Appendix A. Radiated Spurious Emission

Test Engineer :	Jet Lui, Kyle Jhuang, and Karl Hou	Temperature :	23~24°C
		Relative Humidity :	45~46%

15C 2.4GHz 2400~2483.5MHz

WIFI 802.11b (Band Edge @ 3m)

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		(MHz)	(dBµV/m)	(dB)	(dBµV/m)	(dBµV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
802.11b CH 01 2412MHz		2385.96	53.97	-20.03	74	50.51	31.94	6.17	34.65	100	360	P	H
		2386.59	45.92	-8.08	54	42.46	31.94	6.17	34.65	100	360	A	H
	*	2412	101.4	-	-	97.88	31.95	6.21	34.64	100	360	P	H
	*	2412	95.79	-	-	92.27	31.95	6.21	34.64	100	360	A	H
													H
													H
		2385.96	52.07	-21.93	74	48.61	31.94	6.17	34.65	199	105	P	V
		2386.77	42.52	-11.48	54	39.06	31.94	6.17	34.65	199	105	A	V
	*	2412	98.41	-	-	94.89	31.95	6.21	34.64	199	105	P	V
	*	2412	93.38	-	-	89.86	31.95	6.21	34.64	199	105	A	V
													V
													V
802.11b CH 06 2437MHz		2388.66	49.53	-24.47	74	46.07	31.94	6.17	34.65	122	249	P	H
		2382.9	38.06	-15.94	54	34.61	31.93	6.17	34.65	122	249	A	H
	*	2437	103.09	-	-	99.52	31.97	6.24	34.64	122	249	P	H
	*	2437	97.41	-	-	93.84	31.97	6.24	34.64	122	249	A	H
		2486.16	50.88	-23.12	74	47.22	31.99	6.3	34.63	122	249	P	H
		2485.64	38.06	-15.94	54	34.4	31.99	6.3	34.63	122	249	A	H
		2386.59	50.38	-23.62	74	46.92	31.94	6.17	34.65	101	106	P	V
		2389.02	37.54	-16.46	54	34.08	31.94	6.17	34.65	101	106	A	V
	*	2435.571	100.38	-	-	96.82	31.96	6.24	34.64	101	106	P	V
	*	2436.072	94.89	-	-	91.33	31.96	6.24	34.64	101	106	A	V
		2494.28	48.09	-25.91	74	44.38	32	6.34	34.63	101	106	P	V
		2485.64	37.06	-16.94	54	33.4	31.99	6.3	34.63	101	106	A	V

802.11b CH 11 2462MHz	*	2462	100.77	-	-	97.16	31.98	6.27	34.64	100	245	P	H
	*	2462	95.35	-	-	91.74	31.98	6.27	34.64	100	245	A	H
		2487.64	53.05	-20.95	74	49.38	32	6.3	34.63	100	245	P	H
		2483.52	46.09	-7.91	54	42.43	31.99	6.3	34.63	100	245	A	H
													H
													H
	*	2462	98.5	-	-	94.89	31.98	6.27	34.64	102	110	P	V
	*	2462	92.94	-	-	89.33	31.98	6.27	34.64	102	110	A	V
		2489.08	50.65	-23.35	74	46.98	32	6.3	34.63	102	110	P	V
		2483.52	40.32	-13.68	54	36.66	31.99	6.3	34.63	102	110	A	V
													V
													V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

15C 2.4GHz 2400~2483.5MHz

WIFI 802.11b (Harmonic @ 3m)

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		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
802.11b CH 01 2412MHz		4824	40.87	-33.13	74	58.72	34.36	8.6	60.81	100	0	P	H
													H
													H
													H
		4824	40.9	-33.1	74	58.75	34.36	8.6	60.81	100	0	P	V
													V
													V
													V
802.11b CH 06 2437MHz		4875	43.03	-30.97	74	60.55	34.4	8.77	60.69	100	0	P	H
		7311	47.3	-26.7	74	60.14	35.74	11.94	60.52	100	0	P	H
													H
													H
		4875	42.5	-31.5	74	60.02	34.4	8.77	60.69	100	0	P	V
		7311	51.04	-22.96	74	63.88	35.74	11.94	60.52	117	163	P	V
		7311	48.54	-5.46	54	61.38	35.74	11.94	60.52	117	163	A	V
													V
802.11b CH 11 2462MHz		4923	43.13	-30.87	74	60.32	34.44	8.94	60.57	100	0	P	H
		7386	42.71	-31.29	74	55.57	35.72	11.98	60.56	100	0	P	H
													H
													H
		4923	48.28	-25.72	74	65.47	34.44	8.94	60.57	100	0	P	V
		7386	42.42	-31.58	74	55.28	35.72	11.98	60.56	100	0	P	V
													V
													V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

