

# Appendix A. Unwanted Emissions Measurement for Antenna 6

	Antenna Information								
	Model Name	ML-2499-FHPA9-01R							
Antenna 6	Antenna Type	Dipole Antenna							
	Antenna Gain	9.2 dBi							

	Test Cases
Toot Itom	802.11b (Modulation : DSSS)
Test Item	802.11g/n (Modulation : OFDM)
	Mode 1: 802.11b_CH01_2412 MHz (Chain 1+2)
	Mode 2: 802.11b_CH02_2417 MHz (Chain 1+2)
	Mode 3: 802.11b_CH06_2437 MHz (Chain 1+2)
	Mode 4: 802.11b_CH10_2457 MHz (Chain 1+2)
	Mode 5: 802.11b_CH11_2462 MHz (Chain 1+2)
	Mode 6: 802.11g_CH01_2412 MHz (Chain 1+2)
	Mode 7: 802.11g_CH02_2417 MHz (Chain 1+2)
	Mode 8: 802.11g_CH06_2437 MHz (Chain 1+2)
	Mode 9: 802.11g_CH10_2457 MHz (Chain 1+2)
	Mode 10: 802.11g_CH11_2462 MHz (Chain 1+2)
	Mode 11: 802.11n HT20_CH01_2412 MHz (Chain 1+2)
Radiated	Mode 12: 802.11n HT20_CH02_2417 MHz (Chain 1+2)
TCs	Mode 13: 802.11n HT20_CH06_2437 MHz (Chain 1+2)
	Mode 14: 802.11n HT20_CH10_2457 MHz (Chain 1+2)
	Mode 15: 802.11n HT20_CH11_2462 MHz (Chain 1+2)
	Mode 16: 802.11n HT40_CH03_2422 MHz (Chain 1+2)
	Mode 17: 802.11n HT40_CH04_2427 MHz (Chain 1+2)
	Mode 18: 802.11n HT40_CH05_2432 MHz (Chain 1+2)
	Mode 19: 802.11n HT40_CH06_2437 MHz (Chain 1+2)
	Mode 20: 802.11n HT40_CH07_2442 MHz (Chain 1+2)
	Mode 21: 802.11n HT40_CH08_2447 MHz (Chain 1+2)
	Mode 22: 802.11n HT40_CH09_2452 MHz (Chain 1+2)
	Mode 23: 802.11b_CH10_2457 MHz (Chain 1+2)
	Mode 24: 802.11g_CH06_2437 MHz (Chain 1+2)
Remark: Mode	1 to 22 of radiation test were performed on DC 4.5V and Mode 23 to 24 were performed on

Remark: Mode 1 to 22 of radiation test were performed on DC 4.5V and Mode 23 to 24 were performed on

DC 3.3V.

SPORTON INTERNATIONAL INC.

TEL: 886-3-327-3456 FAX: 886-3-328-4978 FCC ID: UZ7AP6 Page Number : A1 of A46
Report Issued Date : Oct. 30, 2012
Report Version : Rev. 01



## > Test Result of Radiated Band Edges

Test Mode :	Mode 1	Temperature :	22~24°C
Test Band :	802.11b (Chain 1+2)	Relative Humidity :	50~52%
Test Channel :	01	Test Engineer :	Kyle Jhuang

			ANTE	NNA POL	ARITY : HO	RIZONTA	L			
Frequency	Level	Over	Limit	Read	Antenna	Cable	Preamp	Ant	Table	Remark
		Limit	Line	Level	Factor	Loss	Factor	Pos	Pos	
(MHz)	(dBuV/m)	( dB )	(dBuV/m)	(dBuV)	( dB )	( dB )	( dB )	( cm )	(deg)	
2388.57	56.69	-17.31	74	52.32	32.3	6.03	33.96	121	237	Peak
2386.05	44.29	-9.71	54	39.92	32.3	6.03	33.96	121	237	Average
2498.02	57.52	-16.48	74	52.94	32.4	6.18	34	121	237	Peak
2495.74	43.98	-10.02	54	39.4	32.4	6.18	34	121	237	Average

	ANTENNA POLARITY : VERTICAL											
Frequency	Level	Over	Limit	Read	Antenna	Cable	Preamp	Ant	Table	Remark		
		Limit	Line	Level	Factor	Loss	Factor	Pos	Pos			
(MHz)	(dBuV/m)	( dB )	(dBuV/m)	(dBuV)	( dB )	( dB )	( dB )	( cm )	(deg)			
2386.32	64.59	-9.41	74	60.22	32.3	6.03	33.96	115	228	Peak		
2387.04	53.45	-0.55	54	49.08	32.3	6.03	33.96	115	228	Average		
2488.98	65.2	-8.8	74	60.62	32.4	6.18	34	115	228	Peak		
2496.72	52.57	-1.43	54	47.99	32.4	6.18	34	115	228	Average		

SPORTON INTERNATIONAL INC.

TEL: 886-3-327-3456 FAX: 886-3-328-4978 FCC ID: UZ7AP6 Page Number : A2 of A46
Report Issued Date : Oct. 30, 2012
Report Version : Rev. 01



Test Mode :	Mode 2	Temperature :	22~24°C
Test Band :	802.11b (Chain 1+2)	Relative Humidity :	50~52%
Test Channel :	02	Test Engineer :	Kyle Jhuang

	ANTENNA POLARITY : HORIZONTAL											
Frequency	Level	Over	Limit	Read	Antenna	Cable	Preamp	Ant	Table	Remark		
		Limit	Line	Level	Factor	Loss	Factor	Pos	Pos			
(MHz)	( dBuV/m )	( dB )	(dBuV/m)	(dBuV)	( dB )	( dB )	( dB )	( cm )	(deg)			
2317.47	56.88	-17.12	74	52.68	32.21	5.92	33.93	120	233	Peak		
2388.84	43.98	-10.02	54	39.61	32.3	6.03	33.96	120	233	Average		
2494.28	56.96	-17.04	74	52.38	32.4	6.18	34	120	233	Peak		
2499.92	43.93	-10.07	54	39.35	32.4	6.18	34	120	233	Average		

	ANTENNA POLARITY : VERTICAL										
Frequency	Level	Over	Limit	Read	Antenna	Cable	Preamp	Ant	Table	Remark	
		Limit	Line	Level	Factor	Loss	Factor	Pos	Pos		
(MHz)	(dBuV/m)	(dB)	(dBuV/m)	(dBuV)	( dB )	( dB )	( dB )	( cm )	(deg)		
2388.84	63.87	-10.13	74	59.5	32.3	6.03	33.96	101	205	Peak	
2390	53.36	-0.64	54	48.99	32.3	6.03	33.96	101	205	Average	
2498.8	63.92	-10.08	74	59.34	32.4	6.18	34	101	205	Peak	
2493.16	50.59	-3.41	54	46.01	32.4	6.18	34	101	205	Average	

SPORTON INTERNATIONAL INC.

TEL: 886-3-327-3456 FAX: 886-3-328-4978 FCC ID: UZ7AP6 Page Number : A3 of A46
Report Issued Date : Oct. 30, 2012
Report Version : Rev. 01



Test Mode :	Mode 4	Temperature :	22~24°C
Test Band :	802.11b (Chain 1+2)	Relative Humidity :	50~52%
Test Channel :	10	Test Engineer :	Kyle Jhuang

			ANTE	NNA POL	ARITY : HO	RIZONTA	L			
Frequency	Level	Over	Limit	Read	Antenna	Cable	Preamp	Ant	Table	Remark
		Limit	Line	Level	Factor	Loss	Factor	Pos	Pos	
(MHz)	(dBuV/m)	( dB )	(dBuV/m)	(dBuV)	( dB )	( dB )	( dB )	( cm )	(deg)	
2383.35	56.98	-17.02	74	52.63	32.28	6.03	33.96	119	222	Peak
2381.46	43.47	-10.53	54	39.12	32.28	6.03	33.96	119	222	Average
2493.98	56.91	-17.09	74	52.33	32.4	6.18	34	119	222	Peak
2483.54	43.57	-10.43	54	39.01	32.38	6.18	34	119	222	Average

	ANTENNA POLARITY : VERTICAL											
Frequency	Level	Over	Limit	Read	Antenna	Cable	Preamp	Ant	Table	Remark		
		Limit	Line	Level	Factor	Loss	Factor	Pos	Pos			
(MHz)	(dBuV/m)	(dB)	(dBuV/m)	(dBuV)	( dB )	(dB)	( dB )	( cm )	(deg)			
2486.66	64.35	-9.65	74	59.79	32.38	6.18	34	108	183	Peak		
2483.52	53.46	-0.54	54	48.9	32.38	6.18	34	108	183	Average		
2370.93	59.73	-14.27	74	55.41	32.28	5.99	33.95	108	183	Peak		
2372.46	47.83	-6.17	54	43.51	32.28	5.99	33.95	108	183	Average		

SPORTON INTERNATIONAL INC.

TEL: 886-3-327-3456 FAX: 886-3-328-4978 FCC ID: UZ7AP6 Page Number : A4 of A46
Report Issued Date : Oct. 30, 2012
Report Version : Rev. 01



Test Mode :	Mode 5	Temperature :	22~24°C
Test Band :	802.11b (Chain 1+2)	Relative Humidity :	50~52%
Test Channel :	11	Test Engineer :	Kyle Jhuang

	ANTENNA POLARITY : HORIZONTAL											
Frequency	Level	Over	Limit	Read	Antenna	Cable	Preamp	Ant	Table	Remark		
		Limit	Line	Level	Factor	Loss	Factor	Pos	Pos			
(MHz)	( dBuV/m )	( dB )	(dBuV/m)	(dBuV)	( dB )	( dB )	( dB )	( cm )	(deg)			
2367.78	57.37	-16.63	74	53.07	32.26	5.99	33.95	107	223	Peak		
2343.48	43.53	-10.47	54	39.28	32.24	5.95	33.94	107	223	Average		
2484.68	57.34	-16.66	74	52.78	32.38	6.18	34	107	223	Peak		
2495.7	43.74	-10.26	54	39.16	32.4	6.18	34	107	223	Average		

	ANTENNA POLARITY : VERTICAL										
Frequency	Level	Over	Limit	Read	Antenna	Cable	Preamp	Ant	Table	Remark	
		Limit	Line	Level	Factor	Loss	Factor	Pos	Pos		
(MHz)	(dBuV/m)	( dB )	(dBuV/m)	(dBuV)	( dB )	( dB )	( dB )	( cm )	(deg)		
2378.04	60.79	-13.21	74	56.47	32.28	5.99	33.95	100	183	Peak	
2376.96	48.2	-5.8	54	43.88	32.28	5.99	33.95	100	183	Average	
2488.88	64.56	-9.44	74	59.98	32.4	6.18	34	100	183	Peak	
2488.18	53.03	-0.97	54	48.45	32.4	6.18	34	100	183	Average	

SPORTON INTERNATIONAL INC.

