

**At What Distance Does a Small Cell Mounted at 26' height produce greater than the BioInitiative 2007 recommendation of 0.1 microwatt/cm2 (green highlight)?  
Or ten times higher at 1.0 microwatt/cm2 (yellow highlight)?**

This summary has been compiled by Cindy Sage, Sage Associates (July 2017) from a report by Gerrold Bushberg that was prepared for NextG small cell rollout in Santa Barbara County in 2009.

Bushberg provides an approximation of radiofrequency radiation emissions of one type of small cell wireless installation mounted on power poles in residential neighborhoods. *Note that Bushberg presents his running tables of RF power density vs distance in milliwatts/cm2, so you will need to multiply his predicted RF levels by 1000 times to see microwatts/cm2 for comparison to scientific studies reporting health impacts from chronic, low-intensity RF exposures.*

***There would be far higher RF at a second-story home (bedroom) level on a balcony or with the windows open. Think about the power pole outside your home. How far is it from your bedroom window? Your child's bedroom window?***

Source - Bushberg Appendix A-3  
Phazar Antenna Corp. Antenna model# AWS360-1710-7-TO-N Exposure  
Calculation 6.0 ft Above Grade Level (AGL) Antenna Center 26.0 ft AGL  
ERP 48.6 Watts (AWS)  
1710-2155  
MHz Omni- Directional Antenna

JERROLD T. BUSHBERG Ph.D., DABMP, DABSNM  
*+HEALTH AND MEDICAL PHYSICS CONSULTING+*

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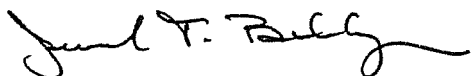
7784 Oak Bay Circle Sacramento CA 95831-  
5800 (800) 760-8414-jbushberg@hampc.com

Christopher D. Hourigan  
NextG Networks  
2216 O'Toole Ave  
San Jose CA 95131

April 29, 2009

## Introduction

At your request, I have reviewed the technical specifications and calculated the maximum radiofrequency, (RF), power density from the Phazar antenna model #AWS360-1710-7-TO-N planned for the Metro PCS wireless telecommunications facilities in Santa Barbara and Goleta, CA. Detailed antenna specifications are provided in attachment 1. This analysis is applicable to any situation in which this antenna is the only RF transmission source located on a light standard, utility pole or similar structure, where the distance from the antenna center to the ground is at least 26 feet and the maximum input power is 20.0 watts. The antenna planned for use in this network is omnidirectional, with a gain of 7 dBi, and is designed to transmit within a bandwidth between approximately 1,710 and 2,155 MHz.



Jerrold T. Bushberg Ph.D., DABMP, DABSNM  
Diplomate, American Board of Medical Physics (DABMP)  
Diplomate, American Board of Science in Nuclear Medicine (DABSNM)

Enclosures: Figures 1-3; Attachment 1; Appendix A-1, A-2, A-3 and Statement of Experience.

What does the Bushberg Report say?

**If you want to compare the 2007 BioInitiative Report recommendation of no higher than 0.1 microwatt/cm<sup>2</sup>, here are the distances from the power pole that exceed that level.**

*(There would be far higher RF at a second-story home (bedroom) level on a balcony or with the windows open. Think about the power pole outside your home. How far is it from your bedroom window? Your child's bedroom window?)*

## **RF Exposure Level at ground level (6' head height)**

**Green color indicates RF level is over 2007 BioInitiative Recommendation of 0.1 microwatts/cm<sup>2</sup> (uW/cm<sup>2</sup>) at this distance from the power pole to the home as measured at ground level.**

<i>Feet to Ant. base</i>	<i>Depress angle</i>	<i>Antenna gain</i>	<i>dB from maxERP</i>	<i>Prop dist in em</i>	<i>Act ERP inmW</i>	<i>Level mW/cm<sup>2</sup></i>	<i>Percent of FCCSTD</i>
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NOTE: Multiply mW/cm<sup>2</sup> (milliwatt per centimeter squared) by 1000 to see uW/cm<sup>2</sup> (microwatt/cm<sup>2</sup>)  
All the **green highlights** below show RF at greater than 0.1 microwatt/cm<sup>2</sup> (uW/cm<sup>2</sup>)

0	90.000	-25.88	-30.74	609.60	40.9861	0.00006	0.00576
1	87.138	-23.2467	-28.10669	610.36	75.1567	0.00011	0.01053
2	84.289	-20.0869	-24.94692	612.64	155.5765	0.00022	0.02164
3	81.469	-16.8628	-21.72277	616.42	326.8582	0.00045	0.04491
4	78.690	-14.9056	-19.76558	621.67	512.9537	0.00069	0.06929
5	75.964	-14.5567	-19.41669	628.36	555.8620	0.00073	0.07349
6	73.301	-15.0779	-19.93791	636.44	492.9983	0.00064	0.06354
7	70.710	-16.4469	-21.30692	645.86	359.7036	0.00045	0.04502
8	68.199	-16.9833	-21.84327	656.56	317.9137	0.00038	0.03850
9	65.772	-19.9026	-24.76264	668.48	162.3202	0.00019	0.01896
10	63.435	-17.8501	-22.71007	681.55	260.3930	0.00029	0.02926
11	61.189	-14.5008	-19.36084	695.72	563.0569	0.00061	0.06073
12	59.036	-11.0898	-15.94978	710.91	1234.9763	0.00128	0.12756
13	56.976	-8.71154	-13.57154	727.06	2135.4139	0.00211	0.21088
14	55.008	-8.1511	-13.0111	744.11	2429.5508	0.00229	0.22906
15	53.130	-7.2906	-12.1506	762.00	2961.9395	0.00266	0.26629
16	51.340	-7.18966	-12.04966	780.67	3031.5889	0.00260	0.25968
17	49.635	-7.21	-12.07	800.06	3017.4235	0.00246	0.24608
18	48.013	-7.62941	-12.48941	820.13	2739.6536	0.00213	0.21263
19	46.469	-8.50976	-13.36976	840.83	2236.9726	0.00165	0.16517
20	45.000	-9.23985	-14.09985	862.10	1890.8261	0.00133	0.13281
21	43.603	-11.586	-16.446	883.92	1101.6302	0.00074	0.07360
22	42.274	-12.5595	-17.41949	906.24	880.4146	0.00056	0.05596
23	41.009	-14.0297	-18.88966	929.02	627.5821	0.00038	0.03796
24	39.806	-18.5393	-23.3993	952.23	222.1809	0.00013	0.01279
25	38.660	-18.7401	-23.60007	975.84	212.1433	0.00012	0.01163
26	37.569	-16.337	-21.197	999.82	368.9235	0.00019	0.01927
27	36.529	-14.5211	-19.38115	1024.15	560.4301	0.00028	0.02789
28	35.538	-12.0418	-16.90177	1048.80	991.8810	0.00047	0.04707
29	34.592	-9.56356	-14.42356	1073.74	1755.0145	0.00079	0.07946
30	33.690	-8.41314	-13.27314	1098.97	2287.2930	0.00099	0.09886
31	32.829	-7.27007	-12.13007	1124.46	2975.9721	0.00123	0.12287
32	32.005	-7.27007	-12.13007	1150.19	2975.9721	0.00117	0.11743
33	31.218	-6.17142	-11.03142	1176.15	3832.6082	0.00145	0.14463
34	30.466	-5.20211	-10.06211	1202.32	4790.9855	0.00173	0.17301
35	29.745	-4.82067	-9.680671	1228.69	5230.8127	0.00181	0.18088

ARL  
 Max gain |  
 | 2.0 (dBd): 4.86

Max exposure: 0.002662931 mW/cm<sup>2</sup>

**MaxERP**

(W): 48.6 Ant type: Phazar AWS 360-1710-7-TO-N

Feet from site: 15

**RF Exposure Level at ground level (6' head height)**

Green color indicates RF level is over 2007 BioInitiative Recommendation of 0.1 microwatts/cm<sup>2</sup> (uW/cm<sup>2</sup>) at this distance from the power pole to the home as measured at ground level.

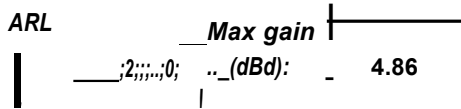
Feet to Ant. base	Depress angle	Antenna gain	dB from maxERP	Prop dist in em	Act ERP in mW	Level mW/cm <sup>2</sup>	Percent of FCCSTD
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NOTE: Multiply mW/cm<sup>2</sup> (milliwatt per centimeter squared) by 1000 to see uW/cm<sup>2</sup> (microwatt/cm<sup>2</sup>)  
 All the green highlights below show RF at greater than 0.1 microwatt/cm<sup>2</sup> (uW/cm<sup>2</sup>)

