



FCC RADIO TEST REPORT

FCC ID : Z8H89FT0016
Equipment : 5GHz Force 300-16
Brand Name : Cambium Networks
Model Name : 5GHz Force 300-16
Applicant : Cambium Networks Inc.
3800 Golf Road, Suite 360 Rolling Meadows, IL
60008, USA
Manufacturer : Cambium Networks Inc.
3800 Golf Road, Suite 360 Rolling Meadows, IL
60008, USA
Standard : 47 CFR FCC Part 15.407

The product was received on Mar. 15, 2018, and testing was started from Jul. 02, 2018 and completed on Nov. 30, 2018. We, SPORTON INTERNATIONAL INC. EMC & Wireless Communications Laboratory, would like to declare that the tested sample has been evaluated in accordance with the procedures given in ANSI C63.10-2013 and shown compliance with the applicable technical standards.

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

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


Approved by: Cliff Chang

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



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



Summary of Test Result

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

Declaration of Conformity:

The judgment of conformity in the report is based on the measurement results excluding the measurement uncertainty.

Comments and Explanations:

None

Reviewed by: Sam Chen

Report Producer: Wendy Pan

1 General Description

1.1 Information

1.1.1 RF General Information

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

Band	Mode	BWch (MHz)	Nant
5.15-5.25GHz	802.11ac VHT20	20	2TX
5.15-5.25GHz	802.11ac VHT40	40	2TX
5.15-5.25GHz	802.11ac VHT80	80	2TX
5.725-5.85GHz	802.11ac VHT20	20	2TX
5.725-5.85GHz	802.11ac VHT40	40	2TX
5.725-5.85GHz	802.11ac VHT80	80	2TX

Note:

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



1.1.2 Antenna Information

Ant.	Port	Brand	Model Name	Antenna Type	Connector	Gain (dBi)	
						2.4GHz	5GHz
1	1	Cambium	ePMP force 300-16	Printed Antenna	I-PEX	6	-
2	1	Cambium	ePMP force 300-16	Printed Antenna	custom	-	16
	2	Cambium	ePMP force 300-16	Printed Antenna	custom	-	16
3	1	Cambium	ePMP force 300-16	integral antenna	custom	-	2
	2	Cambium	ePMP force 300-16	integral antenna	custom	-	2

Note: The EUT has three antennas.

For 2.4GHz function (1TX/1RX):

Only Port 1 can be used as transmitting/receiving antenna.

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

5GHz can equip Ant.2 or Ant.3. Both Ant.2 and Ant.3 has been tested and recorded in the test report.

Port 1 and Port 2 can be used as transmitting/receiving antenna.

Port 1 and Port 2 could transmit/receive simultaneously.

1.1.3 Mode Test Duty Cycle

For Ant. 2

Mode	DC	DCF(dB)	T(s)	VBW(Hz) $\geq 1/T$
802.11ac VHT20	0.9833	0.073	n/a (DC $\geq$ 0.98)	n/a (DC $\geq$ 0.98)
802.11ac VHT40	0.9663	0.149	2.435m	1k
802.11ac VHT80	0.9343	0.295	1.1463m	1k

For Ant. 3

Mode	DC	DCF(dB)	T(s)	VBW(Hz) $\geq 1/T$
802.11ac VHT20	0.9833	0.073	n/a (DC $\geq$ 0.98)	n/a (DC $\geq$ 0.98)
802.11ac VHT40	0.9663	0.149	2.435m	1k
802.11ac VHT80	0.9343	0.295	1.1463m	1k

1.1.4 EUT Operational Condition

EUT Power Type	From PoE			
Beamforming Function	☐	With beamforming	☒	Without beamforming
Function	☐	Outdoor P2M	☐	Indoor P2M
	☒	Fixed P2P	☐	Client
Test Software Version	QCARCT Version: 3.0.187.0			



1.2 Testing Applied Standards

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

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

1.3 Testing Location Information

Testing Location				
☐	HWA YA	ADD : No. 52, Hwa Ya 1st Rd., Kwei-Shan Hsiang, Tao Yuan Hsien, Taiwan, R.O.C.	TEL : 886-3-327-3456	FAX : 886-3-318-0055
☒	JHUBEI	ADD : No.8, Lane 724, Bo-ai St., Jhubei City, HsinChu County 302, Taiwan, R.O.C.	TEL : 886-3-656-9065	FAX : 886-3-656-9085

Test Condition	Test Site No.	Test Engineer	Test Environment	Test Date
RF Conducted	TH01-CB	Eddie Weng, DK Chang	22°C / 54%	Jul. 02, 2018 ~ Jul. 13, 2018
Radiated	03CH01-CB	Cola Fan, RJ Huang, Jeff Wu	24.5°C / 50%	Jul. 13, 2018 ~ Nov. 30, 2018
AC Conduction	CO02-CB	Wei Li	26°C / 60%	Jul. 30, 2018

Test site Designation No. TW0006 with FCC

Test site registered number IC 4086D with Industry Canada.

1.4 Measurement Uncertainty

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

Test Items	Uncertainty	Remark
Conducted Emission (150kHz ~ 30MHz)	3.2 dB	Confidence levels of 95%
Radiated Emission (30MHz ~ 1,000MHz)	3.6 dB	Confidence levels of 95%
Radiated Emission (1GHz ~ 18GHz)	3.7 dB	Confidence levels of 95%
Radiated Emission (18GHz ~ 40GHz)	3.5 dB	Confidence levels of 95%
Conducted Emission	1.7 dB	Confidence levels of 95%
Output Power Measurement	1.33 dB	Confidence levels of 95%
Power Density Measurement	1.27 dB	Confidence levels of 95%
Bandwidth Measurement	9.74 x10 ⁻⁸	Confidence levels of 95%



2 Test Configuration of EUT

2.1 Test Channel Mode

For Ant. 2

Mode	Power Setting
802.11ac VHT20_Nss1,(MCS0)_2TX	-
5180MHz	9.5
5200MHz	9.5
5240MHz	9.5
5745MHz	29
5785MHz	29
5825MHz	29
802.11ac VHT40_Nss1,(MCS0)_2TX	-
5190MHz	9
5230MHz	9.5
5755MHz	24
5795MHz	24
802.11ac VHT80_Nss1,(MCS0)_2TX	-
5210MHz	7.5
5775MHz	16.5

**For Ant. 3**

Mode	Power Setting
802.11ac VHT20_Nss1,(MCS0)_2TX	-
5180MHz	23
5200MHz	29
5240MHz	29
5745MHz	29
5785MHz	29
5825MHz	29
802.11ac VHT40_Nss1,(MCS0)_2TX	-
5190MHz	19
5230MHz	25.5
5755MHz	29
5795MHz	29
802.11ac VHT80_Nss1,(MCS0)_2TX	-
5210MHz	16.5
5775MHz	23

2.2 The Worst Case Measurement Configuration

The Worst Case Mode for Following Conformance Tests	
Tests Item	AC power-line conducted emissions
Condition	AC power-line conducted measurement for line and neutral
Operating Mode	CTX
1	EUT 2.4GHz
2	EUT 5GHz
For operating mode 1 is the worst case and it was record in this test report.	

The Worst Case Mode for Following Conformance Tests	
Tests Item	Emission Bandwidth Maximum Conducted Output Power Peak Power Spectral Density Unwanted Emissions (Above 1GHz)
Test Condition	Conducted measurement at transmit chains

The Worst Case Mode for Following Conformance Tests	
Tests Item	Unwanted Emissions
Test Condition	Conducted measurement at transmit chains Radiated measurement If EUT consist of multiple antenna assembly (multiple antenna are used in EUT regardless of spatial multiplexing MIMO configuration), the radiated test should be performed with highest antenna gain of each antenna type.
Operating Mode < 1GHz	CTX
1	EUT 2.4GHz in Y axis
2	EUT 2.4GHz in X axis
3	EUT 2.4GHz in Z axis
4	EUT 5GHz in Y axis
5	EUT 5GHz in X axis
6	EUT 5GHz in Z axis
For operating mode 6 is the worst case and it was record in this test report.	
Operating Mode > 1GHz	CTX
The EUT was performed at X axis, Y axis and Z axis position, and the worst case was found at Z axis. So the measurement will follow this same test configuration.	
1	EUT in Z axis



The Worst Case Mode for Following Conformance Tests	
Tests Item	Simultaneous Transmission Analysis - Co-location RF Exposure Evaluation
Operating Mode	
1	WLAN 2.4GHz + WLAN 5GHz
Refer to Sporton Test Report No.: FA7O2407-04 for Co-location RF Exposure Evaluation.	

Note : The EUT was powered by PoE, and the PoE was for measurement only, would not be marketed.

PoE information as below:

Support Unit	Brand	Model
PoE	PHIHONG	PSA15M-300(AP)

2.3 EUT Operation during Test

The EUT was programmed to be in continuously transmitting mode.

2.4 Accessories

N/A

2.5 Support Equipment

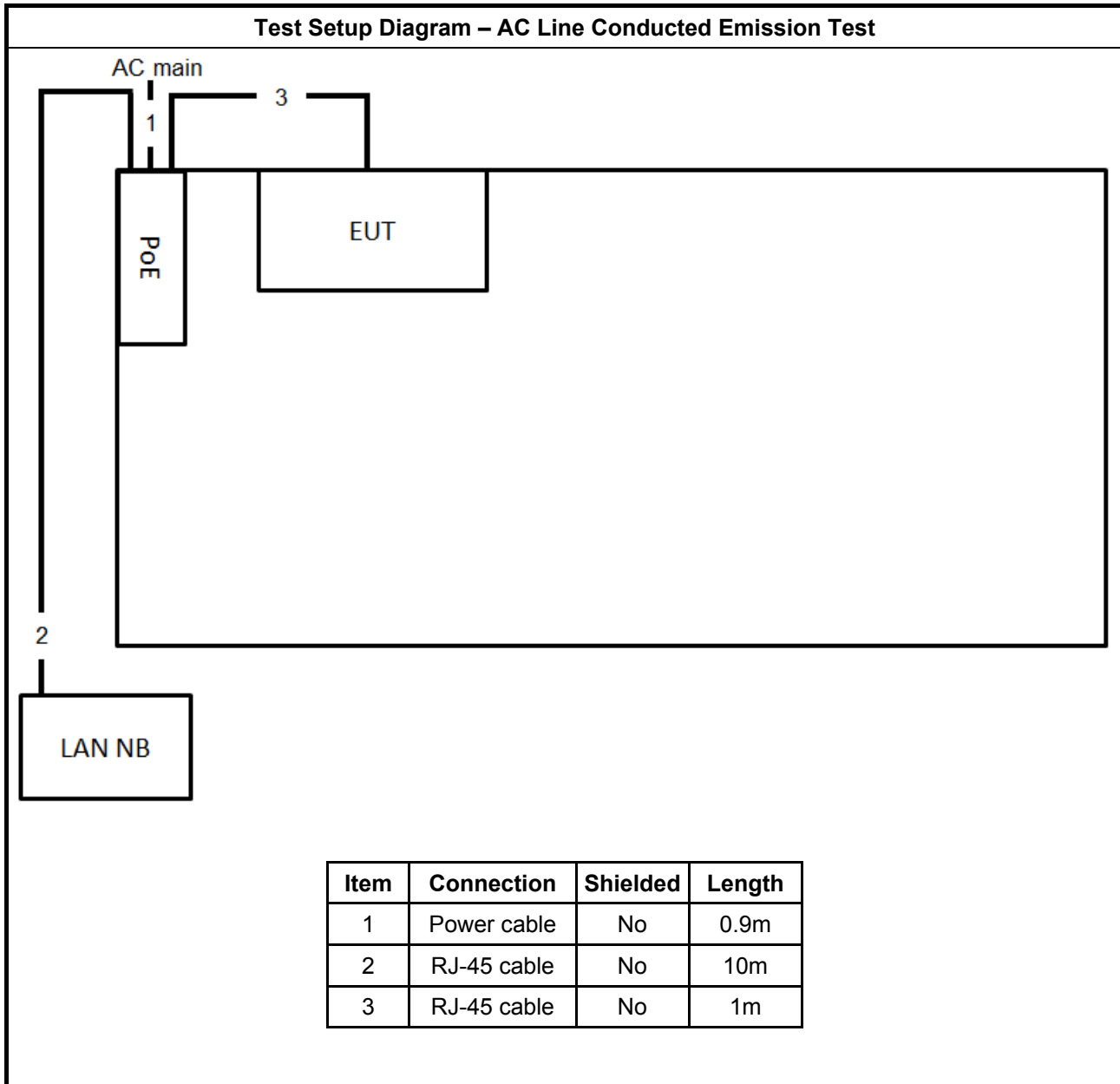
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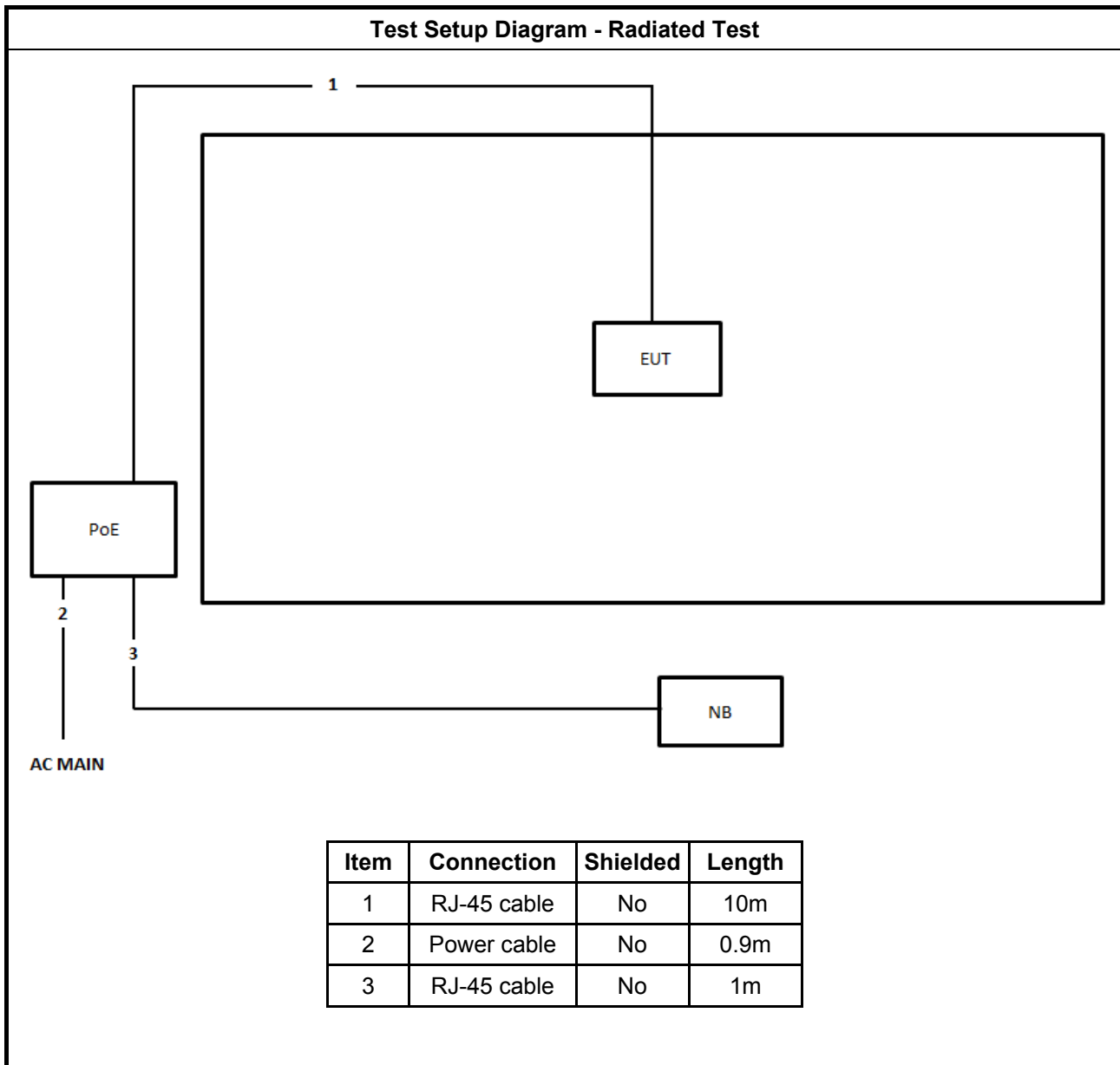
Support Equipment				
No.	Equipment	Brand Name	Model Name	FCC ID
1	NB	DELL	E6430	N/A
2	PoE	PHIHONG	PSA15M-300(AP)	N/A

For Test Site No: 03CH01-CB and TH01-CB

Support Equipment				
No.	Equipment	Brand Name	Model Name	FCC ID
1	NB	DELL	E4300	N/A
2	PoE	PHIHONG	PSA15M-300(AP)	N/A

2.6 Test Setup Diagram



Test Setup Diagram - Radiated Test




3 Transmitter Test Result

3.1 AC Power-line Conducted Emissions

3.1.1 AC Power-line Conducted Emissions Limit

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

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

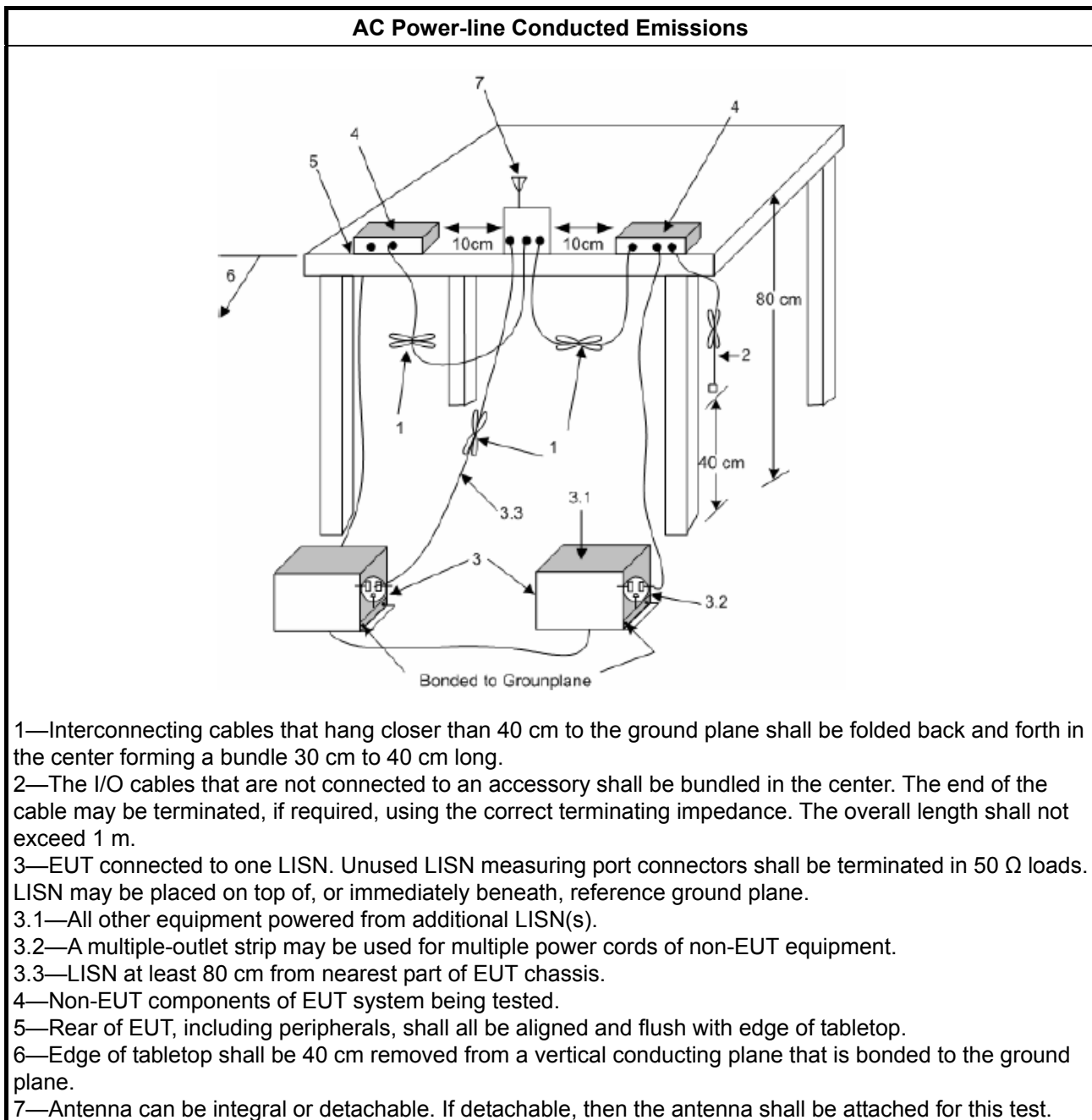
3.1.2 Measuring Instruments

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

3.1.3 Test Procedures

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

3.1.4 Test Setup



3.1.5 Test Result of AC Power-line Conducted Emissions

Refer as Appendix A

3.2 Emission Bandwidth

3.2.1 Emission Bandwidth Limit

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

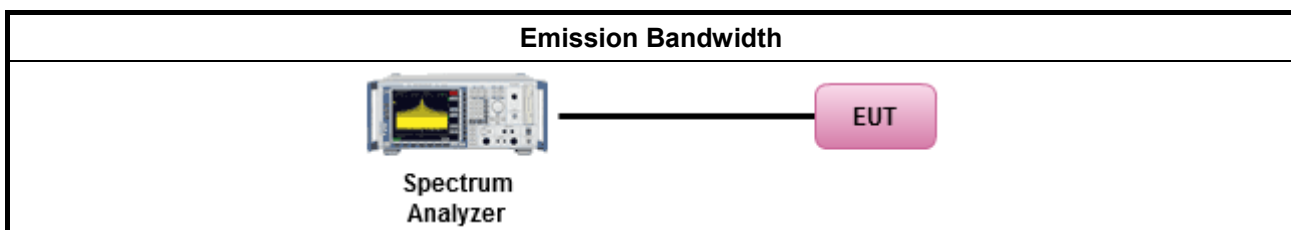
3.2.2 Measuring Instruments

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

3.2.3 Test Procedures

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

3.2.4 Test Setup



3.2.5 Test Result of Emission Bandwidth

Refer as Appendix B

3.3 Maximum Conducted Output Power

3.3.1 Maximum Conducted Output Power Limit

Maximum Conducted Output Power Limit	
UNII Devices	
☒ For the 5.15-5.25 GHz band:	
☐	- Outdoor AP: the maximum conducted output power (P_{Out}) shall not exceed the lesser of 1 W. If $G_{TX} > 6$ dBi, then $P_{Out} = 30 - (G_{TX} - 6)$. e.i.r.p. at any elevation angle above 30 degrees ≤ 125mW [21dBm] - Indoor AP: the maximum conducted output power (P_{Out}) shall not exceed the lesser of 1 W. If $G_{TX} > 6$ dBi, then $P_{Out} = 30 - (G_{TX} - 6)$ - Point-to-point AP: the maximum conducted output power (P_{Out}) shall not exceed the lesser of 1 W. If $G_{TX} > 23$ dBi, then $P_{Out} = 30 - (G_{TX} - 23)$. - Mobile or Portable Client: the maximum conducted output power (P_{Out}) shall not exceed the lesser of 250 mW. If $G_{TX} > 6$ dBi, then $P_{Out} = 24 - (G_{TX} - 6)$.
☐	For the 5.25-5.35 GHz band, the maximum conducted output power (P_{Out}) shall not exceed the lesser of 250 mW or 11 dBm + 10 log B, where B is the 26 dB emission bandwidth in MHz. If $G_{TX} > 6$ dBi, then $P_{Out} = 24 - (G_{TX} - 6)$.
☐	For the 5.47-5.725 GHz band, the maximum conducted output power (P_{Out}) shall not exceed the lesser of 250 mW or 11 dBm + 10 log B, where B is the 26 dB emission bandwidth in MHz. If $G_{TX} > 6$ dBi, then $P_{Out} = 24 - (G_{TX} - 6)$.
☒ For the 5.725-5.85 GHz band:	
☐	- Point-to-multipoint systems (P2M): the maximum conducted output power (P_{Out}) shall not exceed the lesser of 1 W. If $G_{TX} > 6$ dBi, then $P_{Out} = 30 - (G_{TX} - 6)$. - Point-to-point systems (P2P): the maximum conducted output power (P_{Out}) shall not exceed the lesser of 1 W.
LE-LAN Devices	
☐	For the 5.15-5.25 GHz band, the maximum e.i.r.p. shall not exceed 200 mW or 10 + 10 log B, dBm, whichever power is less. B is the 99% emission bandwidth in MHz.
☐	For the 5.25-5.35 GHz band, the maximum e.i.r.p. shall not exceed 1.0 W or 17 + 10 log B, dBm, whichever power is less. B is the 99% emission bandwidth in MHz
☐	For the 5.47-5.6 GHz band and 5.65-5.725 GHz band, the maximum e.i.r.p. shall not exceed 1.0 W or 17 + 10 log B, dBm, whichever power is less. B is the 99% emission bandwidth in MHz
☐ For the 5.725-5.85 GHz band:	
☐	- Point-to-multipoint systems (P2M): the maximum conducted output power (P_{Out}) shall not exceed the lesser of 1 W. If $G_{TX} > 6$ dBi, then $P_{Out} = 30 - (G_{TX} - 6)$. - Point-to-point systems (P2P): the maximum conducted output power (P_{Out}) shall not exceed the lesser of 1 W.
P_{Out} = maximum conducted output power in dBm, G_{TX} = the maximum transmitting antenna directional gain in dBi.	

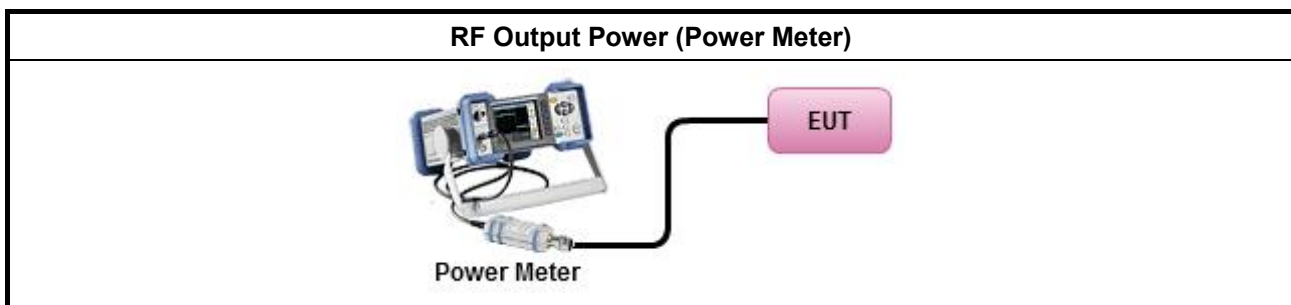
3.3.2 Measuring Instruments

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

3.3.3 Test Procedures

Test Method	
Maximum Conducted Output Power	
	Average over on/off periods with duty factor
☐	Refer as FCC KDB 789033, clause E Method SA-2 (spectral trace averaging).
☐	Refer as FCC KDB 789033, clause E Method SA-2 Alt. (RMS detection with slow sweep speed)
	Wideband RF power meter and average over on/off periods with duty factor
☒	Refer as FCC KDB 789033, clause E Method PM-G (using an RF average power meter).
For conducted measurement.	
If the EUT supports multiple transmit chains using options given below: Refer as FCC KDB 662911, In-band power measurements. Using the measure-and-sum approach, measured all transmit ports individually. Sum the power (in linear power units e.g., mW) of all ports for each individual sample and save them.	
If multiple transmit chains, EIRP calculation could be following as methods: $P_{total} = P_1 + P_2 + \dots + P_n$ (calculated in linear unit [mW] and transfer to log unit [dBm]) $EIRP_{total} = P_{total} + DG$	

3.3.4 Test Setup



3.3.5 Test Result of Maximum Conducted Output Power

Refer as Appendix C



3.4 Peak Power Spectral Density

3.4.1 Peak Power Spectral Density Limit

Peak Power Spectral Density Limit	
UNII Devices	
☒ For the 5.15-5.25 GHz band:	
☐	- Outdoor AP: the peak power spectral density (PPSD) shall not exceed the lesser of 17dBm/MHz. If $G_{TX} > 6$ dBi, then $P_{Out} = 17 - (G_{TX} - 6)$. - Indoor AP: the peak power spectral density (PPSD) shall not exceed the lesser of 17dBm/MHz. If $G_{TX} > 6$ dBi, then $P_{Out} = 17 - (G_{TX} - 6)$. - Point-to-point AP: the peak power spectral density (PPSD) shall not exceed the lesser of 17dBm/MHz. If $G_{TX} > 23$ dBi, then $P_{Out} = 17 - (G_{TX} - 23)$. - Mobile or Portable Client: the peak power spectral density (PPSD) ≤ 11 dBm/MHz. If $G_{TX} > 6$ dBi, then $PPSD = 11 - (G_{TX} - 6)$.
☐	For the 5.25-5.35 GHz band, the peak power spectral density (PPSD) ≤ 11 dBm/MHz. If $G_{TX} > 6$ dBi, then $PPSD = 11 - (G_{TX} - 6)$.
☐	For the 5.47-5.725 GHz band, the peak power spectral density (PPSD) ≤ 11 dBm/MHz. If $G_{TX} > 6$ dBi, then $PPSD = 11 - (G_{TX} - 6)$.
☒ For the 5.725-5.85 GHz band:	
☐	- Point-to-multipoint systems (P2M): the peak power spectral density (PPSD) ≤ 30 dBm/500kHz. If $G_{TX} > 6$ dBi, then $PPSD = 30 - (G_{TX} - 6)$. - Point-to-point systems (P2P): the peak power spectral density (PPSD) ≤ 30 dBm/500kHz.
LE-LAN Devices	
☐	For the 5.15-5.25 GHz band, the peak power spectral density (PPSD) ≤ 4 dBm/MHz and the e.i.r.p. peak power spectral density (PPSD) ≤ 10 dBm/MHz.
☐	For the 5.25-5.35 GHz band, the peak power spectral density (PPSD) ≤ 11 dBm/MHz and the e.i.r.p. peak power spectral density (PPSD) ≤ 17 dBm/MHz.
☐	e.i.r.p. greater than 200 mW shall comply with the following e.i.r.p. at different elevations, where θ is the angle above the local horizontal plane (of the Earth) as shown below: -13 dBW/MHz for $0^\circ \leq \theta < 8^\circ$; -13 - 0.716 (θ-8) dBW/MHz for $8^\circ \leq \theta < 40^\circ$ -35.9 - 1.22 (θ-40) dBW/MHz for $40^\circ \leq \theta \leq 45^\circ$; -42 dBW/MHz for $\theta > 45^\circ$
☐	For the 5.47-5.6 GHz band and 5.65-5.725 GHz band, the peak power spectral density (PPSD) ≤ 11 dBm/MHz and the e.i.r.p. peak power spectral density (PPSD) ≤ 17 dBm/MHz.
☐ For the 5.725-5.85 GHz band:	
☐	- Point-to-multipoint systems (P2M): the peak power spectral density (PPSD) ≤ 30 dBm/500kHz. If $G_{TX} > 6$ dBi, then $PPSD = 30 - (G_{TX} - 6)$. - Point-to-point systems (P2P): the peak power spectral density (PPSD) ≤ 30 dBm/500kHz.
PPSD = peak power spectral density that he same method as used to determine the conducted output power shall be used to determine the power spectral density. And power spectral density in dBm/MHz G_{TX} = the maximum transmitting antenna directional gain in dBi.	

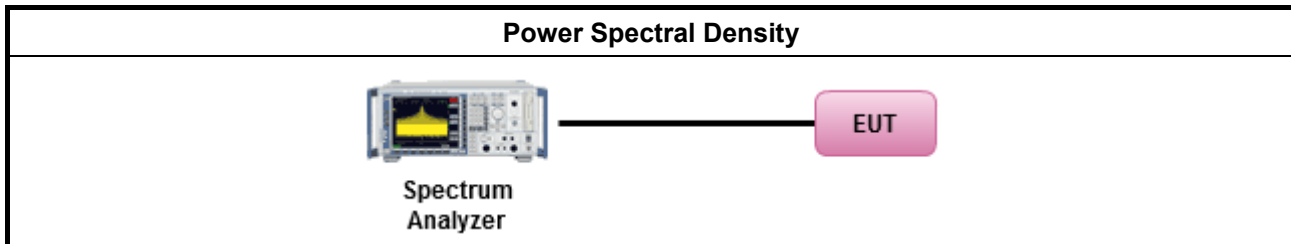
3.4.2 Measuring Instruments

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

3.4.3 Test Procedures

Test Method	
Peak power spectral density procedures that the same method as used to determine the conducted output power shall be used to determine the peak power spectral density and use the peak search function on the spectrum analyzer to find the peak of the spectrum. For the peak power spectral density shall be measured using below options:	
☐	Refer as FCC KDB 789033, F5) power spectral density can be measured using resolution bandwidths < 1 MHz provided that the results are integrated over 1 MHz bandwidth
[duty cycle ≥ 98% or external video / power trigger]	
☒	Refer as FCC KDB 789033, clause E Method SA-1 (spectral trace averaging).
☐	Refer as FCC KDB 789033, clause E Method SA-1 Alt. (RMS detection with slow sweep speed)
duty cycle < 98% and average over on/off periods with duty factor	
☒	Refer as FCC KDB 789033, clause E Method SA-2 (spectral trace averaging).
☐	Refer as FCC KDB 789033, clause E Method SA-2 Alt. (RMS detection with slow sweep speed)
For conducted measurement.	
If the EUT supports multiple transmit chains using options given below:	
☒	Option 1: Measure and sum the spectra across the outputs. Refer as FCC KDB 662911, In-band power spectral density (PSD). Sample all transmit ports simultaneously using a spectrum analyzer for each transmit port. Where the trace bin-by-bin of each transmit port summing can be performed. (i.e., in the first spectral bin of output 1 is summed with that in the first spectral bin of output 2 and that from the first spectral bin of output 3, and so on up to the NTX output to obtain the value for the first frequency bin of the summed spectrum.). Add up the amplitude (power) values for the different transmit chains and use this as the new data trace.
☐	Option 2: Measure and sum spectral maxima across the outputs. With this technique, spectra are measured at each output of the device at the required resolution bandwidth. The maximum value (peak) of each spectrum is determined. These maximum values are then summed mathematically in linear power units across the outputs. These operations shall be performed separately over frequency spans that have different out-of-band or spurious emission limits,
☐	Option 3: Measure and add 10 log(N) dB, where N is the number of transmit chains. Refer as FCC KDB 662911, In-band power spectral density (PSD). Performed at each transmit chains and each transmit chains shall be compared with the limit have been reduced with 10 log(N). Or each transmit chains shall be add 10 log(N) to compared with the limit.
If multiple transmit chains, EIRP PPSD calculation could be following as methods: $PPSD_{total} = PPSD_1 + PPSD_2 + \dots + PPSD_n$ (calculated in linear unit [mW] and transfer to log unit [dBm]) $EIRP_{total} = PPSD_{total} + DG$	

3.4.4 Test Setup



3.4.5 Test Result of Peak Power Spectral Density

Refer as Appendix D

3.5 Unwanted Emissions

3.5.1 Transmitter 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	all emissions shall be limited to a level of -27 dBm/MHz at 75 MHz or more above or below the band edge increasing linearly to 10 dBm/MHz at 25 MHz above or below the band edge, and from 25 MHz above or below the band edge increasing linearly to a level of 15.6 dBm/MHz at 5 MHz above or below the band edge, and from 5 MHz above or below the band edge increasing linearly to a level of 27 dBm/MHz at the band edge.

