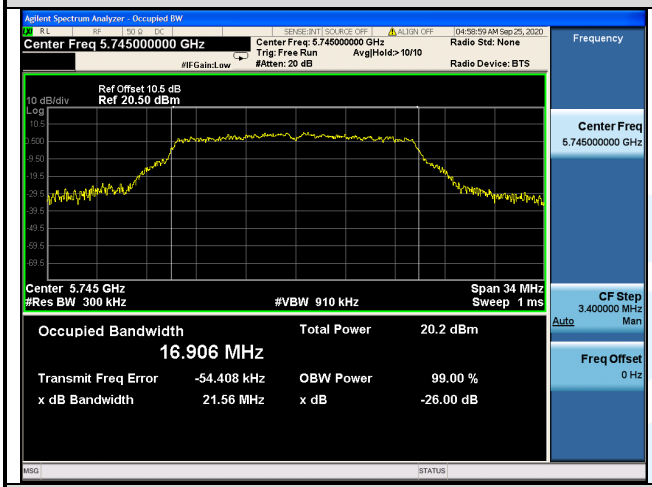
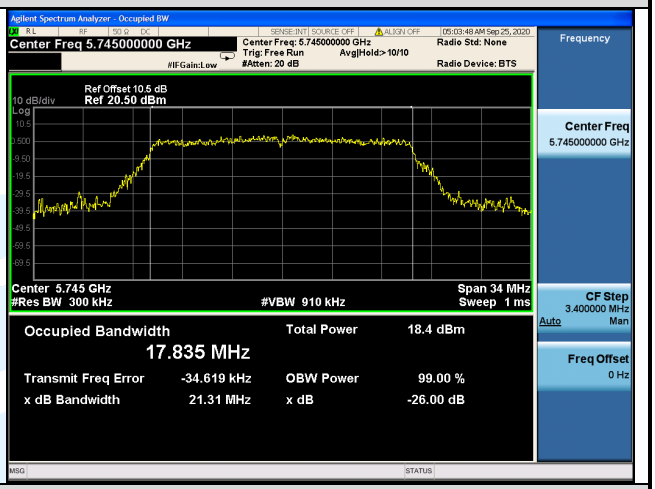
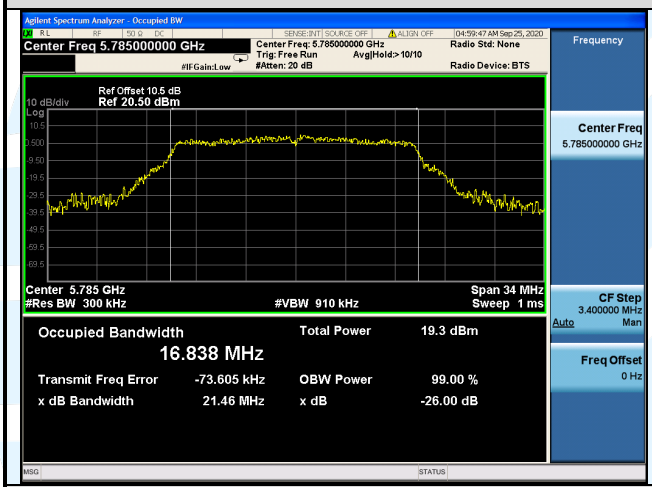
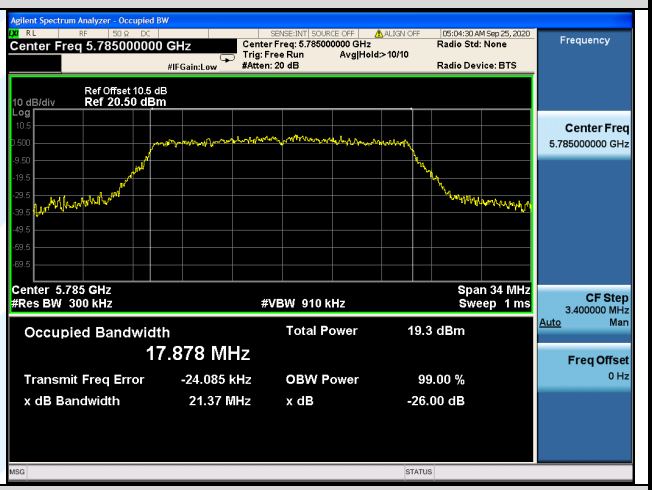
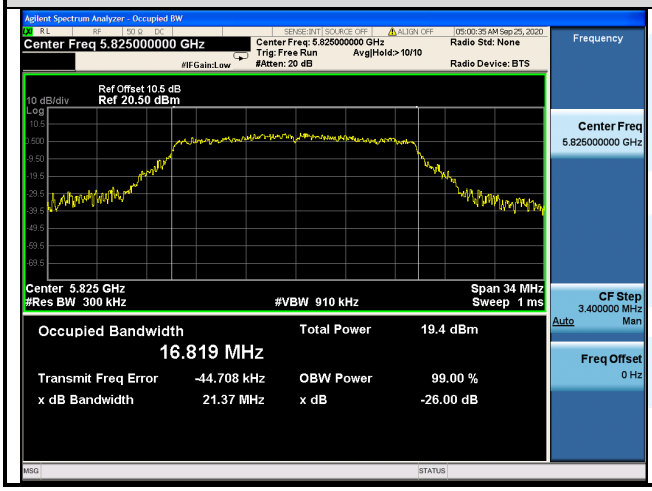
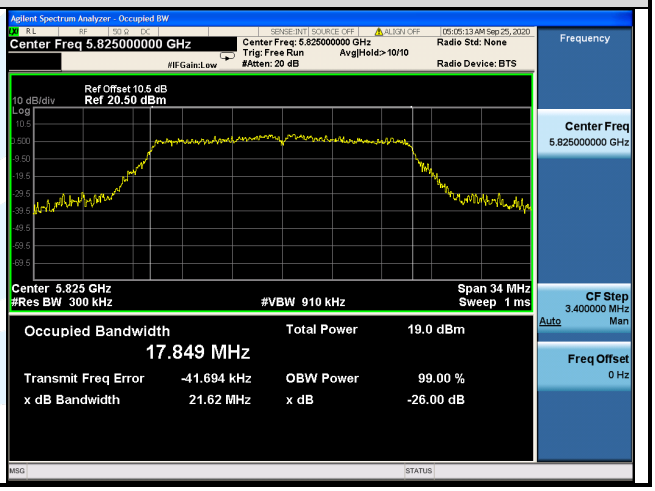
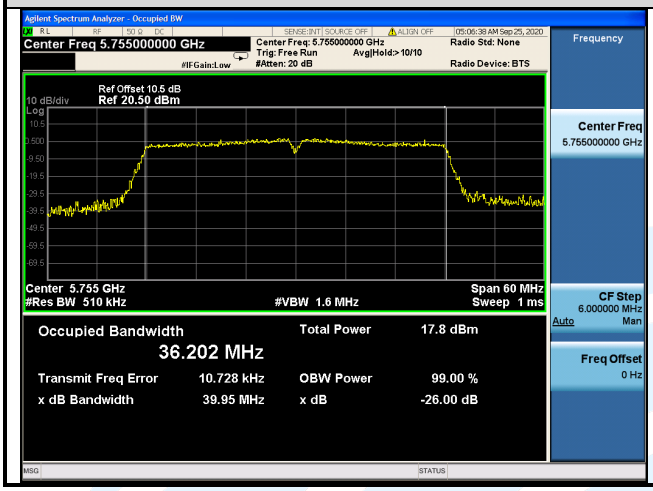
Occupied Bandwidth

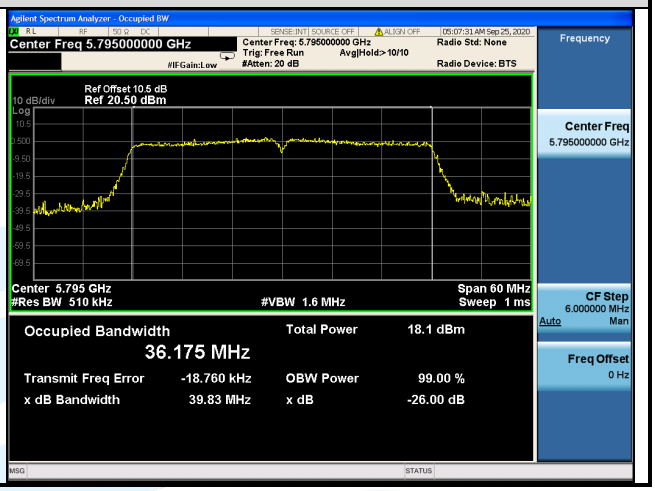
IEEE 802.11a	IEEE 802.11n-HT20
Channel 149	
	
Channel 157	
	
Channel 165	
	

IEEE 802.11n-HT40

Channel 151

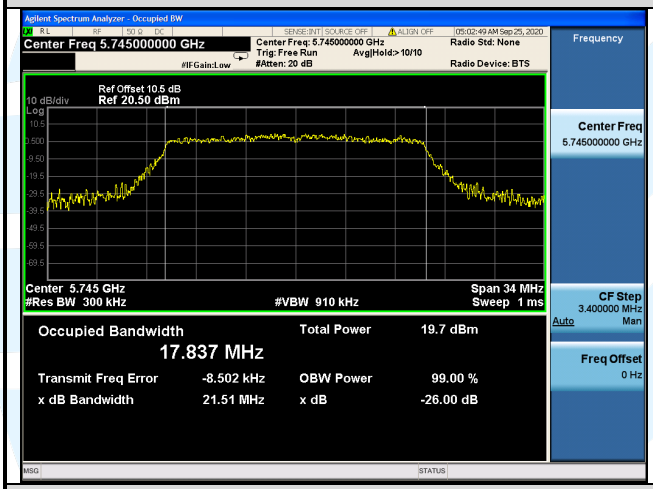


Channel 159



IEEE 802.11ac-VHT20

Channel 149



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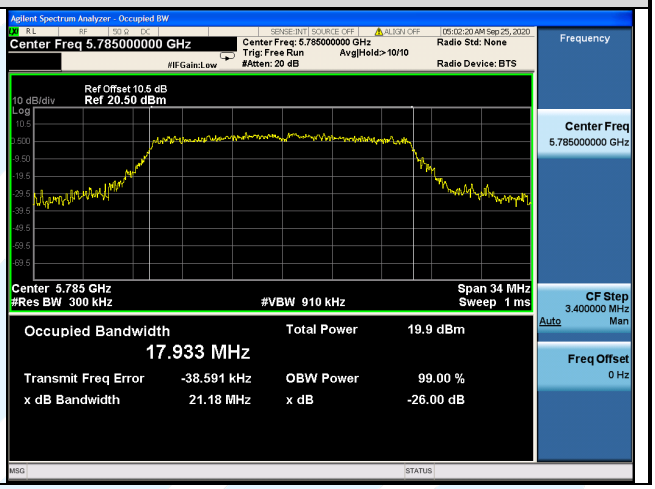
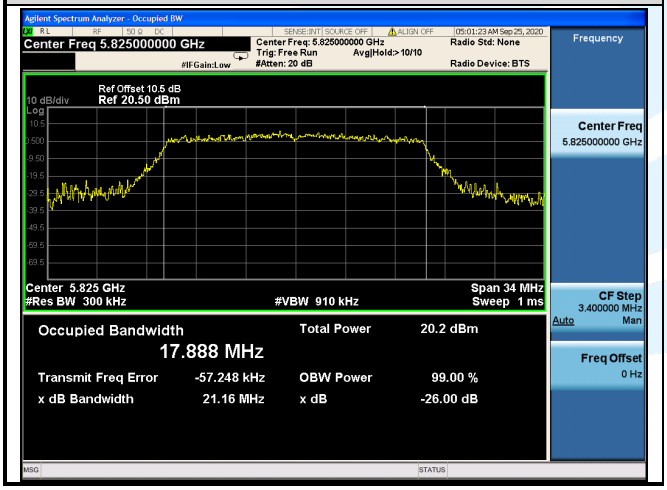
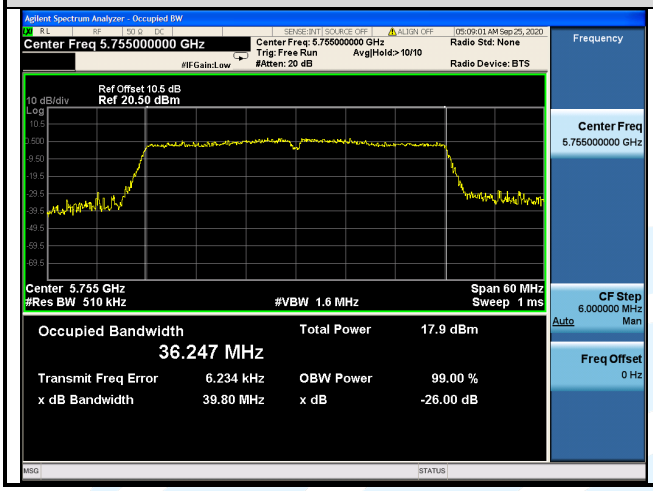


Channel 165

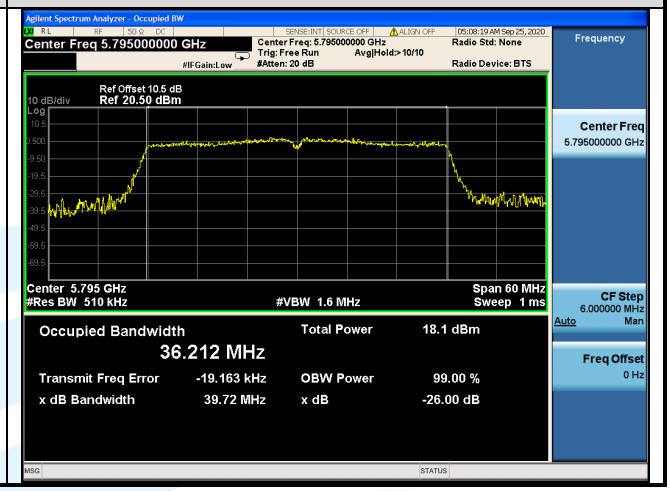


IEEE 802.11 ac-VHT40

Channel 151

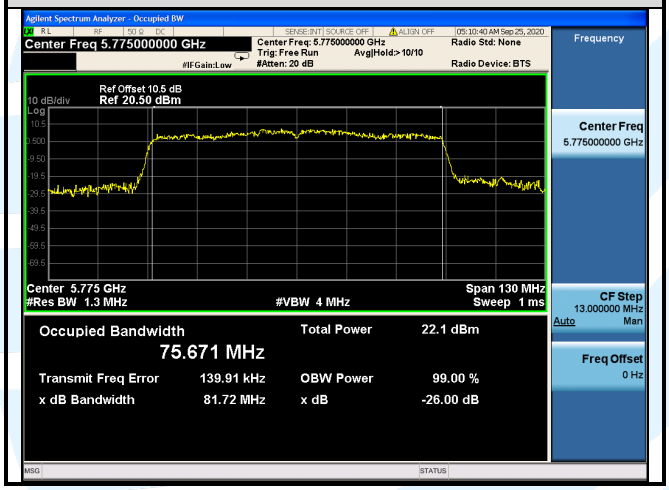


Channel 159



IEEE 802.11ac-VHT80

Channel 155



5.5 MAXIMUM CONDUCTED OUTPUT POWER OR E.I.R.P

Test Requirement: FCC 47 CFR Part 15 Subpart E Section 15.407 (a)(1)(2)(3)
RSS-247 Issue 2 Section 6.2.1.1/6.2.2.1/6.2.3.1/6.2.4.1

Test Method: KDB 789033 D02 v02r01 Section E.3.a (Method PM)

Limits: FCC 47 CFR Part 15 Subpart E

1. For the band 5.15-5.25 GHz.
   (i) For an outdoor access point operating in the band 5.15-5.25 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W provided the maximum antenna gain does not exceed 6 dBi. In addition, the maximum power spectral density shall not exceed 17 dBm in any 1 megahertz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi. The maximum e.i.r.p. at any elevation angle above 30 degrees as measured from the horizon must not exceed 125 mW (21 dBm).

   (ii) For an indoor access point operating in the band 5.15-5.25 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W provided the maximum antenna gain does not exceed 6 dBi. In addition, the maximum power spectral density shall not exceed 17 dBm in any 1 megahertz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

   (iii) For fixed point-to-point access points operating in the band 5.15-5.25 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W. In addition, the maximum power spectral density shall not exceed 17 dBm in any 1 megahertz band. Fixed point-to-point U-NII devices may employ antennas with directional gain up to 23 dBi without any corresponding reduction in the maximum conducted output power or maximum power spectral density. For fixed point-to-point transmitters that employ a directional antenna gain greater than 23 dBi, a 1 dB reduction in maximum conducted output power and maximum power spectral density is required for each 1 dB of antenna gain in excess of 23 dBi. Fixed, point-to-point operations exclude the use of point-to-multipoint systems, omnidirectional applications, and multiple collocated transmitters transmitting the same information. The operator of the U-NII device, or if the equipment is professionally installed, the installer, is responsible for ensuring that systems employing high gain directional antennas are used exclusively for fixed, point-to-point operations.

   (iv) For client devices in the 5.15-5.25 GHz band, the maximum conducted output power over the frequency band of operation shall not exceed 250 mW provided the maximum antenna gain does not exceed 6 dBi. In addition, the maximum power spectral density shall not exceed 11 dBm in any 1 megahertz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

2. For the 5.25-5.35 GHz and 5.47-5.725 GHz bands, the maximum conducted output power over the frequency bands of operation shall not exceed the lesser of 250 mW or 11 dBm + 10 log B, where B is the 26 dB emission bandwidth in megahertz. In addition, the maximum power spectral density shall not exceed 11 dBm in any 1 megahertz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

3. For the band 5.725-5.85 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W. In addition, the maximum power spectral density shall not exceed 30 dBm in any 500-kHz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi. However, fixed point-to-point U-NII devices operating in this band may employ transmitting antennas with directional gain greater than 6 dBi without any corresponding reduction in transmitter conducted power. Fixed, point-to-point operations exclude the use of point-to-multipoint systems, omnidirectional applications, and multiple collocated transmitters transmitting the same information. The operator of the U-NII device, or if the equipment is professionally installed, the installer, is responsible for ensuring that systems employing high gain directional antennas are used exclusively for fixed, point-to-point operations.

Limits: RSS-247 Issue 2

1. **Frequency band 5150-5250 MHz**
For OEM devices installed in vehicles, the maximum e.i.r.p. shall not exceed 30 mW or 1.76 + 10 $\log_{10}$B, dBm, whichever is less. Devices shall implement transmitter power control (TPC) in order to have the capability to operate at least 3 dB below the maximum permitted e.i.r.p. of 30 mW.

For other devices, the maximum e.i.r.p. shall not exceed 200 mW or 10 + 10 $\log_{10}$B, dBm, whichever power is less. B is the 99% emission bandwidth in megahertz. The e.i.r.p. spectral density shall not exceed 10 dBm in any 1.0 MHz band.

2. **Frequency band 5250-5350 MHz**
For OEM devices installed in vehicles, the maximum e.i.r.p. shall not exceed 30 mW or 1.76 + 10 $\log_{10}$B, dBm, whichever is less. Devices shall implement TPC in order to have the capability to operate at least 3 dB below the maximum permitted e.i.r.p. of 30 mW.

Devices, other than devices installed in vehicles, shall comply with the following:

a) The maximum conducted output power shall not exceed 250 mW or 11 + 10 $\log_{10}$B, dBm, whichever is less. The power spectral density shall not exceed 11 dBm in any 1.0 MHz band;

b) The maximum e.i.r.p. shall not exceed 1.0 W or 17 + 10 $\log_{10}$B, dBm, whichever is less. B is the 99% emission bandwidth in megahertz. Note that devices with a maximum e.i.r.p. greater than 500 mW shall implement TPC in order to have the capability to operate at least 6 dB below the maximum permitted e.i.r.p. of 1 W.

Additional requirements
In addition to the above requirements, devices shall comply with the following, where applicable:

a) Outdoor fixed devices with a maximum 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:

i. -13 dBW/MHz for $0^o \leq \theta < 8^o$

ii. -13 − 0.716 (θ-8) dBW/MHz for $8^o \leq \theta < 40^o$

iii. -35.9 − 1.22 (θ-40) dBW/MHz for $40^o \leq \theta \leq 45^o$

iv. -42 dBW/MHz for $\theta > 45^o$

The measurement procedure defined in Annex A of this document shall be used to verify the compliance to the e.i.r.p. at different elevations.

b) Devices, other than outdoor fixed devices, having an e.i.r.p. greater than 200 mW shall comply with either i. or ii. below:

i. devices shall comply with the e.i.r.p. elevation mask in 6.2.2.3(a); or

ii. devices shall implement a method to permanently reduce their e.i.r.p. via a firmwarefeature in the event that the Department requires it. The test report must demonstratehow the device's power table can be updated to meet this firmware requirement. Themanufacturer shall provide this firmware to update all systems automatically incompliance with the directions received from the Department.

3. **Frequency bands 5470-5600 MHz and 5650-5725 MHz**
The maximum conducted output power shall not exceed 250 mW or 11 + 10 $\log_{10}$B, dBm, whichever is less. The power spectral density shall not exceed 11 dBm in any 1.0 MHz band.

The maximum e.i.r.p. shall not exceed 1.0 W or 17 + 10 $\log_{10}$B, dBm, whichever is less. B is the 99% emission bandwidth in megahertz. Note that devices with a maximum e.i.r.p. greater than 500 mW shall implement TPC in order to have the capability to operate at least 6 dB below the maximum permitted e.i.r.p. of 1 W.

4. **Frequency band 5725-5850 MHz**
The maximum conducted output power shall not exceed 1 W. The output power spectral density shall not exceed 30 dBm in any 500 kHz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the output power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi. However, fixed point-to-point devices

operating in this band may employ transmitting antennas with directional gain greater than 6 dBi without any corresponding reduction in transmitter conducted power. Fixed point-to-point operations exclude the use of point-to-multipoint[3] systems, omnidirectional applications and multiple collocated transmitters transmitting the same information.

Test Procedure:

1. Connected the EUT's antenna port to measure device by 10dB attenuator.
2. Method PM is used to perform output power measurement, trigger and gating function of wide band power meter is enabled to measure max output power of Tx on burst.

Note: The cable loss and attenuator loss were offset into measure device as an amplitude offset.

Test Setup: Refer to section 4.5.3 for details.

Instruments Used: Refer to section 3 for details

Test Mode: Transmitter mode

Test Results: Pass

Test Data:

Directional gain and the maximum output power limit.

RSS-247 Issue 2

Frequency Band	Antenna Gain (dBi))	Power Limits (dBm)
U-NII-1	4.00	23.00
U-NII-2A	4.00	24.00
U-NII-2C	4.00	24.00
U-NII-3	4.00	30.00

FCC 47 CFR Part 15 Subpart E

Frequency Band	Antenna Gain (dBi))	Power Limits (dBm)
U-NII-1	4.00	24.00
U-NII-2A	4.00	24.00
U-NII-2C	4.00	24.00
U-NII-3	4.00	30.00

Frequency band 5150-5250 MHz
RSS-247 Issue 2:
For IEEE 802.11a, the minimum 99% emission bandwidth is 16.820 MHz
10 dBm + $10\log_{10}$ (16.820) = 22.26 dBm < 23 dBm
So the 22.26dB limit applicable

For IEEE 802.11n-HT20/ ac-VHT20, the minimum 99% emission bandwidth is 17.828MHz
10 dBm + $10\log_{10}$ (17.828) = 22.51 dBm < 23 dBm
So the 22.51dB limit applicable

For IEEE 802.11n-HT40/ ac-VHT40/ ac-VHT80, the minimum 99% emission bandwidth is 36.191 MHz
10 dBm + $10\log_{10}$ (36.191) = 25.59 dBm > 23 dBm
So the 23 dB limit applicable

Mode	Channel/ Frequency (MHz)	Maximum e.i.r.p (dBm)	Limit (dBm)	Pass / Fail
IEEE 802.11a	36 (5180)	19.74	22.26	Pass
	44 (5220)	19.56	22.26	Pass
	48 (5240)	19.68	22.26	Pass
IEEE 802.11n-HT20	36 (5180)	19.31	22.51	Pass
	44 (5220)	19.19	22.51	Pass
	48 (5240)	19.21	22.51	Pass
IEEE 802.11n-HT40	38 (5190)	15.91	23.00	Pass
	46 (5230)	15.87	23.00	Pass
IEEE 802.11ac-VHT20	36 (5180)	19.35	22.51	Pass
	44 (5220)	19.28	22.51	Pass
	48 (5240)	19.35	22.51	Pass
IEEE 802.11ac-VHT40	38 (5190)	14.20	23.00	Pass
	46 (5230)	14.24	23.00	Pass
IEEE 802.11ac-VHT80	42 (5210)	13.66	23.00	Pass

Remark:
1. Maximum e.i.r.p = Maximum conducted output power + Antenna Gain

FCC 47 CFR Part 15 Subpart E:

Mode	Channel/ Frequency (MHz)	Maximum conducted output power (dBm)		Limit (dBm)	Pass / Fail
		Meas Power	Corr'd Power		
IEEE 802.11a	36 (5180)	15.62	15.74	24.00	Pass
	44 (5220)	15.44	15.56	24.00	Pass
	48 (5240)	15.56	15.68	24.00	Pass
IEEE 802.11n-HT20	36 (5180)	15.18	15.31	24.00	Pass
	44 (5220)	15.06	15.19	24.00	Pass
	48 (5240)	15.08	15.21	24.00	Pass
IEEE 802.11n-HT40	38 (5190)	11.66	11.91	24.00	Pass
	46 (5230)	11.62	11.87	24.00	Pass
IEEE 802.11ac-VHT20	36 (5180)	15.21	15.35	24.00	Pass
	44 (5220)	15.14	15.28	24.00	Pass
	48 (5240)	15.21	15.35	24.00	Pass
IEEE 802.11ac-VHT40	38 (5190)	9.93	10.20	24.00	Pass
	46 (5230)	9.97	10.24	24.00	Pass
IEEE 802.11ac-VHT80	42 (5210)	7.50	9.66	24.00	Pass

Remark:

1. Corr'd Power = Meas Power + Duty Cycle Factor

Frequency band 5250-5350 MHz
RSS-247 Issue 2:
For IEEE 802.11 a, the minimum 99% emission bandwidth is 16.809 MHz
11 dBm + $10\log_{10}$ (16.809) = 23.26dBm < 24dBm
So the 23.26 dB limit applicable

For IEEE 802.11n-HT20/ ac-VHT20, the minimum 99% emission bandwidth is 17.895 MHz
11 dBm + $10\log_{10}$ (17.895) =23.53 dBm < 24dBm
So the 23.53 dB limit applicable

For IEEE 802.11 n-HT40/ac-VHT40/ac-VHT80, the minimum 99% emission bandwidth is 36.248 MHz
11 dBm + $10\log_{10}$ (36.248) = 26.60 dBm > 24 dBm (200mW)
So the 24 dB limit applicable

FCC 47 CFR Part 15 Subpart E:
For IEEE 802.11 a/n/ac, the minimum 26 dB emission bandwidth is21.23MHz
11 dBm + $10\log_{10}$ (21.23) = 24.27 dBm> 24 dBm (200mW)
So the 24 dB limit applicable

Mode	Channel/ Frequency (MHz)	Maximum conducted output power (dBm)		Limit (dBm)		Pass / Fail
		Meas Power	Corr'd Power	FCC Part 15E	RSS-247	
IEEE 802.11a	52 (5260)	15.45	15.57	24.00	23.26	Pass
	60 (5300)	15.41	15.53	24.00	23.26	Pass
	64 (5320)	15.38	15.50	24.00	23.26	Pass
IEEE 802.11n-HT20	52 (5260)	15.10	15.23	24.00	23.53	Pass
	60 (5300)	14.96	15.09	24.00	23.53	Pass
	64 (5320)	14.92	15.05	24.00	23.53	Pass
IEEE 802.11n-HT40	54 (5270)	11.60	11.85	24.00	24.00	Pass
	62 (5310)	11.57	11.82	24.00	24.00	Pass
IEEE 802.11ac-VHT20	52 (5260)	15.07	15.21	24.00	23.53	Pass
	60 (5300)	14.92	15.06	24.00	23.53	Pass
	64 (5320)	14.97	15.11	24.00	23.53	Pass
IEEE 802.11ac-VHT40	54 (5270)	9.88	10.15	24.00	24.00	Pass
	62 (5310)	9.76	10.03	24.00	24.00	Pass
IEEE 802.11ac-VHT80	58 (5290)	7.55	9.71	24.00	24.00	Pass

Remark:
1. Maximum conducted output power = Conducted output power + Duty Cycle Factor

Frequency bands 5470-5725 MHz (RSS-247 Issue 2 Not including 5600-5650 MHz)
RSS-247 Issue 2:
For IEEE 802.11 a, the minimum 99% emission bandwidth is 16.768MHz
11 dBm + $10\log_{10}$ (16.768) = 23.24 dBm < 24 dBm
So the 23.24 dB limit applicable

For IEEE 802.11n-HT20/ac-VHT20, the minimum 99% emission bandwidth is 17.8271MHz
11 dBm + $10\log_{10}$ (17.827) = 23.51 dBm < 24 dBm
So the 23.51dB limit applicable

For IEEE 802.11 n-HT40/ac-VHT40/ac-VHT80, the minimum 99% emission bandwidth is 36.131 MHz
11 dBm + $10\log_{10}$ (36.131) = 26.58dBm > 24 dBm
So the 24 dB limit applicable

FCC 47 CFR Part 15 Subpart E:
For IEEE 802.11 a/n/ac, the minimum 26 dB emission bandwidth is 20.99 MHz
11 dBm + $10\log_{10}$ (20.99) = 24.22 dBm > 24 dBm
So the 24 dB limit applicable

Mode	Channel/ Frequency (MHz)	Maximum conducted output power (dBm) SISO		Limit (dBm)		Pass / Fail
		Meas Power	Corr'd Power	FCC Part 15E	RSS-247	
IEEE 802.11a	100 (5500)	13.59	13.71	24.00	23.24	Pass
	116 (5580)	13.36	13.48	24.00	23.24	Pass
	140 (5700)	13.15	13.27	24.00	23.24	Pass
IEEE 802.11n-HT20	100 (5500)	14.17	14.30	24.00	23.51	Pass
	116 (5580)	14.00	14.13	24.00	23.51	Pass
	140 (5700)	13.60	13.73	24.00	23.51	Pass
IEEE 802.11n-HT40	102 (5510)	10.52	10.77	24.00	24.00	Pass
	110 (5550)	10.62	10.87	24.00	24.00	Pass
	134 (5670)	10.10	10.35	24.00	24.00	Pass
IEEE 802.11ac-VHT20	100 (5500)	14.13	14.27	24.00	23.51	Pass
	116 (5580)	13.76	13.90	24.00	23.51	Pass
	140 (5700)	13.58	13.72	24.00	23.51	Pass
IEEE 802.11ac-VHT40	102 (5510)	9.09	9.36	24.00	24.00	Pass
	110 (5550)	8.89	9.16	24.00	24.00	Pass
	134 (5670)	8.60	8.87	24.00	24.00	Pass
IEEE 802.11ac-VHT80	106 (5530)	8.90	11.06	24.00	24.00	Pass

Remark:
1. Maximum conducted output power = Conducted output power + Duty Cycle Factor

Frequency band 5725-5850 MHz

Mode	Channel/ Frequency (MHz)	Maximum conducted output power (dBm)		Limit (dBm)	Pass / Fail
		Meas Power	Corr'd Power		
IEEE 802.11a	149 (5745)	14.09	14.21	30	Pass
	157 (5785)	14.10	14.22	30	Pass
	165 (5825)	16.19	16.31	30	Pass
IEEE 802.11n-HT20	149 (5745)	14.59	14.72	30	Pass
	157 (5785)	14.49	14.62	30	Pass
	165 (5825)	15.92	16.05	30	Pass
IEEE 802.11n-HT40	151 (5755)	12.74	12.99	30	Pass
	159 (5795)	12.67	12.92	30	Pass
IEEE 802.11ac-VHT20	149 (5745)	13.68	13.82	30	Pass
	157 (5785)	13.53	13.67	30	Pass
	165 (5825)	14.91	15.05	30	Pass
IEEE 802.11ac-VHT40	151 (5755)	12.81	13.08	30	Pass
	159 (5795)	12.70	12.97	30	Pass
IEEE 802.11ac-VHT80	155 (5775)	13.15	15.31	30	Pass

Remark:

1. Maximum conducted output power = Conducted output power + Duty Cycle Factor

5.6 PEAK POWER SPECTRAL DENSITY

Test Requirement: FCC 47 CFR Part 15 Subpart E Section 15.407 (a)(1)(2)(3)
RSS-247 Issue 2 Section 6.2.1.1/6.2.2.1/6.2.3.1/6.2.4.1

Test Method: KDB 789033 D02 v02r01 Section F

Limits: FCC 47 CFR Part 15 Subpart E

1. For the band 5.15-5.25 GHz.
   (i) For an outdoor access point operating in the band 5.15-5.25 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W provided the maximum antenna gain does not exceed 6 dBi. In addition, the maximum power spectral density shall not exceed 17 dBm in any 1 megahertz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi. The maximum e.i.r.p. at any elevation angle above 30 degrees as measured from the horizon must not exceed 125 mW (21 dBm).

   (ii) For an indoor access point operating in the band 5.15-5.25 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W provided the maximum antenna gain does not exceed 6 dBi. In addition, the maximum power spectral density shall not exceed 17 dBm in any 1 megahertz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

   (iii) For fixed point-to-point access points operating in the band 5.15-5.25 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W. In addition, the maximum power spectral density shall not exceed 17 dBm in any 1 megahertz band. Fixed point-to-point U-NII devices may employ antennas with directional gain up to 23 dBi without any corresponding reduction in the maximum conducted output power or maximum power spectral density. For fixed point-to-point transmitters that employ a directional antenna gain greater than 23 dBi, a 1 dB reduction in maximum conducted output power and maximum power spectral density is required for each 1 dB of antenna gain in excess of 23 dBi. Fixed, point-to-point operations exclude the use of point-to-multipoint systems, omnidirectional applications, and multiple collocated transmitters transmitting the same information. The operator of the U-NII device, or if the equipment is professionally installed, the installer, is responsible for ensuring that systems employing high gain directional antennas are used exclusively for fixed, point-to-point operations.

   (iv) For client devices in the 5.15-5.25 GHz band, the maximum conducted output power over the frequency band of operation shall not exceed 250 mW provided the maximum antenna gain does not exceed 6 dBi. In addition, the maximum power spectral density shall not exceed 11 dBm in any 1 megahertz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

2. For the 5.25-5.35 GHz and 5.47-5.725 GHz bands, the maximum conducted output power over the frequency bands of operation shall not exceed the lesser of 250 mW or 11 dBm + 10 log B, where B is the 26 dB emission bandwidth in megahertz. In addition, the maximum power spectral density shall not exceed 11 dBm in any 1 megahertz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

3. For the band 5.725-5.85 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W. In addition, the maximum power spectral density shall not exceed 30 dBm in any 500-kHz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi. However, fixed point-to-point U-NII devices operating in this band may employ transmitting antennas with directional gain greater than 6 dBi without any corresponding reduction in transmitter conducted power. Fixed, point-to-point operations exclude the use of point-to-multipoint systems, omnidirectional applications, and multiple collocated transmitters transmitting the same information. The operator of the U-NII device, or if the equipment is professionally installed, the installer, is responsible for ensuring that systems employing high gain directional antennas are used exclusively for fixed, point-to-point operations.

