



FCC Test Report

Equipment : Wireless-AC/N Dual Band Desktop Access Point with PoE
Brand Name : CISCO
Model No. : WAP125
FCC ID : PD5-WAP125
Standard : 47 CFR FCC Part 15.407
Operating Band : 5150 MHz – 5250 MHz
5725 MHz – 5850 MHz
Applicant : Delta Networks, Inc.
No.252, Shang Ying Rd., Kuei San District, Taoyuan City
33341, Taiwan R.O.C.
Manufacturer : Delta Networks, Inc.
No.252, Shang Ying Rd., Kuei San District, Taoyuan City
33341, Taiwan R.O.C.
Function : ☐ Outdoor; ☒ Indoor; ☐ Fixed P2P
☐ Client

The product sample received on Sep. 12, 2016 and completely tested on Dec. 12, 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.


Cliff Chang
SPORTON INTERNATIONAL INC.



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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

[illegible]

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	Bandwidth(MHz)	TX
5.2G	802.11a	20	1
5.2G	802.11n HT20	20	1
5.2G	802.11n HT40	40	1
5.2G	802.11ac VHT20	20	1
5.2G	802.11ac VHT40	40	1
5.2G	802.11ac VHT80	80	1
5.8G	802.11a	20	1
5.8G	802.11n HT20	20	1
5.8G	802.11n HT40	40	1
5.8G	802.11ac VHT20	20	1
5.8G	802.11ac VHT40	40	1
5.8G	802.11ac VHT80	80	1
5.2G	802.11a	20	2
5.2G	802.11n HT20(BF)	20	2
5.2G	802.11n HT40(BF)	40	2
5.2G	802.11ac VHT20(BF)	20	2
5.2G	802.11ac VHT40(BF)	40	2
5.2G	802.11ac VHT80(BF)	80	2
5.8G	802.11a	20	2
5.8G	802.11n HT20(BF)	20	2
5.8G	802.11n HT40(BF)	40	2
5.8G	802.11ac VHT20(BF)	20	2
5.8G	802.11ac VHT40(BF)	40	2
5.8G	802.11ac VHT80(BF)	80	2

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 and VHT80 use a combination of OFDM-BPSK, QPSK, 16QAM, 64QAM, 256QAM modulation.
- ♦ BF is the Beam-forming mode.

1.1.2 Antenna Information

Ant.	Brand	Model Name	Antenna Type	Connector	Gain (dBi)		
					2.4GHz	5GHz B1	5GHz B4
1	Master Wave	98M82PIPF000	PIFA Antenna	I-PEX	4.02	5.43	5.63
2	Master Wave	98M83PIPF000	PIFA Antenna	I-PEX	4.02	5.03	5.26

Note: The EUT has two antennas.

For 2.4GHz IEEE 802.11b/g/ac mode (1TX/1RX):

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

For 5GHz IEEE 802.11n/a/ac mode (1TX/1RX):

Only Ant. 2 can be used as transmitting/receiving antenna.

For 2.4GHz IEEE 802.11b/g/ac mode (2TX/2RX):

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

For 5GHz IEEE 802.11n/a/ac mode (2TX/2RX):

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

1.1.3 Mode Test Duty Cycle

Mode	Bandwidth (MHz)	Data Rate	TX	Duty Cycle	T(s)	VBW(Hz) ≥ 1/T
802.11a	20	6Mbps	1	0.956	2.065m	1k
802.11ac VHT20	20	MCS0-Nss1	1	0.951	1.929m	1k
802.11ac VHT40	40	MCS0-Nss1	1	0.907	953.125u	3k
802.11ac VHT80	80	MCS0-Nss1	1	0.825	461.25u	3k
802.11a	20	6Mbps	2	0.952	2.065m	1k
802.11ac VHT20(BF)	20	MCS0-Nss1	2	0.986	n/a (DC>=0.98)	n/a (DC>=0.98)
802.11ac VHT40(BF)	40	MCS0-Nss1	2	0.971	953.125u	3k
802.11ac VHT80(BF)	80	MCS0-Nss1	2	0.941	460.625u	3k

1.1.4 EUT Operational Condition

EUT Power Type	From Power Adapter or PoE		
Beamforming Function	☒ With beamforming in 802.11 n/ac	☐ Without beamforming	

Note: 802.11n/ac 2TX doesn't support non-beamforming mode.

1.2 Testing Applied Standards

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

- ◆ 47 CFR FCC Part 15
- ◆ ANSI C63.10-2013
- ◆ FCC KDB 789033 D02 v01r03
- ◆ FCC KDB 644545 D03 v01
- ◆ FCC KDB 662911 D01 v02r01

1.3 Testing Location Information

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

Test Condition	Test Site No.	Test Engineer	Test Environment	Test Date
RF Conducted	TH01-CB	Andy Tsai	20°C / 60%	Oct. 17, 2016 ~ Dec. 12, 2016
Radiated	03CH01-CB	Kenneth Huang& DK Chang& Stim Sung	21°C / 50%	Sep. 22, 2016 ~ Dec. 01, 2016
AC Conduction	CO02-CB	Ryo Fan	23°C / 61%	Sep. 23, 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	Bandwidth (MHz)	Data Rate	TX	Frequency (MHz)	Power Setting
5.2G	802.11a	20	6Mbps	1	5180	67
5.2G	802.11a	20	6Mbps	1	5200	68
5.2G	802.11a	20	6Mbps	1	5240	68
5.2G	802.11ac VHT20	20	MCS0-Nss1	1	5180	68
5.2G	802.11ac VHT20	20	MCS0-Nss1	1	5200	69
5.2G	802.11ac VHT20	20	MCS0-Nss1	1	5240	69
5.2G	802.11ac VHT40	40	MCS0-Nss1	1	5190	55
5.2G	802.11ac VHT40	40	MCS0-Nss1	1	5230	67
5.2G	802.11ac VHT80	80	MCS0-Nss1	1	5210	60
5.8G	802.11a	20	6Mbps	1	5260	63
5.8G	802.11a	20	6Mbps	1	5300	84
5.8G	802.11a	20	6Mbps	1	5320	70
5.8G	802.11ac VHT20	20	MCS0-Nss1	1	5260	63
5.8G	802.11ac VHT20	20	MCS0-Nss1	1	5300	84
5.8G	802.11ac VHT20	20	MCS0-Nss1	1	5320	68
5.8G	802.11ac VHT40	40	MCS0-Nss1	1	5270	50
5.8G	802.11ac VHT40	40	MCS0-Nss1	1	5310	67
5.8G	802.11ac VHT80	80	MCS0-Nss1	1	5290	54
5.2G	802.11a	20	6Mbps	2	5180	40
5.2G	802.11a	20	6Mbps	2	5200	41
5.2G	802.11a	20	6Mbps	2	5240	41
5.2G	802.11ac VHT20(BF)	20	MCS0-Nss1	2	5180	59
5.2G	802.11ac VHT20(BF)	20	MCS0-Nss1	2	5200	99
5.2G	802.11ac VHT20(BF)	20	MCS0-Nss1	2	5240	65
5.2G	802.11ac VHT40(BF)	40	MCS0-Nss1	2	5190	38
5.2G	802.11ac VHT40(BF)	40	MCS0-Nss1	2	5230	38
5.2G	802.11ac VHT80(BF)	80	MCS0-Nss1	2	5210	39
5.8G	802.11a	20	6Mbps	2	5260	49
5.8G	802.11a	20	6Mbps	2	5300	78
5.8G	802.11a	20	6Mbps	2	5320	58
5.8G	802.11ac VHT20(BF)	20	MCS0-Nss1	2	5260	38
5.8G	802.11ac VHT20(BF)	20	MCS0-Nss1	2	5300	39



Band	Mode	Bandwidth (MHz)	Data Rate	TX	Frequency (MHz)	Power Setting
5.8G	802.11ac VHT20(BF)	20	MCS0-Nss1	2	5320	36
5.8G	802.11ac VHT40(BF)	40	MCS0-Nss1	2	5270	56
5.8G	802.11ac VHT40(BF)	40	MCS0-Nss1	2	5310	39
5.8G	802.11ac VHT80(BF)	80	MCS0-Nss1	2	5290	39

Note:

- ♦ Test range channel consist of L (Low Ch.), M (Middle Ch.), H (High Ch.), S (Single Ch.) and C (Straddle Band Ch.).

2.2 The Worst Case Measurement Configuration

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

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

The Worst Case Mode for Following Conformance Tests	
Tests Item	Unwanted Emissions
Test Condition	Radiated measurement If EUT consist of multiple antenna assembly (multiple antenna are used in EUT regardless of spatial multiplexing MIMO configuration), the radiated test should be performed with highest antenna gain of each antenna type.
Operating Mode < 1GHz	CTX
1	EUT Z axis + Adapter
2	EUT Y axis + Adapter
Mode 1 has been evaluated to be the worst case among Mode 1~2, thus measurement for Mode 3 will follow this same test mode.	
3	EUT Z axis + PoE
For operating mode 3 is the worst case and it was record in this test report.	
Operating Mode > 1GHz	CTX
1	EUT Z axis
2	EUT Y axis
Mode 1 has been evaluated to be the worst case after evaluating. Consequently, measurement will follow this same test mode.	

The Worst Case Mode for Following Conformance Tests	
Tests Item	Simultaneous Transmission Analysis
Operating Mode	
1	WLAN 2.4GHz+WLAN 5GHz
Refer to Sporton Test Report No.: FA691002 for Co-location RF Exposure Evaluation.	



Note: The PoE was for measurement only, would not be marketed, and its information as below.

Equipment	Brand Name	Model Name	FCC ID
PoE	CISCO	SB-PWR-INJ2	DoC

2.3 EUT Operation during Test

For non-beamforming mode:

The EUT was programmed to be in continuously transmitting mode.

For beamforming mode:

The EUT was programmed to be in continuously transmitting mode.

The measured result was added array gain $10\log 2=3.01\text{dBi}$ as worse case in beamforming mode.

2.4 Accessories

Accessories			
Power	Brand Name	Model Name	Rating
Adapter	DVE	DSA-12CB-12 120100	INPUT: 100-240V ~ 50/60Hz 0.5A OUTPUT: 12V, 1A
Others			
plug*1			

2.5 Support Equipment

For Test Site No: CO02-CB

Support Equipment				
No.	Equipment	Brand Name	Model Name	FCC ID
1	NB	DELL	E6430	DoC

For Test Site No: TH01-CB

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

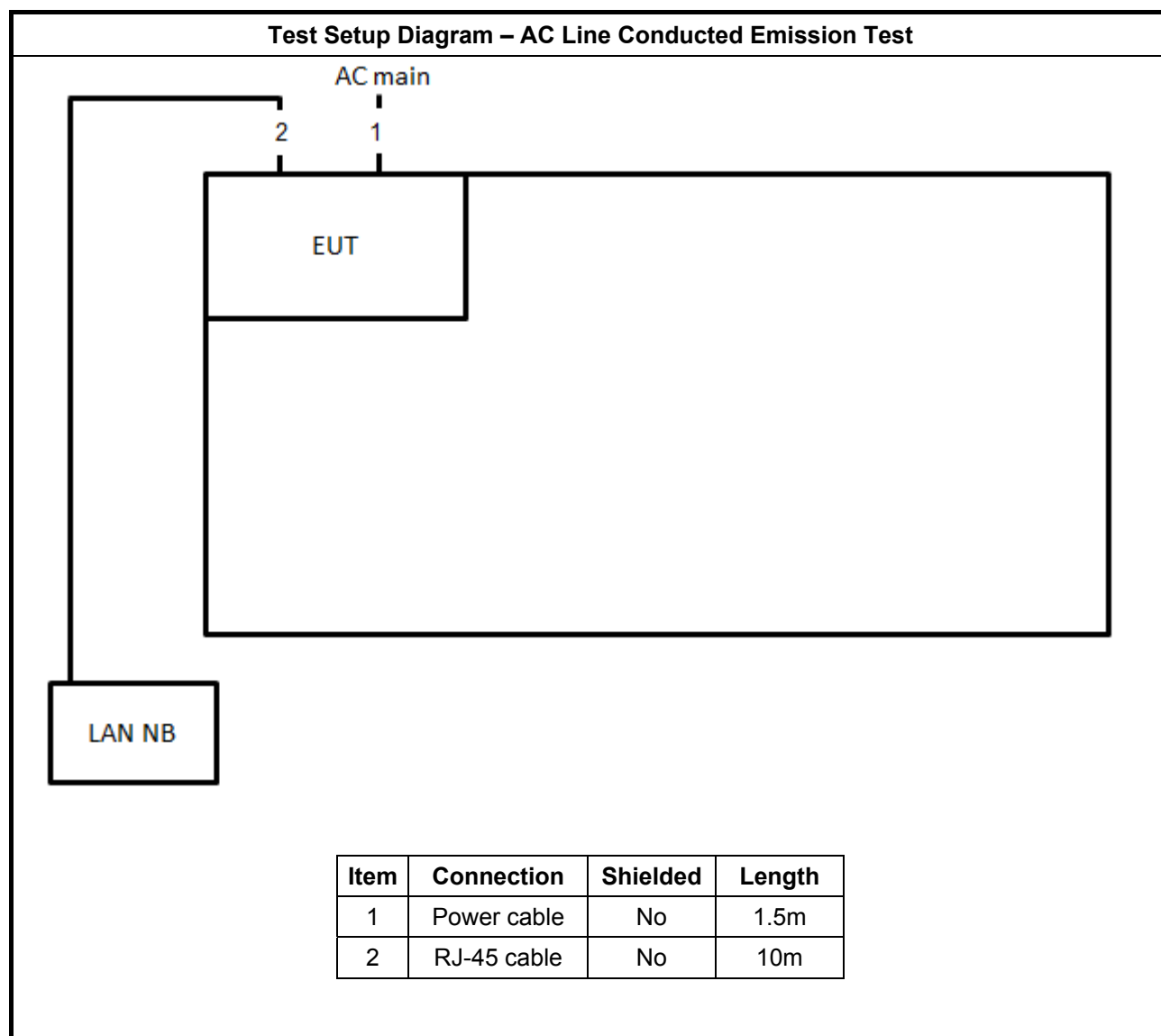
For Test Site No: 03CH01-CB (below 1GHz)

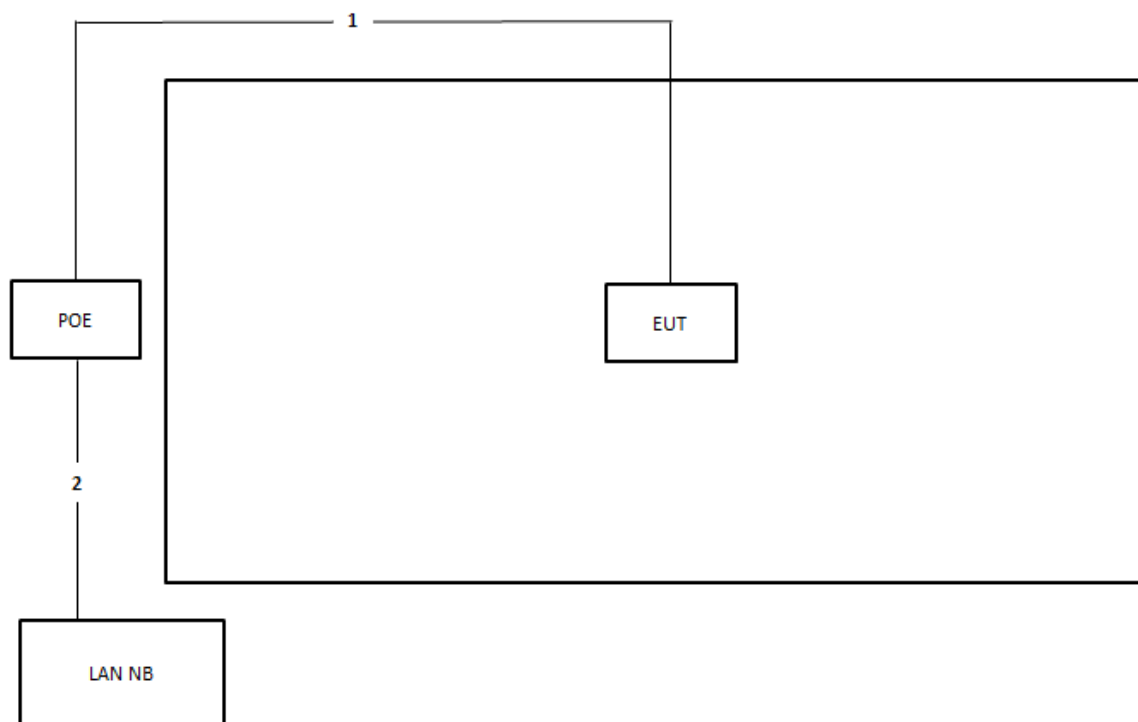
Support Equipment				
No.	Equipment	Brand Name	Model Name	FCC ID
1	NB	DELL	E4300	DoC
2	PoE	CISCO	SB-PWR-INJ2	DoC

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

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

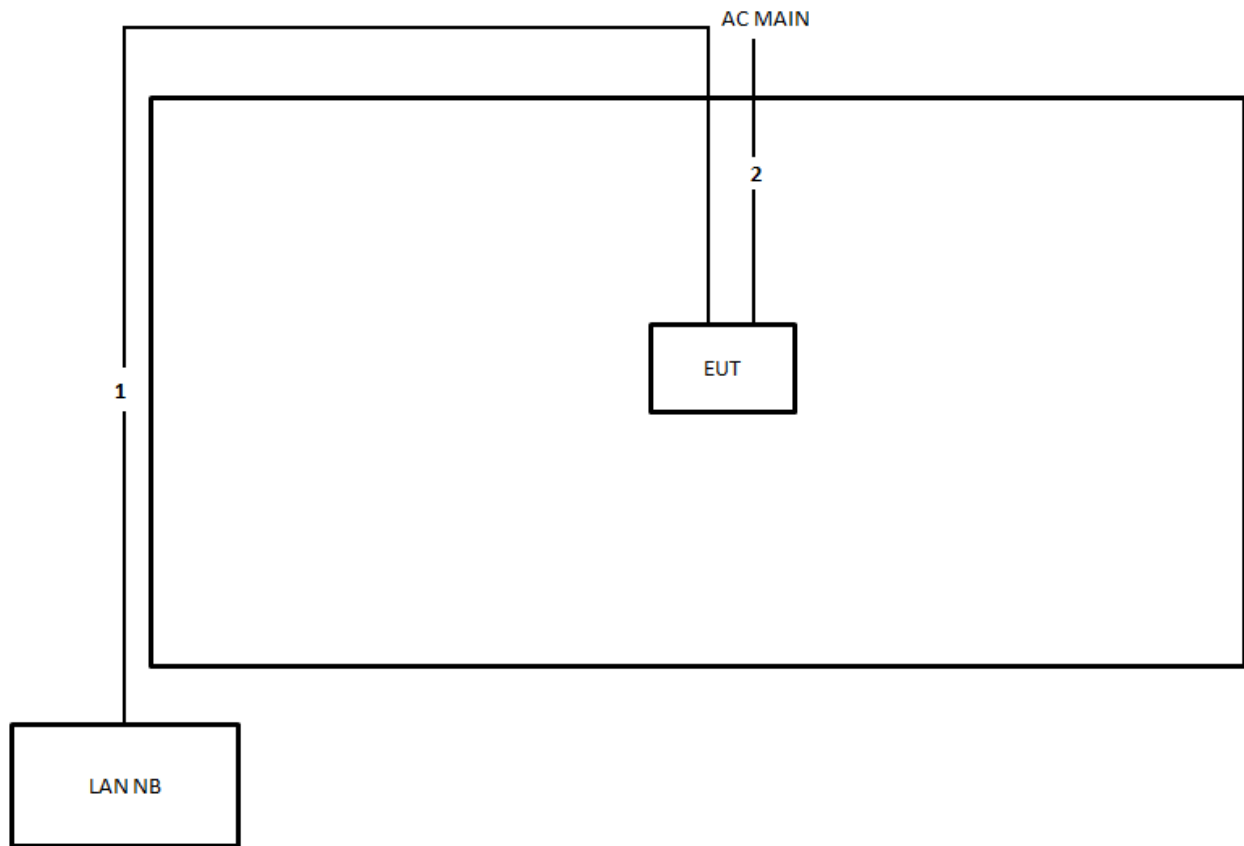
2.6 Test Setup Diagram



Test Setup Diagram - Radiated Test < 1GHz


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

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.

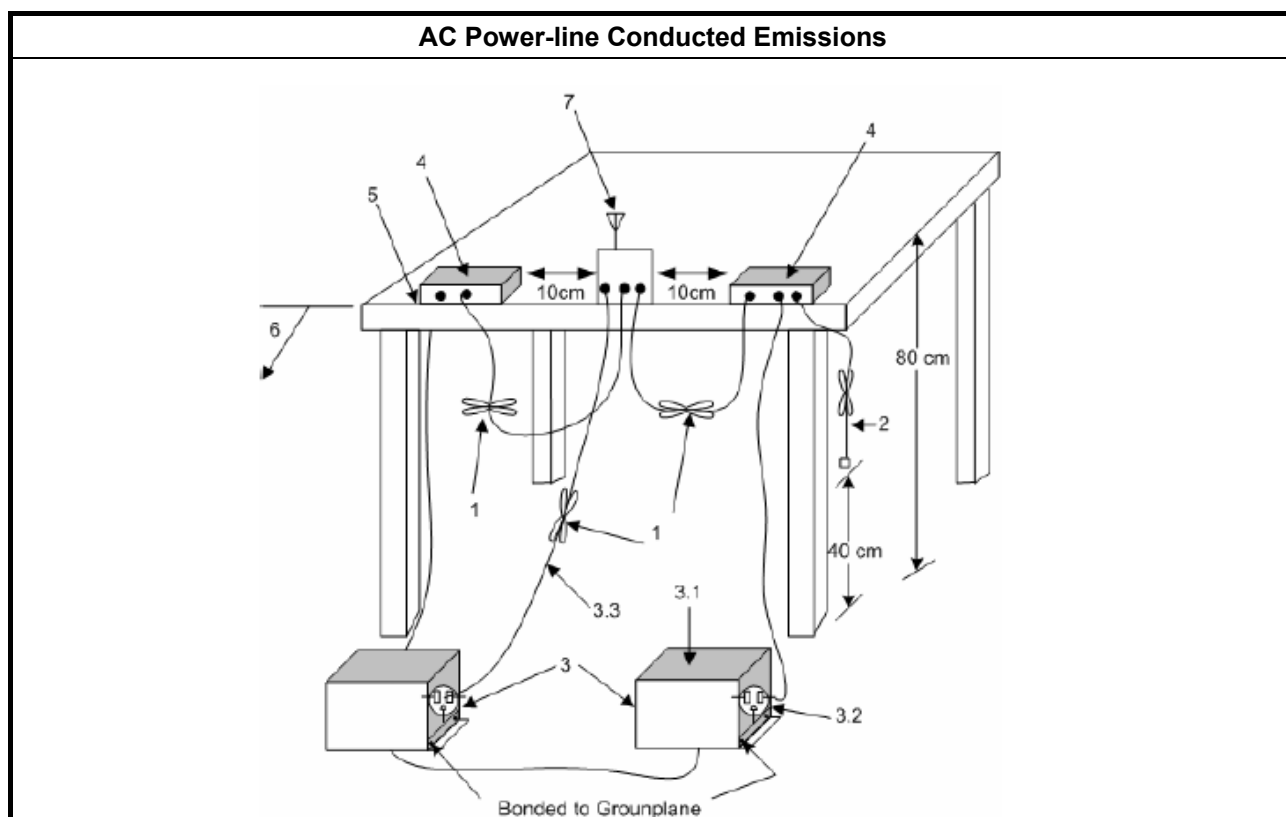
3.1.2 Measuring Instruments

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

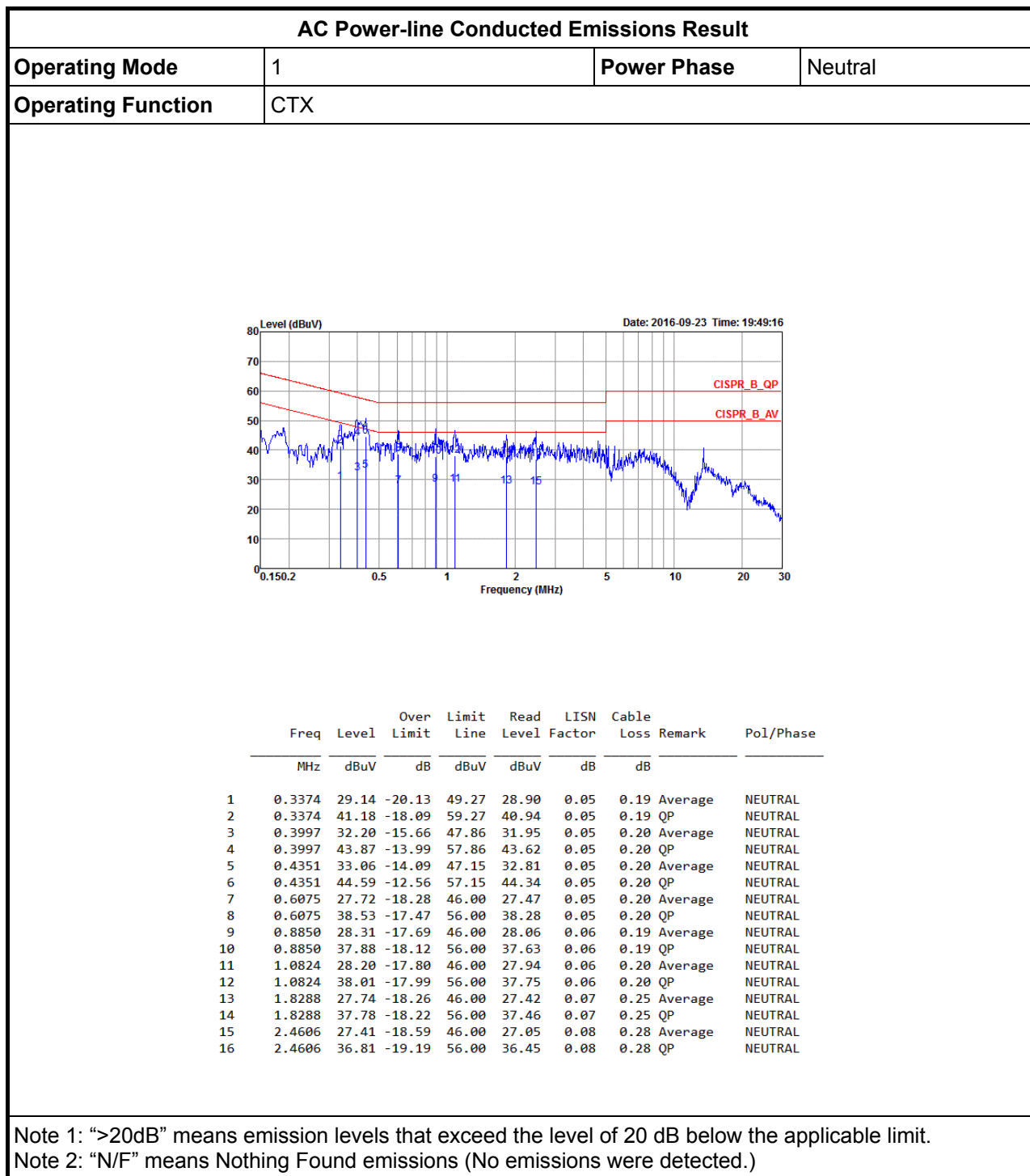
3.1.3 Test Procedures

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

3.1.4 Test Setup

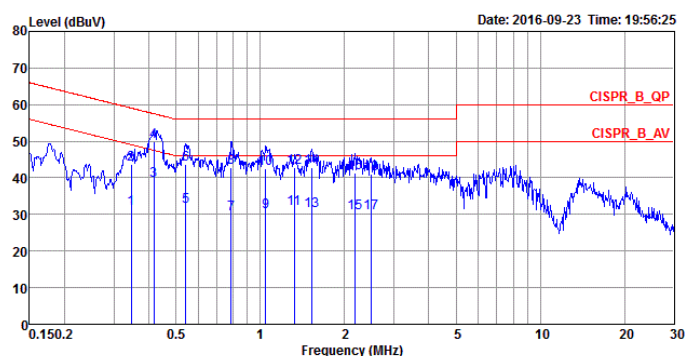


3.1.5 Test Result of AC Power-line Conducted Emissions



**AC Power-line Conducted Emissions Result**

Operating Mode	1	Power Phase	Line
Operating Function	CTX		



	Freq	Level	Over	Limit	Read	LISN	Cable		
	MHz	dBuV	Limit	Line	Level	Factor	Loss	Remark	Pol/Phase
			dB	dBuV	dBuV	dB	dB		
1	0.3465	31.52	-17.53	49.05	31.28	0.05	0.19	Average	LINE
2	0.3465	43.78	-15.27	59.05	43.54	0.05	0.19	QP	LINE
3	0.4171	39.40	-8.11	47.51	39.15	0.05	0.20	Average	LINE
4	0.4171	49.85	-7.66	57.51	49.60	0.05	0.20	QP	LINE
5	0.5407	32.04	-13.96	46.00	31.79	0.05	0.20	Average	LINE
6	0.5407	43.55	-12.45	56.00	43.30	0.05	0.20	QP	LINE
7	0.7876	30.20	-15.80	46.00	29.95	0.06	0.19	Average	LINE
8	0.7876	42.75	-13.25	56.00	42.50	0.06	0.19	QP	LINE
9	1.0430	30.74	-15.26	46.00	30.49	0.06	0.19	Average	LINE
10	1.0430	42.62	-13.38	56.00	42.37	0.06	0.19	QP	LINE
11	1.3238	31.49	-14.51	46.00	31.22	0.06	0.21	Average	LINE
12	1.3238	42.74	-13.26	56.00	42.47	0.06	0.21	QP	LINE
13	1.5274	30.99	-15.01	46.00	30.69	0.07	0.23	Average	LINE
14	1.5274	42.70	-13.30	56.00	42.40	0.07	0.23	QP	LINE
15	2.1783	30.35	-15.65	46.00	30.01	0.07	0.27	Average	LINE
16	2.1783	41.29	-14.71	56.00	40.95	0.07	0.27	QP	LINE
17	2.4868	30.41	-15.59	46.00	30.05	0.08	0.28	Average	LINE
18	2.4868	40.93	-15.07	56.00	40.57	0.08	0.28	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.)

3.2 Emission Bandwidth

3.2.1 Emission Bandwidth Limit

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

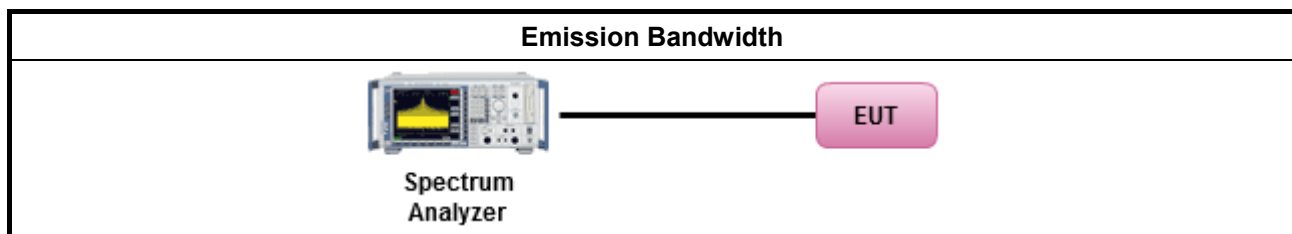
3.2.2 Measuring Instruments

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

3.2.3 Test Procedures

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

3.2.4 Test Setup



3.2.5 Test Result of Emission Bandwidth

Mode	Result	Limit	Port 1-N dB BW (Hz)	Port 1-OBW (Hz)
UNII-1 802.11a 6Mbps 5180MHz 1TX	Pass	---	21.575M	16.567M
UNII-1 802.11a 6Mbps 5200MHz 1TX	Pass	---	21.45M	16.667M
UNII-1 802.11a 6Mbps 5240MHz 1TX	Pass	---	21.6M	16.642M
UNII-1 802.11ac VHT20 MCS0 5180MHz 1TX	Pass	---	24.75M	17.816M
UNII-1 802.11ac VHT20 MCS0 5200MHz 1TX	Pass	---	26.775M	17.741M
UNII-1 802.11ac VHT20 MCS0 5240MHz 1TX	Pass	---	24.9M	17.841M
UNII-1 802.11ac VHT40 MCS0 5190MHz 1TX	Pass	---	40.45M	36.282M
UNII-1 802.11ac VHT40 MCS0 5230MHz 1TX	Pass	---	70.95M	36.332M
UNII-1 802.11ac VHT80 MCS0 5210MHz 1TX	Pass	---	88.9M	75.762M
UNII-3 802.11a 6Mbps 5745MHz 1TX	Pass	500k	16.35M	16.667M
UNII-3 802.11a 6Mbps 5785MHz 1TX	Pass	500k	16.3M	23.438M
UNII-3 802.11a 6Mbps 5825MHz 1TX	Pass	500k	16.35M	16.667M
UNII-3 802.11ac VHT20 MCS0 5745MHz 1TX	Pass	500k	17.575M	17.791M
UNII-3 802.11ac VHT20 MCS0 5785MHz 1TX	Pass	500k	17.55M	26.462M
UNII-3 802.11ac VHT20 MCS0 5825MHz 1TX	Pass	500k	17.6M	17.866M
UNII-3 802.11ac VHT40 MCS0 5755MHz 1TX	Pass	500k	36.3M	36.282M
UNII-3 802.11ac VHT40 MCS0 5795MHz 1TX	Pass	500k	36.3M	36.482M
UNII-3 802.11ac VHT80 MCS0 5775MHz 1TX	Pass	500k	75.9M	75.862M

Note: UNII1-N dB BW = 26dB BW

UNII3-N dB BW = 6dB BW

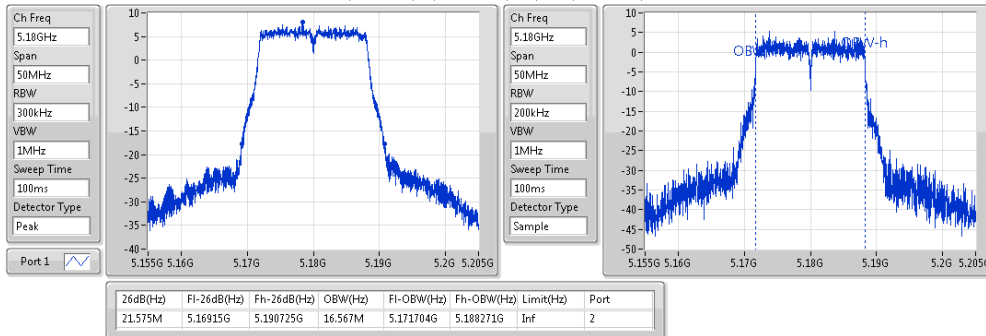
Mode	Result	Limit	Port 1-N dB BW (Hz)	Port 1-OBW (Hz)	Port 2-N dB BW (Hz)	Port 2-OBW (Hz)
UNII-1 802.11a 6Mbps 5180MHz 2TX	Pass	---	21.65M	16.592M	21.4M	16.592M
UNII-1 802.11a 6Mbps 5200MHz 2TX	Pass	---	21.65M	16.592M	21.6M	16.592M
UNII-1 802.11a 6Mbps 5240MHz 2TX	Pass	---	21.575M	16.592M	21.65M	16.567M
UNII-1 802.11ac VHT20(BF)MCS0 5180MHz 2TX	Pass	---	21.825M	17.816M	21.625M	17.791M
UNII-1 802.11ac VHT20(BF)MCS0 5200MHz 2TX	Pass	---	21.95M	17.816M	21.725M	17.791M
UNII-1 802.11ac VHT20(BF)MCS0 5240MHz 2TX	Pass	---	21.95M	17.816M	21.7M	17.766M
UNII-1 802.11ac VHT40(BF)MCS0 5190MHz 2TX	Pass	---	40.55M	36.332M	39.65M	36.282M
UNII-1 802.11ac VHT40(BF)MCS0 5230MHz 2TX	Pass	---	40.05M	36.282M	39.6M	36.232M
UNII-1 802.11ac VHT80(BF)MCS0 5210MHz 2TX	Pass	---	82.1M	75.662M	81.5M	75.662M
UNII-3 802.11a 6Mbps 5745MHz 2TX	Pass	500k	16.325M	16.667M	16.325M	16.617M
UNII-3 802.11a 6Mbps 5785MHz 2TX	Pass	500k	16.325M	16.642M	16.325M	16.642M
UNII-3 802.11a 6Mbps 5825MHz 2TX	Pass	500k	16.325M	16.767M	16.35M	16.642M
UNII-3 802.11ac VHT20(BF)MCS0 5745MHz 2TX	Pass	500k	17.675M	17.791M	17.6M	17.766M
UNII-3 802.11ac VHT20(BF)MCS0 5785MHz 2TX	Pass	500k	17.525M	21.614M	17.575M	20.19M
UNII-3 802.11ac VHT20(BF)MCS0 5825MHz 2TX	Pass	500k	17.6M	17.791M	17.6M	17.816M
UNII-3 802.11ac VHT40(BF)MCS0 5755MHz 2TX	Pass	500k	36.3M	36.282M	36.3M	36.282M
UNII-3 802.11ac VHT40(BF)MCS0 5795MHz 2TX	Pass	500k	36.35M	36.432M	36.3M	36.332M
UNII-3 802.11ac VHT80(BF)MCS0 5775MHz 2TX	Pass	500k	76M	75.562M	75.4M	75.762M

