FCC Test Report

Equipment	:	**802.11ac/b/g/n 2x2 MIMO / USB 3.0 Module**
Brand Name	:	**Embedded Works**
Model No.	:	**EW5270UM**
FCC ID	:	**Z9E-EW5270UM**
Standard	:	**47 CFR FCC Part 15.407**
Operating Band	:	**5150 MHz – 5250 MHz** **5725 MHz – 5850 MHz**
Applicant	:	**Embedded Works Corporation** **2855 Kifer Road Suite 101 Santa Clara, CA 95051 USA**
Manufacturer	:	**Abocom Systems, Inc.** **No.77, Yu-Yih Rd., Chu-Nan, Miao-Lih County 35059, Taiwan R.O.C.**
Function	:	**☐ Outdoor; ☐ Indoor; ☐ Fixed P2P** **☒ Client**

The product sample received on Oct. 06, 2016 and completely tested on Nov. 17, 2016. We, SPORTON, would like to declare that the tested sample has been evaluated in accordance with the procedures given in ANSI C63.10-2013 and shown compliance with the applicable technical standards.

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

Sam Chen
SPORTON INTERNATIONAL INC.

Testing Laboratory
1190

Table of Contents

Summary of Test Result

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

Note: The module is limited to install on Mobile products.

Revision History

Report No.	Version	Description	Issued Date
FR5D0919-02AB	Rev. 01	Initial issue of report	Nov. 23, 2016

1 General Description

1.1 Information

1.1.1 RF General Information

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

Band	Mode	BWch (MHz)	Nant
5.2G	11a	20	1
5.8G	11a	20	1
5.2G	HT20	20	2
5.8G	HT20	20	2
5.2G	VHT20	20	2
5.8G	VHT20	20	2
5.2G	HT40	40	2
5.8G	HT40	40	2
5.2G	VHT40	40	2
5.8G	VHT40	40	2
5.2G	VHT80	80	2
5.8G	VHT80	80	2

Note:
- 5.2G/5.2G-I(IC) is the 5.2GHz Band (5.15-5.25GHz).
- 11a, HT20 and HT40 use a combination of OFDM-BPSK, QPSK, 16QAM, 64QAM modulation.
- VHT20, VHT40 and 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.	Brand	Model Name (Part Number)	Antenna Type	Connector	Gain (dBi)		Cable loss	True Gain (dBi)	
					2.4GHz	5GHz		2.4GHz	5GHz
1	AIR802	ANRD245X05	Dipole Antenna	RP-SMA	5	5	0.4 (Black cable)	4.6	4.6
2	taoglas	GW.71.5153	Dipole Antenna	RP-SMA	3.8	5.5	0.4 (Rose gold cable)	3.4	5.1

Note: The Printed Antenna of the EUT wasn't used.
Chain 1 connect to Ant.1 or Ant. 2, Chain 2 connect to Ant.1 or Ant. 2.

<For 2.4GHz>

For IEEE 802.11b/g mode (1TX/1RX):

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

For IEEE 802.11n mode (2TX/2RX)

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

Chain 1 and Chain 2 could transmit/receive simultaneously.

<For 5GHz>

For IEEE 802.11a mode (1TX/1RX):

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

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

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

Chain 1 and Chain 2 could transmit/receive simultaneously.

1.1.3 Mode Test Duty Cycle

Mode	DC	T(s)	VBW(Hz) ≥ 1/T
11a	1	n/a (DC>=0.98)	n/a (DC>=0.98)
VHT20	1	n/a (DC>=0.98)	n/a (DC>=0.98)
VHT40	1	n/a (DC>=0.98)	n/a (DC>=0.98)
VHT80	1	n/a (DC>=0.98)	n/a (DC>=0.98)

1.1.4 EUT Operational Condition

EUT Power Type	From host system			
Beamforming Function	☐	With beamforming	☒	Without beamforming

1.1.5 EUT's Interface Type

The EUT has two types which are identical to each other in all aspects except for the following table:

Model No.	EUT	Interface Type
EW5270UM	1	Module Type
	2	USB Type

Note: After evaluating, it was selected EUT 1 as worst case and recorded the test result in this report.

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 v01r03
- FCC KDB 644545 D03 v01
- FCC KDB 662911 D01 v02r01

1.3 Testing Location Information

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

Test Condition	Test Site No.	Test Engineer	Test Environment	Test Date
RF Conducted	TH01-CB	Andy Weng	25°C / 65%	Oct. 26, 2016
Radiated	03CH01-CB	Zero Chen & Peter Wu	22°C / 54%	Oct. 19, 2016~ Oct. 20, 2016
AC Conduction	CO01-CB	GN Hou	22°C / 52%	Nov. 01, 2016~ Nov. 17, 2016

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%

2 Test Configuration of EUT

2.1 Test Channel Mode

Band	Mode	BWch (MHz)	Nss-Min	Nant	Ch. (MHz)	Range	Power Setting
5.2G	11a	20	1	1(1)	5180	L	45
5.2G	11a	20	1	1(1)	5200	M	60
5.2G	11a	20	1	1(1)	5240	H	37
5.8G	11a	20	1	1(1)	5745	L	63
5.8G	11a	20	1	1(1)	5785	M	63
5.8G	11a	20	1	1(1)	5825	H	63
5.2G	VHT20	20	2,(M0)	2	5180	L	48/52
5.2G	VHT20	20	2,(M0)	2	5200	M	59/63
5.2G	VHT20	20	2,(M0)	2	5240	H	40/46
5.8G	VHT20	20	2,(M0)	2	5745	L	62/63
5.8G	VHT20	20	2,(M0)	2	5785	M	63/63
5.8G	VHT20	20	2,(M0)	2	5825	H	63/62
5.2G	VHT40	40	2,(M0)	2	5190	L	37/41
5.2G	VHT40	40	2,(M0)	2	5230	H	43/48
5.8G	VHT40	40	2,(M0)	2	5755	L	63/63
5.8G	VHT40	40	2,(M0)	2	5795	H	63/63
5.2G	VHT80	80	2,(M0)	2	5210	S	35/38
5.8G	VHT80	80	2,(M0)	2	5775	S	60/60

Note:
- Test range channel consist of L (Low Ch.), M (Middle Ch.), H (High Ch.), S (Single Ch.) and C (Straddle Band Ch.).
- VHT20/VHT40 covers HT20/HT40, due to same modulation. The power setting for 802.11n HT20 and HT40 are the same or lower than 802.11ac VHT20 and VHT40.

2.2 The Worst Case Measurement Configuration

The Worst Case Mode for Following Conformance Tests	
Tests Item	AC power-line conducted emissions
Condition	AC power-line conducted measurement for line and neutral
Operating Mode	Normal Link
1	EUT 1 + Ant. 1 + 2.4GHz function
2	EUT 1 + Ant. 2 + 5GHz function
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 Frequency Stability
Test Condition	Conducted measurement at transmit chains

The Worst Case Mode for Following Conformance Tests	
Tests Item	Unwanted Emissions
Test Condition	Radiated measurement If EUT consist of multiple antenna assembly (multiple antenna are used in EUT regardless of spatial multiplexing MIMO configuration), the radiated test should be performed with highest antenna gain of each antenna type.
Operating Mode < 1GHz	Normal Link
1	EUT 1 at Z-axis + Ant. 1 + 2.4GHz function
2	EUT 1 at Y-axis + Ant. 1 + 2.4GHz function
Mode 1 has been evaluated to be the worst case between Mode 1~2, thus measurement for Mode 3 will follow this same test mode.	
3	EUT 1 at Z-axis + Ant. 2 + 5GHz function
For operating mode 3 is the worst case and it was record in this test report.	
Operating Mode > 1GHz	CTX
The EUT 1 was performed at X axis, Y axis and Z axis position for Radiated emission above 1GHz test, and the worst case was found at Y axis. So the measurement will follow this same test configuration. The EUT 1 has two antennas, one is Ant. 1, the other one is Ant. 2. Ant. 2 has been evaluated to be the worst case after evaluating.	
1	EUT 1 at Y-axis + Ant. 2 + 5GHz function

2.3 EUT Operation during Test

For CTX Mode:

The EUT was programmed to be in continuously transmitting mode.

For Normal Link:

During the test, the EUT operation to normal function.

2.4 Accessories

N/A

2.5 Support Equipment

For Test Site No: CO01-CB

Support Equipment				
No.	**Equipment**	**Brand Name**	**Model Name**	**FCC ID**
1	NB	DELL	E6430	DoC
2	Earphone	SHYARO CHI	MIC-04	DoC
3	Mouse	Logitech	M-U0026	DoC
4	Test Fixture	Abocom	WM5203T-X30	DoC
5	AP Router	Planex	GW-AP54SGX	KA220030603014-1

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

Support Equipment				
No.	**Equipment**	**Brand Name**	**Model Name**	**FCC ID**
1	NB	DELL	E4300	DoC
2	Earphone	SHYARO CHI	MIC-04	DoC
3	Mouse	HP	FM100	DoC
4	Test Fixture	Abocom	WM5203T-X30	DoC
5	WLAN AP	NETGEAR	WNDR3300v2	PY309300116

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

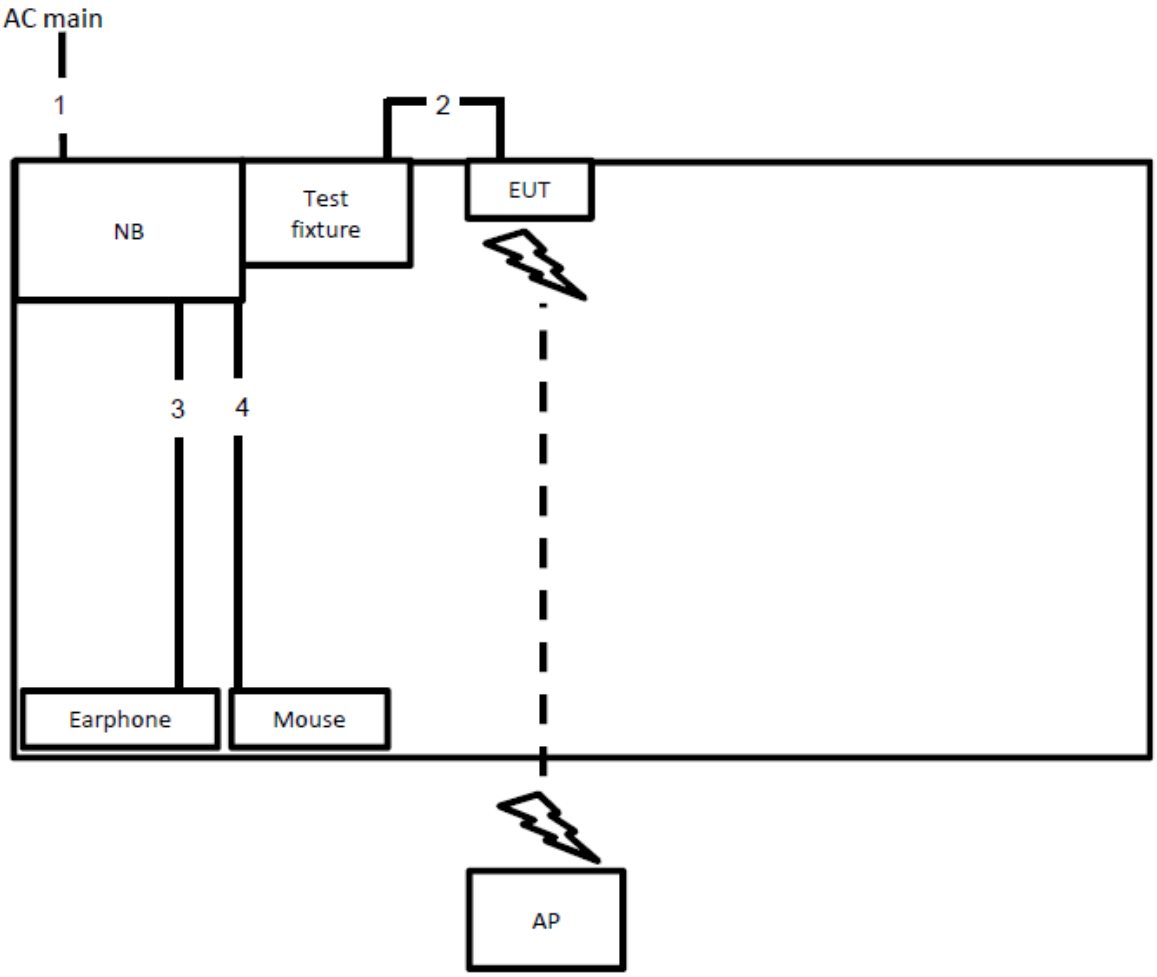
Support Equipment				
No.	**Equipment**	**Brand Name**	**Model Name**	**FCC ID**
1	NB	DELL	E4300	DoC
2	Test Fixture	Abocom	WM5203T-X30	DoC

For Test Site No: TH01-CB

Support Equipment				
No.	**Equipment**	**Brand Name**	**Model Name**	**FCC ID**
1	NB	DELL	E4300	DoC
2	Test Fixture	Abocom	WM5203T-X30	DoC

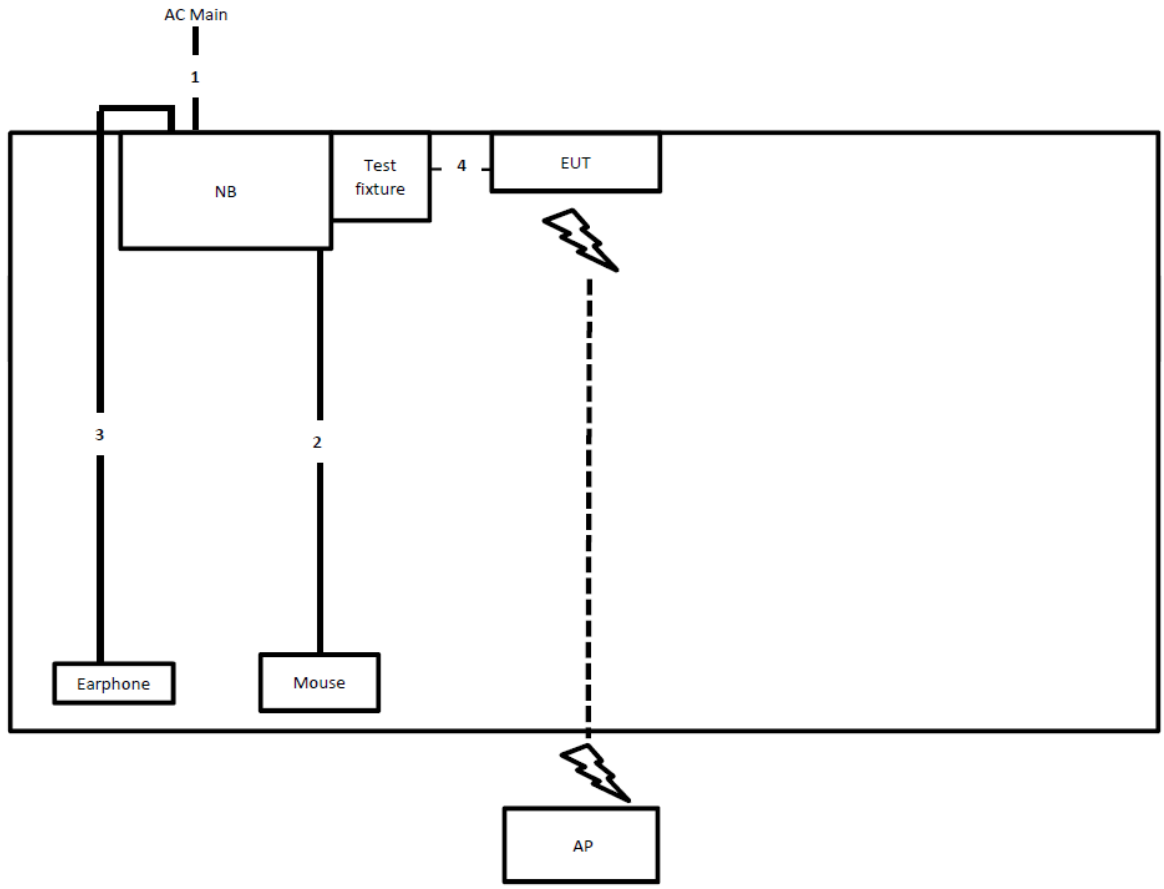
2.6 Test Setup Diagram

Test Setup Diagram – AC Line Conducted Emission Test



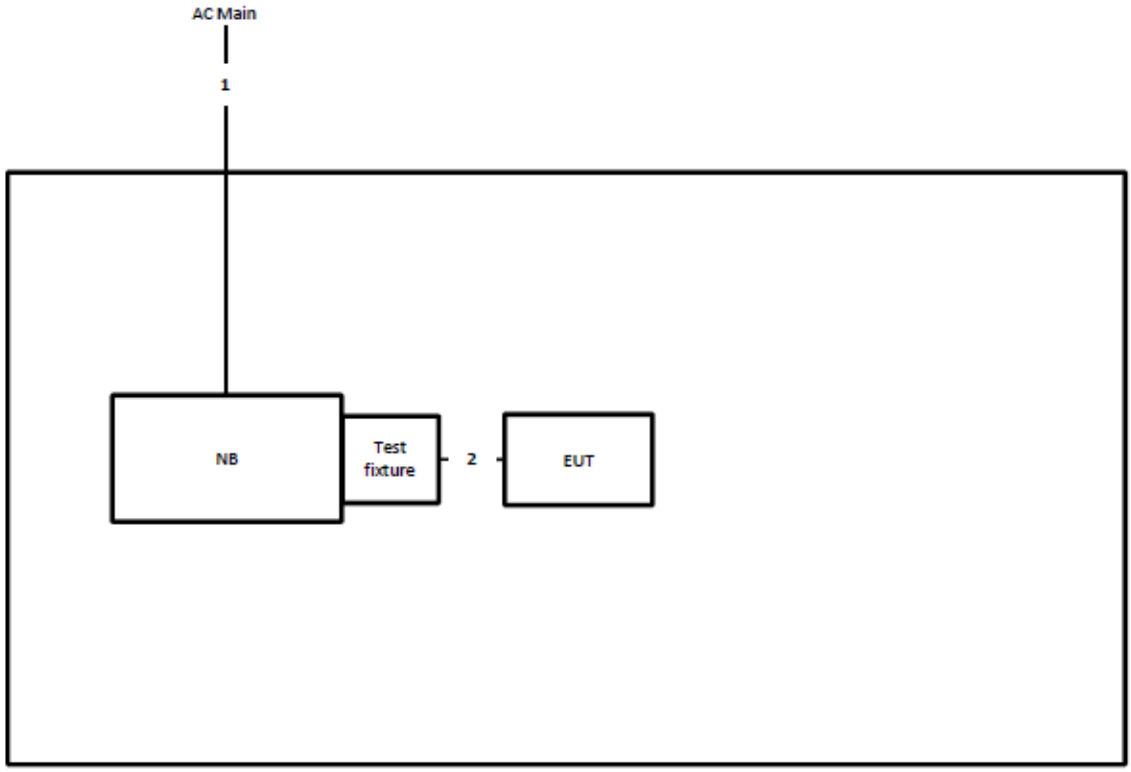
Item	Connection	Shielded	Length
1	Power cable	No	2.8m
2	Cable	No	0.3m
3	Audio cable	No	1.1m
4	USB cable	Yes	1.8m

Test Setup Diagram - Radiated Test < 1GHz



Item	Connection	Shielded	Length
1	Power cable	No	2.6m
2	USB cable	Yes	1.8m
3	Audio cable	No	1.1m
4	Cable	No	0.3m

Test Setup Diagram - Radiated Test > 1GHz



Item	Connection	Shielded	Length
1	Power cable	No	2.6m
2	Cable	No	0.3m

3 Transmitter Test Result

3.1 AC Power-line Conducted Emissions

3.1.1 AC Power-line Conducted Emissions Limit

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

3.1.2 Measuring Instruments

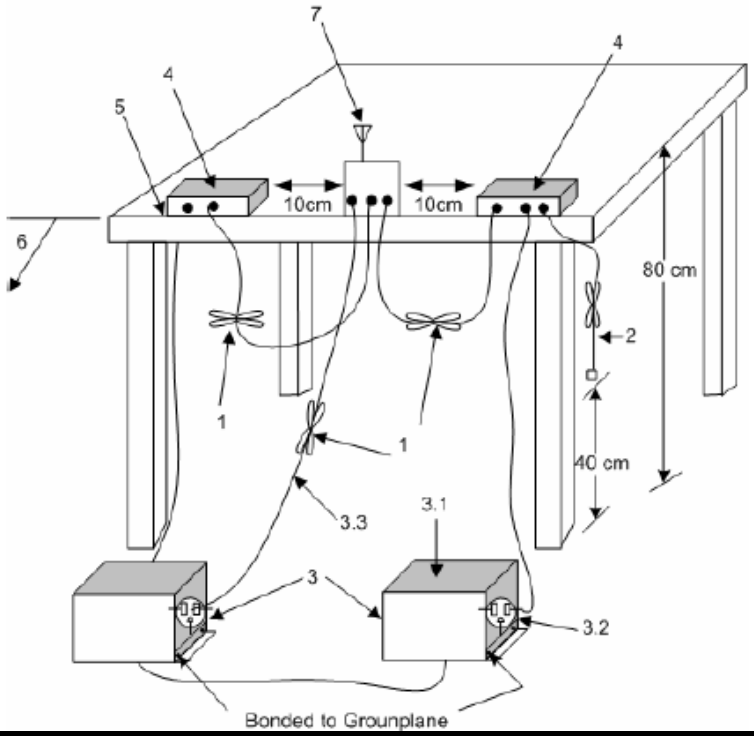
Refer a test equipment and calibration data table in this test report.

3.1.3 Test Procedures

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

3.1.4 Test Setup

AC Power-line Conducted Emissions



3.1.5 Test Result of AC Power-line Conducted Emissions

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 ≥ 500kHz.
LE-LAN Devices
☐ For the band 5.15-5.25 GHz, the maximum e.i.r.p. shall not exceed 200 mW or 10 + 10 log B, dBm, whichever power is less. B is the 99% emission bandwidth in MHz.
☐ For the 5.25-5.35 GHz band, the maximum e.i.r.p. shall not exceed 1.0 W or 17 + 10 log B, dBm, whichever power is less. B is the 99% emission bandwidth in MHz
☐ For the 5.47-5.6 GHz band and 5.65-5.725 GHz band, the maximum e.i.r.p. shall not exceed 1.0 W or 17 + 10 log B, dBm, whichever power is less. B is the 99% emission bandwidth in MHz
☐ For the 5.725-5.85 GHz band, 6 dB emission bandwidth ≥ 500kHz.

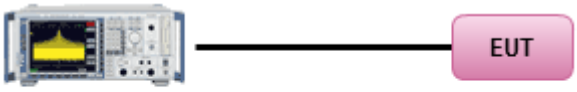
3.2.2 Measuring Instruments

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

3.2.3 Test Procedures

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

3.2.4 Test Setup

Emission Bandwidth
 Spectrum Analyzer

3.2.5 Test Result of Emission Bandwidth

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.	

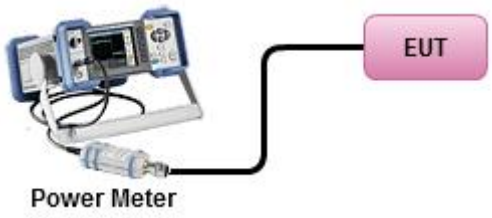
3.3.2 Measuring Instruments

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

3.3.3 Test Procedures

Test Method	
▪ Maximum Conducted Output Power	
	[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)
	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: $P_{total} = P_1 + P_2 + \ldots + P_n$ (calculated in linear unit [mW] and transfer to log unit [dBm]) $EIRP_{total} = P_{total} + DG$

3.3.4 Test Setup

RF Output Power (Power Meter)


3.3.5 Test Result of Maximum Conducted Output Power

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° ≤ θ < 8° ; -13 − 0.716 (θ-8) dBW/MHz for 8° ≤ θ < 40° -35.9 − 1.22 (θ-40) dBW/MHz for 40° ≤ θ ≤ 45° ; -42 dBW/MHz for θ > 45°
☐	For the 5.47-5.6 GHz band and 5.65-5.725 GHz band, the peak power spectral density (PPSD) ≤ 11 dBm/MHz and the e.i.r.p. peak power spectral density (PPSD) ≤ 17 dBm/MHz.
☐	For the 5.725-5.85 GHz band:
	▪ Point-to-multipoint systems (P2M): the peak power spectral density (PPSD) ≤ 30 dBm/500kHz. If G_{TX} > 6 dBi, then PPSD= 30 – (G_{TX} – 6).
	▪ Point-to-point systems (P2P): the peak power spectral density (PPSD) ≤ 30 dBm/500kHz.
PPSD = peak power spectral density that he same method as used to determine the conducted output power shall be used to determine the power spectral density. And power spectral density in dBm/MHz **G_{TX}** = the maximum transmitting antenna directional gain in dBi.	

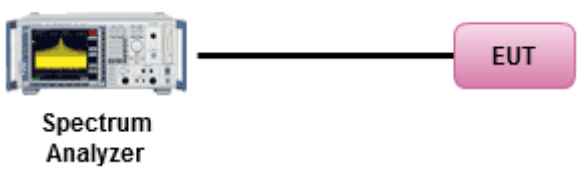
3.4.2 Measuring Instruments

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

3.4.3 Test Procedures

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

3.4.4 Test Setup

Power Spectral Density


3.4.5 Test Result of Peak Power Spectral Density

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.

