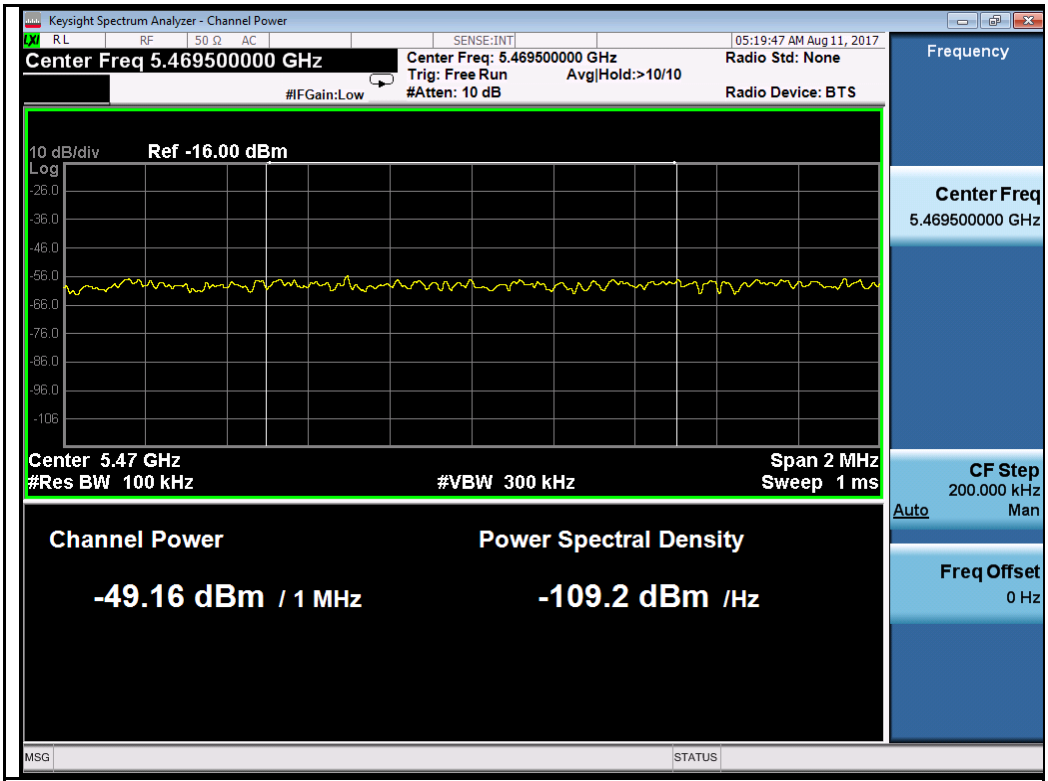
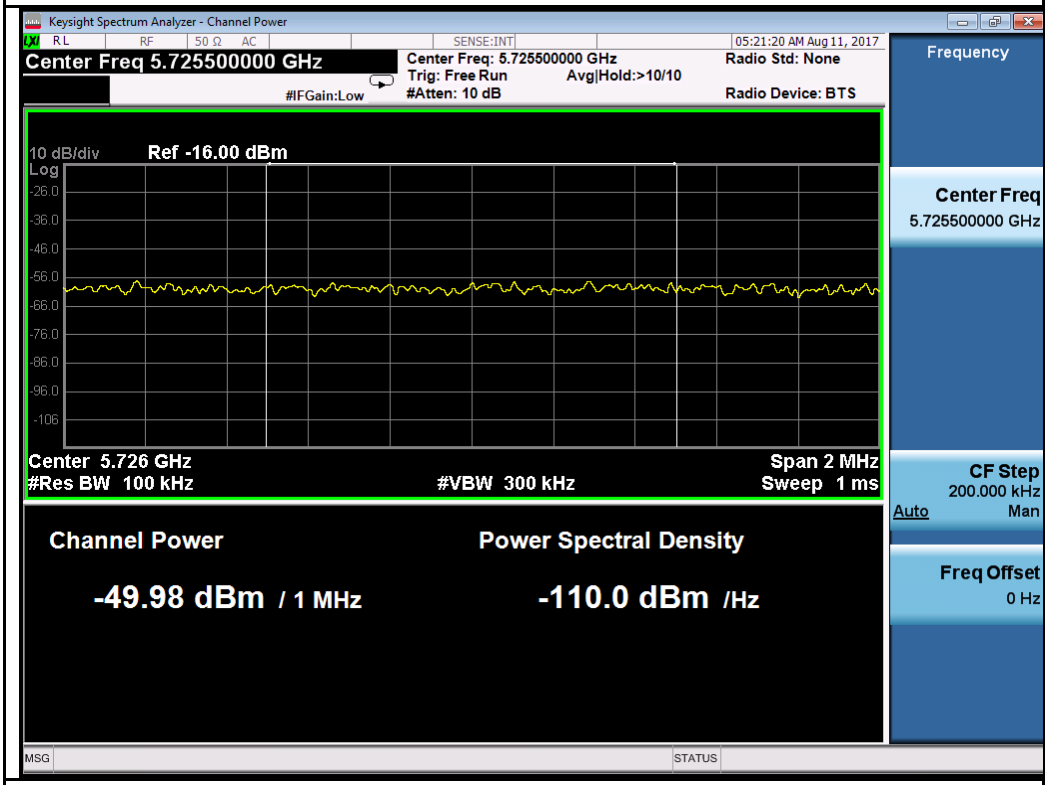
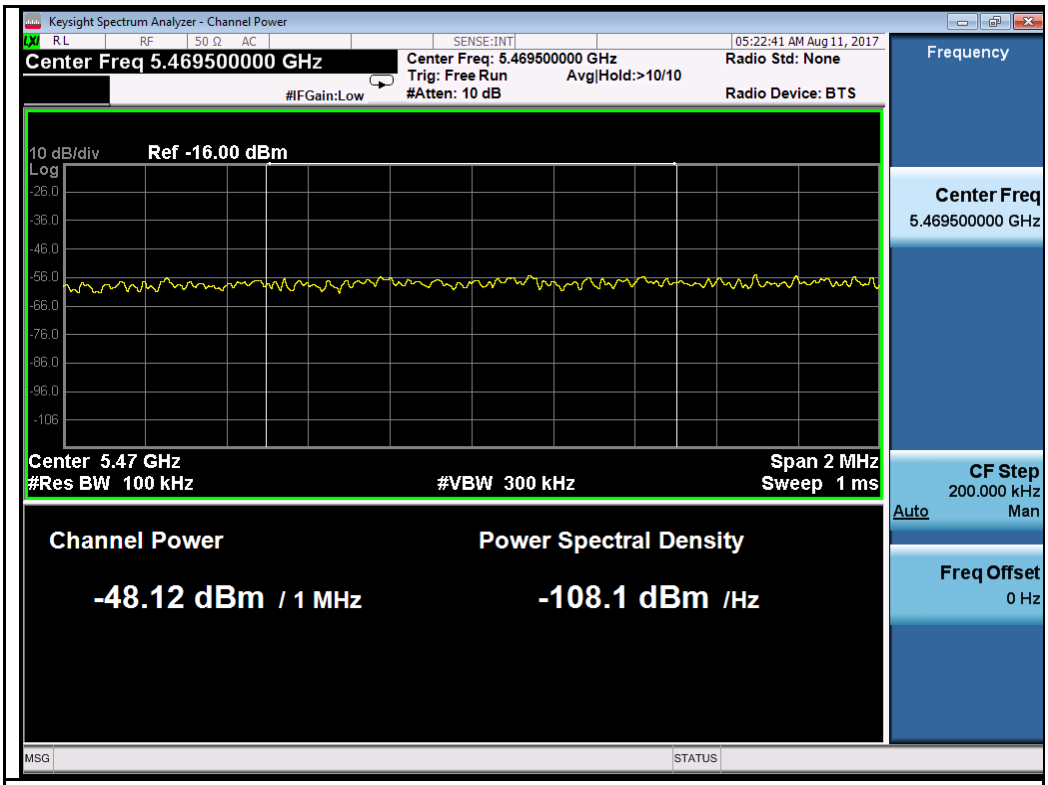


