



Appendix A. Radiated Spurious Emission

Test Engineer :	Kyle Jhuang	Temperature :	25~26°C
		Relative Humidity :	50~51%

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 11 2462MHz	*	2460	106.64	-	-	102.61	32.92	4.7	33.59	100	163	P	H
	*	2460	95.45	-	-	91.42	32.92	4.7	33.59	100	163	A	H
		2483.72	69.09	-4.91	74	64.97	32.96	4.73	33.57	100	163	P	H
		2483.56	48.62	-5.38	54	44.5	32.96	4.73	33.57	100	163	A	H
													H
													H
	*	2460	108.18	-	-	104.15	32.92	4.7	33.59	123	336	P	V
	*	2460	97.95	-	-	93.92	32.92	4.7	33.59	123	336	A	V
		2484.04	73.72	-0.28	74	69.6	32.96	4.73	33.57	123	336	P	V
		2483.6	51.98	-2.02	54	47.86	32.96	4.73	33.57	123	336	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

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 11 2462MHz		4926	47.64	-26.36	74	64.45	35.01	6.6	58.42	100	0	P	H
		7388	45.95	-28.05	74	59.51	36.44	8.31	58.31	100	0	P	H
													H
													H
		4926	44.44	-29.56	74	61.25	35.01	6.6	58.42	100	0	P	V
		7386	48.44	-25.56	74	62	36.44	8.31	58.31	100	0	P	V
													V
													V
Remark	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		119.91	27.84	-15.66	43.5	46.94	11.5	1.18	31.78			P	H
		156.9	30.99	-12.51	43.5	50.79	10.68	1.3	31.78	100	99	P	H
		203.88	23.69	-19.81	43.5	44.84	9.14	1.49	31.78			P	H
		666.8	24.83	-21.17	46	33.97	20.3	2.6	32.04			P	H
		833.4	29.71	-16.29	46	35.59	22.99	2.89	31.76			P	H
		923.7	27.9	-18.1	46	32.09	24.02	3.03	31.24			P	H
													H
													H
													H
													H
													H
													H
		65.64	34.85	-5.15	40	59.66	6.08	0.9	31.79	100	111	P	V
		119.91	28.2	-15.3	43.5	47.3	11.5	1.18	31.78			P	V
		158.52	28.45	-15.05	43.5	48.3	10.62	1.31	31.78			P	V
		666.8	23.76	-22.24	46	32.9	20.3	2.6	32.04			P	V
		787.9	25.95	-20.05	46	33.05	22.03	2.81	31.94			P	V
		833.4	29.59	-16.41	46	35.47	22.99	2.89	31.76			P	V
													V
													V
													V
													V
													V
													V
													V
													V
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 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”.



15C 2.4GHz 2400~2483.5MHz

WIFI 802.11b (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.	
2		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
802.11b CH 01 2412MHz		2385.78	62.95	-11.05	74	59.21	32.77	4.62	33.65	100	52	P	H
		2386.68	53.14	-0.86	54	49.4	32.77	4.62	33.65	100	52	A	H
	*	2413.36	110.81	-	-	106.98	32.81	4.65	33.63	100	52	P	H
	*	2411.105	105.66	-	-	101.83	32.81	4.65	33.63	100	52	A	H
													H
													H
		2386.23	57.9	-16.1	74	54.16	32.77	4.62	33.65	100	115	P	V
		2386.32	47.35	-6.65	54	43.61	32.77	4.62	33.65	100	115	A	V
	*	2410.855	104.51	-	-	100.68	32.81	4.65	33.63	100	115	P	V
	*	2411.189	100.11	-	-	96.28	32.81	4.65	33.63	100	115	A	V
													V
													V
802.11b CH 06 2437MHz		2363.73	56.8	-17.2	74	53.18	32.7	4.6	33.68	100	51	P	H
		2363.19	43.99	-10.01	54	40.37	32.7	4.6	33.68	100	51	A	H
	*	2438.326	110.9	-	-	106.93	32.89	4.68	33.6	100	51	P	H
	*	2437.658	106.18	-	-	102.21	32.89	4.68	33.6	100	51	A	H
		2492.16	56.81	-17.19	74	52.64	33	4.73	33.56	100	51	P	H
		2483.52	43.35	-10.65	54	39.23	32.96	4.73	33.57	100	51	A	H
		2378.76	54.87	-19.13	74	51.2	32.73	4.6	33.66	100	115	P	V
		2389.83	41.99	-12.01	54	38.25	32.77	4.62	33.65	100	115	A	V
	*	2435.404	106.18	-	-	102.27	32.85	4.68	33.62	100	115	P	V
	*	2436.156	101.58	-	-	97.67	32.85	4.68	33.62	100	115	A	V
		2485.16	56.08	-17.92	74	51.96	32.96	4.73	33.57	100	115	P	V
		2484.04	42.51	-11.49	54	38.39	32.96	4.73	33.57	100	115	A	V