TEL: 886-3-327-3456 FAX: 886-3-328-4978 FCC ID: UZ7AP6 Page Number : A5 of A46
Report Issued Date : Oct. 30, 2012
Report Version : Rev. 01



Test Mode :	Mode 6	Temperature :	22~24°C
Test Band :	802.11g (Chain 1+2)	Relative Humidity :	50~52%
Test Channel :	01	Test Engineer :	Kyle Jhuang

	ANTENNA POLARITY : HORIZONTAL										
Frequency	Level	Over	Limit	Read	Antenna	Cable	Preamp	Ant	Table	Remark	
		Limit	Line	Level	Factor	Loss	Factor	Pos	Pos		
(MHz)	(dBuV/m)	( dB )	(dBuV/m)	(dBuV)	( dB )	( dB )	( dB )	( cm )	(deg)		
2357.34	56.63	-17.37	74	52.33	32.26	5.99	33.95	100	238	Peak	
2390	43.8	-10.2	54	39.43	32.3	6.03	33.96	100	238	Average	
2495.22	57.61	-16.39	74	53.03	32.4	6.18	34	100	238	Peak	
2495.92	43.73	-10.27	54	39.15	32.4	6.18	34	100	238	Average	

	ANTENNA POLARITY : VERTICAL											
Frequency	Level	Over	Limit	Read	Antenna	Cable	Preamp	Ant	Table	Remark		
		Limit	Line	Level	Factor	Loss	Factor	Pos	Pos			
(MHz)	( dBuV/m )	( dB )	(dBuV/m)	(dBuV)	( dB )	( dB )	( dB )	( cm )	(deg)			
2389.47	70.92	-3.08	74	66.55	32.3	6.03	33.96	111	200	Peak		
2390	52.11	-1.89	54	47.74	32.3	6.03	33.96	111	200	Average		
2492.94	63.69	-10.31	74	59.11	32.4	6.18	34	111	200	Peak		
2493	49.65	-4.35	54	45.07	32.4	6.18	34	111	200	Average		

SPORTON INTERNATIONAL INC.

TEL: 886-3-327-3456 FAX: 886-3-328-4978 FCC ID: UZ7AP6 Page Number : A6 of A46
Report Issued Date : Oct. 30, 2012
Report Version : Rev. 01



Test Mode :	Mode 7	Temperature :	22~24°C
Test Band :	802.11g (Chain 1+2)	Relative Humidity :	50~52%
Test Channel :	02	Test Engineer :	Kyle Jhuang

	ANTENNA POLARITY : HORIZONTAL											
Frequency	Level	Over	Limit	Read	Antenna	Cable	Preamp	Ant	Table	Remark		
		Limit	Line	Level	Factor	Loss	Factor	Pos	Pos			
(MHz)	(dBuV/m)	( dB )	(dBuV/m)	(dBuV)	( dB )	( dB )	( dB )	( cm )	(deg)			
2361.03	57.1	-16.9	74	52.8	32.26	5.99	33.95	121	239	Peak		
2386.5	43.88	-10.12	54	39.51	32.3	6.03	33.96	121	239	Average		
2494.9	57.3	-16.7	74	52.72	32.4	6.18	34	121	239	Peak		
2493.92	43.75	-10.25	54	39.17	32.4	6.18	34	121	239	Average		

	ANTENNA POLARITY : VERTICAL										
Frequency	Level	Over	Limit	Read	Antenna	Cable	Preamp	Ant	Table	Remark	
		Limit	Line	Level	Factor	Loss	Factor	Pos	Pos		
(MHz)	( dBuV/m )	( dB )	(dBuV/m)	(dBuV)	( dB )	( dB )	( dB )	( cm )	(deg)		
2389.65	67.52	-6.48	74	63.15	32.3	6.03	33.96	100	124	Peak	
2375.88	53.26	-0.74	54	48.94	32.28	5.99	33.95	100	124	Average	
2496.48	66.5	-7.5	74	61.92	32.4	6.18	34	100	124	Peak	
2489.74	52.05	-1.95	54	47.47	32.4	6.18	34	100	124	Average	

SPORTON INTERNATIONAL INC.

TEL: 886-3-327-3456 FAX: 886-3-328-4978 FCC ID: UZ7AP6 Page Number : A7 of A46
Report Issued Date : Oct. 30, 2012
Report Version : Rev. 01



Test Mode :	Mode 9	Temperature :	22~24°C
Test Band :	802.11g (Chain 1+2)	Relative Humidity :	50~52%
Test Channel :	10	Test Engineer :	Kyle Jhuang

	ANTENNA POLARITY : HORIZONTAL										
Frequency	Level	Over	Limit	Read	Antenna	Cable	Preamp	Ant	Table	Remark	
		Limit	Line	Level	Factor	Loss	Factor	Pos	Pos		
(MHz)	( dBuV/m )	( dB )	(dBuV/m)	(dBuV)	( dB )	( dB )	( dB )	( cm )	(deg)		
2493.04	58.44	-15.56	74	53.86	32.4	6.18	34	102	217	Peak	
2494.1	43.72	-10.28	54	39.14	32.4	6.18	34	102	217	Average	
2364.27	57.03	-16.97	74	52.73	32.26	5.99	33.95	102	217	Peak	
2334.57	43.67	-10.33	54	39.42	32.24	5.95	33.94	102	217	Average	

	ANTENNA POLARITY : VERTICAL										
Frequency	Level	Over	Limit	Read	Antenna	Cable	Preamp	Ant	Table	Remark	
		Limit	Line	Level	Factor	Loss	Factor	Pos	Pos		
(MHz)	(dBuV/m)	(dB)	(dBuV/m)	(dBuV)	( dB )	( dB )	( dB )	( cm )	(deg)		
2484.38	71.55	-2.45	74	66.99	32.38	6.18	34	116	194	Peak	
2484.02	53.09	-0.91	54	48.53	32.38	6.18	34	116	194	Average	
2378.4	62.37	-11.63	74	58.05	32.28	5.99	33.95	116	194	Peak	
2386.59	49.31	-4.69	54	44.94	32.3	6.03	33.96	116	194	Average	

SPORTON INTERNATIONAL INC.

TEL: 886-3-327-3456 FAX: 886-3-328-4978 FCC ID: UZ7AP6 Page Number : A8 of A46
Report Issued Date : Oct. 30, 2012
Report Version : Rev. 01



Test Mode :	Mode 10	Temperature :	22~24°C
Test Band :	802.11g (Chain 1+2)	Relative Humidity :	50~52%
Test Channel :	11	Test Engineer :	Kyle Jhuang

	ANTENNA POLARITY : HORIZONTAL											
Frequency	Level	Over	Limit	Read	Antenna	Cable	Preamp	Ant	Table	Remark		
		Limit	Line	Level	Factor	Loss	Factor	Pos	Pos			
(MHz)	( dBuV/m )	( dB )	(dBuV/m)	(dBuV)	( dB )	( dB )	( dB )	( cm )	(deg)			
2499.2	59.57	-14.43	74	54.99	32.4	6.18	34	112	220	Peak		
2495.78	44.05	-9.95	54	39.47	32.4	6.18	34	112	220	Average		
2328.54	56.97	-17.03	74	52.75	32.23	5.92	33.93	112	220	Peak		
2347.71	43.5	-10.5	54	39.25	32.24	5.95	33.94	112	220	Average		

	ANTENNA POLARITY : VERTICAL										
Frequency	Level	Over	Limit	Read	Antenna	Cable	Preamp	Ant	Table	Remark	
		Limit	Line	Level	Factor	Loss	Factor	Pos	Pos		
(MHz)	( dBuV/m )	( dB )	( dBuV/m )	(dBuV)	( dB )	( dB )	( dB )	( cm )	(deg)		
2483.66	73.12	-0.88	74	68.56	32.38	6.18	34	105	130	Peak	
2483.5	52.12	-1.88	54	47.56	32.38	6.18	34	105	130	Average	
2378.04	60.31	-13.69	74	55.99	32.28	5.99	33.95	105	130	Peak	
2375.16	47.14	-6.86	54	42.82	32.28	5.99	33.95	105	130	Average	

SPORTON INTERNATIONAL INC.

TEL: 886-3-327-3456 FAX: 886-3-328-4978 FCC ID: UZ7AP6 Page Number : A9 of A46
Report Issued Date : Oct. 30, 2012
Report Version : Rev. 01



Test Mode :	Mode 11	Temperature :	22~24°C
Test Band :	802.11n HT20 (Chain 1+2)	Relative Humidity :	50~52%
Test Channel :	01	Test Engineer :	Kyle Jhuang

	ANTENNA POLARITY : HORIZONTAL											
Frequency	Level	Over	Limit	Read	Antenna	Cable	Preamp	Ant	Table	Remark		
		Limit	Line	Level	Factor	Loss	Factor	Pos	Pos			
(MHz)	(dBuV/m)	( dB )	(dBuV/m)	(dBuV)	( dB )	( dB )	( dB )	( cm )	(deg)			
2389.65	58.45	-15.55	74	54.08	32.3	6.03	33.96	103	278	Peak		
2389.65	44.07	-9.93	54	39.7	32.3	6.03	33.96	103	278	Average		
2496.9	57	-17	74	52.42	32.4	6.18	34	103	278	Peak		
2492.16	43.52	-10.48	54	38.94	32.4	6.18	34	103	278	Average		

			AN	ΓENNA PO	LARITY : V	ERTICAL				
Frequency	Level	Over	Limit	Read	Antenna	Cable	Preamp	Ant	Table	Remark
		Limit	Line	Level	Factor	Loss	Factor	Pos	Pos	
(MHz)	(dBuV/m)	( dB )	( dBuV/m )	(dBuV)	( dB )	( dB )	( dB )	( cm )	(deg)	
2389.47	68.45	-5.55	74	64.08	32.3	6.03	33.96	106	228	Peak
2390	53.18	-0.82	54	48.81	32.3	6.03	33.96	106	228	Average
2495.7	62.7	-11.3	74	58.12	32.4	6.18	34	106	228	Peak
2489.6	48.99	-5.01	54	44.41	32.4	6.18	34	106	228	Average

SPORTON INTERNATIONAL INC.

TEL: 886-3-327-3456 FAX: 886-3-328-4978 FCC ID: UZ7AP6 Page Number : A10 of A46
Report Issued Date : Oct. 30, 2012
Report Version : Rev. 01



Test Mode :	Mode 12	Temperature :	22~24°C
Test Band :	802.11n HT20 (Chain 1+2)	Relative Humidity :	50~52%
Test Channel :	02	Test Engineer :	Kyle Jhuang

	ANTENNA POLARITY : HORIZONTAL										
Frequency	Level	Over	Limit	Read	Antenna	Cable	Preamp	Ant	Table	Remark	
		Limit	Line	Level	Factor	Loss	Factor	Pos	Pos		
(MHz)	(dBuV/m)	( dB )	(dBuV/m)	(dBuV)	( dB )	( dB )	( dB )	( cm )	(deg)		
2389.47	57.45	-16.55	74	53.08	32.3	6.03	33.96	100	238	Peak	
2382.81	43.9	-10.1	54	39.55	32.28	6.03	33.96	100	238	Average	
2491.2	57.61	-16.39	74	53.03	32.4	6.18	34	100	238	Peak	
2493.22	43.9	-10.1	54	39.32	32.4	6.18	34	100	238	Average	

	ANTENNA POLARITY : VERTICAL										
Frequency	Level	Over	Limit	Read	Antenna	Cable	Preamp	Ant	Table	Remark	
		Limit	Line	Level	Factor	Loss	Factor	Pos	Pos		
(MHz)	( dBuV/m )	(dB)	(dBuV/m)	(dBuV)	( dB )	( dB )	( dB )	( cm )	(deg)		
2389.11	67.51	-6.49	74	63.14	32.3	6.03	33.96	101	225	Peak	
2389.83	52.51	-1.49	54	48.14	32.3	6.03	33.96	101	225	Average	
2490.06	65.66	-8.34	74	61.08	32.4	6.18	34	101	225	Peak	
2492.62	50.65	-3.35	54	46.07	32.4	6.18	34	101	225	Average	

SPORTON INTERNATIONAL INC.

