# Appendix B. Radiated Spurious Emission

Test Engineer :	Jesse Wang, Derreck Chen and James Chiu	Temperature :	21~24°C
rest Engineer .	J.	Relative Humidity :	50~54%

#### 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. 1+2		( MHz )	( dBµV/m )	Limit (dB)	Line ( dBµV/m )	Level ( dBµV )	Factor ( dB/m )	Loss (dB)	Factor (dB)	Pos (cm)	Pos ( deg )	Avg.	(H/V)
		2385.6	55.12	-18.88	74	50.22	31.93	7.31	34.34	146	325	P	Н
		2390	46.71	-7.29	54	41.8	31.93	7.31	34.33	146	325	Α	Н
	*	2412	113.78	-	-	108.79	31.98	7.31	34.3	146	325	Р	Н
	*	2412	110.59	-	-	105.6	31.98	7.31	34.3	146	325	Α	Н
000 445													Н
802.11b CH 01													Н
2412MHz		2347.905	54.85	-19.15	74	50.21	31.8	7.24	34.4	351	32	Р	V
2412111112		2389.17	45.76	-8.24	54	40.85	31.93	7.31	34.33	351	32	Α	V
	*	2412	110.12	-	-	105.13	31.98	7.31	34.3	351	32	Р	V
	*	2412	106.8	-	-	101.81	31.98	7.31	34.3	351	32	Α	V
													V
													V
		2361.38	55.13	-18.87	74	50.43	31.84	7.24	34.38	309	303	Р	Н
		2388.96	45.45	-8.55	54	40.54	31.93	7.31	34.33	309	303	Α	Н
	*	2437	112.16	-	-	106.98	32.07	7.36	34.25	309	303	Р	Н
	*	2437	108.91	-	-	103.73	32.07	7.36	34.25	309	303	Α	Н
802.11b		2487.61	55.57	-18.43	74	50.14	32.2	7.4	34.17	309	303	Р	Н
CH 06		2489.71	45.9	-8.1	54	40.47	32.2	7.4	34.17	309	303	Α	Н
2437MHz		2325.54	55.57	-18.43	74	51.08	31.75	7.18	34.44	301	336	Р	V
2407111112		2389.1	45.38	-8.62	54	40.47	31.93	7.31	34.33	301	336	Α	V
	*	2437	111.45	-	-	106.27	32.07	7.36	34.25	301	336	Р	V
	*	2437	105.17	-	-	99.99	32.07	7.36	34.25	301	336	Α	V
		2488.59	55.57	-18.43	74	50.14	32.2	7.4	34.17	301	336	Р	V
		2484.39	46.06	-7.94	54	40.68	32.16	7.4	34.18	301	336	Α	V

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	*	2462	113.07	-	-	107.77	32.11	7.4	34.21	336	328	Р	Н
	*	2462	110.01	-	-	104.71	32.11	7.4	34.21	336	328	Α	Н
		2483.76	56.28	-17.72	74	50.9	32.16	7.4	34.18	336	328	Р	Н
		2483.56	47.14	-6.86	54	41.76	32.16	7.4	34.18	336	328	Α	Н
													Н
802.11b													Н
CH 11 2462MHz	*	2462	111.38	-	-	106.08	32.11	7.4	34.21	371	18	Р	V
2402WITIZ	*	2462	108.07	-	-	102.77	32.11	7.4	34.21	371	18	Α	V
		2488.44	55.72	-18.28	74	50.29	32.2	7.4	34.17	371	18	Р	V
		2483.92	45.86	-8.14	54	40.48	32.16	7.4	34.18	371	18	Α	V
													V
													V
Remark		o other spuriou		Peak and	Average lim	nit line.							

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### 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.	
1+2		(MHz)	( dBµV/m )	( dB )	( dBµV/m )	(dBµV)	( dB/m )	( dB )	(dB)	( cm )	( deg )	(P/A)	(H/V)
		4824	47.92	-26.08	74	61.08	34.2	11.68	59.04	100	0	Р	Н
													Н
000 446													Н
802.11b													Н
CH 01		4824	48.74	-25.26	74	61.9	34.2	11.68	59.04	100	0	Р	V
2412MHz													V
													V
													V
		4872	47.5	-26.5	74	60.68	34.23	11.53	58.94	100	0	Р	Н
		7308	40.93	-33.07	74	49.45	35.6	13.81	57.93	100	0	Р	Н
													Н
802.11b													Н
CH 06 2437MHz		4872	47.74	-26.26	74	60.92	34.23	11.53	58.94	100	0	Р	٧
2437 WITZ		7308	41.01	-32.99	74	49.53	35.6	13.81	57.93	100	0	Р	٧
													٧
													٧
		4926	50.56	-23.44	74	63.77	34.26	11.37	58.84			Р	Н
		7386	42.23	-31.77	74	50.74	35.6	13.95	58.06	100	0	Р	Н
													Н
802.11b													Н
CH 11		4924	50.65	-23.35	74	63.86	34.26	11.37	58.84	100	0	Р	٧
2462MHz		7386	41.27	-32.73	74	49.78	35.6	13.95	58.06	100	0	Р	٧
													V
													٧

