



Appendix A. Radiated Spurious Emission

Test Engineer :	Kyle Jhuang, Citta Ke, and Karl Hou	Temperature :	25~26°C
		Relative Humidity :	50~51%

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 149 5745MHz		5711.4	69.81	-4.19	74	59.01	35.77	7.15	32.12	110	266	P	H
		5724.68	73.17	-5.13	78.3	62.35	35.78	7.16	32.12	110	266	P	H
		5713.48	49.81	-4.19	54	39.01	35.77	7.15	32.12	110	266	A	H
	*	5747	108.18	-	-	97.32	35.79	7.18	32.11	110	266	P	H
	*	5747	98.74	-	-	87.88	35.79	7.18	32.11	110	266	A	H
													H
													H
													H
		5708.92	63.49	-10.51	74	52.69	35.77	7.15	32.12	100	99	P	V
		5721.64	72.98	-5.32	78.3	62.16	35.78	7.16	32.12	100	99	P	V
		5714.36	47.91	-6.09	54	37.11	35.77	7.15	32.12	100	99	A	V
	*	5747	106.64	-	-	95.78	35.79	7.18	32.11	100	99	P	V
	*	5747	96.97	-	-	86.11	35.79	7.18	32.11	100	99	A	V
													V
													V
													V
Remark	1. No other spurious found.												
	2. All results are PASS against Peak and Average limit line.												



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 157 5785MHz		5702.76	56.98	-17.02	74	46.18	35.77	7.15	32.12	107	265	P	H
		5721.8	59.65	-18.65	78.3	48.83	35.78	7.16	32.12	107	265	P	H
		5713.8	45.95	-8.05	54	35.15	35.77	7.15	32.12	107	265	A	H
	*	5783	109.31	-	-	98.39	35.82	7.2	32.1	107	265	P	H
	*	5783	99.39	-	-	88.47	35.82	7.2	32.1	107	265	A	H
		5851.2	57.73	-20.57	78.3	46.67	35.88	7.26	32.08	107	265	P	H
		5865.28	58.49	-15.51	74	47.39	35.89	7.28	32.07	107	265	P	H
		5861.92	46.72	-7.28	54	35.62	35.89	7.28	32.07	107	265	A	H
		5710.68	56.97	-17.03	74	46.17	35.77	7.15	32.12	100	148	P	V
		5720.04	59.38	-18.92	78.3	48.56	35.78	7.16	32.12	100	148	P	V
		5709.64	45.42	-8.58	54	34.62	35.77	7.15	32.12	100	148	A	V
	*	5787	106.66	-	-	95.73	35.83	7.2	32.1	100	148	P	V
	*	5787	98.73	-	-	87.8	35.83	7.2	32.1	100	148	A	V
		5857.6	55.53	-22.77	78.3	44.45	35.89	7.26	32.07	100	148	P	V
		5869.92	57	-17	74	45.9	35.89	7.28	32.07	100	148	P	V
		5860.24	44.93	-9.07	54	33.83	35.89	7.28	32.07	100	148	A	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



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	*	5827	105.52	-	-	94.51	35.86	7.24	32.09	103	193	P	H
	*	5827	95.45	-	-	84.44	35.86	7.24	32.09	103	193	A	H
		5850.4	66.26	-12.04	78.3	55.2	35.88	7.26	32.08	103	193	P	H
		5862	64.25	-9.75	74	53.15	35.89	7.28	32.07	103	193	P	H
		5860.08	47.43	-6.57	54	36.33	35.89	7.28	32.07	103	193	A	H
													H
													H
													H
	*	5823	109.21	-	-	98.2	35.86	7.24	32.09	165	98	P	V
	*	5823	99.48	-	-	88.47	35.86	7.24	32.09	165	98	A	V
		5854.72	70.33	-7.97	78.3	59.25	35.89	7.26	32.07	165	98	P	V
		5863.28	67.34	-6.66	74	56.24	35.89	7.28	32.07	165	98	P	V
		5860.48	49.3	-4.7	54	38.2	35.89	7.28	32.07	165	98	A	V
													V
													V
													V
													V
													V
													V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