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

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

3.5.2 Measuring Instruments

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

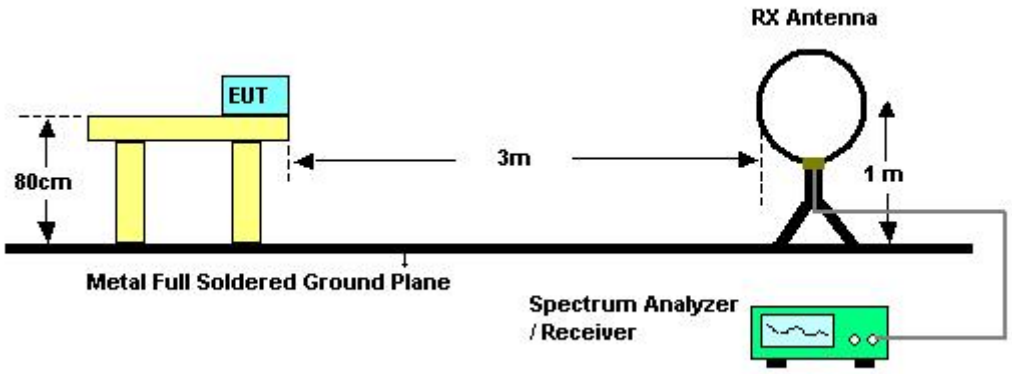
3.5.3 Test Procedures

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

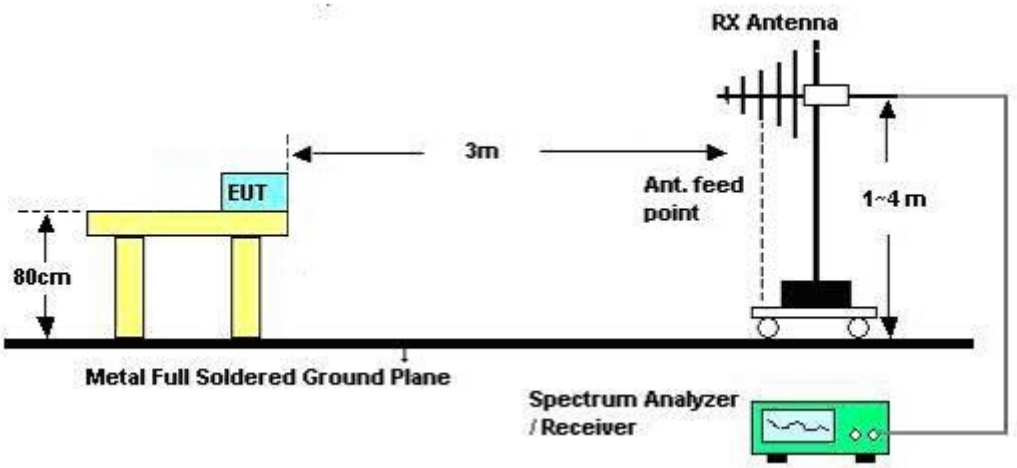
3.5.4 Test Setup

Transmitter Radiated Unwanted Emissions

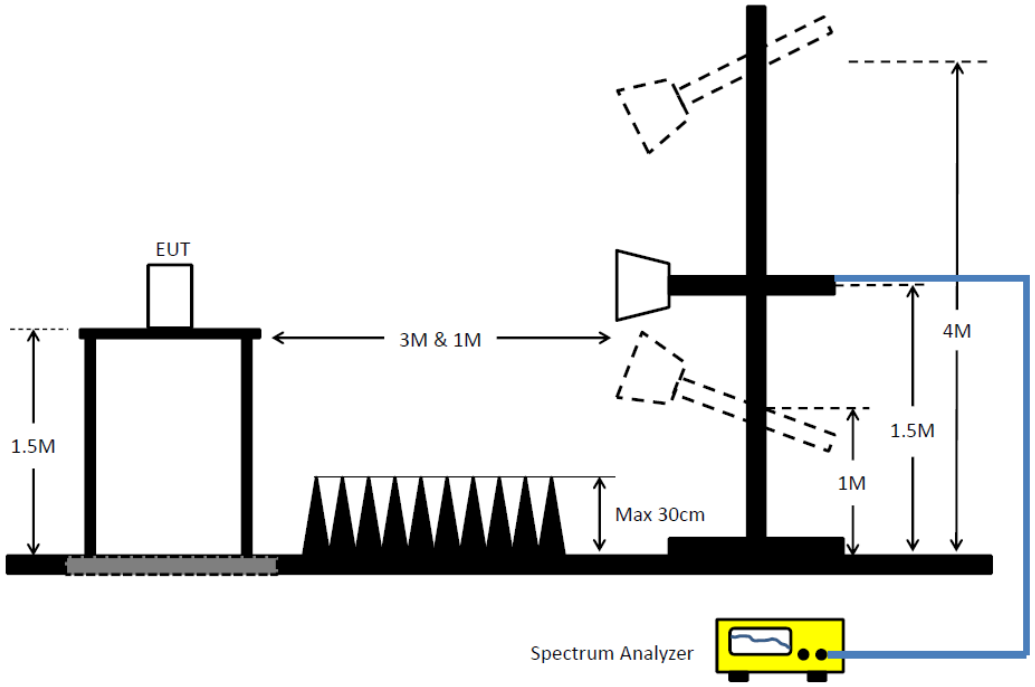
9kHz ~30MHz



30MHz~1GHz



Above 1GHz



3.5.5 Transmitter Unwanted Emissions (Below 30MHz)

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

3.5.6 Test Result of Transmitter Unwanted Emissions

Refer as Appendix E

3.6 Frequency Stability

3.6.1 Frequency Stability Limit

Frequency Stability Limit
UNII Devices
▪ In-band emission is maintained within the band of operation under all conditions of normal operation as specified in the user's manual.
LE-LAN Devices
▪ N/A
IEEE Std. 802.11
▪ The transmitter center frequency tolerance shall be ± 20 ppm maximum for the 5 GHz band and ± 25 ppm maximum for the 2.4 GHz band.

3.6.2 Measuring Instruments

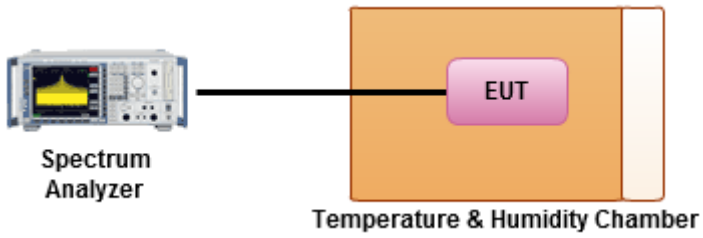
Refer a test equipment and calibration data table in this test report.

3.6.3 Test Procedures

Test Method	
▪ Refer as ANSI C63.10, clause 6.8 for frequency stability tests	
	▪ Frequency stability with respect to ambient temperature
	▪ Frequency stability when varying supply voltage
	▪ Extreme temperature is 0℃~40℃.

3.6.4 Test Setup

Frequency Stability



3.6.5 Test Result of Frequency Stability

Refer as Appendix F

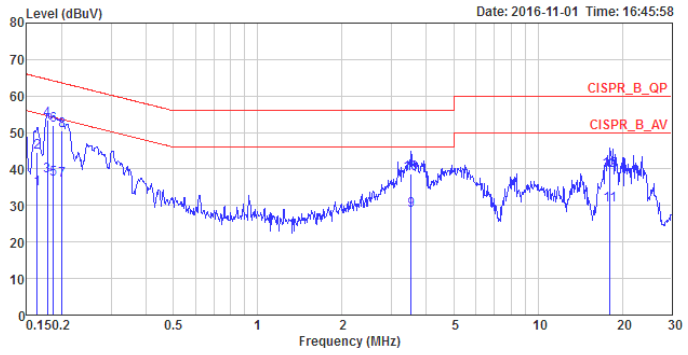
4 Test Equipment and Calibration Data

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Remark
EMI Receiver	Agilent	N9038A	My52260123	9kHz ~ 8.45GHz	Jan. 27, 2016	Conduction (CO01-CB)
LISN	F.C.C.	FCC-LISN-50-16-2	04083	150kHz ~ 100MHz	Dec. 08, 2015	Conduction (CO01-CB)
LISN	Schwarzbeck	NSLK 8127	8127647	9kHz ~ 30MHz	Dec. 23, 2015	Conduction (CO01-CB)
COND Cable	Woken	Cable	01	150kHz ~ 30MHz	May 24, 2016	Conduction (CO01-CB)
Software	Audix	E3	6.120210n	-	N.C.R.	Conduction (CO01-CB)
BILOG ANTENNA	TESEQ	CBL6112D	37880	20MHz ~ 2GHz	Aug. 30, 2016	Radiation (03CH01-CB)
Horn Antenna	EMCO	3115	00075790	750MHz ~ 18GHz	Oct. 22, 2015	Radiation (03CH01-CB)
Horn Antenna	EMCO	3115	00075790	750MHz ~ 18GHz	Nov. 10, 2016	Radiation (03CH01-CB)
Horn Antenna	Schwarzbeck	BBHA 9170	BBHA9170252	15GHz ~ 40GHz	Jul. 25, 2016	Radiation (03CH01-CB)
Pre-Amplifier	Agilent	8447D	2944A10991	0.1MHz ~ 1.3GHz	Mar. 15, 2016	Radiation (03CH01-CB)
Pre-Amplifier	Agilent	8449B	3008A02310	1GHz ~ 26.5GHz	Jan. 18, 2016	Radiation (03CH01-CB)
Pre-Amplifier	WM	TF-130N-R1	923365	26GHz ~ 40GHz	Nov. 13, 2015	Radiation (03CH01-CB)
Spectrum Analyzer	R&S	FSP40	100056	9kHz ~ 40GHz	Oct. 27, 2015	Radiation (03CH01-CB)
EMI Test	R&S	ESCS	100355	9kHz ~ 2.75GHz	May 16, 2016	Radiation (03CH01-CB)
RF Cable-low	Woken	Low Cable-1	N/A	30 MHz ~ 1 GHz	Nov. 02, 2015	Radiation (03CH01-CB)
RF Cable-high	Woken	High Cable-16	N/A	1 GHz ~ 18 GHz	Nov. 02, 2015	Radiation (03CH01-CB)
RF Cable-high	Woken	High Cable-17	N/A	1 GHz ~ 18 GHz	Nov. 02, 2015	Radiation (03CH01-CB)
RF Cable-high	Woken	High Cable-40G-1	N/A	18GHz ~ 40 GHz	Nov. 02, 2015	Radiation (03CH01-CB)
RF Cable-high	Woken	High Cable-40G-2	N/A	18GHz ~ 40 GHz	Nov. 02, 2015	Radiation (03CH01-CB)
Loop Antenna	Teseq	HLA 6120	24155	9kHz - 30 MHz	Mar. 16, 2016*	Radiation (03CH01-CB)

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Remark
Test Software	Audix	E3	6.2009-l0-7	N/A	N/A	Radiation (03CH01-CB)
Spectrum analyzer	R&S	FSV40	100979	9kHz~40GHz	Dec. 09, 2015	Conducted (TH01-CB)
Temp. and Humidity Chamber	Ten Billion	TTH-D3SP	TBN-931011	-30~100 degree	Jun. 03, 2016	Conducted (TH01-CB)
RF Cable-high	Woken	RG402	High Cable-6	1 GHz – 26.5 GHz	Oct. 24, 2016	Conducted (TH01-CB)
RF Cable-high	Woken	RG402	High Cable-7	1 GHz – 26.5 GHz	Oct. 24, 2016	Conducted (TH01-CB)
RF Cable-high	Woken	RG402	High Cable-8	1 GHz – 26.5 GHz	Oct. 24, 2016	Conducted (TH01-CB)
RF Cable-high	Woken	RG402	High Cable-9	1 GHz – 26.5 GHz	Oct. 24, 2016	Conducted (TH01-CB)
RF Cable-high	Woken	RG402	High Cable-10	1 GHz – 26.5 GHz	Oct. 24, 2016	Conducted (TH01-CB)
Cable	Marvelous Microwave	n/a	Cable-REF-1	9k-1GHz	Oct. 21, 2016	Conducted (TH01-CB)
Power Sensor	Agilent	U2021XA	MY54320014	50MHz~18GHz	Apr. 20, 2016	Conducted (TH01-CB)
Power Sensor	Agilent	U2021XA	MY54320015	50MHz~18GHz	Apr. 20, 2016	Conducted (TH01-CB)

Note: Calibration Interval of instruments listed above is one year.
"*" Calibration Interval of instruments listed above is two years.
NCR means Non-Calibration required.

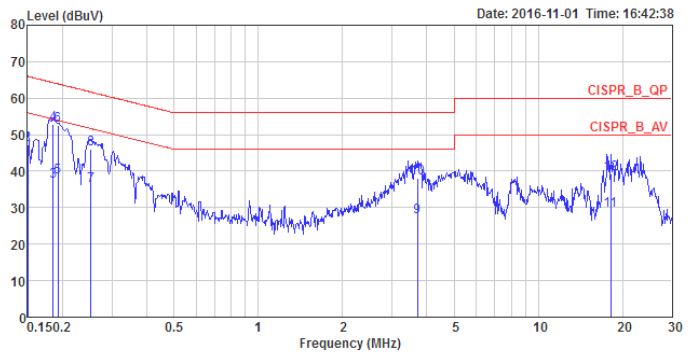
AC Power-line Conducted Emissions Result			
Operating Mode	1	**Power Phase**	Neutral
Operating Function	Normal Link		



	Freq	Level	Over Limit	Limit Line	Read Level	LISN Factor	Cable Loss	Pol/Phase	Remark
	MHz	dBuV	dB	dBuV	dBuV	dB	dB		
1	0.1633	34.54	-20.76	55.30	24.35	10.02	0.17	NEUTRAL	Average
2	0.1633	44.66	-20.64	65.30	34.47	10.02	0.17	NEUTRAL	QP
3	0.1777	38.03	-16.56	54.59	27.93	9.92	0.18	NEUTRAL	Average
4	0.1777	53.32	-11.27	64.59	43.22	9.92	0.18	NEUTRAL	QP
5	0.1864	37.20	-17.00	54.20	27.10	9.92	0.18	NEUTRAL	Average
6	0.1864	51.82	-12.38	64.20	41.72	9.92	0.18	NEUTRAL	QP
7	0.2007	37.02	-16.56	53.58	26.91	9.92	0.19	NEUTRAL	Average
8	0.2007	50.48	-13.10	63.58	40.37	9.92	0.19	NEUTRAL	QP
9	3.5278	28.64	-17.36	46.00	18.58	9.98	0.08	NEUTRAL	Average
10	3.5278	38.81	-17.19	56.00	28.75	9.98	0.08	NEUTRAL	QP
11	18.0394	30.08	-19.92	50.00	19.57	10.28	0.23	NEUTRAL	Average
12	18.0394	39.69	-20.31	60.00	29.18	10.28	0.23	NEUTRAL	QP

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

AC Power-line Conducted Emissions Result			
Operating Mode	1	**Power Phase**	Line
Operating Function	Normal Link		



	Freq	Level	Over Limit	Limit Line	Read Level	LISN Factor	Cable Loss	Pol/Phase	Remark
	MHz	dBuV	dB	dBuV	dBuV	dB	dB		
1	0.1500	35.46	-20.54	56.00	25.28	10.02	0.16	LINE	Average
2	0.1500	47.14	-18.86	66.00	36.96	10.02	0.16	LINE	QP
3	0.1854	37.06	-17.18	54.24	26.96	9.92	0.18	LINE	Average
4	0.1854	52.75	-11.49	64.24	42.65	9.92	0.18	LINE	QP
5	0.1924	38.36	-15.57	53.93	28.25	9.92	0.19	LINE	Average
6	0.1924	52.56	-11.37	63.93	42.45	9.92	0.19	LINE	QP
7	0.2521	35.94	-15.75	51.69	25.89	9.92	0.13	LINE	Average
8	0.2521	46.02	-15.67	61.69	35.97	9.92	0.13	LINE	QP
9	3.7001	27.43	-18.57	46.00	17.35	9.99	0.09	LINE	Average
10	3.7001	38.09	-17.91	56.00	28.01	9.99	0.09	LINE	QP
11	18.1352	29.37	-20.63	50.00	18.86	10.28	0.23	LINE	Average
12	18.1352	39.23	-20.77	60.00	28.72	10.28	0.23	LINE	QP

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.)

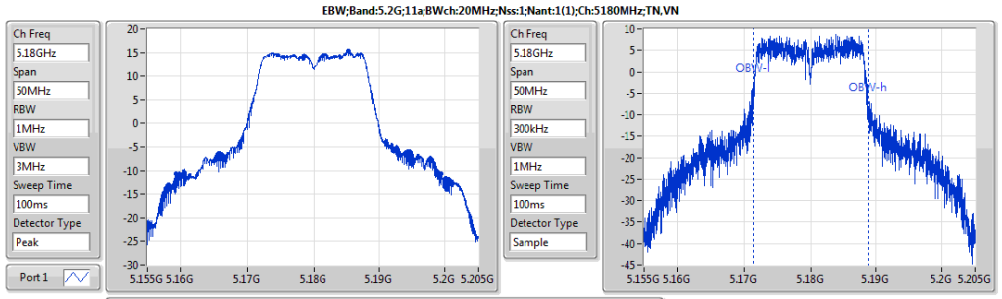
Summary

Mode	Max-N dB (Hz)	Max-OBW (Hz)	ITU-Code	Min-N dB (Hz)	Min-OBW (Hz)
5.2G;11a;Nss1;Ntx1(1)	50M	33.2M	33M2D1D	35.125M	16.975M
5.8G;11a;Nss1;Ntx1(1)	16.525M	32.4M	32M4D1D	16.475M	32.05M
5.2G;VHT20;Nss2,(M0);Ntx2	50M	30.8M	30M8D1D	28.125M	17.875M
5.8G;VHT20;Nss2,(M0);Ntx2	17.725M	30.3M	30M3D1D	17.675M	28.9M
5.2G;VHT40;Nss2,(M0);Ntx2	74.75M	37M	37M0D1D	45.15M	36.55M
5.8G;VHT40;Nss2,(M0);Ntx2	36.45M	56.8M	56M8D1D	36.35M	53.9M
5.2G;VHT80;Nss2,(M0);Ntx2	85.3M	75.5M	75M5D1D	82.6M	75.4M
5.8G;VHT80;Nss2,(M0);Ntx2	75.8M	100.1M	100MD1D	75.4M	97.4M

Result

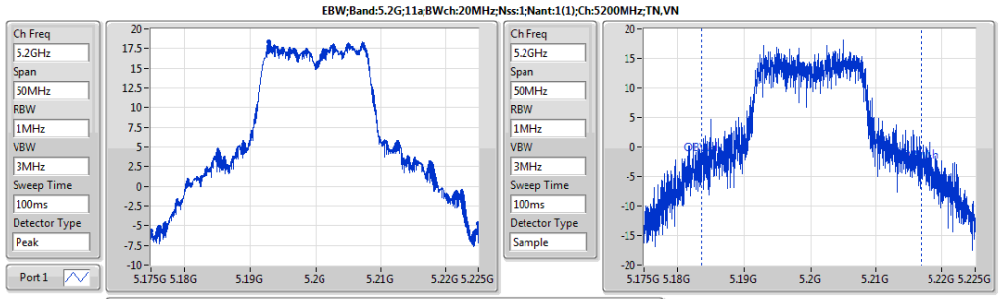
Mode	Result	Limit (Hz)	P1-N dB (Hz)	P1-OBW (Hz)	P2-N dB (Hz)	P2-OBW (Hz)
5.2G;11a;Nss1;Ntx1(1);5180	Pass	Inf	40.025M	17.425M		
5.2G;11a;Nss1;Ntx1(1);5200	Pass	Inf	50M	33.2M		
5.2G;11a;Nss1;Ntx1(1);5240	Pass	Inf	35.125M	16.975M		
5.8G;11a;Nss1;Ntx1(1);5745	Pass	500k	16.525M	32.15M		
5.8G;11a;Nss1;Ntx1(1);5785	Pass	500k	16.475M	32.05M		
5.8G;11a;Nss1;Ntx1(1);5825	Pass	500k	16.475M	32.4M		
5.2G;VHT20;Nss2,(M0);Ntx2;5180	Pass	Inf	40.275M	18.3M	42.4M	18.4M
5.2G;VHT20;Nss2,(M0);Ntx2;5200	Pass	Inf	49.875M	30.35M	50M	30.8M
5.2G;VHT20;Nss2,(M0);Ntx2;5240	Pass	Inf	28.125M	17.875M	36.35M	18M
5.8G;VHT20;Nss2,(M0);Ntx2;5745	Pass	500k	17.725M	29.375M	17.725M	30.3M
5.8G;VHT20;Nss2,(M0);Ntx2;5785	Pass	500k	17.725M	29.9M	17.7M	29.2M
5.8G;VHT20;Nss2,(M0);Ntx2;5825	Pass	500k	17.725M	29.275M	17.675M	28.9M
5.2G;VHT40;Nss2,(M0);Ntx2;5190	Pass	Inf	45.15M	36.7M	45.15M	36.55M
5.2G;VHT40;Nss2,(M0);Ntx2;5230	Pass	Inf	59.65M	36.75M	74.75M	37M
5.8G;VHT40;Nss2,(M0);Ntx2;5755	Pass	500k	36.4M	53.9M	36.35M	56.55M
5.8G;VHT40;Nss2,(M0);Ntx2;5795	Pass	500k	36.45M	54.75M	36.4M	56.8M
5.2G;VHT80;Nss2,(M0);Ntx2;5210	Pass	Inf	82.6M	75.4M	85.3M	75.5M
5.8G;VHT80;Nss2,(M0);Ntx2;5775	Pass	500k	75.8M	100.1M	75.4M	97.4M

EBW;Band:5.2G;11a;BWch:20MHz;Nss:1;Nant:1(1);Ch:5180MHz;TN,VN



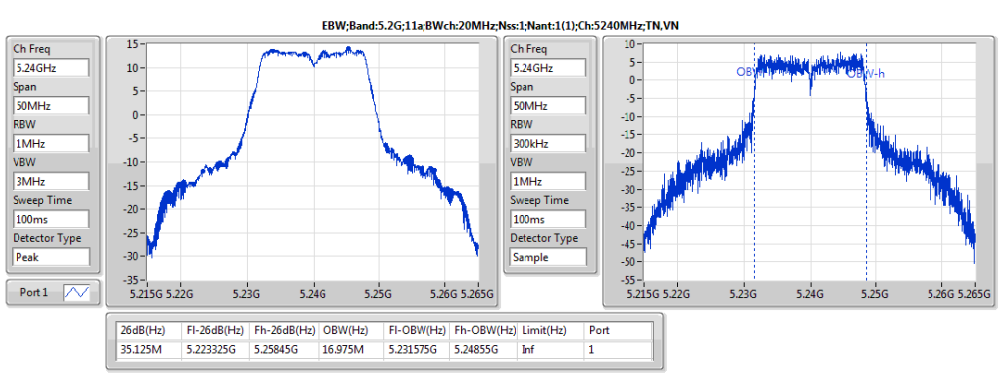
26dB(Hz)	Fl-26dB(Hz)	Fh-26dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
40.025M	5.15935G	5.199375G	17.425M	5.171375G	5.1888G	Inf	1

EBW;Band:5.2G;11a;BWch:20MHz;Nss:1;Nant:1(1);Ch:5200MHz;TN,VN



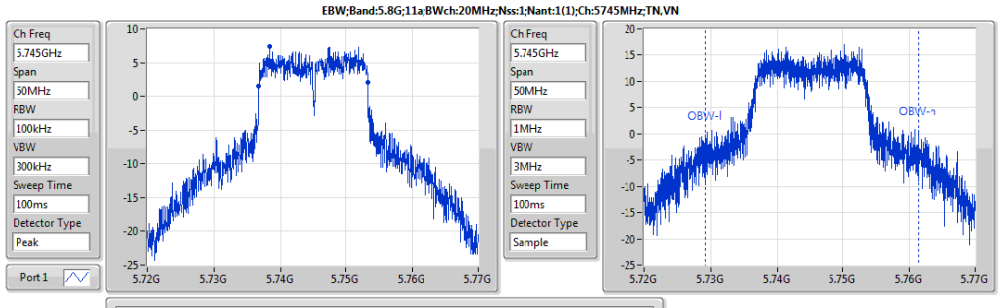
26dB(Hz)	Fl-26dB(Hz)	Fh-26dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
50M	5.175G	5.225G	33.2M	5.1836G	5.2168G	Inf	1

