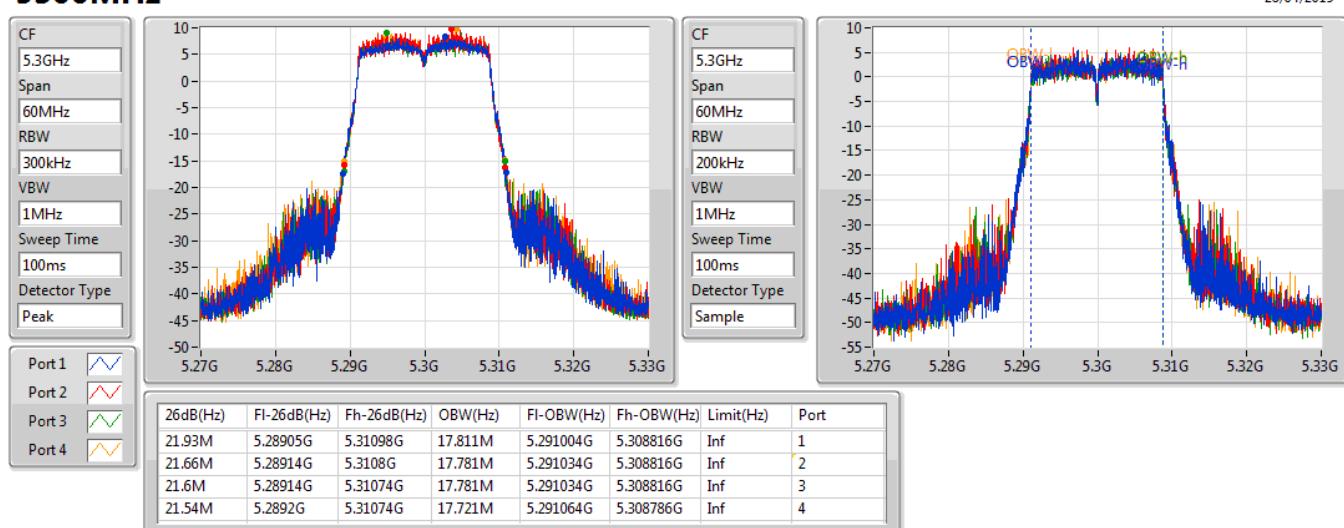


802.11ac VHT20_Nss1,(MCS0)_4TX
EBW
5260MHz

26/04/2019

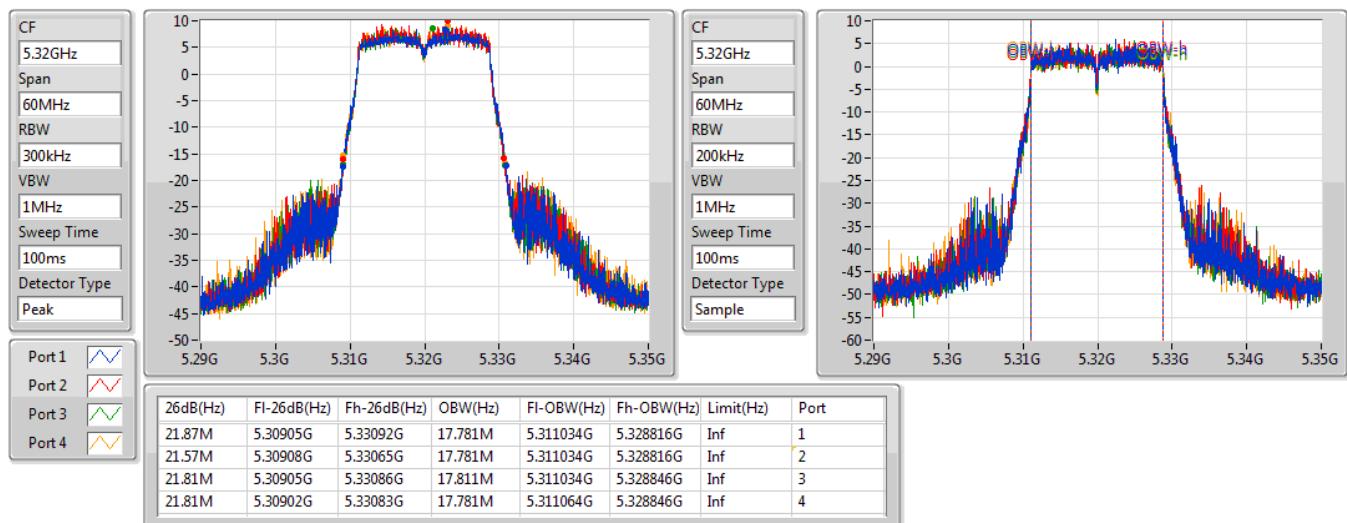

802.11ac VHT20_Nss1,(MCS0)_4TX
EBW
5300MHz

26/04/2019

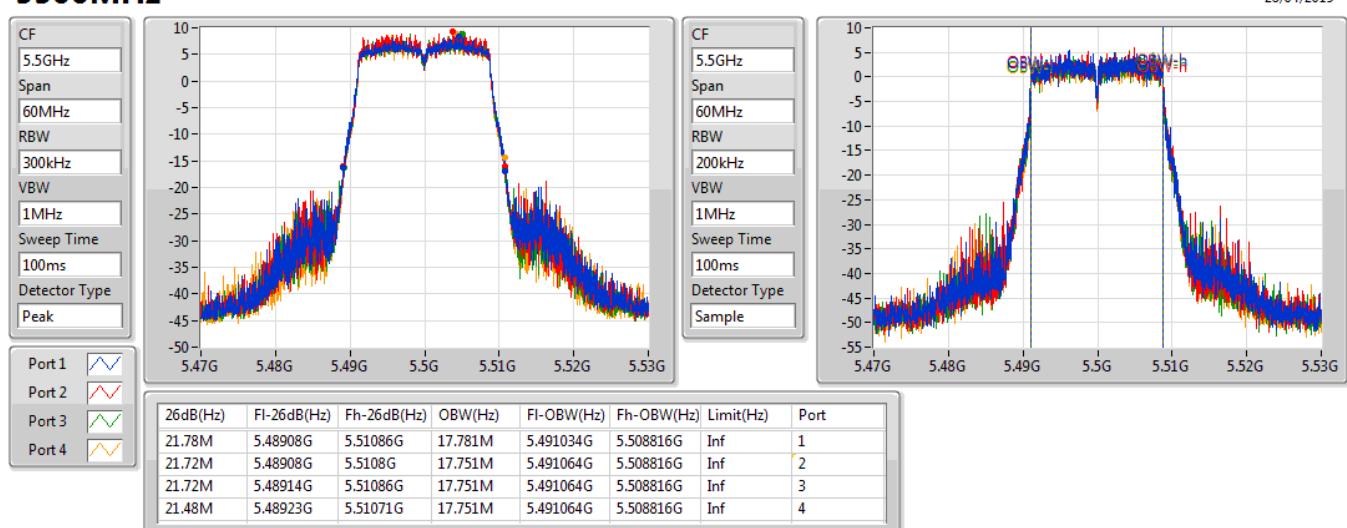


802.11ac VHT20_Nss1,(MCS0)_4TX
EBW
5320MHz

26/04/2019

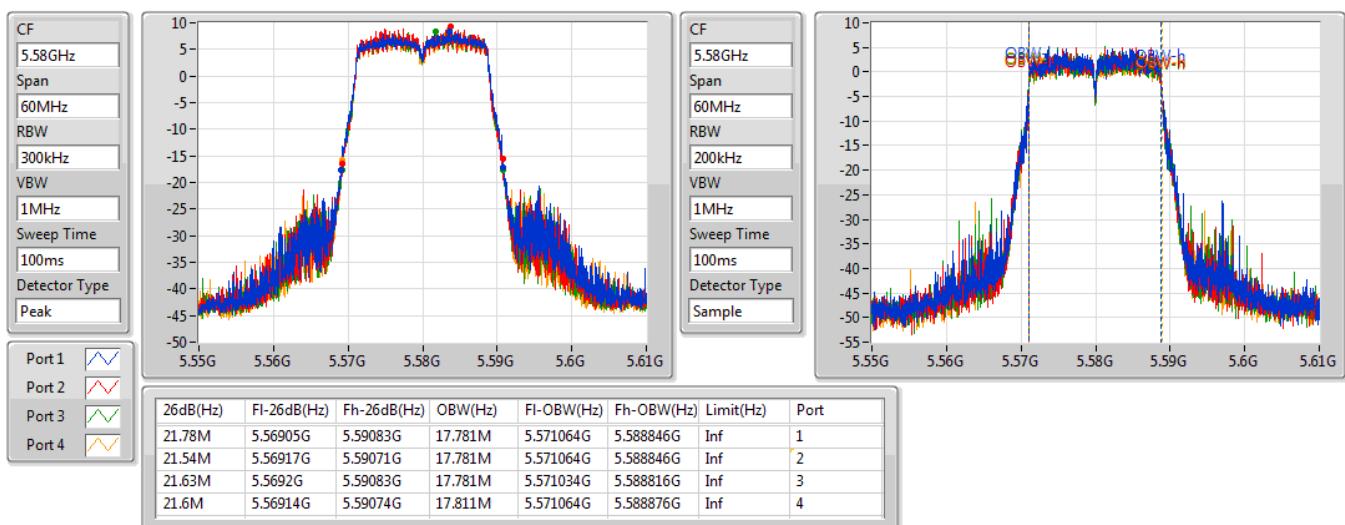

802.11ac VHT20_Nss1,(MCS0)_4TX
EBW
5500MHz

26/04/2019

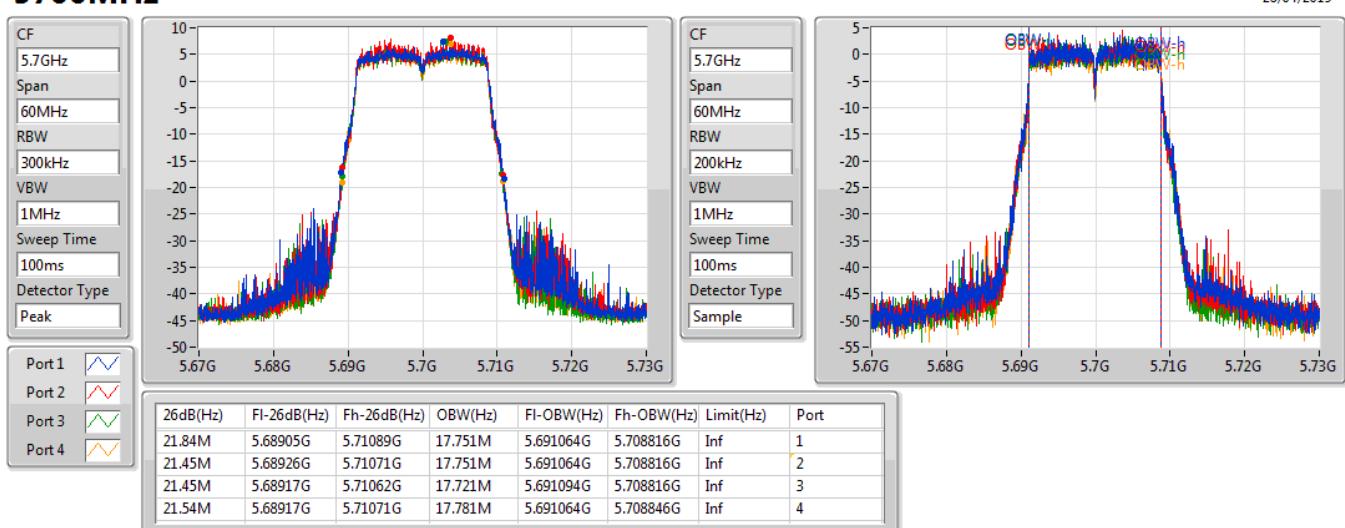


802.11ac VHT20_Nss1,(MCS0)_4TX
EBW
5580MHz

26/04/2019

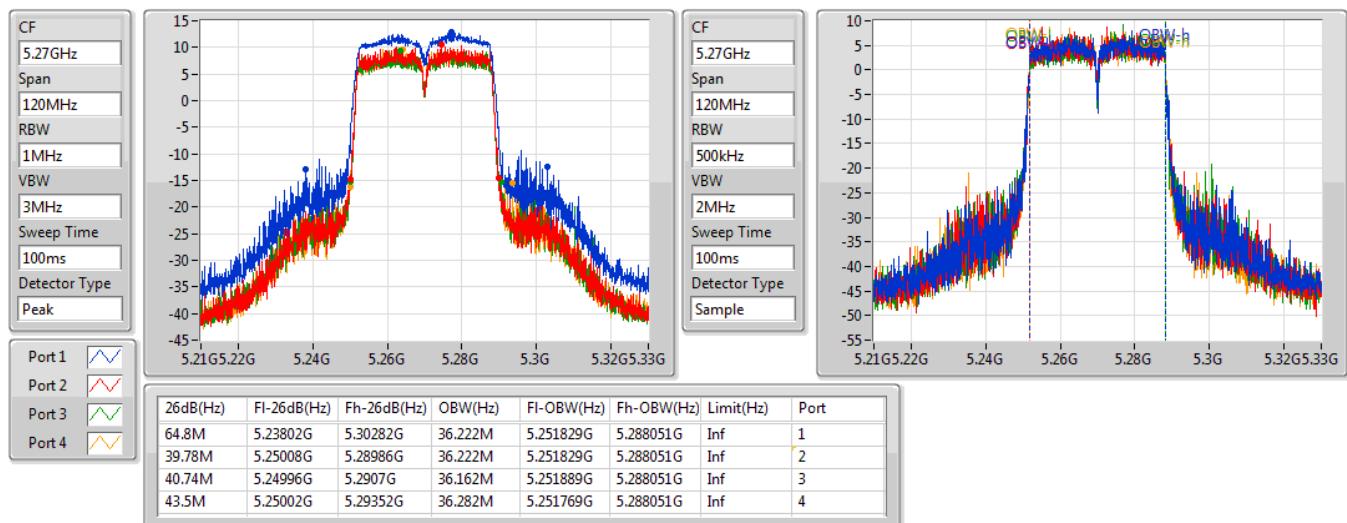

802.11ac VHT20_Nss1,(MCS0)_4TX
EBW
5700MHz

26/04/2019

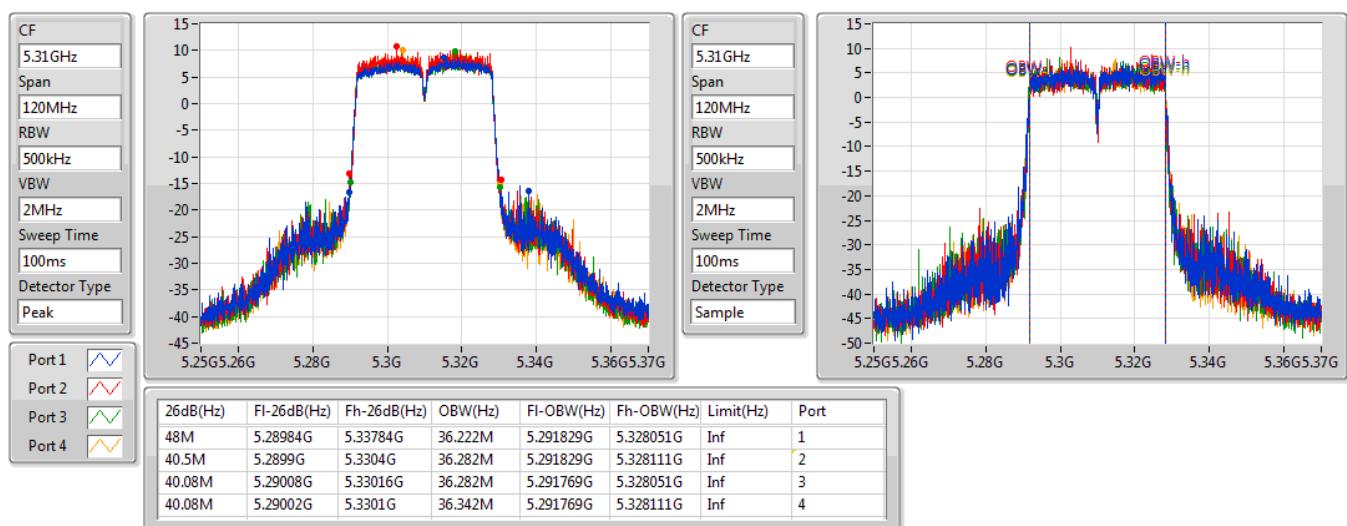


802.11ac VHT40_Nss1,(MCS0)_4TX
EBW
5270MHz

26/04/2019

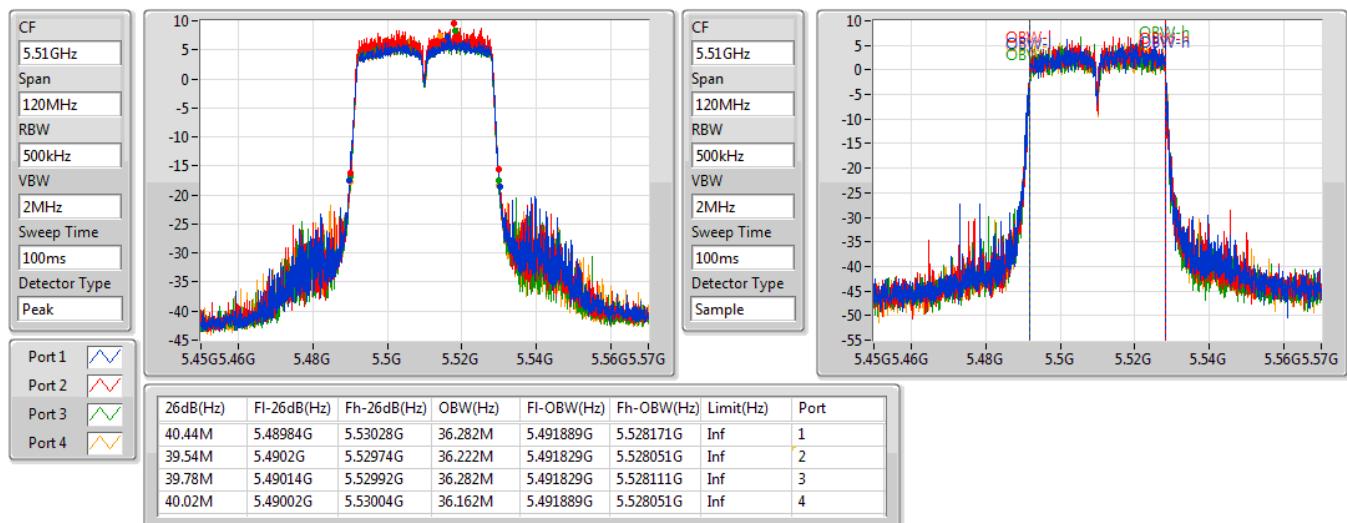

802.11ac VHT40_Nss1,(MCS0)_4TX
EBW
5310MHz

26/04/2019

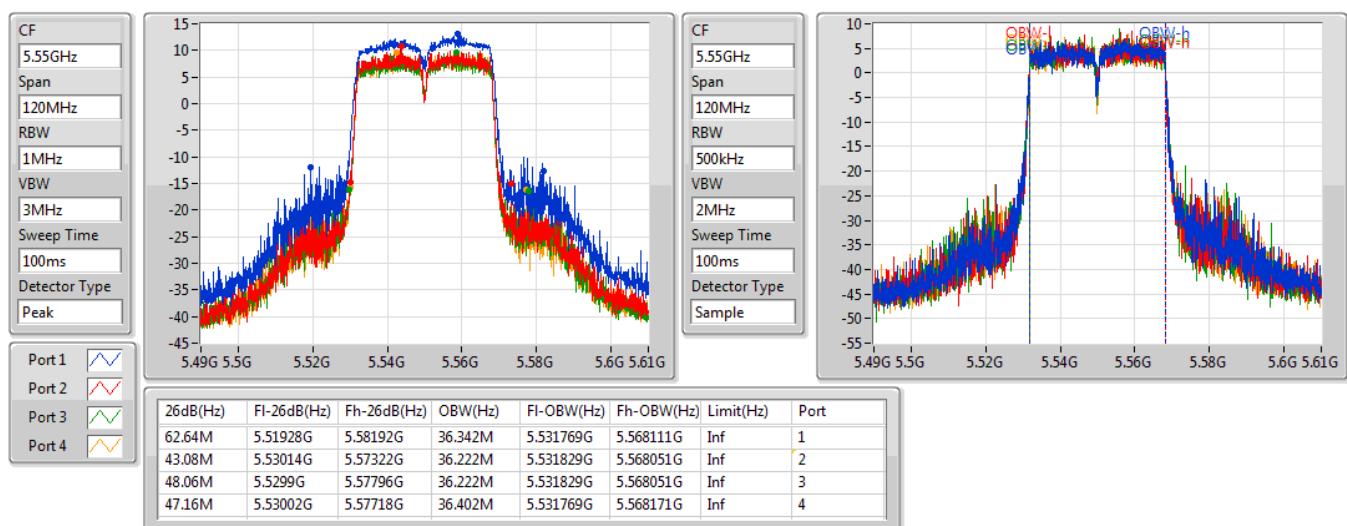


802.11ac VHT40_Nss1,(MCS0)_4TX
EBW
5510MHz

26/04/2019

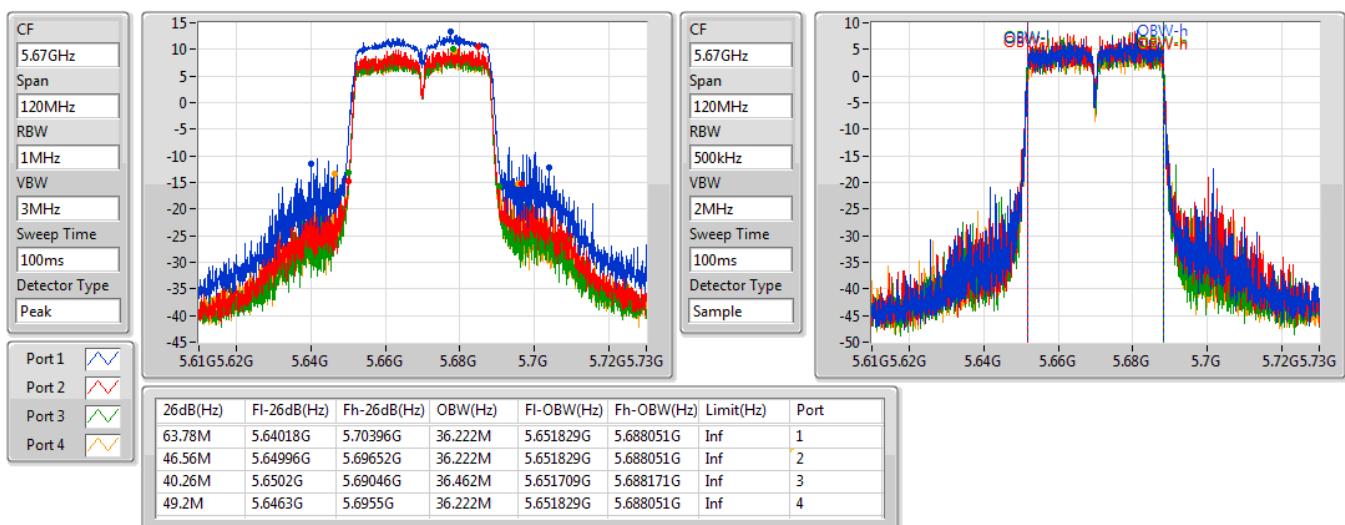

802.11ac VHT40_Nss1,(MCS0)_4TX
EBW
5550MHz

26/04/2019

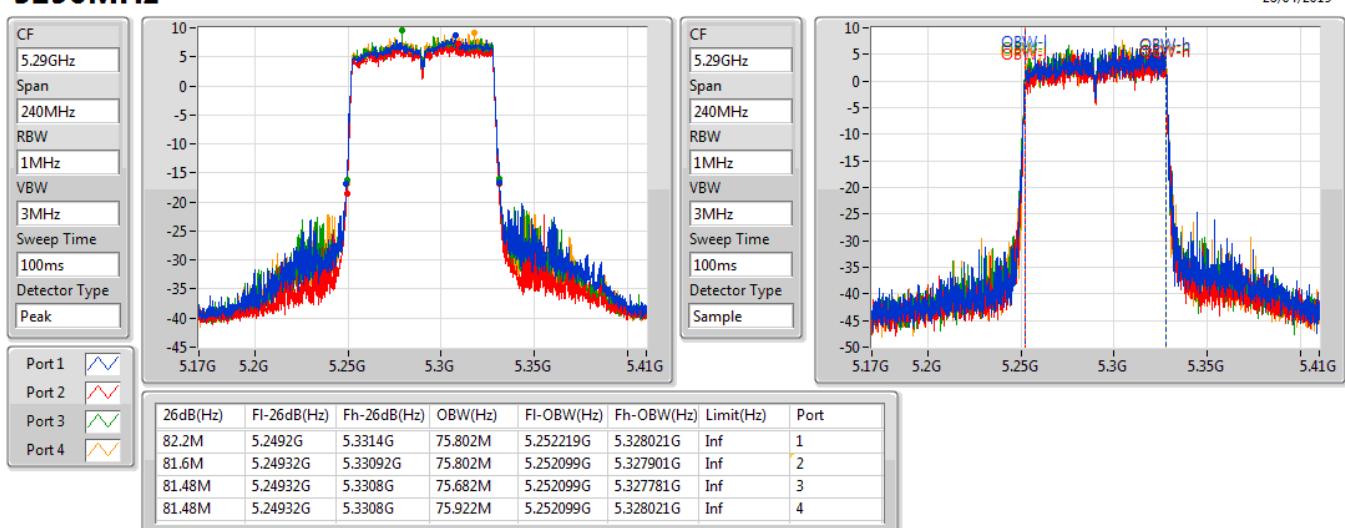


802.11ac VHT40_Nss1,(MCS0)_4TX
EBW
5670MHz

26/04/2019

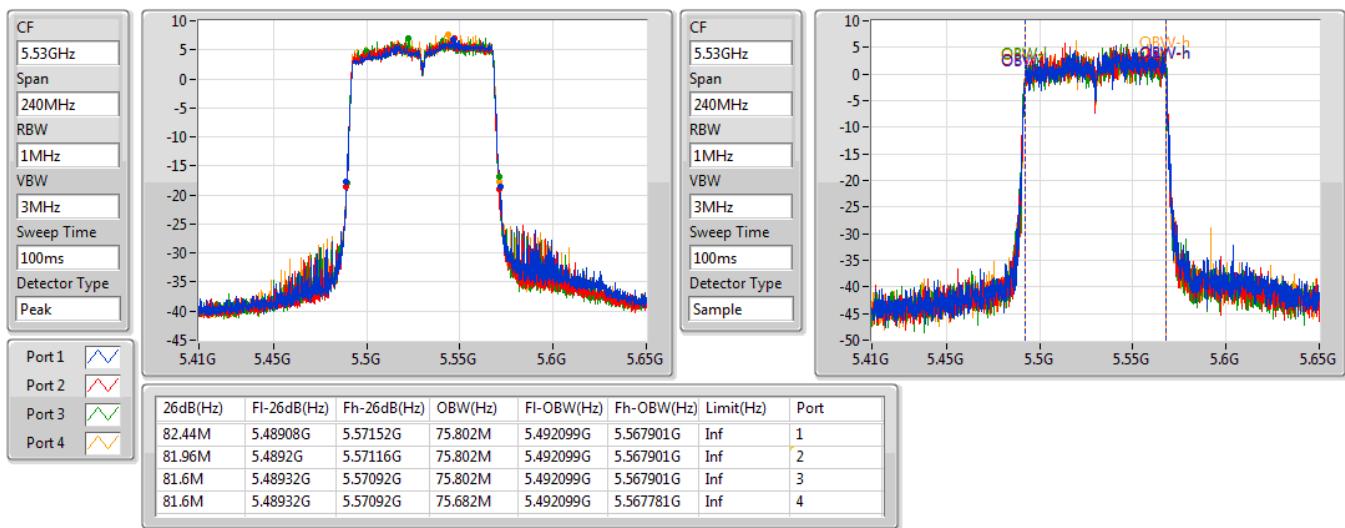

802.11ac VHT80_Nss1,(MCS0)_4TX
EBW
5290MHz

26/04/2019

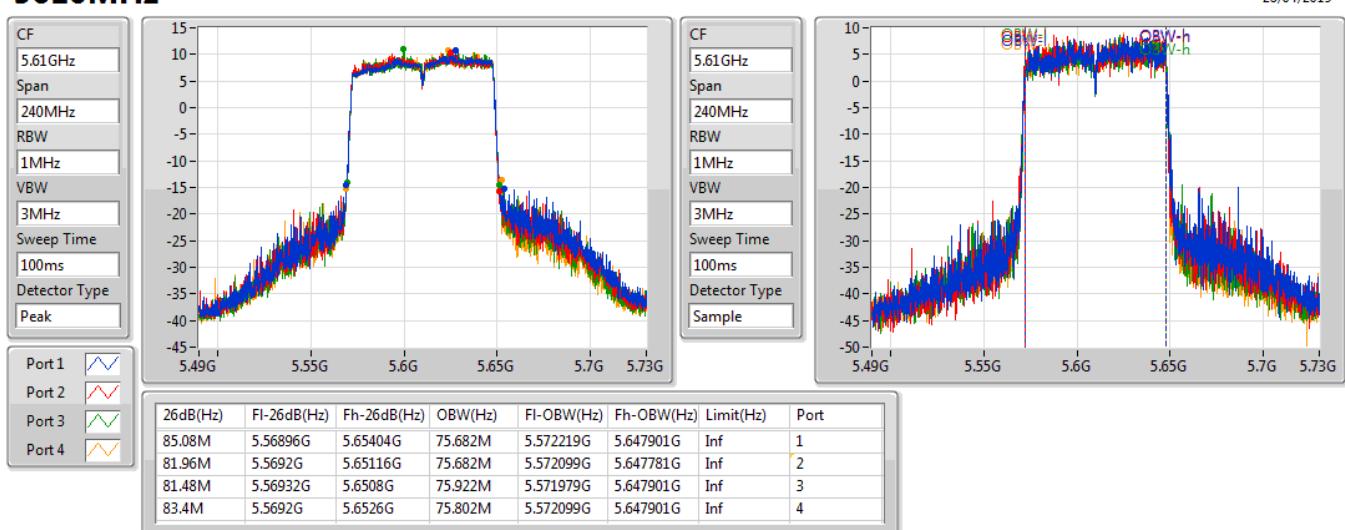


802.11ac VHT80_Nss1,(MCS0)_4TX
EBW
5530MHz

26/04/2019


802.11ac VHT80_Nss1,(MCS0)_4TX
EBW
5610MHz

26/04/2019



**Summary**

Mode	Max-N dB (Hz)	Max-OBW (Hz)	ITU-Code	Min-N dB (Hz)	Min-OBW (Hz)
5.25-5.35GHz	-	-	-	-	-
802.11ac VHT20-BF_Nss1,(MCS0)_4TX	22.02M	17.841M	17M8D1D	21.69M	17.751M
802.11ac VHT40-BF_Nss1,(MCS0)_4TX	43.68M	36.282M	36M3D1D	39.78M	36.162M
802.11ac VHT80-BF_Nss1,(MCS0)_4TX	81.6M	76.162M	76M2D1D	80.64M	75.322M
5.47-5.725GHz	-	-	-	-	-
802.11ac VHT20-BF_Nss1,(MCS0)_4TX	21.9M	17.841M	17M8D1D	21.63M	17.751M
802.11ac VHT40-BF_Nss1,(MCS0)_4TX	40.74M	36.402M	36M4D1D	40.08M	36.102M
802.11ac VHT80-BF_Nss1,(MCS0)_4TX	81.12M	75.922M	75M9D1D	80.64M	75.562M

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

Max-OBW = Maximum 99% occupied bandwidth;

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

Min-OBW = Minimum 99% occupied bandwidth;



Result

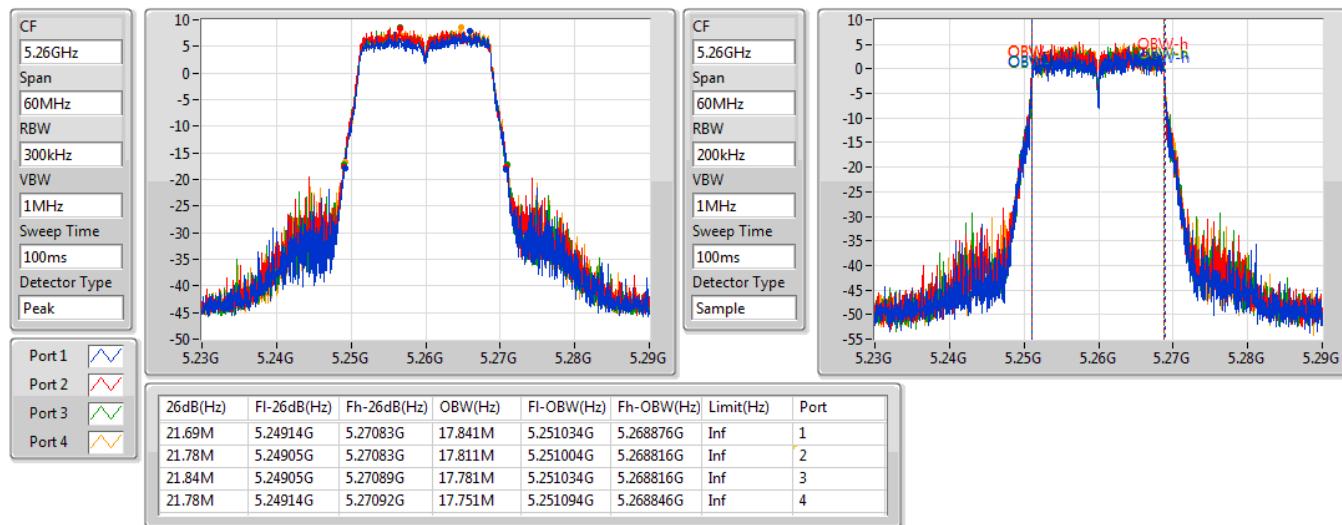
Mode	Result	Limit (Hz)	Port 1-N dB (Hz)	Port 1-OBW (Hz)	Port 2-N dB (Hz)	Port 2-OBW (Hz)	Port 3-N dB (Hz)	Port 3-OBW (Hz)	Port 4-N dB (Hz)	Port 4-OBW (Hz)
802.11ac VHT20-BF_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-	-	-
5260MHz	Pass	Inf	21.69M	17.841M	21.78M	17.811M	21.84M	17.781M	21.78M	17.751M
5300MHz	Pass	Inf	21.72M	17.811M	21.72M	17.811M	21.99M	17.811M	22.02M	17.751M
5320MHz	Pass	Inf	21.78M	17.811M	21.75M	17.811M	21.9M	17.811M	21.81M	17.811M
5500MHz	Pass	Inf	21.78M	17.781M	21.75M	17.781M	21.9M	17.811M	21.78M	17.781M
5580MHz	Pass	Inf	21.81M	17.781M	21.78M	17.751M	21.84M	17.781M	21.75M	17.811M
5700MHz	Pass	Inf	21.81M	17.811M	21.72M	17.841M	21.63M	17.781M	21.81M	17.781M
802.11ac VHT40-BF_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-	-	-
5270MHz	Pass	Inf	43.68M	36.282M	40.32M	36.222M	40.68M	36.222M	40.26M	36.162M
5310MHz	Pass	Inf	40.14M	36.282M	40.26M	36.282M	39.78M	36.222M	40.08M	36.222M
5510MHz	Pass	Inf	40.26M	36.282M	40.08M	36.222M	40.44M	36.282M	40.32M	36.222M
5550MHz	Pass	Inf	40.14M	36.282M	40.5M	36.282M	40.2M	36.402M	40.14M	36.282M
5670MHz	Pass	Inf	40.2M	36.282M	40.08M	36.102M	40.2M	36.282M	40.74M	36.342M
802.11ac VHT80-BF_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-	-	-
5290MHz	Pass	Inf	81M	75.322M	80.76M	75.682M	81.6M	76.162M	80.64M	75.802M
5530MHz	Pass	Inf	81.12M	75.682M	81.12M	75.802M	81M	75.562M	80.76M	75.922M
5610MHz	Pass	Inf	80.76M	75.682M	80.64M	75.802M	81.12M	75.682M	80.64M	75.802M

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

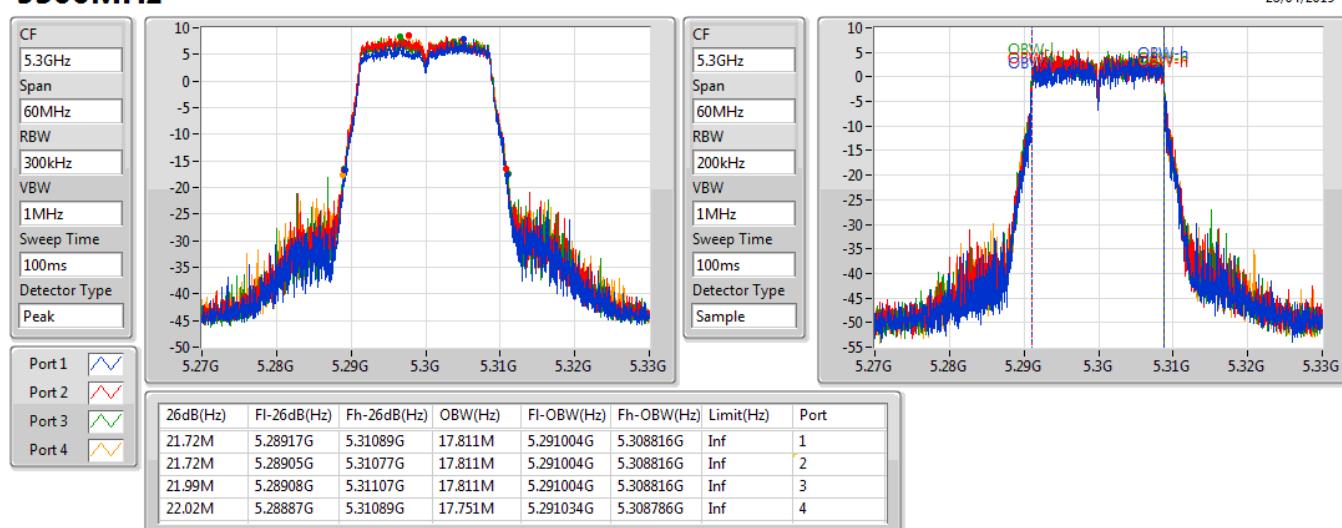
Port X-OBW = Port X 99% occupied bandwidth;

802.11ac VHT20-BF_Nss1,(MCS0)_4TX
EBW
5260MHz

26/04/2019

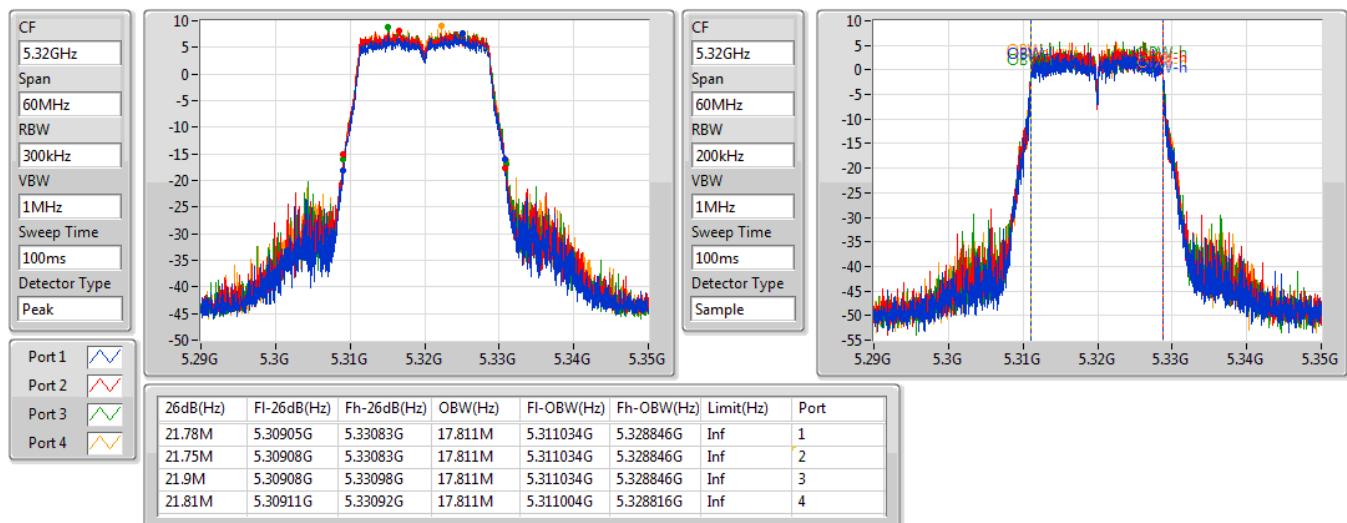

802.11ac VHT20-BF_Nss1,(MCS0)_4TX
EBW
5300MHz

26/04/2019

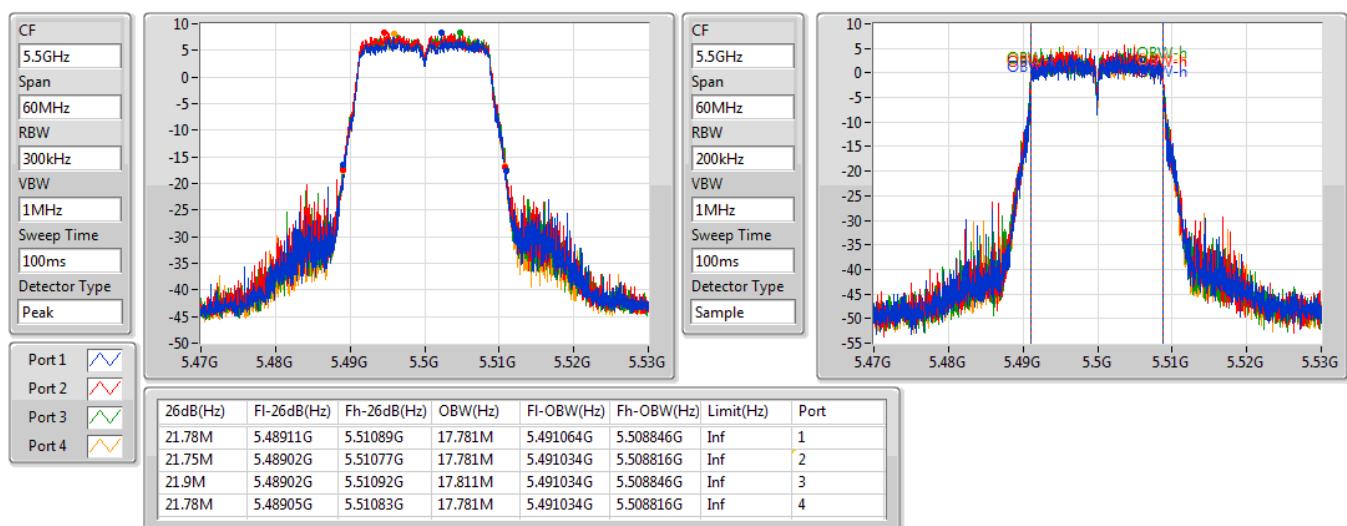


802.11ac VHT20-BF_Nss1,(MCS0)_4TX
EBW
5320MHz

26/04/2019

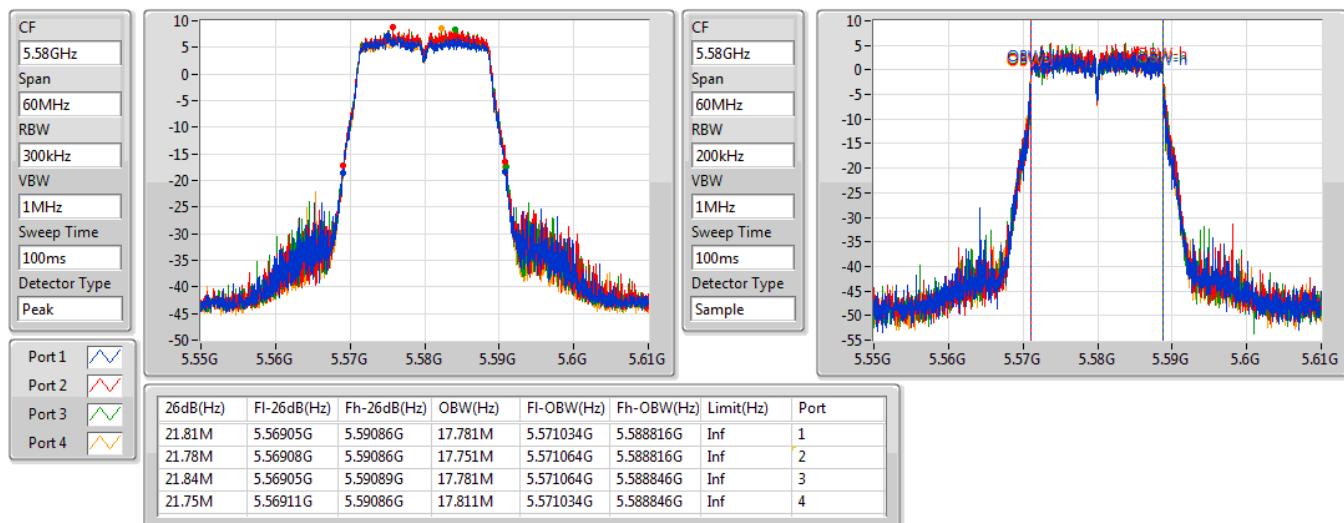

802.11ac VHT20-BF_Nss1,(MCS0)_4TX
EBW
5500MHz

26/04/2019

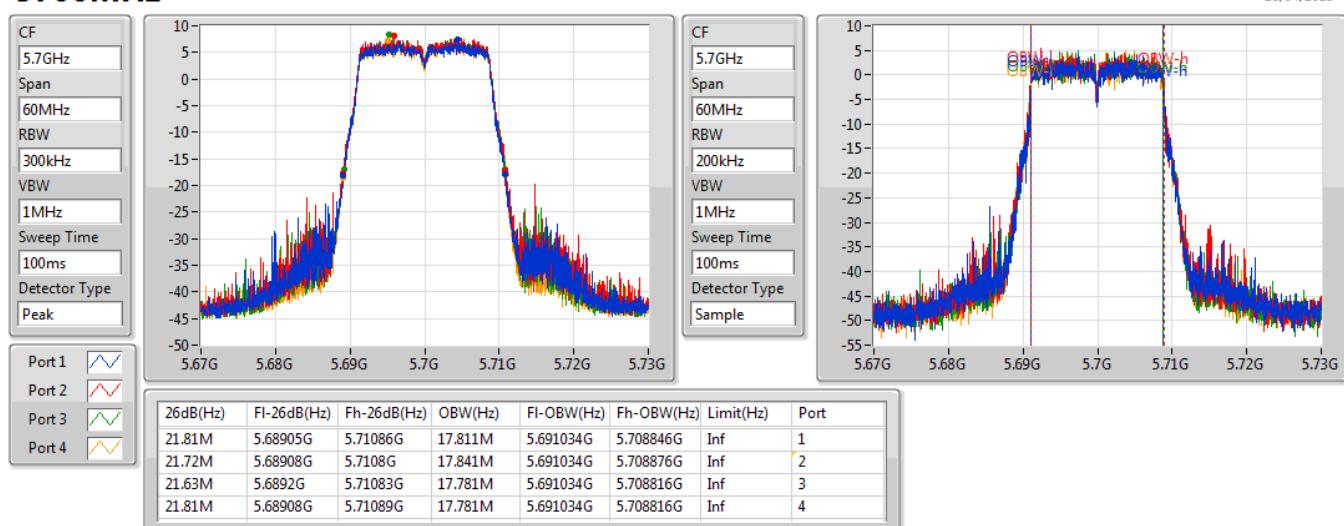


802.11ac VHT20-BF_Nss1,(MCS0)_4TX
EBW
5580MHz

26/04/2019

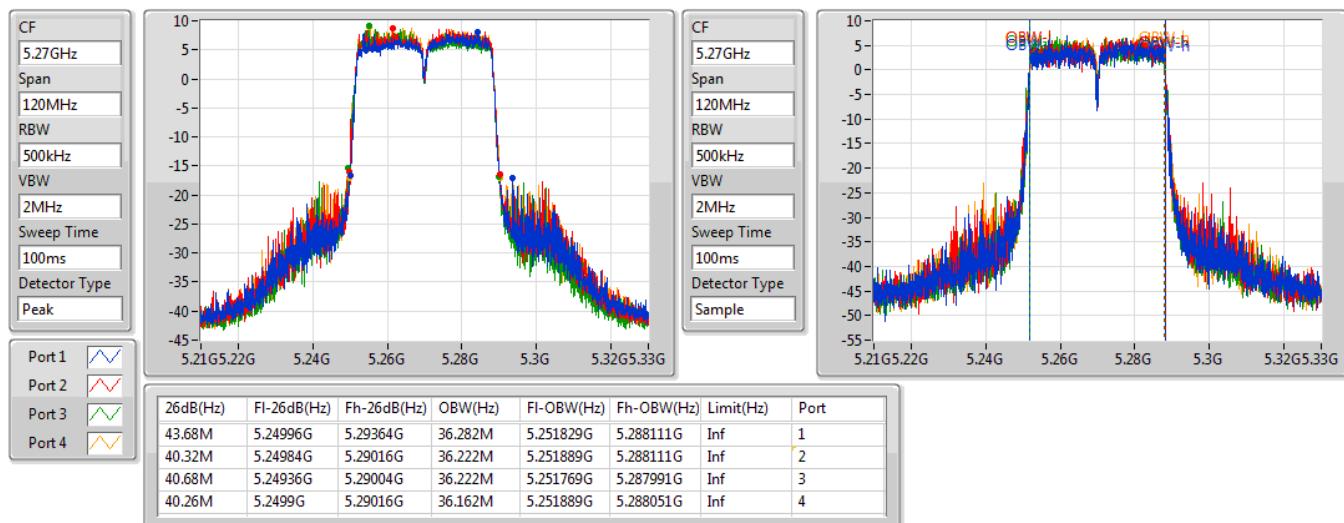

802.11ac VHT20-BF_Nss1,(MCS0)_4TX
EBW
5700MHz

26/04/2019

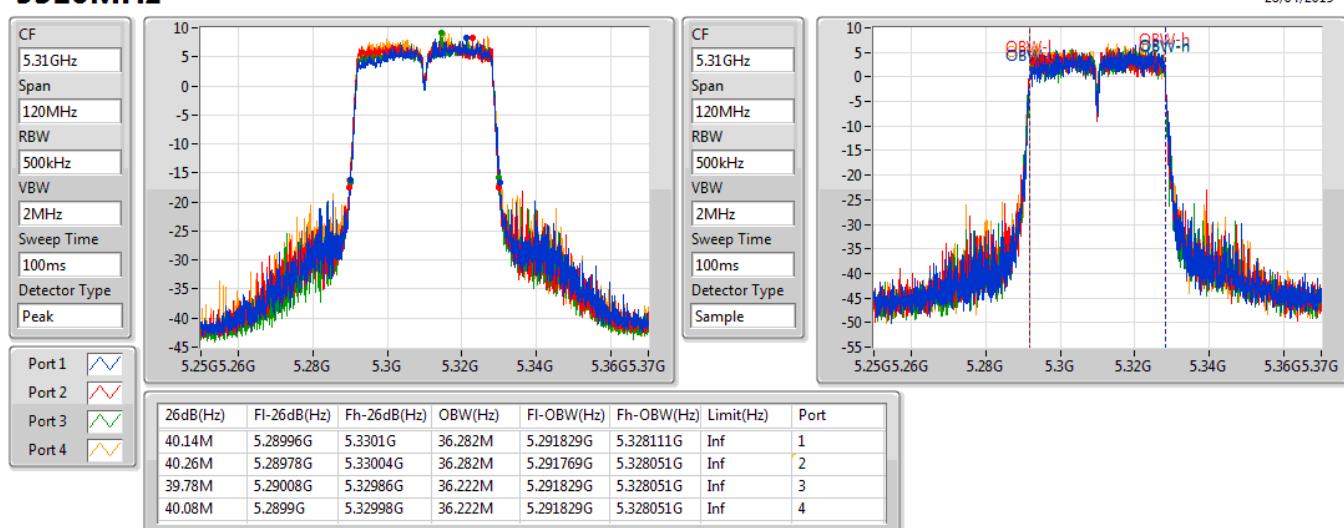


802.11ac VHT40-BF_Nss1,(MCS0)_4TX
EBW
5270MHz

26/04/2019

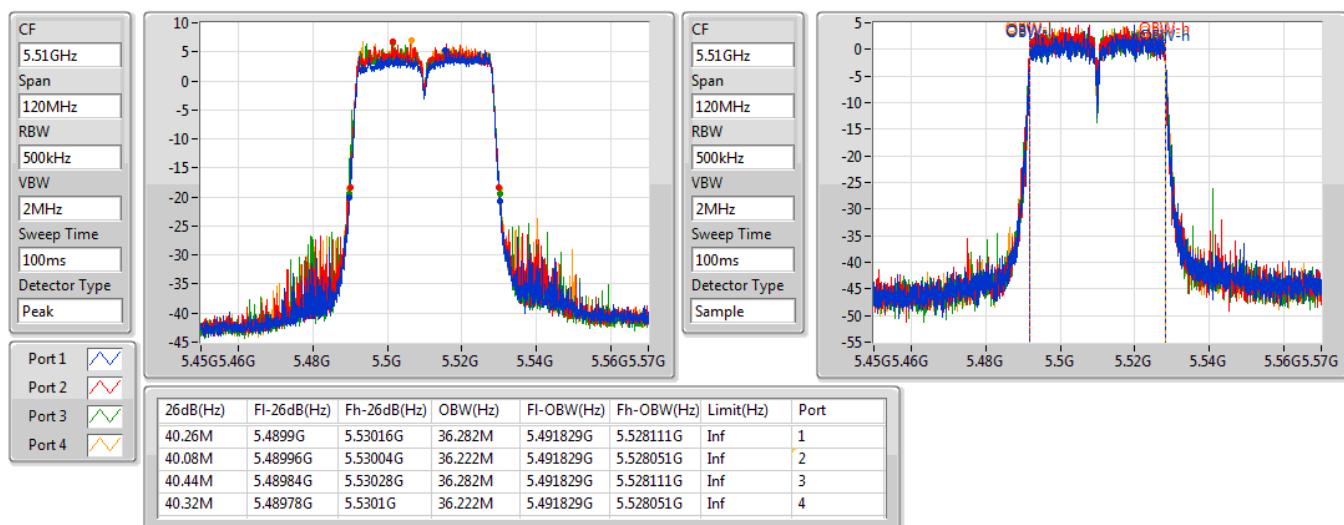

802.11ac VHT40-BF_Nss1,(MCS0)_4TX
EBW
5310MHz

26/04/2019

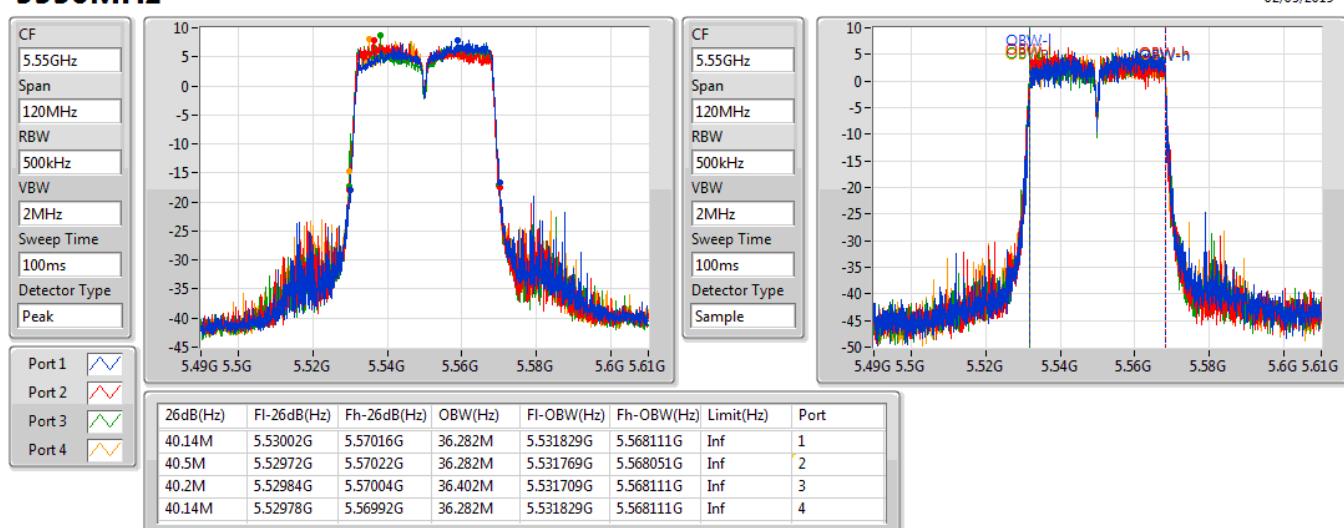


802.11ac VHT40-BF_Nss1,(MCS0)_4TX
EBW
5510MHz

26/04/2019

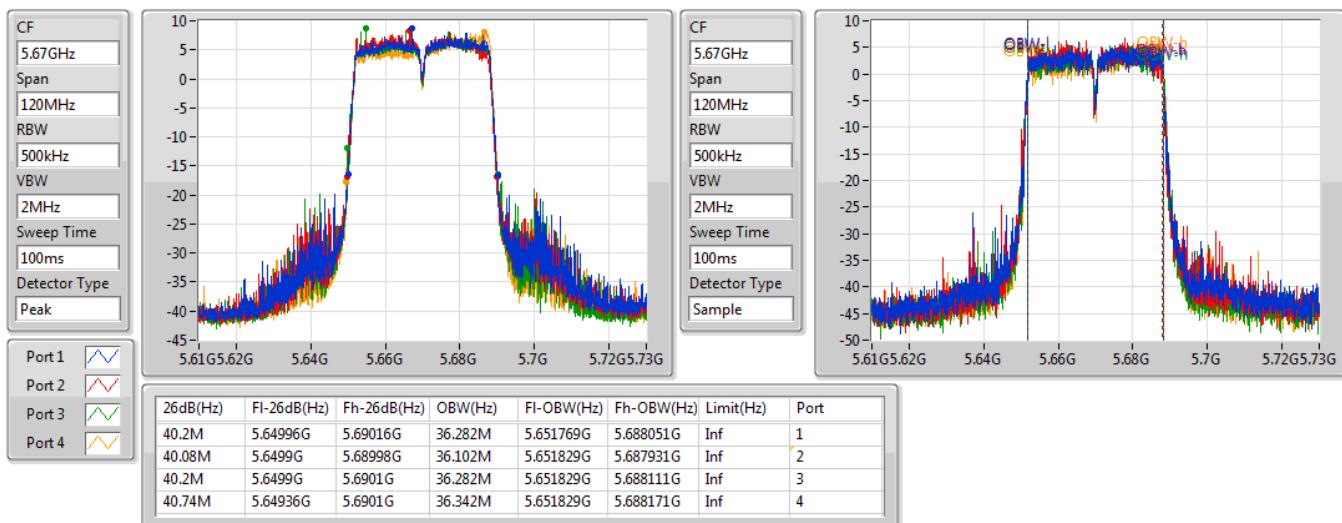

802.11ac VHT40-BF_Nss1,(MCS0)_4TX
EBW
5550MHz

02/05/2019

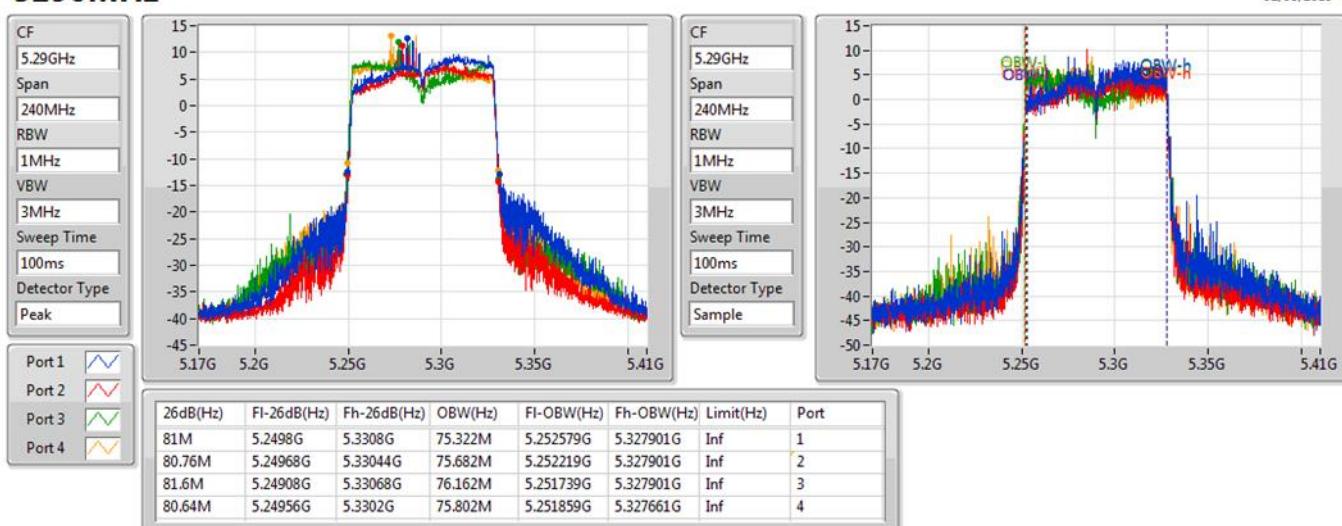


802.11ac VHT40-BF_Nss1,(MCS0)_4TX
EBW
5670MHz

02/05/2019

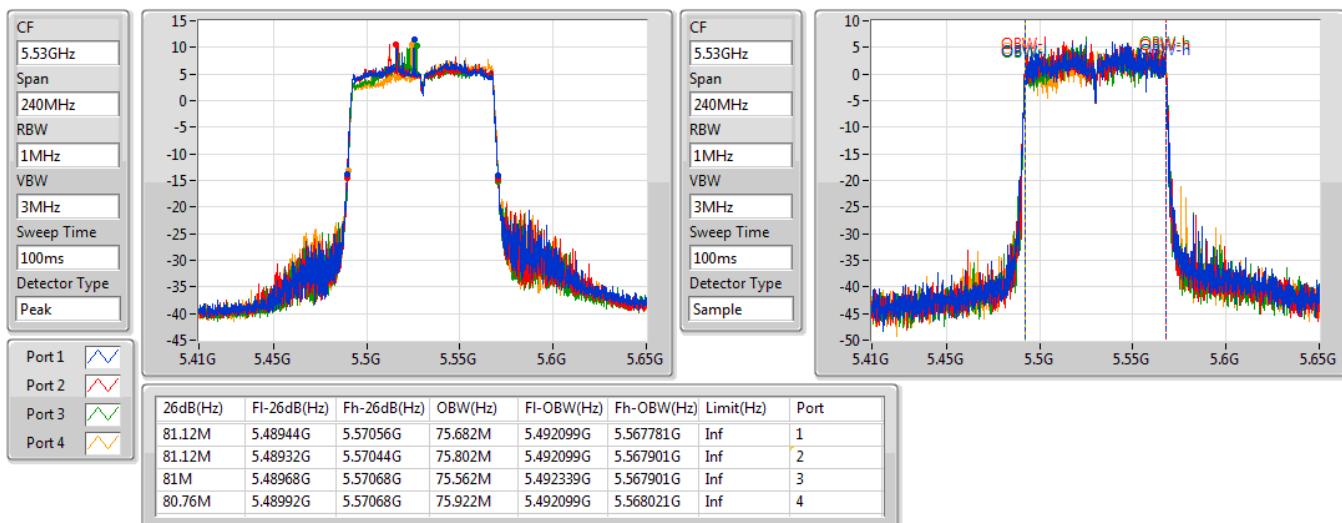

802.11ac VHT80-BF_Nss1,(MCS0)_4TX
EBW
5290MHz

02/05/2019

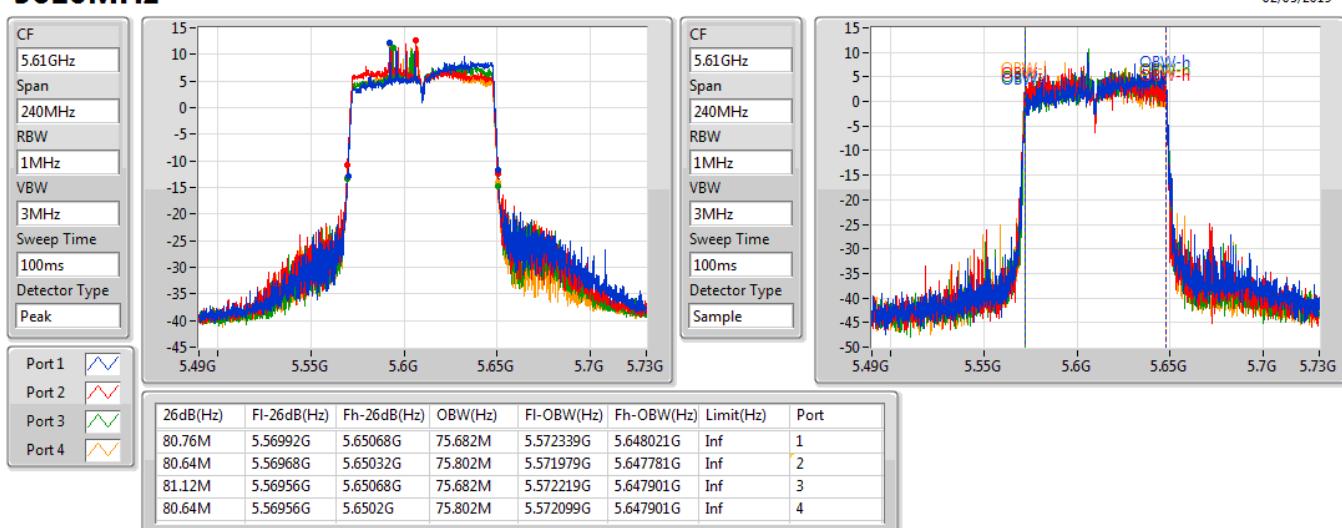


802.11ac VHT80-BF_Nss1,(MCS0)_4TX
EBW
5530MHz

02/05/2019


802.11ac VHT80-BF_Nss1,(MCS0)_4TX
EBW
5610MHz

02/05/2019



**Summary**

Mode	Total Power (dBm)	Total Power (W)	EIRP (dBm)	EIRP (W)
5.25-5.35GHz	-	-	-	-
802.11a_Nss1,(6Mbps)_4TX	22.87	0.19364	24.21	0.26363
802.11ac VHT20_Nss1,(MCS0)_4TX	22.83	0.19187	24.17	0.26122
802.11ac VHT40_Nss1,(MCS0)_4TX	23.84	0.24210	25.18	0.32961
802.11ac VHT80_Nss1,(MCS0)_4TX	21.75	0.14962	23.09	0.20370
5.47-5.725GHz	-	-	-	-
802.11a_Nss1,(6Mbps)_4TX	22.49	0.17742	24.72	0.29648
802.11ac VHT20_Nss1,(MCS0)_4TX	22.59	0.18155	24.82	0.30339
802.11ac VHT40_Nss1,(MCS0)_4TX	23.96	0.24889	26.19	0.41591
802.11ac VHT80_Nss1,(MCS0)_4TX	23.97	0.24946	26.20	0.41687