802.11n-HT40-5510MHz



802.11n-HT40-5670MHz

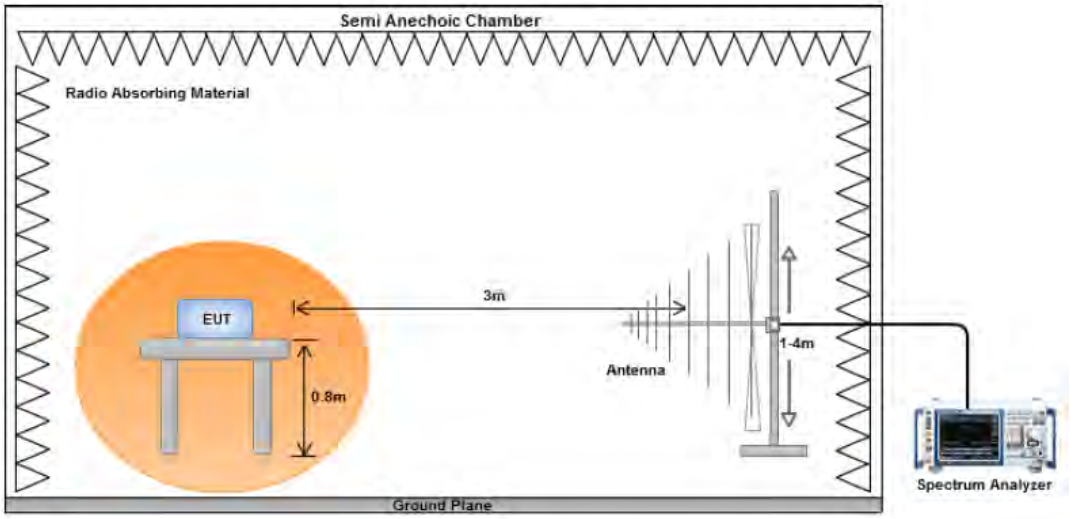


802.11ac-VHT80-5530MHz

802.11ac-VHT80-5610MHz

10.6 Radiated Spurious Emissions below 1GHz

Requirement(s):

<table>
<tr><th>Spec</th><th>Requirement</th><th>Applicable</th></tr>
<tr><td>47CFR§
15.407(b)
15.209 (a)</td><td>Except higher limit as specified elsewhere in other section, the emissions from the low-power radio-frequency devices shall not exceed the field strength levels specified in the following table and the level of any unwanted emissions shall not exceed the level of the fundamental emission. The tighter limit applies at the band edges
<table>
<tr><th>Frequency range (MHz)</th><th>Field Strength (uV/m)</th></tr>
<tr><td>30 – 88</td><td>100</td></tr>
<tr><td>88 – 216</td><td>150</td></tr>
<tr><td>216 960</td><td>200</td></tr>
<tr><td>Above 960</td><td>500</td></tr>
</table></td><td>☒</td></tr>
<tr><td>Test Setup</td><td colspan="2"> 
</td></tr>
<tr><td>Procedure</td><td colspan="2">1. The EUT was switched on and allowed to warm up to its normal operating condition.
2. The test was carried out at the selected frequency points obtained from the EUT characterisation. Maximization of the emissions, was carried out by rotating the EUT, changing the antenna polarization, and adjusting the antenna height in the following manner:
a. Vertical or horizontal polarisation (whichever gave the higher emission level over a full rotation of the EUT) was chosen.
b. The EUT was then rotated to the direction that gave the maximum emission.
c. Finally, the antenna height was adjusted to the height that gave the maximum emission.
3. A Quasi-peak measurement was then made for that frequency point.
4. Steps 2 and 3 were repeated for the next frequency point, until all selected frequency points were measured.</td></tr>
<tr><td>Remark</td><td colspan="2">The EUT was scanned up to 1GHz. Both horizontal and vertical polarities were investigated. The results show only the worst case.</td></tr>
<tr><td>Result</td><td colspan="2">☒ Pass ☐ Fail</td></tr>
</table>

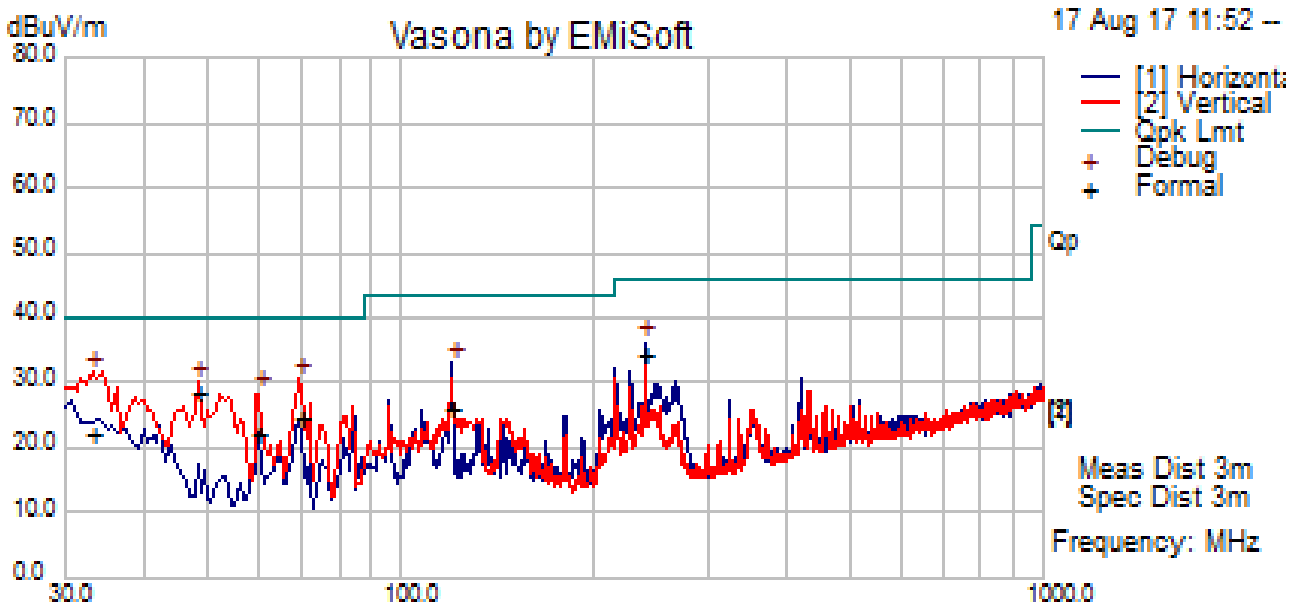
Test Data ☒ Yes (See below) ☐ N/A

Test Plot ☒ Yes (See below) ☐ N/A

Test was done by Rachana Khanduri at 10m chamber.

Radiated Emission Test Results (Below 1GHz)

Test specification	Below 1GHz			
Environmental Conditions:	Temp (° C):	23	Result	Pass
	Humidity (%)	46		
	Atmospheric (mbar):	1017		
Mains Power:	120VAC, 60Hz			
Tested by:	Rachana Khanduri			
Test Date:	08/17/2017			
Remarks:	802.11ac – VHT80, 5530MHz			

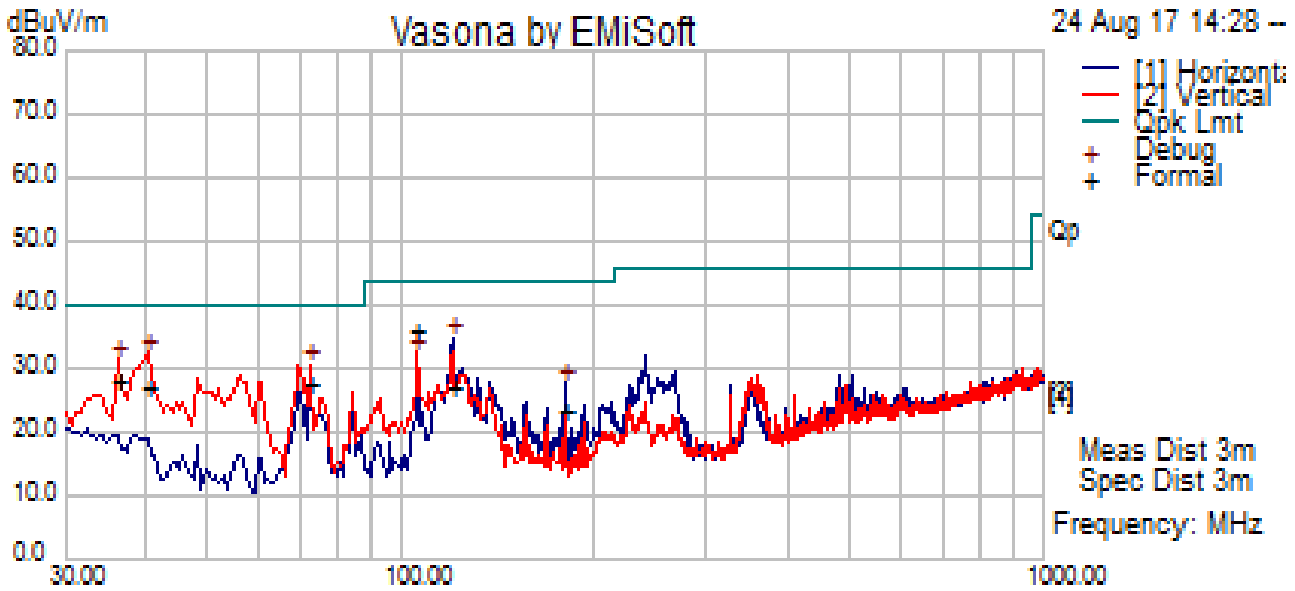


Quasi Max Measurement

Frequency MHz	Raw dBuV	Cable Loss	AF dB	Level dBuV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBuV/m	Margin dB	Pass /Fail
33.11	27.35	11.34	-16.61	22.08	Quasi Max	V	166.00	345.00	40.00	-17.92	Pass
69.49	40.77	11.70	-28.11	24.35	Quasi Max	V	151.00	105.00	40.00	-15.65	Pass
240.00	46.05	13.08	-24.87	34.26	Quasi Max	H	120.00	357.00	46.00	-11.74	Pass
48.01	43.72	11.56	-26.66	28.62	Quasi Max	V	99.00	168.00	40.00	-11.38	Pass
120.09	36.39	12.25	-22.85	25.79	Quasi Max	H	226.00	237.00	43.50	-17.72	Pass
60.07	38.72	11.66	-28.36	22.02	Quasi Max	V	138.00	187.00	40.00	-17.98	Pass

Note: Both horizontal and vertical polarities were investigated. The results above show only the worst case.

