FCC Test Report

Equipment	:	AC900 High Power Wireless Dual Band Router
Brand Name	:	TP-LINK
Model No.	:	Archer C28HP
FCC ID	:	TE7C28HP
Standard	:	47 CFR FCC Part 15.407
Operating Band	:	5150 MHz – 5250 MHz 5725 MHz – 5850 MHz
Applicant	:	TP-LINK TECHNOLOGIES CO., LTD. Building 24 (floors 1,3,4,5) and 28 (floors1-4) Central Science and Technology Park,Shennan Rd, Nanshan, Shenzhen,China
Manufacturer	:	TP-LINK TECHNOLOGIES CO., LTD. Building 24 (floors 1,3,4,5) and 28 (floors1-4) Central Science and Technology Park,Shennan Rd, Nanshan, Shenzhen,China
Function	:	☐ Outdoor; ☒ Indoor; ☐ Fixed P2P ☐ Client

The product sample received on Jul. 20, 2016 and completely tested on Aug. 22, 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

1 GENERAL DESCRIPTION 5

1.1 Information 5
1.2 Testing Applied Standards 8
1.3 Testing Location Information 8
1.4 Measurement Uncertainty 9

2 TEST CONFIGURATION OF EUT 10

2.1 Test Channel Mode 10
2.2 The Worst Case Measurement Configuration 11
2.3 EUT Operation during Test 12
2.4 Accessories 12
2.5 Support Equipment 13
2.6 Test Setup Diagram 14

3 TRANSMITTER TEST RESULT 17

3.1 AC Power-line Conducted Emissions 17
3.2 Emission Bandwidth 19
3.3 Maximum Conducted Output Power 20
3.4 Peak Power Spectral Density 22
3.5 Unwanted Emissions 25
3.6 Frequency Stability 29

4 TEST EQUIPMENT AND CALIBRATION DATA 30

APPENDIX A. TEST RESULTS OF AC POWER-LINE CONDUCTED EMISSIONS

APPENDIX B. TEST RESULTS OF EMISSION BANDWIDTH

APPENDIX C. TEST RESULTS OF MAXIMUM CONDUCTED OUTPUT POWER

APPENDIX D. TEST RESULTS OF PEAK POWER SPECTRAL DENSITY

APPENDIX E. TEST RESULTS OF UNWANTED EMISSIONS

APPENDIX F. TEST RESULTS OF FREQUENCY STABILITY

APPENDIX G. TEST RESULTS OF RADIATED EMISSION CO-LOCATION

APPENDIX H. TEST PHOTOS

Summary of Test Result

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

Revision History

Report No.	Version	Description	Issued Date
FR652029AB	Rev. 01	Initial issue of report	Sep. 20, 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	1
5.8G	HT20	20	1
5.2G	VHT20	20	1
5.8G	VHT20	20	1
5.2G	HT40	40	1
5.8G	HT40	40	1
5.2G	VHT40	40	1
5.8G	VHT40	40	1
5.2G	VHT80	80	1
5.8G	VHT80	80	1

Note:
- 5.2G/5.2G-I(IC) is the 5.2GHz Band (5.15-5.25GHz).
- 5.8G/5.8G-I(IC) is the 5.8GHz Band (5.725-5.850GHz).
- 11a, HT20 and HT40 use a combination of OFDM-BPSK, QPSK, 16QAM, 64QAM modulation.
- VHT20, VHT40, VHT80 and 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	Product Number	Type	Connector	Antenna Gain (dBi)		
					2.4GHz	5GHz Band 1	5GHz Band 4
1	TP-LINK	3101500905	Dipole	RP-SMA-F	6.45	4.54	3.34
2	TP-LINK	3101500905	Dipole	RP-SMA-F	6.45	-	-
3	TP-LINK	3101500905	Dipole	RP-SMA-F	6.45	-	-

Ant.	Cable Loss (dB)			True Gain (dBi)		
	2.4GHz	5GHz Band 1	5GHz Band 4	2.4GHz	5GHz Band 1	5GHz Band 4
1	0.80	1.40	1.40	5.65	3.14	1.94
2	0.80	-	-	5.65	-	-
3	0.90	-	-	5.64	-	-

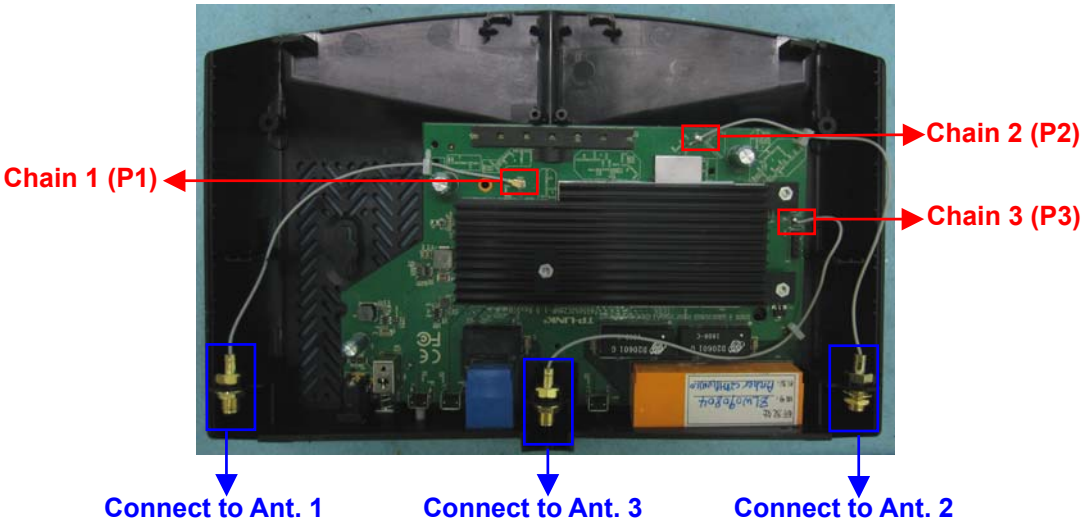
Note: The EUT has three antennas.

For 2.4GHz WLAN function (3TX/3RX):

Chain 1 (P1), Chain 2 (P2) and Chain 3 (P2) could transmit/receive simultaneously.

For 5GHz WLAN function (1TX/1RX):

Only Chain 1 (P1) can be used as transmitting/receiving.



1.1.3 Mode Test Duty Cycle

Mode	DC	T(s)	VBW(Hz) ≥ 1/T
11a	0.939	2.029m	1k
VHT20	0.949	1.901m	1k
VHT40	0.93	936.875u	3k
VHT80	0.858	456.875u	3k

1.1.4 EUT Operational Condition

EUT Power Type	From power adapter			
Beamforming Function	☐	With beamforming	☒	Without beamforming

1.2 Testing Applied Standards

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

- 47 CFR FCC Part 15
- ANSI C63.10-2013
- FCC KDB 789033 D02 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	Wen Chao	24°C / 32%	Aug. 22, 2016
Radiated	03CH01-CB	Eason Chen, Peter Wu	22°C / 59%	Aug. 09, 2016~Aug. 13, 2016
AC Conduction	CO02-CB	Edison Lin	24°C / 61%	Aug. 03, 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	5180	L	22.5
5.2G	11a	20	1	1	5200	M	27.5
5.2G	11a	20	1	1	5240	H	26
5.8G	11a	20	1	1	5745	L	30.5
5.8G	11a	20	1	1	5785	M	31.5
5.8G	11a	20	1	1	5825	H	31.5
5.2G	VHT20	20	1,(M0)	1	5180	L	22.5
5.2G	VHT20	20	1,(M0)	1	5200	M	27.5
5.2G	VHT20	20	1,(M0)	1	5240	H	25
5.8G	VHT20	20	1,(M0)	1	5745	L	30.5
5.8G	VHT20	20	1,(M0)	1	5785	M	31
5.8G	VHT20	20	1,(M0)	1	5825	H	31.5
5.2G	VHT40	40	1,(M0)	1	5190	L	16
5.2G	VHT40	40	1,(M0)	1	5230	H	24
5.8G	VHT40	40	1,(M0)	1	5755	L	30
5.8G	VHT40	40	1,(M0)	1	5795	H	30
5.2G	VHT80	80	1,(M0)	1	5210	S	7
5.8G	VHT80	80	1,(M0)	1	5775	S	26

Note: VHT20/VHT40 covers HT20/HT40, due to same modulation. The power setting for 802.11n HT20 and HT40 are the same or lower than 802.11ac VHT20 and VHT40.

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
There are three modes of EUT (AP mode, Repeater mode and Bridge mode) Only the most complex mode for Repeater mode was performed for all the tests and recorded in this report.	
1	Repeater mode

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
There are three modes of EUT (AP mode, Repeater mode and Bridge mode) Only the most complex mode for Repeater mode was performed for all the tests and recorded in this report.	
1	EUT Y axis-Repeater mode
2	EUT Z axis-Repeater mode
For operating mode 2 is the worst case and it was record in this test report.	
Operating Mode > 1GHz	CTX
There are two modes of EUT, one is EUT Y axis, and the other is EUT Z axis, after evaluating, EUT Y axis has been evaluated to be the worst case, so it was selected to test and record in this test report.	
1	EUT Y axis

The Worst Case Mode for Following Conformance Tests	
Tests Item	Simultaneous Transmission Analysis
Test Condition	Radiated measurement
Operating Mode	Normal Link
There are three modes of EUT (AP mode, Repeater mode and Bridge mode) Only the most complex mode for Repeater mode was performed for all the tests and recorded in this report.	
1	EUT Y axis+WLAN 2.4GHz+WLAN 5GHz-Repeater mode
2	EUT Z axis+WLAN 2.4GHz+WLAN 5GHz-Repeater mode
For operating mode 1 is the worst case and it was record in this test report.	
Refer to Sporton Test Report No.: FA652029 for Co-location RF Exposure Evaluation and Appendix G for Radiated Emission Co-location.	

2.3 EUT Operation during Test

The EUT was programmed to be in continuously transmitting mode.

2.4 Accessories

Accessories			
Power	**Brand**	**Model No.**	**Rating**
Adapter	TP-LINK	T120150-2B1	Input: 100-240Vac, 50/60Hz, 0.6A Output: 12Vdc, 1.5A

2.5 Support Equipment

For Test Site No: CO02-CB

Support Equipment				
No.	**Equipment**	**Brand Name**	**Model Name**	**FCC ID**
1	NB*4	DELL	E6430	DoC
2	AP Router	Planex	GW-AP54SGX	KA220030603014-1

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

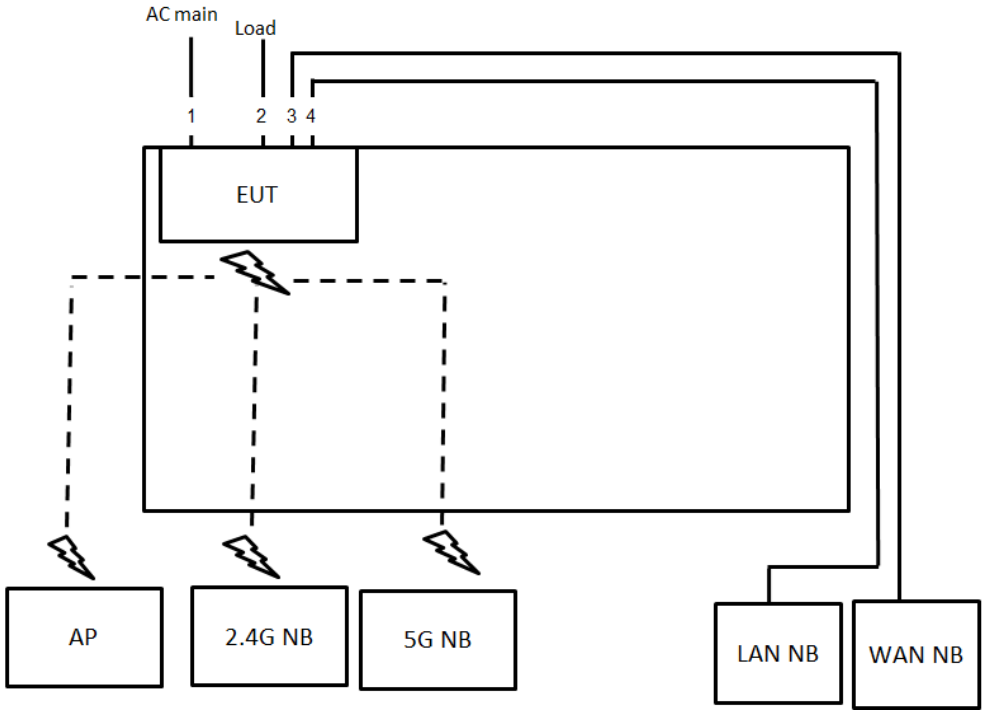
Support Equipment				
No.	**Equipment**	**Brand Name**	**Model Name**	**FCC ID**
1	NB*4	DELL	E4300	DoC
2	WLAN AP	D-LINK	DIR860L	KA2IR860LA1

For Test Site No: 03CH01-CB (above 1GHz) and TH01-CB

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

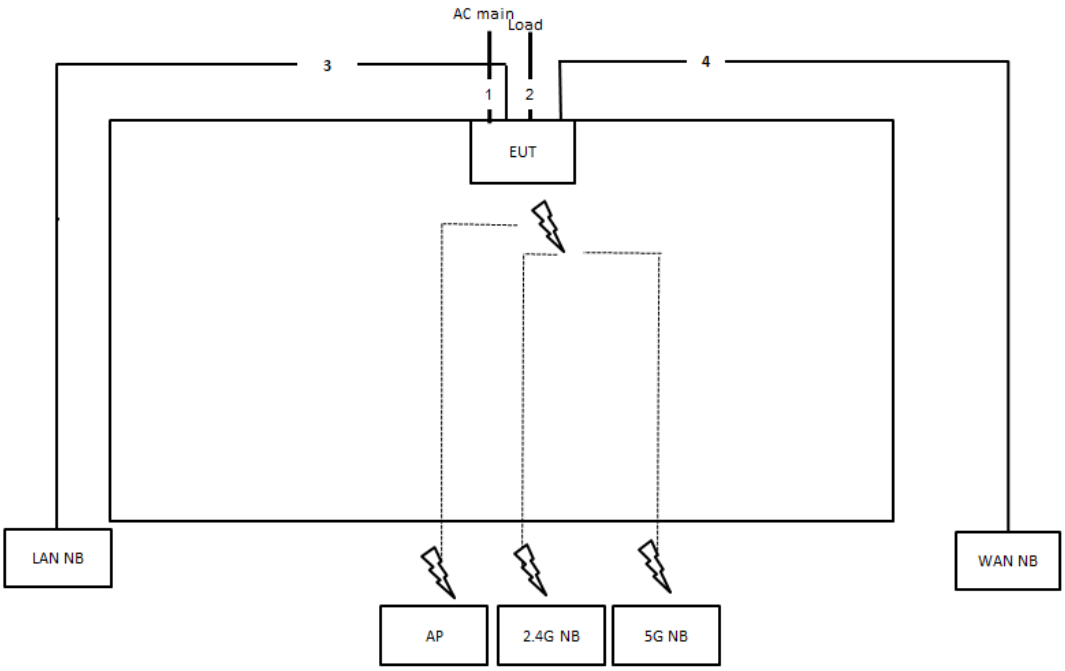
2.6 Test Setup Diagram

Test Setup Diagram – AC Line Conducted Emission Test



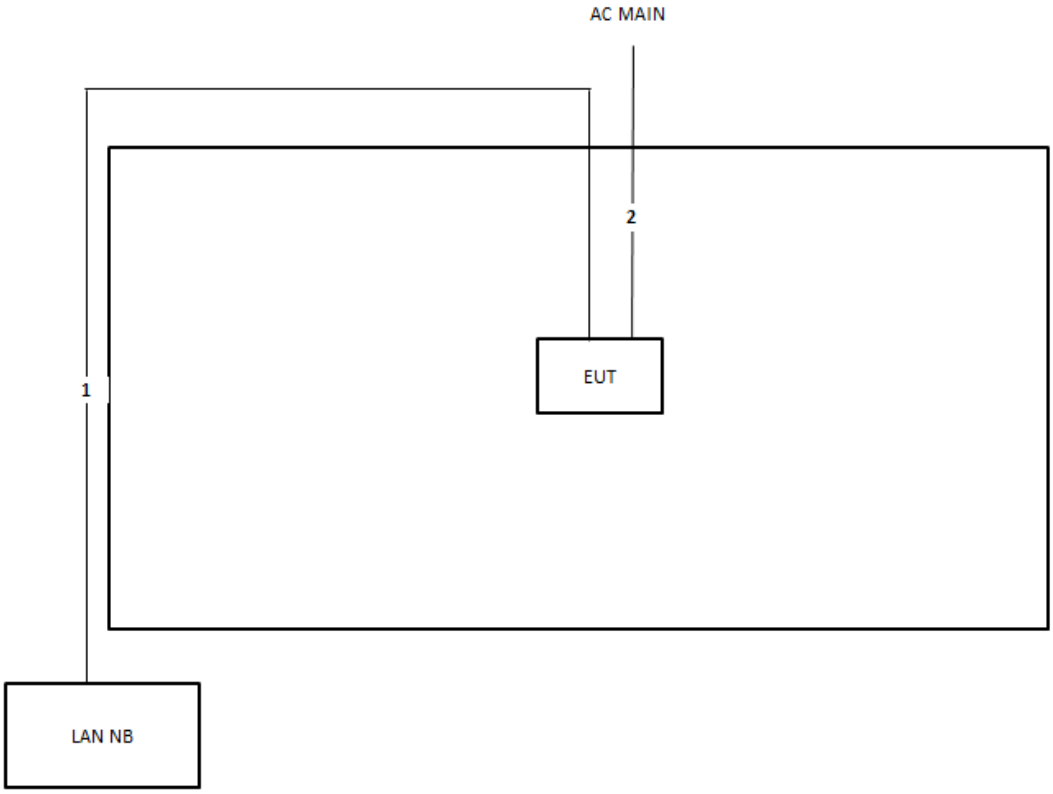
Item	Connection	Shielded	Length
1	Power cable	No	1.5m
2	RJ-45 cable*3	No	1.5m
3	RJ-45 cable	No	10m
4	RJ-45 cable	No	10m

Test Setup Diagram - Radiated Test < 1GHz



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

Test Setup Diagram - Radiated Test > 1GHz



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

3 Transmitter Test Result

3.1 AC Power-line Conducted Emissions

3.1.1 AC Power-line Conducted Emissions Limit

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

3.1.2 Measuring Instruments

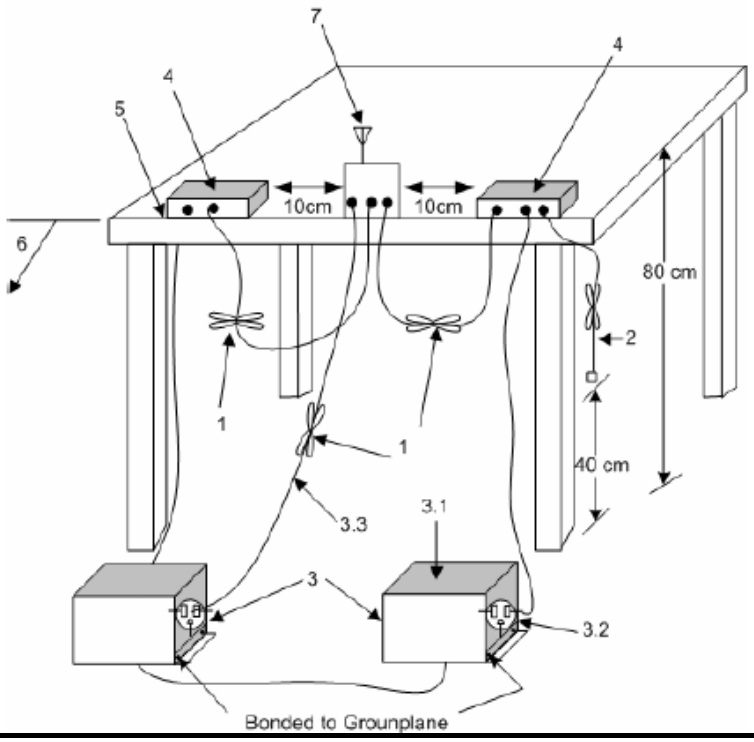
Refer a test equipment and calibration data table in this test report.

