

RADIATED EMISSIONS



Test Report #: WC904857 Run 2 Test Area: LTS

EUT Model #: 764 Date: 6/17/2009

EUT Serial #: 021 EUT Power: 12VDC Temperature: 22.0 °C

Test Method: FCC 15.247 Air Pressure: 98.0 kPa

Customer: Landis & GYR Rel. Humidity: 43.0 %

EUT Description: TS2 plus ZigBee

Notes: Limits are with a 7.53 dB Correction Factor.

Data File Name: 4857.dat

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List of measurements for run #: 2

FREQ	LEVEL (dBuV)	CABLE / ANT / PREAMP / ATTEN (dB)	FINAL (dBuV / m)	POL / HGT / AZ (m)(DEG)	DELTA1 FCC B >1G 3 M peak Landis Relax Factor	DELTA2 FCC B >1GHz 3m ave Landis Relax Factor
Ch 11 2.405GHz. Antenna 1						
Maximize Fundamental.						
2.404 GHz	82.0 Pk	4.19 / 28.55 / 0.0 / 0.0	114.74	V / 1.35 / 270	33.21	n/a
2.405 GHz	78.57 Av	4.19 / 28.55 / 0.0 / 0.0	111.31	V / 1.35 / 270	n/a	49.78
2.404 GHz	86.1 Pk	4.19 / 28.55 / 0.0 / 0.0	118.84	H / 1.00 / 296	37.31	n/a
2.405 GHz	82.31 Av	4.19 / 28.55 / 0.0 / 0.0	115.05	H / 1.00 / 296	n/a	53.52
Maximize Harmonics						
4.809 GHz	69.4 Pk	6.5 / 32.69 / 43.55 / 0.58	65.61	V / 1.13 / 322	-15.92	n/a
4.809 GHz	64.56 Av	6.5 / 32.69 / 43.55 / 0.58	60.77	V / 1.13 / 322	n/a	-0.76
4.809 GHz	65.7 Pk	6.5 / 32.69 / 43.55 / 0.58	61.91	H / 1.00 / 211	-19.62	n/a
4.809 GHz	61.13 Av	6.5 / 32.69 / 43.55 / 0.58	57.34	H / 1.00 / 211	n/a	-4.19
7.214 GHz	51.2 Pk	7.12 / 35.53 / 43.12 / 1.28	52.01	V / 1.00 / 310	-29.52	n/a
7.214 GHz	44.36 Av	7.12 / 35.53 / 43.12 / 1.28	45.17	V / 1.00 / 310	n/a	-16.36
7.214 GHz	49.85 Pk	7.12 / 35.53 / 43.12 / 1.28	50.66	H / 1.00 / 202	-30.87	n/a
7.214 GHz	41.41 Av	7.12 / 35.53 / 43.12 / 1.28	42.22	H / 1.00 / 202	n/a	-19.31
7.216 GHz	48.5 Pk	7.12 / 35.53 / 43.12 / 1.28	49.31	H / 1.00 / 202	-32.22	n/a
7.216 GHz	41.37 Av	7.12 / 35.53 / 43.12 / 1.28	42.18	H / 1.00 / 202	n/a	-19.35
7.216 GHz	51.85 Pk	7.12 / 35.53 / 43.12 / 1.28	52.66	V / 1.00 / 310	-28.87	n/a
7.216 GHz	44.72 Av	7.12 / 35.53 / 43.12 / 1.28	45.53	V / 1.00 / 310	n/a	-16.0
Ch 19 2.445GHz Antenna 1						
Maximize Fundamental.						
2.444 GHz	81.95 Pk	4.22 / 28.64 / 0.0 / 0.0	114.81	V / 1.22 / 90	33.28	n/a
2.444 GHz	77.96 Av	4.22 / 28.64 / 0.0 / 0.0	110.82	V / 1.22 / 90	n/a	49.29
2.444 GHz	83.15 Pk	4.22 / 28.64 / 0.0 / 0.0	116.01	H / 1.03 / 305	34.48	n/a
2.444 GHz	79.38 Av	4.22 / 28.64 / 0.0 / 0.0	112.24	H / 1.03 / 305	n/a	50.71
Maximize Harmonics.						

