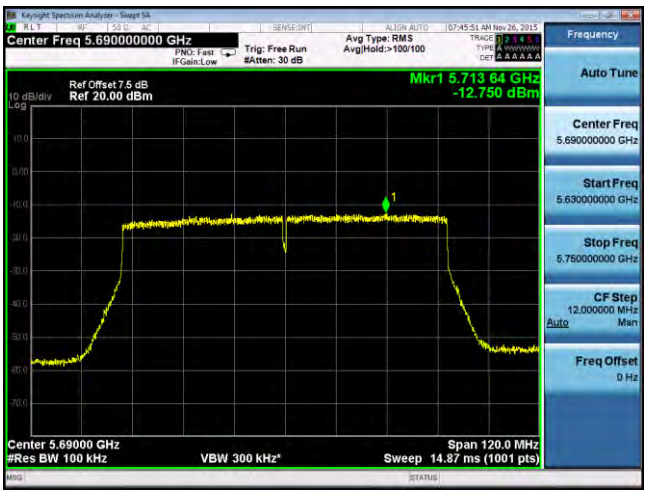
PSD-802.11n-40M-CROSS-5710M-chain3

PSD-802.11n-40M-CROSS-5710M-chain4

PSD-802.11ac-CROSS-5690M-chain1



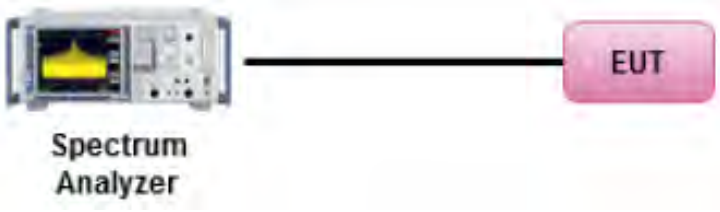
PSD-802.11ac-CROSS-5690M-chain2

PSD-802.11ac-CROSS-5690M-chain3

PSD-802.11ac-CROSS-5690M-chain4

10.5 Band Edge Measurement

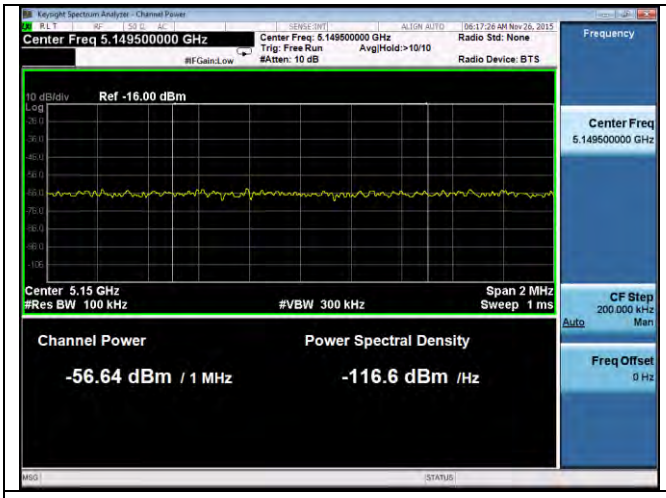
Requirement(s):

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.	☐
Test Setup			
Procedure	789033 D02 General UNII Test Procedures New Rules v01, II.F. Method SA-1 Band Edge measurement: - For average emissions measurements, follow the procedures described in section II.G.6., "Procedures for Average Unwanted Emissions Measurements above 1000 MHz", except for the following changes: - Set RBW=100kHz - Set VBW=300kHz - Perform a band-power integration across the 1 MHz bandwidth in which the band-edge emission level is to be measured.		
Remark	Antenna gain was added to the offset.		
Result	☒ Pass ☐ Fail		

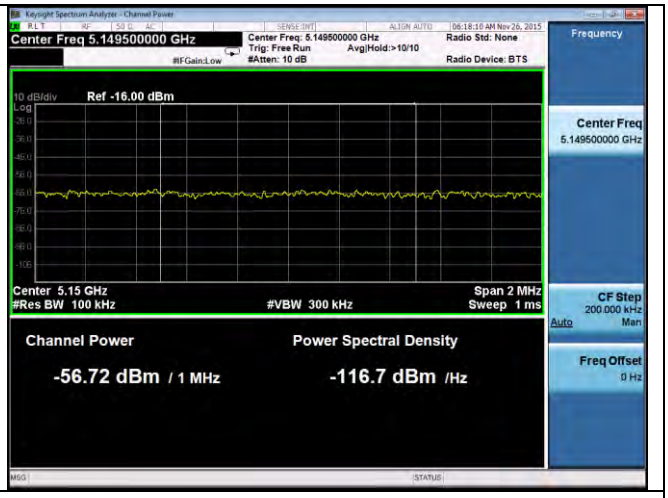
Test Data ☐ Yes (See below) ☒ N/A
Test Plot ☒ Yes (See below) ☐ N/A