Result

Mode	Result	DG (dBi)	Port 1 (dBm)	Port 2 (dBm)	Port 3 (dBm)	Port 4 (dBm)	Total Power (dBm)	Power Limit (dBm)	EIRP (dBm)	EIRP Limit (dBm)
802.11a_Nss1,(6Mbps)_4TX	-	-	-	-	-	-	-	-	-	-
5260MHz	Pass	1.34	16.11	17.14	16.56	16.71	22.67	24.00	24.01	30.00
5300MHz	Pass	1.34	16.74	17.10	16.53	16.94	22.85	24.00	24.19	30.00
5320MHz	Pass	1.34	16.77	16.86	16.74	17.04	22.87	24.00	24.21	30.00
5500MHz	Pass	2.23	16.86	16.60	16.33	16.05	22.49	24.00	24.72	30.00
5580MHz	Pass	2.23	16.72	16.56	16.17	15.99	22.39	24.00	24.62	30.00
5700MHz	Pass	2.23	16.60	16.35	16.21	15.82	22.27	24.00	24.50	30.00
802.11ac VHT20_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-	-	-
5260MHz	Pass	1.34	16.55	17.05	16.72	16.73	22.79	24.00	24.13	30.00
5300MHz	Pass	1.34	16.79	17.20	16.60	16.63	22.83	24.00	24.17	30.00
5320MHz	Pass	1.34	16.75	16.83	16.70	16.94	22.83	24.00	24.17	30.00
5500MHz	Pass	2.23	16.66	16.84	16.50	16.24	22.59	24.00	24.82	30.00
5580MHz	Pass	2.23	16.72	16.65	16.30	16.15	22.48	24.00	24.71	30.00
5700MHz	Pass	2.23	15.02	15.10	14.65	14.44	20.83	24.00	23.06	30.00
802.11ac VHT40_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-	-	-
5270MHz	Pass	1.34	18.07	17.88	17.58	17.72	23.84	24.00	25.18	30.00
5310MHz	Pass	1.34	17.66	17.59	17.28	17.47	23.52	24.00	24.86	30.00
5510MHz	Pass	2.23	15.97	16.16	15.57	15.68	21.87	24.00	24.10	30.00
5550MHz	Pass	2.23	18.04	18.12	17.84	17.74	23.96	24.00	26.19	30.00
5670MHz	Pass	2.23	17.72	17.91	17.06	17.36	23.55	24.00	25.78	30.00
802.11ac VHT80_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-	-	-
5290MHz	Pass	1.34	16.18	15.08	15.92	15.65	21.75	24.00	23.09	30.00
5530MHz	Pass	2.23	14.62	14.55	14.49	14.64	20.60	24.00	22.83	30.00
5610MHz	Pass	2.23	18.15	18.08	17.61	17.94	23.97	24.00	26.20	30.00

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

**Summary**

Mode	Max-N dB (Hz)	Max-OBW (Hz)	ITU-Code	Min-N dB (Hz)	Min-OBW (Hz)
5.25-5.35GHz	-	-	-	-	-
802.11ac VHT20-BF_Nss1,(MCS0)_4TX	22.02M	17.841M	17M8D1D	21.69M	17.751M
802.11ac VHT40-BF_Nss1,(MCS0)_4TX	43.68M	36.282M	36M3D1D	39.78M	36.162M
802.11ac VHT80-BF_Nss1,(MCS0)_4TX	81.6M	76.162M	76M2D1D	80.64M	75.322M
5.47-5.725GHz	-	-	-	-	-
802.11ac VHT20-BF_Nss1,(MCS0)_4TX	21.9M	17.841M	17M8D1D	21.63M	17.751M
802.11ac VHT40-BF_Nss1,(MCS0)_4TX	40.74M	36.402M	36M4D1D	40.08M	36.102M
802.11ac VHT80-BF_Nss1,(MCS0)_4TX	81.12M	75.922M	75M9D1D	80.64M	75.562M

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

Max-OBW = Maximum 99% occupied bandwidth;

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

Min-OBW = Minimum 99% occupied bandwidth;



Average Power_Beamforming

Appendix B.2

Result

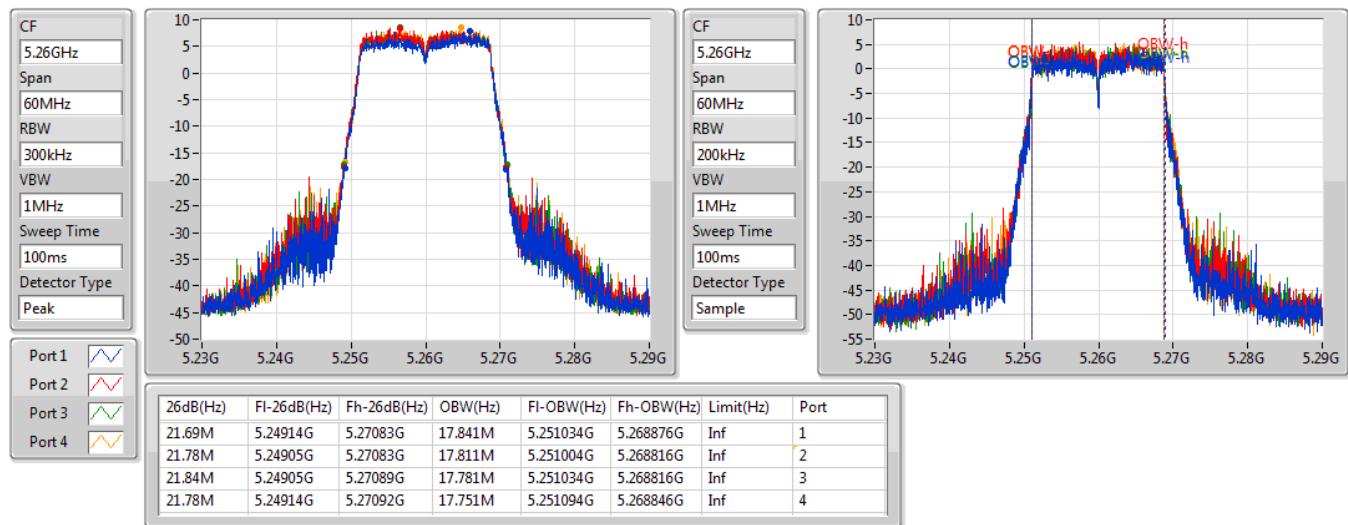
Mode	Result	Limit (Hz)	Port 1-N dB (Hz)	Port 1-OBW (Hz)	Port 2-N dB (Hz)	Port 2-OBW (Hz)	Port 3-N dB (Hz)	Port 3-OBW (Hz)	Port 4-N dB (Hz)	Port 4-OBW (Hz)
802.11ac VHT20-BF_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-	-	-
5260MHz	Pass	Inf	21.69M	17.841M	21.78M	17.811M	21.84M	17.781M	21.78M	17.751M
5300MHz	Pass	Inf	21.72M	17.811M	21.72M	17.811M	21.99M	17.811M	22.02M	17.751M
5320MHz	Pass	Inf	21.78M	17.811M	21.75M	17.811M	21.9M	17.811M	21.81M	17.811M
5500MHz	Pass	Inf	21.78M	17.781M	21.75M	17.781M	21.9M	17.811M	21.78M	17.781M
5580MHz	Pass	Inf	21.81M	17.781M	21.78M	17.751M	21.84M	17.781M	21.75M	17.811M
5700MHz	Pass	Inf	21.81M	17.811M	21.72M	17.841M	21.63M	17.781M	21.81M	17.781M
802.11ac VHT40-BF_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-	-	-
5270MHz	Pass	Inf	43.68M	36.282M	40.32M	36.222M	40.68M	36.222M	40.26M	36.162M
5310MHz	Pass	Inf	40.14M	36.282M	40.26M	36.282M	39.78M	36.222M	40.08M	36.222M
5510MHz	Pass	Inf	40.26M	36.282M	40.08M	36.222M	40.44M	36.282M	40.32M	36.222M
5550MHz	Pass	Inf	40.14M	36.282M	40.5M	36.282M	40.2M	36.402M	40.14M	36.282M
5670MHz	Pass	Inf	40.2M	36.282M	40.08M	36.102M	40.2M	36.282M	40.74M	36.342M
802.11ac VHT80-BF_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-	-	-
5290MHz	Pass	Inf	81M	75.322M	80.76M	75.682M	81.6M	76.162M	80.64M	75.802M
5530MHz	Pass	Inf	81.12M	75.682M	81.12M	75.802M	81M	75.562M	80.76M	75.922M
5610MHz	Pass	Inf	80.76M	75.682M	80.64M	75.802M	81.12M	75.682M	80.64M	75.802M

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

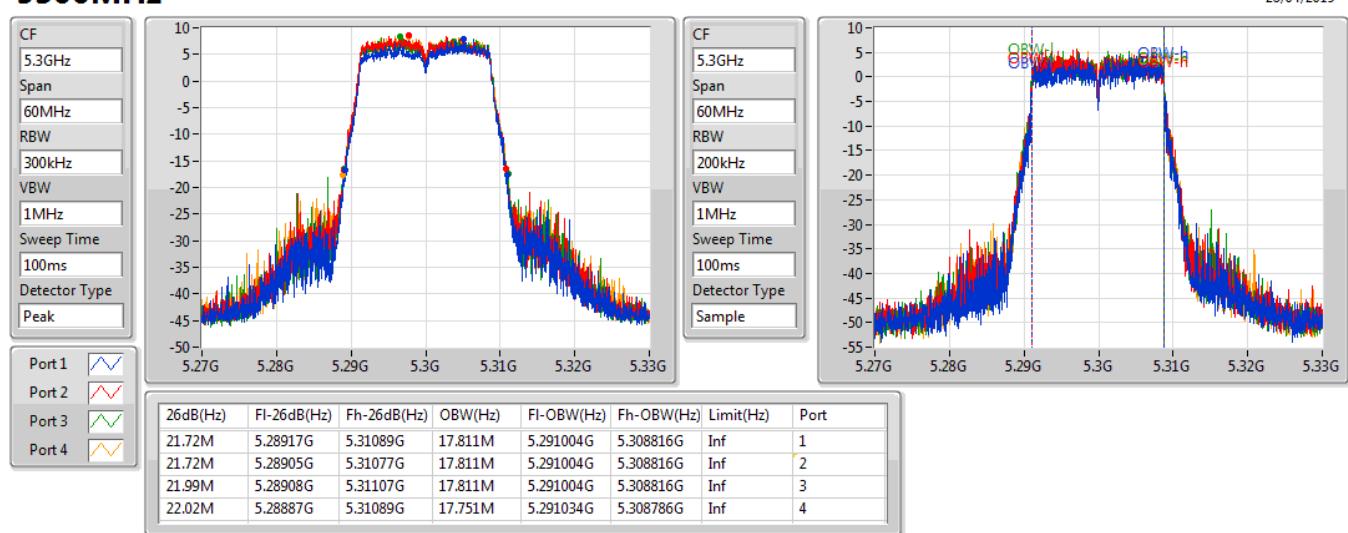
Port X-OBW = Port X 99% occupied bandwidth;

802.11ac VHT20-BF_Nss1,(MCS0)_4TX
EBW
5260MHz

26/04/2019

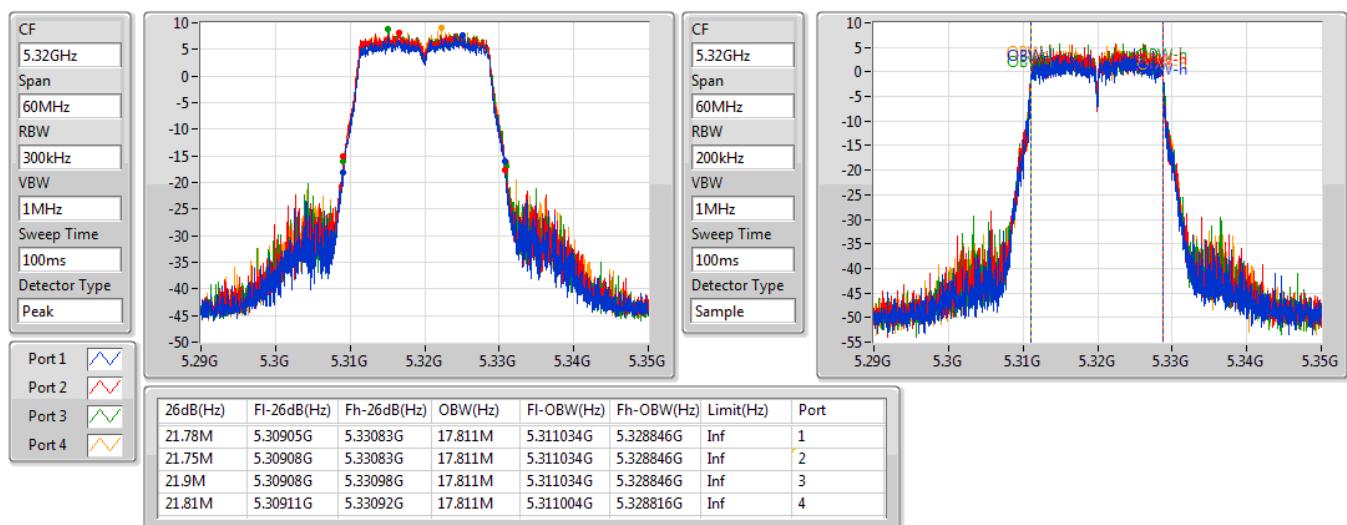

802.11ac VHT20-BF_Nss1,(MCS0)_4TX
EBW
5300MHz

26/04/2019

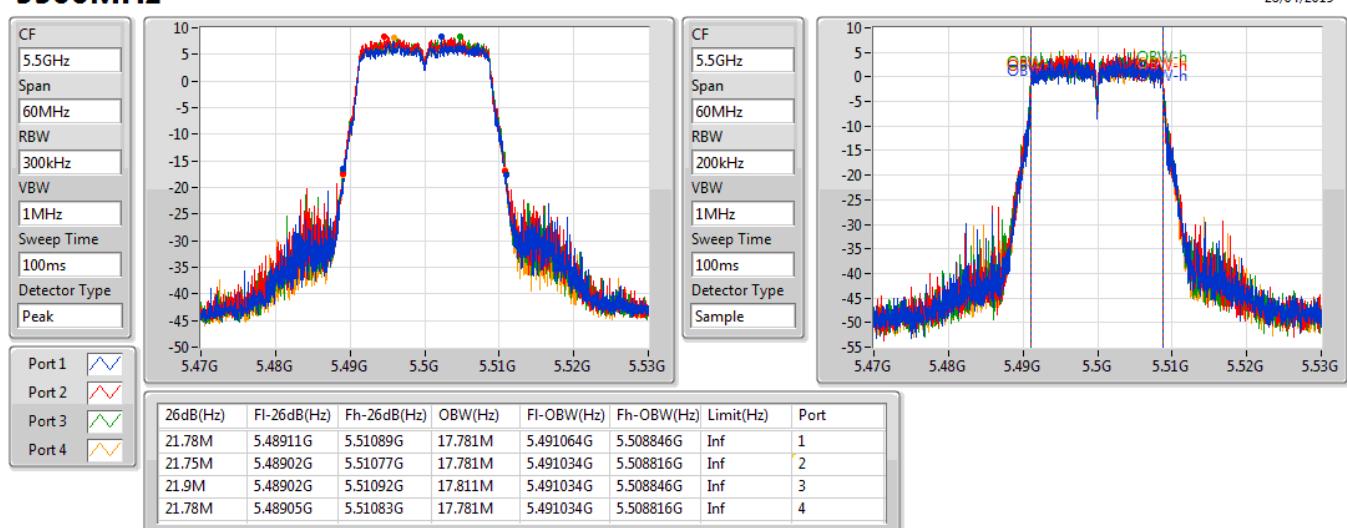


802.11ac VHT20-BF_Nss1,(MCS0)_4TX
EBW
5320MHz

26/04/2019

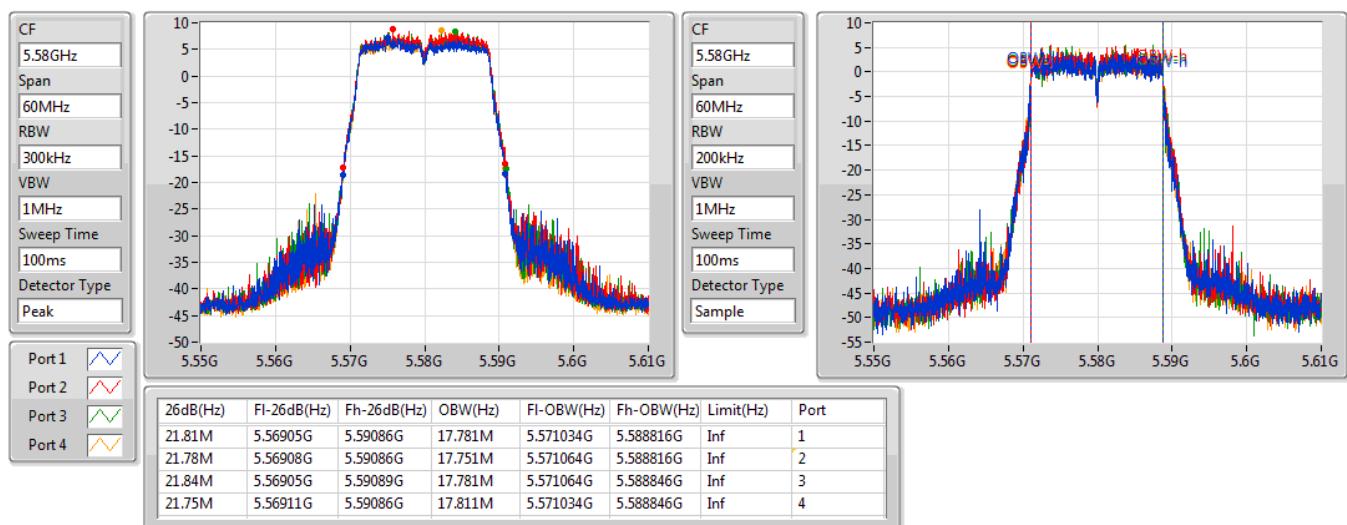

802.11ac VHT20-BF_Nss1,(MCS0)_4TX
EBW
5500MHz

26/04/2019

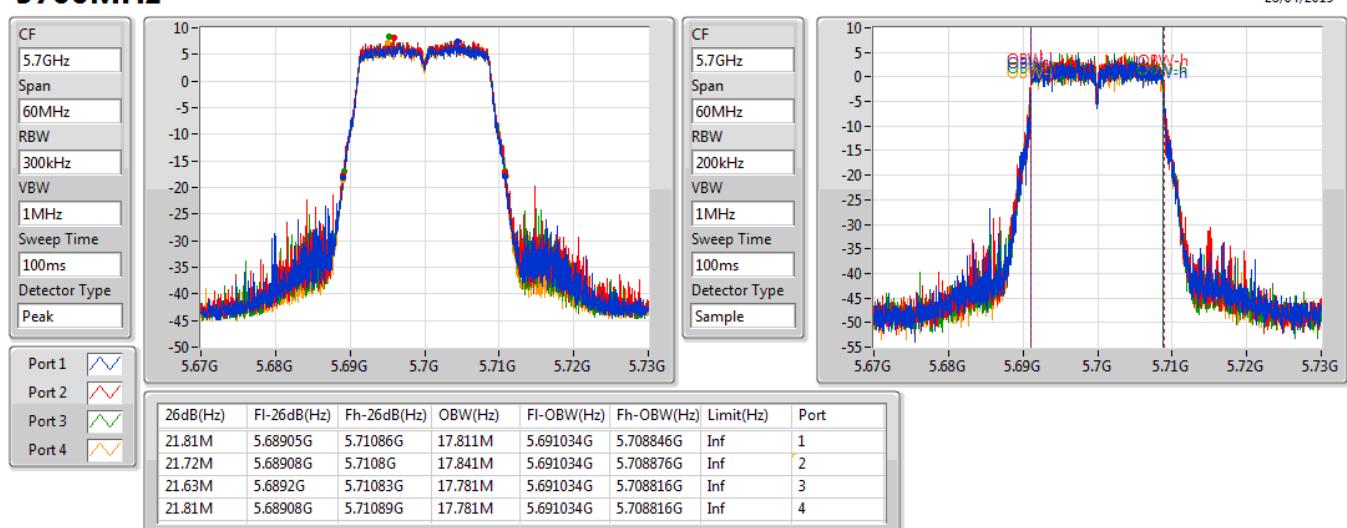


802.11ac VHT20-BF_Nss1,(MCS0)_4TX
EBW
5580MHz

26/04/2019

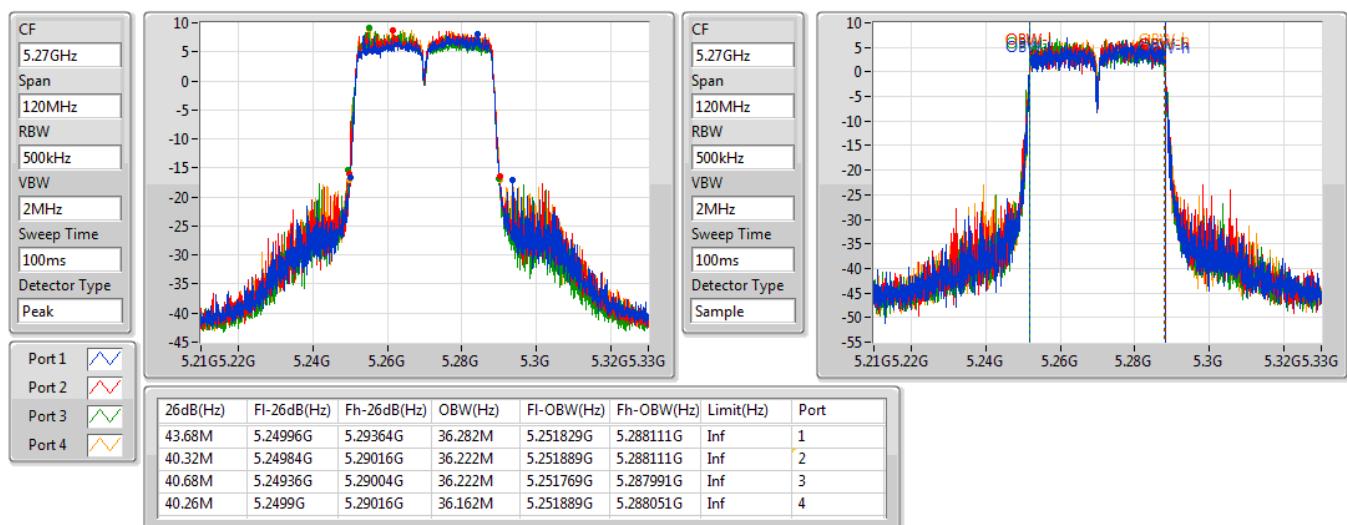

802.11ac VHT20-BF_Nss1,(MCS0)_4TX
EBW
5700MHz

26/04/2019

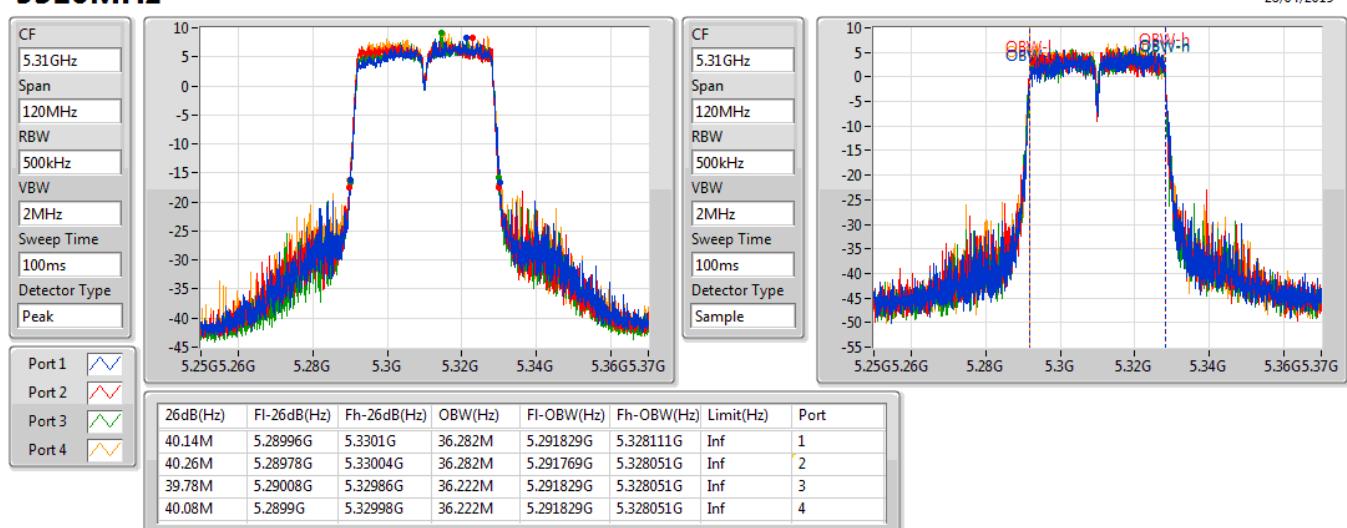


802.11ac VHT40-BF_Nss1,(MCS0)_4TX
EBW
5270MHz

26/04/2019

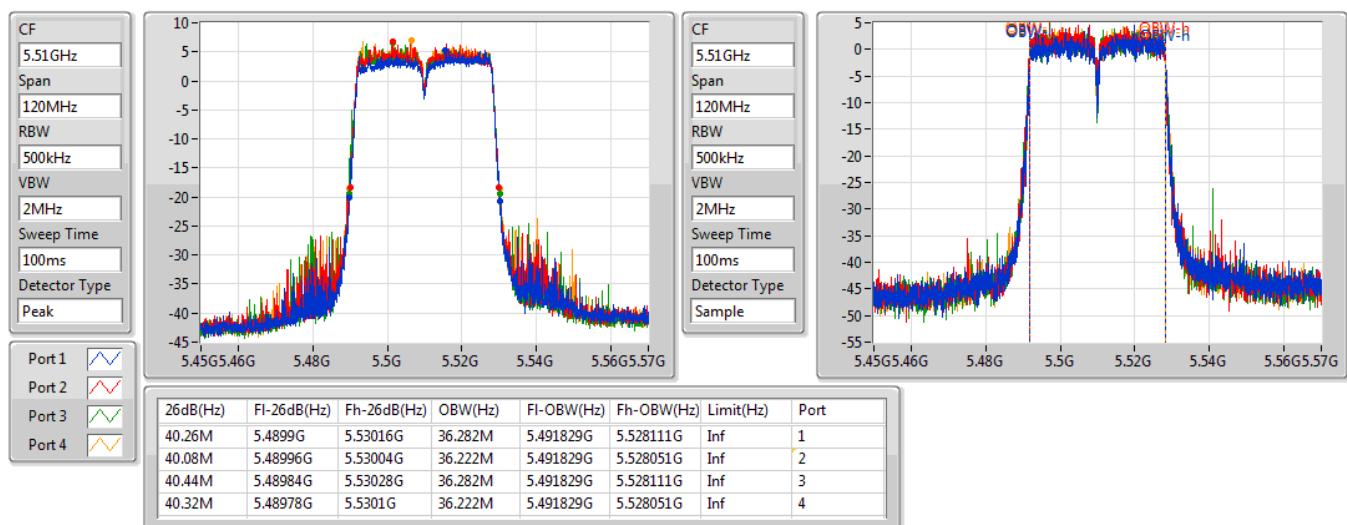

802.11ac VHT40-BF_Nss1,(MCS0)_4TX
EBW
5310MHz

26/04/2019

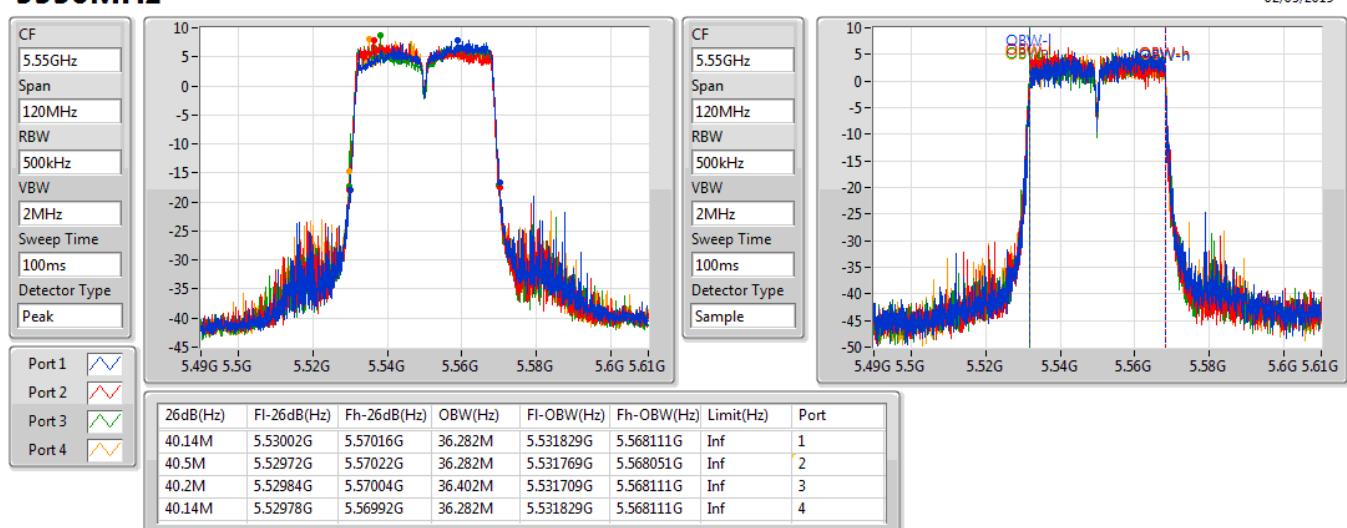


802.11ac VHT40-BF_Nss1,(MCS0)_4TX
EBW
5510MHz

26/04/2019

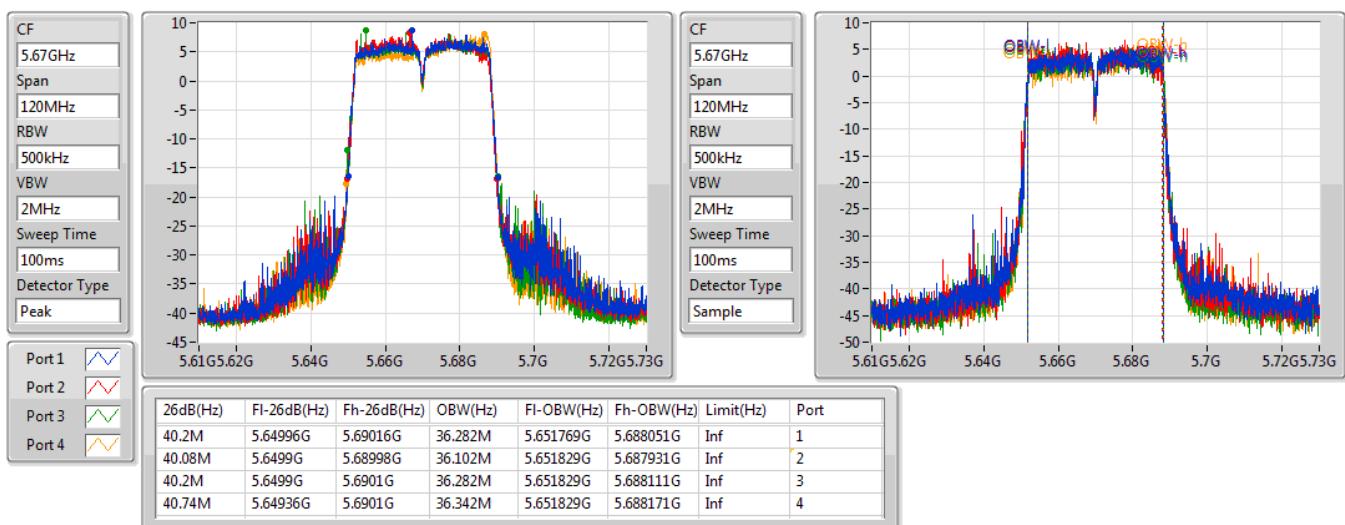

802.11ac VHT40-BF_Nss1,(MCS0)_4TX
EBW
5550MHz

02/05/2019

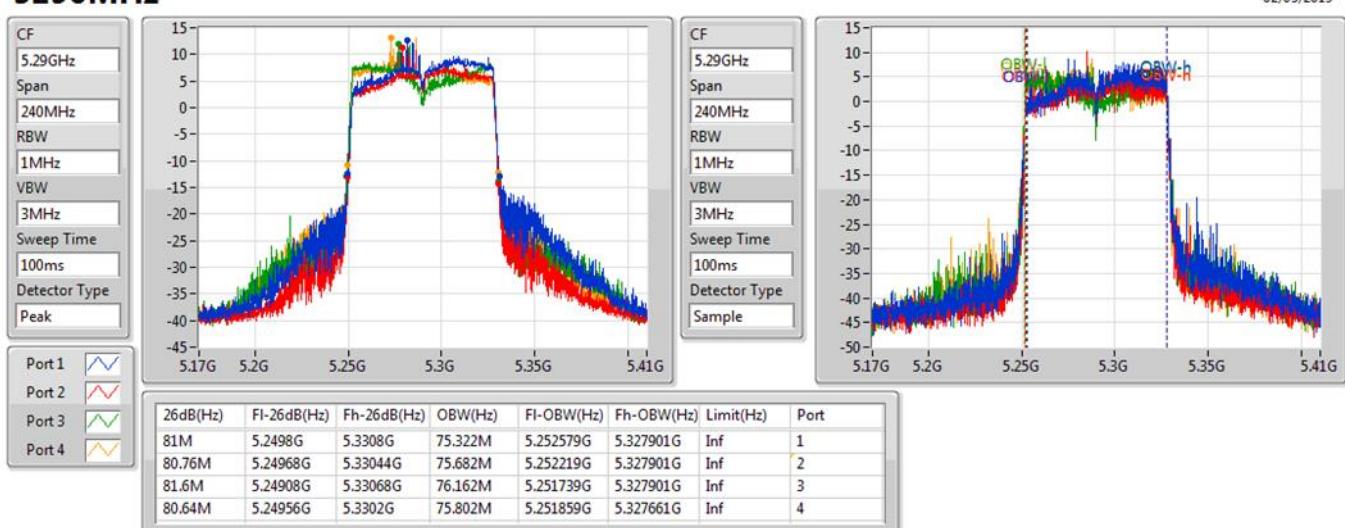


802.11ac VHT40-BF_Nss1,(MCS0)_4TX
EBW
5670MHz

02/05/2019

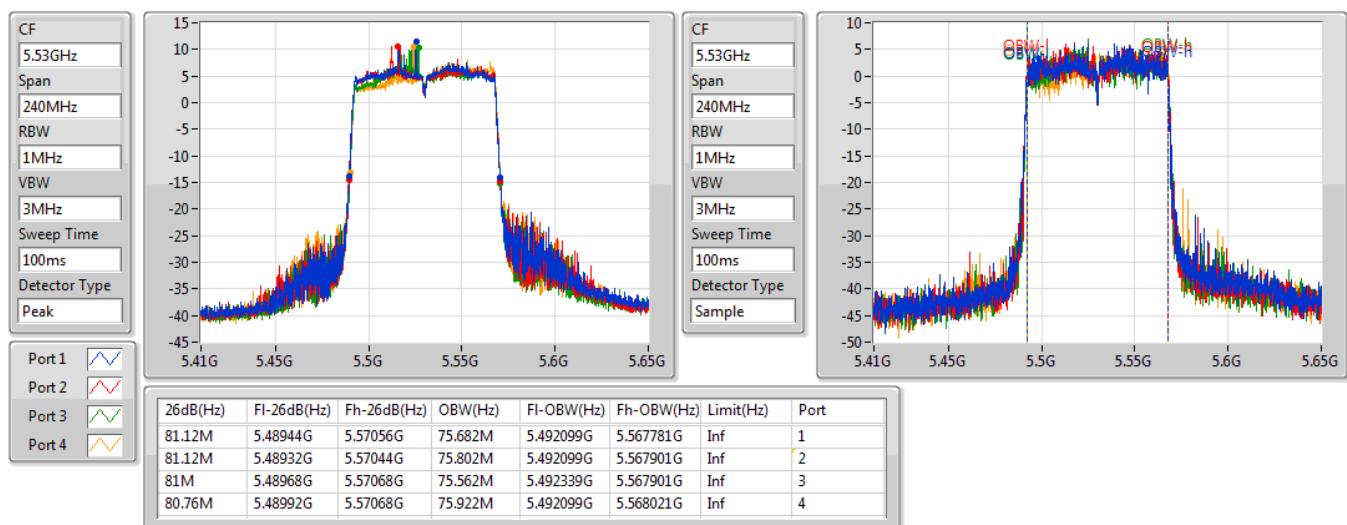

802.11ac VHT80-BF_Nss1,(MCS0)_4TX
EBW
5290MHz

02/05/2019

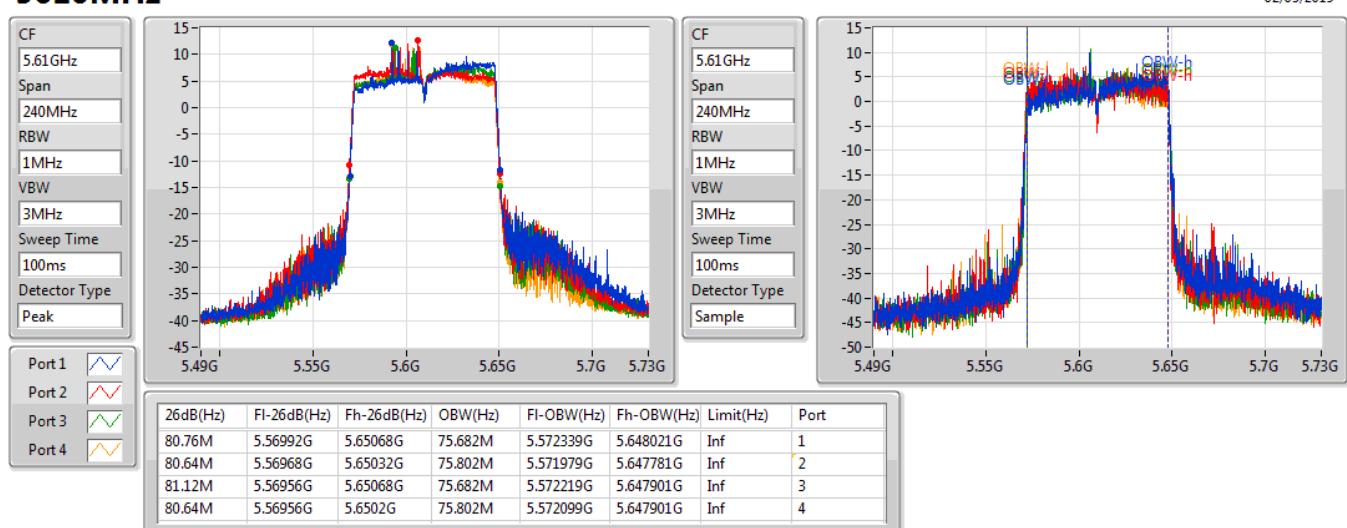


802.11ac VHT80-BF_Nss1,(MCS0)_4TX
EBW
5530MHz

02/05/2019


802.11ac VHT80-BF_Nss1,(MCS0)_4TX
EBW
5610MHz

02/05/2019



**Summary**

Mode	PD (dBm/RBW)	EIRP PD (dBm/RBW)
5.25-5.35GHz	-	-
802.11a_Nss1,(6Mbps)_4TX	9.84	16.83
802.11ac VHT20_Nss1,(MCS0)_4TX	9.91	16.90
802.11ac VHT40_Nss1,(MCS0)_4TX	7.70	14.69
802.11ac VHT80_Nss1,(MCS0)_4TX	3.09	10.08
5.47-5.725GHz	-	-
802.11a_Nss1,(6Mbps)_4TX	9.43	16.89
802.11ac VHT20_Nss1,(MCS0)_4TX	9.43	16.89
802.11ac VHT40_Nss1,(MCS0)_4TX	7.57	15.03
802.11ac VHT80_Nss1,(MCS0)_4TX	4.99	12.45

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

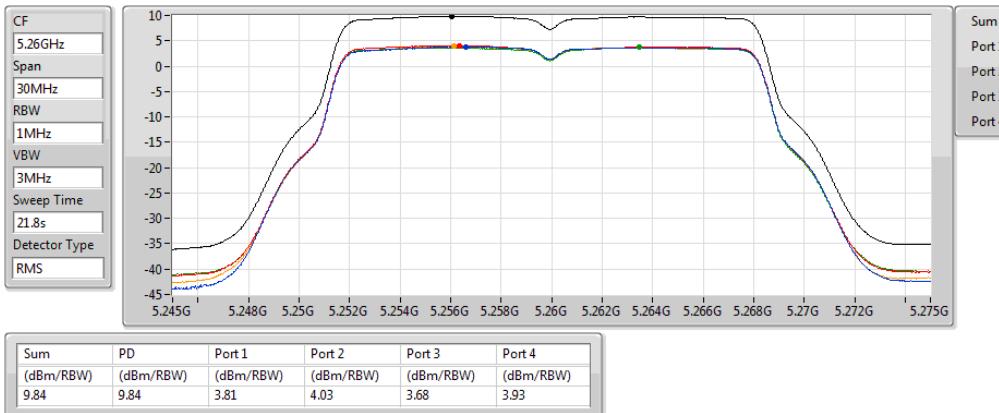
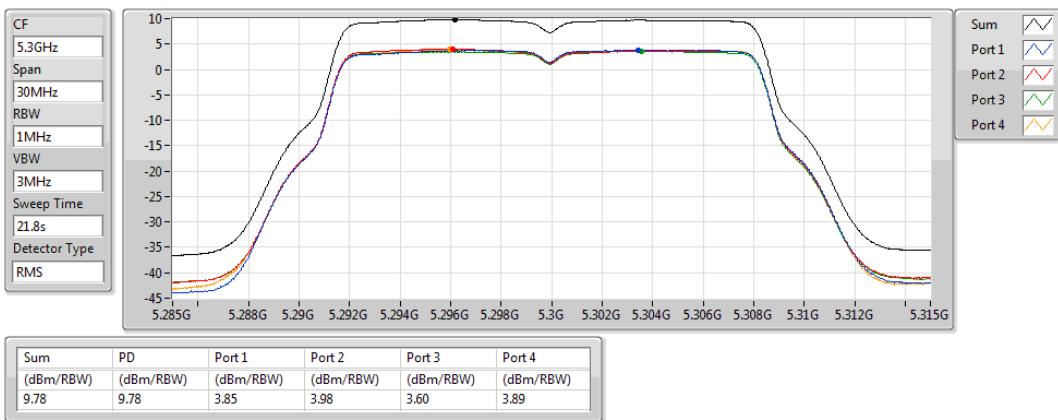
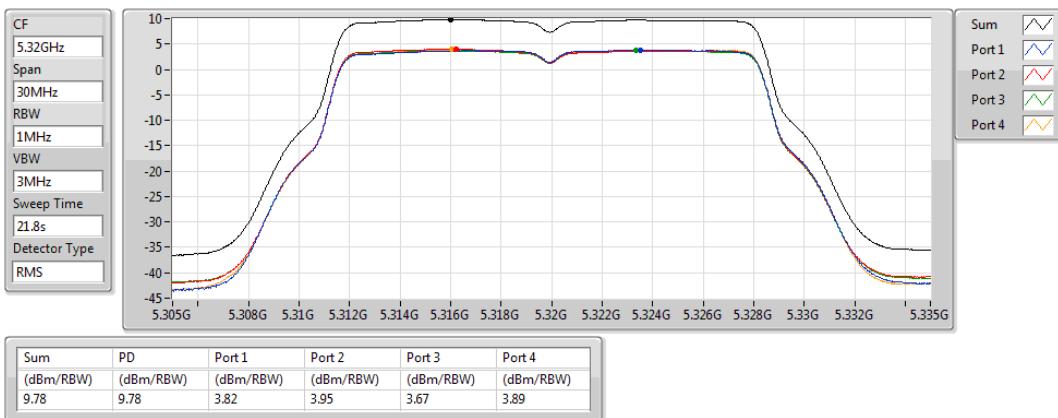


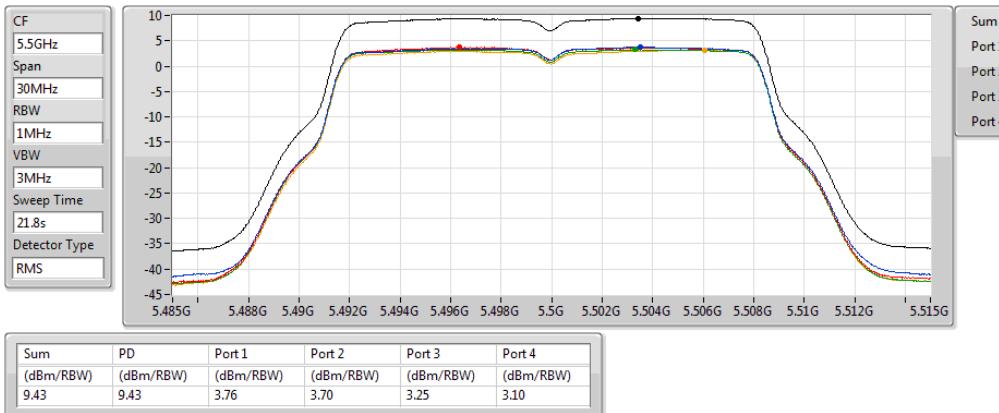
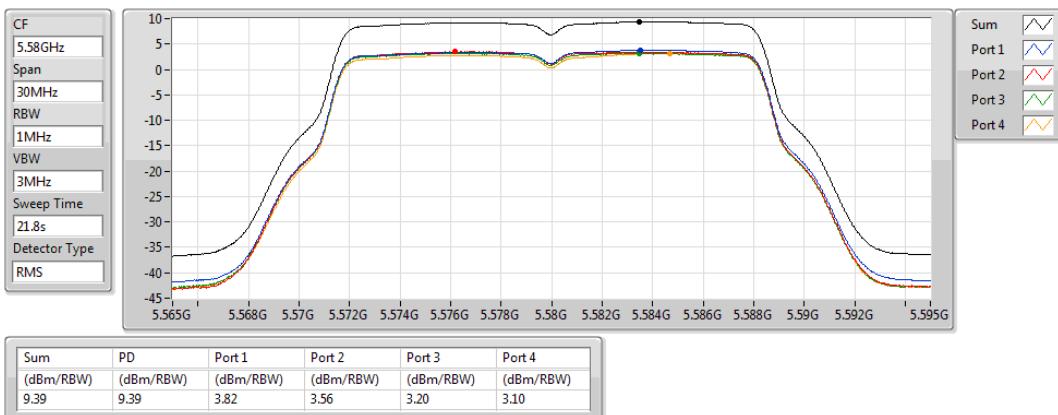
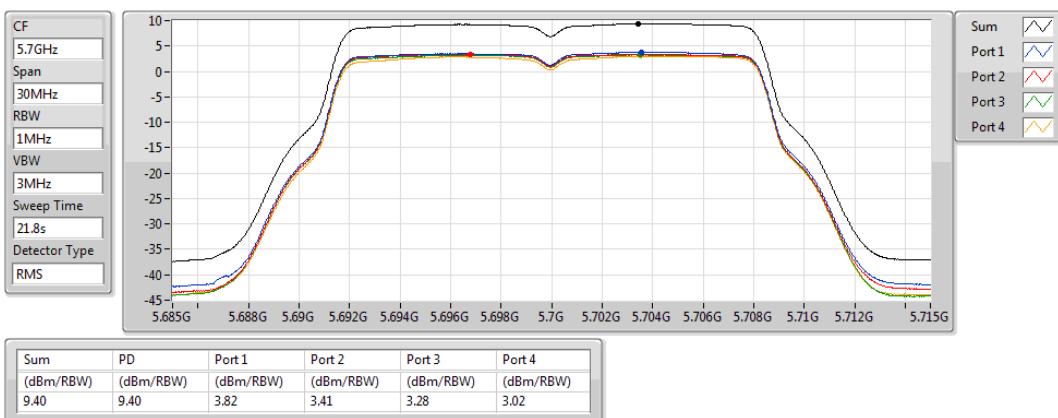
Result

Mode	Result	DG (dBi)	Port 1 (dBm/RBW)	Port 2 (dBm/RBW)	Port 3 (dBm/RBW)	Port 4 (dBm/RBW)	PD (dBm/RBW)	PD Limit (dBm/RBW)	EIRP PD (dBm/RBW)	EIRP PD Limit (dBm/RBW)
802.11a_Nss1,(6Mbps)_4TX	-	-	-	-	-	-	-	-	-	-
5260MHz	Pass	6.99	3.81	4.03	3.68	3.93	9.84	10.01	16.83	17.00
5300MHz	Pass	6.99	3.85	3.98	3.60	3.89	9.78	10.01	16.77	17.00
5320MHz	Pass	6.99	3.82	3.95	3.67	3.89	9.78	10.01	16.77	17.00
5500MHz	Pass	7.46	3.76	3.70	3.25	3.10	9.43	9.54	16.89	17.00
5580MHz	Pass	7.46	3.82	3.56	3.20	3.10	9.39	9.54	16.85	17.00
5700MHz	Pass	7.46	3.82	3.41	3.28	3.02	9.40	9.54	16.86	17.00
802.11ac VHT20_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-	-	-
5260MHz	Pass	6.99	3.68	3.98	3.56	3.97	9.76	10.01	16.75	17.00
5300MHz	Pass	6.99	3.91	4.07	3.71	4.04	9.91	10.01	16.90	17.00
5320MHz	Pass	6.99	3.86	3.94	3.80	4.17	9.88	10.01	16.87	17.00
5500MHz	Pass	7.46	3.58	3.75	3.47	3.12	9.43	9.54	16.89	17.00
5580MHz	Pass	7.46	3.69	3.58	3.36	3.28	9.41	9.54	16.87	17.00
5700MHz	Pass	7.46	2.02	2.20	1.75	1.46	7.77	9.54	15.23	17.00
802.11ac VHT40_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-	-	-
5270MHz	Pass	6.99	1.89	1.93	1.46	1.72	7.70	10.01	14.69	17.00
5310MHz	Pass	6.99	1.67	1.67	1.37	1.83	7.54	10.01	14.53	17.00
5510MHz	Pass	7.46	-0.15	-0.04	-0.38	-0.16	5.80	9.54	13.26	17.00
5550MHz	Pass	7.46	1.71	1.73	1.40	1.52	7.57	9.54	15.03	17.00
5670MHz	Pass	7.46	1.88	1.76	1.20	1.31	7.52	9.54	14.98	17.00
802.11ac VHT80_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-	-	-
5290MHz	Pass	6.99	-2.42	-3.74	-2.96	-2.47	3.09	10.01	10.08	17.00
5530MHz	Pass	7.46	-4.13	-4.07	-4.50	-4.07	1.78	9.54	9.24	17.00
5610MHz	Pass	7.46	-0.66	-1.09	-1.26	-1.01	4.99	9.54	12.45	17.00

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

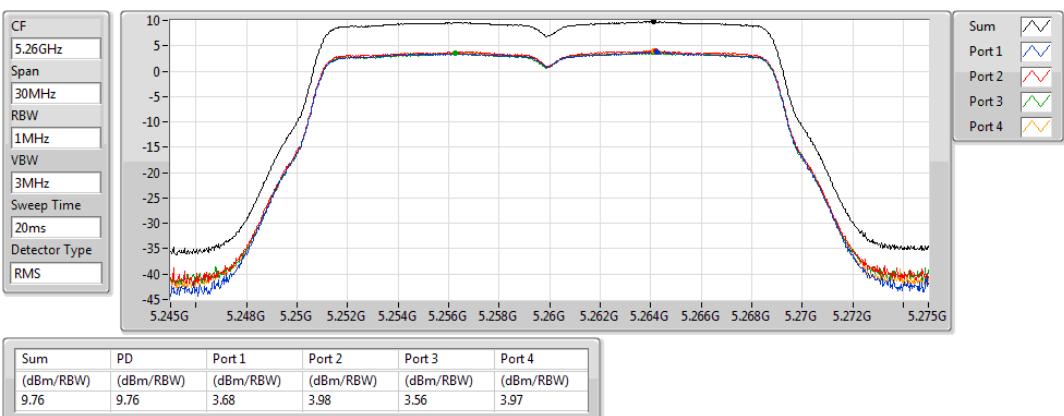
PD = trace bin-by-bin of each transmits port summing can be performed maximum power density; **Port X** = Port X power density;

802.11a_Nss1,(6Mbps)_4TX
5260MHz

802.11a_Nss1,(6Mbps)_4TX
5300MHz

802.11a_Nss1,(6Mbps)_4TX
5320MHz


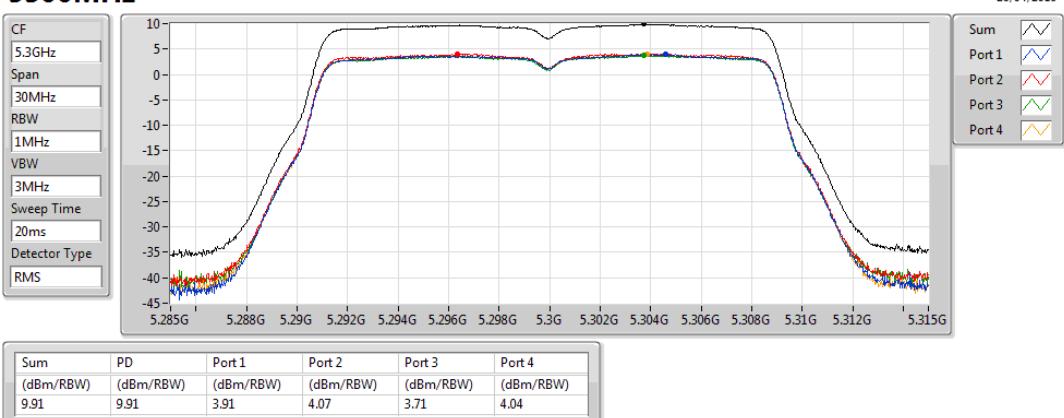
802.11a_Nss1,(6Mbps)_4TX
5500MHz

802.11a_Nss1,(6Mbps)_4TX
5580MHz

802.11a_Nss1,(6Mbps)_4TX
5700MHz


802.11ac VHT20_Nss1,(MCS0)_4TX
PSD
5260MHz

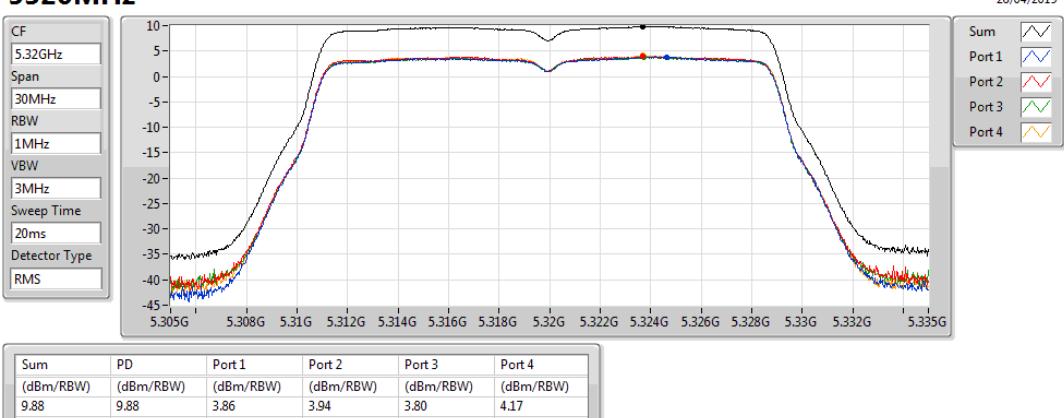
26/04/2019

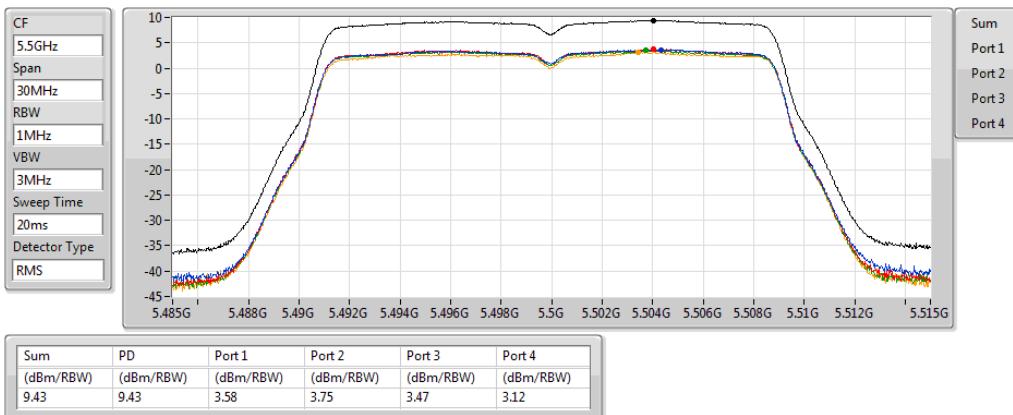
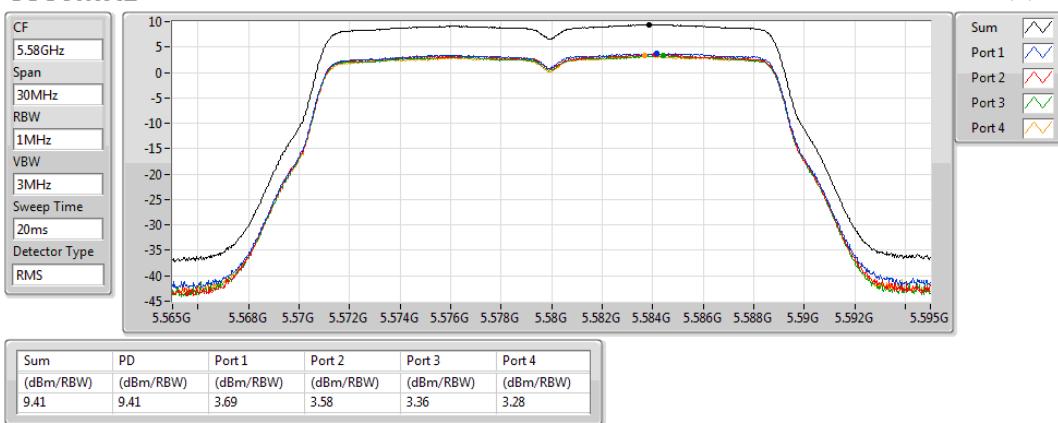
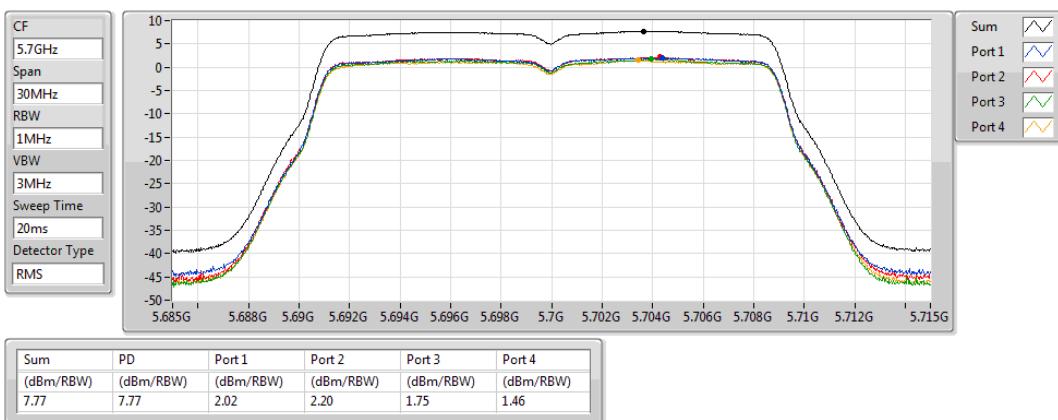

802.11ac VHT20_Nss1,(MCS0)_4TX
PSD
5300MHz

26/04/2019


802.11ac VHT20_Nss1,(MCS0)_4TX
PSD
5320MHz

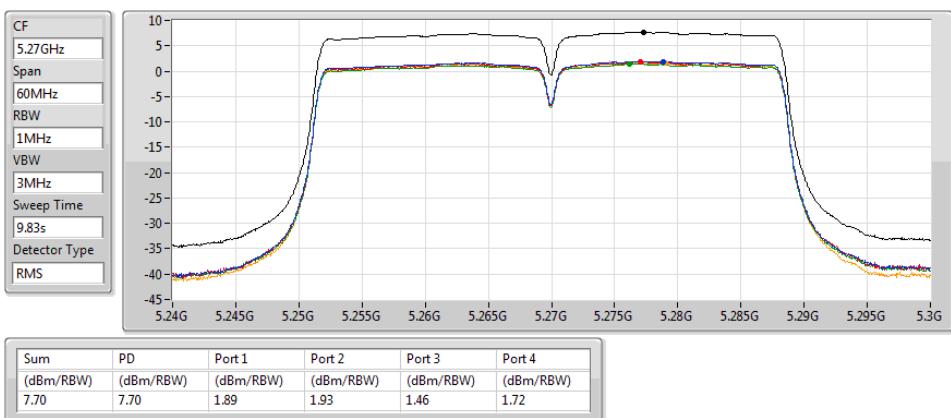
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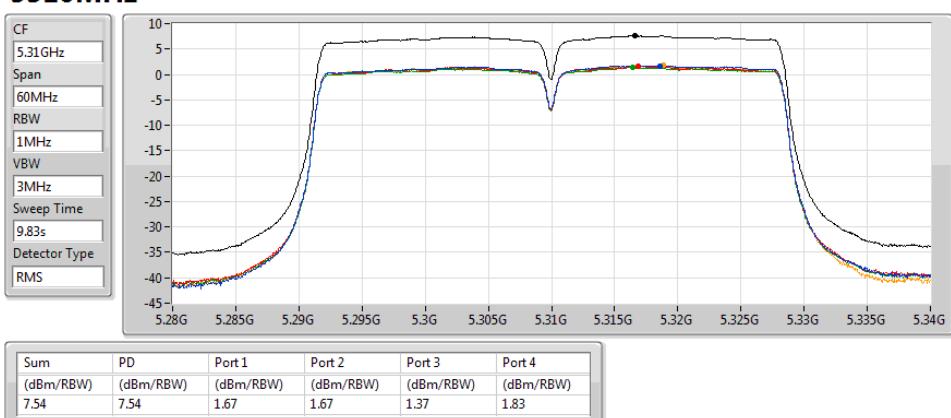
802.11ac VHT20_Nss1,(MCS0)_4TX
5500MHz

802.11ac VHT20_Nss1,(MCS0)_4TX
5580MHz

802.11ac VHT20_Nss1,(MCS0)_4TX
5700MHz


802.11ac VHT40_Nss1,(MCS0)_4TX
PSD
5270MHz

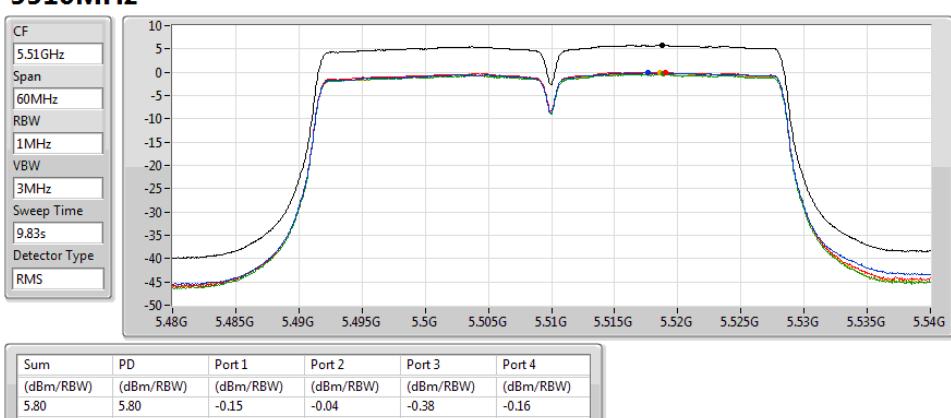
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802.11ac VHT40_Nss1,(MCS0)_4TX
PSD
5310MHz

26/04/2019

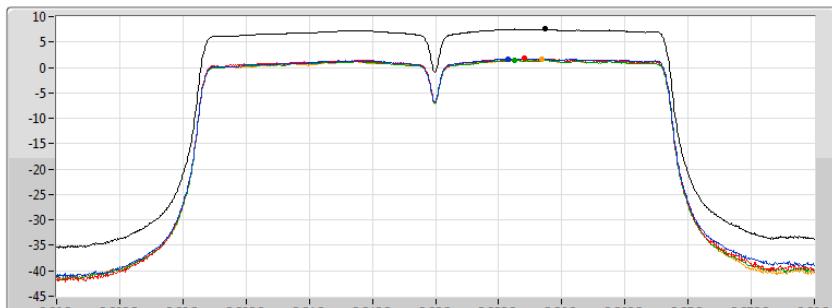

802.11ac VHT40_Nss1,(MCS0)_4TX
PSD
5510MHz

26/04/2019



802.11ac VHT40_Nss1,(MCS0)_4TX
5550MHz

CF
5.55GHz
Span
60MHz
RBW
1MHz
VBW
3MHz
Sweep Time
9.83s
Detector Type
RMS


PSD

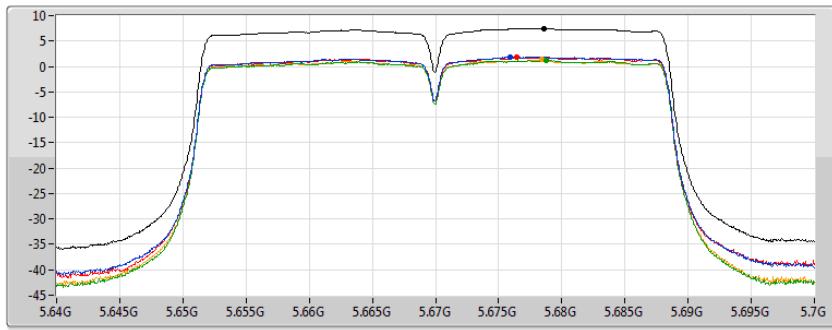
26/04/2019

- Sum
- Port 1
- Port 2
- Port 3
- Port 4

Sum	PD	Port 1	Port 2	Port 3	Port 4
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
7.57	7.57	1.71	1.73	1.40	1.52

802.11ac VHT40_Nss1,(MCS0)_4TX
5670MHz

CF
5.67GHz
Span
60MHz
RBW
1MHz
VBW
3MHz
Sweep Time
9.83s
Detector Type
RMS


PSD

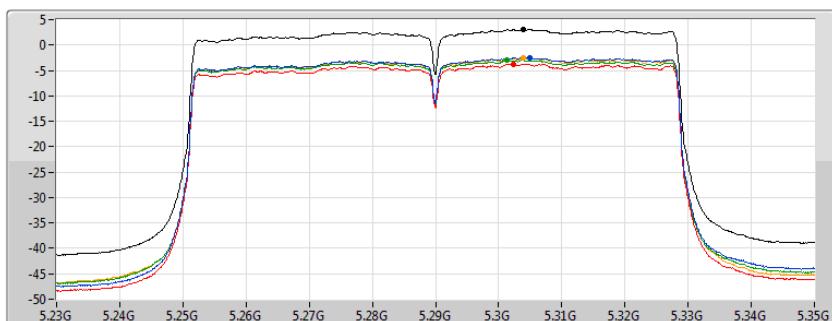
26/04/2019

- Sum
- Port 1
- Port 2
- Port 3
- Port 4

Sum	PD	Port 1	Port 2	Port 3	Port 4
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
7.52	7.52	1.88	1.76	1.20	1.31

802.11ac VHT80_Nss1,(MCS0)_4TX
5290MHz

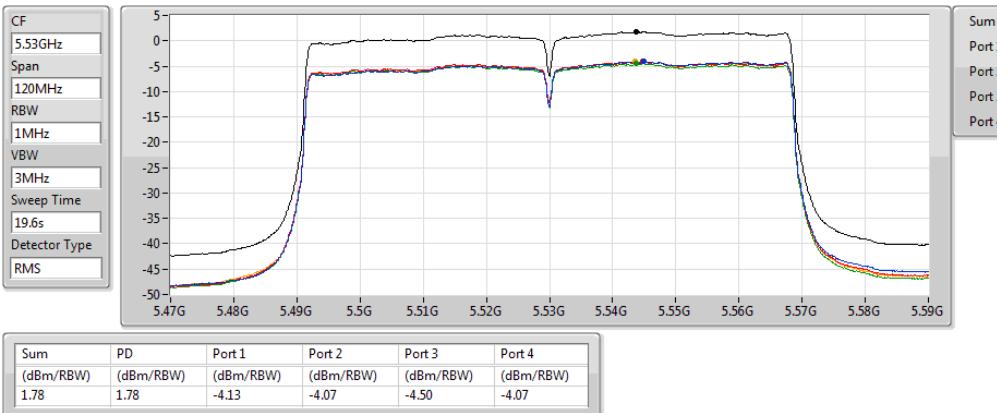
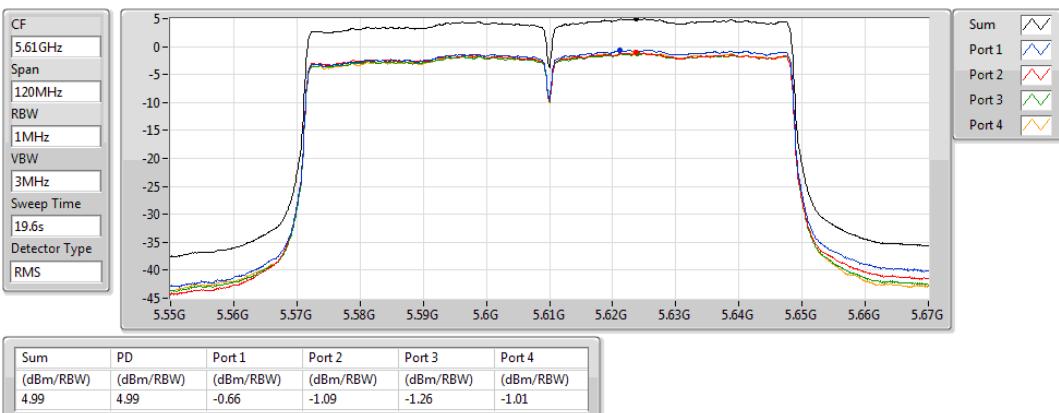
CF
5.29GHz
Span
120MHz
RBW
1MHz
VBW
3MHz
Sweep Time
19.6s
Detector Type
RMS


