



FCC Test Report

Equipment : AC1200 Wi-Fi Range Extender,AV1200 Powerline Edition
Brand Name : TP-Link
Model No. : TL-WPA8630
FCC ID : TE7WPA8630
Standard : 47 CFR FCC Part 15.407
Operating Band : 5150 MHz – 5250 MHz
5725 MHz – 5850 MHz
Applicant : TP-Link Technologies Co., Ltd
Building 24 (floors 1,3,4,5) and 28 (floors1-4) Central
Science and Technology Park,Nanshan,
Shenzhen,518057,China
Manufacturer : TP-Link Technologies Co., Ltd
Building 24 (floors 1,3,4,5) and 28 (floors1-4) Central
Science and Technology Park,Nanshan,
Shenzhen,518057,China
Function : ☐ Outdoor; ☒ Indoor; ☐ Fixed P2P
☐ Client

The product sample received on Jul. 18, 2016 and completely tested on Oct. 16, 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.

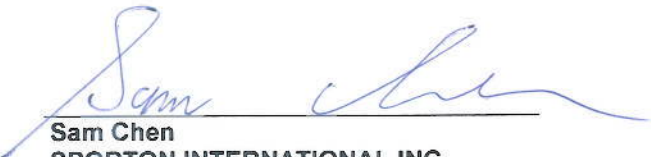

Sam Chen
SPORTON INTERNATIONAL INC.





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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



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FCC ID: TE7WPA8630

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	2
5.8G	11a	20	2
5.2G	HT20	20	2
5.8G	HT20	20	2
5.2G	VHT20	20	2
5.8G	VHT20	20	2
5.2G	HT40	40	2
5.8G	HT40	40	2
5.2G	VHT40	40	2
5.8G	VHT40	40	2
5.2G	VHT80	80	2
5.8G	VHT80	80	2

Note:

- ♦ 5.2G/5.2G-I(IC) is the 5.2GHz Band (5.15-5.25GHz).
- ♦ 5.8G/5.8G-I(IC) is the 5.8GHz Band (5.725-5.850GHz).
- ♦ 11a, HT20 and HT40 use a combination of OFDM-BPSK, QPSK, 16QAM, 64QAM modulation.
- ♦ VHT20, VHT40, VHT80 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	P/N	Antenna Type	Connector	Gain (dBi)	
					2.4GHz	5GHz
1	TP-LINK	3101500754	Omni Antenna	I-PEX	2.35	2.23
2	TP-LINK	3101500755	Omni Antenna	I-PEX	1.95	2.41

Note: The EUT has two antennas.

Chain 1 connect to Ant.1, Chain 2 connect to Ant.2

<For 2.4GHz Band>

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

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

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

<For 5GHz Band>

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

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

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

1.1.3 Mode Test Duty Cycle

Mode	DC	T(s)	VBW(Hz) $\geq 1/T$
11a	0.997	n/a (DC $\geq$ 0.98)	n/a (DC $\geq$ 0.98)
VHT20	0.997	n/a (DC $\geq$ 0.98)	n/a (DC $\geq$ 0.98)
VHT40	0.993	n/a (DC $\geq$ 0.98)	n/a (DC $\geq$ 0.98)
VHT80	0.961	4.149m	300

1.1.4 EUT Operational Condition

EUT Power Type	From Power Adapter		
Beamforming Function	☐ With beamforming	☒ Without beamforming	

1.2 Testing Applied Standards

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

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

1.3 Testing Location Information

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

Test Condition	Test Site No.	Test Engineer	Test Environment	Test Date
RF Conducted	TH01-CB	Gary Chu	22°C / 55%	Aug. 30, 2016
Radiated	03CH01-CB	Zero Chen/Gino Huang/Eason Chen/Paul Chen/Jay Luo/Jeff Wu	22°C / 59%	Jul. 28, 2016~ Oct. 16, 2016
AC Conduction	CO01-CB	Deven Huang	23°C / 60%	Oct. 13, 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	2	5180	L	19
5.2G	11a	20	1	2	5200	M	22
5.2G	11a	20	1	2	5240	H	22.5
5.2G	VHT20	20	1,(M0)	2	5180	L	17.5
5.2G	VHT20	20	1,(M0)	2	5200	M	22.5
5.2G	VHT20	20	1,(M0)	2	5240	H	21.5
5.2G	VHT40	40	1,(M0)	2	5190	L	15.5
5.2G	VHT40	40	1,(M0)	2	5230	H	22
5.2G	VHT80	80	1,(M0)	2	5210	S	15
5.8G	11a	20	1	2	5745	L	20.5
5.8G	11a	20	1	2	5785	M	21
5.8G	11a	20	1	2	5825	H	23
5.8G	VHT20	20	1,(M0)	2	5745	L	21
5.8G	VHT20	20	1,(M0)	2	5785	M	23
5.8G	VHT20	20	1,(M0)	2	5825	H	23
5.8G	VHT40	40	1,(M0)	2	5755	L	23
5.8G	VHT40	40	1,(M0)	2	5795	H	24
5.8G	VHT80	80	1,(M0)	2	5775	S	21.5

Note:

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

2.2 The Worst Case Measurement Configuration

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

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

The Worst Case Mode for Following Conformance Tests	
Tests Item	Unwanted Emissions
Test Condition	Radiated measurement If EUT consist of multiple antenna assembly (multiple antenna are used in EUT regardless of spatial multiplexing MIMO configuration), the radiated test should be performed with highest antenna gain of each antenna type.
Operating Mode < 1GHz	CTX
1	Place EUT in Y axis
2	Place EUT in Z axis
For operating mode 1 is the worst case and it was record in this test report.	
Operating Mode > 1GHz	CTX
The EUT can be placed in Y-axis and Z-axis. After evaluating, Y-axis was the worst case, so it's recorded in this report.	

The Worst Case Mode for Following Conformance Tests	
Tests Item	Simultaneous Transmission Analysis
Test Condition	Radiated measurement
Operating Mode	Normal Link
1	Place EUT in Y axis
2	Place EUT in Z axis
For operating mode 1 is the worst case and it was record in this test report.	
Refer to Sporton Test Report No.: FA642705 for Co-location RF Exposure Evaluation and Appendix G for Radiated Emission Co-location.	

2.3 EUT Operation during Test

The EUT was programmed to be in continuously transmitting mode.

2.4 Accessories

N/A

2.5 Support Equipment

For Test Site No: CO01-CB

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

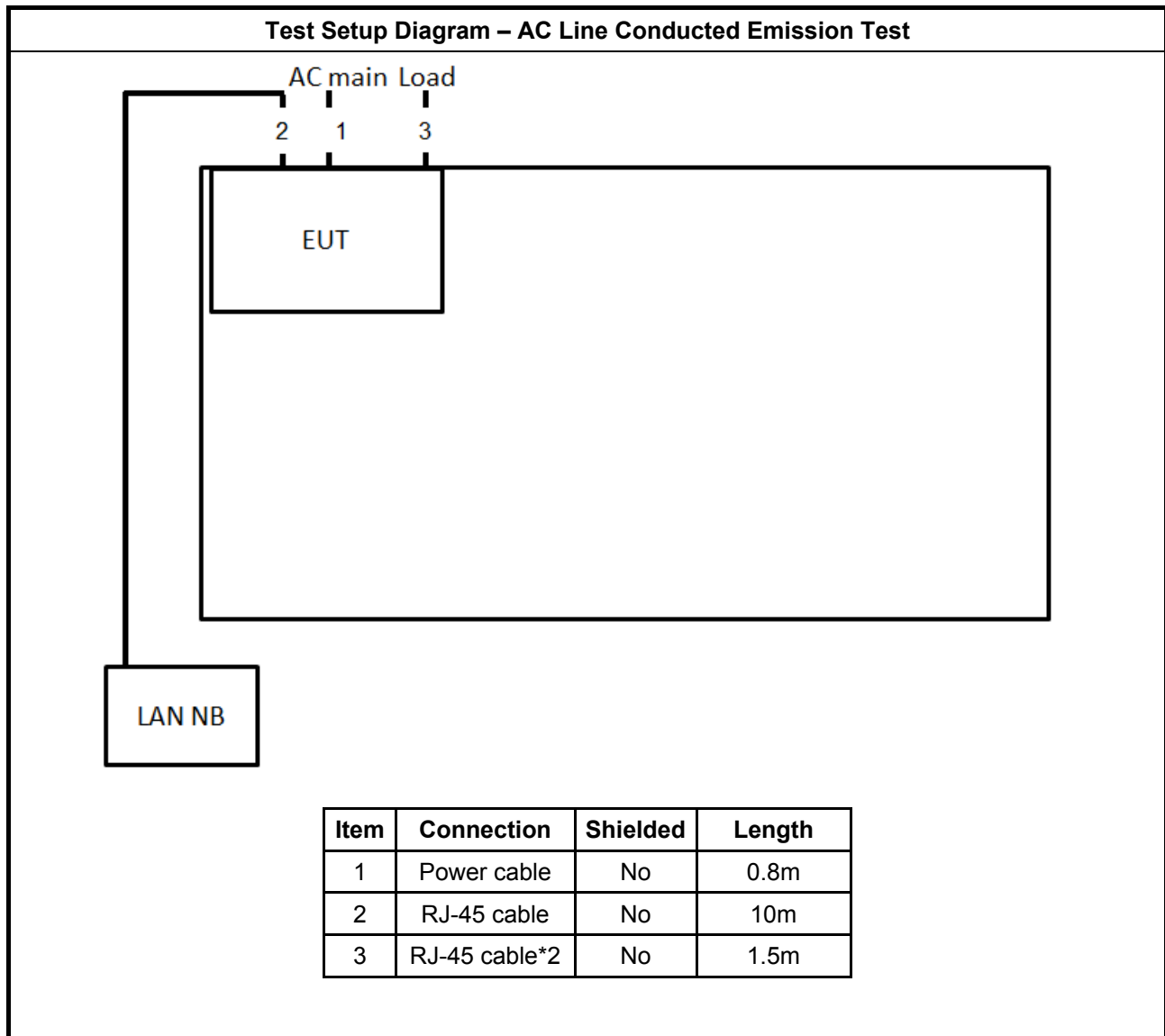
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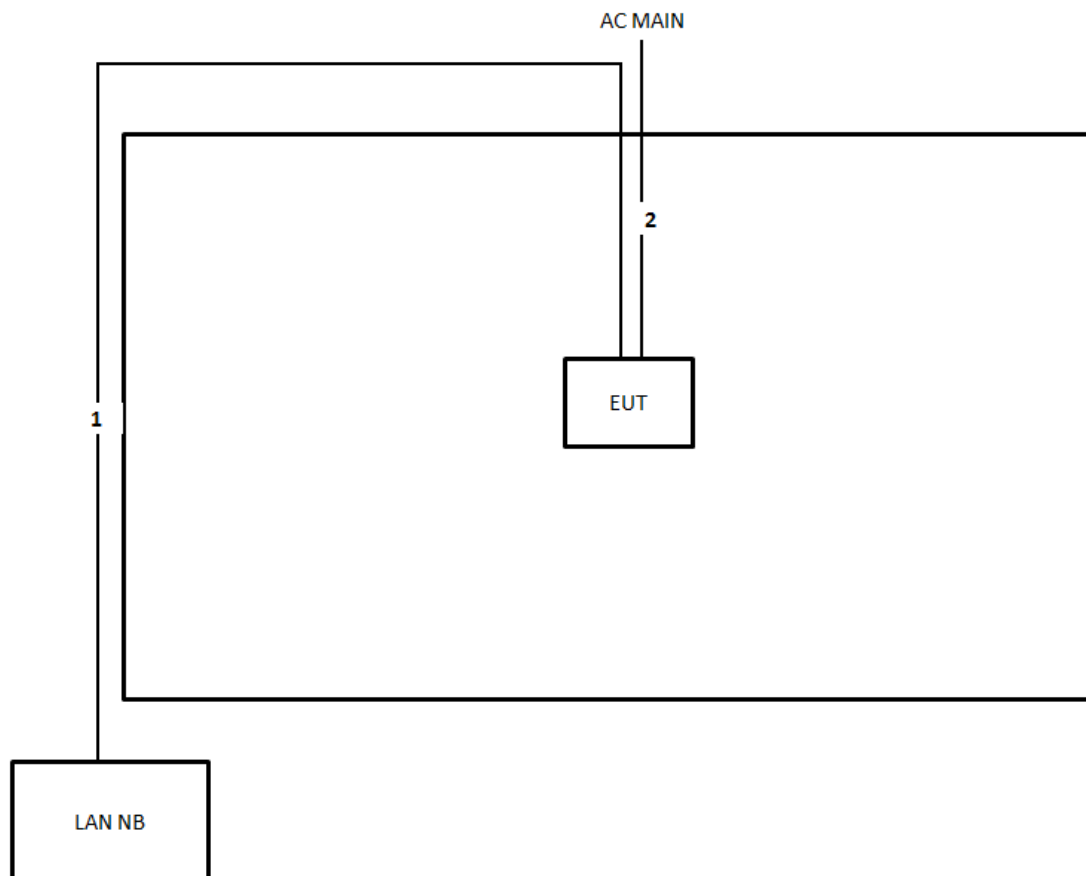
Support Equipment				
No.	Equipment	Brand Name	Model Name	FCC ID
1	Notebook	DELL	E4300	DoC