Note: UNII1-N dB BW = 26dB BW

UNII3-N dB BW = 6dB BW

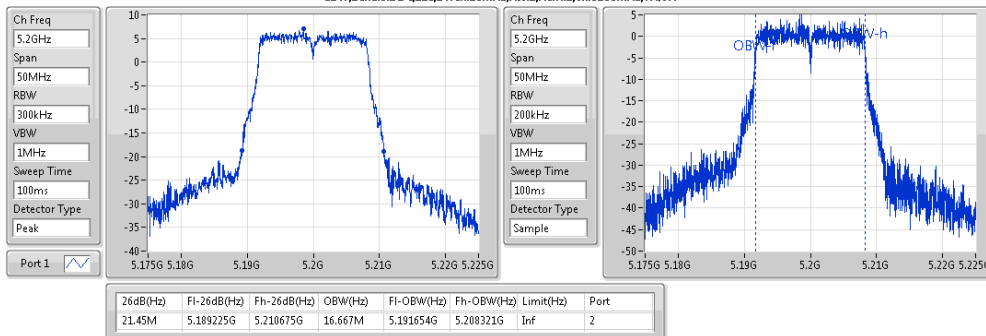
UNII-1 802.11a 6Mbps 5180MHz 1TX

EBW:Band:5.2G-L11a:BWch:20MHz;Nss:1;Nant:1;Ch:5180MHz;TN,VN



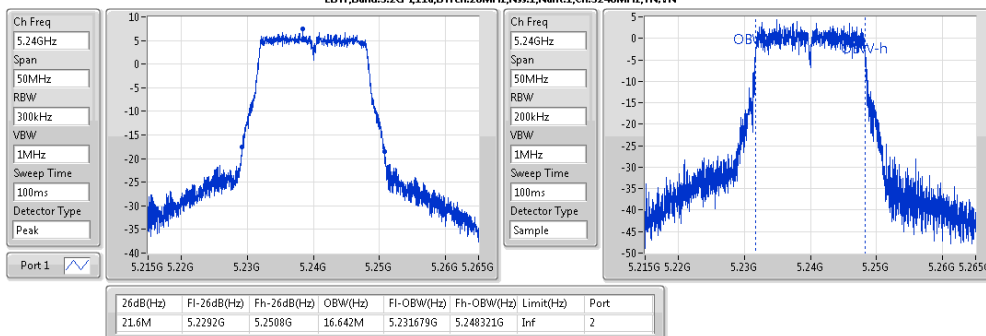
UNII-1 802.11a 6Mbps 5200MHz 1TX

EBW:Band:5.2G-L11a:BWch:20MHz;Nss:1;Nant:1;Ch:5200MHz;TN,VN



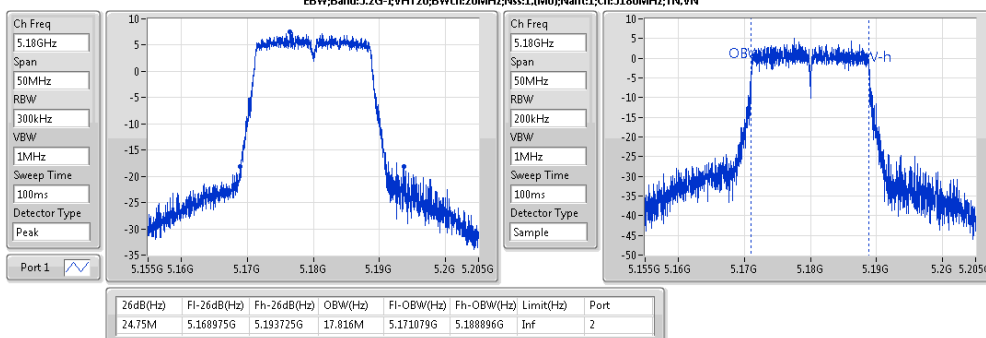
UNII-1 802.11a 6Mbps 5240MHz 1TX

EBW:Band:5.2G-L11a:BWch:20MHz;Nss:1;Nant:1;Ch:5240MHz;TN,VN



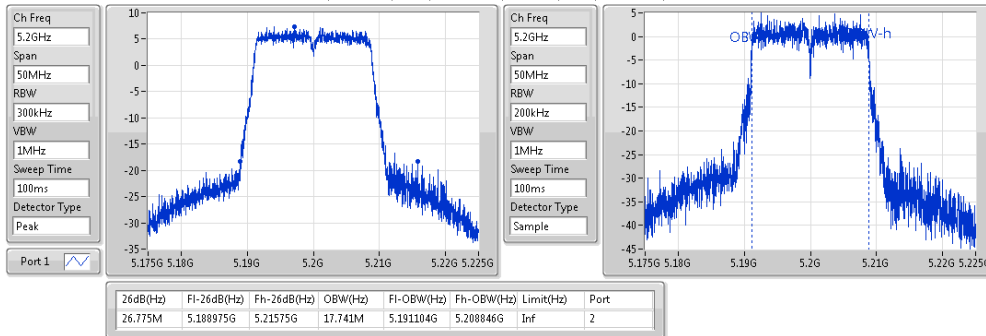
UNII-1 802.11ac VHT20 MCS0 5180MHz

EBW:Band:5.2G-LVHT20:BWch:20MHz;Nss:1(M0);Nant:1;Ch:5180MHz;TN,VN



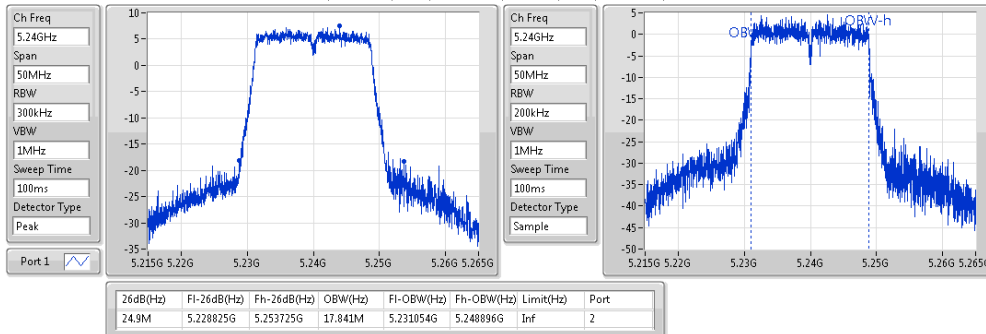
UNII-1 802.11ac VHT20 MCS0 5200MHz 1TX

EBW:Band5.2G-EVHT20;BWch:20MHz;Nss:1(M0);Nant:1;Ch:5200MHz;TN,VN



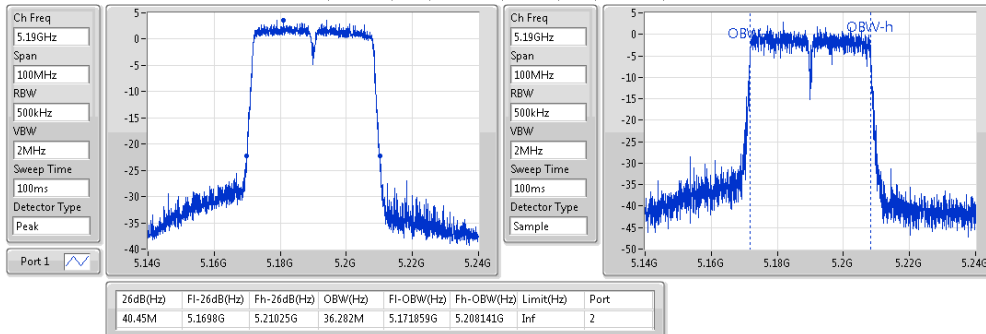
UNII-1 802.11ac VHT20 MCS0 5240MHz 1TX

EBW:Band5.2G-EVHT20;BWch:20MHz;Nss:1(M0);Nant:1;Ch:5240MHz;TN,VN



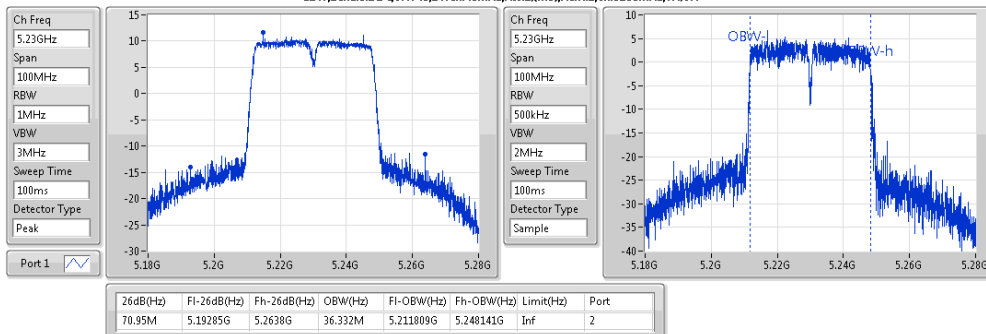
UNII-1 802.11ac VHT40 MCS0 5190MHz 1TX

EBW:Band5.2G-EVHT40;BWch:40MHz;Nss:1(M0);Nant:1;Ch:5190MHz;TN,VN



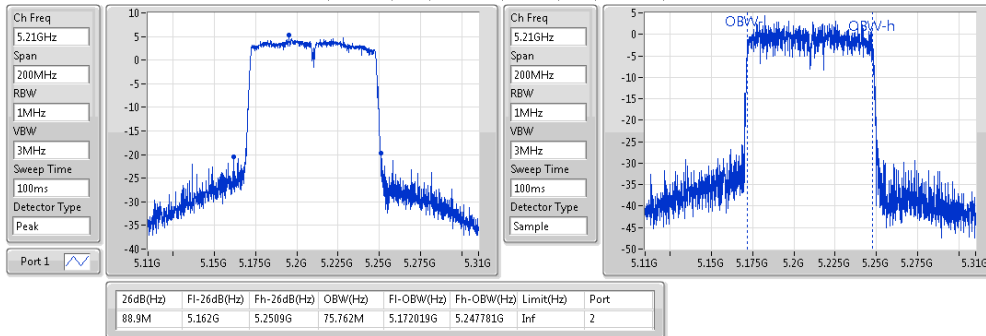
UNII-1 802.11ac VHT40 MCS0 5230MHz 1TX

EBW:Band5.2G-EVHT40;BWch:40MHz;Nss:1(M0);Nant:1;Ch:5230MHz;TN,VN



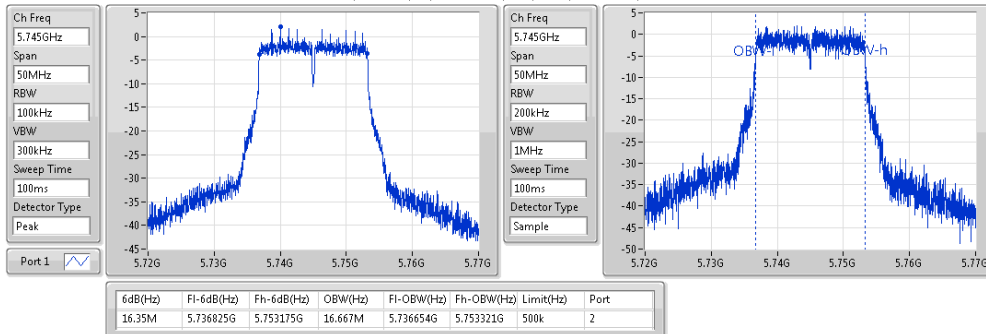
UNII-1 802.11ac VHT80 MCS0 5210MHz 1TX

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



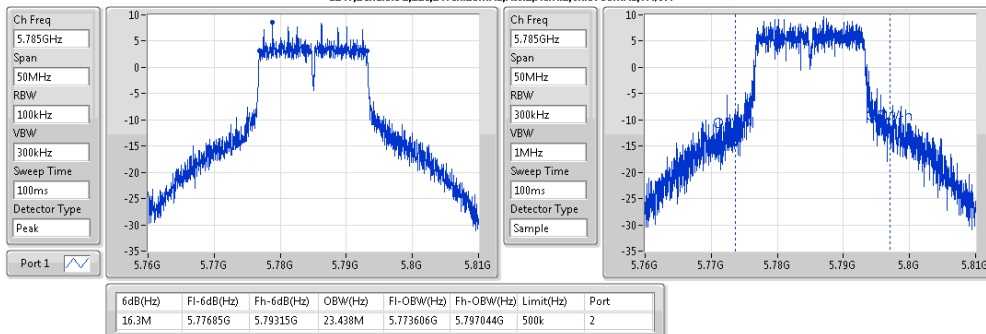
UNII-3 802.11a 6Mbps 5745MHz 1TX

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



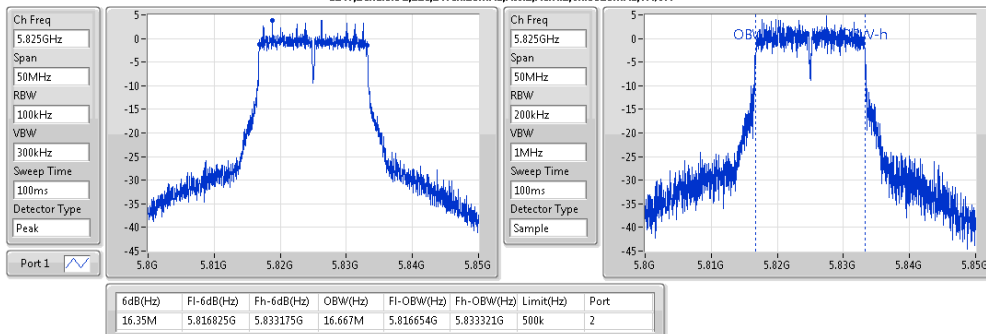
UNII-3 802.11a 6Mbps 5785MHz 1TX

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



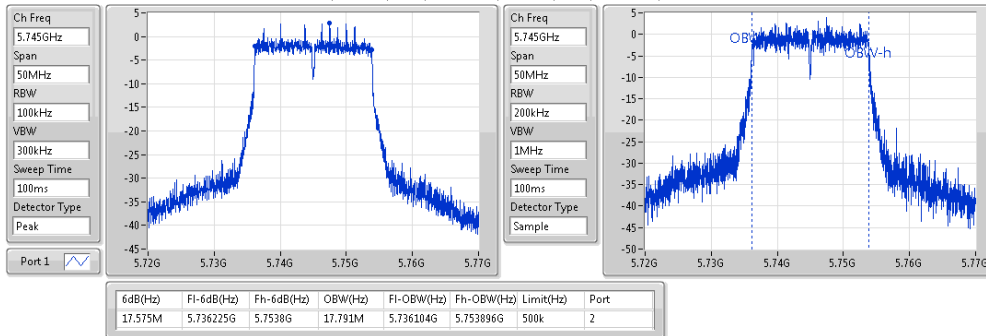
UNII-3 802.11a 6Mbps 5825MHz 1TX

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



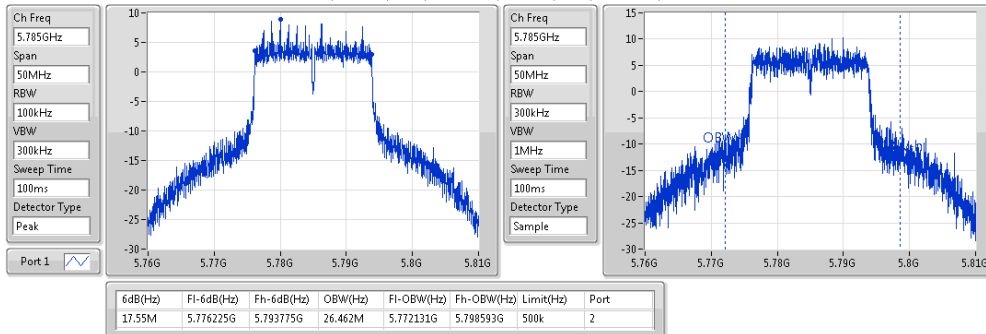
UNII-3 802.11ac VHT20 MCS0 5745MHz 1TX

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



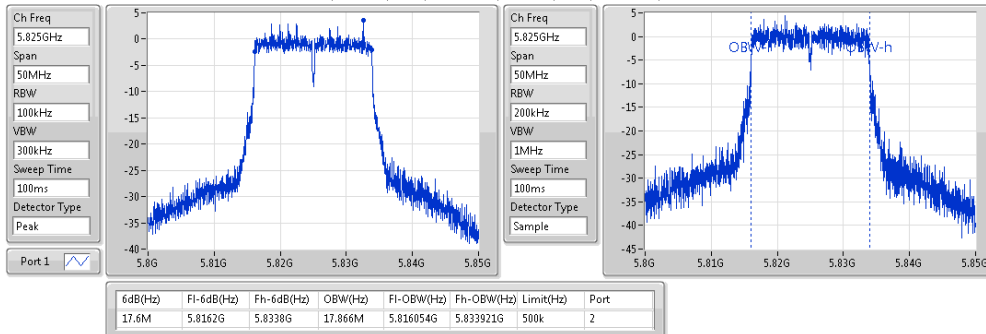
UNII-3 802.11ac VHT20 MCS0 5785MHz 1TX

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



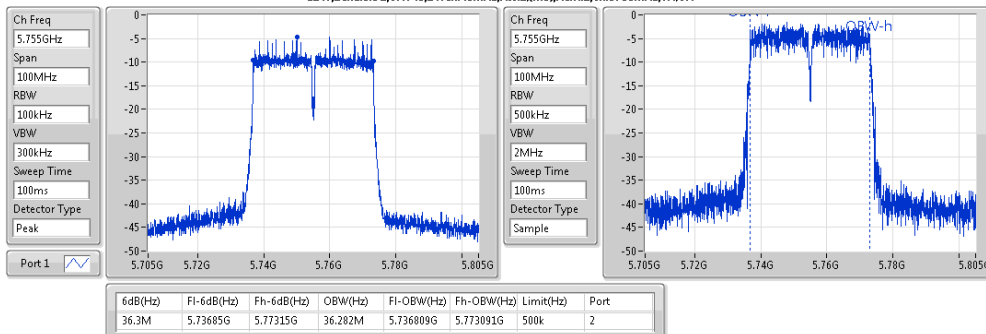
UNII-3 802.11ac VHT20 MCS0 5825MHz 1TX

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



UNII-3 802.11ac VHT40 MCS0 5755MHz 1TX

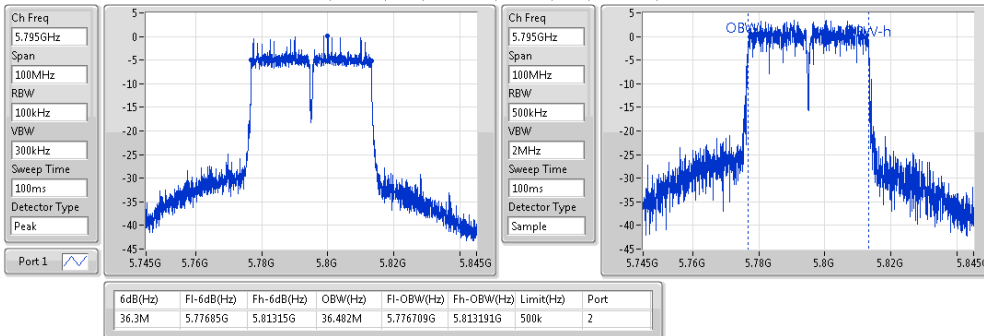
EBW:Band:5.8G;VHT40;BWch:40MHz;Nss:1(IMD);Nant:1;Ch:5755MHz;TN,VN





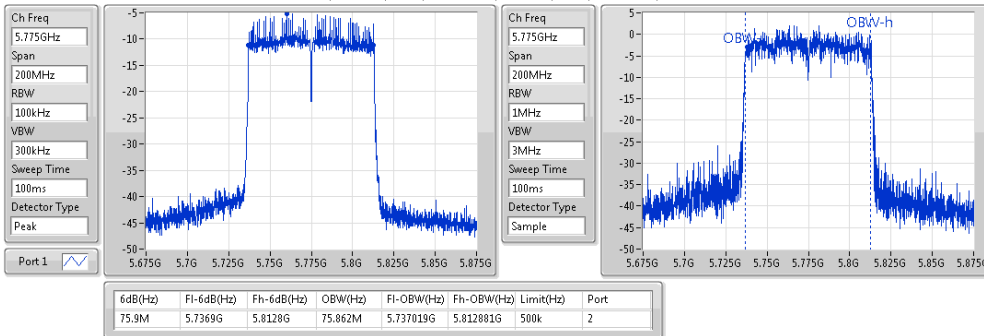
UNII-3 802.11ac VHT40 MCS0 5795MHz 1TX

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

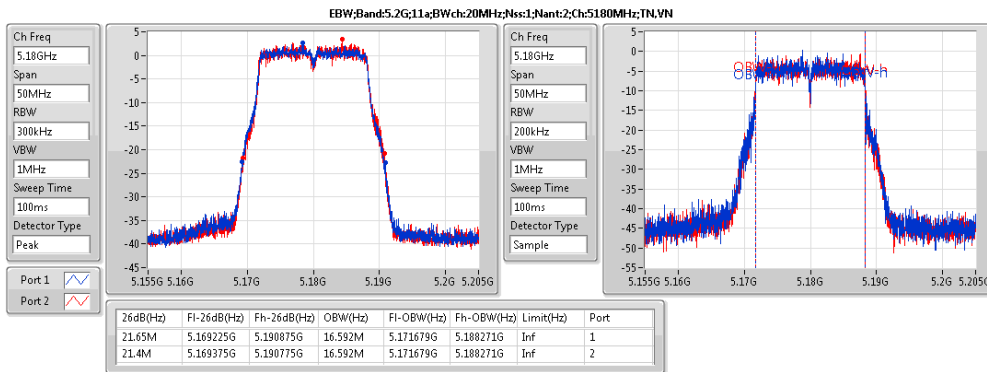


UNII-3 802.11ac VHT80 MCS0 5775MHz 1TX

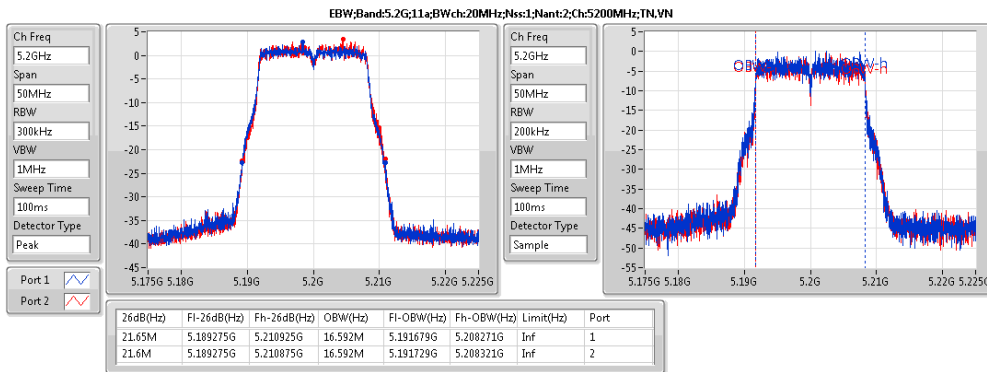
EBW:Band:5.8G;VHT80;BWch:80MHz;Nss:1;IMD;Nant:1;Ch:5775MHz;TN,VN



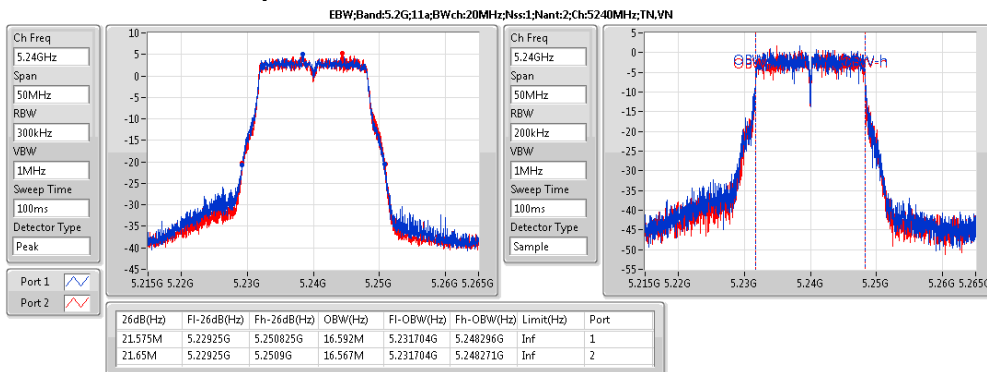
UNII-1 802.11a 6Mbps 5180MHz 2TX



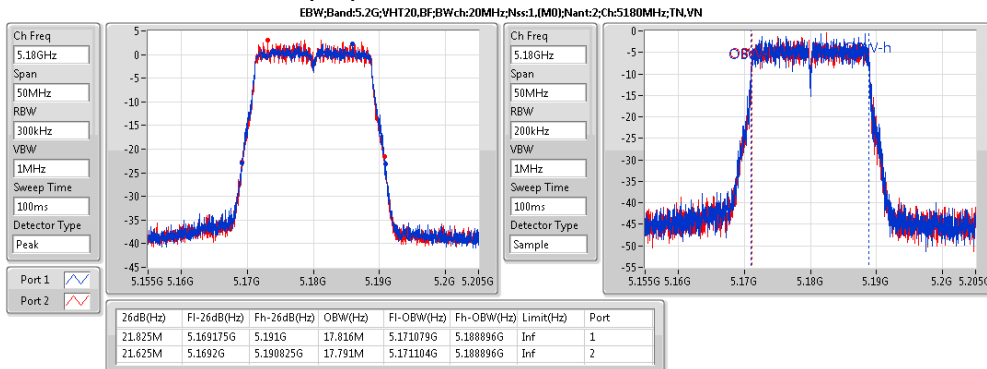
UNII-1 802.11a 6Mbps 5200MHz 2TX



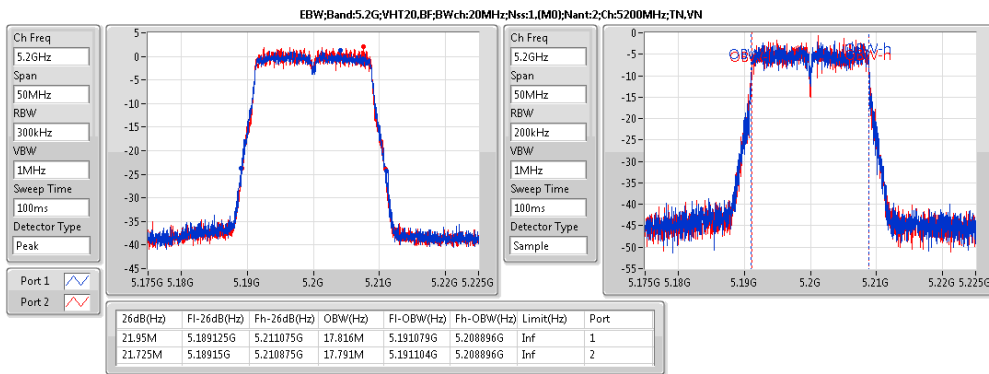
UNII-1 802.11a 6Mbps 5240MHz 2TX



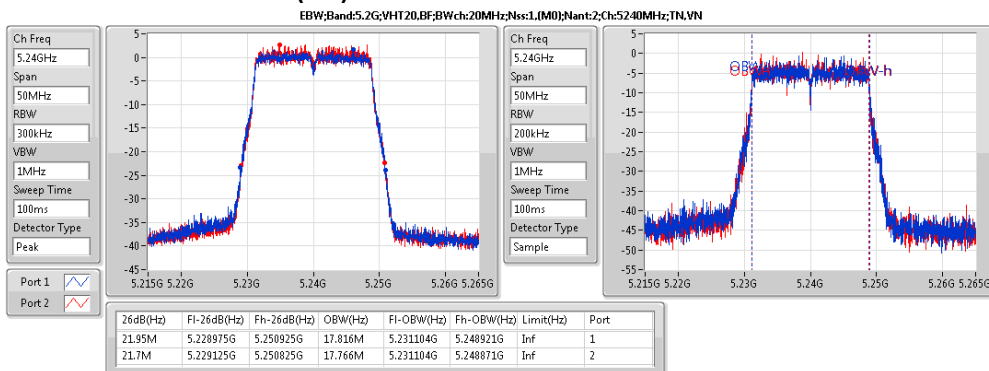
UNII-1 802.11ac VHT20(BF)MCS0 5180MHz 2TX



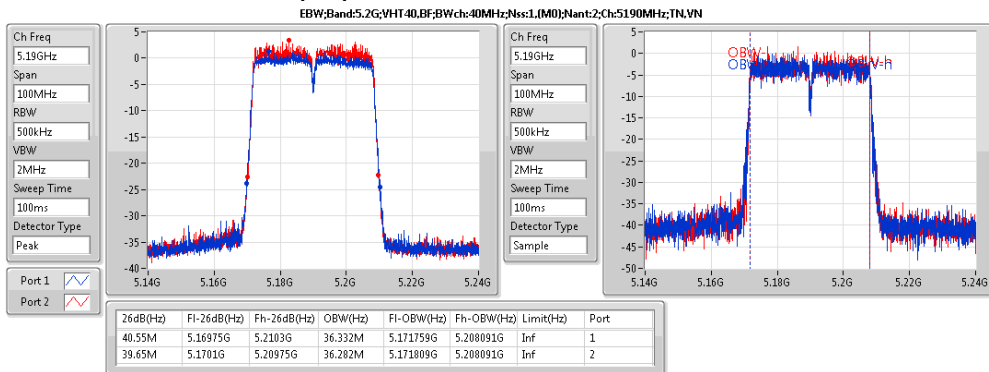
UNII-1 802.11ac VHT20(BF)MCS0 5200MHz 2TX



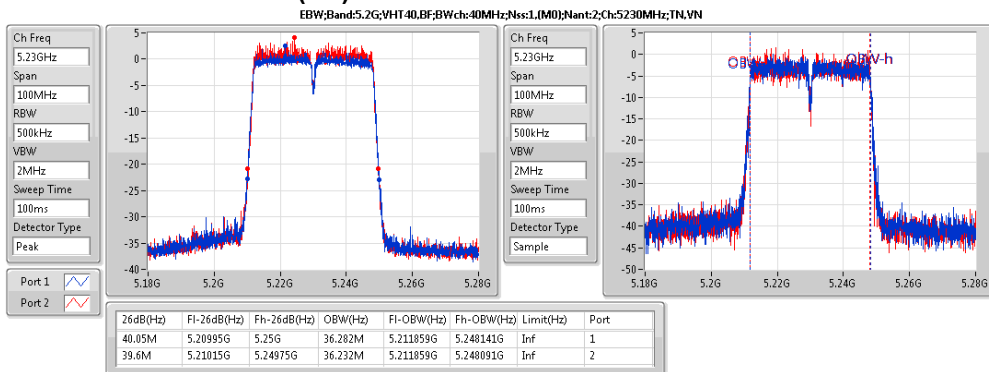
UNII-1 802.11ac VHT20(BF)MCS0 5240MHz 2TX



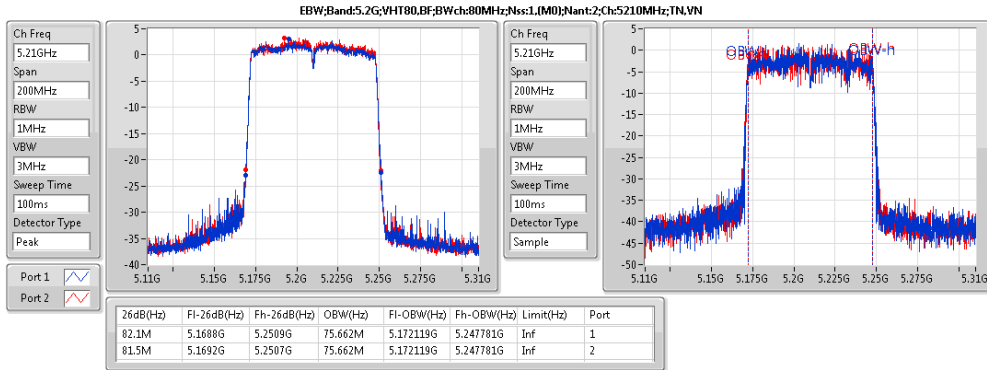
UNII-1 802.11ac VHT40(BF)MCS0 5190MHz 2TX



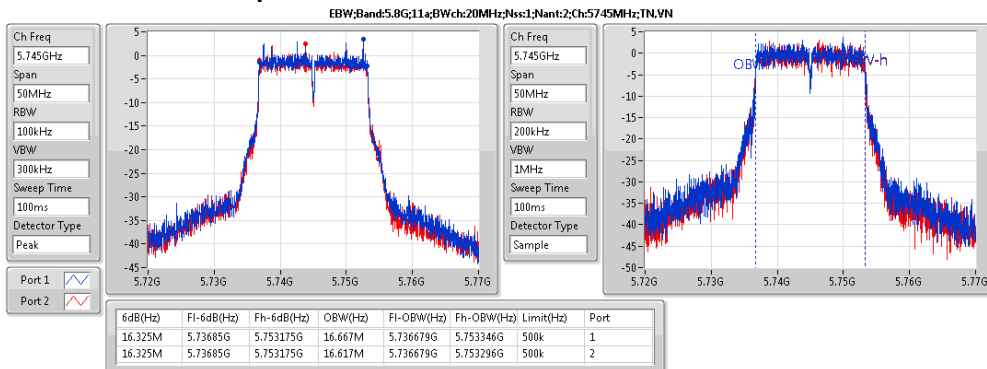
UNII-1 802.11ac VHT40(BF)MCS0 5230MHz 2TX



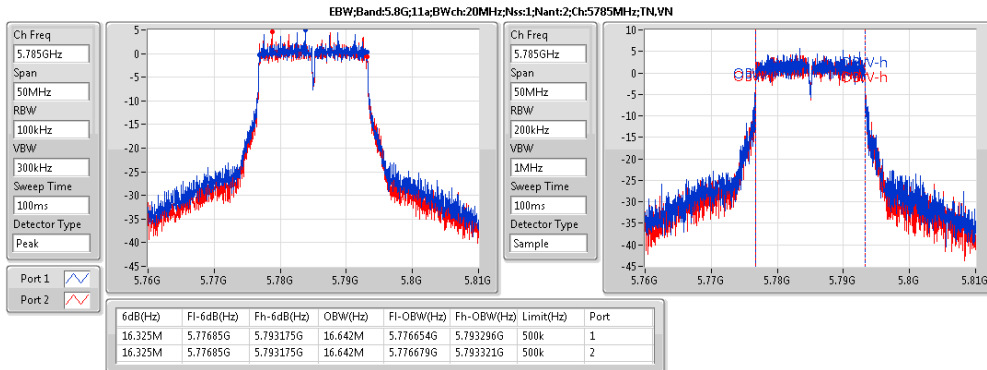
UNII-1 802.11ac VHT80(BF)MCS0 5210MHz 2TX



