



Appendix A. Radiated Spurious Emission

Test Engineer :	Nick Yu, Ken Wu, and Bill Kuo	Temperature :	21~23°C
		Relative Humidity :	56~60%

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		2325.6	47.78	-26.22	74	48.84	27.05	5.95	34.06	212	55	P	H
		2325.6	23.02	-30.98	54	-	-	-	-	-	-	A	H
	*	2402.17	98.27	-	-	99.07	27.23	6.01	34.04	212	55	P	H
	*	2402.17	73.51	-	-	-	-	-	-	-	-	A	H
													H
													H
		2325.08	47.39	-26.61	74	48.45	27.05	5.95	34.06	271	98	P	V
		2325.08	22.63	-31.37	54	-	-	-	-	-	-	A	V
	*	2401.91	97.38	-	-	98.18	27.23	6.01	34.04	271	98	P	V
	*	2401.91	72.62	-	-	-	-	-	-	-	-	A	V
													V
													V
BT CH 39 2441MHz		2364.34	49.81	-24.19	74	50.7	27.14	6.01	34.04	183	56	P	H
		2364.34	25.05	-28.95	54	-	-	-	-	-	-	A	H
	*	2441.1	97.58	-	-	98.19	27.37	6.04	34.02	183	56	P	H
	*	2441.1	72.82	-	-	-	-	-	-	-	-	A	H
		2485.37	43.42	-30.58	74	43.88	27.46	6.09	34.01	183	56	P	H
		2485.37	18.66	-35.34	54	-	-	-	-	-	-	A	H
		2363.96	48.52	-25.48	74	49.42	27.14	6.01	34.05	100	21	P	V
		2363.96	23.76	-30.24	54	-	-	-	-	-	-	A	V
	*	2441.1	96.37	-	-	96.98	27.37	6.04	34.02	100	21	P	V
	*	2441.1	71.61	-	-	-	-	-	-	-	-	A	V
		2488.79	42.55	-31.45	74	42.97	27.5	6.09	34.01	100	21	P	V
		2488.79	17.79	-36.21	54	-	-	-	-	-	-	A	V



BT CH 78 2480MHz	*	2480.19	98.71	-	-	99.19	27.46	6.07	34.01	197	58	P	H
	*	2480.19	73.95	-	-	-	-	-	-	-	-	A	H
		2489.78	56.17	-17.83	74	56.59	27.5	6.09	34.01	197	58	P	H
		2489.78	31.41	-22.59	54	-	-	-	-	-	-	A	H
													H
													H
	*	2480.19	96.94	-	-	97.42	27.46	6.07	34.01	100	20	P	V
	*	2480.19	72.18	-	-	-	-	-	-	-	-	A	V
		2489.85	53.82	-20.18	74	54.24	27.5	6.09	34.01	100	20	P	V
		2489.85	29.06	-24.94	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	37.04	-36.96	74	62.18	31.3	8.65	65.09	100	0	P	H
		4806	12.28	-41.72	54	-	-	-	-	-	-	A	H
													H
													H
		4806	36.64	-37.36	74	61.78	31.3	8.65	65.09	100	0	P	V
		4806	11.88	-42.12	54	-	-	-	-	-	-	A	V
													V
													V
BT CH 39 2441MHz		4884	37.53	-36.47	74	62.4	31.41	8.74	65.02	100	0	P	H
		4884	12.77	-41.23	54	-	-	-	-	-	-	A	H
		7320	40.38	-33.62	74	58.74	36.32	10.39	65.07	100	0	P	H
		7320	15.62	-38.38	54	-	-	-	-	-	-	A	H
		4884	38.72	-35.28	74	63.59	31.41	8.74	65.02	100	0	P	V
		4884	13.96	-40.04	54	-	-	-	-	-	-	A	V
		7320	39.99	-34.01	74	58.35	36.32	10.39	65.07	100	0	P	V
		7320	15.23	-38.77	54	-	-	-	-	-	-	A	V
BT CH 78 2480MHz		4962	38.67	-35.33	74	63.23	31.54	8.83	64.93	100	0	P	H
		4962	13.91	-40.09	54	-	-	-	-	-	-	A	H
		7440	40.09	-33.91	74	58.07	36.59	10.52	65.09	100	0	P	H
		7440	15.33	-38.67	54	-	-	-	-	-	-	A	H
		4962	37.64	-36.36	74	62.2	31.54	8.83	64.93	100	0	P	V
		4962	12.88	-41.12	54	-	-	-	-	-	-	A	V
		7440	40.85	-33.15	74	58.83	36.59	10.52	65.09	100	0	P	V
		7440	16.09	-37.91	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”.