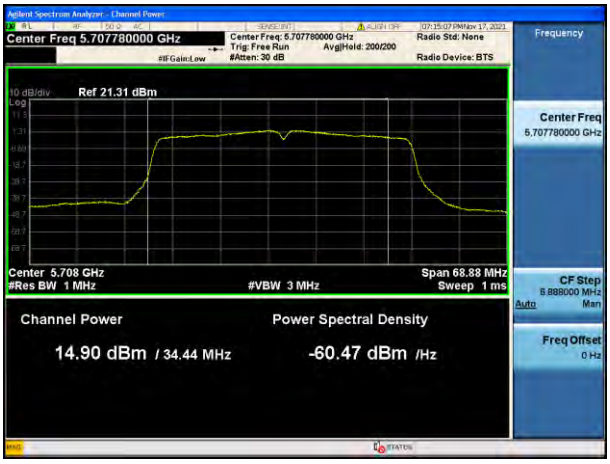
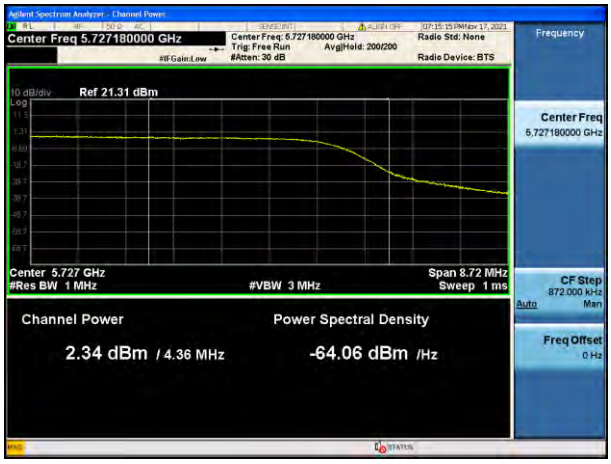
802.11n(HT40) UNII 2C Band	802.11n(HT40) UNII 3 Band
	
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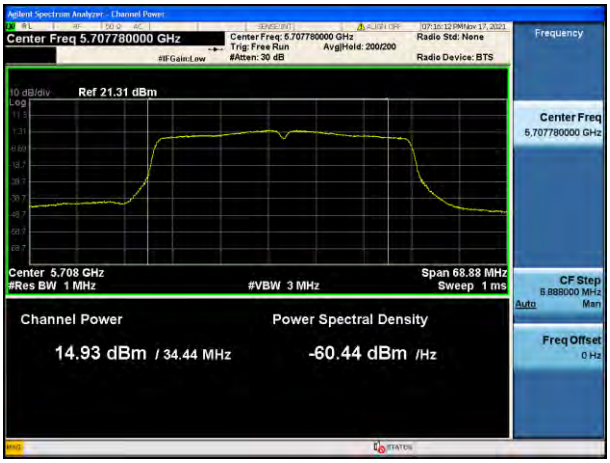
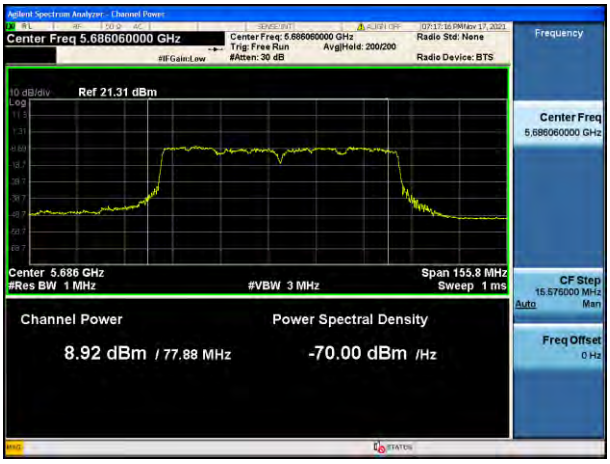
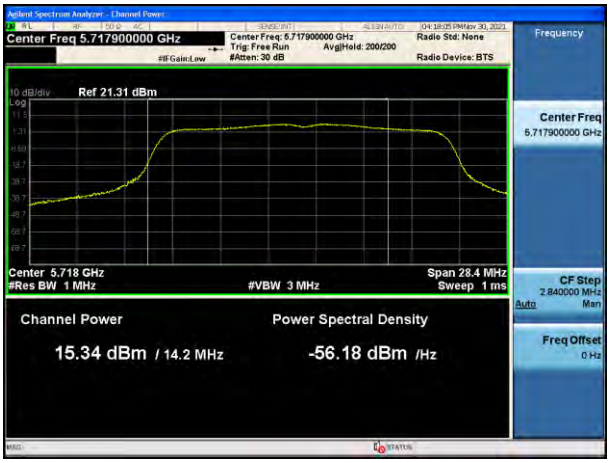
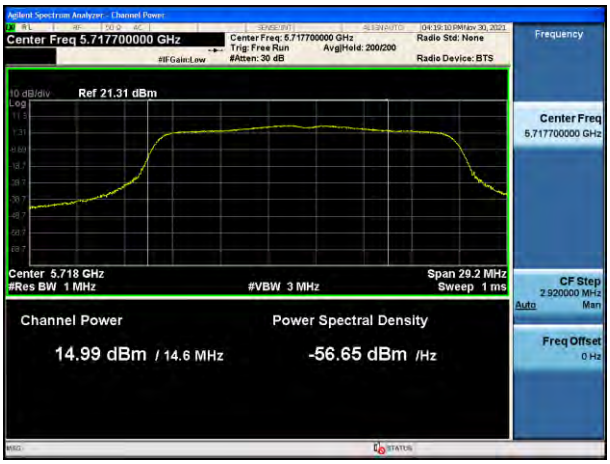
	
802.11ac(VHT80) UNII 2C Band	**802.11ac(VHT80) UNII 3 Band**
	

[Ant.2]

▣ Test Plots

802.11a UNII 2C Band	802.11a UNII 3 Band
	
802.11n(HT20) UNII 2C Band	**802.11n(HT20) UNII 3 Band**
	
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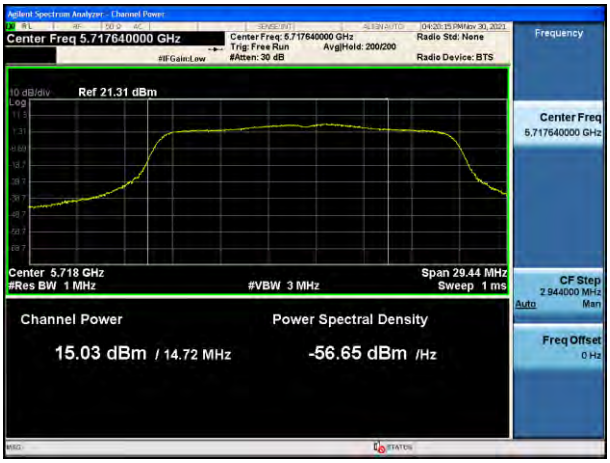
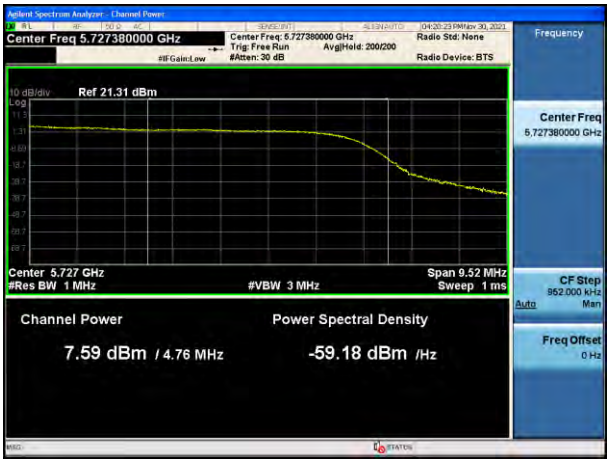
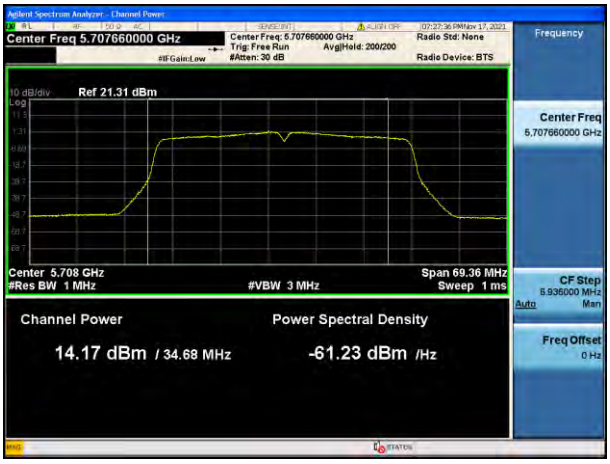
	

802.11n(HT40) UNII 2C Band	802.11n(HT40) UNII 3 Band
	
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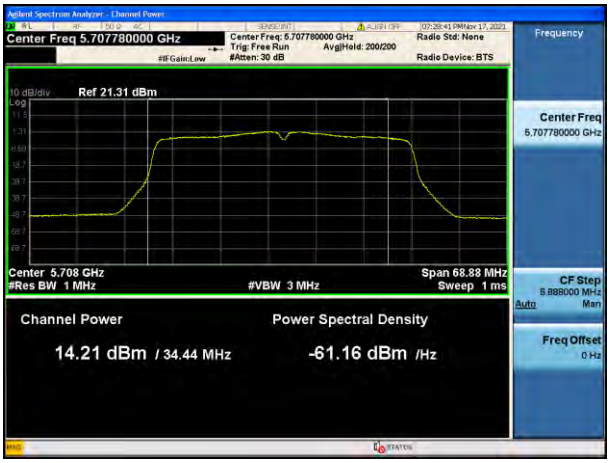
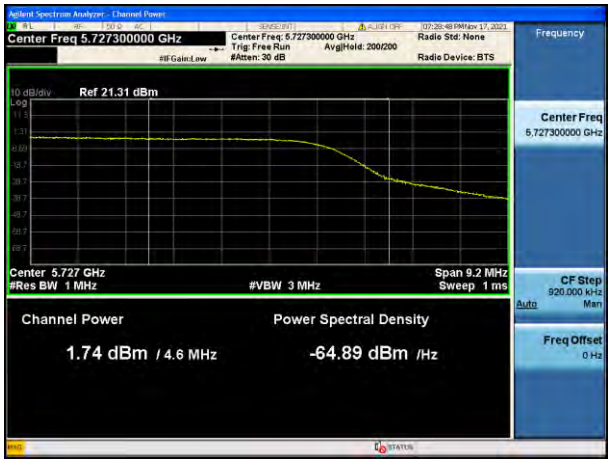
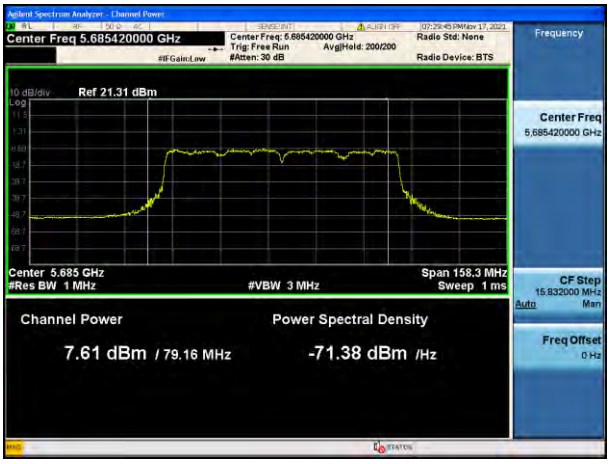
	
802.11ac(VHT80) UNII 2C Band	**802.11ac(VHT80) UNII 3 Band**
	

10.6.4 Power Spectral Density

[Ant.1]

Mode	Frequency [MHz]	Channel	Measured Density [dBm]	Duty Cycle Factor [dB]	Total PSD [dBm]	Limit [dBm]	Worstcase Datarate
802.11a	5720 (UNII 2C Band)	144	5.556	0.799	6.355	11 dBm/ MHz	18 Mbps
802.11n(HT20)			4.810	0.858	5.668		MCS2
802.11ac(VHT20)			5.111	0.849	5.960		MCS2
802.11a	5720 (UNII 3 Band)	144	0.007	0.799	0.806	30 dB/ 500 kHz	18 Mbps
802.11n(HT20)			-0.611	0.858	0.247		MCS2
802.11ac(VHT20)			-0.598	0.849	0.251		MCS2

Mode	Frequency [MHz]	Channel	Measured Density [dBm]	Duty Cycle Factor [dB]	Total PSD [dBm]	Limit [dBm]	Worstcase Datarate
802.11n(HT40)	5710 (UNII 2C Band)	142	2.182	1.114	3.296	11 dBm/ MHz	MCS6
802.11ac(VHT40)			2.553	1.114	3.666		MCS1
802.11n(HT40)	5710 (UNII 3 Band)	142	-4.329	1.114	-3.216	30 dBm/ 500 kHz	MCS6
802.11ac(VHT40)			-4.731	1.114	-3.618		MCS1

Mode	Frequency [MHz]	Channel	Measured Density [dBm]	Duty Cycle Factor [dB]	Total PSD [dBm]	Limit [dBm]	Worstcase Datarate
802.11ac(VHT80)	5690 (UNII 2C Band)	138	-7.479	6.573	-0.907	11 dBm/ MHz	MCS5
	5690 (UNII 3 Band)	138	-13.090	6.573	-6.518	30 dBm/ 500 kHz	MCS5

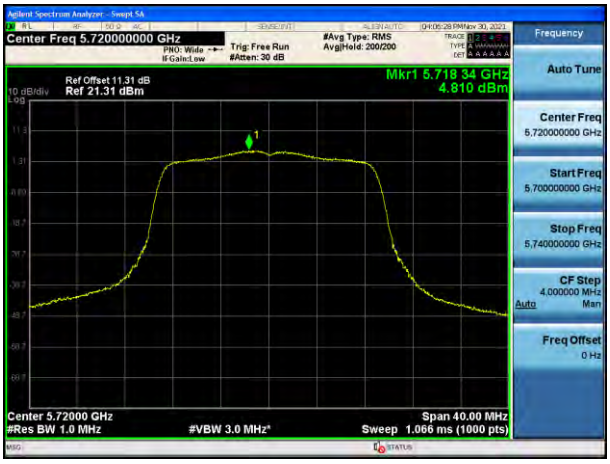
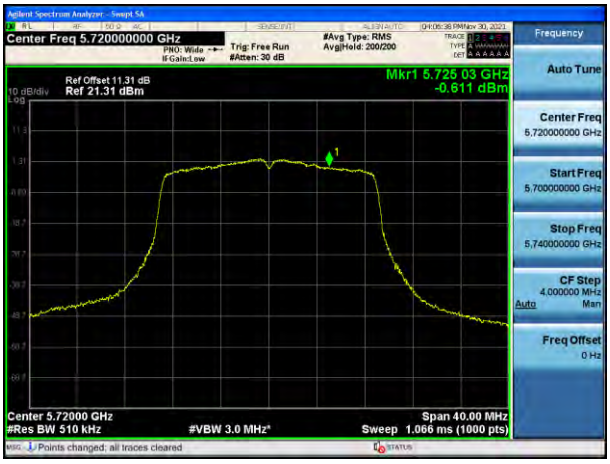
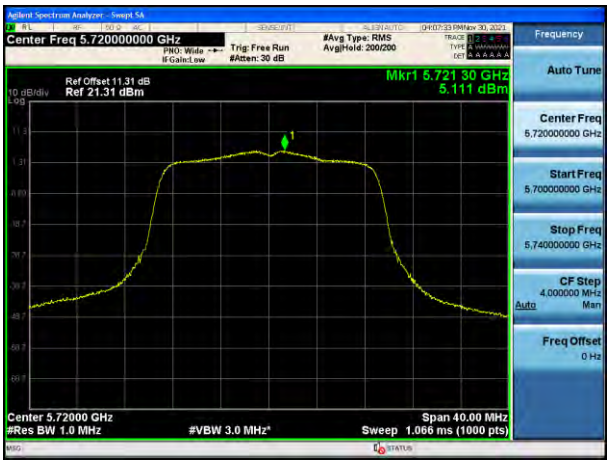
[Ant.2]

Mode	Frequency [MHz]	Channel	Measured Density [dBm]	Duty Cycle Factor [dB]	Total PSD [dBm]	Limit [dBm]	Worstcase Datarate
802.11a	5720 (UNII 2C Band)	144	6.188	0.799	6.987	11 dBm/ MHz	18 Mbps
802.11n(HT20)			5.854	0.858	6.712		MCS2
802.11ac(VHT20)			5.545	0.849	6.394		MCS2
802.11a	5720 (UNII 3 Band)	144	0.394	0.799	1.193	30 dBm/500 kHz	18 Mbps
802.11n(HT20)			0.350	0.858	1.208		MCS2
802.11ac(VHT20)			-0.319	0.849	0.530		MCS2

