



Appendix A. Radiated Spurious Emission

Test Mode :	802.11a	Temperature :	21~23°C
Test Channel :	149	Relative Humidity :	47~49%
Test Engineer :	Nick Yu, Ken Wu, and Derreck Chen	Polarization :	Horizontal

15E 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		5713.64	72.2	-1.8	74	61.05	35.22	10.08	34.15	100	355	P	H
		5724.6	77.13	-1.17	78.3	66.02	35.23	10.03	34.15	100	355	P	H
		5715	52.08	-1.92	54	40.93	35.22	10.08	34.15	100	355	A	H
	*	5748	106.99	-	-	95.94	35.24	9.98	34.17	100	355	P	H
	*	5748	97.39	-	-	86.34	35.24	9.98	34.17	100	355	A	H
													H
													H
													H
		5713.56	69.5	-4.5	74	58.35	35.22	10.08	34.15	173	233	P	V
		5722.04	71.98	-6.32	78.3	60.87	35.23	10.03	34.15	173	233	P	V
		5714.84	47.7	-6.3	54	36.55	35.22	10.08	34.15	173	233	A	V
	*	5748	102	-	-	90.95	35.24	9.98	34.17	173	233	P	V
	*	5748	92.55	-	-	81.5	35.24	9.98	34.17	173	233	A	V
													V
													V
													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		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
802.11a CH 157 5785MHz		5714.76	57.48	-16.52	74	46.33	35.22	10.08	34.15	100	19	P	H
		5725	56.13	-22.17	78.3	45.02	35.23	10.03	34.15	100	19	P	H
		5707	44.34	-9.66	54	33.19	35.22	10.08	34.15	100	19	A	H
	*	5784	104.78	-	-	93.81	35.27	9.93	34.23	100	19	P	H
	*	5784	95.38	-	-	84.41	35.27	9.93	34.23	100	19	A	H
		5855.68	56.54	-21.76	78.3	45.55	35.32	9.98	34.31	100	19	P	H
		5883.44	54.99	-19.01	74	44.02	35.33	10.03	34.39	100	19	P	H
		5855.84	42.84	-11.16	54	31.85	35.32	9.98	34.31	100	19	A	H
		5704.6	55.4	-18.6	74	44.22	35.22	10.08	34.12	187	240	P	V
		5725	53.1	-25.2	78.3	41.99	35.23	10.03	34.15	187	240	P	V
		5717.4	42.16	-11.84	54	31.06	35.22	10.03	34.15	187	240	A	V
	*	5783	99	-	-	88.03	35.27	9.93	34.23	187	240	P	V
	*	5783	89.6	-	-	78.63	35.27	9.93	34.23	187	240	A	V
		5857.76	54.74	-23.56	78.3	43.79	35.32	9.98	34.35	187	240	P	V
		5888.64	54.99	-19.01	74	43.95	35.34	10.09	34.39	187	240	P	V
		5858.4	41.84	-12.16	54	30.89	35.32	9.98	34.35	187	240	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		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
802.11a CH 165 5825MHz	*	5824	103.29	-	-	92.33	35.3	9.93	34.27	100	27	P	H
	*	5824	93.26	-	-	82.3	35.3	9.93	34.27	100	27	A	H
		5850.56	66.89	-11.41	78.3	55.91	35.31	9.98	34.31	100	27	P	H
		5860.64	61.37	-12.63	74	50.37	35.32	10.03	34.35	100	27	P	H
		5860.24	44.82	-9.18	54	33.82	35.32	10.03	34.35	100	27	A	H
													H
													H
													H
	*	5823	97.02	-	-	86.06	35.3	9.93	34.27	172	215	P	V
	*	5823	87.48	-	-	76.52	35.3	9.93	34.27	172	215	A	V
		5850.16	61.22	-17.08	78.3	50.24	35.31	9.98	34.31	172	215	P	V
		5860	57.82	-16.18	74	46.87	35.32	9.98	34.35	172	215	P	V
		5860.08	42.9	-11.1	54	31.9	35.32	10.03	34.35	172	215	A	V
													V
													V
													V
													V
													V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



