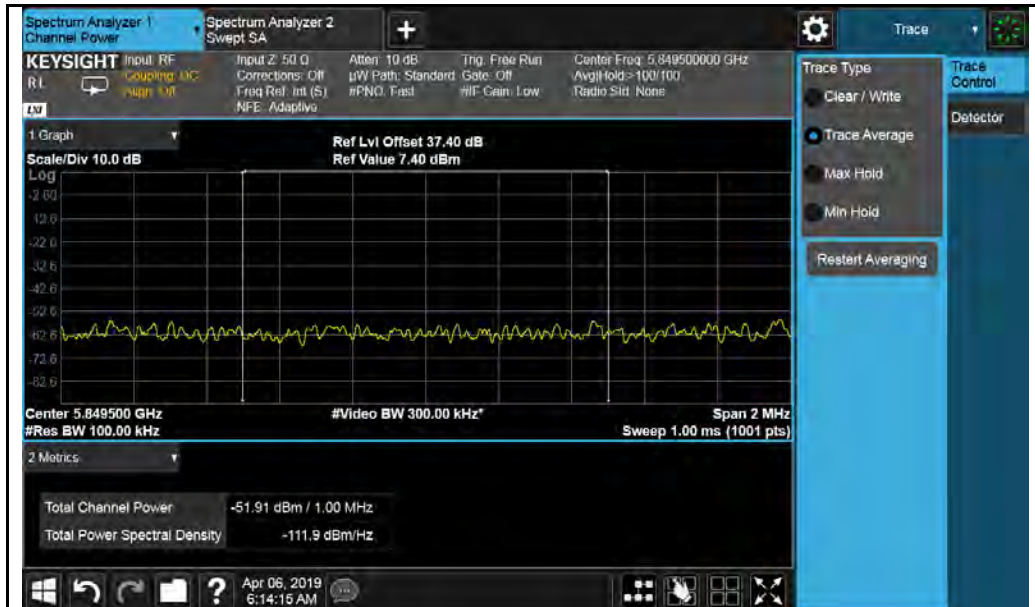
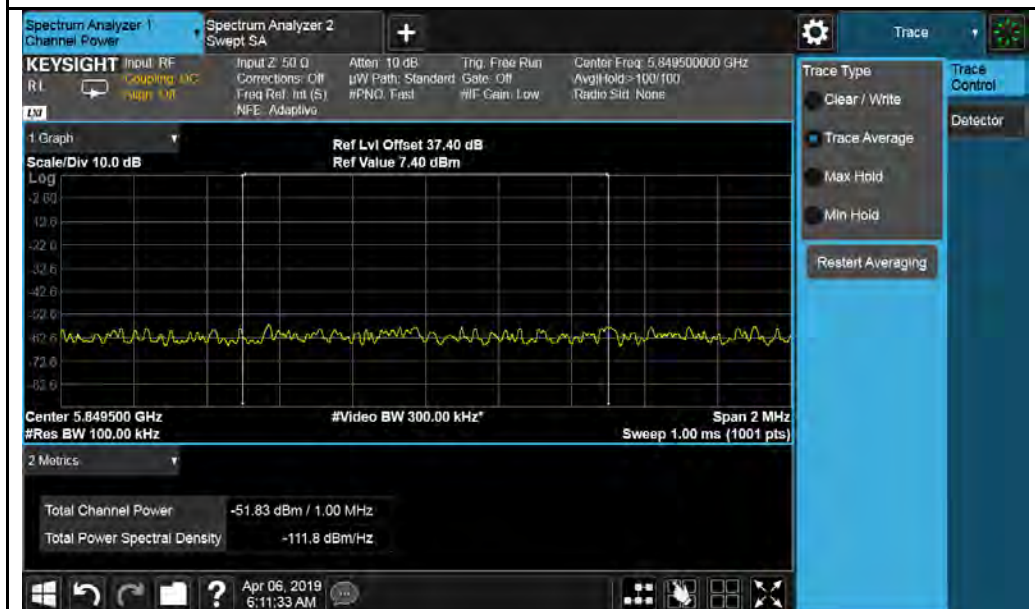