Mode	Frequency [MHz]	Channel	Measured Density [dBm]	Duty Cycle Factor [dB]	Total PSD [dBm]	Limit [dBm]	Worstcase Datarate
802.11n(HT40)	5710 (UNII 2C Band)	142	1.544	1.114	2.657	11 dBm/ MHz	MCS6
802.11ac(VHT40)			1.562	1.114	2.675		MCS1
802.11n(HT40)	5710 (UNII 3 Band)	142	-5.020	1.114	-3.906	30 dBm/ 500 kHz	MCS6
802.11ac(VHT40)			-5.121	1.114	-4.007		MCS1

Mode	Frequency [MHz]	Channel	Measured Density [dBm]	Duty Cycle Factor [dB]	Total PSD [dBm]	Limit [dBm]	Worstcase Datarate
802.11ac(VHT80)	5690 (UNII 2C Band)	138	-8.413	6.573	-1.840	11 dBm/ MHz	MCS5
	5690 (UNII 3 Band)	138	-11.993	6.573	-5.421	30 dBm/ 500 kHz	MCS5

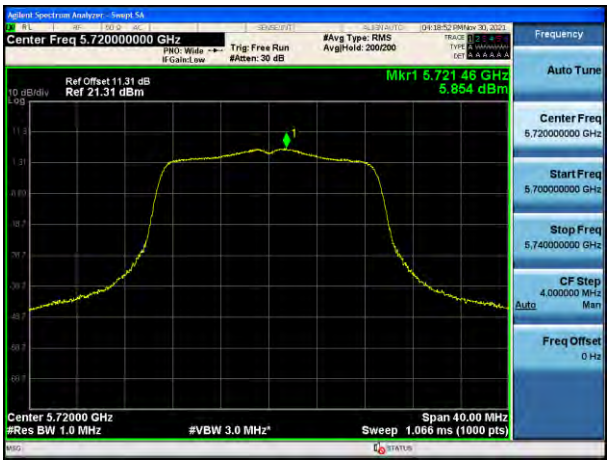
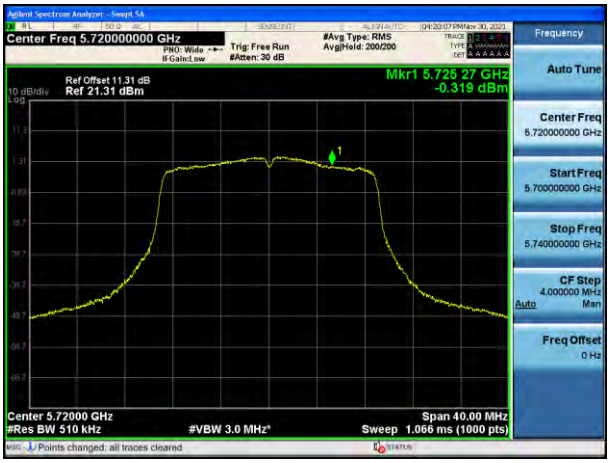
[Ant.1]
▣ Test Plots

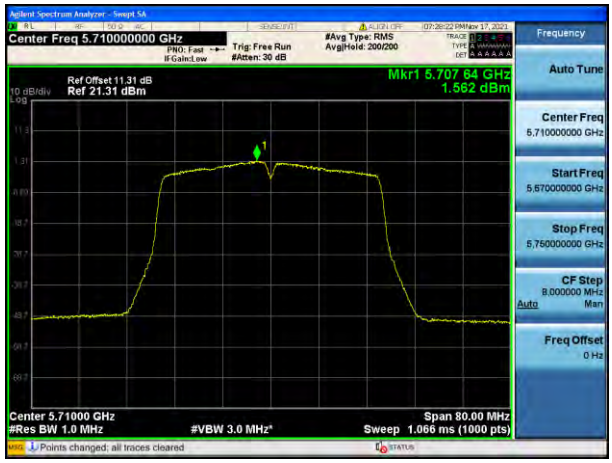
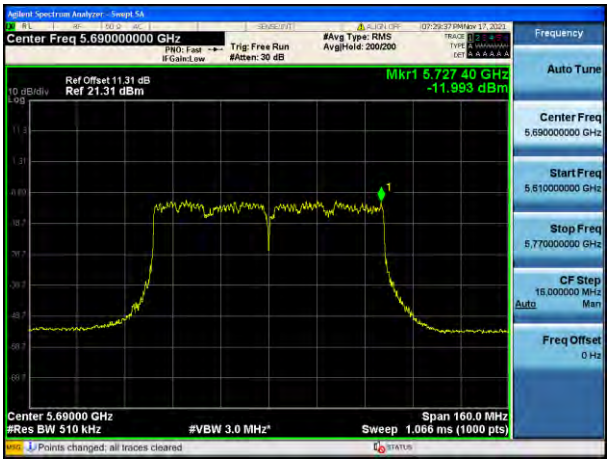
802.11a UNII 2C Band	802.11a UNII 3 Band
	
802.11n(HT20) UNII 2C Band	**802.11n(HT20) UNII 3 Band**
	
802.11ac(VHT20) UNII 2C Band	**802.11ac(VHT20) UNII 3 Band**
	

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**
	

[Ant.2]

▣ Test Plots

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**
	

10.7 RADIATED SPURIOUS EMISSIONS

Frequency Range : 9 kHz – 30 MHz

Frequency	Measured Value	A.F+D.F+C.L	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 = 40log (specific distance / test distance) (dB)
3. Limit line = specific Limits (dBμV) + Distance extrapolation factor

Frequency Range : Below 1 GHz

Frequency	Measured Value	A.F+C.L	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

[Ant.1&Ant.2_MIMO(CDD)]

Frequency Range : Above 1 GHz

Band :	UNII 1
Operation Mode:	802.11 a
Transfer Rate:	6 Mbps
Operating Frequency	5180 MHz
Channel No.	36 Ch

Frequency [MHz]	Measured Value [dBµV]	CL+AF+DF-AG [dB/m]	POL [H/V]	Total [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Measurement Type
10360	53.28	0.24	V	53.52	68.20	14.68	PK
15540	50.88	2.16	V	53.04	73.98	20.94	PK
15540	37.19	2.16	V	39.35	53.98	14.63	AV
10360	53.10	0.24	H	53.34	68.20	14.86	PK
15540	50.96	2.16	H	53.12	73.98	20.86	PK
15540	37.29	2.16	H	39.45	53.98	14.53	AV

Band :	UNII 1
Operation Mode:	802.11 a
Transfer Rate:	6 Mbps
Operating Frequency	5200 MHz
Channel No.	40 Ch

Frequency [MHz]	Measured Value [dBµV]	CL+AF+DF-AG [dB/m]	POL [H/V]	Total [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Measurement Type
10400	52.98	0.74	V	53.72	68.20	14.48	PK
15600	51.28	1.81	V	53.09	73.98	20.89	PK
15600	37.05	1.81	V	38.86	53.98	15.12	AV
10400	53.24	0.74	H	53.98	68.20	14.22	PK
15600	51.36	1.81	H	53.17	73.98	20.81	PK
15600	37.16	1.81	H	38.97	53.98	15.01	AV

Band :	UNII 1
Operation Mode:	802.11 a
Transfer Rate:	6 Mbps
Operating Frequency	5240 MHz
Channel No.	48 Ch

Frequency [MHz]	Measured Value [dBµV]	CL+AF+DF-AG [dB/m]	POL [H/V]	Total [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Measurement Type
10480	52.71	-0.25	V	52.46	68.20	15.74	PK
15720	50.56	1.16	V	51.72	73.98	22.26	PK
15720	37.31	1.16	V	38.47	53.98	15.51	AV
10480	52.82	-0.25	H	52.57	68.20	15.63	PK
15720	50.48	1.16	H	51.64	73.98	22.34	PK
15720	37.22	1.16	H	38.38	53.98	15.60	AV

Band :	UNII 2A
Operation Mode:	802.11 a
Transfer Rate:	6 Mbps
Operating Frequency	5260 MHz
Channel No.	52 Ch

Frequency [MHz]	Measured Value [dBµV]	CL+AF+DF-AG [dB/m]	POL [H/V]	Total [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Measurement Type
10520	52.84	-0.20	V	52.64	68.20	15.56	PK
15780	52.66	1.20	V	53.86	73.98	20.12	PK
15780	37.18	1.20	V	38.38	53.98	15.60	AV
10520	52.94	-0.20	H	52.74	68.20	15.46	PK
15780	52.80	1.20	H	54.00	73.98	19.98	PK
15780	37.34	1.20	H	38.54	53.98	15.44	AV

Band :	UNII 2A
Operation Mode:	802.11 a
Transfer Rate:	6 Mbps
Operating Frequency	5300 MHz
Channel No.	60 Ch

Frequency [MHz]	Measured Value [dBµV]	CL+AF+DF-AG [dB/m]	POL [H/V]	Total [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Measurement Type
10600	52.79	0.10	V	52.89	73.98	21.09	PK
10600	38.46	0.10	V	38.56	53.98	15.42	AV
15900	50.11	1.04	V	51.15	73.98	22.83	PK
15900	37.13	1.04	V	38.17	53.98	15.81	AV
10600	52.94	0.10	H	53.04	73.98	20.94	PK
10600	39.86	0.10	H	39.96	53.98	14.02	AV
15900	50.18	1.04	H	51.22	73.98	22.76	PK
15900	37.28	1.04	H	38.32	53.98	15.66	AV

Band :	UNII 2A
Operation Mode:	802.11 a
Transfer Rate:	6 Mbps
Operating Frequency	5320 MHz
Channel No.	64 Ch

Frequency [MHz]	Measured Value [dBµV]	CL+AF+DF-AG [dB/m]	POL [H/V]	Total [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Measurement Type
10640	53.54	0.35	V	53.89	73.98	20.09	PK
10640	41.04	0.35	V	41.39	53.98	12.59	AV
15960	50.68	1.12	V	51.80	73.98	22.18	PK
15960	37.51	1.12	V	38.63	53.98	15.35	AV
10640	53.26	0.35	H	53.61	73.98	20.37	PK
10640	40.72	0.35	H	41.07	53.98	12.91	AV
15960	50.44	1.12	H	51.56	73.98	22.42	PK
15960	37.29	1.12	H	38.41	53.98	15.57	AV

Band :	UNII 2C
Operation Mode:	802.11 a
Transfer Rate:	6 Mbps
Operating Frequency	5500 MHz
Channel No.	100 Ch

Frequency [MHz]	Measured Value [dBµV]	CL+AF+DF-AG [dB/m]	POL [H/V]	Total [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Measurement Type
11000	52.93	0.40	V	53.33	73.98	20.65	PK
11000	38.45	0.40	V	38.85	53.98	15.13	AV
16500	51.01	1.16	V	52.17	68.20	16.03	PK
11000	53.12	0.40	H	53.52	73.98	20.46	PK
11000	38.89	0.40	H	39.29	53.98	14.69	AV
16500	51.12	1.16	H	52.28	68.20	15.92	PK

Band :	UNII 2C
Operation Mode:	802.11 a
Transfer Rate:	6 Mbps
Operating Frequency	5600 MHz
Channel No.	120 Ch

Frequency [MHz]	Measured Value [dBµV]	CL+AF+DF-AG [dB/m]	POL [H/V]	Total [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Measurement Type
11200	53.17	-0.40	V	52.77	73.98	21.21	PK
11200	39.64	-0.40	V	39.24	53.98	14.74	AV
16800	51.01	0.65	V	51.66	68.20	16.54	PK
11200	53.47	-0.40	H	53.07	73.98	20.91	PK
11200	39.94	-0.40	H	39.54	53.98	14.44	AV
16800	51.22	0.65	H	51.87	68.20	16.33	PK

Band :	UNII 2C
Operation Mode:	802.11 a
Transfer Rate:	6 Mbps
Operating Frequency	5720 MHz
Channel No.	144 Ch

Frequency [MHz]	Measured Value [dBµV]	CL+AF+DF-AG [dB/m]	POL [H/V]	Total [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Measurement Type
11440	52.18	0.14	V	52.32	73.98	21.66	PK
11440	39.58	0.14	V	39.72	53.98	14.26	AV
17160	51.02	1.35	V	52.37	68.20	15.83	PK
11440	52.97	0.14	H	53.11	73.98	20.87	PK
11440	39.68	0.14	H	39.82	53.98	14.16	AV
17160	51.23	1.35	H	52.58	68.20	15.62	PK

Band :	UNII 3
Operation Mode:	802.11 a
Transfer Rate:	6 Mbps
Operating Frequency	5745MHz
Channel No.	149 Ch

Frequency [MHz]	Measured Value [dBµV]	CL+AF+DF-AG [dB/m]	POL [H/V]	Total [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Measurement Type
11490	52.55	-0.14	V	52.41	73.98	21.57	PK
11490	39.82	-0.14	V	39.68	53.98	14.30	AV
17235	51.31	1.61	V	52.92	68.20	15.28	PK
11490	52.12	-0.14	H	51.98	73.98	22.00	PK
11490	39.51	-0.14	H	39.37	53.98	14.61	AV
17235	51.41	1.61	H	53.02	68.20	15.18	PK

Band :	UNII 3
Operation Mode:	802.11 a
Transfer Rate:	6 Mbps
Operating Frequency	5785 MHz
Channel No.	157 Ch

Frequency [MHz]	Measured Value [dBµV]	CL+AF+DF-AG [dB/m]	POL [H/V]	Total [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Measurement Type
11570	52.19	0.07	V	52.26	73.98	21.72	PK
11570	39.45	0.07	V	39.52	53.98	14.46	AV
17355	51.55	1.69	V	53.24	68.20	14.96	PK
11570	51.89	0.07	H	51.96	73.98	22.02	PK
11570	39.22	0.07	H	39.29	53.98	14.69	AV
17355	51.63	1.69	H	53.32	68.20	14.88	PK

Band :	UNII 3
Operation Mode:	802.11 a
Transfer Rate:	6 Mbps
Operating Frequency	5825 MHz
Channel No.	165 Ch

Frequency [MHz]	Measured Value [dBµV]	CL+AF+DF-AG [dB/m]	POL [H/V]	Total [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Measurement Type
11650	52.82	-0.70	V	52.12	73.98	21.86	PK
11650	39.55	-0.70	V	38.85	53.98	15.13	AV
17475	50.41	2.65	V	53.06	68.20	15.14	PK
11650	52.69	-0.70	H	51.99	73.98	21.99	PK
11650	39.32	-0.70	H	38.62	53.98	15.36	AV
17475	50.52	2.65	H	53.17	68.20	15.03	PK

Band :	UNII 4
Operation Mode:	802.11 a
Transfer Rate:	6 Mbps
Operating Frequency	5845 MHz
Channel No.	169 Ch

Frequency [MHz]	Measured Value [dBµV]	AF+CL-AG+DF [dB/m]	ANT. POL [H/V]	Total [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Measurement Type
11690	52.51	-0.42	V	52.09	73.98	21.89	PK
11690	39.22	-0.42	V	38.80	53.98	15.18	AV
17535	50.14	3.80	V	53.94	68.20	14.26	PK
11690	52.74	-0.42	H	52.32	73.98	21.66	PK
11690	39.46	-0.42	H	39.04	53.98	14.94	AV
17535	50.01	3.80	H	53.81	68.20	14.39	PK

Band :	UNII 4
Operation Mode:	802.11 a
Transfer Rate:	6 Mbps
Operating Frequency	5865 MHz
Channel No.	173 Ch

Frequency [MHz]	Measured Value [dBµV]	AF+CL-AG+DF [dB/m]	ANT. POL [H/V]	Total [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Measurement Type
11730	52.55	-0.32	V	52.23	73.98	21.75	PK
11730	39.68	-0.32	V	39.36	53.98	14.62	AV
17595	50.12	4.01	V	54.13	68.20	14.07	PK
11730	52.72	-0.32	H	52.40	73.98	21.58	PK
11730	39.84	-0.32	H	39.52	53.98	14.46	AV
17595	50.09	4.01	H	54.10	68.20	14.10	PK

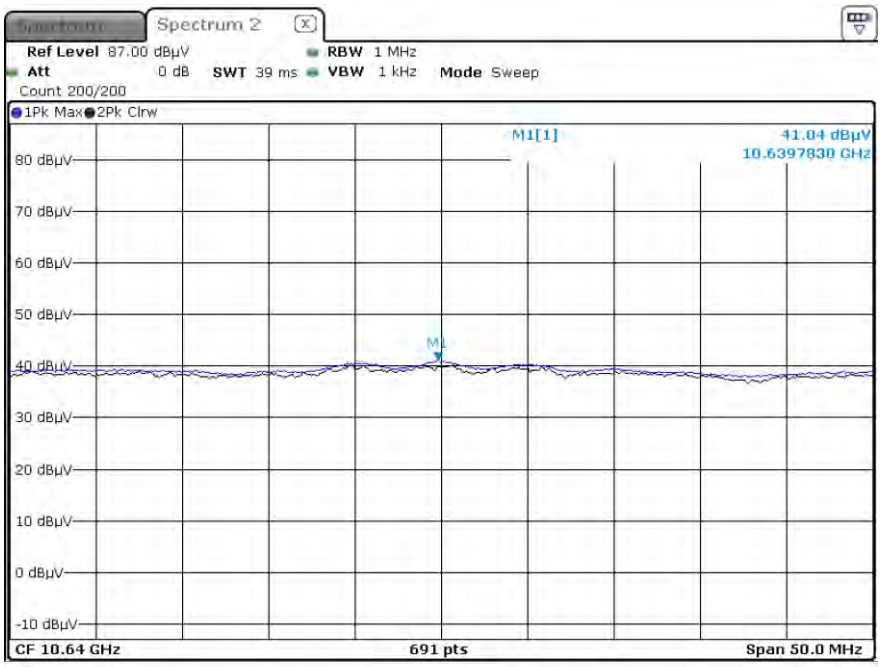
Band :	UNII 4
Operation Mode:	802.11 a
Transfer Rate:	6 Mbps
Operating Frequency	5885 MHz
Channel No.	177 Ch