TEL: 886-3-327-3456 FAX: 886-3-328-4978 FCC ID: UZ7AP6 Page Number : A11 of A46
Report Issued Date : Oct. 30, 2012
Report Version : Rev. 01



Test Mode :	Mode 14	Temperature :	22~24°C
Test Band :	802.11n HT20 (Chain 1+2)	Relative Humidity :	50~52%
Test Channel :	10	Test Engineer :	Kyle Jhuang

			ANTE	NNA POL	ARITY : HO	RIZONTA	L			
Frequency	Level	Over	Limit	Read	Antenna	Cable	Preamp	Ant	Table	Remark
		Limit	Line	Level	Factor	Loss	Factor	Pos	Pos	
(MHz)	(dBuV/m)	( dB )	(dBuV/m)	(dBuV)	( dB )	( dB )	( dB )	( cm )	(deg)	
2343.48	57.17	-16.83	74	52.92	32.24	5.95	33.94	132	260	Peak
2384.7	43.6	-10.4	54	39.25	32.28	6.03	33.96	132	260	Average
2488.88	57.43	-16.57	74	52.85	32.4	6.18	34	132	260	Peak
2498.1	43.66	-10.34	54	39.08	32.4	6.18	34	132	260	Average

	ANTENNA POLARITY : VERTICAL										
Frequency	Level	Over	Limit	Read	Antenna	Cable	Preamp	Ant	Table	Remark	
		Limit	Line	Level	Factor	Loss	Factor	Pos	Pos		
(MHz)	( dBuV/m )	( dB )	(dBuV/m)	(dBuV)	( dB )	( dB )	( dB )	( cm )	(deg)		
2483.58	70.33	-3.67	74	65.77	32.38	6.18	34	112	155	Peak	
2483.6	53.49	-0.51	54	48.93	32.38	6.18	34	112	155	Average	
2376.87	63.9	-10.1	74	59.58	32.28	5.99	33.95	112	155	Peak	
2376.42	50.4	-3.6	54	46.08	32.28	5.99	33.95	112	155	Average	

SPORTON INTERNATIONAL INC.

TEL: 886-3-327-3456 FAX: 886-3-328-4978 FCC ID: UZ7AP6 Page Number : A12 of A46
Report Issued Date : Oct. 30, 2012
Report Version : Rev. 01



Test Mode :	Mode 15	Temperature :	22~24°C
Test Band :	802.11n HT20 (Chain 1+2)	Relative Humidity :	50~52%
Test Channel :	11	Test Engineer :	Kyle Jhuang

	ANTENNA POLARITY : HORIZONTAL										
Frequency	Level	Over	Limit	Read	Antenna	Cable	Preamp	Ant	Table	Remark	
		Limit	Line	Level	Factor	Loss	Factor	Pos	Pos		
(MHz)	( dBuV/m )	( dB )	(dBuV/m)	(dBuV)	( dB )	( dB )	( dB )	( cm )	(deg)		
2499.54	58.13	-15.87	74	53.55	32.4	6.18	34	114	256	Peak	
2483.56	43.9	-10.1	54	39.34	32.38	6.18	34	114	256	Average	
2310.72	57.04	-16.96	74	52.84	32.21	5.92	33.93	114	256	Peak	
2344.29	43.51	-10.49	54	39.26	32.24	5.95	33.94	114	256	Average	

	ANTENNA POLARITY : VERTICAL										
Frequency	Level	Over	Limit	Read	Antenna	Cable	Preamp	Ant	Table	Remark	
		Limit	Line	Level	Factor	Loss	Factor	Pos	Pos		
(MHz)	(dBuV/m)	(dB)	(dBuV/m)	(dBuV)	( dB )	( dB )	( dB )	( cm )	(deg)		
2484.1	69.99	-4.01	74	65.43	32.38	6.18	34	106	134	Peak	
2483.52	53	-1	54	48.44	32.38	6.18	34	106	134	Average	
2377.95	60.62	-13.38	74	56.3	32.28	5.99	33.95	106	134	Peak	
2375.61	47.09	-6.91	54	42.77	32.28	5.99	33.95	106	134	Average	

SPORTON INTERNATIONAL INC.

TEL: 886-3-327-3456 FAX: 886-3-328-4978 FCC ID: UZ7AP6 Page Number : A13 of A46
Report Issued Date : Oct. 30, 2012
Report Version : Rev. 01



Test Mode :	Mode 16	Temperature :	22~24°C
Test Band :	802.11n HT40 (Chain 1+2)	Relative Humidity :	50~52%
Test Channel :	03	Test Engineer :	Kyle Jhuang

	ANTENNA POLARITY : HORIZONTAL											
Frequency	Level	Over	Limit	Read	Antenna	Cable	Preamp	Ant	Table	Remark		
		Limit	Line	Level	Factor	Loss	Factor	Pos	Pos			
(MHz)	(dBuV/m)	( dB )	(dBuV/m)	(dBuV)	( dB )	(dB)	( dB )	( cm )	(deg)			
2331.96	57.08	-16.92	74	52.86	32.23	5.92	33.93	100	232	Peak		
2384.88	43.99	-10.01	54	39.64	32.28	6.03	33.96	100	232	Average		
2492.2	57.55	-16.45	74	52.97	32.4	6.18	34	100	232	Peak		
2493.46	43.78	-10.22	54	39.2	32.4	6.18	34	100	232	Average		

	ANTENNA POLARITY : VERTICAL										
Frequency	Level	Over	Limit	Read	Antenna	Cable	Preamp	Ant	Table	Remark	
		Limit	Line	Level	Factor	Loss	Factor	Pos	Pos		
(MHz)	(dBuV/m)	(dB)	(dBuV/m)	(dBuV)	( dB )	( dB )	( dB )	( cm )	(deg)		
2389.83	72.99	-1.01	74	68.62	32.3	6.03	33.96	110	128	Peak	
2389.92	53.36	-0.64	54	48.99	32.3	6.03	33.96	110	128	Average	
2487.44	61.71	-12.29	74	57.15	32.38	6.18	34	110	128	Peak	
2489.2	47.93	-6.07	54	43.35	32.4	6.18	34	110	128	Average	

SPORTON INTERNATIONAL INC.

TEL: 886-3-327-3456 FAX: 886-3-328-4978 FCC ID: UZ7AP6 Page Number : A14 of A46
Report Issued Date : Oct. 30, 2012
Report Version : Rev. 01



Test Mode :	Mode 17	Temperature :	22~24°C
Test Band :	802.11n HT40 (Chain 1+2)	Relative Humidity :	50~52%
Test Channel :	04	Test Engineer :	Kyle Jhuang

	ANTENNA POLARITY : HORIZONTAL										
Frequency	Level	Over	Limit	Read	Antenna	Cable	Preamp	Ant	Table	Remark	
		Limit	Line	Level	Factor	Loss	Factor	Pos	Pos		
(MHz)	(dBuV/m)	( dB )	(dBuV/m)	(dBuV)	( dB )	( dB )	( dB )	( cm )	(deg)		
2359.32	56.98	-17.02	74	52.68	32.26	5.99	33.95	100	232	Peak	
2386.14	43.92	-10.08	54	39.55	32.3	6.03	33.96	100	232	Average	
2492	57.95	-16.05	74	53.37	32.4	6.18	34	100	232	Peak	
2492.44	43.78	-10.22	54	39.2	32.4	6.18	34	100	232	Average	

	ANTENNA POLARITY : VERTICAL										
Frequency	Level	Over	Limit	Read	Antenna	Cable	Preamp	Ant	Table	Remark	
		Limit	Line	Level	Factor	Loss	Factor	Pos	Pos		
(MHz)	(dBuV/m)	( dB )	(dBuV/m)	(dBuV)	( dB )	( dB )	( dB )	( cm )	(deg)		
2389.92	72.17	-1.83	74	67.8	32.3	6.03	33.96	102	225	Peak	
2389.92	53.49	-0.51	54	49.12	32.3	6.03	33.96	102	225	Average	
2494.56	61.29	-12.71	74	56.71	32.4	6.18	34	102	225	Peak	
2492.04	47.1	-6.9	54	42.52	32.4	6.18	34	102	225	Average	

SPORTON INTERNATIONAL INC.

TEL: 886-3-327-3456 FAX: 886-3-328-4978 FCC ID: UZ7AP6 Page Number : A15 of A46
Report Issued Date : Oct. 30, 2012
Report Version : Rev. 01



Test Mode :	Mode 18	Temperature :	22~24°C
Test Band :	802.11n HT40 (Chain 1+2)	Relative Humidity :	50~52%
Test Channel :	05	Test Engineer :	Kyle Jhuang

	ANTENNA POLARITY : HORIZONTAL											
Frequency	Level	Over	Limit	Read	Antenna	Cable	Preamp	Ant	Table	Remark		
		Limit	Line	Level	Factor	Loss	Factor	Pos	Pos			
(MHz)	(dBuV/m)	(dB)	(dBuV/m)	(dBuV)	( dB )	( dB )	( dB )	( cm )	(deg)			
2345.82	56.88	-17.12	74	52.63	32.24	5.95	33.94	100	238	Peak		
2386.68	43.89	-10.11	54	39.52	32.3	6.03	33.96	100	238	Average		
2493.9	57.27	-16.73	74	52.69	32.4	6.18	34	100	238	Peak		
2492.88	43.83	-10.17	54	39.25	32.4	6.18	34	100	238	Average		

	ANTENNA POLARITY : VERTICAL										
Frequency	Level	Over	Limit	Read	Antenna	Cable	Preamp	Ant	Table	Remark	
		Limit	Line	Level	Factor	Loss	Factor	Pos	Pos		
(MHz)	( dBuV/m )	(dB)	(dBuV/m)	(dBuV)	( dB )	(dB)	( dB )	( cm )	(deg)		
2389.83	67.62	-6.38	74	63.25	32.3	6.03	33.96	102	225	Peak	
2390	53.38	-0.62	54	49.01	32.3	6.03	33.96	102	225	Average	
2487.38	62.7	-11.3	74	58.14	32.38	6.18	34	102	225	Peak	
2483.54	48.24	-5.76	54	43.68	32.38	6.18	34	102	225	Average	

SPORTON INTERNATIONAL INC.

TEL: 886-3-327-3456 FAX: 886-3-328-4978 FCC ID: UZ7AP6 Page Number : A16 of A46
Report Issued Date : Oct. 30, 2012
Report Version : Rev. 01



Test Mode :	Mode 20	Temperature :	22~24°C
Test Band :	802.11n HT40 (Chain 1+2)	Relative Humidity :	50~52%
Test Channel :	07	Test Engineer :	Kyle Jhuang

	ANTENNA POLARITY : HORIZONTAL											
Frequency	Level	Over	Limit	Read	Antenna	Cable	Preamp	Ant	Table	Remark		
		Limit	Line	Level	Factor	Loss	Factor	Pos	Pos			
(MHz)	( dBuV/m )	( dB )	(dBuV/m)	(dBuV)	( dB )	( dB )	( dB )	( cm )	(deg)			
2383.53	56.65	-17.35	74	52.3	32.28	6.03	33.96	121	238	Peak		
2385.24	43.71	-10.29	54	39.36	32.28	6.03	33.96	121	238	Average		
2493.96	57.49	-16.51	74	52.91	32.4	6.18	34	121	238	Peak		
2493.28	43.85	-10.15	54	39.27	32.4	6.18	34	121	238	Average		

	ANTENNA POLARITY : VERTICAL											
Frequency	Level	Over	Limit	Read	Antenna	Cable	Preamp	Ant	Table	Remark		
		Limit	Line	Level	Factor	Loss	Factor	Pos	Pos			
(MHz)	(dBuV/m)	( dB )	(dBuV/m)	(dBuV)	( dB )	( dB )	( dB )	( cm )	(deg)			
2364.99	60.26	-13.74	74	55.96	32.26	5.99	33.95	100	172	Peak		
2390	47.27	-6.73	54	42.9	32.3	6.03	33.96	100	172	Average		
2483.76	68.48	-5.52	74	63.92	32.38	6.18	34	100	172	Peak		
2483.64	53.03	-0.97	54	48.47	32.38	6.18	34	100	172	Average		

SPORTON INTERNATIONAL INC.