3.1.3 Test Procedures

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

3.1.4 Test Setup

AC Power-line Conducted Emissions



3.1.5 Test Result of AC Power-line Conducted Emissions

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

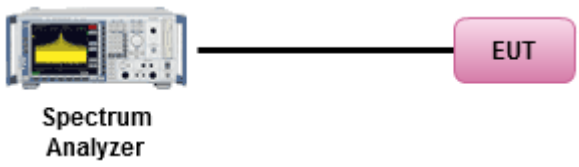
Refer a test equipment and calibration data table in this test report.

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 D02 v01r03, 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



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.	

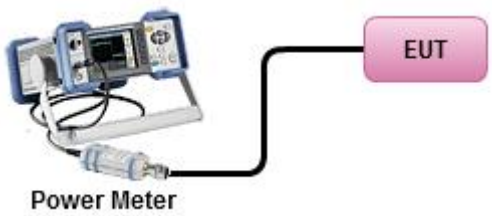
3.3.2 Measuring Instruments

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 D02 v01r03, clause E Method SA-1 (spectral trace averaging).
	☐ Refer as FCC KDB 789033 D02 v01r03, 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 D02 v01r03, clause E Method SA-2 (spectral trace averaging).
	☐ Refer as FCC KDB 789033 D02 v01r03, 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 D02 v01r03, 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

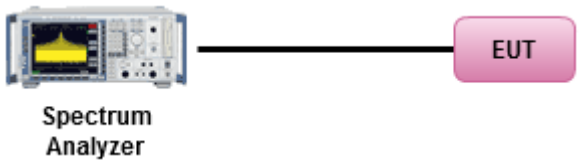
Refer a test equipment and calibration data table in this test report.

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 D02 v01r03, 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 D02 v01r03, clause E Method SA-1 (spectral trace averaging).		
	☐ Refer as FCC KDB 789033 D02 v01r03, 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 D02 v01r03, clause E Method SA-2 (spectral trace averaging).		
	☐ Refer as FCC KDB 789033 D02 v01r03, 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.

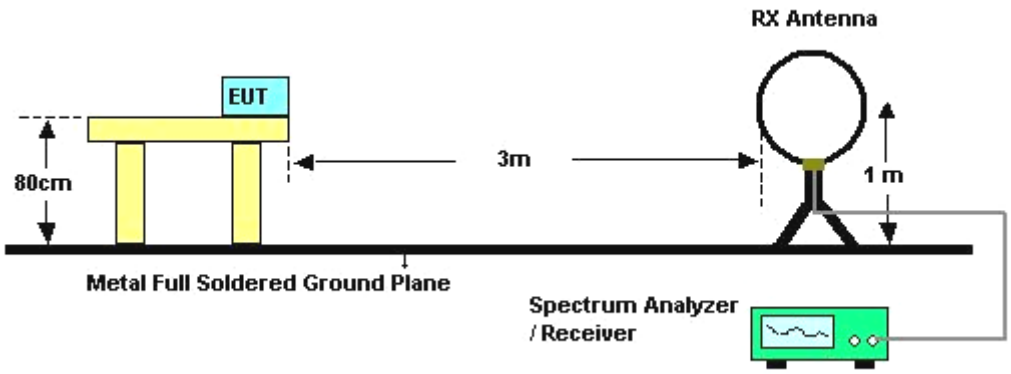
3.5.3 Test Procedures

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 D02 v01r03, clause H)2) for unwanted emissions into non-restricted bands.		
	▪ Refer as FCC KDB 789033 D02 v01r03, clause H)1) for unwanted emissions into restricted bands.		
		☐	Refer as FCC KDB 789033 D02 v01r03, H)6) Method AD (Trace Averaging).
		☒	Refer as FCC KDB 789033 D02 v01r03, 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 D02 v01r03, 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.			

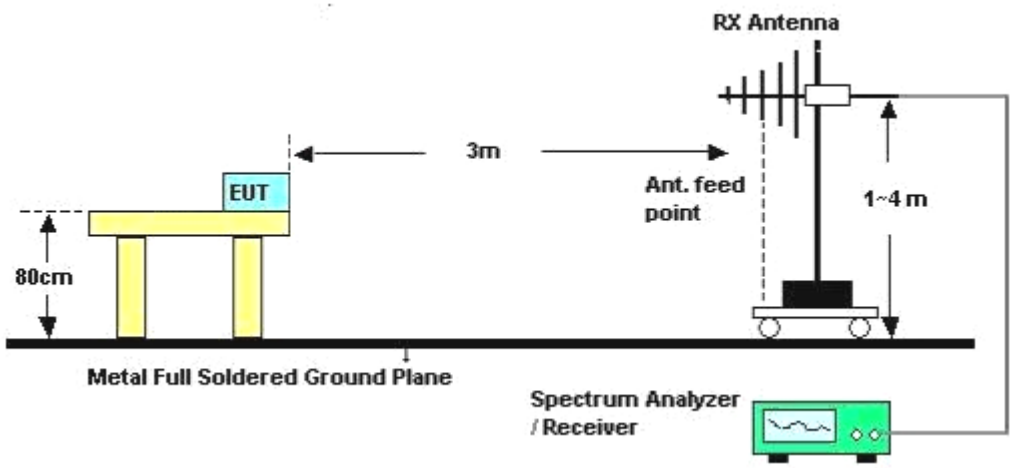
3.5.4 Test Setup

Transmitter Radiated Unwanted Emissions

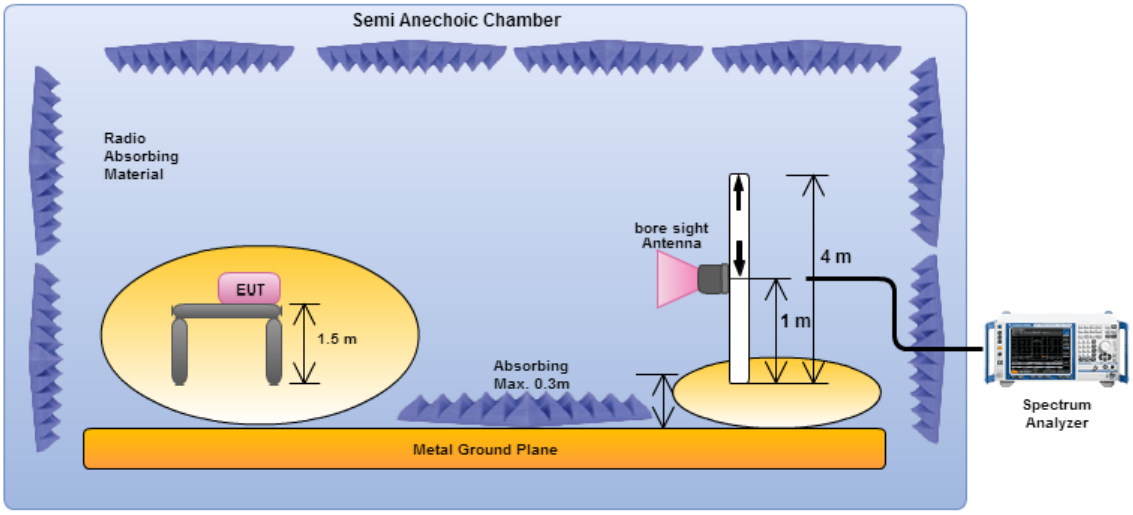
9kHz ~30MHz



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

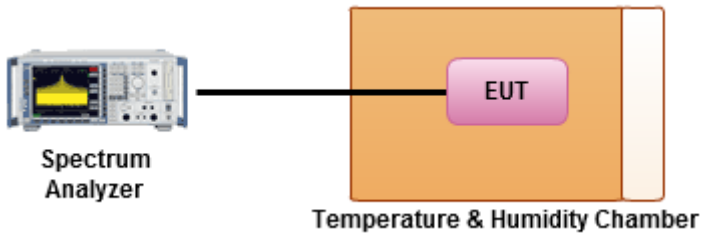
Refer a test equipment and calibration data table in this test report.

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˚C~40˚C.

3.6.4 Test Setup

Frequency Stability



3.6.5 Test Result of Frequency Stability

Refer as Appendix F

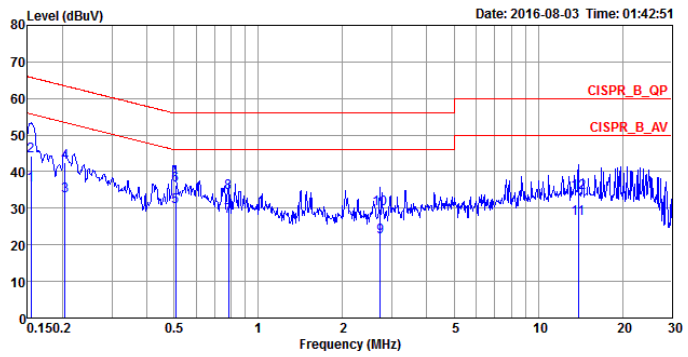
4 Test Equipment and Calibration Data

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Remark
LISN	Schwarzbeck	NSLK 8127	8127650	9kHz ~ 30MHz	Nov. 16, 2015	Conduction (CO02-CB)
LISN	Schwarzbeck	NSLK 8127	8127478	9kHz ~ 30MHz	Nov. 13, 2015	Conduction (CO02-CB)
EMI Receiver	Agilent	N9038A	MY52260140	9kHz ~ 8.4GHz	Jan. 18, 2016	Conduction (CO02-CB)
COND Cable	Woken	Cable	01	0.15MHz ~ 30MHz	Dec. 01, 2015	Conduction (CO02-CB)
Software	Audix	E3	6.120210n	-	N.C.R.	Conduction (CO02-CB)
Pulse Limiter	Schwarzbeck	VTSD 9561F	9561-F073	9kHz ~ 30MHz	Sep. 30, 2015	Conduction (CO02-CB)
Bilog Antenna	TESEQ	CBL6112D	37880	20MHz ~ 2GHz	Sep. 03, 2015	Radiation (03CH01-CB)
Horn Antenna	EMCO	3115	00075790	750MHz ~ 18GHz	Oct. 22, 2015	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)
Test Software	Audix	E3	6.2009-l0-7	N/A	N/A	Radiation (03CH01-CB)
Loop Antenna	Teseq	HLA 6120	24155	9kHz - 30 MHz	Mar. 16, 2016*	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	Nov. 02, 2015	Conducted (TH01-CB)

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Remark
RF Cable-high	Woken	RG402	High Cable-7	1 GHz – 26.5 GHz	Nov. 02, 2015	Conducted (TH01-CB)
RF Cable-high	Woken	RG402	High Cable-8	1 GHz – 26.5 GHz	Nov. 02, 2015	Conducted (TH01-CB)
RF Cable-high	Woken	RG402	High Cable-9	1 GHz – 26.5 GHz	Nov. 02, 2015	Conducted (TH01-CB)
RF Cable-high	Woken	RG402	High Cable-10	1 GHz – 26.5 GHz	Nov. 02, 2015	Conducted (TH01-CB)
Power Sensor	Agilent	U2021XA	MY53410001	50MHz~18GHz	Nov. 02, 2015	Conducted (TH01-CB)

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

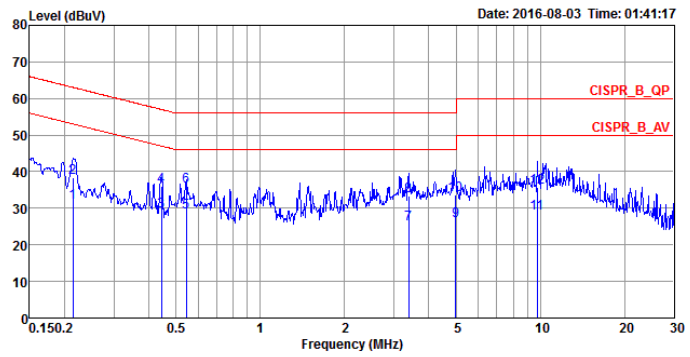
AC Power-line Conducted Emissions Result			
Operating Mode	1	**Power Phase**	Neutral
Operating Function	Normal Link		



	Freq	Level	Over Limit	Limit Line	Read Level	LISN Factor	Remark	Pol/Phase
	MHz	dBuV	dB	dBuV	dBuV	dB		
1	0.1540	36.17	-19.61	55.78	26.05	9.96	Average	NEUTRAL
2	0.1540	44.39	-21.39	65.78	34.27	9.96	QP	NEUTRAL
3	0.2040	33.22	-20.23	53.45	23.08	9.96	Average	NEUTRAL
4	0.2040	42.45	-21.00	63.45	32.31	9.96	QP	NEUTRAL
5	0.5074	30.40	-15.60	46.00	20.23	9.97	Average	NEUTRAL
6	0.5074	36.35	-19.65	56.00	26.18	9.97	QP	NEUTRAL
7	0.7835	27.62	-18.38	46.00	17.46	9.97	Average	NEUTRAL
8	0.7835	34.39	-21.61	56.00	24.23	9.97	QP	NEUTRAL
9	2.7212	22.19	-23.81	46.00	11.90	10.00	Average	NEUTRAL
10	2.7212	29.86	-26.14	56.00	19.57	10.00	QP	NEUTRAL
11	13.9146	27.22	-22.78	50.00	16.58	10.21	Average	NEUTRAL
12	13.9146	34.29	-25.71	60.00	23.65	10.21	QP	NEUTRAL

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

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



	Freq	Level	Over Limit	Limit Line	Read Level	LISN Factor	Remark	Pol/Phase
	MHz	dBuV	dB	dBuV	dBuV	dB		
1	0.2139	31.48	-21.57	53.05	21.34	9.96	Average	LINE
2	0.2139	38.52	-24.53	63.05	28.38	9.96	QP	LINE
3	0.4444	29.24	-17.74	46.98	19.03	10.01	Average	LINE
4	0.4444	36.04	-20.94	56.98	25.83	10.01	QP	LINE
5	0.5436	28.92	-17.08	46.00	18.70	10.02	Average	LINE
6	0.5436	36.08	-19.92	56.00	25.86	10.02	QP	LINE
7	3.3814	25.83	-20.17	46.00	15.42	10.10	Average	LINE
8	3.3814	33.27	-22.73	56.00	22.86	10.10	QP	LINE
9	4.9782	26.42	-19.58	46.00	15.96	10.12	Average	LINE
10	4.9782	33.71	-22.29	56.00	23.25	10.12	QP	LINE
11	9.7567	28.68	-21.32	50.00	18.15	10.15	Average	LINE
12	9.7567	35.67	-24.33	60.00	25.14	10.15	QP	LINE

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

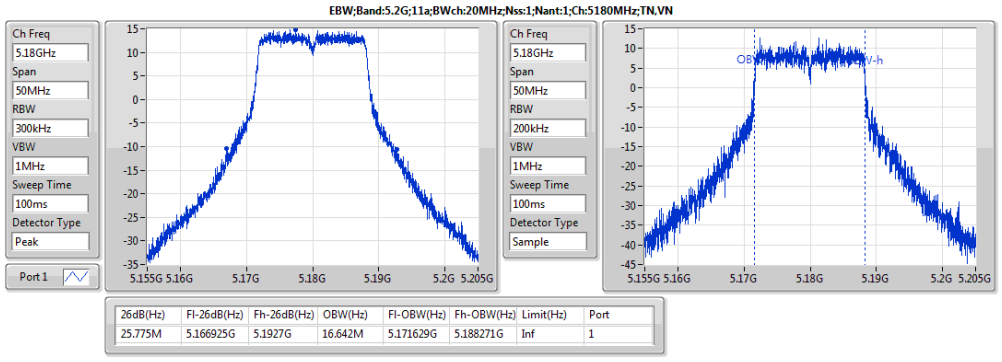
Summary

Mode	Max-N dB (Hz)	Max-OBW (Hz)	ITU-Code	Min-N dB (Hz)	Min-OBW (Hz)
5.2G;11a;Nss1;Ntx1	38.175M	20.49M	20M5D1D	25.775M	16.642M
5.8G;11a;Nss1;Ntx1	16.325M	25.187M	25M2D1D	16.025M	24.613M
5.2G;VHT20;Nss1,(M0);Ntx1	40.8M	20.965M	21M0D1D	25.95M	17.791M
5.8G;VHT20;Nss1,(M0);Ntx1	17.575M	26.262M	26M3D1D	17.275M	25.237M
5.2G;VHT40;Nss1,(M0);Ntx1	53.25M	36.532M	36M5D1D	52.65M	36.482M
5.8G;VHT40;Nss1,(M0);Ntx1	36.1M	48.576M	48M6D1D	35.65M	46.177M
5.2G;VHT80;Nss1,(M0);Ntx1	102.9M	76.462M	76M5D1D	102.9M	76.462M
5.8G;VHT80;Nss1,(M0);Ntx1	70.7M	76.262M	76M3D1D	70.7M	76.262M

Result

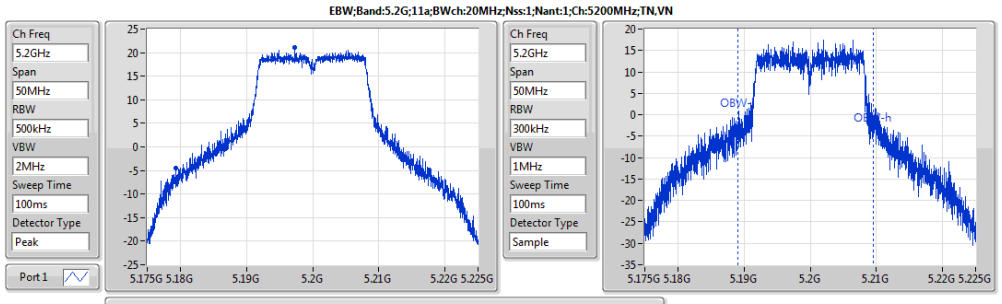
Mode	Result	Limit	P1-N dB (Hz)	P1-OBW (Hz)
5.2G;11a;Nss1;Ntx1;5180;TN,VN	Pass	Inf	25.775M	16.642M
5.2G;11a;Nss1;Ntx1;5200;TN,VN	Pass	Inf	38.175M	20.49M
5.2G;11a;Nss1;Ntx1;5240;TN,VN	Pass	Inf	35.40M	18.491M
5.8G;11a;Nss1;Ntx1;5745;TN,VN	Pass	500k	16.025M	25.162M
5.8G;11a;Nss1;Ntx1;5785;TN,VN	Pass	500k	16.325M	25.187M
5.8G;11a;Nss1;Ntx1;5825;TN,VN	Pass	500k	16.30M	24.613M
5.2G;VHT20;Nss1,(M0);Ntx1;5180;TN,VN	Pass	Inf	25.95M	17.791M
5.2G;VHT20;Nss1,(M0);Ntx1;5200;TN,VN	Pass	Inf	40.80M	20.965M
5.2G;VHT20;Nss1,(M0);Ntx1;5240;TN,VN	Pass	Inf	34.225M	18.141M
5.8G;VHT20;Nss1,(M0);Ntx1;5745;TN,VN	Pass	500k	17.55M	25.787M
5.8G;VHT20;Nss1,(M0);Ntx1;5785;TN,VN	Pass	500k	17.575M	26.262M
5.8G;VHT20;Nss1,(M0);Ntx1;5825;TN,VN	Pass	500k	17.275M	25.237M
5.2G;VHT40;Nss1,(M0);Ntx1;5190;TN,VN	Pass	Inf	52.65M	36.532M
5.2G;VHT40;Nss1,(M0);Ntx1;5230;TN,VN	Pass	Inf	53.25M	36.482M
5.8G;VHT40;Nss1,(M0);Ntx1;5755;TN,VN	Pass	500k	35.65M	48.576M
5.8G;VHT40;Nss1,(M0);Ntx1;5795;TN,VN	Pass	500k	36.10M	46.177M
5.2G;VHT80;Nss1,(M0);Ntx1;5210;TN,VN	Pass	Inf	102.90M	76.462M
5.8G;VHT80;Nss1,(M0);Ntx1;5775;TN,VN	Pass	500k	70.70M	76.262M

