



FCC Test Report

Equipment : Home Wi-Fi Solution Kit
Brand Name : AirTies
Model No. : Air 4830
FCC ID : Z3WAIR4830
Standard : 47 CFR FCC Part 15.407
Operating Band : 5150 MHz – 5250 MHz
5725 MHz – 5850 MHz
Applicant : AirTies Wireless Networks
Mithat Uluunlu Sokak No. 23 Esentepe, Sisli Istanbul,
34394 Turkey
Manufacturer : AirTies Wireless Networks
Mithat Uluunlu Sokak No. 23 Esentepe, Sisli Istanbul,
34394 Turkey
Function : ☐ Outdoor; ☒ Indoor; ☐ Fixed P2P
☐ Client

The product sample received on May 24, 2016 and completely tested on Aug. 07, 2016. We, SPORTON, would like to declare that the tested sample has been evaluated in accordance with the procedures given in ANSI C63.10-2013 and shown compliance with the applicable technical standards.

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


Sam Chen
SPORTON INTERNATIONAL INC.



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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	BWch (MHz)	Nant
5.2G	11a	20	4
5.8G	11a	20	4
5.2G	HT20	20	4
5.8G	HT20	20	4
5.2G	VHT20	20	4
5.8G	VHT20	20	4
5.2G	HT40	40	4
5.8G	HT40	40	4
5.2G	VHT40	40	4
5.8G	VHT40	40	4
5.2G	VHT80	80	4
5.8G	VHT80	80	4

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.
- ♦ BWch is the nominal channel bandwidth.
- ♦ Nss-Min is the minimum number of spatial streams.
- ♦ Nant is the number of outputs. e.g., 2(2,3) means have 2 outputs for port 2 and port 3. 2 means have 2 outputs for port 1 and port 2.

1.1.2 Antenna Information

Ant.	Brand	Model Name	Antenna Type	Connector	Gain (dBi)	
					2.4GHz	5GHz
1	Airties	Airties#1	Printed Antenna	N/A	3.2	4.2
2	Airties	Airties#1	Printed Antenna	N/A	-	4.2
3	Airties	Airties#1	Printed Antenna	N/A	-	4.2
4	Airties	Airties#1	Printed Antenna	N/A	3.2	4.2

Note: The EUT has four antennas.

<For 2.4GHz Band>

For IEEE 802.11b/g mode<1TX/1RX>:

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

For IEEE 802.11n mode<2TX/2RX>:

Chain 1 and Chain 4 will transmit/receive the same signal simultaneously.

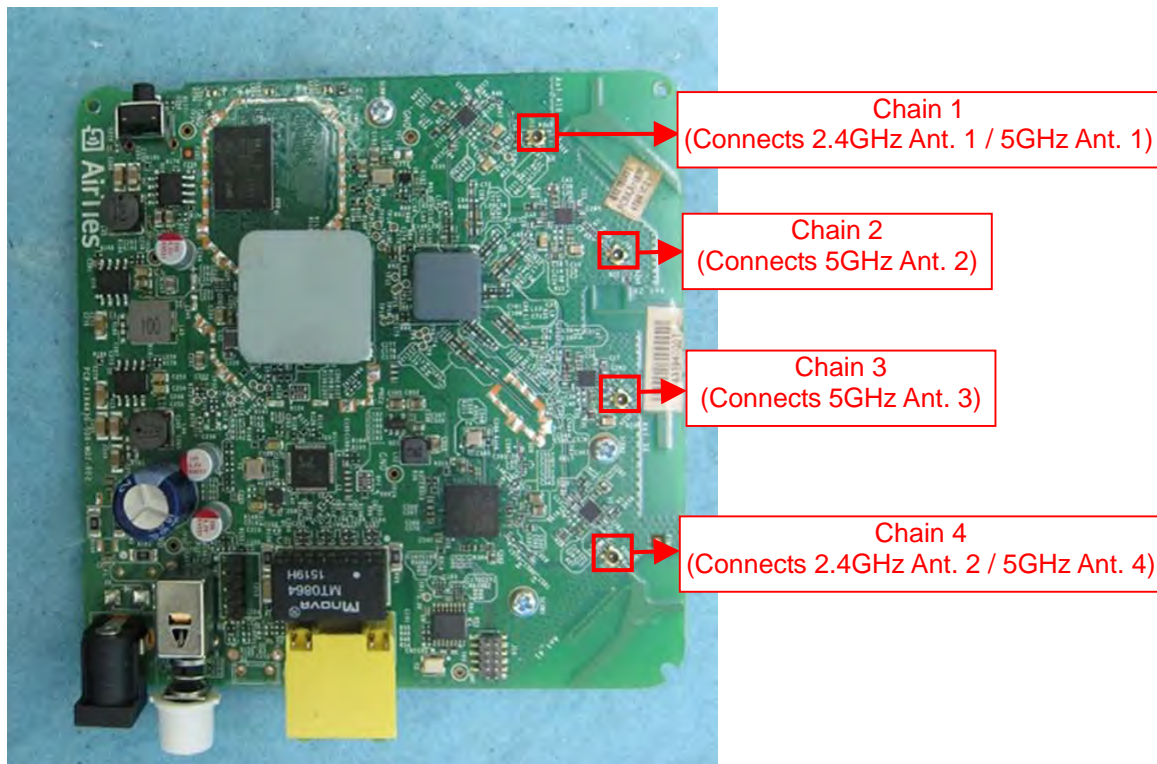
Chain 1 and Chain 4 can be used as transmitting/receiving antennas.

<For 5GHz Band>

For IEEE 802.11a/n/ac mode <4TX/4RX>:

Chain 1, Chain 2, Chain 3 and Chain 4 will transmit/receive the same signal simultaneously.

Chain 1, Chain 2, Chain 3 and Chain 4 can be used as transmitting/receiving antennas.



1.1.3 Mode Test Duty Cycle



Mode	DC	T(s)	VBW(Hz) $\geq 1/T$
11a	0.912	565u	3k
VHT20,BF	0.988	n/a (DC \geq 0.98)	n/a (DC \geq 0.98)
VHT40,BF	0.977	2.421m	1k
VHT80,BF	0.953	1.141m	1k

1.1.4 EUT Operational Condition

EUT Power Type	From Power Adapter		
Beamforming Function	<input checked="" type="checkbox"/>	With beamforming	<input type="checkbox"/> Without beamforming

Note: The product has beamforming function for 802.11n/ac in 5GHz only.

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 v01r02
- ♦ FCC KDB 644545 D03 v01
- ♦ FCC KDB 662911 D01 v02r01

1.3 Testing Location Information

Testing Location				
<input type="checkbox"/>	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
<input checked="" type="checkbox"/>	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	Kenneth Huang	24°C / 60%	Aug. 07, 2016
Radiated	03CH01-CB	Eason Chen/John Tang/ DK Chang/Brian Sun/ Peter Wu	22°C / 54%	Jun. 03, 2016~ Jun. 15, 2016
AC Conduction	CO01-CB	GN Hou	22°C / 59%	Jun. 14, 2016

Test site Designation No. TW0006 with FCC

Test site registered number IC 4086D with Industry Canada.

1.4 Measurement Uncertainty

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

Test Items	Uncertainty	Remark
Conducted Emission (150kHz ~ 30MHz)	3.2 dB	Confidence levels of 95%
Radiated Emission (30MHz ~ 1,000MHz)	3.6 dB	Confidence levels of 95%
Radiated Emission (1GHz ~ 18GHz)	3.7 dB	Confidence levels of 95%
Radiated Emission (18GHz ~ 40GHz)	3.5 dB	Confidence levels of 95%
Conducted Emission	1.7 dB	Confidence levels of 95%

2 Test Configuration of EUT

2.1 Test Channel Mode

Band	Mode	BWch (MHz)	Nss-Min	Nant	Ch. (MHz)	Range	Power Setting
5.2G	11a	20	1	4	5180	L	18
5.2G	11a	20	1	4	5200	M	23
5.2G	11a	20	1	4	5240	H	23
5.8G	11a	20	1	4	5745	L	19
5.8G	11a	20	1	4	5785	M	20
5.8G	11a	20	1	4	5825	H	20
5.2G	VHT20,BF	20	1,(M0)	4	5180	L	23
5.2G	VHT20,BF	20	1,(M0)	4	5200	M	23
5.2G	VHT20,BF	20	1,(M0)	4	5240	H	23
5.8G	VHT20,BF	20	1,(M0)	4	5745	L	18
5.8G	VHT20,BF	20	1,(M0)	4	5785	M	18
5.8G	VHT20,BF	20	1,(M0)	4	5825	H	18
5.2G	VHT40,BF	40	1,(M0)	4	5190	L	15
5.2G	VHT40,BF	40	1,(M0)	4	5230	H	23
5.8G	VHT40,BF	40	1,(M0)	4	5755	L	18
5.8G	VHT40,BF	40	1,(M0)	4	5795	H	18
5.2G	VHT80,BF	80	1,(M0)	4	5210	S	14
5.8G	VHT80,BF	80	1,(M0)	4	5775	S	18

2.2 The Worst Case Measurement Configuration

The Worst Case Mode for Following Conformance Tests	
Tests Item	AC power-line conducted emissions
Condition	AC power-line conducted measurement for line and neutral
Operating Mode	Normal Link

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

The Worst Case Mode for Following Conformance Tests	
Tests Item	Unwanted Emissions
Test Condition	Radiated measurement If EUT consist of multiple antenna assembly (multiple antenna are used in EUT regardless of spatial multiplexing MIMO configuration), the radiated test should be performed with highest antenna gain of each antenna type.
Operating Mode < 1GHz	Normal Link
Operating Mode > 1GHz	CTX

The Worst Case Mode for Following Conformance Tests	
Tests Item	Simultaneous Transmission Analysis
Test Condition	Radiated measurement
Operating Mode	Normal Link
1	2.4GHz+5GHz
Refer to Sporton Test Report No.: FA652202 for Co-location RF Exposure Evaluation and Appendix G for Radiated Emission Co-location.	

Note 1: The EUT can be used at Y-axis only.

Note 2: There are two modes of EUT, one is beamforming mode and the other is non-beamforming mode for 802.11n/ac. The beamforming mode cover non-beamforming mode.

Note 3: VHT20/VHT40 covers HT20/HT40, due to same modulation. The power setting for 802.11n HT20 and HT40 are the same or lower than 802.11ac VHT20 and VHT40.



EUT Operation during Test

For Non-Beamforming Mode

The EUT was programmed to be in continuously transmitting mode.

For Beamforming Mode

For Conducted Mode:

The EUT was programmed to be in continuously transmitting mode.

For Radiated Mode:

During the test, the following programs under WIN XP were executed.

The program was executed as follows:

1. During the test, the EUT operation to normal function.
2. Executed command fixed test channel under Telnet.
3. Executed "Lantest.exe " to link with the remote workstation to receive and transmit packet by RX Device and transmit duty cycle no less 98%

2.3 Accessories

Accessories				
No.	Equipment Name	Brand Name	Model Name	Rating
1	Adapter	MOSO	MSA-C1000IC12.0-12W-US	Input: 100-240V~50/60Hz, 0.5A max Output: 12.0V, 1A

2.4 Support Equipment

For Test Site No: CO01-CB

Support Equipment				
No.	Equipment	Brand Name	Model Name	FCC ID
1	NB	DELL	E6430	DoC
2	NB	DELL	E6430	DoC
3	NB	DELL	E6430	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	NB	DELL	E4300	DoC
3	NB	DELL	E4300	DoC

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

For Non-Beamforming Mode

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

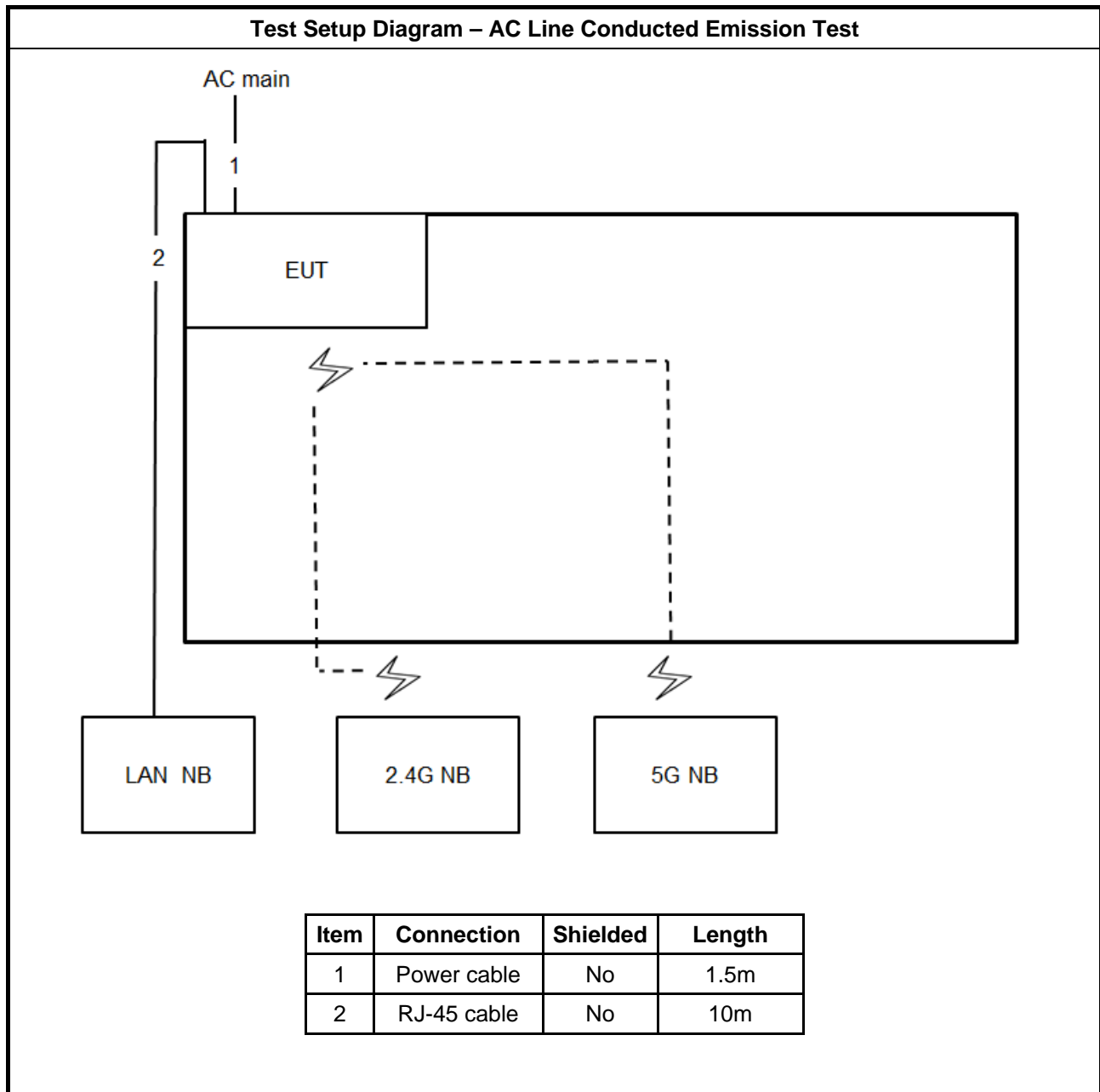
For Beamforming Mode

Support Equipment				
No.	Equipment	Brand Name	Model Name	FCC ID
1	NB	DELL	E4300	DoC
2	Rx Device	AirTies	Air 4830	Z3WAIR4830

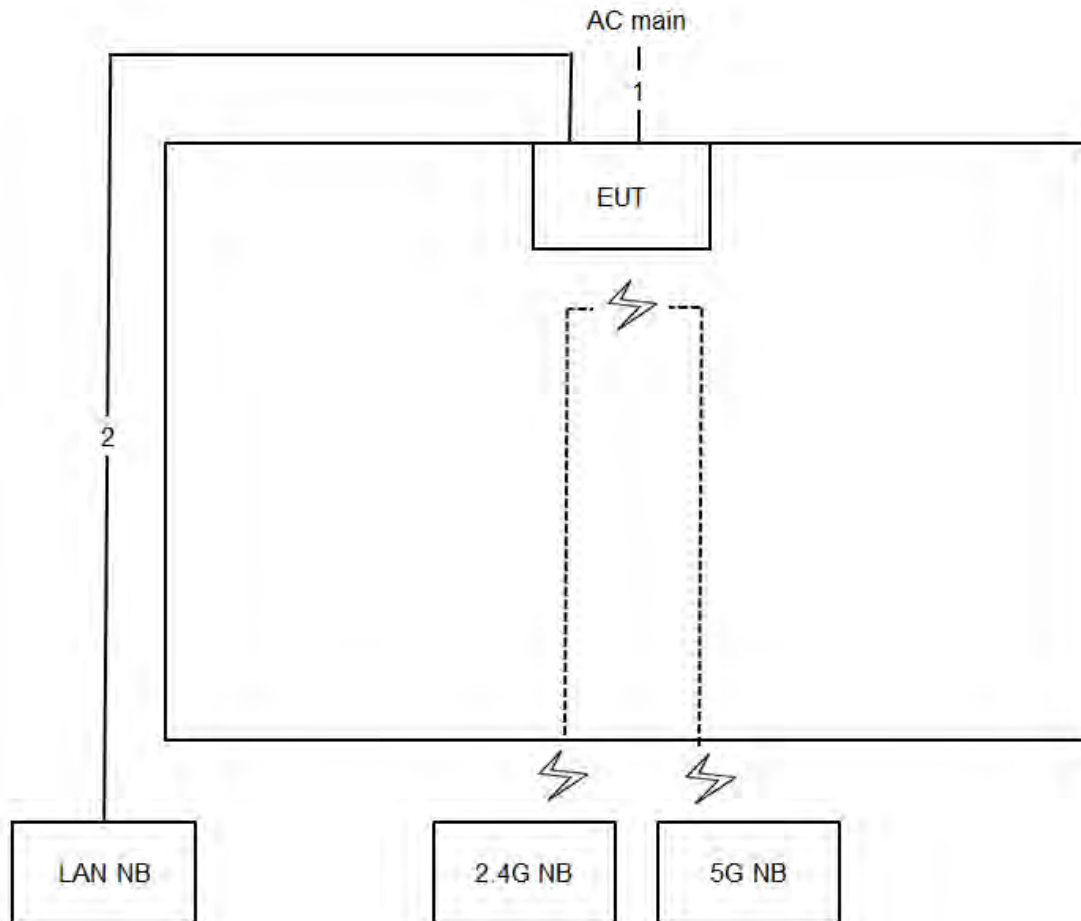
For Test Site No: TH01-CB

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

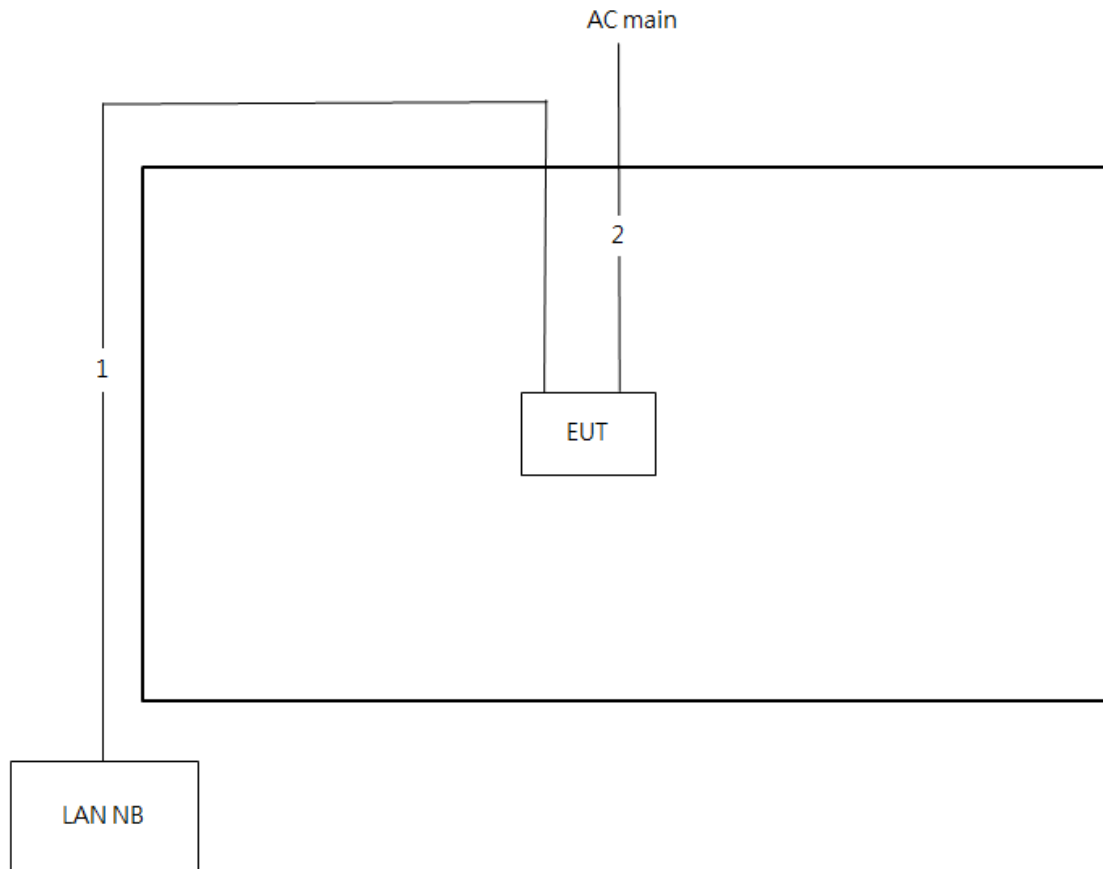
2.5 Test Setup Diagram



Test Setup Diagram - Radiated Test < 1GHz



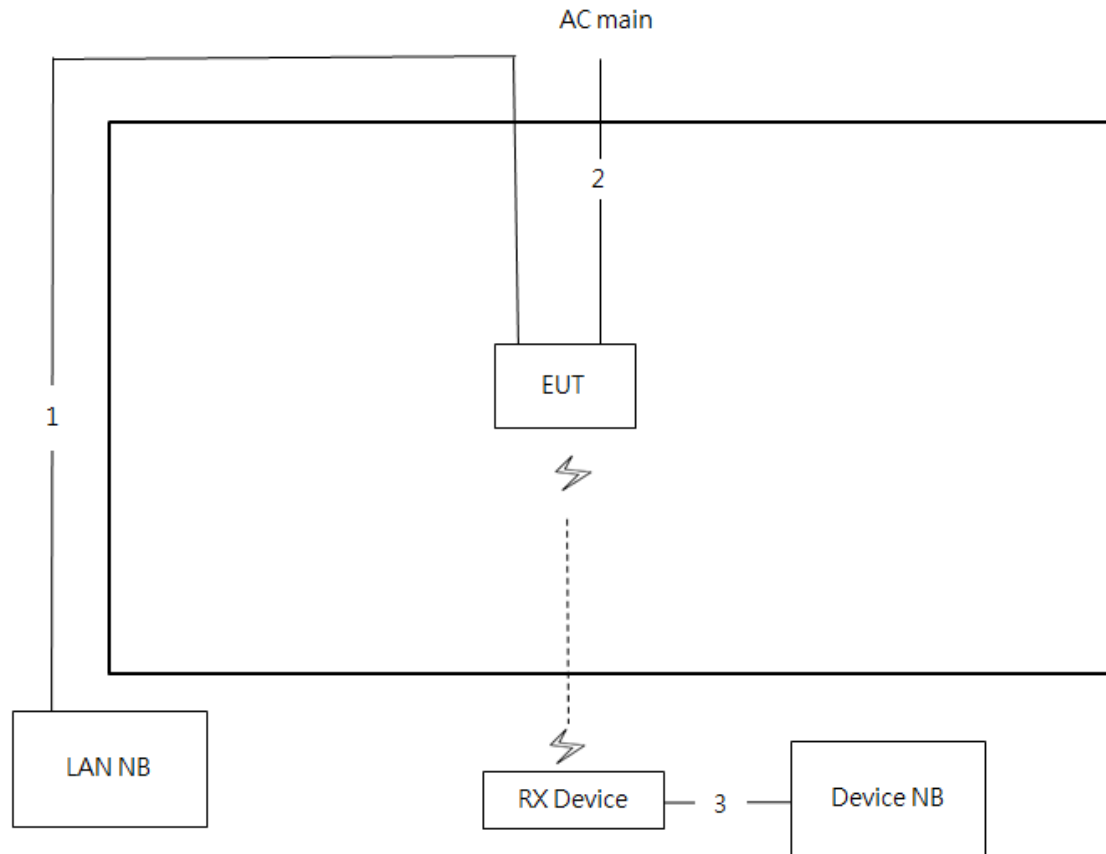
Item	Connection	Shielded	Length
1	Power cable	No	1.5m
2	RJ-45 cable	No	10m

For Non-Beamforming Mode
Test Setup Diagram - Radiated Test > 1GHz


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

For Beamforming Mode

Test Setup Diagram - Radiated Test > 1GHz



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

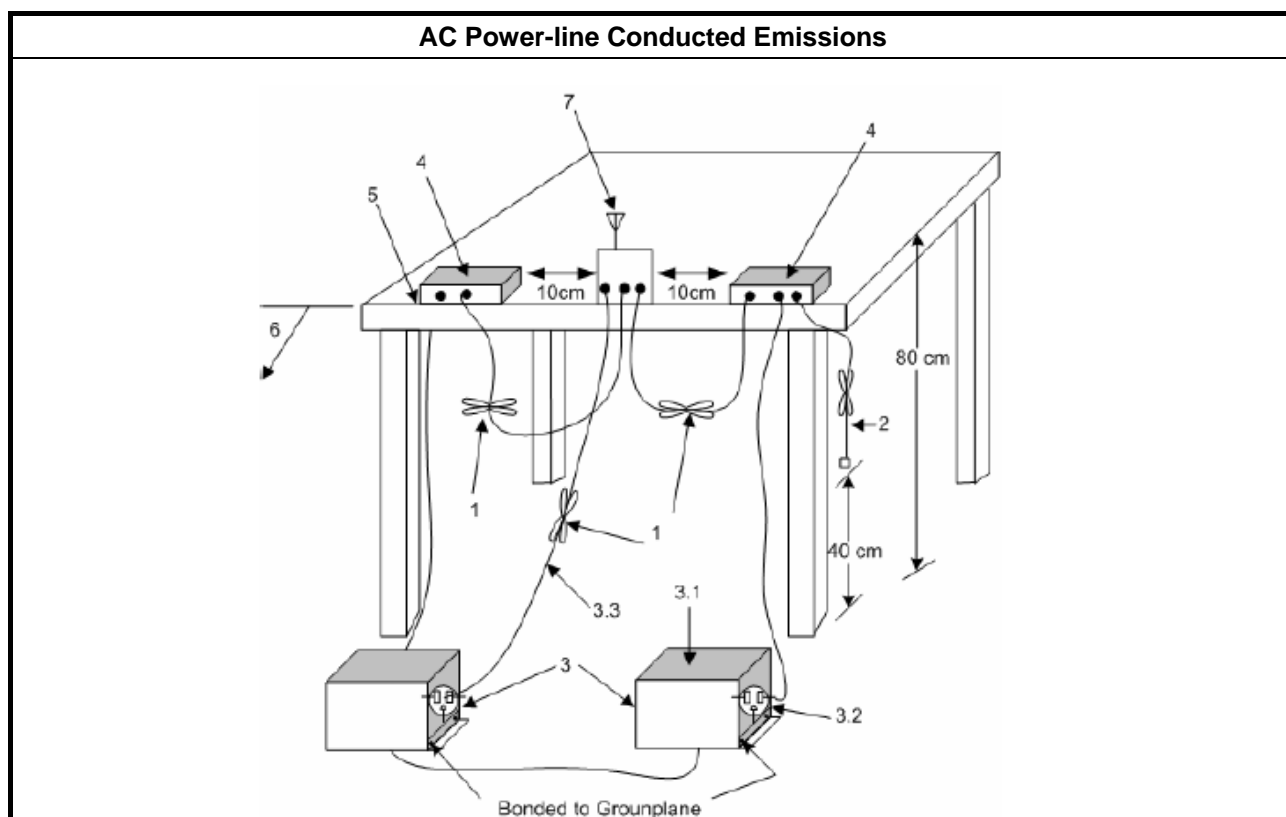
3.1.2 Measuring Instruments

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

3.1.3 Test Procedures

Test Method
<input checked="" type="checkbox"/> Refer as ANSI C63.10-2013, clause 6.2 for AC power-line conducted emissions.