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



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

3.5.2 Measuring Instruments

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

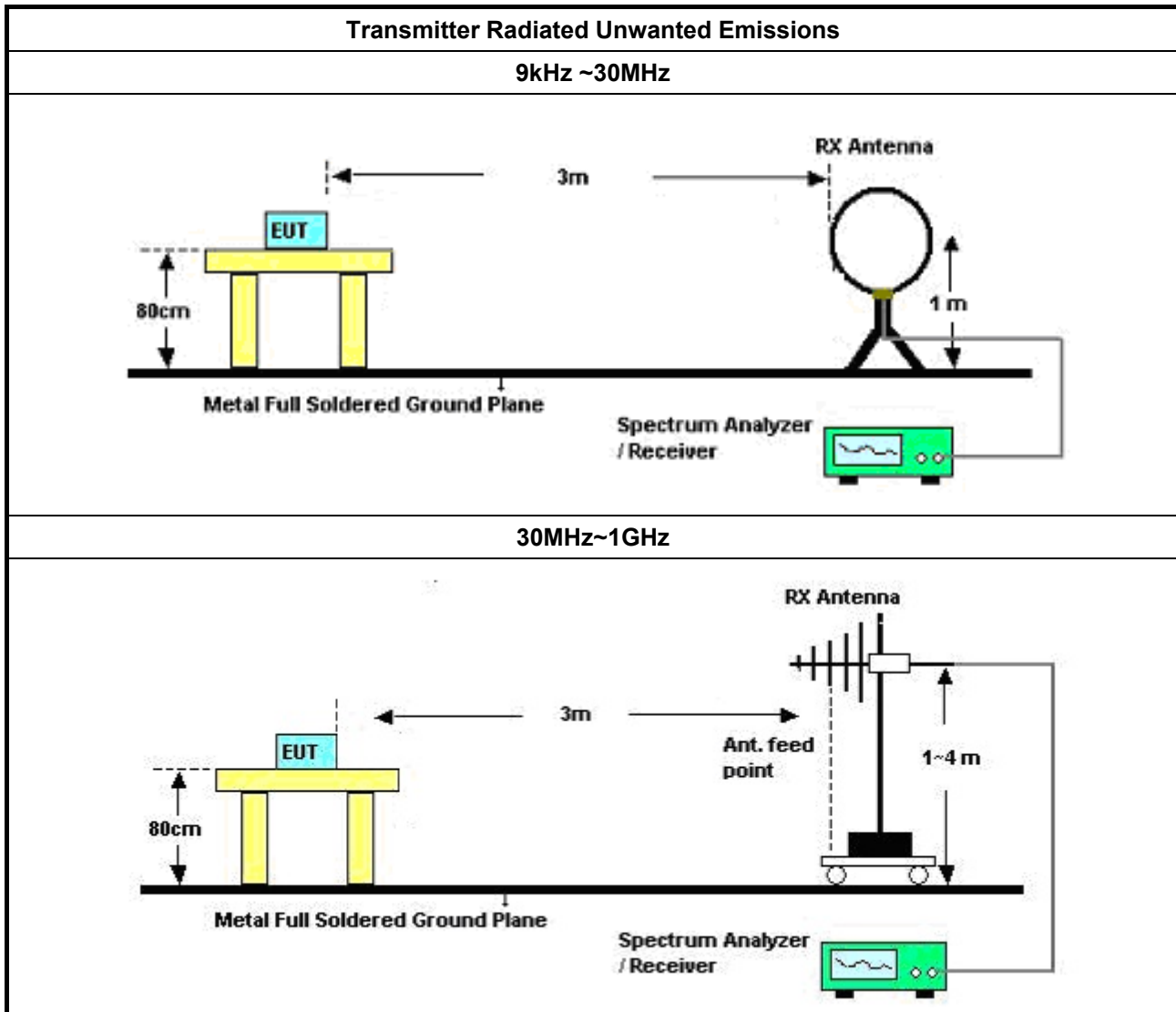
3.5.3 Test Procedures

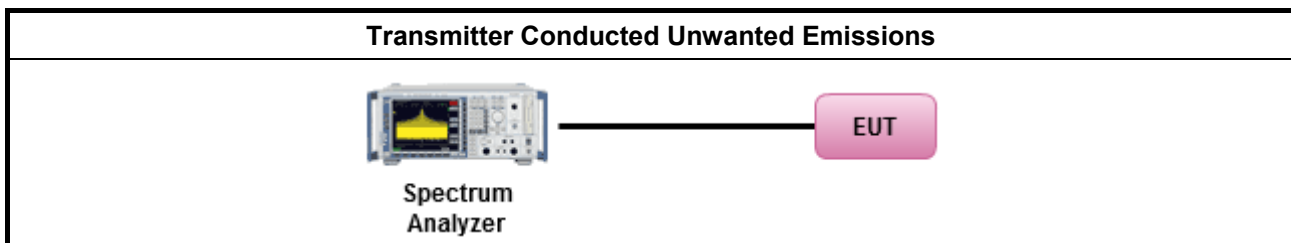
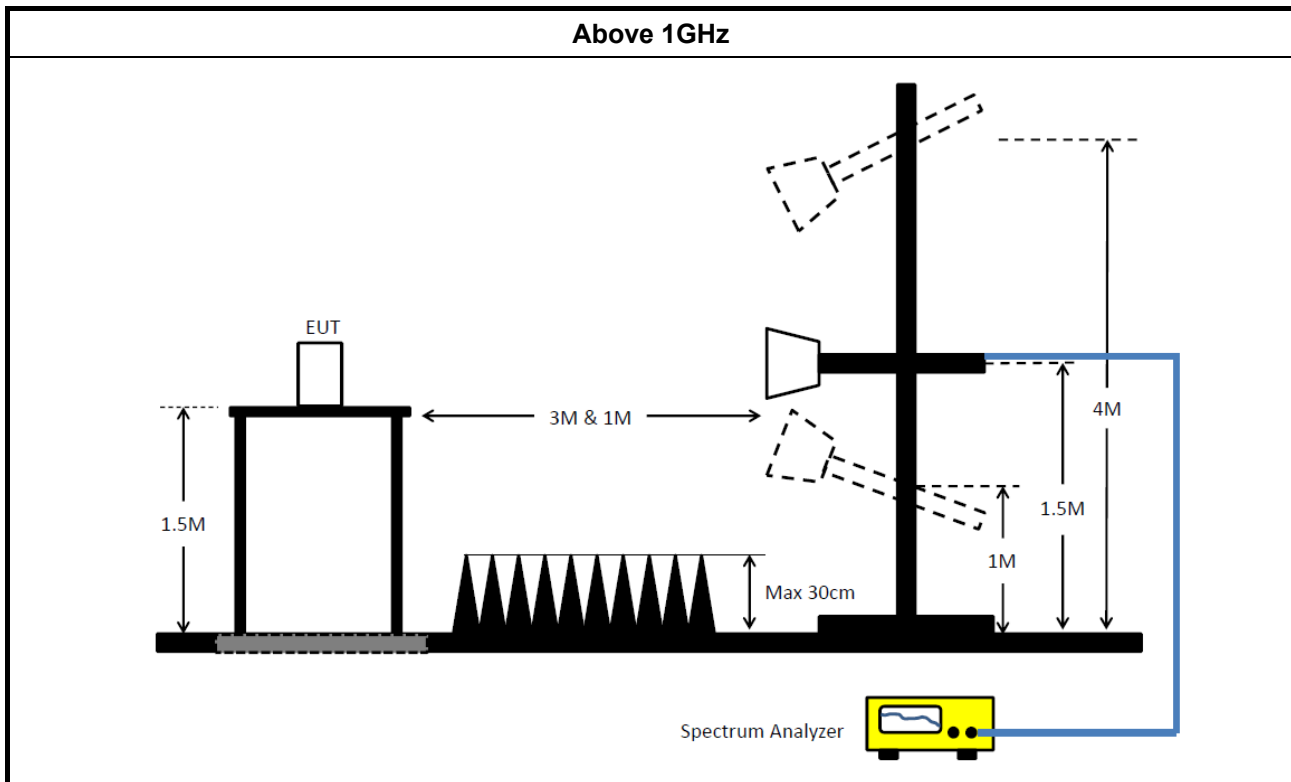
Test Method	
Measurements may be performed at a distance other than the limit distance provided they are not performed in the near field and the emissions to be measured can be detected by the measurement equipment. Measurements shall not be performed at a distance greater than 30 m for frequencies above 30 MHz, unless it can be further demonstrated that measurements at a distance of 30 m or less are impractical. When performing measurements at a distance other than that specified, the results shall be extrapolated to the specified distance using an extrapolation factor of 20 dB/decade (inverse of linear distance for field-strength measurements, inverse of linear distance-squared for power-density measurements).	
The average emission levels shall be measured in [duty cycle $\geq$ 98 or duty factor].	
For the transmitter unwanted emissions shall be measured using following options below:	
	Refer as FCC KDB 789033, clause H)2) for unwanted emissions into non-restricted bands.
	Refer as FCC KDB 789033, clause H)1) for unwanted emissions into restricted bands.
	☐ Refer as FCC KDB 789033, H)6) Method AD (Trace Averaging).
	☒ Refer as FCC KDB 789033, H)6) Method VB (Reduced VBW).
	☐ Refer as ANSI C63.10, clause 4.2.3.2.3 (Reduced VBW). VBW $\geq$ 1/T, where T is pulse time.
	☐ Refer as ANSI C63.10, clause 4.2.3.2.4 average value of pulsed emissions.
	☒ Refer as FCC KDB 789033, clause H)5) measurement procedure peak limit.
	☐ Refer as ANSI C63.10, clause 4.2.3.2.2 measurement procedure peak limit.
	For radiated measurement.
	Refer as ANSI C63.10, clause 6.4 for radiated emissions below 30 MHz and test distance is 3m.
	Refer as ANSI C63.10, clause 6.5 for radiated emissions 30 MHz to 1 GHz and test distance is 3m.
Refer as ANSI C63.10, clause 6.6 for radiated emissions above 1GHz.	
The any unwanted emissions level shall not exceed the fundamental emission level.	
All amplitude of spurious emissions that are attenuated by more than 20 dB below the permissible value has no need to be reported.	



Test Method	
▪ For conducted and cabinet radiation measurement, refer as FCC KDB 789033, clause H)3).	
	▪ For conducted unwanted emissions into non-restricted bands (relative emission limits). Devices with multiple transmit chains: Refer as FCC KDB 662911, when testing out-of-band and spurious emissions against relative emission limits, tests may be performed on each output individually without summing or adding 10 log(N) if the measurements are made relative to the in-band emissions on the individual outputs.
	▪ For conducted unwanted emissions into restricted bands (absolute emission limits). Devices with multiple transmit chains using options given below: (1) Measure and sum the spectra across the outputs or (2) Measure and add 10 log(N) dB
	▪ For FCC KDB 662911 The methodology described here may overestimate array gain, thereby resulting in apparent failures to satisfy the out-of-band limits even if the device is actually compliant. In such cases, compliance may be demonstrated by performing radiated tests around the frequencies at which the apparent failures occurred.

3.5.4 Test Setup





3.5.5 Transmitter Unwanted Emissions (Below 30MHz)

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

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

3.5.6 Test Result of Transmitter Unwanted Emissions

Refer as Appendix E



4 Test Equipment and Calibration Data

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Calibration Due Date	Remark
LISN	Schwarzbeck	NSLK 8127	8127650	9kHz ~ 30MHz	Nov. 24, 2017	Nov. 23, 2018	Conduction (CO02-CB)
LISN	Schwarzbeck	NSLK 8127	8127478	9kHz ~ 30MHz	Nov. 13, 2017	Nov. 12, 2018	Conduction (CO02-CB)
EMI Receiver	Agilent	N9038A	MY52260140	9kHz ~ 8.4GHz	Jan. 17, 2018	Jan. 16, 2019	Conduction (CO02-CB)
COND Cable	Woken	Cable	2	0.15MHz ~ 30MHz	Nov. 10, 2017	Nov. 09, 2018	Conduction (CO02-CB)
Software	Audix	E3	6.120210n	-	N.C.R.	N.C.R.	Conduction (CO02-CB)
BILOG ANTENNA with 6dB Attenuator	TESEQ & EMC	CBL6112D & N-6-06	37880 & AT-N0609	20MHz ~ 2GHz	Aug. 30, 2017	Aug. 29, 2018	Radiation (03CH01-CB)
BILOG ANTENNA with 6dB Attenuator	TESEQ & EMC	CBL6112D & N-6-06	37880 & AT-N0609	20MHz ~ 2GHz	Aug. 27, 2018	Aug. 26, 2019	Radiation (03CH01-CB)
Loop Antenna	Teseq	HLA 6120	24155	9kHz - 30 MHz	Mar. 16, 2018	Mar. 15, 2019	Radiation (03CH01-CB)
Horn Antenna	EMCO	3115	00075790	750MHz ~ 18GHz	Nov. 20, 2017	Nov. 19, 2018	Radiation (03CH01-CB)
Horn Antenna	EMCO	3115	00075790	750MHz ~ 18GHz	Nov. 13, 2018	Nov. 12, 2019	Radiation (03CH01-CB)
Horn Antenna	Schwarzbeck	BBHA 9170	BBHA9170252	15GHz ~ 40GHz	Jun. 28, 2018	Jun. 27, 2019	Radiation (03CH01-CB)
Pre-Amplifier	EMCI	EMC330N	980332	20MHz ~ 3GHz	May 02, 2018	May 01, 2019	Radiation (03CH01-CB)
Pre-Amplifier	Agilent	8449B	3008A02310	1GHz ~ 26.5GHz	Jan. 09, 2018	Jan. 08, 2019	Radiation (03CH01-CB)
Pre-Amplifier	MITEQ	TTA1840-35-HG	1864479	18GHz ~ 40GHz	Jul. 04, 2018	Jul. 03, 2019	Radiation (03CH01-CB)
Spectrum Analyzer	R&S	FSP40	100056	9kHz ~ 40GHz	Nov. 23, 2017	Nov. 22, 2018	Radiation (03CH01-CB)
Spectrum analyzer	R&S	FSP40	100080	9kHz~40GHz	Oct. 03, 2018	Oct. 02, 2019	Radiation (03CH06-CB)
EMI Test	R&S	ESCS	100354	9kHz ~ 2.75GHz	Dec. 08, 2017	Dec. 07, 2018	Radiation (03CH01-CB)
RF Cable-low	Woken	Low Cable-16+17	N/A	30 MHz ~ 1 GHz	Oct. 11, 2017	Oct. 10, 2018	Radiation (03CH01-CB)
RF Cable-low	Woken	Low Cable-16+17	N/A	30 MHz ~ 1 GHz	Oct. 08, 2018	Oct. 07, 2019	Radiation (03CH01-CB)
RF Cable-high	Woken	High Cable-16	N/A	1 GHz ~ 18 GHz	Oct. 11, 2017	Oct. 10, 2018	Radiation (03CH01-CB)
RF Cable-high	Woken	High Cable-16	N/A	1 GHz ~ 18 GHz	Oct. 08, 2018	Oct. 07, 2019	Radiation (03CH01-CB)
RF Cable-high	Woken	High Cable-16+17	N/A	1 GHz ~ 18 GHz	Oct. 11, 2017	Oct. 10, 2018	Radiation (03CH01-CB)



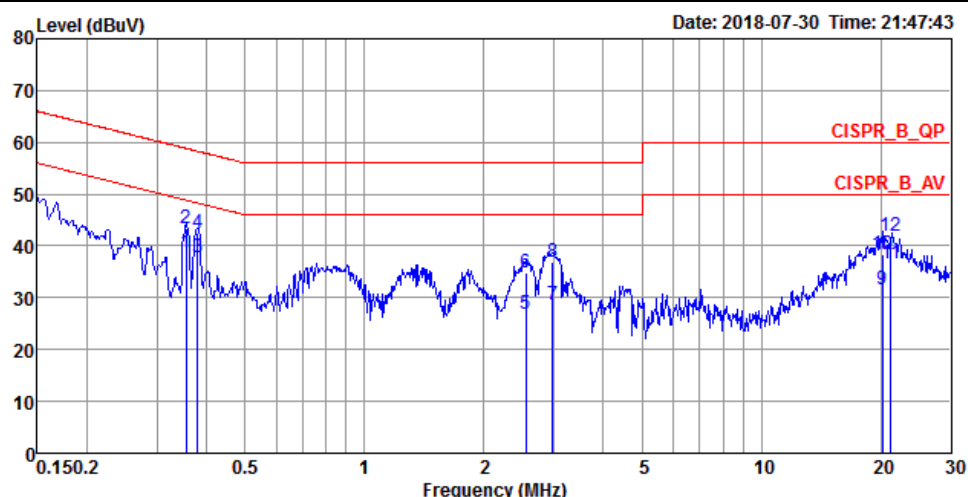
Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Calibration Due Date	Remark
RF Cable-high	Woken	High Cable-16+17	N/A	1 GHz ~ 18 GHz	Oct. 08, 2018	Oct. 07, 2019	Radiation (03CH01-CB)
RF Cable-high	Woken	High Cable-40G#1	N/A	18GHz ~ 40 GHz	Oct. 11, 2017	Oct. 10, 2018	Radiation (03CH01-CB)
RF Cable-high	Woken	High Cable-40G#1	N/A	18GHz ~ 40 GHz	Jul. 27, 2018	Jul. 26, 2019	Radiation (03CH01-CB)
RF Cable-high	Woken	High Cable-40G#2	N/A	18GHz ~ 40 GHz	Oct. 11, 2017	Oct. 10, 2018	Radiation (03CH01-CB)
RF Cable-high	Woken	High Cable-40G#2	N/A	18GHz ~ 40 GHz	Jul. 27, 2018	Jul. 26, 2019	Radiation (03CH01-CB)
Spectrum analyzer	R&S	FSV40	100979	9kHz~40GHz	Dec. 21, 2017	Dec. 20, 2018	Conducted (TH01-CB)
RF Cable-high	Woken	RG402	High Cable-06	1 GHz ~26.5 GHz	Oct. 11, 2017	Oct. 10, 2018	Conducted (TH01-CB)
RF Cable-high	Woken	RG402	High Cable-07	1 GHz ~26.5 GHz	Oct. 11, 2017	Oct. 10, 2018	Conducted (TH01-CB)
RF Cable-high	Woken	RG402	High Cable-08	1 GHz ~26.5 GHz	Oct. 11, 2017	Oct. 10, 2018	Conducted (TH01-CB)
RF Cable-high	Woken	RG402	High Cable-09	1 GHz ~26.5 GHz	Oct. 11, 2017	Oct. 10, 2018	Conducted (TH01-CB)
RF Cable-high	Woken	RG402	High Cable-10	1 GHz ~26.5 GHz	Oct. 11, 2017	Oct. 10, 2018	Conducted (TH01-CB)
Power Sensor	Agilent	U2021XA	MY53410001	50MHz~18GHz	Nov. 20, 2017	Nov. 19, 2018	Conducted (TH01-CB)

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

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

AC Power-line Conducted Emissions Result

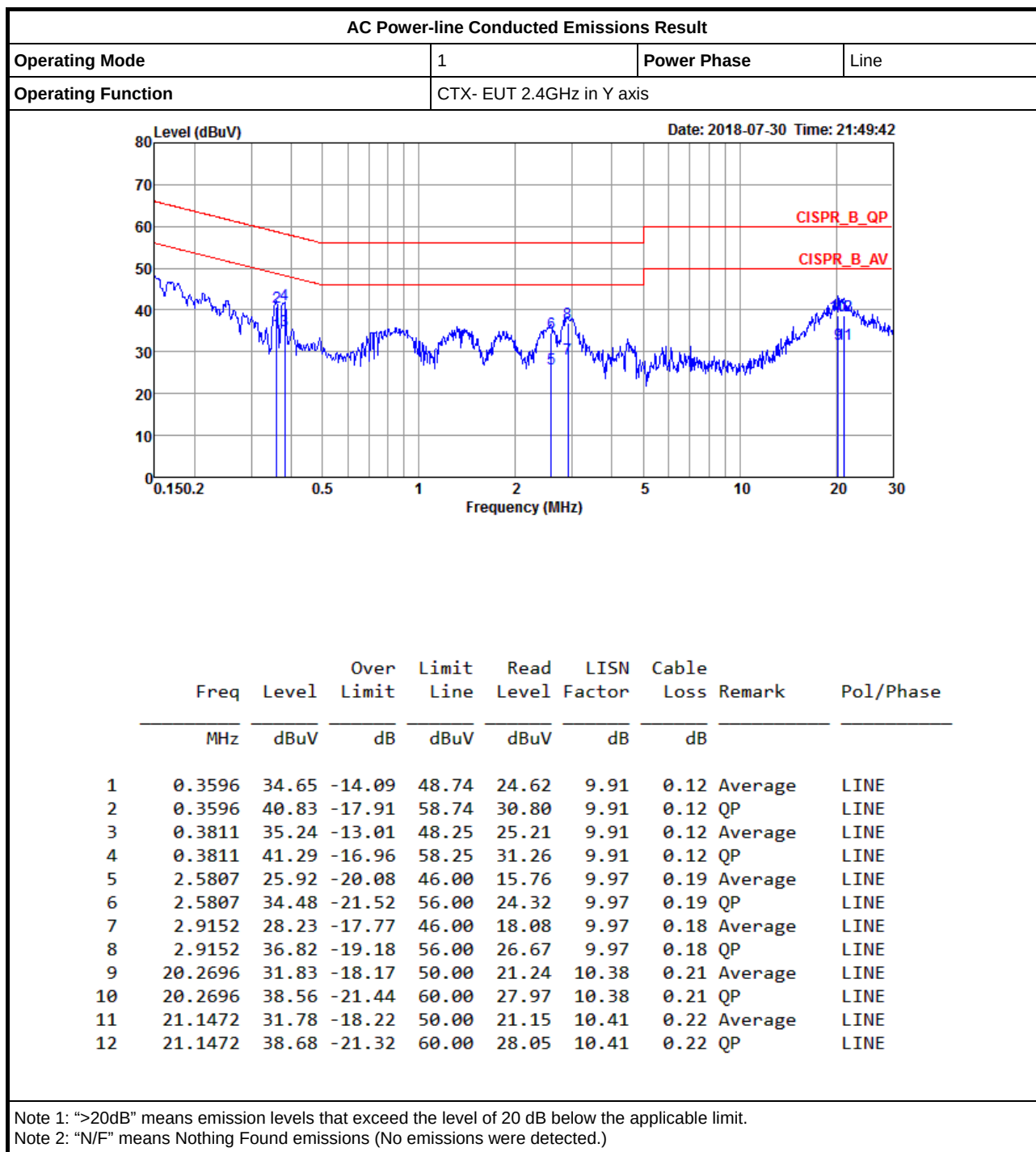
Operating Mode	1	Power Phase	Neutral
Operating Function	CTX- EUT 2.4GHz in Y axis		



	Freq	Level	Over Limit	Limit Line	Read Level	LISN Factor	Cable Loss	Remark	Pol/Phase
	MHz	dBuV	dB	dBuV	dBuV	dB	dB		
1	0.3558	38.70	-10.13	48.83	28.66	9.92	0.12	Average	NEUTRAL
2	0.3558	43.49	-15.34	58.83	33.45	9.92	0.12	QP	NEUTRAL
3	0.3791	37.69	-10.61	48.30	27.65	9.92	0.12	Average	NEUTRAL
4	0.3791	42.47	-15.83	58.30	32.43	9.92	0.12	QP	NEUTRAL
5	2.5535	26.78	-19.22	46.00	16.61	9.97	0.20	Average	NEUTRAL
6	2.5535	34.86	-21.14	56.00	24.69	9.97	0.20	QP	NEUTRAL
7	2.9776	28.66	-17.34	46.00	18.52	9.97	0.17	Average	NEUTRAL
8	2.9776	36.88	-19.12	56.00	26.74	9.97	0.17	QP	NEUTRAL
9	20.1748	31.55	-18.45	50.00	21.10	10.24	0.21	Average	NEUTRAL
10	20.1748	38.35	-21.65	60.00	27.90	10.24	0.21	QP	NEUTRAL
11	21.1688	36.70	-13.30	50.00	26.21	10.27	0.22	Average	NEUTRAL
12	21.1688	41.82	-18.18	60.00	31.33	10.27	0.22	QP	NEUTRAL

Note 1: ">20dB" means emission levels that exceed the level of 20 dB below the applicable limit.

Note 2: "N/F" means Nothing Found emissions (No emissions were detected.)



Summary

Mode	Max-N dB (Hz)	Max-OBW (Hz)	ITU-Code	Min-N dB (Hz)	Min-OBW (Hz)
5.15-5.25GHz	-	-	-	-	-
802.11ac VHT20_Nss1,(MCS0)_2TX	20.15M	17.616M	17M6D1D	19.85M	17.591M
802.11ac VHT40_Nss1,(MCS0)_2TX	39.55M	36.032M	36M0D1D	39.4M	35.932M
802.11ac VHT80_Nss1,(MCS0)_2TX	83.7M	75.662M	75M7D1D	82.8M	75.562M
5.725-5.85GHz	-	-	-	-	-
802.11ac VHT20_Nss1,(MCS0)_2TX	17.575M	17.991M	18M0D1D	17.5M	17.641M
802.11ac VHT40_Nss1,(MCS0)_2TX	35.65M	36.132M	36M1D1D	33.8M	35.982M
802.11ac VHT80_Nss1,(MCS0)_2TX	75.3M	75.762M	75M8D1D	73.8M	75.462M

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

Max-OBW = Maximum 99% occupied bandwidth;

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

Min-OBW = Minimum 99% occupied bandwidth;

Result

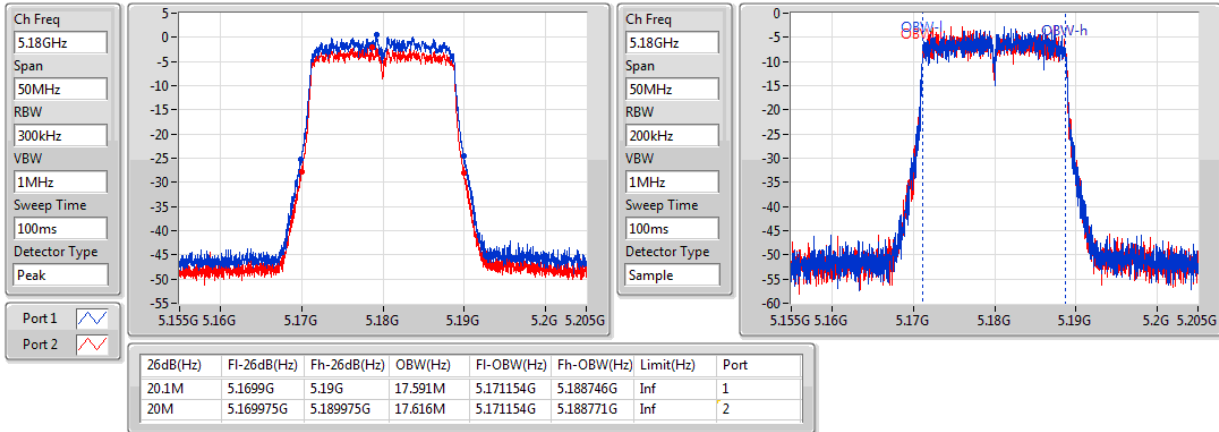
Mode	Result	Limit (Hz)	Port 1-N dB (Hz)	Port 1-OBW (Hz)	Port 2-N dB (Hz)	Port 2-OBW (Hz)
802.11ac VHT20_Nss1,(MCS0)_2TX	-	-	-	-	-	-
5180MHz	Pass	Inf	20.1M	17.591M	20M	17.616M
5200MHz	Pass	Inf	19.925M	17.616M	19.85M	17.591M
5240MHz	Pass	Inf	20.15M	17.591M	19.925M	17.591M
5745MHz	Pass	500k	17.5M	17.991M	17.55M	17.766M
5785MHz	Pass	500k	17.575M	17.641M	17.575M	17.641M
5825MHz	Pass	500k	17.575M	17.841M	17.525M	17.866M
802.11ac VHT40_Nss1,(MCS0)_2TX	-	-	-	-	-	-
5190MHz	Pass	Inf	39.55M	36.032M	39.55M	35.932M
5230MHz	Pass	Inf	39.4M	35.982M	39.45M	35.932M
5755MHz	Pass	500k	33.8M	35.982M	35.65M	36.132M
5795MHz	Pass	500k	34.4M	35.982M	33.85M	36.082M
802.11ac VHT80_Nss1,(MCS0)_2TX	-	-	-	-	-	-
5210MHz	Pass	Inf	83.7M	75.662M	82.8M	75.562M
5775MHz	Pass	500k	75.3M	75.462M	73.8M	75.762M

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

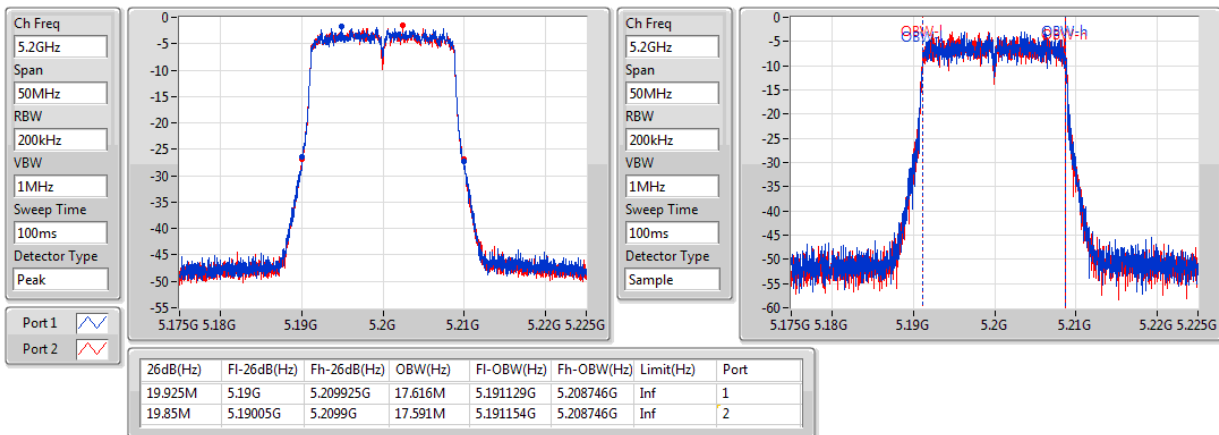
Port X-OBW = Port X 99% occupied bandwidth;

802.11ac VHT20_Nss1,(MCS0)_2TX
EBW
5180MHz

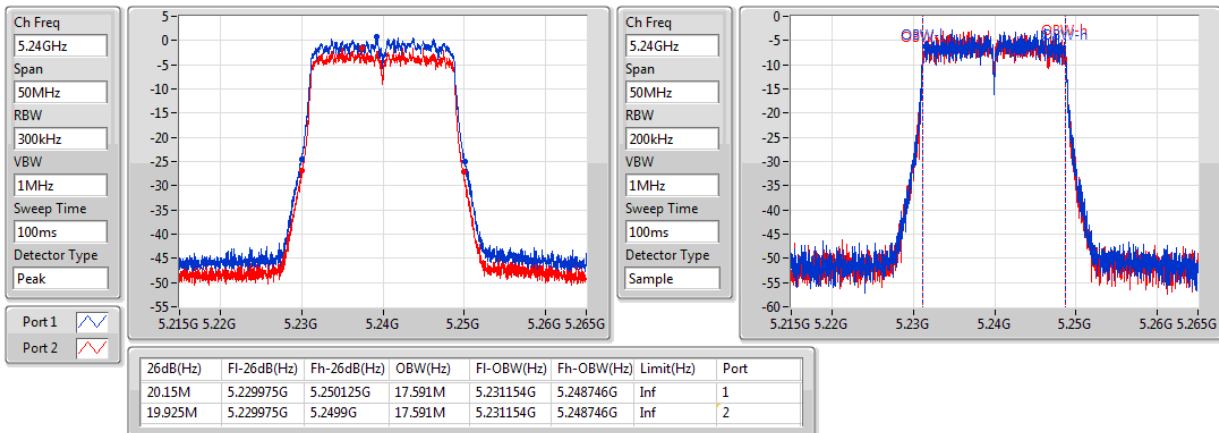
06/07/2018


802.11ac VHT20_Nss1,(MCS0)_2TX
EBW
5200MHz

06/07/2018

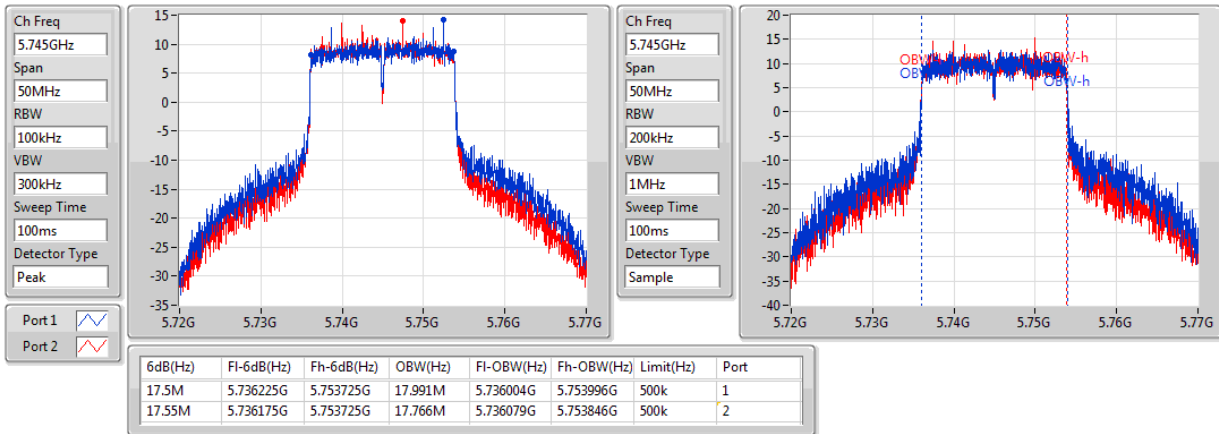

802.11ac VHT20_Nss1,(MCS0)_2TX
EBW
5240MHz

06/07/2018

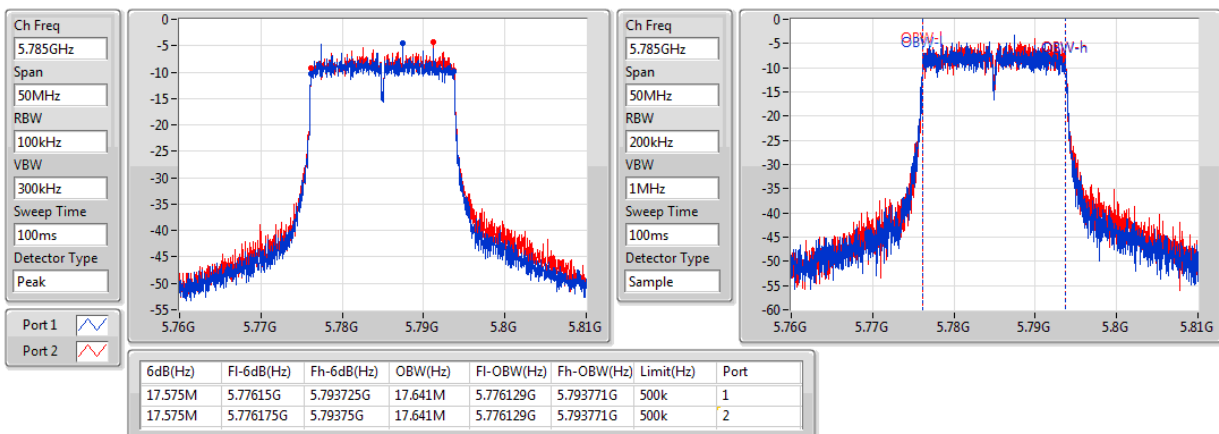


802.11ac VHT20_Nss1,(MCS0)_2TX
EBW
5745MHz

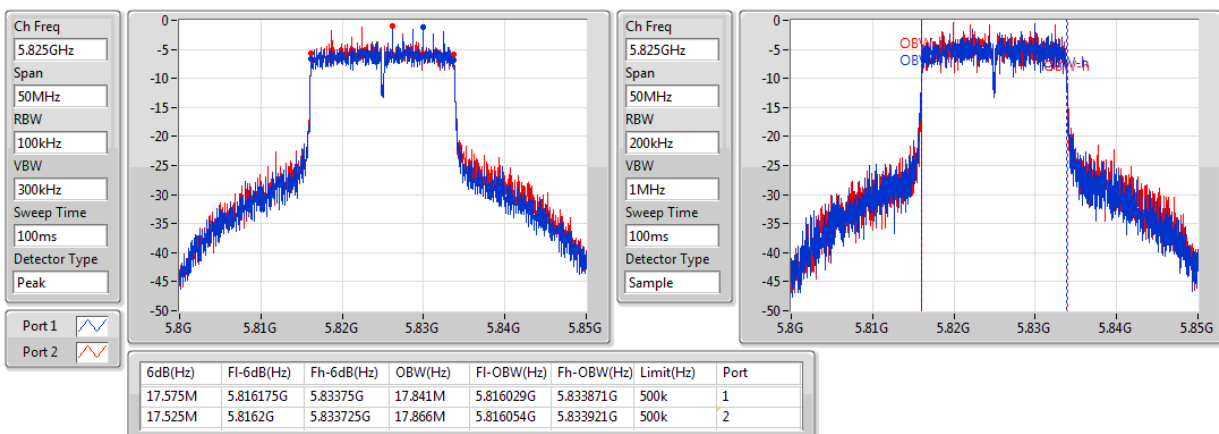
07/07/2018


802.11ac VHT20_Nss1,(MCS0)_2TX
EBW
5785MHz

07/07/2018


802.11ac VHT20_Nss1,(MCS0)_2TX
EBW
5825MHz

07/07/2018

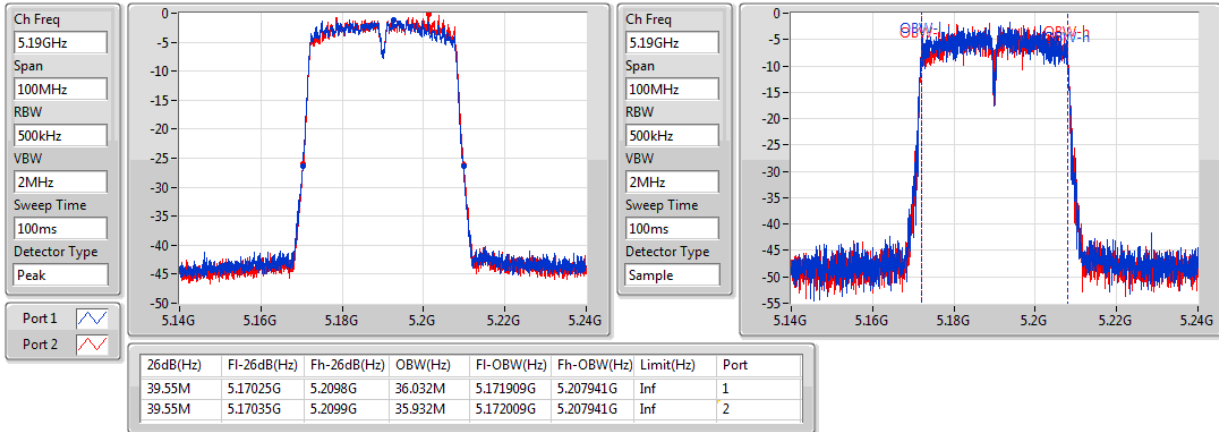


802.11ac VHT40_Nss1,(MCS0)_2TX

EBW

5190MHz

06/07/2018

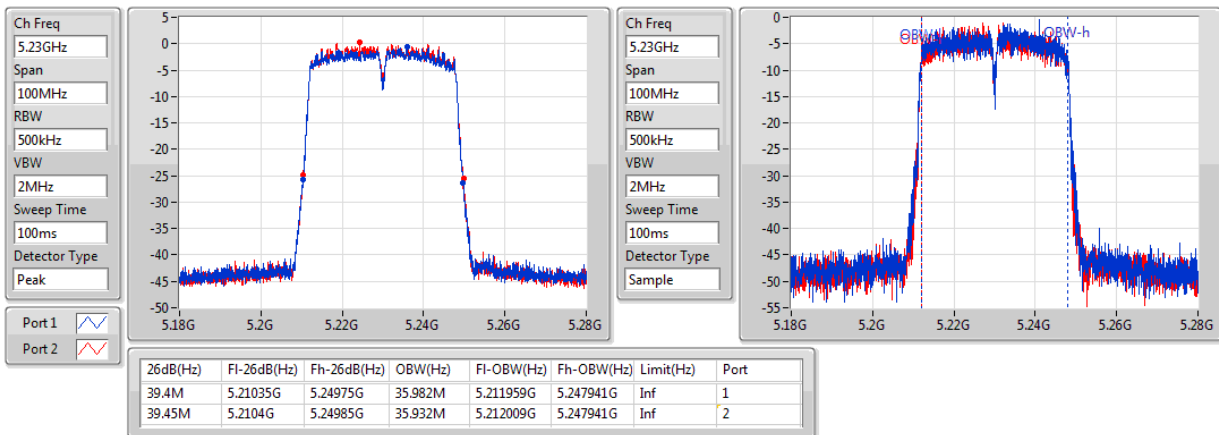


802.11ac VHT40_Nss1,(MCS0)_2TX

EBW

5230MHz

07/07/2018

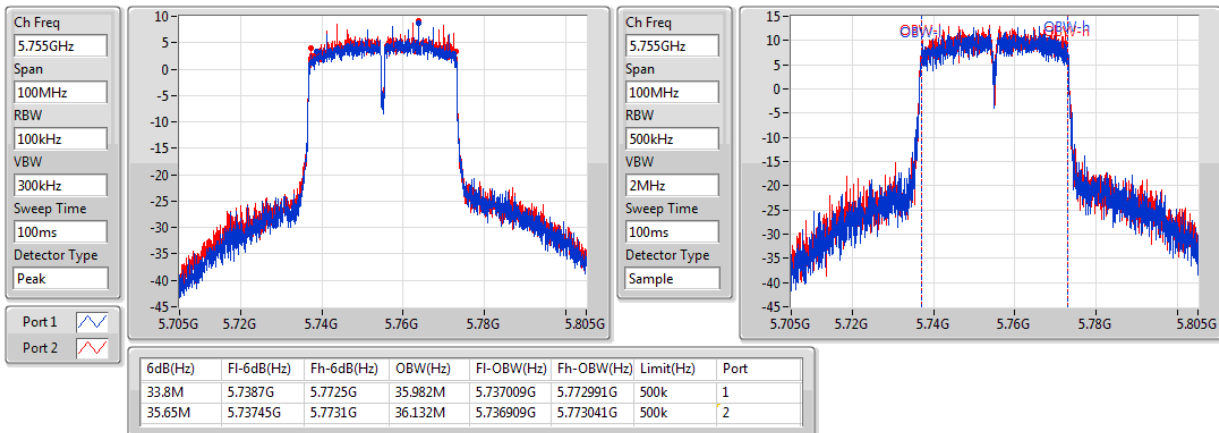


802.11ac VHT40_Nss1,(MCS0)_2TX

EBW

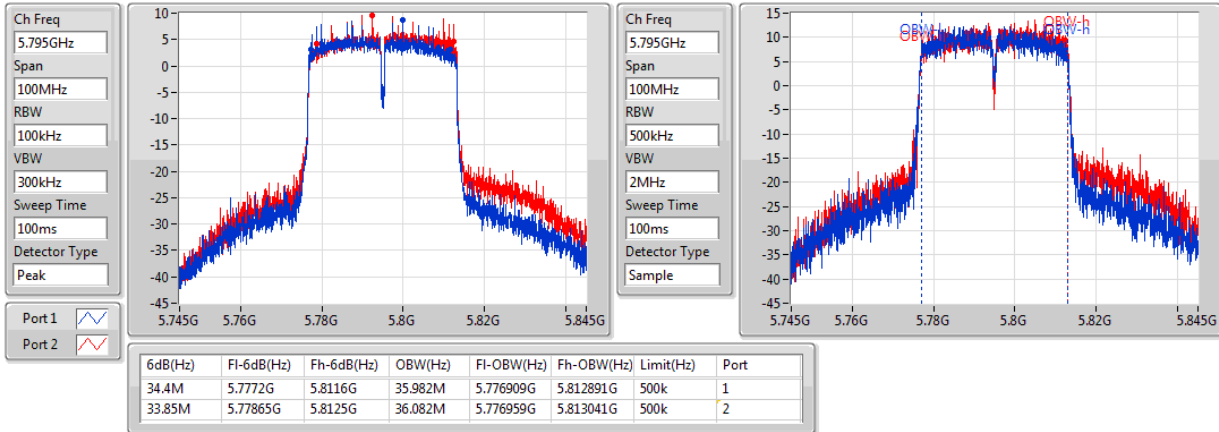
5755MHz

07/07/2018

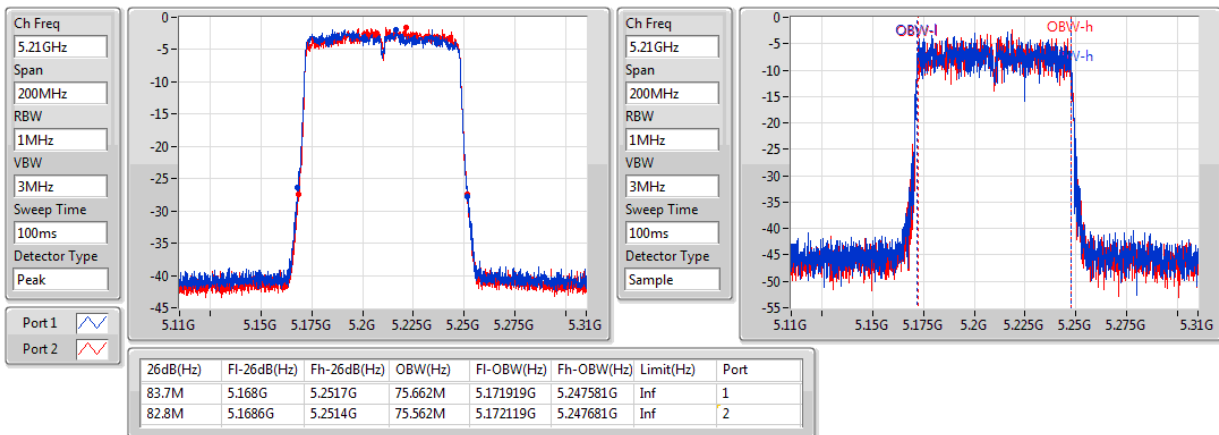


802.11ac VHT40_Nss1,(MCS0)_2TX
EBW
5795MHz

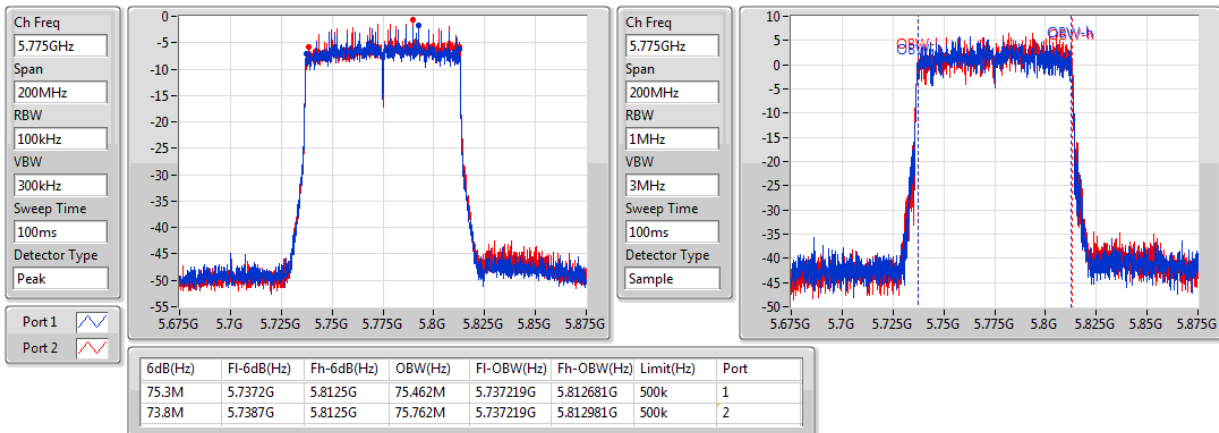
07/07/2018


802.11ac VHT80_Nss1,(MCS0)_2TX
EBW
5210MHz

07/07/2018


802.11ac VHT80_Nss1,(MCS0)_2TX
EBW
5775MHz

07/07/2018



Summary

Mode	Max-N dB (Hz)	Max-OBW (Hz)	ITU-Code	Min-N dB (Hz)	Min-OBW (Hz)
5.15-5.25GHz	-	-	-	-	-
802.11ac VHT20_Nss1,(MCS0)_2TX	25.425M	17.725M	17M7D1D	20.15M	17.65M
802.11ac VHT40_Nss1,(MCS0)_2TX	51.45M	36.35M	36M3D1D	40.4M	36.25M
802.11ac VHT80_Nss1,(MCS0)_2TX	83.2M	75.7M	75M7D1D	83M	75.6M
5.725-5.85GHz	-	-	-	-	-
802.11ac VHT20_Nss1,(MCS0)_2TX	17.65M	17.925M	17M9D1D	17.525M	17.775M
802.11ac VHT40_Nss1,(MCS0)_2TX	36.3M	36.6M	36M6D1D	34.15M	36.4M
802.11ac VHT80_Nss1,(MCS0)_2TX	75.9M	75.9M	75M9D1D	75.2M	75.8M