36	29.055	-4.82067	-9.680671	1255.24	5230.8127	0.00173	0.17330
37	28.393	-4.68937	-9.549374	1281.97	5391.3672	0.00171	0.17125
38	27.759	-4.30058	-9.160582	1308.87	5896.2796	0.00180	0.17967
39	27.150	-4.30058	-9.160582	1335.91	5896.2796	0.00172	0.17247
40	26.565	-4.37009	-9.230094	1363.11	5802.6570	0.00163	0.16303
41	26.003	-4.37009	-9.230094	1390.44	5802.6570	0.00157	0.15668
42	25.463	-4.65961	-9.519612	1417.89	5428.4402	0.00141	0.14096
43	24.944	-5.28942	-10.14942	1445.47	4695.6355	0.00117	0.11732
44	24.444	-5.28942	-10.14942	1473.16	4695.6355	0.00113	0.11295
45	23.962	-5.84995	-10.70995	1500.97	4127.0611	0.00096	0.09563
46	23.499	-5.84995	-10.70995	1528.87	4127.0611	0.00092	0.09217
47	23.051	-5.84995	-10.70995	1556.87	4127.0611	0.00089	0.08889
48	22.620	-7.14898	-12.00898	1584.96	3060.1181	0.00064	0.06359
49	22.203	-7.14898	-12.00898	1613.14	3060.1181	0.00061	0.06139
50	21.801	-8.46954	-13.32954	1641.40	2257.7852	0.00044	0.04375
51	21.413	-8.46954	-13.32954	1669.74	2257.7852	0.00042	0.04227
52	21.038	-8.46954	-13.32954	1698.15	2257.7852	0.00041	0.04087
53	20.674	-12.3602	-17.22022	1726.63	921.7530	0.00016	0.01614
54	20.323	-12.3602	-17.22022	1755.18	921.7530	0.00016	0.01562
55	19.983	-16.252	-21.11199	1783.80	376.2163	0.00006	0.00617
56	19.654	-16.252	-21.11199	1812.47	376.2163	0.00006	0.00598
57	19.335	-16.252	-21.11199	1841.20	376.2163	0.00006	0.00579
58	19.026	-16.252	-21.11199	1869.99	376.2163	0.00006	0.00562
59	18.726	-25.4966	-30.35658	1898.83	44.7691	0.00001	0.00065
60	18.435	-25.4966	-30.35658	1927.72	44.7691	0.00001	0.00063
61	18.153	-25.4966	-30.35658	1956.66	44.7691	0.00001	0.00061
62	17.879	-22.4546	-27.3146	1985.65	90.1937	0.00001	0.00119
63	17.613	-22.4546	-27.3146	2014.68	90.1937	0.00001	0.00116
64	17.354	-22.4546	-27.3146	2043.75	90.1937	0.00001	0.00113

65	17.103	-22.4546	-27.3146	2072.86	90.1937	0.00001	0.00110
66	16.858	-11.4187	-16.27874	2102.02	1144.8867	0.00014	0.01353
67	16.621	-11.4187	-16.27874	2131.20	1144.8867	0.00013	0.01316
68	16.390	-11.4187	-16.27874	2160.43	1144.8867	0.00013	0.01280
69	16.164	-11.4187	-16.27874	2189.69	1144.8867	0.00012	0.01247
70	15.945	-7.94152	-12.80152	2218.98	2549.6705	0.00027	0.02703
71	15.732	-7.94152	-12.80152	2248.30	2549.6705	0.00026	0.02633
72	15.524	-7.94152	-12.80152	2277.65	2549.6705	0.00026	0.02566
73	15.322	-7.94152	-12.80152	2307.04	2549.6705	0.00025	0.02501
74	15.124	-7.94152	-12.80152	2336.45	2549.6705	0.00024	0.02438
75	14.931	-5.0511	-9.911097	2365.88	4960.5133	0.00046	0.04626

ARL



Max exposure: 0.002662931 mW/cm<sup>2</sup>

**MaxERP**

(W): 48.6 Ant type: Phazar AWS 360-1710-7-TO-N

Feet from site: 15

**RF Exposure Level at ground level (6' head height)**

Green color indicates RF level is over 2007 BioInitiative Recommendation of 0.1 microwatts/cm<sup>2</sup> (uW/cm<sup>2</sup>) at this distance from the power pole to the home as measured at ground level.

Feet to Ant. base	Depress angle	Antenna gain	dB from maxERP	Prop dist in em	Act ERP in mW	Level mW/cm <sup>2</sup>	Percent of FCCSTD
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NOTE: Multiply mW/cm<sup>2</sup> (milliwatt per centimeter squared) by 1000 to see uW/cm<sup>2</sup> (microwatt/cm<sup>2</sup>) All the green highlights below show RF at greater than 0.1 microwatt/cm<sup>2</sup> (uW/cm<sup>2</sup>)

76	14.744	-5.0511	-9.911097	2395.35	4960.5133	0.00045	0.04513
77	14.560	-5.0511	-9.911097	2424.84	4960.5133	0.00044	0.04404
78	14.381	-5.0511	-9.911097	2454.35	4960.5133	0.00043	0.04299
79	14.207	-5.0511	-9.911097	2483.89	4960.5133	0.00042	0.04197
80	14.036	-5.0511	-9.911097	2513.45	4960.5133	0.00041	0.04099
81	13.870	-2.3328	-7.192795	2543.03	9275.9144	0.00075	0.07488
82	13.707	-2.3328	-7.192795	2572.63	9275.9144	0.00073	0.07316
83	13.548	-2.3328	-7.192795	2602.25	9275.9144	0.00072	0.07151
84	13.392	-2.3328	-7.192795	2631.89	9275.9144	0.00070	0.06991
85	13.241	-2.3328	-7.192795	2661.55	9275.9144	0.00068	0.06836
86	13.092	-2.3328	-7.192795	2691.23	9275.9144	0.00067	0.06686
87	12.947	-0.84236	-5.702363	2720.93	13073.7451	0.00092	0.09218
88	12.804	-0.84236	-5.702363	2750.64	13073.7451	0.00090	0.09020
89	12.665	-0.84236	-5.702363	2780.37	13073.7451	0.00088	0.08829
90	12.529	-0.84236	-5.702363	2810.12	13073.7451	0.00086	0.08643
91	12.395	-0.84236	-5.702363	2839.88	13073.7451	0.00085	0.08462
92	12.265	-0.84236	-5.702363	2869.66	13073.7451	0.00083	0.08288
93	12.137	-0.84236	-5.702363	2899.45	13073.7451	0.00081	0.08118
94	12.011	-0.84236	-5.702363	2929.25	13073.7451	0.00080	0.07954
95	11.889	0.369469	-4.490531	2959.07	17281.5683	0.00103	0.10303
96	11.768	0.369469	-4.490531	2988.91	17281.5683	0.00101	0.10098
97	11.650	0.369469	-4.490531	3018.75	17281.5683	0.00099	0.09900
98	11.535	0.369469	-4.490531	3048.61	17281.5683	0.00097	0.09707
99	11.421	0.369469	-4.490531	3078.48	17281.5683	0.00095	0.09519
100	11.310	0.369469	-4.490531	3108.36	17281.5683	0.00093	0.09337
101	11.201	0.369469	-4.490531	3138.26	17281.5683	0.00092	0.09160
102	11.094	0.369469	-4.490531	3168.16	17281.5683	0.00090	0.08988
103	10.989	1.818394	-3.041606	3198.08	24125.4611	0.00123	0.12314
104	10.886	1.818394	-3.041606	3228.00	24125.4611	0.00121	0.12087
105	10.784	1.818394	-3.041606	3257.94	24125.4611	0.00119	0.11865

106	10.685	1.818394	-3.041606	3287.89	24125.4611	0.00117	0.11650
107	10.587	1.818394	-3.041606	3317.84	24125.4611	0.00114	0.11441
108	10.491	1.818394	-3.041606	3347.81	24125.4611	0.00112	0.11237
109	10.397	1.818394	-3.041606	3377.78	24125.4611	0.00110	0.11038
110	10.305	1.818394	-3.041606	3407.77	24125.4611	0.00108	0.10845
111	10.214	1.818394	-3.041606	3437.76	24125.4611	0.00107	0.10657
112	10.125	1.818394	-3.041606	3467.76	24125.4611	0.00105	0.10473
113	10.037	1.818394	-3.041606	3497.77	24125.4611	0.00103	0.10294
114	9.951	2.558738	-2.301262	3527.79	28609.4900	0.00120	0.12000
115	9.866	2.558738	-2.301262	3557.81	28609.4900	0.00118	0.11799

Max gain | \_\_\_\_\_  
 ARL \_\_\_\_\_; JdBd): 4.86

Max exposure: 0.002662931 mW/cm<sup>2</sup>

**MaxERP**

(W): 48.6 Anttype: PhazarAW\$360-1710-7-TO-N

Feet from site: 15

**RF Exposure Level at ground level (6' head height)**

Green color indicates RF level is over 2007 BioInitiative Recommendation of 0.1 microwatts/cm<sup>2</sup> (uW/cm<sup>2</sup>) at this distance from the power pole to the home as measured at ground level.