802.11ax-HT40-5710MHz

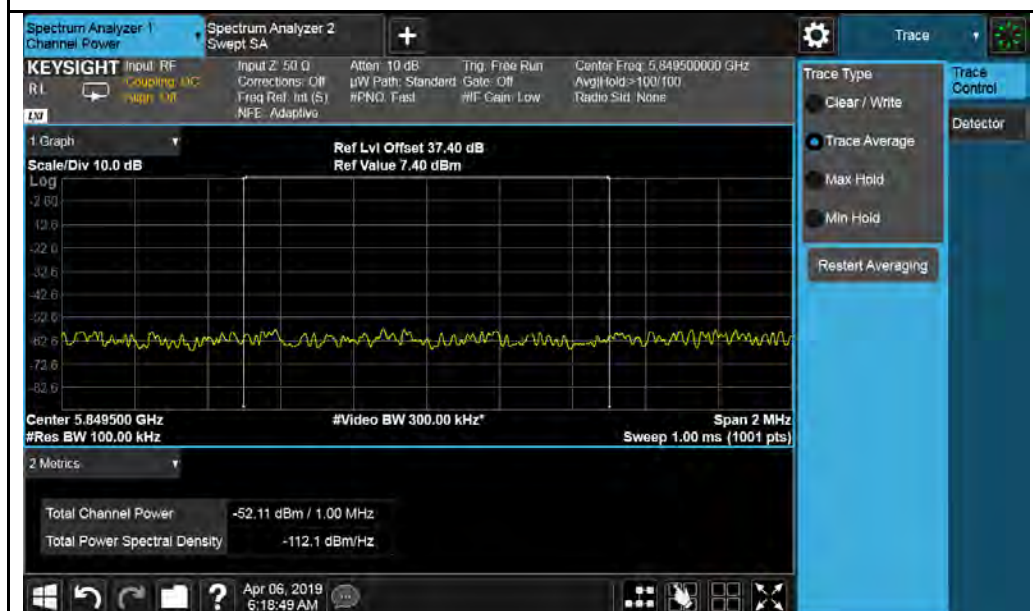


802.11ax-VHT80-5690MHz

Chain 3



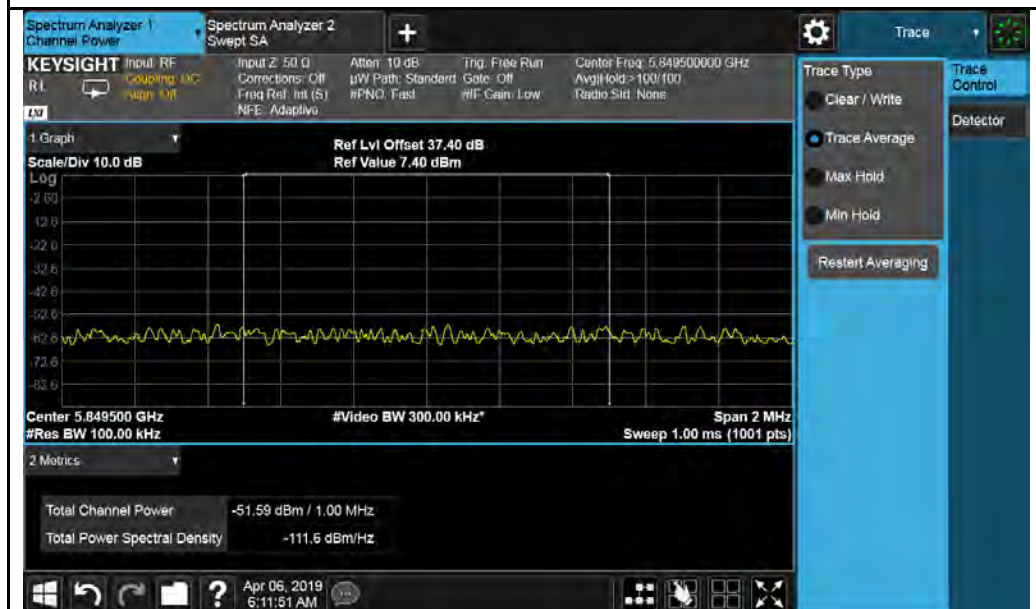
802.11a-5720MHz



802.11n-5720MHz



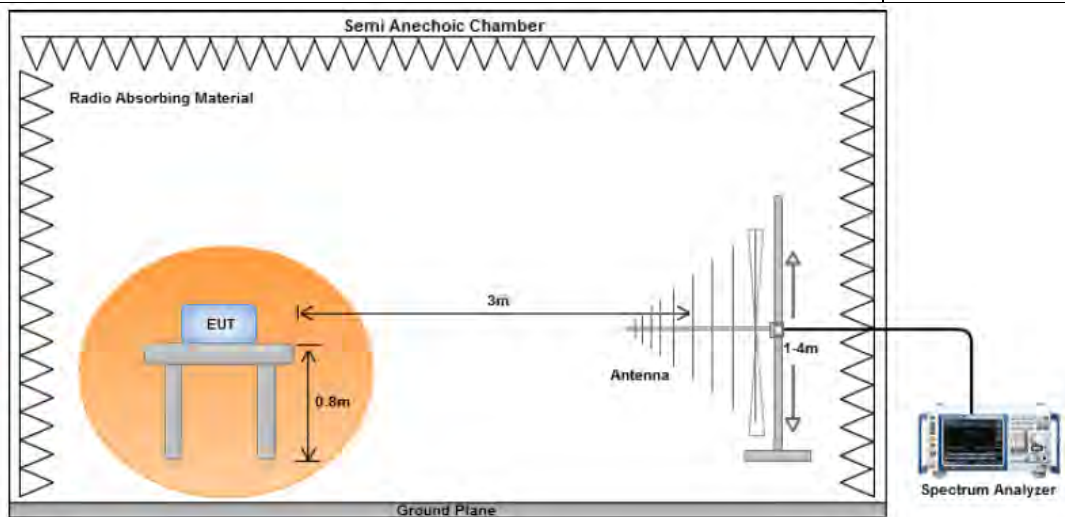
802.11ax-HT40-5710MHz



802.11ax-VHT80-5690MHz

10.7 Radiated Spurious Emissions below 1GHz

Requirement(s):

Spec	Requirement	Applicable										
47CFR§ 15.407(b) 15.209 (a) RSS Gen	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>	Frequency range (MHz)	Field Strength (uV/m)	30 – 88	100	88 – 216	150	216 960	200	Above 960	500	⊗
Frequency range (MHz)	Field Strength (uV/m)											
30 – 88	100											
88 – 216	150											
216 960	200											
Above 960	500											
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. 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.											
Remark	The EUT was scanned up to 1GHz. Both horizontal and vertical polarities were investigated. The results show only the worst case.											
Result	⊗ Pass □ Fail											

