

# SMART Meter Power Density Computer Modeling

(8 SMART Meters – 1000% reflections)

Meters 8 Electric SMART Meters

Time Avg: 1%

% Reflection 1000%

Distance where limits are exceeded

FCC ft. 0.79 9.4 Inches

BioInitiative ft. 66.70 800.4 Inches

Distance (ft)	uW/cm <sup>2</sup>	Distance (ft)	uW/cm <sup>2</sup>	Distance (ft)	uW/cm <sup>2</sup>	Distance (ft)	uW/cm <sup>2</sup>
0.25	3561.76	10.25	4.24	20.25	1.09	30.25	0.49
0.50	1424.70	10.50	4.04	20.50	1.06	30.50	0.48
0.75	712.35	10.75	3.85	20.75	1.03	30.75	0.47
1.00	419.03	11.00	3.68	21.00	1.01	31.00	0.46
1.25	273.98	11.25	3.52	21.25	0.99	31.25	0.46
1.50	192.53	11.50	3.36	21.50	0.96	31.50	0.45
1.75	142.47	11.75	3.22	21.75	0.94	31.75	0.44
2.00	109.59	12.00	3.09	22.00	0.92	32.00	0.43
2.25	86.87	12.25	2.97	22.25	0.90	32.25	0.43
2.50	70.53	12.50	2.85	22.50	0.88	32.50	0.42
2.75	58.39	12.75	2.74	22.75	0.86	32.75	0.42
3.00	49.13	13.00	2.63	23.00	0.84	33.00	0.41
3.25	41.90	13.25	2.54	23.25	0.82	33.25	0.40
3.50	36.16	13.50	2.44	23.50	0.81	33.50	0.40
3.75	31.52	13.75	2.35	23.75	0.79	33.75	0.39
4.00	27.72	14.00	2.27	24.00	0.77	34.00	0.39
4.25	24.56	14.25	2.19	24.25	0.76	34.25	0.38
4.50	21.92	14.50	2.12	24.50	0.74	34.50	0.37
4.75	19.68	14.75	2.05	24.75	0.73	34.75	0.37
5.00	17.76	15.00	1.98	25.00	0.71	35.00	0.36
5.25	16.12	15.25	1.91	25.25	0.70	35.25	0.36
5.50	14.69	15.50	1.85	25.50	0.68	35.50	0.35
5.75	13.44	15.75	1.79	25.75	0.67	35.75	0.35
6.00	12.35	16.00	1.74	26.00	0.66	36.00	0.34
6.25	11.38	16.25	1.69	26.25	0.65	36.25	0.34
6.50	10.52	16.50	1.63	26.50	0.63	36.50	0.33
6.75	9.76	16.75	1.59	26.75	0.62	36.75	0.33
7.00	9.07	17.00	1.54	27.00	0.61	37.00	0.33
7.25	8.46	17.25	1.50	27.25	0.60	37.25	0.32
7.50	7.91	17.50	1.45	27.50	0.59	37.50	0.32
7.75	7.40	17.75	1.41	27.75	0.58	37.75	0.31
8.00	6.95	18.00	1.37	28.00	0.57	38.00	0.31
8.25	6.54	18.25	1.34	28.25	0.56	38.25	0.30
8.50	6.16	18.50	1.30	28.50	0.55	38.50	0.30
8.75	5.81	18.75	1.27	28.75	0.54	38.75	0.30
9.00	5.49	19.00	1.23	29.00	0.53	39.00	0.29
9.25	5.20	19.25	1.20	29.25	0.52	39.25	0.29
9.50	4.93	19.50	1.17	29.50	0.51	39.50	0.29
9.75	4.68	19.75	1.14	29.75	0.50	39.75	0.28
10.00	4.45	20.00	1.11	30.00	0.49	40.00	0.28

Notes:

- Formula OET Bulletin 65 equation (3) modified to include the effects of time averaged output and % reflections  

$$S = \text{EIRP} \cdot [\text{TA} \cdot (1 + \% \text{Ref})^2] / (4\pi)(R^2)$$

S = Power Density uW/cm<sup>2</sup>  
 EIRP = 1.64 \* ERP  
 pi() = 3.1459  
 R = Distance to device  
 TA = Time average  
 %Ref = Percent reflections
- 60 percent reflections is equivalent to OET Bulletin 65 equation (10)
- 100 percent reflections is equivalent to OET Bulletin 65 equation (6)
- Collector meter ERP RFLAN-C = 0.189 W, ZigBee = 0.057 W, GSM = 0.733 W per Edison SmartConnect Community Meeting, Montecito, CA dated February 10, 2010
- TPO 0.267 watts at 902.25 to 927.75 MHz from TCB Grant of Equipment Authorization (SK9AMI-4)
- Antenna Gain 2.2dBi at 914.74 MHz per ACS Certification FCC ID: SK9AMI-4 RFLAN & RFLAN-E ERP = 0.270 W

