



Appendix A. Radiated Spurious Emission

Test Engineer :	Derreck Chen	Temperature :	23~25°C
		Relative Humidity :	48~51%

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		2383.89	58.42	-15.58	74	52.78	32.16	7.75	34.27	100	0	P	H
		2335.92	45.69	-8.31	54	40.2	32.11	7.6	34.22	100	0	A	H
	*	2412	58.82	-	-	53.17	32.2	7.75	34.3	100	0	P	H
	*	2412	45.97	-	-	40.32	32.2	7.75	34.3	100	0	A	H
													H
													H
		2330.25	57.87	-16.13	74	52.4	32.09	7.6	34.22	100	0	P	V
		2342.4	45.7	-8.3	54	40.16	32.11	7.68	34.25	100	0	A	V
	*	2412	58.52	-	-	52.87	32.2	7.75	34.3	100	0	P	V
	*	2412	45.78	-	-	40.13	32.2	7.75	34.3	100	0	A	V
													V
													V
802.11b CH 06 2437MHz		2371.56	58.08	-15.92	74	52.51	32.16	7.68	34.27	100	0	P	H
		2320.98	45.72	-8.28	54	40.25	32.09	7.6	34.22	100	0	A	H
	*	2437	59.25	-	-	53.53	32.24	7.83	34.35	100	0	P	H
	*	2437	46.11	-	-	40.39	32.24	7.83	34.35	100	0	A	H
		2484.36	58.19	-15.81	74	52.43	32.28	7.91	34.43	100	0	P	H
		2484.76	45.73	-8.27	54	39.97	32.28	7.91	34.43	100	0	A	H
		2353.83	58.2	-15.8	74	52.64	32.13	7.68	34.25	100	0	P	V
		2318.28	45.85	-8.15	54	40.38	32.09	7.6	34.22	100	0	A	V
	*	2437	59.15	-	-	53.43	32.24	7.83	34.35	100	0	P	V
	*	2437	45.85	-	-	40.13	32.24	7.83	34.35	100	0	A	V
		2486.8	58.54	-15.46	74	52.78	32.28	7.91	34.43	100	0	P	V
		2492.36	45.9	-8.1	54	40.17	32.3	7.91	34.48	100	0	A	V



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 11 2462MHz	*	2462	58.95	-	-	53.17	32.26	7.91	34.39	100	0	P	H
	*	2462	45.87	-	-	40.09	32.26	7.91	34.39	100	0	A	H
		2492.32	58.07	-15.93	74	52.34	32.3	7.91	34.48	100	0	P	H
		2486.88	46.01	-7.99	54	40.25	32.28	7.91	34.43	100	0	A	H
													H
													H
	*	2462	58.81	-	-	53.03	32.26	7.91	34.39	100	0	P	V
	*	2462	45.84	-	-	40.06	32.26	7.91	34.39	100	0	A	V
		2498.92	58.18	-15.82	74	52.45	32.3	7.91	34.48	100	0	P	V
		2499.04	45.77	-8.23	54	40.04	32.3	7.91	34.48	100	0	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	40.79	-33.21	74	54.3	34.26	11.16	58.93	100	0	P	H
													H
													H
													H
		4824	40.59	-33.41	74	54.1	34.26	11.16	58.93	100	0	P	V
													V
													V
													V
802.11b CH 06 2437MHz		4872	40.75	-33.25	74	54.07	34.3	11.21	58.83	100	0	P	H
		7311	43.39	-30.61	74	50.44	35.6	15.08	57.73	100	0	P	H
													H
													H
		4872	41.43	-32.57	74	54.75	34.3	11.21	58.83	100	0	P	V
		7311	42.63	-31.37	74	49.68	35.6	15.08	57.73	100	0	P	V
													V
													V
802.11b CH 11 2462MHz		4926	41.19	-32.81	74	54.31	34.34	11.27	58.73	100	0	P	H