15E 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	44.23	-29.77	74	48.52	38.19	14.49	56.97	100	0	P	H
		17232	49.04	-24.96	74	46.06	42.21	16.96	56.19	100	0	P	H
													H
													H
		11490	43.49	-30.51	74	47.78	38.19	14.49	56.97	100	0	P	V
		17232	48.82	-25.18	74	45.84	42.21	16.96	56.19	100	0	P	V
													V
													V
802.11a CH 157 5785MHz		11570	43.43	-30.57	74	47.38	38.3	14.53	56.78	100	0	P	H
		17352	47.65	-26.35	74	44.67	42.12	17.08	56.22	100	0	P	H
													H
													H
		11570	44.85	-29.15	74	48.8	38.3	14.53	56.78	100	0	P	V
		17355	47.81	-26.19	74	44.83	42.12	17.08	56.22	100	0	P	V
													V
													V
802.11a CH 165 5825MHz		11650	43.78	-30.22	74	47.41	38.39	14.59	56.61	100	0	P	H
		17475	48.55	-25.45	74	45.57	42.03	17.2	56.25	100	0	P	H
													H
													H
		11650	43.88	-30.12	74	47.51	38.39	14.59	56.61	100	0	P	V
		17475	48.52	-25.48	74	45.54	42.03	17.2	56.25	100	0	P	V
													V
													V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												


15E 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		5715	62.2	-11.8	74	51.05	35.22	10.08	34.15	100	22	P	H
		5725	73.18	-5.12	78.3	62.07	35.23	10.03	34.15	100	22	P	H
		5715	47.63	-6.37	54	36.48	35.22	10.08	34.15	100	22	P	H
	*	5747	104.13	-	-	93.08	35.24	9.98	34.17	100	22	P	H
	*	5747	93.96	-	-	82.91	35.24	9.98	34.17	100	22	A	H
													H
													H
													H
		5715	57.39	-16.61	74	46.24	35.22	10.08	34.15	189	238	P	V
		5720.84	65.98	-12.32	78.3	54.87	35.23	10.03	34.15	189	238	P	V
		5715	43.9	-10.1	54	32.75	35.22	10.08	34.15	189	238	P	V
	*	5743	98.73	-	-	87.68	35.24	9.98	34.17	189	238	P	V
	*	5743	88.94	-	-	77.89	35.24	9.98	34.17	189	238	A	V
													V
													V
													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		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
802.11n HT20 CH 157 5785MHz		5703.88	56.65	-17.35	74	45.47	35.22	10.08	34.12	100	20	P	H
		5717.8	56.78	-21.52	78.3	45.67	35.23	10.03	34.15	100	20	P	H
		5713.32	43.58	-10.42	54	32.43	35.22	10.08	34.15	100	20	A	H
	*	5783	102.21	-	-	91.24	35.27	9.93	34.23	100	20	P	H
	*	5783	92.9	-	-	81.93	35.27	9.93	34.23	100	20	A	H
		5856.48	54.86	-23.44	78.3	43.87	35.32	9.98	34.31	100	20	P	H
		5883.68	55.21	-18.79	74	44.24	35.33	10.03	34.39	100	20	P	H
		5854.72	42.52	-11.48	54	31.53	35.32	9.98	34.31	100	20	A	H
		5692.28	55.78	-18.22	74	44.61	35.21	10.08	34.12	187	240	P	V
		5715.16	54.91	-23.39	78.3	43.76	35.22	10.08	34.15	187	240	P	V
		5714.6	41.96	-12.04	54	30.81	35.22	10.08	34.15	187	240	A	V
	*	5783	96.47	-	-	85.5	35.27	9.93	34.23	187	240	P	V
	*	5783	87.52	-	-	76.55	35.27	9.93	34.23	187	240	A	V
		5851.2	54.72	-23.58	78.3	43.74	35.31	9.98	34.31	187	240	P	V
		5867.68	54.74	-19.26	74	43.74	35.32	10.03	34.35	187	240	P	V
		5887.76	41.64	-12.36	54	30.6	35.34	10.09	34.39	187	240	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		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
802.11n HT20 CH 165 5825MHz	*	5823	100.72	-	-	89.76	35.3	9.93	34.27	100	27	P	H
	*	5823	91.32	-	-	80.36	35.3	9.93	34.27	100	27	A	H
		5850.88	61.88	-16.42	78.3	50.9	35.31	9.98	34.31	100	27	P	H
		5861.92	57.13	-16.87	74	46.13	35.32	10.03	34.35	100	27	P	H
		5860	43.4	-10.6	54	32.45	35.32	9.98	34.35	100	27	A	H
													H
													H
													H
	*	5823	95.77	-	-	84.81	35.3	9.93	34.27	186	242	P	V
	*	5823	86.54	-	-	75.58	35.3	9.93	34.27	186	242	A	V
		5850.48	56.56	-21.74	78.3	45.58	35.31	9.98	34.31	186	242	P	V
		5889.12	55.3	-18.7	74	44.26	35.34	10.09	34.39	186	242	P	V
		5863.44	41.93	-12.07	54	30.93	35.32	10.03	34.35	186	242	A	V
													V
													V
													V
													V
													V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