# SMART Meter Power Density Computer Modeling

(8 SMART Meters – 1000% reflections)

Meters 8 Electric SMART Meters

Time Avg: 1%

% Reflection 1000%

Distance where limits are exceeded

FCC ft. 0.79

9.43 Inches

BioInitiative ft. 66.70

800.40 Inches

Distance (ft)	uW/cm <sup>2</sup>	Distance (ft)	uW/cm <sup>2</sup>	Distance (ft)	uW/cm <sup>2</sup>	Distance (ft)	uW/cm <sup>2</sup>
40.25	0.27	54.25	0.15	68.25	0.10	82.25	0.07
40.50	0.27	54.50	0.15	68.50	0.09	82.50	0.07
40.75	0.27	54.75	0.15	68.75	0.09	82.75	0.07
41.00	0.26	55.00	0.15	69.00	0.09	83.00	0.06
41.25	0.26	55.25	0.15	69.25	0.09	83.25	0.06
41.50	0.26	55.50	0.14	69.50	0.09	83.50	0.06
41.75	0.26	55.75	0.14	69.75	0.09	83.75	0.06
42.00	0.25	56.00	0.14	70.00	0.09	84.00	0.06
42.25	0.25	56.25	0.14	70.25	0.09	84.25	0.06
42.50	0.25	56.50	0.14	70.50	0.09	84.50	0.06
42.75	0.24	56.75	0.14	70.75	0.09	84.75	0.06
43.00	0.24	57.00	0.14	71.00	0.09	85.00	0.06
43.25	0.24	57.25	0.14	71.25	0.09	85.25	0.06
43.50	0.24	57.50	0.13	71.50	0.09	85.50	0.06
43.75	0.23	57.75	0.13	71.75	0.09	85.75	0.06
44.00	0.23	58.00	0.13	72.00	0.09	86.00	0.06
44.25	0.23	58.25	0.13	72.25	0.09	86.25	0.06
44.50	0.22	58.50	0.13	72.50	0.08	86.50	0.06
44.75	0.22	58.75	0.13	72.75	0.08	86.75	0.06
45.00	0.22	59.00	0.13	73.00	0.08	87.00	0.06
45.25	0.22	59.25	0.13	73.25	0.08	87.25	0.06
45.50	0.22	59.50	0.13	73.50	0.08	87.50	0.06
45.75	0.21	59.75	0.12	73.75	0.08	87.75	0.06
46.00	0.21	60.00	0.12	74.00	0.08	88.00	0.06
46.25	0.21	60.25	0.12	74.25	0.08	88.25	0.06
46.50	0.21	60.50	0.12	74.50	0.08	88.50	0.06
46.75	0.20	60.75	0.12	74.75	0.08	88.75	0.06
47.00	0.20	61.00	0.12	75.00	0.08	89.00	0.06
47.25	0.20	61.25	0.12	75.25	0.08	89.25	0.06
47.50	0.20	61.50	0.12	75.50	0.08	89.50	0.06
47.75	0.20	61.75	0.12	75.75	0.08	89.75	0.06
48.00	0.19	62.00	0.12	76.00	0.08	90.00	0.05
48.25	0.19	62.25	0.11	76.25	0.08	90.25	0.05
48.50	0.19	62.50	0.11	76.50	0.08	90.50	0.05
48.75	0.19	62.75	0.11	76.75	0.08	90.75	0.05
49.00	0.19	63.00	0.11	77.00	0.08	91.00	0.05
49.25	0.18	63.25	0.11	77.25	0.07	91.25	0.05
49.50	0.18	63.50	0.11	77.50	0.07	91.50	0.05
49.75	0.18	63.75	0.11	77.75	0.07	91.75	0.05
50.00	0.18	64.00	0.11	78.00	0.07	92.00	0.05
50.25	0.18	64.25	0.11	78.25	0.07	92.25	0.05
50.50	0.17	64.50	0.11	78.50	0.07	92.50	0.05
50.75	0.17	64.75	0.11	78.75	0.07	92.75	0.05
51.00	0.17	65.00	0.11	79.00	0.07	93.00	0.05
51.25	0.17	65.25	0.10	79.25	0.07	93.25	0.05
51.50	0.17	65.50	0.10	79.50	0.07	93.50	0.05
51.75	0.17	65.75	0.10	79.75	0.07	93.75	0.05
52.00	0.16	66.00	0.10	80.00	0.07	94.00	0.05
52.25	0.16	66.25	0.10	80.25	0.07	94.25	0.05
52.50	0.16	66.50	0.10	80.50	0.07	94.50	0.05
52.75	0.16	66.75	0.10	80.75	0.07	94.75	0.05
53.00	0.16	67.00	0.10	81.00	0.07	95.00	0.05
53.25	0.16	67.25	0.10	81.25	0.07	95.25	0.05
53.50	0.16	67.50	0.10	81.50	0.07	95.50	0.05
53.75	0.15	67.75	0.10	81.75	0.07	95.75	0.05
54.00	0.15	68.00	0.10	82.00	0.07	96.00	0.05