Frequency [MHz]	Measured Value [dBµV]	AF+CL-AG+DF [dB/m]	ANT. POL [H/V]	Total [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Measurement Type
11770	52.48	-0.19	V	52.29	73.98	21.69	PK
11770	39.29	-0.19	V	39.10	53.98	14.88	AV
17655	50.24	4.24	V	54.48	68.20	13.72	PK
11770	52.57	-0.19	H	52.38	73.98	21.60	PK
11770	39.41	-0.19	H	39.22	53.98	14.76	AV
17655	50.11	4.24	H	54.35	68.20	13.85	PK

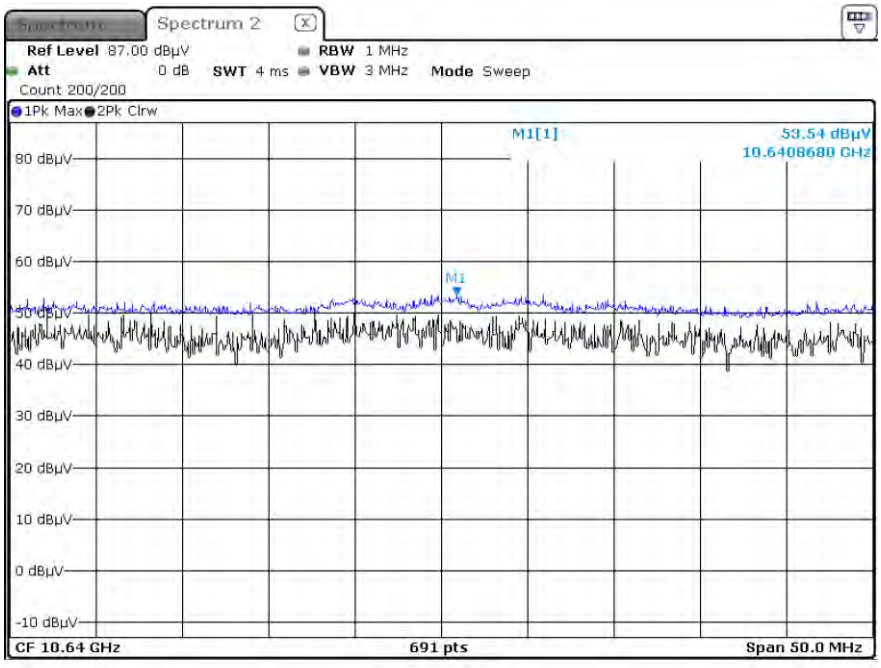
▣ Test Plots

[Ant.1&Ant.2_MIMO(CDD)]

Average Result (802.11a, Ch.64 2nd Harmonic, X-V)



Peak Result (802.11a, Ch.64 2nd Harmonic, X-V)



Note:

Only the worst case plots for Radiated Spurious Emissions.

10.8 RADIATED RESTRICTED BAND EDGE

[Ant.1&Ant.2_MIMO(CDD)]

Band :	UNII 1
Operation Mode:	802.11 a
Transfer Rate:	6 Mbps
Operating Frequency	5180 MHz
Channel No.	36 Ch

Frequency [MHz]	Measured Value [dBμV]	A.F+C.L-A.G+ATT+D.F [dB/m]	ANT. POL [H/V]	Total [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Measurement Type
5150	45.12	13.63	H	58.75	73.98	15.23	PK
5150	31.98	13.63	H	45.61	53.98	8.37	AV
5150	44.89	13.63	V	58.52	73.98	15.46	PK
5150	30.88	13.63	V	44.51	53.98	9.47	AV

Band :	UNII 2A
Operation Mode:	802.11 a
Transfer Rate:	6 Mbps
Operating Frequency	5320 MHz
Channel No.	64 Ch

Frequency [MHz]	Measured Value [dBμV]	A.F+C.L-A.G+ATT+D.F [dB/m]	ANT. POL [H/V]	Total [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Measurement Type
5350	45.38	14.13	H	59.51	73.98	14.47	PK
5350	28.47	14.13	H	42.6	53.98	11.38	AV
5350	45.12	14.13	V	59.25	73.98	14.73	PK
5350	28.02	14.13	V	42.15	53.98	11.83	AV

Band :	UNII 2C
Operation Mode:	802.11 a
Transfer Rate:	6 Mbps
Operating Frequency	5500 MHz
Channel No.	100 Ch

Frequency [MHz]	Measured Value [dBµV]	A.F+C.L-A.G+ATT+D.F [dB/m]	ANT. POL [H/V]	Total [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Measurement Type
5460	44.69	14.77	H	59.46	73.98	14.52	PK
5460	29.50	14.77	H	44.27	53.98	9.71	AV
5470	45.74	15.12	H	60.86	68.20	7.34	PK
5460	44.51	14.77	V	59.28	73.98	14.70	PK
5460	29.32	14.77	V	44.09	53.98	9.89	AV
5470	45.55	15.12	V	60.67	68.20	7.53	PK

Band :	UNII 1
Operation Mode:	802.11 n_HT20
Transfer MCS Index:	0
Operating Frequency	5180 MHz
Channel No.	36 Ch

Frequency [MHz]	Measured Value [dBµV]	A.F+C.L-A.G+ATT+D.F [dB/m]	ANT. POL [H/V]	Total [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Measurement Type
5150	45.24	13.63	H	58.87	73.98	15.11	PK
5150	30.99	13.63	H	44.62	53.98	9.36	AV
5150	45.02	13.63	V	58.65	73.98	15.33	PK
5150	30.78	13.63	V	44.41	53.98	9.57	AV

Band :	UNII 2A
Operation Mode:	802.11 n_HT20
Transfer MCS Index:	0
Operating Frequency	5320 MHz
Channel No.	64 Ch

Frequency [MHz]	Measured Value [dBµV]	A.F+C.L-A.G+ATT+D.F [dB/m]	ANT. POL [H/V]	Total [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Measurement Type
5350	45.24	14.13	H	59.37	73.98	14.61	PK
5350	28.49	14.13	H	42.62	53.98	11.36	AV
5350	44.98	14.13	V	59.11	73.98	14.87	PK
5350	28.22	14.13	V	42.35	53.98	11.63	AV

Band :	UNII 2C
Operation Mode:	802.11 n_HT20
Transfer MCS Index:	0
Operating Frequency	5500 MHz
Channel No.	100 Ch

Frequency [MHz]	Measured Value [dBµV]	A.F+C.L-A.G+ATT+D.F [dB/m]	ANT. POL [H/V]	Total [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Measurement Type
5460	45.05	14.77	H	59.82	73.98	14.16	PK
5460	29.03	14.77	H	43.80	53.98	10.18	AV
5470	45.77	15.12	H	60.89	68.20	7.31	PK
5460	44.91	14.77	V	59.68	73.98	14.30	PK
5460	28.89	14.77	V	43.66	53.98	10.32	AV
5470	45.51	15.12	V	60.63	68.20	7.57	PK

Band :	UNII 1
Operation Mode:	802.11 ac_VHT20
Transfer MCS Index:	0
Operating Frequency	5180 MHz
Channel No.	36 Ch

Frequency [MHz]	Measured Value [dBµV]	A.F+C.L-A.G+ATT+D.F [dB/m]	ANT. POL [H/V]	Total [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Measurement Type
5150	45.05	13.63	H	58.68	73.98	15.30	PK
5150	30.68	13.63	H	44.31	53.98	9.67	AV
5150	44.91	13.63	V	58.54	73.98	15.44	PK
5150	30.51	13.63	V	44.14	53.98	9.84	AV

Band :	UNII 2A
Operation Mode:	802.11 ac_VHT20
Transfer MCS Index:	0
Operating Frequency	5320 MHz
Channel No.	64 Ch

Frequency [MHz]	Measured Value [dBµV]	A.F+C.L-A.G+ATT+D.F [dB/m]	ANT. POL [H/V]	Total [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Measurement Type
5350	45.27	14.13	H	59.40	73.98	14.58	PK
5350	28.50	14.13	H	42.63	53.98	11.35	AV
5350	44.99	14.13	V	59.12	73.98	14.86	PK
5350	28.32	14.13	V	42.45	53.98	11.53	AV

Band :	UNII 2C
Operation Mode:	802.11 ac_VHT20
Transfer MCS Index:	0
Operating Frequency	5500 MHz
Channel No.	100 Ch

Frequency [MHz]	Measured Value [dBµV]	A.F+C.L-A.G+ATT+D.F [dB/m]	ANT. POL [H/V]	Total [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Measurement Type
5460	45.52	14.77	H	60.29	73.98	13.69	PK
5460	28.94	14.77	H	43.71	53.98	10.27	AV
5470	45.40	15.12	H	60.52	68.20	7.68	PK
5460	45.32	14.77	V	60.09	73.98	13.89	PK
5460	28.78	14.77	V	43.55	53.98	10.43	AV
5470	45.22	15.12	V	60.34	68.20	7.86	PK

Band :	UNII 1
Operation Mode:	802.11 n_HT40
Transfer MCS Index:	0
Operating Frequency	5190 MHz
Channel No.	38 Ch

Frequency [MHz]	Measured Value [dBµV]	A.F+C.L-A.G+ATT+D.F [dB/m]	ANT. POL [H/V]	Total [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Measurement Type
5150	52.38	13.63	H	66.01	73.98	7.97	PK
5150	37.91	13.63	H	51.54	53.98	2.44	AV
5150	51.12	13.63	V	64.75	73.98	9.23	PK
5150	35.12	13.63	V	48.75	53.98	5.23	AV

Band :	UNII 2A
Operation Mode:	802.11 n_HT40
Transfer MCS Index:	0
Operating Frequency	5310 MHz
Channel No.	62 Ch

Frequency [MHz]	Measured Value [dBµV]	A.F+C.L-A.G+ATT+D.F [dB/m]	ANT. POL [H/V]	Total [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Measurement Type
5350	49.92	14.13	H	64.05	73.98	9.93	PK
5350	36.08	14.13	H	50.21	53.98	3.77	AV
5350	47.62	14.13	V	61.75	73.98	12.23	PK
5350	34.78	14.13	V	48.91	53.98	5.07	AV

Band :	UNII 2C
Operation Mode:	802.11 n_HT40
Transfer MCS Index:	0
Operating Frequency	5510 MHz
Channel No.	102 Ch

Frequency [MHz]	Measured Value [dBµV]	A.F+C.L-A.G+ATT+D.F [dB/m]	ANT. POL [H/V]	Total [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Measurement Type
5460	44.91	14.77	H	59.68	73.98	14.30	PK
5460	32.78	14.77	H	47.55	53.98	6.43	AV
5470	46.78	15.12	H	61.9	68.20	6.30	PK
5460	42.19	14.77	V	56.96	73.98	17.02	PK
5460	30.12	14.77	V	44.89	53.98	9.09	AV
5470	44.69	15.12	V	59.81	68.20	8.39	PK

Band :	UNII 1
Operation Mode:	802.11 ac_VHT40
Transfer MCS Index:	0
Operating Frequency	5190 MHz
Channel No.	38 Ch

Frequency [MHz]	Measured Value [dBµV]	A.F+C.L-A.G+ATT+D.F [dB/m]	ANT. POL [H/V]	Total [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Measurement Type
5150	51.22	13.63	H	64.85	73.98	9.13	PK
5150	37.33	13.63	H	50.96	53.98	3.02	AV
5150	47.78	13.63	V	61.41	73.98	12.57	PK
5150	35.24	13.63	V	48.87	53.98	5.11	AV

Band :	UNII 2A
Operation Mode:	802.11 ac_VHT40
Transfer MCS Index:	0
Operating Frequency	5310 MHz
Channel No.	62 Ch

Frequency [MHz]	Measured Value [dBµV]	A.F+C.L-A.G+ATT+D.F [dB/m]	ANT. POL [H/V]	Total [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Measurement Type
5350	47.91	14.13	H	62.04	73.98	11.94	PK
5350	35.73	14.13	H	49.86	53.98	4.12	AV
5350	45.89	14.13	V	60.02	73.98	13.96	PK
5350	33.69	14.13	V	47.82	53.98	6.16	AV

Band :	UNII 2C
Operation Mode:	802.11 ac_VHT40
Transfer MCS Index:	0
Operating Frequency	5510 MHz
Channel No.	102 Ch

Frequency [MHz]	Measured Value [dBµV]	A.F+C.L-A.G+ATT+D.F [dB/m]	ANT. POL [H/V]	Total [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Measurement Type
5460	45.35	14.77	H	60.12	73.98	13.86	PK
5460	33.02	14.77	H	47.79	53.98	6.19	AV
5470	49.90	15.12	H	65.02	68.20	3.18	PK
5460	43.22	14.77	V	57.99	73.98	15.99	PK
5460	31.12	14.77	V	45.89	53.98	8.09	AV
5470	47.71	15.12	V	62.83	68.20	5.37	PK

Band :	UNII 1
Operation Mode:	802.11 ac_VHT80
Transfer MCS Index:	0
Operating Frequency	5210 MHz
Channel No.	42 Ch

Frequency [MHz]	Measured Value [dBµV]	A.F+C.L-A.G+ATT+D.F [dB/m]	ANT. POL [H/V]	Total [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Measurement Type
5150	49.17	13.63	H	62.80	73.98	11.18	PK
5150	36.97	13.63	H	50.6	53.98	3.38	AV
5150	47.29	13.63	V	60.92	73.98	13.06	PK
5150	34.89	13.63	V	48.52	53.98	5.46	AV

Band :	UNII 2A
Operation Mode:	802.11 ac_VHT80
Transfer MCS Index:	0
Operating Frequency	5290 MHz
Channel No.	58 Ch

Frequency [MHz]	Measured Value [dBµV]	A.F+C.L-A.G+ATT+D.F [dB/m]	ANT. POL [H/V]	Total [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Measurement Type
5350	46.56	14.13	H	60.69	73.98	13.29	PK
5350	35.51	14.13	H	49.64	53.98	4.34	AV
5350	44.44	14.13	V	58.57	73.98	15.41	PK
5350	33.48	14.13	V	47.61	53.98	6.37	AV

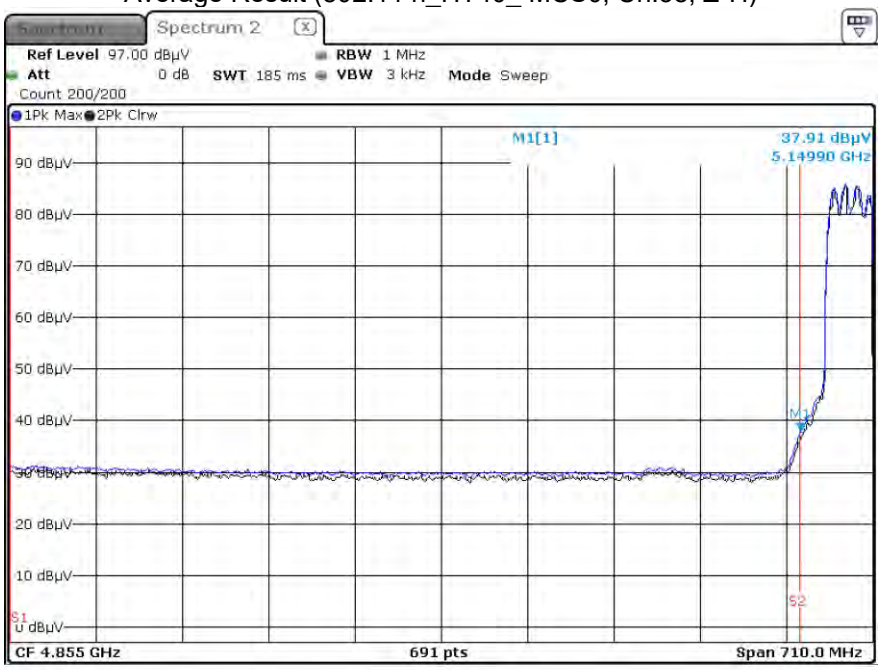
Band :	UNII 2C
Operation Mode:	802.11 ac_VHT80
Transfer MCS Index:	0
Operating Frequency	5530 MHz
Channel No.	106 Ch

