<TXBF Modes>

2.4GHz 2400~2483.5MHz

WIFI 802.11ac VHT20 (Band Edge @ 3m)

WIFI Ant. 1+2	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
		2390	63.69	-10.31	74	60.68	27.05	7.45	31.49	266	67	P	H
		2390	51.53	-2.47	54	48.52	27.05	7.45	31.49	266	67	A	H
	*	2414	108.53	-	-	105.48	27.09	7.45	31.49	266	67	P	H
	*	2414	100.22	-	-	97.17	27.09	7.45	31.49	266	67	A	H
802.11ac													H
VHT20													H
CH 01		2389.49	68.37	-5.63	74	65.36	27.05	7.45	31.49	100	100	P	V
2412MHz		2389.8	51.93	-2.07	54	48.92	27.05	7.45	31.49	100	100	A	V
	*	2410	109.22	-	-	106.17	27.09	7.45	31.49	100	100	P	V
	*	2410	100.41	-	-	97.36	27.09	7.45	31.49	100	100	A	V
													V
													V
		2389.94	60.3	-13.7	74	57.29	27.05	7.45	31.49	114	319	P	H
		2389.94	49.23	-4.77	54	46.22	27.05	7.45	31.49	114	319	A	H
	*	2417	107.79	-	-	104.73	27.09	7.45	31.48	114	319	P	H
	*	2417	98.2	-	-	95.14	27.09	7.45	31.48	114	319	A	H
802.11ac													H
VHT20													H
CH 02		2389.94	66.95	-7.05	74	63.94	27.05	7.45	31.49	100	2	P	V
2417MHz		2389.94	51.77	-2.23	54	48.76	27.05	7.45	31.49	100	2	A	V
	*	2417	110.32	-	-	107.26	27.09	7.45	31.48	100	2	P	V
	*	2417	102.32	-	-	99.26	27.09	7.45	31.48	100	2	A	V
													V
													V

		2350.04	56.12	-17.88	74	53.32	26.93	7.37	31.5	101	319	P	H
		2389.94	45.34	-8.66	54	42.33	27.05	7.45	31.49	101	319	A	H
	*	2437	108.34	-	-	105.15	27.18	7.49	31.48	101	319	P	H
	*	2437	99.27	-	-	96.08	27.18	7.49	31.48	101	319	A	H
802.11ac		2498.88	56.6	-17.4	74	53.23	27.3	7.53	31.46	101	319	P	H
VHT20		2483.76	44.86	-9.14	54	41.54	27.26	7.53	31.47	101	319	A	H
CH 06		2389.94	58.54	-15.46	74	55.53	27.05	7.45	31.49	100	99	P	V
2437MHz		2389.94	47.1	-6.9	54	44.09	27.05	7.45	31.49	100	99	A	V
	*	2436	112.23	-	-	109.09	27.13	7.49	31.48	100	99	P	V
	*	2436	101.86	-	-	98.72	27.13	7.49	31.48	100	99	A	V
		2489.22	57.17	-16.83	74	53.81	27.3	7.53	31.47	100	99	P	V
		2483.69	46.17	-7.83	54	42.85	27.26	7.53	31.47	100	99	A	V
	*	2457	108.22	-	-	104.98	27.22	7.49	31.47	100	321	P	H
	*	2457	99.61	-	-	96.37	27.22	7.49	31.47	100	321	A	H
		2483.68	63.79	-10.21	74	60.47	27.26	7.53	31.47	100	321	P	H
		2484.82	50.81	-3.19	54	47.49	27.26	7.53	31.47	100	321	A	H
802.11ac													H
VHT20													H
CH 10	*	2457	109.08	-	-	105.84	27.22	7.49	31.47	100	2	P	V
2457MHz	*	2457	99.27	-	-	96.03	27.22	7.49	31.47	100	2	A	V
		2484.22	65.76	-8.24	74	62.44	27.26	7.53	31.47	100	2	P	V
		2483.62	52.93	-1.07	54	49.61	27.26	7.53	31.47	100	2	A	V
													V
													V

	*	2460	109.31	-	-	106.07	27.22	7.49	31.47	289	67	P	H
	*	2460	100.03	-	-	96.79	27.22	7.49	31.47	289	67	A	H
		2485.04	65.07	-8.93	74	61.75	27.26	7.53	31.47	289	67	P	H
		2483.52	52.73	-1.27	54	49.41	27.26	7.53	31.47	289	67	A	H
802.11ac													H
VHT20													H
CH 11	*	2462	109.99	-	-	106.71	27.22	7.53	31.47	100	91	P	V
2462MHz	*	2462	101.26	-	-	97.98	27.22	7.53	31.47	100	91	A	V
		2483.6	63.93	-10.07	74	60.61	27.26	7.53	31.47	100	91	P	V
		2483.52	50.43	-3.57	54	47.11	27.26	7.53	31.47	100	91	A	V
													V
													V

Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.