EBW;Band:5.2G;11a;BWch:20MHz;Nss:1;Nant:1(1);Ch:5240MHz;TN,VN



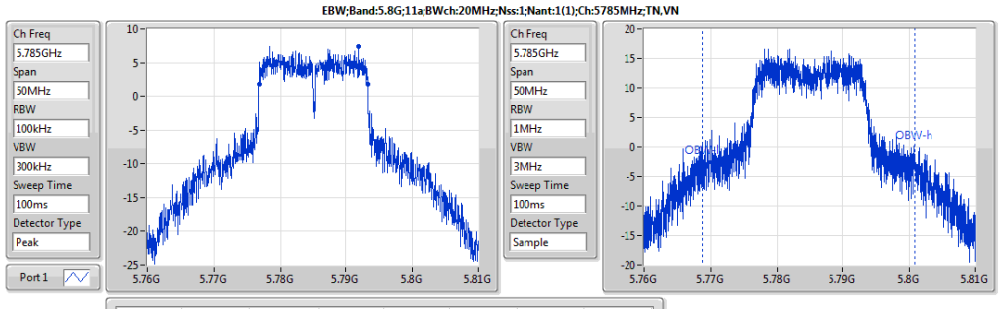
26dB(Hz)	Fl-26dB(Hz)	Fh-26dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
35.125M	5.223325G	5.25845G	16.975M	5.231575G	5.24855G	Inf	1

EBW;Band:5.8G;11a;BWch:20MHz;Nss:1;Nant:1(1);Ch:5745MHz;TN,VN



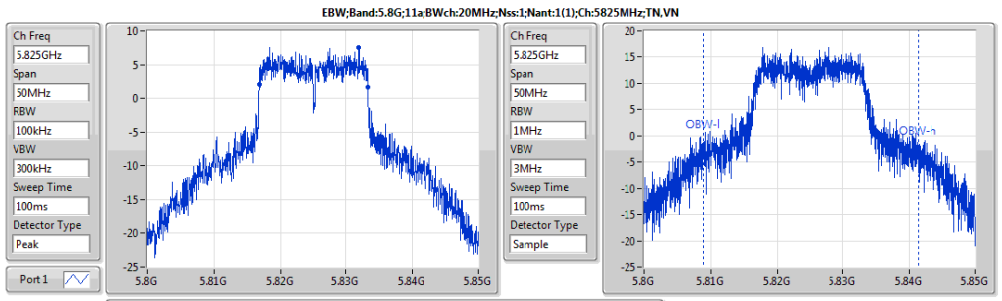
6dB(Hz)	Fl-6dB(Hz)	Fh-6dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
16.525M	5.736775G	5.7533G	32.15M	5.729175G	5.761325G	500k	1

EBW;Band:5.8G;11a;BWch:20MHz;Nss:1;Nant:1(1);Ch:5785MHz;TN,VN



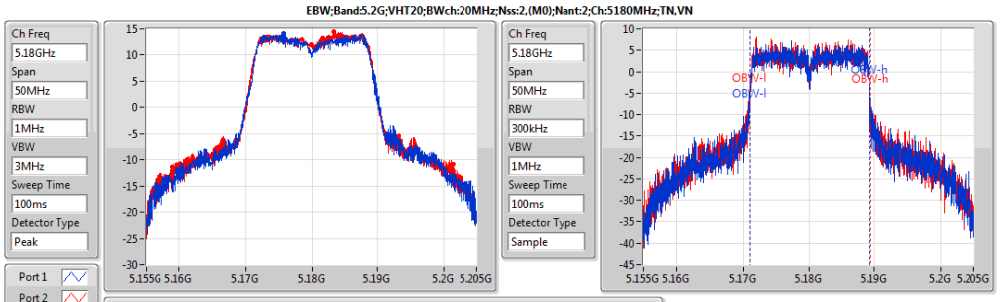
6dB(Hz)	Fl-6dB(Hz)	Fh-6dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
16.475M	5.7768G	5.793275G	32.05M	5.7688G	5.80085G	500k	1

EBW;Band:5.8G;11a;BWch:20MHz;Nss:1;Nant:1(1);Ch:5825MHz;TN,VN



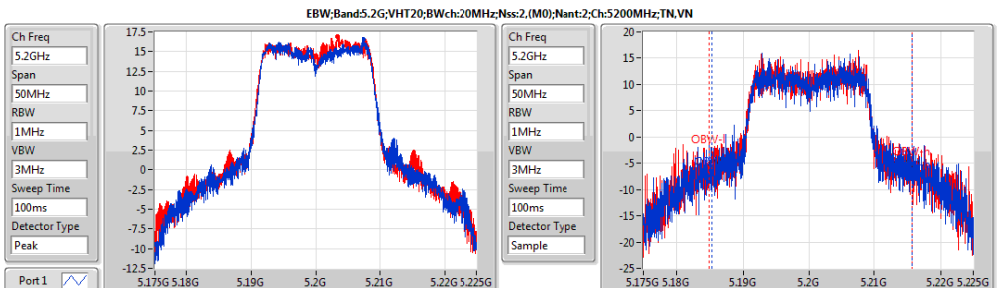
6dB(Hz)	Fl-6dB(Hz)	Fh-6dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
16.475M	5.816825G	5.8333G	32.4M	5.8089G	5.8413G	500k	1

EBW;Band:5.2G;VHT20;BWch:20MHz;Nss:2,(M0);Nant:2;Ch:5180MHz;TN,VN



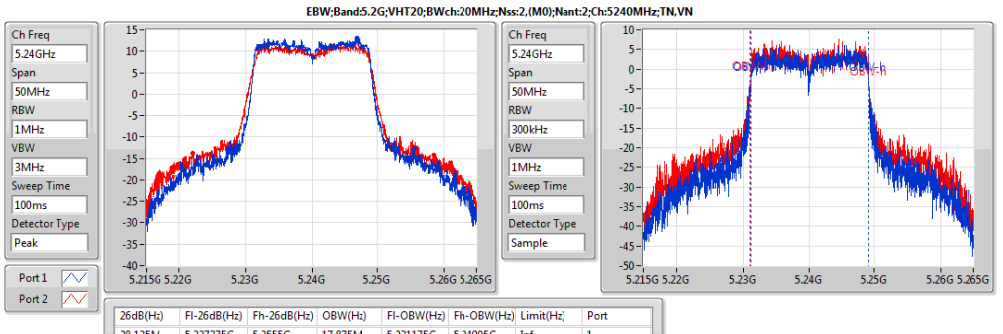
26dB(Hz)	Fl-26dB(Hz)	Fh-26dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
40.275M	5.1598G	5.200075G	18.3M	5.171G	5.1893G	Inf	1
42.4M	5.158975G	5.201375G	18.4M	5.170975G	5.189375G	Inf	2

EBW;Band:5.2G;VHT20;BWch:20MHz;Nss:2,(M0);Nant:2;Ch:5200MHz;TN,VN



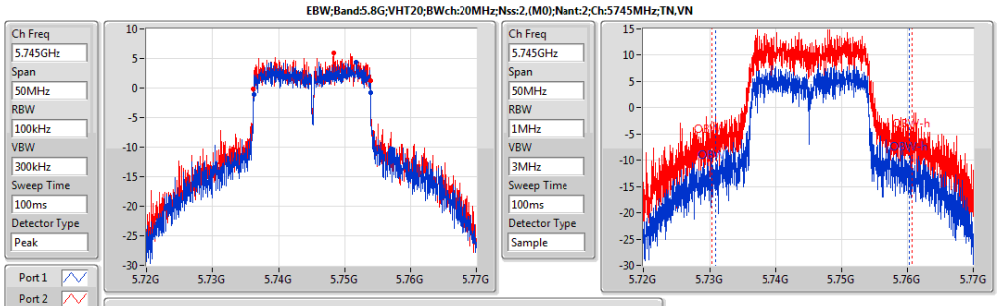
26dB(Hz)	Fl-26dB(Hz)	Fh-26dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
49.875M	5.175075G	5.22495G	30.35M	5.18525G	5.2156G	Inf	1
50M	5.175G	5.225G	30.8M	5.184875G	5.215675G	Inf	2

EBW;Band:5.2G;VHT20;BWch:20MHz;Nss:2,(M0);Nant:2;Ch:5240MHz;TN,VN



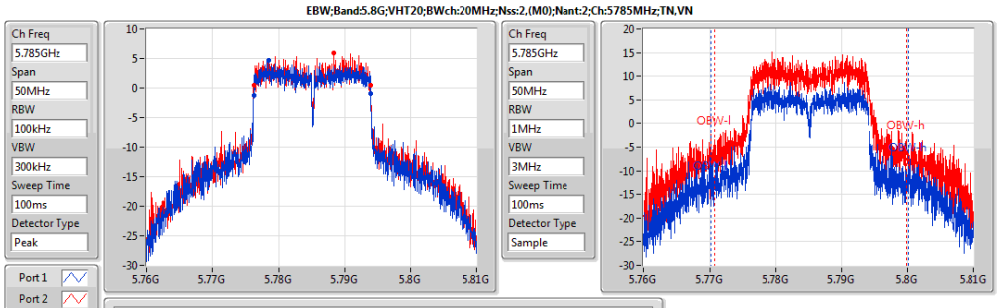
26dB(Hz)	Fl-26dB(Hz)	Fh-26dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
28.125M	5.227375G	5.2555G	17.875M	5.231175G	5.24905G	Inf	1
36.35M	5.22205G	5.2584G	18M	5.231075G	5.249075G	Inf	2

EBW;Band:5.8G;VHT20;BWch:20MHz;Nss:2,(M0);Nant:2;Ch:5745MHz;TN,VN



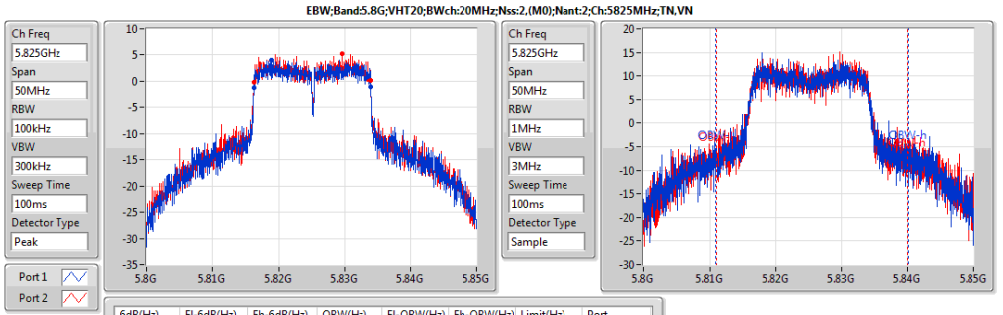
6dB(Hz)	Fl-6dB(Hz)	Fh-6dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
17.725M	5.736275G	5.754G	29.375M	5.7309G	5.760275G	500k	1
17.725M	5.7362G	5.753925G	30.3M	5.730375G	5.760675G	500k	2

EBW;Band:5.8G;VHT20;BWch:20MHz;Nss:2,(M0);Nant:2;Ch:5785MHz;TN,VN



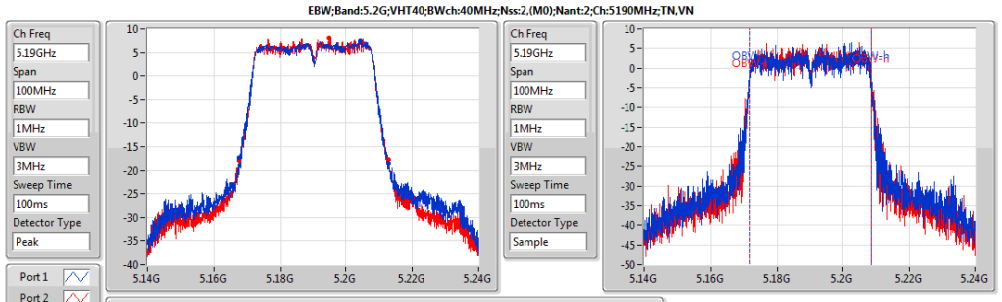
6dB(Hz)	Fl-6dB(Hz)	Fh-6dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
17.725M	5.7763G	5.794025G	29.9M	5.7702G	5.8001G	500k	1
17.7M	5.77625G	5.79395G	29.2M	5.7707G	5.7999G	500k	2

EBW;Band:5.8G;VHT20;BWch:20MHz;Nss:2,(M0);Nant:2;Ch:5825MHz;TN,VN



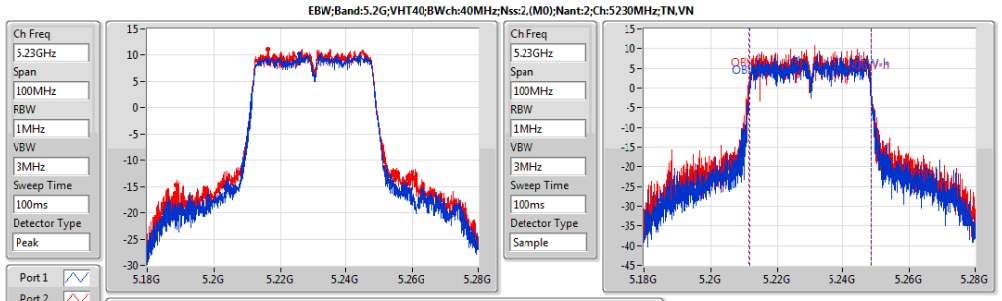
6dB(Hz)	Fl-6dB(Hz)	Fh-6dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
17.725M	5.8163G	5.834025G	29.275M	5.8108G	5.840075G	500k	1
17.675M	5.8163G	5.833975G	28.9M	5.81105G	5.83995G	500k	2

EBW;Band:5.2G;VHT40;BWch:40MHz;Nss:2,(M0);Nant:2;Ch:5190MHz;TN,VN



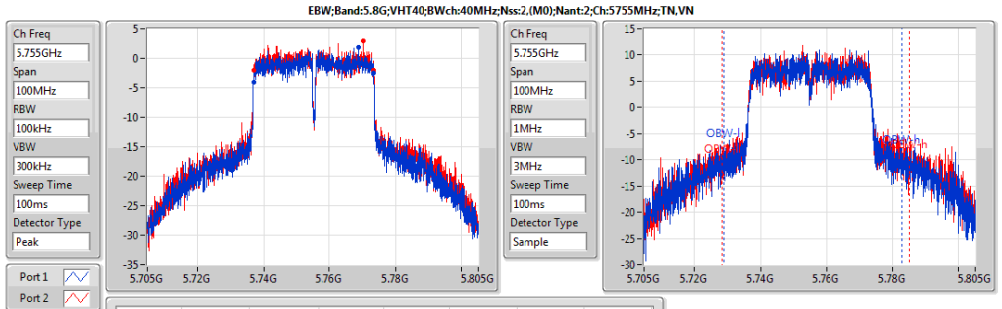
26dB(Hz)	Fl-26dB(Hz)	Fh-26dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
45.15M	5.16755G	5.2127G	36.7M	5.17175G	5.20845G	Inf	1
45.15M	5.1676G	5.21275G	36.55M	5.17185G	5.2084G	Inf	2

EBW;Band:5.2G;VHT40;BWch:40MHz;Nss:2,(M0);Nant:2;Ch:5230MHz;TN,VN



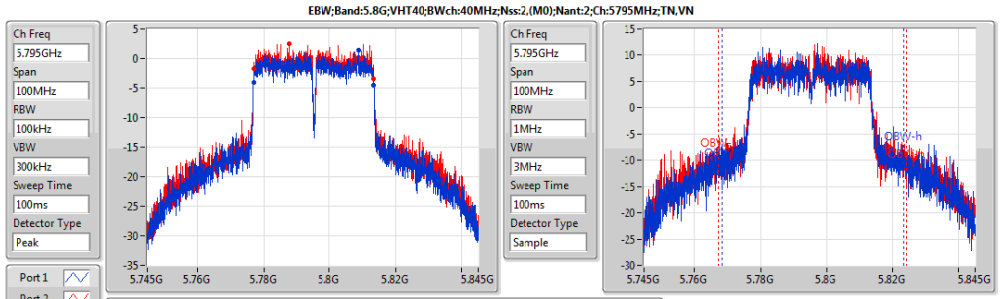
26dB(Hz)	Fl-26dB(Hz)	Fh-26dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
59.65M	5.2033G	5.26295G	36.75M	5.2117G	5.24845G	Inf	1
74.75M	5.1885G	5.26325G	37M	5.2115G	5.2485G	Inf	2

EBW;Band:5.8G;VHT40;BWch:40MHz;Nss:2,(M0);Nant:2;Ch:5755MHz;TN,VN



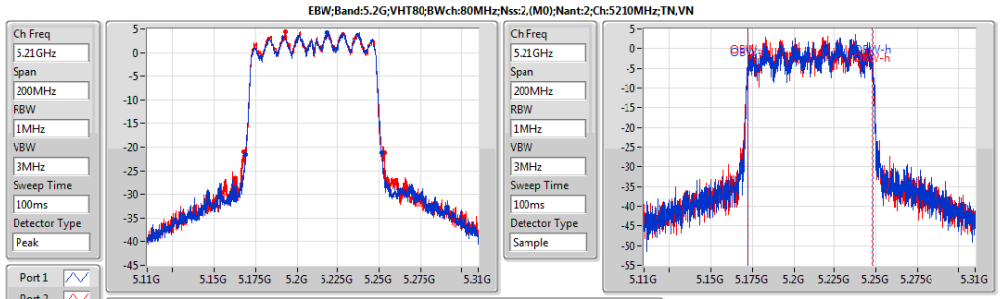
6dB(Hz)	Fl-6dB(Hz)	Fh-6dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
36.4M	5.7369G	5.7733G	53.9M	5.72895G	5.78285G	500k	1
36.35M	5.73695G	5.7733G	56.55M	5.7283G	5.78485G	500k	2

EBW;Band:5.8G;VHT40;BWch:40MHz;Nss:2,(M0);Nant:2;Ch:5795MHz;TN,VN



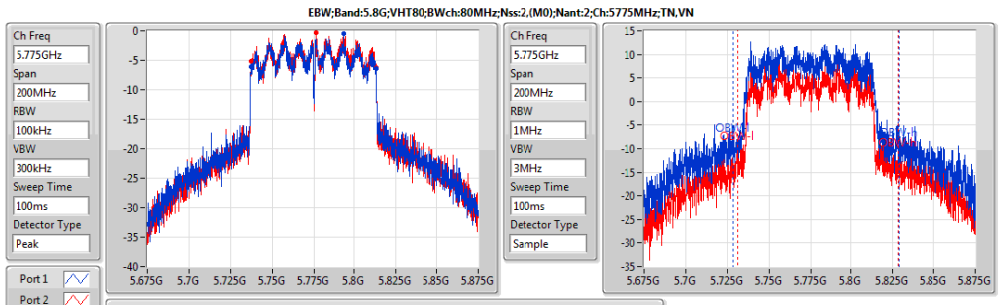
6dB(Hz)	Fl-6dB(Hz)	Fh-6dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
36.45M	5.7769G	5.81335G	54.75M	5.76845G	5.8232G	500k	1
36.4M	5.77695G	5.81335G	56.8M	5.7672G	5.824G	500k	2

EBW;Band:5.2G;VHT80;BWch:80MHz;Nss:2,(M0);Nant:2;Ch:5210MHz;TN,VN



26dB(Hz)	Fl-26dB(Hz)	Fh-26dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
82.6M	5.1689G	5.2515G	75.4M	5.1725G	5.2479G	Inf	1
85.3M	5.1677G	5.253G	75.5M	5.1723G	5.2478G	Inf	2

EBW;Band:5.8G;VHT80;BWch:80MHz;Nss:2,(M0);Nant:2;Ch:5775MHz;TN,VN



6dB(Hz)	Fl-6dB(Hz)	Fh-6dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
75.8M	5.7372G	5.813G	100.1M	5.7285G	5.8286G	500k	1
75.4M	5.7376G	5.813G	97.4M	5.731G	5.8284G	500k	2

Summary

Mode	Sum (dBm)	Sum (W)	EIRP (dBm)	EIRP (W)
5.2G;11a;Nss1;Ntx1(1)	20.83	0.12106	25.93	0.39174
5.8G;11a;Nss1;Ntx1(1)	21.38	0.1374	26.48	0.44463
5.2G;VHT20;Nss2,(M0);Ntx2	23.17	0.20749	28.27	0.67143
5.8G;VHT20;Nss2,(M0);Ntx2	22.40	0.17378	27.50	0.56234
5.2G;VHT40;Nss2,(M0);Ntx2	19.89	0.0975	24.99	0.3155
5.8G;VHT40;Nss2,(M0);Ntx2	22.25	0.16788	27.35	0.54325
5.2G;VHT80;Nss2,(M0);Ntx2	16.31	0.04276	21.41	0.13836
5.8G;VHT80;Nss2,(M0);Ntx2	21.58	0.14388	26.68	0.46559

Result

Mode	Result	DG (dBi)	Sum (dBm)	Sum Lim. (dBm)	P1 (dBm)	P2 (dBm)
5.2G;11a;Nss1;Ntx1(1);5180	Pass	5.10	18.04	23.98	18.04	
5.2G;11a;Nss1;Ntx1(1);5200	Pass	5.10	20.83	23.98	20.83	
5.2G;11a;Nss1;Ntx1(1);5240	Pass	5.10	16.89	23.98	16.89	
5.8G;11a;Nss1;Ntx1(1);5745	Pass	5.10	21.38	30.00	21.38	
5.8G;11a;Nss1;Ntx1(1);5785	Pass	5.10	21.26	30.00	21.26	
5.8G;11a;Nss1;Ntx1(1);5825	Pass	5.10	21.06	30.00	21.06	
5.2G;VHT20;Nss2,(M0);Ntx2;5180	Pass	5.10	21.29	23.98	18.24	18.32
5.2G;VHT20;Nss2,(M0);Ntx2;5200	Pass	5.10	23.17	23.98	20.14	20.18
5.2G;VHT20;Nss2,(M0);Ntx2;5240	Pass	5.10	19.85	23.98	16.52	17.13
5.8G;VHT20;Nss2,(M0);Ntx2;5745	Pass	5.10	22.38	30.00	19.22	19.51
5.8G;VHT20;Nss2,(M0);Ntx2;5785	Pass	5.10	19.32	30.00	16.34	16.28
5.8G;VHT20;Nss2,(M0);Ntx2;5825	Pass	5.10	22.40	30.00	19.42	19.35
5.2G;VHT40;Nss2,(M0);Ntx2;5190	Pass	5.10	17.32	23.98	14.3	14.32
5.2G;VHT40;Nss2,(M0);Ntx2;5230	Pass	5.10	19.89	23.98	16.77	16.99
5.8G;VHT40;Nss2,(M0);Ntx2;5755	Pass	5.10	22.25	30.00	19.2	19.28
5.8G;VHT40;Nss2,(M0);Ntx2;5795	Pass	5.10	21.91	30.00	18.98	18.81
5.2G;VHT80;Nss2,(M0);Ntx2;5210	Pass	5.10	16.31	23.98	12.98	13.59
5.8G;VHT80;Nss2,(M0);Ntx2;5775	Pass	5.10	21.58	30.00	18.57	18.56

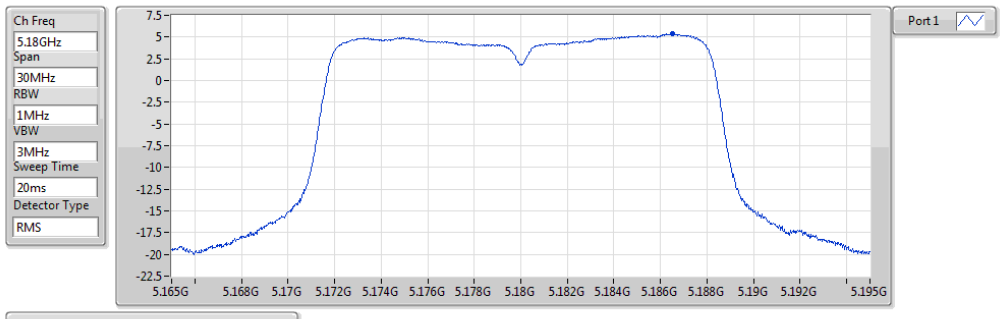
Summary

Mode	PD (dBm/RBW)
5.2G;11a;Nss1;Ntx1(1)	7.95
5.8G;11a;Nss1;Ntx1(1)	4.29
5.2G;VHT20;Nss2,(M0);Ntx2	8.40
5.8G;VHT20;Nss2,(M0);Ntx2	4.81
5.2G;VHT40;Nss2,(M0);Ntx2	2.58
5.8G;VHT40;Nss2,(M0);Ntx2	1.72
5.2G;VHT80;Nss2,(M0);Ntx2	-3.38
5.8G;VHT80;Nss2,(M0);Ntx2	-0.74