3.1.4 Test Setup





3.1.5 Test Result of AC Power-line Conducted Emissions

Refer as Appendix A

3.2 Emission Bandwidth

3.2.1 Emission Bandwidth Limit

Emission Bandwidth Limit	
UNII Devices	
<input checked="" type="checkbox"/>	For the 5.15-5.25 GHz band, N/A
<input type="checkbox"/>	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.
<input type="checkbox"/>	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.
<input checked="" type="checkbox"/>	For the 5.725-5.85 GHz band, 6 dB emission bandwidth \geq 500kHz.
LE-LAN Devices	
<input type="checkbox"/>	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.
<input type="checkbox"/>	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
<input type="checkbox"/>	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
<input type="checkbox"/>	For the 5.725-5.85 GHz band, 6 dB emission bandwidth \geq 500kHz.

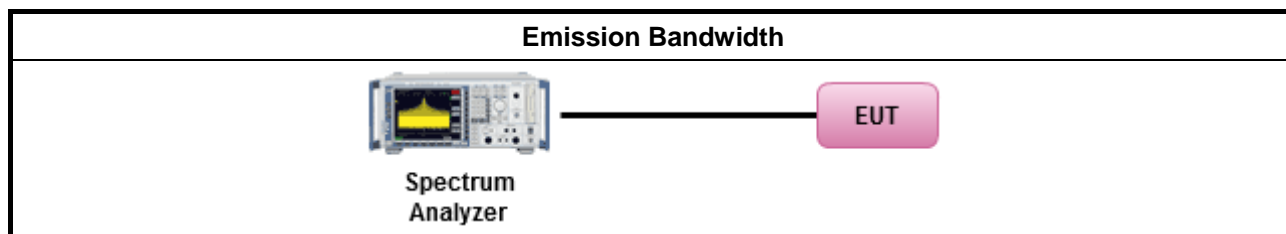
3.2.2 Measuring Instruments

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

3.2.3 Test Procedures

Test Method	
<ul style="list-style-type: none"> For the emission bandwidth shall be measured using one of the options below: 	
<input checked="" type="checkbox"/>	Refer as FCC KDB 789033 D02 v01r02, clause C for EBW and clause D for OBW measurement.
<input type="checkbox"/>	Refer as ANSI C63.10, clause 6.9.1 for occupied bandwidth testing.
<input checked="" type="checkbox"/>	Refer as IC RSS-Gen, clause 4.6 for bandwidth testing.

3.2.4 Test Setup



3.2.5 Test Result of Emission Bandwidth

Refer as Appendix B

3.3 Maximum Conducted Output Power

3.3.1 Maximum Conducted Output Power Limit

Maximum Conducted Output Power Limit	
UNII Devices	
<input checked="" type="checkbox"/> For the 5.15-5.25 GHz band:	
<input type="checkbox"/>	<ul style="list-style-type: none"> Outdoor AP: the maximum conducted output power (P_{Out}) shall not exceed the lesser of 1 W. If $G_{TX} > 6$ 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 $P_{Out} = 24 - (G_{TX} - 6)$.
<input type="checkbox"/>	For the 5.25-5.35 GHz band, the maximum conducted output power (P_{Out}) shall not exceed the lesser of 250 mW or 11 dBm + 10 log B, where B is the 26 dB emission bandwidth in MHz. If $G_{TX} > 6$ dBi, then $P_{Out} = 24 - (G_{TX} - 6)$.
<input type="checkbox"/>	For the 5.47-5.725 GHz band, the maximum conducted output power (P_{Out}) shall not exceed the lesser of 250 mW or 11 dBm + 10 log B, where B is the 26 dB emission bandwidth in MHz. If $G_{TX} > 6$ dBi, then $P_{Out} = 24 - (G_{TX} - 6)$.
<input checked="" type="checkbox"/> For the 5.725-5.85 GHz band:	
<input type="checkbox"/>	<ul style="list-style-type: none"> Point-to-multipoint systems (P2M): the maximum conducted output power (P_{Out}) shall not exceed the lesser of 1 W. If $G_{TX} > 6$ 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	
<input type="checkbox"/>	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.
<input type="checkbox"/>	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
<input type="checkbox"/>	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
<input type="checkbox"/> For the 5.725-5.85 GHz band:	
<input type="checkbox"/>	<ul style="list-style-type: none"> Point-to-multipoint systems (P2M): the maximum conducted output power (P_{Out}) shall not exceed the lesser of 1 W. If $G_{TX} > 6$ 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.	

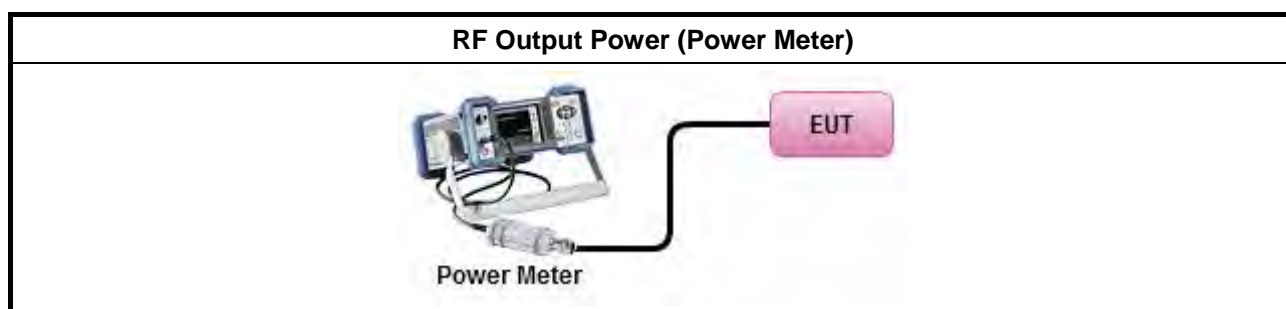
3.3.2 Measuring Instruments

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

3.3.3 Test Procedures

Test Method	
<ul style="list-style-type: none"> Maximum Conducted Output Power 	
	[duty cycle \geq 98% or external video / power trigger]
<input type="checkbox"/>	Refer as FCC KDB 789033 D02 v01r02, clause E Method SA-1 (spectral trace averaging).
<input type="checkbox"/>	Refer as FCC KDB 789033 D02 v01r02, clause E Method SA-1 Alt. (RMS detection with slow sweep speed)
	duty cycle < 98% and average over on/off periods with duty factor
<input type="checkbox"/>	Refer as FCC KDB 789033 D02 v01r02, clause E Method SA-2 (spectral trace averaging).
<input type="checkbox"/>	Refer as FCC KDB 789033 D02 v01r02, clause E Method SA-2 Alt. (RMS detection with slow sweep speed)
	Wideband RF power meter and average over on/off periods with duty factor
<input checked="" type="checkbox"/>	Refer as FCC KDB 789033 D02 v01r02, clause E Method PM-G (using an RF average power meter).
<ul style="list-style-type: none"> For conducted measurement. 	
<ul style="list-style-type: none"> If the EUT supports multiple transmit chains using options given below: 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. 	
<ul style="list-style-type: none"> 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

Refer as Appendix C

3.4 Peak Power Spectral Density

3.4.1 Peak Power Spectral Density Limit

Peak Power Spectral Density Limit	
UNII Devices	
<input checked="" type="checkbox"/> For the 5.15-5.25 GHz band:	
	<ul style="list-style-type: none"> Outdoor AP: the peak power spectral density (PPSD) shall not exceed the lesser of 17dBm/MHz. If $G_{TX} > 6$ dBi, then $P_{Out} = 17 - (G_{TX} - 6)$. Indoor AP: the peak power spectral density (PPSD) shall not exceed the lesser of 17dBm/MHz. If $G_{TX} > 6$ dBi, then $P_{Out} = 17 - (G_{TX} - 6)$. Point-to-point AP: the peak power spectral density (PPSD) shall not exceed the lesser of 17dBm/MHz. If $G_{TX} > 23$ dBi, then $P_{Out} = 17 - (G_{TX} - 23)$. Mobile or Portable Client: the peak power spectral density (PPSD) ≤ 11 dBm/MHz. If $G_{TX} > 6$ dBi, then $PPSD = 11 - (G_{TX} - 6)$.
<input type="checkbox"/> For the 5.25-5.35 GHz band, the peak power spectral density (PPSD) ≤ 11 dBm/MHz. If $G_{TX} > 6$ dBi, then $PPSD = 11 - (G_{TX} - 6)$.	
<input type="checkbox"/> For the 5.47-5.725 GHz band, the peak power spectral density (PPSD) ≤ 11 dBm/MHz. If $G_{TX} > 6$ dBi, then $PPSD = 11 - (G_{TX} - 6)$.	
<input checked="" type="checkbox"/> For the 5.725-5.85 GHz band:	
	<ul style="list-style-type: none"> Point-to-multipoint systems (P2M): the peak power spectral density (PPSD) ≤ 30 dBm/500kHz. If $G_{TX} > 6$ dBi, then $PPSD = 30 - (G_{TX} - 6)$. Point-to-point systems (P2P): the peak power spectral density (PPSD) ≤ 30 dBm/500kHz.
LE-LAN Devices	
<input type="checkbox"/> 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.	
<input type="checkbox"/> 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.	
	<ul style="list-style-type: none"> e.i.r.p. greater than 200 mW shall comply with the following e.i.r.p. at different elevations, where θ is the angle above the local horizontal plane (of the Earth) as shown below: -13 dBW/MHz for $0^\circ \leq \theta < 8^\circ$; -13 - 0.716 (θ-8) dBW/MHz for $8^\circ \leq \theta < 40^\circ$ -35.9 - 1.22 (θ-40) dBW/MHz for $40^\circ \leq \theta \leq 45^\circ$; -42 dBW/MHz for $\theta > 45^\circ$
<input type="checkbox"/> 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.	
<input type="checkbox"/> For the 5.725-5.85 GHz band:	
	<ul style="list-style-type: none"> Point-to-multipoint systems (P2M): the peak power spectral density (PPSD) ≤ 30 dBm/500kHz. If $G_{TX} > 6$ dBi, then $PPSD = 30 - (G_{TX} - 6)$. Point-to-point systems (P2P): the peak power spectral density (PPSD) ≤ 30 dBm/500kHz.
PPSD = peak power spectral density that he same method as used to determine the conducted output power shall be used to determine the power spectral density. And power spectral density in dBm/MHz G_{TX} = the maximum transmitting antenna directional gain in dBi.	

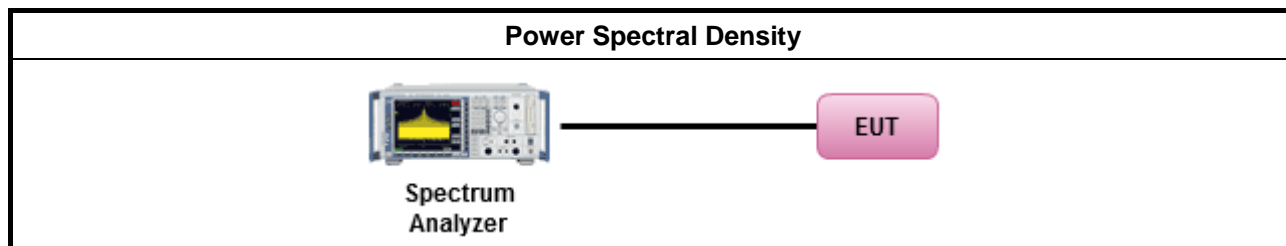
3.4.2 Measuring Instruments

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

3.4.3 Test Procedures

Test Method	
<ul style="list-style-type: none"> Peak power spectral density procedures that the same method as used to determine the conducted output power shall be used to determine the peak power spectral density and use the peak search function on the spectrum analyzer to find the peak of the spectrum. For the peak power spectral density shall be measured using below options: 	
<input type="checkbox"/> Refer as FCC KDB 789033 D02 v01r02, 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]	
<input checked="" type="checkbox"/> Refer as FCC KDB 789033 D02 v01r02, clause E Method SA-1 (spectral trace averaging).	
<input type="checkbox"/> Refer as FCC KDB 789033 D02 v01r02, clause E Method SA-1 Alt. (RMS detection with slow sweep speed)	
duty cycle < 98% and average over on/off periods with duty factor	
<input checked="" type="checkbox"/> Refer as FCC KDB 789033 D02 v01r02, clause E Method SA-2 (spectral trace averaging).	
<input type="checkbox"/> Refer as FCC KDB 789033 D02 v01r02, clause E Method SA-2 Alt. (RMS detection with slow sweep speed)	
<ul style="list-style-type: none"> For conducted measurement. 	
<ul style="list-style-type: none"> If the EUT supports multiple transmit chains using options given below: 	
<input checked="" type="checkbox"/> 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.	
<input type="checkbox"/> 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,	
<input type="checkbox"/> 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.	
<ul style="list-style-type: none"> If multiple transmit chains, EIRP PPSD calculation could be following as methods: $PPSD_{total} = PPSD_1 + PPSD_2 + \dots + PPSD_n$ (calculated in linear unit [mW] and transfer to log unit [dBm]) $EIRP_{total} = PPSD_{total} + DG$ 	

3.4.4 Test Setup



3.4.5 Test Result of Peak Power Spectral Density

Refer as Appendix D

3.5 Unwanted Emissions

3.5.1 Transmitter Radiated Unwanted Emissions Limit

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

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

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

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).

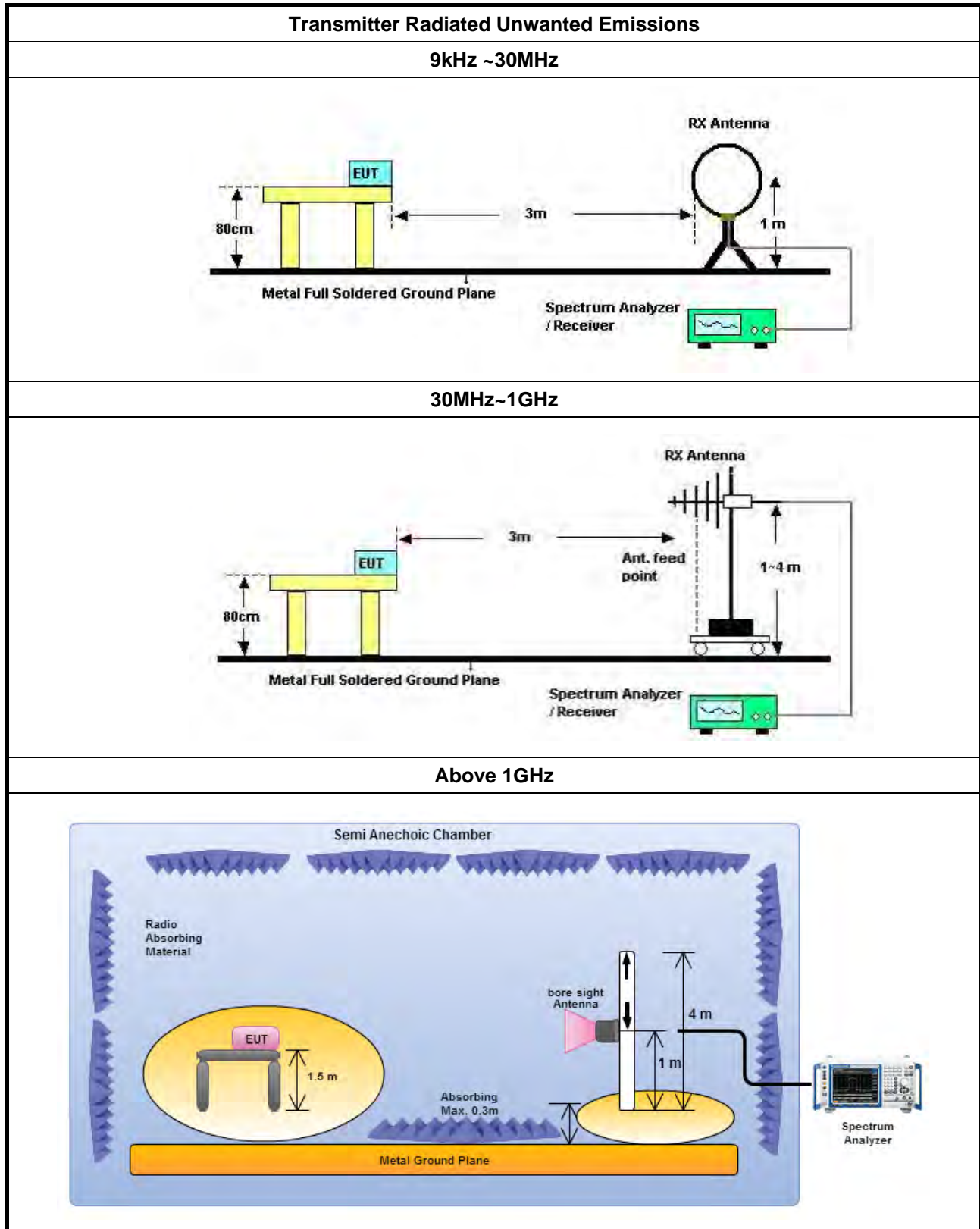
3.5.2 Measuring Instruments

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

3.5.3 Test Procedures

Test Method	
<ul style="list-style-type: none"> Measurements may be performed at a distance other than the limit distance provided they are not performed in the near field and the emissions to be measured can be detected by the measurement equipment. Measurements shall not be performed at a distance greater than 30 m for frequencies above 30 MHz, unless it can be further demonstrated that measurements at a distance of 30 m or less are impractical. When performing measurements at a distance other than that specified, the results shall be extrapolated to the specified distance using an extrapolation factor of 20 dB/decade (inverse of linear distance for field-strength measurements, inverse of linear distance-squared for power-density measurements). 	
<ul style="list-style-type: none"> The average emission levels shall be measured in [duty cycle \geq 98 or duty factor]. 	
<ul style="list-style-type: none"> For the transmitter unwanted emissions shall be measured using following options below: 	
	<ul style="list-style-type: none"> Refer as FCC KDB 789033 D02 v01r02, clause H)2) for unwanted emissions into non-restricted bands.
	<ul style="list-style-type: none"> Refer as FCC KDB 789033 D02 v01r02, clause H)1) for unwanted emissions into restricted bands.
	<input type="checkbox"/> Refer as FCC KDB 789033 D02 v01r02, H)6) Method AD (Trace Averaging).
	<input checked="" type="checkbox"/> Refer as FCC KDB 789033 D02 v01r02, H)6) Method VB (Reduced VBW).
	<input type="checkbox"/> Refer as ANSI C63.10, clause 4.2.3.2.3 (Reduced VBW). VBW \geq 1/T, where T is pulse time.
	<input type="checkbox"/> Refer as ANSI C63.10, clause 4.2.3.2.4 average value of pulsed emissions.
	<input checked="" type="checkbox"/> Refer as FCC KDB 789033 D02 v01r02, clause H)5) measurement procedure peak limit.
<input type="checkbox"/> Refer as ANSI C63.10, clause 4.2.3.2.2 measurement procedure peak limit.	
<ul style="list-style-type: none"> For radiated measurement. 	
	<ul style="list-style-type: none"> Refer as ANSI C63.10, clause 6.4 for radiated emissions below 30 MHz and test distance is 3m.
	<ul style="list-style-type: none"> Refer as ANSI C63.10, clause 6.5 for radiated emissions 30 MHz to 1 GHz and test distance is 3m.
	<ul style="list-style-type: none"> Refer as ANSI C63.10, clause 6.6 for radiated emissions above 1GHz.
<ul style="list-style-type: none"> The any unwanted emissions level shall not exceed the fundamental emission level. 	
<ul style="list-style-type: none"> All amplitude of spurious emissions that are attenuated by more than 20 dB below the permissible value has no need to be reported. 	

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

Refer as Appendix E

3.6 Frequency Stability

3.6.1 Frequency Stability Limit

Frequency Stability Limit
UNII Devices
<ul style="list-style-type: none"> 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
<ul style="list-style-type: none"> N/A
IEEE Std. 802.11
<ul style="list-style-type: none"> 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.

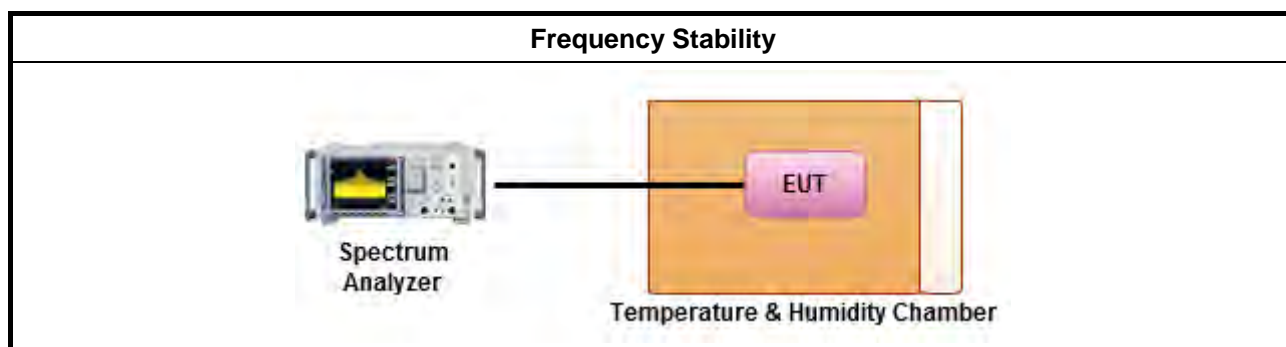
3.6.2 Measuring Instruments

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

3.6.3 Test Procedures

Test Method
<ul style="list-style-type: none"> Refer as ANSI C63.10, clause 6.8 for frequency stability tests
<ul style="list-style-type: none"> Frequency stability with respect to ambient temperature Frequency stability when varying supply voltage Extreme temperature is 0°C~40°C.

3.6.4 Test Setup



3.6.5 Test Result of Frequency Stability

Refer as Appendix F



4 Test Equipment and Calibration Data

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Remark
EMI Receiver	Agilent	N9038A	My52260123	9kHz ~ 8.45GHz	Jan. 27, 2016	Conduction (CO01-CB)
LISN	F.C.C.	FCC-LISN-50-16-2	04083	150kHz ~ 100MHz	Dec. 08, 2015	Conduction (CO01-CB)
LISN	Schwarzbeck	NSLK 8127	8127647	9kHz ~ 30MHz	Dec. 23, 2015	Conduction (CO01-CB)
COND Cable	Woken	Cable	01	150kHz ~ 30MHz	May 24, 2016	Conduction (CO01-CB)
Software	Audix	E3	6.120210n	-	N.C.R.	Conduction (CO01-CB)
Loop Antenna	Teseq	HLA 6120	24155	9kHz - 30 MHz	Mar. 16, 2016*	Radiation (03CH01-CB)
BILOG ANTENNA	TESEQ	CBL6112D	37880	20MHz ~ 2GHz	Sep. 03, 2015	Radiation (03CH01-CB)
Horn Antenna	EMCO	3115	00075790	750MHz ~ 18GHz	Oct. 22, 2015	Radiation (03CH01-CB)
Horn Antenna	Schwarzbeck	BBHA 9170	BBHA9170252	15GHz ~ 40GHz	Jul. 21, 2015	Radiation (03CH01-CB)
Pre-Amplifier	Agilent	8447D	2944A10991	0.1MHz ~ 1.3GHz	Mar. 15, 2016	Radiation (03CH01-CB)
Pre-Amplifier	Agilent	8449B	3008A02310	1GHz ~ 26.5GHz	Jan. 18, 2016	Radiation (03CH01-CB)
Pre-Amplifier	WM	TF-130N-R1	923365	26GHz ~ 40GHz	Nov. 13, 2015	Radiation (03CH01-CB)
Spectrum Analyzer	R&S	FSP40	100056	9kHz ~ 40GHz	Oct. 27, 2015	Radiation (03CH01-CB)
EMI Test	R&S	ESCS	100355	9kHz ~ 2.75GHz	May 16, 2016	Radiation (03CH01-CB)
RF Cable-low	Woken	Low Cable-1	N/A	30 MHz ~ 1 GHz	Nov. 02, 2015	Radiation (03CH01-CB)
RF Cable-high	Woken	High Cable-16	N/A	1 GHz ~ 18 GHz	Nov. 02, 2015	Radiation (03CH01-CB)
RF Cable-high	Woken	High Cable-17	N/A	1 GHz ~ 18 GHz	Nov. 02, 2015	Radiation (03CH01-CB)
RF Cable-high	Woken	High Cable-40G-1	N/A	18GHz ~ 40 GHz	Nov. 02, 2015	Radiation (03CH01-CB)
RF Cable-high	Woken	High Cable-40G-2	N/A	18GHz ~ 40 GHz	Nov. 02, 2015	Radiation (03CH01-CB)
Test Software	Audix	E3	6.2009-I0-7	N/A	N/A	Radiation (03CH01-CB)



FCC Test Report

Report No. : FR652202AB

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Remark
Spectrum analyzer	R&S	FSV40	100979	9kHz~40GHz	Dec. 09, 2015	Conducted (TH01-CB)
Temp. and Humidity Chamber	Ten Billion	TTH-D3SP	TBN-931011	-30~100 degree	Jun. 03, 2016	Conducted (TH01-CB)
RF Cable-high	Woken	RG402	High Cable-6	1 GHz – 26.5 GHz	Nov. 02, 2015	Conducted (TH01-CB)
RF Cable-high	Woken	RG402	High Cable-7	1 GHz – 26.5 GHz	Nov. 02, 2015	Conducted (TH01-CB)
RF Cable-high	Woken	RG402	High Cable-8	1 GHz – 26.5 GHz	Nov. 02, 2015	Conducted (TH01-CB)
RF Cable-high	Woken	RG402	High Cable-9	1 GHz – 26.5 GHz	Nov. 02, 2015	Conducted (TH01-CB)
RF Cable-high	Woken	RG402	High Cable-10	1 GHz – 26.5 GHz	Nov. 02, 2015	Conducted (TH01-CB)
Power Sensor	Agilent	U2021XA	MY53410001	50MHz~18GHz	Nov. 02, 2015	Conducted (TH01-CB)

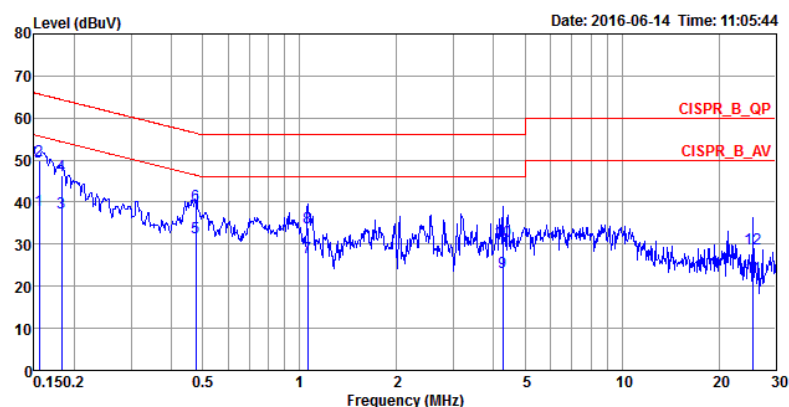
Note: Calibration Interval of instruments listed above is one year.