15C 2.4GHz 2400~2483.5MHz

WIFI 802.11g (Band Edge @ 3m)

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		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
802.11g CH 01 2412MHz		2389.47	53.81	-20.19	74	50.35	31.94	6.17	34.65	147	302	P	H
		2390.01	39.74	-14.26	54	36.23	31.94	6.21	34.64	147	302	A	H
	*	2412	100.2	-	-	96.68	31.95	6.21	34.64	147	302	P	H
	*	2412	88.59	-	-	85.07	31.95	6.21	34.64	147	302	A	H
													H
													H
		2389.47	52.82	-21.18	74	49.36	31.94	6.17	34.65	100	111	P	V
		2390.01	39.07	-14.93	54	35.56	31.94	6.21	34.64	100	111	A	V
	*	2412	97.52	-	-	94	31.95	6.21	34.64	100	111	P	V
	*	2412	86.43	-	-	82.91	31.95	6.21	34.64	100	111	A	V
													V
													V
802.11g CH 06 2437MHz		2389.74	56.94	-17.06	74	53.48	31.94	6.17	34.65	100	241	P	H
		2390.01	41.07	-12.93	54	37.56	31.94	6.21	34.64	100	241	A	H
	*	2437	104.27	-	-	100.7	31.97	6.24	34.64	100	241	P	H
	*	2437	92.8	-	-	89.23	31.97	6.24	34.64	100	241	A	H
		2484.2	58	-16	74	54.34	31.99	6.3	34.63	100	241	P	H
		2483.6	41.02	-12.98	54	37.36	31.99	6.3	34.63	100	241	A	H
		2389.02	54.88	-19.12	74	51.42	31.94	6.17	34.65	100	108	P	V
		2390.01	40.63	-13.37	54	37.12	31.94	6.21	34.64	100	108	A	V
	*	2437	102.32	-	-	98.75	31.97	6.24	34.64	100	108	P	V
	*	2437	90.96	-	-	87.39	31.97	6.24	34.64	100	108	A	V
		2486.44	54.65	-19.35	74	50.99	31.99	6.3	34.63	100	108	P	V
		2487.88	38.27	-15.73	54	34.6	32	6.3	34.63	100	108	A	V

802.11g CH 11 2462MHz	*	2462	100.68	-	-	97.07	31.98	6.27	34.64	100	244	P	H
	*	2462	89.18	-	-	85.57	31.98	6.27	34.64	100	244	A	H
		2484.2	60.44	-13.56	74	56.78	31.99	6.3	34.63	100	244	P	H
		2483.52	43.39	-10.61	54	39.73	31.99	6.3	34.63	100	244	A	H
													H
													H
	*	2462	97.69	-	-	94.08	31.98	6.27	34.64	195	112	P	V
	*	2462	85.76	-	-	82.15	31.98	6.27	34.64	195	112	A	V
		2485.8	51.08	-22.92	74	47.42	31.99	6.3	34.63	195	112	P	V
		2483.52	38.88	-15.12	54	35.22	31.99	6.3	34.63	195	112	A	V
													V
													V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

15C 2.4GHz 2400~2483.5MHz

WIFI 802.11g (Harmonic @ 3m)

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		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
802.11g CH 01 2412MHz		4824	39.94	-34.06	74	57.79	34.36	8.6	60.81	100	0	P	H
													H
													H
													H
		4824	39.75	-34.25	74	57.6	34.36	8.6	60.81	100	0	P	V
													V
													V
													V
802.11g CH 06 2437MHz		4875	41.29	-32.71	74	58.81	34.4	8.77	60.69	100	0	P	H
		7311	43.62	-30.38	74	56.46	35.74	11.94	60.52	100	0	P	H
													H
													H
		4875	42.22	-31.78	74	59.74	34.4	8.77	60.69			P	V
		7311	43.41	-30.59	74	56.25	35.74	11.94	60.52	100	0	P	V
													V
													V
802.11g CH 11 2462MHz		4923	40.41	-33.59	74	57.6	34.44	8.94	60.57	100	0	P	H
		7386	42.85	-31.15	74	55.71	35.72	11.98	60.56	100	0	P	H
													H
													H
		4923	42.33	-31.67	74	59.52	34.44	8.94	60.57	100	0	P	V
		7386	43.22	-30.78	74	56.08	35.72	11.98	60.56	100	0	P	V
													V
													V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

15C 2.4GHz 2400~2483.5MHz

WIFI 802.11n HT20 (Band Edge @ 3m)