Test Plots

5.3 GHz band:

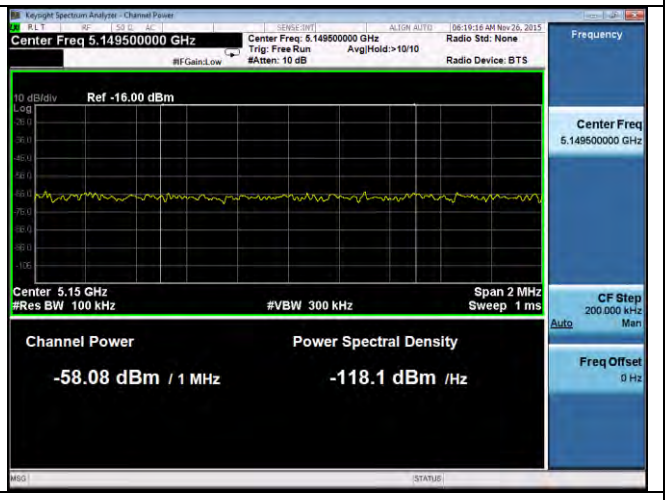


Band Edge-802.11a-5260M-chain1



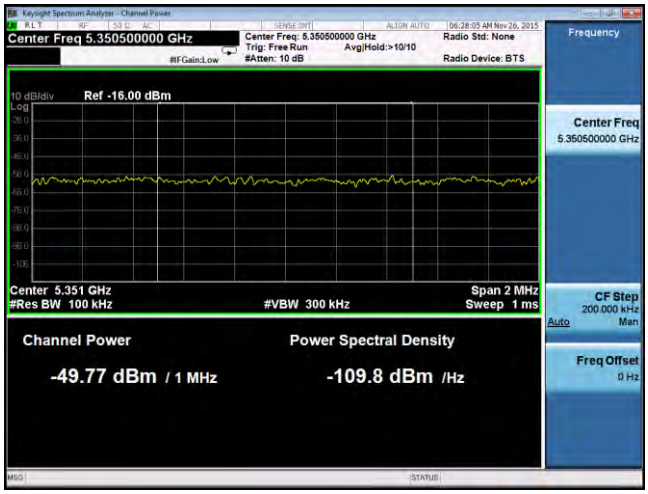
Band Edge-802.11a-5260M-chain2

Band Edge -802.11a-5260M-chain3

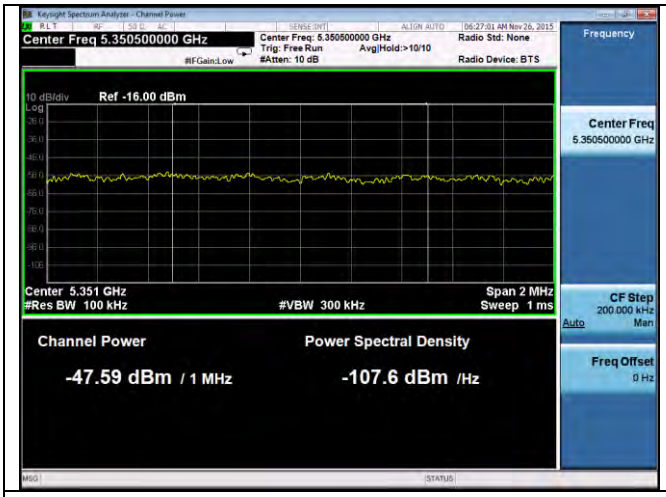


Band Edge -802.11a-5260M-chain4

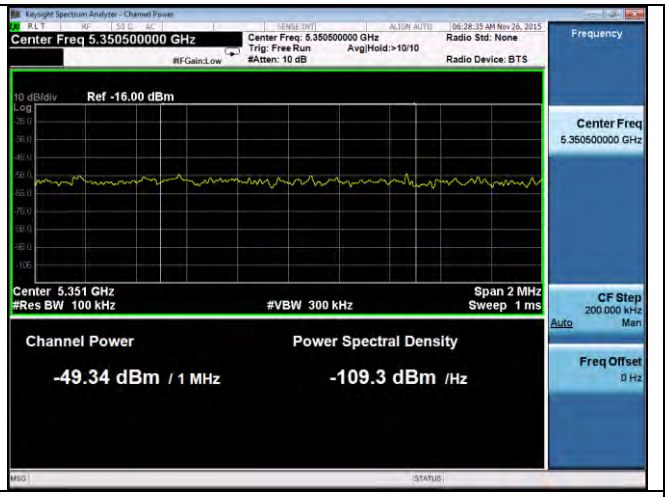
Band Edge -802.11a-5320M-chain1



Band Edge -802.11a-5320M-chain2



Band Edge -802.11a-5320M-chain3

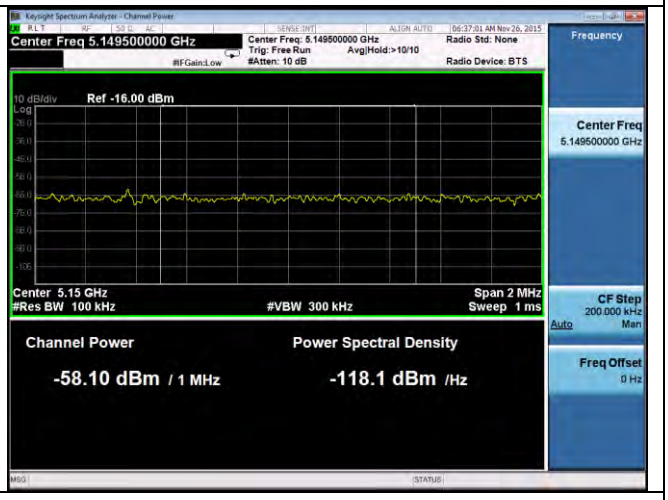


Band Edge -802.11a-5320M-chain4

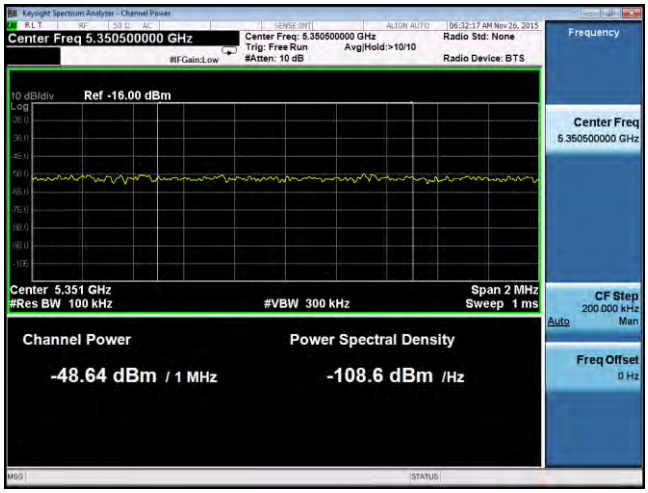
Band Edge -802.11n-20M-5260M-chain1

Band Edge -802.11n-20M-5260M-chain2

Band Edge -802.11n-20M-5260M-chain3

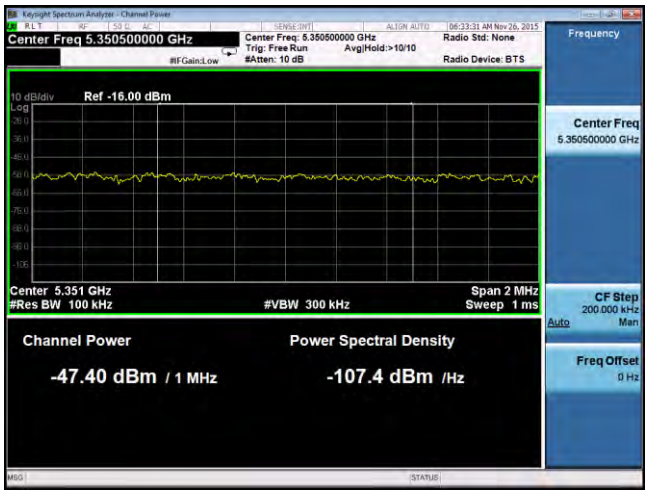


Band Edge -802.11n-20M-5260M-chain4

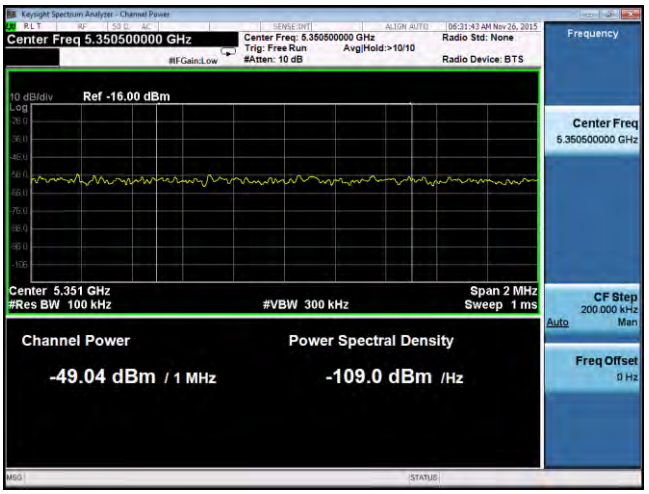


Band Edge -802.11n-20M-5320M-chain1

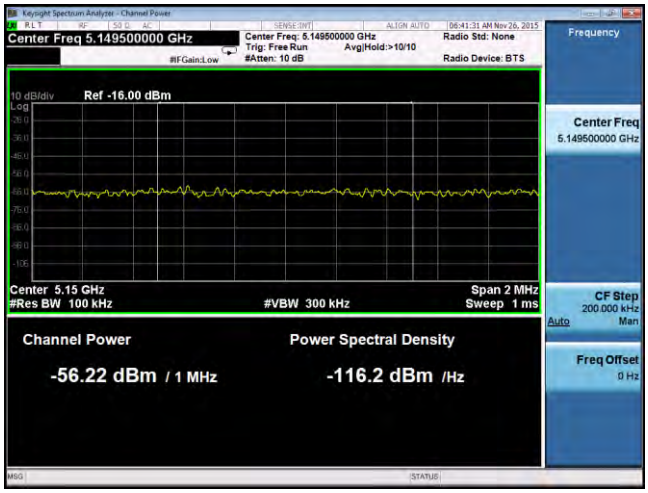
Band Edge -802.11n-20M-5320M-chain2



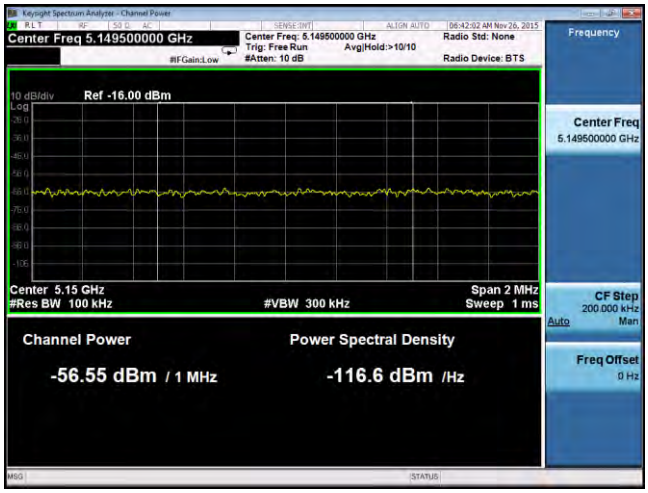
Band Edge -802.11n-20M-5320M-chain3



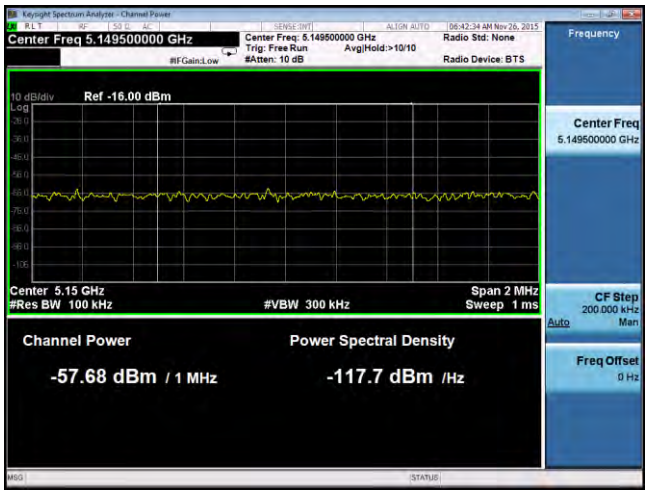
Band Edge -802.11n-20M-5320M-chain4