15E 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	44.32	-29.68	74	48.61	38.19	14.49	56.97	100	0	P	H
		17235	47.69	-26.31	74	44.71	42.21	16.96	56.19	100	0	P	H
													H
													H
		11490	43.95	-30.05	74	48.24	38.19	14.49	56.97	100	0	P	V
		17235	48.34	-25.66	74	45.36	42.21	16.96	56.19	100	0	P	V
													V
													V
802.11n HT20 CH 157 5785MHz		11571	43.55	-30.45	74	47.5	38.3	14.53	56.78	100	0	P	H
		17355	48.23	-25.77	74	45.25	42.12	17.08	56.22	100	0	P	H
													H
													H
		11571	43.76	-30.24	74	47.71	38.3	14.53	56.78	100	0	P	V
		17355	47.69	-26.31	74	44.71	42.12	17.08	56.22	100	0	P	V
													V
													V
802.11n HT20 CH 165 5825MHz		11649	44.53	-29.47	74	48.16	38.39	14.59	56.61	100	0	P	H
		17475	49.9	-24.1	74	46.92	42.03	17.2	56.25	100	0	P	H
													H
													H
		11649	44.81	-29.19	74	48.44	38.39	14.59	56.61	100	0	P	V
		17475	48.95	-25.05	74	45.97	42.03	17.2	56.25	100	0	P	V
													V
													V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



