

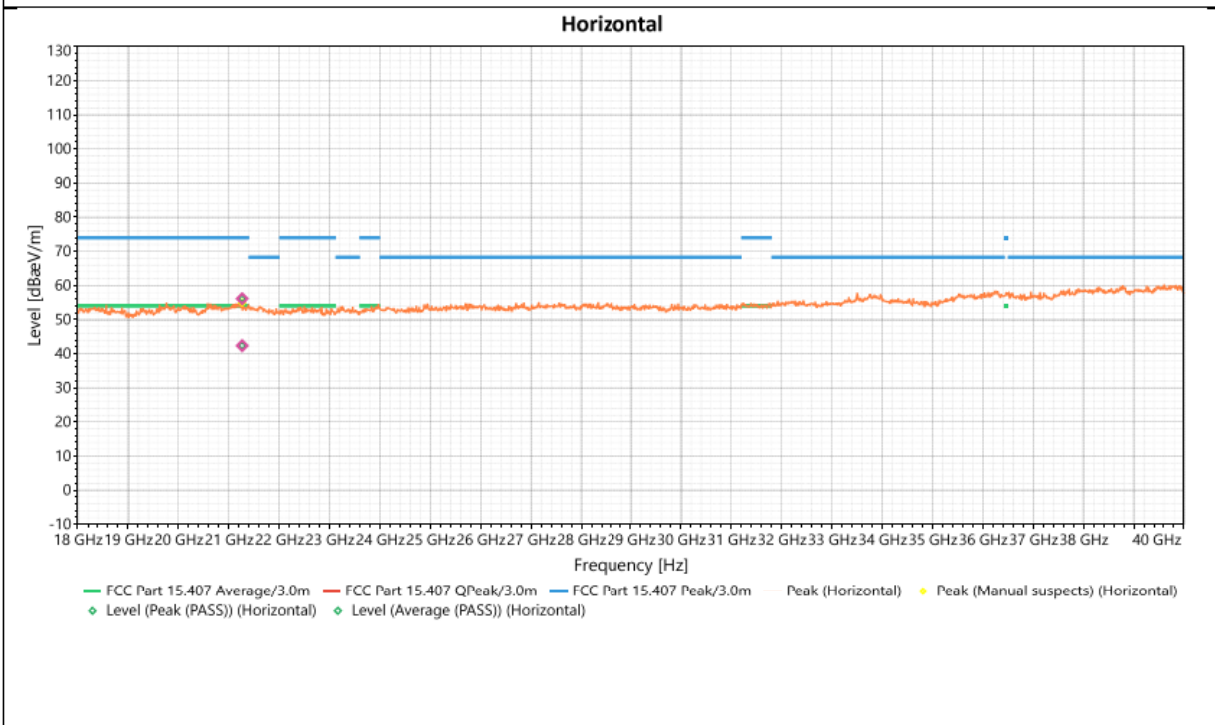
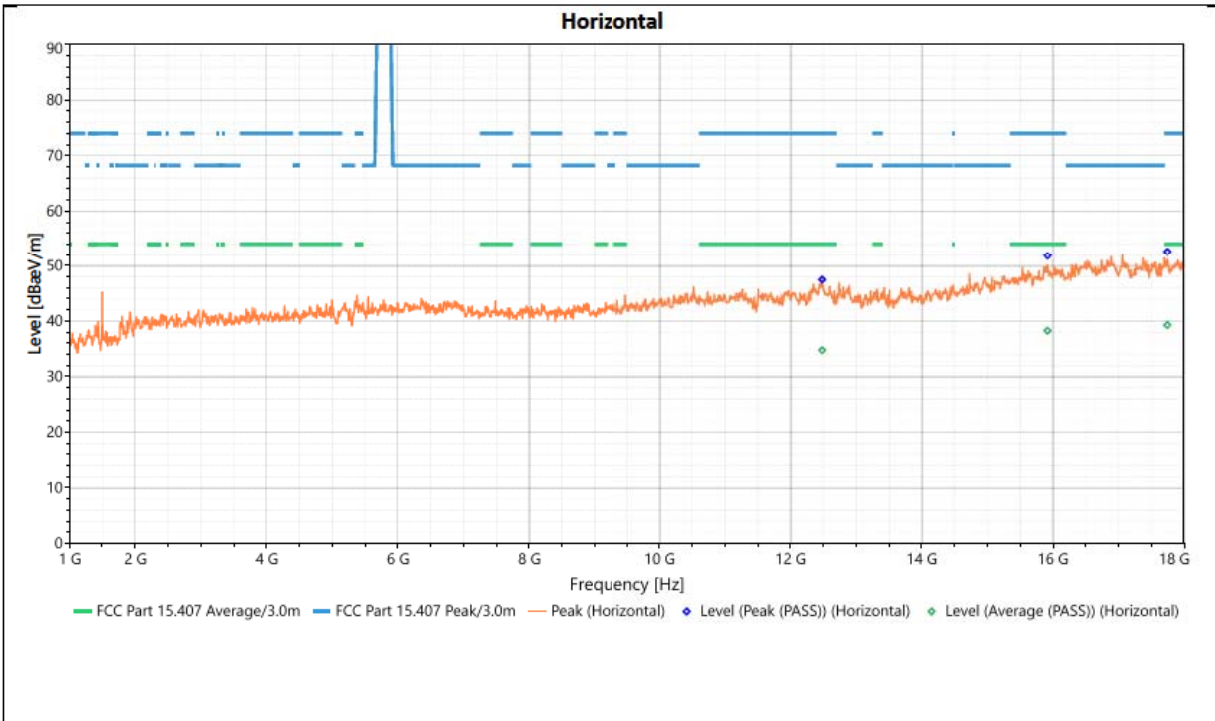
## Antenna Polarity &amp; Test Distance: Vertical at 3m

No.	Frequency (MHz)	Polarization	Level [dB(uV/m)]	Limit dB(uV/m)	Margin [dB]	Height (m)	Angle (Deg)	Factor [dB(1/m)]	Measure Type/ Result
1	11980.29	Vertical	47.567	74	-26.433	3.49	221	6.4	Peak (PASS)
2	11980.29	Vertical	34.578	54	-19.422	3.49	221	6.4	Average (PASS)
3	15905.57	Vertical	51.377	74	-22.623	1.99	64	8.02	Peak (PASS)
4	15905.57	Vertical	38.315	54	-15.685	1.99	64	8.02	Average (PASS)
5	17904.79	Vertical	53.439	74	-20.561	1.99	346	6.26	Peak (PASS)
6	17904.79	Vertical	40.006	54	-13.994	1.99	346	6.26	Average (PASS)
7	20736.81	Vertical	53.89	74	-20.11	1.82	4	8.51	Peak (PASS)
8	20736.81	Vertical	41.618	54	-12.382	1.82	4	8.51	Average (PASS)

**REMARKS:**

1. Level (dBuV) – Reading (dBuV) + Factor (dB(1/m)).
2. Factor (dB(1/m)) = Antenna Factor(AF) (dB(1/m)) + Cable Loss (dB) +Preamplifier
3. Margin value = Emission level – Limit value.
4. The emission levels of other frequencies were less than 20dB margin agains

Frequency	802.11N HT20 5260 MHz	DETECTOR FUNCTION	Prak/Average
FREQUENCY RANGE	1GHz-40GHz		

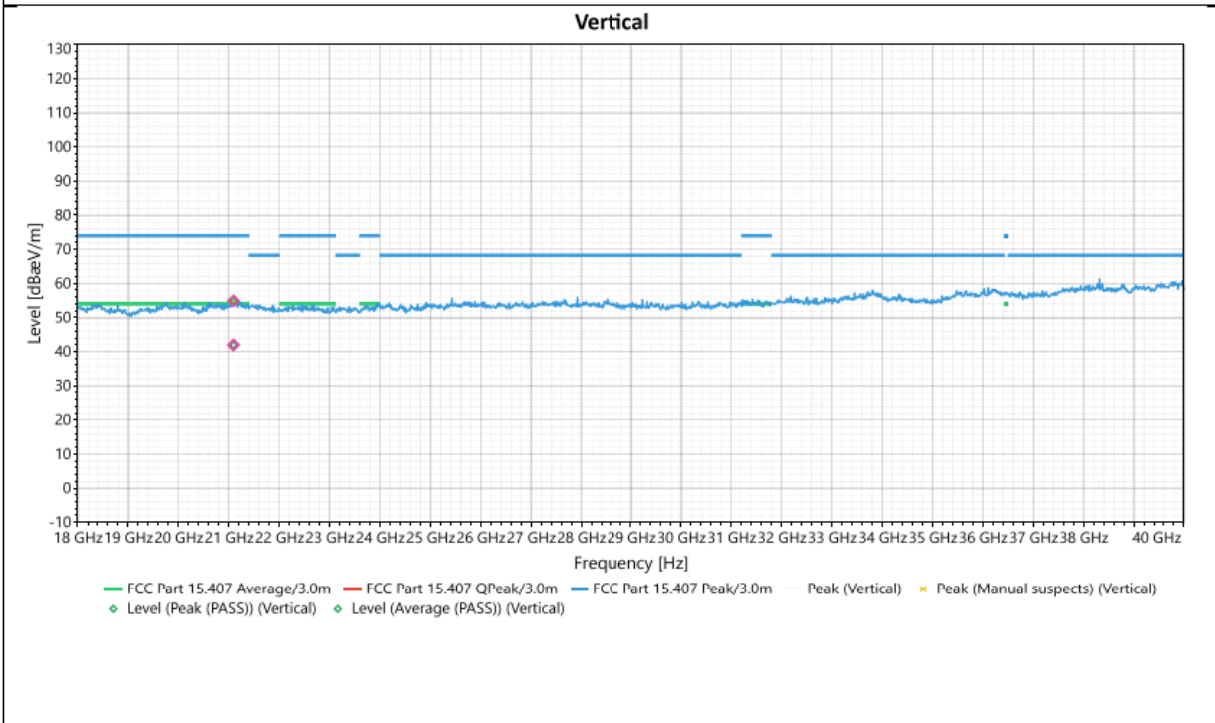
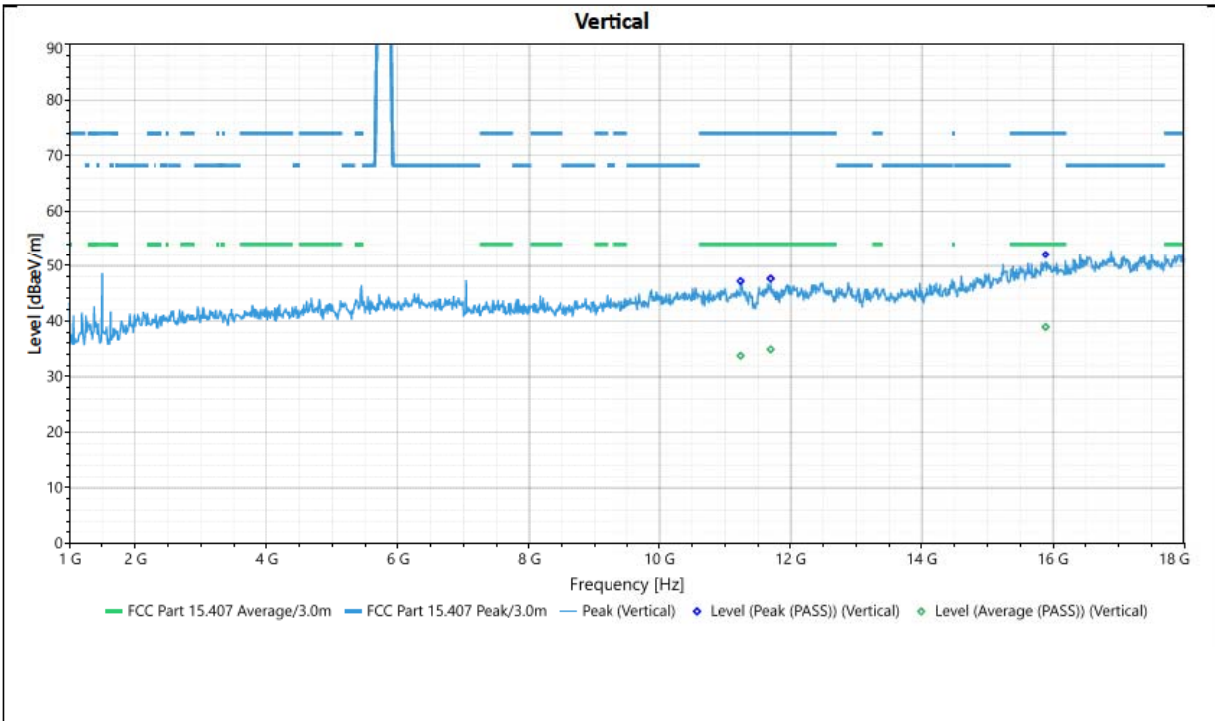


Antenna Polarity & Test Distance: Vertical at 3m									
No.	Frequency (MHz)	Polarization	Level [dB(uV/m)]	Limit dB(uV/m)	Margin [dB]	Height (m)	Angle (Deg)	Factor [dB(1/m)]	Measure Type/ Result
1	12481.82	Horizontal	47.484	74	-26.516	2.99	140	6.62	Peak (PASS)
2	12481.82	Horizontal	34.734	54	-19.266	2.99	140	6.62	Average (PASS)
3	15917.46	Horizontal	51.83	74	-22.17	1.99	233	7.87	Peak (PASS)
4	15917.46	Horizontal	38.253	54	-15.747	1.99	233	7.87	Average (PASS)
5	17743.31	Horizontal	52.643	74	-21.357	1	13	5.72	Peak (PASS)
6	17743.31	Horizontal	39.278	54	-14.722	1	13	5.72	Average (PASS)
7	21264.7	Horizontal	56.103	74	-17.897	1.4	66	8.29	Peak (PASS)
8	21264.7	Horizontal	42.363	54	-11.637	1.4	66	8.29	Average (PASS)

**REMARKS:**

1. Level (dBuV) = Reading (dBuV) + Factor (dB(1/m)).
2. Factor (dB(1/m)) = Antenna Factor(AF) (dB(1/m)) + Cable Loss (dB) +Preamplifier
3. Margin value = Emission level – Limit value.
4. The emission levels of other frequencies were less than 20dB margin agains

<b>CHANNEL</b>	802.11N HT20 5280 MHz	<b>DETECTOR FUNCTION</b>	Prak/Average
<b>FREQUENCY RANGE</b>	1GHz-40GHz		