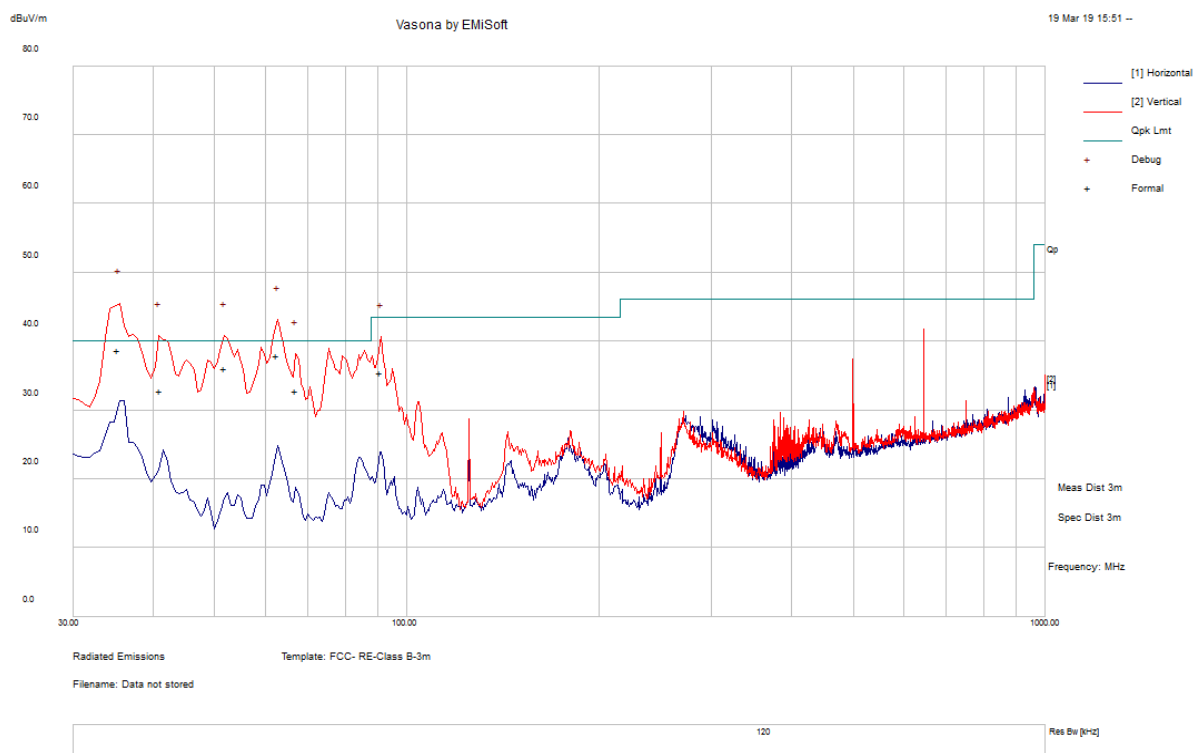
Test Data ☒ Yes (See below) ☐ N/A

Test Plot ☒ Yes (See below) ☐ N/A

Test was done by Deon Dai 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:	Deon Dai			
Test Date:	03/19/2019			
Remarks:	802.11ac – VHT80, 5290MHz			

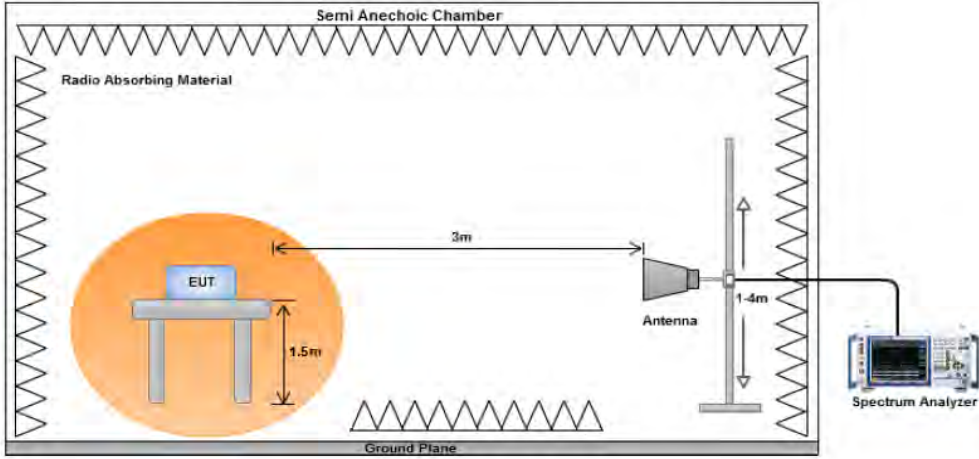


Frequency MHz	Raw dBuV/m	Cable Loss	AF dB	Level dBuV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBuV/m	Margin dB	Pass /Fail
35.31	44.39	11.2	-16.79	38.8	Quasi Max	V	103	357	40	-1.2	Pass
62.53	53.76	11.53	-27.31	37.97	Quasi Max	V	106	206	40	-2.03	Pass
51.93	51.34	11.46	-26.7	36.1	Quasi Max	V	108	169	40	-3.9	Pass
41.09	42.61	11.33	-21.07	32.87	Quasi Max	V	126	66	40	-7.13	Pass
67.08	48.53	11.56	-27.25	32.83	Quasi Max	V	108	195	40	-7.17	Pass
91.01	51.07	11.8	-27.44	35.43	Quasi Max	V	118	71	43.5	-8.07	Pass

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

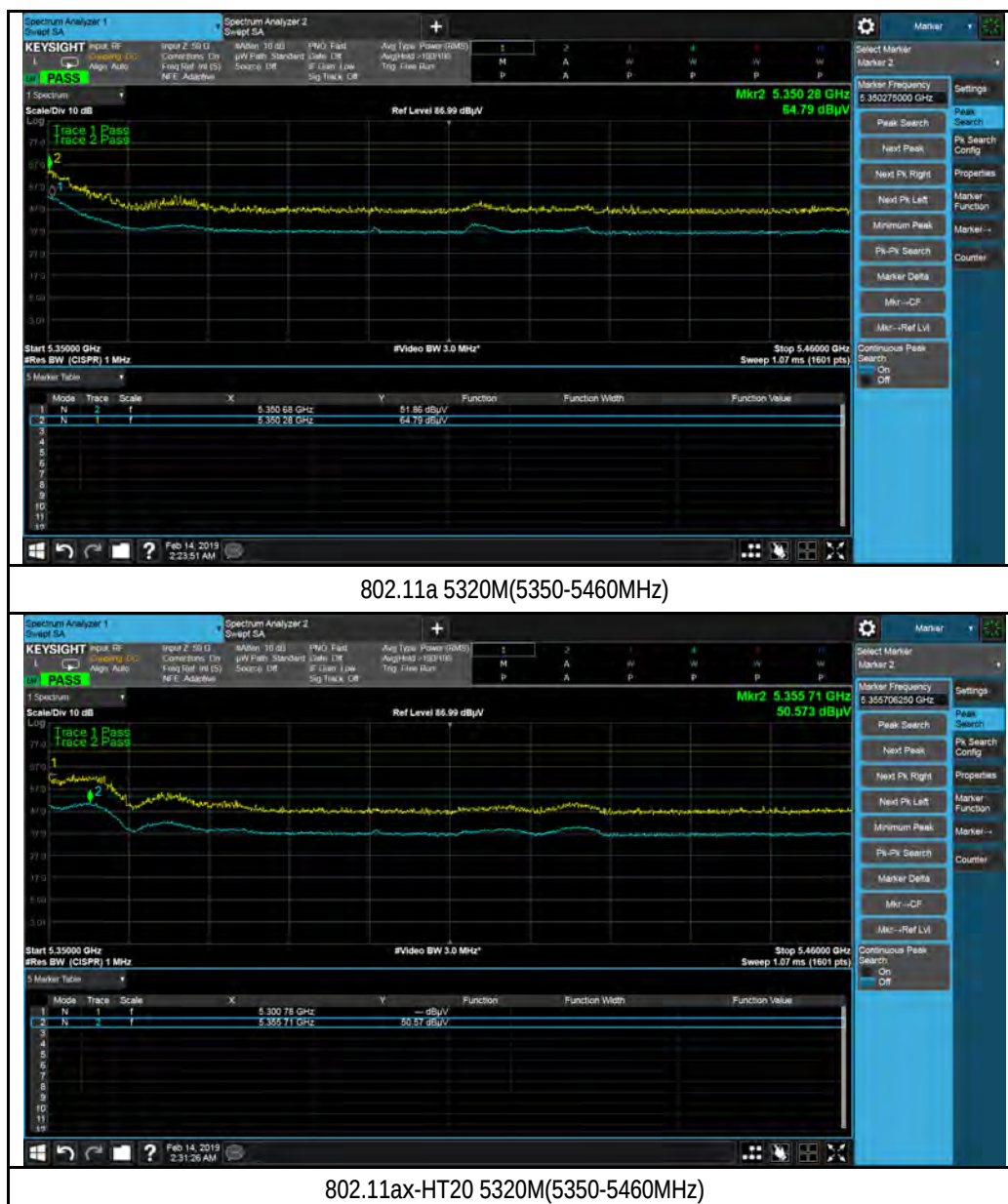
10.8 Radiated Spurious Emissions above 1GHz