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		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
		2389.74	59.12	-14.88	74	55.66	31.94	6.17	34.65	122	243	P	H
		2390.01	42.6	-11.4	54	39.09	31.94	6.21	34.64	122	243	A	H
	*	2412	99.45	-	-	95.93	31.95	6.21	34.64	122	243	P	H
	*	2412	88.85	-	-	85.33	31.95	6.21	34.64	122	243	A	H
802.11n													H
HT20													H
CH 01		2388.93	55.31	-18.69	74	51.85	31.94	6.17	34.65	121	272	P	V
2412MHz		2390.01	41.25	-12.75	54	37.74	31.94	6.21	34.64	121	272	A	V
	*	2412	97.33	-	-	93.81	31.95	6.21	34.64	121	272	P	V
	*	2412	86.21	-	-	82.69	31.95	6.21	34.64	121	272	A	V
													V
													V
		2389.29	59.46	-14.54	74	56	31.94	6.17	34.65	100	241	P	H
		2390.01	42.69	-11.31	54	39.18	31.94	6.21	34.64	100	241	A	H
	*	2437	105.76	-	-	102.19	31.97	6.24	34.64	100	241	P	H
	*	2437	94.38	-	-	90.81	31.97	6.24	34.64	100	241	A	H
802.11n		2484.12	57.45	-16.55	74	53.79	31.99	6.3	34.63	100	241	P	H
HT20		2483.52	41.98	-12.02	54	38.32	31.99	6.3	34.63	100	241	A	H
CH 06		2389.74	56.77	-17.23	74	53.31	31.94	6.17	34.65	117	117	P	V
2437MHz		2389.83	40.47	-13.53	54	36.96	31.94	6.21	34.64	117	117	A	V
	*	2437	102.67	-	-	99.1	31.97	6.24	34.64	117	117	P	V
	*	2437	90.71	-	-	87.14	31.97	6.24	34.64	117	117	A	V
		2484.88	53.67	-20.33	74	50.01	31.99	6.3	34.63	117	117	P	V
		2483.52	39.41	-14.59	54	35.75	31.99	6.3	34.63	117	117	A	V

	*	2462	99.71	-	-	96.1	31.98	6.27	34.64	100	243	P	H
	*	2462	88.3	-	-	84.69	31.98	6.27	34.64	100	243	A	H
		2484.8	62.19	-11.81	74	58.53	31.99	6.3	34.63	100	243	P	H
		2483.52	43.72	-10.28	54	40.06	31.99	6.3	34.63	100	243	A	H
802.11n													H
HT20													H
CH 11	*	2462	97.42	-	-	93.81	31.98	6.27	34.64	196	121	P	V
2462MHz	*	2462	85.53	-	-	81.92	31.98	6.27	34.64	196	121	A	V
		2485.24	52.72	-21.28	74	49.06	31.99	6.3	34.63	196	121	P	V
		2483.52	38.57	-15.43	54	34.91	31.99	6.3	34.63	196	121	A	V
													V
													V

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

15C 2.4GHz 2400~2483.5MHz

WIFI 802.11n HT20 (Harmonic @ 3m)

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		(MHz)	(dBµV/m)	(dB)	(dBµV/m)	(dBµV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
		4824	39.87	-34.13	74	57.72	34.36	8.6	60.81	100	0	P	H
													H
802.11n													H
HT20													H
CH 01		4824	40.35	-33.65	74	58.2	34.36	8.6	60.81	100	0	P	V
2412MHz													V
													V
													V
		4872	41.85	-32.15	74	59.37	34.4	8.77	60.69	100	0	P	H
		7314	44.5	-29.5	74	57.33	35.74	11.95	60.52	100	0	P	H
802.11n													H
HT20													H
CH 06		4881	44.14	-29.86	74	61.66	34.4	8.77	60.69	100	0	P	V
2437MHz		7311	44.31	-29.69	74	57.15	35.74	11.94	60.52	100	0	P	V
													V
													V
		4923	40.48	-33.52	74	57.67	34.44	8.94	60.57	100	0	P	H
		7386	43.3	-30.7	74	56.16	35.72	11.98	60.56	100	0	P	H
802.11n													H
HT20													H
CH 11		4923	42.16	-31.84	74	59.35	34.44	8.94	60.57	100	0	P	V
2462MHz		7386	42.23	-31.77	74	55.09	35.72	11.98	60.56	100	0	P	V
													V
													V

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

15C 2.4GHz 2400~2483.5MHz

WIFI 802.11n HT40 (Band Edge @ 3m)