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



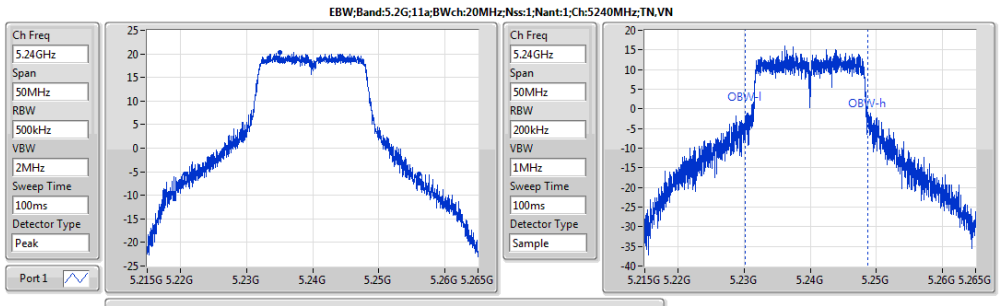
26dB(Hz)	Fl-26dB(Hz)	Fh-26dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
25.775M	5.166925G	5.1927G	16.642M	5.171629G	5.188271G	Inf	1

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



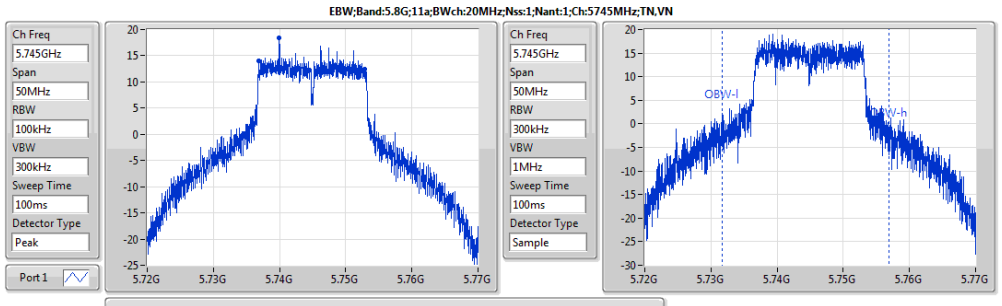
26dB(Hz)	Fl-26dB(Hz)	Fh-26dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
38.175M	5.179375G	5.21755G	20.49M	5.189105G	5.209595G	Inf	1

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



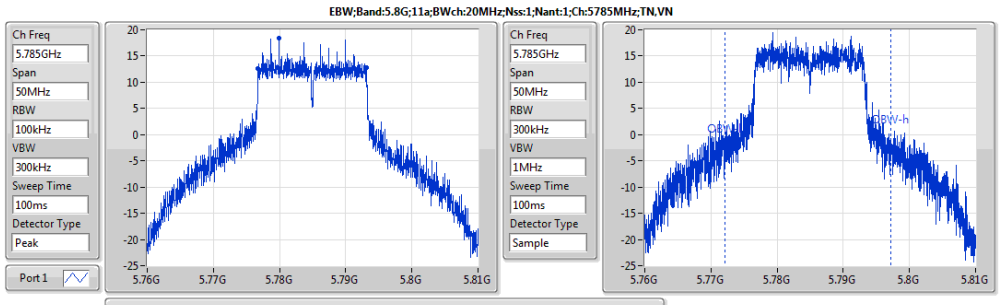
26dB(Hz)	Fl-26dB(Hz)	Fh-26dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
35.4M	5.22065G	5.25605G	18.491M	5.23018G	5.248671G	Inf	1

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



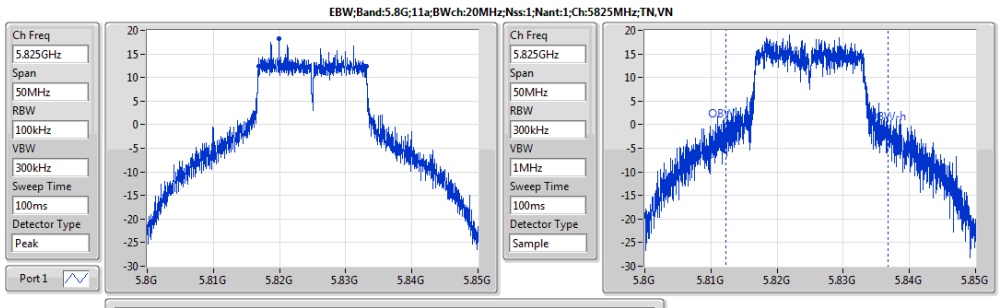
6dB(Hz)	Fl-6dB(Hz)	Fh-6dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
16.025M	5.736825G	5.75285G	25.162M	5.731757G	5.756919G	500k	1

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



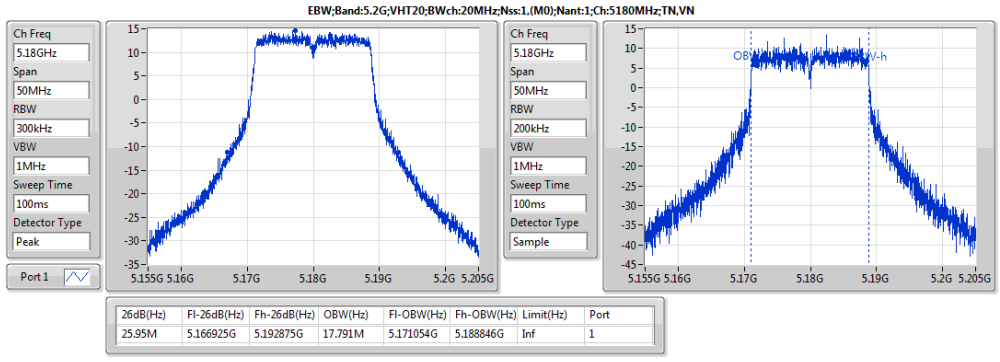
6dB(Hz)	Fl-6dB(Hz)	Fh-6dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
16.325M	5.776775G	5.7931G	25.187M	5.772056G	5.797244G	500k	1

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



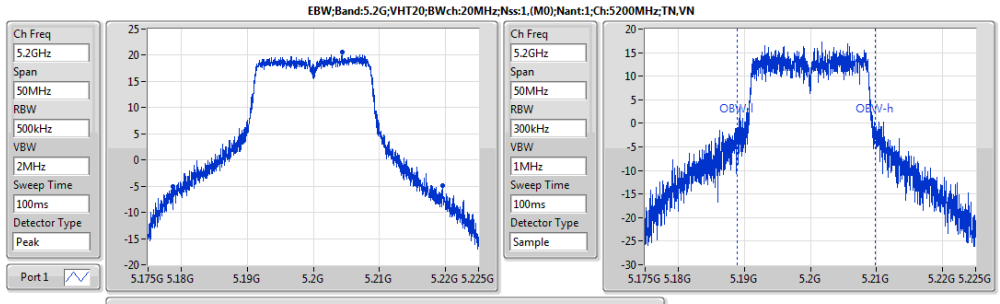
6dB(Hz)	Fl-6dB(Hz)	Fh-6dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
16.3M	5.8168G	5.8331G	24.613M	5.812206G	5.836819G	500k	1

EBW;Band:5.2G;VHT20;BWch:20MHz;Nss:1,(M0);Nant:1;Ch:5180MHz;TN,VN



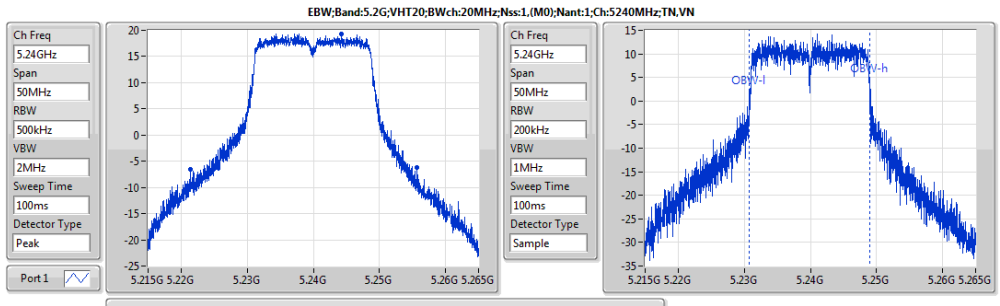
26dB(Hz)	Fl-26dB(Hz)	Fh-26dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
25.95M	5.166925G	5.192875G	17.791M	5.171054G	5.188846G	Inf	1

EBW;Band:5.2G;VHT20;BWch:20MHz;Nss:1,(M0);Nant:1;Ch:5200MHz;TN,VN



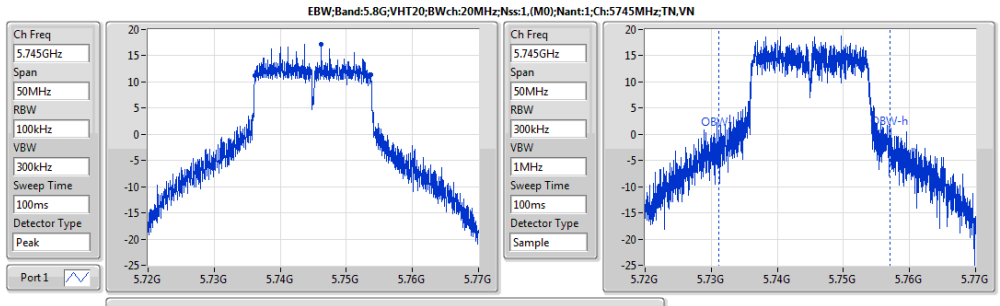
26dB(Hz)	Fl-26dB(Hz)	Fh-26dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
40.8M	5.1788G	5.2196G	20.965M	5.188881G	5.209845G	Inf	1

EBW;Band:5.2G;VHT20;BWch:20MHz;Nss:1,(M0);Nant:1;Ch:5240MHz;TN,VN



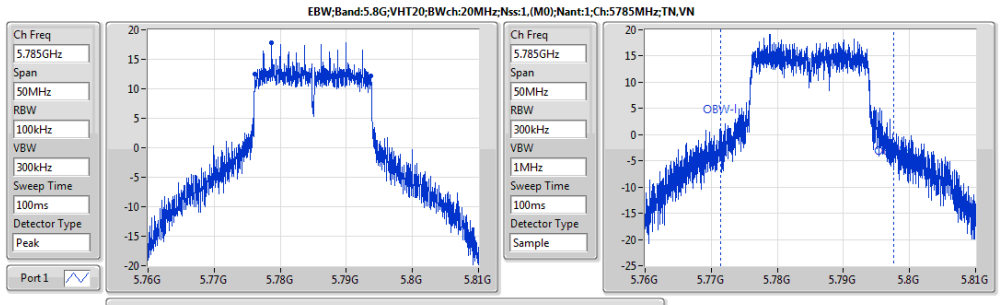
26dB(Hz)	Fl-26dB(Hz)	Fh-26dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
34.225M	5.221425G	5.25565G	18.141M	5.230805G	5.248946G	Inf	1

EBW;Band:5.8G;VHT20;BWch:20MHz;Nss:1,(M0);Nant:1;Ch:5745MHz;TN,VN



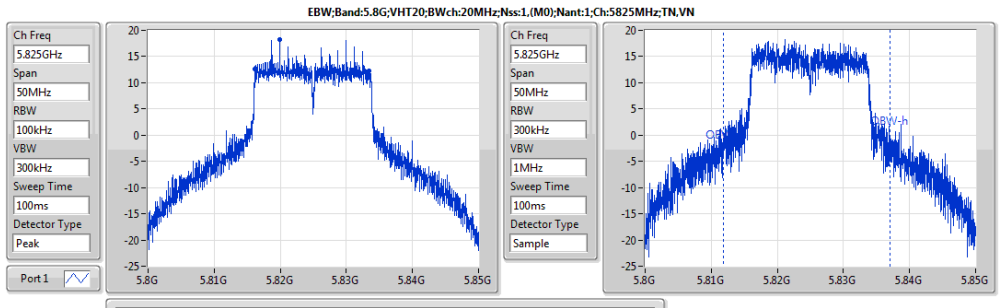
6dB(Hz)	Fl-6dB(Hz)	Fh-6dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
17.55M	5.73615G	5.7537G	25.787M	5.731207G	5.756994G	500k	1

EBW;Band:5.8G;VHT20;BWch:20MHz;Nss:1,(M0);Nant:1;Ch:5785MHz;TN,VN



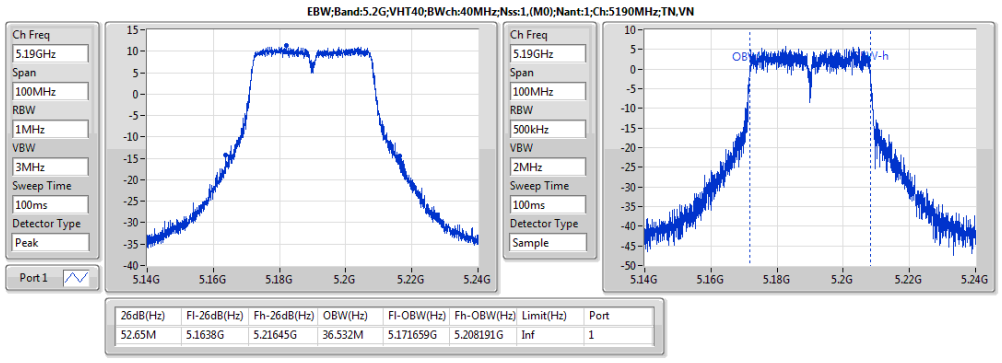
6dB(Hz)	Fl-6dB(Hz)	Fh-6dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
17.575M	5.776175G	5.79375G	26.262M	5.771382G	5.797644G	500k	1

EBW;Band:5.8G;VHT20;BWch:20MHz;Nss:1,(M0);Nant:1;Ch:5825MHz;TN,VN



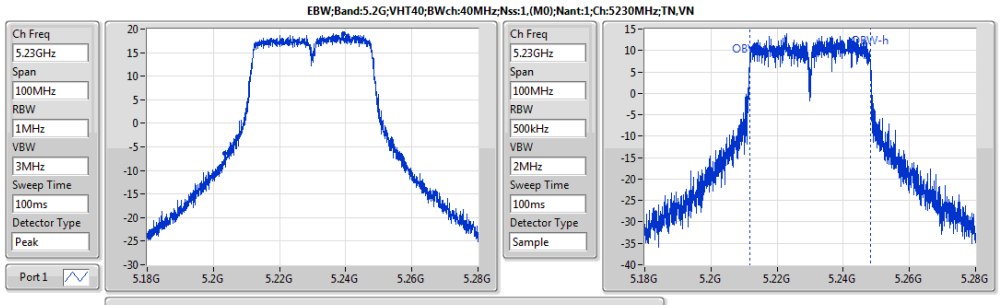
6dB(Hz)	Fl-6dB(Hz)	Fh-6dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
17.275M	5.8162G	5.833475G	25.237M	5.811832G	5.837069G	500k	1

EBW;Band:5.2G;VHT40;BWch:40MHz;Nss:1,(M0);Nant:1;Ch:5190MHz;TN,VN



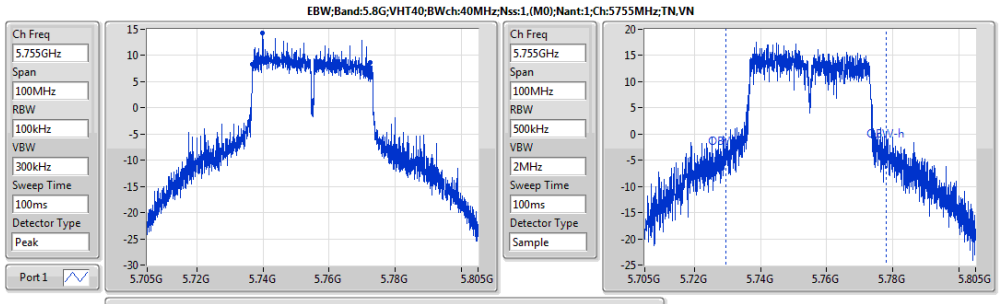
26dB(Hz)	Fl-26dB(Hz)	Fh-26dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
52.65M	5.1638G	5.21645G	36.532M	5.171659G	5.208191G	Inf	1

EBW;Band:5.2G;VHT40;BWch:40MHz;Nss:1,(M0);Nant:1;Ch:5230MHz;TN,VN



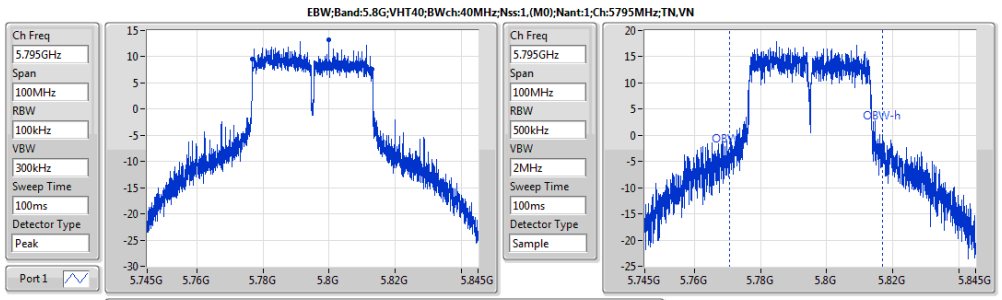
26dB(Hz)	Fl-26dB(Hz)	Fh-26dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
53.25M	5.20335G	5.2566G	36.482M	5.211659G	5.248141G	Inf	1

EBW;Band:5.8G;VHT40;BWch:40MHz;Nss:1,(M0);Nant:1;Ch:5755MHz;TN,VN



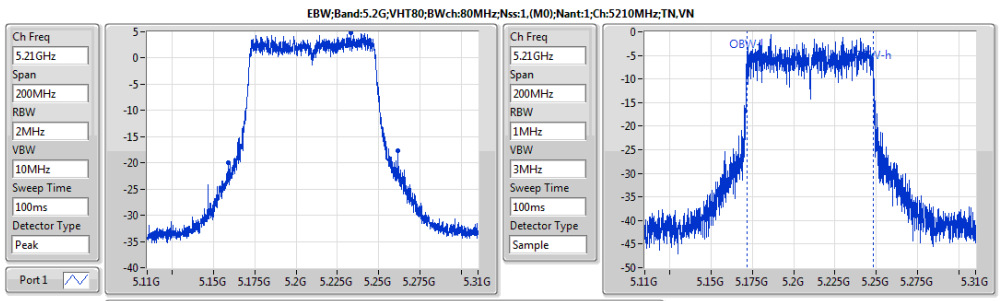
6dB(Hz)	Fl-6dB(Hz)	Fh-6dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
35.65M	5.73685G	5.7725G	48.576M	5.729413G	5.777989G	500k	1

EBW;Band:5.8G;VHT40;BWch:40MHz;Nss:1,(M0);Nant:1;Ch:5795MHz;TN,VN



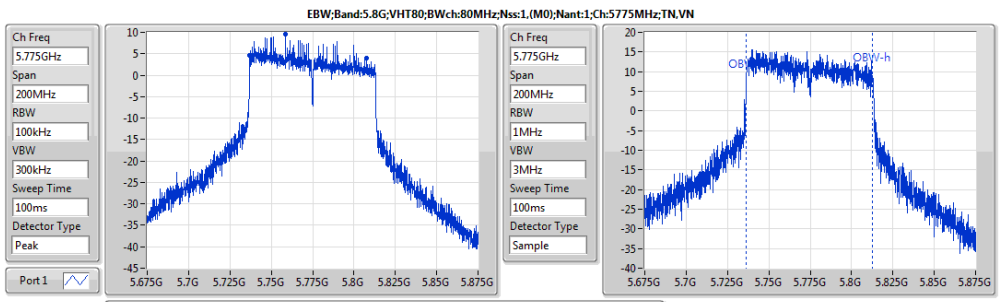
6dB(Hz)	Fl-6dB(Hz)	Fh-6dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
36.1M	5.7768G	5.8129G	46.177M	5.770712G	5.816889G	500k	1

EBW;Band:5.2G;VHT80;BWch:80MHz;Nss:1,(M0);Nant:1;Ch:5210MHz;TN,VN



26dB(Hz)	Fl-26dB(Hz)	Fh-26dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
102.9M	5.1589G	5.2618G	76.462M	5.171719G	5.248181G	Inf	1

EBW;Band:5.8G;VHT80;BWch:80MHz;Nss:1,(M0);Nant:1;Ch:5775MHz;TN,VN



6dB(Hz)	Fl-6dB(Hz)	Fh-6dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
70.7M	5.7368G	5.8075G	76.262M	5.736419G	5.812681G	500k	1