PSD

26/04/2019

- Sum
- Port 1
- Port 2
- Port 3
- Port 4

Sum	PD	Port 1	Port 2	Port 3	Port 4
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
3.09	3.09	-2.42	-3.74	-2.96	-2.47

802.11ac VHT80_Nss1,(MCS0)_4TX
5530MHz

802.11ac VHT80_Nss1,(MCS0)_4TX
5610MHz


**Summary**

Mode	PD (dBm/RBW)	EIRP PD (dBm/RBW)
5.25-5.35GHz	-	-
802.11ac VHT20-BF_Nss1,(MCS0)_4TX	9.66	16.65
802.11ac VHT40-BF_Nss1,(MCS0)_4TX	7.31	14.30
802.11ac VHT80-BF_Nss1,(MCS0)_4TX	3.44	10.43
5.47-5.725GHz	-	-
802.11ac VHT20-BF_Nss1,(MCS0)_4TX	9.49	16.95
802.11ac VHT40-BF_Nss1,(MCS0)_4TX	6.53	13.99
802.11ac VHT80-BF_Nss1,(MCS0)_4TX	3.11	10.57

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)	Port 3 (dBm/RBW)	Port 4 (dBm/RBW)	PD (dBm/RBW)	PD Limit (dBm/RBW)	EIRP PD (dBm/RBW)	EIRP PD Limit (dBm/RBW)
802.11ac VHT20-BF_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-	-	-
5260MHz	Pass	6.99	3.38	3.86	3.59	4.26	9.63	10.01	16.62	17.00
5300MHz	Pass	6.99	3.32	4.00	3.80	4.16	9.66	10.01	16.65	17.00
5320MHz	Pass	6.99	3.18	3.72	3.73	4.02	9.63	10.01	16.62	17.00
5500MHz	Pass	7.46	3.10	3.92	3.77	3.35	9.46	9.54	16.92	17.00
5580MHz	Pass	7.46	3.28	4.12	3.71	3.39	9.49	9.54	16.95	17.00
5700MHz	Pass	7.46	2.98	3.90	3.54	2.76	9.18	9.54	16.64	17.00
802.11ac VHT40-BF_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-	-	-
5270MHz	Pass	6.99	1.27	1.70	1.31	1.74	7.31	10.01	14.30	17.00
5310MHz	Pass	6.99	0.84	0.85	0.65	1.34	6.69	10.01	13.68	17.00
5510MHz	Pass	7.46	-1.62	-1.11	-1.44	-1.13	4.56	9.54	12.02	17.00
5550MHz	Pass	7.46	1.37	0.50	0.45	0.32	6.31	9.54	13.77	17.00
5670MHz	Pass	7.46	0.67	0.79	0.33	0.96	6.53	9.54	13.99	17.00
802.11ac VHT80-BF_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-	-	-
5290MHz	Pass	6.99	-1.07	-2.35	-1.39	-1.34	3.44	10.01	10.43	17.00
5530MHz	Pass	7.46	-3.16	-3.39	-3.26	-3.24	2.18	9.54	9.64	17.00
5610MHz	Pass	7.46	-1.45	-2.59	-2.36	-2.90	3.11	9.54	10.57	17.00

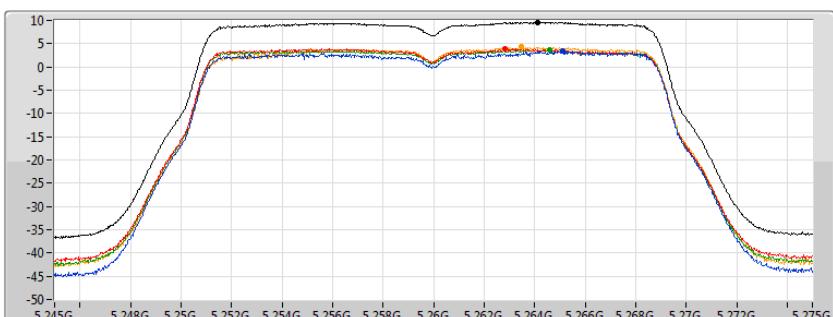
DG = Directional Gain; **RBW** = 500 kHz for 5.725-5.85GHz band / 1MHz for other band;

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

802.11ac VHT20-BF_Nss1,(MCS0)_4TX
PSD
5260MHz

26/04/2019

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

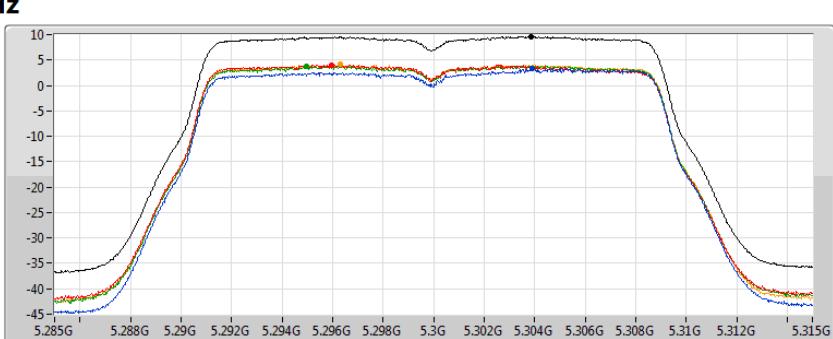


Sum	/\
Port 1	/\
Port 2	/\
Port 3	/\
Port 4	/\

802.11ac VHT20-BF_Nss1,(MCS0)_4TX
PSD
5300MHz

26/04/2019

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

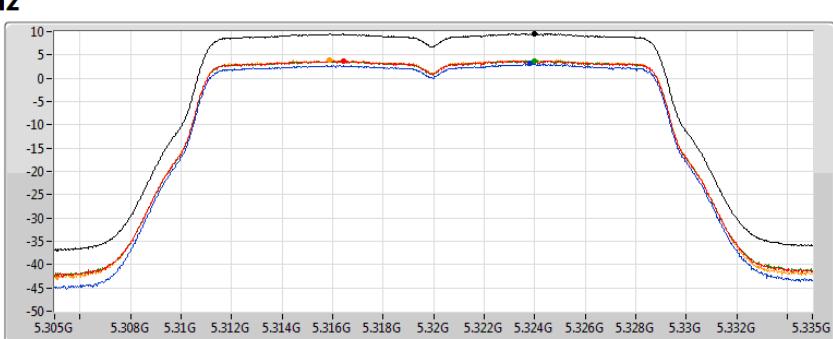


Sum	/\
Port 1	/\
Port 2	/\
Port 3	/\
Port 4	/\

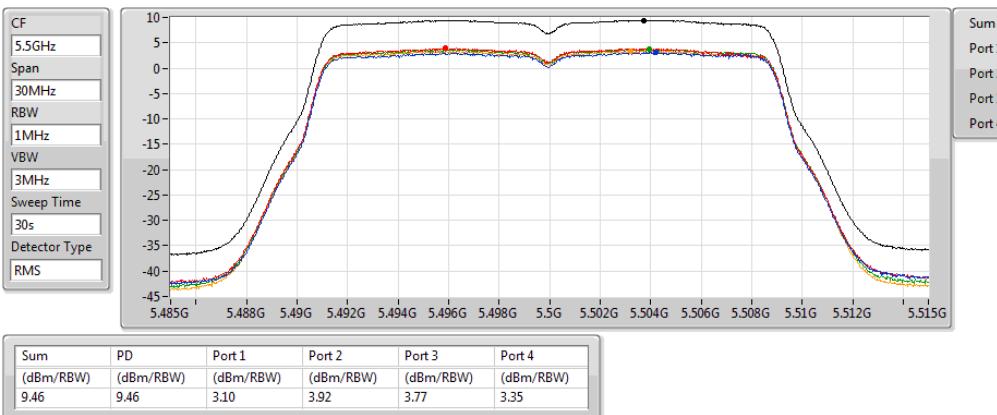
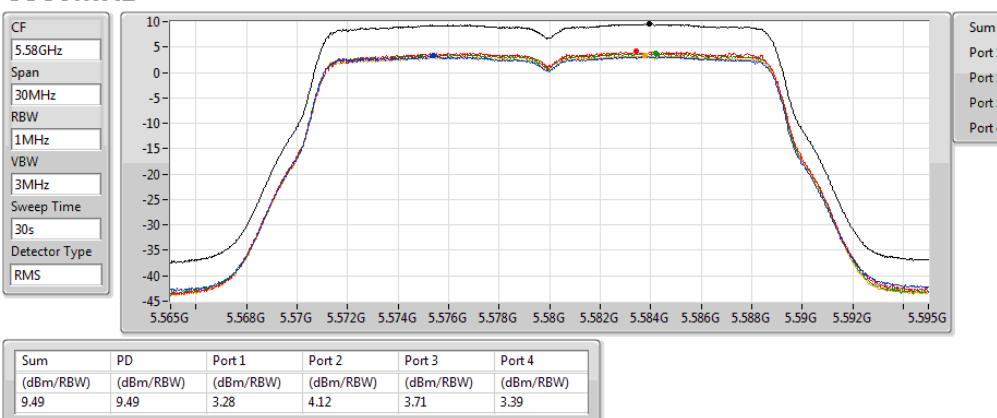
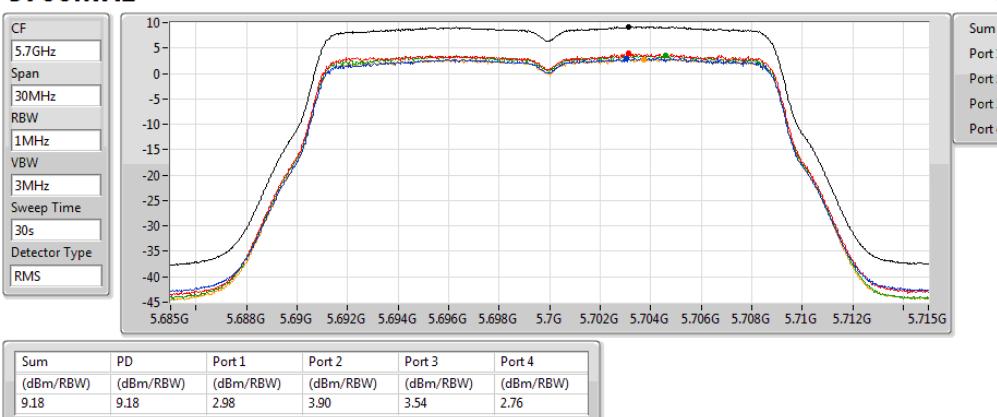
802.11ac VHT20-BF_Nss1,(MCS0)_4TX
PSD
5320MHz

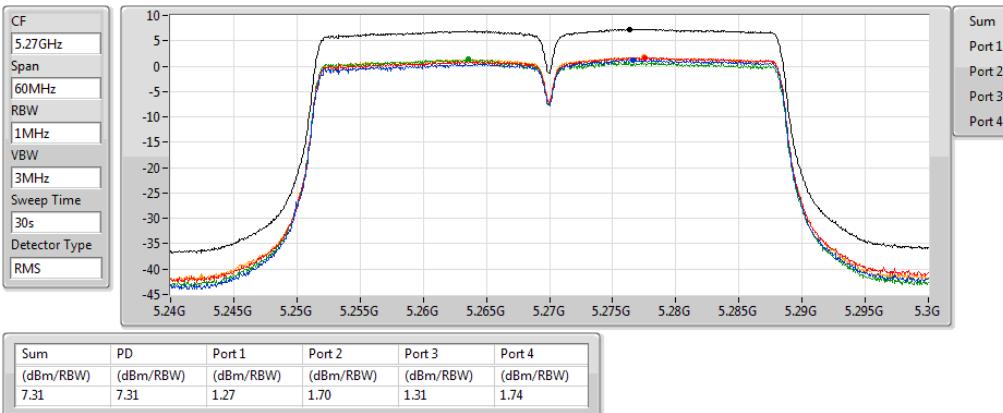
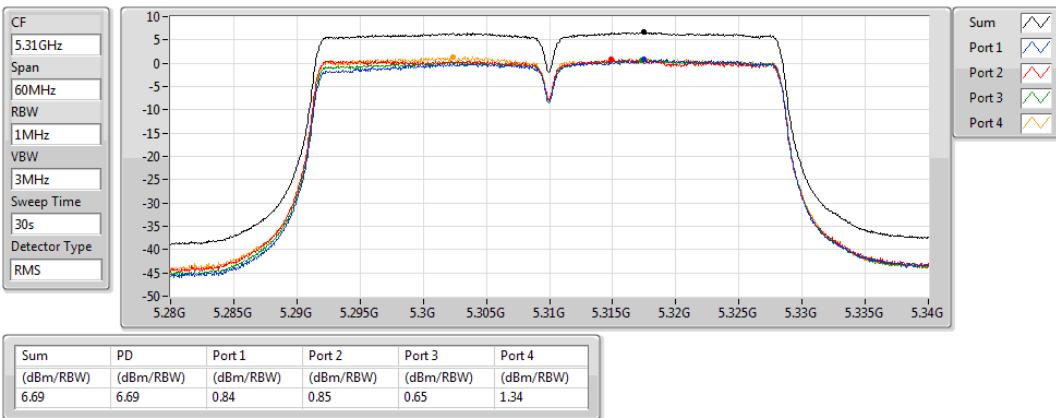
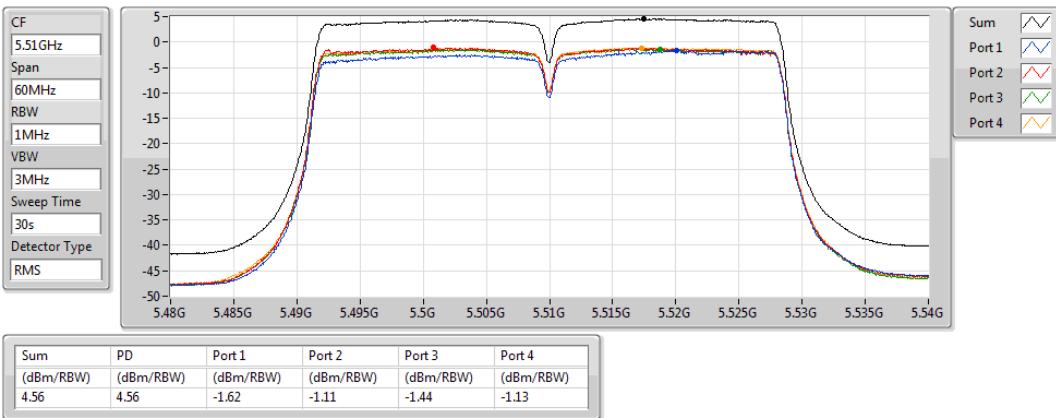
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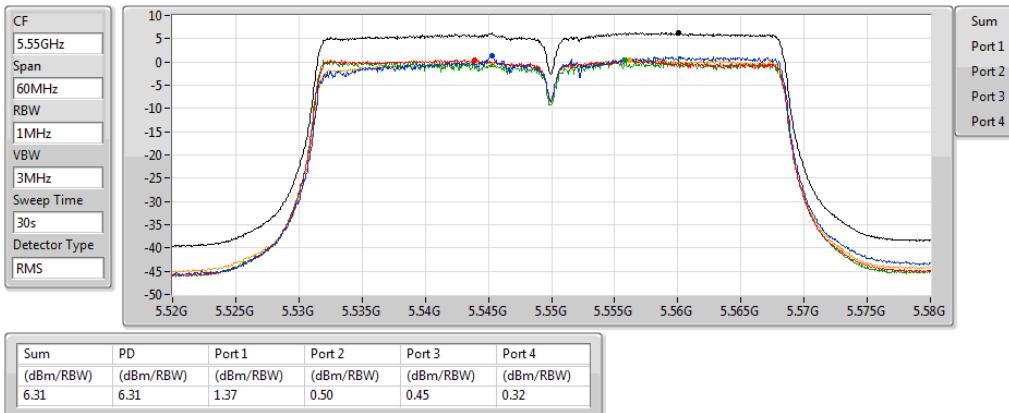
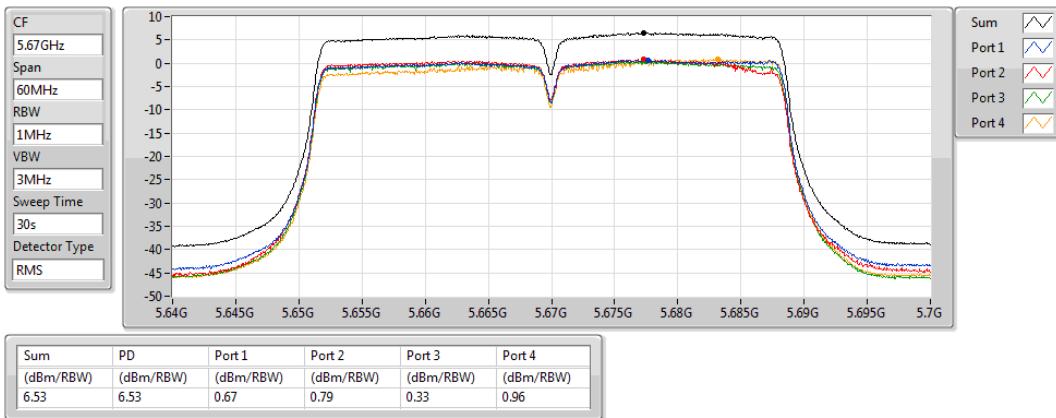
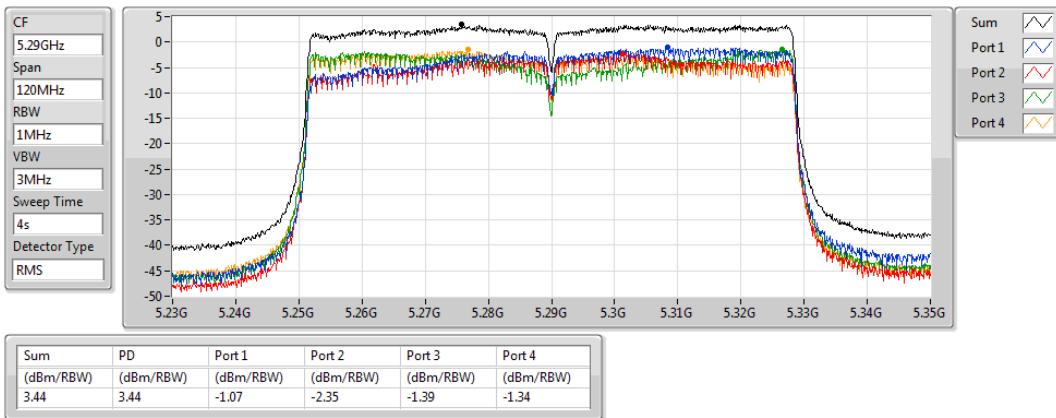
CF
5.32GHz
Span
30MHz
RBW
1MHz
VBW
3MHz
Sweep Time
30s
Detector Type
RMS

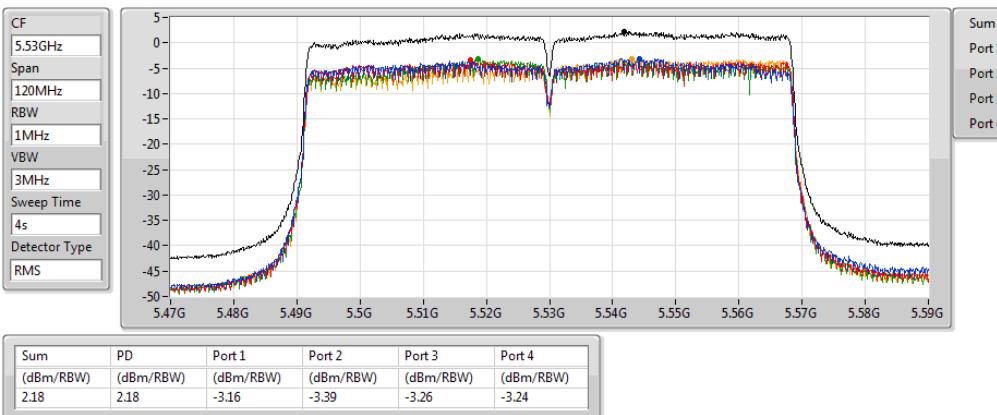
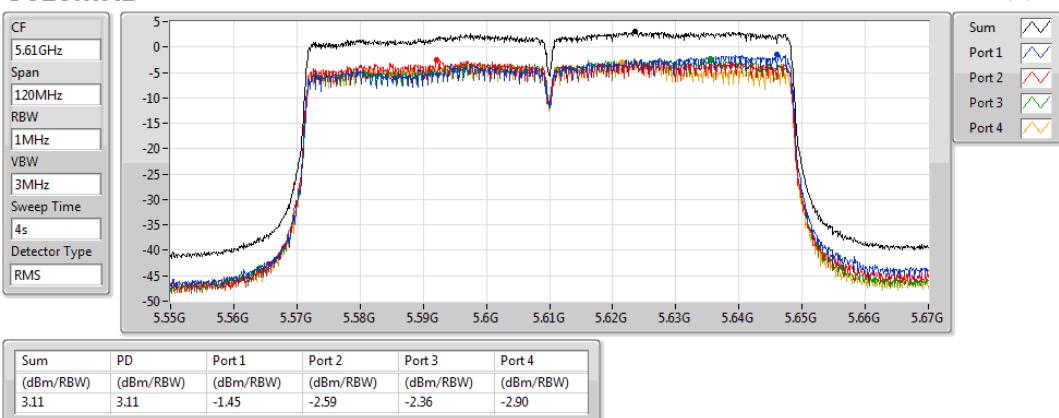


Sum	/\
Port 1	/\
Port 2	/\
Port 3	/\
Port 4	/\

802.11ac VHT20-BF_Nss1,(MCS0)_4TX
5500MHz

PSD
802.11ac VHT20-BF_Nss1,(MCS0)_4TX
5580MHz

PSD
802.11ac VHT20-BF_Nss1,(MCS0)_4TX
5700MHz

PSD

802.11ac VHT40-BF_Nss1,(MCS0)_4TX
5270MHz

802.11ac VHT40-BF_Nss1,(MCS0)_4TX
5310MHz

802.11ac VHT40-BF_Nss1,(MCS0)_4TX
5510MHz


802.11ac VHT40-BF_Nss1,(MCS0)_4TX
5550MHz

802.11ac VHT40-BF_Nss1,(MCS0)_4TX
5670MHz

802.11ac VHT80-BF_Nss1,(MCS0)_4TX
5290MHz


802.11ac VHT80-BF_Nss1,(MCS0)_4TX
5530MHz

802.11ac VHT80-BF_Nss1,(MCS0)_4TX
5610MHz


**Summary**

Mode	Result	Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comments
5.25-5.35GHz	-	-	-	-	-	-	-	-	-	-	-	-
802.11a_Nss1,(6Mbps)_4TX	Pass	PK	10.51856G	67.96	68.20	-0.24	14.74	3	Horizontal	176	1.44	-
802.11ac VHT20_Nss1,(MCS0)_4TX	Pass	PK	5.3504G	73.83	74.00	-0.17	4.32	3	Horizontal	12	1.02	-
802.11ac VHT40_Nss1,(MCS0)_4TX	Pass	AV	5.3504G	53.53	54.00	-0.47	4.32	3	Horizontal	332	1.45	-
802.11ac VHT80_Nss1,(MCS0)_4TX	Pass	PK	5.354G	73.87	74.00	-0.13	4.32	3	Vertical	247	1.50	-
5.47-5.725GHz	-	-	-	-	-	-	-	-	-	-	-	-
802.11a_Nss1,(6Mbps)_4TX	Pass	AV	11.16126G	53.95	54.00	-0.05	15.84	3	Horizontal	151	1.32	-
802.11ac VHT20_Nss1,(MCS0)_4TX	Pass	AV	11.16024G	53.71	54.00	-0.29	15.85	3	Horizontal	188	1.63	-
802.11ac VHT40_Nss1,(MCS0)_4TX	Pass	PK	5.7264G	68.10	68.20	-0.10	4.96	3	Horizontal	318	1.50	-
802.11ac VHT80_Nss1,(MCS0)_4TX	Pass	PK	5.726G	67.64	68.20	-0.56	4.96	3	Vertical	219	2.95	-



Result

Mode	Result	Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comments
802.11a_Nss1,(6Mbps)_4TX	-	-	-	-	-	-	-	-	-	-	-	-
5260MHz	Pass	AV	5.15G	46.43	54.00	-7.57	4.09	3	Vertical	185	1.51	-
5260MHz	Pass	AV	5.2576G	111.91	Inf	-Inf	4.21	3	Vertical	185	1.51	-
5260MHz	Pass	AV	5.35G	48.75	54.00	-5.25	4.32	3	Vertical	185	1.51	-
5260MHz	Pass	PK	5.1412G	59.09	74.00	-14.91	4.07	3	Vertical	185	1.51	-
5260MHz	Pass	PK	5.2582G	120.66	Inf	-Inf	4.21	3	Vertical	185	1.51	-
5260MHz	Pass	PK	5.3614G	60.43	74.00	-13.57	4.34	3	Vertical	185	1.51	-
5260MHz	Pass	AV	5.143G	45.73	54.00	-8.27	4.09	3	Horizontal	327	1.04	-
5260MHz	Pass	AV	5.2582G	109.21	Inf	-Inf	4.21	3	Horizontal	327	1.04	-
5260MHz	Pass	AV	5.3512G	47.97	54.00	-6.03	4.32	3	Horizontal	327	1.04	-
5260MHz	Pass	PK	5.1496G	58.07	74.00	-15.93	4.09	3	Horizontal	327	1.04	-
5260MHz	Pass	PK	5.2582G	118.73	Inf	-Inf	4.21	3	Horizontal	327	1.04	-
5260MHz	Pass	PK	5.3614G	60.45	74.00	-13.55	4.34	3	Horizontal	327	1.04	-
5260MHz	Pass	AV	15.78056G	49.05	54.00	-4.95	15.56	3	Vertical	248	1.41	-
5260MHz	Pass	PK	10.5292G	65.43	68.20	-2.77	14.77	3	Vertical	27	1.53	-
5260MHz	Pass	PK	15.7812G	63.51	74.00	-10.49	15.56	3	Vertical	248	1.41	-
5260MHz	Pass	AV	15.785G	48.94	54.00	-5.06	15.55	3	Horizontal	184	1.31	-
5260MHz	Pass	PK	10.51856G	67.96	68.20	-0.24	14.74	3	Horizontal	176	1.44	-
5260MHz	Pass	PK	15.78328G	63.22	74.00	-10.78	15.55	3	Horizontal	184	1.31	-
5300MHz	Pass	AV	5.2972G	111.14	Inf	-Inf	4.26	3	Vertical	183	1.57	-
5300MHz	Pass	AV	5.3776G	50.99	54.00	-3.01	4.36	3	Vertical	183	1.57	-
5300MHz	Pass	PK	5.2984G	119.84	Inf	-Inf	4.26	3	Vertical	183	1.57	-
5300MHz	Pass	PK	5.3764G	63.32	74.00	-10.68	4.36	3	Vertical	183	1.57	-
5300MHz	Pass	AV	5.2992G	107.46	Inf	-Inf	4.26	3	Horizontal	326	1.50	-
5300MHz	Pass	AV	5.3788G	49.65	54.00	-4.35	4.36	3	Horizontal	326	1.50	-
5300MHz	Pass	PK	5.2984G	117.10	Inf	-Inf	4.26	3	Horizontal	326	1.50	-
5300MHz	Pass	PK	5.378G	60.87	74.00	-13.13	4.36	3	Horizontal	326	1.50	-
5300MHz	Pass	AV	10.60944G	51.08	54.00	-2.92	14.97	3	Vertical	23	1.57	-
5300MHz	Pass	AV	15.89956G	45.45	54.00	-8.55	15.06	3	Vertical	244	1.37	-
5300MHz	Pass	PK	10.60884G	65.58	74.00	-8.42	14.97	3	Vertical	23	1.57	-
5300MHz	Pass	PK	15.90096G	58.89	74.00	-15.11	15.06	3	Vertical	244	1.37	-
5300MHz	Pass	AV	10.60054G	53.20	54.00	-0.80	14.94	3	Horizontal	175	1.50	-
5300MHz	Pass	AV	15.90532G	42.68	54.00	-11.32	15.04	3	Horizontal	206	1.50	-
5300MHz	Pass	PK	10.59874G	67.96	68.20	-0.24	14.94	3	Horizontal	175	1.50	-
5300MHz	Pass	PK	15.90528G	56.09	74.00	-17.91	15.04	3	Horizontal	206	1.50	-
5320MHz	Pass	AV	5.317G	110.76	Inf	-Inf	4.28	3	Vertical	181	1.70	-
5320MHz	Pass	AV	5.35G	53.58	54.00	-0.42	4.32	3	Vertical	181	1.70	-
5320MHz	Pass	PK	5.3168G	119.52	Inf	-Inf	4.28	3	Vertical	181	1.70	-
5320MHz	Pass	PK	5.3566G	70.10	74.00	-3.90	4.32	3	Vertical	181	1.70	-
5320MHz	Pass	AV	5.3192G	107.09	Inf	-Inf	4.29	3	Horizontal	322	1.50	-
5320MHz	Pass	AV	5.3508G	51.71	54.00	-2.29	4.32	3	Horizontal	322	1.50	-
5320MHz	Pass	PK	5.3182G	116.50	Inf	-Inf	4.29	3	Horizontal	322	1.50	-
5320MHz	Pass	PK	5.3574G	67.16	74.00	-6.84	4.32	3	Horizontal	322	1.50	-
5320MHz	Pass	AV	10.6499G	50.64	54.00	-3.36	15.08	3	Vertical	25	1.82	-
5320MHz	Pass	AV	15.96078G	41.73	54.00	-12.27	14.81	3	Vertical	304	1.37	-
5320MHz	Pass	PK	10.6502G	64.55	74.00	-9.45	15.08	3	Vertical	25	1.82	-
5320MHz	Pass	PK	15.96108G	56.80	74.00	-17.20	14.80	3	Vertical	304	1.37	-
5320MHz	Pass	AV	10.6403G	51.34	54.00	-2.66	15.06	3	Horizontal	174	1.50	-



RSE TX above 1GHz_Non-Beamforming

Appendix D.1

Mode	Result	Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comments
5320MHz	Pass	AV	15.94632G	39.70	54.00	-14.30	14.87	3	Horizontal	234	1.50	-
5320MHz	Pass	PK	10.6406G	65.93	74.00	-8.07	15.06	3	Horizontal	174	1.50	-
5320MHz	Pass	PK	15.94578G	53.75	74.00	-20.25	14.87	3	Horizontal	234	1.50	-
5500MHz	Pass	AV	5.458G	46.49	54.00	-7.51	4.45	3	Vertical	157	1.51	-
5500MHz	Pass	AV	5.503G	105.04	Inf	-Inf	4.50	3	Vertical	157	1.51	-
5500MHz	Pass	PK	5.4692G	62.91	68.20	-5.29	4.47	3	Vertical	157	1.51	-
5500MHz	Pass	PK	5.5034G	114.10	Inf	-Inf	4.50	3	Vertical	157	1.51	-
5500MHz	Pass	AV	5.4574G	47.67	54.00	-6.33	4.45	3	Horizontal	324	1.32	-
5500MHz	Pass	AV	5.4984G	104.37	Inf	-Inf	4.50	3	Horizontal	324	1.32	-
5500MHz	Pass	PK	5.4696G	59.80	68.20	-8.40	4.47	3	Horizontal	324	1.32	-
5500MHz	Pass	PK	5.4982G	114.06	Inf	-Inf	4.50	3	Horizontal	324	1.32	-
5500MHz	Pass	AV	11.00042G	47.44	54.00	-6.56	15.98	3	Vertical	141	1.96	-
5500MHz	Pass	PK	11.0009G	61.01	74.00	-12.99	15.98	3	Vertical	141	1.96	-
5500MHz	Pass	PK	16.49706G	58.88	68.20	-9.32	16.42	3	Vertical	297	1.80	-
5500MHz	Pass	AV	11.0014G	53.77	54.00	-0.23	15.98	3	Horizontal	152	1.51	-
5500MHz	Pass	PK	11.0008G	67.98	74.00	-6.02	15.98	3	Horizontal	152	1.51	-
5500MHz	Pass	PK	16.49418G	58.66	68.20	-9.54	16.41	3	Horizontal	62	1.09	-
5580MHz	Pass	AV	5.4546G	44.58	54.00	-9.42	4.45	3	Vertical	229	1.50	-
5580MHz	Pass	AV	5.5866G	106.19	Inf	-Inf	4.68	3	Vertical	229	1.50	-
5580MHz	Pass	PK	5.4678G	57.09	68.20	-11.11	4.47	3	Vertical	229	1.50	-
5580MHz	Pass	PK	5.5866G	114.56	Inf	-Inf	4.68	3	Vertical	229	1.50	-
5580MHz	Pass	PK	5.7264G	58.79	68.20	-9.41	4.96	3	Vertical	229	1.50	-
5580MHz	Pass	AV	5.4576G	44.92	54.00	-9.08	4.45	3	Horizontal	326	1.32	-
5580MHz	Pass	AV	5.5794G	106.51	Inf	-Inf	4.66	3	Horizontal	326	1.32	-
5580MHz	Pass	PK	5.4612G	56.54	68.20	-11.66	4.46	3	Horizontal	326	1.32	-
5580MHz	Pass	PK	5.5788G	115.45	Inf	-Inf	4.66	3	Horizontal	326	1.32	-
5580MHz	Pass	PK	5.7264G	57.77	68.20	-10.43	4.96	3	Horizontal	326	1.32	-
5580MHz	Pass	AV	11.15448G	47.36	54.00	-6.64	15.85	3	Vertical	56	1.51	-
5580MHz	Pass	PK	11.15388G	60.55	74.00	-13.45	15.85	3	Vertical	56	1.51	-
5580MHz	Pass	PK	16.7259G	60.29	68.20	-7.91	17.51	3	Vertical	341	1.11	-
5580MHz	Pass	AV	11.16126G	53.95	54.00	-0.05	15.84	3	Horizontal	151	1.32	-
5580MHz	Pass	PK	11.1612G	67.49	74.00	-6.51	15.84	3	Horizontal	151	1.32	-
5580MHz	Pass	PK	16.73118G	60.59	68.20	-7.61	17.52	3	Horizontal	183	1.62	-
5700MHz	Pass	AV	5.7064G	104.90	Inf	-Inf	4.93	3	Vertical	223	1.42	-
5700MHz	Pass	PK	5.7064G	113.47	Inf	-Inf	4.93	3	Vertical	223	1.42	-
5700MHz	Pass	PK	5.7252G	67.96	68.20	-0.24	4.96	3	Vertical	223	1.42	-
5700MHz	Pass	AV	5.7016G	105.13	Inf	-Inf	4.91	3	Horizontal	318	1.35	-
5700MHz	Pass	PK	5.7004G	114.39	Inf	-Inf	4.91	3	Horizontal	318	1.35	-
5700MHz	Pass	PK	5.7328G	62.15	68.20	-6.05	4.98	3	Horizontal	318	1.35	-
5700MHz	Pass	AV	11.39562G	45.31	54.00	-8.69	15.64	3	Vertical	48	1.99	-
5700MHz	Pass	PK	11.3937G	59.39	74.00	-14.61	15.64	3	Vertical	48	1.99	-
5700MHz	Pass	PK	17.10054G	62.40	68.20	-5.80	19.56	3	Vertical	74	1.76	-
5700MHz	Pass	AV	11.39622G	46.88	54.00	-7.12	15.64	3	Horizontal	69	1.50	-
5700MHz	Pass	PK	11.3985G	59.63	74.00	-14.37	15.64	3	Horizontal	69	1.50	-
5700MHz	Pass	PK	17.09922G	62.37	68.20	-5.83	19.55	3	Horizontal	131	1.37	-
802.11ac VHT20_Nss1_(MCS0)_4TX	-	-	-	-	-	-	-	-	-	-	-	-
5260MHz	Pass	AV	5.15G	45.92	54.00	-8.08	4.09	3	Vertical	215	1.50	-
5260MHz	Pass	AV	5.2648G	108.51	Inf	-Inf	4.23	3	Vertical	215	1.50	-
5260MHz	Pass	AV	5.35G	48.26	54.00	-5.74	4.32	3	Vertical	215	1.50	-



RSE TX above 1GHz_Non-Beamforming

Appendix D.1

Mode	Result	Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comments
5260MHz	Pass	PK	5.14G	58.56	74.00	-15.44	4.07	3	Vertical	215	1.50	-
5260MHz	Pass	PK	5.2582G	119.46	Inf	-Inf	4.21	3	Vertical	215	1.50	-
5260MHz	Pass	PK	5.3518G	61.22	74.00	-12.78	4.32	3	Vertical	215	1.50	-
5260MHz	Pass	AV	5.15G	45.19	54.00	-8.81	4.09	3	Horizontal	356	1.50	-
5260MHz	Pass	AV	5.2552G	106.58	Inf	-Inf	4.21	3	Horizontal	356	1.50	-
5260MHz	Pass	AV	5.35G	47.46	54.00	-6.54	4.32	3	Horizontal	356	1.50	-
5260MHz	Pass	PK	5.1376G	57.62	74.00	-16.38	4.07	3	Horizontal	356	1.50	-
5260MHz	Pass	PK	5.2654G	118.16	Inf	-Inf	4.23	3	Horizontal	356	1.50	-
5260MHz	Pass	PK	5.3512G	60.07	74.00	-13.93	4.32	3	Horizontal	356	1.50	-
5260MHz	Pass	AV	15.77964G	48.90	54.00	-5.10	15.57	3	Vertical	274	1.37	-
5260MHz	Pass	PK	10.52048G	66.15	68.20	-2.05	14.74	3	Vertical	109	1.50	-
5260MHz	Pass	PK	15.7899G	63.44	74.00	-10.56	15.53	3	Vertical	274	1.37	-
5260MHz	Pass	AV	15.77778G	48.76	54.00	-5.24	15.58	3	Horizontal	216	1.32	-
5260MHz	Pass	PK	10.52078G	67.26	68.20	-0.94	14.74	3	Horizontal	206	1.50	-
5260MHz	Pass	PK	15.77766G	63.91	74.00	-10.09	15.58	3	Horizontal	216	1.32	-
5300MHz	Pass	AV	5.2948G	108.38	Inf	-Inf	4.26	3	Vertical	217	1.50	-
5300MHz	Pass	AV	5.3584G	50.70	54.00	-3.30	4.34	3	Vertical	217	1.50	-
5300MHz	Pass	PK	5.2952G	118.81	Inf	-Inf	4.26	3	Vertical	217	1.50	-
5300MHz	Pass	PK	5.3516G	66.68	74.00	-7.32	4.32	3	Vertical	217	1.50	-
5300MHz	Pass	AV	5.2952G	107.42	Inf	-Inf	4.26	3	Horizontal	352	1.13	-
5300MHz	Pass	AV	5.3528G	49.80	54.00	-4.20	4.32	3	Horizontal	352	1.13	-
5300MHz	Pass	PK	5.2952G	118.84	Inf	-Inf	4.26	3	Horizontal	352	1.13	-
5300MHz	Pass	PK	5.3524G	64.72	74.00	-9.28	4.32	3	Horizontal	352	1.13	-
5300MHz	Pass	AV	10.60096G	51.37	54.00	-2.63	14.94	3	Vertical	87	1.50	-
5300MHz	Pass	AV	15.89802G	47.14	54.00	-6.86	15.07	3	Vertical	236	1.28	-
5300MHz	Pass	PK	10.60126G	66.12	74.00	-7.88	14.94	3	Vertical	87	1.50	-
5300MHz	Pass	PK	15.89292G	60.65	74.00	-13.35	15.10	3	Vertical	236	1.28	-
5300MHz	Pass	AV	10.60006G	53.58	54.00	-0.42	14.94	3	Horizontal	208	1.50	-
5300MHz	Pass	AV	15.89778G	45.89	54.00	-8.11	15.08	3	Horizontal	217	1.23	-
5300MHz	Pass	PK	10.6003G	70.24	74.00	-3.76	14.94	3	Horizontal	208	1.50	-
5300MHz	Pass	PK	15.89778G	60.49	74.00	-13.51	15.08	3	Horizontal	217	1.23	-
5320MHz	Pass	AV	5.3246G	106.56	Inf	-Inf	4.29	3	Vertical	233	1.50	-
5320MHz	Pass	AV	5.35G	53.66	54.00	-0.34	4.32	3	Vertical	233	1.50	-
5320MHz	Pass	PK	5.3182G	117.13	Inf	-Inf	4.29	3	Vertical	233	1.50	-
5320MHz	Pass	PK	5.35G	73.65	74.00	-0.35	4.32	3	Vertical	233	1.50	-
5320MHz	Pass	AV	5.3252G	105.03	Inf	-Inf	4.30	3	Horizontal	12	1.02	-
5320MHz	Pass	AV	5.3502G	52.63	54.00	-1.37	4.32	3	Horizontal	12	1.02	-
5320MHz	Pass	PK	5.325G	118.17	Inf	-Inf	4.30	3	Horizontal	12	1.02	-
5320MHz	Pass	PK	5.3504G	73.83	74.00	-0.17	4.32	3	Horizontal	12	1.02	-
5320MHz	Pass	AV	10.64096G	49.73	54.00	-4.27	15.06	3	Vertical	65	1.80	-
5320MHz	Pass	AV	15.9579G	40.98	54.00	-13.02	14.82	3	Vertical	234	1.33	-
5320MHz	Pass	PK	10.6406G	66.16	74.00	-7.84	15.06	3	Vertical	65	1.80	-
5320MHz	Pass	PK	15.95778G	55.92	74.00	-18.08	14.82	3	Vertical	234	1.33	-
5320MHz	Pass	AV	10.64012G	49.45	54.00	-4.55	15.06	3	Horizontal	238	1.50	-
5320MHz	Pass	AV	15.95316G	39.75	54.00	-14.25	14.83	3	Horizontal	232	1.50	-
5320MHz	Pass	PK	10.63988G	67.83	74.00	-6.17	15.06	3	Horizontal	238	1.50	-
5320MHz	Pass	PK	15.94872G	53.29	74.00	-20.71	14.86	3	Horizontal	232	1.50	-
5500MHz	Pass	AV	5.456G	46.46	54.00	-7.54	4.45	3	Vertical	201	1.50	-
5500MHz	Pass	AV	5.496G	103.40	Inf	-Inf	4.50	3	Vertical	201	1.50	-



RSE TX above 1GHz_Non-Beamforming

Appendix D.1

Mode	Result	Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comments
5500MHz	Pass	PK	5.4662G	65.46	68.20	-2.74	4.46	3	Vertical	201	1.50	-
5500MHz	Pass	PK	5.4958G	114.50	Inf	-Inf	4.50	3	Vertical	201	1.50	-
5500MHz	Pass	AV	5.46G	46.62	54.00	-7.38	4.46	3	Horizontal	4	1.29	-
5500MHz	Pass	AV	5.5052G	102.96	Inf	-Inf	4.51	3	Horizontal	4	1.29	-
5500MHz	Pass	PK	5.4698G	66.90	68.20	-1.30	4.47	3	Horizontal	4	1.29	-
5500MHz	Pass	PK	5.505G	115.32	Inf	-Inf	4.51	3	Horizontal	4	1.29	-
5500MHz	Pass	AV	10.99934G	45.81	54.00	-8.19	15.98	3	Vertical	140	1.74	-
5500MHz	Pass	PK	10.9985G	62.37	74.00	-11.63	15.98	3	Vertical	140	1.74	-
5500MHz	Pass	PK	16.50456G	58.70	68.20	-9.50	16.45	3	Vertical	308	1.25	-
5500MHz	Pass	AV	11.0003G	53.57	54.00	-0.43	15.98	3	Horizontal	189	1.86	-
5500MHz	Pass	PK	11.00036G	72.54	74.00	-1.46	15.98	3	Horizontal	189	1.86	-
5500MHz	Pass	PK	16.50786G	58.91	68.20	-9.29	16.47	3	Horizontal	293	1.96	-
5580MHz	Pass	AV	5.4594G	44.58	54.00	-9.42	4.46	3	Vertical	203	1.59	-
5580MHz	Pass	AV	5.5758G	106.09	Inf	-Inf	4.66	3	Vertical	203	1.59	-
5580MHz	Pass	PK	5.4654G	56.56	68.20	-11.64	4.46	3	Vertical	203	1.59	-
5580MHz	Pass	PK	5.5758G	116.14	Inf	-Inf	4.66	3	Vertical	203	1.59	-
5580MHz	Pass	PK	5.7276G	58.29	68.20	-9.91	4.96	3	Vertical	203	1.59	-
5580MHz	Pass	AV	5.4594G	44.57	54.00	-9.43	4.46	3	Horizontal	6	1.50	-
5580MHz	Pass	AV	5.5848G	105.82	Inf	-Inf	4.67	3	Horizontal	6	1.50	-
5580MHz	Pass	PK	5.4648G	56.89	68.20	-11.31	4.46	3	Horizontal	6	1.50	-
5580MHz	Pass	PK	5.5848G	116.33	Inf	-Inf	4.67	3	Horizontal	6	1.50	-
5580MHz	Pass	PK	5.7264G	57.91	68.20	-10.29	4.96	3	Horizontal	6	1.50	-
5580MHz	Pass	AV	11.15436G	47.50	54.00	-6.50	15.85	3	Vertical	78	2.11	-
5580MHz	Pass	PK	11.15388G	61.65	74.00	-12.35	15.85	3	Vertical	78	2.11	-
5580MHz	Pass	PK	16.7472G	62.55	68.20	-5.65	17.60	3	Vertical	293	1.17	-
5580MHz	Pass	AV	11.16024G	53.71	54.00	-0.29	15.85	3	Horizontal	188	1.63	-
5580MHz	Pass	PK	11.15988G	70.12	74.00	-3.88	15.85	3	Horizontal	188	1.63	-
5580MHz	Pass	PK	16.7409G	61.44	68.20	-6.76	17.57	3	Horizontal	46	1.27	-
5700MHz	Pass	AV	5.7032G	101.03	Inf	-Inf	4.91	3	Vertical	234	1.45	-
5700MHz	Pass	PK	5.7032G	111.50	Inf	-Inf	4.91	3	Vertical	234	1.45	-
5700MHz	Pass	PK	5.7284G	64.94	68.20	-3.26	4.96	3	Vertical	234	1.45	-
5700MHz	Pass	AV	5.7052G	103.50	Inf	-Inf	4.93	3	Horizontal	7	1.30	-
5700MHz	Pass	PK	5.6956G	115.13	Inf	-Inf	4.90	3	Horizontal	7	1.30	-
5700MHz	Pass	PK	5.7252G	67.43	68.20	-0.77	4.96	3	Horizontal	7	1.30	-
5700MHz	Pass	AV	11.39484G	44.40	54.00	-9.60	15.64	3	Vertical	91	1.62	-
5700MHz	Pass	PK	11.4014G	57.44	74.00	-16.56	15.64	3	Vertical	91	1.62	-
5700MHz	Pass	PK	17.10216G	62.80	68.20	-5.40	19.58	3	Vertical	343	1.73	-
5700MHz	Pass	AV	11.39646G	45.15	54.00	-8.85	15.63	3	Horizontal	115	1.50	-
5700MHz	Pass	PK	11.39388G	58.17	74.00	-15.83	15.64	3	Horizontal	115	1.50	-
5700MHz	Pass	PK	17.08584G	62.47	68.20	-5.73	19.45	3	Horizontal	145	1.42	-
802.11ac VHT40_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-	-	-	-	-
5270MHz	Pass	AV	5.2596G	107.30	Inf	-Inf	4.22	3	Vertical	202	1.50	-
5270MHz	Pass	AV	5.3532G	52.70	54.00	-1.30	4.32	3	Vertical	202	1.50	-
5270MHz	Pass	PK	5.2748G	116.42	Inf	-Inf	4.23	3	Vertical	202	1.50	-
5270MHz	Pass	PK	5.35G	65.55	74.00	-8.45	4.32	3	Vertical	202	1.50	-
5270MHz	Pass	AV	5.2752G	105.20	Inf	-Inf	4.23	3	Horizontal	336	1.50	-
5270MHz	Pass	AV	5.3504G	51.74	54.00	-2.26	4.32	3	Horizontal	336	1.50	-
5270MHz	Pass	PK	5.2848G	115.62	Inf	-Inf	4.24	3	Horizontal	336	1.50	-
5270MHz	Pass	PK	5.362G	64.60	74.00	-9.40	4.34	3	Horizontal	336	1.50	-



RSE TX above 1GHz_Non-Beamforming

Appendix D.1

Mode	Result	Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comments
5270MHz	Pass	AV	15.8085G	47.72	54.00	-6.28	15.45	3	Vertical	214	1.51	-
5270MHz	Pass	PK	10.5403G	61.87	68.20	-6.33	14.80	3	Vertical	81	1.63	-
5270MHz	Pass	PK	15.79776G	59.91	74.00	-14.09	15.50	3	Vertical	214	1.51	-
5270MHz	Pass	AV	15.813G	47.08	54.00	-6.92	15.42	3	Horizontal	197	1.50	-
5270MHz	Pass	PK	10.54102G	63.82	68.20	-4.38	14.80	3	Horizontal	219	1.52	-
5270MHz	Pass	PK	15.8133G	59.09	74.00	-14.91	15.42	3	Horizontal	197	1.50	-
5310MHz	Pass	AV	5.3148G	102.77	Inf	-Inf	4.28	3	Vertical	201	1.58	-
5310MHz	Pass	AV	5.35G	53.18	54.00	-0.82	4.32	3	Vertical	201	1.58	-
5310MHz	Pass	PK	5.3044G	112.63	Inf	-Inf	4.27	3	Vertical	201	1.58	-
5310MHz	Pass	PK	5.3524G	71.35	74.00	-2.65	4.32	3	Vertical	201	1.58	-
5310MHz	Pass	AV	5.3208G	100.77	Inf	-Inf	4.29	3	Horizontal	332	1.45	-
5310MHz	Pass	AV	5.3504G	53.53	54.00	-0.47	4.32	3	Horizontal	332	1.45	-
5310MHz	Pass	PK	5.32G	110.94	Inf	-Inf	4.29	3	Horizontal	332	1.45	-
5310MHz	Pass	PK	5.3504G	73.09	74.00	-0.91	4.32	3	Horizontal	332	1.45	-
5310MHz	Pass	AV	10.62126G	45.58	54.00	-8.42	15.01	3	Vertical	70	1.50	-
5310MHz	Pass	AV	15.91836G	40.81	54.00	-13.19	14.99	3	Vertical	284	1.50	-
5310MHz	Pass	PK	10.62114G	57.81	74.00	-16.19	15.01	3	Vertical	70	1.50	-
5310MHz	Pass	PK	15.91548G	52.67	74.00	-21.33	14.99	3	Vertical	284	1.50	-
5310MHz	Pass	AV	10.62G	46.40	54.00	-7.60	15.00	3	Horizontal	192	1.58	-
5310MHz	Pass	AV	15.91554G	40.78	54.00	-13.22	14.99	3	Horizontal	283	1.18	-
5310MHz	Pass	PK	10.62168G	58.63	74.00	-15.37	15.01	3	Horizontal	192	1.58	-
5310MHz	Pass	PK	15.91542G	52.60	74.00	-21.40	14.99	3	Horizontal	283	1.18	-
5510MHz	Pass	AV	5.456G	47.65	54.00	-6.35	4.45	3	Vertical	157	1.46	-
5510MHz	Pass	AV	5.516G	100.67	Inf	-Inf	4.53	3	Vertical	157	1.46	-
5510MHz	Pass	PK	5.466G	66.54	68.20	-1.66	4.46	3	Vertical	157	1.46	-
5510MHz	Pass	PK	5.5156G	109.69	Inf	-Inf	4.53	3	Vertical	157	1.46	-
5510MHz	Pass	AV	5.4576G	47.83	54.00	-6.17	4.45	3	Horizontal	320	1.40	-
5510MHz	Pass	AV	5.52G	100.73	Inf	-Inf	4.55	3	Horizontal	320	1.40	-
5510MHz	Pass	PK	5.4656G	68.07	68.20	-0.13	4.46	3	Horizontal	320	1.40	-
5510MHz	Pass	PK	5.5156G	110.61	Inf	-Inf	4.53	3	Horizontal	320	1.40	-
5510MHz	Pass	AV	11.01472G	45.91	54.00	-8.09	15.97	3	Vertical	136	1.94	-
5510MHz	Pass	PK	11.03416G	58.00	74.00	-16.00	15.95	3	Vertical	136	1.94	-
5510MHz	Pass	PK	16.5393G	58.96	68.20	-9.24	16.62	3	Vertical	298	2.26	-
5510MHz	Pass	AV	11.0203G	49.03	54.00	-4.97	15.96	3	Horizontal	143	1.48	-
5510MHz	Pass	PK	11.02084G	63.79	74.00	-10.21	15.96	3	Horizontal	143	1.48	-
5510MHz	Pass	PK	16.53114G	59.01	68.20	-9.19	16.57	3	Horizontal	164	1.71	-
5550MHz	Pass	AV	5.4532G	48.73	54.00	-5.27	4.45	3	Vertical	158	2.12	-
5550MHz	Pass	AV	5.556G	105.58	Inf	-Inf	4.61	3	Vertical	158	2.12	-
5550MHz	Pass	PK	5.4684G	66.12	68.20	-2.08	4.47	3	Vertical	158	2.12	-
5550MHz	Pass	PK	5.5564G	115.50	Inf	-Inf	4.61	3	Vertical	158	2.12	-
5550MHz	Pass	AV	5.46G	50.03	54.00	-3.97	4.46	3	Horizontal	319	1.50	-
5550MHz	Pass	AV	5.5604G	105.65	Inf	-Inf	4.62	3	Horizontal	319	1.50	-
5550MHz	Pass	PK	5.4692G	67.65	68.20	-0.55	4.47	3	Horizontal	319	1.50	-
5550MHz	Pass	PK	5.5648G	115.38	Inf	-Inf	4.63	3	Horizontal	319	1.50	-
5550MHz	Pass	AV	11.09664G	47.64	54.00	-6.36	15.89	3	Vertical	47	1.50	-
5550MHz	Pass	PK	11.1018G	60.31	74.00	-13.69	15.90	3	Vertical	47	1.50	-
5550MHz	Pass	PK	16.64934G	60.56	68.20	-7.64	17.14	3	Vertical	93	1.50	-
5550MHz	Pass	AV	11.09532G	53.88	54.00	-0.12	15.90	3	Horizontal	142	1.15	-
5550MHz	Pass	PK	11.10084G	68.39	74.00	-5.61	15.89	3	Horizontal	142	1.15	-



RSE TX above 1GHz_Non-Beamforming

Appendix D.1

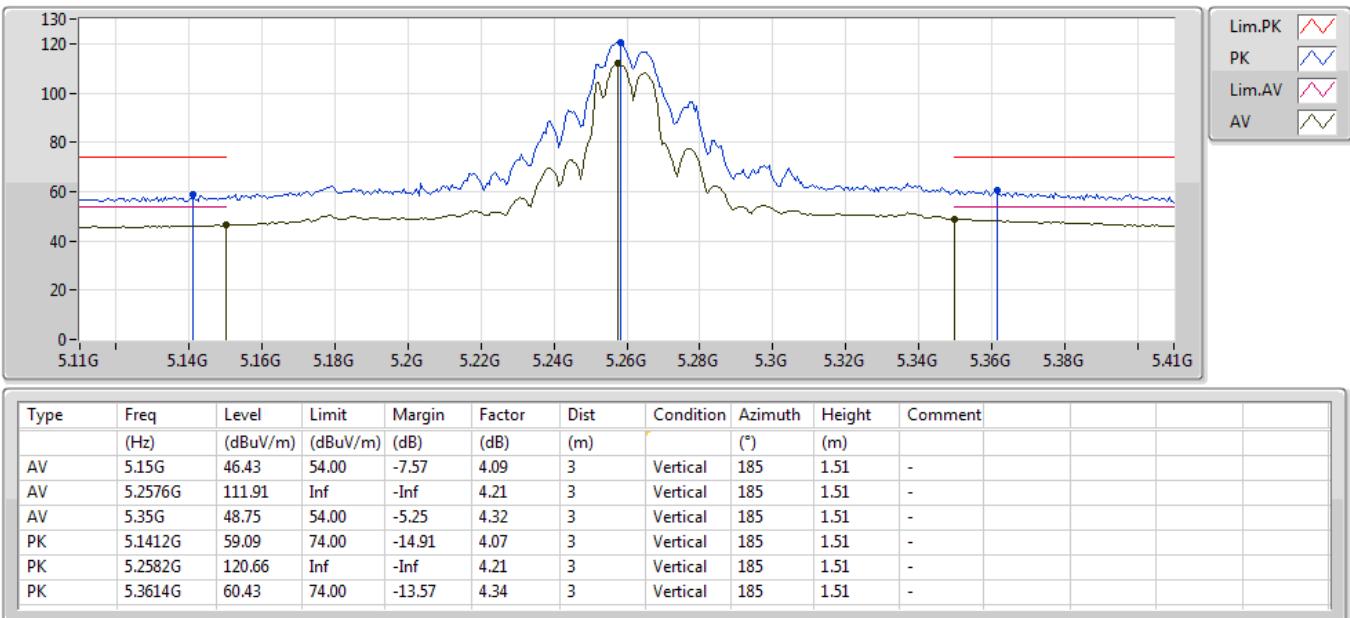
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5550MHz	Pass	PK	16.6533G	60.10	68.20	-8.10	17.16	3	Horizontal	240	1.48	-
5670MHz	Pass	AV	5.679G	101.99	Inf	-Inf	4.87	3	Vertical	229	1.50	-
5670MHz	Pass	PK	5.6784G	111.08	Inf	-Inf	4.87	3	Vertical	229	1.50	-
5670MHz	Pass	PK	5.7258G	67.71	68.20	-0.49	4.96	3	Vertical	229	1.50	-
5670MHz	Pass	AV	5.6754G	103.32	Inf	-Inf	4.86	3	Horizontal	318	1.50	-
5670MHz	Pass	PK	5.6748G	112.89	Inf	-Inf	4.85	3	Horizontal	318	1.50	-
5670MHz	Pass	PK	5.7264G	68.10	68.20	-0.10	4.96	3	Horizontal	318	1.50	-
5670MHz	Pass	AV	11.34618G	45.35	54.00	-8.65	15.69	3	Vertical	29	1.46	-
5670MHz	Pass	PK	11.34342G	57.16	74.00	-16.84	15.69	3	Vertical	29	1.46	-
5670MHz	Pass	PK	17.01366G	61.54	68.20	-6.66	18.90	3	Vertical	295	1.88	-
5670MHz	Pass	AV	11.33416G	46.42	54.00	-7.58	15.69	3	Horizontal	64	1.56	-
5670MHz	Pass	PK	11.33968G	58.93	74.00	-15.07	15.69	3	Horizontal	64	1.56	-
5670MHz	Pass	PK	16.99962G	61.13	68.20	-7.07	18.80	3	Horizontal	176	1.38	-
802.11ac VHT80_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-	-	-	-	-
5290MHz	Pass	AV	5.097G	45.82	54.00	-8.18	4.02	3	Vertical	247	1.50	-
5290MHz	Pass	AV	5.305G	98.06	Inf	-Inf	4.27	3	Vertical	247	1.50	-
5290MHz	Pass	AV	5.355G	53.59	54.00	-0.41	4.32	3	Vertical	247	1.50	-
5290MHz	Pass	PK	5.122G	57.88	74.00	-16.12	4.05	3	Vertical	247	1.50	-
5290MHz	Pass	PK	5.3G	107.04	Inf	-Inf	4.26	3	Vertical	247	1.50	-
5290MHz	Pass	PK	5.354G	73.87	74.00	-0.13	4.32	3	Vertical	247	1.50	-
5290MHz	Pass	AV	5.098G	45.73	54.00	-8.27	4.02	3	Horizontal	350	1.50	-
5290MHz	Pass	AV	5.298G	95.00	Inf	-Inf	4.26	3	Horizontal	350	1.50	-
5290MHz	Pass	AV	5.352G	52.02	54.00	-1.98	4.32	3	Horizontal	350	1.50	-
5290MHz	Pass	PK	5.079G	57.15	74.00	-16.85	4.00	3	Horizontal	350	1.50	-
5290MHz	Pass	PK	5.298G	104.33	Inf	-Inf	4.26	3	Horizontal	350	1.50	-
5290MHz	Pass	PK	5.352G	69.29	74.00	-4.71	4.32	3	Horizontal	350	1.50	-
5290MHz	Pass	AV	10.58438G	44.87	Inf	-Inf	14.91	3	Vertical	99	1.50	-
5290MHz	Pass	AV	15.8778G	45.87	54.00	-8.13	15.15	3	Vertical	73	1.05	-
5290MHz	Pass	PK	10.59368G	57.08	68.20	-11.12	14.93	3	Vertical	99	1.50	-
5290MHz	Pass	PK	15.86226G	57.69	74.00	-16.31	15.22	3	Vertical	73	1.05	-
5290MHz	Pass	AV	10.59044G	44.63	Inf	-Inf	14.93	3	Horizontal	258	1.50	-
5290MHz	Pass	AV	15.87978G	46.20	54.00	-7.80	15.14	3	Horizontal	111	2.14	-
5290MHz	Pass	PK	10.58228G	57.26	68.20	-10.94	14.90	3	Horizontal	258	1.50	-
5290MHz	Pass	PK	15.87234G	58.53	74.00	-15.47	15.18	3	Horizontal	111	2.14	-
5530MHz	Pass	AV	5.456G	49.32	54.00	-4.68	4.45	3	Vertical	217	1.50	-
5530MHz	Pass	AV	5.541G	96.63	Inf	-Inf	4.59	3	Vertical	217	1.50	-
5530MHz	Pass	PK	5.466G	67.28	68.20	-0.92	4.46	3	Vertical	217	1.50	-
5530MHz	Pass	PK	5.541G	106.32	Inf	-Inf	4.59	3	Vertical	217	1.50	-
5530MHz	Pass	PK	5.778G	58.23	68.20	-9.97	5.06	3	Vertical	217	1.50	-
5530MHz	Pass	AV	5.46G	48.41	54.00	-5.59	4.46	3	Horizontal	17	1.48	-
5530MHz	Pass	AV	5.56G	95.51	Inf	-Inf	4.62	3	Horizontal	17	1.48	-
5530MHz	Pass	PK	5.461G	63.67	68.20	-4.53	4.46	3	Horizontal	17	1.48	-
5530MHz	Pass	PK	5.546G	105.84	Inf	-Inf	4.59	3	Horizontal	17	1.48	-
5530MHz	Pass	PK	5.729G	58.67	68.20	-9.53	4.96	3	Horizontal	17	1.48	-
5530MHz	Pass	AV	11.05178G	45.42	54.00	-8.58	15.94	3	Vertical	88	1.10	-
5530MHz	Pass	PK	11.0678G	58.06	74.00	-15.94	15.92	3	Vertical	88	1.10	-
5530MHz	Pass	PK	16.59132G	60.07	68.20	-8.13	16.86	3	Vertical	95	1.86	-
5530MHz	Pass	AV	11.06036G	46.92	54.00	-7.08	15.93	3	Horizontal	193	1.83	-
5530MHz	Pass	PK	11.04782G	58.77	74.00	-15.23	15.94	3	Horizontal	193	1.83	-



Mode	Result	Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comments
5530MHz	Pass	PK	16.59888G	59.81	68.20	-8.39	16.91	3	Horizontal	25	1.36	-
5610MHz	Pass	AV	5.456G	46.01	54.00	-7.99	4.45	3	Vertical	219	2.95	-
5610MHz	Pass	AV	5.626G	101.34	Inf	-Inf	4.77	3	Vertical	219	2.95	-
5610MHz	Pass	PK	5.464G	61.28	68.20	-6.92	4.46	3	Vertical	219	2.95	-
5610MHz	Pass	PK	5.621G	111.11	Inf	-Inf	4.75	3	Vertical	219	2.95	-
5610MHz	Pass	PK	5.726G	67.64	68.20	-0.56	4.96	3	Vertical	219	2.95	-
5610MHz	Pass	AV	5.46G	47.13	54.00	-6.87	4.46	3	Horizontal	15	1.35	-
5610MHz	Pass	AV	5.625G	101.39	Inf	-Inf	4.76	3	Horizontal	15	1.35	-
5610MHz	Pass	PK	5.465G	63.66	68.20	-4.54	4.46	3	Horizontal	15	1.35	-
5610MHz	Pass	PK	5.625G	111.42	Inf	-Inf	4.76	3	Horizontal	15	1.35	-
5610MHz	Pass	PK	5.74G	67.56	68.20	-0.64	4.99	3	Horizontal	15	1.35	-
5610MHz	Pass	AV	11.22702G	45.44	54.00	-8.56	15.79	3	Vertical	84	1.32	-
5610MHz	Pass	PK	11.2218G	57.04	74.00	-16.96	15.79	3	Vertical	84	1.32	-
5610MHz	Pass	PK	16.83102G	60.80	68.20	-7.40	17.99	3	Vertical	285	2.35	-
5610MHz	Pass	AV	11.2152G	46.76	54.00	-7.24	15.80	3	Horizontal	193	1.50	-
5610MHz	Pass	PK	11.21982G	59.47	74.00	-14.53	15.79	3	Horizontal	193	1.50	-
5610MHz	Pass	PK	16.8276G	61.10	68.20	-7.10	17.98	3	Horizontal	221	1.67	-

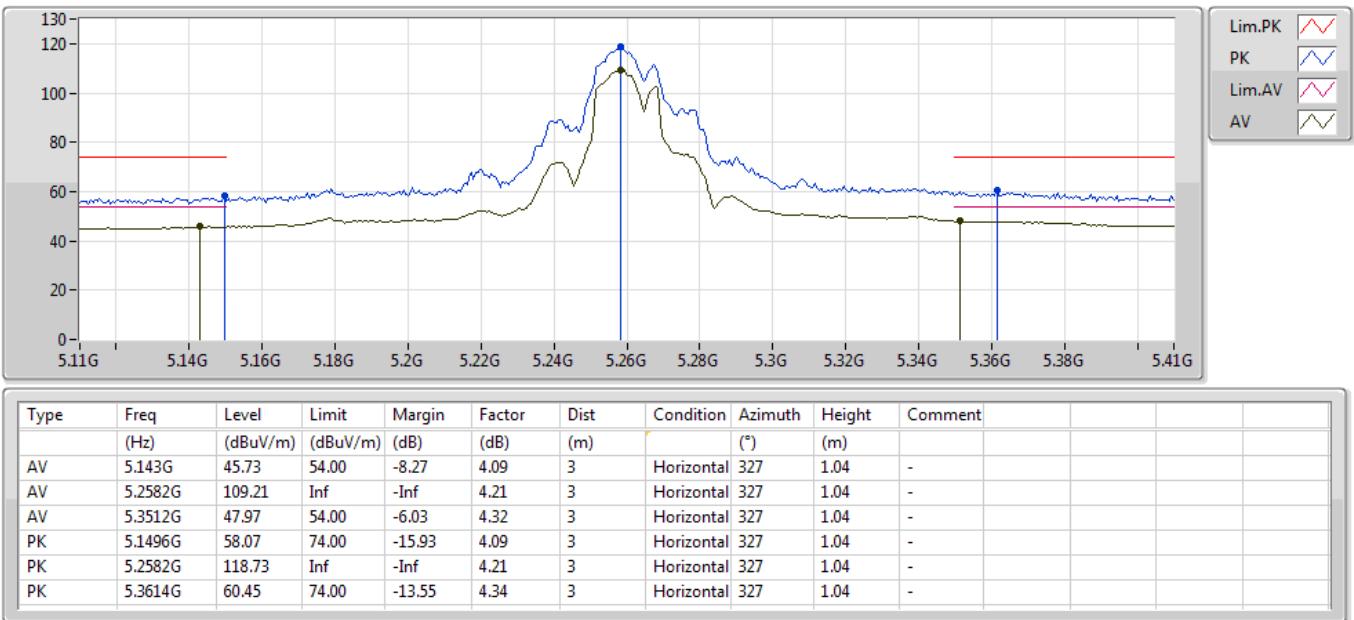
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24/04/2019