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FREQ	LEVEL (dBuV)	CABLE / ANT / PREAMP / ATTEN (dB)	FINAL (dBuV / m)	POL / HGT / AZ (m)(DEG)	DELTA1 FCC B >1G 3 M peak Landis Relax Factor	DELTA2 FCC B >1GHz 3m ave Landis Relax Factor
4.889 GHz	61.25 Pk	6.58 / 32.84 / 43.62 / 0.63	57.67	V / 1.03 / 190	-23.86	n/a
4.889 GHz	56.33 Av	6.58 / 32.84 / 43.62 / 0.63	52.75	V / 1.03 / 190	n/a	-8.78
4.889 GHz	60.2 Pk	6.58 / 32.84 / 43.62 / 0.63	56.62	H / 1.00 / 225	-24.91	n/a
4.889 GHz	55.39 Av	6.58 / 32.84 / 43.62 / 0.63	51.81	H / 1.00 / 225	n/a	-9.72
7.334 GHz	49.3 Pk	7.14 / 35.77 / 43.19 / 1.22	50.23	H / 1.00 / 238	-31.3	n/a
7.334 GHz	42.13 Av	7.14 / 35.77 / 43.19 / 1.22	43.06	H / 1.00 / 238	n/a	-18.47
7.334 GHz	49.9 Pk	7.14 / 35.77 / 43.19 / 1.22	50.83	V / 1.00 / 225	-30.7	n/a
7.334 GHz	43.31 Av	7.14 / 35.77 / 43.19 / 1.22	44.24	V / 1.00 / 225	n/a	-17.29
7.336 GHz	50.3 Pk	7.14 / 35.77 / 43.19 / 1.22	51.24	V / 1.00 / 225	-30.29	n/a
7.336 GHz	43.07 Av	7.14 / 35.77 / 43.19 / 1.22	44.01	V / 1.00 / 225	n/a	-17.52
7.336 GHz	48.35 Pk	7.14 / 35.77 / 43.19 / 1.22	49.29	H / 1.00 / 238	-32.24	n/a
7.336 GHz	42.0 Av	7.14 / 35.77 / 43.19 / 1.22	42.94	H / 1.00 / 238	n/a	-18.59
Ch 19 2.445GHz Antenna 2						
2.444 GHz	82.5 Pk	4.22 / 28.64 / 0.0 / 0.0	115.36	V / 1.00 / 223	33.83	n/a
2.444 GHz	79.0 Av	4.22 / 28.64 / 0.0 / 0.0	111.86	V / 1.00 / 223	n/a	50.33
2.444 GHz	83.5 Pk	4.22 / 28.64 / 0.0 / 0.0	116.36	H / 1.00 / 135	34.83	n/a
2.444 GHz	79.83 Av	4.22 / 28.64 / 0.0 / 0.0	112.69	H / 1.00 / 135	n/a	51.16
Maximize Harmonics.						
4.889 GHz	60.65 Pk	6.58 / 32.84 / 43.62 / 0.63	57.07	H / 1.00 / 233	-24.46	n/a
4.889 GHz	55.31 Av	6.58 / 32.84 / 43.62 / 0.63	51.73	H / 1.00 / 233	n/a	-9.8
4.889 GHz	57.65 Pk	6.58 / 32.84 / 43.62 / 0.63	54.07	V / 1.00 / 198	-27.46	n/a
4.889 GHz	52.6 Av	6.58 / 32.84 / 43.62 / 0.63	49.02	V / 1.00 / 198	n/a	-12.51
7.334 GHz	49.4 Pk	7.14 / 35.77 / 43.19 / 1.22	50.33	V / 1.00 / 193	-31.2	n/a
7.334 GHz	42.37 Av	7.14 / 35.77 / 43.19 / 1.22	43.3	V / 1.00 / 193	n/a	-18.23
7.334 GHz	48.1 Pk	7.14 / 35.77 / 43.19 / 1.22	49.03	H / 1.00 / 306	-32.5	n/a
7.334 GHz	41.16 Av	7.14 / 35.77 / 43.19 / 1.22	42.09	H / 1.00 / 306	n/a	-19.44
7.336 GHz	47.65 Pk	7.14 / 35.77 / 43.19 / 1.22	48.59	H / 1.00 / 306	-32.94	n/a