Requirement(s):

Spec	Item	Requirement	Applicable
47CFR§ 15.407(b)(2), 15.407(b)(6) RSS 247 Issue 2, 2017	(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	- The EUT was switched on and allowed to warm up to its normal operating condition. - 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: - Vertical or horizontal polarisation (whichever gave the higher emission level over a full rotation of the EUT) was chosen. - The EUT was then rotated to the direction that gave the maximum emission. - Finally, the antenna height was adjusted to the height that gave the maximum emission. - An average measurement was then made for that frequency point. - 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		

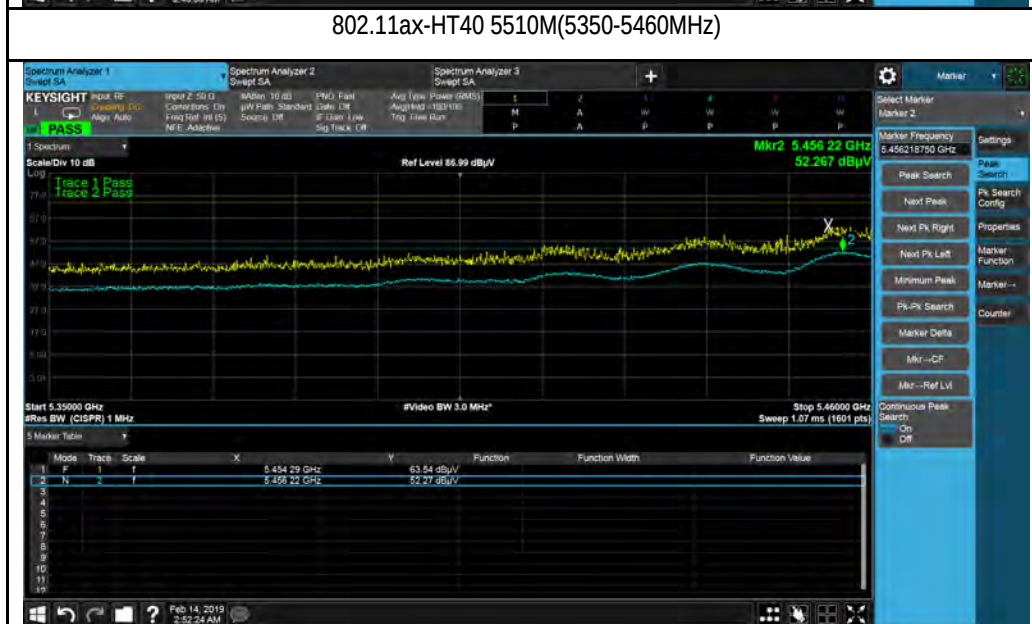
Test Data ☐ Yes (See below) ☒ N/A
Test Plot ☒ Yes (See below) ☐ N/A
Test was done by Deon Dai at 10m chamber.

Radiated Restricted band Measurement Plots:









Radiated Emission Test Results (Above 1GHz)

U-NII-2A Band:

Above 1GHz-40GHz – 802.11a – 5260MHz

Frequency MHz	Raw dBuV/m	Cable Loss	AF dB	Level dBuV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBuV/m	Margin dB	Pass /Fail
7131.00	49.8	5.12	-7.76	47.16	Peak Max	V	207	300	74	-26.84	Pass
10520.00	53.02	6.09	-3.78	55.33	Peak Max	V	223	28	74	-18.67	Pass
13618.86	54.36	7.08	-1.52	59.92	Peak Max	H	163	151	74	-14.08	Pass
7131.00	35.43	5.12	-7.76	32.79	Average Max	V	207	300	54	-21.21	Pass
10520.00	38.51	6.09	-3.78	40.82	Average Max	V	223	28	54	-13.18	Pass
13618.86	40.12	7.08	-1.52	45.68	Average Max	H	163	151	54	-8.32	Pass

Above 1GHz-40GHz – 802.11a – 5280MHz

Frequency MHz	Raw dBuV/m	Cable Loss	AF dB	Level dBuV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBuV/m	Margin dB	Pass /Fail
7662.58	50.47	5.19	-7.31	48.35	Peak Max	H	204	296	74	-25.65	Pass
10559.00	52.9	6.1	-3.71	55.29	Peak Max	H	220	34	74	-18.71	Pass
13769.78	55.28	7.13	-1.65	60.76	Peak Max	V	169	152	74	-13.24	Pass
7662.58	35.81	5.19	-7.31	33.69	Average Max	H	204	296	54	-20.31	Pass
10559.00	38.1	6.1	-3.71	40.49	Average Max	H	220	34	54	-13.51	Pass
13769.78	40.7	7.13	-1.65	46.18	Average Max	V	169	152	54	-7.82	Pass