Test specification	Below 1GHz			
Environmental Conditions:	Temp (° C):	23	Result	Pass
	Humidity (%)	46		
	Atmospheric (mbar):	1017		
Mains Power:	120VAC, 60Hz			
Tested by:	Rachana Khanduri			
Test Date:	08/24/2017			
Remarks:	Co-location for 2.4GHz and 5GHz			



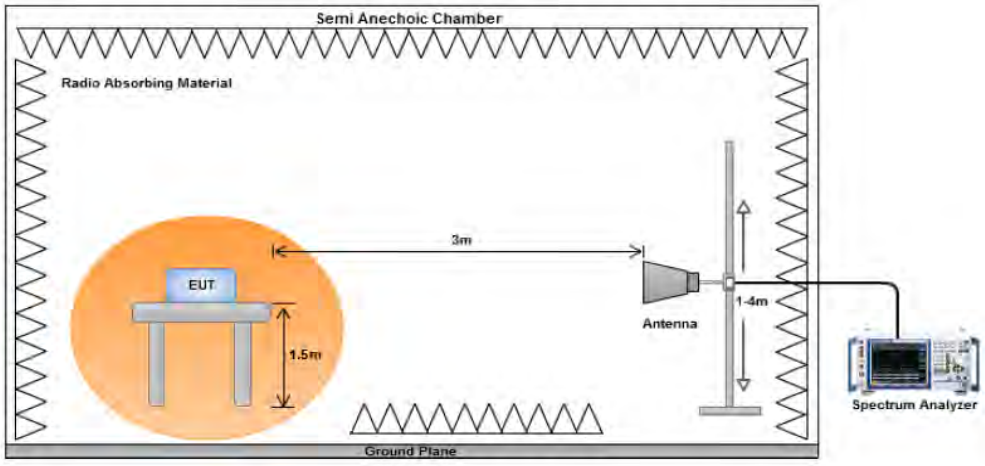
Quasi Max Measurement

Frequency MHz	Raw dBuV	Cable Loss	AF dB	Level dBuV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBuV/m	Margin dB	Pass /Fail
40.15	37.84	11.45	-22.02	27.27	Quasi Max	V	128	12	40	-12.73	Pass
120.08	37.88	12.25	-22.85	27.28	Quasi Max	H	298	57	43.5	-16.22	Pass
36.01	35.97	11.39	-18.90	28.46	Quasi Max	V	100	105	40	-11.54	Pass
72.06	43.95	11.72	-27.95	27.72	Quasi Max	V	108	227	40	-12.28	Pass
105.70	49.01	12.07	-24.96	36.13	Quasi Max	V	146	127	43.5	-7.37	Pass
180.00	36.71	12.68	-25.64	23.76	Quasi Max	H	120	53	43.5	-19.74	Pass

Note: Both horizontal and vertical polarities were investigated. The results above show only the worst case.

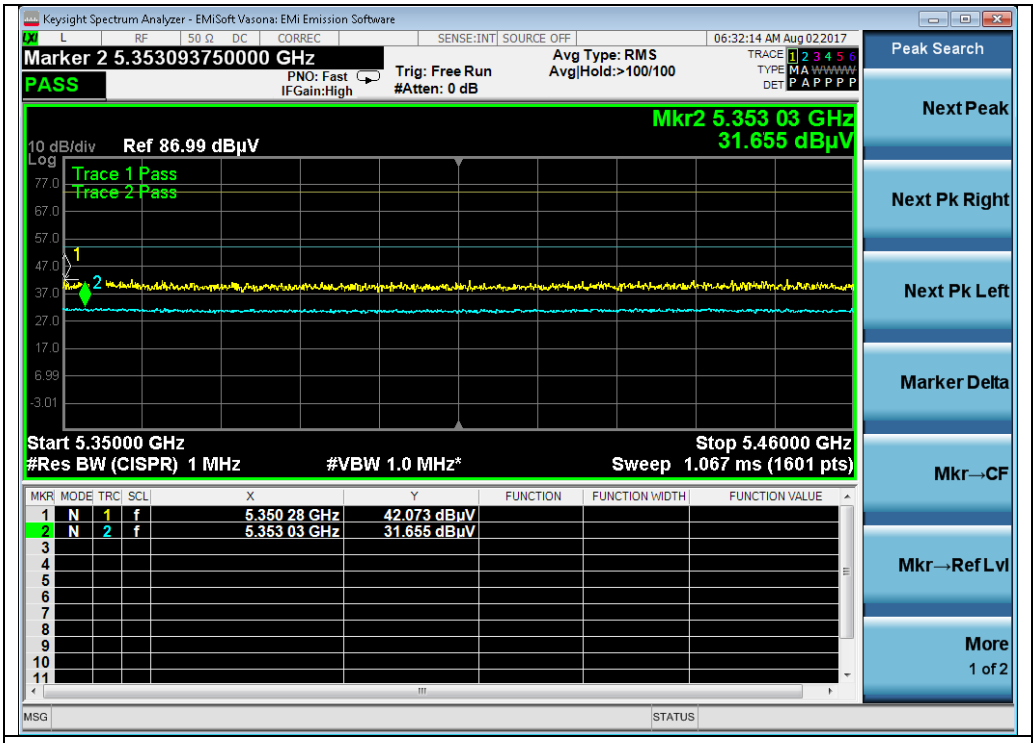
10.7 Radiated Spurious Emissions above 1GHz

Requirement(s):