Max-N dB = Maximum6dB downbandwidth for 5.725-5.85GHz band / Maximum26dB downbandwidth for other band;

Max-OBW = Maximum99% occupied bandwidth;

Min-N dB = Minimum6dB downbandwidth for 5.725-5.85GHz band / Maximum26dB downbandwidth for other band;

Min-OBW = Minimum99% occupied bandwidth;

Result

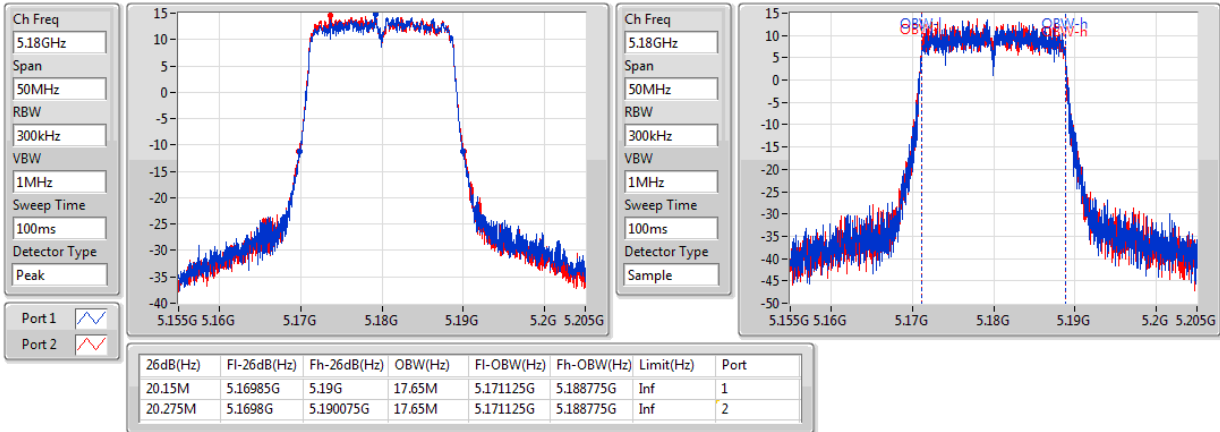
Mode	Result	Limit (Hz)	Port 1-N dB (Hz)	Port 1-OBW (Hz)	Port 2-N dB (Hz)	Port 2-OBW (Hz)
802.11ac VHT20_Nss1,(MCS0)_2TX	-	-	-	-	-	-
5180MHz	Pass	Inf	20.15M	17.65M	20.275M	17.65M
5200MHz	Pass	Inf	20.475M	17.7M	25.425M	17.725M
5240MHz	Pass	Inf	22.85M	17.7M	22.825M	17.725M
5745MHz	Pass	500k	17.55M	17.9M	17.6M	17.775M
5785MHz	Pass	500k	17.55M	17.8M	17.55M	17.925M
5825MHz	Pass	500k	17.525M	17.875M	17.65M	17.85M
802.11ac VHT40_Nss1,(MCS0)_2TX	-	-	-	-	-	-
5190MHz	Pass	Inf	40.5M	36.3M	40.4M	36.25M
5230MHz	Pass	Inf	51.45M	36.35M	48.75M	36.3M
5755MHz	Pass	500k	34.15M	36.6M	34.4M	36.4M
5795MHz	Pass	500k	36.3M	36.5M	35.7M	36.45M
802.11ac VHT80_Nss1,(MCS0)_2TX	-	-	-	-	-	-
5210MHz	Pass	Inf	83.2M	75.6M	83M	75.7M
5775MHz	Pass	500k	75.9M	75.9M	75.2M	75.8M

Port X-N dB = Port X6dB downbandwidth for 5.725-5.85GHz band / 26dB downbandwidth for other band

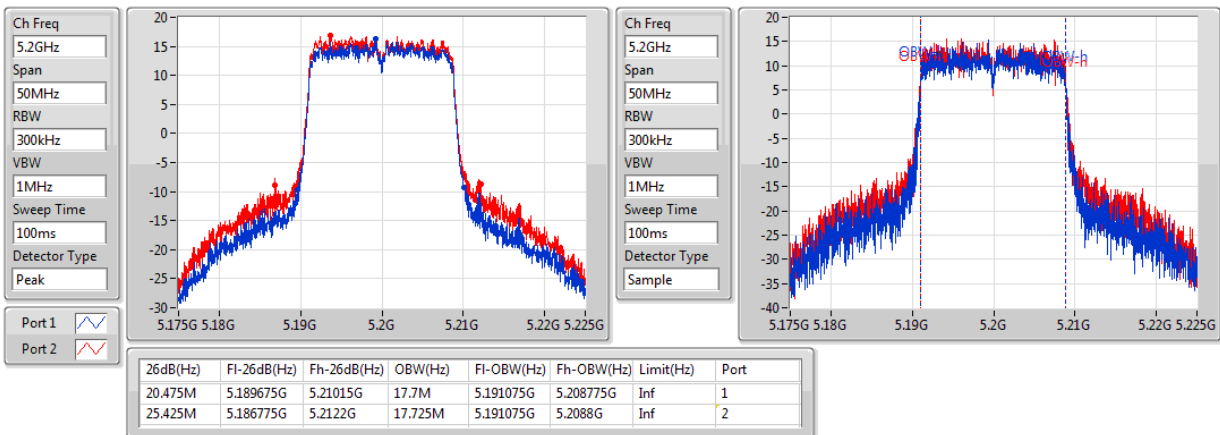
Port X-OBW = Port X99% occupied bandwidth;

802.11ac VHT20_Nss1,(MCS0)_2TX
EBW
5180MHz

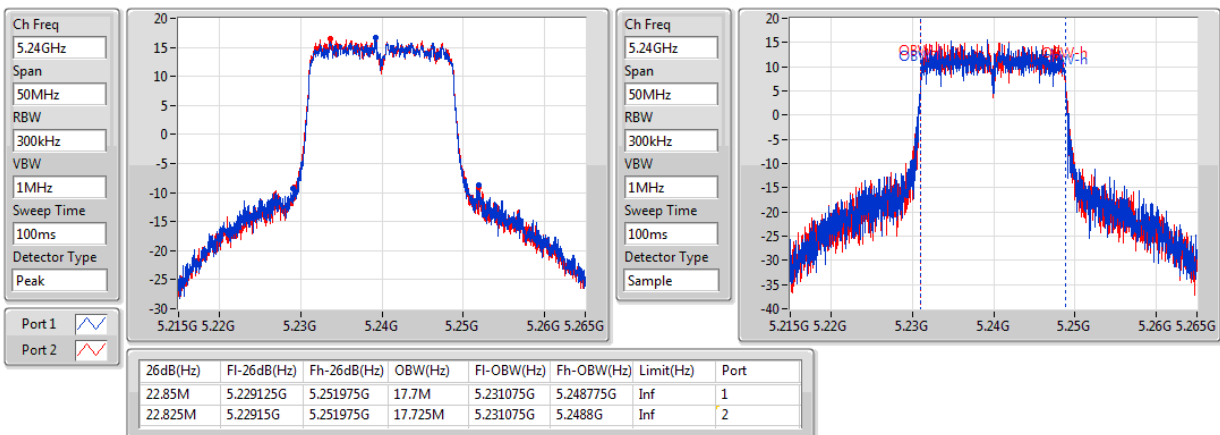
10/07/2018


802.11ac VHT20_Nss1,(MCS0)_2TX
EBW
5200MHz

10/07/2018

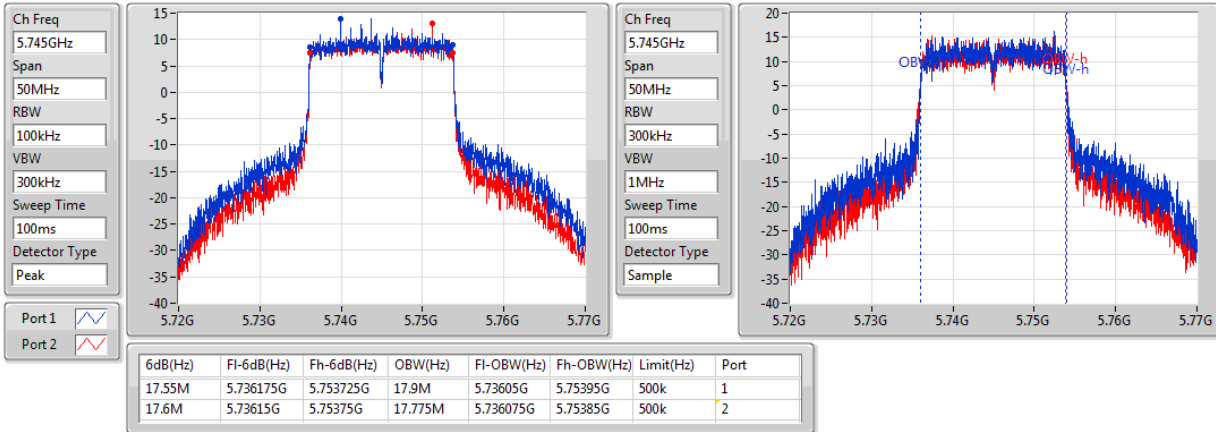

802.11ac VHT20_Nss1,(MCS0)_2TX
EBW
5240MHz

10/07/2018

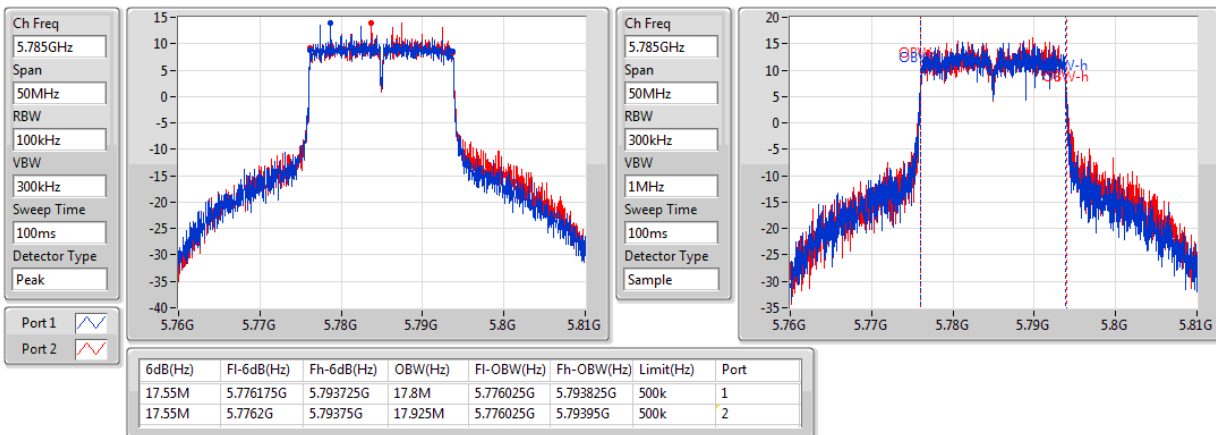


802.11ac VHT20_Nss1,(MCS0)_2TX
EBW
5745MHz

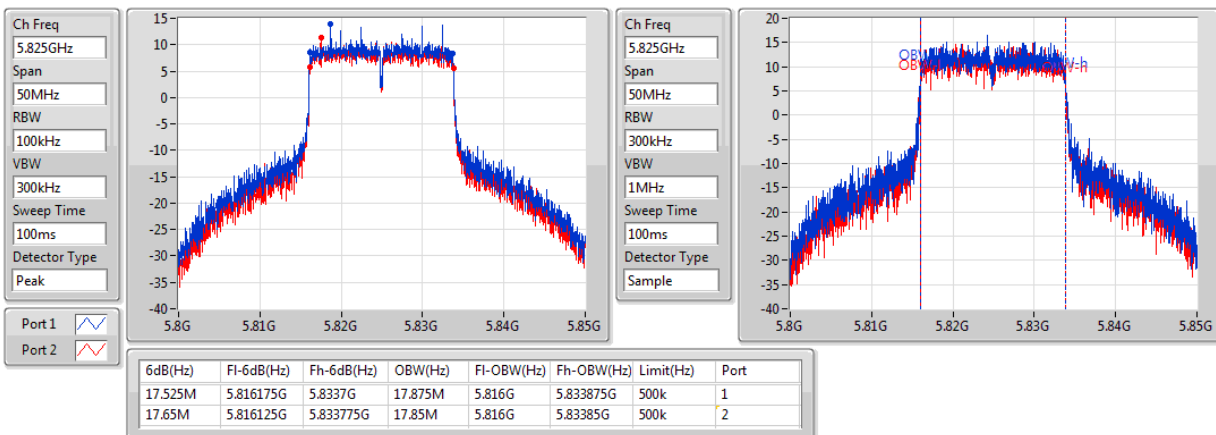
10/07/2018


802.11ac VHT20_Nss1,(MCS0)_2TX
EBW
5785MHz

10/07/2018

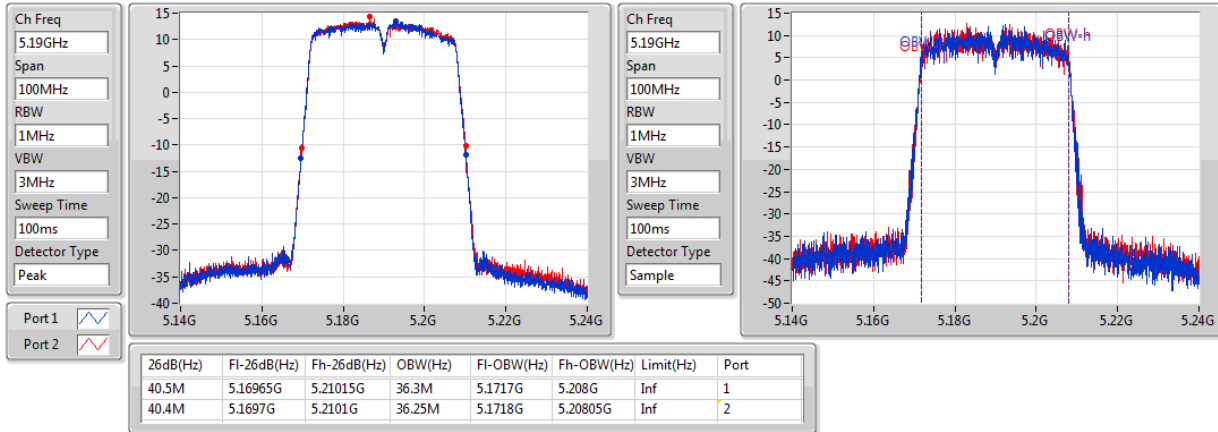

802.11ac VHT20_Nss1,(MCS0)_2TX
EBW
5825MHz

10/07/2018

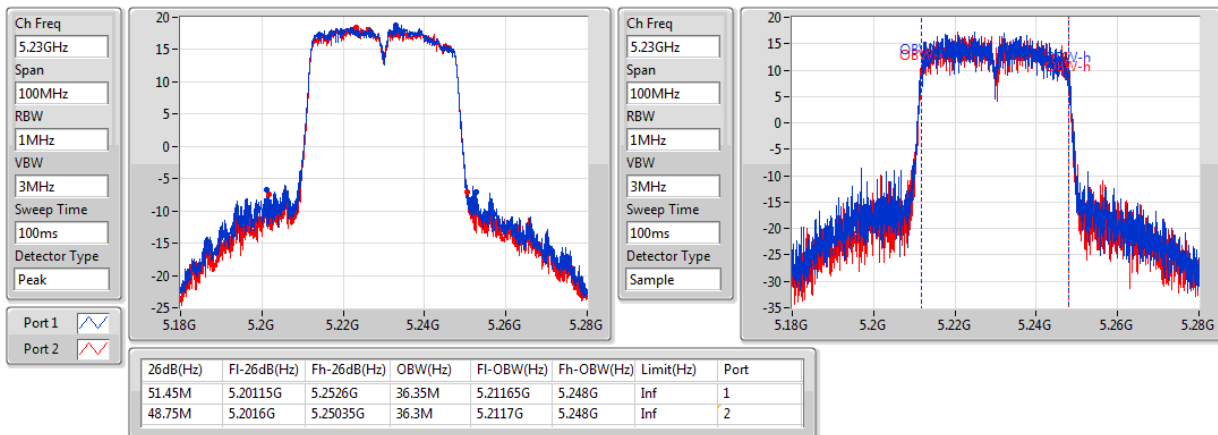


802.11ac VHT40_Nss1,(MCS0)_2TX
EBW
5190MHz

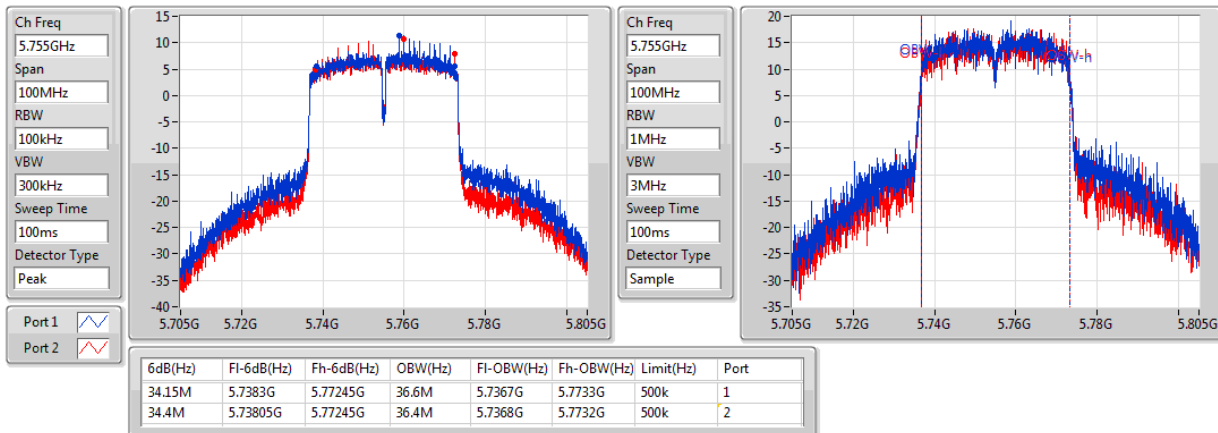
10/07/2018


802.11ac VHT40_Nss1,(MCS0)_2TX
EBW
5230MHz

10/07/2018

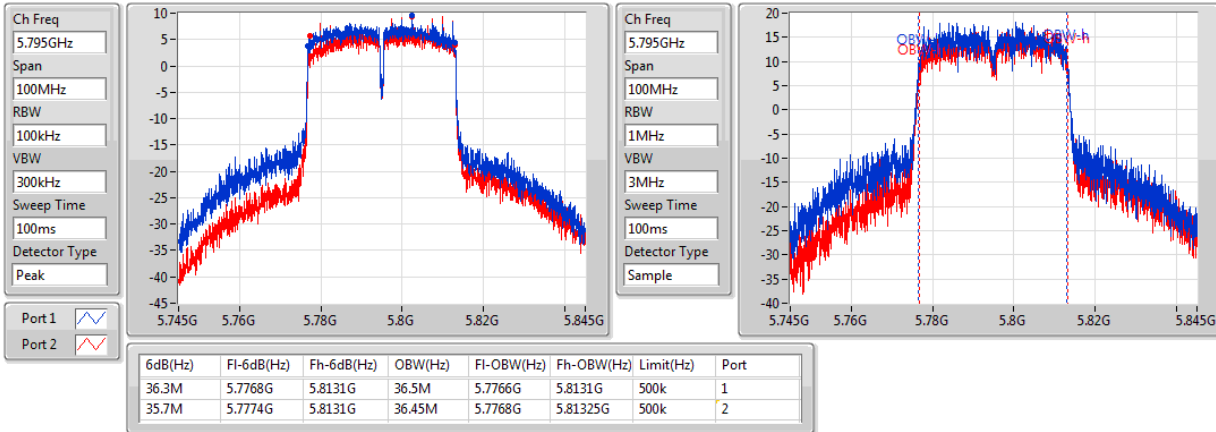

802.11ac VHT40_Nss1,(MCS0)_2TX
EBW
5755MHz

10/07/2018

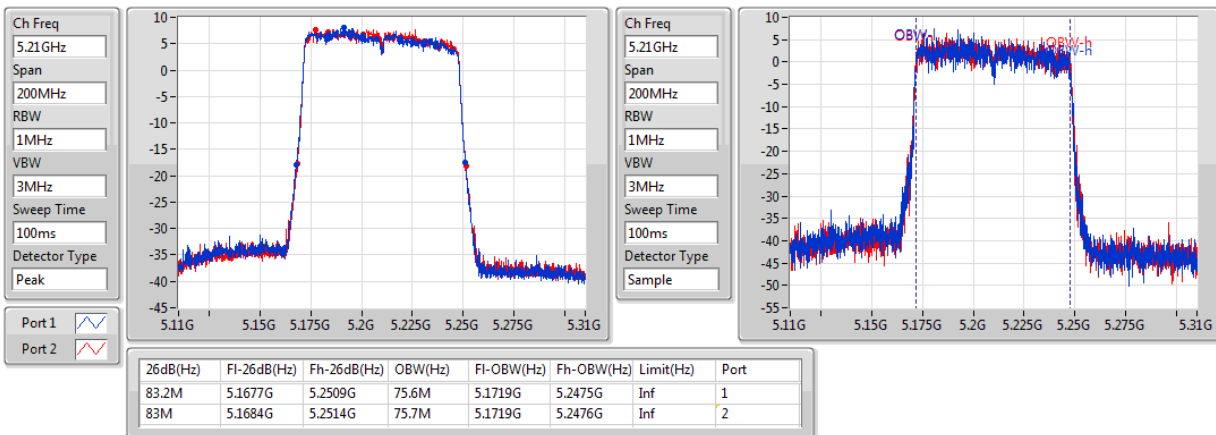


802.11ac VHT40_Nss1,(MCS0)_2TX
EBW
5795MHz

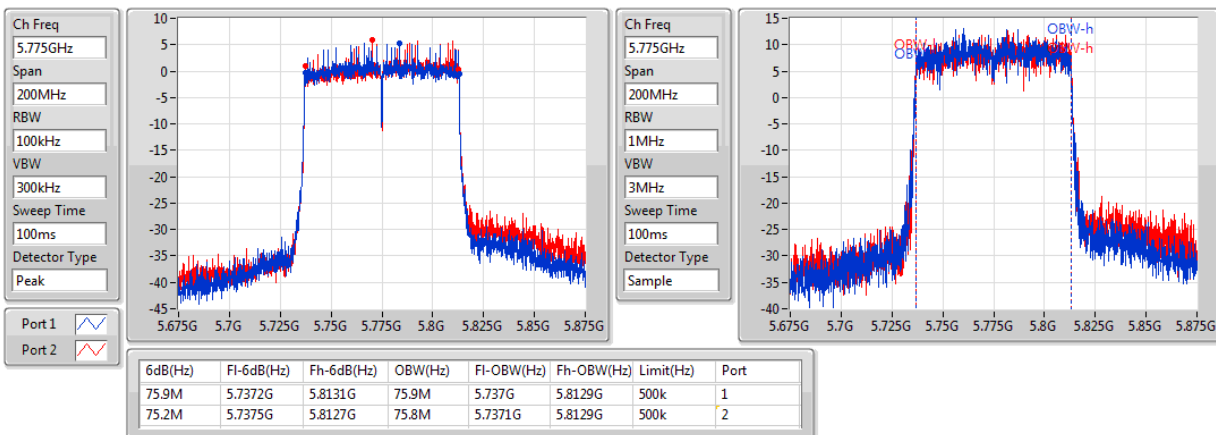
10/07/2018


802.11ac VHT80_Nss1,(MCS0)_2TX
EBW
5210MHz

10/07/2018


802.11ac VHT80_Nss1,(MCS0)_2TX
EBW
5775MHz

10/07/2018





Power Result_Ant.2

Appendix C

Summary

Mode	Total Power (dBm)	Total Power (W)
5.15-5.25GHz	-	-
802.11ac VHT20_Nss1,(MCS0)_2TX	13.29	0.02133
802.11ac VHT40_Nss1,(MCS0)_2TX	13.33	0.02153
802.11ac VHT80_Nss1,(MCS0)_2TX	11.09	0.01285
5.725-5.85GHz	-	-
802.11ac VHT20_Nss1,(MCS0)_2TX	29.19	0.82985
802.11ac VHT40_Nss1,(MCS0)_2TX	27.51	0.56364
802.11ac VHT80_Nss1,(MCS0)_2TX	19.97	0.09931

Result

Mode	Result	DG (dBi)	Port 1 (dBm)	Port 2 (dBm)	Total Power (dBm)	Power Limit (dBm)
802.11ac VHT20_Nss1,(MCS0)_2TX	-	-	-	-	-	-
5180MHz	Pass	16.00	10.11	10.29	13.21	30.00
5200MHz	Pass	16.00	10.15	10.40	13.29	30.00
5240MHz	Pass	16.00	10.13	10.32	13.24	30.00
5745MHz	Pass	16.00	26.08	26.28	29.19	30.00
5785MHz	Pass	16.00	25.60	25.39	28.51	30.00
5825MHz	Pass	16.00	25.85	26.13	29.00	30.00
802.11ac VHT40_Nss1,(MCS0)_2TX	-	-	-	-	-	-
5190MHz	Pass	16.00	9.63	9.01	12.34	30.00
5230MHz	Pass	16.00	10.35	10.28	13.33	30.00
5755MHz	Pass	16.00	24.19	24.79	27.51	30.00
5795MHz	Pass	16.00	24.10	24.75	27.45	30.00
802.11ac VHT80_Nss1,(MCS0)_2TX	-	-	-	-	-	-
5210MHz	Pass	16.00	8.04	8.11	11.09	30.00
5775MHz	Pass	16.00	16.75	17.16	19.97	30.00

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

Summary

Mode	Total Power (dBm)	Total Power (W)
5.15-5.25GHz	-	-
802.11ac VHT20_Nss1,(MCS0)_2TX	28.31	0.67764
802.11ac VHT40_Nss1,(MCS0)_2TX	27.59	0.57412
802.11ac VHT80_Nss1,(MCS0)_2TX	19.50	0.08913
5.725-5.85GHz	-	-
802.11ac VHT20_Nss1,(MCS0)_2TX	29.19	0.82985
802.11ac VHT40_Nss1,(MCS0)_2TX	28.47	0.70307
802.11ac VHT80_Nss1,(MCS0)_2TX	25.90	0.38905

Result

Mode	Result	DG (dBi)	Port 1 (dBm)	Port 2 (dBm)	Total Power (dBm)	Power Limit (dBm)
802.11ac VHT20_Nss1,(MCS0)_2TX	-	-	-	-	-	-
5180MHz	Pass	2.00	22.88	23.08	25.99	30.00
5200MHz	Pass	2.00	24.52	25.52	28.06	30.00
5240MHz	Pass	2.00	25.15	25.44	28.31	30.00
5745MHz	Pass	2.00	26.08	26.28	29.19	30.00
5785MHz	Pass	2.00	25.60	25.39	28.51	30.00
5825MHz	Pass	2.00	25.85	26.13	29.00	30.00
802.11ac VHT40_Nss1,(MCS0)_2TX	-	-	-	-	-	-
5190MHz	Pass	2.00	19.35	19.42	22.40	30.00
5230MHz	Pass	2.00	24.65	24.51	27.59	30.00
5755MHz	Pass	2.00	25.81	25.08	28.47	30.00
5795MHz	Pass	2.00	25.47	24.20	27.89	30.00
802.11ac VHT80_Nss1,(MCS0)_2TX	-	-	-	-	-	-
5210MHz	Pass	2.00	16.45	16.53	19.50	30.00
5775MHz	Pass	2.00	22.96	22.81	25.90	30.00

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

**Summary**

Mode	PD (dBm/RBW)
5.15-5.25GHz	-
802.11ac VHT20_Nss1,(MCS0)_2TX	-0.82
802.11ac VHT40_Nss1,(MCS0)_2TX	-3.56
802.11ac VHT80_Nss1,(MCS0)_2TX	-9.17
5.725-5.85GHz	-
802.11ac VHT20_Nss1,(MCS0)_2TX	13.80
802.11ac VHT40_Nss1,(MCS0)_2TX	9.26
802.11ac VHT80_Nss1,(MCS0)_2TX	-1.47

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

Result

Mode	Result	DG (dBi)	Port 1 (dBm/RBW)	Port 2 (dBm/RBW)	PD (dBm/RBW)	PD Limit (dBm/RBW)
802.11ac VHT20_Nss1,(MCS0)_2TX	-	-	-	-	-	-
5180MHz	Pass	16.00	-3.71	-3.73	-0.82	17.00
5200MHz	Pass	16.00	-19.42	-19.58	-16.61	17.00
5240MHz	Pass	16.00	-3.73	-3.75	-0.87	17.00
5745MHz	Pass	16.00	10.78	10.89	13.80	30.00
5785MHz	Pass	16.00	8.48	8.61	11.47	30.00
5825MHz	Pass	16.00	10.06	10.39	13.22	30.00
802.11ac VHT40_Nss1,(MCS0)_2TX	-	-	-	-	-	-
5190MHz	Pass	16.00	-7.00	-7.19	-4.18	17.00
5230MHz	Pass	16.00	-6.38	-6.44	-3.56	17.00
5755MHz	Pass	16.00	6.06	6.53	9.26	30.00
5795MHz	Pass	16.00	5.86	6.59	9.09	30.00
802.11ac VHT80_Nss1,(MCS0)_2TX	-	-	-	-	-	-
5210MHz	Pass	16.00	-12.12	-12.09	-9.17	17.00
5775MHz	Pass	16.00	-4.68	-4.29	-1.47	30.00

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

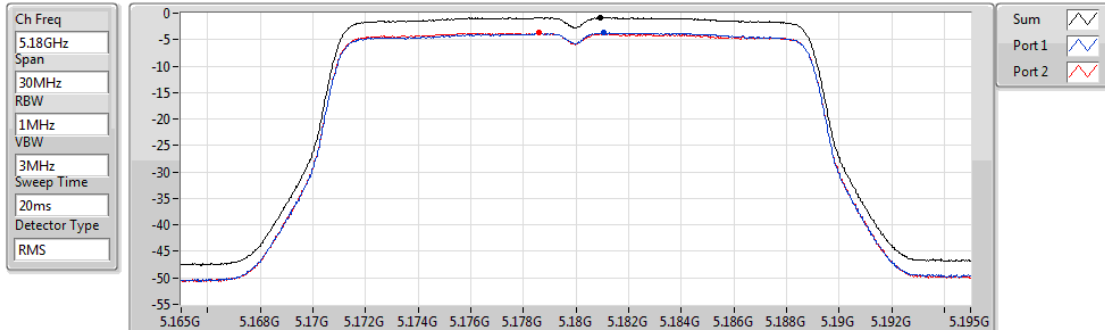
PD = trace bin-by-bin of each transmits port summing can be performed maximum power density; **Port X** = Port Xpower density;

802.11ac VHT20_Nss1,(MCS0)_2TX

PSD

5180MHz

06/07/2018



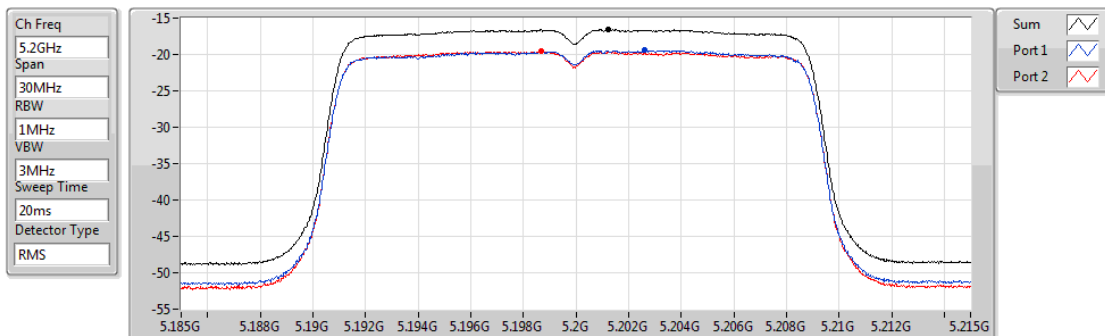
Sum	PD	Port 1	Port 2
(dBm/Hz)	(dBm/Hz)	(dBm/Hz)	(dBm/Hz)
-0.82	-0.82	-3.71	-3.73

802.11ac VHT20_Nss1,(MCS0)_2TX

PSD

5200MHz

06/07/2018



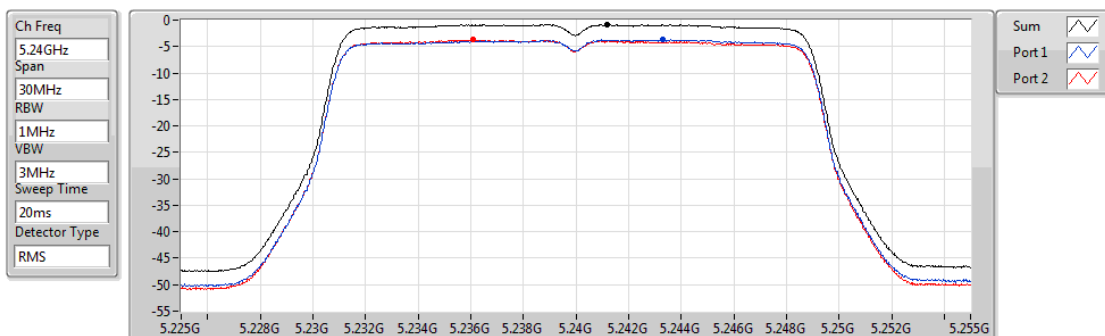
Sum	PD	Port 1	Port 2
(dBm/Hz)	(dBm/Hz)	(dBm/Hz)	(dBm/Hz)
-16.61	-16.61	-19.42	-19.58