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## 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. 1+2		( MHz )	( dBµV/m )	Limit (dB)	Line ( dBµV/m )	Level ( dBµV )	Factor ( dB/m )	Loss (dB)	Factor (dB)	Pos ( cm )	Pos ( deg )	Avg. (P/A)	
		2389.905	63.24	-10.76	74	58.33	31.93	7.31	34.33	316	315	Р	Н
		2389.695	52.95	-1.05	54	48.04	31.93	7.31	34.33	316	315	Α	Н
	*	2412	110.96	-	-	105.97	31.98	7.31	34.3	316	315	Р	Н
	*	2412	103.58	-	-	98.59	31.98	7.31	34.3	316	315	Α	Н
802.11g													Н
CH 01												_	Н
2412MHz		2389.8	58.65	-15.35	74	53.74	31.93	7.31	34.33	310	69	Р	V
		2390	48.68	-5.32	54	43.77	31.93	7.31	34.33	310	69	Α	V
	*	2412	108.76	-	-	103.77	31.98	7.31	34.3	310	69	Р	V
	*	2412	100.81	-	-	95.82	31.98	7.31	34.3	310	69	Α	V
													V
													V
		2380.42	55.51	-18.49	74	50.66	31.89	7.31	34.35	380	325	Р	Н
		2389.94	45.52	-8.48	54	40.61	31.93	7.31	34.33	380	325	Α	Н
	*	2437	113.11	-	-	107.93	32.07	7.36	34.25	380	325	Р	Н
	*	2437	105.5	-	-	100.32	32.07	7.36	34.25	380	325	Α	Н
		2488.31	56.45	-17.55	74	51.02	32.2	7.4	34.17	380	325	Р	Н
802.11g		2484.32	45.92	-8.08	54	40.54	32.16	7.4	34.18	380	325	Α	Н
CH 06		2359.28	55.1	-18.9	74	50.4	31.84	7.24	34.38	336	65	Р	V
2437MHz		2389.1	45.38	-8.62	54	40.47	31.93	7.31	34.33	336	65	Α	V
	*	2437	111.67	-	-	106.49	32.07	7.36	34.25	336	65	Р	V
	*	2437	103.29	-	-	98.11	32.07	7.36	34.25	336	65	Α	V
		2499.51	55.6	-18.4	74	50.15	32.2	7.4	34.15	336	65	Р	V
		2488.24	45.78	-8.22	54	40.35	32.2	7.4	34.17	336	65	Α	V

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	*	2462	109.57	-	-	104.27	32.11	7.4	34.21	159	326	Р	
	*	2462	102.46	-	-	97.16	32.11	7.4	34.21	159	326	Α	
		2483.68	62.51	-11.49	74	57.13	32.16	7.4	34.18	159	326	Р	
		2483.64	52.37	-1.63	54	46.99	32.16	7.4	34.18	159	326	Α	Ī
0.44													
2.11g H 11													
1     2MHz -	*	2462	107.76	-	-	102.46	32.11	7.4	34.21	370	16	Р	
Z   V	*	2462	100.37	-	-	95.07	32.11	7.4	34.21	370	16	Α	
		2495	55.35	-18.65	74	49.91	32.2	7.4	34.16	370	16	Р	
		2483.56	46.29	-7.71	54	40.91	32.16	7.4	34.18	370	16	Α	
													Ī

Remark

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<sup>1.</sup> No other spurious found.

<sup>2.</sup> All results are PASS against Peak and Average limit line.

### WIFI 802.11g (Harmonic @ 3m)

Ant.		Level	Over	Limit	Read	Antenna	Cable	Preamp	Ant	Table	Peak	Pol.
			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
	4824	43.9	-30.1	74	57.06	34.2	11.68	59.04	100	0	Р	Н
												Н
												Н
802.11g												Н
CH 01	4824	44.96	-29.04	74	58.12	34.2	11.68	59.04	100	0	Р	V
2412MHz												V
												V
												V
	4874	46.94	-27.06	74	60.12	34.23	11.53	58.94	100	0	Р	Н
	7311	41.77	-32.23	74	50.29	35.6	13.81	57.93	100	0	Р	Н
												Н
802.11g												Н
CH 06	4874	46.59	-27.41	74	59.77	34.23	11.53	58.94	100	0	Р	V
2437MHz	7311	40.69	-33.31	74	49.21	35.6	13.81	57.93	100	0	Р	V
												V
												V
	4924	44.78	-29.22	74	57.99	34.26	11.37	58.84	100	0	Р	Н
	7386	40.71	-33.29	74	49.22	35.6	13.95	58.06	100	0	Р	Н
												Н
802.11g												Н
CH 11	4924	42.76	-31.24	74	55.97	34.26	11.37	58.84	100	0	Р	V
2462MHz	7386	41.71	-32.29	74	50.22	35.6	13.95	58.06	100	0	Р	V
												V
												V

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# 2.4GHz 2400~2483.5MHz WIFI 802.11n HT20 (Band Edge @ 3m)