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7.336 GHz	40.87 Av	7.14 / 35.77 / 43.19 / 1.22	41.81	H / 1.00 / 306	n/a	-19.72
7.336 GHz	49.6 Pk	7.14 / 35.77 / 43.19 / 1.22	50.54	V / 1.00 / 193	-30.99	n/a
7.336 GHz	42.08 Av	7.14 / 35.77 / 43.19 / 1.22	43.02	V / 1.00 / 193	n/a	-18.51
Ch 11 2.405GHz. Antenna 2						
2.404 GHz	83.4 Pk	4.19 / 28.55 / 0.0 / 0.0	116.14	V / 1.00 / 260	34.61	n/a
2.405 GHz	79.92 Av	4.19 / 28.55 / 0.0 / 0.0	112.66	V / 1.00 / 260	n/a	51.13
2.404 GHz	83.6 Pk	4.19 / 28.55 / 0.0 / 0.0	116.34	H / 1.00 / 40	34.81	n/a
2.405 GHz	79.88 Av	4.19 / 28.55 / 0.0 / 0.0	112.62	H / 1.00 / 40	n/a	51.09
Maximize Harmonics						
4.809 GHz	69.0 Pk	6.5 / 32.69 / 43.55 / 0.58	65.21	V / 1.00 / 0	-16.32	3.68*
4.809 GHz	64.31 Av	6.5 / 32.69 / 43.55 / 0.58	60.52	V / 1.00 / 0	n/a	-1.01
4.809 GHz	68.4 Pk	6.5 / 32.69 / 43.55 / 0.58	64.61	H / 1.00 / 230	-16.92	n/a
4.809 GHz	63.59 Av	6.5 / 32.69 / 43.55 / 0.58	59.8	H / 1.00 / 230	n/a	-1.73
7.214 GHz	49.2 Pk	7.12 / 35.53 / 43.12 / 1.28	50.01	H / 1.00 / 233	-31.52	n/a
7.214 GHz	41.82 Av	7.12 / 35.53 / 43.12 / 1.28	42.63	H / 1.00 / 233	n/a	-18.9
7.213 GHz	50.7 Pk	7.12 / 35.53 / 43.12 / 1.28	51.51	V / 1.00 / 10	-30.02	n/a
7.214 GHz	43.51 Av	7.12 / 35.53 / 43.12 / 1.28	44.32	V / 1.00 / 10	n/a	-17.21
7.216 GHz	49.95 Pk	7.12 / 35.53 / 43.12 / 1.28	50.76	V / 1.00 / 10	-30.77	n/a
7.216 GHz	43.25 Av	7.12 / 35.53 / 43.12 / 1.28	44.06	V / 1.00 / 10	n/a	-17.47
7.216 GHz	48.95 Pk	7.12 / 35.53 / 43.12 / 1.28	49.76	H / 1.00 / 233	-31.77	n/a
7.216 GHz	41.47 Av	7.12 / 35.53 / 43.12 / 1.28	42.28	H / 1.00 / 233	n/a	-19.25
Ch 26 2.48GHz Antenna 2						
2.479 GHz	57.9 Pk	4.24 / 28.73 / 0.0 / 0.0	90.87	H / 1.00 / 145	9.34	n/a
2.48 GHz	54.35 Av	4.24 / 28.73 / 0.0 / 0.0	87.32	H / 1.00 / 145	n/a	25.79
2.479 GHz	56.8 Pk	4.24 / 28.73 / 0.0 / 0.0	89.77	V / 1.00 / 285	8.24	n/a
2.48 GHz	53.32 Av	4.24 / 28.73 / 0.0 / 0.0	86.29	V / 1.00 / 285	n/a	24.76

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Notes: Limits are with a 7.53 dB Correction Factor.