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 149 5745MHz		11490	44.08	-29.92	74	51.67	38.99	10.33	56.91	100	0	P	H
		17235	47.43	-26.57	74	50.48	42.01	12.65	57.71	100	0	P	H
													H
													H
		11490	45.38	-28.62	74	52.97	38.99	10.33	56.91	100	0	P	V
		17235	47.45	-26.55	74	50.5	42.01	12.65	57.71	100	0	P	V
													V
													V
802.11a CH 157 5785MHz		11570	45	-29	74	52.52	39.03	10.36	56.91	100	0	P	H
		17355	47.19	-26.81	74	50.39	41.96	12.85	58.01	100	0	P	H
													H
													H
		11570	47.55	-26.45	74	55.07	39.03	10.36	56.91	100	0	P	V
		17355	48.57	-25.43	74	51.77	41.96	12.85	58.01	100	0	P	V
													V
													V
802.11a CH 165 5825MHz		11650	44.95	-29.05	74	52.41	39.06	10.41	56.93	100	0	P	H
		17475	48.16	-25.84	74	51.52	41.91	13.04	58.31	100	0	P	H
													H
													H
		11650	47.12	-26.88	74	54.58	39.06	10.41	56.93	100	0	P	V
		17475	48.04	-25.96	74	51.4	41.91	13.04	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.												



Band 4 5725~5850MHz

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		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
802.11n HT20 CH 149 5745MHz		5713.24	65.44	-8.56	74	54.64	35.77	7.15	32.12	108	267	P	H
		5724.84	71.59	-6.71	78.3	60.77	35.78	7.16	32.12	108	267	P	H
		5714.52	48.2	-5.8	54	37.4	35.77	7.15	32.12	108	267	A	H
	*	5743	107.48	-	-	96.62	35.79	7.18	32.11	108	267	P	H
	*	5743	97.35	-	-	86.49	35.79	7.18	32.11	108	267	A	H
													H
													H
													H
		5713.48	62.95	-11.05	74	52.15	35.77	7.15	32.12	100	97	P	V
		5723.24	68.98	-9.32	78.3	58.16	35.78	7.16	32.12	100	97	P	V
		5714.92	47.38	-6.62	54	36.58	35.77	7.15	32.12	100	97	A	V
	*	5747	106.17	-	-	95.31	35.79	7.18	32.11	100	97	P	V
	*	5747	95.95	-	-	85.09	35.79	7.18	32.11	100	97	A	V
													V
													V
													V
Remark - No other spurious found. - All results are PASS against Peak and Average limit line.													



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)
802.11n HT20 CH 157 5785MHz		5702.76	56.57	-17.43	74	45.77	35.77	7.15	32.12	108	265	P	H
		5723.08	56.87	-21.43	78.3	46.05	35.78	7.16	32.12	108	265	P	H
		5710.28	45.09	-8.91	54	34.29	35.77	7.15	32.12	108	265	A	H
	*	5783	107.97	-	-	97.05	35.82	7.2	32.1	108	265	P	H
	*	5783	98.11	-	-	87.19	35.82	7.2	32.1	108	265	A	H
		5852.32	56.43	-21.87	78.3	45.37	35.88	7.26	32.08	108	265	P	H
		5864.72	57.22	-16.78	74	46.12	35.89	7.28	32.07	108	265	P	H
		5866.24	45.73	-8.27	54	34.63	35.89	7.28	32.07	108	265	A	H
		5714.84	55.76	-18.24	74	44.96	35.77	7.15	32.12	109	96	P	V
		5723.24	55.49	-22.81	78.3	44.67	35.78	7.16	32.12	109	96	P	V
		5711.88	44.53	-9.47	54	33.73	35.77	7.15	32.12	109	96	A	V
	*	5787	107.33	-	-	96.4	35.83	7.2	32.1	109	96	P	V
	*	5787	97.03	-	-	86.1	35.83	7.2	32.1	109	96	A	V
		5852.88	56.5	-21.8	78.3	45.44	35.88	7.26	32.08	109	96	P	V
		5861.36	56.48	-17.52	74	45.38	35.89	7.28	32.07	109	96	P	V
		5861.12	45.59	-8.41	54	34.49	35.89	7.28	32.07	109	96	A	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



