



Appendix A. Radiated Spurious Emission

Test Engineer :	J.C. Liang	Temperature :	23~25°C
		Relative Humidity :	55~60%

11g_Tx_Ch01_11a_Tx_Ch36
(Harmonic @ 3m)

WIFI Ant. 1+2	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
11g_Tx_Ch01_11a_Tx_Ch36		2767.5	47.95	-26.05	74	46.07	27.94	8.06	34.12	142	210	P	H
		2767.5	38.79	-15.21	54	36.91	27.94	8.06	34.12	142	210	A	H
		7590.5	57.26	-16.74	74	40.89	36.7	14.52	34.85	162	56	P	H
		7590.5	47.85	-6.15	54	31.48	36.7	14.52	34.85	162	56	A	H
		10360	52.14	-21.86	74	52.89	39.59	17.13	57.47	198	118	P	H
		10360	43.44	-10.56	54	44.19	39.59	17.13	57.47	198	118	A	H
		2767.5	48.56	-25.44	74	46.68	27.94	8.06	34.12	111	64	P	V
		2767.5	39.93	-14.07	54	38.05	27.94	8.06	34.12	111	64	A	V
		7590.5	55.78	-18.22	74	39.41	36.7	14.52	34.85	184	99	P	V
		7590.5	46.95	-7.05	54	30.58	36.7	14.52	34.85	184	99	A	V
		10360	50.08	-23.92	74	50.83	39.59	17.13	57.47	200	136	P	V
		10360	39.13	-14.87	54	39.88	39.59	17.13	57.47	200	136	A	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



11g_Tx_Ch01_11a_Tx_Ch36
Adapter mode (LF)

WIFI Ant. 1+2	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)	
11g_Tx_Ch01_11a_Tx_Ch36		53.49	33.86	-6.14	40	49.58	13.97	0.78	30.47	-	-	P	H	
		83.46	35.95	-4.05	40	51.29	14.03	1.06	30.43	100	0	P	H	
		101.01	34.38	-9.12	43.5	47.25	16.11	1.43	30.41	-	-	P	H	
		318.9	25.25	-20.75	46	32.96	20.08	2.34	30.13	-	-	P	H	
		491.8	30.57	-15.43	46	33.48	23.84	3.08	29.83	-	-	P	H	
		499.5	31.12	-14.88	46	33.87	23.98	3.08	29.81	-	-	P	H	
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			30	36.13	-3.87	40	39.73	25.8	0.78	30.18	-	-	P	V
			43.77	36.73	-3.27	40	48.27	18.06	0.78	30.38	100	25	QP	V
			92.37	36.23	-7.27	43.5	50.55	15.04	1.06	30.42	-	-	P	V
			203.61	35.76	-7.74	43.5	48.44	15.91	1.7	30.29	-	-	P	V
			358.1	33.06	-12.94	46	39.51	21.19	2.44	30.08	-	-	P	V
			459.6	32.14	-13.86	46	35.88	23.27	2.89	29.9	-	-	P	V
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Remark	1. No other spurious found. 2. All results are PASS against limit line.													



11g_Tx_Ch01_11a_Tx_Ch36
POE mode (LF)

WIFI Ant. 1+2	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)	
11g_Tx_Ch01_11a_Tx_Ch36		65.1	35.14	-4.86	40	52.48	12.05	1.06	30.45	-	-	P	H	
		69.69	35.85	-4.15	40	52.94	12.3	1.06	30.45	100	0	P	H	
		89.67	35.12	-8.38	43.5	49.68	14.8	1.06	30.42	-	-	P	H	
		302.1	31.51	-14.49	46	39.73	19.59	2.34	30.15	-	-	P	H	
		624.8	32.12	-13.88	46	32.44	25.69	3.61	29.62	-	-	P	H	
		750.1	32.98	-13.02	46	30.86	27.6	3.97	29.45	-	-	P	H	
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			51.33	35.18	-4.82	40	50.28	14.59	0.78	30.47	100	182	QP	V
			65.37	36.02	-3.98	40	53.36	12.05	1.06	30.45	100	28	QP	V
			69.69	36.19	-3.81	40	53.28	12.3	1.06	30.45	100	58	QP	V
			308.4	28.44	-17.56	46	36.48	19.76	2.34	30.14	-	-	P	V
			624.8	30.76	-15.24	46	31.08	25.69	3.61	29.62	-	-	P	V
			937	31.98	-14.02	46	26.58	29.94	4.6	29.14	-	-	P	V
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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:

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”.