		7386	42.99	-31.01	74	50.05	35.6	15.14	57.8	100	0	P	H
													H
													H
		4926	40.55	-33.45	74	53.67	34.34	11.27	58.73	100	0	P	V
		7386	42.73	-31.27	74	49.79	35.6	15.14	57.8	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		2370.48	58.55	-15.45	74	52.98	32.16	7.68	34.27	100	0	P	H
		2366.16	45.89	-8.11	54	40.35	32.13	7.68	34.27	100	0	A	H
	*	2412	58.76	-15.24	-	-	32.2	7.75	34.3	100	0	P	H
	*	2412	45.83	-8.17	-	-	32.2	7.75	34.3	100	0	A	H
													H
													H
		2376.33	58.55	-15.45	74	52.98	32.16	7.68	34.27	100	0	P	V
		2368.95	45.67	-8.33	54	40.1	32.16	7.68	34.27	100	0	A	V
	*	2412	58.92	-15.08	-	-	32.2	7.75	34.3	100	0	P	V
	*	2412	45.83	-8.17	-	-	32.2	7.75	34.3	100	0	A	V
													V
													V
802.11g CH 06 2437MHz		2388.03	58.5	-15.5	74	52.84	32.18	7.75	34.27	100	0	P	H
		2340.15	45.71	-8.29	54	40.17	32.11	7.68	34.25	100	0	A	H
	*	2437	59.21	-14.79	-	-	32.24	7.83	34.35	100	0	P	H
	*	2437	45.87	-8.13	-	-	32.24	7.83	34.35	100	0	A	H
		2489	58.64	-15.36	74	52.86	32.3	7.91	34.43	100	0	P	H
		2488.88	45.68	-8.32	54	39.9	32.3	7.91	34.43	100	0	A	H
		2313.06	58.04	-15.96	74	52.56	32.07	7.6	34.19	100	0	P	V
		2334.39	45.69	-8.31	54	40.22	32.09	7.6	34.22	100	0	A	V
	*	2437	58.58	-15.42	-	-	32.24	7.83	34.35	100	0	P	V
	*	2437	45.86	-8.14	-	-	32.24	7.83	34.35	100	0	A	V
		2488.8	58.16	-15.84	74	52.38	32.3	7.91	34.43	100	0	P	V
		2496.32	45.9	-8.1	54	40.17	32.3	7.91	34.48	100	0	A	V



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 11 2462MHz	*	2462	58.47	-	-	52.69	32.26	7.91	34.39	100	0	P	H
	*	2462	45.95	-	-	40.17	32.26	7.91	34.39	100	0	A	H
		2488.72	58.42	-15.58	74	52.64	32.3	7.91	34.43	100	0	P	H
		2491.36	45.89	-8.11	54	40.11	32.3	7.91	34.43	100	0	A	H
													H
													H
	*	2462	58.75	-	-	52.97	32.26	7.91	34.39	100	0	P	V
	*	2462	45.89	-	-	40.11	32.26	7.91	34.39	100	0	A	V
		2485.36	58	-16	74	52.24	32.28	7.91	34.43	100	0	P	V
		2494.84	45.88	-8.12	54	40.15	32.3	7.91	34.48	100	0	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	40.56	-33.44	74	54.07	34.26	11.16	58.93	100	0	P	H
													H
													H
													H
		4824	40.43	-33.57	74	53.94	34.26	11.16	58.93	100	0	P	V
													V
													V
													V
802.11g CH 06 2437MHz		4873	40.61	-33.39	74	53.93	34.3	11.21	58.83	100	0	P	H
		7311	42.96	-31.04	74	50.01	35.6	15.08	57.73	100	0	P	H
													H
													H
		4873	41.36	-32.64	74	54.68	34.3	11.21	58.83	100	0	P	V
		7311	42.37	-31.63	74	49.42	35.6	15.08	57.73	100	0	P	V