Result

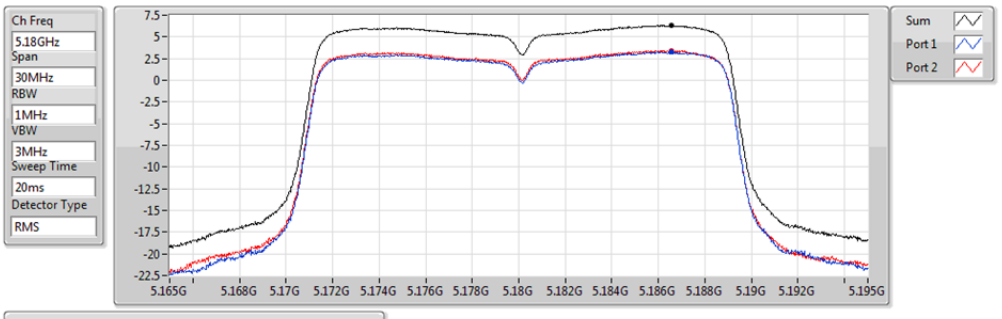
Mode	Result	Meas.RBW (Hz)	Lim.RBW (Hz)	BWCF (dB)	DG (dBi)	PD (dBm/RBW)	PD.Limit (dBm/RBW)	P1 (dBm/RBW)	P2 (dBm/RBW)
5.2G;11a;Nss1;Ntx1(1);5180	Pass	1M	1M	0.00	5.10	5.35	11.00	5.35	
5.2G;11a;Nss1;Ntx1(1);5200	Pass	1M	1M	0.00	5.10	7.95	11.00	7.95	
5.2G;11a;Nss1;Ntx1(1);5240	Pass	1M	1M	0.00	5.10	4.01	11.00	4.01	
5.8G;11a;Nss1;Ntx1(1);5745	Pass	300k	500k	0.00	5.10	4.22	30.00	4.22	
5.8G;11a;Nss1;Ntx1(1);5785	Pass	300k	500k	0.00	5.10	4.29	30.00	4.29	
5.8G;11a;Nss1;Ntx1(1);5825	Pass	300k	500k	0.00	5.10	4.08	30.00	4.08	
5.2G;VHT20;Nss2,(M0);Ntx2;5180	Pass	1M	1M	0.00	5.10	6.37	11.00	3.27	3.46
5.2G;VHT20;Nss2,(M0);Ntx2;5200	Pass	1M	1M	0.00	5.10	8.40	11.00	5.29	5.58
5.2G;VHT20;Nss2,(M0);Ntx2;5240	Pass	1M	1M	0.00	5.10	5.39	11.00	1.91	2.87
5.8G;VHT20;Nss2,(M0);Ntx2;5745	Pass	300k	500k	0.00	5.10	4.81	30.00	1.62	2.07
5.8G;VHT20;Nss2,(M0);Ntx2;5785	Pass	300k	500k	0.00	5.10	4.67	30.00	1.60	1.87
5.8G;VHT20;Nss2,(M0);Ntx2;5825	Pass	300k	500k	0.00	5.10	4.36	30.00	1.31	1.53
5.2G;VHT40;Nss2,(M0);Ntx2;5190	Pass	1M	1M	0.00	5.10	-0.55	11.00	-3.60	-3.42
5.2G;VHT40;Nss2,(M0);Ntx2;5230	Pass	1M	1M	0.00	5.10	2.58	11.00	-0.82	-0.05
5.8G;VHT40;Nss2,(M0);Ntx2;5755	Pass	300k	500k	0.00	5.10	1.72	30.00	-1.30	-1.17
5.8G;VHT40;Nss2,(M0);Ntx2;5795	Pass	300k	500k	0.00	5.10	1.50	30.00	-1.70	-1.15
5.2G;VHT80;Nss2,(M0);Ntx2;5210	Pass	1M	1M	0.00	5.10	-3.38	11.00	-6.36	-6.41
5.8G;VHT80;Nss2,(M0);Ntx2;5775	Pass	300k	500k	0.00	5.10	-0.74	30.00	-3.69	-3.62

PSD;Band:5.2G;11a;BWch:20MHz;Nss:1;Nant:1(1);Ch:5180MHz;TN,VN



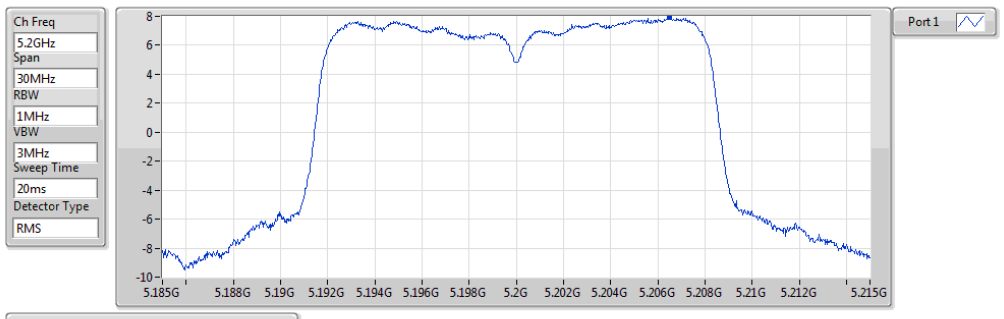
Sum.Max	PD	P1
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
5.35	5.35	5.35

PSD;Band:5.2G;VHT20;BWch:20MHz;Nss:2,(M0);Nant:2;Ch:5180MHz;TN,VN



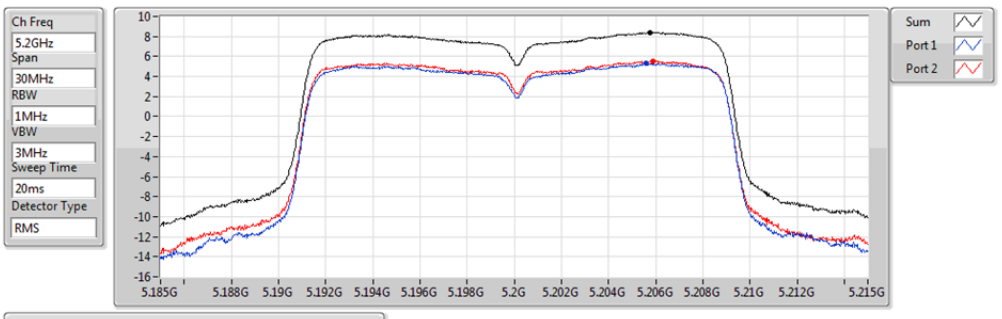
Sum.Max	PD	P1	P2
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
6.37	6.37	3.27	3.46

PSD;Band:5.2G;11a;BWch:20MHz;Nss:1;Nant:1(1);Ch:5200MHz;TN,VN



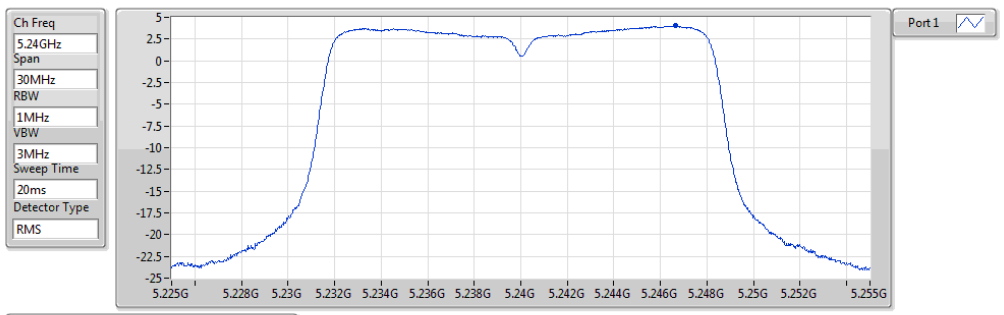
Sum.Max	PD	P1
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
7.95	7.95	7.95

PSD;Band:5.2G;VHT20;BWch:20MHz;Nss:2,(M0);Nant:2;Ch:5200MHz;TN,VN



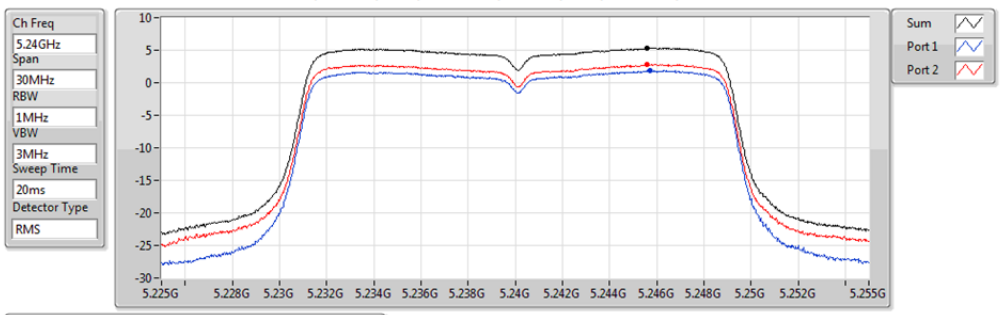
Sum.Max	PD	P1	P2
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
8.40	8.40	5.29	5.58

PSD;Band:5.2G;11a;BWch:20MHz;Nss:1;Nant:1(1);Ch:5240MHz;TN,VN



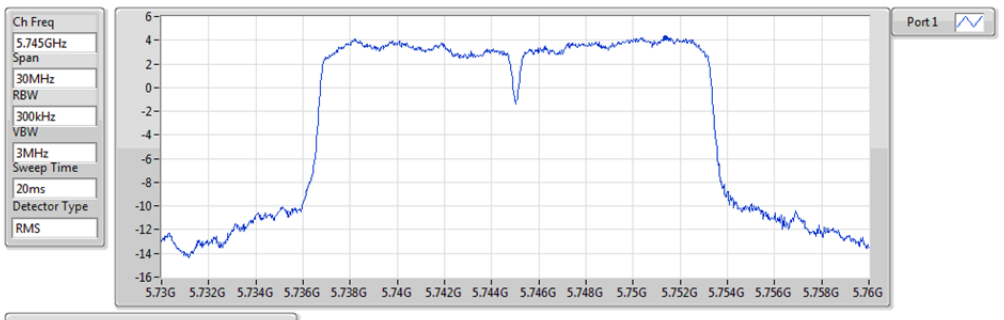
Sum.Max	PD	P1
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
4.01	4.01	4.01

PSD;Band:5.2G;VHT20;BWch:20MHz;Nss:2,(M0);Nant:2;Ch:5240MHz;TN,VN



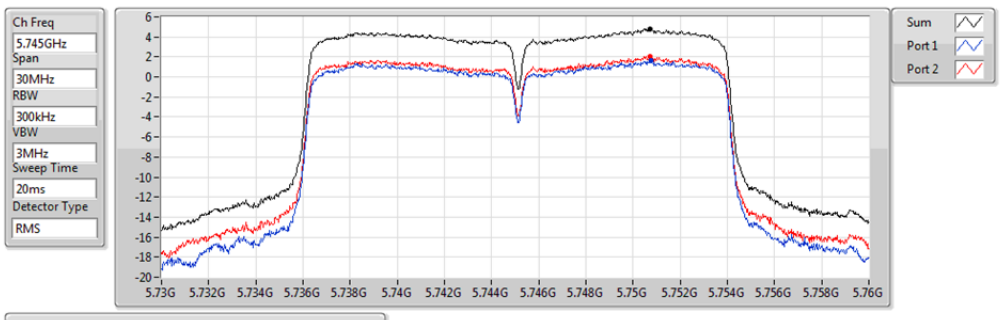
Sum.Max	PD	P1	P2
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
5.39	5.39	1.91	2.87

PSD;Band:5.8G;11a;BWch:20MHz;Nss:1;Nant:1(1);Ch:5745MHz;TN,VN



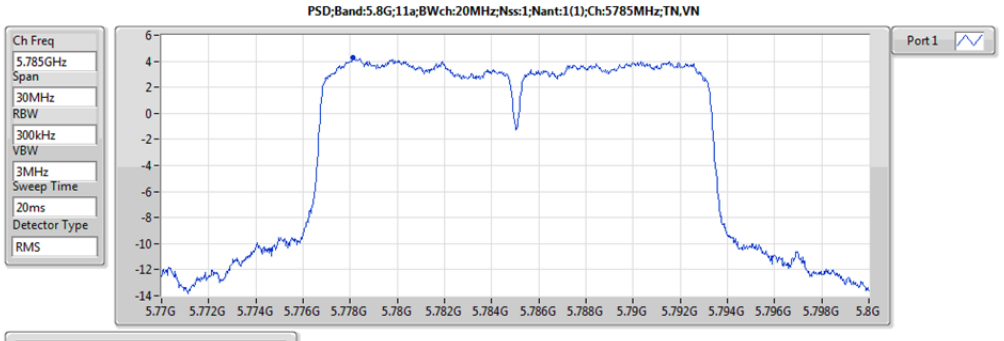
Sum.Max	PD	P1
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
4.22	4.22	4.22

PSD;Band:5.8G;VHT20;BWch:20MHz;Nss:2,(M0);Nant:2;Ch:5745MHz;TN,VN



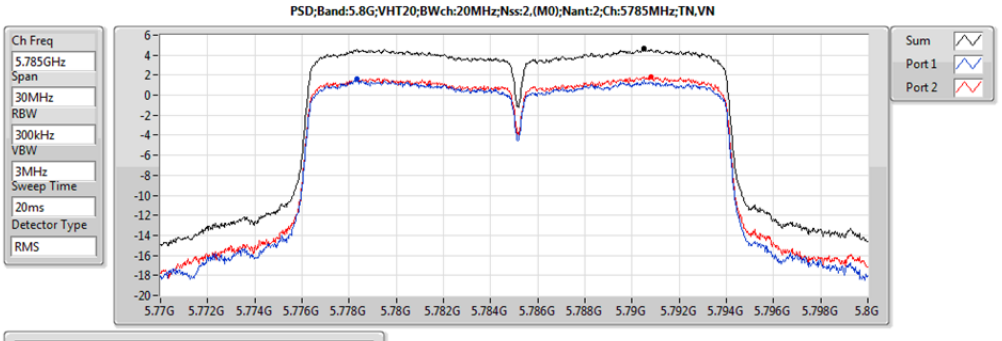
Sum.Max	PD	P1	P2
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
4.81	4.81	1.62	2.07

PSD;Band:5.8G;11a;BWch:20MHz;Nss:1;Nant:1(1);Ch:5785MHz;TN,VN



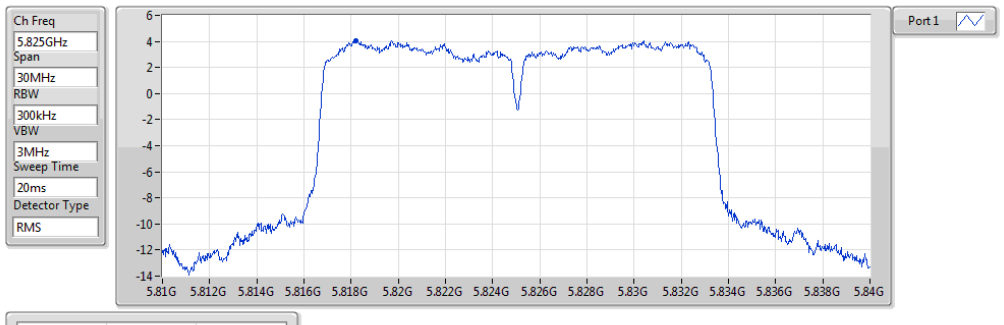
Sum.Max	PD	P1
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
4.29	4.29	4.29

PSD;Band:5.8G;VHT20;BWch:20MHz;Nss:2,(M0);Nant:2;Ch:5785MHz;TN,VN



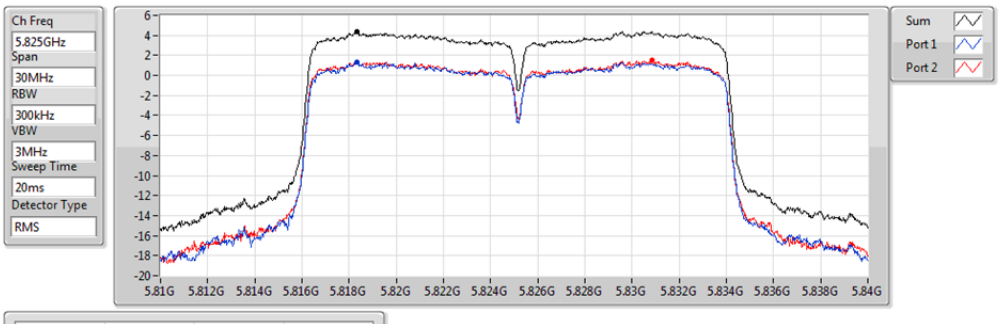
Sum.Max	PD	P1	P2
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
4.67	4.67	1.60	1.87

PSD;Band:5.8G;11a;BWch:20MHz;Nss:1;Nant:1(1);Ch:5825MHz;TN,VN



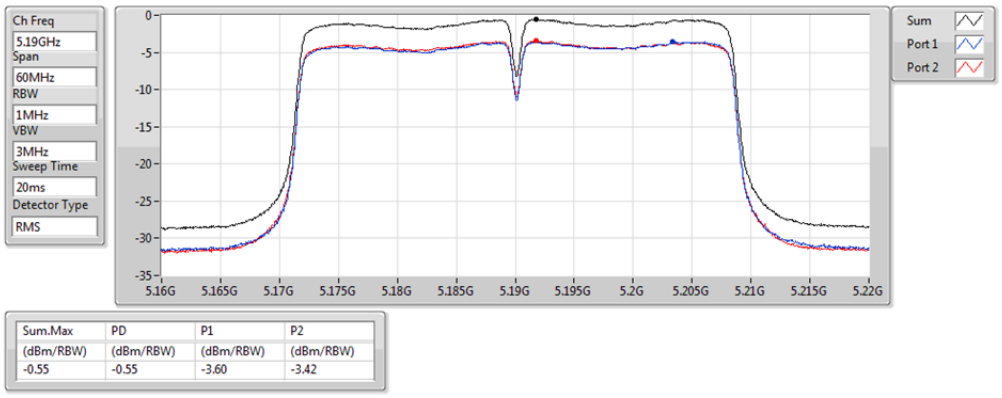
Sum.Max	PD	P1
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
4.08	4.08	4.08

PSD;Band:5.8G;VHT20;BWch:20MHz;Nss:2,(M0);Nant:2;Ch:5825MHz;TN,VN



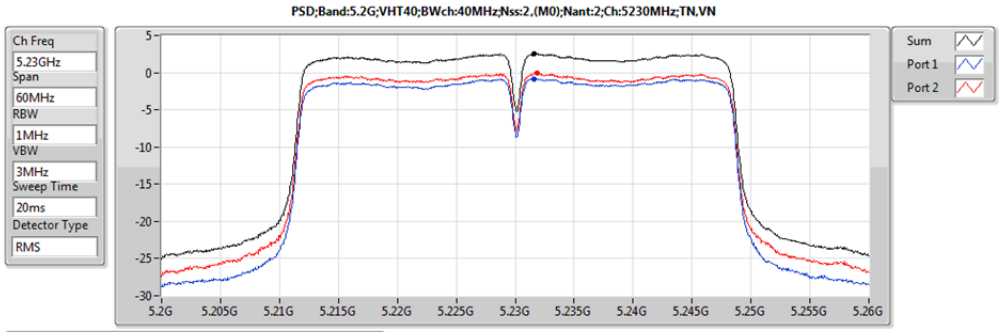
Sum.Max	PD	P1	P2
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
4.36	4.36	1.31	1.53

PSD;Band:5.2G;VHT40;BWch:40MHz;Nss:2,(M0);Nant:2;Ch:5190MHz;TN,VN



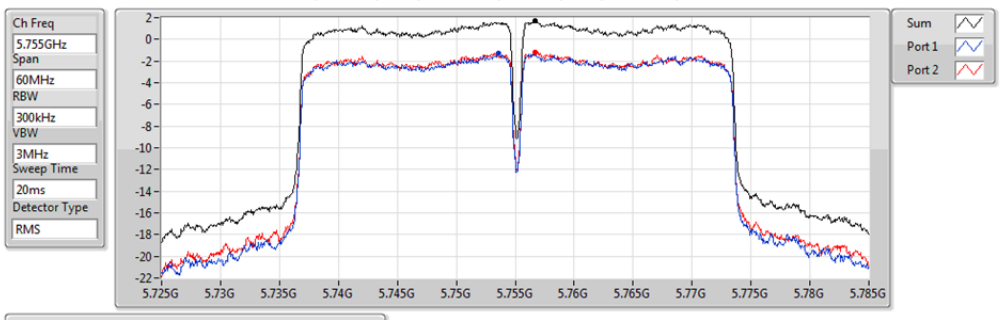
Sum.Max	PD	P1	P2
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
-0.55	-0.55	-3.60	-3.42

PSD;Band:5.2G;VHT40;BWch:40MHz;Nss:2,(M0);Nant:2;Ch:5230MHz;TN,VN



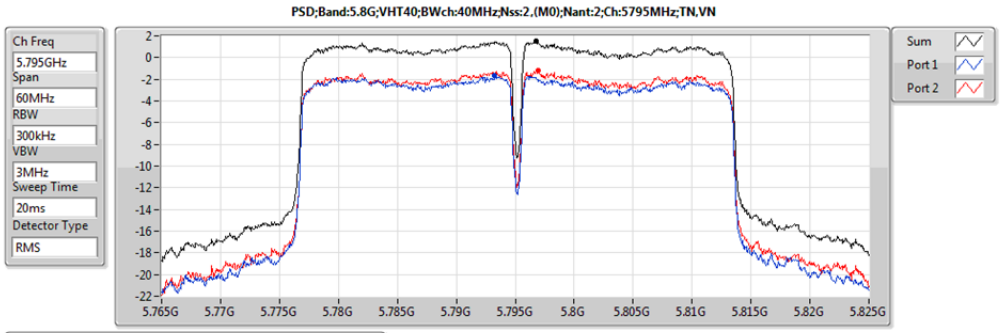
Sum.Max	PD	P1	P2
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
2.58	2.58	-0.82	-0.05

PSD;Band:5.8G;VHT40;BWch:40MHz;Nss:2,(M0);Nant:2;Ch:5755MHz;TN,VN



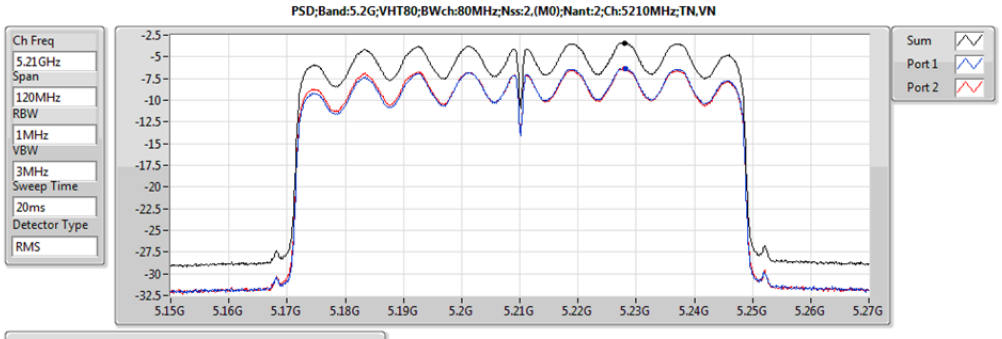
Sum.Max	PD	P1	P2
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
1.72	1.72	-1.30	-1.17

PSD;Band:5.8G;VHT40;BWch:40MHz;Nss:2,(M0);Nant:2;Ch:5795MHz;TN,VN



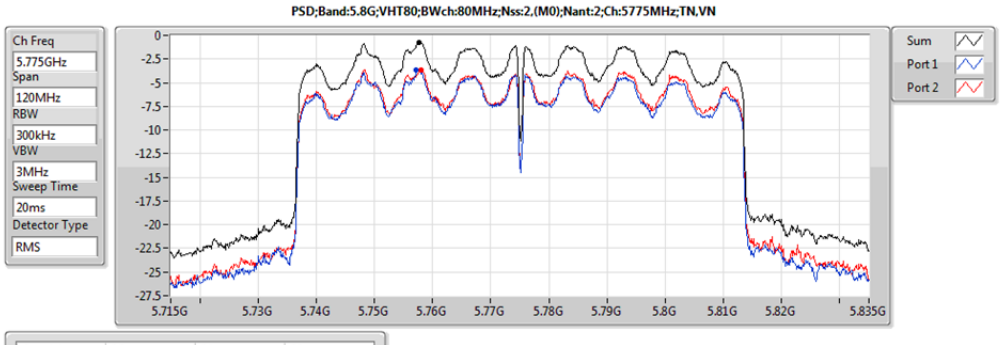
Sum.Max	PD	P1	P2
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
1.50	1.50	-1.70	-1.15

PSD;Band:5.2G;VHT80;BWch:80MHz;Nss:2,(M0);Nant:2;Ch:5210MHz;TN,VN



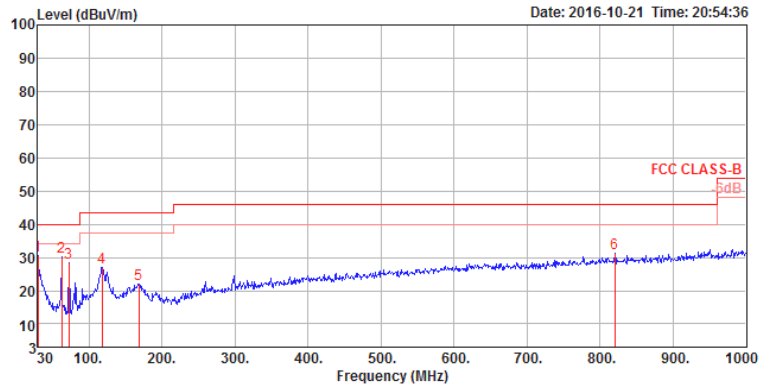
Sum.Max	PD	P1	P2
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
-3.38	-3.38	-6.36	-6.41

PSD;Band:5.8G;VHT80;BWch:80MHz;Nss:2,(M0);Nant:2;Ch:5775MHz;TN,VN



Sum.Max	PD	P1	P2
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
-0.74	-0.74	-3.69	-3.62