Above 1GHz-40GHz – 802.11a – 5320MHz

Frequency MHz	Raw dBuV/m	Cable Loss	AF dB	Level dBuV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBuV/m	Margin dB	Pass /Fail
7340.66	49.55	5.15	-7.64	47.06	Peak Max	H	213	295	74	-26.94	Pass
10640.72	53.24	6.14	-3.61	55.77	Peak Max	V	220	27	74	-18.23	Pass
13517.55	55.15	7.05	-1.57	60.63	Peak Max	H	165	147	74	-13.37	Pass
7340.66	34.88	5.15	-7.64	32.39	Average Max	H	213	295	54	-21.61	Pass
10640.72	38.76	6.14	-3.61	41.29	Average Max	V	220	27	54	-12.71	Pass
13517.55	40.82	7.05	-1.57	46.3	Average Max	H	165	147	54	-7.7	Pass

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

Frequency MHz	Raw dBuV/m	Cable Loss	AF dB	Level dBuV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBuV/m	Margin dB	Pass /Fail
7467.87	49.35	5.13	-7.55	46.93	Peak Max	V	212	292	74	-27.07	Pass
10520.45	52.99	6.09	-3.78	55.3	Peak Max	H	224	29	74	-18.7	Pass
13422.59	54.31	7.03	-1.62	59.72	Peak Max	V	161	149	74	-14.28	Pass
7467.87	35.19	5.13	-7.55	32.77	Average Max	V	212	292	54	-21.23	Pass
10520.45	38.77	6.09	-3.78	41.08	Average Max	H	224	29	54	-12.92	Pass
13422.59	39.92	7.03	-1.62	45.33	Average Max	V	161	149	54	-8.67	Pass

Above 1GHz-40GHz – 802.11ax-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
7970.74	50.64	5.41	-7.06	48.99	Peak Max	V	212	299	74	-25.01	Pass
10559.81	52.88	6.1	-3.71	55.27	Peak Max	H	217	32	74	-18.73	Pass
13102.15	54.2	6.94	-1.83	59.31	Peak Max	V	164	148	74	-14.69	Pass
7970.74	36.23	5.41	-7.06	34.58	Average Max	V	212	299	54	-19.42	Pass
10559.81	38.87	6.1	-3.71	41.26	Average Max	H	217	32	54	-12.74	Pass
13102.15	39.62	6.94	-1.83	44.73	Average Max	V	164	148	54	-9.27	Pass

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

Frequency MHz	Raw dBuV/m	Cable Loss	AF dB	Level dBuV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBuV/m	Margin dB	Pass /Fail
7226.08	50.09	5.15	-7.72	47.52	Peak Max	V	213	301	74	-26.48	Pass
10640.10	53.2	6.14	-3.61	55.73	Peak Max	H	219	31	74	-18.27	Pass
13159.00	54.41	6.96	-1.88	59.49	Peak Max	H	165	153	74	-14.51	Pass
7226.08	35.09	5.15	-7.72	32.52	Average Max	V	213	301	54	-21.48	Pass
10640.10	38.74	6.14	-3.61	41.27	Average Max	H	219	31	54	-12.73	Pass
13159.00	39.44	6.96	-1.88	44.52	Average Max	H	165	153	54	-9.48	Pass

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

Frequency MHz	Raw dBuV/m	Cable Loss	AF dB	Level dBuV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBuV/m	Margin dB	Pass /Fail
7986.16	50.75	5.42	-7.04	49.13	Peak Max	H	209	300	74	-24.87	Pass
10379.51	51.77	6.01	-3.86	53.92	Peak Max	V	215	29	74	-20.08	Pass
13728.60	54.69	7.11	-1.58	60.22	Peak Max	V	164	153	74	-13.78	Pass
7986.16	35.92	5.42	-7.04	34.3	Average Max	H	209	300	54	-19.7	Pass
10379.51	37.43	6.01	-3.86	39.58	Average Max	V	215	29	54	-14.42	Pass
13728.60	39.81	7.11	-1.58	45.34	Average Max	V	164	153	54	-8.66	Pass

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

Frequency MHz	Raw dBuV/m	Cable Loss	AF dB	Level dBuV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBuV/m	Margin dB	Pass /Fail
7749.15	50.08	5.22	-7.25	48.05	Peak Max	V	205	301	74	-25.95	Pass
10620.65	52.6	6.13	-3.62	55.11	Peak Max	H	222	34	74	-18.89	Pass
13043.10	53.65	6.92	-1.67	58.9	Peak Max	H	164	152	74	-15.1	Pass
7749.15	35.86	5.22	-7.25	33.83	Average Max	V	205	301	54	-20.17	Pass
10620.65	38.45	6.13	-3.62	40.96	Average Max	H	222	34	54	-13.04	Pass
13043.10	39.5	6.92	-1.67	44.75	Average Max	H	164	152	54	-9.25	Pass

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

Frequency MHz	Raw dBuV/m	Cable Loss	AF dB	Level dBuV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBuV/m	Margin dB	Pass /Fail
7795.15	48.98	5.26	-7.21	47.03	Peak Max	H	209	300	74	-26.97	Pass
10579.75	52.31	6.11	-3.67	54.75	Peak Max	V	219	32	74	-19.25	Pass
13960.63	55.53	7.26	-1.58	61.21	Peak Max	V	166	152	74	-12.79	Pass
7795.15	34.46	5.26	-7.21	32.51	Average Max	H	209	300	54	-21.49	Pass
10579.75	37.8	6.11	-3.67	40.24	Average Max	V	219	32	54	-13.76	Pass
13960.63	41.27	7.26	-1.58	46.95	Average Max	V	166	152	54	-7.05	Pass

U-NII-2C band:
Above 1GHz-40GHz – 802.11a – 5500MHz

Frequency MHz	Raw dBuV/m	Cable Loss	AF dB	Level dBuV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBuV/m	Margin dB	Pass /Fail
7546.93	49.89	5.15	-7.5	47.54	Peak Max	V	205	296	74	-26.46	Pass
11000.00	52.25	6.13	-3.08	55.3	Peak Max	H	223	27	74	-18.7	Pass
13246.05	54.32	7	-1.9	59.42	Peak Max	H	167	145	74	-14.58	Pass
7546.93	35.54	5.15	-7.5	33.19	Average Max	V	205	296	54	-20.81	Pass
11000.00	37.93	6.13	-3.08	40.98	Average Max	H	223	27	54	-13.02	Pass
13246.05	40.14	7	-1.9	45.24	Average Max	H	167	145	54	-8.76	Pass