WIFI	Note	Frequency	Level	Over	Limit	Read	Antenna	Cable	Preamp	Ant	Table	Peak	Pol.
Ant.				Limit	Line	Level	Factor	Loss	Factor	Pos	Pos	Avg.	
2		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
802.11b CH 11 2462MHz	*	2460.872	111.4	-	-	107.37	32.92	4.7	33.59	100	51	P	H
	*	2461.206	106.94	-	-	102.91	32.92	4.7	33.59	100	51	A	H
		2483.56	59.47	-14.53	74	55.35	32.96	4.73	33.57	100	51	P	H
		2483.52	48.56	-5.44	54	44.44	32.96	4.73	33.57	100	51	A	H
													H
													H
	*	2463.376	110.45	-	-	106.42	32.92	4.7	33.59	151	41	P	V
	*	2461.289	105.59	-	-	101.56	32.92	4.7	33.59	151	41	A	V
		2487.28	58.47	-15.53	74	54.35	32.96	4.73	33.57	151	41	P	V
		2488.28	47.02	-6.98	54	42.85	33	4.73	33.56	151	41	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

WIFI 802.11b (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.	
2		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
802.11b CH 01 2412MHz		4824	46.97	-27.03	74	64.01	35.03	6.54	58.61	100	0	P	H
													H
													H
													H
		4824	47.56	-26.44	74	64.6	35.03	6.54	58.61	100	0	P	V
													V
													V
													V
802.11b CH 06 2437MHz		4875	45.13	-28.87	74	62.07	35.02	6.56	58.52	100	0	P	H
		7311	47.25	-26.75	74	60.78	36.39	8.24	58.16	100	0	P	H
													H
													H
		4875	47.44	-26.56	74	64.38	35.02	6.56	58.52	100	0	P	V
		7311	47.87	-26.13	74	61.4	36.39	8.24	58.16	100	0	P	V
													V
													V
802.11b CH 11 2462MHz		4923	44.42	-29.58	74	61.24	35.01	6.59	58.42	100	0	P	H
		7386	47.37	-26.63	74	60.93	36.44	8.31	58.31	100	0	P	H
													H
													H
		4923	47.41	-26.59	74	64.23	35.01	6.59	58.42	100	0	P	V
		7386	49.5	-24.5	74	63.06	36.44	8.31	58.31	100	0	P	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
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.	
2		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
802.11g CH 01 2412MHz		2388.84	73.6	-0.4	74	69.86	32.77	4.62	33.65	100	52	P	H
		2390	51.02	-2.98	54	47.28	32.77	4.62	33.65	100	52	A	H
	*	2414	111.83	-	-	108	32.81	4.65	33.63	100	52	P	H
	*	2414	100.93	-	-	97.1	32.81	4.65	33.63	100	52	A	H
													H
													H
		2390	70.65	-3.35	74	66.91	32.77	4.62	33.65	157	41	P	V
		2390	48.42	-5.58	54	44.68	32.77	4.62	33.65	157	41	A	V
	*	2410.104	108.58	-	-	104.75	32.81	4.65	33.63	157	41	P	V
	*	2410	98.54	-	-	94.71	32.81	4.65	33.63	157	41	A	V
													V
													V
802.11g CH 06 2437MHz		2385.96	69.08	-4.92	74	65.34	32.77	4.62	33.65	100	50	P	H
		2389.74	46.28	-7.72	54	42.54	32.77	4.62	33.65	100	50	A	H
	*	2439	112.76	-	-	108.79	32.89	4.68	33.6	100	50	P	H
	*	2439	102.89	-	-	98.92	32.89	4.68	33.6	100	50	A	H
		2491.36	68.32	-5.68	74	64.15	33	4.73	33.56	100	50	P	H
		2483.52	46.21	-7.79	54	42.09	32.96	4.73	33.57	100	50	A	H
		2384.43	65.65	-8.35	74	61.96	32.73	4.62	33.66	155	38	P	V
		2389.92	44.31	-9.69	54	40.57	32.77	4.62	33.65	155	38	A	V
	*	2435	111.5	-	-	107.59	32.85	4.68	33.62	155	38	P	V
	*	2439	101.02	-	-	97.05	32.89	4.68	33.6	155	38	A	V
		2484.56	67.93	-6.07	74	63.81	32.96	4.73	33.57	155	38	P	V
		2483.92	45.98	-8.02	54	41.86	32.96	4.73	33.57	155	38	A	V



