



<MIMO1+2>

2.4GHz 2400~2483.5MHz

WIFI 802.11n HT20 (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)
802.11n HT20 CH 01 2412MHz		2340.975	54.98	-19.02	74	50.68	32.03	7.24	34.97	249	360	P	H
		2390	45.19	-8.81	54	40.67	32.19	7.31	34.98	249	360	A	H
	*	2412	105.28	-	-	100.71	32.24	7.31	34.98	249	360	P	H
	*	2412	97.69	-	-	93.12	32.24	7.31	34.98	249	360	A	H
													H
													H
		2390	54.72	-19.28	74	50.2	32.19	7.31	34.98	216	103	P	V
		2390	46.17	-7.83	54	41.65	32.19	7.31	34.98	216	103	A	V
	*	2412	109.49	-	-	104.92	32.24	7.31	34.98	216	103	P	V
	*	2412	101.47	-	-	96.9	32.24	7.31	34.98	216	103	A	V
													V
													V
802.11n HT20 CH 06 2437MHz		2353.96	54.52	-19.48	74	50.16	32.09	7.24	34.97	100	244	P	H
		2385.74	44.69	-9.31	54	40.16	32.19	7.31	34.97	100	244	A	H
	*	2437	107.71	-	-	103	32.34	7.36	34.99	100	244	P	H
	*	2437	100.05	-	-	95.34	32.34	7.36	34.99	100	244	A	H
		2483.97	55.12	-18.88	74	50.27	32.45	7.4	35	100	244	P	H
		2484.18	45.37	-8.63	54	40.52	32.45	7.4	35	100	244	A	H
		2321.48	54.9	-19.1	74	50.7	31.98	7.18	34.96	200	270	P	V
		2384.2	44.77	-9.23	54	40.29	32.14	7.31	34.97	200	270	A	V
	*	2437	104.56	-	-	99.85	32.34	7.36	34.99	200	270	P	V
	*	2437	96.66	-	-	91.95	32.34	7.36	34.99	200	270	A	V
		2498.88	54.32	-19.68	74	49.43	32.5	7.4	35.01	200	270	P	V
		2483.55	45.25	-8.75	54	40.4	32.45	7.4	35	200	270	A	V