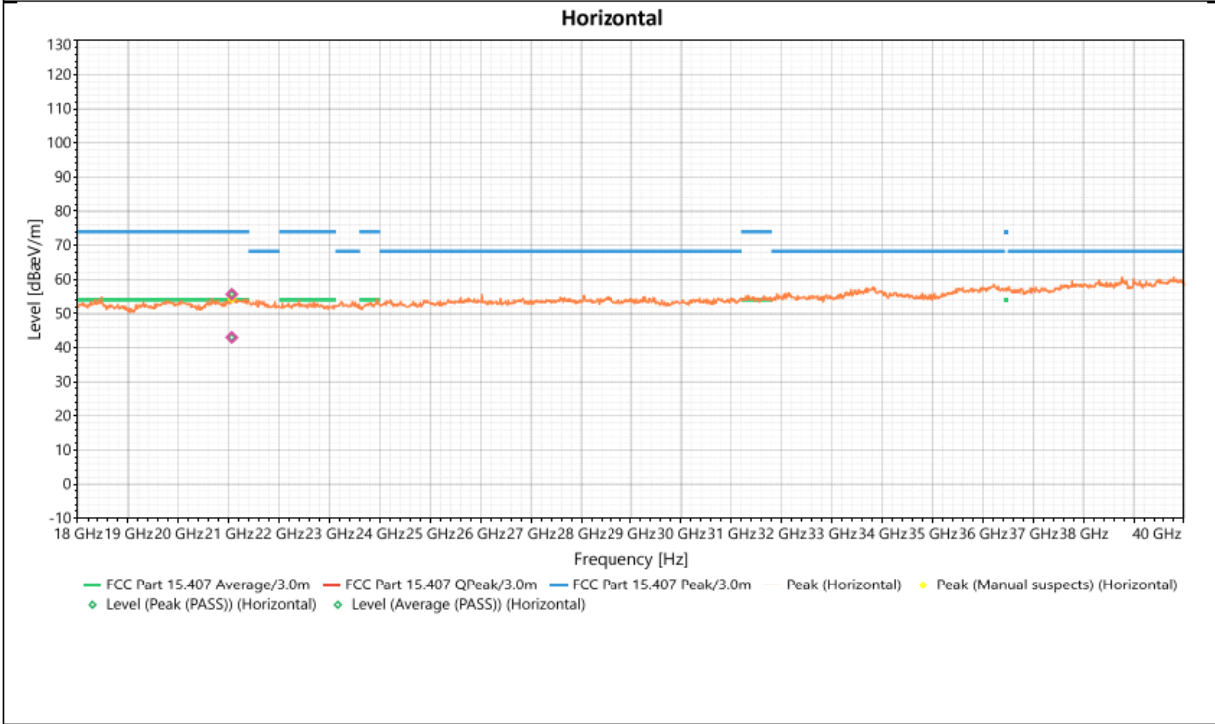
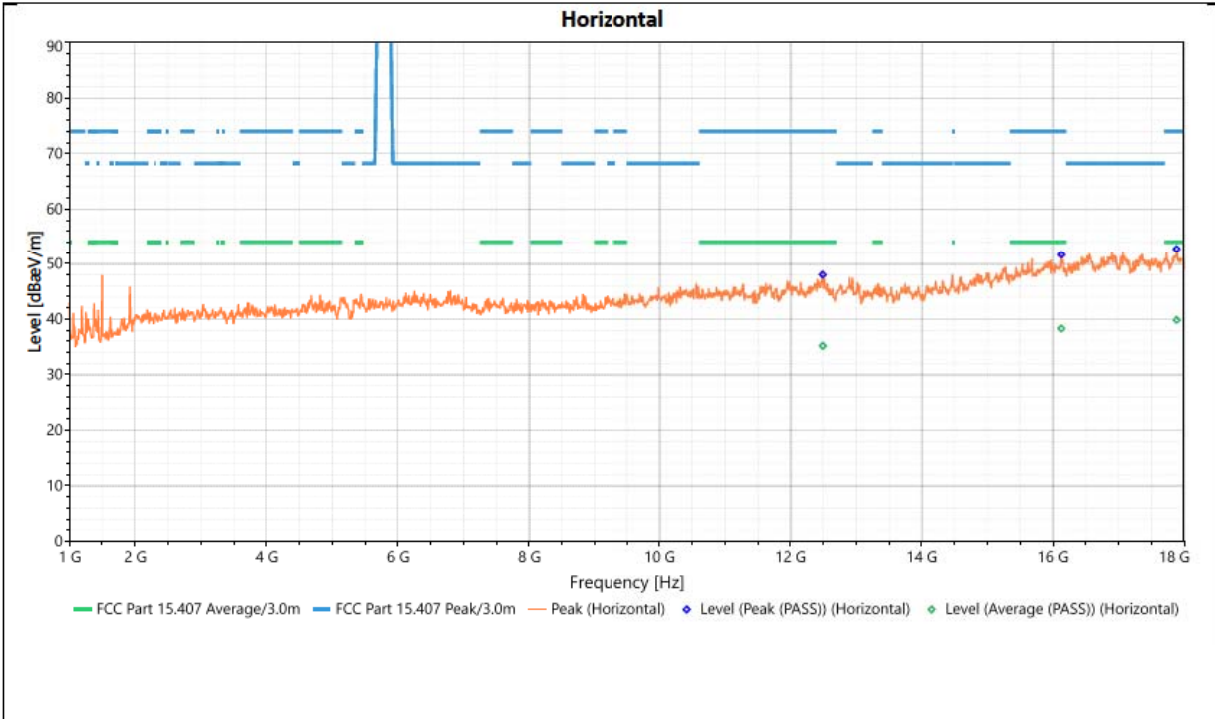


Antenna Polarity & Test Distance: Vertical at 3m									
No.	Frequency (MHz)	Polarization	Level [dB(uV/m)]	Limit dB(uV/m)	Margin [dB]	Height (m)	Angle (Deg)	Factor [dB(1/m)]	Measure Type/ Result
1	11237.4	Vertical	47.174	74	-26.826	2.49	327	5.48	Peak (PASS)
2	11237.4	Vertical	33.738	54	-20.262	2.49	327	5.48	Average (PASS)
3	11696.38	Vertical	47.642	74	-26.358	3.49	12	6.02	Peak (PASS)
4	11696.38	Vertical	34.9	54	-19.1	3.49	12	6.02	Average (PASS)
5	15888.65	Vertical	52.087	74	-21.913	3.49	75	8.02	Peak (PASS)
6	15888.65	Vertical	38.924	54	-15.076	3.49	75	8.02	Average (PASS)
7	21093.18	Vertical	54.897	74	-19.103	1.97	74	8.63	Peak (PASS)
8	21093.18	Vertical	41.954	54	-12.046	1.97	74	8.63	Average (PASS)

**REMARKS:**

1. Level (dBuV) = Reading (dBuV) + Factor (dB(1/m)).
2. Factor (dB(1/m)) = Antenna Factor(AF) (dB(1/m)) + Cable Loss (dB) +Preamplifier
3. Margin value = Emission level – Limit value.
4. The emission levels of other frequencies were less than 20dB margin agains

Frequency	802.11N HT20 5280 MHz	DETECTOR FUNCTION	Prak/Average
FREQUENCY RANGE	1GHz-40GHz		

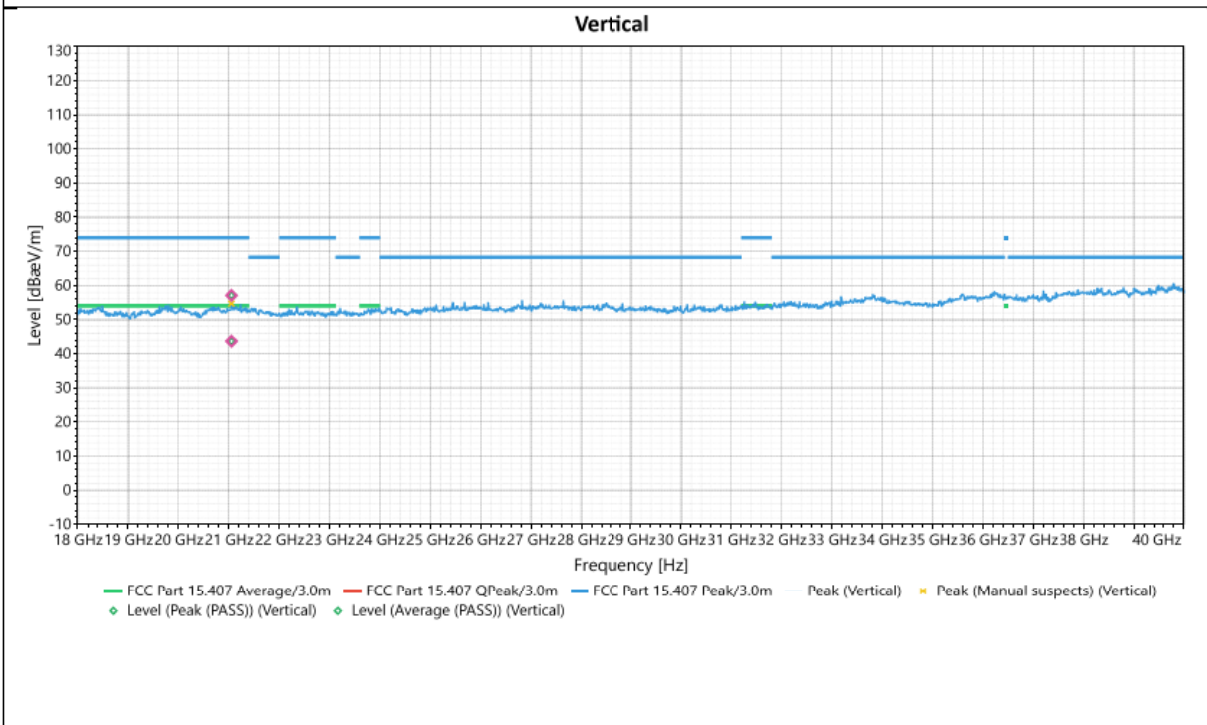
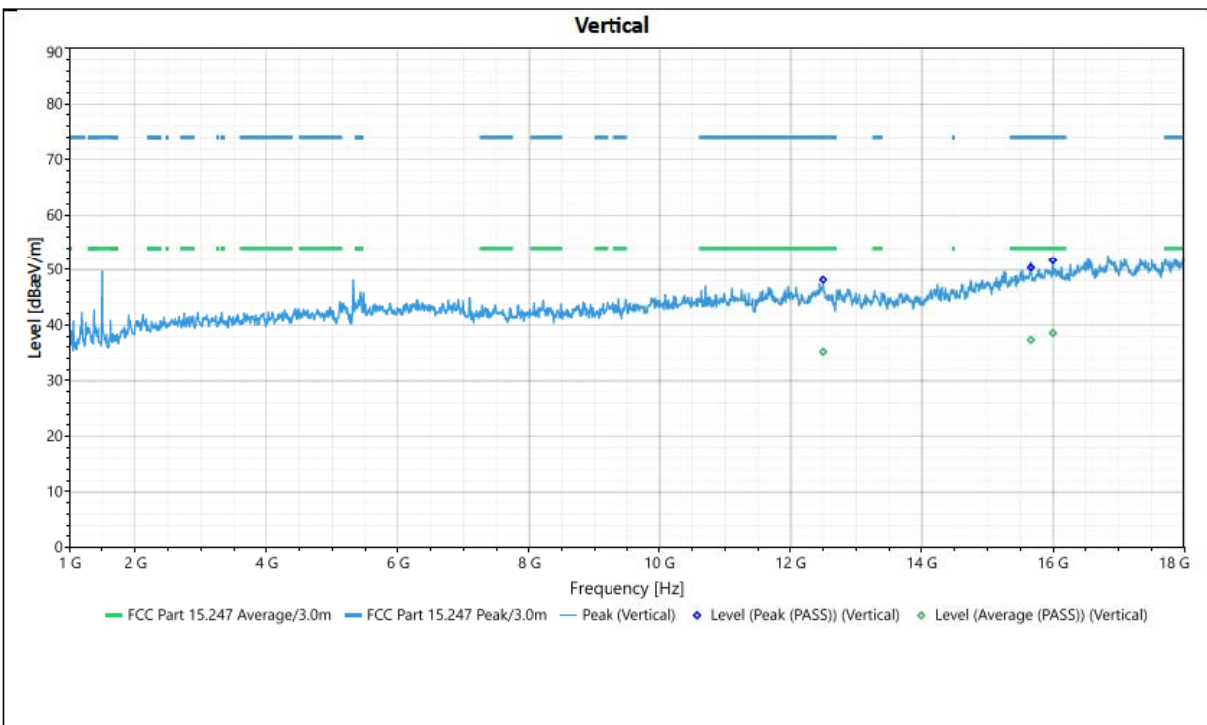


Antenna Polarity & Test Distance: Vertical at 3m									
No.	Frequency (MHz)	Polarization	Level [dB(uV/m)]	Limit dB(uV/m)	Margin [dB]	Height (m)	Angle (Deg)	Factor [dB(1/m)]	Measure Type/ Result
1	12492.04	Horizontal	48.021	74	-25.979	1.99	64	6.63	Peak (PASS)
2	12492.04	Horizontal	35.179	54	-18.821	1.99	64	6.63	Average (PASS)
3	16128.34	Horizontal	51.649	74	-22.351	2.49	283	7.89	Peak (PASS)
4	16128.34	Horizontal	38.293	54	-15.707	2.49	283	7.89	Average (PASS)
5	17886.08	Horizontal	52.78	74	-21.22	1.99	95	5.84	Peak (PASS)
6	17886.08	Horizontal	39.832	54	-14.168	1.99	95	5.84	Average (PASS)
7	21060.1	Horizontal	55.637	74	-18.363	1.79	172	8.5	Peak (PASS)
8	21060.1	Horizontal	43.007	54	-10.993	1.79	172	8.5	Average (PASS)

**REMARKS:**

1. Level (dBuV) – Reading (dBuV) + Factor (dB(1/m)).
2. Factor (dB(1/m)) = Antenna Factor(AF) (dB(1/m)) + Cable Loss (dB) +Preamplifier
3. Margin value = Emission level – Limit value.
4. The emission levels of other frequencies were less than 20dB margin agains

<b>CHANNEL</b>	802.11N HT20 5320 MHz	<b>DETECTOR FUNCTION</b>	Prak/Average
<b>FREQUENCY RANGE</b>	1GHz-40GHz		



