

[ANT. 2]

☐ Test Plots(Power Spectral Density)

802.11a UNII 2C Band



802.11a UNII 3 Band



802.11n(HT20) UNII 2C Band



802.11n(HT20) UNII 3 Band



802.11ac(VHT20) UNII 2C Band



802.11ac(VHT20) UNII 3 Band



802.11n(HT40) UNII 2C Band



802.11n(HT40) UNII 3 Band



802.11ac(VHT40) UNII 2C Band



802.11ac(VHT40) UNII 3 Band



802.11ac(VHT80) UNII 2C Band



802.11ac(VHT80) UNII 3 Band



10.8 RADIATED SPURIOUS EMISSIONS

Frequency Range : 9 kHz – 30 MHz

Frequency	Measured Value	CL+AF+DF-AG	ANT. POL	Total	Limit	Margin
[MHz]	[dBμV]	[dB/m]	[H/V]	[dBμV/m]	[dBμV/m]	[dB]

No Critical peaks found

Note:

1. The Measured Value of emissions are attenuated more than 20 dB below the permissible limits or the field strength is too small to be measured.
2. Distance extrapolation factor = $40 \log (\text{specific distance} / \text{test distance})$ (dB)
3. Limit line = specific Limits (dBμV) + Distance extrapolation factor

Frequency Range : Below 1 GHz

Frequency	Measured Value	A.F+C.L	ANT. POL	Total	Limit	Margin
[MHz]	[dBμV]	[dB/m]	[H/V]	[dBμV/m]	[dBμV/m]	[dB]

No Critical peaks found

Note:

1. Radiated emissions measured in frequency range from 30 MHz to 1000 MHz were made with an instrument using Quasi peak detector mode

Frequency Range : Above 1 GHz

[MIMO_CDD(Ant1+Ant2)]

Band : UNII 1			Operation Mode : 802.11a				
CH.36 5180 MHz			Transfer Rate : 6M				
Frequency [MHz]	Measured value [dB V]	CL+AF+DF-AG [dB/m]	ANT. POL [H/V]	Total [dB V/m]	Limit [dB V/m]	Margin [dB]	Measurement Type
10360	58.52	-0.49	V	58.03	68.20	10.17	PK
15540	49.11	2.02	V	51.13	73.98	22.85	PK
15540	35.50	2.02	V	37.52	53.98	16.46	AV
10360	59.64	-0.49	H	59.15	68.20	9.05	PK
15540	49.46	2.02	H	51.48	73.98	22.50	PK
15540	35.45	2.02	H	37.47	53.98	16.51	AV

Band : UNII 1			Operation Mode : 802.11a				
CH.40 5200 MHz			Transfer Rate : 6M				
Frequency [MHz]	Measured value [dB V]	CL+AF+DF-AG [dB/m]	ANT. POL [H/V]	Total [dB V/m]	Limit [dB V/m]	Margin [dB]	Measurement Type
10400	56.95	0.32	V	57.27	68.20	10.93	PK
15600	50.81	2.33	V	53.14	73.98	20.84	PK
15600	36.50	2.33	V	38.83	53.98	15.15	AV
10400	56.49	0.32	H	56.81	68.20	11.39	PK
15600	50.46	2.33	H	52.79	73.98	21.19	PK
15600	36.54	2.33	H	38.87	53.98	15.11	AV

Band : UNII 1			Operation Mode : 802.11a				
CH.48 5240 MHz			Transfer Rate : 6M				
Frequency [MHz]	Measured value [dB V]	CL+AF+DF-AG [dB/m]	ANT. POL [H/V]	Total [dB V/m]	Limit [dB V/m]	Margin [dB]	Measurement Type
10480	56.57	-0.46	V	56.11	68.20	12.09	PK
15720	50.26	1.28	V	51.54	73.98	22.44	PK
15720	36.27	1.28	V	37.55	53.98	16.43	AV
10480	56.40	-0.46	H	55.94	68.20	12.26	PK
15720	50.65	1.28	H	51.93	73.98	22.05	PK
15720	36.16	1.28	H	37.44	53.98	16.54	AV

Band : UNII 2A			Operation Mode : 802.11a				
CH.52 5260 MHz			Transfer Rate : 6M				
Frequency [MHz]	Measured value [dB V]	CL+AF+DF-AG [dB/m]	ANT. POL [H/V]	Total [dB V/m]	Limit [dB V/m]	Margin [dB]	Measurement Type
10520	56.73	-0.45	V	56.28	68.20	11.92	PK
15780	50.75	1.18	V	51.93	73.98	22.05	PK
15780	36.08	1.18	V	37.26	53.98	16.72	AV
10520	56.84	-0.45	H	56.39	68.20	11.81	PK
15780	49.93	1.18	H	51.11	73.98	22.87	PK
15780	35.91	1.18	H	37.09	53.98	16.89	AV

Band : UNII 2A			Operation Mode : 802.11a				
CH.60 5300 MHz			Transfer Rate : 6M				
Frequency [MHz]	Measured value [dB V]	CL+AF+DF-AG [dB/m]	ANT. POL [H/V]	Total [dB V/m]	Limit [dB V/m]	Margin [dB]	Measurement Type
10600	55.31	-0.03	V	55.28	73.98	18.70	PK
10600	42.25	-0.03	V	42.22	53.98	11.76	AV
15900	49.41	0.88	V	50.29	73.98	23.69	PK
15900	35.73	0.88	V	36.61	53.98	17.37	AV
10600	55.79	-0.03	H	55.76	73.98	18.22	PK
10600	42.59	-0.03	H	42.56	53.98	11.42	AV
15900	49.54	0.88	H	50.42	73.98	23.56	PK
15900	35.64	0.88	H	36.52	53.98	17.46	AV

Band : UNII 2A			Operation Mode : 802.11a				
CH.64 5320 MHz			Transfer Rate : 6M				
Frequency [MHz]	Measured value [dB V]	CL+AF+DF-AG [dB/m]	ANT. POL [H/V]	Total [dB V/m]	Limit [dB V/m]	Margin [dB]	Measurement Type
10640	54.08	-0.58	V	53.50	73.98	20.48	PK
10640	41.14	-0.58	V	40.56	53.98	13.42	AV
15960	49.81	1.31	V	51.12	73.98	22.86	PK
15960	35.94	1.31	V	37.25	53.98	16.73	AV
10640	54.49	-0.58	H	53.91	73.98	20.07	PK
10640	41.89	-0.58	H	41.31	53.98	12.67	AV
15960	49.45	1.31	H	50.76	73.98	23.22	PK
15960	35.82	1.31	H	37.13	53.98	16.85	AV

Band : UNII 2C			Operation Mode : 802.11a				
CH.100 5500 MHz			Transfer Rate : 6M				
Frequency [MHz]	Measured value [dB V]	CL+AF+DF-AG [dB/m]	ANT. POL [H/V]	Total [dB V/m]	Limit [dB V/m]	Margin [dB]	Measurement Type
11000	51.48	0.32	V	51.80	73.98	22.18	PK
11000	38.20	0.32	V	38.52	53.98	15.46	AV
16500	50.19	1.34	V	51.53	68.20	16.67	PK
11000	51.65	0.32	H	51.97	73.98	22.01	PK
11000	38.50	0.32	H	38.82	53.98	15.16	AV
16500	50.49	1.34	H	51.83	68.20	16.37	PK

Band : UNII 2C			Operation Mode : 802.11a				
CH.120 5600 MHz			Transfer Rate : 6M				
Frequency [MHz]	Measured value [dB V]	CL+AF+DF-AG [dB/m]	ANT. POL [H/V]	Total [dB V/m]	Limit [dB V/m]	Margin [dB]	Measurement Type
11200	51.36	-0.43	V	50.93	73.98	23.05	PK
11200	38.23	-0.43	V	37.80	53.98	16.18	AV
16800	50.32	0.75	V	51.07	68.20	17.13	PK
11200	51.10	-0.43	H	50.67	73.98	23.31	PK
11200	37.52	-0.43	H	37.09	53.98	16.89	AV
16800	49.97	0.75	H	50.72	68.20	17.48	PK

Band : UNII 2C			Operation Mode : 802.11a				
CH.144 5720 MHz			Transfer Rate : 6M				
Frequency [MHz]	Measured value [dB V]	CL+AF+DF-AG [dB/m]	ANT. POL [H/V]	Total [dB V/m]	Limit [dB V/m]	Margin [dB]	Measurement Type
11440	54.55	0.48	V	55.03	73.98	18.95	PK
11440	40.34	0.48	V	40.82	53.98	13.16	AV
17160	50.34	1.26	V	51.60	68.20	16.60	PK
11440	52.51	0.48	H	52.99	73.98	20.99	PK
11440	39.15	0.48	H	39.63	53.98	14.35	AV
17160	50.06	1.26	H	51.32	68.20	16.88	PK

Band : UNII 3			Operation Mode : 802.11a				
CH.149 5745 MHz			Transfer Rate : 6M				
Frequency [MHz]	Measured value [dB V]	CL+AF+DF-AG [dB/m]	ANT. POL [H/V]	Total [dB V/m]	Limit [dB V/m]	Margin [dB]	Measurement Type
11490	53.73	0.53	V	54.26	73.98	19.72	PK
11490	40.14	0.53	V	40.67	53.98	13.31	AV
17235	50.35	1.66	V	52.01	68.20	16.19	PK
11490	52.18	0.53	H	52.71	73.98	21.27	PK
11490	39.00	0.53	H	39.53	53.98	14.45	AV
17235	50.06	1.66	H	51.72	68.20	16.48	PK

Band : UNII 3			Operation Mode : 802.11a				
CH.157 5785 MHz			Transfer Rate : 6M				
Frequency [MHz]	Measured value [dB V]	CL+AF+DF-AG [dB/m]	ANT. POL [H/V]	Total [dB V/m]	Limit [dB V/m]	Margin [dB]	Measurement Type
11570	54.03	0.88	V	54.91	73.98	19.07	PK
11570	40.43	0.88	V	41.31	53.98	12.67	AV
17355	50.06	1.78	V	51.84	68.20	16.36	PK
11570	52.31	0.88	H	53.19	73.98	20.79	PK
11570	38.96	0.88	H	39.84	53.98	14.14	AV
17355	49.59	1.78	H	51.37	68.20	16.83	PK

Band : UNII 3			Operation Mode : 802.11a				
CH.165 5825 MHz			Transfer Rate : 6M				
Frequency [MHz]	Measured value [dB V]	CL+AF+DF-AG [dB/m]	ANT. POL [H/V]	Total [dB V/m]	Limit [dB V/m]	Margin [dB]	Measurement Type
11650	54.60	-0.32	V	54.28	73.98	19.70	PK
11650	41.13	-0.32	V	40.81	53.98	13.17	AV
17475	49.82	2.82	V	52.64	68.20	15.56	PK
11650	53.66	-0.32	H	53.34	73.98	20.64	PK
11650	40.42	-0.32	H	40.10	53.98	13.88	AV
17475	49.23	2.82	H	52.05	68.20	16.15	PK

Band : UNII 4			Operation Mode : 802.11a				
CH.169 5845 MHz			Transfer Rate : 6M				
Frequency [MHz]	Measured value [dB V]	CL+AF+DF-AG [dB/m]	ANT. POL [H/V]	Total [dB V/m]	Limit [dB V/m]	Margin [dB]	Measurement Type
11690	55.45	-0.03	V	55.42	73.98	18.56	PK
11690	40.99	-0.03	V	40.96	53.98	13.02	AV
17535	50.18	4.06	V	54.24	68.20	13.96	PK
11690	53.62	-0.03	H	53.59	73.98	20.39	PK
11690	40.29	-0.03	H	40.26	53.98	13.72	AV
17535	49.04	4.06	H	53.10	68.20	15.10	PK

Band : UNII 4			Operation Mode : 802.11a				
CH.173 5865 MHz			Transfer Rate : 6M				
Frequency [MHz]	Measured value [dB V]	CL+AF+DF-AG [dB/m]	ANT. POL [H/V]	Total [dB V/m]	Limit [dB V/m]	Margin [dB]	Measurement Type
11730	54.96	-0.31	V	54.65	73.98	19.33	PK
11730	41.78	-0.31	V	41.47	53.98	12.51	AV
17595	49.09	4.50	V	53.59	68.20	14.61	PK
11730	54.05	-0.31	H	53.74	73.98	20.24	PK
11730	40.57	-0.31	H	40.26	53.98	13.72	AV
17595	49.11	4.50	H	53.61	68.20	14.59	PK

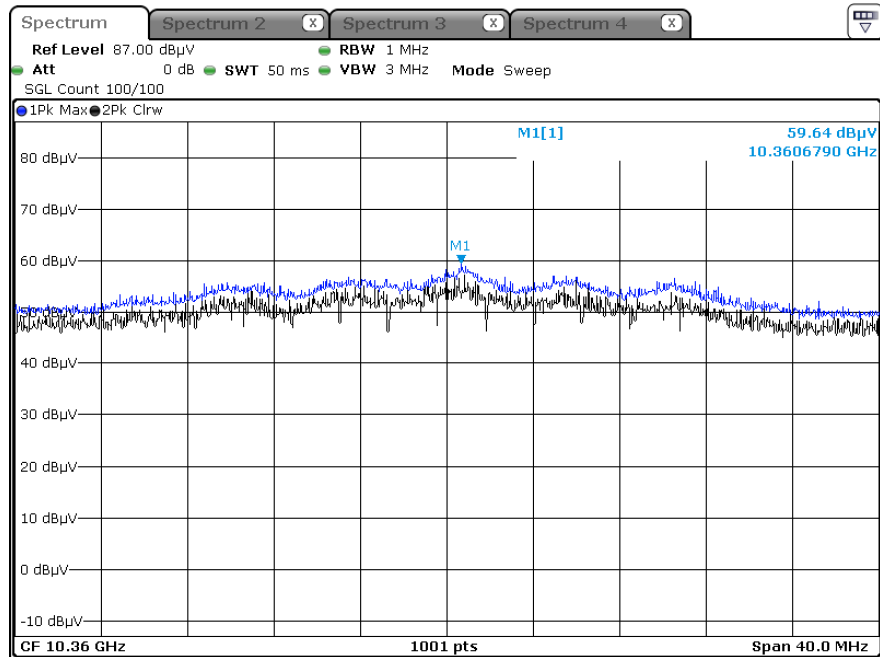
Band : UNII 4			Operation Mode : 802.11a				
CH.177 5885 MHz			Transfer Rate : 6M				
Frequency [MHz]	Measured value [dB V]	CL+AF+DF-AG [dB/m]	ANT. POL [H/V]	Total [dB V/m]	Limit [dB V/m]	Margin [dB]	Measurement Type
11770	56.13	0.30	V	56.43	73.98	17.55	PK
11770	41.97	0.30	V	42.27	53.98	11.71	AV
17655	48.85	4.94	V	53.79	68.20	14.41	PK
11770	54.69	0.30	H	54.99	73.98	18.99	PK
11770	41.45	0.30	H	41.75	53.98	12.23	AV
17655	49.23	4.94	H	54.17	68.20	14.03	PK

Test Plots

Note: Only the worst case plots for Radiated Spurious Emissions.