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List of measurements for run #: 2

FREQ	LEVEL (dBuV)	CABLE / ANT / PREAMP / ATTEN (dB)	FINAL (dBuV / m)	POL / HGT / AZ (m)(DEG)	DELTA1 FCC B >1G 3 M peak Landis Relax Factor	DELTA2 FCC B >1GHz 3m ave Landis Relax Factor
Maximize Harmonics						
4.96 GHz	46.75 Pk	6.64 / 32.97 / 43.66 / 0.67	43.38	V / 1.00 / 201	-38.15	n/a
4.96 GHz	39.76 Av	6.64 / 32.97 / 43.66 / 0.67	36.39	V / 1.00 / 201	n/a	-25.14
4.96 GHz	46.75 Pk	6.64 / 32.97 / 43.66 / 0.67	43.38	H / 1.00 / 235	-38.15	n/a
4.96 GHz	39.5 Av	6.64 / 32.97 / 43.66 / 0.67	36.13	H / 1.00 / 235	n/a	-25.4
Noise Floor Reading						
7.44 GHz	46.05 Pk	7.15 / 35.98 / 43.12 / 1.27	47.33	V / 1.00 / 0	-34.2	n/a
7.44 GHz	37.83 Av	7.15 / 35.98 / 43.12 / 1.27	39.11	V / 1.00 / 0	n/a	-22.42
7.44 GHz	44.8 Pk	7.15 / 35.98 / 43.12 / 1.27	46.08	H / 1.00 / 0	-35.45	n/a
7.44 GHz	37.84 Av	7.15 / 35.98 / 43.12 / 1.27	39.12	H / 1.00 / 0	n/a	-22.41
Ch 26 2.48GHz Antenna 1						
2.479 GHz	61.8 Pk	4.24 / 28.73 / 0.0 / 0.0	94.77	H / 1.00 / 235	13.24	n/a
2.479 GHz	57.89 Av	4.24 / 28.73 / 0.0 / 0.0	90.86	H / 1.00 / 235	n/a	29.33
2.479 GHz	57.6 Pk	4.24 / 28.73 / 0.0 / 0.0	90.57	V / 1.00 / 303	9.04	n/a
2.479 GHz	53.74 Av	4.24 / 28.73 / 0.0 / 0.0	86.71	V / 1.00 / 303	n/a	25.18
Maximize Harmonics						
4.96 GHz	47.75 Pk	6.64 / 32.97 / 43.66 / 0.67	44.38	V / 1.00 / 200	-37.15	n/a
4.889 GHz	37.79 Av	6.58 / 32.84 / 43.62 / 0.63	34.21	V / 1.00 / 200	n/a	-27.32
Noise Floor Readings.						
4.889 GHz	36.0 Pk	6.58 / 32.84 / 43.62 / 0.63	32.42	H / 1.00 / 0	-49.11	v
4.889 GHz	37.69 Av	6.58 / 32.84 / 43.62 / 0.63	34.11	H / 1.00 / 0	n/a	-27.42
7.369 GHz	44.5 Pk	7.14 / 35.84 / 43.18 / 1.23	45.53	H / 1.00 / 0	-36.0	n/a
7.369 GHz	38.26 Av	7.14 / 35.84 / 43.18 / 1.23	39.29	H / 1.00 / 0	n/a	-22.24
7.369 GHz	44.95 Pk	7.14 / 35.84 / 43.18 / 1.23	45.98	V / 1.00 / 0	-35.55	n/a
7.369 GHz	38.28 Av	7.14 / 35.84 / 43.18 / 1.23	39.31	V / 1.00 / 0	n/a	-22.22