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		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
802.11n HT40 CH 03 2422MHz		2387.22	66.8	-7.2	74	63.34	31.94	6.17	34.65	128	237	P	H
		2389.56	52.76	-1.24	54	49.3	31.94	6.17	34.65	128	237	A	H
	*	2422	103.36	-	-	99.8	31.96	6.24	34.64	128	237	P	H
	*	2422	92.52	-	-	88.96	31.96	6.24	34.64	128	237	A	H
		2492.6	54.59	-19.41	74	50.88	32	6.34	34.63	128	237	P	H
		2489.36	40.7	-13.3	54	37.03	32	6.3	34.63	128	237	A	H
		2387.13	63.89	-10.11	74	60.43	31.94	6.17	34.65	120	197	P	V
		2389.92	51.63	-2.37	54	48.12	31.94	6.21	34.64	120	197	A	V
	*	2422	102.59	-	-	99.03	31.96	6.24	34.64	120	197	P	V
	*	2422	91.51	-	-	87.95	31.96	6.24	34.64	120	197	A	V
		2484.08	55.48	-18.52	74	51.82	31.99	6.3	34.63	120	197	P	V
		2483.56	42.68	-11.32	54	39.02	31.99	6.3	34.63	120	197	A	V
802.11n HT40 CH 06 2437MHz		2374.53	56.14	-17.86	74	52.69	31.93	6.17	34.65	100	335	P	H
		2379.48	42.22	-11.78	54	38.77	31.93	6.17	34.65	100	335	A	H
	*	2437	101.59	-	-	98.02	31.97	6.24	34.64	100	335	P	H
	*	2437	90.53	-	-	86.96	31.97	6.24	34.64	100	335	P	H
		2484.32	57.85	-16.15	74	54.19	31.99	6.3	34.63	100	335	P	H
		2483.52	44.94	-9.06	54	41.28	31.99	6.3	34.63	100	335	A	H
		2375.34	53.75	-20.25	74	50.3	31.93	6.17	34.65	166	119	P	V
		2375.7	40.18	-13.82	54	36.73	31.93	6.17	34.65	166	119	A	V
	*	2437	99.05	-	-	95.48	31.97	6.24	34.64	166	119	P	V
	*	2437	88.5	-	-	84.93	31.97	6.24	34.64	166	119	P	V
		2483.8	56.4	-17.6	74	52.74	31.99	6.3	34.63	166	119	P	V
		2483.52	41.24	-12.76	54	37.58	31.99	6.3	34.63	166	119	A	V

	*	2452	101.51	-	-	97.91	31.97	6.27	34.64	128	46	P	H
	*	2452	91.13	-	-	87.53	31.97	6.27	34.64	128	46	A	H
		2483.84	65.57	-8.43	74	61.91	31.99	6.3	34.63	128	46	P	H
		2483.92	52.79	-1.21	54	49.13	31.99	6.3	34.63	128	46	A	H
802.11n													H
HT40													H
CH 09	*	2452	98.07	-	-	94.47	31.97	6.27	34.64	100	191	P	V
2452MHz	*	2452	88.03	-	-	84.43	31.97	6.27	34.64	100	191	A	V
		2493.48	55.95	-18.05	74	52.24	32	6.34	34.63	100	191	P	V
		2491.76	43.61	-10.39	54	39.9	32	6.34	34.63	100	191	A	V
													V
													V

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

15C 2.4GHz 2400~2483.5MHz

WIFI 802.11n HT40 (Harmonic @ 3m)

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		(MHz)	(dBµV/m)	(dB)	(dBµV/m)	(dBµV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
		4845	39.94	-34.06	74	57.64	34.38	8.69	60.77	100	0	P	H
		7266	42.98	-31.02	74	55.82	35.74	11.93	60.51	100	0	P	H
802.11n													H
HT40													H
CH 03		4845	40.46	-33.54	74	58.16	34.38	8.69	60.77	100	0	P	V
2422MHz		7266	43.95	-30.05	74	56.79	35.74	11.93	60.51	100	0	P	V
													V
													V
		4875	40.74	-33.26	74	58.26	34.4	8.77	60.69	100	0	P	H
		7311	43.59	-30.41	74	56.43	35.74	11.94	60.52	100	0	P	H
802.11n													H
HT40													H
CH 06		4875	41.56	-32.44	74	59.08	34.4	8.77	60.69	100	0	P	V
2437MHz		7311	44.2	-29.8	74	57.04	35.74	11.94	60.52	100	0	P	V
													V
													V
		4905	40.61	-33.39	74	57.94	34.43	8.85	60.61	100	0	P	H
		7356	43.61	-30.39	74	56.45	35.73	11.97	60.54	100	0	P	H
802.11n													H
HT40													H
CH 09		4905	42.48	-31.52	74	59.81	34.43	8.85	60.61	100	0	P	V
2452MHz		7356	42.79	-31.21	74	55.63	35.73	11.97	60.54	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 per 15.209(c).
!	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".