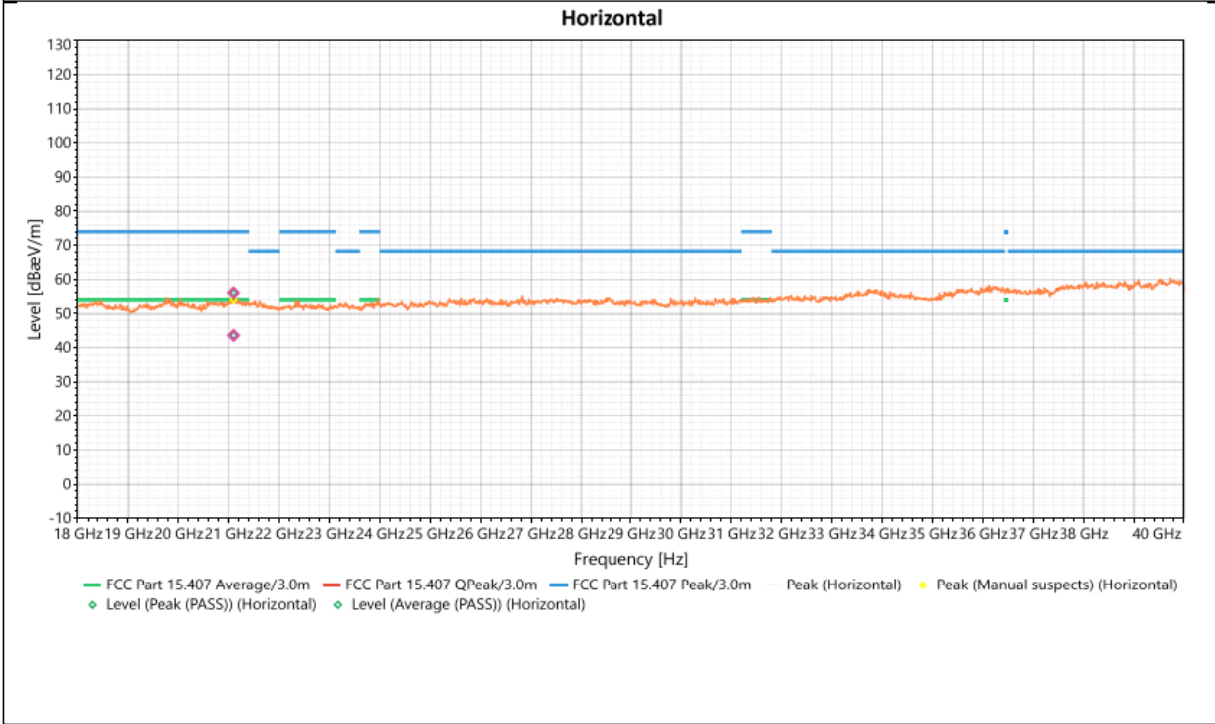
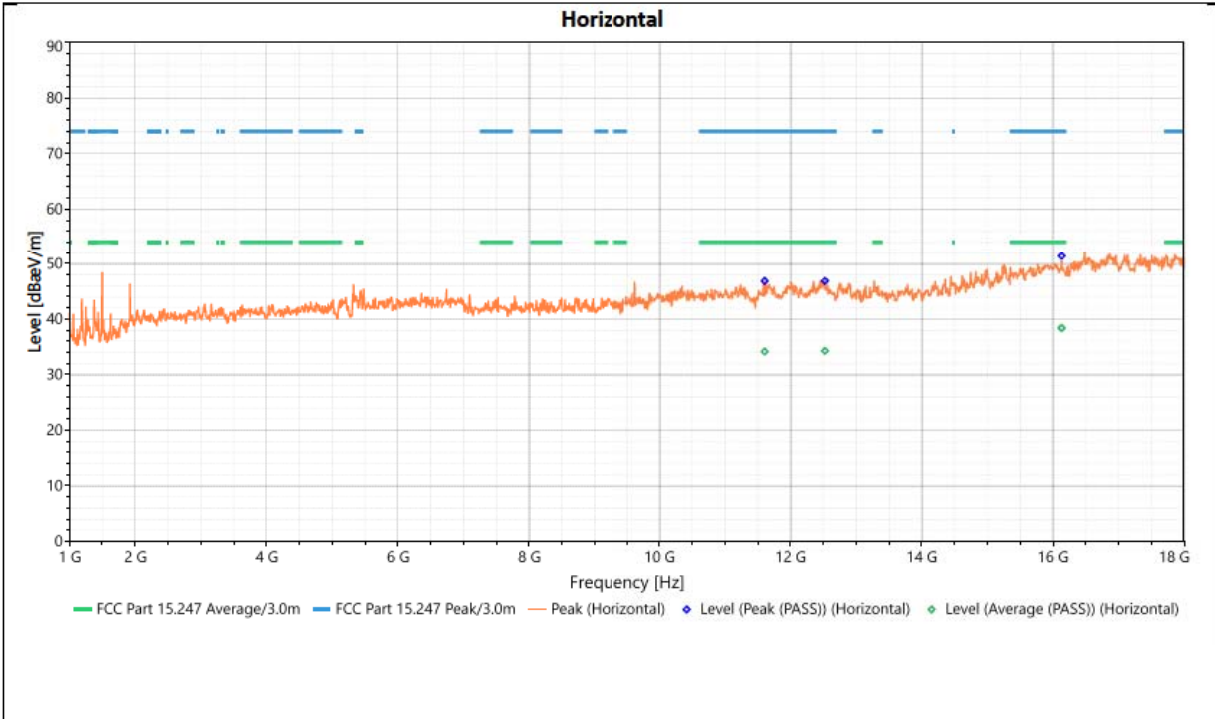


Antenna Polarity & Test Distance: Vertical at 3m									
No.	Frequency (MHz)	Polarization	Level [dB(uV/m)]	Limit dB(uV/m)	Margin [dB]	Height (m)	Angle (Deg)	Factor [dB(1/m)]	Measure Type/ Result
1	12497.07	Vertical	48.146	74	-25.854	3.49	44	6.61	Peak (PASS)
2	12497.07	Vertical	35.206	54	-18.794	3.49	44	6.61	Average (PASS)
3	15664.22	Vertical	50.371	74	-23.629	1	233	7.66	Peak (PASS)
4	15664.22	Vertical	37.315	54	-16.685	1	233	7.66	Average (PASS)
5	16000.85	Vertical	51.713	74	-22.287	2.5	266	8.02	Peak (PASS)
6	16000.85	Vertical	38.561	54	-15.439	2.5	266	8.02	Average (PASS)
7	21053.64	Vertical	57.078	74	-16.922	1.61	168	8.64	Peak (PASS)
8	21053.64	Vertical	43.637	54	-10.363	1.61	168	8.64	Average (PASS)

**REMARKS:**

1. Level (dBuV) = Reading (dBuV) + Factor (dB(1/m)).
2. Factor (dB(1/m)) = Antenna Factor(AF) (dB(1/m)) + Cable Loss (dB) +Preamplifier
3. Margin value = Emission level – Limit value.
4. The emission levels of other frequencies were less than 20dB margin agains

Frequency	802.11N HT20 5320 MHz	DETECTOR FUNCTION	Prak/Average
FREQUENCY RANGE	1GHz-40GHz		

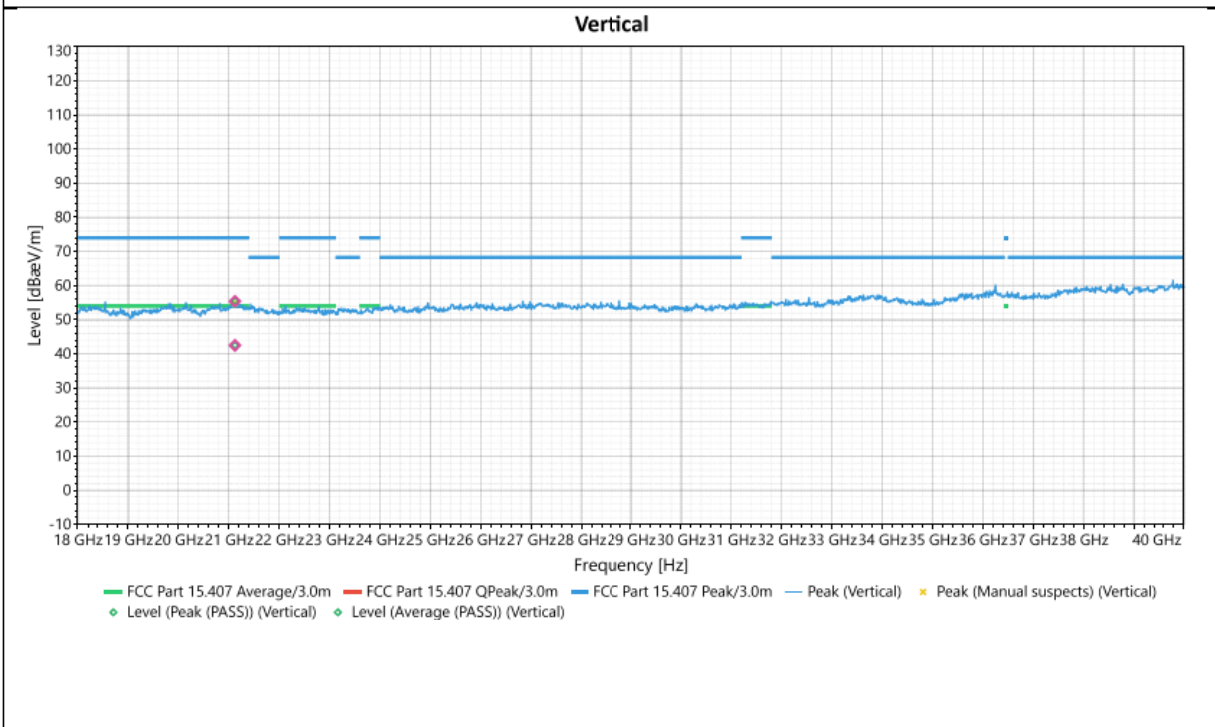
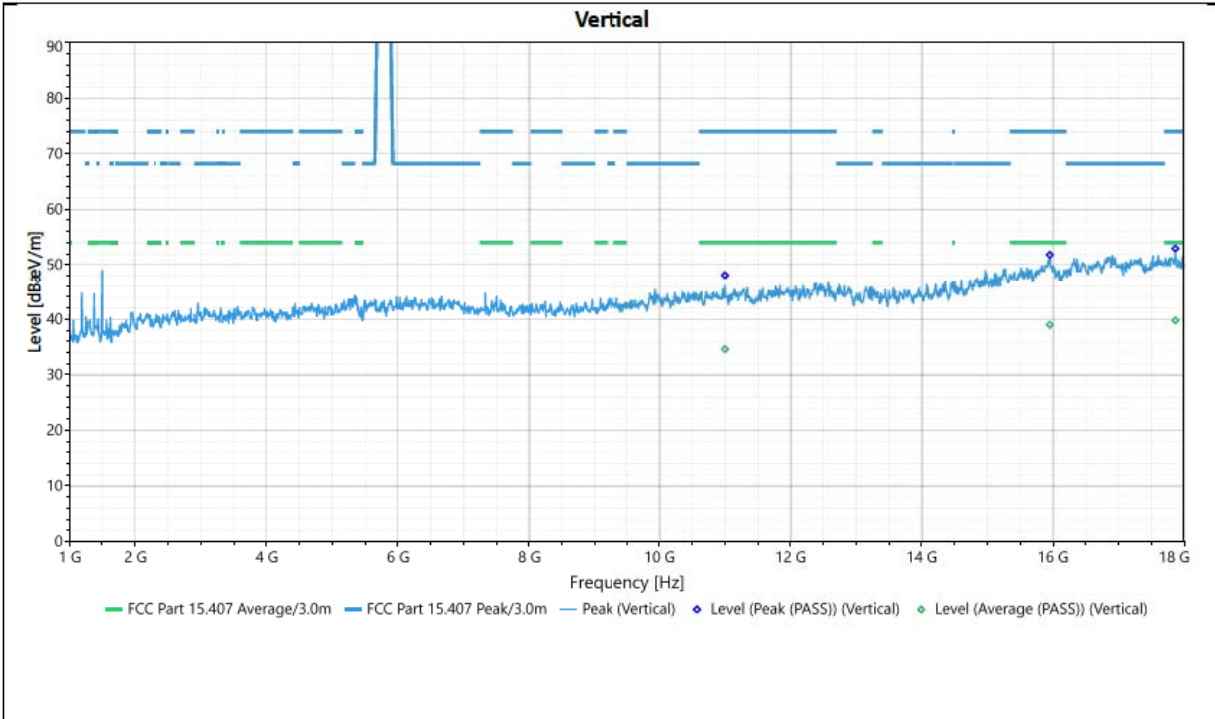


Antenna Polarity & Test Distance: Vertical at 3m									
No.	Frequency (MHz)	Polarization	Level [dB(uV/m)]	Limit dB(uV/m)	Margin [dB]	Height (m)	Angle (Deg)	Factor [dB(1/m)]	Measure Type/ Result
1	11604.59	Horizontal	46.855	74	-27.145	3.49	188	5.8	Peak (PASS)
2	11604.59	Horizontal	34.148	54	-19.852	3.49	188	5.8	Average (PASS)
3	12524.34	Horizontal	46.866	74	-27.134	2	5	6.67	Peak (PASS)
4	12524.34	Horizontal	34.259	54	-19.741	2	5	6.67	Average (PASS)
5	16131.69	Horizontal	51.372	74	-22.628	3.49	63	7.89	Peak (PASS)
6	16131.69	Horizontal	38.369	54	-15.631	3.49	63	7.89	Average (PASS)
7	21093.1	Horizontal	56.05	74	-17.95	1.6	270	8.49	Peak (PASS)
8	21093.1	Horizontal	43.617	54	-10.383	1.6	270	8.49	Average (PASS)

**REMARKS:**

1. Level (dBuV) – Reading (dBuV) + Factor (dB(1/m)).
2. Factor (dB(1/m)) = Antenna Factor(AF) (dB(1/m)) + Cable Loss (dB) +Preamplifier
3. Margin value = Emission level – Limit value.
4. The emission levels of other frequencies were less than 20dB margin agains

<b>CHANNEL</b>	802.11N HT20 5500 MHz	<b>DETECTOR FUNCTION</b>	Prak/Average
<b>FREQUENCY RANGE</b>	1GHz-40GHz		

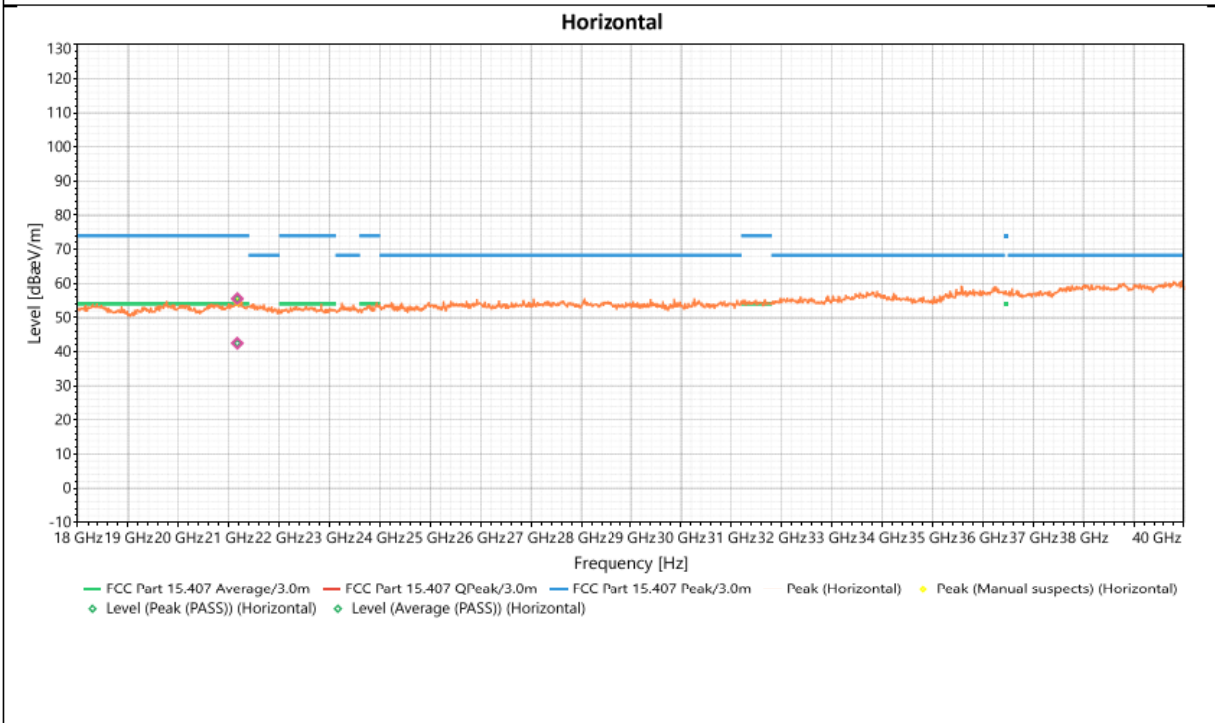
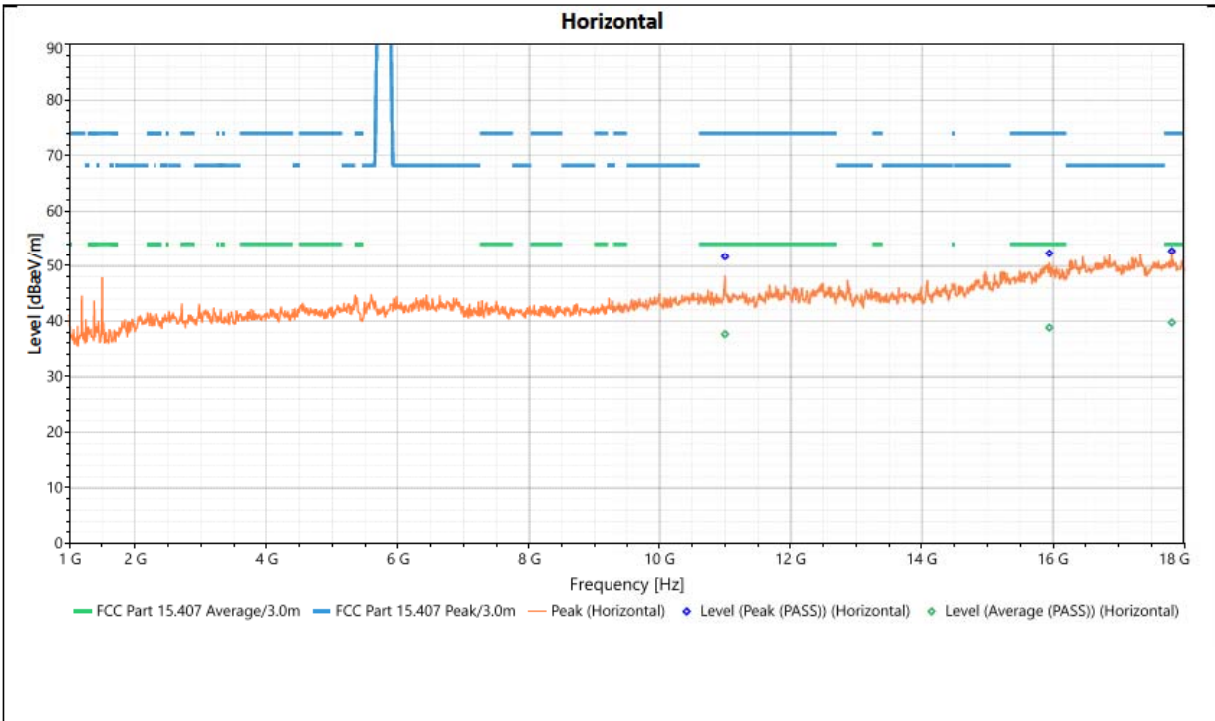