802.11ac VHT20_Nss1,(MCS0)_2TX

PSD

5240MHz

06/07/2018



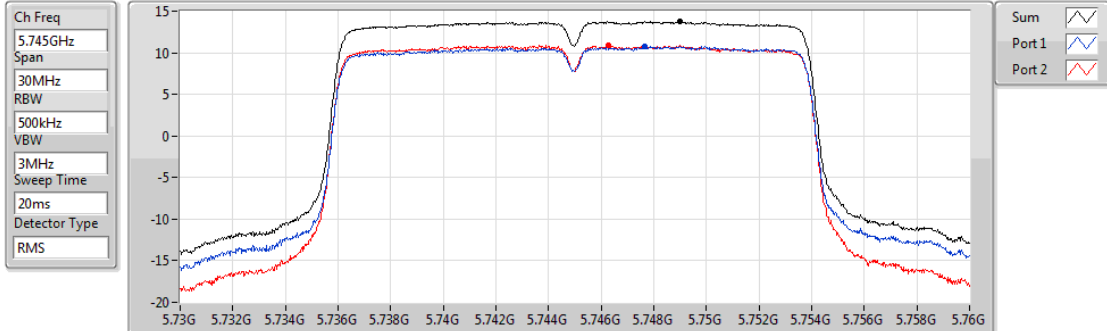
Sum	PD	Port 1	Port 2
(dBm/Hz)	(dBm/Hz)	(dBm/Hz)	(dBm/Hz)
-0.87	-0.87	-3.73	-3.75

802.11ac VHT20_Nss1,(MCS0)_2TX

5745MHz

PSD

07/07/2018



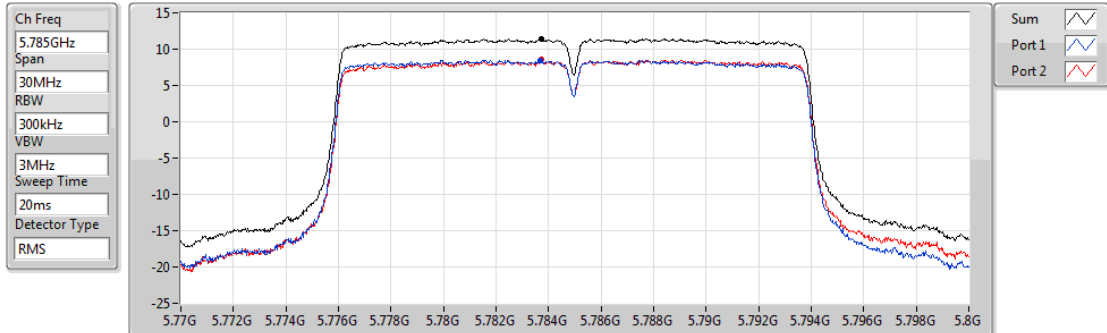
Sum	PD	Port 1	Port 2
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
13.80	13.80	10.78	10.89

802.11ac VHT20_Nss1,(MCS0)_2TX

5785MHz

PSD

10/07/2018



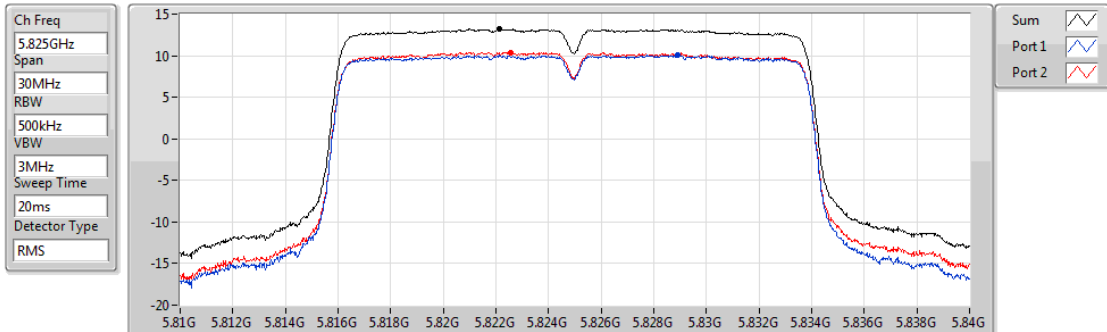
Sum	PD	Port 1	Port 2
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
11.47	11.47	8.48	8.61

802.11ac VHT20_Nss1,(MCS0)_2TX

5825MHz

PSD

07/07/2018



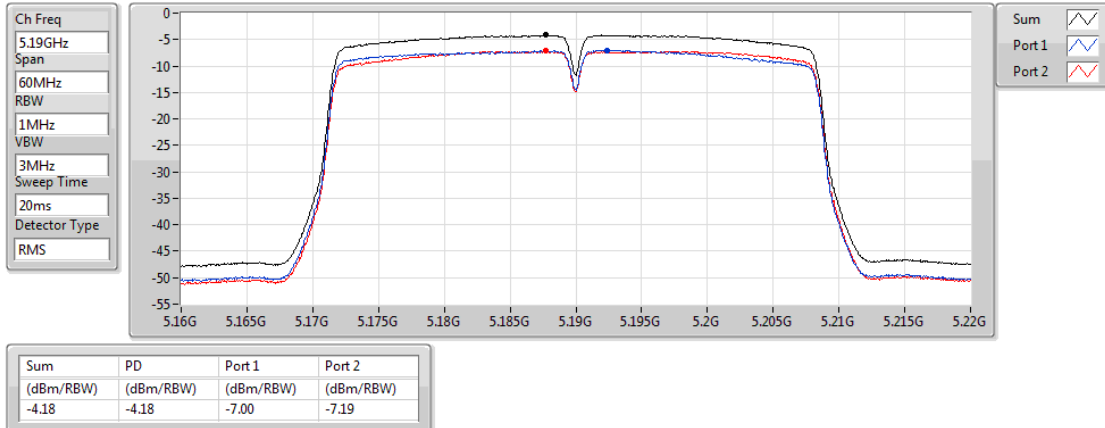
Sum	PD	Port 1	Port 2
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
13.22	13.22	10.06	10.39

802.11ac VHT40_Nss1,(MCS0)_2TX

PSD

5190MHz

07/07/2018

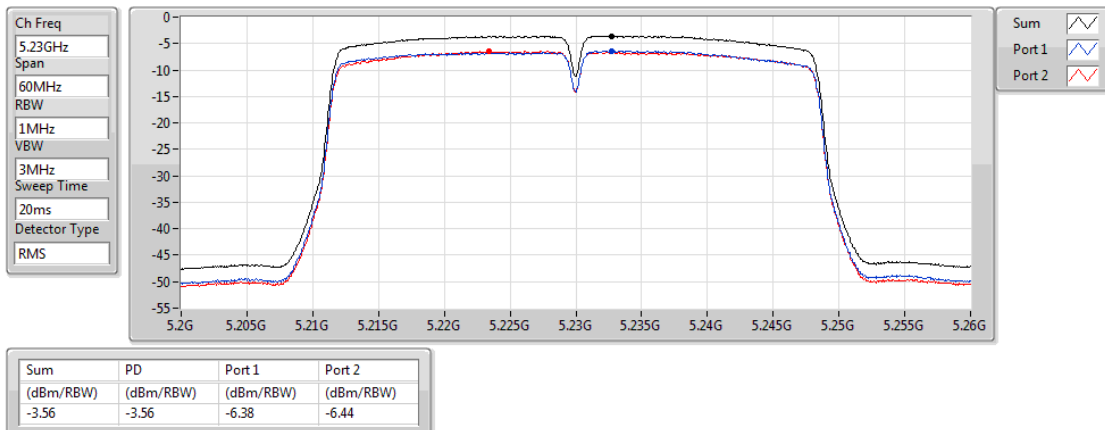


802.11ac VHT40_Nss1,(MCS0)_2TX

PSD

5230MHz

07/07/2018

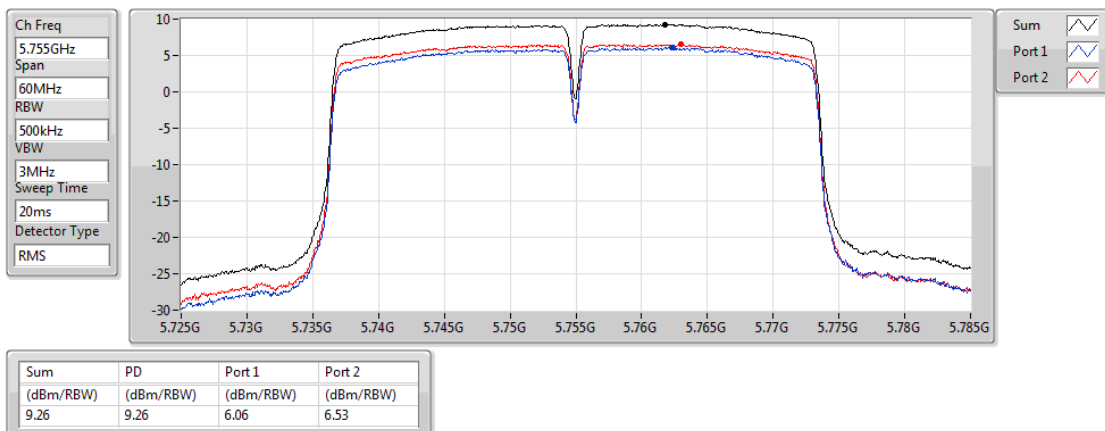


802.11ac VHT40_Nss1,(MCS0)_2TX

PSD

5755MHz

07/07/2018



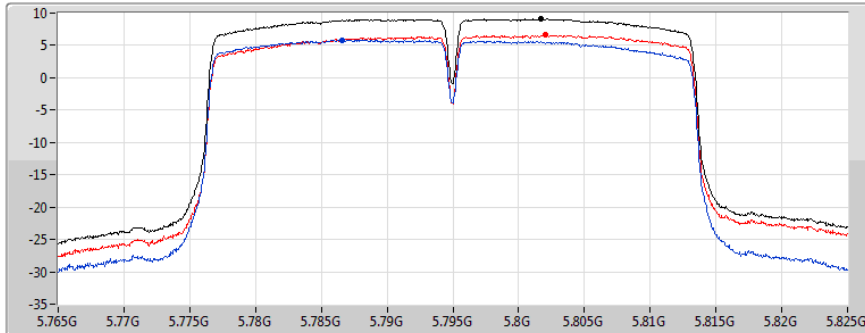
802.11ac VHT40_Nss1,(MCS0)_2TX

PSD

5795MHz

07/07/2018

Ch Freq
5.795GHz
Span
60MHz
RBW
500kHz
VBW
3MHz
Sweep Time
20ms
Detector Type
RMS



Sum ☒
Port 1 ☒
Port 2 ☒

Sum	PD	Port 1	Port 2
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
9.09	9.09	5.86	6.59

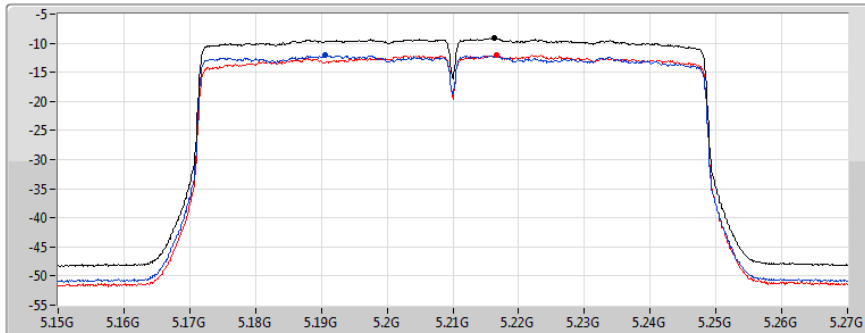
802.11ac VHT80_Nss1,(MCS0)_2TX

PSD

5210MHz

07/07/2018

Ch Freq
5.21GHz
Span
120MHz
RBW
1MHz
VBW
3MHz
Sweep Time
20ms
Detector Type
RMS



Sum ☒
Port 1 ☒
Port 2 ☒

Sum	PD	Port 1	Port 2
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
-9.17	-9.17	-12.12	-12.09

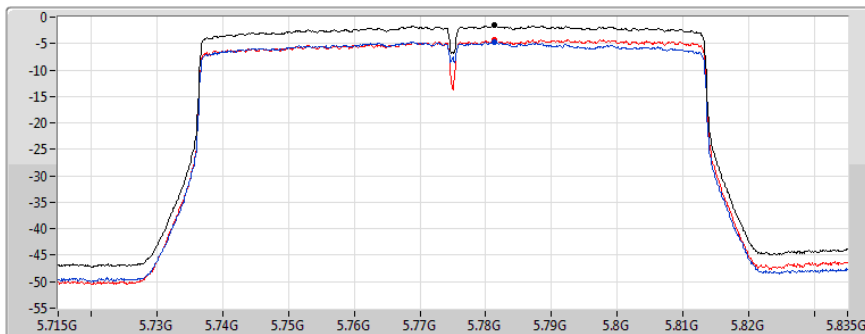
802.11ac VHT80_Nss1,(MCS0)_2TX

PSD

5775MHz

07/07/2018

Ch Freq
5.775GHz
Span
120MHz
RBW
500kHz
VBW
3MHz
Sweep Time
20ms
Detector Type
RMS



Sum ☒
Port 1 ☒
Port 2 ☒

Sum	PD	Port 1	Port 2
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
-1.47	-1.47	-4.68	-4.29

Summary

Mode	PD (dBm/RBW)
5.15-5.25GHz	-
802.11ac VHT20_Nss1,(MCS0)_2TX	14.00
802.11ac VHT40_Nss1,(MCS0)_2TX	10.48
802.11ac VHT80_Nss1,(MCS0)_2TX	-0.18
5.725-5.85GHz	-
802.11ac VHT20_Nss1,(MCS0)_2TX	13.80
802.11ac VHT40_Nss1,(MCS0)_2TX	8.45
802.11ac VHT80_Nss1,(MCS0)_2TX	2.56

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

Result

Mode	Result	DG (dBi)	Port 1 (dBm/RBW)	Port 2 (dBm/RBW)	PD (dBm/RBW)	PD Limit (dBm/RBW)
802.11ac VHT20_Nss1,(MCS0)_2TX	-	-	-	-	-	-
5180MHz	Pass	5.01	9.33	9.48	12.25	17.00
5200MHz	Pass	5.01	10.60	11.58	14.00	17.00
5240MHz	Pass	5.01	10.80	11.16	13.92	17.00
5745MHz	Pass	5.01	10.78	10.89	13.80	30.00
5785MHz	Pass	5.01	8.48	8.61	11.47	30.00
5825MHz	Pass	5.01	10.06	10.39	13.22	30.00
802.11ac VHT40_Nss1,(MCS0)_2TX	-	-	-	-	-	-
5190MHz	Pass	5.01	2.77	2.98	5.77	17.00
5230MHz	Pass	5.01	7.41	7.60	10.48	17.00
5755MHz	Pass	5.01	5.86	5.22	8.45	30.00
5795MHz	Pass	5.01	5.40	4.44	7.85	30.00
802.11ac VHT80_Nss1,(MCS0)_2TX	-	-	-	-	-	-
5210MHz	Pass	5.01	-2.96	-3.19	-0.18	17.00
5775MHz	Pass	5.01	-0.29	-0.23	2.56	30.00

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

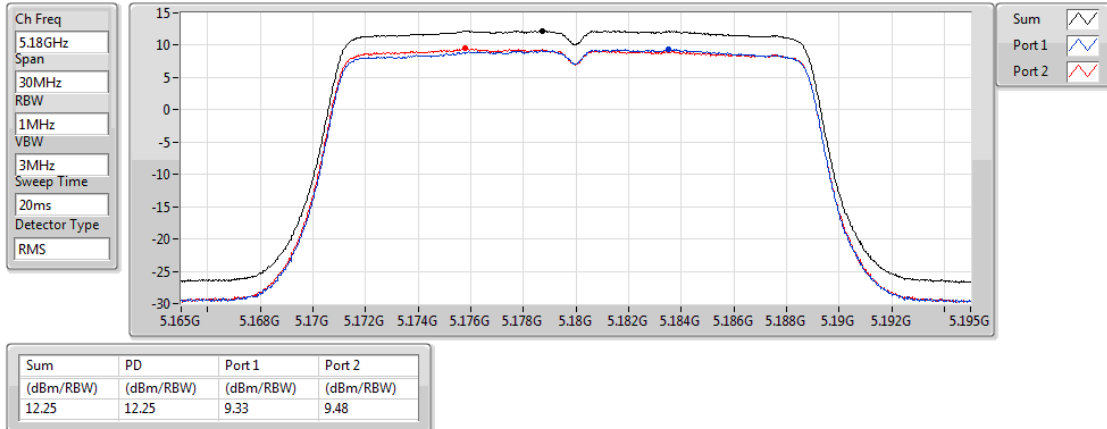
PD = trace bin-by-bin of each transmits port summing can be performed maximum power density; **Port X** = Port Xpower density;

802.11ac VHT20_Nss1,(MCS0)_2TX

PSD

5180MHz

10/07/2018

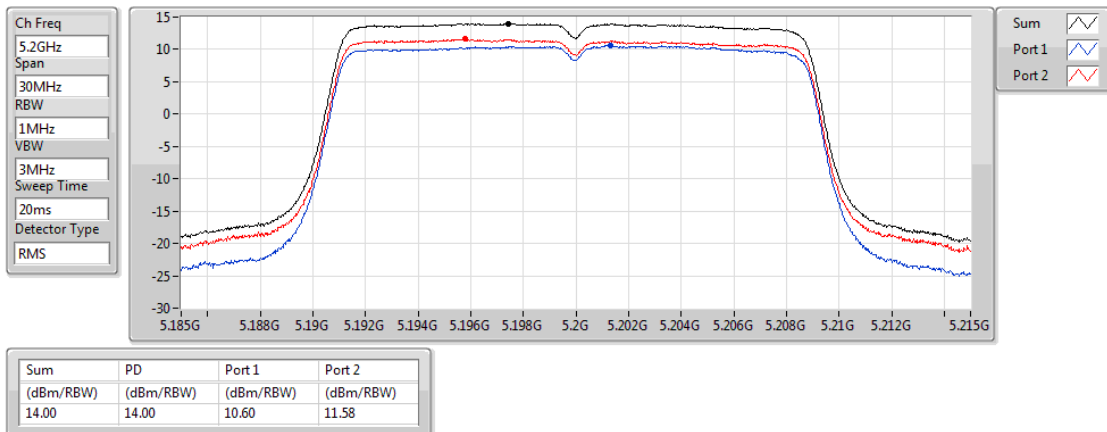


802.11ac VHT20_Nss1,(MCS0)_2TX

PSD

5200MHz

10/07/2018

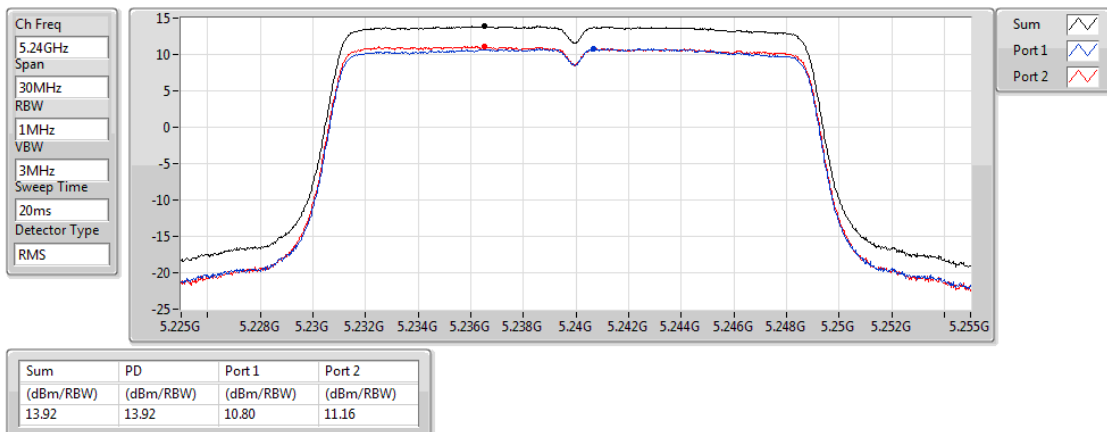


802.11ac VHT20_Nss1,(MCS0)_2TX

PSD

5240MHz

10/07/2018



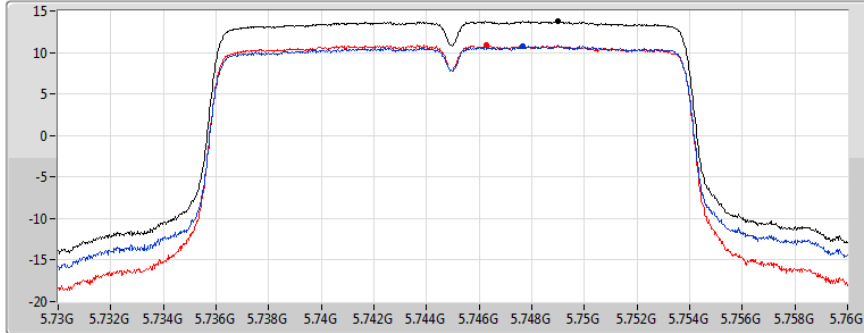
802.11ac VHT20_Nss1,(MCS0)_2TX

PSD

5745MHz

07/07/2018

Ch Freq
5.745GHz
Span
30MHz
RBW
500kHz
VBW
3MHz
Sweep Time
20ms
Detector Type
RMS



Sum ☒
Port 1 ☐
Port 2 ☐

Sum	PD	Port 1	Port 2
(dBm/100kHz)	(dBm/100kHz)	(dBm/100kHz)	(dBm/100kHz)
13.80	13.80	10.78	10.89

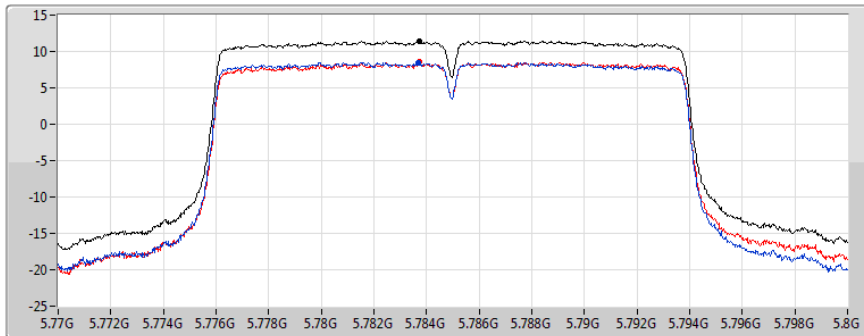
802.11ac VHT20_Nss1,(MCS0)_2TX

PSD

5785MHz

10/07/2018

Ch Freq
5.785GHz
Span
30MHz
RBW
300kHz
VBW
3MHz
Sweep Time
20ms
Detector Type
RMS



Sum ☒
Port 1 ☐
Port 2 ☐

Sum	PD	Port 1	Port 2
(dBm/100kHz)	(dBm/100kHz)	(dBm/100kHz)	(dBm/100kHz)
11.47	11.47	8.48	8.61

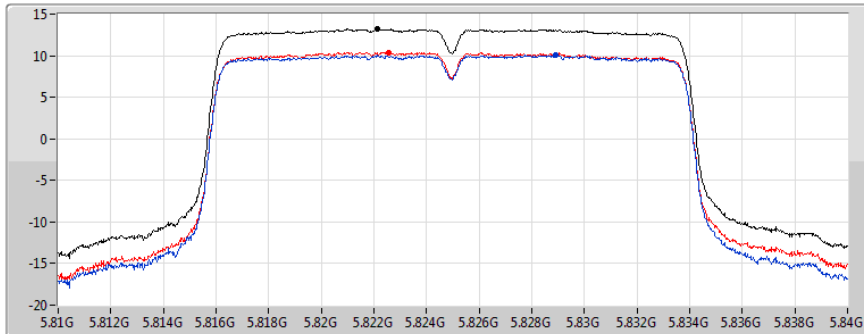
802.11ac VHT20_Nss1,(MCS0)_2TX

PSD

5825MHz

07/07/2018

Ch Freq
5.825GHz
Span
30MHz
RBW
500kHz
VBW
3MHz
Sweep Time
20ms
Detector Type
RMS



Sum ☒
Port 1 ☐
Port 2 ☐

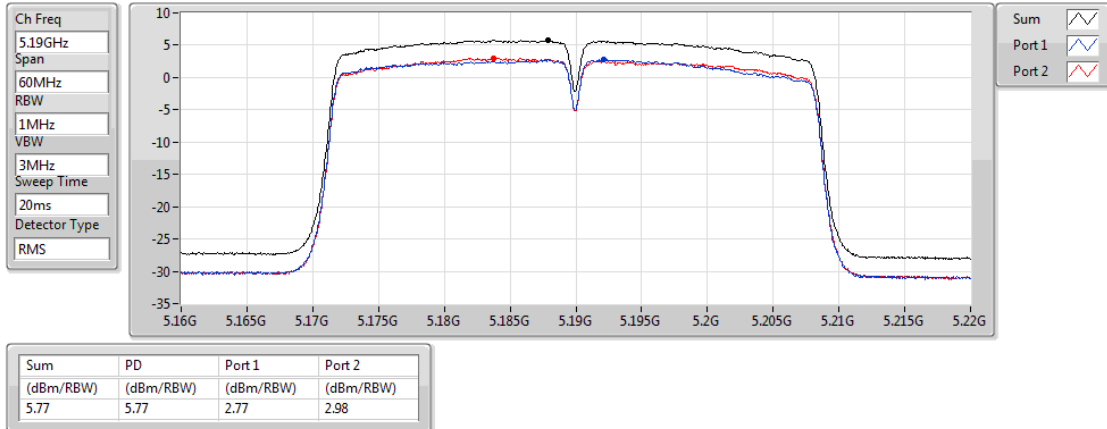
Sum	PD	Port 1	Port 2
(dBm/100kHz)	(dBm/100kHz)	(dBm/100kHz)	(dBm/100kHz)
13.22	13.22	10.06	10.39

802.11ac VHT40_Nss1,(MCS0)_2TX

PSD

5190MHz

10/07/2018

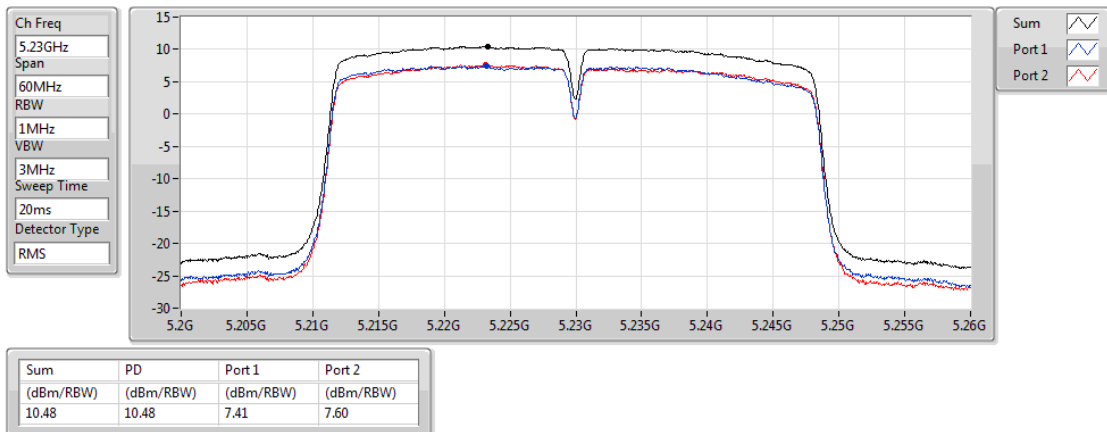


802.11ac VHT40_Nss1,(MCS0)_2TX

PSD

5230MHz

10/07/2018

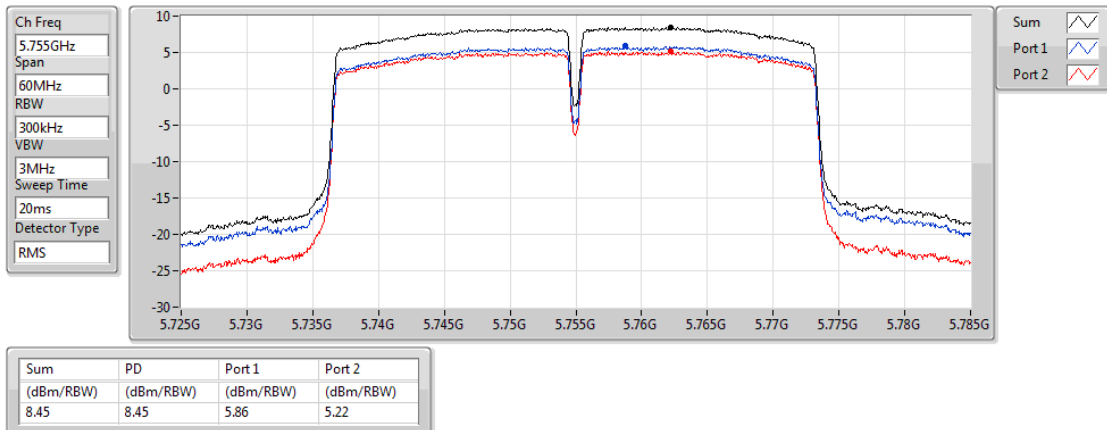


802.11ac VHT40_Nss1,(MCS0)_2TX

PSD

5755MHz

10/07/2018

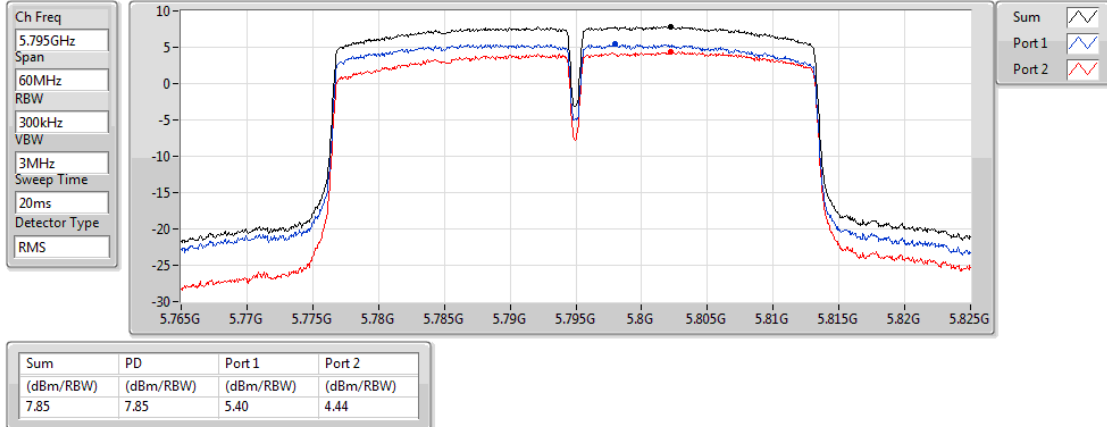


802.11ac VHT40_Nss1,(MCS0)_2TX

PSD

5795MHz

10/07/2018

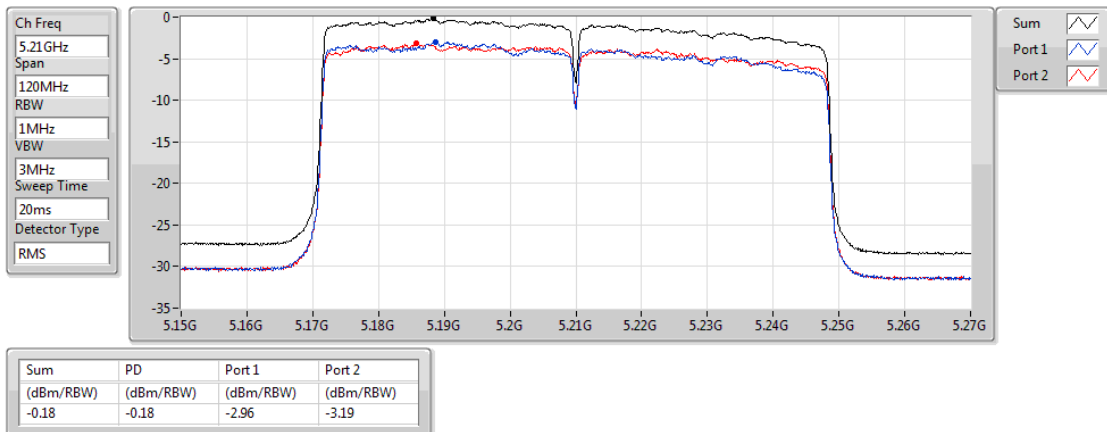


802.11ac VHT80_Nss1,(MCS0)_2TX

PSD

5210MHz

10/07/2018

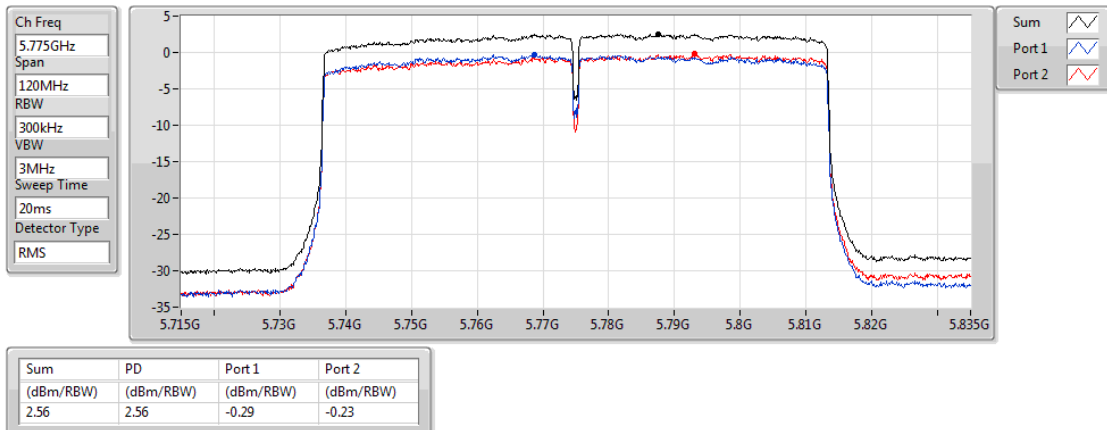


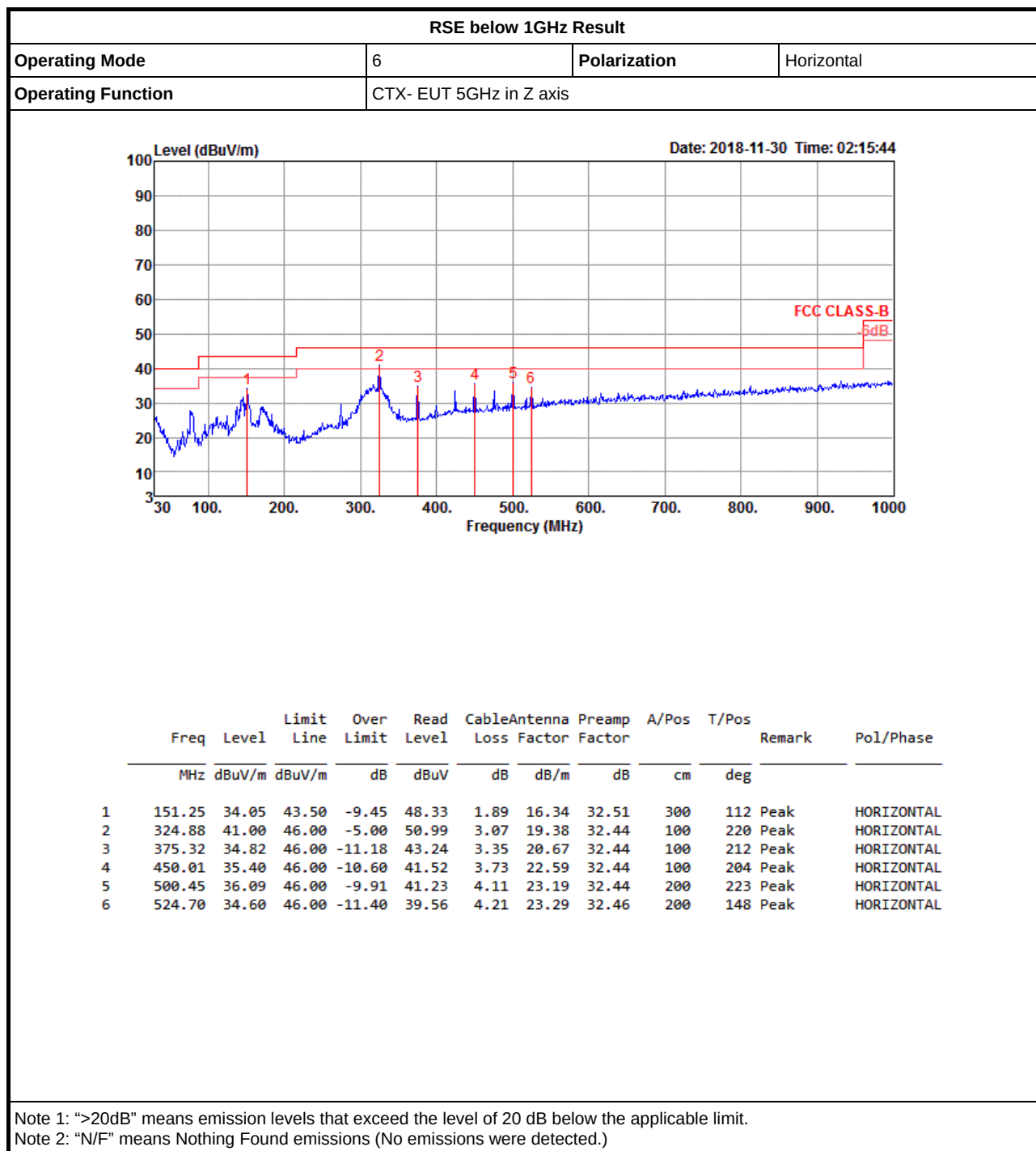
802.11ac VHT80_Nss1,(MCS0)_2TX

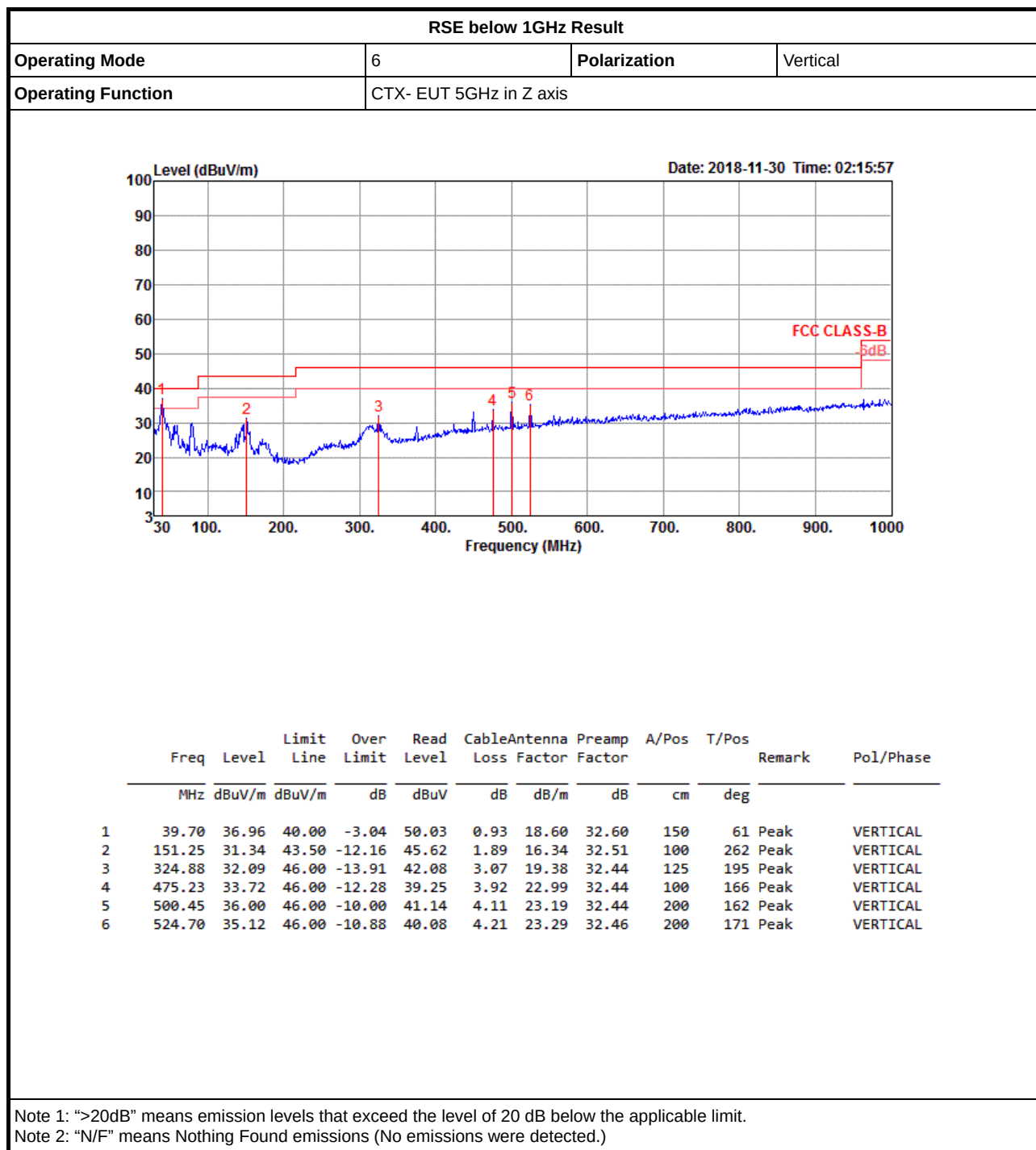
PSD

5775MHz

10/07/2018







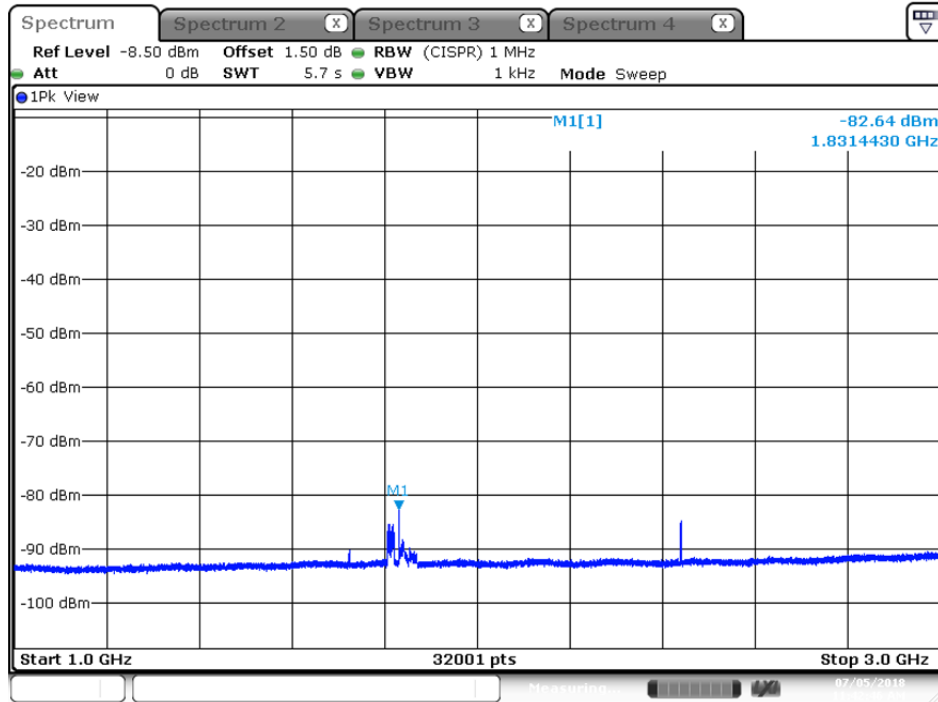
IEEE 802.11ac Nss1 MCS0 VHT20
Average

Frequency (MHz)	Correlated Antenna Gain (dBi)	TX1 Spurious Level (dBm)	TX2 Spurious Level (dBm)	Total Spurious Level (dBm)	Limit (dBm)	Margin (dB)
5180	16.00	-82.64	-75.82	-59.00	-41.25	17.75
5200	16.00	-78.69	-79.60	-60.11	-41.25	18.86
5240	16.00	-80.06	-79.24	-60.62	-41.25	19.37
5745	16.00	-79.11	-77.33	-59.12	-41.25	17.87
5785	16.00	-78.29	-81.33	-60.54	-41.25	19.29
5825	16.00	-82.79	-81.20	-62.91	-41.25	21.66