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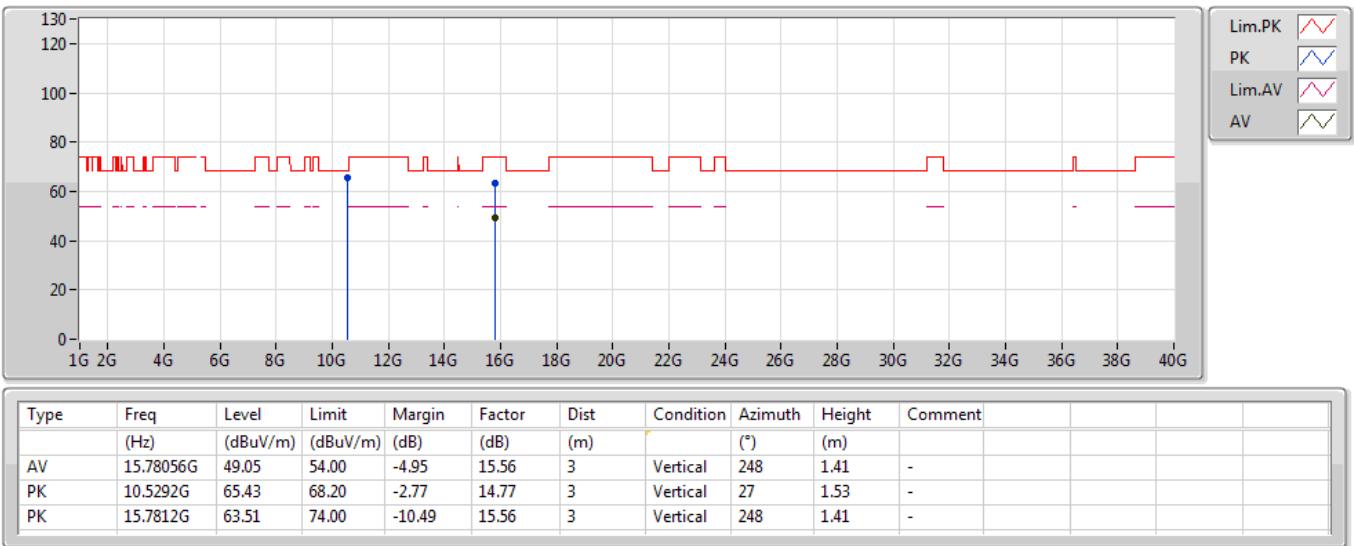
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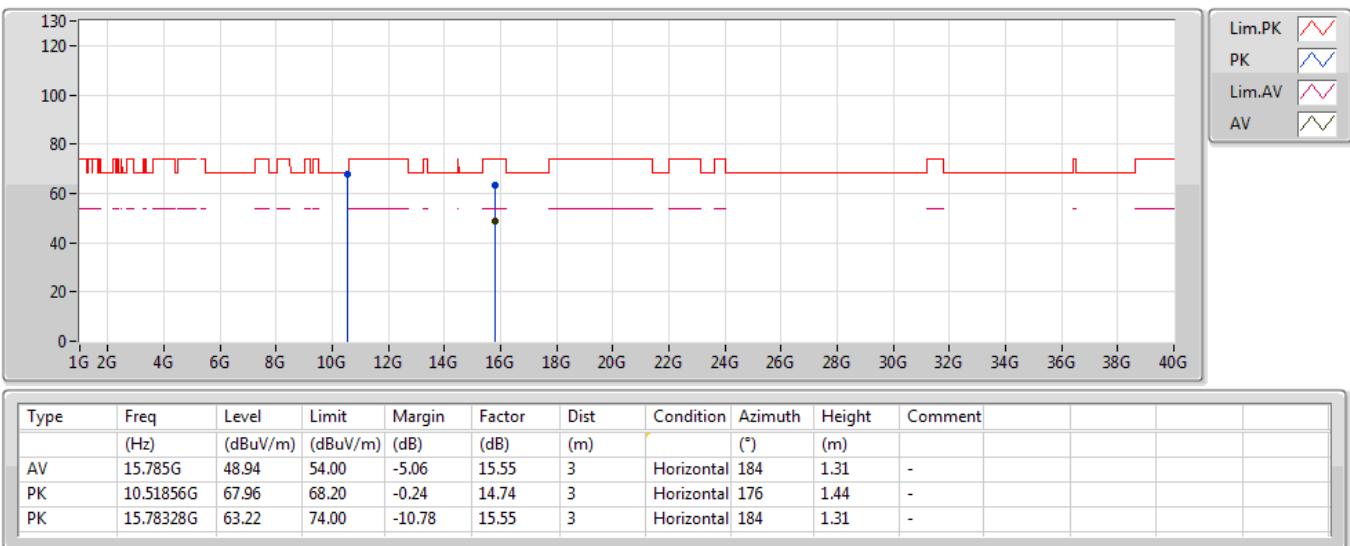
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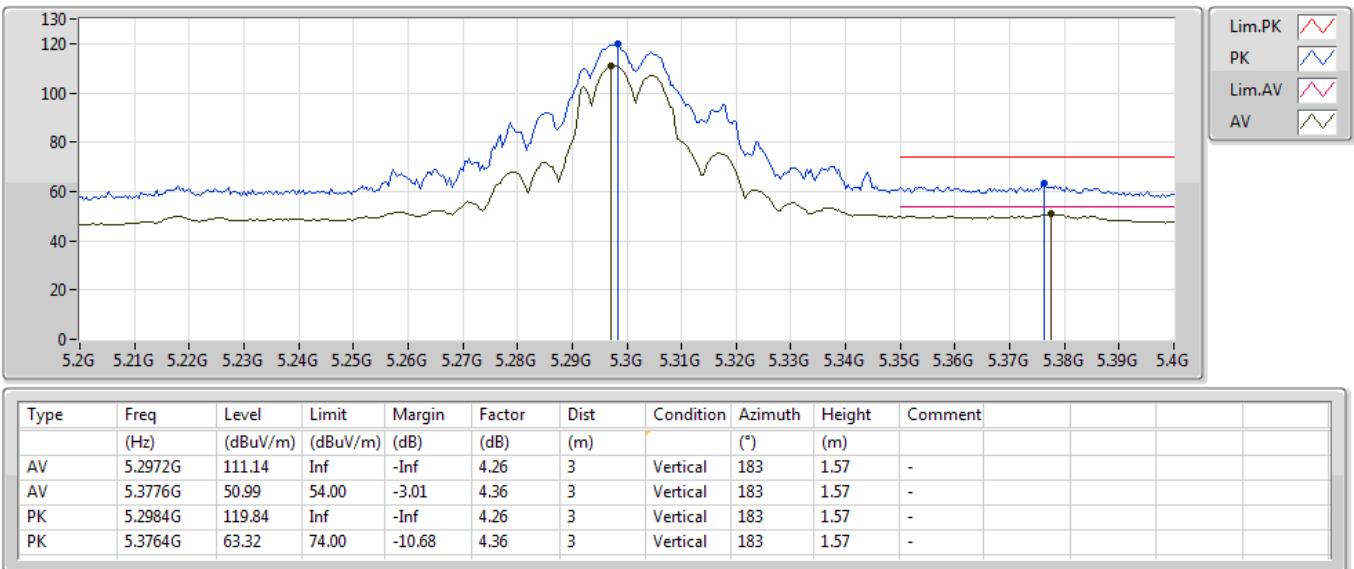
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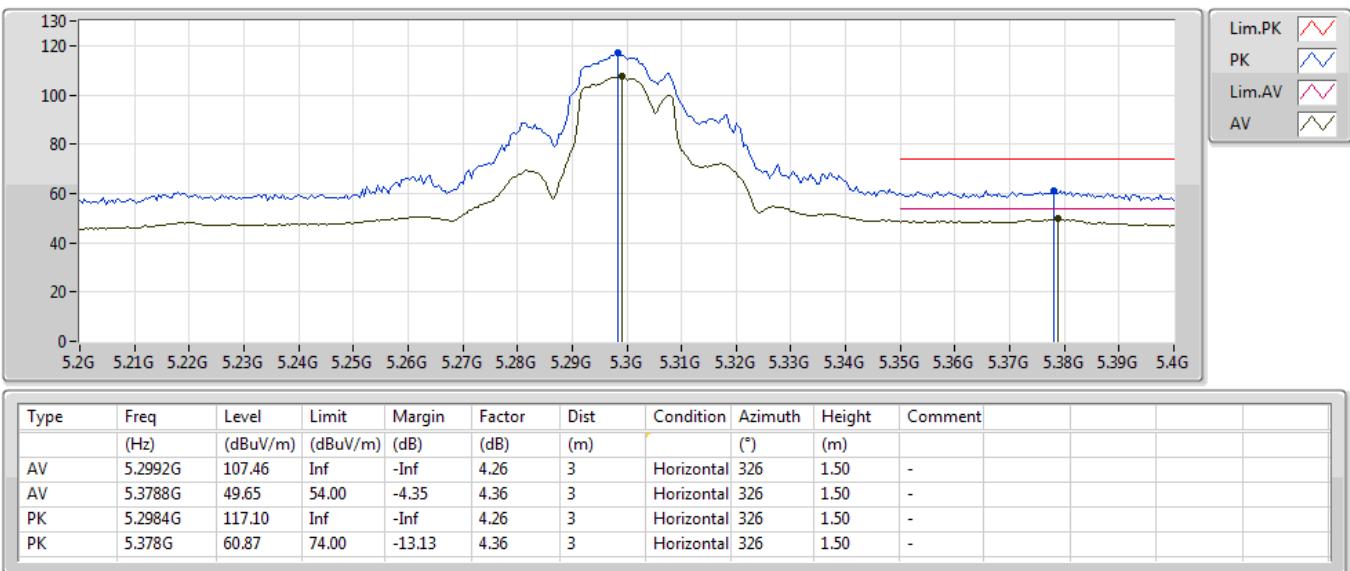
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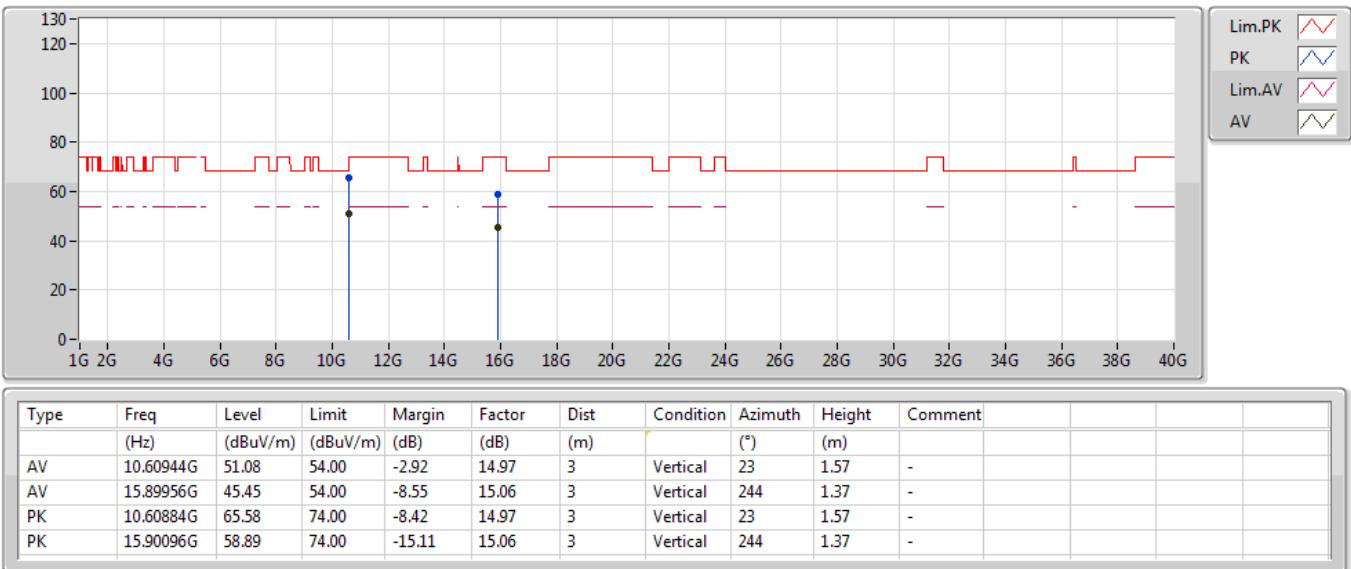
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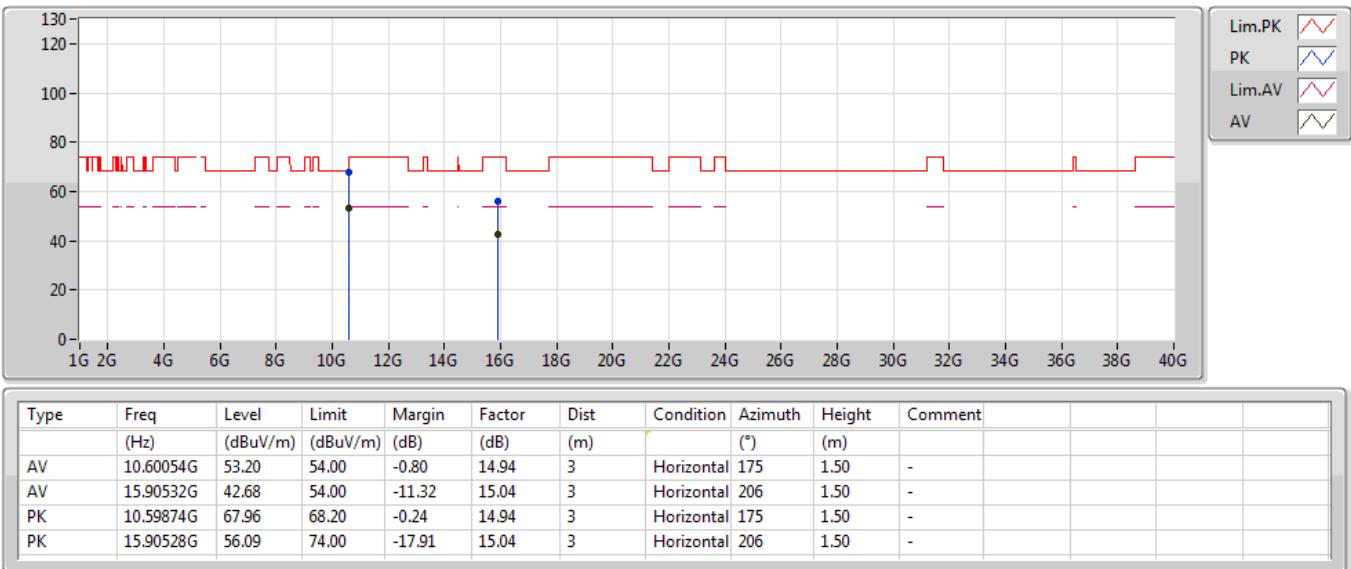
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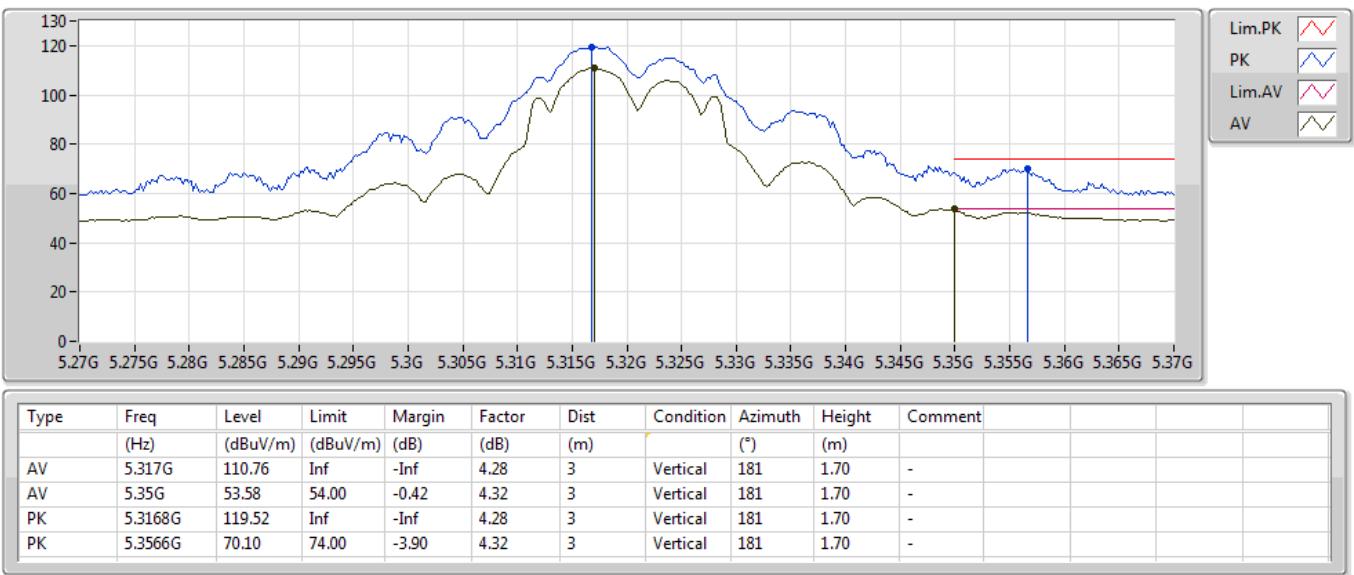
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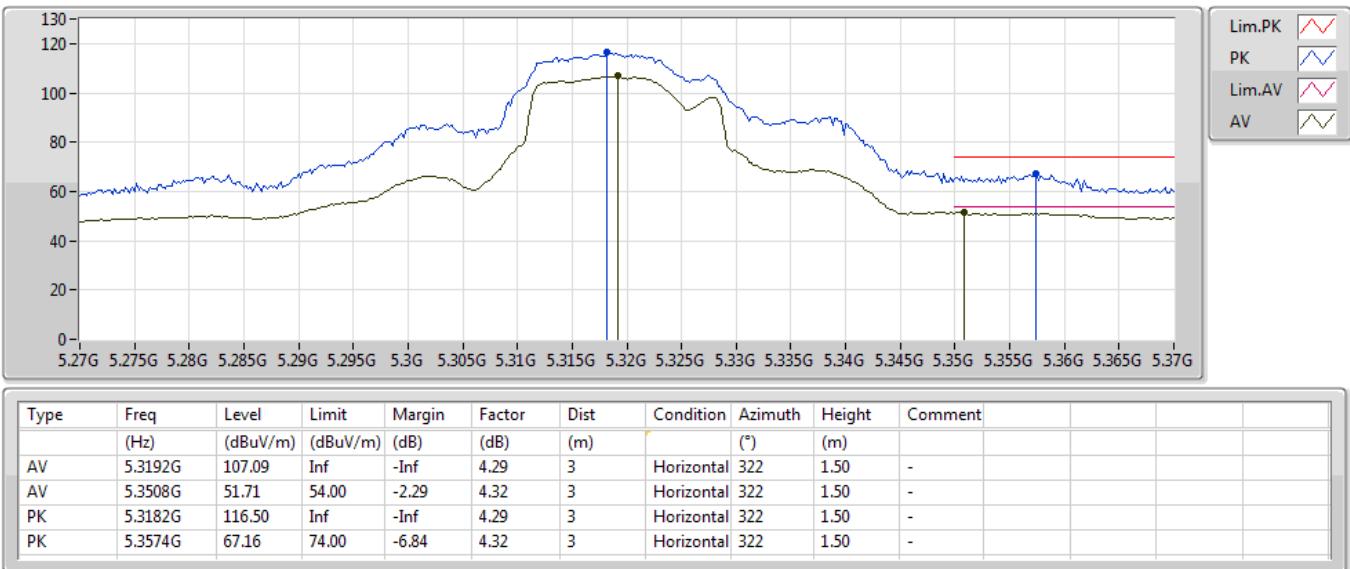
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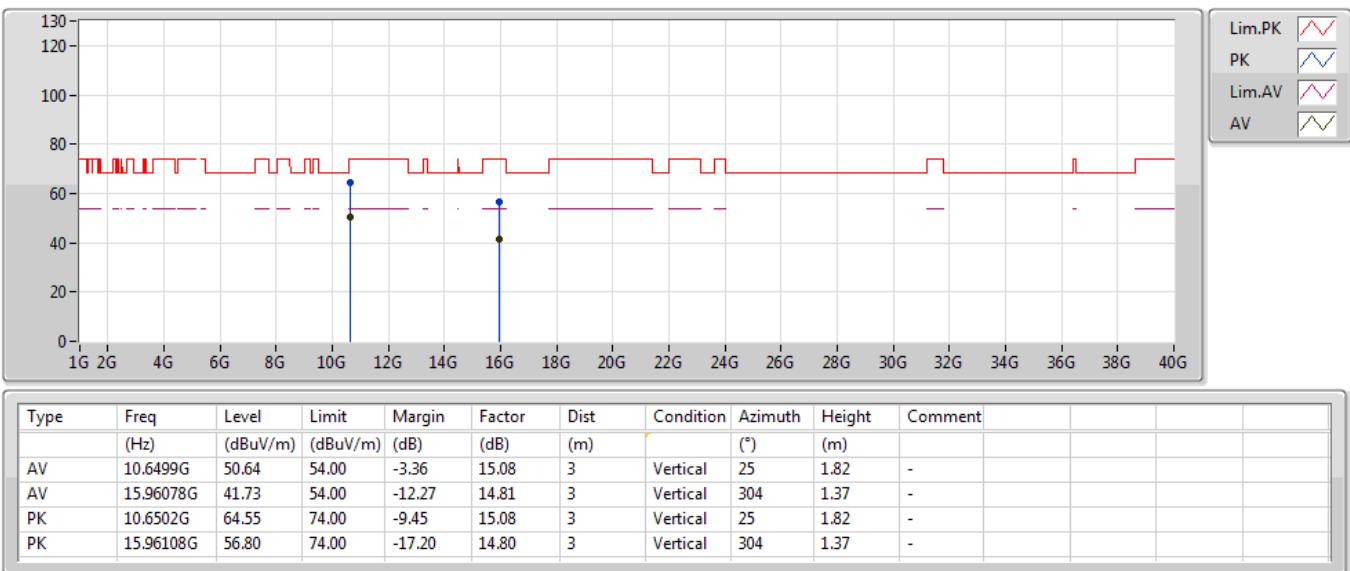
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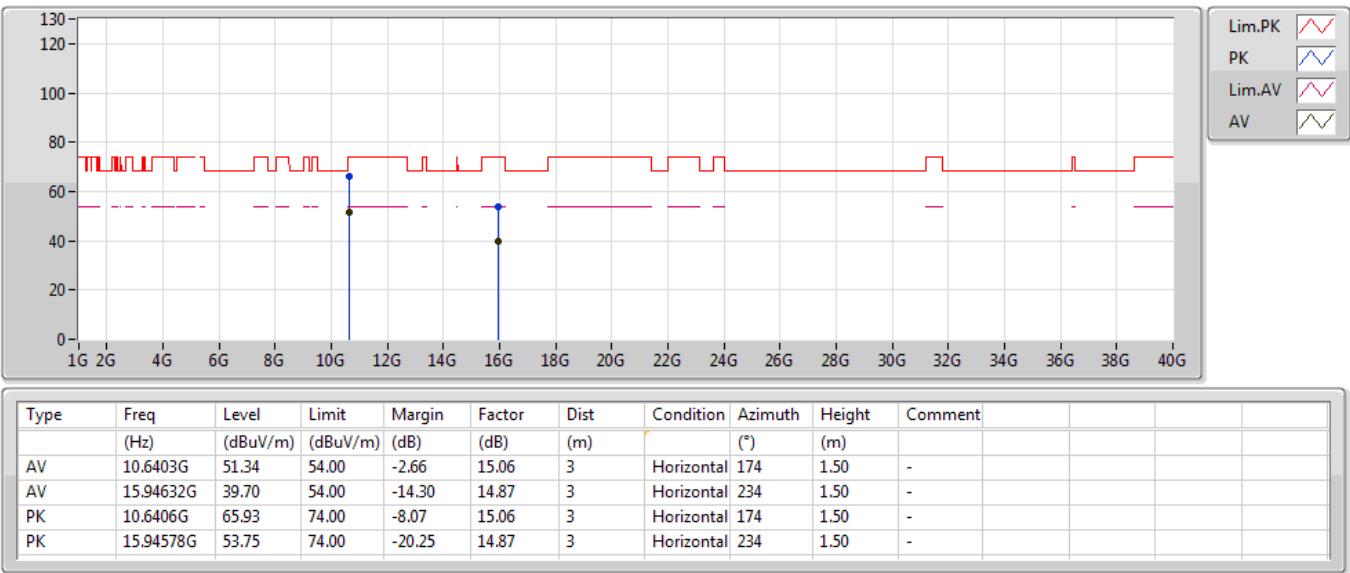
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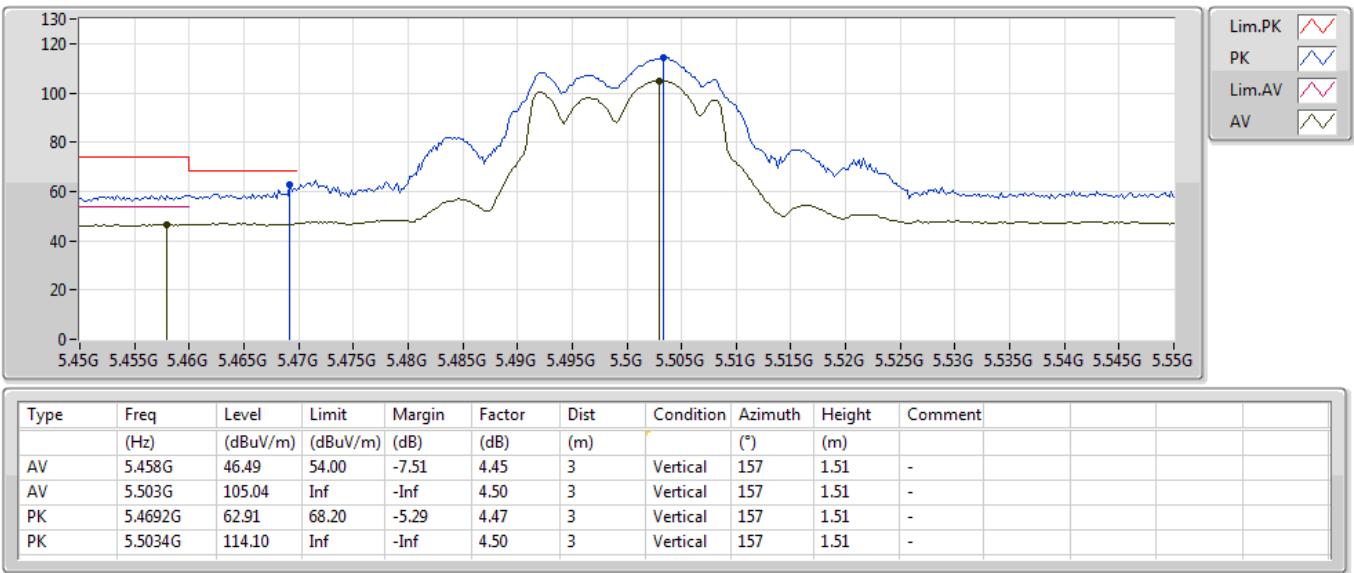
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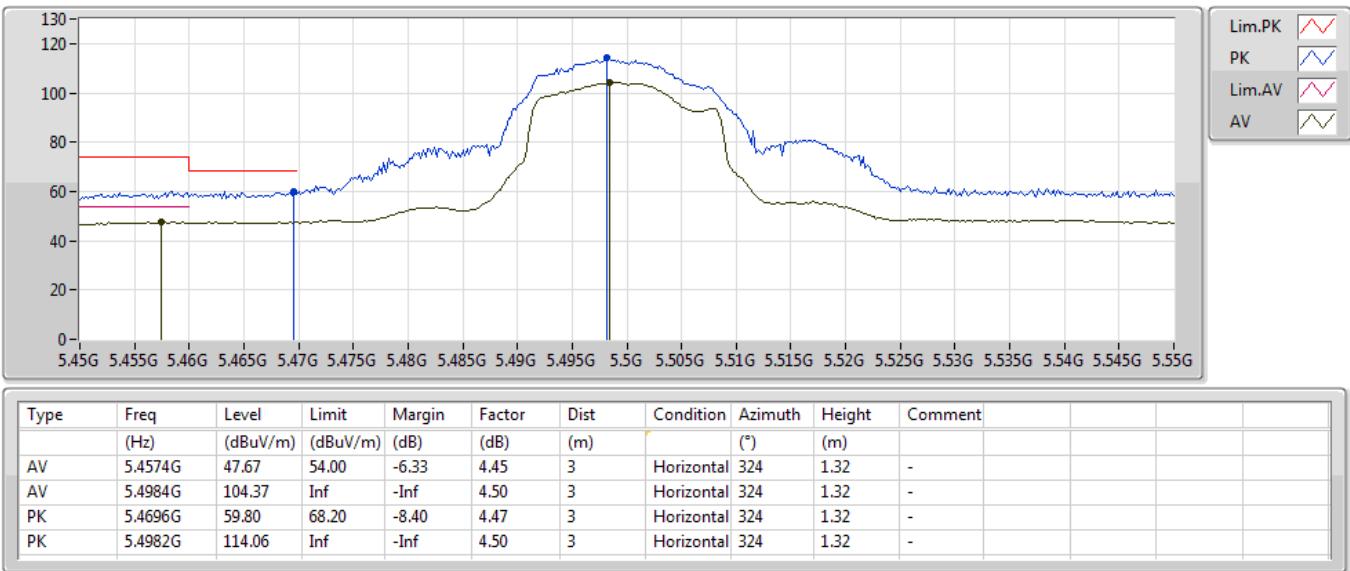
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5500MHz_TX


802.11a_Nss1,(6Mbps)_4TX

24/04/2019

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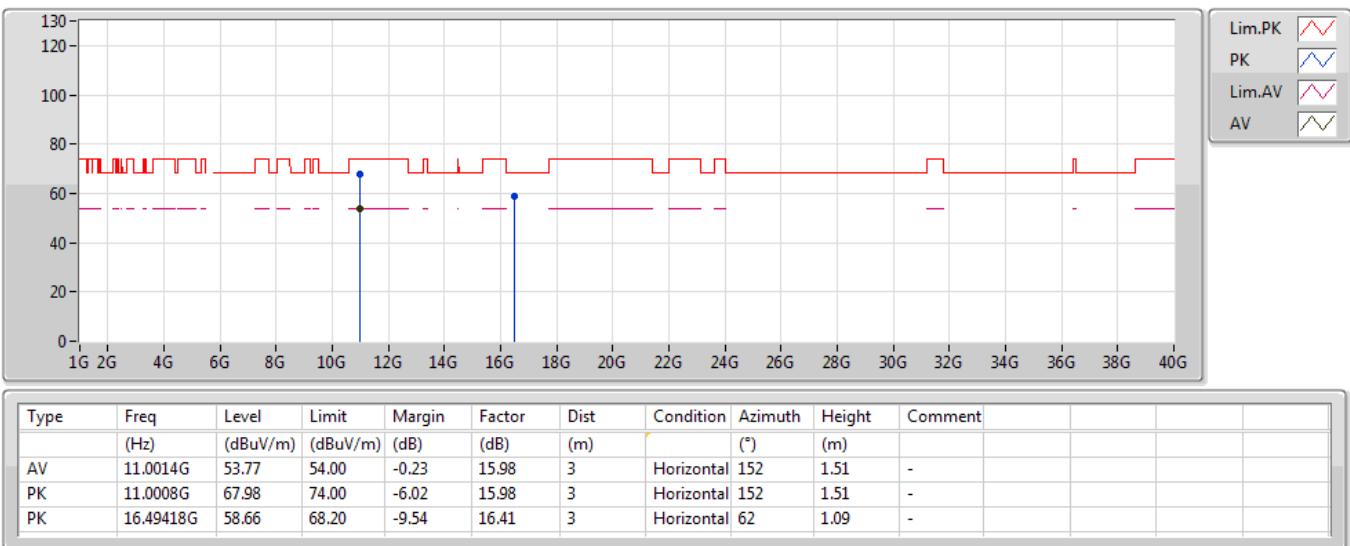
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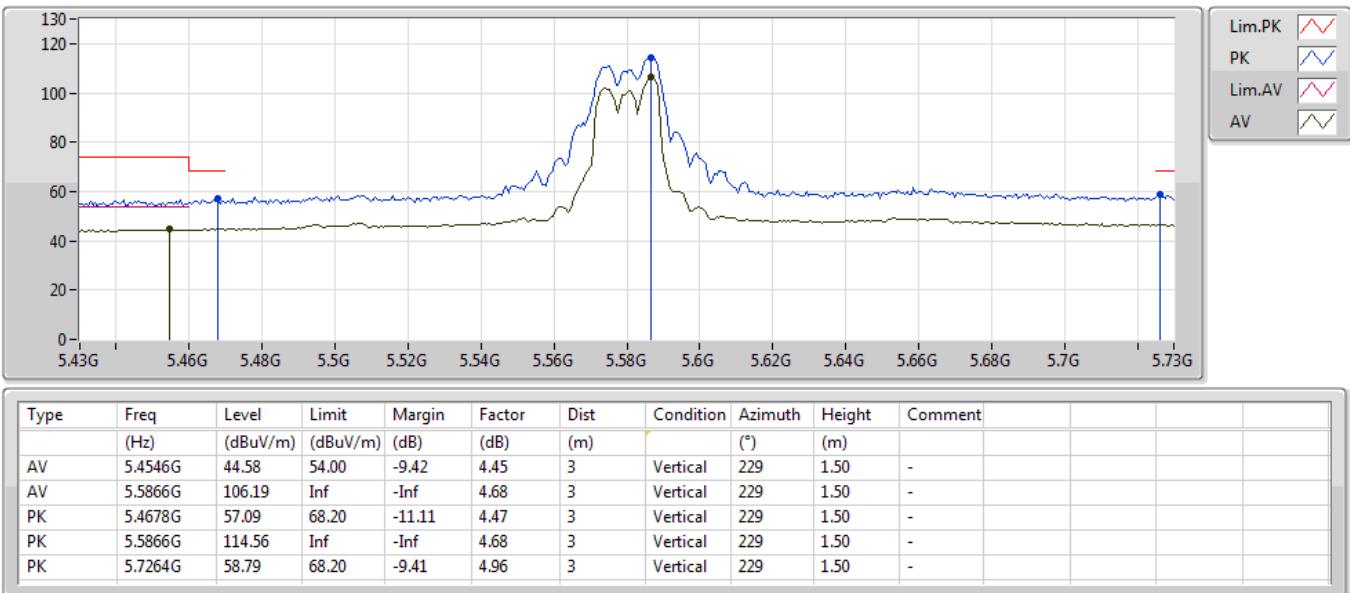

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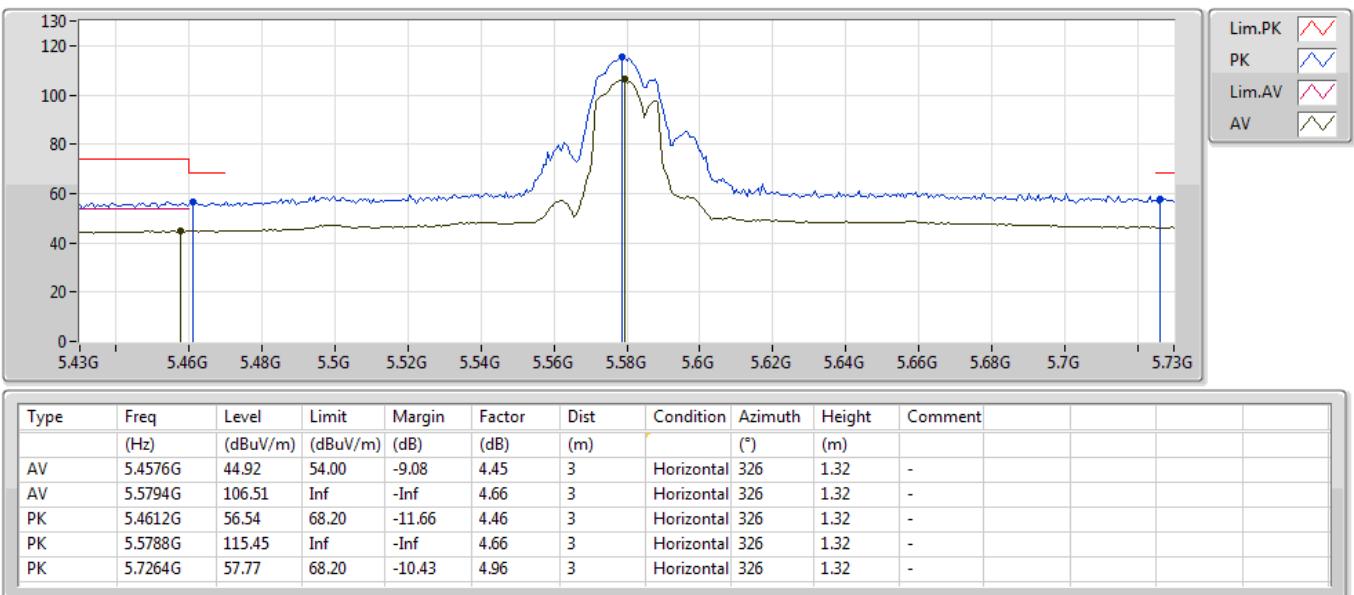
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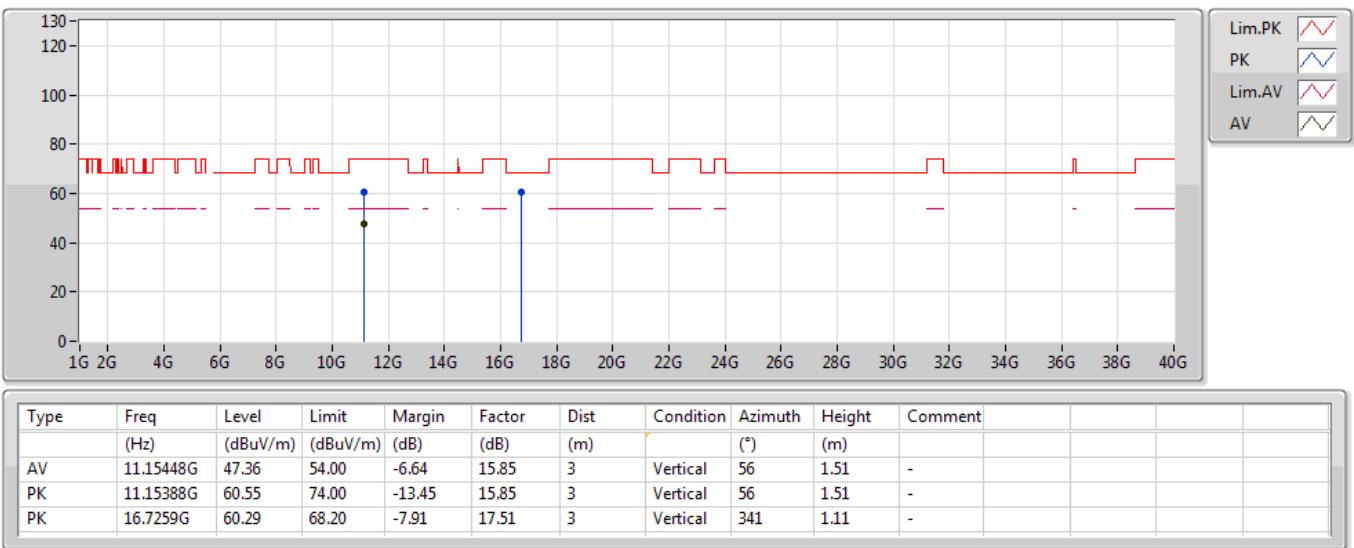
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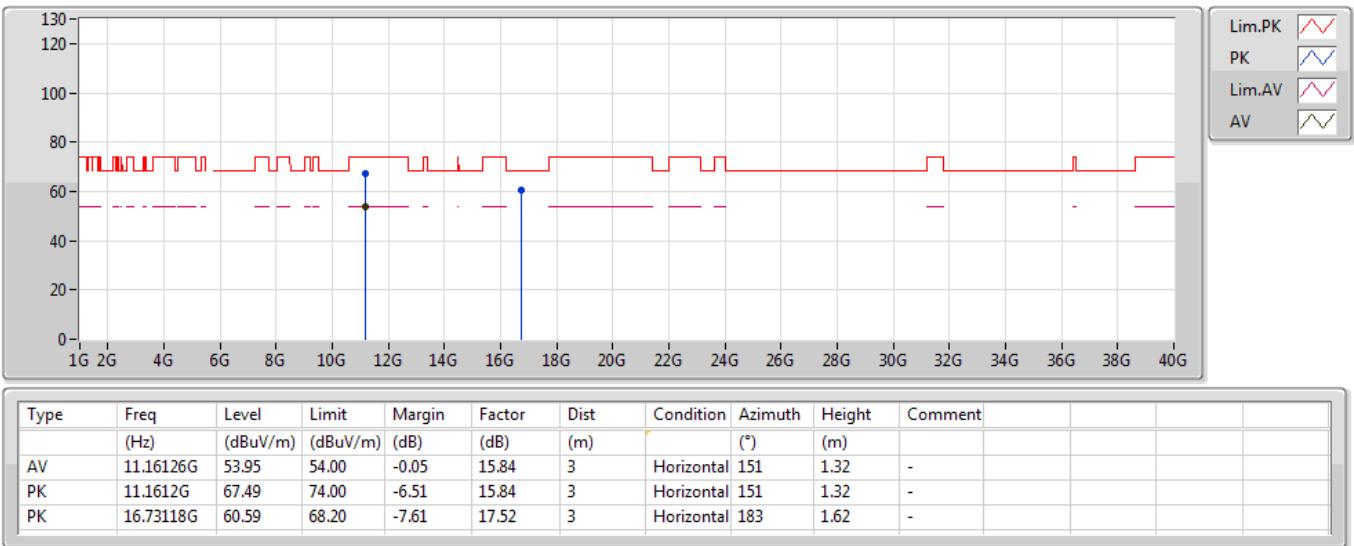
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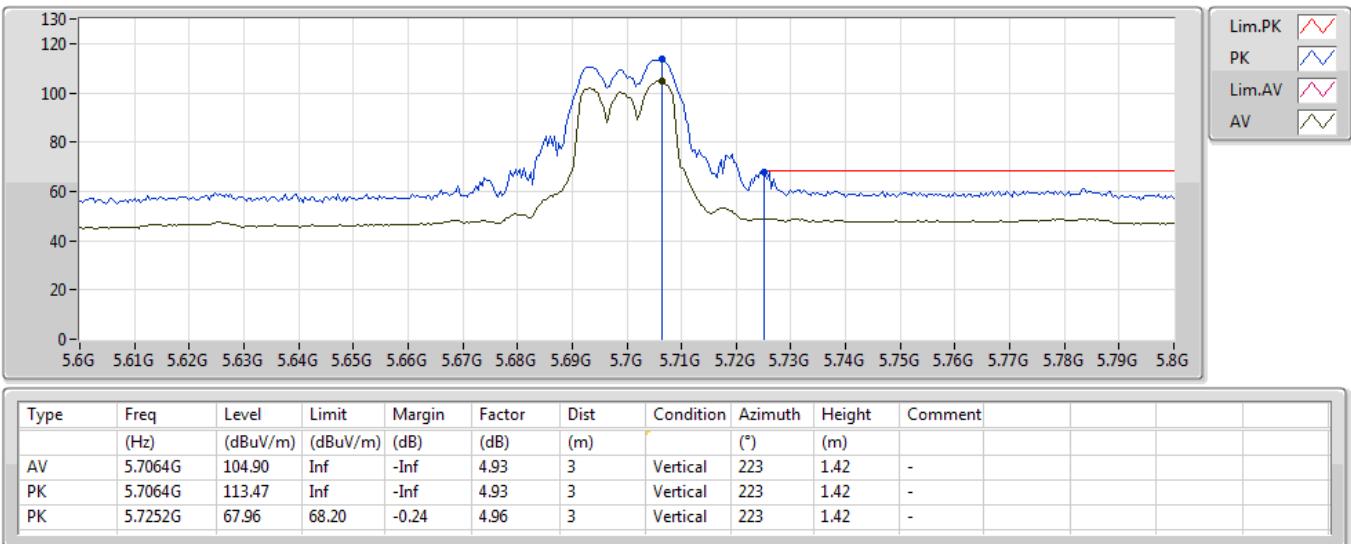
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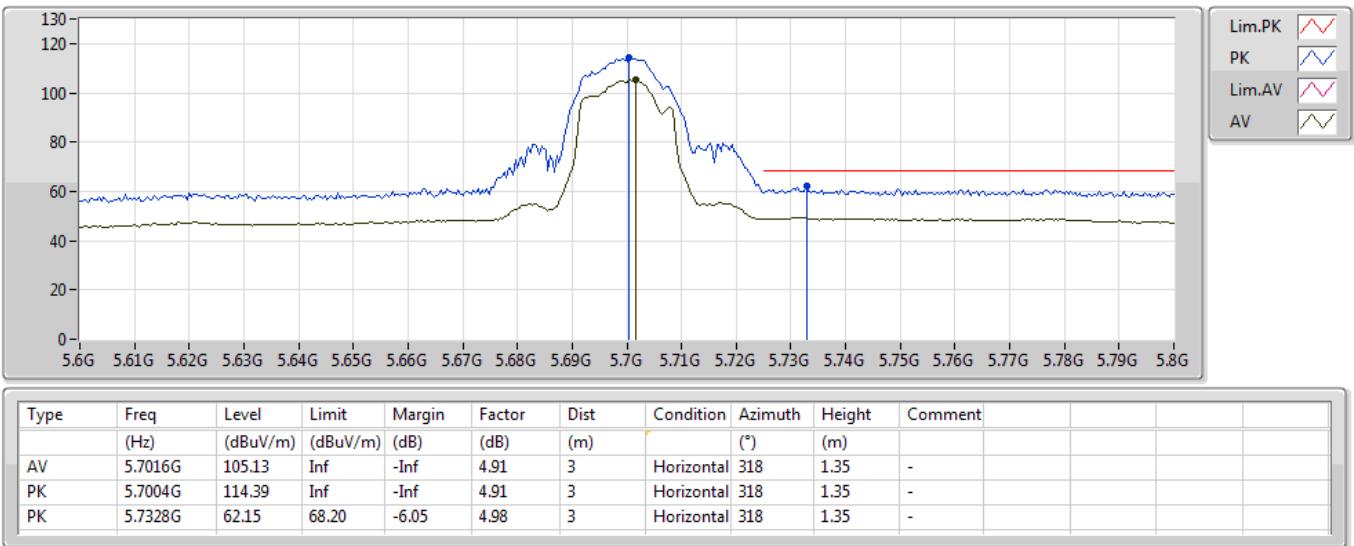
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24/04/2019

5700MHz_TX


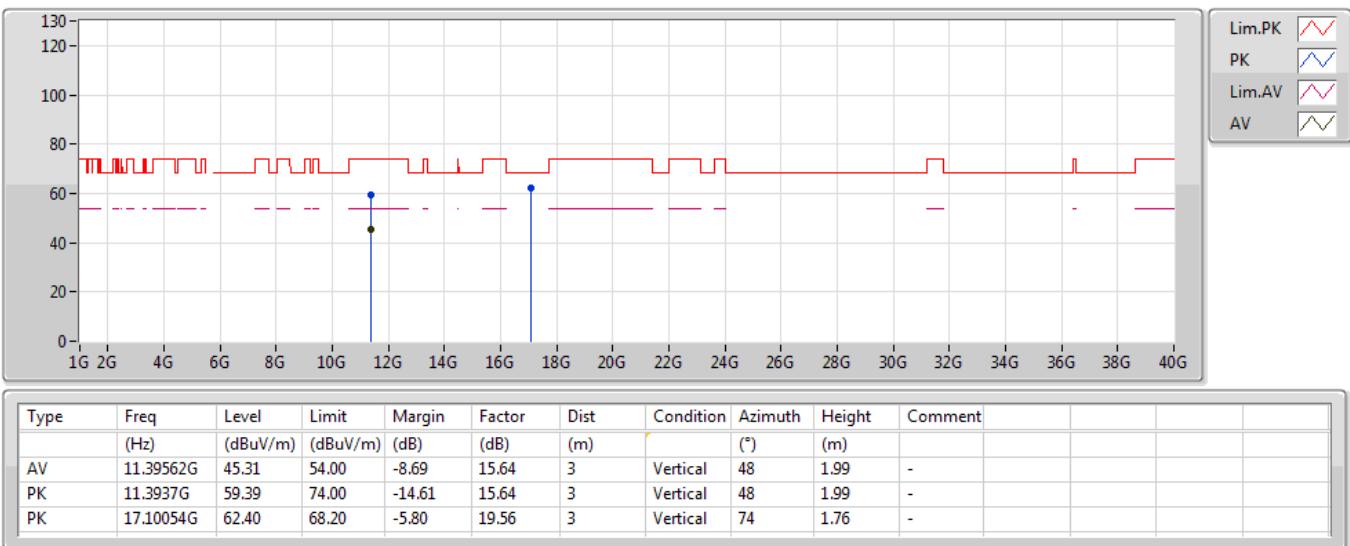
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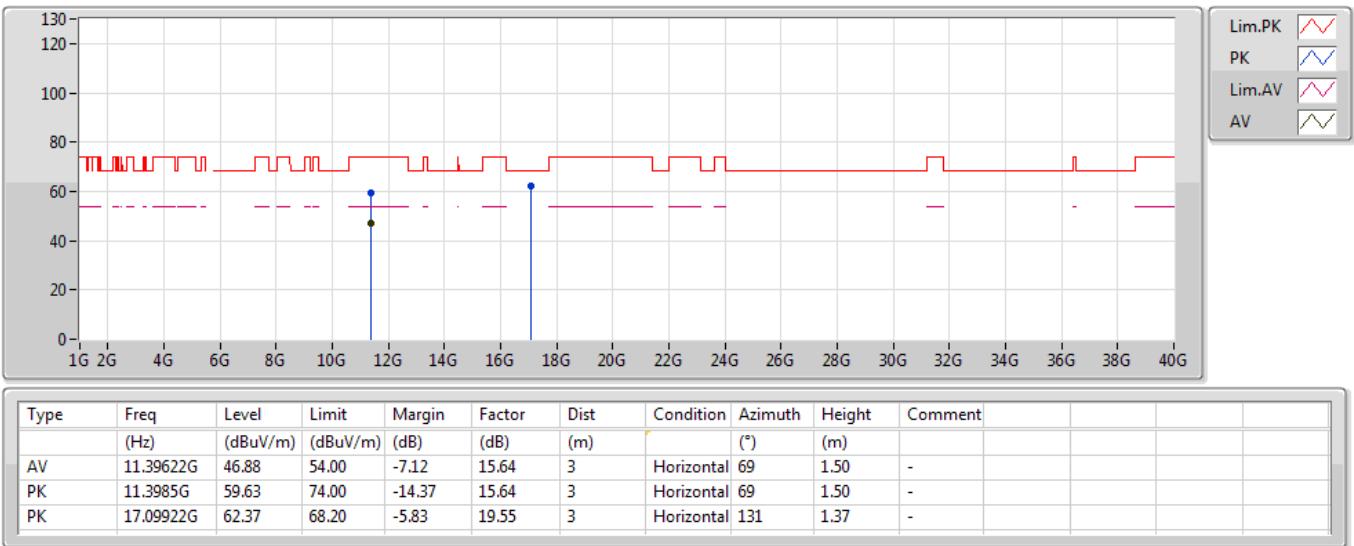
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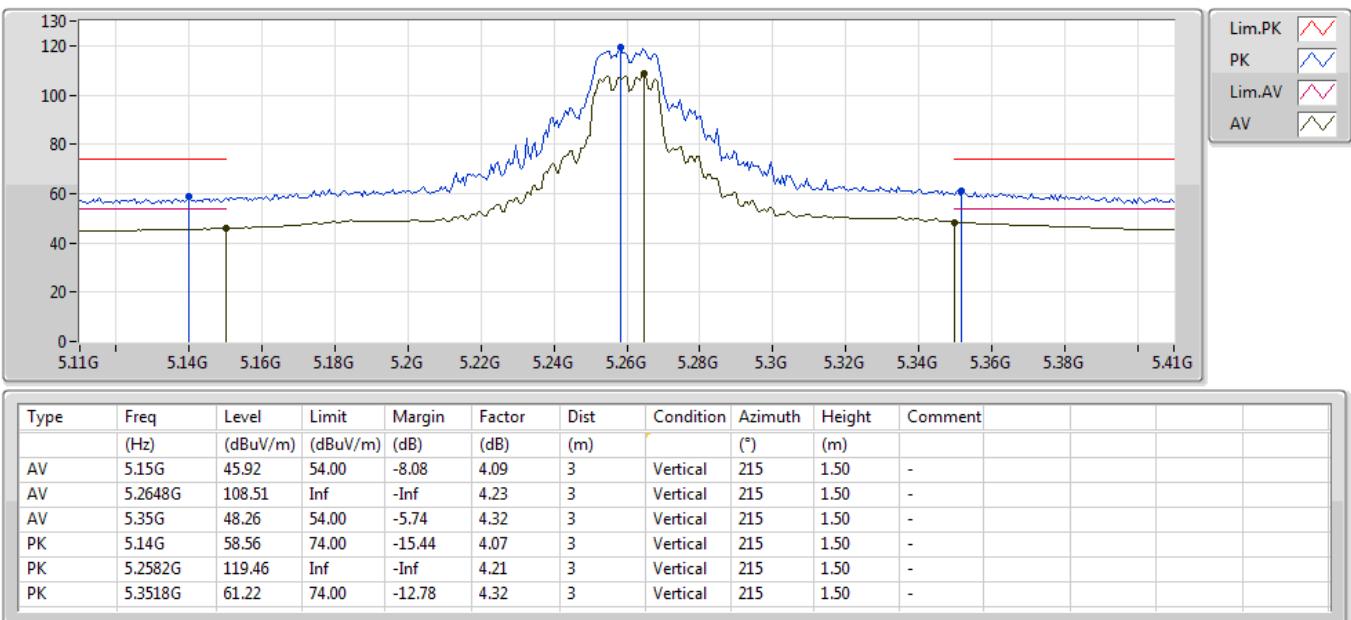
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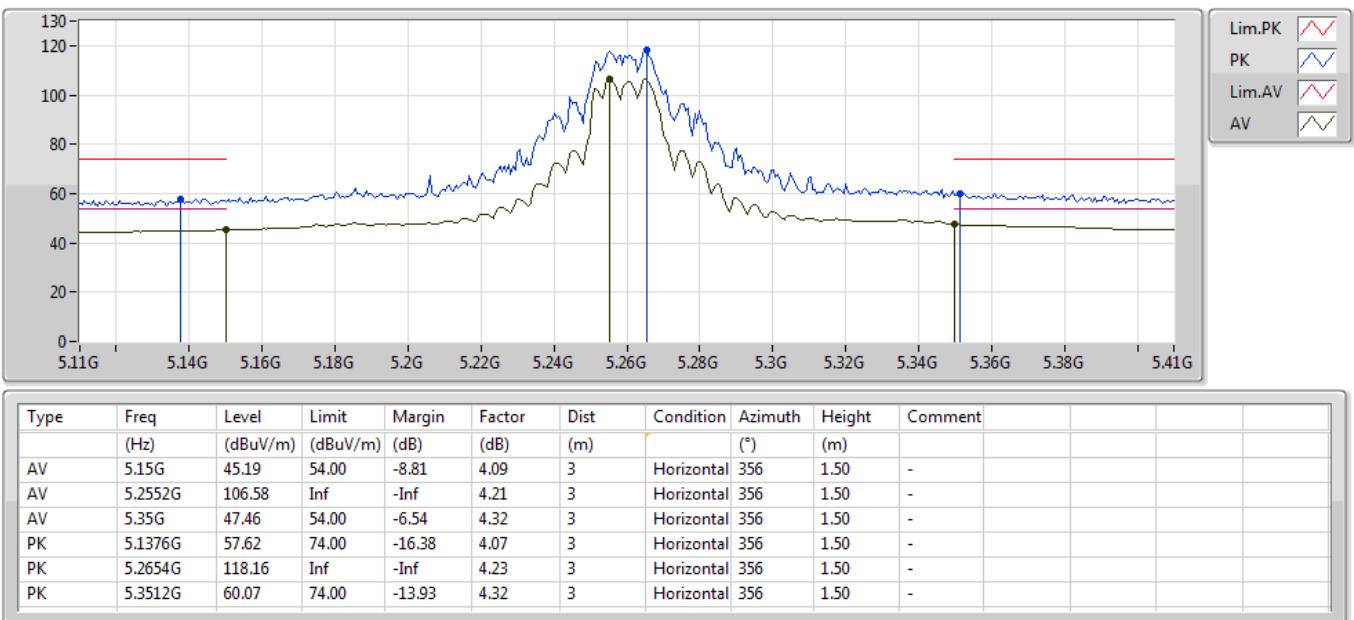
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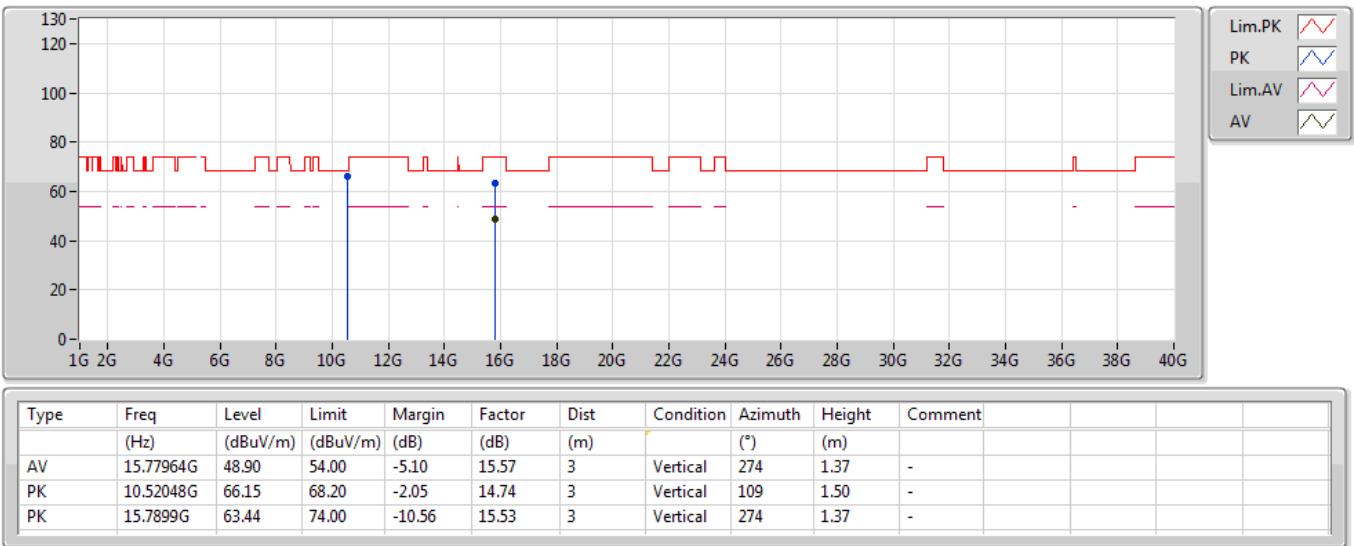
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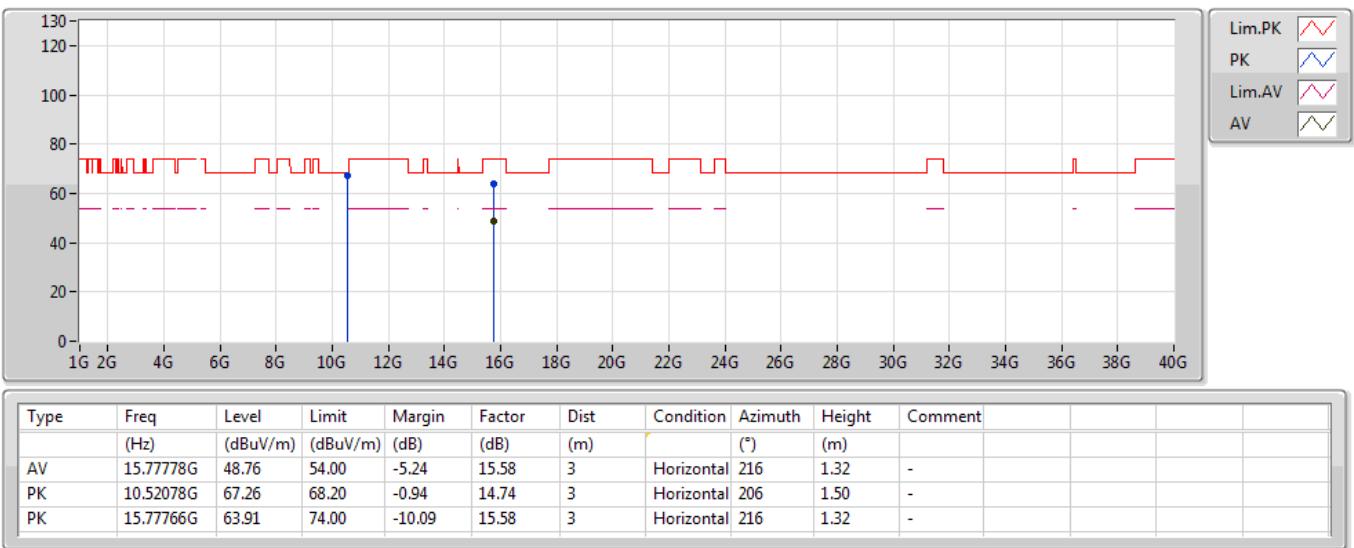
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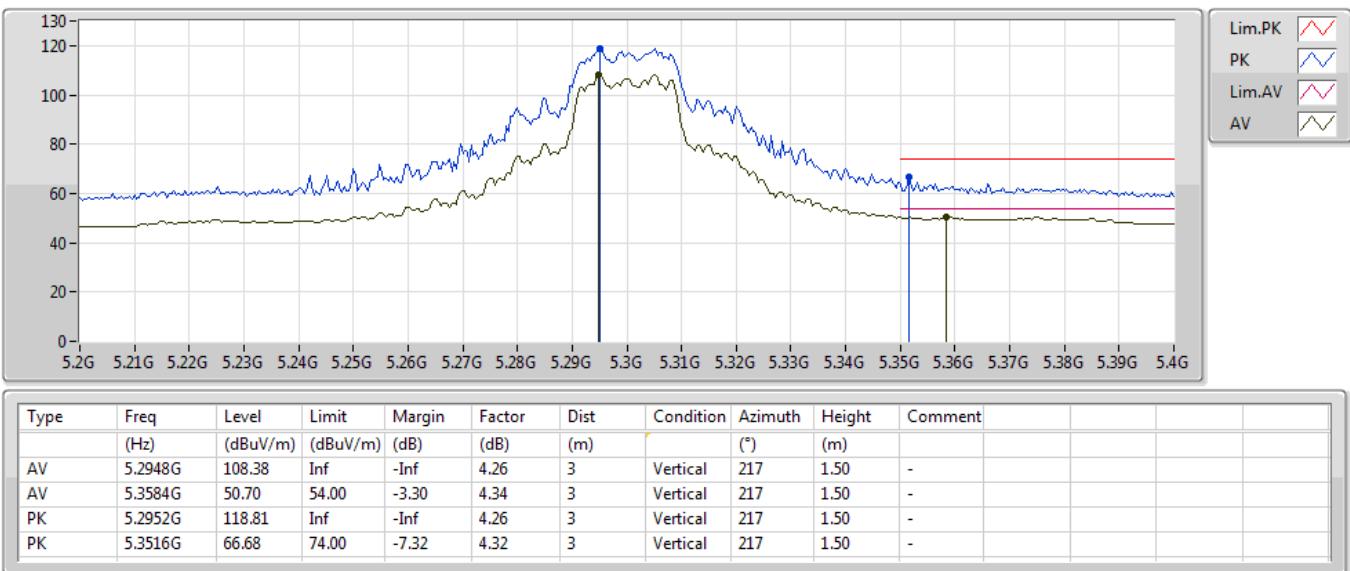
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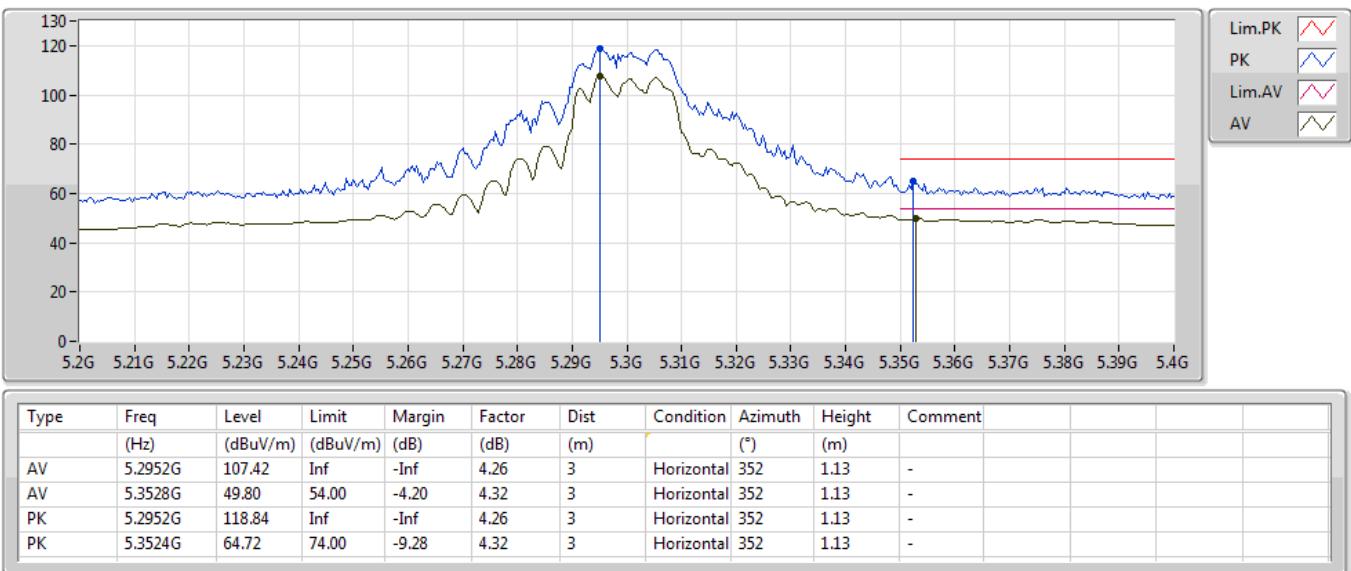
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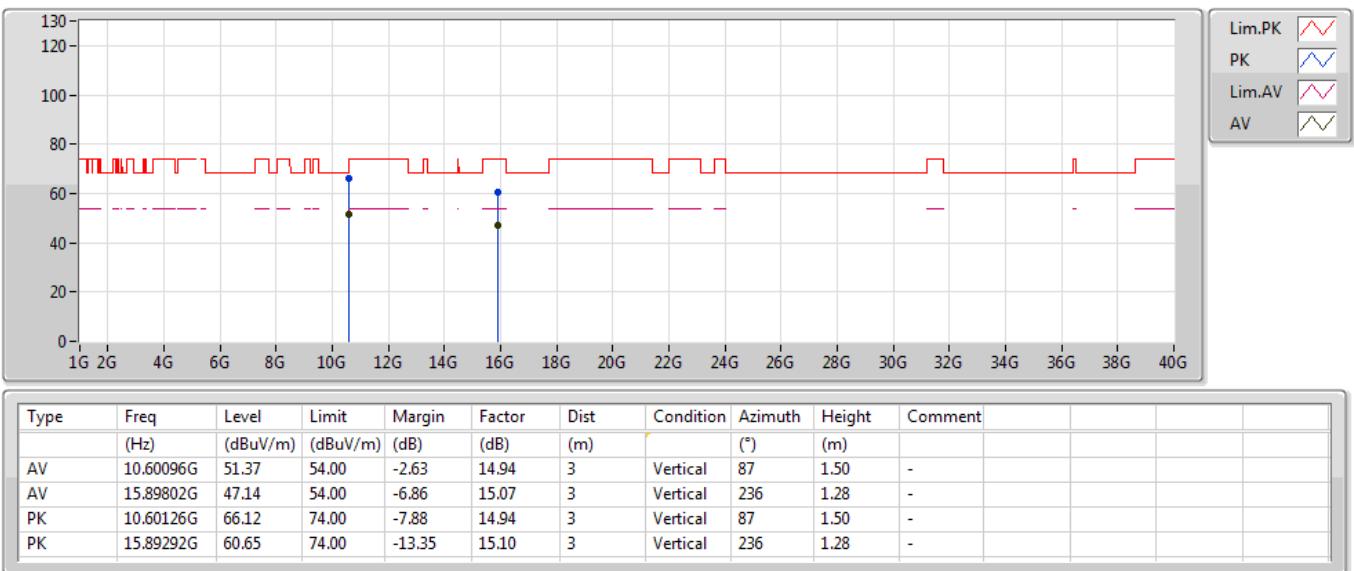
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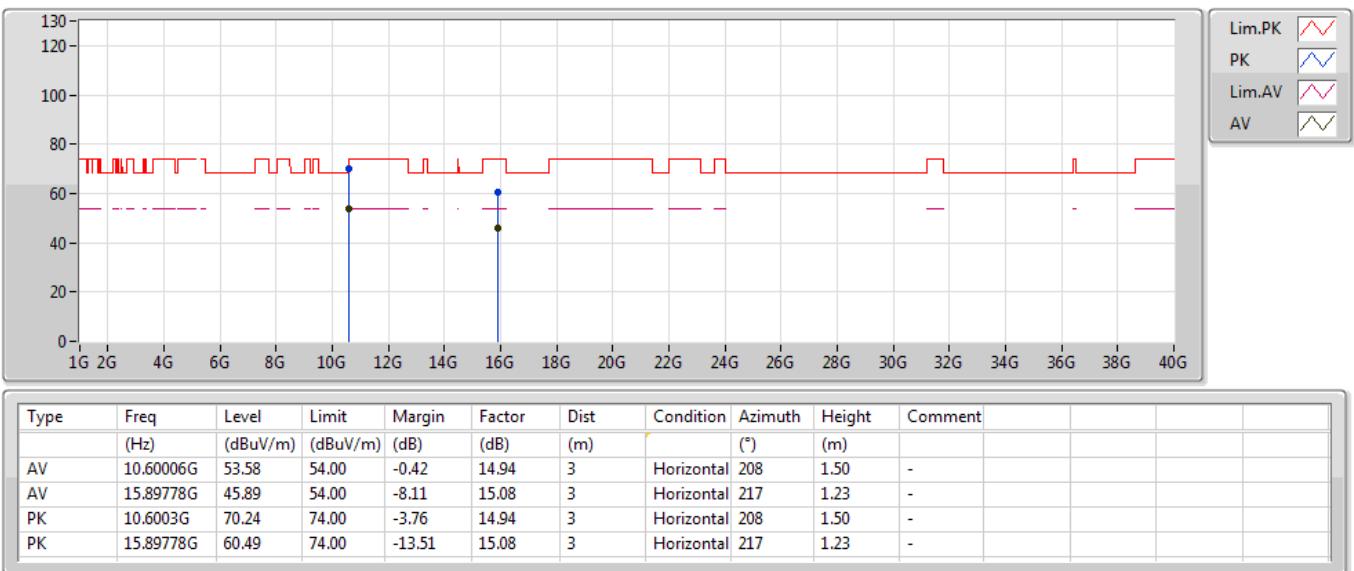
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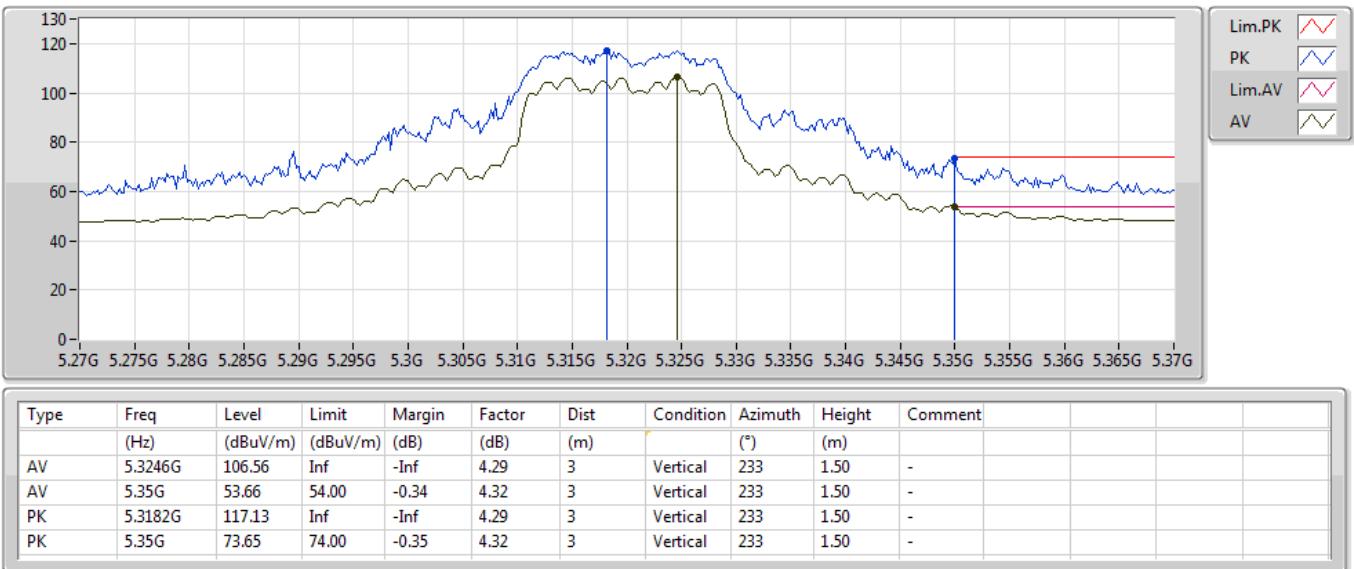
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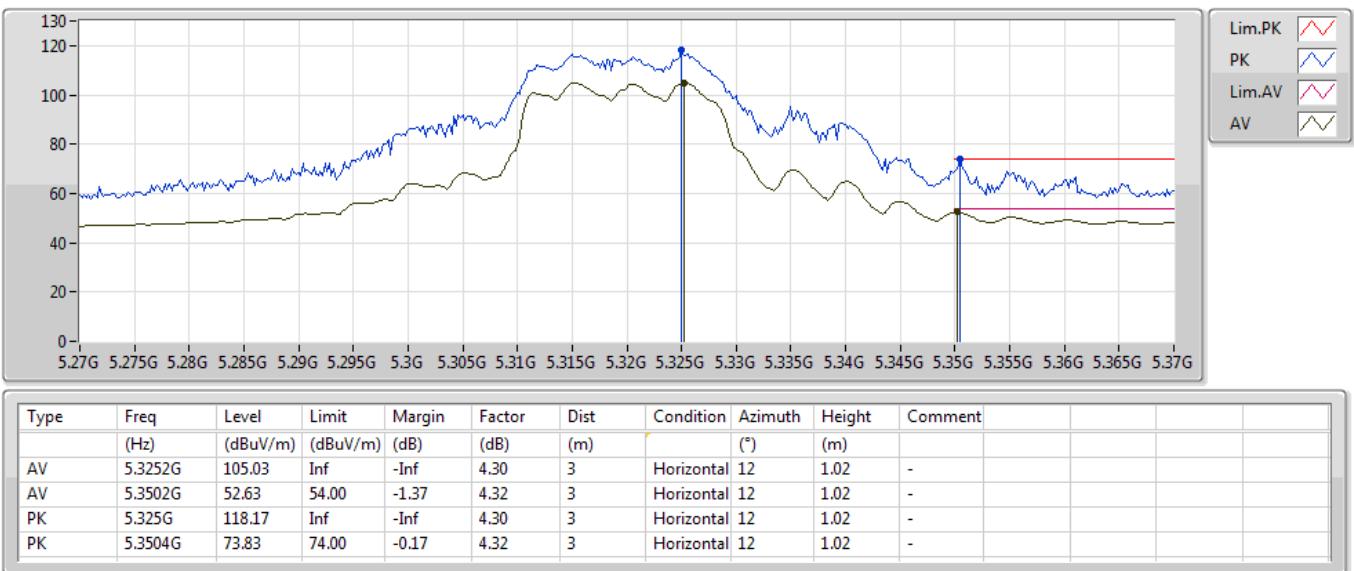
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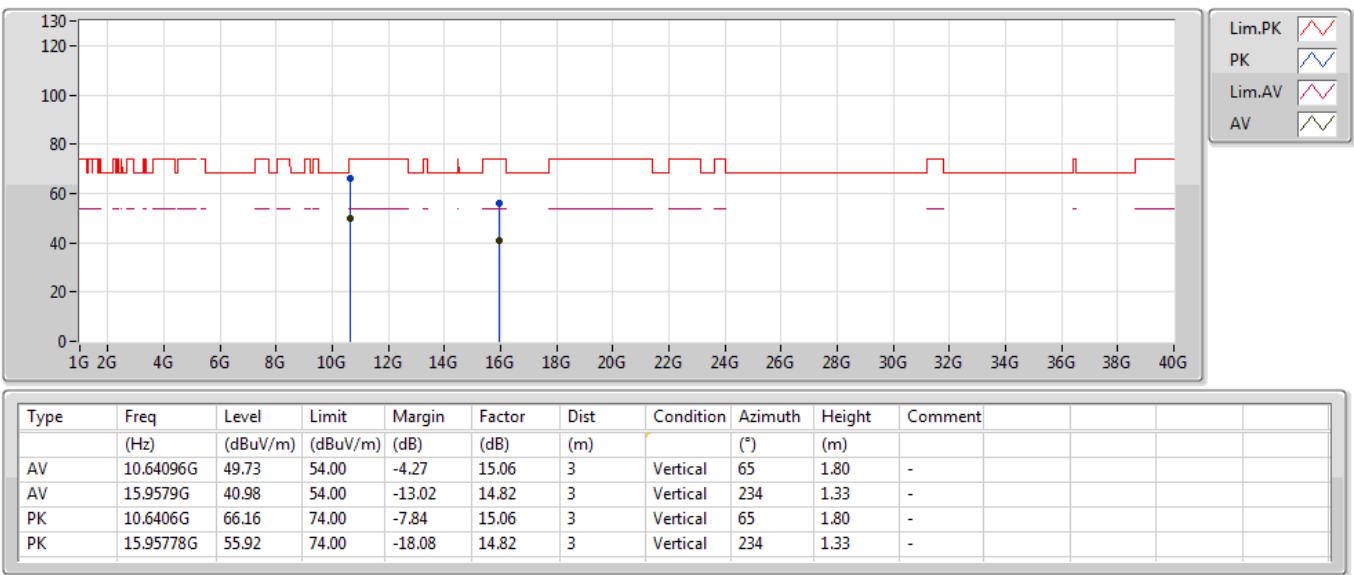
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802.11ac VHT20_Nss1,(MCS0)_4TX