													V
													V
802.11g CH 11 2462MHz		4924	41.09	-32.91	74	54.21	34.34	11.27	58.73	100	0	P	H
		7386	42.71	-31.29	74	49.77	35.6	15.14	57.8	100	0	P	H
													H
													H
		4925	40.41	-33.59	74	53.53	34.34	11.27	58.73	100	0	P	V
		7386	42.63	-31.37	74	49.69	35.6	15.14	57.8	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		2342.13	57.96	-16.04	74	52.42	32.11	7.68	34.25	100	0	P	H
		2352.48	46.42	-7.58	54	40.86	32.13	7.68	34.25	100	0	A	H
	*	2422	58.28	-	-	52.58	32.22	7.83	34.35	100	0	P	H
	*	2422	46.4	-	-	40.7	32.22	7.83	34.35	100	0	A	H
		2488.12	57.81	-16.19	74	52.03	32.3	7.91	34.43	100	0	P	H
		2490.84	46.17	-7.83	54	40.39	32.3	7.91	34.43	100	0	A	H
		2355.81	58.72	-15.28	74	53.16	32.13	7.68	34.25	100	0	P	V
		2354.01	46.35	-7.65	54	40.79	32.13	7.68	34.25	100	0	A	V
	*	2422	58.91	-	-	53.21	32.22	7.83	34.35	100	0	P	V
	*	2422	46.71	-	-	41.01	32.22	7.83	34.35	100	0	A	V
		2490.36	57.88	-16.12	74	52.1	32.3	7.91	34.43	100	0	P	V
		2492	46.33	-7.67	54	40.6	32.3	7.91	34.48	100	0	A	V
802.11n HT40 CH 06 2437MHz		2311.53	58.69	-15.31	74	53.21	32.07	7.6	34.19	100	0	P	H
		2329.53	46.24	-7.76	54	40.77	32.09	7.6	34.22	100	0	A	H
	*	2437	58.7	-	-	52.98	32.24	7.83	34.35	100	0	P	H
	*	2437	46.25	-	-	40.53	32.24	7.83	34.35	100	0	A	H
		2484	58.73	-15.27	74	52.97	32.28	7.91	34.43	100	0	P	H
		2487.2	46.57	-7.43	54	40.81	32.28	7.91	34.43	100	0	A	H
		2369.04	58.53	-15.47	74	52.96	32.16	7.68	34.27	100	0	P	V
		2341.95	46.33	-7.67	54	40.79	32.11	7.68	34.25	100	0	A	V
	*	2437	58.22	-	-	52.5	32.24	7.83	34.35	100	0	P	V
	*	2437	46.61	-	-	40.89	32.24	7.83	34.35	100	0	A	V
		2484.12	58.31	-15.69	74	52.55	32.28	7.91	34.43	100	0	P	V
		2499.68	46.24	-7.76	54	40.51	32.3	7.91	34.48	100	0	A	V



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 09 2452MHz		2386.59	58.94	-15.06	74	53.28	32.18	7.75	34.27	100	0	P	H
		2347.44	46.29	-7.71	54	40.75	32.11	7.68	34.25	100	0	A	H
	*	2452	58.64	-	-	52.96	32.24	7.83	34.39	100	0	P	H
	*	2452	46.66	-	-	40.98	32.24	7.83	34.39	100	0	A	H
		2494.28	58.32	-15.68	74	52.59	32.3	7.91	34.48	100	0	P	H
		2488.04	46.47	-7.53	54	40.69	32.3	7.91	34.43	100	0	A	H
		2341.23	58.96	-15.04	74	53.42	32.11	7.68	34.25	100	0	P	V
		2311.8	46.12	-7.88	54	40.64	32.07	7.6	34.19	100	0	A	V
	*	2452.021	56.71	-	-	51.03	32.24	7.83	34.39	100	0	P	V
	*	2452.021	45.54	-	-	39.86	32.24	7.83	34.39	100	0	A	V
		2484.88	59.26	-14.74	74	53.5	32.28	7.91	34.43	100	0	P	V
		2489.36	46.32	-7.68	54	40.54	32.3	7.91	34.43	100	0	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.	