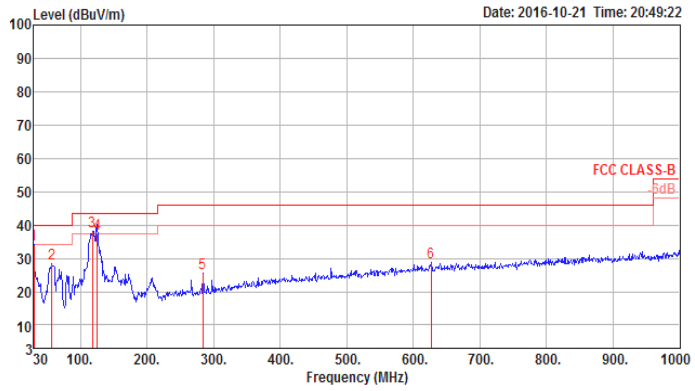
RSE below 1GHz Result			
Operating Mode	3	**Polarization**	Horizontal
Operating Function	Normal Link		



	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	30.00	30.50	40.00	-9.50	37.42	0.50	25.60	33.02	100	170	Peak	HORIZONTAL
2	62.98	30.03	40.00	-9.97	48.21	0.76	13.46	32.40	150	273	Peak	HORIZONTAL
3	72.68	28.52	40.00	-11.48	47.05	0.81	13.08	32.42	100	298	Peak	HORIZONTAL
4	118.27	26.98	43.50	-16.52	39.30	1.05	19.05	32.42	150	68	Peak	HORIZONTAL
5	168.71	22.05	43.50	-21.45	36.53	1.25	16.63	32.36	150	249	Peak	HORIZONTAL
6	820.55	31.31	46.00	-14.69	33.36	2.96	27.07	32.08	100	24	Peak	HORIZONTAL

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

RSE below 1GHz Result			
Operating Mode	3	**Power Phase**	Vertical
Operating Function	Normal Link		



	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	30.00	34.02	40.00	-5.98	40.94	0.50	25.60	33.02	100	345	Peak	VERTICAL
2	57.16	28.55	40.00	-11.45	46.18	0.74	14.02	32.39	100	1	Peak	VERTICAL
3	118.27	38.15	43.50	-5.35	50.47	1.05	19.05	32.42	150	220	Peak	VERTICAL
4	125.06	37.51	43.50	-5.99	49.91	1.07	18.94	32.41	100	160	QP	VERTICAL
5	284.14	25.68	46.00	-20.32	36.66	1.61	19.74	32.33	100	62	Peak	VERTICAL
6	626.55	28.78	46.00	-17.22	32.94	2.44	25.80	32.40	150	209	Peak	VERTICAL

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

Radiated Emissions (1GHz~40GHz)

Configurations	IEEE 802.11a CH 36 / Chain 1

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	10360.06	59.60	74.00	-14.40	42.15	11.48	39.54	33.57	212	118	Peak	HORIZONTAL
2	10360.07	47.78	54.00	-6.22	30.33	11.48	39.54	33.57	212	118	Average	HORIZONTAL
3	15539.76	50.06	54.00	-3.94	31.61	14.04	38.25	33.84	182	216	Average	HORIZONTAL
4	15540.36	63.10	74.00	-10.90	44.65	14.04	38.25	33.84	182	216	Peak	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	10360.09	59.55	74.00	-14.45	42.10	11.48	39.54	33.57	178	49	Peak	VERTICAL
2	10360.12	48.52	54.00	-5.48	31.07	11.48	39.54	33.57	178	49	Average	VERTICAL
3	15540.34	62.94	74.00	-11.06	44.49	14.04	38.25	33.84	179	143	Peak	VERTICAL
4	15540.46	50.96	54.00	-3.04	32.51	14.04	38.25	33.84	179	143	Average	VERTICAL

Configurations	IEEE 802.11a CH 40 / Chain 1

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	10400.22	45.75	54.00	-8.25	28.25	11.49	39.59	33.58	119	239	Average	HORIZONTAL
2	10400.69	59.04	74.00	-14.96	41.54	11.49	39.59	33.58	119	239	Peak	HORIZONTAL
3	15598.20	62.89	74.00	-11.11	44.48	14.07	38.19	33.85	186	318	Peak	HORIZONTAL
4	15603.00	50.11	54.00	-3.89	31.75	14.07	38.14	33.85	186	318	Average	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	10399.96	49.09	54.00	-4.91	31.59	11.49	39.59	33.58	233	358	Average	VERTICAL
2	10400.01	60.27	74.00	-13.73	42.77	11.49	39.59	33.58	233	358	Peak	VERTICAL
3	15595.40	65.06	74.00	-8.94	46.65	14.07	38.19	33.85	207	0	Peak	VERTICAL
4	15599.60	51.84	54.00	-2.16	33.43	14.07	38.19	33.85	207	0	Average	VERTICAL

Configurations	IEEE 802.11a CH 48 / Chain 1

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	10479.69	45.86	54.00	-8.14	28.19	11.53	39.75	33.61	189	289	Average	HORIZONTAL
2	10480.46	58.93	74.00	-15.07	41.26	11.53	39.75	33.61	189	345	Peak	HORIZONTAL
3	15719.72	62.51	74.00	-11.49	44.25	14.11	38.03	33.88	114	164	Peak	HORIZONTAL
4	15720.82	49.11	54.00	-4.89	30.85	14.11	38.03	33.88	114	164	Average	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	10479.95	59.63	74.00	-14.37	41.96	11.53	39.75	33.61	177	0	Peak	VERTICAL
2	10479.97	48.96	54.00	-5.04	31.29	11.53	39.75	33.61	177	0	Average	VERTICAL
3	15719.30	62.41	74.00	-11.59	44.15	14.11	38.03	33.88	175	242	Peak	VERTICAL
4	15720.96	49.16	54.00	-4.84	30.90	14.11	38.03	33.88	175	242	Average	VERTICAL

Configurations	IEEE 802.11a CH 149 / Chain 1

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	11489.92	46.60	54.00	-7.40	28.48	11.95	40.00	33.83	238	169	Average	HORIZONTAL
2	11490.52	59.54	74.00	-14.46	41.42	11.95	40.00	33.83	238	169	Peak	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	11489.95	60.30	74.00	-13.70	42.18	11.95	40.00	33.83	292	332	Peak	VERTICAL
2	11490.10	48.97	54.00	-5.03	30.85	11.95	40.00	33.83	292	332	Average	VERTICAL

Configurations	IEEE 802.11a CH 157 / Chain 1

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	11569.03	46.58	54.00	-7.42	28.55	11.99	39.87	33.83	122	344	Average	HORIZONTAL
2	11569.86	59.62	74.00	-14.38	41.59	11.99	39.87	33.83	122	344	Peak	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	11570.04	60.77	74.00	-13.23	42.74	11.99	39.87	33.83	177	0	Peak	VERTICAL
2	11570.08	49.31	54.00	-4.69	31.28	11.99	39.87	33.83	177	0	Average	VERTICAL

Configurations	IEEE 802.11a CH 165 / Chain 1

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	11650.00	59.90	74.00	-14.10	41.98	12.02	39.73	33.83	183	204	Peak	HORIZONTAL
2	11650.15	47.41	54.00	-6.59	29.49	12.02	39.73	33.83	183	204	Average	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	11650.07	50.54	54.00	-3.46	32.62	12.02	39.73	33.83	176	360	Average	VERTICAL
2	11651.07	61.30	74.00	-12.70	43.44	12.02	39.67	33.83	176	360	Peak	VERTICAL

Configurations	IEEE 802.11ac MCS0/Nss2 VHT20 CH 36 / Chain 1 + Chain 2

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	15540.21	62.73	74.00	-11.27	44.28	14.04	38.25	33.84	227	209	Peak	HORIZONTAL
2	15540.67	49.41	54.00	-4.59	30.96	14.04	38.25	33.84	227	209	Average	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	15538.34	62.54	74.00	-11.46	44.09	14.04	38.25	33.84	202	235	Peak	VERTICAL
2	15541.86	49.52	54.00	-4.48	31.07	14.04	38.25	33.84	202	235	Average	VERTICAL

Configurations	IEEE 802.11ac MCS0/Nss2 VHT20 CH 40 / Chain 1 + Chain 2

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	15599.59	62.12	74.00	-11.88	43.71	14.07	38.19	33.85	228	294	Peak	HORIZONTAL
2	15601.25	49.04	54.00	-4.96	30.68	14.07	38.14	33.85	228	294	Average	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	15597.75	48.72	54.00	-5.28	30.31	14.07	38.19	33.85	181	353	Average	VERTICAL
2	15598.67	62.21	74.00	-11.79	43.80	14.07	38.19	33.85	181	353	Peak	VERTICAL

Configurations	IEEE 802.11ac MCS0/Nss2 VHT20 CH 48 / Chain 1 + Chain 2

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	15718.41	62.00	74.00	-12.00	43.74	14.11	38.03	33.88	176	301	Peak	HORIZONTAL
2	15721.69	48.47	54.00	-5.53	30.21	14.11	38.03	33.88	176	301	Average	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	15718.99	47.76	54.00	-6.24	29.50	14.11	38.03	33.88	136	339	Average	VERTICAL
2	15719.54	61.57	74.00	-12.43	43.31	14.11	38.03	33.88	136	339	Peak	VERTICAL

Configurations	IEEE 802.11ac MCS0/Nss2 VHT20 CH 149 / Chain 1 + Chain 2

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	11490.32	46.14	54.00	-7.86	28.02	11.95	40.00	33.83	135	206	Average	HORIZONTAL
2	11492.35	59.41	74.00	-14.59	41.29	11.95	40.00	33.83	135	206	Peak	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	11487.78	59.69	74.00	-14.31	41.57	11.95	40.00	33.83	104	260	Peak	VERTICAL
2	11490.37	45.24	54.00	-8.76	27.12	11.95	40.00	33.83	104	260	Average	VERTICAL

Configurations	IEEE 802.11ac MCS0/Nss2 VHT20 CH 157 / Chain 1 + Chain 2

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	11569.38	60.47	74.00	-13.53	42.44	11.99	39.87	33.83	165	187	Peak	HORIZONTAL
2	11570.27	47.16	54.00	-6.84	29.13	11.99	39.87	33.83	165	187	Average	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	11568.08	60.34	74.00	-13.66	42.31	11.99	39.87	33.83	131	234	Peak	VERTICAL
2	11568.89	46.56	54.00	-7.44	28.53	11.99	39.87	33.83	131	234	Average	VERTICAL

Configurations	IEEE 802.11ac MCS0/Nss2 VHT20 CH 165 / Chain 1 + Chain 2

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	11648.06	60.57	74.00	-13.43	42.65	12.02	39.73	33.83	195	241	Peak	HORIZONTAL
2	11650.12	47.93	54.00	-6.07	30.01	12.02	39.73	33.83	195	241	Average	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	11649.22	61.36	74.00	-12.64	43.44	12.02	39.73	33.83	154	319	Peak	VERTICAL
2	11650.30	46.98	54.00	-7.02	29.06	12.02	39.73	33.83	154	319	Average	VERTICAL

Configurations	IEEE 802.11ac MCS0/Nss2 VHT40 CH 38 / Chain 1 + Chain 2

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	15567.80	49.33	54.00	-4.67	30.93	14.06	38.19	33.85	189	209	Average	HORIZONTAL
2	15570.09	62.16	74.00	-11.84	43.76	14.06	38.19	33.85	189	209	Peak	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	15568.85	62.34	74.00	-11.66	43.94	14.06	38.19	33.85	229	158	Peak	VERTICAL
2	15570.87	49.29	54.00	-4.71	30.89	14.06	38.19	33.85	229	158	Average	VERTICAL

Configurations	IEEE 802.11ac MCS0/Nss2 VHT40 CH 46 / Chain 1 + Chain 2

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	15690.55	63.53	74.00	-10.47	45.22	14.10	38.08	33.87	162	241	Peak	HORIZONTAL
2	15692.38	48.79	54.00	-5.21	30.53	14.10	38.03	33.87	162	241	Average	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	15687.91	61.87	74.00	-12.13	43.56	14.10	38.08	33.87	137	254	Peak	VERTICAL
2	15689.22	47.55	54.00	-6.45	29.24	14.10	38.08	33.87	137	254	Average	VERTICAL

Configurations	IEEE 802.11ac MCS0/Nss2 VHT40 CH 151 / Chain 1 + Chain 2

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	11507.65	46.40	54.00	-7.60	28.27	11.96	40.00	33.83	174	134	Average	HORIZONTAL
2	11509.31	59.94	74.00	-14.06	41.81	11.96	40.00	33.83	174	134	Peak	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	11510.25	45.61	54.00	-8.39	27.48	11.96	40.00	33.83	207	110	Average	VERTICAL
2	11510.98	59.58	74.00	-14.42	41.45	11.96	40.00	33.83	207	110	Peak	VERTICAL

Configurations	IEEE 802.11ac MCS0/Nss2 VHT40 CH 159 / Chain 1 + Chain 2

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	11587.16	60.65	74.00	-13.35	42.69	11.99	39.80	33.83	164	119	Peak	HORIZONTAL
2	11592.64	47.33	54.00	-6.67	29.37	11.99	39.80	33.83	164	119	Average	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	11585.92	60.31	74.00	-13.69	42.35	11.99	39.80	33.83	126	78	Peak	VERTICAL
2	11590.08	47.55	54.00	-6.45	29.59	11.99	39.80	33.83	126	78	Average	VERTICAL

Configurations	IEEE 802.11ac MCS0/Nss2 VHT80 CH 42 / Chain 1 + Chain 2

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	15629.81	61.87	74.00	-12.13	43.51	14.08	38.14	33.86	213	133	Peak	HORIZONTAL
2	15630.80	48.85	54.00	-5.15	30.49	14.08	38.14	33.86	213	133	Average	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	15630.25	48.20	54.00	-5.80	29.84	14.08	38.14	33.86	187	44	Average	VERTICAL
2	15632.33	61.92	74.00	-12.08	43.56	14.08	38.14	33.86	187	44	Peak	VERTICAL

Configurations	IEEE 802.11ac MCS0/Nss2 VHT80 CH 155 / Chain 1 + Chain 2

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	11549.45	47.06	54.00	-6.94	28.98	11.98	39.93	33.83	200	77	Average	HORIZONTAL
2	11551.59	60.34	74.00	-13.66	42.32	11.98	39.87	33.83	200	77	Peak	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	11548.99	61.17	74.00	-12.83	43.09	11.98	39.93	33.83	153	155	Peak	VERTICAL
2	11550.48	46.59	54.00	-7.41	28.57	11.98	39.87	33.83	153	155	Average	VERTICAL

Note:

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

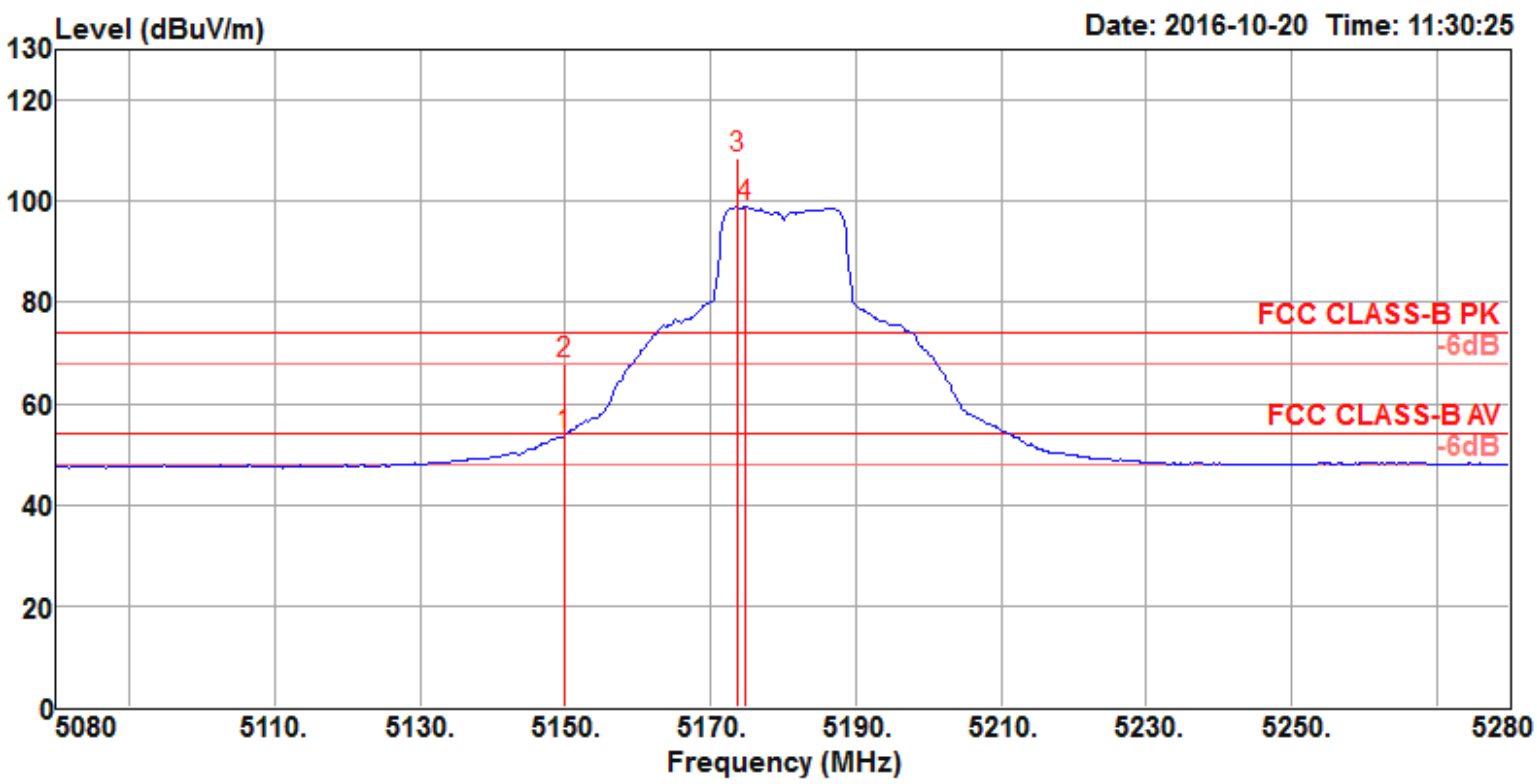
Emission level (dBuV/m) = 20 log Emission level (uV/m).

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

Band Edge Emissions

Configurations	IEEE 802.11a CH 36, 40, 48 / Chain 1

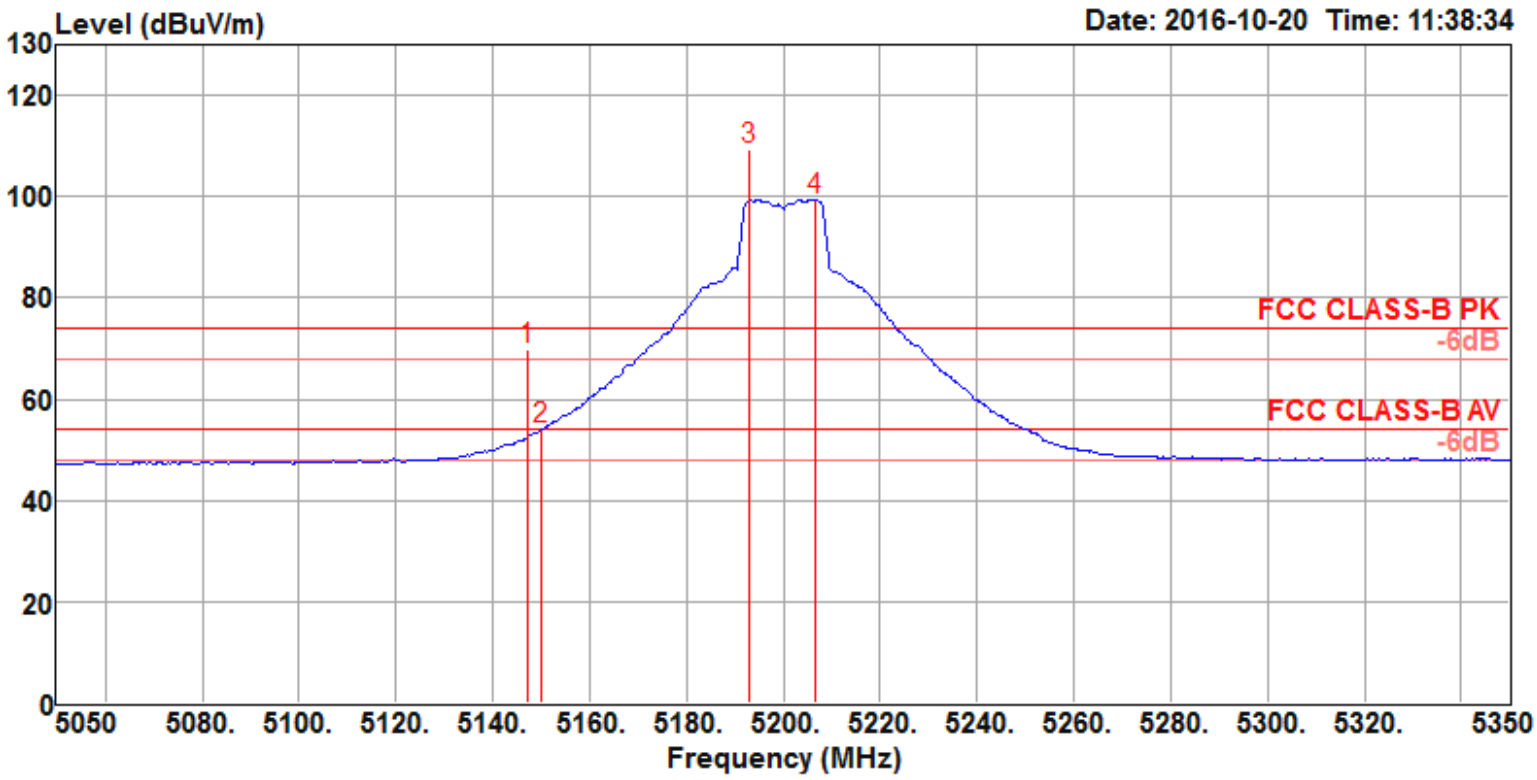
Channel 36



	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	5150.00	53.81	54.00	-0.19	45.89	8.05	31.52	31.65	100	36	Average	VERTICAL
2	5150.00	67.81	74.00	-6.19	59.89	8.05	31.52	31.65	100	36	Peak	VERTICAL
3 @	5173.60	108.63			100.66	8.06	31.55	31.64	100	36	Peak	VERTICAL
4 @	5174.80	98.87			90.90	8.06	31.55	31.64	100	36	Average	VERTICAL

Item 3, 4 are the fundamental frequency at 5180 MHz.

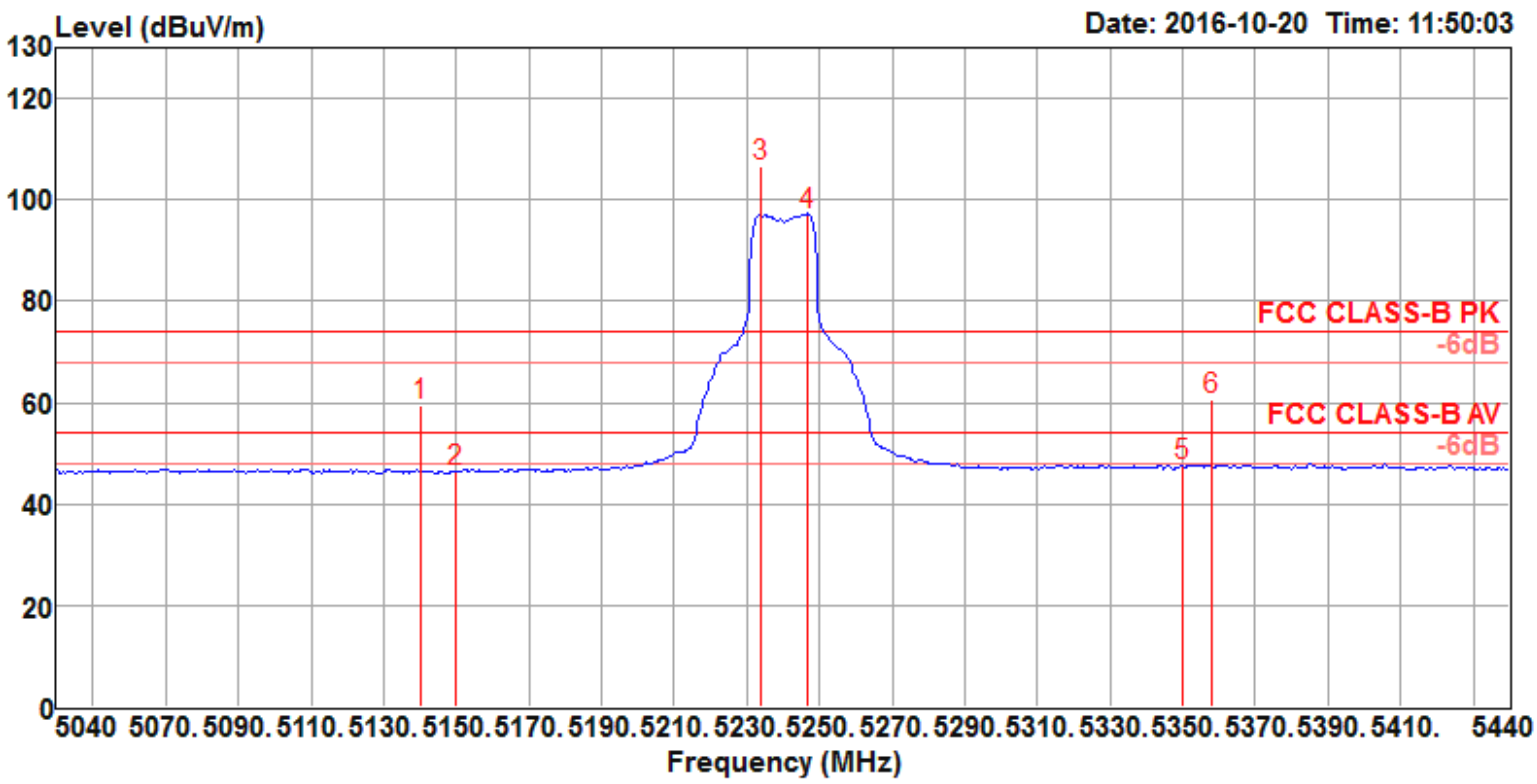
Channel 40



	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	5147.20	69.71	74.00	-4.29	61.79	8.05	31.52	31.65	100	325	Peak	VERTICAL
2	5150.00	53.90	54.00	-0.10	45.98	8.05	31.52	31.65	100	325	Average	VERTICAL
3 @	5192.80	109.25			101.27	8.06	31.56	31.64	100	325	Peak	VERTICAL
4 @	5206.60	99.34			91.35	8.06	31.57	31.64	100	325	Average	VERTICAL

Item 3, 4 are the fundamental frequency at 5200 MHz.