TEL: 886-3-327-3456 FAX: 886-3-328-4978 FCC ID: UZ7AP6 Page Number : A17 of A46
Report Issued Date : Oct. 30, 2012
Report Version : Rev. 01



Test Mode :	Mode 21	Temperature :	22~24°C
Test Band :	802.11n HT40 (Chain 1+2)	Relative Humidity :	50~52%
Test Channel :	08	Test Engineer :	Kyle Jhuang

	ANTENNA POLARITY : HORIZONTAL											
Frequency	Level	Over	Limit	Read	Antenna	Cable	Preamp	Ant	Table	Remark		
		Limit	Line	Level	Factor	Loss	Factor	Pos	Pos			
(MHz)	(dBuV/m)	( dB )	(dBuV/m)	(dBuV)	( dB )	(dB)	( dB )	( cm )	(deg)			
2330.16	56.95	-17.05	74	52.73	32.23	5.92	33.93	100	270	Peak		
2385.96	43.79	-10.21	54	39.42	32.3	6.03	33.96	100	270	Average		
2497.48	57.8	-16.2	74	53.22	32.4	6.18	34	100	270	Peak		
2483.52	43.99	-10.01	54	39.43	32.38	6.18	34	100	270	Average		

	ANTENNA POLARITY : VERTICAL										
Frequency	Level	Over	Limit	Read	Antenna	Cable	Preamp	Ant	Table	Remark	
		Limit	Line	Level	Factor	Loss	Factor	Pos	Pos		
(MHz)	( dBuV/m )	(dB)	(dBuV/m)	(dBuV)	( dB )	( dB )	( dB )	( cm )	(deg)		
2370.93	59.59	-14.41	74	55.27	32.28	5.99	33.95	100	176	Peak	
2379.75	46.65	-7.35	54	42.33	32.28	5.99	33.95	100	176	Average	
2483.84	70.25	-3.75	74	65.69	32.38	6.18	34	100	176	Peak	
2483.84	53.1	-0.9	54	48.54	32.38	6.18	34	100	176	Average	

SPORTON INTERNATIONAL INC.

TEL: 886-3-327-3456 FAX: 886-3-328-4978 FCC ID: UZ7AP6 Page Number : A18 of A46
Report Issued Date : Oct. 30, 2012
Report Version : Rev. 01



Test Mode :	Mode 22	Temperature :	22~24°C
Test Band :	802.11n HT40 (Chain 1+2)	Relative Humidity :	50~52%
Test Channel :	09	Test Engineer :	Kyle Jhuang

	ANTENNA POLARITY : HORIZONTAL											
Frequency	Level	Over	Limit	Read	Antenna	Cable	Preamp	Ant	Table	Remark		
		Limit	Line	Level	Factor	Loss	Factor	Pos	Pos			
(MHz)	(dBuV/m)	( dB )	(dBuV/m)	(dBuV)	( dB )	( dB )	( dB )	( cm )	(deg)			
2327.55	56.65	-17.35	74	52.43	32.23	5.92	33.93	118	262	Peak		
2383.98	43.81	-10.19	54	39.46	32.28	6.03	33.96	118	262	Average		
2483.5	59.33	-14.67	74	54.77	32.38	6.18	34	118	262	Peak		
2483.5	44.31	-9.69	54	39.75	32.38	6.18	34	118	262	Average		

	ANTENNA POLARITY : VERTICAL										
Frequency	Level	Over	Limit	Read	Antenna	Cable	Preamp	Ant	Table	Remark	
		Limit	Line	Level	Factor	Loss	Factor	Pos	Pos		
(MHz)	(dBuV/m)	(dB)	(dBuV/m)	(dBuV)	( dB )	( dB )	( dB )	( cm )	(deg)		
2376.87	57.74	-16.26	74	53.42	32.28	5.99	33.95	100	196	Peak	
2360.04	44.52	-9.48	54	40.22	32.26	5.99	33.95	100	196	Average	
2483.5	73.24	-0.76	74	68.68	32.38	6.18	34	100	196	Peak	
2483.5	52.3	-1.7	54	47.74	32.38	6.18	34	100	196	Average	

SPORTON INTERNATIONAL INC.

TEL: 886-3-327-3456 FAX: 886-3-328-4978 FCC ID: UZ7AP6 Page Number : A19 of A46
Report Issued Date : Oct. 30, 2012
Report Version : Rev. 01



Test Mode :	Mode 23	Temperature :	22~24°C
Test Band :	802.11b (Chain 1+2)	Relative Humidity :	50~52%
Test Channel :	10	Test Engineer :	Kyle Jhuang

	ANTENNA POLARITY : HORIZONTAL											
Frequency	Level	Over	Limit	Read	Antenna	Cable	Preamp	Ant	Table	Remark		
		Limit	Line	Level	Factor	Loss	Factor	Pos	Pos			
(MHz)	( dBuV/m )	( dB )	(dBuV/m)	(dBuV)	( dB )	( dB )	( dB )	( cm )	(deg)			
2362.02	55.95	-18.05	74	51.65	32.26	5.99	33.95	100	134	Peak		
2390	43.17	-10.83	54	38.8	32.3	6.03	33.96	100	134	Average		
2495.34	58.67	-15.33	74	54.09	32.4	6.18	34	100	134	Peak		
2493.62	43.94	-10.06	54	39.36	32.4	6.18	34	100	134	Average		

	ANTENNA POLARITY : VERTICAL											
Frequency	Level	Over	Limit	Read	Antenna	Cable	Preamp	Ant	Table	Remark		
		Limit	Line	Level	Factor	Loss	Factor	Pos	Pos			
(MHz)	( dBuV/m )	( dB )	(dBuV/m)	(dBuV)	( dB )	( dB )	( dB )	( cm )	(deg)			
2388.12	58.69	-15.31	74	54.32	32.3	6.03	33.96	129	359	Peak		
2372.55	46.93	-7.07	54	42.61	32.28	5.99	33.95	129	359	Average		
2484.02	63.42	-10.58	74	58.86	32.38	6.18	34	129	359	Peak		
2483.72	51.81	-2.19	54	47.25	32.38	6.18	34	129	359	Average		

SPORTON INTERNATIONAL INC.

TEL: 886-3-327-3456 FAX: 886-3-328-4978 FCC ID: UZ7AP6 Page Number : A20 of A46
Report Issued Date : Oct. 30, 2012
Report Version : Rev. 01

### Test Results of Radiated Emissions (30MHz ~ 10th Harmonic)

Test Mode :	Mode 1	Temperature :	22~24°C		
Test Channel :	01	Relative Humidity :	50~52%		
Test Engineer :	Kyle Jhuang	Polarization :	Horizontal		
	1. 2412 MHz is fu	ndamental signal which can be ignor	ed.		
Remark :	2. Test result of e	Test result of emissions which are 20 dB lower than the limit is not re			
	per15.31.				

Frequency	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Ant Pos	Table Pos	Remark
(MHz)	( dBuV/m )		( dBuV/m )		( dB )	(dB)	( dB )		( deg )	
2412	100.85	-	-	96.44	32.31	6.07	33.97	121	237	Average
2412	106.3	-	-	101.89	32.31	6.07	33.97	121	237	Peak

Test Mode :	Mode 1	Temperature :	22~24°C
Test Channel :	01	Relative Humidity :	50~52%
Test Engineer :	Kyle Jhuang	Polarization :	Vertical
	1. 2412 MHz is fundamental si	gnal which can be ignore	ed.
Remark :	2. Test result of emissions whi	ch are 20 dB lower than	the limit is not reported
	per15.31.		

Frequency	Level	Over	Limit	Read	Antenna	Cable	Preamp	Ant	Table	Remark
		Limit	Line	Level	Factor	Loss	Factor	Pos	Pos	
(MHz)	(dBuV/m)	(dB)	(dBuV/m)	(dBuV)	(dB)	(dB)	(dB)	( cm )	(deg)	
2412	116.02	-	-	111.61	32.31	6.07	33.97	115	228	Average
2412	121.55	-	-	117.14	32.31	6.07	33.97	115	228	Peak

SPORTON INTERNATIONAL INC.

TEL: 886-3-327-3456 FAX: 886-3-328-4978 FCC ID: UZ7AP6 Page Number : A21 of A46
Report Issued Date : Oct. 30, 2012
Report Version : Rev. 01



Test Mode :	Mod	le 2	Temperature :	22~24°C
Test Channel :	02		Relative Humidity :	50~52%
Test Engineer :	Kyle	. Jhuang	Polarization :	Horizontal
	1.	2417 MHz is fundamental sig	gnal which can be ignore	ed.
Remark :	2.	Test result of emissions which	ch are 20 dB lower than	the limit is not reported
		per15.31.		

Frequency	Level	Over	Limit	Read	Antenna		Preamp			Remark
		Limit	Line	Level	Factor	Loss	Factor	Pos	Pos	
(MHz)	(dBuV/m)	( dB )	( dBuV/m )	(dBuV)	( dB )	( dB )	( dB )	(cm)	(deg)	
2417	100.1	-	-	95.69	32.31	6.07	33.97	120	233	Average
2417	106.1	-	-	101.69	32.31	6.07	33.97	120	233	Peak

Test Mode :	Mod	le 2	Temperature :	22~24°C
Test Channel :	02		Relative Humidity :	50~52%
Test Engineer :	Kyle	Jhuang	Polarization :	Vertical
	1.	2417 MHz is fundamental sig	gnal which can be ignore	ed.
Remark :	2.	Test result of emissions which	ch are 20 dB lower than	the limit is not reported
		per15.31.		

Frequency	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Ant Pos	Table Pos	Remark
(MHz)	(dBuV/m)	(dB)	(dBuV/m)	(dBuV)	( dB )	( dB )	( dB )	( cm )	(deg)	
2417	117.02	-	-	112.61	32.31	6.07	33.97	101	205	Average
2417	122.38	-	-	117.95	32.33	6.07	33.97	101	205	Peak

SPORTON INTERNATIONAL INC.

TEL: 886-3-327-3456 FAX: 886-3-328-4978 FCC ID: UZ7AP6 Page Number : A22 of A46
Report Issued Date : Oct. 30, 2012
Report Version : Rev. 01

Test Mode :	Mode 3	Temperature :	22~24°C
Test Channel :	06	Relative Humidity :	50~52%
Test Engineer :	Kyle Jhuang	Polarization :	Horizontal
	1. 2437 MHz is fundamental si	gnal which can be ignore	ed.
Remark :	2. Test result of emissions whi	ch are 20 dB lower than	the limit is not reported
	per15.31.		