Frequency [MHz]	Measured Value [dBµV]	A.F+C.L-A.G+ATT+D.F [dB/m]	ANT. POL [H/V]	Total [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Measurement Type
5460	47.91	14.77	H	62.68	73.98	11.30	PK
5460	36.49	14.77	H	51.26	53.98	2.72	AV
5470	50.22	15.12	H	65.34	68.20	2.86	PK
5460	45.89	14.77	V	60.66	73.98	13.32	PK
5460	34.32	14.77	V	49.09	53.98	4.89	AV
5470	48.99	15.12	V	64.11	68.20	4.09	PK

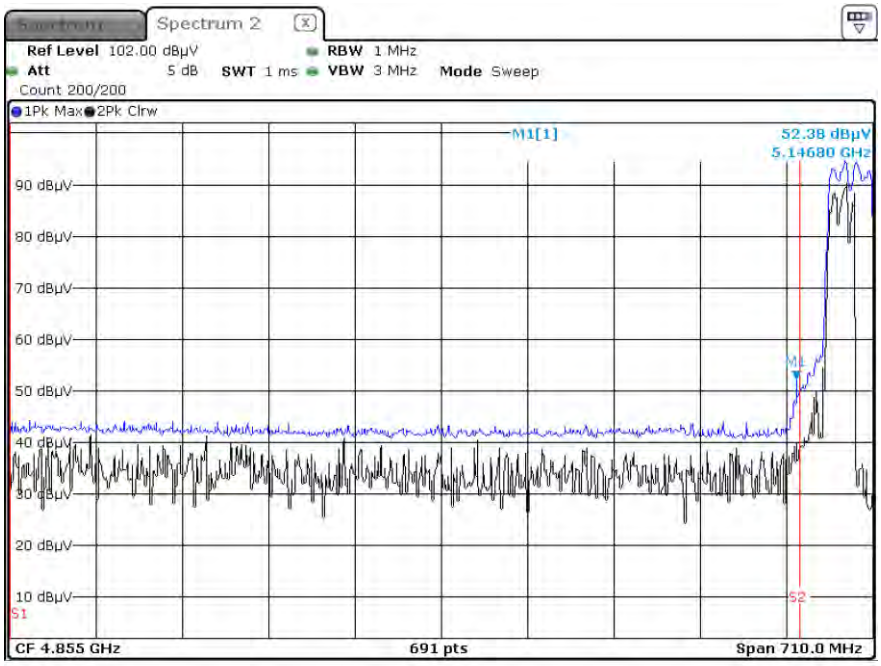
[Ant.1&Ant.2_MIMO(CDD)]

▣ Test Plots(UNII 1, 2A, 2C)

Average Result (802.11 n_HT40_ MCS0, Ch.38, Z-H)



Peak Result (802.11 n_HT40_ MCS0, Ch.38, Z-H)

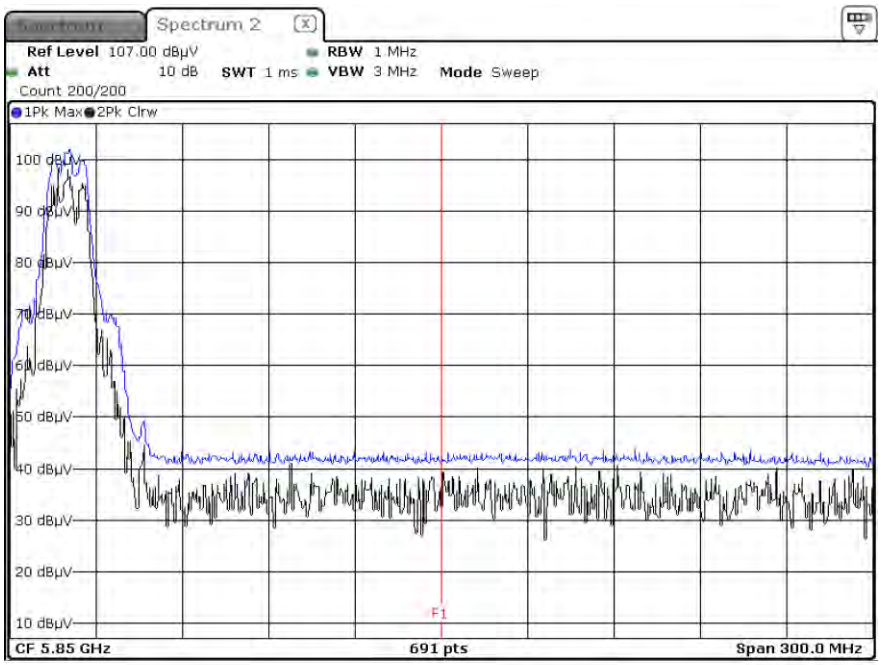


Note:

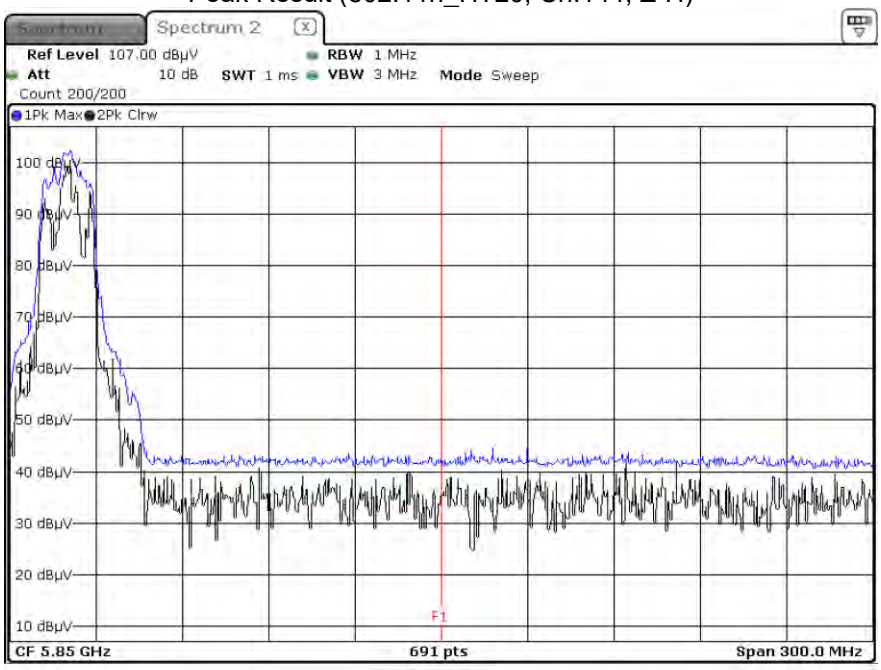
Only the worst case plots for Radiated Restricted Band Edge.

▣ Test Plots(Straddle Channel)

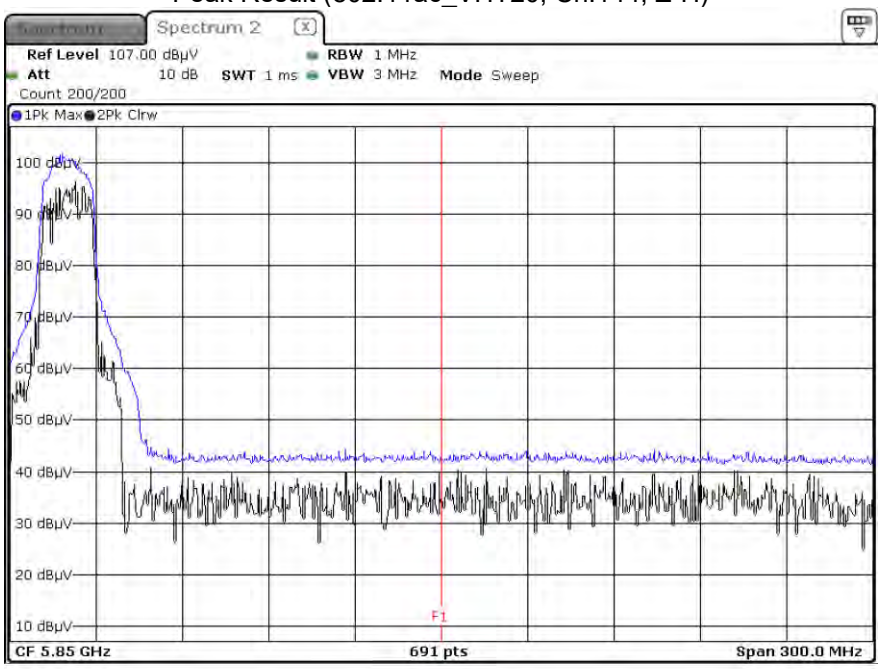
Peak Result (802.11a, Ch.144, Z-H)



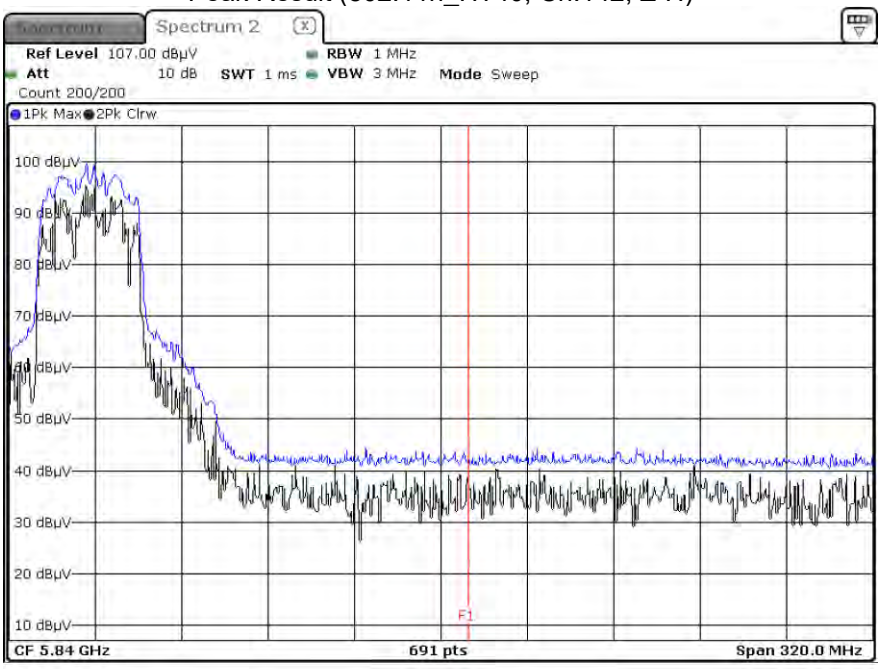
Peak Result (802.11n_HT20, Ch.144, Z-H)



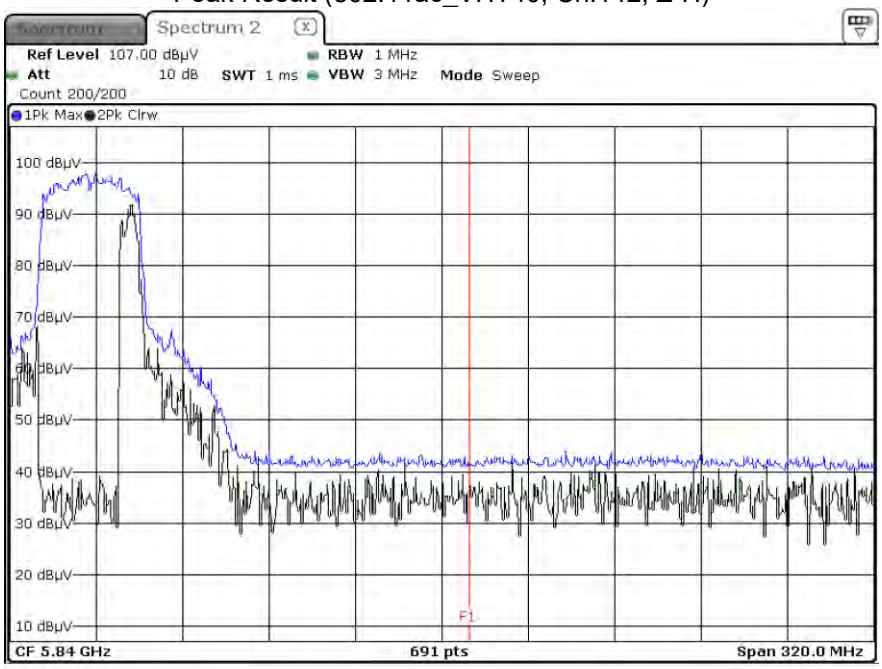
Peak Result (802.11ac_VHT20, Ch.144, Z-H)



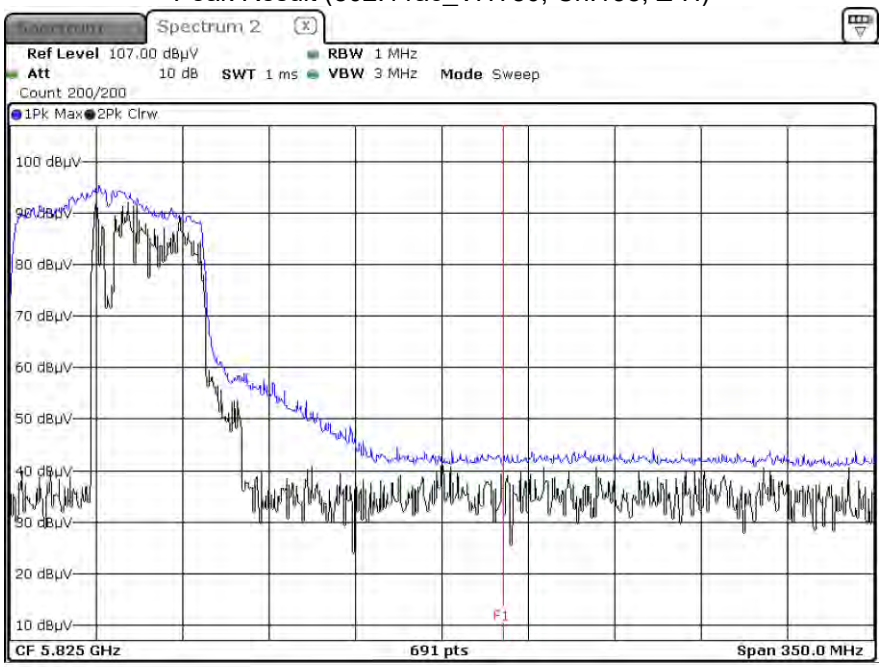
Peak Result (802.11n_HT40, Ch.142, Z-H)



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



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

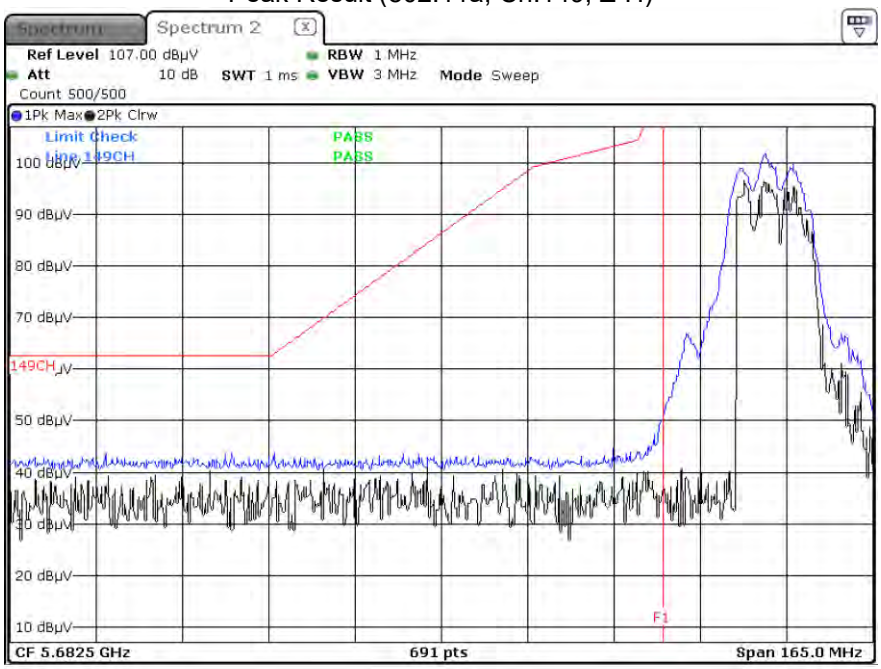


Note :

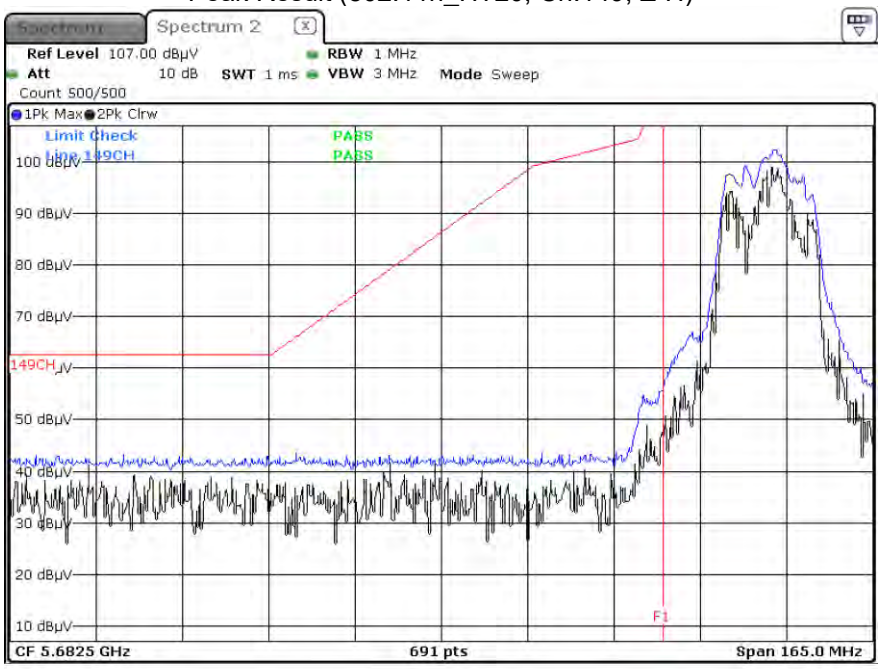
1. Only the worst case plots for Radiated Restricted Band Edge.
2. Red line : 5850 MHz
3. Ambient Noise (Because of ambient noise, We attached only the worst plot without a data table)