2.4GHz 2400~2483.5MHz

WIFI 802.11ac VHT20 (Harmonic @ 3m)

WIFI Ant. 1+2	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
		4824	39.83	-34.17	74	55.97	31.26	10.74	58.14	100	0	P	H
													H
802.11ac													H
VHT20													H
CH 01		4824	39.82	-34.18	74	55.96	31.26	10.74	58.14	100	0	P	V
2412MHz													V
													V
													V
		4872	44.32	-29.68	74	60.2	31.33	10.89	58.1	100	0	P	H
		7308	43.2	-30.8	74	52.04	36.07	14.18	59.09	100	0	P	H
802.11ac													H
VHT20													H
CH 06		4872	43.83	-30.17	74	59.71	31.33	10.89	58.1	100	0	P	V
2437MHz		7308	45.2	-28.8	74	54.04	36.07	14.18	59.09	100	0	P	V
													V
													V
		4926	42.98	-31.02	74	58.6	31.4	11.04	58.06	100	0	P	H
		7386	50.95	-23.05	74	59.51	36.31	14.27	59.14	100	0	P	H
802.11ac													H
VHT20													H
CH 11		4926	43.11	-30.89	74	58.73	31.4	11.04	58.06	100	0	P	V
2462MHz		7386	49.01	-24.99	74	57.57	36.31	14.27	59.14	100	0	P	V
													V
													V

Remark

1. No other spurious found.
2. All results are PASS against Peak and Average limit line.

2.4GHz 2400~2483.5MHz

WIFI 802.11ac VHT40 (Band Edge @ 3m)

WIFI Ant. 1+2	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
		2388.82	62.9	-11.1	74	59.89	27.05	7.45	31.49	108	321	P	H
		2389.94	51.91	-2.09	54	48.9	27.05	7.45	31.49	108	321	A	H
	*	2422	104.32	-	-	101.18	27.13	7.49	31.48	108	321	P	H
	*	2422	100.53	-	-	97.39	27.13	7.49	31.48	108	321	A	H
802.11ac		2487.82	56.14	-17.86	74	52.78	27.3	7.53	31.47	108	321	P	H
VHT40		2485.51	44.85	-9.15	54	41.53	27.26	7.53	31.47	108	321	A	H
CH 03		2388.68	61.82	-12.18	74	58.81	27.05	7.45	31.49	170	360	P	V
2422MHz		2389.94	51.31	-2.69	54	48.3	27.05	7.45	31.49	170	360	A	V
	*	2422	105.34	-	-	102.2	27.13	7.49	31.48	170	360	P	V
	*	2422	99.94	-	-	96.8	27.13	7.49	31.48	170	360	A	V
		2484.67	56.46	-17.54	74	53.14	27.26	7.53	31.47	170	360	P	V
		2483.62	44.78	-9.22	54	41.46	27.26	7.53	31.47	170	360	A	V
		2389.8	62.06	-11.94	74	59.05	27.05	7.45	31.49	103	318	P	H
		2389.94	52.98	-1.02	54	49.97	27.05	7.45	31.49	103	318	A	H
	*	2422	105.06	-	-	101.92	27.13	7.49	31.48	103	318	P	H
	*	2427	99.75	-	-	96.61	27.13	7.49	31.48	103	318	A	H
802.11ac		2484.67	56.23	-17.77	74	52.91	27.26	7.53	31.47	103	318	P	H
VHT40		2483.48	45.65	-8.35	54	42.33	27.26	7.53	31.47	103	318	A	H
CH 04		2389.66	62.79	-11.21	74	59.78	27.05	7.45	31.49	100	360	P	V
2427MHz		2389.94	51.99	-2.01	54	48.98	27.05	7.45	31.49	100	360	A	V
	*	2427	106.21	-	-	103.07	27.13	7.49	31.48	100	360	P	V
	*	2427	103.13	-	-	99.99	27.13	7.49	31.48	100	360	A	V
		2484.04	57.36	-16.64	74	54.04	27.26	7.53	31.47	100	360	P	V
		2483.55	46.2	-7.8	54	42.88	27.26	7.53	31.47	100	360	A	V