For Test Site No: TH01-CB

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

2.6 Test Setup Diagram



Test Setup Diagram - Radiated Test


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

3 Transmitter Test Result

3.1 AC Power-line Conducted Emissions

3.1.1 AC Power-line Conducted Emissions Limit

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

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

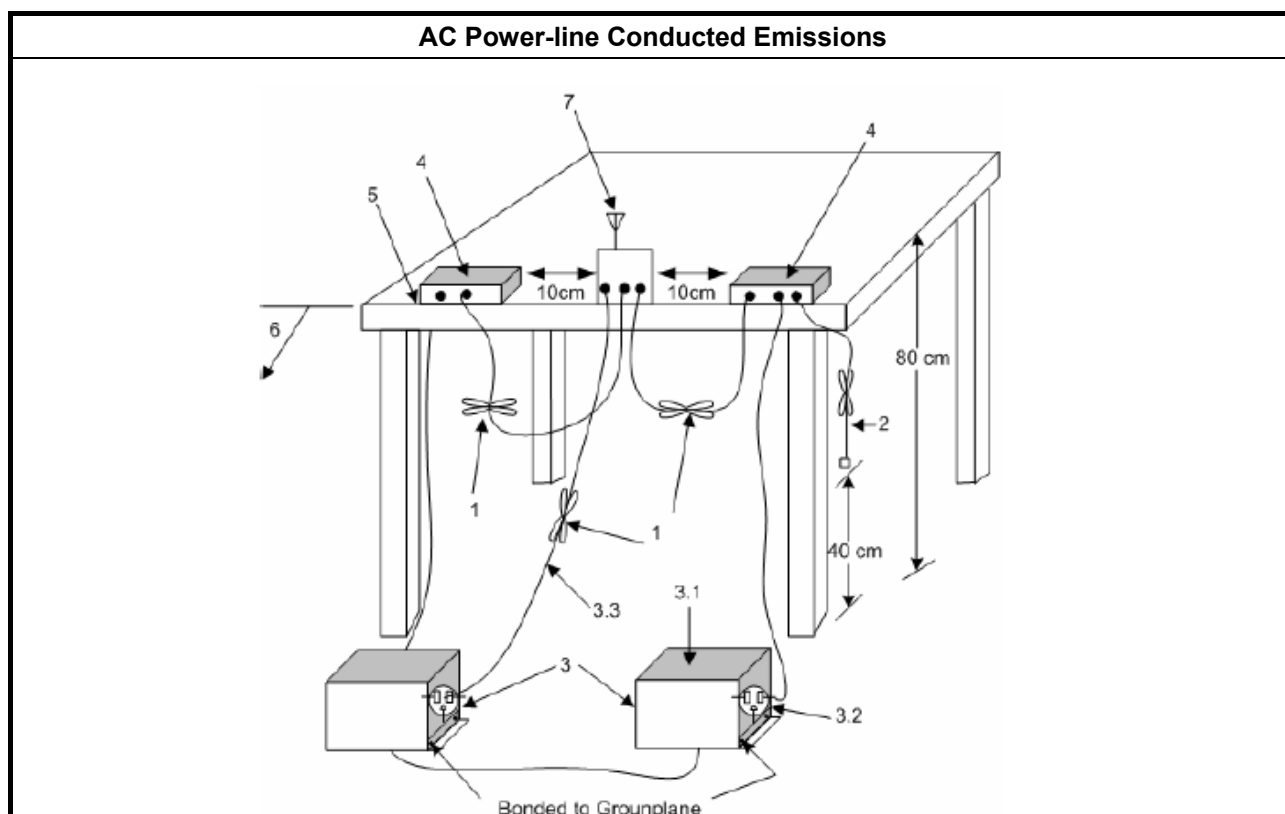
3.1.2 Measuring Instruments

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

3.1.3 Test Procedures

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

3.1.4 Test Setup





3.1.5 Test Result of AC Power-line Conducted Emissions

Refer as Appendix A

3.2 Emission Bandwidth

3.2.1 Emission Bandwidth Limit

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

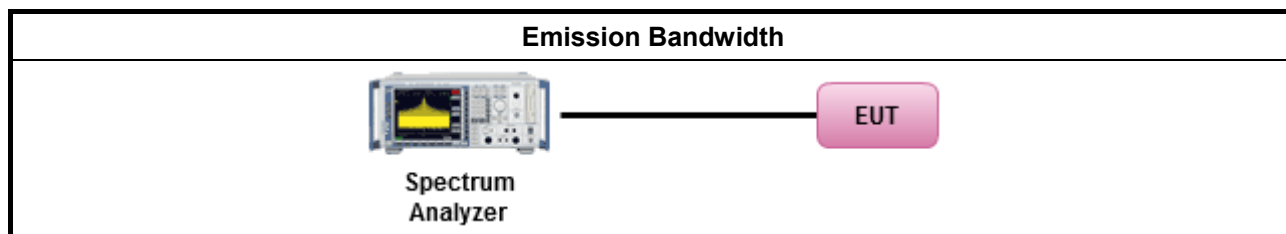
3.2.2 Measuring Instruments

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

3.2.3 Test Procedures

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

3.2.4 Test Setup



3.2.5 Test Result of Emission Bandwidth

Refer as Appendix B

3.3 Maximum Conducted Output Power

3.3.1 Maximum Conducted Output Power Limit

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

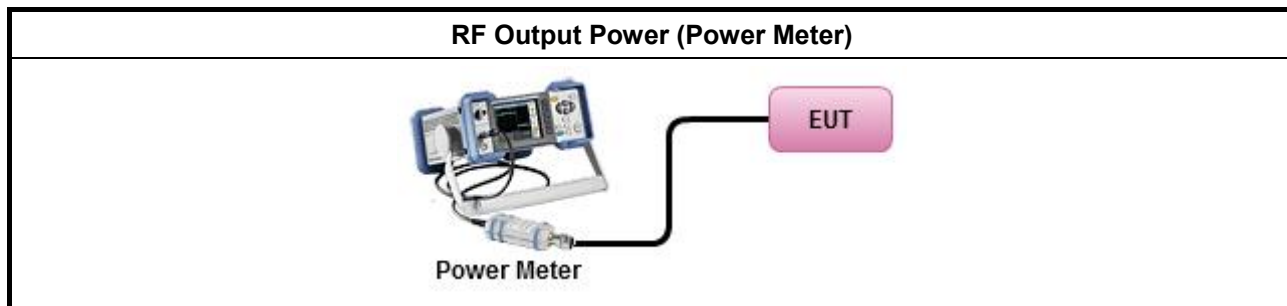
3.3.2 Measuring Instruments

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

3.3.3 Test Procedures

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

3.3.4 Test Setup



3.3.5 Test Result of Maximum Conducted Output Power

Refer as Appendix C

3.4 Peak Power Spectral Density

3.4.1 Peak Power Spectral Density Limit

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

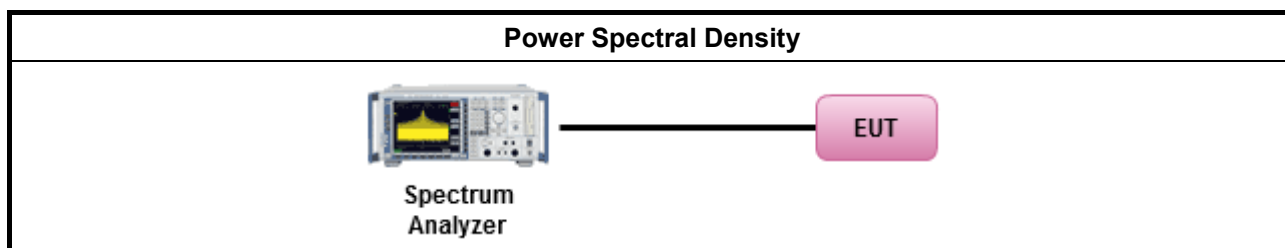
3.4.2 Measuring Instruments

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

3.4.3 Test Procedures

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

3.4.4 Test Setup





3.4.5 Test Result of Peak Power Spectral Density

Refer as Appendix D

3.5 Unwanted Emissions

3.5.1 Transmitter Radiated Unwanted Emissions Limit

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

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

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

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

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

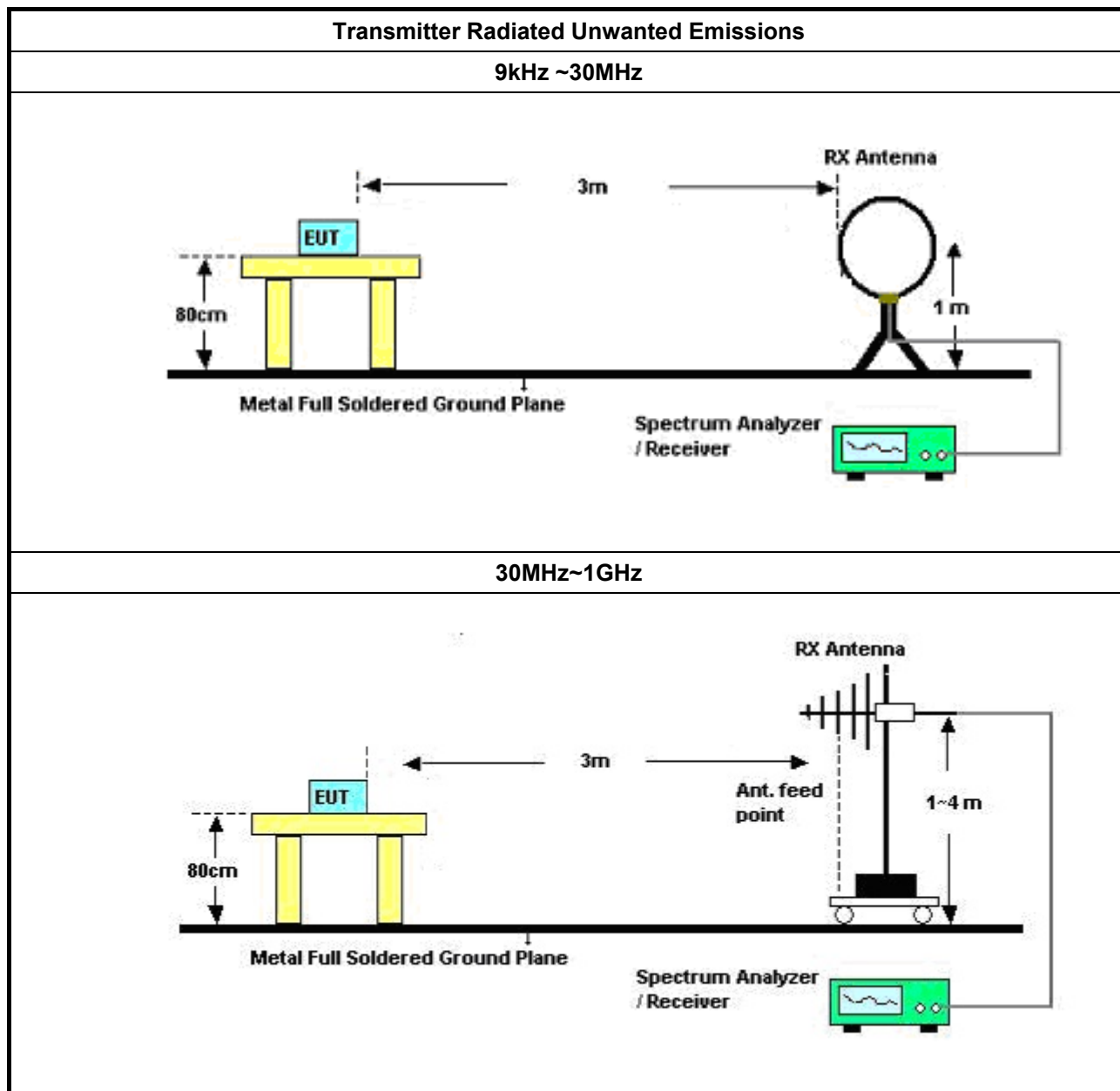
3.5.2 Measuring Instruments

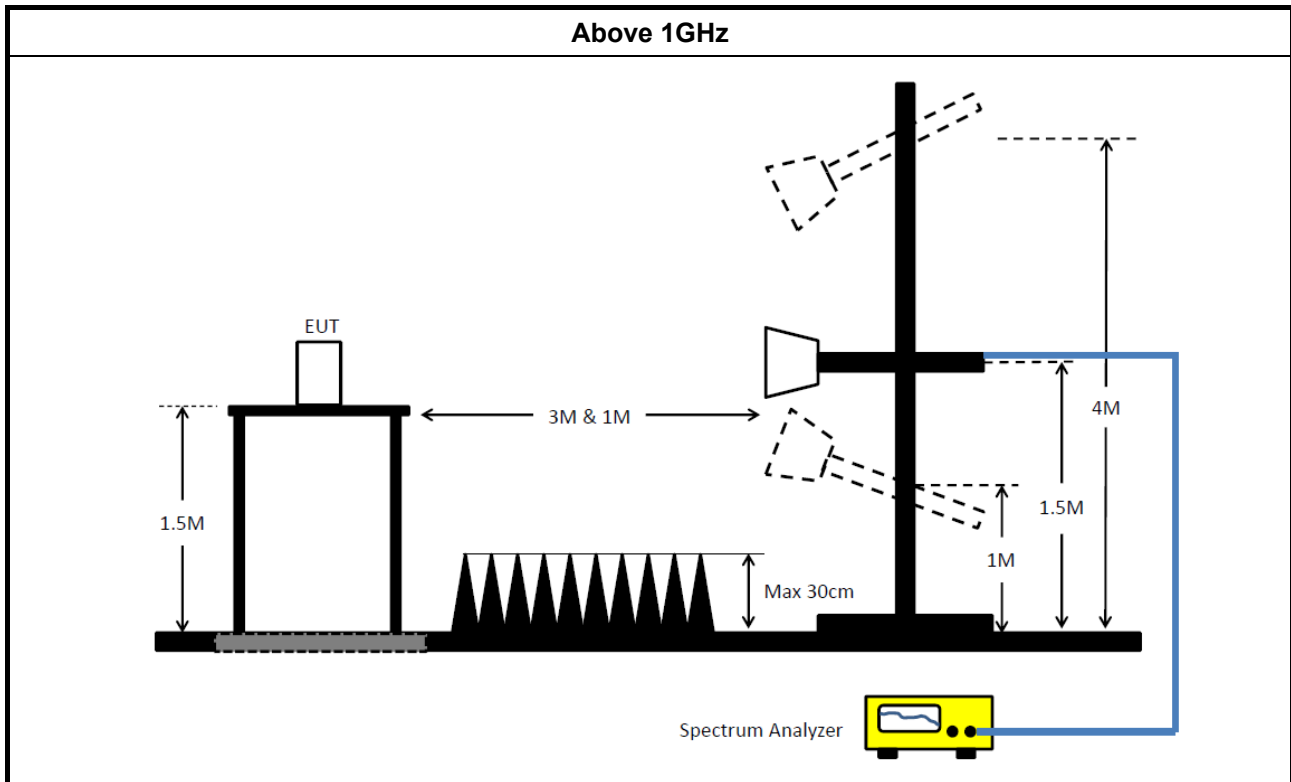
Refer a test equipment and calibration data table in this test report.

3.5.3 Test Procedures

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

3.5.4 Test Setup





3.5.5 Transmitter Unwanted Emissions (Below 30MHz)

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

3.5.6 Test Result of Transmitter Unwanted Emissions

Refer as Appendix E

3.6 Frequency Stability

3.6.1 Frequency Stability Limit

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

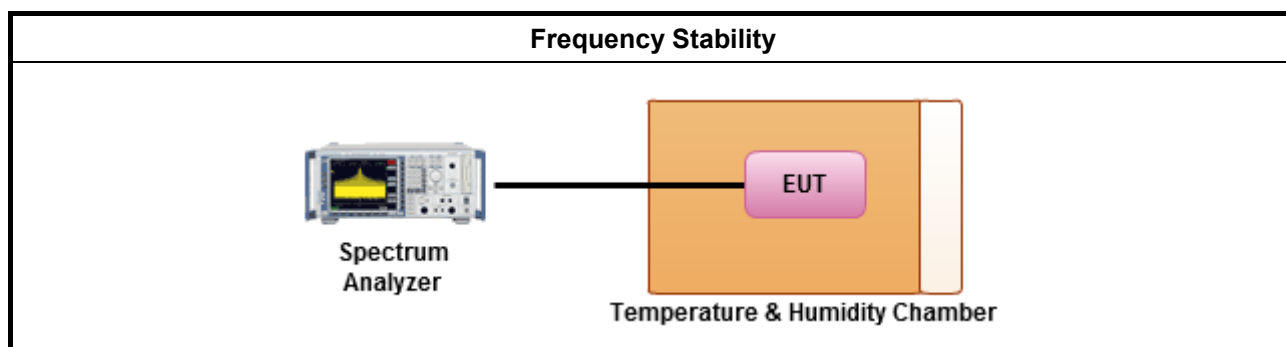
3.6.2 Measuring Instruments

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

3.6.3 Test Procedures

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

3.6.4 Test Setup





3.6.5 Test Result of Frequency Stability

Refer as Appendix F

4 Test Equipment and Calibration Data

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Remark
EMI Receiver	Agilent	N9038A	My52260123	9kHz ~ 8.45GHz	Jan. 27, 2016	Conduction (CO01-CB)
LISN	F.C.C.	FCC-LISN-50-16-2	04083	150kHz ~ 100MHz	Dec. 08, 2015	Conduction (CO01-CB)
LISN	Schwarzbeck	NSLK 8127	8127647	9kHz ~ 30MHz	Dec. 23, 2015	Conduction (CO01-CB)
COND Cable	Woken	Cable	01	150kHz ~ 30MHz	May 24, 2016	Conduction (CO01-CB)
Software	Audix	E3	6.120210n	-	N.C.R.	Conduction (CO01-CB)
BILOG ANTENNA	TESEQ	CBL6112D	37880	20MHz ~ 2GHz	Sep. 03, 2015	Radiation (03CH01-CB)
BILOG ANTENNA	TESEQ	CBL6112D	37880	20MHz ~ 2GHz	Aug. 30, 2016	Radiation (03CH01-CB)
Horn Antenna	EMCO	3115	00075790	750MHz ~ 18GHz	Oct. 22, 2015	Radiation (03CH01-CB)
Horn Antenna	Schwarzbeck	BBHA 9170	BBHA9170252	15GHz ~ 40GHz	Jul. 25, 2016	Radiation (03CH01-CB)
Loop Antenna	Teseq	HLA 6120	24155	9kHz - 30 MHz	Mar. 16, 2016*	Radiation (03CH01-CB)
Pre-Amplifier	Agilent	8447D	2944A10991	0.1MHz ~ 1.3GHz	Mar. 15, 2016	Radiation (03CH01-CB)
Pre-Amplifier	Agilent	8449B	3008A02310	1GHz ~ 26.5GHz	Jan. 18, 2016	Radiation (03CH01-CB)
Pre-Amplifier	WM	TF-130N-R1	923365	26GHz ~ 40GHz	Nov. 13, 2015	Radiation (03CH01-CB)
Spectrum Analyzer	R&S	FSP40	100056	9kHz ~ 40GHz	Oct. 27, 2015	Radiation (03CH01-CB)
EMI Test	R&S	ESCS	100355	9kHz ~ 2.75GHz	May 16, 2016	Radiation (03CH01-CB)
RF Cable-low	Woken	Low Cable-1	N/A	30 MHz ~ 1 GHz	Nov. 02, 2015	Radiation (03CH01-CB)
RF Cable-high	Woken	High Cable-16	N/A	1 GHz ~ 18 GHz	Nov. 02, 2015	Radiation (03CH01-CB)
RF Cable-high	Woken	High Cable-17	N/A	1 GHz ~ 18 GHz	Nov. 02, 2015	Radiation (03CH01-CB)
RF Cable-high	Woken	High Cable-40G-1	N/A	18GHz ~ 40 GHz	Nov. 02, 2015	Radiation (03CH01-CB)
RF Cable-high	Woken	High Cable-40G-2	N/A	18GHz ~ 40 GHz	Nov. 02, 2015	Radiation (03CH01-CB)
Test Software	Audix	E3	6.2009-I0-7	N/A	N/A	Radiation (03CH01-CB)
Spectrum analyzer	R&S	FSV40	100979	9kHz~40GHz	Dec. 09, 2015	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)



FCC Test Report

Report No. : FR642705AB

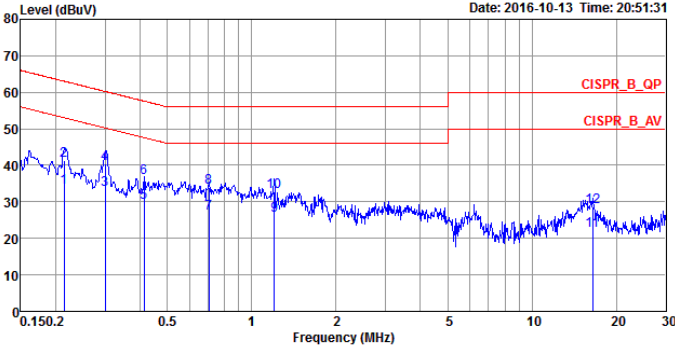
Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Remark
RF Cable-high	Woken	RG402	High Cable-8	1 GHz – 26.5 GHz	Nov. 02, 2015	Conducted (TH01-CB)
RF Cable-high	Woken	RG402	High Cable-9	1 GHz – 26.5 GHz	Nov. 02, 2015	Conducted (TH01-CB)
RF Cable-high	Woken	RG402	High Cable-10	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.

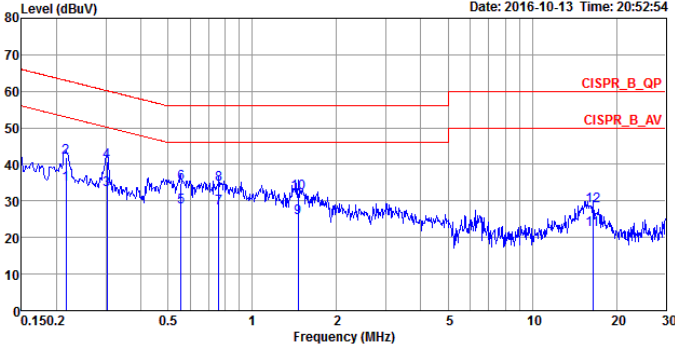
“*” Calibration Interval of instruments listed above is two years.

NCR means Non-Calibration required.



AC Power-line Conducted Emissions Result									
Operating Mode	1				Power Phase			Neutral	
Operating Function	CTX								
Level (dBuV) Date: 2016-10-13 Time: 20:51:31 									
	Freq	Level	Over Limit	Limit Line	Read Level	LISN Factor	Cable Loss	Pol/Phase	Remark
	MHz	dBuV	dB	dBuV	dBuV	dB	dB		
1	0.2139	33.83	-19.22	53.05	23.74	9.92	0.17	NEUTRAL	Average
2	0.2139	41.35	-21.70	63.05	31.26	9.92	0.17	NEUTRAL	QP
3	0.3003	33.25	-16.99	50.24	23.24	9.92	0.09	NEUTRAL	Average
4	0.3003	40.59	-19.65	60.24	30.58	9.92	0.09	NEUTRAL	QP
5	0.4127	29.78	-17.81	47.59	19.82	9.92	0.04	NEUTRAL	Average
6	0.4127	36.47	-21.12	57.59	26.51	9.92	0.04	NEUTRAL	QP
7	0.7047	27.00	-19.00	46.00	16.61	9.93	0.46	NEUTRAL	Average
8	0.7047	34.00	-22.00	56.00	23.61	9.93	0.46	NEUTRAL	QP
9	1.2034	26.15	-19.85	46.00	15.65	9.94	0.56	NEUTRAL	Average
10	1.2034	32.91	-23.09	56.00	22.41	9.94	0.56	NEUTRAL	QP
11	16.4856	22.01	-27.99	50.00	11.53	10.25	0.23	NEUTRAL	Average
12	16.4856	28.72	-31.28	60.00	18.24	10.25	0.23	NEUTRAL	QP

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

AC Power-line Conducted Emissions Result									
Operating Mode	1			Power Phase			Line		
Operating Function	CTX								
Level (dBuV) Date: 2016-10-13 Time: 20:52:54 									
	Freq	Level	Over Limit	Limit Line	Read Level	LISN Factor	Cable Loss	Pol/Phase	Remark
	MHz	dBuV	dB	dBuV	dBuV	dB	dB		
1	0.2162	34.45	-18.51	52.96	24.36	9.92	0.17	LINE	Average
2	0.2162	41.94	-21.02	62.96	31.85	9.92	0.17	LINE	QP
3	0.3035	33.20	-16.95	50.15	23.20	9.92	0.08	LINE	Average
4	0.3035	40.60	-19.55	60.15	30.60	9.92	0.08	LINE	QP
5	0.5552	28.40	-17.60	46.00	18.20	9.93	0.27	LINE	Average
6	0.5552	34.95	-21.05	56.00	24.75	9.93	0.27	LINE	QP
7	0.7589	27.96	-18.04	46.00	17.51	9.93	0.52	LINE	Average
8	0.7589	34.59	-21.41	56.00	24.14	9.93	0.52	LINE	QP
9	1.4562	25.33	-20.67	46.00	15.01	9.95	0.37	LINE	Average
10	1.4562	32.20	-23.80	56.00	21.88	9.95	0.37	LINE	QP
11	16.4856	22.10	-27.90	50.00	11.62	10.25	0.23	LINE	Average
12	16.4856	28.70	-31.30	60.00	18.22	10.25	0.23	LINE	QP

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



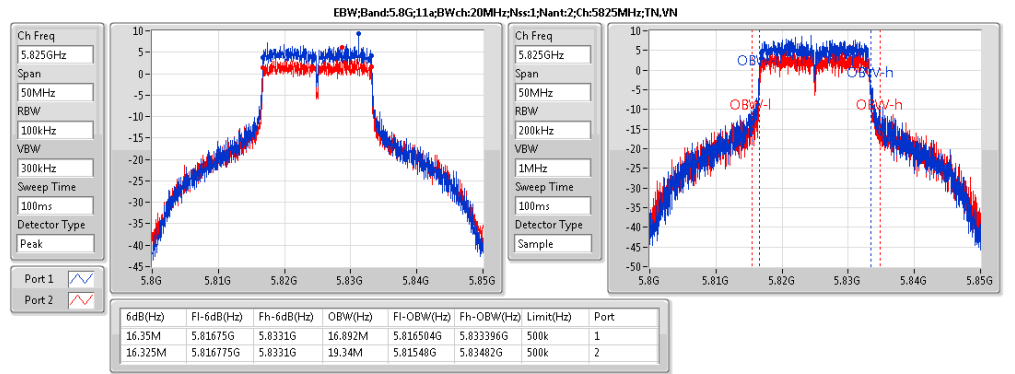
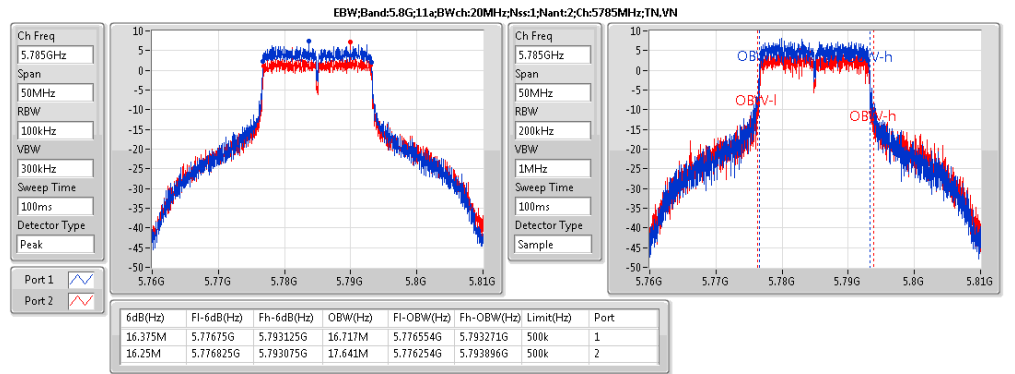
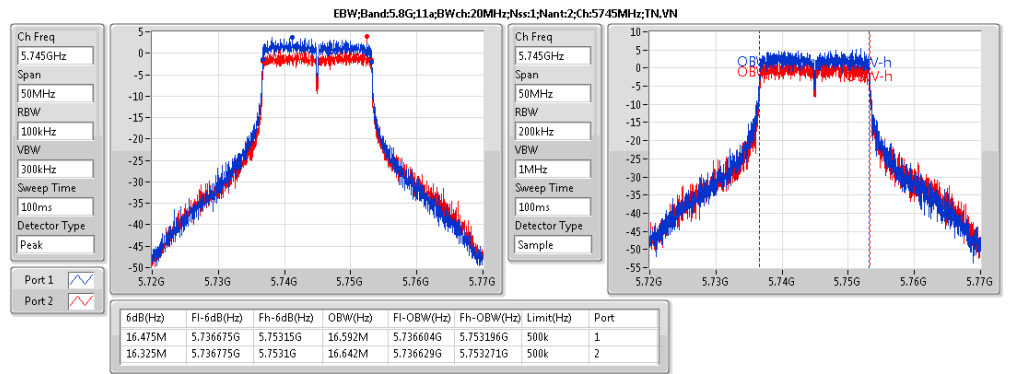
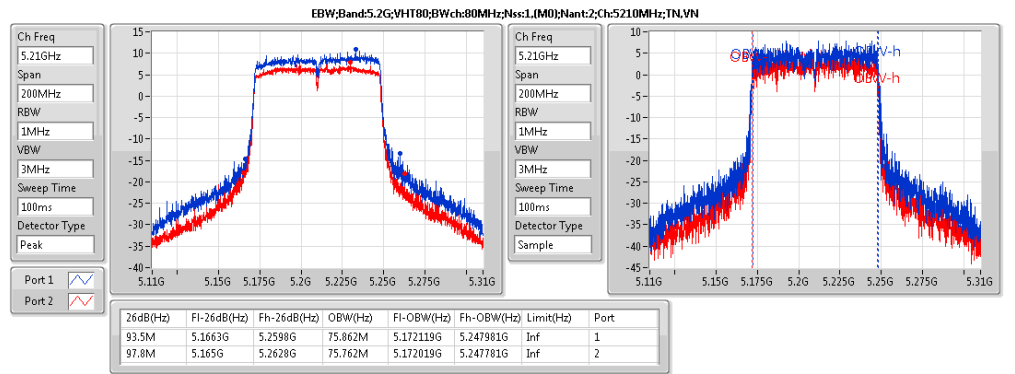
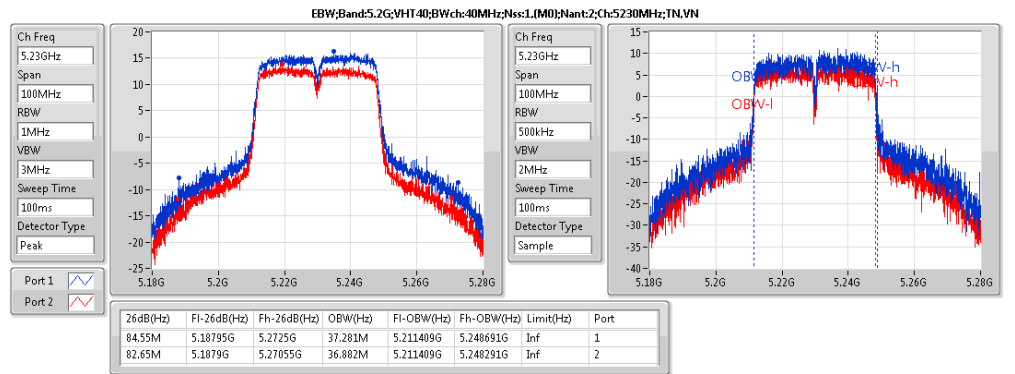
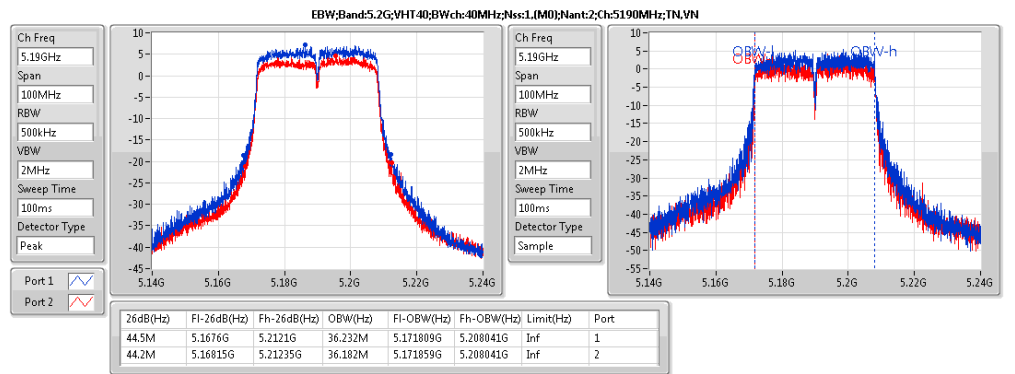
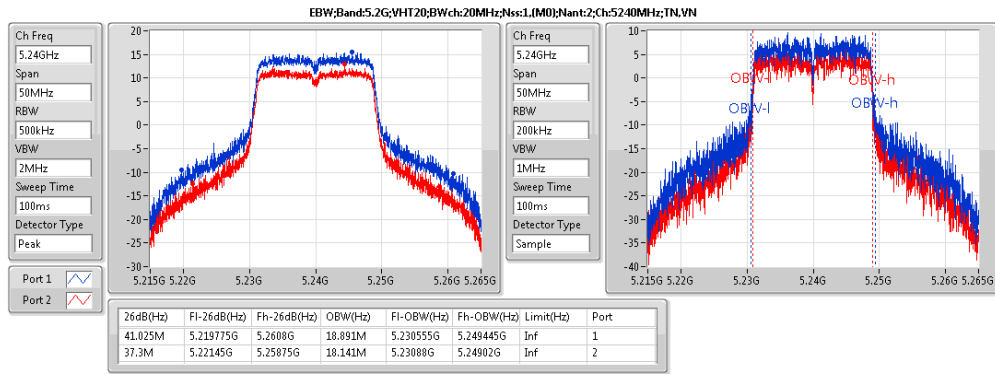
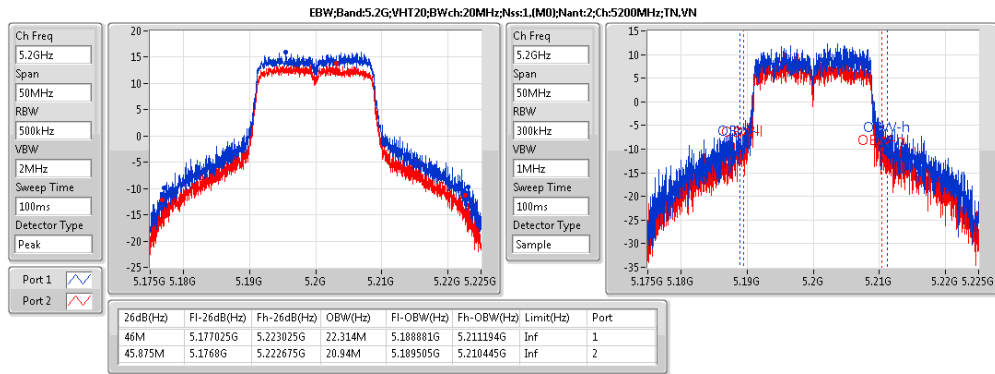
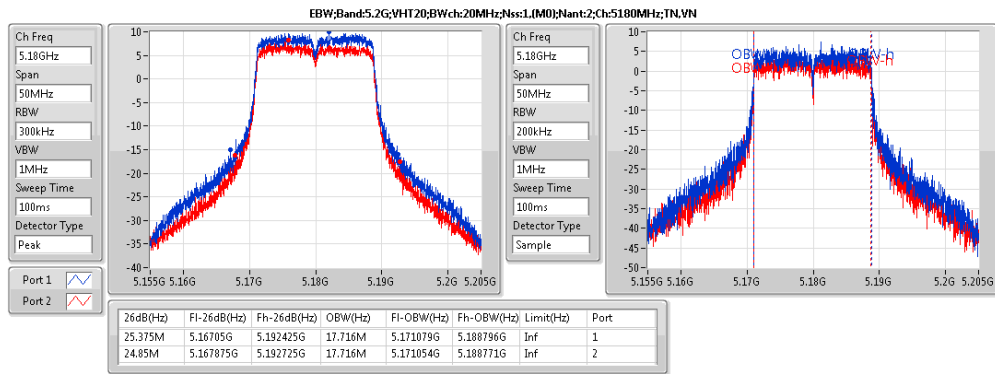
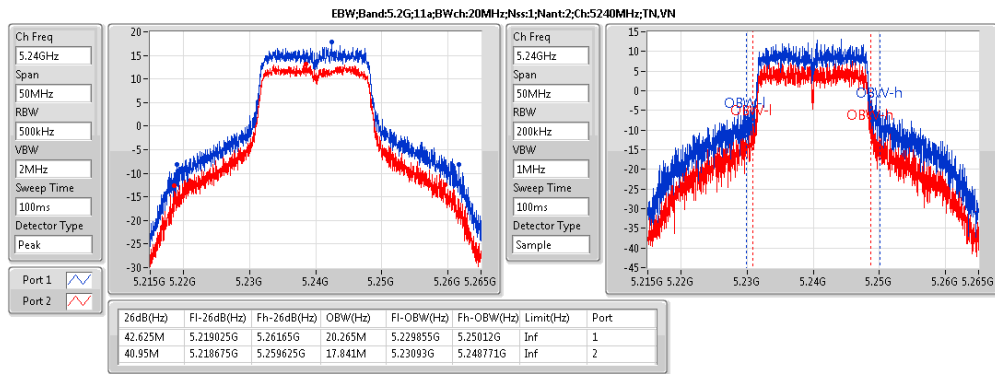
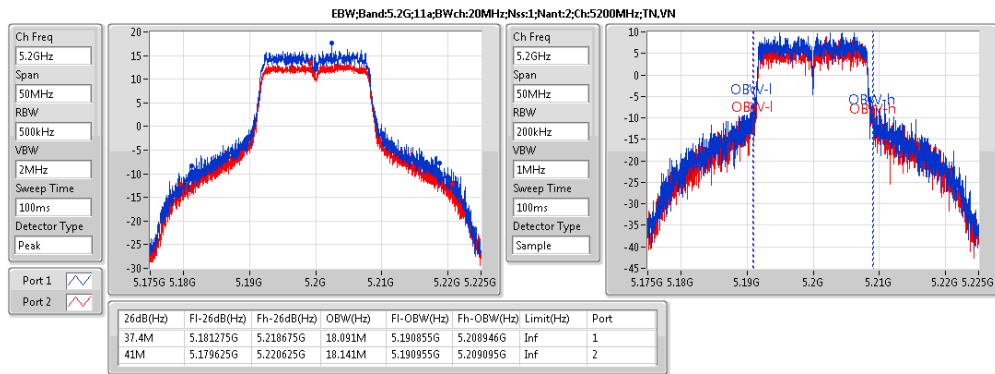
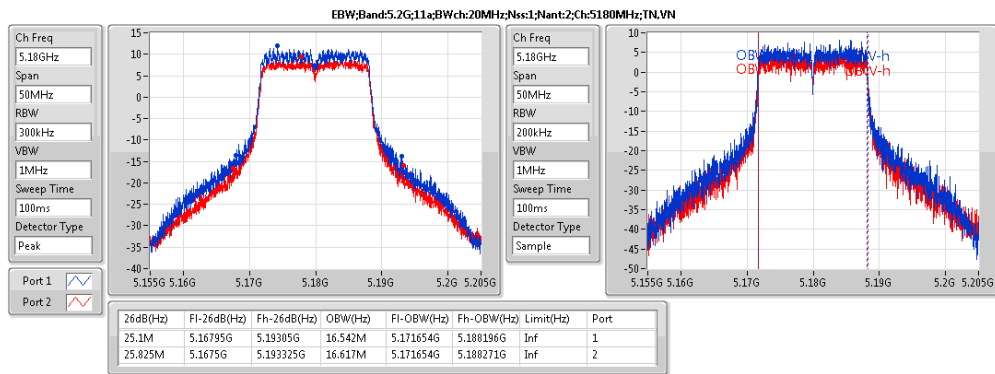
Summary