▣ Test Plots(UNII 3)

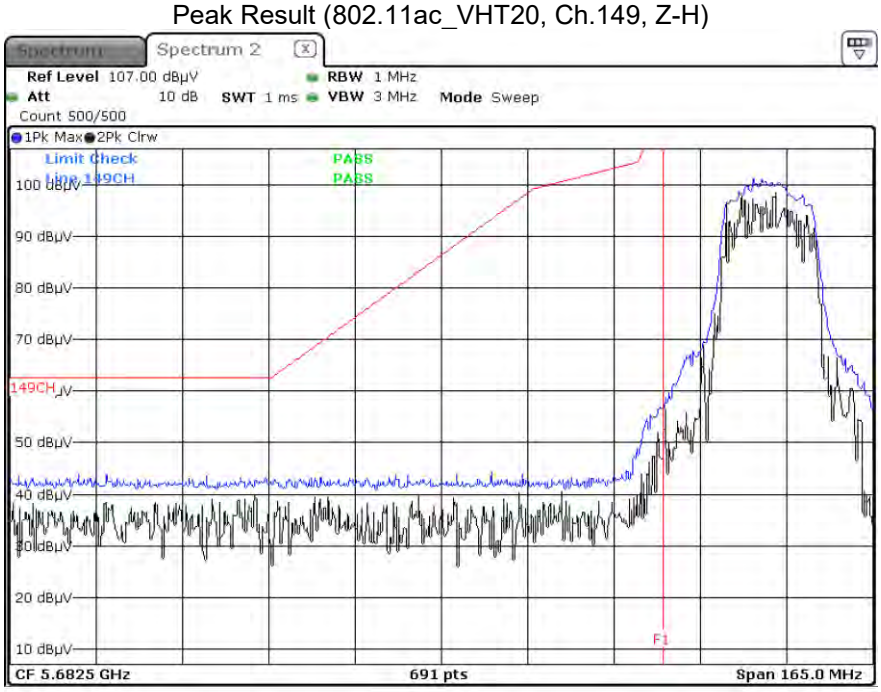
Peak Result (802.11a, Ch.149, Z-H)



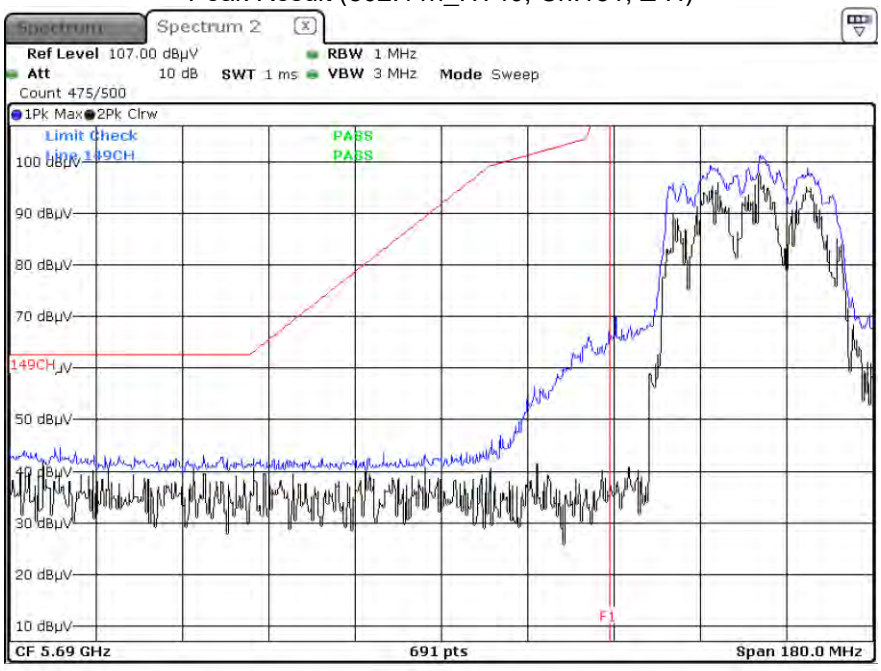
Peak Result (802.11n_HT20, Ch.149, Z-H)



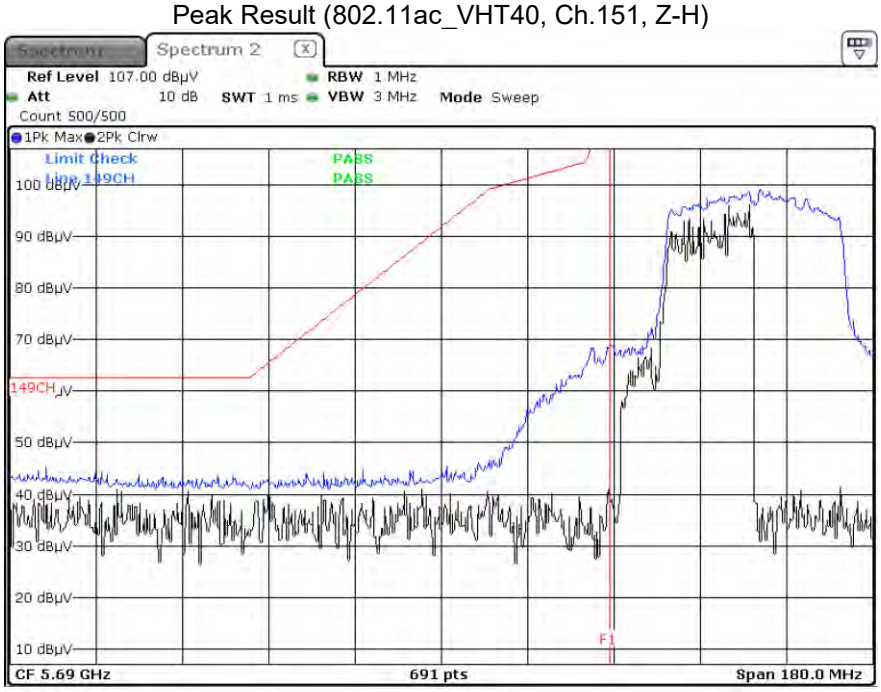
Peak Result (802.11ac_VHT20, Ch.149, Z-H)



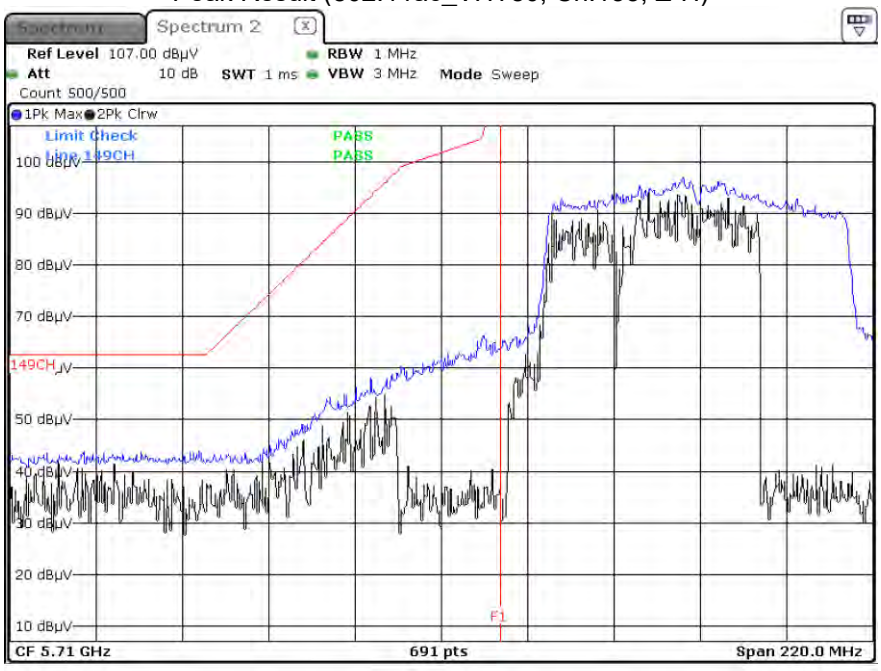
Peak Result (802.11n_HT40, Ch.151, Z-H)



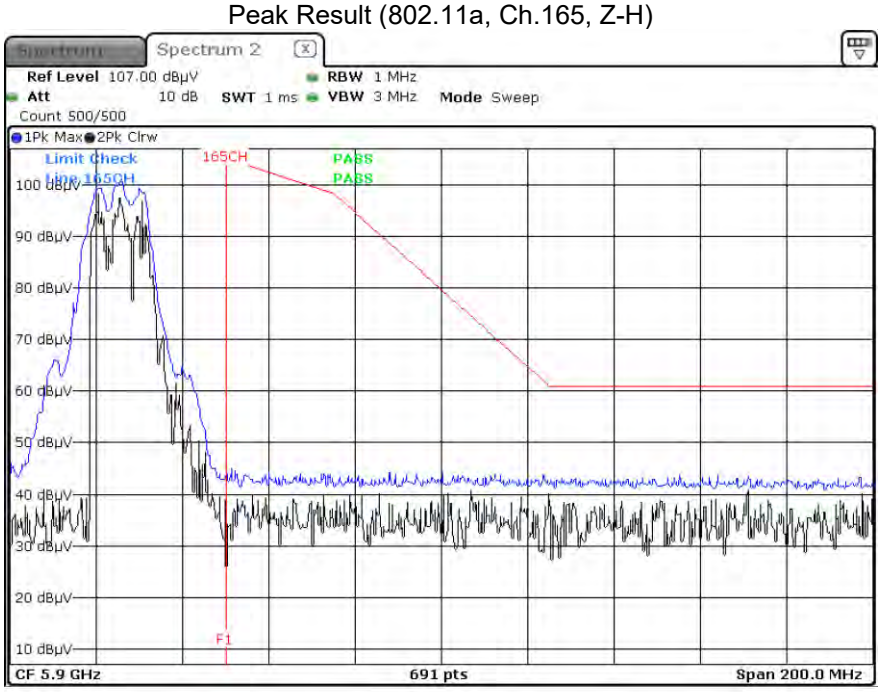
Peak Result (802.11ac_VHT40, Ch.151, Z-H)



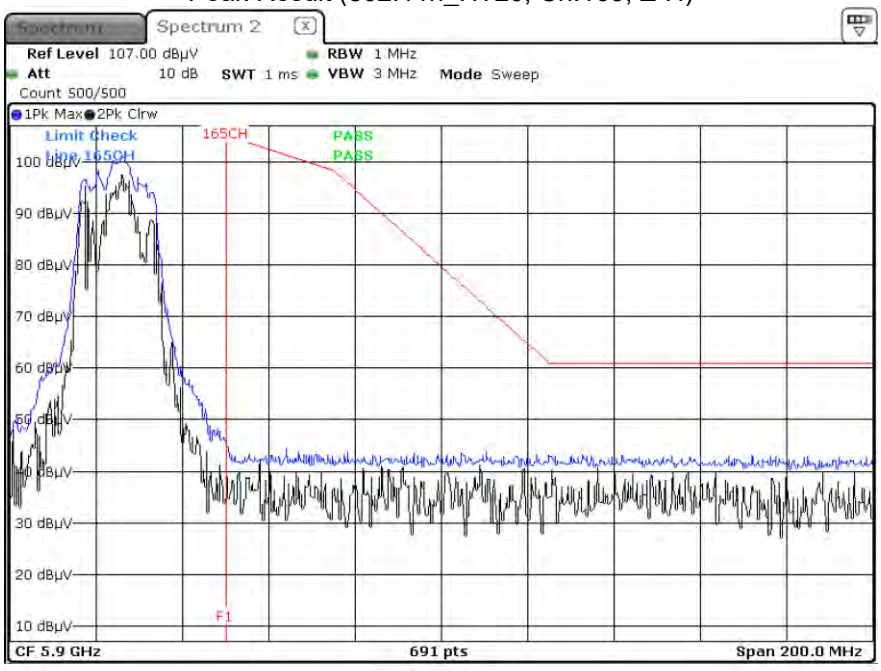
Peak Result (802.11ac_VHT80, Ch.155, Z-H)



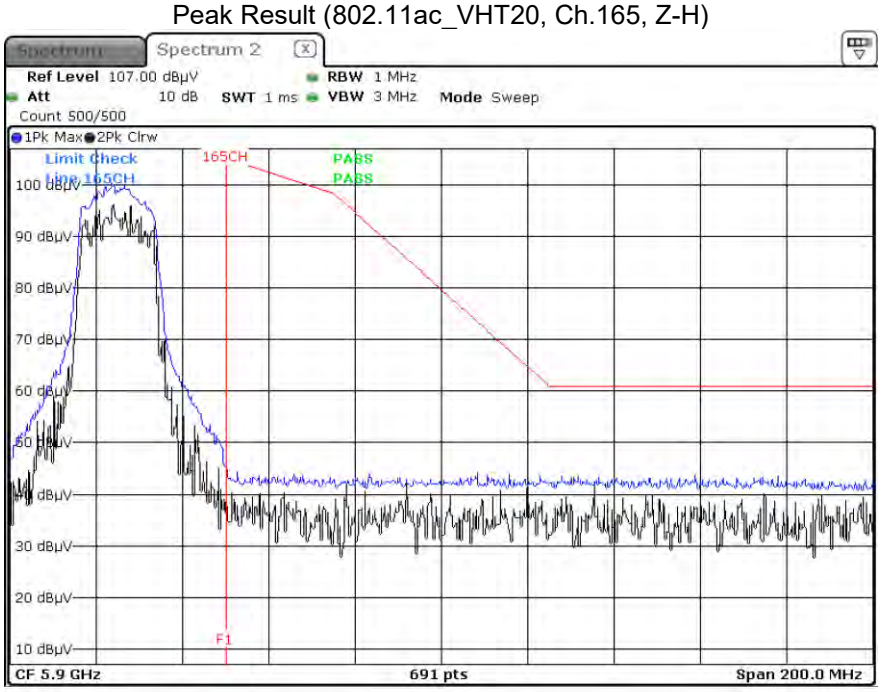
Peak Result (802.11a, Ch.165, Z-H)



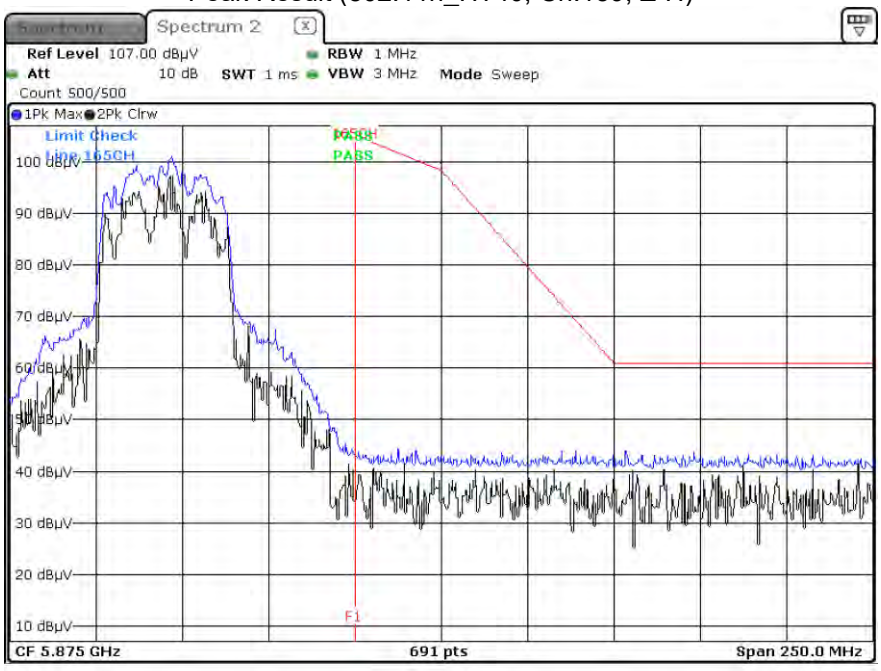
Peak Result (802.11n_HT20, Ch.165, Z-H)



