



Appendix A. Radiated Spurious Emission

Test Engineer :	Luke Chang	Temperature :	18~20°C
		Relative Humidity :	41~42%

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		2361.87	51.59	-22.41	74	48.18	31.92	6.14	34.65	233	22	P	H
		2361.87	26.81	-27.19	54	-	-	-	-	-	-	A	H
	*	2402.17	100.23	-	-	96.72	31.94	6.21	34.64	233	22	P	H
		2402.17	75.45	-	-	-	-	-	-	-	-	A	H
													H
													H
		2360.57	48.19	-25.81	74	44.78	31.92	6.14	34.65	176	118	P	V
		2360.57	23.41	-30.59	54	-	-	-	-	-	-	A	V
	*	2401.91	90.94	-	-	87.43	31.94	6.21	34.64	176	118	P	V
		2401.91	66.16	-	-	-	-	-	-	-	-	A	V
													V
													V
BT CH 39 2441MHz		2380.87	51.9	-22.1	74	48.45	31.93	6.17	34.65	267	6	P	H
		2380.87	27.12	-26.88	54	-	-	-	-	-	-	A	H
	*	2440.91	99.42	-	-	95.82	31.97	6.27	34.64	267	6	P	H
		2440.91	74.64	-	-	-	-	-	-	-	-	A	H
		2500	50.05	-23.95	74	46.34	32	6.34	34.63	267	6	P	H
		2500	25.27	-28.73	54	-	-	-	-	-	-	A	H
		2384.86	48.58	-25.42	74	45.13	31.93	6.17	34.65	128	101	P	V
		2384.86	23.8	-30.2	54	-	-	-	-	-	-	A	V
	*	2441.1	91.16	-	-	87.56	31.97	6.27	34.64	128	101	P	V
		2441.1	66.38	-	-	-	-	-	-	-	-	A	V
		2485.75	48.03	-25.97	74	44.37	31.99	6.3	34.63	128	101	P	V
		2485.75	23.25	-30.75	54	-	-	-	-	-	-	A	V



BT CH 78 2480MHz	*	2479.98	99.79	-	-	96.13	31.99	6.3	34.63	200	5	P	H
		2479.98	75.01	-	-	-	-	-	-	-	-	A	H
		2483.5	57.04	-16.96	74	53.38	31.99	6.3	34.63	200	5	P	H
		2483.5	32.26	-21.74	54	-	-	-	-	-	-	A	H
													H
													H
	*	2479.91	93.22	-	-	89.56	31.99	6.3	34.63	124	177	P	V
		2479.91	68.44	-	-	-	-	-	-	-	-	A	V
		2483.5	51.53	-22.47	74	47.87	31.99	6.3	34.63	124	177	P	V
		2483.5	26.75	-27.25	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		4804	37.55	-36.45	74	55.54	34.35	8.52	60.86	100	0	P	H
		4804	12.77	-41.23	54	-	-	-	-	-	-	A	H
													H
													H
		4804	37.26	-36.74	74	55.25	34.35	8.52	60.86	100	0	P	V
		4804	12.48	-41.52	54	-	-	-	-	-	-	A	V
													V
													V
BT CH 39 2441MHz		4882	37.74	-36.26	74	55.26	34.4	8.77	60.69	100	0	P	H
		4882	12.96	-41.04	54	-	-	-	-	-	-	A	H
		7323	40.82	-33.18	74	53.67	35.73	11.95	60.53	100	0	P	H
		7323	16.04	-37.96	54	-	-	-	-	-	-	A	H
		4882	37.9	-36.1	74	55.42	34.4	8.77	60.69	100	0	P	V
		4882	13.12	-40.88	54	-	-	-	-	-	-	A	V
		7323	41.29	-32.71	74	54.14	35.73	11.95	60.53	100	0	P	V
		7323	16.51	-37.49	54	-	-	-	-	-	-	A	V
BT CH 78 2480MHz		4960	38.98	-35.02	74	55.97	34.47	9.02	60.48	100	0	P	H
		4960	14.2	-39.8	54	-	-	-	-	-	-	A	H
		7440	41.2	-32.8	74	54.06	35.71	12.01	60.58	100	0	P	H
		7440	16.42	-37.58	54	-	-	-	-	-	-	A	H
		4960	38.91	-35.09	74	55.9	34.47	9.02	60.48	100	0	P	V
		4960	14.13	-39.87	54	-	-	-	-	-	-	A	V
		7440	40.84	-33.16	74	53.7	35.71	12.01	60.58	100	0	P	V
		7440	16.06	-37.94	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	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”.