Mode	Max-N dB (Hz)	Max-OBW (Hz)	ITU-Code	Min-N dB (Hz)	Min-OBW (Hz)
5.2G;11a;Nss1;Ntx2	42.625M	20.265M	20M3D1D	25.1M	16.542M
5.2G;VHT20;Nss1,(M0);Ntx2	46M	22.314M	22M3D1D	24.85M	17.716M
5.2G;VHT40;Nss1,(M0);Ntx2	84.55M	37.281M	37M3D1D	44.2M	36.182M
5.2G;VHT80;Nss1,(M0);Ntx2	97.8M	75.862M	75M9D1D	93.5M	75.762M
5.8G;11a;Nss1;Ntx2	16.475M	19.34M	19M3D1D	16.25M	16.592M
5.8G;VHT20;Nss1,(M0);Ntx2	17.625M	21.989M	22M0D1D	16.875M	17.691M
5.8G;VHT40;Nss1,(M0);Ntx2	36.3M	41.829M	41M8D1D	36.3M	36.182M
5.8G;VHT80;Nss1,(M0);Ntx2	75.7M	75.862M	75M9D1D	75.7M	75.862M



Result

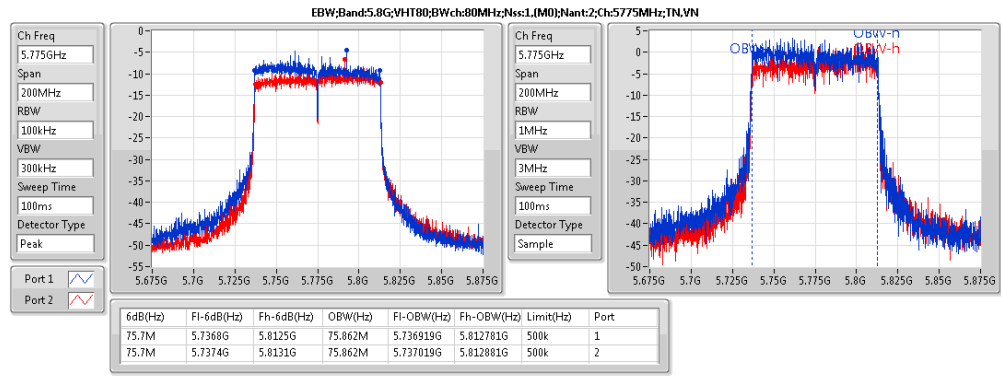
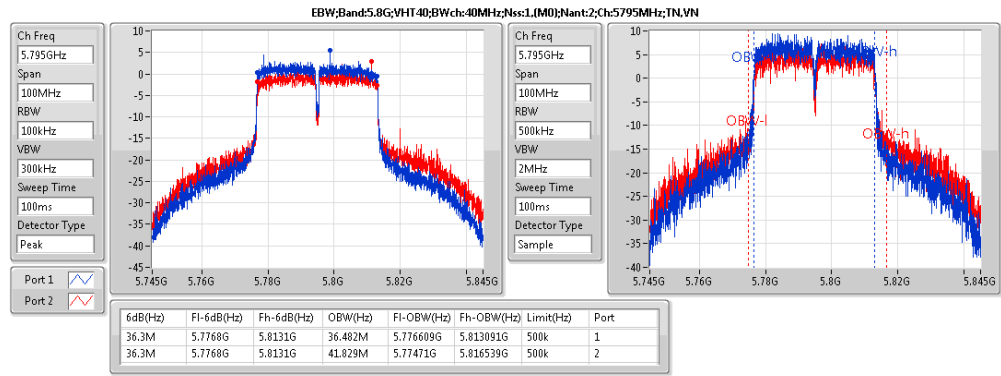
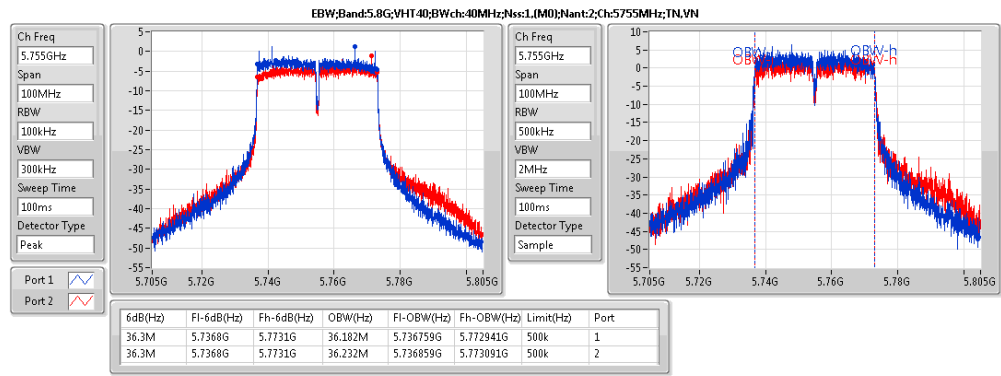
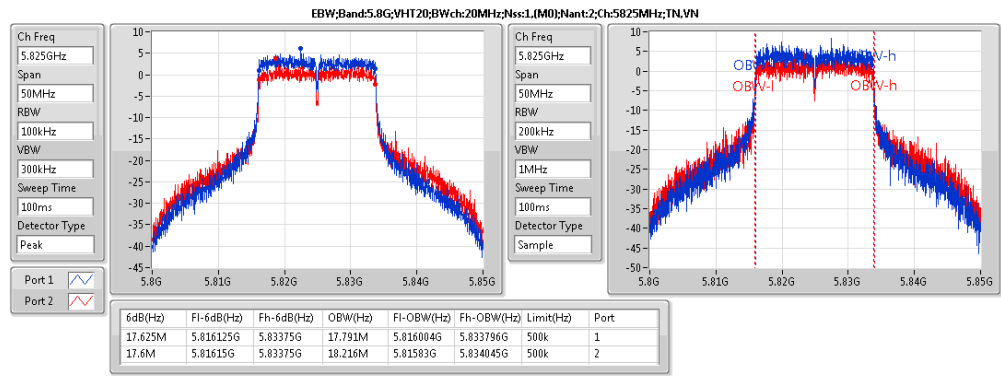
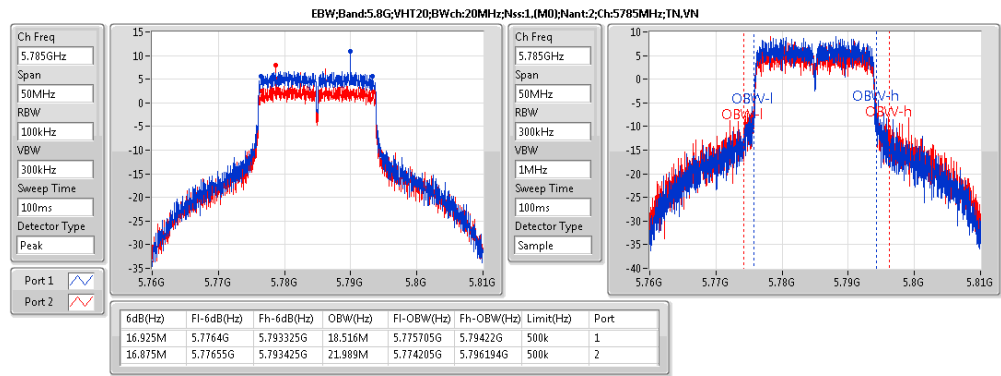
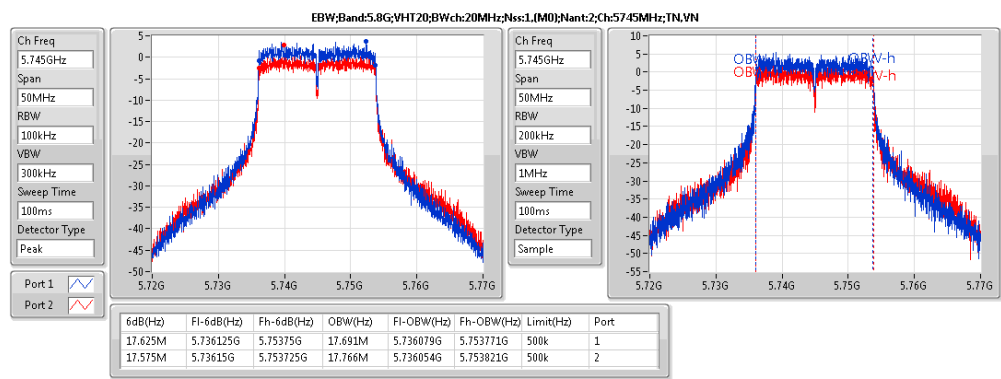
Mode	Result	Limit	P1-N dB (Hz)	P1-OBW (Hz)	P2-N dB (Hz)	P2-OBW (Hz)
5.2G;11a;Nss1;Ntx2;5180	Pass	Inf	25.1M	16.542M	25.825M	16.617M
5.2G;11a;Nss1;Ntx2;5200	Pass	Inf	37.4M	18.091M	41M	18.141M
5.2G;11a;Nss1;Ntx2;5240	Pass	Inf	42.625M	20.265M	40.95M	17.841M
5.2G;VHT20;Nss1,(M0);Ntx2;5180	Pass	Inf	25.375M	17.716M	24.85M	17.716M
5.2G;VHT20;Nss1,(M0);Ntx2;5200	Pass	Inf	46M	22.314M	45.875M	20.94M
5.2G;VHT20;Nss1,(M0);Ntx2;5240	Pass	Inf	41.025M	18.891M	37.3M	18.141M
5.2G;VHT40;Nss1,(M0);Ntx2;5190	Pass	Inf	44.5M	36.232M	44.2M	36.182M
5.2G;VHT40;Nss1,(M0);Ntx2;5230	Pass	Inf	84.55M	37.281M	82.65M	36.882M
5.2G;VHT80;Nss1,(M0);Ntx2;5210	Pass	Inf	93.5M	75.862M	97.8M	75.762M
5.8G;11a;Nss1;Ntx2;5745	Pass	500k	16.475M	16.592M	16.325M	16.642M
5.8G;11a;Nss1;Ntx2;5785	Pass	500k	16.375M	16.717M	16.25M	17.641M
5.8G;11a;Nss1;Ntx2;5825	Pass	500k	16.35M	16.892M	16.325M	19.34M
5.8G;VHT20;Nss1,(M0);Ntx2;5745	Pass	500k	17.625M	17.691M	17.575M	17.766M
5.8G;VHT20;Nss1,(M0);Ntx2;5785	Pass	500k	16.925M	18.516M	16.875M	21.989M
5.8G;VHT20;Nss1,(M0);Ntx2;5825	Pass	500k	17.625M	17.791M	17.6M	18.216M
5.8G;VHT40;Nss1,(M0);Ntx2;5755	Pass	500k	36.3M	36.182M	36.3M	36.232M
5.8G;VHT40;Nss1,(M0);Ntx2;5795	Pass	500k	36.3M	36.482M	36.3M	41.829M
5.8G;VHT80;Nss1,(M0);Ntx2;5775	Pass	500k	75.7M	75.862M	75.7M	75.862M





EBW Result

Appendix B





Summary

Mode	Sum (dBm)	Sum (W)	EIRP (dBm)	EIRP (W)
5.2G;11a;Nss1;Ntx2	24.48	0.28054	26.89	0.48865
5.2G;VHT20;Nss1,(M0);Ntx2	24.61	0.28907	27.02	0.5035
5.2G;VHT40;Nss1,(M0);Ntx2	23.82	0.24099	26.23	0.41976
5.2G;VHT80;Nss1,(M0);Ntx2	20.21	0.10495	22.62	0.18281
5.8G;11a;Nss1;Ntx2	24.06	0.25468	26.47	0.44361
5.8G;VHT20;Nss1,(M0);Ntx2	26.87	0.48641	29.28	0.84723
5.8G;VHT40;Nss1,(M0);Ntx2	24.44	0.27797	26.85	0.48417
5.8G;VHT80;Nss1,(M0);Ntx2	22.80	0.19055	25.21	0.33189



Result

Mode	Result	DG (dBi)	EIRP (dBm)	EIRP Lim. (dBm)	Sum (dBm)	Sum Lim. (dBm)	P1 (dBm)	P2 (dBm)
5.2G;11a;Nss1;Ntx2;5180	Pass	2.41	24.80	36.00	22.39	30.00	19.13	19.61
5.2G;11a;Nss1;Ntx2;5200	Pass	2.41	26.71	36.00	24.30	30.00	20.91	21.64
5.2G;11a;Nss1;Ntx2;5240	Pass	2.41	26.89	36.00	24.48	30.00	20.91	21.96
5.2G;VHT20;Nss1,(M0);Ntx2;5180	Pass	2.41	23.29	36.00	20.88	30.00	17.68	18.06
5.2G;VHT20;Nss1,(M0);Ntx2;5200	Pass	2.41	27.02	36.00	24.61	30.00	21.28	21.89
5.2G;VHT20;Nss1,(M0);Ntx2;5240	Pass	2.41	26.24	36.00	23.83	30.00	20.26	21.32
5.2G;VHT40;Nss1,(M0);Ntx2;5190	Pass	2.41	20.60	36.00	18.19	30.00	14.73	15.58
5.2G;VHT40;Nss1,(M0);Ntx2;5230	Pass	2.41	26.23	36.00	23.82	30.00	20.28	21.28
5.2G;VHT80;Nss1,(M0);Ntx2;5210	Pass	2.41	22.62	36.00	20.21	30.00	16.66	17.68
5.8G;11a;Nss1;Ntx2;5745	Pass	2.41	26.47	36.00	24.06	30.00	20	21.89
5.8G;11a;Nss1;Ntx2;5785	Pass	2.41	25.15	36.00	22.74	30.00	19.9	19.55
5.8G;11a;Nss1;Ntx2;5825	Pass	2.41	26.28	36.00	23.87	30.00	20.81	20.91
5.8G;VHT20;Nss1,(M0);Ntx2;5745	Pass	2.41	24.87	36.00	22.46	30.00	19.7	19.19
5.8G;VHT20;Nss1,(M0);Ntx2;5785	Pass	2.41	25.79	36.00	23.38	30.00	20.8	19.89
5.8G;VHT20;Nss1,(M0);Ntx2;5825	Pass	2.41	29.28	36.00	26.87	30.00	23.71	24.01
5.8G;VHT40;Nss1,(M0);Ntx2;5755	Pass	2.41	26.31	36.00	23.90	30.00	21.2	20.56
5.8G;VHT40;Nss1,(M0);Ntx2;5795	Pass	2.41	26.85	36.00	24.44	30.00	21.63	21.23
5.8G;VHT80;Nss1,(M0);Ntx2;5775	Pass	2.41	25.21	36.00	22.80	30.00	20.19	19.34



Summary

Mode	PD (dBm/RBW)	EIRP.PD (dBm/RBW)
5.2G;11a;Nss1;Ntx2	11.01	16.34
5.2G;VHT20;Nss1,(M0);Ntx2	10.87	16.20
5.2G;VHT40;Nss1,(M0);Ntx2	7.34	12.67
5.2G;VHT80;Nss1,(M0);Ntx2	1.29	6.62
5.8G;11a;Nss1;Ntx2	7.63	12.96
5.8G;VHT20;Nss1,(M0);Ntx2	8.19	13.52
5.8G;VHT40;Nss1,(M0);Ntx2	4.47	9.80
5.8G;VHT80;Nss1,(M0);Ntx2	-5.35	-0.02