25/04/2019

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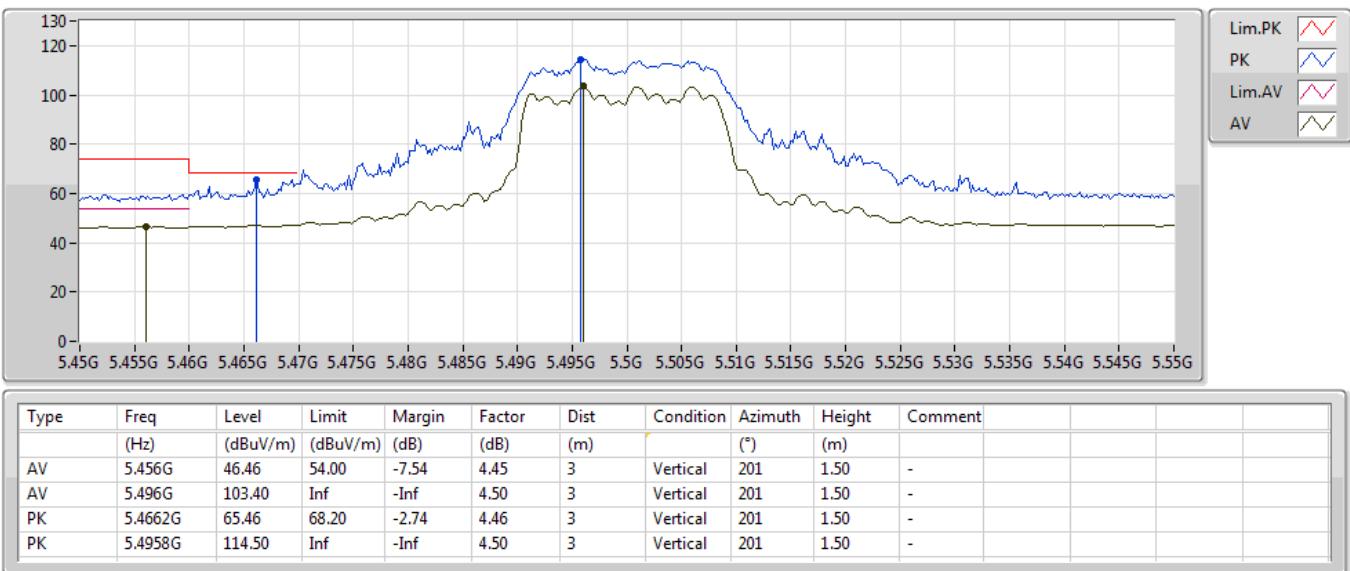
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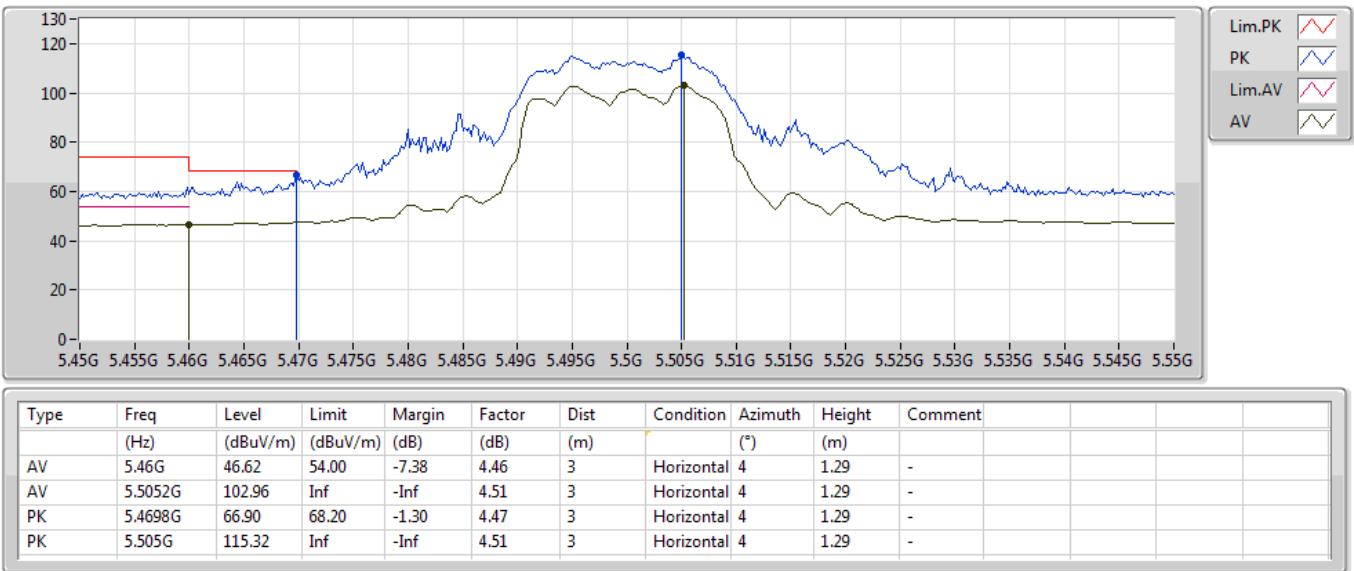

802.11ac VHT20_Nss1,(MCS0)_4TX

25/04/2019

5500MHz_TX


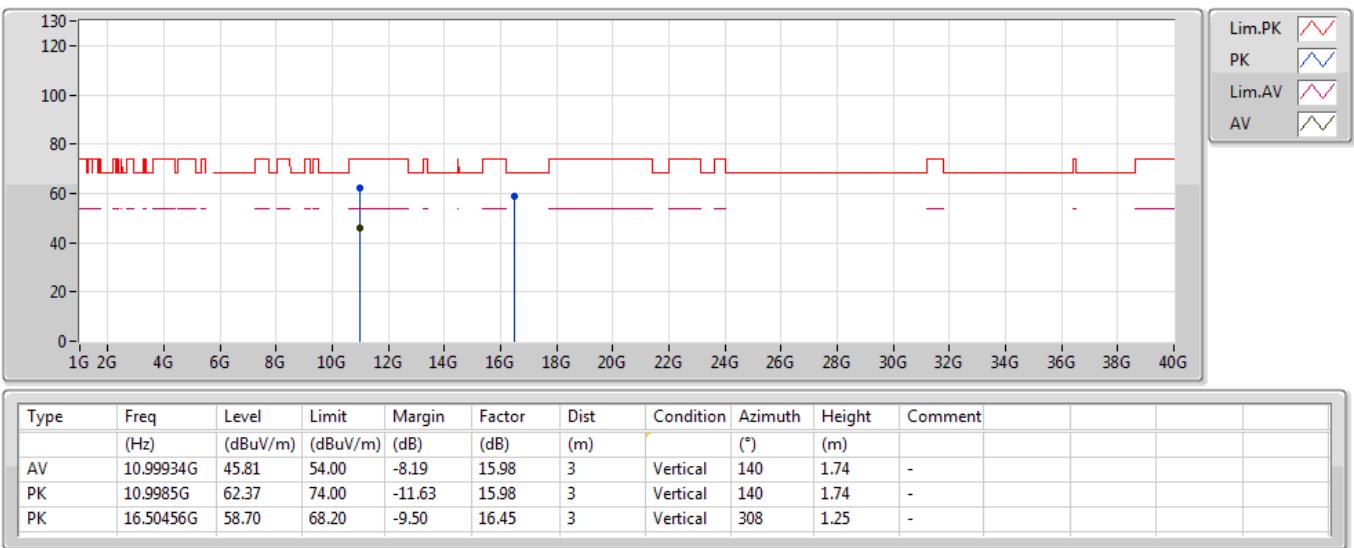
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25/04/2019

5500MHz_TX


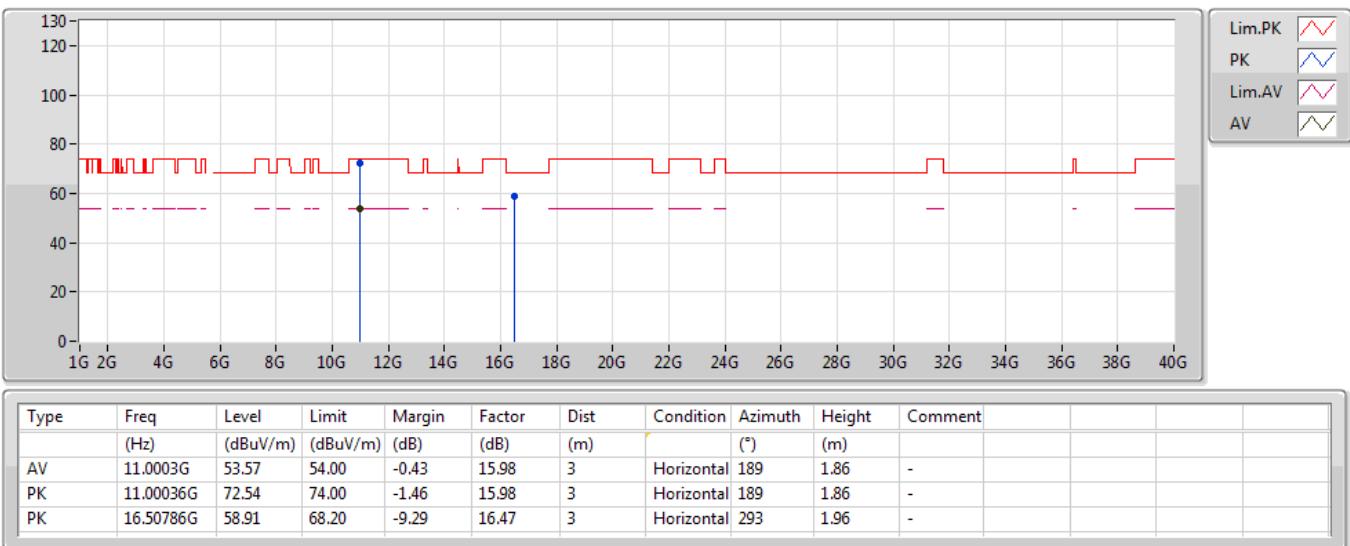
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25/04/2019

5500MHz_TX


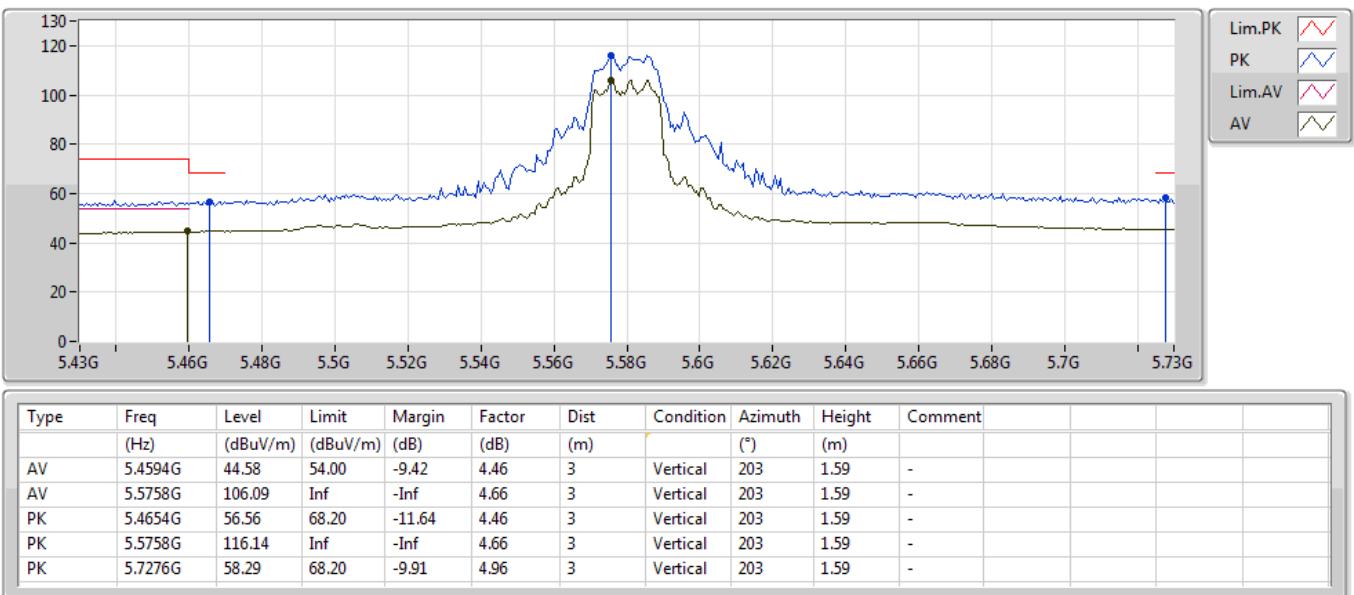
802.11ac VHT20_Nss1,(MCS0)_4TX

25/04/2019

5500MHz_TX


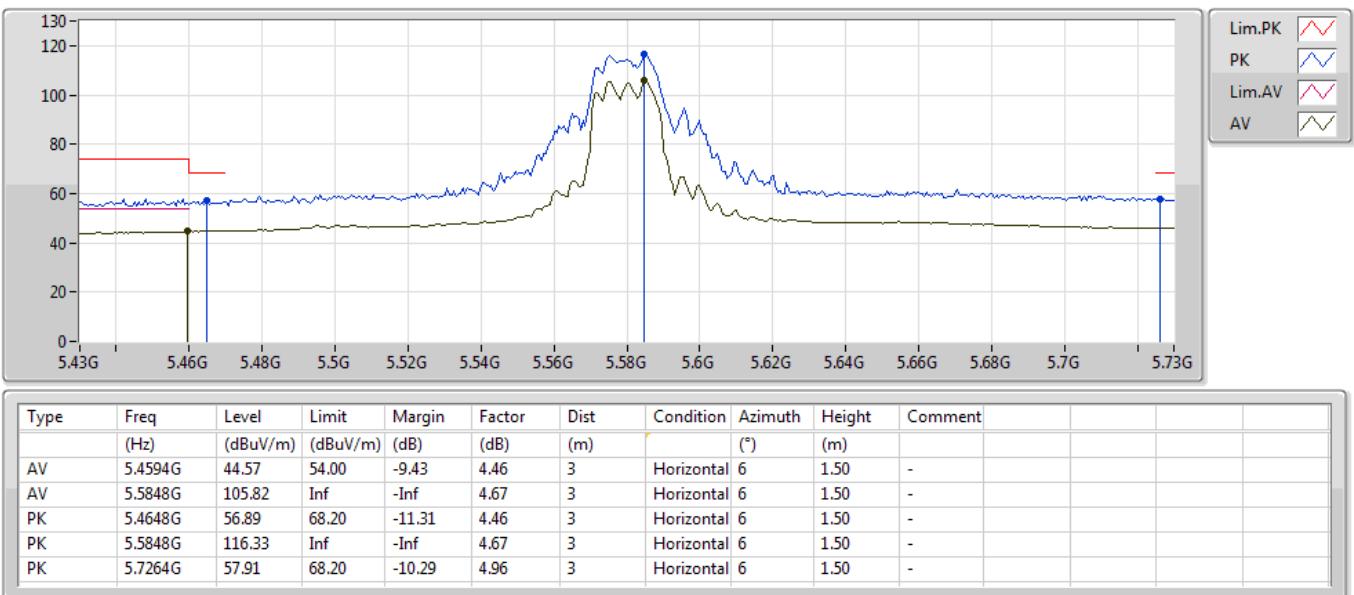
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25/04/2019

5580MHz_TX


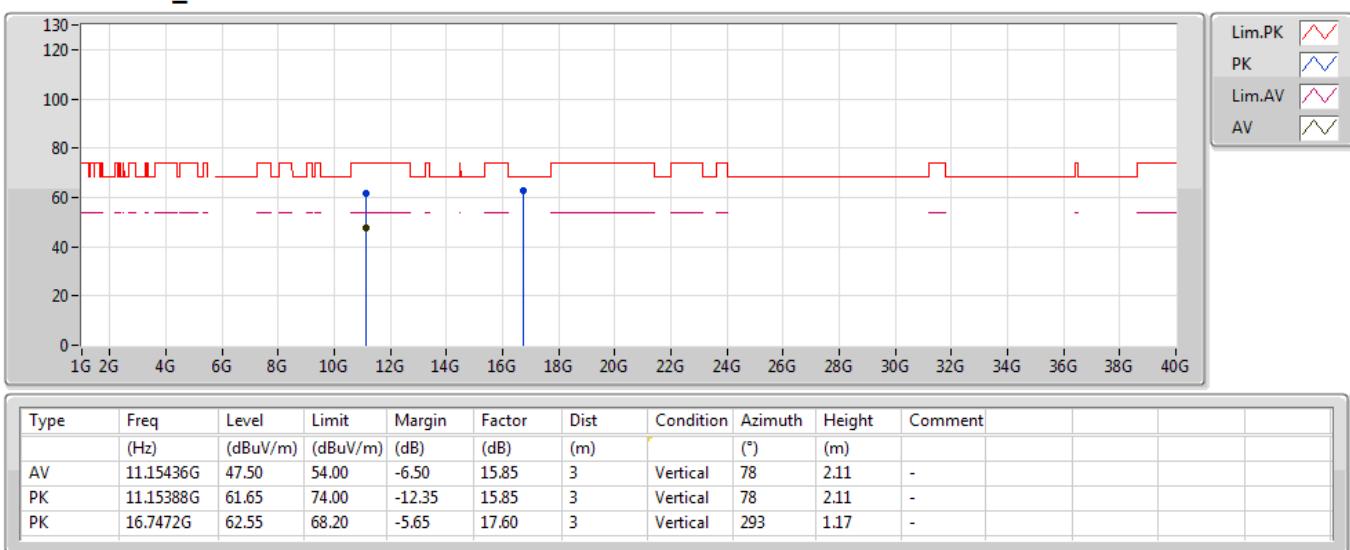
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25/04/2019

5580MHz_TX


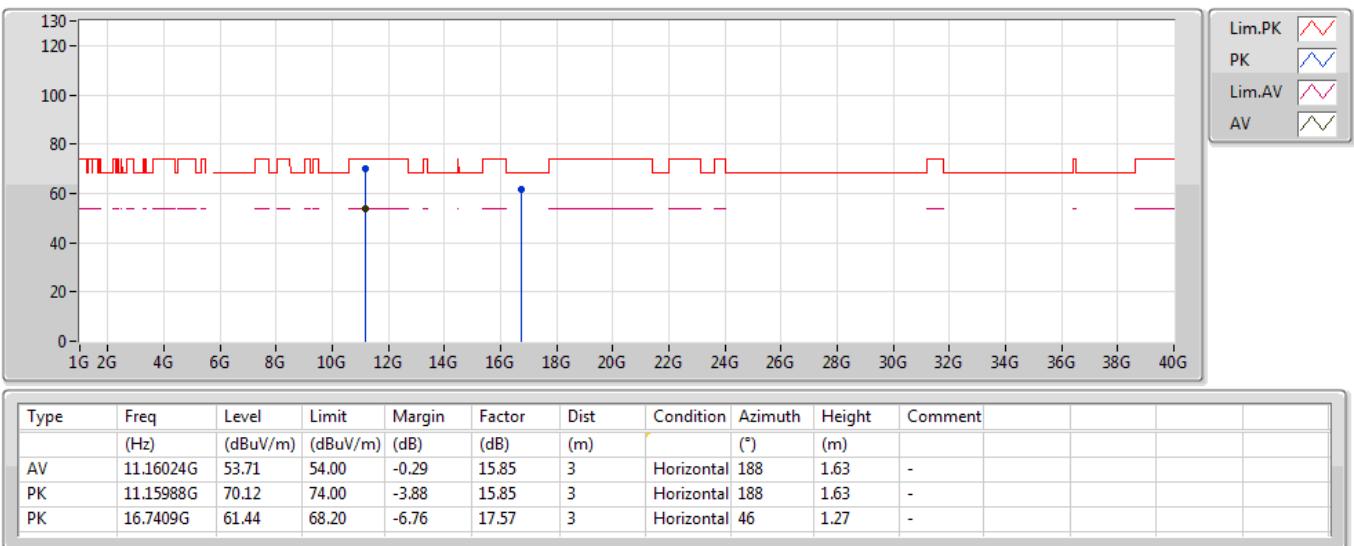
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5580MHz_TX


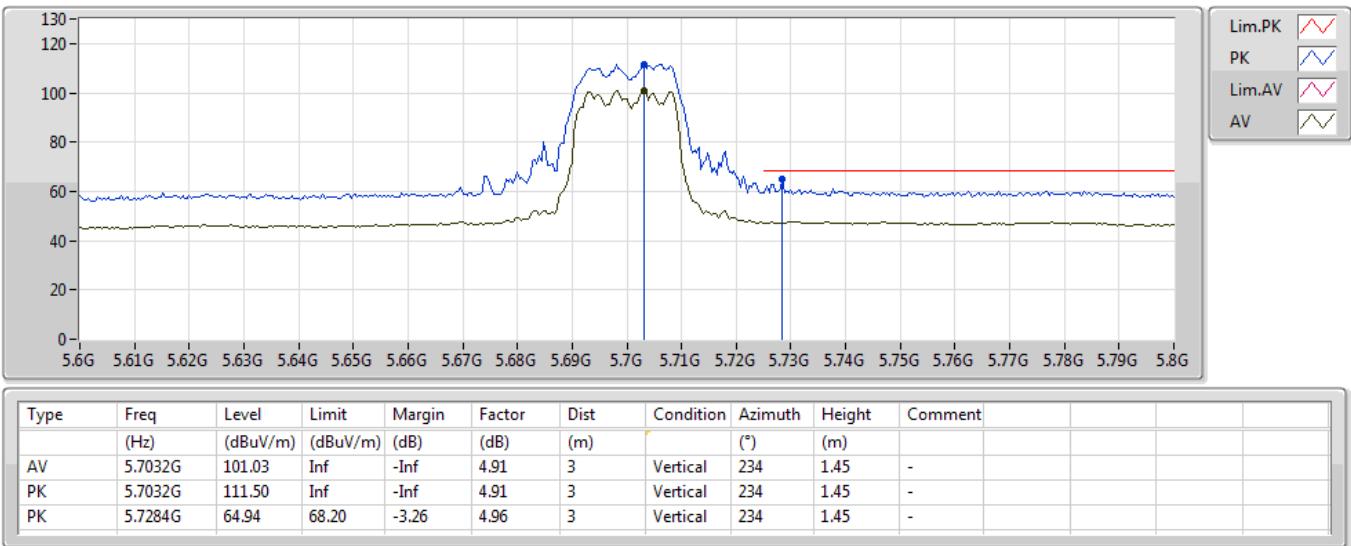
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25/04/2019

5580MHz_TX


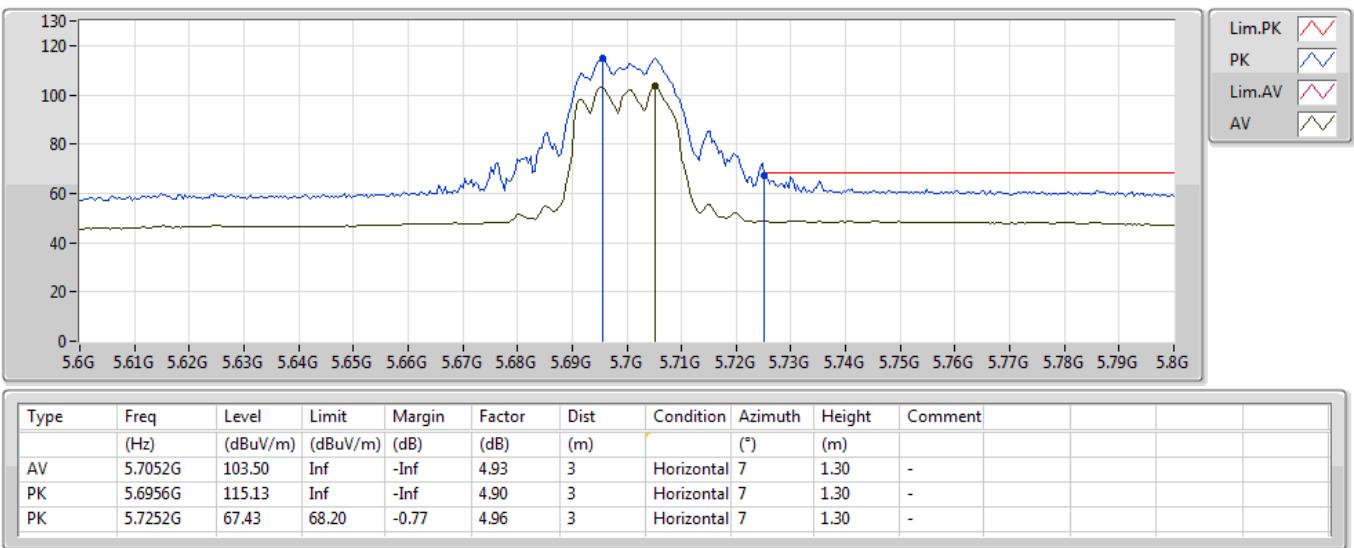
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25/04/2019

5700MHz_TX


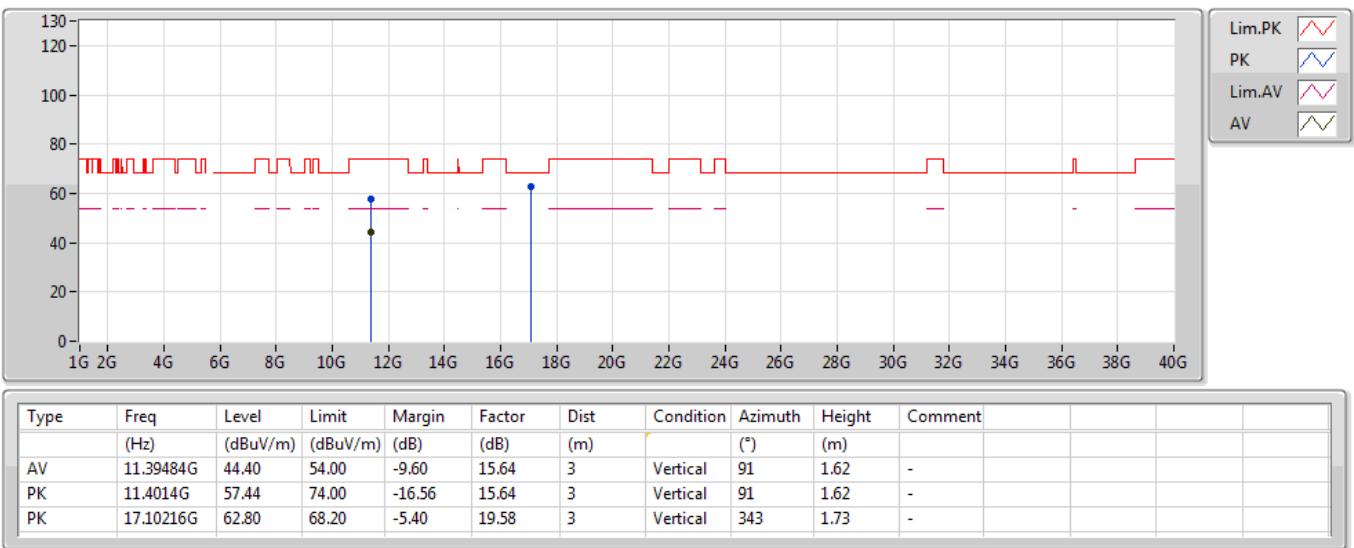
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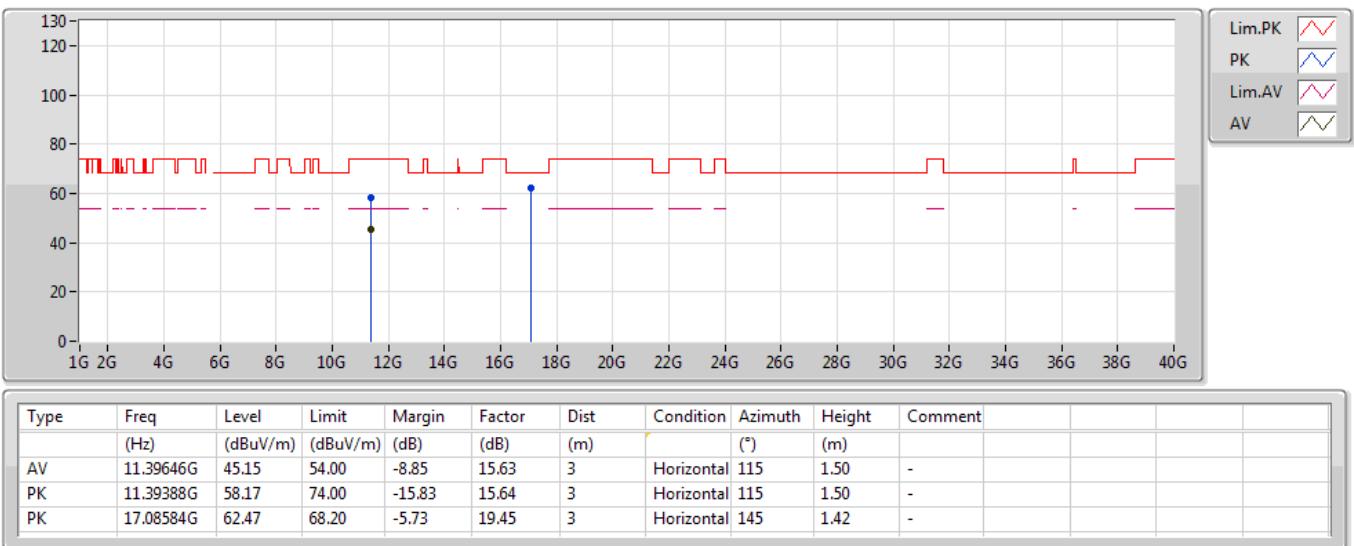
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25/04/2019

5700MHz_TX


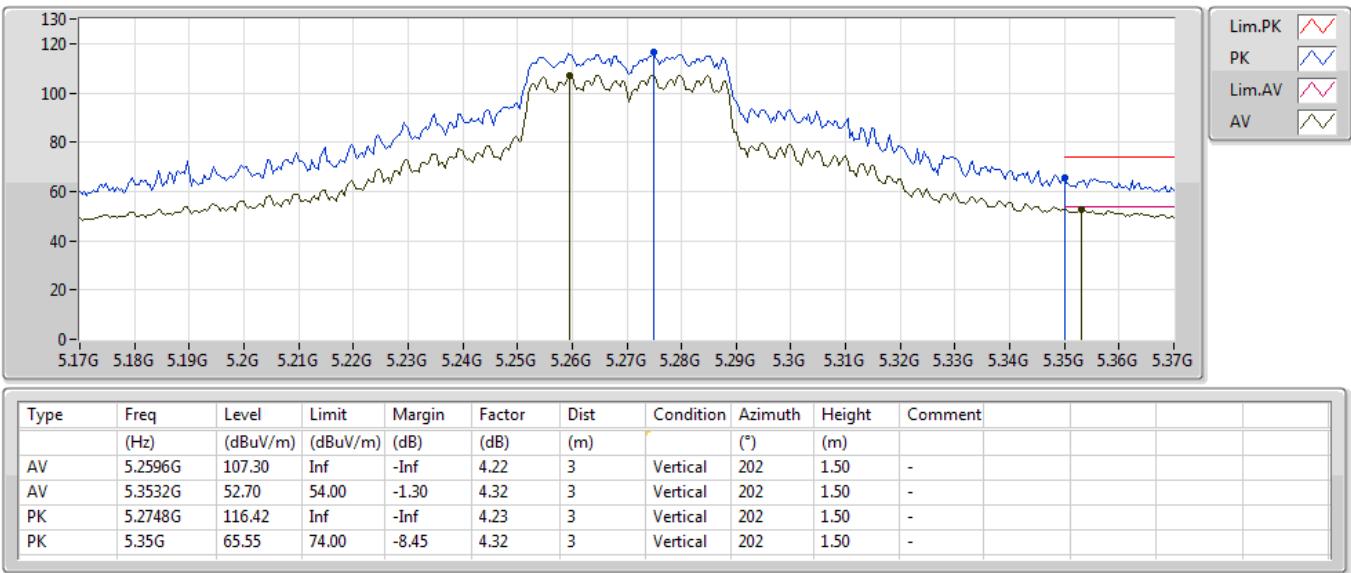
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25/04/2019

5700MHz_TX


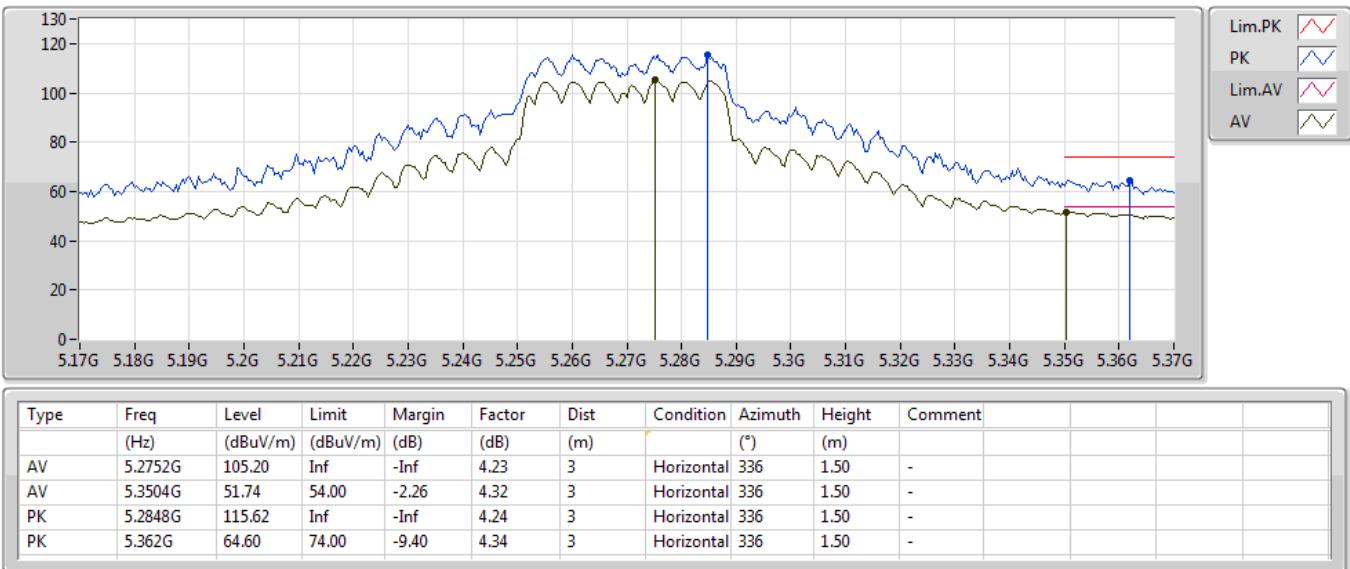
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25/04/2019

5270MHz_TX


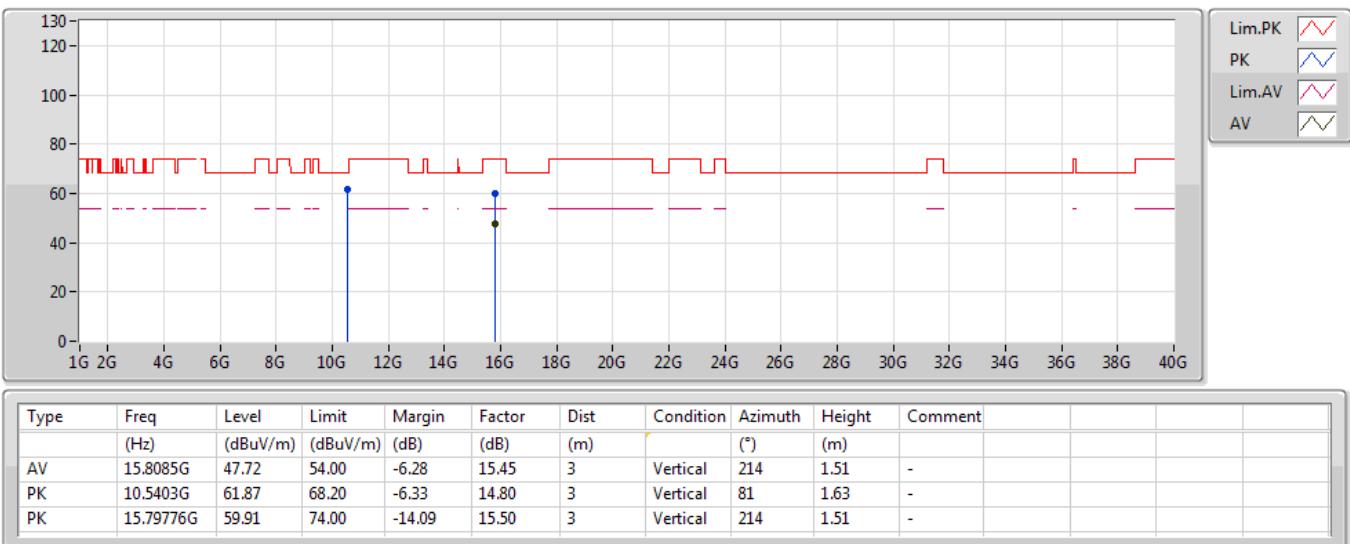
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25/04/2019

5270MHz_TX


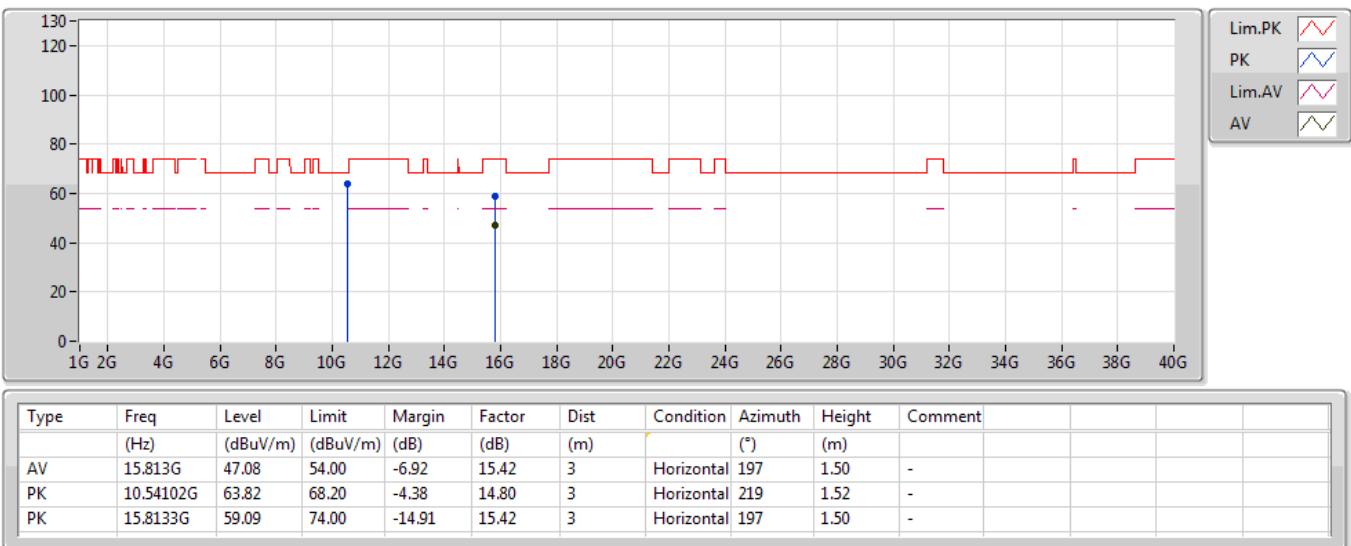
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25/04/2019

5270MHz_TX


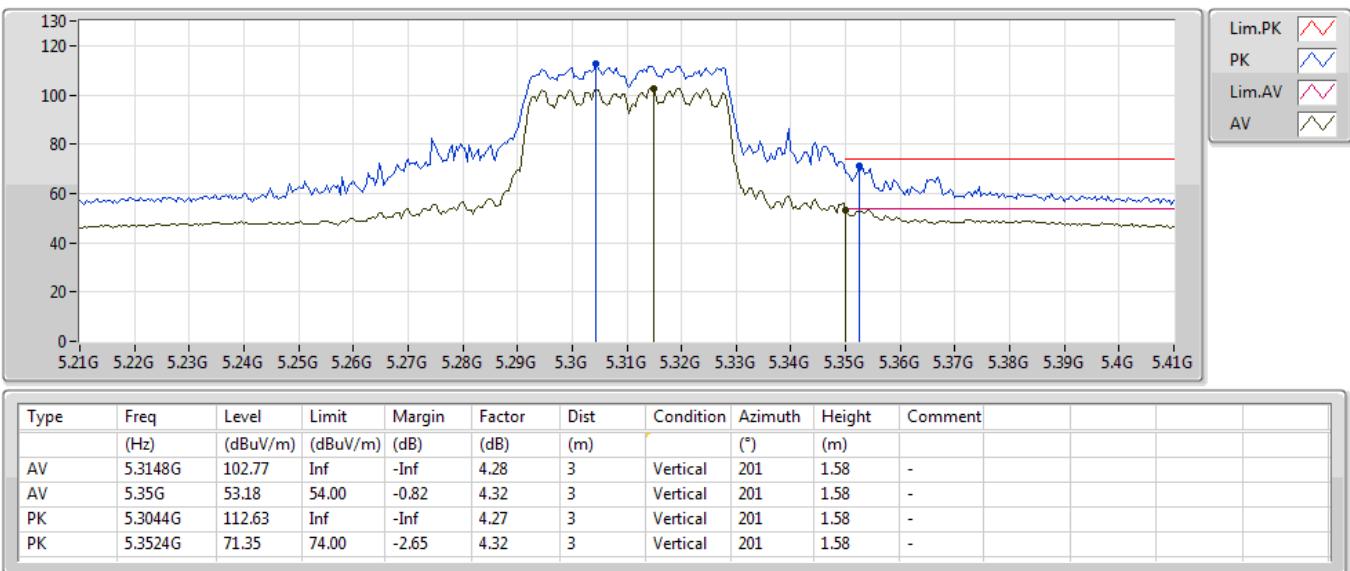
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25/04/2019

5270MHz_TX


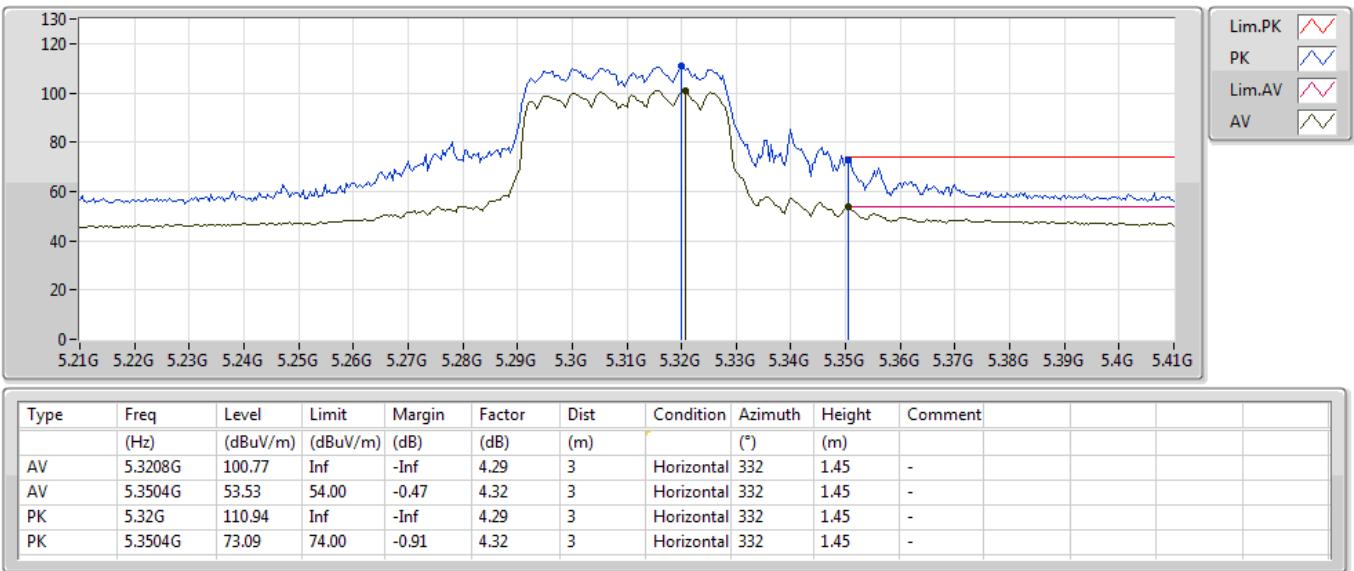
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25/04/2019

5310MHz_TX


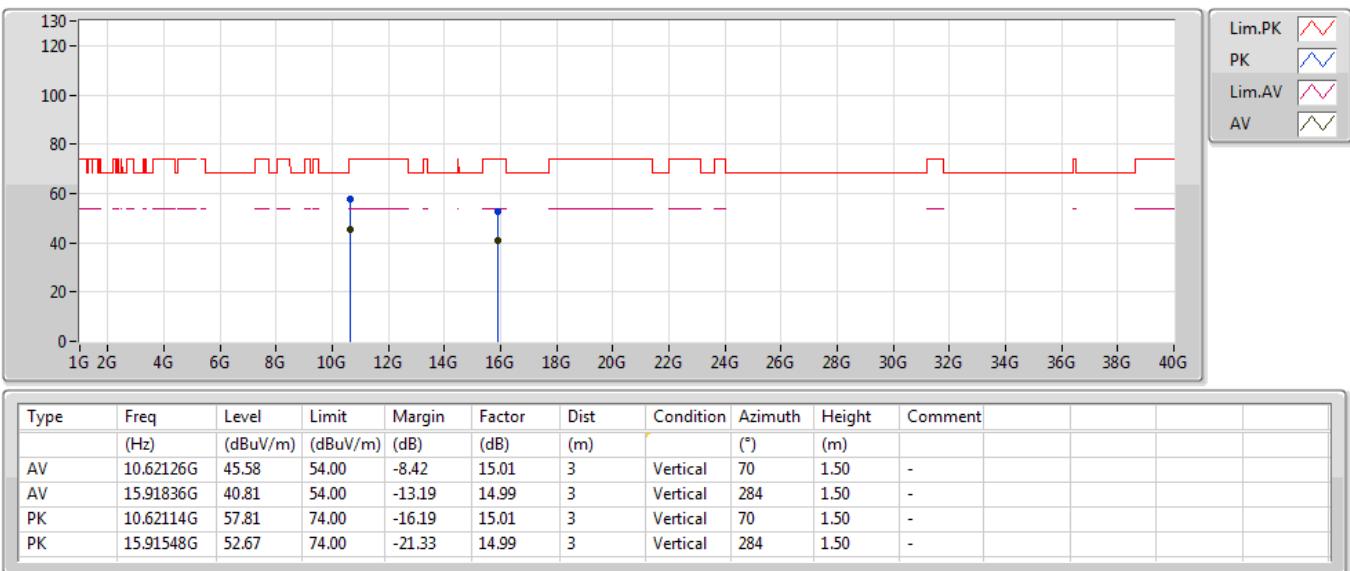
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25/04/2019

5310MHz_TX


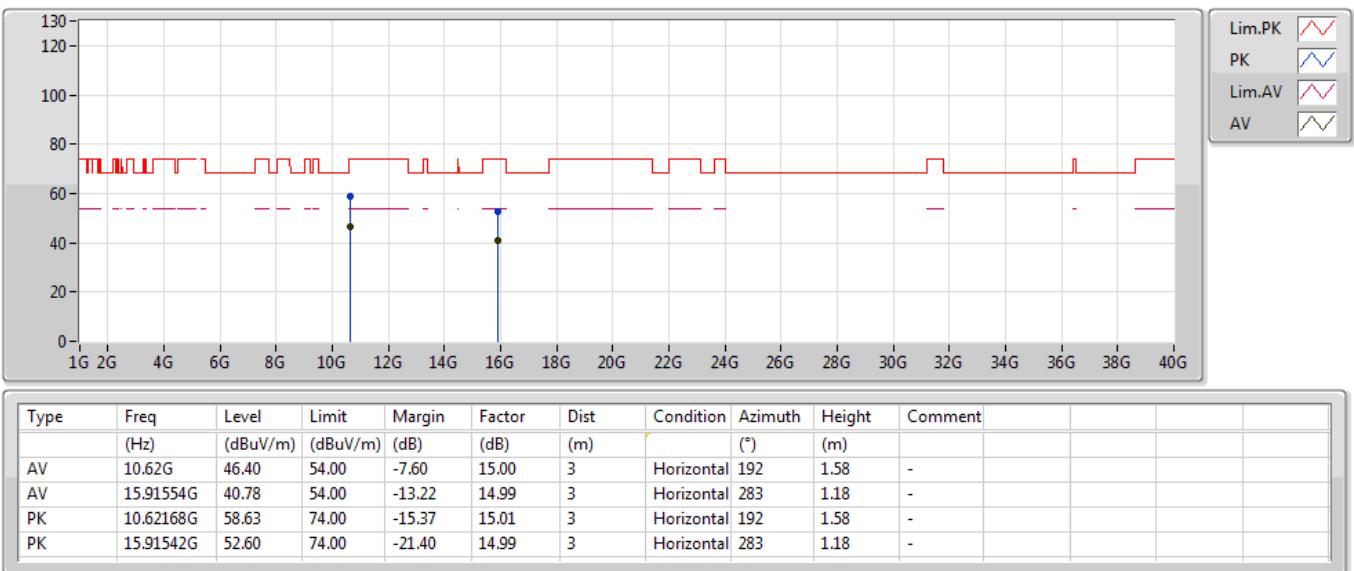
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25/04/2019

5310MHz_TX


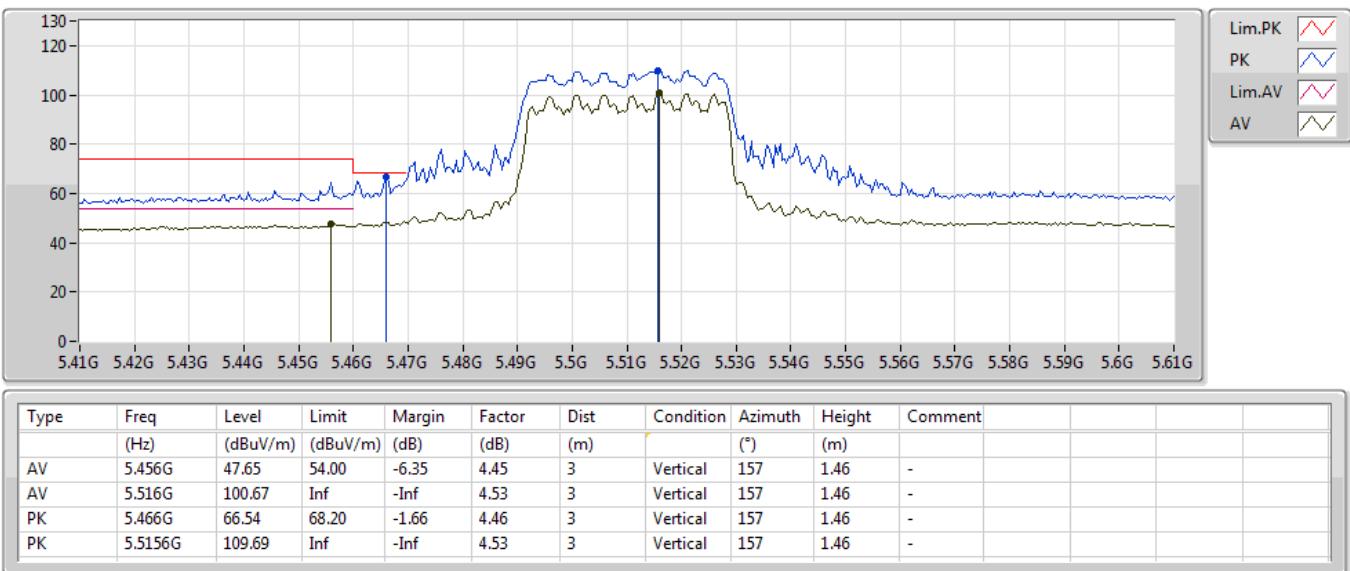
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25/04/2019

5310MHz_TX


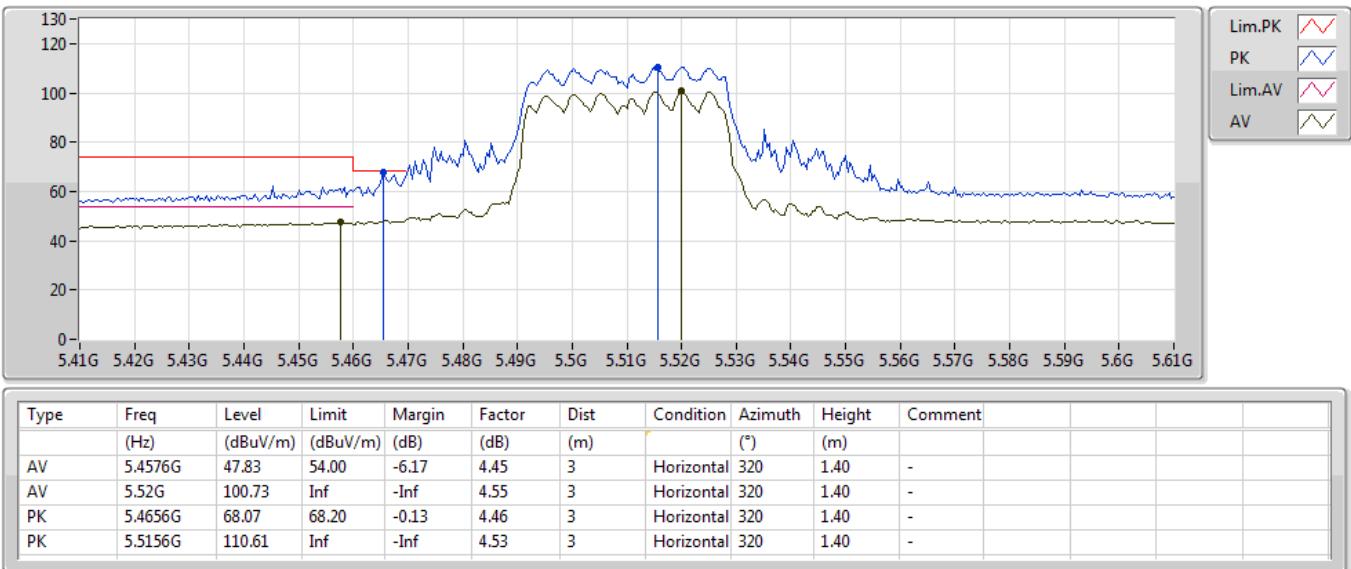
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25/04/2019

5510MHz_TX


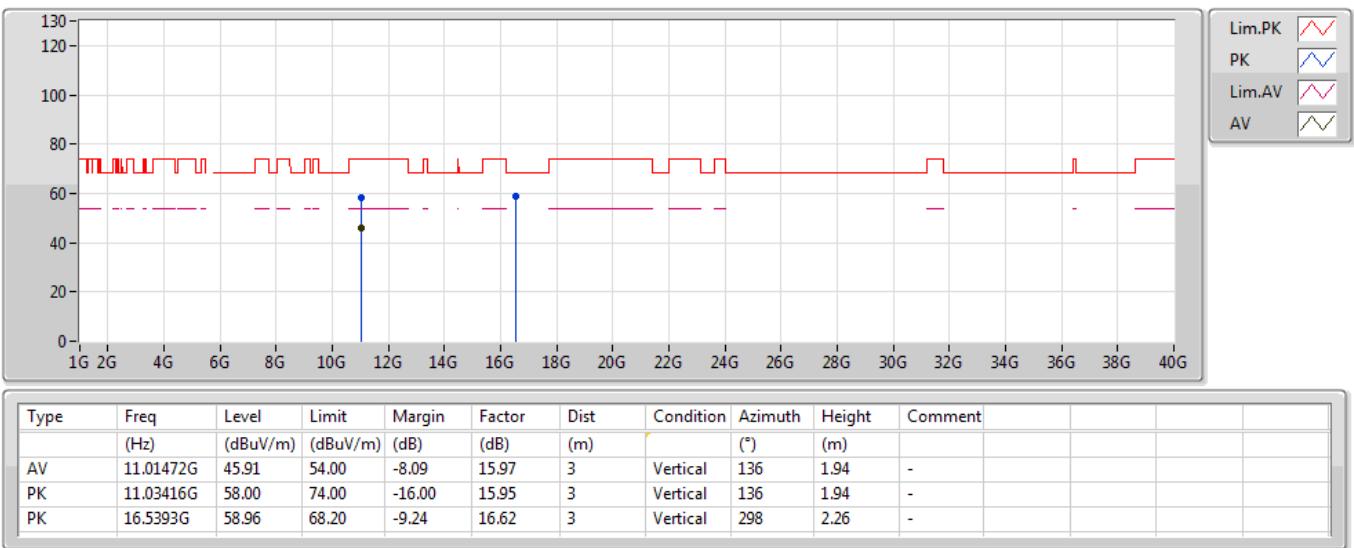
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25/04/2019

5510MHz_TX


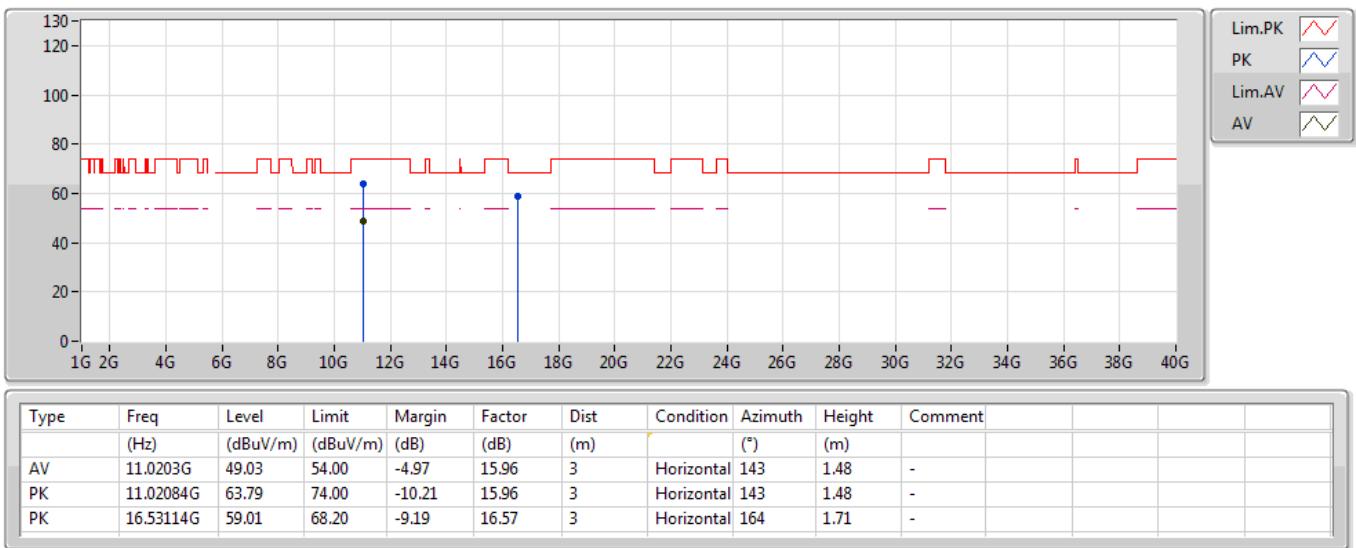
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25/04/2019