“*” Calibration Interval of instruments listed above is two years.

N.C.R means Non-Calibration required.

AC Power-line Conducted Emissions Result

Operating Mode	1	Power Phase	Neutral
Operating Function	Normal Link		

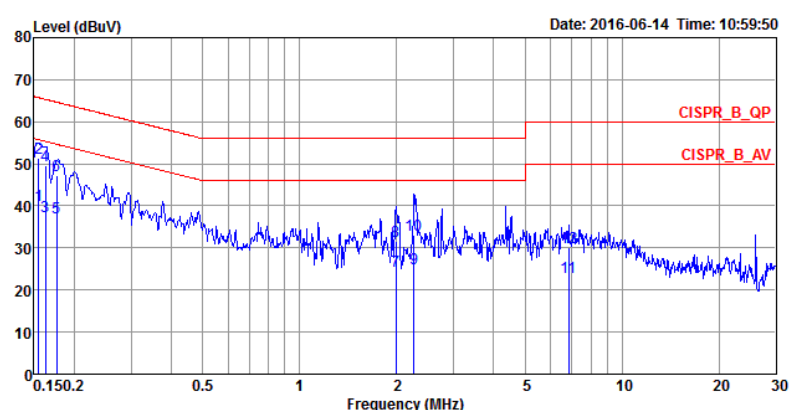


	Freq	Level	Over	Limit	Read	LISN	Cable	Pol/Phase	Remark
	MHz	dBuV	Limit	Line	Level	Factor	Loss		
			dB	dBuV	dBuV	dB	dB		
1	0.1558	38.18	-17.51	55.69	27.99	10.02	0.17	NEUTRAL	Average
2	0.1558	49.81	-15.88	65.69	39.62	10.02	0.17	NEUTRAL	QP
3	0.1825	37.36	-17.01	54.37	27.26	9.92	0.18	NEUTRAL	Average
4	0.1825	46.31	-18.06	64.37	36.21	9.92	0.18	NEUTRAL	QP
5	0.4766	31.73	-14.67	46.40	21.66	9.92	0.15	NEUTRAL	Average
6	0.4766	39.30	-17.10	56.40	29.23	9.92	0.15	NEUTRAL	QP
7	1.0597	26.86	-19.14	46.00	16.24	9.94	0.68	NEUTRAL	Average
8	1.0597	33.98	-22.02	56.00	23.36	9.94	0.68	NEUTRAL	QP
9	4.2692	23.38	-22.62	46.00	13.29	10.00	0.09	NEUTRAL	Average
10	4.2692	30.85	-25.15	56.00	20.76	10.00	0.09	NEUTRAL	QP
11	25.5912	22.15	-27.85	50.00	11.42	10.46	0.27	NEUTRAL	Average
12	25.5912	28.92	-31.08	60.00	18.19	10.46	0.27	NEUTRAL	QP

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

AC Power-line Conducted Emissions Result

Operating Mode	1	Power Phase	Line
Operating Function	Normal Link		



	Freq	Level	Over	Limit	Read	LISN	Cable	Pol/Phase	Remark
	MHz	dBuV	Limit	Line	Level	Factor	Loss		
			dB	dBuV	dBuV	dB	dB		
1	0.1548	40.19	-15.55	55.74	30.01	10.02	0.16	LINE	Average
2	0.1548	51.44	-14.30	65.74	41.26	10.02	0.16	LINE	QP
3	0.1624	37.42	-17.92	55.34	27.23	10.02	0.17	LINE	Average
4	0.1624	49.55	-15.79	65.34	39.36	10.02	0.17	LINE	QP
5	0.1759	37.20	-17.48	54.68	27.10	9.92	0.18	LINE	Average
6	0.1759	47.13	-17.55	64.68	37.03	9.92	0.18	LINE	QP
7	1.9906	24.41	-21.59	46.00	14.39	9.96	0.06	LINE	Average
8	1.9906	31.45	-24.55	56.00	21.43	9.96	0.06	LINE	QP
9	2.2606	25.18	-20.82	46.00	15.15	9.96	0.07	LINE	Average
10	2.2606	32.98	-23.02	56.00	22.95	9.96	0.07	LINE	QP
11	6.8412	23.10	-26.90	50.00	12.90	10.07	0.13	LINE	Average
12	6.8412	30.24	-29.76	60.00	20.04	10.07	0.13	LINE	QP

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



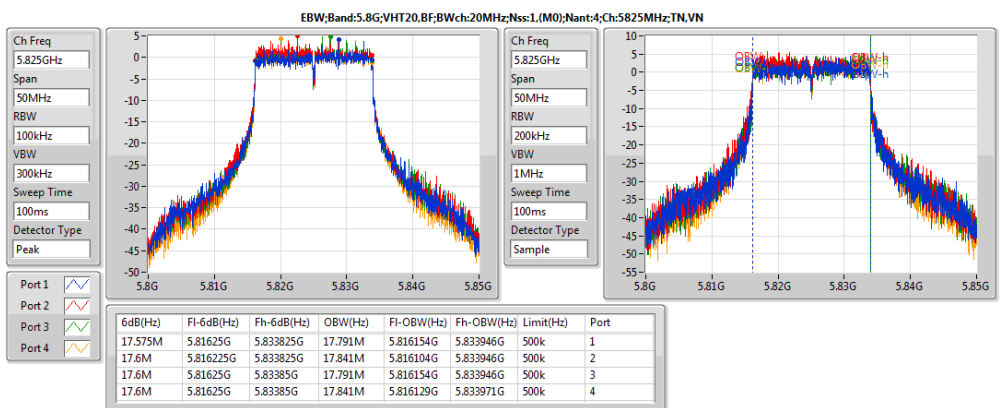
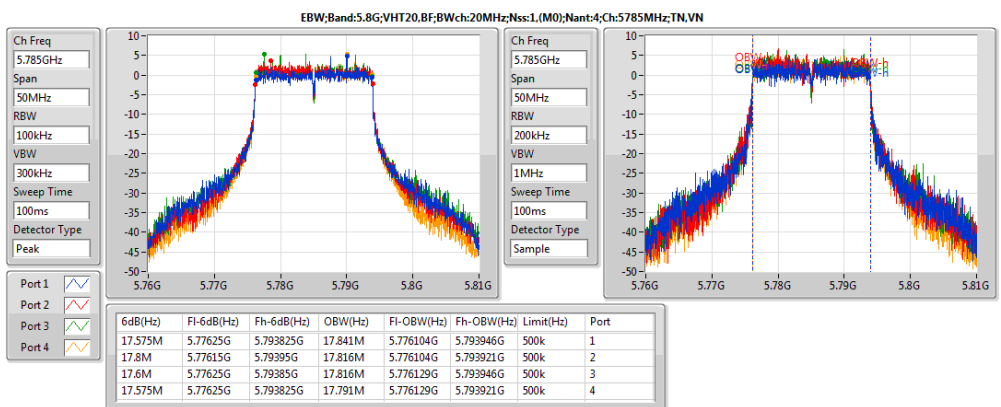
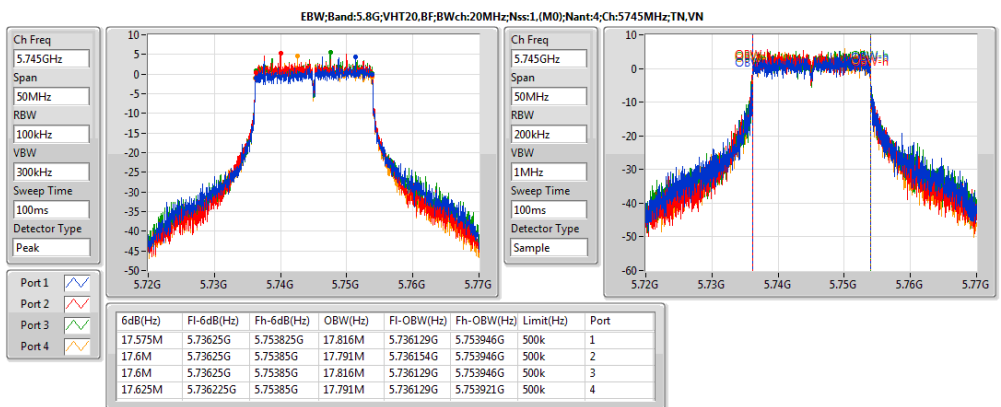
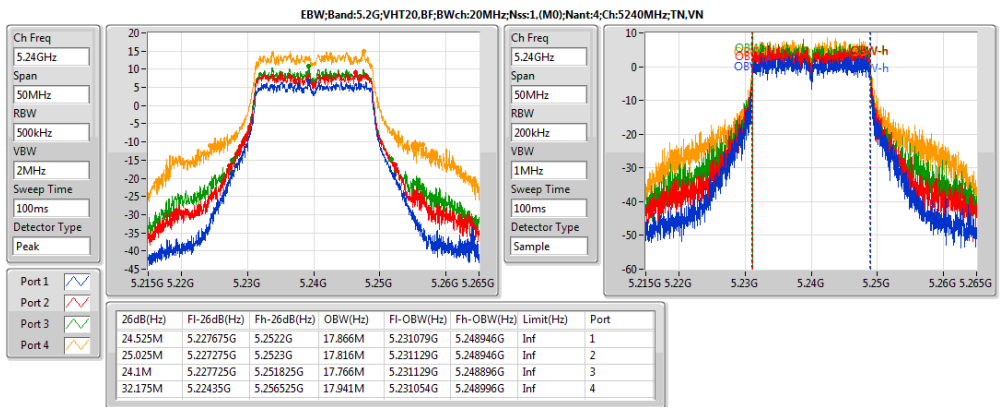
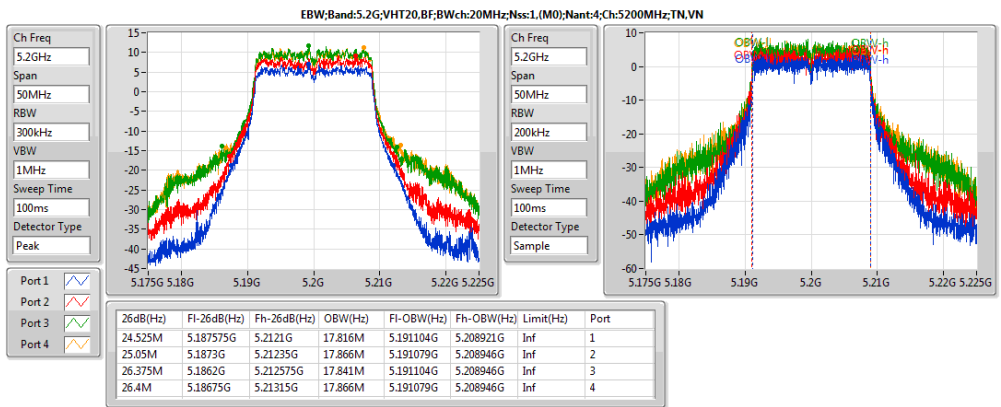
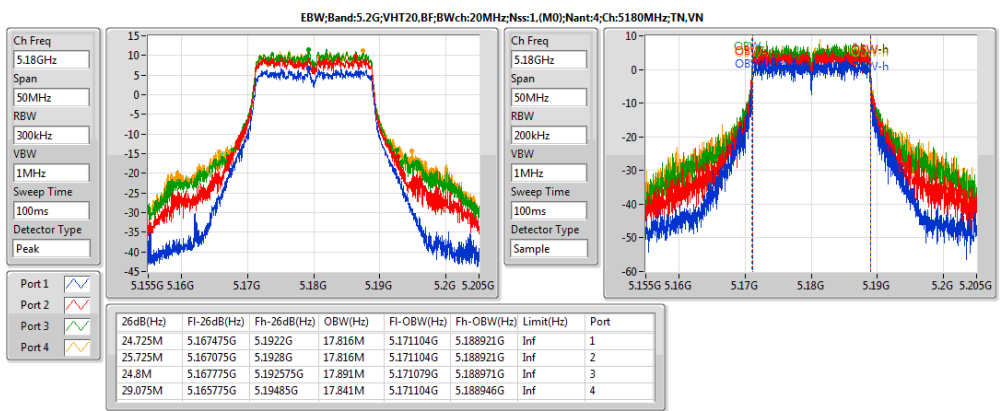
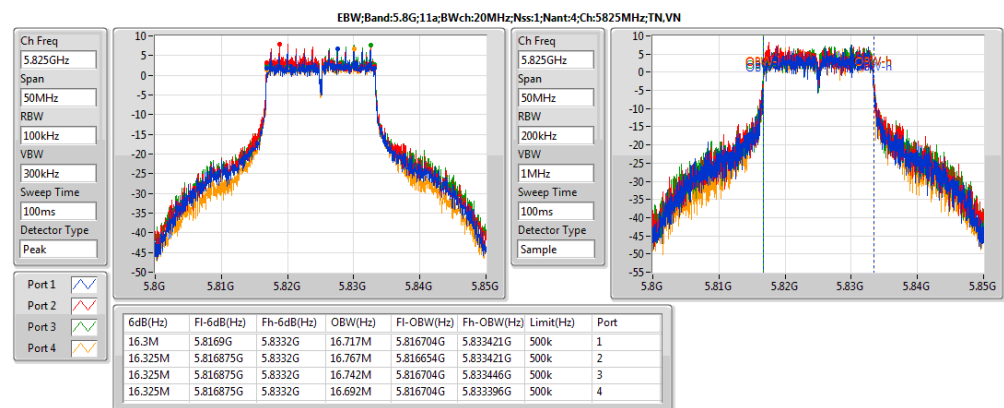
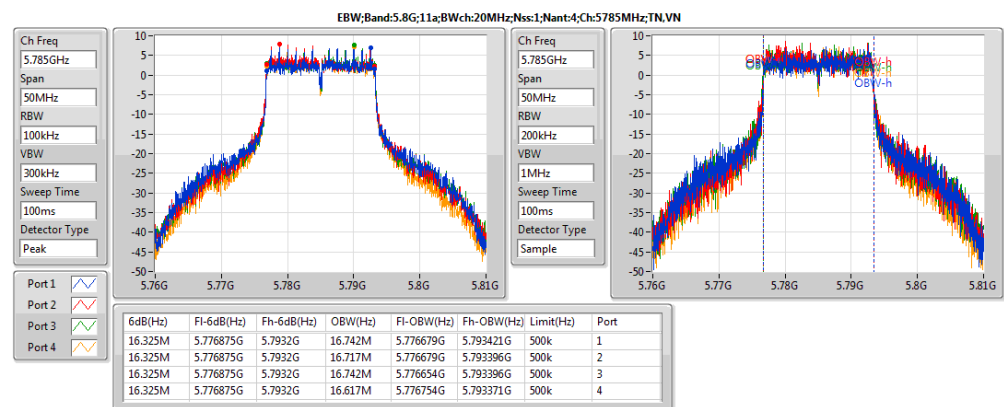
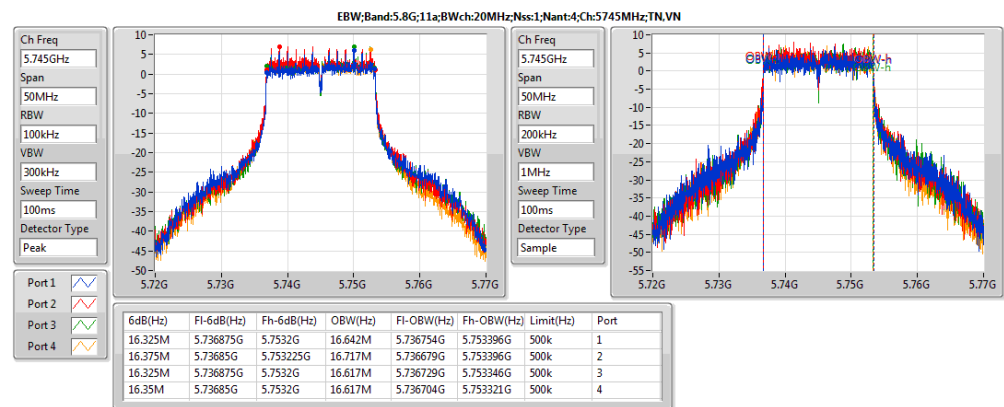
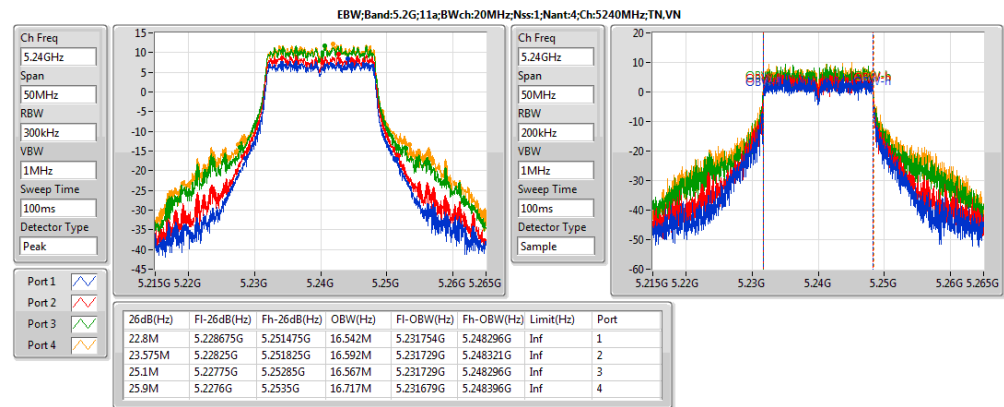
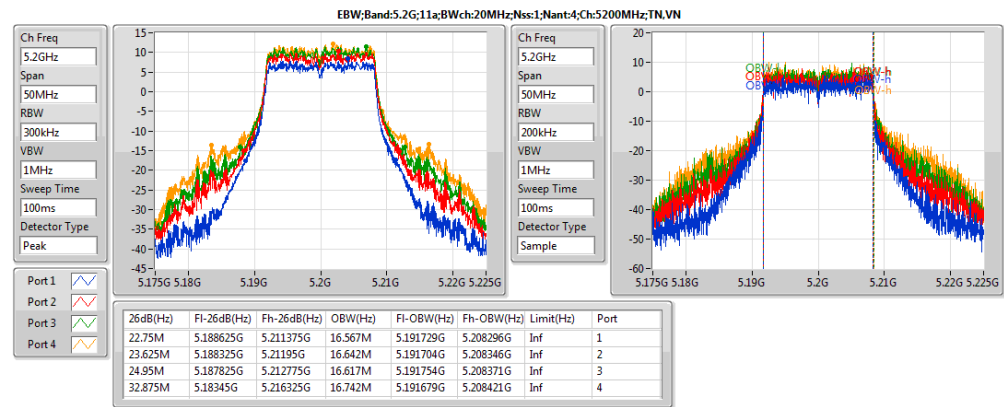
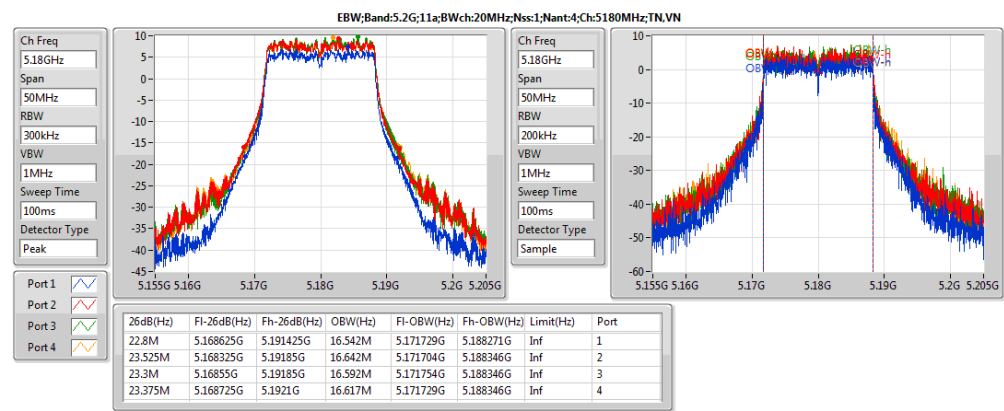
Summary

Mode	Max-N dB (Hz)	Max-OBW (Hz)	ITU-Code	Min-N dB (Hz)	Min-OBW (Hz)
5.2G;11a;Nss1;Ntx4	32.875M	16.742M	16M7D1D	22.75M	16.542M
5.8G;11a;Nss1;Ntx4	16.375M	16.767M	16M8D1D	16.3M	16.617M
5.2G;VHT20,BF;Nss1,(M0);Ntx4	32.175M	17.941M	17M9D1D	24.1M	17.766M
5.8G;VHT20,BF;Nss1,(M0);Ntx4	17.8M	17.841M	17M8D1D	17.575M	17.791M
5.2G;VHT40,BF;Nss1,(M0);Ntx4	69.55M	36.432M	36M4D1D	42M	36.232M
5.8G;VHT40,BF;Nss1,(M0);Ntx4	36.35M	36.532M	36M5D1D	36.3M	36.282M
5.2G;VHT80,BF;Nss1,(M0);Ntx4	83.9M	75.462M	75M5D1D	81.2M	75.262M
5.8G;VHT80,BF;Nss1,(M0);Ntx4	75.1M	75.662M	75M7D1D	72.5M	75.362M



Result

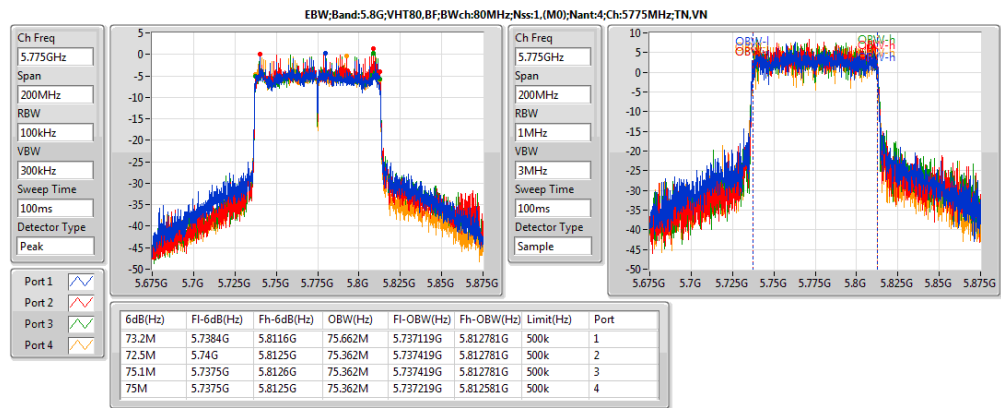
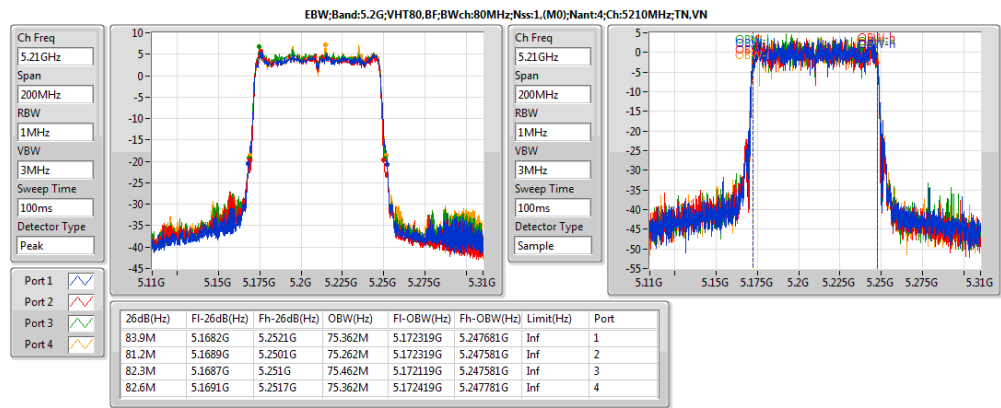
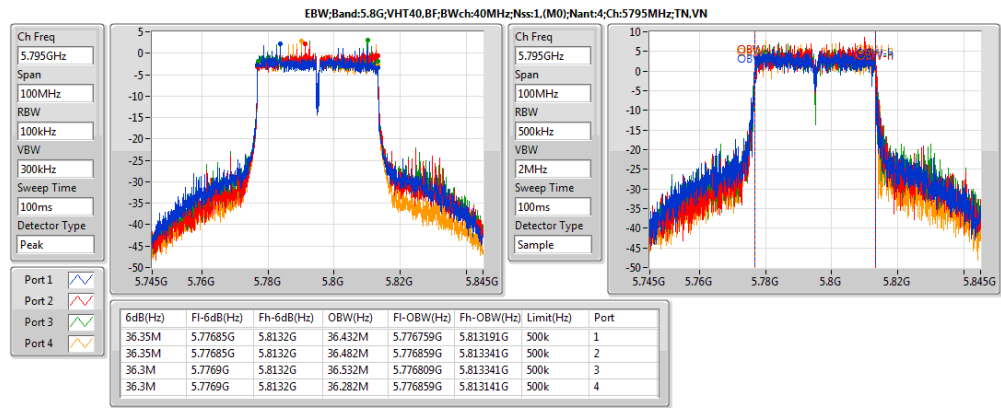
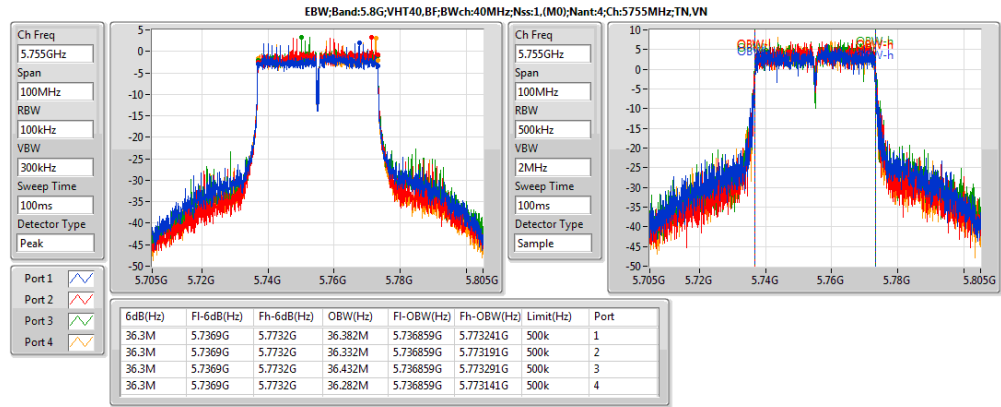
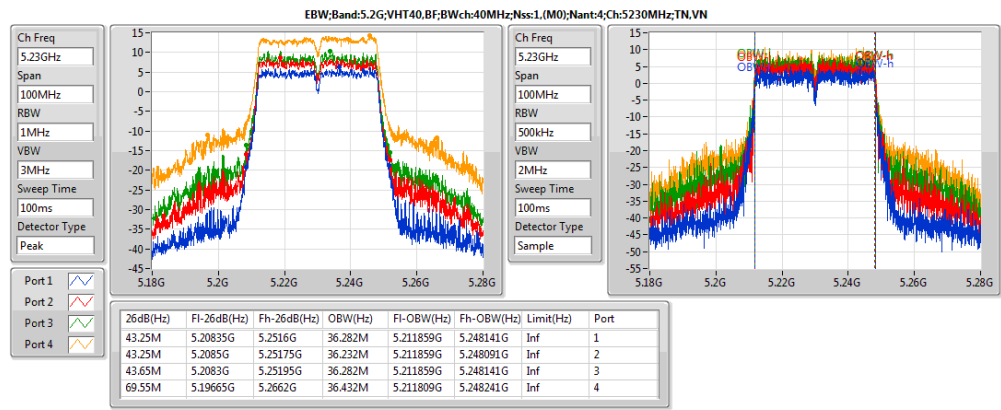
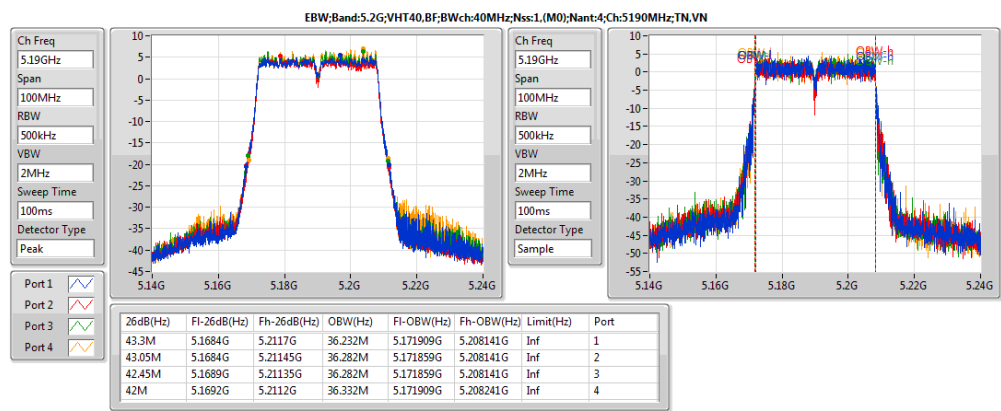
Mode	Result	Limit	P1-N dB (Hz)	P1-OBW (Hz)	P2-N dB (Hz)	P2-OBW (Hz)	P3-N dB (Hz)	P3-OBW (Hz)	P4-N dB (Hz)	P4-OBW (Hz)
5.2G;11a;Nss1;Ntx4;5180;TN,VN	Pass	Inf	22.8M	16.542M	23.525M	16.642M	23.3M	16.592M	23.375M	16.617M
5.2G;11a;Nss1;Ntx4;5200;TN,VN	Pass	Inf	22.75M	16.567M	23.625M	16.642M	24.95M	16.617M	32.875M	16.742M
5.2G;11a;Nss1;Ntx4;5240;TN,VN	Pass	Inf	22.8M	16.542M	23.575M	16.592M	25.1M	16.567M	25.9M	16.717M
5.8G;11a;Nss1;Ntx4;5745;TN,VN	Pass	500k	16.325M	16.642M	16.375M	16.717M	16.325M	16.617M	16.35M	16.617M
5.8G;11a;Nss1;Ntx4;5785;TN,VN	Pass	500k	16.325M	16.742M	16.325M	16.717M	16.325M	16.742M	16.325M	16.617M
5.8G;11a;Nss1;Ntx4;5825;TN,VN	Pass	500k	16.3M	16.717M	16.325M	16.767M	16.325M	16.742M	16.325M	16.692M
5.2G;VHT20,BF;Nss1,(M0);Ntx4;5180;TN,VN	Pass	Inf	24.725M	17.816M	25.725M	17.816M	24.8M	17.891M	29.075M	17.841M
5.2G;VHT20,BF;Nss1,(M0);Ntx4;5200;TN,VN	Pass	Inf	24.525M	17.816M	25.05M	17.866M	26.375M	17.841M	26.4M	17.866M
5.2G;VHT20,BF;Nss1,(M0);Ntx4;5240;TN,VN	Pass	Inf	24.525M	17.866M	25.025M	17.816M	24.1M	17.766M	32.175M	17.941M
5.8G;VHT20,BF;Nss1,(M0);Ntx4;5745;TN,VN	Pass	500k	17.575M	17.816M	17.6M	17.791M	17.6M	17.816M	17.625M	17.791M
5.8G;VHT20,BF;Nss1,(M0);Ntx4;5785;TN,VN	Pass	500k	17.575M	17.841M	17.8M	17.816M	17.6M	17.816M	17.575M	17.791M
5.8G;VHT20,BF;Nss1,(M0);Ntx4;5825;TN,VN	Pass	500k	17.575M	17.791M	17.6M	17.841M	17.6M	17.791M	17.6M	17.841M
5.2G;VHT40,BF;Nss1,(M0);Ntx4;5190;TN,VN	Pass	Inf	43.3M	36.232M	43.05M	36.282M	42.45M	36.282M	42M	36.332M
5.2G;VHT40,BF;Nss1,(M0);Ntx4;5230;TN,VN	Pass	Inf	43.25M	36.282M	43.25M	36.232M	43.65M	36.282M	69.55M	36.432M
5.8G;VHT40,BF;Nss1,(M0);Ntx4;5755;TN,VN	Pass	500k	36.3M	36.382M	36.3M	36.332M	36.3M	36.432M	36.3M	36.282M
5.8G;VHT40,BF;Nss1,(M0);Ntx4;5795;TN,VN	Pass	500k	36.35M	36.432M	36.35M	36.482M	36.3M	36.532M	36.3M	36.282M
5.2G;VHT80,BF;Nss1,(M0);Ntx4;5210;TN,VN	Pass	Inf	83.9M	75.362M	81.2M	75.262M	82.3M	75.462M	82.6M	75.362M
5.8G;VHT80,BF;Nss1,(M0);Ntx4;5775;TN,VN	Pass	500k	73.2M	75.662M	72.5M	75.362M	75.1M	75.362M	75M	75.362M