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)
802.11n HT20 CH 165 5825MHz	*	5824	104.03	-	-	93.02	35.86	7.24	32.09	101	193	P	H
	*	5824	93.97	-	-	82.96	35.86	7.24	32.09	101	193	A	H
		5850.24	66.17	-12.13	78.3	55.11	35.88	7.26	32.08	101	193	P	H
		5866.96	61.39	-12.61	74	50.29	35.89	7.28	32.07	101	193	P	H
		5861.28	46.5	-7.5	54	35.4	35.89	7.28	32.07	101	193	A	H
													H
													H
													H
	*	5827	107.12	-	-	96.11	35.86	7.24	32.09	179	98	P	V
	*	5827	97.86	-	-	86.85	35.86	7.24	32.09	179	98	A	V
		5850.56	71.04	-7.26	78.3	59.98	35.88	7.26	32.08	179	98	P	V
		5862.08	66.21	-7.79	74	55.11	35.89	7.28	32.07	179	98	P	V
		5860	48.6	-5.4	54	37.52	35.89	7.26	32.07	179	98	A	V
													V
													V
													V
													V
													V
Remark 1. No other spurious found. 2. All results are PASS against Peak and Average limit line.													



Band 4 5725~5850MHz

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		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
802.11n HT20 CH 149 5745MHz		11490	45.14	-28.86	74	52.73	38.99	10.33	56.91	100	0	P	H
		17235	45.86	-28.14	74	48.91	42.01	12.65	57.71	100	0	P	H
													H
													H
		11490	44.57	-29.43	74	52.16	38.99	10.33	56.91	100	0	P	V
		17235	46.97	-27.03	74	50.02	42.01	12.65	57.71	100	0	P	V
													V
													V
802.11n HT20 CH 157 5785MHz		11570	43.41	-30.59	74	50.93	39.03	10.36	56.91	100	0	P	H
		17355	46.05	-27.95	74	49.25	41.96	12.85	58.01	100	0	P	H
													H
													H
		11570	43.7	-30.3	74	51.22	39.03	10.36	56.91	100	0	P	V
		17355	46.58	-27.42	74	49.78	41.96	12.85	58.01	100	0	P	V
													V
													V
802.11n HT20 CH 165 5825MHz		11650	44.05	-29.95	74	51.51	39.06	10.41	56.93	100	0	P	H
		17475	46.28	-27.72	74	49.64	41.91	13.04	58.31	100	0	P	H
													H
													H
		11650	44.53	-29.47	74	51.99	39.06	10.41	56.93	100	0	P	V
		17475	46.86	-27.14	74	50.22	41.91	13.04	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.												



Band 4 5725~5850MHz

WIFI 802.11n HT40 (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)
802.11n HT40 CH 151 5755MHz		5711.4	68.61	-5.39	74	57.81	35.77	7.15	32.12	120	267	P	H
		5719.56	72.75	-5.55	78.3	61.93	35.78	7.16	32.12	120	267	P	H
		5714.36	49	-5	54	38.2	35.77	7.15	32.12	120	267	A	H
	*	5757	103.32	-	-	92.44	35.81	7.18	32.11	120	267	P	H
	*	5757	93.61	-	-	82.73	35.81	7.18	32.11	120	267	A	H
		5851.44	55.51	-22.79	78.3	44.45	35.88	7.26	32.08	120	267	P	H
		5862.8	54.96	-19.04	74	43.86	35.89	7.28	32.07	120	267	P	H
		5869.12	44.68	-9.32	54	33.58	35.89	7.28	32.07	120	267	A	H
		5709.4	68.12	-5.88	74	57.32	35.77	7.15	32.12	100	100	P	V
		5722.76	73.32	-4.98	78.3	62.5	35.78	7.16	32.12	100	100	P	V
		5714.76	48.51	-5.49	54	37.71	35.77	7.15	32.12	100	100	A	V
	*	5753	101.74	-	-	90.88	35.79	7.18	32.11	100	100	P	V
		5753	91.81			80.93	35.81	7.18	32.11	100	100	A	
		5853.04	53.93	-24.37	78.3	42.87	35.88	7.26	32.08	100	100	P	V
		5869.92	54.01	-19.99	74	42.91	35.89	7.28	32.07	100	100	P	V
		5865.76	44.18	-9.82	54	33.08	35.89	7.28	32.07	100	100	A	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