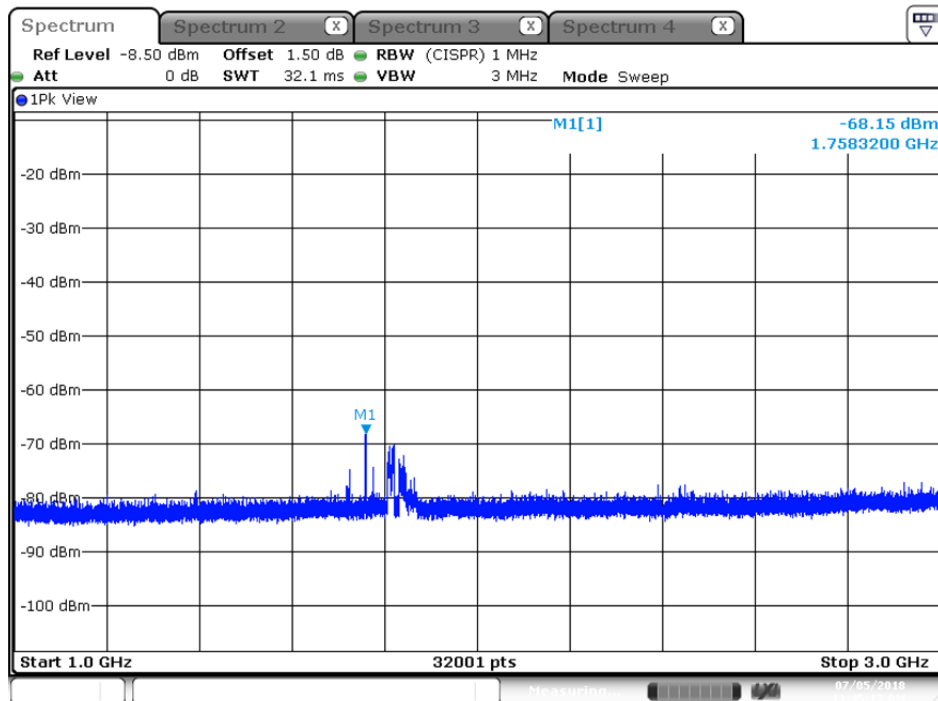
Peak

Frequency (MHz)	Correlated Antenna Gain (dBi)	TX1 Spurious Level (dBm)	TX2 Spurious Level (dBm)	Total Spurious Level (dBm)	Limit (dBm)	Margin (dB)
5180	16.00	-68.15	-68.14	-49.13	-21.25	27.88
5200	16.00	-67.95	-67.37	-48.64	-21.25	27.39
5240	16.00	-70.09	-71.06	-51.54	-21.25	30.29
5745	16.00	-70.80	-67.29	-49.69	-21.25	28.44
5785	16.00	-70.72	-70.01	-51.34	-21.25	30.09
5825	16.00	-70.07	-70.69	-51.36	-21.25	30.11

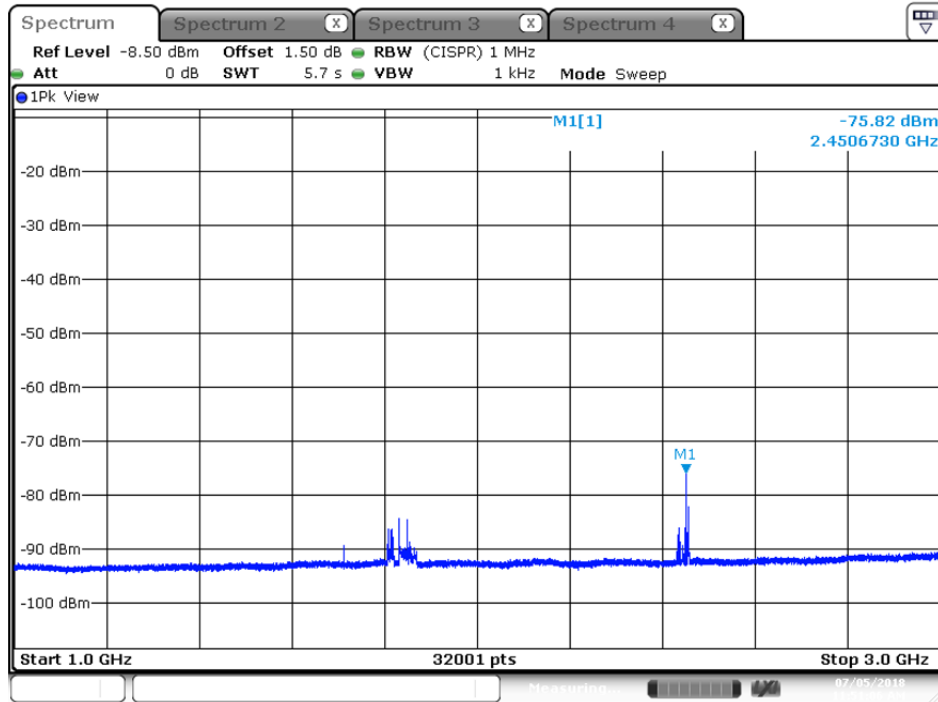
Plot on IEEE 802.11ac Nss1 MCS0 VHT20 / 5180 MHz / Average / Port 1 / 1GHz~3GHz



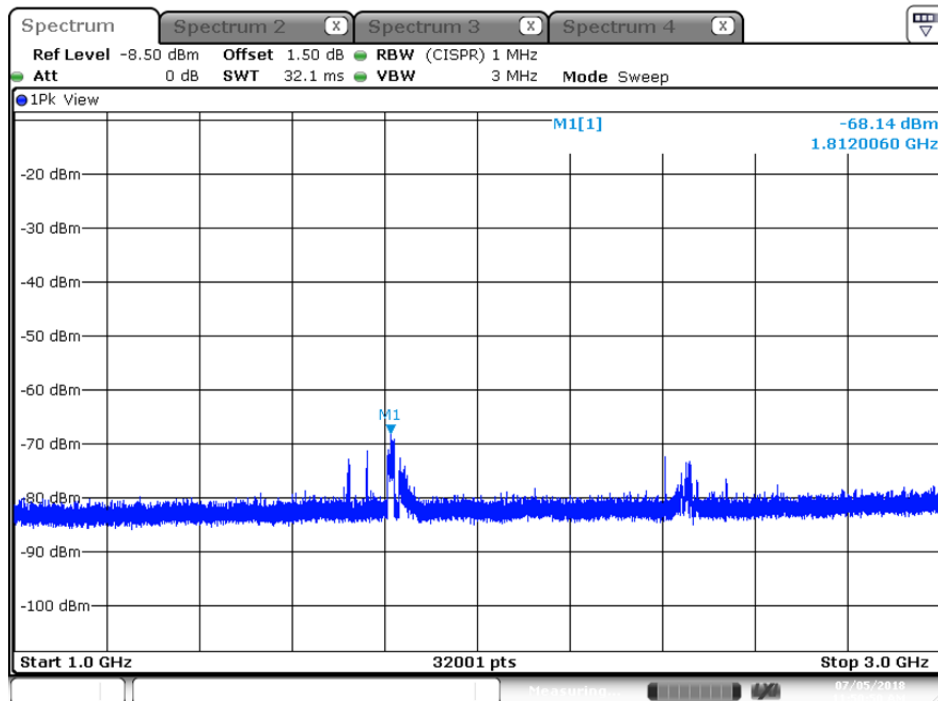
Plot on IEEE 802.11ac Nss1 MCS0 VHT20 / 5180 MHz / Peak / Port 1 / 1GHz~3GHz



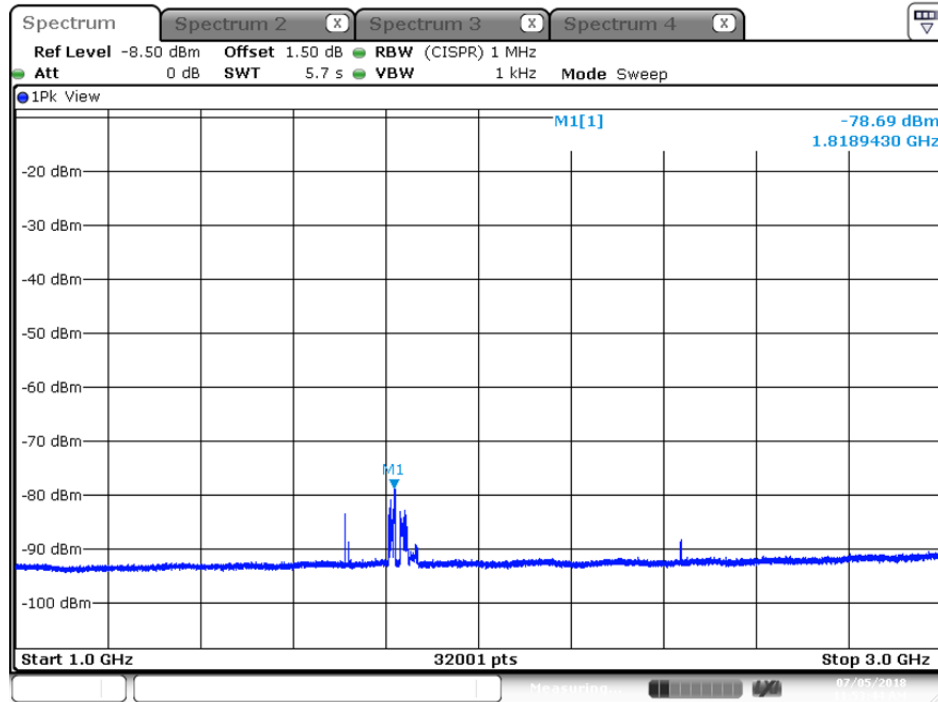
Plot on IEEE 802.11ac Nss1 MCS0 VHT20 / 5180 MHz / Average / Port 2 / 1GHz~3GHz



Plot on IEEE 802.11ac Nss1 MCS0 VHT20 / 5180 MHz / Peak / Port 2 / 1GHz~3GHz

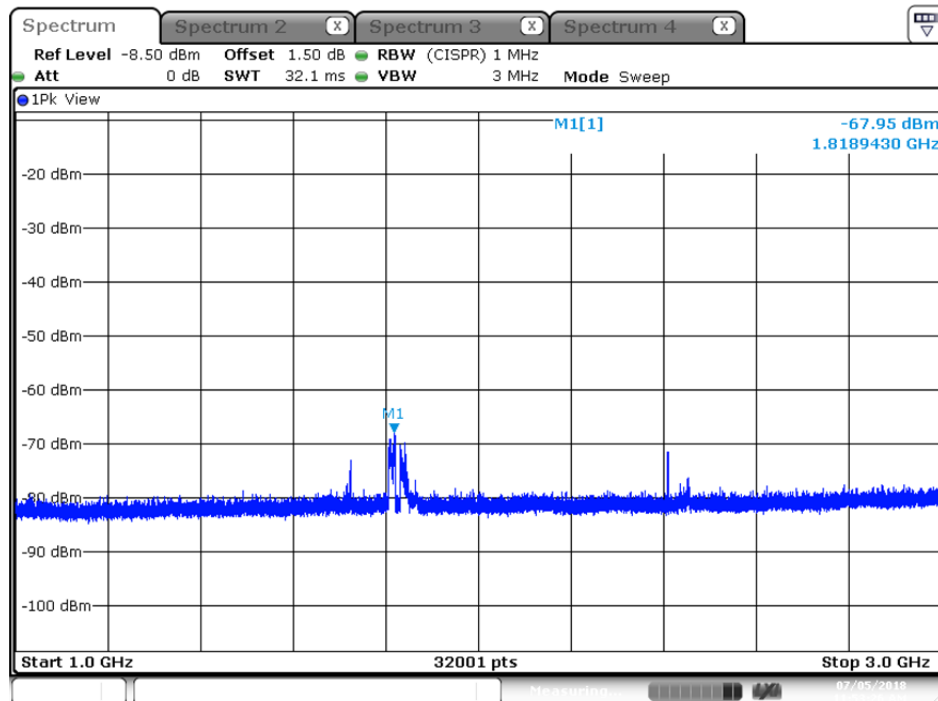


Plot on IEEE 802.11ac Nss1 MCS0 VHT20 / 5200 MHz / Average / Port 1 / 1GHz~3GHz



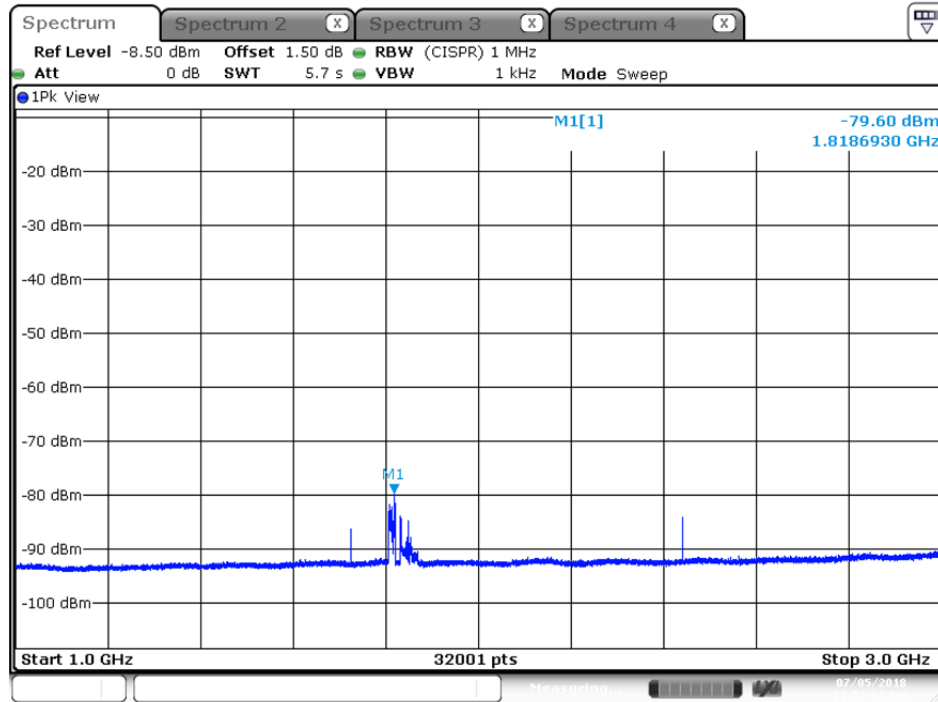
Date: 5.JUL.2018 11:53:45

Plot on IEEE 802.11ac Nss1 MCS0 VHT20 / 5200 MHz / Peak / Port 1 / 1GHz~3GHz

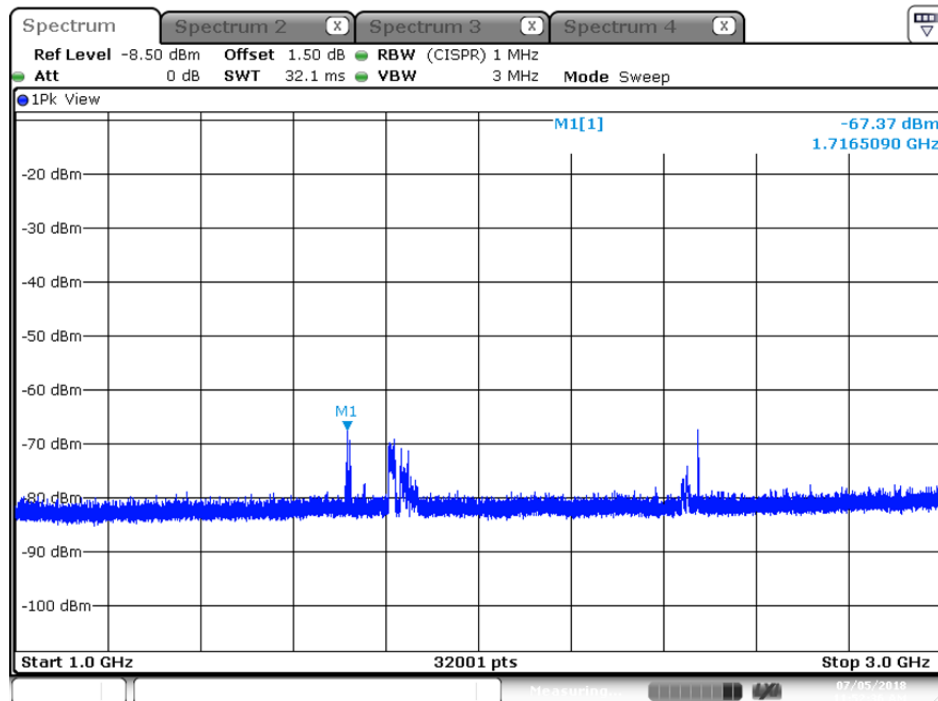


Date: 5.JUL.2018 11:53:26

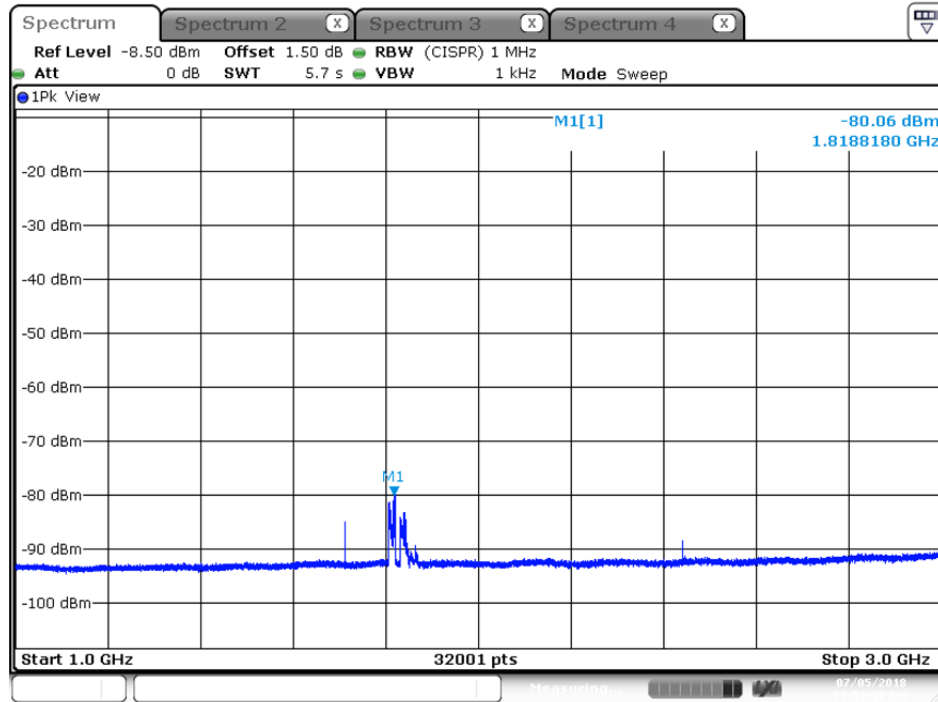
Plot on IEEE 802.11ac Nss1 MCS0 VHT20 / 5200 MHz / Average / Port 2 / 1GHz~3GHz



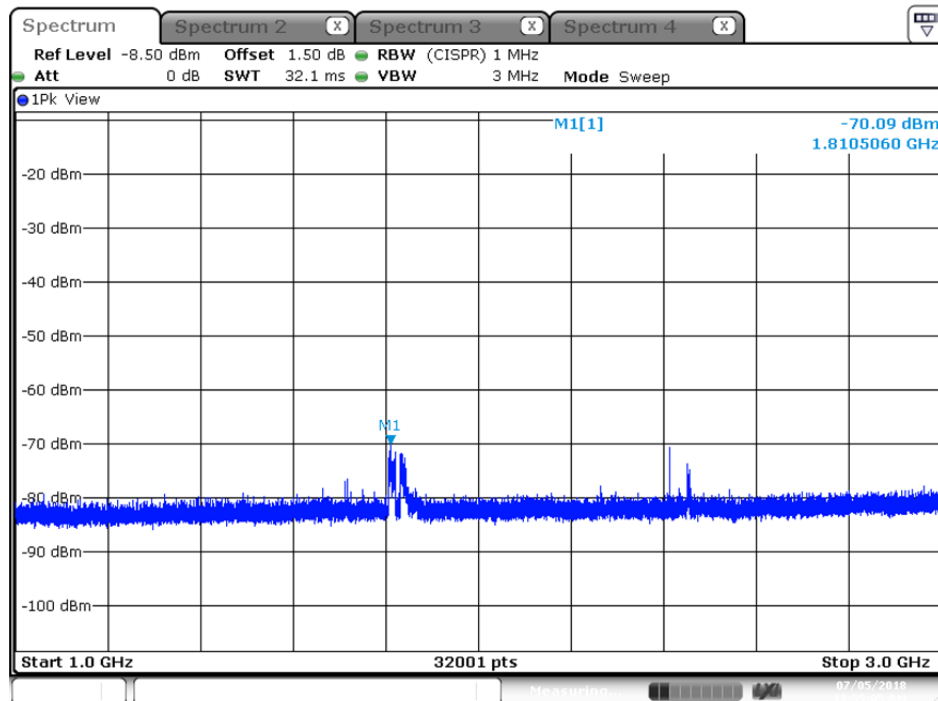
Plot on IEEE 802.11ac Nss1 MCS0 VHT20 / 5200 MHz / Peak / Port 2 / 1GHz~3GHz



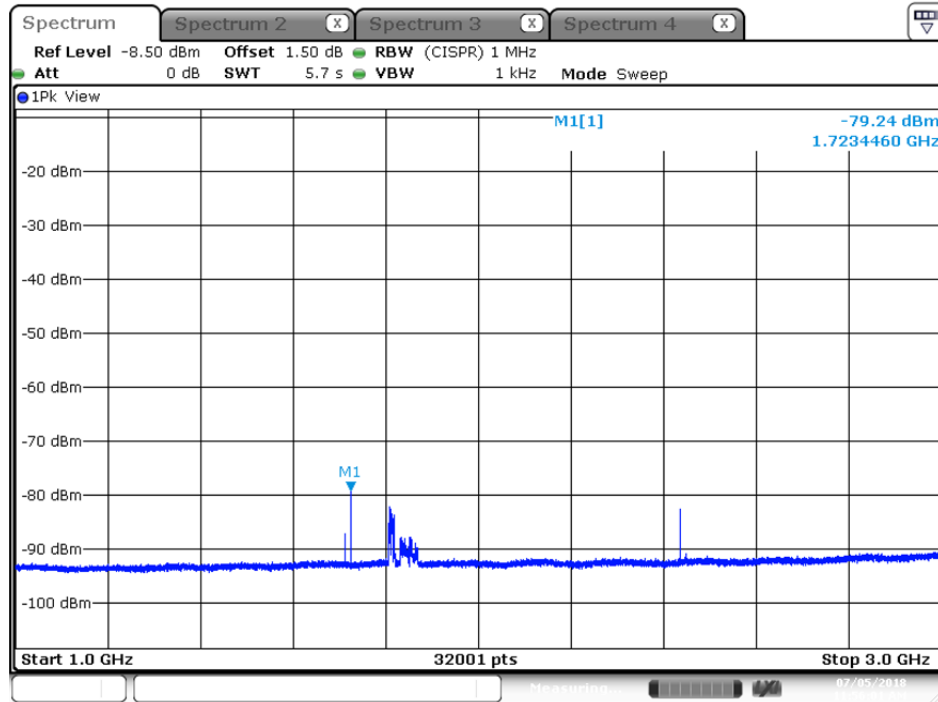
Plot on IEEE 802.11ac Nss1 MCS0 VHT20 / 5240 MHz / Average / Port 1 / 1GHz~3GHz



Plot on IEEE 802.11ac Nss1 MCS0 VHT20 / 5240 MHz / Peak / Port 1 / 1GHz~3GHz

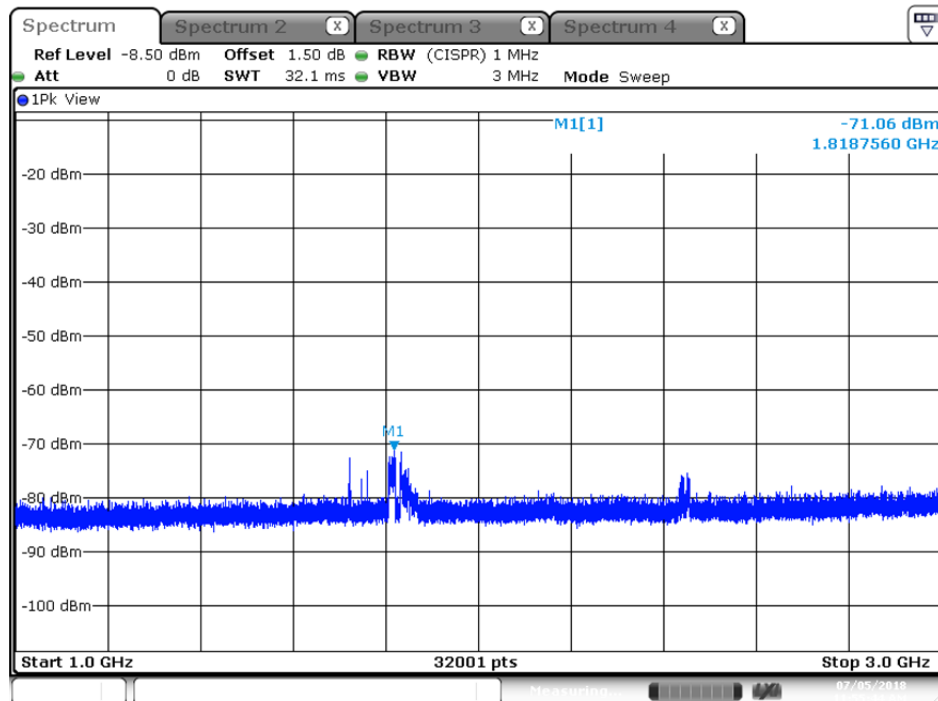


Plot on IEEE 802.11ac Nss1 MCS0 VHT20 / 5240 MHz / Average / Port 2 / 1GHz~3GHz



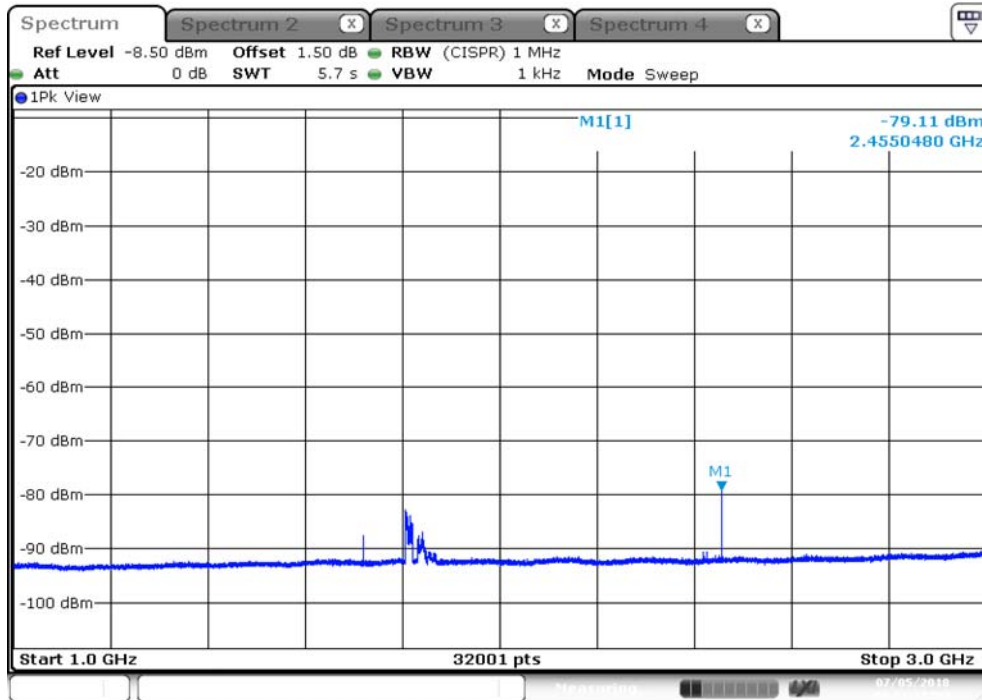
Date: 5.JUL.2018 11:56:02

Plot on IEEE 802.11ac Nss1 MCS0 VHT20 / 5240 MHz / Peak / Port 2 / 1GHz~3GHz



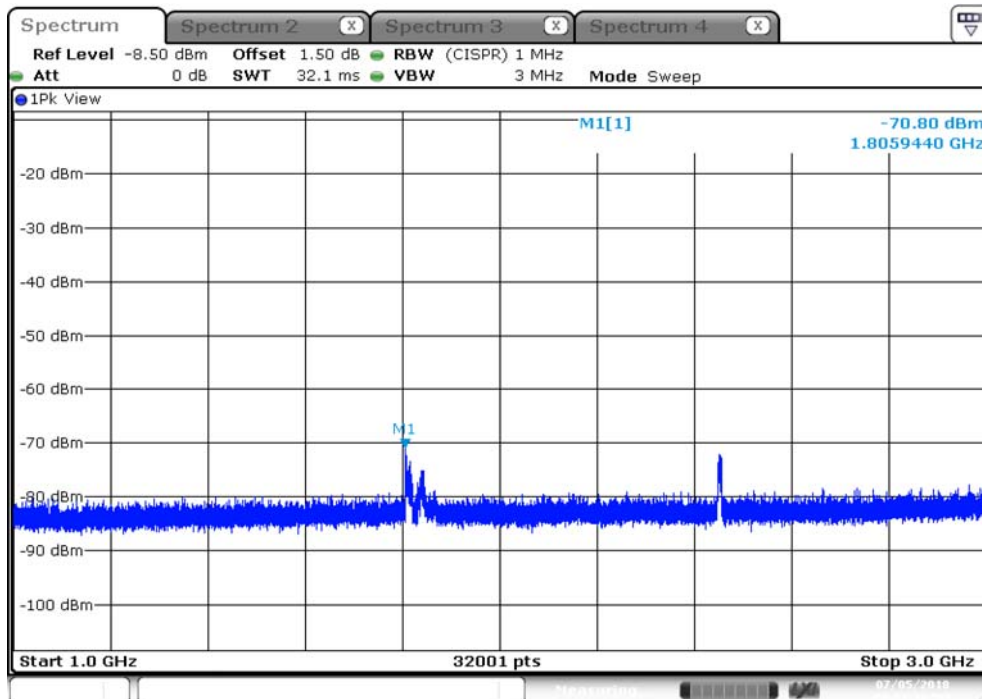
Date: 5.JUL.2018 11:55:44

Plot on IEEE 802.11ac Nss1 MCS0 VHT20 / 5745 MHz / Average / Port 1 / 1GHz~3GHz



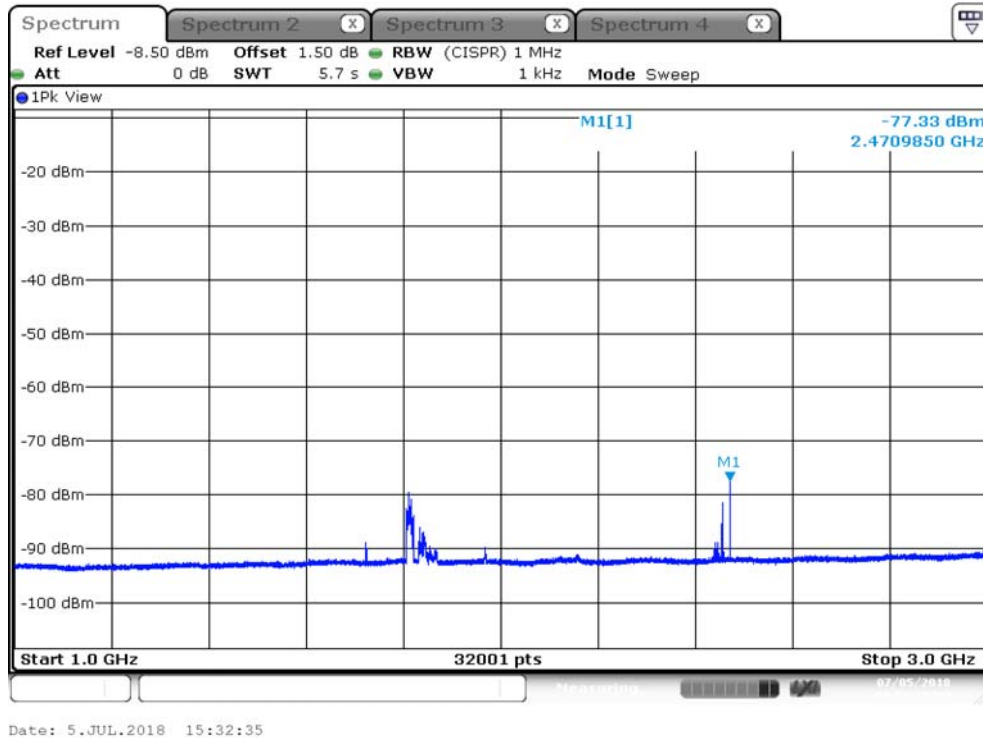
Date: 5.JUL.2018 15:31:22

Plot on IEEE 802.11ac Nss1 MCS0 VHT20 / 5745 MHz / Peak / Port 1 / 1GHz~3GHz

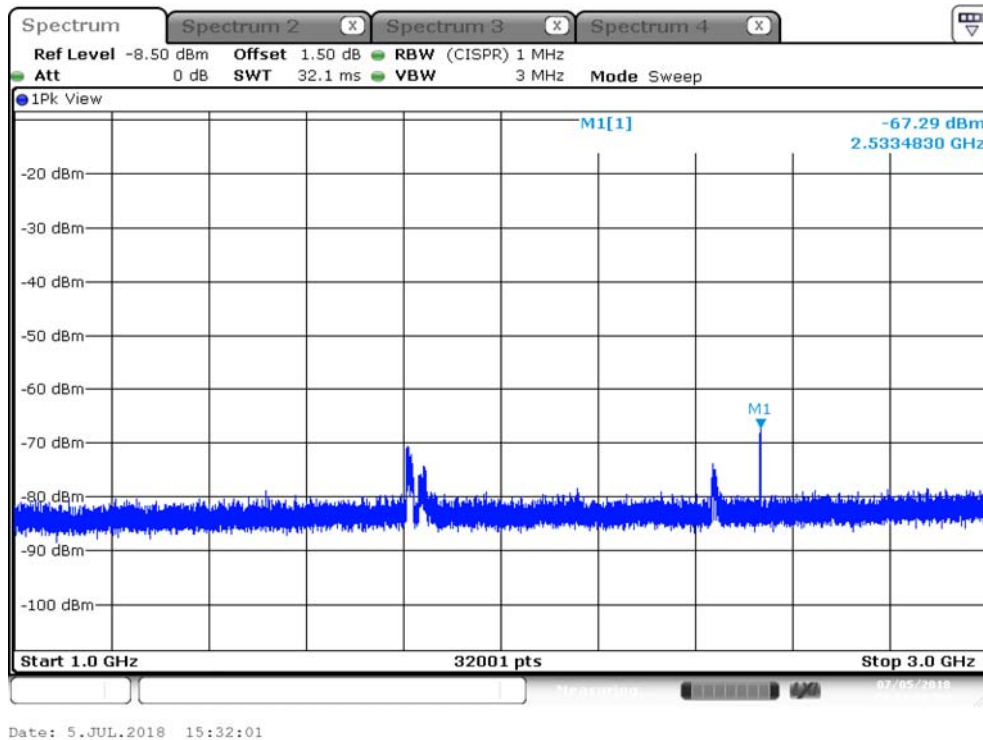


Date: 5.JUL.2018 15:31:37

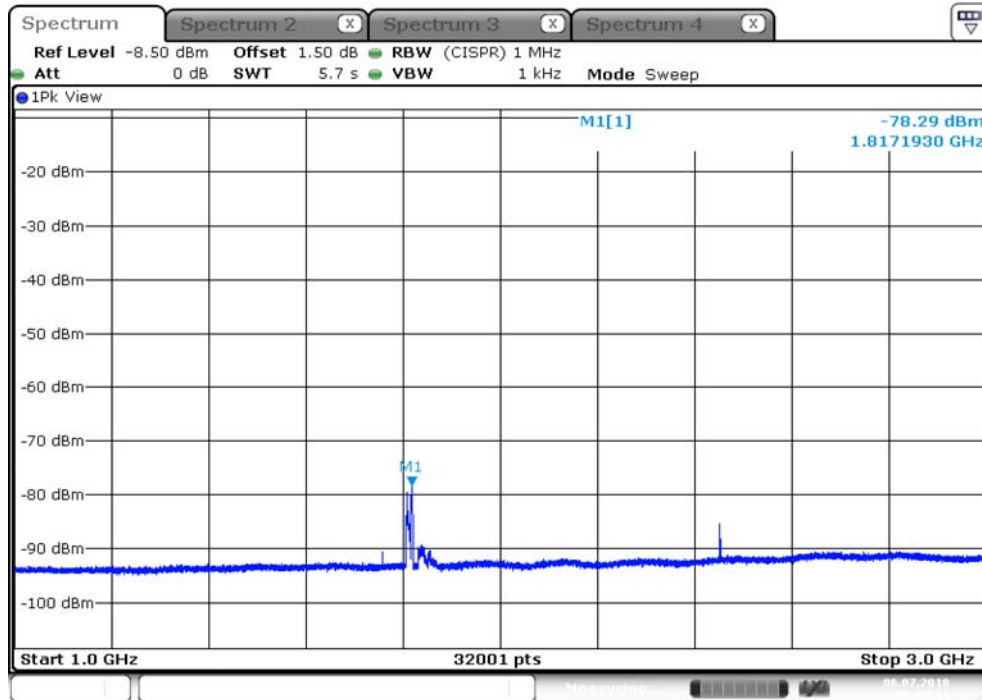
Plot on IEEE 802.11ac Nss1 MCS0 VHT20 / 5745 MHz / Average / Port 2 / 1GHz~3GHz