EBW Result

Appendix B





Summary

Mode	Sum (dBm)	Sum (W)	EIRP (dBm)	EIRP (W)
5.2G;11a:Nss1:Ntx4	25.43	0.34914	29.63	0.91833
5.8G;11a:Nss1:Ntx4	24.76	0.29923	28.96	0.78705
5.2G;VHT20,BF:Nss1,(M0):Ntx4	25.34	0.34198	35.56	3.59749
5.8G;VHT20,BF:Nss1,(M0):Ntx4	23.98	0.25003	34.20	2.63027
5.2G;VHT40,BF:Nss1,(M0):Ntx4	25.42	0.34834	35.64	3.66438
5.8G;VHT40,BF:Nss1,(M0):Ntx4	24.3	0.26915	34.52	2.83139
5.2G;VHT80,BF:Nss1,(M0):Ntx4	19.98	0.09954	30.20	1.04713
5.8G;VHT80,BF:Nss1,(M0):Ntx4	24.06	0.25468	34.28	2.67917



Result

Mode	Result	DG (dBi)	EIRP (dBm)	EIRP Lim. (dBm)	Sum (dBm)	Sum Lim. (dBm)	P1 (dBm)	P2 (dBm)	P3 (dBm)	P4 (dBm)
5.2G;11a:Nss1;Ntx4;5180;TN,VN	Pass	4.20	26.93	36.00	22.73	30.00	17.22	16.9	16.36	16.28
5.2G;11a:Nss1;Ntx4;5200;TN,VN	Pass	4.20	29.63	36.00	25.43	30.00	18.47	19.35	20.24	19.41
5.2G;11a:Nss1;Ntx4;5240;TN,VN	Pass	4.20	29.62	36.00	25.42	30.00	19.13	19.36	19.12	19.95
5.8G;11a:Nss1;Ntx4;5745;TN,VN	Pass	4.20	28.00	36.00	23.8	30.00	17.59	18.46	17.95	16.97
5.8G;11a:Nss1;Ntx4;5785;TN,VN	Pass	4.20	28.96	36.00	24.76	30.00	18.32	18.97	18.83	18.81
5.8G;11a:Nss1;Ntx4;5825;TN,VN	Pass	4.20	28.79	36.00	24.59	30.00	18.21	19.17	18.25	18.56
5.2G;VHT20,BF;Nss1,(M0);Ntx4;5180;TN,VN	Pass	10.22	35.56	36.00	25.34	25.78	18.82	19.77	19.22	19.43
5.2G;VHT20,BF;Nss1,(M0);Ntx4;5200;TN,VN	Pass	10.22	35.46	36.00	25.24	25.78	18.54	19.55	19.52	19.18
5.2G;VHT20,BF;Nss1,(M0);Ntx4;5240;TN,VN	Pass	10.22	35.40	36.00	25.18	25.78	17.93	18.95	19.79	19.71
5.8G;VHT20,BF;Nss1,(M0);Ntx4;5745;TN,VN	Pass	10.22	34.20	36.00	23.98	25.78	17.16	18.25	18.15	18.2
5.8G;VHT20,BF;Nss1,(M0);Ntx4;5785;TN,VN	Pass	10.22	34.13	36.00	23.91	25.78	17.17	18.09	18.04	18.17
5.8G;VHT20,BF;Nss1,(M0);Ntx4;5825;TN,VN	Pass	10.22	34.13	36.00	23.91	25.78	17.2	18.12	18.04	18.13
5.2G;VHT40,BF;Nss1,(M0);Ntx4;5190;TN,VN	Pass	10.22	31.28	36.00	21.06	25.78	15.09	14.93	14.83	15.28
5.2G;VHT40,BF;Nss1,(M0);Ntx4;5230;TN,VN	Pass	10.22	35.64	36.00	25.42	25.78	19.13	19.36	19.12	19.95
5.8G;VHT40,BF;Nss1,(M0);Ntx4;5755;TN,VN	Pass	10.22	34.32	36.00	24.1	25.78	17.42	18.35	18.27	18.2
5.8G;VHT40,BF;Nss1,(M0);Ntx4;5795;TN,VN	Pass	10.22	34.52	36.00	24.3	25.78	17.82	18.55	18.21	18.49
5.2G;VHT80,BF;Nss1,(M0);Ntx4;5210;TN,VN	Pass	10.22	30.20	36.00	19.98	25.78	13.71	13.92	13.91	14.27
5.8G;VHT80,BF;Nss1,(M0);Ntx4;5775;TN,VN	Pass	10.22	34.28	36.00	24.06	25.78	17.43	18.21	18.36	18.11



Summary

Mode	PD (dBm/RBW)	EIRP.PD (dBm/RBW)
5.2G;11a;Nss1;Ntx4	12.43	22.65
5.8G;11a;Nss1;Ntx4	10.29	20.51
5.2G;VHT20,BF;Nss1,(M0);Ntx4	11.95	22.17
5.8G;VHT20,BF;Nss1,(M0);Ntx4	8.79	19.01
5.2G;VHT40,BF;Nss1,(M0);Ntx4	8.63	18.85
5.8G;VHT40,BF;Nss1,(M0);Ntx4	5.92	16.14
5.2G;VHT80,BF;Nss1,(M0);Ntx4	1.43	11.65
5.8G;VHT80,BF;Nss1,(M0);Ntx4	3.26	13.48



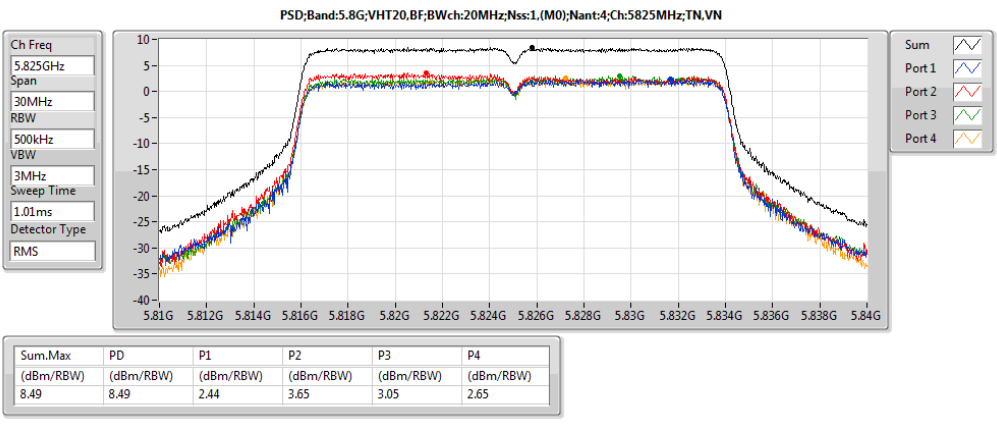
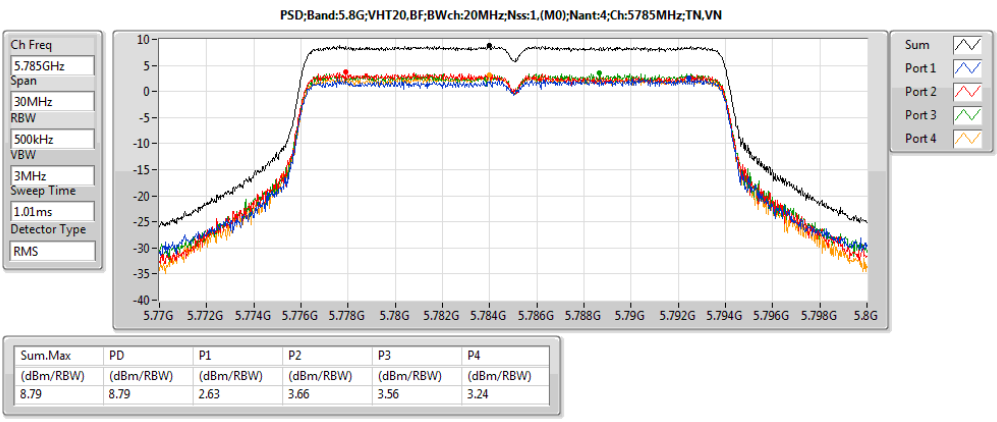
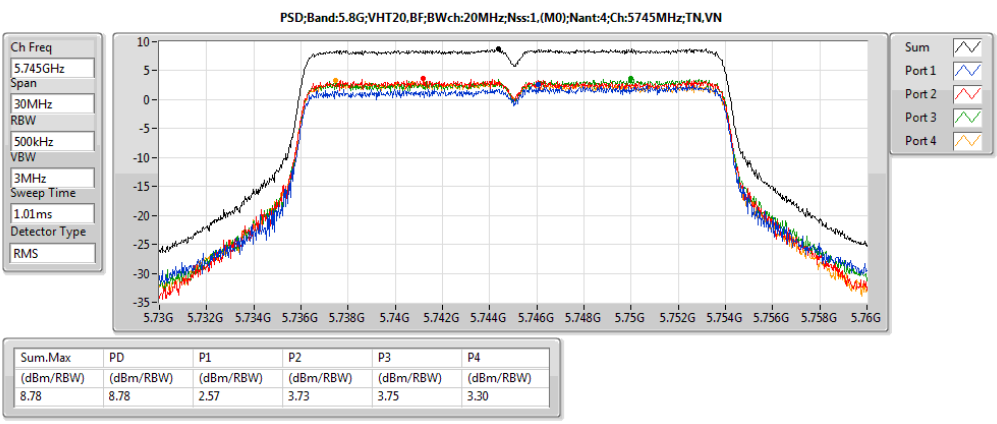
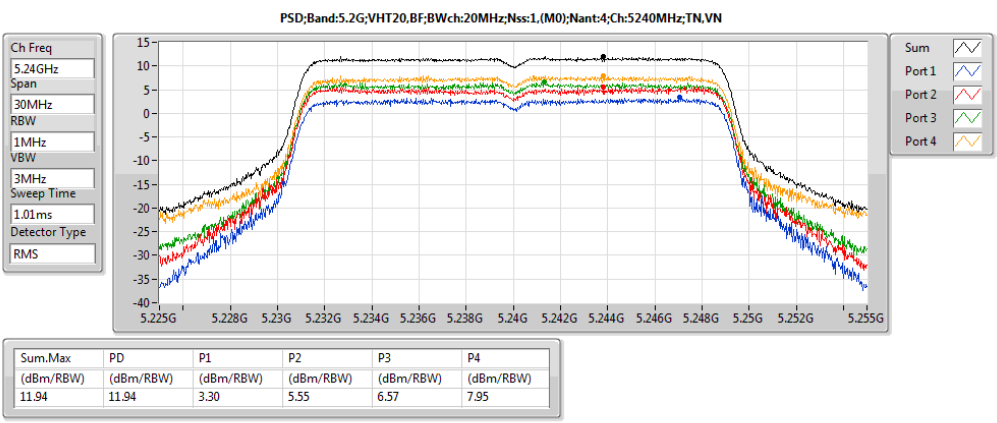
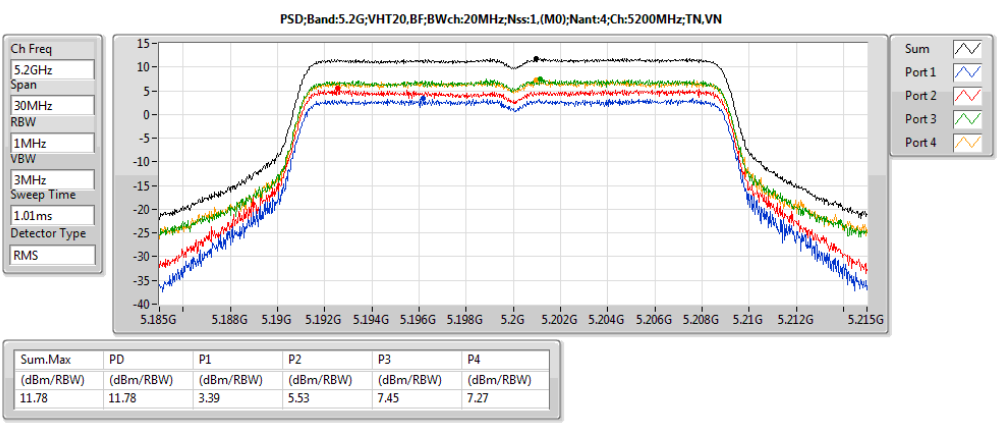
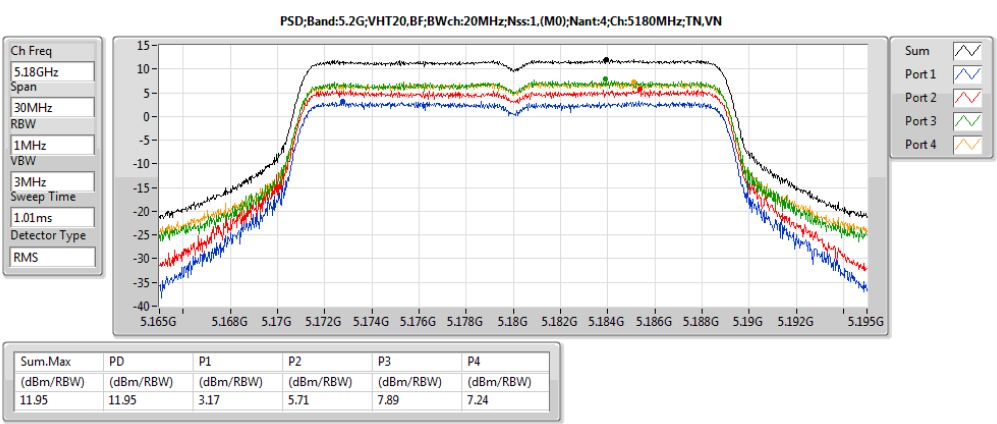
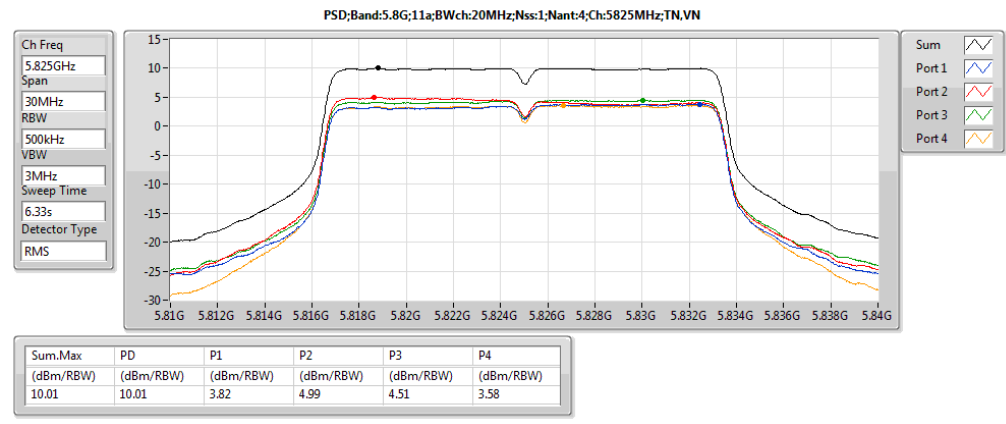
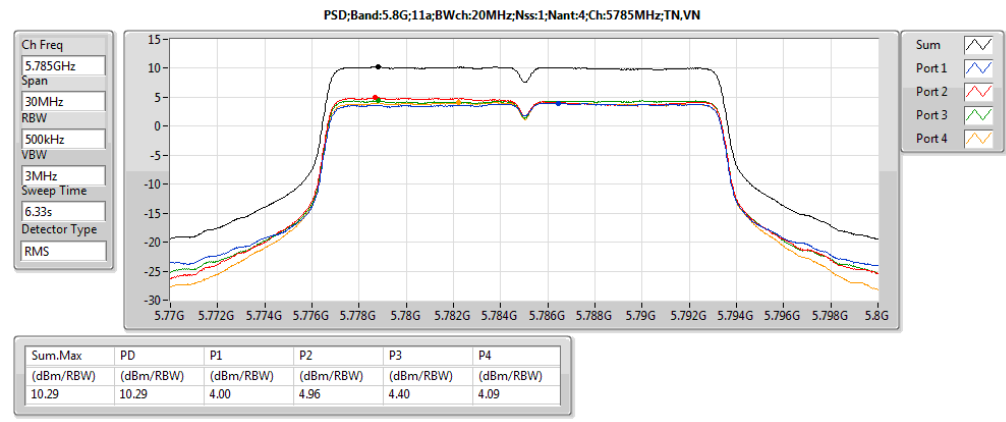
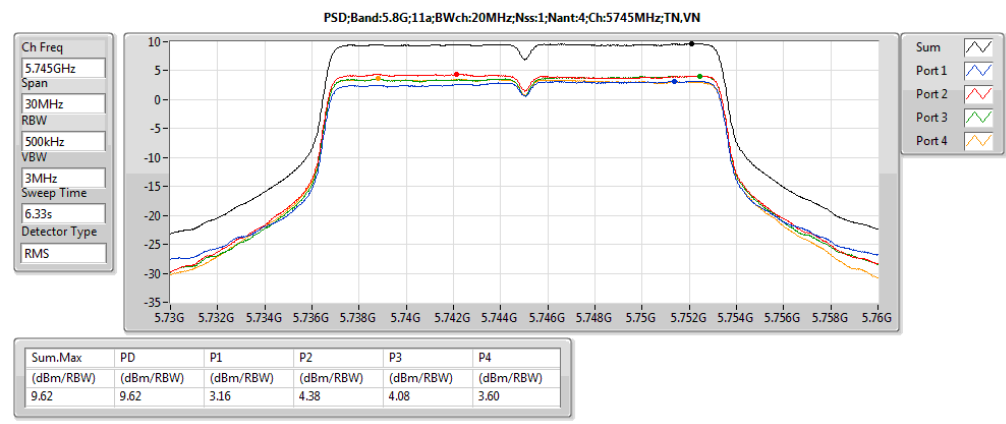
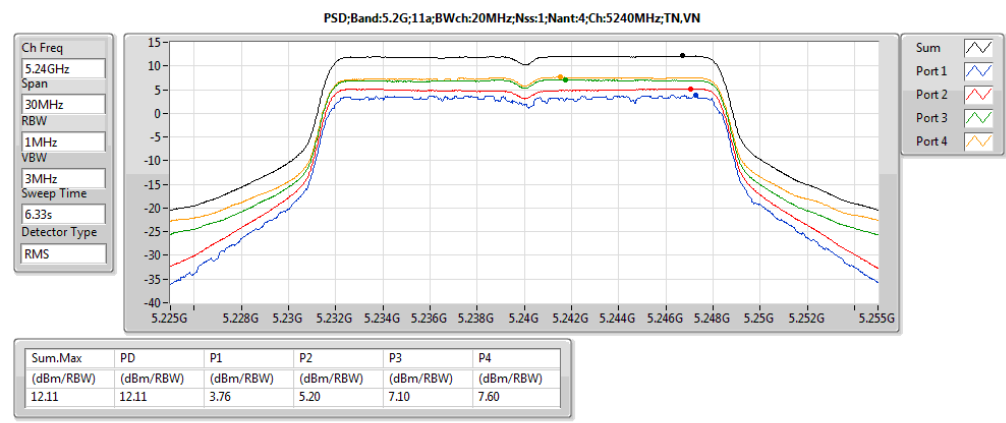
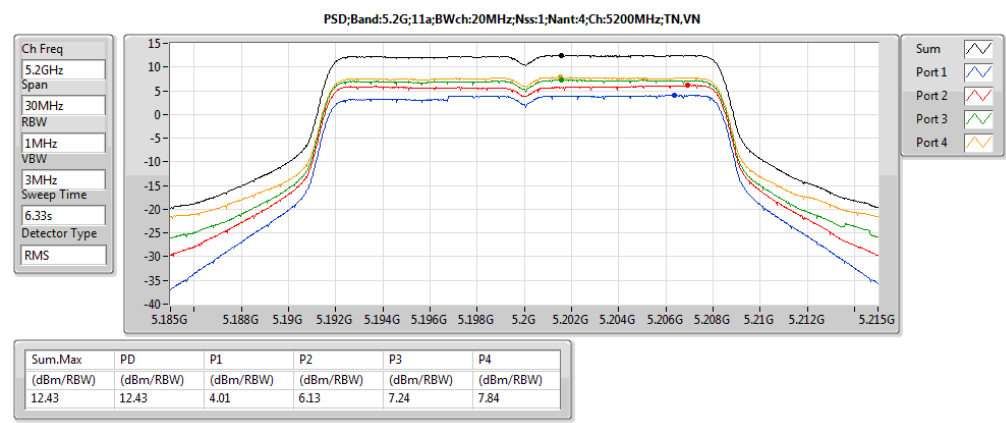
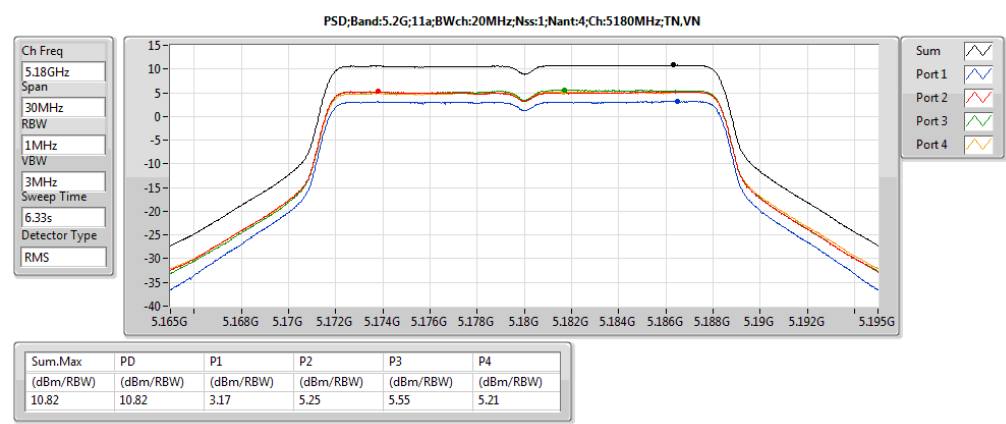
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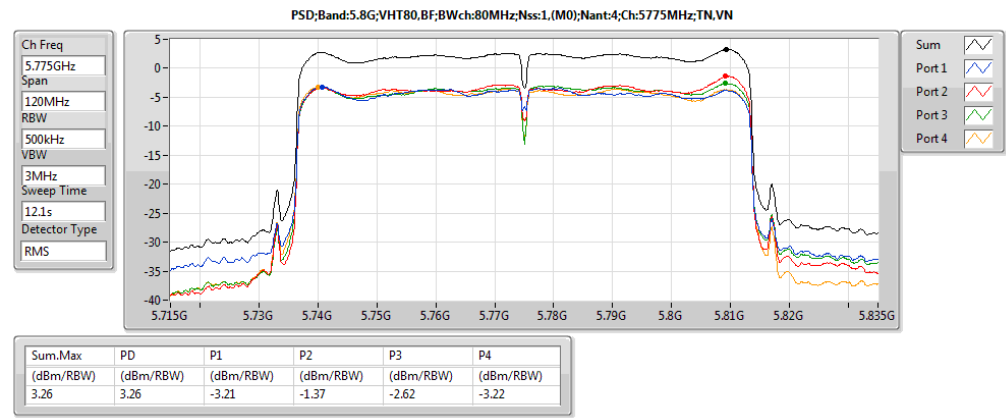
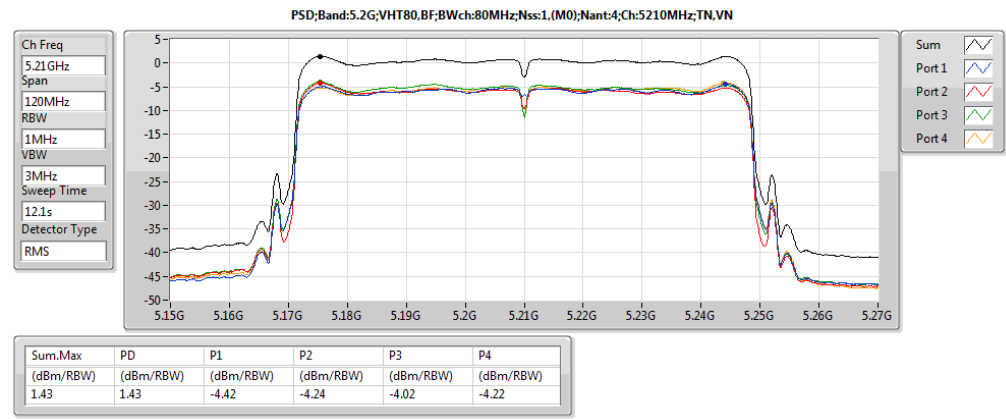
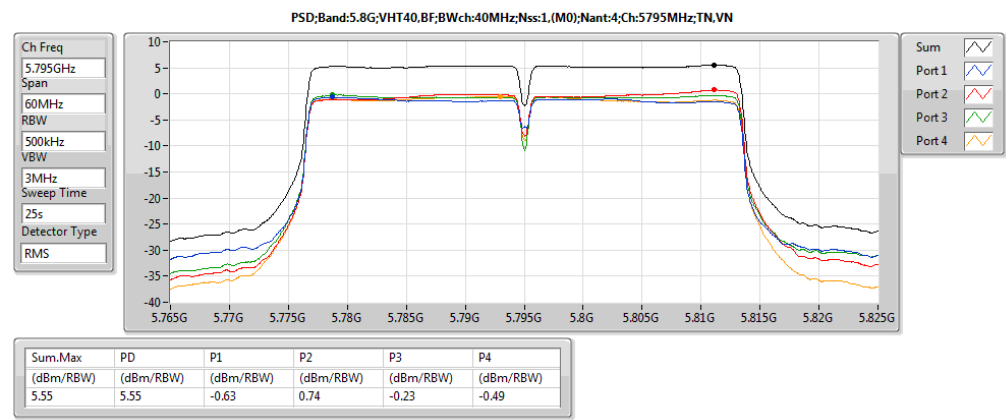
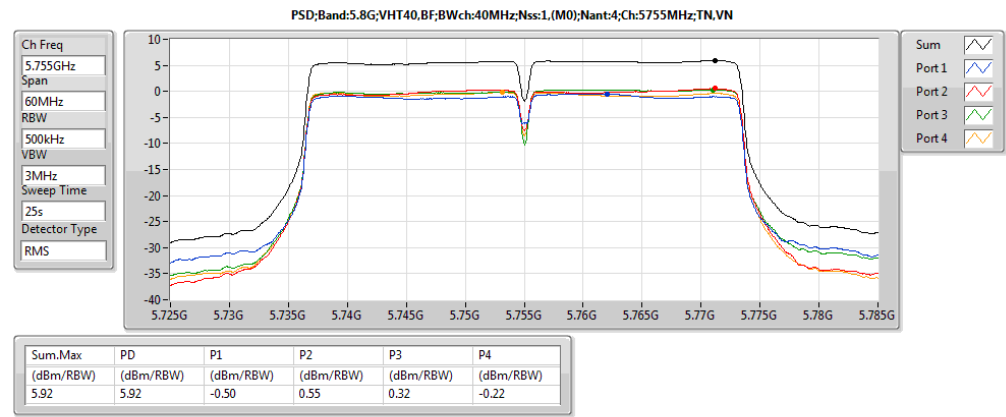
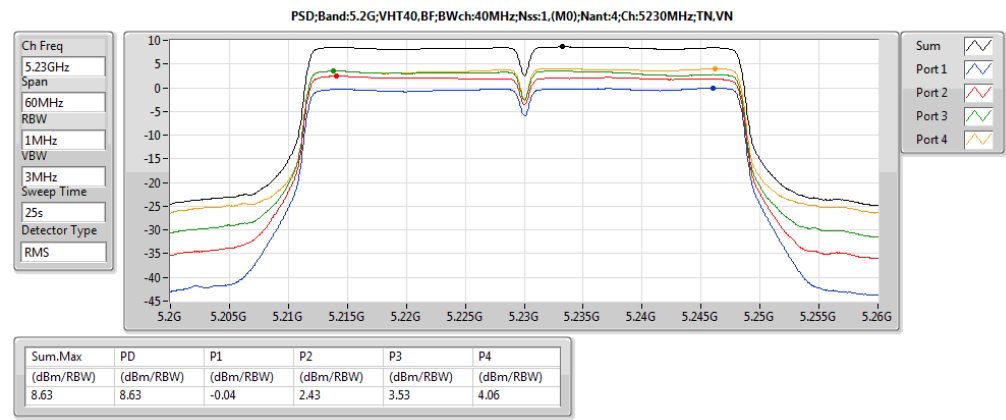
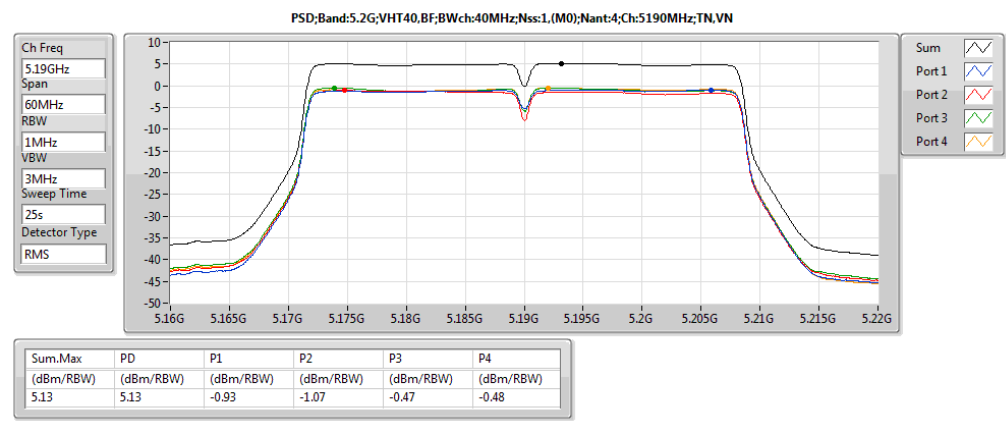
Mode	Result	Meas.RBW (Hz)	Lim.RBW (Hz)	BWCF (dB)	DG (dBi)	Sum.Max (dBm/RBW)	PD (dBm/RBW)	PD.Limit (dBm/RBW)	EIRP.PD (dBm/RBW)	EIRP.PD.Li m (dBm/RBW)	P1 (dBm/RBW)	P2 (dBm/RBW)	P3 (dBm/RBW)	P4 (dBm/RBW)
5.2G;11a;Nss1;Ntx4;5180;TN,VN	Pass	1M	1M	0.00	10.22	10.82	10.82	12.78	21.04	Inf	3.17	5.25	5.55	5.21
5.2G;11a;Nss1;Ntx4;5200;TN,VN	Pass	1M	1M	0.00	10.22	12.43	12.43	12.78	22.65	Inf	4.01	6.13	7.24	7.84
5.2G;11a;Nss1;Ntx4;5240;TN,VN	Pass	1M	1M	0.00	10.22	12.11	12.11	12.78	22.33	Inf	3.76	5.20	7.10	7.60
5.8G;11a;Nss1;Ntx4;5745;TN,VN	Pass	500k	500k	0.00	10.22	9.62	9.62	25.78	19.84	31.78	3.16	4.38	4.08	3.60
5.8G;11a;Nss1;Ntx4;5785;TN,VN	Pass	500k	500k	0.00	10.22	10.29	10.29	25.78	20.51	31.78	4.00	4.96	4.40	4.09
5.8G;11a;Nss1;Ntx4;5825;TN,VN	Pass	500k	500k	0.00	10.22	10.01	10.01	25.78	20.23	31.78	3.82	4.99	4.51	3.58
5.2G;VHT20,BF;Nss1,(M0);Ntx4;5180;TN,VN	Pass	1M	1M	0.00	10.22	11.95	11.95	12.78	22.17	Inf	3.17	5.71	7.89	7.24
5.2G;VHT20,BF;Nss1,(M0);Ntx4;5200;TN,VN	Pass	1M	1M	0.00	10.22	11.78	11.78	12.78	22.00	Inf	3.39	5.53	7.45	7.27
5.2G;VHT20,BF;Nss1,(M0);Ntx4;5240;TN,VN	Pass	1M	1M	0.00	10.22	11.94	11.94	12.78	22.16	Inf	3.30	5.55	6.57	7.95
5.8G;VHT20,BF;Nss1,(M0);Ntx4;5745;TN,VN	Pass	500k	500k	0.00	10.22	8.78	8.78	25.78	19.00	31.78	2.57	3.73	3.75	3.30
5.8G;VHT20,BF;Nss1,(M0);Ntx4;5785;TN,VN	Pass	500k	500k	0.00	10.22	8.79	8.79	25.78	19.01	31.78	2.63	3.66	3.56	3.24
5.8G;VHT20,BF;Nss1,(M0);Ntx4;5825;TN,VN	Pass	500k	500k	0.00	10.22	8.49	8.49	25.78	18.71	31.78	2.44	3.65	3.05	2.65
5.2G;VHT40,BF;Nss1,(M0);Ntx4;5190;TN,VN	Pass	1M	1M	0.00	10.22	5.13	5.13	12.78	15.35	Inf	-0.93	-1.07	-0.47	-0.48
5.2G;VHT40,BF;Nss1,(M0);Ntx4;5230;TN,VN	Pass	1M	1M	0.00	10.22	8.63	8.63	12.78	18.85	Inf	-0.04	2.43	3.53	4.06
5.8G;VHT40,BF;Nss1,(M0);Ntx4;5755;TN,VN	Pass	500k	500k	0.00	10.22	5.92	5.92	25.78	16.14	31.78	-0.50	0.55	0.32	-0.22
5.8G;VHT40,BF;Nss1,(M0);Ntx4;5795;TN,VN	Pass	500k	500k	0.00	10.22	5.55	5.55	25.78	15.77	31.78	-0.63	0.74	-0.23	-0.49
5.2G;VHT80,BF;Nss1,(M0);Ntx4;5210;TN,VN	Pass	1M	1M	0.00	10.22	1.43	1.43	12.78	11.65	Inf	-4.42	-4.24	-4.02	-4.22
5.8G;VHT80,BF;Nss1,(M0);Ntx4;5775;TN,VN	Pass	500k	500k	0.00	10.22	3.26	3.26	25.78	13.48	31.78	-3.21	-1.37	-2.62	-3.22