15E 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		5714.6	69.91	-4.09	74	58.76	35.22	10.08	34.15	100	16	P	H
		5725	72.82	-5.48	78.3	61.71	35.23	10.03	34.15	100	16	P	H
		5715	52.48	-1.52	54	41.33	35.22	10.08	34.15	100	16	A	H
	*	5757	100.02	-	-	88.98	35.26	9.98	34.2	100	16	P	H
	*	5757	91.02	-	-	79.98	35.26	9.98	34.2	100	16	A	H
		5854.72	54.39	-23.91	78.3	43.4	35.32	9.98	34.31	100	16	P	H
		5876.4	55.12	-18.88	74	44.11	35.33	10.03	34.35	100	16	P	H
		5867.76	42.02	-11.98	54	31.02	35.32	10.03	34.35	100	16	A	H
		5709.24	61.84	-12.16	74	50.69	35.22	10.08	34.15	171	237	P	V
		5724.36	63.93	-14.37	78.3	52.82	35.23	10.03	34.15	171	237	P	V
		5714.36	45.49	-8.51	54	34.34	35.22	10.08	34.15	171	237	A	V
	*	5758	94.2	-	-	83.16	35.26	9.98	34.2	171	237	P	V
	*	5758	84.99	-	-	73.95	35.26	9.98	34.2	171	237	A	V
		5857.6	54.42	-23.88	78.3	43.43	35.32	9.98	34.31	171	237	P	V
		5864.4	54.2	-19.8	74	43.2	35.32	10.03	34.35	171	237	P	V
		5875.6	41.92	-12.08	54	30.91	35.33	10.03	34.35	171	237	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		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
802.11n HT40 CH 159 5795MHz		5704.12	59.57	-14.43	74	48.39	35.22	10.08	34.12	100	17	P	H
		5724.52	63.82	-14.48	78.3	52.71	35.23	10.03	34.15	100	17	P	H
		5714.52	45.96	-8.04	54	34.81	35.22	10.08	34.15	100	17	A	H
	*	5795	100.12	-	-	89.19	35.28	9.88	34.23	100	17	P	H
	*	5795	91.14	-	-	80.21	35.28	9.88	34.23	100	17	A	H
		5850.56	61.9	-16.4	78.3	50.92	35.31	9.98	34.31	100	17	P	H
		5860.08	56.05	-17.95	74	45.05	35.32	10.03	34.35	100	17	P	H
		5860.24	43.66	-10.34	54	32.66	35.32	10.03	34.35	100	17	A	H
		5705.16	55.51	-18.49	74	44.36	35.22	10.08	34.15	186	242	P	V
		5724.84	56.58	-21.72	78.3	45.47	35.23	10.03	34.15	186	242	P	V
		5713	42.45	-11.55	54	31.3	35.22	10.08	34.15	186	242	A	V
	*	5793	95.35	-	-	84.42	35.28	9.88	34.23	186	242	P	V
	*	5793	85.62	-	-	74.69	35.28	9.88	34.23	186	242	A	V
		5856	56.33	-21.97	78.3	45.34	35.32	9.98	34.31	186	242	P	V
		5862.64	54.72	-19.28	74	43.72	35.32	10.03	34.35	186	242	P	V
		5861.04	42.28	-11.72	54	31.28	35.32	10.03	34.35	186	242	A	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



15E 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		11511	43.91	-30.09	74	48.15	38.2	14.51	56.95	100	0	P	H
		17265	47.88	-26.12	74	44.88	42.19	17.01	56.2	100	0	P	H
													H
													H
		11511	44.05	-29.95	74	48.29	38.2	14.51	56.95	100	0	P	V
		17265	48.46	-25.54	74	45.46	42.19	17.01	56.2	100	0	P	V
													V
													V
802.11n HT40 CH 159 5795MHz		11589	43.29	-30.71	74	47.16	38.32	14.55	56.74	100	0	P	H
		17385	48.35	-25.65	74	45.36	42.09	17.13	56.23	100	0	P	H
													H
													H
		11589	43.53	-30.47	74	47.4	38.32	14.55	56.74	100	0	P	V
		17385	49.01	-24.99	74	46.02	42.09	17.13	56.23	100	0	P	V
													V
													V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



15E Emission below 1GHz

5GHz WIFI 802.11a (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 802.11a LF		46.47	27.02	-12.98	40	47.75	9.8	0.67	31.2	100	207	P	H
		76.71	25.68	-14.32	40	49.15	6.87	0.86	31.2			P	H
		163.11	24.93	-18.57	43.5	44.79	10.08	1.22	31.16			P	H
		475	20.5	-25.5	46	31.38	17.55	2.37	30.8			P	H
		668.9	23.21	-22.79	46	30.4	20.39	2.88	30.46			P	H
		967.1	28.78	-25.22	54	30.86	24.77	3.48	30.33			P	H
													H
													H
													H
													H
													H
													H
		46.74	29.11	-10.89	40	49.84	9.8	0.67	31.2			P	V
		76.17	30.48	-9.52	40	53.95	6.87	0.86	31.2	170	215	P	V
		161.49	27.56	-15.94	43.5	47.3	10.22	1.22	31.18			P	V
		407.8	21.09	-24.91	46	33.66	16.12	2.17	30.86			P	V
		475	23.71	-22.29	46	34.59	17.55	2.37	30.8			P	V
		846.7	26.96	-19.04	46	30.82	23.27	3.26	30.39			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	H orizontal or V ertical



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”.