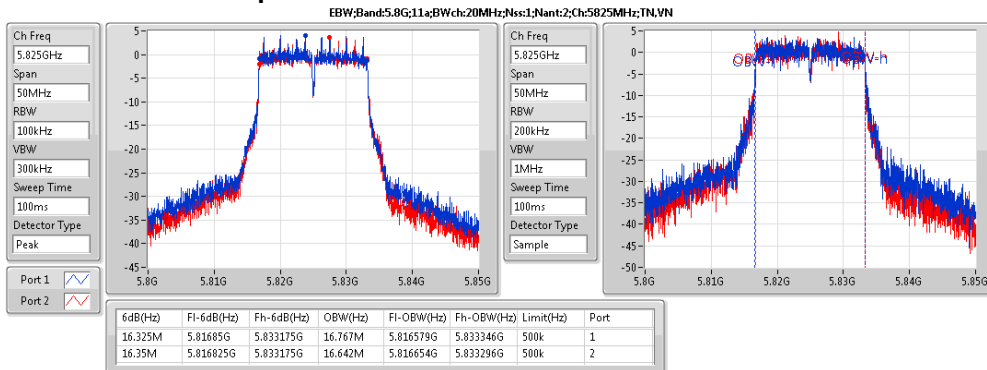
UNII-3 802.11a 6Mbps 5745MHz 2TX



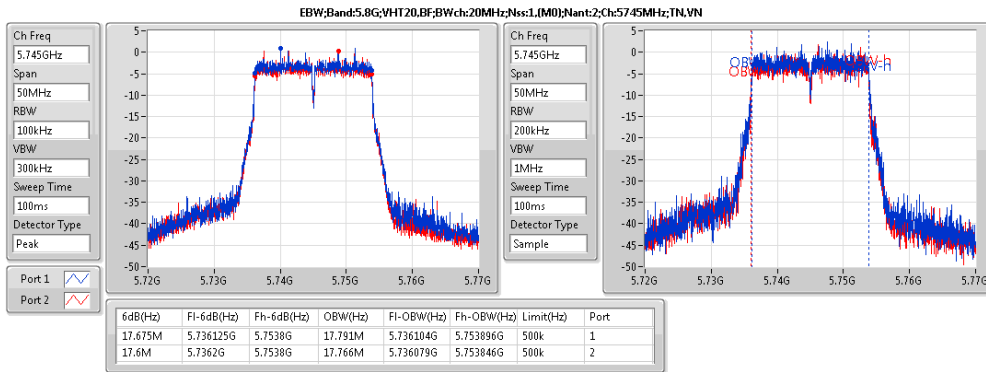
UNII-3 802.11a 6Mbps 5785MHz 2TX



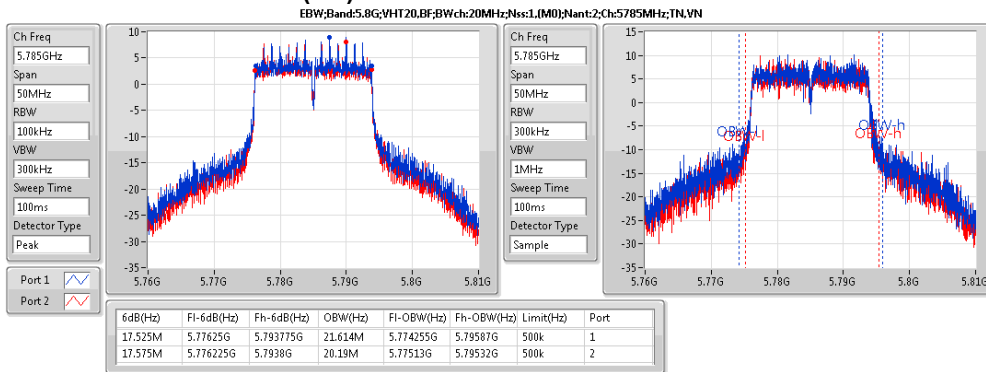
UNII-3 802.11a 6Mbps 5825MHz 2TX



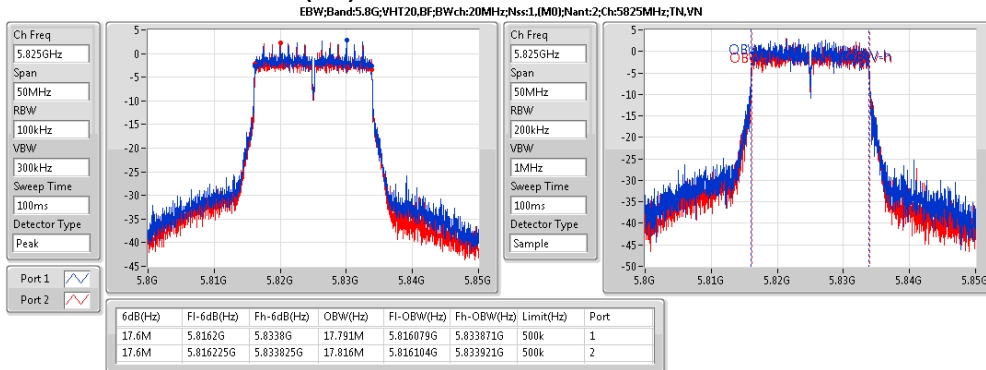
UNII-3 802.11ac VHT20(BF)MCS0 5745MHz 2TX



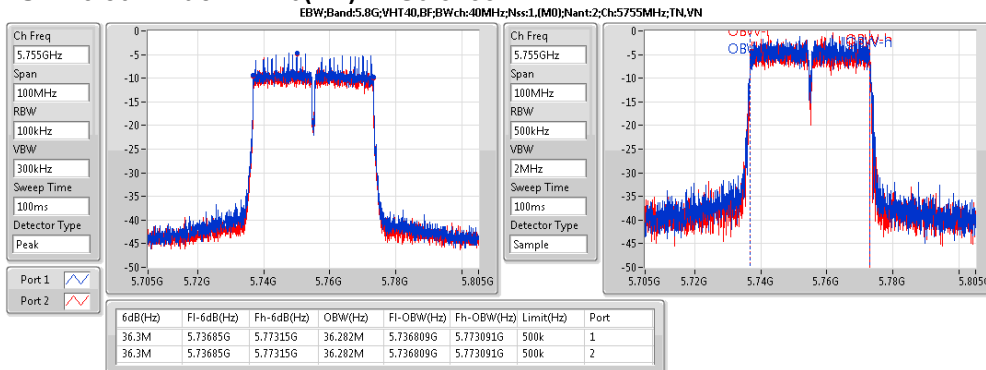
UNII-3 802.11ac VHT20(BF)MCS0 5785MHz 2TX



UNII-3 802.11ac VHT20(BF)MCS0 5825MHz 2TX

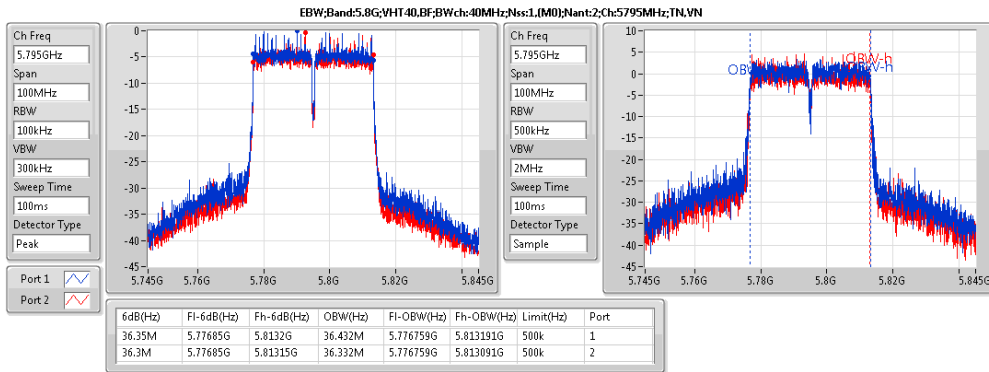


UNII-3 802.11ac VHT40(BF)MCS0 5755MHz 2TX

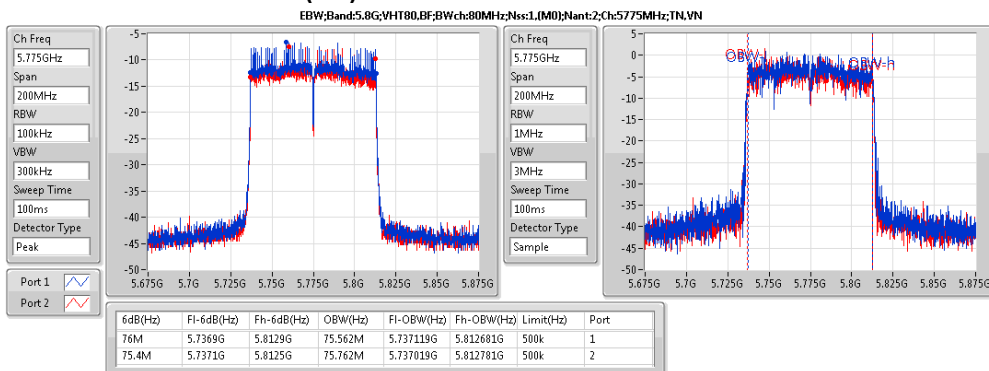




UNII-3 802.11ac VHT40(BF)MCS0 5795MHz 2TX



UNII-3 802.11ac VHT80(BF)MCS0 5775MHz 2TX



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.	

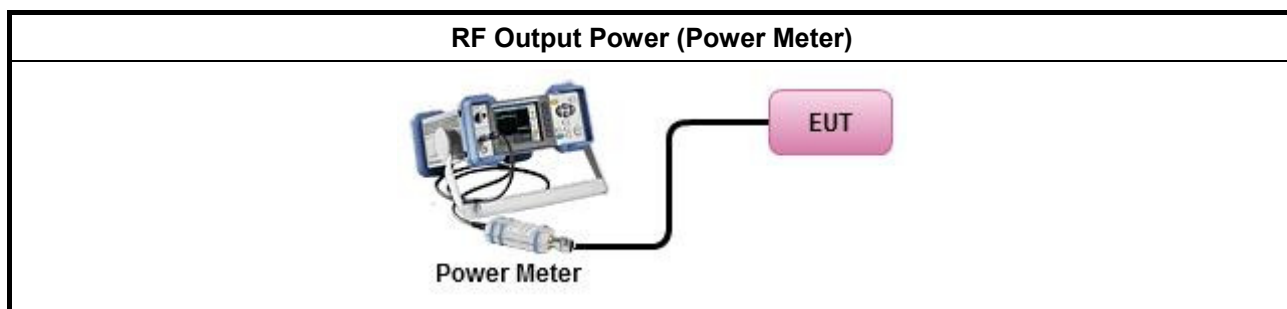
3.3.2 Measuring Instruments

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 $\geq$ 98% or external video / power trigger]
☐	Refer as FCC KDB 789033, clause E Method SA-1 (spectral trace averaging).
☐	Refer as FCC KDB 789033, clause E Method SA-1 Alt. (RMS detection with slow sweep speed)
	duty cycle < 98% and average over on/off periods with duty factor
☐	Refer as FCC KDB 789033, clause E Method SA-2 (spectral trace averaging).
☐	Refer as FCC KDB 789033, clause E Method SA-2 Alt. (RMS detection with slow sweep speed)
	Wideband RF power meter and average over on/off periods with duty factor
☒	Refer as FCC KDB 789033, clause E Method PM-G (using an RF average power meter).
For conducted measurement.	
	If the EUT supports multiple transmit chains using options given below: Refer as FCC KDB 662911, In-band power measurements. Using the measure-and-sum approach, measured all transmit ports individually. Sum the power (in linear power units e.g., mW) of all ports for each individual sample and save them.
	If multiple transmit chains, EIRP calculation could be following as methods: $P_{\text{total}} = P_1 + P_2 + \dots + P_n$ (calculated in linear unit [mW] and transfer to log unit [dBm]) $\text{EIRP}_{\text{total}} = P_{\text{total}} + \text{DG}$

3.3.4 Test Setup



3.3.5 Test Result of Maximum Conducted Output Power

Mode	Result	Directional Gain (dBi)	Port 1 Power (dBm)	Output Power Limit (dBm)	EIRP (dBm)
UNII-1 802.11a 6Mbps 5180MHz 1TX	Pass	5.03	16.86	30.00	21.89
UNII-1 802.11a 6Mbps 5200MHz 1TX	Pass	5.03	16.91	30.00	21.94
UNII-1 802.11a 6Mbps 5240MHz 1TX	Pass	5.03	16.92	30.00	21.95
UNII-1 802.11ac VHT20 MCS0 5180MHz 1TX	Pass	5.03	16.96	30.00	21.99
UNII-1 802.11ac VHT20 MCS0 5200MHz 1TX	Pass	5.03	17.27	30.00	22.30
UNII-1 802.11ac VHT20 MCS0 5240MHz 1TX	Pass	5.03	17.28	30.00	22.31
UNII-1 802.11ac VHT40 MCS0 5190MHz 1TX	Pass	5.03	14.14	30.00	19.17
UNII-1 802.11ac VHT40 MCS0 5230MHz 1TX	Pass	5.03	16.93	30.00	21.96
UNII-1 802.11ac VHT80 MCS0 5210MHz 1TX	Pass	5.03	14.70	30.00	19.73
UNII-3 802.11a 6Mbps 5745MHz 1TX	Pass	5.26	16.30	30.00	21.56
UNII-3 802.11a 6Mbps 5785MHz 1TX	Pass	5.26	21.63	30.00	26.89
UNII-3 802.11a 6Mbps 5825MHz 1TX	Pass	5.26	18.03	30.00	23.29
UNII-3 802.11ac VHT20 MCS0 5745MHz 1TX	Pass	5.26	16.52	30.00	21.78
UNII-3 802.11ac VHT20 MCS0 5785MHz 1TX	Pass	5.26	21.71	30.00	26.97
UNII-3 802.11ac VHT20 MCS0 5825MHz 1TX	Pass	5.26	17.43	30.00	22.69
UNII-3 802.11ac VHT40 MCS0 5755MHz 1TX	Pass	5.26	13.26	30.00	18.52
UNII-3 802.11ac VHT40 MCS0 5795MHz 1TX	Pass	5.26	17.06	30.00	22.32
UNII-3 802.11ac VHT80 MCS0 5775MHz 1TX	Pass	5.26	13.87	30.00	19.13

Mode	Result	Directional Gain (dBi)	Port 1 (dBm)	Port 2 (dBm)	Total Power (dBm)	Output Power Limit (dBm)	EIRP (dBm)
UNII-1 802.11a 6Mbps 5180MHz 2TX	Pass	5.43	11.89	11.86	14.89	30.00	20.32
UNII-1 802.11a 6Mbps 5200MHz 2TX	Pass	5.43	11.91	12.12	15.03	30.00	20.46
UNII-1 802.11a 6Mbps 5240MHz 2TX	Pass	5.43	12.07	12.03	15.06	30.00	20.49
UNII-1 802.11ac VHT20(BF)MCS0 5180MHz 2TX	Pass	8.24	11.37	10.95	14.18	27.76	22.42
UNII-1 802.11ac VHT20(BF)MCS0 5200MHz 2TX	Pass	8.24	11.29	11.02	14.17	27.76	22.41
UNII-1 802.11ac VHT20(BF)MCS0 5240MHz 2TX	Pass	8.24	11.34	10.98	14.17	27.76	22.42
UNII-1 802.11ac VHT40(BF)MCS0 5190MHz 2TX	Pass	8.24	11.86	11.45	14.67	27.76	22.91
UNII-1 802.11ac VHT40(BF)MCS0 5230MHz 2TX	Pass	8.24	11.79	11.51	14.66	27.76	22.90
UNII-1 802.11ac VHT80(BF)MCS0 5210MHz 2TX	Pass	8.24	11.29	11.22	14.27	27.76	22.51
UNII-3 802.11a 6Mbps 5745MHz 2TX	Pass	5.63	15.53	15.35	18.45	30.00	24.08
UNII-3 802.11a 6Mbps 5785MHz 2TX	Pass	5.63	21.15	21.34	24.26	30.00	29.89
UNII-3 802.11a 6Mbps 5825MHz 2TX	Pass	5.63	16.95	16.81	19.89	30.00	25.52
UNII-3 802.11ac VHT20(BF)MCS0 5745MHz 2TX	Pass	8.46	13.29	13.47	16.39	27.54	24.85
UNII-3 802.11ac VHT20(BF)MCS0 5785MHz 2TX	Pass	8.46	19.82	20.25	23.05	27.54	31.51
UNII-3 802.11ac VHT20(BF)MCS0 5825MHz 2TX	Pass	8.46	15.64	15.07	18.37	27.54	26.83
UNII-3 802.11ac VHT40(BF)MCS0 5755MHz 2TX	Pass	8.46	9.98	9.57	12.79	27.54	21.25
UNII-3 802.11ac VHT40(BF)MCS0 5795MHz 2TX	Pass	8.46	14.05	14.23	17.15	27.54	25.61
UNII-3 802.11ac VHT80(BF)MCS0 5775MHz 2TX	Pass	8.46	10.49	10.31	13.41	27.54	21.87

Note: For 802.11ac VHT20(BF), 802.11ac VHT40(BF) and 802.11ac VHT80(BF)

$$1. \text{ UNII-1 } \text{Directional Gain} = 10 \log \left[\frac{\sum_{j=1}^{N_{SS}} \left\{ \sum_{K=1}^{N_{ANT}} g_{j,k} \right\}^2}{N_{ANT}} \right] = 8.24 \text{dBi} > 6 \text{dBi}, \text{ so limit} = 30 - (8.24 - 6) = 27.76 \text{dBm}.$$

$$2. \text{ UNII-3 } \text{Directional Gain} = 10 \log \left[\frac{\sum_{j=1}^{N_{SS}} \left\{ \sum_{K=1}^{N_{ANT}} g_{j,k} \right\}^2}{N_{ANT}} \right] = 8.46 \text{dBi} > 6 \text{dBi}, \text{ so limit} = 30 - (8.46 - 6) = 27.54 \text{dBm}.$$

3.4 Peak Power Spectral Density

3.4.1 Peak Power Spectral Density Limit

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

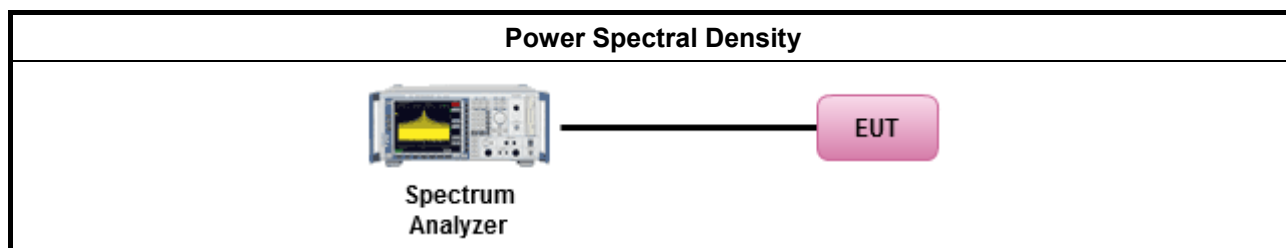
3.4.2 Measuring Instruments

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

3.4.3 Test Procedures

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

3.4.4 Test Setup



3.4.5 Test Result of Peak Power Spectral Density

Mode	Result	Directional Gain (dBi)	Port 1 (dBm/RBW)	PSD.Limit (dBm/RBW)
UNII-1 802.11a 6Mbps 5180MHz 1TX	Pass	5.03	3.70	17.00
UNII-1 802.11a 6Mbps 5200MHz 1TX	Pass	5.03	3.18	17.00
UNII-1 802.11a 6Mbps 5240MHz 1TX	Pass	5.03	3.53	17.00
UNII-1 802.11ac VHT20 MCS0 5180MHz 1TX	Pass	5.03	3.56	17.00
UNII-1 802.11ac VHT20 MCS0 5200MHz 1TX	Pass	5.03	2.99	17.00
UNII-1 802.11ac VHT20 MCS0 5240MHz 1TX	Pass	5.03	3.39	17.00
UNII-1 802.11ac VHT40 MCS0 5190MHz 1TX	Pass	5.03	-2.50	17.00
UNII-1 802.11ac VHT40 MCS0 5230MHz 1TX	Pass	5.03	1.08	17.00
UNII-1 802.11ac VHT80 MCS0 5210MHz 1TX	Pass	5.03	-4.69	17.00
UNII-3 802.11a 6Mbps 5745MHz 1TX	Pass	5.26	-0.65	30.00
UNII-3 802.11a 6Mbps 5785MHz 1TX	Pass	5.26	4.71	30.00
UNII-3 802.11a 6Mbps 5825MHz 1TX	Pass	5.26	1.01	30.00
UNII-3 802.11ac VHT20 MCS0 5745MHz 1TX	Pass	5.26	-0.41	30.00
UNII-3 802.11ac VHT20 MCS0 5785MHz 1TX	Pass	5.26	4.62	30.00
UNII-3 802.11ac VHT20 MCS0 5825MHz 1TX	Pass	5.26	0.75	30.00
UNII-3 802.11ac VHT40 MCS0 5755MHz 1TX	Pass	5.26	-8.05	30.00
UNII-3 802.11ac VHT40 MCS0 5795MHz 1TX	Pass	5.26	-3.24	30.00
UNII-3 802.11ac VHT80 MCS0 5775MHz 1TX	Pass	5.26	-8.45	30.00

Note: UNII1-dBm/RBW = dBm/MHz.

UNII3-dBm/RBW = dBm/500kHz.

Mode	Result	Directional Gain (dBi)	Port 1 (dBm/RBW)	Port 2 (dBm/RBW)	Total PSD (dBm/RBW)	PSD.Limit (dBm/RBW)
UNII-1 802.11a 6Mbps 5180MHz 2TX	Pass	8.24	-1.08	-1.59	1.60	14.76
UNII-1 802.11a 6Mbps 5200MHz 2TX	Pass	8.24	-1.16	-1.28	1.72	14.76
UNII-1 802.11a 6Mbps 5240MHz 2TX	Pass	8.24	-0.91	-1.48	1.74	14.76
UNII-1 802.11ac VHT20(BF)MCS0 5180MHz 2TX	Pass	8.24	-2.12	-1.44	1.08	14.76
UNII-1 802.11ac VHT20(BF)MCS0 5200MHz 2TX	Pass	8.24	-2.29	-1.39	1.12	14.76
UNII-1 802.11ac VHT20(BF)MCS0 5240MHz 2TX	Pass	8.24	-2.33	-1.29	1.11	14.76
UNII-1 802.11ac VHT40(BF)MCS0 5190MHz 2TX	Pass	8.24	-4.40	-4.04	-1.29	14.76
UNII-1 802.11ac VHT40(BF)MCS0 5230MHz 2TX	Pass	8.24	-4.76	-3.94	-1.35	14.76
UNII-1 802.11ac VHT80(BF)MCS0 5210MHz 2TX	Pass	8.24	-7.99	-7.26	-4.76	14.76
UNII-3 802.11a 6Mbps 5745MHz 2TX	Pass	8.46	0.5	0.18	3.26	27.54
UNII-3 802.11a 6Mbps 5785MHz 2TX	Pass	8.46	2.42	2.04	5.16	27.54
UNII-3 802.11a 6Mbps 5825MHz 2TX	Pass	8.46	1.33	1.22	4.23	27.54
UNII-3 802.11ac VHT20(BF)MCS0 5745MHz 2TX	Pass	8.46	-1.64	-2.25	0.92	27.54
UNII-3 802.11ac VHT20(BF)MCS0 5785MHz 2TX	Pass	8.46	4.85	4.39	7.59	27.54
UNII-3 802.11ac VHT20(BF)MCS0 5825MHz 2TX	Pass	8.46	0.13	-0.58	2.76	27.54
UNII-3 802.11ac VHT40(BF)MCS0 5755MHz 2TX	Pass	8.46	-7.77	-8.38	-5.19	27.54
UNII-3 802.11ac VHT40(BF)MCS0 5795MHz 2TX	Pass	8.46	-2.99	-3.73	-0.50	27.54
UNII-3 802.11ac VHT80(BF)MCS0 5775MHz 2TX	Pass	8.46	-9.79	-10.67	-7.19	27.54

Note: UNII1-dBm/RBW = dBm/MHz.

UNII3-dBm/RBW = dBm/500kHz.

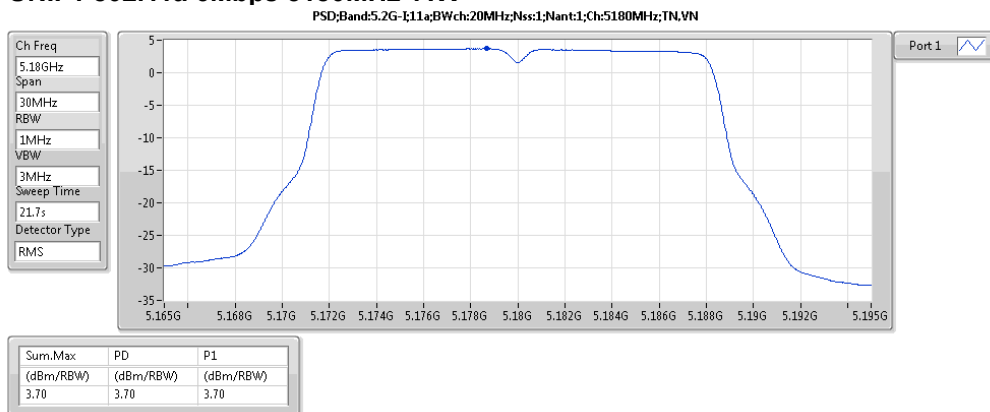
Note:

$$\text{UNII-1 Directional Gain} = 10 \log \left[\frac{\sum_{j=1}^{N_{SS}} \left\{ \sum_{K=1}^{N_{ANT}} g_{j,k} \right\}^2}{N_{ANT}} \right] = 8.24 \text{dBi} > 6 \text{dBi, so limit} = 17 - (8.24 - 6) = 14.76 \text{dBm/RBW.}$$

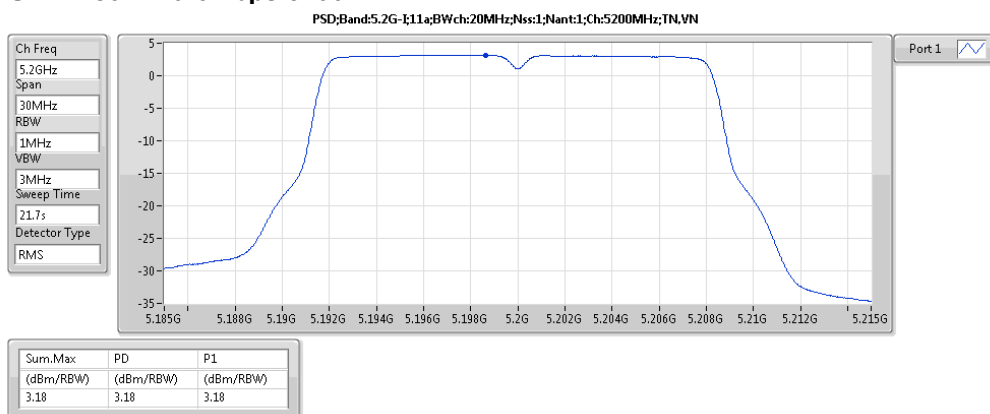
$$\text{UNII-3 Directional Gain} = 10 \log \left[\frac{\sum_{j=1}^{N_{SS}} \left\{ \sum_{K=1}^{N_{ANT}} g_{j,k} \right\}^2}{N_{ANT}} \right] = 8.46 \text{dBi} > 6 \text{dBi, so limit} = 30 - (8.46 - 6) = 27.54 \text{dBm/RBW.}$$