Frequency	Level	Over	Limit	Read	Antenna	Cable	Preamp	Ant	Table	Remark
		Limit	Line	Level	Factor	Loss	Factor	Pos	Pos	
(MHz)	(dBuV/m)	(dB)	(dBuV/m)	(dBuV)	( dB )	( dB )	( dB )	( cm )	(deg)	
2350.59	44.22	-9.78	54	39.97	32.24	5.95	33.94	119	234	Average
2369.04	57.45	-16.55	74	53.13	32.28	5.99	33.95	119	234	Peak
2437	104.89	-	-	100.41	32.35	6.11	33.98	119	234	Average
2437	109.64	-	-	105.16	32.35	6.11	33.98	119	234	Peak
2491	57.75	-16.25	74	53.17	32.4	6.18	34	119	234	Peak
2496.84	43.66	-10.34	54	39.08	32.4	6.18	34	119	234	Average

Test Mode :	Mode 3		Temperature :	22~24°C
Test Channel :	06		Relative Humidity :	50~52%
Test Engineer :	Kyle	. Jhuang	Polarization :	Vertical
	1.	2437 MHz is fundamental sig	gnal which can be ignore	ed.
Remark :	2.	Test result of emissions which	ch are 20 dB lower than	the limit is not reported
		per15.31.		

Frequency	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Ant Pos	Table Pos	Remark
(MHz)	( dBuV/m )	(dB)	( dBuV/m )	(dBuV)	(dB)	(dB)	(dB)	(cm)	( deg )	
2352.03	63.28	-10.72	74	59.01	32.26	5.95	33.94	101	181	Peak
2352.39	53.41	-0.59	54	49.14	32.26	5.95	33.94	101	181	Average
2437	120.02	-	-	115.54	32.35	6.11	33.98	101	181	Average
2437	124.86	-	-	120.38	32.35	6.11	33.98	101	181	Peak
2483.62	49.82	-4.18	54	45.26	32.38	6.18	34	101	181	Average
2491.34	63.54	-10.46	74	58.96	32.4	6.18	34	101	181	Peak

SPORTON INTERNATIONAL INC.

TEL: 886-3-327-3456 FAX: 886-3-328-4978 FCC ID: UZ7AP6 Page Number : A23 of A46
Report Issued Date : Oct. 30, 2012
Report Version : Rev. 01



Test Mode :	Mod	le 4	Temperature :	22~24°C
Test Channel :	10		Relative Humidity :	50~52%
Test Engineer :	Kyle	. Jhuang	Polarization :	Horizontal
	1.	2457 MHz is fundamental sig	gnal which can be ignore	ed.
Remark :	2.	Test result of emissions which	ch are 20 dB lower than	the limit is not reported
		per15.31.		

Frequency	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Ant Pos	Table Pos	Remark
(MHz)	( dBuV/m )	(dB)	( dBuV/m )	(dBuV)	( dB )	(dB)	(dB)	( cm )	(deg)	
2457	98.78	-	-	94.26	32.37	6.14	33.99	119	222	Average
2457	104.9	-	-	100.38	32.37	6.14	33.99	119	222	Peak

Test Mode :	Mode 4	de 4 Temperature :				
Test Channel :	10	Relative Humidity :	50~52%			
Test Engineer :	Kyle Jhuang	Polarization :	Vertical			
	1. 2457 MHz is fundamental si	gnal which can be igno	red.			
Remark :	2. Test result of emissions whi	Test result of emissions which are 20 dB lower than the limit is not reported				
	per15.31.					

Frequency	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Ant Pos	Table Pos	Remark
(MHz)	(dBuV/m)	(dB)	(dBuV/m)	(dBuV)	(dB)	(dB)	(dB)	( cm )	(deg)	
2457	116.88	-	-	112.36	32.37	6.14	33.99	108	183	Average
2457	121.31	-	-	116.79	32.37	6.14	33.99	108	183	Peak

SPORTON INTERNATIONAL INC.

TEL: 886-3-327-3456 FAX: 886-3-328-4978 FCC ID: UZ7AP6

Page Number : A24 of A46 Report Issued Date: Oct. 30, 2012

Report No.: FR290603A

Report Version : Rev. 01



Test Mode :	Mode 5	Temperature :	22~24°C			
Test Channel :	11	Relative Humidity :	50~52%			
Test Engineer :	Kyle Jhuang	Polarization :	Horizontal			
	1. 2462 MHz is fundamental sign	nal which can be ignored	l.			
Remark :	2. Test result of emissions which are 20 dB lower than the limit is not reported					
	per15.31.					

Frequency	Level	Over Limit	Limit Line	Read	Antenna Factor		Preamp Factor	Ant Pos	Table Pos	Remark
(MHz)	( dBuV/m )		( dBuV/m )	Level (dBuV)	(dB)	Loss (dB)	(dB)		( deg )	
2462	98.9	-	-	94.38	32.37	6.14	33.99	107	223	Average
2462	104.8	-	-	100.28	32.37	6.14	33.99	107	223	Peak

Test Mode :	Mode 5	Temperature :	22~24°C			
Test Channel :	11	Relative Humidity :	50~52%			
Test Engineer :	Kyle Jhuang	Polarization :	Vertical			
	1. 2462 MHz is fundamental sign	nal which can be ignored				
Remark :	2. Test result of emissions which are 20 dB lower than the limit is not reported					
	per15.31.					

Frequ	iency	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Ant Pos	Table Pos	Remark
(Mi	Hz)	( dBuV/m )	(dB)	(dBuV/m)	(dBuV)	( dB )	( dB )	( dB )	( cm )	(deg)	
24	62	115.83	-	-	111.31	32.37	6.14	33.99	100	183	Average
24	62	121.23	-	-	116.71	32.37	6.14	33.99	100	183	Peak

SPORTON INTERNATIONAL INC.

TEL: 886-3-327-3456 FAX: 886-3-328-4978 FCC ID: UZ7AP6 Page Number : A25 of A46
Report Issued Date : Oct. 30, 2012
Report Version : Rev. 01



Test Mode :	Мо	de 6	Temperature :	22~24°C			
Test Channel :	01		Relative Humidity :	50~52%			
Test Engineer :	Kyl	e Jhuang	Polarization :	Horizontal			
	1.	2412 MHz is fundamental sign	nal which can be ignored	I.			
Remark :	2.	Test result of emissions which	n are 20 dB lower than	the limit is not reported			
		per15.31.					

F	requency	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Ant Pos	Table Pos	Remark
	(MHz)	( dBuV/m )		( dBuV/m )		(dB)	(dB)	(dB)		( deg )	
ľ	2412	89.75	-	-	85.34	32.31	6.07	33.97	100	238	Average
	2412	101.65	-	-	97.24	32.31	6.07	33.97	100	238	Peak

Test Mode :	Mode 6	Temperature :	22~24°C			
Test Channel :	01	Relative Humidity :	50~52%			
Test Engineer :	Kyle Jhuang	Polarization :	Vertical			
	1. 2412 MHz is fundamental sign	nal which can be ignored	l.			
Remark :	2. Test result of emissions which are 20 dB lower than the limit is not reported					
	per15.31.					

Frequency	Level	Over	Limit	Read	Antenna	Cable	Preamp	Ant	Table	Remark
		Limit	Line	Level	Factor	Loss	Factor	Pos	Pos	
(MHz)	(dBuV/m)	(dB)	(dBuV/m)	(dBuV)	( dB )	(dB)	(dB)	( cm )	(deg)	
2412	104.8	-	-	100.39	32.31	6.07	33.97	111	200	Average
2412	116.88	-	-	112.47	32.31	6.07	33.97	111	200	Peak

SPORTON INTERNATIONAL INC.

TEL: 886-3-327-3456 FAX: 886-3-328-4978 FCC ID: UZ7AP6 Page Number : A26 of A46
Report Issued Date : Oct. 30, 2012

Report No.: FR290603A

Report Version : Rev. 01



Test Mode :	Mode 7	Temperature :	22~24°C			
Test Channel :	02	Relative Humidity :	50~52%			
Test Engineer :	Kyle Jhuang	Polarization :	Horizontal			
	1. 2417 MHz is fundamental sign	nal which can be ignored	I.			
Remark :	2. Test result of emissions which are 20 dB lower than the limit is not reported					
	per15.31.					

Frequency	Level	Over	Limit	Read	Antenna		Preamp			Remark
(MHz)	( dBuV/m )	Limit (dB)	Line ( dBuV/m )	Level (dBuV)	Factor ( dB )	Loss (dB)	Factor ( dB )	Pos	Pos ( deg )	
2417	94.67	-	-	90.26	32.31	6.07	33.97	121	239	Average
2417	106.17	-	-	101.76	32.31	6.07	33.97	121	239	Peak

Test Mode :	Mode 7	Temperature :	22~24°C				
Test Channel :	02	Relative Humidity :	50~52%				
Test Engineer :	Kyle Jhuang	Polarization :	Vertical				
	1. 2417 MHz is fundamental sign	nal which can be ignored					
Remark :	2. Test result of emissions which are 20 dB lower than the limit is not r						
	per15.31.						

	Frequency	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Ant Pos	Table Pos	Remark
ı	(MHz)	(dBuV/m)	(dB)	(dBuV/m)	(dBuV)	( dB )	( dB )	( dB )	( cm )	(deg)	
	2417	109.71	-	-	105.3	32.31	6.07	33.97	100	124	Average
	2417	121.89	-	-	117.48	32.31	6.07	33.97	100	124	Peak

SPORTON INTERNATIONAL INC.

TEL: 886-3-327-3456 FAX: 886-3-328-4978 FCC ID: UZ7AP6 Page Number : A27 of A46
Report Issued Date : Oct. 30, 2012
Report Version : Rev. 01



Test Mode :	Mode 8	Temperature :	22~24°C			
Test Channel :	06	Relative Humidity :	50~52%			
Test Engineer :	Kyle Jhuang	Polarization :	Horizontal			
	1. 2437 MHz is fundamental si	gnal which can be ignore	ed.			
Remark :	2. Test result of emissions whi	Test result of emissions which are 20 dB lower than the limit is not repo				
	per15.31.					

Frequency	Level	Over	Limit	Read	Antenna	Cable	Preamp	Ant	Table	Remark
		Limit	Line	Level	Factor	Loss	Factor	Pos	Pos	
(MHz)	(dBuV/m)	(dB)	( dBuV/m )	(dBuV)	( dB )	( dB )	( dB )	(cm)	(deg)	
137.46	23.57	-19.93	43.5	42.43	11.44	1.19	31.49	-	-	Peak
220.62	30.71	-15.29	46	49.92	10.58	1.43	31.22	-	-	Peak
290.01	33.41	-12.59	46	49.99	13.16	1.69	31.43	-	-	Peak
456.1	23.48	-22.52	46	35.16	17.17	2.31	31.16	-	-	Peak
597.5	34.88	-11.12	46	43.03	19.75	2.68	30.58	103	85	Peak
996.5	35.2	-18.8	54	37.6	24.54	3.51	30.45	-	-	Peak
2351.49	43.65	-10.35	54	39.4	32.24	5.95	33.94	101	235	Average
2384.16	56.89	-17.11	74	52.54	32.28	6.03	33.96	101	235	Peak
2437	94.86	-	-	90.38	32.35	6.11	33.98	101	235	Average
2437	106.9	-	-	102.42	32.35	6.11	33.98	101	235	Peak
2496.2	57.92	-16.08	74	53.34	32.4	6.18	34	101	235	Peak
2496.64	43.44	-10.56	54	38.86	32.4	6.18	34	101	235	Average

TEL: 886-3-327-3456 FAX: 886-3-328-4978 FCC ID: UZ7AP6 Page Number : A28 of A46
Report Issued Date : Oct. 30, 2012
Report Version : Rev. 01



Test Mode :	Mode 8	Temperature :	22~24°C
Test Channel :	06	Relative Humidity :	50~52%
Test Engineer :	Kyle Jhuang	Polarization :	Vertical
	1. 2437 MHz is fundamental si	gnal which can be ignore	ed.
Remark :	2. Test result of emissions whi	ich are 20 dB lower than	the limit is not reported
	per15.31.		