Antenna Polarity & Test Distance: Vertical at 3m									
No.	Frequency (MHz)	Polarization	Level [dB(uV/m)]	Limit dB(uV/m)	Margin [dB]	Height (m)	Angle (Deg)	Factor [dB(1/m)]	Measure Type/ Result
1	11001.1	Vertical	48.104	74	-25.896	1	45	5.52	Peak (PASS)
2	11001.1	Vertical	34.588	54	-19.412	1	45	5.52	Average (PASS)
3	15953.22	Vertical	51.796	74	-22.204	3.49	203	8.03	Peak (PASS)
4	15953.22	Vertical	38.97	54	-15.03	3.49	203	8.03	Average (PASS)
5	17867.4	Vertical	52.949	74	-21.051	2.5	328	6.24	Peak (PASS)
6	17867.4	Vertical	39.785	54	-14.215	2.5	328	6.24	Average (PASS)
7	21121.84	Vertical	55.369	74	-18.631	1.7	238	8.59	Peak (PASS)
8	21121.84	Vertical	42.454	54	-11.546	1.7	238	8.59	Average (PASS)

**REMARKS:**

1. Level (dBUV) = Reading (dBUV) + Factor (dB(1/m)).
2. Factor (dB(1/m)) = Antenna Factor(AF) (dB(1/m)) + Cable Loss (dB) + Preamplifier
3. Margin value = Emission level – Limit value.
4. The emission levels of other frequencies were less than 20dB margin agains

<b>Frequency</b>	802.11N HT20 5500 MHz	<b>DETECTOR FUNCTION</b>	Prak/Average
<b>FREQUENCY RANGE</b>	1GHz-40GHz		

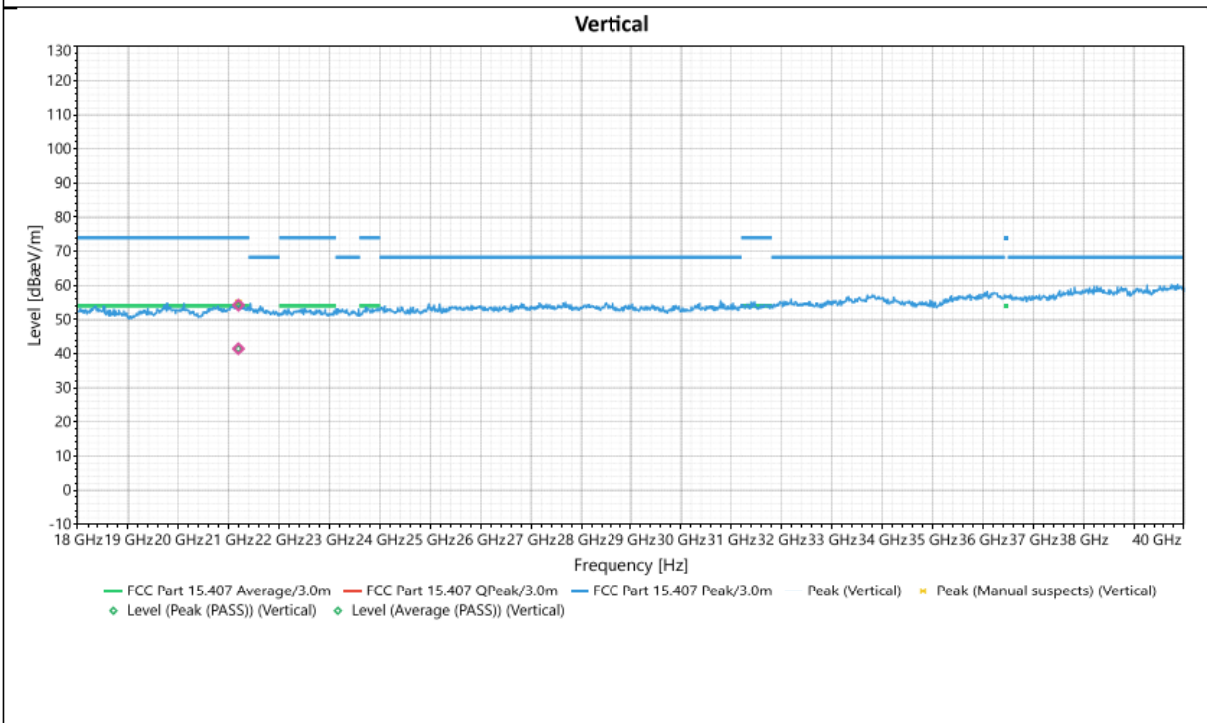
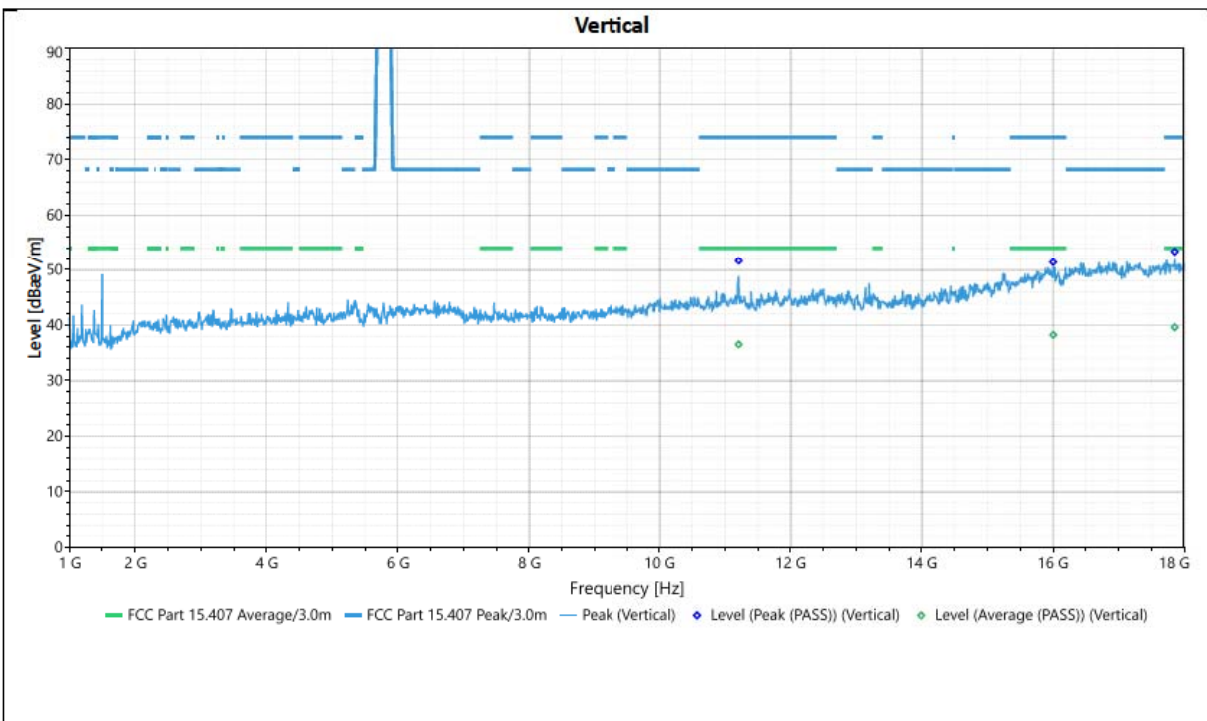


Antenna Polarity & Test Distance: Vertical at 3m									
No.	Frequency (MHz)	Polarization	Level [dB(uV/m)]	Limit dB(uV/m)	Margin [dB]	Height (m)	Angle (Deg)	Factor [dB(1/m)]	Measure Type/ Result
1	11001.15	Horizontal	51.678	74	-22.322	2.5	314	5.59	Peak (PASS)
2	11001.15	Horizontal	37.629	54	-16.371	2.5	314	5.59	Average (PASS)
3	15944.73	Horizontal	52.316	74	-21.684	3.49	0	7.86	Peak (PASS)
4	15944.73	Horizontal	38.833	54	-15.167	3.49	0	7.86	Average (PASS)
5	17812.97	Horizontal	52.74	74	-21.26	3.49	4	5.8	Peak (PASS)
6	17812.97	Horizontal	39.726	54	-14.274	3.49	4	5.8	Average (PASS)
7	21167.9	Horizontal	55.522	74	-18.478	1.63	356	8.4	Peak (PASS)
8	21167.9	Horizontal	42.469	54	-11.531	1.63	356	8.4	Average (PASS)

**REMARKS:**

1. Level (dBuV) = Reading (dBuV) + Factor (dB(1/m)).
2. Factor (dB(1/m)) = Antenna Factor(AF) (dB(1/m)) + Cable Loss (dB) +Preamplifier
3. Margin value = Emission level – Limit value.
4. The emission levels of other frequencies were less than 20dB margin agains

<b>CHANNEL</b>	802.11N HT20 5580 MHz	<b>DETECTOR FUNCTION</b>	Prak/Average
<b>FREQUENCY RANGE</b>	1GHz-40GHz		



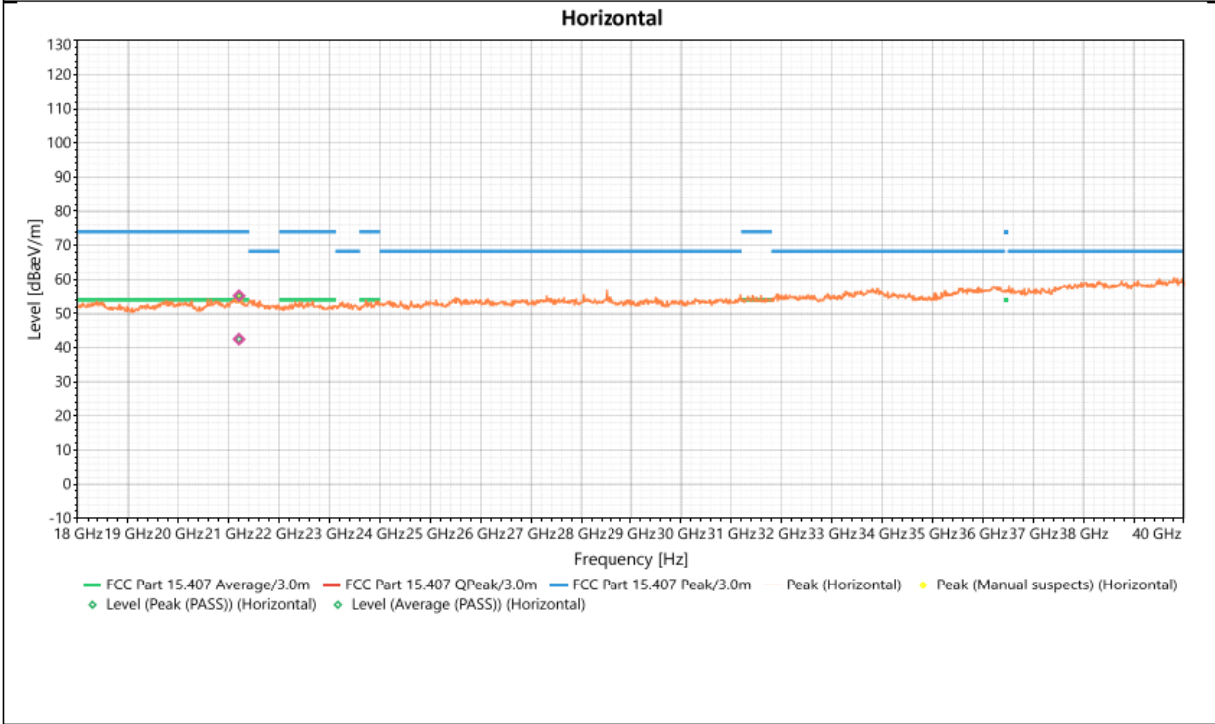
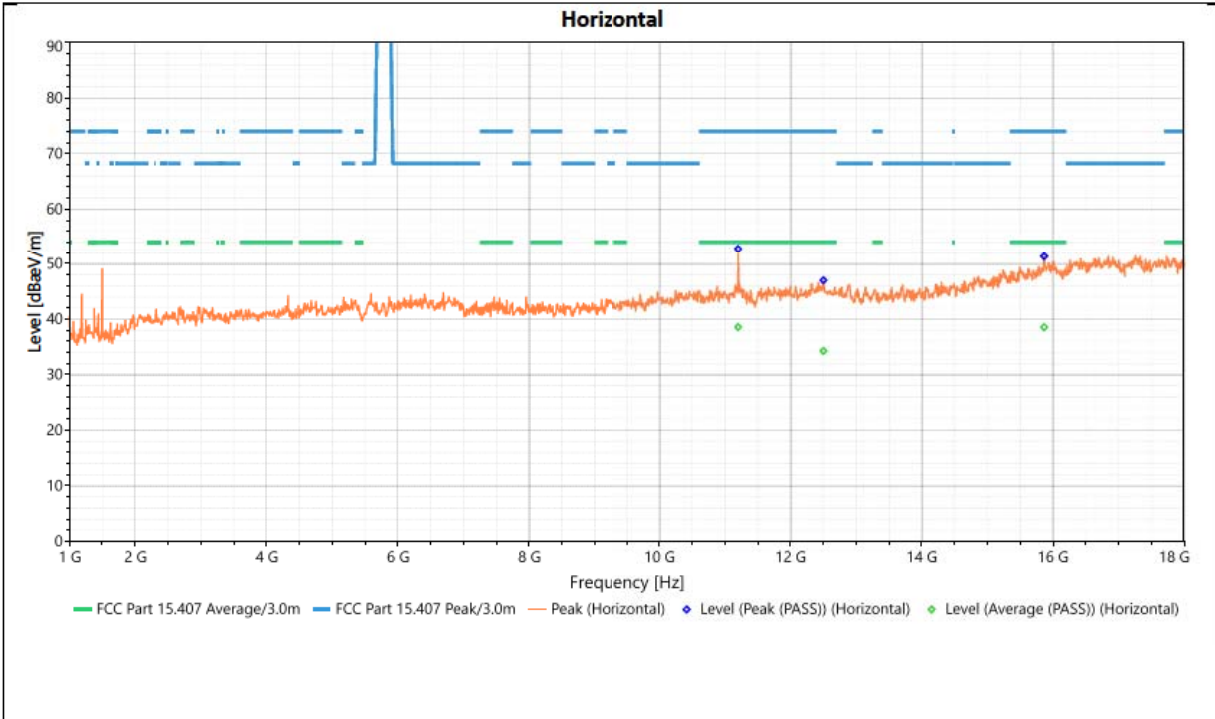