Limits: RSS-247 Issue 2

1. **Frequency band 5150-5250 MHz**
For OEM devices installed in vehicles, the maximum e.i.r.p. shall not exceed 30 mW or 1.76 + 10 $\log_{10}$B, dBm, whichever is less. Devices shall implement transmitter power control (TPC) in order to have the capability to operate at least 3 dB below the maximum permitted e.i.r.p. of 30 mW.

For other devices, the maximum e.i.r.p. shall not exceed 200 mW or 10 + 10 $\log_{10}$B, dBm, whichever power is less. B is the 99% emission bandwidth in megahertz. The e.i.r.p. spectral density shall not exceed 10 dBm in any 1.0 MHz band.

2. **Frequency band 5250-5350 MHz**
For OEM devices installed in vehicles, the maximum e.i.r.p. shall not exceed 30 mW or 1.76 + 10 $\log_{10}$B, dBm, whichever is less. Devices shall implement TPC in order to have the capability to operate at least 3 dB below the maximum permitted e.i.r.p. of 30 mW.

Devices, other than devices installed in vehicles, shall comply with the following:

a) The maximum conducted output power shall not exceed 250 mW or 11 + 10 $\log_{10}$B, dBm, whichever is less. The power spectral density shall not exceed 11 dBm in any 1.0 MHz band;

b) The maximum e.i.r.p. shall not exceed 1.0 W or 17 + 10 $\log_{10}$B, dBm, whichever is less. B is the 99% emission bandwidth in megahertz. Note that devices with a maximum e.i.r.p. greater than 500 mW shall implement TPC in order to have the capability to operate at least 6 dB below the maximum permitted e.i.r.p. of 1 W.

Additional requirements
In addition to the above requirements, devices shall comply with the following, where applicable:

a) Outdoor fixed devices with a maximum 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:

i. -13 dBW/MHz for $0^o \leq \theta < 8^o$

ii. -13 − 0.716 (θ-8) dBW/MHz for $8^o \leq \theta < 40^o$

iii. -35.9 − 1.22 (θ-40) dBW/MHz for $40^o \leq \theta \leq 45^o$

iv. -42 dBW/MHz for $\theta > 45^o$

The measurement procedure defined in Annex A of this document shall be used to verify the compliance to the e.i.r.p. at different elevations.

b) Devices, other than outdoor fixed devices, having an e.i.r.p. greater than 200 mW shall comply with either i. or ii. below:

iii. devices shall comply with the e.i.r.p. elevation mask in 6.2.2.3(a); or

iv. devices shall implement a method to permanently reduce their e.i.r.p. via a firmwarefeature in the event that the Department requires it. The test report must demonstratehow the device's power table can be updated to meet this firmware requirement. Themanufacturer shall provide this firmware to update all systems automatically incompliance with the directions received from the Department.

3. **Frequency bands 5470-5600 MHz and 5650-5725 MHz**
The maximum conducted output power shall not exceed 250 mW or 11 + 10 $\log_{10}$B, dBm, whichever is less. The power spectral density shall not exceed 11 dBm in any 1.0 MHz band.

The maximum e.i.r.p. shall not exceed 1.0 W or 17 + 10 $\log_{10}$B, dBm, whichever is less. B is the 99% emission bandwidth in megahertz. Note that devices with a maximum e.i.r.p. greater than 500 mW shall implement TPC in order to have the capability to operate at least 6 dB below the maximum permitted e.i.r.p. of 1 W.

4. **Frequency band 5725-5850 MHz**
The maximum conducted output power shall not exceed 1 W. The output power spectral density shall not exceed 30 dBm in any 500 kHz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the output power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi. However, fixed point-to-point devices

operating in this band may employ transmitting antennas with directional gain greater than 6 dBi without any corresponding reduction in transmitter conducted power. Fixed point-to-point operations exclude the use of point-to-multipoint[3] systems, omnidirectional applications and multiple collocated transmitters transmitting the same information.

Test Procedure:

The output from the transmitter was connected to an attenuator and then to the input of the RF Spectrum Analyzer.

Spectrum analyzer according to the following Settings:

1. For U-NII-1, U-NII-2A, U-NII-2C band:

Using method SA-2

a) Set span to encompass the entire emission bandwidth (EBW) of the signal.
b) Set RBW = 1 MHz, Set VBW ≥ 3 RBW, Detector = RMS
c) Sweep time = auto, trigger set to “free run”.
d) Trace average at least 100 traces in power averaging mode.
e) Record the max value and add 10 log (1/duty cycle)

2. For U-NII-3 band:

a) Set span to encompass the entire emission bandwidth (EBW) of the signal.
b) Set RBW = 500 kHz, Set VBW ≥ 3 RBW, Detector = RMS
c) Use the peak marker function to determine the maximum power level in any 500 kHz band segment within the fundamental EBW.
d) Sweep time = auto, trigger set to “free run”.
e) Trace average at least 100 traces in power averaging mode.
f) Record the max value and add 10 log (1/duty cycle)

Note: The cable loss and attenuator loss were offset into measure device as an amplitude offset.

Test Setup: Refer to section 4.5.3 for details.

Instruments Used: Refer to section 3 for details

Test Mode: Transmitter mode

Test Results: Pass

Test Data:

Directional gain and the maximum output power limit.

RSS-247 Issue 2:

Frequency Band	Antenna Gain (dBi))	PSD Limits (dBm/MHz or dBm/500kHz)
U-NII-1	4.00	10.00
U-NII-2A	4.00	11.00
U-NII-2C	4.00	11.00
U-NII-3	4.00	30.00

FCC 47 CFR Part 15 Subpart E:

Frequency Band	Antenna Gain (dBi))	PSD Limits (dBm/MHz or dBm/500kHz)
U-NII-1	4.00	11.00
U-NII-2A	4.00	11.00
U-NII-2C	4.00	11.00
U-NII-3	4.00	30.00

Frequency band 5150-5250 MHz
RSS-247 Issue 2

Mode	Channel/ Frequency (MHz)	e.i.r.p. spectral density (dBm/MHz)	Limit (dBm/MHz)	Pass / Fail
IEEE 802.11a	36 (5180)	6.564	10	Pass
	44 (5220)	7.138	10	Pass
	48 (5240)	7.124	10	Pass
IEEE 802.11n-HT20	36 (5180)	6.530	10	Pass
	44 (5220)	6.685	10	Pass
	48 (5240)	6.686	10	Pass
IEEE 802.11n-HT40	38 (5190)	1.280	10	Pass
	46 (5230)	1.409	10	Pass
IEEE 802.11ac-VHT20	36 (5180)	7.721	10	Pass
	44 (5220)	7.465	10	Pass
	48 (5240)	7.197	10	Pass
IEEE 802.11ac-VHT40	38 (5190)	1.255	10	Pass
	46 (5230)	0.915	10	Pass
IEEE 802.11ac-VHT80	42 (5210)	-3.643	10	Pass

Remark:

1. e.i.r.p. spectral density = Power spectral density + Duty Cycle Factor + Antenna Gain

FCC 47 CFR Part 15 Subpart E

Mode	Channel/ Frequency (MHz)	Power spectral density (dBmMHz)		Limit (dBm/MHz)	Pass / Fail
		Meas PSD	Corr'd PSD		
IEEE 802.11a	36 (5180)	2.440	2.564	11	Pass
	44 (5220)	3.014	3.138	11	Pass
	48 (5240)	3.000	3.124	11	Pass
IEEE 802.11n-HT20	36 (5180)	2.398	2.530	11	Pass
	44 (5220)	2.553	2.685	11	Pass
	48 (5240)	2.554	2.686	11	Pass
IEEE 802.11n-HT40	38 (5190)	-2.975	-2.720	11	Pass
	46 (5230)	-2.846	-2.591	11	Pass
IEEE 802.11ac-VHT20	36 (5180)	3.583	3.721	11	Pass
	44 (5220)	3.327	3.465	11	Pass
	48 (5240)	3.059	3.197	11	Pass
IEEE 802.11ac-VHT40	38 (5190)	-3.017	-2.745	11	Pass
	46 (5230)	-3.357	-3.085	11	Pass
IEEE 802.11ac-VHT80	42 (5210)	-9.800	-7.643	11	Pass

Remark:

1. Power spectral density = Conducted power spectral density + Duty Cycle Factor

Frequency band 5250-5350 MHz

Mode	Channel/ Frequency (MHz)	Power spectral density (dBm/MHz)		Limit (dBm/MHz)	Pass / Fail
		Meas PSD	Corr'd PSD		
IEEE 802.11a	52 (5260)	3.193	3.317	11	Pass
	60 (5300)	2.997	3.121	11	Pass
	64 (5320)	2.857	2.981	11	Pass
IEEE 802.11n-HT20	52 (5260)	2.452	2.584	11	Pass
	60 (5300)	2.553	2.685	11	Pass
	64 (5320)	2.447	2.579	11	Pass
IEEE 802.11n-HT40	54 (5270)	-2.701	-2.446	11	Pass
	62 (5310)	-3.532	-3.277	11	Pass
IEEE 802.11ac-VHT20	52 (5260)	2.948	3.086	11	Pass
	60 (5300)	2.936	3.074	11	Pass
	64 (5320)	2.741	2.879	11	Pass
IEEE 802.11ac-VHT40	54 (5270)	-3.685	-3.413	11	Pass
	62 (5310)	-3.650	-3.378	11	Pass
IEEE 802.11ac-VHT80	58 (5290)	-9.053	-6.896	11	Pass

Remark:

1. Power spectral density = Conducted power spectral density + Duty Cycle Factor

Frequency bands 5470-5725 MHz (RSS-247 Issue 2 Not including 5600-5650 MHz)

Mode	Channel/ Frequency (MHz)	Power spectral density (dBm/MHz)		Limit (dBm/MHz)	Pass / Fail
		Meas PSD	Corr'd PSD		
IEEE 802.11a	100 (5500)	1.443	1.567	11	Pass
	116 (5580)	1.743	1.867	11	Pass
	140 (5700)	1.398	1.522	11	Pass
IEEE 802.11n-HT20	100 (5500)	2.515	2.647	11	Pass
	116 (5580)	2.390	2.522	11	Pass
	140 (5700)	2.818	2.950	11	Pass
IEEE 802.11n-HT40	102 (5510)	-5.491	-5.236	11	Pass
	110 (5550)	-4.620	-4.365	11	Pass
	134 (5670)	-3.963	-3.708	11	Pass
IEEE 802.11ac-VHT20	100 (5500)	2.283	2.421	11	Pass
	116 (5580)	2.558	2.696	11	Pass
	140 (5700)	2.883	3.021	11	Pass
IEEE 802.11ac-VHT40	102 (5510)	-5.919	-5.647	11	Pass
	110 (5550)	-5.721	-5.449	11	Pass
	134 (5670)	-4.732	-4.460	11	Pass
IEEE 802.11ac-VHT80	106 (5530)	-9.014	-6.857	11	Pass

Remark:

1. Power spectral density = Conducted power spectral density + Duty Cycle Factor

Frequency band 5725-5850 MHz

Mode	Channel/ Frequency (MHz)	Power spectral density (dBm/500kHz)		Limit (dBm/500KHz)	Pass / Fail
		Meas PSD	Corr'd PSD		
IEEE 802.11a	149 (5745)	0.545	0.669	30	Pass
	157 (5785)	0.386	0.510	30	Pass
	165 (5825)	0.283	0.407	30	Pass
IEEE 802.11n-HT20	149 (5745)	0.517	0.649	30	Pass
	157 (5785)	0.824	0.956	30	Pass
	165 (5825)	0.357	0.489	30	Pass
IEEE 802.11n-HT40	151 (5755)	-4.620	-4.365	30	Pass
	159 (5795)	-3.963	-3.708	30	Pass
IEEE 802.11ac-VHT20	149 (5745)	-0.454	-0.316	30	Pass
	157 (5785)	-0.693	-0.555	30	Pass
	165 (5825)	-0.891	-0.753	30	Pass
IEEE 802.11ac-VHT40	151 (5755)	-4.140	-3.868	30	Pass
	159 (5795)	-4.165	-3.893	30	Pass
IEEE 802.11ac-VHT80	155 (5775)	-6.139	-3.982	30	Pass

Remark:

1. Power spectral density = Conducted power spectral density + Duty Cycle Factor

The test plots as follows:

IEEE 802.11a	IEEE 802.11n-HT20
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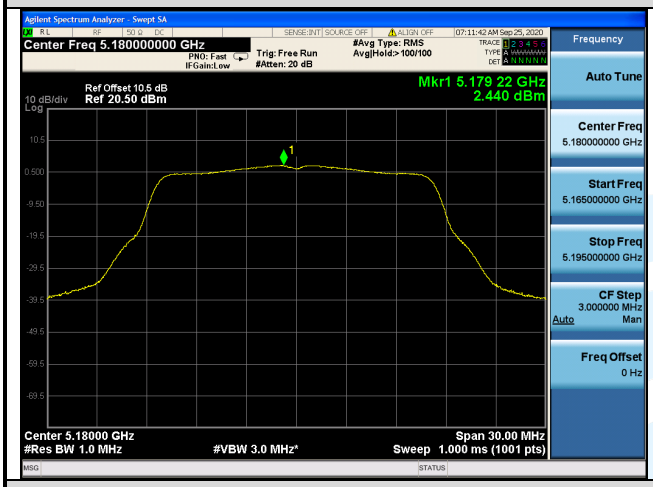	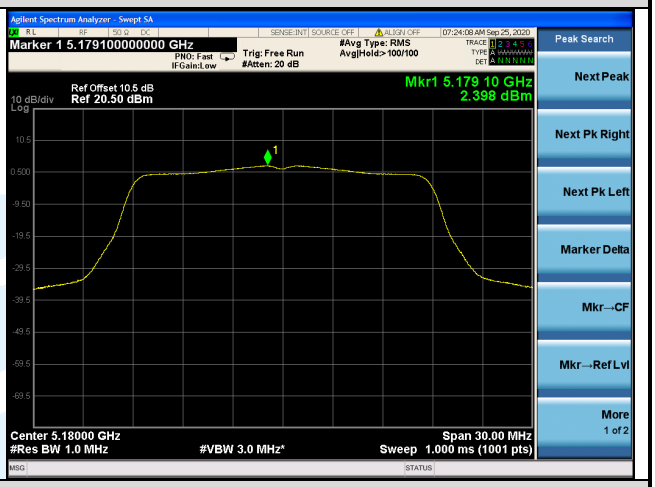
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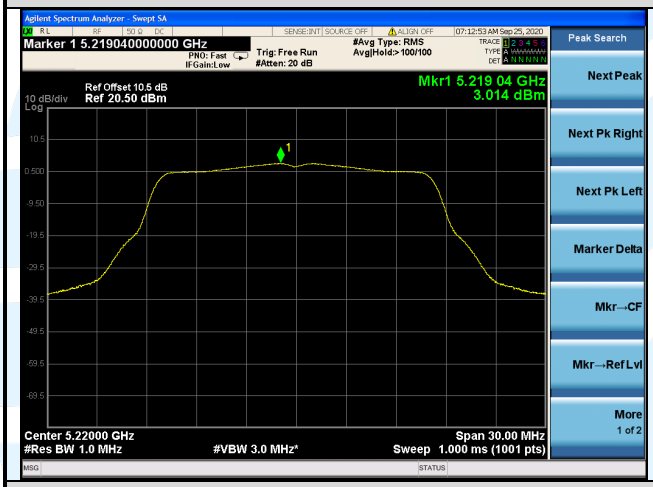	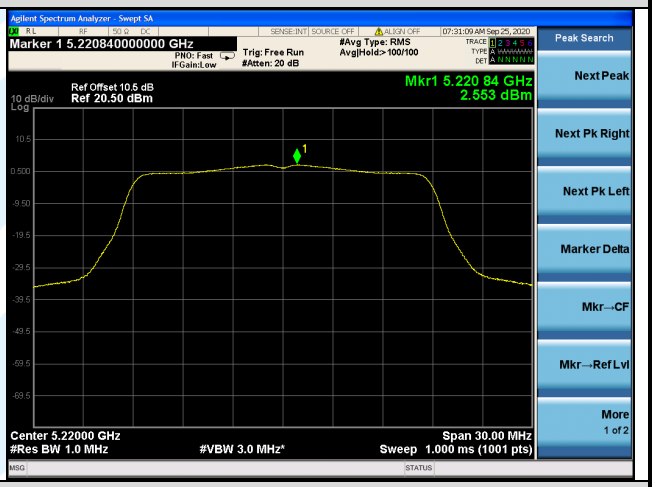
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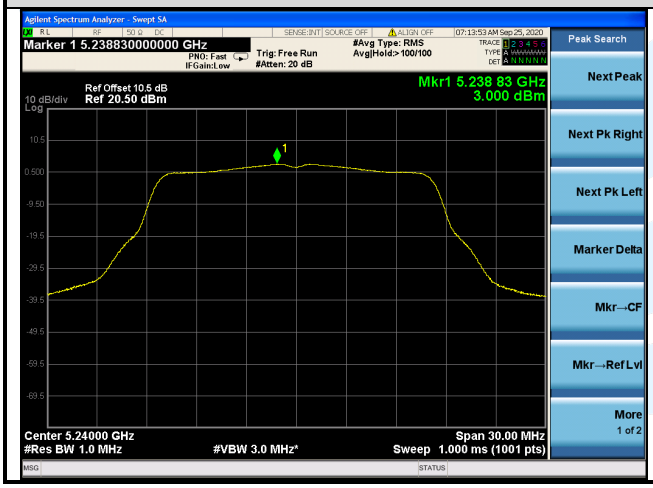
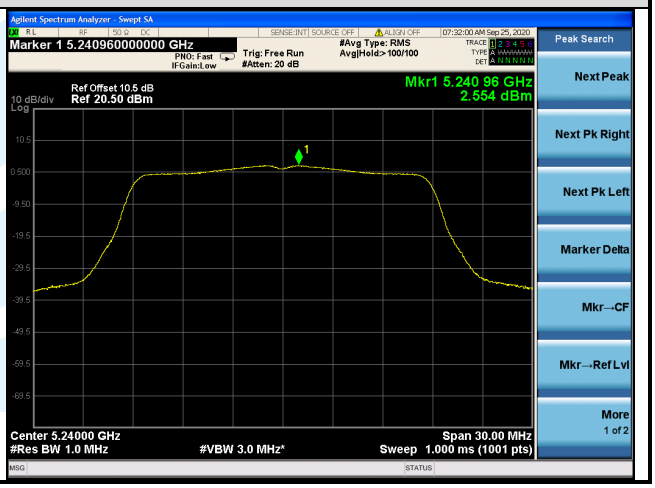
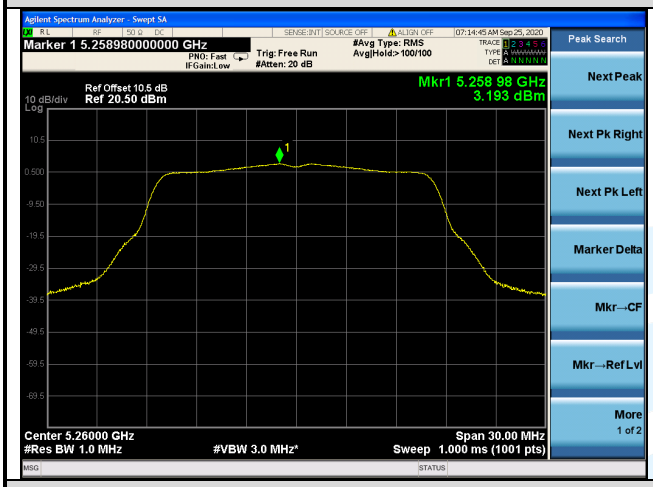
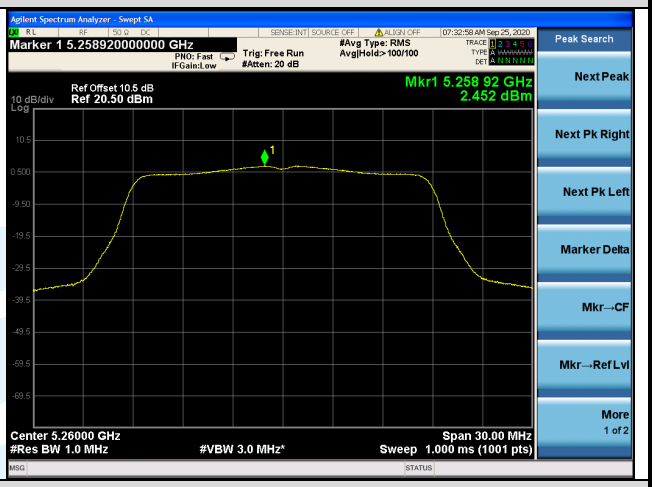
	

IEEE 802.11a	IEEE 802.11n-HT20

Channel 52





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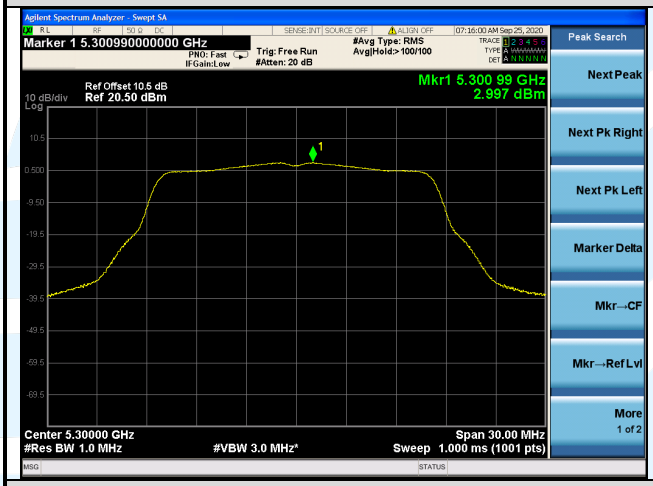

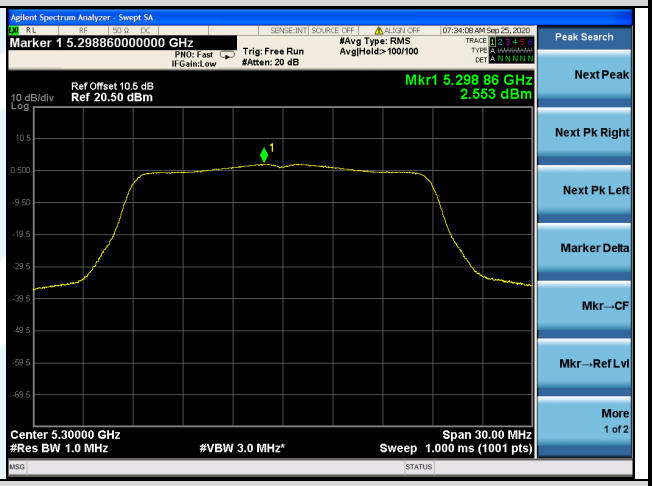

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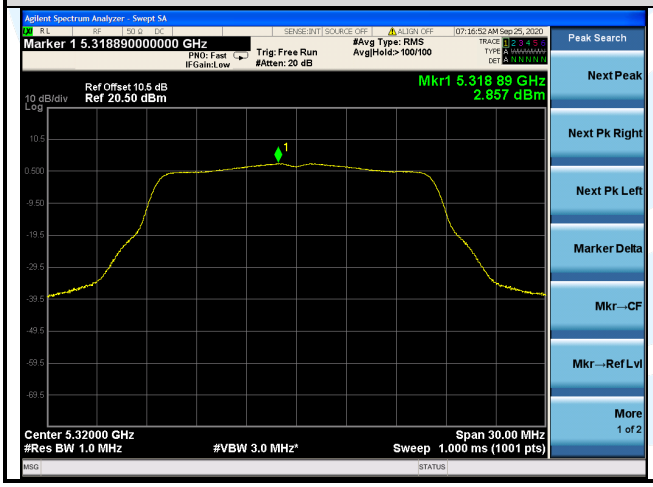

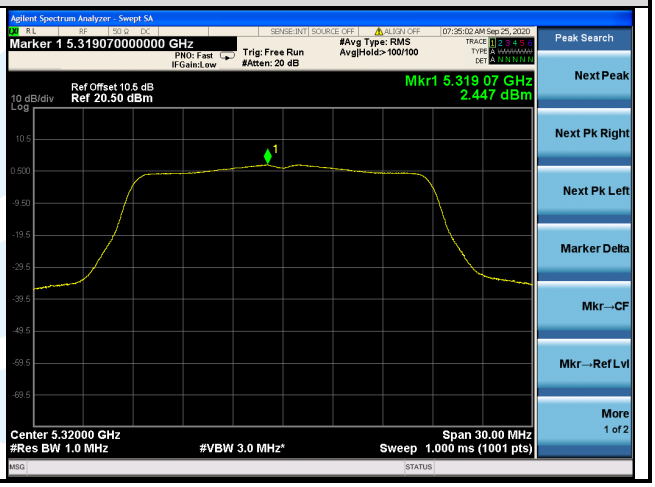

IEEE 802.11a	IEEE 802.11n-HT20
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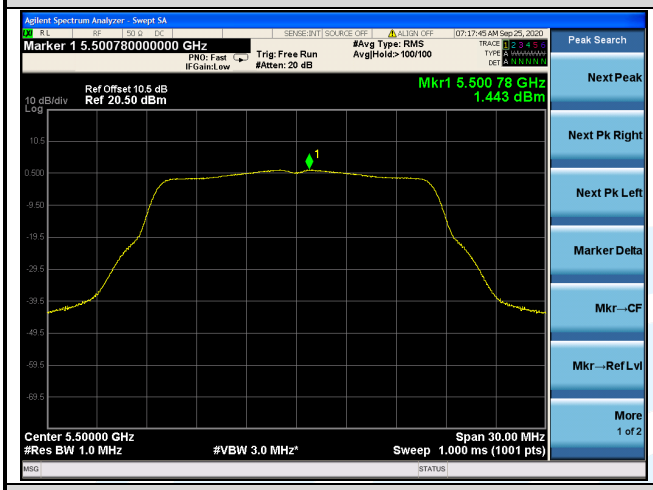	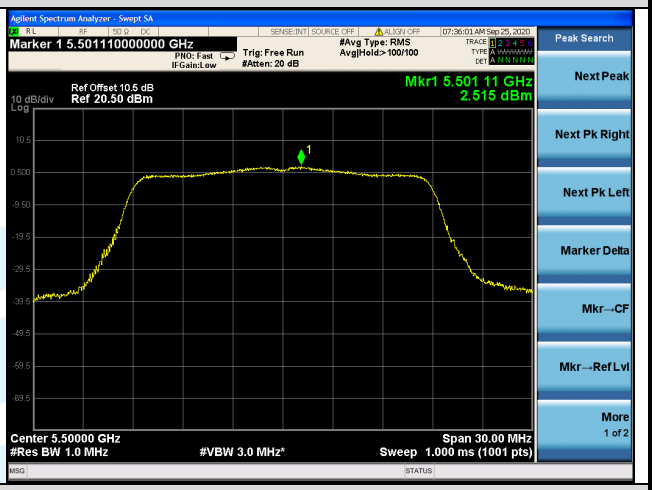
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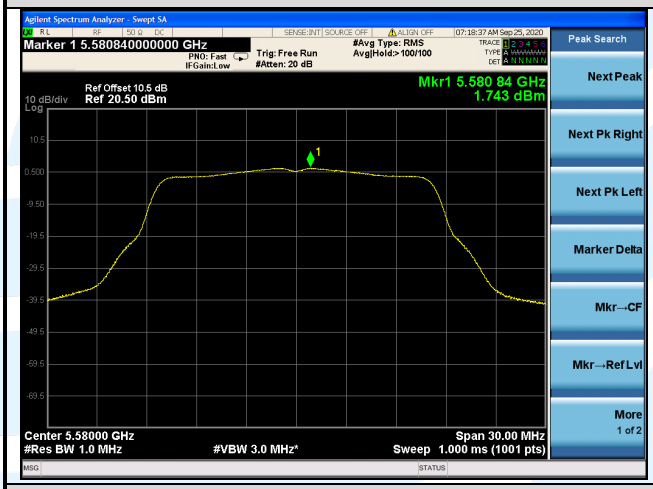	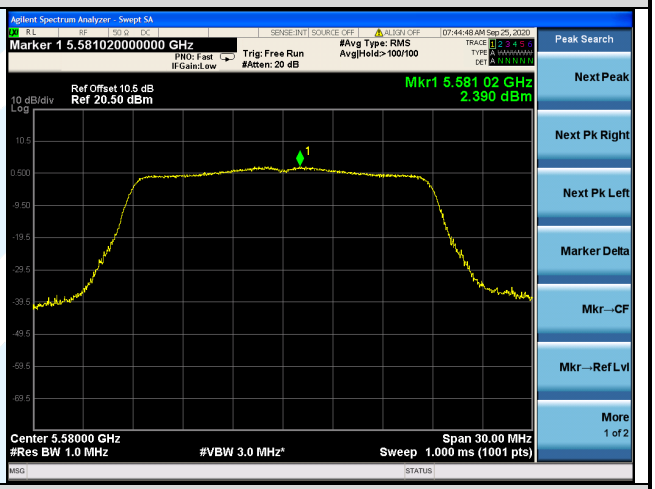
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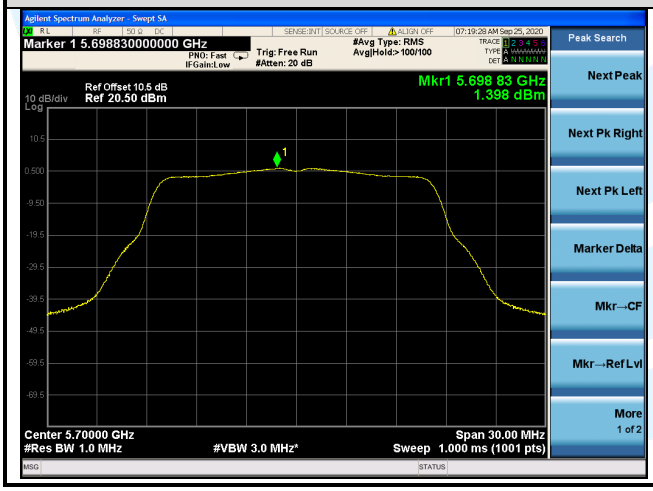	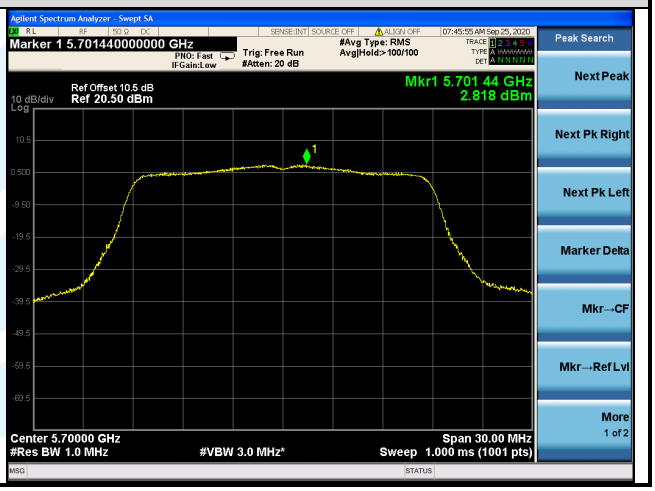

IEEE 802.11a	IEEE 802.11n-HT20
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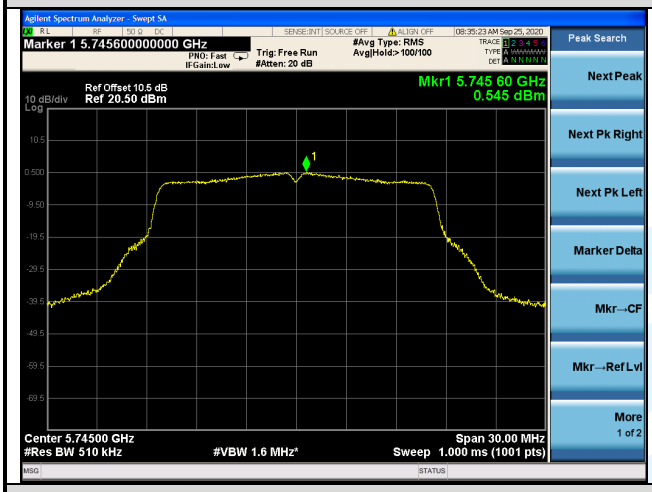	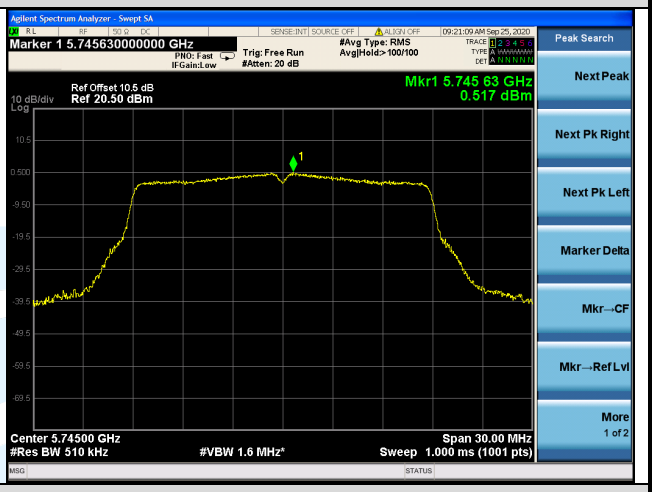
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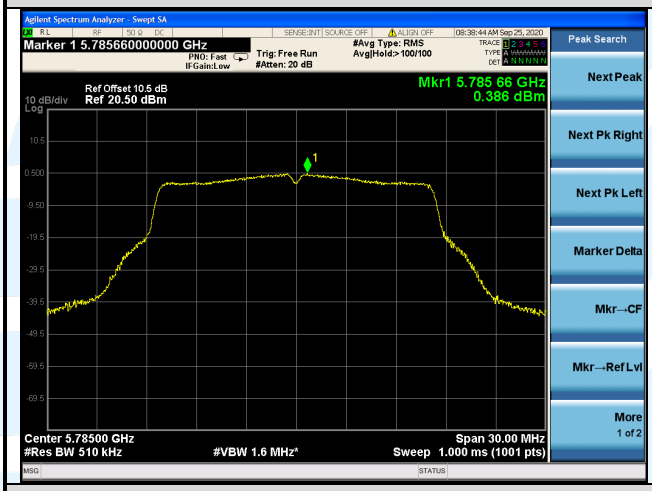	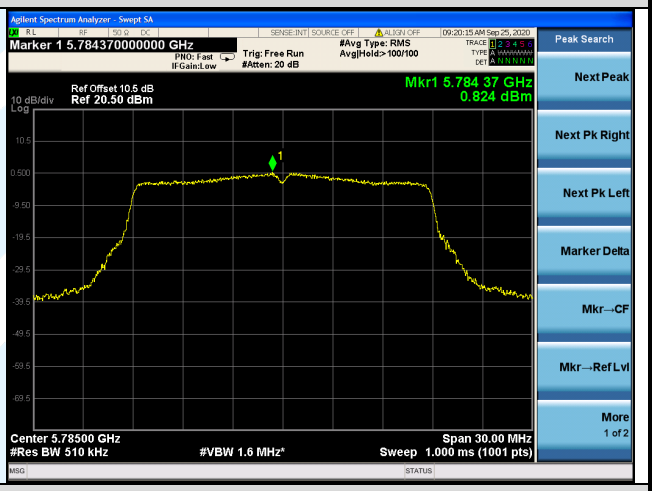
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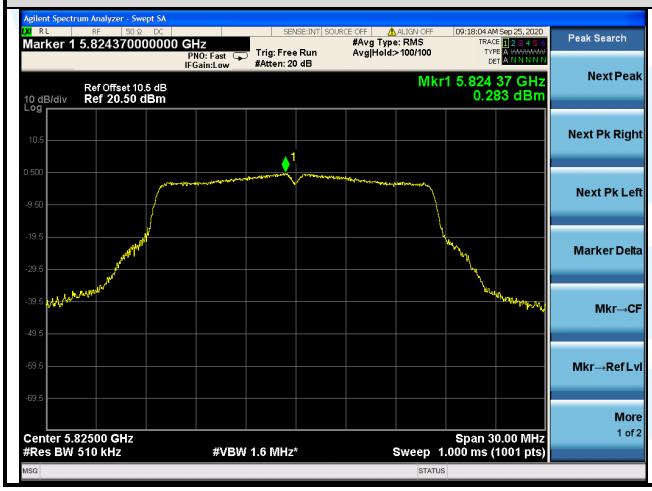
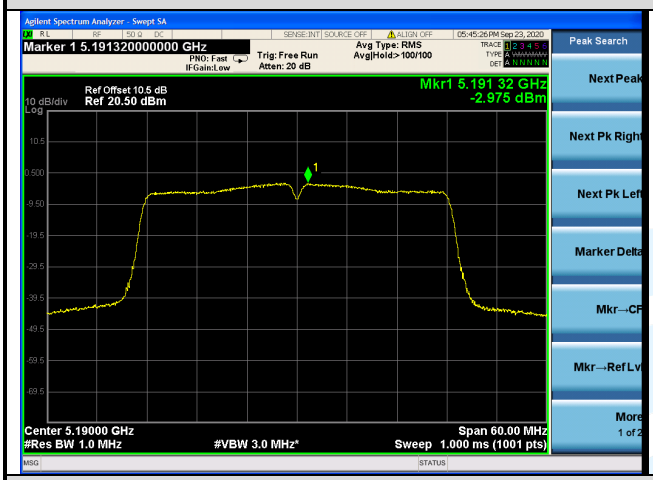
	