Feet to Ant. base	Depress angle	Antenna gain	dB from maxERP	Prop dist in em	Act ERP in mW	Level mW/cm <sup>2</sup>	Percent of FCCSTD
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NOTE: Multiply mW/cm<sup>2</sup> (milliwatt per centimeter squared) by 1000 to see uW/cm<sup>2</sup> (microwatt/cm<sup>2</sup>)  
 All the green highlights below show RF at greater than 0.1 microwatt/cm<sup>2</sup> (uW/cm<sup>2</sup>)

116	9.782	2.558738	-2.301262	3587.85	28609.4900	0.00116	0.11602
117	9.700	2.558738	-2.301262	3617.89	28609.4900	0.00114	0.11410
118	9.620	2.558738	-2.301262	3647.94	28609.4900	0.00112	0.11223
119	9.540	2.558738	-2.301262	3677.99	28609.4900	0.00110	0.11040
120	9.462	2.558738	-2.301262	3708.05	28609.4900	0.00109	0.10862
121	9.386	2.558738	-2.301262	3738.12	28609.4900	0.00107	0.10688
122	9.310	2.558738	-2.301262	3768.20	28609.4900	0.00105	0.10518
123	9.236	2.558738	-2.301262	3798.28	28609.4900	0.00104	0.10352
124	9.162	2.558738	-2.301262	3828.37	28609.4900	0.00102	0.10190
125	9.090	2.558738	-2.301262	3858.46	28609.4900	0.00100	0.10032
126	9.019	2.558738	-2.301262	3888.56	28609.4900	0.00099	0.09877
127	8.949	3.149905	-1.710095	3918.67	32781.3444	0.00111	0.11144
128	8.881	3.149905	-1.710095	3948.78	32781.3444	0.00110	0.10975
129	8.813	3.149905	-1.710095	3978.90	32781.3444	0.00108	0.10809
130	8.746	3.149905	-1.710095	4009.02	32781.3444	0.00106	0.10647
131	8.680	3.149905	-1.710095	4039.15	32781.3444	0.00105	0.10489
132	8.616	3.149905	-1.710095	4069.28	32781.3444	0.00103	0.10334
133	8.552	3.149905	-1.710095	4099.42	32781.3444	0.00102	0.10183
134	8.489	3.149905	-1.710095	4129.56	32781.3444	0.00100	0.10035
135	8.427	3.149905	-1.710095	4159.71	32781.3444	0.00099	0.09890
136	8.366	3.149905	-1.710095	4189.86	32781.3444	0.00097	0.09748
137	8.306	3.149905	-1.710095	4220.02	32781.3444	0.00096	0.09609
138	8.246	3.149905	-1.710095	4250.18	32781.3444	0.00095	0.09473
139	8.188	3.149905	-1.710095	4280.35	32781.3444	0.00093	0.09340
140	8.130	3.149905	-1.710095	4310.52	32781.3444	0.00092	0.09210
141	8.073	3.149905	-1.710095	4340.70	32781.3444	0.00091	0.09082
142	8.017	3.149905	-1.710095	4370.88	32781.3444	0.00090	0.08957
143	7.962	3.889043	-0.970957	4401.06	38863.3836	0.00105	0.10474
144	7.907	3.889043	-0.970957	4431.25	38863.3836	0.00103	0.10332
145	7.853	3.889043	-0.970957	4461.44	38863.3836	0.00102	0.10193
146	7.800	3.889043	-0.970957	4491.64	38863.3836	0.00101	0.10056
147	7.748	3.889043	-0.970957	4521.84	38863.3836	0.00099	0.09922



148	7.696	3.889043	-0.970957	4552.04	38863.3836	0.00098	0.09791
149	7.645	3.889043	-0.970957	4582.25	38863.3836	0.00097	0.09662
150	7.595	3.889043	-0.970957	4612.46	38863.3836	0.00095	0.09536
151	7.545	3.889043	-0.970957	4642.68	38863.3836	0.00094	0.09412
152	7.496	3.889043	-0.970957	4672.89	38863.3836	0.00093	0.09291
153	7.447	3.889043	-0.970957	4703.11	38863.3836	0.00092	0.09172
154	7.400	3.889043	-0.970957	4733.34	38863.3836	0.00091	0.09055
155	7.352	3.889043	-0.970957	4763.57	38863.3836	0.00089	0.08941

**I!Maxgain!**  
**ARL (dBd):** 4.86

**Max exposure:** 0.002662931 mW/cm<sup>2</sup>

**MaxERP**

(11: 48.6 Ant type: Phazar AWS 360-1710-7-TO-N Feet from site: 15

**RF Exposure Level at ground level (6' head height)**

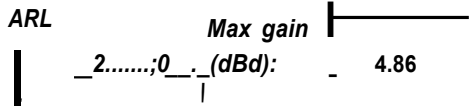
Green color indicates RF level is over 2007 BioInitiative Recommendation of 0.1 microwatts/cm<sup>2</sup> (uW/cm<sup>2</sup>) at this distance from the power pole to the home as measured at ground level.

Feet to Ant. base	Depress angle	Antenna gain	dB from maxERP	Prop dist in em	Act ERP in mW	Level mW/cm <sup>2</sup>	Percent of FCCSTD
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NOTE: Multiply mW/cm<sup>2</sup> (milliwatt per centimeter squared) by 1000 to see uW/cm<sup>2</sup> (microwatt/cm<sup>2</sup>)  
 All the green highlights below show RF at greater than 0.1 microwatt/cm<sup>2</sup> (uW/cm<sup>2</sup>)

156	7.306	3.889043	-0.970957	4793.80	38863.3836	0.00088	0.08828
157	7.260	3.889043	-0.970957	4824.03	38863.3836	0.00087	0.08718
158	7.214	3.889043	-0.970957	4854.27	38863.3836	0.00086	0.08610
159	7.169	3.889043	-0.970957	4884.51	38863.3836	0.00085	0.08503
160	7.125	3.889043	-0.970957	4914.75	38863.3836	0.00084	0.08399
161	7.081	3.889043	-0.970957	4945.00	38863.3836	0.00083	0.08297
162	7.038	3.889043	-0.970957	4975.25	38863.3836	0.00082	0.08196
163	6.995	4.219751	-0.640249	5005.50	41938.3492	0.00087	0.08738
164	6.953	4.219751	-0.640249	5035.75	41938.3492	0.00086	0.08633
165	6.911	4.219751	-0.640249	5066.01	41938.3492	0.00085	0.08530
166	6.870	4.219751	-0.640249	5096.27	41938.3492	0.00084	0.08429
167	6.829	4.219751	-0.640249	5126.53	41938.3492	0.00083	0.08330
168	6.789	4.219751	-0.640249	5156.80	41938.3492	0.00082	0.08233
169	6.749	4.219751	-0.640249	5187.07	41938.3492	0.00081	0.08137
170	6.710	4.219751	-0.640249	5217.34	41938.3492	0.00080	0.08043
171	6.671	4.219751	-0.640249	5247.61	41938.3492	0.00080	0.07950
172	6.633	4.219751	-0.640249	5277.88	41938.3492	0.00079	0.07859
173	6.595	4.219751	-0.640249	5308.16	41938.3492	0.00078	0.07770
174	6.557	4.219751	-0.640249	5338.44	41938.3492	0.00077	0.07682
175	6.520	4.219751	-0.640249	5368.72	41938.3492	0.00076	0.07596
176	6.483	4.219751	-0.640249	5399.01	41938.3492	0.00075	0.07511
177	6.447	4.219751	-0.640249	5429.29	41938.3492	0.00074	0.07427
178	6.411	4.219751	-0.640249	5459.58	41938.3492	0.00073	0.07345
179	6.375	4.219751	-0.640249	5489.87	41938.3492	0.00073	0.07264
180	6.340	4.219751	-0.640249	5520.16	41938.3492	0.00072	0.07185
181	6.305	4.219751	-0.640249	5550.46	41938.3492	0.00071	0.07106
182	6.271	4.219751	-0.640249	5580.75	41938.3492	0.00070	0.07029
183	6.237	4.219751	-0.640249	5611.05	41938.3492	0.00070	0.06954
184	6.203	4.219751	-0.640249	5641.35	41938.3492	0.00069	0.06879
185	6.170	4.219751	-0.640249	5671.66	41938.3492	0.00068	0.06806
186	6.137	4.219751	-0.640249	5701.96	41938.3492	0.00067	0.06734
187	6.105	4.219751	-0.640249	5732.27	41938.3492	0.00067	0.06663

188	6.072	4.219751	-0.640249	5762.57	41938.3492	0.00066	0.06593
189	6.041	4.219751	-0.640249	5792.88	41938.3492	0.00065	0.06524
190	6.009	4.219751	-0.640249	5823.20	41938.3492	0.00065	0.06456
191	5.978	4.559852	-0.300148	5853.51	45354.6122	0.00069	0.06910
201	5.682	4.559852	-0.300148	6156.73	45354.6122	0.00062	0.06246
211	5.415	4.559852	-0.300148	6460.11	45354.6122	0.00057	0.05673
221	5.171	4.559852	-0.300148	6763.61	45354.6122	0.00052	0.05176
231	4.948	4.679971	-0.180029	7067.22	46626.5588	0.00049	0.04873



Max exposure: 0.002662931 mW/cm<sup>2</sup>

**MaxERP**

(IN): 48.6 Ant type: Phazar AWS 360-1710-7-TO-N Feet from site: 15

**RF Exposure Level at ground level (6' head height)**

Green color indicates RF level is over 2007 BioInitiative Recommendation of 0.1 microwatts/cm<sup>2</sup> (uW/cm<sup>2</sup>) at this distance from the power pole to the home as measured at ground level.

