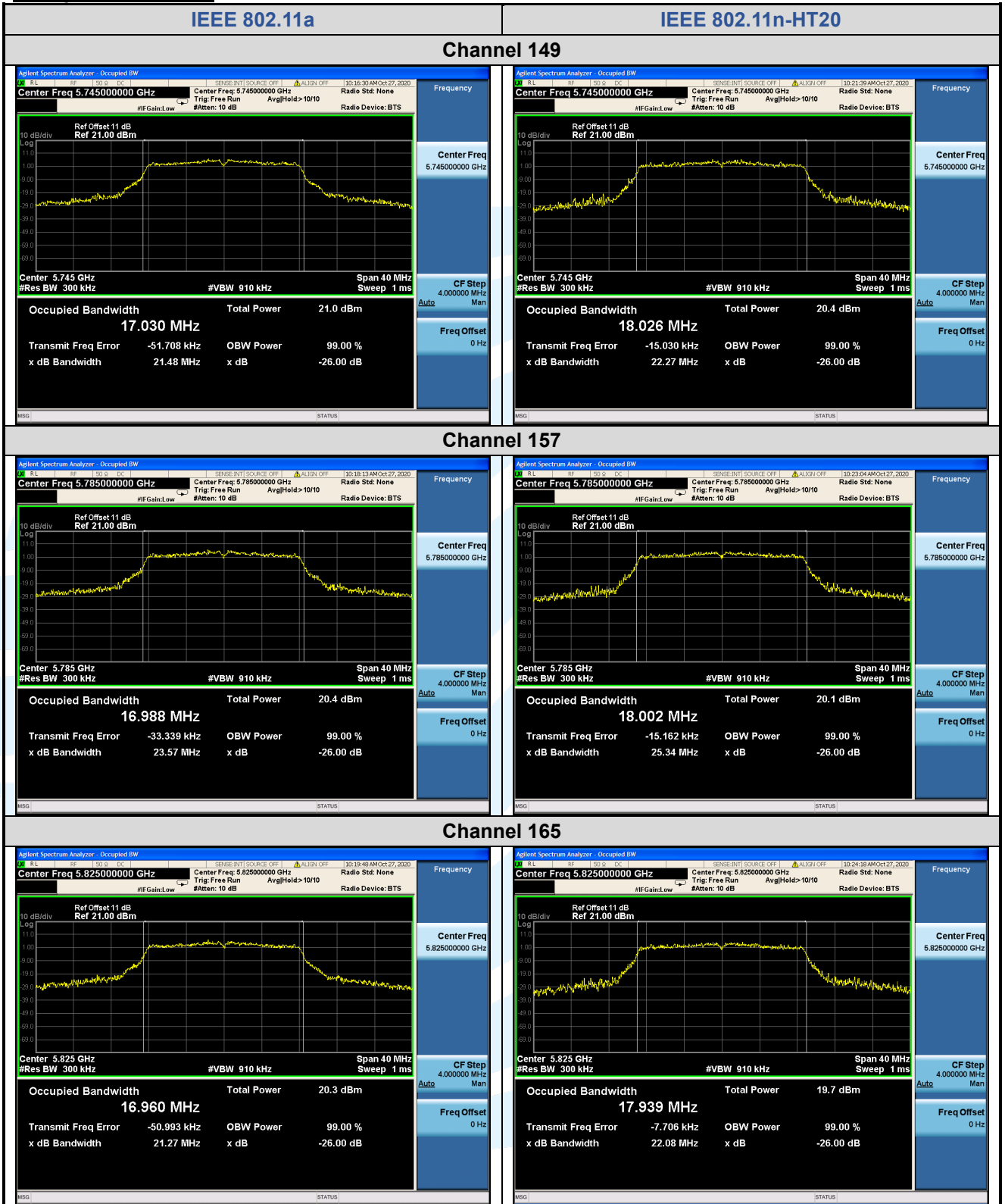
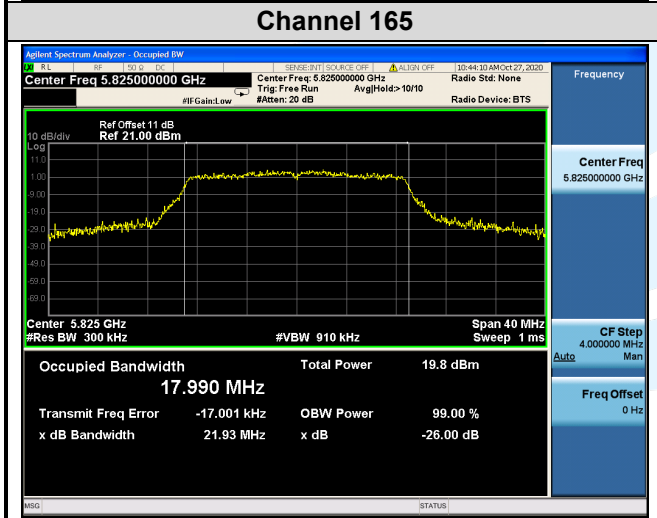
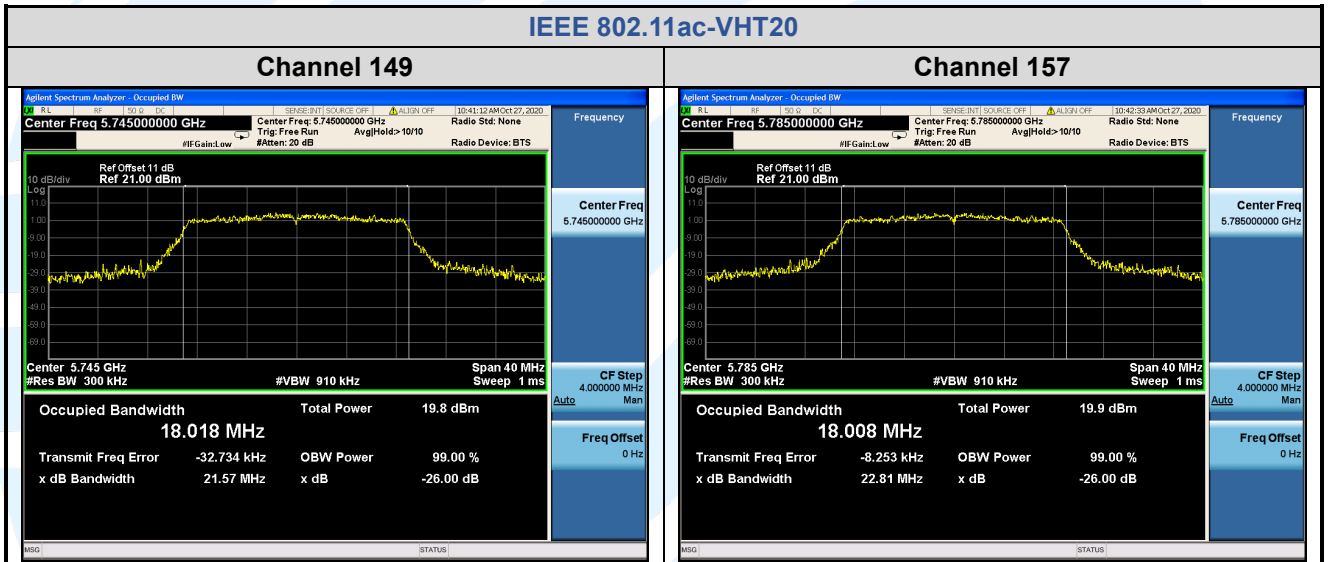
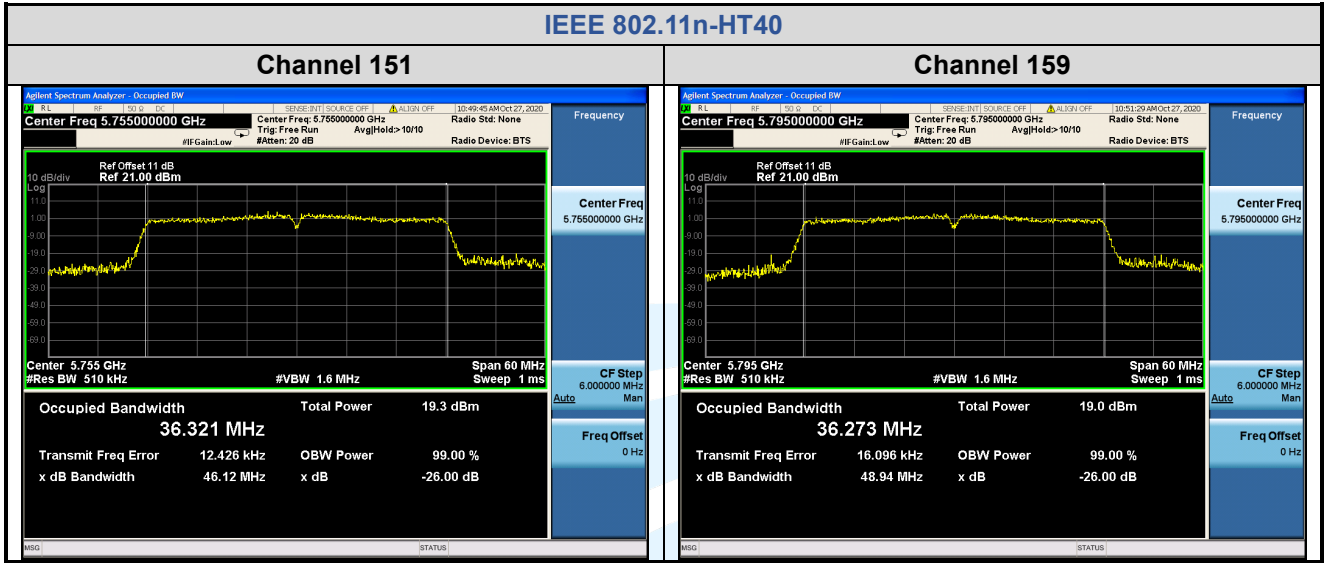
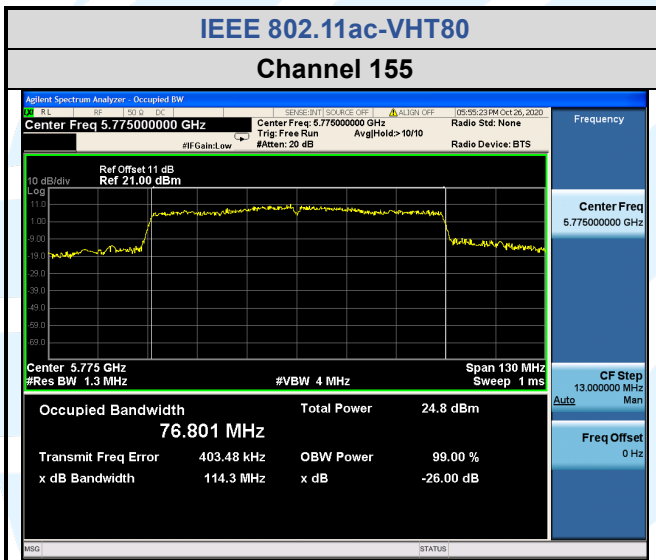
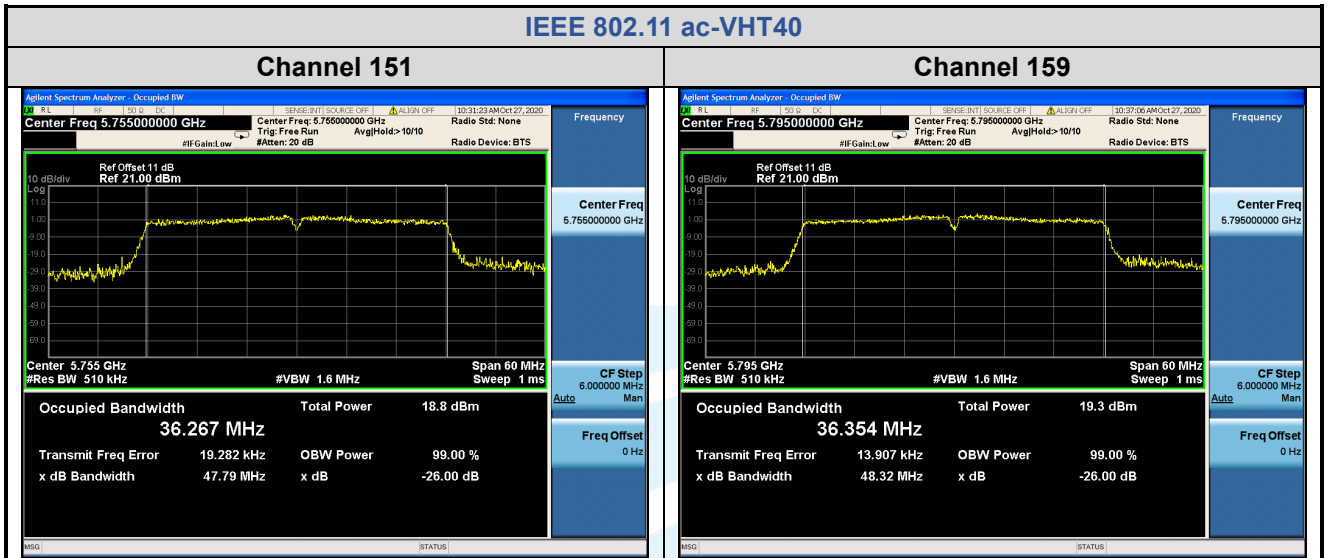


## Occupied Bandwidth







## 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.

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UTTR-RF-RSS247-V1.0

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  $\theta$  is the angle above the local horizontal plane (of the Earth) as shown below:
 

i. -13 dBW/MHz	for $0^\circ \leq \theta < 8^\circ$
ii. $-13 - 0.716 (\theta - 8)$ dBW/MHz	for $8^\circ \leq \theta < 40^\circ$
iii. $-35.9 - 1.22 (\theta - 40)$ dBW/MHz	for $40^\circ \leq \theta \leq 45^\circ$
iv. -42 dBW/MHz	for $\theta > 45^\circ$

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 firmware feature in the event that the Department requires it. The test report must demonstrate how the device's power table can be updated to meet this firmware requirement. The manufacturer shall provide this firmware to update all systems automatically in compliance 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<sup>3</sup> 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	3.00	23.00
U-NII-2A	3.00	24.00
U-NII-2C	3.00	24.00
U-NII-3	3.00	30.00

**FCC 47 CFR Part 15 Subpart E**

Frequency Band	Antenna Gain (dBi)	Power Limits (dBm)
U-NII-1	3.00	24.00
U-NII-2A	3.00	24.00
U-NII-2C	3.00	24.00
U-NII-3	3.00	30.00

**Frequency band 5150-5250 MHz**

**RSS-247 Issue 2:**

For IEEE 802.11a, the minimum 99% emission bandwidth is 16.831 MHz

$$10 \text{ dBm} + 10\log_{10}(16.831) = 22.26 \text{ dBm} < 23 \text{ dBm}$$

So the 22.26dB limit applicable

For IEEE 802.11n-HT20/ ac-VHT20, the minimum 99% emission bandwidth is 17.879MHz

$$10 \text{ dBm} + 10\log_{10}(17.879) = 22.52 \text{ dBm} < 23 \text{ dBm}$$

So the 22.52dB limit applicable

For IEEE 802.11n-HT40/ ac-VHT40/ ac-VHT80, the minimum 99% emission bandwidth is 36.211 MHz

$$10 \text{ dBm} + 10\log_{10}(36.211) = 25.59 \text{ dBm} > 23 \text{ dBm}$$

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)	18.51	22.26	Pass
	44 (5220)	18.46	22.26	Pass
	48 (5240)	18.56	22.26	Pass
IEEE 802.11n-HT20	36 (5180)	18.06	22.52	Pass
	44 (5220)	18.11	22.52	Pass
	48 (5240)	18.11	22.52	Pass
IEEE 802.11n-HT40	38 (5190)	17.22	23.00	Pass
	46 (5230)	17.17	23.00	Pass
IEEE 802.11ac-VHT20	36 (5180)	18.12	22.52	Pass
	44 (5220)	18.09	22.52	Pass
	48 (5240)	18.13	22.52	Pass
IEEE 802.11ac-VHT40	38 (5190)	17.08	23.00	Pass
	46 (5230)	17.08	23.00	Pass
IEEE 802.11ac-VHT80	42 (5210)	16.82	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)	15.31	15.51	24.00	Pass
	44 (5220)	15.26	15.46	24.00	Pass
	48 (5240)	15.36	15.56	24.00	Pass
IEEE 802.11n-HT20	36 (5180)	14.88	15.06	24.00	Pass
	44 (5220)	14.93	15.11	24.00	Pass
	48 (5240)	14.93	15.11	24.00	Pass
IEEE 802.11n-HT40	38 (5190)	13.91	14.22	24.00	Pass
	46 (5230)	13.86	14.17	24.00	Pass
IEEE 802.11ac-VHT20	36 (5180)	14.89	15.12	24.00	Pass
	44 (5220)	14.86	15.09	24.00	Pass
	48 (5240)	14.90	15.13	24.00	Pass
IEEE 802.11ac-VHT40	38 (5190)	13.79	14.08	24.00	Pass
	46 (5230)	13.79	14.08	24.00	Pass
IEEE 802.11ac-VHT80	42 (5210)	11.49	13.82	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 16.778 MHz

$$11 \text{ dBm} + 10\log_{10}(16.778) = 23.25\text{dBm} < 24\text{dBm}$$

So the 23.25 dB limit applicable

For IEEE 802.11n-HT20/ ac-VHT20, the minimum 99% emission bandwidth is 17.916 MHz

$$11 \text{ dBm} + 10\log_{10}(17.916) = 23.53 \text{ dBm} < 24\text{dBm}$$

So the 23.53 dB limit applicable

For IEEE 802.11 n-HT40/ac-VHT40/ac-VHT80, the minimum 99% emission bandwidth is 36.180 MHz

$$11 \text{ dBm} + 10\log_{10}(36.180) = 26.58\text{dBm} > 24 \text{ dBm} (200\text{mW})$$

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 21.17MHz

$$11 \text{ dBm} + 10\log_{10}(21.17) = 24.26 \text{ dBm} > 24 \text{ dBm} (200\text{mW})$$

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)	15.41	15.61	24.00	23.25	Pass
	60 (5300)	15.40	15.60	24.00	23.25	Pass
	64 (5320)	15.36	15.56	24.00	23.25	Pass
IEEE 802.11n-HT20	52 (5260)	14.89	15.07	24.00	23.53	Pass
	60 (5300)	14.95	15.13	24.00	23.53	Pass
	64 (5320)	14.88	15.06	24.00	23.53	Pass
IEEE 802.11n-HT40	54 (5270)	13.85	14.16	24.00	24.00	Pass
	62 (5310)	13.92	14.23	24.00	24.00	Pass
IEEE 802.11ac-VHT20	52 (5260)	14.79	15.02	24.00	23.53	Pass
	60 (5300)	14.90	15.13	24.00	23.53	Pass
	64 (5320)	15.00	15.23	24.00	23.53	Pass
IEEE 802.11ac-VHT40	54 (5270)	13.72	14.01	24.00	24.00	Pass
	62 (5310)	13.78	14.07	24.00	24.00	Pass
IEEE 802.11ac-VHT80	58 (5290)	11.66	13.99	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 16.765MHz

$$11 \text{ dBm} + 10\log_{10}(16.765) = 23.24 \text{ dBm} < 24 \text{ dBm}$$

So the 23.24 dB limit applicable

For IEEE 802.11n-HT20/ac-VHT20, the minimum 99% emission bandwidth is 17.919MHz

$$11 \text{ dBm} + 10\log_{10}(17.919) = 23.53 \text{ dBm} < 24 \text{ dBm}$$

So the 23.53 dB limit applicable

For IEEE 802.11 n-HT40/ac-VHT40/ac-VHT80, the minimum 99% emission bandwidth is 36.163 MHz

$$11 \text{ dBm} + 10\log_{10}(36.163) = 26.58\text{dBm} > 24 \text{ dBm}$$

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 21.09 MHz

$$11 \text{ dBm} + 10\log_{10}(21.09) = 24.24 \text{ dBm} > 24 \text{ dBm}$$

So the 24 dB limit applicable

Mode	Channel/ Frequency (MHz)	Maximum conducted output power (dBm)		Limit (dBm)		Pass / Fail
		SISO		FCC Part 15E	RSS-247	
		Meas Power	Corr'd Power			
IEEE 802.11a	100 (5500)	15.13	15.33	24.00	23.24	Pass
	116 (5580)	14.90	15.10	24.00	23.24	Pass
	140 (5700)	15.51	15.71	24.00	23.24	Pass
IEEE 802.11n-HT20	100 (5500)	14.78	14.96	24.00	23.53	Pass
	116 (5580)	14.61	14.79	24.00	23.53	Pass
	140 (5700)	14.26	14.44	24.00	23.53	Pass
IEEE 802.11n-HT40	102 (5510)	13.69	14.00	24.00	24.00	Pass
	110 (5550)	13.70	14.01	24.00	24.00	Pass
	134 (5670)	13.29	13.60	24.00	24.00	Pass
IEEE 802.11ac-VHT20	100 (5500)	14.75	14.98	24.00	23.53	Pass
	116 (5580)	14.51	14.74	24.00	23.53	Pass
	140 (5700)	14.16	14.39	24.00	23.53	Pass
IEEE 802.11ac-VHT40	102 (5510)	13.64	13.93	24.00	24.00	Pass
	110 (5550)	13.62	13.91	24.00	24.00	Pass
	134 (5670)	13.19	13.48	24.00	24.00	Pass
IEEE 802.11ac-VHT80	106 (5530)	11.44	13.77	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)	16.16	16.36	30	Pass
	157 (5785)	15.86	16.06	30	Pass
	165 (5825)	15.45	15.65	30	Pass
IEEE 802.11n-HT20	149 (5745)	15.79	15.97	30	Pass
	157 (5785)	15.42	15.60	30	Pass
	165 (5825)	14.90	15.08	30	Pass
IEEE 802.11n-HT40	151 (5755)	15.59	15.90	30	Pass
	159 (5795)	15.21	15.52	30	Pass
IEEE 802.11ac-VHT20	149 (5745)	15.70	15.93	30	Pass
	157 (5785)	15.42	15.65	30	Pass
	165 (5825)	15.07	15.30	30	Pass
IEEE 802.11ac-VHT40	151 (5755)	15.51	15.80	30	Pass
	159 (5795)	15.34	15.63	30	Pass
IEEE 802.11ac-VHT80	155 (5775)	16.15	18.48	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.

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UTTR-RF-RSS247-V1.0

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  $\theta$  is the angle above the local horizontal plane (of the Earth) as shown below:
 

i. -13 dBW/MHz	for $0^\circ \leq \theta < 8^\circ$
ii. $-13 - 0.716 (\theta - 8)$ dBW/MHz	for $8^\circ \leq \theta < 40^\circ$
iii. $-35.9 - 1.22 (\theta - 40)$ dBW/MHz	for $40^\circ \leq \theta \leq 45^\circ$
iv. -42 dBW/MHz	for $\theta > 45^\circ$

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 firmware feature in the event that the Department requires it. The test report must demonstrate how the device's power table can be updated to meet this firmware requirement. The manufacturer shall provide this firmware to update all systems automatically in compliance 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<sup>3</sup> 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	3.00	10.00
U-NII-2A	3.00	11.00
U-NII-2C	3.00	11.00
U-NII-3	3.00	30.00

**FCC 47 CFR Part 15 Subpart E:**

Frequency Band	Antenna Gain (dBi)	PSD Limits (dBm/MHz or dBm/500kHz)
U-NII-1	3.00	11.00
U-NII-2A	3.00	11.00
U-NII-2C	3.00	11.00
U-NII-3	3.00	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)	6.740	10	Pass
	44 (5220)	6.567	10	Pass
	48 (5240)	6.819	10	Pass
IEEE 802.11n-HT20	36 (5180)	5.812	10	Pass
	44 (5220)	5.818	10	Pass
	48 (5240)	6.131	10	Pass
IEEE 802.11n-HT40	38 (5190)	0.439	10	Pass
	46 (5230)	-0.874	10	Pass
IEEE 802.11ac-VHT20	36 (5180)	4.359	10	Pass
	44 (5220)	3.198	10	Pass
	48 (5240)	2.171	10	Pass
IEEE 802.11ac-VHT40	38 (5190)	0.230	10	Pass
	46 (5230)	-0.463	10	Pass
IEEE 802.11ac-VHT80	42 (5210)	-2.281	10	Pass

**Remark:**

- 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 (dBm/MHz)		Limit (dBm/MHz)	Pass / Fail
		Meas PSD	Corr'd PSD		
IEEE 802.11a	36 (5180)	3.538	3.740	11	Pass
	44 (5220)	3.365	3.567	11	Pass
	48 (5240)	3.617	3.819	11	Pass
IEEE 802.11n-HT20	36 (5180)	2.628	2.812	11	Pass
	44 (5220)	2.634	2.818	11	Pass
	48 (5240)	2.947	3.131	11	Pass
IEEE 802.11n-HT40	38 (5190)	-2.874	-2.561	11	Pass
	46 (5230)	-4.187	-3.874	11	Pass
IEEE 802.11ac-VHT20	36 (5180)	1.130	1.359	11	Pass
	44 (5220)	-0.031	0.198	11	Pass
	48 (5240)	-1.058	-0.829	11	Pass
IEEE 802.11ac-VHT40	38 (5190)	-3.060	-2.770	11	Pass
	46 (5230)	-3.753	-3.463	11	Pass
IEEE 802.11ac-VHT80	42 (5210)	-7.610	-5.281	11	Pass

**Remark:**

- 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)	3.486	3.688	11	Pass
	60 (5300)	3.611	3.813	11	Pass
	64 (5320)	3.260	3.462	11	Pass
IEEE 802.11n-HT20	52 (5260)	2.964	3.148	11	Pass
	60 (5300)	2.822	3.006	11	Pass
	64 (5320)	2.605	2.789	11	Pass
IEEE 802.11n-HT40	54 (5270)	-5.433	-5.120	11	Pass
	62 (5310)	-7.064	-6.751	11	Pass
IEEE 802.11ac-VHT20	52 (5260)	-1.296	-1.067	11	Pass
	60 (5300)	-2.714	-2.485	11	Pass
	64 (5320)	-3.521	-3.292	11	Pass
IEEE 802.11ac-VHT40	54 (5270)	-5.404	-5.114	11	Pass
	62 (5310)	-6.585	-6.295	11	Pass
IEEE 802.11ac-VHT80	58 (5290)	-10.857	-8.528	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)	2.951	3.153	11	Pass
	116 (5580)	3.385	3.587	11	Pass
	140 (5700)	3.268	3.470	11	Pass
IEEE 802.11n-HT20	100 (5500)	2.485	2.669	11	Pass
	116 (5580)	2.843	3.027	11	Pass
	140 (5700)	2.830	3.014	11	Pass
IEEE 802.11n-HT40	102 (5510)	-4.641	-4.328	11	Pass
	110 (5550)	-3.936	-3.623	11	Pass
	134 (5670)	-2.424	-2.111	11	Pass
IEEE 802.11ac-VHT20	100 (5500)	-0.562	-0.333	11	Pass
	116 (5580)	1.744	1.973	11	Pass
	140 (5700)	2.501	2.730	11	Pass
IEEE 802.11ac-VHT40	102 (5510)	-5.026	-4.736	11	Pass
	110 (5550)	-3.759	-3.469	11	Pass
	134 (5670)	-2.526	-2.236	11	Pass
IEEE 802.11ac-VHT80	106 (5530)	-8.631	-6.302	11	Pass

**Remark:**

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

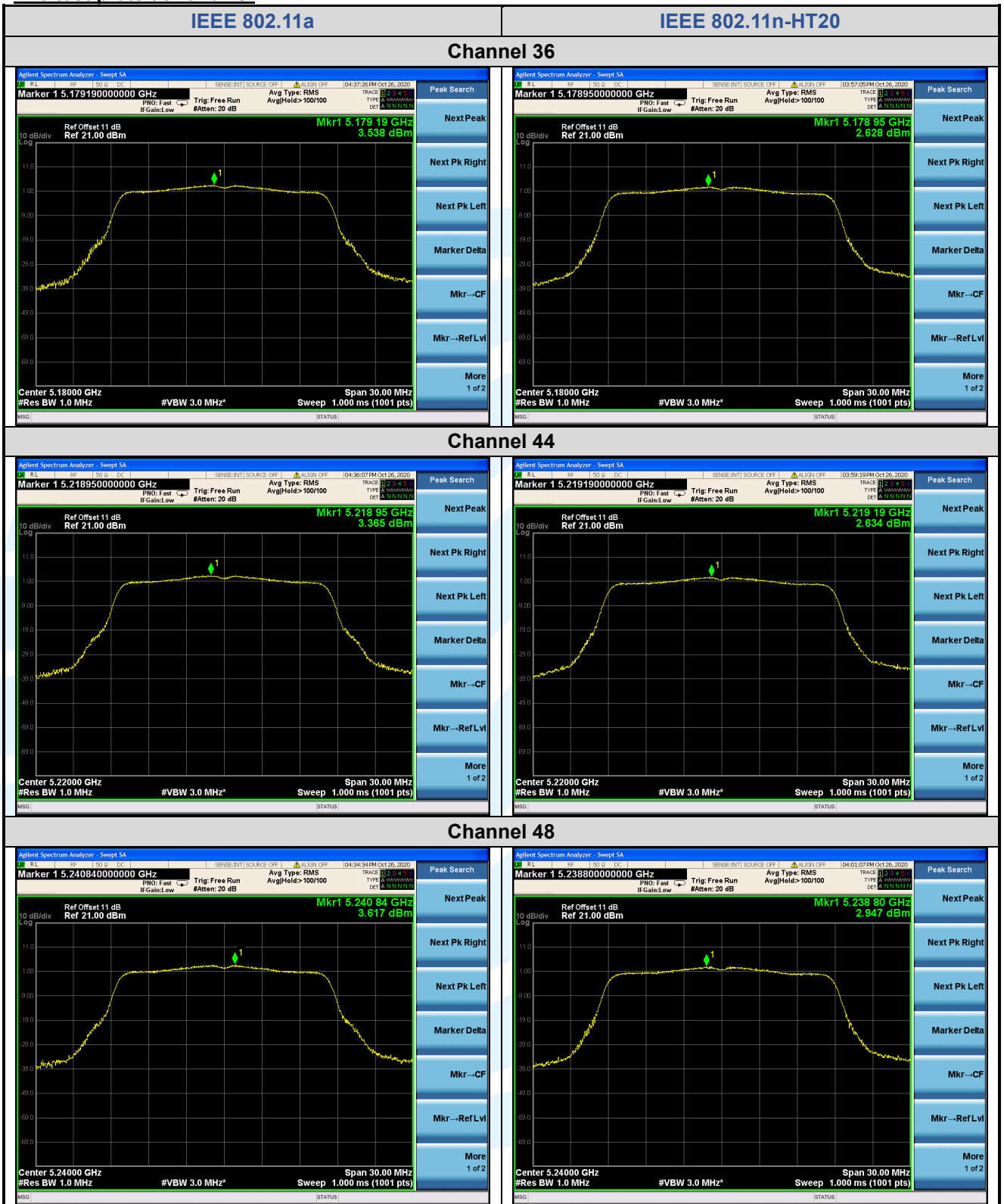
**Frequency band 5725-5850 MHz**

Mode	Channel/ Frequency (MHz)	Power spectral density (dBm/500kHz)		Limit (dBm/500KHz)	Pass / Fail
		Meas PSD	Corr'd PSD		
IEEE 802.11a	149 (5745)	2.189	2.391	30	Pass
	157 (5785)	2.306	2.508	30	Pass
	165 (5825)	1.666	1.868	30	Pass
IEEE 802.11n-HT20	149 (5745)	1.509	1.693	30	Pass
	157 (5785)	1.629	1.813	30	Pass
	165 (5825)	0.740	0.924	30	Pass
IEEE 802.11n-HT40	151 (5755)	-2.593	-2.280	30	Pass
	159 (5795)	-2.454	-2.141	30	Pass
IEEE 802.11ac-VHT20	149 (5745)	1.656	1.885	30	Pass
	157 (5785)	1.659	1.888	30	Pass
	165 (5825)	1.061	1.290	30	Pass
IEEE 802.11ac-VHT40	151 (5755)	-2.383	-2.093	30	Pass
	159 (5795)	-2.407	-2.117	30	Pass
IEEE 802.11ac-VHT80	155 (5775)	-3.783	-1.454	30	Pass

**Remark:**

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

The test plots as follows:



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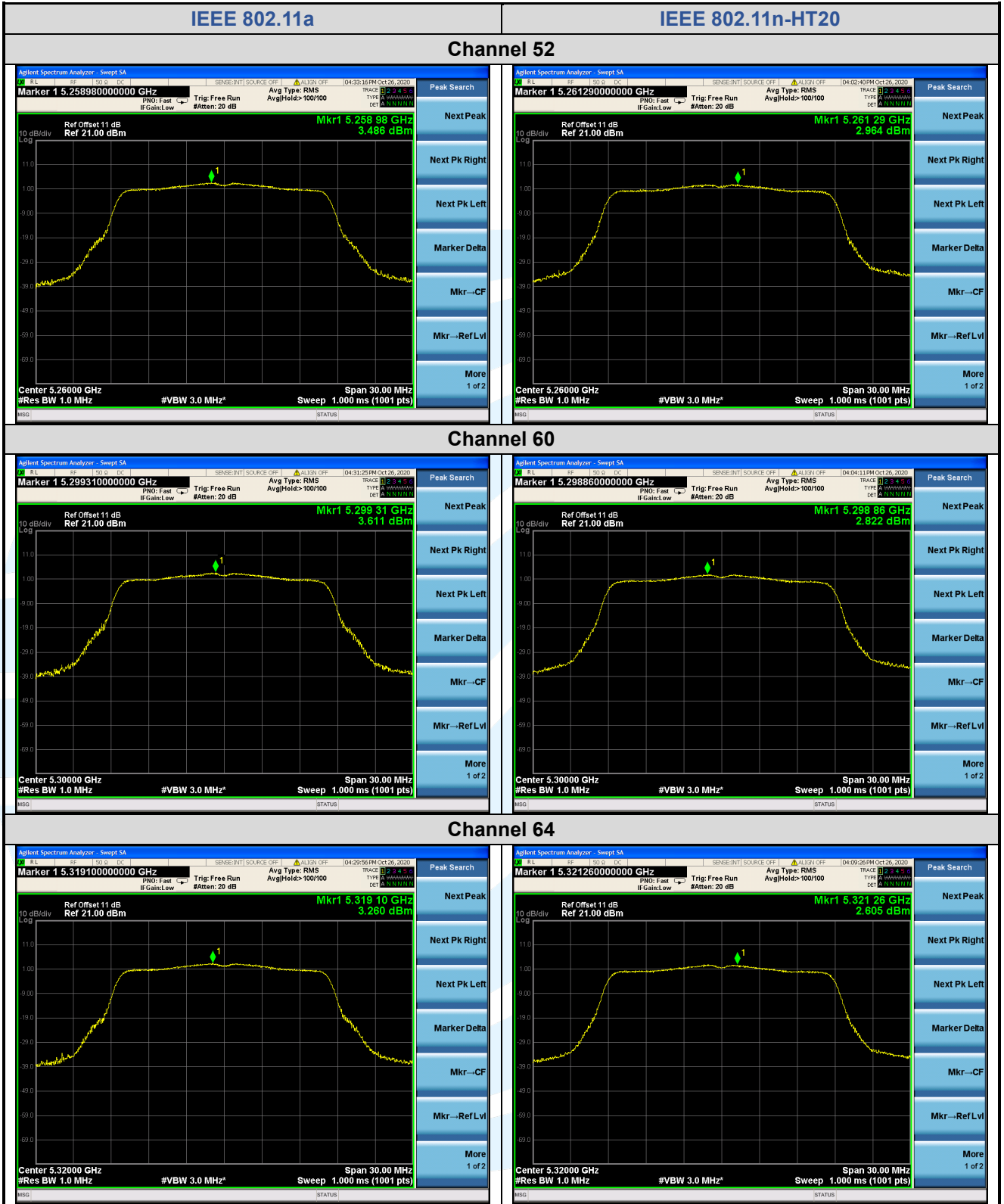
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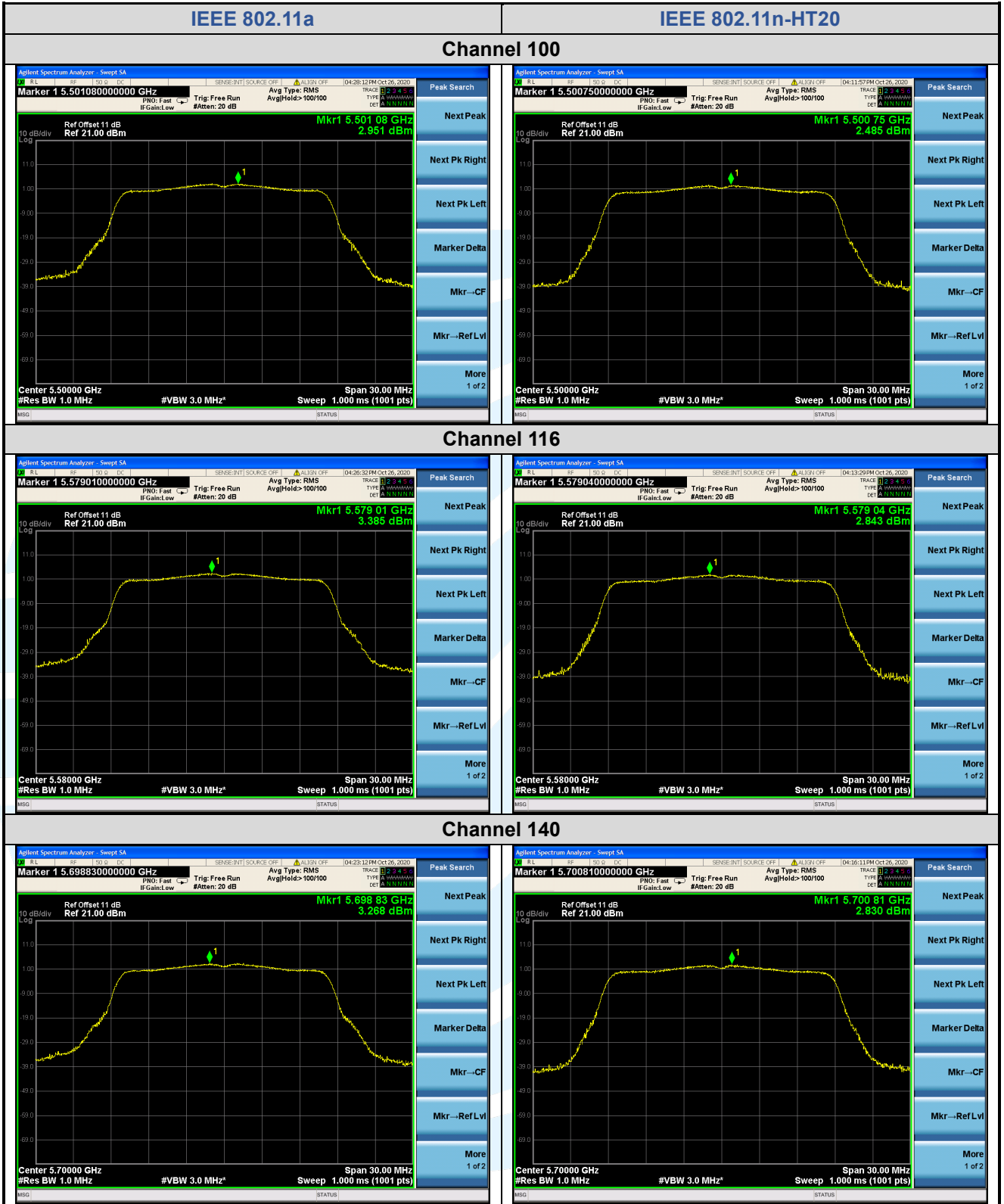
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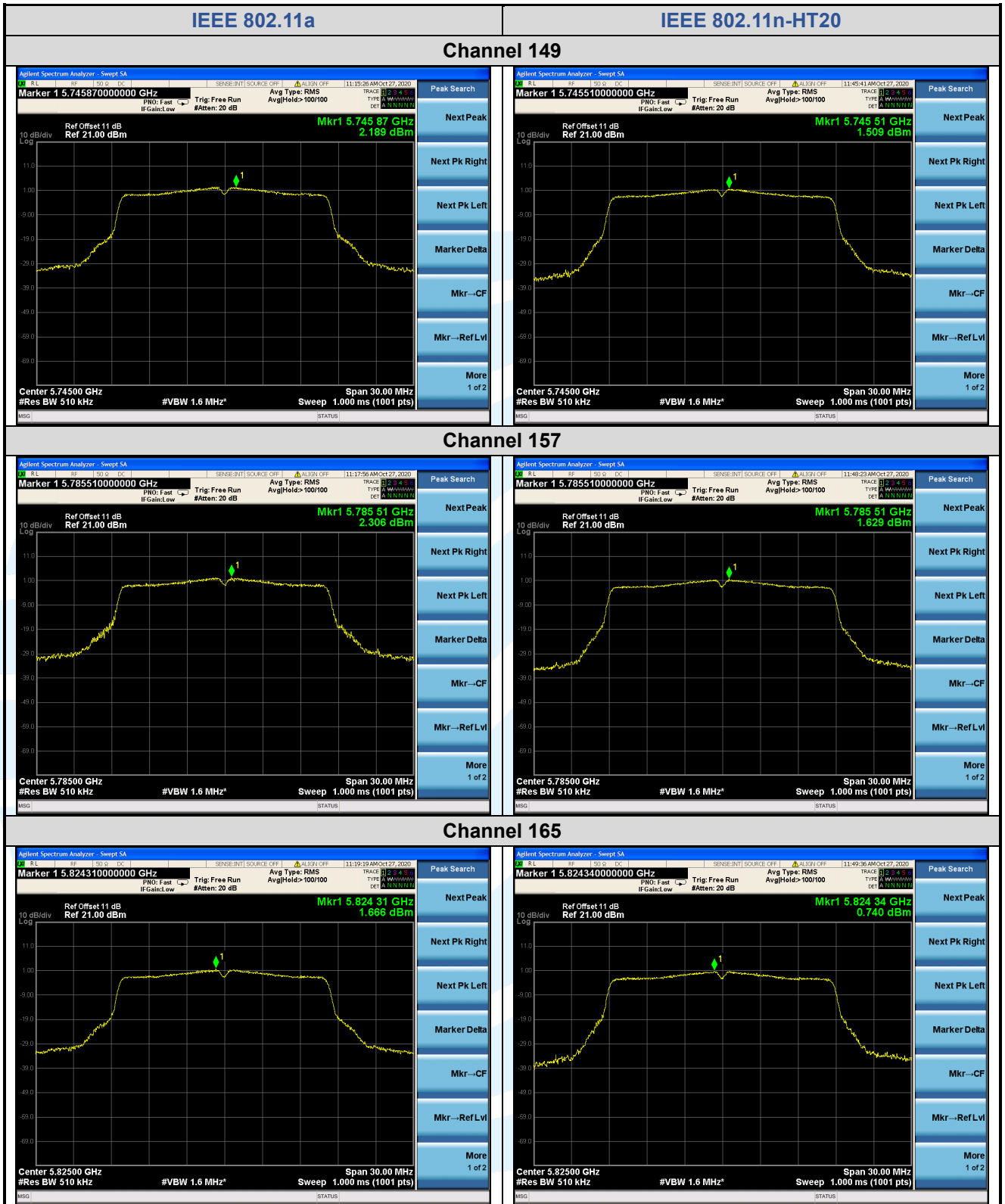
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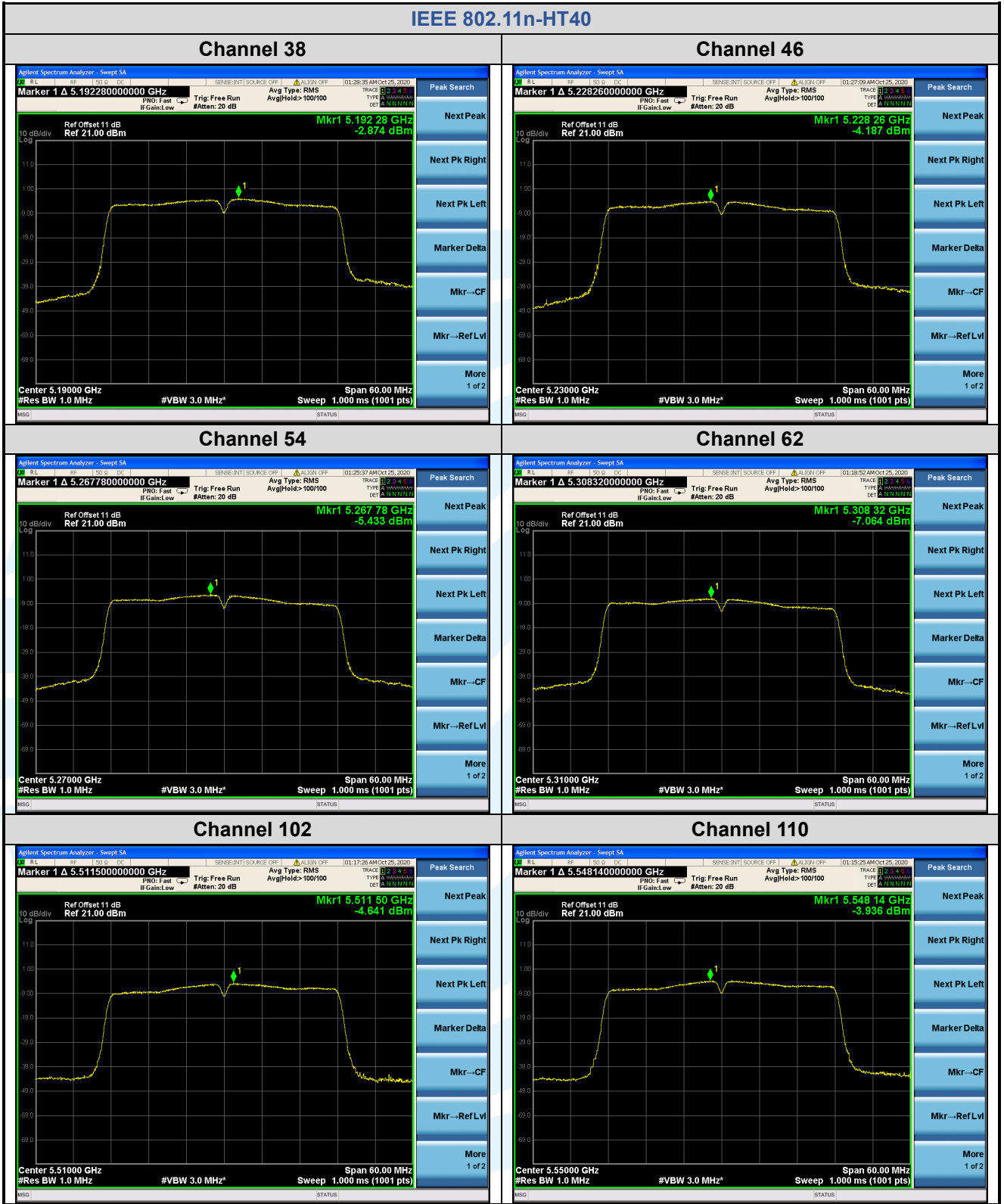
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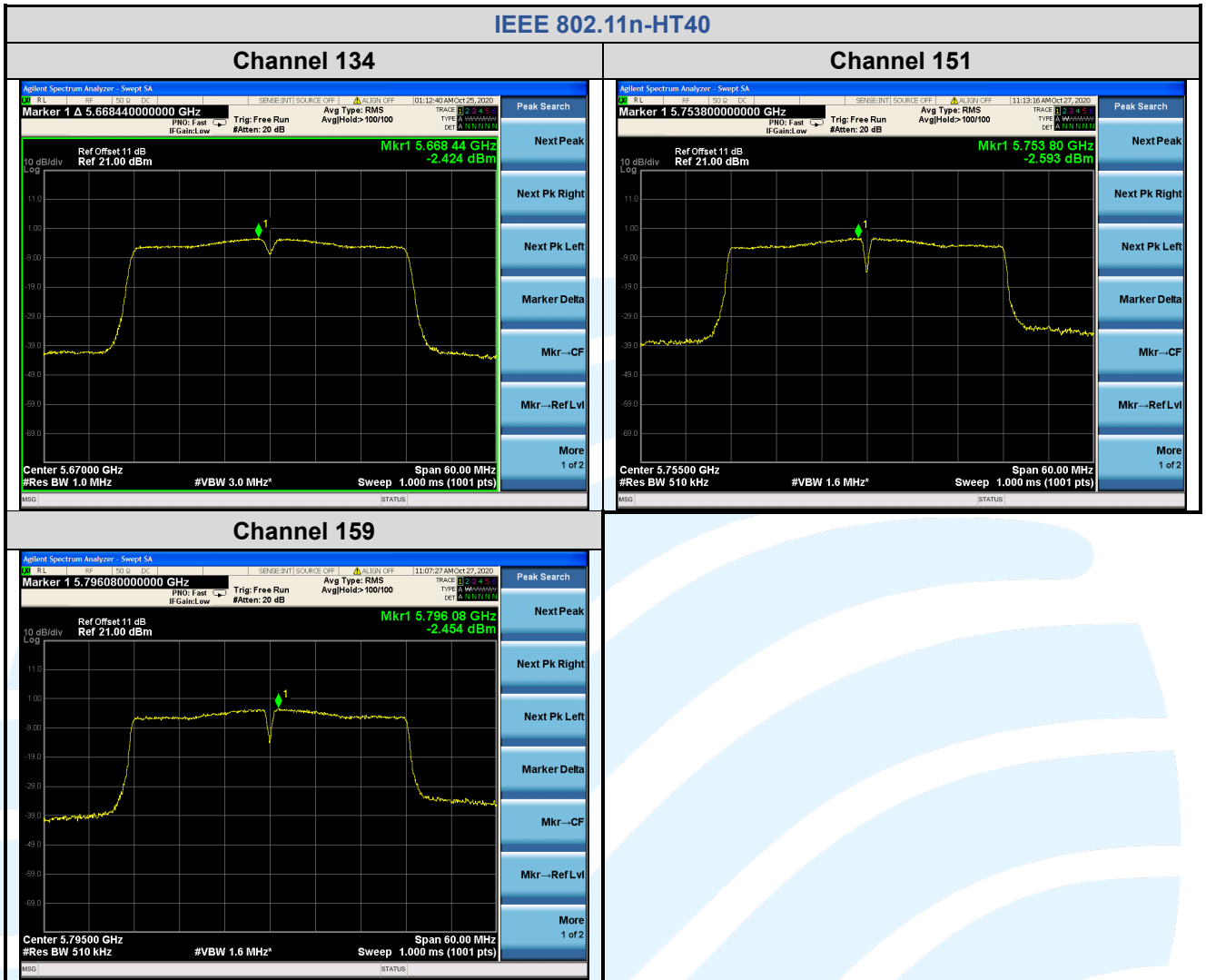
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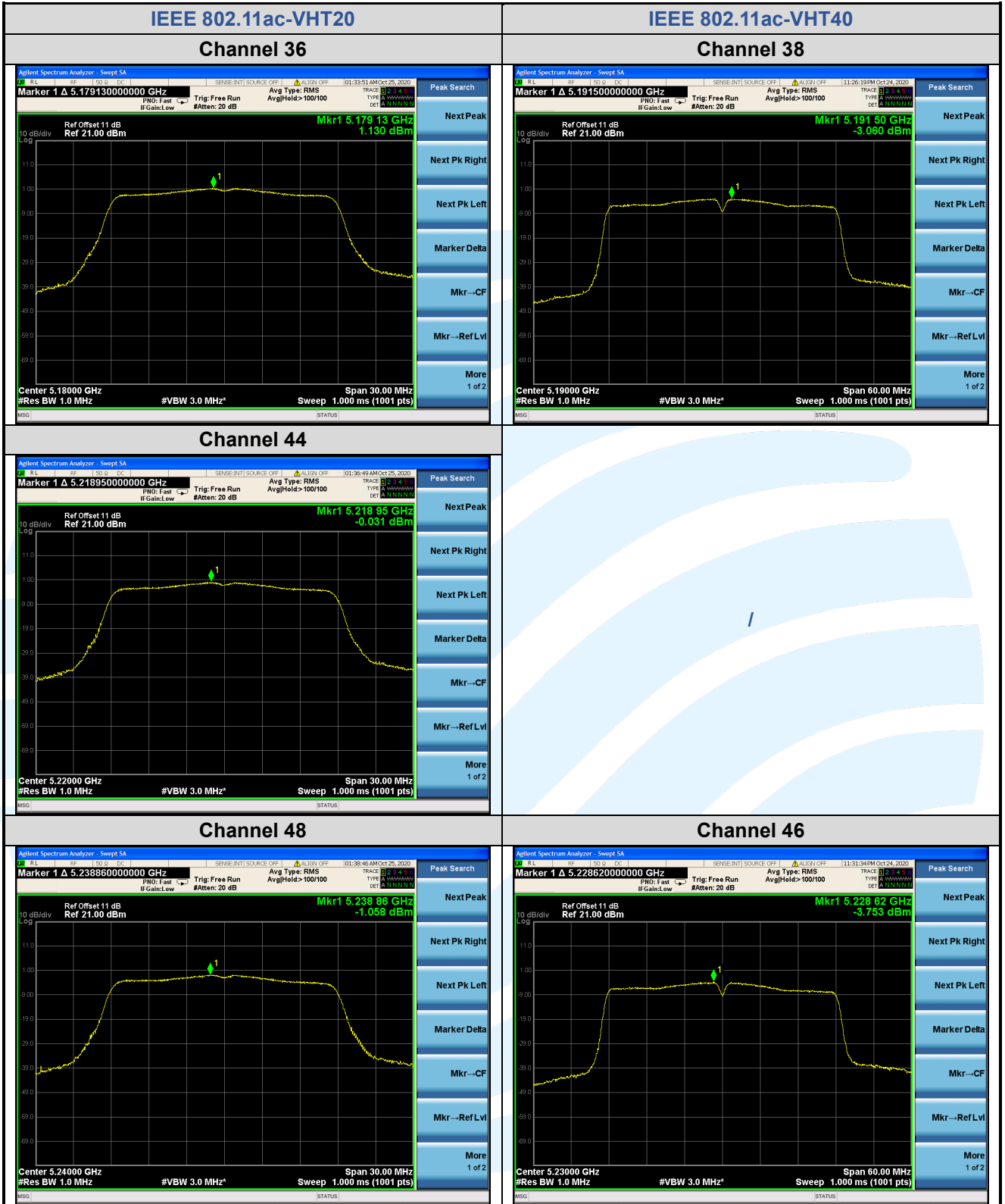
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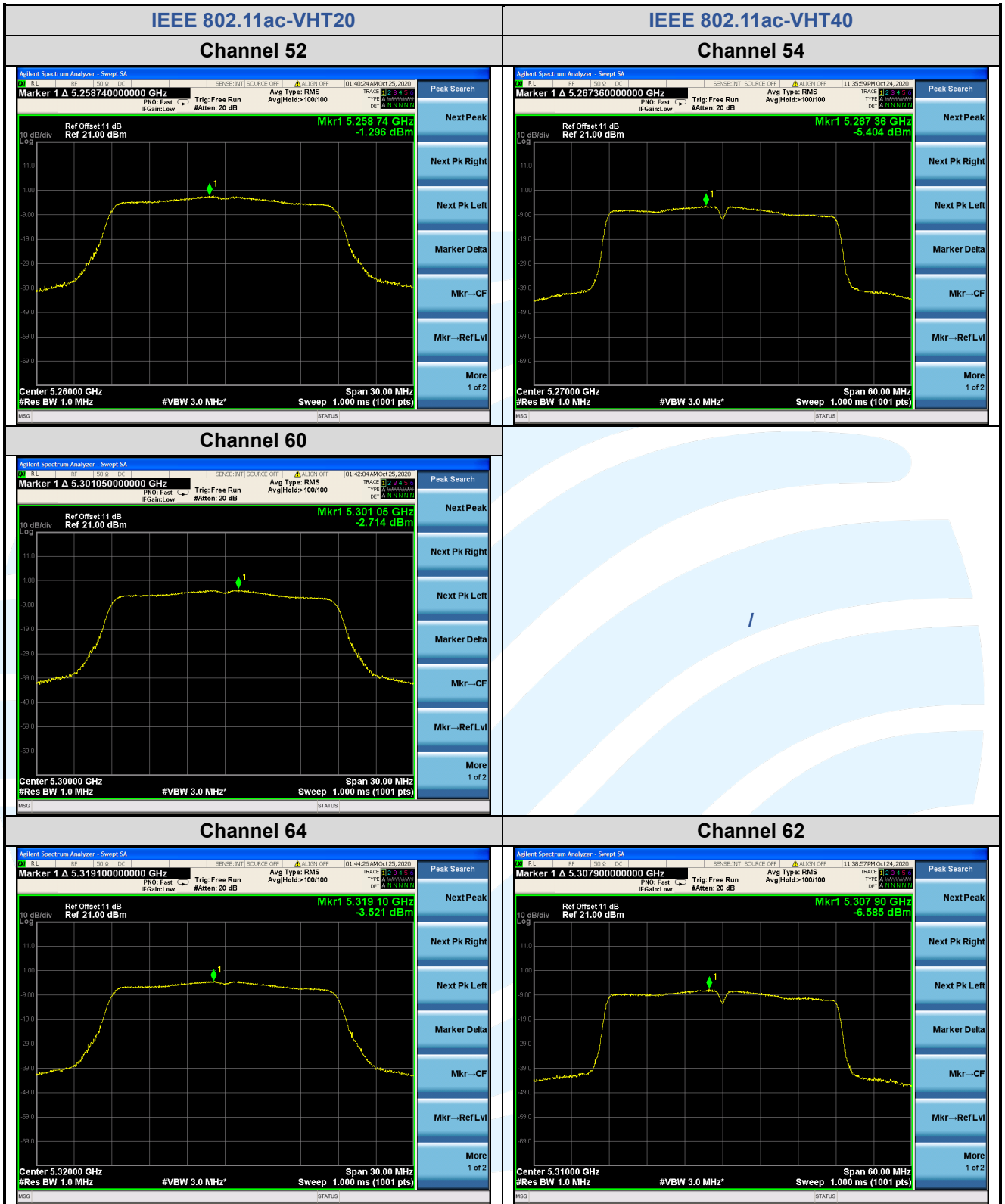
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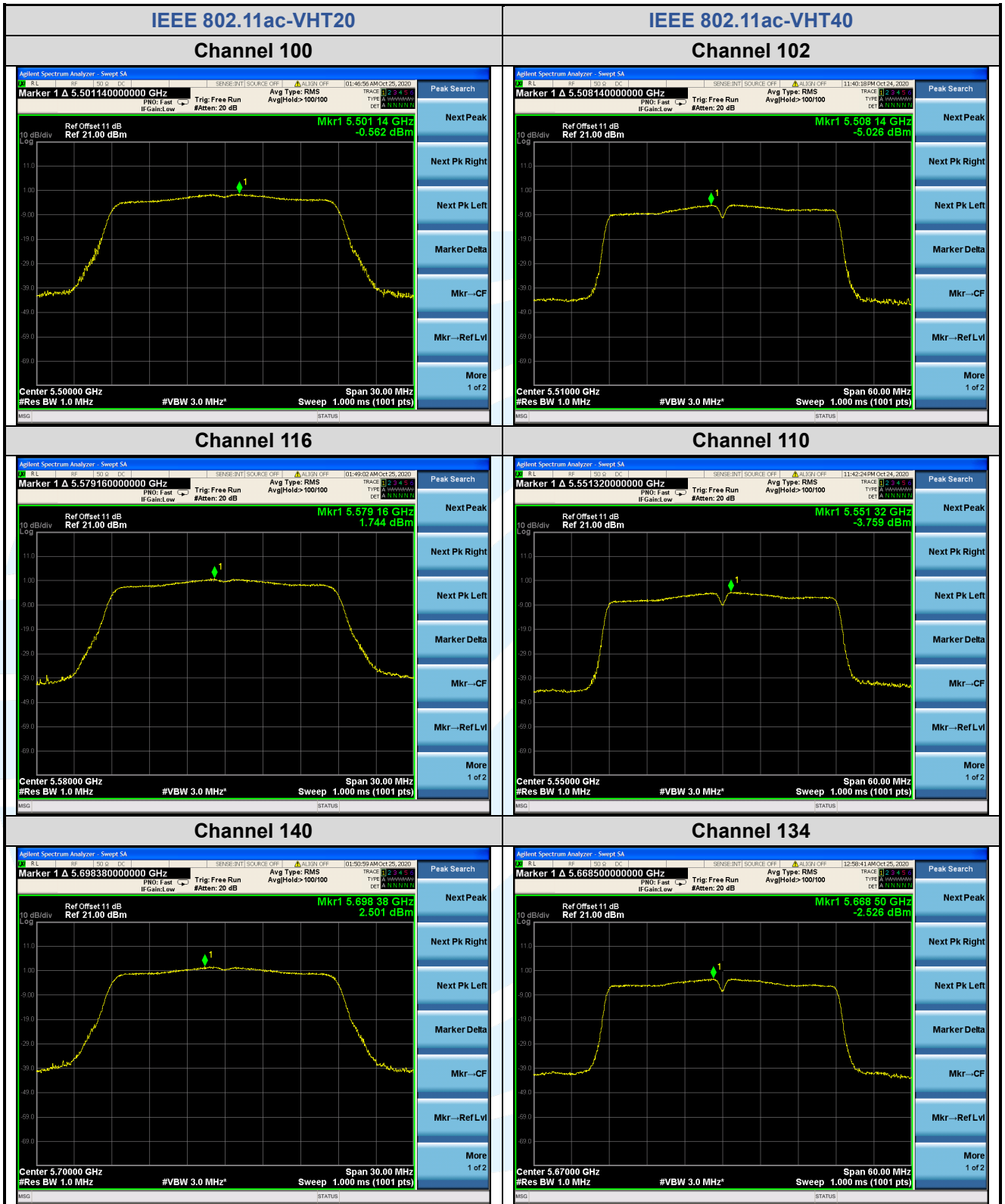
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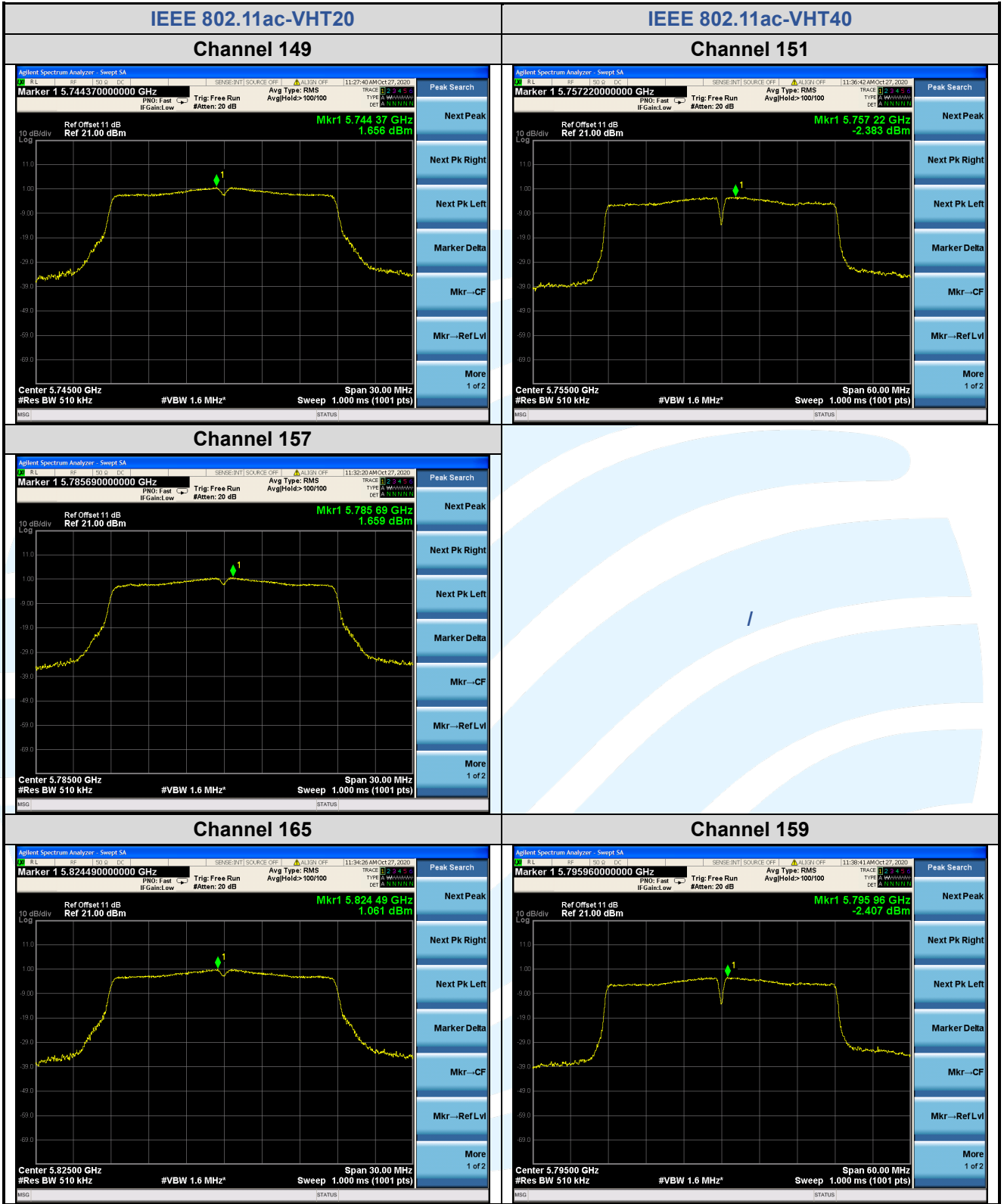
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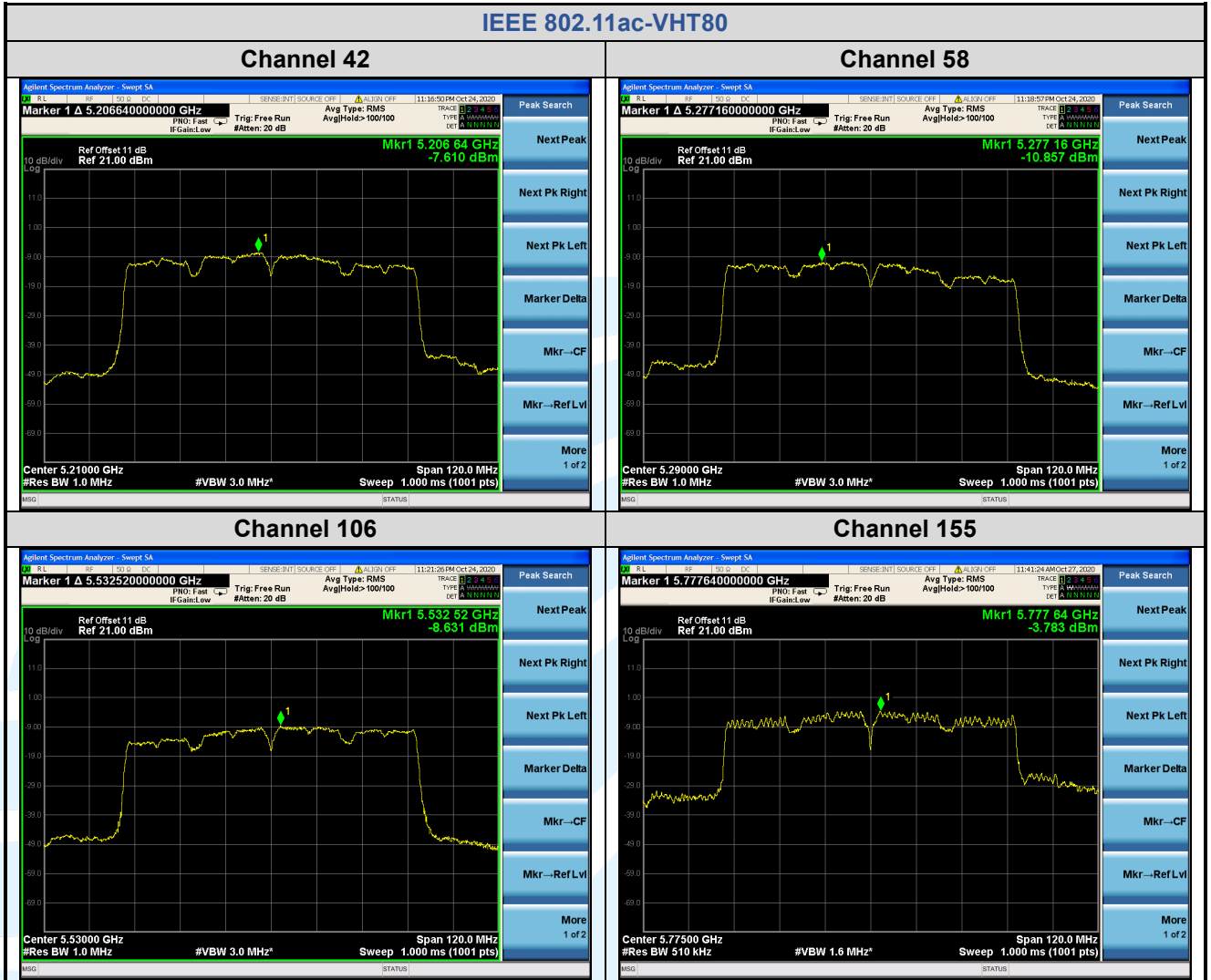
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### 5.7 RADIATED EMISSIONS AND BAND EDGE MEASUREMENT

**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 (dB $\mu$ V/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	
<b>789033 D02 General U-NII Test Procedures New Rules v01r04</b>	<b>Field Strength at 3 m</b>	
	<b>PK: 74 (dBµV/m)</b>	<b>AV: 54 (dBµV/m)</b>
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:**

- 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.
- The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.
- 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.
- 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.
- 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.
- 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:**

- The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120 kHz for Quasi-peak detection (QP) at frequency below 1 GHz.
- 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.
- 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)).
- 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.
- All modes of operation were investigated and the worst-case emissions are reported.