15E 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		5705.4	55.43	-18.57	74	44.28	35.22	10.08	34.15	102	359	P	H
		5723.96	59.32	-18.98	78.3	48.21	35.23	10.03	34.15	102	359	P	H
		5708.76	41.86	-12.14	54	30.71	35.22	10.08	34.15	102	359	A	H
	*	5744	96.71	-	-	85.66	35.24	9.98	34.17	102	359	P	H
	*	5744	86.02	-	-	74.97	35.24	9.98	34.17	102	359	A	H
													H
													H
													H
		5713.64	60.33	-13.67	74	49.18	35.22	10.08	34.15	163	232	P	V
		5722.52	62.45	-15.85	78.3	51.34	35.23	10.03	34.15	163	232	P	V
		5714.68	43.93	-10.07	54	32.78	35.22	10.08	34.15	163	232	A	V
	*	5743	101.66	-	-	90.61	35.24	9.98	34.17	163	232	P	V
	*	5743	91.1	-	-	80.05	35.24	9.98	34.17	163	232	A	V
													V
													V
													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 157 5785MHz		5709.24	55.46	-18.54	74	44.31	35.22	10.08	34.15	100	359	P	H
		5715.16	54.09	-24.21	78.3	42.94	35.22	10.08	34.15	100	359	P	H
		5704.84	41.55	-12.45	54	30.4	35.22	10.08	34.15	100	359	A	H
	*	5785	94.86	-	-	83.89	35.27	9.93	34.23	100	359	P	H
	*	5785	83.68	-	-	72.71	35.27	9.93	34.23	100	359	A	H
		5858.4	54.28	-24.02	78.3	43.33	35.32	9.98	34.35	100	359	P	H
		5874.64	54.5	-19.5	74	43.49	35.33	10.03	34.35	100	359	P	H
		5871.2	41.08	-12.92	54	30.07	35.33	10.03	34.35	100	359	A	H
		5706.52	55.27	-18.73	74	44.12	35.22	10.08	34.15	161	234	P	V
		5715.8	54.69	-23.61	78.3	43.54	35.22	10.08	34.15	161	234	P	V
		5712.2	42.22	-11.78	54	31.07	35.22	10.08	34.15	161	234	A	V
	*	5784	100.5	-	-	89.53	35.27	9.93	34.23	161	234	P	V
	*	5784	90.57	-	-	79.6	35.27	9.93	34.23	161	234	A	V
		5851	54.15	-24.15	78.3	43.17	35.31	9.98	34.31	161	234	P	V
		5862.8	54.08	-19.92	74	43.08	35.32	10.03	34.35	161	234	P	V
		5866.56	41.32	-12.68	54	30.32	35.32	10.03	34.35	161	234	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 165 5825MHz	*	5823	92.41	-	-	81.45	35.3	9.93	34.27	100	359	P	H
	*	5823	82.64	-	-	71.68	35.3	9.93	34.27	100	359	A	H
		5856	54.58	-23.72	78.3	43.59	35.32	9.98	34.31	100	359	P	H
		5868.64	54.28	-19.72	74	43.28	35.32	10.03	34.35	100	359	P	H
		5876.64	41.14	-12.86	54	30.13	35.33	10.03	34.35	100	359	A	H
													H
													H
													H
	*	5824	100.26	-	-	89.3	35.3	9.93	34.27	159	236	P	V
	*	5824	90.14	-	-	79.18	35.3	9.93	34.27	159	236	A	V
		5850.96	57.29	-21.01	78.3	46.31	35.31	9.98	34.31	159	236	P	V
		5878.32	54.84	-19.16	74	43.83	35.33	10.03	34.35	159	236	P	V
		5861.12	41.77	-12.23	54	30.77	35.32	10.03	34.35	159	236	A	V
													V
													V
													V
Remark	3. No other spurious found. 4. All results are PASS against Peak and Average limit line.												