Feet to Ant. base    Depress angle    Antenna gain    dB from maxERP    Prop dist in em    Act ERP in mW    Level mW/cm<sup>2</sup>    Percent of FCCSTD

NOTE: Multiply mW/cm<sup>2</sup> (milliwatt per centimeter squared) by 1000 to see uW/cm<sup>2</sup> (microwatt/cm<sup>2</sup>) All the green highlights below show RF at greater than 0.1 microwatt/cm<sup>2</sup> (uW/cm<sup>2</sup>)

Feet to Ant. base	Depress angle	Antenna gain	dB from maxERP	Prop dist in em	Act ERP in mW	Level mW/cm <sup>2</sup>	Percent of FCCSTD
241	4.744	4.679971	-0.180029	7370.93	46626.5588	0.00045	0.04480
251	4.556	4.679971	-0.180029	7674.73	46626.5588	0.00041	0.04132
261	4.382	4.679971	-0.180029	7978.60	46626.5588	0.00038	0.03824
271	4.221	4.679971	-0.180029	8282.54	46626.5588	0.00035	0.03548
281	4.071	4.679971	-0.180029	8586.55	46626.5588	0.00033	0.03301
291	3.932	4.849938	-0.010062	8890.60	48487.5323	0.00032	0.03202
301	3.801	4.849938	-0.010062	9194.71	48487.5323	0.00030	0.02994
311	3.680	4.849938	-0.010062	9498.86	48487.5323	0.00028	0.02805
321	3.565	4.849938	-0.010062	9803.05	48487.5323	0.00026	0.02634
331	3.458	4.849938	-0.010062	10107.28	48487.5323	0.00025	0.02478
341	3.357	4.849938	-0.010062	10411.54	48487.5323	0.00023	0.02335
351	3.261	4.849938	-0.010062	10715.83	48487.5323	0.00022	0.02204
361	3.171	4.849938	-0.010062	11020.15	48487.5323	0.00021	0.02084
371	3.086	4.849938	-0.010062	11324.50	48487.5323	0.00020	0.01974
381	3.005	4.849938	-0.010062	11628.87	48487.5323	0.00019	0.01872
391	2.928	4.810153	-0.049847	11933.26	48045.3723	0.00018	0.01761
401	2.855	4.810153	-0.049847	12237.67	48045.3723	0.00017	0.01675
411	2.786	4.810153	-0.049847	12542.10	48045.3723	0.00016	0.01594
421	2.720	4.810153	-0.049847	12846.55	48045.3723	0.00015	0.01520
431	2.657	4.810153	-0.049847	13151.02	48045.3723	0.00015	0.01450
441	2.597	4.810153	-0.049847	13455.50	48045.3723	0.00014	0.01385
451	2.539	4.810153	-0.049847	13759.99	48045.3723	0.00013	0.01325
461	2.484	4.810153	-0.049847	14064.50	48045.3723	0.00013	0.01268
471	2.431	4.810153	-0.049847	14369.02	48045.3723	0.00012	0.01215
481	2.381	4.810153	-0.049847	14673.55	48045.3723	0.00012	0.01165
491	2.333	4.810153	-0.049847	14978.09	48045.3723	0.00011	0.01118
501	2.286	4.810153	-0.049847	15282.64	48045.3723	0.00011	0.01074
511	2.241	4.810153	-0.049847	15587.20	48045.3723	0.00010	0.01032
521	2.198	4.810153	-0.049847	15891.78	48045.3723	0.00010	0.00993
531	2.157	4.810153	-0.049847	16196.36	48045.3723	0.00010	0.00956

541	2.117	4.810153	-0.049847	16500.94	48045.3723	0.00009	0.00921
551	2.079	4.810153	-0.049847	16805.54	48045.3723	0.00009	0.00888
561	2.042	4.810153	-0.049847	17110.14	48045.3723	0.00009	0.00857
571	2.006	4.810153	-0.049847	17414.75	48045.3723	0.00008	0.00827
581	1.972	4.780013	-0.079987	17719.37	47713.0981	0.00008	0.00793
591	1.938	4.780013	-0.079987	18023.99	47713.0981	0.00008	0.00767
601	1.906	4.780013	-0.079987	18328.62	47713.0981	0.00007	0.00741
611	1.875	4.780013	-0.079987	18633.25	47713.0981	0.00007	0.00717
621	1.845	4.780013	-0.079987	18937.89	47713.0981	0.00007	0.00694
631	1.815	4.780013	-0.079987	19242.54	47713.0981	0.00007	0.00673

ARL

Max gain

2;...;0 (dBd): 4.86

Max exposure: 0.002662931 mW/cm<sup>2</sup>

**MaxERP**

(V1: 48.6 Ant type: Phazar AWS 360-1710-7-TO-N

Feet from site: 15

**RF Exposure Level at ground level (6' head height)**

Green color indicates RF level is over 2007 BioInitiative Recommendation of 0.1 microwatts/cm<sup>2</sup> (uW/cm<sup>2</sup>) at this distance from the power pole to the home as measured at ground level.

Feet to Ant. base	Depress angle	Antenna gain	dB from maxERP	Prop dist in em	Act ERP inmW	Level mW/cm <sup>2</sup>	Percent of FCCSTD
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NOTE: Multiply mW/cm<sup>2</sup> (milliwatt per centimeter squared) by 1000 to see uW/cm<sup>2</sup> (microwatt/cm<sup>2</sup>) All the green highlights below show RF at greater than 0.1 microwatt/cm<sup>2</sup> (uW/cm<sup>2</sup>)

641	1.787	4.780013	-0.079987	19547.19	47713.0981	0.00007	0.00652
651	1.760	4.780013	-0.079987	19851.84	47713.0981	0.00006	0.00632
661	1.733	4.780013	-0.079987	20156.50	47713.0981	0.00006	0.00613
671	1.707	4.780013	-0.079987	20461.16	47713.0981	0.00006	0.00595
681	1.682	4.780013	-0.079987	20765.83	47713.0981	0.00006	0.00578
691	1.658	4.780013	-0.079987	21070.50	47713.0981	0.00006	0.00561
701	1.634	4.780013	-0.079987	21375.17	47713.0981	0.00005	0.00545
711	1.611	4.780013	-0.079987	21679.85	47713.0981	0.00005	0.00530
721	1.589	4.780013	-0.079987	21984.53	47713.0981	0.00005	0.00515
731	1.567	4.780013	-0.079987	22289.22	47713.0981	0.00005	0.00501
741	1.546	4.780013	-0.079987	22593.91	47713.0981	0.00005	0.00488
751	1.525	4.780013	-0.079987	22898.60	47713.0981	0.00005	0.00475
761	1.505	4.780013	-0.079987	23203.29	47713.0981	0.00005	0.00463
771	1.486	4.780013	-0.079987	23507.99	47713.0981	0.00005	0.00451
781	1.467	4.780013	-0.079987	23812.68	47713.0981	0.00004	0.00439
791	1.448	4.780013	-0.079987	24117.39	47713.0981	0.00004	0.00428
801	1.430	4.780013	-0.079987	24422.09	47713.0981	0.00004	0.00418
811	1.413	4.780013	-0.079987	24726.80	47713.0981	0.00004	0.00407
821	1.395	4.780013	-0.079987	25031.50	47713.0981	0.00004	0.00398
831	1.379	4.780013	-0.079987	25336.21	47713.0981	0.00004	0.00388
841	1.362	4.780013	-0.079987	25640.93	47713.0981	0.00004	0.00379
851	1.346	4.780013	-0.079987	25945.64	47713.0981	0.00004	0.00370
861	1.331	4.780013	-0.079987	26250.36	47713.0981	0.00004	0.00361
871	1.315	4.780013	-0.079987	26555.08	47713.0981	0.00004	0.00353
881	1.300	4.780013	-0.079987	26859.80	47713.0981	0.00003	0.00345
891	1.286	4.780013	-0.079987	27164.52	47713.0981	0.00003	0.00338
901	1.272	4.780013	-0.079987	27469.24	47713.0981	0.00003	0.00330
911	1.258	4.780013	-0.079987	27773.97	47713.0981	0.00003	0.00323
921	1.244	4.780013	-0.079987	28078.70	47713.0981	0.00003	0.00316
931	1.231	4.780013	-0.079987	28383.43	47713.0981	0.00003	0.00309

941	1.218	4.780013	-0.079987	28688.16	47713.0981	0.00003	0.00303
951	1.205	4.780013	-0.079987	28992.89	47713.0981	0.00003	0.00296
961	1.192	4.780013	-0.079987	29297.62	47713.0981	0.00003	0.00290
971	1.180	4.780013	-0.079987	29602.36	47713.0981	0.00003	0.00284
981	1.168	4.780013	-0.079987	29907.09	47713.0981	0.00003	0.00278
991	1.156	4.780013	-0.079987	30211.83	47713.0981	0.00003	0.00273
1001	1.145	4.780013	-0.079987	30516.57	47713.0981	0.00003	0.00267
1011	1.133	4.780013	-0.079987	30821.31	47713.0981	0.00003	0.00262
1021	1.122	4.780013	-0.079987	31126.05	47713.0981	0.00003	0.00257
1031	1.111	4.780013	-0.079987	31430.79	47713.0981	0.00003	0.00252

## RF Exposure Level at ground level (6' head height)

Feet to Ant. base	Depress angle	Antenna gain	dB from maxERP	Prop dist in em	Act ERP inmW	Level mW/cm <sup>2</sup>	Percent of FCCSTD
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Yellow color indicates RF level is **ten times** higher than the 2007 BioInitiative Recommendation of 0.1 microwatts/cm<sup>2</sup> (uW/cm<sup>2</sup>) at this distance from the power pole to the home as measured at ground level.