**Equipment Used:** Refer to section 3 for details.

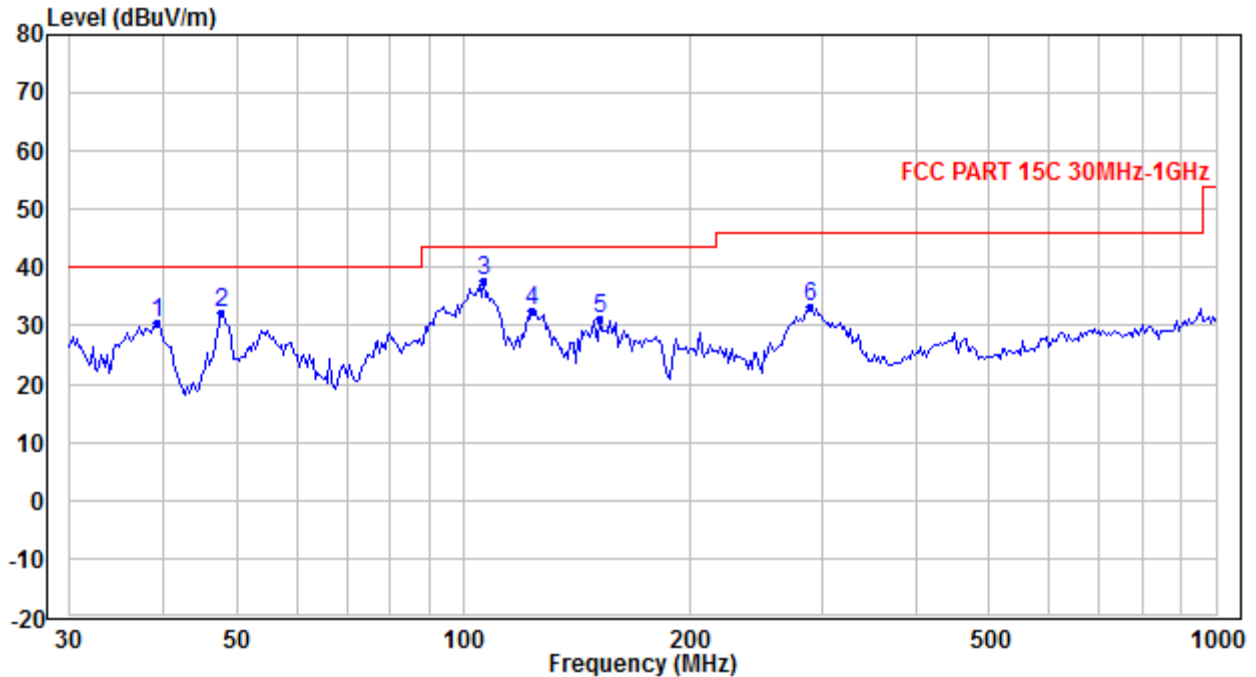
**Test Result:** Pass

**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 (dB $\mu$ V/m)	Correction factor (dB/m)	Result (dB $\mu$ V/m)	Limit (dB $\mu$ V/m)	Margin (dB)	Detector
1	39.182	40.38	-9.94	30.44	40.00	-9.56	QP
2	47.703	45.62	-13.34	32.28	40.00	-7.72	QP
3	106.281	50.14	-12.36	37.78	43.50	-5.72	QP
4	123.181	45.16	-12.57	32.59	43.50	-10.91	QP
5	152.090	42.34	-11.00	31.34	43.50	-12.16	QP
6	288.284	39.34	-6.09	33.25	46.00	-12.75	QP

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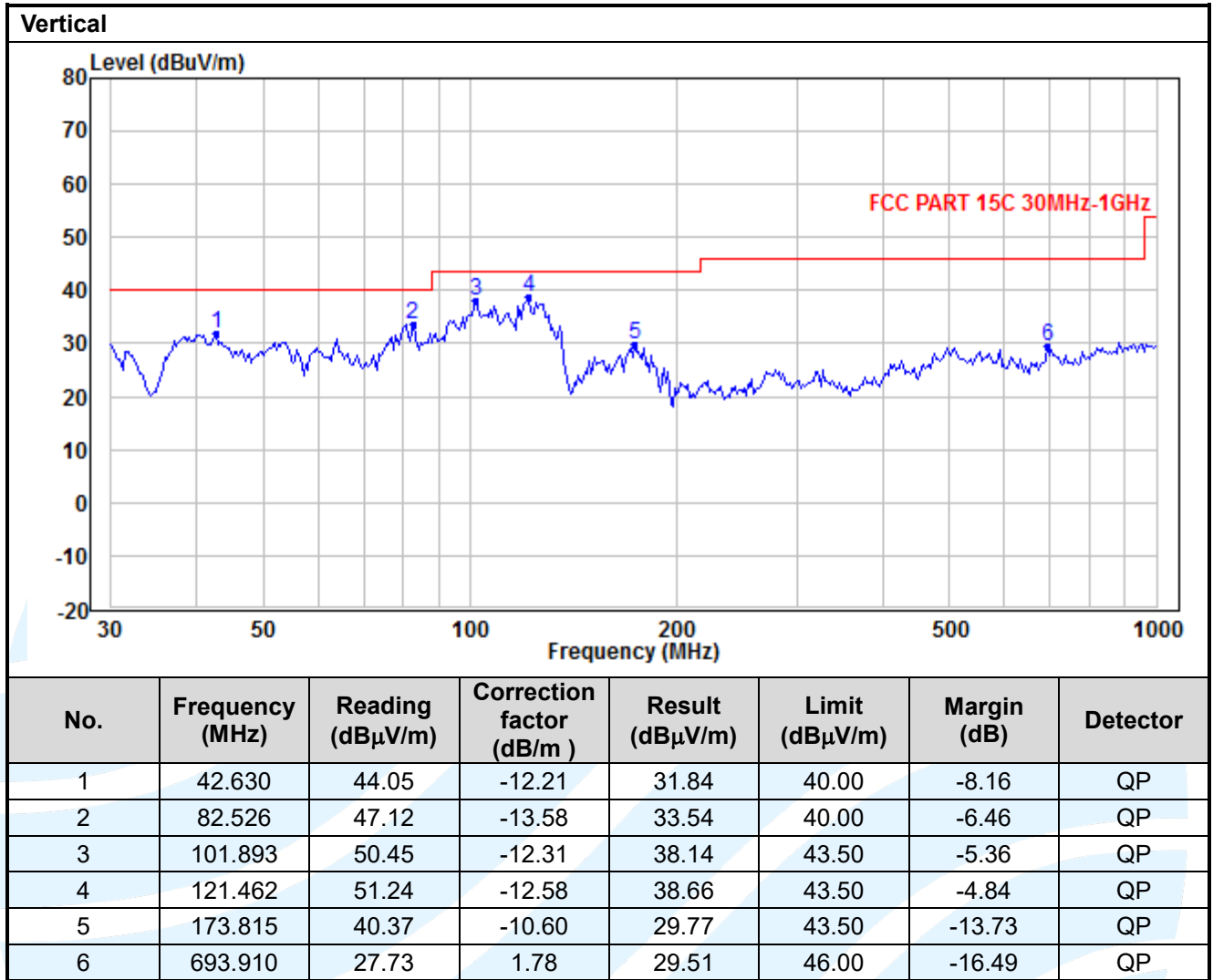
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**Radiated Emission Test Data (Above 1GHz):**

**IEEE 802.11a\_Channel 36**

No.	Frequency (MHz)	Reading (dBµV/m)	Correction factor (dB)	Result (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Detector	Antenna Polaxis
1	10360.00	43.20	8.55	51.75	74.00	-22.25	Peak	Horizontal
2	10360.00	30.74	8.55	39.29	54.00	-14.71	Average	Horizontal
3	15540.00	38.74	11.14	49.88	74.00	-24.12	Peak	Horizontal
4	15540.00	26.49	11.14	37.63	54.00	-16.37	Average	Horizontal
5	10360.00	42.18	8.71	50.89	74.00	-23.11	Peak	Vertical
6	10360.00	30.73	8.71	39.44	54.00	-14.56	Average	Vertical
7	15540.00	38.34	11.24	49.58	74.00	-24.42	Peak	Vertical
8	15540.00	26.29	11.24	37.53	54.00	-16.47	Average	Vertical

**IEEE 802.11a\_Channel 44**

No.	Frequency (MHz)	Reading (dBµV/m)	Correction factor (dB)	Result (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Detector	Antenna Polaxis
1	10440.00	43.03	8.67	51.70	74.00	-22.30	Peak	Horizontal
2	10440.00	31.04	8.67	39.71	54.00	-14.29	Average	Horizontal
3	15660.00	38.20	11.26	49.46	74.00	-24.54	Peak	Horizontal
4	15660.00	26.24	11.26	37.50	54.00	-16.50	Average	Horizontal
5	10440.00	42.30	8.79	51.09	74.00	-22.91	Peak	Vertical
6	10440.00	31.05	8.79	39.84	54.00	-14.16	Average	Vertical
7	15660.00	38.14	11.36	49.50	74.00	-24.50	Peak	Vertical
8	15660.00	26.32	11.36	37.68	54.00	-16.32	Average	Vertical

**MIMO IEEE 802.11a\_Channel 48**

No.	Frequency (MHz)	Reading (dBµV/m)	Correction factor (dB)	Result (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Detector	Antenna Polaxis
1	10480.00	42.17	8.72	50.89	74.00	-23.11	Peak	Horizontal
2	10480.00	30.62	8.72	39.34	54.00	-14.66	Average	Horizontal
3	15720.00	38.78	11.30	50.08	74.00	-23.92	Peak	Horizontal
4	15720.00	26.47	11.30	37.77	54.00	-16.23	Average	Horizontal
5	10480.00	43.37	8.83	52.20	74.00	-21.80	Peak	Vertical
6	10480.00	30.65	8.83	39.48	54.00	-14.52	Average	Vertical
7	15720.00	38.88	11.40	50.28	74.00	-23.72	Peak	Vertical
8	15720.00	26.54	11.40	37.94	54.00	-16.06	Average	Vertical

IEEE 802.11a_Channel 52								
No.	Frequency (MHz)	Reading (dBµV/m)	Correction factor (dB)	Result (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Detector	Antenna Polaxis
1	10520.00	43.15	8.74	51.89	74.00	-22.11	Peak	Horizontal
2	10520.00	30.47	8.74	39.21	54.00	-14.79	Average	Horizontal
3	15780.00	38.19	11.34	49.53	74.00	-24.47	Peak	Horizontal
4	15780.00	26.36	11.34	37.70	54.00	-16.30	Average	Horizontal
5	10520.00	43.16	8.85	52.01	74.00	-21.99	Peak	Vertical
6	10520.00	30.50	8.85	39.35	54.00	-14.65	Average	Vertical
7	15780.00	39.32	11.44	50.76	74.00	-23.24	Peak	Vertical
8	15780.00	26.43	11.44	37.87	54.00	-16.13	Average	Vertical

IEEE 802.11a_Channel 60								
No.	Frequency (MHz)	Reading (dBµV/m)	Correction factor (dB)	Result (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Detector	Antenna Polaxis
1	10600.00	42.37	8.75	51.12	74.00	-22.88	Peak	Horizontal
2	10600.00	30.15	8.75	38.90	54.00	-15.10	Average	Horizontal
3	15900.00	38.87	11.41	50.28	74.00	-23.72	Peak	Horizontal
4	15900.00	26.85	11.41	38.26	54.00	-15.74	Average	Horizontal
5	10600.00	42.13	8.87	51.00	74.00	-23.00	Peak	Vertical
6	10600.00	30.19	8.87	39.06	54.00	-14.94	Average	Vertical
7	15900.00	39.58	11.51	51.09	74.00	-22.91	Peak	Vertical
8	15900.00	26.85	11.51	38.36	54.00	-15.64	Average	Vertical

IEEE 802.11a_Channel 64								
No.	Frequency (MHz)	Reading (dBµV/m)	Correction factor (dB)	Result (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Detector	Antenna Polaxis
1	10640.00	41.72	8.76	50.48	74.00	-23.52	Peak	Horizontal
2	10640.00	30.36	8.76	39.12	54.00	-14.88	Average	Horizontal
3	15960.00	39.95	11.51	51.46	74.00	-22.54	Peak	Horizontal
4	15960.00	26.88	11.51	38.39	54.00	-15.61	Average	Horizontal
5	10640.00	41.92	8.89	50.81	74.00	-23.19	Peak	Vertical
6	10640.00	30.22	8.89	39.11	54.00	-14.89	Average	Vertical
7	15960.00	39.31	11.61	50.92	74.00	-23.08	Peak	Vertical
8	15960.00	26.82	11.61	38.43	54.00	-15.57	Average	Vertical

IEEE 802.11a_Channel 100								
No.	Frequency (MHz)	Reading (dBµV/m)	Correction factor (dB)	Result (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Detector	Antenna Polaxis
1	11000.00	42.13	8.20	50.33	74.00	-23.67	Peak	Horizontal
2	11000.00	30.28	8.20	38.48	54.00	-15.52	Average	Horizontal
3	16500.00	39.95	12.35	52.30	74.00	-21.70	Peak	Horizontal
4	16500.00	26.84	12.35	39.19	54.00	-14.81	Average	Horizontal
5	11000.00	41.54	8.40	49.94	74.00	-24.06	Peak	Vertical
6	11000.00	30.01	8.40	38.41	54.00	-15.59	Average	Vertical
7	16500.00	38.80	12.65	51.45	74.00	-22.55	Peak	Vertical
8	16500.00	26.71	12.65	39.36	54.00	-14.64	Average	Vertical

IEEE 802.11a_Channel 116								
No.	Frequency (MHz)	Reading (dBµV/m)	Correction factor (dB)	Result (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Detector	Antenna Polaxis
1	11160.00	41.20	8.13	49.33	74.00	-24.67	Peak	Horizontal
2	11160.00	29.01	8.13	37.14	54.00	-16.86	Average	Horizontal
3	16740.00	39.60	12.05	51.65	74.00	-22.35	Peak	Horizontal
4	16740.00	26.71	12.05	38.76	54.00	-15.24	Average	Horizontal
5	11160.00	40.85	8.30	49.15	74.00	-24.85	Peak	Vertical
6	11160.00	28.75	8.30	37.05	54.00	-16.95	Average	Vertical
7	16740.00	38.88	12.31	51.19	74.00	-22.81	Peak	Vertical
8	16740.00	26.84	12.31	39.15	54.00	-14.85	Average	Vertical

IEEE 802.11a_Channel 140								
No.	Frequency (MHz)	Reading (dBµV/m)	Correction factor (dB)	Result (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Detector	Antenna Polaxis
1	11400.00	41.94	8.40	50.34	74.00	-23.66	Peak	Horizontal
2	11400.00	30.05	8.40	38.45	54.00	-15.55	Average	Horizontal
3	17100.00	37.89	12.02	49.91	74.00	-24.09	Peak	Horizontal
4	17100.00	25.38	12.02	37.40	54.00	-16.60	Average	Horizontal
5	11400.00	42.50	8.52	51.02	74.00	-22.98	Peak	Vertical
6	11400.00	29.68	8.52	38.20	54.00	-15.80	Average	Vertical
7	17100.00	37.84	12.18	50.02	74.00	-23.98	Peak	Vertical
8	17100.00	25.15	12.18	37.33	54.00	-16.67	Average	Vertical

IEEE 802.11a_Channel 149								
No.	Frequency (MHz)	Reading (dBµV/m)	Correction factor (dB)	Result (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Detector	Antenna Polaxis
1	11490.00	41.64	8.46	50.10	74.00	-23.90	Peak	Horizontal
2	11490.00	29.64	8.46	38.10	54.00	-15.90	Average	Horizontal
3	17235.00	38.05	12.58	50.63	74.00	-23.37	Peak	Horizontal
4	17235.00	26.16	12.58	38.74	54.00	-15.26	Average	Horizontal
5	11490.00	41.56	8.56	50.12	74.00	-23.88	Peak	Vertical
6	11490.00	29.21	8.56	37.77	54.00	-16.23	Average	Vertical
7	17235.00	38.53	12.68	51.21	74.00	-22.79	Peak	Vertical
8	17235.00	26.22	12.68	38.90	54.00	-15.10	Average	Vertical

IEEE 802.11a_Channel 157								
No.	Frequency (MHz)	Reading (dBµV/m)	Correction factor (dB)	Result (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Detector	Antenna Polaxis
1	11570.00	41.19	8.61	49.80	74.00	-24.20	Peak	Horizontal
2	11570.00	28.83	8.61	37.44	54.00	-16.56	Average	Horizontal
3	17355.00	39.63	13.09	52.72	74.00	-21.28	Peak	Horizontal
4	17355.00	26.50	13.09	39.59	54.00	-14.41	Average	Horizontal
5	11570.00	40.50	8.74	49.24	74.00	-24.76	Peak	Vertical
6	11570.00	28.40	8.74	37.14	54.00	-16.86	Average	Vertical
7	17355.00	38.26	13.15	51.41	74.00	-22.59	Peak	Vertical
8	17355.00	26.62	13.15	39.77	54.00	-14.23	Average	Vertical

IEEE 802.11a_Channel 165								
No.	Frequency (MHz)	Reading (dBµV/m)	Correction factor (dB)	Result (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Detector	Antenna Polaxis
1	11650.00	42.10	8.77	50.87	74.00	-23.13	Peak	Horizontal
2	11650.00	28.70	8.77	37.47	54.00	-16.53	Average	Horizontal
3	17475.00	37.57	13.48	51.05	74.00	-22.95	Peak	Horizontal
4	17475.00	25.76	13.48	39.24	54.00	-14.76	Average	Horizontal
5	11650.00	41.17	8.93	50.10	74.00	-23.90	Peak	Vertical
6	11650.00	28.75	8.93	37.68	54.00	-16.32	Average	Vertical
7	17475.00	38.08	13.50	51.58	74.00	-22.42	Peak	Vertical
8	17475.00	25.67	13.50	39.17	54.00	-14.83	Average	Vertical

IEEE 802.11n-HT20_Channel 36								
No.	Frequency (MHz)	Reading (dBµV/m)	Correction factor (dB)	Result (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Detector	Antenna Polaxis
1	10360.00	43.23	8.55	51.78	74.00	-22.22	Peak	Horizontal
2	10360.00	30.53	8.55	39.08	54.00	-14.92	Average	Horizontal
3	15540.00	38.72	11.14	49.86	74.00	-24.14	Peak	Horizontal
4	15540.00	26.36	11.14	37.50	54.00	-16.50	Average	Horizontal
5	10360.00	42.54	8.71	51.25	74.00	-22.75	Peak	Vertical
6	10360.00	30.35	8.71	39.06	54.00	-14.94	Average	Vertical
7	15540.00	38.77	11.24	50.01	74.00	-23.99	Peak	Vertical
8	15540.00	26.29	11.24	37.53	54.00	-16.47	Average	Vertical

IEEE 802.11n-HT20_Channel 44								
No.	Frequency (MHz)	Reading (dBµV/m)	Correction factor (dB)	Result (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Detector	Antenna Polaxis
1	10440.00	43.41	8.67	52.08	74.00	-21.92	Peak	Horizontal
2	10440.00	30.96	8.67	39.63	54.00	-14.37	Average	Horizontal
3	15660.00	38.68	11.26	49.94	74.00	-24.06	Peak	Horizontal
4	15660.00	26.03	11.26	37.29	54.00	-16.71	Average	Horizontal
5	10440.00	41.32	8.79	50.11	74.00	-23.89	Peak	Vertical
6	10440.00	30.67	8.79	39.46	54.00	-14.54	Average	Vertical
7	15660.00	37.78	11.36	49.14	74.00	-24.86	Peak	Vertical
8	15660.00	26.17	11.36	37.53	54.00	-16.47	Average	Vertical

IEEE 802.11n-HT20_Channel 48								
No.	Frequency (MHz)	Reading (dBµV/m)	Correction factor (dB)	Result (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Detector	Antenna Polaxis
1	10480.00	42.83	8.72	51.55	74.00	-22.45	Peak	Horizontal
2	10480.00	30.36	8.72	39.08	54.00	-14.92	Average	Horizontal
3	15720.00	38.33	11.30	49.63	74.00	-24.37	Peak	Horizontal
4	15720.00	26.26	11.30	37.56	54.00	-16.44	Average	Horizontal
5	10480.00	42.21	8.83	51.04	74.00	-22.96	Peak	Vertical
6	10480.00	30.26	8.83	39.09	54.00	-14.91	Average	Vertical
7	15720.00	38.68	11.40	50.08	74.00	-23.92	Peak	Vertical
8	15720.00	26.47	11.40	37.87	54.00	-16.13	Average	Vertical



IEEE 802.11n-HT20_Channel 52								
No.	Frequency (MHz)	Reading (dBµV/m)	Correction factor (dB)	Result (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Detector	Antenna Polaxis
1	10520.00	42.59	8.74	51.33	74.00	-22.67	Peak	Horizontal
2	10520.00	30.29	8.74	39.03	54.00	-14.97	Average	Horizontal
3	15780.00	38.21	11.34	49.55	74.00	-24.45	Peak	Horizontal
4	15780.00	26.15	11.34	37.49	54.00	-16.51	Average	Horizontal
5	10520.00	41.97	8.85	50.82	74.00	-23.18	Peak	Vertical
6	10520.00	30.10	8.85	38.95	54.00	-15.05	Average	Vertical
7	15780.00	39.00	11.44	50.44	74.00	-23.56	Peak	Vertical
8	15780.00	26.43	11.44	37.87	54.00	-16.13	Average	Vertical

IEEE 802.11n-HT20_Channel 60								
No.	Frequency (MHz)	Reading (dBµV/m)	Correction factor (dB)	Result (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Detector	Antenna Polaxis
1	10600.00	42.54	8.75	51.29	74.00	-22.71	Peak	Horizontal
2	10600.00	29.92	8.75	38.67	54.00	-15.33	Average	Horizontal
3	15900.00	39.04	11.41	50.45	74.00	-23.55	Peak	Horizontal
4	15900.00	26.72	11.41	38.13	54.00	-15.87	Average	Horizontal
5	10600.00	41.59	8.87	50.46	74.00	-23.54	Peak	Vertical
6	10600.00	29.74	8.87	38.61	54.00	-15.39	Average	Vertical
7	15900.00	39.26	11.51	50.77	74.00	-23.23	Peak	Vertical
8	15900.00	26.85	11.51	38.36	54.00	-15.64	Average	Vertical

IEEE 802.11n-HT20_Channel 64								
No.	Frequency (MHz)	Reading (dBµV/m)	Correction factor (dB)	Result (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Detector	Antenna Polaxis
1	10640.00	41.78	8.76	50.54	74.00	-23.46	Peak	Horizontal
2	10640.00	30.00	8.76	38.76	54.00	-15.24	Average	Horizontal
3	15960.00	39.67	11.51	51.18	74.00	-22.82	Peak	Horizontal
4	15960.00	26.68	11.51	38.19	54.00	-15.81	Average	Horizontal
5	10640.00	42.76	8.89	51.65	74.00	-22.35	Peak	Vertical
6	10640.00	29.81	8.89	38.70	54.00	-15.30	Average	Vertical
7	15960.00	39.05	11.61	50.66	74.00	-23.34	Peak	Vertical
8	15960.00	26.75	11.61	38.36	54.00	-15.64	Average	Vertical

IEEE 802.11n-HT20_Channel 100								
No.	Frequency (MHz)	Reading (dBµV/m)	Correction factor (dB)	Result (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Detector	Antenna Polaxis
1	11000.00	41.89	8.20	50.09	74.00	-23.91	Peak	Horizontal
2	11000.00	30.19	8.20	38.39	54.00	-15.61	Average	Horizontal
3	16500.00	39.92	12.35	52.27	74.00	-21.73	Peak	Horizontal
4	16500.00	26.64	12.35	38.99	54.00	-15.01	Average	Horizontal
5	11000.00	41.35	8.40	49.75	74.00	-24.25	Peak	Vertical
6	11000.00	29.87	8.40	38.27	54.00	-15.73	Average	Vertical
7	16500.00	38.97	12.65	51.62	74.00	-22.38	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 (dBµV/m)	Correction factor (dB)	Result (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Detector	Antenna Polaxis
1	11160.00	40.84	8.13	48.97	74.00	-25.03	Peak	Horizontal
2	11160.00	28.75	8.13	36.88	54.00	-17.12	Average	Horizontal
3	16740.00	38.93	12.05	50.98	74.00	-23.02	Peak	Horizontal
4	16740.00	26.64	12.05	38.69	54.00	-15.31	Average	Horizontal
5	11160.00	40.62	8.30	48.92	74.00	-25.08	Peak	Vertical
6	11160.00	28.43	8.30	36.73	54.00	-17.27	Average	Vertical
7	16740.00	39.26	12.31	51.57	74.00	-22.43	Peak	Vertical
8	16740.00	26.71	12.31	39.02	54.00	-14.98	Average	Vertical

IEEE 802.11n-HT20_Channel 140								
No.	Frequency (MHz)	Reading (dBµV/m)	Correction factor (dB)	Result (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Detector	Antenna Polaxis
1	11400.00	42.31	8.40	50.71	74.00	-23.29	Peak	Horizontal
2	11400.00	29.82	8.40	38.22	54.00	-15.78	Average	Horizontal
3	17100.00	37.87	12.02	49.89	74.00	-24.11	Peak	Horizontal
4	17100.00	25.22	12.02	37.24	54.00	-16.76	Average	Horizontal
5	11400.00	42.91	8.52	51.43	74.00	-22.57	Peak	Vertical
6	11400.00	29.73	8.52	38.25	54.00	-15.75	Average	Vertical
7	17100.00	38.52	12.18	50.70	74.00	-23.30	Peak	Vertical
8	17100.00	25.31	12.18	37.49	54.00	-16.51	Average	Vertical

IEEE 802.11n-HT20_Channel 149								
No.	Frequency (MHz)	Reading (dBµV/m)	Correction factor (dB)	Result (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Detector	Antenna Polaxis
1	11490.00	42.25	8.46	50.71	74.00	-23.29	Peak	Horizontal
2	11490.00	29.10	8.46	37.56	54.00	-16.44	Average	Horizontal
3	17235.00	38.20	12.58	50.78	74.00	-23.22	Peak	Horizontal
4	17235.00	25.86	12.58	38.44	54.00	-15.56	Average	Horizontal
5	11490.00	41.47	8.56	50.03	74.00	-23.97	Peak	Vertical
6	11490.00	29.21	8.56	37.77	54.00	-16.23	Average	Vertical
7	17235.00	38.35	12.68	51.03	74.00	-22.97	Peak	Vertical
8	17235.00	26.07	12.68	38.75	54.00	-15.25	Average	Vertical

IEEE 802.11n-HT20_Channel 157								
No.	Frequency (MHz)	Reading (dBµV/m)	Correction factor (dB)	Result (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Detector	Antenna Polaxis
1	11570.00	40.64	8.61	49.25	74.00	-24.75	Peak	Horizontal
2	11570.00	28.56	8.61	37.17	54.00	-16.83	Average	Horizontal
3	17355.00	38.80	13.09	51.89	74.00	-22.11	Peak	Horizontal
4	17355.00	26.43	13.09	39.52	54.00	-14.48	Average	Horizontal
5	11570.00	40.81	8.74	49.55	74.00	-24.45	Peak	Vertical
6	11570.00	28.45	8.74	37.19	54.00	-16.81	Average	Vertical
7	17355.00	39.85	13.15	53.00	74.00	-21.00	Peak	Vertical
8	17355.00	26.56	13.15	39.71	54.00	-14.29	Average	Vertical

IEEE 802.11n-HT20_Channel 165								
No.	Frequency (MHz)	Reading (dBµV/m)	Correction factor (dB)	Result (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Detector	Antenna Polaxis
1	11650.00	40.99	8.77	49.76	74.00	-24.24	Peak	Horizontal
2	11650.00	29.06	8.77	37.83	54.00	-16.17	Average	Horizontal
3	17475.00	37.46	13.48	50.94	74.00	-23.06	Peak	Horizontal
4	17475.00	25.76	13.48	39.24	54.00	-14.76	Average	Horizontal
5	11650.00	41.43	8.93	50.36	74.00	-23.64	Peak	Vertical
6	11650.00	28.91	8.93	37.84	54.00	-16.16	Average	Vertical
7	17475.00	37.86	13.50	51.36	74.00	-22.64	Peak	Vertical
8	17475.00	25.75	13.50	39.25	54.00	-14.75	Average	Vertical

IEEE 802.11n-HT40_Channel 38								
No.	Frequency (MHz)	Reading (dBµV/m)	Correction factor (dB)	Result (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Detector	Antenna Polaxis
1	10380.00	42.77	8.58	51.35	74.00	-22.65	Peak	Horizontal
2	10380.00	30.72	8.58	39.30	54.00	-14.70	Average	Horizontal
3	15570.00	37.63	11.18	48.81	74.00	-25.19	Peak	Horizontal
4	15570.00	25.96	11.18	37.14	54.00	-16.86	Average	Horizontal
5	10380.00	42.63	8.73	51.36	74.00	-22.64	Peak	Vertical
6	10380.00	30.59	8.73	39.32	54.00	-14.68	Average	Vertical
7	15570.00	37.59	11.28	48.87	74.00	-25.13	Peak	Vertical
8	15570.00	25.96	11.28	37.24	54.00	-16.76	Average	Vertical

IEEE 802.11n-HT40_Channel 46								
No.	Frequency (MHz)	Reading (dBµV/m)	Correction factor (dB)	Result (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Detector	Antenna Polaxis
1	10460.00	41.95	8.69	50.64	74.00	-23.36	Peak	Horizontal
2	10460.00	31.02	8.69	39.71	54.00	-14.29	Average	Horizontal
3	15690.00	38.19	11.29	49.48	74.00	-24.52	Peak	Horizontal
4	15690.00	25.93	11.29	37.22	54.00	-16.78	Average	Horizontal
5	10460.00	43.20	8.81	52.01	74.00	-21.99	Peak	Vertical
6	10460.00	31.03	8.81	39.84	54.00	-14.16	Average	Vertical
7	15690.00	39.05	11.39	50.44	74.00	-23.56	Peak	Vertical
8	15690.00	25.93	11.39	37.32	54.00	-16.68	Average	Vertical

IEEE 802.11n-HT40_Channel 54								
No.	Frequency (MHz)	Reading (dBµV/m)	Correction factor (dB)	Result (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Detector	Antenna Polaxis
1	10540.00	42.08	8.76	50.84	74.00	-23.16	Peak	Horizontal
2	10540.00	30.23	8.76	38.99	54.00	-15.01	Average	Horizontal
3	15810.00	39.08	11.35	50.43	74.00	-23.57	Peak	Horizontal
4	15810.00	26.61	11.35	37.96	54.00	-16.04	Average	Horizontal
5	10540.00	42.22	8.87	51.09	74.00	-22.91	Peak	Vertical
6	10540.00	30.27	8.87	39.14	54.00	-14.86	Average	Vertical
7	15810.00	39.50	11.45	50.95	74.00	-23.05	Peak	Vertical
8	15810.00	26.47	11.45	37.92	54.00	-16.08	Average	Vertical