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Measurement summary for limit1: FCC B >1G 3 M peak Landis Relax Factor (Pk)

FREQ	LEVEL (dBuV)	CABLE / ANT / PREAMP / ATTEN (dB)	FINAL (dBuV / m)	POL / HGT / AZ (m)(DEG)	DELTA1 FCC B >1G 3 M peak Landis Relax Factor
2.404 GHz	86.1 Pk	4.19 / 28.55 / 0.0 / 0.0	118.84	H / 1.00 / 296	37.31
2.444 GHz	83.5 Pk	4.22 / 28.64 / 0.0 / 0.0	116.36	H / 1.00 / 135	34.83
2.479 GHz	61.8 Pk	4.24 / 28.73 / 0.0 / 0.0	94.77	H / 1.00 / 235	13.24
4.809 GHz	69.4 Pk	6.5 / 32.69 / 43.55 / 0.58	65.61	V / 1.13 / 322	-15.92
4.889 GHz	61.25 Pk	6.58 / 32.84 / 43.62 / 0.63	57.67	V / 1.03 / 190	-23.86
7.216 GHz	51.85 Pk	7.12 / 35.53 / 43.12 / 1.28	52.66	V / 1.00 / 310	-28.87
7.214 GHz	51.2 Pk	7.12 / 35.53 / 43.12 / 1.28	52.01	V / 1.00 / 310	-29.52
7.336 GHz	50.3 Pk	7.14 / 35.77 / 43.19 / 1.22	51.24	V / 1.00 / 225	-30.29
7.334 GHz	49.9 Pk	7.14 / 35.77 / 43.19 / 1.22	50.83	V / 1.00 / 225	-30.7
7.216 GHz	49.95 Pk	7.12 / 35.53 / 43.12 / 1.28	50.76	V / 1.00 / 10	-30.77
7.44 GHz	46.05 Pk	7.15 / 35.98 / 43.12 / 1.27	47.33	V / 1.00 / 0	-34.2
7.369 GHz	44.95 Pk	7.14 / 35.84 / 43.18 / 1.23	45.98	V / 1.00 / 0	-35.55
4.96 GHz	47.75 Pk	6.64 / 32.97 / 43.66 / 0.67	44.38	V / 1.00 / 200	-37.15

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Measurement summary for limit2: FCC B >1GHz 3m ave Landis Relax Factor (Av)

FREQ	LEVEL (dBuV)	CABLE / ANT / PREAMP / ATTEN (dB)	FINAL (dBuV / m)	POL / HGT / AZ (m)(DEG)	DELTA2 FCC B >1GHz 3m ave Landis Relax Factor
2.405 GHz	82.31 Av	4.19 / 28.55 / 0.0 / 0.0	115.05	H / 1.00 / 296	53.52
2.444 GHz	79.83 Av	4.22 / 28.64 / 0.0 / 0.0	112.69	H / 1.00 / 135	51.16
2.479 GHz	57.89 Av	4.24 / 28.73 / 0.0 / 0.0	90.86	H / 1.00 / 235	29.33
4.809 GHz	64.56 Av	6.5 / 32.69 / 43.55 / 0.58	60.77	V / 1.13 / 322	-0.76
4.889 GHz	56.33 Av	6.58 / 32.84 / 43.62 / 0.63	52.75	V / 1.03 / 190	-8.78
7.216 GHz	44.72 Av	7.12 / 35.53 / 43.12 / 1.28	45.53	V / 1.00 / 310	-16.0
7.214 GHz	44.36 Av	7.12 / 35.53 / 43.12 / 1.28	45.17	V / 1.00 / 310	-16.36
7.334 GHz	43.31 Av	7.14 / 35.77 / 43.19 / 1.22	44.24	V / 1.00 / 225	-17.29
7.216 GHz	43.25 Av	7.12 / 35.53 / 43.12 / 1.28	44.06	V / 1.00 / 10	-17.47
7.336 GHz	43.07 Av	7.14 / 35.77 / 43.19 / 1.22	44.01	V / 1.00 / 225	-17.52
7.369 GHz	38.28 Av	7.14 / 35.84 / 43.18 / 1.23	39.31	V / 1.00 / 0	-22.22
7.44 GHz	37.84 Av	7.15 / 35.98 / 43.12 / 1.27	39.12	H / 1.00 / 0	-22.41
4.96 GHz	39.76 Av	6.64 / 32.97 / 43.66 / 0.67	36.39	V / 1.00 / 201	-25.14