WIFI	Note	Frequency	Level	Over	Limit	Read	Antenna	Cable	Preamp	Ant	Table	Book	Pol.
Ant.	Note	rrequericy	Levei	Limit	Line	Level	Factor	Loss	Factor	Pos	Pos	Avg.	
1+2		(MHz)	( dBµV/m )	(dB)	( dBµV/m )		(dB/m)	(dB)	(dB)	(cm)			(H/V)
		2389.8	63.02	-10.98	74	58.11	31.93	7.31	34.33	341	328	Р	Н
		2390	51.92	-2.08	54	47.01	31.93	7.31	34.33	341	328	Α	Н
	*	2412	110.29	-	-	105.3	31.98	7.31	34.3	341	328	Р	Н
	*	2412	102.79	-	-	97.8	31.98	7.31	34.3	341	328	Α	Н
802.11n													Н
HT20													Н
CH 01		2389.905	59.42	-14.58	74	54.51	31.93	7.31	34.33	309	69	Р	V
2412MHz		2390	49.47	-4.53	54	44.56	31.93	7.31	34.33	309	69	Α	V
	*	2412	108.26	-	-	103.27	31.98	7.31	34.3	309	69	Р	V
	*	2412	100.57	-	-	95.58	31.98	7.31	34.3	309	69	Α	V
													V
													V
		2389.52	56.3	-17.7	74	51.39	31.93	7.31	34.33	378	358	Р	Н
		2389.94	46.39	-7.61	54	41.48	31.93	7.31	34.33	378	358	Α	Н
	*	2437	117.02	-	-	111.84	32.07	7.36	34.25	378	358	Р	Н
	*	2437	109.22	-	-	104.04	32.07	7.36	34.25	378	358	Α	Н
802.11n		2483.52	60.04	-13.96	74	54.66	32.16	7.4	34.18	378	358	Р	Н
HT20		2483.55	50.39	-3.61	54	45.01	32.16	7.4	34.18	378	358	Α	Н
CH 06		2373.42	55.14	-18.86	74	50.37	31.89	7.24	34.36	334	63	Р	V
2437MHz		2389.24	45.79	-8.21	54	40.88	31.93	7.31	34.33	334	63	Α	V
	*	2437	115.09	-	-	109.91	32.07	7.36	34.25	334	63	Р	V
	*	2437	107.64	-	-	102.46	32.07	7.36	34.25	334	63	Α	V
		2483.9	57.61	-16.39	74	52.23	32.16	7.4	34.18	334	63	Р	V
		2483.55	48	-6	54	42.62	32.16	7.4	34.18	334	63	Α	V

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												1
*	2462	108.12	-	-	102.82	32.11	7.4	34.21	369	327	Р	Н
*	2462	100.35	-	-	95.05	32.11	7.4	34.21	369	327	Α	Н
	2484.52	62.81	-11.19	74	57.43	32.16	7.4	34.18	369	327	Р	Н
	2483.64	52.19	-1.81	54	46.81	32.16	7.4	34.18	369	327	Α	Н
												Н
												Н
*	2462	107.11	-	-	101.81	32.11	7.4	34.21	371	43	Р	٧
*	2462	99.35	-	-	94.05	32.11	7.4	34.21	371	43	Α	V
	2493.64	55.97	-18.03	74	50.53	32.2	7.4	34.16	371	43	Р	V
	2484.32	45.87	-8.13	54	40.49	32.16	7.4	34.18	371	43	Α	٧
												V
												V
	*	* 2462 2484.52 2483.64 * 2462 * 2462 2493.64	* 2462 100.12  * 2462 100.35  2484.52 62.81  2483.64 52.19   * 2462 107.11  * 2462 99.35  2493.64 55.97	* 2462 100.35 - 2484.52 62.81 -11.19 2483.64 52.19 -1.81  * 2462 107.11 - * 2462 99.35 - 2493.64 55.97 -18.03	* 2462 100.35	*     2462     108.12     -     -     102.62       *     2462     100.35     -     -     95.05       2484.52     62.81     -11.19     74     57.43       2483.64     52.19     -1.81     54     46.81       *     2462     107.11     -     -     101.81       *     2462     99.35     -     -     94.05       2493.64     55.97     -18.03     74     50.53	*     2462     108.12     -     -     102.62     32.11       *     2462     100.35     -     -     95.05     32.11       2484.52     62.81     -11.19     74     57.43     32.16       2483.64     52.19     -1.81     54     46.81     32.16       *     2462     107.11     -     -     101.81     32.11       *     2462     99.35     -     -     94.05     32.11       2493.64     55.97     -18.03     74     50.53     32.2	*     2462     108.12     -     -     102.82     32.11     7.4       *     2462     100.35     -     -     95.05     32.11     7.4       2484.52     62.81     -11.19     74     57.43     32.16     7.4       2483.64     52.19     -1.81     54     46.81     32.16     7.4       *     2462     107.11     -     -     101.81     32.11     7.4       *     2462     99.35     -     -     94.05     32.11     7.4       2493.64     55.97     -18.03     74     50.53     32.2     7.4	*     2462     106.12     -     -     102.62     32.11     7.4     34.21       *     2462     100.35     -     -     95.05     32.11     7.4     34.21       2484.52     62.81     -11.19     74     57.43     32.16     7.4     34.18       2483.64     52.19     -1.81     54     46.81     32.16     7.4     34.18       *     2462     107.11     -     -     101.81     32.11     7.4     34.21       *     2462     99.35     -     -     94.05     32.11     7.4     34.21       2493.64     55.97     -18.03     74     50.53     32.2     7.4     34.16	*     2462     106.12     -     -     102.62     32.11     7.4     34.21     369       *     2462     100.35     -     -     95.05     32.11     7.4     34.21     369       2484.52     62.81     -11.19     74     57.43     32.16     7.4     34.18     369       2483.64     52.19     -1.81     54     46.81     32.16     7.4     34.18     369       *     2462     107.11     -     -     101.81     32.11     7.4     34.21     371       *     2462     99.35     -     -     94.05     32.11     7.4     34.21     371       2493.64     55.97     -18.03     74     50.53     32.2     7.4     34.16     371	*     2462     100.12     -     -     102.62     32.11     7.4     34.21     369     327       *     2462     100.35     -     -     95.05     32.11     7.4     34.21     369     327       2484.52     62.81     -11.19     74     57.43     32.16     7.4     34.18     369     327       2483.64     52.19     -1.81     54     46.81     32.16     7.4     34.18     369     327       *     2462     107.11     -     -     101.81     32.11     7.4     34.21     371     43       *     2462     99.35     -     -     94.05     32.11     7.4     34.21     371     43       2493.64     55.97     -18.03     74     50.53     32.2     7.4     34.16     371     43	*       2462       108.12       -       -       102.62       32.11       7.4       34.21       369       327       A         *       2462       100.35       -       -       95.05       32.11       7.4       34.21       369       327       A         2484.52       62.81       -11.19       74       57.43       32.16       7.4       34.18       369       327       P         2483.64       52.19       -1.81       54       46.81       32.16       7.4       34.18       369       327       A         *       2462       107.11       -       -       101.81       32.11       7.4       34.21       371       43       P         *       2462       99.35       -       -       94.05       32.11       7.4       34.21       371       43       A         2493.64       55.97       -18.03       74       50.53       32.2       7.4       34.16       371       43       P