		2388.4	63.37	-10.63	74	60.36	27.05	7.45	31.49	100	319	P	H
		2389.94	50.21	-3.79	54	47.2	27.05	7.45	31.49	100	319	A	H
	*	2437	106.78	-	-	103.59	27.18	7.49	31.48	100	319	P	H
	*	2437	102.94	-	-	99.75	27.18	7.49	31.48	100	319	A	H
802.11ac		2484.18	64.39	-9.61	74	61.07	27.26	7.53	31.47	100	319	P	H
VHT40		2483.55	52.69	-1.31	54	49.37	27.26	7.53	31.47	100	319	A	H
CH 06		2389.94	64.63	-9.37	74	61.62	27.05	7.45	31.49	101	2	P	V
2437MHz		2389.94	51.12	-2.88	54	48.11	27.05	7.45	31.49	101	2	A	V
	*	2437	108.29	-	-	105.1	27.18	7.49	31.48	101	2	P	V
	*	2437	103.98	-	-	100.79	27.18	7.49	31.48	101	2	A	V
		2484.11	60.54	-13.46	74	57.22	27.26	7.53	31.47	101	2	P	V
		2483.55	51.58	-2.42	54	48.26	27.26	7.53	31.47	101	2	A	V
		2388.96	56.48	-17.52	74	53.47	27.05	7.45	31.49	127	320	P	H
		2389.8	44.61	-9.39	54	41.6	27.05	7.45	31.49	127	320	A	H
	*	2447	103.65	-	-	100.45	27.18	7.49	31.47	127	320	P	H
	*	2447	92.77	-	-	89.57	27.18	7.49	31.47	127	320	A	H
802.11ac		2486.35	60.39	-13.61	74	57.07	27.26	7.53	31.47	127	320	P	H
VHT40		2483.48	50.19	-3.81	54	46.87	27.26	7.53	31.47	127	320	A	H
CH 08		2387.28	56.2	-17.8	74	53.19	27.05	7.45	31.49	100	3	P	V
2447MHz		2389.94	44.89	-9.11	54	41.88	27.05	7.45	31.49	100	3	A	V
	*	2447	102.76	-	-	99.56	27.18	7.49	31.47	100	3	P	V
	*	2447	98.51	-	-	95.31	27.18	7.49	31.47	100	3	A	V
		2485.58	62.73	-11.27	74	59.41	27.26	7.53	31.47	100	3	P	V
		2483.48	52.27	-1.73	54	48.95	27.26	7.53	31.47	100	3	A	V

		2369.64	56.68	-17.32	74	53.79	27.01	7.37	31.49	100	320	P	H
		2389.52	44.75	-9.25	54	41.74	27.05	7.45	31.49	100	320	A	H
	*	2452	103.31	-	-	100.11	27.18	7.49	31.47	100	320	P	H
	*	2452	98.58	-	-	95.38	27.18	7.49	31.47	100	320	A	H
802.11ac		2484.39	61.9	-12.1	74	58.58	27.26	7.53	31.47	100	320	P	H
VHT40		2483.62	49.83	-4.17	54	46.51	27.26	7.53	31.47	100	320	A	H
CH 09		2386.72	55.6	-18.4	74	52.59	27.05	7.45	31.49	107	1	P	V
2452MHz		2389.66	44.68	-9.32	54	41.67	27.05	7.45	31.49	107	1	A	V
	*	2452	104.81	-	-	101.61	27.18	7.49	31.47	107	1	P	V
	*	2452	98.61	-	-	95.41	27.18	7.49	31.47	107	1	A	V
		2483.55	63.55	-10.45	74	60.23	27.26	7.53	31.47	107	1	P	V
		2483.9	52.97	-1.03	54	49.65	27.26	7.53	31.47	107	1	A	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

2.4GHz 2400~2483.5MHz

WIFI 802.11ac VHT40 (Harmonic @ 3m)

WIFI Ant. 1+2	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
		4842	37.1	-36.9	74	53.2	31.28	10.74	58.12	100	0	P	H
		7266	43.74	-30.26	74	52.7	35.97	14.14	59.07	100	0	P	H
802.11ac													H
VHT40													H
CH 03		4842	37.18	-36.82	74	53.28	31.28	10.74	58.12	100	0	P	V
2422MHz		7266	42.96	-31.04	74	51.92	35.97	14.14	59.07	100	0	P	V
													V
													V
		4872	40.72	-33.28	74	56.6	31.33	10.89	58.1	100	0	P	H
		7308	47.99	-26.01	74	56.83	36.07	14.18	59.09	100	0	P	H
802.11ac													H
VHT40													H
CH 06		4872	40.17	-33.83	74	56.05	31.33	10.89	58.1	100	0	P	V
2437MHz		7308	43.09	-30.91	74	51.93	36.07	14.18	59.09	100	0	P	V
													V
													V
		4902	38.29	-35.71	74	53.94	31.38	11.04	58.07	100	0	P	H
		7356	42.75	-31.25	74	51.44	36.21	14.22	59.12	100	0	P	H
802.11ac													H
VHT40													H
CH 09		4902	37.29	-36.71	74	52.94	31.38	11.04	58.07	100	0	P	V
2452MHz		7356	43.96	-30.04	74	52.65	36.21	14.22	59.12	100	0	P	V
													V
													V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