IEEE 802.11n-HT40_Channel 62								
No.	Frequency (MHz)	Reading (dBµV/m)	Correction factor (dB)	Result (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Detector	Antenna Polaxis
1	10620.00	42.69	8.74	51.43	74.00	-22.57	Peak	Horizontal
2	10620.00	30.07	8.74	38.81	54.00	-15.19	Average	Horizontal
3	15930.00	38.91	11.47	50.38	74.00	-23.62	Peak	Horizontal
4	15930.00	26.72	11.47	38.19	54.00	-15.81	Average	Horizontal
5	10620.00	42.84	8.87	51.71	74.00	-22.29	Peak	Vertical
6	10620.00	30.11	8.87	38.98	54.00	-15.02	Average	Vertical
7	15930.00	39.35	11.57	50.92	74.00	-23.08	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 (dBµV/m)	Correction factor (dB)	Result (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Detector	Antenna Polaxis
1	11020.00	42.70	8.18	50.88	74.00	-23.12	Peak	Horizontal
2	11020.00	30.12	8.18	38.30	54.00	-15.70	Average	Horizontal
3	16530.00	39.61	12.32	51.93	74.00	-22.07	Peak	Horizontal
4	16530.00	26.67	12.32	38.99	54.00	-15.01	Average	Horizontal
5	11020.00	42.52	8.37	50.89	74.00	-23.11	Peak	Vertical
6	11020.00	30.17	8.37	38.54	54.00	-15.46	Average	Vertical
7	16530.00	39.34	12.61	51.95	74.00	-22.05	Peak	Vertical
8	16530.00	26.68	12.61	39.29	54.00	-14.71	Average	Vertical

IEEE 802.11n-HT40_Channel 110								
No.	Frequency (MHz)	Reading (dBµV/m)	Correction factor (dB)	Result (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Detector	Antenna Polaxis
1	11100.00	40.78	8.06	48.84	74.00	-25.16	Peak	Horizontal
2	11100.00	28.98	8.06	37.04	54.00	-16.96	Average	Horizontal
3	16650.00	38.91	12.17	51.08	74.00	-22.92	Peak	Horizontal
4	16650.00	26.45	12.17	38.62	54.00	-15.38	Average	Horizontal
5	11100.00	40.13	8.24	48.37	74.00	-25.63	Peak	Vertical
6	11100.00	28.55	8.24	36.79	54.00	-17.21	Average	Vertical
7	16650.00	39.90	12.44	52.34	74.00	-21.66	Peak	Vertical
8	16650.00	26.71	12.44	39.15	54.00	-14.85	Average	Vertical

IEEE 802.11n-HT40_Channel 134								
No.	Frequency (MHz)	Reading (dBµV/m)	Correction factor (dB)	Result (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Detector	Antenna Polaxis
1	11340.00	41.10	8.33	49.43	74.00	-24.57	Peak	Horizontal
2	11340.00	29.62	8.33	37.95	54.00	-16.05	Average	Horizontal
3	17010.00	37.71	11.77	49.48	74.00	-24.52	Peak	Horizontal
4	17010.00	25.72	11.77	37.49	54.00	-16.51	Average	Horizontal
5	11340.00	42.29	8.46	50.75	74.00	-23.25	Peak	Vertical
6	11340.00	29.53	8.46	37.99	54.00	-16.01	Average	Vertical
7	17010.00	37.80	11.97	49.77	74.00	-24.23	Peak	Vertical
8	17010.00	25.57	11.97	37.54	54.00	-16.46	Average	Vertical

IEEE 802.11n-HT40_Channel 151								
No.	Frequency (MHz)	Reading (dBµV/m)	Correction factor (dB)	Result (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Detector	Antenna Polaxis
1	11510.00	41.01	8.49	49.50	74.00	-24.50	Peak	Horizontal
2	11510.00	29.47	8.49	37.96	54.00	-16.04	Average	Horizontal
3	17265.00	38.09	12.71	50.80	74.00	-23.20	Peak	Horizontal
4	17265.00	25.73	12.71	38.44	54.00	-15.56	Average	Horizontal
5	11510.00	42.68	8.59	51.27	74.00	-22.73	Peak	Vertical
6	11510.00	29.28	8.59	37.87	54.00	-16.13	Average	Vertical
7	17265.00	37.93	12.81	50.74	74.00	-23.26	Peak	Vertical
8	17265.00	25.79	12.81	38.60	54.00	-15.40	Average	Vertical

IEEE 802.11n-HT40_Channel 159								
No.	Frequency (MHz)	Reading (dBµV/m)	Correction factor (dB)	Result (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Detector	Antenna Polaxis
1	11590.00	40.50	8.65	49.15	74.00	-24.85	Peak	Horizontal
2	11590.00	28.63	8.65	37.28	54.00	-16.72	Average	Horizontal
3	17385.00	38.20	13.22	51.42	74.00	-22.58	Peak	Horizontal
4	17385.00	26.30	13.22	39.52	54.00	-14.48	Average	Horizontal
5	11590.00	40.61	8.79	49.40	74.00	-24.60	Peak	Vertical
6	11590.00	28.51	8.79	37.30	54.00	-16.70	Average	Vertical
7	17385.00	38.52	13.26	51.78	74.00	-22.22	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 (dBµV/m)	Correction factor (dB)	Result (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Detector	Antenna Polaxis
1	10460.00	42.59	8.64	51.23	74.00	-22.77	Peak	Horizontal
2	10460.00	31.19	8.64	39.83	54.00	-14.17	Average	Horizontal
3	15690.00	38.52	11.25	49.77	74.00	-24.23	Peak	Horizontal
4	15690.00	26.04	11.25	37.29	54.00	-16.71	Average	Horizontal
5	10460.00	43.29	8.77	52.06	74.00	-21.94	Peak	Vertical
6	10460.00	30.64	8.77	39.55	54.00	-14.45	Average	Vertical
7	15690.00	38.54	11.35	49.89	74.00	-24.11	Peak	Vertical
8	15690.00	26.25	11.35	37.60	54.00	-16.40	Average	Vertical

IEEE 802.11ac-VHT80_Channel 58								
No.	Frequency (MHz)	Reading (dBµV/m)	Correction factor (dB)	Result (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Detector	Antenna Polaxis
1	10580.00	43.06	8.76	51.82	74.00	-22.18	Peak	Horizontal
2	10580.00	30.95	8.76	39.71	54.00	-14.29	Average	Horizontal
3	15870.00	39.10	11.39	50.49	74.00	-23.51	Peak	Horizontal
4	15870.00	26.75	11.39	38.14	54.00	-15.86	Average	Horizontal
5	10580.00	41.80	8.87	50.67	74.00	-23.33	Peak	Vertical
6	10580.00	29.87	8.87	38.74	54.00	-15.26	Average	Vertical
7	15870.00	38.24	11.49	49.73	74.00	-24.27	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 (dBµV/m)	Correction factor (dB)	Result (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Detector	Antenna Polaxis
1	11060.00	42.03	8.12	50.15	74.00	-23.85	Peak	Horizontal
2	11060.00	29.79	8.12	37.65	54.00	-16.35	Average	Horizontal
3	16590.00	38.12	12.24	50.36	74.00	-23.64	Peak	Horizontal
4	16590.00	25.94	12.24	38.18	54.00	-15.82	Average	Horizontal
5	11060.00	42.22	8.31	50.53	74.00	-23.47	Peak	Vertical
6	11060.00	29.53	8.31	37.84	54.00	-16.16	Average	Vertical
7	16590.00	38.43	12.53	50.96	74.00	-23.04	Peak	Vertical
8	16590.00	25.70	12.53	38.23	54.00	-15.77	Average	Vertical

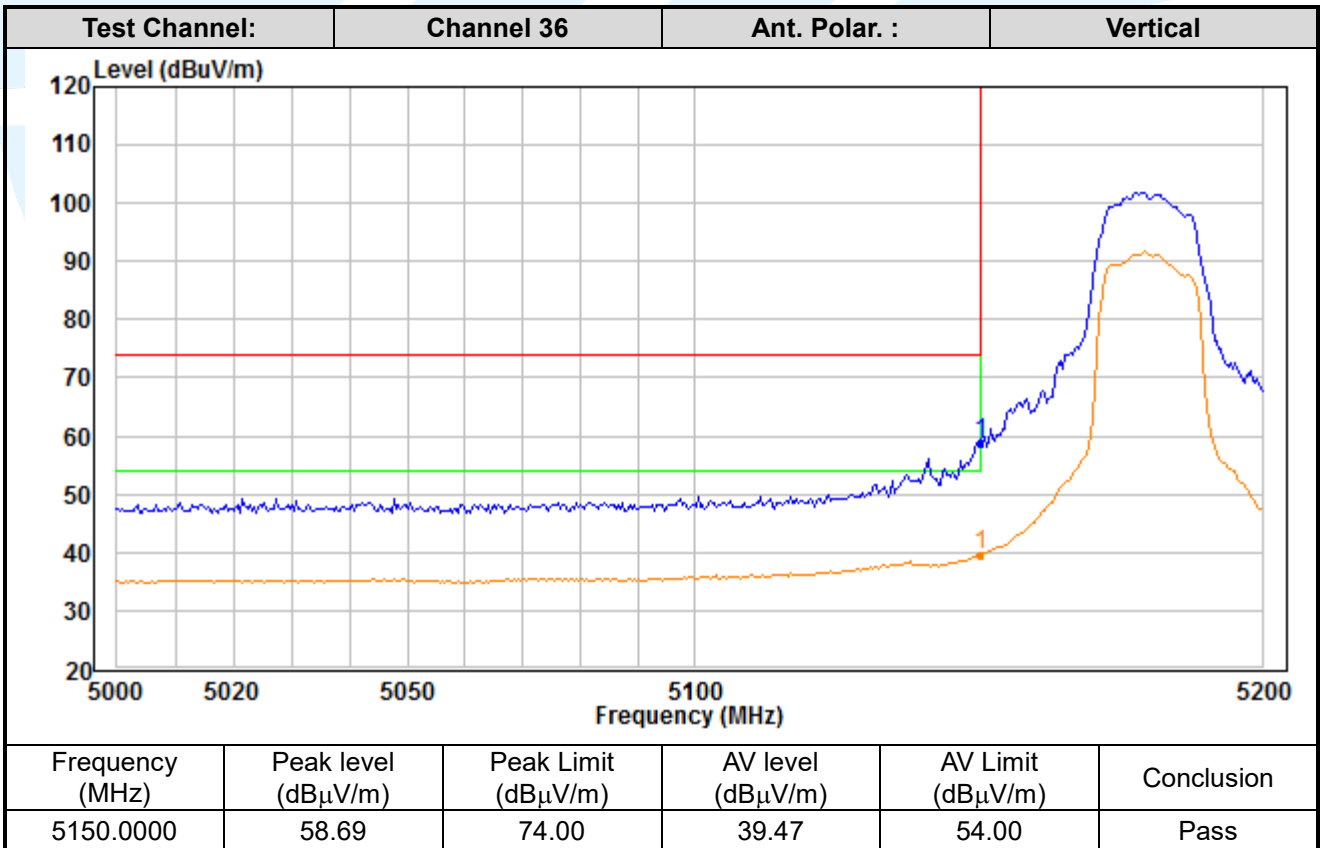
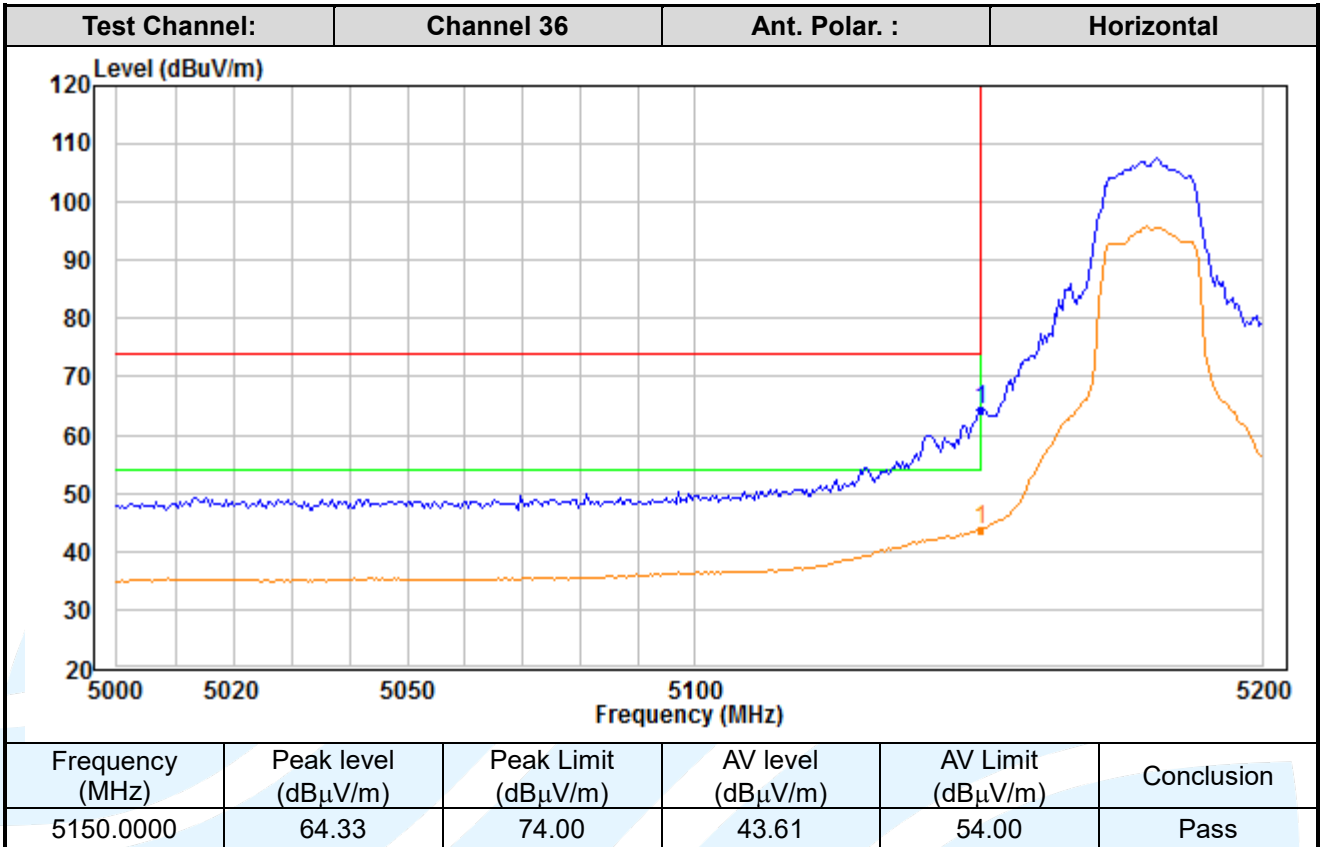
**IEEE 802.11ac-VHT80\_Channel 155**

No.	Frequency (MHz)	Reading (dBµV/m)	Correction factor (dB)	Result (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Detector	Antenna Polaxis
1	11550.00	41.53	8.65	50.18	74.00	-23.82	Peak	Horizontal
2	11550.00	28.63	8.65	37.28	54.00	-16.72	Average	Horizontal
3	17325.00	38.00	13.22	51.22	74.00	-22.78	Peak	Horizontal
4	17325.00	26.23	13.22	39.45	54.00	-14.55	Average	Horizontal
5	11550.00	40.34	8.79	49.13	74.00	-24.87	Peak	Vertical
6	11550.00	28.35	8.79	37.14	54.00	-16.86	Average	Vertical
7	17325.00	38.31	13.26	51.57	74.00	-22.43	Peak	Vertical
8	17325.00	26.31	13.26	39.57	54.00	-14.43	Average	Vertical

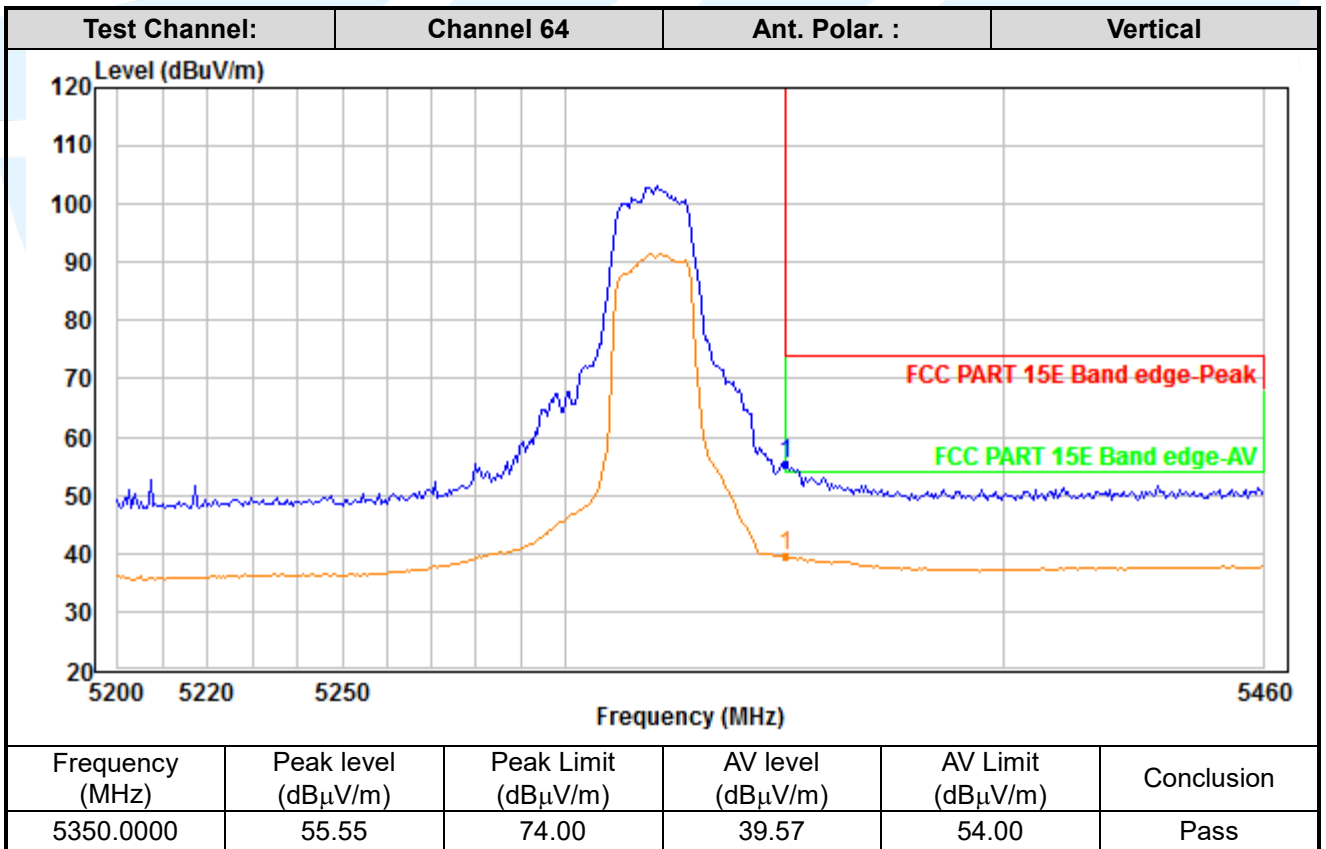
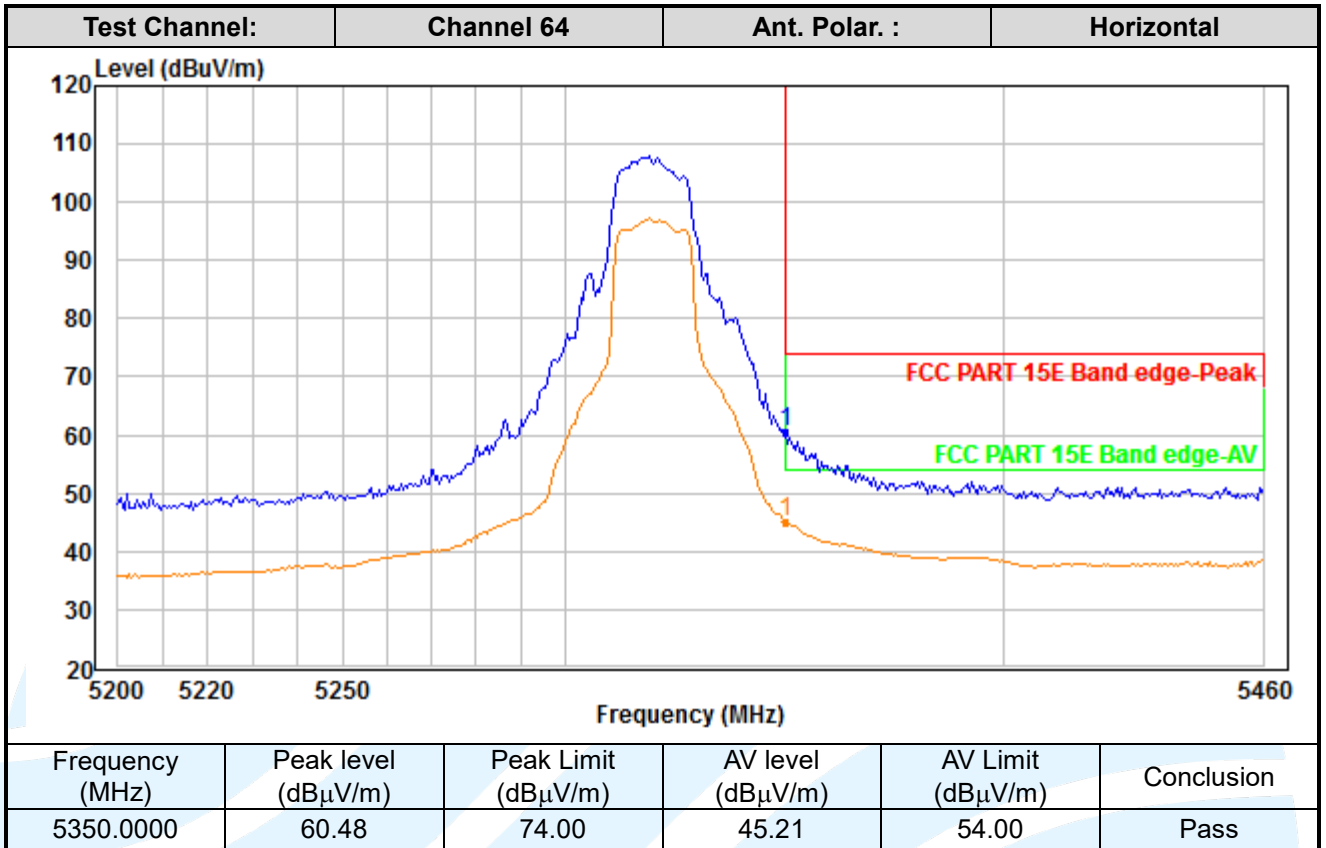
**Remark:**