[MIMO_CDD(Ant1+Ant2)]

Radiated Spurious Emissions plot – Peak Result (802.11a, Ch.36 Spurious Emissions, Y-H)



10.9 RADIATED RESTRICTED BAND EDGE

Note : # Integration method Used (KDB 789033 D02 v02r01 Section 3) d) (ii)

[MIMO_CDD(Ant1+Ant2)]

802.11 a		6 Mbps					
Channel	Ch.36	5180 MHz	UNII 1				
Frequency	Measured Value	C.L+A.F+D.F-A.G+ATT	ANT. POL	Total	Limit	Margin	Measurement
[MHz]	[dBμV]	[dB/m]	[H/V]	[dBμV/m]	[dBμV/m]	[dB]	Type
5150	52.06	14.26	H	66.32	73.98	7.66	PK
5150	36.26	14.26	H	50.52	53.98	3.46	AV

802.11 a		6 Mbps					
Channel	Ch. 60	5300 MHz	UNII 2A				
Frequency	Measured Value	C.L+A.F+D.F-A.G+ATT	ANT. POL	Total	Limit	Margin	Measurement
[MHz]	[dBμV]	[dB/m]	[H/V]	[dBμV/m]	[dBμV/m]	[dB]	Type
5350	45.53	14.65	H	60.18	73.98	13.80	PK
5350	33.11	14.65	H	47.76	53.98	6.22	AV

802.11 a		6 Mbps					
Channel	Ch. 64	5320 MHz	UNII 2A				
Frequency	Measured Value	C.L+A.F+D.F-A.G+ATT	ANT. POL	Total	Limit	Margin	Measurement
[MHz]	[dBμV]	[dB/m]	[H/V]	[dBμV/m]	[dBμV/m]	[dB]	Type
5350	51.21	14.65	H	65.86	73.98	8.12	PK
5350	33.69	14.65	H	48.34	53.98	5.64	AV

802.11 a		6 Mbps					
Channel	Ch. 100	5500 MHz	UNII 2C				
Frequency	Measured Value	C.L+A.F+D.F-A.G+ATT	ANT. POL	Total	Limit	Margin	Measurement
[MHz]	[dBμV]	[dB/m]	[H/V]	[dBμV/m]	[dBμV/m]	[dB]	Type
5460	45.63	15.23	H	60.86	73.98	13.12	PK
5460	32.19	15.23	H	47.42	53.98	6.56	AV
#5460~5470	47.26	15.54	H	62.80	68.20	5.41	PK

802.11 n_HT20		MCS 0					
Channel	Ch. 36	5180 MHz	UNII 1				
Frequency	Measured Value	C.L+A.F+D.F-A.G+ATT	ANT. POL	Total	Limit	Margin	Measurement
[MHz]	[dBμV]	[dB/m]	[H/V]	[dBμV/m]	[dBμV/m]	[dB]	Type
5150	50.68	14.26	H	64.94	73.98	9.04	PK
5150	35.92	14.26	H	50.18	53.98	3.80	AV

802.11 n_HT20		MCS 0					
Channel	Ch. 60	5300 MHz	UNII 2A				
Frequency	Measured Value	C.L+A.F+D.F-A.G+ATT	ANT. POL	Total	Limit	Margin	Measurement
[MHz]	[dBμV]	[dB/m]	[H/V]	[dBμV/m]	[dBμV/m]	[dB]	Type
5350	47.18	14.65	H	61.83	73.98	12.15	PK
5350	33.32	14.65	H	47.97	53.98	6.01	AV

802.11 n_HT20		MCS 0					
Channel	Ch. 64	5320 MHz	UNII 2A				
Frequency	Measured Value	C.L+A.F+D.F-A.G+ATT	ANT. POL	Total	Limit	Margin	Measurement
[MHz]	[dBμV]	[dB/m]	[H/V]	[dBμV/m]	[dBμV/m]	[dB]	Type
5350	47.29	14.65	H	61.94	73.98	12.04	PK
5350	33.79	14.65	H	48.44	53.98	5.54	AV

802.11 n_HT20		MCS 0					
Channel	Ch. 100	5500 MHz	UNII 2C				
Frequency	Measured Value	C.L+A.F+D.F-A.G+ATT	ANT. POL	Total	Limit	Margin	Measurement
[MHz]	[dBμV]	[dB/m]	[H/V]	[dBμV/m]	[dBμV/m]	[dB]	Type
5460	45.53	15.23	H	60.76	73.98	13.22	PK
5460	32.18	15.23	H	47.41	53.98	6.57	AV
#5460~5470	46.14	15.54	H	61.68	68.20	6.53	PK

802.11 ac_VHT20		MCS 0					
Channel	Ch. 36	5180 MHz	UNII 1				
Frequency	Measured Value	C.L+A.F+D.F-A.G+ATT	ANT. POL	Total	Limit	Margin	Measurement
[MHz]	[dBμV]	[dB/m]	[H/V]	[dBμV/m]	[dBμV/m]	[dB]	Type
5150	53.05	14.26	H	67.31	73.98	6.67	PK
5150	37.28	14.26	H	51.54	53.98	2.44	AV

802.11 ac_VHT20		MCS 0					
Channel	Ch. 60	5300 MHz	UNII 2A				
Frequency	Measured Value	C.L+A.F+D.F-A.G+ATT	ANT. POL	Total	Limit	Margin	Measurement
[MHz]	[dBμV]	[dB/m]	[H/V]	[dBμV/m]	[dBμV/m]	[dB]	Type
5350	51.85	14.65	H	66.50	73.98	7.48	PK
5350	35.29	14.65	H	49.94	53.98	4.04	AV

802.11 ac_VHT20		MCS 0					
Channel	Ch. 64	5320 MHz	UNII 2A				
Frequency	Measured Value	C.L+A.F+D.F-A.G+ATT	ANT. POL	Total	Limit	Margin	Measurement
[MHz]	[dBμV]	[dB/m]	[H/V]	[dBμV/m]	[dBμV/m]	[dB]	Type
5350	48.09	14.65	H	62.74	73.98	11.24	PK
5350	33.96	14.65	H	48.61	53.98	5.37	AV

802.11 ac_VHT20		MCS 0					
Channel	Ch. 100	5500 MHz	UNII 2C				
Frequency	Measured Value	C.L+A.F+D.F-A.G+ATT	ANT. POL	Total	Limit	Margin	Measurement
[MHz]	[dBμV]	[dB/m]	[H/V]	[dBμV/m]	[dBμV/m]	[dB]	Type
5460	45.21	15.23	H	60.44	73.98	13.54	PK
5460	32.26	15.23	H	47.49	53.98	6.49	AV
#5460~5470	47.08	15.54	H	62.62	68.20	5.59	PK

802.11 n_HT40		MCS 0					
Channel	Ch. 38	5190 MHz	UNII 1				
Frequency	Measured Value	C.L+A.F+D.F-A.G+ATT	ANT. POL	Total	Limit	Margin	Measurement
[MHz]	[dBμV]	[dB/m]	[H/V]	[dBμV/m]	[dBμV/m]	[dB]	Type
5150	48.67	14.26	H	62.93	73.98	11.05	PK
5150	36.48	14.26	H	50.74	53.98	3.24	AV

802.11 n_HT40		MCS 0					
Channel	Ch. 46	5230 MHz	UNII 1				
Frequency	Measured Value	C.L+A.F+D.F-A.G+ATT	ANT. POL	Total	Limit	Margin	Measurement
[MHz]	[dBμV]	[dB/m]	[H/V]	[dBμV/m]	[dBμV/m]	[dB]	Type
5150	45.54	14.26	H	59.80	73.98	14.18	PK
5150	33.49	14.26	H	47.75	53.98	6.23	AV

802.11 n_HT40		MCS 0					
Channel	Ch. 54	5270 MHz	UNII 2A				
Frequency	Measured Value	C.L+A.F+D.F-A.G+ATT	ANT. POL	Total	Limit	Margin	Measurement
[MHz]	[dBμV]	[dB/m]	[H/V]	[dBμV/m]	[dBμV/m]	[dB]	Type
5350	47.31	14.65	H	61.96	73.98	12.02	PK
5350	34.07	14.65	H	48.72	53.98	5.26	AV

802.11 n_HT40		MCS 0					
Channel	Ch. 62	5310 MHz	UNII 2A				
Frequency	Measured Value	C.L+A.F+D.F-A.G+ATT	ANT. POL	Total	Limit	Margin	Measurement
[MHz]	[dBμV]	[dB/m]	[H/V]	[dBμV/m]	[dBμV/m]	[dB]	Type
5350	49.47	14.65	H	64.12	73.98	9.86	PK
5350	36.41	14.65	H	51.06	53.98	2.92	AV

802.11 n_HT40		MCS 0					
Channel	Ch. 102	5510 MHz	UNII 2C				
Frequency	Measured Value	C.L+A.F+D.F-A.G+ATT	ANT. POL	Total	Limit	Margin	Measurement
[MHz]	[dBμV]	[dB/m]	[H/V]	[dBμV/m]	[dBμV/m]	[dB]	Type
5460	47.85	15.23	H	63.08	73.98	10.90	PK
5460	33.45	15.23	H	48.68	53.98	5.30	AV
#5460~5470	48.95	15.54	H	64.49	68.20	3.72	PK

802.11 n_HT40		MCS 0					
Channel	Ch. 110	5550 MHz	UNII 2C				
Frequency	Measured Value	C.L+A.F+D.F-A.G+ATT	ANT. POL	Total	Limit	Margin	Measurement
[MHz]	[dBμV]	[dB/m]	[H/V]	[dBμV/m]	[dBμV/m]	[dB]	Type
5460	45.11	15.23	H	60.34	73.98	13.64	PK
5460	31.71	15.23	H	46.94	53.98	7.04	AV
5470	44.32	15.54	H	59.86	68.20	8.35	PK

802.11 ac_VHT40		MCS 0					
Channel	Ch. 38	5190 MHz	UNII 1				
Frequency	Measured Value	C.L+A.F+D.F-A.G+ATT	ANT. POL	Total	Limit	Margin	Measurement
[MHz]	[dBμV]	[dB/m]	[H/V]	[dBμV/m]	[dBμV/m]	[dB]	Type
5150	49.36	14.26	H	63.62	73.98	10.36	PK
5150	36.76	14.26	H	51.02	53.98	2.96	AV

802.11 ac_VHT40		MCS 0					
Channel	Ch. 46	5230 MHz	UNII 1				
Frequency	Measured Value	C.L+A.F+D.F-A.G+ATT	ANT. POL	Total	Limit	Margin	Measurement
[MHz]	[dBμV]	[dB/m]	[H/V]	[dBμV/m]	[dBμV/m]	[dB]	Type
5150	45.20	14.26	H	59.46	73.98	14.52	PK
5150	33.08	14.26	H	47.34	53.98	6.64	AV

802.11 ac_VHT40		MCS 0					
Channel	Ch. 54	5270 MHz	UNII 2A				
Frequency	Measured Value	C.L+A.F+D.F-A.G+ATT	ANT. POL	Total	Limit	Margin	Measurement
[MHz]	[dBμV]	[dB/m]	[H/V]	[dBμV/m]	[dBμV/m]	[dB]	Type
5350	45.69	14.65	H	60.34	73.98	13.64	PK
5350	32.60	14.65	H	47.25	53.98	6.73	AV

802.11 ac_VHT40		MCS 0					
Channel	Ch. 62	5310 MHz	UNII 2A				
Frequency	Measured Value	C.L+A.F+D.F-A.G+ATT	ANT. POL	Total	Limit	Margin	Measurement
[MHz]	[dBμV]	[dB/m]	[H/V]	[dBμV/m]	[dBμV/m]	[dB]	Type
5350	50.61	14.65	H	65.26	73.98	8.72	PK
5350	36.33	14.65	H	50.98	53.98	3.00	AV

802.11 ac_VHT40		MCS 0					
Channel	Ch. 102	5510 MHz	UNII 2C				
Frequency	Measured Value	C.L+A.F+D.F-A.G+ATT	ANT. POL	Total	Limit	Margin	Measurement
[MHz]	[dBμV]	[dB/m]	[H/V]	[dBμV/m]	[dBμV/m]	[dB]	Type
5460	45.43	15.23	H	60.66	73.98	13.32	PK
5460	33.55	15.23	H	48.78	53.98	5.20	AV
#5460~5470	47.81	15.54	H	63.35	68.20	4.86	PK

802.11 ac_VHT40		MCS 0					
Channel	Ch. 110	5550 MHz	UNII 2C				
Frequency	Measured Value	C.L+A.F+D.F-A.G+ATT	ANT. POL	Total	Limit	Margin	Measurement
[MHz]	[dBμV]	[dB/m]	[H/V]	[dBμV/m]	[dBμV/m]	[dB]	Type
5460	44.57	15.23	H	59.80	73.98	14.18	PK
5460	31.56	15.23	H	46.79	53.98	7.19	AV
5470	43.37	15.54	H	58.91	68.20	9.30	PK

802.11 ac_VHT80		MCS 0					
Channel	Ch. 42	5210 MHz	UNII 1				
Frequency	Measured Value	C.L+A.F+D.F-A.G+ATT	ANT. POL	Total	Limit	Margin	Measurement
[MHz]	[dBμV]	[dB/m]	[H/V]	[dBμV/m]	[dBμV/m]	[dB]	Type
5150	47.67	14.26	H	61.93	73.98	12.05	PK
5150	36.99	14.26	H	51.25	53.98	2.73	AV

802.11 ac_VHT80		MCS 0					
Channel	Ch. 58	5290 MHz	UNII 2A				
Frequency	Measured Value	C.L+A.F+D.F-A.G+ATT	ANT. POL	Total	Limit	Margin	Measurement
[MHz]	[dBμV]	[dB/m]	[H/V]	[dBμV/m]	[dBμV/m]	[dB]	Type
5350	48.16	14.65	H	62.81	73.98	11.17	PK
5350	37.02	14.65	H	51.67	53.98	2.31	AV

802.11 ac_VHT80		MCS 0					
Channel	Ch. 106	5530 MHz	UNII 2C				
Frequency	Measured Value	C.L+A.F+D.F-A.G+ATT	ANT. POL	Total	Limit	Margin	Measurement
[MHz]	[dBμV]	[dB/m]	[H/V]	[dBμV/m]	[dBμV/m]	[dB]	Type
5460	47.56	15.23	H	62.79	73.98	11.19	PK
5460	36.07	15.23	H	51.30	53.98	2.68	AV
#5460~5470	46.91	15.54	H	62.45	68.20	5.76	PK

802.11 ac_VHT80		MCS 0					
Channel	Ch. 122	5610 MHz	UNII 2C				
Frequency	Measured Value	C.L+A.F+D.F-A.G+ATT	ANT. POL	Total	Limit	Margin	Measurement
[MHz]	[dBμV]	[dB/m]	[H/V]	[dBμV/m]	[dBμV/m]	[dB]	Type
5460	44.47	15.23	H	59.70	73.98	14.28	PK
5460	32.78	15.23	H	48.01	53.98	5.97	AV
5470	43.85	15.54	H	59.39	68.20	8.82	PK