Yellow = greater than 1 microwatt/cm<sup>2</sup> at ground level (defined as 6' height)

12	59.036	-11.0898	-15.94978	710.91	1234.9763	0.00128	0.12756
13	56.976	-8.71154	-13.57154	727.06	2135.4139	0.00211	0.21088
14	55.008	-8.1511	-13.0111	744.11	2429.5508	0.00229	0.22906
15	53.130	-7.2906	-12.1506	762.00	2961.9395	0.00266	0.26629
16	51.340	-7.18966	-12.04966	780.67	3031.5889	0.00260	0.25968
17	49.635	-7.21	-12.07	800.06	3017.4235	0.00246	0.24608
18	48.013	-7.62941	-12.48941	820.13	2739.6536	0.00213	0.21263
19	46.469	-8.50976	-13.36976	840.83	2236.9726	0.00165	0.16517
20	45.000	-9.23985	-14.09985	862.10	1890.8261	0.00133	0.13281

31	32.829	-7.27007	-12.13007	1124.4	2975.972	0.00123	0.12287
32	32.005	-7.27007	-12.13007	1150.1	2975.972	0.00117	0.11743
33	31.218	-6.17142	-	1176.1	3832.608	0.00145	0.14463
34	30.466	-5.20211	-10.06211	1202.3	4790.985	0.00173	0.17301
35	29.745	-	-	1228.6	5230.812	0.00181	0.18088

36	29.055	-4.82067	-9.680671	1255.24	5230.8127	0.00173	0.17330
37	28.393	-4.68937	-9.549374	1281.97	5391.3672	0.00171	0.17125
38	27.759	-4.30058	-9.160582	1308.87	5896.2796	0.00180	0.17967
39	27.150	-4.30058	-9.160582	1335.91	5896.2796	0.00172	0.17247
40	26.565	-4.37009	-9.230094	1363.11	5802.6570	0.00163	0.16303
41	26.003	-4.37009	-9.230094	1390.44	5802.6570	0.00157	0.15668
42	25.463	-4.65961	-9.519612	1417.89	5428.4402	0.00141	0.14096
43	24.944	-5.28942	-10.14942	1445.47	4695.6355	0.00117	0.11732
44	24.444	-5.28942	-10.14942	1473.16	4695.6355	0.00113	0.11295

103	10.989	1.818394	-3.041606	3198.08	24125.4611	0.00123	0.12314
104	10.886	1.818394	-3.041606	3228.00	24125.4611	0.00121	0.12087
105	10.784	1.818394	-3.041606	3257.94	24125.4611	0.00119	0.11865
106	10.685	1.818394	-3.041606	3287.89	24125.4611	0.00117	0.11650
107	10.587	1.818394	-3.041606	3317.84	24125.4611	0.00114	0.11441
108	10.491	1.818394	-3.041606	3347.81	24125.4611	0.00112	0.11237



109	10.397	1.818394	-3.041606	3377.78	24125.4611	0.00110	0.11038
110	10.305	1.818394	-3.041606	3407.77	24125.4611	0.00108	0.10845
111	10.214	1.818394	-3.041606	3437.76	24125.4611	0.00107	0.10657
112	10.125	1.818394	-3.041606	3467.76	24125.4611	0.00105	0.10473
113	10.037	1.818394	-3.041606	3497.77	24125.4611	0.00103	0.10294
114	9.951	2.558738	-2.301262	3527.79	28609.4900	0.00120	0.12000
115	9.866	2.558738	-2.301262	3557.81	28609.4900	0.00118	0.11799
116	9.782	2.558738	-2.301262	3587.85	28609.4900	0.00116	0.11602
117	9.700	2.558738	-2.301262	3617.89	28609.4900	0.00114	0.11410
118	9.620	2.558738	-2.301262	3647.94	28609.4900	0.00112	0.11223
119	9.540	2.558738	-2.301262	3677.99	28609.4900	0.00110	0.11040
120	9.462	2.558738	-2.301262	3708.05	28609.4900	0.00109	0.10862
121	9.386	2.558738	-2.301262	3738.12	28609.4900	0.00107	0.10688
122	9.310	2.558738	-2.301262	3768.20	28609.4900	0.00105	0.10518
123	9.236	2.558738	-2.301262	3798.28	28609.4900	0.00104	0.10352
124	9.162	2.558738	-2.301262	3828.37	28609.4900	0.00102	0.10190
125	9.090	2.558738	-2.301262	3858.46	28609.4900	0.00100	0.10032
126	9.019	2.558738	-2.301262	3888.56	28609.4900	0.00099	0.09877
127	8.949	3.149905	-1.710095	3918.67	32781.3444	0.00111	0.11144
128	8.881	3.149905	-1.710095	3948.78	32781.3444	0.00110	0.10975
129	8.813	3.149905	-1.710095	3978.90	32781.3444	0.00108	0.10809
130	8.746	3.149905	-1.710095	4009.02	32781.3444	0.00106	0.10647
131	8.680	3.149905	-1.710095	4039.15	32781.3444	0.00105	0.10489
132	8.616	3.149905	-1.710095	4069.28	32781.3444	0.00103	0.10334
133	8.552	3.149905	-1.710095	4099.42	32781.3444	0.00102	0.10183
134	8.489	3.149905	-1.710095	4129.56	32781.3444	0.00100	0.10035
143	7.962	3.889043	-0.970957	4401.06	38863.3836	0.00105	0.10474
144	7.907	3.889043	-0.970957	4431.25	38863.3836	0.00103	0.10332
145	7.853	3.889043	-0.970957	4461.44	38863.3836	0.00102	0.10193
146	7.800	3.889043	-0.970957	4491.64	38863.3836	0.00101	0.10056

**MaxERP**

(W): 48.6 Ant type: Phazar AWS 360-1710-7-TO-N Feet from site: 15

**RF Exposure Level at ground level (6' head height)**

Feet to Ant base	Depress angle	Antenna gain	dB from max ERP	Prop dist in em	Act ERP inmW	Level mW/cm <sup>2</sup>	Percent of FCCSTD
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Yellow color indicates RF level is **ten times** higher than the 2007 BioInitiative Recommendation of 0.1 microwatts/cm<sup>2</sup> (uW/cm<sup>2</sup>) at this distance from the power pole to the home as measured at ground level.

NOTE: Multiply mW/cm<sup>2</sup> (milliwatt per centimeter squared) by 1000 to see uW/cm<sup>2</sup> (microwatt/cm<sup>2</sup>)

All the yellow highlights below show RF at greater than 1 microwatt/cm2 (uW/cm2)

0	90.000	-25.88	-30.74	609.60	40.9861	0.00006	0.00576
1	87.138	-23.2467	-28.10669	610.36	75.1567	0.00011	0.01053
2	84.289	-20.0869	-24.94692	612.64	155.5765	0.00022	0.02164
3	81.469	-16.8628	-21.72277	616.42	326.8582	0.00045	0.04491
4	78.690	-14.9056	-19.76558	621.67	512.9537	0.00069	0.06929
5	75.964	-14.5567	-19.41669	628.36	555.8620	0.00073	0.07349
6	73.301	-15.0779	-19.93791	636.44	492.9983	0.00064	0.06354
7	70.710	-16.4469	-21.30692	645.86	359.7036	0.00045	0.04502
8	68.199	-16.9833	-21.84327	656.56	317.9137	0.00038	0.03850
9	65.772	-19.9026	-24.76264	668.48	162.3202	0.00019	0.01896
10	63.435	-17.8501	-22.71007	681.55	260.3930	0.00029	0.02926
11	61.189	-14.5008	-19.36084	695.72	563.0569	0.00061	0.06073
12	59.036	-11.0898	-15.94978	710.91	1234.9763	0.00128	0.12756
13	56.976	-8.71154	-13.57154	727.06	2135.4139	0.00211	0.21088
14	55.008	-8.1511	-13.0111	744.11	2429.5508	0.00229	0.22906
15	53.130	-7.2906	-12.1506	762.00	2961.9395	0.00266	0.26629
16	51.340	-7.18966	-12.04966	780.67	3031.5889	0.00260	0.25968
17	49.635	-7.21	-12.07	800.06	3017.4235	0.00246	0.24608
18	48.013	-7.62941	-12.48941	820.13	2739.6536	0.00213	0.21263
19	46.469	-8.50976	-13.36976	840.83	2236.9726	0.00165	0.16517
20	45.000	-9.23985	-14.09985	862.10	1890.8261	0.00133	0.13281
21	43.603	-11.586	-16.446	883.92	1101.6302	0.00074	0.07360
22	42.274	-12.5595	-17.41949	906.24	880.4146	0.00056	0.05596
23	41.009	-14.0297	-18.88966	929.02	627.5821	0.00038	0.03796
24	39.806	-18.5393	-23.3993	952.23	222.1809	0.00013	0.01279
25	38.660	-18.7401	-23.60007	975.84	212.1433	0.00012	0.01163
26	37.569	-16.337	-21.197	999.82	368.9235	0.00019	0.01927
27	36.529	-14.5211	-19.38115	1024.15	560.4301	0.00028	0.02789
28	35.538	-12.0418	-16.90177	1048.80	991.8810	0.00047	0.04707
29	34.592	-9.56356	-14.42356	1073.74	1755.0145	0.00079	0.07946
30	33.690	-8.41314	-13.27314	1098.97	2287.2930	0.00099	0.09886
31	32.829	-7.27007	-12.13007	1124.46	2975.9721	0.00123	0.12287
32	32.005	-7.27007	-12.13007	1150.19	2975.9721	0.00117	0.11743
33	31.218	-6.17142	-11.03142	1176.15	3832.6082	0.00145	0.14463
34	30.466	-5.20211	-10.06211	1202.32	4790.9855	0.00173	0.17301
35	29.745	-4.82067	-9.680671	1228.69	5230.8127	0.00181	0.18088

ARL  
 Max gain | \_\_\_\_\_  
 | \_\_\_\_\_ (dBd): | 4.86

Max exposure: | 0.002662931 mW/cm<sup>2</sup>

**MaxERP**

(W): 48.6 Ant type: Phazar AWS 360-1710-7-TO-N

Feet from site: 15

**RF Exposure Level at ground level (6' head height)**

Feet to Ant base	Depress angle	Antenna gain	dB from max ERP	Prop dist in em	Act ERP in mW	Level mW/cm <sup>2</sup>	Percent of FCCSTD
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Yellow color indicates RF level is **ten times** higher than the 2007 BioInitiative Recommendation of 0.1 microwatts/cm<sup>2</sup> (uW/cm<sup>2</sup>) at this distance from the power pole to the home as measured at ground level.