Plot on IEEE 802.11ac Nss1 MCS0 VHT20 / 5745 MHz / Peak / Port 2 / 1GHz~3GHz

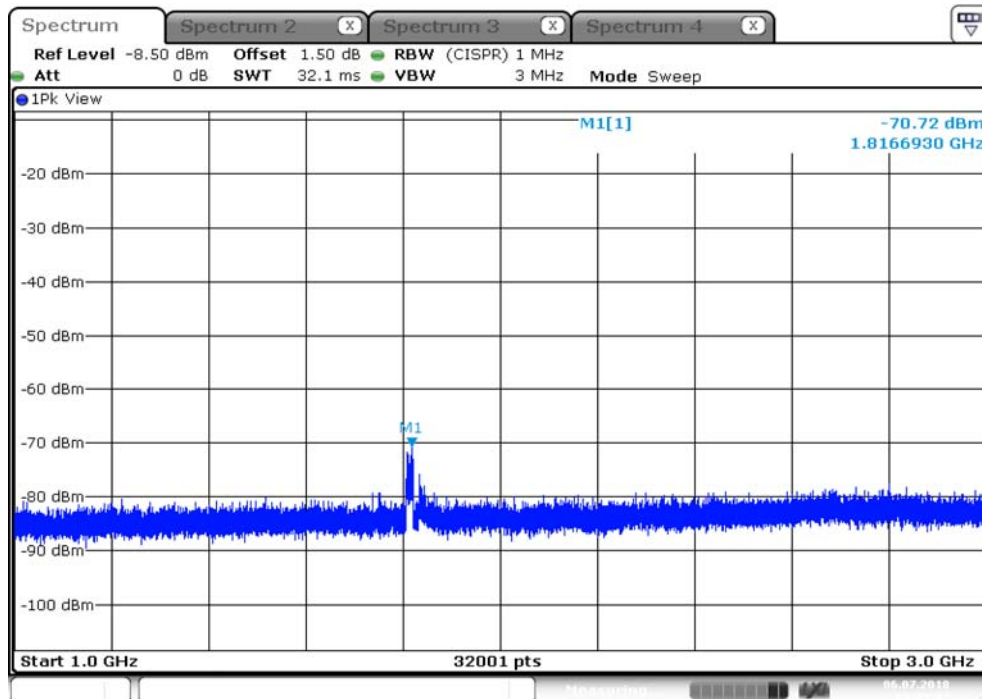


Plot on IEEE 802.11ac Nss1 MCS0 VHT20 / 5785 MHz / Average / Port 1 / 1GHz~3GHz



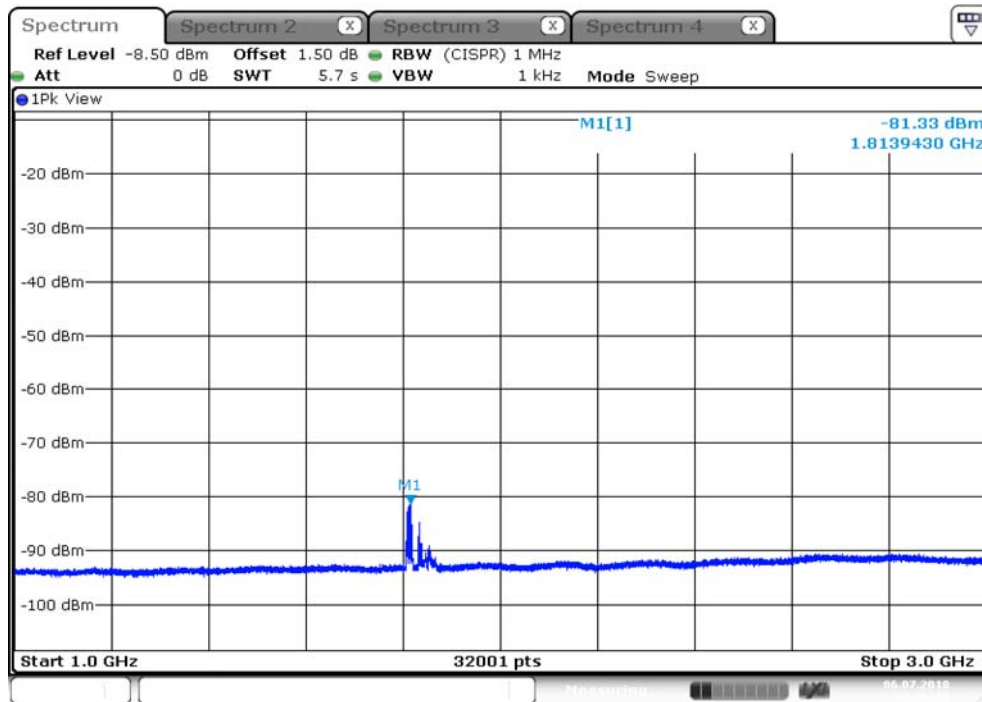
Date: 6 JUL 2018 09:47:31

Plot on IEEE 802.11ac Nss1 MCS0 VHT20 / 5785 MHz / Peak / Port 1 / 1GHz~3GHz



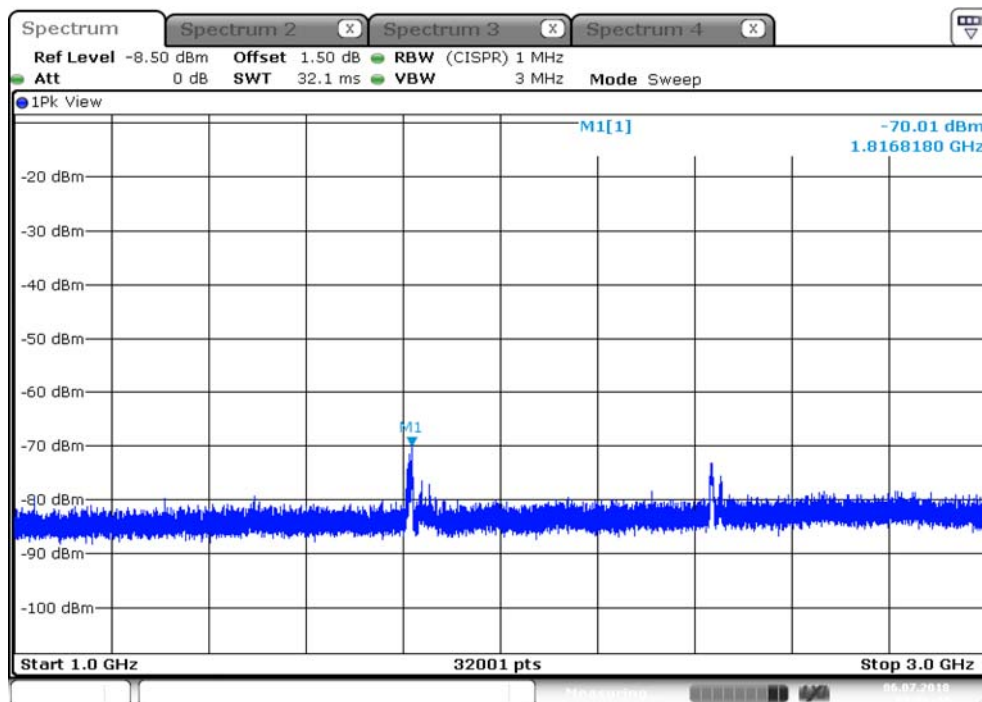
Date: 6 JUL 2018 09:47:08

Plot on IEEE 802.11ac Nss1 MCS0 VHT20 / 5785 MHz / Average / Port 2 / 1GHz~3GHz



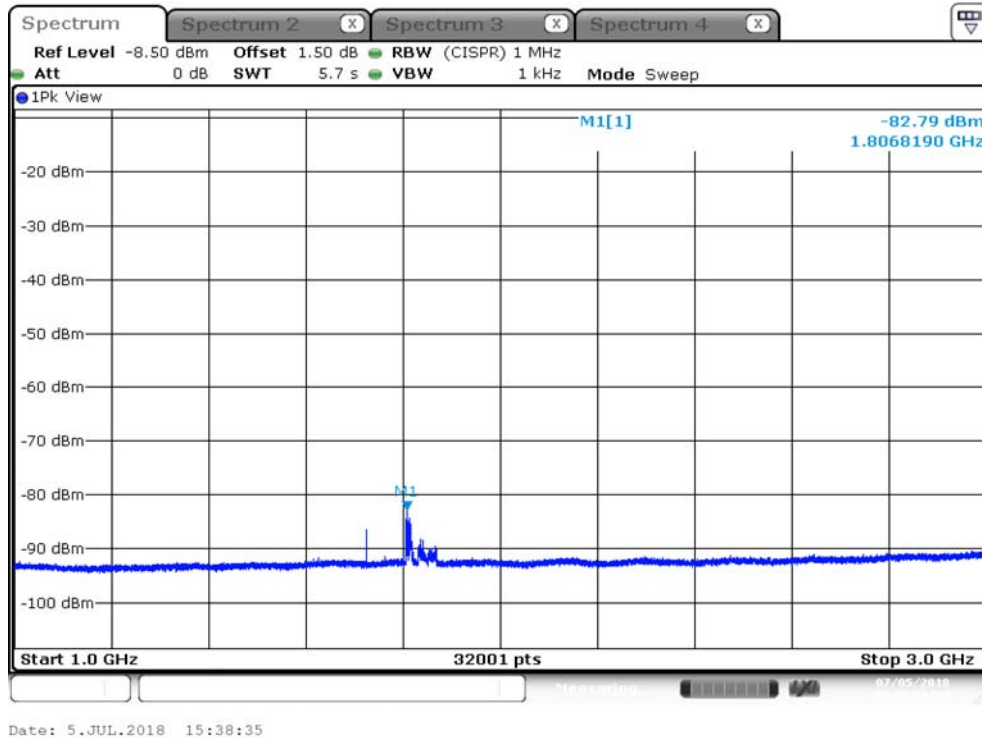
Date: 6 JUL 2018 09:46:19

Plot on IEEE 802.11ac Nss1 MCS0 VHT20 / 5785 MHz / Peak / Port 2 / 1GHz~3GHz

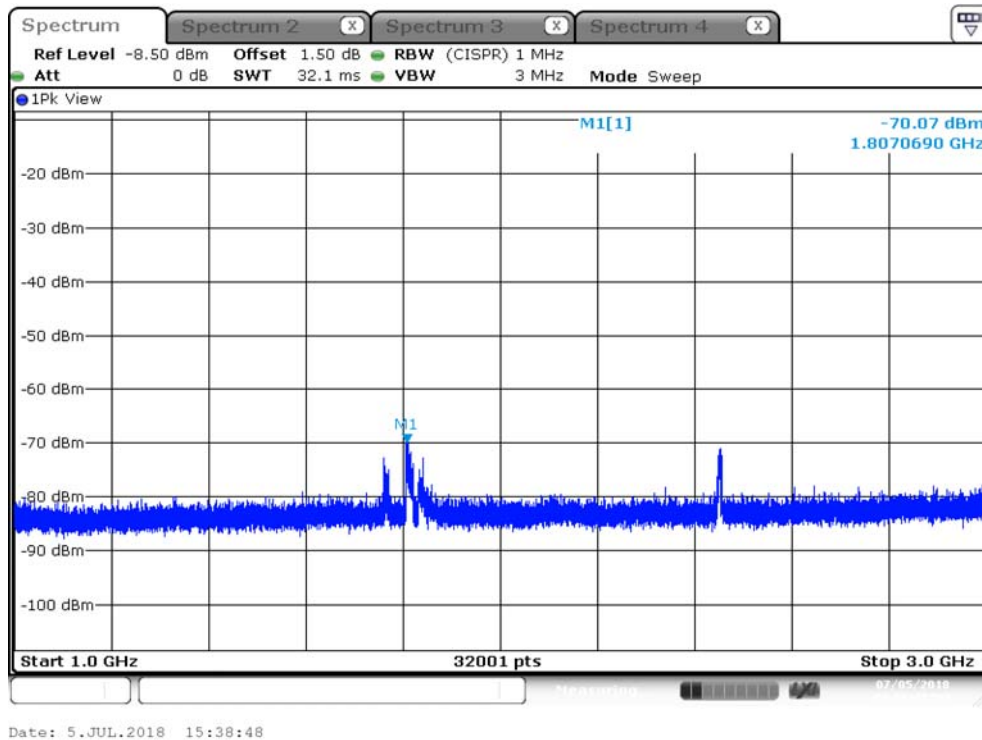


Date: 6 JUL 2018 09:46:44

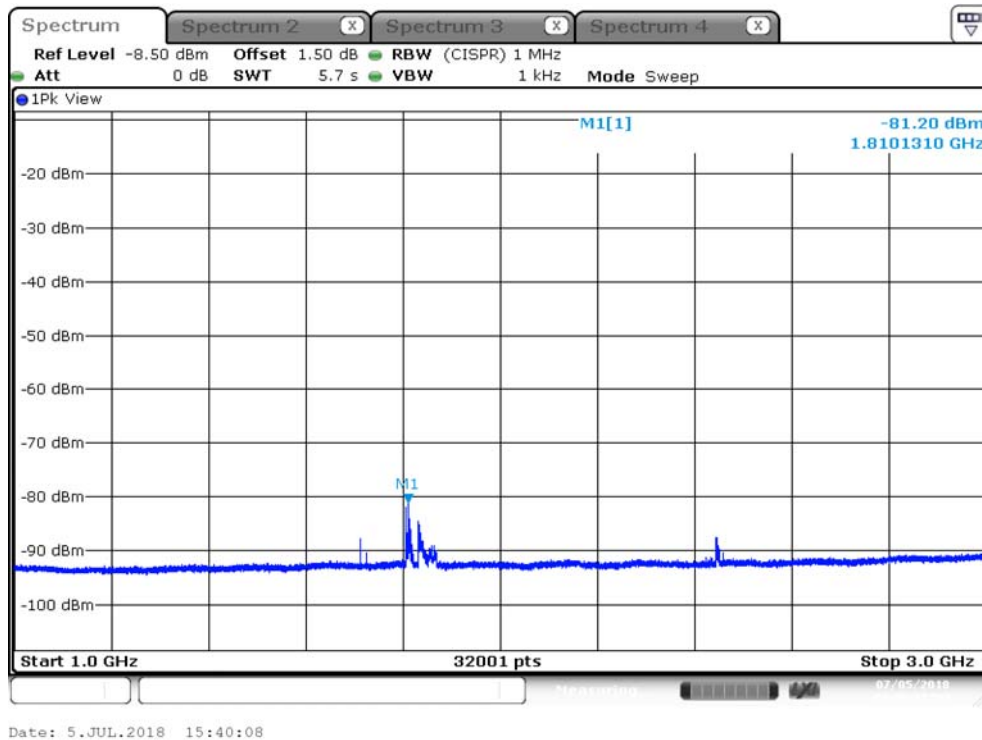
Plot on IEEE 802.11ac Nss1 MCS0 VHT20 / 5825 MHz / Average / Port 1 / 1GHz~3GHz



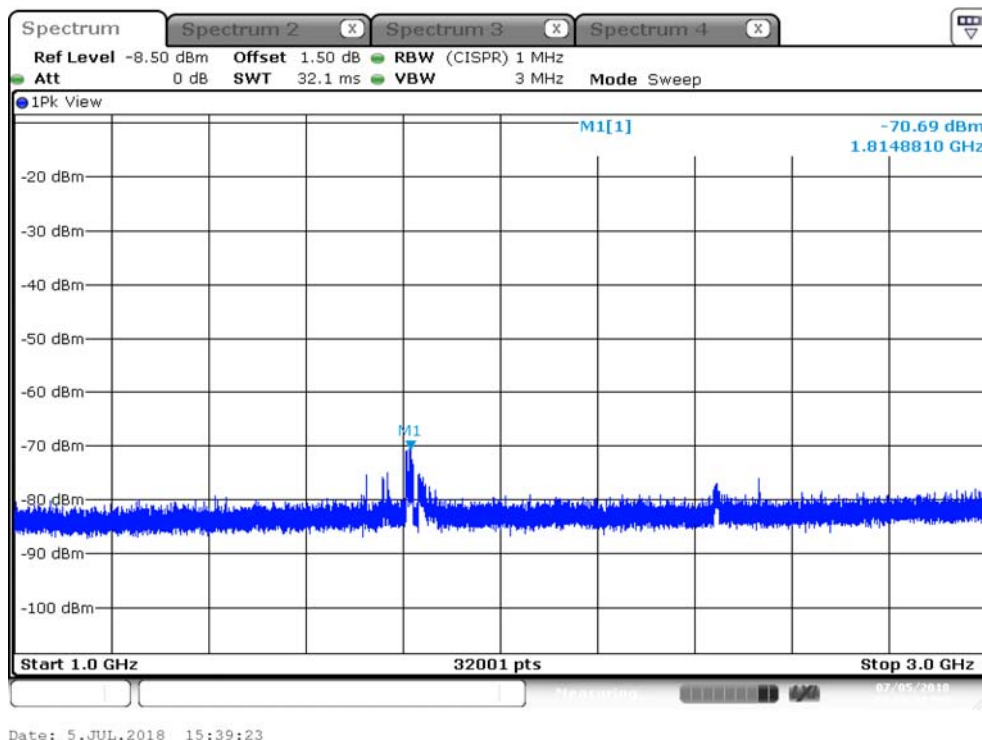
Plot on IEEE 802.11ac Nss1 MCS0 VHT20 / 5825 MHz / Peak / Port 1 / 1GHz~3GHz



Plot on IEEE 802.11ac Nss1 MCS0 VHT20 / 5825 MHz / Average / Port 2 / 1GHz~3GHz



Plot on IEEE 802.11ac Nss1 MCS0 VHT20 / 5825 MHz / Peak / Port 2 / 1GHz~3GHz



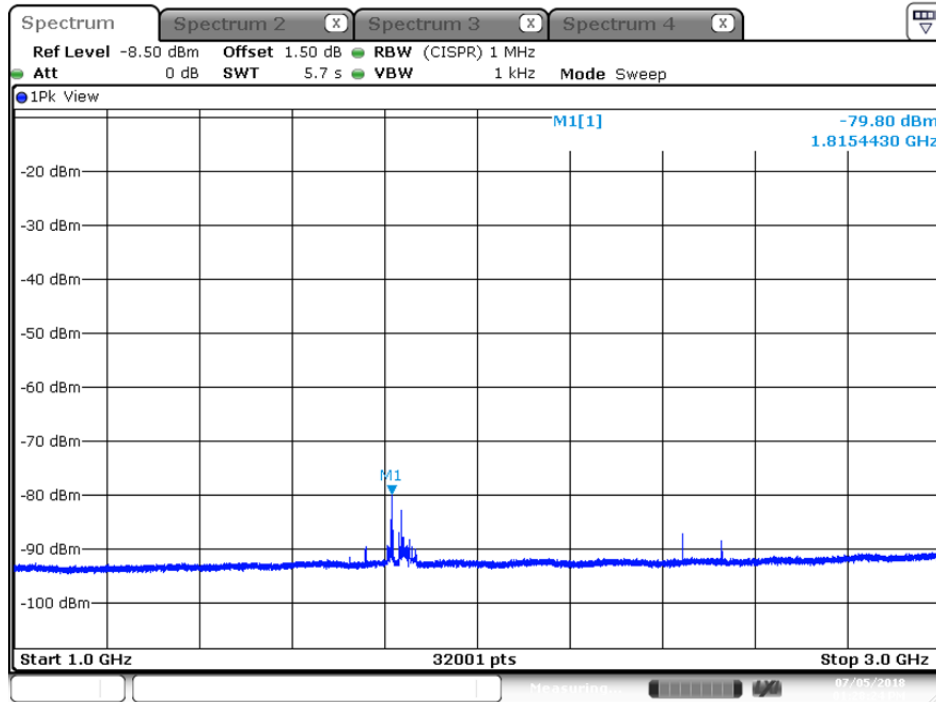
IEEE 802.11ac Nss1 MCS0 VHT40
Average

Frequency (MHz)	Correlated Antenna Gain (dBi)	TX1 Spurious Level (dBm)	TX2 Spurious Level (dBm)	Total Spurious Level (dBm)	Limit (dBm)	Margin (dB)
5190	16.00	-79.80	-81.13	-61.40	-41.25	20.15
5230	16.00	-83.26	-79.24	-61.79	-41.25	20.54
5755	16.00	-82.78	-78.93	-61.43	-41.25	20.18
5795	16.00	-84.46	-80.83	-63.27	-41.25	22.02

Peak

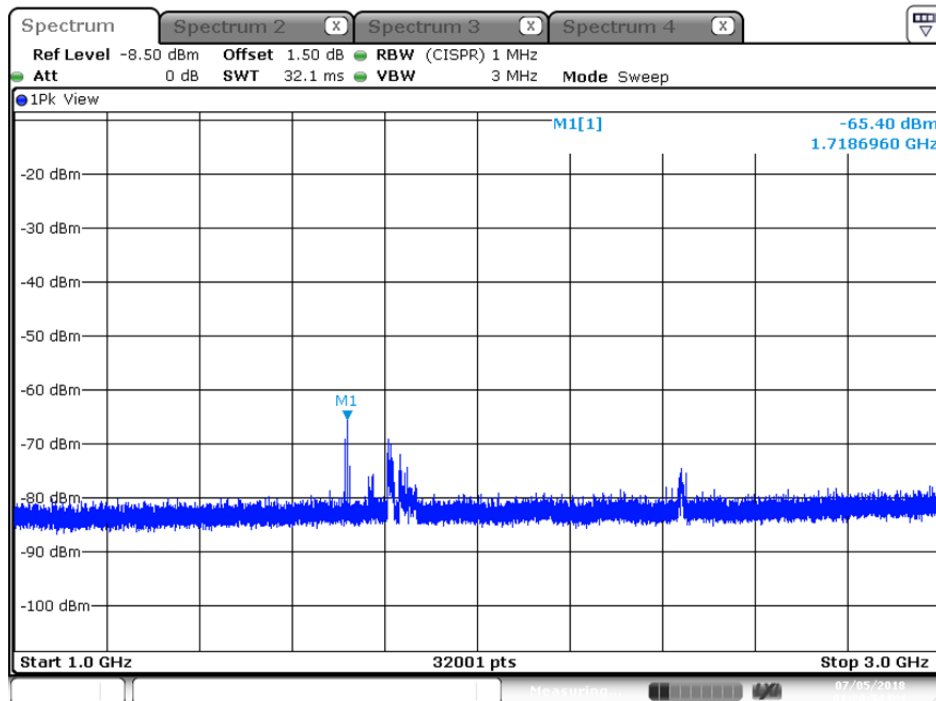
Frequency (MHz)	Correlated Antenna Gain (dBi)	TX1 Spurious Level (dBm)	TX2 Spurious Level (dBm)	Total Spurious Level (dBm)	Limit (dBm)	Margin (dB)
5190	16.00	-65.40	-67.41	-47.28	-21.25	26.03
5230	16.00	-68.50	-70.71	-50.46	-21.25	29.21
5755	16.00	-72.50	-68.92	-51.34	-21.25	30.09
5798	16.00	-70.77	-69.10	-50.84	-21.25	29.59

Plot on IEEE 802.11ac Nss1 MCS0 VHT40 / 5190 MHz / Average / Port 1 / 1GHz~3GHz



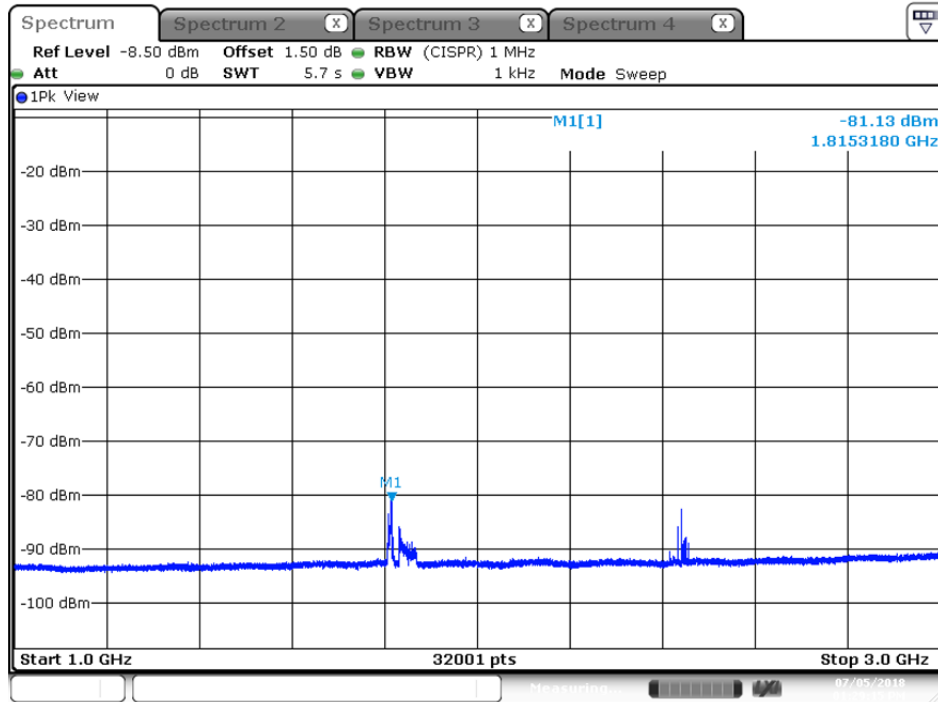
Date: 5.JUL.2018 13:28:24

Plot on IEEE 802.11ac Nss1 MCS0 VHT40 / 5190 MHz / Peak / Port 1 / 1GHz~3GHz

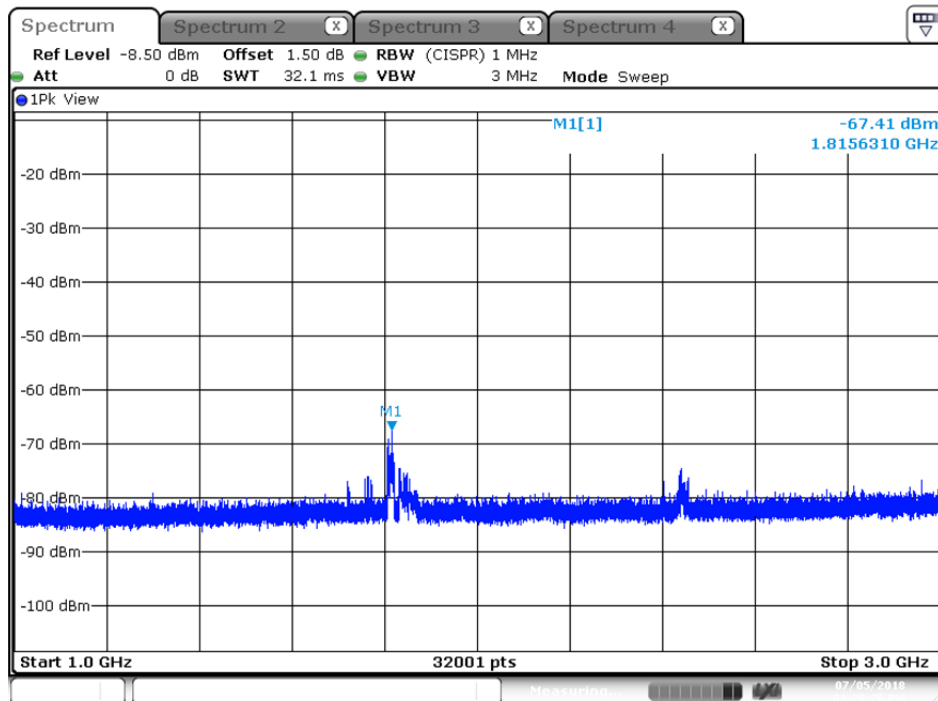


Date: 5.JUL.2018 13:28:53

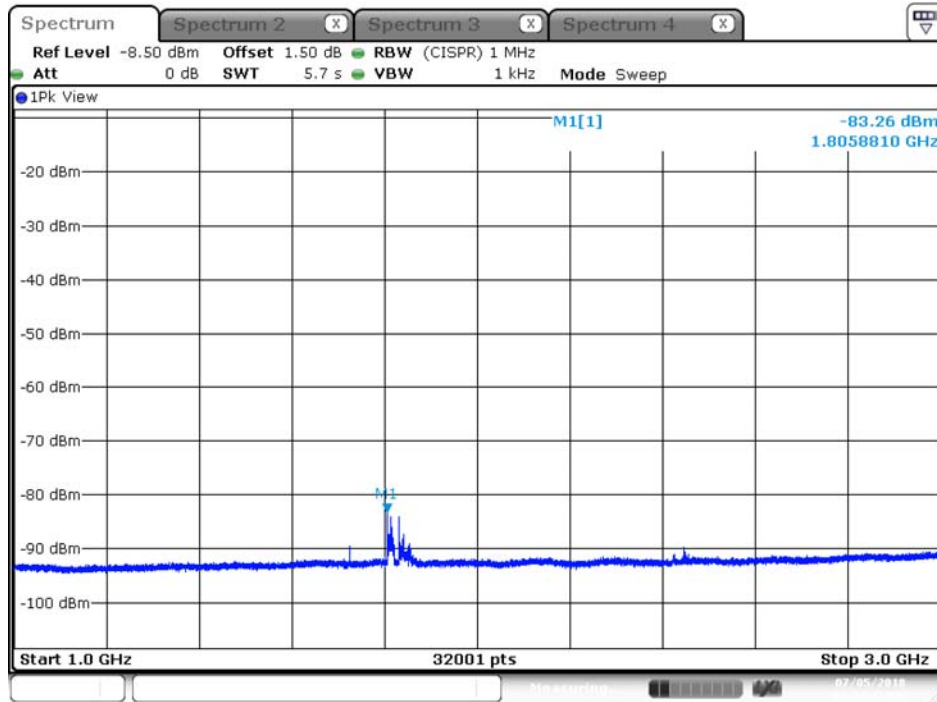
Plot on IEEE 802.11ac Nss1 MCS0 VHT40 / 5190 MHz / Average / Port 2 / 1GHz~3GHz