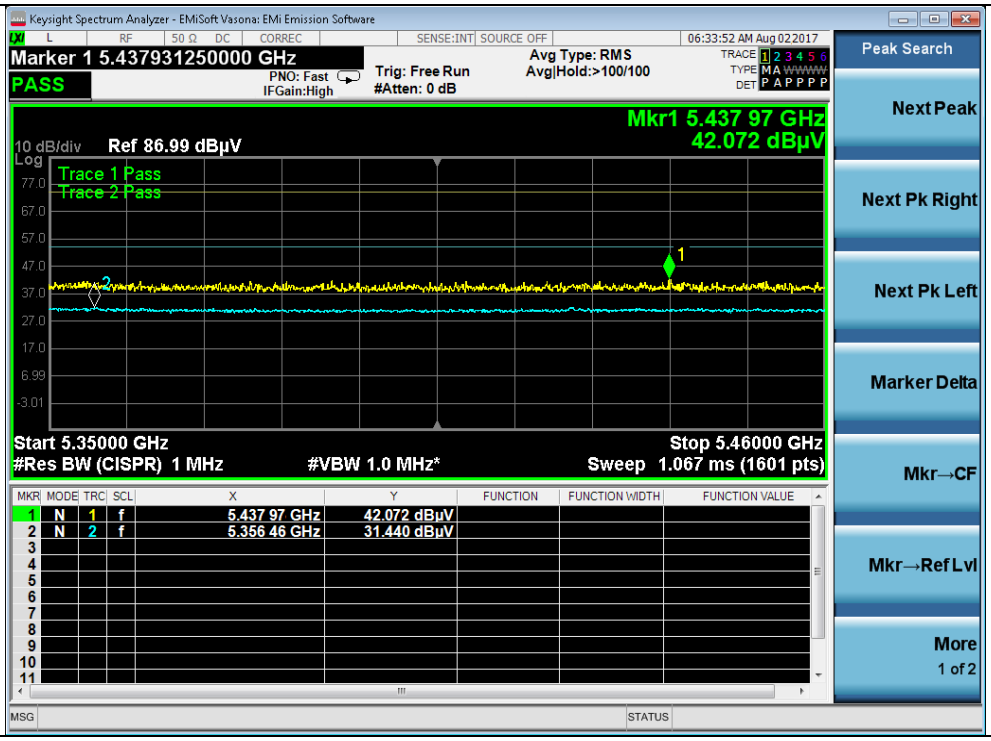
Spec	Item	Requirement	Applicable
47CFR§ 15.407(b)(2), 15.407(b)(6)	(1)	For transmitters operating in the 5.15-5.25 GHz band: all emissions outside of the 5.15-5.35 GHz band shall not exceed an EIRP of -27 dBm/MHz.	☐
	(2)	For transmitters operating in the 5.25-5.35 GHz band: all emissions outside of the 5.15-5.35 GHz band shall not exceed an EIRP of -27 dBm/MHz. Devices operating in the 5.25-5.35 GHz band that generate emissions in the 5.15-5.25 GHz band must meet all applicable technical requirements for operation in the 5.15-5.25 GHz band (including indoor use) or alternatively meet an out-of-band emission EIRP limit of -27 dBm/MHz in the 5.15-5.25 GHz band.	☒
	(3)	For transmitters operating in the 5.47-5.725 GHz band: all emissions outside of the 5.47-5.725 GHz band shall not exceed an EIRP of −27 dBm/MHz.	☒
	(4)	For transmitters operating in the 5.725-5.825 GHz band: all emissions within the frequency range from the band edge to 10 MHz above or below the band edge shall not exceed an EIRP of -17 dBm/MHz; for frequencies 10 MHz or greater above or below the band edge, emissions shall not exceed an EIRP of -27 dBm/MHz.	☐
	(5)	Restricted band, emission must also comply with the radiated emission limits specified in 15.209	☒
Test Setup			
Procedure	1. The EUT was switched on and allowed to warm up to its normal operating condition. 2. The test was carried out at the selected frequency points obtained from the EUT characterisation. Maximization of the emissions, was carried out by rotating the EUT, changing the antenna polarization, and adjusting the antenna height in the following manner: a. Vertical or horizontal polarisation (whichever gave the higher emission level over a full rotation of the EUT) was chosen. b. The EUT was then rotated to the direction that gave the maximum emission. c. Finally, the antenna height was adjusted to the height that gave the maximum emission. 3. An average measurement was then made for that frequency point. 4. Steps 2 and 3 were repeated for the next frequency point, until all selected frequency points were measured.		
Remark	The EUT was scanned up to 40GHz. Both horizontal and vertical polarities were investigated. The results show only the worst case.		
Result	☒ Pass ☐ Fail		

Test Data ☐ Yes (See below) ☒ N/A
Test Plot ☒ Yes (See below) ☐ N/A
Test was done by Rachana Khanduri at 10m chamber.

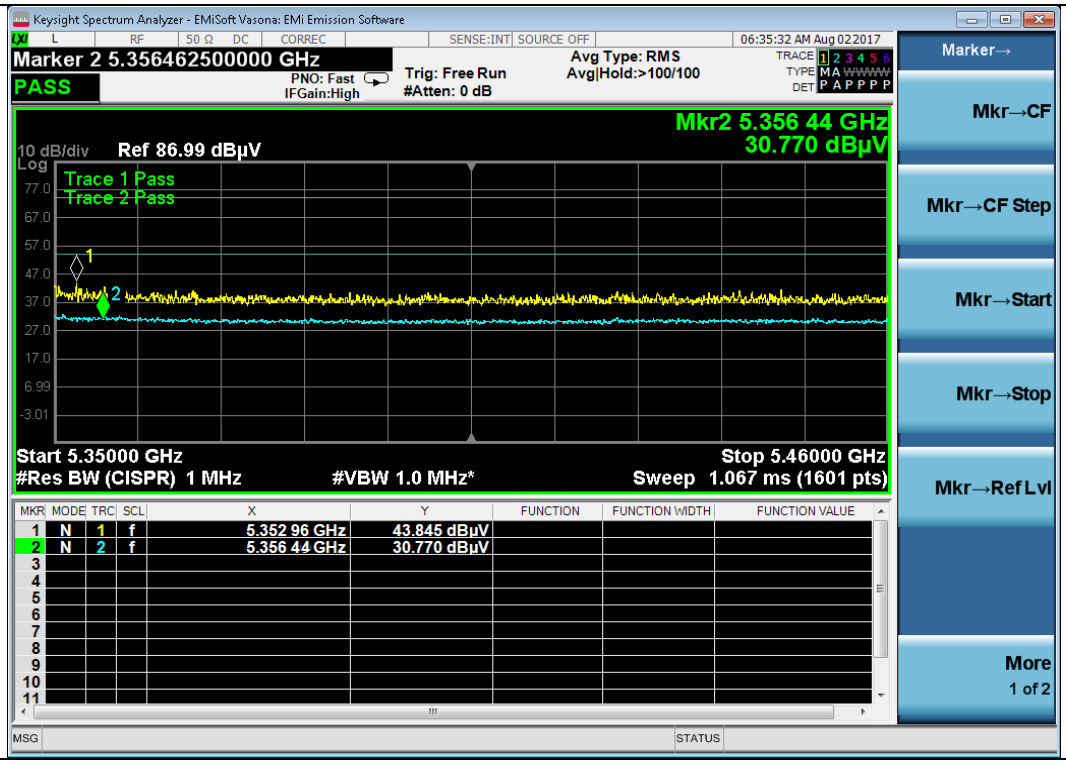
Radiated Restricted band Measurement Plots:



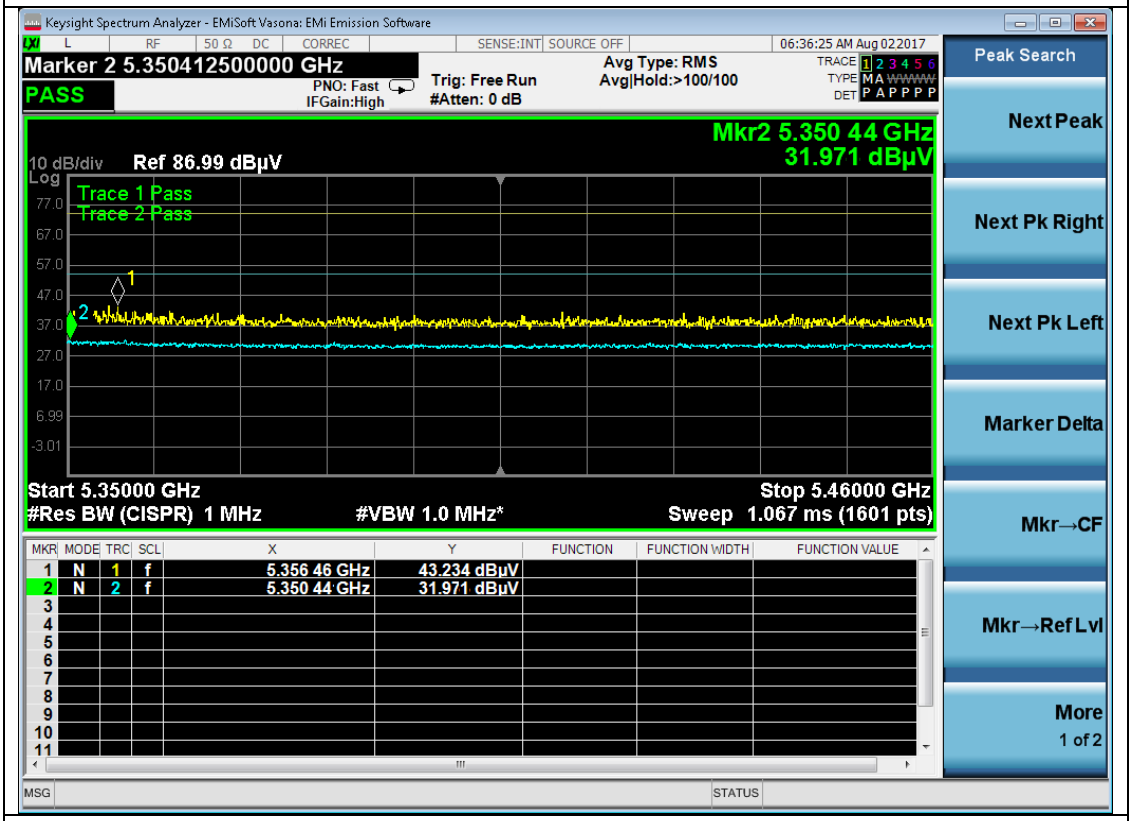
802.11a 5320M(5350-5460MHz)