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**



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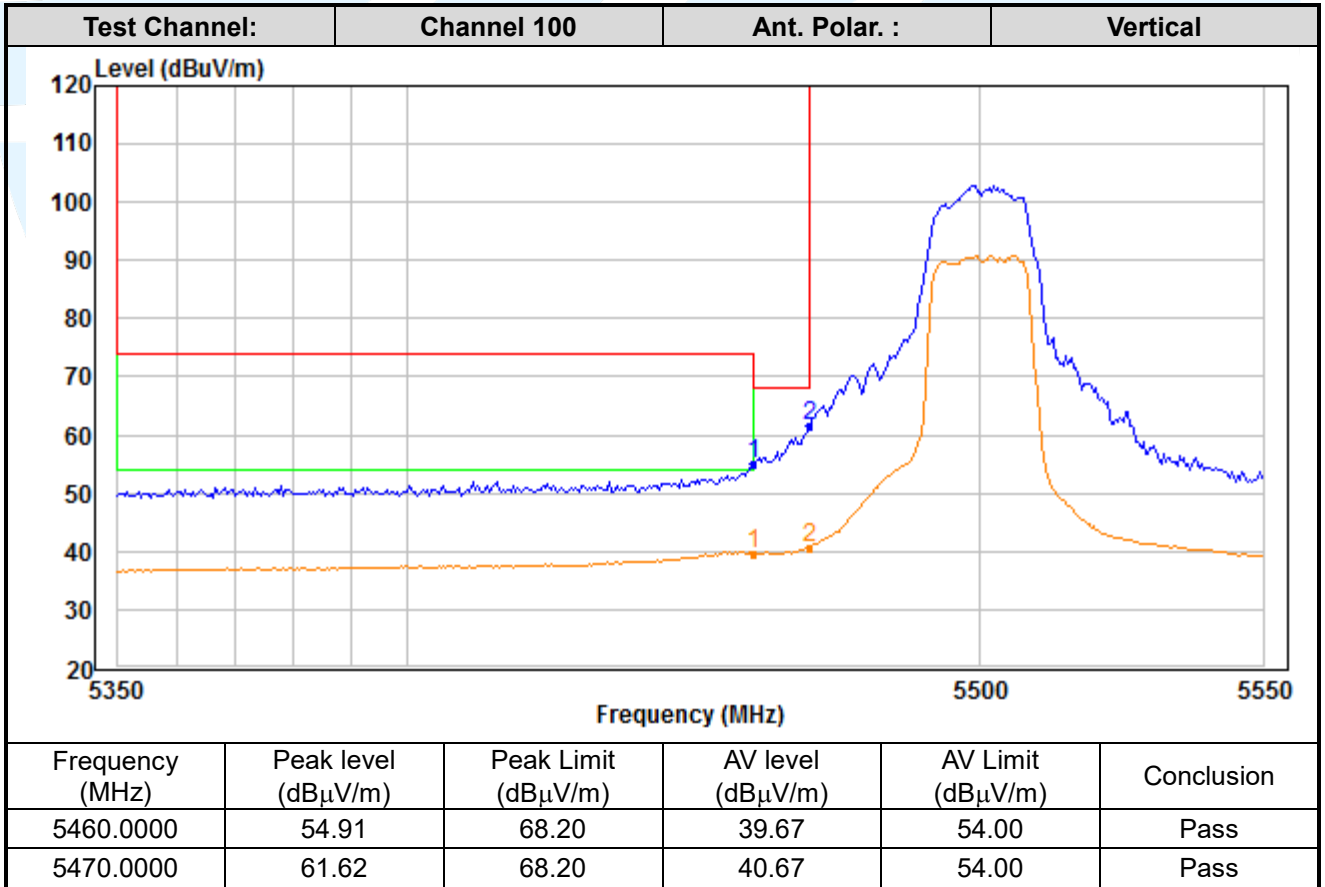
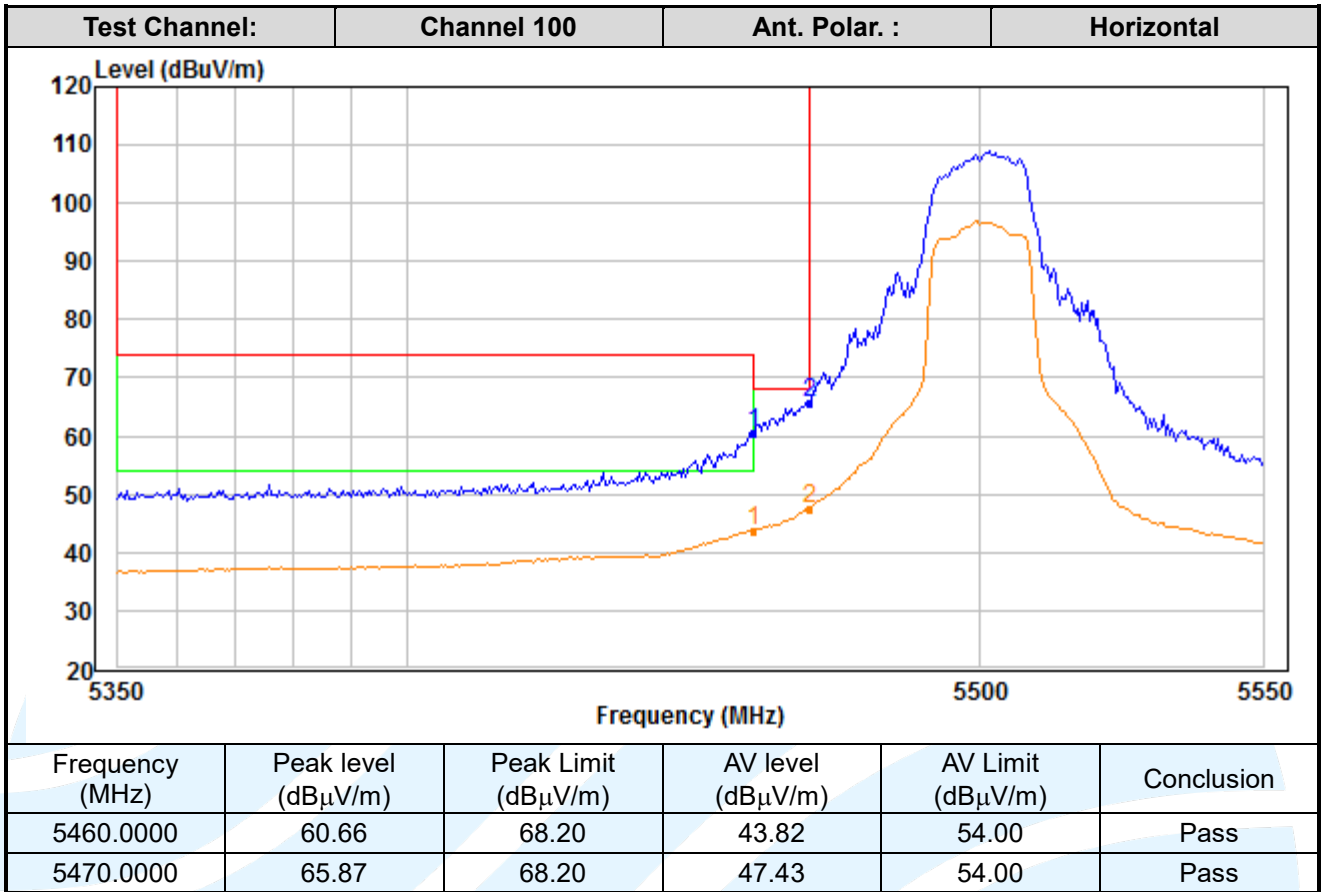
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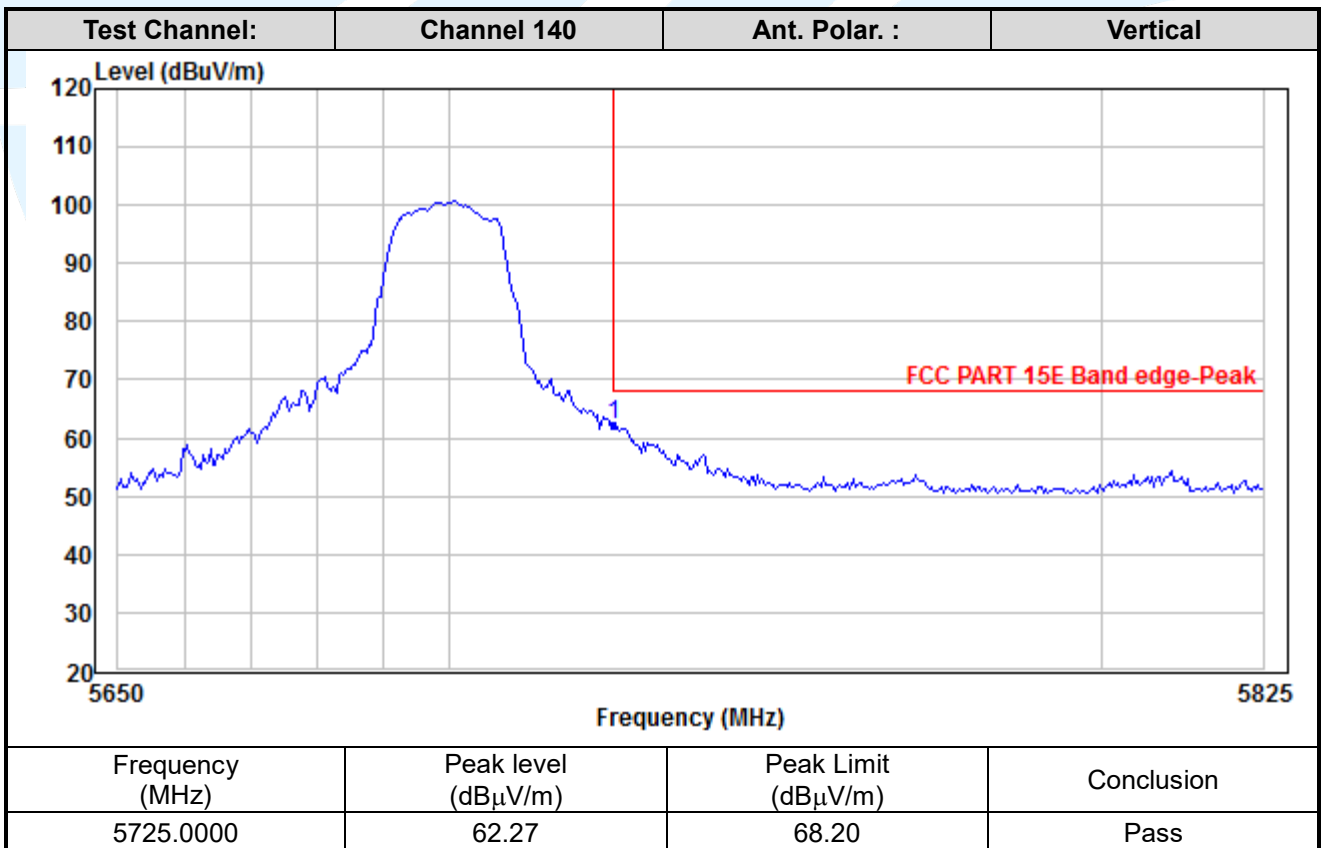
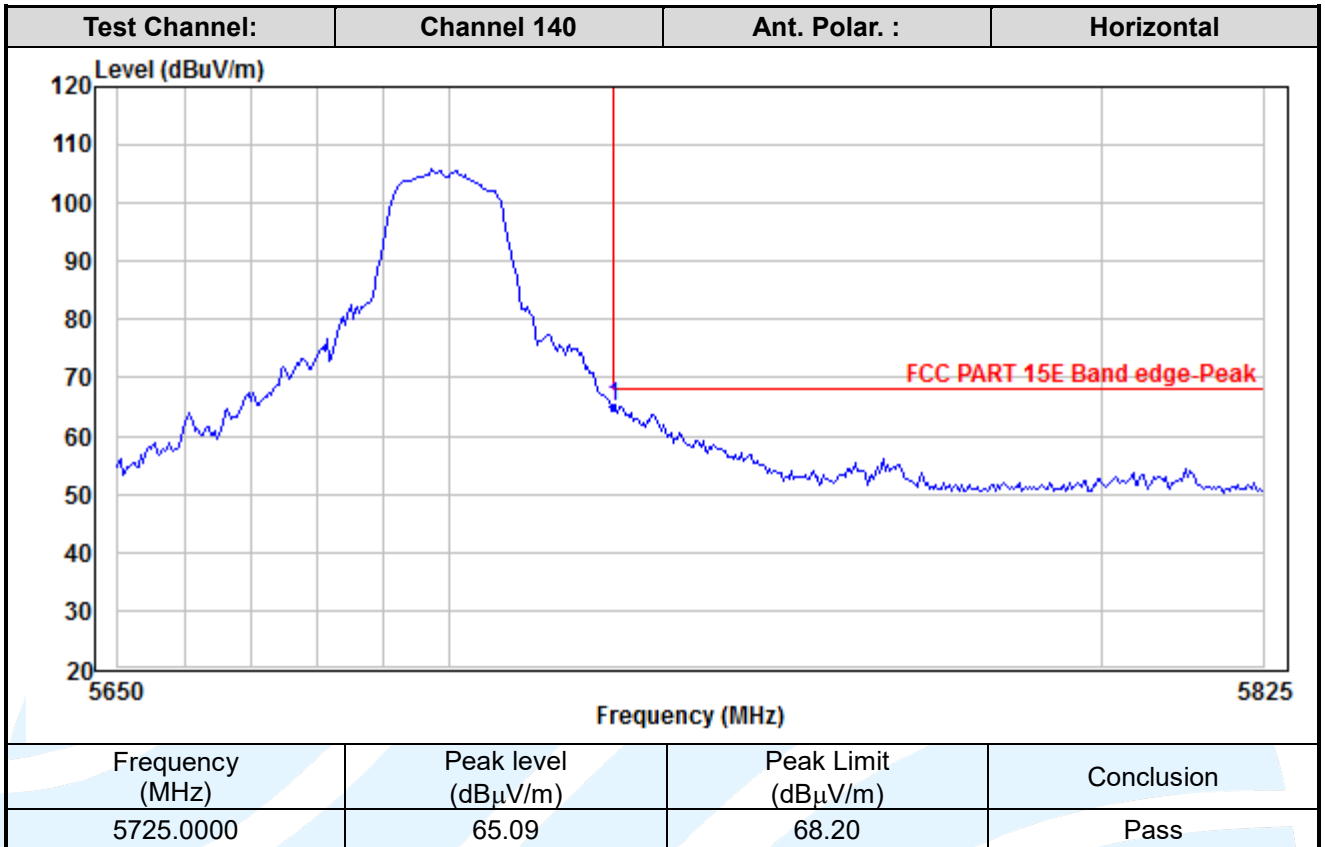
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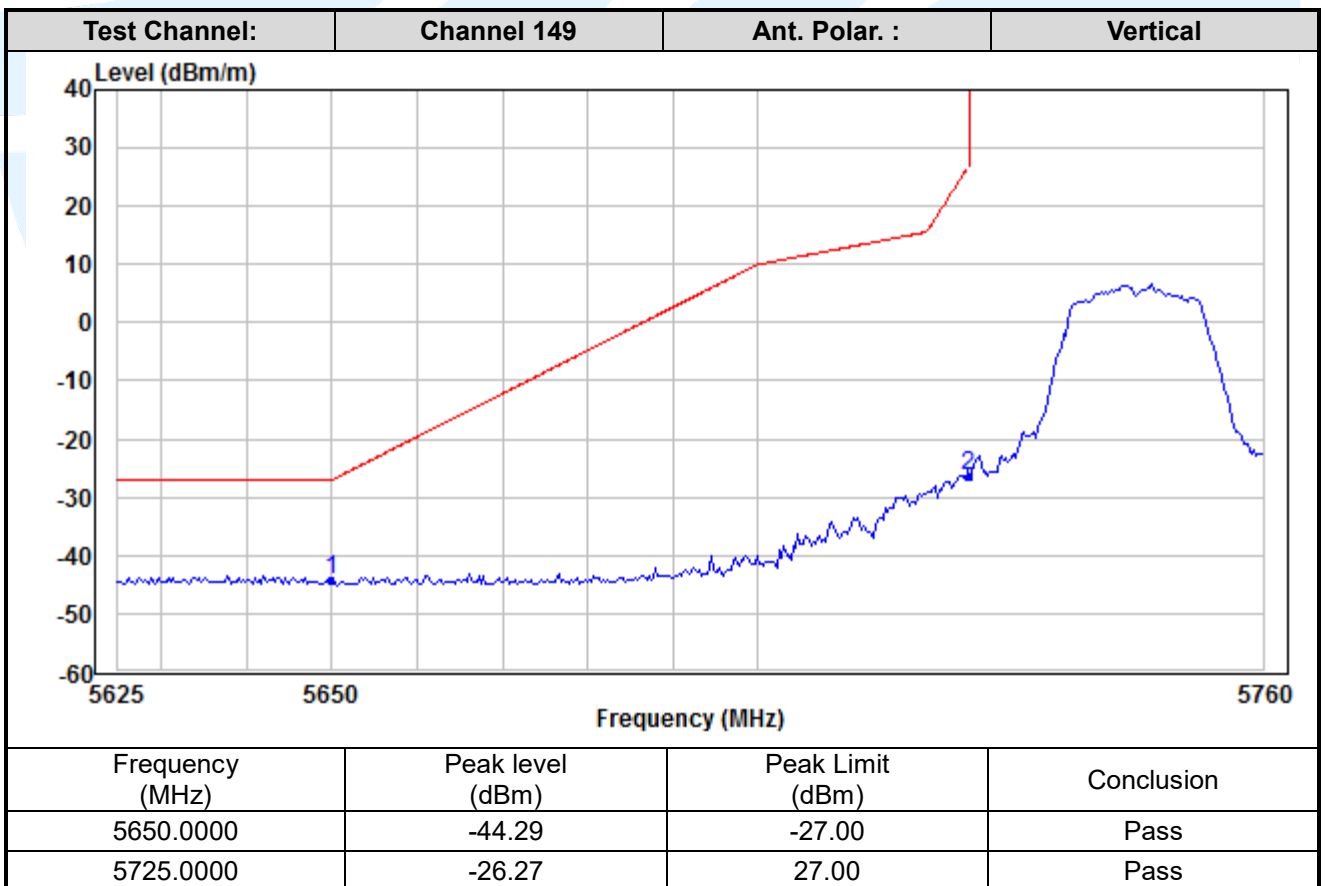
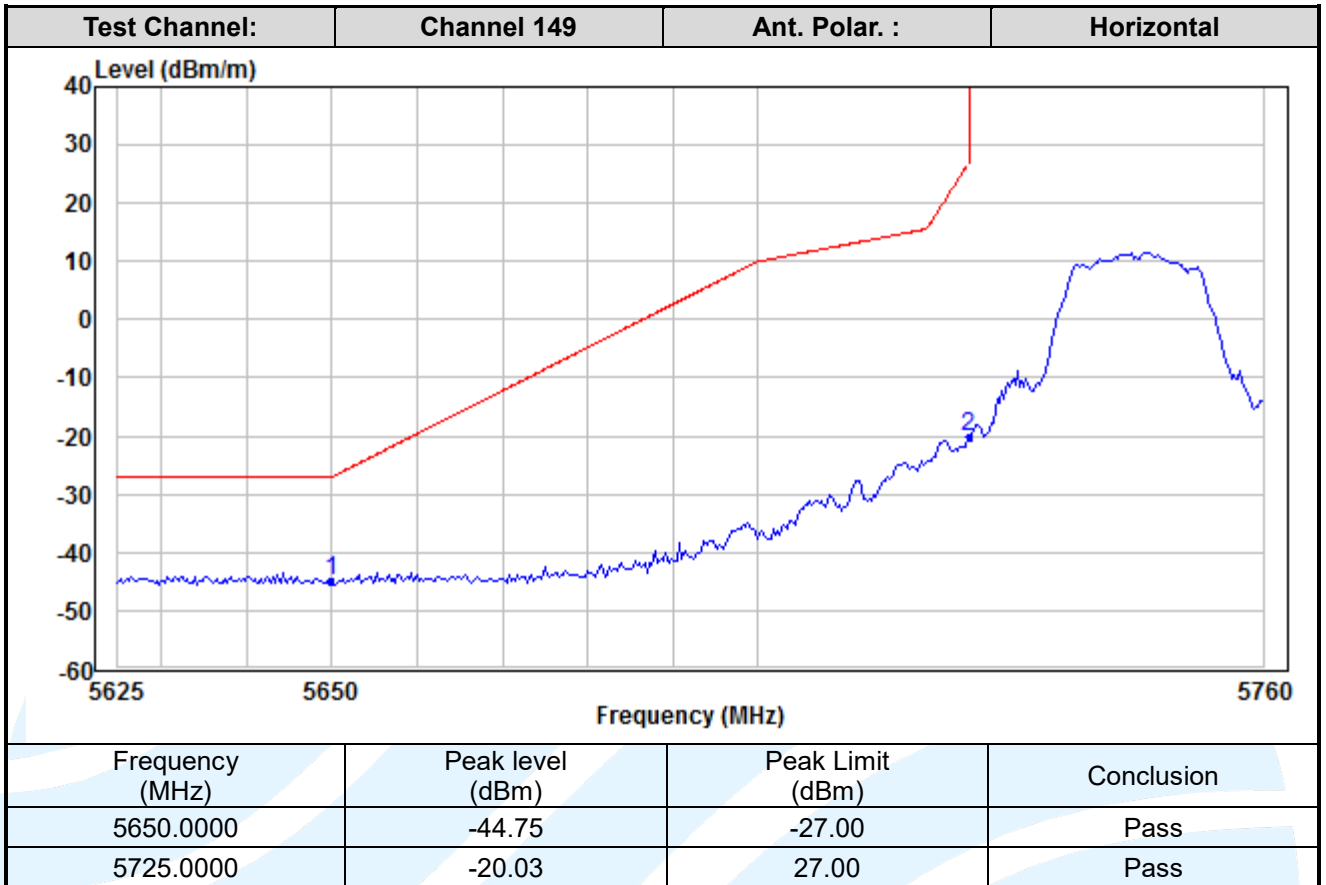
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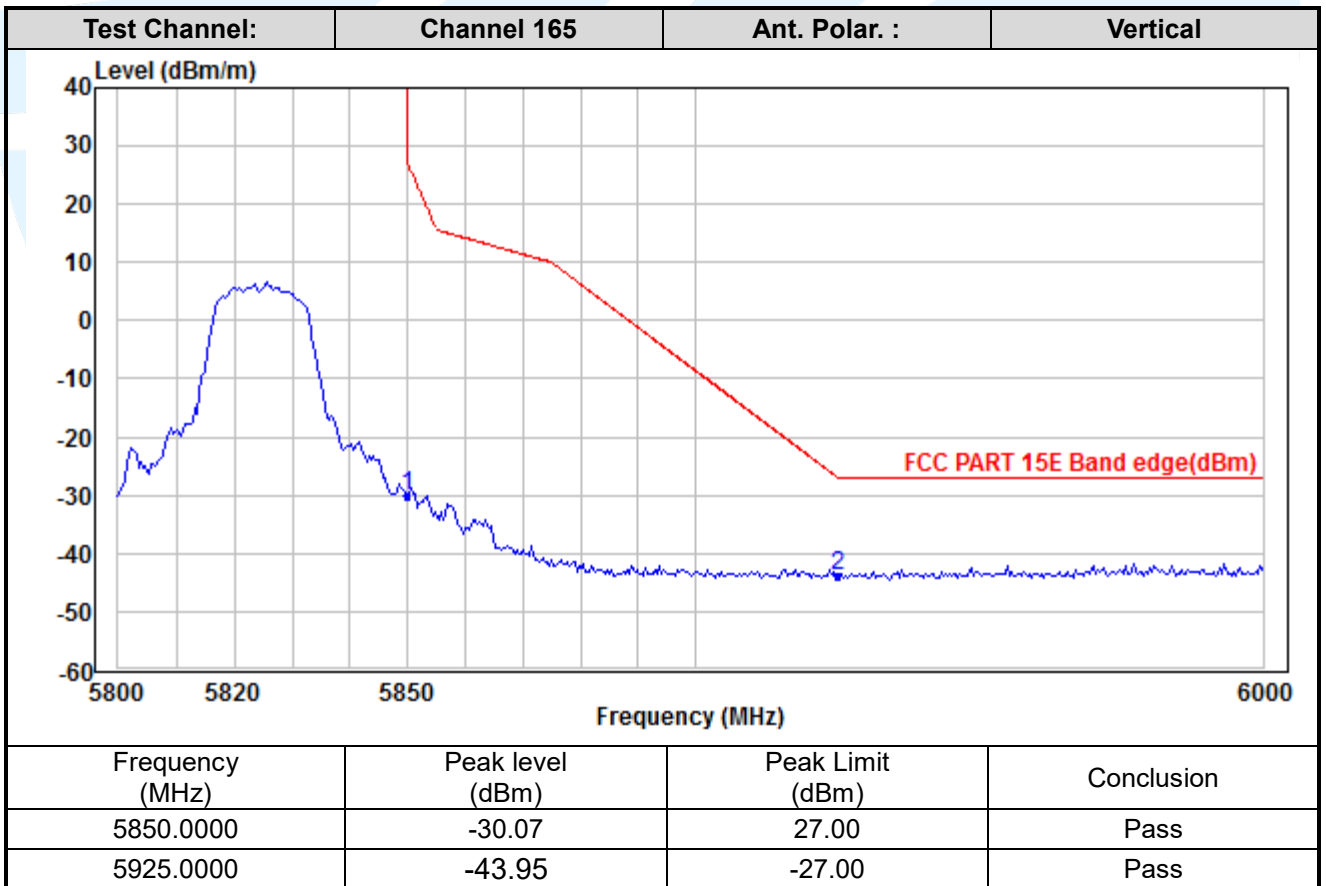
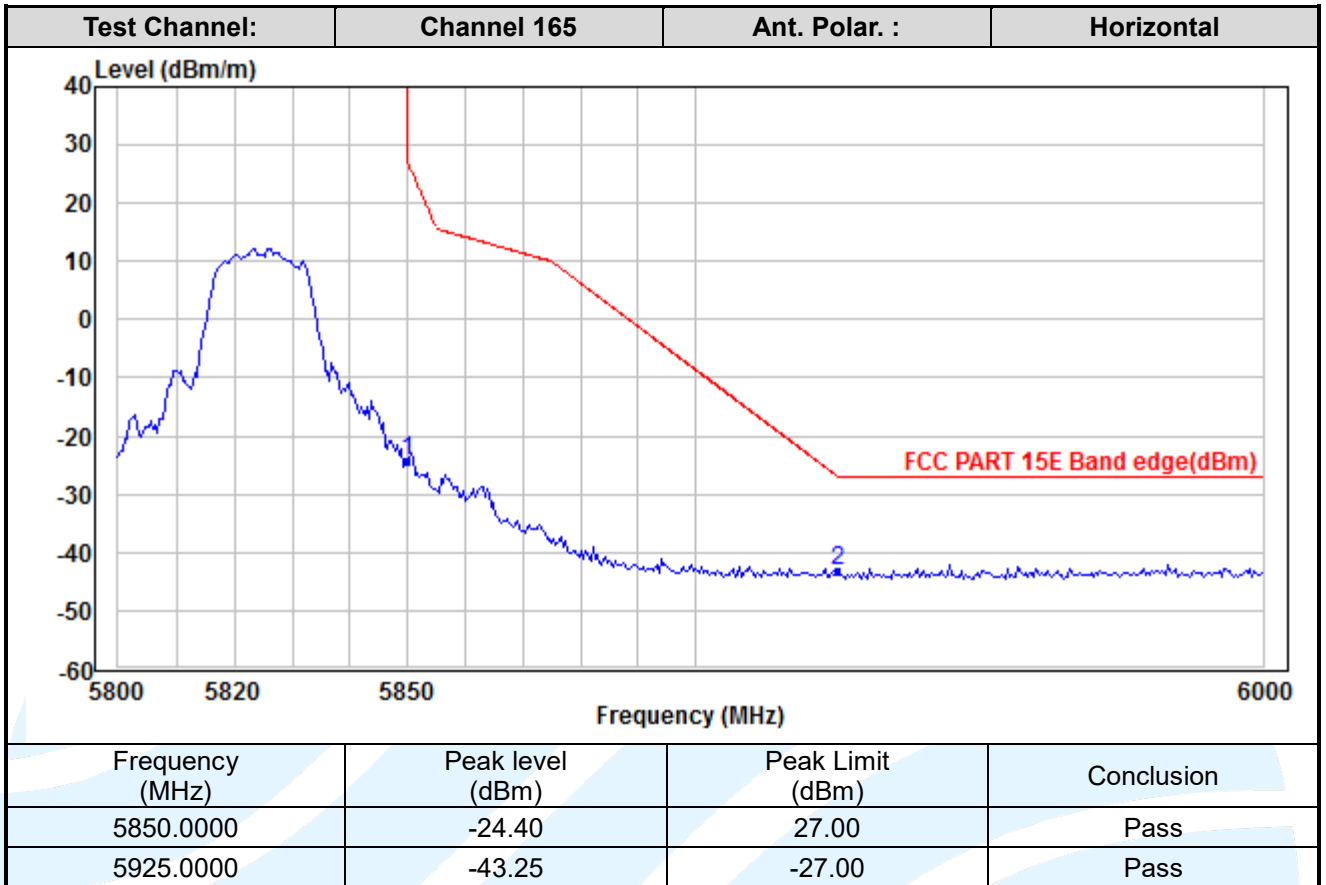
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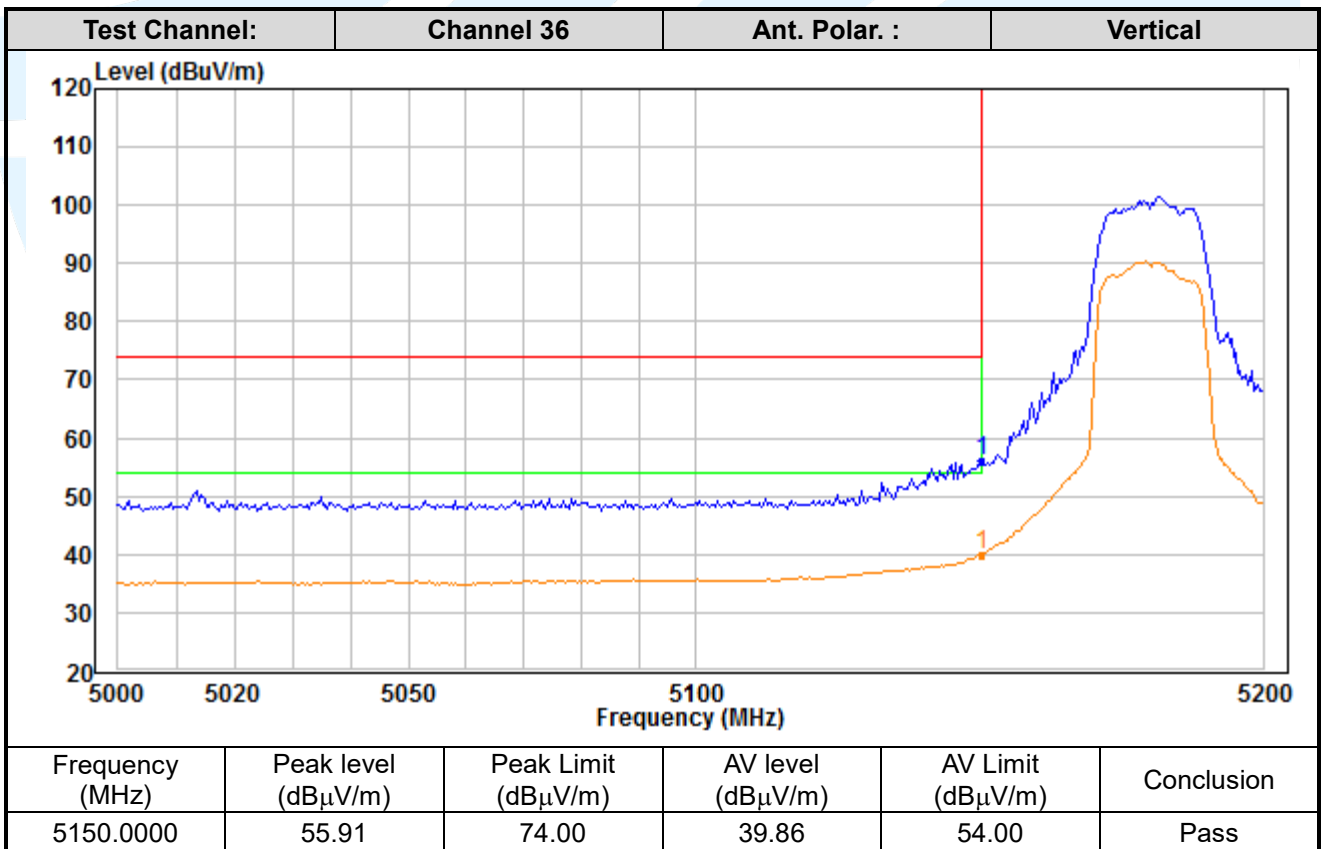
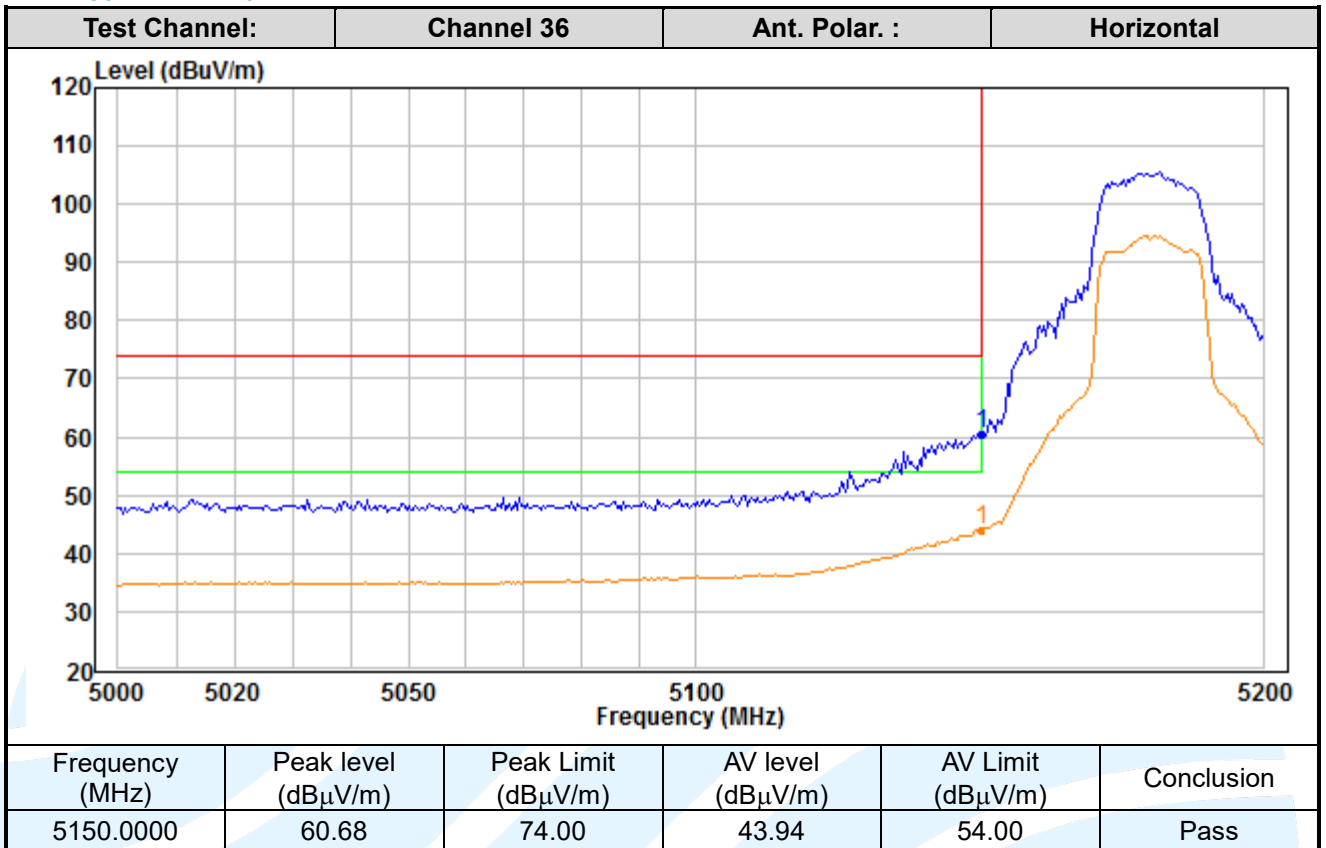
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IEEE 802.11n-HT20