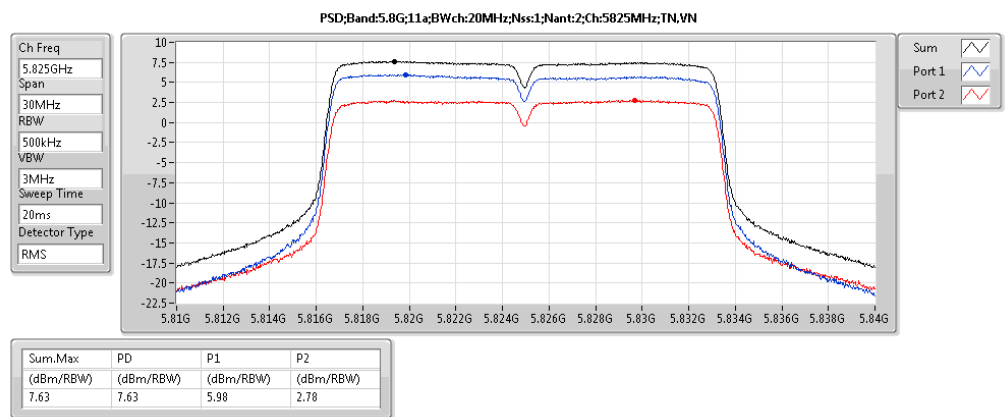
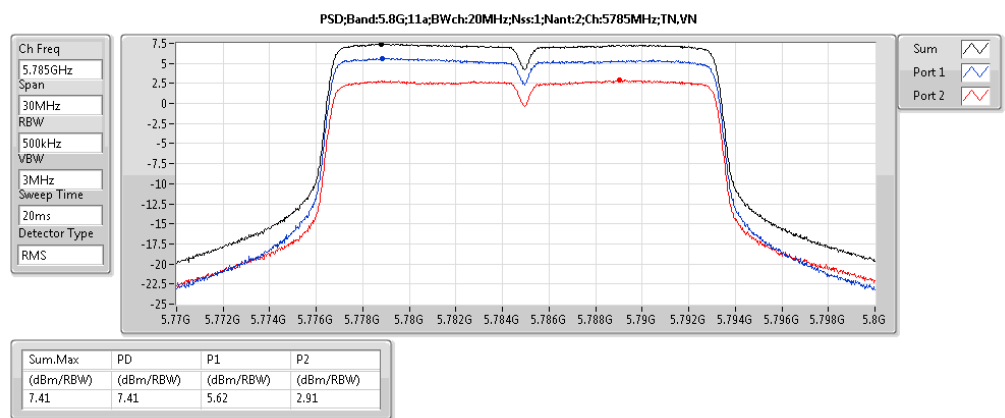
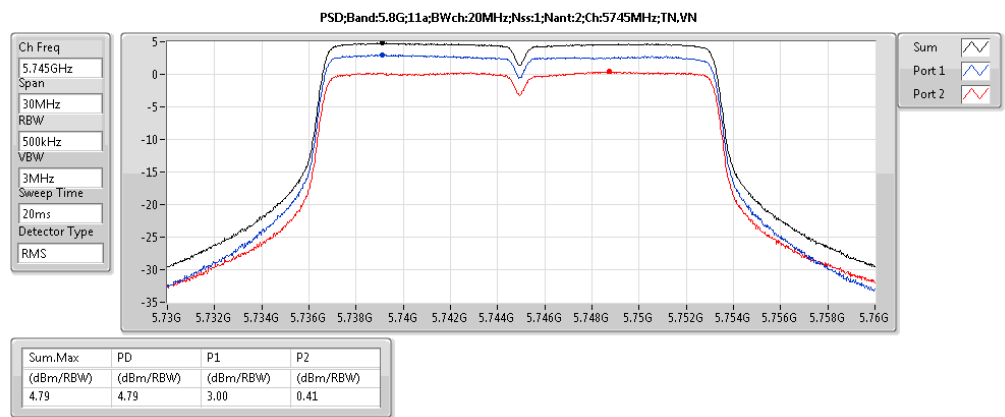
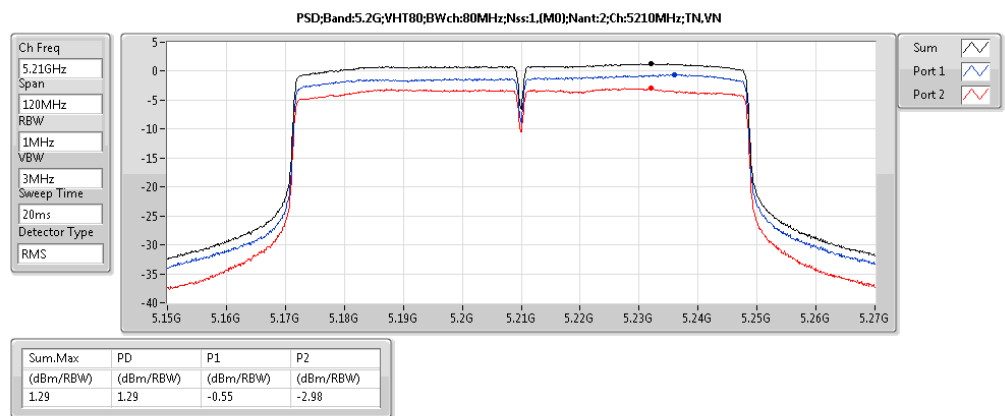
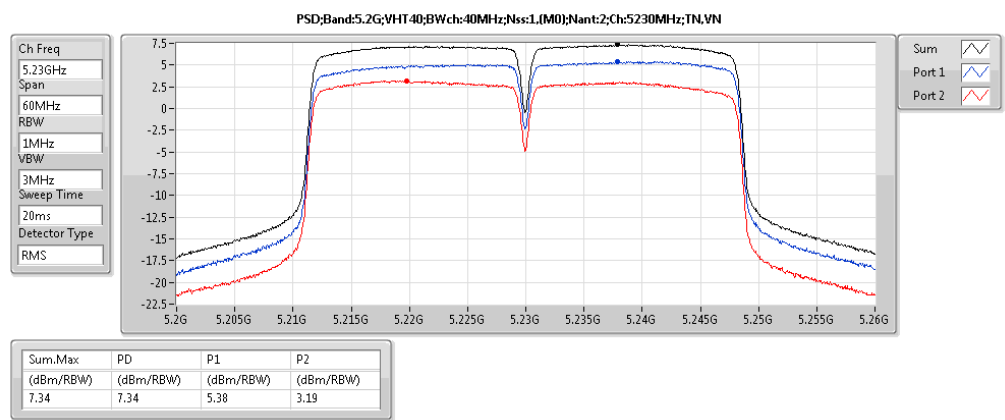
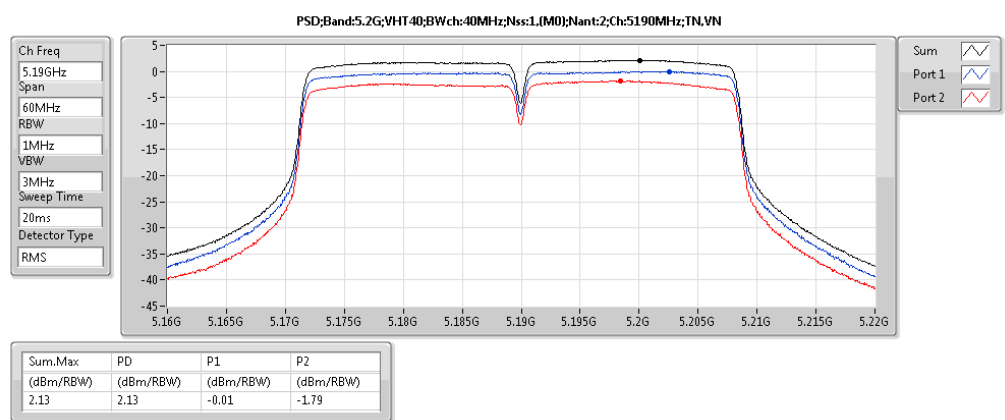
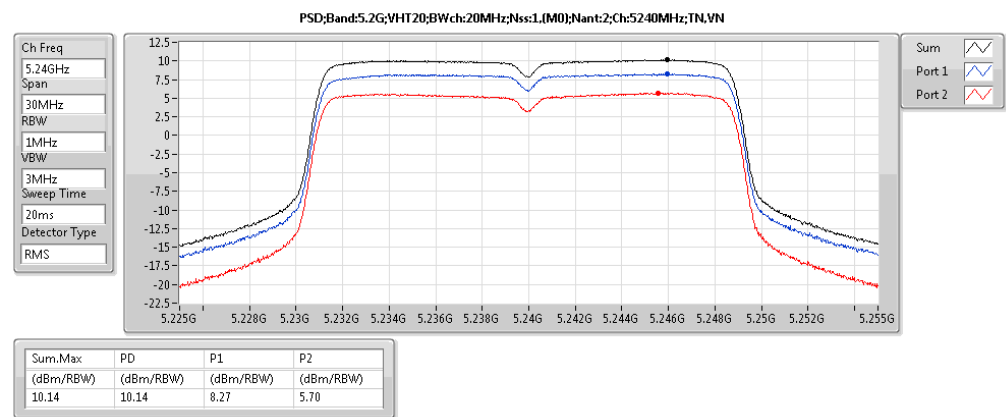
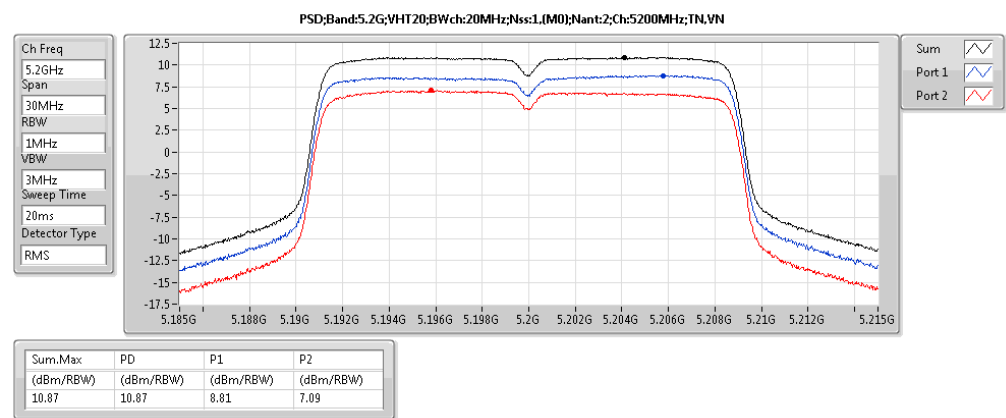
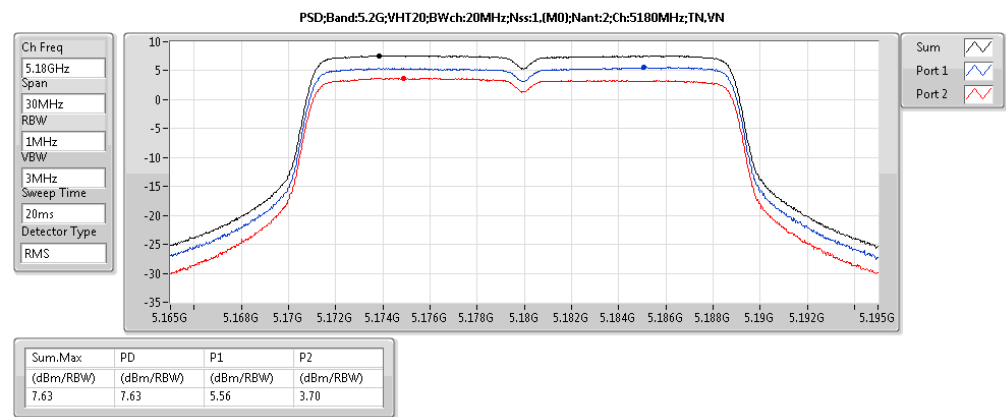
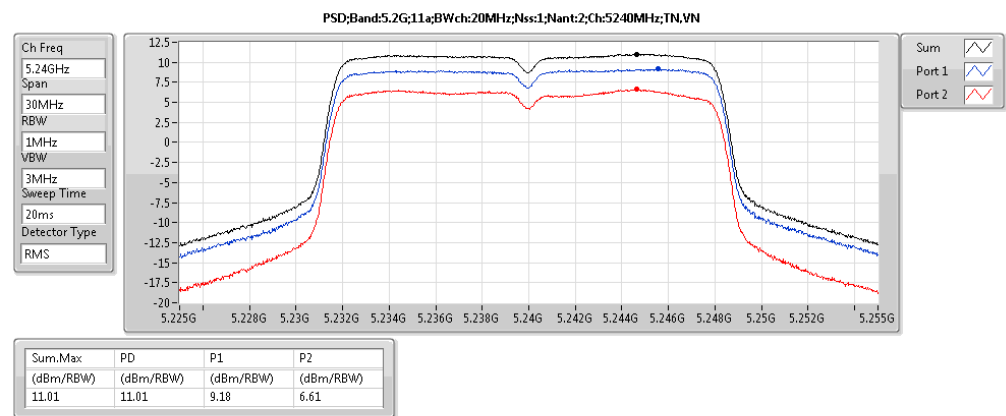
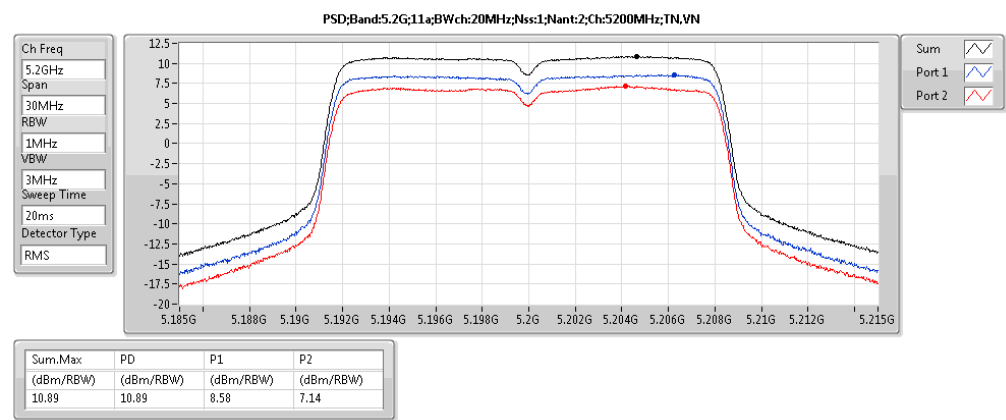
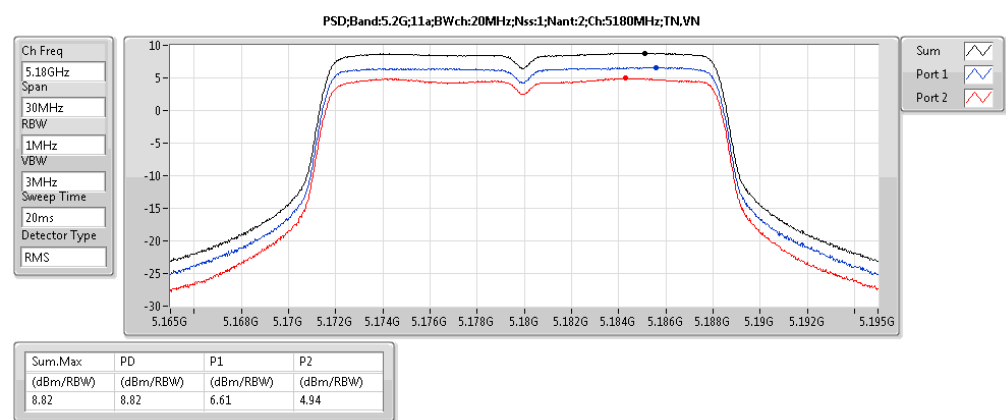
Result

Mode	Result	Meas.RBW (Hz)	Lim.RBW (Hz)	BWCF (dB)	DG (dBi)	PD (dBm/RBW)	PD.Limit (dBm/RBW)	EIRP.PD (dBm/RBW)	EIRP.PD.Li m (dBm/RBW)	P1 (dBm/RBW)	P2 (dBm/RBW)
5.2G;11a;Nss1;Ntx2;5180	Pass	1M	1M	0.00	5.33	8.82	17.00	14.15	Inf	6.61	4.94
5.2G;11a;Nss1;Ntx2;5200	Pass	1M	1M	0.00	5.33	10.89	17.00	16.22	Inf	8.58	7.14
5.2G;11a;Nss1;Ntx2;5240	Pass	1M	1M	0.00	5.33	11.01	17.00	16.34	Inf	9.18	6.61
5.2G;VHT20;Nss1,(M0);Ntx2;5180	Pass	1M	1M	0.00	5.33	7.63	17.00	12.96	Inf	5.56	3.70
5.2G;VHT20;Nss1,(M0);Ntx2;5200	Pass	1M	1M	0.00	5.33	10.87	17.00	16.20	Inf	8.81	7.09
5.2G;VHT20;Nss1,(M0);Ntx2;5240	Pass	1M	1M	0.00	5.33	10.14	17.00	15.47	Inf	8.27	5.70
5.2G;VHT40;Nss1,(M0);Ntx2;5190	Pass	1M	1M	0.00	5.33	2.13	17.00	7.46	Inf	-0.01	-1.79
5.2G;VHT40;Nss1,(M0);Ntx2;5230	Pass	1M	1M	0.00	5.33	7.34	17.00	12.67	Inf	5.38	3.19
5.2G;VHT80;Nss1,(M0);Ntx2;5210	Pass	1M	1M	0.00	5.33	1.29	17.00	6.62	Inf	-0.55	-2.98
5.8G;11a;Nss1;Ntx2;5745	Pass	500k	500k	0.00	5.33	4.79	30.00	10.12	36.00	3.00	0.41
5.8G;11a;Nss1;Ntx2;5785	Pass	500k	500k	0.00	5.33	7.41	30.00	12.74	36.00	5.62	2.91
5.8G;11a;Nss1;Ntx2;5825	Pass	500k	500k	0.00	5.33	7.63	30.00	12.96	36.00	5.98	2.78
5.8G;VHT20;Nss1,(M0);Ntx2;5745	Pass	500k	500k	0.00	5.33	4.45	30.00	9.78	36.00	2.56	0.05
5.8G;VHT20;Nss1,(M0);Ntx2;5785	Pass	500k	500k	0.00	5.33	8.19	30.00	13.52	36.00	6.44	3.47
5.8G;VHT20;Nss1,(M0);Ntx2;5825	Pass	500k	500k	0.00	5.33	6.25	30.00	11.58	36.00	4.47	1.72
5.8G;VHT40;Nss1,(M0);Ntx2;5755	Pass	500k	500k	0.00	5.33	0.59	30.00	5.92	36.00	-1.42	-3.14
5.8G;VHT40;Nss1,(M0);Ntx2;5795	Pass	500k	500k	0.00	5.33	4.47	30.00	9.80	36.00	2.47	0.30
5.8G;VHT80;Nss1,(M0);Ntx2;5775	Pass	500k	500k	0.00	5.33	-5.35	30.00	-0.02	36.00	-6.97	-9.41



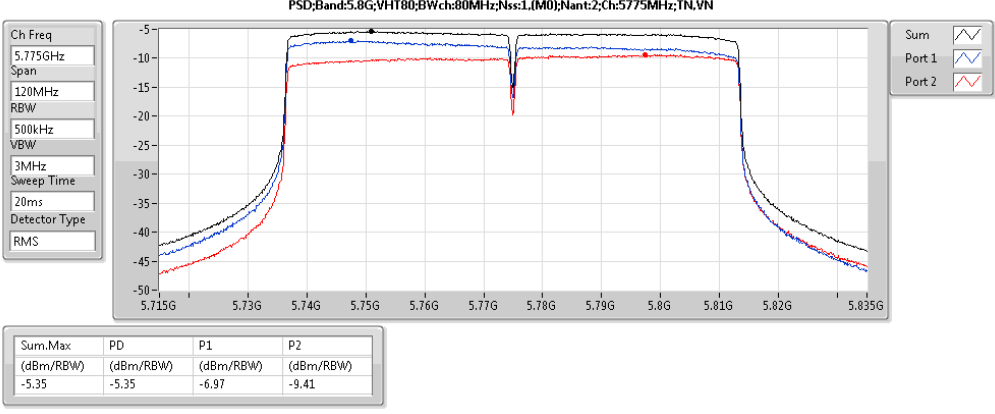
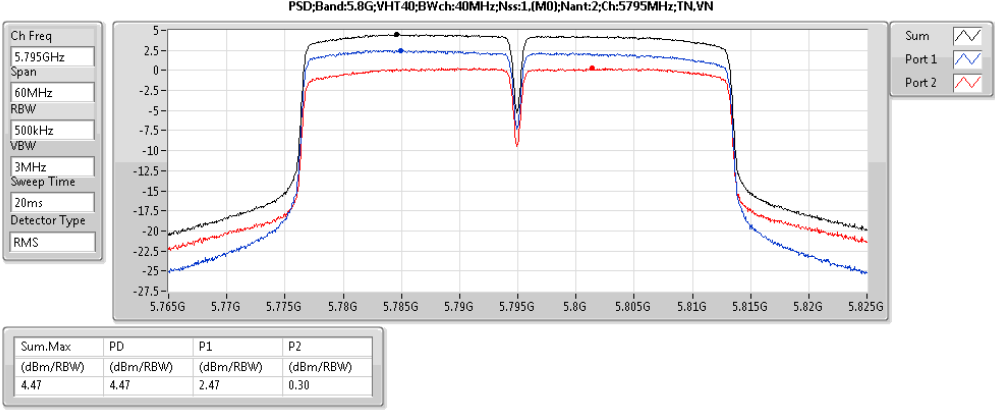
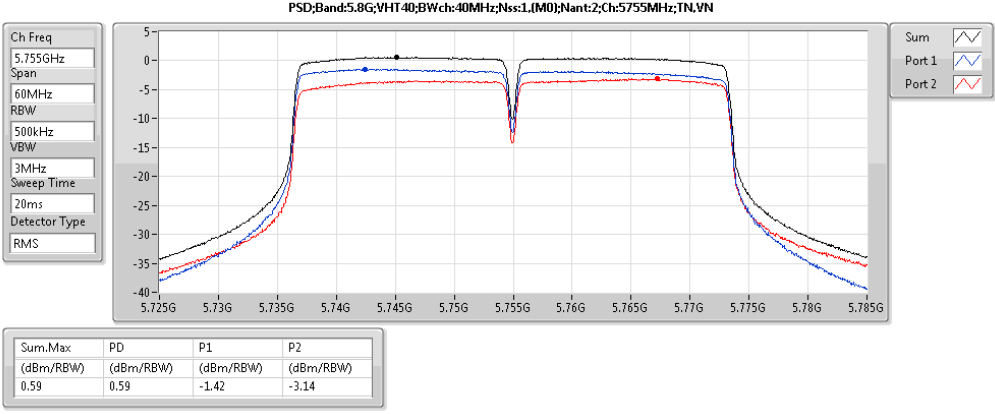
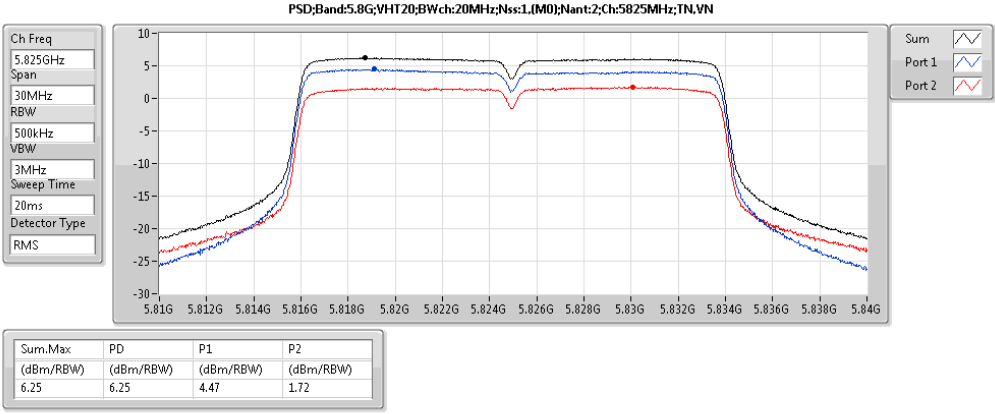
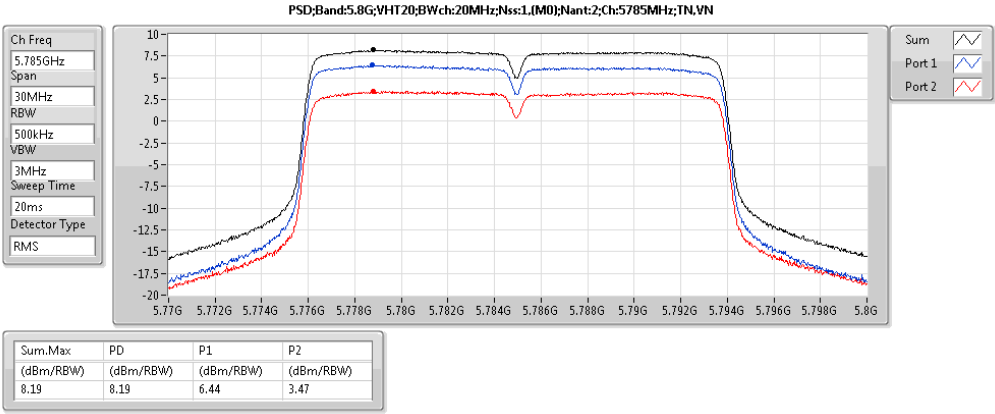
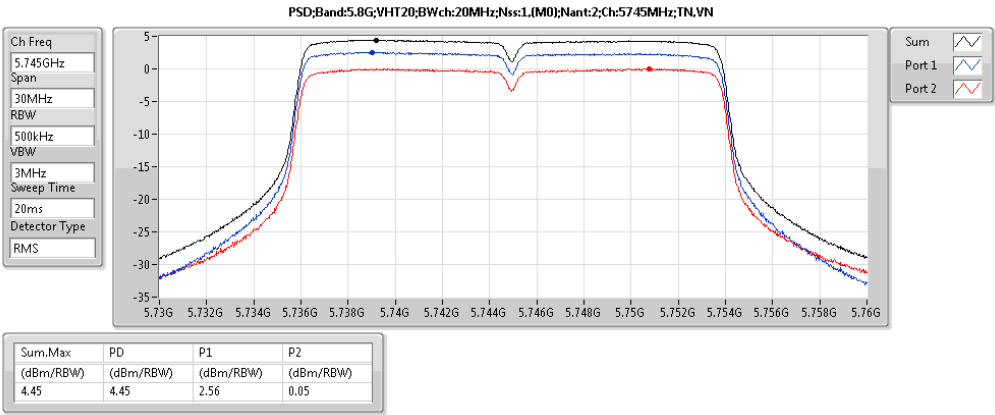
PSD Result