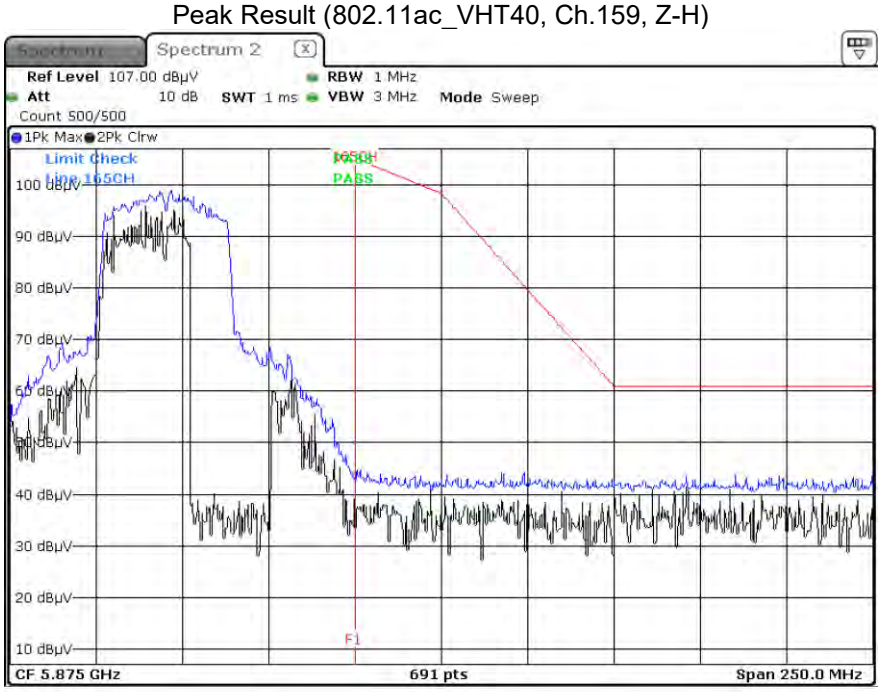
Peak Result (802.11ac_VHT20, Ch.165, Z-H)



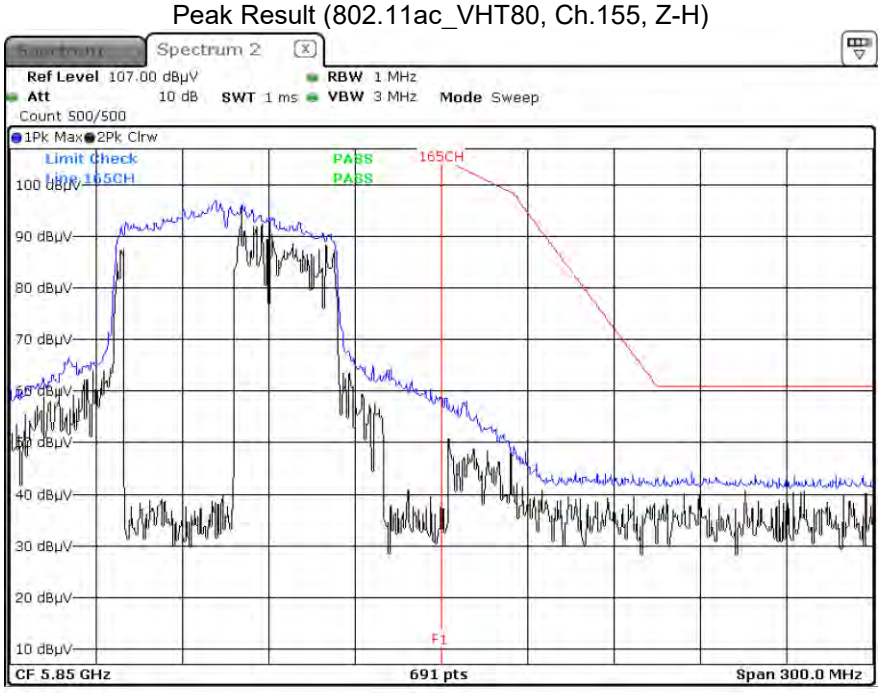
Peak Result (802.11n_HT40, Ch.159, Z-H)



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



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



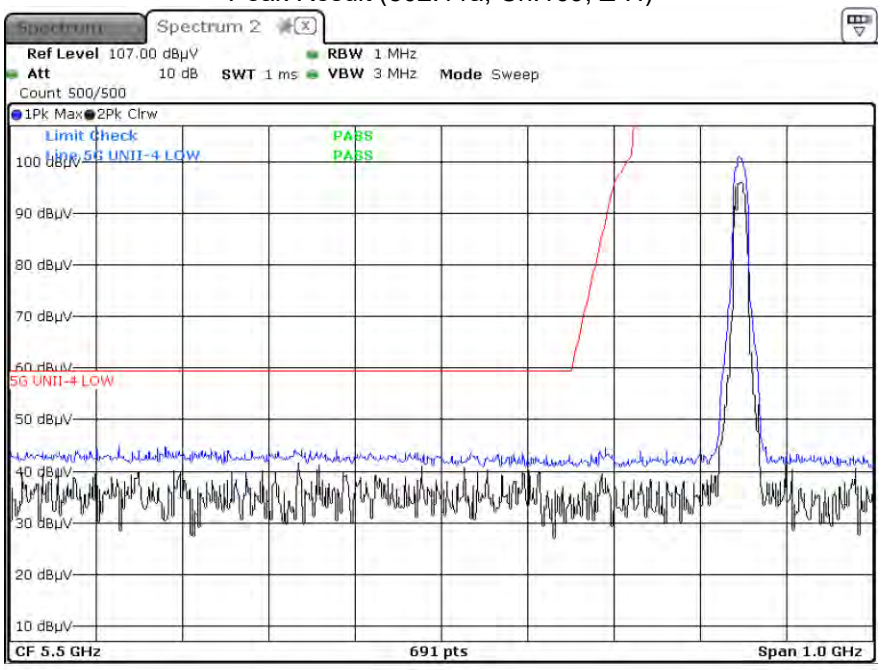
Note :

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.

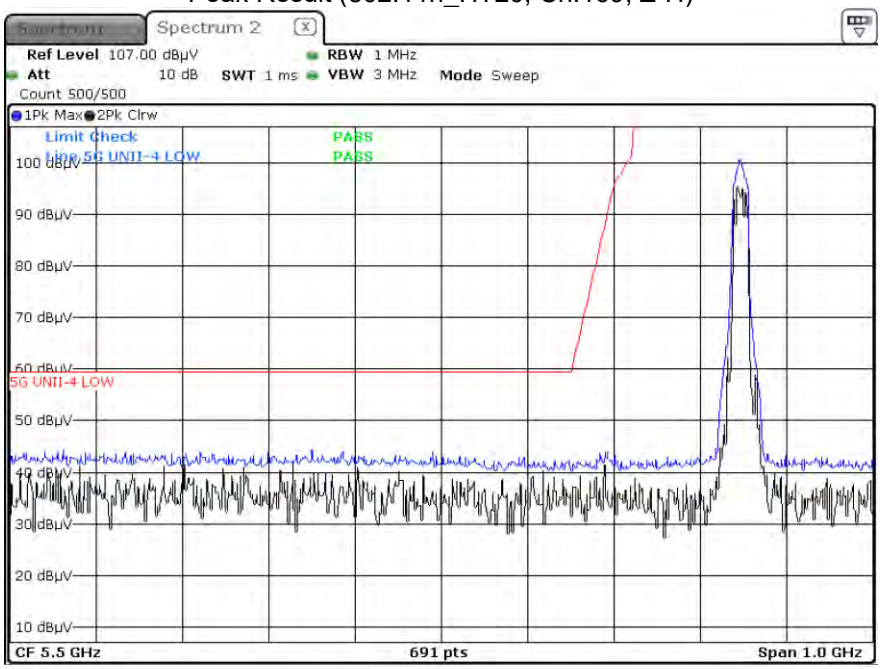
▣ Test Plots(UNII 4) – O.O.B.E

Low

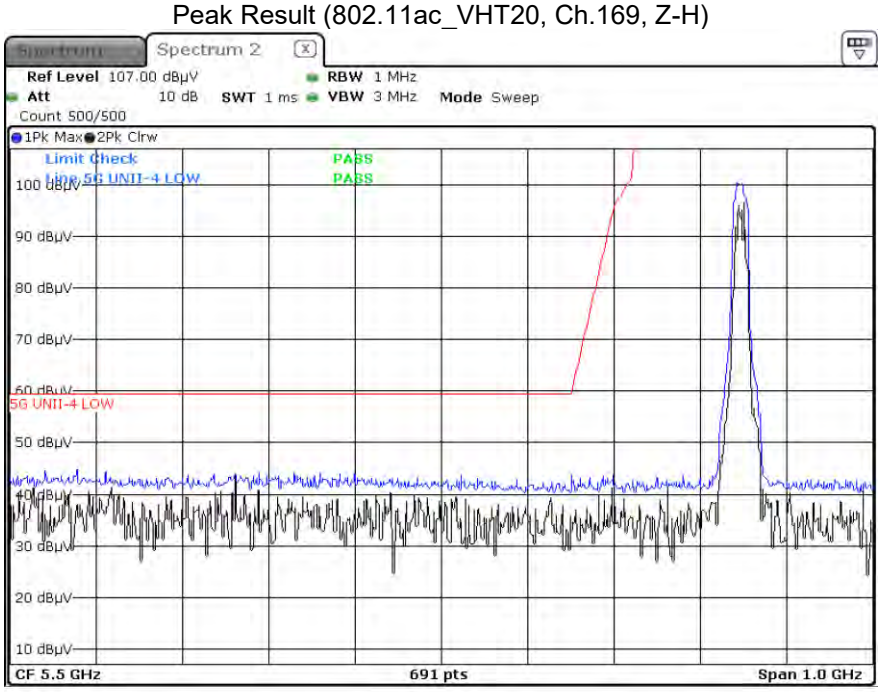
Peak Result (802.11a, Ch.169, Z-H)



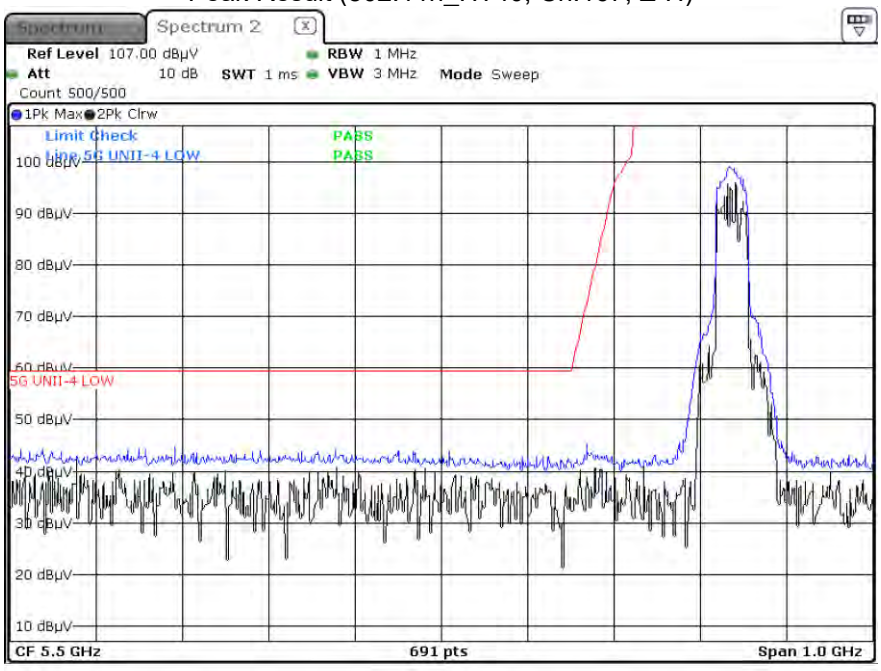
Peak Result (802.11n_HT20, Ch.169, Z-H)



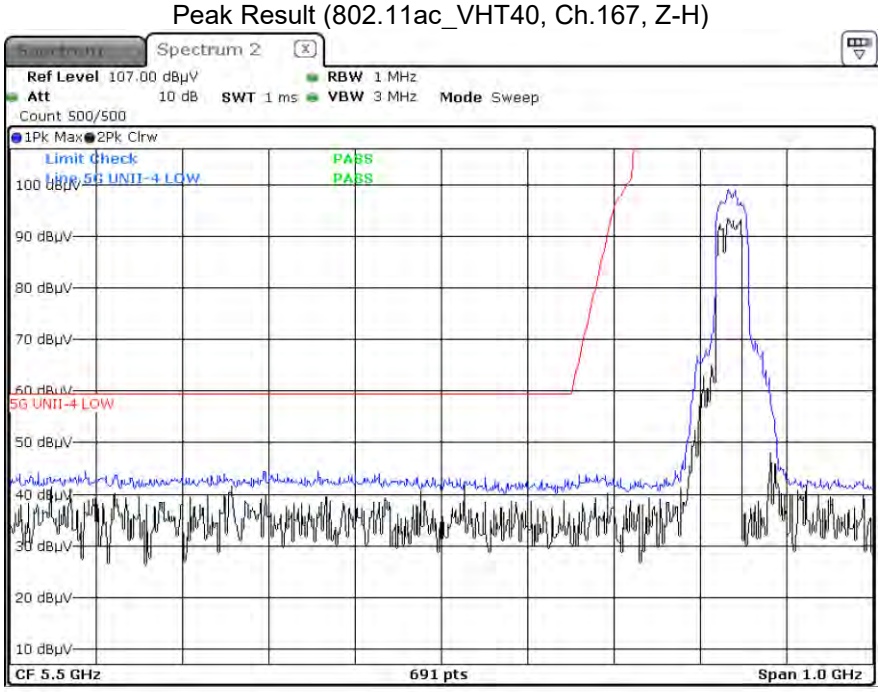
Peak Result (802.11ac_VHT20, Ch.169, Z-H)



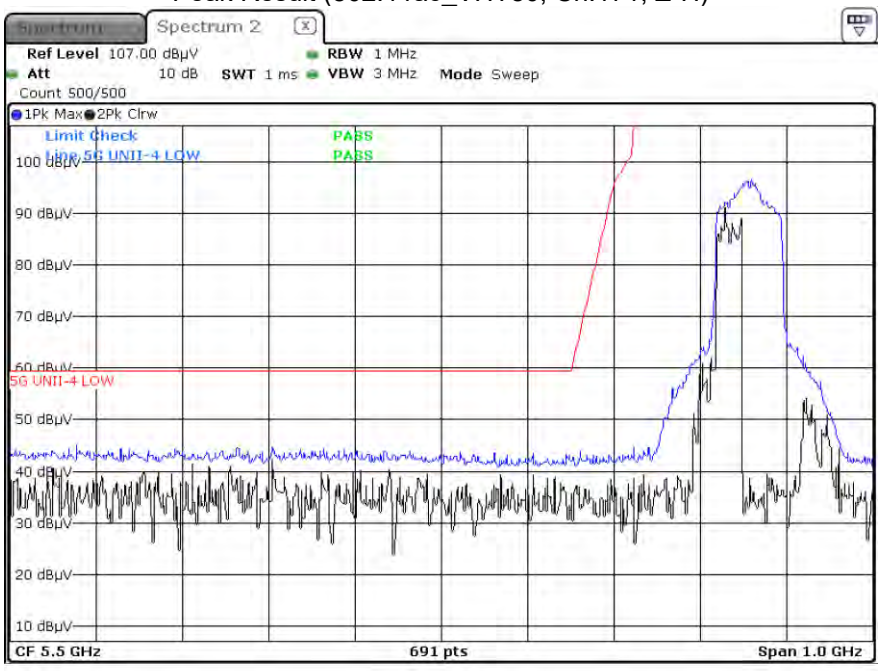
Peak Result (802.11n_HT40, Ch.167, Z-H)



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

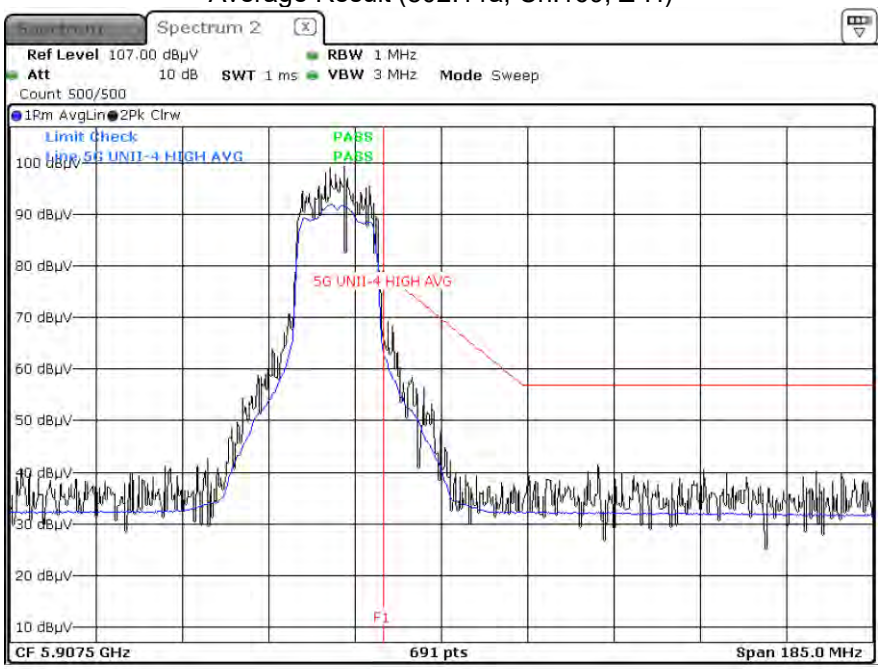


Peak Result (802.11ac_VHT80, Ch.171, Z-H)