802.11 ac_VHT160(Lower)		MCS 0					
Channel	Ch. 50	5250 MHz	UNII 1 & 2A				
Frequency	Measured Value	C.L+A.F+D.F-A.G+ATT	ANT. POL	Total	Limit	Margin	Measurement
[MHz]	[dBμV]	[dB/m]	[H/V]	[dBμV/m]	[dBμV/m]	[dB]	Type
5150	53.96	14.26	H	68.22	73.98	5.76	PK
5150	36.21	14.26	H	50.47	53.98	3.51	AV

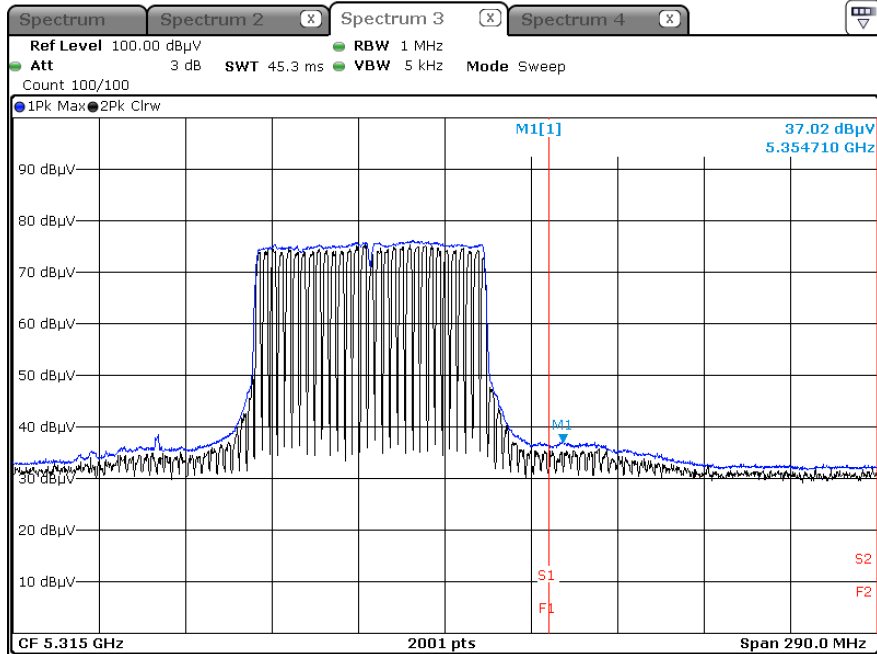
802.11 ac_VHT160(Upper)		MCS 0					
Channel	Ch. 50	5250 MHz	UNII 1 & 2A				
Frequency	Measured Value	C.L+A.F+D.F-A.G+ATT	ANT. POL	Total	Limit	Margin	Measurement
[MHz]	[dBμV]	[dB/m]	[H/V]	[dBμV/m]	[dBμV/m]	[dB]	Type
5350	54.69	14.65	H	69.34	73.98	4.64	PK
5350	36.14	14.65	H	50.79	53.98	3.19	AV

802.11 ac_VHT160		MCS 0					
Channel	Ch. 114	5570 MHz	UNII 2C				
Frequency	Measured Value	C.L+A.F+D.F-A.G+ATT	ANT. POL	Total	Limit	Margin	Measurement
[MHz]	[dBμV]	[dB/m]	[H/V]	[dBμV/m]	[dBμV/m]	[dB]	Type
5460	53.44	15.23	H	68.67	73.98	5.31	PK
5460	35.83	15.23	H	51.06	53.98	2.92	AV
#5460~5470	45.63	15.54	H	61.17	68.20	7.04	PK

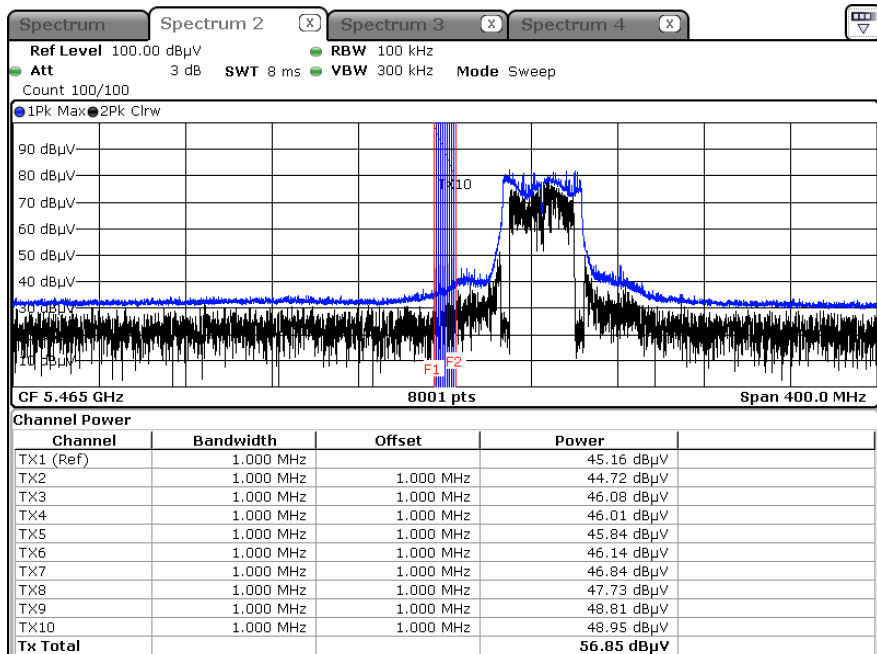
[MIMO_CDD(Ant1+Ant2)]

▣ Test Plots(UNII 1, 2A, 2C)

Average Result (802.11 ac_VHT80_ MCS0, Ch.58, X-H)



Peak Result (802.11 n_HT40_ MCS0, Ch.102, X-H)

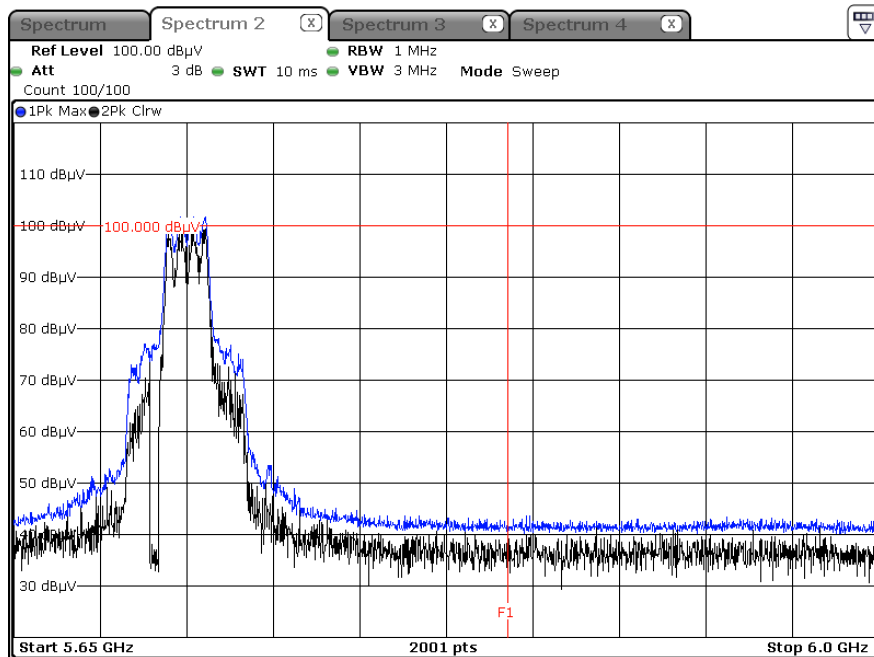


Note:

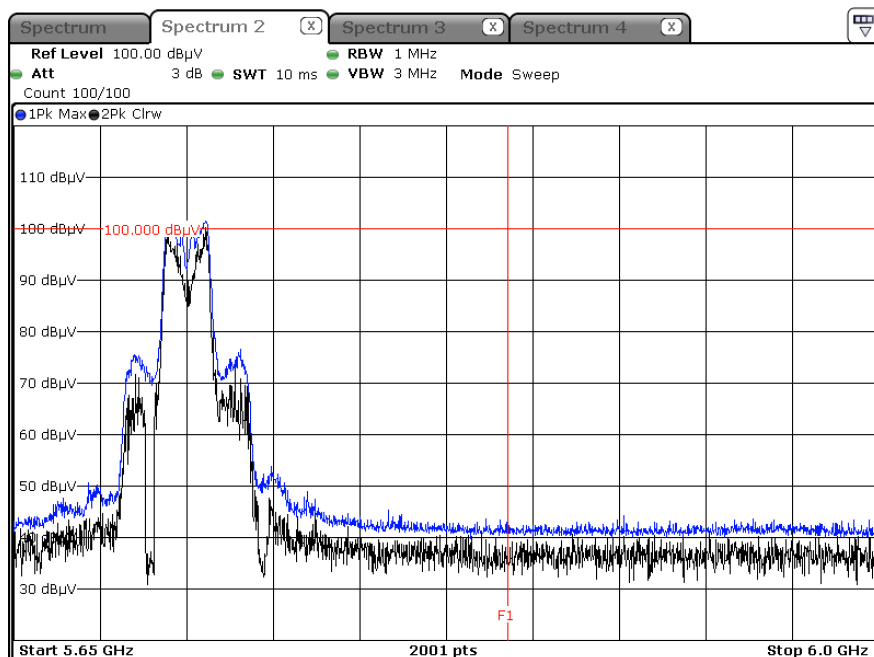
Only the worst case plots for Radiated Restricted Band Edge.

Test Plots(Straddle Channel)

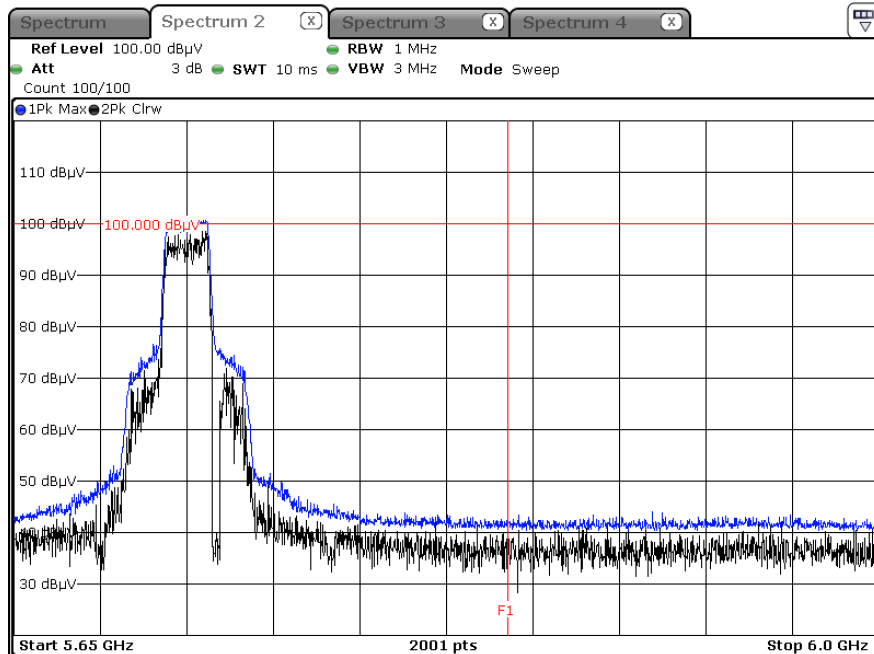
Peak Result (802.11a, Ch.144, Z-H)



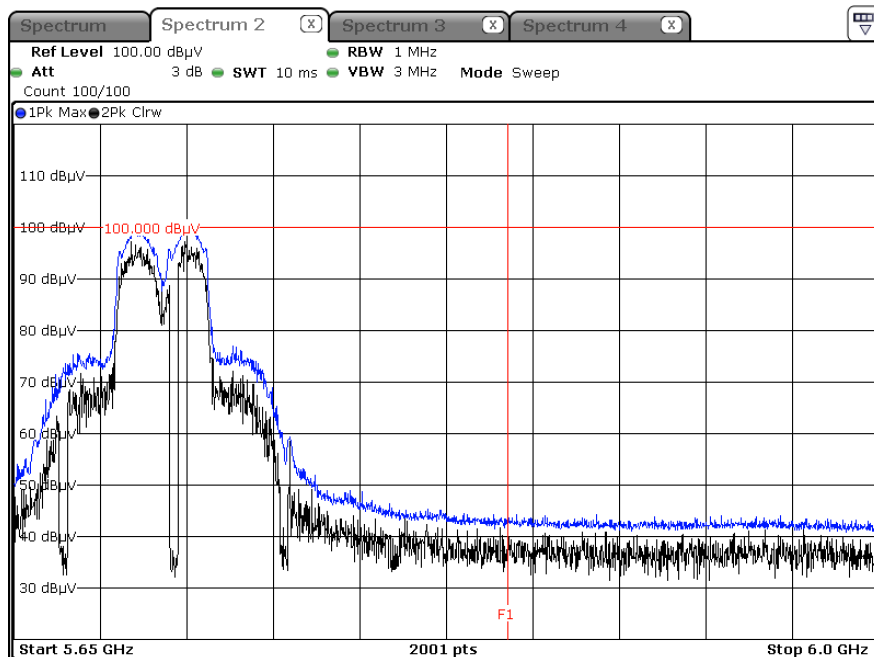
Peak Result (802.11n_HT20, Ch.144, Z-H)



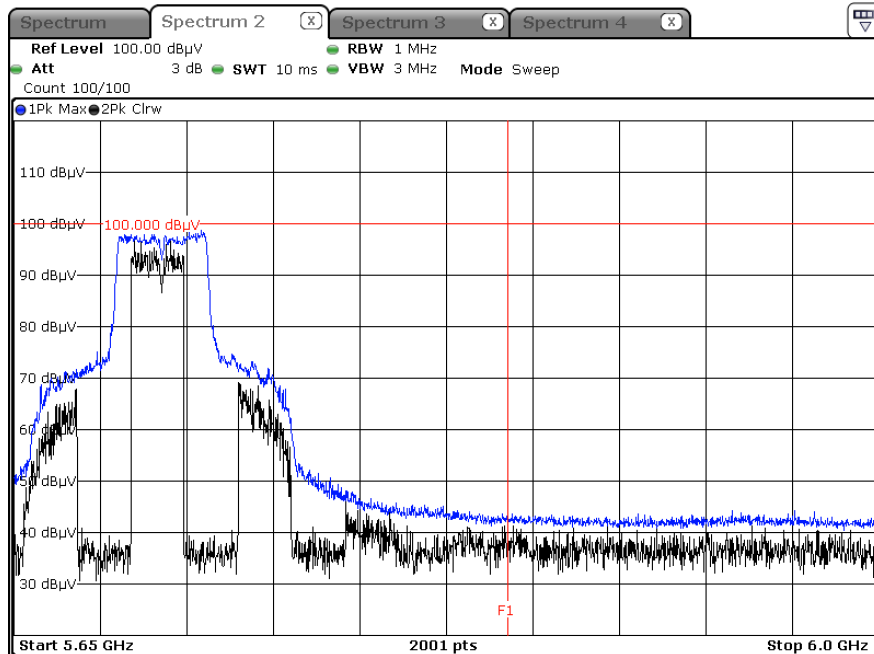
Peak Result (802.11ac_VHT20, Ch.144, Z-H)