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)
802.11n HT40 CH 159 5795MHz		5714.36	59.18	-14.82	74	48.38	35.77	7.15	32.12	108	267	P	H
		5724.12	60.66	-17.64	78.3	49.84	35.78	7.16	32.12	108	267	P	H
		5715	47.49	-6.51	54	36.69	35.77	7.15	32.12	108	267	A	H
	*	5793	104.67	-	-	93.72	35.83	7.22	32.1	108	267	P	H
	*	5793	94.95	-	-	84	35.83	7.22	32.1	108	267	A	H
		5850.4	61.61	-16.69	78.3	50.55	35.88	7.26	32.08	108	267	P	H
		5862.32	60.07	-13.93	74	48.97	35.89	7.28	32.07	108	267	P	H
		5860.48	46.91	-7.09	54	35.81	35.89	7.28	32.07	108	267	A	H
		5709.32	56.43	-17.57	74	45.63	35.77	7.15	32.12	110	100	P	V
		5723.32	60.33	-17.97	78.3	49.51	35.78	7.16	32.12	110	100	P	V
		5714.52	45.51	-8.49	54	34.71	35.77	7.15	32.12	110	100	A	V
	*	5793	103.55	-	-	92.6	35.83	7.22	32.1	110	100	P	V
	*	5793	93.65	-	-	82.7	35.83	7.22	32.1	110	100	A	V
		5850.32	61.82	-16.48	78.3	50.76	35.88	7.26	32.08	110	100	P	V
		5863.28	60.75	-13.25	74	49.65	35.89	7.28	32.07	110	100	P	V
		5860.08	46.88	-7.12	54	35.78	35.89	7.28	32.07	110	100	A	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



Band 4 5725~5850MHz

WIFI 802.11n HT40 (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)
802.11n HT40 CH 151 5755MHz		11510	44.21	-29.79	74	51.77	39	10.34	56.9	100	0	P	H
		17267	45.21	-28.79	74	48.28	41.99	12.73	57.79	100	0	P	H
													H
													H
		11510	45.28	-28.72	74	52.84	39	10.34	56.9	100	0	P	V
		17267	46.5	-27.5	74	49.57	41.99	12.73	57.79	100	0	P	V
													V
													V
802.11n HT40 CH 159 5795MHz		11590	44.13	-29.87	74	51.64	39.03	10.38	56.92	100	0	P	H
		17385	46.07	-27.93	74	49.29	41.95	12.93	58.1	100	0	P	H
													H
													H
		11590	44.88	-29.12	74	52.39	39.03	10.38	56.92	100	0	P	V
		17385	46.53	-27.47	74	49.75	41.95	12.93	58.1	100	0	P	V
													V
													V
Remark	1. No other spurious found.												
	2. All results are PASS against Peak and Average limit line.												