Above 1GHz-40GHz – 802.11a – 5580MHz

Frequency MHz	Raw dBuV/m	Cable Loss	AF dB	Level dBuV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBuV/m	Margin dB	Pass /Fail
7612.45	49.7	5.17	-7.43	47.44	Peak Max	H	204	296	74	-26.56	Pass
11159.39	52.89	6.07	-3.12	55.84	Peak Max	H	224	26	74	-18.16	Pass
13242.57	54.23	7	-1.9	59.33	Peak Max	V	165	147	74	-14.67	Pass
7612.45	34.77	5.17	-7.43	32.51	Average Max	H	204	296	54	-21.49	Pass
11159.39	38.19	6.07	-3.12	41.14	Average Max	H	224	26	54	-12.86	Pass
13242.57	39.63	7	-1.9	44.73	Average Max	V	165	147	54	-9.27	Pass

Above 1GHz-40GHz – 802.11a – 5700MHz

Frequency MHz	Raw dBuV/m	Cable Loss	AF dB	Level dBuV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBuV/m	Margin dB	Pass /Fail
7472.23	49.59	5.13	-7.55	47.17	Peak Max	H	209	292	74	-26.83	Pass
11400.33	52.76	6.05	-2.88	55.93	Peak Max	H	215	27	74	-18.07	Pass
13347.18	54.45	7.02	-1.71	59.76	Peak Max	V	164	146	74	-14.24	Pass
7472.23	35.06	5.13	-7.55	32.64	Average Max	H	209	292	54	-21.36	Pass
11400.33	38.16	6.05	-2.88	41.33	Average Max	H	215	27	54	-12.67	Pass
13347.18	40.2	7.02	-1.71	45.51	Average Max	V	164	146	54	-8.49	Pass

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

Frequency MHz	Raw dBuV/m	Cable Loss	AF dB	Level dBuV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBuV/m	Margin dB	Pass /Fail
7434.44	49.57	5.14	-7.58	47.13	Peak Max	H	211	295	74	-26.87	Pass
11000.69	52.3	6.13	-3.08	55.35	Peak Max	V	223	26	74	-18.65	Pass
13717.53	53.98	7.11	-1.57	59.52	Peak Max	H	161	153	74	-14.48	Pass
7434.44	35.39	5.14	-7.58	32.95	Average Max	H	211	295	54	-21.05	Pass
11000.69	38.25	6.13	-3.08	41.3	Average Max	V	223	26	54	-12.7	Pass
13717.53	39.59	7.11	-1.57	45.13	Average Max	H	161	153	54	-8.87	Pass

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

Frequency MHz	Raw dBuV/m	Cable Loss	AF dB	Level dBuV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBuV/m	Margin dB	Pass /Fail
7813.07	49.7	5.27	-7.19	47.78	Peak Max	H	209	293	74	-26.22	Pass
11159.78	52.85	6.07	-3.12	55.8	Peak Max	H	215	28	74	-18.2	Pass
13838.50	55.72	7.18	-1.68	61.22	Peak Max	H	161	150	74	-12.78	Pass
7813.07	35.22	5.27	-7.19	33.3	Average Max	H	209	293	54	-20.7	Pass
11159.78	38.62	6.07	-3.12	41.57	Average Max	H	215	28	54	-12.43	Pass
13838.50	41.11	7.18	-1.68	46.61	Average Max	H	161	150	54	-7.39	Pass

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

Frequency MHz	Raw dBuV/m	Cable Loss	AF dB	Level dBuV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBuV/m	Margin dB	Pass /Fail
7243.25	48.76	5.16	-7.71	46.21	Peak Max	V	211	297	74	-27.79	Pass
11400.18	52.77	6.05	-2.88	55.94	Peak Max	H	223	30	74	-18.06	Pass
13103.04	54.11	6.94	-1.83	59.22	Peak Max	H	167	146	74	-14.78	Pass
7243.25	34.55	5.16	-7.71	32	Average Max	V	211	297	54	-22	Pass
11400.18	38.54	6.05	-2.88	41.71	Average Max	H	223	30	54	-12.29	Pass
13103.04	39.52	6.94	-1.83	44.63	Average Max	H	167	146	54	-9.37	Pass

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

Frequency MHz	Raw dBuV/m	Cable Loss	AF dB	Level dBuV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBuV/m	Margin dB	Pass /Fail
7908.68	49.28	5.35	-7.11	47.52	Peak Max	V	213	296	74	-26.48	Pass
11019.52	53.19	6.12	-3.08	56.23	Peak Max	V	221	27	74	-17.77	Pass
13542.56	55.85	7.06	-1.56	61.35	Peak Max	H	164	145	74	-12.65	Pass
7908.68	34.94	5.35	-7.11	33.18	Average Max	V	213	296	54	-20.82	Pass
11019.52	38.94	6.12	-3.08	41.98	Average Max	V	221	27	54	-12.02	Pass
13542.56	41.84	7.06	-1.56	47.34	Average Max	H	164	145	54	-6.66	Pass

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

Frequency MHz	Raw dBuV/m	Cable Loss	AF dB	Level dBuV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBuV/m	Margin dB	Pass /Fail
7530.11	48.95	5.14	-7.51	46.58	Peak Max	H	210	297	74	-27.42	Pass
11100.86	52.56	6.09	-3.1	55.55	Peak Max	V	222	30	74	-18.45	Pass
13938.54	55.19	7.25	-1.6	60.84	Peak Max	V	164	146	74	-13.16	Pass
7530.11	34.66	5.14	-7.51	32.29	Average Max	H	210	297	54	-21.71	Pass
11100.86	38.47	6.09	-3.1	41.46	Average Max	V	222	30	54	-12.54	Pass
13938.54	41	7.25	-1.6	46.65	Average Max	V	164	146	54	-7.35	Pass

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

Frequency MHz	Raw dBuV/m	Cable Loss	AF dB	Level dBuV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBuV/m	Margin dB	Pass /Fail
7719.46	49.19	5.21	-7.27	47.13	Peak Max	V	209	297	74	-26.87	Pass
11340.19	52.53	6.04	-3.01	55.56	Peak Max	H	215	34	74	-18.44	Pass
13476.49	53.69	7.05	-1.6	59.14	Peak Max	H	161	146	74	-14.86	Pass
7719.46	34.83	5.21	-7.27	32.77	Average Max	V	209	297	54	-21.23	Pass
11340.19	38.46	6.04	-3.01	41.49	Average Max	H	215	34	54	-12.51	Pass
13476.49	39.15	7.05	-1.6	44.6	Average Max	H	161	146	54	-9.4	Pass