WIFI	Note	Frequency	Level	Over	Limit	Read	Antenna	Cable	Preamp	Ant	Table	Peak	Pol.
Ant.				Limit	Line	Level	Factor	Loss	Factor	Pos	Pos	Avg.	
2		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
802.11g CH 11 2462MHz	*	2464	112.34	-	-	108.31	32.92	4.7	33.59	100	48	P	H
	*	2464	101.24	-	-	97.21	32.92	4.7	33.59	100	48	A	H
		2485.32	73.69	-0.31	74	69.57	32.96	4.73	33.57	100	48	P	H
		2483.68	50.83	-3.17	54	46.71	32.96	4.73	33.57	100	48	A	H
													H
													H
	*	2460	109.63	-	-	105.6	32.92	4.7	33.59	125	42	P	V
	*	2460	99.52	-	-	95.49	32.92	4.7	33.59	125	42	A	V
		2484.32	72.49	-1.51	74	68.37	32.96	4.73	33.57	125	42	P	V
		2484.68	49.89	-4.11	54	45.77	32.96	4.73	33.57	125	42	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

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.	
2		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
802.11g CH 01 2412MHz		4822	43.19	-30.81	74	60.23	35.03	6.54	58.61	100	0	P	H
													H
													H
													H
		4826	44.44	-29.56	74	61.48	35.03	6.54	58.61	100	0	P	V
													V
													V
													V
802.11g CH 06 2437MHz		4875	42.69	-31.31	74	59.63	35.02	6.56	58.52	100	0	P	H
		7311	49.48	-24.52	74	63.01	36.39	8.24	58.16	100	0	P	H
													H
													H
		4872	45.3	-28.7	74	62.24	35.02	6.56	58.52	100	0	P	V
		7311	48.83	-25.17	74	62.36	36.39	8.24	58.16	100	0	P	V
													V
													V
802.11g CH 11 2462MHz		4922	41.48	-32.52	74	58.3	35.01	6.59	58.42	100	0	P	H
		7388	45.18	-28.82	74	58.74	36.44	8.31	58.31	100	0	P	H
													H
													H
		4923	43.65	-30.35	74	60.47	35.01	6.59	58.42	100	0	P	V
		7386	46.37	-27.63	74	59.93	36.44	8.31	58.31	100	0	P	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