1		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
802.11n HT40 CH 03 2422MHz		4842	40.35	-33.65	74	53.8	34.28	11.16	58.89	100	0	P	H
		7266	43.3	-30.7	74	50.33	35.6	15.06	57.69	100	0	P	H
													H
													H
		4842	40.72	-33.28	74	54.17	34.28	11.16	58.89	100	0	P	V
		7266	44.43	-29.57	74	51.46	35.6	15.06	57.69	100	0	P	V
													V
													V
802.11n HT40 CH 06 2437MHz		4872	40.54	-33.46	74	53.86	34.3	11.21	58.83	100	0	P	H
		7311	43.16	-30.84	74	50.21	35.6	15.08	57.73	100	0	P	H
													H
													H
		4872	41.27	-32.73	74	54.59	34.3	11.21	58.83	100	0	P	V
		7311	42.39	-31.61	74	49.44	35.6	15.08	57.73	100	0	P	V
													V
													V
802.11n HT40 CH 09 2452MHz		4902	41.11	-32.89	74	54.27	34.33	11.27	58.76	100	0	P	H
		7356	46.37	-27.63	74	53.43	35.6	15.11	57.77	100	0	P	H
													H
													H
		4902	41.46	-32.54	74	54.62	34.33	11.27	58.76	100	0	P	V
		7356	43.4	-30.6	74	50.46	35.6	15.11	57.77	100	0	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 802.11n 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.		
1		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)	
2.4GHz 802.11n HT40 LF		96.96	16.91	-26.59	43.5	36.27	9.68	2.06	31.1			P	H	
		148.8	23.7	-19.8	43.5	41.11	11.08	2.61	31.1			P	H	
		257.34	21.35	-24.65	46	35.87	13.52	2.96	31			P	H	
		349.7	17.18	-28.82	46	30.44	14.4	3.39	31.05			P	H	
		559.7	21.99	-24.01	46	28.74	20	4.01	30.76			P	H	
		941.9	26.65	-19.35	46	27.77	24.32	4.94	30.38	257	12	P	H	
													H	
													H	
													H	
													H	
													H	
													H	
													H	
		65.1	10	-30	40	33.14	6	2.06	31.2				P	V
		154.47	12.42	-31.08	43.5	30.24	10.72	2.61	31.15				P	V
		259.23	18.39	-27.61	46	32.59	13.84	2.96	31				P	V
		419	18.92	-27.08	46	29.55	16.65	3.52	30.8				P	V
		618.5	23.25	-22.75	46	29.56	20.17	4.08	30.56				P	V
		892.2	29.82	-16.18	46	32.52	22.96	4.66	30.32	145	228		P	V
														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		2390	55.45	-18.55	74	54.51	32.22	4.58	35.86	103	308	P	H
CH 01													
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”.



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)
802.11n HT20 CH 01 2412MHz		2344.02	58.52	-15.48	74	52.98	32.11	7.68	34.25	100	0	P	H
		2339.88	46.41	-7.59	54	40.95	32.11	7.6	34.25	100	0	A	H
	*	2412.024	56.28	-	-	50.63	32.2	7.75	34.3	100	0	P	H
	*	2412.024	45.5	-	-	39.85	32.2	7.75	34.3	100	0	A	H
													H
													H
		2348.79	59.11	-14.89	74	53.57	32.11	7.68	34.25	100	0	P	V
		2376.96	46.38	-7.62	54	40.81	32.16	7.68	34.27	100	0	A	V
	*	2412.024	55.78	-	-	50.13	32.2	7.75	34.3	100	0	P	V
	*	2412.024	45.62	-	-	39.97	32.2	7.75	34.3	100	0	A	V
													V
													V
802.11n HT20 CH 06 2437MHz		2350.05	58.29	-15.71	74	52.75	32.11	7.68	34.25	100	0	P	H
		2322.96	46.32	-7.68	54	40.85	32.09	7.6	34.22	100	0	A	H
	*	2437	56.5	-	-	50.78	32.24	7.83	34.35	100	0	P	H
	*	2437	45.49	-	-	39.77	32.24	7.83	34.35	100	0	A	H
		2488.76	58.45	-15.55	74	52.67	32.3	7.91	34.43	100	0	P	H