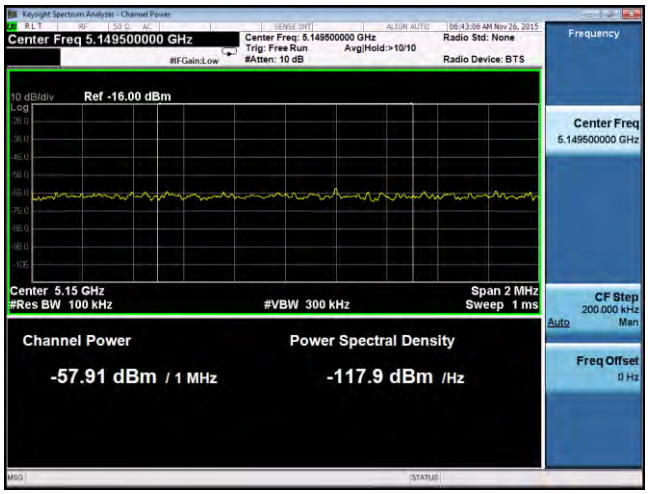
Band Edge -802.11n-40M-5270M-chain1



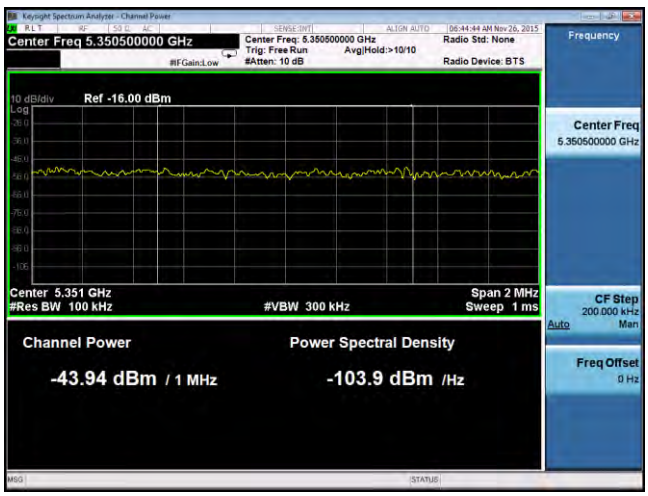
Band Edge -802.11n-40M-5270M-chain2



Band Edge -802.11n-40M-5270M-chain3



Band Edge -802.11n-40M-5270M-chain4

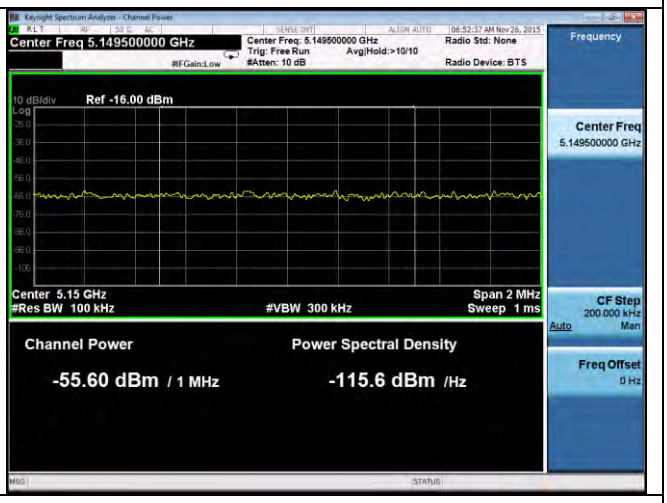


Band Edge -802.11n-40M-5310M-chain1

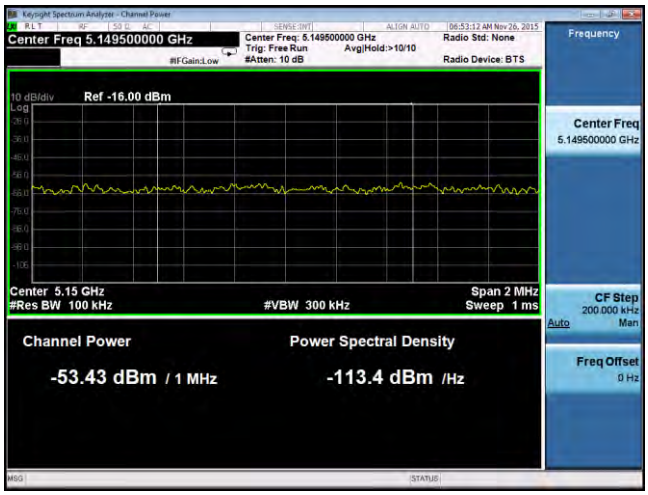
Band Edge -802.11n-40M-5310M-chain2

Band Edge -802.11n-40M-5310M-chain3

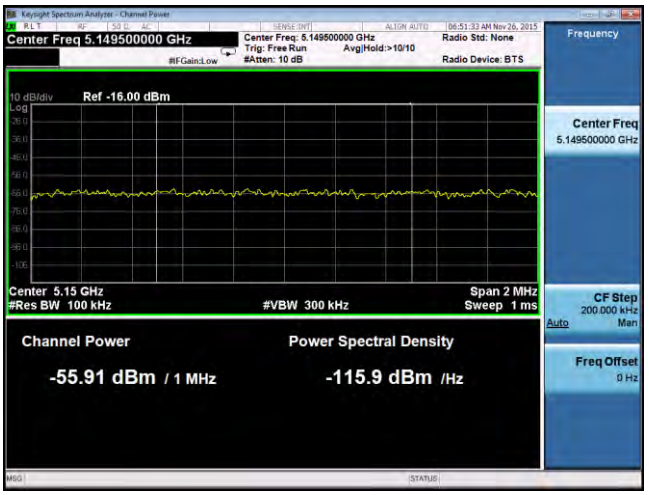
Band Edge -802.11n-40M-5310M-chain4



Band Edge -802.11ac-80M-5290M-chain1 (Left)

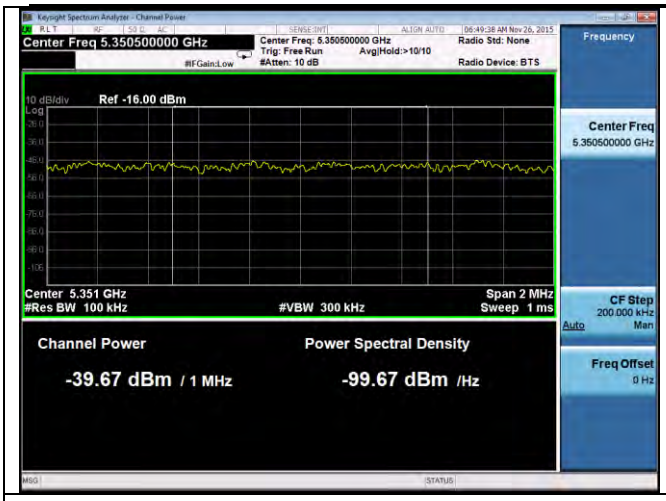


Band Edge -802.11ac-80M-5290M-chain2(Left)

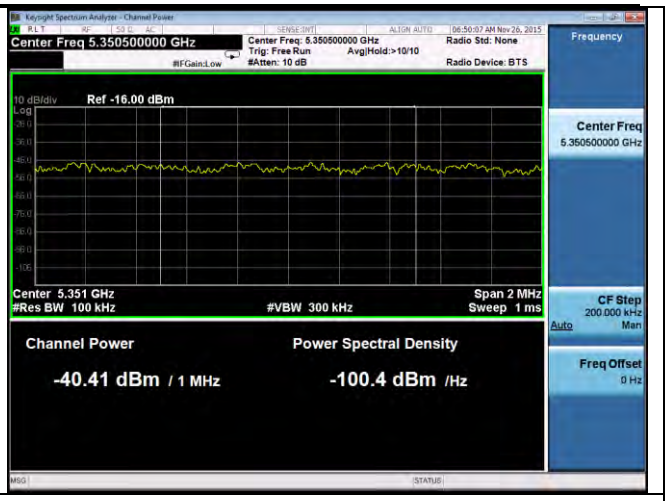


Band Edge -802.11ac-80M-5290M-chain3 (Left)

Band Edge -802.11ac-80M-5290M-chain4(Left)



Band Edge -802.11ac-80M-5290M-chain1 (Right)



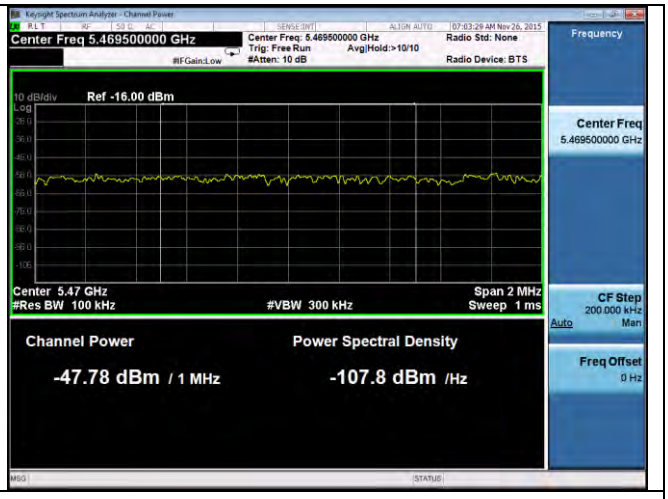
Band Edge -802.11ac-80M-5290M-chain2 (Right)

Band Edge -802.11ac-80M-5290M-chain3 (Right)

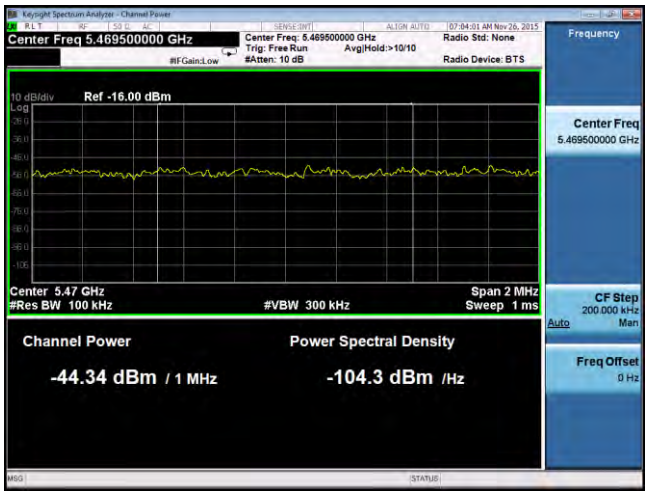
Band Edge -802.11ac-80M-5290M-chain4 (Right)

5.6GHz band:

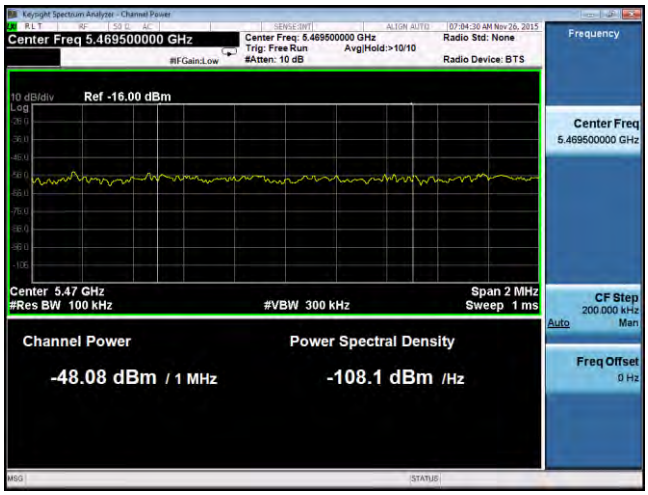
Band Edge -802.11a-5500M-chain1



Band Edge -802.11a-5500M-chain2

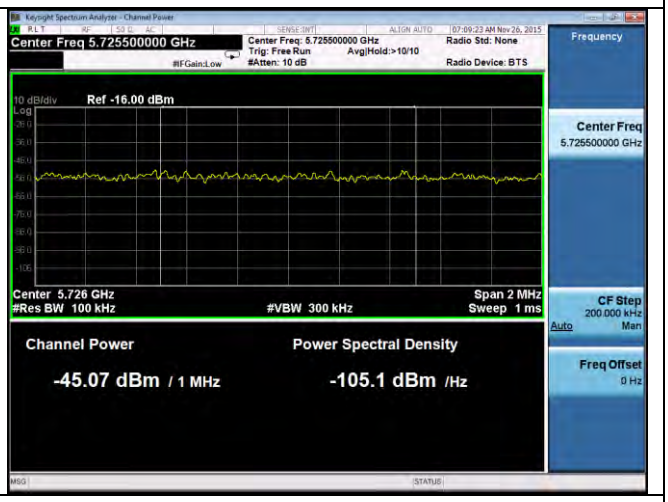


Band Edge -802.11a-5500M-chain3

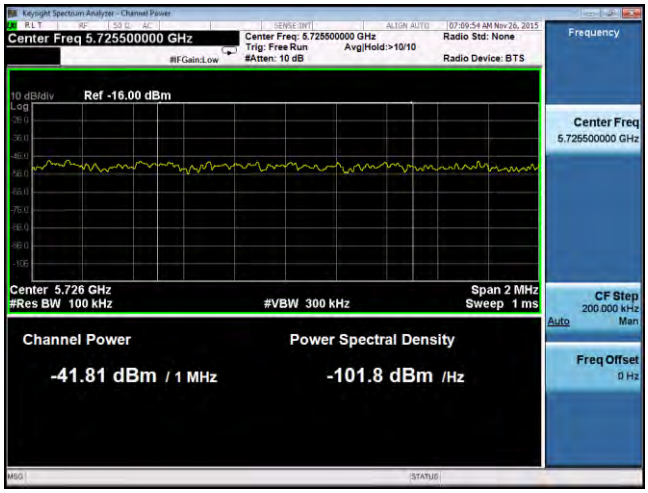


Band Edge -802.11a-5500M-chain4

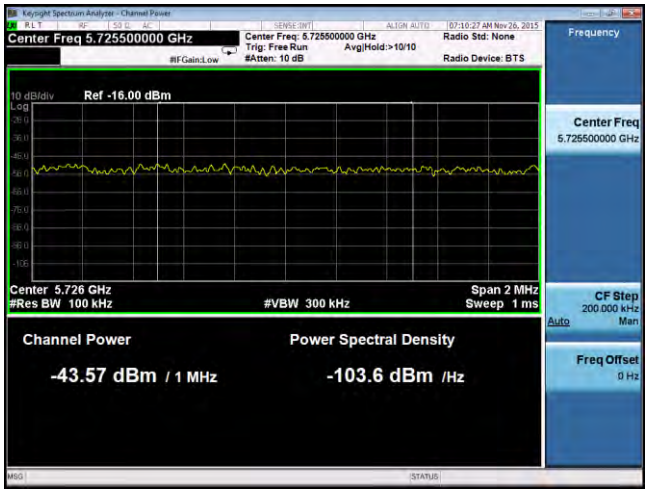
Band Edge -802.11a-5700M-chain1



Band Edge -802.11a-5700M-chain2

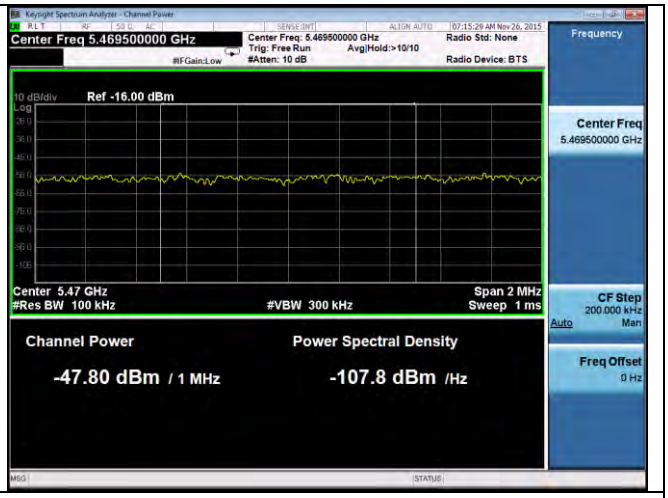


Band Edge -802.11a-5700M-chain3

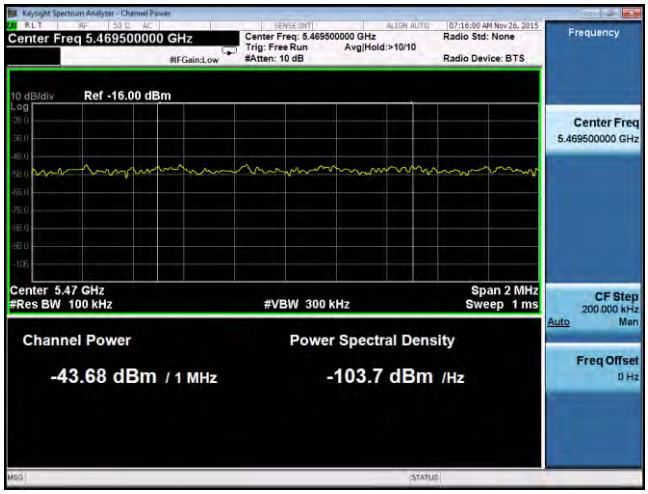


Band Edge -802.11a-5700M-chain4

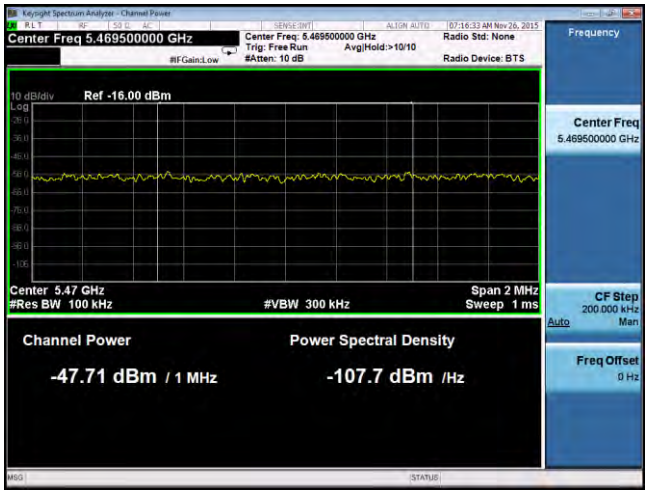
Band Edge -802.11n-20M -5500M-chain1



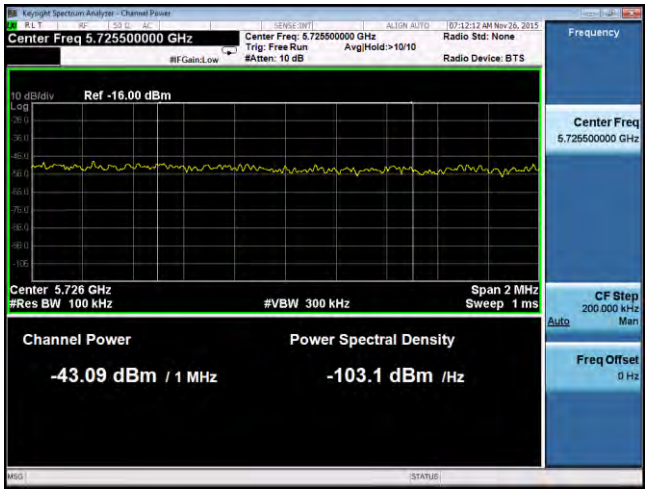
Band Edge -802.11n-20M -5500M-chain2



Band Edge -802.11n-20M -5500M-chain3

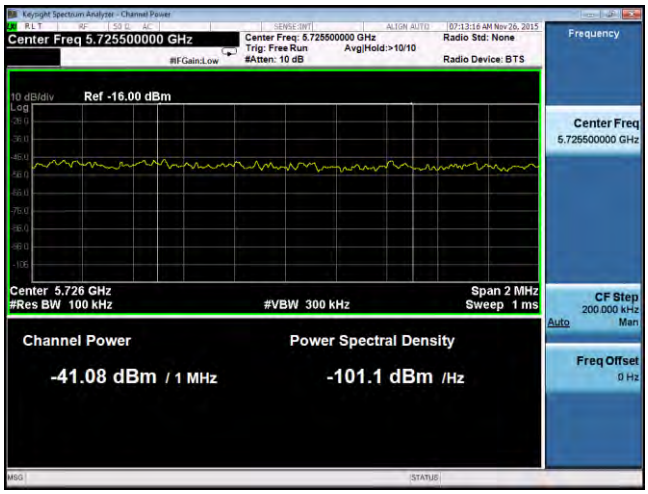


Band Edge -802.11n-20M -5500M-chain4

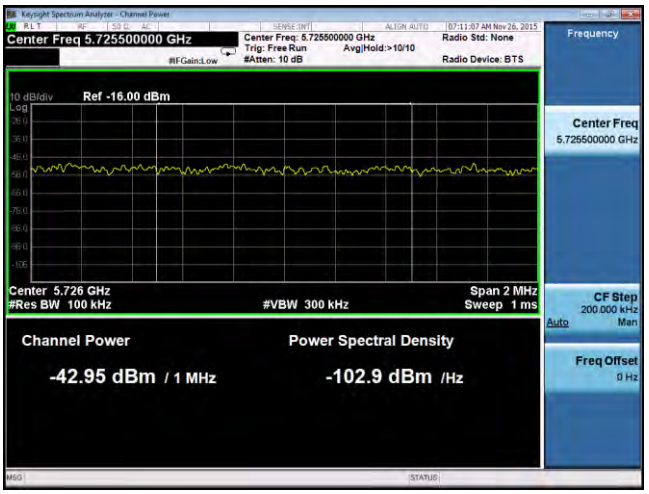


Band Edge -802.11n-20M-5700M-chain1

Band Edge -802.11n-20M-5700M-chain2

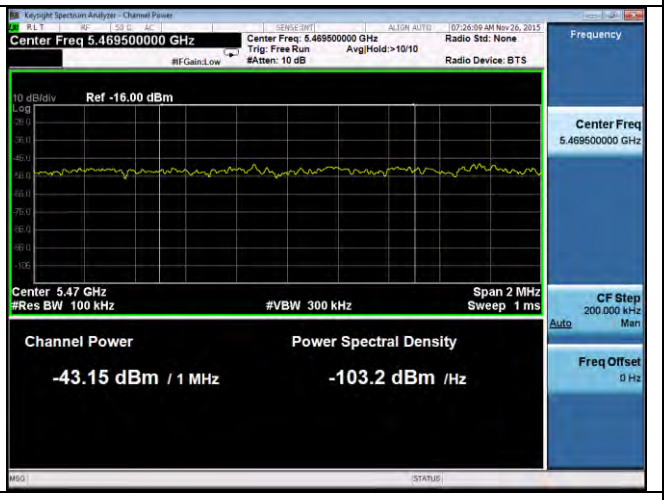


Band Edge -802.11n-20M-5700M-chain3

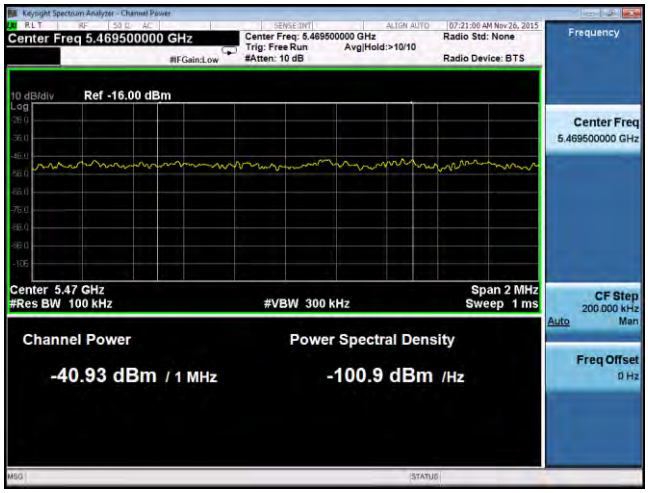


Band Edge -802.11n-20M-5700M-chain4

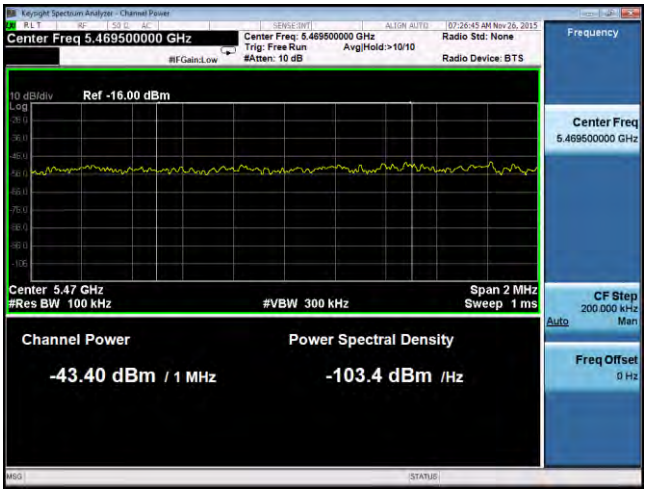
Band Edge -802.11n-40M-5510M-chain1



Band Edge -802.11n-40M-5510M-chain2