WIFI 802.11n HT20 (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.	
2		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
802.11n HT20 CH 01 2412MHz		2389.56	72.59	-1.41	74	68.85	32.77	4.62	33.65	100	51	P	H
		2389.92	52.28	-1.72	54	48.54	32.77	4.62	33.65	100	51	A	H
	*	2414	110.75	-	-	106.92	32.81	4.65	33.63	100	51	P	H
	*	2414	100.63	-	-	96.8	32.81	4.65	33.63	100	51	A	H
													H
													H
		2387.67	67.61	-6.39	74	63.87	32.77	4.62	33.65	100	115	P	V
		2390	46.95	-7.05	54	43.21	32.77	4.62	33.65	100	115	A	V
	*	2414	105.24	-	-	101.41	32.81	4.65	33.63	100	115	P	V
	*	2414	94.62	-	-	90.79	32.81	4.65	33.63	100	115	A	V
													V
													V
802.11n HT20 CH 06 2437MHz		2383.89	60.18	-13.82	74	56.49	32.73	4.62	33.66	100	51	P	H
		2389.92	44.91	-9.09	54	41.17	32.77	4.62	33.65	100	51	A	H
	*	2439	111.4	-	-	107.43	32.89	4.68	33.6	100	51	P	H
	*	2439	100.75	-	-	96.78	32.89	4.68	33.6	100	51	A	H
		2484.64	58.86	-15.14	74	54.74	32.96	4.73	33.57	100	51	P	H
		2484.12	44.82	-9.18	54	40.7	32.96	4.73	33.57	100	51	A	H
		2389.38	55.88	-18.12	74	52.14	32.77	4.62	33.65	100	115	P	V
		2382.72	42.84	-11.16	54	39.15	32.73	4.62	33.66	100	115	A	V
	*	2439	106.06	-	-	102.09	32.89	4.68	33.6	100	115	P	V
	*	2439	95.64	-	-	91.67	32.89	4.68	33.6	100	115	A	V
		2484.28	56.58	-17.42	74	52.46	32.96	4.73	33.57	100	115	P	V
		2483.64	43.54	-10.46	54	39.42	32.96	4.73	33.57	100	115	A	V



WIFI	Note	Frequency	Level	Over	Limit	Read	Antenna	Cable	Preamp	Ant	Table	Peak	Pol.
Ant.				Limit	Line	Level	Factor	Loss	Factor	Pos	Pos	Avg.	
2		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
802.11n HT20 CH 11 2462MHz	*	2464	109.62	-	-	105.59	32.92	4.7	33.59	100	52	P	H
	*	2464	99.64	-	-	95.61	32.92	4.7	33.59	100	52	A	H
		2484.92	72.8	-1.2	74	68.68	32.96	4.73	33.57	100	52	P	H
		2483.96	49.58	-4.42	54	45.46	32.96	4.73	33.57	100	52	A	H
													H
													H
	*	2460	108.27	-	-	104.24	32.92	4.7	33.59	125	46	P	V
	*	2460	98.24	-	-	94.21	32.92	4.7	33.59	125	46	A	V
		2483.56	72	-2	74	67.88	32.96	4.73	33.57	125	46	P	V
		2484	49.08	-4.92	54	44.96	32.96	4.73	33.57	125	46	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

