



Appendix A. 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	Preamplifier 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		2368.5	49.4	-24.6	74	43.86	32.13	7.68	34.27	101	79	P	H
		2368.5	24.64	-29.36	54	-	-	-	-	-	-	A	H
	*	2402.04	98.61	-	-	92.98	32.18	7.75	34.3	101	79	P	H
	*	2402.04	73.85	-	-	-	-	-	-	-	-	A	H
													H
													H
		2347.05	48.28	-25.72	74	42.74	32.11	7.68	34.25	260	321	P	V
		2347.05	23.52	-30.48	54	-	-	-	-	-	-	A	V
	*	2402.04	99.78	-	-	94.15	32.18	7.75	34.3	260	321	P	V
	*	2402.04	75.02	-	-	-	-	-	-	-	-	A	V
													V
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BT CH 39 2441MHz		2369.85	48.45	-25.55	74	42.88	32.16	7.68	34.27	290	67	P	H
		2369.85	23.69	-30.31	54	-	-	-	-	-	-	A	H
	*	2441.1	97.57	-	-	91.89	32.24	7.83	34.39	290	67	P	H
	*	2441.1	72.81	-	-	-	-	-	-	-	-	A	H
		2483.47	48.01	-25.99	74	42.25	32.28	7.91	34.43	290	67	P	H
		2483.47	23.25	-30.75	54	-	-	-	-	-	-	A	H
		2346.67	48.85	-25.15	74	43.31	32.11	7.68	34.25	207	330	P	V
		2346.67	24.09	-29.91	54	-	-	-	-	-	-	A	V
	*	2441.1	98.57	-	-	92.89	32.24	7.83	34.39	207	330	P	V
	*	2441.1	73.81	-	-	-	-	-	-	-	-	A	V
		2492.4	48.92	-25.08	74	43.19	32.3	7.91	34.48	207	330	P	V
		2492.4	24.16	-29.84	54	-	-	-	-	-	-	A	V



BT CH 78 2480MHz	*	2479.98	96.53	-	-	90.77	32.28	7.91	34.43	254	67	P	H
	*	2479.98	71.77	-	-	-	-	-	-	-	-	A	H
		2497.55	49.24	-24.76	74	43.51	32.3	7.91	34.48	254	67	P	H
		2497.55	24.48	-29.52	54	-	-	-	-	-	-	A	H
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	*	2479.98	98.19	-	-	92.43	32.28	7.91	34.43	250	319	P	V
	*	2479.98	73.43	-	-	-	-	-	-	-	-	A	V
		2483.5	50.4	-23.6	74	44.64	32.28	7.91	34.43	250	319	P	V
		2483.5	25.64	-28.36	54	-	-	-	-	-	-	A	V
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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		4804	46.12	-27.88	74	60.43	34.25	11.11	59.67	100	0	P	H
		4804	21.36	-32.64	54	-	-	-	-	-	-	A	H
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		4804	48.31	-25.69	74	62.62	34.25	11.11	59.67	100	0	P	V
		4804	23.55	-30.45	54	-	-	-	-	-	-	A	V
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													V
BT CH 39 2441MHz		4882	45.53	-28.47	74	58.85	34.3	11.21	58.83	100	0	P	H
		4882	20.77	-33.23	54	-	-	-	-	-	-	A	H
		7323	51.54	-22.46	74	58.6	35.6	15.08	57.74	100	0	P	H
		7323	26.78	-27.22	54	-	-	-	-	-	-	A	H
		4882	48.07	-25.93	74	61.39	34.3	11.21	58.83	100	0	P	V
		4882	23.31	-30.69	54	-	-	-	-	-	-	A	V
		7323	49.17	-24.83	74	56.23	35.6	15.08	57.74	100	0	P	V
		7323	24.41	-29.59	54	-	-	-	-	-	-	A	V
BT CH 78 2480MHz		4962	45.32	-28.68	74	58.29	34.37	11.32	58.66	100	0	P	H
		4962	20.56	-33.44	54	-	-	-	-	-	-	A	H
		7440	49.98	-24.02	74	57.1	35.6	15.13	57.85	100	0	P	H
		7440	25.22	-28.78	54	-	-	-	-	-	-	A	H
		4962	46.48	-27.52	74	59.45	34.37	11.32	58.66	100	0	P	V
		4962	21.72	-32.28	54	-	-	-	-	-	-	A	V
		7440	48.31	-25.69	74	55.43	35.6	15.13	57.85	100	0	P	V
		7440	23.55	-30.45	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		59.43	22.5	-17.5	40	45.93	6.08	1.77	31.28			P	H
		156.36	25.71	-17.79	43.5	43.61	10.66	2.61	31.17			P	H
		233.04	21.56	-24.44	46	39.14	10.46	2.96	31			P	H
		414.8	24.95	-21.05	46	35.8	16.45	3.52	30.82			P	H
		766.9	27.02	-18.98	46	30.81	22.1	4.48	30.37			P	H
		959.4	30.57	-15.43	46	31.32	24.67	4.94	30.36	150	308	P	H
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		47.28	28.28	-11.72	40	48.26	9.45	1.77	31.2	122	70	P	V
		106.95	22.83	-20.67	43.5	41	10.62	2.38	31.17			P	V
		161.22	19.06	-24.44	43.5	37.27	10.36	2.61	31.18			P	V
		549.2	22.55	-23.45	46	29.66	19.68	4.01	30.8			P	V
		736.8	27.69	-18.31	46	31.54	22.14	4.41	30.4			P	V
		941.9	29.73	-16.27	46	30.85	24.32	4.94	30.38			P	V
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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	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”.