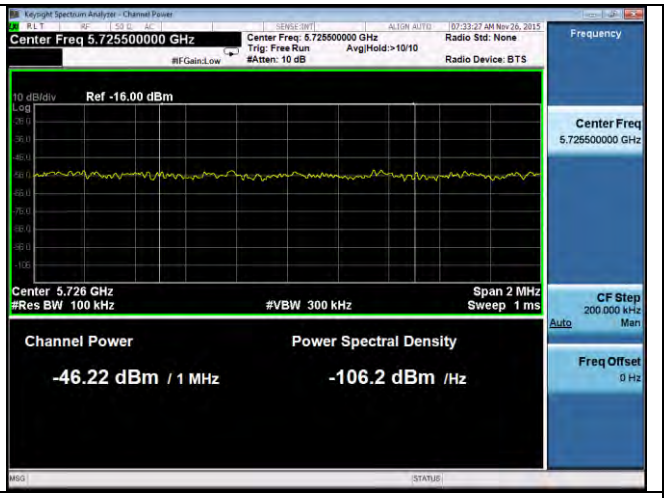


Band Edge -802.11n-40M-5510M-chain3



Band Edge -802.11n-40M-5510M-chain4

Band Edge -802.11n-40M-5670M-chain1

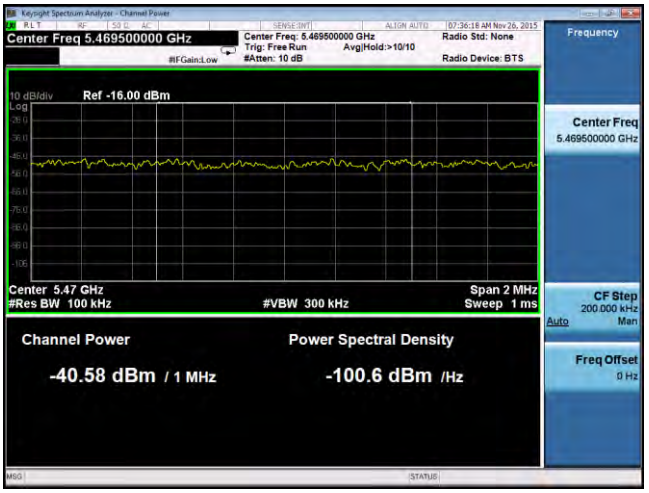


Band Edge -802.11n-40M-5670M-chain2

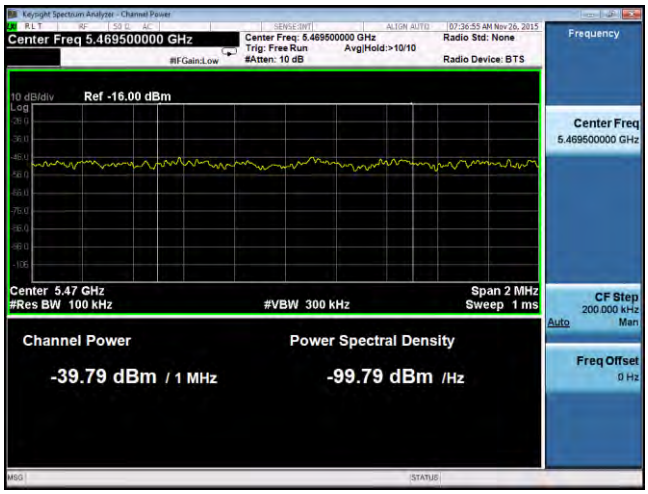
Band Edge -802.11n-40M-5670M-chain3

Band Edge -802.11n-40M-5670M-chain4

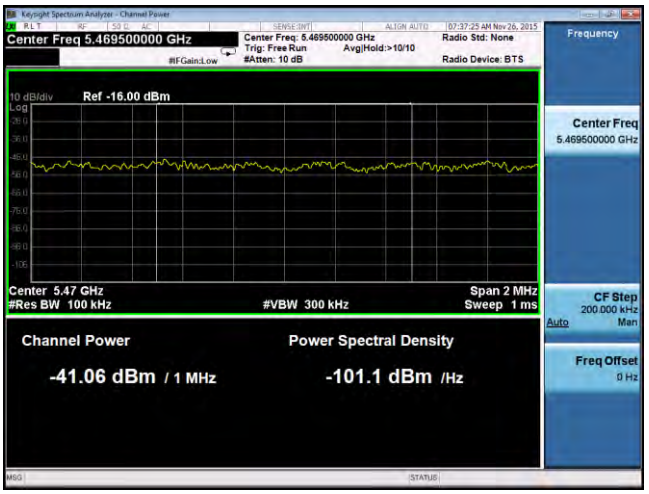
Band Edge -802.11ac-80M-5530M-chain1 (Left)



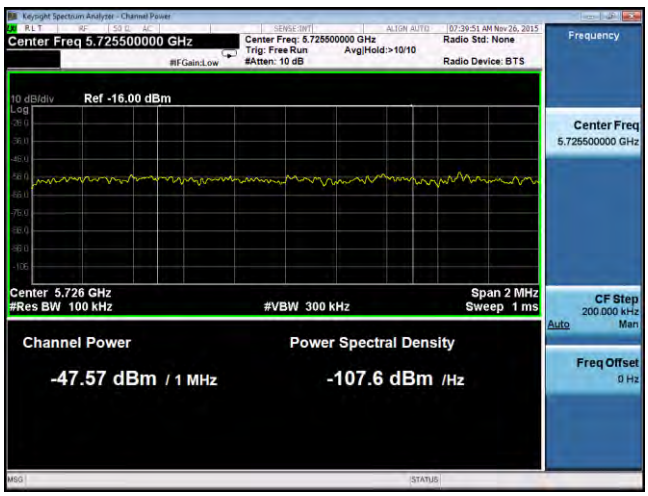
Band Edge -802.11ac-80M-5530M-chain2 (Left)



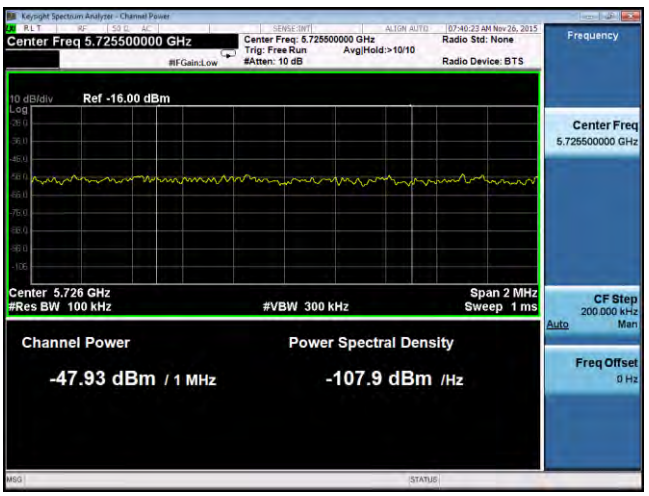
Band Edge -802.11ac-80M-5530M-chain3 (Left)



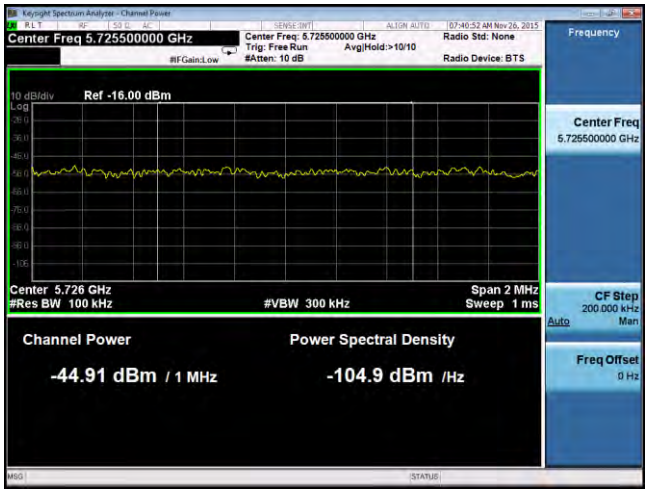
Band Edge -802.11ac-80M-5530M-chain4 (Left)



Band Edge -802.11ac-80M-5610M-chain1 (Right)



Band Edge -802.11ac-80M-5610M-chain2 (Right)



Band Edge -802.11ac-80M-5610M-chain3 (Right)

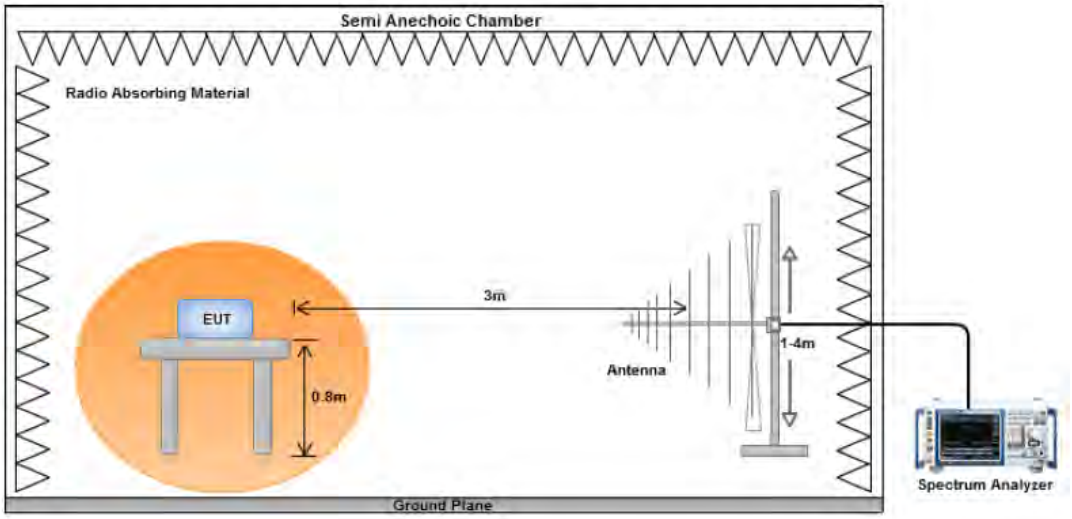
Band Edge -802.11ac-80M-5610M-chain4 (Right)

10.6 Radiated Spurious Emissions below 1GHz

Requirement(s):

Spec	Requirement	Applicable
47CFR§ 15.407(b) 15.209 (a)	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	☒

Frequency range (MHz)	Field Strength (uV/m)
30 – 88	100
88 – 216	150
216 960	200
Above 960	500

