



Appendix C. Radiated Spurious Emission

2.4GHz 2400~2483.5MHz

BT (Band Edge @ 3m)

BT	Note	Frequency	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Path 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		2320.79	54.78	-19.22	74	49.94	32.02	7.6	34.78	126	223	P	H
		2320.79	30.05	-23.95	54	-	-	-	-	-	-	A	H
	*	2402	101.66	-	-	96.45	32.2	7.72	34.71	126	223	P	H
	*	2402	76.93	-	-	-	-	-	-	-	-	A	H
		2339.51	54.76	-19.24	74	49.83	32.06	7.63	34.76	270	162	P	V
		2339.51	30.03	-23.97	54	-	-	-	-	-	-	A	V
	*	2402	107.23	-	-	102.02	32.2	7.72	34.71	270	162	P	V
	*	2402	82.5	-	-	-	-	-	-	-	-	A	V
BT CH 78 2480MHz		2484.7	54.95	-19.05	74	49.6	32.12	7.86	34.63	301	340	P	H
		2484.7	30.22	-23.78	54	-	-	-	-	-	-	A	H
	*	2480	103.54	-	-	98.19	32.12	7.86	34.63	301	340	P	H
	*	2480	78.81	-	-	-	-	-	-	-	-	A	H
		2496.64	54.42	-19.58	74	49.03	32.1	7.89	34.6	263	161	P	V
		2496.64	29.69	-24.31	54	-	-	-	-	-	-	A	V
	*	2480	106.23	-	-	100.88	32.12	7.86	34.63	263	161	P	V
	*	2480	81.5	-	-	-	-	-	-	-	-	A	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)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
BT CH 00 2402MHz		4806	43.81	-30.19	74	58.37	34.3	11.18	60.04	300	10	P	H
		4806	46.03	-27.97	74	60.59	34.3	11.18	60.04	100	350	P	V
BT CH 39 2441MHz		4884	43.23	-30.77	74	57.64	34.34	11.28	60.03	300	10	P	H
		7320	43.41	-30.59	74	54.27	35.93	13.73	60.52	300	10	P	H
		4884	44.36	-29.64	74	58.77	34.34	11.28	60.03	100	350	P	V
BT CH 78 2480MHz		7320	43.25	-30.75	74	54.11	35.93	13.73	60.52	100	350	P	V
		4962	43.39	-30.61	74	57.63	34.38	11.39	60.01	300	10	P	H
		7440	42.71	-31.29	74	53.49	35.91	13.85	60.54	300	10	P	H
		4962	43.82	-30.18	74	58.06	34.38	11.39	60.01	100	350	P	V
		7440	43.61	-30.39	74	54.39	35.91	13.85	60.54	100	350	P	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	Path	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		36.79	26.93	-13.07	40	37.17	21.7	0.8	32.74	-	-	P	H
		127.97	26.69	-16.81	43.5	40.04	17.77	1.72	32.84	-	-	P	H
		167.74	32.93	-10.57	43.5	46.79	17.08	1.97	32.91	-	-	P	H
		191.99	31.96	-11.54	43.5	46.41	16.49	2.11	33.05	-	-	P	H
		242.43	37.43	-8.57	46	49.23	18.92	2.38	33.1	100	112	P	H
		431.58	30.42	-15.58	46	36.72	23.27	3.17	32.74	-	-	P	H
		58.13	25.57	-14.43	40	43.85	13.72	1.14	33.14	-	-	P	V
		167.74	34.08	-9.42	43.5	47.94	17.08	1.97	32.91	-	-	P	V
		241.46	39.2	-6.8	46	51.07	18.86	2.37	33.1	100	10	P	V
		442.25	36.47	-9.53	46	42.52	23.46	3.21	32.72	-	-	P	V
		675.05	27.97	-18.03	46	30.95	25.8	3.97	32.75	-	-	P	V
	900.09	37.04	-8.96	46	37.55	27.4	4.59	32.5	-	-	P	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	Peak or Average
H/V	Horizontal or Vertical



A calculation example for radiated spurious emission is shown as below:

BT	Note	Frequency	Level	Over	Limit	Read	Antenna	Path	Preamp	Ant	Table	Peak	Pol.
		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
BT CH 00 2402MHz		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. Path Loss(dB) = Cable loss(dB) + Filter loss(dB) + Attenuator loss(dB)
2. Level(dBμV/m) =
Antenna Factor(dB/m) + Path Loss(dB) + Read Level(dBμV) - Preamp Factor(dB)
3. Over Limit(dB) = Level(dBμV/m) – Limit Line(dBμV/m)

For Peak Limit @ 2390MHz:

1. Level(dBμV/m)
= Antenna Factor(dB/m) + Path 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) + Path 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”.