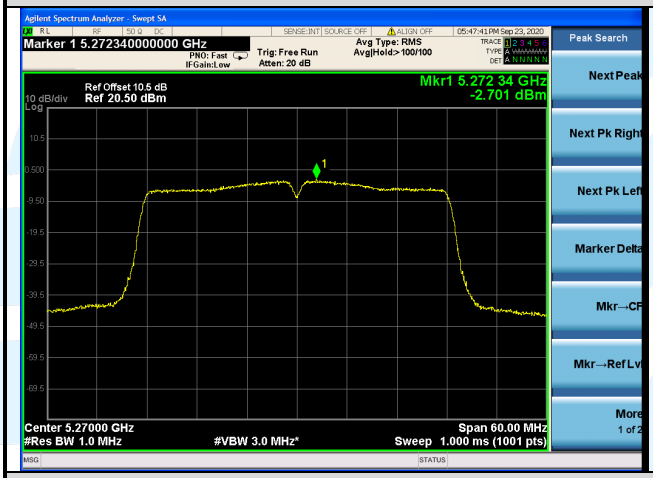
IEEE 802.11n-HT40

Channel 38



Channel 46

Channel 54



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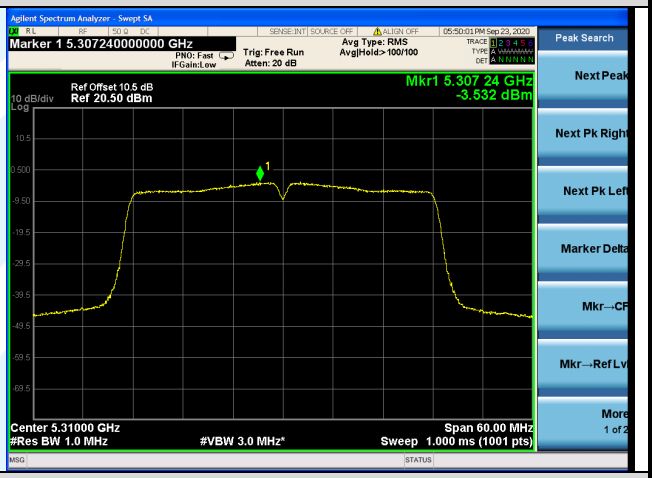

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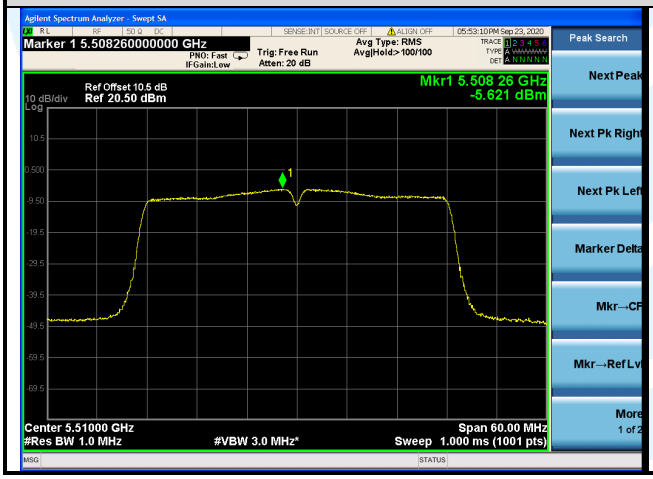

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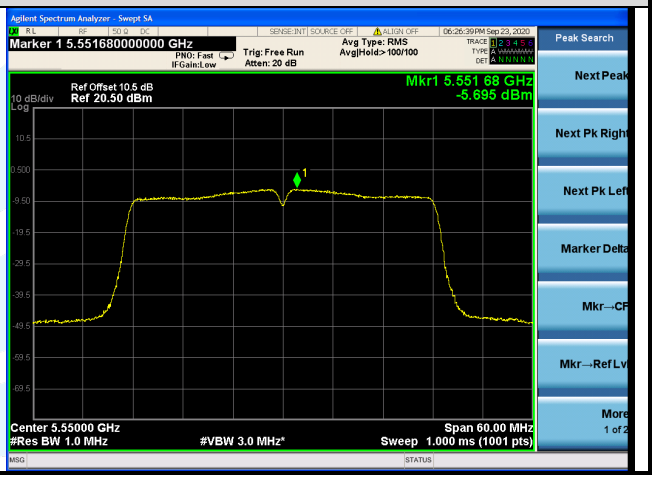
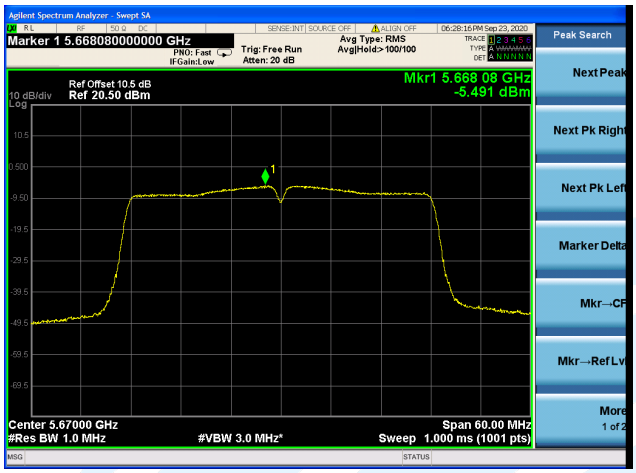


IEEE 802.11n-HT40

Channel 134



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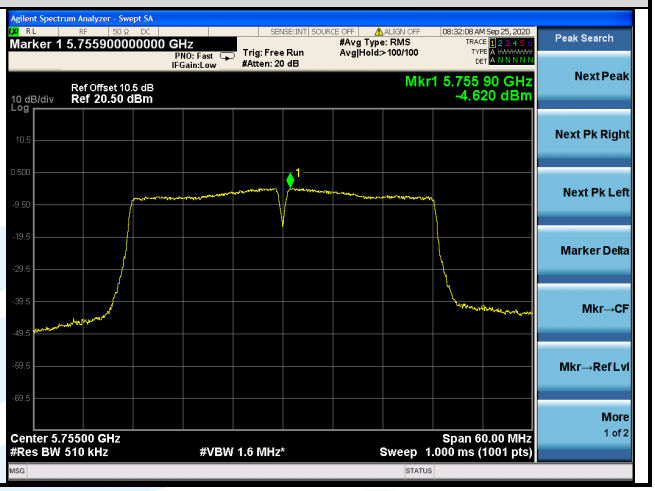
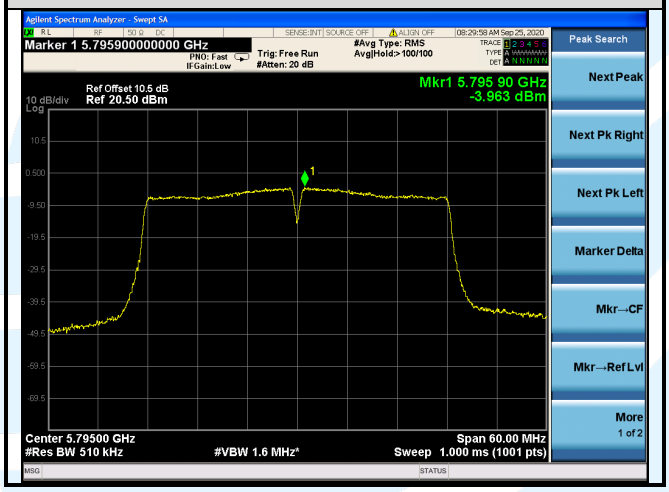
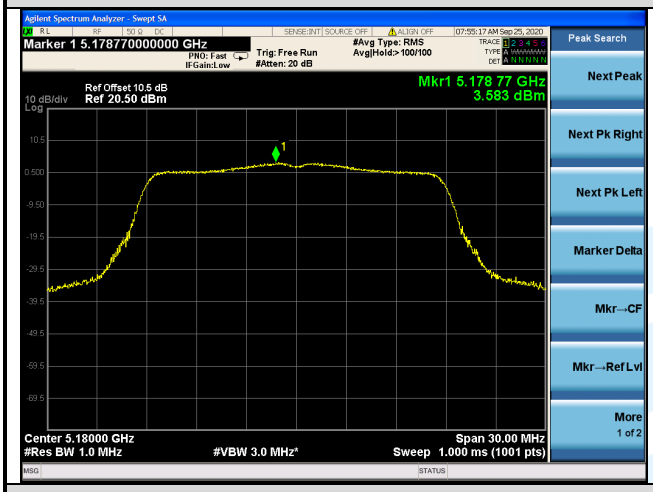
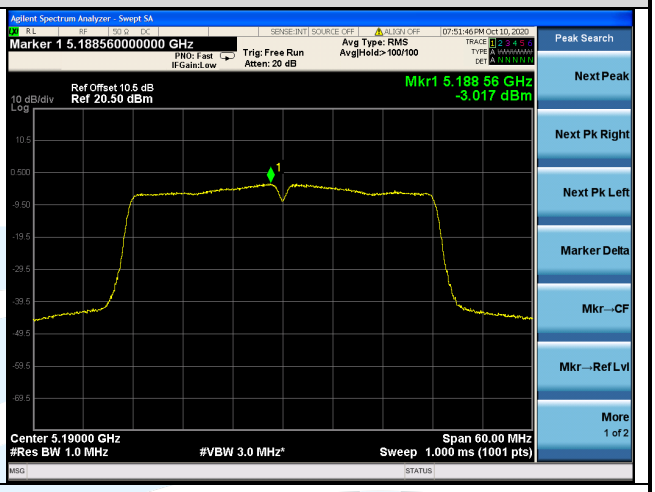


Channel 159



IEEE 802.11ac-VHT20	IEEE 802.11ac-VHT40
Channel 36	**Channel 38**
	
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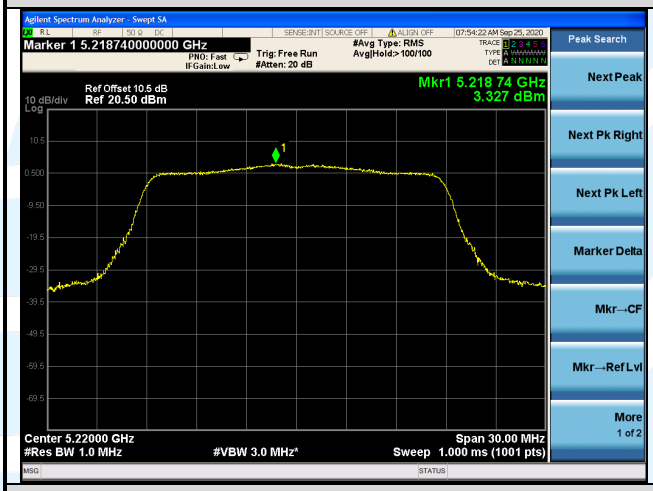	
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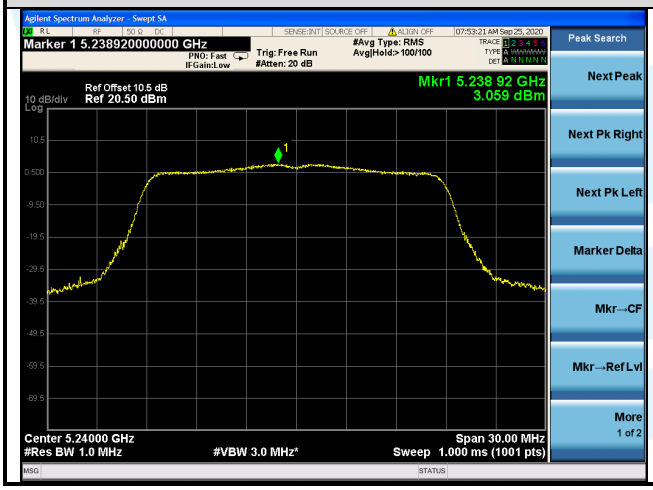	

IEEE 802.11ac-VHT20	IEEE 802.11ac-VHT40
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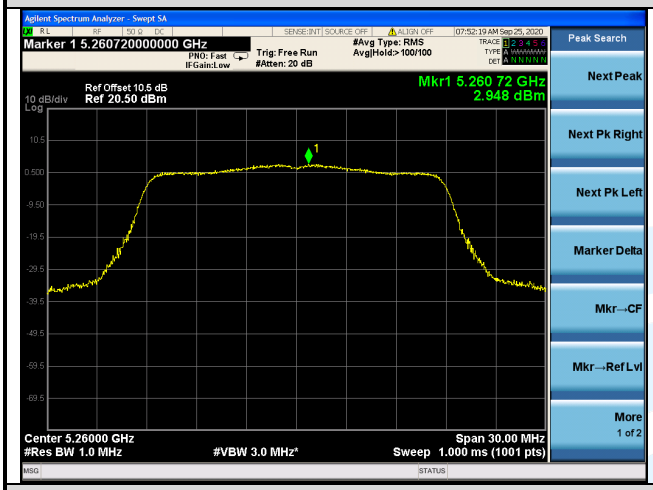	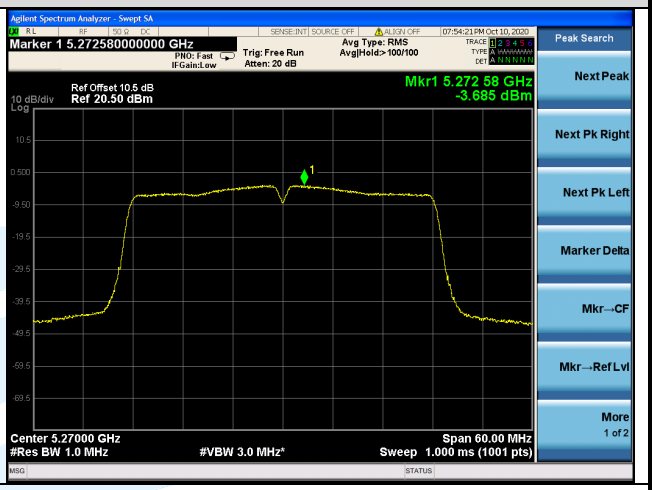
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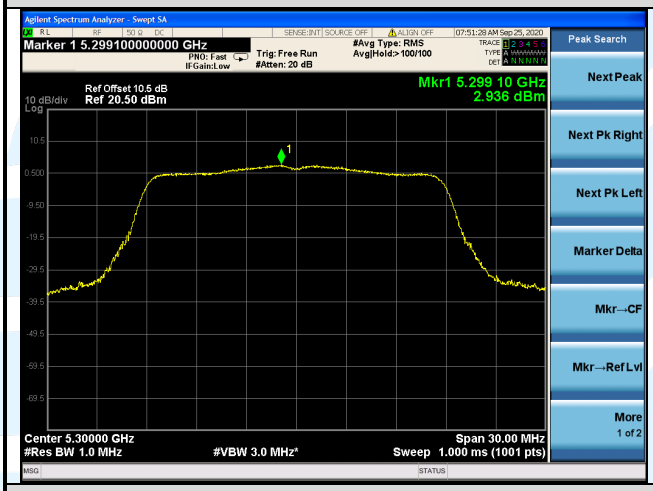	
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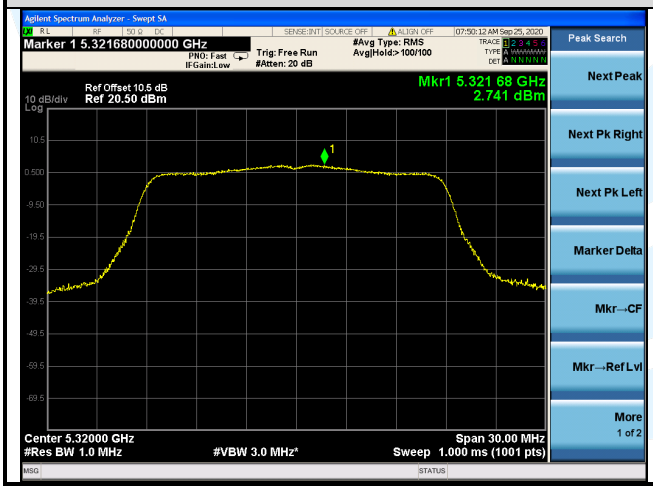	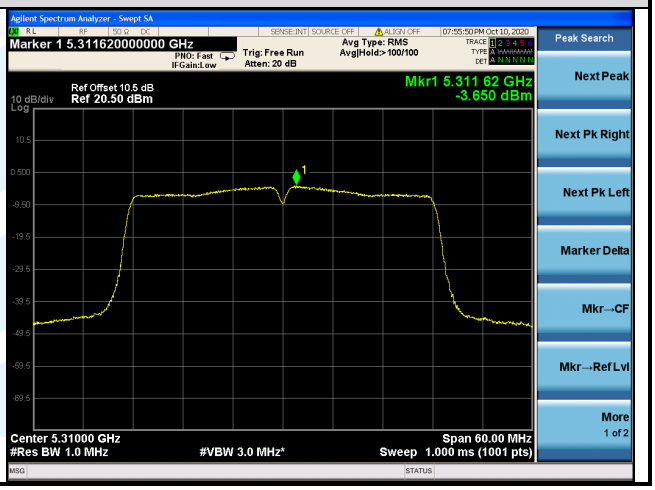

IEEE 802.11ac-VHT20	IEEE 802.11ac-VHT40
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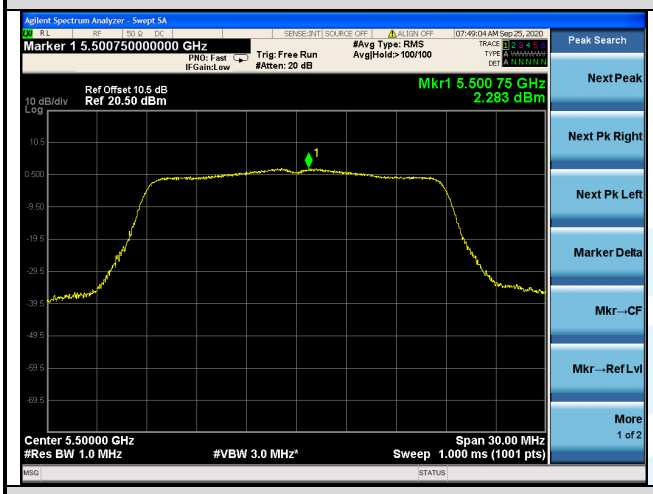	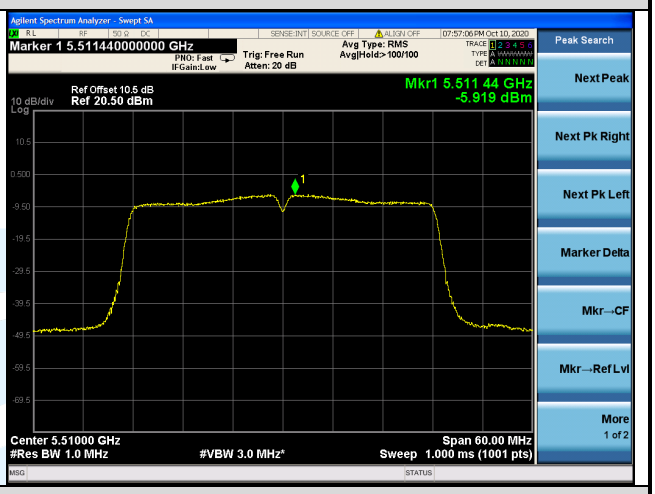
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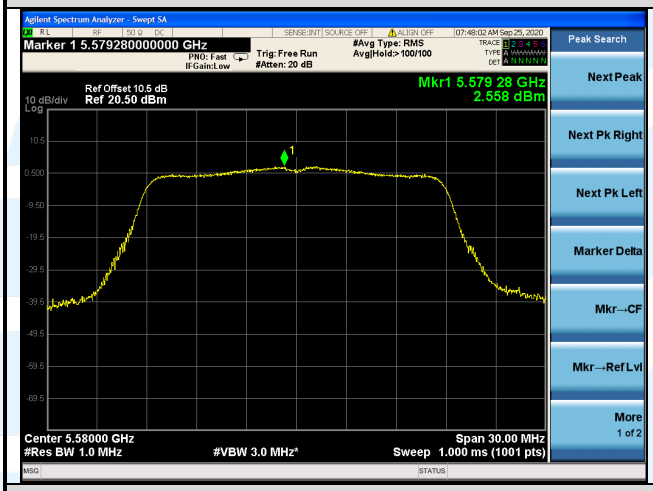	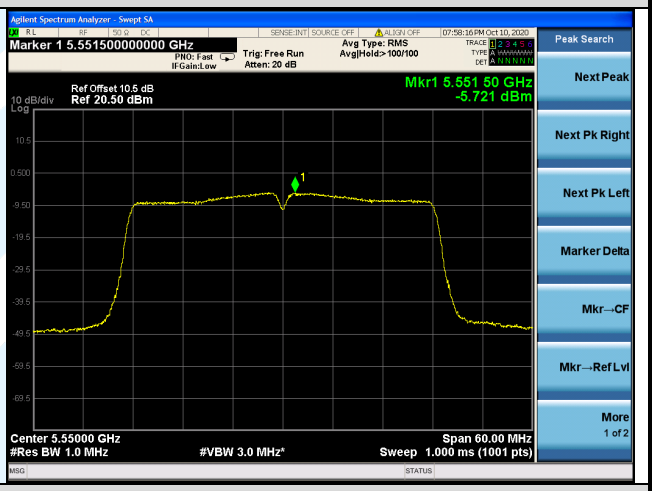
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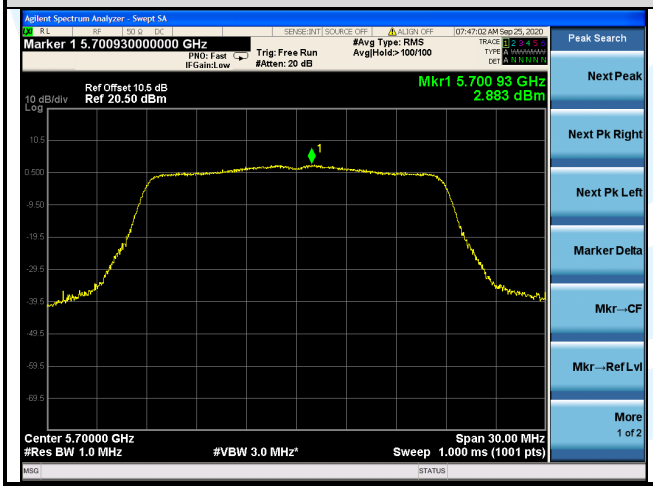	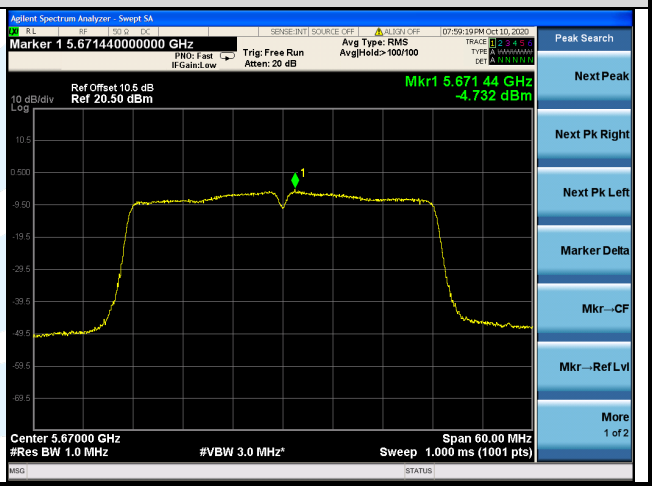

IEEE 802.11ac-VHT20	IEEE 802.11ac-VHT40
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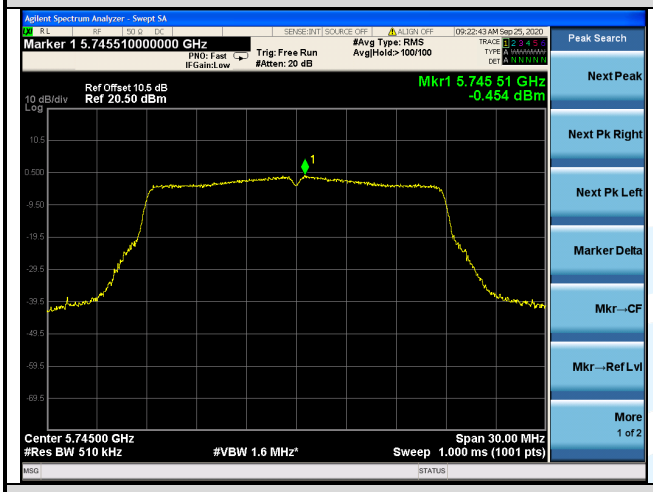	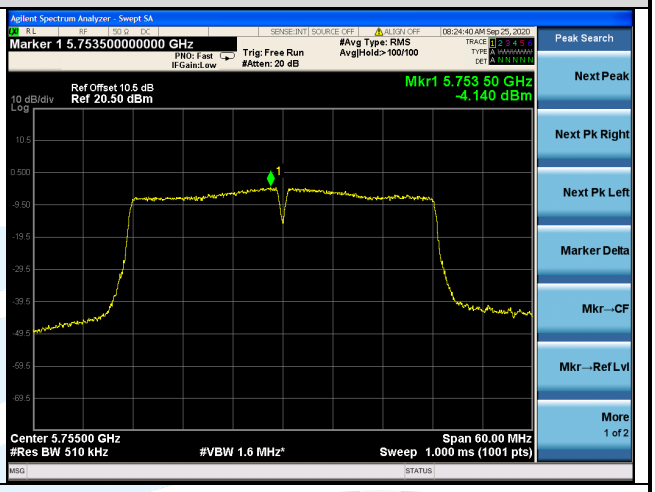
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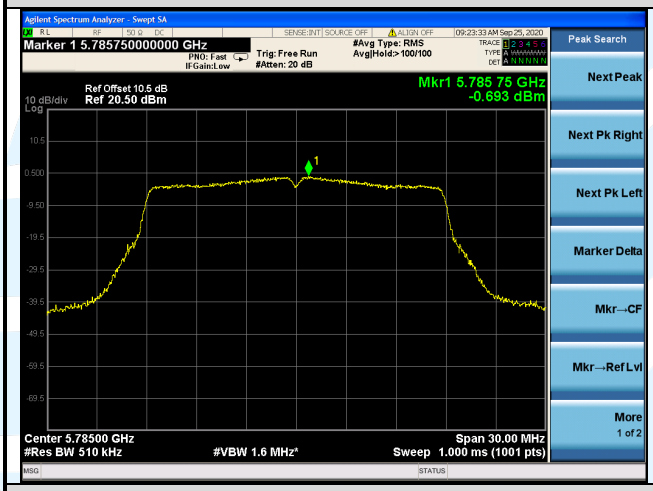	
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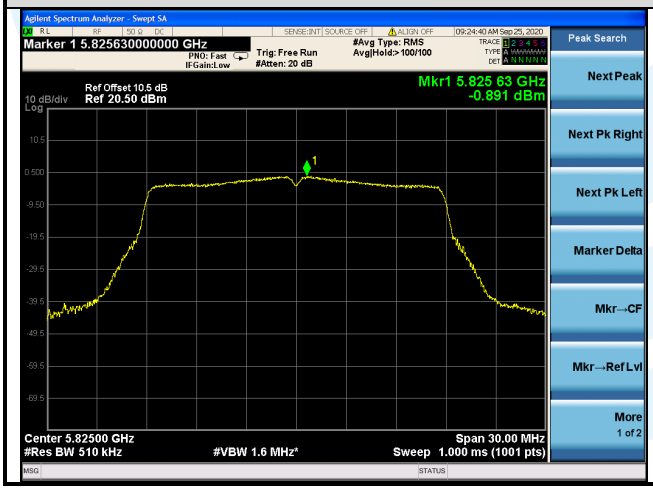	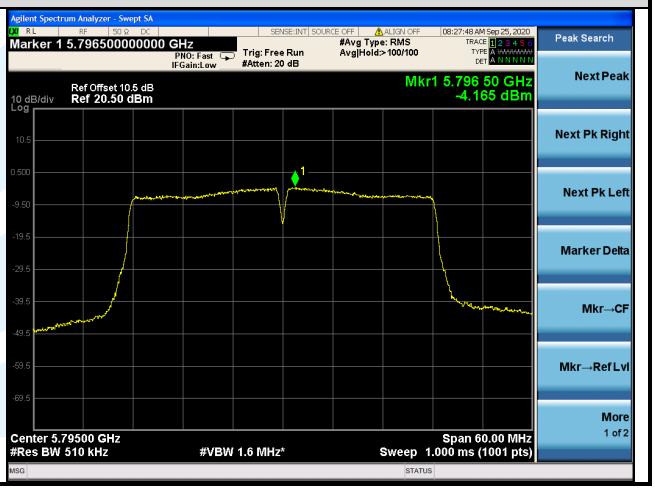

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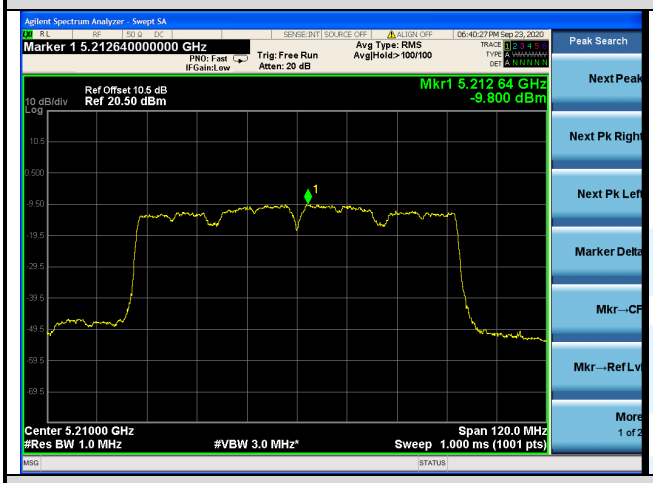
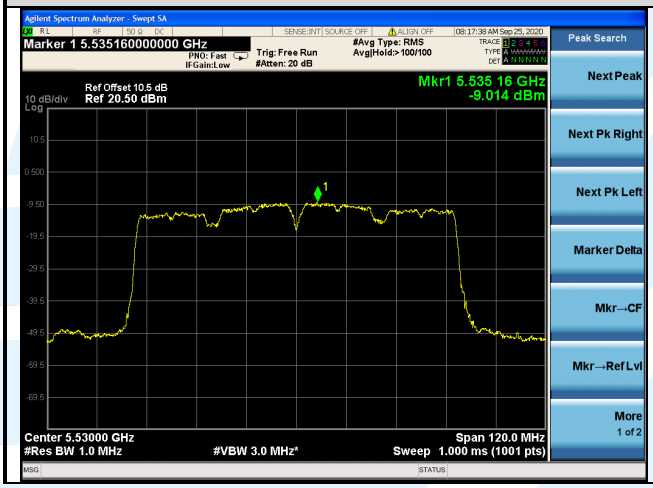
Channel 42

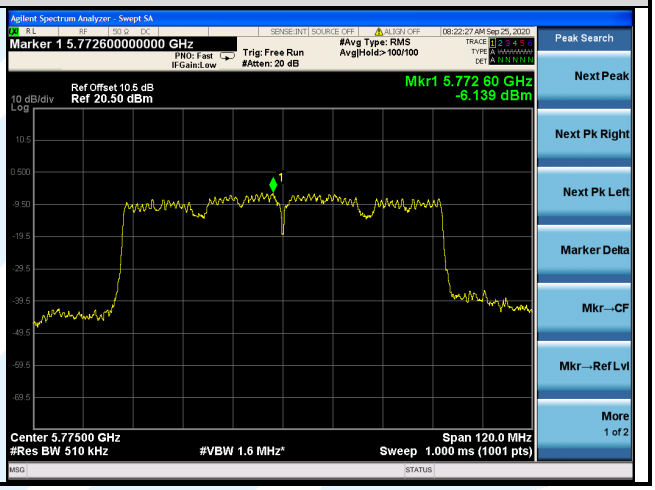


Channel 58

Channel 106



Channel 155



5.7 RADIATED EMISSIONS AND BAND EDGE MEASUREMENT

Test Requirement: FCC 47 CFR Part 15 Subpart E Section 15.407 (b)(1)(2)(3)(4)(6)
FCC 47 CFR Part 15 Subpart C Section 15.209/205
RSS-247 Issue 2 Section 6.2.1.2/6.2.2.2/6.2.3.2/6.2.4.2

Test Method: KDB 789033 D02 v02r01 Section G.3, G.4, G.5, and G.6

Receiver Setup:

Frequency	RBW
0.009 MHz-0.150 MHz	200/300 kHz
0.150 MHz -30 MHz	9/10 kHz
30 MHz-1 GHz	100/120 kHz
Above 1 GHz	1 MHz

Limits:

1. Limits of Radiated Emission and Band edge Measurement

Radiated emissions that fall in the restricted bands must comply with the general emissions limits in 15.209(a) as below table. Other emissions shall be at least 20 dB below the highest level of the desired power.