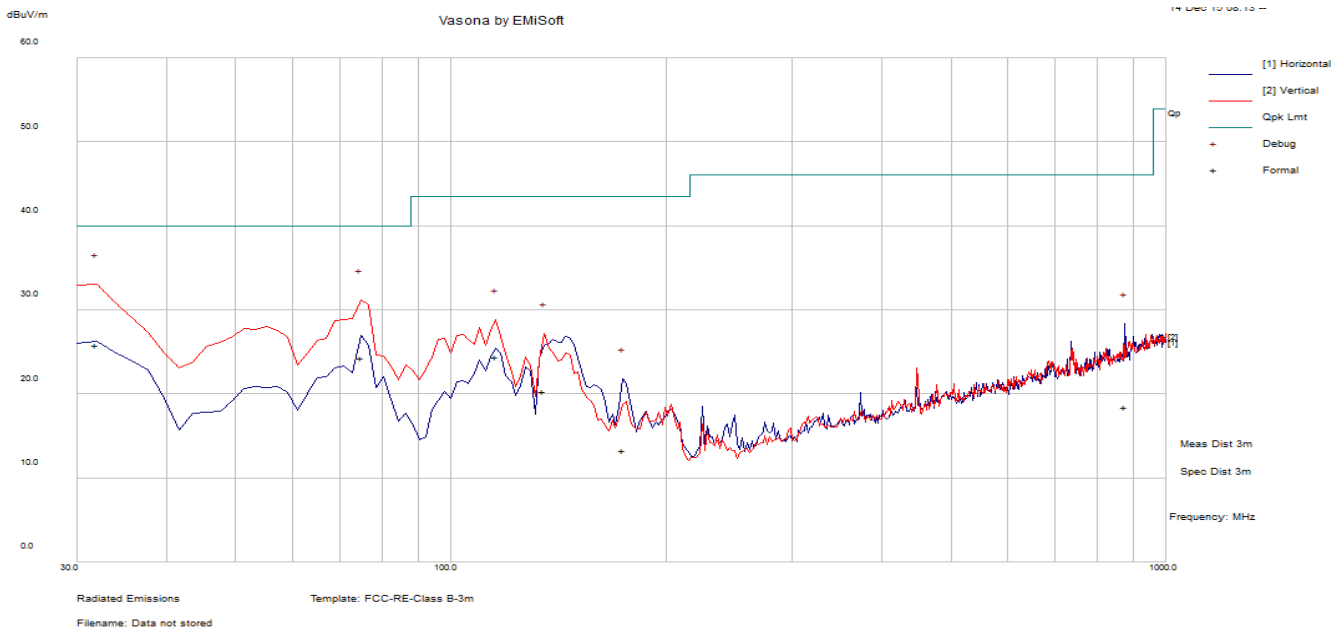
Test Setup	
Procedure	1. The EUT was switched on and allowed to warm up to its normal operating condition. 2. The test was carried out at the selected frequency points obtained from the EUT characterisation. Maximization of the emissions, was carried out by rotating the EUT, changing the antenna polarization, 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

Radiated Emission Test Results (Below 1GHz)

Test specification	below 1GHz			
Environmental Conditions:	Temp (°C):	26.1	Result	Pass
	Humidity (%)	47.5		
	Atmospheric (mbar):	1020		
Mains Power:	120VAC, 60Hz			
Tested by:	Gary Chou			
Test Date:	11/29/2015			
Remarks:	Worst case, 802.11n HT40, 5550MHz			

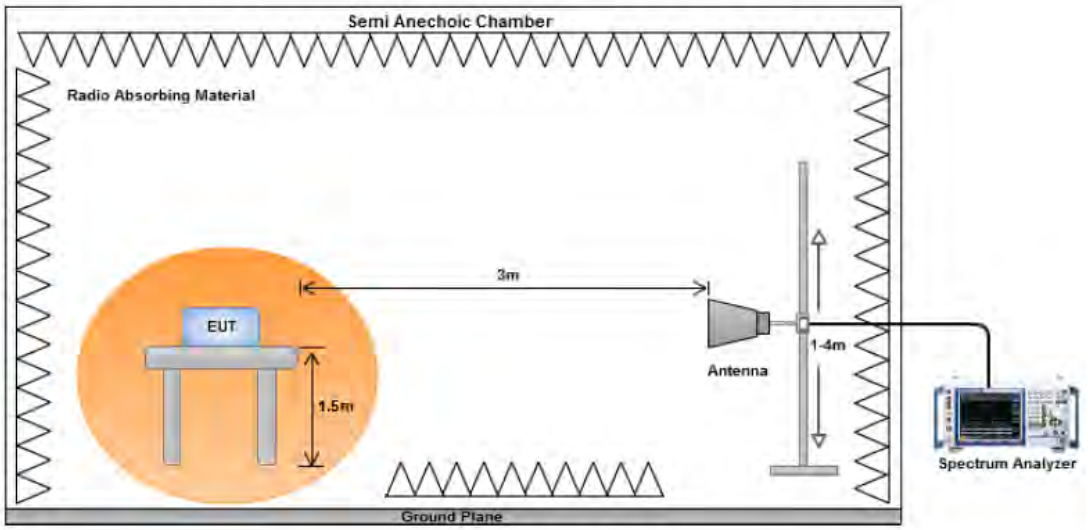


Frequency MHz	Raw dBuV	Cable Loss	AF dB	Level dBuV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBuV/m	Margin dB	Pass /Fail
31.85	41.1	0.82	-16.09	25.82	Quasi Max	V	104	148	40	-14.18	Pass
74.94	53.25	1.37	-30.35	24.27	Quasi Max	V	122	220	40	-15.73	Pass
115.58	47.83	1.76	-25.13	24.47	Quasi Max	V	110	175	43.52	-19.05	Pass
134.85	43.29	1.92	-24.88	20.32	Quasi Max	V	133	213	43.52	-23.2	Pass
875.37	29.55	5.33	-16.39	18.49	Quasi Max	H	197	344	46.02	-27.53	Pass
173.75	38.4	2.24	-27.37	13.26	Quasi Max	H	129	67	43.52	-30.26	Pass

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

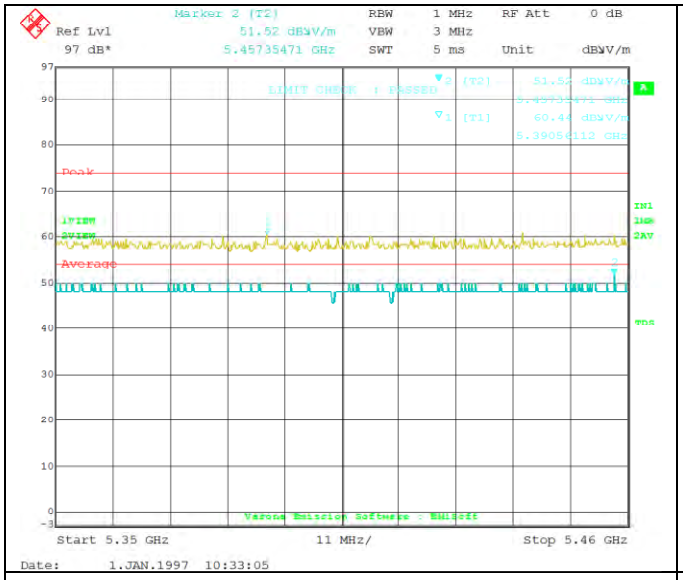
10.7 Radiated Spurious Emissions above 1GHz

Requirement(s):

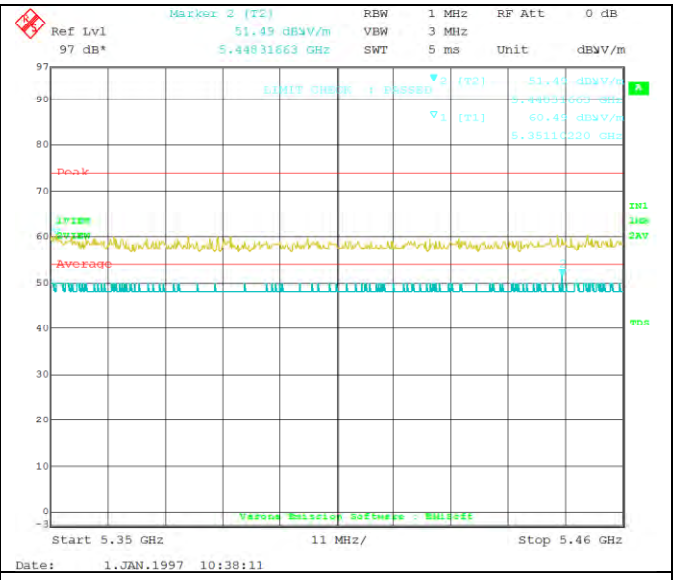
Spec	Item	Requirement	Applicable
47CFR§ 15.407(b)(2), 15.407(b)(6)	(1)	For transmitters operating in the 5.15-5.25 GHz band: all emissions outside of the 5.15-5.35 GHz band shall not exceed an EIRP of -27 dBm/MHz.	☐
	(2)	For transmitters operating in the 5.25-5.35 GHz band: all emissions outside of the 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

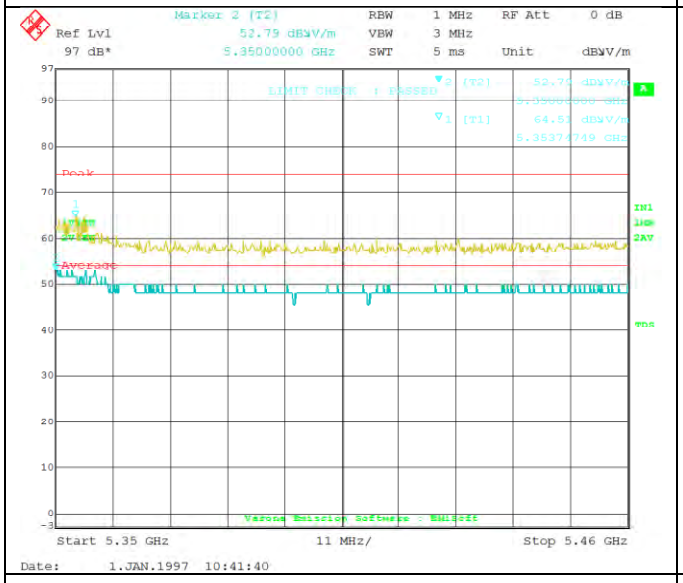
Radiated Restricted band and Band Edge Measurement Plots:



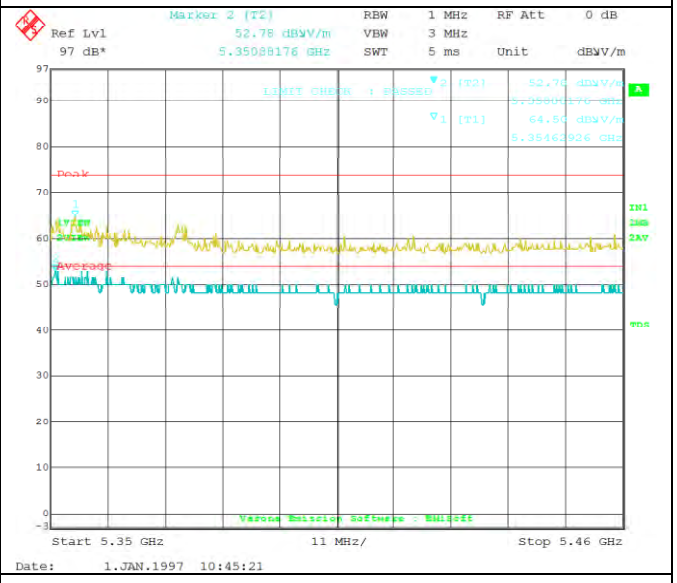
802.11a 5320M(5350-5460MHz)



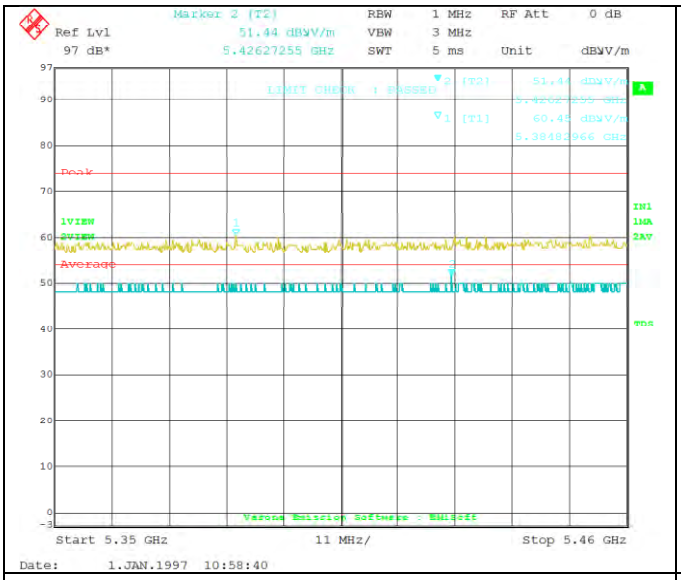
802.11n-HT20 5320M(5350-5460MHz)



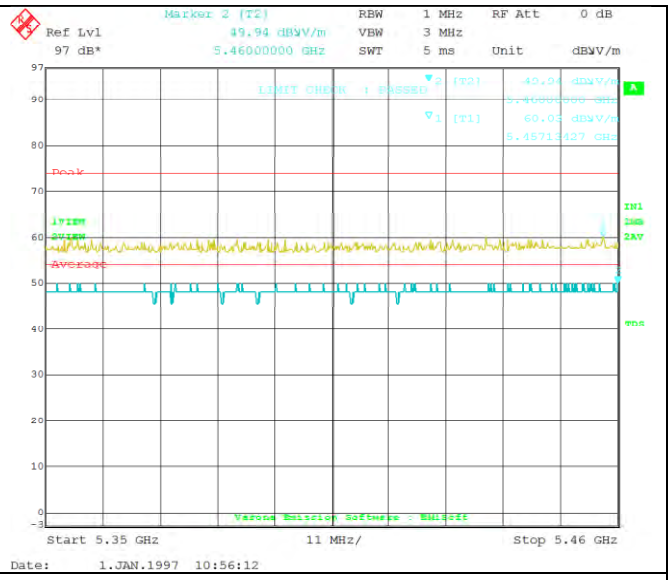
802.11n-HT40 5310M(5350-5460MHz)



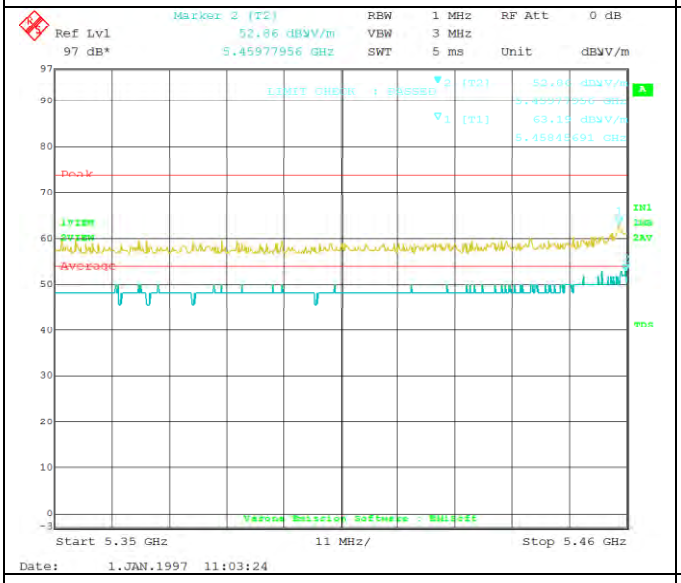
802.11ac 5290M(5350-5460MHz)



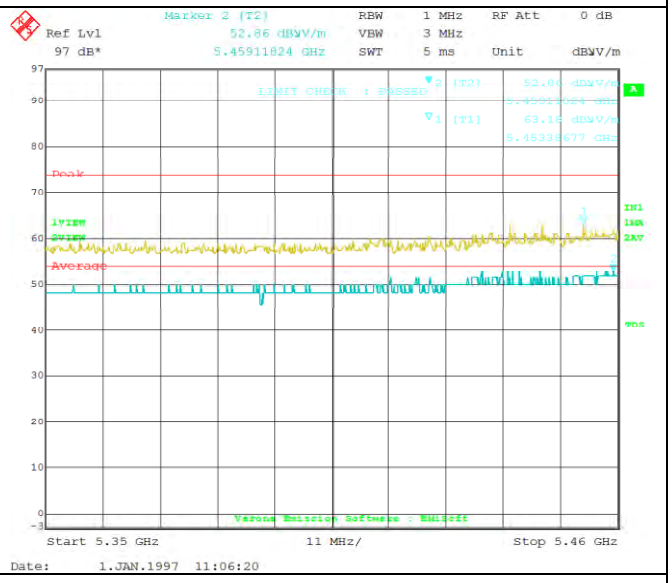
802.11a 5500M(5350-5460MHz)