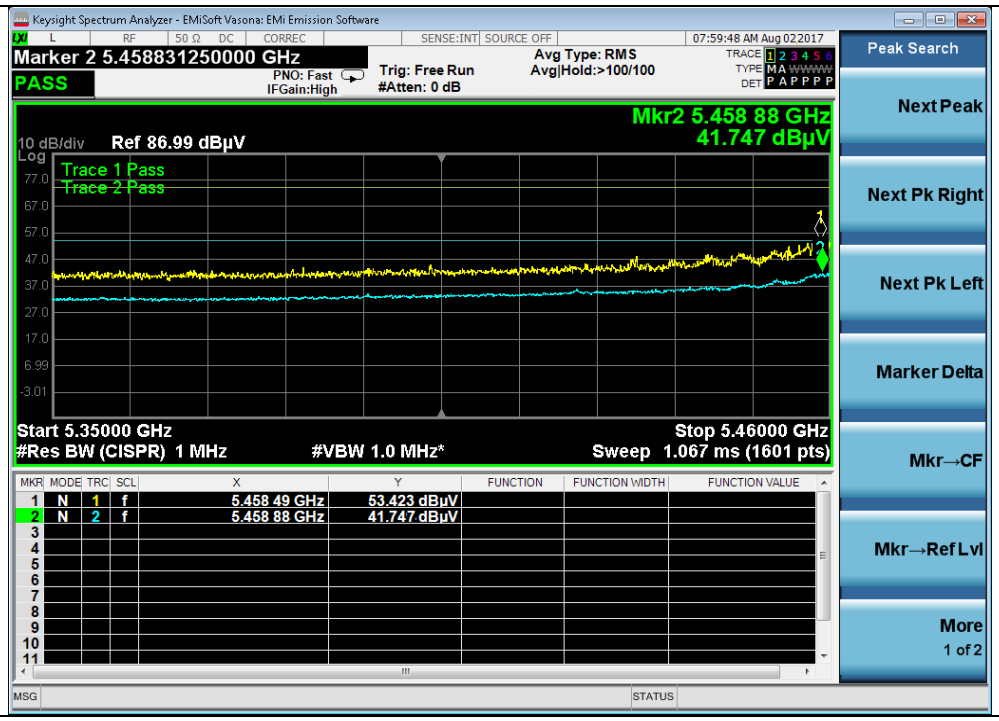
802.11n-HT20 5320M(5350-5460MHz)



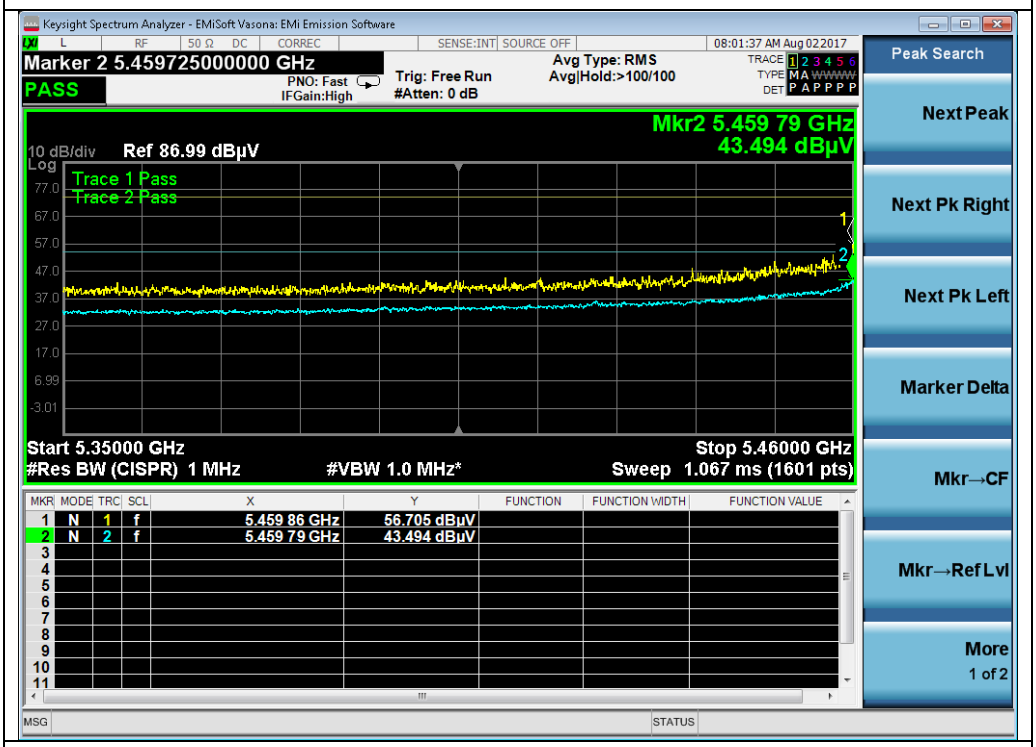
802.11n-HT40 5310M(5350-5460MHz)



802.11ac 5290M(5350-5460MHz)



802.11a 5500M(5350-5460MHz)



802.11n-HT20 5500M(5350-5460MHz)

802.11n-HT40 5510M(5350-5460MHz)

802.11ac 5530M(5350-5460MHz)

Radiated Emission Test Results (Above 1GHz)

W53 band:

Above 1GHz-40GHz – 802.11a – 5260MHz

Frequency MHz	Raw dBuV	Cable Loss	AF dB	Level dBuV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBuV/m	Margin dB	Pass /Fail
15176.24	38.74	8.15	7.53	54.42	Peak Max	H	137	152	74	-19.58	Pass
10559.25	39.37	6.79	1.97	48.14	Peak Max	V	335	296	74	-25.86	Pass
7026.78	38.31	5.24	0.72	44.27	Peak Max	V	169	277	74	-29.73	Pass
15176.24	26.62	8.15	7.53	42.30	Average Max	H	137	152	54	-11.70	Pass
10559.25	26.61	6.79	1.97	35.38	Average Max	V	335	296	54	-18.62	Pass
7026.78	26.39	5.24	0.72	32.35	Average Max	V	169	277	54	-21.66	Pass

Above 1GHz-40GHz – 802.11a – 5280MHz

Frequency MHz	Raw dBuV	Cable Loss	AF dB	Level dBuV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBuV/m	Margin dB	Pass /Fail
13660.18	37.66	8.64	6.10	52.40	Peak Max	V	308	120	74	-21.60	Pass
10666.00	39.26	6.85	1.99	48.11	Peak Max	V	125	45	74	-25.89	Pass
7897.52	38.13	5.88	0.11	44.11	Peak Max	H	138	247	74	-29.89	Pass
13660.18	25.58	8.64	6.10	40.32	Average Max	V	308	120	54	-13.68	Pass
10666.00	26.26	6.85	1.99	35.10	Average Max	V	125	45	54	-18.90	Pass
7897.52	26.16	5.88	0.11	32.14	Average Max	H	138	247	54	-21.86	Pass

Above 1GHz-40GHz – 802.11a – 5320MHz

Frequency MHz	Raw dBuV	Cable Loss	AF dB	Level dBuV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBuV/m	Margin dB	Pass /Fail
14304.04	37.79	8.01	8.02	53.82	Peak Max	V	142	24	74	-20.18	Pass
10669.14	38.39	6.86	2.00	47.24	Peak Max	H	178	189	74	-26.76	Pass
6620.48	38.25	5.14	0.07	43.46	Peak Max	H	177	19	74	-30.54	Pass
14304.04	25.87	8.01	8.02	41.90	Average Max	V	142	24	54	-12.10	Pass
10669.14	26.20	6.86	2.00	35.05	Average Max	H	178	189	54	-18.95	Pass
6620.48	26.15	5.14	0.07	31.37	Average Max	H	177	19	54	-22.63	Pass

Above 1GHz-40GHz – 802.11n-20M – 5260MHz

Frequency MHz	Raw dBuV	Cable Loss	AF dB	Level dBuV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBuV/m	Margin dB	Pass /Fail
14118.15	37.67	8.05	6.75	52.47	Peak Max	V	202	75	74	-21.53	Pass
10620.89	38.61	6.83	1.88	47.32	Peak Max	V	160	35	74	-26.68	Pass
7056.22	38.68	5.25	0.54	44.47	Peak Max	V	104	264	74	-29.53	Pass
14118.15	25.49	8.05	6.75	40.29	Average Max	V	202	75	54	-13.71	Pass
10620.89	26.27	6.83	1.88	34.97	Average Max	V	160	35	54	-19.03	Pass
7056.22	26.24	5.25	0.54	32.03	Average Max	V	104	264	54	-21.97	Pass