Table 7 – 1%

# SMART Meter Power Density Computer Modeling

(8 SMART Meters – 1000% reflections)

**Meters** 8 Electric SMART Meters  
 Time Avg: 10%      % Reflection 1000%

Distance where limits are exceeded			
FCC ft.	2.60	31.2 Inches	
BioInitiative ft.	211.00	2532.0 Inches	

Distance (ft)	uW/cm <sup>2</sup>	Distance (ft)	uW/cm <sup>2</sup>	Distance (ft)	uW/cm <sup>2</sup>	Distance (ft)	uW/cm <sup>2</sup>
0.25	35617.57	10.25	42.35	20.25	10.86	30.25	4.87
0.50	14247.03	10.50	40.36	20.50	10.59	30.50	4.79
0.75	7123.51	10.75	38.51	20.75	10.34	30.75	4.71
1.00	4190.30	11.00	36.78	21.00	10.09	31.00	4.63
1.25	2739.81	11.25	35.16	21.25	9.86	31.25	4.56
1.50	1925.27	11.50	33.65	21.50	9.63	31.50	4.49
1.75	1424.70	11.75	32.23	21.75	9.41	31.75	4.42
2.00	1095.93	12.00	30.90	22.00	9.20	32.00	4.35
2.25	868.72	12.25	29.66	22.25	8.99	32.25	4.28
2.50	705.30	12.50	28.48	22.50	8.79	32.50	4.21
2.75	583.89	12.75	27.38	22.75	8.60	32.75	4.15
3.00	491.28	13.00	26.33	23.00	8.42	33.00	4.09
3.25	419.03	13.25	25.35	23.25	8.24	33.25	4.03
3.50	361.60	13.50	24.42	23.50	8.06	33.50	3.97
3.75	315.20	13.75	23.54	23.75	7.89	33.75	3.91
4.00	277.18	14.00	22.71	24.00	7.73	34.00	3.85
4.25	245.64	14.25	21.92	24.25	7.57	34.25	3.80
4.50	219.19	14.50	21.17	24.50	7.42	34.50	3.74
4.75	196.78	14.75	20.46	24.75	7.27	34.75	3.69
5.00	177.64	15.00	19.78	25.00	7.12	35.00	3.63
5.25	161.17	15.25	19.14	25.25	6.98	35.25	3.58
5.50	146.88	15.50	18.53	25.50	6.85	35.50	3.53
5.75	134.41	15.75	17.94	25.75	6.71	35.75	3.48
6.00	123.46	16.00	17.39	26.00	6.59	36.00	3.44
6.25	113.79	16.25	16.86	26.25	6.46	36.25	3.39
6.50	105.22	16.50	16.35	26.50	6.34	36.50	3.34
6.75	97.58	16.75	15.87	26.75	6.22	36.75	3.30
7.00	90.75	17.00	15.40	27.00	6.11	37.00	3.25
7.25	84.60	17.25	14.96	27.25	6.00	37.25	3.21
7.50	79.06	17.50	14.53	27.50	5.89	37.50	3.17
7.75	74.05	17.75	14.13	27.75	5.78	37.75	3.12
8.00	69.50	18.00	13.74	28.00	5.68	38.00	3.08
8.25	65.35	18.25	13.36	28.25	5.58	38.25	3.04
8.50	61.57	18.50	13.01	28.50	5.48	38.50	3.00
8.75	58.10	18.75	12.66	28.75	5.39	38.75	2.96
9.00	54.92	19.00	12.33	29.00	5.29	39.00	2.93
9.25	52.00	19.25	12.01	29.25	5.20	39.25	2.89
9.50	49.30	19.50	11.71	29.50	5.12	39.50	2.85
9.75	46.80	19.75	11.41	29.75	5.03	39.75	2.82
10.00	44.49	20.00	11.13	30.00	4.95	40.00	2.78