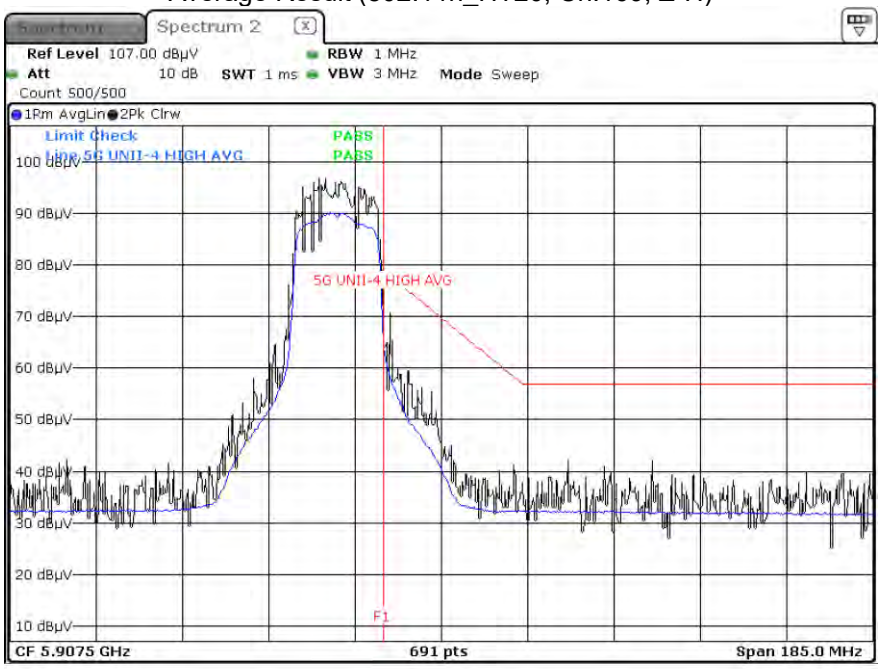


High_AVG

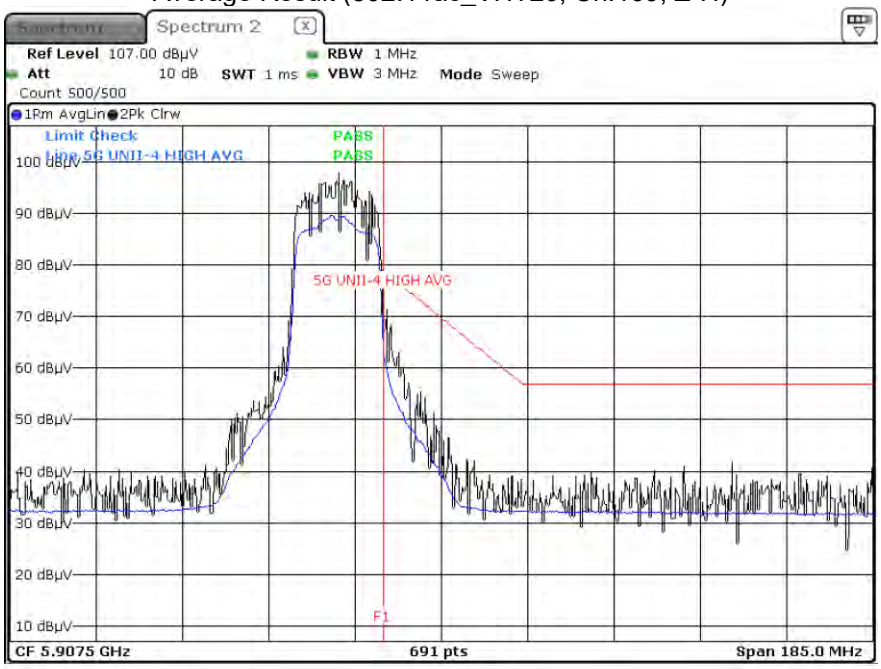
Average Result (802.11a, Ch.169, Z-H)



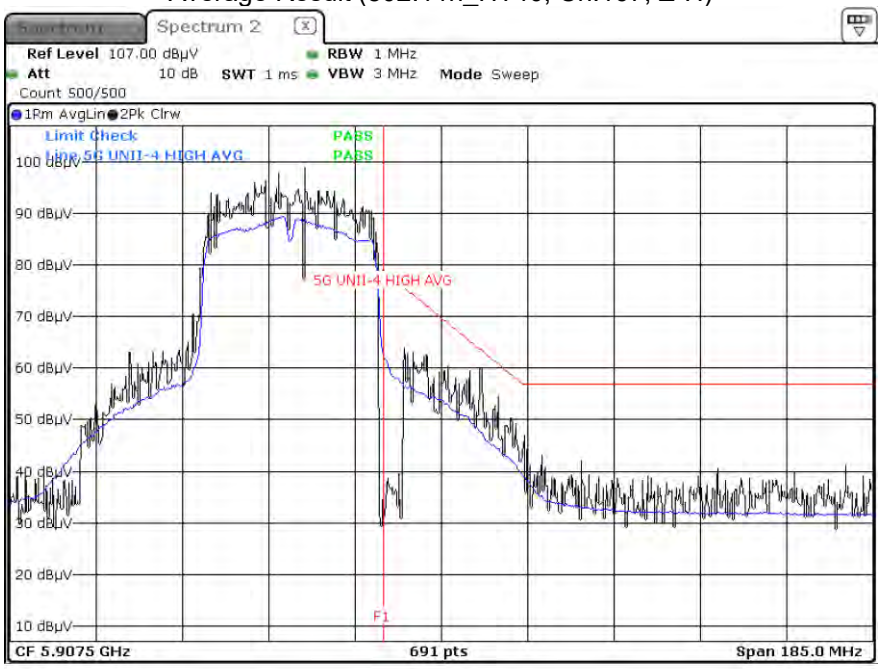
Average Result (802.11n_HT20, Ch.169, Z-H)



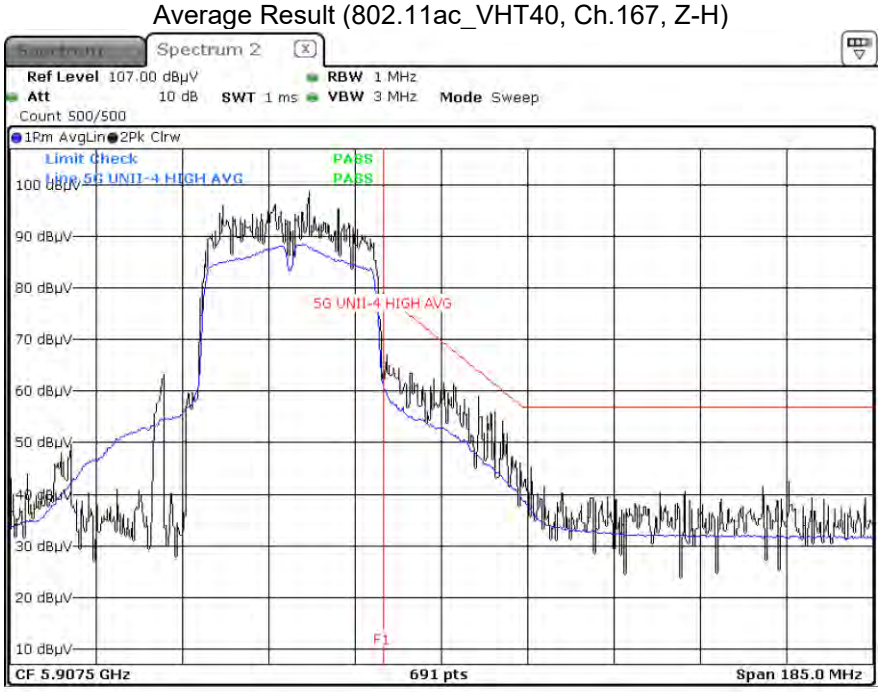
Average Result (802.11ac_VHT20, Ch.169, Z-H)



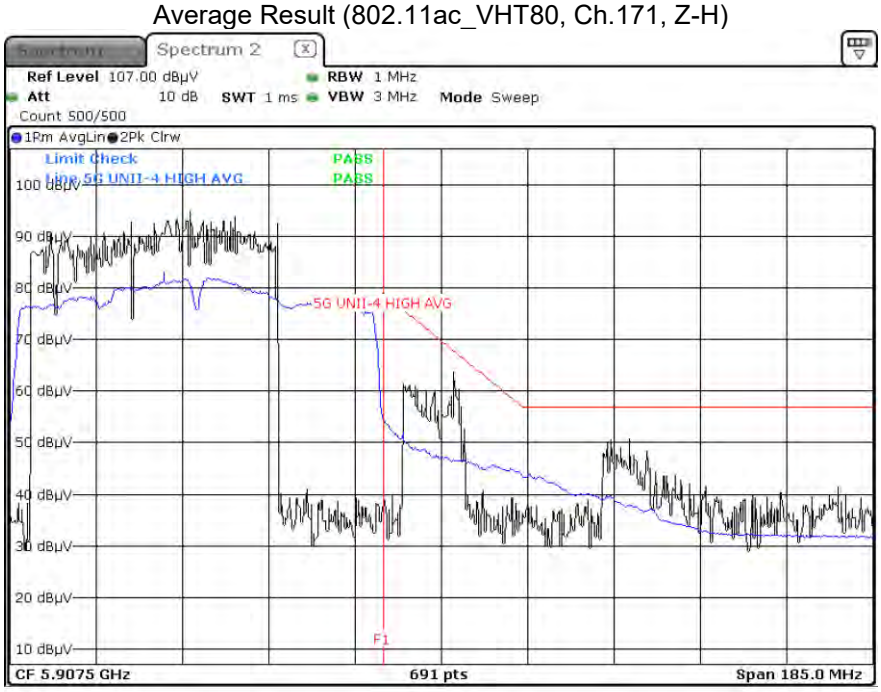
Average Result (802.11n_HT40, Ch.167, Z-H)



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

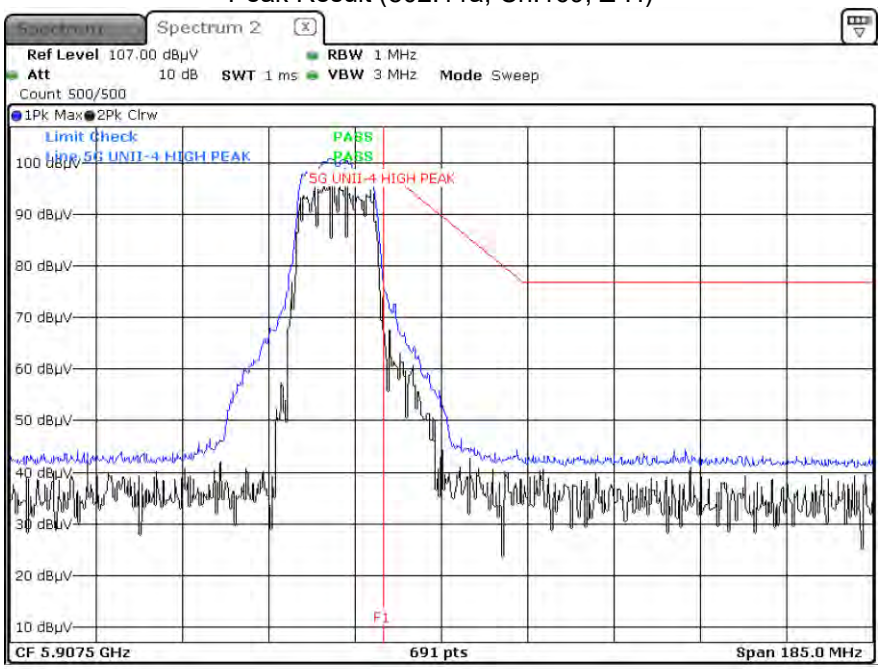


Average Result (802.11ac_VHT80, Ch.171, Z-H)

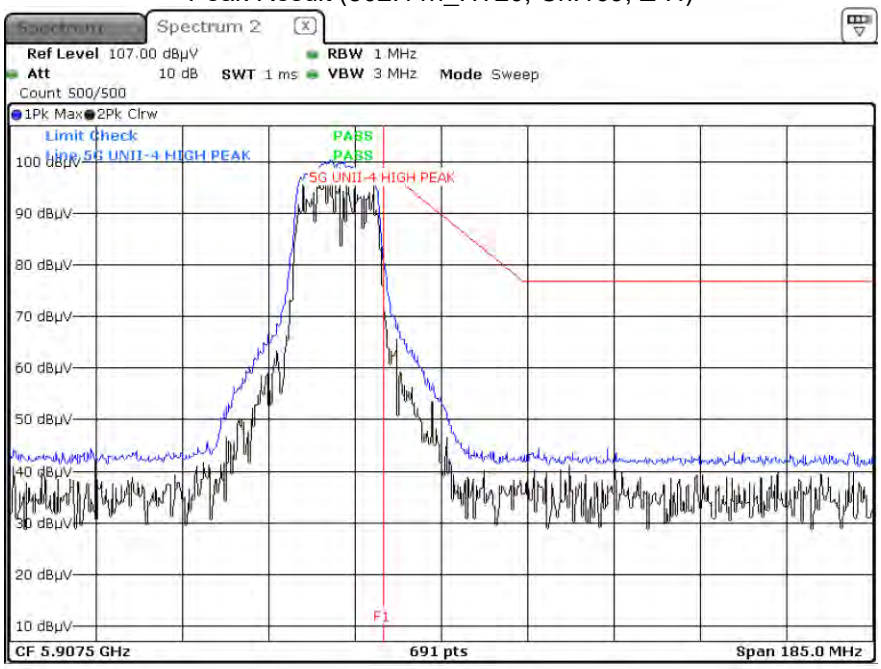


High_PEAK

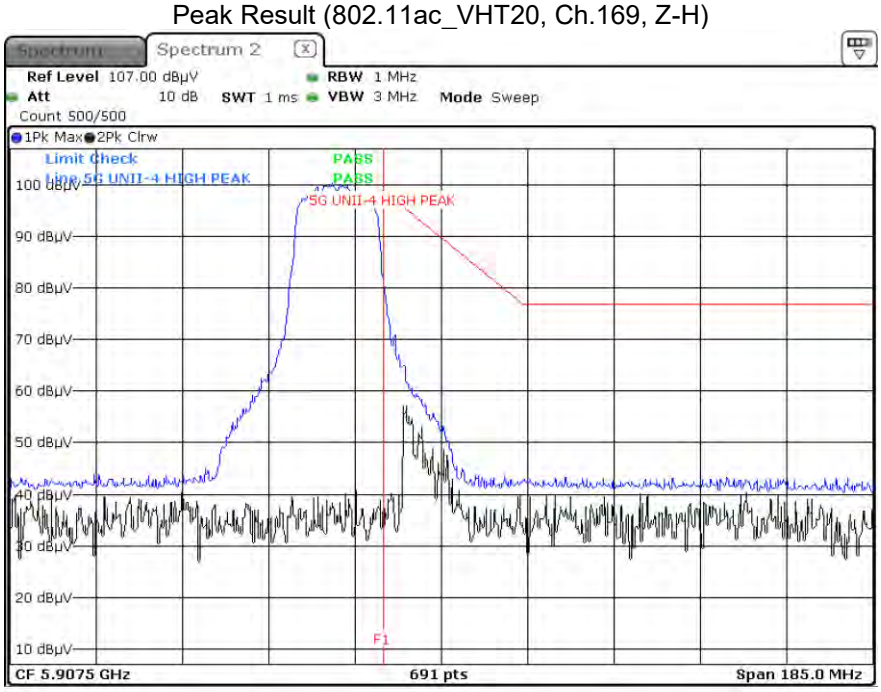
Peak Result (802.11a, Ch.169, Z-H)