Channel 48

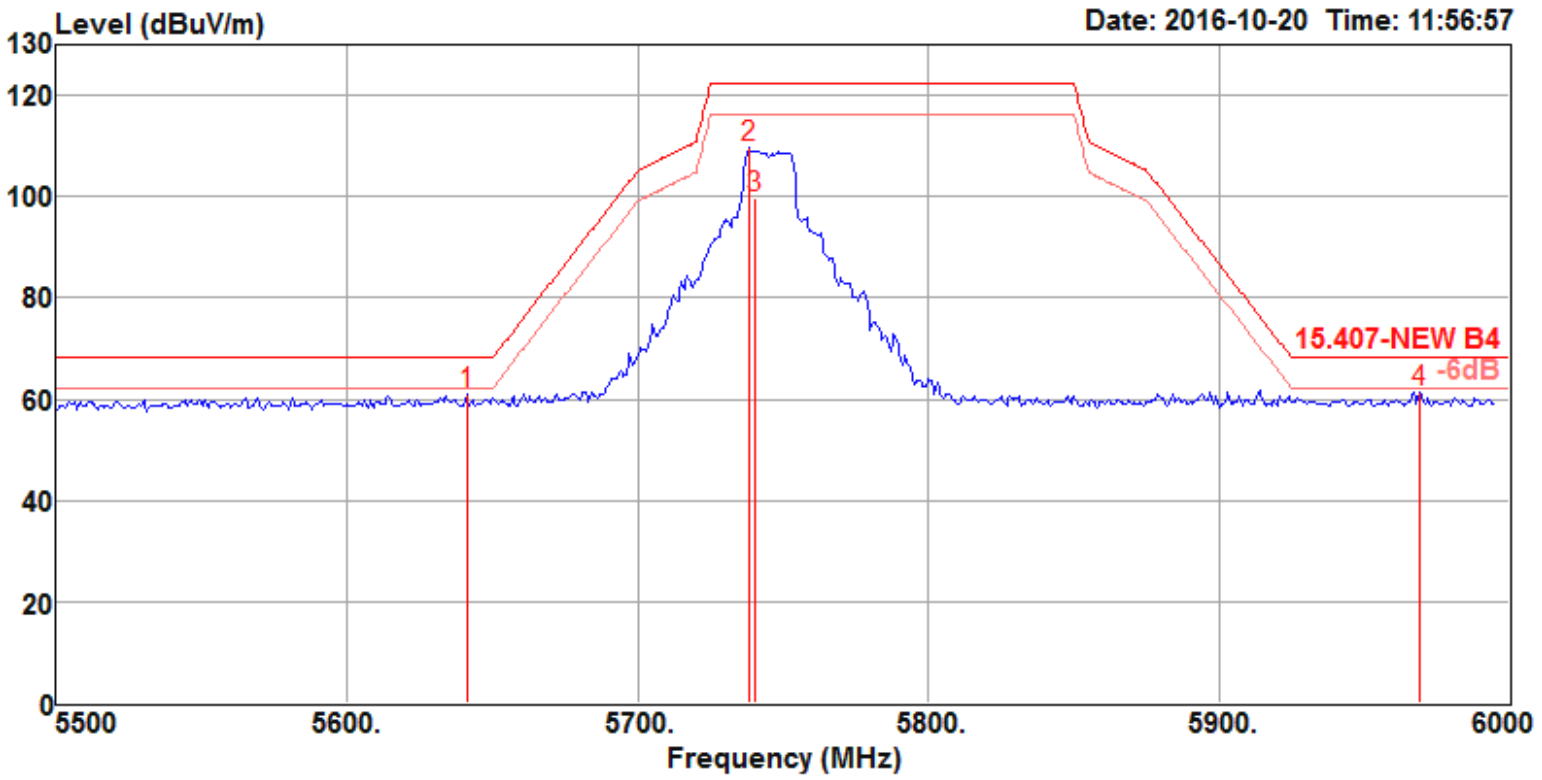


	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	5140.40	59.57	74.00	-14.43	51.66	8.05	31.51	31.65	100	38	Peak	VERTICAL
2	5150.00	46.36	54.00	-7.64	38.44	8.05	31.52	31.65	100	38	Average	VERTICAL
3 @	5233.60	106.54			98.48	8.11	31.59	31.64	100	38	Peak	VERTICAL
4 @	5246.40	97.10			89.01	8.13	31.59	31.63	100	38	Average	VERTICAL
5	5350.00	47.49	54.00	-6.51	39.17	8.26	31.68	31.62	100	38	Average	VERTICAL
6	5358.00	60.47	74.00	-13.53	52.14	8.26	31.69	31.62	100	38	Peak	VERTICAL

Item 3, 4 are the fundamental frequency at 5240 MHz.

Configurations	IEEE 802.11a CH 149, 157, 165 / Chain 1

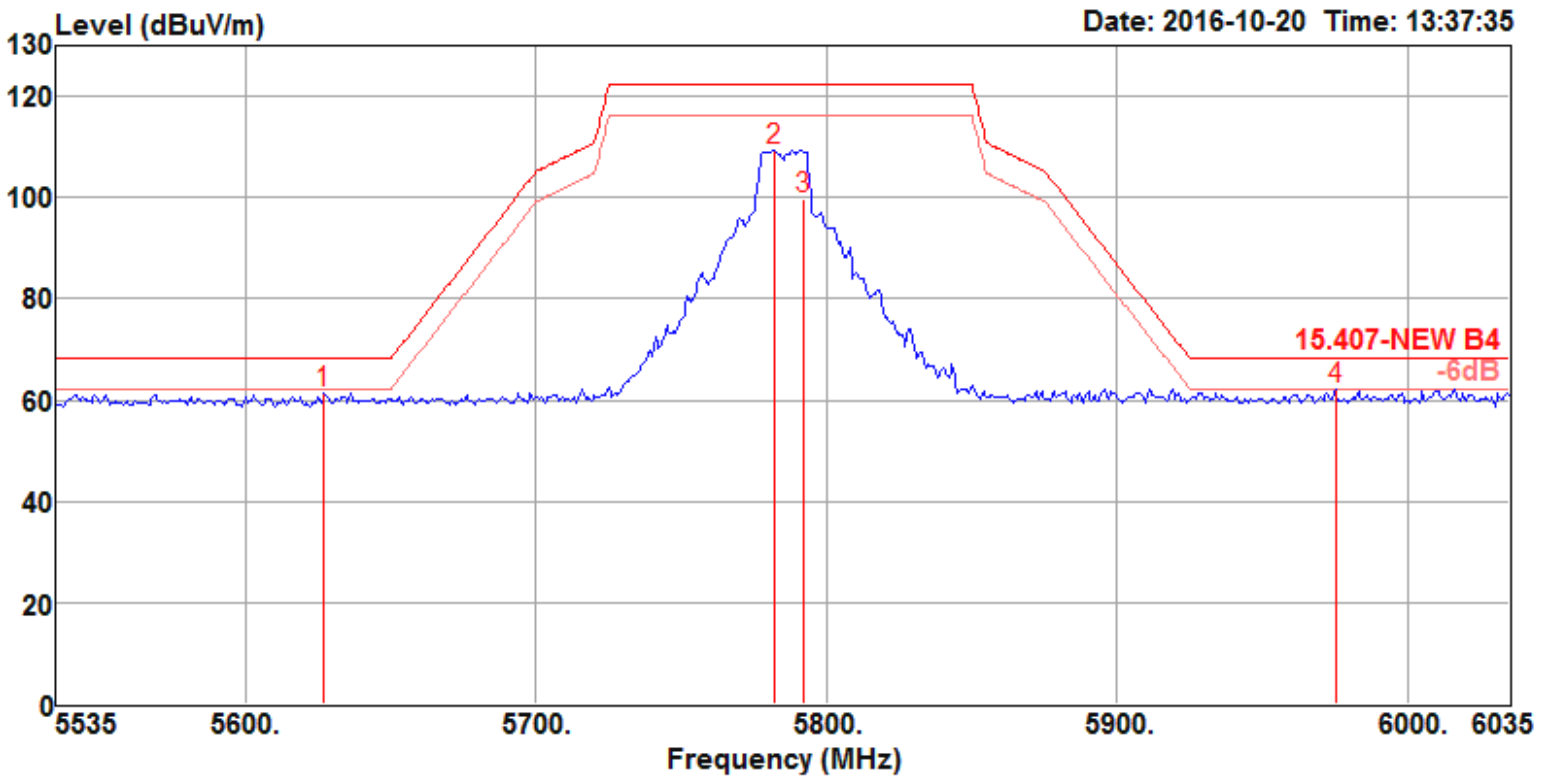
Channel 149



	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	5641.00	60.89	68.20	-7.31	51.96	8.62	31.98	31.67	100	84	Peak	VERTICAL
2	5738.00	109.68			100.77	8.53	32.08	31.70	100	84	Peak	VERTICAL
3	5740.00	99.81			90.88	8.53	32.10	31.70	100	84	Average	VERTICAL
4	5969.00	61.41	68.20	-6.79	52.06	8.78	32.36	31.79	100	84	Peak	VERTICAL

Item 2, 3 are the fundamental frequency at 5745 MHz.

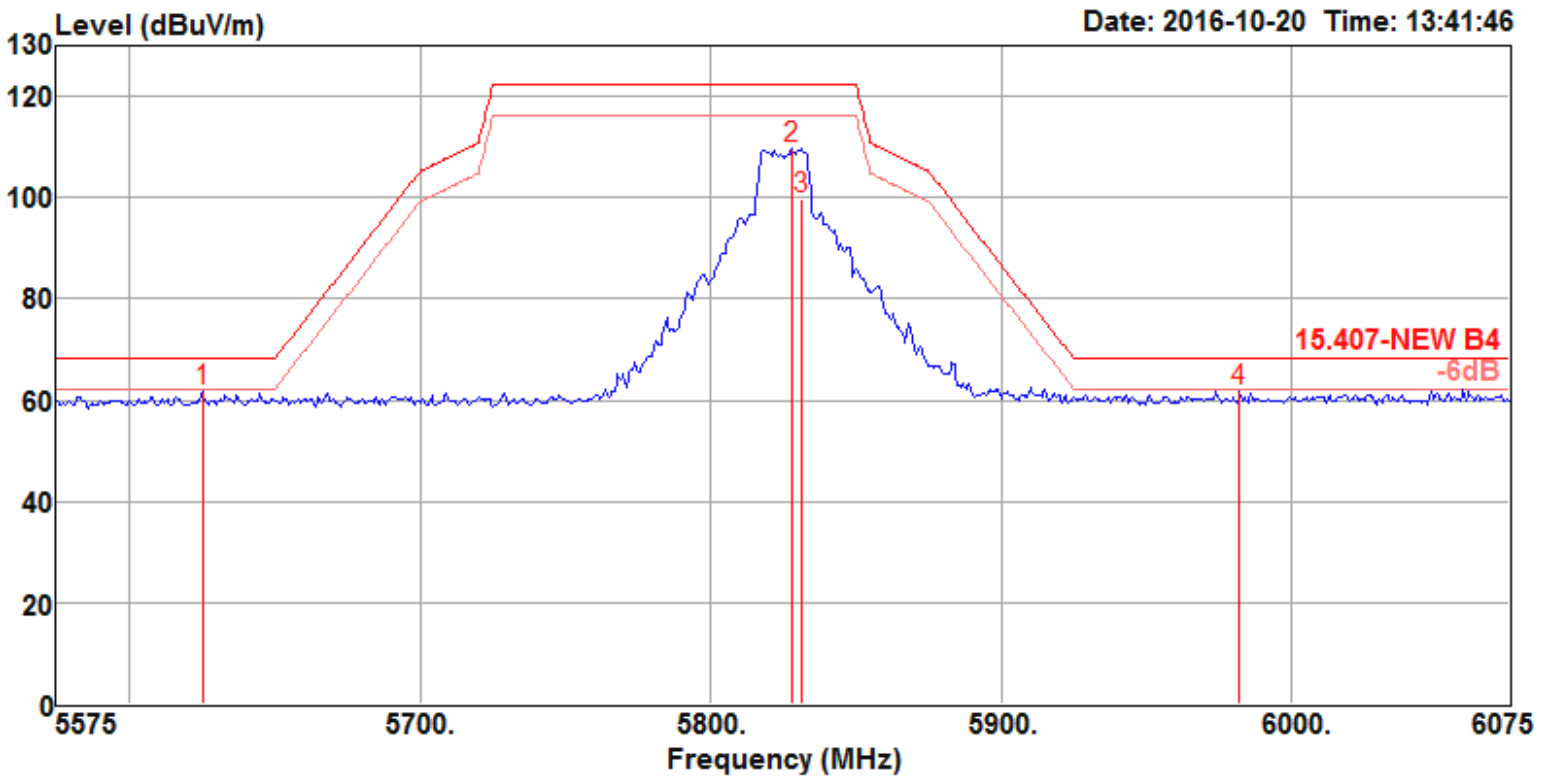
Channel 157



	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	5627.00	61.40	68.20	-6.80	52.46	8.64	31.96	31.66	162	216	Peak	VERTICAL
2	5782.00	109.46			100.54	8.50	32.14	31.72	162	216	Peak	VERTICAL
3	5792.00	99.87			90.95	8.48	32.16	31.72	162	216	Average	VERTICAL
4	5975.00	62.25	68.20	-5.95	52.88	8.81	32.36	31.80	162	216	Peak	VERTICAL

Item 2, 3 are the fundamental frequency at 5785 MHz.

Channel 165

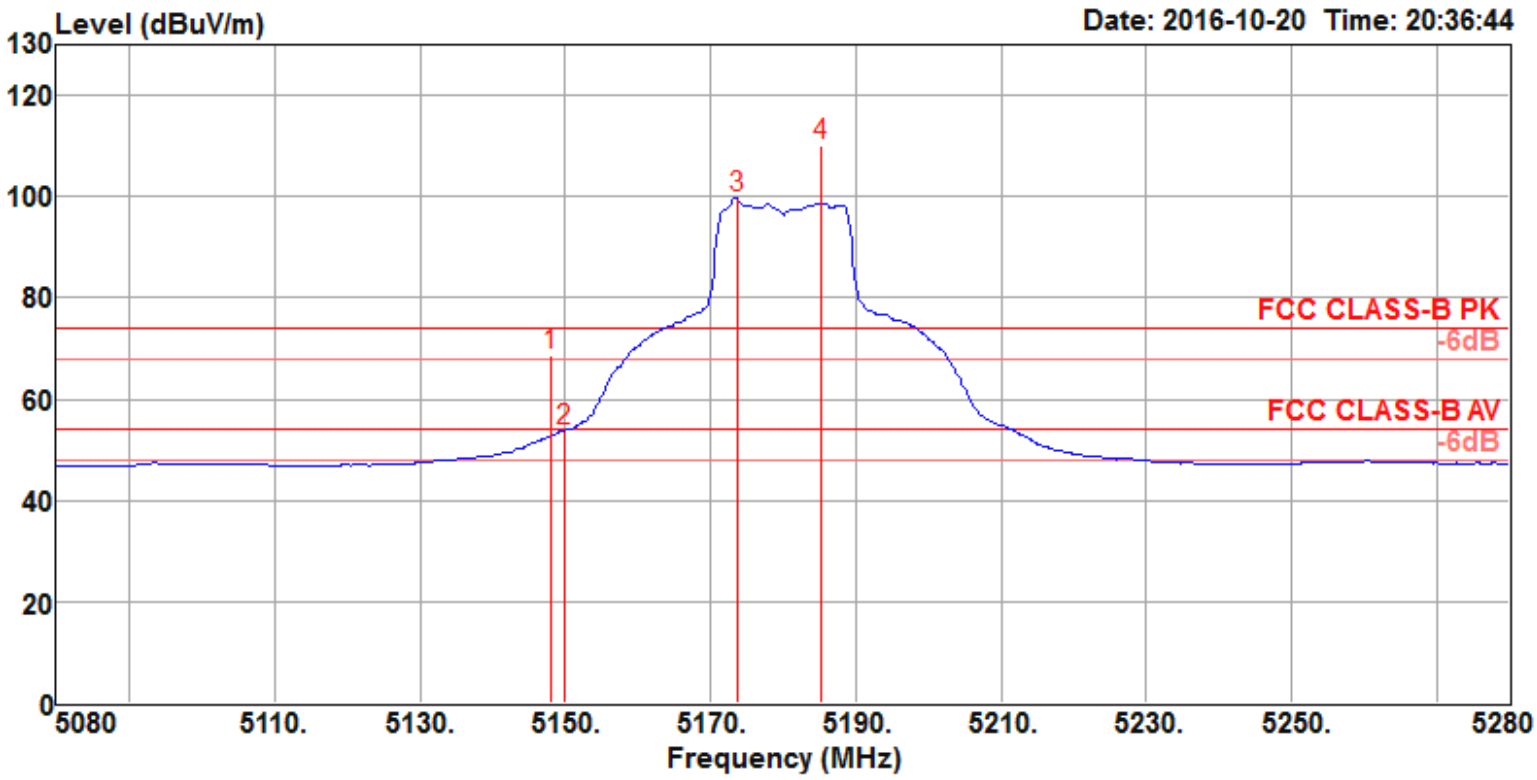


	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	5625.00	61.61	68.20	-6.59	52.67	8.64	31.96	31.66	166	217	Peak	VERTICAL
2	5828.00	109.59			100.59	8.54	32.20	31.74	166	217	Peak	VERTICAL
3	5831.00	99.81			90.81	8.54	32.20	31.74	166	217	Average	VERTICAL
4	5982.00	61.70	68.20	-6.50	52.31	8.81	32.38	31.80	166	217	Peak	VERTICAL

Item 2, 3 are the fundamental frequency at 5825 MHz.

Configurations	IEEE 802.11ac MCS0/Nss2 VHT20 CH 36, 40, 48 / Chain 1 + Chain 2

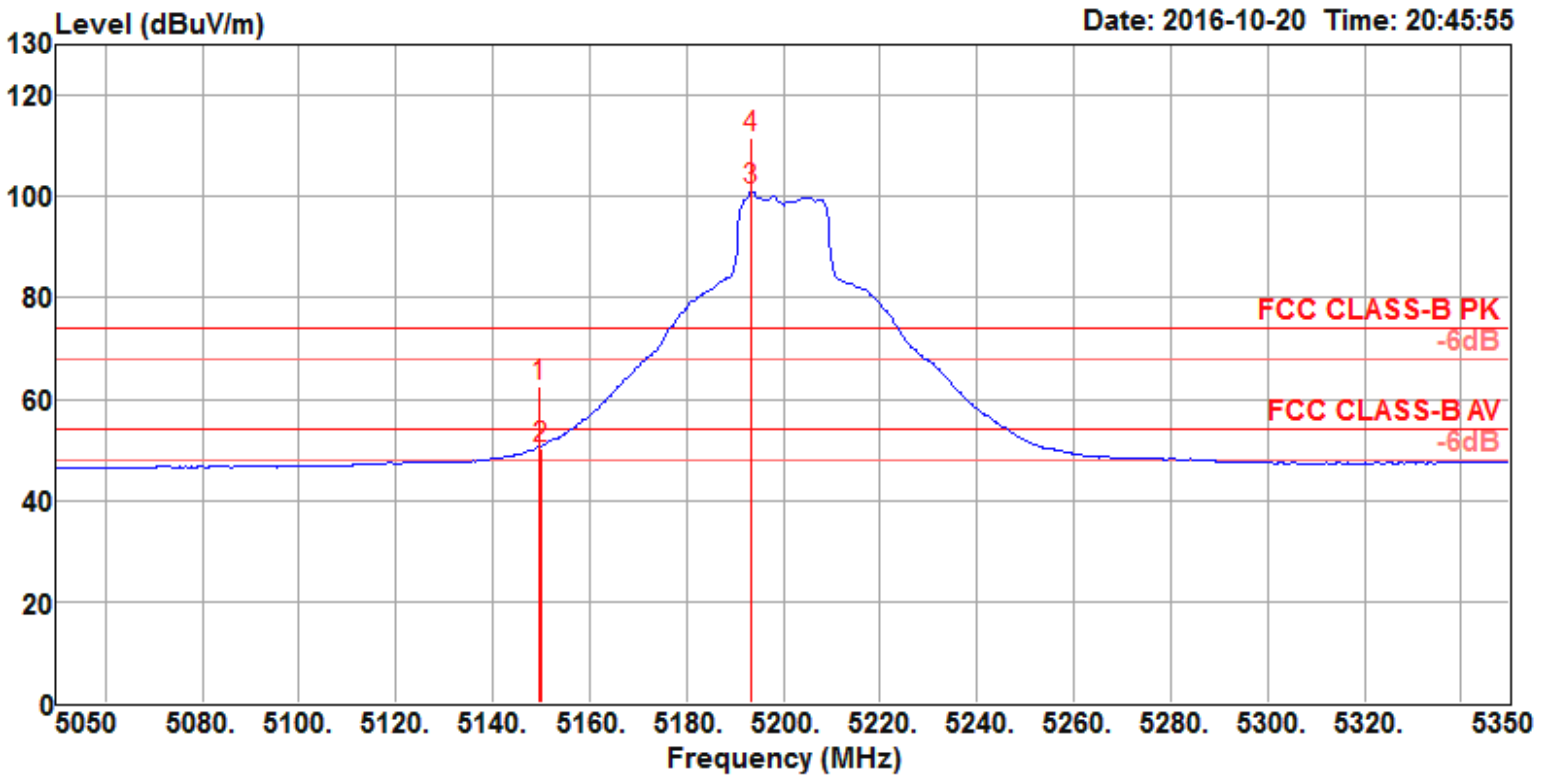
Channel 36



	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	5148.00	68.70	74.00	-5.30	60.78	8.05	31.52	31.65	100	89	Peak	VERTICAL
2	5150.00	53.87	54.00	-0.13	45.95	8.05	31.52	31.65	100	89	Average	VERTICAL
3 @	5173.60	99.67			91.70	8.06	31.55	31.64	100	89	Average	VERTICAL
4 @	5185.20	109.90			101.93	8.06	31.55	31.64	100	89	Peak	VERTICAL

Item 3, 4 are the fundamental frequency at 5180 MHz.