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

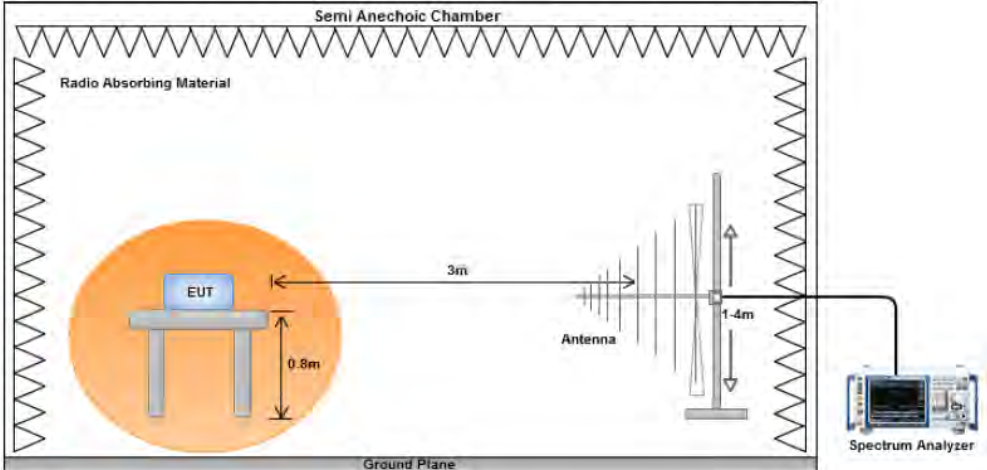
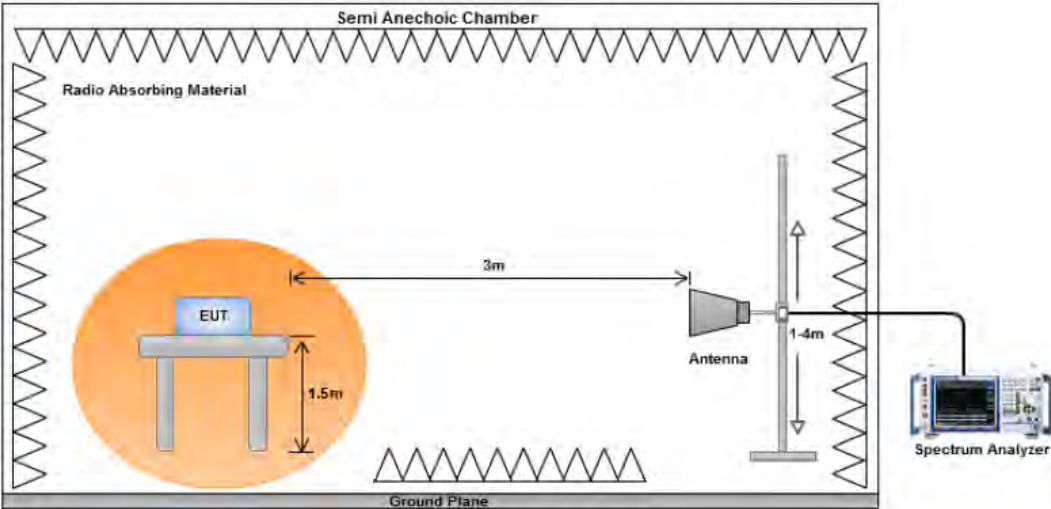
Frequency MHz	Raw dBuV/m	Cable Loss	AF dB	Level dBuV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBuV/m	Margin dB	Pass /Fail
7645.27	49.87	5.18	-7.34	47.71	Peak Max	V	212	300	74	-26.29	Pass
11059.75	53.3	6.11	-3.09	56.32	Peak Max	H	220	34	74	-17.68	Pass
13755.50	54.71	7.12	-1.63	60.2	Peak Max	V	161	153	74	-13.8	Pass
7645.27	35.1	5.18	-7.34	32.94	Average Max	V	212	300	54	-21.06	Pass
11059.75	38.78	6.11	-3.09	41.8	Average Max	H	220	34	54	-12.2	Pass
13755.50	40.4	7.12	-1.63	45.89	Average Max	V	161	153	54	-8.11	Pass

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

Frequency MHz	Raw dBuV/m	Cable Loss	AF dB	Level dBuV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBuV/m	Margin dB	Pass /Fail
7113.38	49.46	5.12	-7.76	46.82	Peak Max	V	213	299	74	-27.18	Pass
11219.06	52.92	6.04	-3.13	55.83	Peak Max	H	218	29	74	-18.17	Pass
13341.45	54.09	7.02	-1.72	59.39	Peak Max	V	163	149	74	-14.61	Pass
7113.38	34.82	5.12	-7.76	32.18	Average Max	V	213	299	54	-21.82	Pass
11219.06	38.31	6.04	-3.13	41.22	Average Max	H	218	29	54	-12.78	Pass
13341.45	39.68	7.02	-1.72	44.98	Average Max	V	163	149	54	-9.02	Pass

10.9 Receiver Radiated Emissions

Requirement(s):

Spec	Item	Requirement	Applicable	
RSS GEN (7.3)	a)	Spurious emissions from receivers shall not exceed the radiated emissions limits shown in table 3.	☒	
		Table 3 – Receiver radiated emissions limits		
		Frequency (MHz)		Field strength (µV/m at 3 metres)
		30-88		100
		88-216		150
		216-960	200	
		Above 960	500	
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. A Quasi-peak measurement was then made for that frequency point (Below 1G). An average measurement was then made for that frequency point (Above 1G). 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 25GHz. Both horizontal and vertical polarities were investigated. The results show only the worst case. There isn't outstanding emission found at the edge of restricted frequency. The EUT was evaluated in each of three orthogonal axis positions, the orientation is the worst case, please refer to setup photos.
Result	☒ Pass ☐ Fail