Above 1GHz-40GHz – 802.11n-20M – 5280MHz

Frequency MHz	Raw dBuV	Cable Loss	AF dB	Level dBuV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBuV/m	Margin dB	Pass /Fail
14555.53	37.31	7.99	7.94	53.24	Peak Max	V	347	214	74	-20.76	Pass
10530.44	38.56	6.78	2.08	47.41	Peak Max	H	161	119	74	-26.59	Pass
7095.41	38.41	5.27	0.30	43.98	Peak Max	V	197	48	74	-30.02	Pass
14555.53	25.84	7.99	7.94	41.77	Average Max	V	347	214	54	-12.23	Pass
10530.44	26.42	6.78	2.08	35.28	Average Max	H	161	119	54	-18.72	Pass
7095.41	26.25	5.27	0.30	31.82	Average Max	V	197	48	54	-22.19	Pass

Above 1GHz-40GHz – 802.11n-20M – 5320MHz

Frequency MHz	Raw dBuV	Cable Loss	AF dB	Level dBuV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBuV/m	Margin dB	Pass /Fail
16010.27	38.93	8.47	6.96	54.36	Peak Max	H	189	138	74	-19.64	Pass
10666.05	38.08	6.85	1.99	46.93	Peak Max	V	235	171	74	-27.08	Pass
6648.55	38.12	5.15	0.18	43.44	Peak Max	V	213	171	74	-30.56	Pass
16010.27	26.95	8.47	6.96	42.39	Average Max	H	189	138	54	-11.61	Pass
10666.05	26.16	6.85	1.99	35.01	Average Max	V	235	171	54	-19.00	Pass
6648.55	26.04	5.15	0.18	31.36	Average Max	V	213	171	54	-22.64	Pass

Above 1GHz-40GHz – 802.11n-40M – 5270MHz

Frequency MHz	Raw dBuV	Cable Loss	AF dB	Level dBuV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBuV/m	Margin dB	Pass /Fail
14704.40	38.37	8.03	7.86	54.26	Peak Max	H	314	238	74	-19.74	Pass
10559.58	38.88	6.79	1.97	47.65	Peak Max	V	269	211	74	-26.35	Pass
6240.22	38.63	4.95	-0.72	42.86	Peak Max	V	314	20	74	-31.14	Pass
14704.40	25.85	8.03	7.86	41.74	Average Max	H	314	238	54	-12.26	Pass
10559.58	26.98	6.79	1.97	35.75	Average Max	V	269	211	54	-18.25	Pass
6240.22	26.46	4.95	-0.72	30.69	Average Max	V	314	20	54	-23.31	Pass

Above 1GHz-40GHz – 802.11n-40M – 5310MHz

Frequency MHz	Raw dBuV	Cable Loss	AF dB	Level dBuV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBuV/m	Margin dB	Pass /Fail
16552.74	39.52	8.48	6.77	54.77	Peak Max	H	261	57	74	-19.23	Pass
10619.88	39.87	6.83	1.88	48.57	Peak Max	H	189	126	74	-25.43	Pass
7263.21	38.09	5.33	0.84	44.27	Peak Max	V	136	297	74	-29.73	Pass
16552.74	27.37	8.48	6.77	42.62	Average Max	H	261	57	54	-11.38	Pass
10619.88	27.69	6.83	1.88	36.40	Average Max	H	189	126	54	-17.60	Pass
7263.21	25.97	5.33	0.84	32.15	Average Max	V	136	297	54	-21.86	Pass

Above 1GHz-40GHz – 802.11ac-80M – 5290MHz

Frequency MHz	Raw dBuV	Cable Loss	AF dB	Level dBuV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBuV/m	Margin dB	Pass /Fail
14701.66	38.94	8.03	7.83	54.80	Peak Max	H	290	215	74	-19.20	Pass
10482.32	38.66	6.75	2.17	47.58	Peak Max	V	350	342	74	-26.42	Pass
7190.25	38.17	5.30	0.77	44.25	Peak Max	H	220	333	74	-29.75	Pass
14701.66	25.83	8.03	7.83	41.69	Average Max	H	290	215	54	-12.31	Pass
10482.32	26.30	6.75	2.17	35.22	Average Max	V	350	342	54	-18.78	Pass
7190.25	26.03	5.30	0.77	32.11	Average Max	H	220	333	54	-21.90	Pass

W56 band:
Above 1GHz-40GHz – 802.11a – 5500MHz

Frequency MHz	Raw dBuV	Cable Loss	AF dB	Level dBuV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBuV/m	Margin dB	Pass /Fail
14037.40	37.98	8.06	6.20	52.24	Peak Max	H	139	59	74	-21.76	Pass
11059.52	37.95	7.12	2.65	47.72	Peak Max	V	117	54	74	-26.28	Pass
6431.21	38.19	5.07	-0.64	42.62	Peak Max	V	196	132	74	-31.38	Pass
14037.40	25.63	8.06	6.20	39.88	Average Max	H	139	59	54	-14.12	Pass
11059.52	25.88	7.12	2.65	35.65	Average Max	V	117	54.	54	-18.35	Pass
6431.21	26.41	5.07	-0.64	30.84	Average Max	V	196	132.	54	-23.16	Pass

Above 1GHz-40GHz – 802.11a – 5580MHz

Frequency MHz	Raw dBuV	Cable Loss	AF dB	Level dBuV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBuV/m	Margin dB	Pass /Fail
16816.28	38.95	8.33	6.66	53.94	Peak Max	V	115	69	74	-20.06	Pass
11317.64	37.89	7.47	2.55	47.91	Peak Max	V	116	274	74	-26.09	Pass
8210.94	38.64	5.92	0.93	45.49	Peak Max	H	256	209	74	-28.51	Pass
16816.28	27.26	8.33	6.66	42.26	Average Max	V	115	69	54	-11.74	Pass
11317.64	25.68	7.47	2.55	35.70	Average Max	V	116	274	54	-18.30	Pass
8210.94	26.52	5.92	0.93	33.38	Average Max	H	256	209	54	-20.62	Pass

Above 1GHz-40GHz – 802.11a – 5700MHz

Frequency MHz	Raw dBuV	Cable Loss	AF dB	Level dBuV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBuV/m	Margin dB	Pass /Fail
16816.13	39.33	8.33	6.66	54.33	Peak Max	V	275	98	74	-19.67	Pass
11435.88	38.65	7.63	2.69	48.97	Peak Max	H	115	114	74	-25.03	Pass
6305.82	38.52	4.99	-0.51	43.00	Peak Max	V	323	268	74	-31.00	Pass
16816.13	27.28	8.33	6.66	42.28	Average Max	V	275	98	54	-11.72	Pass
11435.88	26.05	7.63	2.69	36.37	Average Max	H	115	114	54	-17.63	Pass
6305.82	26.35	4.99	-0.51	30.84	Average Max	V	323	268	54	-23.16	Pass

Above 1GHz-40GHz – 802.11n-20M – 5500MHz

Frequency MHz	Raw dBuV	Cable Loss	AF dB	Level dBuV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBuV/m	Margin dB	Pass /Fail
14305.01	38.01	8.01	8.01	54.04	Peak Max	V	204	263	74	-19.97	Pass
11028.35	38.29	7.08	2.55	47.92	Peak Max	V	157	287	74	-26.08	Pass
7583.84	37.99	5.52	0.67	44.18	Peak Max	V	330	260	74	-29.82	Pass
14305.01	25.81	8.01	8.01	41.83	Average Max	V	204	263	54	-12.17	Pass
11028.35	25.83	7.08	2.55	35.46	Average Max	V	157	287	54	-18.54	Pass
7583.84	26.13	5.52	0.67	32.32	Average Max	V	330	260	54	-21.68	Pass

Above 1GHz-40GHz – 802.11n-20M – 5580MHz

Frequency MHz	Raw dBuV	Cable Loss	AF dB	Level dBuV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBuV/m	Margin dB	Pass /Fail
16599.23	39.20	8.45	7.21	54.86	Peak Max	H	155	41	74	-19.14	Pass
11320.10	38.72	7.47	2.56	48.76	Peak Max	V	312	99	74	-25.25	Pass
7264.23	38.84	5.33	0.84	45.01	Peak Max	V	168	150	74	-28.99	Pass
16599.23	27.25	8.45	7.21	42.91	Average Max	H	155	41	54	-11.09	Pass
11320.10	25.72	7.47	2.56	35.75	Average Max	V	312	99	54	-18.25	Pass
7264.23	25.96	5.33	0.84	32.14	Average Max	V	168	150	54	-21.86	Pass

Above 1GHz-40GHz – 802.11n-20M – 5700MHz

Frequency MHz	Raw dBuV	Cable Loss	AF dB	Level dBuV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBuV/m	Margin dB	Pass /Fail
16599.21	38.99	8.45	7.21	54.65	Peak Max	V	163	12	74	-19.35	Pass
11465.63	38.27	7.66	2.50	48.43	Peak Max	H	155	282	74	-25.57	Pass
6037.22	39.25	4.81	-0.33	43.74	Peak Max	V	202	179	74	-30.26	Pass
16599.21	27.25	8.45	7.21	42.92	Average Max	V	163	12	54	-11.09	Pass
11465.63	25.88	7.66	2.50	36.04	Average Max	H	155	282	54	-17.96	Pass
6037.22	27.36	4.81	-0.33	31.85	Average Max	V	202	179	54	-22.15	Pass