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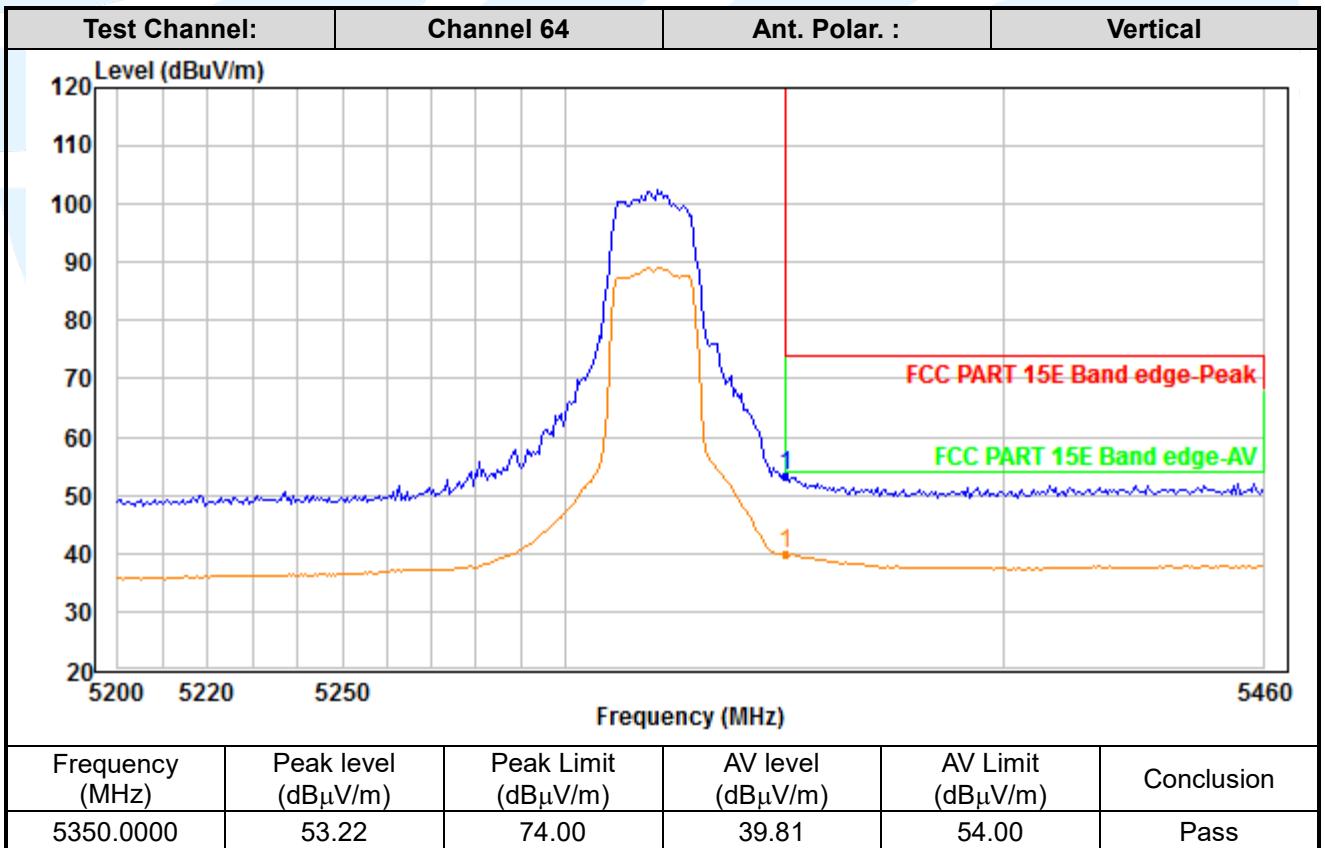
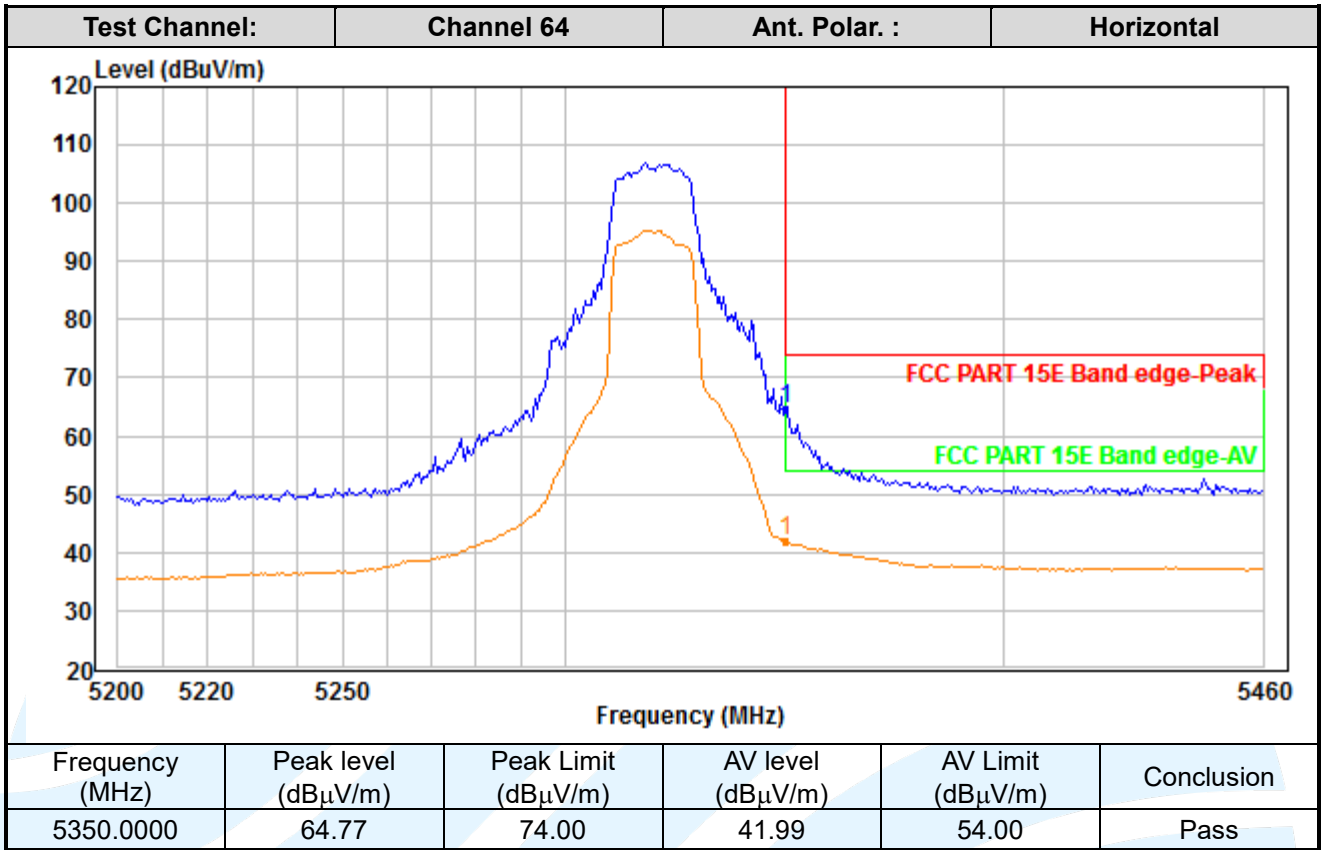
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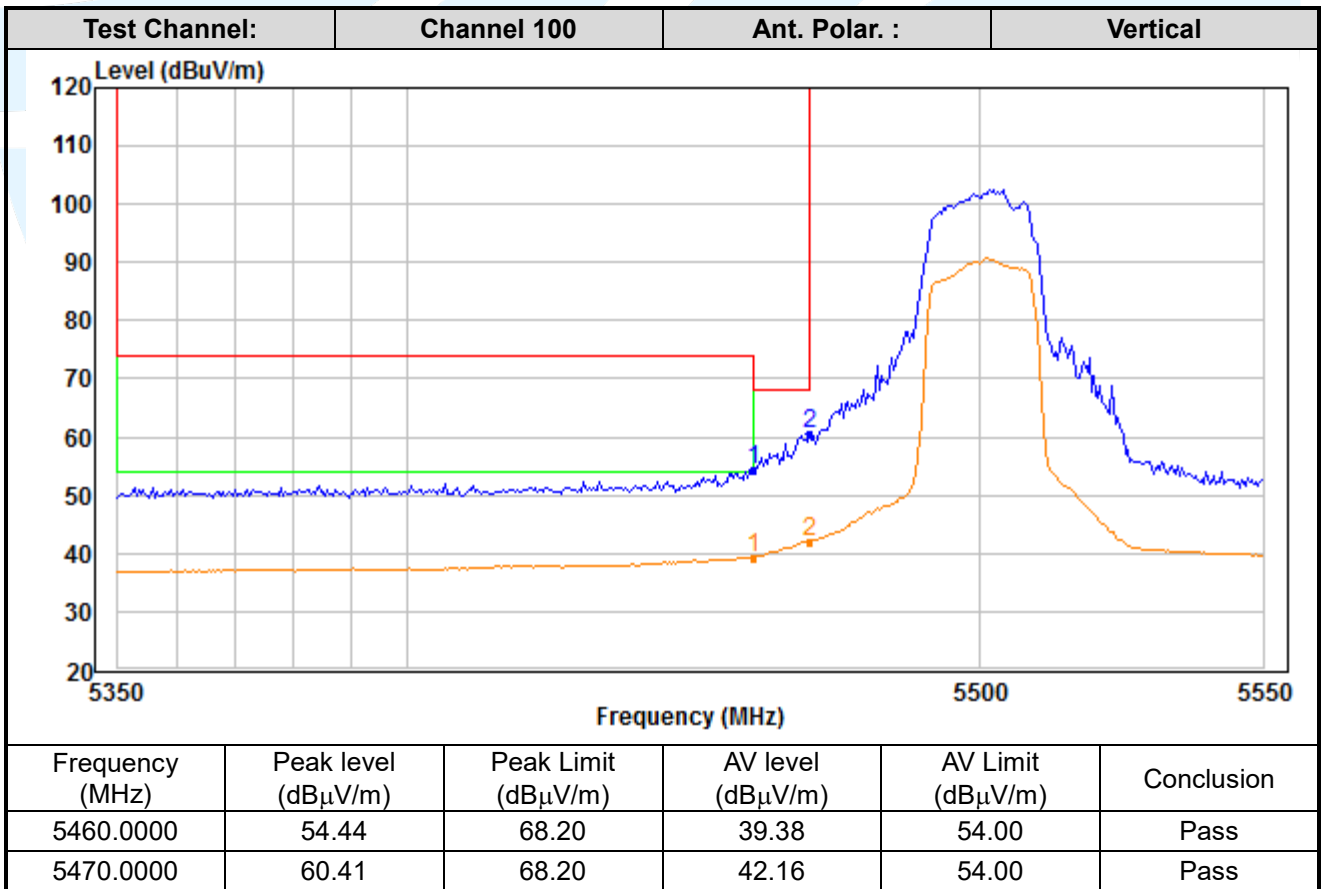
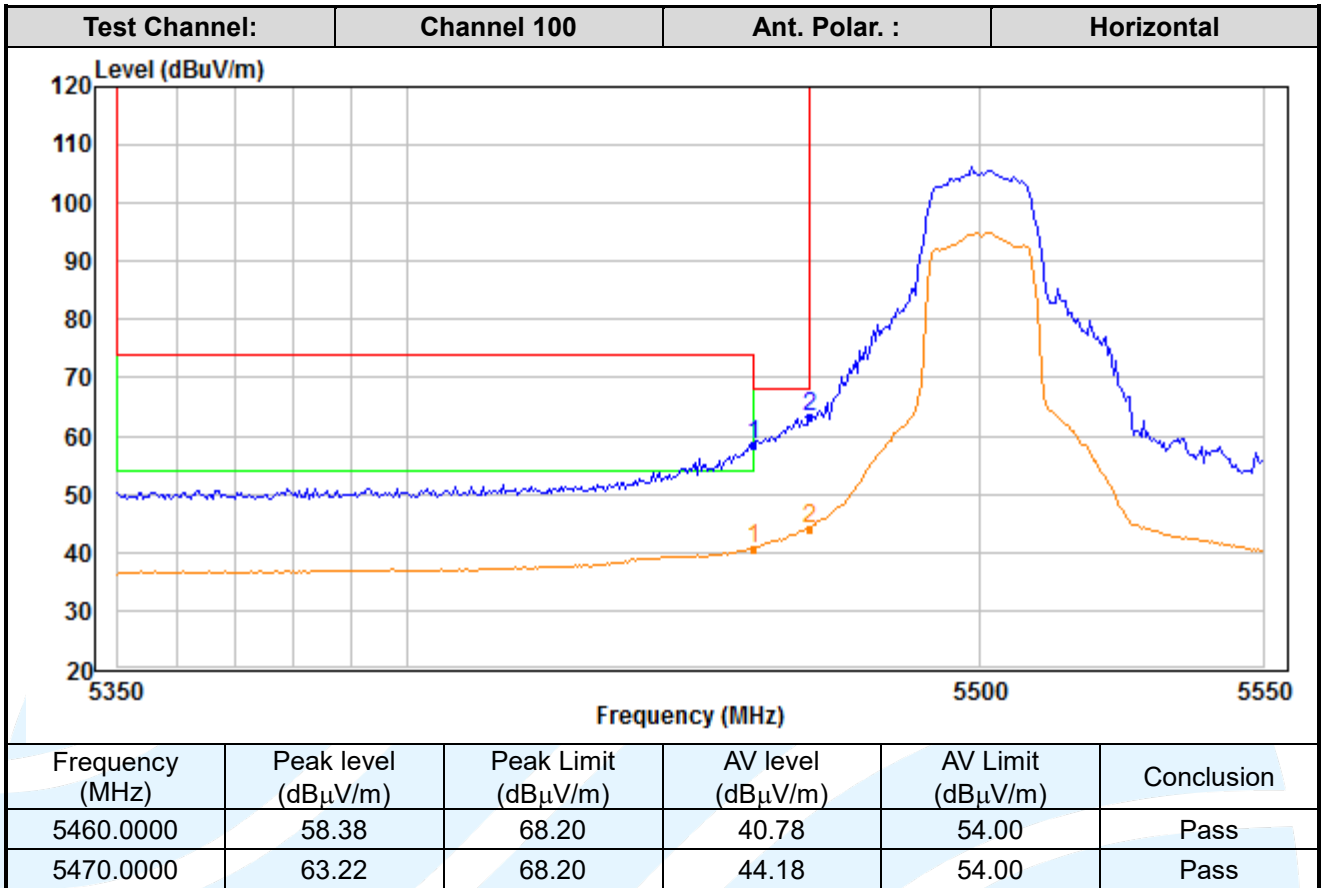
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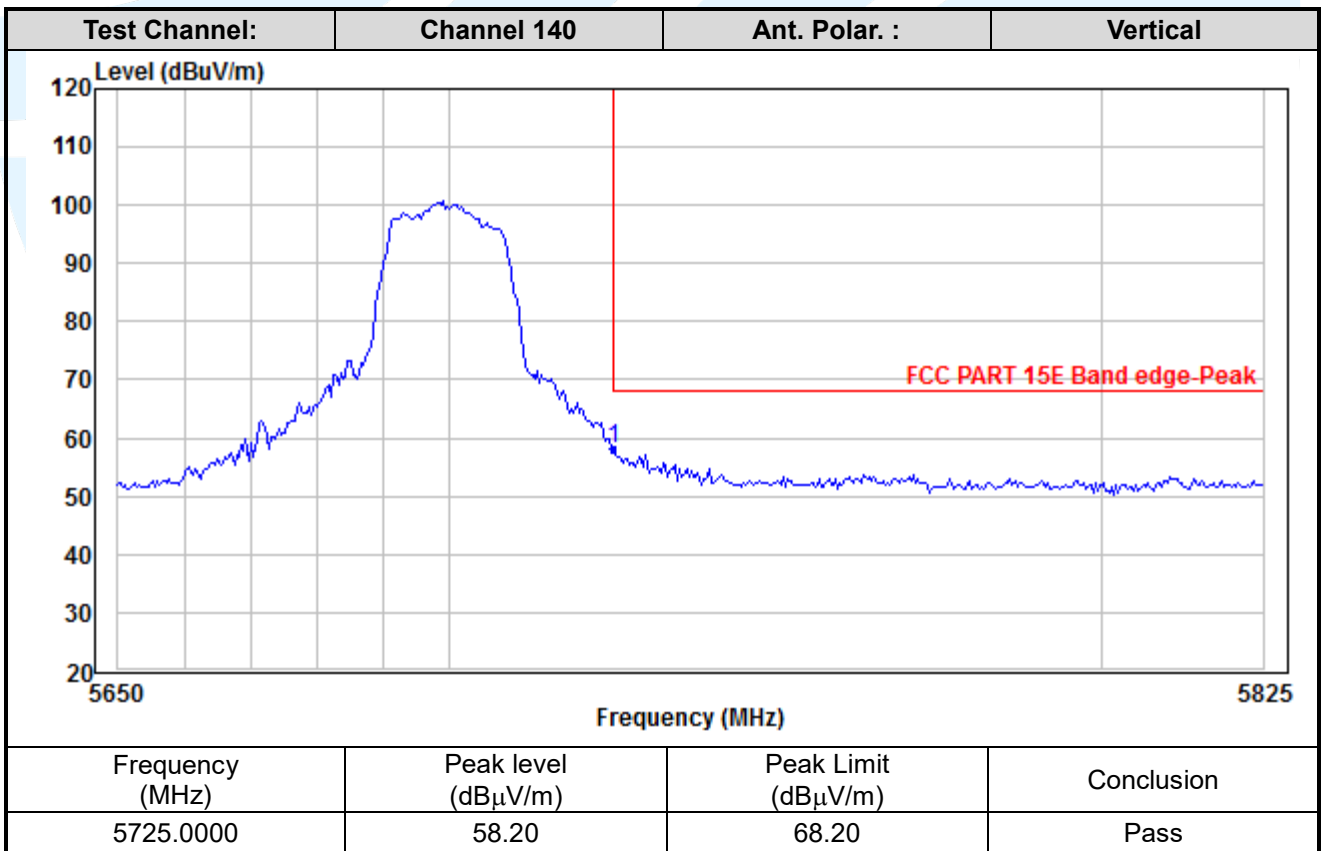
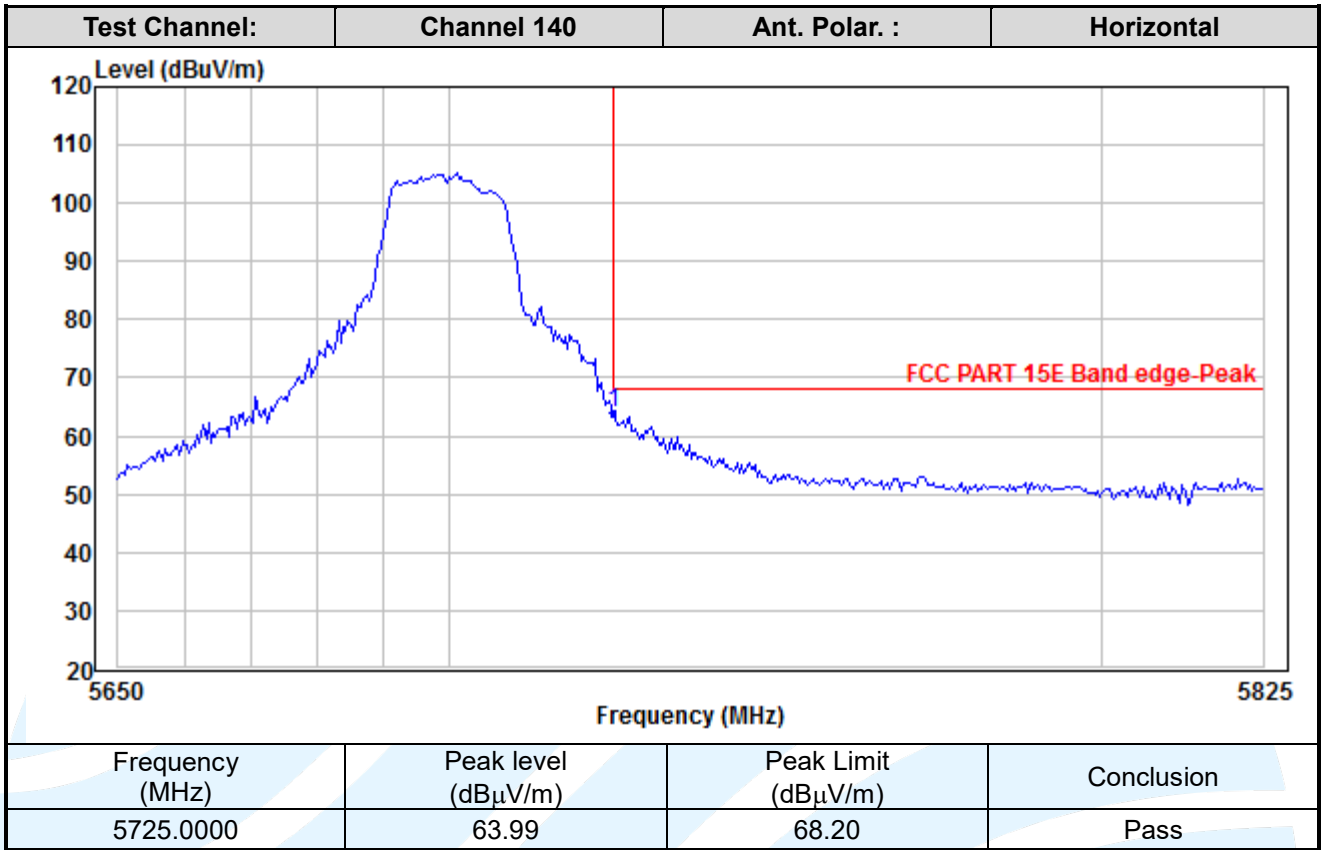
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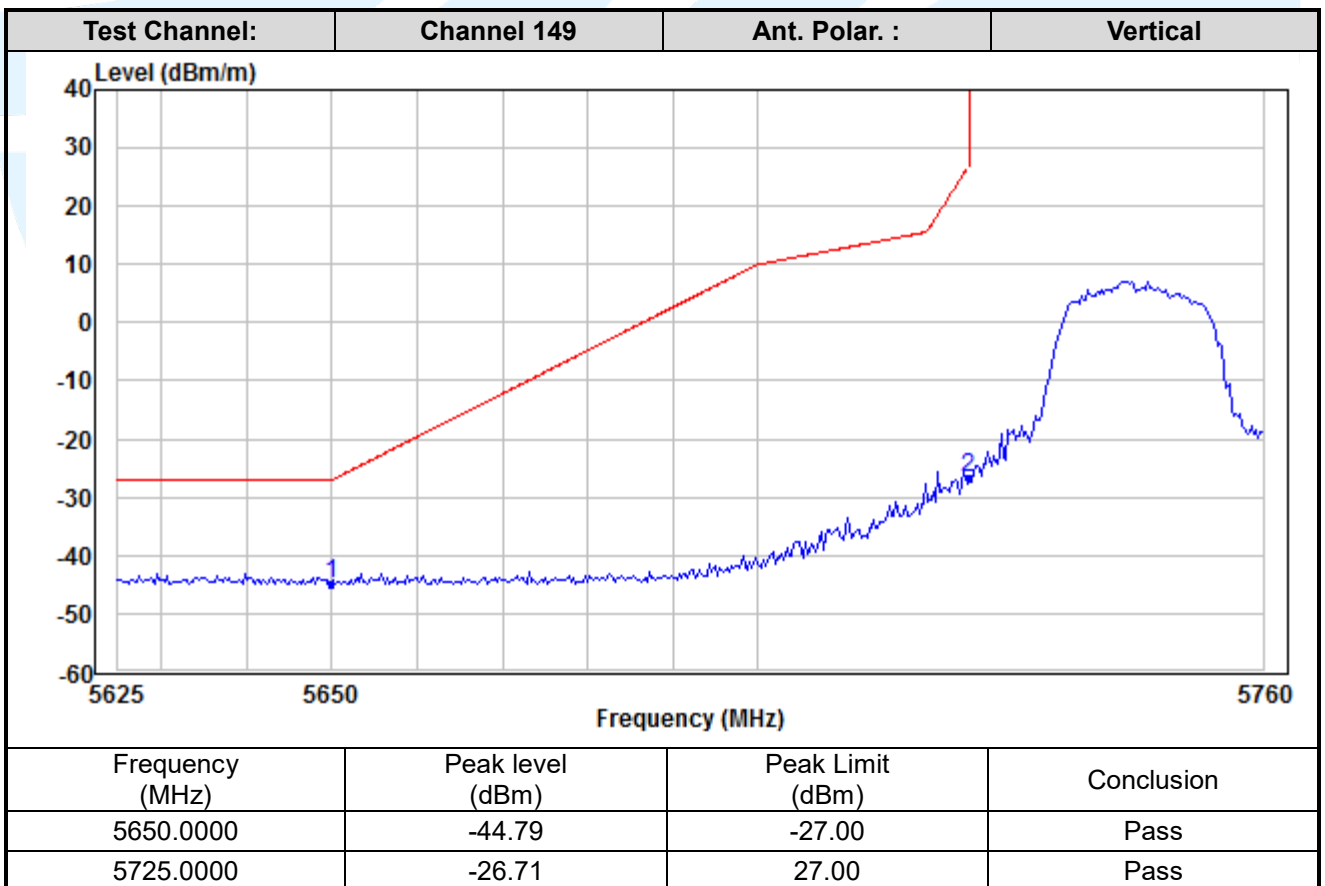
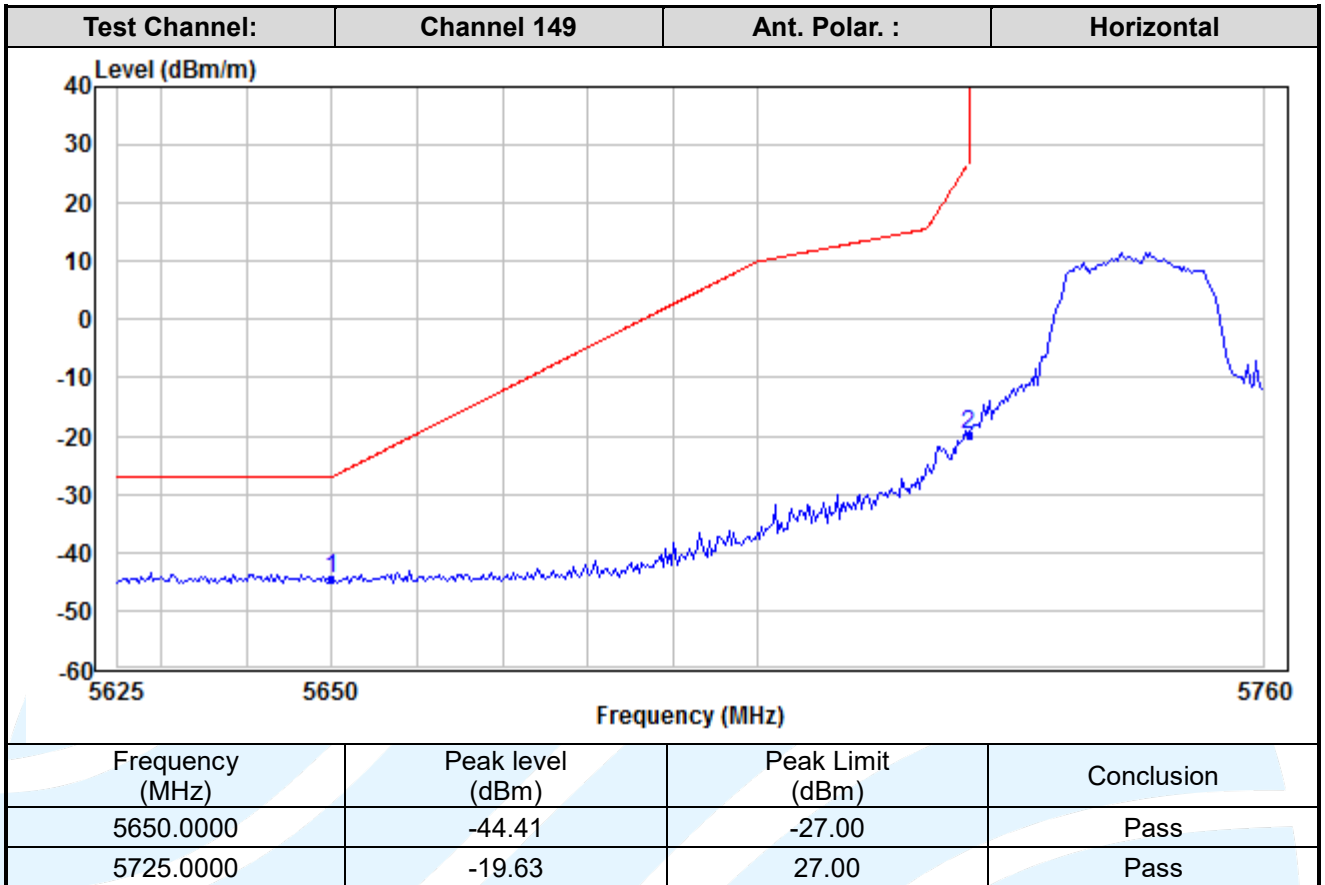
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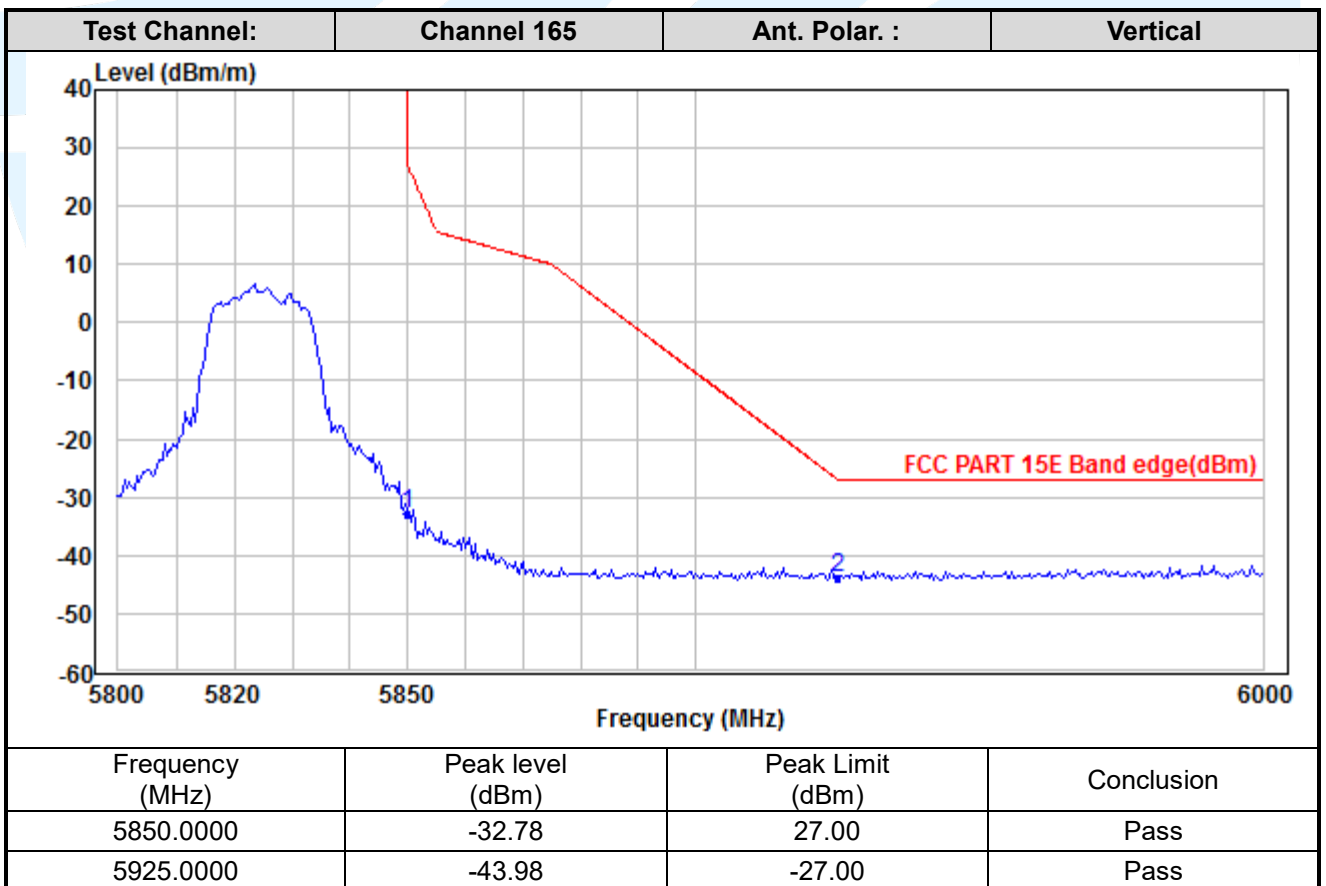
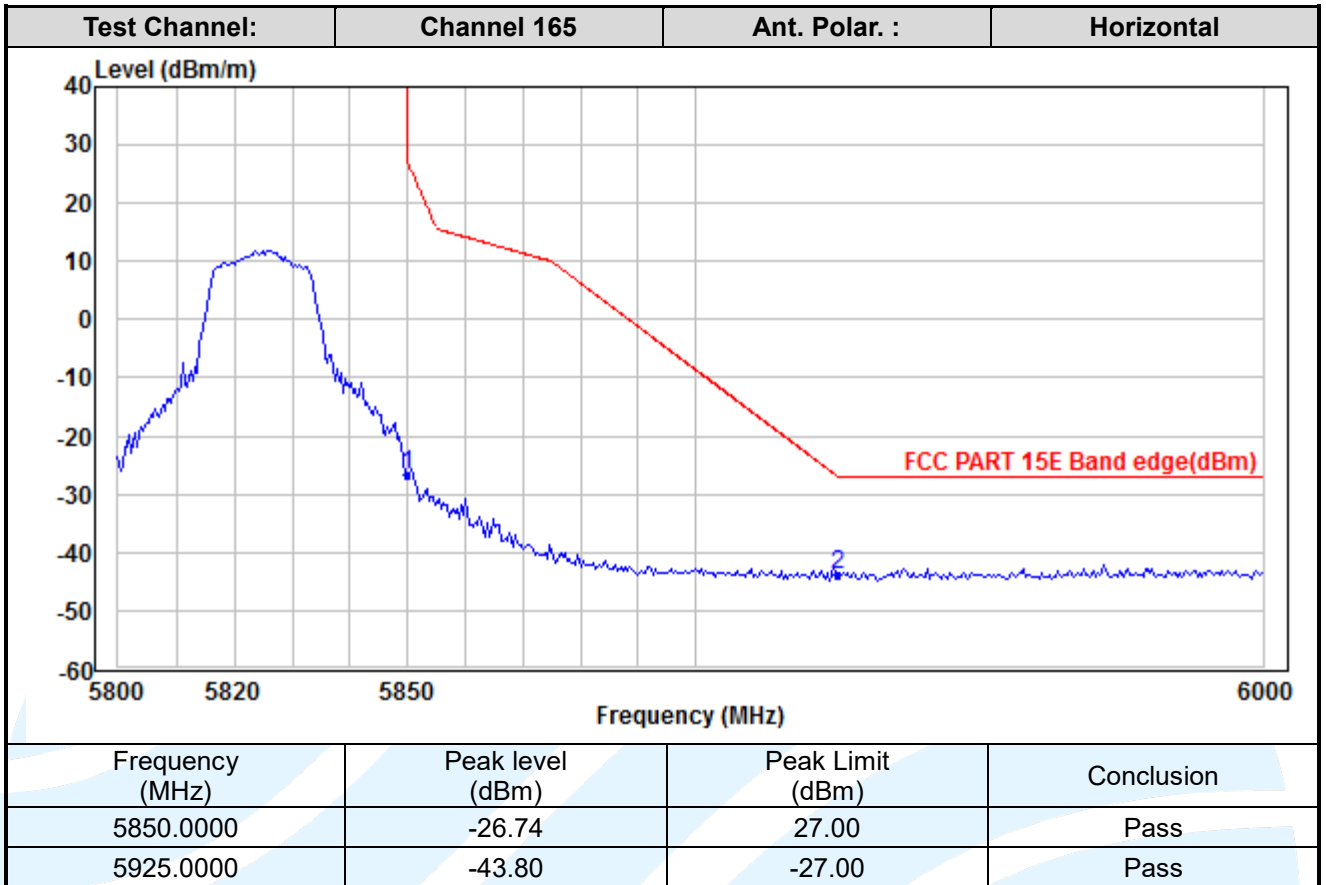
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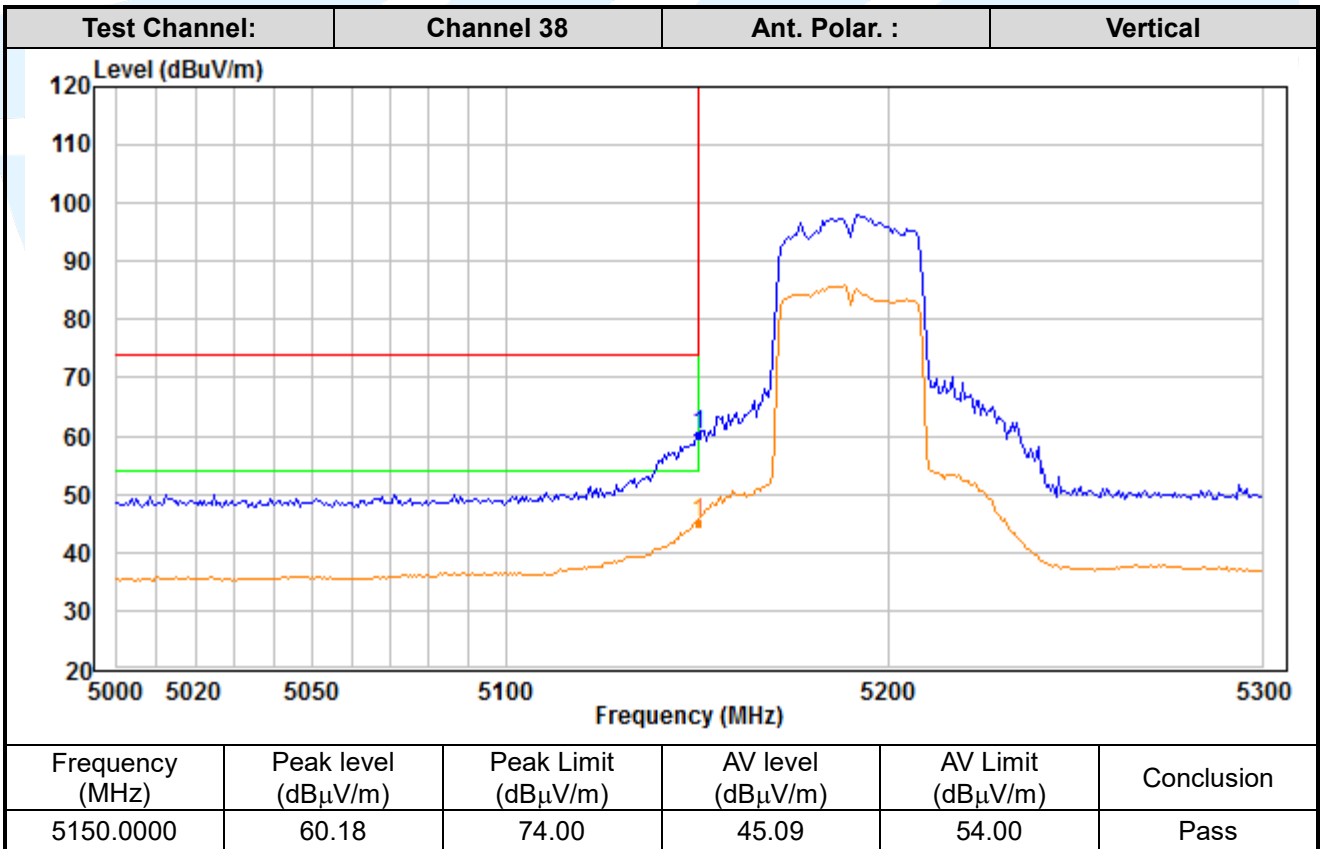
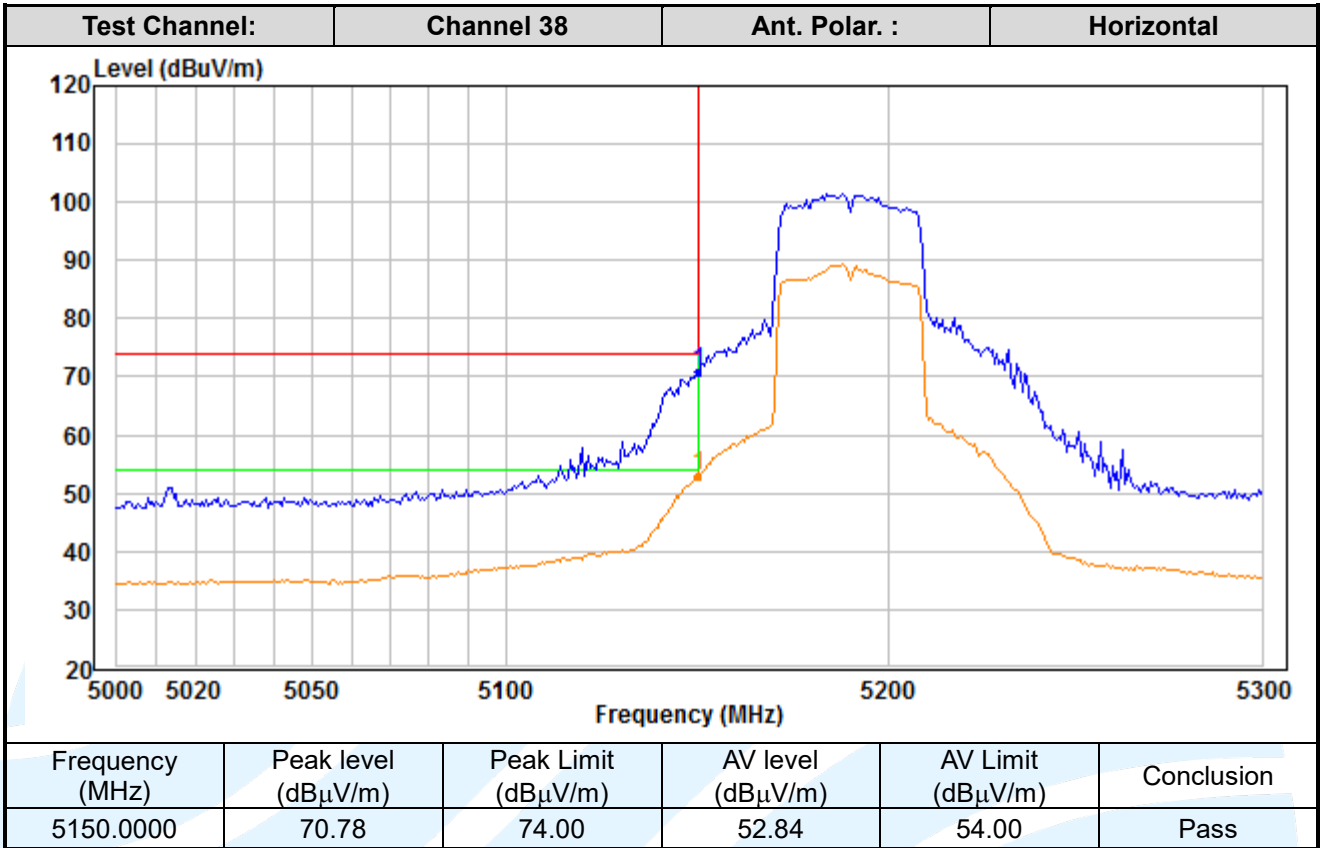
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IEEE 802.11n-HT40