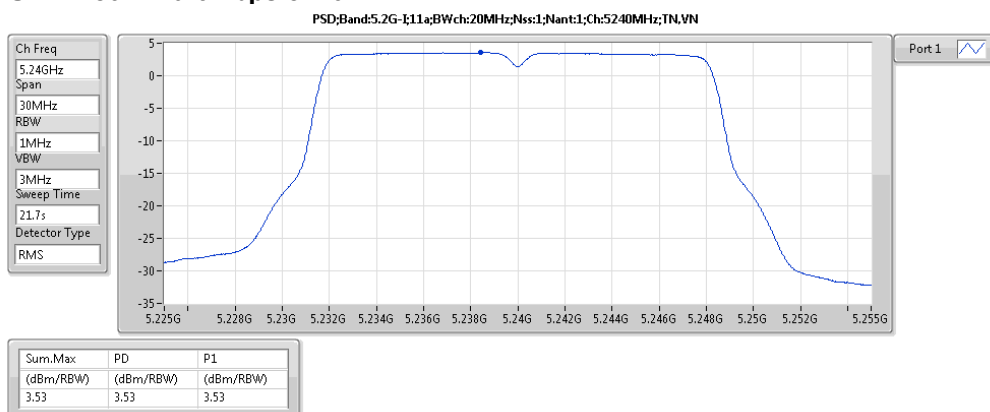
UNII-1 802.11a 6Mbps 5180MHz 1TX



UNII-1 802.11a 6Mbps 5200MHz 1TX

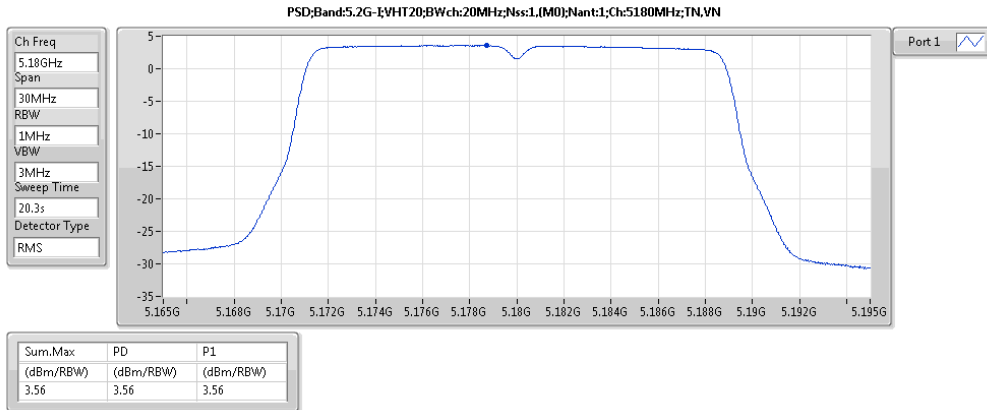


UNII-1 802.11a 6Mbps 5240MHz 1TX

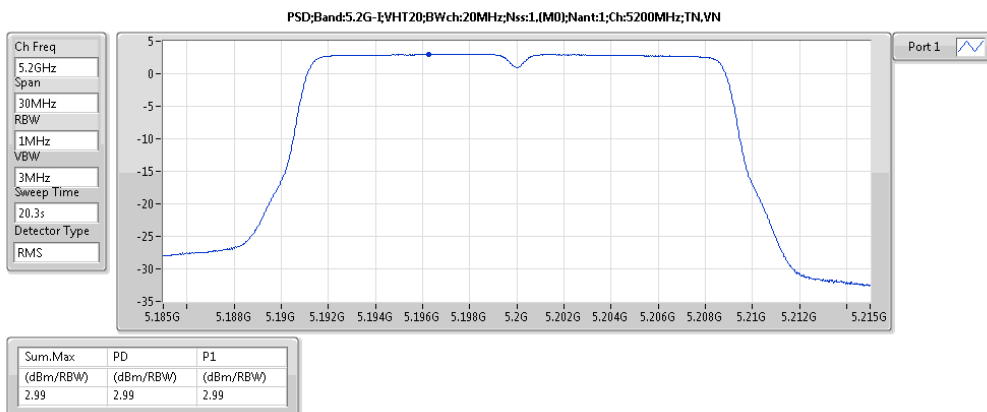




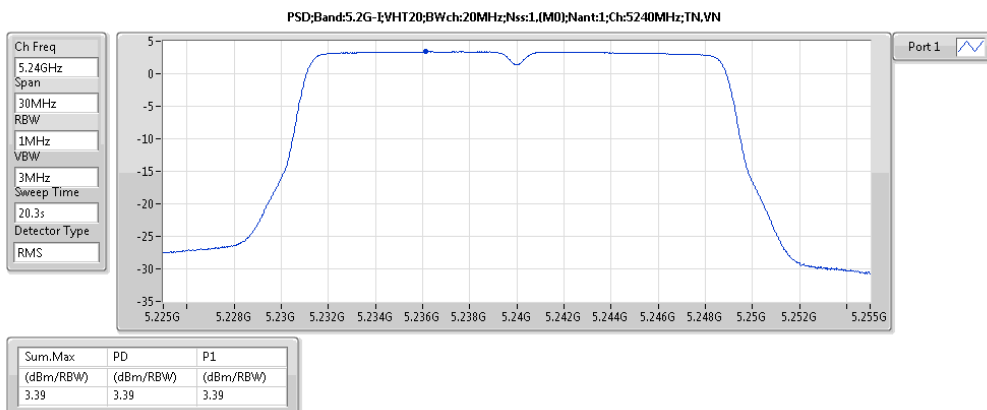
UNII-1 802.11ac VHT20 MCS0 5180MHz 1TX



UNII-1 802.11ac VHT20 MCS0 5200MHz 1TX

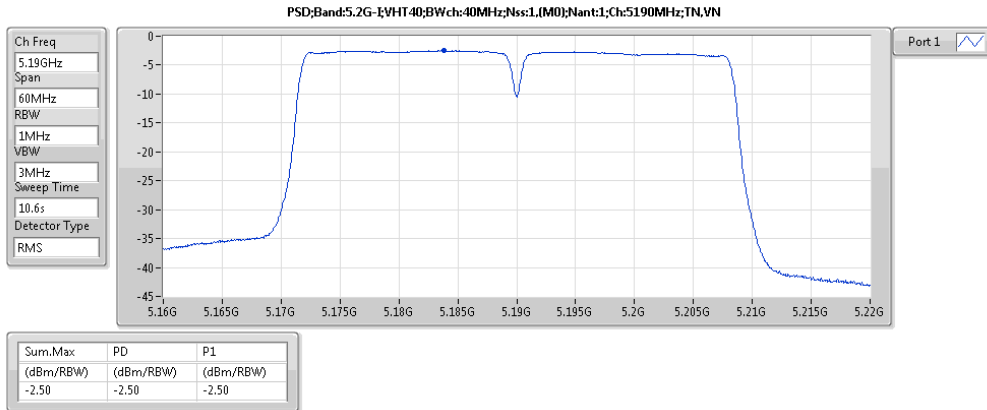


UNII-1 802.11ac VHT20 MCS0 5240MHz 1TX

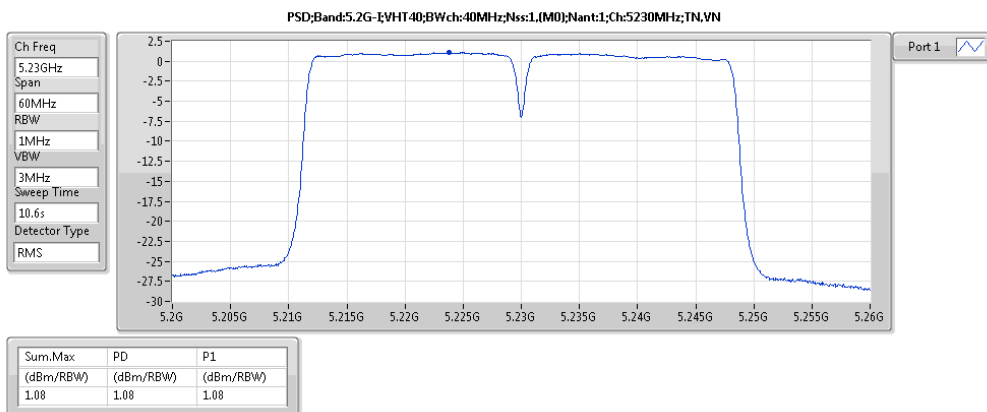




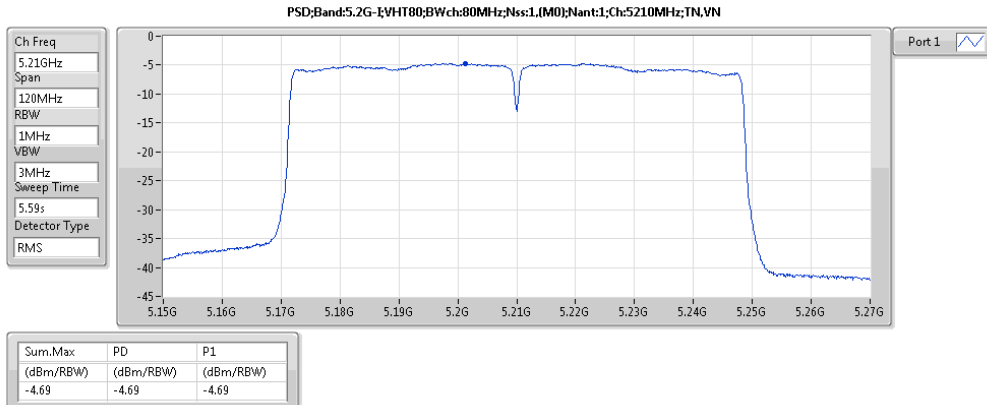
UNII-1 802.11ac VHT40 MCS0 5190MHz 1TX



UNII-1 802.11ac VHT40 MCS0 5230MHz 1TX

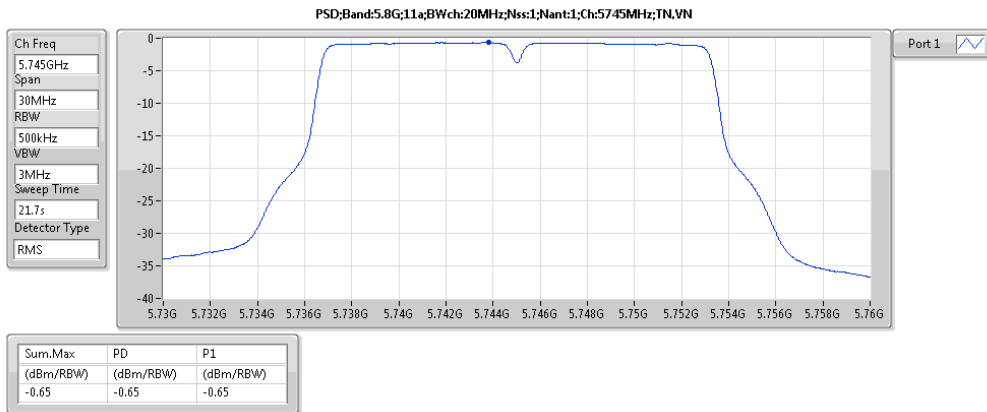


UNII-1 802.11ac VHT80 MCS0 5210MHz 1TX

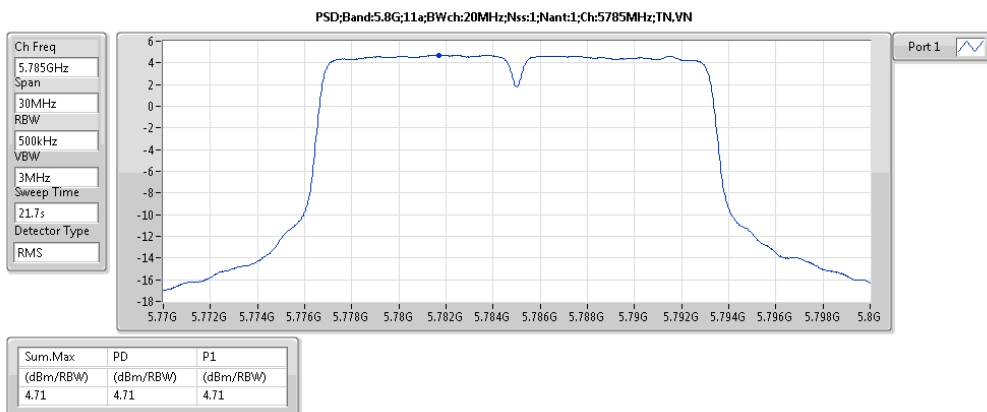




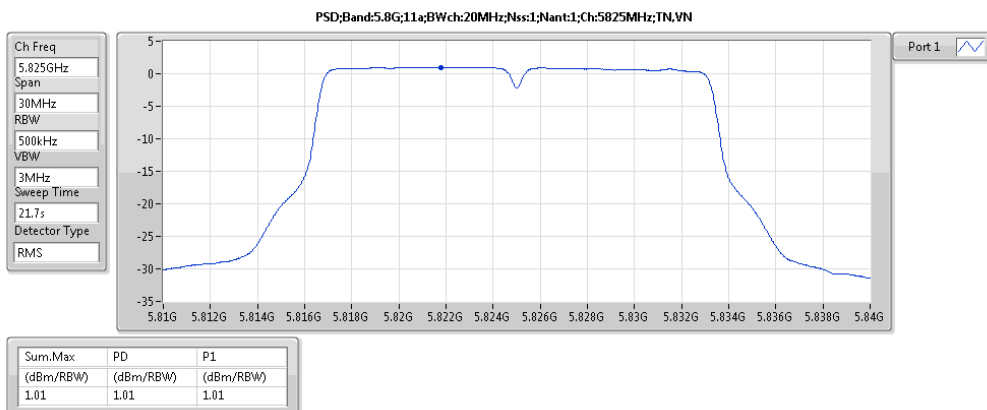
UNII-3 802.11a 6Mbps 5745MHz 1TX



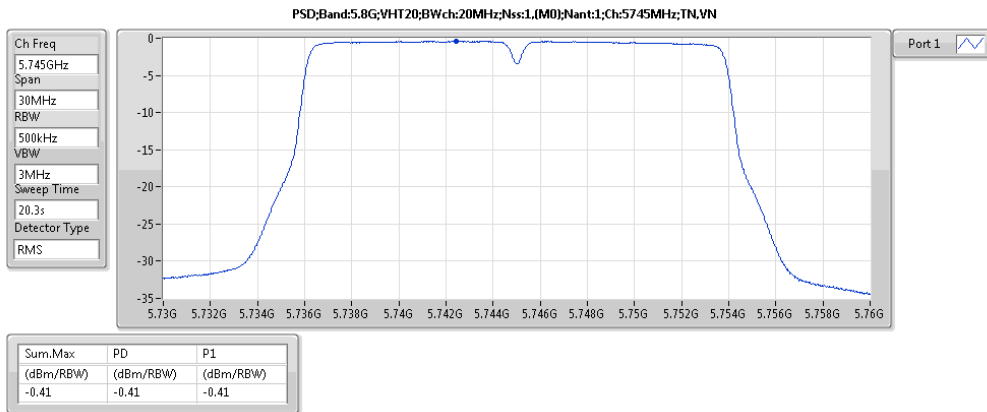
UNII-3 802.11a 6Mbps 5785MHz 1TX



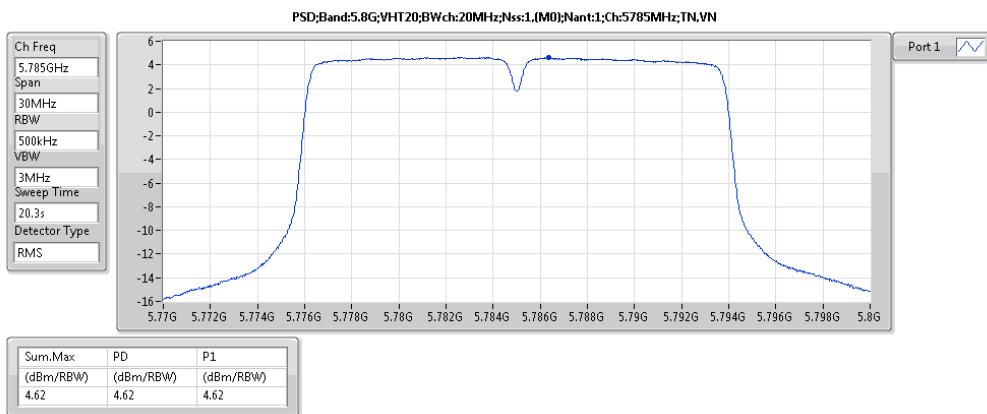
UNII-3 802.11a 6Mbps 5825MHz 1TX



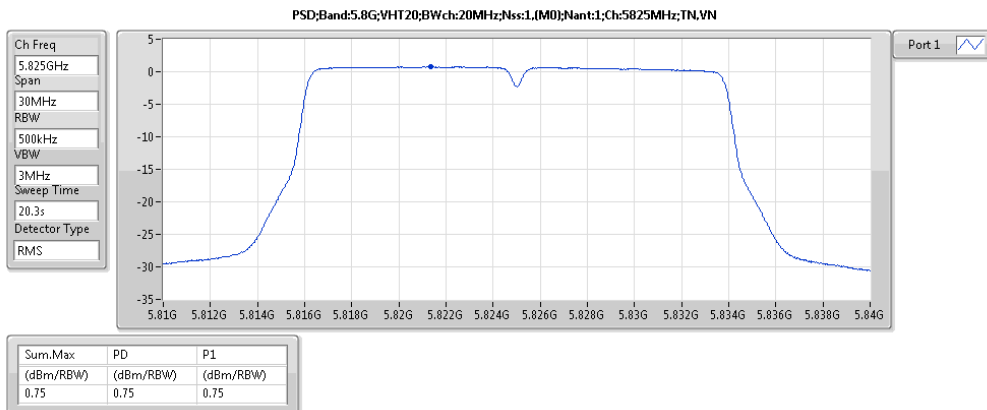
UNII-3 802.11ac VHT20 MCS0 5745MHz 1TX



UNII-3 802.11ac VHT20 MCS0 5785MHz 1TX

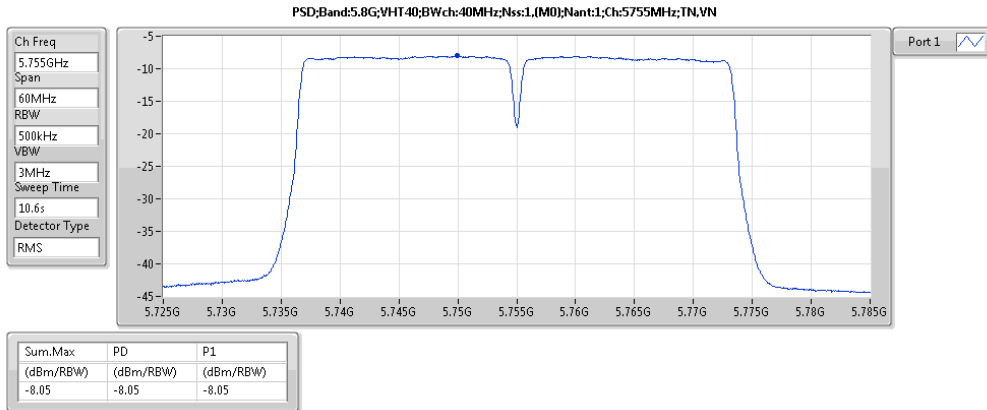


UNII-3 802.11ac VHT20 MCS0 5825MHz 1TX

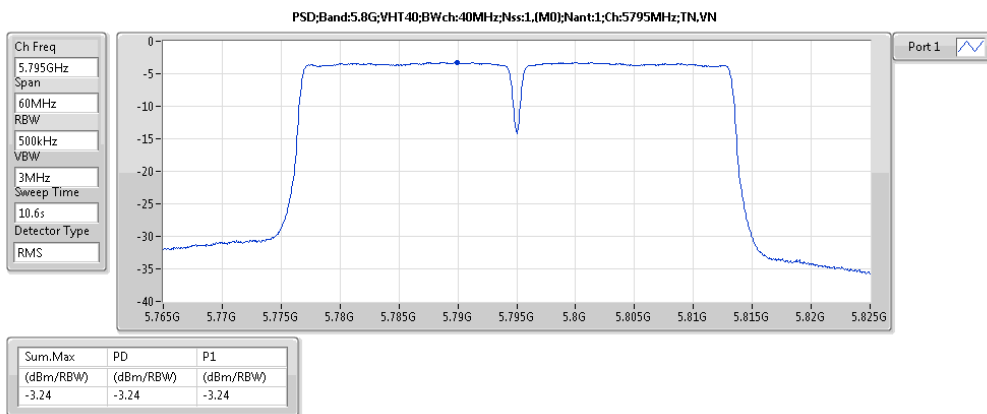




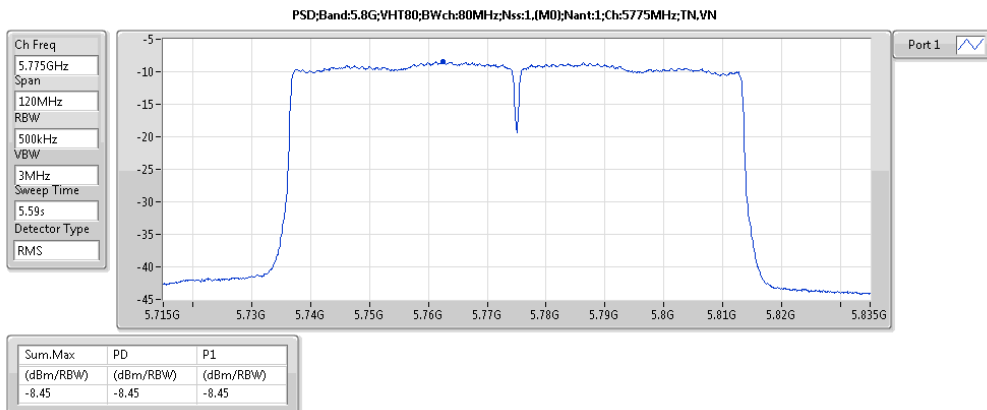
UNII-3 802.11ac VHT40 MCS0 5755MHz 1TX



UNII-3 802.11ac VHT40 MCS0 5795MHz 1TX

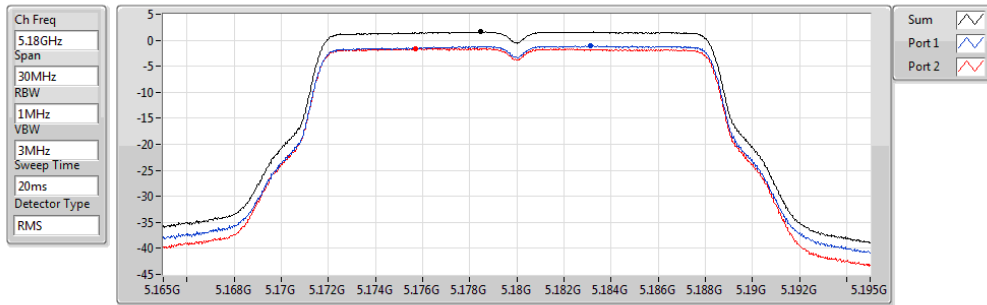


UNII-3 802.11ac VHT80 MCS0 5775MHz 1TX



UNII-1 802.11a 6Mbps 5180MHz 2TX

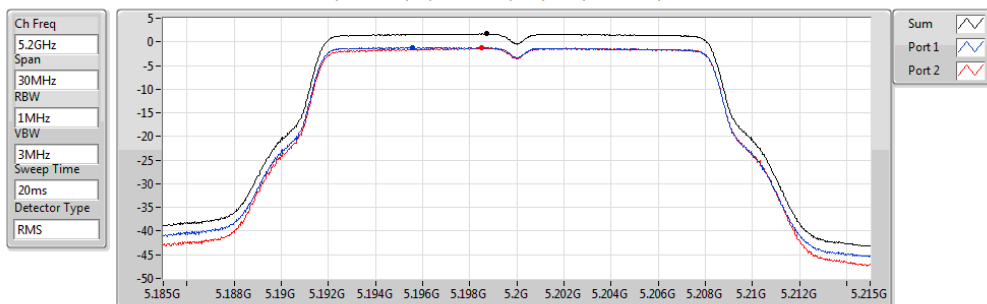
PSD;Band:5.2G-I;11a;BWch:20MHz;Nss:1;Nant:2;Ch:5180MHz;TN,VN



Sum,Max (dBm/Hz)	PD (dBm/Hz)	P1 (dBm/Hz)	P2 (dBm/Hz)
1.60	1.60	-1.08	-1.59

UNII-1 802.11a 6Mbps 5200MHz 2TX

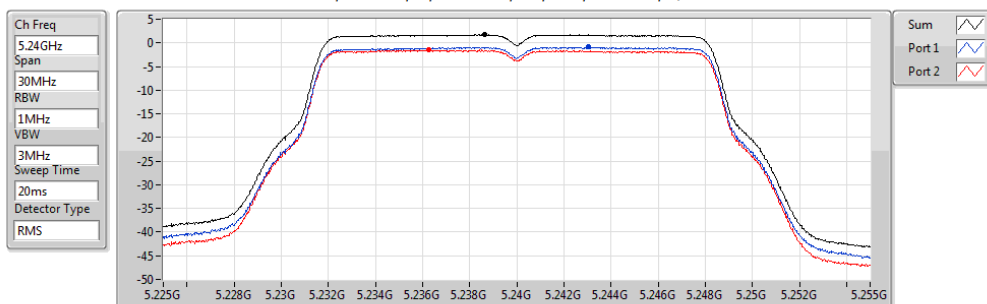
PSD;Band:5.2G-I;11a;BWch:20MHz;Nss:1;Nant:2;Ch:5200MHz;TN,VN



Sum,Max (dBm/Hz)	PD (dBm/Hz)	P1 (dBm/Hz)	P2 (dBm/Hz)
1.72	1.72	-1.16	-1.28

UNII-1 802.11a 6Mbps 5240MHz 2TX

PSD;Band:5.2G-I;11a;BWch:20MHz;Nss:1;Nant:2;Ch:5240MHz;TN,VN

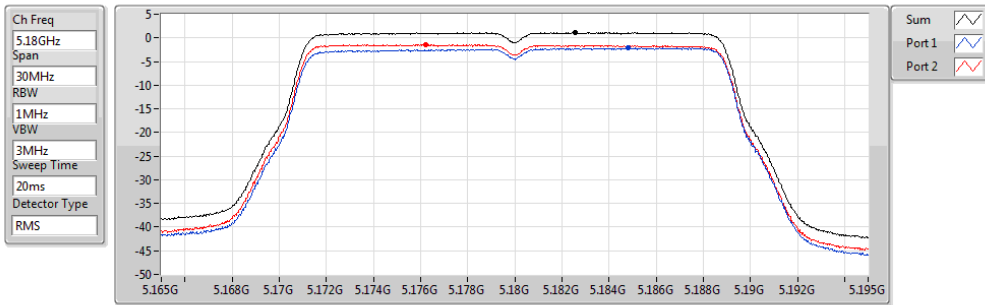


Sum,Max (dBm/Hz)	PD (dBm/Hz)	P1 (dBm/Hz)	P2 (dBm/Hz)
1.74	1.74	-0.91	-1.48



UNII-1 802.11ac VHT20(BF)MCS0 5180MHz 2TX

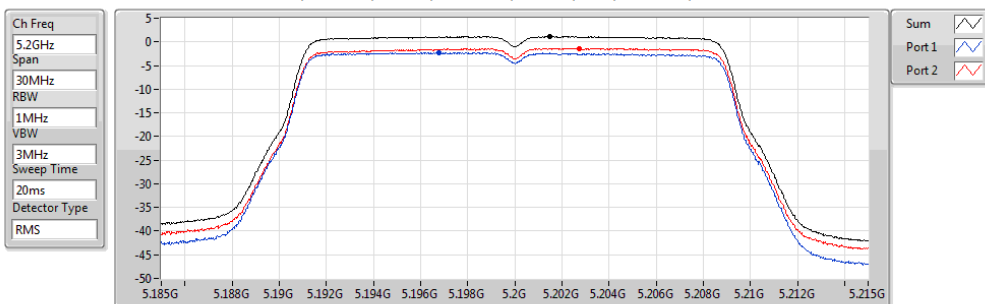
PSD;Band:5.2G-I;VHT20,BF;BWch:20MHz;Nss:1,(M0);Nant:2;Ch:5180MHz;TN,VN



Sum.Max (dBm/Hz)	PD (dBm/Hz)	P1 (dBm/Hz)	P2 (dBm/Hz)
1.08	1.08	-2.12	-1.44

UNII-1 802.11ac VHT20(BF)MCS0 5200MHz 2TX

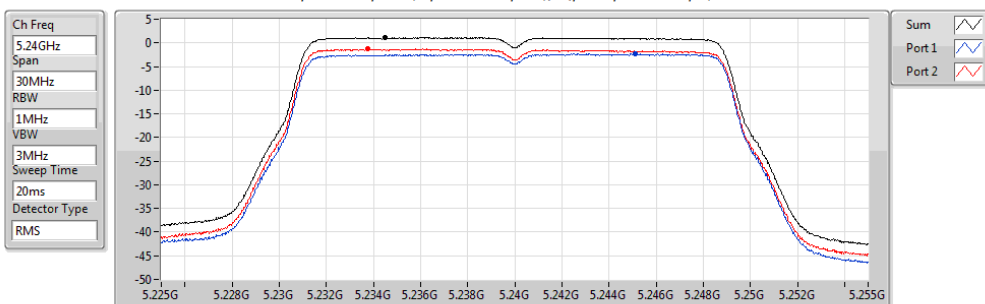
PSD;Band:5.2G-I;VHT20,BF;BWch:20MHz;Nss:1,(M0);Nant:2;Ch:5200MHz;TN,VN



Sum.Max (dBm/Hz)	PD (dBm/Hz)	P1 (dBm/Hz)	P2 (dBm/Hz)
1.12	1.12	-2.29	-1.39

UNII-1 802.11ac VHT20(BF)MCS0 5240MHz 2TX

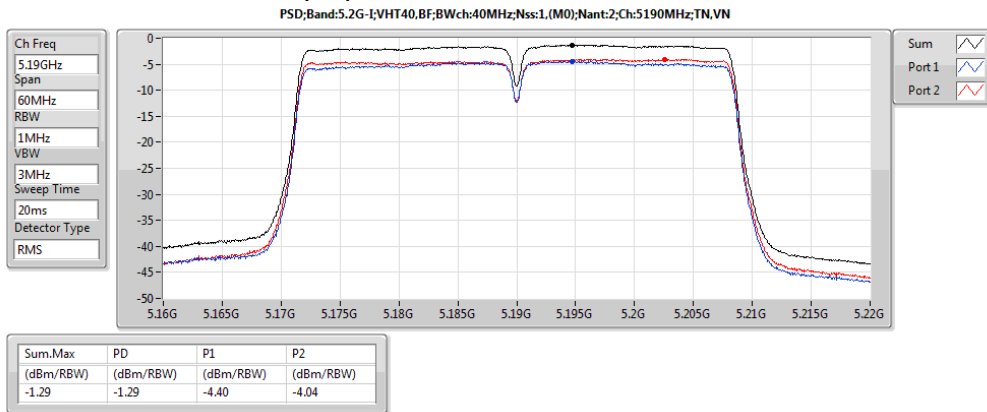
PSD;Band:5.2G-I;VHT20,BF;BWch:20MHz;Nss:1,(M0);Nant:2;Ch:5240MHz;TN,VN



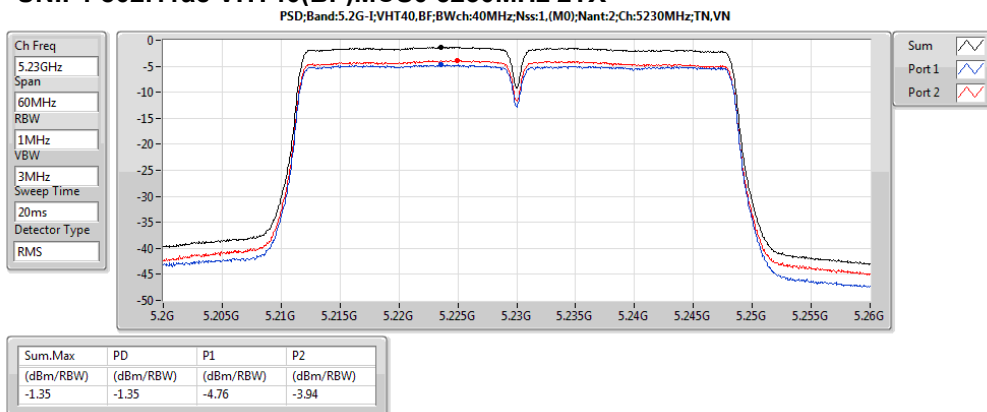
Sum.Max (dBm/Hz)	PD (dBm/Hz)	P1 (dBm/Hz)	P2 (dBm/Hz)
1.11	1.11	-2.33	-1.29



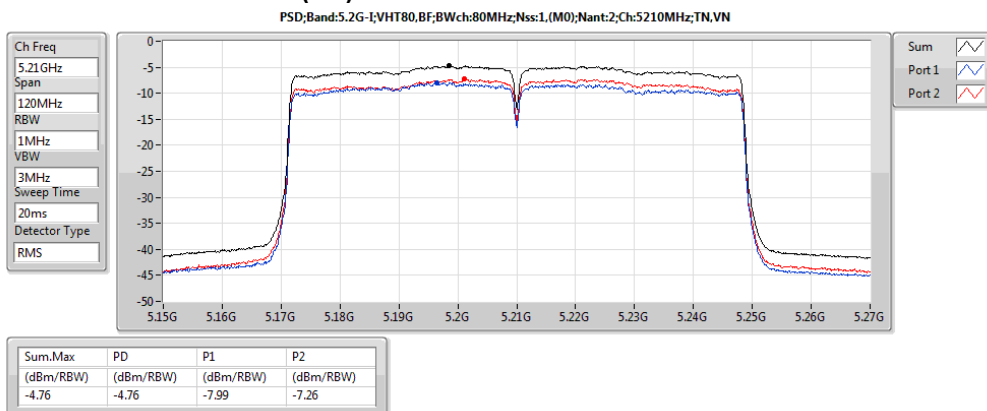
UNII-1 802.11ac VHT40(BF)MCS0 5190MHz 2TX



UNII-1 802.11ac VHT40(BF)MCS0 5230MHz 2TX



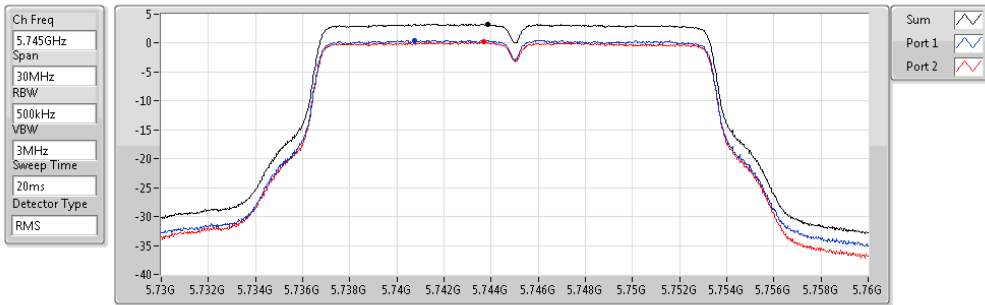
UNII-1 802.11ac VHT80(BF)MCS0 5210MHz 2TX





UNII-3 802.11a 6Mbps 5745MHz 2TX

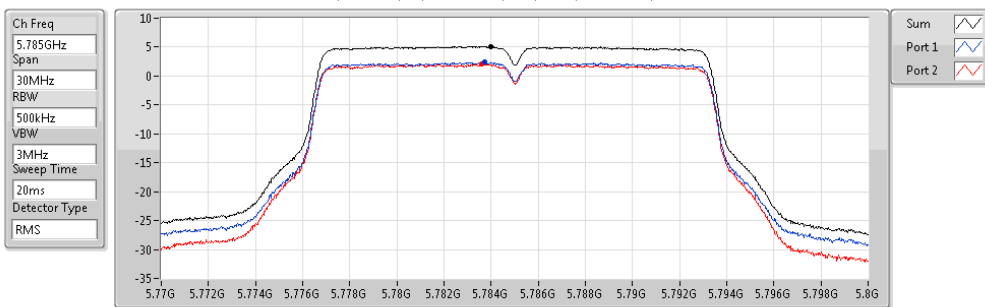
PSD:Band:5.8G;11a;BWch:20MHz;Nss:1;Nant:2;Ch:5745MHz;TN,VN



Sum.Max	PD	P1	P2
(dBm/100kHz)	(dBm/100kHz)	(dBm/100kHz)	(dBm/100kHz)
3.26	3.26	0.50	0.18

UNII-3 802.11a 6Mbps 5785MHz 2TX

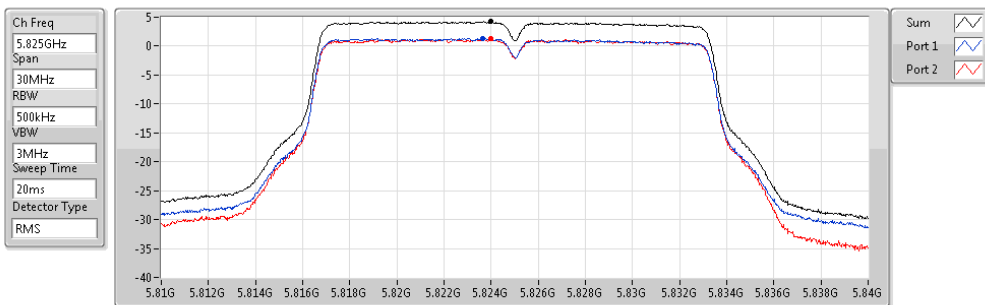
PSD:Band:5.8G;11a;BWch:20MHz;Nss:1;Nant:2;Ch:5785MHz;TN,VN



Sum.Max	PD	P1	P2
(dBm/100kHz)	(dBm/100kHz)	(dBm/100kHz)	(dBm/100kHz)
5.16	5.16	2.42	2.04

UNII-3 802.11a 6Mbps 5825MHz 2TX

PSD:Band:5.8G;11a;BWch:20MHz;Nss:1;Nant:2;Ch:5825MHz;TN,VN

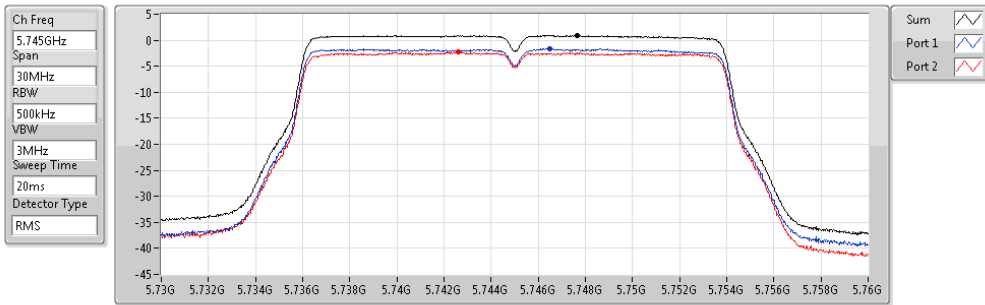


Sum.Max	PD	P1	P2
(dBm/100kHz)	(dBm/100kHz)	(dBm/100kHz)	(dBm/100kHz)
4.23	4.23	1.33	1.22



UNII-3 802.11ac VHT20(BF)MCS0 5745MHz 2TX

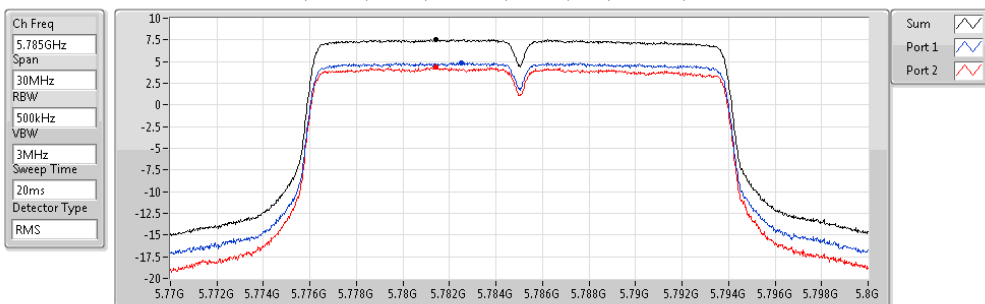
PSD;Band:5.8G;VHT20,BF;BWch:20MHz;Nss:1,(M0);Nant:2;Ch:5745MHz;TN,VN



Sum,Max (dBm/Hz)	PD (dBm/Hz)	P1 (dBm/Hz)	P2 (dBm/Hz)
0.92	0.92	-1.64	-2.25

UNII-3 802.11ac VHT20(BF)MCS0 5785MHz 2TX

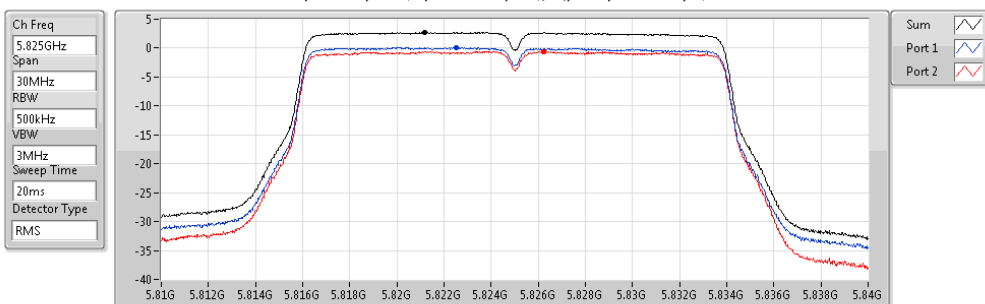
PSD;Band:5.8G;VHT20,BF;BWch:20MHz;Nss:1,(M0);Nant:2;Ch:5785MHz;TN,VN



Sum,Max (dBm/Hz)	PD (dBm/Hz)	P1 (dBm/Hz)	P2 (dBm/Hz)
7.59	7.59	4.85	4.39

UNII-3 802.11ac VHT20(BF)MCS0 5825MHz 2TX

PSD;Band:5.8G;VHT20,BF;BWch:20MHz;Nss:1,(M0);Nant:2;Ch:5825MHz;TN,VN

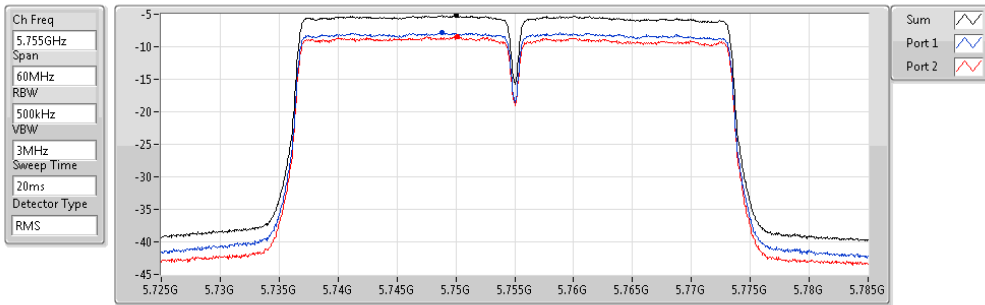


Sum,Max (dBm/Hz)	PD (dBm/Hz)	P1 (dBm/Hz)	P2 (dBm/Hz)
2.76	2.76	0.13	-0.58



UNII-3 802.11ac VHT40(BF)MCS0 5755MHz 2TX

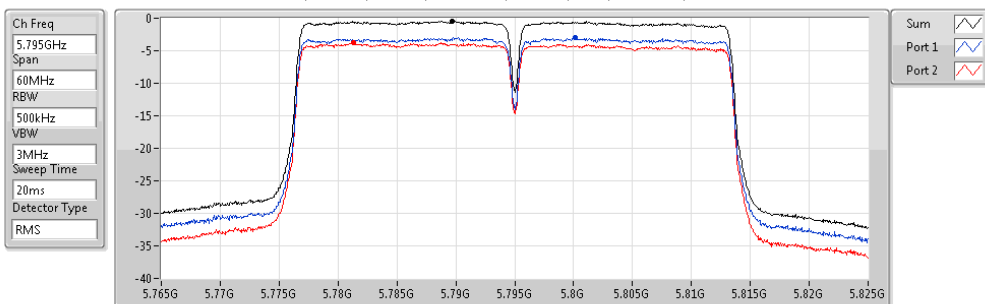
PSD:Band:5.8G;VHT40,BF;BWch:40MHz;Nss:1,(M0);Nant:2;Ch:5755MHz;TN,VN



Sum,Max (dBm/RBW)	PD (dBm/RBW)	P1 (dBm/RBW)	P2 (dBm/RBW)
-5.19	-5.19	-7.77	-8.38

UNII-3 802.11ac VHT40(BF)MCS0 5795MHz 2TX

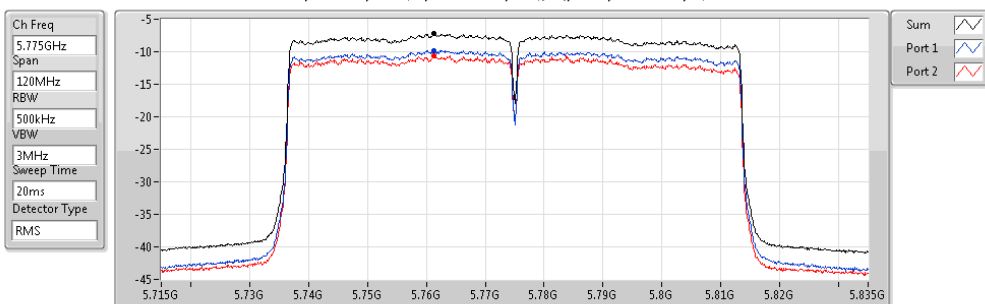
PSD:Band:5.8G;VHT40,BF;BWch:40MHz;Nss:1,(M0);Nant:2;Ch:5795MHz;TN,VN



Sum,Max (dBm/RBW)	PD (dBm/RBW)	P1 (dBm/RBW)	P2 (dBm/RBW)
-0.50	-0.50	-2.99	-3.73

UNII-3 802.11ac VHT80(BF)MCS0 5775MHz 2TX

PSD:Band:5.8G;VHT80,BF;BWch:80MHz;Nss:1,(M0);Nant:2;Ch:5775MHz;TN,VN



Sum,Max (dBm/RBW)	PD (dBm/RBW)	P1 (dBm/RBW)	P2 (dBm/RBW)
-7.19	-7.19	-9.79	-10.67

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).