Antenna Polarity & Test Distance: Vertical at 3m									
No.	Frequency (MHz)	Polarization	Level [dB(uV/m)]	Limit dB(uV/m)	Margin [dB]	Height (m)	Angle (Deg)	Factor [dB(1/m)]	Measure Type/ Result
1	11206.85	Vertical	51.645	74	-22.355	1	253	5.47	Peak (PASS)
2	11206.85	Vertical	36.508	54	-17.492	1	253	5.47	Average (PASS)
3	16004.18	Vertical	51.371	74	-22.629	2	95	8.02	Peak (PASS)
4	16004.18	Vertical	38.229	54	-15.771	2	95	8.02	Average (PASS)
5	17857.19	Vertical	53.401	74	-20.599	1	222	6.24	Peak (PASS)
6	17857.19	Vertical	39.604	54	-14.396	1	222	6.24	Average (PASS)
7	21190.03	Vertical	54.225	74	-19.775	1	203	8.47	Peak (PASS)
8	21190.03	Vertical	41.452	54	-12.548	1	203	8.47	Average (PASS)

**REMARKS:**

1. Level (dBuV) = Reading (dBuV) + Factor (dB(1/m)).
2. Factor (dB(1/m)) = Antenna Factor(AF) (dB(1/m)) + Cable Loss (dB) +Preamplifier
3. Margin value = Emission level – Limit value.
4. The emission levels of other frequencies were less than 20dB margin agains

Frequency	802.11N HT20 5580 MHz	DETECTOR FUNCTION	Prak/Average
FREQUENCY RANGE	1GHz-40GHz		

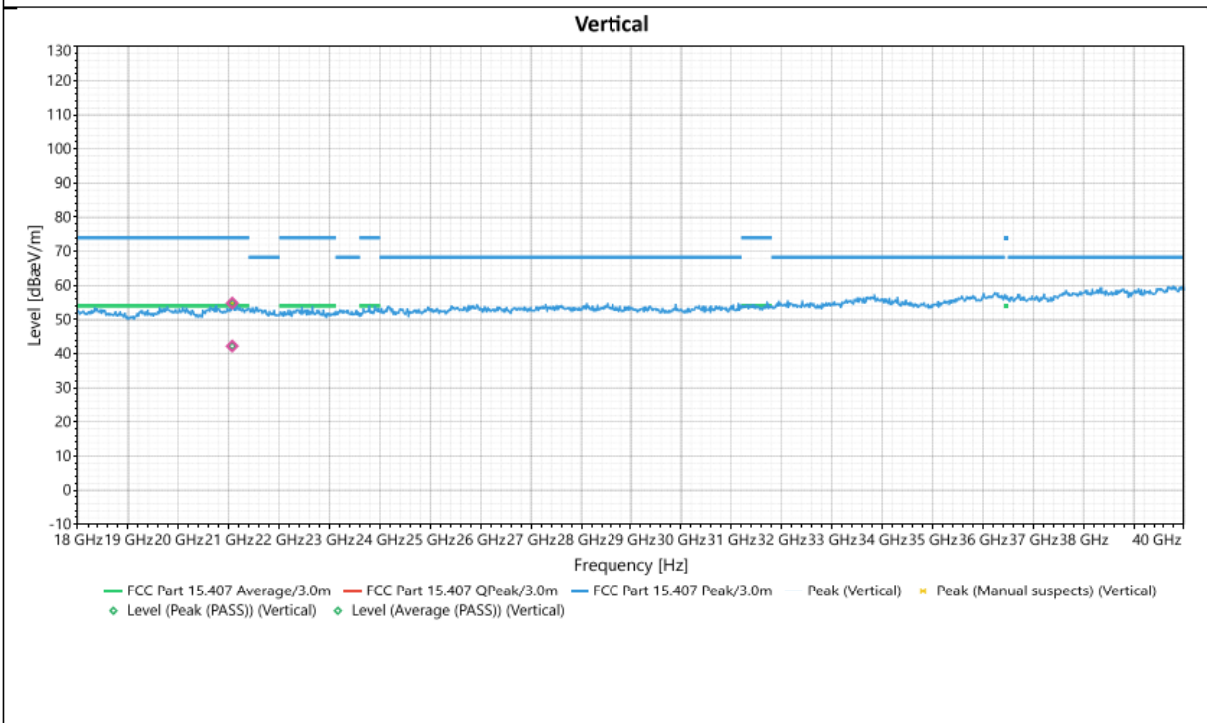
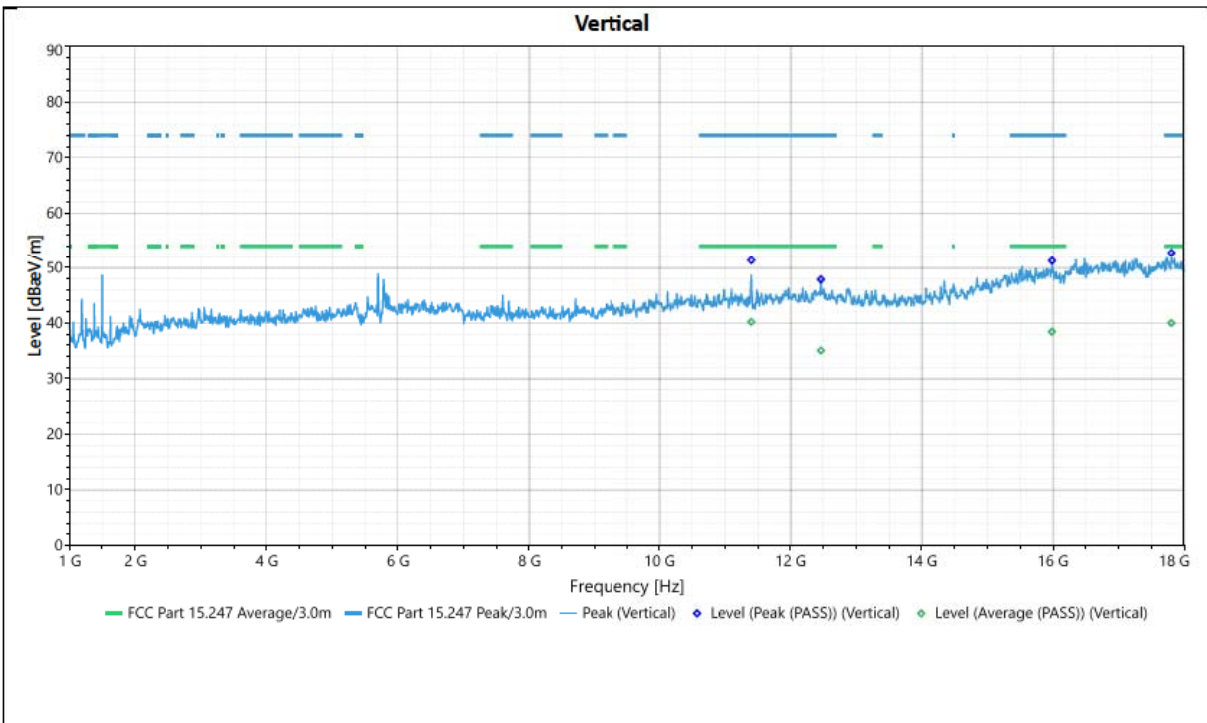


Antenna Polarity & Test Distance: Vertical at 3m									
No.	Frequency (MHz)	Polarization	Level [dB(uV/m)]	Limit dB(uV/m)	Margin [dB]	Height (m)	Angle (Deg)	Factor [dB(1/m)]	Measure Type/ Result
1	11201.66	Horizontal	52.811	74	-21.189	2	328	5.46	Peak (PASS)
2	11201.66	Horizontal	38.553	54	-15.447	2	328	5.46	Average (PASS)
3	12500.46	Horizontal	46.969	74	-27.031	3	233	6.64	Peak (PASS)
4	12500.46	Horizontal	34.246	54	-19.754	3	233	6.64	Average (PASS)
5	15866.5	Horizontal	51.326	74	-22.674	3.5	234	7.84	Peak (PASS)
6	15866.5	Horizontal	38.519	54	-15.481	3.5	234	7.84	Average (PASS)
7	21203.1	Horizontal	55.171	74	-18.829	2	116	8.36	Peak (PASS)
8	21203.1	Horizontal	42.509	54	-11.491	2	116	8.36	Average (PASS)

**REMARKS:**

1. Level (dBuV) = Reading (dBuV) + Factor (dB(1/m)).
2. Factor (dB(1/m)) = Antenna Factor(AF) (dB(1/m)) + Cable Loss (dB) +Preamplifier
3. Margin value = Emission level – Limit value.
4. The emission levels of other frequencies were less than 20dB margin agains

<b>CHANNEL</b>	802.11N HT20 5700 MHz	<b>DETECTOR FUNCTION</b>	Prak/Average
<b>FREQUENCY RANGE</b>	1GHz-40GHz		

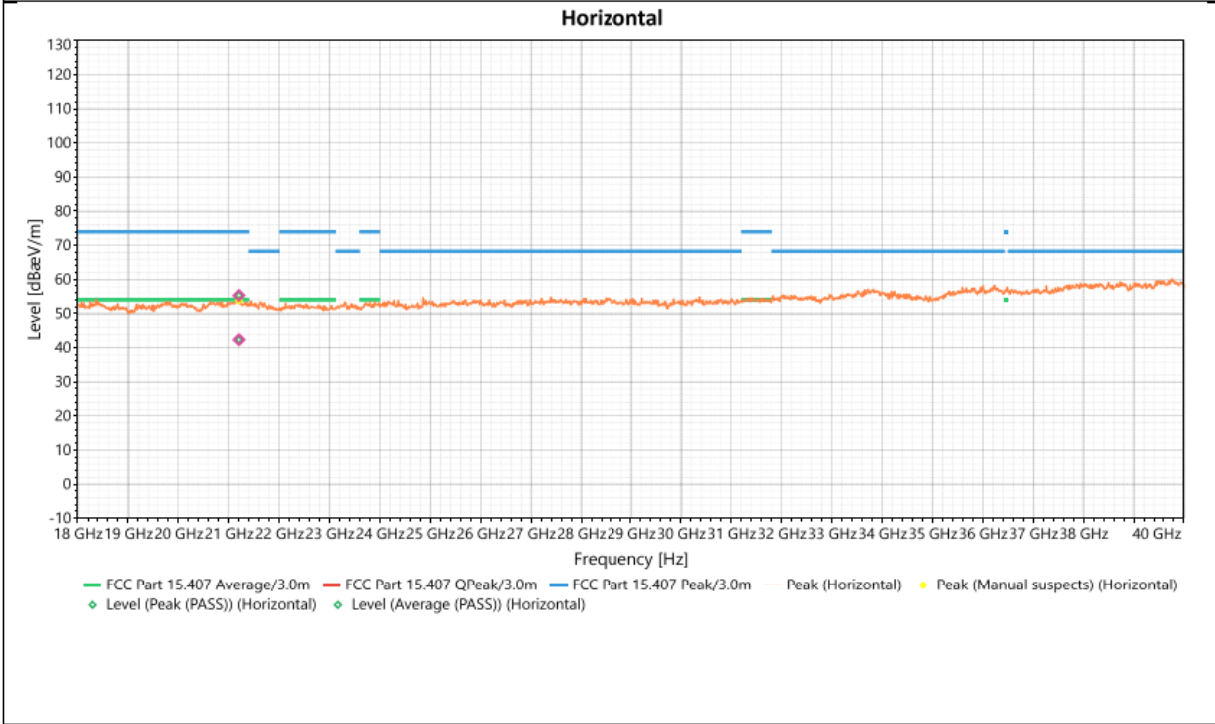
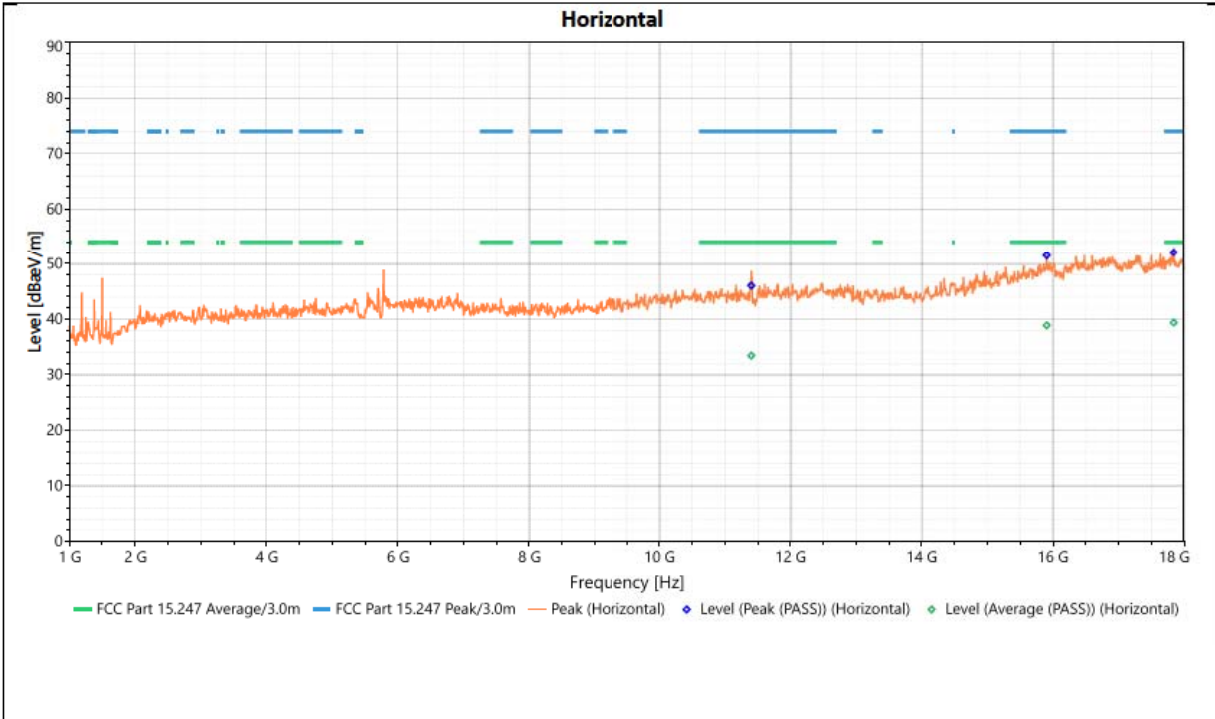


Antenna Polarity & Test Distance: Vertical at 3m									
No.	Frequency (MHz)	Polarization	Level [dB(uV/m)]	Limit dB(uV/m)	Margin [dB]	Height (m)	Angle (Deg)	Factor [dB(1/m)]	Measure Type/ Result
1	11400.62	Vertical	51.349	74	-22.651	1	0	5.49	Peak (PASS)
2	11400.62	Vertical	40.196	54	-13.804	1	0	5.49	Average (PASS)
3	12463.07	Vertical	47.863	74	-26.137	3.5	4	6.6	Peak (PASS)
4	12463.07	Vertical	35.068	54	-18.932	3.5	4	6.6	Average (PASS)
5	15985.47	Vertical	51.262	74	-22.738	1.99	222	8.02	Peak (PASS)
6	15985.47	Vertical	38.442	54	-15.558	1.99	222	8.02	Average (PASS)
7	17806.23	Vertical	52.824	74	-21.176	2.99	0	6.19	Peak (PASS)
8	17806.23	Vertical	40.002	54	-13.998	2.99	0	6.19	Average (PASS)
9	21066.8	Vertical	54.824	74	-19.176	1.69	237	8.64	Peak (PASS)
10	21066.8	Vertical	42.207	54	-11.793	1.69	237	8.64	Average (PASS)