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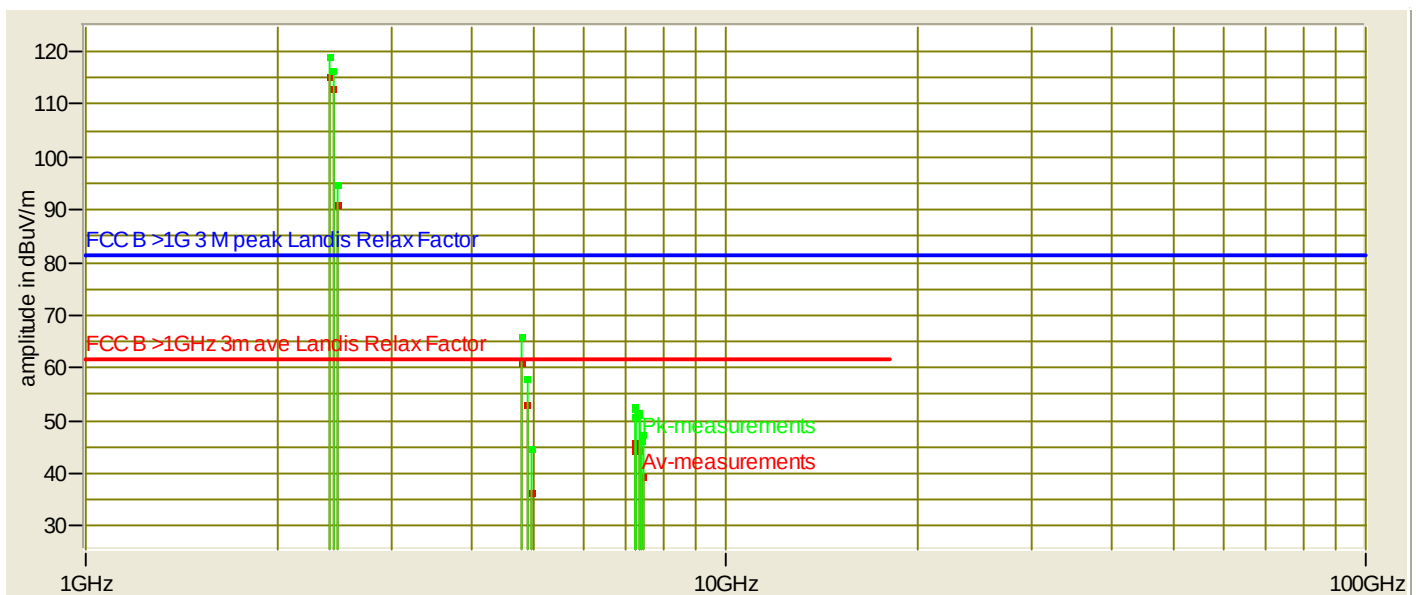
Customer: Landis & GYR Rel. Humidity: 43.0 %

EUT Description: TS2 plus ZigBee

Notes: Limits are with a 7.53 dB Correction Factor.

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Graph:



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