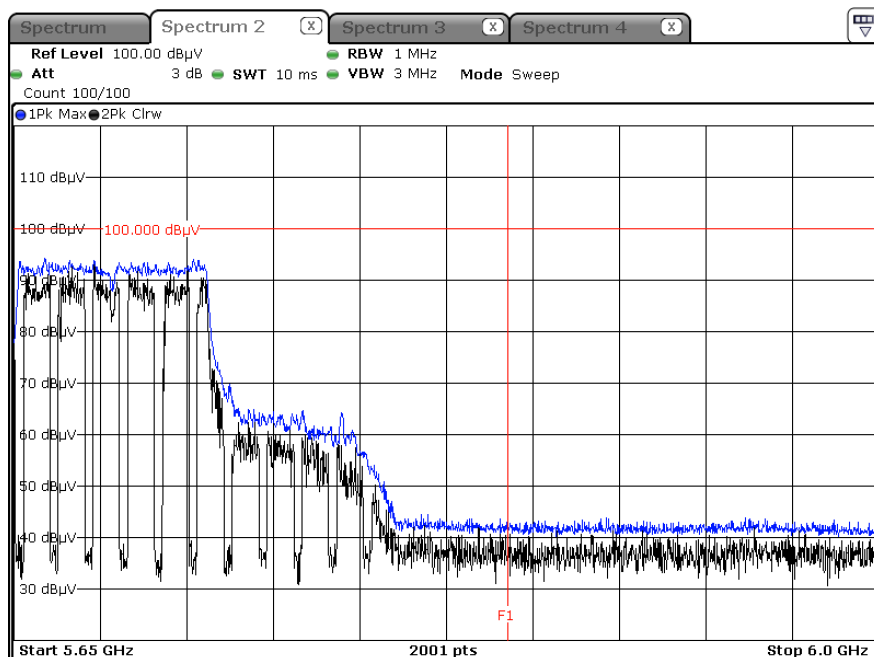
Peak Result (802.11n_HT40, Ch.142, Z-H)



Peak Result (802.11ac_VHT40, Ch.142, Z-H)



Peak Result (802.11ac_VHT80, Ch.138, Z-H)

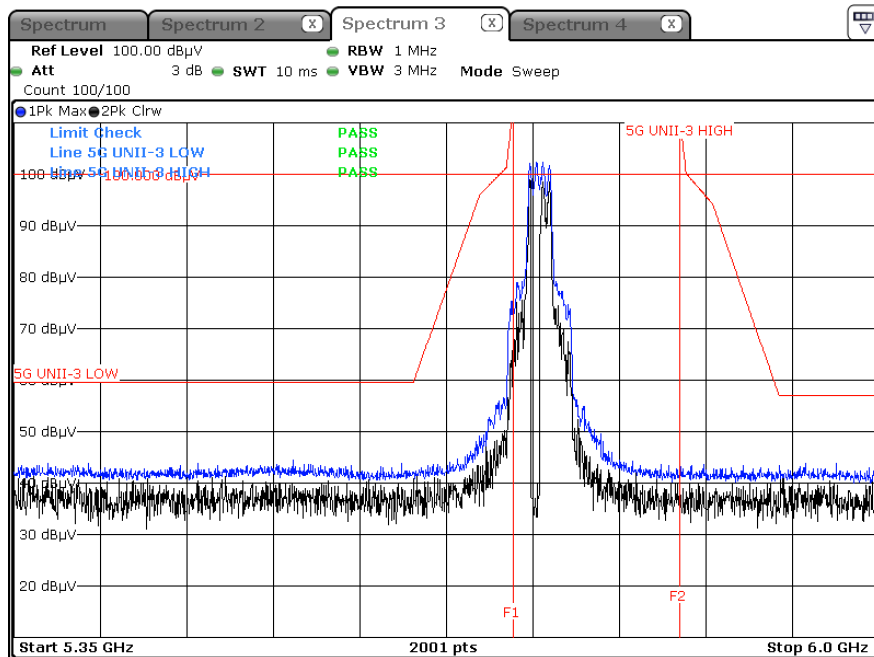


Note :

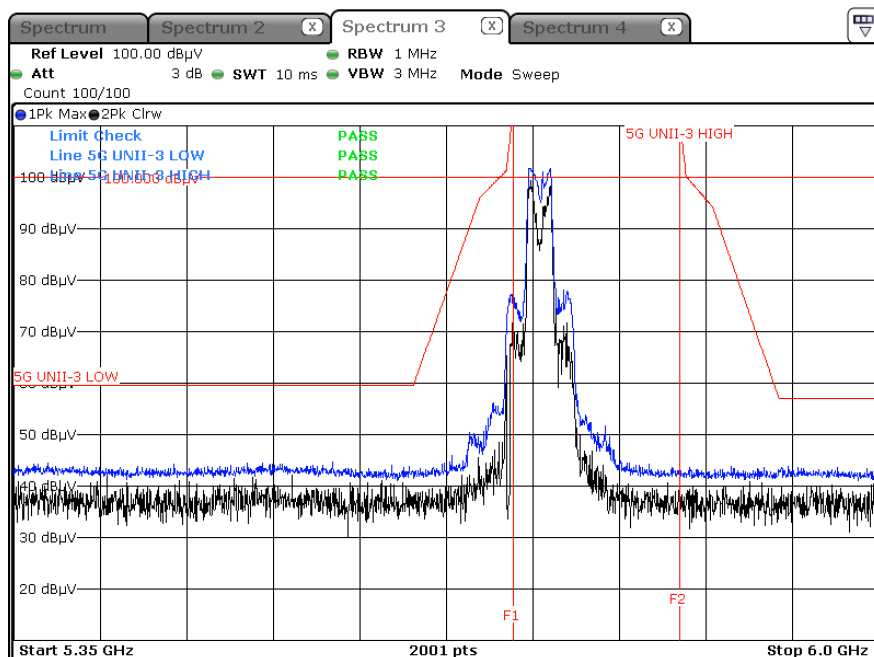
1. Only the worst case plots for Radiated Restricted Band Edge.
2. Red line : 5 850 MHz
3. Ambient Noise (Because of ambient noise, We attached only the worst plot without a data table)

Test Plots(UNII 3)

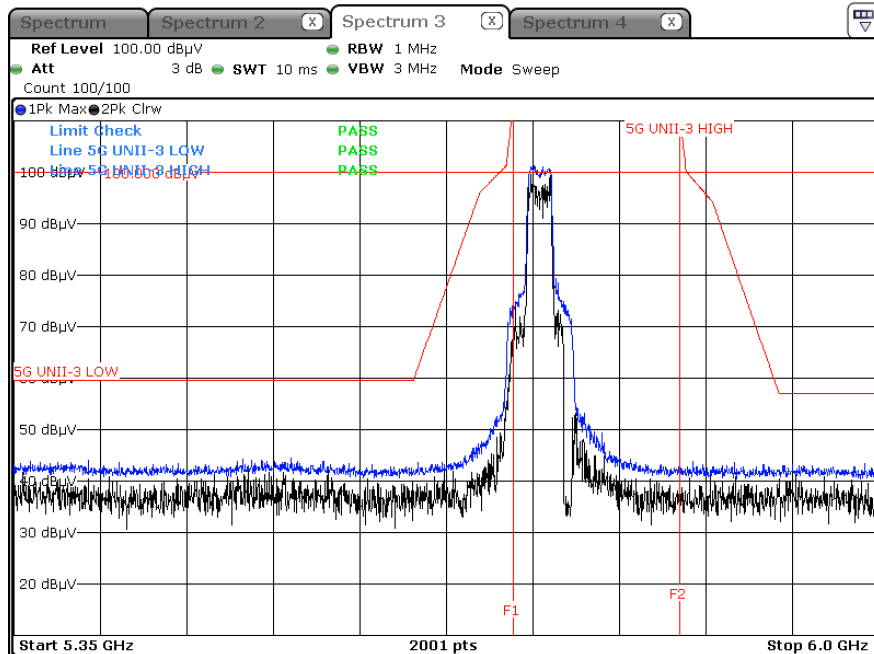
Peak Result (802.11a, Ch.149, Z-H)



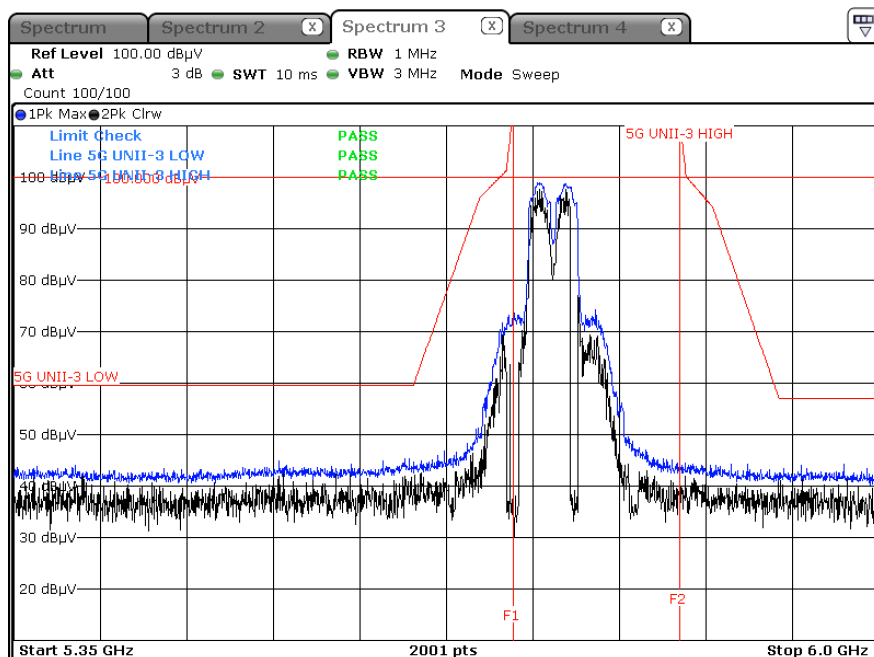
Peak Result (802.11n_HT20, Ch.149, Z-H)



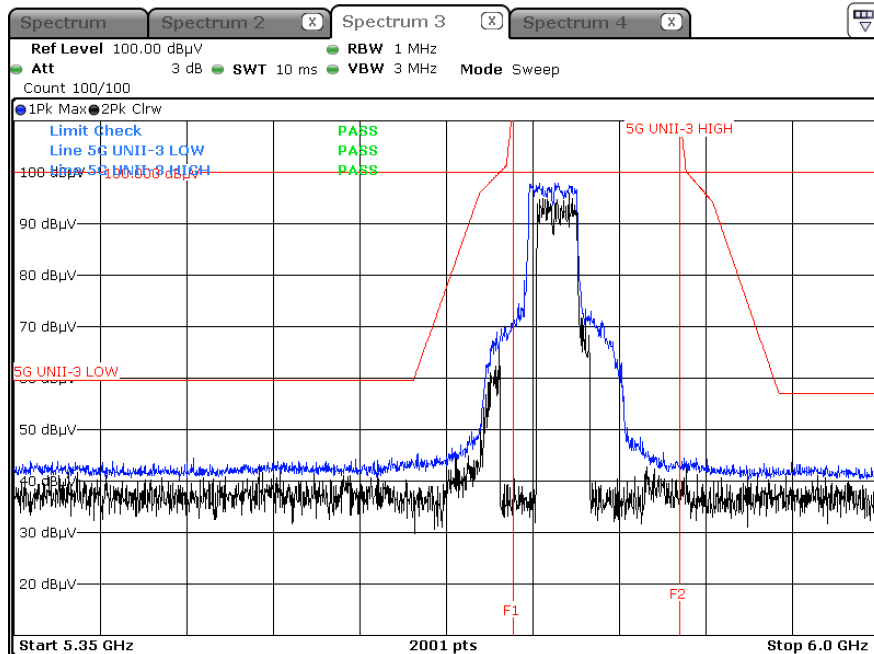
Peak Result (802.11ac_VHT20, Ch.149, Z-H)



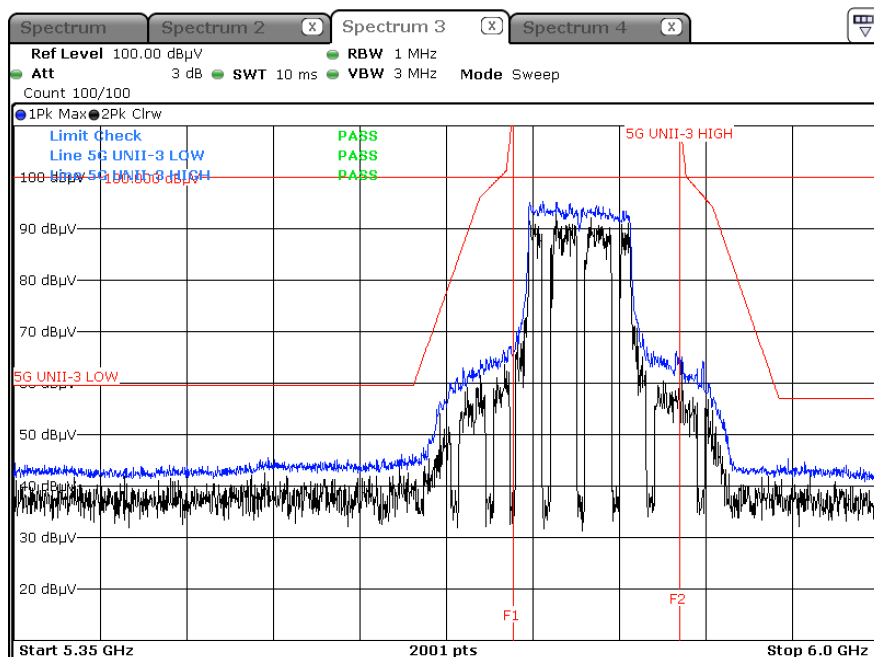
Peak Result (802.11n_HT40, Ch.151, Z-H)