15E 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	45.94	-28.06	74	50.23	38.19	14.49	56.97	100	0	P	H
		17235	49.96	-24.04	74	46.98	42.21	16.96	56.19	100	0	P	H
													H
													H
		11490	45.73	-28.27	74	50.02	38.19	14.49	56.97	100	0	P	V
		17235	49.83	-24.17	74	46.85	42.21	16.96	56.19	100	0	P	V
													V
													V
802.11n HT20 CH 157 5785MHz		11571	44.49	-29.51	74	48.44	38.3	14.53	56.78	100	0	P	H
		17355	49.82	-24.18	74	46.84	42.12	17.08	56.22	100	0	P	H
													H
													H
		11571	44.98	-29.02	74	48.93	38.3	14.53	56.78	100	0	P	V
		17355	49.48	-24.52	74	46.5	42.12	17.08	56.22	100	0	P	V
													V
													V
802.11n HT20 CH 165 5825MHz		11649	45.81	-28.19	74	49.44	38.39	14.59	56.61	100	0	P	H
		17475	50.46	-23.54	74	47.48	42.03	17.2	56.25	100	0	P	H
													H
													H
		11649	46.66	-27.34	74	50.29	38.39	14.59	56.61	100	0	P	V
		17475	50.24	-23.76	74	47.26	42.03	17.2	56.25	100	0	P	V
													V
													V
Remark	3. No other spurious found. 4. All results are PASS against Peak and Average limit line.												



15E 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		5714.68	57.73	-16.27	74	46.58	35.22	10.08	34.15	102	357	P	H
		5722.2	60.03	-18.27	78.3	48.92	35.23	10.03	34.15	102	357	P	H
		5714.84	43.67	-10.33	54	32.52	35.22	10.08	34.15	102	357	A	H
	*	5753	93.04	-	-	81.97	35.26	9.98	34.17	102	357	P	H
	*	5753	82.71	-	-	71.64	35.26	9.98	34.17	102	357	A	H
		5855.76	53.59	-24.71	78.3	42.6	35.32	9.98	34.31	102	357	P	H
		5865.6	54.6	-19.4	74	43.6	35.32	10.03	34.35	102	357	P	H
		5871.92	41.96	-12.04	54	30.95	35.33	10.03	34.35	102	357	A	H
		5714.28	64.82	-9.18	74	53.67	35.22	10.08	34.15	163	228	P	V
		5717	66.06	-12.24	78.3	54.96	35.22	10.03	34.15	163	228	P	V
		5714.84	48.8	-5.2	54	37.65	35.22	10.08	34.15	163	228	A	V
	*	5753	96.87	-	-	85.8	35.26	9.98	34.17	163	228	P	V
	*	5753	87.84	-	-	76.77	35.26	9.98	34.17	163	228	A	V
		5853.2	54.26	-24.04	78.3	43.28	35.31	9.98	34.31	163	228	P	V
		5870	54.41	-19.59	74	43.41	35.32	10.03	34.35	163	228	P	V
		5877.6	42.1	-11.9	54	31.09	35.33	10.03	34.35	163	228	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 HT40 CH 159 5795MHz		5691.88	54.61	-19.39	74	43.39	35.21	10.13	34.12	100	322	P	H
		5716.12	53.99	-24.31	78.3	42.89	35.22	10.03	34.15	100	322	P	H
		5688.6	42.11	-11.89	54	30.89	35.21	10.13	34.12	100	322	A	H
	*	5797	90.69	-	-	79.76	35.28	9.88	34.23	100	322	P	H
	*	5797	80.18	-	-	69.25	35.28	9.88	34.23	100	322	A	H
		5850.24	54.51	-23.79	78.3	43.53	35.31	9.98	34.31	100	322	P	H
		5865.84	54.73	-19.27	74	43.73	35.32	10.03	34.35	100	322	P	H
		5865.84	41.91	-12.09	54	30.91	35.32	10.03	34.35	100	322	A	H
		5700.04	55.57	-18.43	74	44.4	35.21	10.08	34.12	161	233	P	V
		5723	55.34	-22.96	78.3	44.23	35.23	10.03	34.15	161	233	P	V
		5702.68	43.12	-10.88	54	31.94	35.22	10.08	34.12	161	233	A	V
	*	5793	95.73	-	-	84.8	35.28	9.88	34.23	161	233	P	V
	*	5793	86.72	-	-	75.79	35.28	9.88	34.23	161	233	A	V
		5851.68	55.19	-23.11	78.3	44.21	35.31	9.98	34.31	161	233	P	V
		5871.12	54.94	-19.06	74	43.93	35.33	10.03	34.35	161	233	P	V
		5871.6	42.13	-11.87	54	31.12	35.33	10.03	34.35	161	233	A	V
Remark	3. No other spurious found. 4. All results are PASS against Peak and Average limit line.												