Summary

Mode	Sum (dBm)	Sum (W)	EIRP (dBm)	EIRP (W)
5.2G;11a;Nss1;Ntx1	27.32	0.53951	30.46	1.11173
5.8G;11a;Nss1;Ntx1	29.28	0.84723	31.22	1.32434
5.2G;VHT20;Nss1,(M0);Ntx1	27.20	0.52481	30.34	1.08143
5.8G;VHT20;Nss1,(M0);Ntx1	29.08	0.8091	31.02	1.26474
5.2G;VHT40;Nss1,(M0);Ntx1	24.87	0.3069	28.01	0.63241
5.8G;VHT40;Nss1,(M0);Ntx1	28.73	0.74645	30.67	1.16681
5.2G;VHT80;Nss1,(M0);Ntx1	9.11	0.00815	12.25	0.01679
5.8G;VHT80;Nss1,(M0);Ntx1	26.05	0.40272	27.99	0.62951

Result

Mode	Result	DG (dBi)	EIRP (dBm)	EIRP Lim. (dBm)	Sum (dBm)	Sum Lim. (dBm)	P1 (dBm)
5.2G;11a;Nss1;Ntx1;5180;TN,VN	Pass	3.14	26.72	36.00	23.58	30.00	23.58
5.2G;11a;Nss1;Ntx1;5200;TN,VN	Pass	3.14	30.46	36.00	27.32	30.00	27.32
5.2G;11a;Nss1;Ntx1;5240;TN,VN	Pass	3.14	29.91	36.00	26.77	30.00	26.77
5.8G;11a;Nss1;Ntx1;5745;TN,VN	Pass	1.94	30.88	36.00	28.94	30.00	28.94
5.8G;11a;Nss1;Ntx1;5785;TN,VN	Pass	1.94	31.22	36.00	29.28	30.00	29.28
5.8G;11a;Nss1;Ntx1;5825;TN,VN	Pass	1.94	30.87	36.00	28.93	30.00	28.93
5.2G;VHT20;Nss1,(M0);Ntx1;5180;TN,VN	Pass	3.14	26.71	36.00	23.57	30.00	23.57
5.2G;VHT20;Nss1,(M0);Ntx1;5200;TN,VN	Pass	3.14	30.34	36.00	27.20	30.00	27.20
5.2G;VHT20;Nss1,(M0);Ntx1;5240;TN,VN	Pass	3.14	29.18	36.00	26.04	30.00	26.04
5.8G;VHT20;Nss1,(M0);Ntx1;5745;TN,VN	Pass	1.94	30.85	36.00	28.91	30.00	28.91
5.8G;VHT20;Nss1,(M0);Ntx1;5785;TN,VN	Pass	1.94	31.02	36.00	29.08	30.00	29.08
5.8G;VHT20;Nss1,(M0);Ntx1;5825;TN,VN	Pass	1.94	30.87	36.00	28.93	30.00	28.93
5.2G;VHT40;Nss1,(M0);Ntx1;5190;TN,VN	Pass	3.14	20.30	36.00	17.16	30.00	17.16
5.2G;VHT40;Nss1,(M0);Ntx1;5230;TN,VN	Pass	3.14	28.01	36.00	24.87	30.00	24.87
5.8G;VHT40;Nss1,(M0);Ntx1;5755;TN,VN	Pass	1.94	30.47	36.00	28.53	30.00	28.53
5.8G;VHT40;Nss1,(M0);Ntx1;5795;TN,VN	Pass	1.94	30.67	36.00	28.73	30.00	28.73
5.2G;VHT80;Nss1,(M0);Ntx1;5210;TN,VN	Pass	3.14	12.25	36.00	9.11	30.00	9.11
5.8G;VHT80;Nss1,(M0);Ntx1;5775;TN,VN	Pass	1.94	27.99	36.00	26.05	30.00	26.05

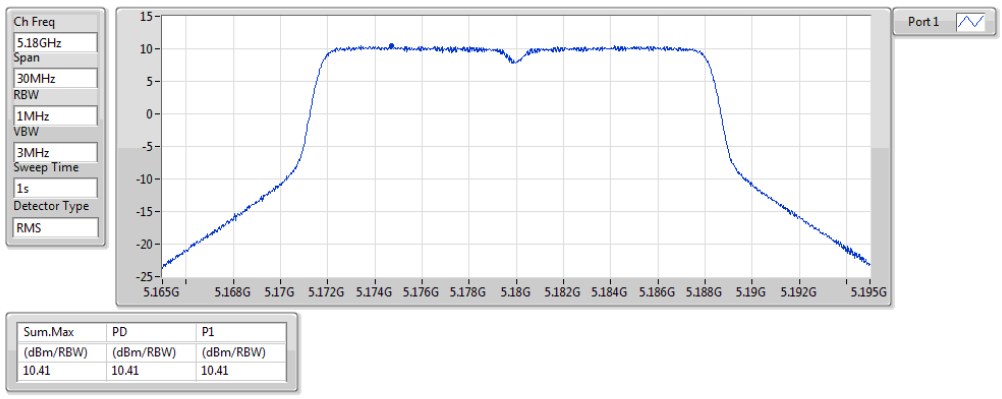
Summary

Mode	PD (dBm/RBW)	EIRP.PD (dBm/RBW)
5.2G;11a;Nss1;Ntx1	13.96	17.10
5.8G;11a;Nss1;Ntx1	14.04	15.98
5.2G;VHT20;Nss1,(M0);Ntx1	13.63	16.77
5.8G;VHT20;Nss1,(M0);Ntx1	13.72	15.66
5.2G;VHT40;Nss1,(M0);Ntx1	8.20	11.34
5.8G;VHT40;Nss1,(M0);Ntx1	10.17	12.11
5.2G;VHT80;Nss1,(M0);Ntx1	-9.26	-6.12
5.8G;VHT80;Nss1,(M0);Ntx1	5.80	7.74

Result

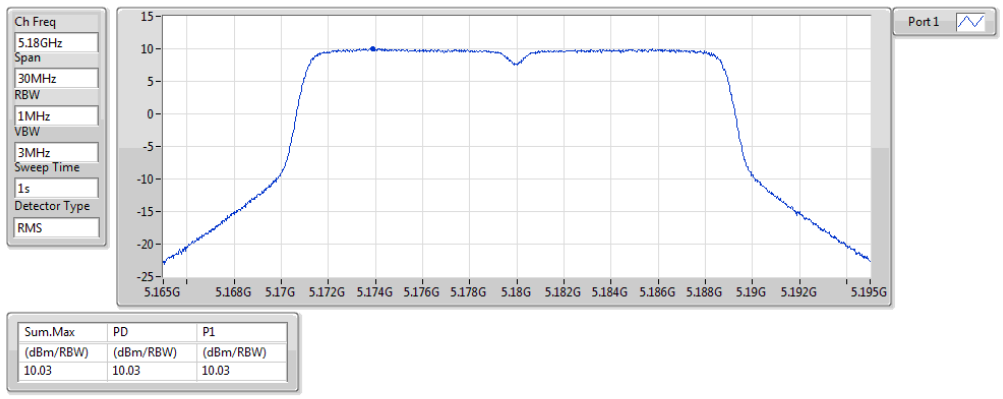
Mode	Result	Meas.RBW (Hz)	Lim.RBW (Hz)	BWCF (dB)	DG (dBi)	Sum.Max (dBm/RBW)	PD (dBm/RBW)	PD.Limit (dBm/RBW)	EIRP.PD (dBm/RBW)	EIRP.PD.Lim (dBm/RBW)	P1 (dBm/RBW)
5.2G;11a;Nss1;Ntx1;5180;TN,VN	Pass	1M	1M	0.00	3.14	10.41	10.41	17.00	13.55	Inf	10.41
5.2G;11a;Nss1;Ntx1;5200;TN,VN	Pass	1M	1M	0.00	3.14	13.96	13.96	17.00	17.10	Inf	13.96
5.2G;11a;Nss1;Ntx1;5240;TN,VN	Pass	1M	1M	0.00	3.14	13.58	13.58	17.00	16.72	Inf	13.58
5.8G;11a;Nss1;Ntx1;5745;TN,VN	Pass	500k	500k	0.00	1.94	14.01	14.01	30.00	15.95	36.00	14.01
5.8G;11a;Nss1;Ntx1;5785;TN,VN	Pass	500k	500k	0.00	1.94	13.96	13.96	30.00	15.90	36.00	13.96
5.8G;11a;Nss1;Ntx1;5825;TN,VN	Pass	500k	500k	0.00	1.94	14.04	14.04	30.00	15.98	36.00	14.04
5.2G;VHT20;Nss1,(M0);Ntx1;5180;TN,VN	Pass	1M	1M	0.00	3.14	10.03	10.03	17.00	13.17	Inf	10.03
5.2G;VHT20;Nss1,(M0);Ntx1;5200;TN,VN	Pass	1M	1M	0.00	3.14	13.63	13.63	17.00	16.77	Inf	13.63
5.2G;VHT20;Nss1,(M0);Ntx1;5240;TN,VN	Pass	1M	1M	0.00	3.14	12.54	12.54	17.00	15.68	Inf	12.54
5.8G;VHT20;Nss1,(M0);Ntx1;5745;TN,VN	Pass	500k	500k	0.00	1.94	13.72	13.72	30.00	15.66	36.00	13.72
5.8G;VHT20;Nss1,(M0);Ntx1;5785;TN,VN	Pass	500k	500k	0.00	1.94	13.71	13.71	30.00	15.65	36.00	13.71
5.8G;VHT20;Nss1,(M0);Ntx1;5825;TN,VN	Pass	500k	500k	0.00	1.94	13.59	13.59	30.00	15.53	36.00	13.59
5.2G;VHT40;Nss1,(M0);Ntx1;5190;TN,VN	Pass	1M	1M	0.00	3.14	0.21	0.21	17.00	3.35	Inf	0.21
5.2G;VHT40;Nss1,(M0);Ntx1;5230;TN,VN	Pass	1M	1M	0.00	3.14	8.20	8.20	17.00	11.34	Inf	8.20
5.8G;VHT40;Nss1,(M0);Ntx1;5755;TN,VN	Pass	500k	500k	0.00	1.94	10.09	10.09	30.00	12.03	36.00	10.09
5.8G;VHT40;Nss1,(M0);Ntx1;5795;TN,VN	Pass	500k	500k	0.00	1.94	10.17	10.17	30.00	12.11	36.00	10.17
5.2G;VHT80;Nss1,(M0);Ntx1;5210;TN,VN	Pass	1M	1M	0.00	3.14	-9.26	-9.26	17.00	-6.12	Inf	-9.26
5.8G;VHT80;Nss1,(M0);Ntx1;5775;TN,VN	Pass	500k	500k	0.00	1.94	5.80	5.80	30.00	7.74	36.00	5.80

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



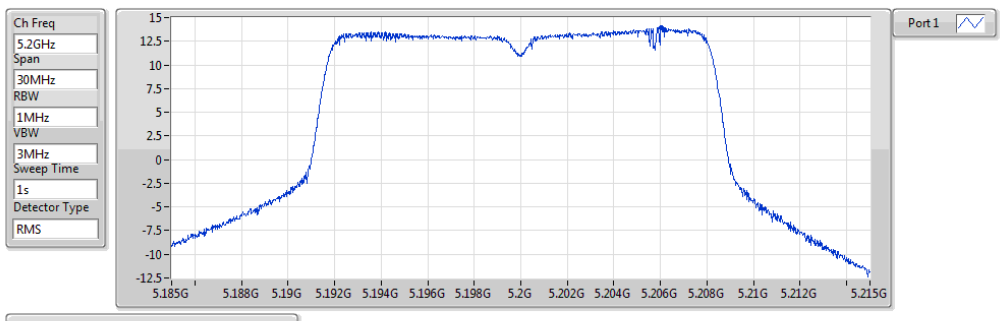
Sum.Max	PD	P1
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
10.41	10.41	10.41

PSD;Band:5.2G;VHT20;BWch:20MHz;Nss:1,(M0);Nant:1;Ch:5180MHz;TN,VN



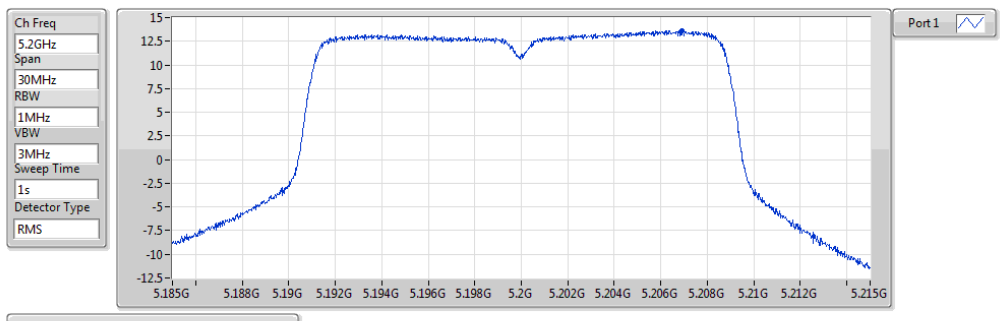
Sum.Max	PD	P1
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
10.03	10.03	10.03

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



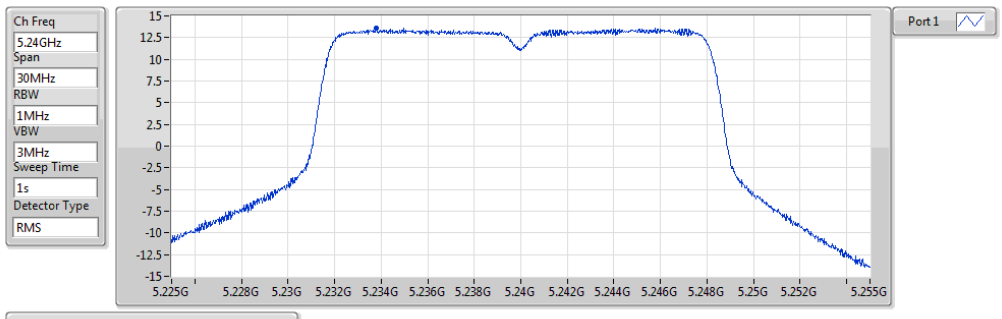
Sum.Max	PD	P1
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
13.96	13.96	13.96

PSD;Band:5.2G;VHT20;BWch:20MHz;Nss:1,(M0);Nant:1;Ch:5200MHz;TN,VN



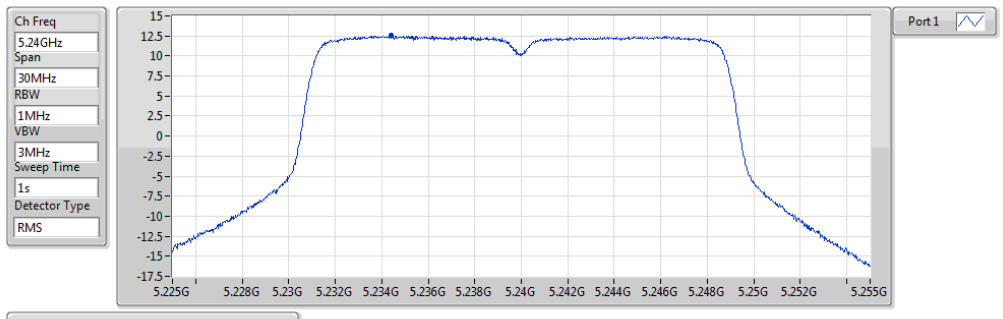
Sum.Max	PD	P1
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
13.63	13.63	13.63

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



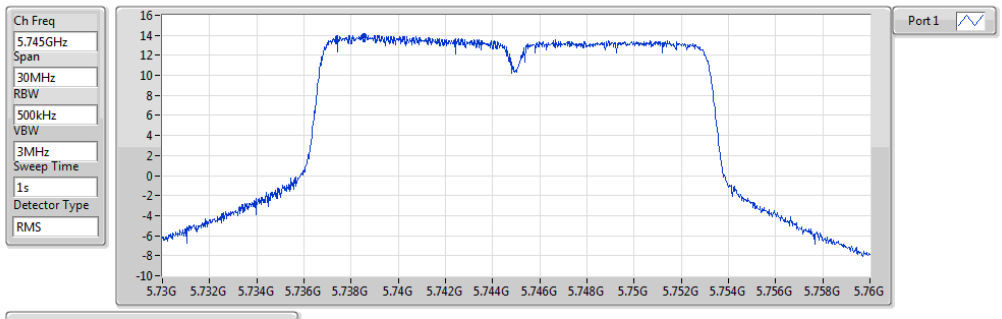
Sum.Max	PD	P1
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
13.58	13.58	13.58

PSD;Band:5.2G;VHT20;BWch:20MHz;Nss:1,(M0);Nant:1;Ch:5240MHz;TN,VN



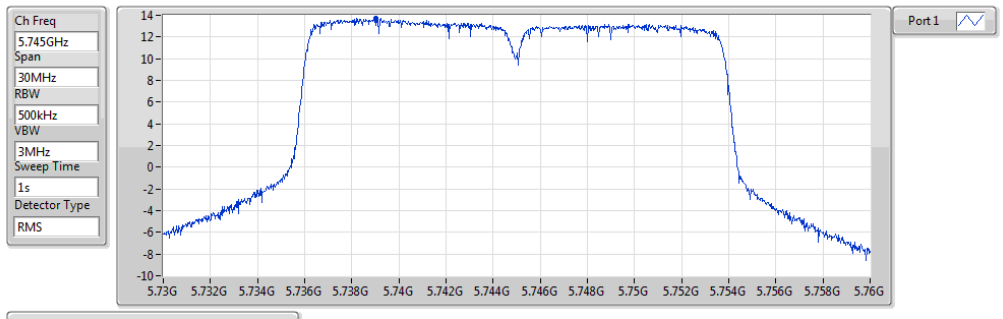
Sum.Max	PD	P1
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
12.54	12.54	12.54

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



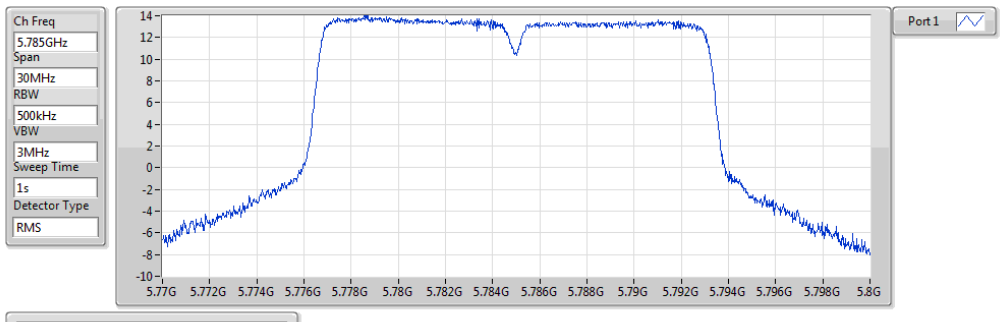
Sum.Max	PD	P1
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
14.01	14.01	14.01

PSD;Band:5.8G;VHT20;BWch:20MHz;Nss:1,(M0);Nant:1;Ch:5745MHz;TN,VN



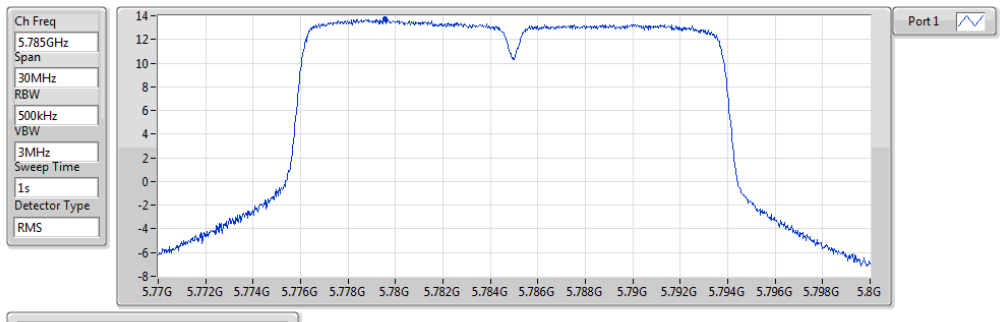
Sum.Max	PD	P1
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
13.72	13.72	13.72