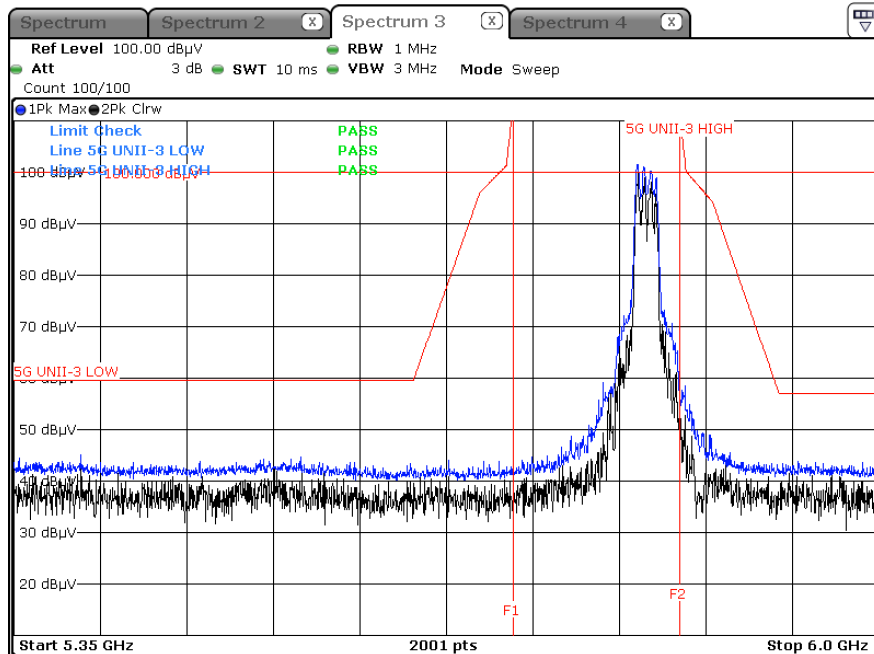
Peak Result (802.11ac_VHT40, Ch.151, Z-H)



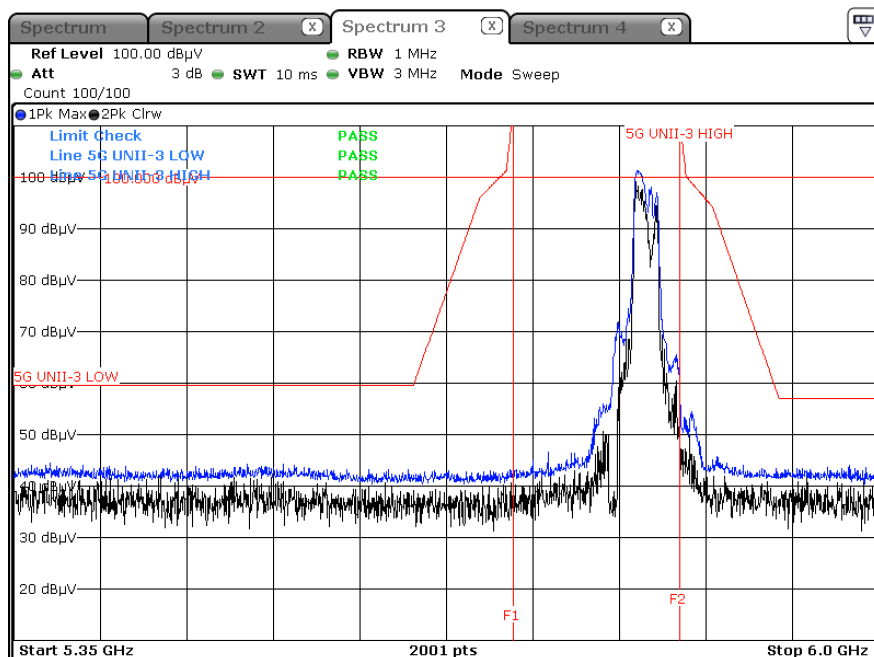
Peak Result (802.11ac_VHT80, Ch.155, Z-H)



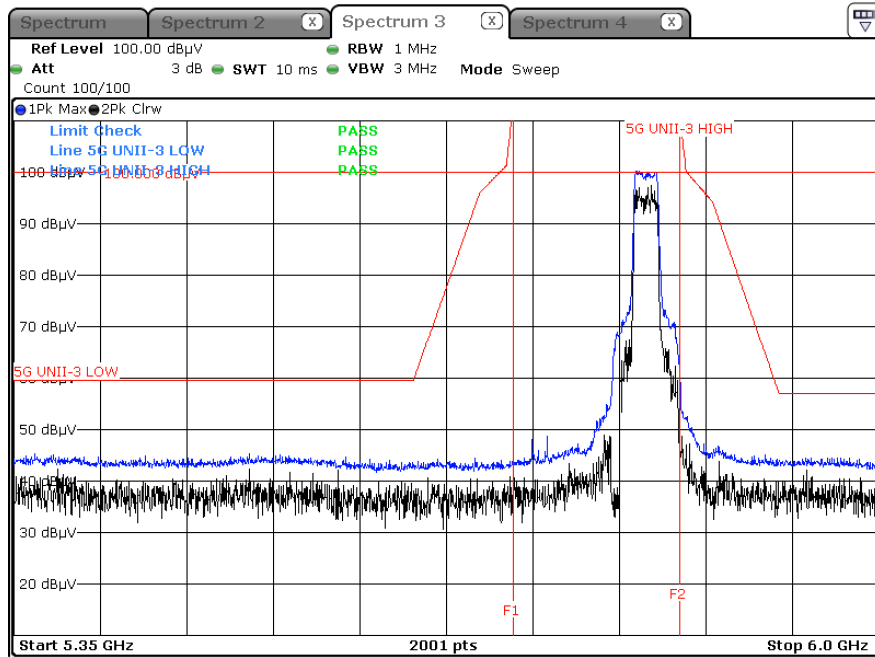
Peak Result (802.11a, Ch.165, X-H)



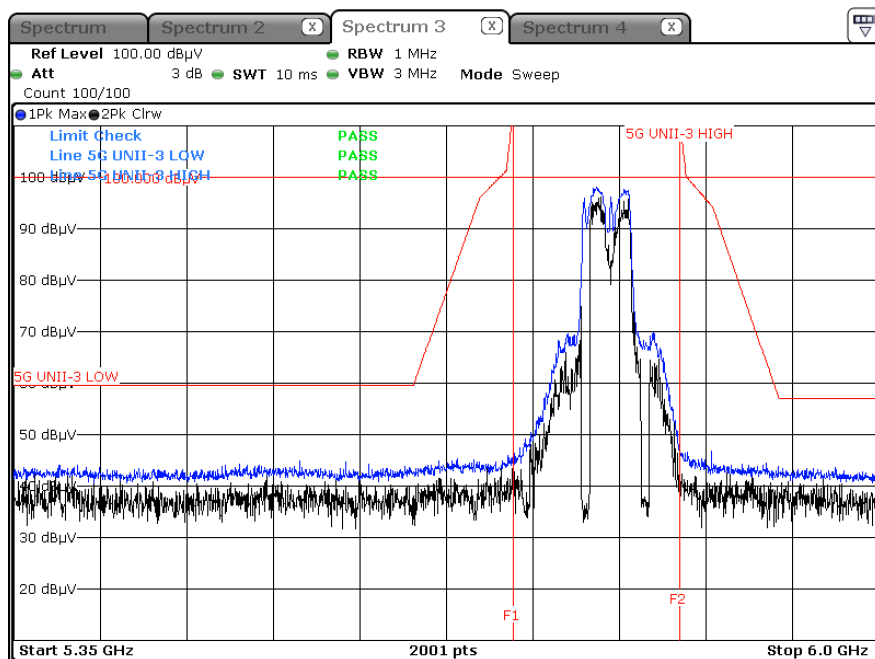
Peak Result (802.11n_HT20, Ch.165, X-H)



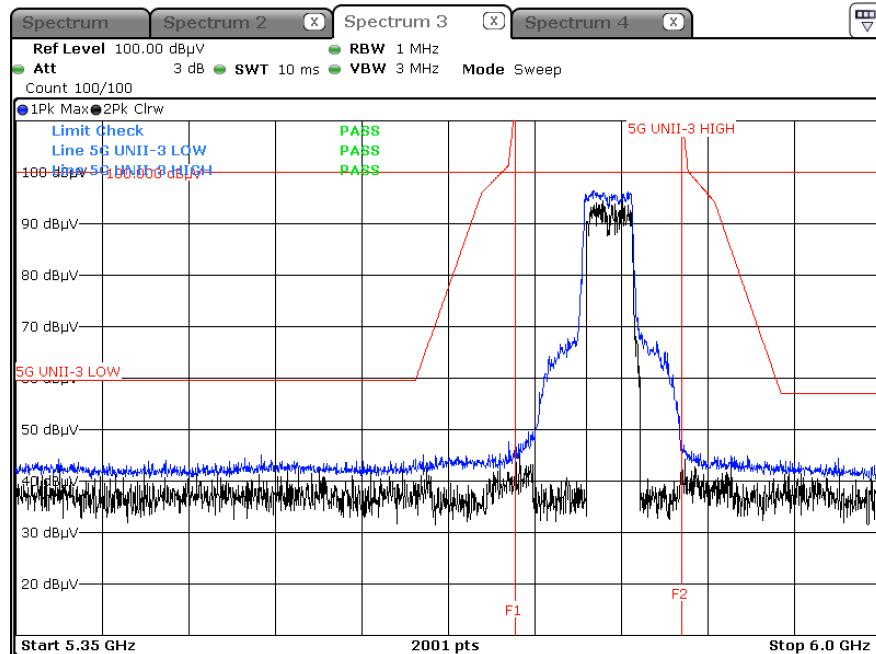
Peak Result (802.11ac_VHT20, Ch.165, X-H)



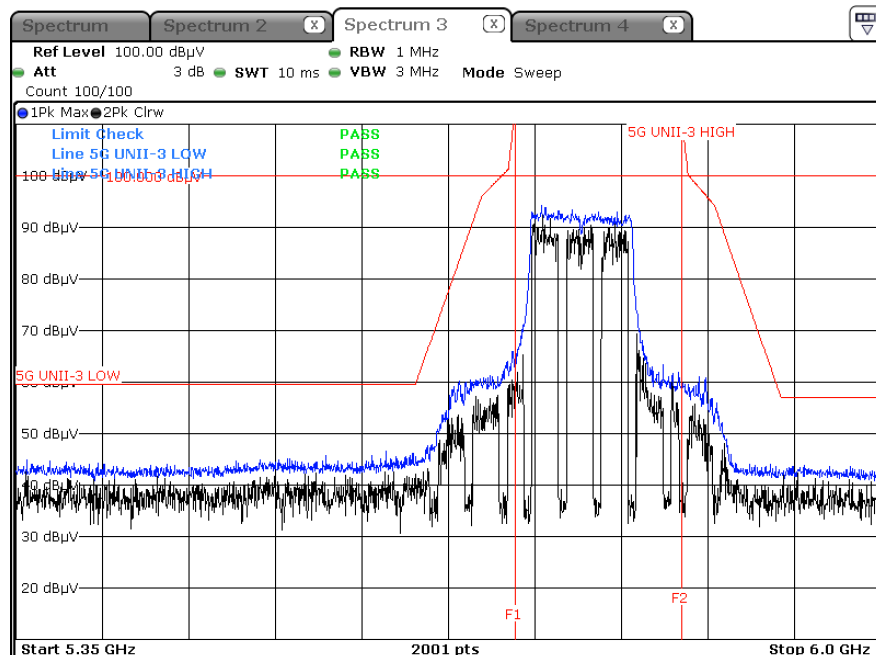
Peak Result (802.11n_HT40, Ch.159, X-H)



Peak Result (802.11ac_VHT40, Ch.159, X-H)



Peak Result (802.11ac_VHT80, Ch.155, X-H)

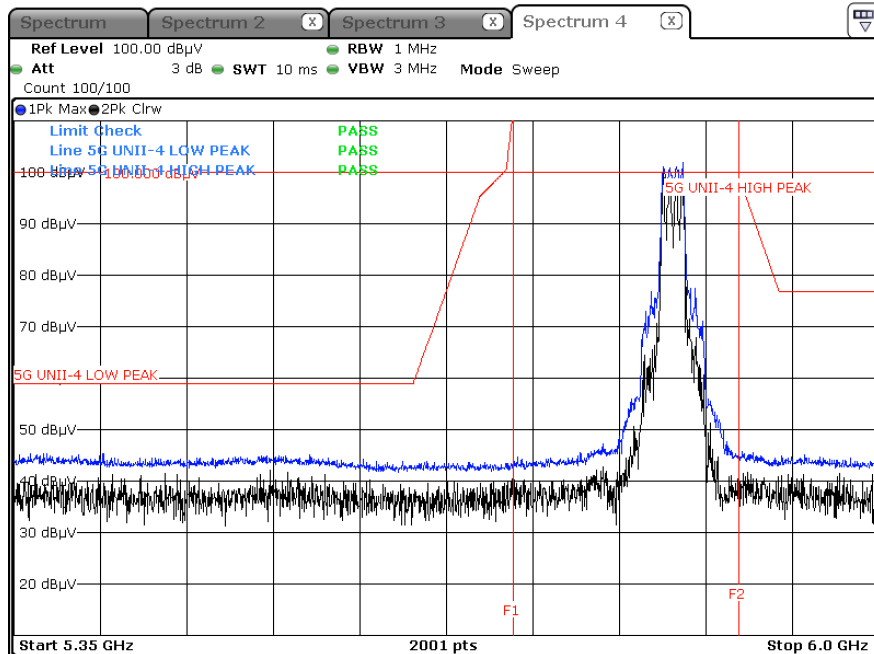


Note :

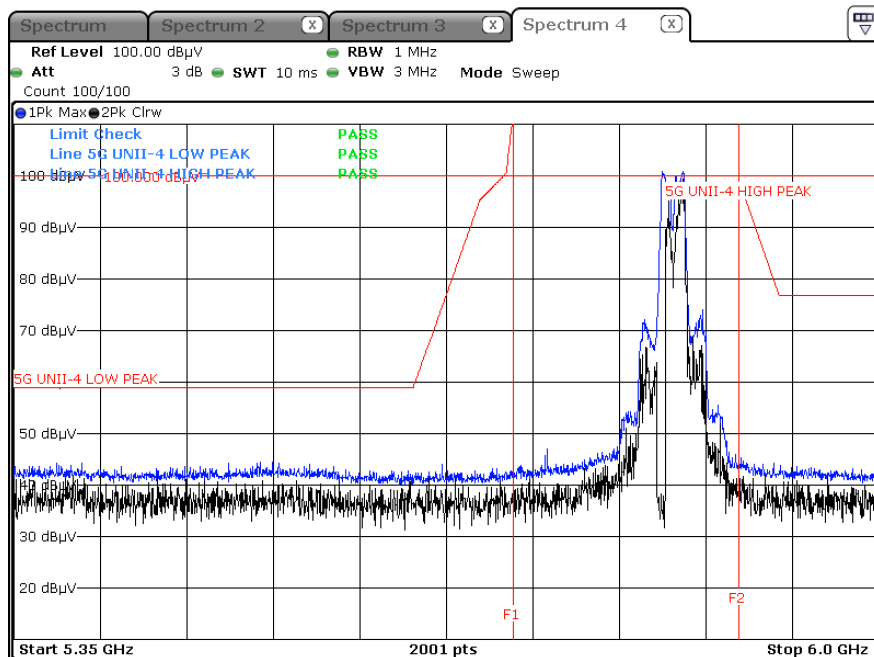
1. Only the worst case plots for U-NII-3 Out of Band e.i.r.p Emission.
2. U-NII-3 Low & High Band Edge RedLine is Final Test Limit about factor value compensation.