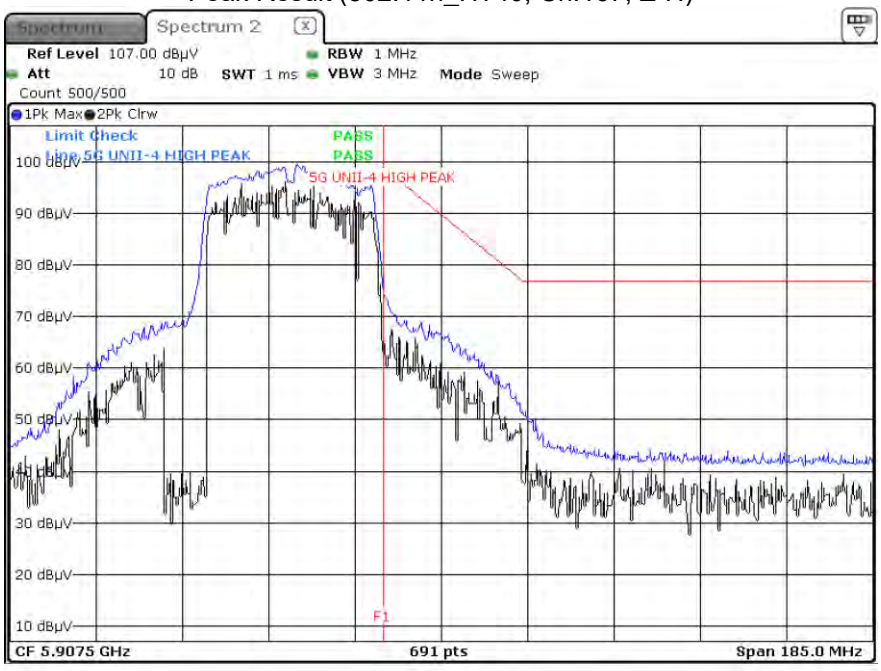
Peak Result (802.11n_HT20, Ch.169, Z-H)



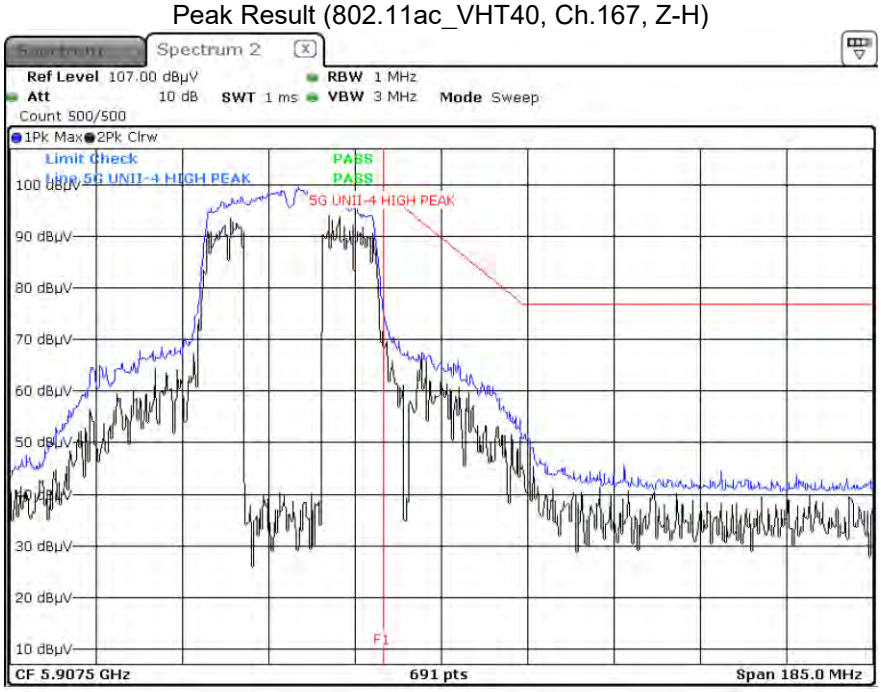
Peak Result (802.11ac_VHT20, Ch.169, Z-H)



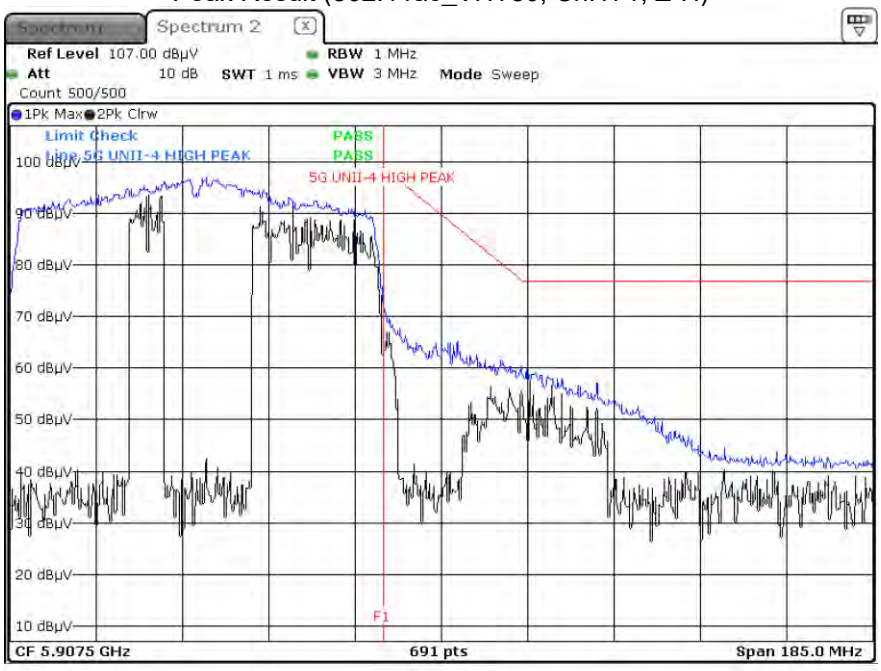
Peak Result (802.11n_HT40, Ch.167, Z-H)



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



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



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.

10.9 POWERLINE CONDUCTED EMISSIONS

Conducted Emissions (Line 1)

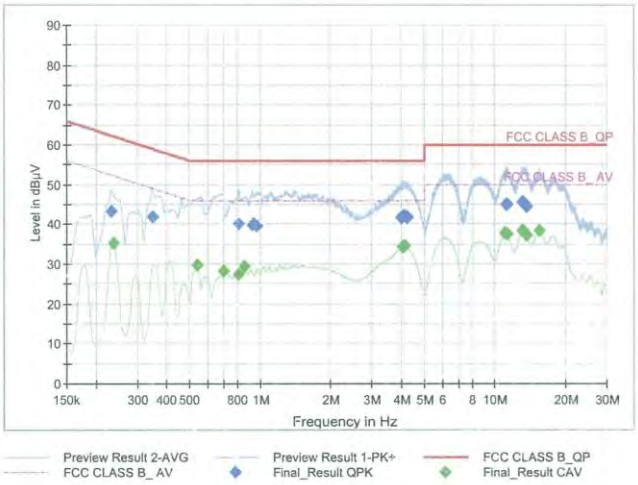
Test 1 / 2

Test Report

Common Information

EUT :	SM-X808U
Manufacturer :	SAMSUNG
Test Site:	SHIELD ROOM
Operating Conditions :	5G WLAN L1
Operator Name:	
Comment:	

Full Spectrum



Final_Result_QPK

Frequency (MHz)	QuasiPeak (dBµV)	Limit (dBµV)	Margin (dB)	Bandwidth (kHz)	Line	Filter	Corr. (dB)
0.2333	43.31	62.33	19.02	9.000	L1	OFF	9.6
0.3480	41.90	59.01	17.11	9.000	L1	OFF	9.6
0.8150	40.00	56.00	16.00	9.000	L1	OFF	9.7
0.9298	39.76	56.00	16.24	9.000	L1	OFF	9.7
0.9343	39.96	56.00	16.04	9.000	L1	OFF	9.7
0.9748	39.64	56.00	16.36	9.000	L1	OFF	9.7
4.0055	41.75	56.00	14.25	9.000	L1	OFF	9.8
4.0145	41.58	56.00	14.42	9.000	L1	OFF	9.8
4.0978	42.10	56.00	13.90	9.000	L1	OFF	9.8
4.1315	42.02	56.00	13.98	9.000	L1	OFF	9.8
4.2170	41.83	56.00	14.17	9.000	L1	OFF	9.8
4.2553	41.64	56.00	14.36	9.000	L1	OFF	9.8
11.0953	44.95	60.00	15.05	9.000	L1	OFF	10.1
11.2168	44.86	60.00	15.14	9.000	L1	OFF	10.1
13.1000	45.50	60.00	14.50	9.000	L1	OFF	10.2
13.1900	45.47	60.00	14.53	9.000	L1	OFF	10.2
13.4015	45.30	60.00	14.70	9.000	L1	OFF	10.2
13.6625	44.37	60.00	15.63	9.000	L1	OFF	10.2

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Test 2 / 2

Final_Result_CAV

Frequency (MHz)	CAverage (dBµV)	Limit (dBµV)	Margin (dB)	Bandwidth (kHz)	Line	Filter	Corr. (dB)
0.2378	35.15	52.17	17.02	9.000	L1	OFF	9.6
0.5383	29.63	46.00	16.37	9.000	L1	OFF	9.7
0.7003	28.26	46.00	17.74	9.000	L1	OFF	9.7
0.8150	27.54	46.00	18.46	9.000	L1	OFF	9.7
0.8578	29.31	46.00	16.69	9.000	L1	OFF	9.7
4.0303	34.38	46.00	11.62	9.000	L1	OFF	9.8
4.0775	34.58	46.00	11.42	9.000	L1	OFF	9.8
4.1045	34.59	46.00	11.41	9.000	L1	OFF	9.8
4.1090	34.47	46.00	11.53	9.000	L1	OFF	9.8
4.1315	34.48	46.00	11.52	9.000	L1	OFF	9.8
4.1428	34.49	46.00	11.51	9.000	L1	OFF	9.8
11.0120	37.74	50.00	12.26	9.000	L1	OFF	10.1
11.2280	37.61	50.00	12.39	9.000	L1	OFF	10.1
13.0123	38.23	50.00	11.77	9.000	L1	OFF	10.2
13.2418	38.37	50.00	11.63	9.000	L1	OFF	10.2
13.2598	38.41	50.00	11.59	9.000	L1	OFF	10.2
13.6603	37.14	50.00	12.86	9.000	L1	OFF	10.2
15.5323	38.46	50.00	11.54	9.000	L1	OFF	10.2

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Conducted Emissions (Line 2)

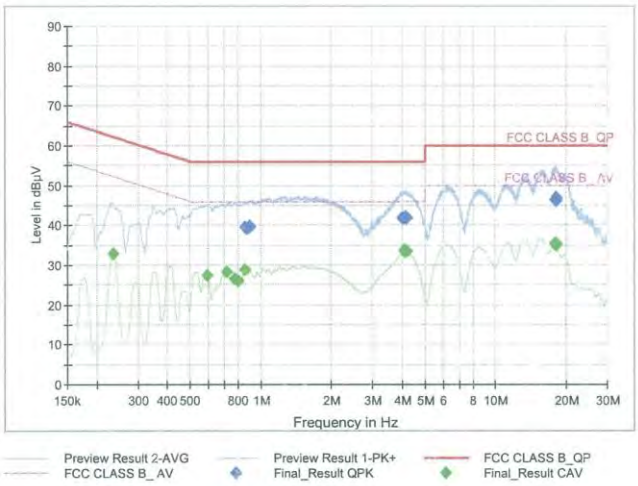
Test 1 / 2

Test Report

Common Information

EUT :	SM-X808U
Manufacturer :	SAMSUNG
Test Site:	SHIELD ROOM
Operating Conditions :	5G WLAN N
Operator Name:	
Comment:	

Full Spectrum



Final_Result_QPK

Frequency (MHz)	QuasiPeak (dBµV)	Limit (dBµV)	Margin (dB)	Bandwidth (kHz)	Line	Filter	Corr. (dB)
0.8578	39.59	56.00	16.41	9.000	N	OFF	9.7
0.8713	39.17	56.00	16.83	9.000	N	OFF	9.7
0.8803	39.23	56.00	16.77	9.000	N	OFF	9.7
0.8893	39.40	56.00	16.60	9.000	N	OFF	9.7
0.8938	39.65	56.00	16.35	9.000	N	OFF	9.7
0.8983	39.83	56.00	16.17	9.000	N	OFF	9.7
3.9988	41.86	56.00	14.14	9.000	N	OFF	9.8
4.0460	41.86	56.00	14.14	9.000	N	OFF	9.8
4.1495	42.05	56.00	13.95	9.000	N	OFF	9.8
4.1563	41.84	56.00	14.16	9.000	N	OFF	9.8
4.1675	41.94	56.00	14.06	9.000	N	OFF	9.8
4.1945	41.81	56.00	14.19	9.000	N	OFF	9.8
17.8790	46.57	60.00	13.43	9.000	N	OFF	10.4
17.9870	46.63	60.00	13.37	9.000	N	OFF	10.4
18.0208	46.96	60.00	13.04	9.000	N	OFF	10.4
18.0455	46.81	60.00	13.19	9.000	N	OFF	10.4
18.1018	46.57	60.00	13.43	9.000	N	OFF	10.4
18.1603	46.26	60.00	13.74	9.000	N	OFF	10.4

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Test 2 / 2

Final_Result_CAV

Frequency (MHz)	CAverage (dBµV)	Limit (dBµV)	Margin (dB)	Bandwidth (kHz)	Line	Filter	Corr. (dB)
0.2355	32.84	52.25	19.41	9.000	N	OFF	9.6
0.5923	27.31	46.00	18.69	9.000	N	OFF	9.6
0.7183	28.21	46.00	17.79	9.000	N	OFF	9.7
0.7768	26.49	46.00	19.51	9.000	N	OFF	9.7
0.7993	26.08	46.00	19.92	9.000	N	OFF	9.7
0.8533	28.85	46.00	17.15	9.000	N	OFF	9.7
4.0978	33.63	46.00	12.37	9.000	N	OFF	9.8
4.1113	33.59	46.00	12.41	9.000	N	OFF	9.8
4.1203	33.68	46.00	12.32	9.000	N	OFF	9.8
4.1383	33.63	46.00	12.37	9.000	N	OFF	9.8
4.1653	33.64	46.00	12.36	9.000	N	OFF	9.8
4.1945	33.56	46.00	12.44	9.000	N	OFF	9.8
17.8723	35.48	50.00	14.52	9.000	N	OFF	10.4
17.9218	35.42	50.00	14.58	9.000	N	OFF	10.4
17.9308	35.49	50.00	14.51	9.000	N	OFF	10.4
17.9915	35.38	50.00	14.62	9.000	N	OFF	10.4
18.0725	35.17	50.00	14.83	9.000	N	OFF	10.4
18.1603	34.80	50.00	15.20	9.000	N	OFF	10.4

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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	08/23/2022	Annual
EMI Test Receiver	ESR	Rohde & Schwarz	101910	06/17/2022	Annual
Temperature Chamber	SU-642	ESPAC	0093008124	03/15/2022	Annual
Signal Analyzer	N9030A	Agilent	MY49431210	01/11/2022	Annual
Power Measurement Set	OSP 120	Rohde & Schwarz	101231	07/02/2022	Annual
Power Meter	N1911A	Agilent	MY45100523	04/08/2022	Annual
Power Sensor	N1921A	Keysight	MY57820067	04/08/2022	Annual
Directional Coupler	87300B	Agilent	3116A03621	11/02/2022	Annual
Power Splitter	11667B	Hewlett Packard	05001	05/20/2022	Annual
DC Power Supply	E3632A	Hewlett Packard	MY50360067	02/16/2022	Annual
Attenuator(10 dB)	8493C	Hewlett Packard	07560	06/18/2022	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:

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.

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
Bluetooth Tester	TC-3000B	TESCOM	3000B670110	12/18/2021	Annual
Loop Antenna	FMZB 1513	Rohde & Schwarz	1513-333	03/19/2022	Biennial
Hybrid Antenna	VULB 9168	Schwarzbeck	760	02/22/2023	Biennial
Horn Antenna	BBHA 9120D	Schwarzbeck	02299	05/19/2022	Biennial
Horn Antenna(15 GHz ~ 40 GHz)	BBHA9170	Schwarzbeck	BBHA9170541	11/16/2023	Biennial
Spectrum Analyzer	FSV40-N	Rohde & Schwarz	102168	07/05/2022	Annual
Signal Analyzer	N9030A	Agilent	MY49431210	01/11/2022	Annual
Band Reject Filter	WRCJV12-4900-5100-5900-6100-50SS	Wainwright Instruments	5	06/24/2022	Annual
Band Reject Filter	WRCJV12-4900-5100-5900-6100-50SS	Wainwright Instruments	6	06/24/2022	Annual
Band Reject Filter	WRCJV2400/2483.5-2370/2520-60/12SS	Wainwright Instruments	2	01/06/2022	Annual
Band Reject Filter	WRCJV5100/5850-40/50-8EEK	Wainwright Instruments	1	02/08/2022	Annual
High Pass Filter	WHK3.0/18G-10EF	Wainwright Instruments	8	02/03/2022	Annual
High Pass Filter	WHKX8-6090-7000-18000-40SS	Wainwright Instruments	25	02/03/2022	Annual
Attenuator (3 dB)	18B-03	Api tech.	1	02/03/2022	Annual
Attenuator(10 dB)	8493C-10	Agilent	08285	02/03/2022	Annual
Power Amplifier	CBLU1183540	CERNEX	22964	02/03/2022	Annual
Power Amplifier	CBL06185030	CERNEX	22965	02/03/2022	Annual
Power Amplifier	CBL18265035	CERNEX	22966	12/04/2021	Annual
Power Amplifier	CBL26405040	CERNEX	25956	03/23/2022	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-2112-FC018-P