Emission below 1GHz

5GHz WIFI 802.11n HT40 (LF @ 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)
5GHz 802.11n HT40 LF		58.08	20.09	-19.91	40	44.93	6.1	0.86	31.8	-	-	P	H
		166.35	29.88	-13.62	43.5	50.55	9.76	1.35	31.78	-	-	P	H
		250.05	26.62	-19.38	46	44.35	12.4	1.64	31.77	-	-	P	H
		332.9	34.28	-11.72	46	50.31	13.88	1.86	31.77	100	121	P	H
		499.5	25.33	-20.67	46	37	17.99	2.23	31.89	-	-	P	H
		885.2	32.73	-13.27	46	38.25	23	2.98	31.5	-	-	P	H
													H
													H
													H
													H
													H
													H
		33.51	32.67	-7.33	40	46.94	16.82	0.72	31.81	100	11	P	V
		140.97	26.32	-17.18	43.5	45.34	11.5	1.26	31.78	-	-	P	V
		197.94	24.36	-19.14	43.5	45.69	8.98	1.47	31.78	-	-	P	V
		332.9	24.29	-21.71	46	40.32	13.88	1.86	31.77	-	-	P	V
		738.9	28.7	-17.3	46	35.79	22.17	2.73	31.99	-	-	P	V
		948.2	27.4	-18.6	46	30.71	24.68	3.06	31.05	-	-	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		(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”.



Band 4 5725~5850MHz

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 149 5745MHz		5711.16	61.95	-12.05	74	51.15	35.77	7.15	32.12	108	267	P	H
		5721.56	67.93	-10.37	78.3	57.11	35.78	7.16	32.12	108	267	P	H
		5714.44	47.34	-6.66	54	36.54	35.77	7.15	32.12	108	267	A	H
	*	5747	105.63	-	-	94.77	35.79	7.18	32.11	108	267	P	H
	*	5747	96.41	-	-	85.55	35.79	7.18	32.11	108	267	A	H
		5709.8	58.21	-15.79	74	47.41	35.77	7.15	32.12	162	99	P	V
		5722.44	67.03	-11.27	78.3	56.21	35.78	7.16	32.12	162	99	P	V
		5713.32	46.09	-7.91	54	35.29	35.77	7.15	32.12	162	99	A	V
	*	5747	104.41	-	-	93.55	35.79	7.18	32.11	162	99	P	V
	*	5747	95.22	-	-	84.36	35.79	7.18	32.11	162	99	A	V
Remark	1. No other spurious found.												
	2. All results are PASS against Peak and Average limit line.												



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 157 5785MHz		5715	55.92	-18.08	74	45.12	35.77	7.15	32.12	106	268	P	H
		5715	55.92	-18.08	74	45.12	35.77	7.15	32.12	106	268	P	H
		5699.24	44.72	-9.28	54	33.95	35.75	7.15	32.13	106	268	A	H
	*	5783	105.26	-	-	94.34	35.82	7.2	32.1	106	268	P	H
	*	5783	95.5	-	-	84.58	35.82	7.2	32.1	106	268	A	H
		5851.12	55.13	-23.17	78.3	44.07	35.88	7.26	32.08	106	268	P	H
		5874.16	55.65	-18.35	74	44.54	35.9	7.28	32.07	106	268	P	H
		5868.16	45.21	-8.79	54	34.11	35.89	7.28	32.07	106	268	A	H
		5704.2	54.23	-19.77	74	43.43	35.77	7.15	32.12	164	145	P	V
		5721.16	54.04	-24.26	78.3	43.22	35.78	7.16	32.12	164	145	P	V
		5704.76	44.01	-9.99	54	33.21	35.77	7.15	32.12	164	145	A	V
	*	5787	103.78	-	-	92.85	35.83	7.2	32.1	164	145	P	V
	*	5787	94.16	-	-	83.23	35.83	7.2	32.1	164	145	A	V
		5856.24	54.79	-23.51	78.3	43.71	35.89	7.26	32.07	164	145	P	V
		5866.56	55.22	-18.78	74	44.12	35.89	7.28	32.07	164	145	P	V
		5868.16	44.54	-9.46	54	33.44	35.89	7.28	32.07	164	145	A	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