WIFI 802.11n HT20 (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.	
2		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
802.11n HT20 CH 01 2412MHz		4824	41.23	-32.77	74	58.27	35.03	6.54	58.61	100	0	P	H
													H
													H
													H
		4824	42.79	-31.21	74	59.83	35.03	6.54	58.61	100	0	P	V
													V
													V
													V
802.11n HT20 CH 06 2437MHz		4875	41.85	-32.15	74	58.79	35.02	6.56	58.52	100	0	P	H
		7309	46.55	-27.45	74	60.08	36.39	8.24	58.16	100	0	P	H
													H
													H
		4876	44.17	-29.83	74	61.09	35.02	6.58	58.52	100	0	P	V
		7313	46.88	-27.12	74	60.41	36.39	8.24	58.16	100	0	P	V
													V
													V
802.11n HT20 CH 11 2462MHz		4923	40.43	-33.57	74	57.25	35.01	6.59	58.42	100	0	P	H
		7385	44.26	-29.74	74	57.82	36.44	8.31	58.31	100	0	P	H
													H
													H
		4923	43.61	-30.39	74	60.43	35.01	6.59	58.42	100	0	P	V
		7386	46.33	-27.67	74	59.89	36.44	8.31	58.31	100	0	P	V
													V
													V
Remark	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.	
2		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
2.4GHz 802.11g LF		67.53	23.89	-16.11	40	48.53	6.24	0.91	31.79			P	H
		119.64	27.58	-15.92	43.5	46.62	11.56	1.18	31.78			P	H
		158.25	30.67	-12.83	43.5	50.52	10.62	1.31	31.78	100	46	P	H
		475	20	-26	46	32.09	17.6	2.18	31.87			P	H
		666.8	23.53	-22.47	46	32.67	20.3	2.6	32.04			P	H
		833.4	29.41	-16.59	46	35.29	22.99	2.89	31.76			P	H
													H
													H
													H
													H
													H
													H
		64.56	35.56	-4.44	40	60.45	6	0.9	31.79	100	182	P	V
		119.64	28.12	-15.38	43.5	47.16	11.56	1.18	31.78			P	V
		158.25	28.95	-14.55	43.5	48.8	10.62	1.31	31.78			P	V
		573.7	18.72	-27.28	46	28.63	19.72	2.37	32			P	V
		666.8	22.52	-23.48	46	31.66	20.3	2.6	32.04			P	V
		833.4	28.17	-17.83	46	34.05	22.99	2.89	31.76			P	V
													V
													V
													V
													V
													V
													V
													V
													V
													V
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 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”.



15C 2.4GHz 2400~2483.5MHz

WIFI 802.11n HT20 (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+2		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
802.11n HT20 CH 01 2412MHz		2389.74	66.25	-7.75	74	62.51	32.77	4.62	33.65	131	31	P	H
		2389.74	47.84	-6.16	54	44.1	32.77	4.62	33.65	131	31	A	H
	*	2410	108.61	-	-	104.78	32.81	4.65	33.63	131	31	P	H
	*	2410	96.78	-	-	92.95	32.81	4.65	33.63	131	31	A	H
													H
													H
		2387.31	63.51	-10.49	74	59.77	32.77	4.62	33.65	103	153	P	V
		2387.85	44.28	-9.72	54	40.54	32.77	4.62	33.65	103	153	A	V
	*	2414	103.03	-	-	99.2	32.81	4.65	33.63	103	153	P	V
	*	2414	92.64	-	-	88.81	32.81	4.65	33.63	103	153	A	V
													V
													V
802.11n HT20 CH 06 2437MHz		2380.38	56.28	-17.72	74	52.59	32.73	4.62	33.66	133	31	P	H
		2387.94	44.32	-9.68	54	40.58	32.77	4.62	33.65	133	31	A	H
	*	2435	108.82	-	-	104.91	32.85	4.68	33.62	133	31	P	H
	*	2435	98	-	-	94.09	32.85	4.68	33.62	133	31	A	H
		2485.88	56.37	-17.63	74	52.25	32.96	4.73	33.57	133	31	P	H
		2484.04	44.4	-9.6	54	40.28	32.96	4.73	33.57	133	31	A	H
		2335.65	55.01	-18.99	74	51.47	32.66	4.57	33.69	100	88	P	V
		2386.14	43.08	-10.92	54	39.34	32.77	4.62	33.65	100	88	A	V
	*	2435	103.18	-	-	99.27	32.85	4.68	33.62	100	88	P	V
	*	2435	91.86	-	-	87.95	32.85	4.68	33.62	100	88	A	V
		2494.96	55.47	-18.53	74	51.3	33	4.73	33.56	100	88	P	V
		2487.64	43.43	-10.57	54	39.26	33	4.73	33.56	100	88	A	V