PSD Result

Appendix D







RSE below 1GHz Result																																																																																																											
Operating Mode	1				Polarization				Horizontal																																																																																																		
Operating Function	Normal Link																																																																																																										
<div><div>Level (dBuV/m)</div><div>Date: 2016-06-03 Time: 17:31:39</div><div></div><div><table><tr><th></th><th>Freq</th><th>Level</th><th>Limit</th><th>Over</th><th>Read</th><th>CableAntenna</th><th>Preamp</th><th>A/Pos</th><th>T/Pos</th><th>Remark</th><th>Pol/Phase</th></tr><tr><th></th><th>MHz</th><th>dBuV/m</th><th>dBuV/m</th><th>dB</th><th>dBuV</th><th>dB</th><th>dB/m</th><th>dB</th><th>cm</th><th>deg</th><th></th></tr><tr><td>1</td><td>65.89</td><td>34.23</td><td>40.00</td><td>-5.77</td><td>52.86</td><td>0.64</td><td>12.54</td><td>31.81</td><td>150</td><td>149 Peak</td><td>HORIZONTAL</td></tr><tr><td>2</td><td>250.19</td><td>41.85</td><td>46.00</td><td>-4.15</td><td>53.87</td><td>1.25</td><td>18.70</td><td>31.97</td><td>125</td><td>233 Peak</td><td>HORIZONTAL</td></tr><tr><td>3</td><td>375.32</td><td>37.23</td><td>46.00</td><td>-8.77</td><td>46.12</td><td>1.50</td><td>21.73</td><td>32.12</td><td>100</td><td>360 Peak</td><td>HORIZONTAL</td></tr><tr><td>4</td><td>625.58</td><td>36.83</td><td>46.00</td><td>-9.17</td><td>42.15</td><td>1.97</td><td>25.16</td><td>32.45</td><td>175</td><td>130 Peak</td><td>HORIZONTAL</td></tr><tr><td>5</td><td>874.87</td><td>42.07</td><td>46.00</td><td>-3.93</td><td>45.03</td><td>2.38</td><td>27.15</td><td>32.49</td><td>100</td><td>126 Peak</td><td>HORIZONTAL</td></tr><tr><td>6</td><td>1000.00</td><td>41.07</td><td>54.00</td><td>-12.93</td><td>43.05</td><td>2.49</td><td>28.00</td><td>32.47</td><td>100</td><td>90 Peak</td><td>HORIZONTAL</td></tr></table></div></div>													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	65.89	34.23	40.00	-5.77	52.86	0.64	12.54	31.81	150	149 Peak	HORIZONTAL	2	250.19	41.85	46.00	-4.15	53.87	1.25	18.70	31.97	125	233 Peak	HORIZONTAL	3	375.32	37.23	46.00	-8.77	46.12	1.50	21.73	32.12	100	360 Peak	HORIZONTAL	4	625.58	36.83	46.00	-9.17	42.15	1.97	25.16	32.45	175	130 Peak	HORIZONTAL	5	874.87	42.07	46.00	-3.93	45.03	2.38	27.15	32.49	100	126 Peak	HORIZONTAL	6	1000.00	41.07	54.00	-12.93	43.05	2.49	28.00	32.47	100	90 Peak	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	65.89	34.23	40.00	-5.77	52.86	0.64	12.54	31.81	150	149 Peak	HORIZONTAL																																																																																																
2	250.19	41.85	46.00	-4.15	53.87	1.25	18.70	31.97	125	233 Peak	HORIZONTAL																																																																																																
3	375.32	37.23	46.00	-8.77	46.12	1.50	21.73	32.12	100	360 Peak	HORIZONTAL																																																																																																
4	625.58	36.83	46.00	-9.17	42.15	1.97	25.16	32.45	175	130 Peak	HORIZONTAL																																																																																																
5	874.87	42.07	46.00	-3.93	45.03	2.38	27.15	32.49	100	126 Peak	HORIZONTAL																																																																																																
6	1000.00	41.07	54.00	-12.93	43.05	2.49	28.00	32.47	100	90 Peak	HORIZONTAL																																																																																																
<div>Note 1: ">20dB" means emission levels that exceed the level of 20 dB below the applicable limit.</div> <div>Note 2: "N/F" means Nothing Found emissions (No emissions were detected.)</div>																																																																																																											

RSE below 1GHz Result																																																																																																											
Operating Mode	1			Power Phase			Vertical																																																																																																				
Operating Function	Normal Link																																																																																																										
<div><div>Level (dBuV/m)</div><div>Date: 2016-06-06 Time: 09:11:14</div><div></div><div><table><tr><th></th><th>Freq</th><th>Level</th><th>Limit</th><th>Over</th><th>Read</th><th>CableAntenna</th><th>Preamp</th><th>A/Pos</th><th>T/Pos</th><th>Remark</th><th>Pol/Phase</th></tr><tr><th></th><th>MHz</th><th>dBuV/m</th><th>dBuV/m</th><th>dB</th><th>dBuV</th><th>dB</th><th>dB/m</th><th>dB</th><th>cm</th><th>deg</th><th></th></tr><tr><td>1</td><td>47.46</td><td>36.59</td><td>40.00</td><td>-3.41</td><td>51.86</td><td>0.61</td><td>15.85</td><td>31.73</td><td>125</td><td>226 Peak</td><td>VERTICAL</td></tr><tr><td>2</td><td>125.06</td><td>39.85</td><td>43.50</td><td>-3.65</td><td>52.40</td><td>0.89</td><td>18.45</td><td>31.89</td><td>100</td><td>279 Peak</td><td>VERTICAL</td></tr><tr><td>3</td><td>187.14</td><td>40.72</td><td>43.50</td><td>-2.78</td><td>56.16</td><td>1.09</td><td>15.43</td><td>31.96</td><td>100</td><td>151 QP</td><td>VERTICAL</td></tr><tr><td>4</td><td>250.02</td><td>44.18</td><td>46.00</td><td>-1.82</td><td>56.20</td><td>1.25</td><td>18.70</td><td>31.97</td><td>199</td><td>167 QP</td><td>VERTICAL</td></tr><tr><td>5</td><td>375.32</td><td>37.41</td><td>46.00</td><td>-8.59</td><td>46.30</td><td>1.50</td><td>21.73</td><td>32.12</td><td>150</td><td>168 Peak</td><td>VERTICAL</td></tr><tr><td>6</td><td>1000.00</td><td>41.11</td><td>54.00</td><td>-12.89</td><td>43.09</td><td>2.49</td><td>28.00</td><td>32.47</td><td>100</td><td>193 Peak</td><td>VERTICAL</td></tr></table></div></div>													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	36.59	40.00	-3.41	51.86	0.61	15.85	31.73	125	226 Peak	VERTICAL	2	125.06	39.85	43.50	-3.65	52.40	0.89	18.45	31.89	100	279 Peak	VERTICAL	3	187.14	40.72	43.50	-2.78	56.16	1.09	15.43	31.96	100	151 QP	VERTICAL	4	250.02	44.18	46.00	-1.82	56.20	1.25	18.70	31.97	199	167 QP	VERTICAL	5	375.32	37.41	46.00	-8.59	46.30	1.50	21.73	32.12	150	168 Peak	VERTICAL	6	1000.00	41.11	54.00	-12.89	43.09	2.49	28.00	32.47	100	193 Peak	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	47.46	36.59	40.00	-3.41	51.86	0.61	15.85	31.73	125	226 Peak	VERTICAL																																																																																																
2	125.06	39.85	43.50	-3.65	52.40	0.89	18.45	31.89	100	279 Peak	VERTICAL																																																																																																
3	187.14	40.72	43.50	-2.78	56.16	1.09	15.43	31.96	100	151 QP	VERTICAL																																																																																																
4	250.02	44.18	46.00	-1.82	56.20	1.25	18.70	31.97	199	167 QP	VERTICAL																																																																																																
5	375.32	37.41	46.00	-8.59	46.30	1.50	21.73	32.12	150	168 Peak	VERTICAL																																																																																																
6	1000.00	41.11	54.00	-12.89	43.09	2.49	28.00	32.47	100	193 Peak	VERTICAL																																																																																																
<div>Note 1: ">20dB" means emission levels that exceed the level of 20 dB below the applicable limit.</div> <div>Note 2: "N/F" means Nothing Found emissions (No emissions were detected.)</div>																																																																																																											

Radiated Emissions (1GHz~40GHz)

Configurations	IEEE 802.11a CH 36 / Chain 1 + Chain 2 + Chain 3 + Chain 4
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Horizontal

	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	15531.80	57.39	74.00	-16.61	43.71	11.01	38.39	35.72	149	164	Peak
2	15540.40	45.25	54.00	-8.75	31.57	11.01	38.39	35.72	149	164	Average

Vertical

	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	15520.80	58.08	74.00	-15.92	44.40	11.01	38.39	35.72	177	66	Peak
2	15540.10	45.47	54.00	-8.53	31.79	11.01	38.39	35.72	177	66	Average

Configurations	IEEE 802.11a CH 40 / Chain 1 + Chain 2 + Chain 3 + Chain 4
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Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	15600.00	47.29	54.00	-6.71	33.63	11.01	38.38	35.73	160	274	Average	HORIZONTAL
2	15615.90	58.26	74.00	-15.74	44.61	11.01	38.37	35.73	160	274	Peak	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	15599.80	61.53	74.00	-12.47	47.87	11.01	38.38	35.73	167	148	Peak	VERTICAL
2	15600.30	48.40	54.00	-5.60	34.74	11.01	38.38	35.73	167	148	Average	VERTICAL

Configurations	IEEE 802.11a CH 48 / Chain 1 + Chain 2 + Chain 3 + Chain 4
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Horizontal

	Freq	Level	Limit	Over	Read	CableAntenna	Preamp	A/Pos	T/Pos	Remark	Pol/Phase	
	MHz	dBuV/m	Line	Limit	Level	Loss	Factor	Factor				
			dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	15718.80	58.95	74.00	-15.05	45.34	11.01	38.35	35.75	166	360	Peak	HORIZONTAL
2	15720.10	47.19	54.00	-6.81	33.58	11.01	38.35	35.75	166	360	Average	HORIZONTAL

Vertical

	Freq	Level	Limit	Over	Read	CableAntenna	Preamp	A/Pos	T/Pos	Remark	Pol/Phase	
	MHz	dBuV/m	Line	Limit	Level	Loss	Factor	Factor				
			dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	15721.50	61.77	74.00	-12.23	48.16	11.01	38.35	35.75	161	144	Peak	VERTICAL
2	15722.20	48.40	54.00	-5.60	34.79	11.01	38.35	35.75	161	144	Average	VERTICAL

Configurations	IEEE 802.11a CH 149 / Chain 1 + Chain 2 + Chain 3 + Chain 4
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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	11489.90	53.80	54.00	-0.20	38.42	10.51	39.20	34.33	174	154	Average	HORIZONTAL
2	11491.90	65.77	74.00	-8.23	50.39	10.51	39.20	34.33	174	154	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	11492.10	53.88	54.00	-0.12	38.50	10.51	39.20	34.33	148	3 Average	VERTICAL
2	11492.10	67.59	74.00	-6.41	52.21	10.51	39.20	34.33	148	3 Peak	VERTICAL

Configurations	IEEE 802.11a CH 157 / Chain 1 + Chain 2 + Chain 3 + Chain 4
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Horizontal

	Freq	Level	Limit	Over	Read	CableAntenna	Preamp	A/Pos	T/Pos	Remark	Pol/Phase	
	MHz	dBuV/m	Line	Limit	Level	Loss	Factor	Factor				
			dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	11570.00	53.96	54.00	-0.04	38.67	10.51	39.15	34.37	181	151	Average	HORIZONTAL
2	11570.00	64.37	74.00	-9.63	49.08	10.51	39.15	34.37	181	151	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	11570.00	53.72	54.00	-0.28	38.43	10.51	39.15	34.37	161	360	Average	VERTICAL
2	11570.00	66.22	74.00	-7.78	50.93	10.51	39.15	34.37	161	360	Peak	VERTICAL

Configurations	IEEE 802.11a CH 165 / Chain 1 + Chain 2 + Chain 3 + Chain 4
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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	11643.20	66.68	74.00	-7.32	51.49	10.51	39.09	34.41	225	146	Peak
2	11643.80	53.52	54.00	-0.48	38.33	10.51	39.09	34.41	225	146	Average

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	11642.90	66.78	74.00	-7.22	51.59	10.51	39.09	34.41	210	2	Peak
2	11643.90	53.80	54.00	-0.20	38.61	10.51	39.09	34.41	210	2	Average

Configurations	IEEE 802.11ac MCS0/Nss1 VHT20 CH 36 / Chain 1 + Chain 2 + Chain 3 + Chain 4
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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	15540.21	59.32	74.00	-14.68	42.62	12.06	38.13	33.49	178	245	Peak	HORIZONTAL
2	15540.29	46.90	54.00	-7.10	30.20	12.06	38.13	33.49	178	245	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	15540.26	47.88	54.00	-6.12	31.18	12.06	38.13	33.49	188	150	Average	VERTICAL
2	15540.50	60.62	74.00	-13.38	43.92	12.06	38.13	33.49	188	150	Peak	VERTICAL

Configurations	IEEE 802.11ac MCS0/Nss1 VHT20 CH 40 / Chain 1 + Chain 2 + Chain 3 + Chain 4
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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	15599.62	60.85	74.00	-13.15	44.24	12.09	38.05	33.53	171	246	Peak	HORIZONTAL
2	15600.80	46.95	54.00	-7.05	30.39	12.11	37.98	33.53	171	246	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	15599.05	47.05	54.00	-6.95	30.44	12.09	38.05	33.53	189	175	Average	VERTICAL
2	15599.13	60.80	74.00	-13.20	44.19	12.09	38.05	33.53	189	175	Peak	VERTICAL

Configurations	IEEE 802.11ac MCS0/Nss1 VHT20 CH 48 / Chain 1 + Chain 2 + Chain 3 + Chain 4
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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	15720.15	60.14	74.00	-13.86	43.82	12.15	37.84	33.67	176	237	Peak
2	15720.17	46.24	54.00	-7.76	29.92	12.15	37.84	33.67	176	237	Average

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	15719.93	47.55	54.00	-6.45	31.23	12.15	37.84	33.67	193	171	Average
2	15720.76	59.01	74.00	-14.99	42.69	12.15	37.84	33.67	193	171	Peak

Configurations	IEEE 802.11ac MCS0/Nss1 VHT20 CH 149 / Chain 1 + Chain 2 + Chain 3 + Chain 4
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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	11488.24	62.12	74.00	-11.88	46.00	10.10	39.20	33.18	232	150	Peak	HORIZONTAL
2	11490.71	48.94	54.00	-5.06	32.82	10.10	39.20	33.18	232	150	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	11490.13	47.63	54.00	-6.37	31.51	10.10	39.20	33.18	167	241	Average	VERTICAL
2	11493.62	61.53	74.00	-12.47	45.41	10.10	39.20	33.18	167	241	Peak	VERTICAL

Configurations	IEEE 802.11ac MCS0/Nss1 VHT20 CH 157 / Chain 1 + Chain 2 + Chain 3 + Chain 4
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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	11569.12	47.57	54.00	-6.43	31.44	10.13	39.20	33.20	236	134	Average	HORIZONTAL
2	11569.59	60.30	74.00	-13.70	44.17	10.13	39.20	33.20	236	134	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	11570.46	48.65	54.00	-5.35	32.52	10.13	39.20	33.20	221	193	Average	VERTICAL
2	11570.94	60.25	74.00	-13.75	44.12	10.13	39.20	33.20	221	193	Peak	VERTICAL

Configurations	IEEE 802.11ac MCS0/Nss1 VHT20 CH 165 / Chain 1 + Chain 2 + Chain 3 + Chain 4
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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	11649.42	48.82	54.00	-5.18	32.68	10.16	39.20	33.22	222	141	Average	HORIZONTAL
2	11649.73	61.64	74.00	-12.36	45.50	10.16	39.20	33.22	222	141	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	11649.49	48.09	54.00	-5.91	31.95	10.16	39.20	33.22	218	206	Average	VERTICAL
2	11650.06	61.11	74.00	-12.89	44.97	10.16	39.20	33.22	218	206	Peak	VERTICAL