Frequency	Field strength (microvolt/meter)	Limit (dBμV/m)	Remark	Measurement distance (m)
0.009 MHz-0.490 MHz	2400/F(kHz)	--	--	300
0.490 MHz-1.705 MHz	24000/F(kHz)	--	--	30
1.705 MHz-30 MHz	30	--	--	30
30 MHz-88 MHz	100	40.0	Quasi-peak	3
88 MHz-216 MHz	150	43.5	Quasi-peak	3
216 MHz-960 MHz	200	46.0	Quasi-peak	3
960MHz-1GHz	500	54.0	Quasi-peak	3
Above 1 GHz	500	54.0	Average	3

Remark:

a. The lower limit shall apply at the transition frequencies.
b. Emission level (dBuV/m) = 20 log Emission level (uV/m).
c. For frequencies above 1000 MHz, the field strength limits are based on average detector, however, the peak field strength of any emission shall not exceed the maximum permitted average limits, specified above by more than 20 dB under any condition of modulation.

2. Limits of Unwanted Emission Out of the Restricted Bands

Applicable To	Limit	
789033 D02 General U-NII Test Procedures New Rules v01r04	**Field Strength at 3 m**	
	PK: 74 (dBμV/m)	**AV: 54 (dBμV/m)**
Applicable To	EIRP Limit	Equivalent Field Strength at 3 m
RSS-247 Issue 2 Section 6.2.1.2	PK: -27 (dBm/MHz)	PK: 74 (dBμV/m)
RSS-247 Issue 2 Section 6.2.2.2	PK: -27 (dBm/MHz)	PK: 74 (dBμV/m)
RSS-247 Issue 2 Section 6.2.3.2	PK: -27 (dBm/MHz)	PK: 68.2 (dBμV/m)
RSS-247 Issue 2 Section 6.2.4.2	27 dBm/MHz at frequencies from the band edges decreasing linearly to 15.6 dBm/MHz at 5 MHz above or below the band edges;	PK: 68.2 (dBμV/m)
	15.6 dBm/MHz at 5 MHz above or below the band edges decreasing linearly to 10 dBm/MHz at 25 MHz above or below the band edges;	
	10 dBm/MHz at 25 MHz above or below the band edges decreasing linearly to -27 dBm/MHz at 75 MHz above or below the band edges;	
	-27 dBm/MHz at frequencies more than 75 MHz above or below the band edges.	

Test Setup: Refer to section 4.5.1 for details.

Test Procedures:

1. The EUT was placed on the top of a rotating table 0.8 meters (for below 1 GHz) / 1.5 meters (for above 1 GHz) above the ground at 3 meter chamber room for test. The table was rotated 360 degrees to determine the position of the highest radiation.
2. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.
3. The height of antenna is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
4. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.
5. The test-receiver system was set to quasi-peak detect function and specified bandwidth with maximum hold mode when the test frequency is below 1 GHz.
6. The test-receiver system was set to peak and average detected function and specified bandwidth with maximum hold mode when the test frequency is above 1 GHz. If the peak reading value also meets average limit, measurement with the average detector is unnecessary.

Remark:

a) The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120 kHz for Quasi-peak detection (QP) at frequency below 1 GHz.
b) The resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is 3 MHz for Peak detection (PK) at frequency above 1 GHz.
c) The resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is 3 MHz for RMS Average (Duty cycle < 98 %) for Average detection (AV) at frequency above 1 GHz, then the measurement results was added to a correction factor (10 log(1/duty cycle)).
d) The resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is 10 Hz (Duty cycle ≥ 98 %) or ≥ 1/T(duty cycle is < 98%) for Average detection (AV) at frequency above 1 GHz.
e) All modes of operation were investigated and the worst-case emissions are reported.

Equipment Used: Refer to section 3 for details.

Test Result: Pass

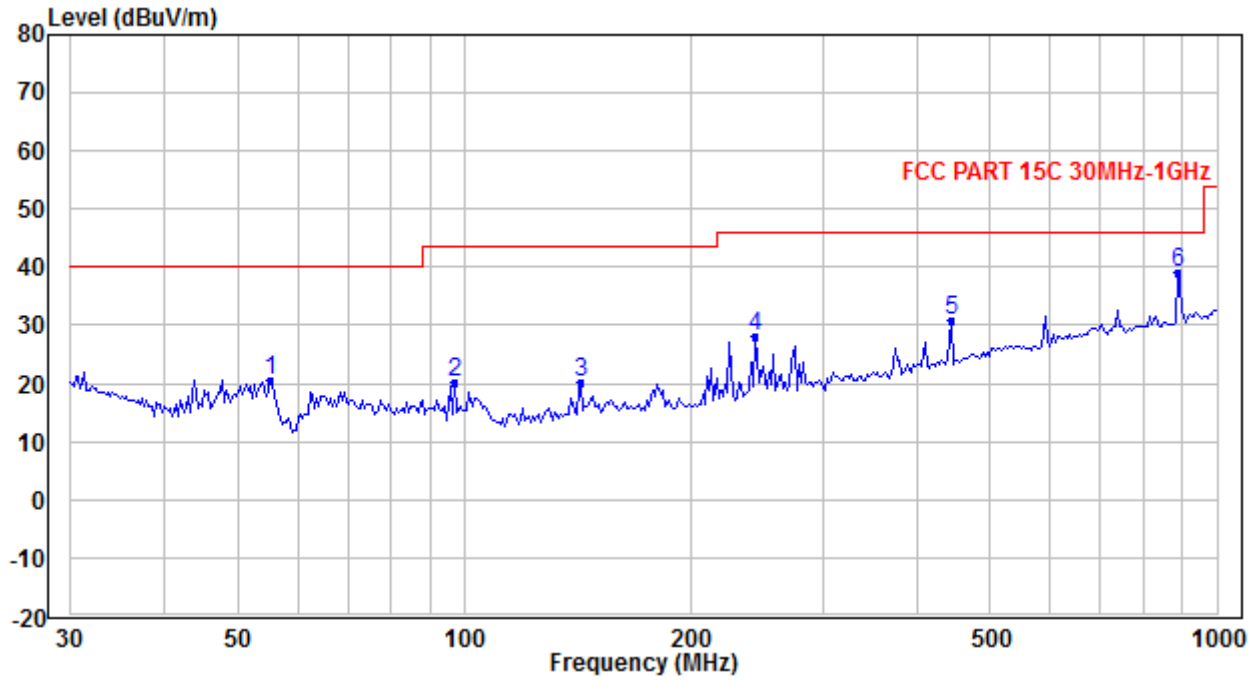
The measurement data as follows:

Radiated Emission Test Data (9 KHz ~ 30 MHz):
The amplitude of spurious emissions attenuated more than 20 dB below the permissible value is not required to be report.

Radiated Emission Test Data (30 MHz ~ 1 GHz Worst Case):

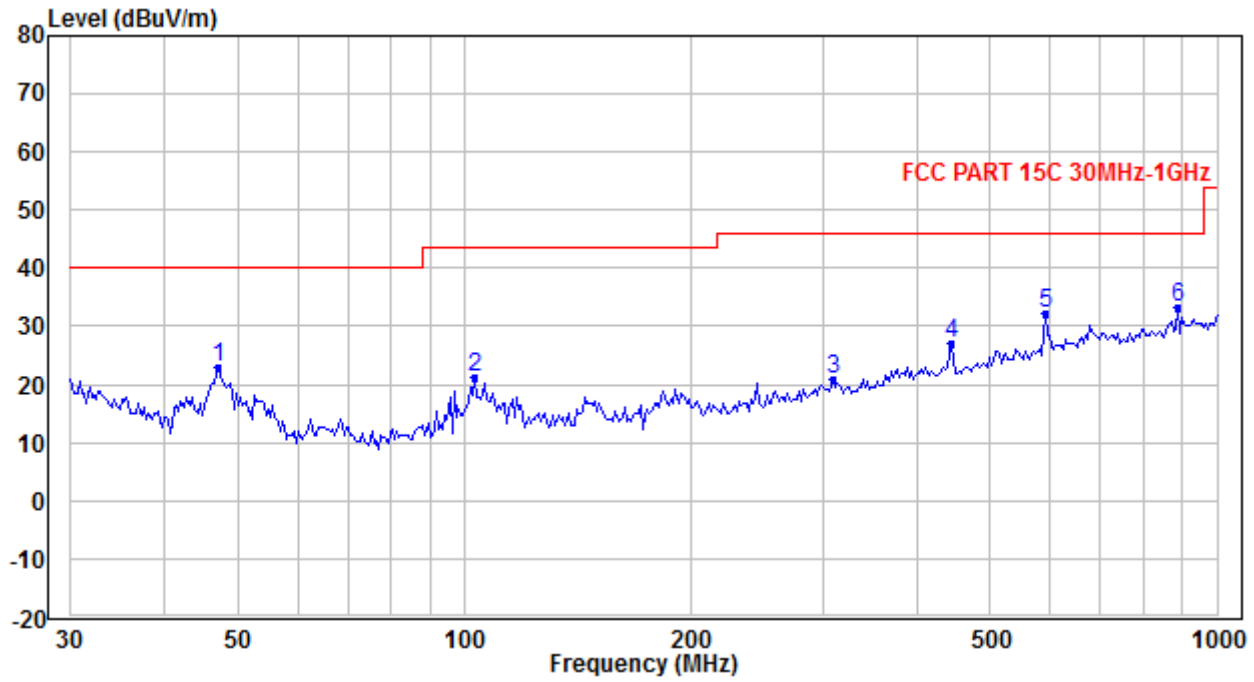
Worst-Case Configuration

Horizontal



No.	Frequency (MHz)	Reading (dBuV)	Correction factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	55.288	36.03	-15.46	20.57	40.00	-19.43	QP
2	97.002	33.53	-13.28	20.25	43.50	-23.25	QP
3	142.769	32.19	-11.86	20.33	43.50	-23.17	QP
4	243.543	35.22	-7.06	28.16	46.00	-17.84	QP
5	442.572	33.34	-2.49	30.85	46.00	-15.15	QP
6	887.398	34.37	4.64	39.01	46.00	-6.99	QP

Vertical



No.	Frequency (MHz)	Reading (dBuV)	Correction factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	47.037	36.43	-13.52	22.91	40.00	-17.09	QP
2	103.335	33.61	-12.39	21.22	43.50	-22.28	QP
3	309.271	26.30	-5.30	21.00	46.00	-25.00	QP
4	442.572	29.74	-2.63	27.11	46.00	-18.89	QP
5	590.351	31.55	0.61	32.16	46.00	-13.84	QP
6	887.398	28.26	4.94	33.20	46.00	-12.80	QP

Radiated Emission Test Data (Above 1GHz):

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No.	Frequency (MHz)	Reading (dBuV/m)	Correction factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Antenna Polaxis
1	10360.00	42.39	8.55	50.94	74.00	-23.06	Peak	Horizontal
2	10360.00	30.66	8.55	39.21	54.00	-14.79	Average	Horizontal
3	15540.00	38.43	11.14	49.57	74.00	-24.43	Peak	Horizontal
4	15540.00	26.63	11.14	37.77	54.00	-16.23	Average	Horizontal
5	10360.00	42.14	8.71	50.85	74.00	-23.15	Peak	Vertical
6	10360.00	30.26	8.71	38.97	54.00	-15.03	Average	Vertical
7	15540.00	38.77	11.24	50.01	74.00	-23.99	Peak	Vertical
8	15540.00	26.70	11.24	37.94	54.00	-16.06	Average	Vertical

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No.	Frequency (MHz)	Reading (dBuV/m)	Correction factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Antenna Polaxis
1	10440.00	42.55	8.67	51.22	74.00	-22.78	Peak	Horizontal
2	10440.00	30.84	8.67	39.51	54.00	-14.49	Average	Horizontal
3	15660.00	38.32	11.26	49.58	74.00	-24.42	Peak	Horizontal
4	15660.00	26.66	11.26	37.92	54.00	-16.08	Average	Horizontal
5	10440.00	42.68	8.79	51.47	74.00	-22.53	Peak	Vertical
6	10440.00	30.28	8.79	39.07	54.00	-14.93	Average	Vertical
7	15660.00	39.35	11.36	50.71	74.00	-23.29	Peak	Vertical
8	15660.00	26.66	11.36	38.02	54.00	-15.98	Average	Vertical

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No.	Frequency (MHz)	Reading (dBuV/m)	Correction factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Antenna Polaxis
1	10480.00	41.86	8.72	50.58	74.00	-23.42	Peak	Horizontal
2	10480.00	30.00	8.72	38.72	54.00	-15.28	Average	Horizontal
3	15720.00	37.85	11.30	49.15	74.00	-24.85	Peak	Horizontal
4	15720.00	26.04	11.30	37.34	54.00	-16.66	Average	Horizontal
5	10480.00	41.75	8.83	50.58	74.00	-23.42	Peak	Vertical
6	10480.00	29.37	8.83	38.20	54.00	-15.80	Average	Vertical
7	15720.00	38.33	11.40	49.73	74.00	-24.27	Peak	Vertical
8	15720.00	26.12	11.40	37.52	54.00	-16.48	Average	Vertical

IEEE 802.11a_Channel 52

No.	Frequency (MHz)	Reading (dBuV/m)	Correction factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Antenna Polaxis
1	10520.00	42.68	8.74	51.42	74.00	-22.58	Peak	Horizontal
2	10520.00	30.20	8.74	38.94	54.00	-15.06	Average	Horizontal
3	15780.00	38.22	11.34	49.56	74.00	-24.44	Peak	Horizontal
4	15780.00	26.08	11.34	37.42	54.00	-16.58	Average	Horizontal
5	10520.00	41.79	8.85	50.64	74.00	-23.36	Peak	Vertical
6	10520.00	29.49	8.85	38.34	54.00	-15.66	Average	Vertical
7	15780.00	38.55	11.44	49.99	74.00	-24.01	Peak	Vertical
8	15780.00	26.15	11.44	37.59	54.00	-16.41	Average	Vertical

IEEE 802.11a_Channel 60

No.	Frequency (MHz)	Reading (dBuV/m)	Correction factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Antenna Polaxis
1	10600.00	41.66	8.75	50.41	74.00	-23.59	Peak	Horizontal
2	10600.00	29.73	8.75	38.48	54.00	-15.52	Average	Horizontal
3	15900.00	38.96	11.41	50.37	74.00	-23.63	Peak	Horizontal
4	15900.00	26.23	11.41	37.64	54.00	-16.36	Average	Horizontal
5	10600.00	40.82	8.87	49.69	74.00	-24.31	Peak	Vertical
6	10600.00	29.00	8.87	37.87	54.00	-16.13	Average	Vertical
7	15900.00	38.79	11.51	50.30	74.00	-23.70	Peak	Vertical
8	15900.00	26.23	11.51	37.74	54.00	-16.26	Average	Vertical

IEEE 802.11a_Channel 64

No.	Frequency (MHz)	Reading (dBuV/m)	Correction factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Antenna Polaxis
1	10640.00	40.97	8.76	49.73	74.00	-24.27	Peak	Horizontal
2	10640.00	29.48	8.76	38.24	54.00	-15.76	Average	Horizontal
3	15960.00	38.16	11.51	49.67	74.00	-24.33	Peak	Horizontal
4	15960.00	26.06	11.51	37.57	54.00	-16.43	Average	Horizontal
5	10640.00	40.76	8.89	49.65	74.00	-24.35	Peak	Vertical
6	10640.00	29.13	8.89	38.02	54.00	-15.98	Average	Vertical
7	15960.00	38.23	11.61	49.84	74.00	-24.16	Peak	Vertical
8	15960.00	26.20	11.61	37.81	54.00	-16.19	Average	Vertical

IEEE 802.11a_Channel 100

No.	Frequency (MHz)	Reading (dBuV/m)	Correction factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Antenna Polaxis
1	11000.00	41.69	8.20	49.89	74.00	-24.11	Peak	Horizontal
2	11000.00	29.82	8.20	38.02	54.00	-15.98	Average	Horizontal
3	16500.00	38.43	12.35	50.78	74.00	-23.22	Peak	Horizontal
4	16500.00	26.64	12.35	38.99	54.00	-15.01	Average	Horizontal
5	11000.00	42.11	8.40	50.51	74.00	-23.49	Peak	Vertical
6	11000.00	29.87	8.40	38.27	54.00	-15.73	Average	Vertical
7	16500.00	38.80	12.65	51.45	74.00	-22.55	Peak	Vertical
8	16500.00	26.58	12.65	39.23	54.00	-14.77	Average	Vertical

IEEE 802.11a_Channel 116

No.	Frequency (MHz)	Reading (dBuV/m)	Correction factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Antenna Polaxis
1	11160.00	40.99	8.13	49.12	74.00	-24.88	Peak	Horizontal
2	11160.00	28.64	8.13	36.77	54.00	-17.23	Average	Horizontal
3	16740.00	38.68	12.05	50.73	74.00	-23.27	Peak	Horizontal
4	16740.00	26.50	12.05	38.55	54.00	-15.45	Average	Horizontal
5	11160.00	41.62	8.30	49.92	74.00	-24.08	Peak	Vertical
6	11160.00	28.54	8.30	36.84	54.00	-17.16	Average	Vertical
7	16740.00	38.95	12.31	51.26	74.00	-22.74	Peak	Vertical
8	16740.00	26.64	12.31	38.95	54.00	-15.05	Average	Vertical

IEEE 802.11a_Channel 140

No.	Frequency (MHz)	Reading (dBuV/m)	Correction factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Antenna Polaxis
1	11400.00	41.43	8.40	49.83	74.00	-24.17	Peak	Horizontal
2	11400.00	29.04	8.40	37.44	54.00	-16.56	Average	Horizontal
3	17100.00	37.84	12.02	49.86	74.00	-24.14	Peak	Horizontal
4	17100.00	25.38	12.02	37.40	54.00	-16.60	Average	Horizontal
5	11400.00	41.29	8.52	49.81	74.00	-24.19	Peak	Vertical
6	11400.00	29.04	8.52	37.56	54.00	-16.44	Average	Vertical
7	17100.00	37.71	12.18	49.89	74.00	-24.11	Peak	Vertical
8	17100.00	25.31	12.18	37.49	54.00	-16.51	Average	Vertical

IEEE 802.11a_Channel 149

No.	Frequency (MHz)	Reading (dBuV/m)	Correction factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Antenna Polaxis
1	11490.00	41.16	8.46	49.62	74.00	-24.38	Peak	Horizontal
2	11490.00	29.45	8.46	37.91	54.00	-16.09	Average	Horizontal
3	17235.00	37.71	12.58	50.29	74.00	-23.71	Peak	Horizontal
4	17235.00	25.48	12.58	38.06	54.00	-15.94	Average	Horizontal
5	11490.00	42.44	8.56	51.00	74.00	-23.00	Peak	Vertical
6	11490.00	29.36	8.56	37.92	54.00	-16.08	Average	Vertical
7	17235.00	37.87	12.68	50.55	74.00	-23.45	Peak	Vertical
8	17235.00	25.54	12.68	38.22	54.00	-15.78	Average	Vertical

IEEE 802.11a_Channel 157

No.	Frequency (MHz)	Reading (dBuV/m)	Correction factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Antenna Polaxis
1	11570.00	40.69	8.61	49.30	74.00	-24.70	Peak	Horizontal
2	11570.00	28.34	8.61	36.95	54.00	-17.05	Average	Horizontal
3	17355.00	39.46	13.09	52.55	74.00	-21.45	Peak	Horizontal
4	17355.00	26.36	13.09	39.45	54.00	-14.55	Average	Horizontal
5	11570.00	41.38	8.74	50.12	74.00	-23.88	Peak	Vertical
6	11570.00	28.40	8.74	37.14	54.00	-16.86	Average	Vertical
7	17355.00	38.32	13.15	51.47	74.00	-22.53	Peak	Vertical
8	17355.00	26.42	13.15	39.57	54.00	-14.43	Average	Vertical

IEEE 802.11a_Channel 165

No.	Frequency (MHz)	Reading (dBuV/m)	Correction factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Antenna Polaxis
1	11650.00	42.01	8.77	50.78	74.00	-23.22	Peak	Horizontal
2	11650.00	28.64	8.77	37.41	54.00	-16.59	Average	Horizontal
3	17475.00	38.26	13.48	51.74	74.00	-22.26	Peak	Horizontal
4	17475.00	25.91	13.48	39.39	54.00	-14.61	Average	Horizontal
5	11650.00	40.53	8.93	49.46	74.00	-24.54	Peak	Vertical
6	11650.00	28.48	8.93	37.41	54.00	-16.59	Average	Vertical
7	17475.00	38.49	13.50	51.99	74.00	-22.01	Peak	Vertical
8	17475.00	26.04	13.50	39.54	54.00	-14.46	Average	Vertical

IEEE 802.11n-HT20_Channel 36

No.	Frequency (MHz)	Reading (dBuV/m)	Correction factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Antenna Polaxis
1	10360.00	43.91	8.55	52.46	74.00	-21.54	Peak	Horizontal
2	10360.00	31.12	8.55	39.67	54.00	-14.33	Average	Horizontal
3	15540.00	39.45	11.14	50.59	74.00	-23.41	Peak	Horizontal
4	15540.00	26.63	11.14	37.77	54.00	-16.23	Average	Horizontal
5	10360.00	43.25	8.71	51.96	74.00	-22.04	Peak	Vertical
6	10360.00	30.90	8.71	39.61	54.00	-14.39	Average	Vertical
7	15540.00	39.43	11.24	50.67	74.00	-23.33	Peak	Vertical
8	15540.00	26.56	11.24	37.80	54.00	-16.20	Average	Vertical

IEEE 802.11n-HT20_Channel 44

No.	Frequency (MHz)	Reading (dBuV/m)	Correction factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Antenna Polaxis
1	10440.00	43.06	8.67	51.73	74.00	-22.27	Peak	Horizontal
2	10440.00	31.12	8.67	39.79	54.00	-14.21	Average	Horizontal
3	15660.00	37.55	11.26	48.81	74.00	-25.19	Peak	Horizontal
4	15660.00	26.17	11.26	37.43	54.00	-16.57	Average	Horizontal
5	10440.00	41.85	8.79	50.64	74.00	-23.36	Peak	Vertical
6	10440.00	31.09	8.79	39.88	54.00	-14.12	Average	Vertical
7	15660.00	40.20	11.36	51.56	74.00	-22.44	Peak	Vertical
8	15660.00	26.24	11.36	37.60	54.00	-16.40	Average	Vertical

IEEE 802.11n-HT20_Channel 48

No.	Frequency (MHz)	Reading (dBuV/m)	Correction factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Antenna Polaxis
1	10480.00	42.72	8.72	51.44	74.00	-22.56	Peak	Horizontal
2	10480.00	30.36	8.72	39.08	54.00	-14.92	Average	Horizontal
3	15720.00	39.23	11.30	50.53	74.00	-23.47	Peak	Horizontal
4	15720.00	26.12	11.30	37.42	54.00	-16.58	Average	Horizontal
5	10480.00	43.03	8.83	51.86	74.00	-22.14	Peak	Vertical
6	10480.00	30.99	8.83	39.82	54.00	-14.18	Average	Vertical
7	15720.00	40.01	11.40	51.41	74.00	-22.59	Peak	Vertical
8	15720.00	26.12	11.40	37.52	54.00	-16.48	Average	Vertical

IEEE 802.11n-HT20_Channel 52

No.	Frequency (MHz)	Reading (dBuV/m)	Correction factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Antenna Polaxis
1	10520.00	43.04	8.74	51.78	74.00	-22.22	Peak	Horizontal
2	10520.00	30.16	8.74	38.90	54.00	-15.10	Average	Horizontal
3	15780.00	40.04	11.34	51.38	74.00	-22.62	Peak	Horizontal
4	15780.00	26.29	11.34	37.63	54.00	-16.37	Average	Horizontal
5	10520.00	44.28	8.85	53.13	74.00	-20.87	Peak	Vertical
6	10520.00	31.01	8.85	39.86	54.00	-14.14	Average	Vertical
7	15780.00	40.88	11.44	52.32	74.00	-21.68	Peak	Vertical
8	15780.00	26.08	11.44	37.52	54.00	-16.48	Average	Vertical

IEEE 802.11n-HT20_Channel 60

No.	Frequency (MHz)	Reading (dBuV/m)	Correction factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Antenna Polaxis
1	10600.00	42.45	8.75	51.20	74.00	-22.80	Peak	Horizontal
2	10600.00	29.64	8.75	38.39	54.00	-15.61	Average	Horizontal
3	15900.00	39.58	11.41	50.99	74.00	-23.01	Peak	Horizontal
4	15900.00	26.72	11.41	38.13	54.00	-15.87	Average	Horizontal
5	10600.00	42.94	8.87	51.81	74.00	-22.19	Peak	Vertical
6	10600.00	31.25	8.87	40.12	54.00	-13.88	Average	Vertical
7	15900.00	40.22	11.51	51.73	74.00	-22.27	Peak	Vertical
8	15900.00	26.65	11.51	38.16	54.00	-15.84	Average	Vertical

IEEE 802.11n-HT20_Channel 64

No.	Frequency (MHz)	Reading (dBuV/m)	Correction factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Antenna Polaxis
1	10640.00	43.56	8.76	52.32	74.00	-21.68	Peak	Horizontal
2	10640.00	31.63	8.76	40.39	54.00	-13.61	Average	Horizontal
3	15960.00	40.17	11.51	51.68	74.00	-22.32	Peak	Horizontal
4	15960.00	26.68	11.51	38.19	54.00	-15.81	Average	Horizontal
5	10640.00	43.83	8.89	52.72	74.00	-21.28	Peak	Vertical
6	10640.00	29.23	8.89	38.12	54.00	-15.88	Average	Vertical
7	15960.00	38.03	11.61	49.64	74.00	-24.36	Peak	Vertical
8	15960.00	26.62	11.61	38.23	54.00	-15.77	Average	Vertical

IEEE 802.11n-HT20_Channel 100

No.	Frequency (MHz)	Reading (dBuV/m)	Correction factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Antenna Polaxis
1	11000.00	43.71	8.20	51.91	74.00	-22.09	Peak	Horizontal
2	11000.00	30.54	8.20	38.74	54.00	-15.26	Average	Horizontal
3	16500.00	39.39	12.35	51.74	74.00	-22.26	Peak	Horizontal
4	16500.00	26.78	12.35	39.13	54.00	-14.87	Average	Horizontal
5	11000.00	42.86	8.40	51.26	74.00	-22.74	Peak	Vertical
6	11000.00	30.28	8.40	38.68	54.00	-15.32	Average	Vertical
7	16500.00	38.22	12.65	50.87	74.00	-23.13	Peak	Vertical
8	16500.00	26.71	12.65	39.36	54.00	-14.64	Average	Vertical

IEEE 802.11n-HT20_Channel 116

No.	Frequency (MHz)	Reading (dBuV/m)	Correction factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Antenna Polaxis
1	11160.00	43.11	8.13	51.24	74.00	-22.76	Peak	Horizontal
2	11160.00	28.91	8.13	37.04	54.00	-16.96	Average	Horizontal
3	16740.00	39.50	12.05	51.55	74.00	-22.45	Peak	Horizontal
4	16740.00	26.29	12.05	38.34	54.00	-15.66	Average	Horizontal
5	11160.00	43.58	8.30	51.88	74.00	-22.12	Peak	Vertical
6	11160.00	28.49	8.30	36.79	54.00	-17.21	Average	Vertical
7	16740.00	40.03	12.31	52.34	74.00	-21.66	Peak	Vertical
8	16740.00	26.30	12.31	38.61	54.00	-15.39	Average	Vertical

IEEE 802.11n-HT20_Channel 140

No.	Frequency (MHz)	Reading (dBuV/m)	Correction factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Antenna Polaxis
1	11400.00	43.29	8.40	51.69	74.00	-22.31	Peak	Horizontal
2	11400.00	30.00	8.40	38.40	54.00	-15.60	Average	Horizontal
3	17100.00	40.04	12.02	52.06	74.00	-21.94	Peak	Horizontal
4	17100.00	25.68	12.02	37.70	54.00	-16.30	Average	Horizontal
5	11400.00	41.73	8.52	50.25	74.00	-23.75	Peak	Vertical
6	11400.00	29.82	8.52	38.34	54.00	-15.66	Average	Vertical
7	17100.00	39.80	12.18	51.98	74.00	-22.02	Peak	Vertical
8	17100.00	25.61	12.18	37.79	54.00	-16.21	Average	Vertical

IEEE 802.11n-HT20_Channel 149

No.	Frequency (MHz)	Reading (dBuV/m)	Correction factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Antenna Polaxis
1	11490.00	43.40	8.46	51.86	74.00	-22.14	Peak	Horizontal
2	11490.00	29.79	8.46	38.25	54.00	-15.75	Average	Horizontal
3	17235.00	38.91	12.58	51.49	74.00	-22.51	Peak	Horizontal
4	17235.00	25.63	12.58	38.21	54.00	-15.79	Average	Horizontal
5	11490.00	42.74	8.56	51.30	74.00	-22.70	Peak	Vertical
6	11490.00	29.60	8.56	38.16	54.00	-15.84	Average	Vertical
7	17235.00	38.91	12.68	51.59	74.00	-22.41	Peak	Vertical
8	17235.00	25.62	12.68	38.30	54.00	-15.70	Average	Vertical

IEEE 802.11n-HT20_Channel 157

No.	Frequency (MHz)	Reading (dBuV/m)	Correction factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Antenna Polaxis
1	11570.00	43.78	8.61	52.39	74.00	-21.61	Peak	Horizontal
2	11570.00	29.08	8.61	37.69	54.00	-16.31	Average	Horizontal
3	17355.00	39.68	13.09	52.77	74.00	-21.23	Peak	Horizontal
4	17355.00	26.50	13.09	39.59	54.00	-14.41	Average	Horizontal
5	11570.00	43.55	8.74	52.29	74.00	-21.71	Peak	Vertical
6	11570.00	28.99	8.74	37.73	54.00	-16.27	Average	Vertical
7	17355.00	38.30	13.15	51.45	74.00	-22.55	Peak	Vertical
8	17355.00	26.35	13.15	39.50	54.00	-14.50	Average	Vertical

IEEE 802.11n-HT20_Channel 165

No.	Frequency (MHz)	Reading (dBuV/m)	Correction factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Antenna Polaxis
1	11650.00	42.20	8.77	50.97	74.00	-23.03	Peak	Horizontal
2	11650.00	29.46	8.77	38.23	54.00	-15.77	Average	Horizontal
3	17475.00	37.97	13.48	51.45	74.00	-22.55	Peak	Horizontal
4	17475.00	26.34	13.48	39.82	54.00	-14.18	Average	Horizontal
5	11650.00	42.05	8.93	50.98	74.00	-23.02	Peak	Vertical
6	11650.00	29.12	8.93	38.05	54.00	-15.95	Average	Vertical
7	17475.00	38.52	13.50	52.02	74.00	-21.98	Peak	Vertical
8	17475.00	26.11	13.50	39.61	54.00	-14.39	Average	Vertical

IEEE 802.11n-HT40_Channel 38

No.	Frequency (MHz)	Reading (dBuV/m)	Correction factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Antenna Polaxis
1	10380.00	43.32	8.58	51.90	74.00	-22.10	Peak	Horizontal
2	10380.00	31.05	8.58	39.63	54.00	-14.37	Average	Horizontal
3	15570.00	39.20	11.18	50.38	74.00	-23.62	Peak	Horizontal
4	15570.00	26.66	11.18	37.84	54.00	-16.16	Average	Horizontal
5	10380.00	43.51	8.73	52.24	74.00	-21.76	Peak	Vertical
6	10380.00	31.05	8.73	39.78	54.00	-14.22	Average	Vertical
7	15570.00	39.37	11.28	50.65	74.00	-23.35	Peak	Vertical
8	15570.00	26.73	11.28	38.01	54.00	-15.99	Average	Vertical

IEEE 802.11n-HT40_Channel 46

No.	Frequency (MHz)	Reading (dBuV/m)	Correction factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Antenna Polaxis
1	10460.00	43.56	8.69	52.25	74.00	-21.75	Peak	Horizontal
2	10460.00	31.22	8.69	39.91	54.00	-14.09	Average	Horizontal
3	15690.00	38.31	11.29	49.60	74.00	-24.40	Peak	Horizontal
4	15690.00	26.49	11.29	37.78	54.00	-16.22	Average	Horizontal
5	10460.00	44.94	8.81	53.75	74.00	-20.25	Peak	Vertical
6	10460.00	31.31	8.81	40.12	54.00	-13.88	Average	Vertical
7	15690.00	40.84	11.39	52.23	74.00	-21.77	Peak	Vertical
8	15690.00	26.56	11.39	37.95	54.00	-16.05	Average	Vertical

IEEE 802.11n-HT40_Channel 54

No.	Frequency (MHz)	Reading (dBuV/m)	Correction factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Antenna Polaxis
1	10540.00	43.43	8.76	52.19	74.00	-21.81	Peak	Horizontal
2	10540.00	30.05	8.76	38.81	54.00	-15.19	Average	Horizontal
3	15810.00	39.08	11.35	50.43	74.00	-23.57	Peak	Horizontal
4	15810.00	26.40	11.35	37.75	54.00	-16.25	Average	Horizontal
5	10540.00	43.58	8.87	52.45	74.00	-21.55	Peak	Vertical
6	10540.00	29.91	8.87	38.78	54.00	-15.22	Average	Vertical
7	15810.00	37.98	11.45	49.43	74.00	-24.57	Peak	Vertical
8	15810.00	26.33	11.45	37.78	54.00	-16.22	Average	Vertical

IEEE 802.11n-HT40_Channel 62

No.	Frequency (MHz)	Reading (dBuV/m)	Correction factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Antenna Polaxis
1	10620.00	42.31	8.74	51.05	74.00	-22.95	Peak	Horizontal
2	10620.00	29.70	8.74	38.44	54.00	-15.56	Average	Horizontal
3	15930.00	39.91	11.47	51.38	74.00	-22.62	Peak	Horizontal
4	15930.00	26.59	11.47	38.06	54.00	-15.94	Average	Horizontal
5	10620.00	42.90	8.87	51.77	74.00	-22.23	Peak	Vertical
6	10620.00	29.64	8.87	38.51	54.00	-15.49	Average	Vertical
7	15930.00	38.42	11.57	49.99	74.00	-24.01	Peak	Vertical
8	15930.00	26.66	11.57	38.23	54.00	-15.77	Average	Vertical

IEEE 802.11n-HT40_Channel 102

No.	Frequency (MHz)	Reading (dBuV/m)	Correction factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Antenna Polaxis
1	11020.00	43.45	8.18	51.63	74.00	-22.37	Peak	Horizontal
2	11020.00	30.56	8.18	38.74	54.00	-15.26	Average	Horizontal
3	16530.00	39.93	12.32	52.25	74.00	-21.75	Peak	Horizontal
4	16530.00	26.87	12.32	39.19	54.00	-14.81	Average	Horizontal
5	11020.00	42.67	8.37	51.04	74.00	-22.96	Peak	Vertical
6	11020.00	30.53	8.37	38.90	54.00	-15.10	Average	Vertical
7	16530.00	38.88	12.61	51.49	74.00	-22.51	Peak	Vertical
8	16530.00	26.75	12.61	39.36	54.00	-14.64	Average	Vertical

IEEE 802.11n-HT40_Channel 110

No.	Frequency (MHz)	Reading (dBuV/m)	Correction factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Antenna Polaxis
1	11100.00	43.16	8.06	51.22	74.00	-22.78	Peak	Horizontal
2	11100.00	28.93	8.06	36.99	54.00	-17.01	Average	Horizontal
3	16650.00	39.52	12.17	51.69	74.00	-22.31	Peak	Horizontal
4	16650.00	26.17	12.17	38.34	54.00	-15.66	Average	Horizontal
5	11100.00	43.40	8.24	51.64	74.00	-22.36	Peak	Vertical
6	11100.00	28.76	8.24	37.00	54.00	-17.00	Average	Vertical
7	16650.00	39.26	12.44	51.70	74.00	-22.30	Peak	Vertical
8	16650.00	26.17	12.44	38.61	54.00	-15.39	Average	Vertical