Notes:

- Formula OET Bulletin 65 equation (3) modified to include the effects of time averaged output and % reflections  

$$S = \text{EIRP} \cdot [\text{TA} \cdot (1 + \% \text{Ref})^2] / (4\pi \cdot R^2)$$
  - S = Power Density uW/cm<sup>2</sup>
  - EIRP = 1.64 \* ERP
  - pi() = 3.1459
  - R = Distance to device
  - TA = Time average
  - %Ref = Percent reflections
- 60 percent reflections is equivalent to OET Bulletin 65 equation (10)
- 100 percent reflections is equivalent to OET Bulletin 65 equation (6)
- Collector meter ERP RFLAN-C = 0.189 W, ZigBee = 0.057 W, GSM = 0.733 W per Edison SmartConnect Community Meeting, Montecito, CA dated February 10, 2010
- TPO 0.267 watts at 902.25 to 927.75 MHz from TCB Grant of Equipment Authorization (SK9AMI-4)
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# SMART Meter Power Density Computer Modeling

(8 SMART Meters – 1000% reflections)

**Meters** 8 Electric SMART Meters

Time Avg: 10%

% Reflection 1000%

Distance where limits are exceeded

FCC ft. 2.60

31.15 Inches

BioInitiative ft. 211.00

2532.00 Inches

Distance (ft)	$\mu\text{W}/\text{cm}^2$	Distance (ft)	$\mu\text{W}/\text{cm}^2$	Distance (ft)	$\mu\text{W}/\text{cm}^2$	Distance (ft)	$\mu\text{W}/\text{cm}^2$
40.25	2.75	54.25	1.51	68.25	0.96	82.25	0.66
40.50	2.71	54.50	1.50	68.50	0.95	82.50	0.65
40.75	2.68	54.75	1.49	68.75	0.94	82.75	0.65
41.00	2.65	55.00	1.47	69.00	0.94	83.00	0.65
41.25	2.62	55.25	1.46	69.25	0.93	83.25	0.64
41.50	2.59	55.50	1.45	69.50	0.92	83.50	0.64
41.75	2.55	55.75	1.43	69.75	0.92	83.75	0.63
42.00	2.52	56.00	1.42	70.00	0.91	84.00	0.63
42.25	2.49	56.25	1.41	70.25	0.90	84.25	0.63
42.50	2.46	56.50	1.39	70.50	0.90	84.50	0.62
42.75	2.44	56.75	1.38	70.75	0.89	84.75	0.62
43.00	2.41	57.00	1.37	71.00	0.88	85.00	0.62
43.25	2.38	57.25	1.36	71.25	0.88	85.25	0.61
43.50	2.35	57.50	1.35	71.50	0.87	85.50	0.61
43.75	2.33	57.75	1.33	71.75	0.86	85.75	0.61
44.00	2.30	58.00	1.32	72.00	0.86	86.00	0.60
44.25	2.27	58.25	1.31	72.25	0.85	86.25	0.60
44.50	2.25	58.50	1.30	72.50	0.85	86.50	0.60
44.75	2.22	58.75	1.29	72.75	0.84	86.75	0.59
45.00	2.20	59.00	1.28	73.00	0.84	87.00	0.59
45.25	2.17	59.25	1.27	73.25	0.83	87.25	0.58
45.50	2.15	59.50	1.26	73.50	0.82	87.50	0.58
45.75	2.13	59.75	1.25	73.75	0.82	87.75	0.58
46.00	2.10	60.00	1.24	74.00	0.81	88.00	0.57
46.25	2.08	60.25	1.23	74.25	0.81	88.25	0.57
46.50	2.06	60.50	1.22	74.50	0.80	88.50	0.57
46.75	2.04	60.75	1.21	74.75	0.80	88.75	0.57
47.00	2.02	61.00	1.20	75.00	0.79	89.00	0.56
47.25	1.99	61.25	1.19	75.25	0.79	89.25	0.56
47.50	1.97	61.50	1.18	75.50	0.78	89.50	0.56
47.75	1.95	61.75	1.17	75.75	0.78	89.75	0.55
48.00	1.93	62.00	1.16	76.00	0.77	90.00	0.55
48.25	1.91	62.25	1.15	76.25	0.77	90.25	0.55
48.50	1.89	62.50	1.14	76.50	0.76	90.50	0.54
48.75	1.87	62.75	1.13	76.75	0.76	90.75	0.54
49.00	1.85	63.00	1.12	77.00	0.75	91.00	0.54
49.25	1.84	63.25	1.11	77.25	0.75	91.25	0.53
49.50	1.82	63.50	1.10	77.50	0.74	91.50	0.53
49.75	1.80	63.75	1.10	77.75	0.74	91.75	0.53
50.00	1.78	64.00	1.09	78.00	0.73	92.00	0.53
50.25	1.76	64.25	1.08	78.25	0.73	92.25	0.52
50.50	1.75	64.50	1.07	78.50	0.72	92.50	0.52
50.75	1.73	64.75	1.06	78.75	0.72	92.75	0.52
51.00	1.71	65.00	1.05	79.00	0.71	93.00	0.51
51.25	1.70	65.25	1.05	79.25	0.71	93.25	0.51
51.50	1.68	65.50	1.04	79.50	0.70	93.50	0.51
51.75	1.66	65.75	1.03	79.75	0.70	93.75	0.51
52.00	1.65	66.00	1.02	80.00	0.70	94.00	0.50
52.25	1.63	66.25	1.01	80.25	0.69	94.25	0.50
52.50	1.62	66.50	1.01	80.50	0.69	94.50	0.50
52.75	1.60	66.75	1.00	80.75	0.68	94.75	0.50
53.00	1.58	67.00	0.99	81.00	0.68	95.00	0.49
53.25	1.57	67.25	0.98	81.25	0.67	95.25	0.49
53.50	1.56	67.50	0.98	81.50	0.67	95.50	0.49
53.75	1.54	67.75	0.97	81.75	0.67	95.75	0.49
54.00	1.53	68.00	0.96	82.00	0.66	96.00	0.48