		2488.96	46.36	-7.64	54	40.58	32.3	7.91	34.43	100	0	A	H
		2369.13	58.71	-15.29	74	53.14	32.16	7.68	34.27	100	0	P	V
		2368.41	46.36	-7.64	54	40.82	32.13	7.68	34.27	100	0	A	V
	*	2437	56.62	-	-	50.9	32.24	7.83	34.35	100	0	P	V
	*	2437	45.38	-	-	39.66	32.24	7.83	34.35	100	0	A	V
		2499.24	58.73	-15.27	74	53	32.3	7.91	34.48	100	0	P	V
		2498.92	46.29	-7.71	54	40.56	32.3	7.91	34.48	100	0	A	V



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 HT20 CH 11 2462MHz	*	2462.041	56.42	-	-	50.64	32.26	7.91	34.39	100	0	P	H
	*	2462.041	45.73	-	-	39.95	32.26	7.91	34.39	100	0	A	H
		2484.04	58.86	-15.14	74	53.1	32.28	7.91	34.43	100	0	P	H
		2485.56	46.21	-7.79	54	40.45	32.28	7.91	34.43	100	0	A	H
													H
													H
	*	2462.041	56.32	-	-	50.54	32.26	7.91	34.39	100	0	P	V
	*	2462.041	45.64	-	-	39.86	32.26	7.91	34.39	100	0	A	V
		2494.8	58.22	-15.78	74	52.49	32.3	7.91	34.48	100	0	P	V
		2484.28	46.48	-7.52	54	40.72	32.28	7.91	34.43	100	0	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)
802.11n HT20 CH 01 2412MHz		4824	40.63	-33.37	74	54.14	34.26	11.16	58.93	100	0	P	H
													H
													H
													H
		4824	40.39	-33.61	74	53.9	34.26	11.16	58.93	100	0	P	V
													V
													V
													V
802.11n HT20 CH 06 2437MHz		4872	40.52	-33.48	74	53.84	34.3	11.21	58.83	100	0	P	H
		7311	43.25	-30.75	74	50.3	35.6	15.08	57.73	100	0	P	H
													H
													H
		4872	41.35	-32.65	74	54.67	34.3	11.21	58.83	100	0	P	V
		7311	42.51	-31.49	74	49.56	35.6	15.08	57.73	100	0	P	V
													V
													V
802.11n HT20 CH 11 2462MHz		4926	41.24	-32.76	74	54.36	34.34	11.27	58.73	100	0	P	H
		7386	43.18	-30.82	74	50.24	35.6	15.14	57.8	100	0	P	H
													H
													H
		4926	40.84	-33.16	74	53.96	34.34	11.27	58.73	100	0	P	V
		7386	42.87	-31.13	74	49.93	35.6	15.14	57.8	100	0	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 802.11n HT20 (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)
2.4GHz 802.11n HT20 LF		40.53	28.36	-11.64	40	44.49	13.3	1.77	31.2	135	111	P	H
		141.24	22.67	-20.83	43.5	39.66	11.5	2.61	31.1			P	H
		298.92	32.85	-13.15	46	47.51	13.19	3.16	31.01			P	H
		377	29.38	-16.62	46	41.96	15.04	3.39	31.01			P	H
		420.4	25.93	-20.07	46	36.4	16.7	3.63	30.8			P	H
		967.1	29.74	-24.26	54	30.36	24.77	4.94	30.33			P	H
													H
													H
													H
													H
													H
													H
		40.8	26.97	-13.03	40	43.1	13.3	1.77	31.2	100	244	P	V
		119.91	20.22	-23.28	43.5	37.54	11.4	2.38	31.1			P	V
		298.92	29	-17	46	43.66	13.19	3.16	31.01			P	V
		324.5	26.09	-19.91	46	40.21	13.6	3.28	31			P	V
		540.8	29.28	-16.72	46	37.31	18.72	4.01	30.76			P	V
		647.2	28.85	-17.15	46	34.74	20.4	4.22	30.51			P	V
													V
													V
													V
													V
													V
													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		2390	55.45	-18.55	74	54.51	32.22	4.58	35.86	103	308	P	H
CH 01													
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”.