Above 1GHz-40GHz – 802.11n-40M – 5510MHz

Frequency MHz	Raw dBuV	Cable Loss	AF dB	Level dBuV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBuV/m	Margin dB	Pass /Fail
16816.56	39.16	8.33	6.66	54.15	Peak Max	V	335	355	74	-19.85	Pass
11123.58	38.50	7.21	2.83	48.54	Peak Max	V	294	275	74	-25.46	Pass
6553.39	38.35	5.12	-0.24	43.24	Peak Max	V	258	13	74	-30.76	Pass
16816.56	27.28	8.33	6.66	42.28	Average Max	V	335	355	54	-11.72	Pass
11123.58	25.93	7.21	2.83	35.96	Average Max	V	294	275	54	-18.04	Pass
6553.39	26.26	5.12	-0.24	31.15	Average Max	V	258	13	54	-22.85	Pass

Above 1GHz-40GHz – 802.11n-40M – 5550MHz

Frequency MHz	Raw dBuV	Cable Loss	AF dB	Level dBuV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBuV/m	Margin dB	Pass /Fail
16768.67	39.33	8.36	6.65	54.34	Peak Max	H	321	210	74	-19.66	Pass
11238.25	38.14	7.36	2.78	48.28	Peak Max	H	275	20	74	-25.72	Pass
6471.80	38.59	5.09	-0.56	43.12	Peak Max	V	304	210	74	-30.89	Pass
16768.67	27.17	8.36	6.65	42.19	Average Max	H	321	210	54	-11.81	Pass
11238.25	25.84	7.36	2.78	35.98	Average Max	H	275	20	54	-18.02	Pass
6471.80	26.29	5.09	-0.56	30.82	Average Max	V	304	210	54	-23.18	Pass

Above 1GHz-40GHz – 802.11n-40M – 5670MHz

Frequency MHz	Raw dBuV	Cable Loss	AF dB	Level dBuV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBuV/m	Margin dB	Pass /Fail
17161.45	38.42	8.15	7.45	54.02	Peak Max	V	166	286	74	-19.98	Pass
11432.53	38.31	7.62	2.72	48.65	Peak Max	V	214	22	74	-25.35	Pass
5270.72	38.31	4.61	-1.66	41.26	Peak Max	V	344	148	74	-32.74	Pass
17161.45	26.16	8.15	7.45	41.76	Average Max	V	166	286	54	-12.24	Pass
11432.53	26.04	7.62	2.72	36.38	Average Max	V	214	22	54	-17.62	Pass
5270.72	25.76	4.61	-1.66	28.71	Average Max	V	344	148	54	-25.29	Pass

Above 1GHz-40GHz – 802.11ac-80M – 5530MHz

Frequency MHz	Raw dBuV	Cable Loss	AF dB	Level dBuV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBuV/m	Margin dB	Pass /Fail
16817.63	39.76	8.33	6.67	54.76	Peak Max	V	100	120	74	-19.24	Pass
11090.88	39.08	7.16	2.75	48.99	Peak Max	V	189	89	74	-25.01	Pass
6405.48	38.75	5.05	-0.69	43.12	Peak Max	V	284	136	74	-30.89	Pass
16817.63	27.30	8.33	6.67	42.30	Average Max	V	100	120	54	-11.70	Pass
11090.88	26.66	7.16	2.75	36.57	Average Max	V	189	89	54	-17.43	Pass
6405.48	26.50	5.05	-0.69	30.87	Average Max	V	284	136	54	-23.14	Pass

Above 1GHz-40GHz – 802.11ac-80M – 5610MHz

Frequency MHz	Raw dBuV	Cable Loss	AF dB	Level dBuV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBuV/m	Margin dB	Pass /Fail
16988.46	39.83	8.24	6.41	54.48	Peak Max	H	146	135	74	-19.52	Pass
12045.46	38.47	7.90	3.50	49.88	Peak Max	V	205	175	74	-24.13	Pass
6452.25	38.17	5.08	-0.60	42.65	Peak Max	V	255	336	74	-31.35	Pass
16988.46	27.26	8.24	6.41	41.91	Average Max	H	146	135	54	-12.09	Pass
12045.46	25.97	7.90	3.50	37.37	Average Max	V	205	175	54	-16.63	Pass
6452.25	26.48	5.08	-0.60	30.96	Average Max	V	255	336	54	-23.04	Pass

Above 1GHz-40GHz – 802.11ac-80+80M – 5210+5530MHz

Frequency MHz	Raw dBuV	Cable Loss	AF dB	Level dBuV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBuV/m	Margin dB	Pass /Fail
16011.92	38.83	8.47	6.95	54.25	Peak Max	V	173	228	74	-19.75	Pass
11889.27	38.54	7.98	2.90	49.41	Peak Max	V	229	32	74	-24.59	Pass
6948.15	38.49	5.22	0.76	44.47	Peak Max	V	259	357	74	-29.53	Pass
16011.92	27.07	8.47	6.95	42.50	Average Max	V	173	228	54	-11.51	Pass
11889.27	26.28	7.98	2.90	37.16	Average Max	V	229	32	54	-16.84	Pass
6948.15	26.11	5.22	0.76	32.09	Average Max	V	259	357	54	-21.92	Pass

Above 1GHz-40GHz – 802.11ac-80+80M – 5210+5610MHz

Frequency MHz	Raw dBuV	Cable Loss	AF dB	Level dBuV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBuV/m	Margin dB	Pass /Fail
17947.93	39.26	8.17	11.98	59.41	Peak Max	H	284	40	74	-14.59	Pass
6949.78	38.36	5.22	0.77	44.35	Peak Max	V	231	90	74	-29.65	Pass
11285.29	37.98	7.43	2.54	47.94	Peak Max	V	322	131	74	-26.06	Pass
17947.93	27.01	8.17	11.98	47.16	Average Max	H	284	40	54	-6.84	Pass
6949.78	26.08	5.22	0.77	32.06	Average Max	V	231	90	54	-21.94	Pass
11285.29	25.61	7.43	2.54	35.57	Average Max	V	322	131	54	-18.43	Pass

Above 1GHz-40GHz – 802.11ac-80+80M – 5210+5775MHz

Frequency MHz	Raw dBuV	Cable Loss	AF dB	Level dBuV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBuV/m	Margin dB	Pass /Fail
16012.19	39.03	8.47	6.95	54.45	Peak Max	V	99	227	74	-19.55	Pass
11386.13	37.57	7.56	2.87	48.00	Peak Max	V	310	170	74	-26.00	Pass
6952.02	38.08	5.22	0.77	44.07	Peak Max	V	176	203	74	-29.93	Pass
16012.19	26.96	8.47	6.95	42.38	Average Max	V	99	227	54	-11.62	Pass
11386.13	25.70	7.56	2.87	36.12	Average Max	V	310	170	54	-17.88	Pass
6952.02	26.02	5.22	0.77	32.01	Average Max	V	176	203	54	-21.99	Pass

Above 1GHz-40GHz – 802.11ac-80+80M – 5290+5530MHz

Frequency MHz	Raw dBuV	Cable Loss	AF dB	Level dBuV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBuV/m	Margin dB	Pass /Fail
14787.94	38.01	8.05	8.84	54.90	Peak Max	V	328	288	74	-19.10	Pass
11061.63	39.24	7.12	2.66	49.02	Peak Max	V	211	208	74	-24.98	Pass
7684.32	38.32	5.63	0.55	44.50	Peak Max	V	140	28	74	-29.50	Pass
14787.94	26.02	8.05	8.84	42.91	Average Max	V	328	288	54	-11.09	Pass
11061.63	27.18	7.12	2.66	36.96	Average Max	V	211	208	54	-17.04	Pass
7684.32	26.56	5.63	0.55	32.74	Average Max	V	140	28	54	-21.26	Pass

Above 1GHz-40GHz – 802.11ac-80+80M – 5290+5610MHz

Frequency MHz	Raw dBuV	Cable Loss	AF dB	Level dBuV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBuV/m	Margin dB	Pass /Fail
15760.14	38.49	8.36	6.78	53.64	Peak Max	V	172	241	74	-20.37	Pass
10082.79	39.02	6.54	2.11	47.68	Peak Max	V	226	147	74	-26.32	Pass
7025.98	37.82	5.24	0.72	43.78	Peak Max	V	271	229	74	-30.22	Pass
15760.14	26.96	8.36	6.78	42.10	Average Max	V	172	241	54	-11.90	Pass
10082.79	26.69	6.54	2.11	35.34	Average Max	V	226	147	54	-18.66	Pass
7025.98	26.00	5.24	0.72	31.96	Average Max	V	271	229	54	-22.04	Pass