Appendix D





PSD Result





RSE below 1GHz Result																																																																																																																
Operating Mode		1			Polarization			Horizontal																																																																																																								
Operating Function		CTX																																																																																																														
Level (dBuV/m) Date: 2016-10-16 Time: 14:57:38 <table><tr><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>MHz</th><th>dBuV/m</th><th>dBuV/m</th><th>dB</th><th>dBuV</th><th>Loss</th><th>Factor</th><th>Factor</th><th>dB</th><th>cm</th><th>deg</th></tr><tr><td>1</td><td>42.61</td><td>34.77</td><td>40.00</td><td>-5.23</td><td>43.47</td><td>1.30</td><td>18.47</td><td>28.47</td><td>100</td><td>360</td><td>Peak</td><td>HORIZONTAL</td></tr><tr><td>2</td><td>375.32</td><td>31.89</td><td>46.00</td><td>-14.11</td><td>36.03</td><td>2.31</td><td>21.68</td><td>28.13</td><td>100</td><td>360</td><td>Peak</td><td>HORIZONTAL</td></tr><tr><td>3</td><td>407.33</td><td>34.43</td><td>46.00</td><td>-11.57</td><td>37.99</td><td>2.38</td><td>22.39</td><td>28.33</td><td>100</td><td>360</td><td>Peak</td><td>HORIZONTAL</td></tr><tr><td>4</td><td>625.58</td><td>39.31</td><td>46.00</td><td>-6.69</td><td>39.90</td><td>2.91</td><td>25.26</td><td>28.76</td><td>100</td><td>360</td><td>Peak</td><td>HORIZONTAL</td></tr><tr><td>5</td><td>750.71</td><td>34.68</td><td>46.00</td><td>-11.32</td><td>33.97</td><td>3.22</td><td>26.00</td><td>28.51</td><td>100</td><td>360</td><td>Peak</td><td>HORIZONTAL</td></tr><tr><td>6</td><td>875.84</td><td>38.02</td><td>46.00</td><td>-7.98</td><td>35.32</td><td>3.41</td><td>27.40</td><td>28.11</td><td>100</td><td>360</td><td>Peak</td><td>HORIZONTAL</td></tr></table>													Freq	Level	Limit	Over	Read	CableAntenna	Preamp	A/Pos	T/Pos	Remark	Pol/Phase	MHz	dBuV/m	dBuV/m	dB	dBuV	Loss	Factor	Factor	dB	cm	deg	1	42.61	34.77	40.00	-5.23	43.47	1.30	18.47	28.47	100	360	Peak	HORIZONTAL	2	375.32	31.89	46.00	-14.11	36.03	2.31	21.68	28.13	100	360	Peak	HORIZONTAL	3	407.33	34.43	46.00	-11.57	37.99	2.38	22.39	28.33	100	360	Peak	HORIZONTAL	4	625.58	39.31	46.00	-6.69	39.90	2.91	25.26	28.76	100	360	Peak	HORIZONTAL	5	750.71	34.68	46.00	-11.32	33.97	3.22	26.00	28.51	100	360	Peak	HORIZONTAL	6	875.84	38.02	46.00	-7.98	35.32	3.41	27.40	28.11	100	360	Peak	HORIZONTAL
Freq	Level	Limit	Over	Read	CableAntenna	Preamp	A/Pos	T/Pos	Remark	Pol/Phase																																																																																																						
MHz	dBuV/m	dBuV/m	dB	dBuV	Loss	Factor	Factor	dB	cm	deg																																																																																																						
1	42.61	34.77	40.00	-5.23	43.47	1.30	18.47	28.47	100	360	Peak	HORIZONTAL																																																																																																				
2	375.32	31.89	46.00	-14.11	36.03	2.31	21.68	28.13	100	360	Peak	HORIZONTAL																																																																																																				
3	407.33	34.43	46.00	-11.57	37.99	2.38	22.39	28.33	100	360	Peak	HORIZONTAL																																																																																																				
4	625.58	39.31	46.00	-6.69	39.90	2.91	25.26	28.76	100	360	Peak	HORIZONTAL																																																																																																				
5	750.71	34.68	46.00	-11.32	33.97	3.22	26.00	28.51	100	360	Peak	HORIZONTAL																																																																																																				
6	875.84	38.02	46.00	-7.98	35.32	3.41	27.40	28.11	100	360	Peak	HORIZONTAL																																																																																																				
Note 1: ">20dB" means emission levels that exceed the level of 20 dB below the applicable limit. Note 2: "N/F" means Nothing Found emissions (No emissions were detected.)																																																																																																																

RSE below 1GHz Result																																																																																																																
Operating Mode	1					Power Phase				Vertical																																																																																																						
Operating Function	CTX																																																																																																															
Level (dBuV/m) Date: 2016-10-16 Time: 15:06:45 <table><tr><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>MHz</th><th>dBuV/m</th><th>dBuV/m</th><th>dB</th><th>dBuV</th><th>Loss</th><th>Factor</th><th>Factor</th><th>dB</th><th>cm</th><th>deg</th></tr><tr><td>1</td><td>39.70</td><td>35.60</td><td>40.00</td><td>-4.40</td><td>42.73</td><td>1.29</td><td>20.05</td><td>28.47</td><td>400</td><td>360</td><td>Peak</td><td>VERTICAL</td></tr><tr><td>2</td><td>45.52</td><td>31.02</td><td>40.00</td><td>-8.98</td><td>41.21</td><td>1.30</td><td>16.98</td><td>28.47</td><td>104</td><td>10</td><td>QP</td><td>VERTICAL</td></tr><tr><td>3</td><td>625.58</td><td>41.49</td><td>46.00</td><td>-4.51</td><td>42.08</td><td>2.91</td><td>25.26</td><td>28.76</td><td>400</td><td>360</td><td>Peak</td><td>VERTICAL</td></tr><tr><td>4</td><td>649.83</td><td>39.97</td><td>46.00</td><td>-6.03</td><td>40.19</td><td>3.00</td><td>25.50</td><td>28.72</td><td>400</td><td>360</td><td>Peak</td><td>VERTICAL</td></tr><tr><td>5</td><td>714.82</td><td>39.40</td><td>46.00</td><td>-6.60</td><td>39.10</td><td>3.18</td><td>25.72</td><td>28.60</td><td>400</td><td>360</td><td>Peak</td><td>VERTICAL</td></tr><tr><td>6</td><td>727.43</td><td>39.60</td><td>46.00</td><td>-6.40</td><td>39.15</td><td>3.19</td><td>25.82</td><td>28.56</td><td>400</td><td>360</td><td>Peak</td><td>VERTICAL</td></tr></table>													Freq	Level	Limit	Over	Read	CableAntenna	Preamp	A/Pos	T/Pos	Remark	Pol/Phase	MHz	dBuV/m	dBuV/m	dB	dBuV	Loss	Factor	Factor	dB	cm	deg	1	39.70	35.60	40.00	-4.40	42.73	1.29	20.05	28.47	400	360	Peak	VERTICAL	2	45.52	31.02	40.00	-8.98	41.21	1.30	16.98	28.47	104	10	QP	VERTICAL	3	625.58	41.49	46.00	-4.51	42.08	2.91	25.26	28.76	400	360	Peak	VERTICAL	4	649.83	39.97	46.00	-6.03	40.19	3.00	25.50	28.72	400	360	Peak	VERTICAL	5	714.82	39.40	46.00	-6.60	39.10	3.18	25.72	28.60	400	360	Peak	VERTICAL	6	727.43	39.60	46.00	-6.40	39.15	3.19	25.82	28.56	400	360	Peak	VERTICAL
Freq	Level	Limit	Over	Read	CableAntenna	Preamp	A/Pos	T/Pos	Remark	Pol/Phase																																																																																																						
MHz	dBuV/m	dBuV/m	dB	dBuV	Loss	Factor	Factor	dB	cm	deg																																																																																																						
1	39.70	35.60	40.00	-4.40	42.73	1.29	20.05	28.47	400	360	Peak	VERTICAL																																																																																																				
2	45.52	31.02	40.00	-8.98	41.21	1.30	16.98	28.47	104	10	QP	VERTICAL																																																																																																				
3	625.58	41.49	46.00	-4.51	42.08	2.91	25.26	28.76	400	360	Peak	VERTICAL																																																																																																				
4	649.83	39.97	46.00	-6.03	40.19	3.00	25.50	28.72	400	360	Peak	VERTICAL																																																																																																				
5	714.82	39.40	46.00	-6.60	39.10	3.18	25.72	28.60	400	360	Peak	VERTICAL																																																																																																				
6	727.43	39.60	46.00	-6.40	39.15	3.19	25.82	28.56	400	360	Peak	VERTICAL																																																																																																				
Note 1: ">20dB" means emission levels that exceed the level of 20 dB below the applicable limit. Note 2: "N/F" means Nothing Found emissions (No emissions were detected.)																																																																																																																

Radiated Emissions (1GHz~40GHz)

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

	Freq	Level	Limit	Over	Read	CableAntenna	Preamp	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1	15553.00	47.11	54.00	-6.89	32.36	11.23	38.16	34.64	112	313	Average
2	15586.20	59.89	74.00	-14.11	45.10	11.24	38.23	34.68	112	313	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	15542.80	63.03	74.00	-10.97	48.28	11.23	38.16	34.64	115	339	Peak
2	15542.80	49.71	54.00	-4.29	34.96	11.23	38.16	34.64	115	339	Average

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

	Freq	Level	Limit	Over	Read	CableAntenna	Preamp	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1	10403.70	65.56	68.20	-2.64	52.46	9.77	38.41	35.08	158	150	Peak
2	15598.00	67.56	74.00	-6.44	52.77	11.24	38.23	34.68	132	56	Peak
3	15598.50	53.07	54.00	-0.93	38.28	11.24	38.23	34.68	132	56	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	10396.60	67.90	68.20	-0.30	54.82	9.77	38.41	35.10	161	314	Peak
2	15602.70	51.38	54.00	-2.62	36.52	11.25	38.29	34.68	192	30	Average
3	15608.00	63.75	74.00	-10.25	48.89	11.25	38.29	34.68	192	30	Peak

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

	Freq	Level	Limit	Over	Read	CableAntenna	Preamp	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1	10478.50	64.82	68.20	-3.38	51.62	9.75	38.48	35.03	151	180	Peak
2	15718.90	53.12	54.00	-0.88	38.24	11.27	38.42	34.81	140	52	Average
3	15723.80	66.27	74.00	-7.73	51.39	11.27	38.42	34.81	140	52	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	10480.60	66.89	68.20	-1.31	53.69	9.75	38.48	35.03	162	312	Peak
2	15711.80	66.96	74.00	-7.04	52.04	11.27	38.42	34.77	155	110	Peak
3	15717.40	52.21	54.00	-1.79	37.33	11.27	38.42	34.81	155	110	Average

Configurations	IEEE 802.11a CH 149 / Chain 1 + Chain 2
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Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	11487.50	57.30	74.00	-16.70	43.80	9.62	38.50	34.62	149	186	Peak	HORIZONTAL
2	11488.10	45.89	54.00	-8.11	32.39	9.62	38.50	34.62	149	186	Average	HORIZONTAL
3	17231.50	65.22	68.20	-2.98	45.02	12.13	41.90	33.83	134	86	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	11488.50	47.62	54.00	-6.38	34.12	9.62	38.50	34.62	135	35	Average	VERTICAL
2	11491.50	59.54	74.00	-14.46	46.04	9.62	38.50	34.62	135	35	Peak	VERTICAL
3	17228.90	67.94	68.20	-0.26	47.74	12.13	41.90	33.83	139	10	Peak	VERTICAL

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

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	11568.30	48.83	54.00	-5.17	35.34	9.61	38.53	34.65	184	71	Average	HORIZONTAL
2	11576.70	60.26	74.00	-13.74	46.77	9.61	38.53	34.65	184	71	Peak	HORIZONTAL
3	17353.00	64.37	68.20	-3.83	44.02	12.19	41.98	33.82	197	234	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	11568.30	50.73	54.00	-3.27	37.24	9.61	38.53	34.65	137	35	Average	VERTICAL
2	11573.30	62.28	74.00	-11.72	48.79	9.61	38.53	34.65	137	35	Peak	VERTICAL
3	17354.70	68.07	68.20	-0.13	47.72	12.19	41.98	33.82	142	171	Peak	VERTICAL

Configurations	IEEE 802.11a CH 165 / Chain 1 + Chain 2
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Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	11648.60	64.35	74.00	-9.65	50.88	9.60	38.55	34.68	182	77	Peak	HORIZONTAL
2	11649.30	51.21	54.00	-2.79	37.74	9.60	38.55	34.68	182	77	Average	HORIZONTAL
3	17483.70	64.46	68.20	-3.74	43.89	12.28	42.10	33.81	122	231	Peak	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	11648.40	53.51	54.00	-0.49	40.04	9.60	38.55	34.68	139	36	Average	VERTICAL
2	11648.80	66.48	74.00	-7.52	53.01	9.60	38.55	34.68	139	36	Peak	VERTICAL
3	17479.50	67.03	68.20	-1.17	46.46	12.28	42.10	33.81	144	170	Peak	VERTICAL

Configurations	IEEE 802.11ac MCS0/Nss1 VHT20 CH 36 / Chain 1 + Chain 2
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Horizontal

	Freq	Level	Limit	Over	Read	CableAntenna	Preamp	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1	15533.60	59.28	74.00	-14.72	44.53	11.23	38.16	34.64	125	268	Peak
2	15538.60	47.70	54.00	-6.30	32.95	11.23	38.16	34.64	125	268	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	15529.10	59.61	74.00	-14.39	44.86	11.23	38.16	34.64	250	70	Peak
2	15538.10	47.49	54.00	-6.51	32.74	11.23	38.16	34.64	250	70	Average

Configurations	IEEE 802.11ac MCS0/Nss1 VHT20 CH 40 / Chain 1 + Chain 2
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Horizontal

	Freq	Level	Limit	Over	Read	CableAntenna	Preamp	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1	10398.70	65.56	68.20	-2.64	52.46	9.77	38.41	35.08	161	180	Peak
2	15601.00	65.92	74.00	-8.08	51.06	11.25	38.29	34.68	132	56	Peak
3	15605.40	52.60	54.00	-1.40	37.74	11.25	38.29	34.68	132	56	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	10400.20	67.92	68.20	-0.28	54.82	9.77	38.41	35.08	124	6	Peak
2	15600.90	51.32	54.00	-2.68	36.46	11.25	38.29	34.68	231	84	Average
3	15603.30	64.51	74.00	-9.49	49.65	11.25	38.29	34.68	231	84	Peak

Configurations	IEEE 802.11ac MCS0/Nss1 VHT20 CH 48 / Chain 1 + Chain 2
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Horizontal

	Freq	Level	Limit	Over	Read	CableAntenna	Preamp	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1	10478.40	62.09	68.20	-6.11	48.89	9.75	38.48	35.03	197	181	Peak
2	15716.10	51.82	54.00	-2.18	36.94	11.27	38.42	34.81	144	52	Average
3	15716.50	64.75	74.00	-9.25	49.87	11.27	38.42	34.81	144	52	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	10477.80	64.40	68.20	-3.80	51.20	9.75	38.48	35.03	174	314	Peak
2	15717.20	64.80	74.00	-9.20	49.92	11.27	38.42	34.81	152	34	Peak
3	15718.80	50.17	54.00	-3.83	35.29	11.27	38.42	34.81	152	34	Average

Configurations	IEEE 802.11ac MCS0/Nss1 VHT20 CH 149 / Chain 1 + Chain 2
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Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna Loss Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1	11485.20	44.56	54.00	-9.44	31.06	9.62	38.50	34.62	149	195	Average
2	11490.80	57.08	74.00	-16.92	43.58	9.62	38.50	34.62	149	195	Peak
3	17235.50	65.46	68.20	-2.74	45.26	12.13	41.90	33.83	111	82	Peak

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	11490.00	47.11	54.00	-6.89	33.61	9.62	38.50	34.62	149	180	Average
2	11490.60	59.61	74.00	-14.39	46.11	9.62	38.50	34.62	149	180	Peak
3	17230.90	68.02	68.20	-0.18	47.82	12.13	41.90	33.83	153	173	Peak

Configurations	IEEE 802.11ac MCS0/Nss1 VHT20 CH 157 / Chain 1 + Chain 2
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Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna Loss Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1	11568.70	48.28	54.00	-5.72	34.79	9.61	38.53	34.65	183	72	Average
2	11569.20	61.13	74.00	-12.87	47.64	9.61	38.53	34.65	183	72	Peak
3	17359.20	65.68	68.20	-2.52	45.33	12.19	41.98	33.82	110	232	Peak

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	11569.70	61.77	74.00	-12.23	48.28	9.61	38.53	34.65	111	178	Peak
2	11570.70	49.15	54.00	-4.85	35.66	9.61	38.53	34.65	111	178	Average
3	17349.30	67.91	68.20	-0.29	47.56	12.19	41.98	33.82	153	173	Peak

Configurations	IEEE 802.11ac MCS0/Nss1 VHT20 CH 165 / Chain 1 + Chain 2
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Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna Loss Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1	11648.60	65.68	74.00	-8.32	52.21	9.60	38.55	34.68	160	84	Peak
2	11648.90	51.39	54.00	-2.61	37.92	9.60	38.55	34.68	160	84	Average
3	17483.20	64.55	68.20	-3.65	43.98	12.28	42.10	33.81	237	267	Peak

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	11644.80	66.62	74.00	-7.38	53.15	9.60	38.55	34.68	131	34	Peak
2	11647.70	52.48	54.00	-1.52	39.01	9.60	38.55	34.68	131	34	Average
3	17471.80	67.85	68.20	-0.35	47.28	12.28	42.10	33.81	151	171	Peak

Configurations	IEEE 802.11ac MCS0/Nss1 VHT40 CH 38 / Chain 1 + Chain 2
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Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna Loss Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1	15569.30	59.26	74.00	-14.74	44.47	11.24	38.23	34.68	132	225	Peak
2	15571.50	46.82	54.00	-7.18	32.03	11.24	38.23	34.68	132	225	Average

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	15570.30	47.06	54.00	-6.94	32.27	11.24	38.23	34.68	123	326	Average
2	15577.30	60.78	74.00	-13.22	45.99	11.24	38.23	34.68	123	326	Peak

Configurations	IEEE 802.11ac MCS0/Nss1 VHT40 CH 46 / Chain 1 + Chain 2
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Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna Loss Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1	10456.90	61.27	68.20	-6.93	48.11	9.76	38.45	35.05	198	182	Peak
2	15683.30	50.33	54.00	-3.67	35.49	11.26	38.35	34.77	137	58	Average
3	15687.40	64.31	74.00	-9.69	49.47	11.26	38.35	34.77	137	58	Peak

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	10464.60	62.15	68.20	-6.05	48.99	9.76	38.45	35.05	172	315	Peak
2	15695.40	62.60	74.00	-11.40	47.68	11.27	38.42	34.77	149	94	Peak
3	15699.70	49.72	54.00	-4.28	34.80	11.27	38.42	34.77	149	94	Average

Configurations	IEEE 802.11ac MCS0/Nss1 VHT40 CH 151 / Chain 1 + Chain 2
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Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna Loss Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1	11504.80	57.65	74.00	-16.35	44.15	9.62	38.50	34.62	167	66	Peak
2	11524.10	45.50	54.00	-8.50	32.01	9.61	38.51	34.63	167	66	Average
3	17289.00	65.04	68.20	-3.16	44.76	12.16	41.94	33.82	126	230	Peak

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	11508.00	46.38	54.00	-7.62	32.88	9.62	38.50	34.62	143	156	Average
2	11511.10	60.09	74.00	-13.91	46.60	9.62	38.50	34.63	143	156	Peak
3	17265.90	68.05	68.20	-0.15	47.78	12.16	41.94	33.83	144	170	Peak

Configurations	IEEE 802.11ac MCS0/Nss1 VHT40 CH 159 / Chain 1 + Chain 2
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Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna Loss Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1	11585.40	48.85	54.00	-5.15	35.37	9.60	38.54	34.66	185	74	Average
2	11588.70	63.73	74.00	-10.27	50.25	9.60	38.54	34.66	185	74	Peak
3	17369.00	65.41	68.20	-2.79	44.99	12.22	42.02	33.82	180	233	Peak

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	11583.90	62.77	74.00	-11.23	49.28	9.60	38.54	34.65	136	36	Peak
2	11584.00	49.86	54.00	-4.14	36.37	9.60	38.54	34.65	136	36	Average
3	17361.70	67.83	68.20	-0.37	47.41	12.22	42.02	33.82	136	170	Peak

Configurations	IEEE 802.11ac MCS0/Nss1 VHT80 CH 42 / Chain 1 + Chain 2
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Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna Loss Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1	15628.20	60.15	74.00	-13.85	45.34	11.25	38.29	34.73	100	133	Peak
2	15631.10	46.47	54.00	-7.53	31.66	11.25	38.29	34.73	100	133	Average

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	15629.80	60.18	74.00	-13.82	45.37	11.25	38.29	34.73	207	65	Peak
2	15633.00	46.62	54.00	-7.38	31.81	11.25	38.29	34.73	207	65	Average