IEEE 802.11n-HT40_Channel 134

No.	Frequency (MHz)	Reading (dBuV/m)	Correction factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Antenna Polaxis
1	11340.00	43.36	8.33	51.69	74.00	-22.31	Peak	Horizontal
2	11340.00	29.43	8.33	37.76	54.00	-16.24	Average	Horizontal
3	17010.00	40.18	11.77	51.95	74.00	-22.05	Peak	Horizontal
4	17010.00	26.30	11.77	38.07	54.00	-15.93	Average	Horizontal
5	11340.00	44.50	8.46	52.96	74.00	-21.04	Peak	Vertical
6	11340.00	29.48	8.46	37.94	54.00	-16.06	Average	Vertical
7	17010.00	40.69	11.97	52.66	74.00	-21.34	Peak	Vertical
8	17010.00	26.16	11.97	38.13	54.00	-15.87	Average	Vertical

IEEE 802.11n-HT40_Channel 151

No.	Frequency (MHz)	Reading (dBuV/m)	Correction factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Antenna Polaxis
1	11510.00	44.11	8.49	52.60	74.00	-21.40	Peak	Horizontal
2	11510.00	29.80	8.49	38.29	54.00	-15.71	Average	Horizontal
3	17265.00	39.43	12.71	52.14	74.00	-21.86	Peak	Horizontal
4	17265.00	25.43	12.71	38.14	54.00	-15.86	Average	Horizontal
5	11510.00	43.89	8.59	52.48	74.00	-21.52	Peak	Vertical
6	11510.00	29.72	8.59	38.31	54.00	-15.69	Average	Vertical
7	17265.00	39.61	12.81	52.42	74.00	-21.58	Peak	Vertical
8	17265.00	25.33	12.81	38.14	54.00	-15.86	Average	Vertical

IEEE 802.11n-HT40_Channel 159

No.	Frequency (MHz)	Reading (dBuV/m)	Correction factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Antenna Polaxis
1	11590.00	43.85	8.65	52.50	74.00	-21.50	Peak	Horizontal
2	11590.00	28.84	8.65	37.49	54.00	-16.51	Average	Horizontal
3	17385.00	39.16	13.22	52.38	74.00	-21.62	Peak	Horizontal
4	17385.00	26.37	13.22	39.59	54.00	-14.41	Average	Horizontal
5	11590.00	43.32	8.79	52.11	74.00	-21.89	Peak	Vertical
6	11590.00	28.73	8.79	37.52	54.00	-16.48	Average	Vertical
7	17385.00	37.75	13.26	51.01	74.00	-22.99	Peak	Vertical
8	17385.00	26.31	13.26	39.57	54.00	-14.43	Average	Vertical

IEEE 802.11ac-VHT80_Channel 42

No.	Frequency (MHz)	Reading (dBuV/m)	Correction factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Antenna Polaxis
1	10460.00	43.69	8.69	52.38	74.00	-21.62	Peak	Horizontal
2	10460.00	31.34	8.69	40.03	54.00	-13.97	Average	Horizontal
3	15690.00	40.24	11.29	51.53	74.00	-22.47	Peak	Horizontal
4	15690.00	26.49	11.29	37.78	54.00	-16.22	Average	Horizontal
5	10460.00	44.15	8.81	52.96	74.00	-21.04	Peak	Vertical
6	10460.00	30.64	8.81	40.04	54.00	-13.96	Average	Vertical
7	15690.00	40.80	11.39	52.19	74.00	-21.81	Peak	Vertical
8	15690.00	26.49	11.39	37.88	54.00	-16.12	Average	Vertical

IEEE 802.11ac-VHT80_Channel 58

No.	Frequency (MHz)	Reading (dBuV/m)	Correction factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Antenna Polaxis
1	10580.00	42.75	8.76	51.51	74.00	-22.49	Peak	Horizontal
2	10580.00	30.00	8.76	38.76	54.00	-15.24	Average	Horizontal
3	15870.00	39.61	11.39	51.00	74.00	-23.00	Peak	Horizontal
4	15870.00	26.36	11.39	37.75	54.00	-16.25	Average	Horizontal
5	10580.00	43.24	8.87	52.11	74.00	-21.89	Peak	Vertical
6	10580.00	29.87	8.87	38.74	54.00	-15.26	Average	Vertical
7	15870.00	40.56	11.49	52.05	74.00	-21.95	Peak	Vertical
8	15870.00	26.43	11.49	37.92	54.00	-16.08	Average	Vertical

IEEE 802.11ac-VHT80_Channel 106

No.	Frequency (MHz)	Reading (dBuV/m)	Correction factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Antenna Polaxis
1	11060.00	43.87	8.12	51.99	74.00	-22.01	Peak	Horizontal
2	11060.00	29.79	8.12	38.12	54.00	-15.88	Average	Horizontal
3	16590.00	39.49	12.24	51.73	74.00	-22.27	Peak	Horizontal
4	16590.00	25.94	12.24	38.18	54.00	-15.82	Average	Horizontal
5	11060.00	44.09	8.31	52.40	74.00	-21.60	Peak	Vertical
6	11060.00	29.77	8.31	38.08	54.00	-15.92	Average	Vertical
7	16590.00	39.63	12.53	52.16	74.00	-21.84	Peak	Vertical
8	16590.00	26.00	12.53	38.53	54.00	-15.47	Average	Vertical

IEEE 802.11ac-VHT80_Channel 155

No.	Frequency (MHz)	Reading (dBuV/m)	Correction factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Antenna Polaxis
1	11550.00	43.42	8.57	51.99	74.00	-22.01	Peak	Horizontal
2	11550.00	29.63	8.57	38.20	54.00	-15.80	Average	Horizontal
3	17325.00	39.09	12.97	52.06	74.00	-21.94	Peak	Horizontal
4	17325.00	25.17	12.97	38.14	54.00	-15.86	Average	Horizontal
5	11550.00	42.43	8.69	51.12	74.00	-22.88	Peak	Vertical
6	11550.00	29.66	8.69	38.35	54.00	-15.65	Average	Vertical
7	17325.00	38.69	13.03	51.72	74.00	-22.28	Peak	Vertical
8	17325.00	25.11	13.03	38.14	54.00	-15.86	Average	Vertical

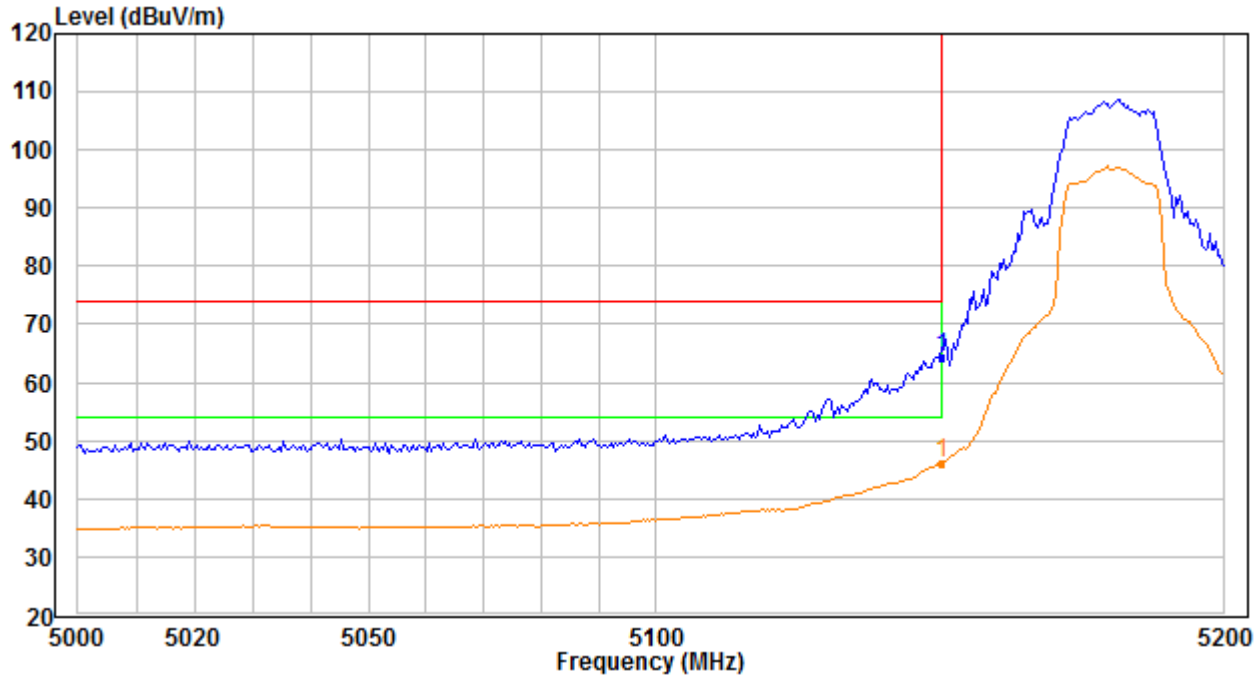
Remark:

1. Correct Factor = Antenna Factor + Cable Loss - Amplifier Gain, the value was added to Original Receiver Reading by the software automatically.
2. Result = Reading + Correct Factor.
3. Margin = Result – Limit

Band Edge Measurements (Radiated)

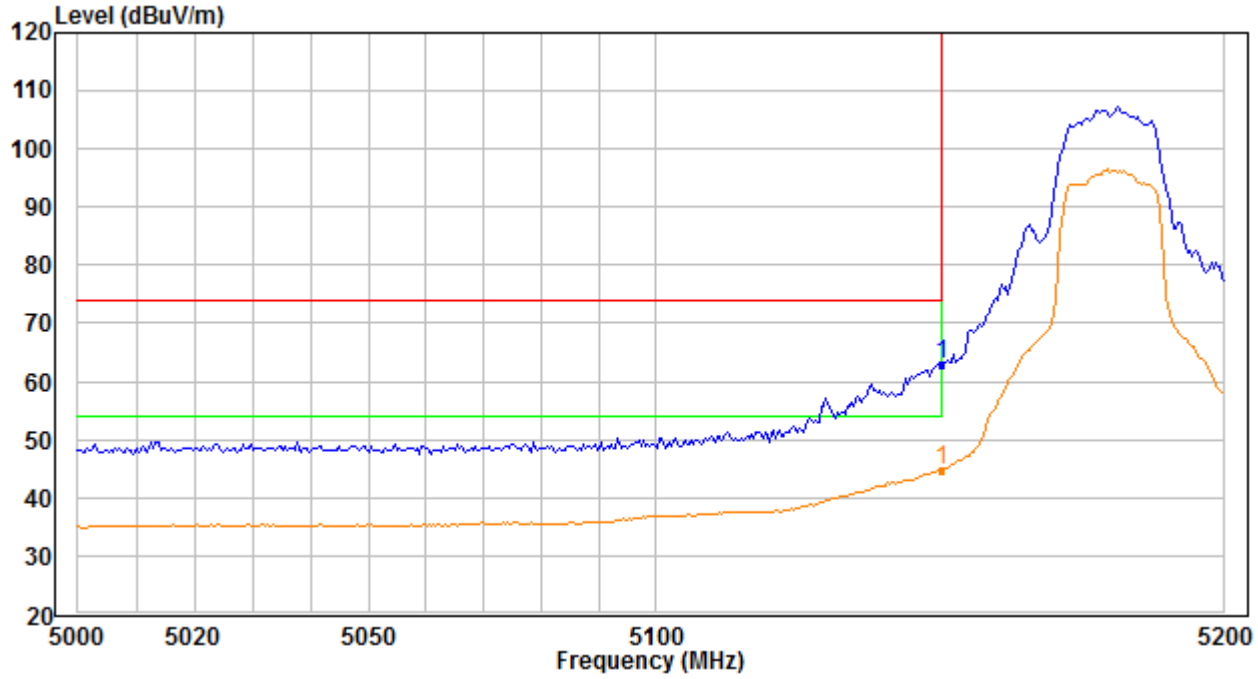
IEEE 802.11a

Test Channel:	Channel 36	Ant. Polar. :	Horizontal



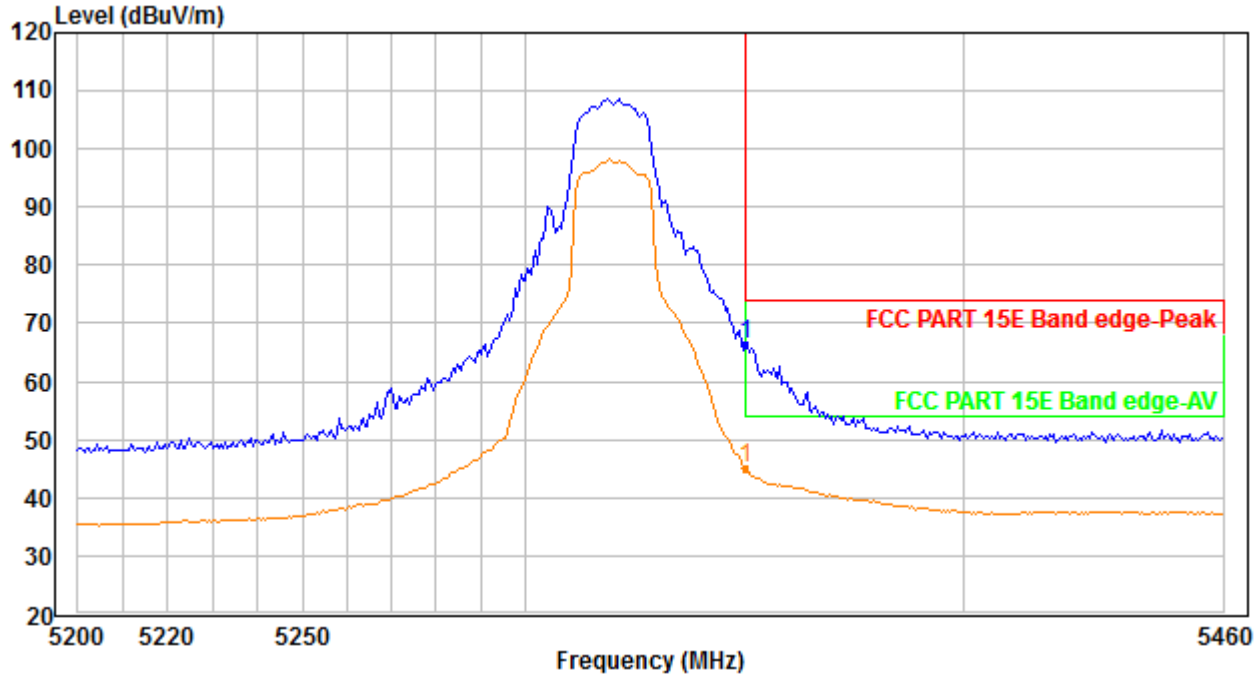
Frequency (MHz)	Peak level (dBuv/m)	Peak Limit (dBuv/m)	AV level (dBuv/m)	AV Limit (dBuv/m)	Conclusion
5150.0000	64.46	74.00	46.11	54.00	Pass

Test Channel:	Channel 36	Ant. Polar. :	Vertical



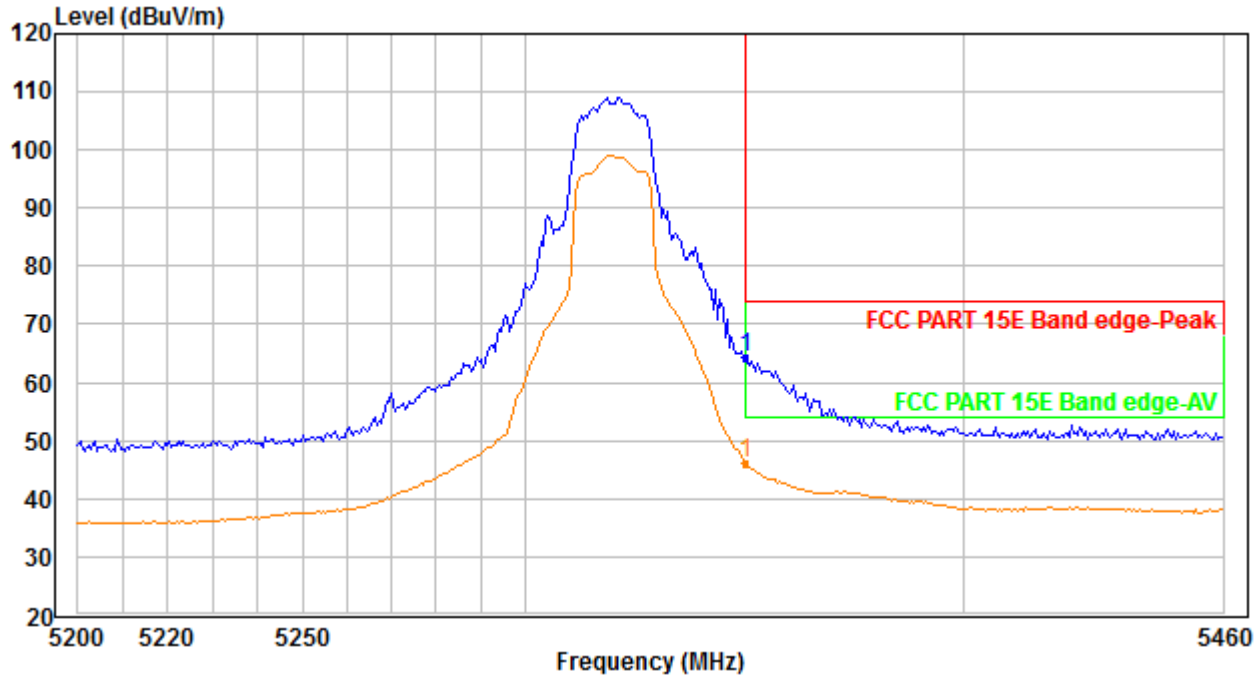
Frequency (MHz)	Peak level (dBuv/m)	Peak Limit (dBuv/m)	AV level (dBuv/m)	AV Limit (dBuv/m)	Conclusion
5150.0000	62.88	74.00	44.79	54.00	Pass

Test Channel:	Channel 64	Ant. Polar. :	Horizontal



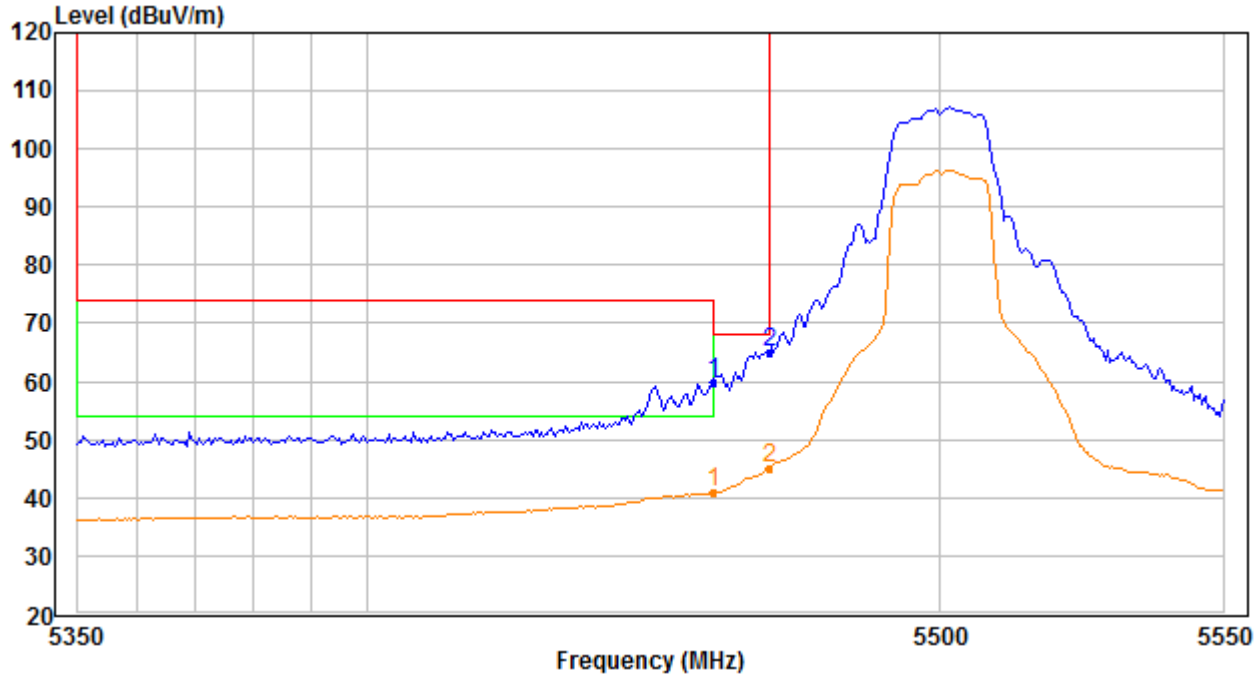
Frequency (MHz)	Peak level (dBuv/m)	Peak Limit (dBuv/m)	AV level (dBuv/m)	AV Limit (dBuv/m)	Conclusion
5350.0000	66.35	74.00	45.21	54.00	Pass

Test Channel:	Channel 64	Ant. Polar. :	Vertical



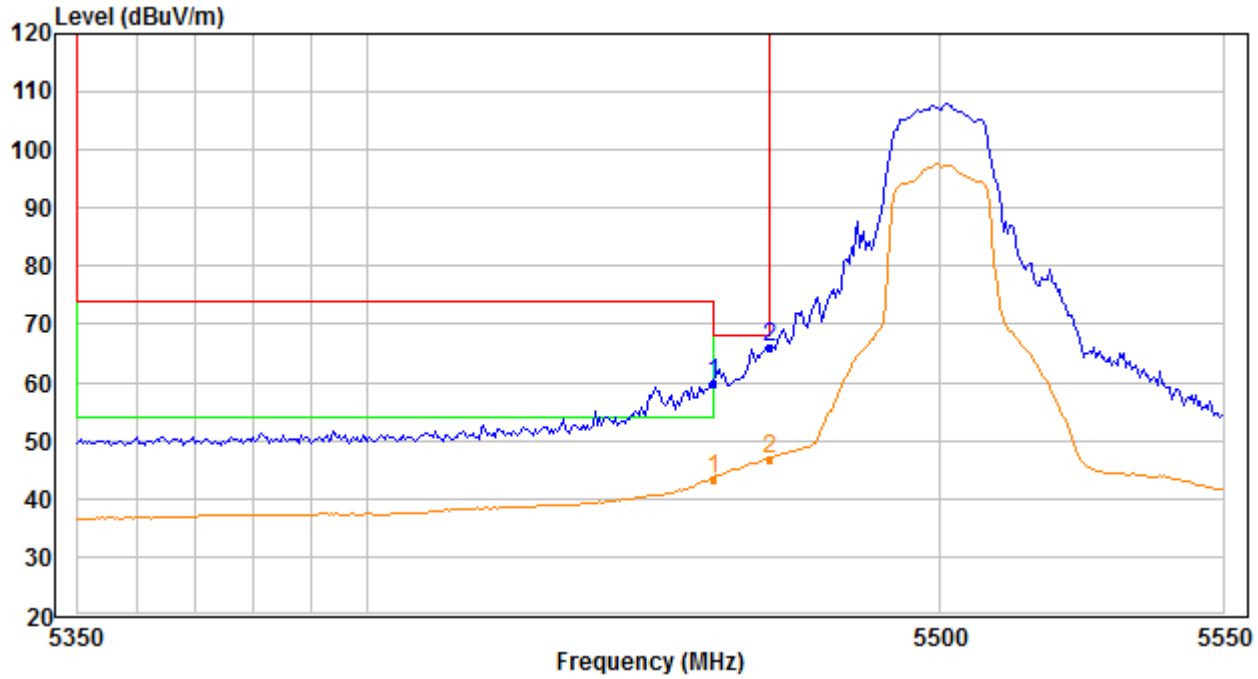
Frequency (MHz)	Peak level (dBuv/m)	Peak Limit (dBuv/m)	AV level (dBuv/m)	AV Limit (dBuv/m)	Conclusion
5350.0000	64.22	74.00	46.26	54.00	Pass

Test Channel:	Channel 100	Ant. Polar. :	Horizontal



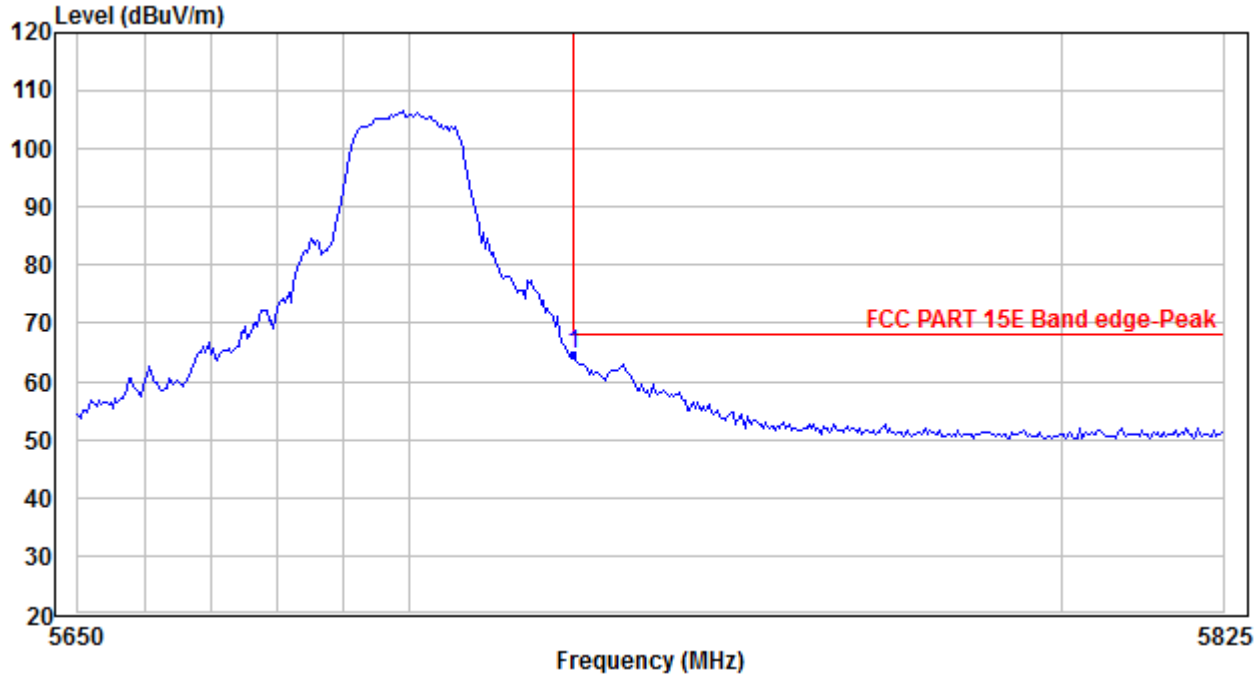
Frequency (MHz)	Peak level (dBuv/m)	Peak Limit (dBuv/m)	AV level (dBuv/m)	AV Limit (dBuv/m)	Conclusion
5460.0000	59.80	68.20	40.81	54.00	Pass
5470.0000	65.09	68.20	45.04	54.00	Pass

Test Channel:	Channel 100	Ant. Polar. :	Vertical



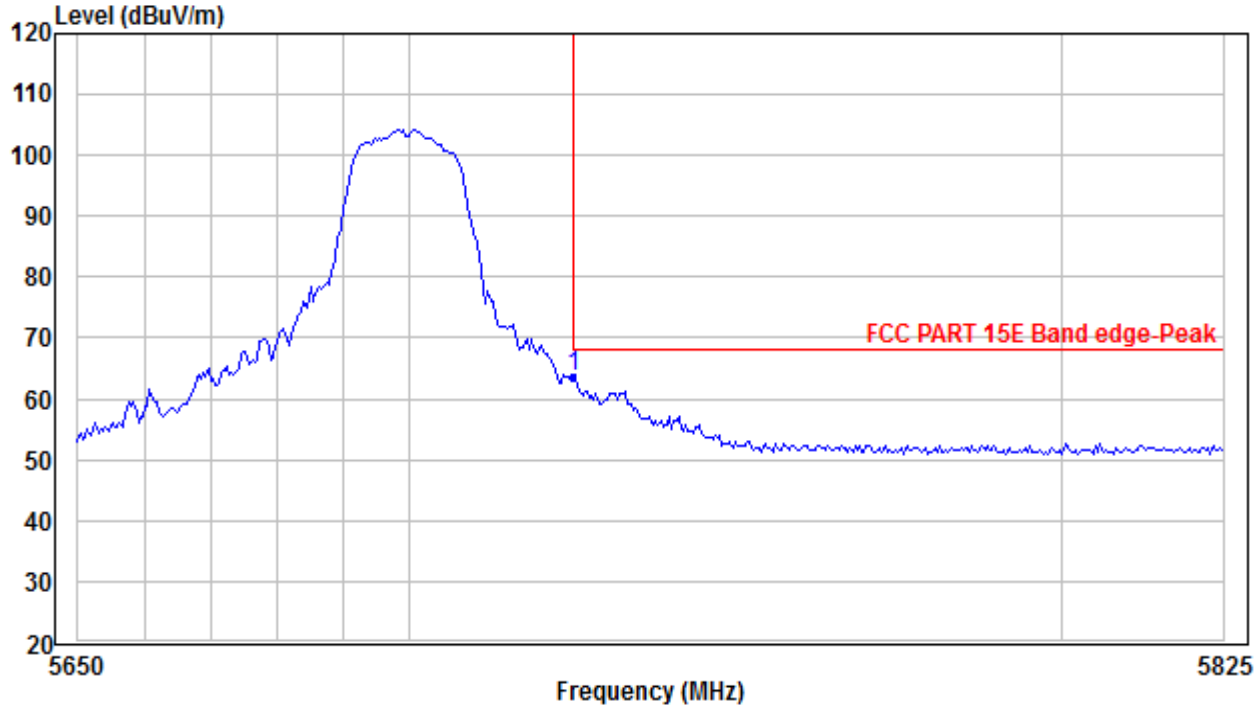
Frequency (MHz)	Peak level (dBuv/m)	Peak Limit (dBuv/m)	AV level (dBuv/m)	AV Limit (dBuv/m)	Conclusion
5460.0000	59.90	68.20	43.53	54.00	Pass
5470.0000	66.12	68.20	46.79	54.00	Pass

Test Channel:	Channel 140	Ant. Polar. :	Horizontal



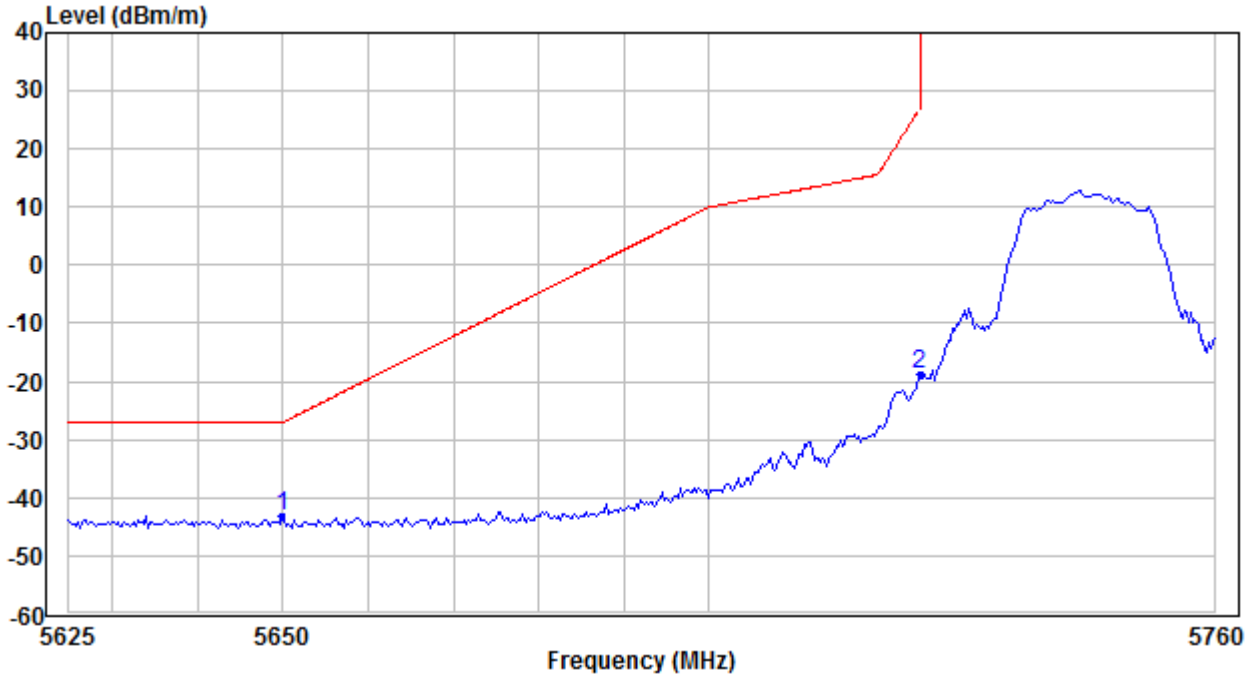
Frequency (MHz)	Peak level (dBuv/m)	Peak Limit (dBuv/m)	Conclusion
5725.0000	64.74	68.20	Pass

Test Channel:	Channel 140	Ant. Polar. :	Vertical



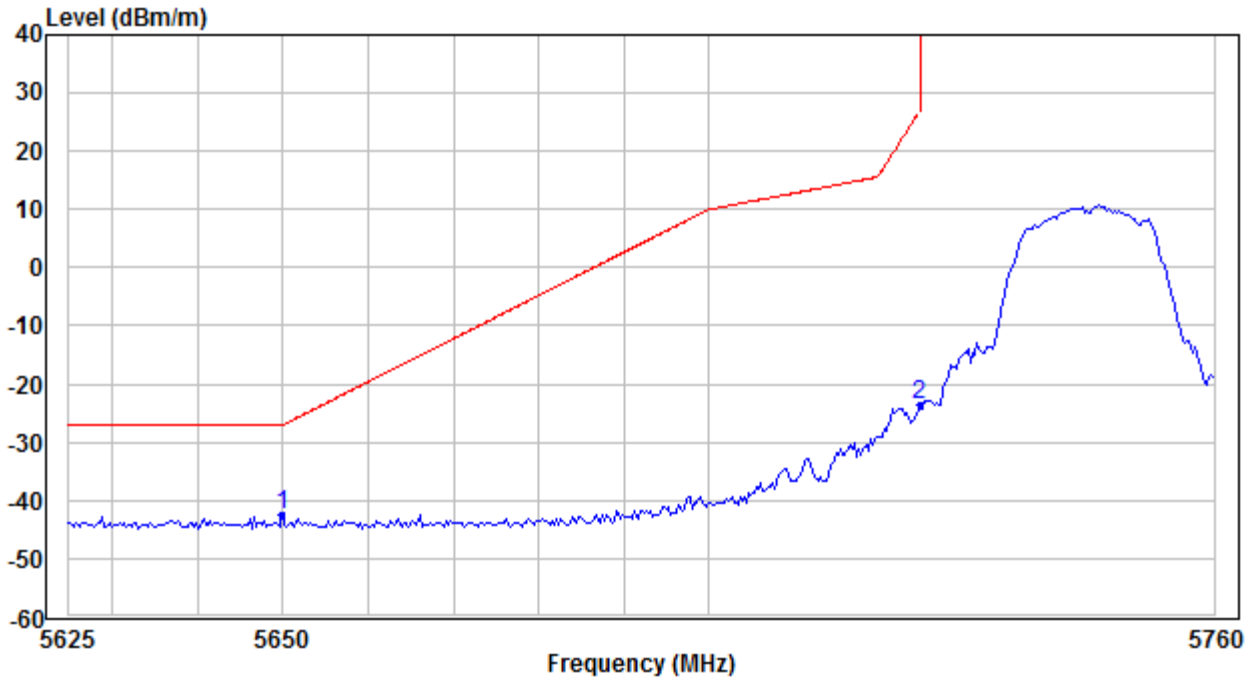
Frequency (MHz)	Peak level (dBuv/m)	Peak Limit (dBuv/m)	Conclusion
5725.0000	63.59	68.20	Pass

