



Appendix A. Radiated Spurious Emission

Test Engineer :	Tsung Lee and Stan Hsieh	Temperature :	20~23°C
		Relative Humidity :	58~63%

2.4GHz 2400~2483.5MHz

BT (Band Edge @ 3m)

BT	Note	Frequency	Level	Over	Limit	Read	Antenna	Cable	Preamp	Ant	Table	Peak	Pol.
		(MHz)	(dBμV/m)	Limit	Line	Level	Factor	Loss	Factor	Pos	Pos	Avg.	
				(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
BT CH00 2402MHz		2315.67	41.16	-32.84	74	42.14	27.01	5.27	33.26	309	244	P	H
		2315.67	16.37	-37.63	54							A	H
	*	2402	103.24	-	-	103.84	27.23	5.39	33.22	309	244	P	H
	*	2402	78.45	-	-							A	H
													H
													H
		2375.835	41.13	-32.87	74	41.79	27.19	5.39	33.24	309	268	P	V
		2375.835	16.34	-37.66	54							A	V
	*	2402	100.9	-	-	101.5	27.23	5.39	33.22	309	268	P	V
	*	2402	76.11	-	-							A	V
													V
													V
BT CH 39 2441MHz		2370.34	41.22	-32.78	74	41.88	27.19	5.39	33.24	307	237	P	H
		2370.34	16.43	-37.57	54							A	H
	*	2442	103.21	-	-	103.62	27.37	5.42	33.2	307	237	P	H
	*	2442	78.42	-	-							A	H
		2500	41.46	-32.54	74	41.67	27.5	5.46	33.17	307	237	P	H
		2500	16.67	-37.33	54							A	H
		2366	40.77	-33.23	74	41.48	27.14	5.39	33.24	295	270	P	V
		2366	15.98	-38.02	54							A	V
	*	2442	100.98	-	-	101.39	27.37	5.42	33.2	295	270	P	V
	*	2442	76.19	-	-							A	V
		2497.34	40.62	-33.38	74	40.83	27.5	5.46	33.17	295	270	P	V
		2497.34	15.83	-38.17	54							A	V



BT CH 78 2480MHz	*	2480	102.92	-	-	103.2	27.46	5.44	33.18	297	235	P	H
	*	2480	78.13	-	-							A	H
		2483.68	48.83	-25.17	74	49.09	27.46	5.46	33.18	297	235	P	H
		2483.68	24.04	-29.96	54							A	H
													H
													H
	*	2480	100.2	-	-	100.48	27.46	5.44	33.18	289	270	P	V
	*	2480	75.41	-	-							A	V
		2484.16	45.24	-28.76	74	45.5	27.46	5.46	33.18	289	270	P	V
		2484.16	20.45	-33.55	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	36.62	-37.38	74	48.8	31.42	7.58	51.18	100	0	P	H
		4806	11.83	-42.17	54							A	H
													H
													H
		4806	36.51	-37.49	74	48.69	31.42	7.58	51.18	100	0	P	V
		4806	11.72	-42.28	54							A	V
													V
													V
BT CH 39 2441MHz		4884	39.94	-34.06	74	51.71	31.56	7.82	51.15	100	0	P	H
		4884	15.15	-38.85	54							A	H
		7320	43.74	-30.26	74	48.83	36.22	9.49	50.8	100	0	P	H
		7320	18.95	-35.05	54							A	H
		4884	37.35	-36.65	74	49.12	31.56	7.82	51.15	100	0	P	V
		4884	12.56	-41.44	54							A	V
		7320	43.57	-30.43	74	48.66	36.22	9.49	50.8	100	0	P	V
		7320	18.78	-35.22	54							A	V
BT CH 78 2480MHz		4962	37.01	-36.99	74	48.35	31.73	8.05	51.12	100	0	P	H
		4962	12.22	-41.78	54							A	H
		7440	43.84	-30.16	74	48.54	36.49	9.61	50.8	100	0	P	H
		7440	19.05	-34.95	54							A	H
		4962	36.93	-37.07	74	48.27	31.73	8.05	51.12	100	0	P	V
		4962	12.14	-41.86	54							A	V
		7440	43.63	-30.37	74	48.33	36.49	9.61	50.8	100	0	P	V
		7440	18.84	-35.16	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”.