5510MHz_TX


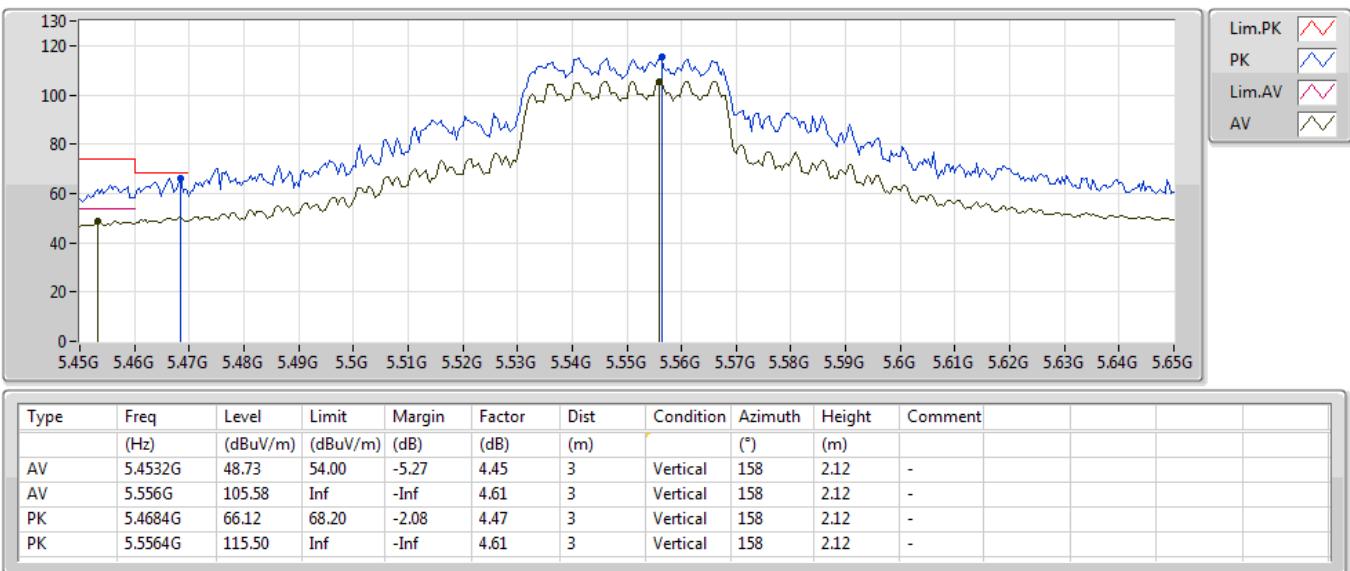
802.11ac VHT40_Nss1,(MCS0)_4TX

25/04/2019

5510MHz_TX


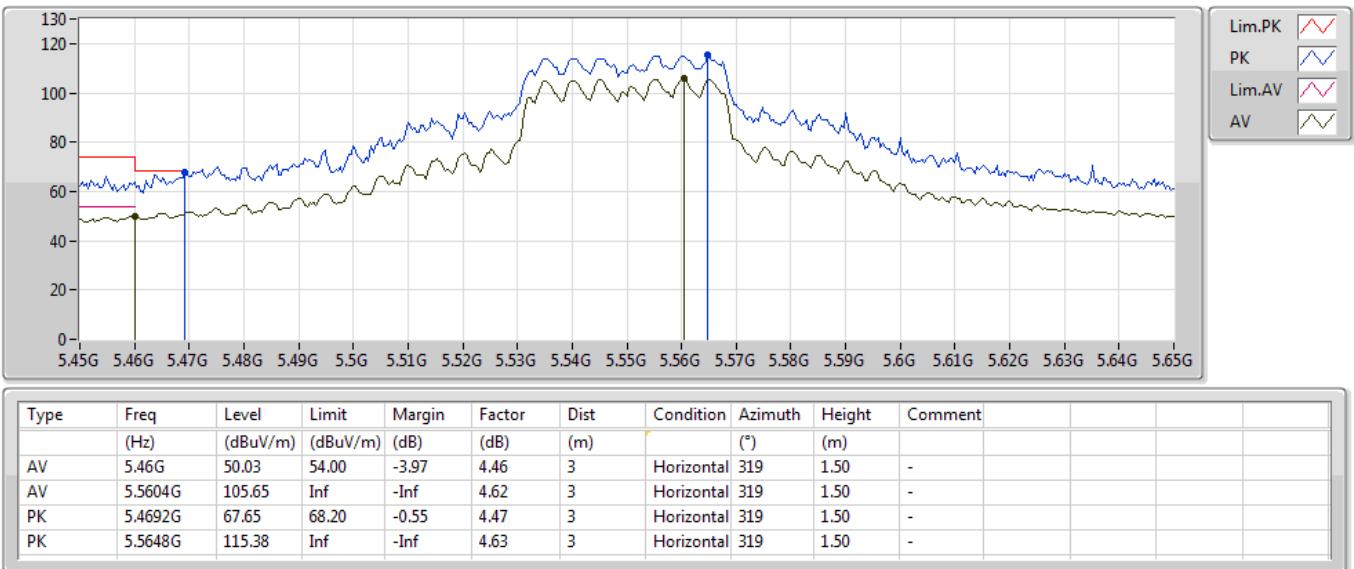
802.11ac VHT40_Nss1,(MCS0)_4TX

25/04/2019

5550MHz_TX


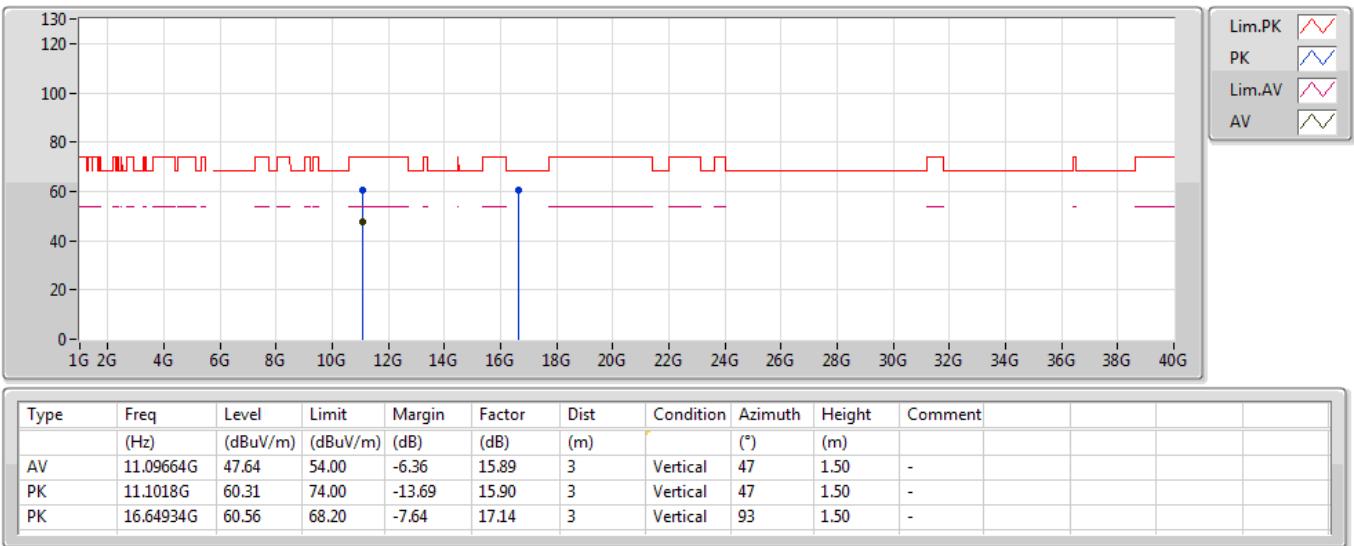
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25/04/2019

5550MHz_TX


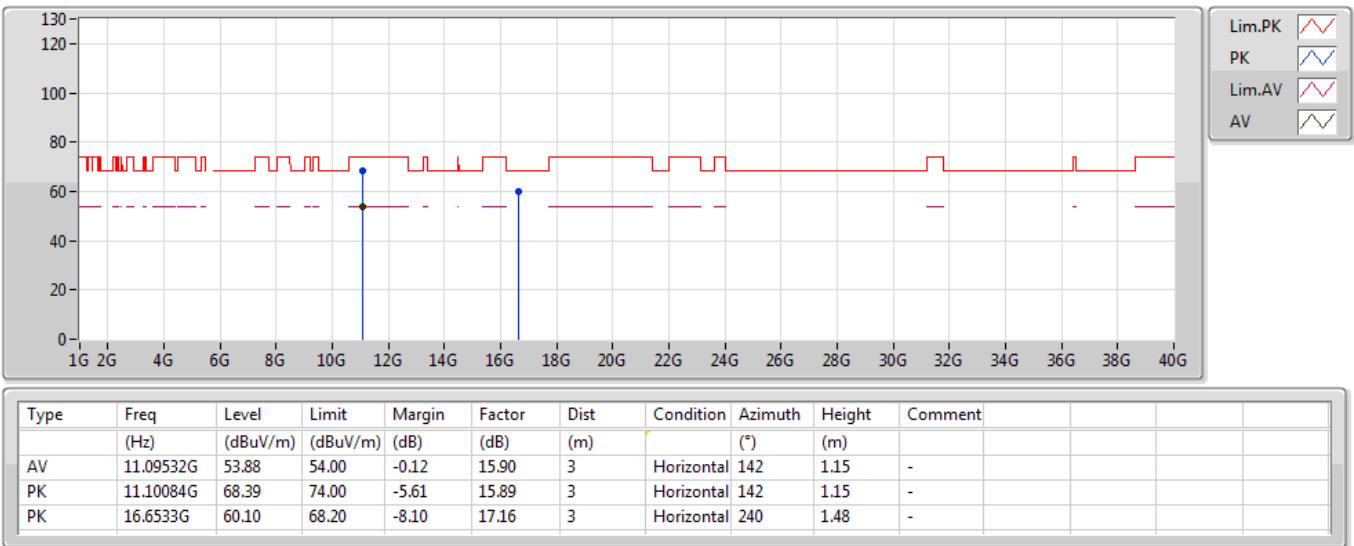
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25/04/2019

5550MHz_TX


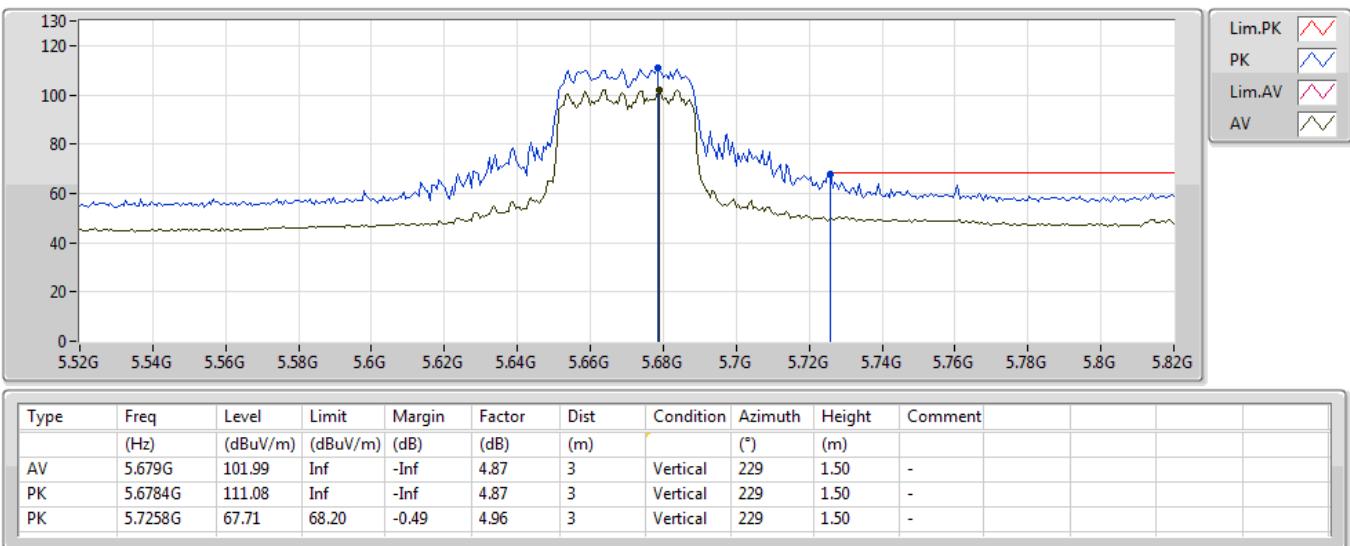
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25/04/2019

5550MHz_TX


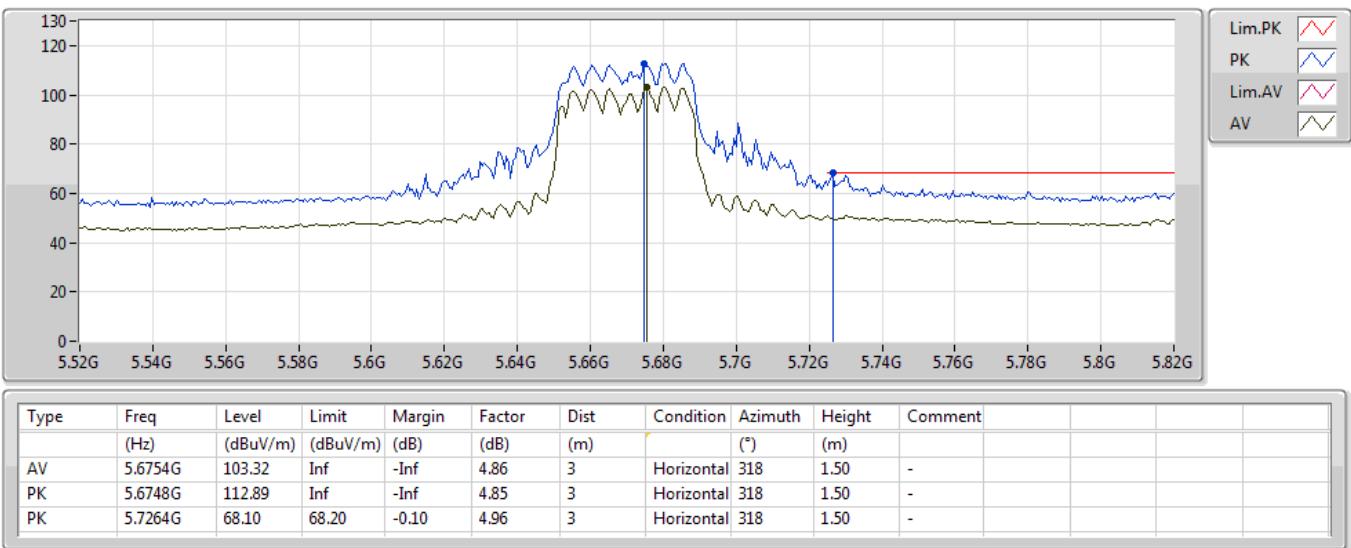
802.11ac VHT40_Nss1,(MCS0)_4TX

25/04/2019

5670MHz_TX


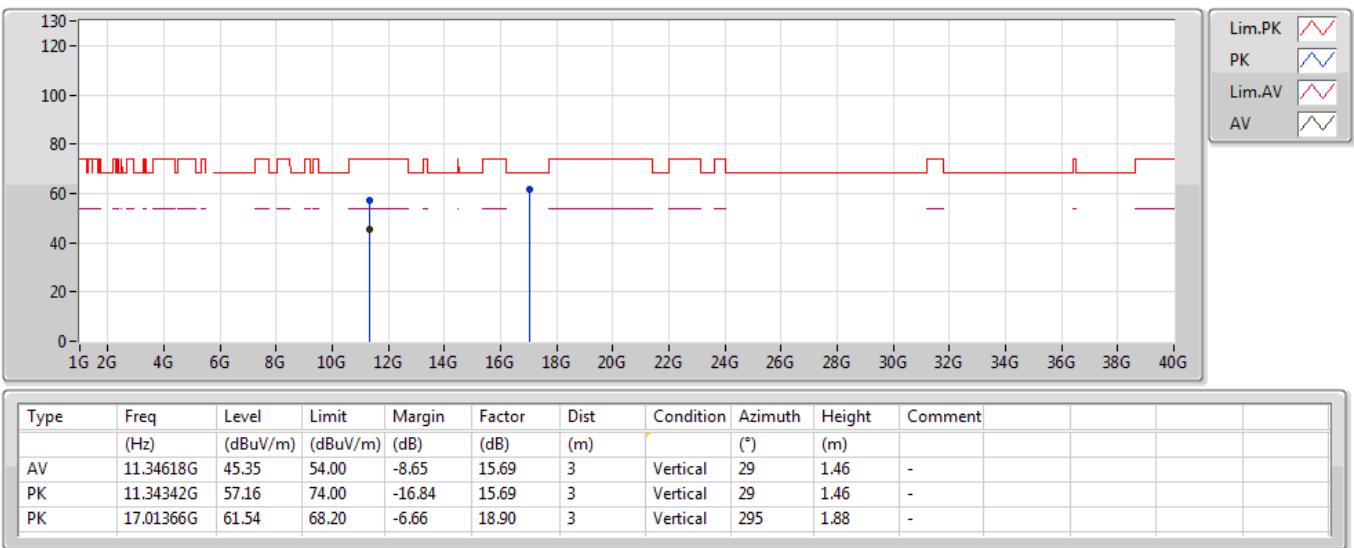
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25/04/2019

5670MHz_TX


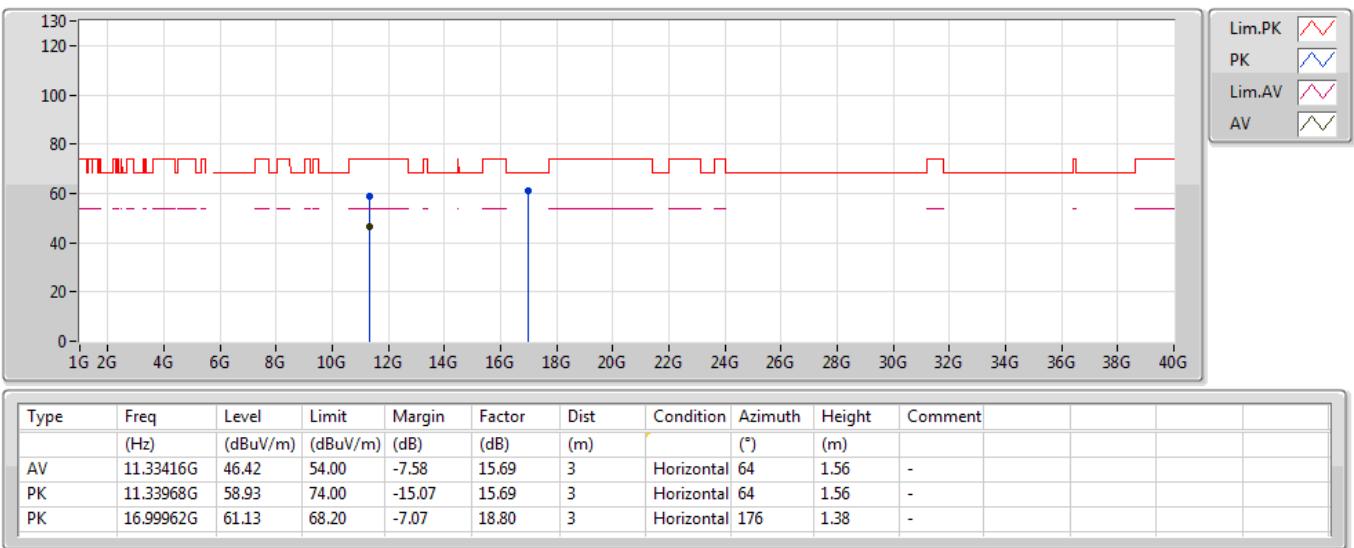
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25/04/2019

5670MHz_TX


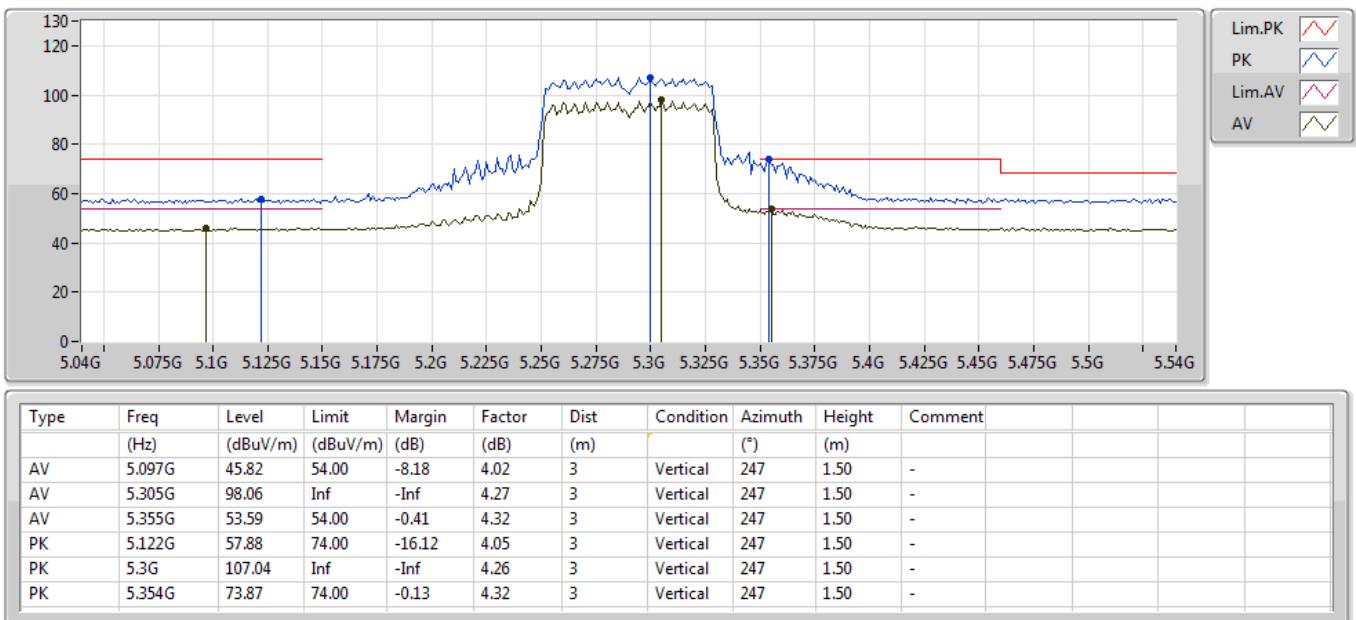
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25/04/2019

5670MHz_TX


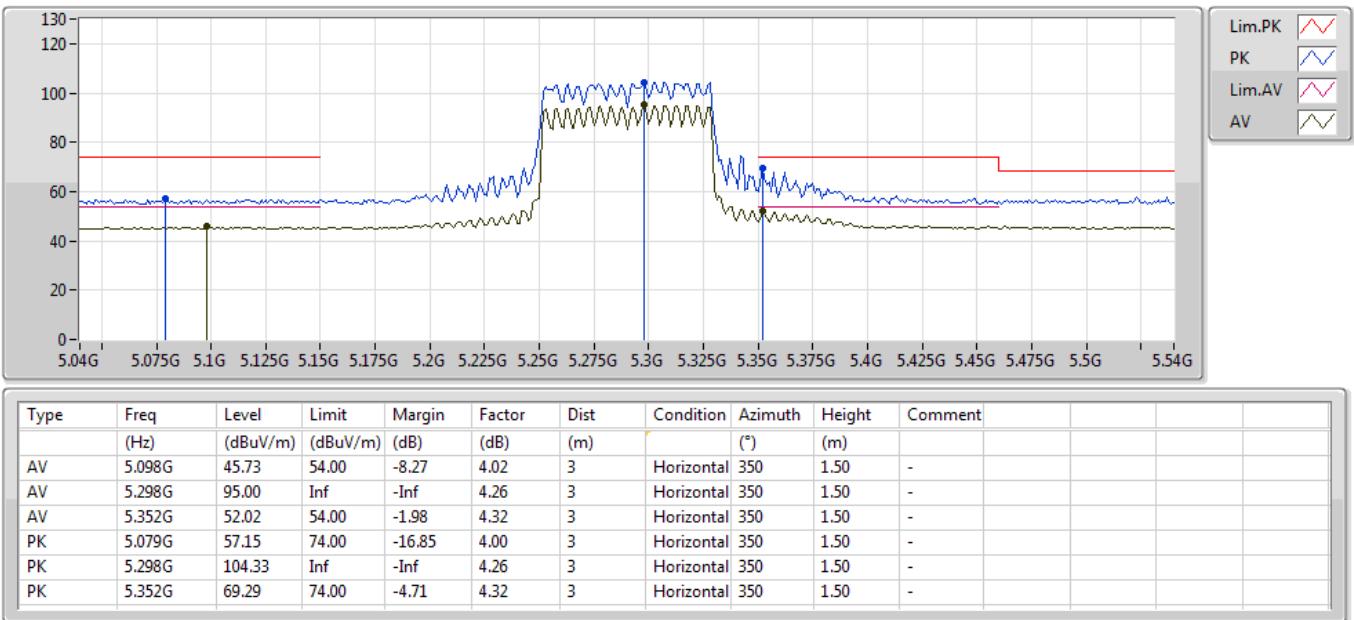
802.11ac VHT80_Nss1,(MCS0)_4TX

26/04/2019

5290MHz_TX


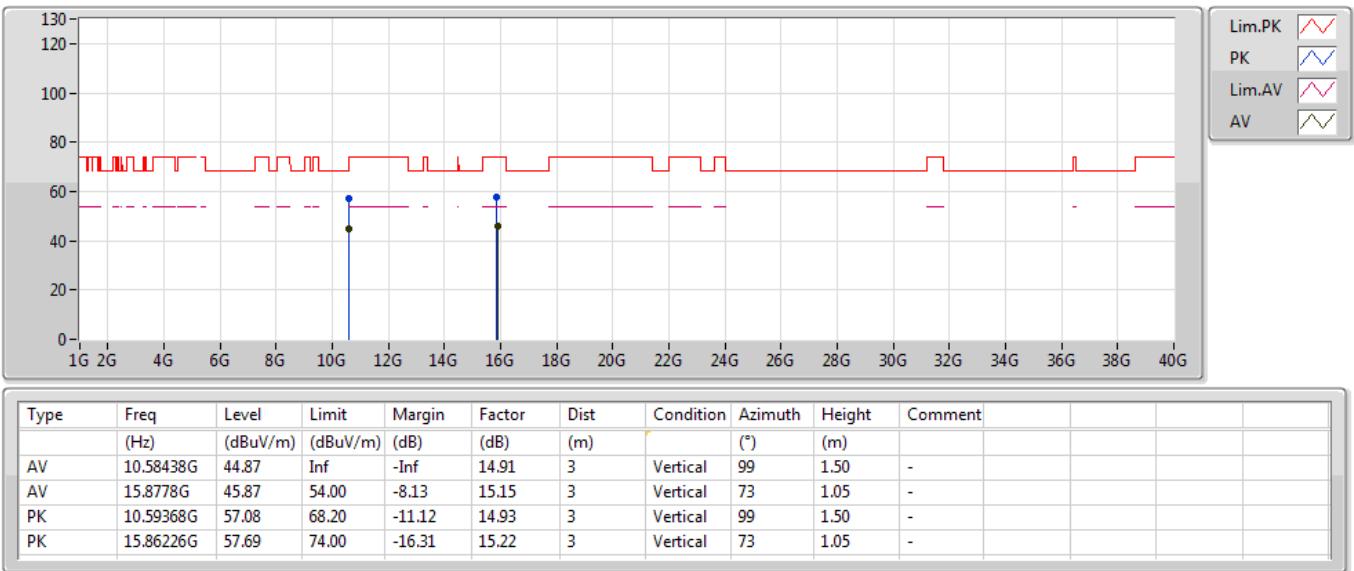
802.11ac VHT80_Nss1,(MCS0)_4TX

26/04/2019

5290MHz_TX


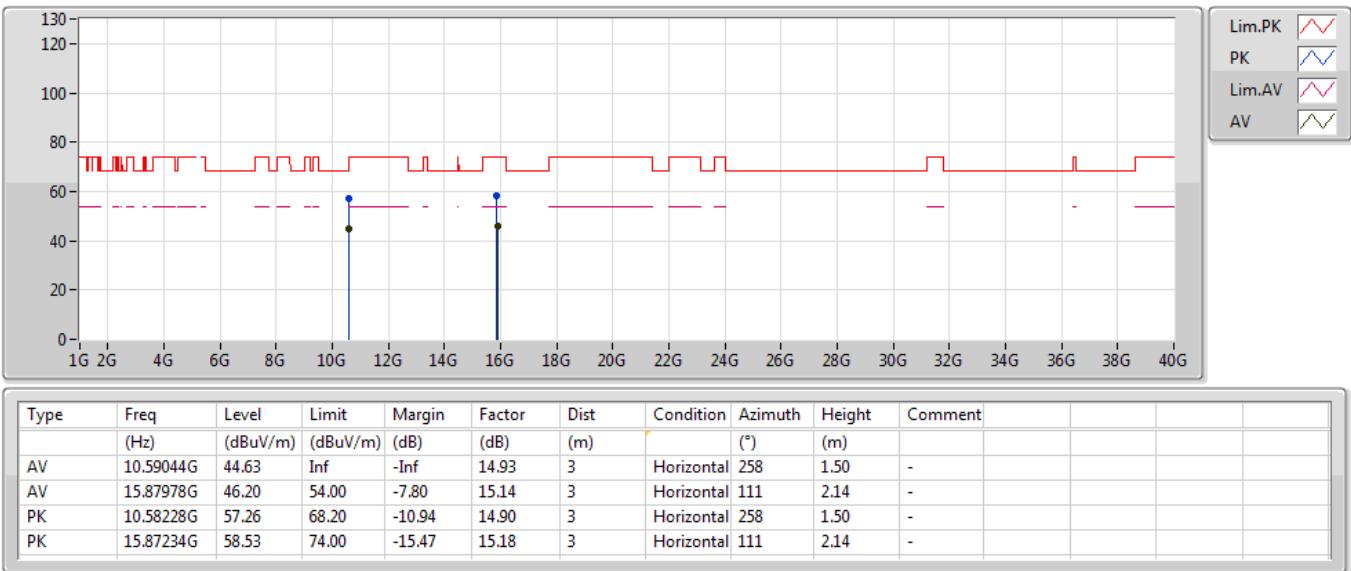
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26/04/2019

5290MHz_TX


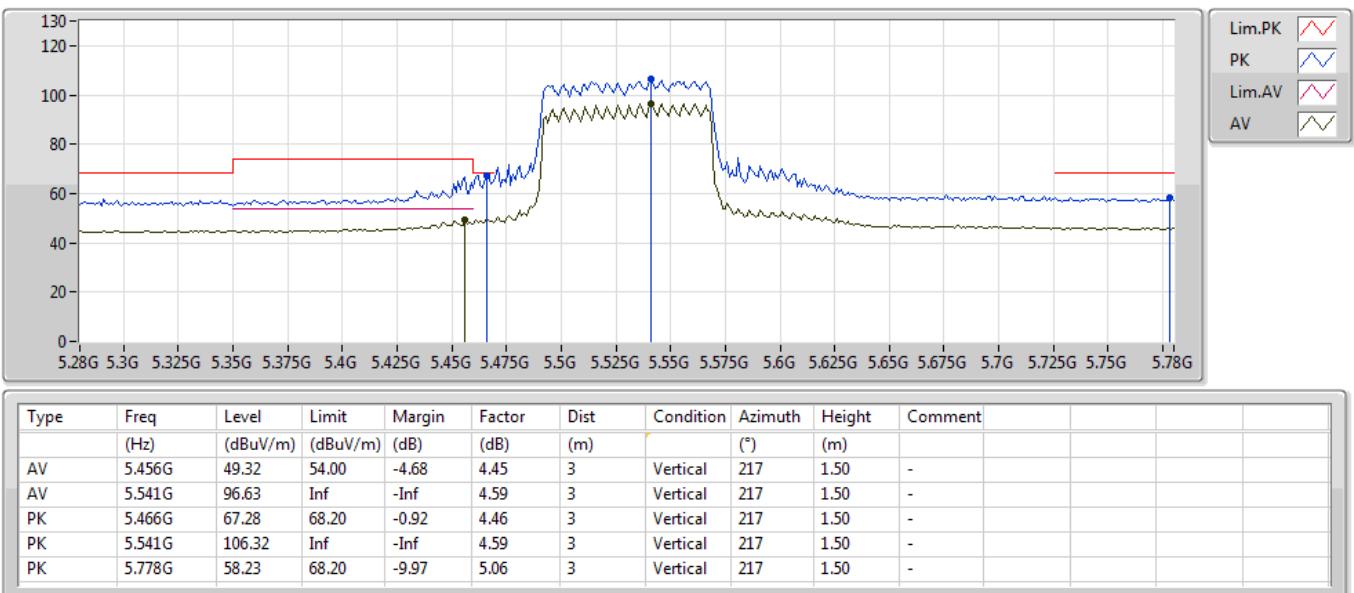
802.11ac VHT80_Nss1,(MCS0)_4TX

26/04/2019

5290MHz_TX


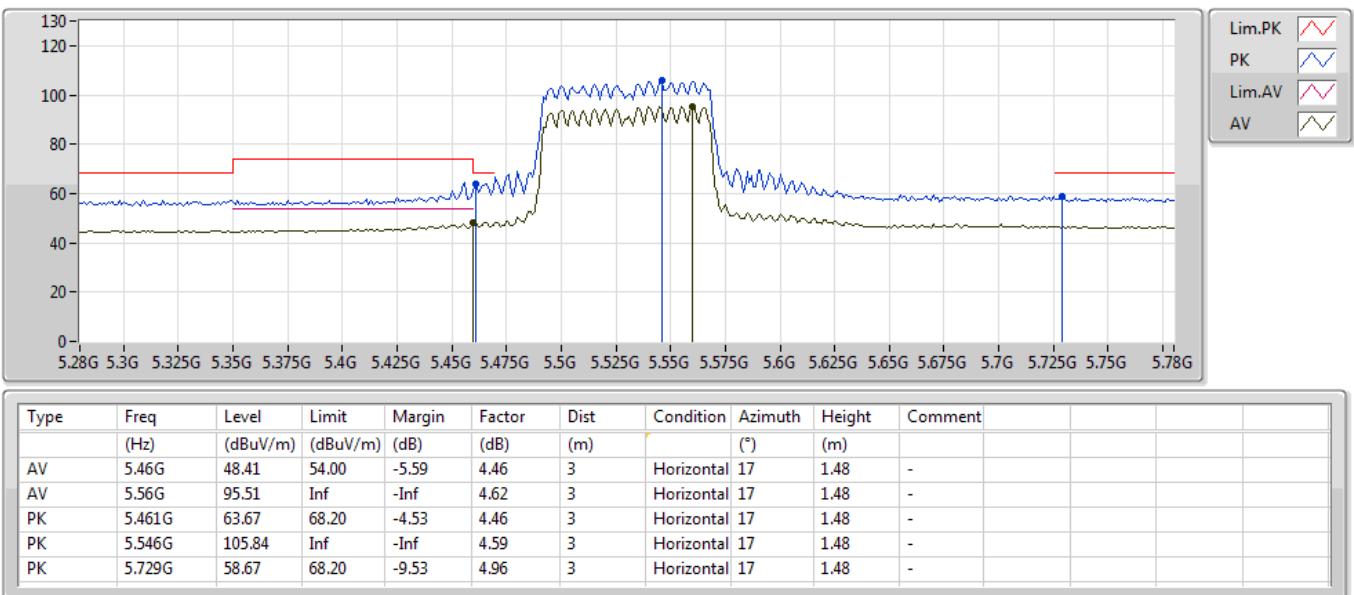
802.11ac VHT80_Nss1,(MCS0)_4TX

26/04/2019

5530MHz_TX


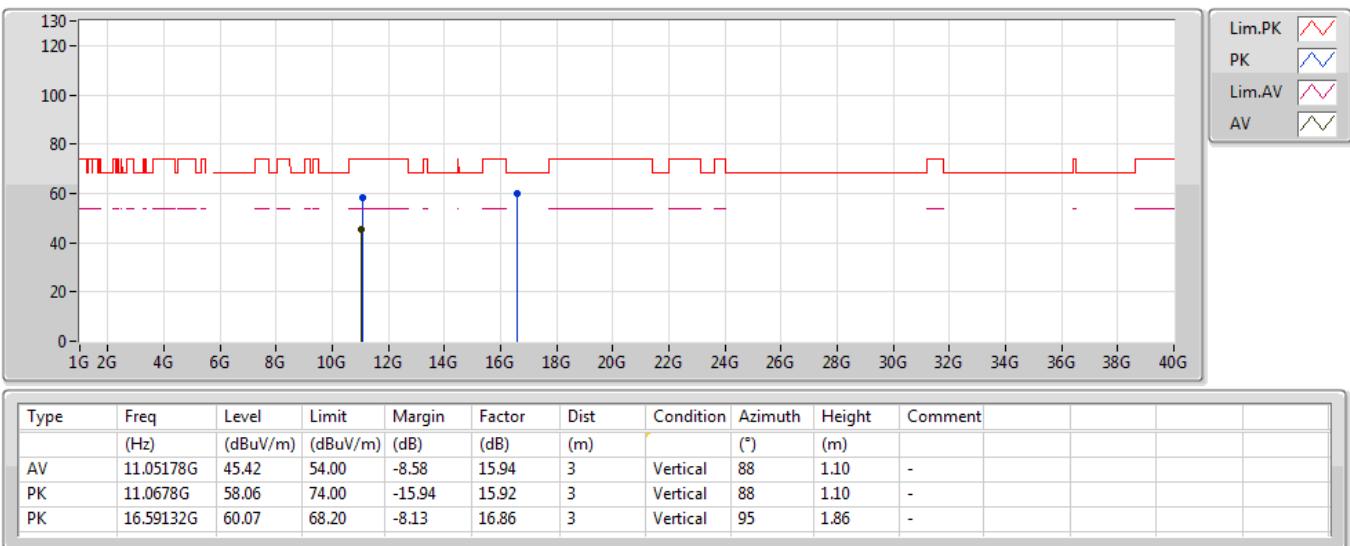
802.11ac VHT80_Nss1,(MCS0)_4TX

26/04/2019

5530MHz_TX


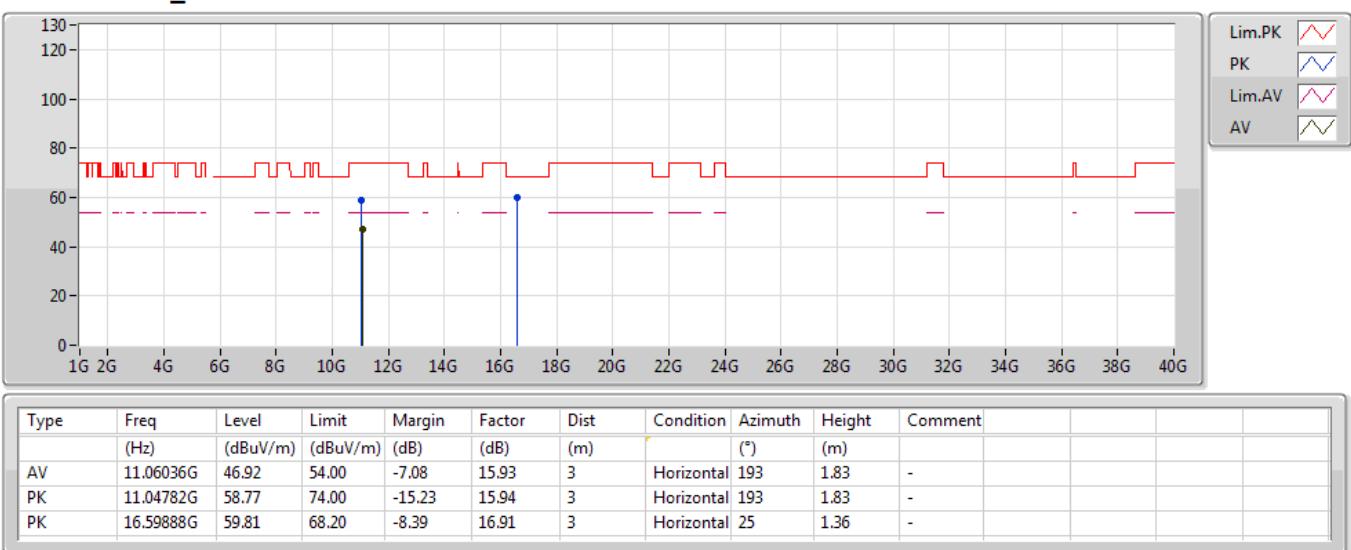
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26/04/2019

5530MHz_TX


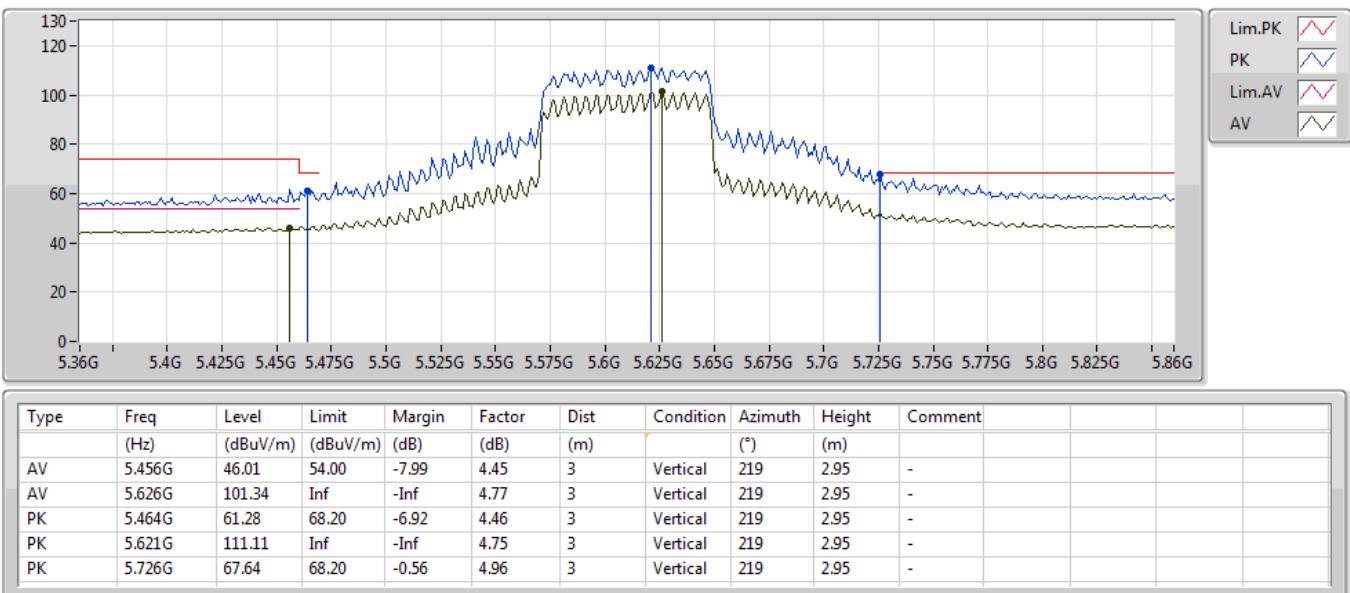
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5530MHz_TX

26/04/2019



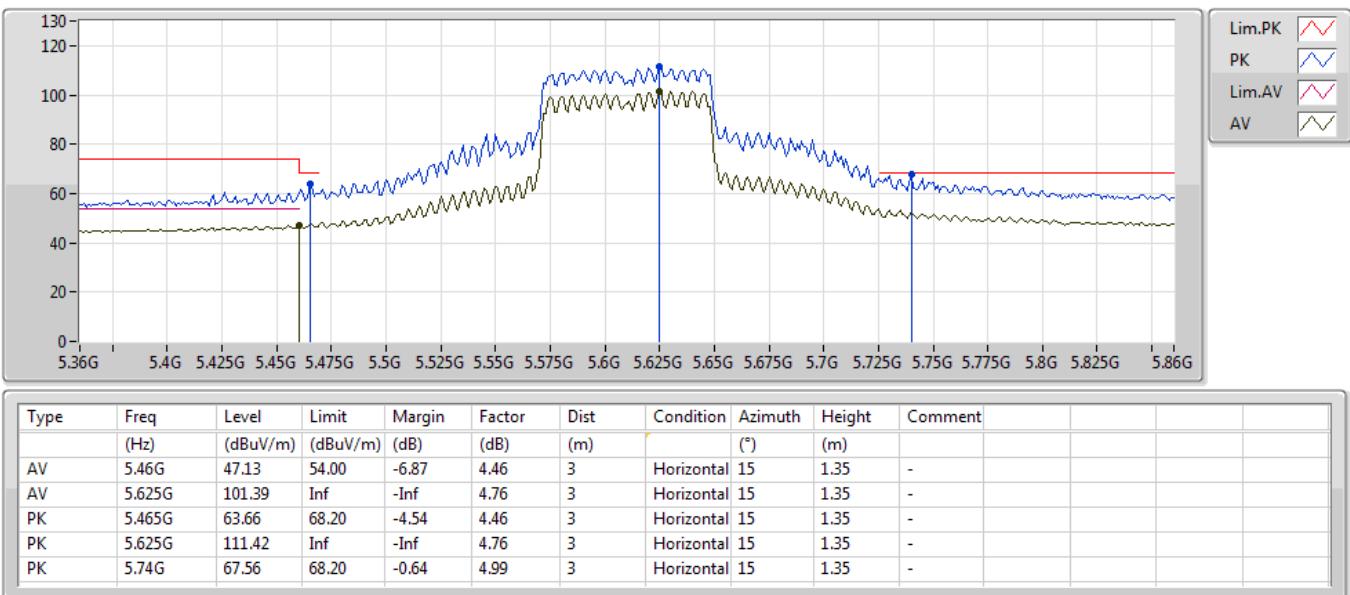
802.11ac VHT80_Nss1,(MCS0)_4TX

26/04/2019

5610MHz_TX


802.11ac VHT80_Nss1,(MCS0)_4TX

26/04/2019

5610MHz_TX


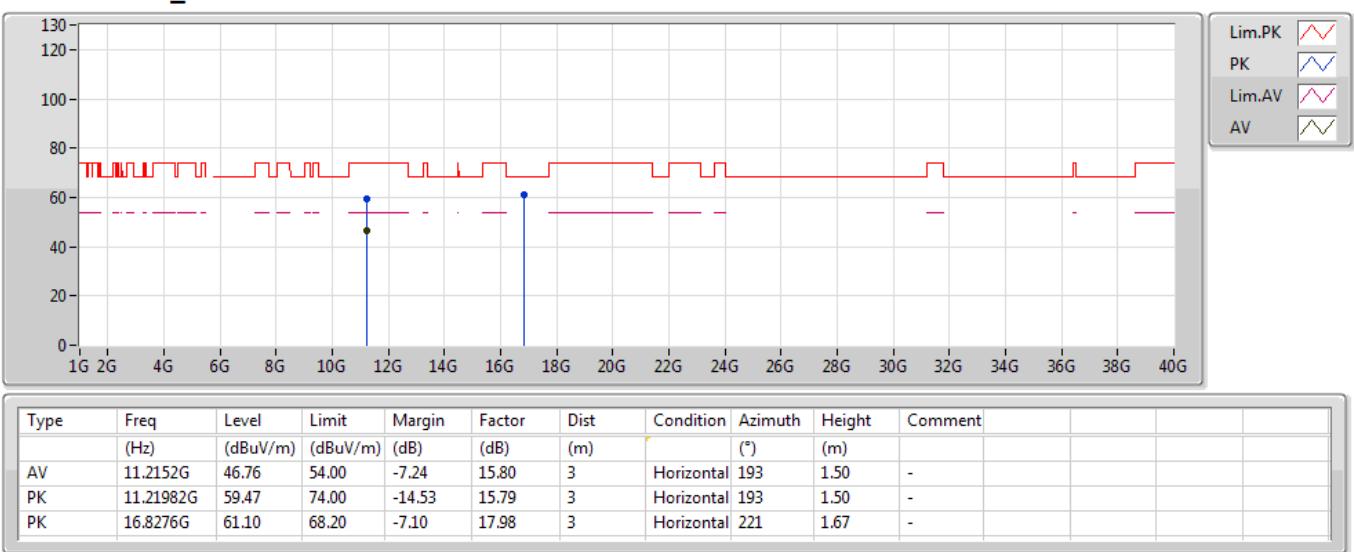
802.11ac VHT80_Nss1,(MCS0)_4TX

26/04/2019

5610MHz_TX


802.11ac VHT80_Nss1,(MCS0)_4TX
5610MHz_TX

26/04/2019



**Summary**

Mode	Result	Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comments
5.25-5.35GHz	-	-	-	-	-	-	-	-	-	-	-	-
802.11ac VHT20-BF_Nss1,(MCS0)_4TX	Pass	AV	10.60149G	53.85	54.00	-0.15	14.94	3	Horizontal	257	1.48	-
802.11ac VHT40-BF_Nss1,(MCS0)_4TX	Pass	AV	5.35G	53.75	54.00	-0.25	4.32	3	Vertical	157	1.27	-
802.11ac VHT80-BF_Nss1,(MCS0)_4TX	Pass	PK	5.355G	73.91	74.00	-0.09	4.32	3	Horizontal	347	1.49	-
5.47-5.725GHz	-	-	-	-	-	-	-	-	-	-	-	-
802.11ac VHT20-BF_Nss1,(MCS0)_4TX	Pass	AV	11.16024G	53.71	54.00	-0.29	15.85	3	Horizontal	194	1.70	-
802.11ac VHT40-BF_Nss1,(MCS0)_4TX	Pass	AV	11.09987G	53.98	54.00	-0.02	15.89	3	Horizontal	203	1.33	-
802.11ac VHT80-BF_Nss1,(MCS0)_4TX	Pass	PK	5.465G	68.08	68.20	-0.12	4.46	3	Vertical	207	2.28	-



Result

Mode	Result	Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comments
802.11ac VHT20-BF_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-	-	-	-	-
5260MHz	Pass	AV	5.1472G	44.57	54.00	-9.43	4.09	3	Vertical	75	1.34	-
5260MHz	Pass	AV	5.2678G	96.63	Inf	-Inf	4.23	3	Vertical	75	1.34	-
5260MHz	Pass	AV	5.3506G	47.83	54.00	-6.17	4.32	3	Vertical	75	1.34	-
5260MHz	Pass	PK	5.1478G	56.18	74.00	-17.82	4.09	3	Vertical	75	1.34	-
5260MHz	Pass	PK	5.2678G	106.51	Inf	-Inf	4.23	3	Vertical	75	1.34	-
5260MHz	Pass	PK	5.3524G	59.80	74.00	-14.20	4.32	3	Vertical	75	1.34	-
5260MHz	Pass	AV	5.1496G	43.86	54.00	-10.14	4.09	3	Horizontal	334	1.65	-
5260MHz	Pass	AV	5.2684G	97.10	Inf	-Inf	4.23	3	Horizontal	334	1.65	-
5260MHz	Pass	AV	5.3518G	47.44	54.00	-6.56	4.32	3	Horizontal	334	1.65	-
5260MHz	Pass	PK	5.146G	56.36	74.00	-17.64	4.09	3	Horizontal	334	1.65	-
5260MHz	Pass	PK	5.2516G	106.55	Inf	-Inf	4.21	3	Horizontal	334	1.65	-
5260MHz	Pass	PK	5.3668G	59.69	74.00	-14.31	4.34	3	Horizontal	334	1.65	-
5260MHz	Pass	PK	10.51978G	67.81	68.20	-0.39	14.74	3	Vertical	228	1.47	-
5260MHz	Pass	PK	10.5195G	68.03	68.20	-0.17	14.74	3	Horizontal	205	1.02	-
5300MHz	Pass	PK	5.2916G	106.06	Inf	-Inf	4.25	3	Vertical	96	1.18	-
5300MHz	Pass	AV	5.292G	95.86	Inf	-Inf	4.26	3	Vertical	96	1.18	-
5300MHz	Pass	PK	5.3532G	61.21	74.00	-12.79	4.32	3	Vertical	96	1.18	-
5300MHz	Pass	AV	5.35G	47.33	54.00	-6.67	4.32	3	Vertical	96	1.18	-
5300MHz	Pass	PK	5.3084G	105.28	Inf	-Inf	4.28	3	Horizontal	360	1.19	-
5300MHz	Pass	AV	5.2992G	97.23	Inf	-Inf	4.26	3	Horizontal	360	1.19	-
5300MHz	Pass	PK	5.3512G	62.40	74.00	-11.60	4.32	3	Horizontal	360	1.19	-
5300MHz	Pass	AV	5.3592G	49.09	54.00	-4.91	4.34	3	Horizontal	360	1.19	-
5300MHz	Pass	PK	10.60192G	67.63	74.00	-6.37	14.96	3	Vertical	230	1.50	-
5300MHz	Pass	AV	10.60099G	51.27	54.00	-2.73	14.94	3	Vertical	230	1.50	-
5300MHz	Pass	AV	10.60149G	53.85	54.00	-0.15	14.94	3	Horizontal	257	1.48	-
5300MHz	Pass	PK	10.60156G	69.80	74.00	-4.20	14.94	3	Horizontal	257	1.48	-
5320MHz	Pass	AV	5.3282G	96.41	Inf	-Inf	4.30	3	Vertical	260	1.48	-
5320MHz	Pass	AV	5.3502G	53.28	54.00	-0.72	4.32	3	Vertical	260	1.48	-
5320MHz	Pass	PK	5.3264G	106.57	Inf	-Inf	4.30	3	Vertical	260	1.48	-
5320MHz	Pass	PK	5.351G	70.80	74.00	-3.20	4.32	3	Vertical	260	1.48	-
5320MHz	Pass	AV	5.3282G	96.57	Inf	-Inf	4.30	3	Horizontal	1	1.50	-
5320MHz	Pass	AV	5.35G	53.62	54.00	-0.38	4.32	3	Horizontal	1	1.50	-
5320MHz	Pass	PK	5.3278G	106.33	Inf	-Inf	4.30	3	Horizontal	1	1.50	-
5320MHz	Pass	PK	5.3506G	71.45	74.00	-2.55	4.32	3	Horizontal	1	1.50	-
5320MHz	Pass	AV	10.64045G	51.93	54.00	-2.07	15.06	3	Vertical	97	1.52	-
5320MHz	Pass	PK	10.63825G	69.16	74.00	-4.84	15.04	3	Vertical	97	1.52	-
5320MHz	Pass	AV	10.64052G	52.34	54.00	-1.66	15.06	3	Horizontal	264	2.93	-
5320MHz	Pass	PK	10.63863G	69.51	74.00	-4.49	15.04	3	Horizontal	264	2.93	-
5500MHz	Pass	AV	5.4516G	46.25	54.00	-7.75	4.44	3	Vertical	164	1.50	-
5500MHz	Pass	AV	5.5084G	99.37	Inf	-Inf	4.52	3	Vertical	164	1.50	-
5500MHz	Pass	PK	5.4682G	67.89	68.20	-0.31	4.47	3	Vertical	164	1.50	-
5500MHz	Pass	PK	5.4928G	107.17	Inf	-Inf	4.49	3	Vertical	164	1.50	-
5500MHz	Pass	AV	5.4594G	46.51	54.00	-7.49	4.46	3	Horizontal	3	1.68	-
5500MHz	Pass	AV	5.5084G	97.32	Inf	-Inf	4.52	3	Horizontal	3	1.68	-
5500MHz	Pass	PK	5.4662G	63.32	68.20	-4.88	4.46	3	Horizontal	3	1.68	-
5500MHz	Pass	PK	5.5084G	107.29	Inf	-Inf	4.52	3	Horizontal	3	1.68	-
5500MHz	Pass	AV	10.98998G	45.67	54.00	-8.33	15.95	3	Vertical	259	1.38	-



RSE TX above 1GHz_Beamforming

Appendix D.2

Mode	Result	Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comments
5500MHz	Pass	PK	10.98818G	60.25	74.00	-13.75	15.94	3	Vertical	259	1.38	-
5500MHz	Pass	AV	10.99988G	52.99	54.00	-1.01	15.98	3	Horizontal	192	1.90	-
5500MHz	Pass	PK	10.99994G	68.76	74.00	-5.24	15.98	3	Horizontal	192	1.90	-
5580MHz	Pass	AV	5.457G	42.94	54.00	-11.06	4.45	3	Vertical	75	1.80	-
5580MHz	Pass	AV	5.5884G	100.09	Inf	-Inf	4.68	3	Vertical	75	1.80	-
5580MHz	Pass	PK	5.4696G	55.21	68.20	-12.99	4.47	3	Vertical	75	1.80	-
5580MHz	Pass	PK	5.5878G	108.34	Inf	-Inf	4.68	3	Vertical	75	1.80	-
5580MHz	Pass	PK	5.7282G	56.40	68.20	-11.80	4.96	3	Vertical	75	1.80	-
5580MHz	Pass	AV	5.4546G	43.11	54.00	-10.89	4.45	3	Horizontal	58	1.70	-
5580MHz	Pass	AV	5.5884G	98.70	Inf	-Inf	4.68	3	Horizontal	58	1.70	-
5580MHz	Pass	PK	5.4678G	56.29	68.20	-11.91	4.47	3	Horizontal	58	1.70	-
5580MHz	Pass	PK	5.5884G	107.66	Inf	-Inf	4.68	3	Horizontal	58	1.70	-
5580MHz	Pass	PK	5.7252G	56.47	68.20	-11.73	4.96	3	Horizontal	58	1.70	-
5580MHz	Pass	AV	11.15772G	48.10	54.00	-5.90	15.85	3	Vertical	101	1.50	-
5580MHz	Pass	PK	11.15916G	64.86	74.00	-9.14	15.85	3	Vertical	101	1.50	-
5580MHz	Pass	AV	11.16024G	53.71	54.00	-0.29	15.85	3	Horizontal	194	1.70	-
5580MHz	Pass	PK	11.15982G	70.03	74.00	-3.97	15.85	3	Horizontal	194	1.70	-
5700MHz	Pass	AV	5.6924G	95.72	Inf	-Inf	4.90	3	Vertical	314	1.50	-
5700MHz	Pass	AV	5.7252G	48.29	Inf	-Inf	4.96	3	Vertical	314	1.50	-
5700MHz	Pass	PK	5.692G	106.06	Inf	-Inf	4.90	3	Vertical	314	1.50	-
5700MHz	Pass	PK	5.7252G	67.59	68.20	-0.61	4.96	3	Vertical	314	1.50	-
5700MHz	Pass	AV	5.7084G	97.38	Inf	-Inf	4.93	3	Horizontal	309	1.52	-
5700MHz	Pass	AV	5.7252G	46.13	Inf	-Inf	4.96	3	Horizontal	309	1.52	-
5700MHz	Pass	PK	5.7084G	105.96	Inf	-Inf	4.93	3	Horizontal	309	1.52	-
5700MHz	Pass	PK	5.7256G	61.22	68.20	-6.98	4.96	3	Horizontal	309	1.52	-
5700MHz	Pass	AV	11.4003G	48.26	54.00	-5.74	15.64	3	Vertical	35	2.58	-
5700MHz	Pass	PK	11.3997G	65.57	74.00	-8.43	15.64	3	Vertical	35	2.58	-
5700MHz	Pass	AV	11.39946G	46.53	54.00	-7.47	15.64	3	Horizontal	117	1.69	-
5700MHz	Pass	PK	11.39886G	65.02	74.00	-8.98	15.64	3	Horizontal	117	1.69	-
802.11ac VHT40-BF_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-	-	-	-	-
5270MHz	Pass	PK	5.2864G	106.68	Inf	-Inf	4.24	3	Vertical	81	1.49	-
5270MHz	Pass	AV	5.2876G	96.76	Inf	-Inf	4.24	3	Vertical	81	1.49	-
5270MHz	Pass	PK	5.3552G	65.48	74.00	-8.52	4.32	3	Vertical	81	1.49	-
5270MHz	Pass	AV	5.35G	52.02	54.00	-1.98	4.32	3	Vertical	81	1.49	-
5270MHz	Pass	AV	5.2524G	98.22	Inf	-Inf	4.21	3	Horizontal	351	1.19	-
5270MHz	Pass	AV	5.35G	53.13	54.00	-0.87	4.32	3	Horizontal	351	1.19	-
5270MHz	Pass	PK	5.2524G	107.09	Inf	-Inf	4.21	3	Horizontal	351	1.19	-
5270MHz	Pass	PK	5.3552G	66.45	74.00	-7.55	4.32	3	Horizontal	351	1.19	-
5270MHz	Pass	AV	10.53922G	50.88	Inf	-Inf	14.79	3	Vertical	75	2.99	-
5270MHz	Pass	PK	10.53832G	65.92	68.20	-2.28	14.78	3	Vertical	75	2.99	-
5270MHz	Pass	AV	10.53946G	49.39	Inf	-Inf	14.80	3	Horizontal	291	1.47	-
5270MHz	Pass	PK	10.53922G	64.59	68.20	-3.61	14.79	3	Horizontal	291	1.47	-
5310MHz	Pass	AV	5.3188G	102.45	Inf	-Inf	4.29	3	Vertical	157	1.27	-
5310MHz	Pass	AV	5.35G	53.75	54.00	-0.25	4.32	3	Vertical	157	1.27	-
5310MHz	Pass	PK	5.3164G	113.12	Inf	-Inf	4.28	3	Vertical	157	1.27	-
5310MHz	Pass	PK	5.3516G	73.57	74.00	-0.43	4.32	3	Vertical	157	1.27	-
5310MHz	Pass	AV	5.3212G	100.55	Inf	-Inf	4.29	3	Horizontal	350	1.50	-
5310MHz	Pass	AV	5.35G	51.81	54.00	-2.19	4.32	3	Horizontal	350	1.50	-
5310MHz	Pass	PK	5.3176G	109.21	Inf	-Inf	4.29	3	Horizontal	350	1.50	-



RSE TX above 1GHz_Beamforming

Appendix D.2

Mode	Result	Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comments
5310MHz	Pass	PK	5.35G	70.50	74.00	-3.50	4.32	3	Horizontal	350	1.50	-
5310MHz	Pass	AV	10.6302G	44.24	54.00	-9.76	15.02	3	Vertical	79	2.39	-
5310MHz	Pass	PK	10.63326G	57.97	74.00	-16.03	15.04	3	Vertical	79	2.39	-
5310MHz	Pass	AV	10.62174G	43.55	54.00	-10.45	15.01	3	Horizontal	213	1.53	-
5310MHz	Pass	PK	10.61988G	57.92	74.00	-16.08	15.00	3	Horizontal	213	1.53	-
5510MHz	Pass	AV	5.458G	45.65	54.00	-8.35	4.45	3	Vertical	249	1.36	-
5510MHz	Pass	AV	5.5276G	96.15	Inf	-Inf	4.56	3	Vertical	249	1.36	-
5510MHz	Pass	PK	5.4696G	66.70	68.20	-1.50	4.47	3	Vertical	249	1.36	-
5510MHz	Pass	PK	5.5252G	108.69	Inf	-Inf	4.56	3	Vertical	249	1.36	-
5510MHz	Pass	AV	5.4584G	46.00	54.00	-8.00	4.46	3	Horizontal	214	1.47	-
5510MHz	Pass	AV	5.5276G	96.53	Inf	-Inf	4.56	3	Horizontal	214	1.47	-
5510MHz	Pass	PK	5.4688G	67.71	68.20	-0.49	4.47	3	Horizontal	214	1.47	-
5510MHz	Pass	PK	5.5276G	105.72	Inf	-Inf	4.56	3	Horizontal	214	1.47	-
5510MHz	Pass	AV	11.02056G	44.25	54.00	-9.75	15.96	3	Vertical	88	1.49	-
5510MHz	Pass	PK	11.02005G	57.55	74.00	-16.45	15.96	3	Vertical	88	1.49	-
5510MHz	Pass	AV	11.02172G	46.03	54.00	-7.97	15.96	3	Horizontal	207	1.57	-
5510MHz	Pass	PK	11.02003G	61.77	74.00	-12.23	15.96	3	Horizontal	207	1.57	-
5550MHz	Pass	AV	5.46G	47.56	54.00	-6.44	4.46	3	Vertical	206	1.47	-
5550MHz	Pass	AV	5.5572G	104.28	Inf	-Inf	4.61	3	Vertical	206	1.47	-
5550MHz	Pass	PK	5.4688G	67.87	68.20	-0.33	4.47	3	Vertical	206	1.47	-
5550MHz	Pass	PK	5.5416G	115.91	Inf	-Inf	4.59	3	Vertical	206	1.47	-
5550MHz	Pass	AV	5.46G	47.27	54.00	-6.73	4.46	3	Horizontal	77	1.33	-
5550MHz	Pass	AV	5.532G	105.82	Inf	-Inf	4.56	3	Horizontal	77	1.33	-
5550MHz	Pass	PK	5.4648G	65.44	68.20	-2.76	4.46	3	Horizontal	77	1.33	-
5550MHz	Pass	PK	5.5324G	115.99	Inf	-Inf	4.57	3	Horizontal	77	1.33	-
5550MHz	Pass	AV	11.09907G	50.01	54.00	-3.99	15.89	3	Vertical	109	1.54	-
5550MHz	Pass	PK	11.09998G	65.56	74.00	-8.44	15.89	3	Vertical	109	1.54	-
5550MHz	Pass	AV	11.09987G	53.98	54.00	-0.02	15.89	3	Horizontal	203	1.33	-
5550MHz	Pass	PK	11.09985G	70.53	74.00	-3.47	15.89	3	Horizontal	203	1.33	-
5670MHz	Pass	AV	5.6526G	103.41	Inf	-Inf	4.81	3	Vertical	210	2.19	-
5670MHz	Pass	PK	5.6562G	114.07	Inf	-Inf	4.82	3	Vertical	210	2.19	-
5670MHz	Pass	PK	5.7288G	67.37	68.20	-0.83	4.96	3	Vertical	210	2.19	-
5670MHz	Pass	AV	5.6634G	104.54	Inf	-Inf	4.83	3	Horizontal	20	1.47	-
5670MHz	Pass	PK	5.6622G	115.07	Inf	-Inf	4.83	3	Horizontal	20	1.47	-
5670MHz	Pass	PK	5.7276G	68.10	68.20	-0.10	4.96	3	Horizontal	20	1.47	-
5670MHz	Pass	AV	11.33857G	43.82	54.00	-10.18	15.70	3	Vertical	72	1.50	-
5670MHz	Pass	PK	11.33898G	57.69	74.00	-16.31	15.70	3	Vertical	72	1.50	-
5670MHz	Pass	AV	11.33928G	44.56	54.00	-9.44	15.70	3	Horizontal	129	1.49	-
5670MHz	Pass	PK	11.33946G	59.87	74.00	-14.13	15.69	3	Horizontal	129	1.49	-
802.11ac VHT80-BF_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-	-	-	-	-
5290MHz	Pass	AV	5.15G	44.70	54.00	-9.30	4.09	3	Vertical	173	1.12	-
5290MHz	Pass	AV	5.302G	99.10	Inf	-Inf	4.26	3	Vertical	173	1.12	-
5290MHz	Pass	AV	5.35G	53.17	54.00	-0.83	4.32	3	Vertical	173	1.12	-
5290MHz	Pass	PK	5.105G	57.56	74.00	-16.44	4.03	3	Vertical	173	1.12	-
5290MHz	Pass	PK	5.261G	110.70	Inf	-Inf	4.22	3	Vertical	173	1.12	-
5290MHz	Pass	PK	5.356G	73.64	74.00	-0.36	4.32	3	Vertical	173	1.12	-
5290MHz	Pass	AV	5.116G	44.26	54.00	-9.74	4.05	3	Horizontal	347	1.49	-
5290MHz	Pass	AV	5.316G	97.16	Inf	-Inf	4.28	3	Horizontal	347	1.49	-
5290MHz	Pass	AV	5.351G	51.71	54.00	-2.29	4.32	3	Horizontal	347	1.49	-