Test Channel:	Channel 149	Ant. Polar. :	Horizontal



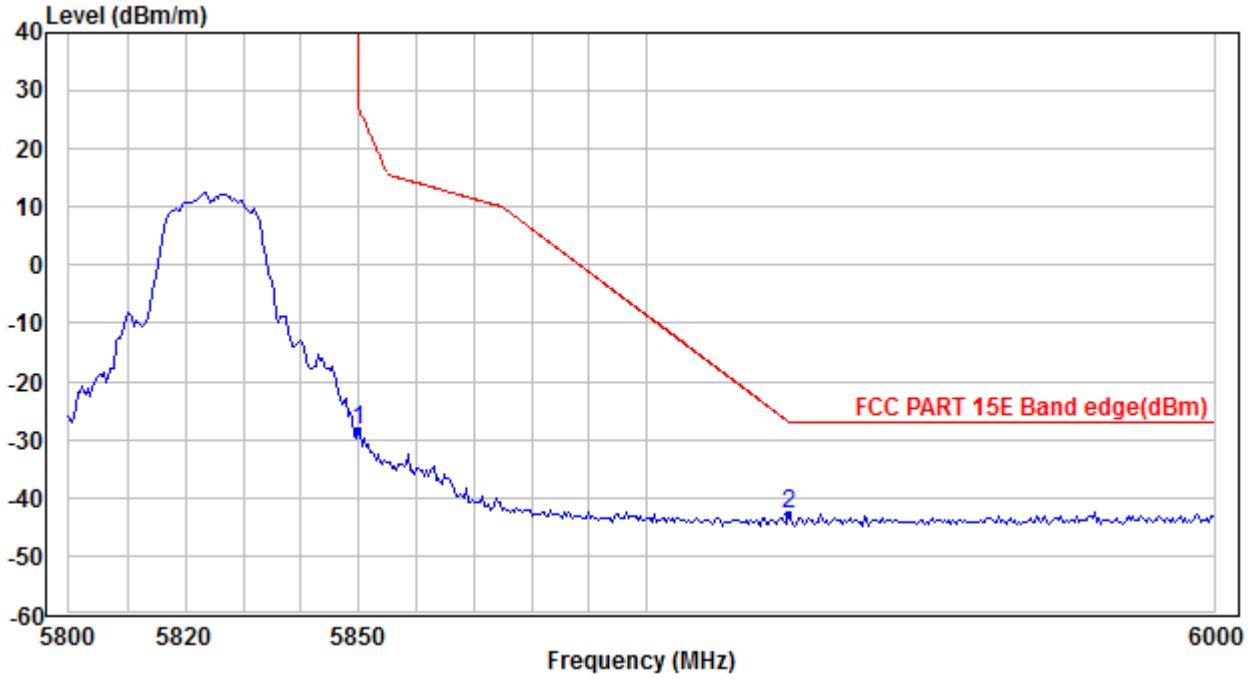
Frequency (MHz)	Peak level (dBm)	Peak Limit (dBm)	Conclusion
5650.0000	-43.06	-27.00	Pass
5725.0000	-18.64	27.00	Pass

Test Channel:	Channel 149	Ant. Polar. :	Vertical



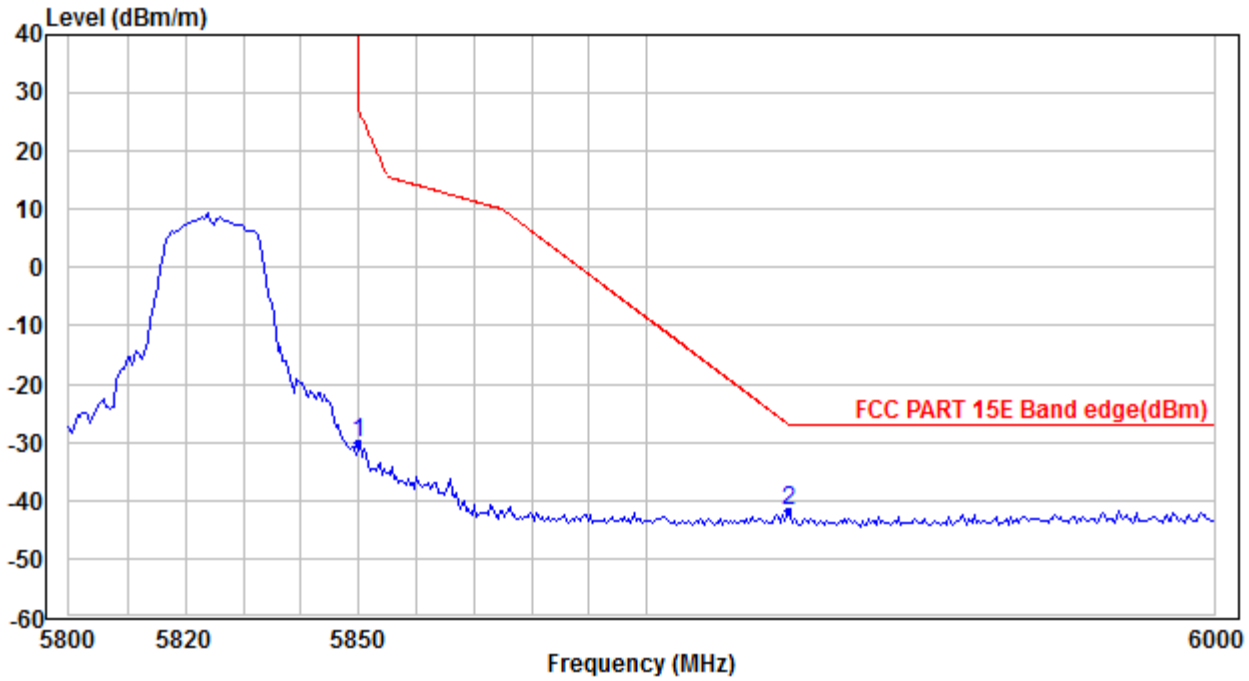
Frequency (MHz)	Peak level (dBm)	Peak Limit (dBm)	Conclusion
5650.0000	-42.48	-27.00	Pass
5725.0000	-23.44	27.00	Pass

Test Channel:	Channel 165	Ant. Polar. :	Horizontal



Frequency (MHz)	Peak level (dBm)	Peak Limit (dBm)	Conclusion
5850.0000	-28.30	27.00	Pass
5925.0000	-42.79	-27.00	Pass

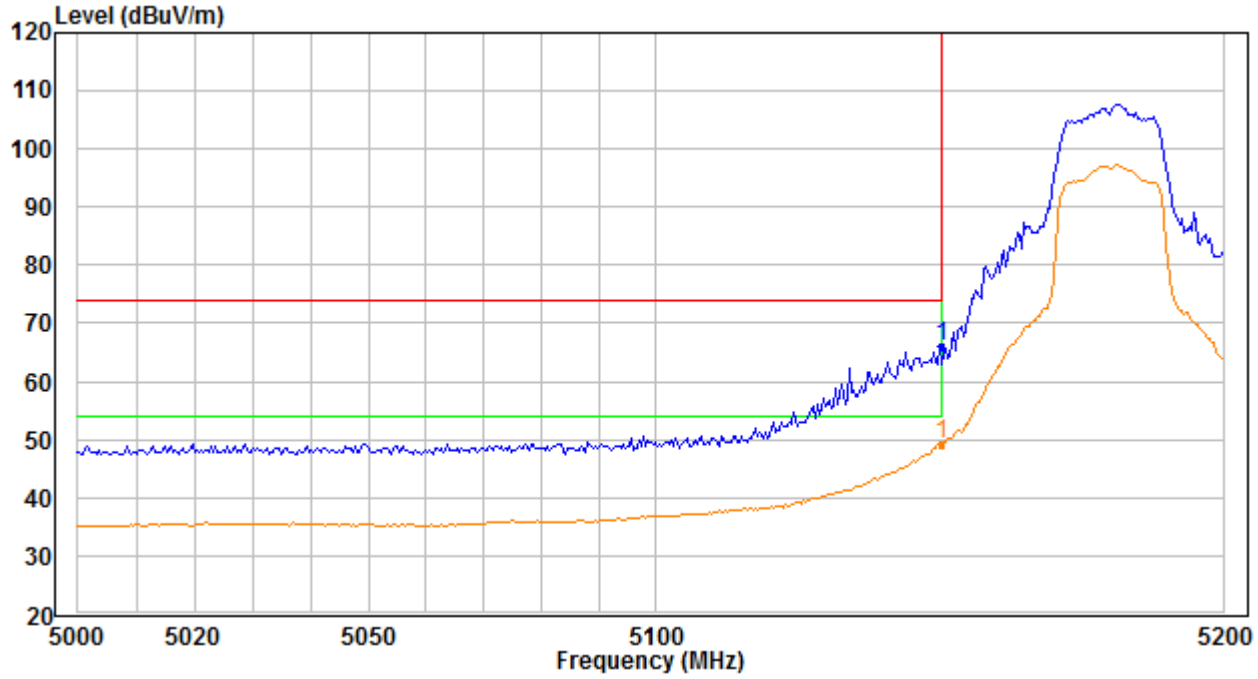
Test Channel:	Channel 165	Ant. Polar. :	Vertical



Frequency (MHz)	Peak level (dBm)	Peak Limit (dBm)	Conclusion
5850.0000	-30.16	27.00	Pass
5925.0000	-41.76	-27.00	Pass

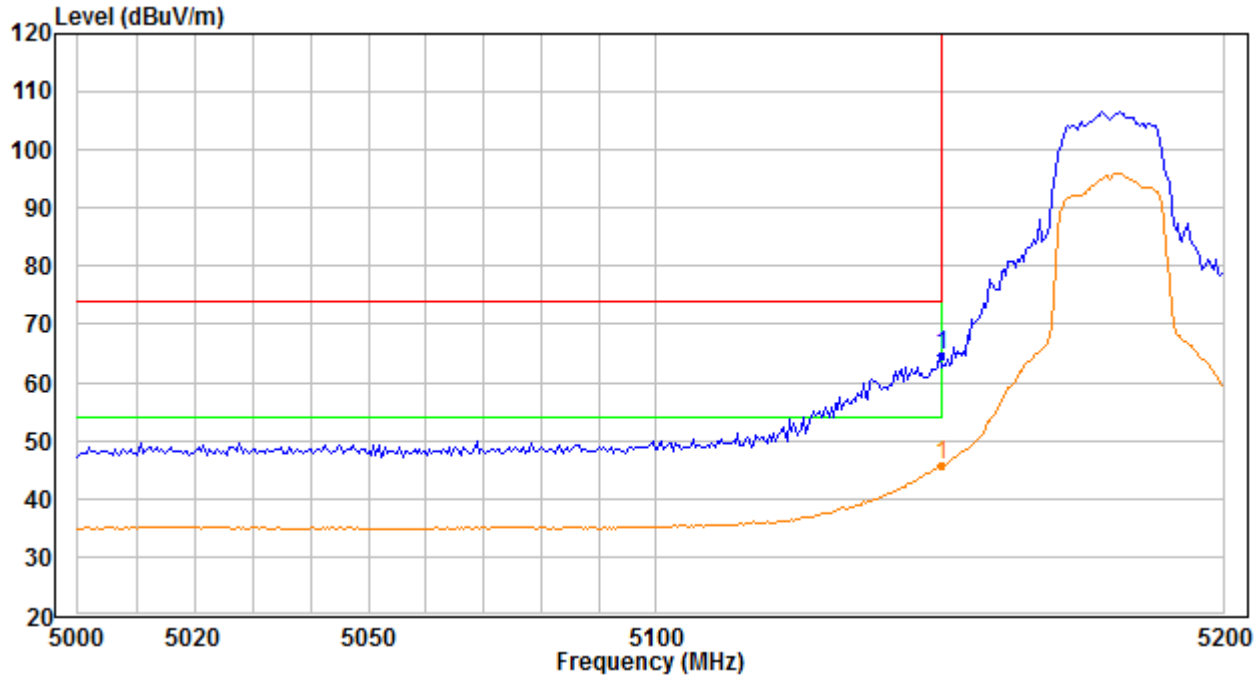
IEEE 802.11n-HT20

Test Channel:	Channel 36	Ant. Polar. :	Horizontal



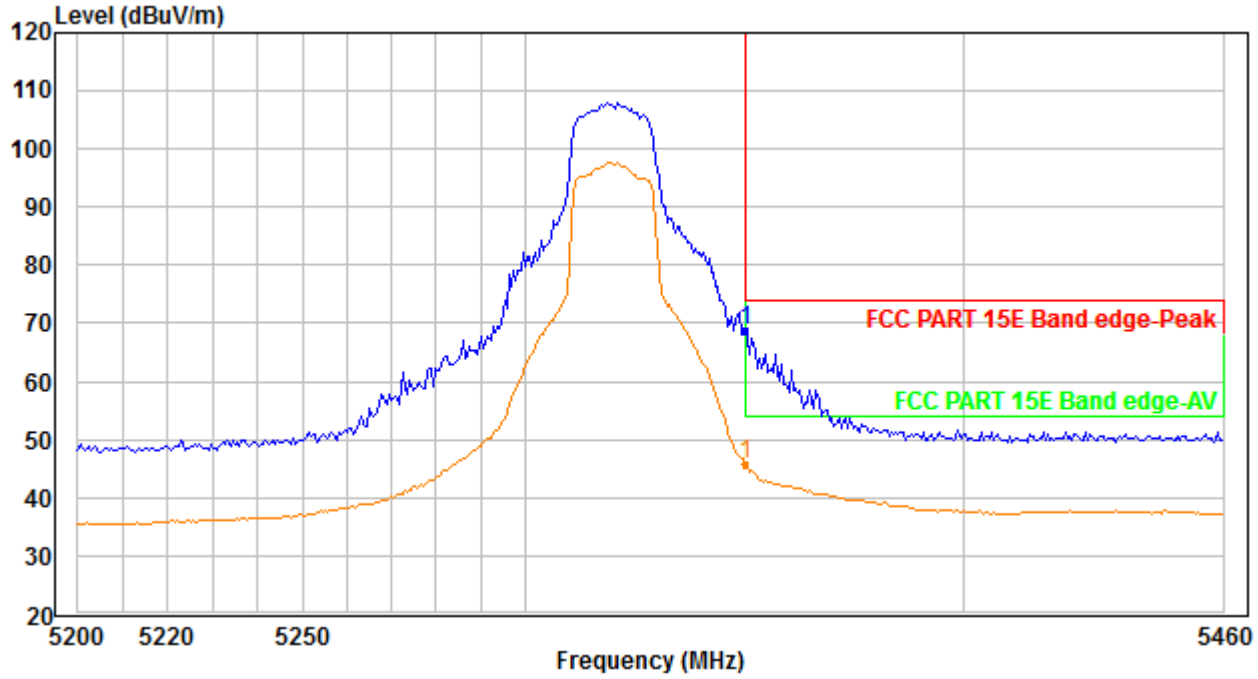
Frequency (MHz)	Peak level (dBuv/m)	Peak Limit (dBuv/m)	AV level (dBuv/m)	AV Limit (dBuv/m)	Conclusion
5150.0000	65.90	74.00	49.10	54.00	Pass

Test Channel:	Channel 36	Ant. Polar. :	Vertical



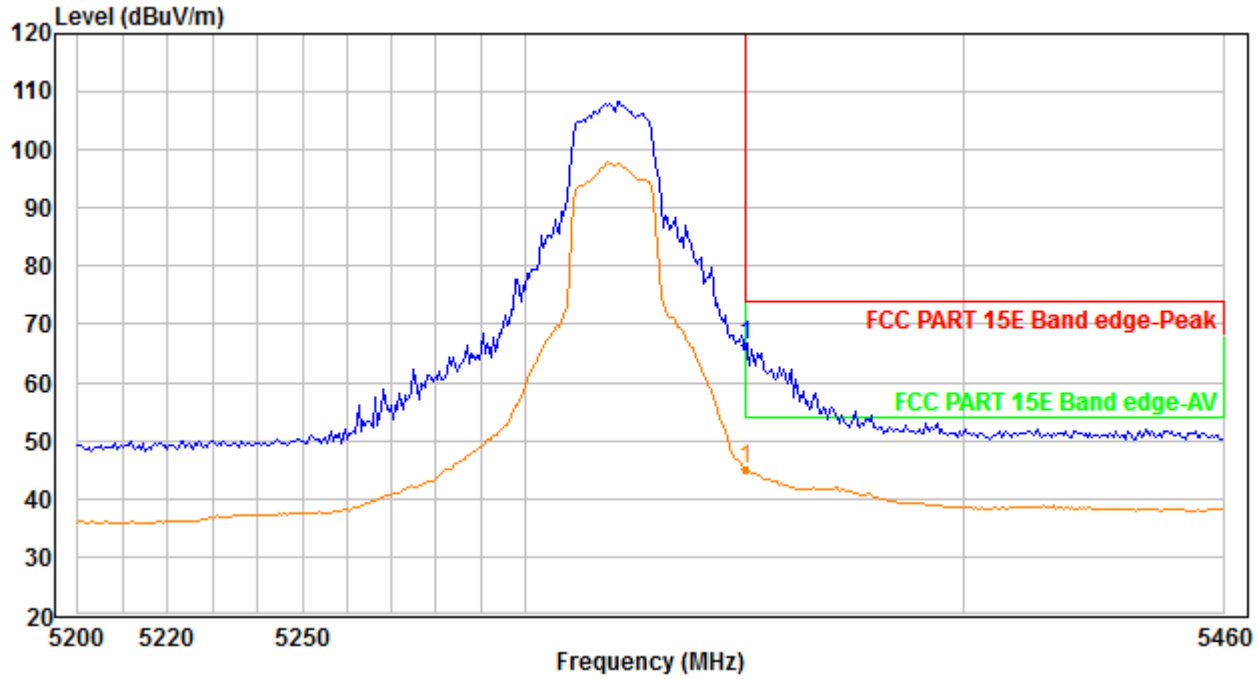
Frequency (MHz)	Peak level (dBuv/m)	Peak Limit (dBuv/m)	AV level (dBuv/m)	AV Limit (dBuv/m)	Conclusion
5150.0000	64.73	74.00	45.65	54.00	Pass

Test Channel:	Channel 64	Ant. Polar. :	Horizontal



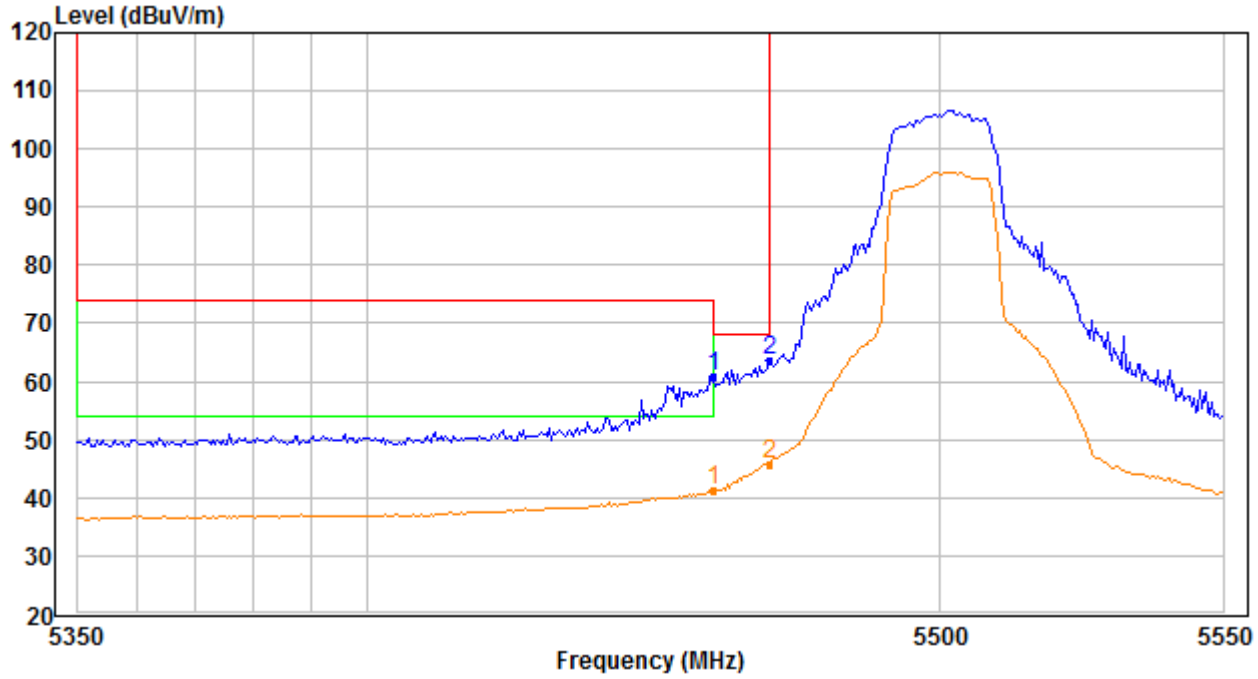
Frequency (MHz)	Peak level (dBuv/m)	Peak Limit (dBuv/m)	AV level (dBuv/m)	AV Limit (dBuv/m)	Conclusion
5350.0000	68.77	74.00	45.79	54.00	Pass

Test Channel:	Channel 64	Ant. Polar. :	Vertical



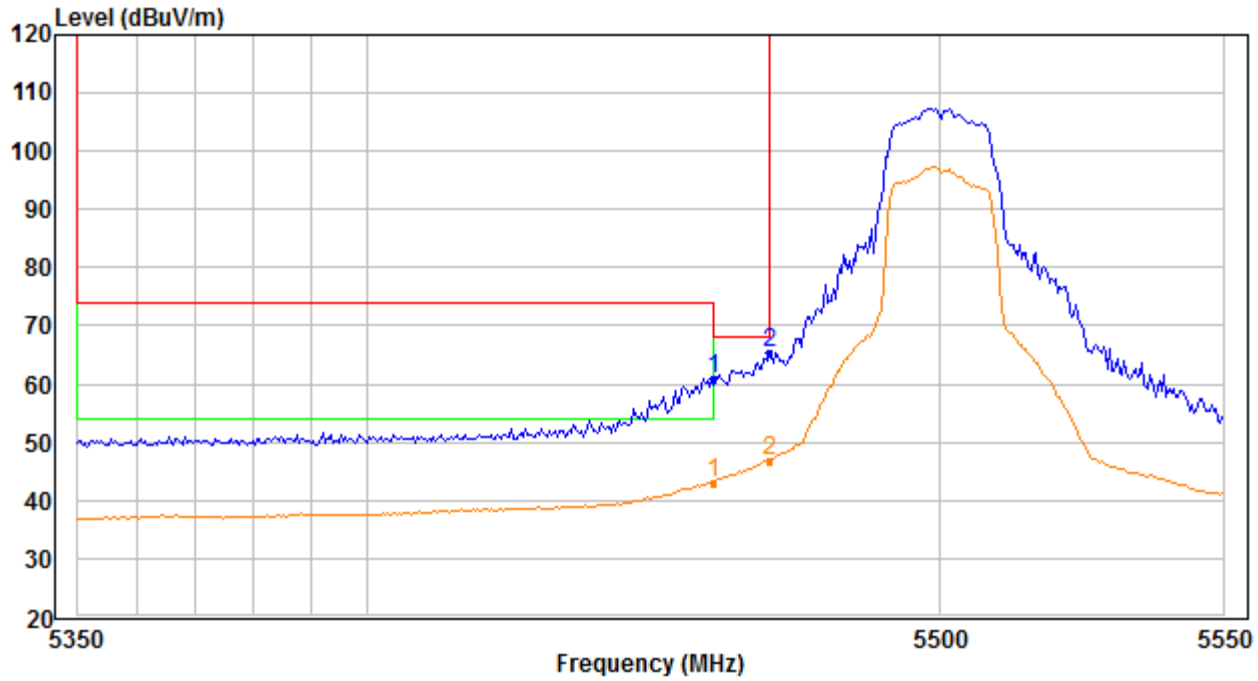
Frequency (MHz)	Peak level (dBuv/m)	Peak Limit (dBuv/m)	AV level (dBuv/m)	AV Limit (dBuv/m)	Conclusion
5350.0000	66.54	74.00	45.24	54.00	Pass

Test Channel:	Channel 100	Ant. Polar. :	Horizontal



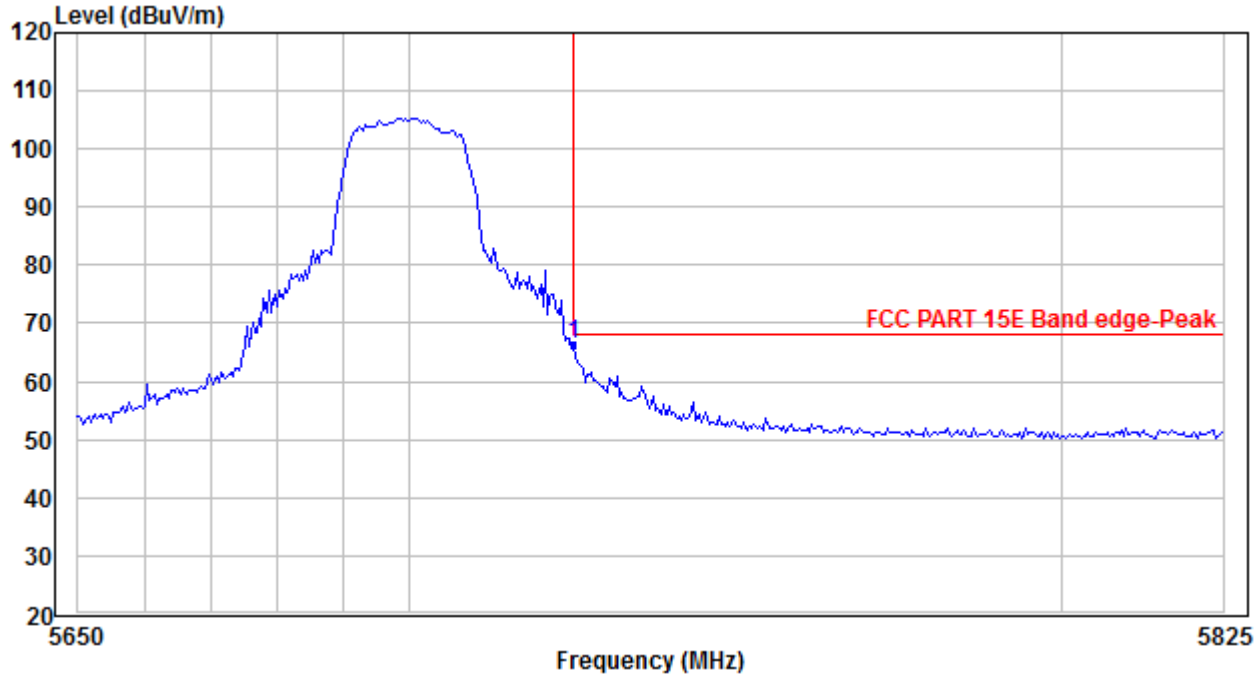
Frequency (MHz)	Peak level (dBuv/m)	Peak Limit (dBuv/m)	AV level (dBuv/m)	AV Limit (dBuv/m)	Conclusion
5460.0000	60.76	68.20	41.14	54.00	Pass
5470.0000	63.73	68.20	45.91	54.00	Pass

Test Channel:	Channel 100	Ant. Polar. :	Vertical



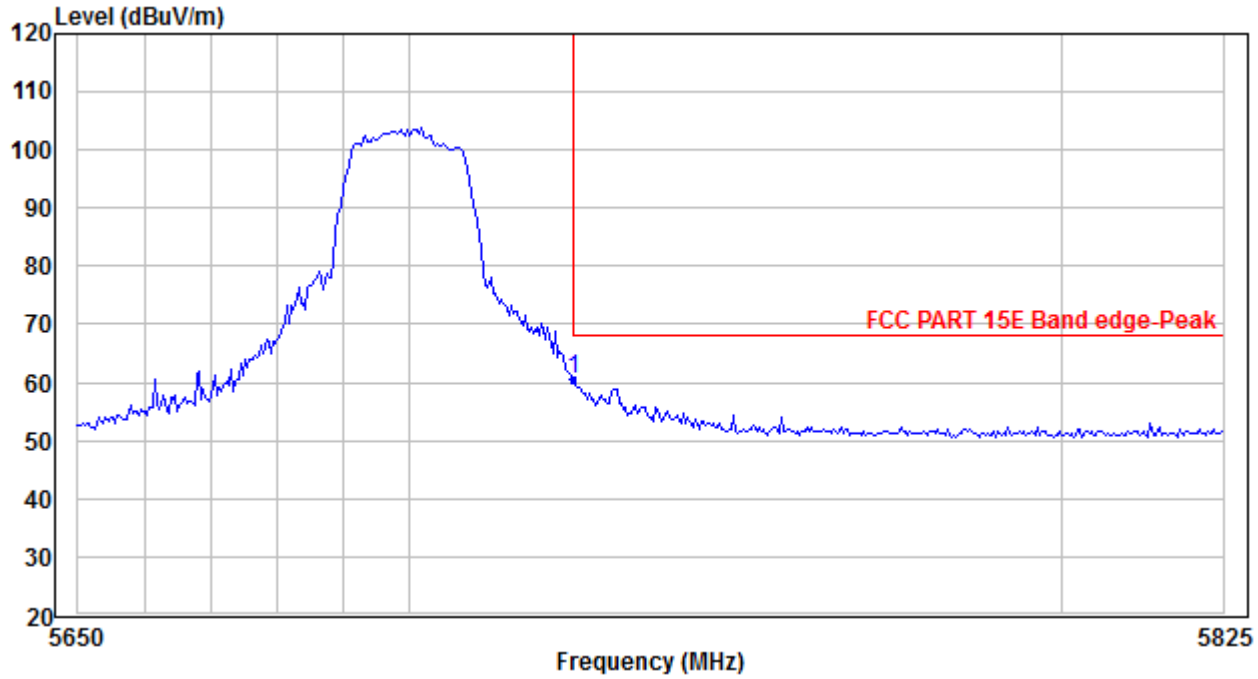
Frequency (MHz)	Peak level (dBuv/m)	Peak Limit (dBuv/m)	AV level (dBuv/m)	AV Limit (dBuv/m)	Conclusion
5460.0000	60.96	68.20	43.00	54.00	Pass
5470.0000	65.25	68.20	46.91	54.00	Pass

Test Channel:	Channel 140	Ant. Polar. :	Horizontal



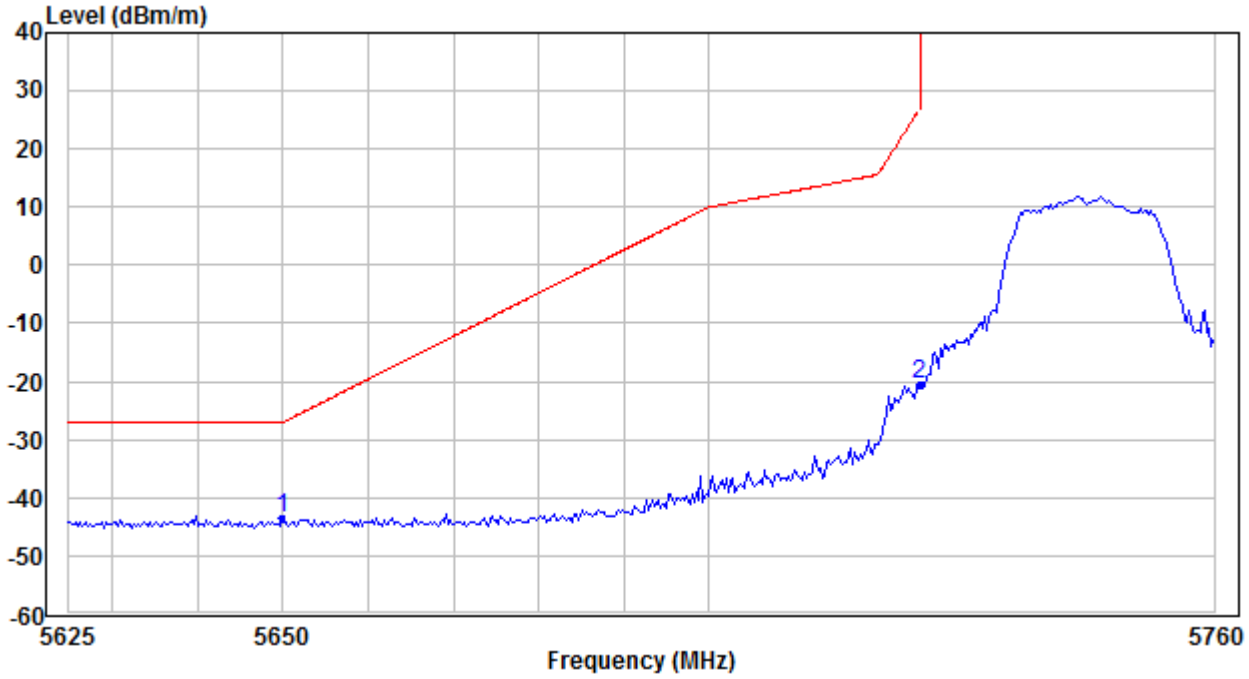
Frequency (MHz)	Peak level (dBuv/m)	Peak Limit (dBuv/m)	Conclusion
5725.0000	66.53	68.20	Pass