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)
802.11n HT20 CH 11 2462MHz	*	2460	109.26	-	-	105.23	32.92	4.7	33.59	127	30	P	H
	*	2460	98.37	-	-	94.34	32.92	4.7	33.59	127	30	A	H
		2484.76	69.86	-4.14	74	65.74	32.96	4.73	33.57	127	30	P	H
		2483.68	50.21	-3.79	54	46.09	32.96	4.73	33.57	127	30	A	H
													H
													H
	*	2464	102.98	-	-	98.95	32.92	4.7	33.59	100	10	P	V
	*	2464	92.07	-	-	88.04	32.92	4.7	33.59	100	10	A	V
		2489.16	62.03	-11.97	74	57.86	33	4.73	33.56	100	10	P	V
		2483.88	45.44	-8.56	54	41.32	32.96	4.73	33.57	100	10	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

WIFI 802.11n HT20 (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+2		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
802.11n HT20 CH 01 2412MHz		4826	43.8	-30.2	74	60.84	35.03	6.54	58.61	100	0	P	H
													H
													H
													H
		4824	42.25	-31.75	74	59.29	35.03	6.54	58.61	100	0	P	V
													V
													V
													V
802.11n HT20 CH 06 2437MHz		4876	43.98	-30.02	74	60.9	35.02	6.58	58.52	100	0	P	H
		7309	44.31	-29.69	74	57.84	36.39	8.24	58.16	100	0	P	H
													H
													H
		4872	41.49	-32.51	74	58.43	35.02	6.56	58.52	100	0	P	V
		7309	42.79	-31.21	74	56.32	36.39	8.24	58.16	100	0	P	V
													V
													V
802.11n HT20 CH 11 2462MHz		4922	44.19	-29.81	74	61.01	35.01	6.59	58.42	100	0	P	H
		7386	41.76	-32.24	74	55.32	36.44	8.31	58.31	100	0	P	H
													H
													H
		4923	41.36	-32.64	74	58.18	35.01	6.59	58.42	100	0	P	V
		7386	42.09	-31.91	74	55.65	36.44	8.31	58.31	100	0	P	V
													V
													V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



15C Emission below 1GHz

2.4GHz WIFI 802.11n HT20 (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+2		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
2.4GHz 802.11n HT20 LF		67.26	25.68	-14.32	40	50.4	6.16	0.91	31.79			P	H
		118.02	27.54	-15.96	43.5	46.52	11.62	1.18	31.78			P	H
		156.36	30.29	-13.21	43.5	50.03	10.74	1.3	31.78	100	89	P	H
		475	19.78	-26.22	46	31.87	17.6	2.18	31.87			P	H
		666.8	23.61	-22.39	46	32.75	20.3	2.6	32.04			P	H
		833.4	29.25	-16.75	46	35.13	22.99	2.89	31.76			P	H
													H
													H
													H
													H
													H
													H
		64.56	34.41	-5.59	40	59.3	6	0.9	31.79	100	39	P	V
		120.99	28.17	-15.33	43.5	47.24	11.52	1.19	31.78			P	V
		157.98	29.35	-14.15	43.5	49.2	10.62	1.31	31.78			P	V
		594	21.21	-24.79	46	31.18	19.64	2.42	32.03			P	V
		666.8	23.42	-22.58	46	32.56	20.3	2.6	32.04			P	V
		833.4	27.93	-18.07	46	33.81	22.99	2.89	31.76			P	V
													V
													V
													V
													V
													V
													V
													V
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 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”.