15C 2.4GHz 2400~2483.5MHz

WIFI 802.11b (Band Edge @ 3m)

WIFI	Note	Frequency	Level	Over	Limit	Read	Antenna	Cable	Preamp	Ant	Table	Peak	Pol.
Ant.				Limit	Line	Level	Factor	Loss	Factor	Pos	Pos	Avg.	
2		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
802.11b CH 11 2462MHz	*	2463.543	103.82	-	-	100.21	31.98	6.27	34.64	171	238	P	H
	*	2464.295	99.23	-	-	95.62	31.98	6.27	34.64	171	238	A	H
		2483.64	55.52	-18.48	74	51.86	31.99	6.3	34.63	171	238	P	H
		2483.52	47.93	-6.07	54	44.27	31.99	6.3	34.63	171	238	A	H
													H
													H
	*	2461.122	105.23	-	-	101.62	31.98	6.27	34.64	100	39	P	V
	*	2460.788	101.86	-	-	98.25	31.98	6.27	34.64	100	39	A	V
		2483.6	57.89	-16.11	74	54.23	31.99	6.3	34.63	100	39	P	V
		2483.52	51.34	-2.66	54	47.68	31.99	6.3	34.63	100	39	A	V
													V
													V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

15C 2.4GHz 2400~2483.5MHz

WIFI 802.11b (Harmonic @ 3m)

WIFI	Note	Frequency	Level	Over	Limit	Read	Antenna	Cable	Preamp	Ant	Table	Peak	Pol.
Ant.				Limit	Line	Level	Factor	Loss	Factor	Pos	Pos	Avg.	
2		(MHz)	(dBµV/m)	(dB)	(dBµV/m)	(dBµV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
802.11b CH 11 2462MHz		4923	40.49	-33.51	74	57.68	34.44	8.94	60.57	100	0	P	H
		7386	40.28	-33.72	74	53.14	35.72	11.98	60.56	100	0	P	H
													H
													H
		4923	40.64	-33.36	74	57.83	34.44	8.94	60.57	100	0	P	V
		7386	41.3	-32.7	74	54.16	35.72	11.98	60.56	100	0	P	V
													V
													V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

15C 2.4GHz 2400~2483.5MHz

WIFI 802.11n HT40 (Band Edge @ 3m)

WIFI	Note	Frequency	Level	Over	Limit	Read	Antenna	Cable	Preamp	Ant	Table	Peak	Pol.
Ant.				Limit	Line	Level	Factor	Loss	Factor	Pos	Pos	Avg.	
2		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
802.11n HT40 CH 09 2452MHz		2384.34	53.33	-20.67	74	49.88	31.93	6.17	34.65	149	14	P	H
		2385.6	41.61	-12.39	54	38.15	31.94	6.17	34.65	149	14	A	H
	*	2440.999	100.34	-	-	96.74	31.97	6.27	34.64	149	14	P	H
	*	2441.917	91.86	-	-	88.26	31.97	6.27	34.64	149	14	A	H
		2483.6	66.13	-7.87	74	62.47	31.99	6.3	34.63	149	14	P	H
		2483.6	53.26	-0.74	54	49.6	31.99	6.3	34.63	149	14	A	H
		2363.1	51.64	-22.36	74	48.23	31.92	6.14	34.65	161	127	P	V
		2389.38	40.4	-13.6	54	36.94	31.94	6.17	34.65	161	127	A	V
	*	2450.601	96.23	-	-	92.63	31.97	6.27	34.64	161	127	P	V
	*	2450.351	88.07	-	-	84.47	31.97	6.27	34.64	161	127	A	V
		2487.4	59.14	-14.86	74	55.48	31.99	6.3	34.63	161	127	P	V
		2484.56	47.34	-6.66	54	43.68	31.99	6.3	34.63	161	127	A	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

15C 2.4GHz 2400~2483.5MHz

WIFI 802.11n HT40 (Harmonic @ 3m)