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



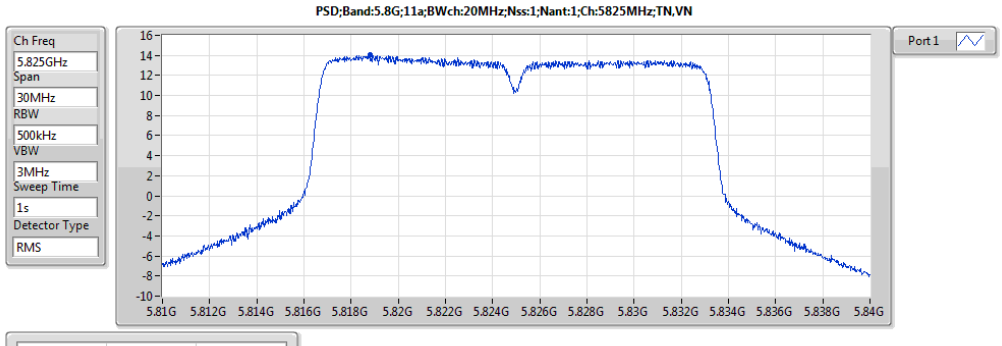
Sum.Max	PD	P1
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
13.96	13.96	13.96

PSD;Band:5.8G;VHT20;BWch:20MHz;Nss:1,(M0);Nant:1;Ch:5785MHz;TN,VN



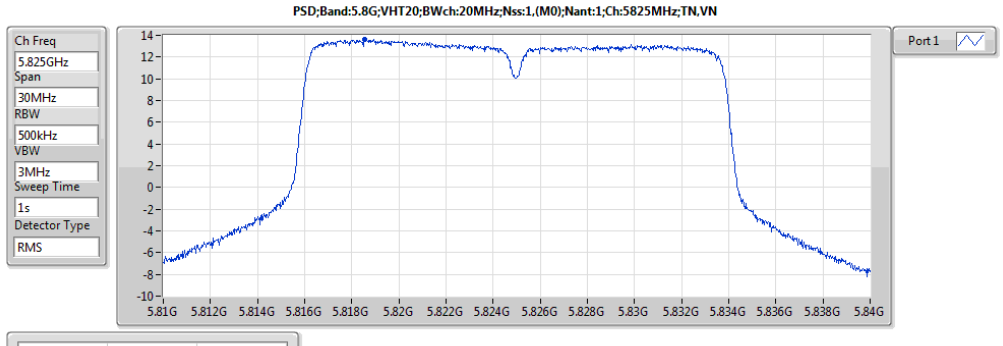
Sum.Max	PD	P1
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
13.71	13.71	13.71

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



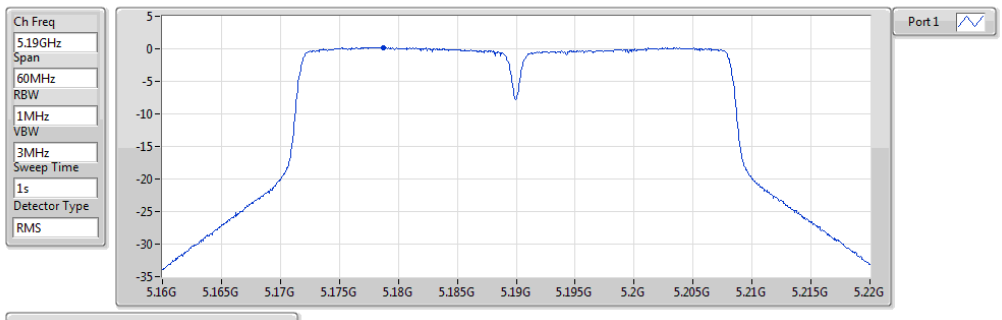
Sum.Max	PD	P1
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
14.04	14.04	14.04

PSD;Band:5.8G;VHT20;BWch:20MHz;Nss:1,(M0);Nant:1;Ch:5825MHz;TN,VN



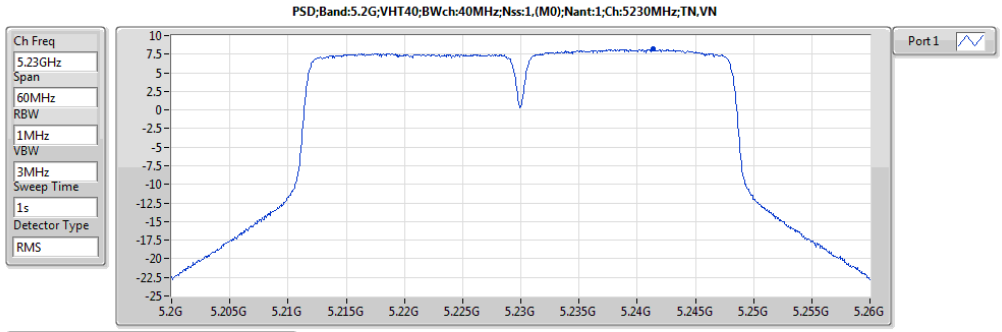
Sum.Max	PD	P1
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
13.59	13.59	13.59

PSD;Band:5.2G;VHT40;BWch:40MHz;Nss:1,(M0);Nant:1;Ch:5190MHz;TN,VN



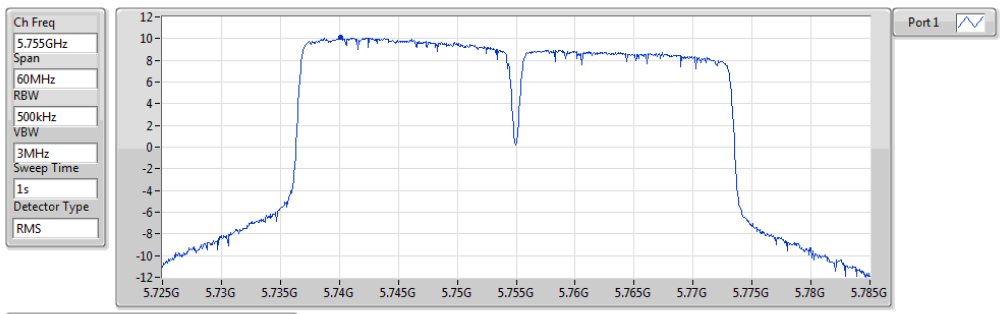
Sum.Max	PD	P1
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
0.21	0.21	0.21

PSD;Band:5.2G;VHT40;BWch:40MHz;Nss:1,(M0);Nant:1;Ch:5230MHz;TN,VN



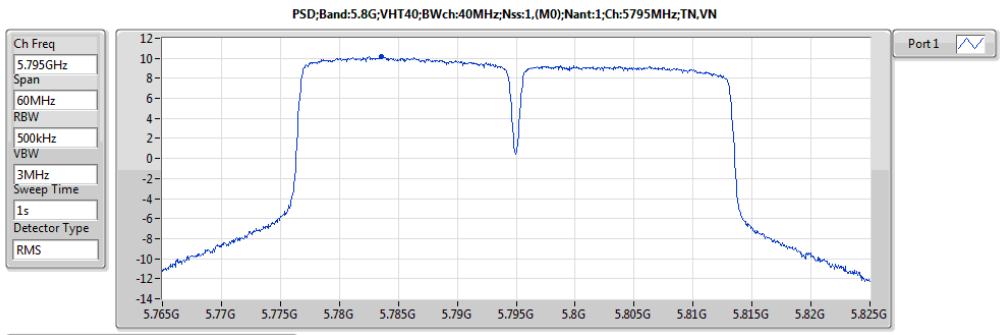
Sum.Max	PD	P1
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
8.20	8.20	8.20

PSD;Band:5.8G;VHT40;BWch:40MHz;Nss:1,(M0);Nant:1;Ch:5755MHz;TN,VN



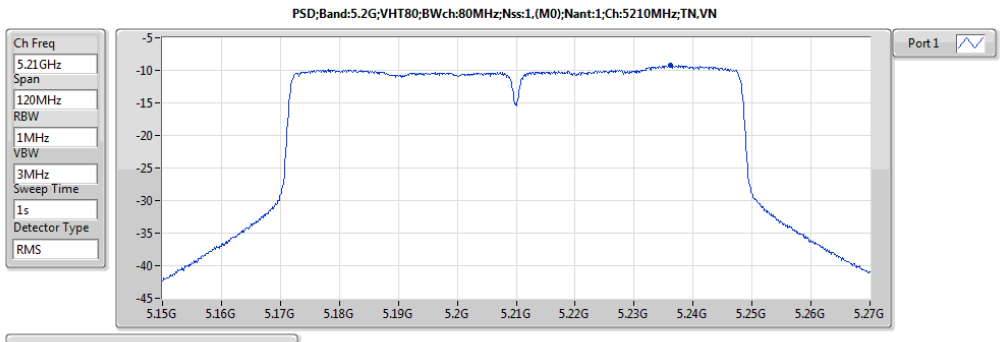
Sum.Max	PD	P1
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
10.09	10.09	10.09

PSD;Band:5.8G;VHT40;BWch:40MHz;Nss:1,(M0);Nant:1;Ch:5795MHz;TN,VN



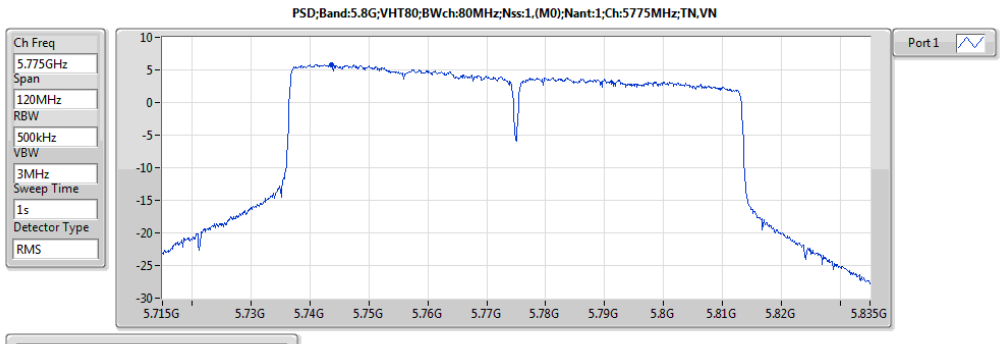
Sum.Max	PD	P1
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
10.17	10.17	10.17

PSD;Band:5.2G;VHT80;BWch:80MHz;Nss:1,(M0);Nant:1;Ch:5210MHz;TN,VN



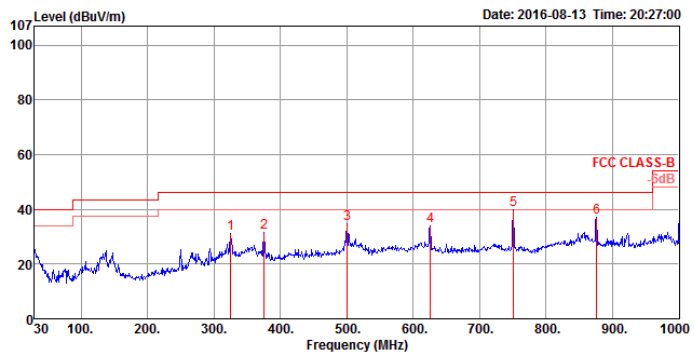
Sum.Max	PD	P1
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
-9.26	-9.26	-9.26

PSD;Band:5.8G;VHT80;BWch:80MHz;Nss:1,(M0);Nant:1;Ch:5775MHz;TN,VN



Sum.Max	PD	P1
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
5.80	5.80	5.80

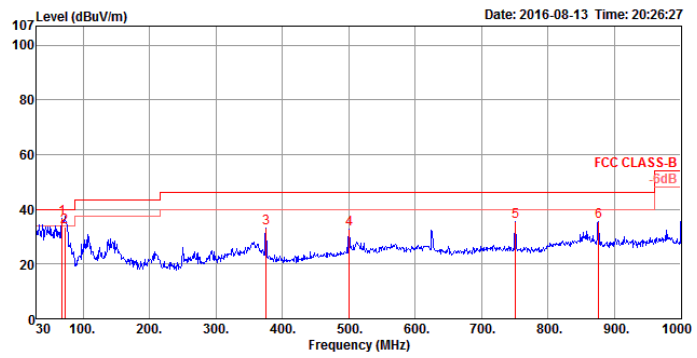
RSE below 1GHz Result			
Operating Mode	2	**Polarization**	Horizontal
Operating Function	Normal Link		



	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	324.88	31.04	46.00	-14.96	41.31	1.41	20.35	32.03	400	200	Peak	HORIZONTAL
2	375.32	31.77	46.00	-14.23	40.66	1.50	21.73	32.12	100	335	Peak	HORIZONTAL
3	500.45	34.55	46.00	-11.45	41.38	1.76	23.73	32.32	100	153	Peak	HORIZONTAL
4	625.58	33.81	46.00	-12.19	39.13	1.97	25.16	32.45	125	154	Peak	HORIZONTAL
5	750.71	39.79	46.00	-6.21	44.18	2.19	26.00	32.58	125	243	Peak	HORIZONTAL
6	875.84	37.03	46.00	-8.97	39.99	2.38	27.15	32.49	100	165	Peak	HORIZONTAL

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

RSE below 1GHz Result			
Operating Mode	2	**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	68.80	36.76	40.00	-3.24	55.35	0.72	12.51	31.82	100	46	Peak	VERTICAL
2	72.68	33.73	40.00	-6.27	52.11	0.75	12.71	31.84	150	124	QP	VERTICAL
3	375.32	33.25	46.00	-12.75	42.14	1.50	21.73	32.12	200	309	Peak	VERTICAL
4	500.45	32.92	46.00	-13.08	39.75	1.76	23.73	32.32	125	157	Peak	VERTICAL
5	750.71	35.42	46.00	-10.58	39.81	2.19	26.00	32.58	125	271	Peak	VERTICAL
6	875.84	35.38	46.00	-10.62	38.34	2.38	27.15	32.49	150	70	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	15537.98	56.53	74.00	-17.47	40.63	13.56	38.39	36.05	132	11	Peak	HORIZONTAL
2	15539.78	44.11	54.00	-9.89	28.21	13.56	38.39	36.05	132	11	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	15543.42	43.87	54.00	-10.13	27.97	13.56	38.39	36.05	170	131	Average	VERTICAL
2	15544.90	57.01	74.00	-16.99	41.11	13.56	38.39	36.05	170	131	Peak	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	15601.36	44.19	54.00	-9.81	28.27	13.59	38.37	36.04	133	140	Average	HORIZONTAL
2	15602.60	58.22	74.00	-15.78	42.30	13.59	38.37	36.04	133	140	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	15602.40	44.18	54.00	-9.82	28.26	13.59	38.37	36.04	107	48	Average	VERTICAL
2	15603.68	57.03	74.00	-16.97	41.11	13.59	38.37	36.04	107	48	Peak	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	15718.66	44.44	54.00	-9.56	28.47	13.62	38.35	36.00	210	91	Average	HORIZONTAL
2	15724.78	57.38	74.00	-16.62	41.41	13.62	38.35	36.00	210	91	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	15716.98	44.12	54.00	-9.88	28.15	13.62	38.35	36.00	174	195	Average	VERTICAL
2	15724.72	57.12	74.00	-16.88	41.15	13.62	38.35	36.00	174	195	Peak	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	11494.36	53.31	74.00	-20.69	37.77	12.33	39.20	35.99	120	246	Peak	HORIZONTAL
2	11494.68	41.24	54.00	-12.76	25.70	12.33	39.20	35.99	120	246	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	11489.50	41.25	54.00	-12.75	25.71	12.33	39.20	35.99	111	326	Average	VERTICAL
2	11494.62	52.96	74.00	-21.04	37.42	12.33	39.20	35.99	111	326	Peak	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	11565.56	54.30	74.00	-19.70	38.80	12.36	39.15	36.01	133	104	Peak	HORIZONTAL
2	11572.68	41.27	54.00	-12.73	25.77	12.36	39.15	36.01	133	104	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	11568.24	41.35	54.00	-12.65	25.85	12.36	39.15	36.01	175	205	Average	VERTICAL
2	11570.84	54.19	74.00	-19.81	38.69	12.36	39.15	36.01	175	205	Peak	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	11645.06	55.40	74.00	-18.60	39.94	12.39	39.09	36.02	202	225	Peak	HORIZONTAL
2	11653.44	42.23	54.00	-11.77	26.78	12.40	39.07	36.02	202	225	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	11645.04	55.62	74.00	-18.38	40.16	12.39	39.09	36.02	159	266	Peak	VERTICAL
2	11651.12	42.02	54.00	-11.98	26.57	12.40	39.07	36.02	159	266	Average	VERTICAL

Configurations	IEEE 802.11ac MCS0/Nss1 VHT20 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	15538.20	56.61	74.00	-17.39	40.71	13.56	38.39	36.05	116	313	Peak	HORIZONTAL
2	15540.48	44.13	54.00	-9.87	28.23	13.56	38.39	36.05	116	313	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	15537.22	56.65	74.00	-17.35	40.75	13.56	38.39	36.05	166	224	Peak	VERTICAL
2	15539.50	44.09	54.00	-9.91	28.19	13.56	38.39	36.05	166	224	Average	VERTICAL

Configurations	IEEE 802.11ac MCS0/Nss1 VHT20 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	15602.84	44.19	54.00	-9.81	28.27	13.59	38.37	36.04	182	188	Average	HORIZONTAL
2	15603.92	57.13	74.00	-16.87	41.21	13.59	38.37	36.04	182	188	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	15597.20	56.99	74.00	-17.01	41.08	13.57	38.38	36.04	123	260	Peak	VERTICAL
2	15604.24	44.25	54.00	-9.75	28.33	13.59	38.37	36.04	123	260	Average	VERTICAL

Configurations	IEEE 802.11ac MCS0/Nss1 VHT20 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	15715.14	57.80	74.00	-16.20	41.83	13.62	38.35	36.00	121	98	Peak	HORIZONTAL
2	15721.54	44.14	54.00	-9.86	28.17	13.62	38.35	36.00	121	98	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	15715.66	57.24	74.00	-16.76	41.27	13.62	38.35	36.00	127	212	Peak	VERTICAL
2	15723.50	44.25	54.00	-9.75	28.28	13.62	38.35	36.00	127	212	Average	VERTICAL

Configurations	IEEE 802.11ac MCS0/Nss1 VHT20 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	11489.82	41.74	54.00	-12.26	26.20	12.33	39.20	35.99	150	30	Average	HORIZONTAL
2	11492.92	54.33	74.00	-19.67	38.79	12.33	39.20	35.99	150	30	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	11487.38	41.99	54.00	-12.01	26.45	12.33	39.20	35.99	141	62	Average	VERTICAL
2	11491.90	54.66	74.00	-19.34	39.12	12.33	39.20	35.99	141	62	Peak	VERTICAL

Configurations	IEEE 802.11ac MCS0/Nss1 VHT20 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	11566.06	54.63	74.00	-19.37	39.13	12.36	39.15	36.01	139	93	Peak	HORIZONTAL
2	11573.06	41.98	54.00	-12.02	26.48	12.36	39.15	36.01	139	93	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	11565.16	54.59	74.00	-19.41	39.09	12.36	39.15	36.01	178	179	Peak	VERTICAL
2	11572.80	42.05	54.00	-11.95	26.55	12.36	39.15	36.01	178	179	Average	VERTICAL

Configurations	IEEE 802.11ac MCS0/Nss1 VHT20 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	11645.16	56.06	74.00	-17.94	40.60	12.39	39.09	36.02	200	210	Peak	HORIZONTAL
2	11648.12	42.81	54.00	-11.19	27.35	12.39	39.09	36.02	200	210	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	11645.00	55.55	74.00	-18.45	40.09	12.39	39.09	36.02	220	291	Peak	VERTICAL
2	11651.78	42.86	54.00	-11.14	27.41	12.40	39.07	36.02	220	291	Average	VERTICAL

Configurations	IEEE 802.11ac MCS0/Nss1 VHT40 CH 38 / 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	15053.46	46.66	54.00	-7.34	30.14	13.40	39.22	36.10	103	50	Average	HORIZONTAL
2	15053.82	60.17	74.00	-13.83	43.65	13.40	39.22	36.10	103	50	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	15048.94	46.59	54.00	-7.41	30.07	13.40	39.22	36.10	130	134	Average	VERTICAL
2	15052.14	59.16	74.00	-14.84	42.64	13.40	39.22	36.10	130	134	Peak	VERTICAL