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 165 5825MHz	*	5824	104.72	-	-	93.71	35.86	7.24	32.09	106	269	P	H
	*	5824	95.46	-	-	84.45	35.86	7.24	32.09	106	269	A	H
		5850.56	62	-16.3	78.3	50.94	35.88	7.26	32.08	106	269	P	H
		5860.56	57.81	-16.19	74	46.71	35.89	7.28	32.07	106	269	P	H
		5860.24	46.65	-7.35	54	35.55	35.89	7.28	32.07	106	269	A	H
													H
													H
													H
	*	5824	104.35	-	-	93.34	35.86	7.24	32.09	149	143	P	V
	*	5824	94.99	-	-	83.98	35.86	7.24	32.09	149	143	A	V
		5852.24	59.44	-18.86	78.3	48.38	35.88	7.26	32.08	149	143	P	V
		5864.72	57.65	-16.35	74	46.55	35.89	7.28	32.07	149	143	P	V
		5864.24	46.73	-7.27	54	35.63	35.89	7.28	32.07	149	143	A	V
													V
													V
													V
													V
													V
													V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



Band 4 5725~5850MHz

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 149 5745MHz		11490	44.21	-29.79	74	51.8	38.99	10.33	56.91	100	0	P	H
		17232	47.04	-26.96	74	50.09	42.01	12.65	57.71	100	0	P	H
													H
													H
		11490	43.84	-30.16	74	51.43	38.99	10.33	56.91	100	0	P	V
		17232	46.47	-27.53	74	49.52	42.01	12.65	57.71	100	0	P	V
													V
													V
802.11n HT20 CH 157 5785MHz		11570	44.4	-29.6	74	51.92	39.03	10.36	56.91	100	0	P	H
		17355	47.6	-26.4	74	50.8	41.96	12.85	58.01	100	0	P	H
													H
													H
		11570	44.57	-29.43	74	52.09	39.03	10.36	56.91	100	0	P	V
		17355	46.42	-27.58	74	49.62	41.96	12.85	58.01	100	0	P	V
													V
													V
802.11n HT20 CH 165 5825MHz		11650	44.23	-29.77	74	51.69	39.06	10.41	56.93	100	0	P	H
		17472	46.56	-27.44	74	49.92	41.91	13.04	58.31	100	0	P	H
													H
													H
		11650	44.2	-29.8	74	51.66	39.06	10.41	56.93	100	0	P	V
		17472	47.44	-26.56	74	50.8	41.91	13.04	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.												



Band 4 5725~5850MHz

WIFI 802.11n HT40 (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 HT40 CH 151 5755MHz		5714.36	68.24	-5.76	74	57.44	35.77	7.15	32.12	107	266	P	H
		5724.92	72.31	-5.99	78.3	61.49	35.78	7.16	32.12	107	266	P	H
		5714.76	46.97	-7.03	54	36.17	35.77	7.15	32.12	107	266	A	H
	*	5753	102.38	-	-	91.5	35.81	7.18	32.11	107	266	P	H
	*	5753	92.36	-	-	81.48	35.81	7.18	32.11	107	266	A	H
		5852.08	56.36	-21.94	78.3	45.3	35.88	7.26	32.08	107	266	P	H
		5877.52	54.65	-19.35	74	43.54	35.9	7.28	32.07	107	266	P	H
		5872	44.47	-9.53	54	33.36	35.9	7.28	32.07	107	266	A	H
		5712.04	67.01	-6.99	74	56.21	35.77	7.15	32.12	147	99	P	V
		5724.2	69.42	-8.88	78.3	58.6	35.78	7.16	32.12	147	99	P	V
		5713.24	46.74	-7.26	54	35.94	35.77	7.15	32.12	147	99	A	V
	*	5753	102.2	-	-	91.32	35.81	7.18	32.11	147	99	P	V
	*	5753	91.69	-	-	80.81	35.81	7.18	32.11	147	99	A	V
		5858.48	54.7	-23.6	78.3	43.62	35.89	7.26	32.07	147	99	P	V
		5888.16	54.66	-19.34	74	43.5	35.92	7.3	32.06	147	99	P	V
		5868.48	44.39	-9.61	54	33.29	35.89	7.28	32.07	147	99	A	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