Remark

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<sup>1.</sup> No other spurious found.

<sup>2.</sup> All results are PASS against Peak and Average limit line.

### 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
		4824	41.82	-32.18	74	54.98	34.2	11.68	59.04	100	0	Р	Н
													Н
802.11n													Н
HT20													Н
CH 01		4824	45.25	-28.75	74	58.41	34.2	11.68	59.04	100	0	Р	V
2412MHz													V
													V
													V
		4874	47.2	-26.8	74	60.38	34.23	11.53	58.94	100	0	Р	Н
		7311	41.14	-32.86	74	49.66	35.6	13.81	57.93	100	0	Р	Н
802.11n													Н
HT20													Н
CH 06		4874	44.83	-29.17	74	58.01	34.23	11.53	58.94	100	0	Р	V
2437MHz		7311	41.37	-32.63	74	49.89	35.6	13.81	57.93	100	0	Р	V
													V
													V
		4924	42.6	-31.4	74	55.81	34.26	11.37	58.84	100	0	Р	Н
		7386	40.71	-33.29	74	49.22	35.6	13.95	58.06	100	0	Р	Н
802.11n													Н
HT20													Н
CH 11		4924	42.76	-31.24	74	55.97	34.26	11.37	58.84	100	0	Р	V
2462MHz		7386	41.71	-32.29	74	50.22	35.6	13.95	58.06	100	0	Р	V
													V
													V

SPORTON INTERNATIONAL INC.

TEL: 886-3-327-3456 FAX: 886-3-328-4978

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# 2.4GHz 2400~2483.5MHz WIFI 802.11n HT40 (Band Edge @ 3m)

WIFI	Note	Frequency	Level	Over	Limit	Read	Antenna	Cable	Preamp	Ant	Table	Peak	Pol.
Ant. 1+2		( MHz )	( dBµV/m )	Limit (dB)	Line ( dBµV/m )	Level ( dBµV )	Factor ( dB/m )	Loss (dB)	Factor (dB)	Pos (cm)	Pos ( deg )	Avg. (P/A)	
		2389.66	61.99	-12.01	74	57.08	31.93	7.31	34.33	159	326	Р	Н
		2389.94	52.38	-1.62	54	47.47	31.93	7.31	34.33	159	326	Α	Н
	*	2422	106.29	-	-	101.19	32.02	7.36	34.28	159	326	Р	Н
	*	2422	99.52	-	-	94.42	32.02	7.36	34.28	159	326	Α	Н
802.11n		2499.79	56.48	-17.52	74	51.03	32.2	7.4	34.15	159	326	Р	Н
HT40		2483.83	46.66	-7.34	54	41.28	32.16	7.4	34.18	159	326	Α	Н
CH 03		2388.4	55.72	-18.28	74	50.82	31.93	7.31	34.34	330	65	Р	V
2422MHz		2389.1	46.34	-7.66	54	41.43	31.93	7.31	34.33	330	65	Α	V
	*	2422	104.34	-	-	99.24	32.02	7.36	34.28	330	65	Р	V
	*	2422	96.81	-	-	91.71	32.02	7.36	34.28	330	65	Α	V
		2491.46	55.17	-18.83	74	49.73	32.2	7.4	34.16	330	65	Р	V
		2483.62	46.43	-7.57	54	41.05	32.16	7.4	34.18	330	65	Α	V
		2389.8	60.05	-13.95	74	55.14	31.93	7.31	34.33	380	321	Р	Н
		2389.94	51.26	-2.74	54	46.35	31.93	7.31	34.33	380	321	Α	Н
	*	2437	108.18	-	-	103	32.07	7.36	34.25	380	321	Р	Н
	*	2437	100.26	-	-	95.08	32.07	7.36	34.25	380	321	Α	Н
802.11n		2485.51	62.35	-11.65	74	56.96	32.16	7.4	34.17	380	321	Р	Н
HT40		2483.48	52.57	-1.43	54	47.19	32.16	7.4	34.18	380	321	Α	Н
CH 06		2348.5	55.15	-18.85	74	50.51	31.8	7.24	34.4	330	66	Р	V
2437MHz		2389.24	46.26	-7.74	54	41.35	31.93	7.31	34.33	330	66	Α	V
	*	2437	104.86	-	-	99.68	32.07	7.36	34.25	330	66	Р	V
	*	2437	97.69	-	-	92.51	32.07	7.36	34.25	330	66	Α	V
		2483.62	61.5	-12.5	74	56.12	32.16	7.4	34.18	330	66	Р	٧
		2483.52	51.38	-2.62	54	46	32.16	7.4	34.18	330	66	Α	V