WIFI	Note	Frequency	Level	Over	Limit	Read	Antenna	Cable	Preamp	Ant	Table	Peak	Pol.
Ant.				Limit	Line	Level	Factor	Loss	Factor	Pos	Pos	Avg.	
2		(MHz)	(dBµV/m)	(dB)	(dBµV/m)	(dBµV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
		4905	39.67	-34.33	74	57	34.43	8.85	60.61	100	0	P	H
		7356	41.31	-32.69	74	54.15	35.73	11.97	60.54	100	0	P	H
802.11n													H
HT40													H
CH 09		4905	39.3	-34.7	74	56.63	34.43	8.85	60.61	100	0	P	V
2452MHz		7356	40.86	-33.14	74	53.7	35.73	11.97	60.54			P	V
													V
													V

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

15C Emission below 1GHz

2.4GHz WIFI 802.11b (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.	
2		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
2.4GHz 802.11b LF		139.35	33.89	-9.61	43.5	53.23	11.1	1.31	31.75			P	H
		154.74	33.73	-9.77	43.5	53.88	10.2	1.4	31.75			P	H
		278.4	39.61	-6.39	46	56.67	12.84	1.83	31.73			P	H
		301.4	36.75	-9.25	46	53.32	13.24	1.91	31.72			P	H
		426	33.33	-12.67	46	46.13	16.8	2.25	31.85			P	H
		758.5	40.15	-5.85	46	48.88	20.2	3.05	31.98	124	213	P	H
		30	24.9	-15.1	40	37.56	18.5	0.64	31.8			P	V
		154.2	37.93	-5.57	43.5	57.99	10.3	1.39	31.75	100	110	P	V
		277.86	32.65	-13.35	46	49.71	12.84	1.83	31.73			P	V
		308.4	29.17	-16.83	46	45.61	13.36	1.93	31.73			P	V
		462.4	29.92	-16.08	46	42.23	17.25	2.33	31.89			P	V
		770.4	32.9	-13.1	46	41.72	20.1	3.05	31.97			P	V
Remark	1. No other spurious found. 2. All results are PASS against limit line.												

15C Emission below 1GHz

2.4GHz WIFI 802.11n 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.	
2		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
		30	17	-23	40	29.66	18.5	0.64	31.8			P	H
		139.35	35.1	-8.4	43.5	54.44	11.1	1.31	31.75			P	H
		278.4	38.87	-7.13	46	55.93	12.84	1.83	31.73			P	H
		308.4	36.64	-9.36	46	53.08	13.36	1.93	31.73			P	H
		462.4	34.48	-11.52	46	46.79	17.25	2.33	31.89			P	H
		756.4	40.03	-5.97	46	48.76	20.2	3.05	31.98	142	113	P	H
													H
													H
													H
													H
2.4GHz													H
802.11n													H
HT40		30.54	26.19	-13.81	40	39.44	17.9	0.65	31.8			P	V
LF		154.2	34.94	-8.56	43.5	55	10.3	1.39	31.75	100	213	P	V
		278.4	32.61	-13.39	46	49.67	12.84	1.83	31.73			P	V
		303.5	32.33	-13.67	46	48.86	13.27	1.92	31.72			P	V
		455.4	30.6	-15.4	46	43.08	17.08	2.32	31.88			P	V
		763.4	34.92	-11.08	46	43.68	20.17	3.05	31.98			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 per 15.209(c).
!	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

3. Level(dBμV/m) =

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

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

For Peak Limit @ 2390MHz:

3. 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)

4. Over Limit(dB)

= Level(dBμV/m) – Limit Line(dBμV/m)

= 55.45(dBμV/m) – 74(dBμV/m)

= -18.55(dB)

For Average Limit @ 2390MHz:

3. 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)

4. 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".

15C 2.4GHz 2400~2483.5MHz

WIFI 802.11n HT20 (Band Edge @ 3m)