Test Channel:	Channel 140	Ant. Polar. :	Vertical



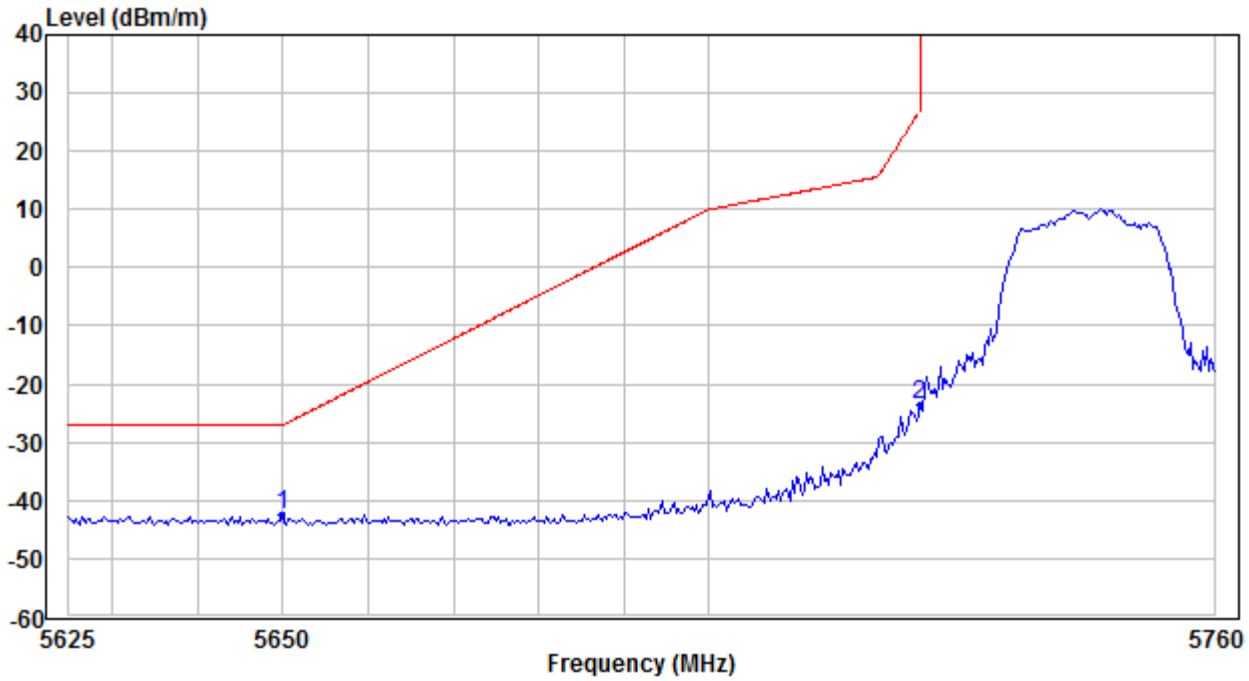
Frequency (MHz)	Peak level (dBuv/m)	Peak Limit (dBuv/m)	Conclusion
5725.0000	60.47	68.20	Pass

Test Channel:	Channel 149	Ant. Polar. :	Horizontal



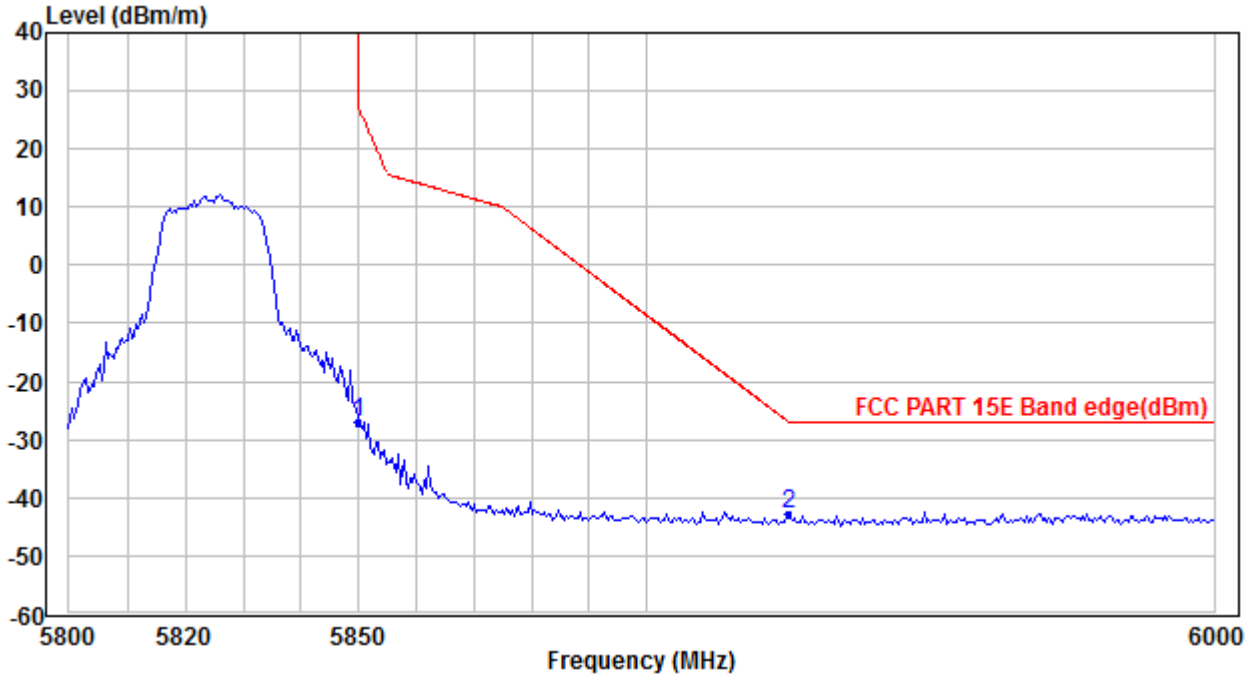
Frequency (MHz)	Peak level (dBm)	Peak Limit (dBm)	Conclusion
5650.0000	-43.44	-27.00	Pass
5725.0000	-20.33	27.00	Pass

Test Channel:	Channel 149	Ant. Polar. :	Vertical



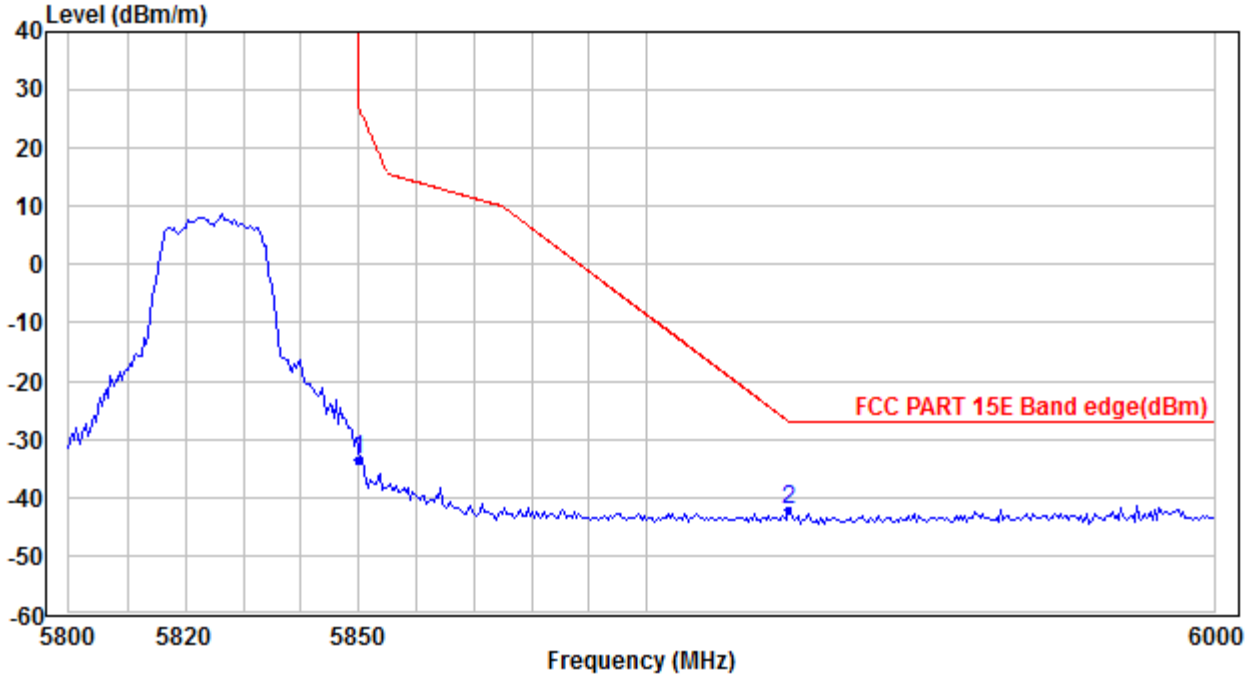
Frequency (MHz)	Peak level (dBm)	Peak Limit (dBm)	Conclusion
5650.0000	-42.46	-27.00	Pass
5725.0000	-23.64	27.00	Pass

Test Channel:	Channel 165	Ant. Polar. :	Horizontal



Frequency (MHz)	Peak level (dBm)	Peak Limit (dBm)	Conclusion
5850.0000	-26.90	27.00	Pass
5925.0000	-42.68	-27.00	Pass

Test Channel:	Channel 165	Ant. Polar. :	Vertical



Frequency (MHz)	Peak level (dBm)	Peak Limit (dBm)	Conclusion
5850.0000	-33.52	27.00	Pass
5925.0000	-42.26	-27.00	Pass

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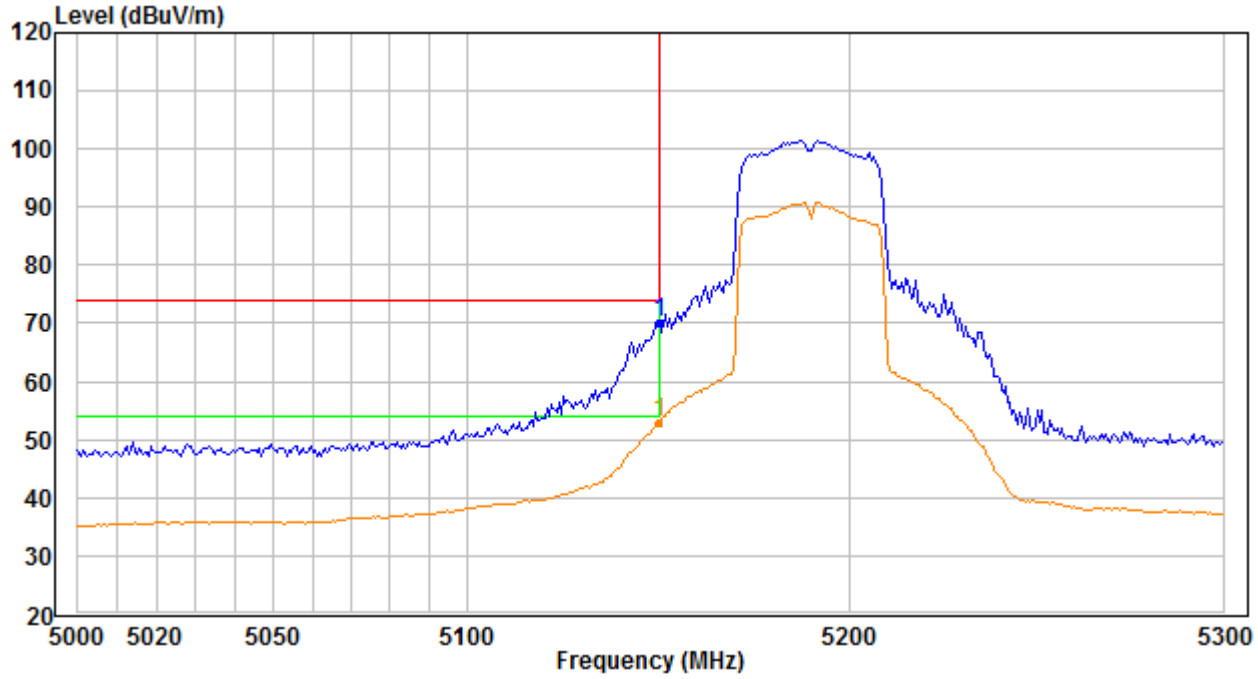
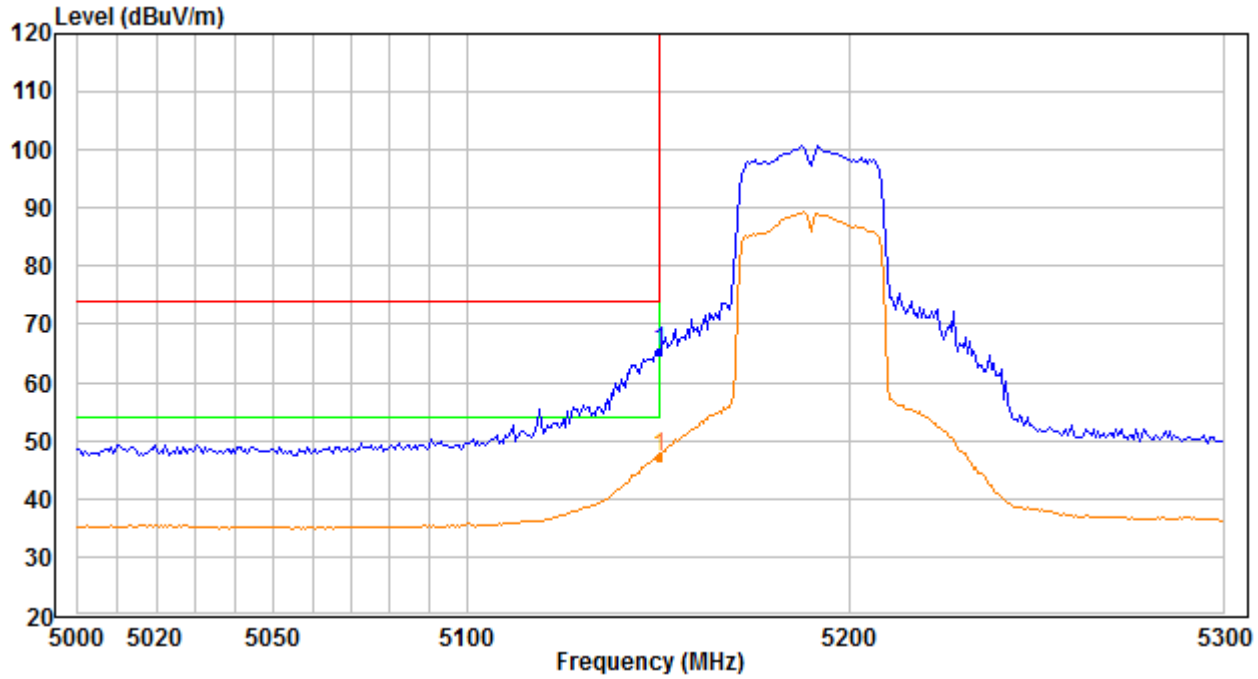
Test Channel:	Channel 38	Ant. Polar. :	Horizontal



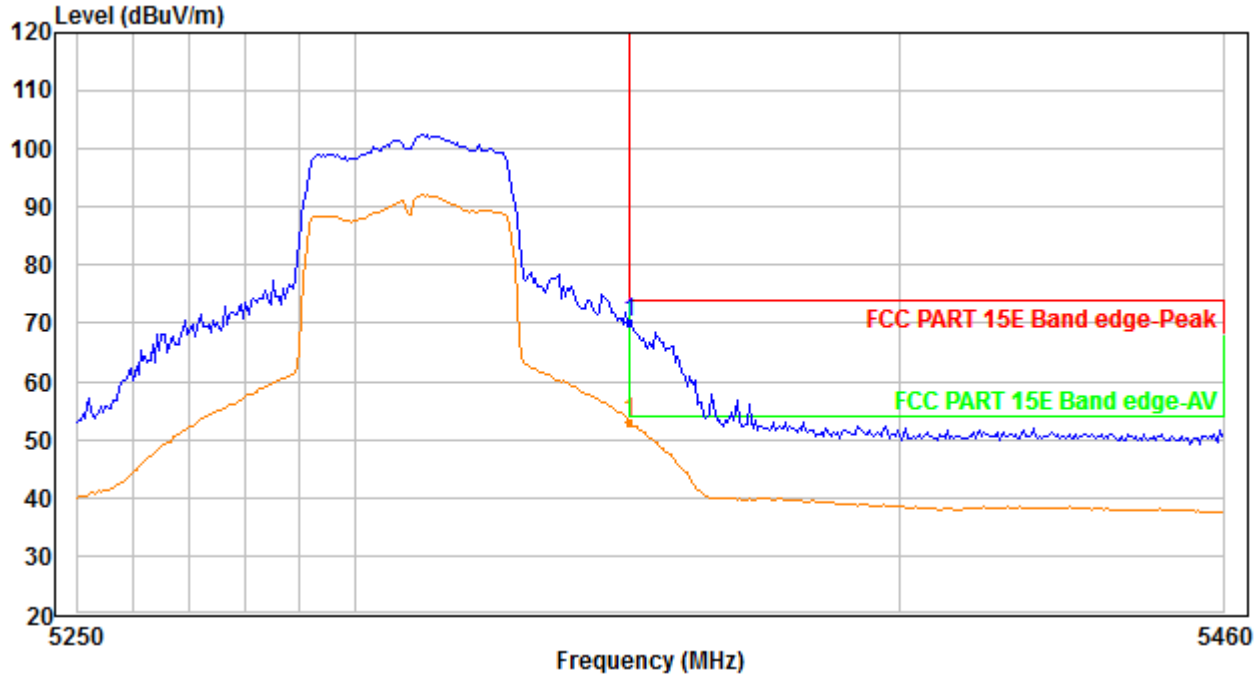
Frequency (MHz)	Peak level (dBuv/m)	Peak Limit (dBuv/m)	AV level (dBuv/m)	AV Limit (dBuv/m)	Conclusion
5150.0000	70.26	74.00	52.98	54.00	Pass

Test Channel:	Channel 38	Ant. Polar. :	Vertical



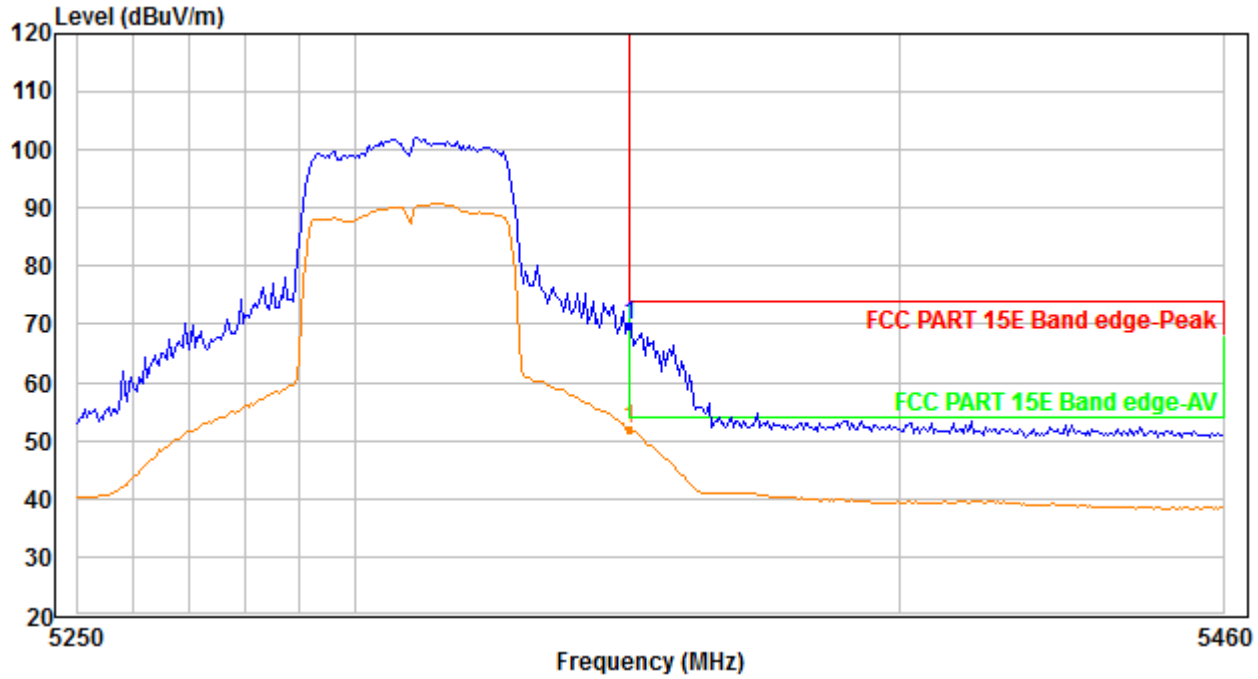
Frequency (MHz)	Peak level (dBuv/m)	Peak Limit (dBuv/m)	AV level (dBuv/m)	AV Limit (dBuv/m)	Conclusion
5150.0000	65.24	74.00	47.16	54.00	Pass

Test Channel:	Channel 62	Ant. Polar. :	Horizontal



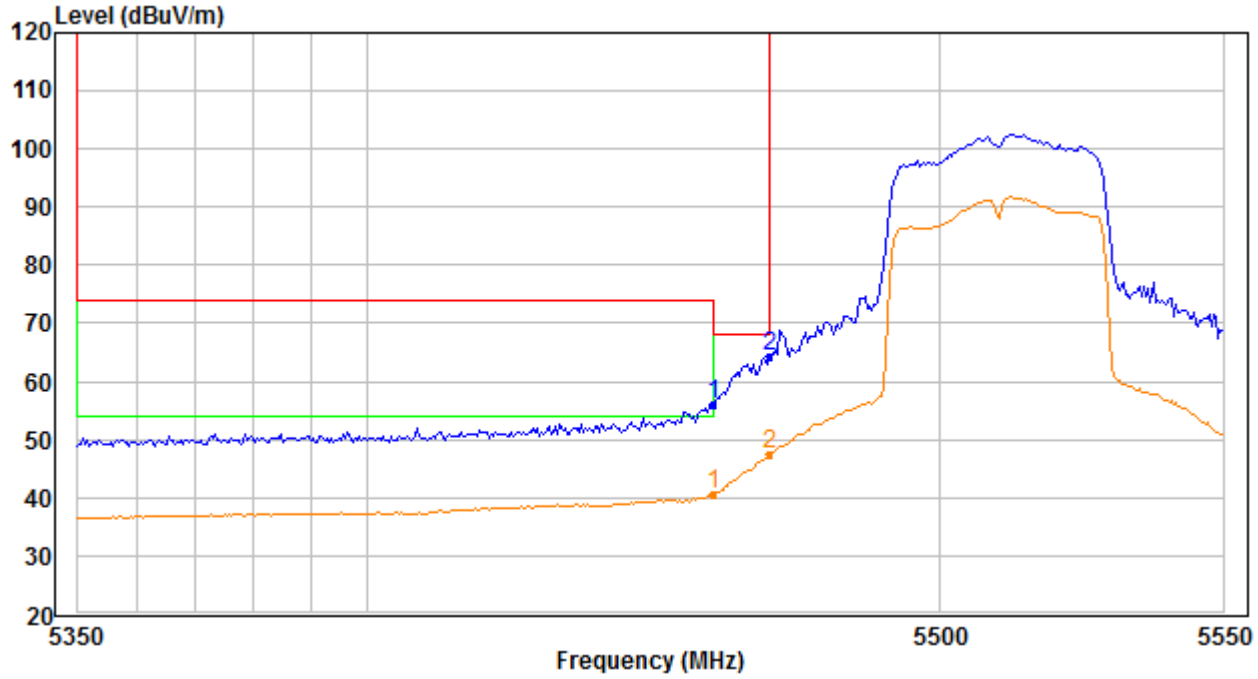
Frequency (MHz)	Peak level (dBuv/m)	Peak Limit (dBuv/m)	AV level (dBuv/m)	AV Limit (dBuv/m)	Conclusion
5350.0000	70.17	74.00	53.12	54.00	Pass

Test Channel:	Channel 62	Ant. Polar. :	Vertical



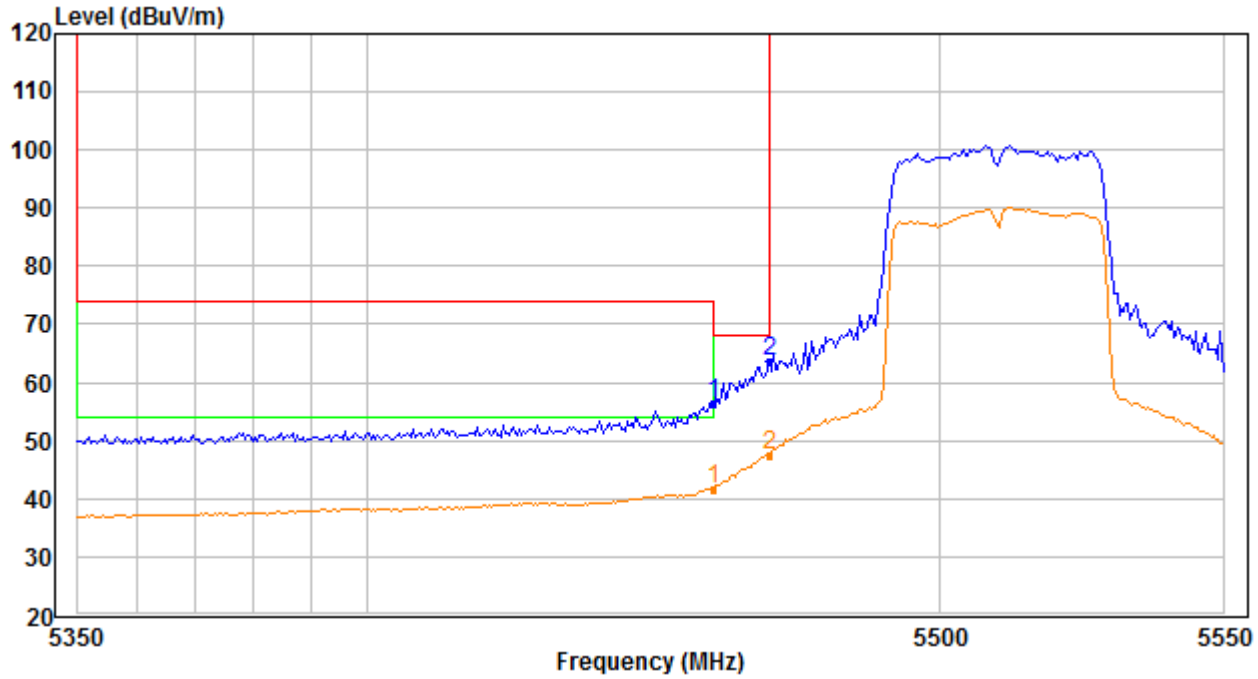
Frequency (MHz)	Peak level (dBuv/m)	Peak Limit (dBuv/m)	AV level (dBuv/m)	AV Limit (dBuv/m)	Conclusion
5350.0000	69.79	74.00	51.96	54.00	Pass

Test Channel:	Channel 102	Ant. Polar. :	Horizontal



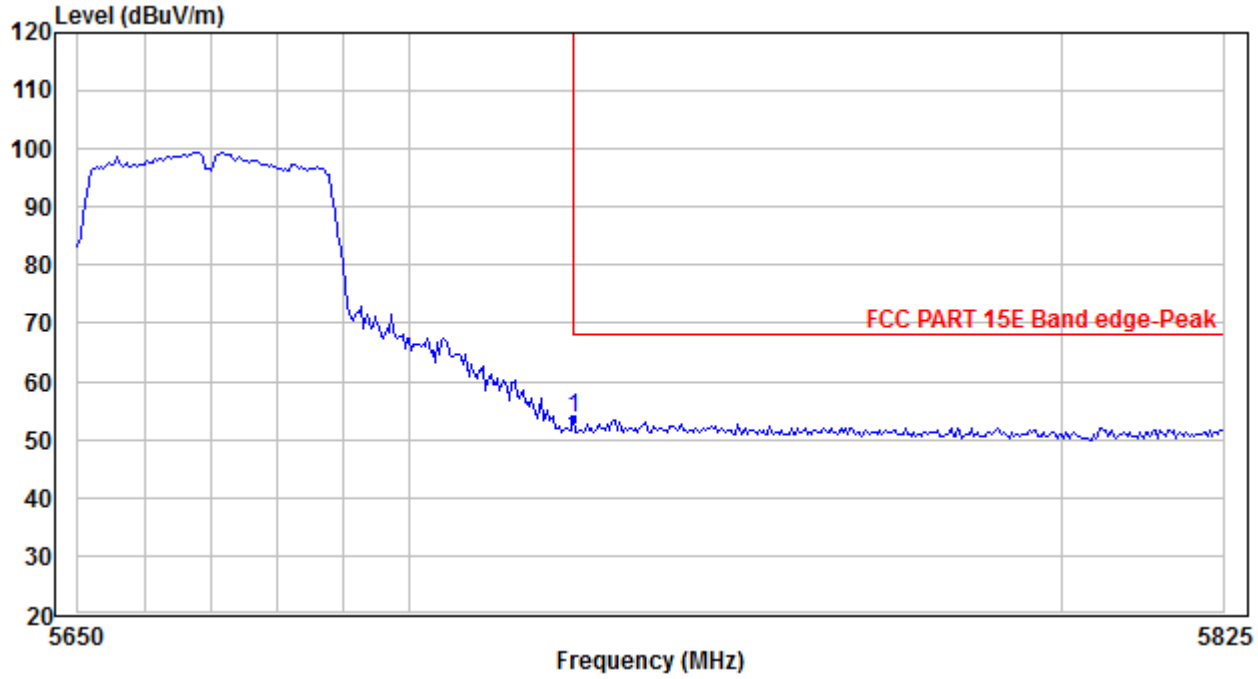
Frequency (MHz)	Peak level (dBuv/m)	Peak Limit (dBuv/m)	AV level (dBuv/m)	AV Limit (dBuv/m)	Conclusion
5460.0000	56.07	68.20	40.46	54.00	Pass
5470.0000	64.40	68.20	47.40	54.00	Pass

Test Channel:	Channel 102	Ant. Polar. :	Vertical



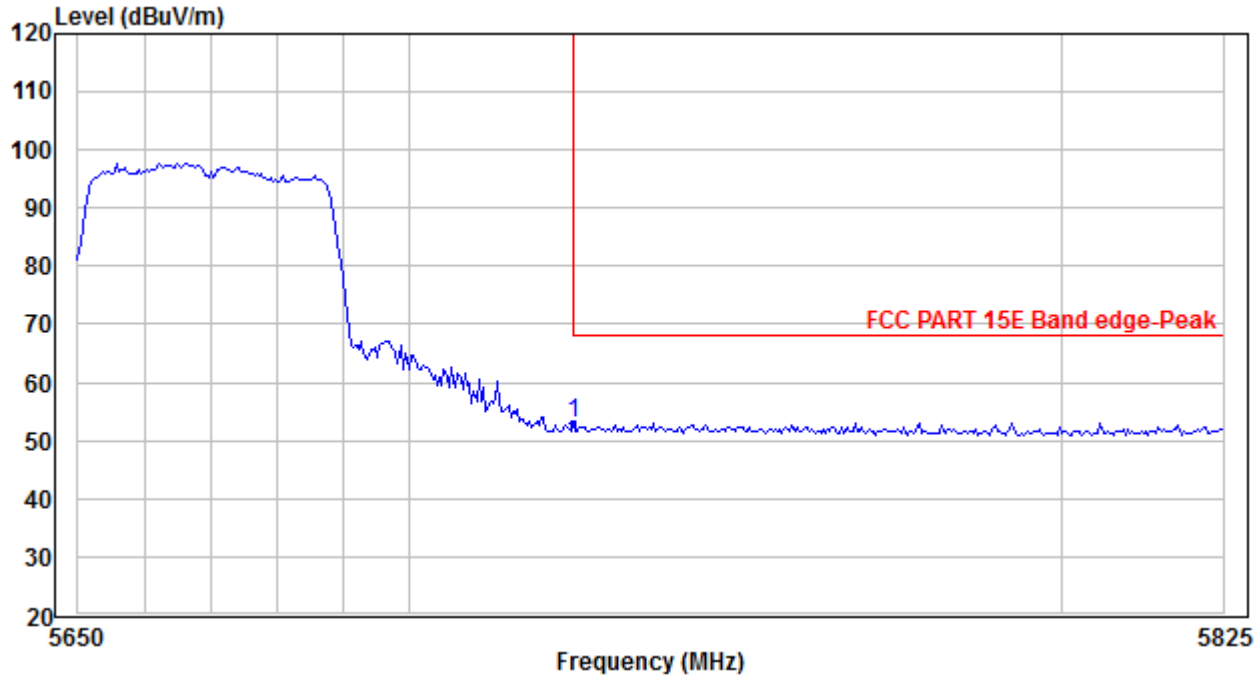
Frequency (MHz)	Peak level (dBuv/m)	Peak Limit (dBuv/m)	AV level (dBuv/m)	AV Limit (dBuv/m)	Conclusion
5460.0000	56.51	68.20	41.59	54.00	Pass
5470.0000	63.55	68.20	47.44	54.00	Pass

Test Channel:	Channel 134	Ant. Polar. :	Horizontal



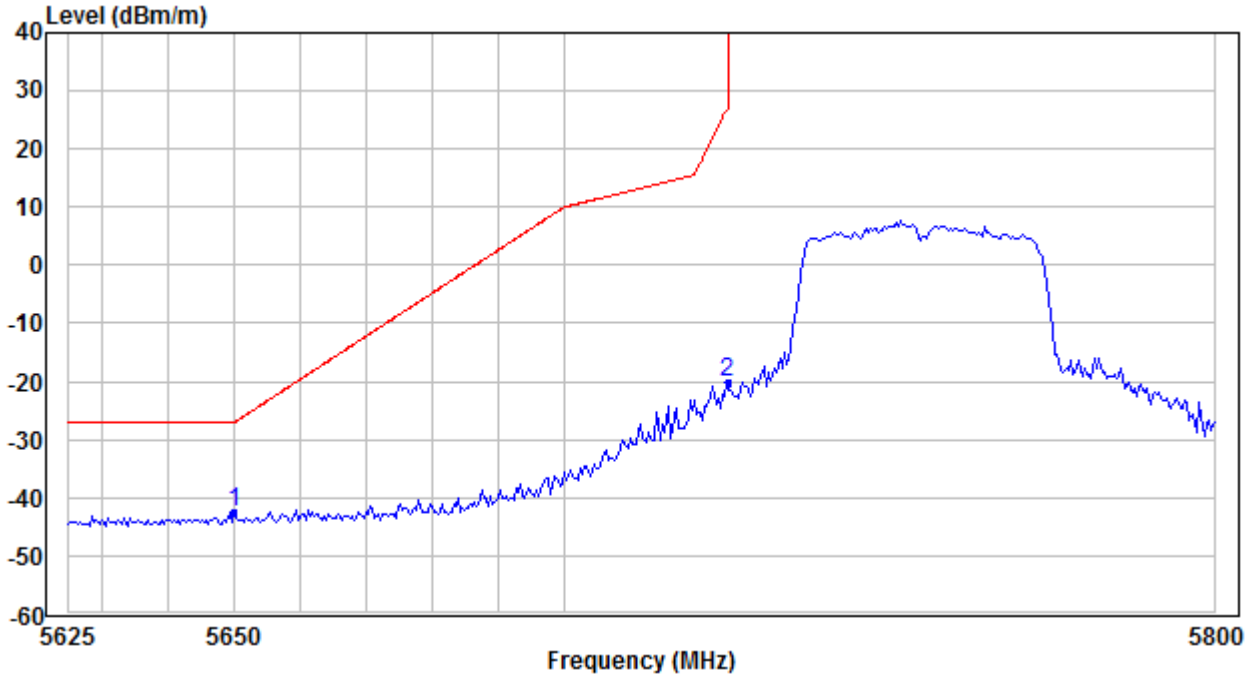
Frequency (MHz)	Peak level (dBuv/m)	Peak Limit (dBuv/m)	Conclusion
5725.0000	53.58	68.20	Pass

