# Appendix B. Radiated Spurious Emission

### 15C 2.4GHz 2400~2483.5MHz

### BT (Band Edge @ 3m)

ВТ	Note	Frequency	Level	Over	Limit	Read	Antenna	Cable	Preamp	Ant		Peak	Pol.
		(MHz)	( dBµV/m )	Limit ( dB )	Line ( dBµV/m )	Level ( dBµV )	Factor ( dB/m )	Loss (dB)	Factor (dB)	Pos ( cm )	Pos	Avg. (P/A)	/H//
		2389.17	43.33	-30.67	<u>( авµv/III )</u> 74	43.1	27.03	6.57	33.37	101	( deg ) 0	(P/A)	( <b>n/v)</b> H
		2389.17	18.48	-35.52	54	-	-	-	-	-	-	A	Н
	*	2402.04	99.45	-	-	99.2	27.03	6.57	33.35	101	0	P	Н
ВТ	*	2402.04	74.6	-	-	-	-	-	-	-	-	Α	Н
CH00 2402MHz		2382.15	40.64	-33.36	74	40.45	26.99	6.57	33.37	109	129	Р	V
240211112		2382.15	15.79	-38.21	54	-	-	-	-	1	-	Α	V
	*	2402.04	94.15	ı	1	93.9	27.03	6.57	33.35	109	129	Р	V
	*	2402.04	69.3	-	-	•	-	-	-	ı	-	Α	V
		2369.09	40.04	-33.96	74	39.81	26.99	6.62	33.38	120	4	Р	Н
		2369.09	15.19	-38.81	54	•	-	-	-	ı	-	Α	Н
	*	2441.1	101.25	-	-	100.6	27.17	6.79	33.31	120	4	Р	Н
	*	2441.1	76.4	-	-	-	-	-	-	-	-	Α	Н
		2485.18	40.82	-33.18	74	39.82	27.26	7.01	33.27	120	4	Р	Н
BT CH 39		2485.18	15.97	-38.03	54	-	-	-	-	-	-	Α	Н
2441MHz		2387.71	40.99	-33.01	74	40.76	27.03	6.57	33.37	107	142	Р	V
		2387.71	16.14	-37.86	54	-	-	-	-	-	-	Α	V
	*	2440.91	92.58	-	-	91.93	27.17	6.79	33.31	107	142	Р	V
	*	2440.91	67.73	-	-	-	-	-	-	-	-	Α	V
		2492.59	41.53	-32.47	74	40.48	27.3	7.01	33.26	107	142	Р	V
		2492.59	16.68	-37.32	54	-	-	-	-	-	-	Α	V

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ВТ	Note	Frequency ( MHz )	Level	Over Limit ( dB )	Limit Line ( dBµV/m )	Read Level (dBµV)	Antenna Factor ( dB/m )	Cable Loss (dB)	Preamp Factor ( dB )	Ant Pos ( cm )		Peak Avg. (P/A)	
	*	2479.84	100.19	-	-	99.19	27.26	7.01	33.27	117	9	Р	Н
	*	2479.84	75.34	-	-	-	-	-	-	-	-	Α	Н
		2483.69	46.52	-27.48	74	45.52	27.26	7.01	33.27	117	9	Р	Н
BT		2483.69	21.67	-32.33	54	-	-	-	-	-	-	Α	Н
CH 78 2480MHz	*	2479.91	93.78	-	-	92.78	27.26	7.01	33.27	100	118	Р	V
2400141112	*	2479.91	68.93	-	-	-	-	-	-	-	-	Α	V
		2485.37	43.31	-30.69	74	42.31	27.26	7.01	33.27	100	118	Р	V
		2485.37	18.46	-35.54	54	-	-	1	-	-	-	Α	V
Remark	1. 1	No other spurio	us found.										
Remark	2. <i>F</i>	All results are P	ASS against	Peak an	d Average lii	mit line.							

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### 15C 2.4GHz 2400~2483.5MHz