Configurations	IEEE 802.11ac MCS0/Nss1 VHT40 CH 46 / 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	15686.50	44.72	54.00	-9.28	28.77	13.60	38.36	36.01	195	231	Average	HORIZONTAL
2	15690.18	57.35	74.00	-16.65	41.40	13.60	38.36	36.01	195	231	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	15688.04	57.63	74.00	-16.37	41.68	13.60	38.36	36.01	190	147	Peak	VERTICAL
2	15693.92	45.09	54.00	-8.91	29.13	13.62	38.35	36.01	190	147	Average	VERTICAL

Configurations	IEEE 802.11ac MCS0/Nss1 VHT40 CH 151 / 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	11506.48	42.69	54.00	-11.31	27.15	12.33	39.20	35.99	113	213	Average	HORIZONTAL
2	11511.88	54.75	74.00	-19.25	39.22	12.33	39.20	36.00	113	213	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	11506.52	42.44	54.00	-11.56	26.90	12.33	39.20	35.99	155	78	Average	VERTICAL
2	11510.14	54.86	74.00	-19.14	39.33	12.33	39.20	36.00	155	78	Peak	VERTICAL

Configurations	IEEE 802.11ac MCS0/Nss1 VHT40 CH 159 / 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	11590.64	56.98	74.00	-17.02	41.51	12.37	39.12	36.02	192	70	Peak	HORIZONTAL
2	11592.48	44.57	54.00	-9.43	29.10	12.37	39.12	36.02	192	70	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	11586.68	55.91	74.00	-18.09	40.44	12.37	39.12	36.02	172	132	Peak	VERTICAL
2	11592.42	43.57	54.00	-10.43	28.10	12.37	39.12	36.02	172	132	Average	VERTICAL

Configurations	IEEE 802.11ac MCS0/Nss1 VHT80 CH 42 / 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	15630.36	46.05	54.00	-7.95	30.11	13.59	38.37	36.02	119	331	Average	HORIZONTAL
2	15632.32	58.57	74.00	-15.43	42.63	13.59	38.37	36.02	119	331	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	15629.90	58.61	74.00	-15.39	42.67	13.59	38.37	36.02	184	292	Peak	VERTICAL
2	15630.64	45.78	54.00	-8.22	29.84	13.59	38.37	36.02	184	292	Average	VERTICAL

Configurations	IEEE 802.11ac MCS0/Nss1 VHT80 CH 155 / 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	11552.28	57.80	74.00	-16.20	42.30	12.36	39.15	36.01	210	189	Peak	HORIZONTAL
2	11554.96	44.59	54.00	-9.41	29.09	12.36	39.15	36.01	210	189	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	11549.86	44.94	54.00	-9.06	29.44	12.34	39.17	36.01	222	298	Average	VERTICAL
2	11552.80	57.65	74.00	-16.35	42.15	12.36	39.15	36.01	222	298	Peak	VERTICAL

Note:

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

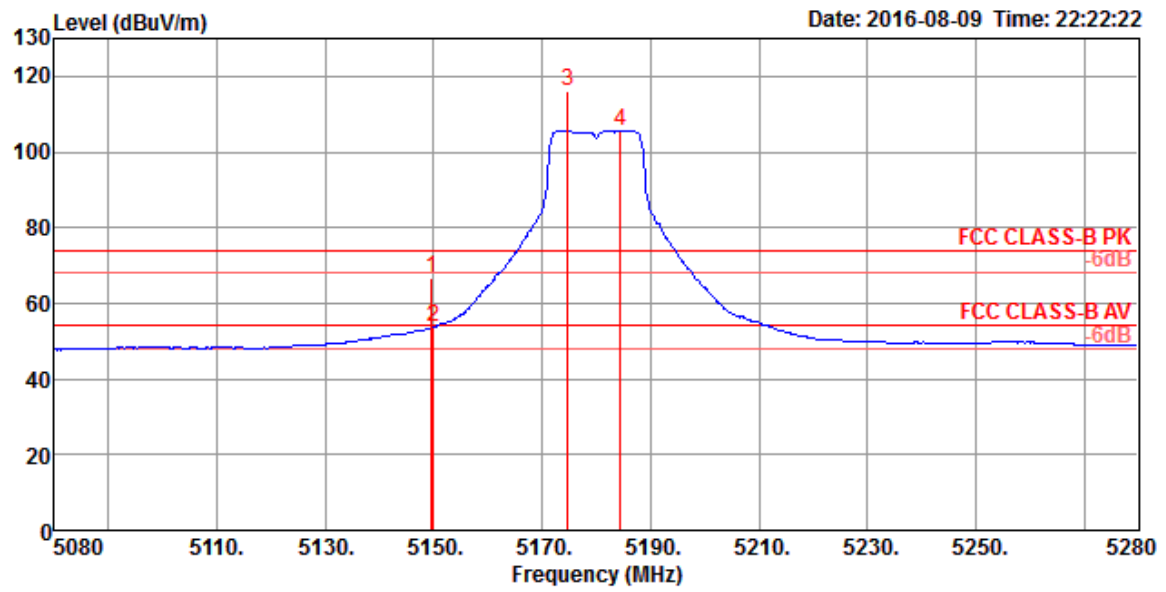
Emission level (dBuV/m) = 20 log Emission level (uV/m).

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

Band Edge Emissions

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

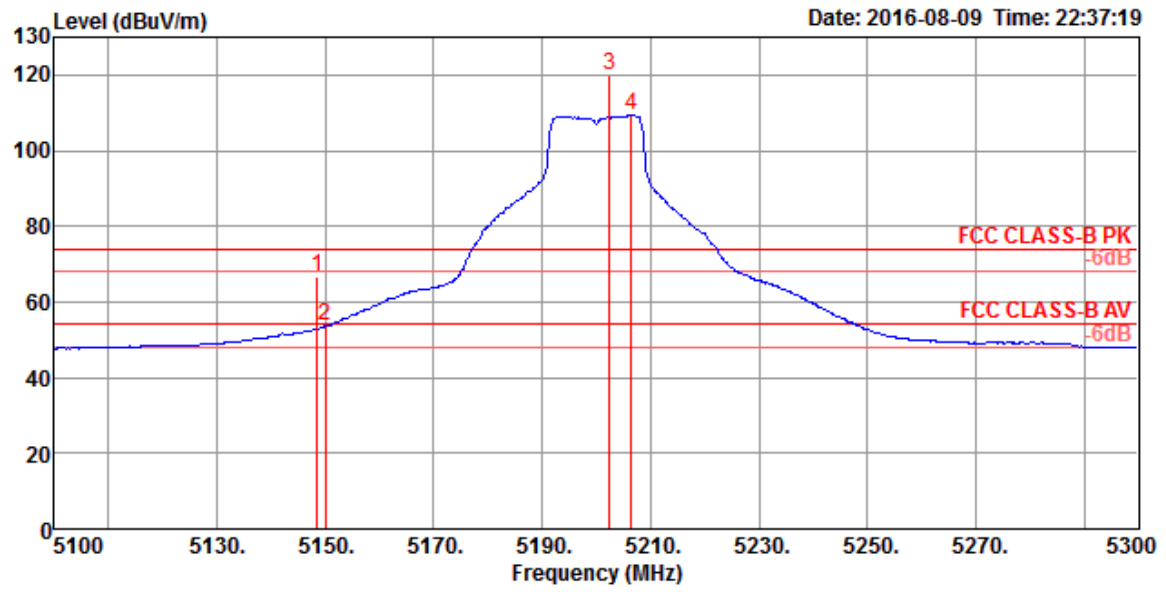
Channel 36



	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	5149.60	66.77	74.00	-7.23	60.72	9.50	33.17	36.62	157	73	Peak	VERTICAL
2	5150.00	53.61	54.00	-0.39	47.56	9.50	33.17	36.62	157	73	Average	VERTICAL
3	5174.80	116.30			110.14	9.55	33.23	36.62	157	73	Peak	VERTICAL
4	5184.40	105.71			99.55	9.55	33.23	36.62	157	73	Average	VERTICAL

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

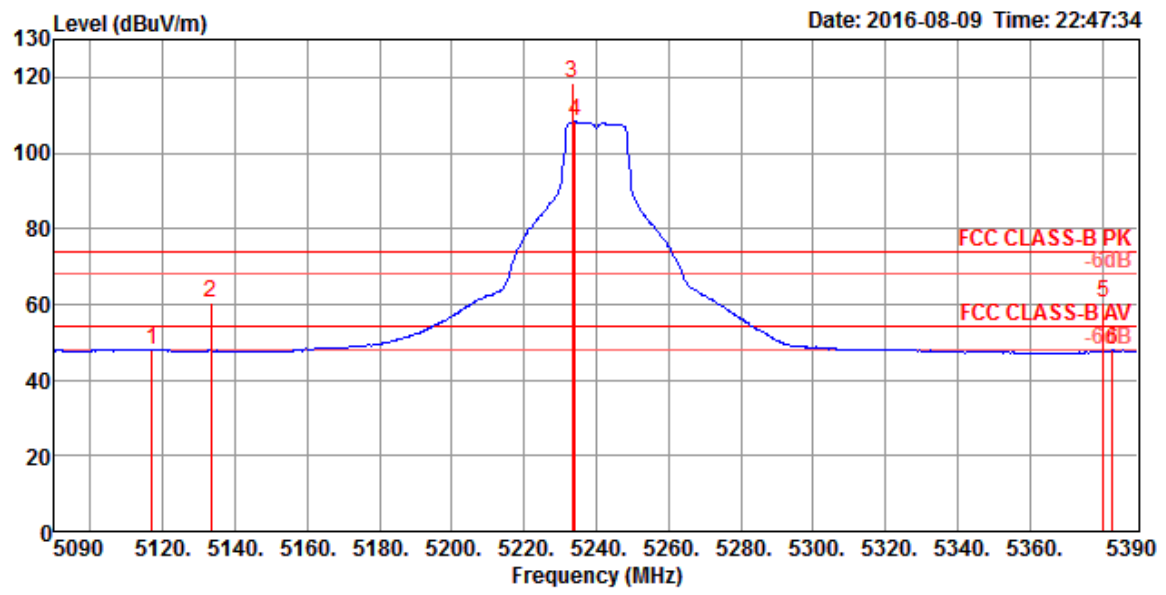
Channel 40



	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	5148.40	66.84	74.00	-7.16	60.79	9.50	33.17	36.62	179	63	Peak	VERTICAL
2	5150.00	53.59	54.00	-0.41	47.54	9.50	33.17	36.62	179	63	Average	VERTICAL
3	5202.40	119.76			113.51	9.59	33.28	36.62	179	63	Peak	VERTICAL
4	5206.40	109.28			103.03	9.59	33.28	36.62	179	63	Average	VERTICAL

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

Channel 48

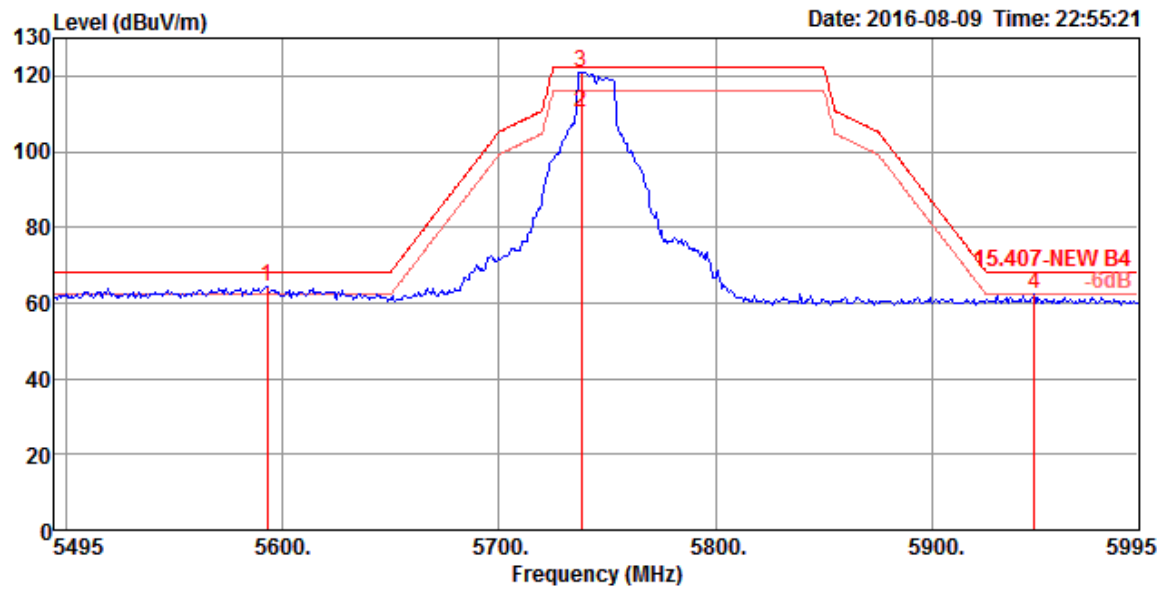


	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	5117.00	48.11	54.00	-5.89	42.17	9.45	33.12	36.63	188	36	Average	VERTICAL
2	5133.20	60.64	74.00	-13.36	54.64	9.48	33.15	36.63	188	36	Peak	VERTICAL
3	5233.40	118.62			112.28	9.62	33.34	36.62	188	36	Peak	VERTICAL
4	5234.00	108.22			101.88	9.62	33.34	36.62	188	36	Average	VERTICAL
5	5380.40	60.43	74.00	-13.57	53.69	9.76	33.58	36.60	188	36	Peak	VERTICAL
6	5382.80	47.75	54.00	-6.25	41.01	9.76	33.58	36.60	188	36	Average	VERTICAL

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

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

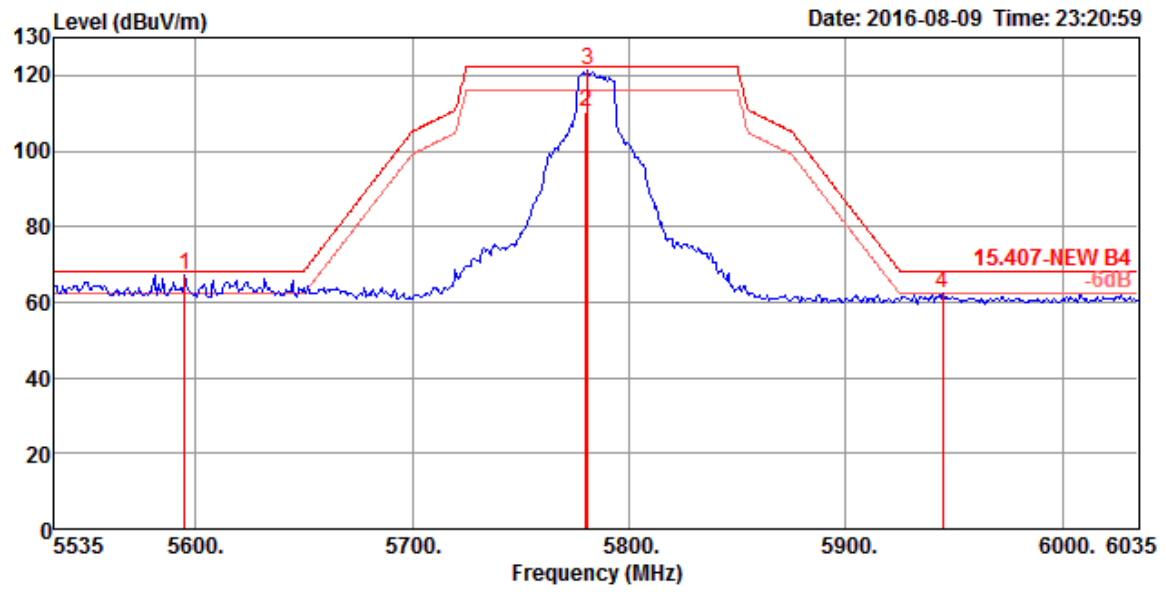
Channel 149



	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	5593.00	64.28	68.20	-3.92	56.97	9.79	34.08	36.56	145	173	Peak	VERTICAL
2	5738.00	110.17			102.31	9.92	34.45	36.51	145	173	Average	VERTICAL
3	5738.00	120.91			113.05	9.92	34.45	36.51	145	173	Peak	VERTICAL
4	5947.00	62.12	68.20	-6.08	53.48	10.03	35.06	36.45	145	173	Peak	VERTICAL

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

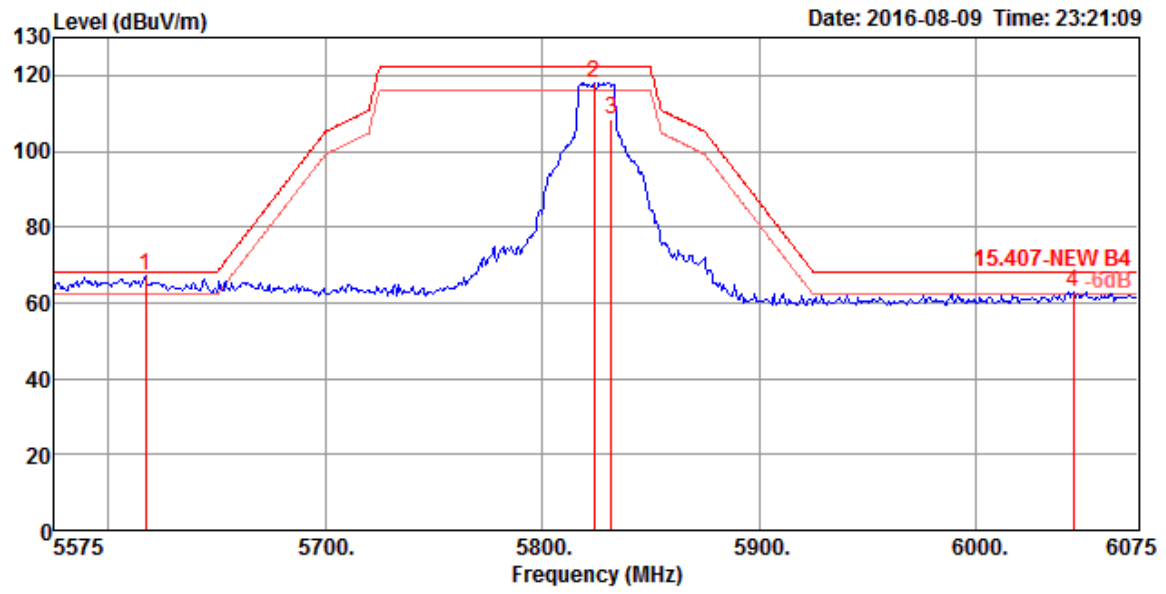
Channel 157



	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	5595.00	67.34	68.20	-0.86	60.03	9.79	34.08	36.56	150	170	Peak	VERTICAL
2	5780.00	110.44			102.38	9.97	34.59	36.50	150	170	Average	VERTICAL
3	5781.00	121.30			113.24	9.97	34.59	36.50	150	170	Peak	VERTICAL
4	5945.00	62.22	68.20	-5.98	53.58	10.03	35.06	36.45	150	170	Peak	VERTICAL