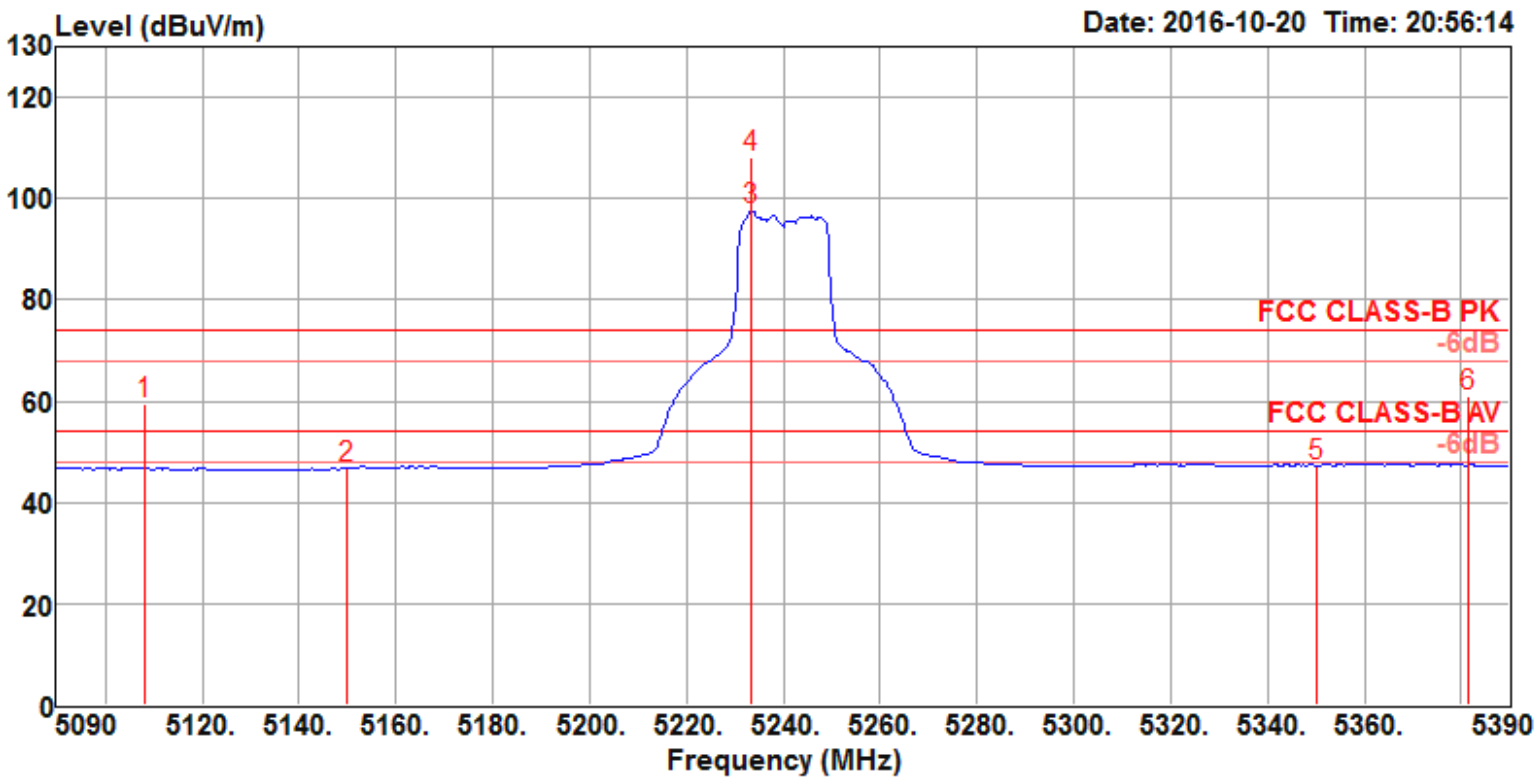
Channel 40



	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	5149.60	62.71	74.00	-11.29	54.79	8.05	31.52	31.65	100	87	Peak	VERTICAL
2	5150.00	50.29	54.00	-3.71	42.37	8.05	31.52	31.65	100	87	Average	VERTICAL
3 @	5193.40	101.13			93.15	8.06	31.56	31.64	100	87	Average	VERTICAL
4 @	5193.40	111.67			103.69	8.06	31.56	31.64	100	87	Peak	VERTICAL

Item 3, 4 are the fundamental frequency at 5200 MHz.

Channel 48

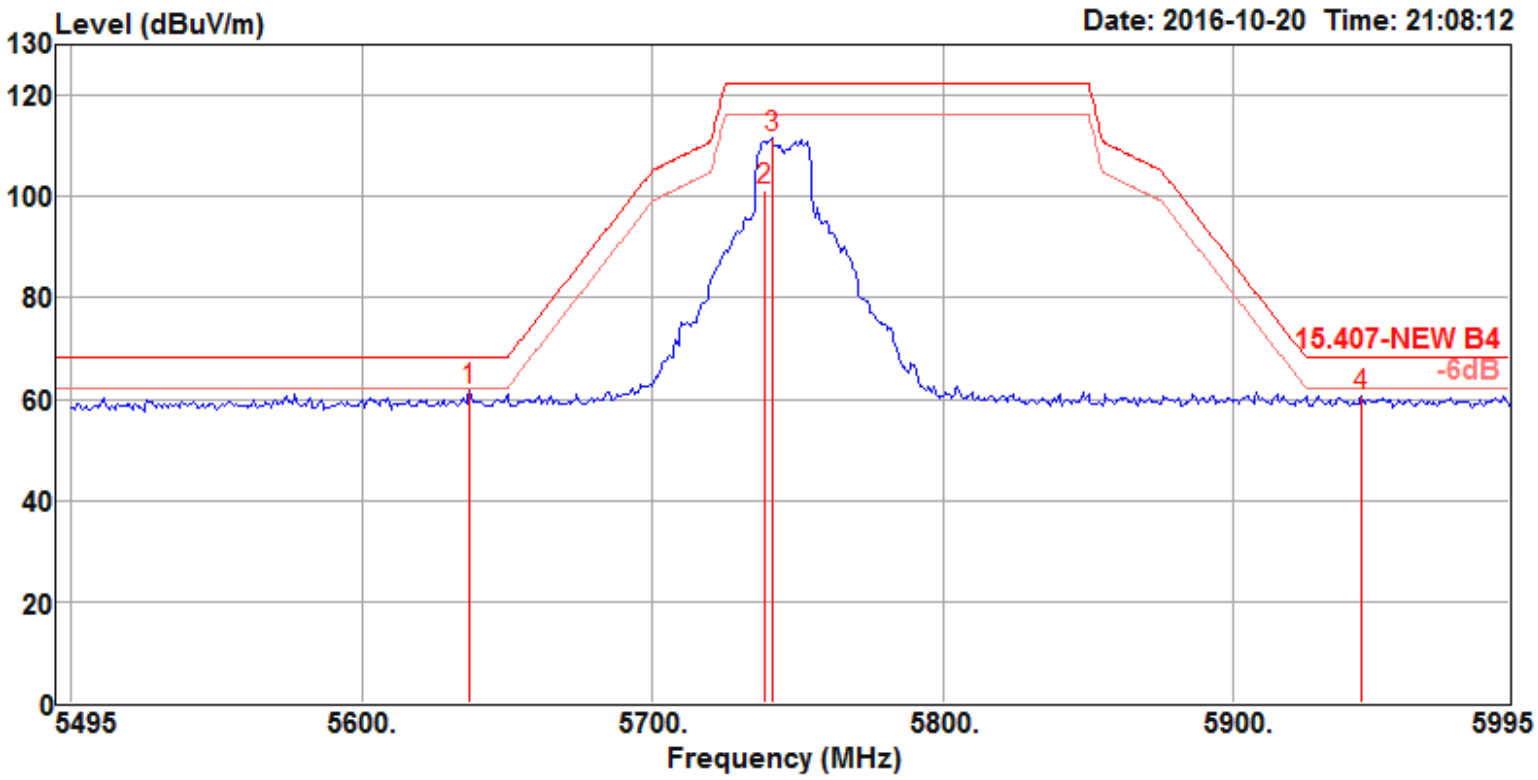


	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	5108.00	59.53	74.00	-14.47	51.66	8.04	31.48	31.65	100	89	Peak	VERTICAL
2	5150.00	46.65	54.00	-7.35	38.73	8.05	31.52	31.65	100	89	Average	VERTICAL
3 @	5233.40	97.84			89.78	8.11	31.59	31.64	100	89	Average	VERTICAL
4 @	5233.40	108.28			100.22	8.11	31.59	31.64	100	89	Peak	VERTICAL
5	5350.00	47.35	54.00	-6.65	39.03	8.26	31.68	31.62	100	89	Average	VERTICAL
6	5381.60	60.97	74.00	-13.03	52.59	8.30	31.70	31.62	100	89	Peak	VERTICAL

Item 3, 4 are the fundamental frequency at 5240 MHz.

Configurations	IEEE 802.11ac MCS0/Nss2 VHT20 CH 149, 157, 165 / Chain 1 + Chain 2

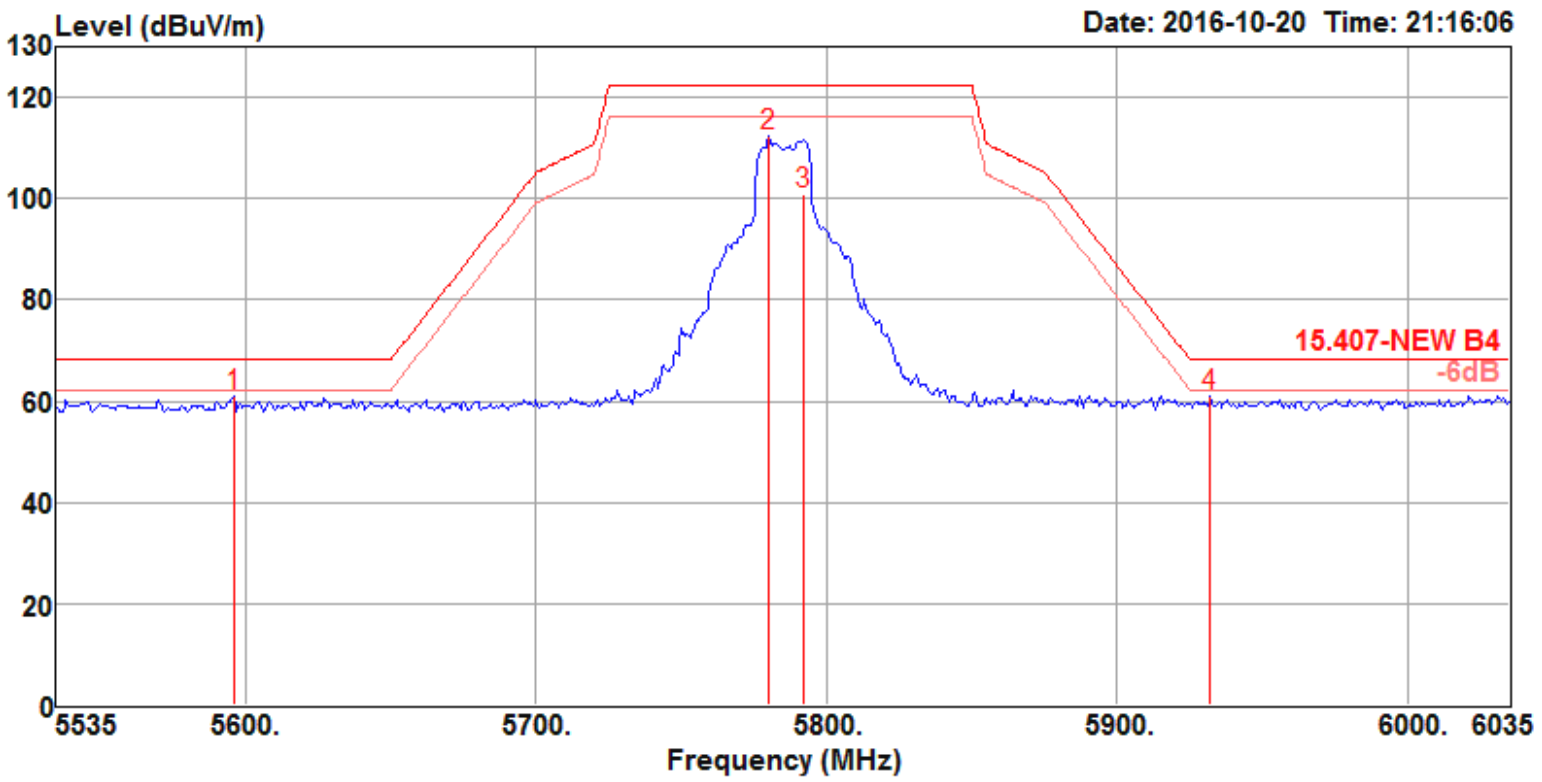
Channel 149



	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	5637.00	61.61	68.20	-6.59	52.70	8.62	31.96	31.67	170	179	Peak	VERTICAL
2	5738.60	101.22			92.31	8.53	32.08	31.70	170	179	Average	VERTICAL
3	5741.00	111.46			102.53	8.53	32.10	31.70	170	179	Peak	VERTICAL
4	5944.00	60.65	68.20	-7.55	51.35	8.75	32.34	31.79	170	179	Peak	VERTICAL

Item 2, 3 are the fundamental frequency at 5745 MHz.

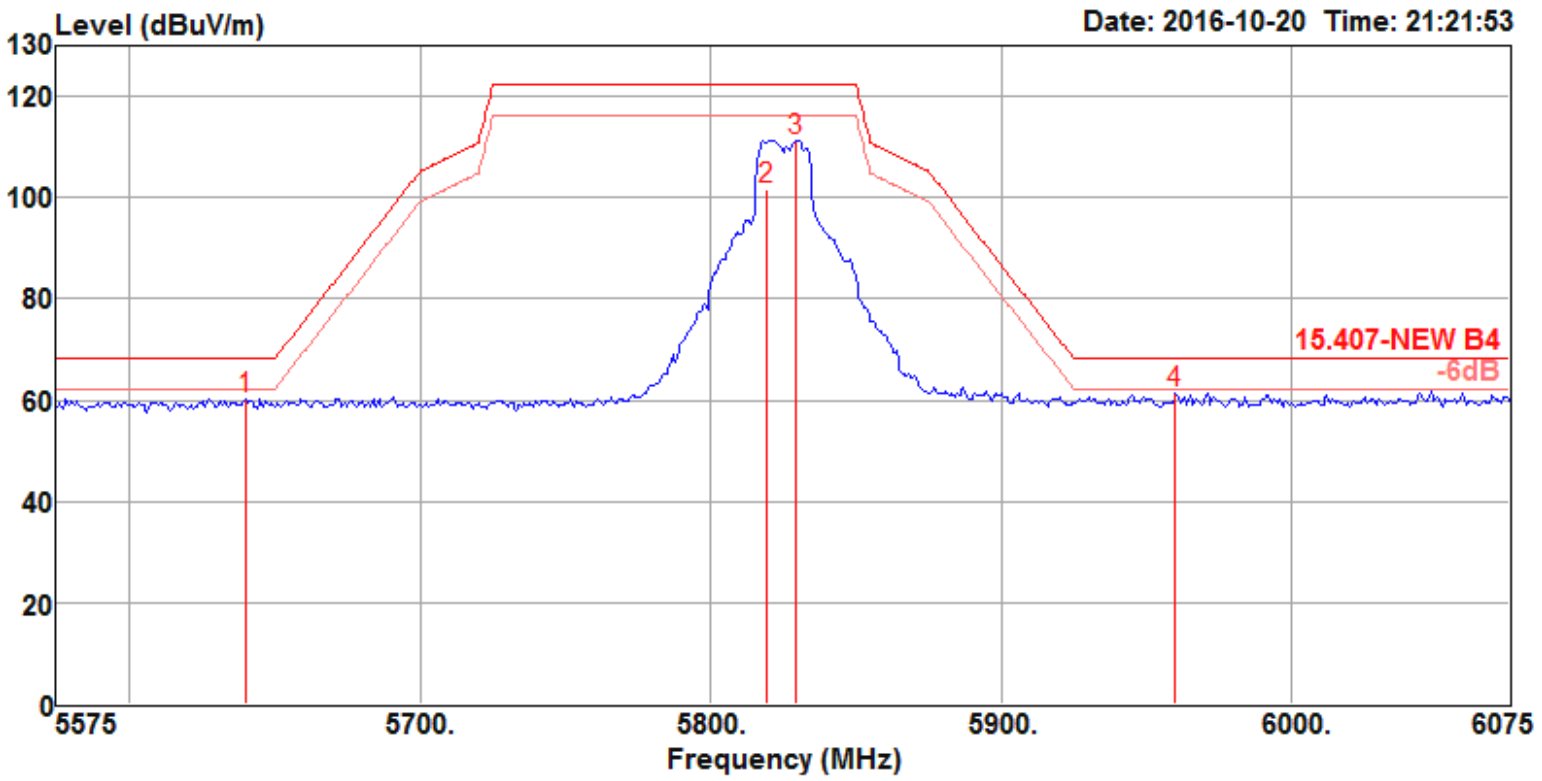
Channel 157



	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	5596.00	61.14	68.20	-7.06	52.25	8.62	31.92	31.65	164	180	Peak	VERTICAL
2	5780.00	112.20			103.28	8.50	32.14	31.72	164	180	Peak	VERTICAL
3	5792.00	101.05			92.13	8.48	32.16	31.72	164	180	Average	VERTICAL
4	5932.00	60.95	68.20	-7.25	51.69	8.72	32.32	31.78	164	180	Peak	VERTICAL

Item 2, 3 are the fundamental frequency at 5785 MHz.

Channel 165

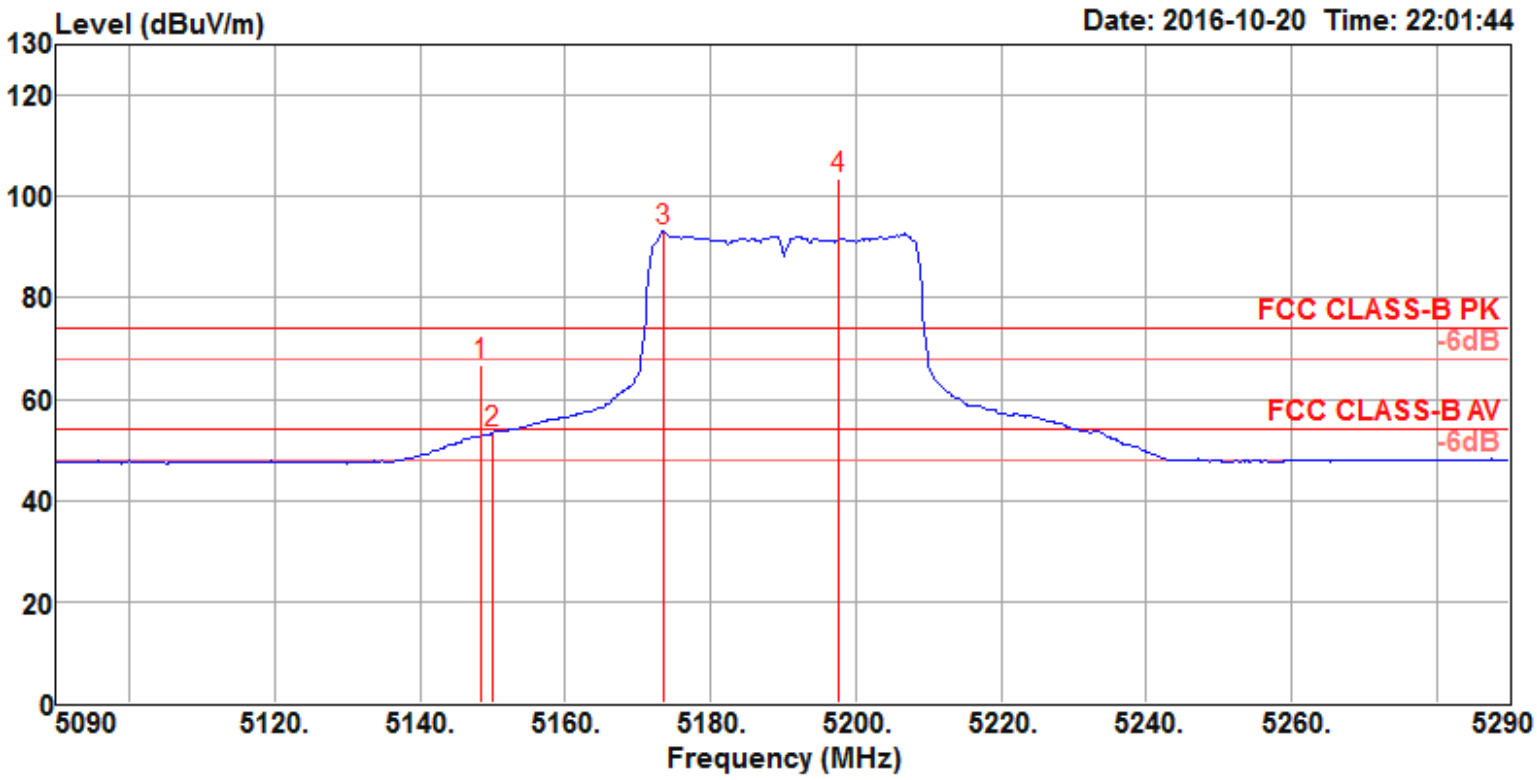


	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	5640.00	60.41	68.20	-7.79	51.50	8.62	31.96	31.67	168	183	Peak	VERTICAL
2	5819.00	101.72			92.77	8.51	32.18	31.74	168	183	Average	VERTICAL
3	5829.00	111.23			102.23	8.54	32.20	31.74	168	183	Peak	VERTICAL
4	5960.00	61.51	68.20	-6.69	52.16	8.78	32.36	31.79	168	183	Peak	VERTICAL

Item 2, 3 are the fundamental frequency at 5825 MHz.

Configurations	IEEE 802.11ac MCS0/Nss2 VHT40 CH 38, 46 / Chain 1 + Chain 2

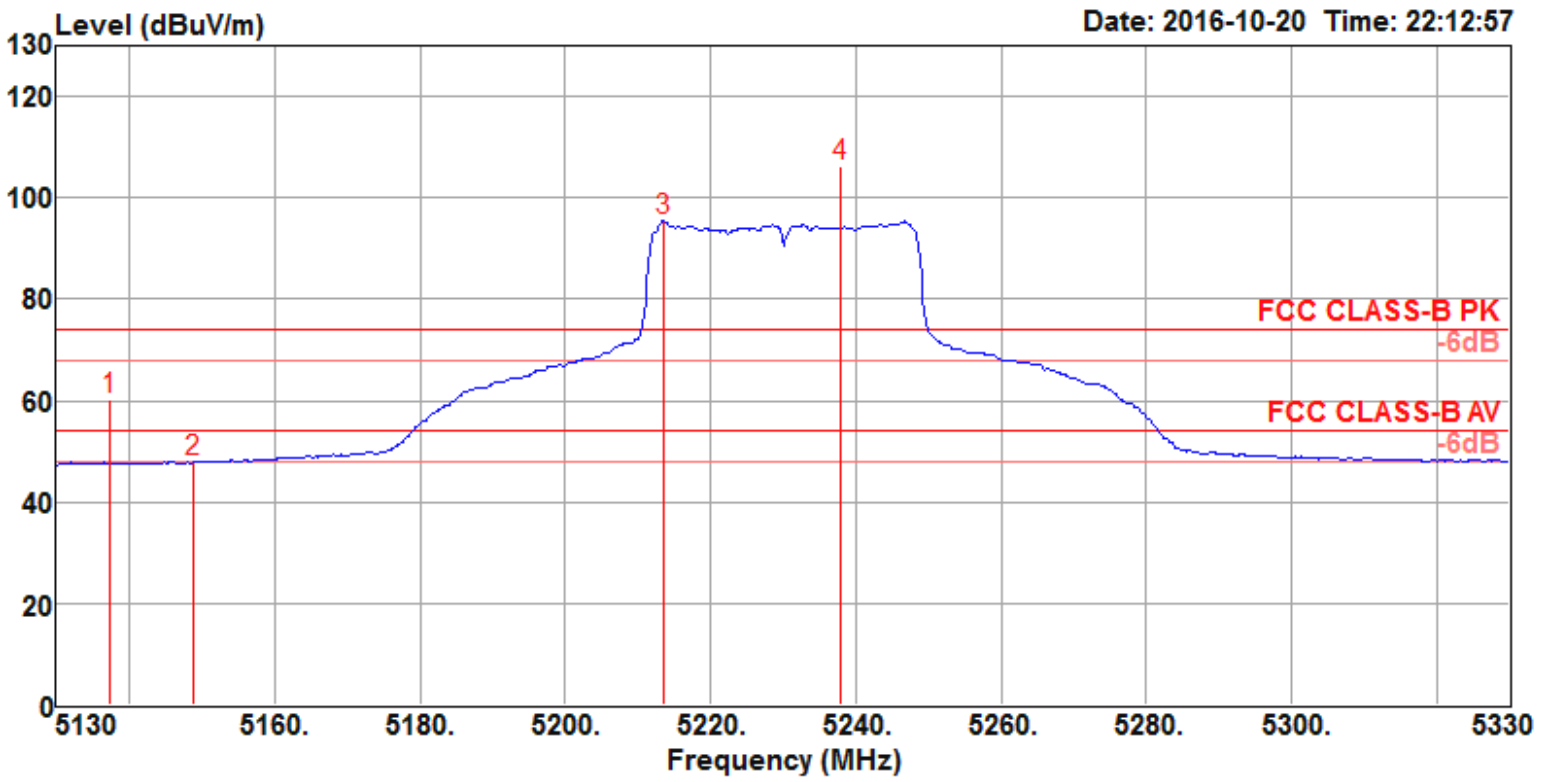
Channel 38



	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	5148.40	66.91	74.00	-7.09	58.99	8.05	31.52	31.65	100	145	Peak	VERTICAL
2	5150.00	53.39	54.00	-0.61	45.47	8.05	31.52	31.65	100	145	Average	VERTICAL
3 @	5173.60	93.12			85.15	8.06	31.55	31.64	100	145	Average	VERTICAL
4 @	5197.60	103.44			95.46	8.06	31.56	31.64	100	145	Peak	VERTICAL

Item 3, 4 are the fundamental frequency at 5190 MHz.