**REMARKS:**

1. Level (dBuV) = Reading (dBuV) + Factor (dB(1/m)).
2. Factor (dB(1/m)) = Antenna Factor(AF) (dB(1/m)) + Cable Loss (dB) + Preamplifier
3. Margin value = Emission level – Limit value.
4. The emission levels of other frequencies were less than 20dB margin against

<b>Frequency</b>	802.11N HT20 5700 MHz	<b>DETECTOR FUNCTION</b>	Prak/Average
<b>FREQUENCY RANGE</b>	1GHz-40GHz		



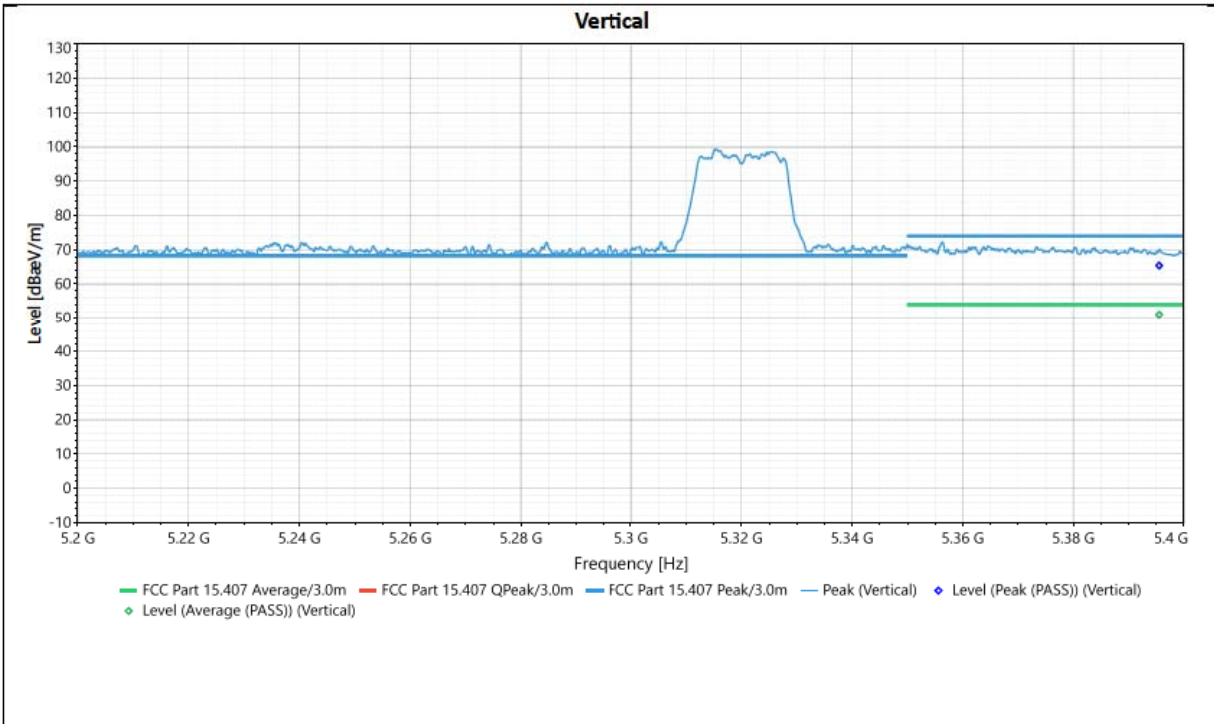
Antenna Polarity & Test Distance: Vertical at 3m									
No.	Frequency (MHz)	Polarization	Level [dB(uV/m)]	Limit dB(uV/m)	Margin [dB]	Height (m)	Angle (Deg)	Factor [dB(1/m)]	Measure Type/ Result
1	11400.57	Horizontal	46.035	74	-27.965	1	0	5.53	Peak (PASS)
2	11400.57	Horizontal	33.423	54	-20.577	1	0	5.53	Average (PASS)
3	15905.55	Horizontal	51.531	74	-22.469	3.5	12	7.88	Peak (PASS)
4	15905.55	Horizontal	38.856	54	-15.144	3.5	12	7.88	Average (PASS)
5	17841.94	Horizontal	52.111	74	-21.889	2.5	234	5.82	Peak (PASS)
6	17841.94	Horizontal	39.366	54	-14.634	2.5	234	5.82	Average (PASS)
7	21200.9	Horizontal	55.292	74	-18.708	1.25	263	8.36	Peak (PASS)
8	21200.9	Horizontal	42.351	54	-11.649	1.25	263	8.36	Average (PASS)

**REMARKS:**

1. Level (dBuV) = Reading (dBuV) + Factor (dB(1/m)).
2. Factor (dB(1/m)) = Antenna Factor(AF) (dB(1/m)) + Cable Loss (dB) +Preamplifier
3. Margin value = Emission level – Limit value.
4. The emission levels of other frequencies were less than 20dB margin agains

**RESTRICTED BAND Test Plots**

802.11a – 5320MHz


**Antenna Polarity & Test Distance: Vertical at 3m**

No.	Frequency (MHz)	Polarization	Level [dB(uV/m)]	Limit dB(uV/m)	Margin [dB]	Height (m)	Angle (Deg)	Factor [dB(1/m)]	Measure Type/ Result
1	5395.494	Vertical	65.391	74	-8.609	2.5	226	42.16	Peak (PASS)
2	5395.494	Vertical	51.044	54	-2.956	2.5	226	42.16	Average (PASS)

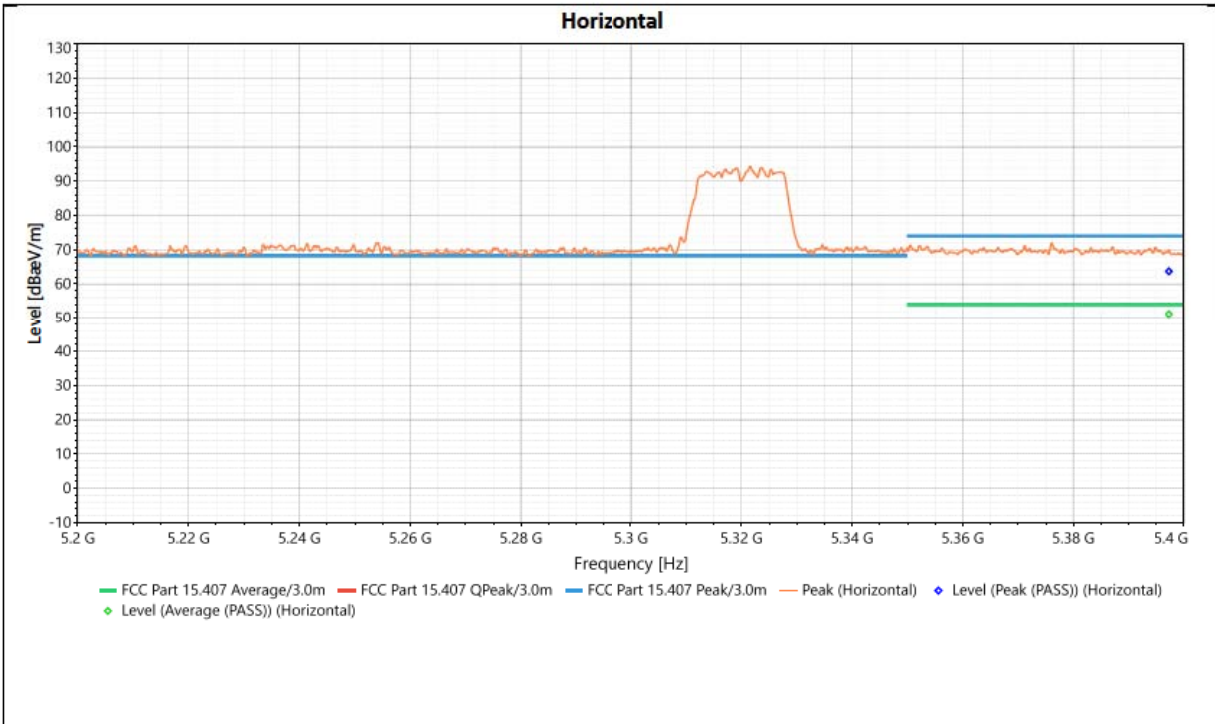
**REMARKS:**

1. Level (dBuV) = Reading (dBuV) + Factor (dB(1/m)).
2. Factor (dB(1/m)) = Antenna Factor(AF) (dB(1/m)) + Cable Loss (dB) +Preamplifier
3. Margin value = Emission level – Limit value.
4. The emission levels of other frequencies were less than 20dB margin agains



**RESTRICTED BAND Test Plots**

802.11a – 5320MHz


**Antenna Polarity & Test Distance: Vertical at 3m**

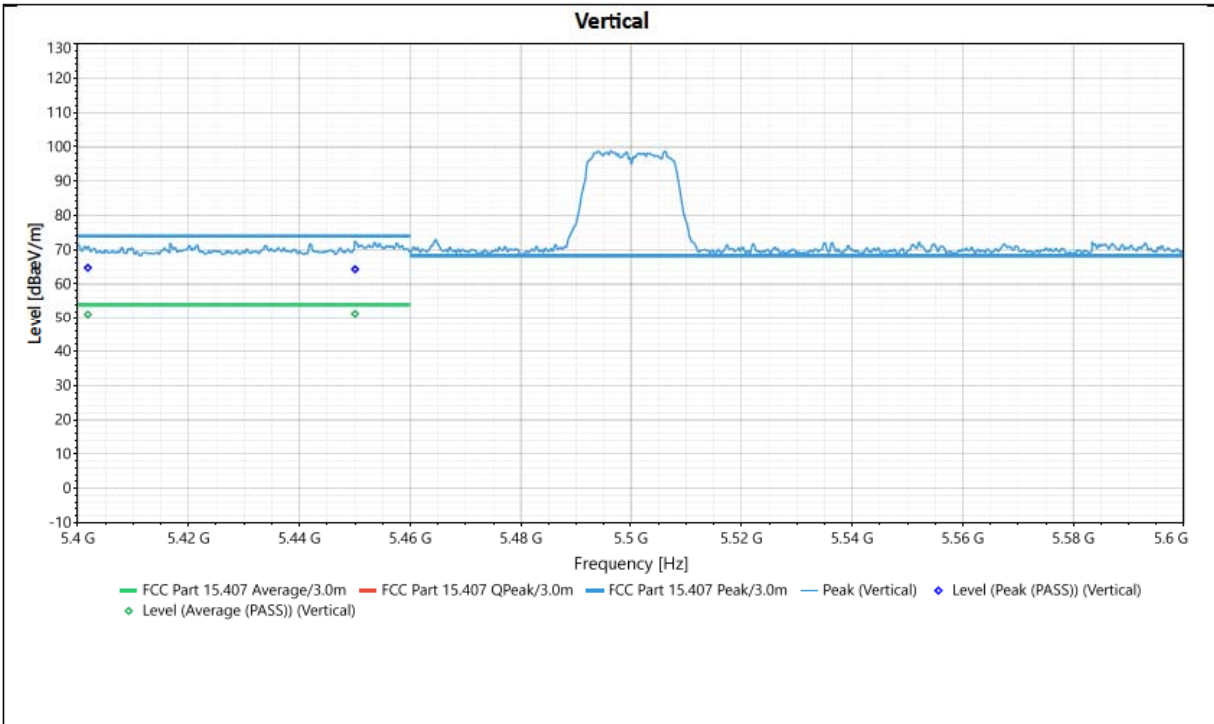
No.	Frequency (MHz)	Polarization	Level [dB(uV/m)]	Limit dB(uV/m)	Margin [dB]	Height (m)	Angle (Deg)	Factor [dB(1/m)]	Measure Type/ Result
1	5397.256	Horizontal	63.697	74	-10.303	2.99	221	42.24	Peak (PASS)
2	5397.256	Horizontal	51.125	54	-2.875	2.99	221	42.24	Average (PASS)

**REMARKS:**

1. Level (dBuV) = Reading (dBuV) + Factor (dB(1/m)).
2. Factor (dB(1/m)) = Antenna Factor(AF) (dB(1/m)) + Cable Loss (dB) +Preamplifier
3. Margin value = Emission level – Limit value.
4. The emission levels of other frequencies were less than 20dB margin agains

**RESTRICTED BAND Test Plots**

802.11a – 5500MHz



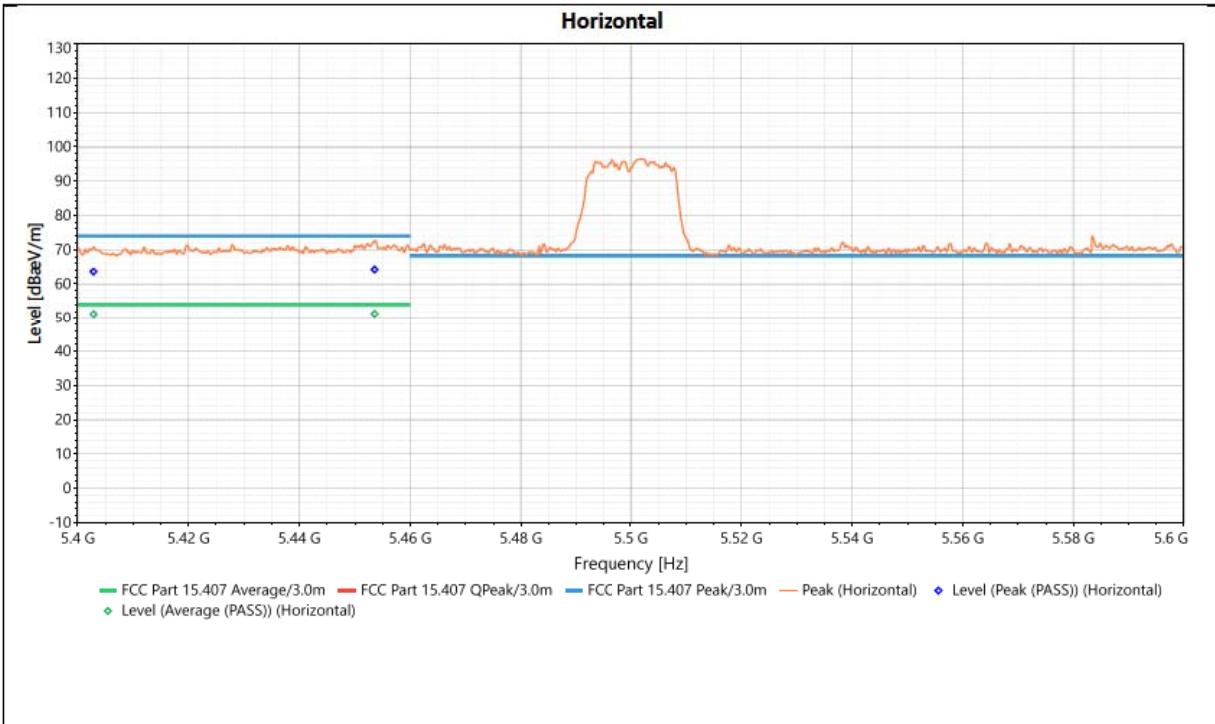
Antenna Polarity &amp; Test Distance: Vertical at 3m

No.	Frequency (MHz)	Polarization	Level [dB(uV/m)]	Limit dB(uV/m)	Margin [dB]	Height (m)	Angle (Deg)	Factor [dB(1/m)]	Measure Type/ Result
1	5401.824	Vertical	64.728	74	-9.272	2.05	96	42.15	Peak (PASS)
2	5401.824	Vertical	51.097	54	-2.903	2.05	96	42.15	Average (PASS)
3	5450.049	Vertical	64.303	74	-9.697	1.21	0	42.17	Peak (PASS)
4	5450.049	Vertical	51.299	54	-2.701	1.21	0	42.17	Average (PASS)