Plot on IEEE 802.11ac Nss1 MCS0 VHT40 / 5190 MHz / Peak / Port 2 / 1GHz~3GHz

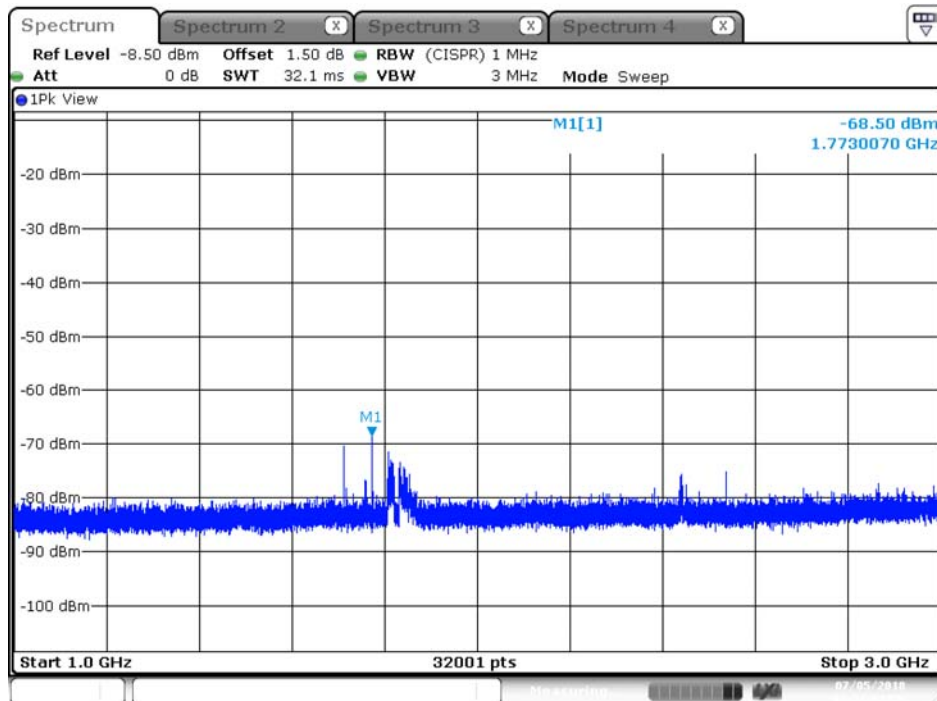


Plot on IEEE 802.11ac Nss1 MCS0 VHT40 / 5230 MHz / Average / Port 1 / 1GHz~3GHz



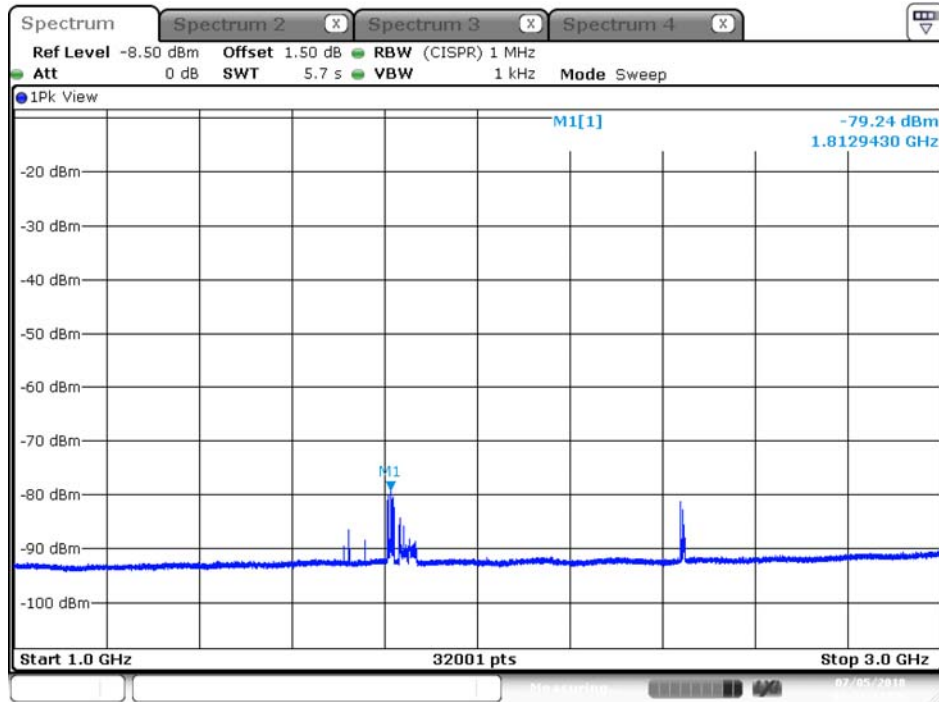
Date: 5.JUL.2018 13:31:45

Plot on IEEE 802.11ac Nss1 MCS0 VHT40 / 5230 MHz / Peak / Port 1 / 1GHz~3GHz



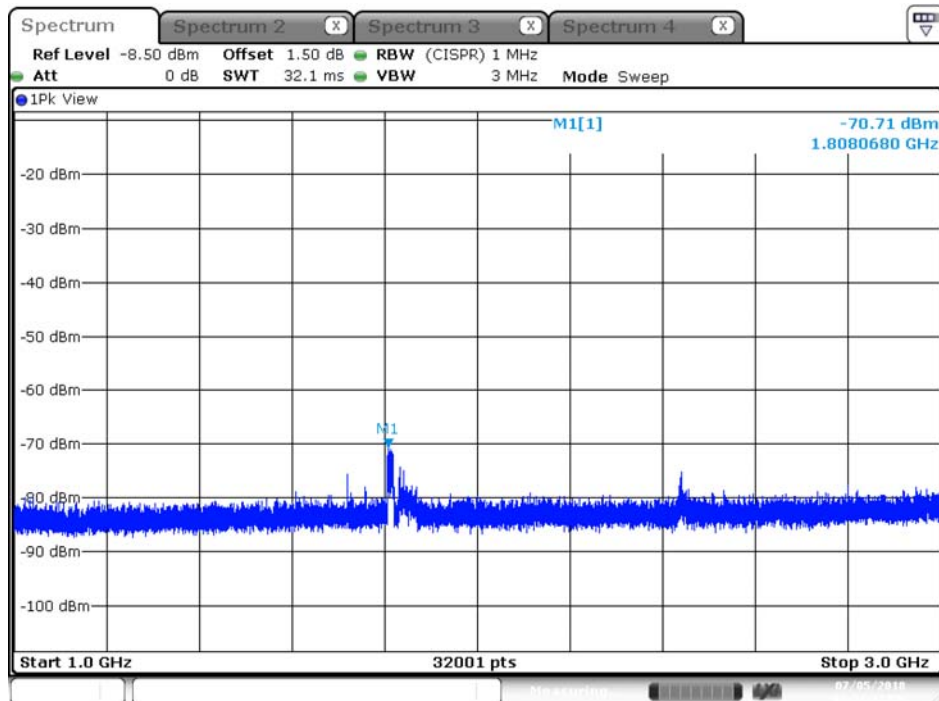
Date: 5.JUL.2018 13:32:04

Plot on IEEE 802.11ac Nss1 MCS0 VHT40 / 5230 MHz / Average / Port 2 / 1GHz~3GHz



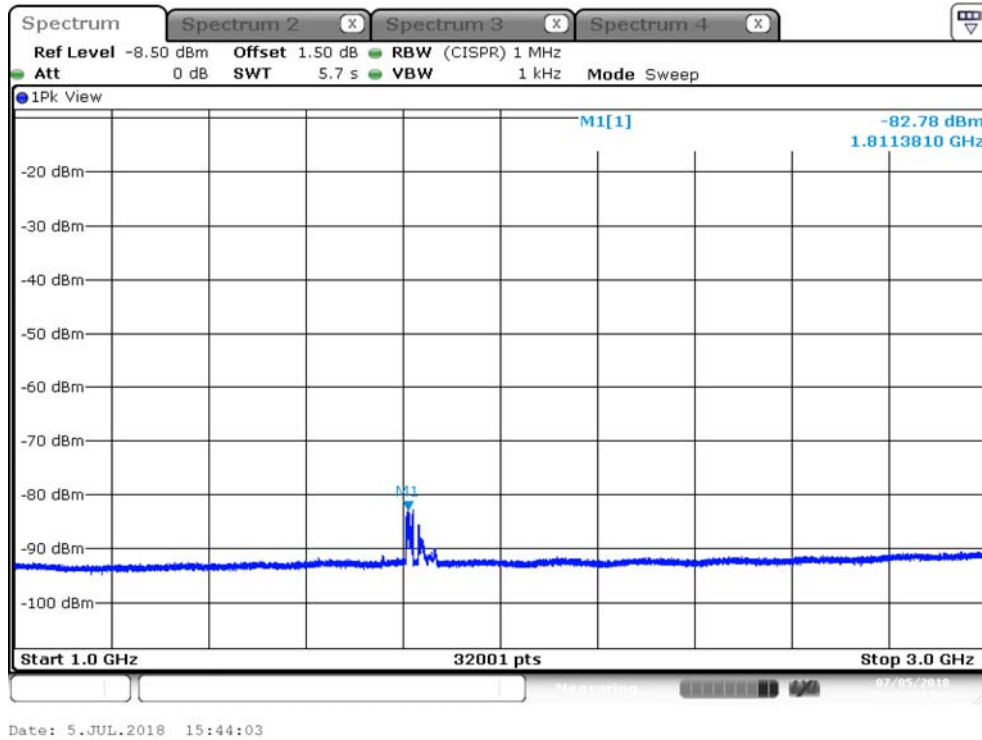
Date: 5.JUL.2018 13:33:24

Plot on IEEE 802.11ac Nss1 MCS0 VHT40 / 5230 MHz / Peak / Port 2 / 1GHz~3GHz

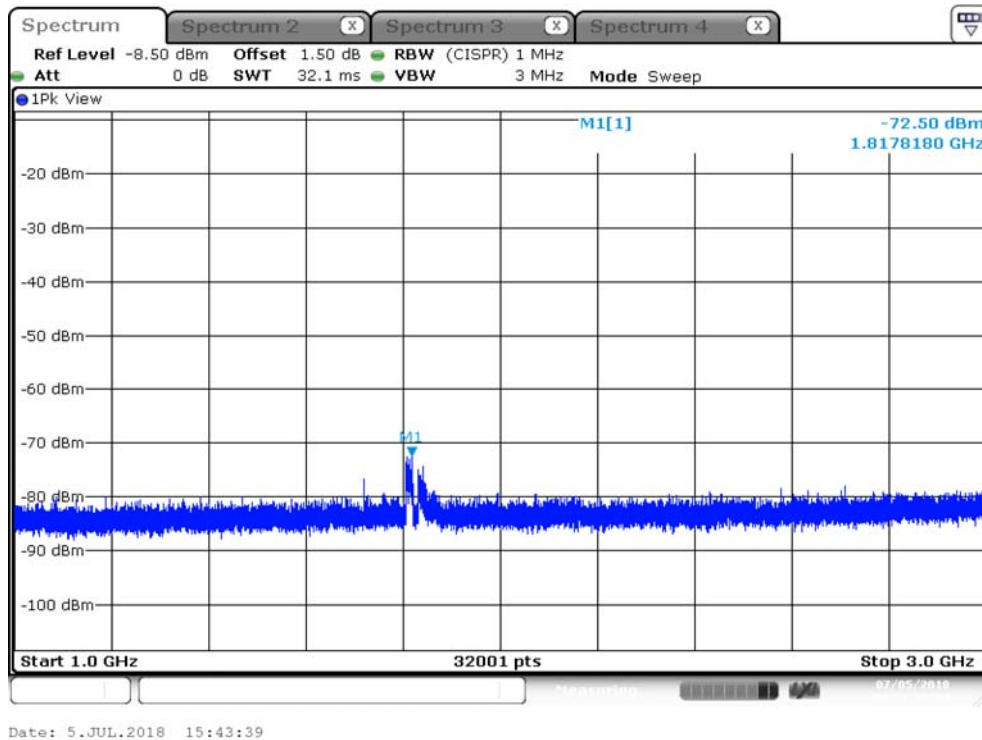


Date: 5.JUL.2018 13:32:53

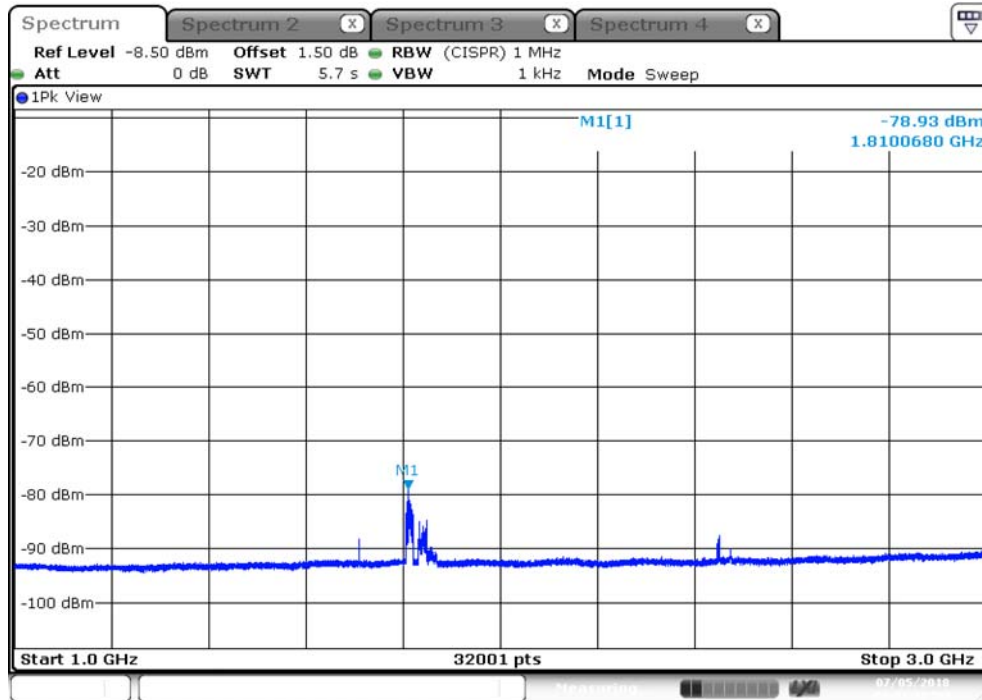
Plot on IEEE 802.11ac Nss1 MCS0 VHT40 / 5755 MHz / Average / Port 1 / 1GHz~3GHz



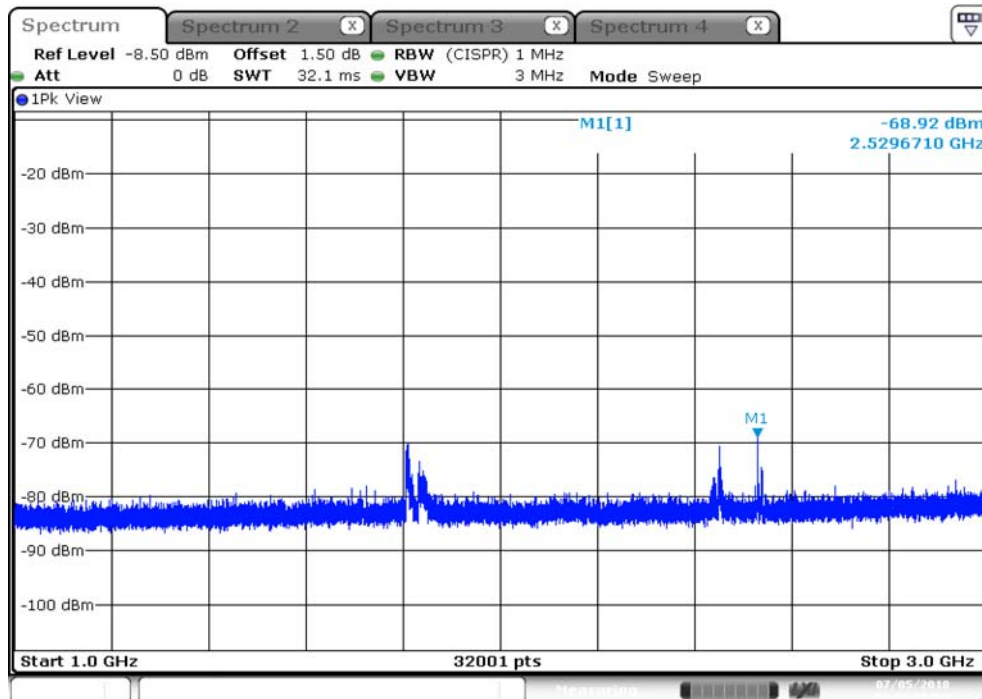
Plot on IEEE 802.11ac Nss1 MCS0 VHT40 / 5755 MHz / Peak / Port 1 / 1GHz~3GHz



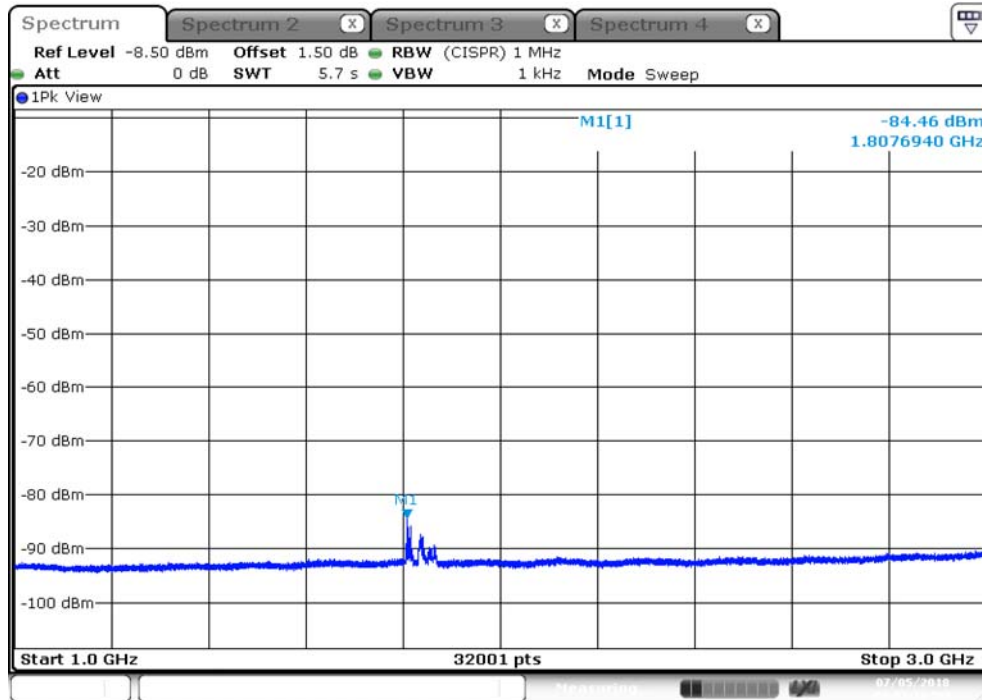
Plot on IEEE 802.11ac Nss1 MCS0 VHT40 / 5755 MHz / Average / Port 2 / 1GHz~3GHz



Plot on IEEE 802.11ac Nss1 MCS0 VHT40 / 5755 MHz / Peak / Port 2 / 1GHz~3GHz

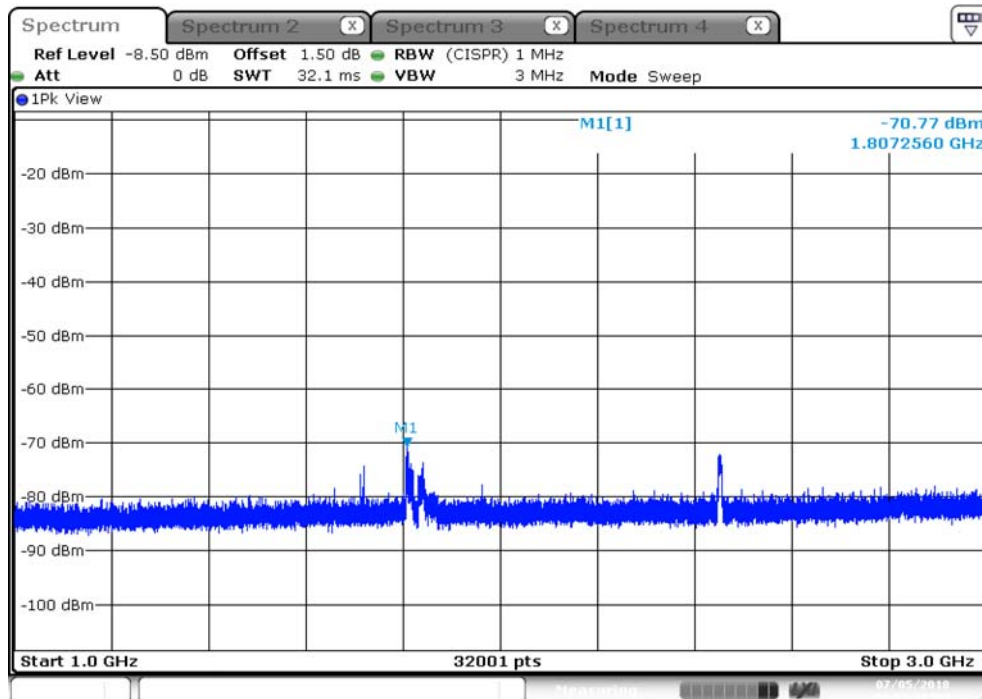


Plot on IEEE 802.11ac Nss1 MCS0 VHT40 / 5795 MHz / Average / Port 1 / 1GHz~3GHz



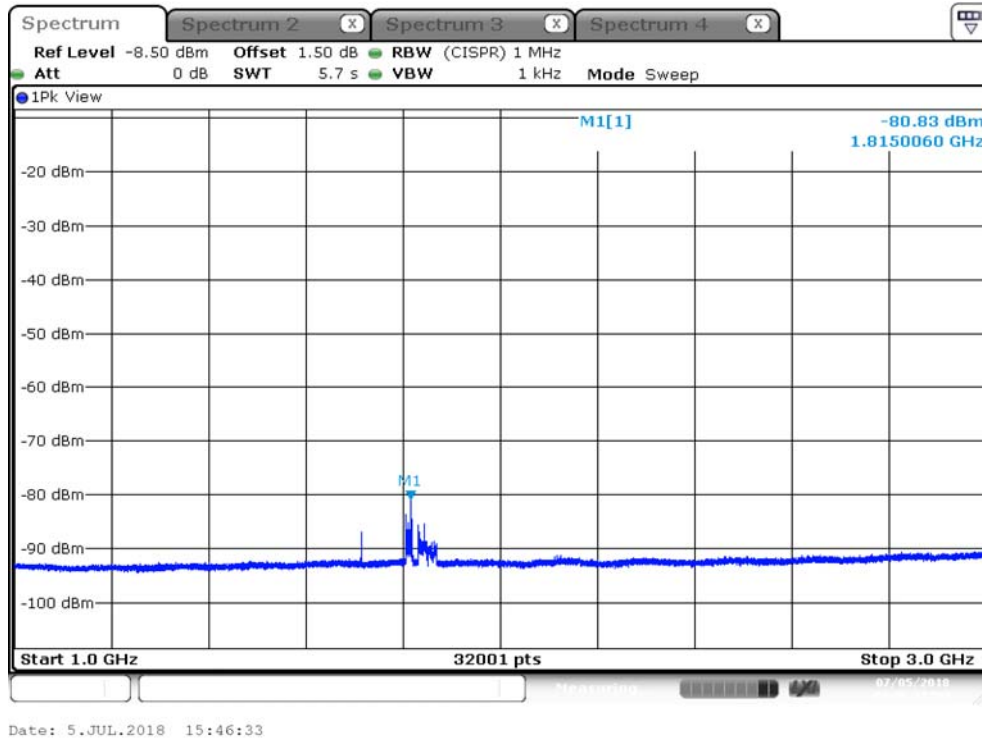
Date: 5.JUL.2018 15:45:17

Plot on IEEE 802.11ac Nss1 MCS0 VHT40 / 5795 MHz / Peak / Port 1 / 1GHz~3GHz

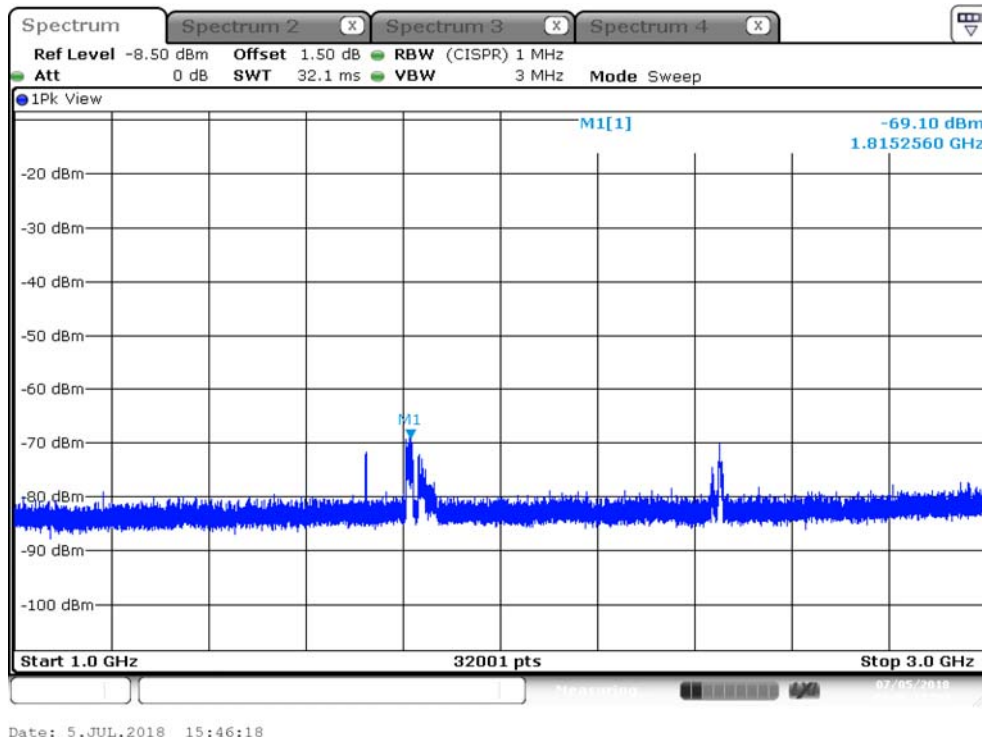


Date: 5.JUL.2018 15:45:33

Plot on IEEE 802.11ac Nss1 MCS0 VHT40 / 5795 MHz / Average / Port 2 / 1GHz~3GHz



Plot on IEEE 802.11ac Nss1 MCS0 VHT40 / 5795 MHz / Peak / Port 2 / 1GHz~3GHz



IEEE 802.11ac Nss1 MCS0 VHT80

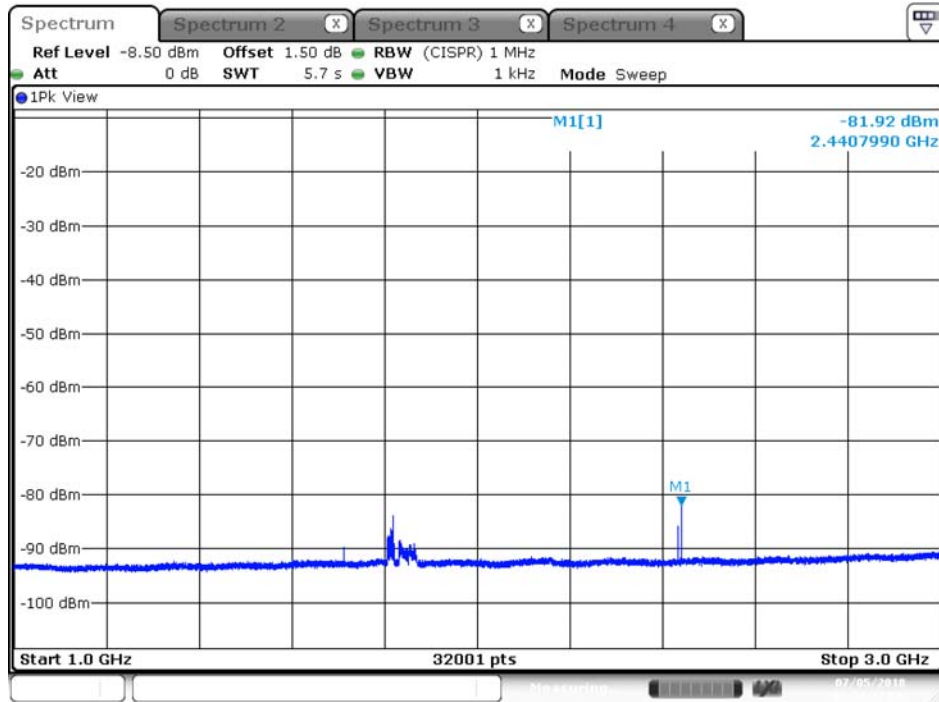
Average

Frequency (MHz)	Correlated Antenna Gain (dBi)	TX1 Spurious Level (dBm)	TX2 Spurious Level (dBm)	Total Spurious Level (dBm)	Limit (dBm)	Margin (dB)
5210	16.00	-81.92	-82.81	-63.33	-41.25	22.08
5775	16.00	-81.23	-81.74	-62.47	-41.25	21.22

Peak

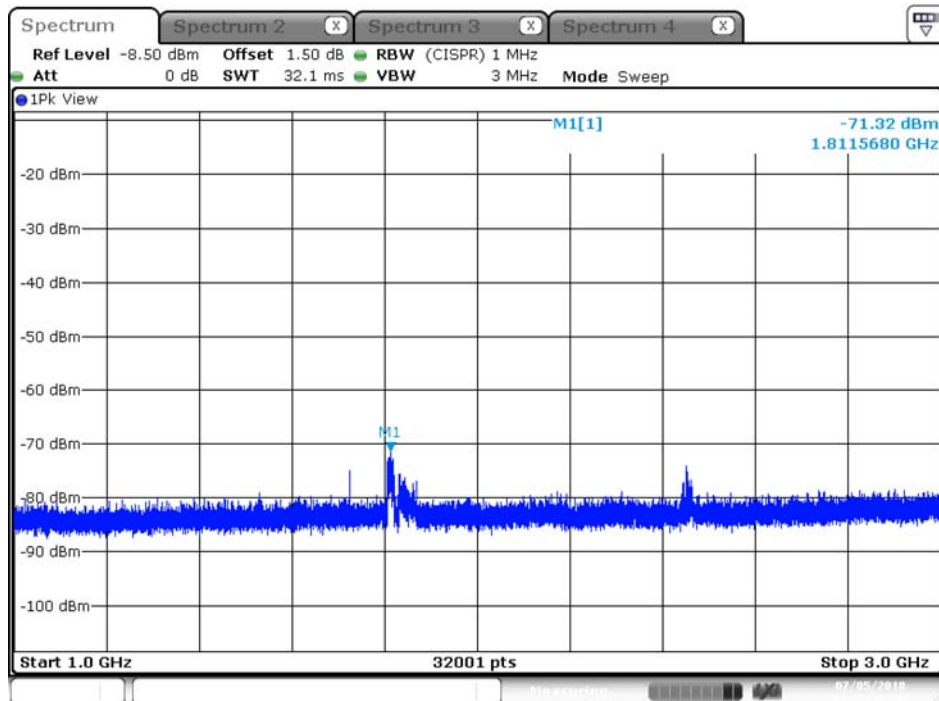
Frequency (MHz)	Correlated Antenna Gain (dBi)	TX1 Spurious Level (dBm)	TX2 Spurious Level (dBm)	Total Spurious Level (dBm)	Limit (dBm)	Margin (dB)
5210	16.00	-71.32	-69.14	-51.08	-21.25	29.83
5775	16.00	-70.20	-70.01	-51.09	-21.25	29.84

Plot on IEEE 802.11ac Nss1 MCS0 VHT80 / 5210 MHz / Average / Port 1 / 1GHz~3GHz



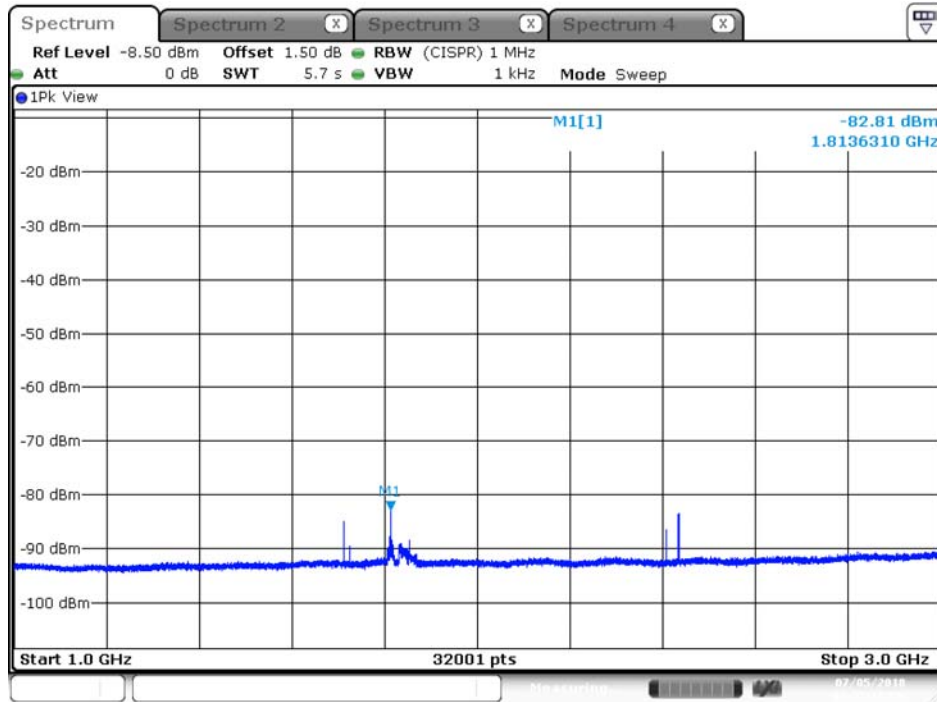
Date: 5.JUL.2018 13:34:37

Plot on IEEE 802.11ac Nss1 MCS0 VHT80 / 5210 MHz / Peak / Port 1 / 1GHz~3GHz



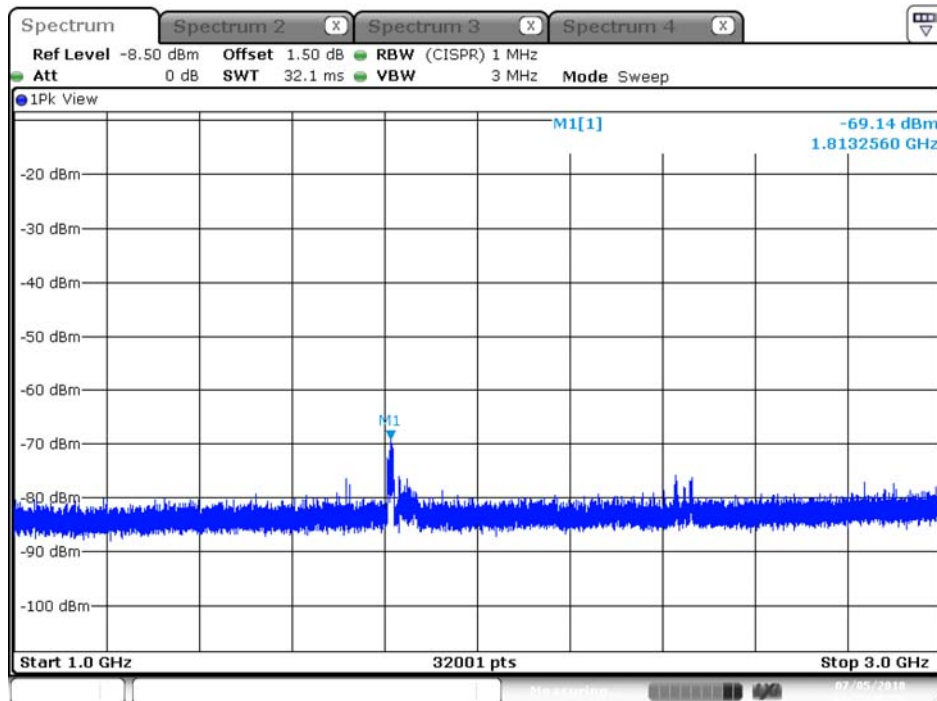
Date: 5.JUL.2018 13:35:30

Plot on IEEE 802.11ac Nss1 MCS0 VHT80 / 5210 MHz / Average / Port 2 / 1GHz~3GHz



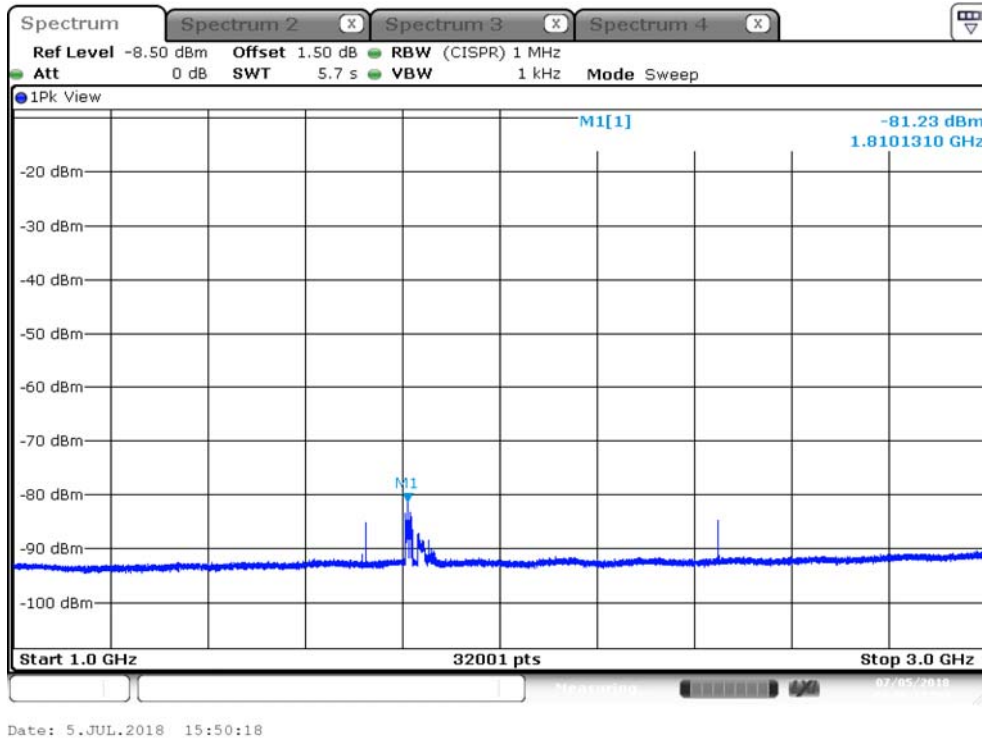
Date: 5.JUL.2018 13:35:19

Plot on IEEE 802.11ac Nss1 MCS0 VHT80 / 5210 MHz / Peak / Port 2 / 1GHz~3GHz

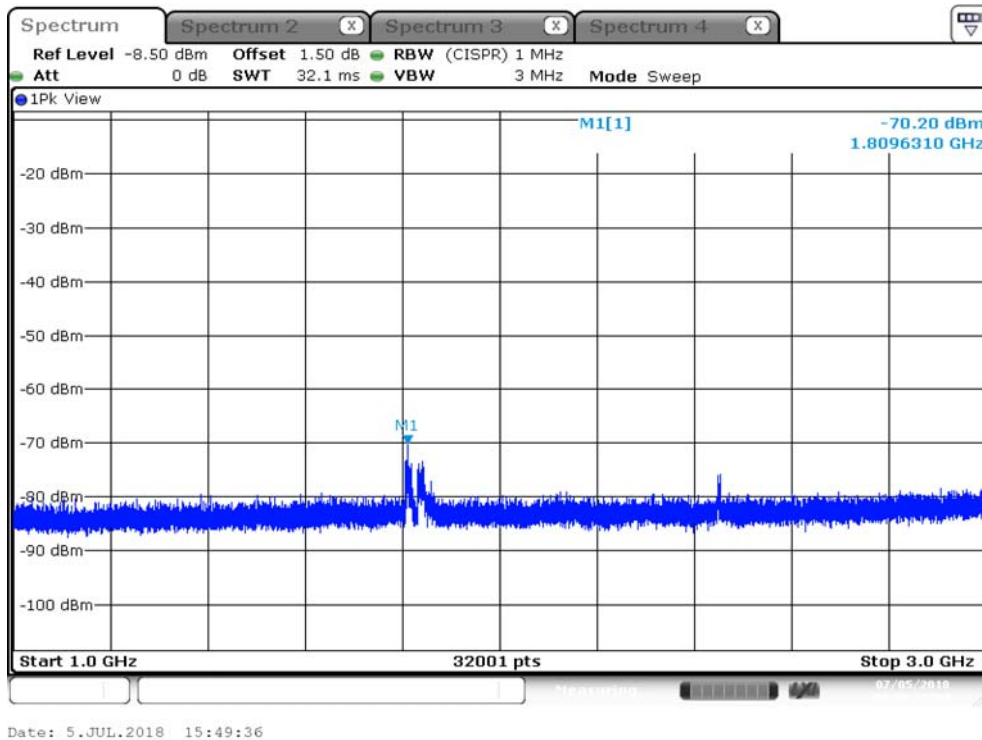


Date: 5.JUL.2018 13:35:41

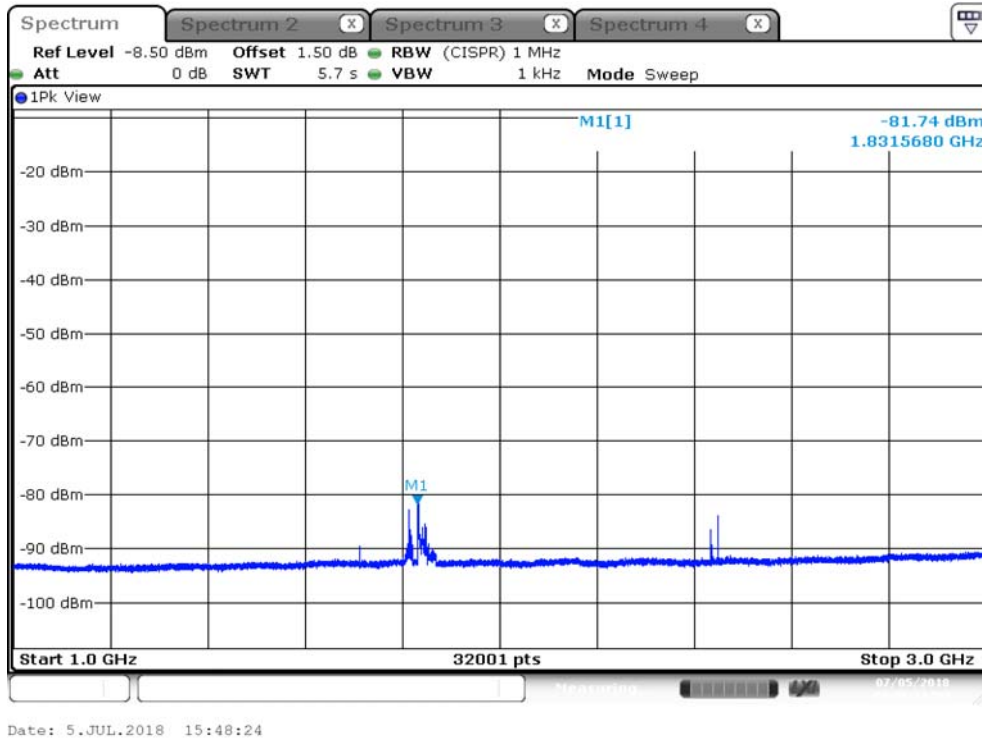
Plot on IEEE 802.11ac Nss1 MCS0 VHT80 / 5775 MHz / Average / Port 1 / 1GHz~3GHz



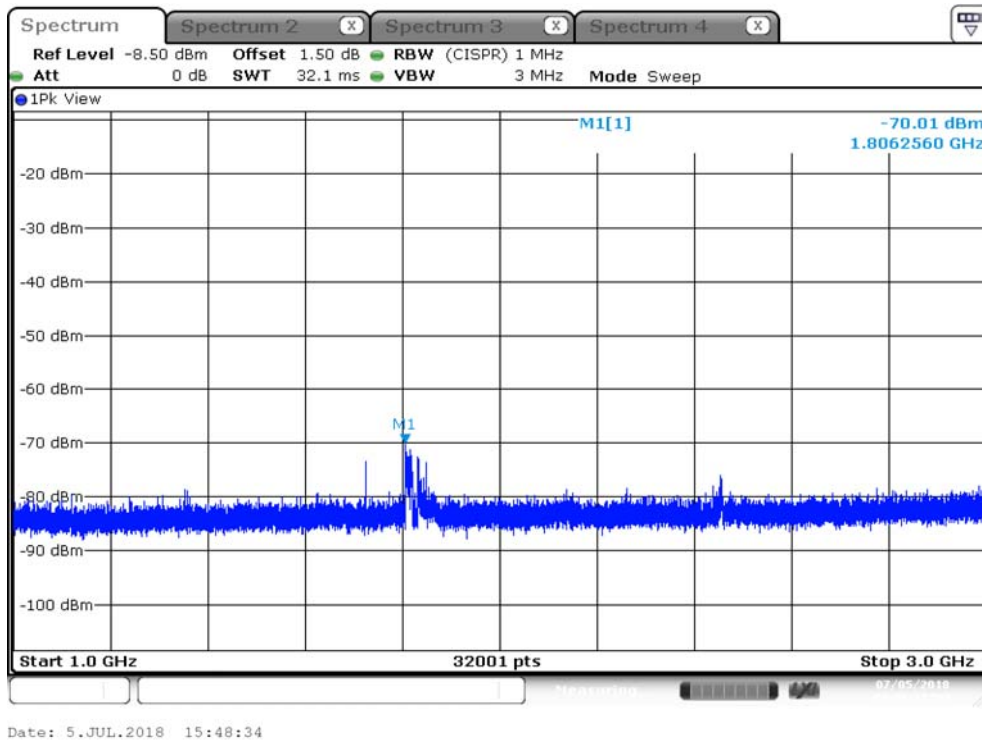
Plot on IEEE 802.11ac Nss1 MCS0 VHT80 / 5775 MHz / Peak / Port 1 / 1GHz~3GHz