Frequency	Level	Over	Limit	Read	Antenna	Cable	Preamp	Ant	Table	Remark
		Limit	Line	Level	Factor	Loss	Factor	Pos	Pos	
(MHz)	(dBuV/m)	(dB)	( dBuV/m )	(dBuV)	( dB )	( dB )	( dB )	(cm)	( deg )	
43.77	28.49	-11.51	40	48.48	11.1	0.64	31.73	-	-	Peak
208.47	22.35	-21.15	43.5	42.69	9.71	1.35	31.4	-	-	Peak
219.27	21.59	-24.41	46	40.97	10.45	1.41	31.24	-	-	Peak
319.6	25.76	-20.24	46	41.22	13.85	1.81	31.12	-	-	Peak
664	37.07	-8.93	46	44.28	20.31	2.87	30.39	111	96	Peak
997.9	34.13	-19.87	54	36.49	24.57	3.51	30.44	-	-	Peak
2365.08	67.46	-6.54	74	63.16	32.26	5.99	33.95	100	171	Peak
2366.88	53.5	-0.5	54	49.2	32.26	5.99	33.95	100	171	Average
2437	111.14	-	-	106.66	32.35	6.11	33.98	100	171	Average
2437	122.58	-	-	118.1	32.35	6.11	33.98	100	171	Peak
2489.7	53.47	-0.53	54	48.89	32.4	6.18	34	100	171	Average
2491.12	67.25	-6.75	74	62.67	32.4	6.18	34	100	171	Peak

TEL: 886-3-327-3456 FAX: 886-3-328-4978 FCC ID: UZ7AP6 Page Number : A29 of A46
Report Issued Date : Oct. 30, 2012
Report Version : Rev. 01



Test Mode :	Mode 9	Temperature :	22~24°C				
Test Channel :	10	Relative Humidity :	50~52%				
Test Engineer :	Kyle Jhuang	Polarization :	Horizontal				
	1. 2457 MHz is fundamental sig	gnal which can be igno	red.				
Remark :	2. Test result of emissions which	Test result of emissions which are 20 dB lower than the limit is not rep					
	per15.31.						

Frequency	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Ant Pos	Table Pos	Remark
(MHz)	( dBuV/m )		( dBuV/m )		(dB)	(dB)	(dB)		( deg )	
2457	91.97	-	-	87.45	32.37	6.14	33.99	102	217	Average
2457	103.82	-	-	99.3	32.37	6.14	33.99	102	217	Peak

Test Mode :	Mode	e 9	Temperature :	22~24°C
Test Channel :	10		Relative Humidity :	50~52%
Test Engineer :	Kyle	Jhuang	Polarization :	Vertical
	1.	2457 MHz is fundamental sig	gnal which can be ignore	ed.
Remark :	2.	Test result of emissions which	ch are 20 dB lower than	the limit is not reported
		per15.31.		

Frequency	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Ant Pos	Table Pos	Remark
(MHz)	(dBuV/m)	(dB)	(dBuV/m)	(dBuV)	(dB)	(dB)	(dB)	( cm )	(deg)	
2457	109.99	-	-	105.47	32.37	6.14	33.99	116	194	Average
2457	120.49	-	-	115.97	32.37	6.14	33.99	116	194	Peak

SPORTON INTERNATIONAL INC.

TEL: 886-3-327-3456 FAX: 886-3-328-4978 FCC ID: UZ7AP6 Page Number : A30 of A46
Report Issued Date : Oct. 30, 2012
Report Version : Rev. 01



Test Mode :	Mode 10	Temperature :	22~24°C			
Test Channel :	11	Relative Humidity :	50~52%			
Test Engineer :	Kyle Jhuang	Polarization :	Horizontal			
	1. 2462 MHz is fundamental sign	nal which can be ignored	l.			
Remark :	2. Test result of emissions which are 20 dB lower than the limit is not report					
	per15.31.					

Frequency	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Ant Pos	Table Pos	Remark
(MHz)	( dBuV/m )	(dB)	( dBuV/m )	(dBuV)	( dB )	(dB)	(dB)	( cm )	(deg)	•
2462	86.42	-	-	81.9	32.37	6.14	33.99	112	220	Average
2462	98.53	-	-	94.01	32.37	6.14	33.99	112	220	Peak

Test Mode :	Mode 10	Temperature :	22~24°C			
Test Channel :	11	Relative Humidity :	50~52%			
Test Engineer :	Kyle Jhuang	Polarization :	Vertical			
	1. 2462 MHz is fundamental sign	nal which can be ignored				
Remark :	2. Test result of emissions which are 20 dB lower than the limit is not reported					
	per15.31.					

Frequency	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Ant Pos	Table Pos	Remark
(MHz)	(dBuV/m)	(dB)	(dBuV/m)	(dBuV)	(dB)	(dB)	(dB)	( cm )	(deg)	
2462	105.85	-	-	101.33	32.37	6.14	33.99	105	130	Average
2462	116.08	-	-	111.56	32.37	6.14	33.99	105	130	Peak

SPORTON INTERNATIONAL INC.

TEL: 886-3-327-3456 FAX: 886-3-328-4978 FCC ID: UZ7AP6 Page Number : A31 of A46
Report Issued Date : Oct. 30, 2012
Report Version : Rev. 01



Test Mode :	Mode 11	Temperature :	22~24°C			
Test Channel :	01	Relative Humidity :	50~52%			
Test Engineer :	Kyle Jhuang	Polarization :	Horizontal			
	1. 2412 MHz is fundamental sign	nal which can be ignored	l.			
Remark :	2. Test result of emissions which are 20 dB lower than the limit is not reported					
	per15.31.					

Frequency	Level	Over	Limit	Read	Antenna	Cable	Preamp	Ant	Table	Remark
		Limit	Line	Level	Factor	Loss	Factor	Pos	Pos	
(MHz)	(dBuV/m)	(dB)	(dBuV/m)	(dBuV)	(dB)	(dB)	(dB)	( cm )	(deg)	
2412	86.89	-	-	82.48	32.31	6.07	33.97	103	278	Average
2412	99.01	-	-	94.6	32.31	6.07	33.97	103	278	Peak

Test Mode :	Mode 11	Temperature :	22~24°C		
Test Channel :	01	Relative Humidity :	50~52%		
Test Engineer :	Kyle Jhuang	Polarization :	Vertical		
	1. 2412 MHz is fundamental sign	nal which can be ignored	I.		
Remark :	2. Test result of emissions which are 20 dB lower than the limit is not reported				
	per15.31.				

Frequency	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Ant Pos	Table Pos	Remark
(MHz)	(dBuV/m)	( dB )	(dBuV/m)	(dBuV)	( dB )	( dB )	( dB )	( cm )	(deg)	
2412	103.88	-	-	99.47	32.31	6.07	33.97	106	228	Average
2412	115.02	-	-	110.59	32.33	6.07	33.97	106	228	Peak

SPORTON INTERNATIONAL INC.

TEL: 886-3-327-3456 FAX: 886-3-328-4978 FCC ID: UZ7AP6 Page Number : A32 of A46
Report Issued Date : Oct. 30, 2012
Report Version : Rev. 01



Test Mode :	Mode 12	Temperature :	22~24°C			
Test Channel :	02	Relative Humidity :	50~52%			
Test Engineer :	Kyle Jhuang	Polarization :	Horizontal			
	1. 2417 MHz is fundamental sign	nal which can be ignored				
Remark :	2. Test result of emissions which are 20 dB lower than the limit is not reported					
	per15.31.					

Frequency	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Ant Pos	Table Pos	Remark
(MHz)	( dBuV/m )		( dBuV/m )		(dB)	(dB)	(dB)		( deg )	
2417	91.51	-	-	87.1	32.31	6.07	33.97	100	238	Average
2417	103.03	-	-	98.6	32.33	6.07	33.97	100	238	Peak

Test Mode :	Mode 12	Temperature :	22~24°C			
Test Channel :	02	Relative Humidity :	50~52%			
Test Engineer :	Kyle Jhuang	Polarization :	Vertical			
	1. 2417 MHz is fundamental sign	nal which can be ignored	l.			
Remark :	2. Test result of emissions which are 20 dB lower than the limit is not reported					
	per15.31.					

Frequency	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Ant Pos	Table Pos	Remark
(MHz)	(dBuV/m)	(dB)	(dBuV/m)	(dBuV)	( dB )	( dB )	(dB)	( cm )	(deg)	
2417	108.66	-	-	104.25	32.31	6.07	33.97	101	225	Average
2417	120.02	-	-	115.59	32.33	6.07	33.97	101	225	Peak

SPORTON INTERNATIONAL INC.

TEL: 886-3-327-3456 FAX: 886-3-328-4978 FCC ID: UZ7AP6 Page Number : A33 of A46
Report Issued Date : Oct. 30, 2012
Report Version : Rev. 01



Test Mode :	Mode 13	Temperature :	22~24°C			
Test Channel :	06	Relative Humidity :	50~52%			
Test Engineer :	Kyle Jhuang	Polarization :	Horizontal			
	1. 2437 MHz is fundamental signal which can be ignored.					
Remark :	2. Test result of emissions which are 20 dB lower than the limit is not reported					
	per15.31.					

Frequency	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Ant Pos	Table Pos	Remark
(MHz)	( dBuV/m )	(dB)	( dBuV/m )		( dB )	(dB)	( dB )	(cm)	( deg )	
2340.78	57.55	-16.45	74	53.3	32.24	5.95	33.94	116	258	Peak
2341.59	44.23	-9.77	54	39.98	32.24	5.95	33.94	116	258	Average
2437	93.43	-	-	88.95	32.35	6.11	33.98	116	258	Average
2437	104.8	-	-	100.32	32.35	6.11	33.98	116	258	Peak
2485.36	58.22	-15.78	74	53.66	32.38	6.18	34	116	258	Peak
2492.88	44.17	-9.83	54	39.59	32.4	6.18	34	116	258	Average

Test Mode :	Mode 13	Temperature :	22~24°C		
Test Channel :	06	Relative Humidity :	50~52%		
Test Engineer :	Kyle Jhuang	Polarization :	Vertical		
	1. 2437 MHz is fundamental sign	nal which can be ignored	I.		
Remark: 2. Test result of emissions which are 20 dB lower than the limit is					
	per15.31.				

Frequency	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Ant Pos	Table Pos	Remark
(MHz)	( dBuV/m )	(dB)	( dBuV/m )	(dBuV)	(dB)	(dB)	(dB)	(cm)	( deg )	,
2366.7	65.67	-8.33	74	61.37	32.26	5.99	33.95	101	168	Peak
2379.3	52.66	-1.34	54	48.34	32.28	5.99	33.95	101	168	Average
2437	109.66	-	-	105.18	32.35	6.11	33.98	101	168	Average
2437	122.81	-	-	118.33	32.35	6.11	33.98	101	168	Peak
2487.82	66.48	-7.52	74	61.9	32.4	6.18	34	101	168	Peak
2490.24	52.02	-1.98	54	47.44	32.4	6.18	34	101	168	Average

SPORTON INTERNATIONAL INC.

TEL: 886-3-327-3456 FAX: 886-3-328-4978 FCC ID: UZ7AP6 Page Number : A34 of A46
Report Issued Date : Oct. 30, 2012
Report Version : Rev. 01



Test Mode :	Mode 14	Temperature :	22~24°C				
Test Channel :	10	Relative Humidity :	50~52%				
Test Engineer :	Kyle Jhuang	Polarization :	Horizontal				
	1. 2457 MHz is fundamental sig	gnal which can be ignore	ed.				
Remark: 2. Test result of emissions which are 20 dB lower than the limit is r							
	per15.31.	per15.31.					

