



Appendix A. Radiated Spurious Emission

Test Engineer :	Kyle Jhuang, Citta Ke, and Karl Hou	Temperature :	25~26°C
		Relative Humidity :	50~51%

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		2322.22	46.96	-27.04	74	43.49	32.62	4.55	33.7	136	57	P	H
		2322.22	22.17	-31.83	54	-	-	-	-	-	-	A	H
	*	2402	100.2	-	-	96.46	32.77	4.62	33.65	136	57	P	H
	*	2402	75.41	-	-	-	-	-	-	-	-	A	H
													H
													H
		2322.35	46.48	-27.52	74	43.01	32.62	4.55	33.7	166	276	P	V
		2322.35	21.69	-32.31	54	-	-	-	-	-	-	A	V
	*	2402	98.66	-	-	94.92	32.77	4.62	33.65	166	276	P	V
	*	2402	73.87	-	-	-	-	-	-	-	-	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		2361.11	47.23	-26.77	74	43.61	32.7	4.6	33.68	107	65	P	H
		2361.11	22.44	-31.56	54	-	-	-	-	-	-	A	H
	*	2441	102.59	-	-	98.62	32.89	4.68	33.6	107	65	P	H
	*	2441	77.8	-	-	-	-	-	-	-	-	A	H
		2483.47	46.33	-27.67	74	42.21	32.96	4.73	33.57	107	65	P	H
		2483.47	21.54	-32.46	54	-	-	-	-	-	-	A	H
		2380.68	46.46	-27.54	74	42.77	32.73	4.62	33.66	100	281	P	V
		2380.68	21.67	-32.33	54	-	-	-	-	-	-	A	V
	*	2441	97.75	-	-	93.78	32.89	4.68	33.6	100	281	P	V
	*	2441	72.96	-	-	-	-	-	-	-	-	A	V
		2486.51	46.17	-27.83	74	42.05	32.96	4.73	33.57	100	281	P	V
		2486.51	21.38	-32.62	54	-	-	-	-	-	-	A	V
BT CH 78 2480MHz	*	2480	103.06	-	-	98.94	32.96	4.73	33.57	130	65	P	H
	*	2480	78.27	-	-	-	-	-	-	-	-	A	H
		2483.5	59.35	-14.65	74	55.23	32.96	4.73	33.57	130	65	P	H
		2483.5	34.56	-19.44	54	-	-	-	-	-	-	A	H
													H
													H
	*	2480	98.99	-	-	94.87	32.96	4.73	33.57	100	261	P	V
	*	2480	74.2	-	-	-	-	-	-	-	-	A	V
		2483.5	55.23	-18.77	74	51.11	32.96	4.73	33.57	100	261	P	V
		2483.5	30.44	-23.56	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	41.23	-32.77	74	58.31	35.04	6.52	58.64	100	0	P	H
		4803	16.44	-37.56	54	-	-	-	-	-	-	A	H
													H
													H
		4803	43.68	-30.32	74	60.76	35.04	6.52	58.64	100	0	P	V
		4803	18.89	-35.11	54	-	-	-	-	-	-	A	V
													V
													V
BT CH 39 2441MHz		4881	37.34	-36.66	74	54.26	35.02	6.58	58.52	100	0	P	H
		4881	12.55	-41.45	54	-	-	-	-	-	-	A	H
		7323	42.7	-31.3	74	56.25	36.4	8.24	58.19	100	0	P	H
		7323	17.91	-36.09	54	-	-	-	-	-	-	A	H
		4881	42.43	-31.57	74	59.35	35.02	6.58	58.52	100	0	P	V
		4881	17.64	-36.36	54	-	-	-	-	-	-	A	V
		7323	43.02	-30.98	74	56.57	36.4	8.24	58.19	100	0	P	V
		7323	18.23	-35.77	54	-	-	-	-	-	-	A	V
BT CH 78 2480MHz		4959	41.61	-32.39	74	58.35	35.01	6.61	58.36	100	0	P	H
		4959	16.82	-37.18	54	-	-	-	-	-	-	A	H
		7440	42.15	-31.85	74	55.73	36.47	8.36	58.41	100	0	P	H
		7440	17.36	-36.64	54	-	-	-	-	-	-	A	H
		4959	41.06	-32.94	74	57.8	35.01	6.61	58.36	100	0	P	V
		4959	16.27	-37.73	54	-	-	-	-	-	-	A	V
		7440	41.94	-32.06	74	55.52	36.47	8.36	58.41	100	0	P	V
		7440	17.15	-36.85	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”.