Above 1GHz-40GHz – 802.11ac-80+80M – 5290+5775MHz

Frequency MHz	Raw dBuV	Cable Loss	AF dB	Level dBuV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBuV/m	Margin dB	Pass /Fail
17711.61	38.63	8.08	11.93	58.64	Peak Max	H	166	81	74	-15.36	Pass
6229.08	44.29	4.94	-0.76	48.47	Peak Max	H	198	175	74	-25.53	Pass
11973.88	38.05	8.03	3.13	49.21	Peak Max	V	144	143	74	-24.79	Pass
17711.61	26.27	8.08	11.93	46.28	Average Max	H	166	81	54	-7.72	Pass
6229.08	31.44	4.94	-0.76	35.62	Average Max	H	198	175	54	-18.38	Pass
11973.88	25.97	8.03	3.13	37.13	Average Max	V	144	143	54	-16.87	Pass

Above 1GHz-40GHz – 802.11ac-80+80M – 5530+5775MHz

Frequency MHz	Raw dBuV	Cable Loss	AF dB	Level dBuV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBuV/m	Margin dB	Pass /Fail
16013.03	39.42	8.47	6.94	54.84	Peak Max	V	143	189	74	-19.16	Pass
9982.16	38.62	6.50	2.17	47.29	Peak Max	V	121	328	74	-26.71	Pass
7739.61	38.49	5.70	0.46	44.64	Peak Max	V	202	152	74	-29.36	Pass
16013.03	26.89	8.47	6.94	42.31	Average Max	V	143	189	54	-11.69	Pass
9982.16	26.42	6.50	2.17	35.09	Average Max	V	121	328	54	-18.91	Pass
7739.61	26.24	5.70	0.46	32.39	Average Max	V	202	152	54	-21.61	Pass

Above 1GHz-40GHz – 802.11ac-80+80M – 5610+5775MHz

Frequency MHz	Raw dBuV	Cable Loss	AF dB	Level dBuV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBuV/m	Margin dB	Pass /Fail
17511.75	38.65	7.99	10.74	57.39	Peak Max	V	346	268	74	-16.61	Pass
11924.55	39.23	8.00	2.95	50.18	Peak Max	V	310	159	74	-23.82	Pass
7840.84	37.95	5.81	0.25	44.01	Peak Max	V	304	215	74	-29.99	Pass
17511.75	26.56	7.99	10.74	45.30	Average Max	V	346	268	54	-8.70	Pass
11924.55	26.11	8.00	2.95	37.07	Average Max	V	310	159	54	-16.93	Pass
7840.84	25.95	5.81	0.25	32.01	Average Max	V	304	215	54	-21.99	Pass

Above 1GHz-40GHz – Co-Location for 2.4GHz and 5GHz

Frequency MHz	Raw dBuV	Cable Loss	AF dB	Level dBuV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBuV/m	Margin dB	Pass /Fail
17956.75	39.47	8.17	11.94	59.58	Peak Max	H	263	146	74	-14.42	Pass
10361.88	45.67	6.69	2.13	54.49	Peak Max	H	143	216	74	-19.51	Pass
7631.52	47.55	5.57	0.63	53.75	Peak Max	H	158	97	74	-20.26	Pass
17956.75	26.89	8.17	11.94	47.00	Average Max	H	263	146	54	-7.00	Pass
10361.88	32.49	6.69	2.13	41.30	Average Max	H	143	216	54	-12.70	Pass
7631.52	34.62	5.57	0.63	40.82	Average Max	H	158	97	54	-13.18	Pass

Annex A. TEST INSTRUMENT

Instrument	Model	Serial #	Cal Date	Cal Cycle	Cal Due	In use
Conducted Emissions						
R & S Receiver	ESIB 40	100179	04/21/2017	1 Year	04/21/2018	☑
CHASE LISN	MN2050B	1018	08/16/2016	1 Year	08/16/2017	☑
Radiated Emissions						
Keysight EXA 44GHz Spectrum Analyzer	N9010A	MY51440112	11/02/2016	1 Year	11/02/2017	☑
Bi-Log antenna (30MHz~2GHz)	JB1	A030702	01/13/2017	1 Year	01/13/2018	☑
Horn Antenna (1GHz~26GHz)	3115	100059	08/11/2016	1 Year	08/11/2017	☑
Horn Antenna (18GHz~40GHz)	PA-840	181251	06/23/2017	1 Year	06/23/2018	☑
Preamplifier (100KHz-7GHz)	LPA-6-30	11170602	02/09/2017	1 Year	02/09/2018	☑
Pre-Amplifier (1-40GHz)	SAS-474	579	05/04/2017	1 Year	05/04/2018	☑
10 Meters SAC	10M	N/A	10/06/2016	1 Year	10/06/2017	☑
RF Conducted Measurement						
Spectrum Analyzer	N9010A	10SL0219	11/16/2016	1 Year	11/16/2017	☑

Annex B. SIEMIC Accreditation

Accreditations	Document	Scope / Remark
ISO 17025 (A2LA)		Please see the documents for the detailed scope
ISO Guide 65 (A2LA)		Please see the documents for the detailed scope
TCB Designation		A1, A2, A3, A4, B1, B2, B3, B4, C
FCC DoC Accreditation		FCC Declaration of Conformity Accreditation
FCC Site Registration		3 meter site
FCC Site Registration		10 meter site
IC Site Registration		3 meter site
IC Site Registration		10 meter site
EU NB		Radio Equipment: EN45011: EN ISO/IEC 17065
		Electromagnetic Compatibility: EN45011 – EN ISO/IEC 17065
Singapore iDA CB(Certification Body)		Phase I, Phase II
Vietnam MIC CAB Accreditation		Please see the document for the detailed scope
Hong Kong OFCA		(Phase II) OFCA Foreign Certification Body for Radio and Telecom
		(Phase I) Conformity Assessment Body for Radio and Telecom
Industry Canada CAB		Radio: Scope A – All Radio Standard Specification in Category I
		Telecom: CS-03 Part I, II, V, VI, VII, VIII

Japan Recognized Certification Body Designation		Radio: A1. Terminal equipment for purpose of calling Telecom: B1. Specified radio equipment specified in Article 38-2, Paragraph 1, Item 1 of the Radio Law
Korea CAB Accreditation		EMI: KCC Notice 2008-39, RRL Notice 2008-3: CA Procedures for EMI KN22: Test Method for EMI EMS: KCC Notice 2008-38, RRL Notice 2008-4: CA Procedures for EMS KN24, KN61000-4-2, -4-3, -4-4, -4-5, -4-6, -4-8, -4-11: Test Method for EMS
		Radio: RRL Notice 2008-26, RRL Notice 2008-2, RRL Notice 2008-10, RRL Notice 2007-49, RRL Notice 2007-20, RRL Notice 2007-21, RRL Notice 2007-80, RRL Notice 2004-68
		Telecom: President Notice 20664, RRL Notice 2007-30, RRL Notice 2008-7 with attachments 1, 3, 5, 6; President Notice 20664, RRL Notice 2008-7 with attachment 4
Taiwan NCC CAB Recognition		LP0002, PSTN01, ADSL01, ID0002, IS6100, CNS14336, PLMN07, PLMN01, PLMN08
Taiwan BSMI CAB Recognition		CNS 13438
Japan VCCI		R-3083: Radiation 3 meter site C-3421: Main Ports Conducted Interference Measurement T-1597: Telecommunication Ports Conducted Interference Measuremet
Australia CAB Recognition		EMC: AS/NZS CISPR 11, AS/NZS CISPR 14.1, AS/NZS CISPR22, AS/NZS 61000.6.3, AS/NZS 61000.6.4
		Radiocommunications: AS/NZS 4281, AS/NZS 4268, AS/NZS 4280.1, AS/NZS 4280.2, AS/NZS 4295, AS/NZS 4582, AS/NZS 4583, AS/NZS 4769.1, AS/NZS 4769.2, AS/NZS 4770, AS/NZS 4771
		Telecommunications: AS/ACIF S002:05, AS/ACIF S003:06, AS/ACIF S004:06 AS/ACIF S006:01, AS/ACIF S016:01, AS/ACIF S031:01, AS/ACIF S038:01, AS/ACIF S040:01, AS/ACIF S041:05, AS/ACIF S043.2:06, AS/ACIF S60950.1
Australia NATA Recognition		AS/ACIF S002, AS/ACIF S003, AS/ACIF S004, AS/ACIF S006, AS/ACIF S016,AS/ACIF S031, AS/ACIF S038, AS/ACIF S040, AS/ACIF S041, AS/ACIF S043.2