Plot on IEEE 802.11ac Nss1 MCS0 VHT80 / 5775 MHz / Average / Port 2 / 1GHz~3GHz



Plot on IEEE 802.11ac Nss1 MCS0 VHT80 / 5775 MHz / Peak / Port 2 / 1GHz~3GHz



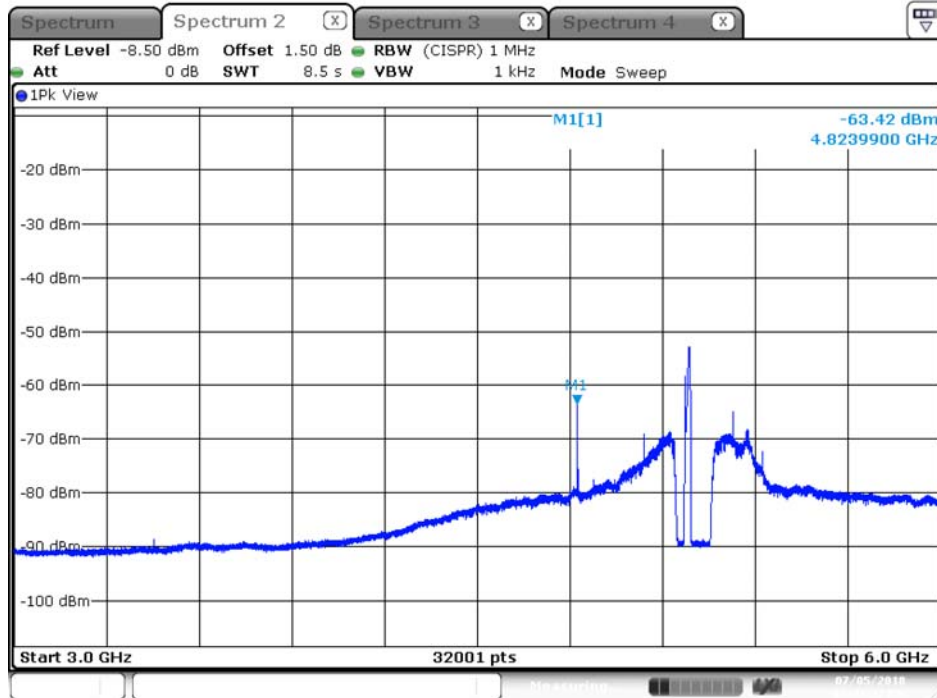
IEEE 802.11ac Nss1 MCS0 VHT20
Average

Frequency (MHz)	Correlated Antenna Gain (dBi)	TX1 Spurious Level (dBm)	TX2 Spurious Level (dBm)	Total Spurious Level (dBm)	Limit (dBm)	Margin (dB)
5180	16.00	-63.42	-59.28	-41.86	-41.25	0.61
5200	16.00	-63.16	-60.68	-42.74	-41.25	1.49
5240	16.00	-63.35	-58.59	-41.34	-41.25	0.09
5745	16.00	-62.24	-64.62	-44.26	-41.25	3.01
5785	16.00	-61.62	-62.87	-43.19	-41.25	1.94
5825	16.00	-61.28	-61.80	-42.52	-41.25	1.27

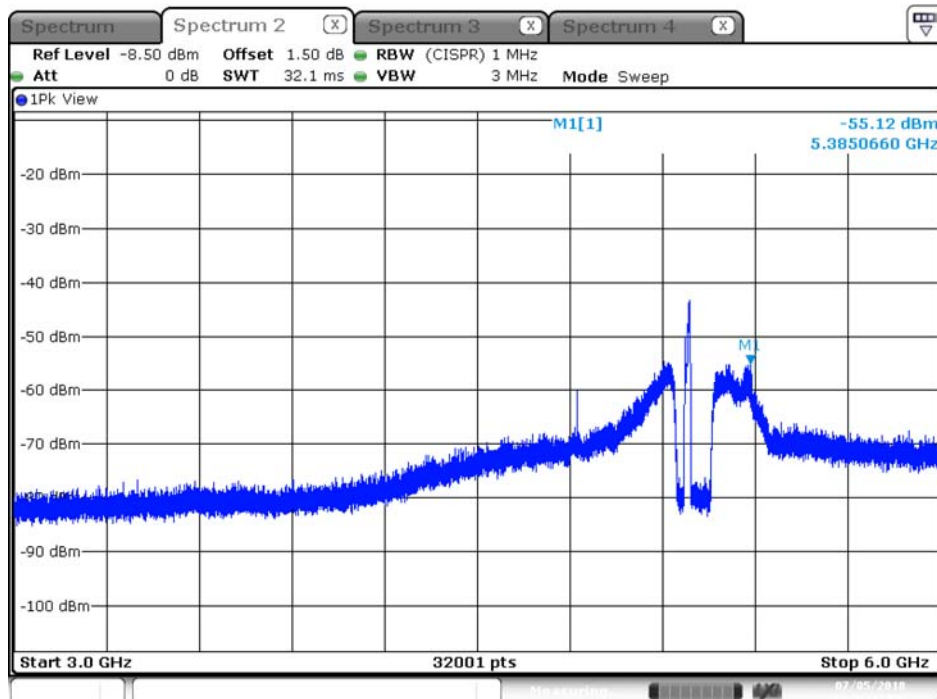
Peak

Frequency (MHz)	Correlated Antenna Gain (dBi)	TX1 Spurious Level (dBm)	TX2 Spurious Level (dBm)	Total Spurious Level (dBm)	Limit (dBm)	Margin (dB)
5180	16.00	-55.12	-55.05	-36.07	-21.25	14.82
5200	16.00	-56.29	-54.67	-36.39	-21.25	15.14
5240	16.00	-53.06	-52.67	-33.85	-21.25	12.60
5745	16.00	-52.11	-51.67	-32.87	-21.25	11.62
5785	16.00	-49.55	-50.62	-31.04	-21.25	9.79
5825	16.00	-48.59	-48.54	-29.55	-21.25	8.30

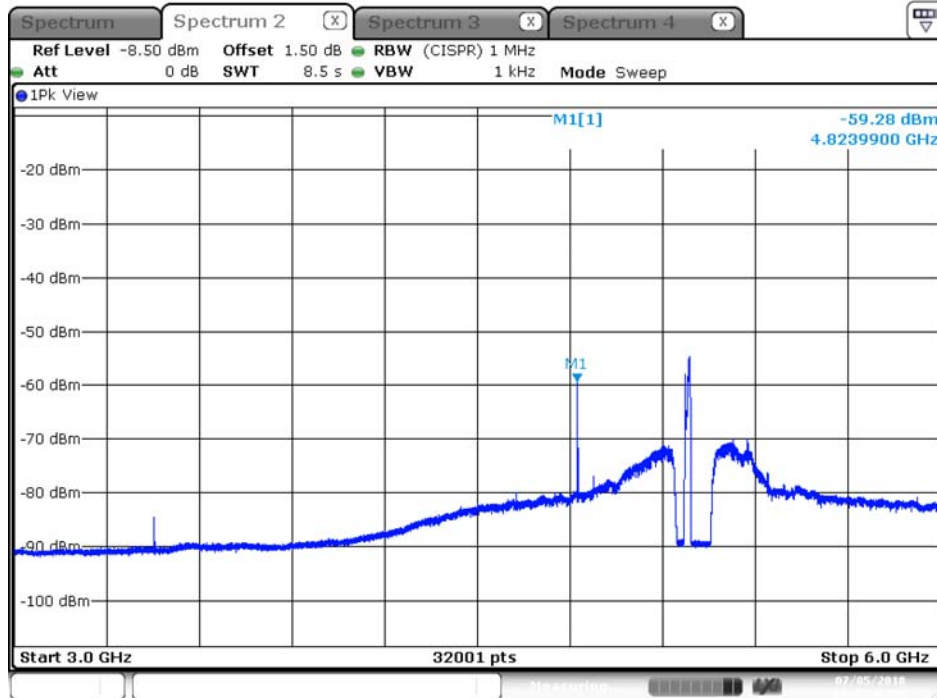
Plot on IEEE 802.11ac Nss1 MCS0 VHT20 / 5180 MHz / Average / Port 1 / 3GHz~6GHz



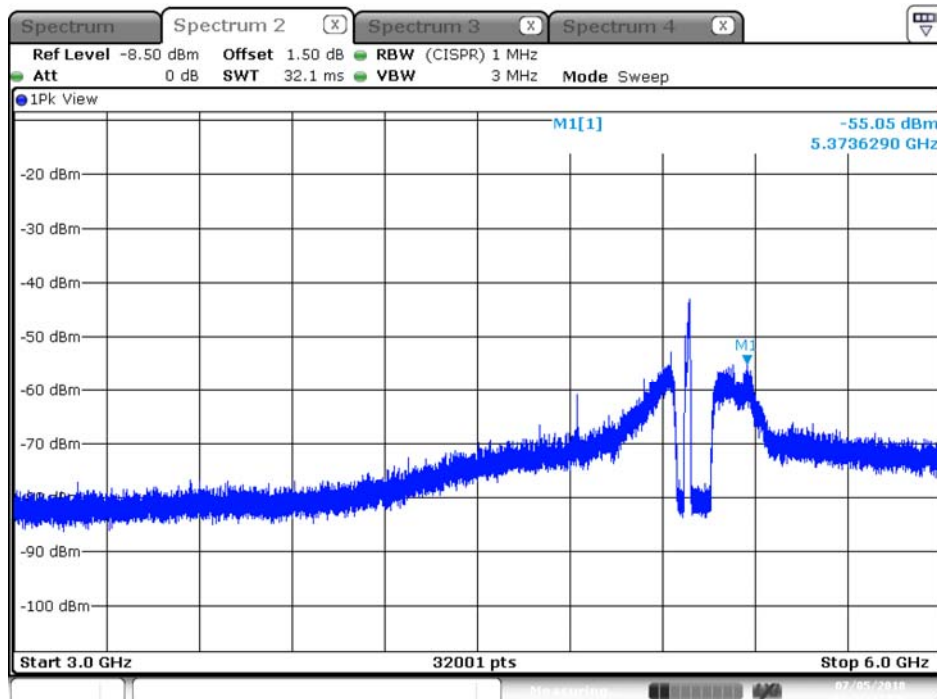
Plot on IEEE 802.11ac Nss1 MCS0 VHT20 / 5180 MHz / Peak / Port 1 / 3GHz~6GHz



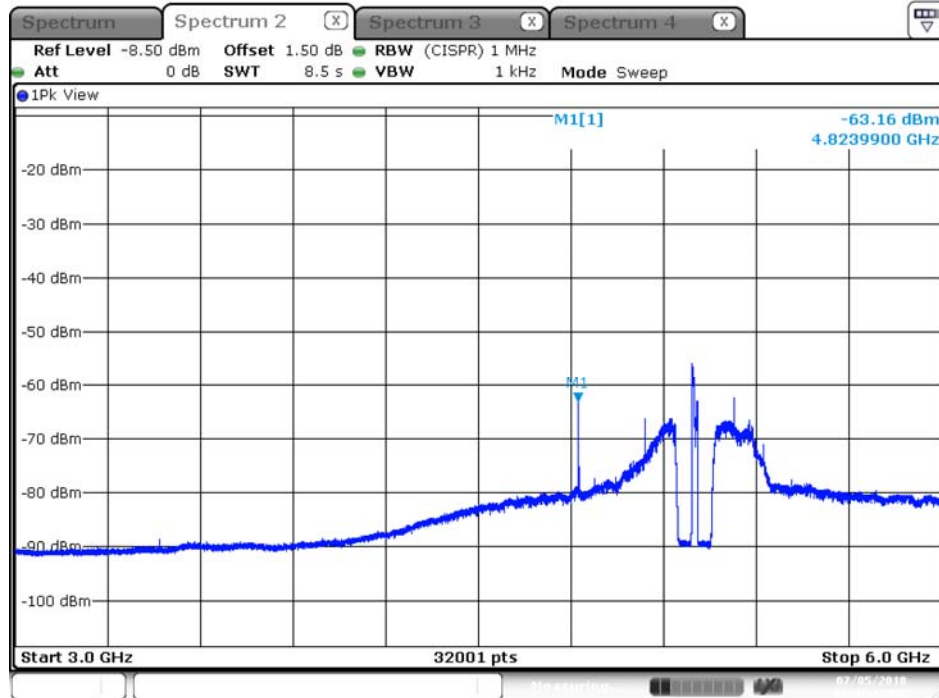
Plot on IEEE 802.11ac Nss1 MCS0 VHT20 / 5180 MHz / Average / Port 2 / 3GHz~6GHz



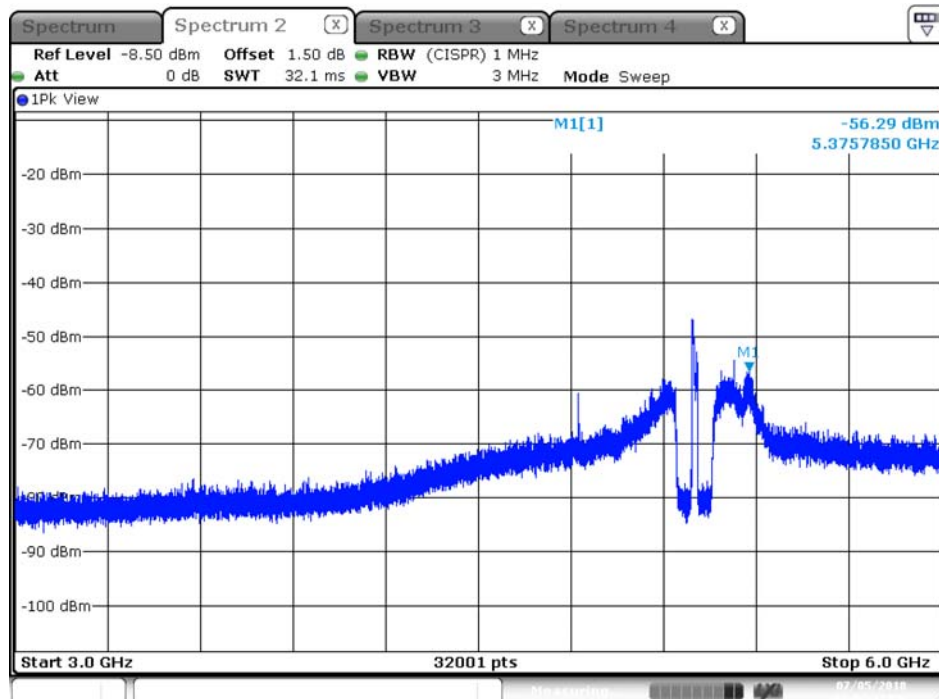
Plot on IEEE 802.11ac Nss1 MCS0 VHT20 / 5180 MHz / Peak / Port 2 / 3GHz~6GHz



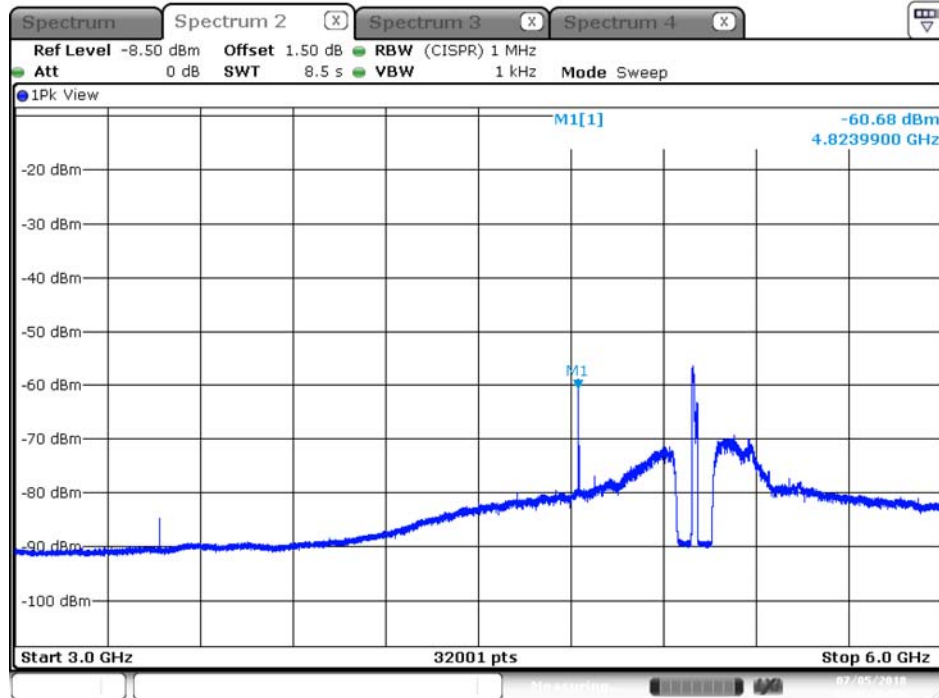
Plot on IEEE 802.11ac Nss1 MCS0 VHT20 / 5200 MHz / Average / Port 1 / 3GHz~6GHz



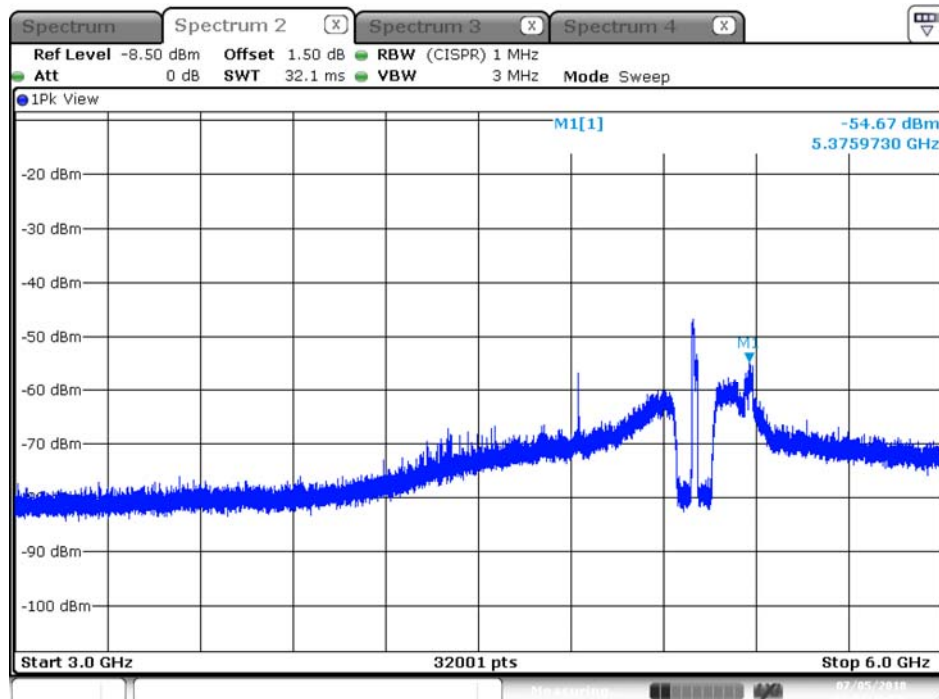
Plot on IEEE 802.11ac Nss1 MCS0 VHT20 / 5200 MHz / Peak / Port 1 / 3GHz~6GHz



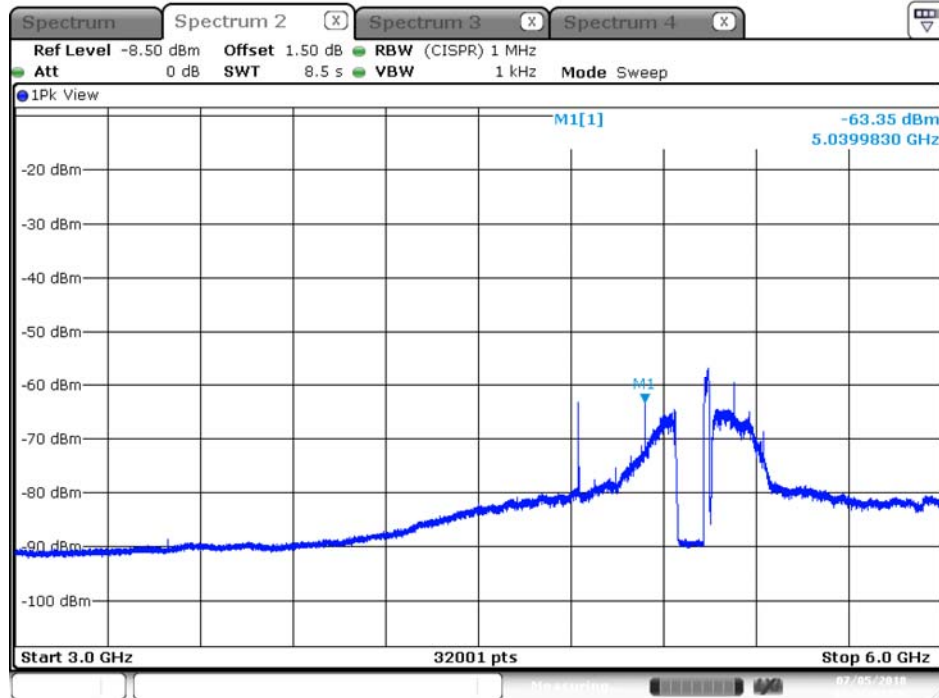
Plot on IEEE 802.11ac Nss1 MCS0 VHT20 / 5200 MHz / Average / Port 2 / 3GHz~6GHz



Plot on IEEE 802.11ac Nss1 MCS0 VHT20 / 5200 MHz / Peak / Port 2 / 3GHz~6GHz

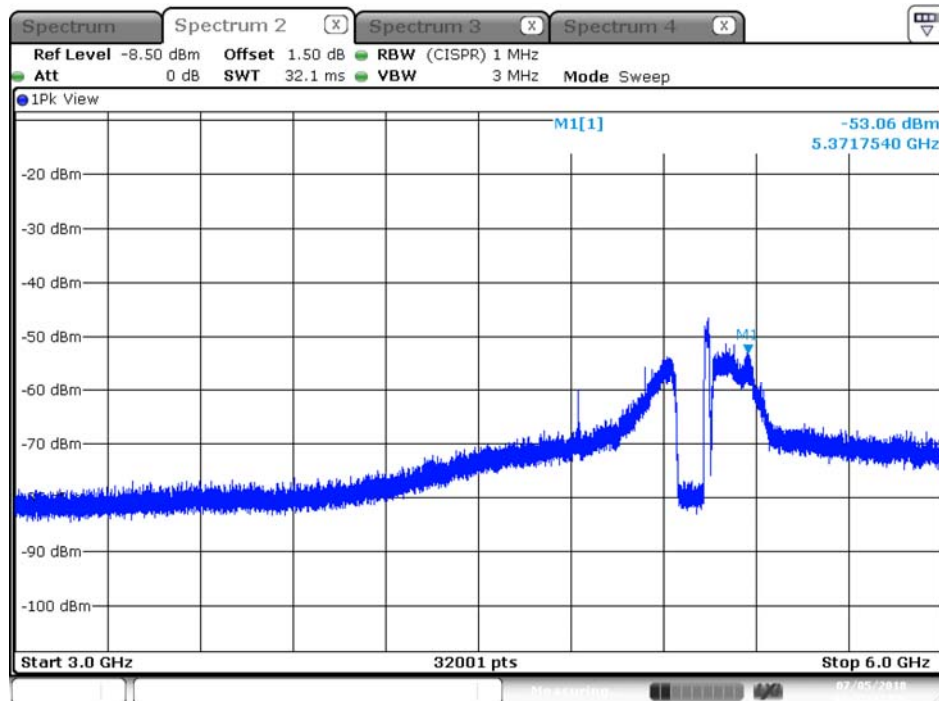


Plot on IEEE 802.11ac Nss1 MCS0 VHT20 / 5240 MHz / Average / Port 1 / 3GHz~6GHz



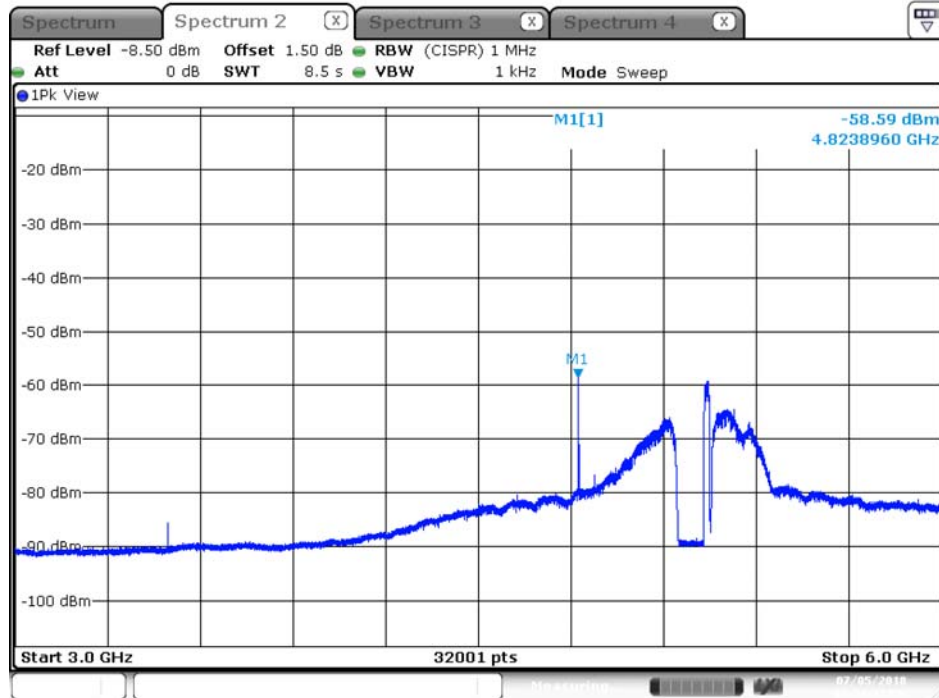
Date: 5.JUL.2018 13:58:04

Plot on IEEE 802.11ac Nss1 MCS0 VHT20 / 5240 MHz / Peak / Port 1 / 3GHz~6GHz

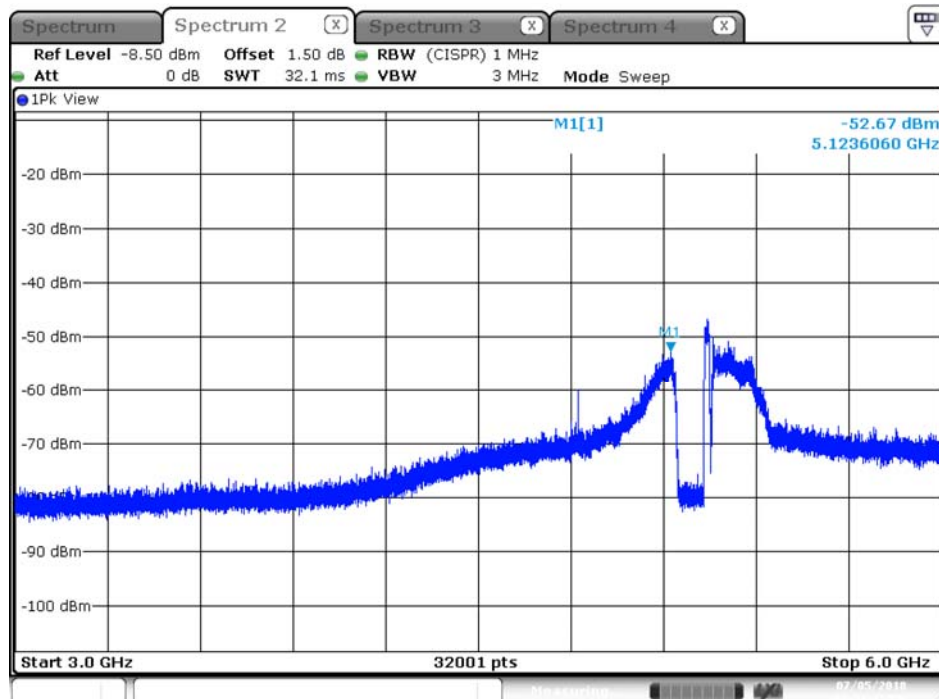


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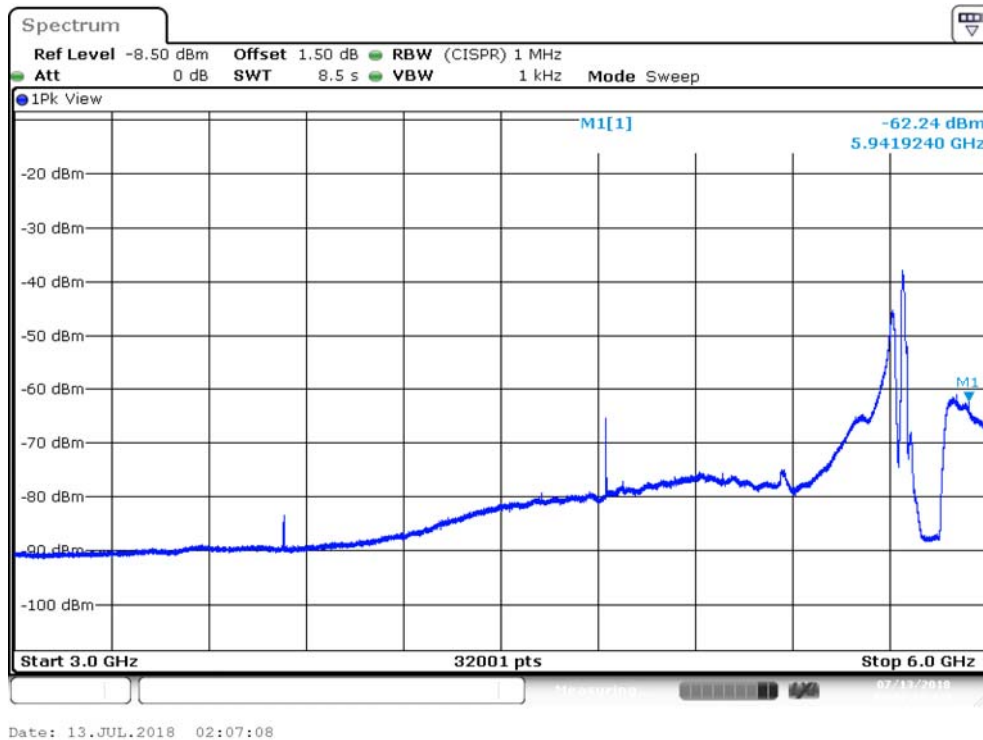
Plot on IEEE 802.11ac Nss1 MCS0 VHT20 / 5240 MHz / Average / Port 2 / 3GHz~6GHz



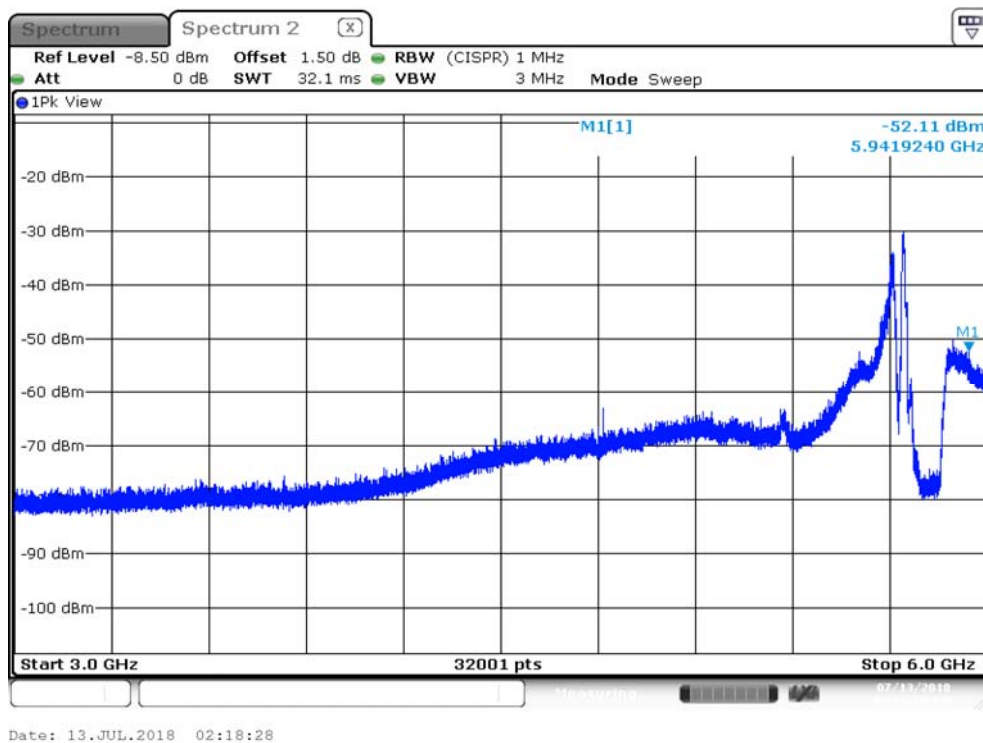
Plot on IEEE 802.11ac Nss1 MCS0 VHT20 / 5240 MHz / Peak / Port 2 / 3GHz~6GHz



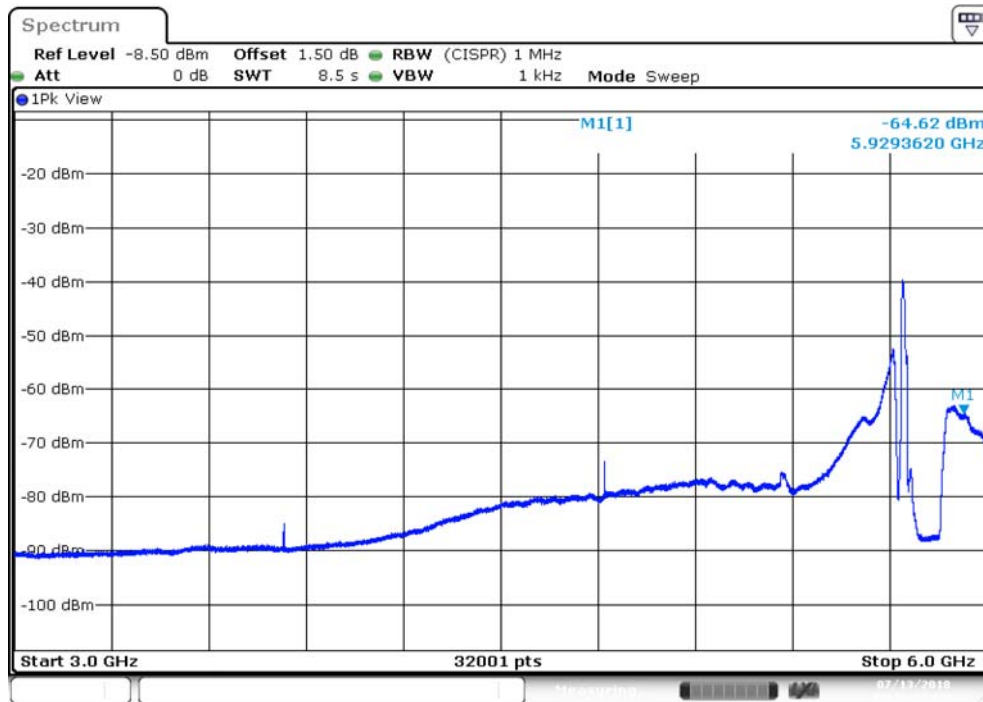
Plot on IEEE 802.11ac Nss1 MCS0 VHT20 / 5745 MHz / Average / Port 1 / 3GHz~6GHz



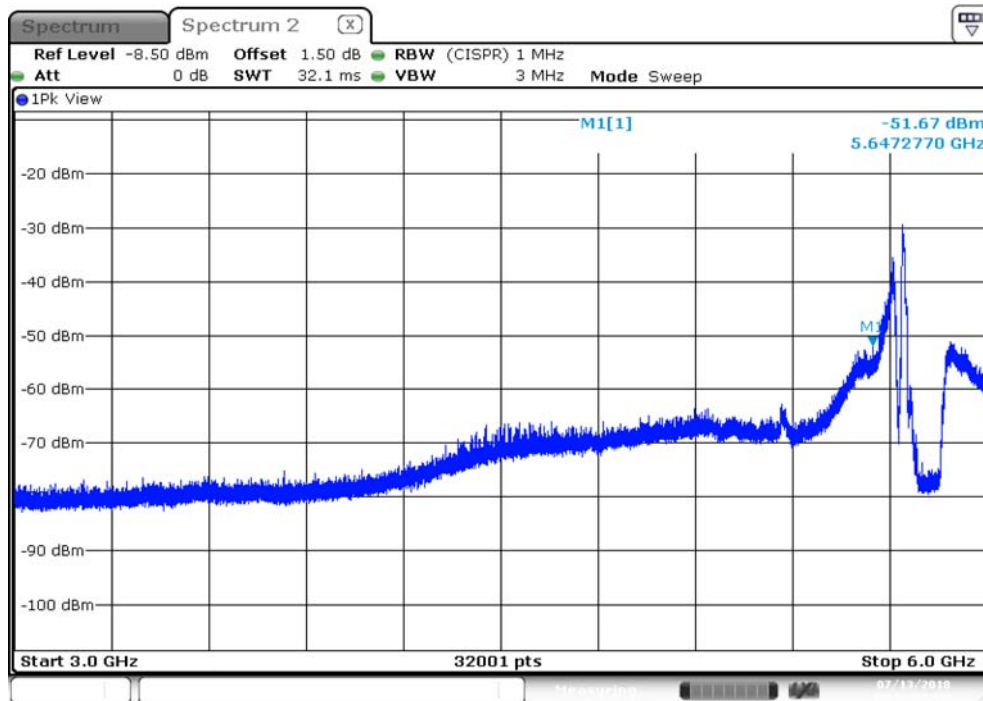
Plot on IEEE 802.11ac Nss1 MCS0 VHT20 / 5745 MHz / Peak / Port 1 / 3GHz~6GHz



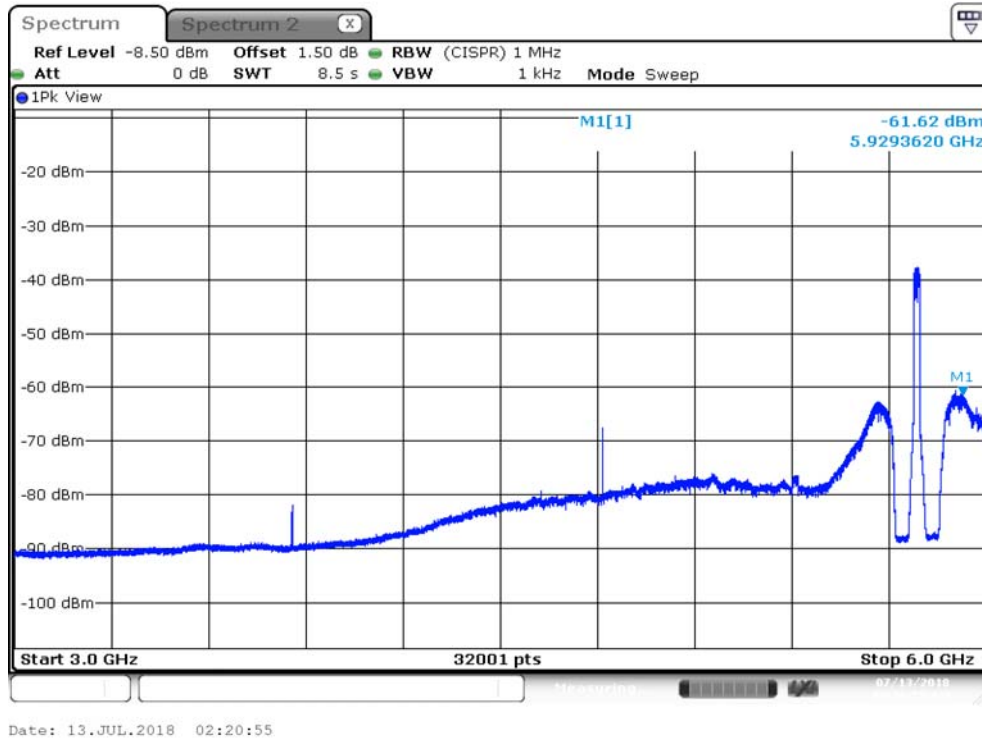
Plot on IEEE 802.11ac Nss1 MCS0 VHT20 / 5745 MHz / Average / Port 2 / 3GHz~6GHz



Plot on IEEE 802.11ac Nss1 MCS0 VHT20 / 5745 MHz / Peak / Port 2 / 3GHz~6GHz



Plot on IEEE 802.11ac Nss1 MCS0 VHT20 / 5785 MHz / Average / Port 1 / 3GHz~6GHz



Plot on IEEE 802.11ac Nss1 MCS0 VHT20 / 5785 MHz / Peak / Port 1 / 3GHz~6GHz