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
6005.02	35.46	10.49	14.58	60.52	Peak Max	H	155	25	74	-13.48	Pass
4209.27	37.55	9.02	14.84	61.42	Peak Max	H	187	279	74	-12.59	Pass
2073.44	40.56	4.35	14.77	59.67	Peak Max	V	219	196	74	-14.33	Pass
6005.02	24.2	10.49	14.58	49.26	Average Max	H	155	25	54	-4.74	Pass
4209.27	25.68	9.02	14.84	49.54	Average Max	H	187	279	54	-4.46	Pass
2073.44	28.34	4.35	14.77	47.46	Average Max	V	219	196	54	-6.54	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
4082.86	38.08	8.71	15.38	62.17	Peak Max	H	183	158	74	-11.83	Pass
6013.57	35.3	10.5	14.56	60.36	Peak Max	V	213	336	74	-13.64	Pass
2188.73	40.53	4.42	14.41	59.36	Peak Max	H	187	215	74	-14.64	Pass
4082.86	25.95	8.71	15.38	50.05	Average Max	H	183	158	54	-3.96	Pass
6013.57	24.25	10.5	14.56	49.3	Average Max	V	213	336	54	-4.7	Pass
2188.73	27.58	4.42	14.41	46.42	Average Max	H	187	215	54	-7.58	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
1966.33	27.77	4.26	14.74	46.77	Average Max	V	184	24	54	-7.23	Pass
1966.33	39.7	4.26	14.74	58.7	Peak Max	V	184	24	74	-15.3	Pass
4157.41	25.8	8.9	15.06	49.76	Average Max	H	128	173	54	-4.24	Pass
4157.41	37.59	8.9	15.06	61.55	Peak Max	H	128	173	74	-12.45	Pass
6133.68	24.61	10.65	14.27	49.53	Average Max	V	117	215	54	-4.47	Pass
6133.68	36.26	10.65	14.27	61.18	Peak Max	V	117	215	74	-12.82	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
4079.36	37.9	8.7	15.4	62	Peak Max	V	158	183	74	-12	Pass
6143.25	36.22	10.66	14.24	61.12	Peak Max	V	148	135	74	-12.88	Pass
2125.01	39.03	4.39	14.61	58.02	Peak Max	V	208	301	74	-15.98	Pass
4079.36	25.89	8.7	15.4	50	Average Max	V	158	183	54	-4.01	Pass
6143.25	24.78	10.66	14.24	49.68	Average Max	V	148	135	54	-4.32	Pass
2125.01	27.82	4.39	14.61	46.82	Average Max	V	208	301	54	-7.19	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
4059.39	37.14	8.65	15.49	61.27	Peak Max	V	179	354	74	-12.73	Pass
6024.22	36.5	10.51	14.53	61.55	Peak Max	V	166	13	74	-12.45	Pass
1987.19	39.13	4.27	14.9	58.31	Peak Max	H	150	329	74	-15.69	Pass
4059.395	25.6	8.65	15.49	49.74	Average Max	V	179	354	54	-4.26	Pass
6024.22	24.33	10.51	14.53	49.37	Average Max	V	166	13	54	-4.63	Pass
1987.19	28.13	4.27	14.9	47.3	Average Max	H	150	329	54	-6.7	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
4208.59	36.83	9.02	14.84	60.7	Peak Max	V	191	21	74	4208.59	Pass
6151.2	35.58	10.67	14.22	60.47	Peak Max	V	141	12	74	6151.2	Pass
2009.44	40.64	4.29	14.97	59.9	Peak Max	H	180	79	74	2009.44	Pass
4208.59	25.72	9.02	14.84	49.58	Average Max	V	191	21	54	4208.59	Pass
6151.2	24.78	10.67	14.22	49.68	Average Max	V	141	12	54	6151.2	Pass
2009.44	28.33	4.29	14.97	47.59	Average Max	H	180	79	54	2009.44	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
4083.00	38.07	8.71	15.38	62.16	Peak Max	H	206	275	74	4083.00	Pass
6143.57	36.4	10.66	14.24	61.3	Peak Max	H	214	118	74	6143.57	Pass
2050.2	40.17	4.33	14.84	59.33	Peak Max	H	161	340	74	2050.2	Pass
4083.00	26.2	8.71	15.38	50.3	Average Max	H	206	275	54	4083.00	Pass
6143.57	24.73	10.66	14.24	49.64	Average Max	H	214	118	54	6143.57	Pass
2050.2	28.3	4.33	14.84	47.47	Average Max	H	161	340	54	2050.2	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
4049.18	37.35	8.63	15.53	61.5	Peak Max	H	192	338	74	-12.5	Pass
6069.21	36.13	10.57	14.42	61.12	Peak Max	V	144	12	74	-12.88	Pass
2177.61	39.68	4.42	14.45	58.54	Peak Max	V	166	219	74	-15.46	Pass
4049.18	25.59	8.63	15.53	49.75	Average Max	H	192	338	54	-4.25	Pass
6069.21	24.41	10.57	14.42	49.4	Average Max	V	144	12	54	-4.6	Pass
2177.61	27.8	4.42	14.45	46.66	Average Max	V	166	219	54	-7.34	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
4083.07	38.03	8.71	15.38	62.13	Peak Max	H	166	154	74	-11.88	Pass
6069.48	35.99	10.57	14.42	60.98	Peak Max	H	160	218	74	-13.02	Pass
1085.15	42.51	3.48	13.06	59.05	Peak Max	V	225	359	74	-14.95	Pass
4083.07	25.98	8.71	15.38	50.08	Average Max	H	166	154	54	-3.92	Pass
6069.48	24.41	10.57	14.42	49.4	Average Max	H	160	218	54	-4.6	Pass
1085.152	30.77	3.48	13.06	47.32	Average Max	V	225	359	54	-6.68	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
4228.72	37.05	9.07	14.76	60.88	Peak Max	H	150	0	74	-13.12	Pass
6121.83	37	10.63	14.29	61.93	Peak Max	H	229	128	74	-12.07	Pass
2073.80	39.99	4.35	14.76	59.11	Peak Max	V	123	79	74	-14.9	Pass
4228.72	25.68	9.07	14.76	49.51	Average Max	H	150	0	54	-4.49	Pass
6121.83	24.54	10.63	14.29	49.47	Average Max	H	229	128	54	-4.53	Pass
2073.80	28.27	4.35	14.76	47.39	Average Max	V	123	79	54	-6.62	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
6216.69	36	10.75	14.07	60.82	Peak Max	H	183	22	74	-13.18	Pass
4008.65	38.13	8.52	15.71	62.36	Peak Max	H	145	20	74	-11.64	Pass
2082.07	40.07	4.35	14.74	59.16	Peak Max	H	116	240	74	-14.84	Pass
6216.69	24.56	10.75	14.07	49.38	Average Max	H	183	22	54	-4.62	Pass
4008.65	25.69	8.52	15.71	49.92	Average Max	H	145	20	54	-4.08	Pass
2082.07	28.42	4.35	14.74	47.52	Average Max	H	116	240	54	-6.49	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
4080.84	37.34	8.71	15.39	61.44	Peak Max	H	248	286	74	-12.56	Pass
6271.47	36.11	10.82	13.94	60.86	Peak Max	V	168	263	74	-13.14	Pass
2030.83	39.89	4.31	14.9	59.1	Peak Max	V	131	87	74	-14.9	Pass
4080.84	25.8	8.71	15.39	49.9	Average Max	H	248	286	54	-4.1	Pass
6271.47	24.46	10.82	13.94	49.22	Average Max	V	168	263	54	-4.78	Pass
2030.83	28.34	4.31	14.9	47.55	Average Max	V	131	87	54	-6.45	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
6119.48	36.11	10.63	14.3	61.04	Peak Max	V	163	262	74	-12.96	Pass
4250.49	37.38	9.12	14.67	61.17	Peak Max	H	154	255	74	-12.83	Pass
2007.57	41.39	4.29	14.98	60.65	Peak Max	V	168	337	74	-13.35	Pass
6119.48	24.5	10.63	14.3	49.43	Average Max	V	163	262	54	-4.57	Pass
4250.49	25.78	9.12	14.67	49.57	Average Max	H	154	255	54	-4.43	Pass
2007.57	28.28	4.29	14.98	47.54	Average Max	V	168	337	54	-6.46	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
4251.23	37.82	9.13	14.66	61.61	Peak Max	V	201	71	74	-12.4	Pass
6227.9025	36.49	10.76	14.04	61.3	Peak Max	V	168	246	74	-12.7	Pass
2043.0825	40.68	4.32	14.86	59.87	Peak Max	H	111	51	74	-14.14	Pass
4251.23	26.14	9.13	14.66	49.93	Average Max	V	201	71	54	-4.07	Pass
6227.9025	24.71	10.76	14.04	49.51	Average Max	V	168	246	54	-4.49	Pass
2043.0825	29.67	4.32	14.86	48.85	Average Max	H	111	51	54	-5.15	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
4167.84	37.14	8.92	15.02	61.08	Peak Max	V	198	84	74	-12.92	Pass
6229.13	36.39	10.77	14.04	61.19	Peak Max	V	234	137	74	-12.81	Pass
2063.29	39.06	4.34	14.8	58.19	Peak Max	H	216	292	74	-15.81	Pass
4167.84	25.68	8.92	15.02	49.62	Average Max	V	198	84	54	-4.38	Pass
6229.13	24.43	10.77	14.04	49.24	Average Max	V	234	137	54	-4.76	Pass
2063.29	28.09	4.34	14.8	47.23	Average Max	H	216	292	54	-6.77	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
4090.55	38.09	8.73	15.35	62.17	Peak Max	V	162	8	74	-11.83	Pass
6165.73	36.15	10.69	14.19	61.02	Peak Max	H	239	77	74	-12.98	Pass
2010.16	40.12	4.29	14.97	59.37	Peak Max	H	126	49	74	-14.63	Pass
4090.55	26.09	8.73	15.35	50.17	Average Max	V	162	8	54	-3.83	Pass
6165.73	24.58	10.69	14.19	49.46	Average Max	H	239	77	54	-4.55	Pass
2010.16	28.19	4.29	14.97	47.44	Average Max	H	126	49	54	-6.56	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
4260.82	37.03	9.15	14.62	60.8	Peak Max	V	176	266	74	-13.2	Pass
6151.50	36.45	10.67	14.22	61.34	Peak Max	V	181	354	74	-12.66	Pass
2062.55	39.97	4.34	14.8	59.11	Peak Max	H	184	136	74	-14.89	Pass
4260.82	25.2	9.15	14.62	48.97	Average Max	V	176	266	54	-5.03	Pass
6151.50	24.6	10.67	14.22	49.49	Average Max	V	181	354	54	-4.51	Pass
2062.55	28.11	4.34	14.8	47.25	Average Max	H	184	136	54	-6.76	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
4092.81	36.89	8.74	15.34	60.97	Peak Max	V	168	62	74	-13.03	Pass
6131.33	36.15	10.65	14.27	61.07	Peak Max	V	161	320	74	-12.93	Pass
2018.52	39.83	4.3	14.94	59.07	Peak Max	H	172	350	74	-14.94	Pass
4092.81	25.63	8.74	15.34	49.71	Average Max	V	168	62	54	-4.29	Pass
6131.33	24.6	10.65	14.27	49.52	Average Max	V	161	320	54	-4.48	Pass
2018.52	28.1	4.3	14.94	47.33	Average Max	H	172	350	54	-6.67	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
4030.06	37.74	8.58	15.62	61.94	Peak Max	H	114	338	74	-12.06	Pass
6184.82	36.13	10.71	14.14	60.99	Peak Max	V	209	155	74	-13.01	Pass
1987.29	39.55	4.27	14.9	58.73	Peak Max	V	201	195	74	-15.28	Pass
4030.06	25.61	8.58	15.62	49.8	Average Max	H	114	338	54	-4.2	Pass
6184.82	24.35	10.71	14.14	49.21	Average Max	V	209	155	54	-4.79	Pass
1987.29	28.09	4.27	14.9	47.27	Average Max	V	201	195	54	-6.73	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
4028.42	37.12	8.57	15.62	61.32	Peak Max	V	121	270	74	-12.68	Pass
6204.50	36.06	10.74	14.1	60.89	Peak Max	V	199	47	74	-13.11	Pass
2009.69	40.48	4.29	14.97	59.73	Peak Max	V	183	3	74	-14.27	Pass
4028.42	25.72	8.57	15.62	49.91	Average Max	V	121	270	54	-4.09	Pass
6204.50	24.78	10.74	14.1	49.61	Average Max	V	199	47	54	-4.39	Pass
2009.69	28.35	4.29	14.97	47.6	Average Max	V	183	3	54	-6.4	Pass

Above 1GHz - 40GHz- Collocation testing (2.4GHz WLAN & 5GHz WLAN on the main-board transmitting simultaneously)

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
6119.48	36.11	10.63	14.3	61.04	Peak Max	V	163	262	74	6119.48	Pass
4250.49	37.38	9.12	14.67	61.17	Peak Max	H	154	255	74	4250.49	Pass
2007.57	41.39	4.29	14.98	60.65	Peak Max	V	168	337	74	2007.57	Pass
6119.48	24.5	10.63	14.3	49.43	Average Max	V	163	262	54	6119.48	Pass
4250.49	25.78	9.12	14.67	49.57	Average Max	H	154	255	54	4250.49	Pass
2007.57	28.28	4.29	14.98	47.54	Average Max	V	168	337	54	2007.57	Pass

Annex A. TEST INSTRUMENT

Instrument	Model	Serial #	Cal Date	Cal Cycle	Cal Due	In use
Conducted Emissions						
R & S Receiver	ESIB 40	100179	05/23/2015	1 Year	05/23/2016	☑
CHASE LISN	MN2050B	1018	08/07/2015	1 Year	08/07/2016	☑
Radiated Emissions						
R & S Receiver	ESL6	100178	05/27/2015	1 Year	05/27/2016	☑
R & S Receiver	ESIB 40	100179	05/23/2015	1 Year	05/23/2016	☑
ETS-Lingren Loop Antenna	6512	00049120	05/12/2015	1 Year	05/12/2016	☑
Bi-Log antenna (30MHz~2GHz)	JB1	A030702	08/12/2015	1 Year	08/12/2016	☑
3 Meters SAC	3M	N/A	08/08/2015	1 Year	08/08/2016	☑
10 Meters SAC	10M	N/A	09/05/2015	1 Year	09/05/2016	☑
RF Conducted Measurement						
Spectrum Analyzer	N9010A	10SL0219	08/20/2015	1 Year	08/20/2016	☑
R & S Receiver	ESIB 40	100179	05/23/2015	1 Year	05/23/2016	☑
ETS-Lingren USB RF Power Sensor	7002-006	10SL0190	09/03/2015	1 Year	09/03/2016	☑

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