



Appendix A. Radiated Spurious Emission

Test Engineer :	Stan Hsieh, Nick Tu, and Ken Wu	Temperature :	21~23°C
		Relative Humidity :	47~49%

15C 2.4GHz 2400~2483.5MHz

BT (Band Edge @ 3m)

BT	Note	Frequency	Level	Over	Limit	Read	Antenna	Cable	Preamp	Ant	Table	Peak	Pol.
				Limit	Line	Level	Factor	Loss	Factor	Pos	Pos	Avg.	
		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
BT CH00 2402MHz		2336.91	56.85	-17.15	74	51.36	32.11	7.6	34.22	100	316	P	H
		2336.91	32.09	-21.91	54	-	-	-	-	-	-	A	H
	*	2402.17	105.7	-	-	100.07	32.18	7.75	34.3	100	316	P	H
	*	2402.17	80.94	-	-	-	-	-	-	-	-	A	H
													H
													H
		2382.67	58.89	-15.11	74	53.25	32.16	7.75	34.27	300	245	P	V
		2382.67	34.13	-19.87	54	-	-	-	-	-	-	A	V
	*	2402.17	106.68	-	-	101.05	32.18	7.75	34.3	300	245	P	V
	*	2402.17	81.92	-	-	-	-	-	-	-	-	A	V
													V
													V
BT CH 39 2441MHz		2386.57	56.03	-17.97	74	50.37	32.18	7.75	34.27	100	20	P	H
		2386.57	31.27	-22.73	54	-	-	-	-	-	-	A	H
	*	2441.1	103.87	-	-	98.19	32.24	7.83	34.39	100	20	P	H
	*	2441.1	79.11	-	-	-	-	-	-	-	-	A	H
		2486.7	46.78	-27.22	74	41.02	32.28	7.91	34.43	100	20	P	H
		2486.7	22.02	-31.98	54	-	-	-	-	-	-	A	H
		2386	52.53	-21.47	74	46.87	32.18	7.75	34.27	125	335	P	V
		2386	27.77	-26.23	54	-	-	-	-	-	-	A	V
	*	2441.1	106.17	-	-	100.49	32.24	7.83	34.39	125	335	P	V
	*	2441.1	81.41	-	-	-	-	-	-	-	-	A	V
		2492.21	49.37	-24.63	74	43.64	32.3	7.91	34.48	125	335	P	V
		2492.21	24.61	-29.39	54	-	-	-	-	-	-	A	V



BT CH 78 2480MHz	*	2480.05	104.26	-	-	98.5	32.28	7.91	34.43	105	304	P	H
	*	2480.05	79.5	-	-	-	-	-	-	-	-	A	H
		2483.5	59.27	-14.73	74	53.51	32.28	7.91	34.43	105	304	P	H
		2483.5	34.51	-19.49	54	-	-	-	-	-	-	A	H
													H
													H
	*	2480.05	108.58	-	-	102.82	32.28	7.91	34.43	293	282	P	V
	*	2480.05	83.82	-	-	-	-	-	-	-	-	A	V
		2483.5	64.16	-9.84	74	58.4	32.28	7.91	34.43	293	282	P	V
		2483.5	39.4	-14.6	54	-	-	-	-	-	-	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

BT (Harmonic @ 3m)

BT	Note	Frequency	Level	Over	Limit	Read	Antenna	Cable	Preamp	Ant	Table	Peak	Pol.
				Limit	Line	Level	Factor	Loss	Factor	Pos	Pos	Avg.	
		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
BT CH 00 2402MHz		4806	55.67	-18.33	74	69.27	34.25	11.11	58.96	100	0	P	H
		4806	30.91	-23.09	54	-	-	-	-	-	-	A	H
													H
													H
		4806	57.71	-16.29	74	71.31	34.25	11.11	58.96	100	0	P	V
		4806	32.95	-21.05	54	-	-	-	-	-	-	A	V
													V
													V
BT CH 39 2441MHz		4884	55.25	-18.75	74	68.57	34.3	11.21	58.83	100	0	P	H
		4884	30.49	-23.51	54	-	-	-	-	-	-	A	H
		7320	57.78	-16.22	74	64.84	35.6	15.08	57.74	100	0	P	H
		7320	33.02	-20.98	54	-	-	-	-	-	-	A	H
		4884	57.28	-16.72	74	70.6	34.3	11.21	58.83	100	0	P	V
		4884	32.52	-21.48	54	-	-	-	-	-	-	A	V
		7320	58.31	-15.69	74	65.37	35.6	15.08	57.74	100	0	P	V
		7320	33.55	-20.45	54	-	-	-	-	-	-	A	V
BT CH 78 2480MHz		4962	60.88	-13.12	74	73.85	34.37	11.32	58.66	100	0	P	H
		4962	36.12	-17.88	54	-	-	-	-	-	-	A	H
		7440	60.73	-13.27	74	67.85	35.6	15.13	57.85	100	0	P	H
		7440	35.97	-18.03	54	-	-	-	-	-	-	A	H
		4962	60.29	-13.71	74	73.26	34.37	11.32	58.66	100	0	P	V
		4962	35.53	-18.47	54	-	-	-	-	-	-	A	V
		7440	60.4	-13.6	74	67.52	35.6	15.13	57.85	100	0	P	V
		7440	35.64	-18.36	54	-	-	-	-	-	-	A	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

15C Emission below 1GHz

2.4GHz BT (LF)

[illegible]



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	Peak or Average
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”.