802.11n HT20 CH 11 2462MHz	*	2462	108.47	-	-	103.66	32.4	7.4	34.99	116	242	P	H
	*	2462	100.95	-	-	96.14	32.4	7.4	34.99	116	242	A	H
		2483.56	64.43	-9.57	74	59.58	32.45	7.4	35	116	242	P	H
		2483.52	52.54	-1.46	54	47.69	32.45	7.4	35	116	242	A	H
													H
													H
	*	2462	105.28	-	-	100.47	32.4	7.4	34.99	185	270	P	V
	*	2462	98	-	-	93.19	32.4	7.4	34.99	185	270	A	V
		2484	61.61	-12.39	74	56.76	32.45	7.4	35	185	270	P	V
		2483.52	49.4	-4.6	54	44.55	32.45	7.4	35	185	270	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 802.11n HT20 (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)
802.11n HT20 CH 01 2412MHz		4824	39.54	-34.46	74	53.26	33.64	11.68	59.04	100	0	P	H
													H
													H
													H
		4824	39.52	-34.48	74	53.24	33.64	11.68	59.04	100	0	P	V
													V
													V
													V
802.11n HT20 CH 06 2437MHz		4872	37.91	-36.09	74	51.78	33.54	11.53	58.94	100	0	P	H
		7308	38.81	-35.19	74	48.24	34.69	13.81	57.93	100	0	P	H
													H
													H
		4872	38.53	-35.47	74	52.4	33.54	11.53	58.94	100	0	P	V
		7308	39.92	-34.08	74	49.35	34.69	13.81	57.93	100	0	P	V
													V
													V
802.11n HT20 CH 11 2462MHz		4926	39.05	-34.95	74	53.08	33.44	11.37	58.84	100	0	P	H
		7386	39.78	-34.22	74	49.42	34.47	13.95	58.06	100	0	P	H
													H
													H
		4926	39.82	-34.18	74	53.85	33.44	11.37	58.84	100	0	P	V
		7386	39.36	-34.64	74	49	34.47	13.95	58.06	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 802.11n HT40 (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)
802.11n HT40 CH 03 2422MHz		2389.94	55.2	-18.8	74	50.68	32.19	7.31	34.98	266	2	P	H
		2389.94	46.82	-7.18	54	42.3	32.19	7.31	34.98	266	2	A	H
	*	2422	103.85	-	-	99.19	32.29	7.36	34.99	266	2	P	H
	*	2422	95.89	-	-	91.23	32.29	7.36	34.99	266	2	A	H
		2487.4	55.2	-18.8	74	50.35	32.45	7.4	35	266	2	P	H
		2486.42	45.88	-8.12	54	41.03	32.45	7.4	35	266	2	A	H
		2389.52	57.75	-16.25	74	53.22	32.19	7.31	34.97	209	108	P	V
		2389.94	49.08	-4.92	54	44.56	32.19	7.31	34.98	209	108	A	V
	*	2422	105.83	-	-	101.17	32.29	7.36	34.99	209	108	P	V
	*	2422	98.49	-	-	93.83	32.29	7.36	34.99	209	108	A	V
		2496.22	55.13	-18.87	74	50.24	32.5	7.4	35.01	209	108	P	V
		2493.14	46.2	-7.8	54	41.31	32.5	7.4	35.01	209	108	A	V
802.11n HT40 CH 06 2437MHz		2337.16	55.08	-18.92	74	50.83	32.03	7.18	34.96	100	245	P	H
		2389.94	45.79	-8.21	54	41.27	32.19	7.31	34.98	100	245	A	H
	*	2437	105.97	-	-	101.26	32.34	7.36	34.99	100	245	P	H
	*	2437	98.15	-	-	93.44	32.34	7.36	34.99	100	245	A	H
		2485.72	55.89	-18.11	74	51.04	32.45	7.4	35	100	245	P	H
		2484.46	46.59	-7.41	54	41.74	32.45	7.4	35	100	245	A	H
		2382.52	54.65	-19.35	74	50.17	32.14	7.31	34.97	192	146	P	V
		2389.1	45.67	-8.33	54	41.14	32.19	7.31	34.97	192	146	A	V
	*	2437	103.25	-	-	98.54	32.34	7.36	34.99	192	146	P	V
	*	2437	95.41	-	-	90.7	32.34	7.36	34.99	192	146	A	V
		2485.16	54.84	-19.16	74	49.99	32.45	7.4	35	192	146	P	V
		2487.89	45.96	-8.04	54	41.06	32.5	7.4	35	192	146	A	V



802.11n HT40 CH 09 2452MHz		2363.76	54.88	-19.12	74	50.52	32.09	7.24	34.97	100	241	P	H
		2380.28	45.89	-8.11	54	41.41	32.14	7.31	34.97	100	241	A	H
	*	2452	103.86	-	-	99.15	32.34	7.36	34.99	100	241	P	H
	*	2452	95.91	-	-	91.2	32.34	7.36	34.99	100	241	A	H
		2483.52	64.42	-9.58	74	59.57	32.45	7.4	35	100	241	P	H
		2483.69	52.85	-1.15	54	48	32.45	7.4	35	100	241	P	H
		2370.76	54.48	-19.52	74	50.07	32.14	7.24	34.97	100	267	P	V
		2386.72	45.59	-8.41	54	41.06	32.19	7.31	34.97	100	267	A	V
	*	2452	99.79	-	-	95.08	32.34	7.36	34.99	100	267	P	V
	*	2452	92.28	-	-	87.57	32.34	7.36	34.99	100	267	A	V
		2483.69	61.66	-12.34	74	56.81	32.45	7.4	35	100	267	P	V
		2483.76	52.37	-1.63	54	47.52	32.45	7.4	35	100	267	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 802.11n HT40 (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)
802.11n HT40 CH 03 2422MHz		4842	39.96	-34.04	74	53.68	33.61	11.68	59.01	100	0	P	H
		7266	38.55	-35.45	74	47.91	34.78	13.75	57.89	100	0	P	H
													H
													H
		4842	38.44	-35.56	74	52.16	33.61	11.68	59.01	100	0	P	V
		7266	38.61	-35.39	74	47.97	34.78	13.75	57.89	100	0	P	V
													V
													V
802.11n HT40 CH 06 2437MHz		4872	38.28	-35.72	74	52.15	33.54	11.53	58.94	100	0	P	H
		7308	39.69	-34.31	74	49.12	34.69	13.81	57.93	100	0	P	H
													H
													H
		4872	38.78	-35.22	74	52.65	33.54	11.53	58.94	100	0	P	V
		7308	38.89	-35.11	74	48.32	34.69	13.81	57.93	100	0	P	V
													V
													V
802.11n HT40 CH 09 2452MHz		4902	38.54	-35.46	74	52.57	33.47	11.37	58.87	100	0	P	H
		7356	38.89	-35.11	74	48.46	34.56	13.88	58.01	100	0	P	H
													H
													H
		4902	38.53	-35.47	74	52.56	33.47	11.37	58.87	100	0	P	V
		7356	38.73	-35.27	74	48.3	34.56	13.88	58.01	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