**REMARKS:**

1. Level (dBuV) = Reading (dBuV) + Factor (dB(1/m)).
2. Factor (dB(1/m)) = Antenna Factor(AF) (dB(1/m)) + Cable Loss (dB) +Preamplifier
3. Margin value = Emission level – Limit value.
4. The emission levels of other frequencies were less than 20dB margin agains

RESTRICTED BAND Test Plots  
802.11a – 5500MHz



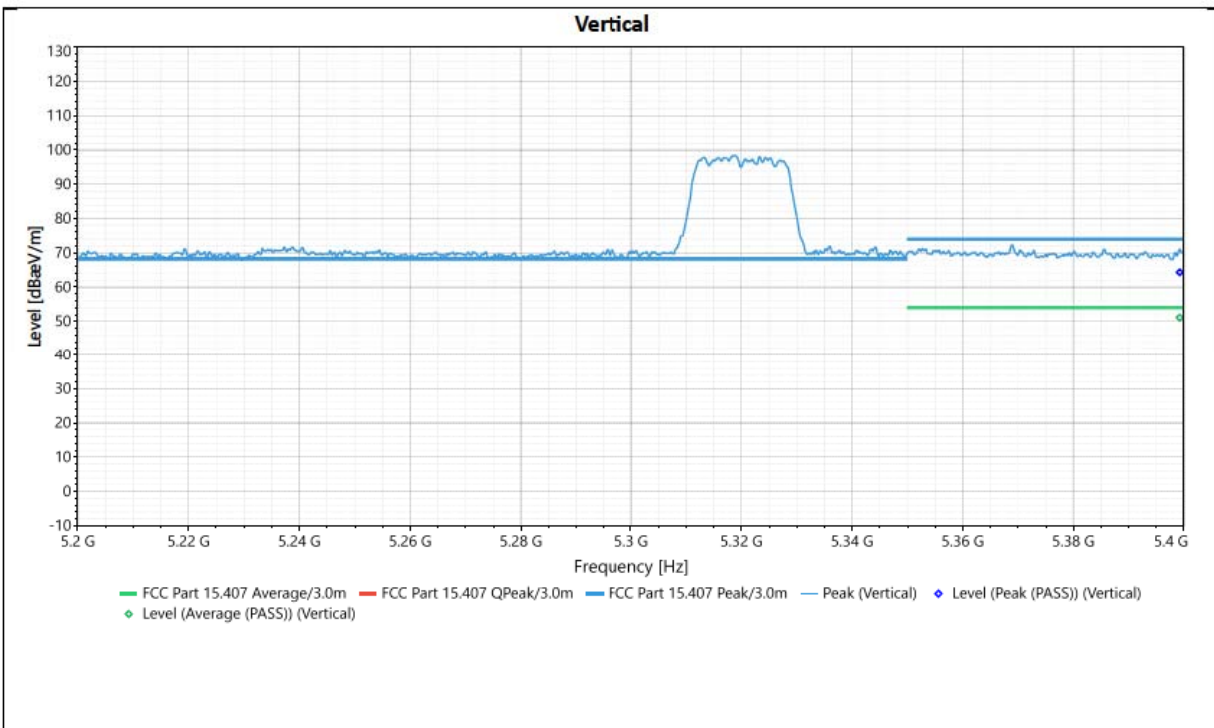
Antenna Polarity & Test Distance: Vertical at 3m

No.	Frequency (MHz)	Polarization	Level [dB(uV/m)]	Limit dB(uV/m)	Margin [dB]	Height (m)	Angle (Deg)	Factor [dB(1/m)]	Measure Type/ Result
1	5402.859	Horizontal	63.637	74	-10.363	3.35	115	42.23	Peak (PASS)
2	5402.859	Horizontal	51.167	54	-2.833	3.35	115	42.23	Average (PASS)
3	5453.588	Horizontal	64.195	74	-9.805	2.05	29	42.2	Peak (PASS)
4	5453.588	Horizontal	51.294	54	-2.706	2.05	29	42.2	Average (PASS)

**REMARKS:**

1. Level (dBuV) = Reading (dBuV) + Factor (dB(1/m)).
2. Factor (dB(1/m)) = Antenna Factor(AF) (dB(1/m)) + Cable Loss (dB) +Preamplifier
3. Margin value = Emission level – Limit value.
4. The emission levels of other frequencies were less than 20dB margin agains

RESTRICTED BAND Test Plots  
802.11n HT20 – 5320MHz



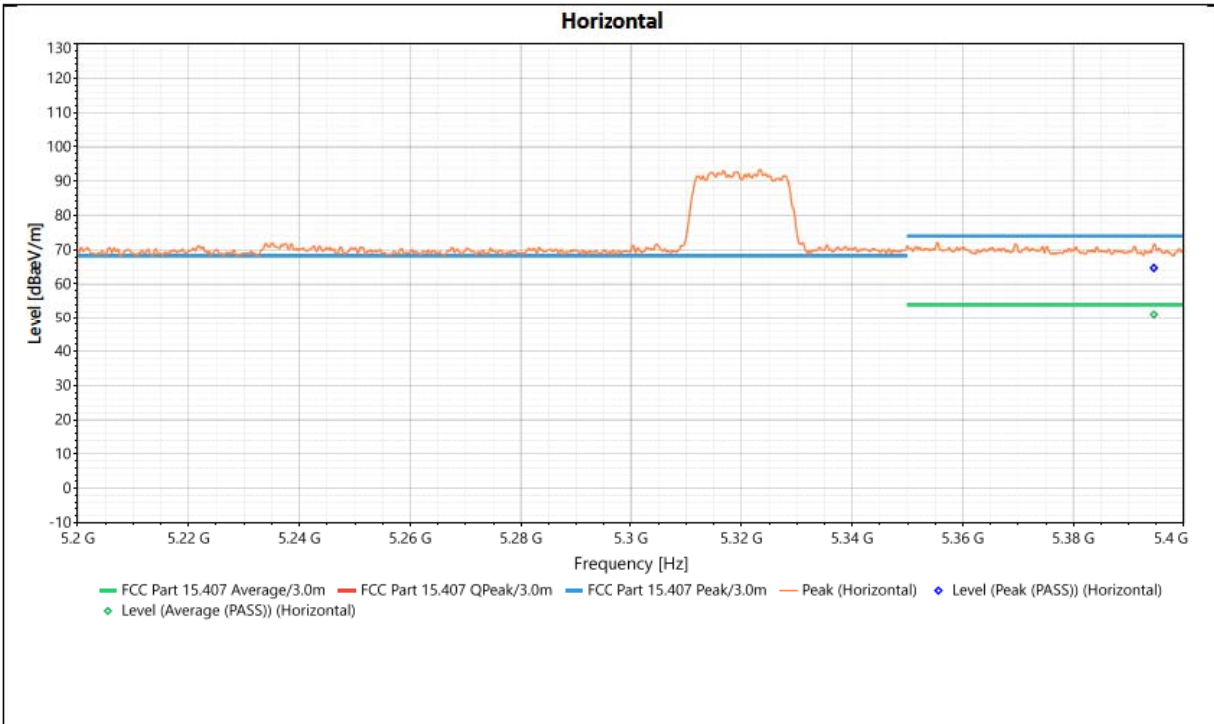
Antenna Polarity & Test Distance: Vertical at 3m

No.	Frequency (MHz)	Polarization	Level [dB(uV/m)]	Limit dB(uV/m)	Margin [dB]	Height (m)	Angle (Deg)	Factor [dB(1/m)]	Measure Type/ Result
1	5399.212	Vertical	64.32	74	-9.68	3.07	82	42.15	Peak (PASS)
2	5399.212	Vertical	51.102	54	-2.898	3.07	82	42.15	Average (PASS)

**REMARKS:**

1. Level (dBuV) = Reading (dBuV) + Factor (dB(1/m)).
2. Factor (dB(1/m)) = Antenna Factor(AF) (dB(1/m)) + Cable Loss (dB) +Preamplifier
3. Margin value = Emission level – Limit value.
4. The emission levels of other frequencies were less than 20dB margin agains

RESTRICTED BAND Test Plots  
802.11n HT20 – 5320MHz



Antenna Polarity & Test Distance: Vertical at 3m

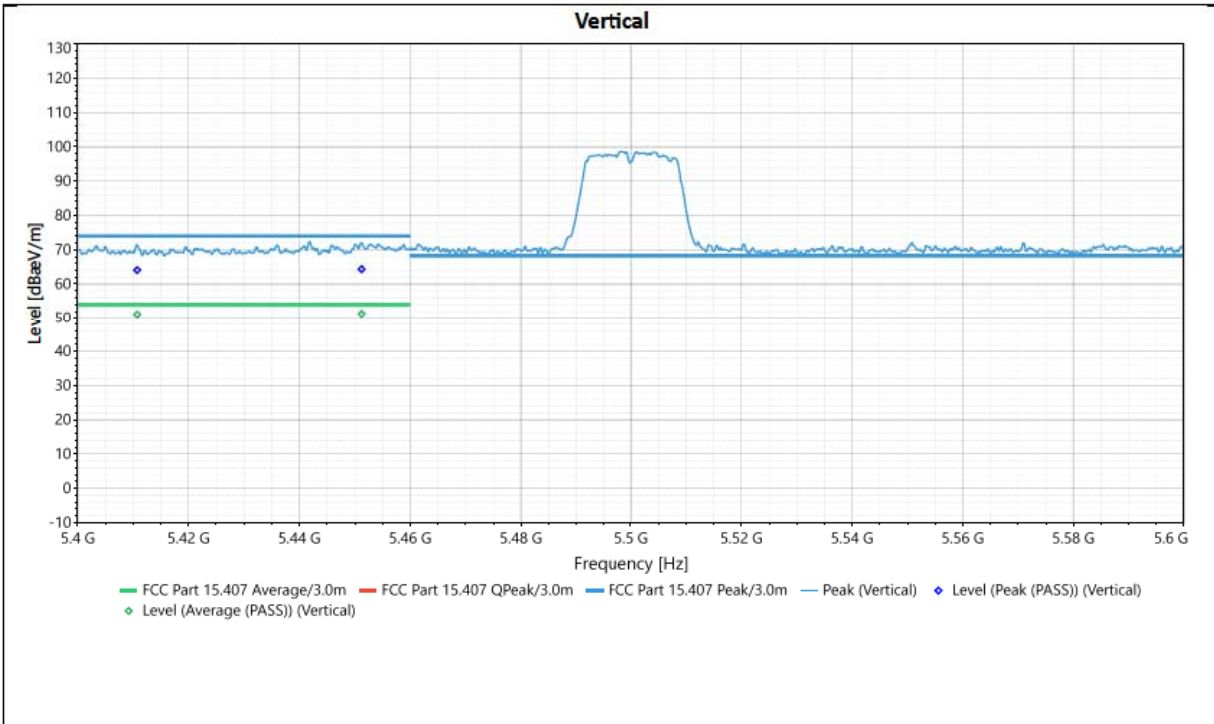
No.	Frequency (MHz)	Polarization	Level [dB(uV/m)]	Limit dB(uV/m)	Margin [dB]	Height (m)	Angle (Deg)	Factor [dB(1/m)]	Measure Type/ Result
1	5394.535	Horizontal	64.681	74	-9.319	3.25	321	42.24	Peak (PASS)
2	5394.535	Horizontal	51.111	54	-2.889	3.25	321	42.24	Average (PASS)

**REMARKS:**

1. Level (dBuV) = Reading (dBuV) + Factor (dB(1/m)).
2. Factor (dB(1/m)) = Antenna Factor(AF) (dB(1/m)) + Cable Loss (dB) +Preamplifier
3. Margin value = Emission level – Limit value.
4. The emission levels of other frequencies were less than 20dB margin agains

**RESTRICTED BAND Test Plots**

802.11n HT20 – 5500MHz



Antenna Polarity &amp; Test Distance: Vertical at 3m

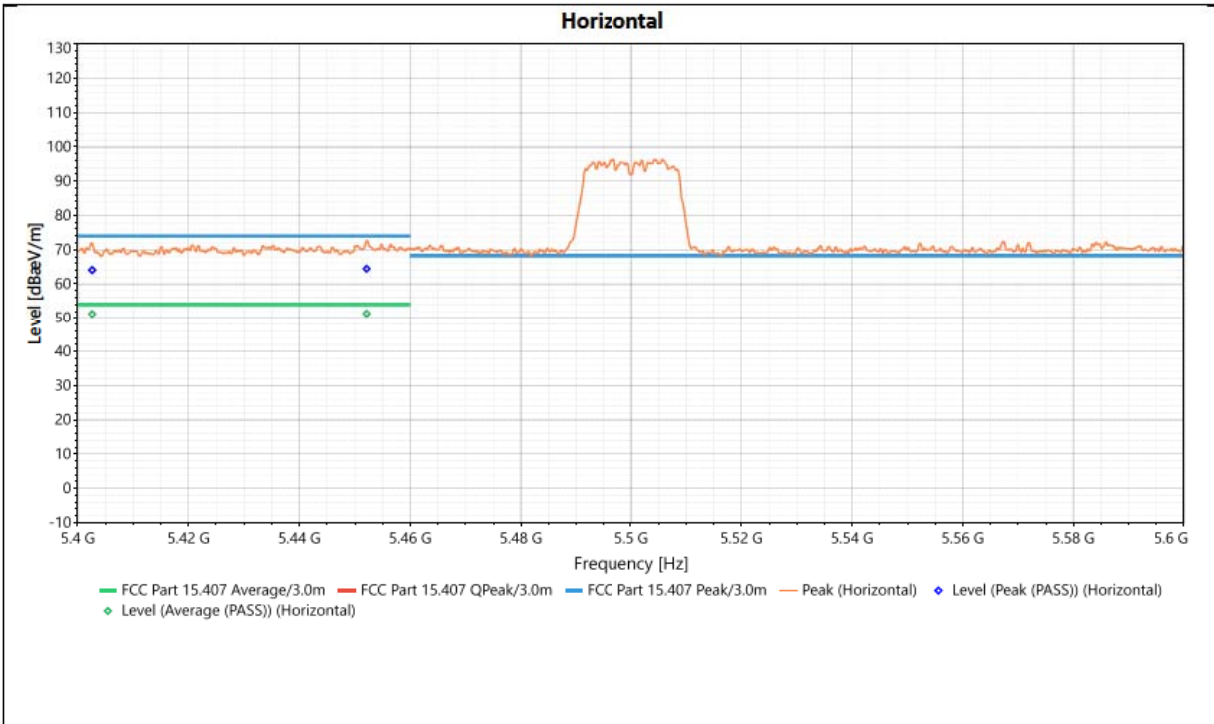
No.	Frequency (MHz)	Polarization	Level [dB(uV/m)]	Limit dB(uV/m)	Margin [dB]	Height (m)	Angle (Deg)	Factor [dB(1/m)]	Measure Type/ Result
1	5410.733	Vertical	64.056	74	-9.944	3.5	343	42.16	Peak (PASS)
2	5410.733	Vertical	51.092	54	-2.908	3.5	343	42.16	Average (PASS)
3	5451.233	Vertical	64.375	74	-9.625	1.49	221	42.17	Peak (PASS)
4	5451.233	Vertical	51.262	54	-2.738	1.49	221	42.17	Average (PASS)

**REMARKS:**

1. Level (dBuV) = Reading (dBuV) + Factor (dB(1/m)).
2. Factor (dB(1/m)) = Antenna Factor(AF) (dB(1/m)) + Cable Loss (dB) +Preamplifier
3. Margin value = Emission level – Limit value.
4. The emission levels of other frequencies were less than 20dB margin agains

**RESTRICTED BAND Test Plots**

802.11n HT20 – 5500MHz



Antenna Polarity &amp; Test Distance: Vertical at 3m

No.	Frequency (MHz)	Polarization	Level [dB(uV/m)]	Limit dB(uV/m)	Margin [dB]	Height (m)	Angle (Deg)	Factor [dB(1/m)]	Measure Type/ Result
1	5402.603	Horizontal	64.095	74	-9.905	2.41	33	42.23	Peak (PASS)
2	5402.603	Horizontal	51.164	54	-2.836	2.41	33	42.23	Average (PASS)
3	5452.157	Horizontal	64.434	74	-9.566	2.61	318	42.2	Peak (PASS)
4	5452.157	Horizontal	51.299	54	-2.701	2.61	318	42.2	Average (PASS)

**REMARKS:**

1. Level (dBuV) = Reading (dBuV) + Factor (dB(1/m)).
2. Factor (dB(1/m)) = Antenna Factor(AF) (dB(1/m)) + Cable Loss (dB) +Preamplifier
3. Margin value = Emission level – Limit value.
4. The emission levels of other frequencies were less than 20dB margin agains

### 3.3 Conducted Emission Measurement

#### 3.3.1 Limits of Conducted Emission Measurement

Frequency (MHz)	Conducted Limit (dBuV)	
	Quasi-peak	Average
0.15 - 0.5	66 - 56	56 - 46
0.50 - 5.0	56	46
5.0 - 30.0	60	50

Note: 1. The lower limit shall apply at the transition frequencies.