Test Plots(UNII 4) – O.O.B.E

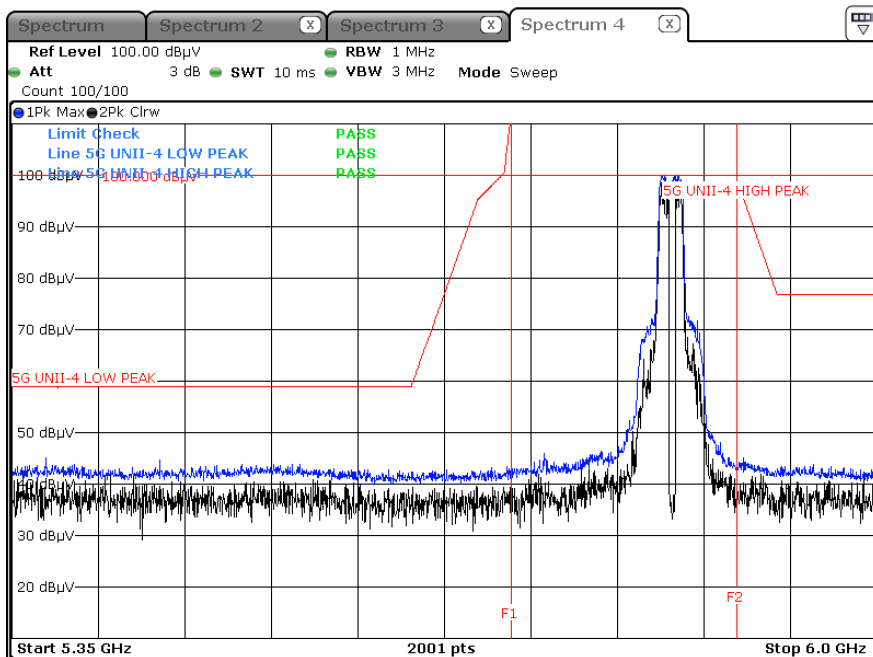
Peak Result (802.11a, Ch.169, Z-H)



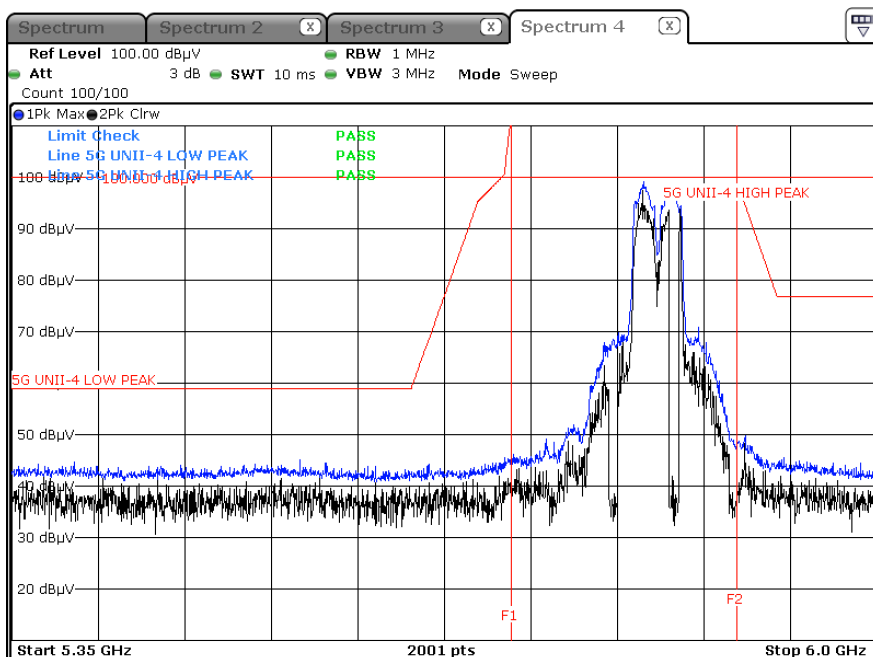
Peak Result (802.11n_HT20, Ch.169, Z-H)



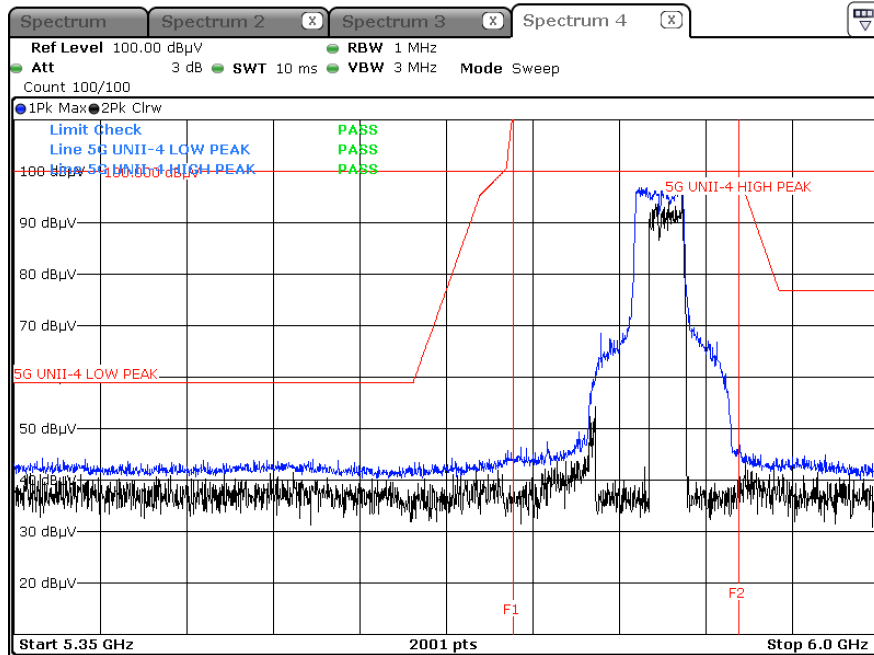
Peak Result (802.11ac_VHT20, Ch.169, Z-H)



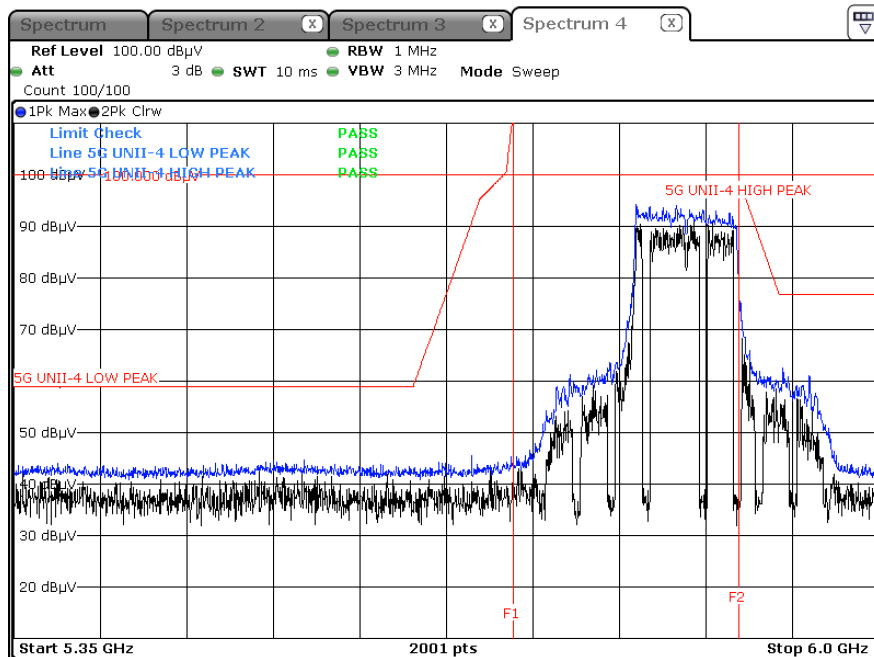
Peak Result (802.11n_HT40, Ch.167, Z-H)



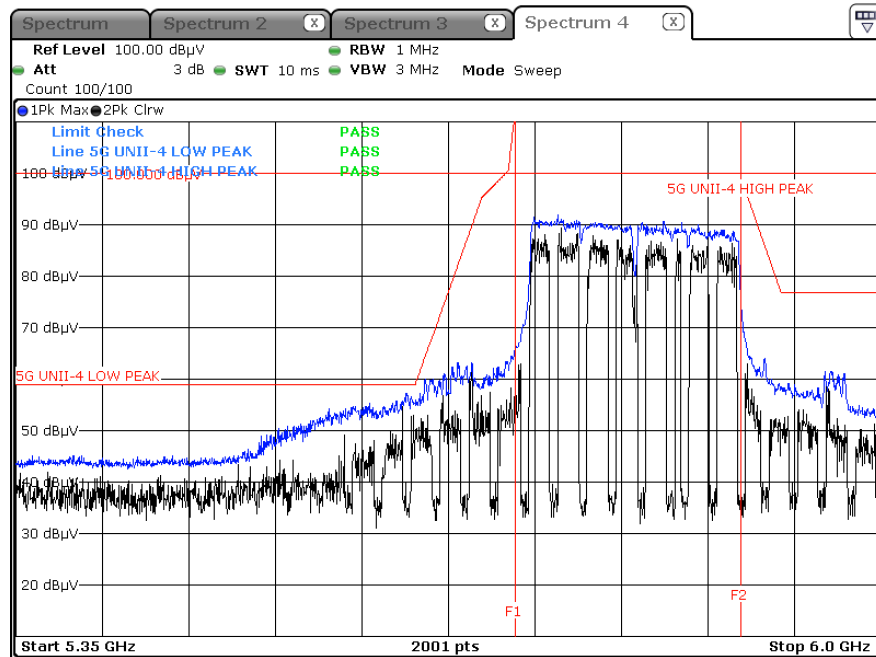
Peak Result (802.11ac_VHT40, Ch.167, Z-H)



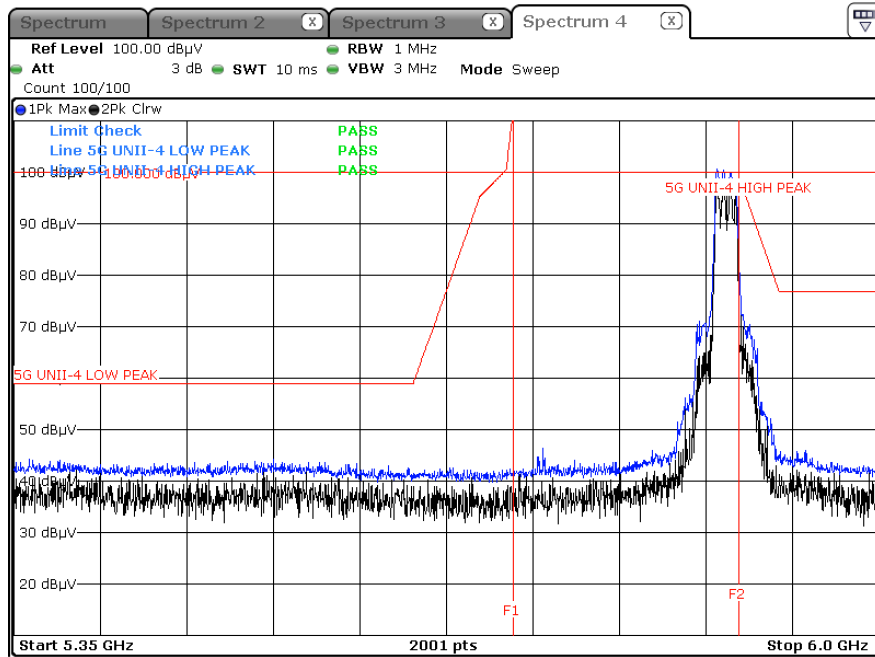
Peak Result (802.11ac_VHT80, Ch.171, Z-H)



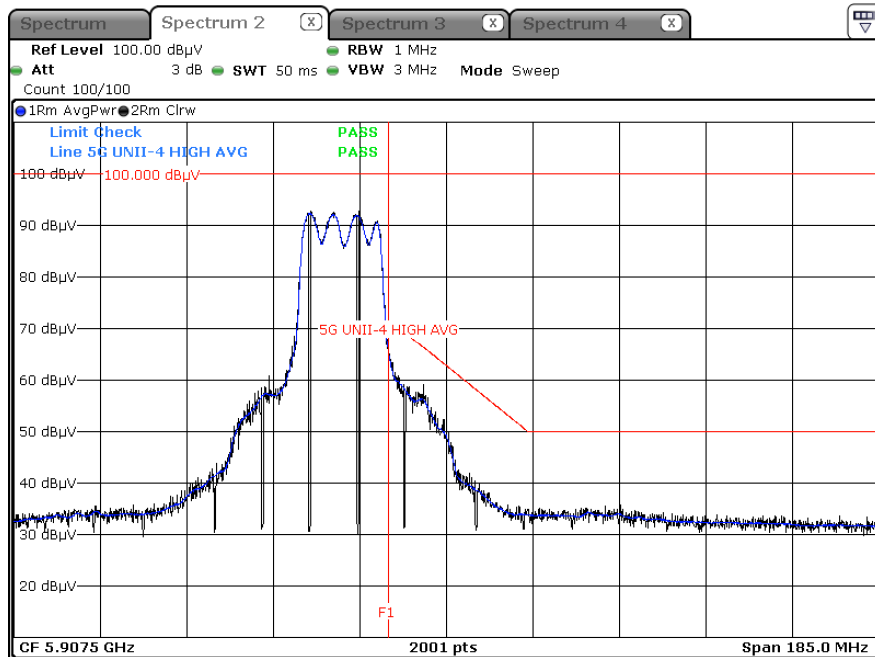
Peak Result (802.11ac_VHT160, Ch.163, Z-H)