Emission below 1GHz

2.4GHz WIFI 802.11n HT40 (LF)

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)
2.4GHz 802.11n HT40 LF		30	27.77	-12.23	40	32.05	26	1.07	31.35	100	0	P	H
		81.3	25.45	-14.55	40	41.7	14.02	1.28	31.55	-	-	P	H
		282.18	27.5	-18.5	46	37.11	19.38	2.32	31.31	-	-	P	H
		332.2	27.62	-18.38	46	35.73	20.72	2.41	31.24	-	-	P	H
		634.6	28.33	-17.67	46	29.81	25.74	3.57	30.79	-	-	P	H
		938.4	33.25	-12.75	46	29.74	29.92	4.12	30.53	-	-	P	H
													H
													H
													H
													H
													H
		35.67	33.31	-6.69	40	40.95	22.72	1.07	31.43	100	80	P	V
		63.48	28.15	-11.85	40	46.17	12.28	1.28	31.58	-	-	P	V
		110.19	26.3	-17.2	43.5	38.92	17.35	1.55	31.52	-	-	P	V
		421.1	24.8	-21.2	46	30.35	22.7	2.89	31.14	-	-	P	V
		716.5	30.04	-15.96	46	30.33	26.67	3.74	30.7	-	-	P	V
		940.5	33.05	-12.95	46	29.52	29.99	4.07	30.53	-	-	P	V
													V
													V
													V
													V
													V
													V
Remark	1. No other spurious found. 2. All results are PASS against limit line.												