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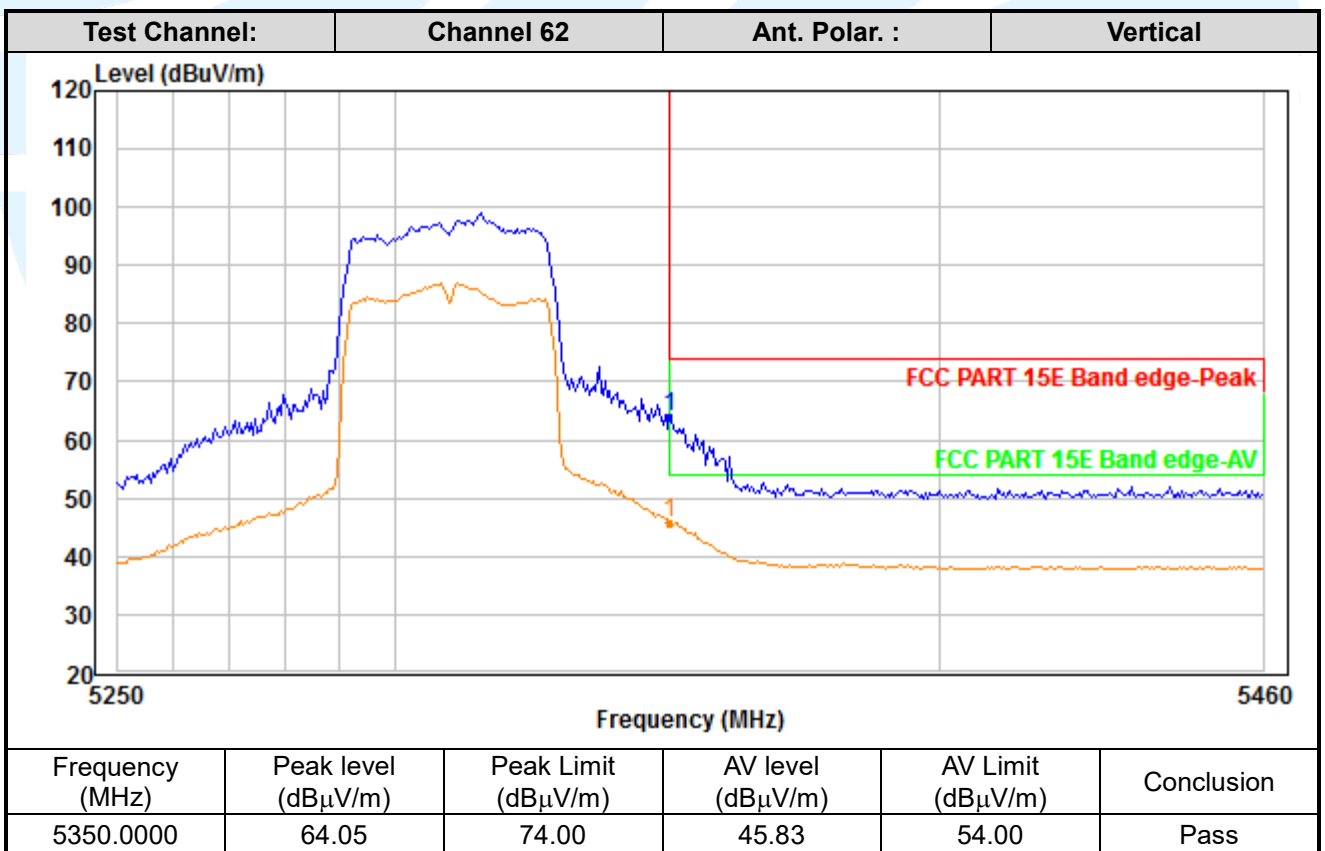
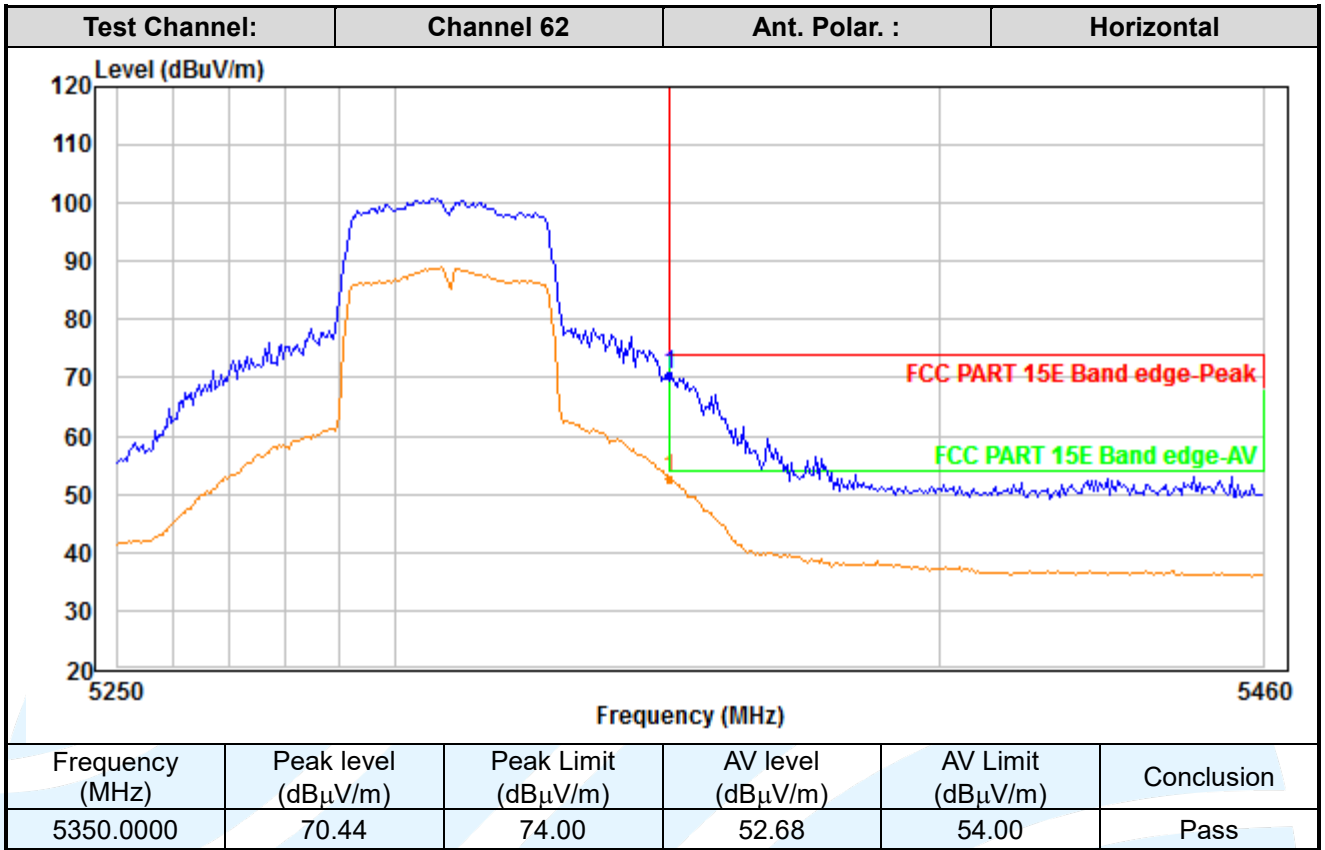
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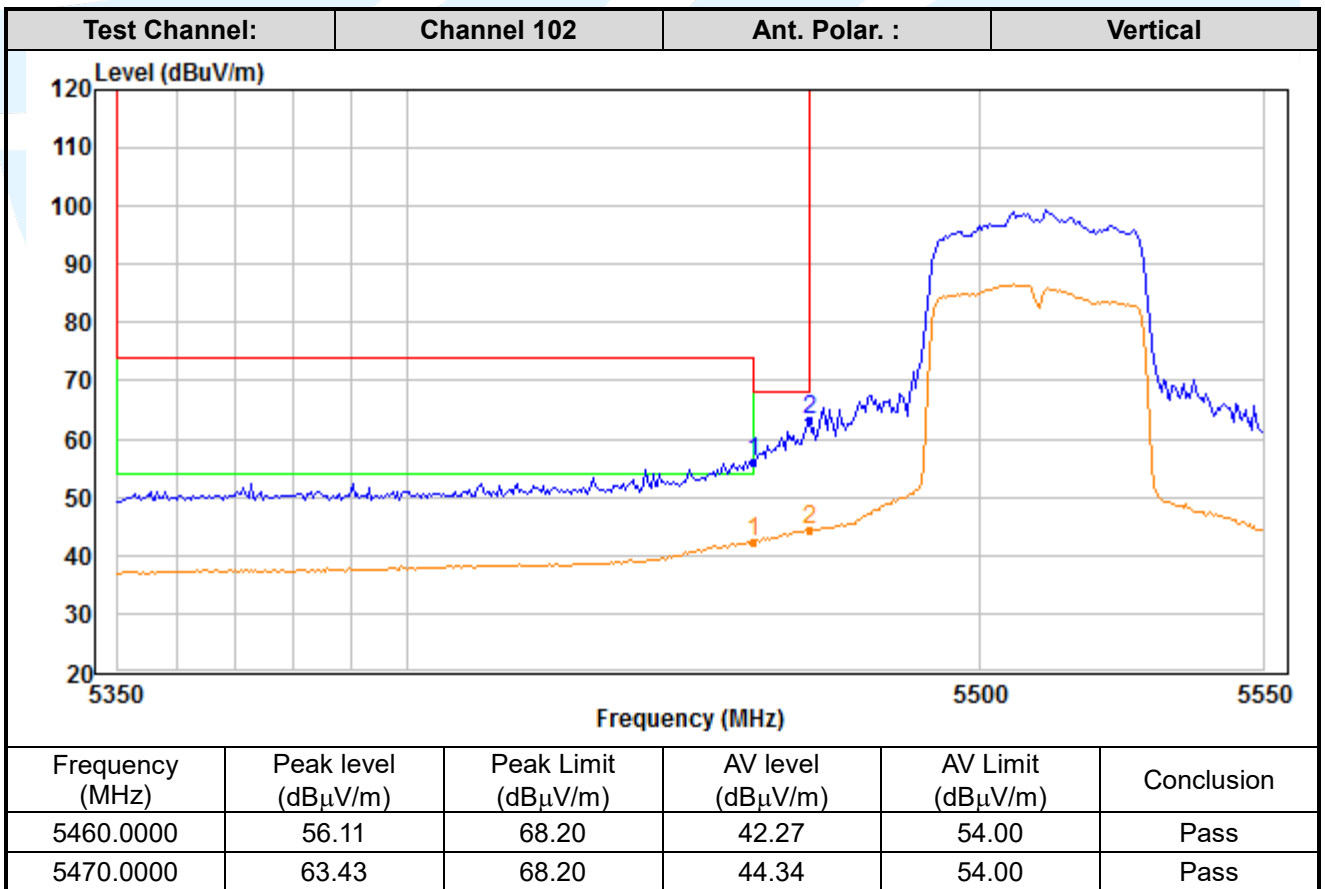
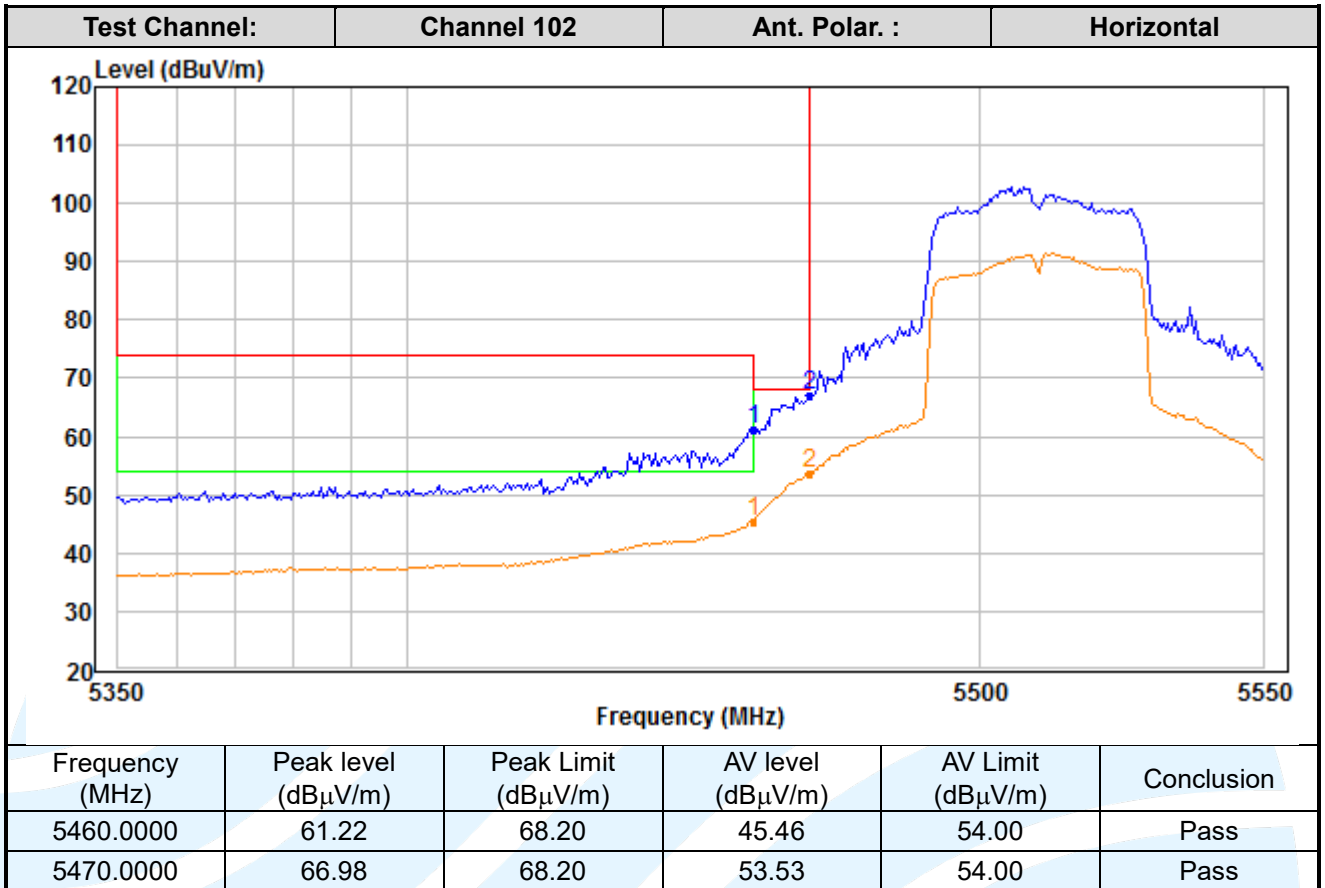
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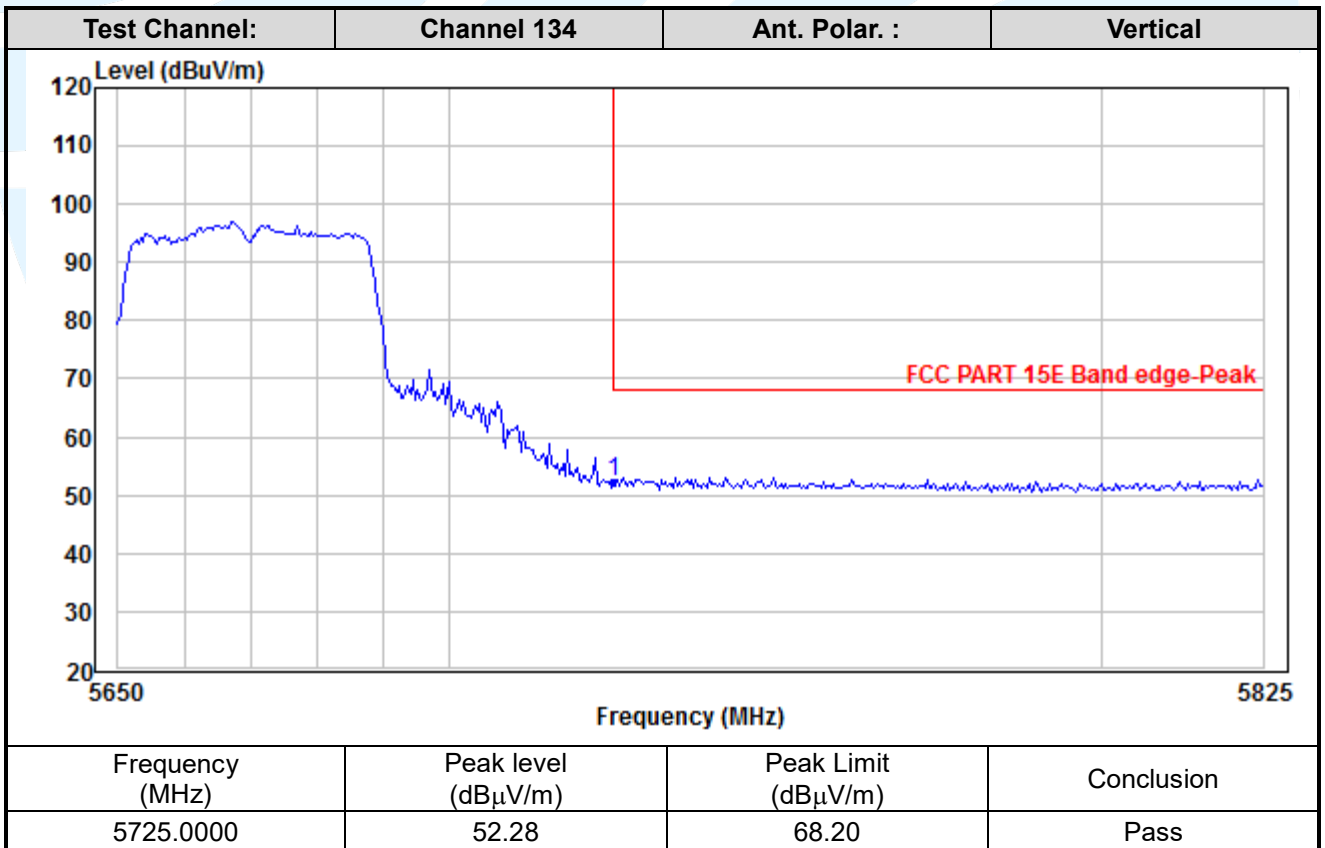
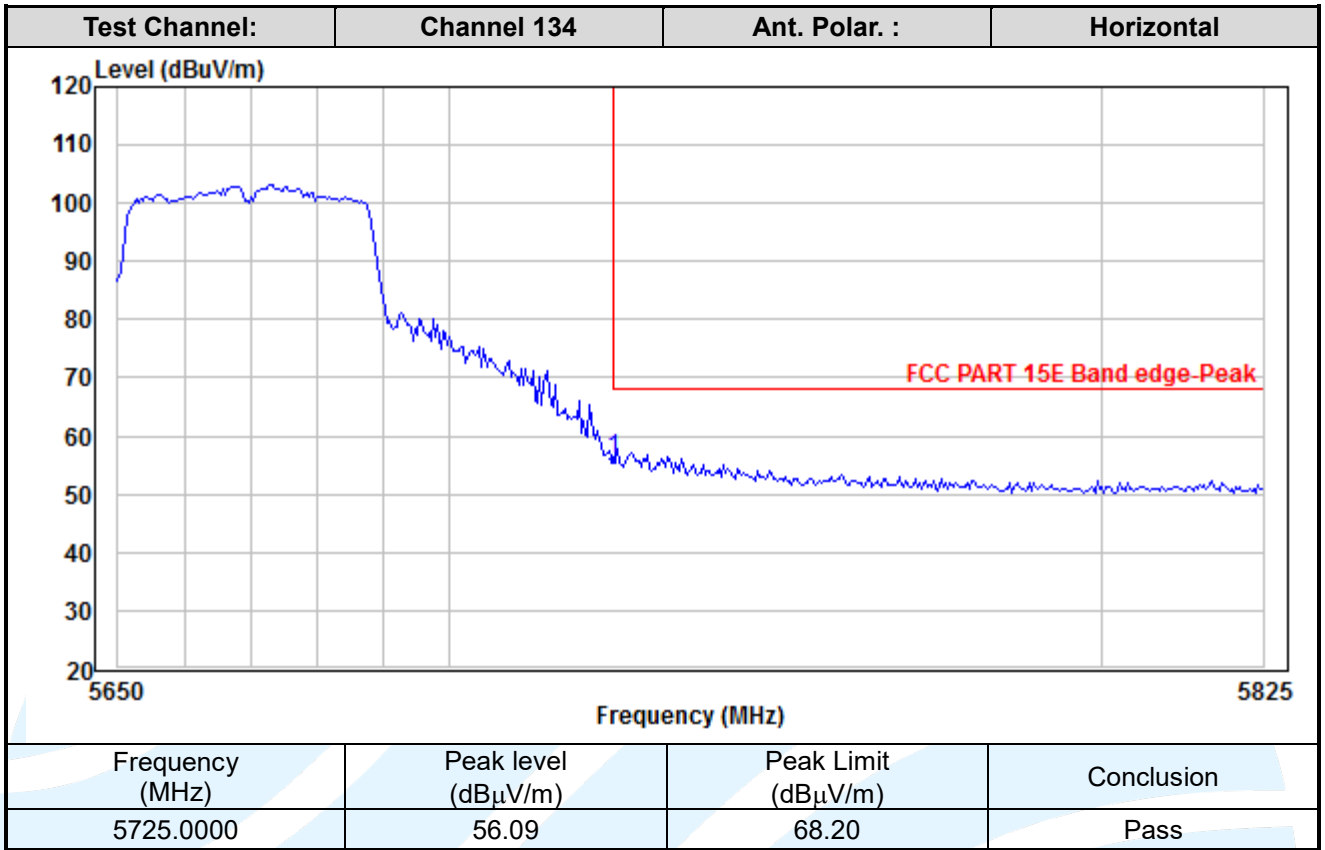
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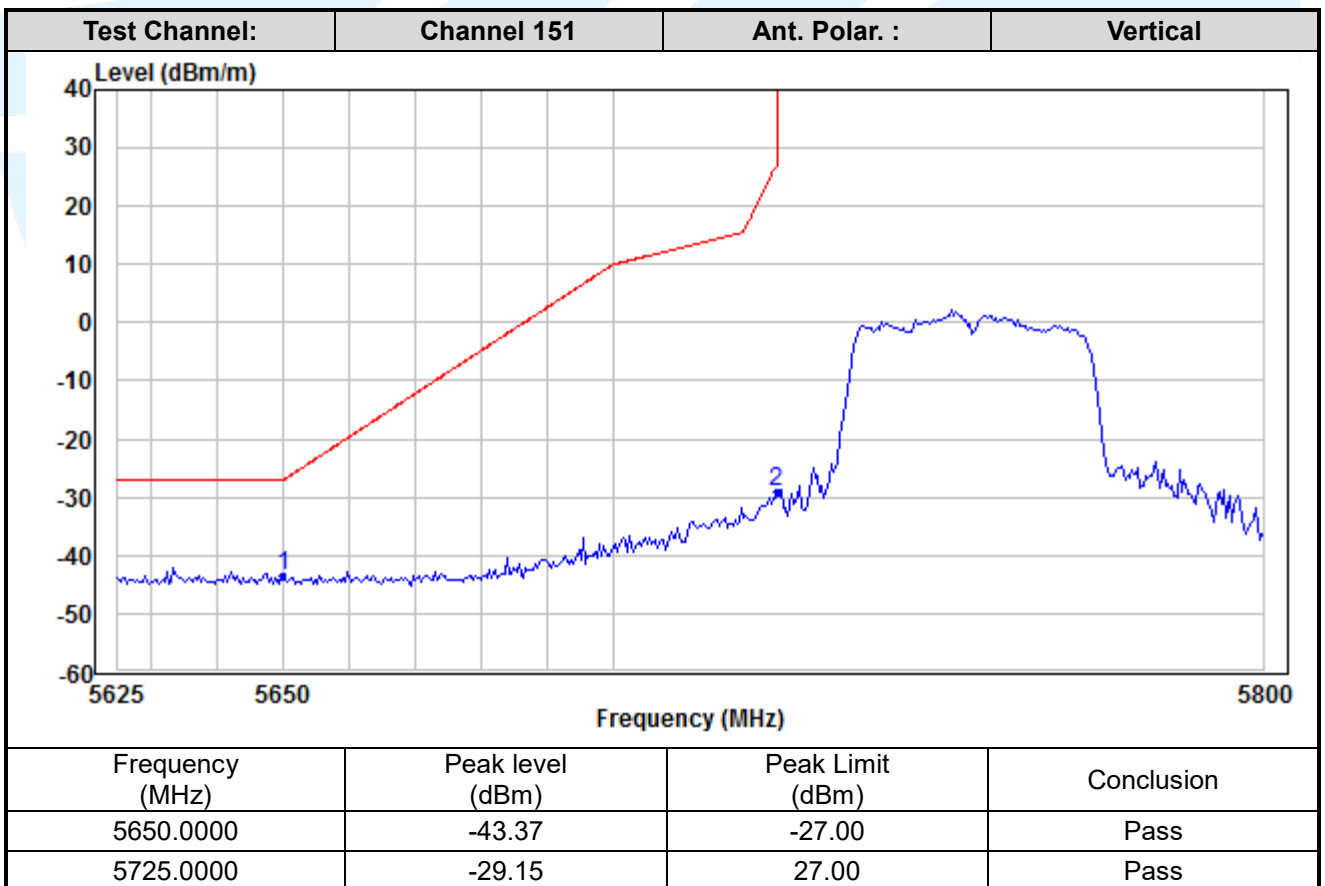
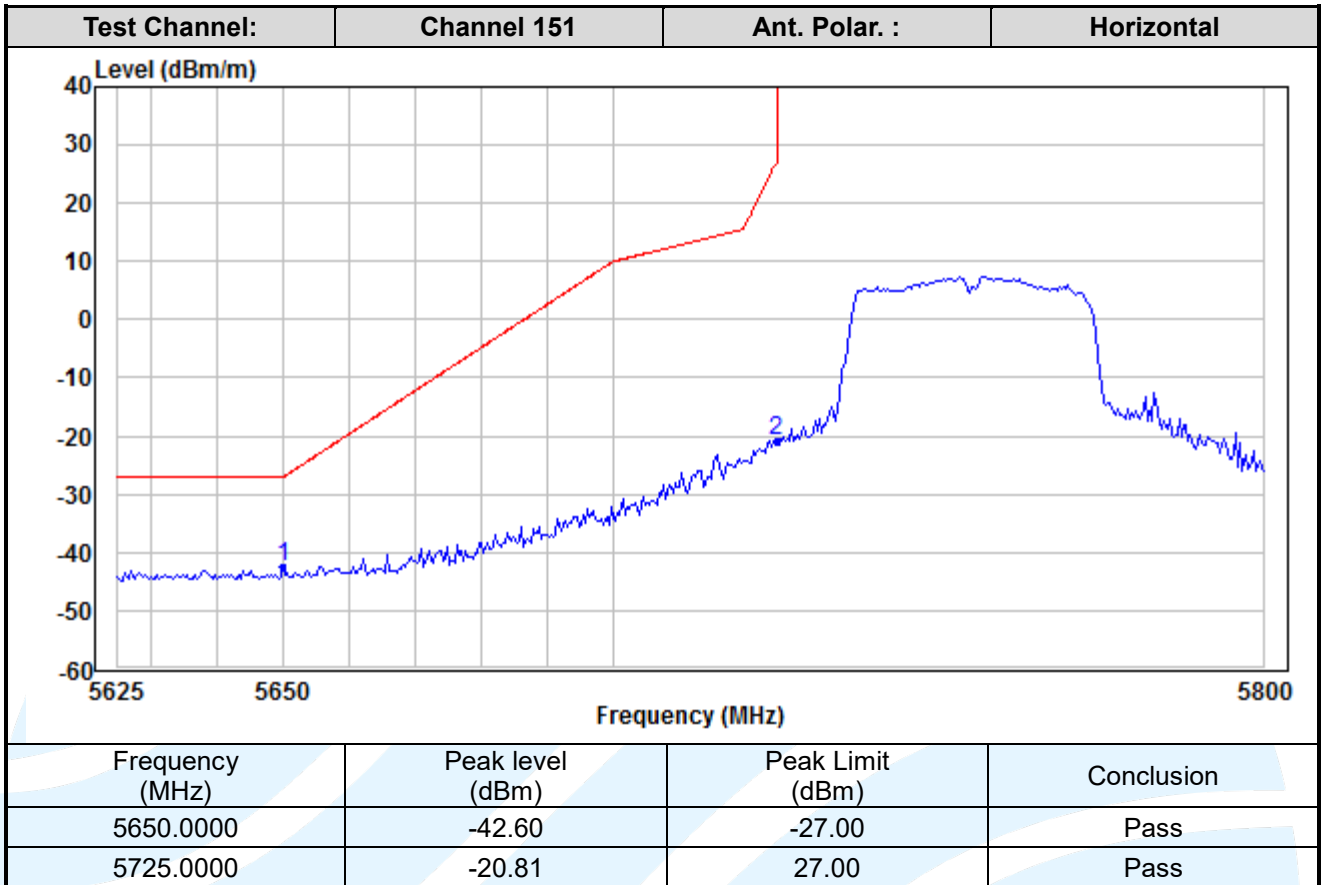
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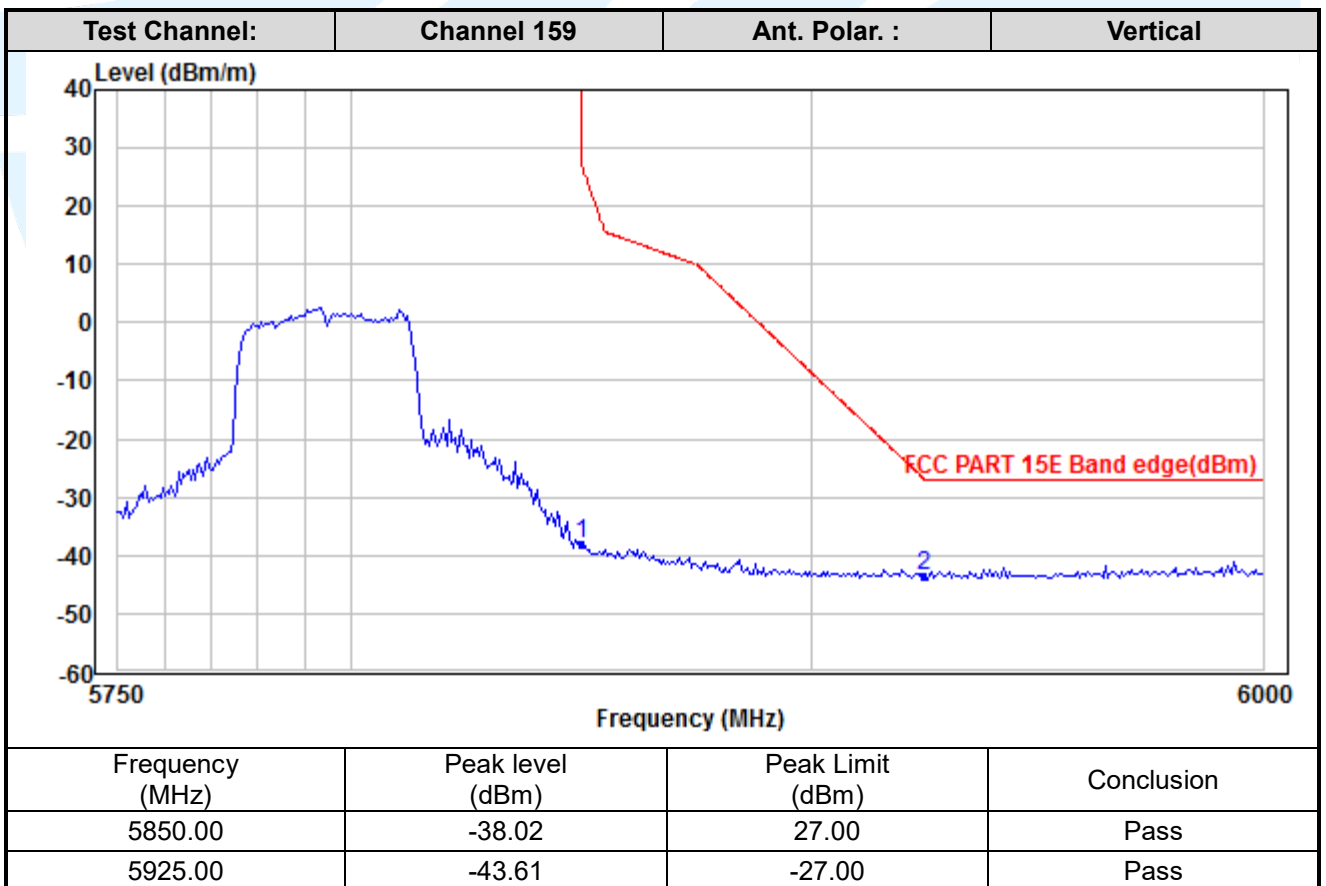
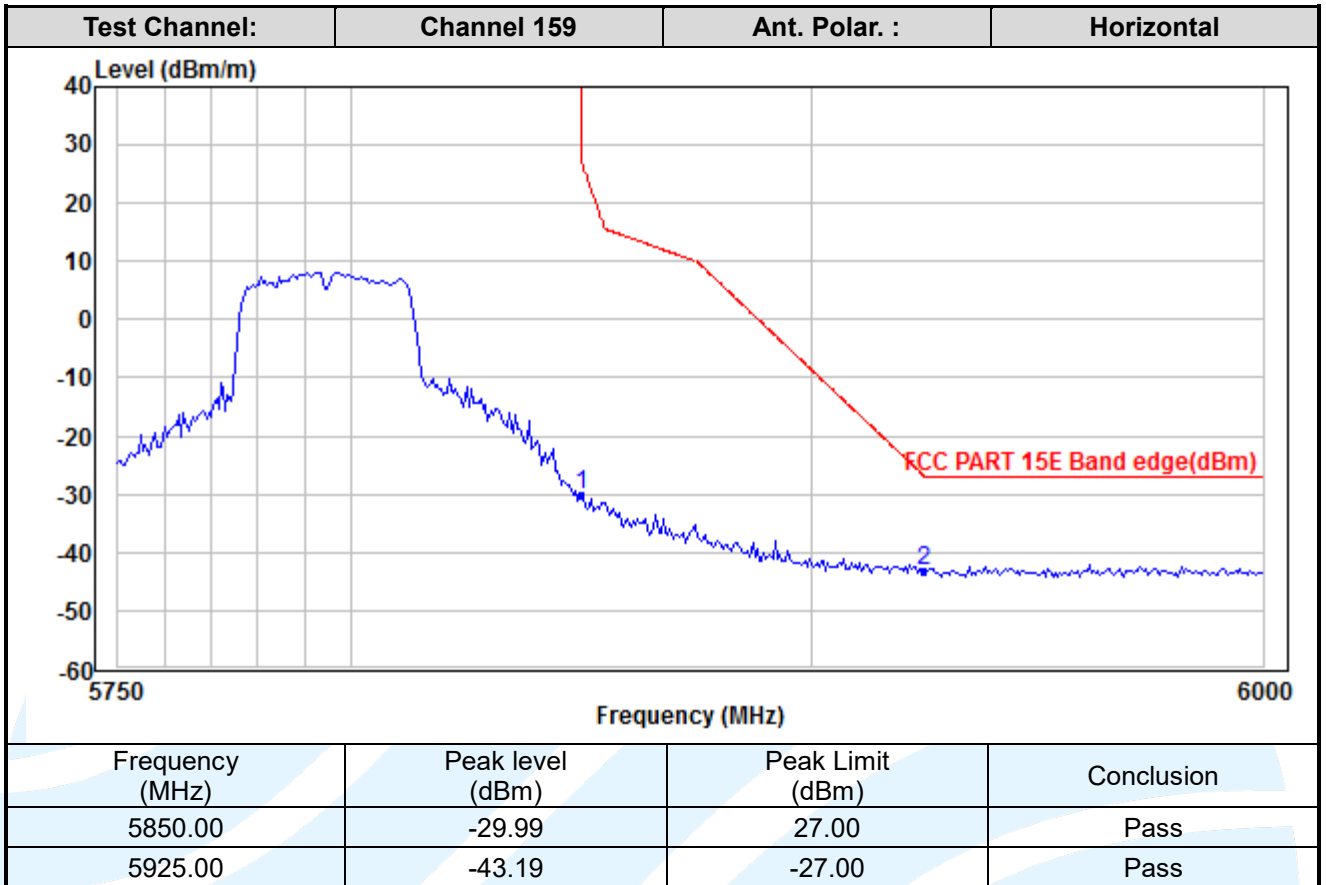
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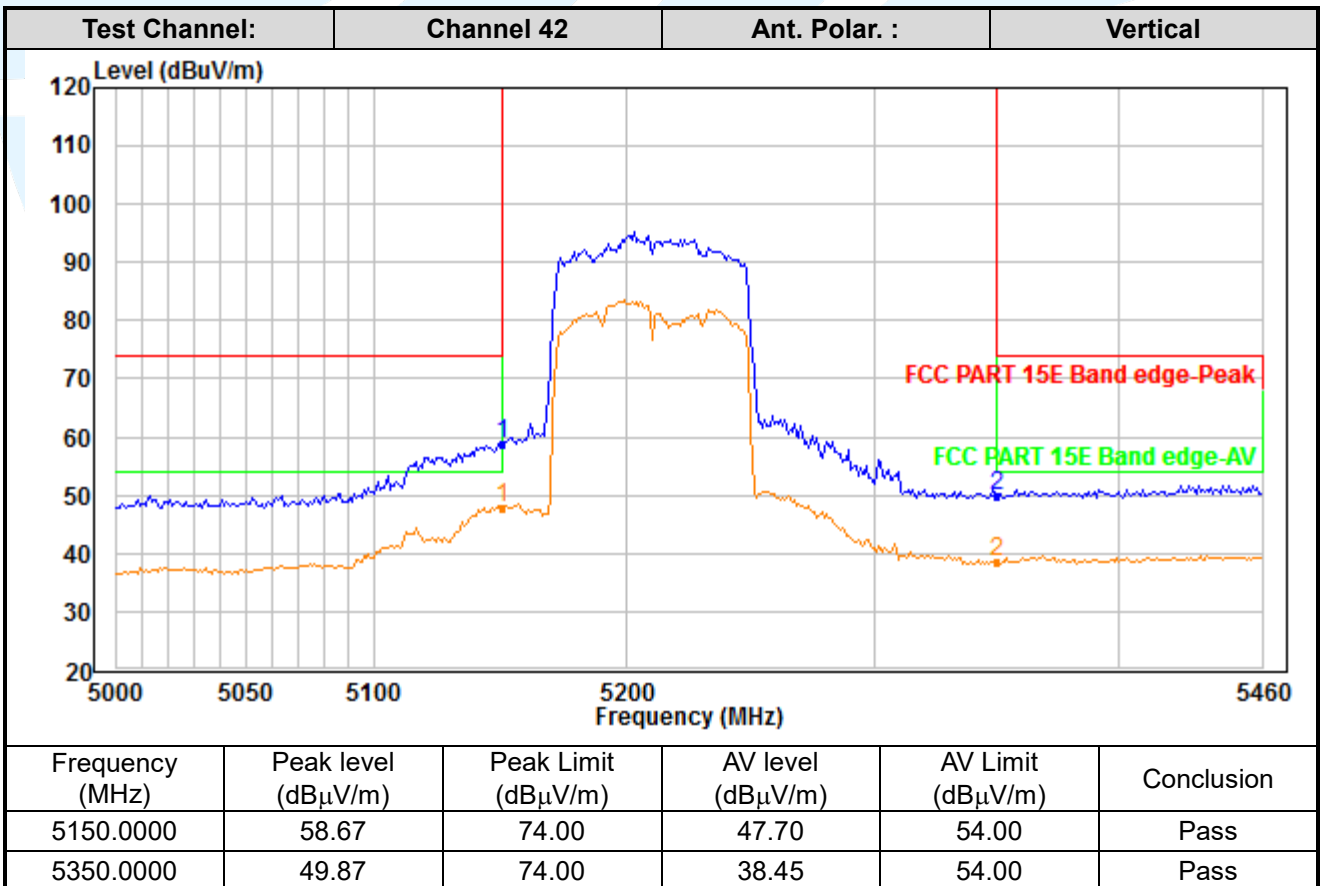
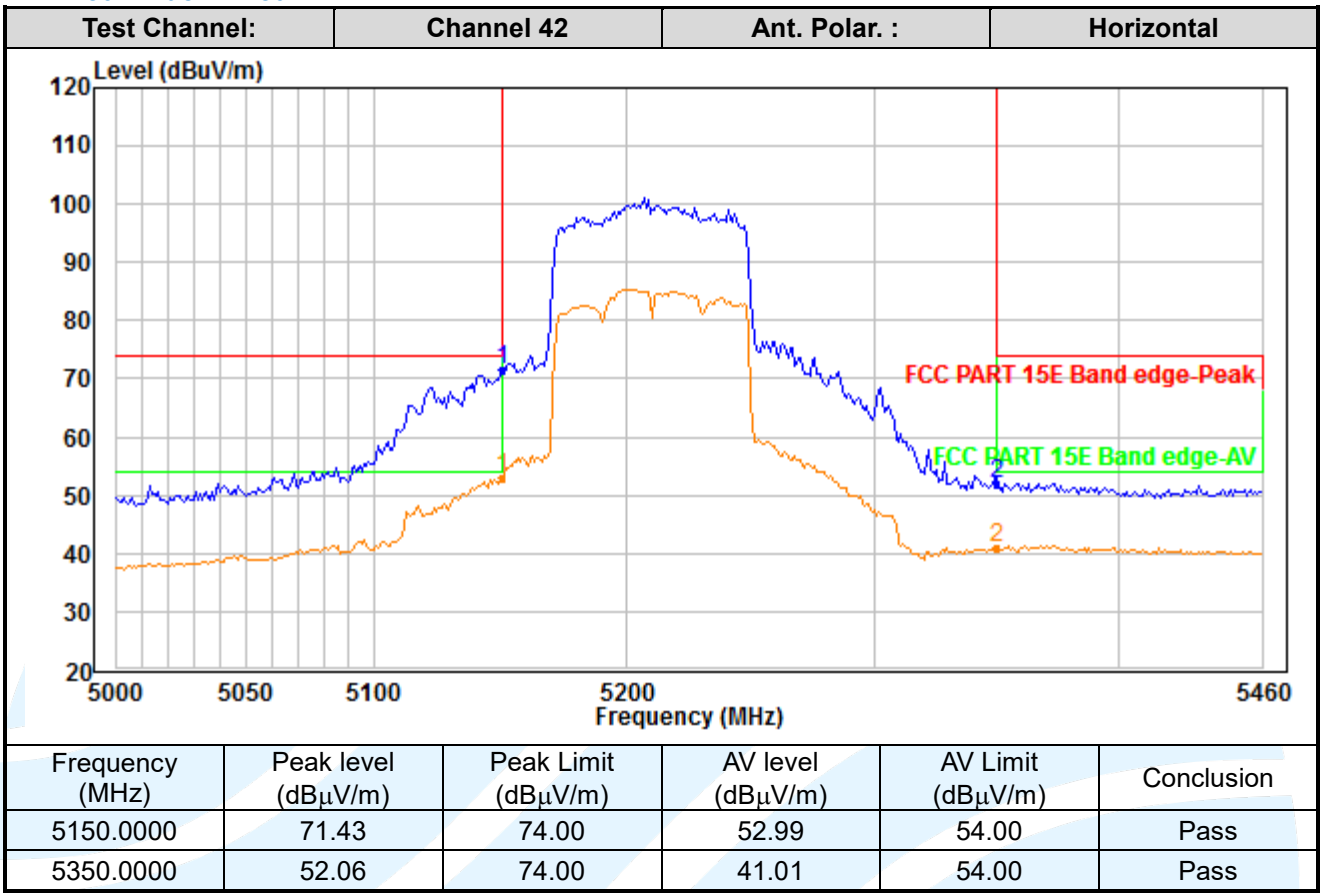