Configurations	IEEE 802.11ac MCS0/Nss1 VHT40 CH 38 / Chain 1 + Chain 2 + Chain 3 + Chain 4
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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	15570.26	46.03	54.00	-7.97	29.42	12.09	38.05	33.53	237	246	Average	HORIZONTAL
2	15570.27	57.71	74.00	-16.29	41.10	12.09	38.05	33.53	237	246	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	15570.22	45.72	54.00	-8.28	29.11	12.09	38.05	33.53	222	205	Average	VERTICAL
2	15570.63	57.29	74.00	-16.71	40.68	12.09	38.05	33.53	222	205	Peak	VERTICAL

Configurations	IEEE 802.11ac MCS0/Nss1 VHT40 CH 46 / Chain 1 + Chain 2 + Chain 3 + Chain 4
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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	15688.97	59.72	74.00	-14.28	43.30	12.13	37.91	33.62	197	153	Peak	HORIZONTAL
2	15692.80	46.30	54.00	-7.70	29.93	12.15	37.84	33.62	197	153	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	15689.09	46.47	54.00	-7.53	30.05	12.13	37.91	33.62	205	273	Average	VERTICAL
2	15691.25	59.02	74.00	-14.98	42.65	12.15	37.84	33.62	205	273	Peak	VERTICAL

Configurations	IEEE 802.11ac MCS0/Nss1 VHT40 CH 151 / Chain 1 + Chain 2 + Chain 3 + Chain 4
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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	11510.79	44.75	54.00	-9.25	28.64	10.10	39.20	33.19	191	44	Average	HORIZONTAL
2	11513.04	57.59	74.00	-16.41	41.48	10.10	39.20	33.19	191	44	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	11508.73	44.77	54.00	-9.23	28.65	10.10	39.20	33.18	198	149	Average	VERTICAL
2	11511.33	57.74	74.00	-16.26	41.63	10.10	39.20	33.19	198	149	Peak	VERTICAL

Configurations	IEEE 802.11ac MCS0/Nss1 VHT40 CH 159 / Chain 1 + Chain 2 + Chain 3 + Chain 4
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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	11592.98	44.80	54.00	-9.20	28.66	10.15	39.20	33.21	188	264	Average	HORIZONTAL
2	11593.83	58.62	74.00	-15.38	42.48	10.15	39.20	33.21	188	264	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	11588.54	57.72	74.00	-16.28	41.58	10.15	39.20	33.21	211	355	Peak	VERTICAL
2	11589.21	44.59	54.00	-9.41	28.45	10.15	39.20	33.21	211	355	Average	VERTICAL

Configurations	IEEE 802.11ac MCS0/Nss1 VHT80 CH 42 / Chain 1 + Chain 2 + Chain 3 + Chain 4
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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	15630.30	57.88	74.00	-16.12	41.37	12.11	37.98	33.58	175	178	Peak	HORIZONTAL
2	15630.32	45.66	54.00	-8.34	29.15	12.11	37.98	33.58	175	178	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	15630.02	58.27	74.00	-15.73	41.76	12.11	37.98	33.58	187	134	Peak	VERTICAL
2	15630.32	46.55	54.00	-7.45	30.04	12.11	37.98	33.58	187	134	Average	VERTICAL



Configurations	IEEE 802.11ac MCS0/Nss1 VHT80 CH 155 / Chain 1 + Chain 2 + Chain 3 + Chain 4
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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	11550.26	56.88	74.00	-17.12	40.75	10.13	39.20	33.20	209	204	Peak	HORIZONTAL
2	11550.27	44.74	54.00	-9.26	28.61	10.13	39.20	33.20	209	204	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	11547.29	57.59	74.00	-16.41	41.47	10.12	39.20	33.20	162	267	Peak	VERTICAL
2	11551.71	43.83	54.00	-10.17	27.70	10.13	39.20	33.20	162	267	Average	VERTICAL

Note:

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

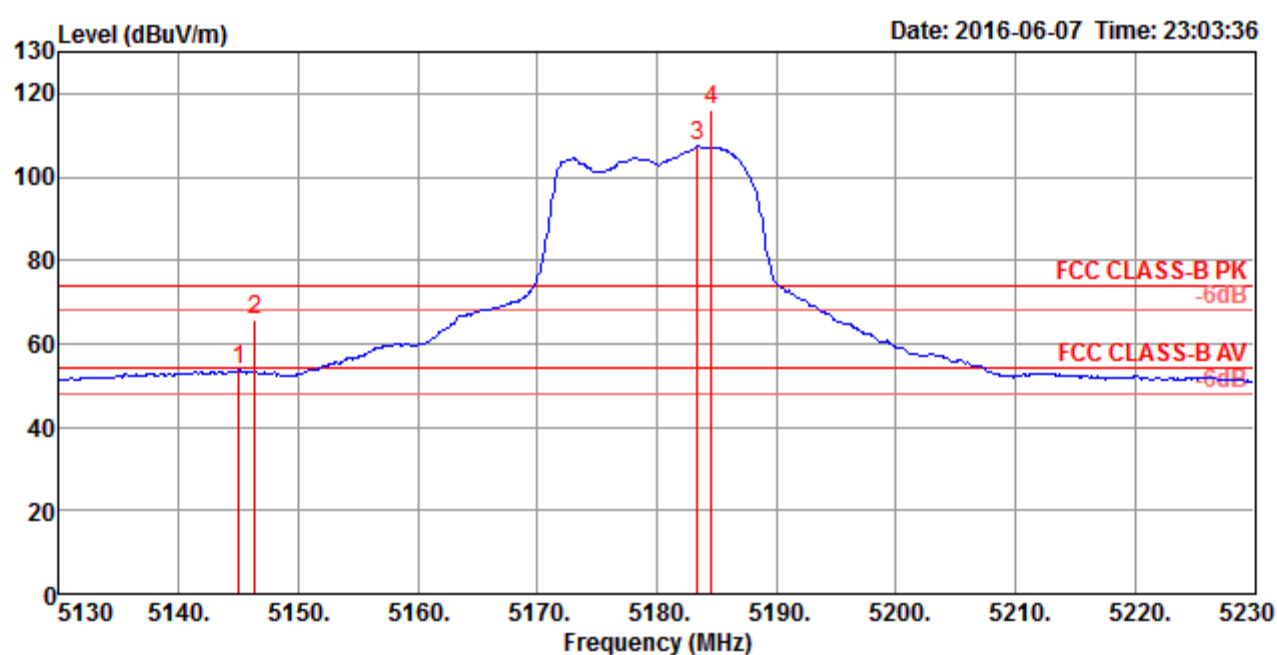
Emission level (dBuV/m) = 20 log Emission level (uV/m).

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

Band Edge Emissions

Configurations	IEEE 802.11a CH 36, 40, 48 / Chain 1 + Chain 2 + Chain 3 + Chain 4
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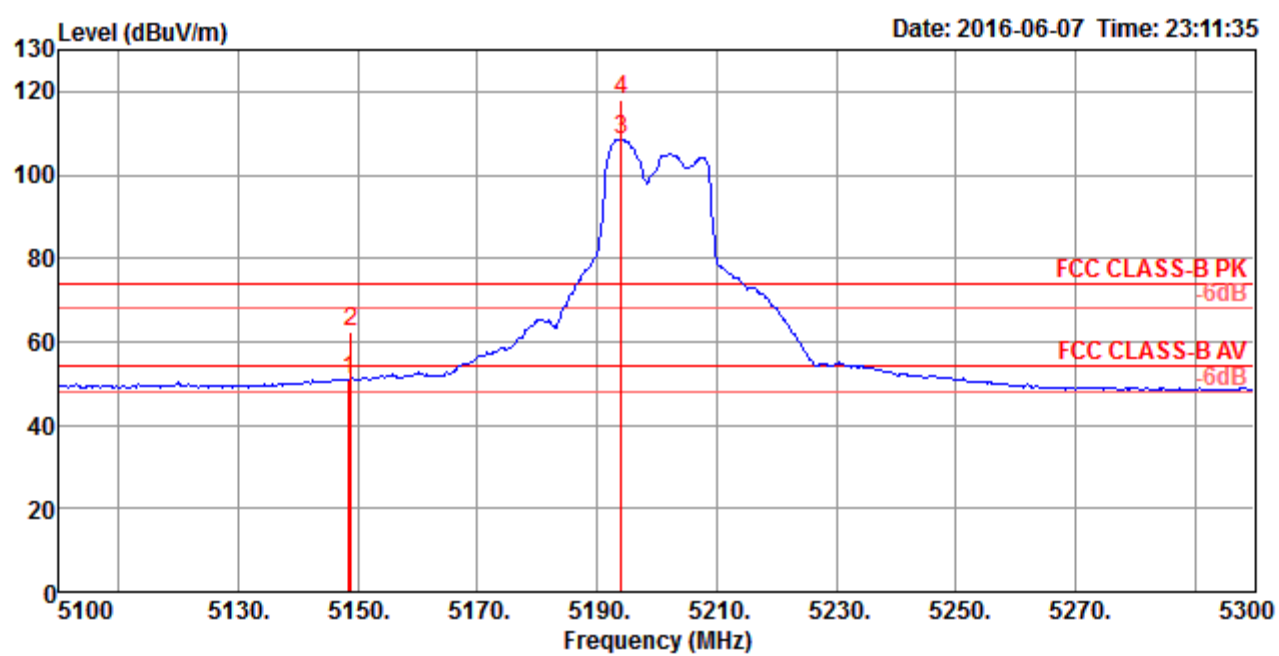
Channel 36



	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	5145.00	53.69	54.00	-0.31	46.98	7.88	33.17	34.34	215	135	Average
2	5146.40	65.77	74.00	-8.23	59.06	7.88	33.17	34.34	215	135	Peak
3	5183.40	107.33			100.53	7.91	33.23	34.34	215	135	Average
4	5184.60	116.31			109.51	7.91	33.23	34.34	215	135	Peak

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

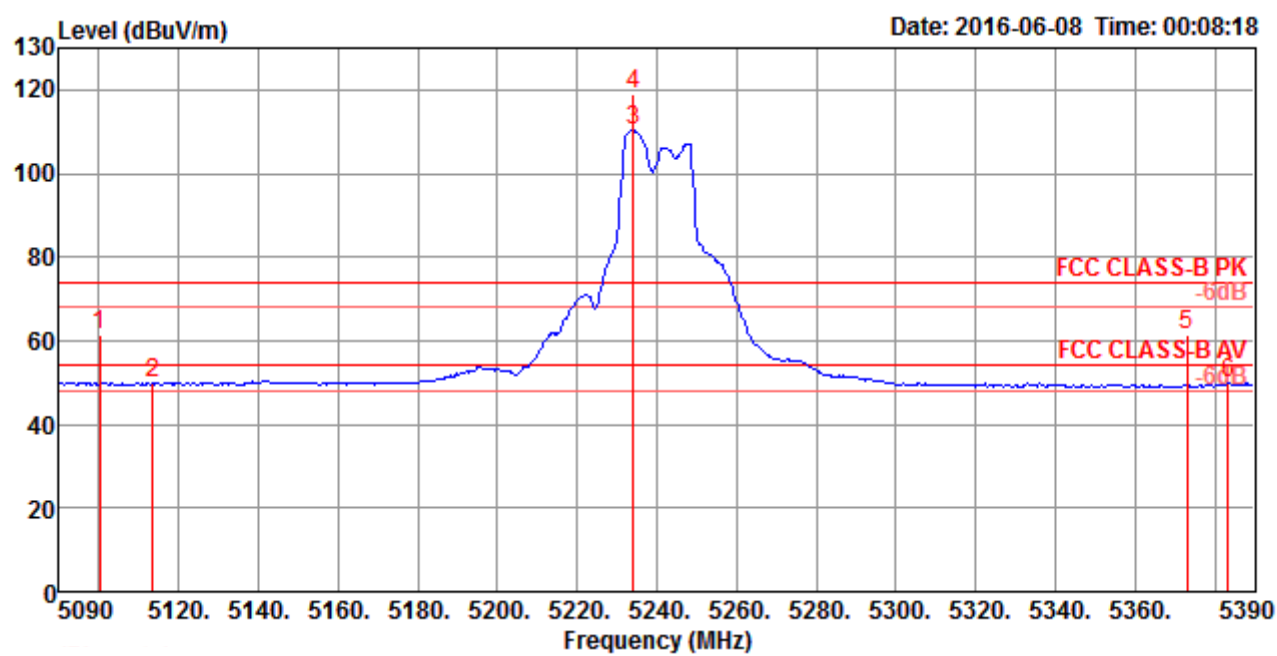
Channel 40



	Freq	Level	Limit Line	Over Limit	Read Level	CableLoss	Antenna Factor	Preampl Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	5148.40	50.95	54.00	-3.05	44.24	7.88	33.17	34.34	101	286	Average	VERTICAL
2	5148.80	62.30	74.00	-11.70	55.59	7.88	33.17	34.34	101	286	Peak	VERTICAL
3	5194.00	108.60			101.77	7.92	33.25	34.34	101	286	Average	VERTICAL
4	5194.00	117.99			111.16	7.92	33.25	34.34	101	286	Peak	VERTICAL

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

Channel 48

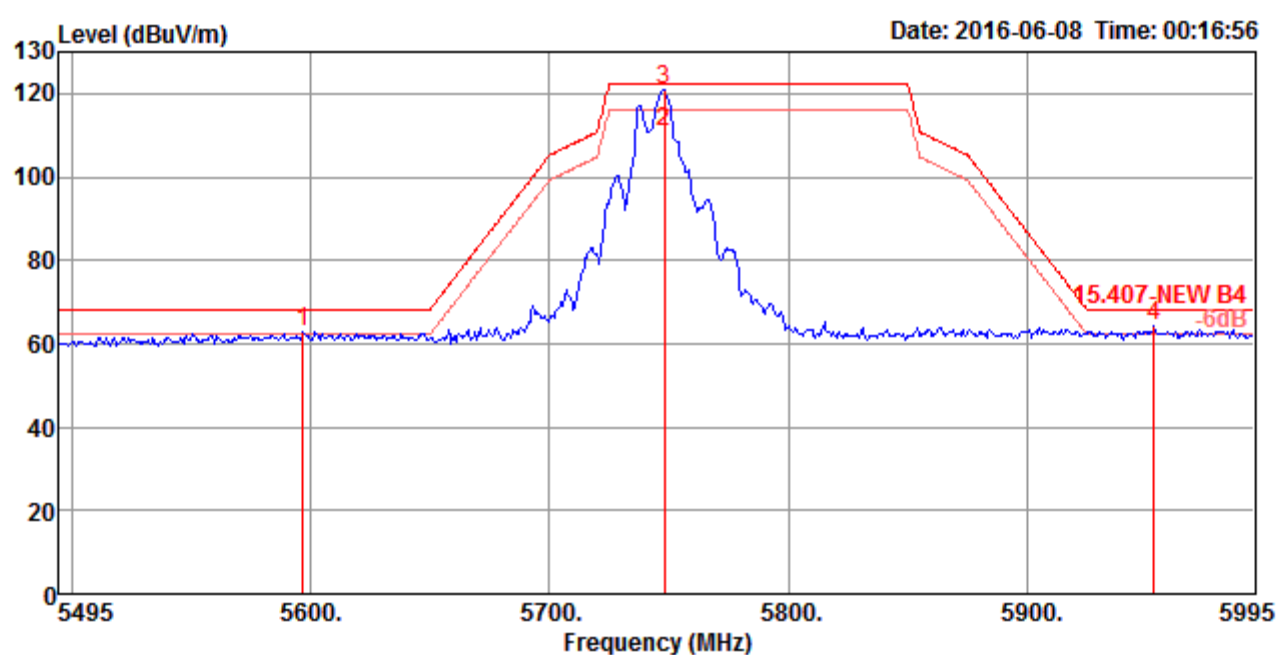


	Freq	Level	Limit	Over	Read	CableAntenna	Preampl	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1	5100.20	61.60	74.00	-12.40	55.02	7.84	33.09	34.35	101	285	Peak
2	5113.40	49.94	54.00	-4.06	43.32	7.85	33.12	34.35	101	285	Average
3	5234.00	110.27			103.36	7.91	33.34	34.34	101	285	Average
4	5234.00	119.01			112.10	7.91	33.34	34.34	101	285	Peak
5	5373.20	61.17	74.00	-12.83	54.04	7.87	33.58	34.32	101	285	Peak
6	5383.40	49.78	54.00	-4.22	42.65	7.87	33.58	34.32	101	285	Average

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

Configurations	IEEE 802.11a CH 149, 157, 165 / Chain 1 + Chain 2 + Chain 3 + Chain 4
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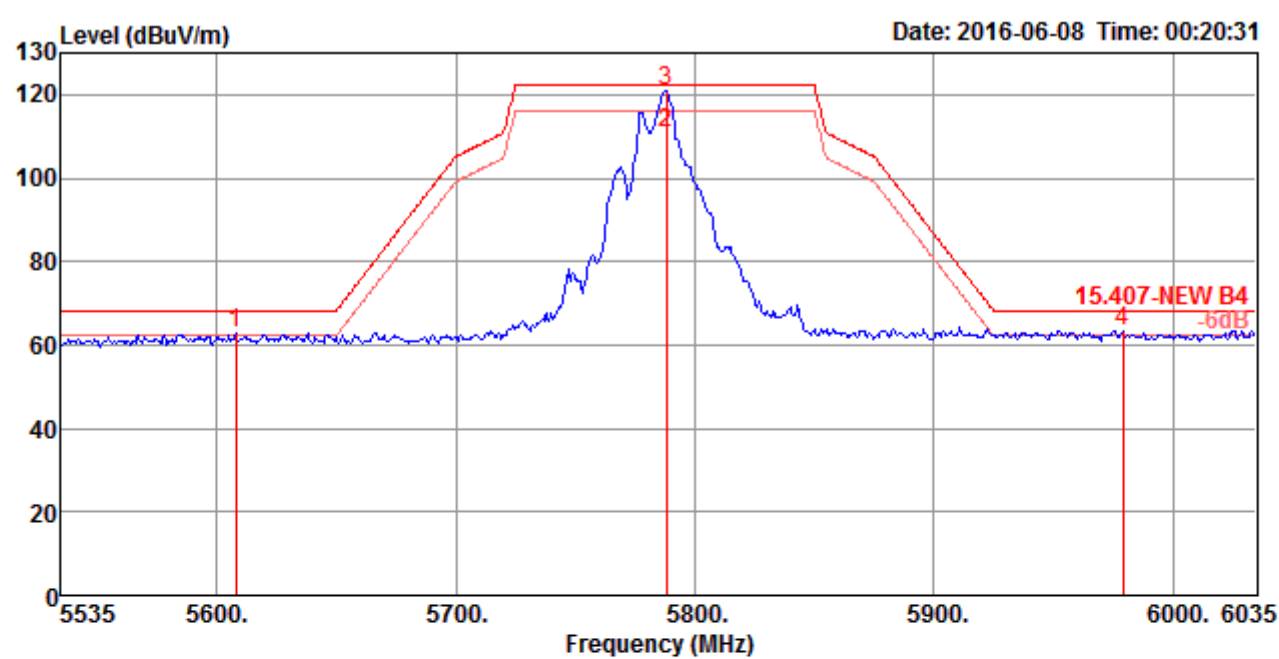
Channel 149



	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	5597.00	63.01	68.20	-5.19	54.79	8.47	34.08	34.33	101	359	Peak
2	5748.00	110.80			102.25	8.42	34.50	34.37	101	359	Average
3	5748.00	120.93			112.38	8.42	34.50	34.37	101	359	Peak
4	5953.00	64.09	68.20	-4.11	55.07	8.37	35.06	34.41	101	359	Peak

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

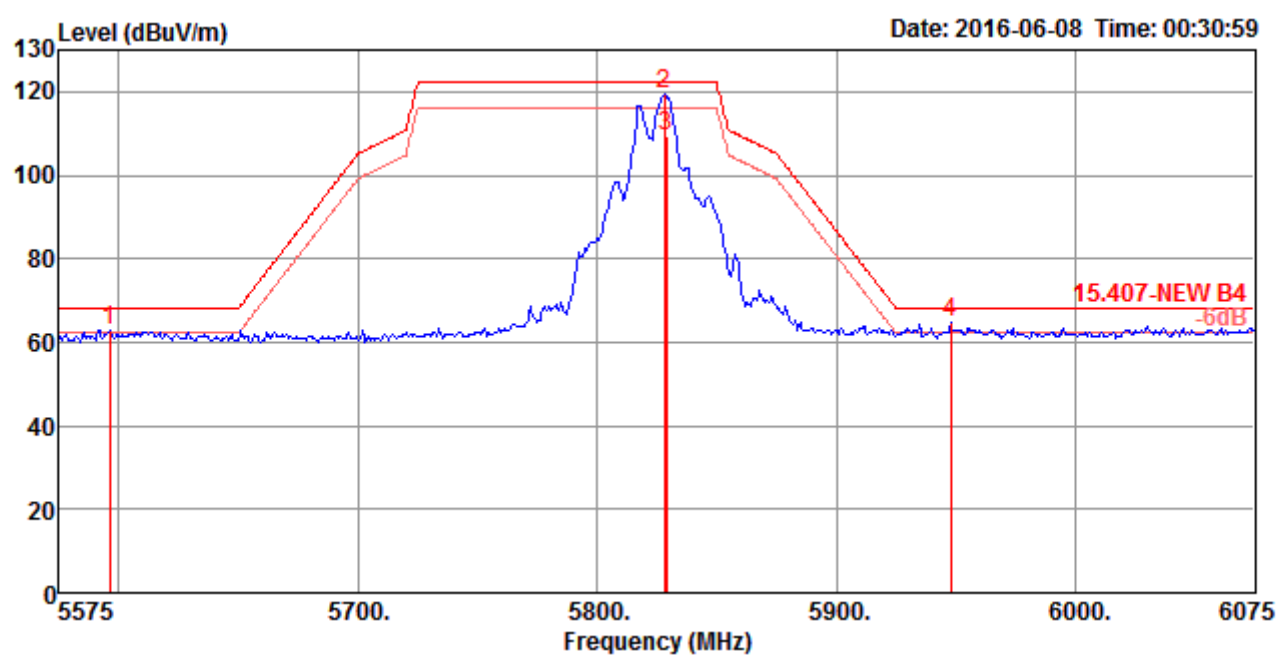
Channel 157



	Freq	Level	Limit	Over	Read	CableAntenna	Preamp	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	Loss	Factor	Factor	cm	deg	
1	5608.00	62.93	68.20	-5.27	54.67	8.46	34.13	34.33	101	1 Peak	VERTICAL
2	5788.00	110.63			102.01	8.41	34.59	34.38	101	1 Average	VERTICAL
3	5788.00	120.95			112.33	8.41	34.59	34.38	101	1 Peak	VERTICAL
4	5979.00	63.38	68.20	-4.82	54.29	8.36	35.15	34.42	101	1 Peak	VERTICAL

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

Channel 165

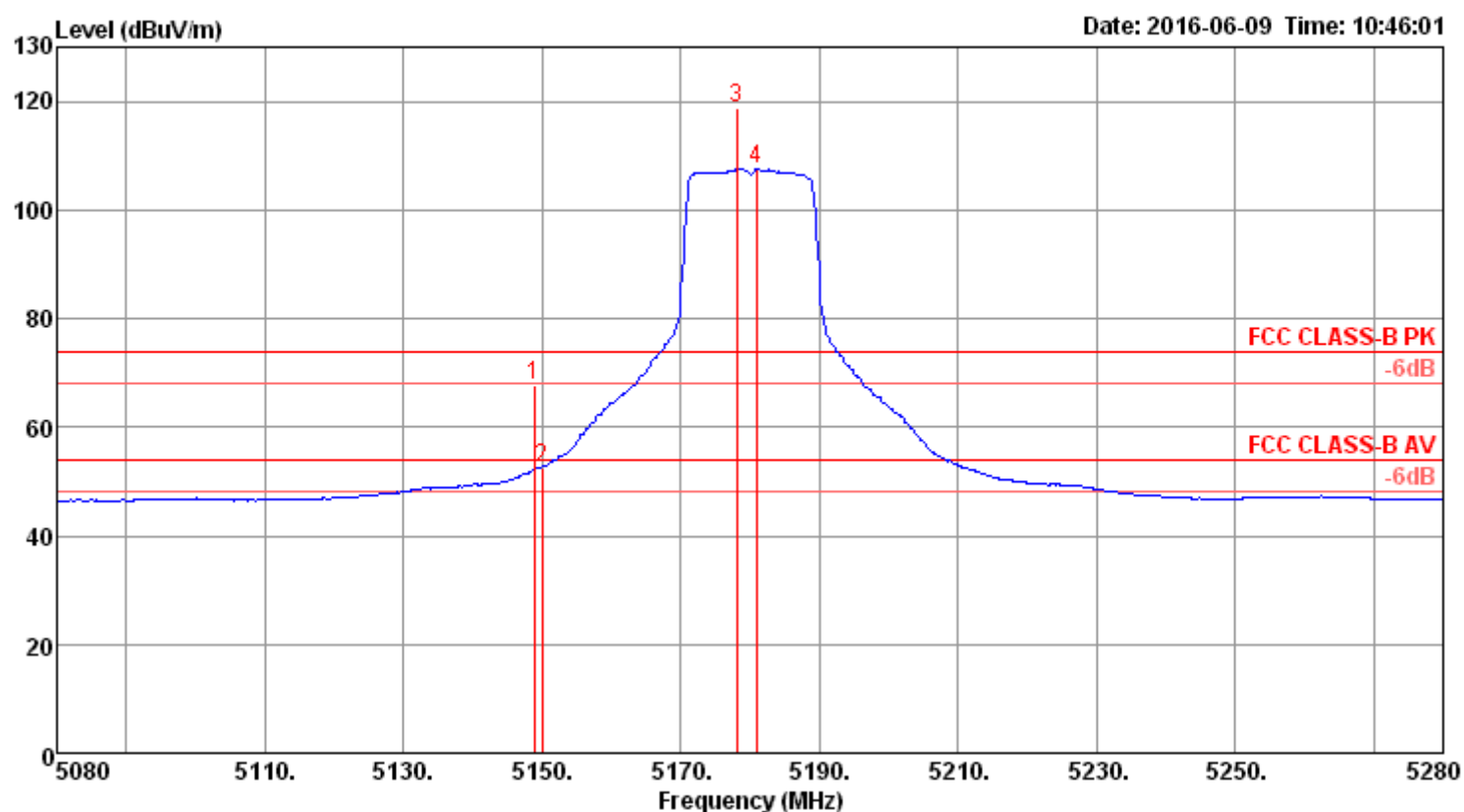


	Freq	Level	Limit	Over	Read	CableAntenna	Preamp	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1	5596.00	62.90	68.20	-5.30	54.68	8.47	34.08	34.33	101	354 Peak	VERTICAL
2	5828.00	119.48			110.74	8.39	34.73	34.38	101	354 Peak	VERTICAL
3	5829.00	109.58			100.84	8.39	34.73	34.38	101	354 Average	VERTICAL
4	5948.00	64.64	68.20	-3.56	55.62	8.37	35.06	34.41	101	354 Peak	VERTICAL