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# FCC RF Test Report

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		2366.28	56.1	-17.9	74	51.39	31.84	7.24	34.37	332	360	Р	Н
		2388.96	45.71	-8.29	54	40.8	31.93	7.31	34.33	332	360	Α	Н
	*	2452	105.98	-	-	100.78	32.07	7.36	34.23	332	360	Р	Н
	*	2452	98.87	-	-	93.67	32.07	7.36	34.23	332	360	Α	Н
802.11n		2484.32	62.46	-11.54	74	57.08	32.16	7.4	34.18	332	360	Р	Н
HT40		2484.46	52.79	-1.21	54	47.41	32.16	7.4	34.18	332	360	Α	Н
CH 09		2389.1	55.23	-18.77	74	50.32	31.93	7.31	34.33	271	46	Р	V
2452MHz		2376.78	45.78	-8.22	54	41	31.89	7.24	34.35	271	46	Α	V
	*	2452	104.19	-	-	98.99	32.07	7.36	34.23	271	46	Р	V
	*	2452	96.93	-	-	91.73	32.07	7.36	34.23	271	46	Α	V
		2484.39	58.18	-15.82	74	52.8	32.16	7.4	34.18	271	46	Р	V
		2483.62	49.35	-4.65	54	43.97	32.16	7.4	34.18	271	46	Α	V

Remark

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<sup>1.</sup> No other spurious found.

<sup>2.</sup> All results are PASS against Peak and Average limit line.

### 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/\
		4844	41.79	-32.21	74	54.91	34.21	11.68	59.01	100	0	Р	Н
		7266	41.51	-32.49	74	50.05	35.6	13.75	57.89	100	0	Р	Н
802.11n													Н
HT40													Н
CH 03		4844	41.31	-32.69	74	54.43	34.21	11.68	59.01	100	0	Р	V
2422MHz		7266	42.03	-31.97	74	50.57	35.6	13.75	57.89	100	0	Р	V
													V
													V
		4874	40.86	-33.14	74	54.04	34.23	11.53	58.94	100	0	Р	Н
		7311	41.36	-32.64	74	49.88	35.6	13.81	57.93	100	0	Р	Н
802.11n													Н
HT40													Н
CH 06		4874	42.33	-31.67	74	55.51	34.23	11.53	58.94	100	0	Р	V
2437MHz		7311	41.07	-32.93	74	49.59	35.6	13.81	57.93	100	0	Р	V
													V
													V
		4904	40.04	-33.96	74	53.29	34.25	11.37	58.87	100	0	Р	Н
		7356	41.2	-32.8	74	49.73	35.6	13.88	58.01	100	0	Р	Н
802.11n													Н
HT40													Н
CH 09		4904	40.99	-33.01	74	54.24	34.25	11.37	58.87	100	0	Р	V
2452MHz		7356	40.7	-33.3	74	49.23	35.6	13.88	58.01	100	0	Р	V
													V
													V

2. All results are PASS against Peak and Average limit line.

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## 2.4GHz 2400~2483.5MHz WIFI 802.11g (Band Edge @ 3m) (data link with NB)

WIFI Ant. 1+2	Note	Frequency ( MHz )	Level	Over Limit ( dB )	Limit Line ( dBµV/m )	Read Level ( dBµV )	Antenna Factor ( dB/m )	Cable Loss ( dB )	Preamp Factor ( dB )	Ant Pos ( cm )	Pos	Peak Avg. (P/A)	
		2389.905	58.37	-15.63	74	53.46	31.93	7.31	34.33	228	82	Р	Н
		2390	48.64	-5.36	54	43.73	31.93	7.31	34.33	228	82	Α	Н
	*	2412	108.5	-	-	103.51	31.98	7.31	34.3	228	82	Р	Н
	*	2412	101.54	-	-	96.55	31.98	7.31	34.3	228	82	Α	Н
													Н
802.11g													Н
CH 01		2389.905	62.72	-11.28	74	57.81	31.93	7.31	34.33	103	292	Р	V
2412MHz		2390	52.6	-1.4	54	47.69	31.93	7.31	34.33	103	292	Α	V
	*	2412	108	-	-	103.01	31.98	7.31	34.3	103	292	Р	V
	*	2412	100.32	-	-	95.33	31.98	7.31	34.3	103	292	Α	V
													V
-													V

<sup>2.</sup> All results are PASS against Peak and Average limit line.