Table 7 – 10%

# SMART Meter Power Density Computer Modeling

(8 SMART Meters – 1000% reflections)

**Meters** 8 Electric SMART Meters

Time Avg: 20%

% Reflection 1000%

Distance where limits are exceeded

FCC ft. 3.68 44.2 Inches

BioInitiative ft. 298.00 3576.0 Inches

Distance (ft)	uW/cm <sup>2</sup>	Distance (ft)	uW/cm <sup>2</sup>	Distance (ft)	uW/cm <sup>2</sup>	Distance (ft)	uW/cm <sup>2</sup>
0.25	71235.15	10.25	84.70	20.25	21.71	30.25	9.73
0.50	28494.06	10.50	80.72	20.50	21.19	30.50	9.57
0.75	14247.03	10.75	77.01	20.75	20.68	30.75	9.42
1.00	8380.61	11.00	73.55	21.00	20.19	31.00	9.27
1.25	5479.63	11.25	70.32	21.25	19.72	31.25	9.12
1.50	3850.55	11.50	67.30	21.50	19.26	31.50	8.97
1.75	2849.41	11.75	64.47	21.75	18.82	31.75	8.83
2.00	2191.85	12.00	61.81	22.00	18.40	32.00	8.70
2.25	1737.44	12.25	59.31	22.25	17.98	32.25	8.56
2.50	1410.60	12.50	56.97	22.50	17.59	32.50	8.43
2.75	1167.79	12.75	54.75	22.75	17.20	32.75	8.30
3.00	982.55	13.00	52.67	23.00	16.83	33.00	8.18
3.25	838.06	13.25	50.70	23.25	16.47	33.25	8.05
3.50	723.20	13.50	48.84	23.50	16.12	33.50	7.93
3.75	630.40	13.75	47.08	23.75	15.78	33.75	7.82
4.00	554.36	14.00	45.42	24.00	15.46	34.00	7.70
4.25	491.28	14.25	43.84	24.25	15.14	34.25	7.59
4.50	438.37	14.50	42.34	24.50	14.83	34.50	7.48
4.75	393.56	14.75	40.92	24.75	14.53	34.75	7.37
5.00	355.29	15.00	39.56	25.00	14.25	35.00	7.27
5.25	322.33	15.25	38.28	25.25	13.96	35.25	7.17
5.50	293.75	15.50	37.05	25.50	13.69	35.50	7.07
5.75	268.81	15.75	35.89	25.75	13.43	35.75	6.97
6.00	246.92	16.00	34.77	26.00	13.17	36.00	6.87
6.25	227.59	16.25	33.71	26.25	12.92	36.25	6.78
6.50	210.44	16.50	32.70	26.50	12.68	36.50	6.68
6.75	195.16	16.75	31.73	26.75	12.44	36.75	6.59
7.00	181.49	17.00	30.80	27.00	12.21	37.00	6.50
7.25	169.20	17.25	29.92	27.25	11.99	37.25	6.42
7.50	158.12	17.50	29.07	27.50	11.77	37.50	6.33
7.75	148.10	17.75	28.26	27.75	11.56	37.75	6.25
8.00	139.00	18.00	27.48	28.00	11.36	38.00	6.17
8.25	130.71	18.25	26.73	28.25	11.16	38.25	6.09
8.50	123.14	18.50	26.01	28.50	10.96	38.50	6.01
8.75	116.21	18.75	25.32	28.75	10.77	38.75	5.93
9.00	109.85	19.00	24.66	29.00	10.59	39.00	5.85
9.25	103.99	19.25	24.03	29.25	10.41	39.25	5.78
9.50	98.60	19.50	23.41	29.50	10.23	39.50	5.71
9.75	93.61	19.75	22.82	29.75	10.06	39.75	5.64
10.00	88.99	20.00	22.26	30.00	9.89	40.00	5.57