2.4GHz 2400~2483.5MHz

WIFI 802.11n HT20 (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)
802.11n HT20 CH 12 2467MHz	*	2467	108.47	34.47	74	103.67	32.4	7.4	35	100	309	P	H
	*	2467	100.73	46.73	54	95.93	32.4	7.4	35	100	309	A	H
		2483.64	63.42	-10.58	74	58.57	32.45	7.4	35	100	309	P	H
		2483.52	50.22	-3.78	54	45.37	32.45	7.4	35	100	309	A	H
													H
													H
	*	2467	105.27	31.27	74	100.47	32.4	7.4	35	350	148	P	V
	*	2467	98.19	44.19	54	93.39	32.4	7.4	35	350	148	A	V
		2483.56	61.06	-12.94	74	56.21	32.45	7.4	35	350	148	P	V
		2483.52	50.82	-3.18	54	45.97	32.45	7.4	35	350	148	A	V
													V
													V
802.11n HT20 CH 13 2472MHz	*	2472	97.78	23.78	74	92.93	32.45	7.4	35	100	308	P	H
	*	2472	85.69	31.69	54	80.84	32.45	7.4	35	100	308	A	H
		2483.64	66.44	-7.56	74	61.59	32.45	7.4	35	100	308	P	H
		2483.52	53.29	-0.71	54	48.44	32.45	7.4	35	100	308	A	H
													H
													H
	*	2472	91.49	17.49	74	86.64	32.45	7.4	35	356	148	P	V
	*	2472	84.17	30.17	54	79.32	32.45	7.4	35	356	148	A	V
		2483.72	63.9	-10.1	74	59.05	32.45	7.4	35	356	148	P	V
		2483.6	52.94	-1.06	54	48.09	32.45	7.4	35	356	148	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 802.11n HT20 (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)
802.11n HT20 CH 12 2467MHz		4932	41.57	-32.43	74	55.6	33.44	11.37	58.84	100	0	P	H
		7404	39.34	-34.66	74	49.05	34.42	13.95	58.08	100	0	P	H
													H
													H
		4932	41.41	-32.59	74	55.44	33.44	11.37	58.84	100	0	P	V
		7404	38.91	-35.09	74	48.62	34.42	13.95	58.08	100	0	P	V
													V
													V
802.11n HT20 CH 13 2472MHz		4944	40	-34	74	54.18	33.4	11.22	58.8	100	0	P	H
		7416	39.29	-34.71	74	49	34.42	13.95	58.08	100	0	P	H
													H
													H
		4944	39.31	-34.69	74	53.49	33.4	11.22	58.8	100	0	P	V
		7416	39.34	-34.66	74	49.05	34.42	13.95	58.08	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 802.11n HT40 (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)
802.11n HT40 CH 10 2457MHz		2367.12	54.97	-19.03	74	50.61	32.09	7.24	34.97	100	80	P	H
		2387.84	45.79	-8.21	54	41.26	32.19	7.31	34.97	100	80	A	H
	*	2457	102.46	28.46	74	97.69	32.4	7.36	34.99	100	80	P	H
	*	2457	94.89	40.89	54	90.12	32.4	7.36	34.99	100	80	A	H
		2483.62	56.71	-17.29	74	51.86	32.45	7.4	35	100	80	P	H
		2483.62	48.49	-5.51	54	43.64	32.45	7.4	35	100	80	A	H
		2358.86	55.34	-18.66	74	50.98	32.09	7.24	34.97	355	229	P	V
		2362.36	45.62	-8.38	54	41.26	32.09	7.24	34.97	355	229	A	V
	*	2457	102.72	28.72	74	97.95	32.4	7.36	34.99	355	229	P	V
	*	2457	94.77	40.77	54	90	32.4	7.36	34.99	355	229	A	V
		2483.55	57.43	-16.57	74	52.58	32.45	7.4	35	355	229	P	V
		2483.52	49.46	-4.54	54	44.61	32.45	7.4	35	355	229	A	V
802.11n HT40 CH 11 2462MHz		2378.32	54.56	-19.44	74	50.15	32.14	7.24	34.97	100	80	P	H
		2375.38	45.59	-8.41	54	41.18	32.14	7.24	34.97	100	80	A	H
	*	2462	94.19	20.19	74	89.38	32.4	7.4	34.99	100	80	P	H
	*	2462	86.18	32.18	54	81.37	32.4	7.4	34.99	100	80	A	H
		2484.18	61.08	-12.92	74	56.23	32.45	7.4	35	100	80	P	H
		2483.55	53.42	-0.58	54	48.57	32.45	7.4	35	100	80	A	H
		2320.08	54.72	-19.28	74	50.52	31.98	7.18	34.96	358	226	P	V
		2372.58	45.57	-8.43	54	41.16	32.14	7.24	34.97	358	226	A	V
	*	2462	96.67	22.67	74	91.86	32.4	7.4	34.99	358	226	P	V
	*	2462	85.63	31.63	54	80.82	32.4	7.4	34.99	358	226	A	V
		2483.62	61.79	-12.21	74	56.94	32.45	7.4	35	358	226	P	V
		2483.52	53.1	-0.9	54	48.25	32.45	7.4	35	358	226	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 802.11n HT40 (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)
802.11n HT40 CH 10 2457MHz		4914	38.41	-35.59	74	52.44	33.47	11.37	58.87	100	0	P	H
		7368	39.34	-34.66	74	48.98	34.51	13.88	58.03	100	0	P	H
													H
													H
		4914	38.96	-35.04	74	52.99	33.47	11.37	58.87	100	0	P	V
		7371	38.93	-35.07	74	48.57	34.51	13.88	58.03	100	0	P	V
													V
													V
802.11n HT40 CH 11 2462MHz		4926	40.33	-33.67	74	54.36	33.44	11.37	58.84	100	0	P	H
		7386	39.14	-34.86	74	48.78	34.47	13.95	58.06	100	0	P	H
													H
													H
		4926	39.22	-34.78	74	53.25	33.44	11.37	58.84	100	0	P	V
		7386	38.67	-35.33	74	48.31	34.47	13.95	58.06	100	0	P	V
													V
													V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average 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	Peak or Average
H/V	H orizontal or V ertical



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

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)
802.11b CH 01		2390	55.45	-18.55	74	54.51	32.22	4.58	35.86	103	308	P	H
2412MHz		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”.