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### WIFI 802.11g (Harmonic @ 3m) (data link with NB)

WIFI Ant. 1+2	Note	Frequency ( MHz )	Level	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 )	Avg.	
		4824	43.53	-30.47	74	56.69	34.2	11.68	59.04	100	0	Р	Н
													Н
000.44													Н
802.11g													Н
CH 01 2412MHz		4824	42.91	-31.09	74	56.07	34.2	11.68	59.04	100	0	Р	V
24   ZIVII IZ													V
													V
													V
Remark		o other spurious		Peak and	Average lim	it line.							

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TEL: 886-3-327-3456

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# 2.4GHz 2400~2483.5MHz WIFI 802.11g (Band Edge @ 3m) (earphone 2)

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WIFI	Note	Frequency	Level	Over	Limit	Read	Antenna	Cable	Preamp	Ant	Table	Peak	Pol.
Ant. 1+2		( MHz )	( dBµV/m )	Limit (dB)	Line ( dBµV/m )	Level ( dBµV )	Factor ( dB/m )	Loss (dB)	Factor (dB)	Pos ( cm )	Pos ( deg )	Avg. (P/A)	
		2389.695	62.35	-11.65	74	57.44	31.93	7.31	34.33	209	294	Р	Н
		2390	52.16	-1.84	54	47.25	31.93	7.31	34.33	209	294	Α	Н
	*	2412	111.32	-	-	106.33	31.98	7.31	34.3	209	294	Р	Н
	*	2412	103.33	-	-	98.34	31.98	7.31	34.3	209	294	Α	Н
													Н
802.11g													Н
CH 01		2390	58.79	-15.21	74	53.88	31.93	7.31	34.33	228	291	Р	V
2412MHz		2390	49.49	-4.51	54	44.58	31.93	7.31	34.33	228	291	Α	V
	*	2412	110.04	-	-	105.05	31.98	7.31	34.3	228	291	Р	V
	*	2412	102.38	-	-	97.39	31.98	7.31	34.3	228	291	Α	V
													V
													٧
	1. No	o other spurious	s found.	I		I			1	1	I		

Remark

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All results are PASS against Peak and Average limit line.

# WIFI 802.11g (Harmonic @ 3m) (earphone 2)

WIFI Ant. 1+2	Note	Frequency ( MHz )	Level	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)	
		4824	44.15	-29.85	74	57.31	34.2	11.68	59.04	100	0	Р	Н
													Н
000.44													Н
802.11g													Н
CH 01 2412MHz		4824	44.63	-29.37	74	57.79	34.2	11.68	59.04	100	0	Р	V
24 12 WITIZ													V
													V
													V
Remark		other spurious		Peak and	Average lim	it line.							

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### 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.	
1+2		(MHz)	( dBµV/m )	(dB)	( dBµV/m )	(dB <sub>µ</sub> V)	( dB/m )	( dB )	( dB )	( cm )	( deg )	(P/A)	(H/V
		2382.38	55.16	-18.84	74	50.31	31.89	7.31	34.35	227	297	Р	Н
		2389.94	46.55	-7.45	54	41.64	31.93	7.31	34.33	227	297	Α	Н
	*	2417	114.13	-	-	109.13	31.98	7.31	34.29	227	297	Р	Н
	*	2417	110.95	-	-	105.95	31.98	7.31	34.29	227	297	Α	Н
802.11b													Н
													Н
CH 02 2417MHz		2333.52	55.81	-18.19	74	51.31	31.75	7.18	34.43	306	0	Р	V
24 I / IVI		2389.94	44.97	-9.03	54	40.06	31.93	7.31	34.33	306	0	Α	V
	*	2417	110.39	-	-	105.39	31.98	7.31	34.29	306	0	Р	V
	*	2417	107.48	-	-	102.48	31.98	7.31	34.29	306	0	Α	V
													V
													V
	*	2456	113.19	-	-	107.94	32.11	7.36	34.22	376	62	Р	Н
	*	2456	110.07	-	-	104.82	32.11	7.36	34.22	376	62	Α	Н
		2483.8	55.94	-18.06	74	50.56	32.16	7.4	34.18	376	62	Р	Н
		2483.8	45.75	-8.25	54	40.37	32.16	7.4	34.18	376	62	Α	Н
000 441												Р	Н
802.11b												Α	Н
CH 10 2457MHz	*	2456	111.69	-	-	106.44	32.11	7.36	34.22	372	17	Р	V
2457 WITIZ	*	2456	108.55	-	-	103.3	32.11	7.36	34.22	372	17	Α	V
		2497.54	55.6	-18.4	74	50.15	32.2	7.4	34.15	372	17	Р	V
		2483.5	45.15	-8.85	54	39.77	32.16	7.4	34.18	372	17	Α	V
												Р	V
												Α	V

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### WIFI 802.11b (Harmonic @ 3m)

WIFI	Note	Frequency	Level	Over	Limit	Read	Antenna	Cable	Preamp	Ant	Table	Peak	Pol.
Ant. 1+2		( MHz )	( dBµV/m )	Limit ( dB )	Line ( dBµV/m )	Level ( dBµV )	Factor ( dB/m )	Loss (dB)	Factor (dB)	Pos ( cm )	Pos ( deg )	Avg. (P/A)	(H/V
		4834	49.75	-24.25	74	62.87	34.21	11.68	59.01	100	0	Р	Н
		7251	41.4	-32.6	74	49.98	35.6	13.68	57.86	100	0	Р	Н
802.11b													H
CH 02		4834	50.61	-23.39	74	63.73	34.21	11.68	59.01	100	0	Р	V
2417MHz		7251	41.35	-32.65	74	49.93	35.6	13.68	57.86	100	0	Р	V
													V
		4914	50.26	-23.74	74	63.51	34.25	11.37	58.87	100	0	Р	Н
		7371	48.17	-25.83	74	56.72	35.6	13.88	58.03	100	0	Р	Н
802.11b													Н
CH 10													Н
2457MHz		4914	50.98	-23.02	74	64.23	34.25	11.37	58.87	100	0	Р	V
2407111112		7371	48.57	-25.43	74	57.12	35.6	13.88	58.03	100	0	Р	V
													V
				1									V