Emission below 1GHz

2.4GHz WIFI 802.11ac HT40 (LF)

WIFI	Note	Frequency	Level	Over	Limit	Read	Antenna	Cable	Preamp	Ant	Table	Peak	Pol.
Ant.				Limit	Line	Level	Factor	Loss	Factor	Pos	Pos	Avg.	
1+2		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
		42.15	25.34	-14.66	40	38.4	18.62	0.78	32.46	-	-	P	H
		124.77	34.73	-8.77	43.5	47.92	17.8	1.43	32.42	100	54	P	H
		204.42	34.67	-8.83	43.5	49.43	15.94	1.7	32.4	-	-	P	H
		242.22	34.85	-11.15	46	47.5	17.85	1.83	32.33	-	-	P	H
		396.6	35.33	-10.67	46	42.89	22.13	2.68	32.37	-	-	P	H
		719.3	31.52	-14.48	46	33.13	26.87	3.89	32.37	-	-	P	H
													H
													H
													H
													H
2.4GHz													H
802.11ac													H
HT40		40.53	30.91	-9.09	40	42.85	19.74	0.78	32.46	100	128	P	V
LF		92.91	28.06	-15.44	43.5	44.27	15.16	1.06	32.43	-	-	P	V
		204.42	25.04	-18.46	43.5	39.8	15.94	1.7	32.4	-	-	P	V
		241.68	25.32	-20.68	46	38.06	17.76	1.83	32.33	-	-	P	V
		432.3	31.15	-14.85	46	37.85	22.79	2.89	32.38	-	-	P	V
		925.8	32.12	-13.88	46	29.22	29.64	4.6	31.34	-	-	P	V
													V
													V
													V
													V
													V
													V

Remark

1. No other spurious found.
2. All results are PASS against limit line.

Note symbol

*	**Fundamental Frequency** which can be ignored. However, the level of any unwanted emissions shall not exceed the level of the fundamental frequency.
!	Test result is **over limit** line.
P/A	**P**eak or **A**verage
H/V	**H**orizontal or **V**ertical

A calculation example for radiated spurious emission is shown as below:

WIFI	Note	Frequency	Level	Over	Limit	Read	Antenna	Cable	Preamp	Ant	Table	Peak	Pol.
Ant.				Limit	Line	Level	Factor	Loss	Factor	Pos	Pos	Avg.	
1+2		(MHz)	(dBµV/m)	(dB)	(dBµV/m)	(dBµV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
802.11b CH 01 2412MHz		2390	55.45	-18.55	74	54.51	32.22	4.58	35.86	103	308	P	H
		2390	43.54	-10.46	54	42.6	32.22	4.58	35.86	103	308	A	H

1. Level(dBµV/m) =

Antenna Factor(dB/m) + Cable Loss(dB) + Read Level(dBµV) - Preamp Factor(dB)

2. Over Limit(dB) = Level(dBµV/m) – Limit Line(dBµV/m)

For Peak Limit @ 2390MHz:

1. Level(dBµV/m)

= Antenna Factor(dB/m) + Cable Loss(dB) + Read Level(dBµV) - Preamp Factor(dB)

= 32.22(dB/m) + 4.58(dB) + 54.51(dBµV) – 35.86 (dB)

= 55.45 (dBµV/m)

2. Over Limit(dB)

= Level(dBµV/m) – Limit Line(dBµV/m)

= 55.45(dBµV/m) – 74(dBµV/m)

= -18.55(dB)

For Average Limit @ 2390MHz:

1. Level(dBµV/m)

= Antenna Factor(dB/m) + Cable Loss(dB) + Read Level(dBµV) - Preamp Factor(dB)

= 32.22(dB/m) + 4.58(dB) + 42.6(dBµV) – 35.86 (dB)

= 43.54 (dBµV/m)

2. Over Limit(dB)

= Level(dBµV/m) – Limit Line(dBµV/m)

= 43.54(dBµV/m) – 54(dBµV/m)

= -10.46(dB)

Both peak and average measured complies with the limit line, so test result is "PASS".