Frequency	Level	Over	Limit	Read	Antenna		Preamp			Remark
		Limit	Line	Level	Factor	Loss	Factor	Pos	Pos	
(MHz)	(dBuV/m)	(dB)	(dBuV/m)	(dBuV)	(dB)	(dB)	(dB)	( cm )	(deg)	
2457	92.92	-	-	88.4	32.37	6.14	33.99	132	260	Average
2457	104	-	-	99.48	32.37	6.14	33.99	132	260	Peak

Test Mode :	Mod	e 14	Temperature :	22~24°C			
Test Channel :	10		Relative Humidity :	50~52%			
Test Engineer :	Kyle	Jhuang	Polarization :	Vertical			
	1.	2457 MHz is fundamental sig	gnal which can be ignore	ed.			
Remark :	2.	2. Test result of emissions which are 20 dB lower than the limit is not reported					
		per15.31.					

Frequency	Level	Over	Limit	Read	Antenna	Cable	Preamp	Ant	Table	Remark
		Limit	Line	Level	Factor	Loss	Factor	Pos	Pos	
(MHz)	(dBuV/m)	(dB)	(dBuV/m)	(dBuV)	( dB )	(dB)	(dB)	( cm )	(deg)	
2457	108.9	-	-	104.38	32.37	6.14	33.99	112	155	Average
2457	120.28	-	-	115.76	32.37	6.14	33.99	112	155	Peak

SPORTON INTERNATIONAL INC.

TEL: 886-3-327-3456 FAX: 886-3-328-4978 FCC ID: UZ7AP6 Page Number : A35 of A46
Report Issued Date : Oct. 30, 2012
Report Version : Rev. 01



Test Mode :	Mode 15	Temperature :	22~24°C				
Test Channel :	11	Relative Humidity :	50~52%				
Test Engineer :	Kyle Jhuang	Polarization :	Horizontal				
	1. 2462 MHz is fundamental sig	gnal which can be ignore	ed.				
Remark: 2. Test result of emissions which are 20 dB lower than the limit is							
	per15.31.	per15.31.					

Frequency	Level	Over	Limit	Read	Antenna		Preamp			Remark
( NALL - )	( -ID)// )	Limit	Line	Level	Factor	Loss	Factor	Pos	Pos	
(MHz)	(dBuV/m)	( dB )	(dBuV/m)	(dBuV)	( dB )	( dB )	( dB )	(cm)	( deg )	
2462	87.26	-	-	82.74	32.37	6.14	33.99	114	256	Average
2462	99.71	-	-	95.19	32.37	6.14	33.99	114	256	Peak

Test Mode :	Mode 15	Temperature :	22~24°C		
Test Channel :	11	Relative Humidity :	50~52%		
Test Engineer :	Kyle Jhuang	Polarization :	Vertical		
	1. 2462 MHz is fundamental	signal which can be ignore	ed.		
Remark: 2. Test result of emissions which are 20 dB lower than the limit is					
	per15.31.				

Frequency	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Ant Pos	Table Pos	Remark
(MHz)	(dBuV/m)	(dB)	(dBuV/m)	(dBuV)	(dB)	(dB)	(dB)	( cm )	(deg)	
2462	103.85	-	-	99.33	32.37	6.14	33.99	106	134	Average
2462	115.55	-	-	111.03	32.37	6.14	33.99	106	134	Peak

SPORTON INTERNATIONAL INC.

TEL: 886-3-327-3456 FAX: 886-3-328-4978 FCC ID: UZ7AP6 Page Number : A36 of A46
Report Issued Date : Oct. 30, 2012
Report Version : Rev. 01



Test Mode :	Mode 16	Temperature :	22~24°C			
Test Channel :	03	Relative Humidity :	50~52%			
Test Engineer :	Kyle Jhuang	Polarization :	Horizontal			
	1. 2422 MHz is fundamental sign	nal which can be ignored	l.			
Remark: 2. Test result of emissions which are 20 dB lower than the limit is not						
	per15.31.					

Frequency	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Ant Pos	Table Pos	Remark
(MHz)	( dBuV/m )		( dBuV/m )		(dB)	(dB)	(dB)		( deg )	
2422	80.48	-	-	76.05	32.33	6.07	33.97	100	232	Average
2422	90.85	-	-	86.39	32.33	6.11	33.98	100	232	Peak

Test Mode :	Mode 16	Temperature :	22~24°C		
Test Channel :	03	Relative Humidity :	50~52%		
Test Engineer :	Kyle Jhuang	Polarization :	Vertical		
	1. 2422 MHz is fundamental sign	nal which can be ignored	l.		
Remark :	the limit is not reported				
	per15.31.				

Frequency	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Ant Pos	Table Pos	Remark
(MHz)	(dBuV/m)	(dB)	(dBuV/m)	(dBuV)	( dB )	(dB)	(dB)	( cm )	(deg)	
2422	97.48	-	-	93.05	32.33	6.07	33.97	110	128	Average
2422	109.1	-	-	104.67	32.33	6.07	33.97	110	128	Peak

SPORTON INTERNATIONAL INC.

TEL: 886-3-327-3456 FAX: 886-3-328-4978 FCC ID: UZ7AP6 Page Number : A37 of A46
Report Issued Date : Oct. 30, 2012
Report Version : Rev. 01



Test Mode :	Mode 17	Temperature :	22~24°C			
Test Channel :	04	Relative Humidity :	50~52%			
Test Engineer :	Kyle Jhuang	Polarization :	Horizontal			
	1. 2427 MHz is fundamental sign	nal which can be ignored	l.			
Remark :	2. Test result of emissions which are 20 dB lower than the limit is not reported					
	per15.31.					

Frequency	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Ant Pos	Table Pos	Remark
(MHz)	( dBuV/m )		( dBuV/m )		(dB)	(dB)	(dB)		( deg )	
2427	82.9	-	-	78.47	32.33	6.07	33.97	100	232	Average
2427	94.1	-	-	89.67	32.33	6.07	33.97	100	232	Peak

Test Mode :	Mode 17	Temperature :	22~24°C		
Test Channel :	04	Relative Humidity :	50~52%		
Test Engineer :	Kyle Jhuang	Polarization :	Vertical		
	1. 2427 MHz is fundamental sign	nal which can be ignored	l.		
Remark :	2. Test result of emissions which	h are 20 dB lower than	wer than the limit is not reported		
	per15.31.				

Frequency	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Ant Pos	Table Pos	Remark
(MHz)	(dBuV/m)	( dB )	(dBuV/m)	(dBuV)	( dB )	( dB )	( dB )	( cm )	(deg)	
2427	99.59	-	-	95.16	32.33	6.07	33.97	102	225	Average
2427	111.79	-	-	107.36	32.33	6.07	33.97	102	225	Peak

SPORTON INTERNATIONAL INC.

TEL: 886-3-327-3456 FAX: 886-3-328-4978 FCC ID: UZ7AP6 Page Number : A38 of A46
Report Issued Date : Oct. 30, 2012
Report Version : Rev. 01



Test Mode :	Mode 18	Temperature :	22~24°C		
Test Channel :	05	Relative Humidity :	50~52%		
Test Engineer :	Kyle Jhuang	Polarization :	Horizontal		
	1. 2432 MHz is fundamental sign	nal which can be ignored	ļ.		
Remark :	2. Test result of emissions which are 20 dB lower than the limit is not reported				
	per15.31.				

Frequency	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Ant Pos	Table Pos	Remark
(MHz)	( dBuV/m )				( dB )	(dB)	(dB)		( deg )	
2432	84.18	-	-	79.72	32.33	6.11	33.98	100	238	Average
2432	95.86	-	-	91.43	32.33	6.07	33.97	100	238	Peak

Test Mode :	Mode 18	Temperature :	22~24°C		
Test Channel :	05	Relative Humidity :	50~52%		
Test Engineer :	Kyle Jhuang	Polarization :	Vertical		
	1. 2432 MHz is fundamental sign	nal which can be ignored	I.		
Remark :	2. Test result of emissions which are 20 dB lower than the limit is not reported				
	per15.31.				

Fr	equency	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Ant Pos	Table Pos	Remark
	(MHz)	(dBuV/m)	(dB)	(dBuV/m)	(dBuV)	(dB)	(dB)	(dB)	( cm )	(deg)	
	2432	100.8	-	-	96.34	32.33	6.11	33.98	102	225	Average
	2432	114.11	-	-	109.65	32.33	6.11	33.98	102	225	Peak

SPORTON INTERNATIONAL INC.

TEL: 886-3-327-3456 FAX: 886-3-328-4978 FCC ID: UZ7AP6 Page Number : A39 of A46
Report Issued Date : Oct. 30, 2012
Report Version : Rev. 01



Test Mode :	Mode 19	Temperature :	22~24°C			
Test Channel :	06	Relative Humidity :	50~52%			
Test Engineer :	Kyle Jhuang	Polarization :	Horizontal			
	1. 2437 MHz is fundamental sign	nal which can be ignored	l.			
Remark :	2. Test result of emissions which are 20 dB lower than the limit is not reported					
	per15.31.					

Frequency	Level	Over	Limit	Read	Antenna	Cable	Preamp	Ant	Table	Remark
		Limit	Line	Level	Factor	Loss	Factor	Pos	Pos	
(MHz)	(dBuV/m)	(dB)	(dBuV/m)	(dBuV)	(dB)	(dB)	( dB )	( cm )	(deg)	
2336.37	56.87	-17.13	74	52.62	32.24	5.95	33.94	120	233	Peak
2389.92	43.9	-10.1	54	39.53	32.3	6.03	33.96	120	233	Average
2437	84.65	-	-	80.17	32.35	6.11	33.98	120	233	Average
2437	96.32	-	-	91.89	32.33	6.07	33.97	120	233	Peak
2491.78	57.88	-16.12	74	53.3	32.4	6.18	34	120	233	Peak
2495.08	43.93	-10.07	54	39.35	32.4	6.18	34	120	233	Average

Test Mode :	Mode 19	Temperature :	22~24°C
Test Channel :	06	Relative Humidity :	50~52%
Test Engineer :	Kyle Jhuang	Polarization :	Vertical
	1. 2437 MHz is fundamental sign	nal which can be ignored	l.
Remark :	2. Test result of emissions which	h are 20 dB lower than	the limit is not reported
	per15.31.		

Frequency	Level	Over	Limit	Read	Antenna	Cable	Preamp	Ant	Table	Remark
(MHz)	( dBuV/m )	Limit (dB)	Line ( dBuV/m )	Level (dBuV)	Factor ( dB )	Loss (dB)	Factor ( dB )	Pos (cm)	Pos ( deg )	
( 141172 )	( ubuv/iii )	(ub)	( ubuv/iii )	(ubuv)	(ub)	(ub)	( ub )	( CIII )	( ueg )	
2389.56	65.96	-8.04	74	61.59	32.3	6.03	33.96	100	224	Peak
2390	52.53	-1.47	54	48.16	32.3	6.03	33.96	100	224	Average
2437	102.71	-	-	98.23	32.35	6.11	33.98	100	224	Average
2437	116.57	-	-	112.09	32.35	6.11	33.98	100	224	Peak
2483.7	51.37	-2.63	54	46.81	32.38	6.18	34	100	224	Average
2483.86	65.83	-8.17	74	61.27	32.38	6.18	34	100	224	Peak

SPORTON INTERNATIONAL INC.