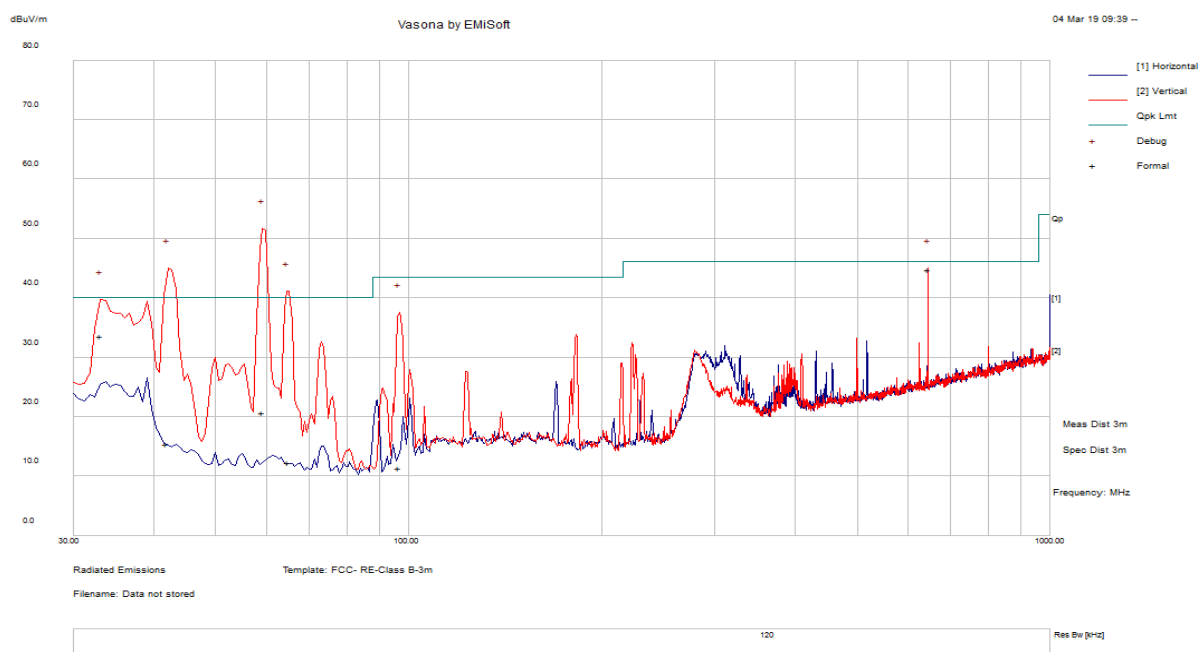
Test Data ☒ Yes (See below) ☐ N/A

Test Plot ☐ Yes (See below) ☒ N/A

Test was done by Deon Dai at 10m chamber.

Receiver Radiated Emission Test Results (Below 1GHz)

Test specification	below 1GHz			
Environmental Conditions:	Temp (°C):	26	Result	Pass
	Humidity (%)	47		
	Atmospheric (mbar):	1020		
Mains Power:	120VAC, 60Hz			
Tested by:	Deon Dai			
Test Date:	03/04/2019			
Remarks:	Receiver Mode			



Frequency MHz	Raw dBuV/m	Cable Loss	AF dB	Level dBuV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBuV/m	Margin dB	Pass /Fail
59.05	36.46	11.50	-27.27	20.69	Quasi Max	V	123.00	188.00	40.00	-19.31	Pass
41.95	25.75	11.34	-21.65	15.44	Quasi Max	V	122.00	187.00	40.00	-24.56	Pass
64.78	28.17	11.54	-27.28	12.43	Quasi Max	V	103.00	197.00	40.00	-27.57	Pass
33.09	37.45	11.16	-14.94	33.67	Quasi Max	V	111.00	163.00	40.00	-6.33	Pass
644.55	45.64	14.99	-15.86	44.77	Quasi Max	V	105.00	338.00	46.00	-1.23	Pass
96.45	25.74	11.85	-26.22	11.38	Quasi Max	V	108.00	339.00	43.50	-32.12	Pass

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

Receiver Radiated Emission Test Results (Above 1GHz)

Above 1GHz-25GHz

Frequency MHz	Raw dBuV/m	Cable Loss	AF dB	Level dBuV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBuV/m	Margin dB	Pass /Fail
1127.98	52.52	2	-19.93	34.59	Peak Max	H	147	208	74	-39.41	Pass
1425.28	51.58	2.27	-19.33	34.52	Peak Max	V	190	122	74	-39.48	Pass
1254.56	52.83	2.11	-18.83	36.11	Peak Max	V	145	29	74	-37.89	Pass
1127.98	39.91	2	-19.93	21.98	Average Max	H	147	208	54	-32.02	Pass
1425.28	40.11	2.27	-19.33	23.05	Average Max	V	190	122	54	-30.95	Pass
1254.56	41.61	2.11	-18.83	24.89	Average Max	V	145	29	54	-29.11	Pass

Annex A. TEST INSTRUMENT

Instrument	Model	Serial #	Cal Date	Cal Cycle	Cal Due	In use
Conducted Emissions						
R & S Receiver	ESIB 40	100179	08/28/2018	1 Year	08/28/2019	☒
LISN	3816/2NM	214372	01/10/2019	1 Year	01/10/2020	☒
Radiated Emissions						
Keysight EXA 44GHz Spectrum Analyzer	N9030B(PXA)	MY57140374	08/20/2018	1 Year	08/20/2019	☒
Bi-Log antenna (30MHz~6GHz)	JB6	A111717	08/12/2018	1 Year	08/12/2019	☒
Horn Antenna (1GHz~26GHz)	3115	100059	01/26/2019	1 Year	01/26/2020	☒
Horn Antenna (26GHz~40GHz)	AH-840	101013	08/28/2018	1 Year	08/28/2019	☒
Pre-Amplifier(0.3MHz-6.5GHz)	LPA-6-30	11170602	02/06/2019	1 Year	02/06/2020	☒
Pre-Amplifier (1-26.5GHz)	8449B	3008A00715	08/16/2018	1 Year	08/16/2019	☒
Pre-Amp (10MHz~50GHz)	RAMP00M50GA	17032300047	02/10/2019	1 Year	02/10/2020	☒
RF Conducted Measurement						
50GHz Spectrum Analyzer	N9030B (PXA)	MY57140584	10/08/2018	1 Year	10/08/2019	☒

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 & Telecommunications Terminal Equipment: EN45001 – EN ISO/IEC 17025
		Electromagnetic Compatibility: EN45001 – EN ISO/IEC 17025
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 Measurement
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 Radio communications: 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