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

Configurations	IEEE 802.11ac MCS0/Nss1 VHT20 CH 36, 40, 48 / Chain 1 + Chain 2 + Chain 3 + Chain 4
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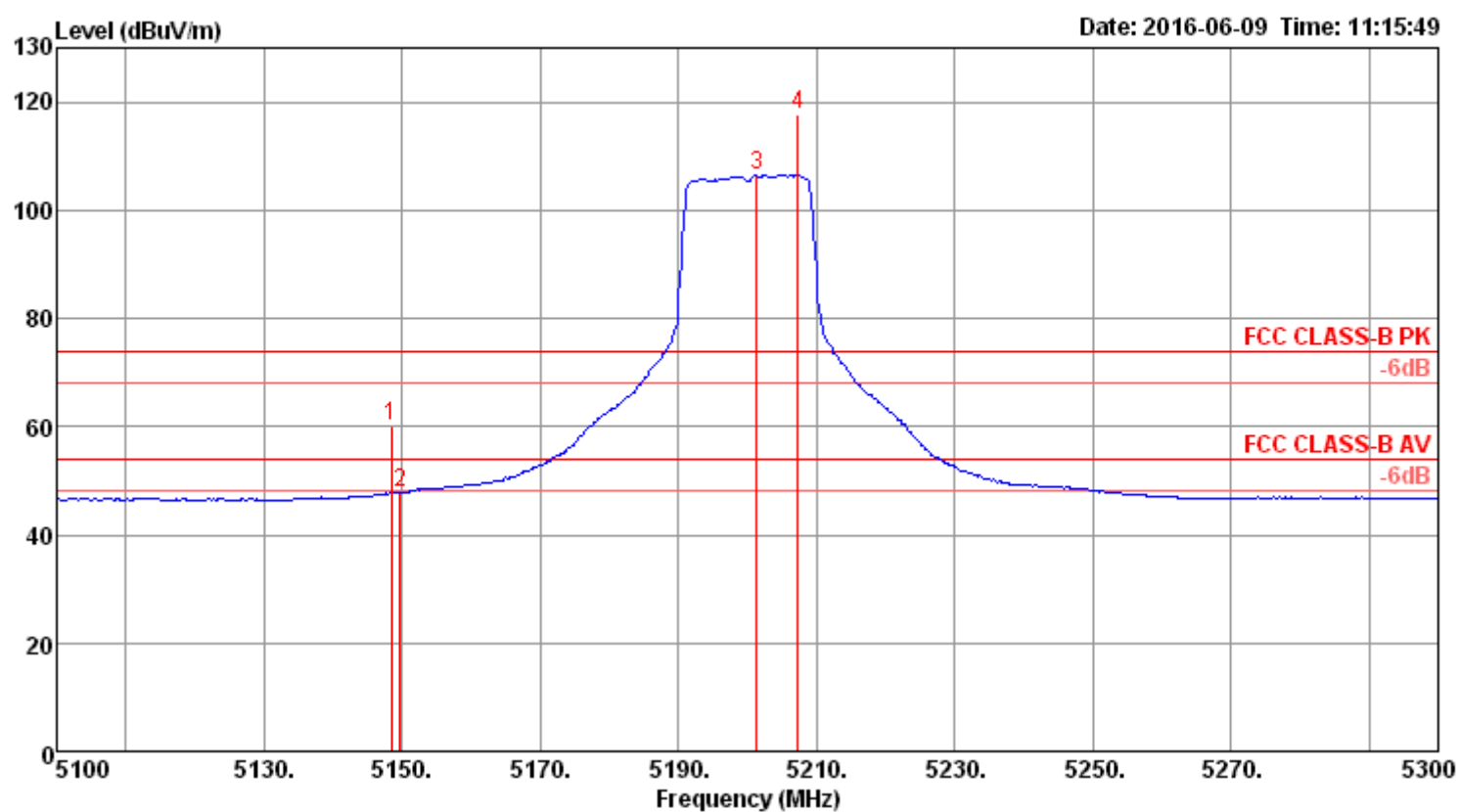
Channel 36



	Freq	Level	Limit	Over	Read	CableAntenna	Preamp	A/Pos	T/Pos		
	MHz	dBuV/m	Line	Limit	Level	Loss	Factor	Factor	cm	deg	Remark
			dBuV/m	dB	dBuV	dB	dB/m	dB			Pol/Phase
1	5148.91	67.65	74.00	-6.35	60.39	6.44	33.74	32.92	251	271	Peak
2	5150.00	52.66	54.00	-1.34	45.40	6.44	33.74	32.92	251	271	Average
3	5178.08	118.89			111.55	6.47	33.79	32.92	251	271	Peak
4	5180.96	107.50			100.16	6.47	33.79	32.92	251	271	Average

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

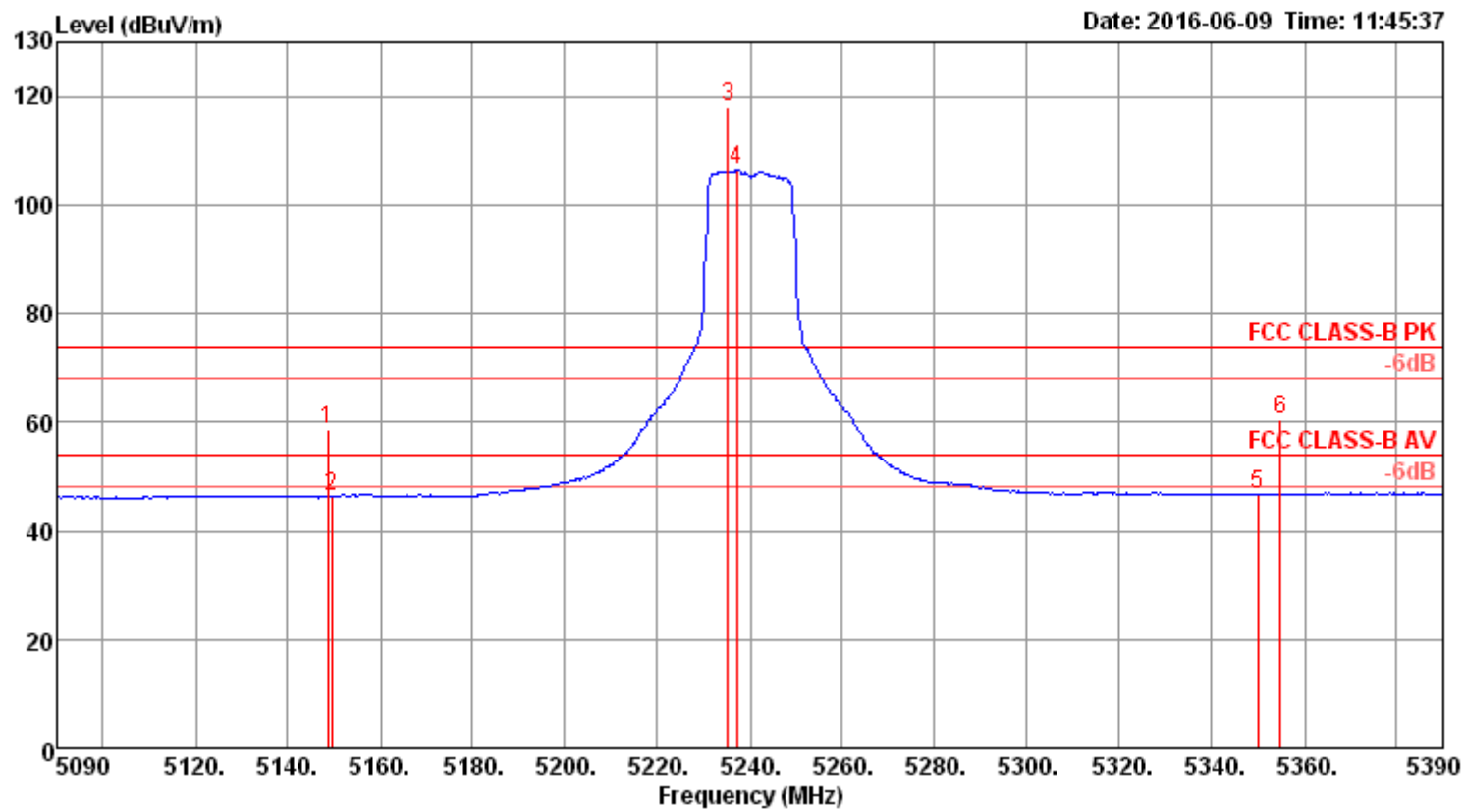
Channel 40



	Freq	Level	Limit	Over	Read	CableAntenna	Preamp	A/Pos	T/Pos		
	MHz	dBuV/m	Line	Limit	Level	Loss	Factor	Factor	cm	deg	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1	5148.40	59.99	74.00	-14.01	52.73	6.44	33.74	32.92	264	270	Peak
2	5149.68	47.88	54.00	-6.12	40.62	6.44	33.74	32.92	264	270	Average
3	5201.28	106.32			98.94	6.48	33.82	32.92	264	270	Average
4	5207.37	117.76			110.35	6.49	33.84	32.92	264	270	Peak

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

Channel 48



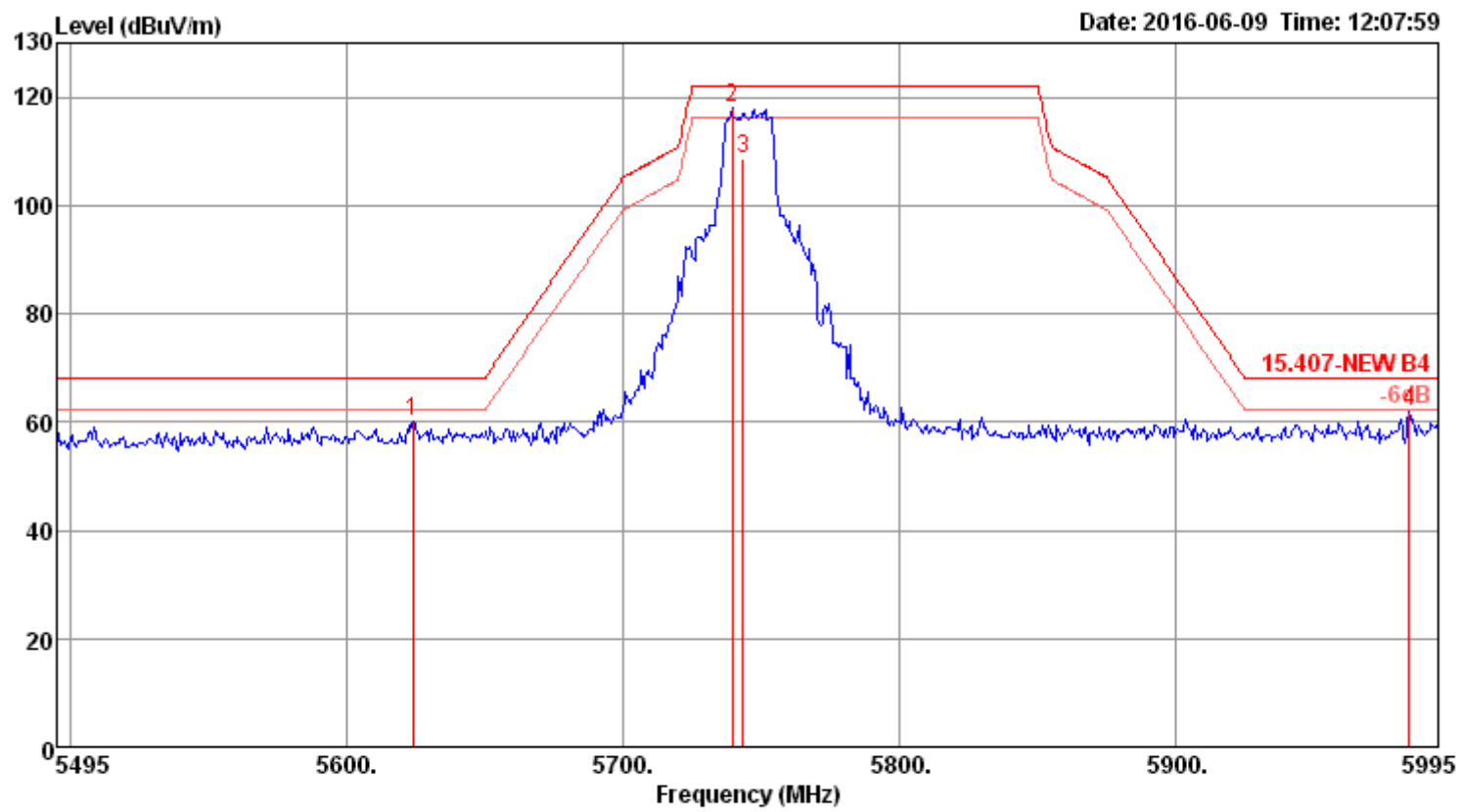
	Freq	Level	Limit	Over	Read	CableAntenna	Preamp	A/Pos	T/Pos		
	MHz	dBuV/m	Line	Limit	Level	Loss	Factor	Factor	cm	deg	Remark
1	5148.56	58.58	74.00	-15.42	51.32	6.44	33.74	32.92	260	257	Peak
2	5149.52	46.19	54.00	-7.81	38.93	6.44	33.74	32.92	260	257	Average
3	5235.19	117.89			110.40	6.52	33.89	32.92	260	257	Peak
4	5237.12	106.48			98.99	6.52	33.89	32.92	260	257	Average
5	5350.00	46.64	54.00	-7.36	38.89	6.61	34.06	32.92	260	257	Average
6	5354.81	60.47	74.00	-13.53	52.69	6.62	34.08	32.92	260	257	Peak

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

Configurations

IEEE 802.11ac MCS0/Nss1 VHT20 CH 149, 157, 165 / Chain 1 + Chain 2 + Chain 3 + Chain 4

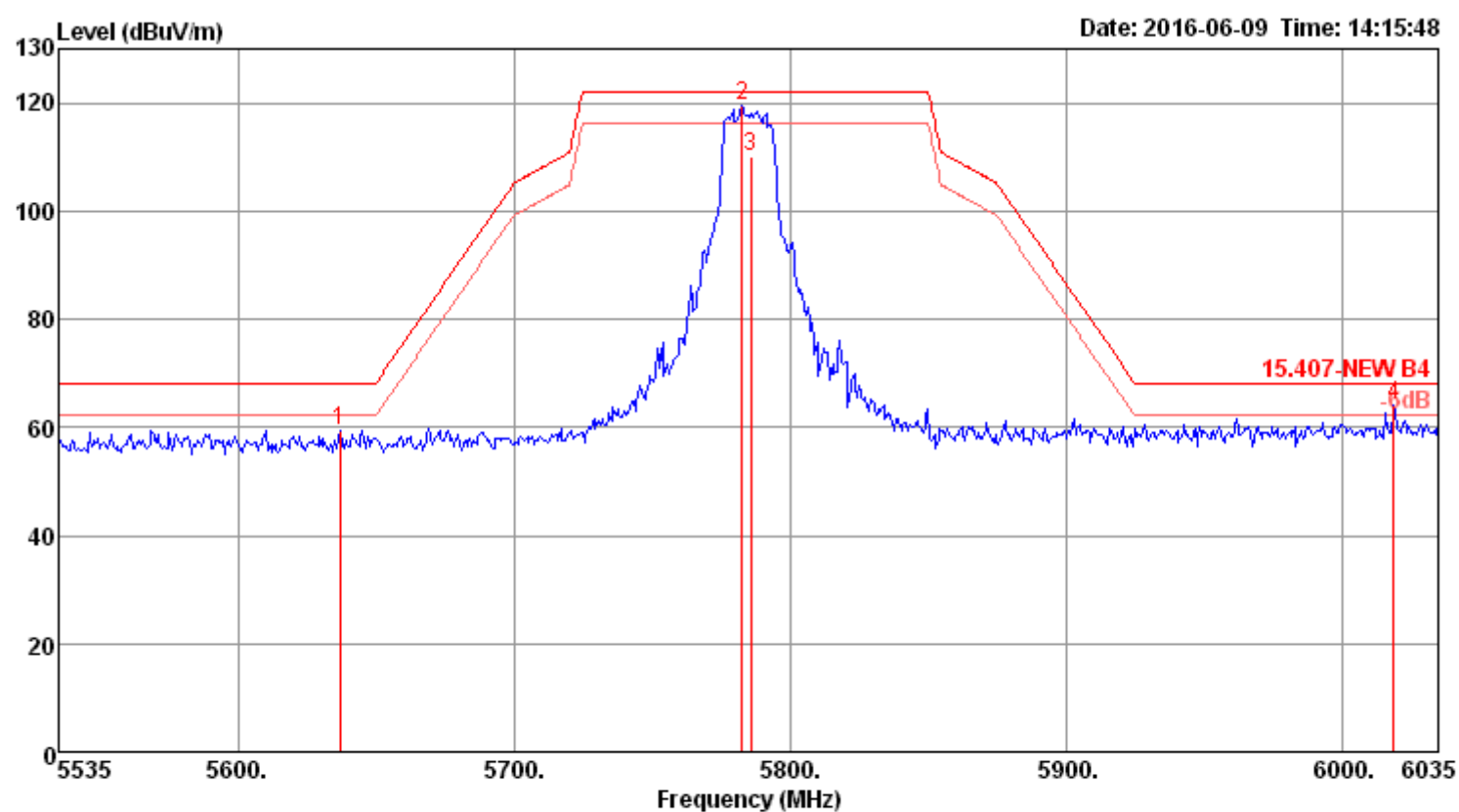
Channel 149



	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	5624.00	60.29	68.20	-7.91	52.09	6.78	34.38	32.96	226	345	Peak
2	5739.39	118.16			109.80	6.90	34.45	32.99	226	345	Peak
3	5743.40	108.70			100.34	6.90	34.45	32.99	226	345	Average
4	5984.50	61.98	68.20	-6.22	53.45	7.00	34.59	33.06	226	345	Peak

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

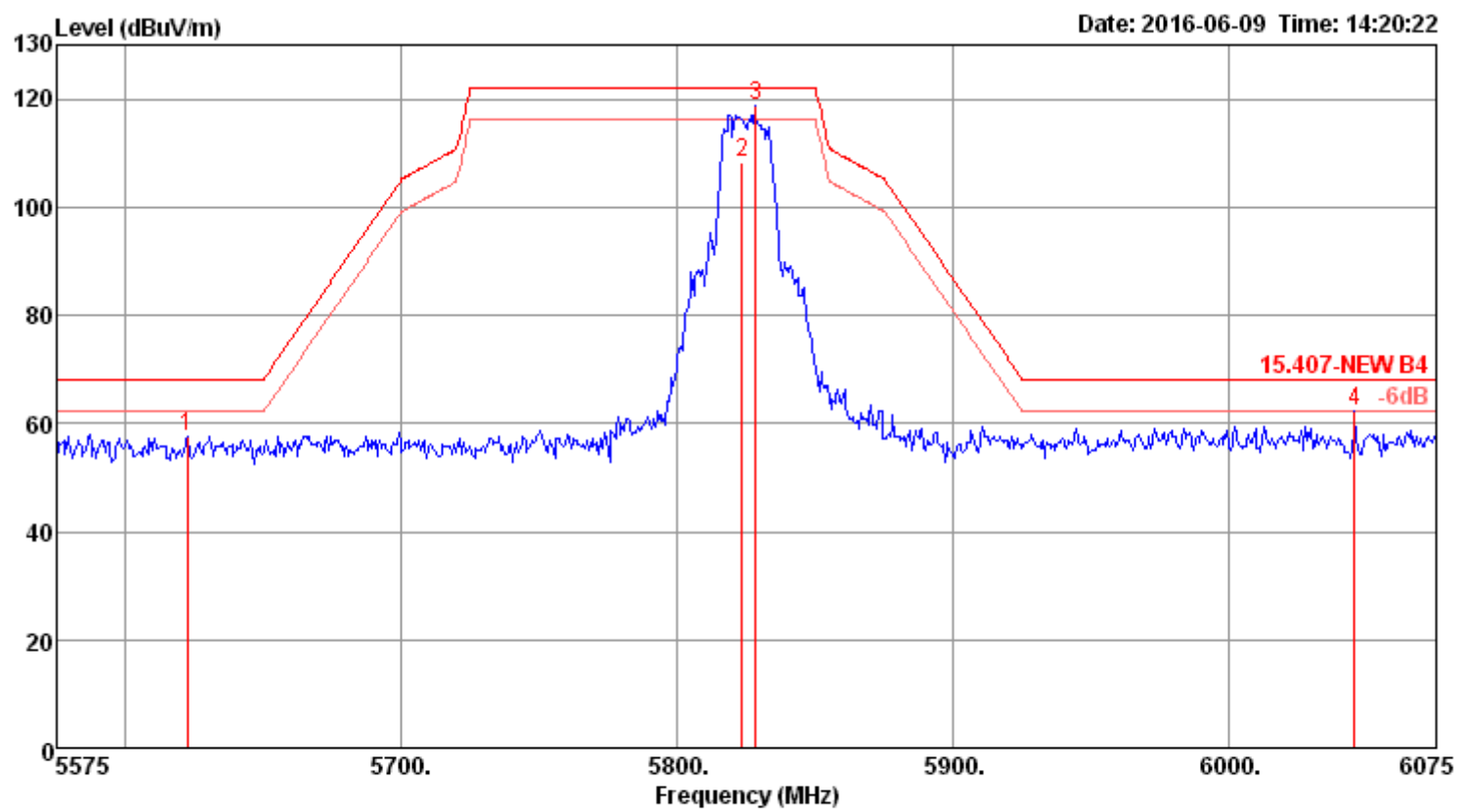
Channel 157



	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	5637.00	59.56	68.20	-8.64	51.37	6.78	34.38	32.97	200	360	Peak
2	5782.60	119.41			111.01	6.93	34.47	33.00	200	360	Peak
3	5785.80	109.95			101.56	6.93	34.47	33.01	200	360	Average
4	6019.00	64.02	68.20	-4.18	55.46	7.02	34.60	33.06	200	360	Peak

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

Channel 165

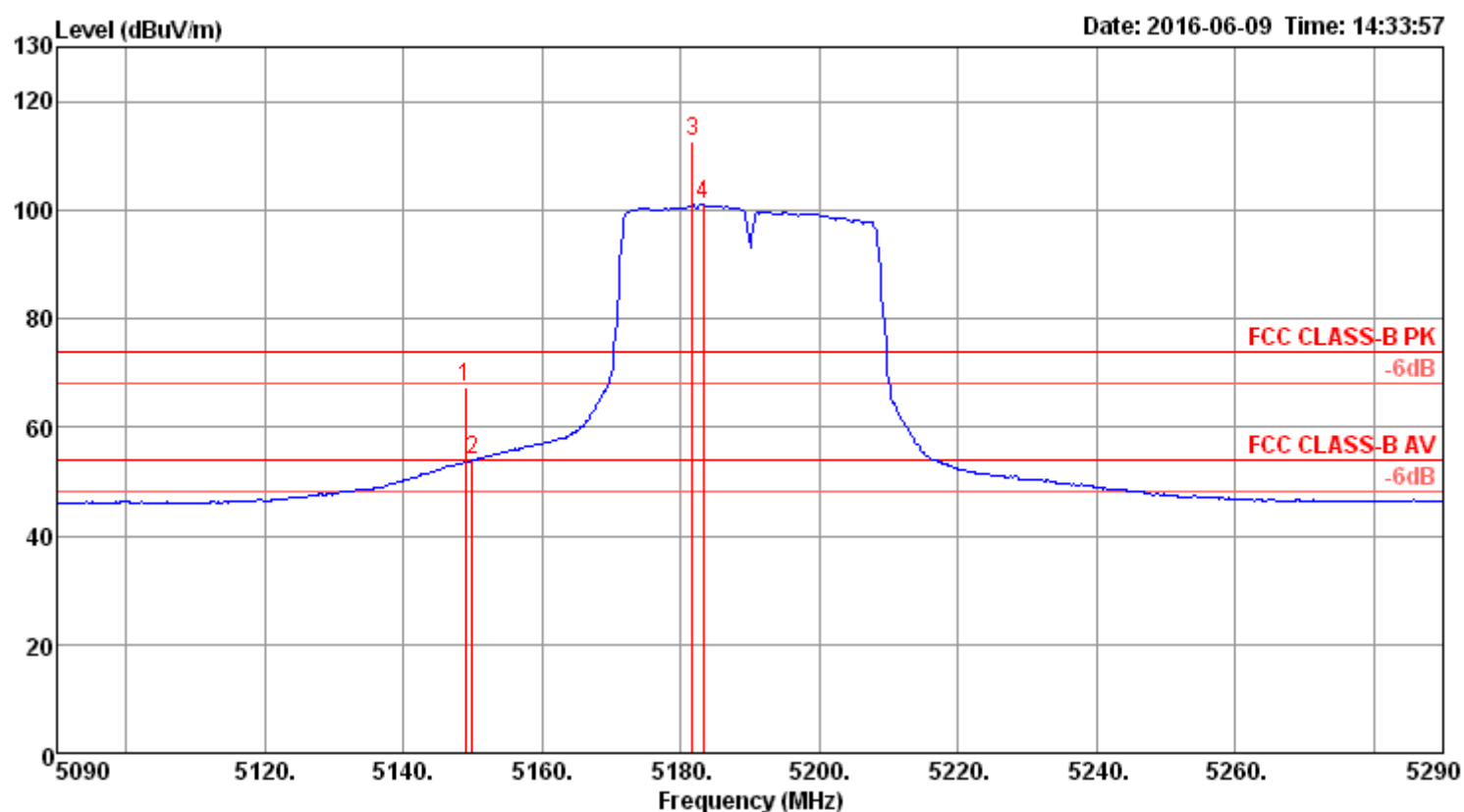


	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	5622.50	57.46	68.20	-10.74	49.28	6.77	34.37	32.96	287	75	Peak	VERTICAL
2	5823.40	108.31			99.87	6.96	34.50	33.02	287	75	Average	VERTICAL
3	5828.21	118.73			110.29	6.96	34.50	33.02	287	75	Peak	VERTICAL
4	6045.50	62.21	68.20	-5.99	53.61	7.05	34.61	33.06	287	75	Peak	VERTICAL

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

Configurations	IEEE 802.11ac MCS0/Nss1 VHT40 CH 38, 46 / Chain 1 + Chain 2 + Chain 3 + Chain 4
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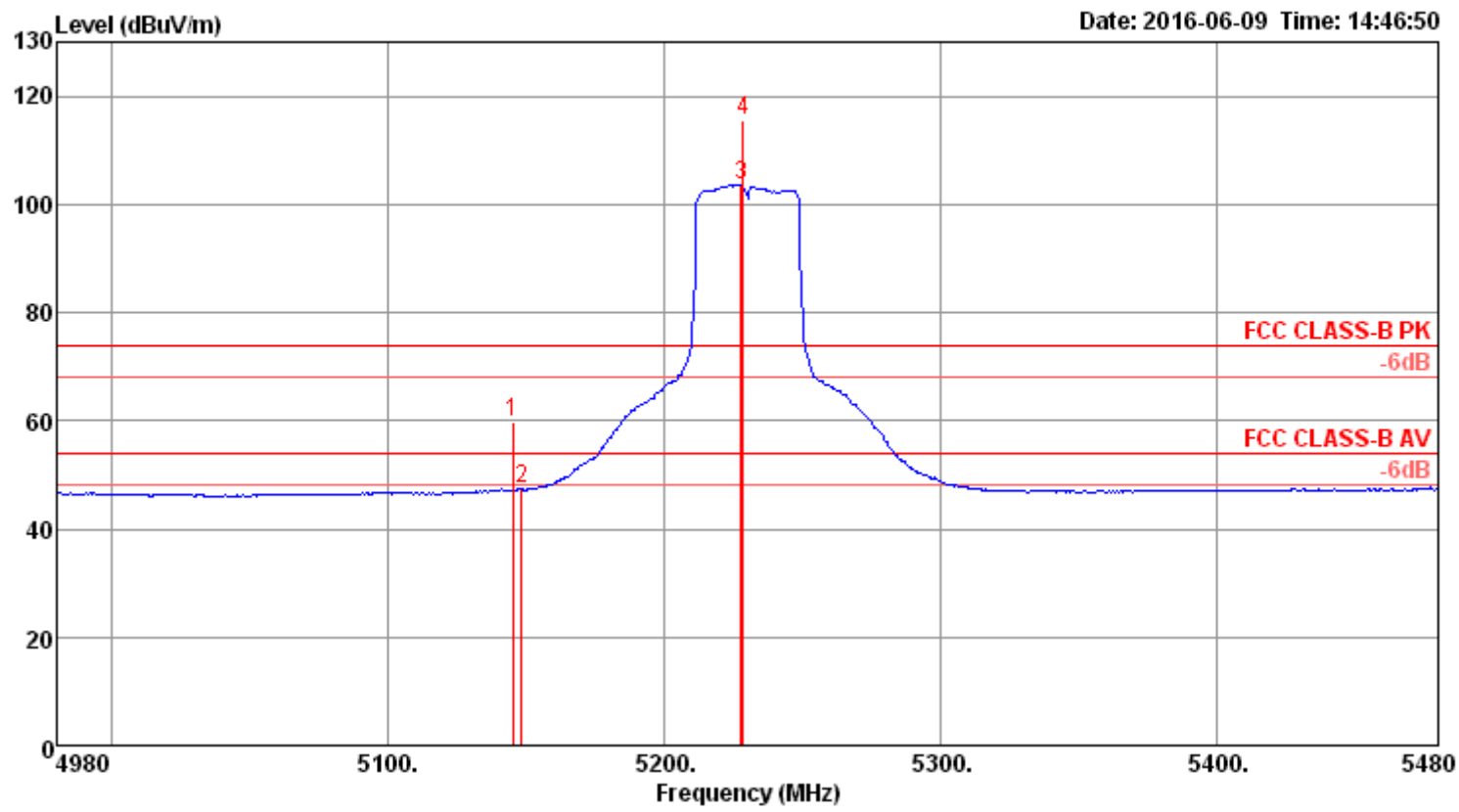
Channel 38