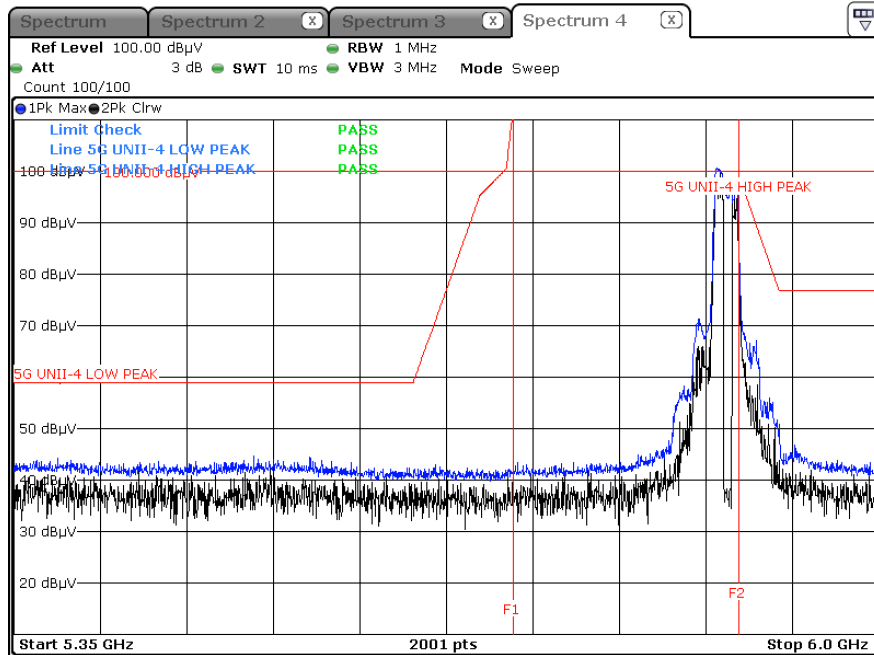
Peak Result (802.11a, Ch.177, X-H)



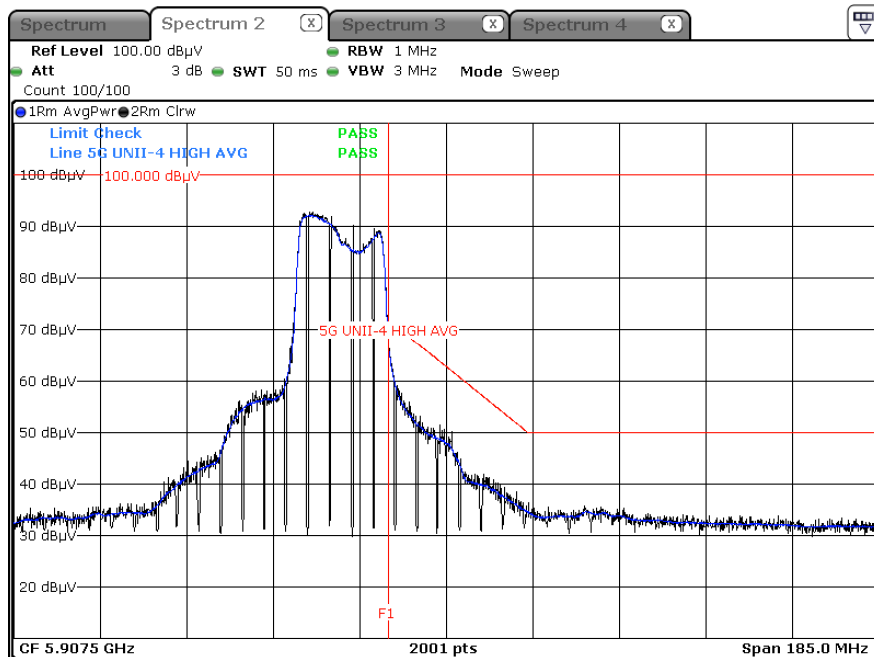
Average Result (802.11a, Ch.177, X-H)



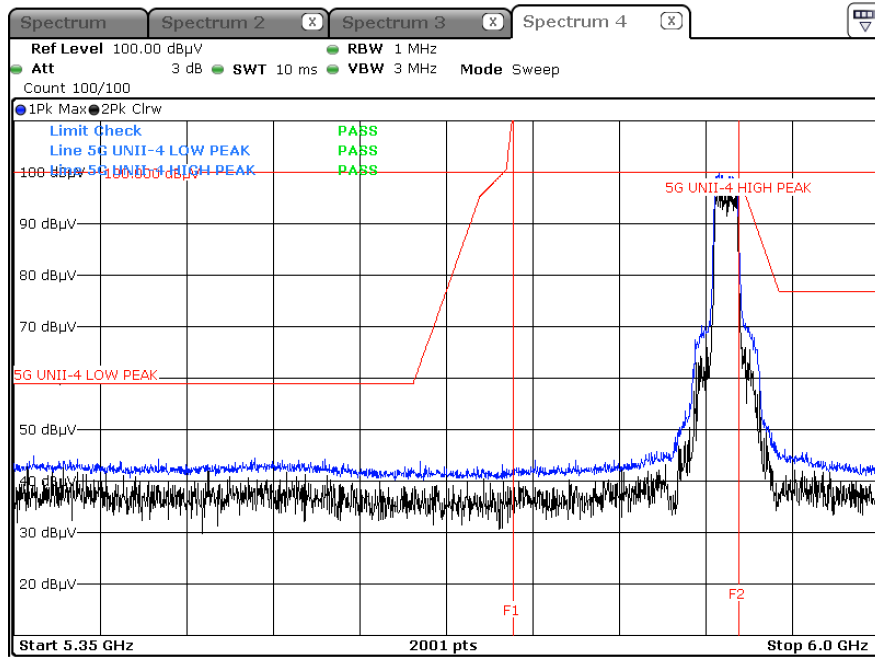
Peak Result (802.11n_HT20, Ch.177, X-H)



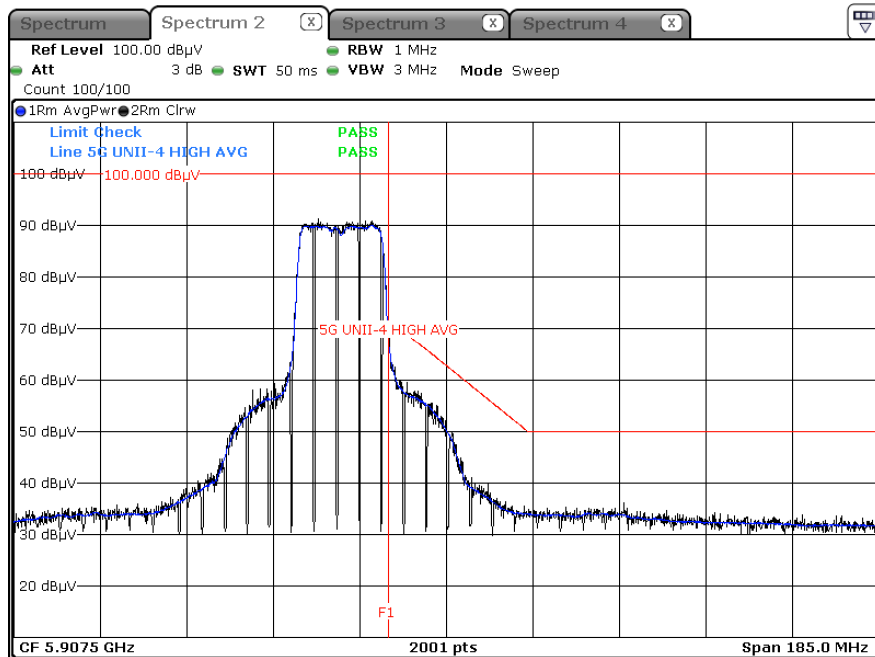
Average Result (802.11n_HT20, Ch.177, X-H)



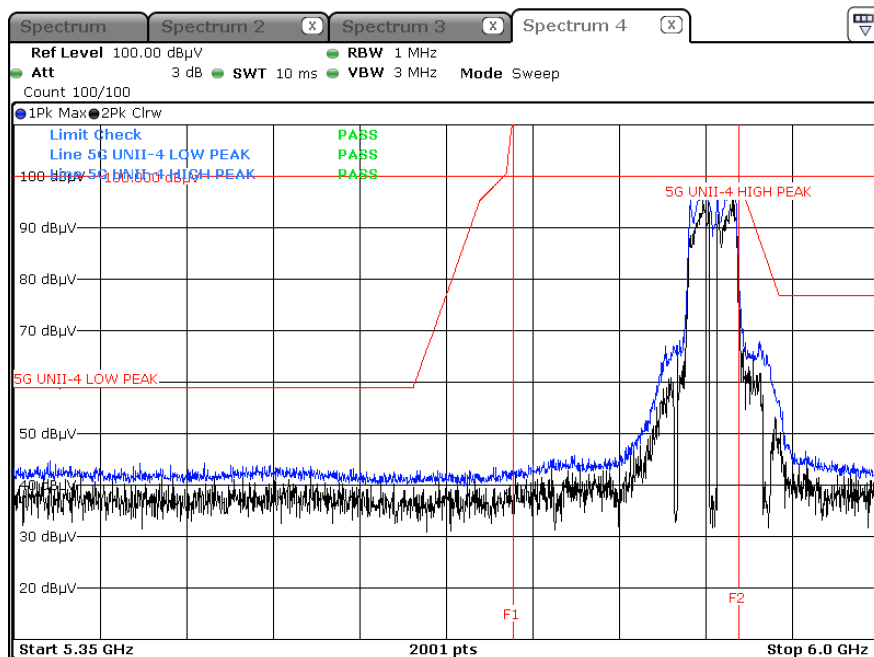
Peak Result (802.11ac_VHT20, Ch.177, X-H)



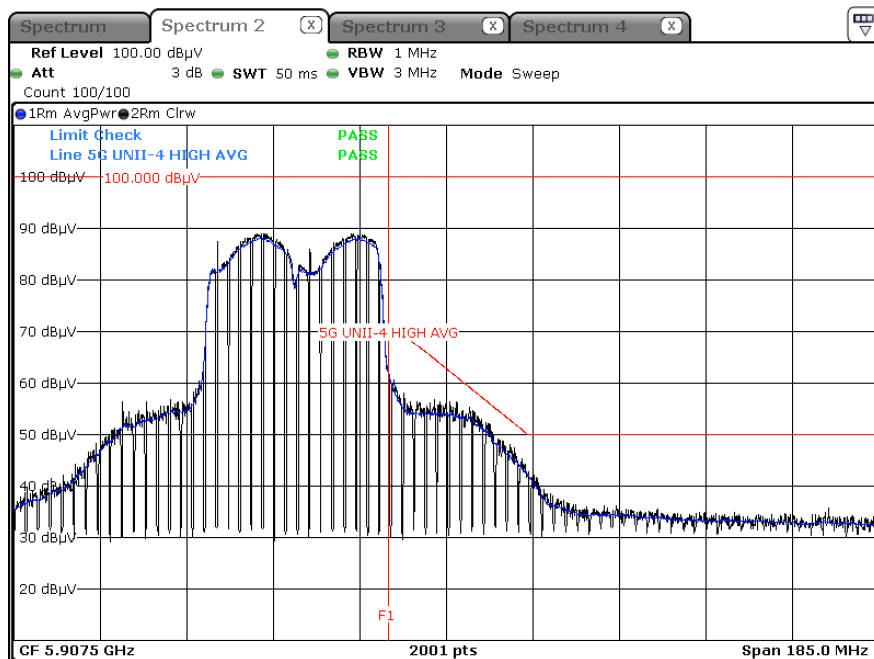
Average Result (802.11ac_VHT20, Ch.177, X-H)



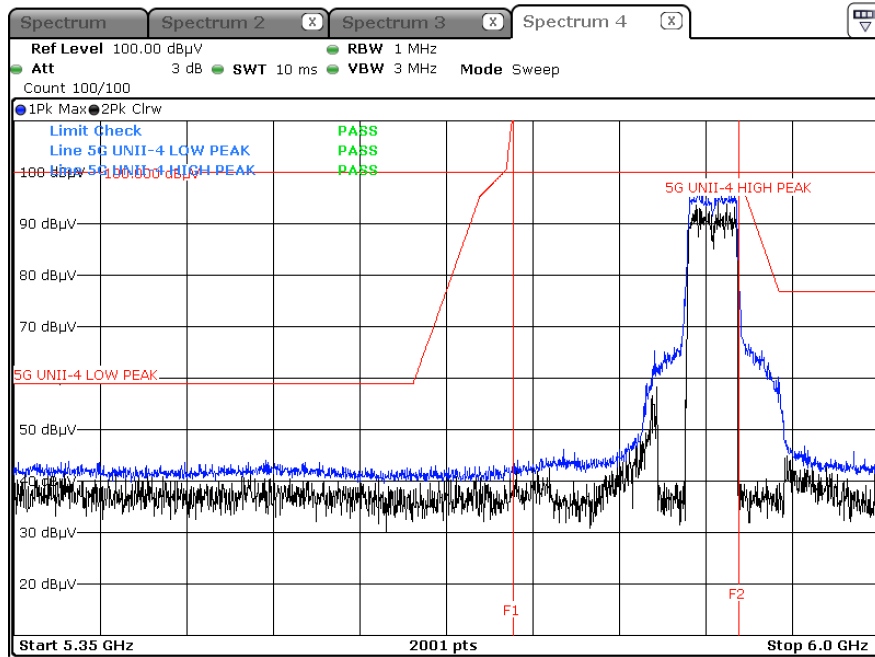
Peak Result (802.11n_HT40, Ch.175, X-H)



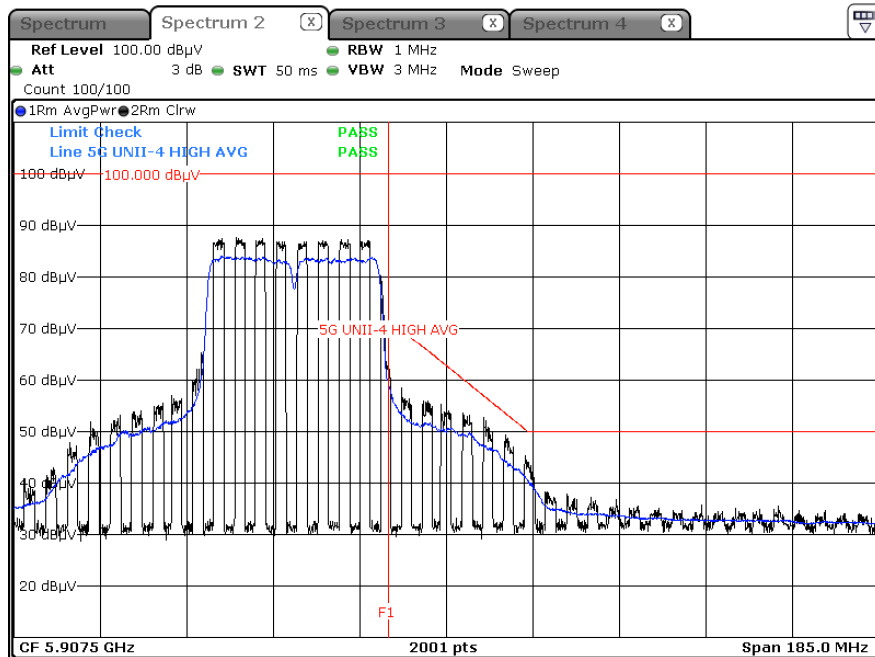
Average Result (802.11n_HT40, Ch.175, X-H)