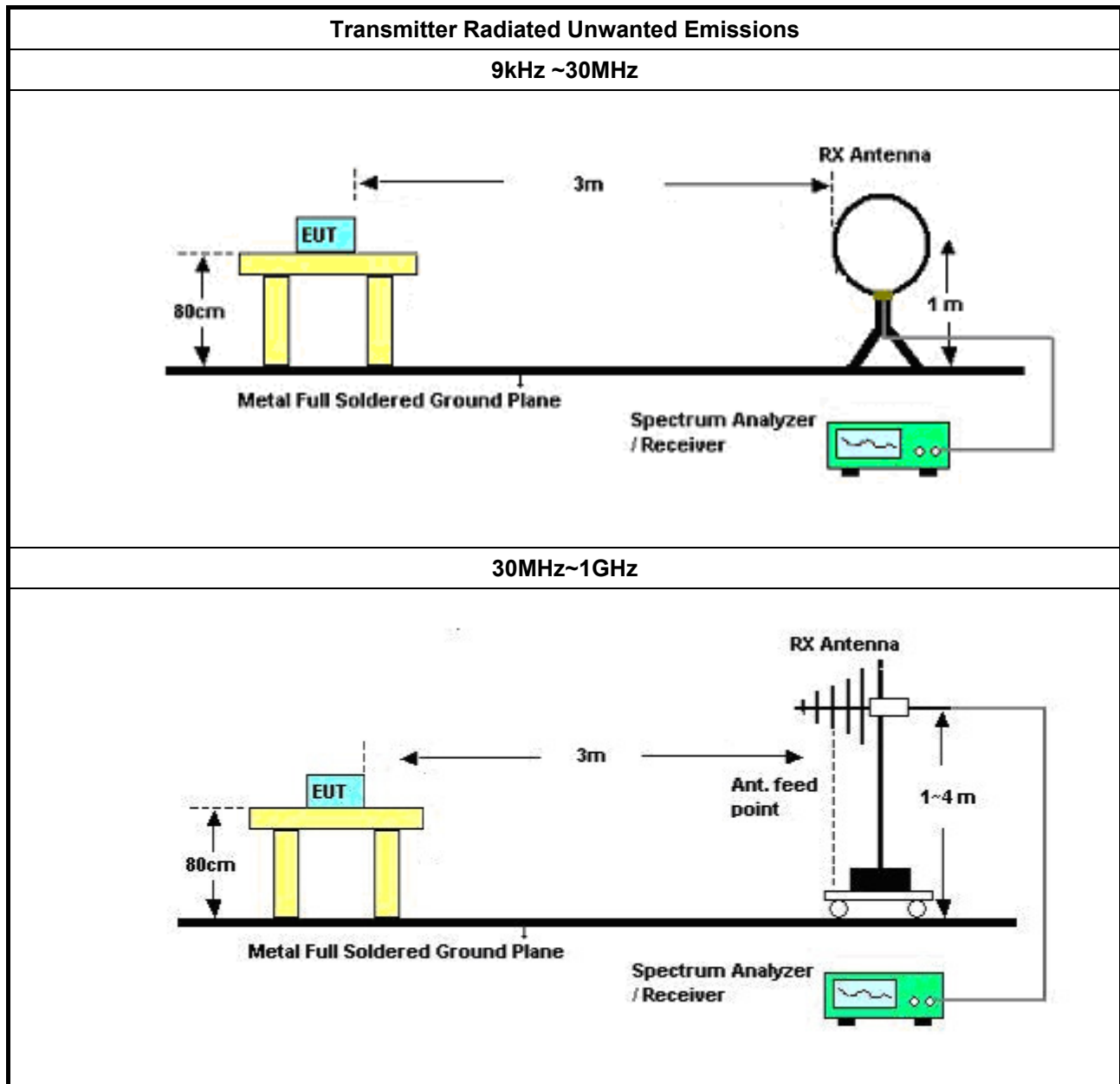
3.5.2 Measuring Instruments

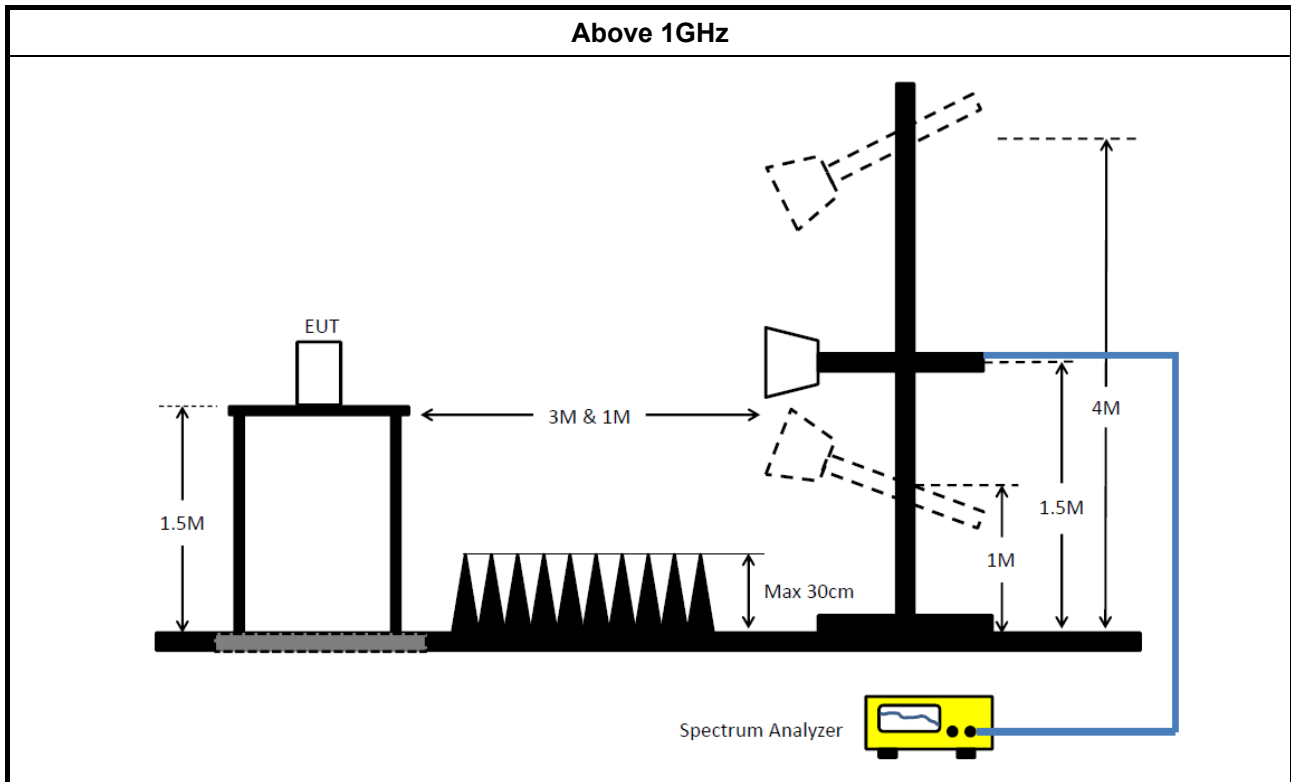
Refer a test equipment and calibration data table in this test report.

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 $\geq$ 98 or duty factor].	
For the transmitter unwanted emissions shall be measured using following options below:	
	Refer as FCC KDB 789033, clause H)2) for unwanted emissions into non-restricted bands.
	Refer as FCC KDB 789033, clause H)1) for unwanted emissions into restricted bands.
	☐ Refer as FCC KDB 789033, H)6) Method AD (Trace Averaging).
	☒ Refer as FCC KDB 789033, H)6) Method VB (Reduced VBW).
	☐ Refer as ANSI C63.10, clause 4.2.3.2.3 (Reduced VBW). VBW $\geq$ 1/T, where T is pulse time.
	☐ Refer as ANSI C63.10, clause 4.2.3.2.4 average value of pulsed emissions.
	☒ Refer as FCC KDB 789033, clause H)5) measurement procedure peak limit.
	☐ Refer as ANSI C63.10, clause 4.2.3.2.2 measurement procedure peak limit.
	For radiated measurement.
	Refer as ANSI C63.10, clause 6.4 for radiated emissions below 30 MHz and test distance is 3m.
	Refer as ANSI C63.10, clause 6.5 for radiated emissions 30 MHz to 1 GHz and test distance is 3m.
	Refer as ANSI C63.10, clause 6.6 for radiated emissions above 1GHz.
	The any unwanted emissions level shall not exceed the fundamental emission level.
All amplitude of spurious emissions that are attenuated by more than 20 dB below the permissible value has no need to be reported.	

3.5.4 Test Setup

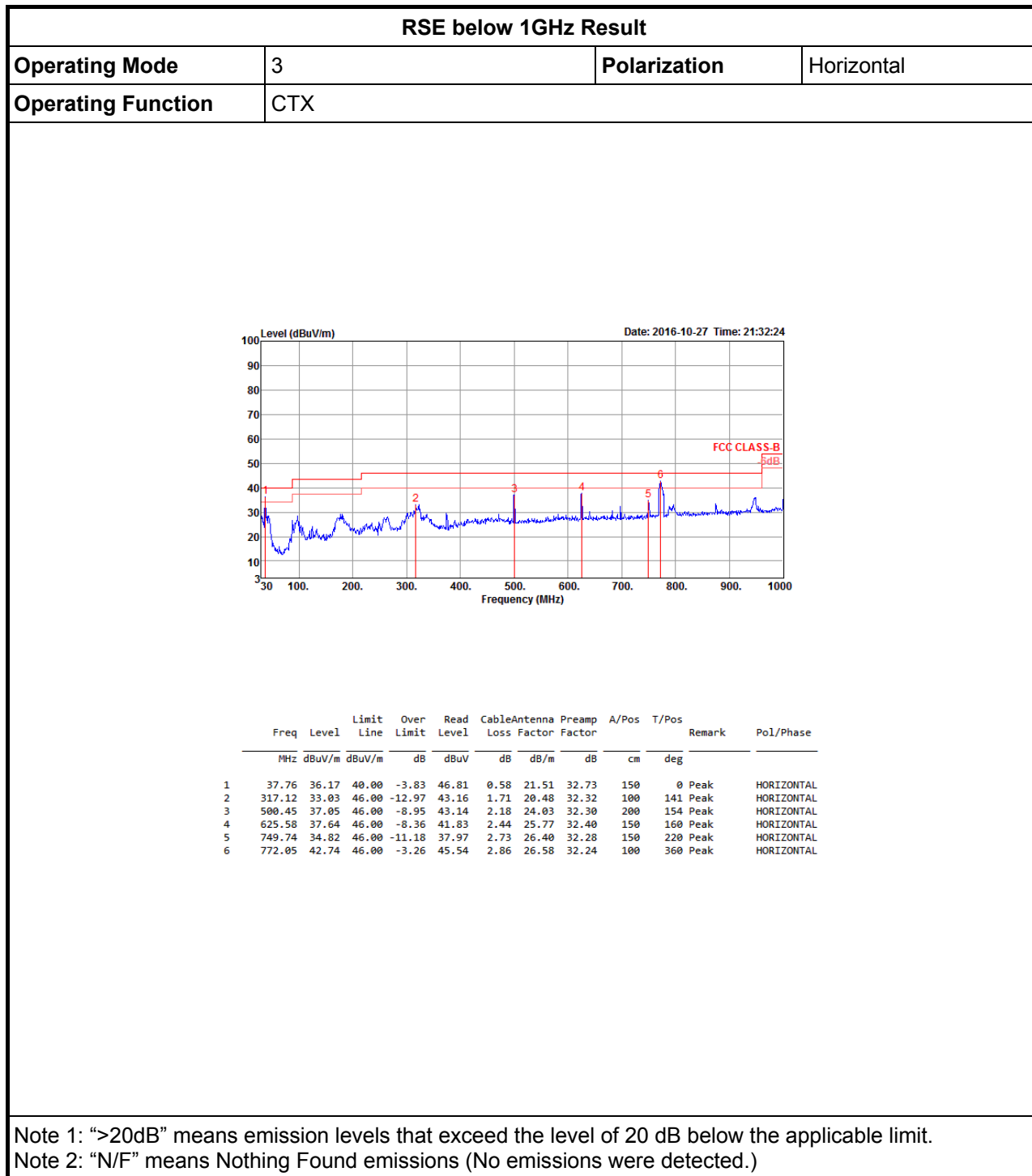




3.5.5 Transmitter Unwanted Emissions (Below 30MHz)

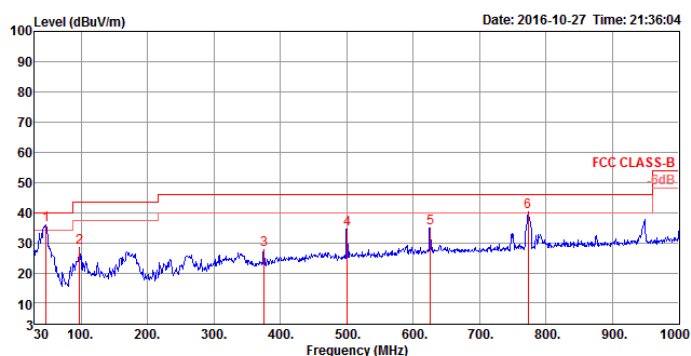
All amplitude of spurious emissions that are attenuated by more than 20 dB below the permissible value has no need to be reported.

3.5.6 Test Result of Transmitter Unwanted Emissions



RSE below 1GHz Result

Operating Mode	3	Polarization	Vertical
Operating Function	CTX		



	Freq	Level	Limit	Over	Read	CableAntenna	Preamp	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1	47.46	36.01	40.00	-3.99	51.80	0.65	16.00	32.44	100	250 Peak	VERTICAL
2	97.90	28.41	43.50	-15.09	42.73	0.95	17.18	32.45	150	195 Peak	VERTICAL
3	375.32	27.72	46.00	-18.28	36.06	1.89	22.08	32.31	150	172 Peak	VERTICAL
4	500.45	34.37	46.00	-11.63	40.46	2.18	24.03	32.30	100	235 Peak	VERTICAL
5	625.58	34.98	46.00	-11.02	39.17	2.44	25.77	32.40	200	211 Peak	VERTICAL
6	773.02	40.32	46.00	-5.68	43.09	2.87	26.60	32.24	100	105 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 / Ant. 2
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Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna 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	15537.91	48.34	54.00	-5.66	29.52	14.04	38.62	33.84	100	55	Average	HORIZONTAL
2	15542.46	62.23	74.00	-11.77	43.41	14.04	38.62	33.84	100	55	Peak	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna 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	15538.40	48.39	54.00	-5.61	29.57	14.04	38.62	33.84	100	94	Average	VERTICAL
2	15540.26	62.35	74.00	-11.65	43.53	14.04	38.62	33.84	100	94	Peak	VERTICAL



Configurations	IEEE 802.11a CH 40 / Ant. 2
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Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna Loss	Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	15600.20	48.00	54.00	-6.00	29.24	14.07	38.54	33.85	100	80	Average	HORIZONTAL
2	15601.13	61.46	74.00	-12.54	42.79	14.07	38.45	33.85	100	80	Peak	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna Loss	Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	15598.20	61.76	74.00	-12.24	43.00	14.07	38.54	33.85	100	66	Peak	VERTICAL
2	15600.82	48.07	54.00	-5.93	29.40	14.07	38.45	33.85	100	66	Average	VERTICAL



Configurations	IEEE 802.11a CH 48 / Ant. 2
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Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna Loss	Preamp Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	15719.89	48.06	54.00	-5.94	29.54	14.11	38.29	33.88	100	95	Average	HORIZONTAL
2	15721.97	61.60	74.00	-12.40	43.08	14.11	38.29	33.88	100	95	Peak	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna Loss	Preamp Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	15718.39	48.12	54.00	-5.88	29.60	14.11	38.29	33.88	100	82	Average	VERTICAL
2	15720.25	61.20	74.00	-12.80	42.68	14.11	38.29	33.88	100	82	Peak	VERTICAL



Configurations	IEEE 802.11ac MCS0/Nss1 VHT20 CH 36 / Ant. 2
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Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna Loss	Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	15540.28	62.64	74.00	-11.36	43.82	14.04	38.62	33.84	100	114	Peak	HORIZONTAL
2	15541.66	48.27	54.00	-5.73	29.45	14.04	38.62	33.84	100	114	Average	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna Loss	Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	15540.69	62.23	74.00	-11.77	43.41	14.04	38.62	33.84	100	101	Peak	VERTICAL
2	15541.83	48.25	54.00	-5.75	29.43	14.04	38.62	33.84	100	101	Average	VERTICAL



Configurations	IEEE 802.11ac MCS0/Nss1 VHT20 CH 40 / Ant. 2
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Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna 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	15597.87	61.14	74.00	-12.86	42.38	14.07	38.54	33.85	100	136	Peak	HORIZONTAL
2	15600.86	47.78	54.00	-6.22	29.11	14.07	38.45	33.85	100	136	Average	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna 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	15598.19	48.05	54.00	-5.95	29.29	14.07	38.54	33.85	100	125	Average	VERTICAL
2	15598.87	61.08	74.00	-12.92	42.32	14.07	38.54	33.85	100	125	Peak	VERTICAL



Configurations	IEEE 802.11ac MCS0/Nss1 VHT20 CH 48 / Ant. 2
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Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna Loss Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1	15717.80	61.17	74.00	-12.83	42.65	14.11	38.29	33.88	100	151 Peak	HORIZONTAL
2	15719.17	48.17	54.00	-5.83	29.65	14.11	38.29	33.88	100	151 Average	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna Loss Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1	15719.44	60.95	74.00	-13.05	42.43	14.11	38.29	33.88	100	144 Peak	VERTICAL
2	15720.66	48.00	54.00	-6.00	29.48	14.11	38.29	33.88	100	144 Average	VERTICAL



Configurations	IEEE 802.11ac MCS0/Nss1 VHT40 CH 38 / Ant. 2
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Horizontal

	Freq	Level	Limit	Over	Read	CableAntenna	Preamp	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1	15568.64	48.53	54.00	-5.47	31.92	12.09	38.05	33.53	129	153 Average	HORIZONTAL
2	15569.32	61.39	74.00	-12.61	44.78	12.09	38.05	33.53	129	153 Peak	HORIZONTAL

Vertical

	Freq	Level	Limit	Over	Read	CableAntenna	Preamp	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1	15563.40	48.58	54.00	-5.42	31.97	12.09	38.05	33.53	119	225 Average	VERTICAL
2	15578.12	61.08	74.00	-12.92	44.47	12.09	38.05	33.53	119	225 Peak	VERTICAL



Configurations	IEEE 802.11ac MCS0/Nss1 VHT40 CH 46 / Ant. 2
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Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna 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	15684.40	48.26	54.00	-5.74	31.84	12.13	37.91	33.62	132	28	Average	HORIZONTAL
2	15684.60	61.13	74.00	-12.87	44.71	12.13	37.91	33.62	132	28	Peak	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna 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	15681.32	48.39	54.00	-5.61	31.97	12.13	37.91	33.62	126	94	Average	VERTICAL
2	15686.80	60.81	74.00	-13.19	44.39	12.13	37.91	33.62	126	94	Peak	VERTICAL



Configurations	IEEE 802.11ac MCS0/Nss1 VHT80 CH 42 / Ant. 2
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Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna 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	15629.95	61.32	74.00	-12.68	42.65	14.08	38.45	33.86	100	223	Peak	HORIZONTAL
2	15630.61	47.88	54.00	-6.12	29.21	14.08	38.45	33.86	100	223	Average	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna 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	15627.79	61.24	74.00	-12.76	42.58	14.07	38.45	33.86	100	214	Peak	VERTICAL
2	15631.94	48.03	54.00	-5.97	29.36	14.08	38.45	33.86	100	214	Average	VERTICAL



Configurations	IEEE 802.11a CH 149 / Ant. 2
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Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna 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	11487.96	45.69	54.00	-8.31	29.57	10.10	39.20	33.18	122	341	Average	HORIZONTAL
2	11495.28	59.30	74.00	-14.70	43.18	10.10	39.20	33.18	122	341	Peak	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	11490.20	46.23	54.00	-7.77	30.11	10.10	39.20	33.18	115	119	Average	VERTICAL
2	11494.80	58.92	74.00	-15.08	42.80	10.10	39.20	33.18	115	119	Peak	VERTICAL



Configurations	IEEE 802.11a CH 157 / Ant. 2
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Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna Loss Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase	
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	11565.20	58.79	74.00	-15.21	42.66	10.13	39.20	33.20	115	141	Peak	HORIZONTAL
2	11569.88	46.55	54.00	-7.45	30.42	10.13	39.20	33.20	115	141	Average	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna Loss Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase	
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	11567.56	59.22	74.00	-14.78	43.09	10.13	39.20	33.20	127	322	Peak	VERTICAL
2	11570.16	47.35	54.00	-6.65	31.22	10.13	39.20	33.20	127	322	Average	VERTICAL



Configurations	IEEE 802.11a CH 165 / Ant. 2
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Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna Loss	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1	11640.52	46.15	54.00	-7.85	30.01	10.16	39.20	33.22	127	232 Average	HORIZONTAL
2	11650.92	57.58	74.00	-16.42	41.42	10.18	39.20	33.22	127	232 Peak	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna Loss	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1	11650.68	45.06	54.00	-8.94	28.92	10.16	39.20	33.22	118	302 Average	VERTICAL
2	11659.24	57.17	74.00	-16.83	41.01	10.18	39.20	33.22	118	302 Peak	VERTICAL



Configurations	IEEE 802.11ac MCS0/Nss1 VHT20 CH 149 / Ant. 2
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Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna Loss	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase	
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	11480.00	45.11	54.00	-8.89	29.06	10.08	39.15	33.18	136	243	Average	HORIZONTAL
2	11498.64	57.44	74.00	-16.56	41.32	10.10	39.20	33.18	136	243	Peak	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna Loss	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase	
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	11480.40	45.21	54.00	-8.79	29.16	10.08	39.15	33.18	141	328	Average	VERTICAL
2	11480.40	57.15	74.00	-16.85	41.10	10.08	39.15	33.18	141	328	Peak	VERTICAL



Configurations	IEEE 802.11ac MCS0/Nss1 VHT20 CH 157 / Ant. 2
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Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna 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	11573.56	58.71	74.00	-15.29	42.58	10.13	39.20	33.20	102	286	Peak	HORIZONTAL
2	11575.44	46.27	54.00	-7.73	30.14	10.13	39.20	33.20	102	286	Average	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna 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	11562.84	58.89	74.00	-15.11	42.76	10.13	39.20	33.20	124	155	Peak	VERTICAL
2	11576.92	45.15	54.00	-8.85	29.02	10.13	39.20	33.20	124	155	Average	VERTICAL



Configurations	IEEE 802.11ac MCS0/Nss1 VHT20 CH 165 / Ant. 2
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Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna Loss	Preamp Factor	Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	11643.68	46.08	54.00	-7.92	29.94	10.16	39.20	33.22	123	149	Average	HORIZONTAL
2	11656.40	58.24	74.00	-15.76	42.08	10.18	39.20	33.22	123	149	Peak	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna Loss	Preamp Factor	Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	11643.48	57.09	74.00	-16.91	40.95	10.16	39.20	33.22	121	189	Peak	VERTICAL
2	11656.52	45.02	54.00	-8.98	28.86	10.18	39.20	33.22	121	189	Average	VERTICAL



Configurations	IEEE 802.11ac MCS0/Nss1 VHT40 CH 151 / Ant. 2
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Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna 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	11500.88	45.90	54.00	-8.10	29.78	10.10	39.20	33.18	104	188	Average	HORIZONTAL
2	11518.00	57.34	74.00	-16.66	41.21	10.12	39.20	33.19	104	188	Peak	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna 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	11501.68	44.89	54.00	-9.11	28.77	10.10	39.20	33.18	115	81	Average	VERTICAL
2	11509.32	57.61	74.00	-16.39	41.50	10.10	39.20	33.19	115	81	Peak	VERTICAL



Configurations	IEEE 802.11ac MCS0/Nss1 VHT40 CH 159 / Ant. 2
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Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna Loss Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase	
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	11581.84	57.55	74.00	-16.45	41.42	10.13	39.20	33.20	126	192	Peak	HORIZONTAL
2	11592.64	45.31	54.00	-8.69	29.17	10.15	39.20	33.21	126	192	Average	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna Loss Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1	11588.68	45.37	54.00	-8.63	29.23	10.15	39.20	33.21	120	138	Average
2	11596.80	58.31	74.00	-15.69	42.17	10.15	39.20	33.21	120	138	Peak



Configurations	IEEE 802.11ac MCS0/Nss1 VHT80 CH 155 / Ant. 2
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Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna 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	11555.64	57.51	74.00	-16.49	41.38	10.13	39.20	33.20	111	197	Peak	HORIZONTAL
2	11556.60	45.10	54.00	-8.90	28.97	10.13	39.20	33.20	111	197	Average	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna 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	11554.20	45.20	54.00	-8.80	29.07	10.13	39.20	33.20	100	289	Average	VERTICAL
2	11557.76	57.47	74.00	-16.53	41.34	10.13	39.20	33.20	100	289	Peak	VERTICAL

**Configurations**

IEEE 802.11a CH 36 / Ant. 1 + Ant. 2

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna Loss	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase	
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	10358.92	60.75	68.20	-7.45	46.74	11.30	38.75	36.04	100	190	Peak	HORIZONTAL
2	15520.68	44.45	54.00	-9.55	29.46	12.65	38.39	36.05	150	250	Average	HORIZONTAL
3	15526.52	57.40	74.00	-16.60	42.42	12.64	38.39	36.05	150	250	Peak	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna Loss	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase	
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	10358.72	64.08	68.20	-4.12	50.07	11.30	38.75	36.04	100	87	Peak	VERTICAL
2	15521.12	44.53	54.00	-9.47	29.54	12.65	38.39	36.05	150	159	Average	VERTICAL
3	15522.60	56.55	74.00	-17.45	41.56	12.65	38.39	36.05	150	159	Peak	VERTICAL

Configurations

IEEE 802.11a CH 40 / Ant. 1 + Ant. 2

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna 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	10398.92	62.20	68.20	-6.00	48.17	11.32	38.78	36.07	100	190	Peak	HORIZONTAL
2	15591.44	56.96	74.00	-17.04	41.98	12.64	38.38	36.04	150	330	Peak	HORIZONTAL
3	15592.48	44.59	54.00	-9.41	29.61	12.64	38.38	36.04	150	330	Average	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna 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	10398.92	65.11	68.20	-3.09	51.08	11.32	38.78	36.07	100	88	Peak	VERTICAL
2	15589.64	44.80	54.00	-9.20	29.82	12.64	38.38	36.04	150	111	Average	VERTICAL
3	15594.28	57.22	74.00	-16.78	42.24	12.64	38.38	36.04	150	111	Peak	VERTICAL



Configurations	IEEE 802.11a CH 48 / Ant. 1 + Ant. 2
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Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna Loss	Antenna Factor	Preamplifier Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	10479.04	62.43	68.20	-5.77	48.30	11.36	38.87	36.10	100	188	Peak	HORIZONTAL
2	15728.88	45.43	54.00	-8.57	30.45	12.63	38.35	36.00	150	88	Average	HORIZONTAL
3	15735.60	58.16	74.00	-15.84	43.19	12.62	38.35	36.00	150	88	Peak	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna Loss	Antenna Factor	Preamplifier Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	10480.48	65.15	68.20	-3.05	51.01	11.37	38.87	36.10	100	138	Peak	VERTICAL
2	15723.08	45.42	54.00	-8.58	30.44	12.63	38.35	36.00	150	300	Average	VERTICAL
3	15739.32	58.45	74.00	-15.55	43.48	12.62	38.35	36.00	150	300	Peak	VERTICAL

Configurations

IEEE 802.11ac MCS0/Nss1 VHT20(BF) CH 36 / Ant. 1 + Ant. 2

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna Loss	Antenna Factor	Preamplifier Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	10361.52	63.04	68.20	-5.16	45.50	10.22	39.68	32.36	106	204	Peak	HORIZONTAL
2	15543.25	60.10	74.00	-13.90	42.14	12.99	37.66	32.69	185	3	Peak	HORIZONTAL
3	15544.55	48.82	54.00	-5.18	30.86	12.99	37.66	32.69	185	3	Average	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna Loss	Antenna Factor	Preamplifier Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	10364.88	65.04	68.20	-3.16	47.50	10.22	39.68	32.36	104	91	Peak	VERTICAL
2	15523.40	48.43	54.00	-5.57	30.47	12.99	37.66	32.69	155	286	Average	VERTICAL
3	15544.24	60.93	74.00	-13.07	42.97	12.99	37.66	32.69	155	286	Peak	VERTICAL



Configurations	IEEE 802.11ac MCS0/Nss1 VHT20(BF) CH 40 / Ant. 1 + Ant. 2
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Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna Loss	Antenna Factor	Preamplifier Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	10403.98	62.33	68.20	-5.87	44.73	10.24	39.74	32.38	101	199	Peak	HORIZONTAL
2	15596.84	47.58	54.00	-6.42	29.60	13.04	37.63	32.69	180	257	Average	HORIZONTAL
3	15597.56	60.82	74.00	-13.18	42.84	13.04	37.63	32.69	180	257	Peak	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna Loss	Antenna Factor	Preamplifier Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	10399.52	64.72	68.20	-3.48	47.12	10.24	39.74	32.38	104	92	Peak	VERTICAL
2	15598.72	47.64	54.00	-6.36	29.66	13.04	37.63	32.69	220	238	Average	VERTICAL
3	15602.82	60.66	74.00	-13.34	42.68	13.08	37.59	32.69	220	238	Peak	VERTICAL



Configurations	IEEE 802.11ac MCS0/Nss1 VHT20(BF) CH 48 / Ant. 1 + Ant. 2
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Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna Loss	Antenna Factor	Preamplifier Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	10477.72	63.62	68.20	-4.58	45.79	10.31	39.94	32.42	103	42	Peak	HORIZONTAL
2	15715.66	60.48	74.00	-13.52	42.48	13.18	37.52	32.70	157	261	Peak	HORIZONTAL
3	15723.88	46.99	54.00	-7.01	29.00	13.18	37.52	32.71	157	261	Average	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna Loss	Antenna Factor	Preamplifier Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	10476.16	64.95	68.20	-3.25	47.12	10.31	39.94	32.42	102	83	Peak	VERTICAL
2	15715.96	47.36	54.00	-6.64	29.36	13.18	37.52	32.70	127	198	Average	VERTICAL
3	15724.48	60.60	74.00	-13.40	42.61	13.18	37.52	32.71	127	198	Peak	VERTICAL

Configurations	IEEE 802.11ac MCS0/Nss1 VHT40(BF) CH 38 / Ant. 1 + Ant. 2
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Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna 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	10375.94	58.90	68.20	-9.30	41.36	10.22	39.68	32.36	102	102	Peak	HORIZONTAL
2	15566.20	47.59	54.00	-6.41	29.61	13.04	37.63	32.69	169	105	Average	HORIZONTAL
3	15567.24	60.97	74.00	-13.03	42.99	13.04	37.63	32.69	169	105	Peak	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna 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	10383.34	60.80	68.20	-7.40	43.18	10.24	39.74	32.36	103	178	Peak	VERTICAL
2	15567.78	47.50	54.00	-6.50	29.52	13.04	37.63	32.69	106	239	Average	VERTICAL
3	15571.80	59.99	74.00	-14.01	42.01	13.04	37.63	32.69	106	239	Peak	VERTICAL

**Configurations**

IEEE 802.11ac MCS0/Nss1 VHT40(BF) CH 46 / Ant. 1 + Ant. 2

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna 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	10461.16	61.29	68.20	-6.91	43.55	10.29	39.87	32.42	108	82	Peak	HORIZONTAL
2	15685.48	47.08	54.00	-6.92	29.10	13.13	37.55	32.70	137	185	Average	HORIZONTAL
3	15686.46	61.33	74.00	-12.67	43.35	13.13	37.55	32.70	137	185	Peak	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna 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	10456.48	63.53	68.20	-4.67	45.77	10.29	39.87	32.40	102	83	Peak	VERTICAL
2	15687.98	60.43	74.00	-13.57	42.45	13.13	37.55	32.70	169	226	Peak	VERTICAL
3	15693.78	46.85	54.00	-7.15	28.85	13.18	37.52	32.70	169	226	Average	VERTICAL



Configurations	IEEE 802.11ac MCS0/Nss1 VHT80(BF) CH 42 / Ant. 1 + Ant. 2
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Horizontal

	Freq	Level	Limit	Over	Read	CableAntenna	Preamp	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1	10422.22	57.49	68.20	-10.71	39.80	10.26	39.81	32.38	158	257 Peak	HORIZONTAL
2	15625.64	47.24	54.00	-6.76	29.27	13.08	37.59	32.70	102	202 Average	HORIZONTAL
3	15630.56	60.97	74.00	-13.03	43.00	13.08	37.59	32.70	102	202 Peak	HORIZONTAL

Vertical

	Freq	Level	Limit	Over	Read	CableAntenna	Preamp	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1	10418.80	56.56	68.20	-11.64	38.87	10.26	39.81	32.38	106	96 Peak	VERTICAL
2	15627.84	47.13	54.00	-6.87	29.16	13.08	37.59	32.70	115	143 Average	VERTICAL
3	15629.18	61.00	74.00	-13.00	43.03	13.08	37.59	32.70	115	143 Peak	VERTICAL



Configurations	IEEE 802.11a CH 149 / Ant. 1 + Ant. 2
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Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna 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	11492.50	59.02	74.00	-14.98	43.92	11.89	39.20	35.99	289	183	Peak	HORIZONTAL
2	11492.70	46.70	54.00	-7.30	31.60	11.89	39.20	35.99	289	183	Average	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna 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	11488.40	51.17	54.00	-2.83	36.08	11.88	39.20	35.99	225	327	Average	VERTICAL
2	11492.60	63.92	74.00	-10.08	48.82	11.89	39.20	35.99	225	327	Peak	VERTICAL



Configurations	IEEE 802.11a CH 157 / Ant. 1 + Ant. 2
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Horizontal

	Freq	Level	Limit	Over	Read	CableAntenna	Preamp	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	Loss	Factor	Factor	cm	deg	
1	11568.30	46.65	54.00	-7.35	31.59	11.92	39.15	36.01	103	230 Average	HORIZONTAL
2	11571.90	58.44	74.00	-15.56	43.38	11.92	39.15	36.01	103	230 Peak	HORIZONTAL

Vertical

	Freq	Level	Limit	Over	Read	CableAntenna	Preamp	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	Loss	Factor	Factor	cm	deg	
1	11568.00	52.33	54.00	-1.67	37.27	11.92	39.15	36.01	100	47 Average	VERTICAL
2	11572.50	64.40	74.00	-9.60	49.33	11.93	39.15	36.01	100	47 Peak	VERTICAL



Configurations	IEEE 802.11a CH 165 / Ant. 1 + Ant. 2
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Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	11649.90	45.79	54.00	-8.21	30.76	11.96	39.09	36.02	121	261	Average	HORIZONTAL
2	11655.40	56.14	74.00	-17.86	41.12	11.97	39.07	36.02	121	261	Peak	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	11648.20	50.16	54.00	-3.84	35.13	11.96	39.09	36.02	105	47	Average	VERTICAL
2	11648.80	62.20	74.00	-11.80	47.17	11.96	39.09	36.02	105	47	Peak	VERTICAL



Configurations	IEEE 802.11ac MCS0/Nss1 VHT20(BF) CH 149 / Ant. 1 + Ant. 2
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Horizontal

	Freq	Level	Limit	Over	Read	CableAntenna	Preamp	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	Loss	Factor	Factor	cm	deg	
1	11494.20	48.50	54.00	-5.50	33.04	10.10	39.20	33.84	249	225 Average	HORIZONTAL
2	11496.88	60.14	74.00	-13.86	44.68	10.10	39.20	33.84	249	225 Peak	HORIZONTAL

Vertical

	Freq	Level	Limit	Over	Read	CableAntenna	Preamp	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	Loss	Factor	Factor	cm	deg	
1	11488.96	52.97	54.00	-1.03	37.51	10.10	39.20	33.84	246	355 Average	VERTICAL
2	11489.12	66.11	74.00	-7.89	50.65	10.10	39.20	33.84	246	355 Peak	VERTICAL



Configurations	IEEE 802.11ac MCS0/Nss1 VHT20(BF) CH 157 / Ant. 1 + Ant. 2
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Horizontal

	Freq	Level	Limit	Over	Read	CableAntenna	Preamp	A/Pos	T/Pos		
	MHz	dBuV/m	dBuV/m	dB	dBuV	Loss	Factor	Factor	cm	deg	Remark
1	11567.44	61.56	74.00	-12.44	46.07	10.13	39.20	33.84	249	165	Peak
2	11571.64	49.09	54.00	-4.91	33.60	10.13	39.20	33.84	249	165	Average

Vertical

	Freq	Level	Limit	Over	Read	CableAntenna	Preamp	A/Pos	T/Pos		
	MHz	dBuV/m	dBuV/m	dB	dBuV	Loss	Factor	Factor	cm	deg	Remark
1	11568.88	65.43	74.00	-8.57	49.94	10.13	39.20	33.84	247	331	Peak
2	11569.16	51.85	54.00	-2.15	36.36	10.13	39.20	33.84	247	331	Average



Configurations	IEEE 802.11ac MCS0/Nss1 VHT20(BF) CH 165 / Ant. 1 + Ant. 2
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Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna 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	11645.28	48.58	54.00	-5.42	33.06	10.16	39.20	33.84	247	208	Average	HORIZONTAL
2	11651.40	63.15	74.00	-10.85	47.61	10.18	39.20	33.84	247	208	Peak	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna 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	11647.84	63.84	74.00	-10.16	48.32	10.16	39.20	33.84	246	350	Peak	VERTICAL
2	11651.68	51.77	54.00	-2.23	36.23	10.18	39.20	33.84	246	350	Average	VERTICAL



Configurations	IEEE 802.11ac MCS0/Nss1 VHT40(BF) CH 151 / Ant. 1 + Ant. 2
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Horizontal

	Freq	Level	Limit	Over	Read	CableAntenna	Preamp	A/Pos	T/Pos		
	MHz	dBuV/m	dBuV/m	dB	dBuV	Loss	Factor	Factor	cm	deg	Remark
1	11503.24	59.66	74.00	-14.34	44.20	10.10	39.20	33.84	224	203	Peak
2	11510.08	46.59	54.00	-7.41	31.13	10.10	39.20	33.84	224	203	Average

Vertical

	Freq	Level	Limit	Over	Read	CableAntenna	Preamp	A/Pos	T/Pos		
	MHz	dBuV/m	dBuV/m	dB	dBuV	Loss	Factor	Factor	cm	deg	Remark
1	11516.48	60.48	74.00	-13.52	45.02	10.10	39.20	33.84	248	223	Peak
2	11518.92	47.57	54.00	-6.43	32.09	10.12	39.20	33.84	248	223	Average



Configurations	IEEE 802.11ac MCS0/Nss1 VHT40(BF) CH 159 / Ant. 1 + Ant. 2
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Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna 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	11583.36	60.63	74.00	-13.37	45.14	10.13	39.20	33.84	227	218	Peak	HORIZONTAL
2	11593.92	46.78	54.00	-7.22	31.27	10.15	39.20	33.84	227	218	Average	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna 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	11588.04	59.56	74.00	-14.44	44.05	10.15	39.20	33.84	253	307	Peak	VERTICAL
2	11592.20	46.54	54.00	-7.46	31.03	10.15	39.20	33.84	253	307	Average	VERTICAL



Configurations	IEEE 802.11ac MCS0/Nss1 VHT80(BF) CH 155 / Ant. 1 + Ant. 2
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Horizontal

	Freq	Level	Limit	Over	Read	CableAntenna	Preamp	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1	11542.64	59.29	74.00	-14.71	43.81	10.12	39.20	33.84	232	274 Peak	HORIZONTAL
2	11552.12	47.60	54.00	-6.40	32.11	10.13	39.20	33.84	232	274 Average	HORIZONTAL

Vertical

	Freq	Level	Limit	Over	Read	CableAntenna	Preamp	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1	11545.36	48.46	54.00	-5.54	32.98	10.12	39.20	33.84	252	293 Average	VERTICAL
2	11554.04	59.00	74.00	-15.00	43.51	10.13	39.20	33.84	252	293 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).