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## 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+2		(MHz)	( dBµV/m )	(dB)	( dBµV/m )	(dBµV)	( dB/m )	( dB )	(dB)	( cm )	( deg )	(P/A)	(H/V)
		2370.76	54.75	-19.25	74	50.43	31.89	7.24	34.81	305	282	Р	Н
		2389.8	45.9	-8.1	54	41.48	31.93	7.31	34.82	305	282	Α	Н
	*	2417	109.19	-	-	104.73	31.98	7.31	34.83	305	282	Р	Н
	*	2417	102.12	-	-	97.66	31.98	7.31	34.83	305	282	Α	Н
802.11g													Н
CH 02													Н
2417MHz		2386.16	56.14	-17.86	74	51.71	31.93	7.31	34.81	305	0	Р	V
2417101112		2389.8	45.25	-8.75	54	40.83	31.93	7.31	34.82	305	0	Α	V
	*	2417	106.8	-	-	102.34	31.98	7.31	34.83	305	0	Р	V
	*	2417	99.27	-	-	94.81	31.98	7.31	34.83	305	0	Α	V
													V
													V
	*	2457	108.4	-	-	103.77	32.11	7.36	34.84	301	279	Р	Н
	*	2457	101.7	-	-	97.07	32.11	7.36	34.84	301	279	Α	Н
		2485.3	55.8	-18.2	74	51.09	32.16	7.4	34.85	301	279	Р	Н
		2483.5	46.53	-7.47	54	41.82	32.16	7.4	34.85	301	279	Α	Н
000 44												Р	Н
802.11g CH 10												Α	Н
2457MHz	*	2457	105.21	-	-	100.58	32.11	7.36	34.84	363	191	Р	V
2437 WII 12	*	2457	97.5	-	-	92.87	32.11	7.36	34.84	363	191	Α	V
		2499.7	54.96	-19.04	74	50.22	32.2	7.4	34.86	363	191	Р	V
		2485.66	45.54	-8.46	54	40.83	32.16	7.4	34.85	363	191	Α	V
												Р	V
												Α	V

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#### WIFI 802.11g (Harmonic @ 3m)

WIFI	Note	Frequency	Level	Over	Limit	Read	Antenna	Cable	Preamp	Ant	Table	Peak	Pol
Ant. 1+2		(MHz)	( dBµV/m )	Limit (dB)	Line ( dBµV/m )	Level ( dBµV )	Factor ( dB/m )	Loss (dB)	Factor (dB)	Pos ( cm )	Pos ( deg )	Avg. (P/A)	(H/\
		4834	44.32	-29.68	74	57.44	34.21	11.68	59.01	100	0	Р	Н
		7251	41.8	-32.2	74	50.38	35.6	13.68	57.86	100	0	Р	Н
902 44 ~													Н
802.11g CH 02													Н
2417MHz		4834	43.76	-30.24	74	56.88	34.21	11.68	59.01	100	0	Р	V
24 I / IVII IZ		7251	48.67	-25.33	74	57.25	35.6	13.68	57.86	100	0	Р	V
													V
													V
		4914	44.9	-29.1	74	58.15	34.25	11.37	58.87	100	0	Р	Н
		7371	45.05	-28.95	74	53.6	35.6	13.88	58.03	100	0	Р	Н
000 44 ~													Н
802.11g CH 10													Н
2457MHz		4914	46.67	-27.33	74	59.92	34.25	11.37	58.87	100	0	Р	V
2437 WII IZ		7371	44.02	-29.98	74	52.57	35.6	13.88	58.03	100	0	Р	V
													V
													٧

All results are PASS against Peak and Average limit line.

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## 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
		2388.54	55.97	-18.03	74	51.07	31.93	7.31	34.34	160	285	Р	Н
		2389.8	46.56	-7.44	54	41.65	31.93	7.31	34.33	160	285	Α	Н
	*	2417	110.05	-	-	105.05	31.98	7.31	34.29	160	285	Р	Н
	*	2417	102.62	-	-	97.62	31.98	7.31	34.29	160	285	Α	Н
802.11n													Н
HT20													Н
CH 02		2389.24	55.17	-18.83	74	50.26	31.93	7.31	34.33	100	158	Р	V
2417MHz		2388.68	45.73	-8.27	54	40.82	31.93	7.31	34.33	100	158	Α	V
	*	2417	106.39	-	-	101.39	31.98	7.31	34.29	100	158	Р	V
	*	2417	98.94	-	-	93.94	31.98	7.31	34.29	100	158	Α	V
													V
													V
	*	2457	108.41	-	-	103.16	32.11	7.36	34.22	204	278	Р	Н
	*	2457	100.89	-	-	95.64	32.11	7.36	34.22	204	278	Α	Н
		2484.1	56.01	-17.99	74	50.63	32.16	7.4	34.18	204	278	Р	Н
		2486.5	46.37	-7.63	54	40.98	32.16	7.4	34.17	204	278	Α	Н
802.11n												Р	Н
HT20												Α	Н
CH 10	*	2457	104.43	-	-	99.18	32.11	7.36	34.22	101	126	Р	V
2457MHz	*	2457	97.45	-	-	92.2	32.11	7.36	34.22	101	126	Α	V
		2489.92	55.69	-18.31	74	50.26	32.2	7.4	34.17	101	126	Р	V
		2483.56	46.29	-7.71	54	40.91	32.16	7.4	34.18	101	126	Α	V
												Р	V
												Α	V

