



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.
				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		2321.57	46.57	-27.43	74	43.22	31.9	6.1	34.65	103	116	P	H
		2321.57	21.84	-32.16	54	-	-	-	-	-	-	A	H
	*	2402	99.43	-	-	95.92	31.94	6.21	34.64	103	116	P	H
	*	2402	74.7	-	-	-	-	-	-	-	-	A	H
													H
													H
		2359.79	45.29	-28.71	74	41.88	31.92	6.14	34.65	271	236	P	V
		2359.79	20.56	-33.44	54	-	-	-	-	-	-	A	V
	*	2402	96.25	-	-	92.74	31.94	6.21	34.64	271	236	P	V
	*	2402	71.52	-	-	-	-	-	-	-	-	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	47.16	-26.84	74	43.75	31.92	6.14	34.65	100	113	P	H
		2361.11	22.43	-31.57	54	-	-	-	-	-	-	A	H
	*	2441	100.01	-	-	96.41	31.97	6.27	34.64	100	113	P	H
	*	2441	75.28	-	-	-	-	-	-	-	-	A	H
		2497.91	45.86	-28.14	74	42.15	32	6.34	34.63	100	113	P	H
		2497.91	21.13	-32.87	54	-	-	-	-	-	-	A	H
		2366.43	46.5	-27.5	74	43.06	31.92	6.17	34.65	242	232	P	V
		2366.43	21.77	-32.23	54	-	-	-	-	-	-	A	V
	*	2441	95.65	-	-	92.05	31.97	6.27	34.64	242	232	P	V
	*	2441	70.92	-	-	-	-	-	-	-	-	A	V
		2492.59	44.9	-29.1	74	41.19	32	6.34	34.63	242	232	P	V
		2492.59	20.17	-33.83	54	-	-	-	-	-	-	A	V
BT CH 78 2480MHz	*	2480	99.64	-	-	95.98	31.99	6.3	34.63	108	112	P	H
	*	2480	74.91	-	-	-	-	-	-	-	-	A	H
		2483.5	60.71	-13.29	74	57.05	31.99	6.3	34.63	108	112	P	H
		2483.5	35.98	-18.02	54	-	-	-	-	-	-	A	H
													H
													H
	*	2480	95.88	-	-	92.22	31.99	6.3	34.63	238	191	P	V
	*	2480	71.15	-	-	-	-	-	-	-	-	A	V
		2483.5	57.42	-16.58	74	53.76	31.99	6.3	34.63	238	191	P	V
		2483.5	32.69	-21.31	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	37.22	-36.78	74	55.21	34.35	8.52	60.86	100	0	P	H
		4803	12.49	-41.51	54	-	-	-	-	-	-	A	H
													H
													H
		4803	36.61	-37.39	74	54.6	34.35	8.52	60.86	100	0	P	V
		4803	11.88	-42.12	54	-	-	-	-	-	-	A	V
													V
													V
BT CH 39 2441MHz		4881	36.76	-37.24	74	54.28	34.4	8.77	60.69	100	0	P	H
		4881	12.03	-41.97	54	-	-	-	-	-	-	A	H
		7323	40.45	-33.55	74	53.3	35.73	11.95	60.53	100	0	P	H
		7323	15.72	-38.28	54	-	-	-	-	-	-	A	H
		4881	36.77	-37.23	74	54.29	34.4	8.77	60.69	100	0	P	V
		4881	12.04	-41.96	54	-	-	-	-	-	-	A	V
		7323	41.47	-32.53	74	54.32	35.73	11.95	60.53	100	0	P	V
		7323	16.74	-37.26	54	-	-	-	-	-	-	A	V
BT CH 78 2480MHz		4959	38.95	-35.05	74	55.94	34.47	9.02	60.48	100	0	P	H
		4959	14.22	-39.78	54	-	-	-	-	-	-	A	H
		7440	41.23	-32.77	74	54.09	35.71	12.01	60.58	100	0	P	H
		7440	16.5	-37.5	54	-	-	-	-	-	-	A	H
		4959	37.98	-36.02	74	54.97	34.47	9.02	60.48	100	0	P	V
		4959	13.25	-40.75	54	-	-	-	-	-	-	A	V
		7440	40.73	-33.27	74	53.59	35.71	12.01	60.58	100	0	P	V
		7440	16	-38	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 @ 3m)

[illegible]

**Note symbol for Part 15C rule****15C 2.4GHz 2400~2483.5MHz****15C band 4 - 5725~5850MHz**

*	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.
@	Frequency falls in non-restricted band is passed and tested by conducted band edges and spurious emission measurement in the test report.
#	Peak measured value is under 20dB and complies with the average limit, so it is unnecessary to perform an average measurement per clause 6.5.4.2 of ANSI C63.10.
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”.