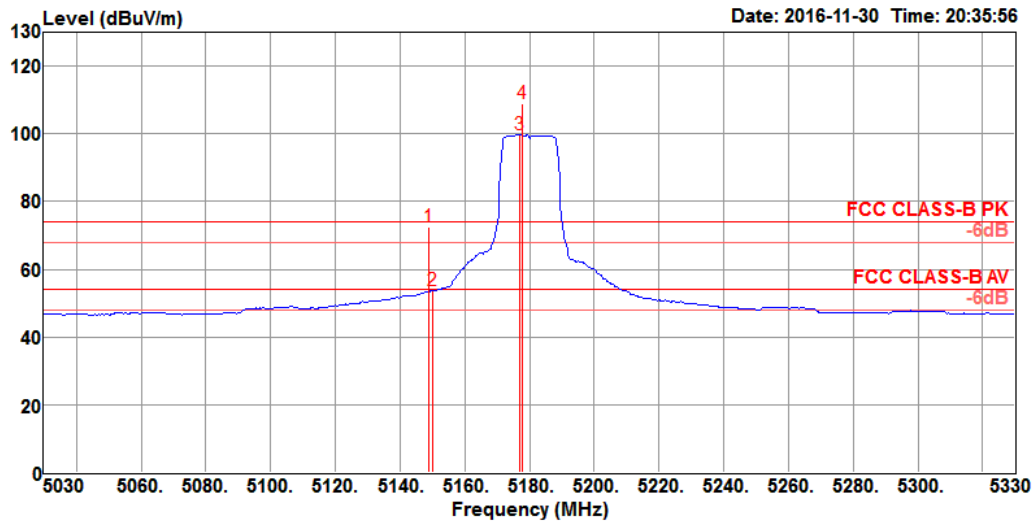
Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level.



Band Edge Emissions

Configurations	IEEE 802.11a CH 36, 40, 48 / Ant. 2
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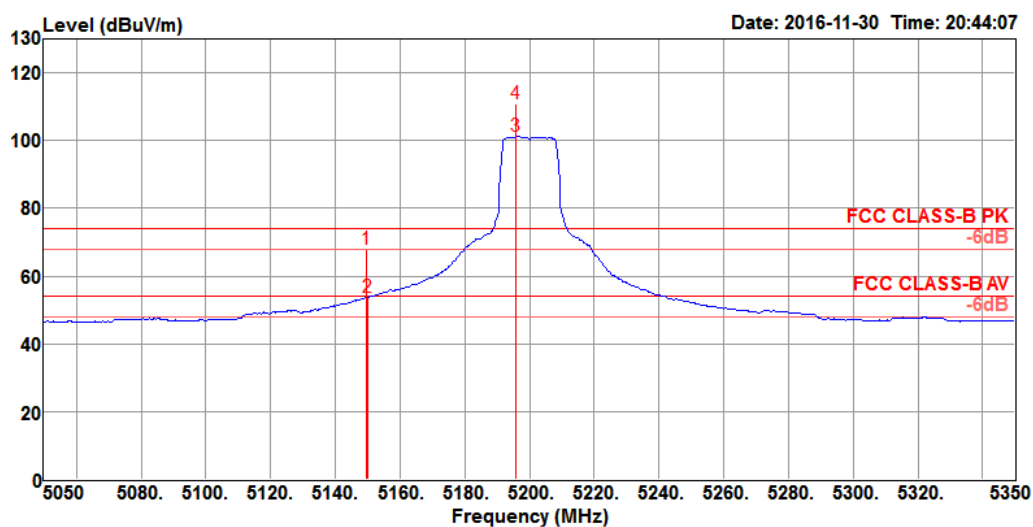
Channel 36



	Freq	Level	Limit	Over	Read	Cable	Antenna	Preamp	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	5148.80	72.38	74.00	-1.62	64.49	8.05	31.49	31.65	134	347	Peak	HORIZONTAL
2	5150.00	53.82	54.00	-0.18	45.93	8.05	31.49	31.65	134	347	Average	HORIZONTAL
3 @	5177.00	99.69			91.76	8.06	31.51	31.64	134	347	Average	HORIZONTAL
4 @	5177.60	108.85			100.92	8.06	31.51	31.64	134	347	Peak	HORIZONTAL

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

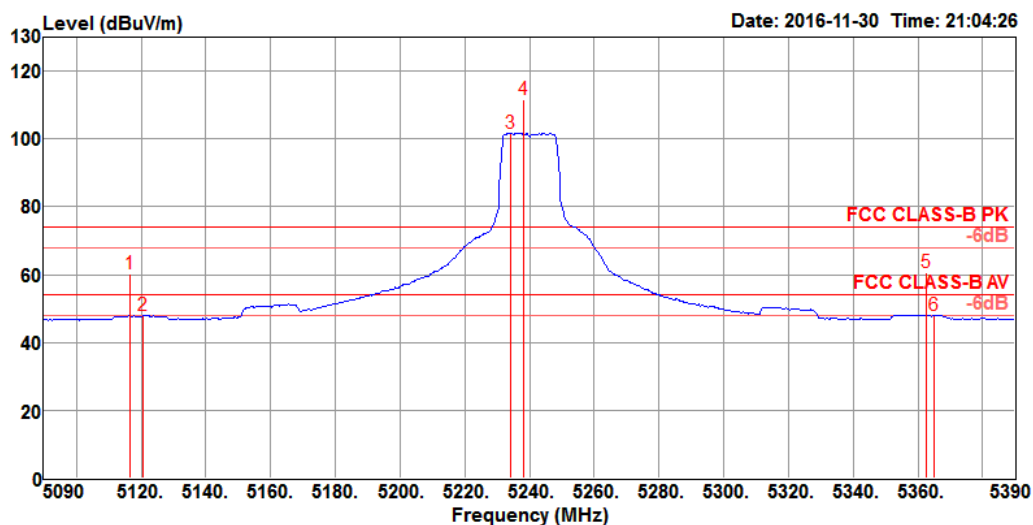
Channel 40



	Freq	Level	Limit	Over	Read	Cable	Antenna	Preamp	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	5149.60	67.78	74.00	-6.22	59.89	8.05	31.49	31.65	129	347	Peak	HORIZONTAL
2	5150.00	53.77	54.00	-0.23	45.88	8.05	31.49	31.65	129	347	Average	HORIZONTAL
3 @	5195.80	101.10			93.16	8.06	31.52	31.64	129	347	Average	HORIZONTAL
4 @	5195.80	110.97			103.03	8.06	31.52	31.64	129	347	Peak	HORIZONTAL

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

Channel 48



	Freq	Level	Limit	Over	Read	CableAntenna	Preamp	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1	5116.40	60.34	74.00	-13.66	52.48	8.04	31.47	31.65	135	346 Peak	HORIZONTAL
2	5120.60	47.79	54.00	-6.21	39.93	8.04	31.47	31.65	135	346 Average	HORIZONTAL
3 @	5234.00	101.62			93.60	8.11	31.55	31.64	135	346 Average	HORIZONTAL
4 @	5238.20	111.67			103.65	8.11	31.55	31.64	135	346 Peak	HORIZONTAL
5	5362.40	60.66	74.00	-13.34	52.38	8.28	31.62	31.62	135	346 Peak	HORIZONTAL
6	5364.80	48.03	54.00	-5.97	39.75	8.28	31.62	31.62	135	346 Average	HORIZONTAL

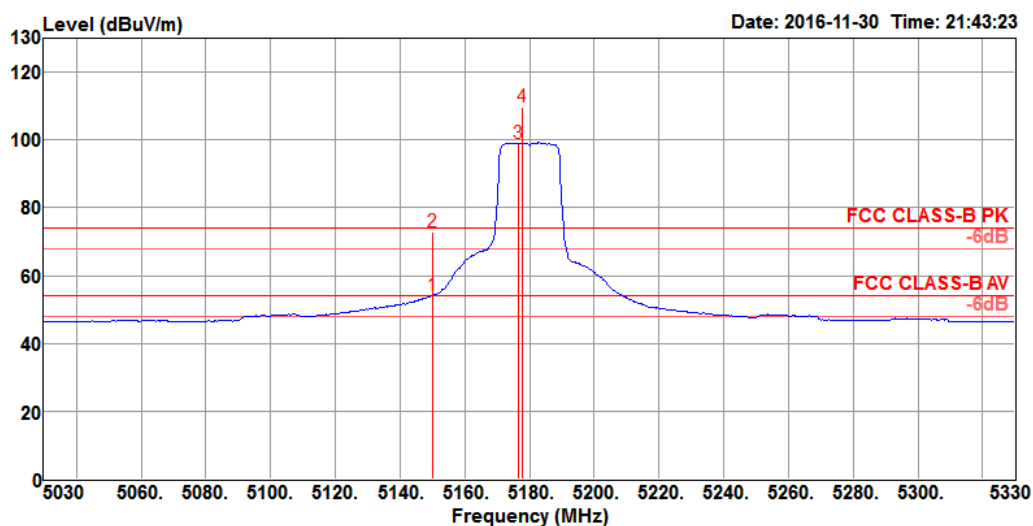
Item 3, 4 are the fundamental frequency at 5240 MHz.



Configurations

IEEE 802.11ac MCS0/Nss1 VHT20 CH 36, 40, 48 / Ant. 2

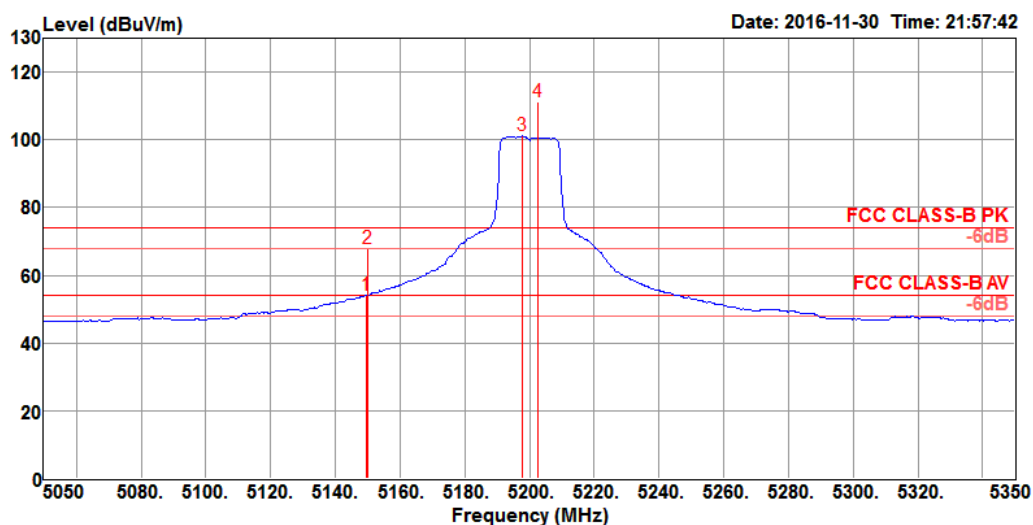
Channel 36



	Freq	Level	Limit	Over	Read	Cable	Antenna	Preamp	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	5150.00	53.98	54.00	-0.02	46.09	8.05	31.49	31.65	133	349	Average	HORIZONTAL
2	5150.00	73.02	74.00	-0.98	65.13	8.05	31.49	31.65	133	349	Peak	HORIZONTAL
3 @	5176.40	99.14			91.21	8.06	31.51	31.64	133	349	Average	HORIZONTAL
4 @	5177.60	109.51			101.58	8.06	31.51	31.64	133	349	Peak	HORIZONTAL

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

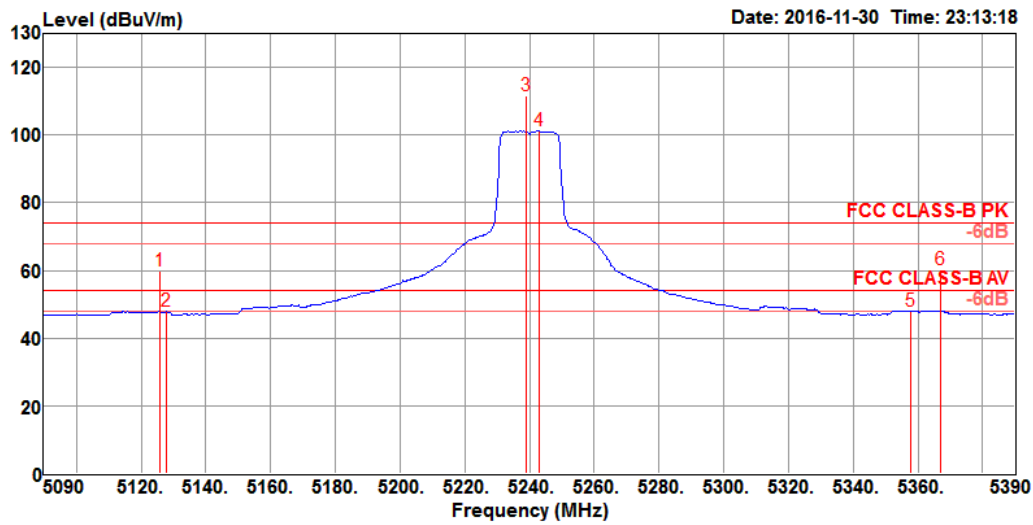
Channel 40



	Freq	Level	Limit	Over	Read	CableAntenna	Preamp	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1	5149.60	53.95	54.00	-0.05	46.06	8.05	31.49	31.65	132	346 Average	HORIZONTAL
2	5150.00	67.73	74.00	-6.27	59.84	8.05	31.49	31.65	132	346 Peak	HORIZONTAL
3 @	5197.60	101.08			93.14	8.06	31.52	31.64	132	346 Average	HORIZONTAL
4 @	5202.40	111.23			103.28	8.06	31.53	31.64	132	346 Peak	HORIZONTAL

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

Channel 48



	Freq	Level	Limit	Over	Read	CableAntenna	Preamp	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1	5126.00	59.97	74.00	-14.03	52.10	8.05	31.47	31.65	272	344 Peak	HORIZONTAL
2	5127.80	47.88	54.00	-6.12	40.00	8.05	31.48	31.65	272	344 Average	HORIZONTAL
3 @	5238.80	111.72			103.70	8.11	31.55	31.64	272	344 Peak	HORIZONTAL
4 @	5243.00	101.13			93.08	8.13	31.55	31.63	272	344 Average	HORIZONTAL
5	5357.60	48.09	54.00	-5.91	39.83	8.26	31.62	31.62	272	344 Average	HORIZONTAL
6	5367.20	60.20	74.00	-13.80	51.92	8.28	31.62	31.62	272	344 Peak	HORIZONTAL

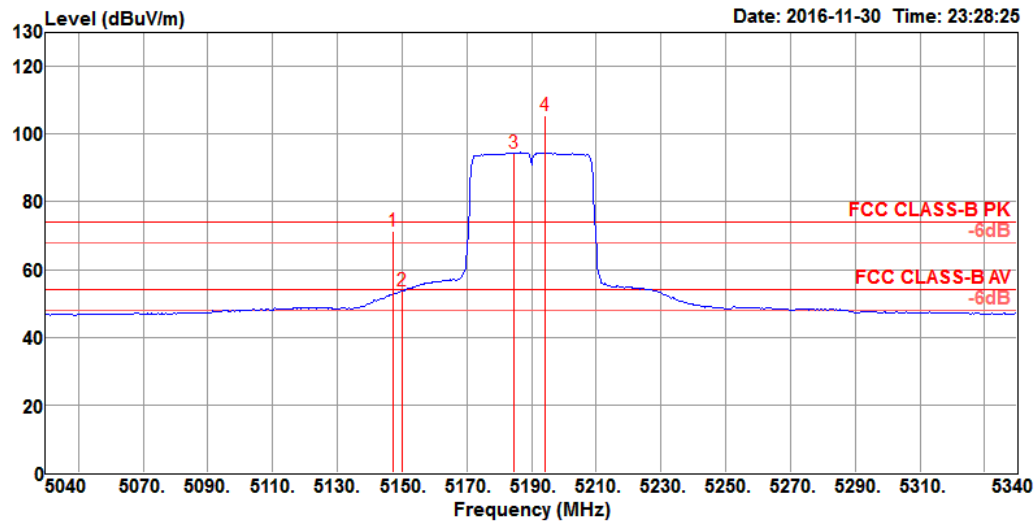
Item 3, 4 are the fundamental frequency at 5240 MHz.



Configurations

IEEE 802.11ac MCS0/Nss1 VHT40 CH 38, 46 / Ant. 2

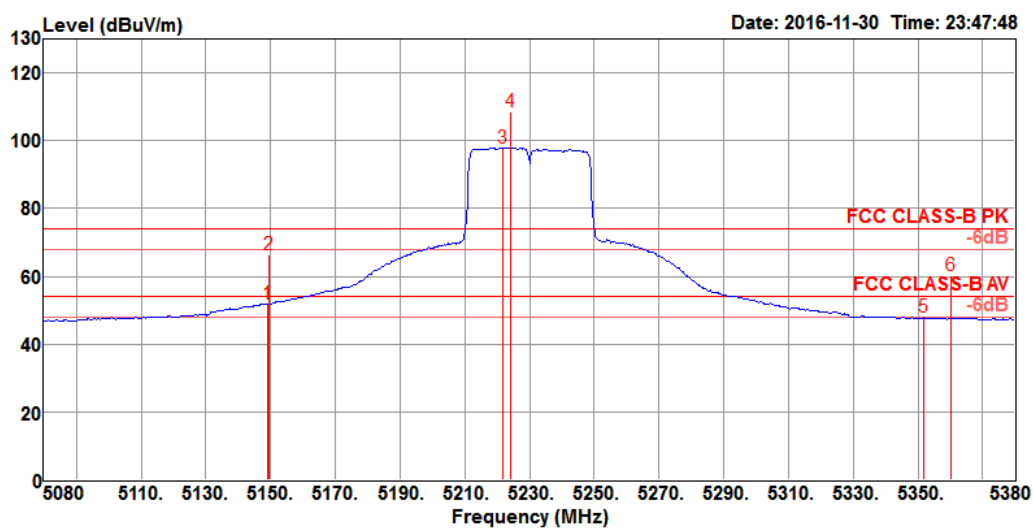
Channel 38



	Freq	Level	Limit	Over	Read	CableAntenna	Preamp	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1	5147.40	71.38	74.00	-2.62	63.49	8.05	31.49	31.65	267	351	Peak
2	5150.00	53.82	54.00	-0.18	45.93	8.05	31.49	31.65	267	351	Average
3 @	5184.60	94.46			86.53	8.06	31.51	31.64	267	351	Average
4 @	5194.20	105.55			97.61	8.06	31.52	31.64	267	351	Peak

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

Channel 46



	Freq	Level	Limit	Over	Read	CableAntenna	Preamp	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	Line	Limit	Level	Loss	Factor	Factor	cm	deg	
1	5149.00	51.95	54.00	-2.05	44.06	8.05	31.49	31.65	278	345 Average	HORIZONTAL
2	5149.60	66.23	74.00	-7.77	58.34	8.05	31.49	31.65	278	345 Peak	HORIZONTAL
3 @	5221.60	97.86			89.88	8.08	31.54	31.64	278	345 Average	HORIZONTAL
4 @	5224.00	108.37			100.39	8.08	31.54	31.64	278	345 Peak	HORIZONTAL
5	5351.80	47.80	54.00	-6.20	39.55	8.26	31.61	31.62	278	345 Average	HORIZONTAL
6	5360.20	60.33	74.00	-13.67	52.07	8.26	31.62	31.62	278	345 Peak	HORIZONTAL

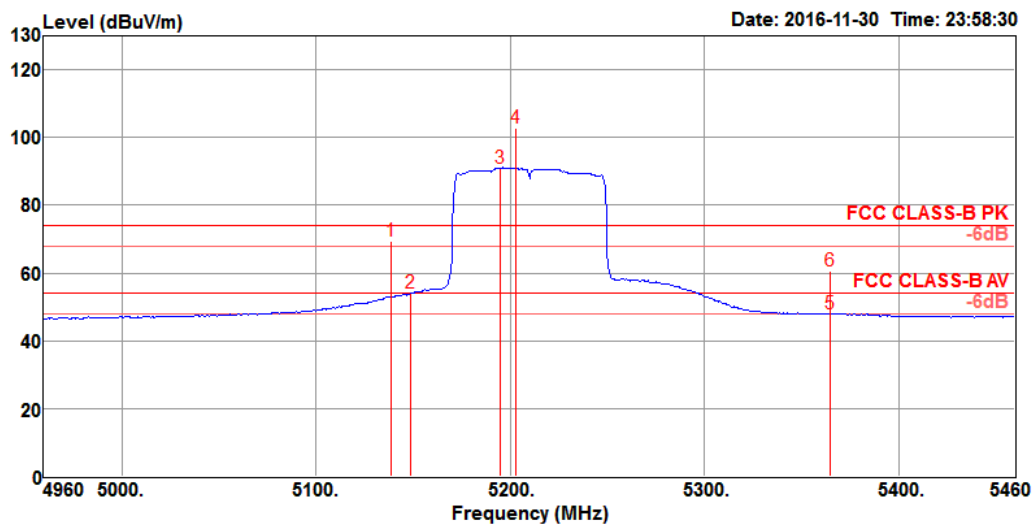
Item 3, 4 are the fundamental frequency at 5230 MHz.



Configurations

IEEE 802.11ac MCS0/Nss1 VHT80 CH 42 / Ant. 2

Channel 42

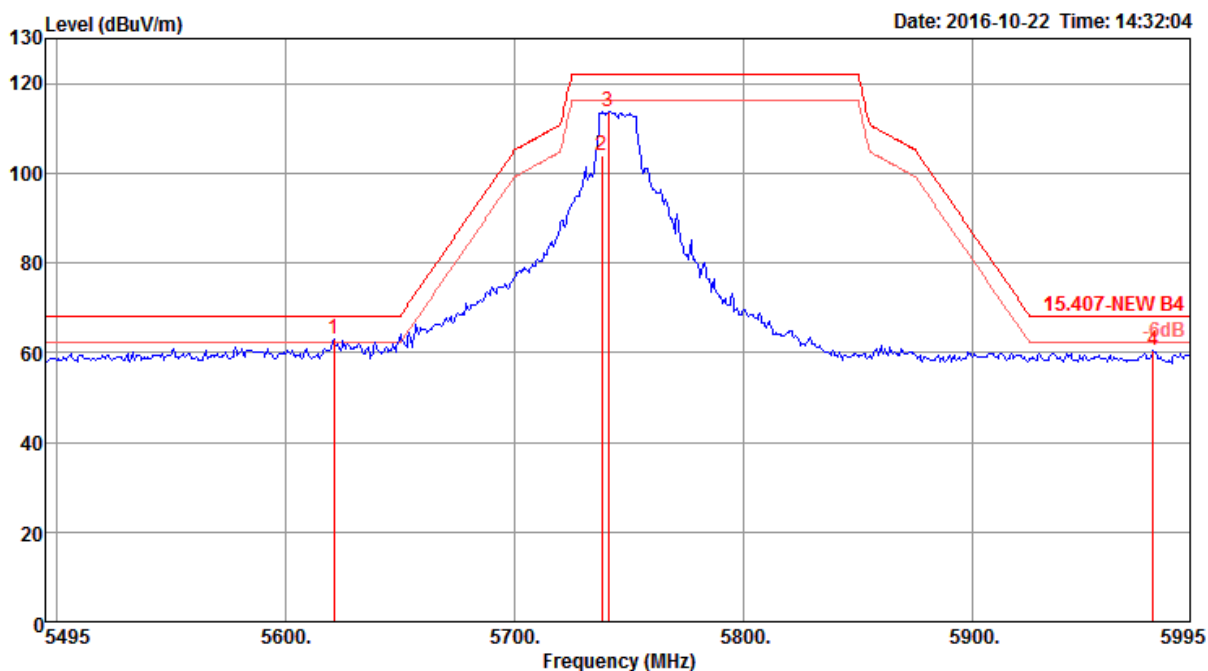


	Freq	Level	Limit	Over	Read	Cable	Antenna	Preamp	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	5139.00	69.55	74.00	-4.45	61.67	8.05	31.48	31.65	297	348	Peak	HORIZONTAL
2	5149.00	53.96	54.00	-0.04	46.07	8.05	31.49	31.65	297	348	Average	HORIZONTAL
3 @	5195.00	90.99			83.05	8.06	31.52	31.64	297	348	Average	HORIZONTAL
4 @	5203.00	102.78			94.83	8.06	31.53	31.64	297	348	Peak	HORIZONTAL
5	5365.00	48.09	54.00	-5.91	39.81	8.28	31.62	31.62	297	348	Average	HORIZONTAL
6	5365.00	60.76	74.00	-13.24	52.48	8.28	31.62	31.62	297	348	Peak	HORIZONTAL

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

**Configurations**

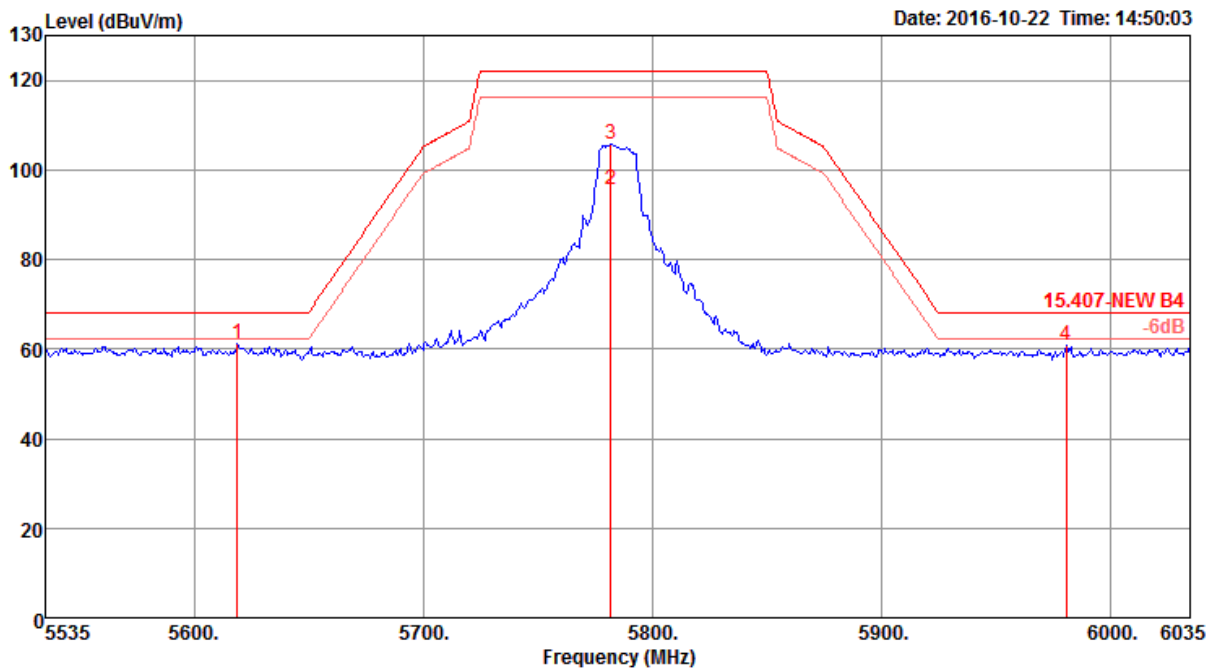
IEEE 802.11a CH 149, 157, 165 / Ant. 2

Channel 149

	Freq	Level	Limit	Over	Read	Cable	Antenna	Preamp	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	5621.00	63.01	68.20	-5.19	54.83	6.77	34.37	32.96	119	357	Peak	HORIZONTAL
2	5738.00	103.87			95.54	6.88	34.44	32.99	119	357	Average	HORIZONTAL
3	5741.00	113.77			105.41	6.90	34.45	32.99	119	357	Peak	HORIZONTAL
4	5979.00	60.55	68.20	-7.65	52.02	7.00	34.59	33.06	119	357	Peak	HORIZONTAL

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

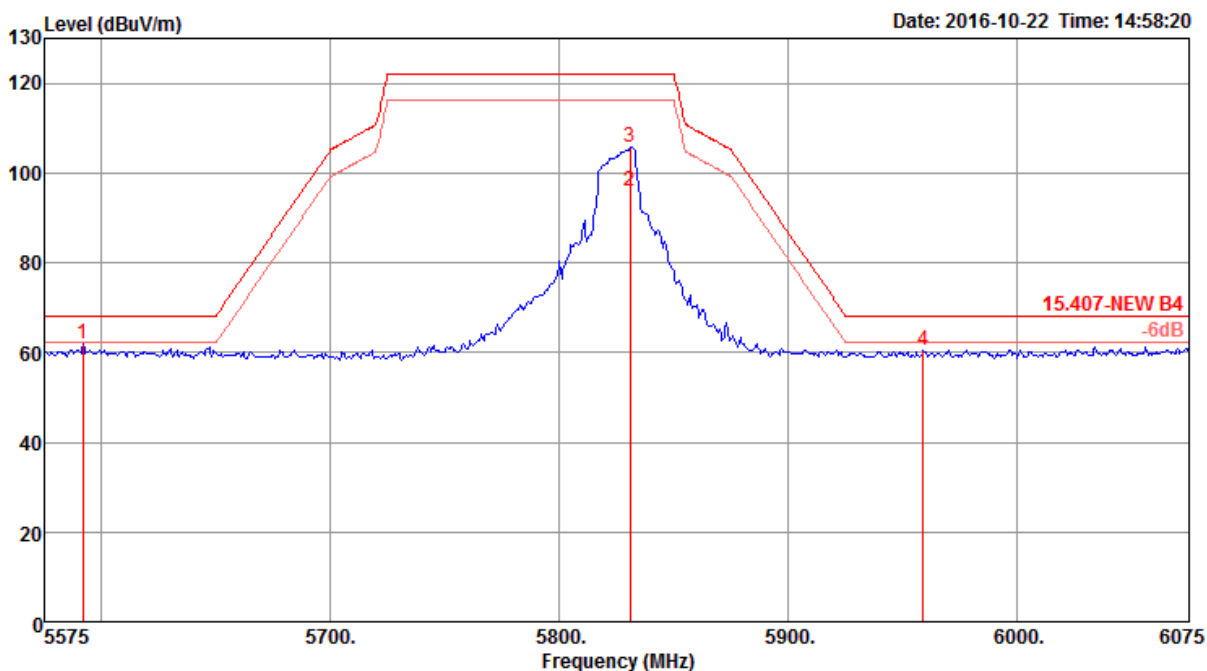
Channel 157



	Freq	Level	Limit	Over	Read	CableAntenna	Preamp	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1	5619.00	61.27	68.20	-6.93	53.09	6.77	34.37	32.96	152	116	Peak
2	5782.00	95.65			87.25	6.93	34.47	33.00	152	116	Average
3	5782.00	105.81			97.41	6.93	34.47	33.00	152	116	Peak
4	5981.00	60.75	68.20	-7.45	52.22	7.00	34.59	33.06	152	116	Peak

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

Channel 165



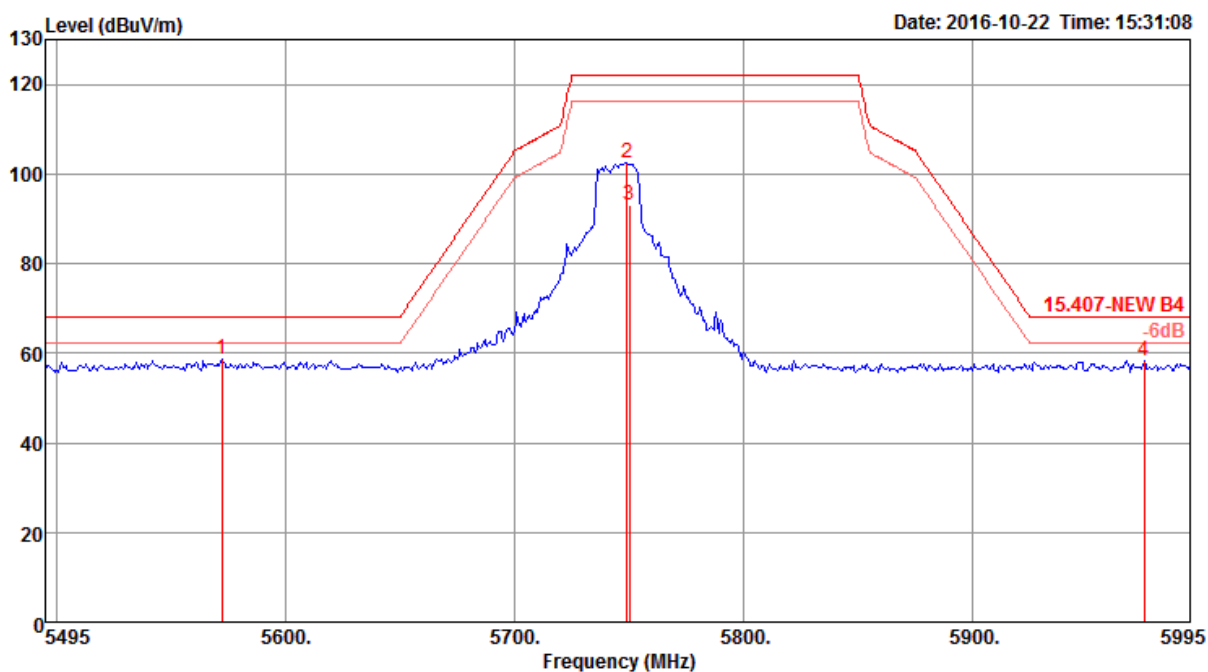
	Freq	Level	Limit	Over	Read	Cable	Antenna	Preamp	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	5592.00	61.82	68.20	-6.38	53.66	6.75	34.36	32.95	148	118	Peak	VERTICAL
2	5831.00	95.90			87.46	6.96	34.50	33.02	148	118	Average	VERTICAL
3	5831.00	105.68			97.24	6.96	34.50	33.02	148	118	Peak	VERTICAL
4	5959.00	60.58	68.20	-7.62	52.06	6.99	34.58	33.05	148	118	Peak	VERTICAL

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

Configurations

IEEE 802.11ac MCS0/Nss1 VHT20 CH 149, 157, 165 / Ant. 2

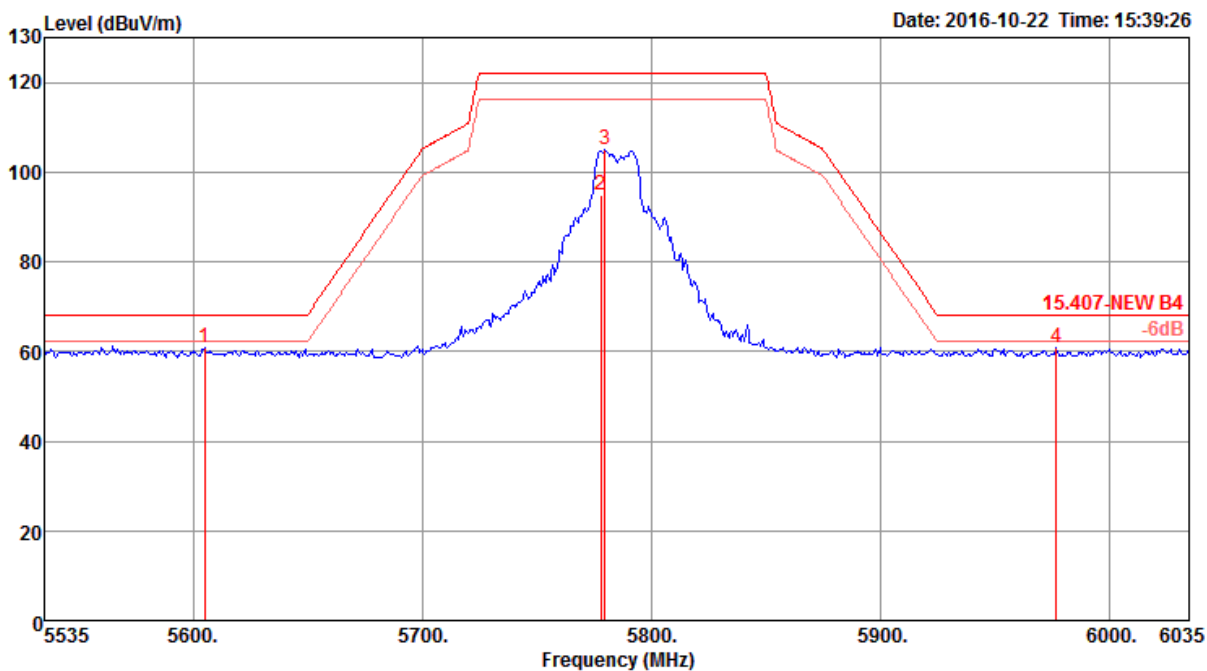
Channel 149



	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	5572.00	58.57	68.20	-9.63	50.45	6.73	34.34	32.95	147	117	Peak	HORIZONTAL
2	5749.00	102.39			94.04	6.90	34.45	33.00	147	117	Peak	HORIZONTAL
3	5750.00	93.17			84.82	6.90	34.45	33.00	147	117	Average	HORIZONTAL
4	5975.00	58.36	68.20	-9.84	49.84	6.99	34.58	33.05	147	117	Peak	HORIZONTAL