Channel 46

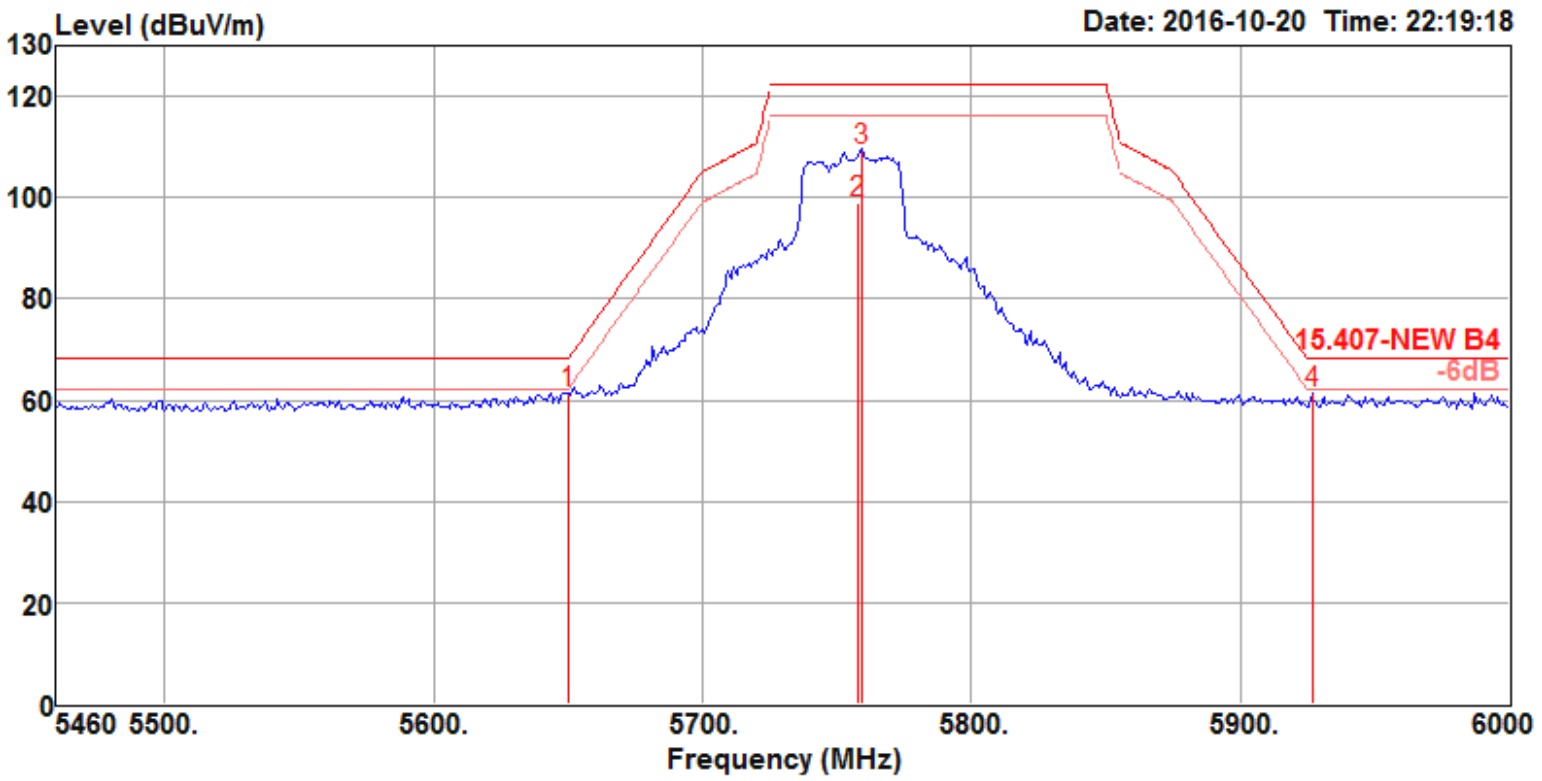


	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	5137.20	60.07	74.00	-13.93	52.16	8.05	31.51	31.65	100	145	Peak	VERTICAL
2	5148.80	47.88	54.00	-6.12	39.96	8.05	31.52	31.65	100	145	Average	VERTICAL
3 @	5213.60	95.49			87.48	8.08	31.57	31.64	100	145	Average	VERTICAL
4 @	5238.00	106.11			98.05	8.11	31.59	31.64	100	145	Peak	VERTICAL

Item 3, 4 are the fundamental frequency at 5230 MHz.

Configurations	IEEE 802.11ac MCS0/Nss2 VHT40 CH 151, 159 / Chain 1 + Chain 2

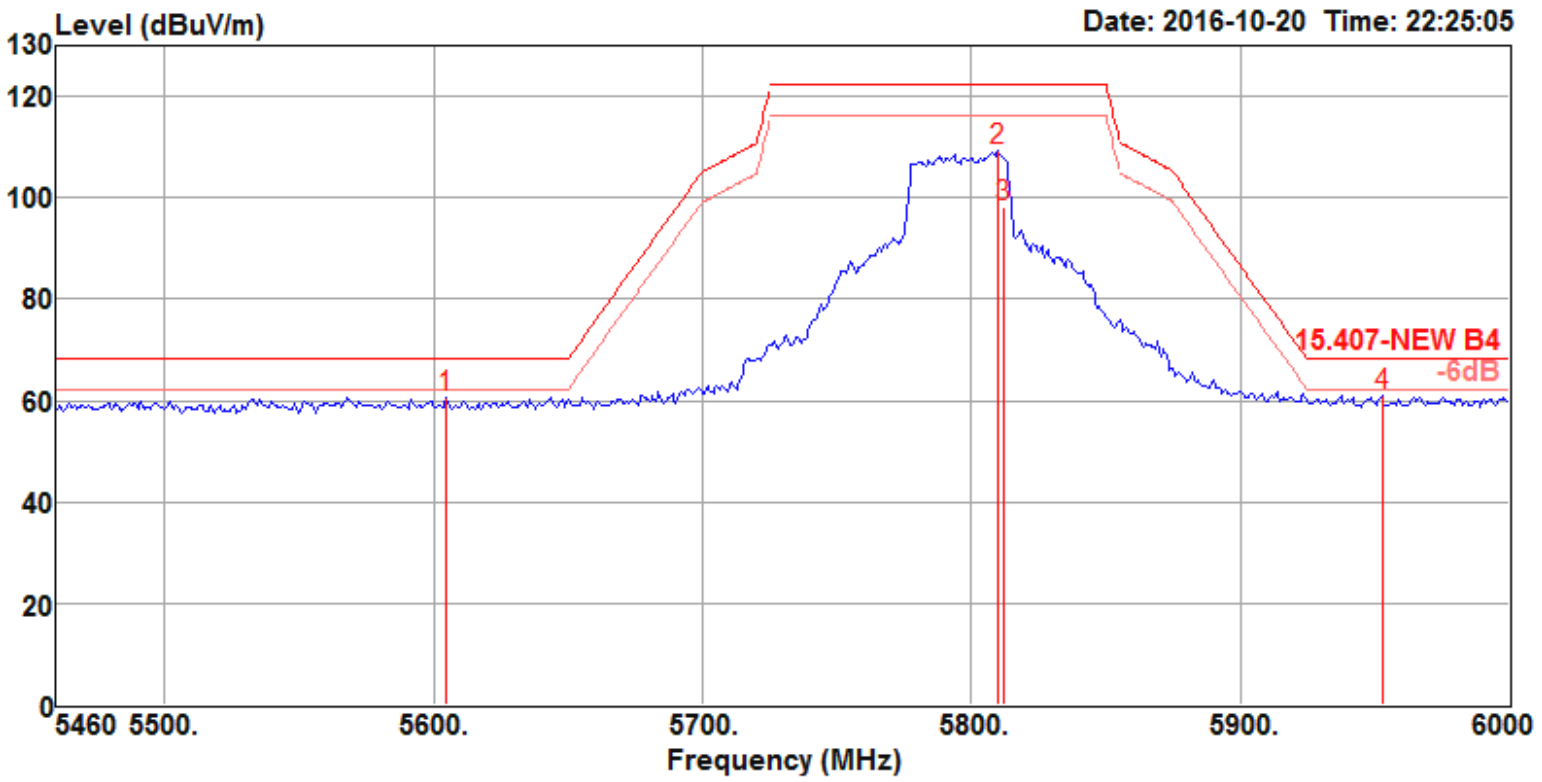
Channel 151



	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	5650.08	61.47	68.26	-6.79	52.55	8.61	31.98	31.67	168	180	Peak	VERTICAL
2	5758.08	98.79			89.87	8.51	32.12	31.71	168	180	Average	VERTICAL
3	5759.16	109.49			100.57	8.51	32.12	31.71	168	180	Peak	VERTICAL
4	5926.56	61.52	68.20	-6.68	52.26	8.72	32.32	31.78	168	180	Peak	VERTICAL

Item 2, 3 are the fundamental frequency at 5755 MHz.

Channel 159

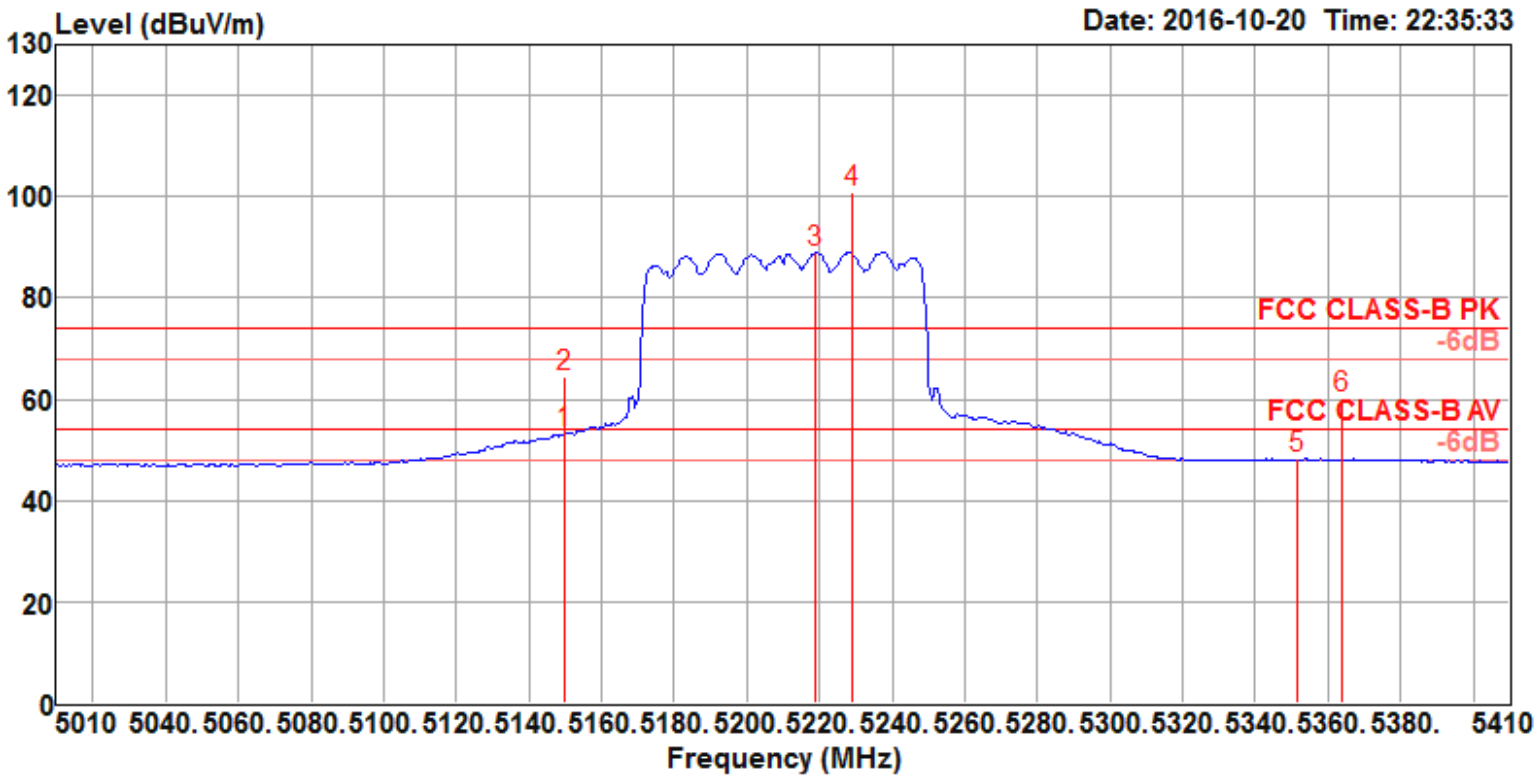


	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	5604.72	60.63	68.20	-7.57	51.71	8.65	31.92	31.65	157	181	Peak	VERTICAL
2	5809.92	109.15			100.19	8.51	32.18	31.73	157	181	Peak	VERTICAL
3	5812.08	98.24			89.28	8.51	32.18	31.73	157	181	Average	VERTICAL
4	5952.48	61.13	68.20	-7.07	51.83	8.75	32.34	31.79	157	181	Peak	VERTICAL

Item 2, 3 are the fundamental frequency at 5795 MHz.

Configurations	IEEE 802.11ac MCS0/Nss2 VHT80 CH 42 / Chain 1 + Chain 2

Channel 42

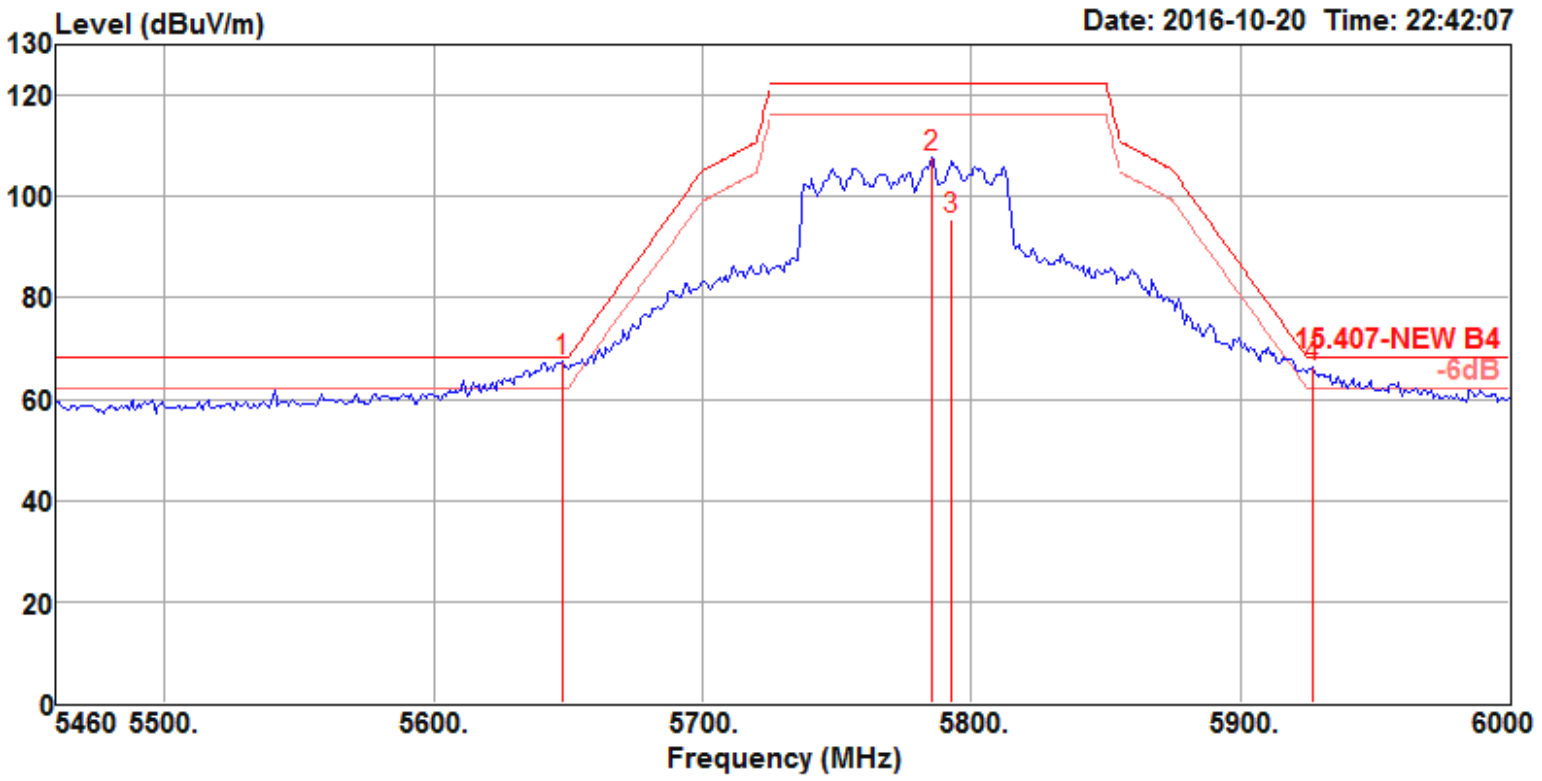


	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	5150.00	53.38	54.00	-0.62	45.46	8.05	31.52	31.65	102	195	Average	VERTICAL
2	5150.00	64.63	74.00	-9.37	56.71	8.05	31.52	31.65	102	195	Peak	VERTICAL
3 @	5218.80	88.92			80.90	8.08	31.58	31.64	102	195	Average	VERTICAL
4 @	5229.20	100.78			92.73	8.11	31.58	31.64	102	195	Peak	VERTICAL
5	5351.60	48.28	54.00	-5.72	39.96	8.26	31.68	31.62	102	195	Average	VERTICAL
6	5363.60	60.33	74.00	-13.67	51.98	8.28	31.69	31.62	102	195	Peak	VERTICAL

Item 3, 4 are the fundamental frequency at 5210 MHz.

Configurations	IEEE 802.11ac MCS0/Nss2 VHT80 CH 155 / Chain 1 + Chain 2

Channel 155



	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	5647.92	67.54	68.20	-0.66	58.61	8.62	31.98	31.67	173	178	Peak	VERTICAL
2	5785.08	107.76			98.84	8.50	32.14	31.72	173	178	Peak	VERTICAL
3	5792.64	95.43			86.51	8.48	32.16	31.72	173	178	Average	VERTICAL
4	5926.56	66.23	68.20	-1.97	56.97	8.72	32.32	31.78	173	178	Peak	VERTICAL

Item 2, 3 are the fundamental frequency at 5775 MHz.

Note:

Emission level (dBuV/m) = 20 log Emission level (uV/m)

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

Mode: 20 MHz / Chain 2

Voltage vs. Frequency Stability

Voltage	Measurement Frequency (MHz)			
(V)	5200 MHz			
	0 Minute	2 Minute	5 Minute	10 Minute
126.50	5200.0226	5200.0223	5200.0218	5200.0209
110.00	5200.0222	5200.0212	5200.0202	5200.0197
93.50	5200.0221	5200.0216	5200.0213	5200.0203
Max. Deviation (MHz)	0.0226	0.0223	0.0218	0.0209
Max. Deviation (ppm)	4.35	4.29	4.19	4.02
Result	Pass			

Temperature vs. Frequency Stability

Temperature	Measurement Frequency (MHz)			
(℃)	5200 MHz			
	0 Minute	2 Minute	5 Minute	10 Minute
0	5200.0207	5200.0206	5200.0196	5200.0194
10	5200.0214	5200.0204	5200.0200	5200.0192
20	5200.0222	5200.0218	5200.0210	5200.0208
30	5200.0232	5200.0229	5200.0223	5200.0222
40	5200.0249	5200.0248	5200.0242	5200.0238
Max. Deviation (MHz)	0.0249	0.0248	0.0242	0.0238
Max. Deviation (ppm)	4.79	4.77	4.65	4.58
Result	Pass			

Voltage vs. Frequency Stability

Voltage	Measurement Frequency (MHz)			
(V)	5785 MHz			
	0 Minute	2 Minute	5 Minute	10 Minute
126.50	5785.0223	5785.0221	5785.0218	5785.0209
110.00	5785.0222	5785.0220	5785.0212	5785.0209
93.50	5785.0214	5785.0208	5785.0207	5785.0203
Max. Deviation (MHz)	0.0223	0.0221	0.0218	0.0209
Max. Deviation (ppm)	3.85	3.82	3.77	3.61
Result	Pass			

Temperature vs. Frequency Stability

Temperature	Measurement Frequency (MHz)			
(℃)	5785 MHz			
	0 Minute	2 Minute	5 Minute	10 Minute
0	5785.0216	5785.0214	5785.0212	5785.0211
10	5785.0219	5785.0216	5785.0207	5785.0199
20	5785.0222	5785.0213	5785.0203	5785.0199
30	5785.0232	5785.0223	5785.0218	5785.0209
40	5785.0249	5785.0245	5785.0244	5785.0240
Max. Deviation (MHz)	0.0249	0.0245	0.0244	0.0240
Max. Deviation (ppm)	4.30	4.24	4.22	4.15
Result	Pass			

Mode: 40 MHz / Chain 2

Voltage vs. Frequency Stability

Voltage	Measurement Frequency (MHz)			
(V)	5190 MHz			
	0 Minute	2 Minute	5 Minute	10 Minute
126.50	5190.0231	5190.0229	5190.0222	5190.0219
110.00	5190.0222	5190.0217	5190.0213	5190.0209
93.50	5190.0213	5190.0206	5190.0203	5190.0195
Max. Deviation (MHz)	0.0231	0.0229	0.0222	0.0219
Max. Deviation (ppm)	4.45	4.41	4.28	4.22
Result	Pass			

Temperature vs. Frequency Stability

Temperature	Measurement Frequency (MHz)			
(℃)	5190 MHz			
	0 Minute	2 Minute	5 Minute	10 Minute
0	5190.0201	5190.0200	5190.0191	5190.0181
10	5190.0210	5190.0209	5190.0206	5190.0204
20	5190.0222	5190.0216	5190.0206	5190.0204
30	5190.0232	5190.0222	5190.0216	5190.0206
40	5190.0244	5190.0237	5190.0228	5190.0225
Max. Deviation (MHz)	0.0244	0.0237	0.0228	0.0225
Max. Deviation (ppm)	4.70	4.57	4.39	4.34
Result	Pass			

Voltage vs. Frequency Stability

Voltage	Measurement Frequency (MHz)			
(V)	5755 MHz			
	0 Minute	2 Minute	5 Minute	10 Minute
126.50	5755.0228	5755.0219	5755.0212	5755.0204
110.00	5755.0222	5755.0214	5755.0205	5755.0200
93.50	5755.0212	5755.0205	5755.0196	5755.0195
Max. Deviation (MHz)	0.0228	0.0219	0.0212	0.0204
Max. Deviation (ppm)	3.96	3.81	3.68	3.54
Result	Pass			

Temperature vs. Frequency Stability

Temperature	Measurement Frequency (MHz)			
(℃)	5755 MHz			
	0 Minute	2 Minute	5 Minute	10 Minute
0	5755.0213	5755.0211	5755.0206	5755.0202
10	5755.0218	5755.0217	5755.0210	5755.0200
20	5755.0222	5755.0221	5755.0219	5755.0213
30	5755.0232	5755.0227	5755.0225	5755.0222
40	5755.0245	5755.0237	5755.0227	5755.0226
Max. Deviation (MHz)	0.0245	0.0237	0.0227	0.0226
Max. Deviation (ppm)	4.26	4.12	3.94	3.93
Result	Pass			

Mode: 80 MHz / Chain 2

Voltage vs. Frequency Stability

Voltage	Measurement Frequency (MHz)			
(V)	5210 MHz			
	0 Minute	2 Minute	5 Minute	10 Minute
126.50	5210.0229	5210.0227	5210.0218	5210.0216
110.00	5210.0222	5210.0216	5210.0214	5210.0207
93.50	5210.0221	5210.0219	5210.0209	5210.0206
Max. Deviation (MHz)	0.0229	0.0227	0.0218	0.0216
Max. Deviation (ppm)	4.40	4.36	4.18	4.15
Result	Pass			

Temperature vs. Frequency Stability

Temperature	Measurement Frequency (MHz)			
(℃)	5210 MHz			
	0 Minute	2 Minute	5 Minute	10 Minute
0	5210.0188	5210.0184	5210.0182	5210.0176
10	5210.0203	5210.0193	5210.0186	5210.0184
20	5210.0222	5210.0220	5210.0210	5210.0208
30	5210.0232	5210.0226	5210.0217	5210.0208
40	5210.0244	5210.0241	5210.0240	5210.0236
Max. Deviation (MHz)	0.0244	0.0241	0.0240	0.0236
Max. Deviation (ppm)	4.68	4.63	4.61	4.53
Result	Pass			

Voltage vs. Frequency Stability

Voltage	Measurement Frequency (MHz)			
(V)	5775 MHz			
	0 Minute	2 Minute	5 Minute	10 Minute
126.50	5775.0226	5775.0219	5775.0211	5775.0207
110.00	5775.0222	5775.0212	5775.0202	5775.0197
93.50	5775.0215	5775.0205	5775.0201	5775.0192
Max. Deviation (MHz)	0.0226	0.0219	0.0211	0.0207
Max. Deviation (ppm)	3.91	3.79	3.65	3.58
Result	Pass			

Temperature vs. Frequency Stability

Temperature	Measurement Frequency (MHz)			
(℃)	5775 MHz			
	0 Minute	2 Minute	5 Minute	10 Minute
0	5775.0213	5775.0212	5775.0209	5775.0202
10	5775.0218	5775.0217	5775.0212	5775.0205
20	5775.0222	5775.0216	5775.0210	5775.0203
30	5775.0232	5775.0226	5775.0217	5775.0215
40	5775.0243	5775.0242	5775.0232	5775.0227
Max. Deviation (MHz)	0.0243	0.0242	0.0232	0.0227
Max. Deviation (ppm)	4.21	4.19	4.02	3.93
Result	Pass			