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 HT40 CH 159 5795MHz		5702.84	56.99	-17.01	74	46.19	35.77	7.15	32.12	107	267	P	H
		5720.92	57.13	-21.17	78.3	46.31	35.78	7.16	32.12	107	267	P	H
		5714.84	45.62	-8.38	54	34.82	35.77	7.15	32.12	107	267	A	H
	*	5793	102.48	-	-	91.53	35.83	7.22	32.1	107	267	P	H
	*	5793	92.49	-	-	81.54	35.83	7.22	32.1	107	267	A	H
		5850.8	59.05	-19.25	78.3	47.99	35.88	7.26	32.08	107	267	P	H
		5872	57.96	-16.04	74	46.85	35.9	7.28	32.07	107	267	P	H
		5867.52	45.57	-8.43	54	34.47	35.89	7.28	32.07	107	267	A	H
		5714.76	54.4	-19.6	74	43.6	35.77	7.15	32.12	165	144	P	V
		5722.84	54.79	-23.51	78.3	43.97	35.78	7.16	32.12	165	144	P	V
		5714.68	44.2	-9.8	54	33.4	35.77	7.15	32.12	165	144	A	V
	*	5793	100.65	-	-	89.7	35.83	7.22	32.1	165	144	P	V
	*	5793	90.96	-	-	80.01	35.83	7.22	32.1	165	144	A	V
		5853.6	56.25	-22.05	78.3	45.17	35.89	7.26	32.07	165	144	P	V
		5872.24	54.98	-19.02	74	43.87	35.9	7.28	32.07	165	144	P	V
		5862.96	45.08	-8.92	54	33.98	35.89	7.28	32.07	165	144	A	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



Band 4 5725~5850MHz

WIFI 802.11n HT40 (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 HT40 CH 151 5755MHz		11510	44.41	-29.59	74	51.97	39	10.34	56.9	100	0	P	H
		17265	46.76	-27.24	74	49.83	41.99	12.73	57.79	100	0	P	H
													H
													H
		11510	45.4	-28.6	74	52.96	39	10.34	56.9	100	0	P	V
		17265	47.05	-26.95	74	50.12	41.99	12.73	57.79	100	0	P	V
													V
													V
802.11n HT40 CH 159 5795MHz		11590	43.81	-30.19	74	51.32	39.03	10.38	56.92	100	0	P	H
		17385	47.25	-26.75	74	50.47	41.95	12.93	58.1	100	0	P	H
													H
													H
		11590	44.28	-29.72	74	51.79	39.03	10.38	56.92	100	0	P	V
		17385	47.06	-26.94	74	50.28	41.95	12.93	58.1	100	0	P	V
													V
													V
Remark	1. No other spurious found.												
	2. All results are PASS against Peak and Average limit line.												

Emission below 1GHz

5GHz WIFI 802.11n HT40 (LF @ 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)
5GHz 802.11n HT40 LF		120.18	27.07	-16.43	43.5	46.17	11.5	1.18	31.78	-	-	P	H
		160.68	29.32	-14.18	43.5	49.42	10.36	1.32	31.78	-	-	P	H
		216.03	19.34	-26.66	46	40.33	9.26	1.53	31.78	-	-	P	H
		332.9	35.04	-10.96	46	51.07	13.88	1.86	31.77	123	99	P	H
		499.5	24.81	-21.19	46	36.48	17.99	2.23	31.89	-	-	P	H
		678	23.31	-22.69	46	32.35	20.38	2.62	32.04	-	-	P	H
													H
													H
													H
													H
													H
													H
		63.48	28.99	-11.01	40	53.91	5.98	0.89	31.79	100	139	P	V
		131.79	27.3	-16.2	43.5	45.99	11.86	1.23	31.78	-	-	P	V
		194.97	22.31	-21.19	43.5	43.83	8.8	1.46	31.78	-	-	P	V
		426.7	19.36	-26.64	46	32.26	16.84	2.08	31.82	-	-	P	V
		499.5	27.83	-18.17	46	39.5	17.99	2.23	31.89	-	-	P	V
		666.8	29.41	-16.59	46	38.55	20.3	2.6	32.04	-	-	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”.