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)
		2387.31	61.27	-12.73	74	57.81	31.94	6.17	34.65	129	39	P	H
		2390.01	46.66	-7.34	54	43.15	31.94	6.21	34.64	129	39	A	H
	*	2412	105.39	-	-	101.87	31.95	6.21	34.64	129	39	P	H
	*	2412	94.88	-	-	91.36	31.95	6.21	34.64	129	39	A	H
802.11n													H
HT20													H
CH 01		2389.83	64.88	-9.12	74	61.37	31.94	6.21	34.64	119	87	P	V
2412MHz		2390.01	50.02	-3.98	54	46.51	31.94	6.21	34.64	119	87	A	V
	*	2412	106.65	-	-	103.13	31.95	6.21	34.64	119	87	P	V
	*	2412	95.16	-	-	91.64	31.95	6.21	34.64	119	87	A	V
													V
													V
		2389.11	65.24	-8.76	74	61.78	31.94	6.17	34.65	100	128	P	H
		2389.56	46.66	-7.34	54	43.2	31.94	6.17	34.65	100	128	A	H
	*	2437	110.58	-	-	107.01	31.97	6.24	34.64	100	128	P	H
	*	2437	99.62	-	-	96.05	31.97	6.24	34.64	100	128	A	H
802.11n		2484.56	59.51	-14.49	74	55.85	31.99	6.3	34.63	100	128	P	H
HT20		2484.48	44.26	-9.74	54	40.6	31.99	6.3	34.63	100	128	A	H
CH 06		2389.38	65.4	-8.6	74	61.94	31.94	6.17	34.65	120	86	P	V
2437MHz		2389.74	46.86	-7.14	54	43.4	31.94	6.17	34.65	120	86	A	V
	*	2433.901	110.48	-	-	106.92	31.96	6.24	34.64	120	86	P	V
	*	2433.567	99.18	-	-	95.62	31.96	6.24	34.64	120	86	A	V
		2483.52	56.34	-17.66	74	52.68	31.99	6.3	34.63	120	86	P	V
		2483.52	43.72	-10.28	54	40.06	31.99	6.3	34.63	120	86	A	V

	*	2462	109.16	-	-	105.55	31.98	6.27	34.64	100	38	P	H
	*	2462	98.18	-	-	94.57	31.98	6.27	34.64	100	38	A	H
		2483.84	73.15	-0.85	74	69.49	31.99	6.3	34.63	100	38	P	H
		2483.76	53.88	-0.12	54	50.22	31.99	6.3	34.63	100	38	A	H
802.11n													H
HT20													H
CH 11	*	2462	107.73	-	-	104.12	31.98	6.27	34.64	110	61	P	V
2462MHz	*	2462	96.39	-	-	92.78	31.98	6.27	34.64	110	61	A	V
		2483.56	68.78	-5.22	74	65.12	31.99	6.3	34.63	110	61	P	V
		2483.52	53.53	-0.47	54	49.87	31.99	6.3	34.63	110	61	A	V
													V
													V

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

15C 2.4GHz 2400~2483.5MHz

WIFI 802.11n HT20 (Harmonic @ 3m)

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)
		4824	40.79	-33.21	74	58.64	34.36	8.6	60.81	100	0	P	H
													H
802.11n													H
HT20													H
CH 01		4824	39.83	-34.17	74	57.68	34.36	8.6	60.81	100	0	P	V
2412MHz													V
													V
													V
		4824	40.38	-33.62	74	58.23	34.36	8.6	60.81	100	0	P	H
		7236	44.1	-29.9	74	56.94	35.75	11.91	60.5	100	0	P	H
802.11n													H
HT20													H
CH 06		4824	39.5	-34.5	74	57.35	34.36	8.6	60.81	100	0	P	V
2437MHz		7236	43.75	-30.25	74	56.59	35.75	11.91	60.5	100	0	P	V
													V
													V
		4923	42.63	-31.37	74	59.82	34.44	8.94	60.57	100	0	P	H
		7395	48.17	-25.83	74	61.01	35.72	12	60.56	100	0	P	H
802.11n													H
HT20													H
CH 11		4926	46.9	-27.1	74	64.09	34.44	8.94	60.57	100	0	P	V
2462MHz		7386	43.19	-30.81	74	56.05	35.72	11.98	60.56	100	0	P	V
													V
													V

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

15C 2.4GHz 2400~2483.5MHz

WIFI 802.11n HT40 (Band Edge @ 3m)