2. The limit decreases in line with the logarithm of the frequency in the range of 0.15 to 0.50MHz.

#### 3.3.2 Test Instruments

Test Name: CE Voltage – AC Power Port			Test Date(s): N/A		
MET Asset #	Equipment	Manufacturer	Model	Last Cal Date	Cal Due Date
1U0337	LISN	Com-Power	LI-215A	10/12/2022	10/12/2023
1S2003	EMI Test Receiver	Keysight	N9030B	11/01/2022	11/01/2023

Note: Functionally tested equipment is verified using calibrated instrumentation at the time of testing.

**NOTE:**



### 3.3.3 Test Procedure

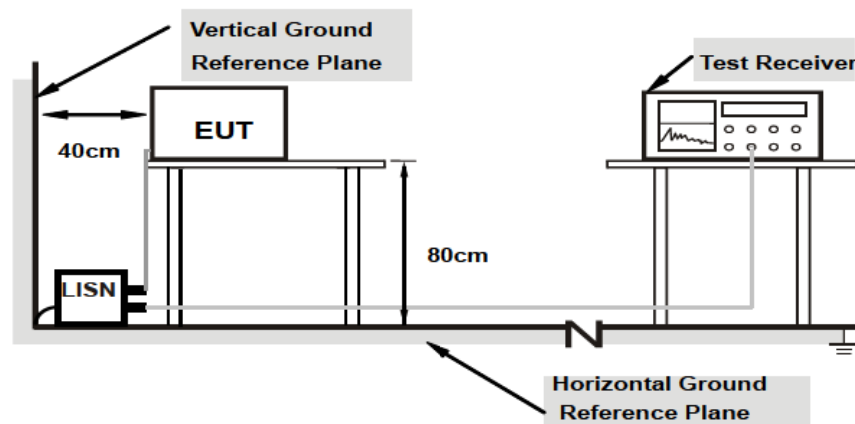
- The EUT was placed 0.4 meters from the conducting wall of the shielded room with EUT being connected to the power mains through a line impedance stabilization network (LISN). Other support units were connected to the power mains through another LISN. The two LISNs provide 50 ohm/ 50uH of coupling impedance for the measuring instrument.
- Both lines of the power mains connected to the EUT were checked for maximum conducted interference.
- The frequency range from 150kHz to 30MHz was searched. Emission levels under (Limit - 20dB) was not recorded.

**NOTE:** All modes of operation were investigated and the worst-case emissions are reported.

### 3.3.4 Deviation from Test Standard

No deviation.

### 3.3.5 Test Setup



**Note: 1. Support units were connected to second LISN.**

For the actual test configuration, please refer to the file (Test Setup Photo) attached in the test report. The LISN is placed at least 80cm from other units and other metal planes.

### 3.3.6 EUT Operating Condition

Same as 4.1.6.

3.3.7 Test Results  
N/A

### 3.4 Transmit Power Measurement

#### 3.4.1 Limits of Transmit Power Measurement

Operation Band	EUT Category		Limit
U-NII-1		Outdoor Access Point	1 Watt (30 dBm) (Max. e.i.r.p $\leq$ 125mW(21 dBm) at any elevation angle above 30 degrees as measured from the horizon)
		Fixed point-to-point Access Point	1 Watt (30 dBm)
		Indoor Access Point	1 Watt (30 dBm)
		Client device	250mW (24 dBm)
U-NII-2A	√		FCC/ ISED Conducted 250mW (24 dBm) or 11 dBm+10 log B* / ISED E.I.R.P: 1W
U-NII-2C	√		FCC/ ISED Conducted 250mW (24 dBm) or 11 dBm+10 log B* / ISED E.I.R.P: 1W
U-NII-3			1 Watt (30 dBm)

\*B is the 26 dB emission bandwidth in megahertz

Per KDB 662911 Method of conducted output power measurement on IEEE 802.11 devices,

Array Gain = 0 dB (i.e., no array gain) for  $N_{ANT} \leq 4$ ;

Array Gain = 0 dB (i.e., no array gain) for channel widths  $\geq 40$  MHz for any  $N_{ANT}$ ;

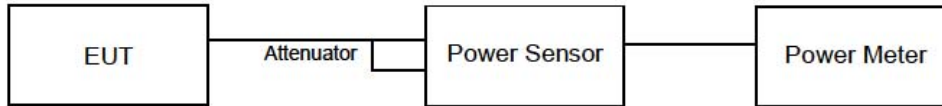
Array Gain =  $5 \log(N_{ANT}/N_{SS})$  dB or 3 dB, whichever is less for 20-MHz channel widths with  $N_{ANT} \geq 5$ .

For power measurements on all other devices: Array Gain =  $10 \log(N_{ANT}/N_{SS})$  dB.

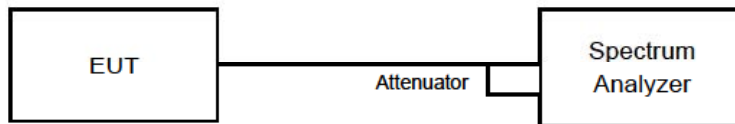
### 3.4.2 Test Setup

#### FOR POWER OUTPUT MEASUREMENT

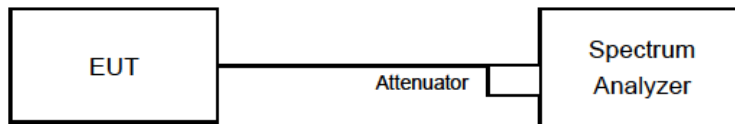
##### ◆ Power Meter Measurement



##### ◆ Spectrum Measurement



#### FOR 26dB OCCUPIED BANDWIDTH



### 3.4.3 Test Instruments

Asset #	Equipment	Manufacturer	Model	Last Cal Date	Cal Due Date
1S4775	Power Meter	ROHDE & SCHWARZ	NRQ6	06/23/2022	06/23/2023

### 3.4.4 Test Procedure

#### For Average Power Measurement

##### For 802.11a, 802.11n (HT20), 802.11n (HT40), 802.11ac (VHT20), 802.11ac (VHT40)

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 and set the detector to AVERAGE. Duty factor is not added to measured value.

##### For 802.11ac (VHT80)

- 1) Set span to encompass the entire 26 dB EBW (or, alternatively, the entire 99% occupied bandwidth) of the signal.
- 2) Set sweep trigger to "free run".
- 3) Set RBW = 1 MHz.
- 4) Set VBW ≥ 3 MHz
- 5) Number of points in sweep ≥ 2 Span / RBW.
- 6) Sweep time ≤ (number of points in sweep) \* T
- 7) Using emission bandwidth to determine the frequency span for integration the channel bandwidth.
- 8) Detector = RMS.
- 9) Trace mode = max hold.
- 10) Allow max hold to run for at least 60 seconds, or longer as needed to allow the trace to stabilize.

#### ◆ Power Meter Measurement

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. Duty factor is not added to measured value.

#### ◆ Spectrum Measurement

Follow FCC KDB 789033 UNII test procedure:

Method SA-1

1. Set span to encompass the entire emission bandwidth (EBW) of the signal.
2. Set RBW = 1MHz.
3. Set the VBW  $\geq 3 \times$  RBW.
4. Number of points in sweep  $\geq 2 \text{ Span} / \text{RBW}$ .
5. Sweep time = auto.
6. Set trigger to free run (duty cycle  $\geq 98$  percent)
7. Detector = RMS.
8. Trace average at least 100 traces in power averaging mode
9. Compute power by integrating the spectrum across the 26 dB EBW of the signal.

Follow FCC KDB 789033 UNII test procedure:

Method SA-2

1. Set span to encompass the emission bandwidth (EBW) of the signal.
2. Set RBW = 1MHz.
3. Set the VBW  $\geq 3 \times$  RBW.
4. Number of points in sweep  $\geq 2 \text{ Span} / \text{RBW}$ .
5. Sweep time = auto.
6. Detector = RMS.
7. Trace average at least 100 traces in power averaging mode
8. Compute power by integrating the spectrum across the 26 dB EBW of the signal.
9. Duty factor need added to measured value (duty cycle  $< 98$  percent).

#### FOR 26dB OCCUPIED BANDWIDTH

1. Set RBW = approximately 1% of the emission bandwidth.
2. Set the VBW  $>$  RBW.
3. Detector = Peak.
4. Trace mode = max hold.
5. Measure the maximum width of the emission that is 26 dB down from the peak of the emission. Compare this with the RBW setting of the analyzer. Readjust RBW and repeat measurement as needed until the RBW/EBW ratio is approximately 1%.

#### 3.4.5 Deviation from Test Standard

No deviation.

#### 3.4.6 EUT Operating Condition

The software provided by client to enable the EUT under transmission condition continuously at lowest, middle and highest channel frequencies individually.

## 3.4.7 Test Results

## Output Power measurement result for UNII-2 Band

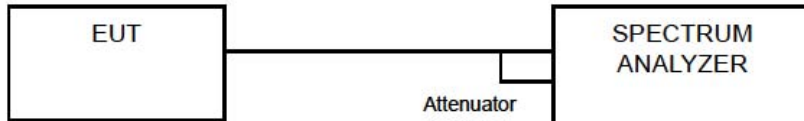
Type	Test mode	Freq (MHz)	CH	Conducted Power (dBm)	Limit (dBm)	Antenna Gain	EIRP (dBm)	Limit (dBm)	Result
Output Power	802.11a	5260	Low	6.757	24	2.4	9.157	30	Pass
		5280	Mid	6.732	24	2.4	9.132	30	Pass
		5320	High	6.224	24	2.4	8.624	30	Pass
		5500	Low	6.601	24	2.4	9.001	30	Pass
		5600	Mid	6.274	24	2.4	8.674	30	Pass
		5700	High	6.529	24	2.4	8.929	30	Pass
	802.11n-HT20	5260	Low	6.656	24	2.4	9.056	30	Pass
		5280	Mid	6.141	24	2.4	8.541	30	Pass
		5320	High	6.306	24	2.4	8.706	30	Pass
		5500	Low	6.227	24	2.4	8.627	30	Pass
		5600	Mid	6.399	24	2.4	8.799	30	Pass
		5700	High	6.346	24	2.4	8.746	30	Pass

### 3.5 26dB Bandwidth & 6dB Bandwidth Measurement

#### 3.5.1 Limits of 6 dB Bandwidth Measurement

The minimum of 6 dB Bandwidth Measurement is 0.5 MHz.

#### 3.5.2 Test Setup



#### 3.5.3 Test Instruments

MET Asset #	Equipment	Manufacturer	Model	Last Cal Date	Cal Due Date
1S2003	EMI Test Receiver	Keysight	N9030B	11/01/2022	11/01/2023

#### 3.5.4 Test Procedure

26dB Emission bandwidth measurement procedure (Other than 5.725-5.85 GHz)

- Allow the trace to stabilize.
- Use the spectrum analyzer built-in measurement function to determine the 26dB BW.  
Set RBW = around 1% of emission bandwidth  
Set VBW > RBW  
Detector = Peak  
Trace mode = max hold
- Capture the plot.
- Repeat above steps for different test channel and other modulation type.

6 dB Minimum emission bandwidth measurement procedure

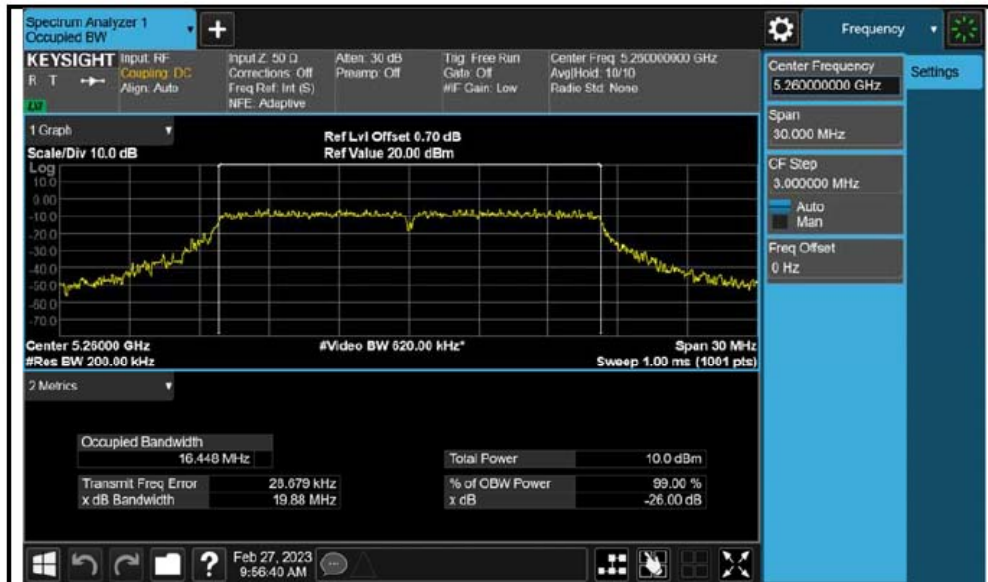
- Allow the trace to stabilize.
- Use the spectrum analyzer built-in measurement function to determine the 6dB BW.  
Set RBW = 100 KHz  
Set VBW  $\geq 3 \times$  RBW  
Detector = Peak  
Trace mode = max hold  
Sweep = auto couple
- Capture the plot.
- Repeat above steps for different test channel and other modulation type.

### 3.5.5 Test Results

26dB Bandwidth measurement result for UNII-2 Band

Type	Test mode	Freq (MHz)	CH	99% OBW(MHz)	26 dB OBW(MHz)
26dB BW	802.11a	5260	Low	16.448	19.879
		5280	Mid	16.419	20.141
		5320	High	16.414	20.234
		5500	Low	16.418	20.019
		5580	Mid	16.414	19.627
		5700	High	16.404	19.981
	802.11n-HT20	5260	Low	17.625	20.490
		5280	Mid	17.640	20.866
		5320	High	17.618	20.387
		5500	Low	17.598	20.901
		5580	Mid	17.579	20.667
		5700	High	17.592	20.593

Occupied Bandwidth Test Plots  
UNII-2 Band



802.11a-5260MHz



802.11a-5280MHz





802.11a-5320MHz



802.11a-5500MHz



802.11a-5580MHz



802.11a-5700MHz



802.11n HT20-5260MHz



802.11n HT20-5280MHz