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

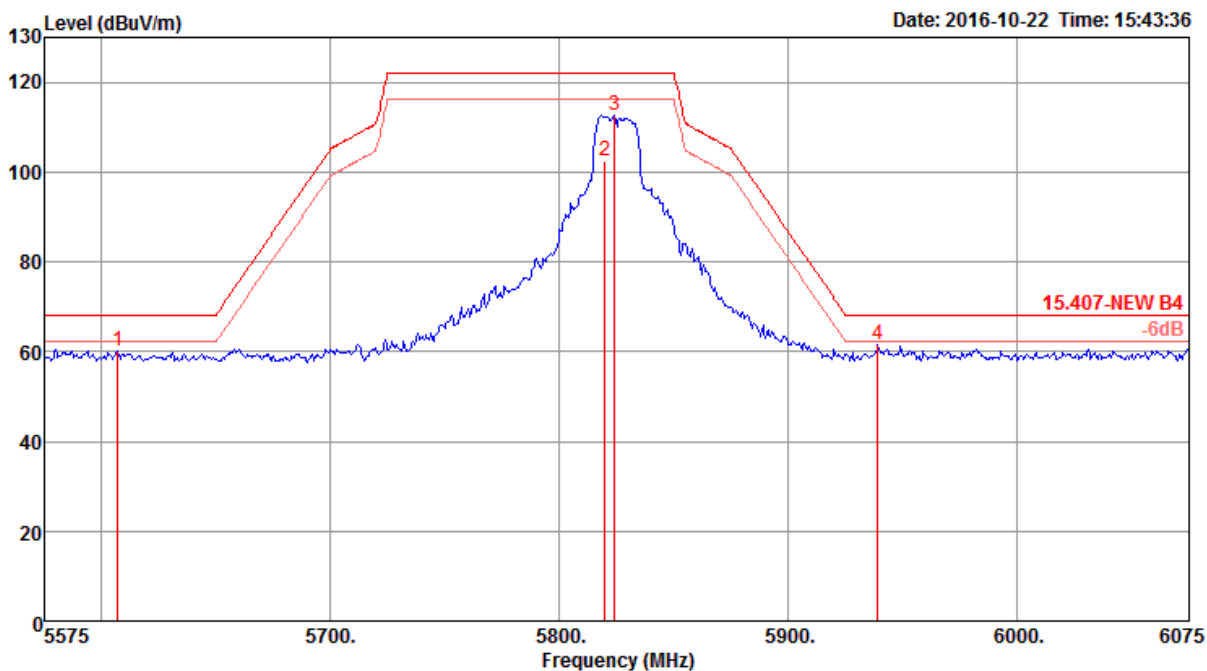
Channel 157



	Freq	Level	Limit	Over	Read	Cable	Antenna	Preamp	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	5605.00	60.74	68.20	-7.46	52.59	6.75	34.36	32.96	154	127	Peak	VERTICAL
2	5778.00	94.99			86.59	6.93	34.47	33.00	154	127	Average	VERTICAL
3	5780.00	104.97			96.57	6.93	34.47	33.00	154	127	Peak	VERTICAL
4	5977.00	60.91	68.20	-7.29	52.38	7.00	34.59	33.06	154	127	Peak	VERTICAL

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

Channel 165

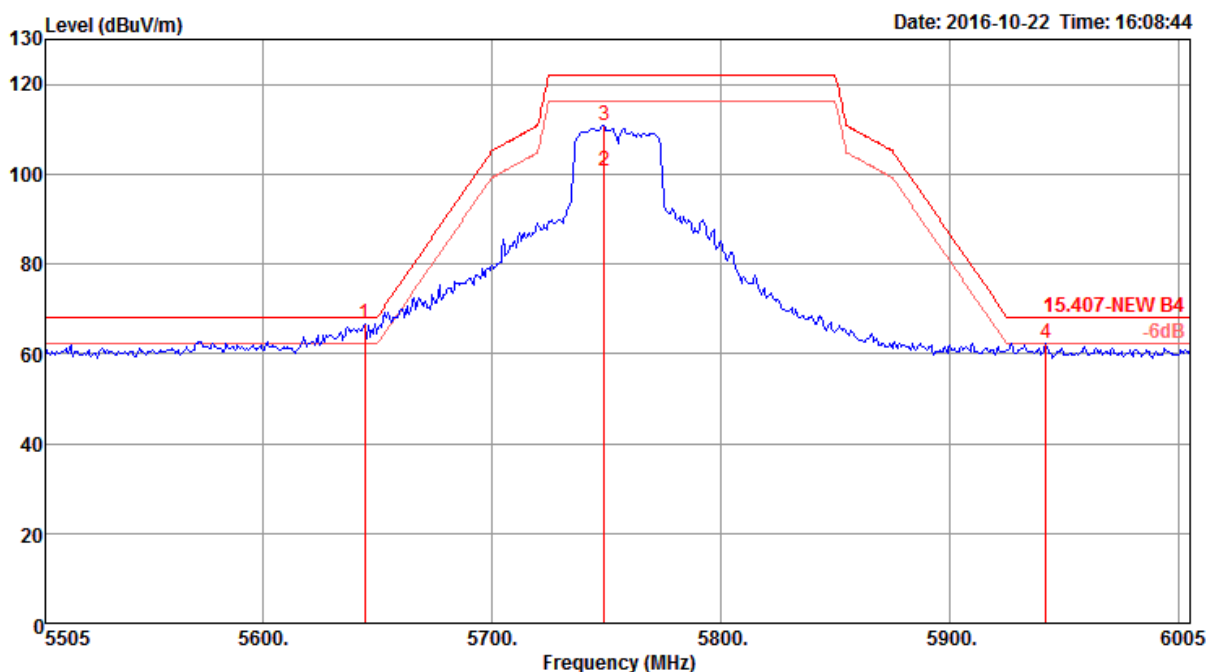


	Freq	Level	Limit	Over	Read	CableAntenna	Preamp	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1	5607.00	60.26	68.20	-7.94	52.11	6.75	34.36	32.96	114	355	Peak
2	5820.00	102.64			94.21	6.95	34.49	33.01	114	355	Average
3	5824.00	112.68			104.24	6.96	34.50	33.02	114	355	Peak
4	5939.00	61.65	68.20	-6.55	53.16	6.98	34.56	33.05	114	355	Peak

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

**Configurations**

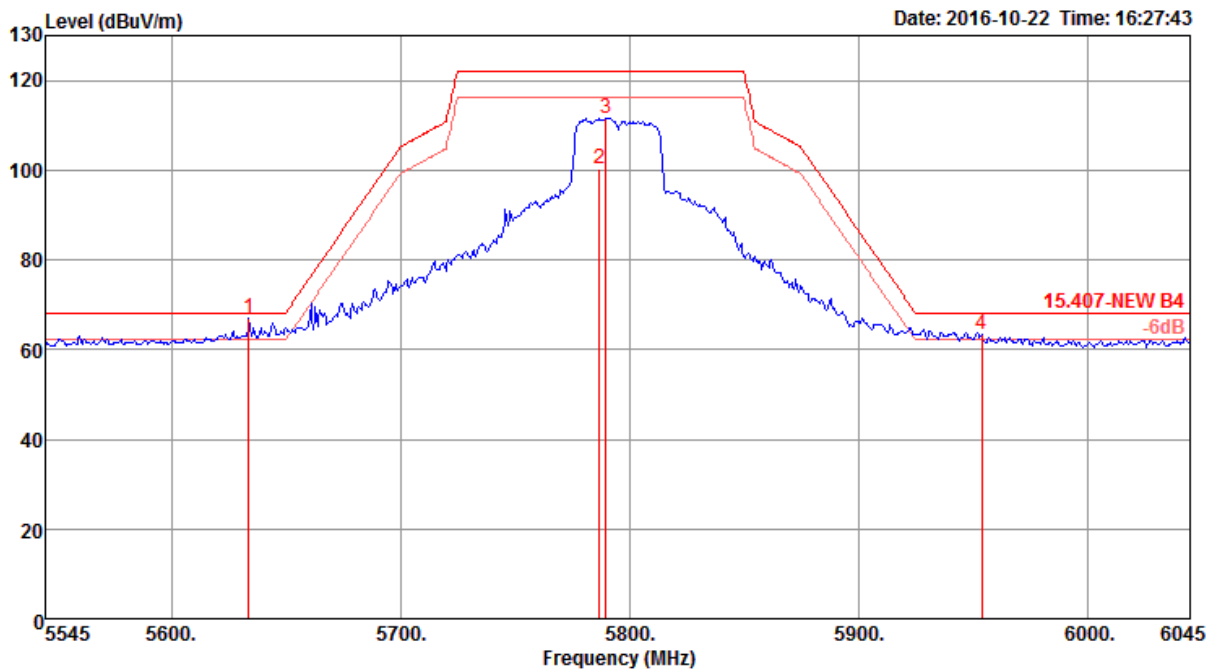
IEEE 802.11ac MCS0/Nss1 VHT40 CH 151, 159 / Ant. 2

Channel 151

	Freq	Level	Limit	Over	Read	Cable	Antenna	Preamp	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	5644.50	66.76	68.20	-1.44	58.54	6.80	34.39	32.97	121	354	Peak	HORIZONTAL
2	5749.00	100.54			92.19	6.90	34.45	33.00	121	354	Average	HORIZONTAL
3	5749.00	110.95			102.60	6.90	34.45	33.00	121	354	Peak	HORIZONTAL
4	5942.00	62.32	68.20	-5.88	53.81	6.99	34.57	33.05	121	354	Peak	HORIZONTAL

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

Channel 159



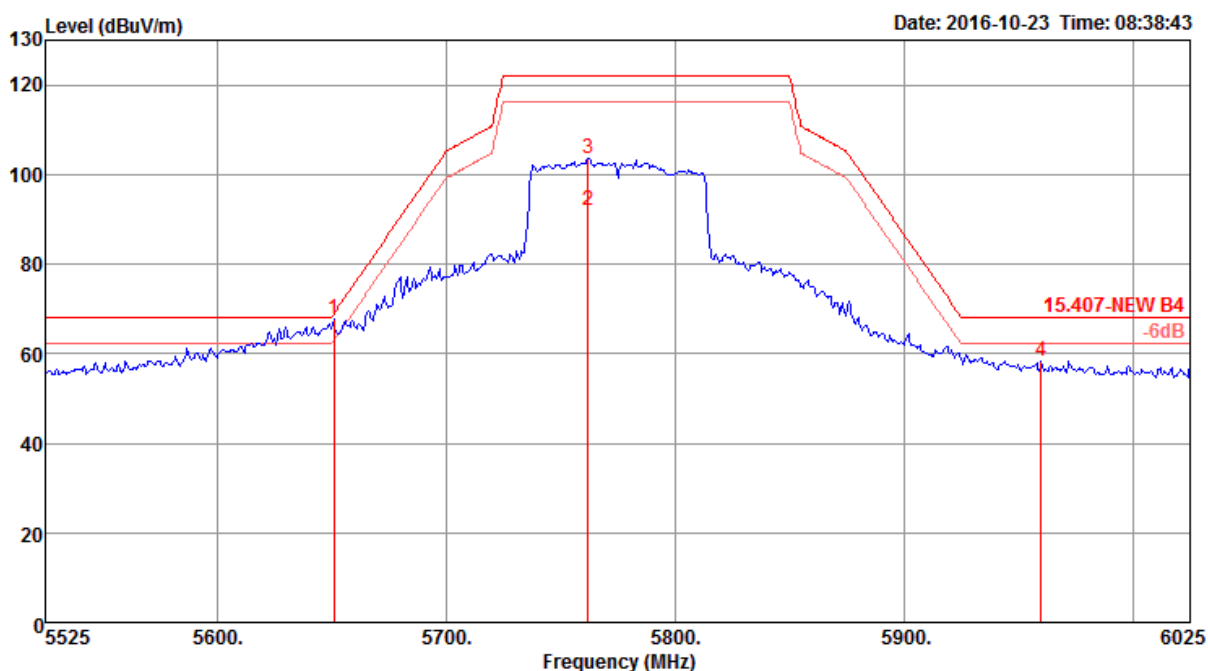
	Freq	Level	Limit	Over	Read	CableAntenna	Preamp	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1	5634.00	67.06	68.20	-1.14	58.87	6.78	34.38	32.97	101	359	Peak
2	5787.00	100.43			92.04	6.93	34.47	33.01	101	359	Average
3	5790.00	111.66			103.24	6.95	34.48	33.01	101	359	Peak
4	5954.00	63.28	68.20	-4.92	54.77	6.99	34.57	33.05	101	359	Peak

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

Configurations

IEEE 802.11ac MCS0/Nss1 VHT80 CH 155 / Ant. 2

Channel 155

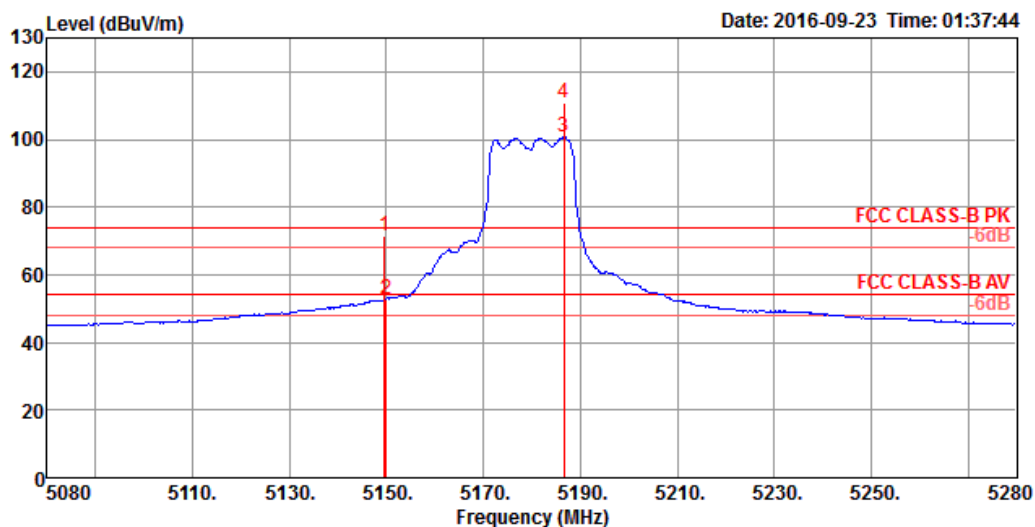


	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	5651.00	67.70	68.94	-1.24	59.48	6.80	34.39	32.97	103	360	Peak	HORIZONTAL
2	5762.00	92.06			83.68	6.92	34.46	33.00	103	360	Average	HORIZONTAL
3	5762.00	103.61			95.23	6.92	34.46	33.00	103	360	Peak	HORIZONTAL
4	5960.00	58.48	68.20	-9.72	49.96	6.99	34.58	33.05	103	360	Peak	HORIZONTAL

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

Configurations	IEEE 802.11a CH 36, 40, 48 / Ant. 1 + Ant. 2
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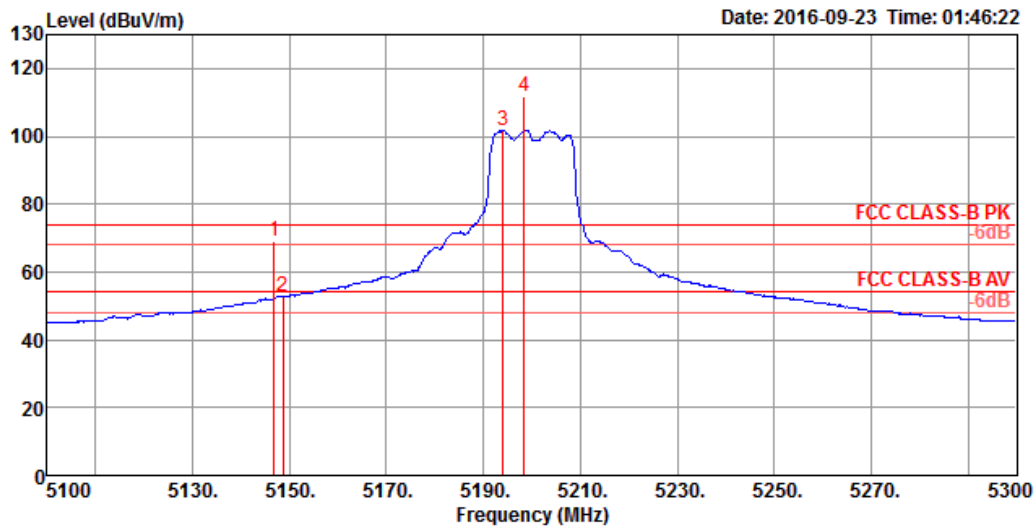
Channel 36



	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna Loss	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	71.36	74.00	-2.64	66.63	8.18	33.17	36.62	100	81 Peak	HORIZONTAL
2	5150.00	52.85	54.00	-1.15	48.12	8.18	33.17	36.62	100	81 Average	HORIZONTAL
3 @	5186.60	100.67			95.88	8.16	33.25	36.62	100	81 Average	HORIZONTAL
4 @	5186.60	111.02			106.23	8.16	33.25	36.62	100	81 Peak	HORIZONTAL

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

Channel 40

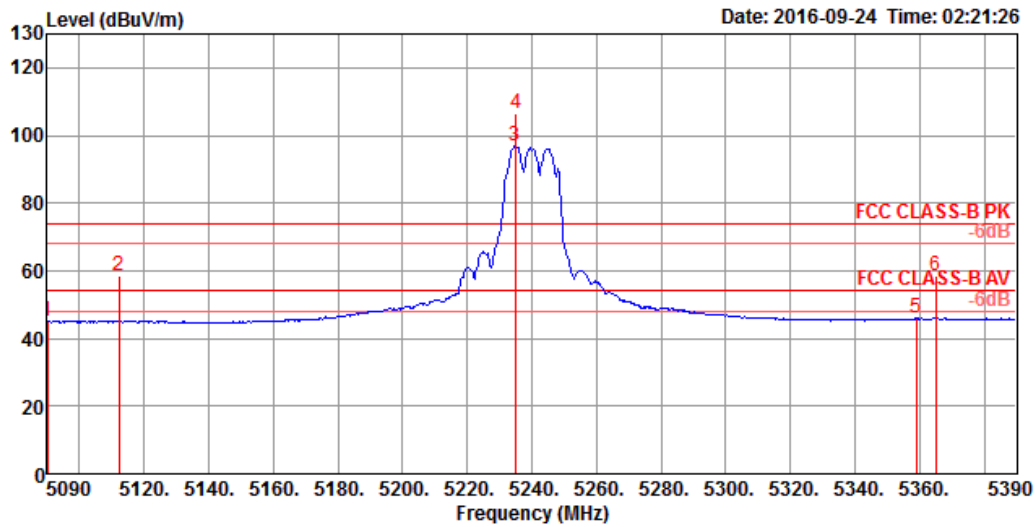


	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna Loss	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1	5146.80	69.18	74.00	-4.82	64.44	8.19	33.17	36.62	100	79 Peak	HORIZONTAL
2	5148.60	52.93	54.00	-1.07	48.19	8.19	33.17	36.62	100	79 Average	HORIZONTAL
3 @	5194.00	101.57			96.79	8.15	33.25	36.62	100	79 Average	HORIZONTAL
4 @	5198.40	111.88			107.10	8.15	33.25	36.62	100	79 Peak	HORIZONTAL

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



Channel 48



	Freq	Level	Limit	Over	Read	CableAntenna	Preamp	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1	5090.00	45.11	54.00	-8.89	40.45	8.23	33.06	36.63	320	326 Average	VERTICAL
2	5112.20	58.34	74.00	-15.66	53.64	8.21	33.12	36.63	320	326 Peak	VERTICAL
3 @	5234.90	96.80			91.92	8.16	33.34	36.62	320	326 Average	VERTICAL
4 @	5235.20	106.54			101.66	8.16	33.34	36.62	320	326 Peak	VERTICAL
5	5359.10	45.88	54.00	-8.12	40.74	8.19	33.55	36.60	320	326 Average	VERTICAL
6	5365.10	58.33	74.00	-15.67	53.19	8.19	33.55	36.60	320	326 Peak	VERTICAL

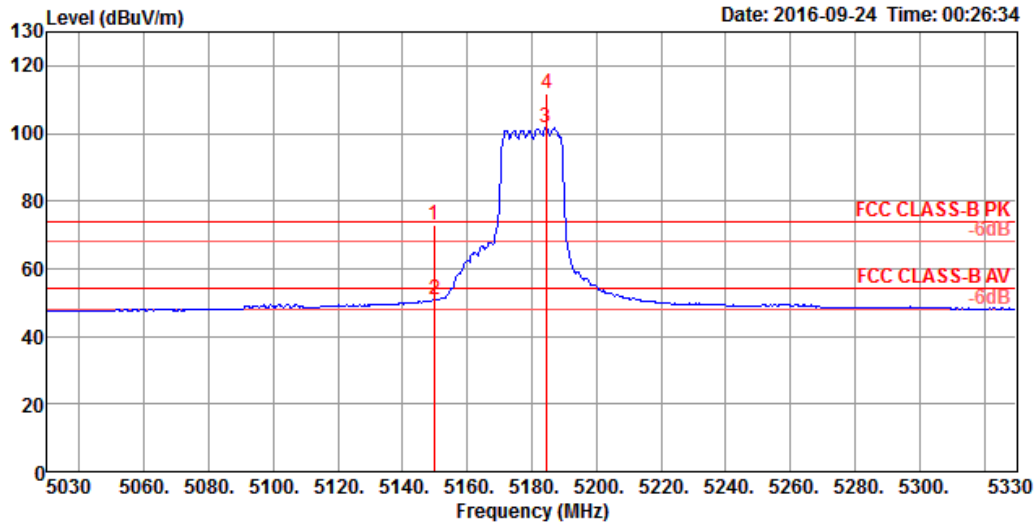
Item 3, 4 are the fundamental frequency at 5240 MHz.



Configurations

IEEE 802.11ac MCS0/Nss1 VHT20(BF) CH 36, 40, 48 / Ant. 1 + Ant. 2

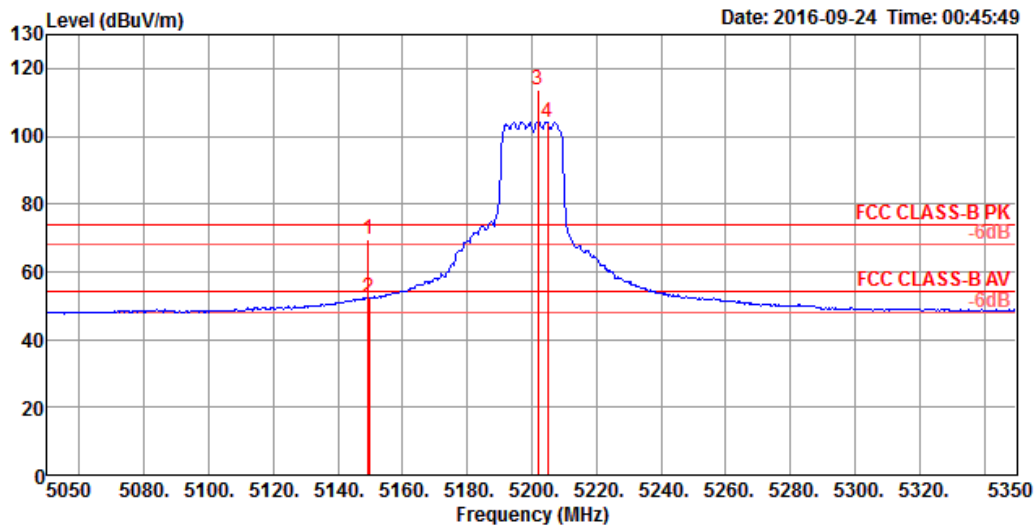
Channel 36



	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna Loss	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1	5149.70	72.68	74.00	-1.32	67.95	8.18	33.17	36.62	100	78 Peak	HORIZONTAL
2	5150.00	50.78	54.00	-3.22	46.05	8.18	33.17	36.62	100	78 Average	HORIZONTAL
3 @	5184.50	101.51			96.74	8.16	33.23	36.62	100	78 Average	HORIZONTAL
4 @	5184.70	111.73			106.96	8.16	33.23	36.62	100	78 Peak	HORIZONTAL

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

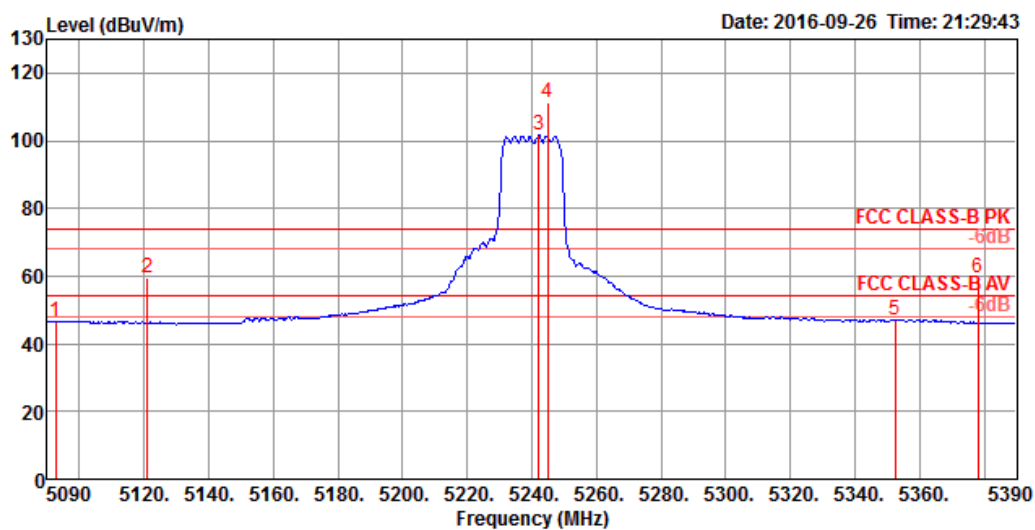
Channel 40



	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna Loss	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1	5149.30	69.53	74.00	-4.47	64.80	8.18	33.17	36.62	103	78 Peak	HORIZONTAL
2	5149.60	52.40	54.00	-1.60	47.67	8.18	33.17	36.62	103	78 Average	HORIZONTAL
3 @	5201.80	113.81			109.00	8.15	33.28	36.62	103	78 Peak	HORIZONTAL
4 @	5204.80	104.24			99.43	8.15	33.28	36.62	103	78 Average	HORIZONTAL

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

Channel 48

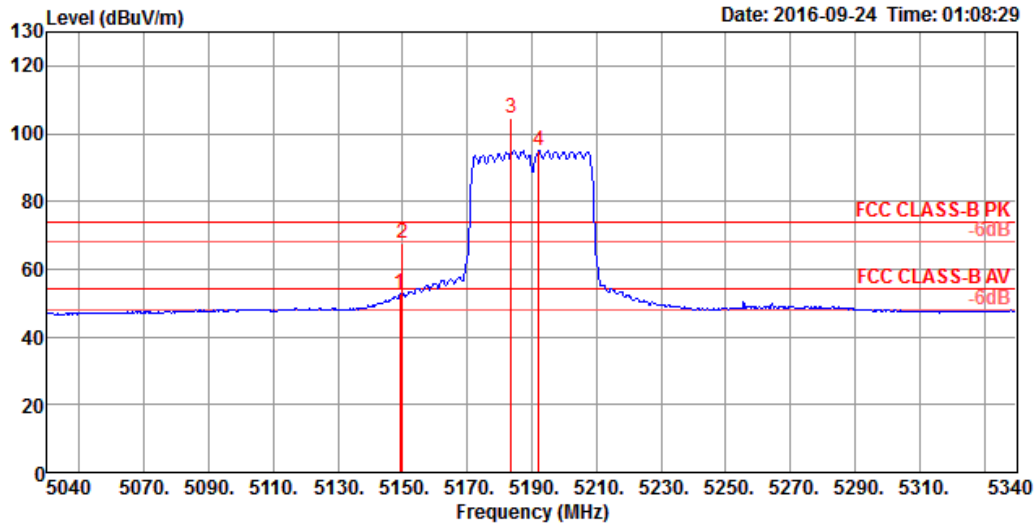


	Freq	Level	Limit	Over	Read	CableAntenna	Preamp	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1	5092.70	46.56	54.00	-7.44	38.38	7.72	31.52	31.06	100	82 Average	HORIZONTAL
2	5120.90	59.60	74.00	-14.40	51.42	7.72	31.52	31.06	100	82 Peak	HORIZONTAL
3 @	5242.10	101.49			93.27	7.72	31.55	31.05	100	82 Average	HORIZONTAL
4 @	5244.80	111.42			103.20	7.72	31.55	31.05	100	82 Peak	HORIZONTAL
5	5352.50	47.10	54.00	-6.90	38.81	7.75	31.57	31.03	100	82 Average	HORIZONTAL
6	5378.00	59.41	74.00	-14.59	51.10	7.76	31.58	31.03	100	82 Peak	HORIZONTAL

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

**Configurations**

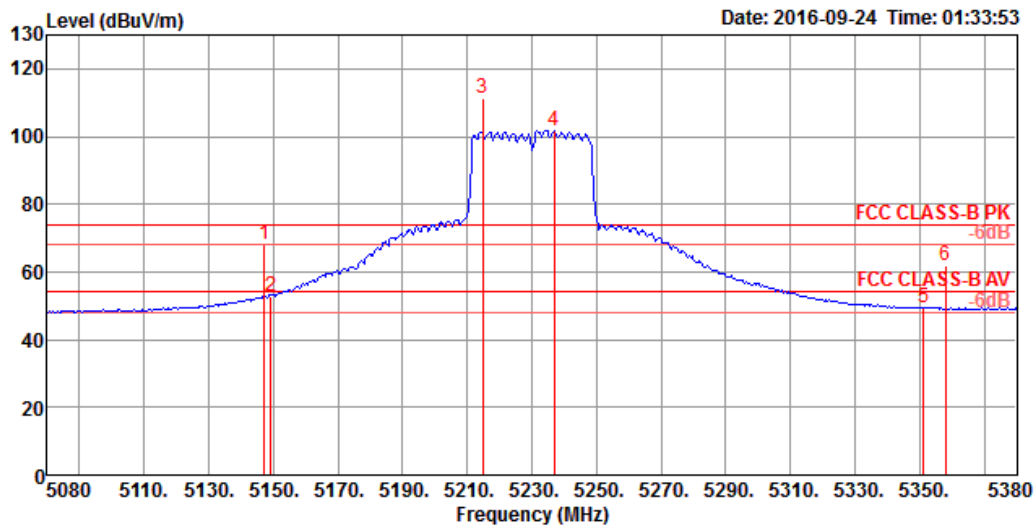
IEEE 802.11ac MCS0/Nss1 VHT40(BF) CH 38, 46 / Ant. 1 + Ant. 2

Channel 38

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna Loss	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1	5149.20	52.66	54.00	-1.34	47.92	8.19	33.17	36.62	101	80 Average	HORIZONTAL
2	5150.00	67.64	74.00	-6.36	62.91	8.18	33.17	36.62	101	80 Peak	HORIZONTAL
3 @	5183.70	104.68			99.91	8.16	33.23	36.62	101	80 Peak	HORIZONTAL
4 @	5192.10	94.99			90.20	8.16	33.25	36.62	101	80 Average	HORIZONTAL

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

Channel 46

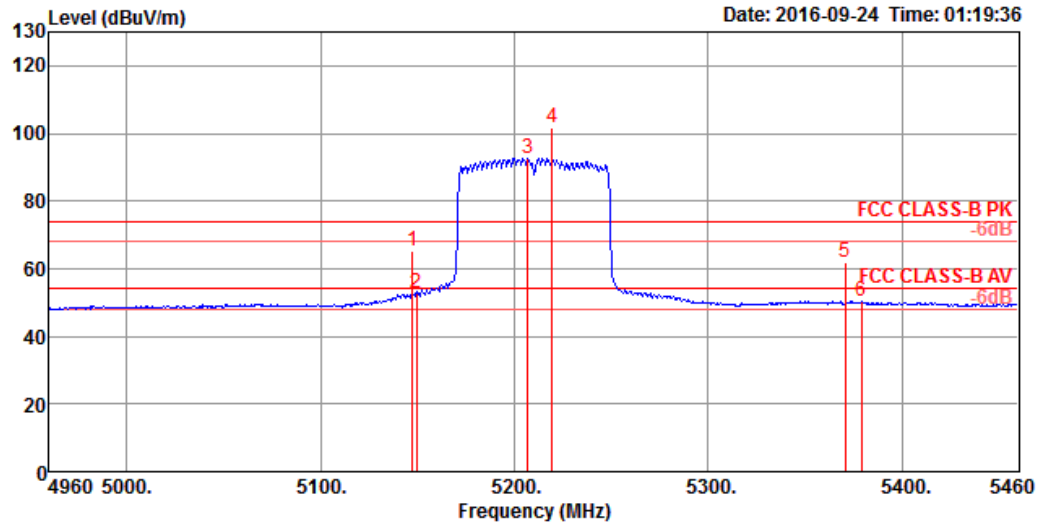


	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna Loss	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1	5147.20	68.28	74.00	-5.72	63.54	8.19	33.17	36.62	100	76 Peak	HORIZONTAL
2	5149.20	52.99	54.00	-1.01	48.25	8.19	33.17	36.62	100	76 Average	HORIZONTAL
3 @	5214.80	111.37			106.56	8.15	33.28	36.62	100	76 Peak	HORIZONTAL
4 @	5236.80	101.69			96.81	8.16	33.34	36.62	100	76 Average	HORIZONTAL
5	5351.20	49.46	54.00	-4.54	44.34	8.19	33.53	36.60	100	76 Average	HORIZONTAL
6	5358.00	62.02	74.00	-11.98	56.88	8.19	33.55	36.60	100	76 Peak	HORIZONTAL

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

**Configurations**

IEEE 802.11ac MCS0/Nss1 VHT80(BF) CH 42 / Ant. 1 + Ant. 2

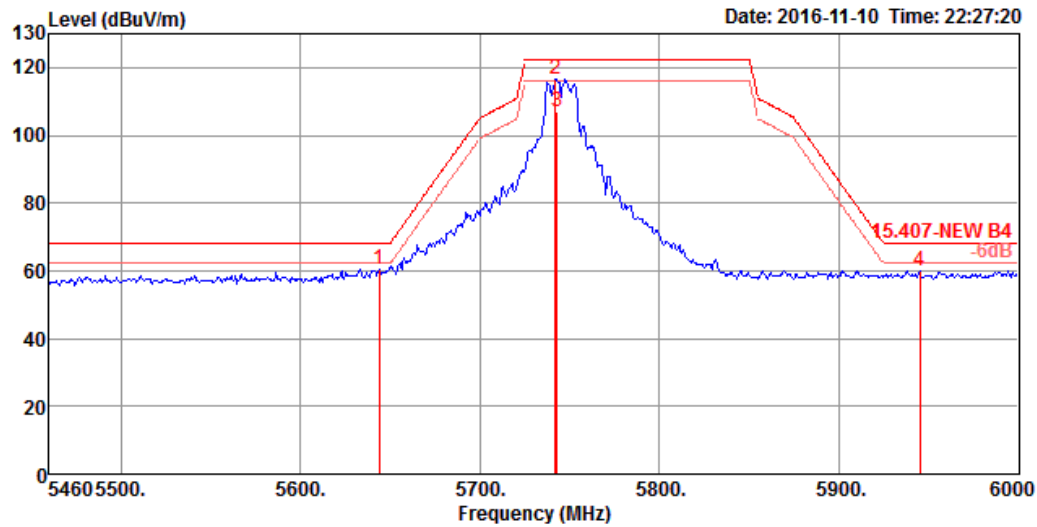
Channel 42

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna Loss	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1	5147.50	65.07	74.00	-8.93	60.33	8.19	33.17	36.62	100	81 Peak	HORIZONTAL
2	5149.50	52.67	54.00	-1.33	47.94	8.18	33.17	36.62	100	81 Average	HORIZONTAL
3 @	5207.00	92.56			87.75	8.15	33.28	36.62	100	81 Average	HORIZONTAL
4 @	5219.50	101.87			97.03	8.15	33.31	36.62	100	81 Peak	HORIZONTAL
5	5370.50	61.67	74.00	-12.33	56.50	8.19	33.58	36.60	100	81 Peak	HORIZONTAL
6	5379.00	50.27	54.00	-3.73	45.10	8.19	33.58	36.60	100	81 Average	HORIZONTAL

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

**Configurations**

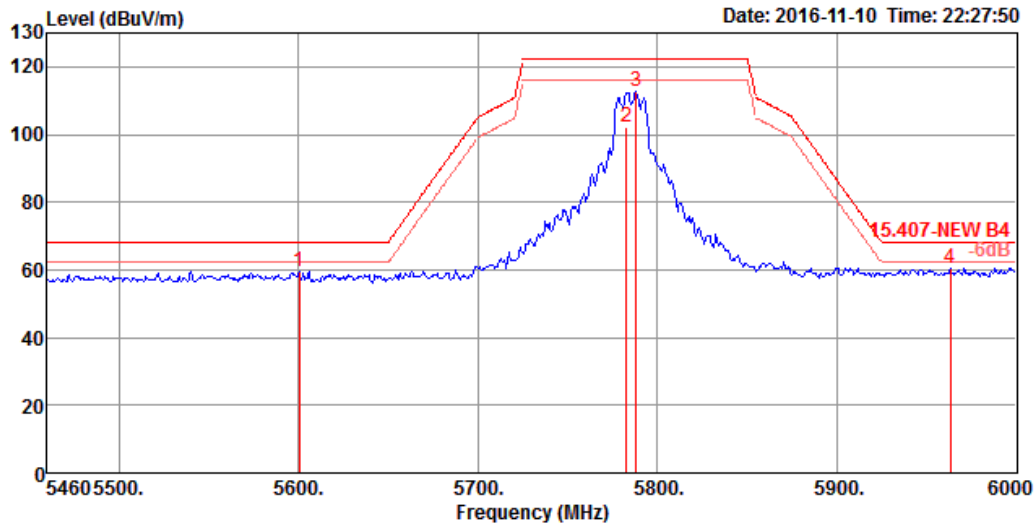
IEEE 802.11a CH 149, 157, 165 / Ant. 1 + Ant. 2

Channel 149

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna Loss	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1	5643.60	60.59	68.20	-7.61	54.17	8.74	34.22	36.54	279	80 Peak	HORIZONTAL
2	5741.88	116.63			110.05	8.59	34.50	36.51	279	80 Peak	HORIZONTAL
3	5742.96	106.96			100.38	8.59	34.50	36.51	279	80 Average	HORIZONTAL
4	5944.92	60.18	68.20	-8.02	52.79	8.78	35.06	36.45	279	80 Peak	HORIZONTAL

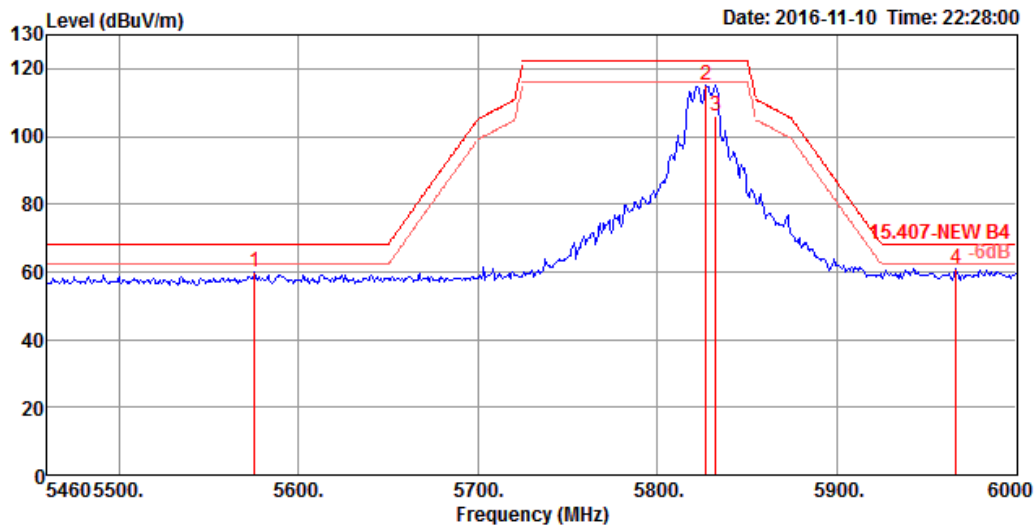
Item 2, 3 are the fundamental frequency at 5745 MHz.