NOTE: Multiply mW/cm<sup>2</sup> (milliwatt per centimeter squared) by 1000 to see uW/cm<sup>2</sup> (microwatt/cm<sup>2</sup>)  
 All the yellow highlights below show RF at greater than 1 microwatt/cm<sup>2</sup> (uW/cm<sup>2</sup>)

36	29.055	-4.82067	-9.680671	1255.24	5230.8127	0.00173	0.17330
37	28.393	-4.68937	-9.549374	1281.97	5391.3672	0.00171	0.17125
38	27.759	-4.30058	-9.160582	1308.87	5896.2796	0.00180	0.17967
39	27.150	-4.30058	-9.160582	1335.91	5896.2796	0.00172	0.17247
40	26.565	-4.37009	-9.230094	1363.11	5802.6570	0.00163	0.16303
41	26.003	-4.37009	-9.230094	1390.44	5802.6570	0.00157	0.15668
42	25.463	-4.65961	-9.519612	1417.89	5428.4402	0.00141	0.14096
43	24.944	-5.28942	-10.14942	1445.47	4695.6355	0.00117	0.11732
44	24.444	-5.28942	-10.14942	1473.16	4695.6355	0.00113	0.11295
45	23.962	-5.84995	-10.70995	1500.97	4127.0611	0.00096	0.09563
46	23.499	-5.84995	-10.70995	1528.87	4127.0611	0.00092	0.09217
47	23.051	-5.84995	-10.70995	1556.87	4127.0611	0.00089	0.08889
48	22.620	-7.14898	-12.00898	1584.96	3060.1181	0.00064	0.06359
49	22.203	-7.14898	-12.00898	1613.14	3060.1181	0.00061	0.06139
50	21.801	-8.46954	-13.32954	1641.40	2257.7852	0.00044	0.04375
51	21.413	-8.46954	-13.32954	1669.74	2257.7852	0.00042	0.04227
52	21.038	-8.46954	-13.32954	1698.15	2257.7852	0.00041	0.04087
53	20.674	-12.3602	-17.22022	1726.63	921.7530	0.00016	0.01614
54	20.323	-12.3602	-17.22022	1755.18	921.7530	0.00016	0.01562
55	19.983	-16.252	-21.11199	1783.80	376.2163	0.00006	0.00617
56	19.654	-16.252	-21.11199	1812.47	376.2163	0.00006	0.00598
57	19.335	-16.252	-21.11199	1841.20	376.2163	0.00006	0.00579
58	19.026	-16.252	-21.11199	1869.99	376.2163	0.00006	0.00562
59	18.726	-25.4966	-30.35658	1898.83	44.7691	0.00001	0.00065
60	18.435	-25.4966	-30.35658	1927.72	44.7691	0.00001	0.00063
61	18.153	-25.4966	-30.35658	1956.66	44.7691	0.00001	0.00061
62	17.879	-22.4546	-27.3146	1985.65	90.1937	0.00001	0.00119
63	17.613	-22.4546	-27.3146	2014.68	90.1937	0.00001	0.00116
64	17.354	-22.4546	-27.3146	2043.75	90.1937	0.00001	0.00113

65	17.103	-22.4546	-27.3146	2072.86	90.1937	0.00001	0.00110
66	16.858	-11.4187	-16.27874	2102.02	1144.8867	0.00014	0.01353
67	16.621	-11.4187	-16.27874	2131.20	1144.8867	0.00013	0.01316
68	16.390	-11.4187	-16.27874	2160.43	1144.8867	0.00013	0.01280
69	16.164	-11.4187	-16.27874	2189.69	1144.8867	0.00012	0.01247
70	15.945	-7.94152	-12.80152	2218.98	2549.6705	0.00027	0.02703
71	15.732	-7.94152	-12.80152	2248.30	2549.6705	0.00026	0.02633
72	15.524	-7.94152	-12.80152	2277.65	2549.6705	0.00026	0.02566
73	15.322	-7.94152	-12.80152	2307.04	2549.6705	0.00025	0.02501
74	15.124	-7.94152	-12.80152	2336.45	2549.6705	0.00024	0.02438
75	14.931	-5.0511	-9.911097	2365.88	4960.5133	0.00046	0.04626

ARL  
 | \_\_\_\_\_  
 | \_\_\_\_\_;2;,,,;0; ..\_(dBd): - 4.86

Max exposure: | 0.002662931 mW/cm<sup>2</sup>

**MaxERP**

(W): 48.6 Ant type: Phazar AWS 360-1710-7-TO-N

Feet from site: 15

**RF Exposure Level at ground level (6' head height)**

Feet to Ant base	Depress angle	Antenna gain	dB from max ERP	Prop dist in em	Act ERP inmW	Level mW/cm <sup>2</sup>	Percent of FCCSTD
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Yellow color indicates RF level is **ten times** higher than the 2007 BioInitiative Recommendation of 0.1 microwatts/cm<sup>2</sup> (uW/cm<sup>2</sup>) at this distance from the power pole to the home as measured at ground level.

NOTE: Multiply mW/cm<sup>2</sup> (milliwatt per centimeter squared) by 1000 to see uW/cm<sup>2</sup> (microwatt/cm<sup>2</sup>)  
 All the yellow highlights below show RF at greater than 1 microwatt/cm<sup>2</sup> (uW/cm<sup>2</sup>)

76	14.744	-5.0511	-9.911097	2395.35	4960.5133	0.00045	0.04513
77	14.560	-5.0511	-9.911097	2424.84	4960.5133	0.00044	0.04404
78	14.381	-5.0511	-9.911097	2454.35	4960.5133	0.00043	0.04299
79	14.207	-5.0511	-9.911097	2483.89	4960.5133	0.00042	0.04197
80	14.036	-5.0511	-9.911097	2513.45	4960.5133	0.00041	0.04099
81	13.870	-2.3328	-7.192795	2543.03	9275.9144	0.00075	0.07488
82	13.707	-2.3328	-7.192795	2572.63	9275.9144	0.00073	0.07316
83	13.548	-2.3328	-7.192795	2602.25	9275.9144	0.00072	0.07151
84	13.392	-2.3328	-7.192795	2631.89	9275.9144	0.00070	0.06991
85	13.241	-2.3328	-7.192795	2661.55	9275.9144	0.00068	0.06836
86	13.092	-2.3328	-7.192795	2691.23	9275.9144	0.00067	0.06686
87	12.947	-0.84236	-5.702363	2720.93	13073.7451	0.00092	0.09218
88	12.804	-0.84236	-5.702363	2750.64	13073.7451	0.00090	0.09020
89	12.665	-0.84236	-5.702363	2780.37	13073.7451	0.00088	0.08829
90	12.529	-0.84236	-5.702363	2810.12	13073.7451	0.00086	0.08643
91	12.395	-0.84236	-5.702363	2839.88	13073.7451	0.00085	0.08462
92	12.265	-0.84236	-5.702363	2869.66	13073.7451	0.00083	0.08288
93	12.137	-0.84236	-5.702363	2899.45	13073.7451	0.00081	0.08118
94	12.011	-0.84236	-5.702363	2929.25	13073.7451	0.00080	0.07954
95	11.889	0.369469	-4.490531	2959.07	17281.5683	0.00103	0.10303
96	11.768	0.369469	-4.490531	2988.91	17281.5683	0.00101	0.10098
97	11.650	0.369469	-4.490531	3018.75	17281.5683	0.00099	0.09900
98	11.535	0.369469	-4.490531	3048.61	17281.5683	0.00097	0.09707
99	11.421	0.369469	-4.490531	3078.48	17281.5683	0.00095	0.09519
100	11.310	0.369469	-4.490531	3108.36	17281.5683	0.00093	0.09337
101	11.201	0.369469	-4.490531	3138.26	17281.5683	0.00092	0.09160
102	11.094	0.369469	-4.490531	3168.16	17281.5683	0.00090	0.08988
103	10.989	1.818394	-3.041606	3198.08	24125.4611	0.00123	0.12314
104	10.886	1.818394	-3.041606	3228.00	24125.4611	0.00121	0.12087
105	10.784	1.818394	-3.041606	3257.94	24125.4611	0.00119	0.11865

106	10.685	1.818394	-3.041606	3287.89	24125.4611	0.00117	0.11650
107	10.587	1.818394	-3.041606	3317.84	24125.4611	0.00114	0.11441
108	10.491	1.818394	-3.041606	3347.81	24125.4611	0.00112	0.11237
109	10.397	1.818394	-3.041606	3377.78	24125.4611	0.00110	0.11038
110	10.305	1.818394	-3.041606	3407.77	24125.4611	0.00108	0.10845
111	10.214	1.818394	-3.041606	3437.76	24125.4611	0.00107	0.10657
112	10.125	1.818394	-3.041606	3467.76	24125.4611	0.00105	0.10473
113	10.037	1.818394	-3.041606	3497.77	24125.4611	0.00103	0.10294
114	9.951	2.558738	-2.301262	3527.79	28609.4900	0.00120	0.12000
115	9.866	2.558738	-2.301262	3557.81	28609.4900	0.00118	0.11799

Max gain | \_\_\_\_\_  
 ARL \_\_\_\_\_;2;;;;0; .... JdBd): - 4.86

Max exposure: | 0.002662931 mW/cm<sup>2</sup>

**MaxERP**

(W): 48.6 Anttype: PhazarAW\$360-1710-7-TO-N Feet from site: 15

**RF Exposure Level at ground level (6' head height)**

Feet to Ant base    Depress angle    Antenna gain    dB from max ERP    Prop dist in em    Act ERP in mW    Level mW/cm<sup>2</sup>    Percent of FCCSTD

Yellow color indicates RF level is **ten times** higher than the 2007 BioInitiative Recommendation of 0.1 microwatts/cm<sup>2</sup> (uW/cm<sup>2</sup>) at this distance from the power pole to the home as measured at ground level.