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

Channel 165

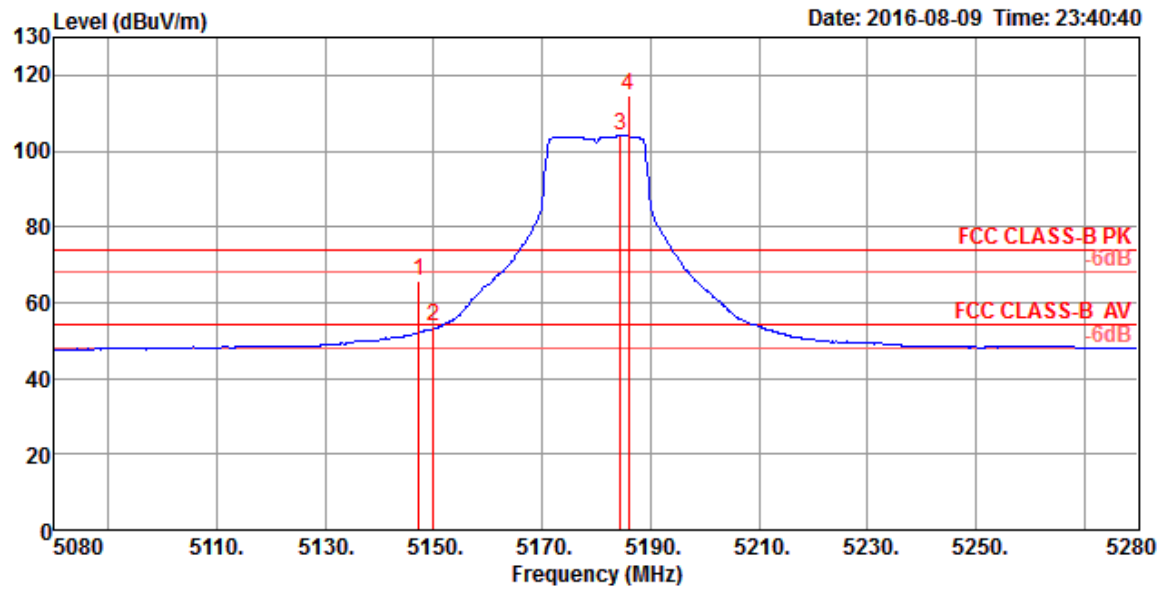


	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	5617.00	67.08	68.20	-1.12	59.69	9.81	34.13	36.55	148	190	Peak	VERTICAL
2	5824.00	118.13			109.88	10.00	34.73	36.48	148	190	Peak	VERTICAL
3	5832.00	108.36			100.11	10.00	34.73	36.48	148	190	Average	VERTICAL
4	6045.00	62.90	68.20	-5.30	54.00	10.08	35.24	36.42	148	190	Peak	VERTICAL

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

Configurations	IEEE 802.11ac MCS0/Nss1 VHT20 CH 36, 40, 48 / Chain 1

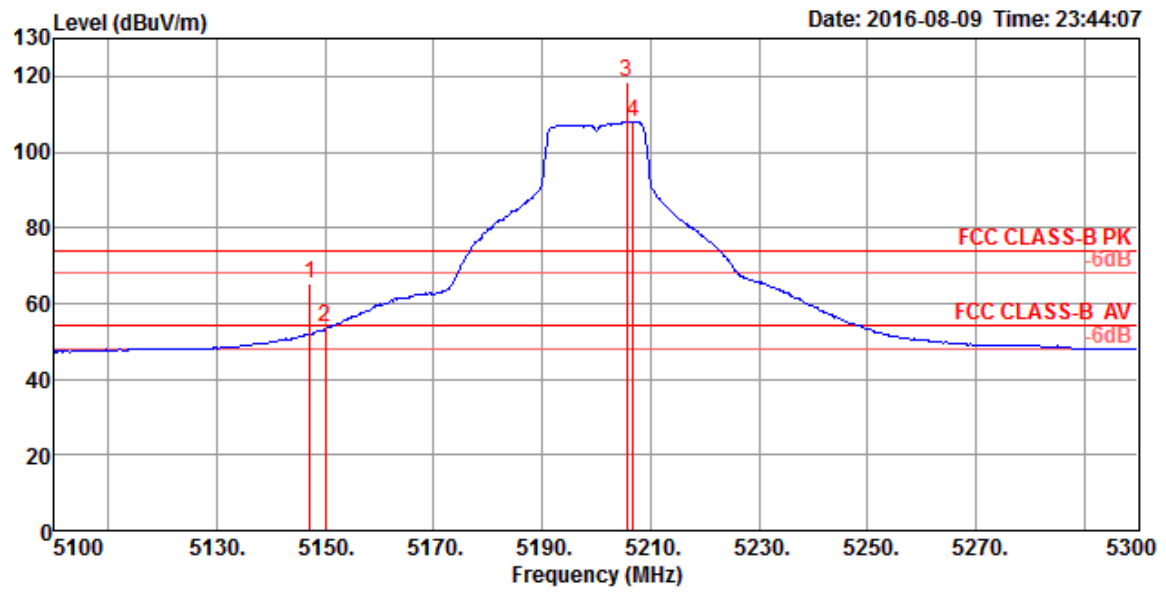
Channel 36



	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	5147.20	65.78	74.00	-8.22	59.73	9.50	33.17	36.62	152	144	Peak	VERTICAL
2	5150.00	53.60	54.00	-0.40	47.55	9.50	33.17	36.62	152	144	Average	VERTICAL
3	5184.40	104.06			97.90	9.55	33.23	36.62	152	144	Average	VERTICAL
4	5186.00	114.45			108.29	9.55	33.23	36.62	152	144	Peak	VERTICAL

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

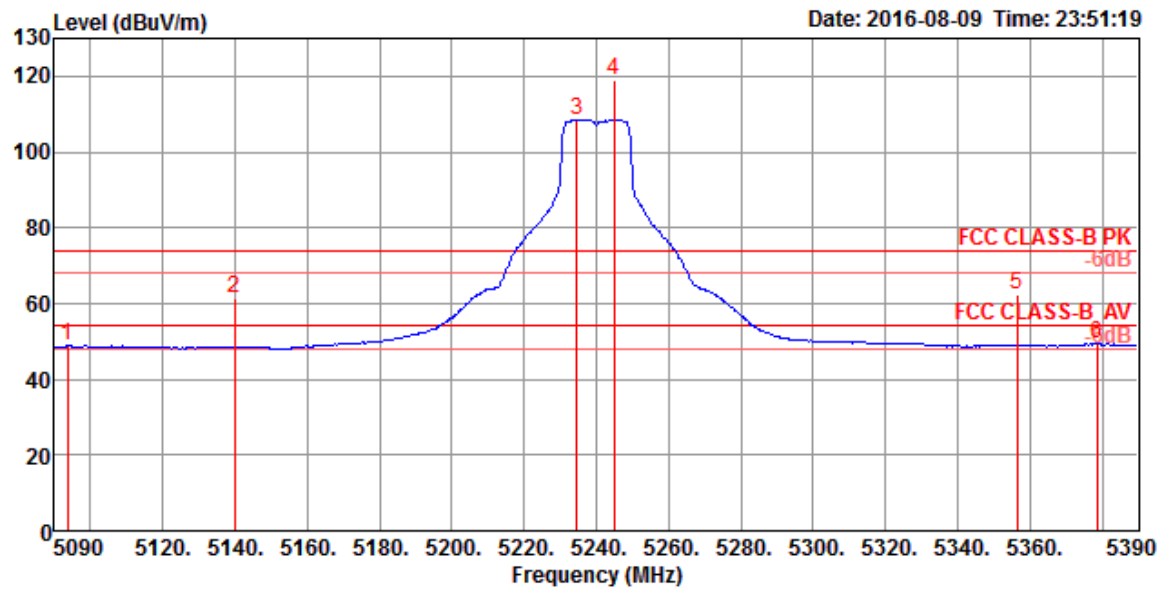
Channel 40



	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	5147.20	65.27	74.00	-8.73	59.22	9.50	33.17	36.62	152	151	Peak	VERTICAL
2	5150.00	53.58	54.00	-0.42	47.53	9.50	33.17	36.62	152	151	Average	VERTICAL
3	5205.60	118.40			12.15	9.59	33.28	36.62	152	151	Peak	VERTICAL
4	5206.80	107.92			01.67	9.59	33.28	36.62	152	151	Average	VERTICAL

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

Channel 48

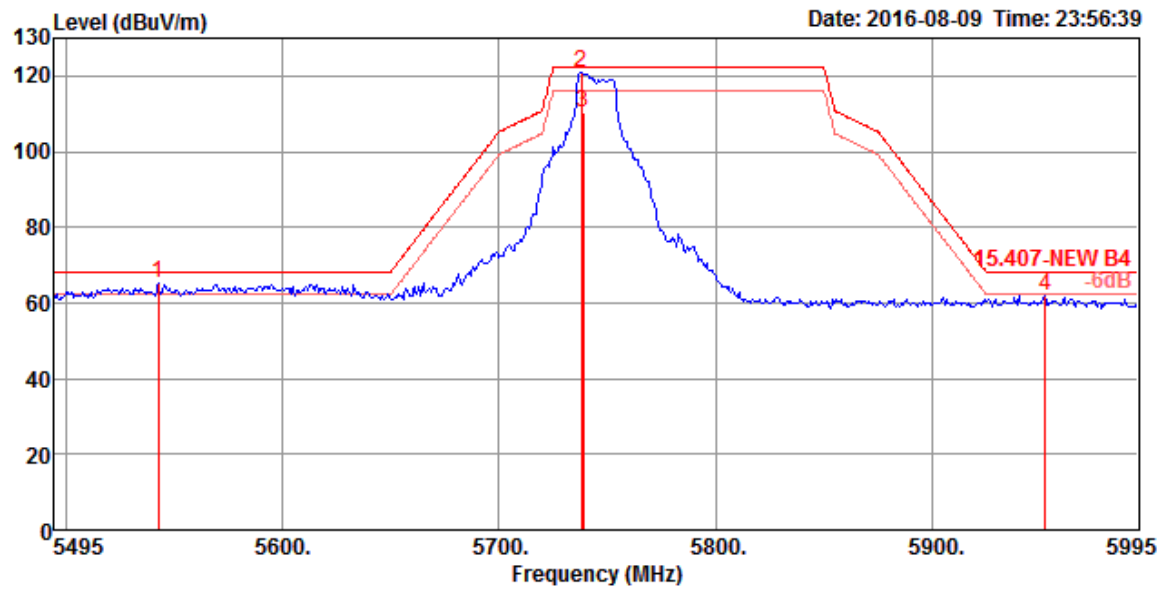


	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	5093.60	48.77	54.00	-5.23	42.94	9.40	33.06	36.63	178	75	Average	VERTICAL
2	5139.80	61.19	74.00	-12.81	55.18	9.48	33.15	36.62	178	75	Peak	VERTICAL
3	5234.60	108.50			102.16	9.62	33.34	36.62	178	75	Average	VERTICAL
4	5244.80	119.00			112.65	9.62	33.34	36.61	178	75	Peak	VERTICAL
5	5356.40	62.13	74.00	-11.87	55.44	9.74	33.55	36.60	178	75	Peak	VERTICAL
6	5378.60	49.45	54.00	-4.55	42.71	9.76	33.58	36.60	178	75	Average	VERTICAL

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

Configurations	IEEE 802.11ac MCS0/Nss1 VHT20 CH 149, 157, 165 / Chain 1

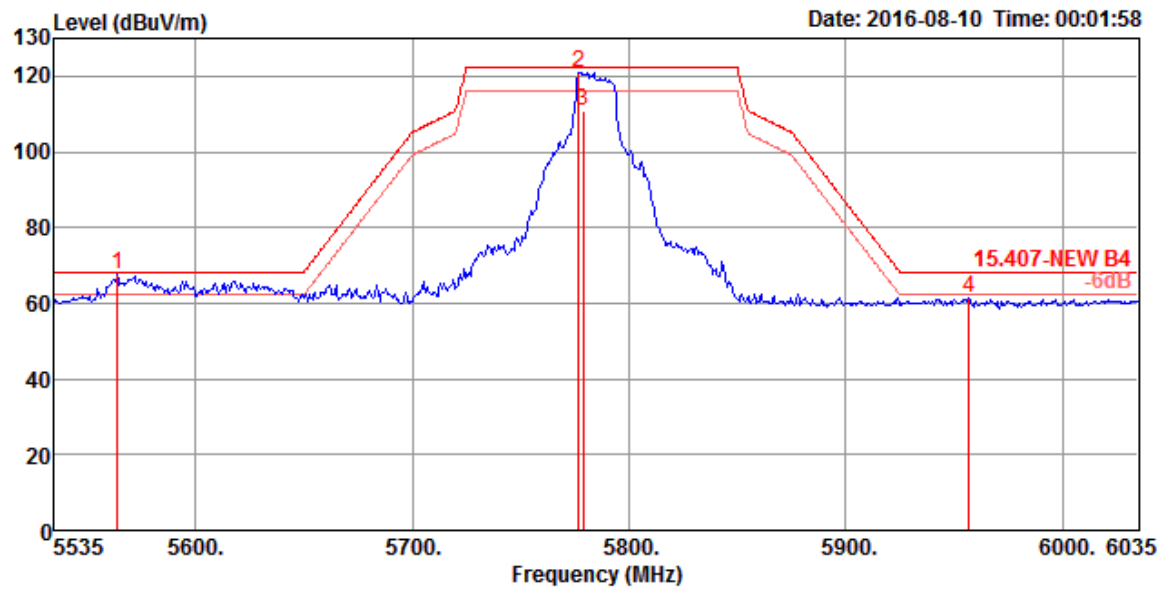
Channel 149



	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	5543.00	65.32	68.20	-2.88	58.22	9.78	33.89	36.57	127	194	Peak	VERTICAL
2	5738.00	120.91			113.05	9.92	34.45	36.51	127	194	Peak	VERTICAL
3	5739.00	110.41			102.48	9.94	34.50	36.51	127	194	Average	VERTICAL
4	5952.00	61.95	68.20	-6.25	53.31	10.03	35.06	36.45	127	194	Peak	VERTICAL

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

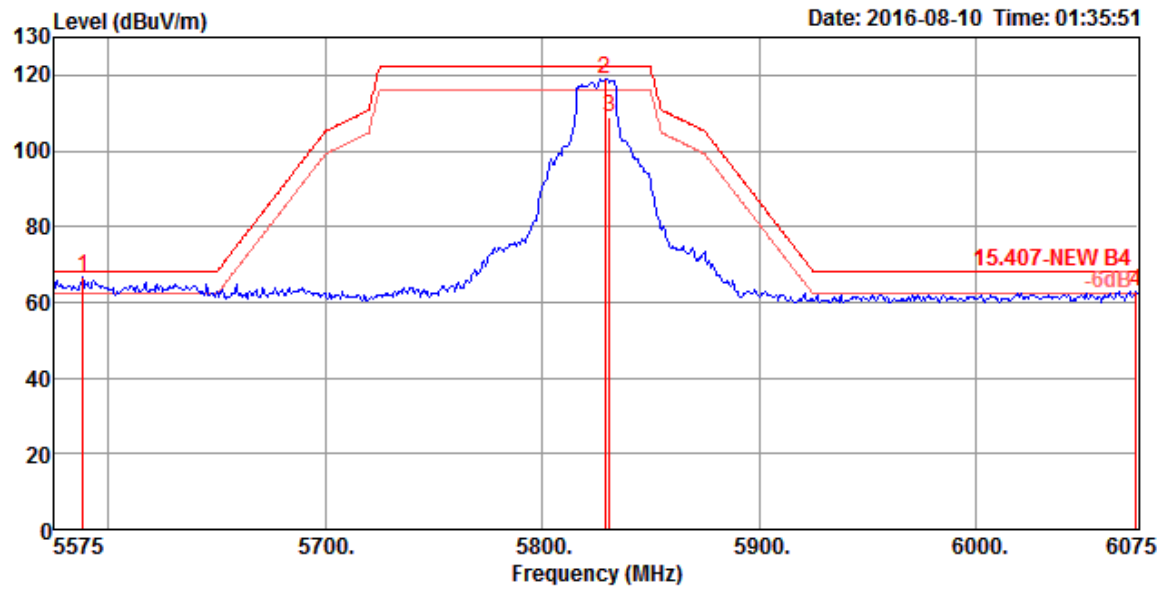
Channel 157



	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	5564.00	67.84	68.20	-0.36	60.63	9.79	33.99	36.57	148	158	Peak	VERTICAL
2	5777.00	120.98			112.92	9.97	34.59	36.50	148	158	Peak	VERTICAL
3	5779.00	111.02			102.96	9.97	34.59	36.50	148	158	Average	VERTICAL
4	5957.00	61.36	68.20	-6.84	52.71	10.03	35.06	36.44	148	158	Peak	VERTICAL

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

Channel 165

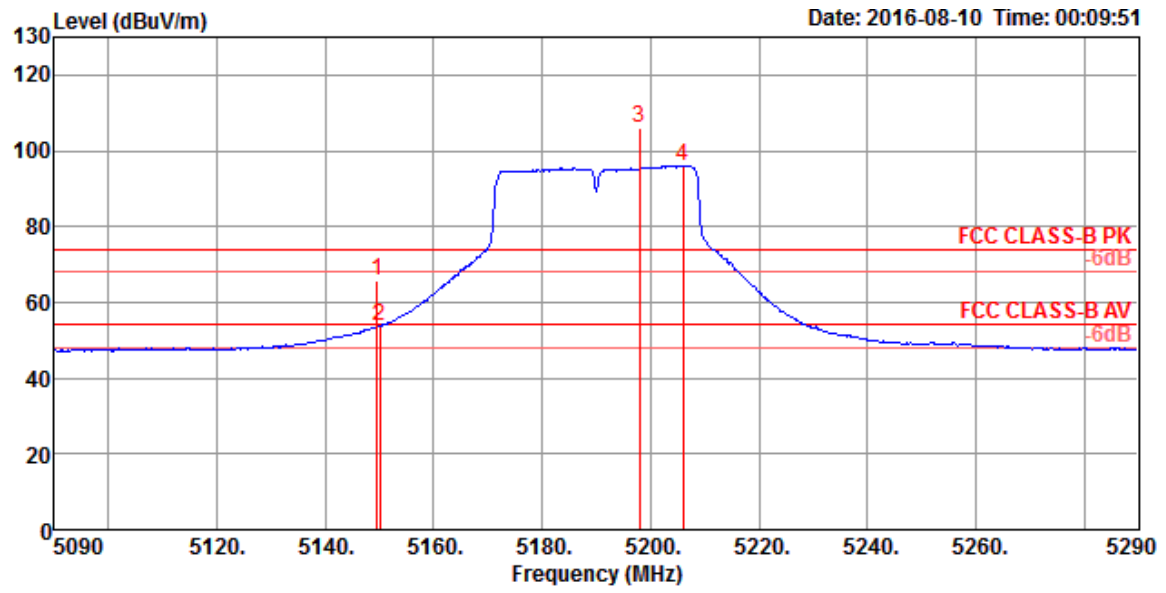


	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	5588.00	66.50	68.20	-1.70	59.24	9.79	34.03	36.56	123	172	Peak	VERTICAL
2	5829.00	119.18			110.93	10.00	34.73	36.48	123	172	Peak	VERTICAL
3	5831.00	108.88			100.63	10.00	34.73	36.48	123	172	Average	VERTICAL
4	6074.00	63.08	68.20	-5.12	54.10	10.11	35.29	36.42	123	172	Peak	VERTICAL

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

Configurations	IEEE 802.11ac MCS0/Nss1 VHT40 CH 38, 46 / Chain 1

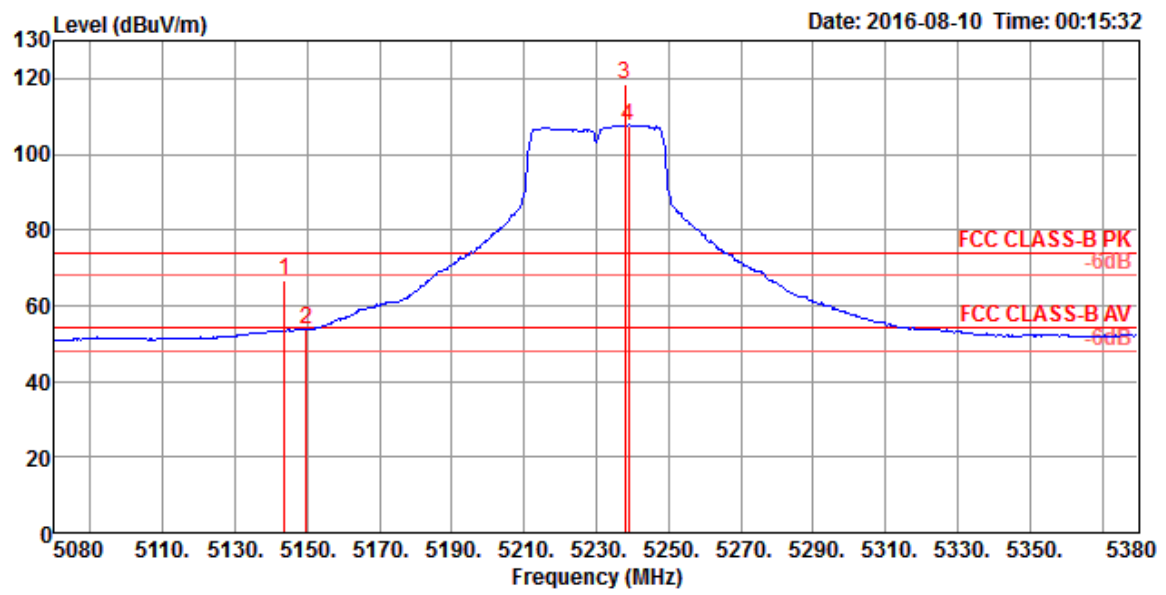
Channel 38



	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	5149.60	65.79	74.00	-8.21	59.74	9.50	33.17	36.62	141	187	Peak	VERTICAL
2	5150.00	53.68	54.00	-0.32	47.63	9.50	33.17	36.62	141	187	Average	VERTICAL
3	5198.00	105.93			99.72	9.58	33.25	36.62	141	187	Peak	VERTICAL
4	5206.00	96.03			89.78	9.59	33.28	36.62	141	187	Average	VERTICAL