	Freq	Level	Limit	Over	Read	Cable	Antenna	Preamp	A/Pos	T/Pos		
	MHz	dBuV/m	Line	Limit	Level	Loss	Factor	Factor	cm	deg	Remark	Pol/Phase
1	5148.97	67.52	74.00	-6.48	60.26	6.44	33.74	32.92	257	268	Peak	VERTICAL
2	5150.00	53.89	54.00	-0.11	46.63	6.44	33.74	32.92	257	268	Average	VERTICAL
3	5181.67	112.71			105.37	6.47	33.79	32.92	257	268	Peak	VERTICAL
4	5183.27	101.03			93.69	6.47	33.79	32.92	257	268	Average	VERTICAL

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

Channel 46

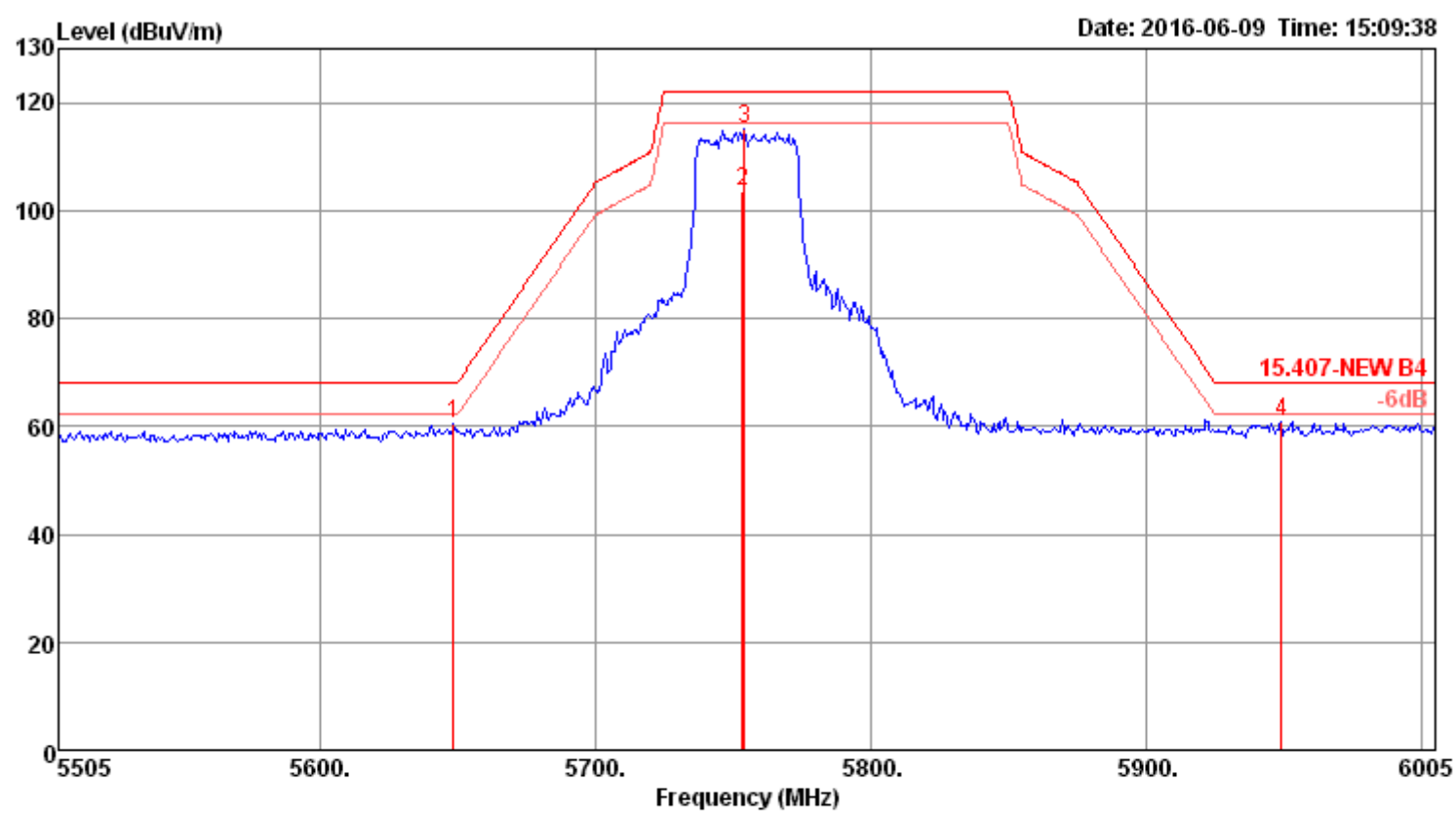


	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna Loss	Preamp Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	5145.06	59.77	74.00	-14.23	52.51	6.44	33.74	32.92	235	252	Peak	VERTICAL
2	5148.27	47.35	54.00	-6.65	40.09	6.44	33.74	32.92	235	252	Average	VERTICAL
3	5227.60	103.56			96.11	6.51	33.86	32.92	235	252	Average	VERTICAL
4	5228.40	115.39			107.94	6.51	33.86	32.92	235	252	Peak	VERTICAL

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

Configurations	IEEE 802.11ac MCS0/Nss1 VHT40 CH 151, 159 / Chain 1 + Chain 2 + Chain 3 + Chain 4
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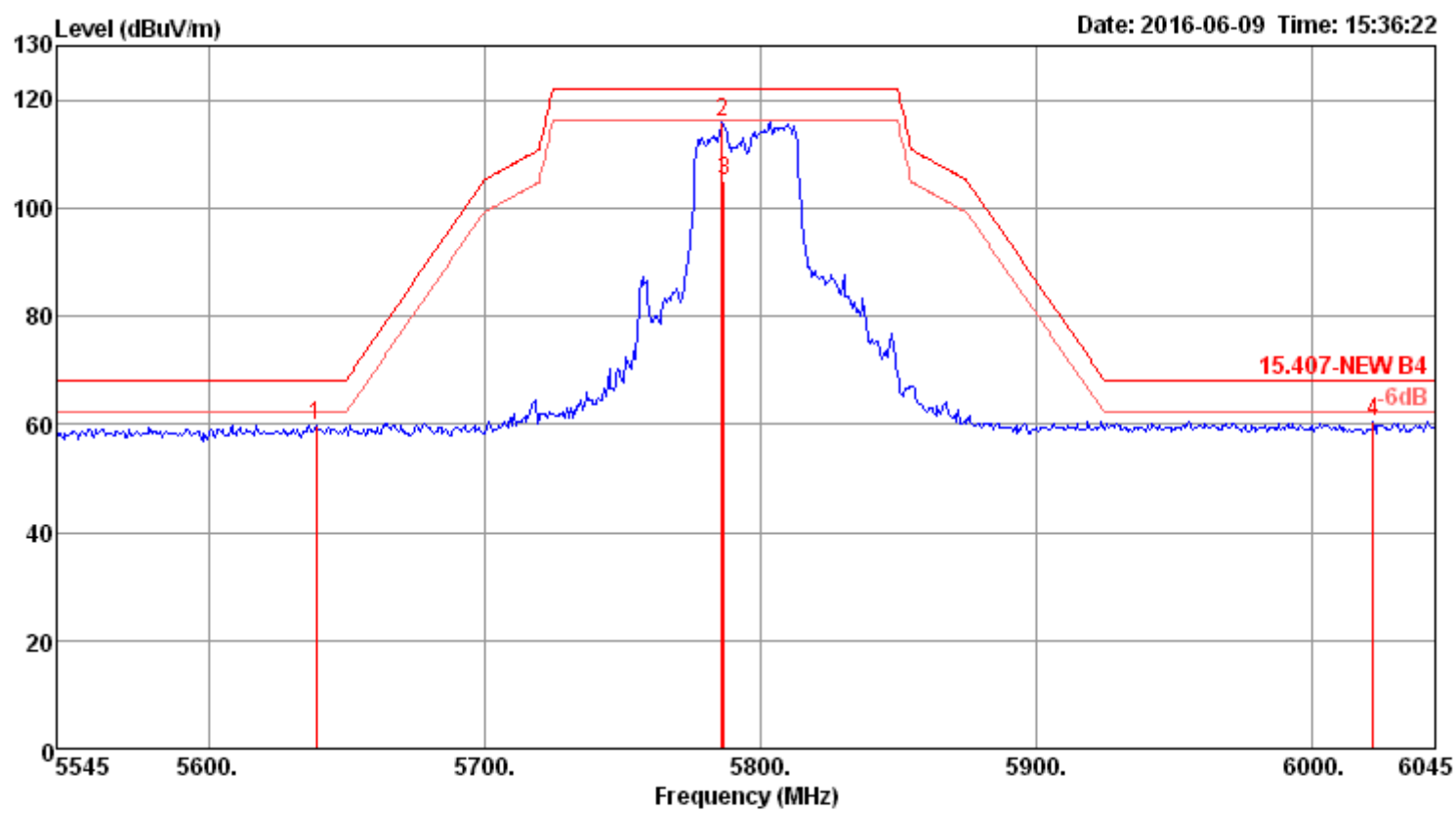
Channel 151



	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	5648.50	60.53	68.20	-7.67	52.31	6.80	34.39	32.97	250	79	Peak	VERTICAL
2	5753.40	103.39			95.04	6.90	34.45	33.00	250	79	Average	VERTICAL
3	5754.20	115.08			106.73	6.90	34.45	33.00	250	79	Peak	VERTICAL
4	5949.00	60.79	68.20	-7.41	52.28	6.99	34.57	33.05	250	79	Peak	VERTICAL

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

Channel 159

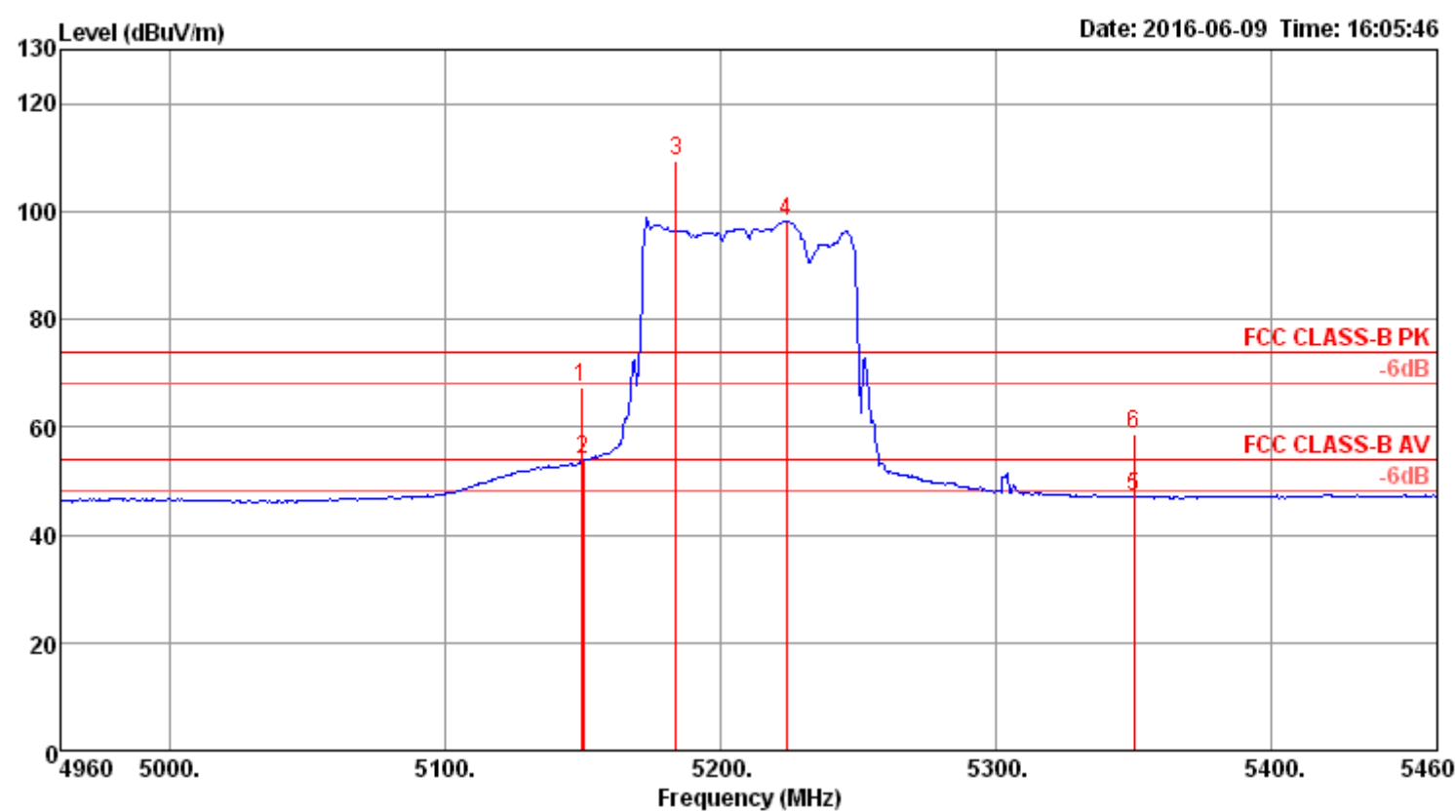


	Freq	Level	Limit	Over	Read	CableAntenna	Preamp	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1	5639.00	59.63	68.20	-8.57	51.44	6.78	34.38	32.97	257	79 Peak	VERTICAL
2	5786.19	115.79			107.40	6.93	34.47	33.01	257	79 Peak	VERTICAL
3	5786.99	105.14			96.75	6.93	34.47	33.01	257	79 Average	VERTICAL
4	6022.50	60.53	68.20	-7.67	51.97	7.02	34.60	33.06	257	79 Peak	VERTICAL

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

Configurations	IEEE 802.11ac MCS0/Nss1 VHT80 CH 42/ Chain 1 + Chain 2 + Chain 3 + Chain 4
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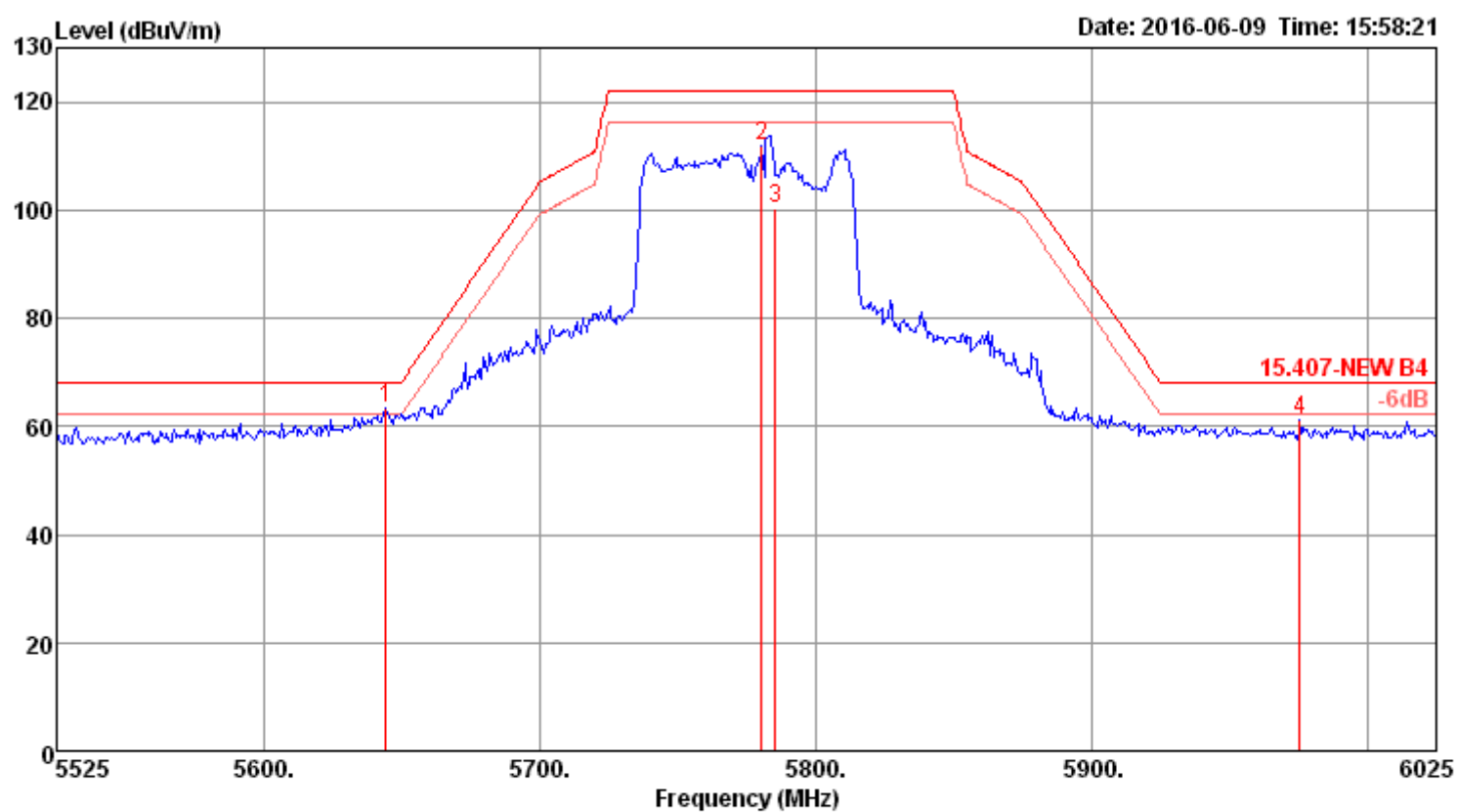
Channel 42



	Freq	Level	Limit	Over	Read	CableAntenna	Preamp	A/Pos	T/Pos		
	MHz	dBuV/m	Line	Limit	Level	Loss	Factor	Factor	cm	deg	Remark
				dB	dBuV	dB	dB/m	dB			Pol/Phase
1	5149.10	67.31	74.00	-6.69	60.05	6.44	33.74	32.92	251	268	Peak
2	5150.00	53.91	54.00	-0.09	46.65	6.44	33.74	32.92	251	268	Average
3	5183.56	109.31			101.97	6.47	33.79	32.92	251	268	Peak
4	5223.62	98.14			90.69	6.51	33.86	32.92	251	268	Average
5	5350.00	47.03	54.00	-6.97	39.28	6.61	34.06	32.92	251	268	Average
6	5350.00	58.82	74.00	-15.18	51.07	6.61	34.06	32.92	251	268	Peak

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

Channel 155



	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	5644.50	63.55	68.20	-4.65	55.33	6.80	34.39	32.97	211	221	Peak
2	5780.61	111.76			103.36	6.93	34.47	33.00	211	221	Peak
3	5785.42	100.47			92.08	6.93	34.47	33.01	211	221	Average
4	5975.50	61.17	68.20	-7.03	52.65	6.99	34.58	33.05	211	221	Peak

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

Note:

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

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



Mode: 20 MHz / Chain 2

Voltage vs. Frequency Stability

Voltage	Measurement Frequency (MHz)			
(V)	5200 MHz			
	0 Minute	2 Minute	5 Minute	10 Minute
126.50	5200.0071	5200.0067	5200.0065	5200.0064
110.00	5200.0070	5200.0069	5200.0065	5200.0059
93.50	5200.0065	5200.0063	5200.0059	5200.0053
Max. Deviation (MHz)	0.0071	0.0068	0.0064	0.0063
Max. Deviation (ppm)	1.36	1.32	1.24	1.22
Result	Pass			

Temperature vs. Frequency Stability

Temperature	Measurement Frequency (MHz)			
(°C)	5200 MHz			
	0 Minute	2 Minute	5 Minute	10 Minute
0	5200.0051	5200.0042	5200.0033	5200.0025
10	5200.0058	5200.0050	5200.0043	5200.0042
20	5200.0070	5200.0064	5200.0063	5200.0055
30	5200.0082	5200.0076	5200.0073	5200.0068
40	5200.0091	5200.0081	5200.0071	5200.0065
Max. Deviation (MHz)	0.070000	0.070000	0.070000	0.070000
Max. Deviation (ppm)	13.46	13.46	13.2075	13.2075
Result	Pass			

Voltage vs. Frequency Stability

Voltage	Measurement Frequency (MHz)			
(V)	5785 MHz			
	0 Minute	2 Minute	5 Minute	10 Minute
126.50	5785.0079	5785.0074	5785.0070	5785.0068
110.00	5785.0070	5785.0066	5785.0062	5785.0054
93.50	5785.0062	5785.0053	5785.0051	5785.0049
Max. Deviation (MHz)	0.0078	0.0073	0.0069	0.0067
Max. Deviation (ppm)	1.36	1.27	1.20	1.17
Result	Pass			

Temperature vs. Frequency Stability

Temperature	Measurement Frequency (MHz)			
(°C)	5785 MHz			
	0 Minute	2 Minute	5 Minute	10 Minute
0	5785.0039	5785.0031	5785.0027	5785.0023
10	5785.0057	5785.0055	5785.0051	5785.0048
20	5785.0068	5785.0058	5785.0049	5785.0044
30	5785.0070	5785.0064	5785.0057	5785.0056
40	5785.0082	5785.0072	5785.0069	5785.0067
Max. Deviation (MHz)	0.0082	0.0072	0.0069	0.0067
Max. Deviation (ppm)	1.42	1.25	1.19	1.16
Result	Pass			

Mode: 40 MHz / Chain 2

Voltage vs. Frequency Stability

Voltage	Measurement Frequency (MHz)			
(V)	5190 MHz			
	0 Minute	2 Minute	5 Minute	10 Minute
126.50	5190.0071	5190.0067	5190.0060	5190.0057
110.00	5190.0070	5190.0062	5190.0054	5190.0044
93.50	5190.0066	5190.0064	5190.0058	5190.0057
Max. Deviation (MHz)	0.0071	0.0067	0.0060	0.0057
Max. Deviation (ppm)	1.36	1.28	1.15	1.09
Result	Pass			

Temperature vs. Frequency Stability

Temperature	Measurement Frequency (MHz)			
(°C)	5190 MHz			
	0 Minute	2 Minute	5 Minute	10 Minute
0	5190.0056	5190.0051	5190.0048	5190.0045
10	5190.0064	5190.0061	5190.0055	5190.0045
20	5190.0070	5190.0063	5190.0061	5190.0057
30	5190.0082	5190.0078	5190.0068	5190.0064
40	5190.0093	5190.0089	5190.0084	5190.0082
Max. Deviation (MHz)	0.0093	0.0089	0.0084	0.0082
Max. Deviation (ppm)	1.79	1.72	1.62	1.58
Result	Pass			

Voltage vs. Frequency Stability

Voltage	Measurement Frequency (MHz)			
(V)	5755 MHz			
	0 Minute	2 Minute	5 Minute	10 Minute
126.50	5755.0078	5755.0068	5755.0061	5755.0057
110.00	5755.0070	5755.0060	5755.0051	5755.0045
93.50	5755.0067	5755.0061	5755.0052	5755.0045
Max. Deviation (MHz)	0.0077	0.0067	0.0060	0.0057
Max. Deviation (ppm)	1.35	1.17	1.05	0.98
Result	Pass			

Temperature vs. Frequency Stability

Temperature	Measurement Frequency (MHz)			
(°C)	5755 MHz			
	0 Minute	2 Minute	5 Minute	10 Minute
0	5755.0026	5755.0018	5755.0016	5755.0008
10	5755.0036	5755.0031	5755.0028	5755.0020
20	5755.0049	5755.0045	5755.0037	5755.0027
30	5755.0066	5755.0059	5755.0055	5755.0048
40	5755.0070	5755.0069	5755.0067	5755.0063
Max. Deviation (MHz)	0.0069	0.0068	0.0066	0.0062
Max. Deviation (ppm)	1.21	1.19	1.16	1.09
Result	Pass			

Mode: 80 MHz / Chain 2

Voltage vs. Frequency Stability

Voltage	Measurement Frequency (MHz)			
(V)	5210 MHz			
	0 Minute	2 Minute	5 Minute	10 Minute
126.50	5210.0077	5210.0067	5210.0065	5210.0063
110.00	5210.0070	5210.0060	5210.0051	5210.0042
93.50	5210.0065	5210.0059	5210.0052	5210.0049
Max. Deviation (MHz)	0.0076	0.0066	0.0064	0.0062
Max. Deviation (ppm)	1.47	1.28	1.24	1.20
Result	Pass			

Temperature vs. Frequency Stability

Temperature	Measurement Frequency (MHz)			
(°C)	5210 MHz			
	0 Minute	2 Minute	5 Minute	10 Minute
0	5210.0041	5210.0037	5210.0031	5210.0021
10	5210.0051	5210.0046	5210.0042	5210.0032
20	5210.0070	5210.0068	5210.0067	5210.0062
30	5210.0082	5210.0077	5210.0073	5210.0067
40	5210.0095	5210.0094	5210.0085	5210.0079
Max. Deviation (MHz)	0.0095	0.0094	0.0085	0.0079
Max. Deviation (ppm)	1.83	1.81	1.63	1.52
Result	Pass			

Voltage vs. Frequency Stability

Voltage	Measurement Frequency (MHz)			
(V)	5775 MHz			
	0 Minute	2 Minute	5 Minute	10 Minute
126.50	5775.0079	5775.0074	5775.0064	5775.0058
110.00	5775.0070	5775.0068	5775.0060	5775.0052
93.50	5775.0063	5775.0059	5775.0054	5775.0044
Max. Deviation (MHz)	0.0078	0.0073	0.0063	0.0057
Max. Deviation (ppm)	1.36	1.27	1.10	1.00
Result	Pass			

Temperature vs. Frequency Stability

Temperature	Measurement Frequency (MHz)			
(°C)	5775 MHz			
	0 Minute	2 Minute	5 Minute	10 Minute
0	5775.0046	5775.0038	5775.0028	5775.0027
10	5775.0052	5775.0051	5775.0042	5775.0039
20	5775.0070	5775.0061	5775.0052	5775.0048
30	5775.0082	5775.0076	5775.0075	5775.0067
40	5775.0086	5775.0085	5775.0083	5775.0081
Max. Deviation (MHz)	0.0086	0.0085	0.0083	0.0081
Max. Deviation (ppm)	1.49	1.47	1.44	1.40
Result	Pass			