Test Channel:	Channel 134	Ant. Polar. :	Vertical



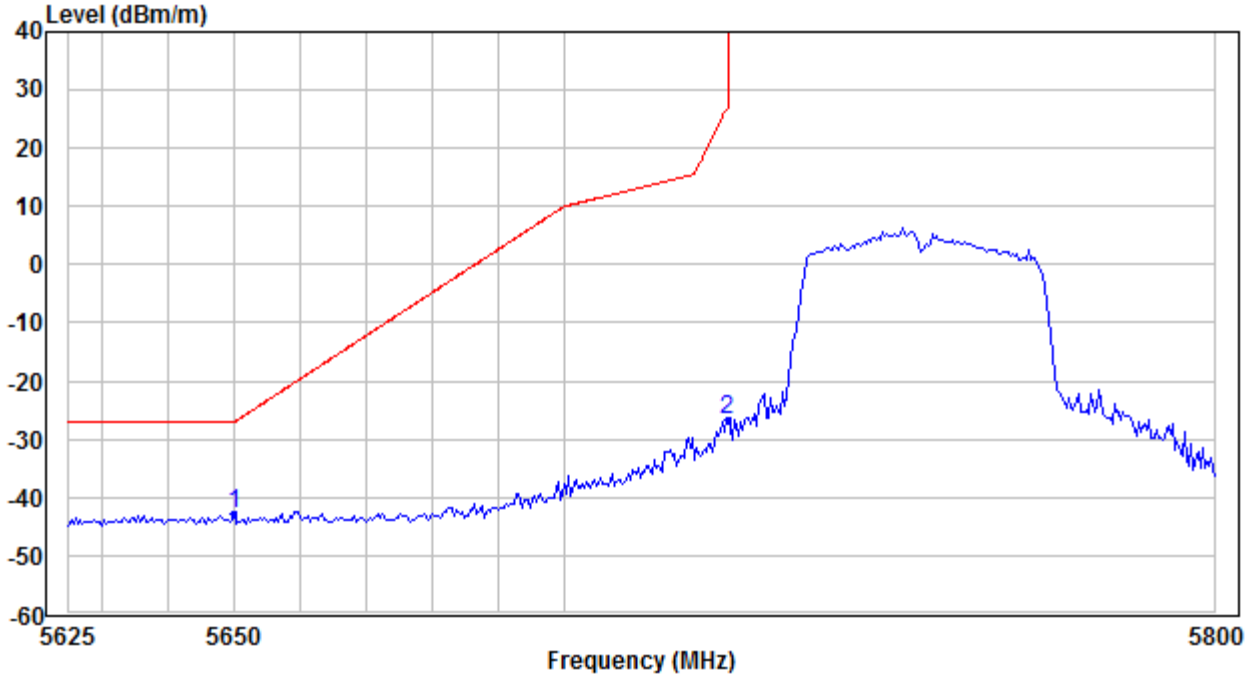
Frequency (MHz)	Peak level (dBuv/m)	Peak Limit (dBuv/m)	Conclusion
5725.0000	52.93	68.20	Pass

Test Channel:	Channel 151	Ant. Polar. :	Horizontal



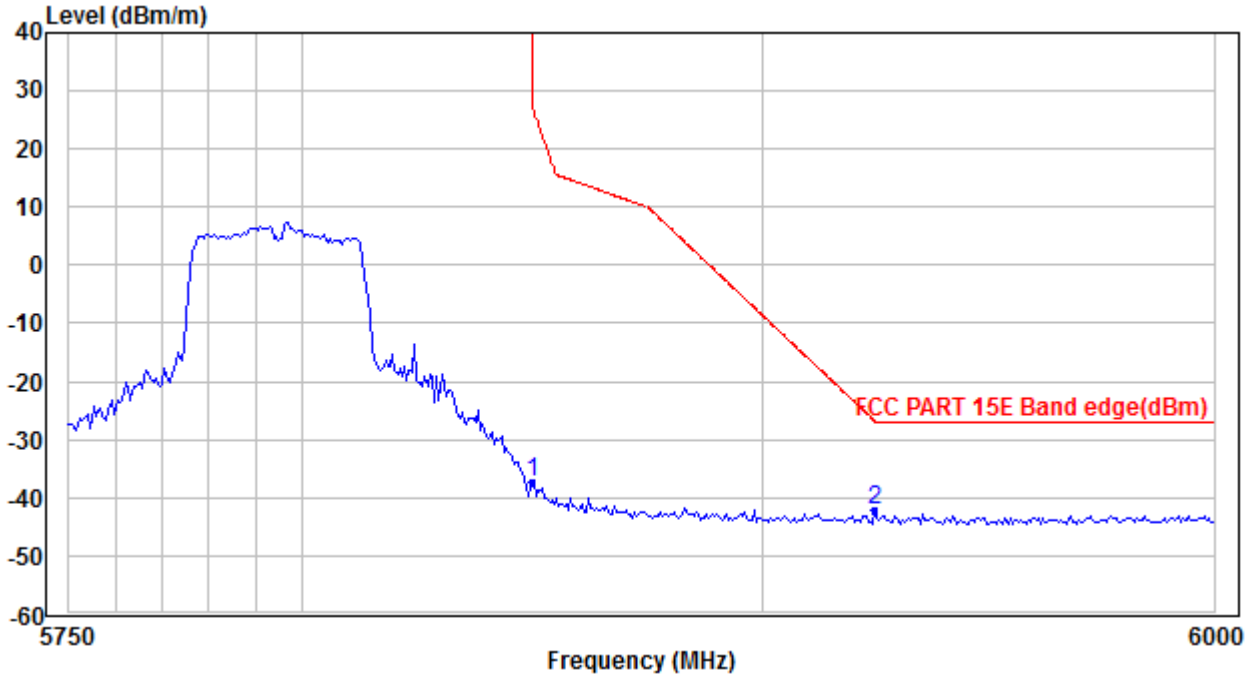
Frequency (MHz)	Peak level (dBm)	Peak Limit (dBm)	Conclusion
5650.0000	-42.38	-27.00	Pass
5725.0000	-20.26	27.00	Pass

Test Channel:	Channel 151	Ant. Polar. :	Vertical



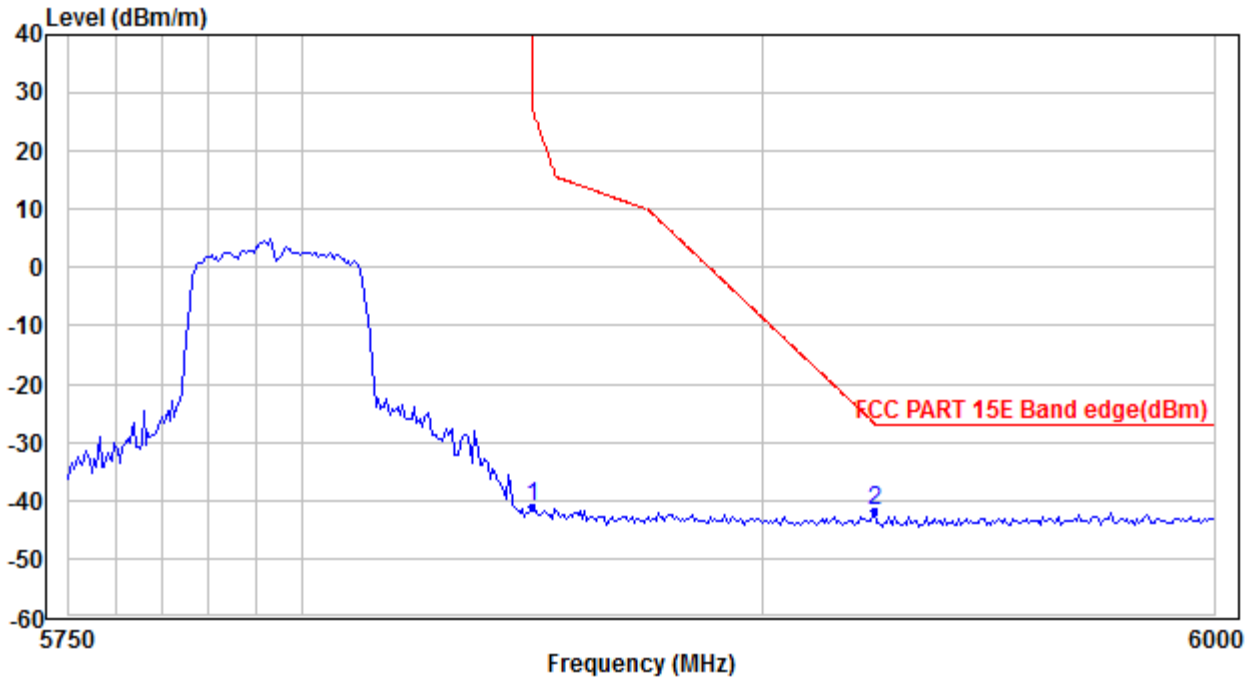
Frequency (MHz)	Peak level (dBm)	Peak Limit (dBm)	Conclusion
5650.0000	-42.83	-27.00	Pass
5725.0000	26.75	27.00	Pass

Test Channel:	Channel 159	Ant. Polar. :	Horizontal



Frequency (MHz)	Peak level (dBm)	Peak Limit (dBm)	Conclusion
5850.00	-37.35	27.00	Pass
5925.00	-41.96	-27.00	Pass

Test Channel:	Channel 159	Ant. Polar. :	Vertical



Frequency (MHz)	Peak level (dBm)	Peak Limit (dBm)	Conclusion
5850.00	-41.08	27.00	Pass
5925.00	-41.94	-27.00	Pass

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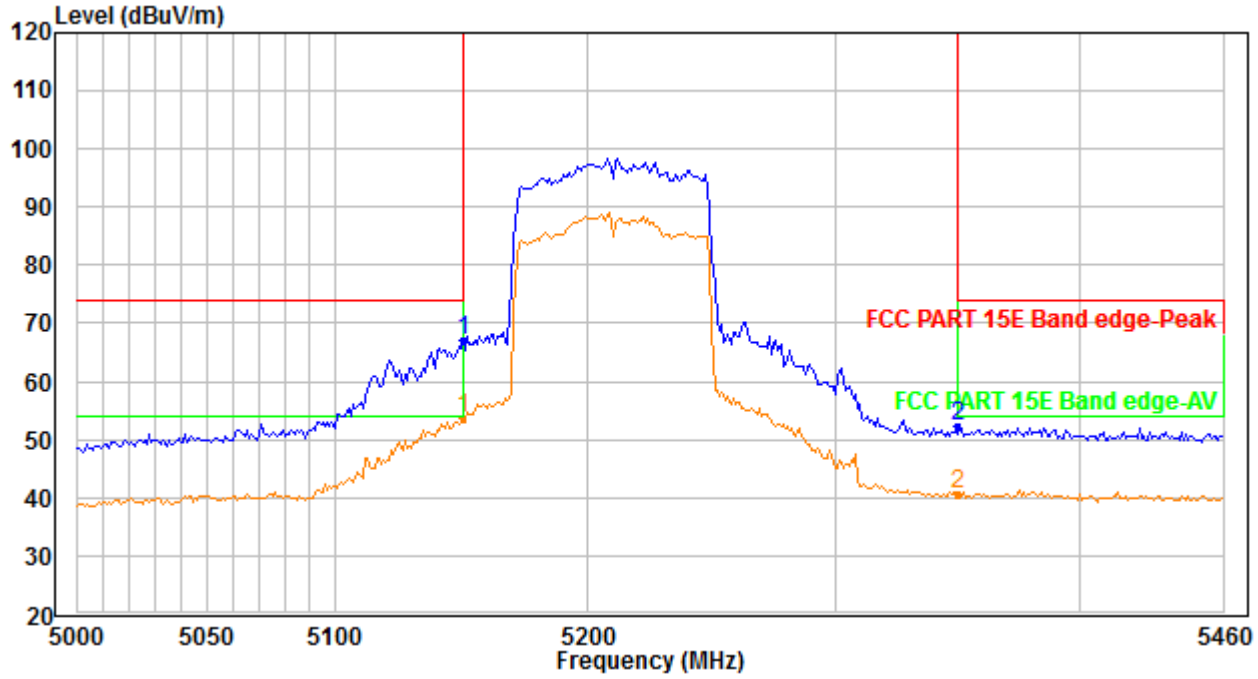
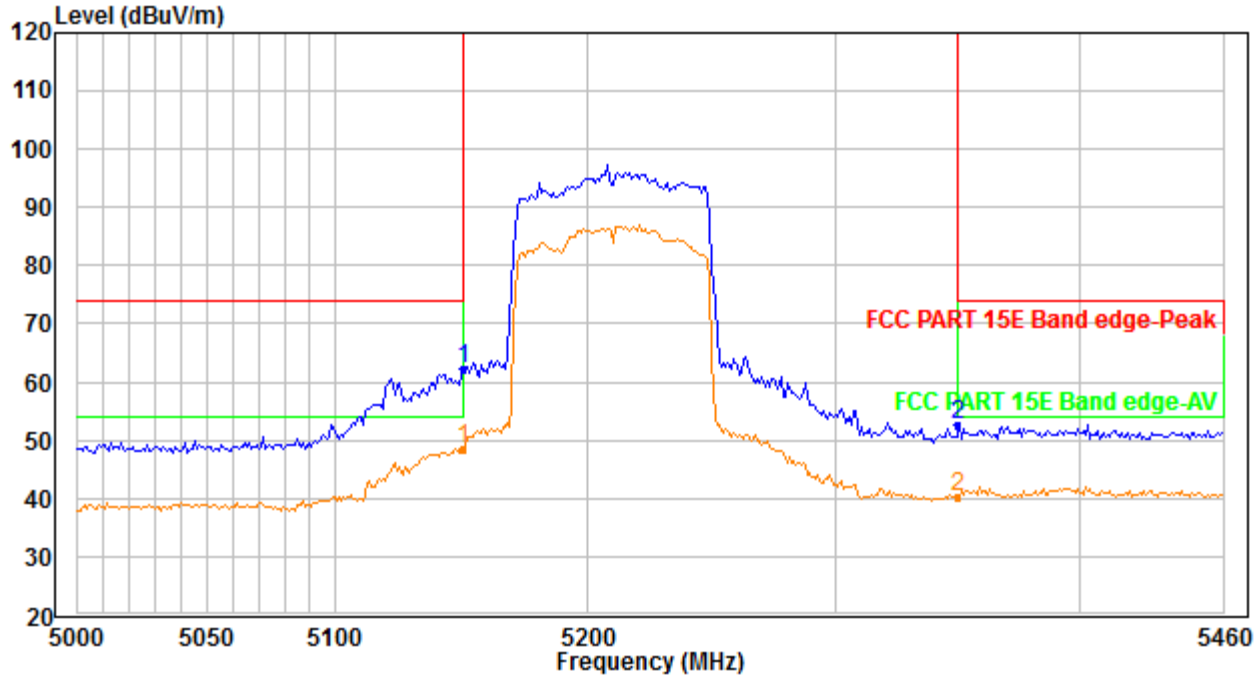
Test Channel:	Channel 42	Ant. Polar. :	Horizontal



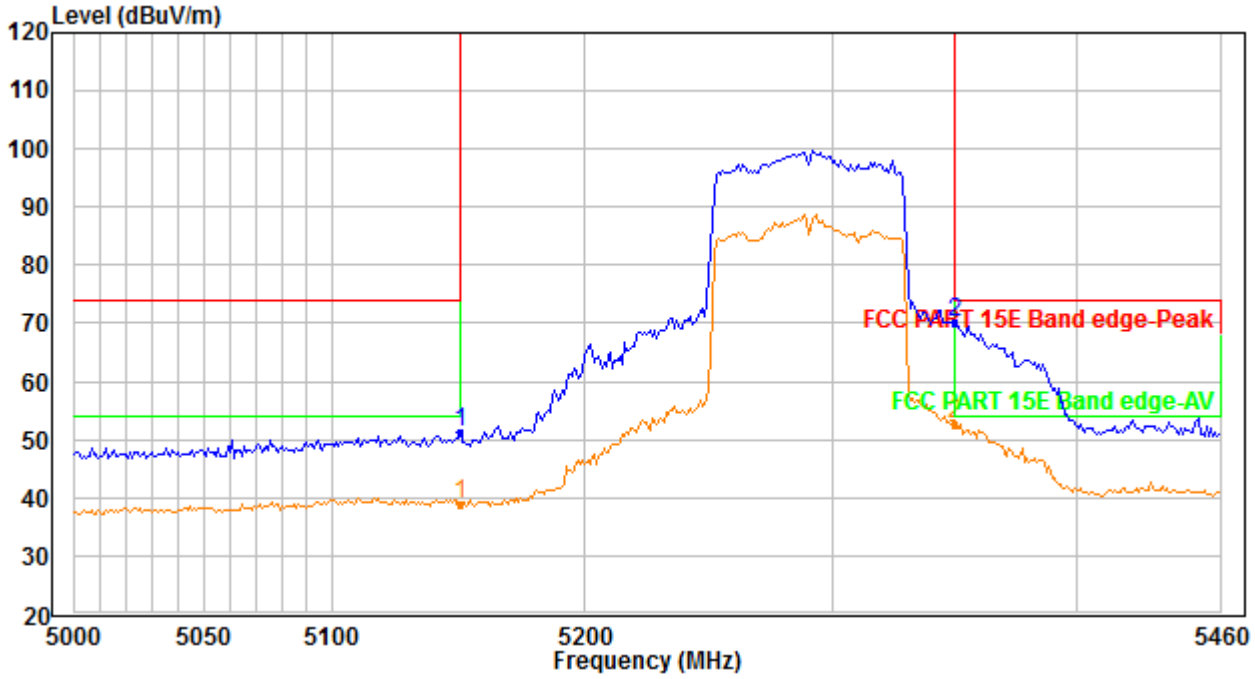
Frequency (MHz)	Peak level (dBuv/m)	Peak Limit (dBuv/m)	AV level (dBuv/m)	AV Limit (dBuv/m)	Conclusion
5150.0000	67.14	74.00	53.64	54.00	Pass
5350.0000	52.34	74.00	40.60	54.00	Pass

Test Channel:	Channel 42	Ant. Polar. :	Vertical



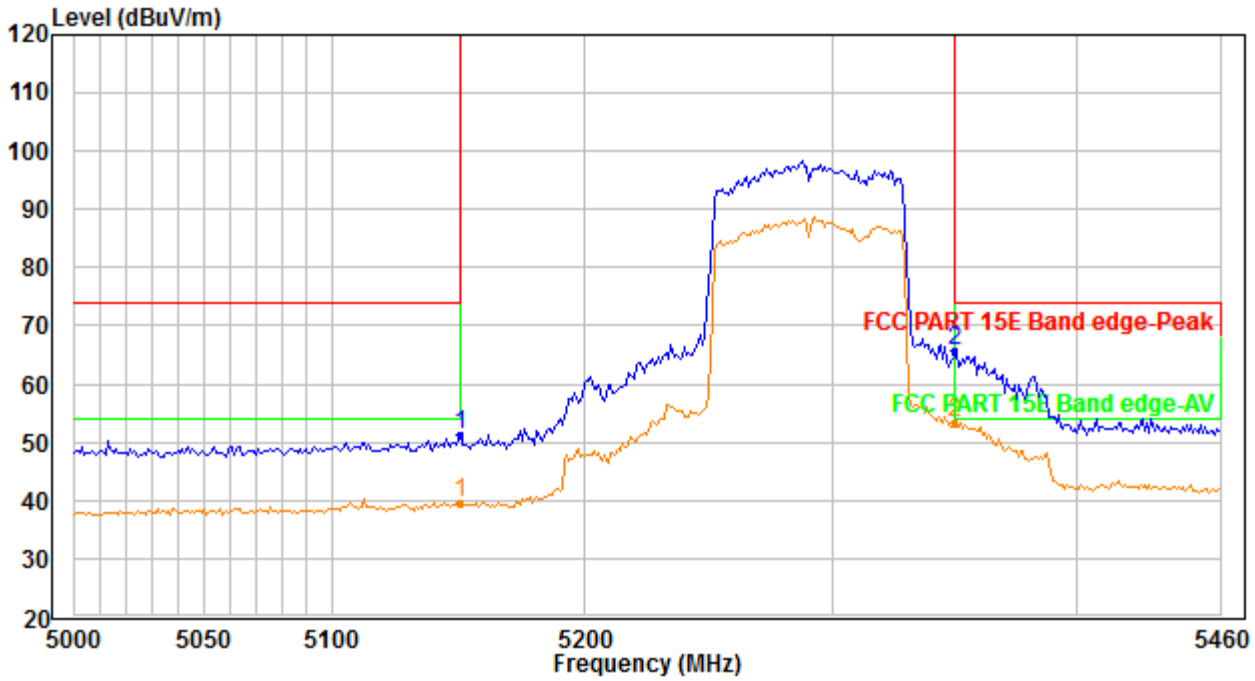
Frequency (MHz)	Peak level (dBuv/m)	Peak Limit (dBuv/m)	AV level (dBuv/m)	AV Limit (dBuv/m)	Conclusion
5150.0000	62.27	74.00	48.55	54.00	Pass
5350.0000	52.70	74.00	40.21	54.00	Pass

Test Channel:	Channel 58	Ant. Polar. :	Horizontal



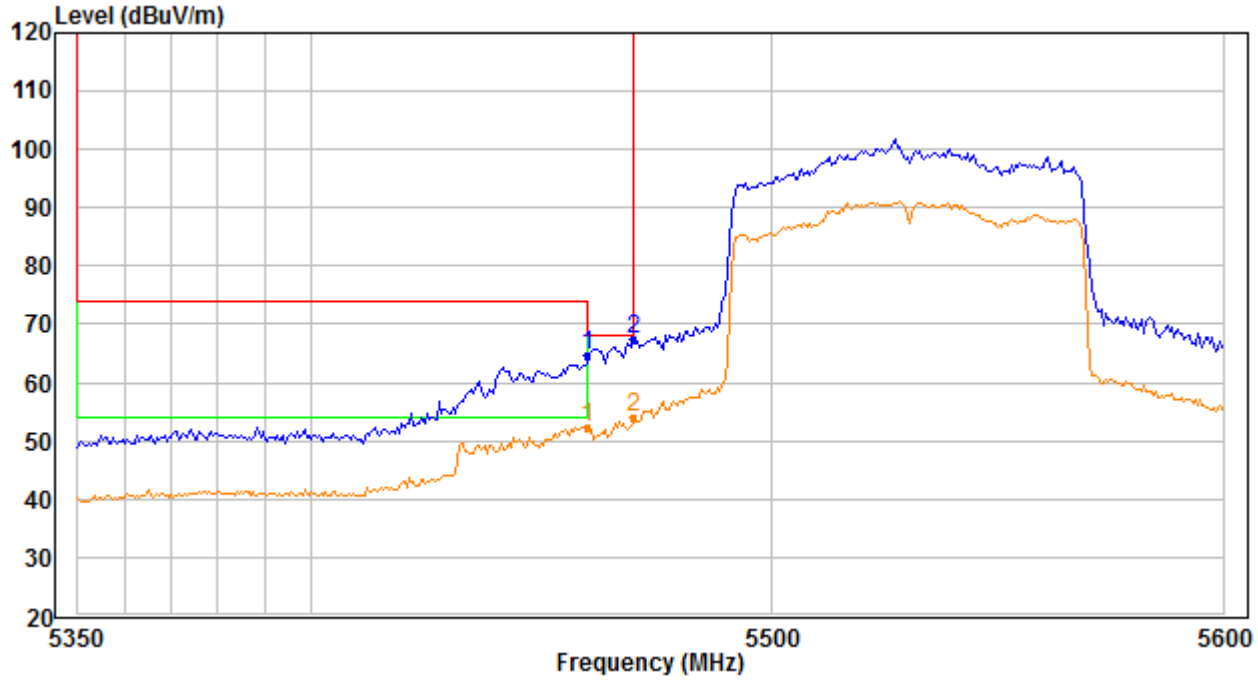
Frequency (MHz)	Peak level (dBuv/m)	Peak Limit (dBuv/m)	AV level (dBuv/m)	AV Limit (dBuv/m)	Conclusion
5150.0000	51.17	74.00	39.00	54.00	Pass
5350.0000	70.12	74.00	52.71	54.00	Pass

Test Channel:	Channel 58	Ant. Polar. :	Vertical



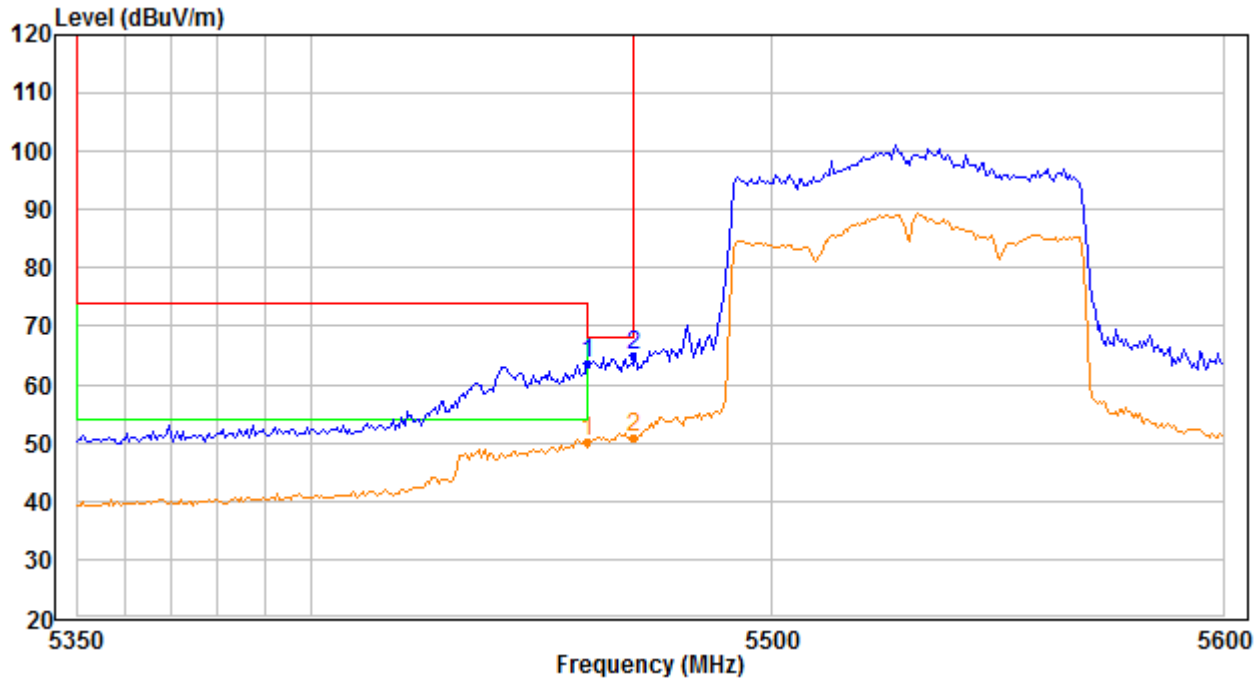
Frequency (MHz)	Peak level (dBuv/m)	Peak Limit (dBuv/m)	AV level (dBuv/m)	AV Limit (dBuv/m)	Conclusion
5150.0000	51.18	74.00	39.56	54.00	Pass
5350.0000	65.62	74.00	53.42	54.00	Pass

Test Channel:	Channel 106	Ant. Polar. :	Horizontal



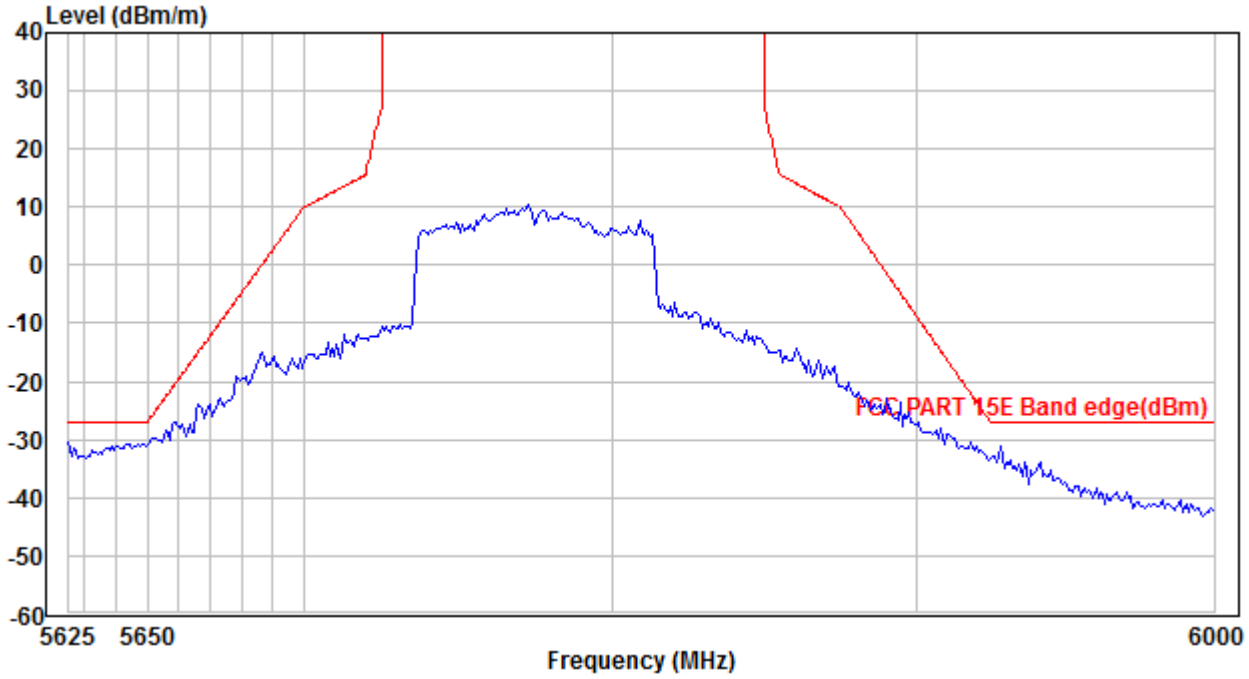
Frequency (MHz)	Peak level (dBuv/m)	Peak Limit (dBuv/m)	AV level (dBuv/m)	AV Limit (dBuv/m)	Conclusion
5460.0000	64.79	68.20	52.42	54.00	Pass
5470.0000	67.43	68.20	53.87	54.00	Pass

Test Channel:	Channel 106	Ant. Polar. :	Vertical



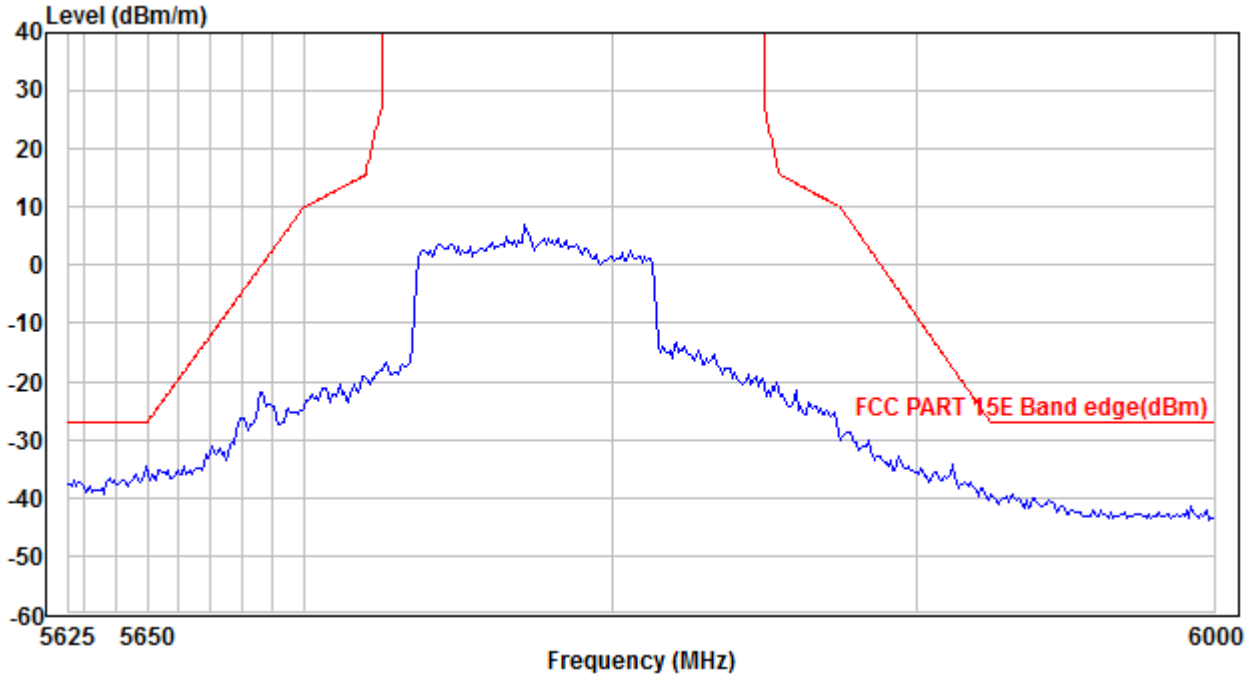
Frequency (MHz)	Peak level (dBuv/m)	Peak Limit (dBuv/m)	AV level (dBuv/m)	AV Limit (dBuv/m)	Conclusion
5460.0000	63.48	68.20	50.15	54.00	Pass
5470.0000	64.93	68.20	50.95	54.00	Pass

Test Channel:	Channel 155	Ant. Polar. :	Horizontal



Frequency (MHz)	Peak level (dBm)	Peak Limit (dBm)	Conclusion
5650.0000	-36.92	-27.00	Pass
5725.0000	-16.99	27.00	Pass
5850.0000	-21.76	27.00	Pass
5925.0000	-39.16	-27.00	Pass

Test Channel:	Channel 155	Ant. Polar. :	Vertical



Frequency (MHz)	Peak level (dBm)	Peak Limit (dBm)	Conclusion
5650.0000	-38.31	-27.00	Pass
5725.0000	-23.70	27.00	Pass
5850.0000	-27.27	27.00	Pass
5925.0000	-40.50	-27.00	Pass

5.8 DYNAMIC FREQUENCY SELECTION

Test Requirement: FCC 47 CFR Part 15 Subpart E Section 15.407 (h)
RSS-247 Issue 2 Section 6.3

Test Method: KDB 905462 D03 Client Without DFS New Rules v01r02

EUT Operating Mode:

DFS Operational mode	Operating Frequency Range	
	5250 MHz to 5350 MHz	5470 MHz to 5725 MHz
Slave without radar Interference detection function	✓	✓

Applicability:

The following table from KDB905462 and the lists of the applicable requirements for the DFS testing.

Applicability of DFS Requirements Prior to Use of a Channel:

Requirement	Operational Mode		
	Master	Client Without Radar Detection	Client With Radar Detection
Non-Occupancy Period	✓	Not required	Yes
DFS Detection Threshold	✓	Not required	Yes
Channel Availability Check Time	✓	Not required	Not required
U-NII Detection Bandwidth	✓	Not required	Yes

Applicability of DFS requirements during normal operation:

Requirement	Operational Mode	
	Master Device or Client with Radar Detection	Client Without Radar Detection
DFS Detection Threshold	Yes	Not required
Channel Closing Transmission Time	Yes	Yes
Channel Move Time	Yes	Yes
U-NII Detection Bandwidth	Yes	Not required
Additional requirements for devices with multiple bandwidth modes	**Master Device or Client with Radar Detection**	**Client Without Radar Detection**
U-NII Detection Bandwidth and Statistical Performance Check	All BW modes must be tested	Not required
Channel Move Time and Channel Closing Transmission Time	Test using widest BW mode available	Test using the widest BW mode available for the link
All other tests	Any single BW mode	Not required
Note: Frequencies selected for statistical performance check (Section 7.8.4) should include several frequencies within the radar detection bandwidth and frequencies near the edge of the radar detection bandwidth. For 802.11 devices it is suggested to select frequencies in each of the bonded 20 MHz channels and the channel center frequency.		

DFS Detection Thresholds for Master Devices and Client Devices with Radar Detection:

Maximum Transmit Power	Value (See Notes 1, 2, and 3)
EIRP ≥ 200 milliwatt	-64 dBm
EIRP < 200 milliwatt and power spectral density < 10 dBm/MHz	-62 dBm
EIRP < 200 milliwatt that do not meet the power spectral density requirement	-64dBm