## BT (Harmonic @ 3m)

	( 1. 2. 2. 2)												
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)
ВТ		4803	41.23	-32.77	74	55.05	31.03	10.53	55.38	100	0	Р	Н
CH 00													
2402MHz		4803	40.64	-33.36	74	54.46	31.03	10.53	55.38	100	0	Р	V
BT CH 39 2441MHz		4881	42.16	-31.84	74	55.78	31.13	10.67	55.42	100	0	Р	Н
		7311	46.99	-27.01	74	52.84	36.11	13.63	55.59	100	0	Р	Н
		4881	41.75	-32.25	74	55.37	31.13	10.67	55.42	100	0	Р	V
244111112		7311	46.86	-27.14	74	52.71	36.11	13.63	55.59	100	0	Р	V
		4959	41.63	-32.37	74	55.09	31.25	10.77	55.48	100	0	Р	Н
BT CH 78		7440	47.35	-26.65	74	52.63	36.47	13.7	55.45	100	0	Р	Н
2480MHz		4959	42.57	-31.43	74	56.03	31.25	10.77	55.48	100	0	Р	V
2400WIF12		7440	46.85	-27.15	74	52.13	36.47	13.7	55.45	100	0	Р	V
	1. 1	No other spurio	us found.										
Remark	2. A	All results are P	ASS against	Peak ar	nd Average lir	mit line							ļ

2. All results are PASS against Peak and Average limit line.

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### 15C Emission below 1GHz

# 2.4GHz BT (LF)

BT	Note	Frequency	Level	Over	Limit	Read	Antenna	Cable	Preamp	Ant		Peak	_
		( MHz )	( dBµV/m )	Limit (dB)	Line ( dBµV/m )	Level (dBµV)	Factor ( dB/m )	Loss (dB)	Factor ( dB )	Pos (cm)	Pos ( deg )	Avg. (P/A)	
		52.68	24.19	-15.81	40	46.79	8.22	0.98	31.8	115	48	Р	Н
		186.87	26.19	-17.31	43.5	46.88	9.2	1.89	31.78			Р	Н
		295.14	21.65	-24.35	46	37.28	13.7	2.43	31.76			Р	Н
		431.6	18.53	-27.47	46	30.45	16.97	2.94	31.83			Р	Н
		736.1	24.67	-21.33	46	31.47	21.33	3.87	32			Р	Н
2.4GHz		940.5	26.76	-19.24	46	29.79	23.66	4.42	31.11			Р	Н
BT LF		32.7	22.52	-17.48	40	34.99	18.5	0.86	31.83	134	246	Р	V
<b>L</b> I		52.14	14.78	-25.22	40	37.38	8.22	0.98	31.8			Р	V
		295.95	14.69	-31.31	46	30.3	13.72	2.43	31.76			Р	V
		640.2	23.11	-22.89	46	31.43	20.1	3.62	32.04			Р	V
		772.5	27.47	-18.53	46	33.64	21.82	3.96	31.95			Р	V
		962.2	27.46	-26.54	54	30.06	23.85	4.49	30.94			Р	V
Remark	1. 1	No other spurio	us found.										
	2. /	All results are P	ASS against	limit line									

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# 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 <b>over limit</b> line.								
P/A	Peak or Average								
H/V	Horizontal or Vertical								

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

WIFI	Note	Frequency	Level	Over	Limit	Read	Antenna	Cable	Preamp	Ant	Table	Pea k	Pol.
Ant.				Limit	Line	Level	Factor	Loss	Factor	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	Р	Н
CH 01 2412MHz		2390	43.54	-10.46	54	42.6	32.22	4.58	35.86	103	308	Α	Н

1. Level( $dB\mu V/m$ ) =

Antenna Factor(dB/m) + Cable Loss(dB) + Read Level(dB $\mu$ V) - Preamp Factor(dB)

2. Over  $Limit(dB) = Level(dB\mu V/m) - Limit Line(dB\mu V/m)$ 

#### For Peak Limit @ 2390MHz:

- 1. Level(dBµV/m)
- = Antenna Factor(dB/m) + Cable Loss(dB) + Read Level(dBµV) Preamp Factor(dB)
- $= 32.22(dB/m) + 4.58(dB) + 54.51(dB\mu V) 35.86 (dB)$
- $= 55.45 (dB\mu V/m)$
- 2. Over Limit(dB)
- = Level(dBµV/m) Limit Line(dBµV/m)
- $= 55.45(dB\mu V/m) 74(dB\mu V/m)$
- = -18.55(dB)

### For Average Limit @ 2390MHz:

- Level(dBµV/m)
- = Antenna Factor(dB/m) + Cable Loss(dB) + Read Level(dBµV) Preamp Factor(dB)
- $= 32.22(dB/m) + 4.58(dB) + 42.6(dB\mu V) 35.86 (dB)$
- $= 43.54 (dB\mu V/m)$
- 2. Over Limit(dB)
- = Level( $dB\mu V/m$ ) Limit Line( $dB\mu V/m$ )
- $= 43.54(dB\mu V/m) 54(dB\mu V/m)$
- = -10.46(dB)

Both peak and average measured complies with the limit line, so test result is "PASS".

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