



Appendix A. Radiated Spurious Emission

Test Engineer :	Tsung Lee and Stan Hsieh	Temperature :	22~24°C
		Relative Humidity :	49~51%

2.4GHz 2400~2483.5MHz

BT (Band Edge @ 3m)

BT	Note	Frequency	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Ant Pos	Table Pos	Peak Avg.	Pol.
		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
BT CH00 2402MHz		2388.65	42.69	-31.31	74	43.31	27.23	5.39	33.24	371	318	P	H
		2388.65	17.93	-36.07	54	-	-	-	-	-	-	A	H
	*	2402.17	79.87	-	-	80.47	27.23	5.39	33.22	371	318	P	H
	*	2402.17	55.11	-	-	-	-	-	-	-	-	A	H
													H
													H
		2370.97	42.83	-31.17	74	43.49	27.19	5.39	33.24	121	131	P	V
		2370.97	18.07	-35.93	54	-	-	-	-	-	-	A	V
	*	2402.04	72.94	-	-	73.54	27.23	5.39	33.22	121	131	P	V
	*	2402.04	48.18	-	-	-	-	-	-	-	-	A	V
													V
													V
BT CH 39 2441MHz		2351.8	42.81	-31.19	74	43.59	27.14	5.33	33.25	360	321	P	H
		2351.8	18.05	-35.95	54	-	-	-	-	-	-	A	H
	*	2441.1	83.22	-	-	83.63	27.37	5.42	33.2	360	321	P	H
	*	2441.1	58.46	-	-	-	-	-	-	-	-	A	H
		2494.68	42.07	-31.93	74	42.28	27.5	5.46	33.17	360	321	P	H
		2494.68	17.31	-36.69	54	-	-	-	-	-	-	A	H
		2331.28	42.5	-31.5	74	43.38	27.05	5.33	33.26	100	125	P	V
		2331.28	17.74	-36.26	54	-	-	-	-	-	-	A	V
	*	2441.1	79.19	-	-	79.6	27.37	5.42	33.2	100	125	P	V
	*	2441.1	54.43	-	-	-	-	-	-	-	-	A	V
		2491.26	42.11	-31.89	74	42.33	27.5	5.46	33.18	100	125	P	V
		2491.26	17.35	-36.65	54	-	-	-	-	-	-	A	V



BT CH 78 2480MHz	*	2480.12	85.93	-	-	86.21	27.46	5.44	33.18	351	319	P	H
	*	2480.12	61.17	-	-	-	-	-	-	-	-	A	H
		2483.62	45.93	-28.07	74	46.19	27.46	5.46	33.18	351	319	P	H
		2483.62	21.17	-32.83	54	-	-	-	-	-	-	A	H
													H
													H
	*	2480.05	83.29	-	-	83.57	27.46	5.44	33.18	111	126	P	V
	*	2480.05	58.53	-	-	-	-	-	-	-	-	A	V
		2483.5	43.86	-30.14	74	44.12	27.46	5.46	33.18	111	126	P	V
		2483.5	19.1	-34.9	54	-	-	-	-	-	-	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

BT (Harmonic @ 3m)

BT	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)
BT CH 00 2402MHz		4806	35.69	-38.31	74	57.33	31.42	7.58	60.64	100	0	P	H
		4806	10.93	-43.07	54	-	-	-	-	-	-	A	H
													H
													H
		4806	36.54	-37.46	74	58.18	31.42	7.58	60.64	100	0	P	V
		4806	11.78	-42.22	54	-	-	-	-	-	-	A	V
													V
													V
BT CH 39 2441MHz		4884	35.57	-38.43	74	56.71	31.56	7.82	60.52	100	0	P	H
		4884	10.81	-43.19	54	-	-	-	-	-	-	A	H
		7320	41.37	-32.63	74	56.64	36.22	9.49	60.98	100	0	P	H
		7320	16.61	-37.39	54	-	-	-	-	-	-	A	H
		4884	37.68	-36.32	74	58.82	31.56	7.82	60.52	100	0	P	V
		4884	12.92	-41.08	54	-	-	-	-	-	-	A	V
		7320	41.17	-32.83	74	56.44	36.22	9.49	60.98	100	0	P	V
		7320	16.41	-37.59	54	-	-	-	-	-	-	A	V
BT CH 78 2480MHz		4962	36.49	-37.51	74	57.07	31.73	8.05	60.36	100	0	P	H
		4962	11.73	-42.27	54	-	-	-	-	-	-	A	H
		7440	40.93	-33.07	74	56.17	36.49	9.61	61.34	100	0	P	H
		7440	16.17	-37.83	54	-	-	-	-	-	-	A	H
		4962	36.03	-37.97	74	56.61	31.73	8.05	60.36	100	0	P	V
		4962	11.27	-42.73	54	-	-	-	-	-	-	A	V
		7440	40.97	-33.03	74	56.21	36.49	9.61	61.34	100	0	P	V
		7440	16.21	-37.79	54	-	-	-	-	-	-	A	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

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.
!	Test result is over limit line.
P/A	Peak or Average
H/V	Horizontal or Vertical



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”.