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

Channel 46

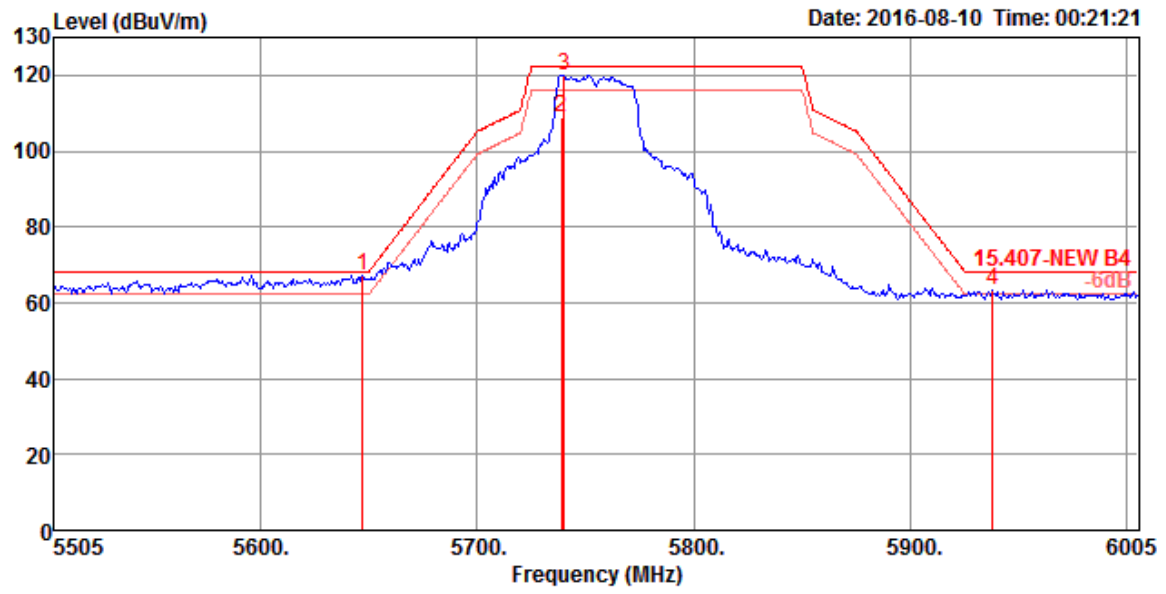


	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	5143.60	66.44	74.00	-7.56	60.39	9.50	33.17	36.62	176	75	Peak	VERTICAL
2	5149.60	53.80	54.00	-0.20	47.75	9.50	33.17	36.62	176	75	Average	VERTICAL
3	5237.80	118.56			112.22	9.62	33.34	36.62	176	75	Peak	VERTICAL
4	5239.00	107.69			101.35	9.62	33.34	36.62	176	75	Average	VERTICAL

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

Configurations	IEEE 802.11ac MCS0/Nss1 VHT40 CH 151, 159 / Chain 1

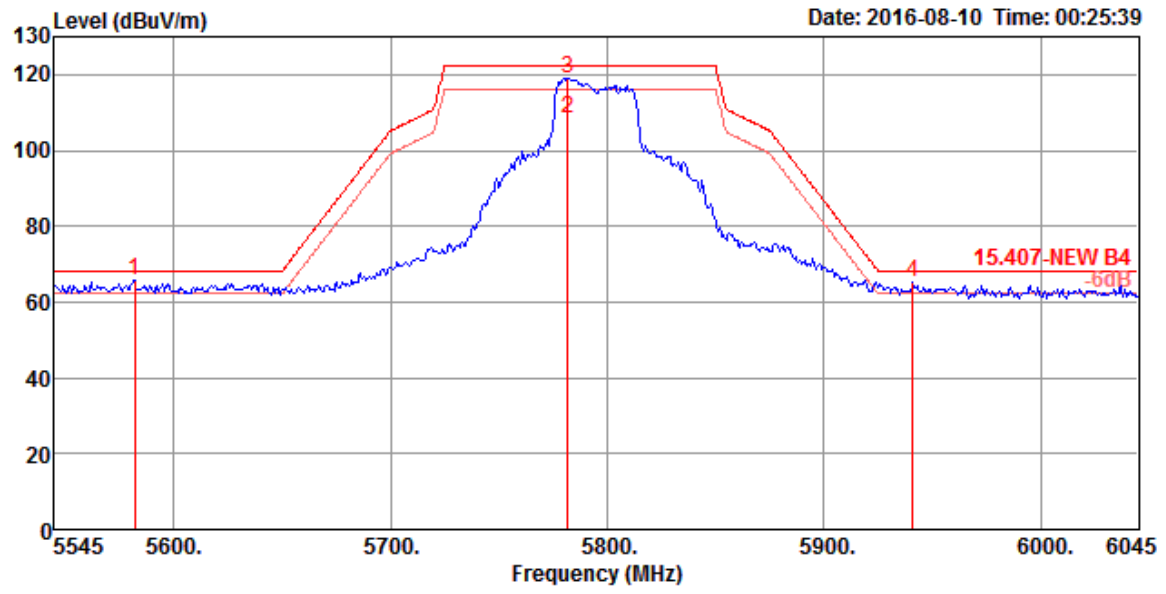
Channel 151



	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	5647.00	67.18	68.20	-1.02	59.66	9.84	34.22	36.54	143	197	Peak	VERTICAL
2	5739.00	109.00			101.07	9.94	34.50	36.51	143	197	Average	VERTICAL
3	5740.00	120.01			112.08	9.94	34.50	36.51	143	197	Peak	VERTICAL
4	5938.00	63.33	68.20	-4.87	54.74	10.03	35.01	36.45	143	197	Peak	VERTICAL

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

Channel 159

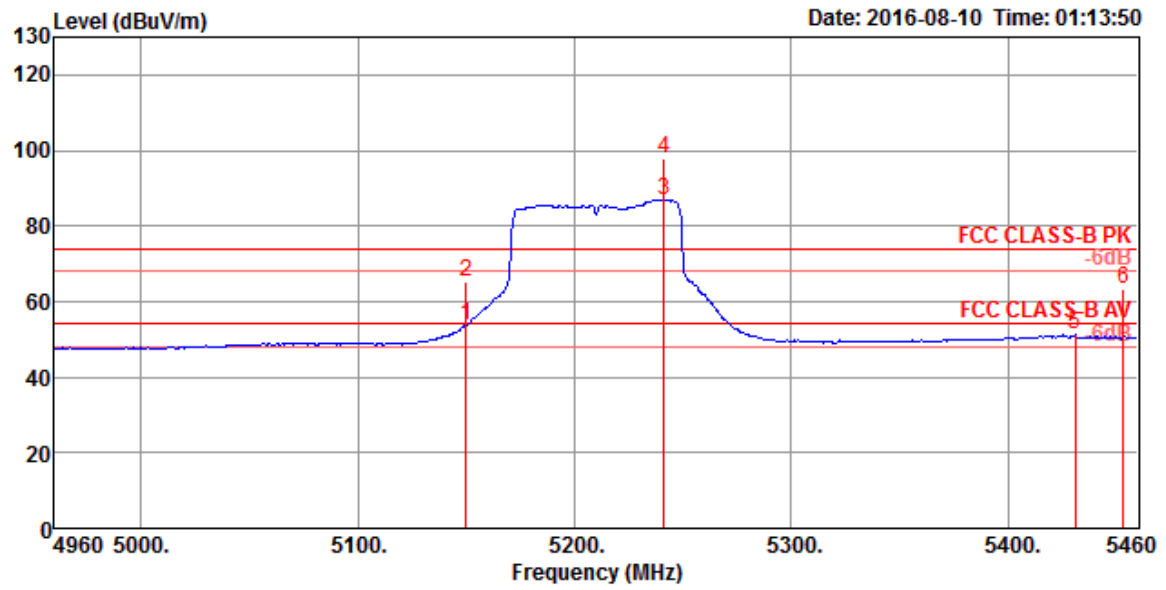


	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	5582.00	65.64	68.20	-2.56	58.38	9.79	34.03	36.56	124	171	Peak	VERTICAL
2	5782.00	108.52			100.46	9.97	34.59	36.50	124	171	Average	VERTICAL
3	5782.00	118.91			110.85	9.97	34.59	36.50	124	171	Peak	VERTICAL
4	5941.00	65.05	68.20	-3.15	56.46	10.03	35.01	36.45	124	171	Peak	VERTICAL

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

Configurations	IEEE 802.11ac MCS0/Nss1 VHT80 CH 42, 155 / Chain 1

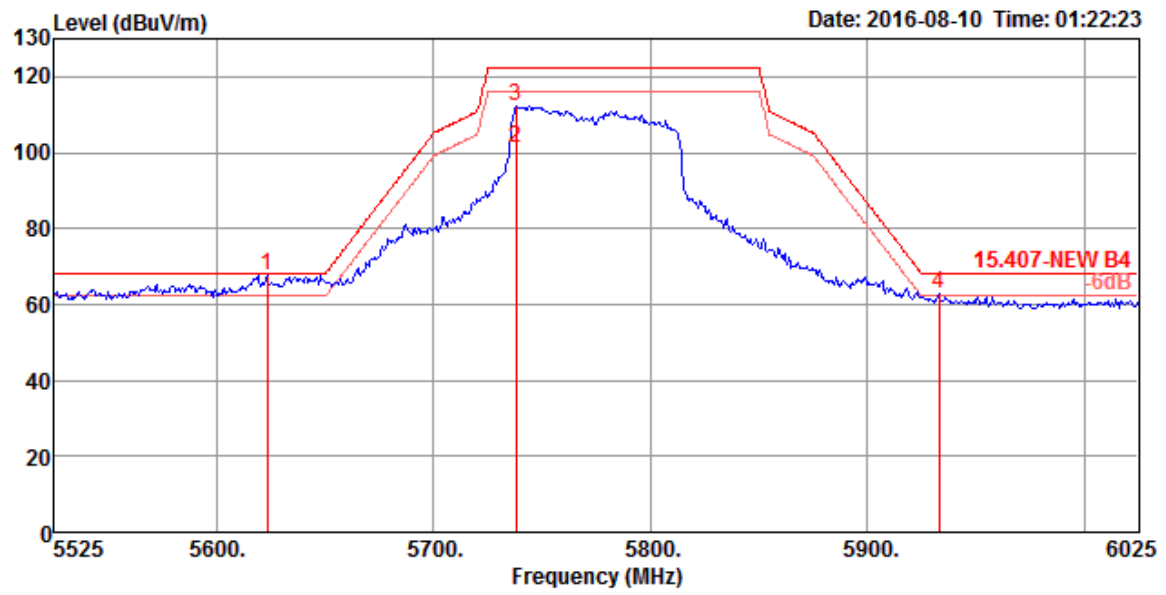
Channel 42



	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	53.68	54.00	-0.32	47.63	9.50	33.17	36.62	140	184	Average	VERTICAL
2	5150.00	65.31	74.00	-8.69	59.26	9.50	33.17	36.62	140	184	Peak	VERTICAL
3	5241.00	86.99			80.65	9.62	33.34	36.62	140	184	Average	VERTICAL
4	5241.00	97.90			91.56	9.62	33.34	36.62	140	184	Peak	VERTICAL
5	5431.00	51.47	54.00	-2.53	44.64	9.77	33.66	36.60	140	184	Average	VERTICAL
6	5453.00	63.43	74.00	-10.57	56.52	9.78	33.72	36.59	140	184	Peak	VERTICAL

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

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	5623.00	67.72	68.20	-0.48	60.33	9.81	34.13	36.55	148	162	Peak	VERTICAL
2	5738.00	101.30			93.44	9.92	34.45	36.51	148	162	Average	VERTICAL
3	5738.00	112.33			104.47	9.92	34.45	36.51	148	162	Peak	VERTICAL
4	5933.00	62.63	68.20	-5.57	54.04	10.03	35.01	36.45	148	162	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 / P1

Voltage vs. Frequency Stability

Voltage	Measurement Frequency (MHz)			
(V)	5200 MHz			
	0 Minute	2 Minute	5 Minute	10 Minute
126.50	5199.9709	5199.9699	5199.9695	5199.9693
110.00	5199.9700	5199.9696	5199.9693	5199.9690
93.50	5199.9697	5199.9688	5199.9686	5199.9676
Max. Deviation (MHz)	0.0303	0.0312	0.0314	0.0324
Max. Deviation (ppm)	5.83	6.00	6.04	6.23
Result	Pass			

Temperature vs. Frequency Stability

Temperature	Measurement Frequency (MHz)			
(℃)	5200 MHz			
	0 Minute	2 Minute	5 Minute	10 Minute
0	5199.9687	5199.9680	5199.9675	5199.9666
10	5199.9695	5199.9690	5199.9680	5199.9679
20	5199.9700	5199.9698	5199.9692	5199.9687
30	5199.9748	5199.9742	5199.9738	5199.9729
40	5199.9753	5199.9751	5199.9742	5199.9741
Max. Deviation (MHz)	0.0313	0.0320	0.0325	0.0334
Max. Deviation (ppm)	6.02	6.15	6.25	6.42
Result	Pass			

Voltage vs. Frequency Stability

Voltage	Measurement Frequency (MHz)			
(V)	5785 MHz			
	0 Minute	2 Minute	5 Minute	10 Minute
126.50	5784.9702	5784.9695	5784.9692	5784.9688
110.00	5784.9700	5784.9692	5784.9687	5784.9680
93.50	5784.9695	5784.9692	5784.9689	5784.9687
Max. Deviation (MHz)	0.0305	0.0308	0.0313	0.0320
Max. Deviation (ppm)	5.27	5.32	5.41	5.53
Result	Pass			

Temperature vs. Frequency Stability

Temperature	Measurement Frequency (MHz)			
(℃)	5785 MHz			
	0 Minute	2 Minute	5 Minute	10 Minute
0	5784.9679	5784.9678	5784.9674	5784.9671
10	5784.9687	5784.9681	5784.9675	5784.9666
20	5784.9700	5784.9690	5784.9686	5784.9680
30	5784.9748	5784.9746	5784.9741	5784.9738
40	5784.9757	5784.9756	5784.9755	5784.9751
Max. Deviation (MHz)	0.0321	0.0322	0.0326	0.0334
Max. Deviation (ppm)	5.55	5.57	5.64	5.77
Result	Pass			

Mode: 40 MHz / P1

Voltage vs. Frequency Stability

Voltage	Measurement Frequency (MHz)			
(V)	5190 MHz			
	0 Minute	2 Minute	5 Minute	10 Minute
126.50	5189.9708	5189.9701	5189.9696	5189.9686
110.00	5189.9700	5189.9693	5189.9688	5189.9687
93.50	5189.9699	5189.9691	5189.9688	5189.9683
Max. Deviation (MHz)	0.0301	0.0309	0.0312	0.0317
Max. Deviation (ppm)	5.80	5.95	6.01	6.11
Result	Pass			

Temperature vs. Frequency Stability

Temperature	Measurement Frequency (MHz)			
(℃)	5190 MHz			
	0 Minute	2 Minute	5 Minute	10 Minute
0	5189.9676	5189.9667	5189.9663	5189.9662
10	5189.9688	5189.9679	5189.9670	5189.9662
20	5189.9700	5189.9691	5189.9683	5189.9682
30	5189.9748	5189.9744	5189.9735	5189.9730
40	5189.9750	5189.9744	5189.9739	5189.9738
Max. Deviation (MHz)	0.0324	0.0333	0.0337	0.0338
Max. Deviation (ppm)	6.24	6.42	6.49	6.51
Result	Pass			

Voltage vs. Frequency Stability

Voltage	Measurement Frequency (MHz)			
(V)	5755 MHz			
	0 Minute	2 Minute	5 Minute	10 Minute
126.50	5754.9701	5754.9694	5754.9684	5754.9683
110.00	5754.9700	5754.9694	5754.9685	5754.9682
93.50	5754.9695	5754.9690	5754.9688	5754.9682
Max. Deviation (MHz)	0.0305	0.0310	0.0316	0.0318
Max. Deviation (ppm)	5.30	5.39	5.49	5.53
Result	Pass			

Temperature vs. Frequency Stability

Temperature	Measurement Frequency (MHz)			
(℃)	5755 MHz			
	0 Minute	2 Minute	5 Minute	10 Minute
0	5754.9693	5754.9683	5754.9677	5754.9671
10	5754.9694	5754.9691	5754.9686	5754.9678
20	5754.9700	5754.9695	5754.9689	5754.9683
30	5754.9748	5754.9739	5754.9738	5754.9734
40	5754.9760	5754.9751	5754.9744	5754.9739
Max. Deviation (MHz)	0.0307	0.0317	0.0323	0.0329
Max. Deviation (ppm)	5.33	5.51	5.61	5.72
Result	Pass			

Mode: 80 MHz / P1

Voltage vs. Frequency Stability

Voltage	Measurement Frequency (MHz)			
(V)	5210 MHz			
	0 Minute	2 Minute	5 Minute	10 Minute
126.50	5209.9710	5209.9704	5209.9700	5209.9693
110.00	5209.9700	5209.9694	5209.9688	5209.9682
93.50	5209.9693	5209.9683	5209.9682	5209.9681
Max. Deviation (MHz)	0.0307	0.0317	0.0318	0.0319
Max. Deviation (ppm)	5.89	6.08	6.10	6.12
Result	Pass			

Temperature vs. Frequency Stability

Temperature	Measurement Frequency (MHz)			
(℃)	5210 MHz			
	0 Minute	2 Minute	5 Minute	10 Minute
0	5209.9663	5209.9660	5209.9654	5209.9644
10	5209.9682	5209.9679	5209.9669	5209.9660
20	5209.9700	5209.9696	5209.9687	5209.9678
30	5209.9748	5209.9746	5209.9740	5209.9737
40	5209.9764	5209.9758	5209.9757	5209.9748
Max. Deviation (MHz)	0.0337	0.0340	0.0346	0.0356
Max. Deviation (ppm)	6.47	6.53	6.64	6.83
Result	Pass			

Voltage vs. Frequency Stability

Voltage	Measurement Frequency (MHz)			
(V)	5775 MHz			
	0 Minute	2 Minute	5 Minute	10 Minute
126.50	5774.9702	5774.9692	5774.9687	5774.9686
110.00	5774.9700	5774.9695	5774.9685	5774.9684
93.50	5774.9699	5774.9694	5774.9692	5774.9683
Max. Deviation (MHz)	0.0301	0.0308	0.0315	0.0317
Max. Deviation (ppm)	5.21	5.33	5.45	5.49
Result	Pass			

Temperature vs. Frequency Stability

Temperature	Measurement Frequency (MHz)			
(℃)	5775 MHz			
	0 Minute	2 Minute	5 Minute	10 Minute
0	5774.9691	5774.9686	5774.9680	5774.9671
10	5774.9693	5774.9690	5774.9680	5774.9674
20	5774.9700	5774.9693	5774.9692	5774.9689
30	5774.9748	5774.9743	5774.9741	5774.9735
40	5774.9765	5774.9762	5774.9755	5774.9748
Max. Deviation (MHz)	0.0309	0.0314	0.0320	0.0329
Max. Deviation (ppm)	5.35	5.44	5.54	5.70
Result	Pass			