Appendix B. Radiated Spurious Emission

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		2389.3	43.91	-30.09	74	44.53	27.23	5.39	33.24	126	214	P	H
		2389.3	19.18	-34.82	54							A	H
	*	2401.91	95.24	-	-	95.84	27.23	5.39	33.22	126	214	P	H
	*	2401.91	70.51	-	-							A	H
													H
													H
		2376.82	46	-28	74	46.66	27.19	5.39	33.24	351	360	P	V
		2376.82	21.27	-32.73	54							A	V
	*	2402.17	91.93	-	-	92.53	27.23	5.39	33.22	351	360	P	V
	*	2402.17	67.2	-	-							A	V
													V
													V
BT CH 39 2441MHz		2389.23	43.74	-30.26	74	44.36	27.23	5.39	33.24	139	210	P	H
		2389.23	19.01	-34.99	54							A	H
	*	2441.29	92.82	-	-	93.23	27.37	5.42	33.2	139	210	P	H
	*	2441.29	68.09	-	-							A	H
		2484.99	43.2	-30.8	74	43.46	27.46	5.46	33.18	139	210	P	H
		2484.99	18.47	-35.53	54							A	H
		2355.6	42.76	-31.24	74	43.54	27.14	5.33	33.25	336	328	P	V
		2355.6	18.03	-35.97	54							A	V
	*	2441.1	90.54	-	-	90.95	27.37	5.42	33.2	336	328	P	V
	*	2441.1	65.81	-	-							A	V
		2488.98	42.54	-31.46	74	42.76	27.5	5.46	33.18	336	328	P	V
		2488.98	17.81	-36.19	54							A	V

BT CH 78 2480MHz	*	2479.98	91.4	-	-	91.68	27.46	5.44	33.18	107	212	P	H
	*	2479.98	66.67	-	-							A	H
		2489.5	44.3	-29.7	74	44.52	27.5	5.46	33.18	107	212	P	H
		2489.5	19.57	-34.43	54							A	H
													H
													H
	*	2479.91	88.74	-	-	89.02	27.46	5.44	33.18	366	326	P	V
	*	2479.91	64.01	-	-							A	V
		2484.04	43.28	-30.72	74	43.54	27.46	5.46	33.18	366	326	P	V
		2484.04	18.55	-35.45	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	61.05	-12.95	74	82.69	31.42	7.58	60.64	100	0	P	H
		4806	36.32	-17.68	54							A	H
													H
													H
		4806	58.76	-15.24	74	80.4	31.42	7.58	60.64	100	0	P	V
		4806	34.03	-19.97	54							A	V
													V
													V
BT CH 39 2441MHz		4884	60.62	-13.38	74	81.76	31.56	7.82	60.52	100	0	P	H
		4884	35.89	-18.11	54							A	H
		7320	45.08	-28.92	74	60.35	36.22	9.49	60.98	100	0	P	H
		7320	20.35	-33.65	54							A	H
		4884	59.13	-14.87	74	80.27	31.56	7.82	60.52	100	0	P	V
		4884	34.4	-19.6	54							A	V
		7320	50.15	-23.85	74	65.42	36.22	9.49	60.98	100	0	P	V
		7320	25.42	-28.58	54							A	V
BT CH 78 2480MHz		4962	58.05	-15.95	74	78.63	31.73	8.05	60.36	100	0	P	H
		4962	33.32	-20.68	54							A	H
		7440	46.14	-27.86	74	61.38	36.49	9.61	61.34	100	0	P	H
		7440	21.41	-32.59	54							A	H
		4962	56.47	-17.53	74	77.05	31.73	8.05	60.36	100	0	P	V
		4962	31.74	-22.26	54							A	V
		7440	47.65	-26.35	74	62.89	36.49	9.61	61.34	100	0	P	V
		7440	22.92	-31.08	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)

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)
2.4GHz BT LF		99.66	28.91	-14.59	43.5	50	10.4	1.14	32.63			P	H
		132.06	30.48	-13.02	43.5	49.83	11.98	1.33	32.66			P	H
		216.84	36.77	-9.23	46	57.62	10.26	1.62	32.73	206	1	P	H
		385.4	32.17	-13.83	46	46.74	16.12	2.13	32.82			P	H
		650.7	32.99	-13.01	46	43.12	20.21	2.67	33.01			P	H
		722.8	35.34	-10.66	46	44.43	21.05	2.82	32.96			P	H
													H
													H
													H
													H
													H
													H
		63.48	28.6	-11.4	40	54.07	6.34	0.93	32.74	100	0	P	V
		119.91	24.5	-19	43.5	44.11	11.9	1.14	32.65			P	V
		192.81	29.82	-13.68	43.5	51.45	9.61	1.48	32.72			P	V
		399.4	28	-18	46	42.21	16.5	2.13	32.84			P	V
		602.4	32.4	-13.6	46	43.24	19.62	2.57	33.03			P	V
		722.8	28.36	-17.64	46	37.45	21.05	2.82	32.96			P	V
													V
													V
													V
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													V
Remark	1. No other spurious found. 2. All results are PASS against limit line.												

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	**P**eak or **A**verage
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 CH 01 2412MHz		2390	55.45	-18.55	74	54.51	32.22	4.58	35.86	103	308	P	H
		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".