Configurations	IEEE 802.11ac MCS0/Nss1 VHT80 CH 155 / Chain 1 + Chain 2
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Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna Loss Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1	11545.34	47.00	54.00	-7.00	33.51	9.61	38.51	34.63	129	154	Average
2	11552.12	57.63	74.00	-16.37	44.14	9.61	38.53	34.65	129	154	Peak

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	11551.30	46.37	54.00	-7.63	32.88	9.61	38.53	34.65	139	104	Average
2	11553.60	59.89	74.00	-14.11	46.40	9.61	38.53	34.65	139	104	Peak

Note:

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

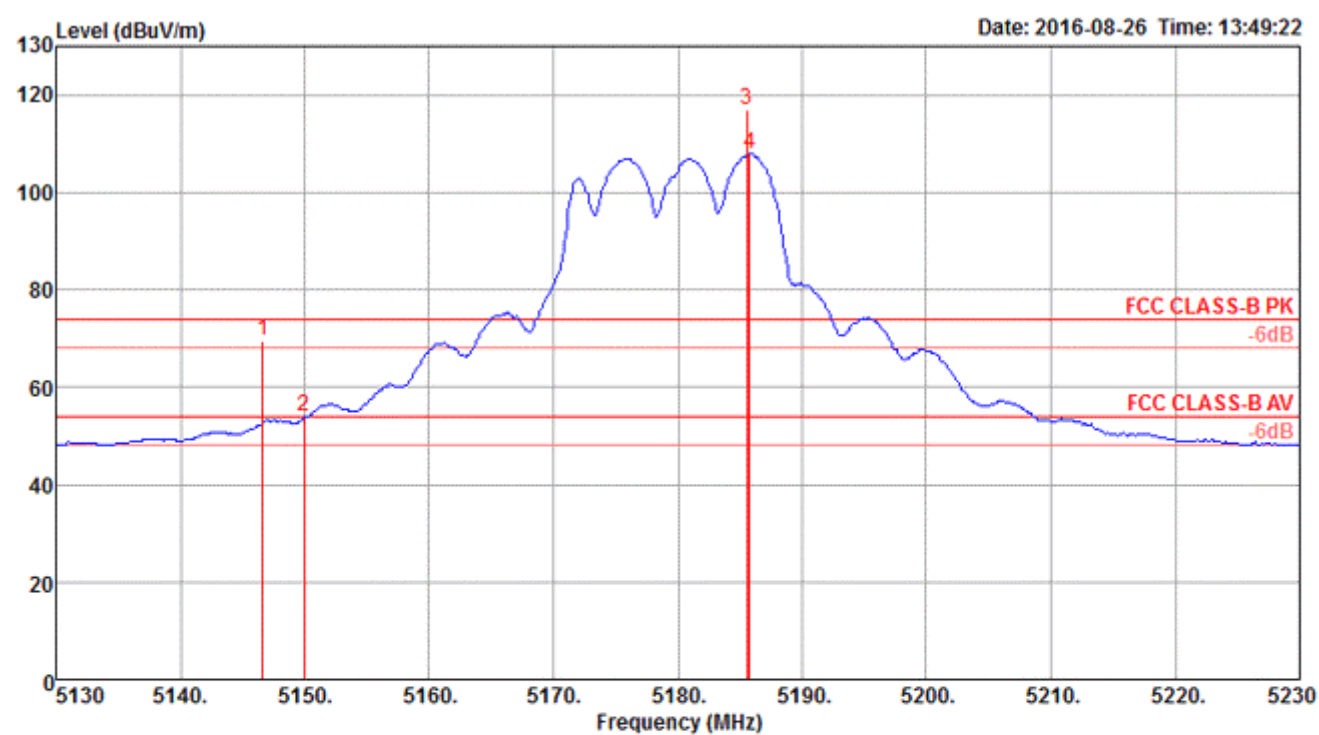
Emission level (dBuV/m) = 20 log Emission level (uV/m).

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
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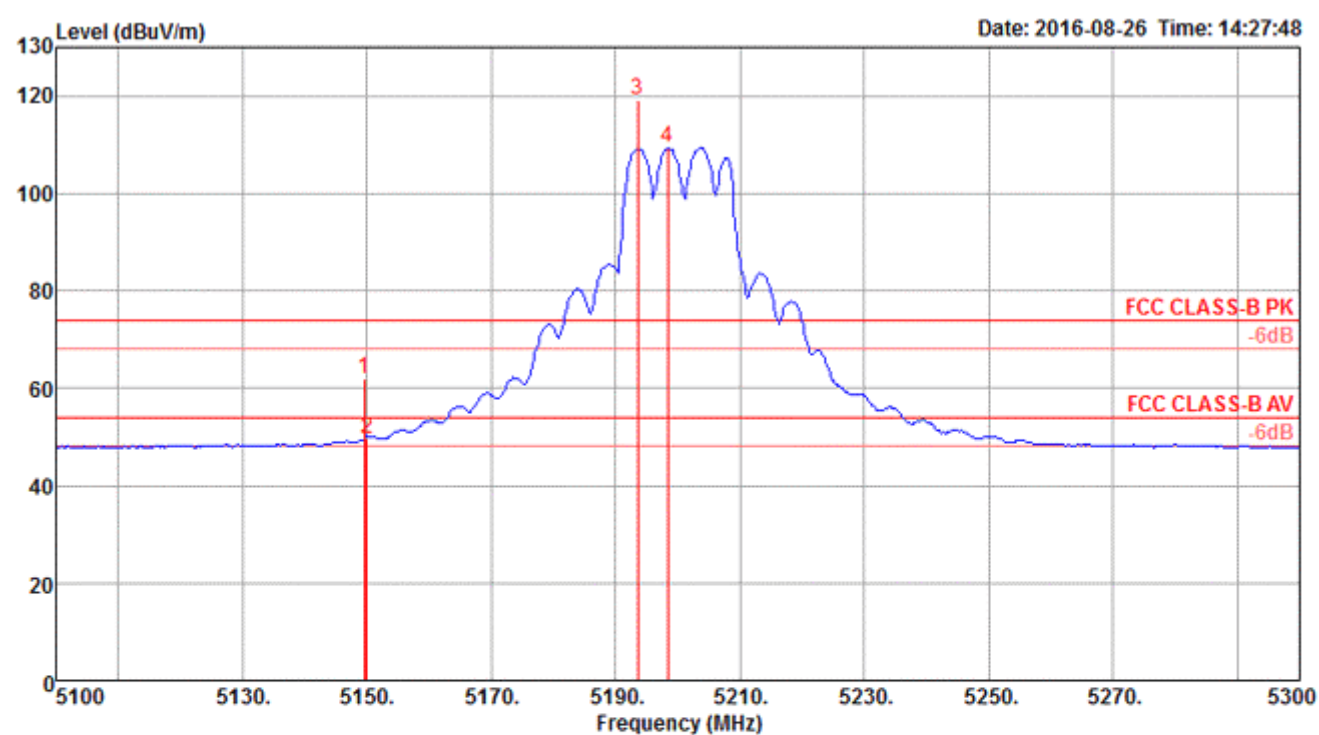
Channel 36



	Freq	Level	Limit	Over	Read	Cable	Antenna	Preamp	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	5146.60	69.37	74.00	-4.63	62.63	7.90	33.31	34.47	150	202	Peak	VERTICAL
2	5150.00	53.78	54.00	-0.22	47.04	7.90	33.31	34.47	150	202	Average	VERTICAL
3 @	5185.60	116.91			110.08	7.95	33.35	34.47	150	202	Peak	VERTICAL
4 @	5185.80	107.77			100.94	7.95	33.35	34.47	150	202	Average	VERTICAL

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

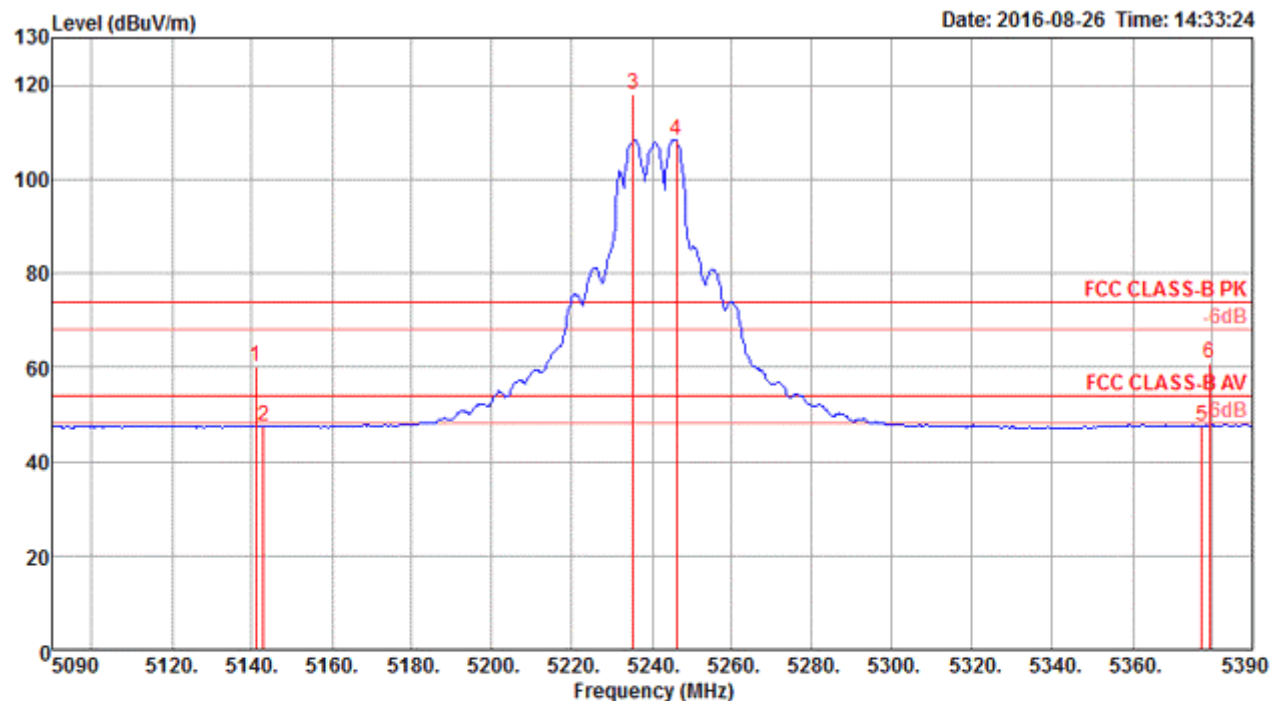
Channel 40



	Freq	Level	Limit	Over	Read	CableAntenna	Preamp	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	Line	Limit	Level	Loss	Factor	Factor	cm	deg	
1	5149.60	62.01	74.00	-11.99	55.27	7.90	33.31	34.47	150	207 Peak	VERTICAL
2	5150.00	49.65	54.00	-4.35	42.91	7.90	33.31	34.47	150	207 Average	VERTICAL
3 @	5193.60	119.06			112.17	7.98	33.38	34.47	150	207 Peak	VERTICAL
4 @	5198.40	109.26			102.37	7.98	33.38	34.47	150	207 Average	VERTICAL

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

Channel 48

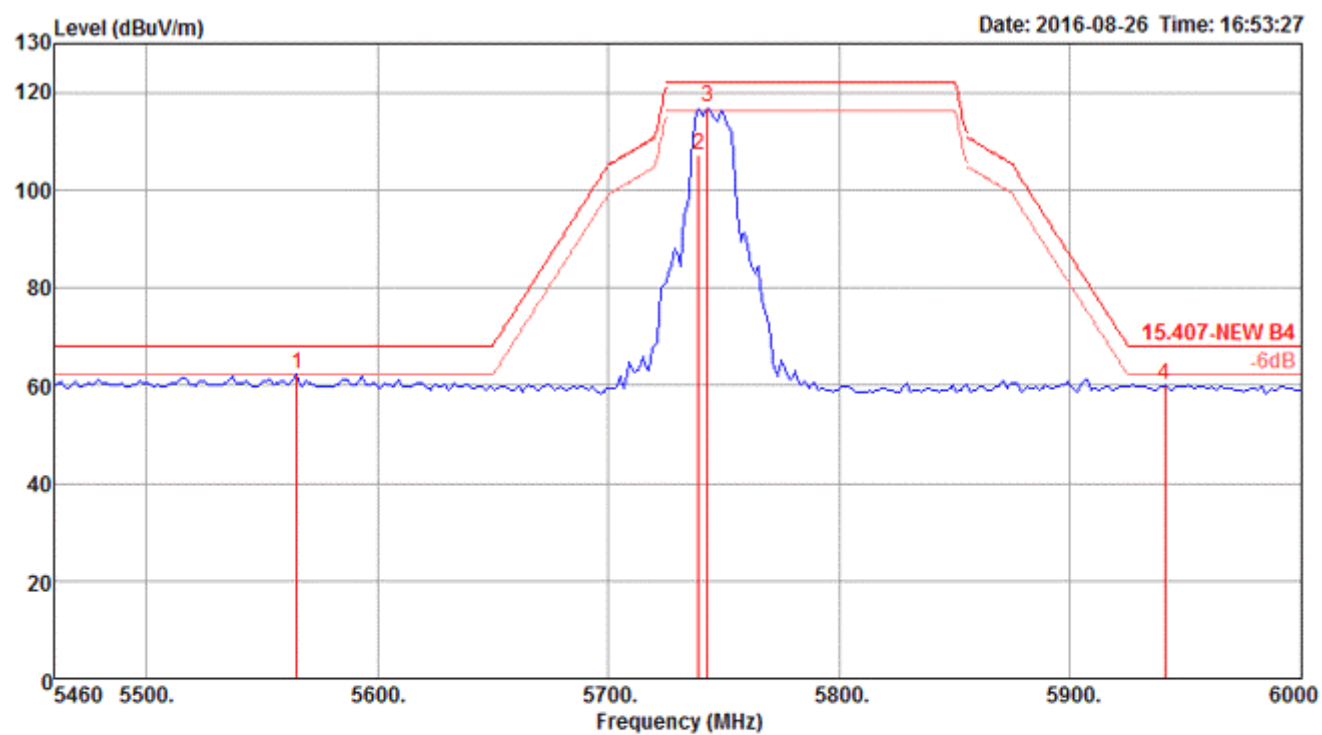


	Freq	Level	Limit	Over	Read	CableAntenna	Preamp	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1	5141.00	59.99	74.00	-14.01	53.29	7.88	33.29	34.47	151	201	Peak
2	5142.80	47.51	54.00	-6.49	40.77	7.90	33.31	34.47	151	201	Average
3	5235.20	118.06			111.14	7.95	33.44	34.47	151	201	Peak
4	5246.00	108.38			101.46	7.95	33.44	34.47	151	201	Average
5	5377.40	47.57	54.00	-6.43	40.54	7.87	33.63	34.47	151	201	Average
6	5379.20	60.94	74.00	-13.06	53.91	7.87	33.63	34.47	151	201	Peak

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

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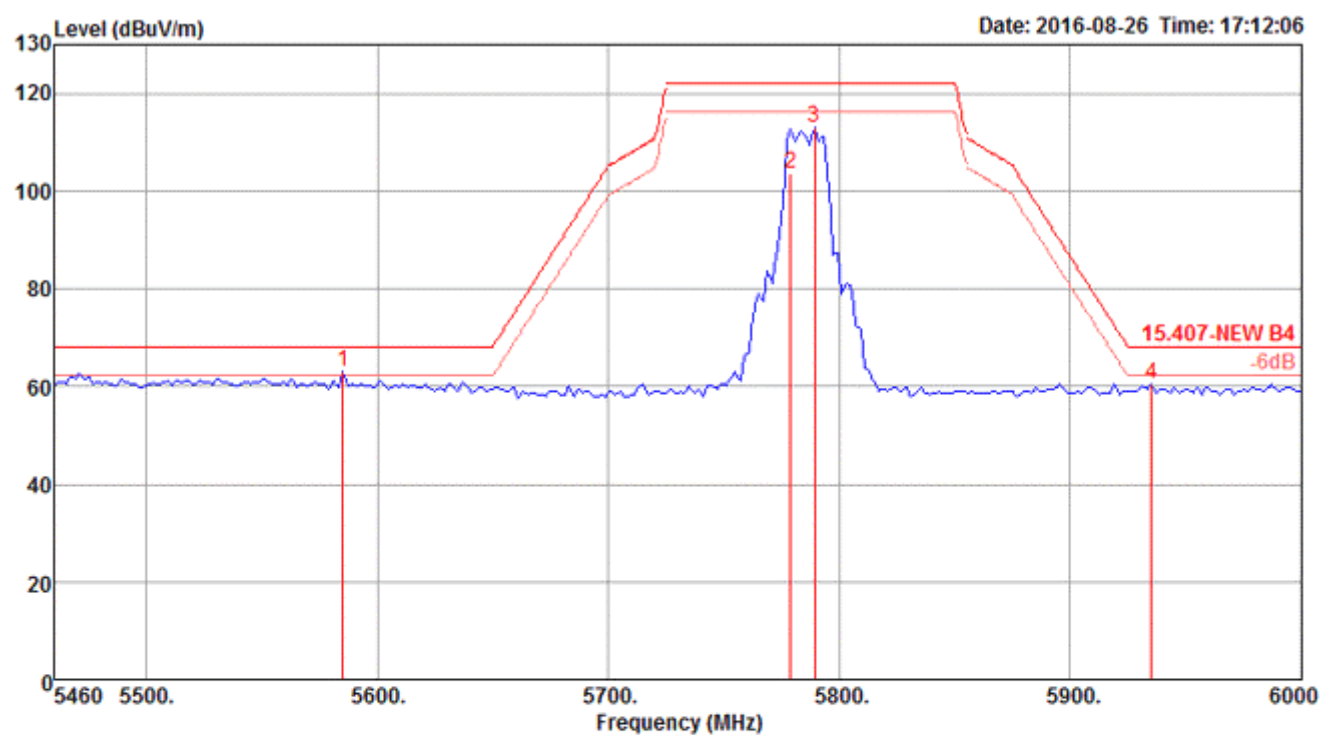
Channel 149



	Freq	Level	Limit	Over	Read	Cable	Antenna	Preamp	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	5565.00	62.35	68.20	-5.85	54.89	7.94	34.00	34.48	243	300	Peak	VERTICAL
2	5739.00	107.35			99.46	7.86	34.55	34.52	243	300	Average	VERTICAL
3	5743.00	116.88			108.99	7.86	34.55	34.52	243	300	Peak	VERTICAL
4	5941.00	60.16	68.20	-8.04	51.87	7.75	35.10	34.56	243	300	Peak	VERTICAL

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

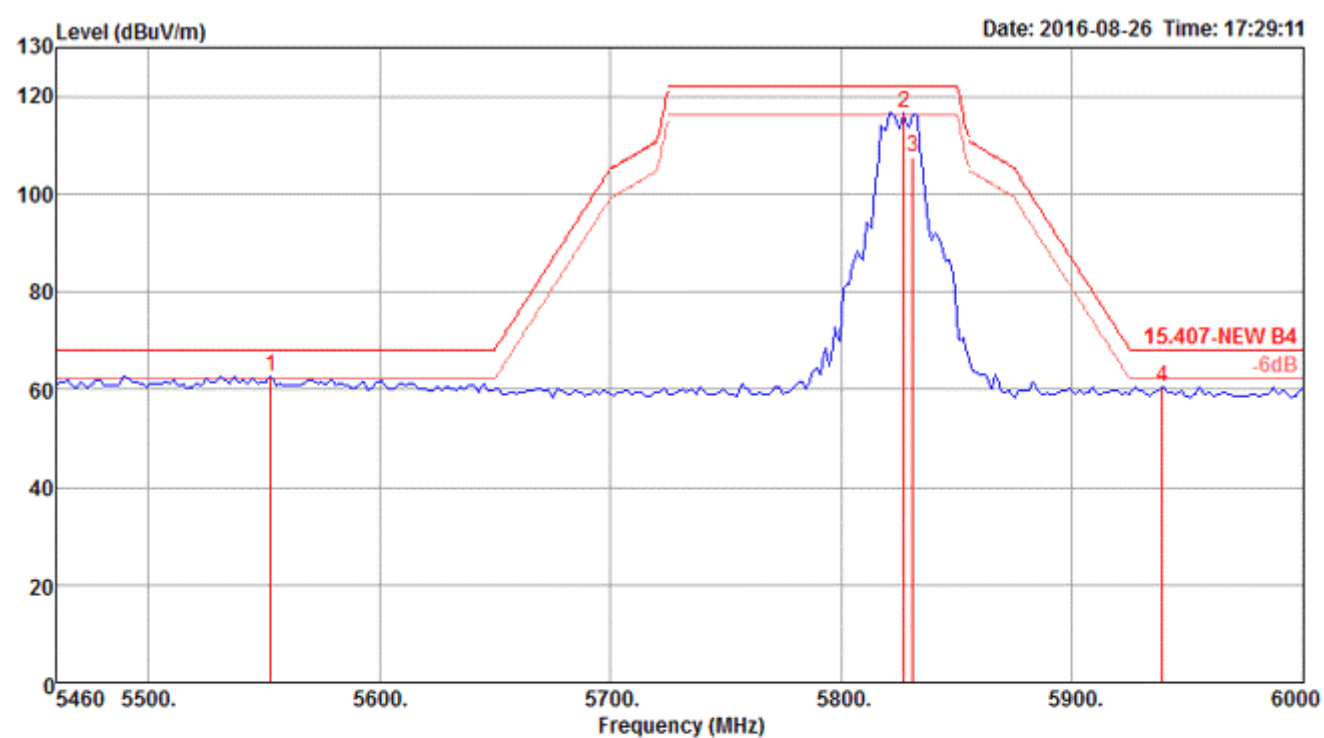
Channel 157



	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	5585.00	62.85	68.20	-5.35	55.35	7.94	34.05	34.49	139	145 Peak	VERTICAL
2	5779.00	103.54			95.58	7.84	34.65	34.53	139	145 Average	VERTICAL
3	5789.00	112.88			104.88	7.83	34.70	34.53	139	145 Peak	VERTICAL
4	5935.00	60.65	68.20	-7.55	52.36	7.75	35.10	34.56	139	145 Peak	VERTICAL

