



## Appendix A. Radiated Spurious Emission

15C 2.4GHz 2400~2483.5MHz

WIFI 802.11g (Band Edge @ 3m)

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		( MHz )	( dBμV/m )	( dB )	( dBμV/m )	( dBμV )	( dB/m )	( dB )	( dB )	( cm )	( deg )	(P/A)	(H/V)	
802.11g CH 01 2412MHz		2389.29	69.73	-4.27	74	64.91	32.18	6.91	34.27	104	9	P	H	
		2390	51.48	-2.52	54	46.69	32.18	6.91	34.3	104	9	A	H	
	*	2416.533	112.03	-	-	107.25	32.2	6.93	34.35	104	9	P	H	
	*	2418.454	101.83	-	-	97.05	32.2	6.93	34.35	104	9	A	H	
													H	
													H	
			2388.21	62.72	-11.28	74	57.9	32.18	6.91	34.27	100	213	P	V
			2389.74	47.76	-6.24	54	42.94	32.18	6.91	34.27	100	213	A	V
	*		2418.704	105.9	-	-	101.12	32.2	6.93	34.35	100	213	P	V
	*		2418.119	95.87	-	-	91.09	32.2	6.93	34.35	100	213	A	V
													V	
													V	
<b>Remark</b>	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.													



15C 2.4GHz 2400~2483.5MHz

WIFI 802.11g (Harmonic @ 3m)

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		( MHz )	( dBμV/m )	( dB )	( dBμV/m )	( dBμV )	( dB/m )	( dB )	( dB )	( cm )	( deg )	(P/A)	(H/V)
802.11g CH 01 2412MHz		4806	40.75	-33.25	74	56.68	34.25	8.78	58.96	100	0	P	H
													H
													H
													H
		4806	41.29	-32.71	74	57.22	34.25	8.78	58.96	100	0	P	V
													V
													V
													V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



15C Band 4 - 5725~5850MHz  
WIFI 802.11a (Band Edge @ 3m)

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		( MHz )	( dBμV/m )	( dB )	( dBμV/m )	( dBμV )	( dB/m )	( dB )	( dB )	( cm )	( deg )	(P/A)	(H/V)
802.11a CH 165 5825MHz	*	5824	113.58	-	-	102.62	35.3	9.93	34.27	144	0	P	H
	*	5824	104.01	-	-	93.05	35.3	9.93	34.27	144	0	A	H
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													H
													H
													H
	*	5825	110.98	-	-	100.02	35.3	9.93	34.27	200	222	P	V
	*	5825	101.01	-	-	90.05	35.3	9.93	34.27	200	222	A	V
													V
													V
													V
													V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



**15C Band 4 5725~5850MHz**

**WIFI 802.11a (Harmonic @ 3m)**

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		( MHz )	( dBμV/m )	( dB )	( dBμV/m )	( dBμV )	( dB/m )	( dB )	( dB )	( cm )	( deg )	( P/A )	( H/V )	
802.11a CH 165 5825MHz		11649	61.43	-12.57	74	65.06	38.39	14.59	56.61	107	297	P	H	
		11649	47	-7	54	50.63	38.39	14.59	56.61	107	297	A	H	
													H	
													H	
			11652	55.98	-18.02	74	59.54	38.42	14.59	56.57	200	150	P	V
			11652	44.1	-9.9	54	47.66	38.42	14.59	56.57	200	150	A	V
														V
														V
<b>Remark</b>	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.													



15C Emission below 1GHz  
2.4GHz WIFI 802.11g (LF)

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		( MHz )	( dBμV/m )	( dB )	( dBμV/m )	(dBμV)	( dB/m )	( dB )	( dB )	( cm )	( deg )	(P/A)	(H/V)	
2.4GHz 802.11g LF		93.18	26.44	-17.06	43.5	47.58	9	0.96	31.1	-	-	P	H	
		197.94	26.82	-16.68	43.5	47.57	9.04	1.31	31.1	-	-	P	H	
		284.61	31.24	-14.76	46	47.64	12.92	1.66	30.98	-	-	P	H	
		407.1	18.39	-27.61	46	30.96	16.12	2.17	30.86	-	-	P	H	
		617.1	27.47	-18.53	46	35.19	20.11	2.74	30.57	-	-	P	H	
		750.1	36.33	-9.67	46	41.57	22.1	3.06	30.4	115	38	P	H	
														H
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														H
														H
														H
			41.61	21.35	-18.65	40	39.32	12.6	0.63	31.2	-	-	P	V
			162.03	21.98	-21.52	43.5	41.71	10.22	1.22	31.17	-	-	P	V
			276.51	23.06	-22.94	46	39.52	12.84	1.64	30.94	-	-	P	V
			318.9	17.3	-28.7	46	33.1	13.39	1.81	31	-	-	P	V
			629.7	25.25	-20.75	46	32.63	20.38	2.78	30.54	-	-	P	V
			750.1	34.32	-11.68	46	39.56	22.1	3.06	30.4	104	23	P	V
														V
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													V	
Remark	1. No other spurious found. 2. All results are PASS against limit line.													



15C Emission below 1GHz

5GHz WIFI 802.11a (LF)

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		( MHz )	( dBμV/m )	( dB )	( dBμV/m )	(dBμV)	( dB/m )	( dB )	( dB )	( cm )	( deg )	(P/A)	(H/V)	
5GHz 802.11a LF		40.8	35.48	-4.52	40	52.75	13.3	0.63	31.2	168	59	P	H	
		99.66	28.76	-14.74	43.5	48.47	10.4	0.99	31.1	-	-	P	H	
		284.88	28.16	-17.84	46	44.55	12.95	1.66	31	-	-	P	H	
		359.5	18.5	-27.5	46	32.84	14.7	2.06	31.1	-	-	P	H	
		603.8	24.92	-21.08	46	33.09	19.72	2.7	30.59	-	-	P	H	
		750.1	35.56	-10.44	46	40.8	22.1	3.06	30.4	-	-	P	H	
														H
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														H
														H
														H
			80.22	25.4	-14.6	40	48.7	7	0.88	31.18	-	-	P	V
			149.61	16.62	-26.88	43.5	35.57	10.94	1.21	31.1	-	-	P	V
			258.69	20.52	-25.48	46	36.1	13.84	1.58	31	-	-	P	V
			416.2	18.24	-27.76	46	30.36	16.5	2.2	30.82	-	-	P	V
			597.5	22.56	-23.44	46	30.92	19.57	2.68	30.61	-	-	P	V
			750.1	33.38	-12.62	46	38.62	22.1	3.06	30.4	132	27	P	V
														V
														V
													V	
													V	
													V	
													V	
Remark	1. No other spurious found. 2. All results are PASS against limit line.													



**Note symbol**

*	<b>Fundamental Frequency</b> 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	<b>Peak</b> or <b>Average</b>
H/V	<b>Horizontal</b> or <b>Vertical</b>



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

- Level(dBμV/m) =  
Antenna Factor(dB/m) + Cable Loss(dB) + Read Level(dBμV) - Preamp Factor(dB)
- Over Limit(dB) = Level(dBμV/m) – Limit Line(dBμV/m)

**For Peak 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) + 54.51(dBμV) – 35.86 (dB)  
= 55.45 (dBμV/m)
- Over Limit(dB)  
= Level(dBμV/m) – Limit Line(dBμV/m)  
= 55.45(dBμV/m) – 74(dBμV/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(dBμV) – 35.86 (dB)  
= 43.54 (dBμV/m)
- 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”.**