NOTE: Multiply mW/cm<sup>2</sup> (milliwatt per centimeter squared) by 1000 to see uW/cm<sup>2</sup> (microwatt/cm<sup>2</sup>)  
 All the yellow highlights below show RF at greater than 1 microwatt/cm<sup>2</sup> (uW/cm<sup>2</sup>)

116	9.782	2.558738	-2.301262	3587.85	28609.4900	0.00116	0.11602
117	9.700	2.558738	-2.301262	3617.89	28609.4900	0.00114	0.11410
118	9.620	2.558738	-2.301262	3647.94	28609.4900	0.00112	0.11223
119	9.540	2.558738	-2.301262	3677.99	28609.4900	0.00110	0.11040
120	9.462	2.558738	-2.301262	3708.05	28609.4900	0.00109	0.10862
121	9.386	2.558738	-2.301262	3738.12	28609.4900	0.00107	0.10688
122	9.310	2.558738	-2.301262	3768.20	28609.4900	0.00105	0.10518
123	9.236	2.558738	-2.301262	3798.28	28609.4900	0.00104	0.10352
124	9.162	2.558738	-2.301262	3828.37	28609.4900	0.00102	0.10190
125	9.090	2.558738	-2.301262	3858.46	28609.4900	0.00100	0.10032
126	9.019	2.558738	-2.301262	3888.56	28609.4900	0.00099	0.09877
127	8.949	3.149905	-1.710095	3918.67	32781.3444	0.00111	0.11144
128	8.881	3.149905	-1.710095	3948.78	32781.3444	0.00110	0.10975
129	8.813	3.149905	-1.710095	3978.90	32781.3444	0.00108	0.10809
130	8.746	3.149905	-1.710095	4009.02	32781.3444	0.00106	0.10647
131	8.680	3.149905	-1.710095	4039.15	32781.3444	0.00105	0.10489
132	8.616	3.149905	-1.710095	4069.28	32781.3444	0.00103	0.10334
133	8.552	3.149905	-1.710095	4099.42	32781.3444	0.00102	0.10183
134	8.489	3.149905	-1.710095	4129.56	32781.3444	0.00100	0.10035
135	8.427	3.149905	-1.710095	4159.71	32781.3444	0.00099	0.09890
136	8.366	3.149905	-1.710095	4189.86	32781.3444	0.00097	0.09748
137	8.306	3.149905	-1.710095	4220.02	32781.3444	0.00096	0.09609
138	8.246	3.149905	-1.710095	4250.18	32781.3444	0.00095	0.09473
139	8.188	3.149905	-1.710095	4280.35	32781.3444	0.00093	0.09340
140	8.130	3.149905	-1.710095	4310.52	32781.3444	0.00092	0.09210
141	8.073	3.149905	-1.710095	4340.70	32781.3444	0.00091	0.09082
142	8.017	3.149905	-1.710095	4370.88	32781.3444	0.00090	0.08957
143	7.962	3.889043	-0.970957	4401.06	38863.3836	0.00105	0.10474
144	7.907	3.889043	-0.970957	4431.25	38863.3836	0.00103	0.10332
145	7.853	3.889043	-0.970957	4461.44	38863.3836	0.00102	0.10193

146	7.800	3.889043	-0.970957	4491.64	38863.3836	0.00101	0.10056
147	7.748	3.889043	-0.970957	4521.84	38863.3836	0.00099	0.09922
148	7.696	3.889043	-0.970957	4552.04	38863.3836	0.00098	0.09791
149	7.645	3.889043	-0.970957	4582.25	38863.3836	0.00097	0.09662
150	7.595	3.889043	-0.970957	4612.46	38863.3836	0.00095	0.09536
151	7.545	3.889043	-0.970957	4642.68	38863.3836	0.00094	0.09412
152	7.496	3.889043	-0.970957	4672.89	38863.3836	0.00093	0.09291
153	7.447	3.889043	-0.970957	4703.11	38863.3836	0.00092	0.09172
154	7.400	3.889043	-0.970957	4733.34	38863.3836	0.00091	0.09055
155	7.352	3.889043	-0.970957	4763.57	38863.3836	0.00089	0.08941



**I!Maxgain!**  
**ARL (dBd): 4.86**

**Max exposure: 0.002662931 mW/cm<sup>2</sup>**

**MaxERP**

(11: 48.6 Ant type: Phazar AWS 360-1710-7-TO-N Feet from site: 15

**RF Exposure Level at ground level (6' head height)**

Feet to Ant base	Depress angle	Antenna gain	dB from max ERP	Prop dist in em	Act ERP in mW	Level mW/cm <sup>2</sup>	Percent of FCCSTD
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Yellow color indicates RF level is **ten times** higher than the 2007 BioInitiative Recommendation of 0.1 microwatts/cm<sup>2</sup> (uW/cm<sup>2</sup>) at this distance from the power pole to the home as measured at ground level.

NOTE: Multiply mW/cm<sup>2</sup> (milliwatt per centimeter squared) by 1000 to see uW/cm<sup>2</sup> (microwatt/cm<sup>2</sup>)  
 All the yellow highlights below show RF at greater than 1 microwatt/cm<sup>2</sup> (uW/cm<sup>2</sup>)

156	7.306	3.889043	-0.970957	4793.80	38863.3836	0.00088	0.08828
157	7.260	3.889043	-0.970957	4824.03	38863.3836	0.00087	0.08718
158	7.214	3.889043	-0.970957	4854.27	38863.3836	0.00086	0.08610
159	7.169	3.889043	-0.970957	4884.51	38863.3836	0.00085	0.08503
160	7.125	3.889043	-0.970957	4914.75	38863.3836	0.00084	0.08399
161	7.081	3.889043	-0.970957	4945.00	38863.3836	0.00083	0.08297
162	7.038	3.889043	-0.970957	4975.25	38863.3836	0.00082	0.08196
163	6.995	4.219751	-0.640249	5005.50	41938.3492	0.00087	0.08738
164	6.953	4.219751	-0.640249	5035.75	41938.3492	0.00086	0.08633
165	6.911	4.219751	-0.640249	5066.01	41938.3492	0.00085	0.08530
166	6.870	4.219751	-0.640249	5096.27	41938.3492	0.00084	0.08429
167	6.829	4.219751	-0.640249	5126.53	41938.3492	0.00083	0.08330
168	6.789	4.219751	-0.640249	5156.80	41938.3492	0.00082	0.08233
169	6.749	4.219751	-0.640249	5187.07	41938.3492	0.00081	0.08137
170	6.710	4.219751	-0.640249	5217.34	41938.3492	0.00080	0.08043
171	6.671	4.219751	-0.640249	5247.61	41938.3492	0.00080	0.07950
172	6.633	4.219751	-0.640249	5277.88	41938.3492	0.00079	0.07859
173	6.595	4.219751	-0.640249	5308.16	41938.3492	0.00078	0.07770
174	6.557	4.219751	-0.640249	5338.44	41938.3492	0.00077	0.07682
175	6.520	4.219751	-0.640249	5368.72	41938.3492	0.00076	0.07596
176	6.483	4.219751	-0.640249	5399.01	41938.3492	0.00075	0.07511
177	6.447	4.219751	-0.640249	5429.29	41938.3492	0.00074	0.07427
178	6.411	4.219751	-0.640249	5459.58	41938.3492	0.00073	0.07345
179	6.375	4.219751	-0.640249	5489.87	41938.3492	0.00073	0.07264
180	6.340	4.219751	-0.640249	5520.16	41938.3492	0.00072	0.07185
181	6.305	4.219751	-0.640249	5550.46	41938.3492	0.00071	0.07106
182	6.271	4.219751	-0.640249	5580.75	41938.3492	0.00070	0.07029
183	6.237	4.219751	-0.640249	5611.05	41938.3492	0.00070	0.06954
184	6.203	4.219751	-0.640249	5641.35	41938.3492	0.00069	0.06879
185	6.170	4.219751	-0.640249	5671.66	41938.3492	0.00068	0.06806
186	6.137	4.219751	-0.640249	5701.96	41938.3492	0.00067	0.06734
187	6.105	4.219751	-0.640249	5732.27	41938.3492	0.00067	0.06663

188	6.072	4.219751	-0.640249	5762.57	41938.3492	0.00066	0.06593
189	6.041	4.219751	-0.640249	5792.88	41938.3492	0.00065	0.06524
190	6.009	4.219751	-0.640249	5823.20	41938.3492	0.00065	0.06456
191	5.978	4.559852	-0.300148	5853.51	45354.6122	0.00069	0.06910
201	5.682	4.559852	-0.300148	6156.73	45354.6122	0.00062	0.06246
211	5.415	4.559852	-0.300148	6460.11	45354.6122	0.00057	0.05673
221	5.171	4.559852	-0.300148	6763.61	45354.6122	0.00052	0.05176
231	4.948	4.679971	-0.180029	7067.22	46626.5588	0.00049	0.04873

ARL

Max gain | \_\_\_\_\_  
| 2.....;0 (dBd): - 4.86

Max exposure: | 0.002662931 mW/cm<sup>2</sup>

**MaxERP**

(IN): 48.6 Ant type: Phazar AWS 360-1710-7-TO-N

Feet from site: 15

**RF Exposure Level at ground level (6' head height)**

Feet to Ant base	Depress angle	Antenna gain	dB from max ERP	Prop dist in em	Act ERP in mW	Level mW/cm <sup>2</sup>	Percent of FCCSTD
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Yellow color indicates RF level is **ten times** higher than the 2007 BioInitiative Recommendation of 0.1 microwatts/cm<sup>2</sup> (uW/cm<sup>2</sup>) at this distance from the power pole to the home as measured at ground level.