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

Channel 165

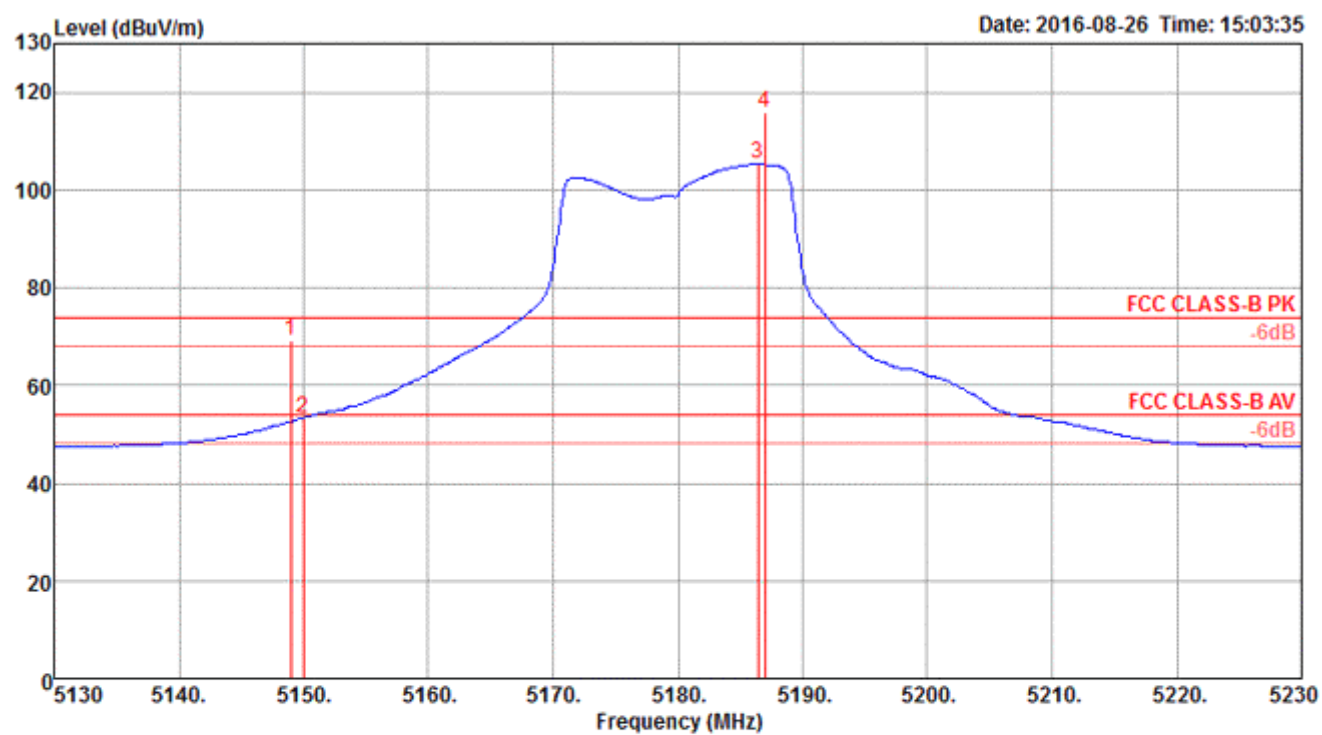


	Freq	Level	Limit	Over	Read	CableAntenna	Preamp	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1	5553.00	62.74	68.20	-5.46	55.34	7.93	33.95	34.48	217	295 Peak	VERTICAL
2	5827.00	116.49			108.42	7.81	34.80	34.54	217	295 Peak	VERTICAL
3	5831.00	107.46			99.39	7.81	34.80	34.54	217	295 Average	VERTICAL
4	5939.00	60.49	68.20	-7.71	52.20	7.75	35.10	34.56	217	295 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
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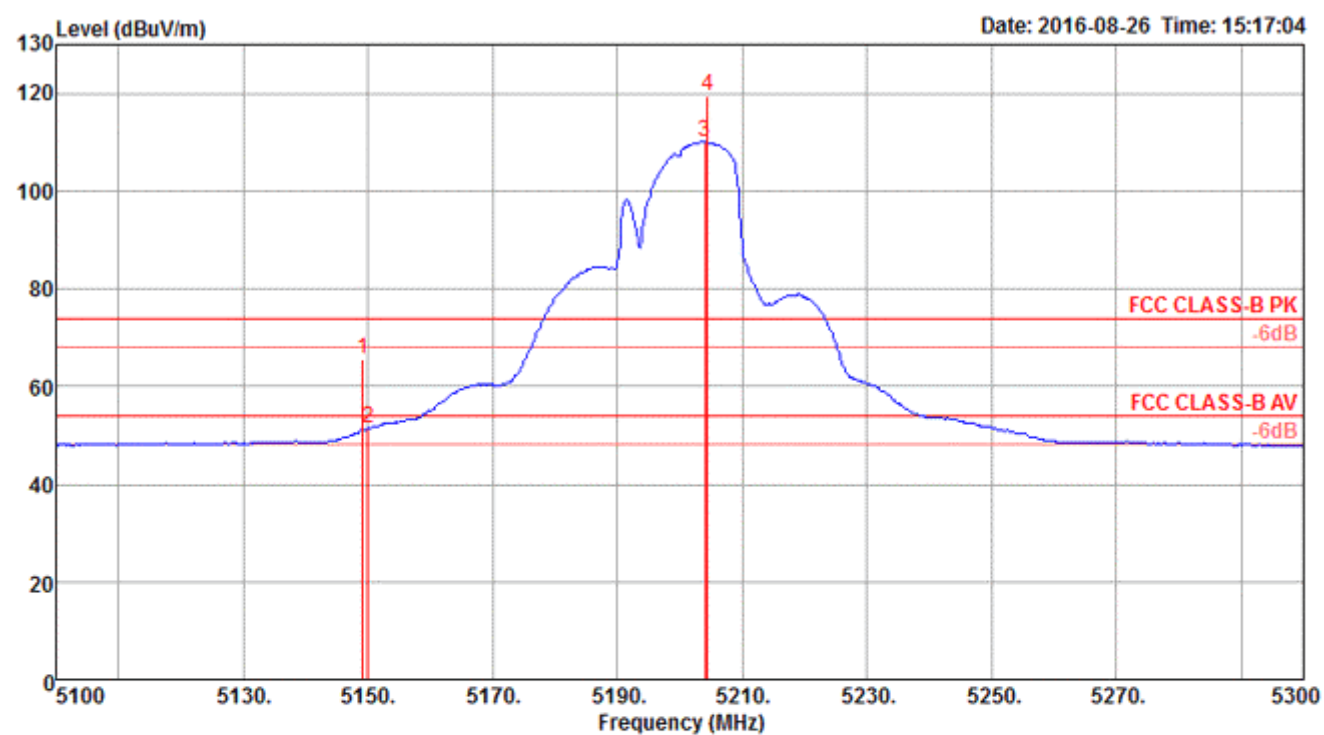
Channel 36



	Freq	Level	Limit	Over	Read	Cable	Antenna	Preamp	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	5149.00	69.07	74.00	-4.93	62.33	7.90	33.31	34.47	210	116	Peak	VERTICAL
2	5150.00	53.34	54.00	-0.66	46.60	7.90	33.31	34.47	210	116	Average	VERTICAL
3 @	5186.40	105.28			98.45	7.95	33.35	34.47	210	116	Average	VERTICAL
4 @	5187.00	116.03			109.14	7.98	33.38	34.47	210	116	Peak	VERTICAL

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

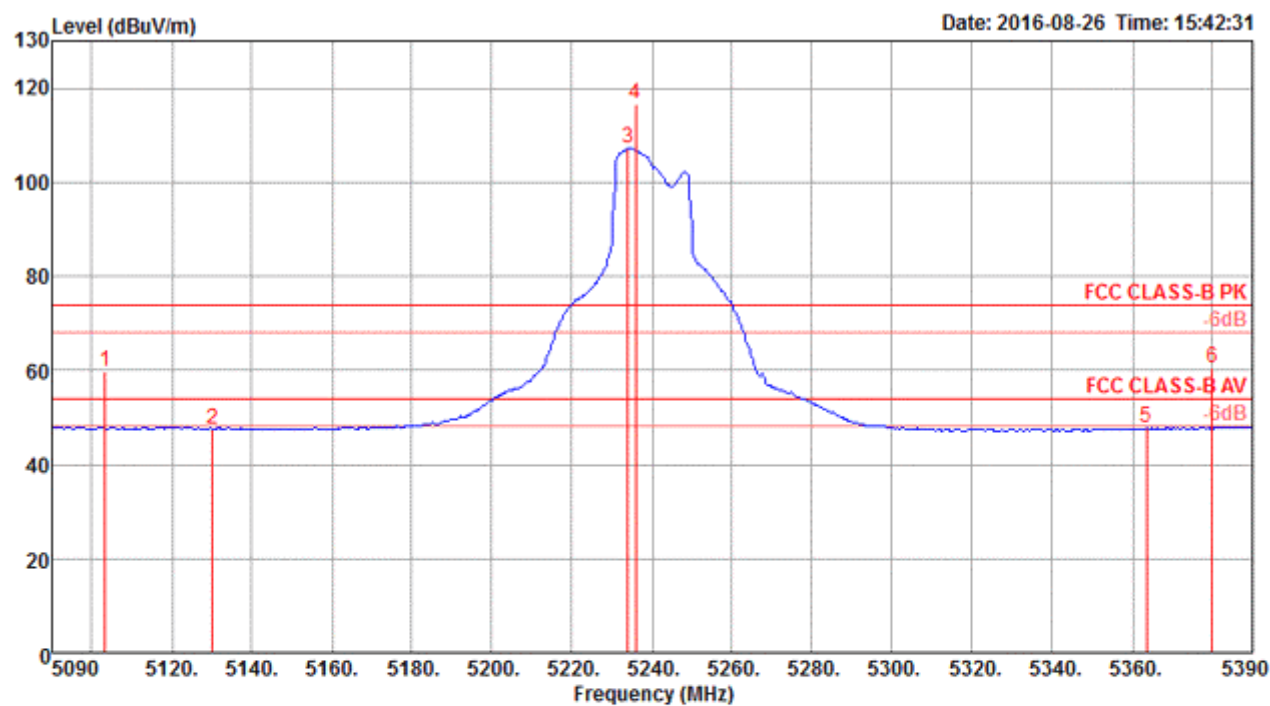
Channel 40



	Freq	Level	Limit	Over	Read	Cable	Antenna	Preamp	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	5149.20	65.70	74.00	-8.30	58.96	7.90	33.31	34.47	206	206	Peak	VERTICAL
2	5150.00	51.53	54.00	-2.47	44.79	7.90	33.31	34.47	206	206	Average	VERTICAL
3 @	5204.00	110.13			103.23	7.97	33.40	34.47	206	206	Average	VERTICAL
4 @	5204.40	119.62			112.72	7.97	33.40	34.47	206	206	Peak	VERTICAL

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

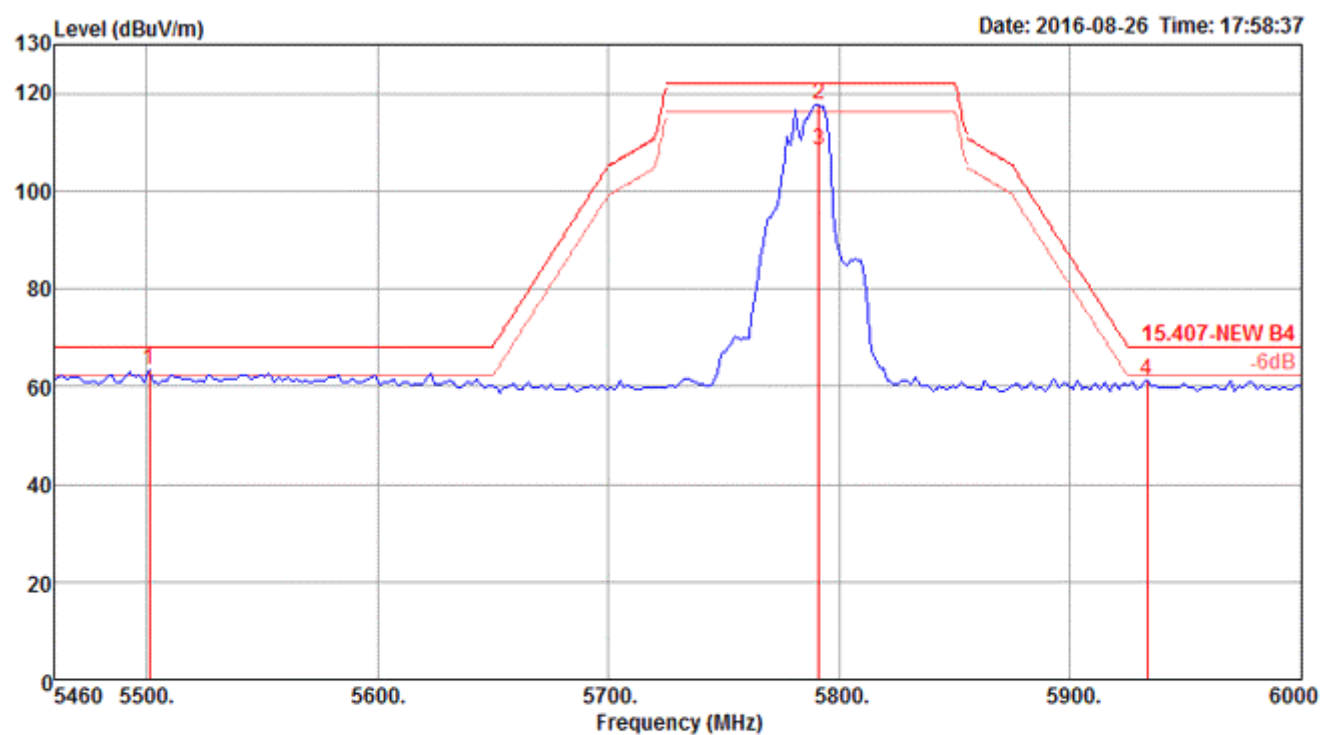
Channel 48



	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	5103.20	59.67	74.00	-14.33	53.07	7.82	33.25	34.47	190	106 Peak	HORIZONTAL
2	5130.20	47.53	54.00	-6.47	40.83	7.88	33.29	34.47	190	106 Average	HORIZONTAL
3 @	5234.00	107.11			100.19	7.95	33.44	34.47	190	106 Average	HORIZONTAL
4 @	5235.80	116.70			109.78	7.95	33.44	34.47	190	106 Peak	HORIZONTAL
5	5363.60	47.63	54.00	-6.37	40.61	7.88	33.61	34.47	190	106 Average	HORIZONTAL
6	5379.80	60.52	74.00	-13.48	53.49	7.87	33.63	34.47	190	106 Peak	HORIZONTAL

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

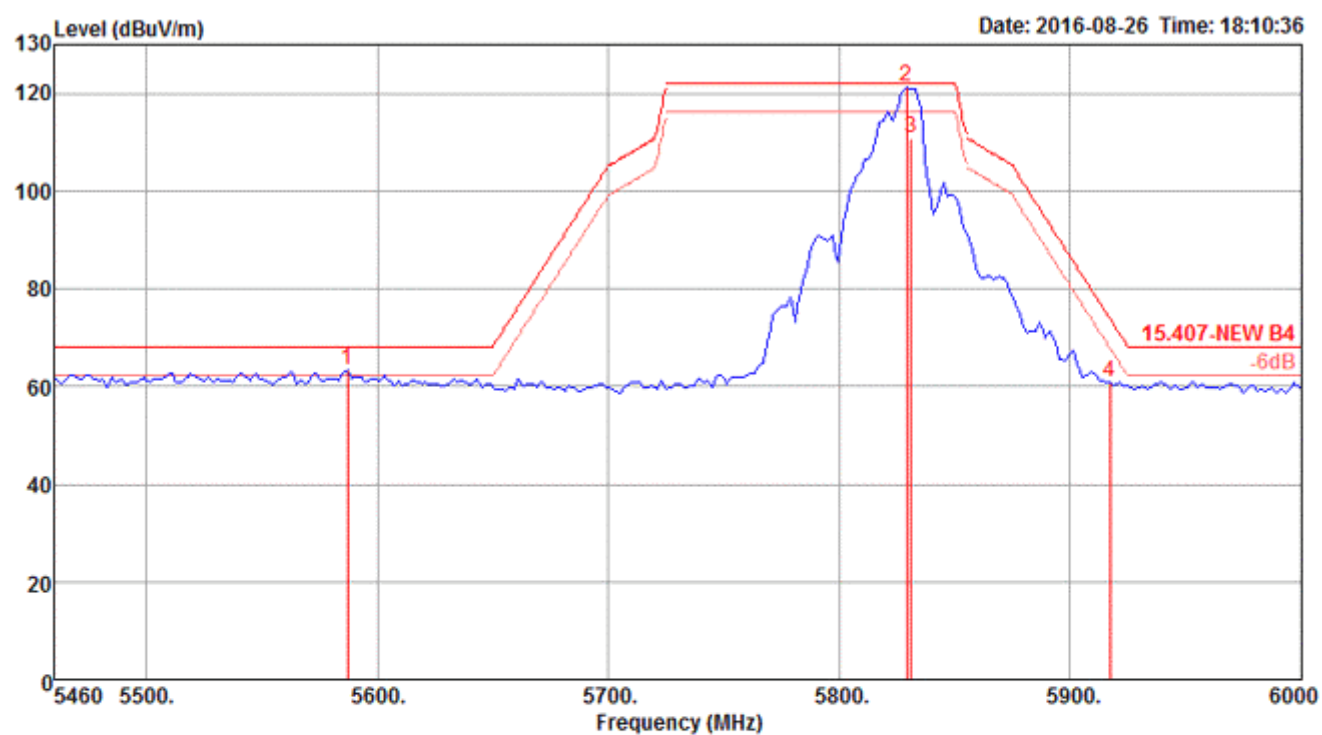
Channel 157



	Freq	Level	Limit	Over	Read	Cable	Antenna	Preamp	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	5501.00	63.20	68.20	-5.00	55.96	7.91	33.80	34.47	197	295	Peak	VERTICAL
2	5791.00	117.70			109.70	7.83	34.70	34.53	197	295	Peak	VERTICAL
3	5791.00	108.22			100.22	7.83	34.70	34.53	197	295	Average	VERTICAL
4	5933.00	61.20	68.20	-7.00	52.91	7.75	35.10	34.56	197	295	Peak	VERTICAL

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

Channel 165

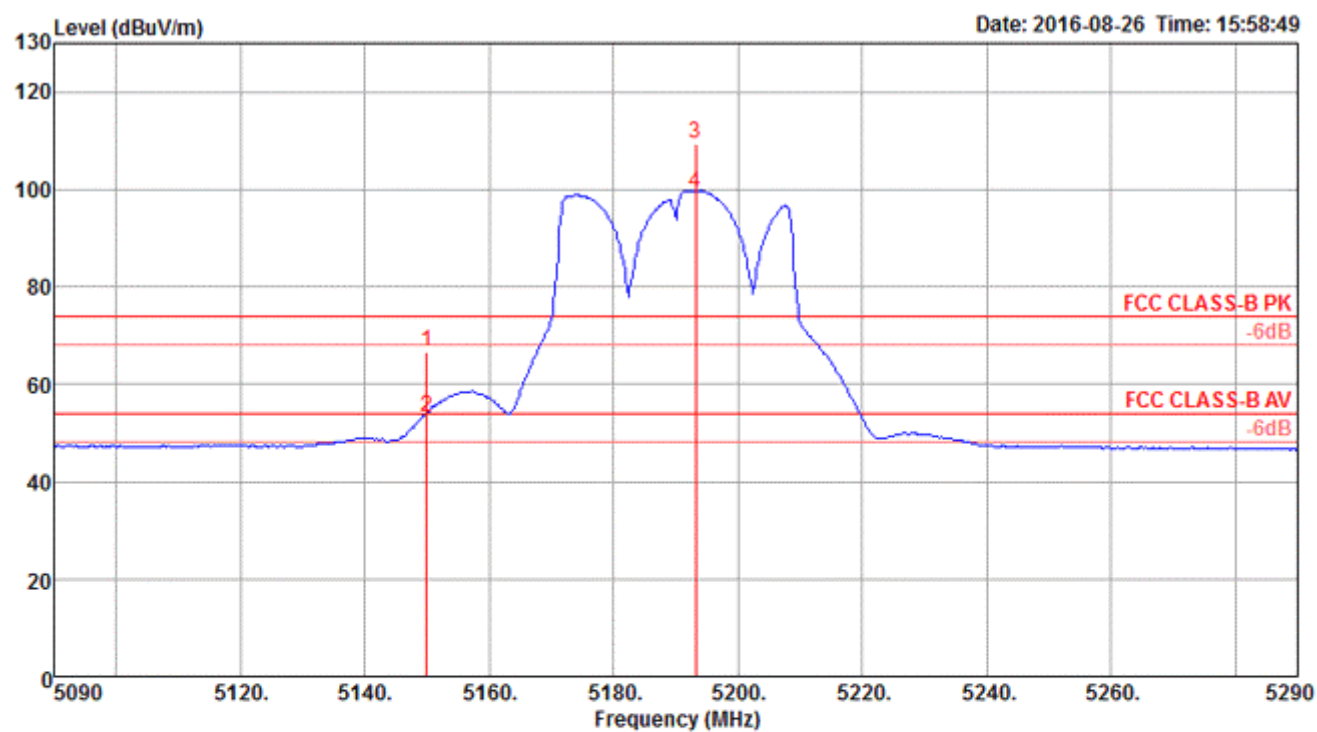


	Freq	Level	Limit	Over	Read	CableAntenna	Preamp	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1	5587.00	63.34	68.20	-4.86	55.84	7.94	34.05	34.49	210	298 Peak	VERTICAL
2	5829.00	121.15			113.08	7.81	34.80	34.54	210	298 Peak	VERTICAL
3	5831.00	110.89			102.82	7.81	34.80	34.54	210	298 Average	VERTICAL
4	5917.00	60.95	74.10	-13.15	52.69	7.76	35.05	34.55	210	298 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
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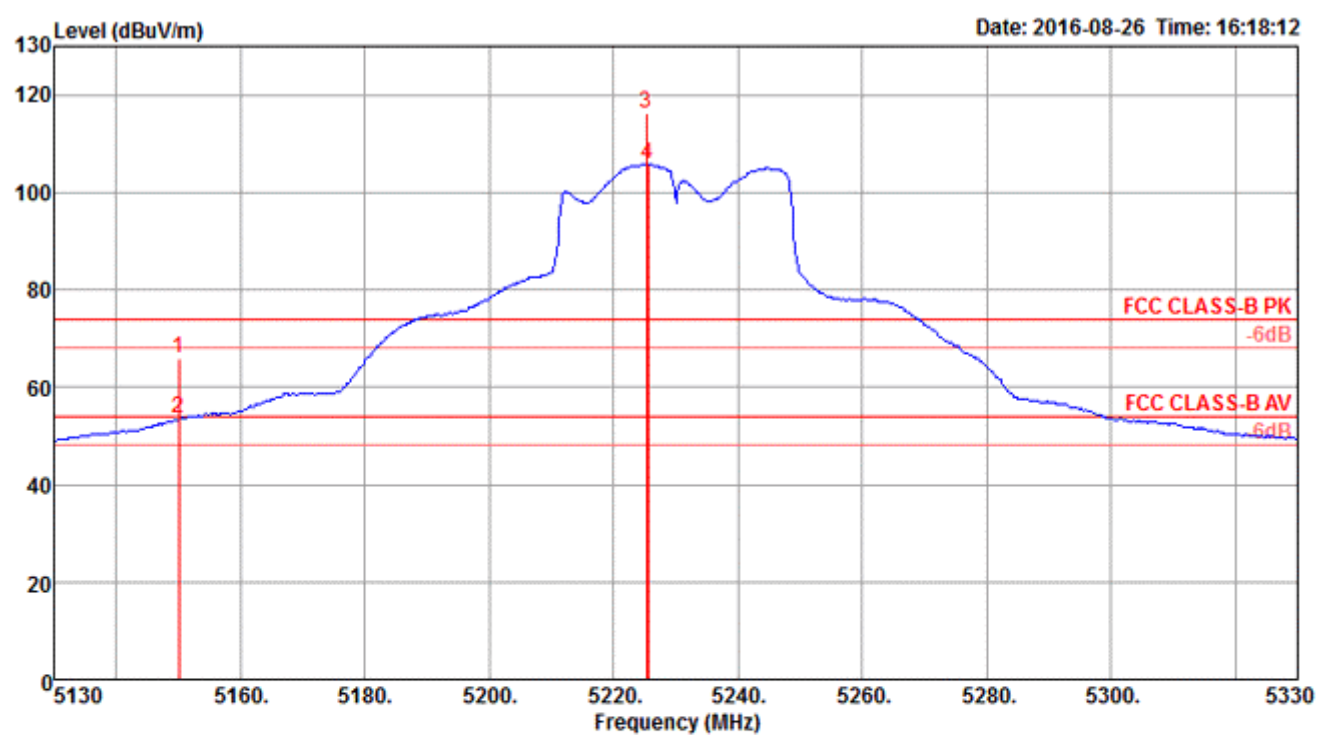
Channel 38