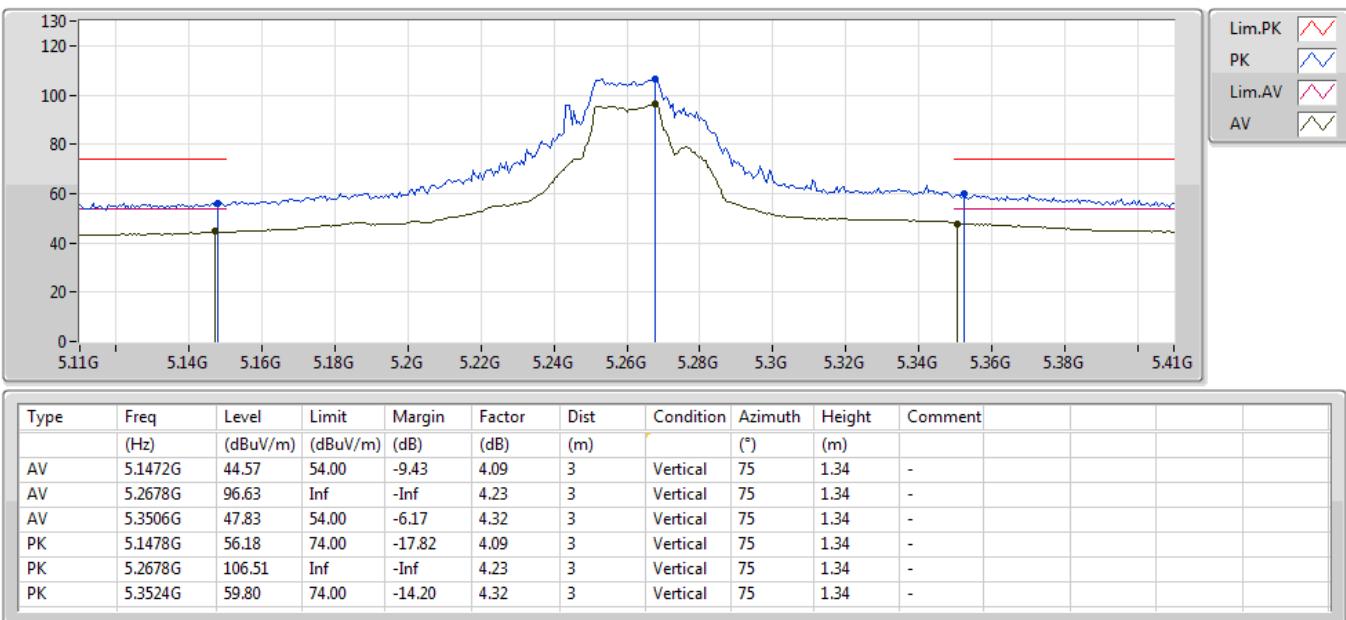


Mode	Result	Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comments
5290MHz	Pass	PK	5.148G	56.94	74.00	-17.06	4.09	3	Horizontal	347	1.49	-
5290MHz	Pass	PK	5.264G	108.43	Inf	-Inf	4.23	3	Horizontal	347	1.49	-
5290MHz	Pass	PK	5.355G	73.91	74.00	-0.09	4.32	3	Horizontal	347	1.49	-
5290MHz	Pass	PK	10.57478G	56.23	68.20	-11.97	14.88	3	Vertical	210	2.18	-
5290MHz	Pass	PK	10.58864G	57.01	68.20	-11.19	14.92	3	Horizontal	263	1.60	-
5530MHz	Pass	AV	5.46G	48.74	54.00	-5.26	4.46	3	Vertical	207	2.28	-
5530MHz	Pass	AV	5.561G	97.79	Inf	-Inf	4.63	3	Vertical	207	2.28	-
5530MHz	Pass	PK	5.465G	68.08	68.20	-0.12	4.46	3	Vertical	207	2.28	-
5530MHz	Pass	PK	5.502G	108.42	Inf	-Inf	4.50	3	Vertical	207	2.28	-
5530MHz	Pass	PK	5.74G	57.87	68.20	-10.33	4.99	3	Vertical	207	2.28	-
5530MHz	Pass	AV	5.46G	47.92	54.00	-6.08	4.46	3	Horizontal	78	1.50	-
5530MHz	Pass	AV	5.493G	97.52	Inf	-Inf	4.49	3	Horizontal	78	1.50	-
5530MHz	Pass	PK	5.466G	65.18	68.20	-3.02	4.46	3	Horizontal	78	1.50	-
5530MHz	Pass	PK	5.494G	107.50	Inf	-Inf	4.50	3	Horizontal	78	1.50	-
5530MHz	Pass	PK	5.731G	58.05	68.20	-10.15	4.97	3	Horizontal	78	1.50	-
5530MHz	Pass	AV	11.06222G	43.81	54.00	-10.19	15.92	3	Vertical	359	1.50	-
5530MHz	Pass	PK	11.0702G	58.04	74.00	-15.96	15.91	3	Vertical	359	1.50	-
5530MHz	Pass	AV	11.06318G	44.81	54.00	-9.19	15.92	3	Horizontal	198	1.75	-
5530MHz	Pass	PK	11.06654G	58.75	74.00	-15.25	15.92	3	Horizontal	198	1.75	-
5610MHz	Pass	AV	5.453G	45.94	54.00	-8.06	4.45	3	Vertical	201	2.35	-
5610MHz	Pass	AV	5.646G	101.37	Inf	-Inf	4.80	3	Vertical	201	2.35	-
5610MHz	Pass	PK	5.465G	58.29	68.20	-9.91	4.46	3	Vertical	201	2.35	-
5610MHz	Pass	PK	5.587G	112.48	Inf	-Inf	4.68	3	Vertical	201	2.35	-
5610MHz	Pass	PK	5.733G	61.03	68.20	-7.17	4.98	3	Vertical	201	2.35	-
5610MHz	Pass	AV	5.46G	46.23	54.00	-7.77	4.46	3	Horizontal	11	1.09	-
5610MHz	Pass	AV	5.628G	103.30	Inf	-Inf	4.77	3	Horizontal	11	1.09	-
5610MHz	Pass	PK	5.465G	60.35	68.20	-7.85	4.46	3	Horizontal	11	1.09	-
5610MHz	Pass	PK	5.626G	112.46	Inf	-Inf	4.77	3	Horizontal	11	1.09	-
5610MHz	Pass	PK	5.726G	67.90	68.20	-0.30	4.96	3	Horizontal	11	1.09	-
5610MHz	Pass	AV	11.2073G	43.86	54.00	-10.14	15.80	3	Vertical	86	1.50	-
5610MHz	Pass	PK	11.2043G	57.69	74.00	-16.31	15.80	3	Vertical	86	1.50	-
5610MHz	Pass	AV	11.21508G	45.53	54.00	-8.47	15.80	3	Horizontal	200	1.37	-
5610MHz	Pass	PK	11.23224G	59.25	74.00	-14.75	15.78	3	Horizontal	200	1.37	-



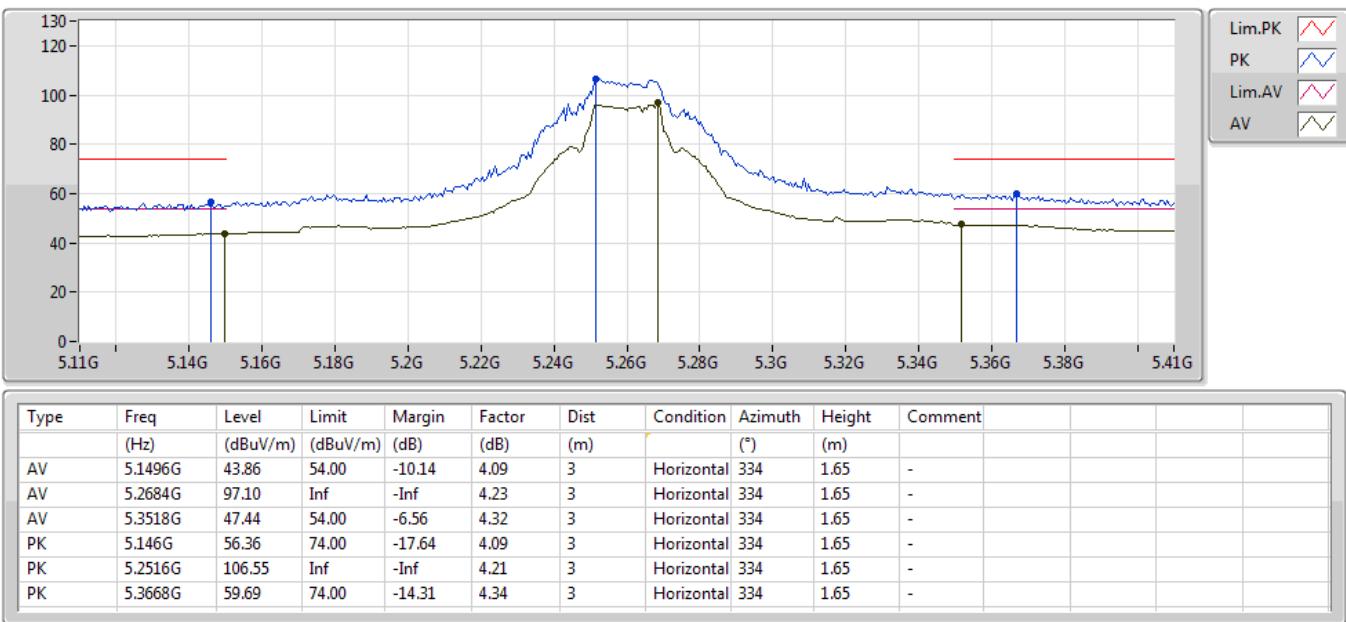
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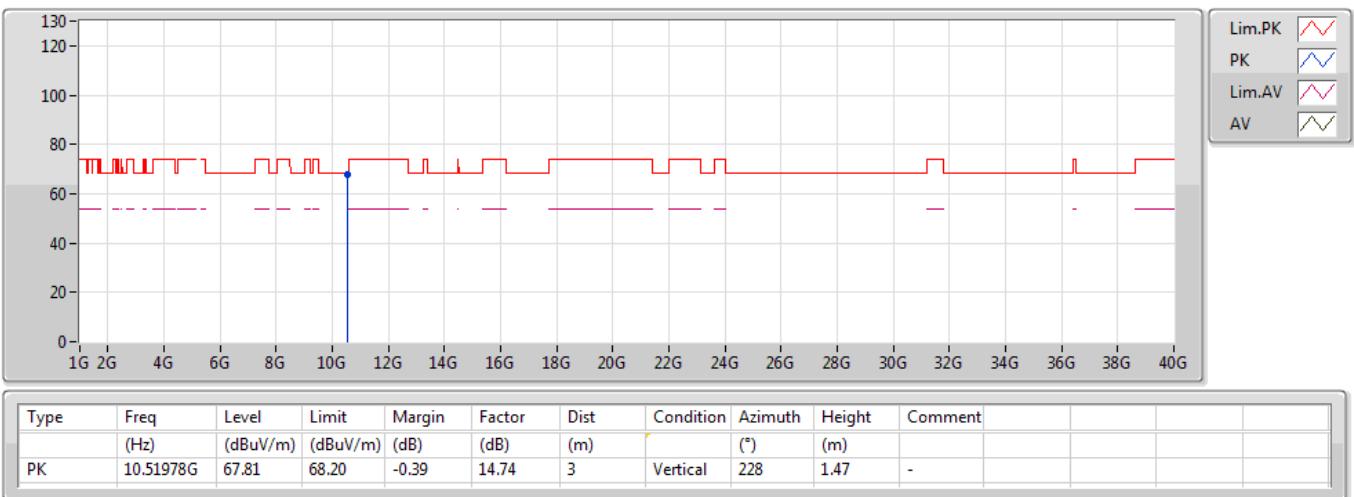
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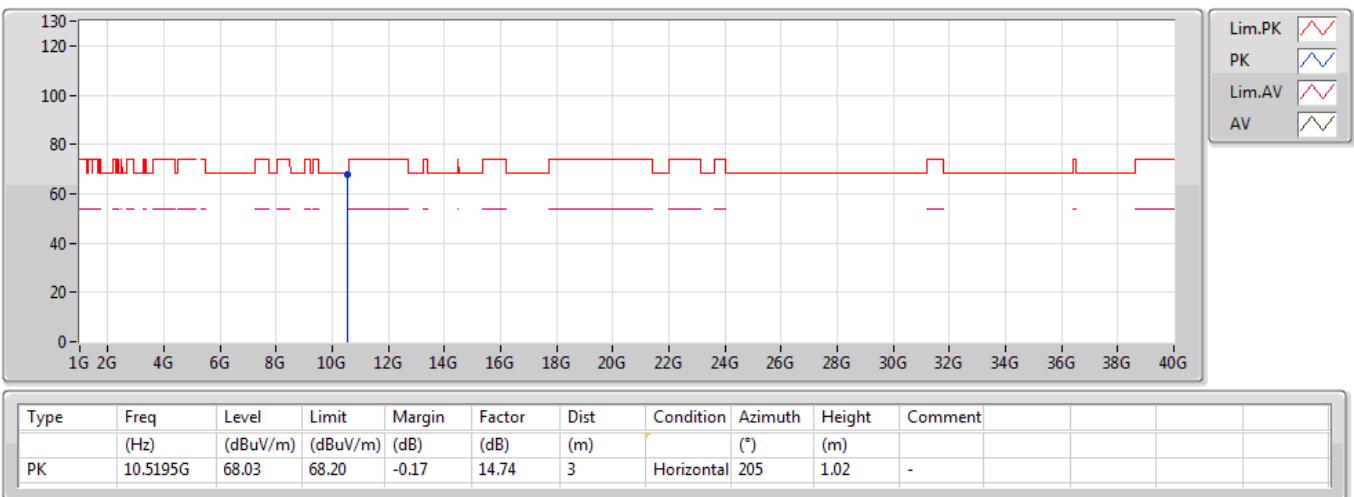
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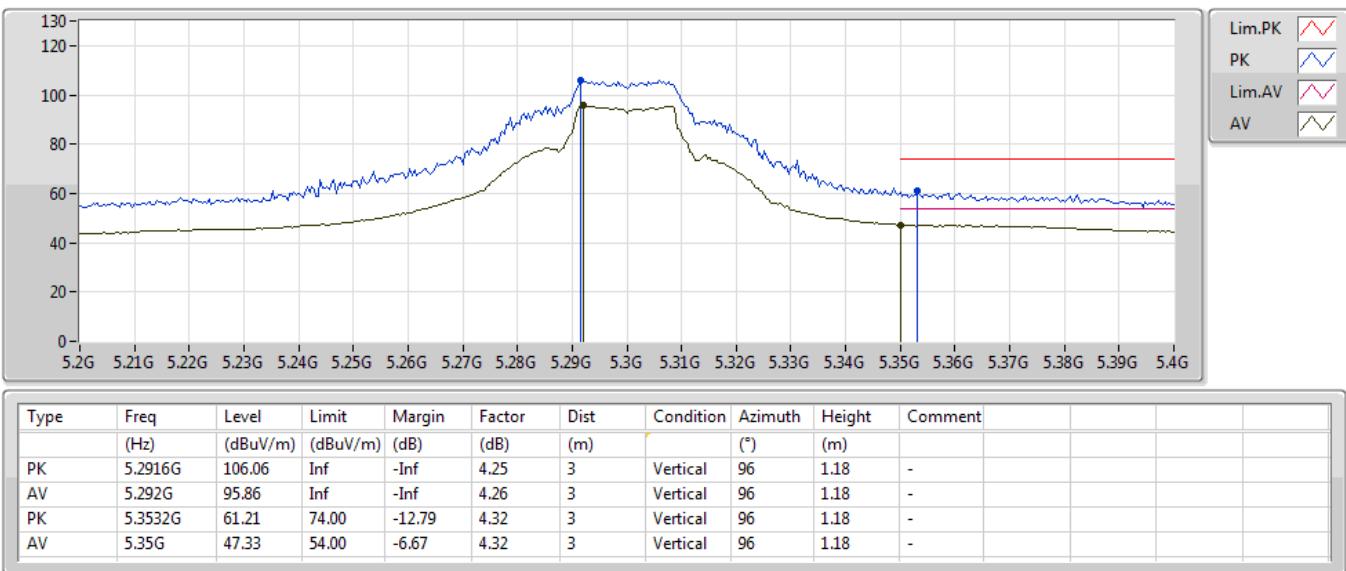
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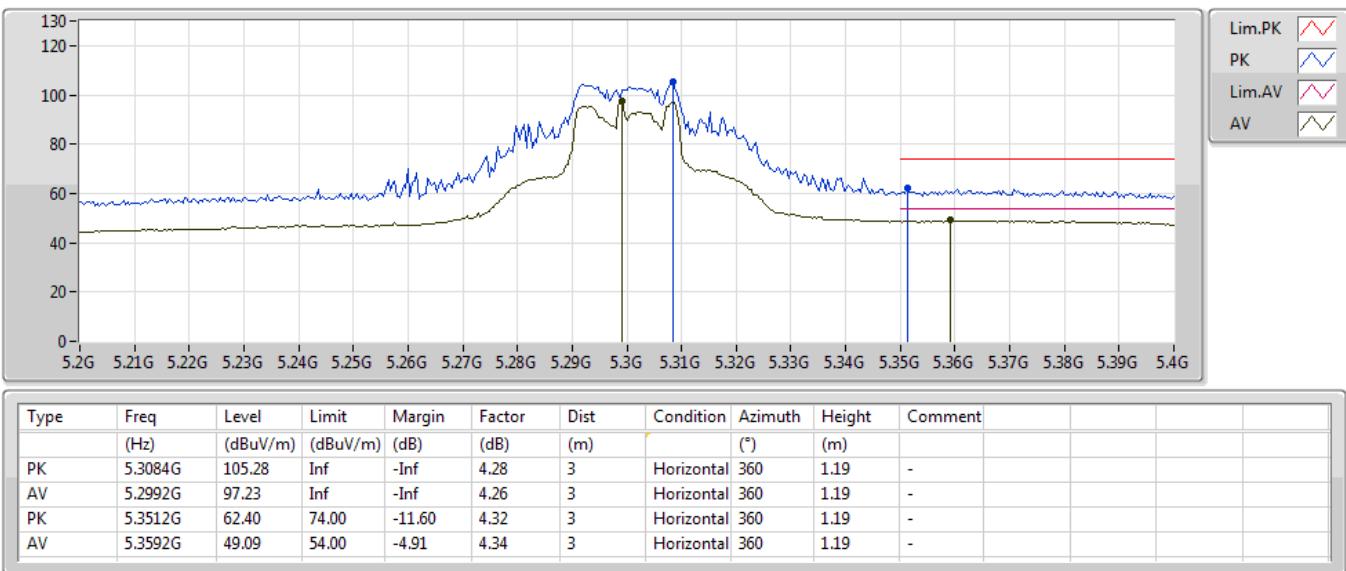
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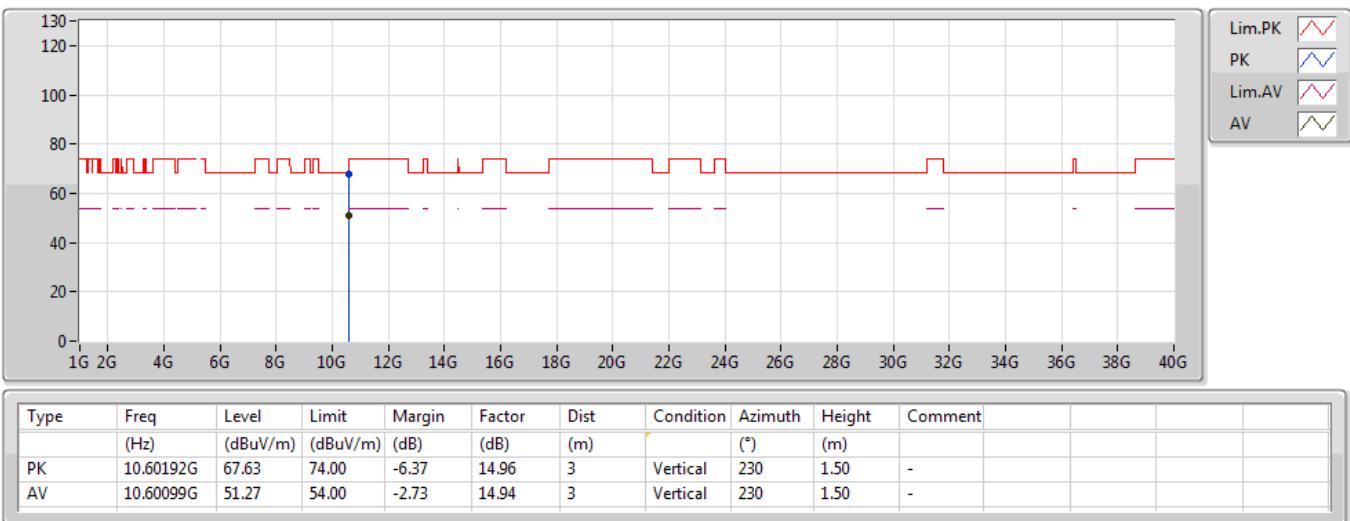
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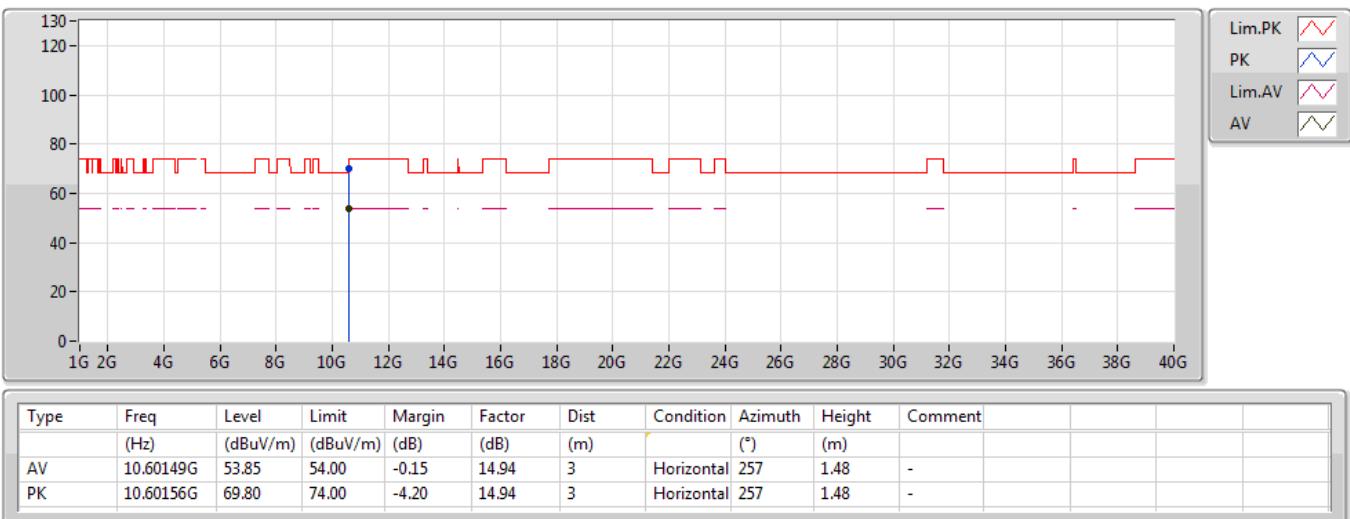
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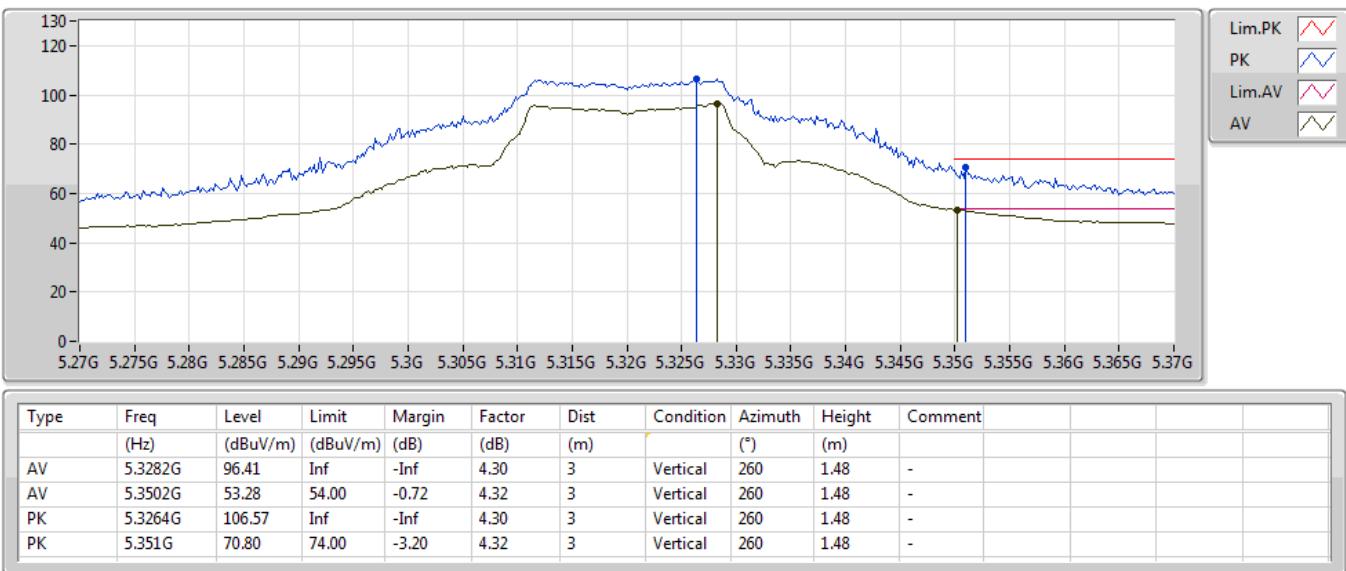
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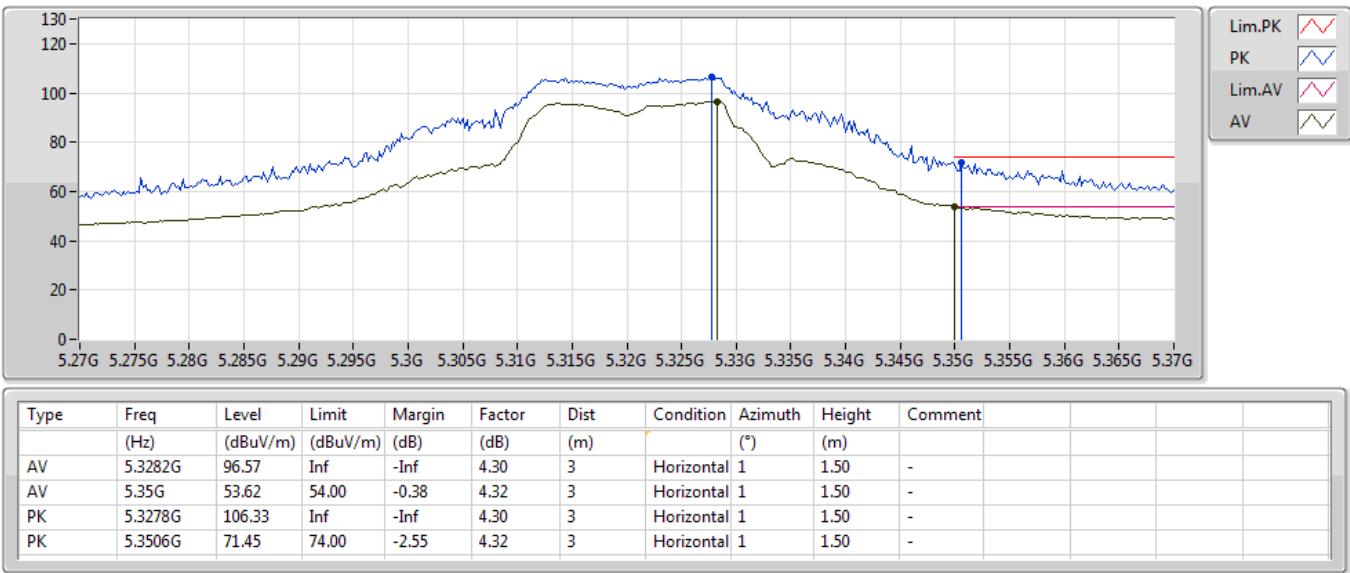
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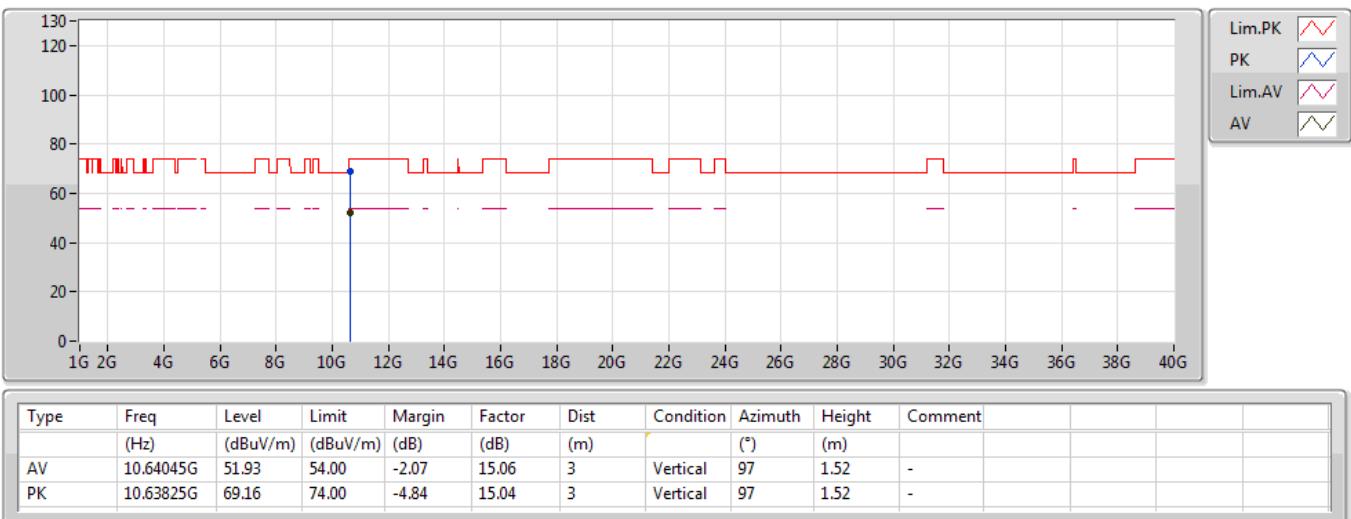
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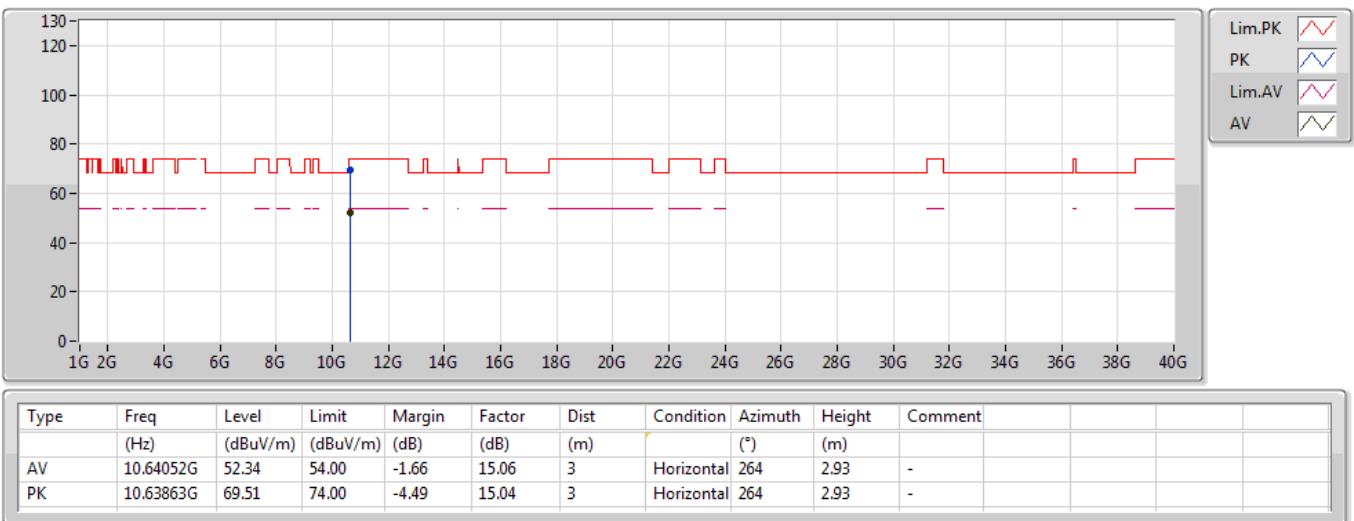
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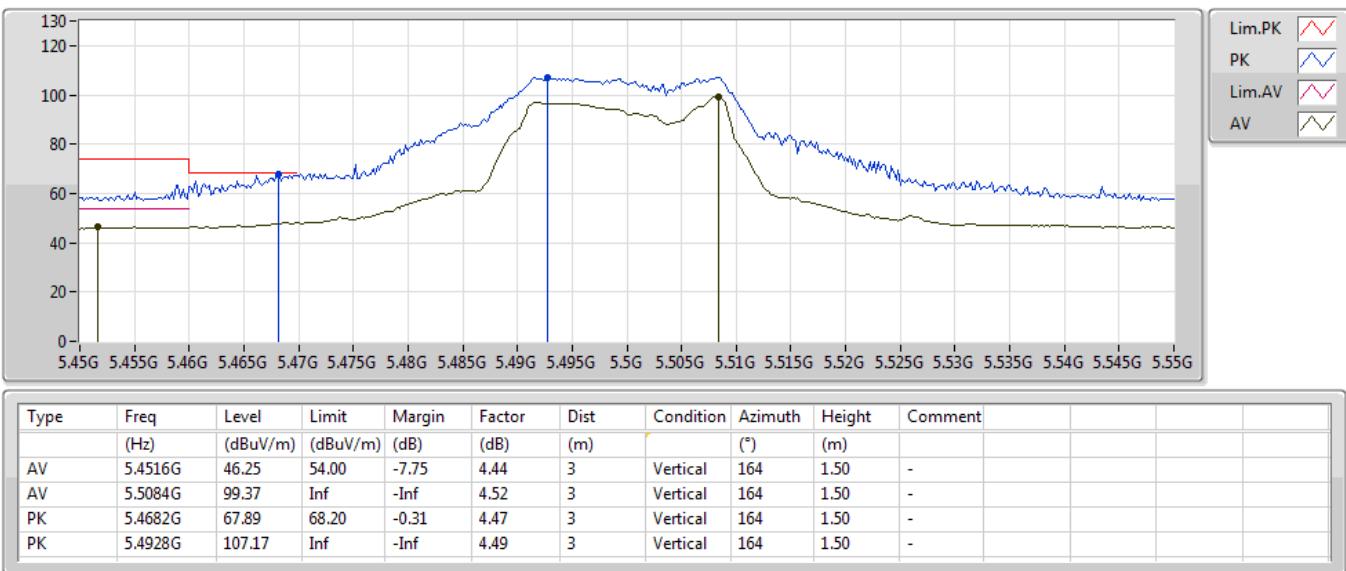
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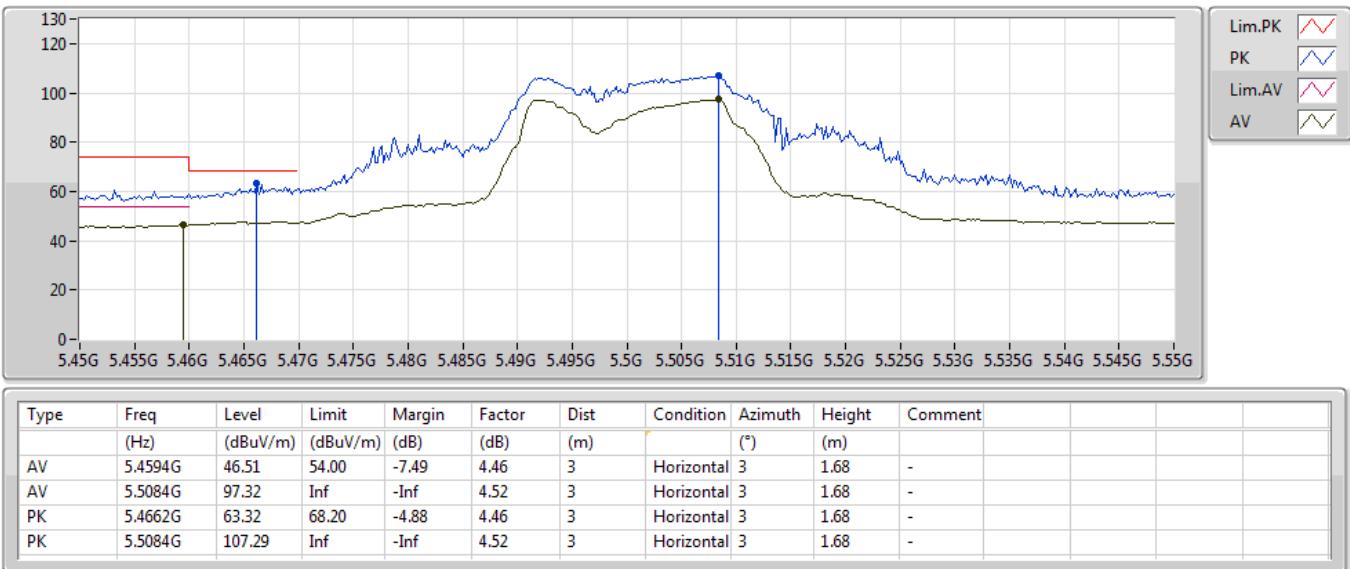
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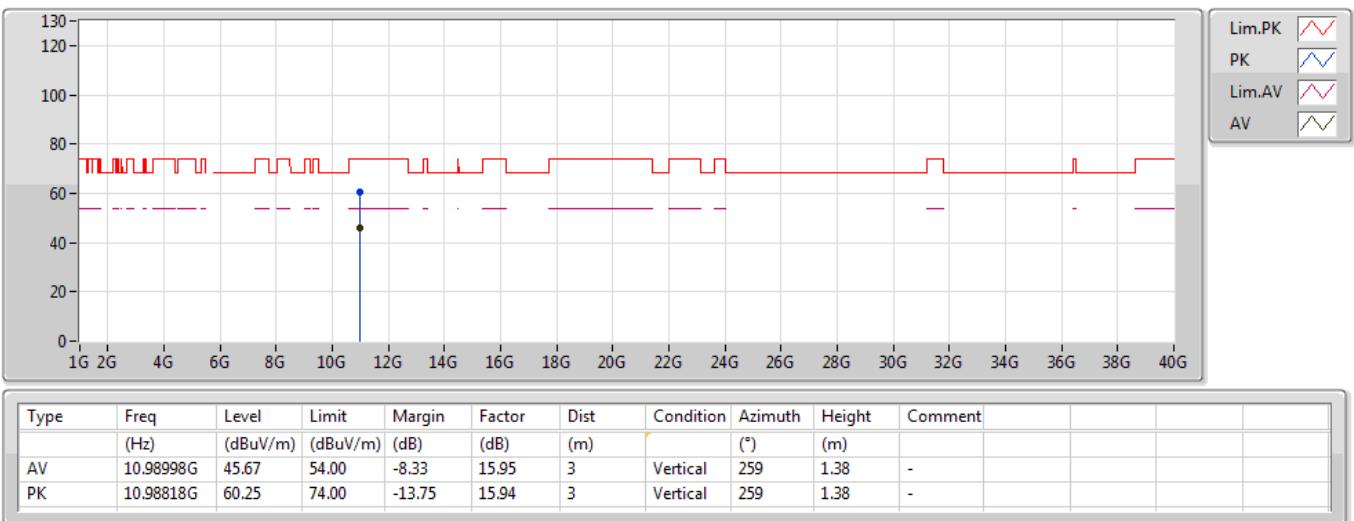
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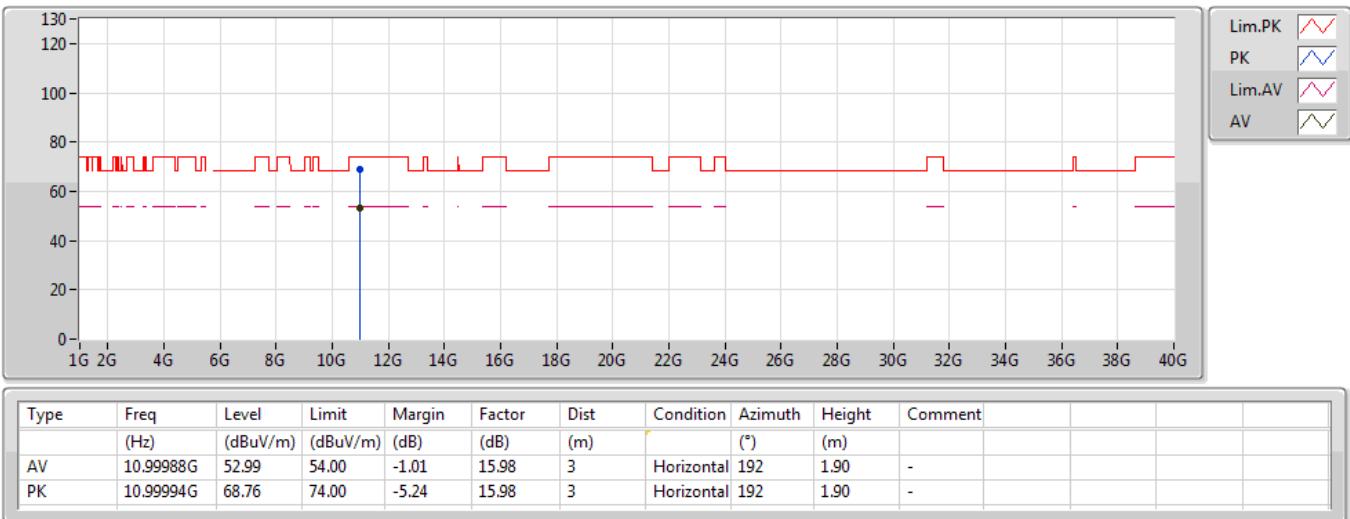
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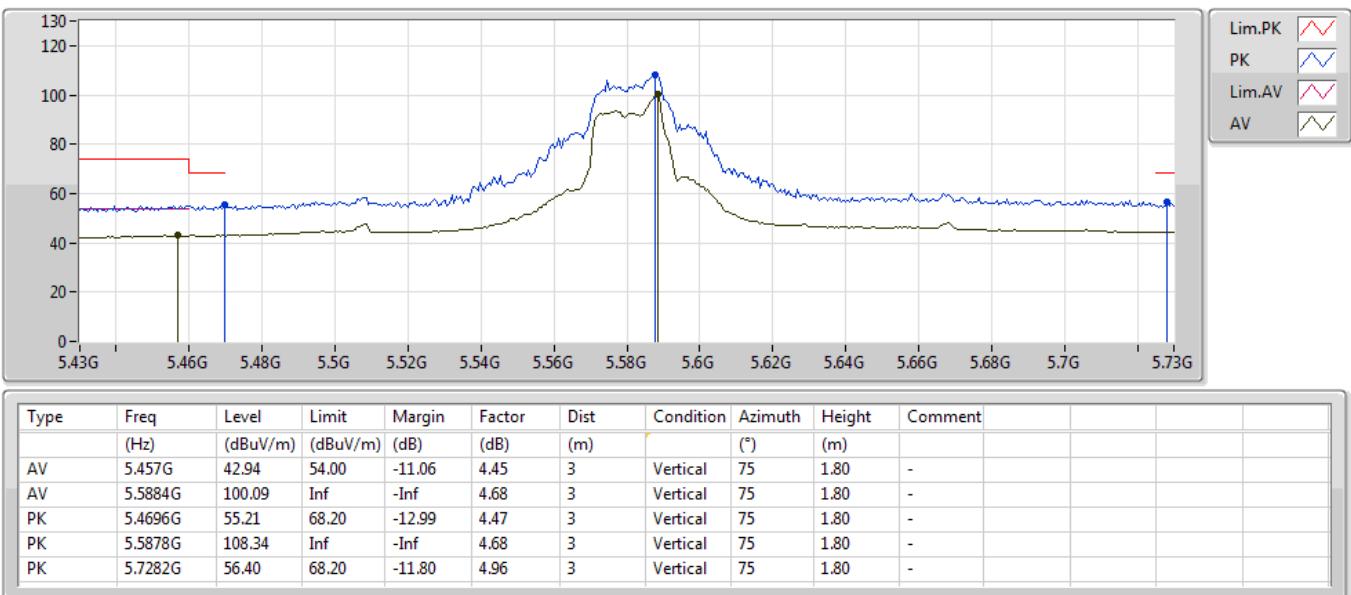
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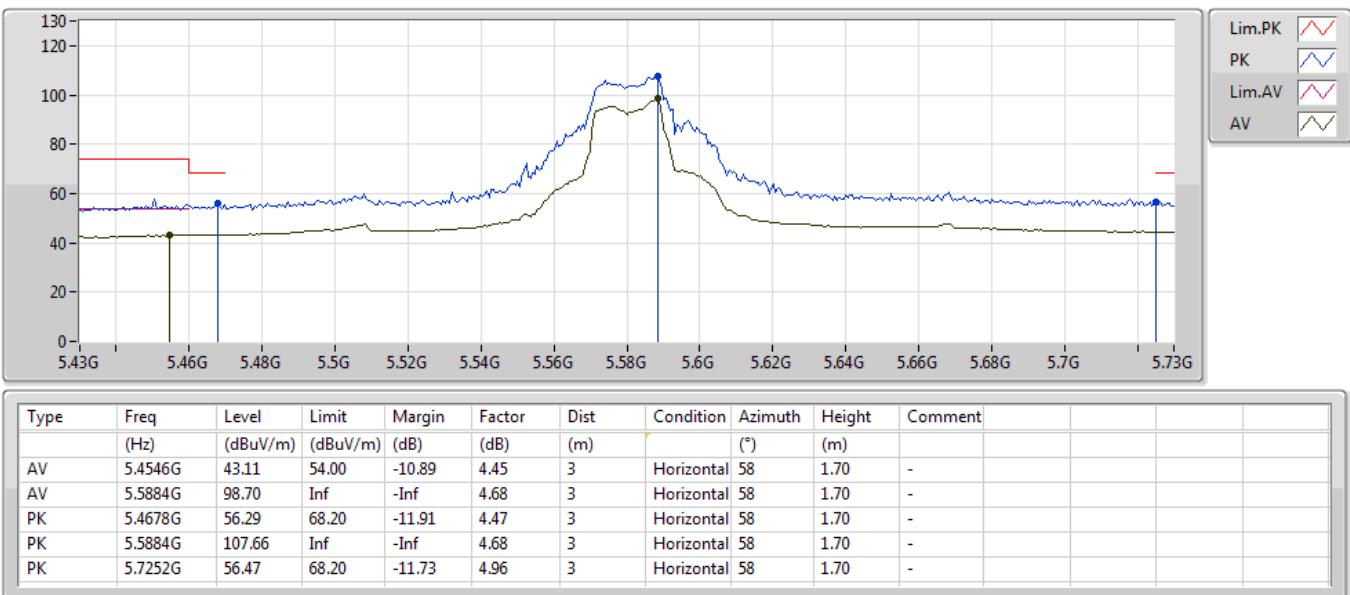
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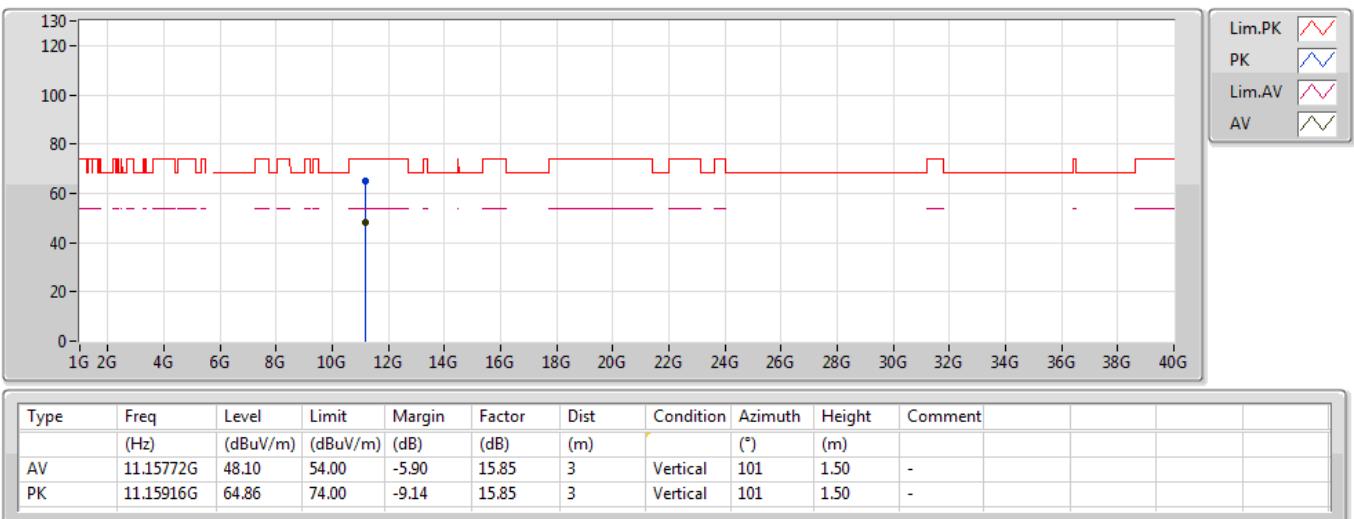
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5580MHz_TX


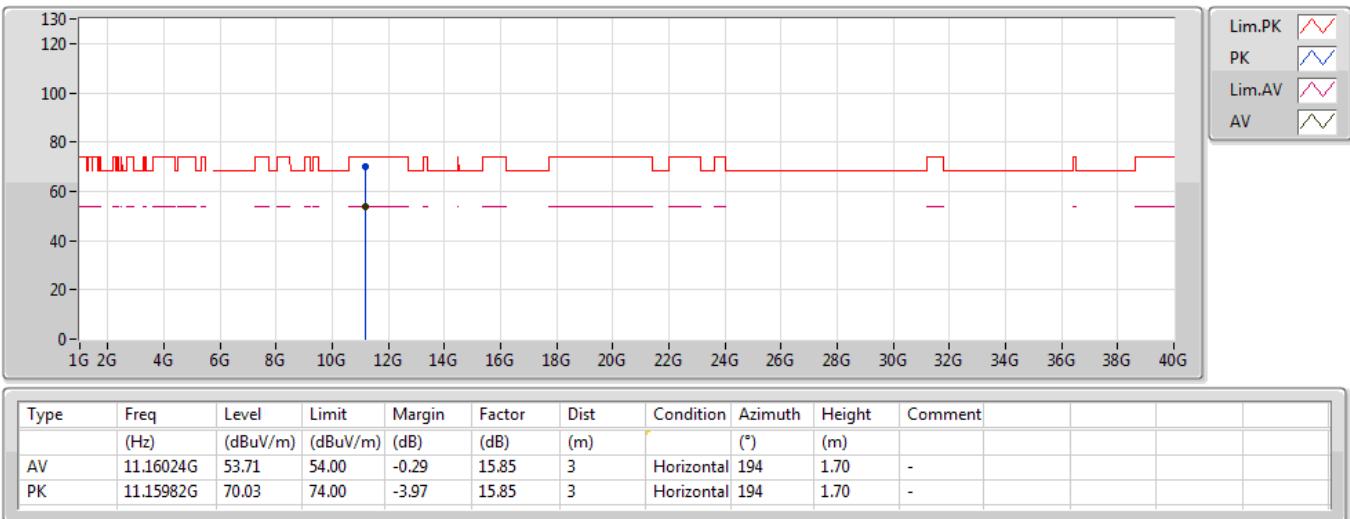
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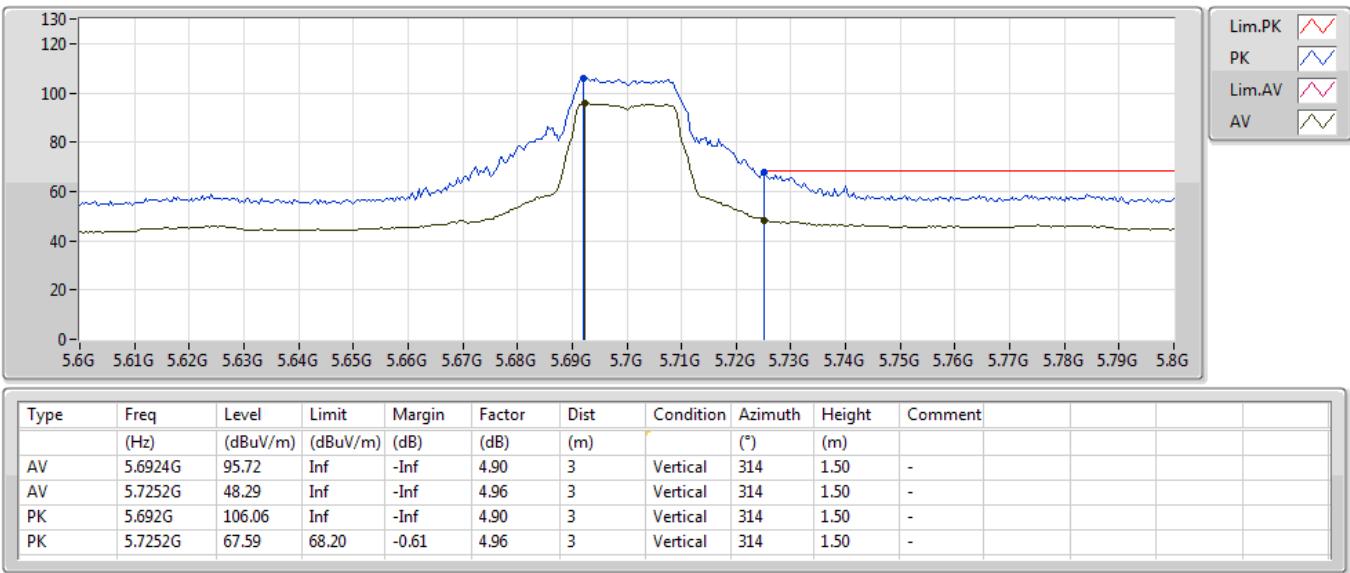
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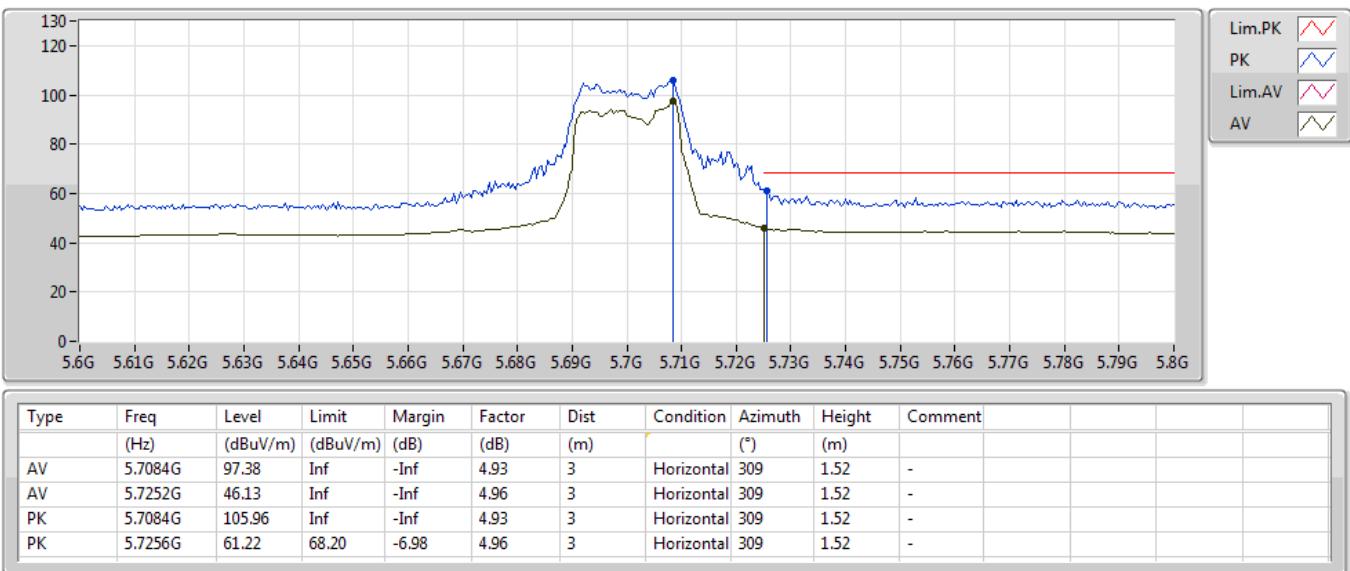
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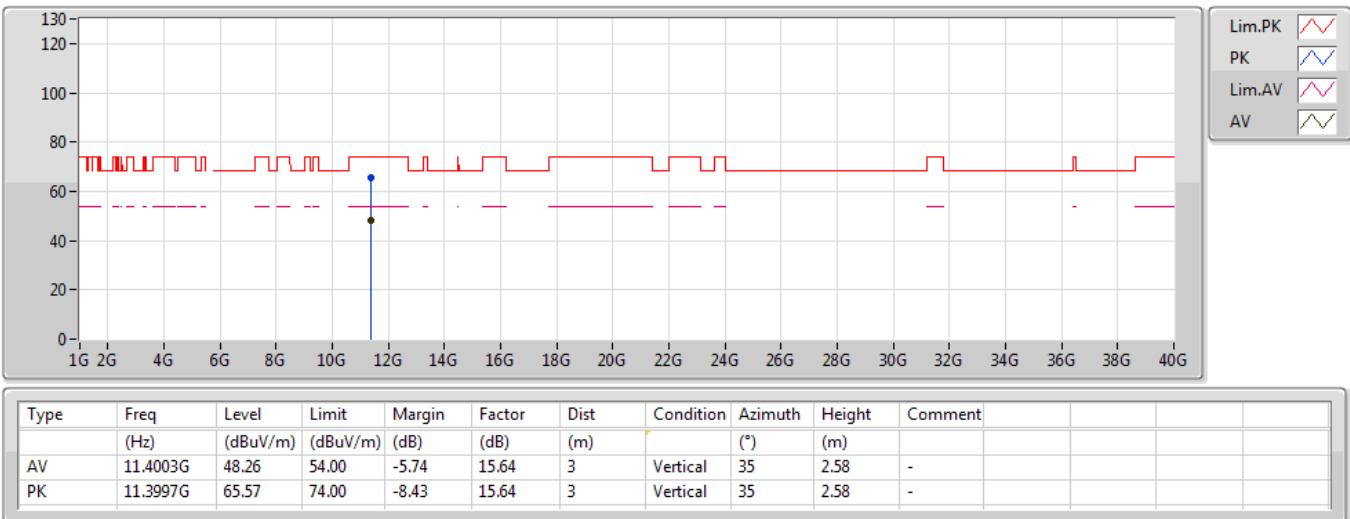
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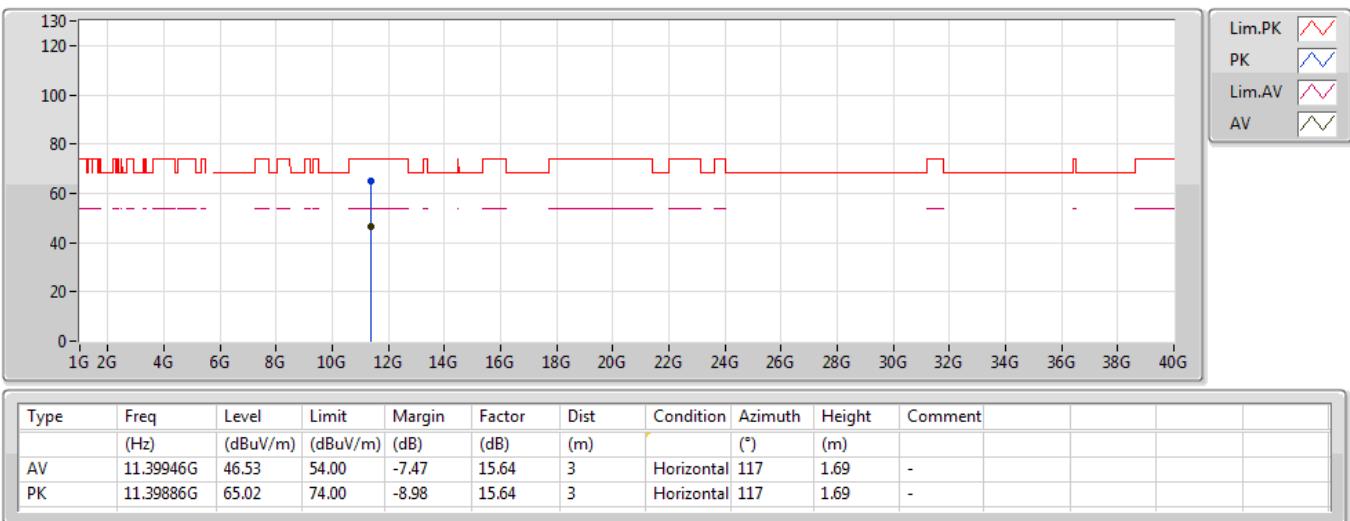
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22/04/2019

5700MHz_TX


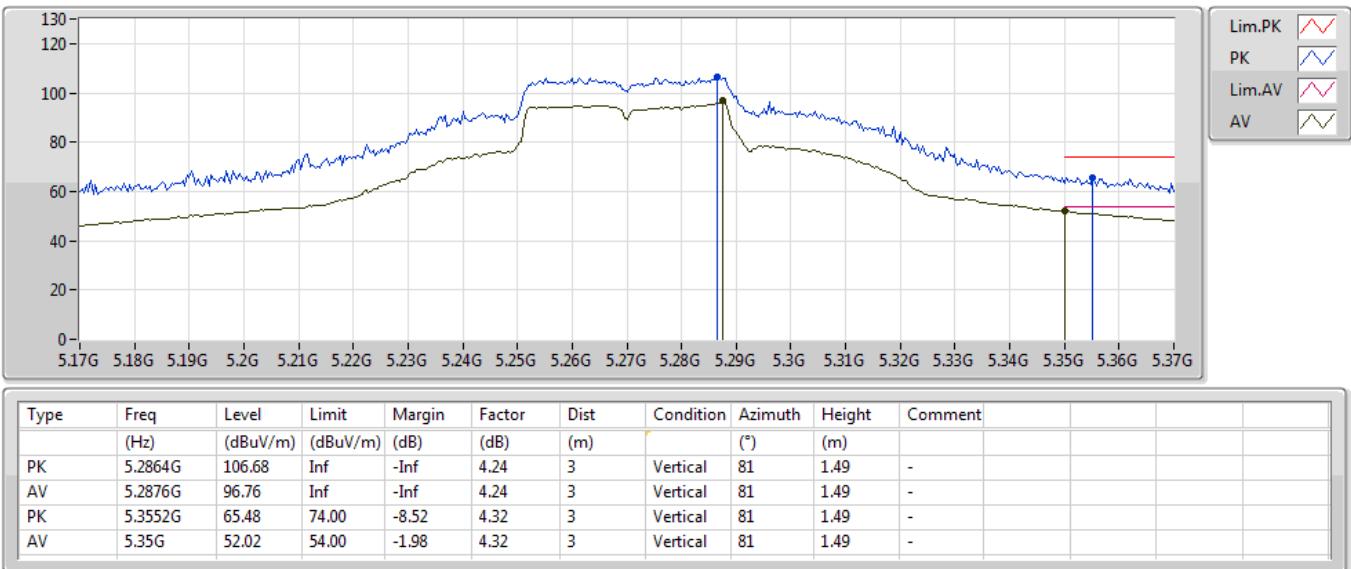
802.11ac VHT20-BF_Nss1,(MCS0)_4TX

22/04/2019

5700MHz_TX


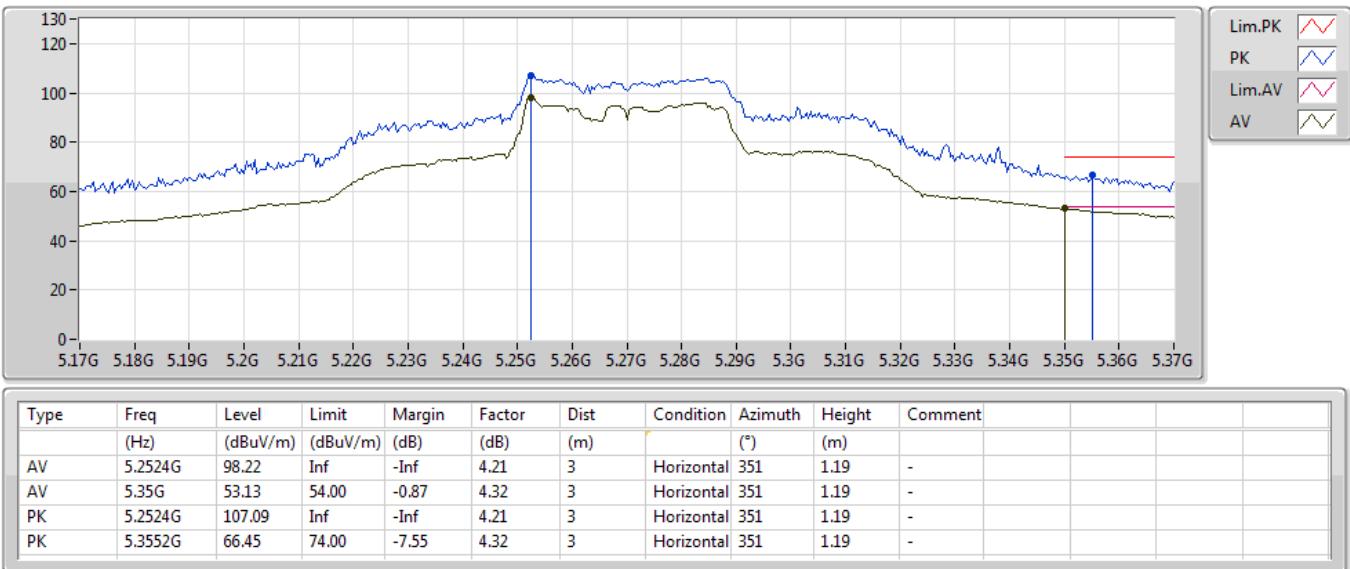
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22/04/2019

5270MHz_TX


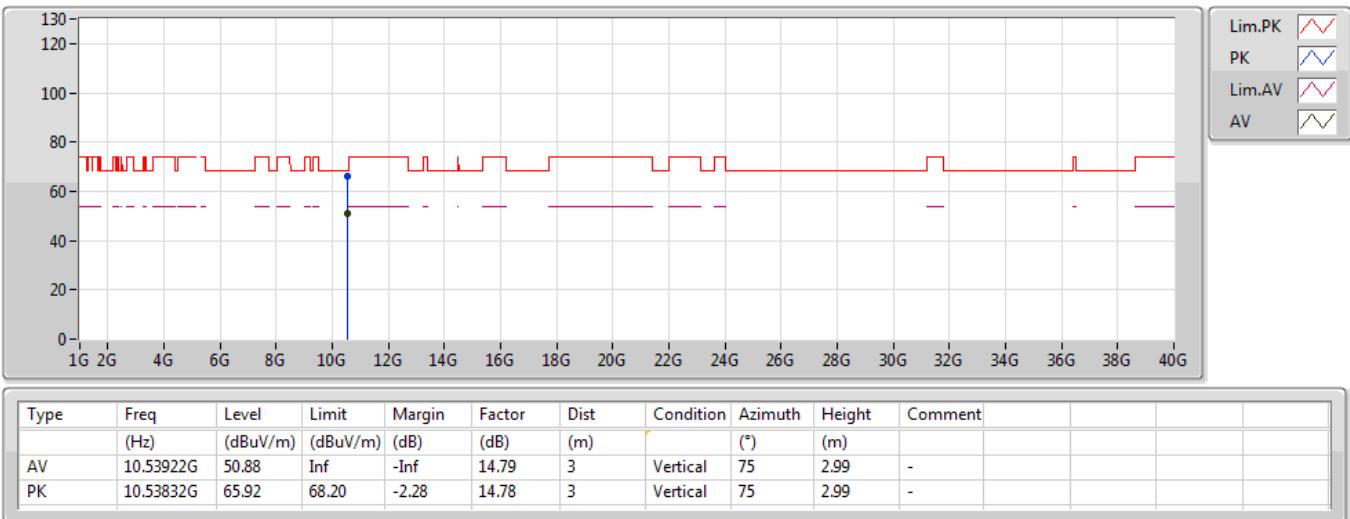
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22/04/2019