15E 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		11511	46.05	-27.95	74	50.29	38.2	14.51	56.95	100	0	P	H
		17265	50.62	-23.38	74	47.62	42.19	17.01	56.2	100	0	P	H
													H
													H
		11511	45.4	-28.6	74	49.64	38.2	14.51	56.95	100	0	P	V
		17265	50.08	-23.92	74	47.08	42.19	17.01	56.2	100	0	P	V
													V
													V
802.11n HT40 CH 159 5795MHz		11589	44.87	-29.13	74	48.74	38.32	14.55	56.74	100	0	P	H
		17385	50.02	-23.98	74	47.03	42.09	17.13	56.23	100	0	P	H
													H
													H
		11589	45.17	-28.83	74	49.04	38.32	14.55	56.74	100	0	P	V
		17385	50.33	-23.67	74	47.34	42.09	17.13	56.23	100	0	P	V
													V
													V
Remark	3. No other spurious found. 4. All results are PASS against Peak and Average limit line.												



15E Emission below 1GHz

5GHz WIFI 802.11n HT20 (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 HT20 LF		47.28	26.76	-13.24	40	47.84	9.45	0.67	31.2	108	296	P	H
		76.44	25.58	-14.42	40	49.05	6.87	0.86	31.2			P	H
		162.84	24.9	-18.6	43.5	44.77	10.08	1.22	31.17			P	H
		573	22.37	-23.63	46	30.8	19.67	2.61	30.71			P	H
		712.3	24.21	-21.79	46	30.56	21.08	2.97	30.4			P	H
		799.1	25.41	-20.59	46	30.58	21.99	3.14	30.3			P	H
													H
													H
													H
													H
													H
													H
		39.72	27.74	-12.26	40	44.32	14	0.62	31.2			P	V
		46.2	29.25	-10.75	40	49.98	9.8	0.67	31.2			P	V
		76.71	30.31	-9.69	40	53.78	6.87	0.86	31.2	158	222	P	V
		475	22.46	-23.54	46	33.34	17.55	2.37	30.8			P	V
		594	22.88	-23.12	46	31.29	19.54	2.67	30.62			P	V
		729.1	25.11	-20.89	46	30.55	21.95	3.01	30.4			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	H orizontal or V ertical



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

3. Level(dBμV/m) =

Antenna Factor(dB/m) + Cable Loss(dB) + Read Level(dBμV) - Preamp Factor(dB)

4. Over Limit(dB) = Level(dBμV/m) – Limit Line(dBμV/m)

For Peak Limit @ 2390MHz:

3. 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)

4. Over Limit(dB)

= Level(dBμV/m) – Limit Line(dBμV/m)

= 55.45(dBμV/m) – 74(dBμV/m)

= -18.55(dB)

For Average Limit @ 2390MHz:

3. 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)

4. 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”.