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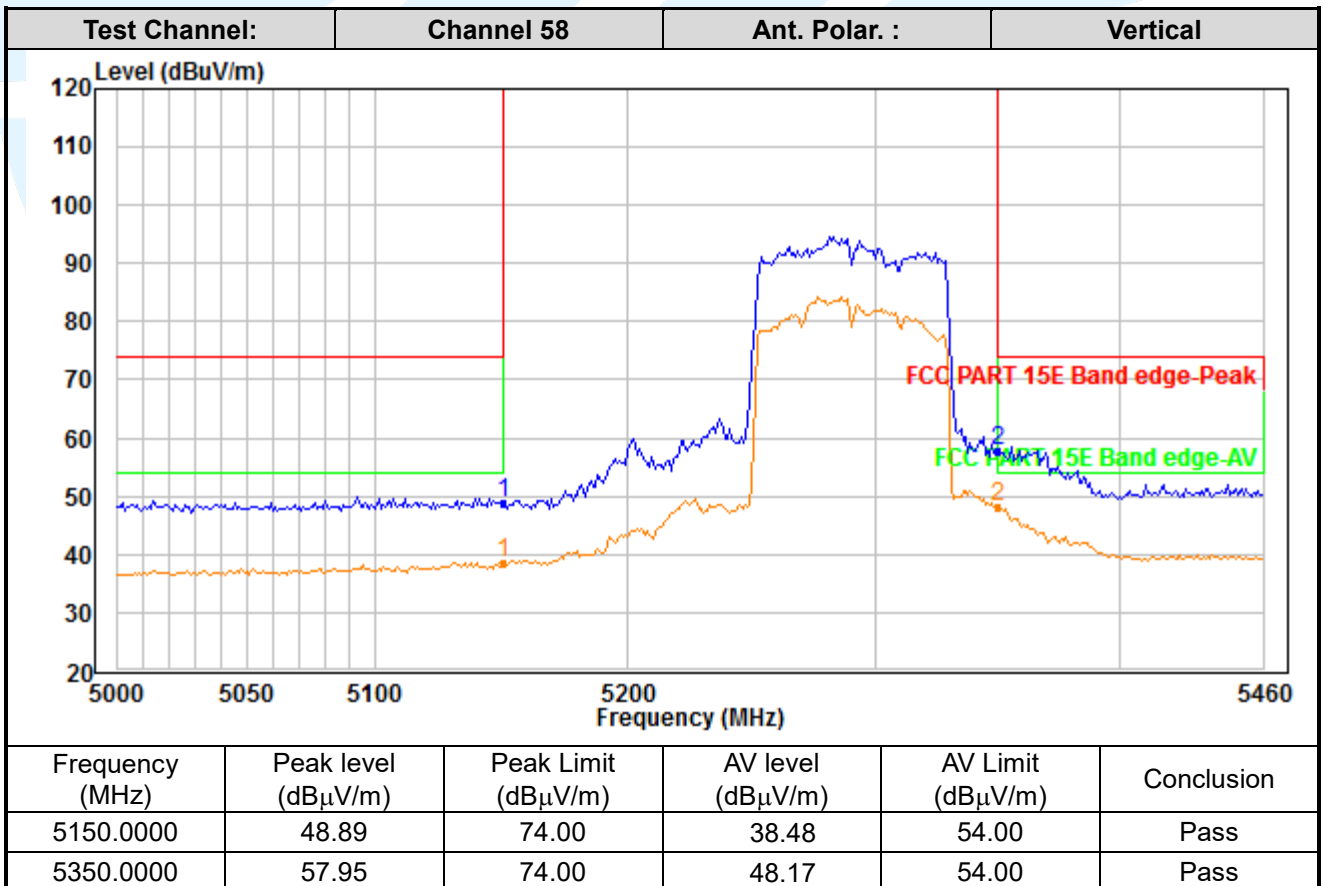
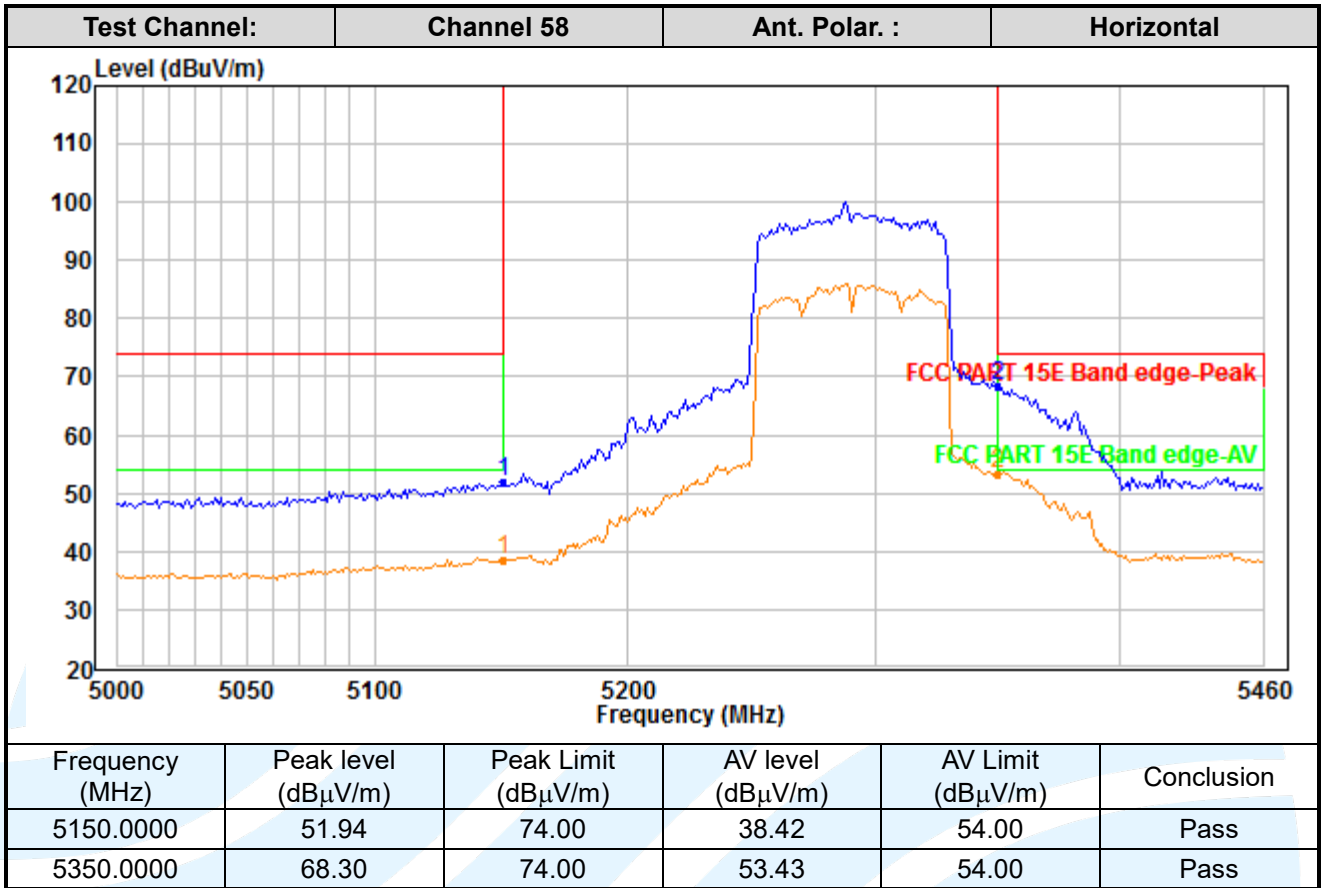
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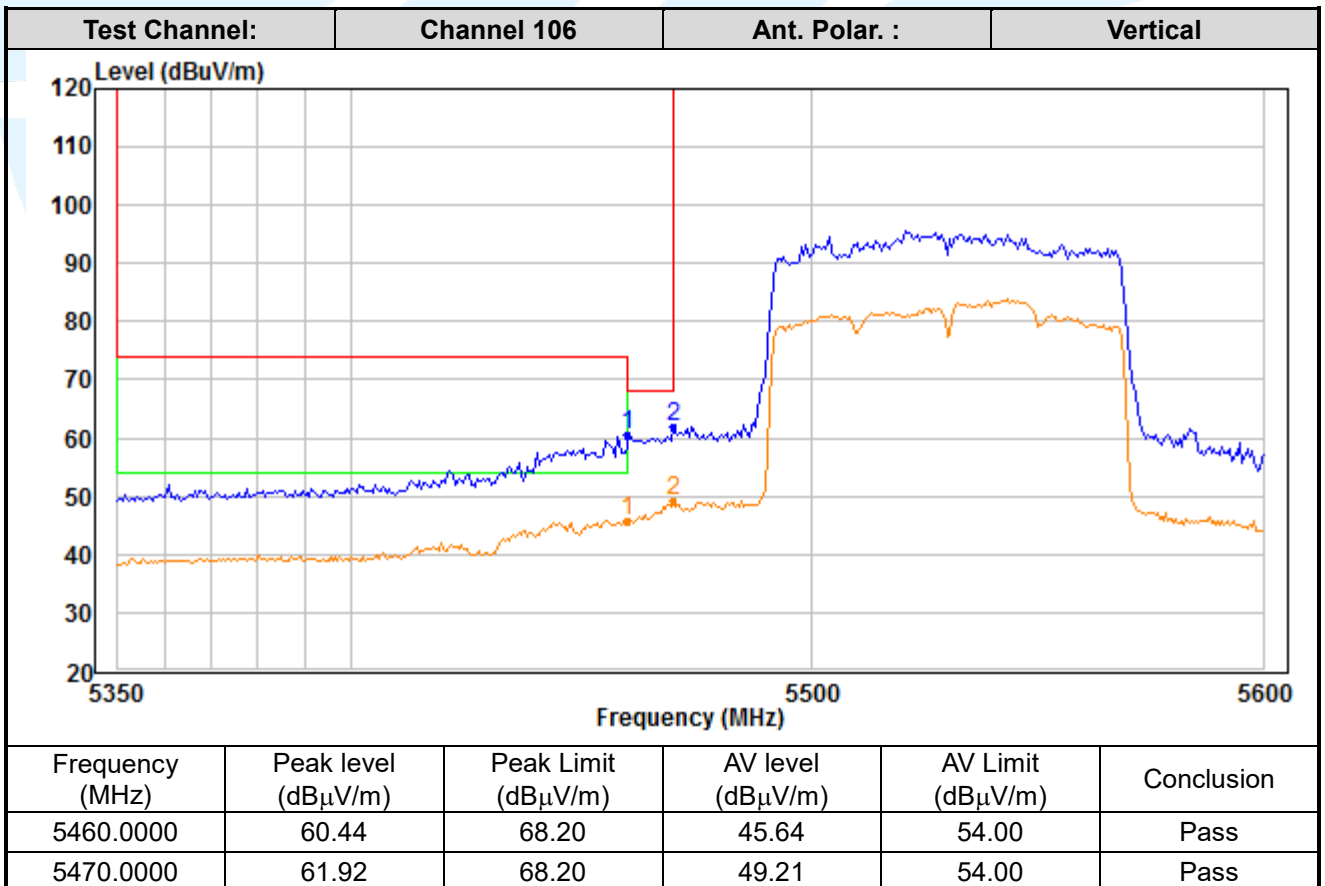
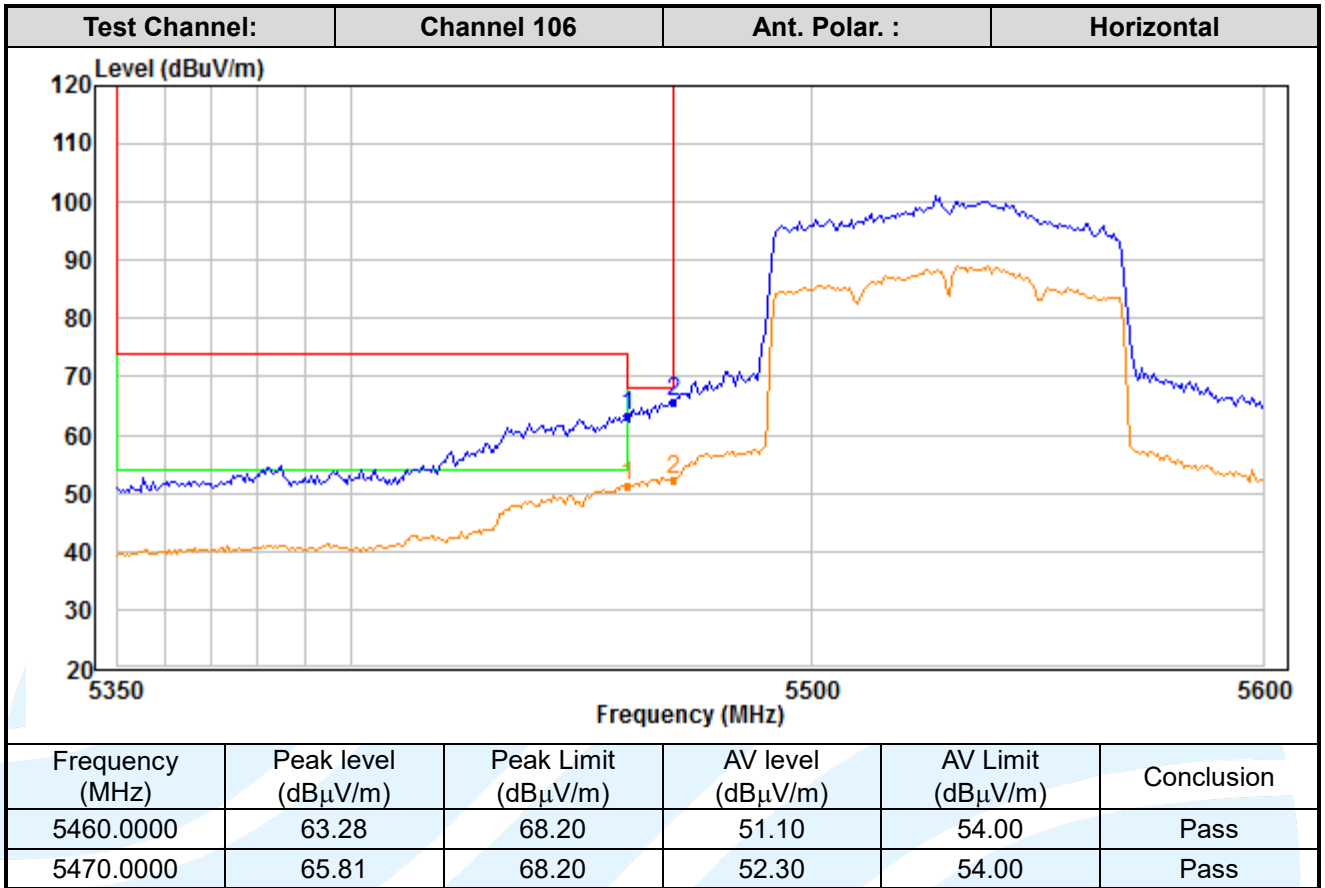
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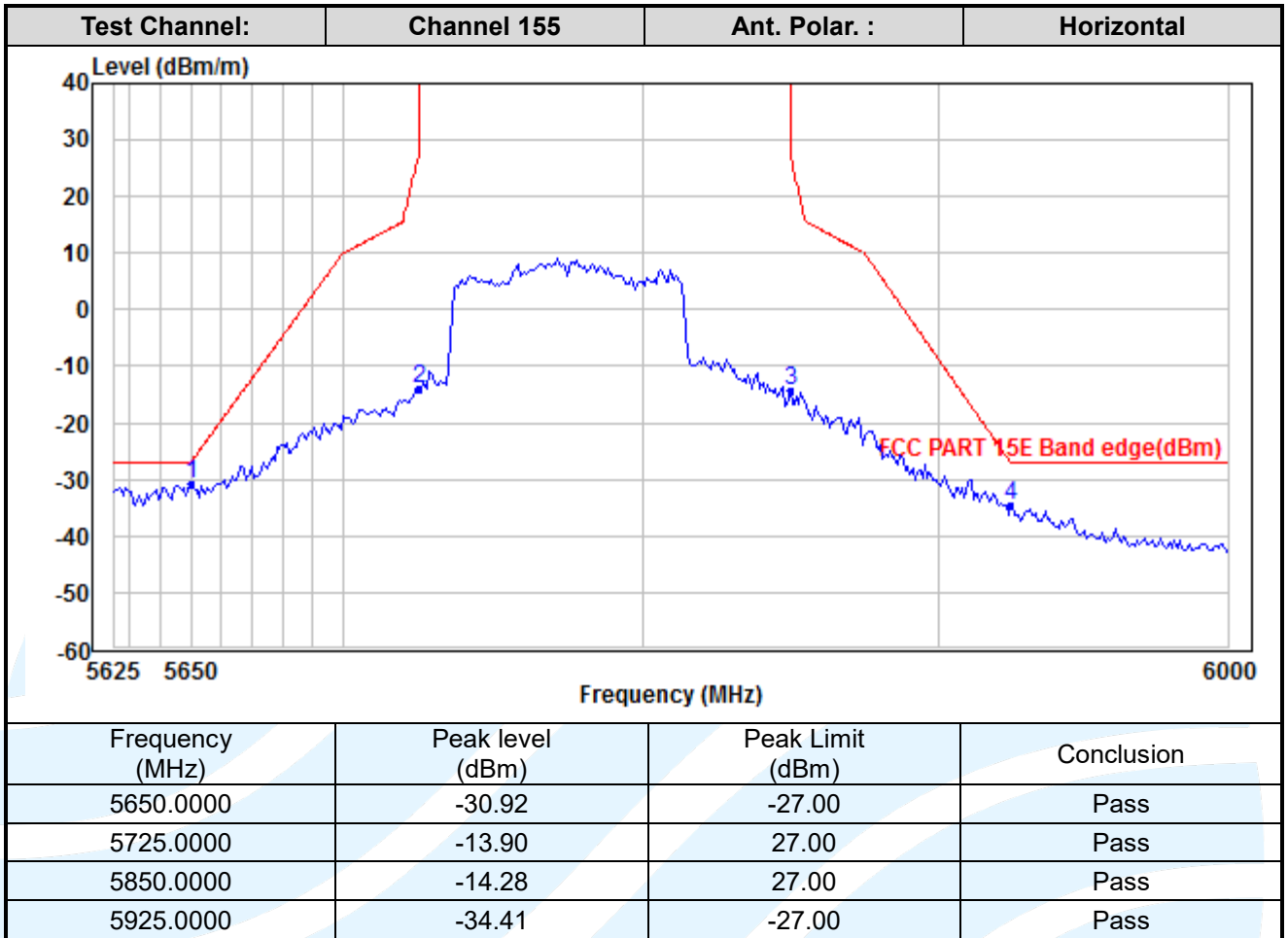
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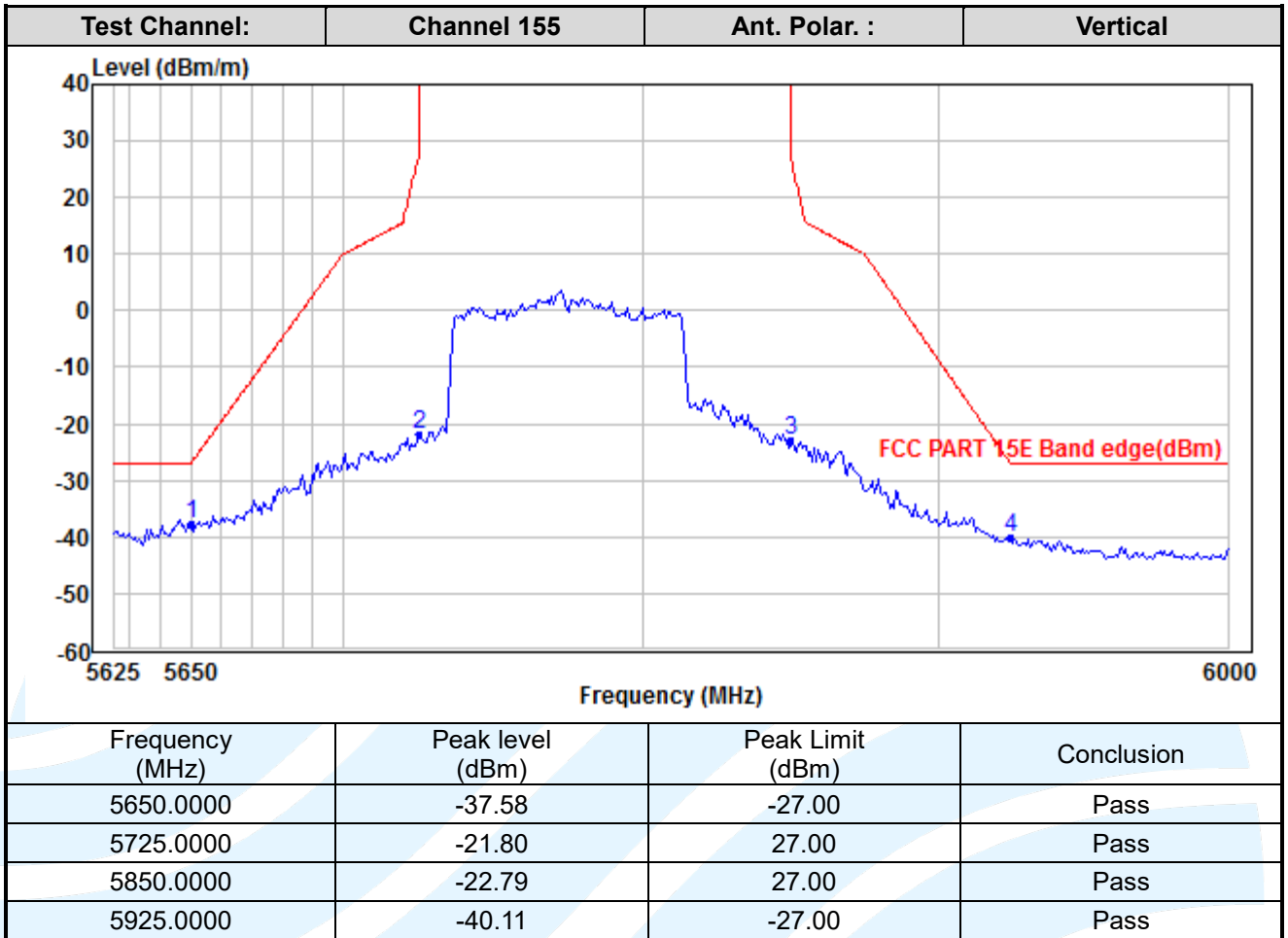
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### 5.8 DYNAMIC FREQUENCY SELECTION

**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
<b>Additional requirements for devices with multiple bandwidth modes</b>	<b>Master Device or Client with Radar Detection</b>	<b>Client Without Radar Detection</b>
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
<b>Note:</b> 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