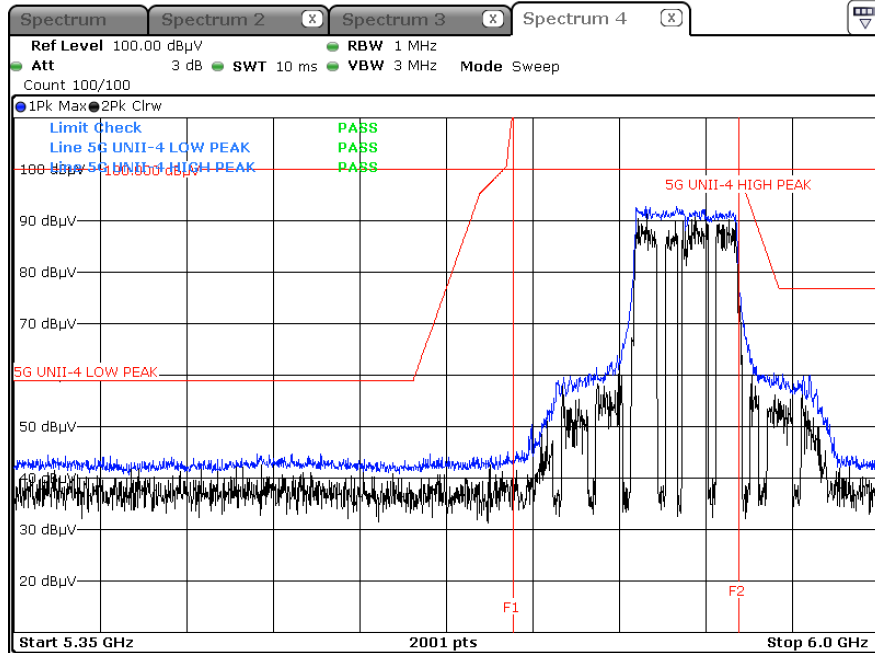
Peak Result (802.11ac_VHT40, Ch.175, X-H)



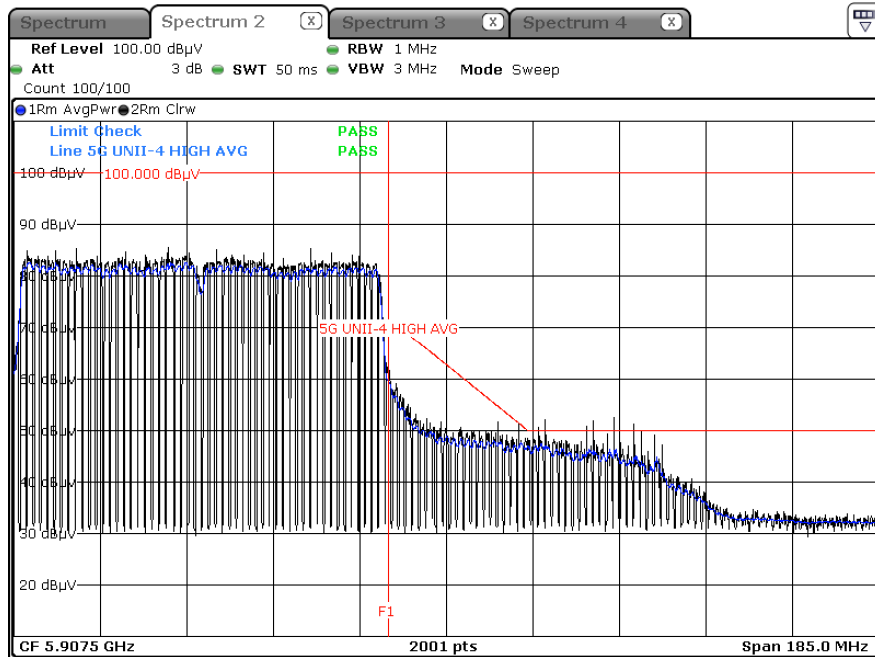
Average Result (802.11ac_VHT40, Ch.175, X-H)



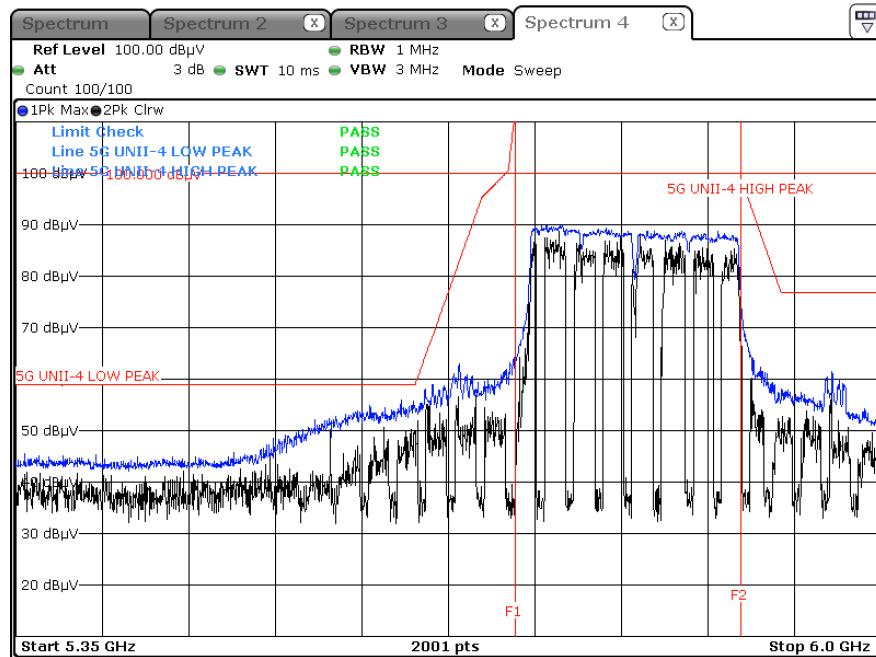
Peak Result (802.11ac_VHT80, Ch.171, X-H)



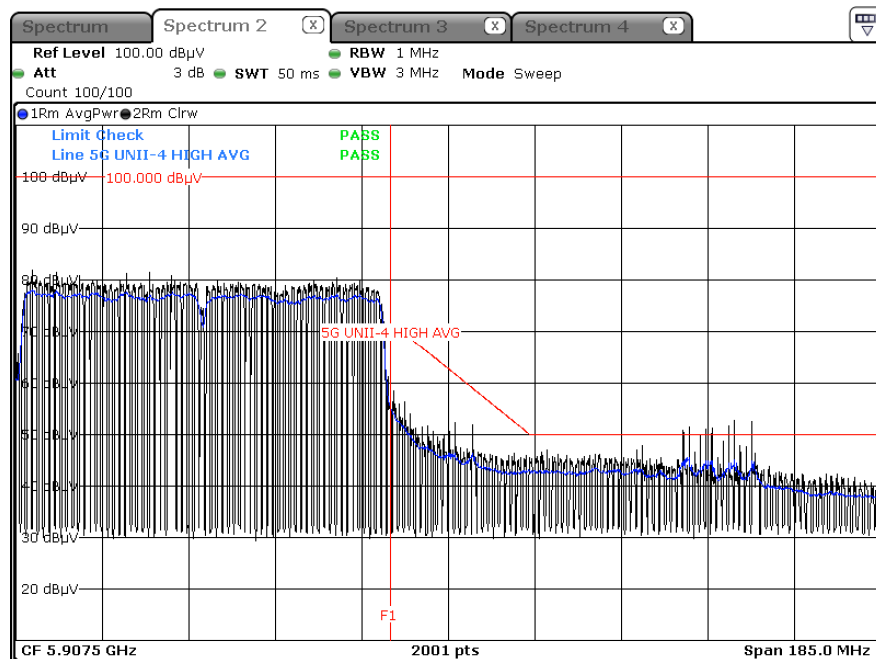
Average Result (802.11ac_VHT80, Ch.171, X-H)



Peak Result (802.11ac_VHT160, Ch.163, X-H)



Average Result (802.11ac_VHT160, Ch.163, X-H)



Note :

1. Only the worst case plots for U-NII-4 O.O.B.E
2. U-NII-4 Low & High O.O.B.E RedLine is Final Test Limit about factor value compensation.

10.10 POWERLINE CONDUCTED EMISSIONS

Conducted Emissions

Test

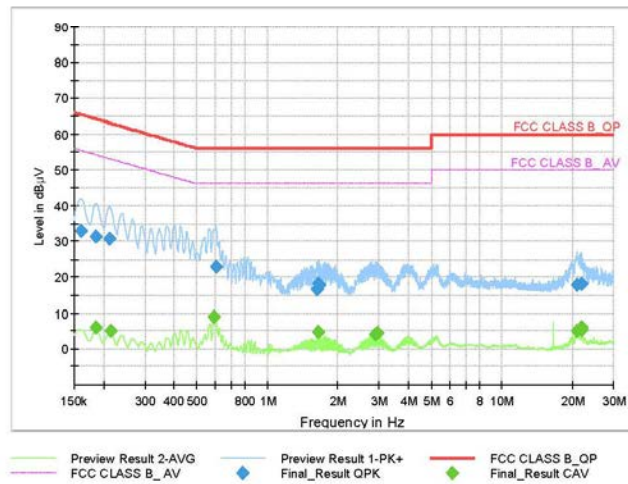
1 / 1

Test Report

Common Information

EUT : SM-S931B/DS
Operating Conditions : 5G WLAN Mode
Comment :

Full Spectrum



Final Result QPK

Frequency (MHz)	QuasiPeak (dBµV)	Limit (dBµV)	Margin (dB)	Bandwidth (kHz)	Line	Corr. (dB)
0.1613	32.80	65.40	32.60	9.000	L1	9.6
0.1860	31.44	64.21	32.77	9.000	L1	9.6
0.2130	30.84	63.09	32.25	9.000	L1	9.6
0.6058	23.00	56.00	33.00	9.000	L1	9.7
1.6318	16.52	56.00	39.48	9.000	N	9.7
1.6520	18.22	56.00	37.78	9.000	N	9.7
1.6565	18.03	56.00	37.97	9.000	N	9.7
20.9413	17.77	60.00	42.23	9.000	N	10.6
21.7828	18.35	60.00	41.65	9.000	N	10.6

Final Result CAV

Frequency (MHz)	CAverage (dBµV)	Limit (dBµV)	Margin (dB)	Bandwidth (kHz)	Line	Corr. (dB)
0.1860	6.12	54.21	48.10	9.000	N	9.6
0.2153	4.97	53.00	48.03	9.000	N	9.6
0.5945	8.78	46.00	37.22	9.000	N	9.6
1.6543	4.71	46.00	41.29	9.000	N	9.7
2.8805	4.08	46.00	41.92	9.000	N	9.8
2.9615	4.49	46.00	41.52	9.000	N	9.8
20.8805	5.01	50.00	44.99	9.000	N	10.6
21.7760	6.05	50.00	43.95	9.000	N	10.6
21.7828	5.38	50.00	44.62	9.000	N	10.6

2024-10-01

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11. LIST OF TEST EQUIPMENT

Conducted Test

Equipment	Model	Manufacturer	Serial No.	Due to Calibration	Calibration Interval
LISN	ENV216	Rohde & Schwarz	102245	07/17/2025	Annual
EMI Test Receiver	ESR	Rohde & Schwarz	101910	07/02/2025	Annual
Temperature Chamber	SU-642	ESPEC	0093008124	02/19/2025	Annual
Signal Analyzer	N9030A	Agilent	MY52350879	04/05/2025	Annual
Power Measurement Set	OSP 120	Rohde & Schwarz	101231	10/17/2025	Annual
Power Meter	N1911A	Agilent	MY45100523	02/28/2025	Annual
Power Sensor	N1921A	Agilent	MY57820067	02/22/2025	Annual
Directional Coupler	87300B	Agilent	3116A03621	10/21/2025	Annual
Power Splitter	11667B	Hewlett Packard	05001	04/17/2025	Annual
DC Power Supply	E3632A	H.P	KR75303243	04/19/2025	Annual
Attenuator(10 dB)	8493C	Hewlett Packard	07560	06/05/2025	Annual
Software	EMC32	Rohde & Schwarz	N/A	N/A	N/A
FCC WLAN&BT&BLE Conducted Test Software v3.0	N/A	HCT CO., LTD.	N/A	N/A	N/A

Note:

- Equipment listed above that calibrated during the testing period was set for test after the calibration.
- Equipment listed above that has a calibration due date during the testing period, the testing is completed before equipment expiration date.

Radiated Test

Equipment	Model	Manufacturer	Serial No.	Due to Calibration	Calibration Interval
Controller(Antenna mast)	CO3000	Innco system	CO3000-4p	N/A	N/A
Antenna Position Tower	MA4640/800-XP-EP	Innco system	N/A	N/A	N/A
Controller	EM1000	Audix	060520	N/A	N/A
Turn Table	N/A	Audix	N/A	N/A	N/A
Loop Antenna	FMZB 1513	Rohde & Schwarz	1513-333	03/07/2026	Biennial
Hybrid Antenna	VULB 9168	Schwarzbeck	760	02/24/2025	Biennial
Horn Antenna	BBHA 9120D	Schwarzbeck	02299	01/29/2026	Biennial
Horn Antenna (15GHz ~ 40 GHz)	BBHA9170	Schwarzbeck	BBHA9170342	09/20/2026	Biennial
Spectrum Analyzer	FSV40	Rohde & Schwarz	100901	02/22/2025	Annual
Signal Analyzer	N9030A	Agilent	MY52350879	04/05/2025	Annual
Band Reject Filter	WRCJV12-4900-5100-5900-6100-50SS	Wainwright Instruments	5	06/04/2025	Annual
Band Reject Filter	WRCJV12-4900-5100-5900-6100-50SS	Wainwright Instruments	6	06/04/2025	Annual
Band Reject Filter	WRCJV2400/2483.5-2370/2520-60/12SS	Wainwright Instruments	2	01/02/2025	Annual
Band Reject Filter	WRCJV5100/5850-40/50-8EEK	Wainwright Instruments	1	02/14/2025	Annual
RF Switching System	FMSR-04B (3G HPF+LNA)	T&M SYSTEM	S2L1	12/27/2024	Annual
RF Switching System	FMSR-04B (10dB ATT+LNA)	T&M SYSTEM	S2L2	12/27/2024	Annual
RF Switching System	FMSR-04B (3dB ATT+LNA)	T&M SYSTEM	S2L3	12/27/2024	Annual
RF Switching System	FMSR-04B (LNA)	T&M SYSTEM	S2L4	12/27/2024	Annual
RF Switching System	FMSR-04B (7G HPF+LNA)	T&M SYSTEM	S2L5	12/27/2024	Annual
Power Amplifier	CBL18265035	CERNEX	22966	11/17/2024	Annual
Power Amplifier	CBL26405040	CERNEX	25956	02/26/2025	Annual

Note:

1. Equipment listed above that calibrated during the testing period was set for test after the calibration.
2. Equipment listed above that has a calibration due date during the testing period, the testing is completed before equipment expiration date.
3. Especially, all antenna for measurement is calibrated in accordance with the requirements of C63.5(Version : 2017).

12. ANNEX A_ TEST SETUP PHOTO

Please refer to test setup photo file no. as follows;

No.	Description
1	HCT-RF-2411-FC003-P