TEL: 886-3-327-3456 FAX: 886-3-328-4978 FCC ID: UZ7AP6 Page Number : A40 of A46
Report Issued Date : Oct. 30, 2012
Report Version : Rev. 01



Test Mode :	Mode	e 20	Temperature :	22~24°C
Test Channel :	07		Relative Humidity :	50~52%
Test Engineer :	Kyle	Jhuang	Polarization :	Horizontal
	1.	2442 MHz is fundamental siç	gnal which can be ignore	ed.
Remark :	2.	Test result of emissions which	ch are 20 dB lower than	the limit is not reported
		per15.31.		

Frequency	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Ant Pos	Table Pos	Remark
(MHz)	( dBuV/m )		( dBuV/m )		(dB)	(dB)	(dB)	(cm)	(deg)	
2442	83.11	-	-	78.63	32.35	6.11	33.98	121	238	Average
2442	94.34	-	-	89.91	32.33	6.07	33.97	121	238	Peak

Test Mode :	Mode 20		Temperature :	22~24°C
Test Channel :	07		Relative Humidity :	50~52%
Test Engineer :	Kyle Jhua	ng	Polarization :	Vertical
	1. 2442	MHz is fundamental si	gnal which can be ignore	ed.
Remark :	2. Test	result of emissions whi	ch are 20 dB lower than	the limit is not reported
	per1	5.31.		

Frequency	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Ant Pos	Table Pos	Remark
(MHz)	(dBuV/m)	(dB)	(dBuV/m)	(dBuV)	( dB )	(dB)	(dB)	( cm )	(deg)	
2442	100.62	-	-	96.14	32.35	6.11	33.98	100	172	Average
2442	113.08	-	-	108.6	32.35	6.11	33.98	100	172	Peak

TEL: 886-3-327-3456 FAX: 886-3-328-4978 FCC ID: UZ7AP6

Page Number : A41 of A46 Report Issued Date: Oct. 30, 2012

Report No.: FR290603A

Report Version : Rev. 01



Test Mode :	Mod	le 21	Temperature :	22~24°C
Test Channel :	08		Relative Humidity :	50~52%
Test Engineer :	Kyle	Jhuang	Polarization :	Horizontal
	1.	2447 MHz is fundamental sig	gnal which can be ignore	ed.
Remark :	2.	Test result of emissions which	ch are 20 dB lower than	the limit is not reported
		per15.31.		

Frequency	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Ant Pos	Table Pos	Remark
(MHz)	( dBuV/m )	(dB)	( dBuV/m )	(dBuV)	( dB )	(dB)	(dB)	( cm )	(deg)	•
2447	82.73	-	-	78.25	32.35	6.11	33.98	100	270	Average
2447	95.15	-	-	90.67	32.35	6.11	33.98	100	270	Peak

Test Mode :	Mode 21	Temperature :	22~24°C
Test Channel :	08	Relative Humidity :	50~52%
Test Engineer :	Kyle Jhuang	Polarization :	Vertical
	1. 2447 MHz is fundamental s	signal which can be ignore	ed.
Remark :	2. Test result of emissions wh	nich are 20 dB lower than	the limit is not reported
	per15.31.		

	Frequency	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Ant Pos	Table Pos	Remark
ı	(MHz)	(dBuV/m)	(dB)	(dBuV/m)	(dBuV)	( dB )	(dB)	(dB)	( cm )	(deg)	
	2447	98.85	-	-	94.37	32.35	6.11	33.98	100	176	Average
	2447	111.2	-	-	106.72	32.35	6.11	33.98	100	176	Peak

SPORTON INTERNATIONAL INC.

TEL: 886-3-327-3456 FAX: 886-3-328-4978 FCC ID: UZ7AP6 Page Number : A42 of A46
Report Issued Date : Oct. 30, 2012
Report Version : Rev. 01



Test Mode :	Mode 22	Temperature :	22~24°C
Test Channel :	09	Relative Humidity :	50~52%
Test Engineer :	Kyle Jhuang	Polarization :	Horizontal
	1. 2452 MHz is fundamental	signal which can be ignored	1.
Remark :	2. Test result of emissions w	hich are 20 dB lower than	the limit is not reported
	per15.31.		

Frequency	Level	Over Limit	Limit Line	Read	Antenna Factor		Preamp Factor	Ant Pos	Table Pos	Remark
(MHz)	( dBuV/m )		( dBuV/m )	Level (dBuV)	(dB)	Loss (dB)	(dB)		( deg )	
2452	80.31	-	-	75.83	32.35	6.11	33.98	118	262	Average
2452	91.34	-	-	86.86	32.35	6.11	33.98	118	262	Peak

Test Mode :	Mode 22	Temperature :	22~24°C					
Test Channel :	09	Relative Humidity :	50~52%					
Test Engineer :	Kyle Jhuang	Polarization :	Vertical					
	1. 2452 MHz is fundamental sign	2452 MHz is fundamental signal which can be ignored.						
Remark :	2. Test result of emissions which are 20 dB lower than the limit is not reported							
	per15.31.							

Frequency	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Ant Pos	Table Pos	Remark
(MHz)	(dBuV/m)	(dB)	(dBuV/m)	(dBuV)	( dB )	(dB)	(dB)	( cm )	(deg)	
2452	95.52	-	-	91.04	32.35	6.11	33.98	100	196	Average
2452	108.56	-	-	104.08	32.35	6.11	33.98	100	196	Peak

SPORTON INTERNATIONAL INC.

TEL: 886-3-327-3456 FAX: 886-3-328-4978 FCC ID: UZ7AP6 Page Number : A43 of A46
Report Issued Date : Oct. 30, 2012
Report Version : Rev. 01



Test Mode :	Mode 23	Temperature :	22~24°C					
Test Channel :	10	Relative Humidity :	50~52%					
Test Engineer :	Kyle Jhuang	Polarization :	Horizontal					
	1. 2457 MHz is fundamental sign	2457 MHz is fundamental signal which can be ignored.						
Remark :	2. Test result of emissions which are 20 dB lower than the limit is not reported							
	per15.31.							

Frequency	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Ant Pos	Table Pos	Remark
(MHz)	( dBuV/m )		( dBuV/m )		( dB )	(dB)	( dB )		( deg )	
2457	96.77	-	-	92.25	32.37	6.14	33.99	100	134	Average
2457	102.08	-	-	97.56	32.37	6.14	33.99	100	134	Peak

Test Mode :	Mode 23	Temperature :	22~24°C					
Test Channel :	10	Relative Humidity :	50~52%					
Test Engineer :	Kyle Jhuang	Polarization :	Vertical					
	1. 2457 MHz is fundamental sign	2457 MHz is fundamental signal which can be ignored.						
Remark :	2. Test result of emissions which are 20 dB lower than the limit is not reported							
	per15.31.							

Frequency	Level	Over	Limit	Read	Antenna	Cable	Preamp	Ant	Table	Remark
		Limit	Line	Level	Factor	Loss	Factor	Pos	Pos	
(MHz)	(dBuV/m)	(dB)	(dBuV/m)	(dBuV)	(dB)	(dB)	(dB)	( cm )	(deg)	
2457	114.31	-	-	109.79	32.37	6.14	33.99	129	359	Average
2457	119.11	-	-	114.59	32.37	6.14	33.99	129	359	Peak

SPORTON INTERNATIONAL INC.

TEL: 886-3-327-3456 FAX: 886-3-328-4978 FCC ID: UZ7AP6 Page Number : A44 of A46
Report Issued Date : Oct. 30, 2012
Report Version : Rev. 01



Test Mode :	Mode 24	Temperature :	22~24°C					
Test Channel :	06	Relative Humidity :	50~52%					
Test Engineer :	Kyle Jhuang	Polarization :	Horizontal					
	1. 2437 MHz is fundamental sign	2437 MHz is fundamental signal which can be ignored.						
Remark :	2. Test result of emissions which are 20 dB lower than the limit is not reported							
	per15.31.							

Frequency	Level	Over	Limit	Read	Antenna	Cable	Preamp	Ant	Table	Remark
		Limit	Line	Level	Factor	Loss	Factor	Pos	Pos	
(MHz)	(dBuV/m)	(dB)	(dBuV/m)	(dBuV)	( dB )	( dB )	( dB )	(cm)	(deg)	
68.07	28.76	-11.24	40	53.46	6.26	0.82	31.78	-	-	Peak
209.28	27.18	-16.32	43.5	47.46	9.77	1.36	31.41	-	-	Peak
281.64	35.92	-10.08	46	52.65	13.04	1.64	31.41	128	30	Peak
624.1	34.45	-11.55	46	42.15	19.99	2.76	30.45	-	-	Peak
672.4	31.17	-14.83	46	38.33	20.37	2.88	30.41	-	-	Peak
902.7	30.93	-15.07	46	35.27	23.14	3.35	30.83	-	-	Peak
2386.41	43.37	-10.63	54	39	32.3	6.03	33.96	101	325	Average
2388.84	56.74	-17.26	74	52.37	32.3	6.03	33.96	101	325	Peak
2437	90.99	-	-	86.51	32.35	6.11	33.98	101	325	Average
2437	102.59	-	-	98.11	32.35	6.11	33.98	101	325	Peak
2494.84	44.33	-9.67	54	39.75	32.4	6.18	34	101	325	Average
2496.78	59.44	-14.56	74	54.86	32.4	6.18	34	101	325	Peak

TEL: 886-3-327-3456 FAX: 886-3-328-4978 FCC ID: UZ7AP6 Page Number : A45 of A46
Report Issued Date : Oct. 30, 2012
Report Version : Rev. 01



Test Mode :	Mode 24	Temperature :	22~24°C				
Test Channel :	06	Relative Humidity :	50~52%				
Test Engineer :	Kyle Jhuang	Polarization :	Vertical				
	2437 MHz is fundamental signal which can be ignored.						
Remark :	2. Test result of emissions which are 20 dB lower than the limit is not reported						
	per15.31.						

Frequency	Level	Over	Limit	Read	Antenna	Cable	Preamp	Ant	Table	Remark
		Limit	Line	Level	Factor	Loss	Factor	Pos	Pos	
(MHz)	(dBuV/m)	(dB)	( dBuV/m )	(dBuV)	( dB )	( dB )	( dB )	(cm)	( deg )	
65.64	27.92	-12.08	40	52.66	6.22	0.81	31.77	-	-	Peak
112.89	23.91	-19.59	43.5	43.58	10.98	1.06	31.71	-	-	Peak
271.38	26.84	-19.16	46	43.61	12.9	1.64	31.31	-	-	Peak
300	36.21	-9.79	46	52.41	13.3	1.77	31.27	113	57	Peak
486.9	23.14	-22.86	46	33.85	17.82	2.4	30.93	-	-	Peak
860	26.62	-19.38	46	31.24	22.7	3.28	30.6	-	-	Peak
2387.85	64.78	-9.22	74	60.41	32.3	6.03	33.96	129	177	Peak
2389.2	50.16	-3.84	54	45.79	32.3	6.03	33.96	129	177	Average
2437	110.3	-	-	105.82	32.35	6.11	33.98	129	177	Average
2437	122.21	-	-	117.73	32.35	6.11	33.98	129	177	Peak
2484.66	67.41	-6.59	74	62.85	32.38	6.18	34	129	177	Peak
2490.8	51.25	-2.75	54	46.67	32.4	6.18	34	129	177	Average

TEL: 886-3-327-3456 FAX: 886-3-328-4978 FCC ID: UZ7AP6 Page Number : A46 of A46
Report Issued Date : Oct. 30, 2012
Report Version : Rev. 01