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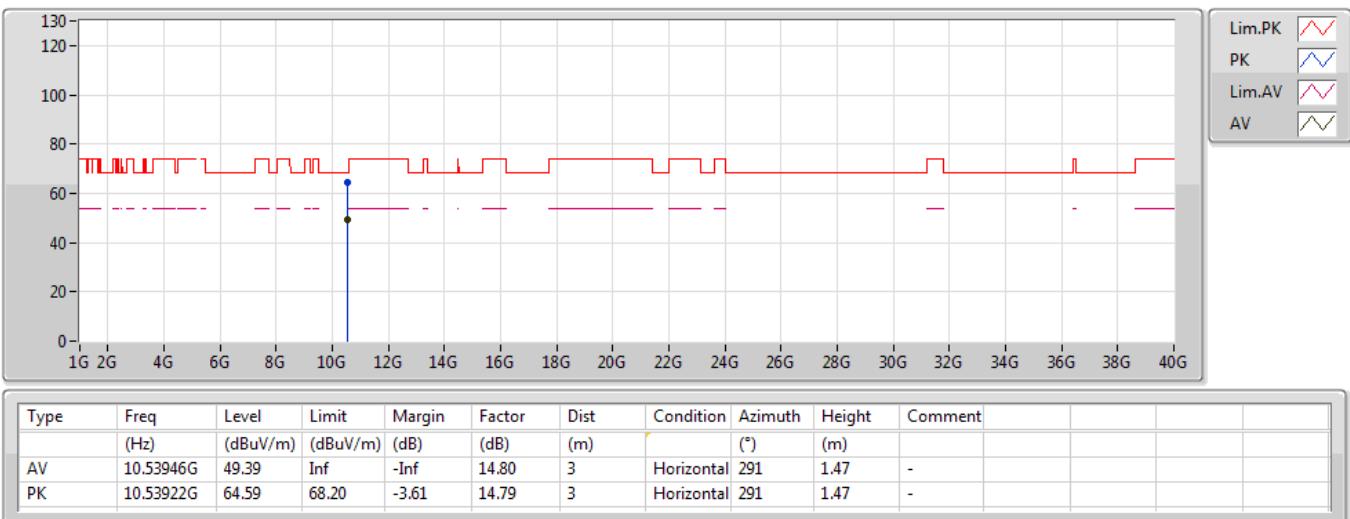
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22/04/2019

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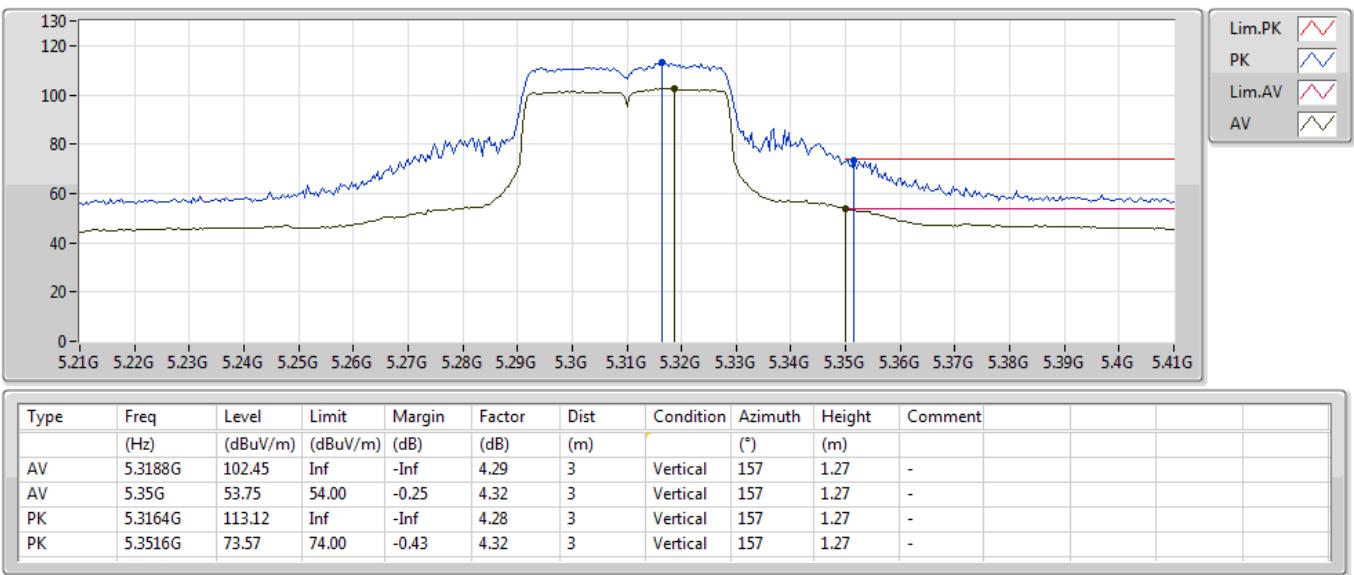
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22/04/2019

5270MHz_TX


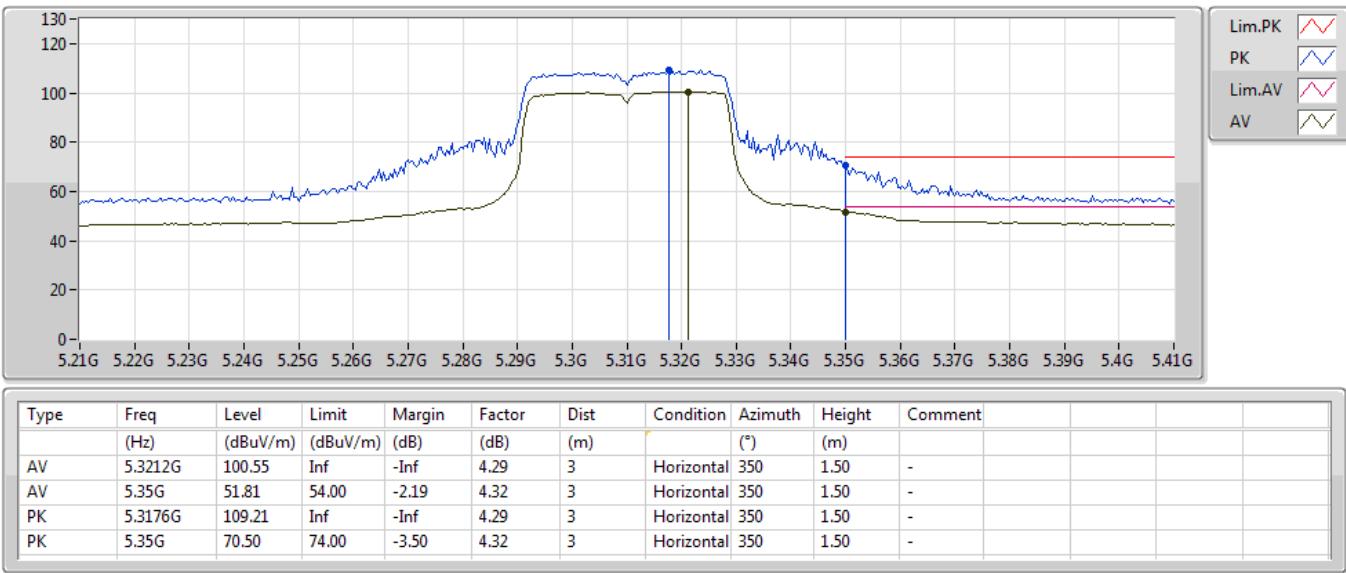
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22/04/2019

5310MHz_TX


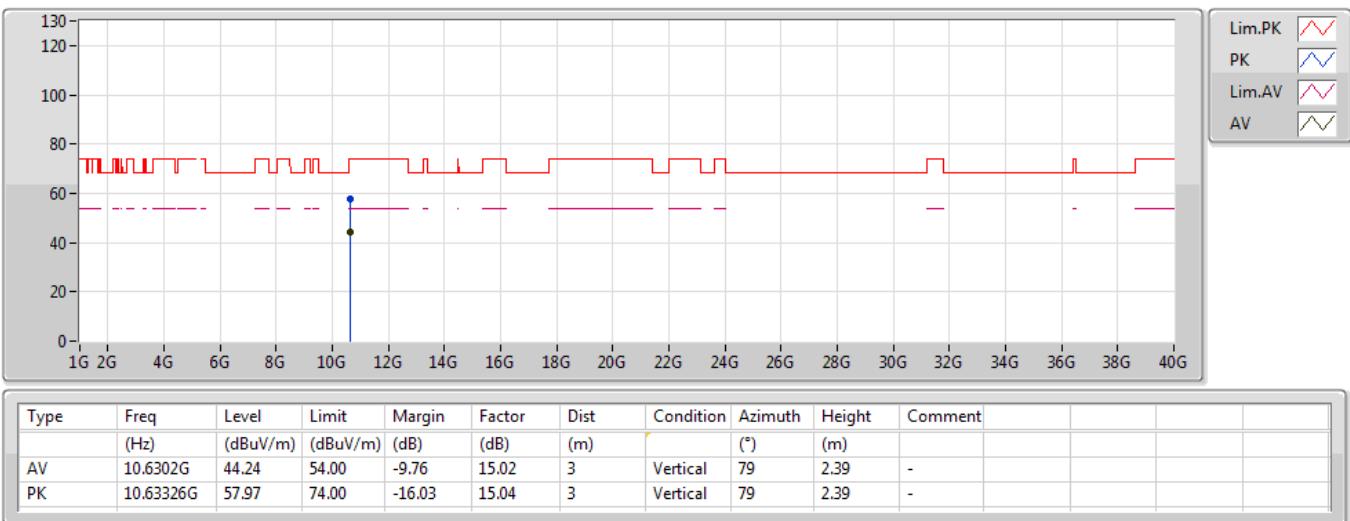
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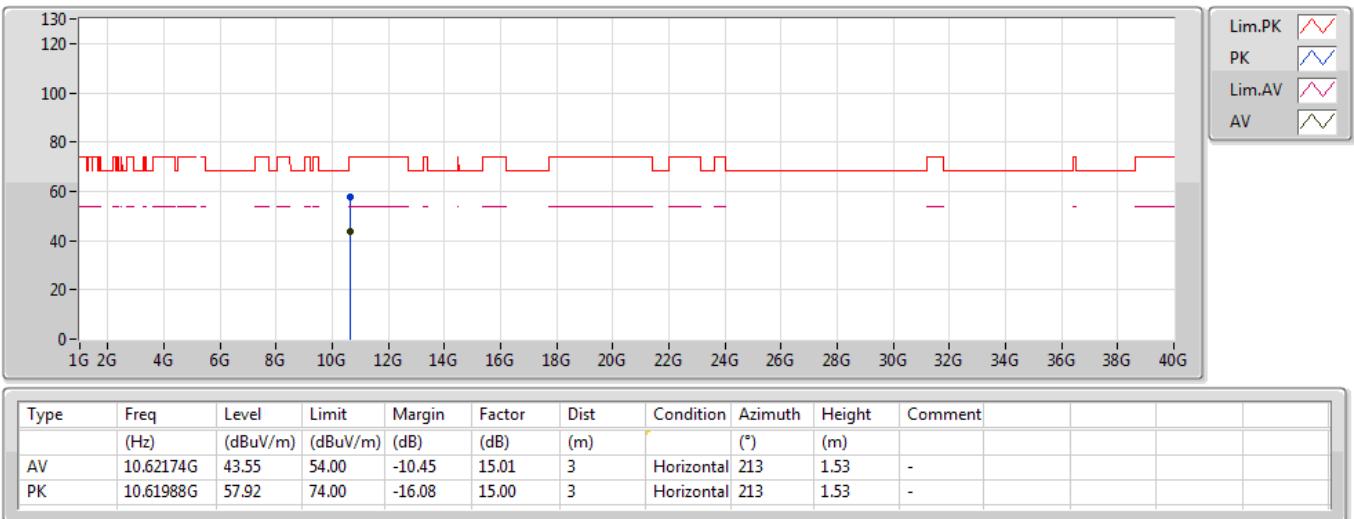
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22/04/2019

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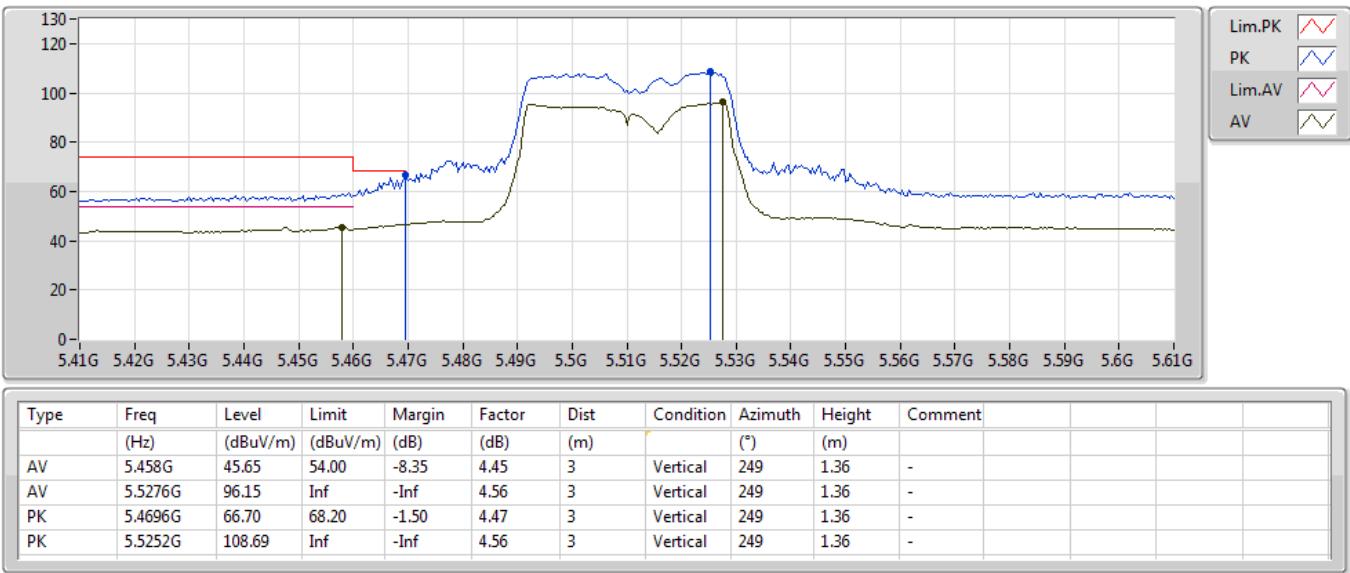
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22/04/2019

5310MHz_TX


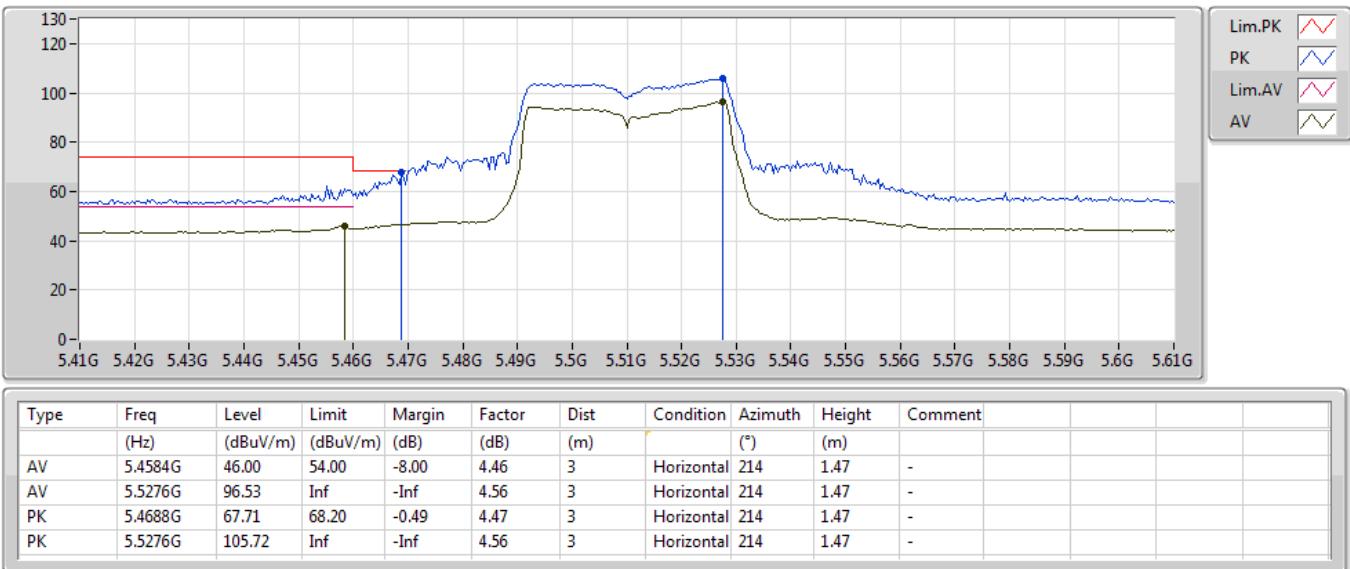
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23/04/2019

5510MHz_TX


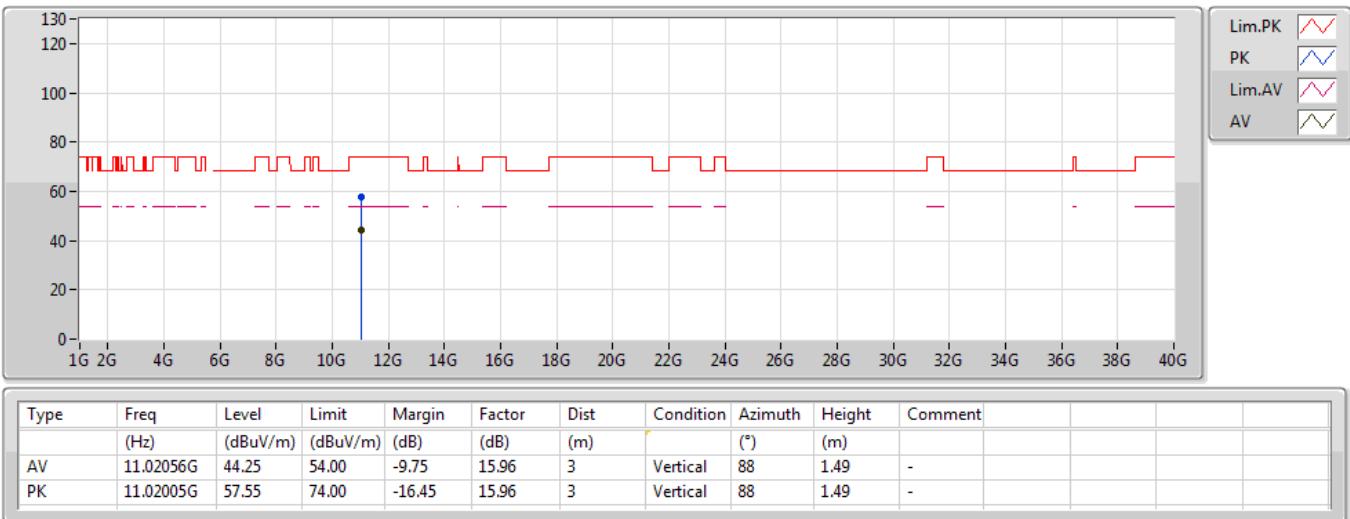
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23/04/2019

5510MHz_TX


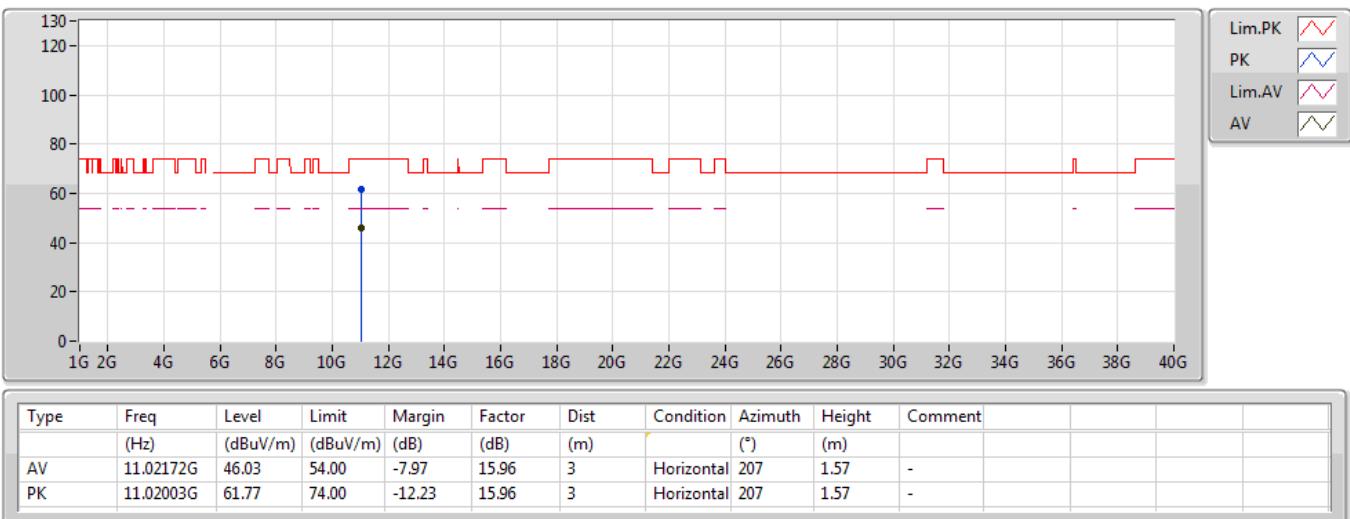
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23/04/2019

5510MHz_TX


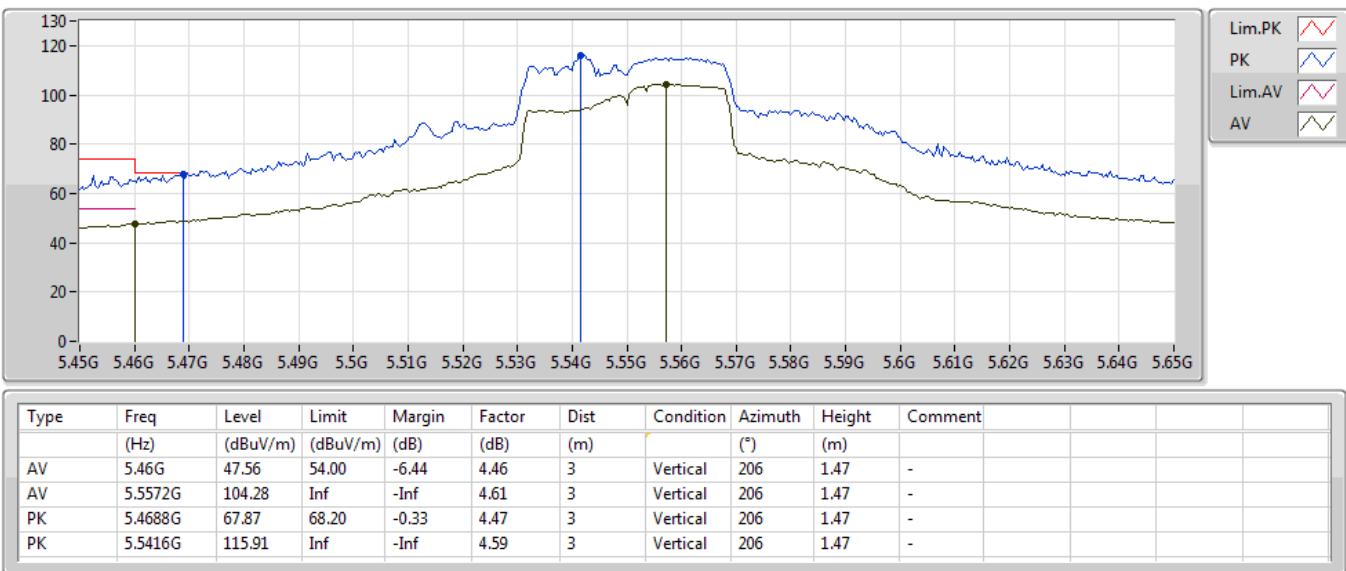
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23/04/2019

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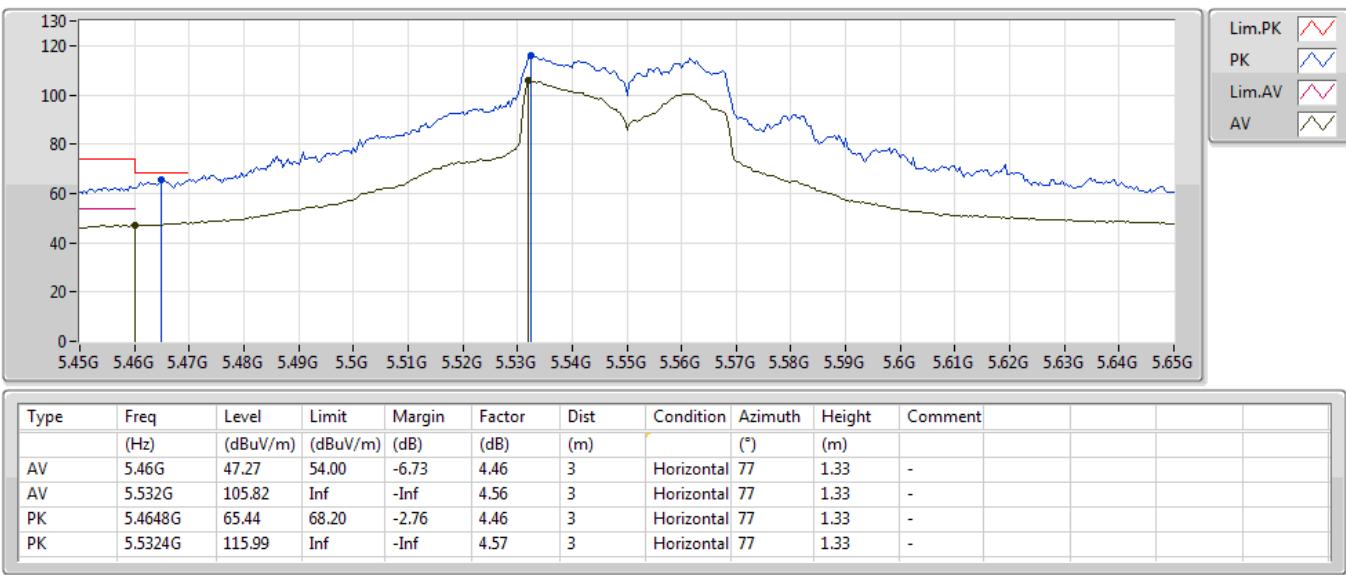
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23/04/2019

5550MHz_TX


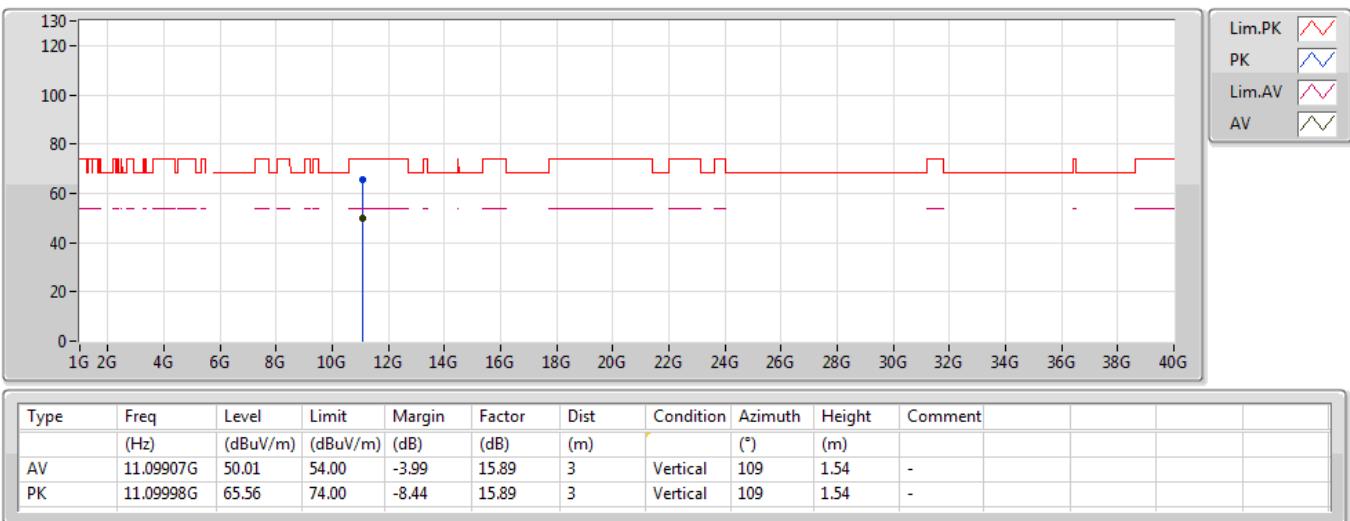
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23/04/2019

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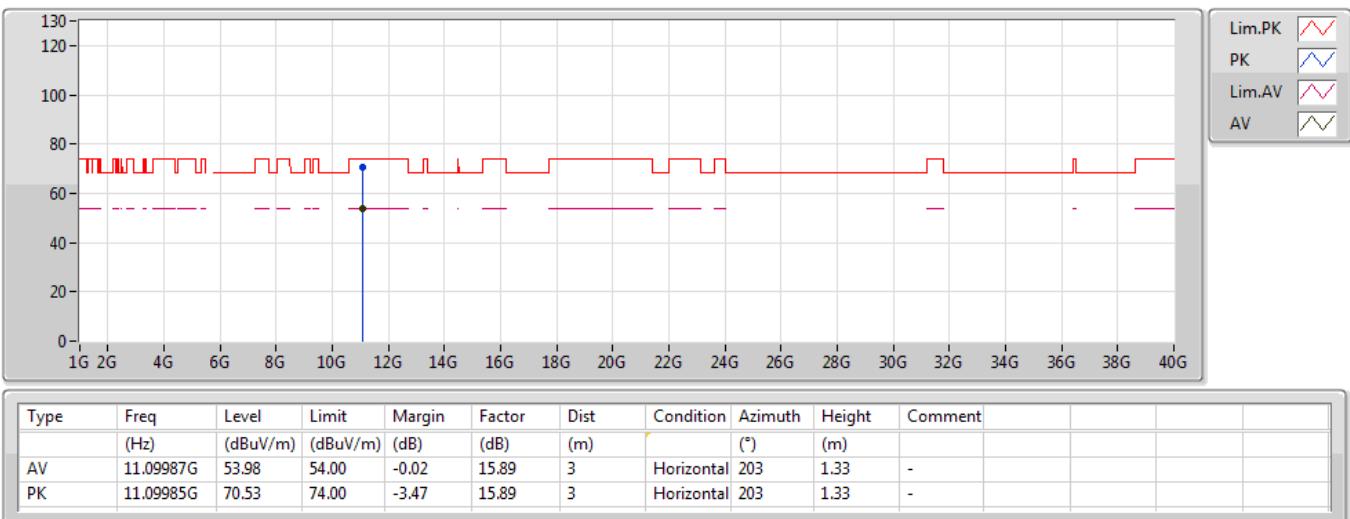
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23/04/2019

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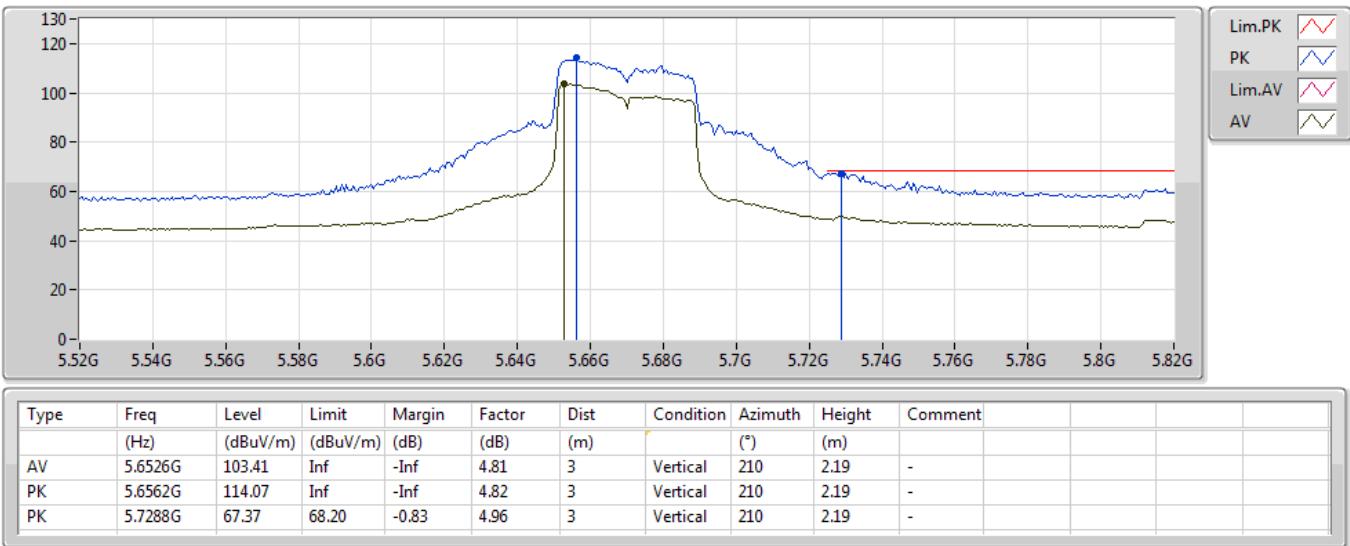
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23/04/2019

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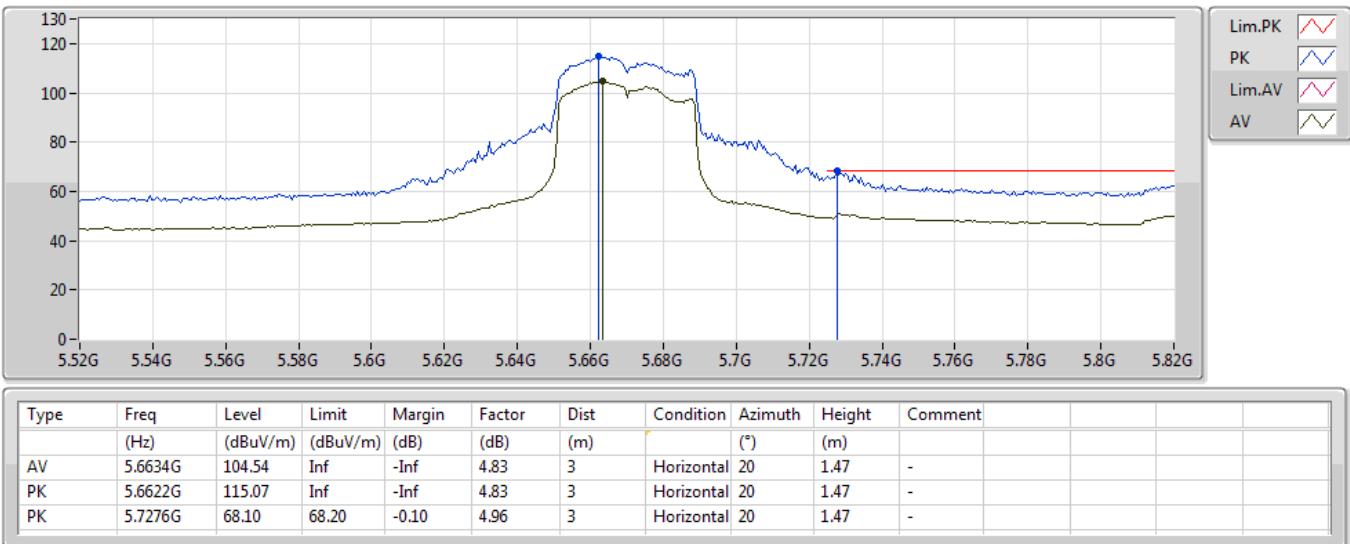
802.11ac VHT40-BF_Nss1,(MCS0)_4TX

23/04/2019

5670MHz_TX


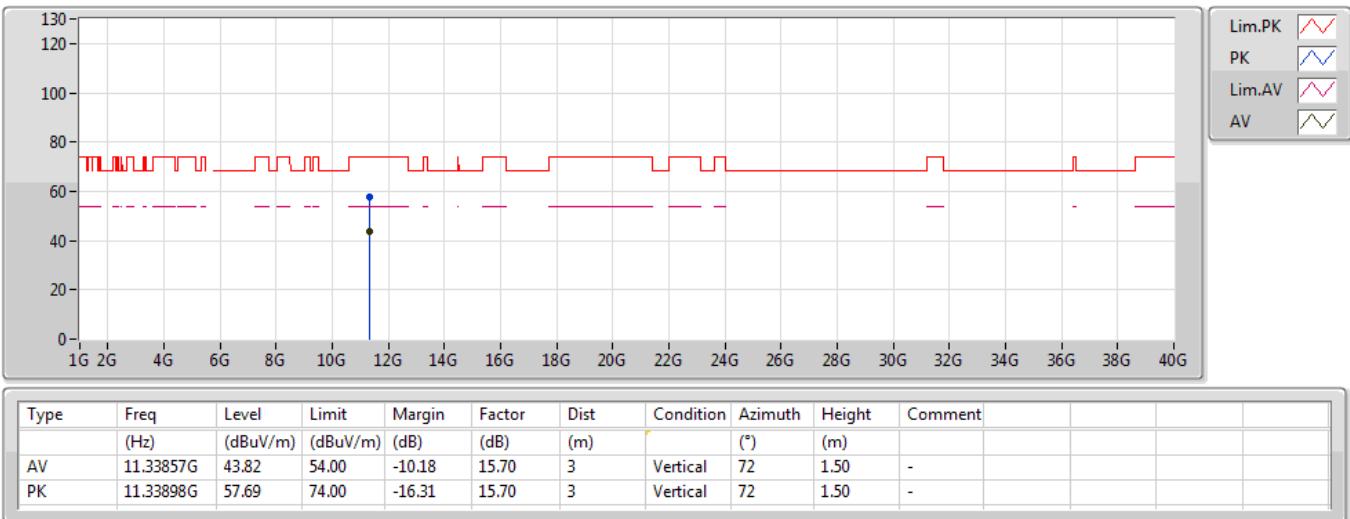
802.11ac VHT40-BF_Nss1,(MCS0)_4TX

23/04/2019

5670MHz_TX


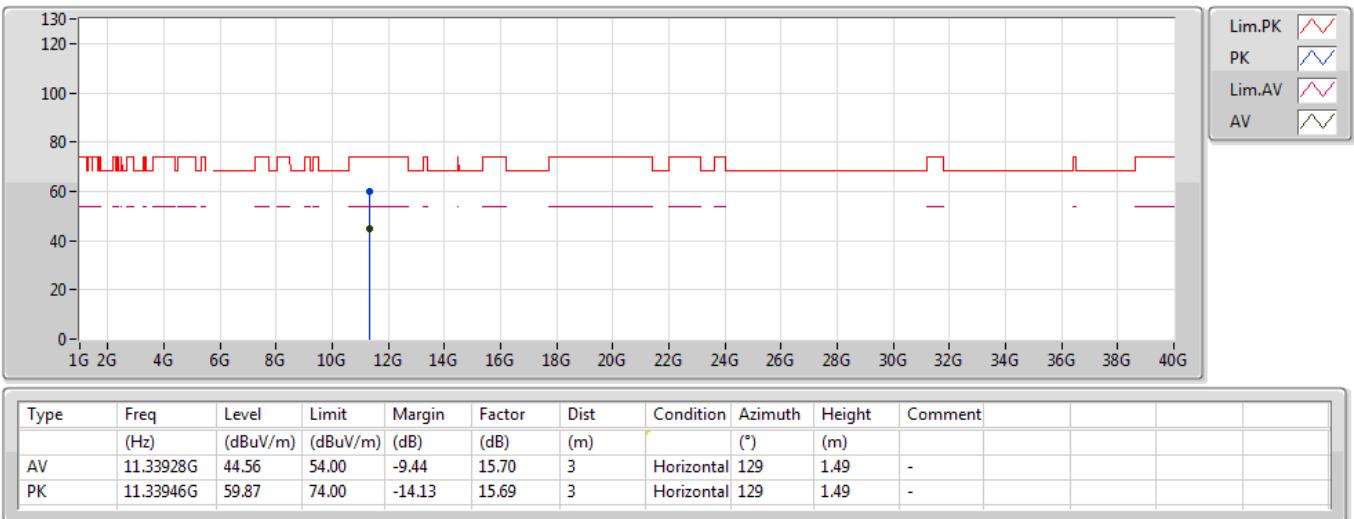
802.11ac VHT40-BF_Nss1,(MCS0)_4TX

23/04/2019

5670MHz_TX


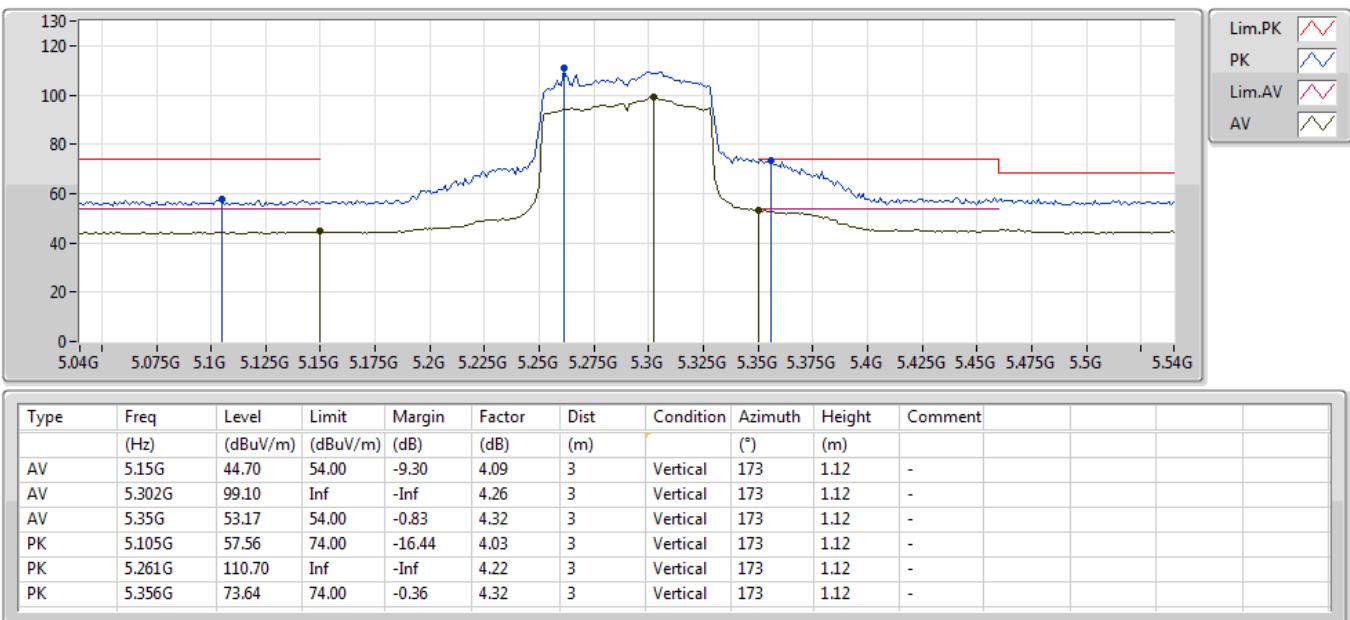
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23/04/2019

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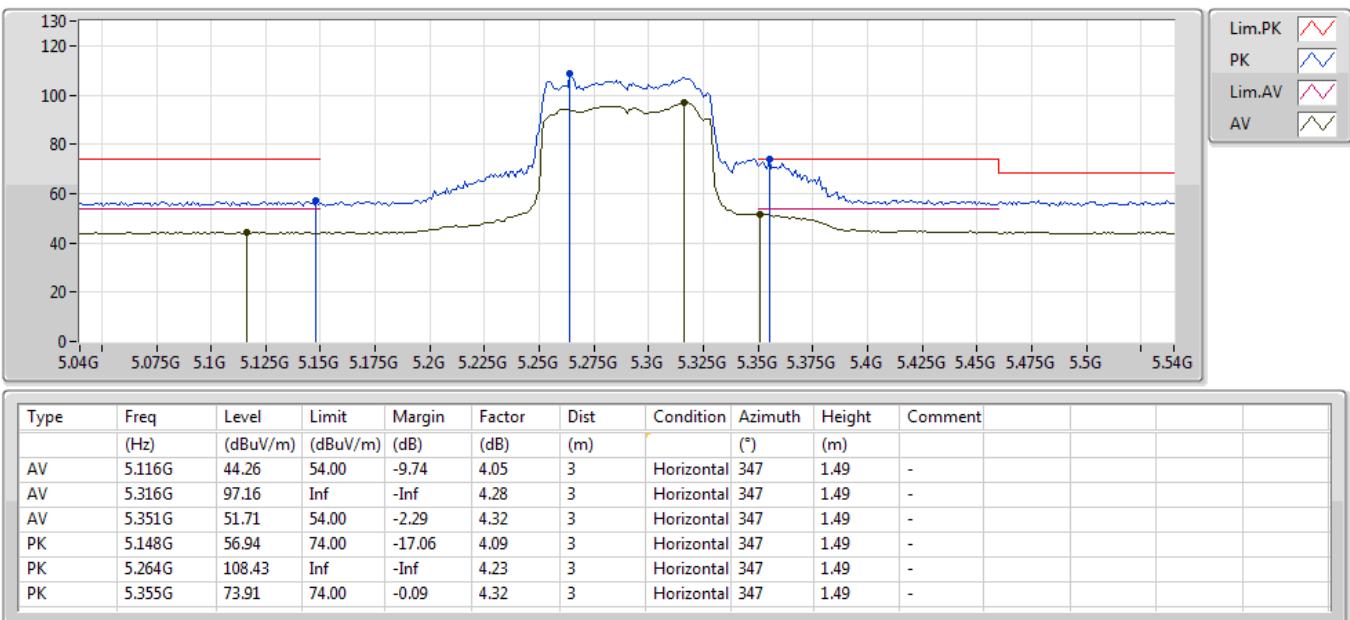
802.11ac VHT80-BF_Nss1,(MCS0)_4TX

23/04/2019

5290MHz_TX


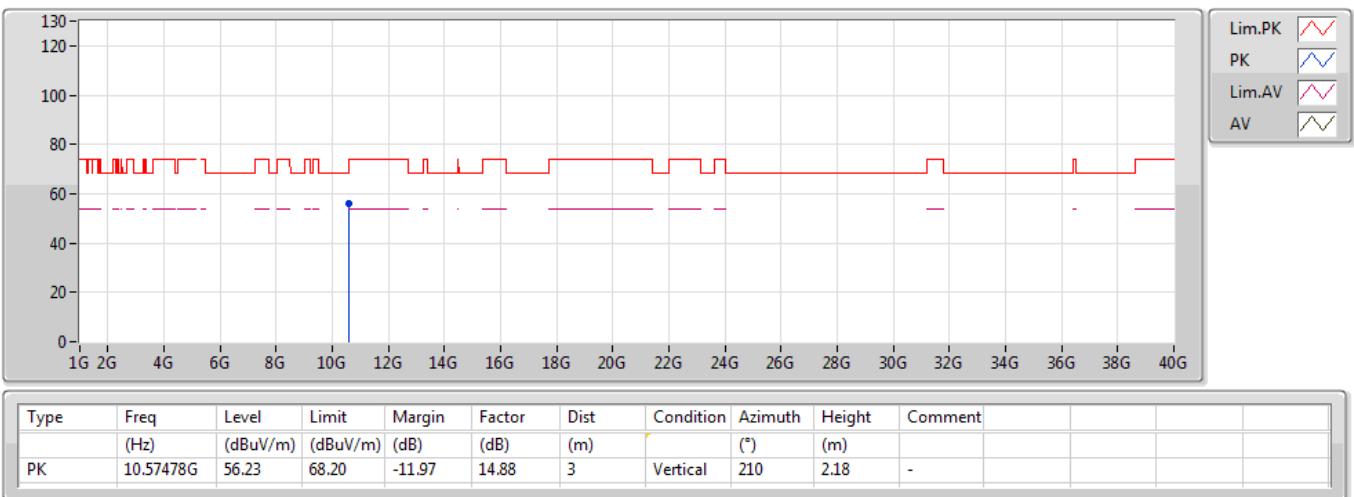
802.11ac VHT80-BF_Nss1,(MCS0)_4TX

23/04/2019

5290MHz_TX


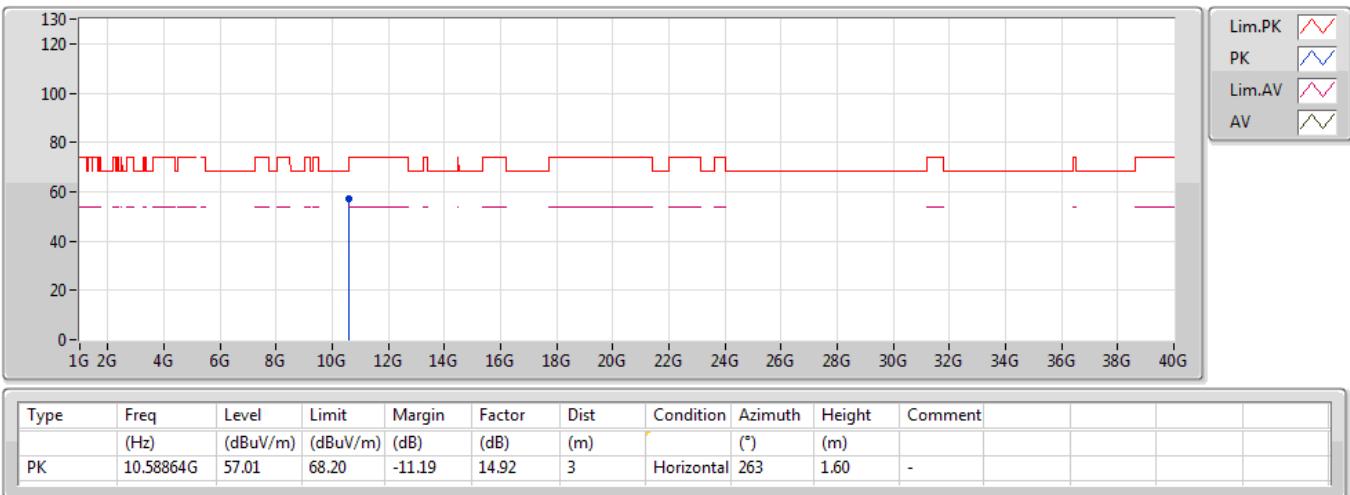
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23/04/2019

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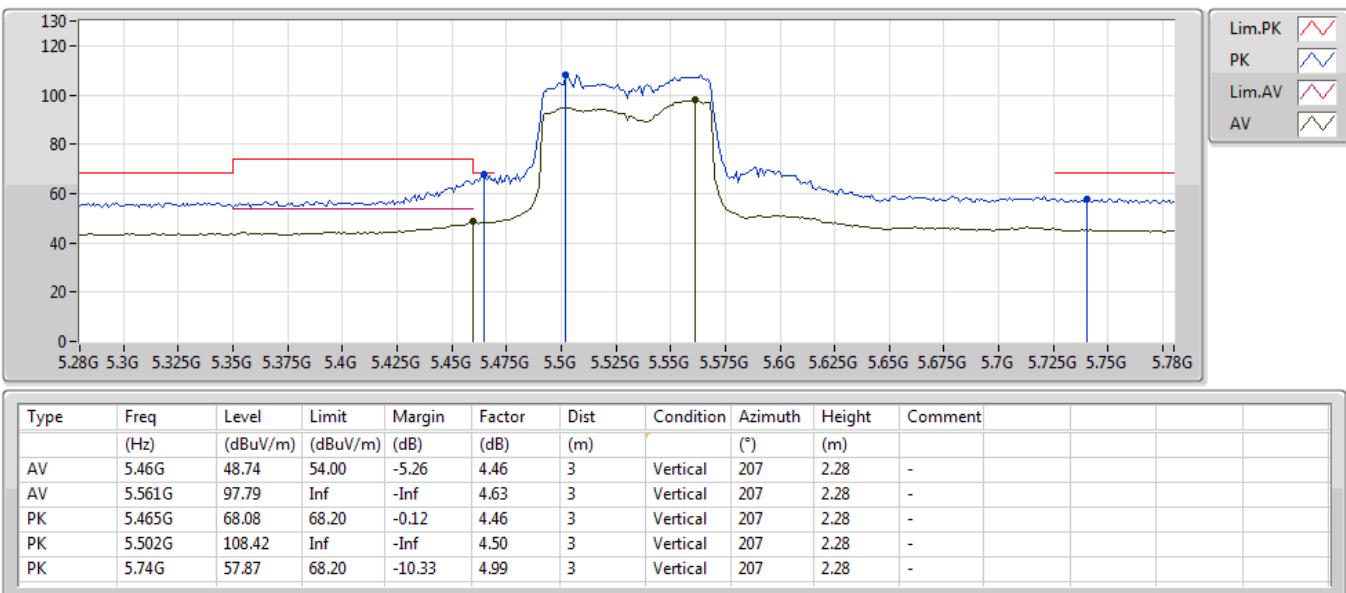
802.11ac VHT80-BF_Nss1,(MCS0)_4TX

23/04/2019

5290MHz_TX


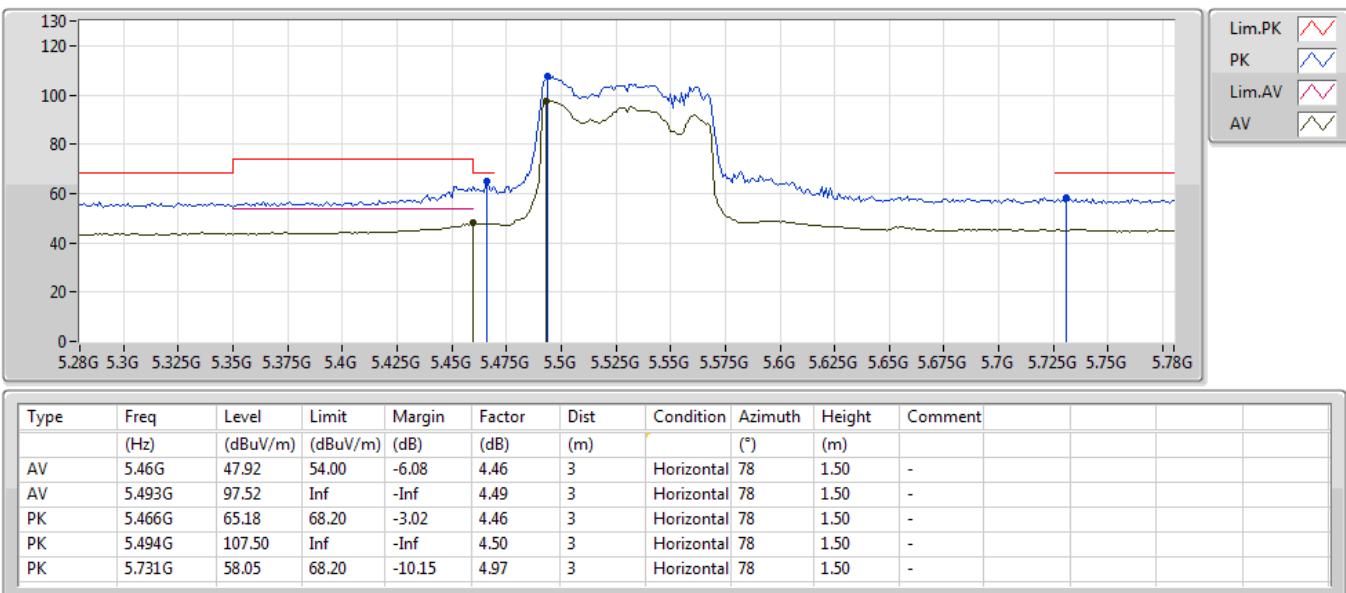
802.11ac VHT80-BF_Nss1,(MCS0)_4TX

23/04/2019

5530MHz_TX


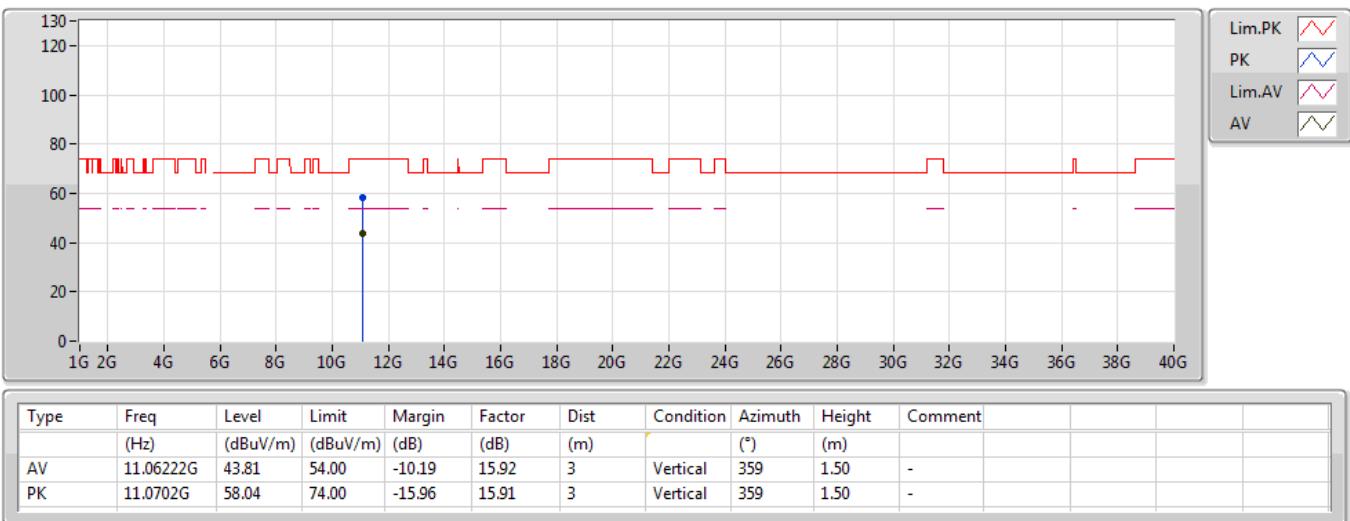
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23/04/2019

5530MHz_TX


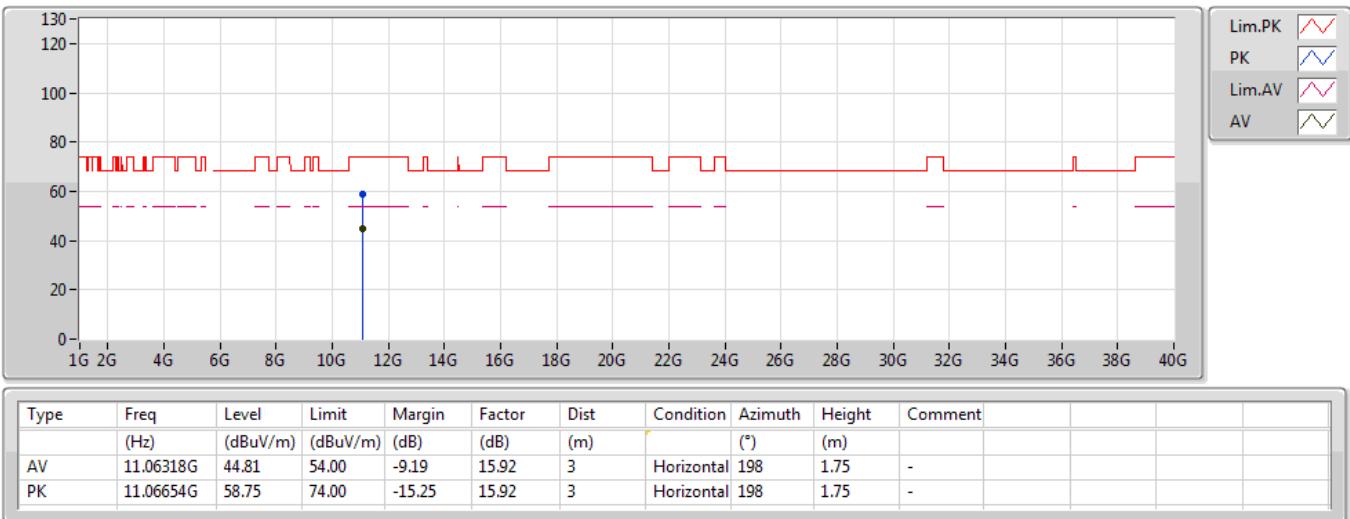
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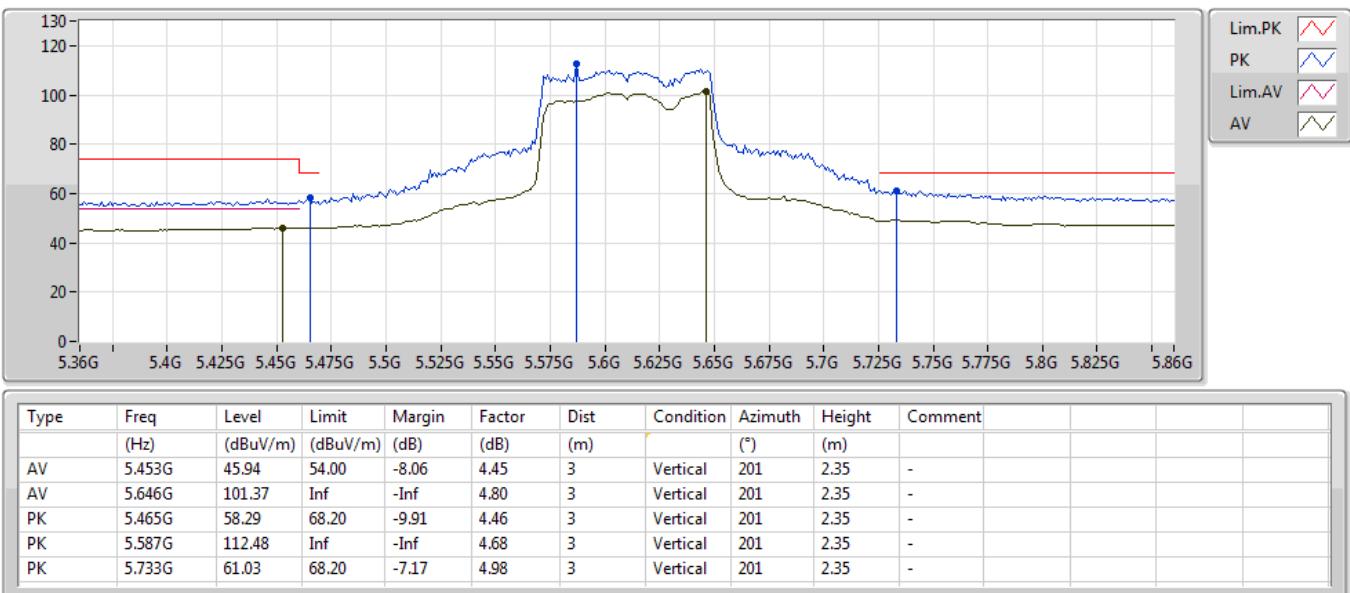
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23/04/2019

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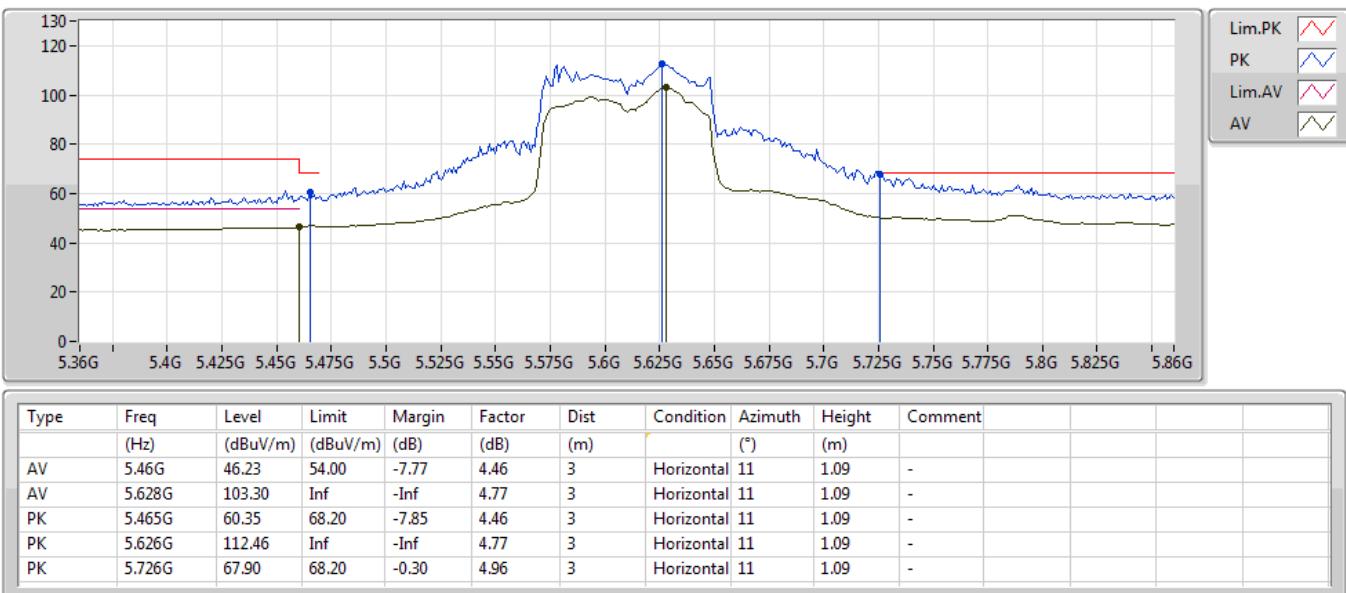
802.11ac VHT80-BF_Nss1,(MCS0)_4TX

23/04/2019

5610MHz_TX


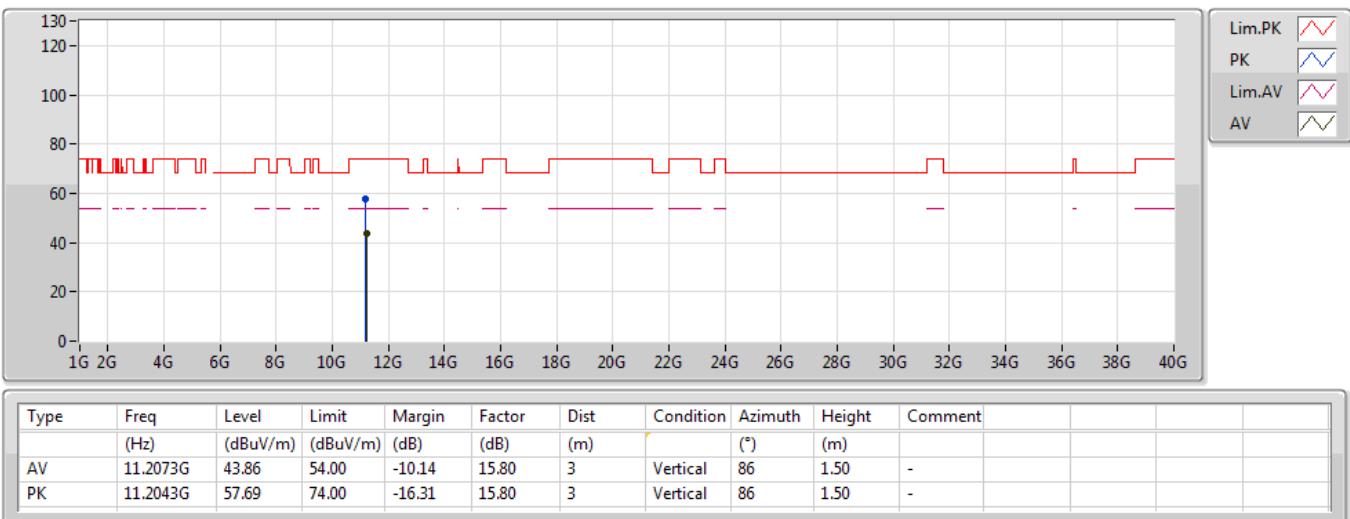
802.11ac VHT80-BF_Nss1,(MCS0)_4TX

23/04/2019

5610MHz_TX


802.11ac VHT80-BF_Nss1,(MCS0)_4TX

23/04/2019

5610MHz_TX


802.11ac VHT80-BF_Nss1,(MCS0)_4TX

23/04/2019

5610MHz_TX
