



Appendix A. Radiated Spurious Emission

Test Engineer :	Donny Pang	Temperature :	22~24°C
		Relative Humidity :	47~50%

15C 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)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
BT CH00 2402MHz		2342.63	45.64	-28.36	74	42.24	31.91	6.14	34.65	116	148	P	H
		2342.63	20.91	-33.09	54	-	-	-	-	-	-	A	H
	*	2402	88.59	-	-	85.08	31.94	6.21	34.64	116	148	P	H
	*	2402	63.86	-	-	-	-	-	-	-	-	A	H
													H
													H
		2353.42	45.92	-28.08	74	42.51	31.92	6.14	34.65	325	274	P	V
		2353.42	21.19	-32.81	54	-	-	-	-	-	-	A	V
	*	2402	85.13	-	-	81.62	31.94	6.21	34.64	325	274	P	V
	*	2402	60.4	-	-	-	-	-	-	-	-	A	V
													V
													V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



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 39 2441MHz		2323.3	44.94	-29.06	74	41.59	31.9	6.1	34.65	113	120	P	H
		2323.3	20.21	-33.79	54	-	-	-	-	-	-	A	H
	*	2441	90.69	-	-	87.09	31.97	6.27	34.64	113	120	P	H
	*	2441	65.96	-	-	-	-	-	-	-	-	A	H
		2491.83	44	-30	74	40.29	32	6.34	34.63	113	120	P	H
		2491.83	19.27	-34.73	54	-	-	-	-	-	-	A	H
		2367.76	45.22	-28.78	74	41.78	31.92	6.17	34.65	350	269	P	V
		2367.76	20.49	-33.51	54	-	-	-	-	-	-	A	V
	*	2441	87.26	-	-	83.66	31.97	6.27	34.64	350	269	P	V
	*	2441	62.53	-	-	-	-	-	-	-	-	A	V
		2492.02	44.3	-29.7	74	40.59	32	6.34	34.63	350	269	P	V
		2492.02	19.57	-34.43	54	-	-	-	-	-	-	A	V
BT CH 78 2480MHz	*	2480	88.28	-	-	84.62	31.99	6.3	34.63	110	121	P	H
	*	2480	63.55	-	-	-	-	-	-	-	-	A	H
		2483.5	50.25	-23.75	74	46.59	31.99	6.3	34.63	110	121	P	H
		2483.5	25.52	-28.48	54	-	-	-	-	-	-	A	H
													H
													H
	*	2480	80.73	-	-	77.07	31.99	6.3	34.63	353	270	P	V
	*	2480	56	-	-	-	-	-	-	-	-	A	V
		2484.18	44.93	-29.07	74	41.27	31.99	6.3	34.63	353	270	P	V
		2484.18	20.2	-33.8	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		4803	36.45	-37.55	74	54.44	34.35	8.52	60.86	100	0	P	H
		4803	11.72	-42.28	54	-	-	-	-	-	-	A	H
													H
													H
		4803	36.22	-37.78	74	54.21	34.35	8.52	60.86	100	0	P	V
		4803	11.49	-42.51	54	-	-	-	-	-	-	A	V
													V
													V
BT CH 39 2441MHz		4881	36.01	-37.99	74	53.53	34.4	8.77	60.69	100	0	P	H
		4881	11.28	-42.72	54	-	-	-	-	-	-	A	H
		7323	40.44	-33.56	74	53.29	35.73	11.95	60.53	100	0	P	H
		7323	15.71	-38.29	54	-	-	-	-	-	-	A	H
		4881	35.68	-38.32	74	53.2	34.4	8.77	60.69	100	0	P	V
		4881	10.95	-43.05	54	-	-	-	-	-	-	A	V
		7323	40.1	-33.9	74	52.95	35.73	11.95	60.53	100	0	P	V
		7323	15.37	-38.63	54	-	-	-	-	-	-	A	V
BT CH 78 2480MHz		4959	37.48	-36.52	74	54.47	34.47	9.02	60.48	100	0	P	H
		4959	12.75	-41.25	54	-	-	-	-	-	-	A	H
		7440	40.18	-33.82	74	53.04	35.71	12.01	60.58	100	0	P	H
		7440	15.45	-38.55	54	-	-	-	-	-	-	A	H
		4959	37.39	-36.61	74	54.38	34.47	9.02	60.48	100	0	P	V
		4959	12.66	-41.34	54	-	-	-	-	-	-	A	V
		7440	40.53	-33.47	74	53.39	35.71	12.01	60.58	100	0	P	V
		7440	15.8	-38.2	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”.