NOTE: Multiply mW/cm<sup>2</sup> (milliwatt per centimeter squared) by 1000 to see uW/cm<sup>2</sup> (microwatt/cm<sup>2</sup>) All the yellow highlights below show RF at greater than 1 microwatt/cm<sup>2</sup> (uW/cm<sup>2</sup>)

241	4.744	4.679971	-0.180029	7370.93	46626.5588	0.00045	0.04480
251	4.556	4.679971	-0.180029	7674.73	46626.5588	0.00041	0.04132
261	4.382	4.679971	-0.180029	7978.60	46626.5588	0.00038	0.03824
271	4.221	4.679971	-0.180029	8282.54	46626.5588	0.00035	0.03548
281	4.071	4.679971	-0.180029	8586.55	46626.5588	0.00033	0.03301
291	3.932	4.849938	-0.010062	8890.60	48487.5323	0.00032	0.03202
301	3.801	4.849938	-0.010062	9194.71	48487.5323	0.00030	0.02994
311	3.680	4.849938	-0.010062	9498.86	48487.5323	0.00028	0.02805
321	3.565	4.849938	-0.010062	9803.05	48487.5323	0.00026	0.02634
331	3.458	4.849938	-0.010062	10107.28	48487.5323	0.00025	0.02478
341	3.357	4.849938	-0.010062	10411.54	48487.5323	0.00023	0.02335
351	3.261	4.849938	-0.010062	10715.83	48487.5323	0.00022	0.02204
361	3.171	4.849938	-0.010062	11020.15	48487.5323	0.00021	0.02084
371	3.086	4.849938	-0.010062	11324.50	48487.5323	0.00020	0.01974
381	3.005	4.849938	-0.010062	11628.87	48487.5323	0.00019	0.01872
391	2.928	4.810153	-0.049847	11933.26	48045.3723	0.00018	0.01761
401	2.855	4.810153	-0.049847	12237.67	48045.3723	0.00017	0.01675
411	2.786	4.810153	-0.049847	12542.10	48045.3723	0.00016	0.01594
421	2.720	4.810153	-0.049847	12846.55	48045.3723	0.00015	0.01520
431	2.657	4.810153	-0.049847	13151.02	48045.3723	0.00015	0.01450
441	2.597	4.810153	-0.049847	13455.50	48045.3723	0.00014	0.01385
451	2.539	4.810153	-0.049847	13759.99	48045.3723	0.00013	0.01325
461	2.484	4.810153	-0.049847	14064.50	48045.3723	0.00013	0.01268
471	2.431	4.810153	-0.049847	14369.02	48045.3723	0.00012	0.01215
481	2.381	4.810153	-0.049847	14673.55	48045.3723	0.00012	0.01165
491	2.333	4.810153	-0.049847	14978.09	48045.3723	0.00011	0.01118
501	2.286	4.810153	-0.049847	15282.64	48045.3723	0.00011	0.01074
511	2.241	4.810153	-0.049847	15587.20	48045.3723	0.00010	0.01032
521	2.198	4.810153	-0.049847	15891.78	48045.3723	0.00010	0.00993
531	2.157	4.810153	-0.049847	16196.36	48045.3723	0.00010	0.00956

541	2.117	4.810153	-0.049847	16500.94	48045.3723	0.00009	0.00921
551	2.079	4.810153	-0.049847	16805.54	48045.3723	0.00009	0.00888
561	2.042	4.810153	-0.049847	17110.14	48045.3723	0.00009	0.00857
571	2.006	4.810153	-0.049847	17414.75	48045.3723	0.00008	0.00827
581	1.972	4.780013	-0.079987	17719.37	47713.0981	0.00008	0.00793
591	1.938	4.780013	-0.079987	18023.99	47713.0981	0.00008	0.00767
601	1.906	4.780013	-0.079987	18328.62	47713.0981	0.00007	0.00741
611	1.875	4.780013	-0.079987	18633.25	47713.0981	0.00007	0.00717
621	1.845	4.780013	-0.079987	18937.89	47713.0981	0.00007	0.00694
631	1.815	4.780013	-0.079987	19242.54	47713.0981	0.00007	0.00673

ARL  
| \_\_\_\_\_  
| \_\_\_\_\_;2;;...;0\_\_\_\_\_(dBd): - 4.86

Max exposure: | 0.002662931 mW/cm<sup>2</sup>

**MaxERP**

(VI1:  
15

48.6 Ant type: Phazar AWS 360-1710-7-TO-N

Feet from site:

### RF Exposure Level at ground level (6' head height)

Feet to Ant base	Depress angle	Antenna gain	dB from max ERP	Prop dist in em	Act ERP inmW	Level mW/cm <sup>2</sup>	Percent of FCCSTD
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Yellow color indicates RF level is **ten times** higher than the 2007 BioInitiative Recommendation of 0.1 microwatts/cm2 (uW/cm2) at this distance from the power pole to the home as measured at ground level.

NOTE: Multiply mW/cm2 (milliwatt per centimeter squared) by 1000 to see uW/cm2 (microwatt/cm2)  
All the yellow highlights below show RF at greater than 1 microwatt/cm2 (uW/cm2)

641	1.787	4.780013	-0.079987	19547.19	47713.0981	0.00007	0.00652
651	1.760	4.780013	-0.079987	19851.84	47713.0981	0.00006	0.00632
661	1.733	4.780013	-0.079987	20156.50	47713.0981	0.00006	0.00613
671	1.707	4.780013	-0.079987	20461.16	47713.0981	0.00006	0.00595
681	1.682	4.780013	-0.079987	20765.83	47713.0981	0.00006	0.00578
691	1.658	4.780013	-0.079987	21070.50	47713.0981	0.00006	0.00561
701	1.634	4.780013	-0.079987	21375.17	47713.0981	0.00005	0.00545
711	1.611	4.780013	-0.079987	21679.85	47713.0981	0.00005	0.00530
721	1.589	4.780013	-0.079987	21984.53	47713.0981	0.00005	0.00515
731	1.567	4.780013	-0.079987	22289.22	47713.0981	0.00005	0.00501
741	1.546	4.780013	-0.079987	22593.91	47713.0981	0.00005	0.00488
751	1.525	4.780013	-0.079987	22898.60	47713.0981	0.00005	0.00475
761	1.505	4.780013	-0.079987	23203.29	47713.0981	0.00005	0.00463
771	1.486	4.780013	-0.079987	23507.99	47713.0981	0.00005	0.00451
781	1.467	4.780013	-0.079987	23812.68	47713.0981	0.00004	0.00439
791	1.448	4.780013	-0.079987	24117.39	47713.0981	0.00004	0.00428
801	1.430	4.780013	-0.079987	24422.09	47713.0981	0.00004	0.00418
811	1.413	4.780013	-0.079987	24726.80	47713.0981	0.00004	0.00407
821	1.395	4.780013	-0.079987	25031.50	47713.0981	0.00004	0.00398
831	1.379	4.780013	-0.079987	25336.21	47713.0981	0.00004	0.00388
841	1.362	4.780013	-0.079987	25640.93	47713.0981	0.00004	0.00379
851	1.346	4.780013	-0.079987	25945.64	47713.0981	0.00004	0.00370
861	1.331	4.780013	-0.079987	26250.36	47713.0981	0.00004	0.00361
871	1.315	4.780013	-0.079987	26555.08	47713.0981	0.00004	0.00353
881	1.300	4.780013	-0.079987	26859.80	47713.0981	0.00003	0.00345
891	1.286	4.780013	-0.079987	27164.52	47713.0981	0.00003	0.00338
901	1.272	4.780013	-0.079987	27469.24	47713.0981	0.00003	0.00330
911	1.258	4.780013	-0.079987	27773.97	47713.0981	0.00003	0.00323
921	1.244	4.780013	-0.079987	28078.70	47713.0981	0.00003	0.00316
931	1.231	4.780013	-0.079987	28383.43	47713.0981	0.00003	0.00309
941	1.218	4.780013	-0.079987	28688.16	47713.0981	0.00003	0.00303

951	1.205	4.780013	-0.079987	28992.89	47713.0981	0.00003	0.00296
961	1.192	4.780013	-0.079987	29297.62	47713.0981	0.00003	0.00290
971	1.180	4.780013	-0.079987	29602.36	47713.0981	0.00003	0.00284
981	1.168	4.780013	-0.079987	29907.09	47713.0981	0.00003	0.00278
991	1.156	4.780013	-0.079987	30211.83	47713.0981	0.00003	0.00273
1001	1.145	4.780013	-0.079987	30516.57	47713.0981	0.00003	0.00267
1011	1.133	4.780013	-0.079987	30821.31	47713.0981	0.00003	0.00262
1021	1.122	4.780013	-0.079987	31126.05	47713.0981	0.00003	0.00257
1031	1.111	4.780013	-0.079987	31430.79	47713.0981	0.00003	0.00252