Channel 157



	Freq	Level	Limit	Over	Read	CableAntenna	Preamp	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1	5600.40	59.56	68.20	-8.64	53.23	8.80	34.08	36.55	283	105	Peak
2	5782.92	102.19			95.57	8.53	34.59	36.50	283	105	Average
3	5788.32	112.92			106.30	8.53	34.59	36.50	283	105	Peak
4	5963.28	60.54	68.20	-7.66	53.06	8.81	35.11	36.44	283	105	Peak

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

**Channel 165**

	Freq	Level	Limit	Over	Read	CableAntenna	Preamp	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1	5575.56	59.74	68.20	-8.46	53.55	8.73	34.03	36.57	286	76 Peak	HORIZONTAL
2	5827.20	115.00			108.19	8.56	34.73	36.48	286	76 Peak	HORIZONTAL
3	5832.60	105.86			99.04	8.57	34.73	36.48	286	76 Average	HORIZONTAL
4	5966.52	60.86	68.20	-7.34	53.37	8.82	35.11	36.44	286	76 Peak	HORIZONTAL

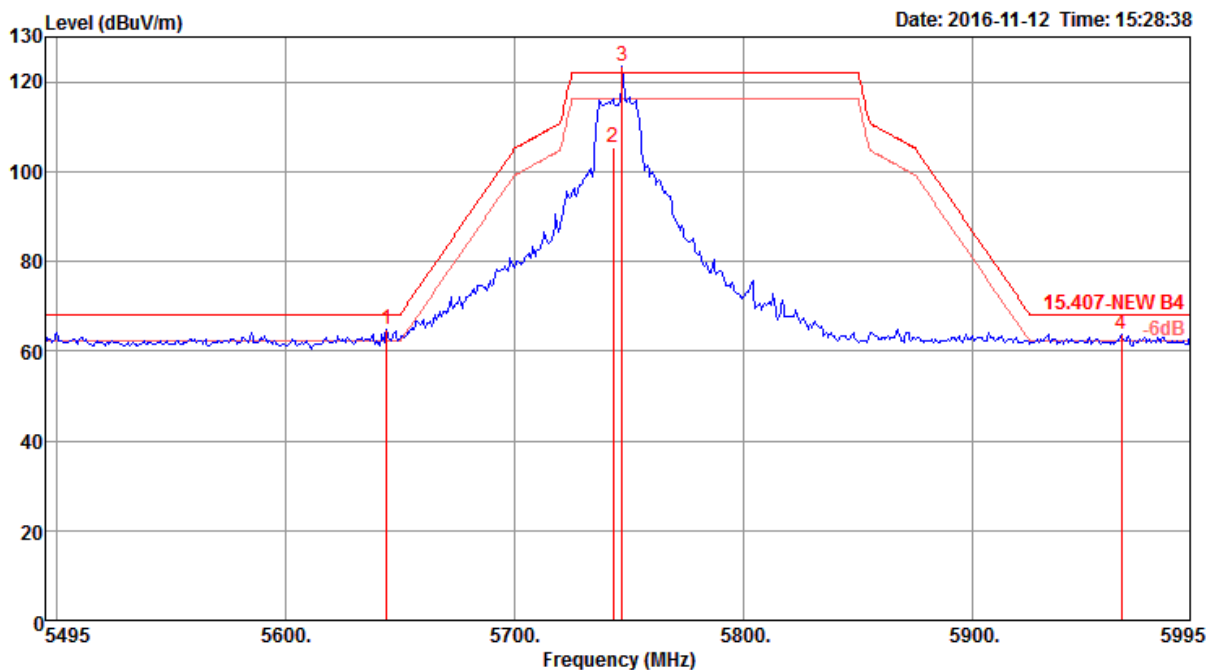
Item 2, 3 are the fundamental frequency at 5825 MHz.



Configurations

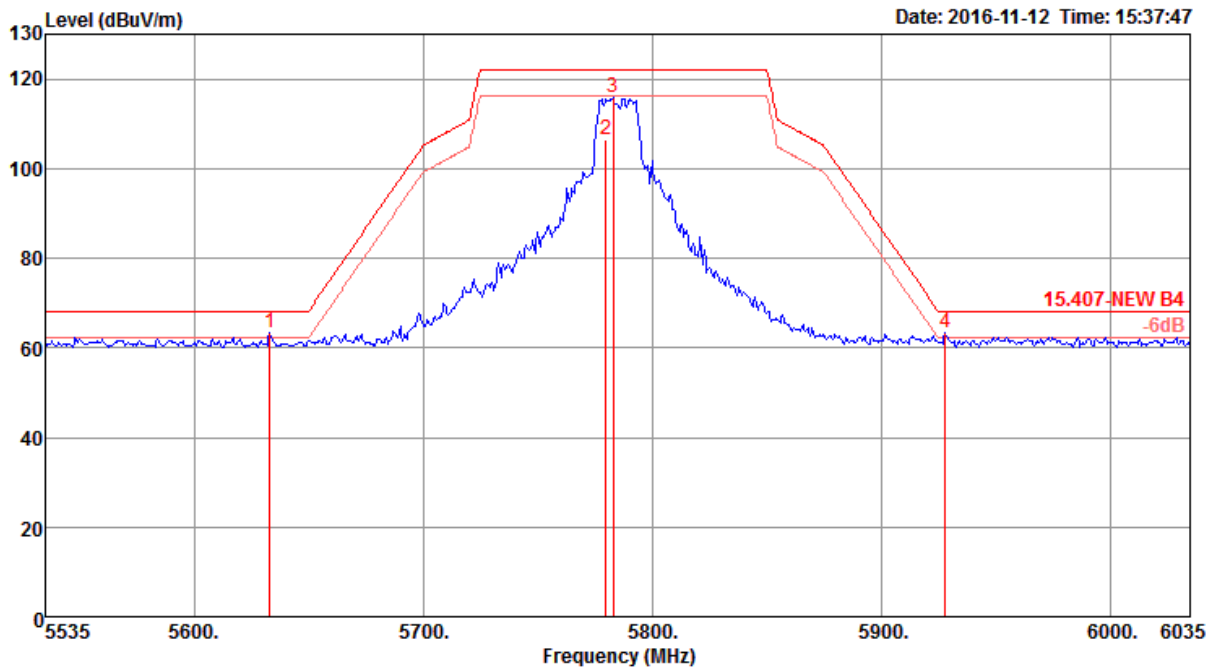
IEEE 802.11ac MCS0/Nss1 VHT20(BF) CH 149, 157, 165 / Ant. 1 + Ant. 2

Channel 149



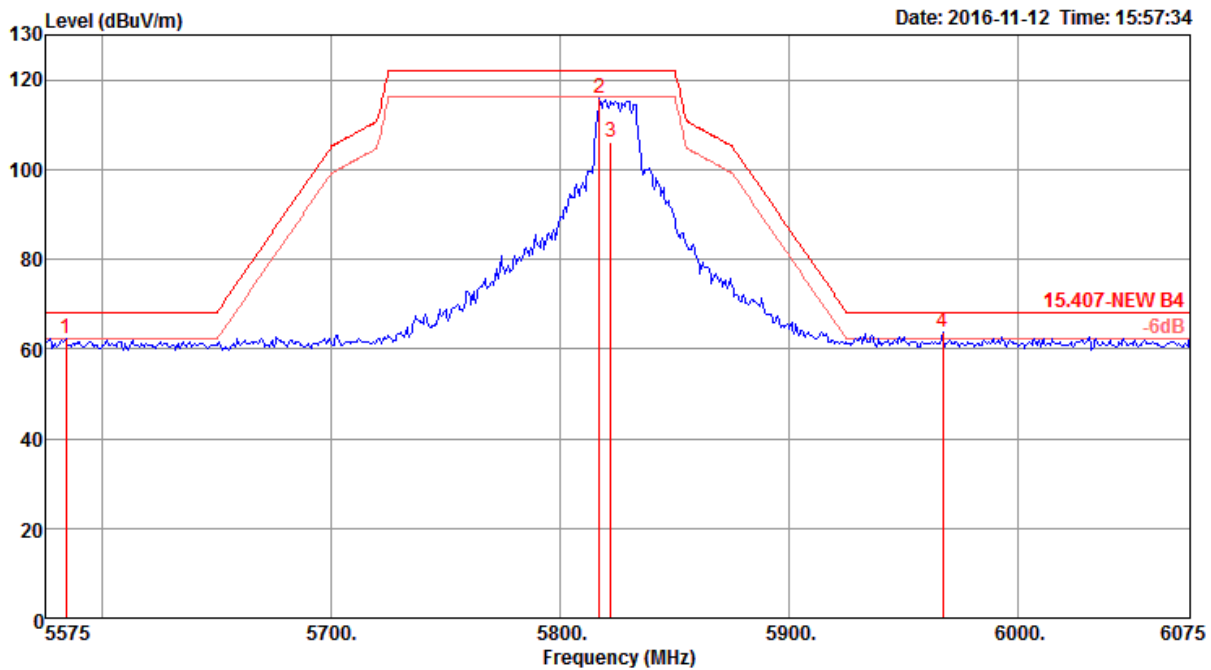
	Freq	Level	Limit	Over	Read	Cable	Antenna	Preamp	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	5644.00	64.65	68.20	-3.55	55.13	6.80	34.39	31.67	111	349	Peak	HORIZONTAL
2	5743.00	105.24			95.60	6.90	34.45	31.71	111	349	Average	HORIZONTAL
3 @	5747.00	123.36			113.72	6.90	34.45	31.71	111	349	Peak	HORIZONTAL
4	5965.00	63.70	68.20	-4.50	53.93	6.99	34.58	31.80	111	349	Peak	HORIZONTAL

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

**Channel 157**

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna Loss	Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	5633.00	63.51	68.20	-4.69	54.01	6.78	34.38	31.66	101	84	Peak	HORIZONTAL
2	5780.00	106.50			96.82	6.93	34.47	31.72	101	84	Average	HORIZONTAL
3	5783.00	115.81			106.14	6.93	34.47	31.73	101	84	Peak	HORIZONTAL
4	5928.00	63.24	68.20	-4.96	53.48	6.98	34.56	31.78	101	84	Peak	HORIZONTAL

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

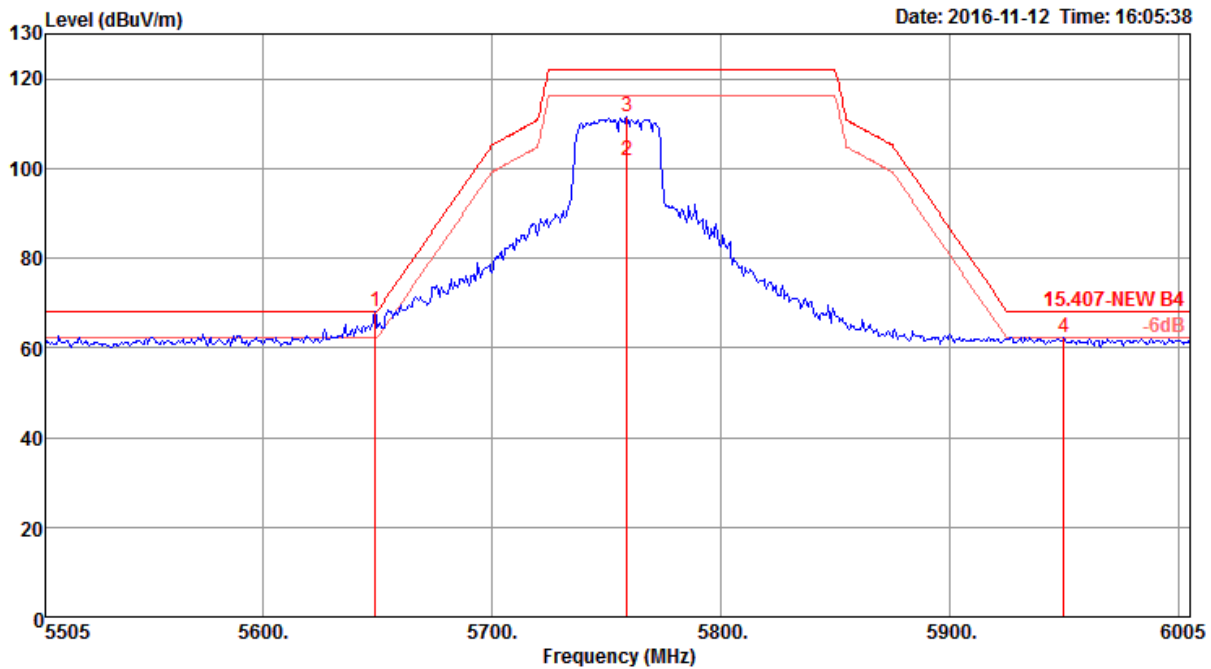
Channel 165


	Freq	Level	Limit	Over	Read	CableAntenna	Preamp	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1	5584.00	62.23	68.20	-5.97	52.79	6.74	34.35	31.65	105	76 Peak	HORIZONTAL
2	5817.00	115.76			106.06	6.95	34.49	31.74	105	76 Peak	HORIZONTAL
3	5822.00	106.11			96.41	6.95	34.49	31.74	105	76 Average	HORIZONTAL
4	5967.00	63.74	68.20	-4.46	53.97	6.99	34.58	31.80	105	76 Peak	HORIZONTAL

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



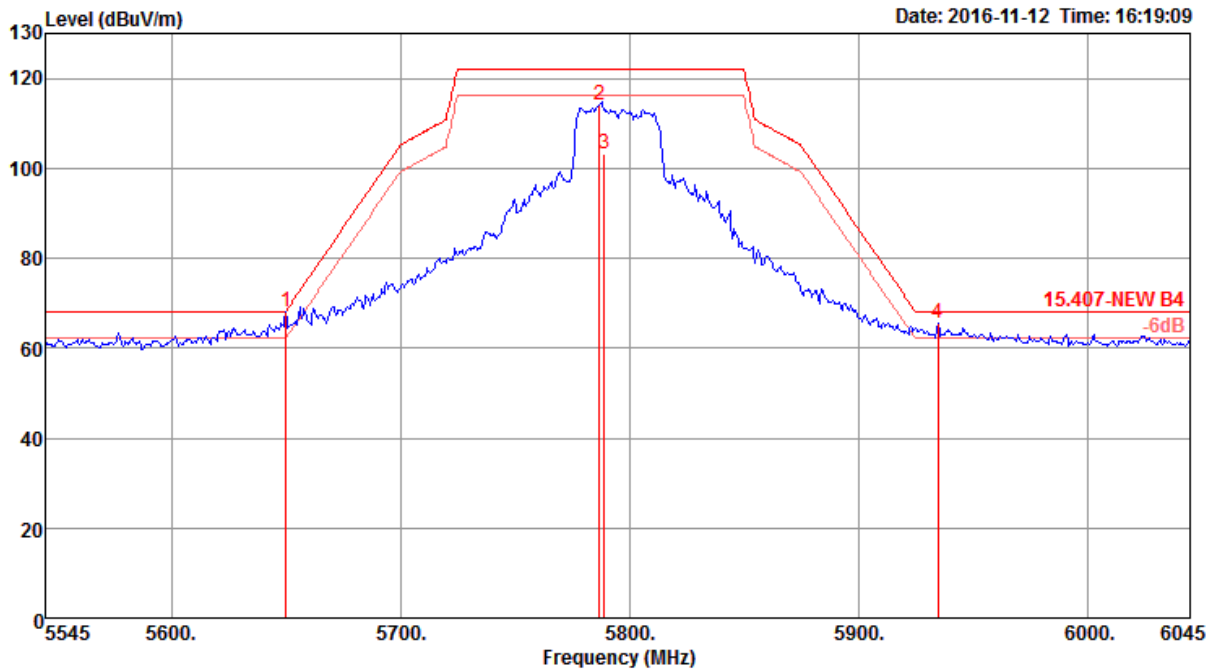
Configurations	IEEE 802.11ac MCS0/Nss1 VHT40(BF) CH 151, 159 / Ant. 1 + Ant. 2
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Channel 151

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna Loss	Antenna Factor	Preamplifier Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	5649.00	68.10	68.20	-0.10	58.58	6.80	34.39	31.67	284	80	Peak	HORIZONTAL
2	5759.00	101.65			91.98	6.92	34.46	31.71	284	80	Average	HORIZONTAL
3	5759.00	111.64			101.97	6.92	34.46	31.71	284	80	Peak	HORIZONTAL
4	5950.00	62.45	68.20	-5.75	52.68	6.99	34.57	31.79	284	80	Peak	HORIZONTAL

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

Channel 159

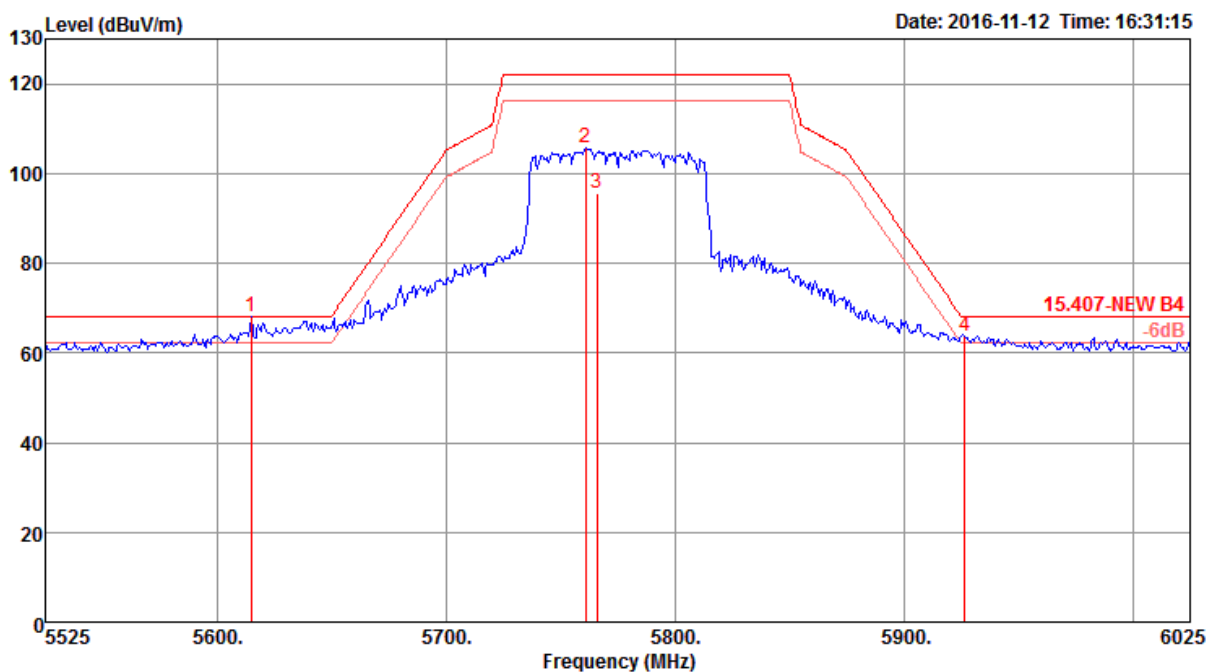


	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	5650.00	68.02	68.20	-0.18	58.50	6.80	34.39	31.67	272	340	Peak	HORIZONTAL
2	5787.00	114.16			104.49	6.93	34.47	31.73	272	340	Peak	HORIZONTAL
3	5789.00	103.07			93.37	6.95	34.48	31.73	272	340	Average	HORIZONTAL
4	5935.00	65.58	68.20	-2.62	55.82	6.98	34.56	31.78	272	340	Peak	HORIZONTAL

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

**Configurations**

IEEE 802.11ac MCS0/Nss1 VHT80(BF) CH 155 / Ant. 1 + Ant. 2

Channel 155

	Freq	Level	Limit	Over	Read	Cable	Antenna	Preamp	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	5615.00	67.98	68.20	-0.22	58.50	6.77	34.37	31.66	300	78	Peak	HORIZONTAL
2	5761.00	105.66			95.99	6.92	34.46	31.71	300	78	Peak	HORIZONTAL
3	5766.00	95.71			86.05	6.92	34.46	31.72	300	78	Average	HORIZONTAL
4	5926.50	63.74	68.20	-4.46	53.98	6.98	34.56	31.78	300	78	Peak	HORIZONTAL

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

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.

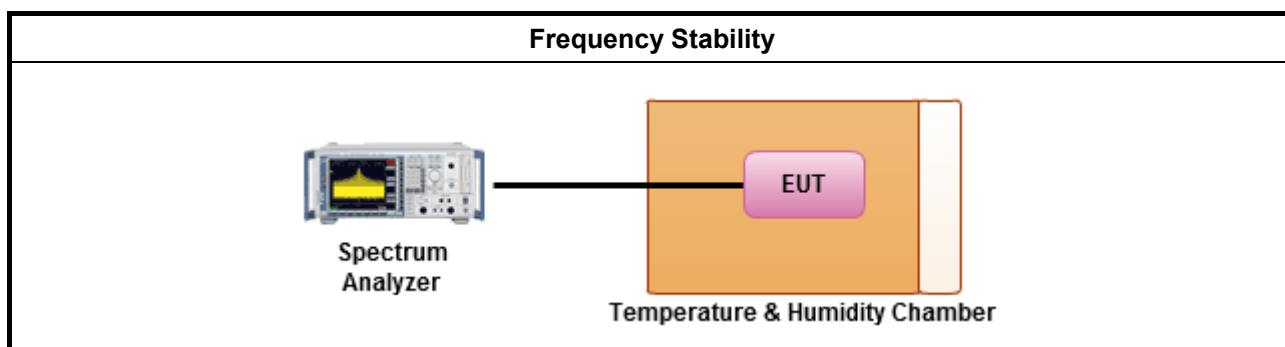
3.6.2 Measuring Instruments

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 $-30^{\circ}\text{C} \sim 50^{\circ}\text{C}$.

3.6.4 Test Setup



3.6.5 Test Result of Frequency Stability

Mode: 20 MHz / Ant. 2

Voltage vs. Frequency Stability

Voltage	Measurement Frequency (MHz)			
(V)	5200 MHz			
	0 Minute	2 Minute	5 Minute	10 Minute
126.50	5199.9771	5199.9763	5199.9758	5199.9748
110.00	5199.9761	5199.9756	5199.9750	5199.9747
93.50	5199.9756	5199.9755	5199.9746	5199.9737
Max. Deviation (MHz)	0.0244	0.0245	0.0254	0.0263
Max. Deviation (ppm)	4.69	4.71	4.88	5.05
Result	Pass			

Temperature vs. Frequency Stability

Temperature	Measurement Frequency (MHz)			
(°C)	5200 MHz			
	0 Minute	2 Minute	5 Minute	10 Minute
-30	5199.9729	5199.9727	5199.9724	5199.9719
-20	5199.9731	5199.9729	5199.9724	5199.9720
-10	5199.9743	5199.9737	5199.9733	5199.9726
0	5199.9746	5199.9745	5199.9739	5199.9734
10	5199.9758	5199.9756	5199.9754	5199.9753
20	5199.9761	5199.9754	5199.9747	5199.9743
30	5199.9782	5199.9778	5199.9773	5199.9763
40	5199.9786	5199.9780	5199.9776	5199.9769
50	5199.9799	5199.9789	5199.9786	5199.9776
Max. Deviation (MHz)	0.0271	0.0273	0.0276	0.0281
Max. Deviation (ppm)	5.21	5.25	5.30	5.40
Result	Pass			

Voltage vs. Frequency Stability

Voltage	Measurement Frequency (MHz)			
(V)	5785 MHz			
	0 Minute	2 Minute	5 Minute	10 Minute
126.50	5784.9768	5784.9759	5784.9750	5784.9747
110.00	5784.9761	5784.9759	5784.9753	5784.9750
93.50	5784.9758	5784.9749	5784.9748	5784.9747
Max. Deviation (MHz)	0.0242	0.0251	0.0252	0.0253
Max. Deviation (ppm)	4.18	4.34	4.35	4.37
Result	Pass			

Temperature vs. Frequency Stability

Temperature	Measurement Frequency (MHz)			
(°C)	5785 MHz			
	0 Minute	2 Minute	5 Minute	10 Minute
-30	5784.9714	5784.9706	5784.9703	5784.9698
-20	5784.9730	5784.9720	5784.9710	5784.9709
-10	5784.9750	5784.9740	5784.9732	5784.9731
0	5784.9751	5784.9746	5784.9742	5784.9734
10	5784.9757	5784.9756	5784.9746	5784.9741
20	5784.9761	5784.9752	5784.9745	5784.9735
30	5784.9782	5784.9777	5784.9774	5784.9772
40	5784.9793	5784.9785	5784.9777	5784.9775
50	5784.9795	5784.9794	5784.9787	5784.9780
Max. Deviation (MHz)	0.0286	0.0294	0.0297	0.0302
Max. Deviation (ppm)	4.94	5.08	5.13	5.22

Mode: 40 MHz / Ant. 2
Voltage vs. Frequency Stability

Voltage	Measurement Frequency (MHz)			
(V)	5190 MHz			
	0 Minute	2 Minute	5 Minute	10 Minute
126.50	5189.9768	5189.9760	5189.9755	5189.9751
110.00	5189.9761	5189.9752	5189.9744	5189.9743
93.50	5189.9754	5189.9752	5189.9747	5189.9737
Max. Deviation (MHz)	0.0246	0.0248	0.0256	0.0263
Max. Deviation (ppm)	4.74	4.77	4.93	5.06
Result	Pass			

Temperature vs. Frequency Stability

Temperature	Measurement Frequency (MHz)			
(°C)	5190 MHz			
	0 Minute	2 Minute	5 Minute	10 Minute
-30	5189.9692	5189.9682	5189.9676	5189.9675
-20	5189.9712	5189.9711	5189.9706	5189.9702
-10	5189.9722	5189.9719	5189.9713	5189.9710
0	5189.9736	5189.9733	5189.9724	5189.9716
10	5189.9753	5189.9751	5189.9745	5189.9739
20	5189.9761	5189.9758	5189.9748	5189.9747
30	5189.9782	5189.9772	5189.9769	5189.9764
40	5189.9786	5189.9782	5189.9774	5189.9767
50	5189.9805	5189.9801	5189.9797	5189.9790
Max. Deviation (MHz)	0.0308	0.0318	0.0324	0.0325
Max. Deviation (ppm)	5.93	6.12	6.24	6.26
Result	Pass			

Voltage vs. Frequency Stability

Voltage	Measurement Frequency (MHz)			
(V)	5755 MHz			
	0 Minute	2 Minute	5 Minute	10 Minute
126.50	5754.9767	5754.9761	5754.9756	5754.9750
110.00	5754.9761	5754.9751	5754.9747	5754.9741
93.50	5754.9760	5754.9757	5754.9756	5754.9755
Max. Deviation (MHz)	0.0240	0.0249	0.0253	0.0259
Max. Deviation (ppm)	4.17	4.32	4.39	4.50
Result	Pass			

Temperature vs. Frequency Stability

Temperature	Measurement Frequency (MHz)			
(°C)	5755 MHz			
	0 Minute	2 Minute	5 Minute	10 Minute
-30	5754.9694	5754.9686	5754.9680	5754.9670
-20	5754.9705	5754.9696	5754.9690	5754.9688
-10	5754.9721	5754.9711	5754.9702	5754.9700
0	5754.9735	5754.9730	5754.9728	5754.9726
10	5754.9747	5754.9744	5754.9742	5754.9732
20	5754.9761	5754.9757	5754.9752	5754.9746
30	5754.9782	5754.9778	5754.9768	5754.9763
40	5754.9788	5754.9784	5754.9775	5754.9768
50	5754.9798	5754.9796	5754.9787	5754.9777
Max. Deviation (MHz)	0.0306	0.0314	0.0320	0.0330
Max. Deviation (ppm)	5.31	5.45	5.56	5.73

Mode: 80 MHz / Ant. 2
Voltage vs. Frequency Stability

Voltage	Measurement Frequency (MHz)			
(V)	5210 MHz			
	0 Minute	2 Minute	5 Minute	10 Minute
126.50	5209.9771	5209.9767	5209.9759	5209.9751
110.00	5209.9761	5209.9753	5209.9749	5209.9741
93.50	5209.9755	5209.9752	5209.9750	5209.9741
Max. Deviation (MHz)	0.0245	0.0248	0.0251	0.0259
Max. Deviation (ppm)	4.70	4.76	4.81	4.97
Result	Pass			

Temperature vs. Frequency Stability

Temperature	Measurement Frequency (MHz)			
(°C)	5210 MHz			
	0 Minute	2 Minute	5 Minute	10 Minute
-30	5209.9712	5209.9704	5209.9696	5209.9690
-20	5209.9714	5209.9710	5209.9708	5209.9702
-10	5209.9726	5209.9719	5209.9716	5209.9711
0	5209.9727	5209.9718	5209.9710	5209.9704
10	5209.9745	5209.9738	5209.9732	5209.9723
20	5209.9761	5209.9755	5209.9748	5209.9744
30	5209.9782	5209.9776	5209.9774	5209.9771
40	5209.9787	5209.9783	5209.9782	5209.9780
50	5209.9794	5209.9786	5209.9781	5209.9772
Max. Deviation (MHz)	0.0288	0.0296	0.0304	0.0310
Max. Deviation (ppm)	5.52	5.68	5.83	5.95
Result	Pass			

Voltage vs. Frequency Stability

Voltage	Measurement Frequency (MHz)			
(V)	5775 MHz			
	0 Minute	2 Minute	5 Minute	10 Minute
126.50	5774.9770	5774.9762	5774.9757	5774.9752
110.00	5774.9761	5774.9757	5774.9753	5774.9752
93.50	5774.9755	5774.9752	5774.9746	5774.9740
Max. Deviation (MHz)	0.0245	0.0248	0.0254	0.0260
Max. Deviation (ppm)	4.24	4.29	4.39	4.50
Result	Pass			

Temperature vs. Frequency Stability

Temperature	Measurement Frequency (MHz)			
(°C)	5775 MHz			
	0 Minute	2 Minute	5 Minute	10 Minute
-30	5774.9707	5774.9703	5774.9696	5774.9691
-20	5774.9710	5774.9704	5774.9696	5774.9693
-10	5774.9721	5774.9715	5774.9714	5774.9706
0	5774.9729	5774.9722	5774.9713	5774.9706
10	5774.9743	5774.9736	5774.9734	5774.9727
20	5774.9761	5774.9758	5774.9748	5774.9740
30	5774.9782	5774.9781	5774.9772	5774.9770
40	5774.9792	5774.9789	5774.9784	5774.9779
50	5774.9794	5774.9787	5774.9782	5774.9775
Max. Deviation (MHz)	0.0293	0.0297	0.0304	0.0309
Max. Deviation (ppm)	5.07	5.14	5.26	5.35

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 with 6dB Attenuator	TESEQ & EMCI	CBL6112D & N-6-06	37880 & AT-N0609	20MHz ~ 2GHz	Aug. 30, 2016	Radiation (03CH01-CB)
Horn Antenna	EMCO	3115	00075790	750MHz ~ 18GHz	Oct. 22, 2015	Radiation (03CH01-CB)
Horn Antenna	EMCO	3115	00075790	750MHz ~ 18GHz	Nov. 10, 2016	Radiation (03CH01-CB)
Horn Antenna	Schwarzbeck	BBHA 9170	BBHA9170252	15GHz ~ 40GHz	Jul. 25, 2016	Radiation (03CH01-CB)
Pre-Amplifier	Agilent	8447D	2944A10991	0.1MHz ~ 1.3GHz	Mar. 15, 2016	Radiation (03CH01-CB)
Pre-Amplifier	Agilent	8449B	3008A02310	1GHz ~ 26.5GHz	Jan. 18, 2016	Radiation (03CH01-CB)
Pre-Amplifier	MITEQ	TTA1840-35-HG	1864479	18GHz ~ 40GHz	Jun. 28, 2016	Radiation (03CH01-CB)
Spectrum Analyzer	Agilent	N9010A	MY52220519	10kHz~44GHz	Jan. 19, 2016	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-low	Woken	Low Cable-1	N/A	30 MHz ~ 1 GHz	Oct. 24, 2016	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-16	N/A	1 GHz ~ 18 GHz	Oct. 24, 2016	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-17	N/A	1 GHz ~ 18 GHz	Oct. 24, 2016	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-1	N/A	18GHz ~ 40 GHz	Oct. 24, 2016	Radiation (03CH01-CB)
RF Cable-high	Woken	High Cable-40G-2	N/A	18GHz ~ 40 GHz	Nov. 02, 2015	Radiation (03CH01-CB)



Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Remark
RF Cable-high	Woken	High Cable-40G-2	N/A	18GHz ~ 40 GHz	Oct. 24, 2016	Radiation (03CH01-CB)
Loop Antenna	Teseq	HLA 6120	24155	9kHz - 30 MHz	Mar. 16, 2016*	Radiation (03CH01-CB)
Test Software	Audix	E3	6.2009-I0-7	N/A	N/A	Radiation (03CH01-CB)
Spectrum Analyzer	R&S	FSV40	101027	9kHz~40GHz	Jul. 26, 2016	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)
RF Cable-high	Woken	RG402	High Cable-6	1 GHz – 26.5 GHz	Oct. 24, 2016	Conducted (TH01-CB)
RF Cable-high	Woken	RG402	High Cable-7	1 GHz – 26.5 GHz	Nov. 02, 2015	Conducted (TH01-CB)
RF Cable-high	Woken	RG402	High Cable-7	1 GHz – 26.5 GHz	Oct. 24, 2016	Conducted (TH01-CB)
RF Cable-high	Woken	RG402	High Cable-8	1 GHz – 26.5 GHz	Nov. 02, 2015	Conducted (TH01-CB)
RF Cable-high	Woken	RG402	High Cable-8	1 GHz – 26.5 GHz	Oct. 24, 2016	Conducted (TH01-CB)
RF Cable-high	Woken	RG402	High Cable-9	1 GHz – 26.5 GHz	Nov. 02, 2015	Conducted (TH01-CB)
RF Cable-high	Woken	RG402	High Cable-9	1 GHz – 26.5 GHz	Oct. 24, 2016	Conducted (TH01-CB)
RF Cable-high	Woken	RG402	High Cable-10	1 GHz – 26.5 GHz	Nov. 02, 2015	Conducted (TH01-CB)
RF Cable-high	Woken	RG402	High Cable-10	1 GHz – 26.5 GHz	Oct. 24, 2016	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.