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### WIFI 802.11n HT20 (Harmonic @ 3m)

WIFI	Note	Frequency	Level	Over	Limit	Read	Antenna	Cable	Preamp	Ant	Table	Peak	Pol.
Ant. 1+2		( MHz )	( dBµV/m )	Limit (dB)	Line ( dBµV/m )	Level	Factor ( dB/m )	Loss (dB)	Factor ( dB )	Pos ( cm )		Avg. (P/A)	
		4834	42.83	-31.17	74	55.95	34.21	11.68	59.01	100	0	Р	Н
		7248	41	-33	74	49.58	35.6	13.68	57.86	100	0	Р	Н
802.11n													Н
HT20													Н
CH 02		4834	45.06	-28.94	74	58.18	34.21	11.68	59.01	100	0	Р	V
2417MHz		7251	46.01	-27.99	74	54.59	35.6	13.68	57.86	100	0	Р	V
													V
													V
		4914	42.49	-31.51	74	55.74	34.25	11.37	58.87	100	0	Р	Н
		7371	41.15	-32.85	74	49.7	35.6	13.88	58.03	100	0	Р	Н
802.11n													Н
HT20													Н
CH 10		4914	43.11	-30.89	74	56.36	34.25	11.37	58.87	100	0	Р	V
2457MHz		7371	40.48	-33.52	74	49.03	35.6	13.88	58.03	100	0	Р	V
													V
													V

<sup>2.</sup> All results are PASS against Peak and Average limit line.

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# 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+2		(MHz)	( dBµV/m )		( dBµV/m )	(dBµV)	( dB/m )	( dB )	(dB)	( cm )	( deg )		
		30	27.23	-12.77	40	31.51	26	1.07	31.35			Р	Н
		137.46	27.38	-16.12	43.5	39.27	18.06	1.55	31.5			Р	Н
		256.26	22.48	-23.52	46	32.17	19.6	2.07	31.36			Р	Н
		840.4	32.25	-13.75	46	30.22	28.5	4.1	30.57			Р	Н
		902	32.63	-13.37	46	30	29.05	4.12	30.54			Р	Н
		947.5	33.25	-12.75	46	29.56	30.15	4.07	30.53	100	0	Р	Н
													Н
													Н
													Н
													Н
													Н
2.4GHz													Н
802.11g LF		72.12	34.31	-5.69	40	51.67	12.92	1.28	31.56	100	0	Р	V
LF		97.77	29.29	-14.21	43.5	43.39	16.14	1.28	31.52			Р	V
		272.73	22.34	-23.66	46	31.98	19.37	2.32	31.33			Р	V
		799.8	31.94	-14.06	46	30.93	27.7	3.9	30.59			Р	V
		934.2	33.31	-12.69	46	29.9	29.82	4.12	30.53			Р	V
		956.6	33.33	-12.67	46	29.58	30.21	4.07	30.53			Р	V
													V
													V
													V
													V
													V
													V

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### 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 <b>over limit</b> line.							
P/A	Peak or Average							
H/V	Horizontal or Vertical							

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#### 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	Р	Н
CH 01													
2412MHz		2390	43.54	-10.46	54	42.6	32.22	4.58	35.86	103	308	Α	Н

1. Level( $dB\mu V/m$ ) =

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

2. Over Limit(dB) = Level(dB $\mu$ V/m) – Limit Line(dB $\mu$ V/m)

#### For Peak Limit @ 2390MHz:

- 1. Level(dBµV/m)
- = Antenna Factor(dB/m) + Cable Loss(dB) + Read Level(dBµV) Preamp Factor(dB)
- $= 32.22(dB/m) + 4.58(dB) + 54.51(dB\mu V) 35.86 (dB)$
- $= 55.45 (dB\mu V/m)$
- 2. Over Limit(dB)
- = Level(dBµV/m) Limit Line(dBµV/m)
- $= 55.45(dB\mu V/m) 74(dB\mu V/m)$
- = -18.55(dB)

#### For Average Limit @ 2390MHz:

- 1. Level(dBµV/m)
- = Antenna Factor(dB/m) + Cable Loss(dB) + Read Level(dBµV) Preamp Factor(dB)
- $= 32.22(dB/m) + 4.58(dB) + 42.6(dB\mu V) 35.86 (dB)$
- $= 43.54 (dB\mu V/m)$
- 2. Over Limit(dB)
- = Level( $dB\mu V/m$ ) Limit Line( $dB\mu V/m$ )
- $= 43.54(dB\mu V/m) 54(dB\mu V/m)$
- = -10.46(dB)

Both peak and average measured complies with the limit line, so test result is "PASS".

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