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)
802.11n HT40 CH 03 2422MHz		2390.01	60.94	-13.06	74	57.43	31.94	6.21	34.64	100	39	P	H
		2389.92	48.3	-5.7	54	44.79	31.94	6.21	34.64	100	39	A	H
	*	2422	100.93	-	-	97.37	31.96	6.24	34.64	100	39	P	H
	*	2422	89.72	-	-	86.16	31.96	6.24	34.64	100	39	A	H
		2487	52.42	-21.58	74	48.76	31.99	6.3	34.63	100	39	P	H
		2485.56	40.61	-13.39	54	36.95	31.99	6.3	34.63	100	39	A	H
		2388.39	63.29	-10.71	74	59.83	31.94	6.17	34.65	116	87	P	V
		2390.01	50.97	-3.03	54	47.46	31.94	6.21	34.64	116	87	A	V
	*	2422	100.65	-	-	97.09	31.96	6.24	34.64	116	87	P	V
	*	2422	89.31	-	-	85.75	31.96	6.24	34.64	116	87	A	V
		2483.56	51.19	-22.81	74	47.53	31.99	6.3	34.63	116	87	P	V
		2483.76	39.38	-14.62	54	35.72	31.99	6.3	34.63	116	87	A	V
802.11n HT40 CH 06 2437MHz		2388.93	56.3	-17.7	74	52.84	31.94	6.17	34.65	100	38	P	H
		2390.01	43.05	-10.95	54	39.54	31.94	6.21	34.64	100	38	A	H
	*	2437	102.02	-	-	98.45	31.97	6.24	34.64	100	38	P	H
	*	2437	90.43	-	-	86.86	31.97	6.24	34.64	100	38	A	H
		2483.52	56.99	-17.01	74	53.33	31.99	6.3	34.63	100	38	P	H
		2484.08	43.17	-10.83	54	39.51	31.99	6.3	34.63	100	38	A	H
		2388.12	57.22	-16.78	74	53.76	31.94	6.17	34.65	117	87	P	V
		2390.01	44.22	-9.78	54	40.71	31.94	6.21	34.64	117	87	A	V
	*	2437	100.96	-	-	97.39	31.97	6.24	34.64	117	87	P	V
	*	2437	89.68	-	-	86.11	31.97	6.24	34.64	117	87	A	V
		2484.88	57.13	-16.87	74	53.47	31.99	6.3	34.63	117	87	P	V
		2483.56	42.89	-11.11	54	39.23	31.99	6.3	34.63	117	87	A	V

802.11n HT40 CH 09 2452MHz		2388.66	52.17	-21.83	74	48.71	31.94	6.17	34.65	100	38	P	H
		2388.93	40.55	-13.45	54	37.09	31.94	6.17	34.65	100	38	A	H
	*	2452	100.62	-	-	97.02	31.97	6.27	34.64	100	38	P	H
	*	2452	89.32	-	-	85.72	31.97	6.27	34.64	100	38	A	H
		2485.68	61.59	-12.41	74	57.93	31.99	6.3	34.63	100	38	P	H
		2484.8	48.34	-5.66	54	44.68	31.99	6.3	34.63	100	38	A	H
		2382.54	51.03	-22.97	74	47.58	31.93	6.17	34.65	114	59	P	V
		2389.74	39.74	-14.26	54	36.28	31.94	6.17	34.65	114	59	A	V
	*	2452	98.78	-	-	95.18	31.97	6.27	34.64	114	59	P	V
	*	2452	87.87	-	-	84.27	31.97	6.27	34.64	114	59	A	V
		2485.88	60.88	-13.12	74	57.22	31.99	6.3	34.63	114	59	P	V
		2483.56	48.67	-5.33	54	45.01	31.99	6.3	34.63	114	59	A	V
Remark	3. No other spurious found. 4. All results are PASS against Peak and Average limit line.												

15C 2.4GHz 2400~2483.5MHz

WIFI 802.11n HT40 (Harmonic @ 3m)

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)
		4845	40.75	-33.25	74	58.45	34.38	8.69	60.77	100	0	P	H
		7266	43.4	-30.6	74	56.24	35.74	11.93	60.51	100	0	P	H
802.11n													H
HT40													H
CH 03		4845	40.71	-33.29	74	58.41	34.38	8.69	60.77	100	0	P	V
2422MHz		7266	43.09	-30.91	74	55.93	35.74	11.93	60.51	100	0	P	V
													V
													V
		4875	40.05	-33.95	74	57.57	34.4	8.77	60.69	100	0	P	H
		7311	44.05	-29.95	74	56.89	35.74	11.94	60.52	100	0	P	H
802.11n													H
HT40													H
CH 06		4875	40.83	-33.17	74	58.35	34.4	8.77	60.69			P	V
2437MHz		7311	42.94	-31.06	74	55.78	35.74	11.94	60.52			P	V
													V
													V
		4905	39.92	-34.08	74	57.25	34.43	8.85	60.61	100	0	P	H
		7356	43	-31	74	55.84	35.73	11.97	60.54	100	0	P	H
802.11n													H
HT40													H
CH 09		4905	40.15	-33.85	74	57.48	34.43	8.85	60.61	100	0	P	V
2452MHz		7356	42.82	-31.18	74	55.66	35.73	11.97	60.54	100	0	P	V
													V
													V

Remark	3. No other spurious found. 4. 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 per 15.209(c).
!	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

5. Level(dBμV/m) =

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

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

For Peak Limit @ 2390MHz:

5. 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)

6. Over Limit(dB)

= Level(dBμV/m) – Limit Line(dBμV/m)

= 55.45(dBμV/m) – 74(dBμV/m)

= -18.55(dB)

For Average Limit @ 2390MHz:

5. 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)

6. 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".