	Freq	Level	Limit	Over	Read	Cable	Antenna	Preamp	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	5150.00	66.65	74.00	-7.35	59.91	7.90	33.31	34.47	231	203	Peak	VERTICAL
2	5150.00	53.34	54.00	-0.66	46.60	7.90	33.31	34.47	231	203	Average	VERTICAL
3 @	5193.20	109.48			102.59	7.98	33.38	34.47	231	203	Peak	VERTICAL
4 @	5193.20	99.24			92.35	7.98	33.38	34.47	231	203	Average	VERTICAL

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

Channel 46

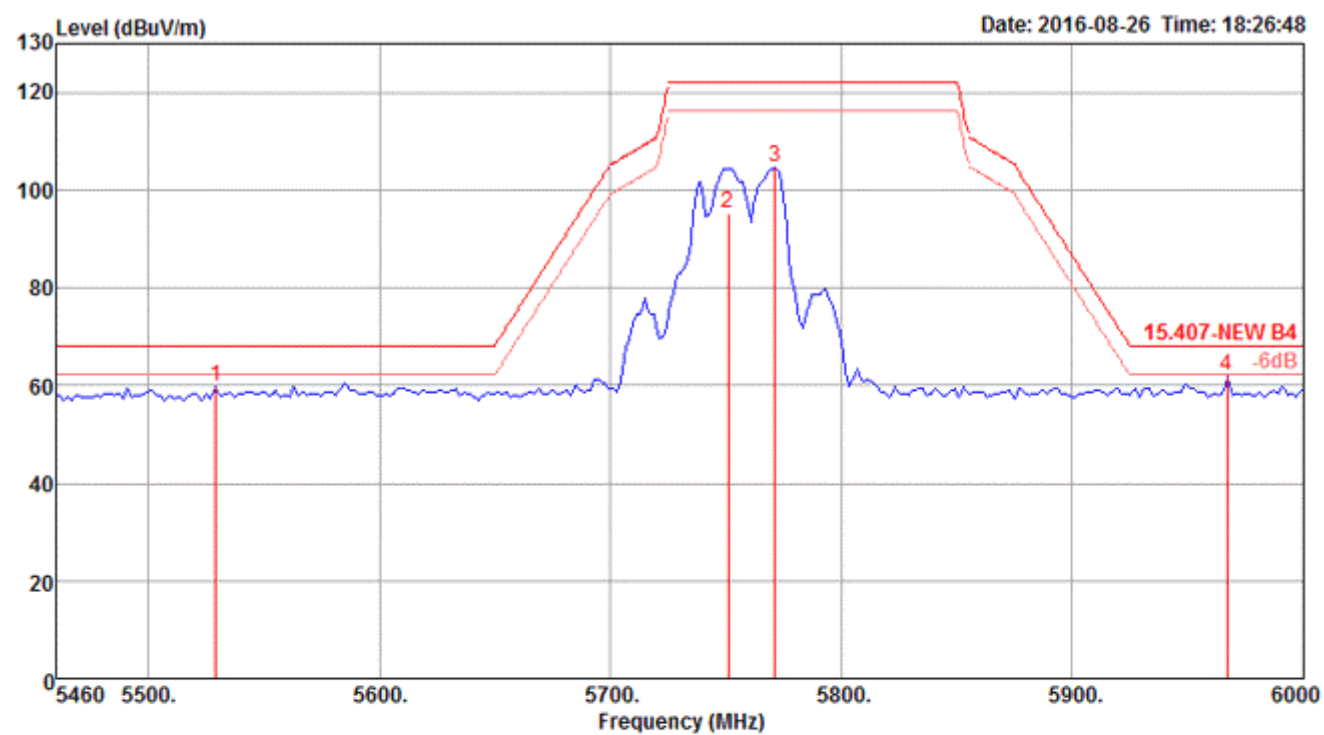


	Freq	Level	Limit	Over	Read	Cable	Antenna	Preamp	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	5150.00	65.78	74.00	-8.22	59.04	7.90	33.31	34.47	200	112	Peak	VERTICAL
2	5150.00	53.47	54.00	-0.53	46.73	7.90	33.31	34.47	200	112	Average	VERTICAL
3 @	5225.20	116.13			109.22	7.96	33.42	34.47	200	112	Peak	VERTICAL
4 @	5225.60	105.72			98.81	7.96	33.42	34.47	200	112	Average	VERTICAL

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

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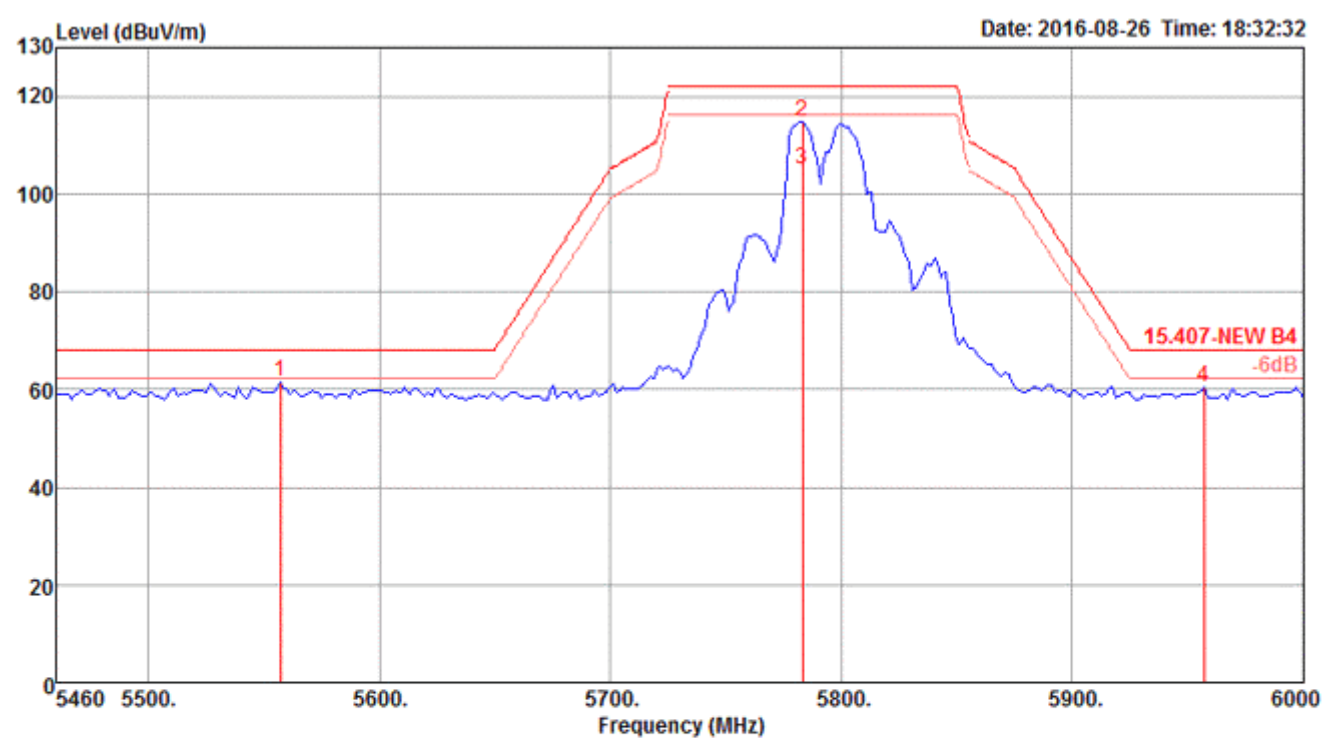
Channel 151



	Freq	Level	Limit	Over	Read	Cable	Antenna	Preamp	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	5529.00	59.66	68.20	-8.54	52.32	7.92	33.90	34.48	131	142	Peak	HORIZONTAL
2	5751.00	95.25			87.36	7.86	34.55	34.52	131	142	Average	HORIZONTAL
3	5771.00	104.77			96.85	7.85	34.60	34.53	131	142	Peak	HORIZONTAL
4	5967.00	61.76	68.20	-6.44	53.39	7.73	35.20	34.56	131	142	Peak	HORIZONTAL

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

Channel 159

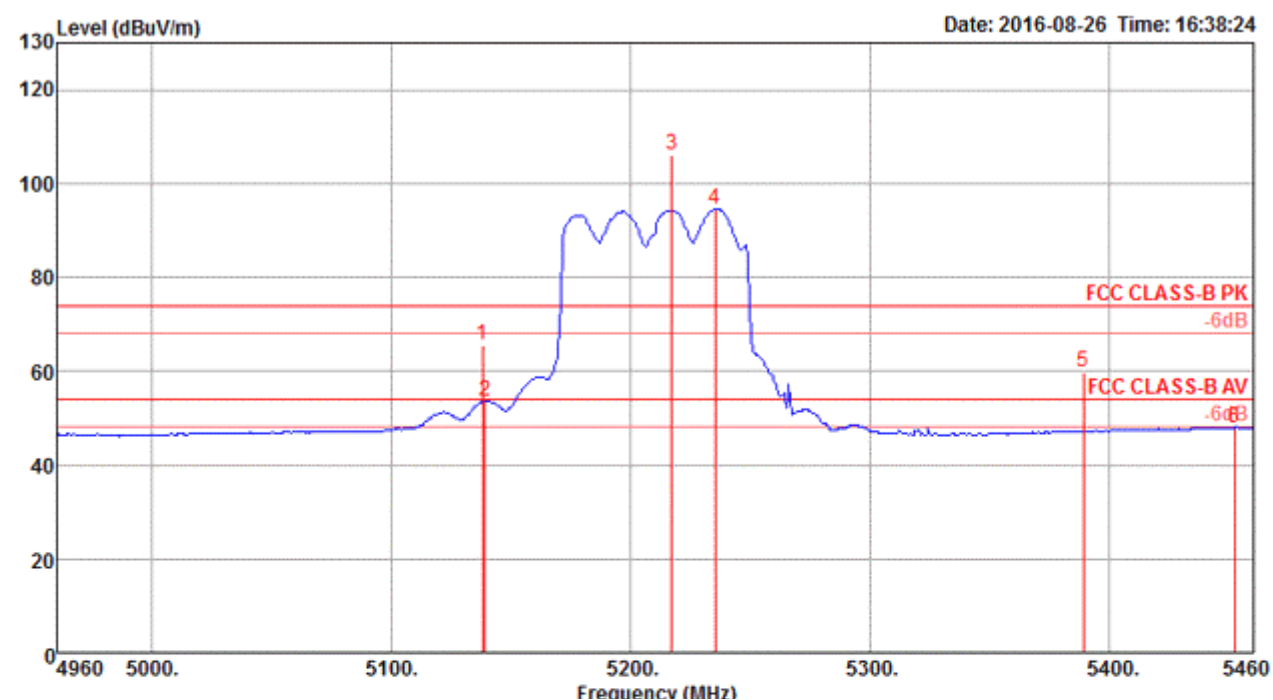


	Freq	Level	Limit	Over	Read	CableAntenna	Preamp	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1	5557.00	61.38	68.20	-6.82	53.98	7.93	33.95	34.48	221	293	Peak
2	5783.00	114.97			107.01	7.84	34.65	34.53	221	293	Peak
3	5783.00	105.19			97.23	7.84	34.65	34.53	221	293	Average
4	5957.00	60.35	68.20	-7.85	52.02	7.74	35.15	34.56	221	293	Peak

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

Configurations	IEEE 802.11ac MCS0/Nss1 VHT80 CH 42, 58 / Chain 1 + Chain 2
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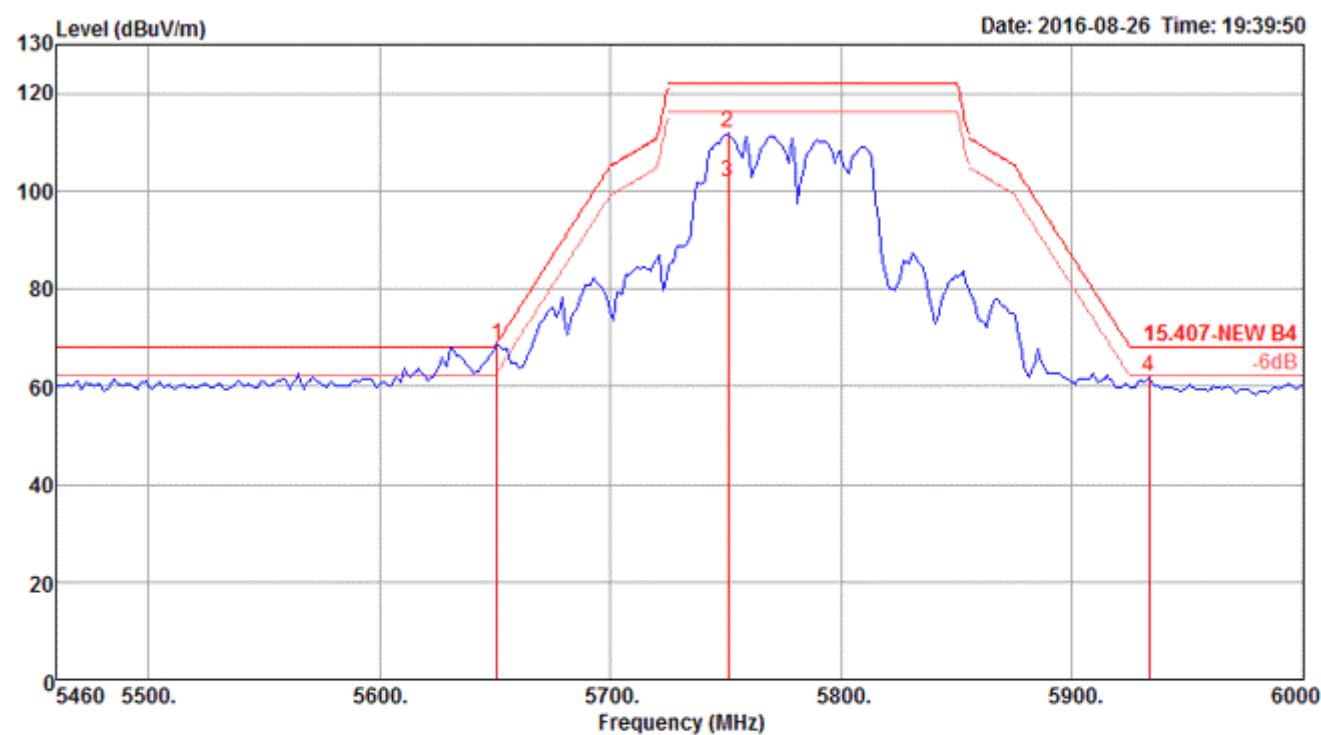
Channel 42



	Freq	Level	Limit	Over	Read	Cable	Antenna	Preamp	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	5138.00	65.47	74.00	-8.53	58.77	7.88	33.29	34.47	200	113	Peak	VERTICAL
2	5139.00	53.46	54.00	-0.54	46.76	7.88	33.29	34.47	200	113	Average	VERTICAL
3 @	5217.00	105.96			99.05	7.96	33.42	34.47	200	113	Peak	VERTICAL
4 @	5235.00	94.64			87.72	7.95	33.44	34.47	200	113	Average	VERTICAL
5	5389.00	59.82	74.00	-14.18	52.78	7.86	33.65	34.47	200	113	Peak	VERTICAL
6	5452.00	47.83	54.00	-6.17	40.67	7.89	33.74	34.47	200	113	Average	VERTICAL

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

Channel 155



	Freq	Level	Limit	Over	Read	Cable	Antenna	Preamp	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	5651.00	68.41	68.94	-0.53	60.74	7.92	34.25	34.50	234	300	Peak	VERTICAL
2	5751.00	112.04			104.15	7.86	34.55	34.52	234	300	Peak	VERTICAL
3	5751.00	101.83			93.94	7.86	34.55	34.52	234	300	Average	VERTICAL
4	5933.00	61.77	68.20	-6.43	53.48	7.75	35.10	34.56	234	300	Peak	VERTICAL

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

Note:

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

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



Mode: 20 MHz / Chain 2

Voltage vs. Frequency Stability

Voltage	Measurement Frequency (MHz)			
(V)	5200 MHz			
	0 Minute	2 Minute	5 Minute	10 Minute
126.50	5199.9425	5199.9424	5199.9422	5199.9418
110.00	5199.9422	5199.9420	5199.9411	5199.9406
93.50	5199.9415	5199.9410	5199.9402	5199.9400
Max. Deviation (MHz)	0.0585	0.0590	0.0598	0.0600
Max. Deviation (ppm)	11.25	11.35	11.50	11.54
Result	Pass			

Temperature vs. Frequency Stability

Temperature	Measurement Frequency (MHz)			
(°C)	5200 MHz			
	0 Minute	2 Minute	5 Minute	10 Minute
0	5199.9438	5199.9434	5199.9433	5199.9426
10	5199.9425	5199.9416	5199.9407	5199.9400
20	5199.9422	5199.9415	5199.9407	5199.9401
30	5199.9416	5199.9407	5199.9398	5199.9395
40	5199.9410	5199.9409	5199.9399	5199.9393
Max. Deviation (MHz)	0.0598	0.0600	0.0602	0.0612
Max. Deviation (ppm)	11.50	11.54	11.58	11.77
Result	Pass			

Voltage vs. Frequency Stability

Voltage	Measurement Frequency (MHz)			
(V)	5785 MHz			
	0 Minute	2 Minute	5 Minute	10 Minute
126.50	5784.9429	5784.9422	5784.9419	5784.9411
110.00	5784.9422	5784.9415	5784.9411	5784.9408
93.50	5784.9415	5784.9412	5784.9408	5784.9405
Max. Deviation (MHz)	0.0585	0.0588	0.0592	0.0595
Max. Deviation (ppm)	10.11	10.16	10.23	10.29
Result	Pass			

Temperature vs. Frequency Stability

Temperature	Measurement Frequency (MHz)			
(°C)	5785 MHz			
	0 Minute	2 Minute	5 Minute	10 Minute
0	5784.9453	5784.9444	5784.9443	5784.9436
10	5784.9442	5784.9436	5784.9430	5784.9425
20	5784.9422	5784.9415	5784.9408	5784.9404
30	5784.9416	5784.9407	5784.9402	5784.9395
40	5784.9414	5784.9409	5784.9402	5784.9394
Max. Deviation (MHz)	0.0595	0.0604	0.0612	0.0621
Max. Deviation (ppm)	10.29	10.44	10.58	10.73
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	5189.9431	5189.9427	5189.9421	5189.9417
110.00	5189.9422	5189.9415	5189.9408	5189.9400
93.50	5189.9416	5189.9412	5189.9407	5189.9405
Max. Deviation (MHz)	0.0584	0.0588	0.0593	0.0600
Max. Deviation (ppm)	11.25	11.33	11.43	11.56
Result	Pass			

Temperature vs. Frequency Stability

Temperature	Measurement Frequency (MHz)			
(°C)	5190 MHz			
	0 Minute	2 Minute	5 Minute	10 Minute
0	5189.9450	5189.9442	5189.9440	5189.9430
10	5189.9440	5189.9437	5189.9430	5189.9422
20	5189.9422	5189.9418	5189.9416	5189.9407
30	5189.9416	5189.9409	5189.9404	5189.9395
40	5189.9408	5189.9399	5189.9398	5189.9388
Max. Deviation (MHz)	0.0593	0.0601	0.0602	0.0612
Max. Deviation (ppm)	11.43	11.58	11.60	11.79
Result	Pass			

Voltage vs. Frequency Stability

Voltage	Measurement Frequency (MHz)			
(V)	5755 MHz			
	0 Minute	2 Minute	5 Minute	10 Minute
126.50	5754.9430	5754.9425	5754.9421	5754.9416
110.00	5754.9422	5754.9421	5754.9416	5754.9411
93.50	5754.9418	5754.9413	5754.9403	5754.9396
Max. Deviation (MHz)	0.0582	0.0587	0.0597	0.0604
Max. Deviation (ppm)	10.11	10.20	10.37	10.50
Result	Pass			

Temperature vs. Frequency Stability

Temperature	Measurement Frequency (MHz)			
(°C)	5755 MHz			
	0 Minute	2 Minute	5 Minute	10 Minute
0	5754.9452	5754.9450	5754.9447	5754.9444
10	5754.9439	5754.9437	5754.9427	5754.9425
20	5754.9422	5754.9420	5754.9419	5754.9413
30	5754.9416	5754.9411	5754.9405	5754.9403
40	5754.9397	5754.9387	5754.9381	5754.9379
Max. Deviation (MHz)	0.0613	0.0622	0.0627	0.0637
Max. Deviation (ppm)	10.65	10.81	10.89	11.07
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	5209.9426	5209.9420	5209.9410	5209.9407
110.00	5209.9422	5209.9421	5209.9417	5209.9415
93.50	5209.9417	5209.9413	5209.9408	5209.9403
Max. Deviation (MHz)	0.0583	0.0587	0.0592	0.0597
Max. Deviation (ppm)	11.19	11.27	11.36	11.46
Result	Pass			

Temperature vs. Frequency Stability

Temperature	Measurement Frequency (MHz)			
(°C)	5210 MHz			
	0 Minute	2 Minute	5 Minute	10 Minute
0	5209.9436	5209.9426	5209.9424	5209.9416
10	5209.9433	5209.9423	5209.9419	5209.9414
20	5209.9422	5209.9420	5209.9415	5209.9409
30	5209.9416	5209.9414	5209.9408	5209.9407
40	5209.9405	5209.9404	5209.9394	5209.9387
Max. Deviation (MHz)	0.0599	0.0608	0.0611	0.0619
Max. Deviation (ppm)	11.50	11.67	11.73	11.88
Result	Pass			

Voltage vs. Frequency Stability

Voltage	Measurement Frequency (MHz)			
(V)	5775 MHz			
	0 Minute	2 Minute	5 Minute	10 Minute
126.50	5774.9427	5774.9417	5774.9410	5774.9403
110.00	5774.9422	5774.9412	5774.9403	5774.9402
93.50	5774.9421	5774.9413	5774.9406	5774.9399
Max. Deviation (MHz)	0.0579	0.0588	0.0597	0.0601
Max. Deviation (ppm)	10.03	10.18	10.34	10.41
Result	Pass			

Temperature vs. Frequency Stability

Temperature	Measurement Frequency (MHz)			
(°C)	5775 MHz			
	0 Minute	2 Minute	5 Minute	10 Minute
0	5774.9436	5774.9432	5774.9427	5774.9424
10	5774.9433	5774.9423	5774.9414	5774.9404
20	5774.9422	5774.9420	5774.9415	5774.9410
30	5774.9416	5774.9411	5774.9410	5774.9403
40	5774.9402	5774.9394	5774.9389	5774.9386
Max. Deviation (MHz)	0.0614	0.0616	0.0621	0.0623
Max. Deviation (ppm)	10.63	10.67	10.75	10.79
Result	Pass			