Notes:

- Formula OET Bulletin 65 equation (3) modified to include the effects of time averaged output and % reflections  

$$S = \text{EIRP} \cdot [\text{TA} \cdot (1 + \% \text{Ref})^2] / (4\pi i) R^2$$

$$S = \text{Power Density uW/cm}^2$$

$$\text{EIRP} = 1.64 \cdot \text{ERP}$$

$$\pi() = 3.1459$$

$$R = \text{Distance to device}$$

$$\text{TA} = \text{Time average}$$

$$\% \text{Ref} = \text{Percent reflections}$$
- 60 percent reflections is equivalent to OET Bulletin 65 equation (10)
- 100 percent reflections is equivalent to OET Bulletin 65 equation (6)
- Collector meter ERP RFLAN-C = 0.189 W, ZigBee = 0.057 W, GSM = 0.733 W per Edison SmartConnect Community Meeting, Montecito, CA dated February 10, 2010
- TPO 0.267 watts at 902.25 to 927.75 MHz from TCB Grant of Equipment Authorization (SK9AMI-4)
- Antenna Gain 2.2dBi at 914.74 MHz per ACS Certification FCC ID: SK9AMI-4 RFLAN & RFLAN-E ERP = 0.270 W

# SMART Meter Power Density Computer Modeling

(8 SMART Meters – 1000% reflections)

**Meters** 8 Electric SMART Meters

Time Avg: 20%

% Reflection 1000%

Distance where limits are exceeded

FCC ft. 3.68

44.16 Inches

BioInitiative ft. 298.00

3576.00 Inches

Distance (ft)	uW/cm <sup>2</sup>	Distance (ft)	uW/cm <sup>2</sup>	Distance (ft)	uW/cm <sup>2</sup>	Distance (ft)	uW/cm <sup>2</sup>
40.25	5.50	54.25	3.03	68.25	1.91	82.25	1.32
40.50	5.43	54.50	3.00	68.50	1.90	82.50	1.31
40.75	5.36	54.75	2.97	68.75	1.88	82.75	1.30
41.00	5.30	55.00	2.94	69.00	1.87	83.00	1.29
41.25	5.23	55.25	2.92	69.25	1.86	83.25	1.28
41.50	5.17	55.50	2.89	69.50	1.84	83.50	1.28
41.75	5.11	55.75	2.86	69.75	1.83	83.75	1.27
42.00	5.05	56.00	2.84	70.00	1.82	84.00	1.26
42.25	4.99	56.25	2.81	70.25	1.80	84.25	1.25
42.50	4.93	56.50	2.79	70.50	1.79	84.50	1.25
42.75	4.87	56.75	2.76	70.75	1.78	84.75	1.24
43.00	4.82	57.00	2.74	71.00	1.77	85.00	1.23
43.25	4.76	57.25	2.72	71.25	1.75	85.25	1.23
43.50	4.71	57.50	2.69	71.50	1.74	85.50	1.22
43.75	4.65	57.75	2.67	71.75	1.73	85.75	1.21
44.00	4.60	58.00	2.65	72.00	1.72	86.00	1.20
44.25	4.55	58.25	2.62	72.25	1.71	86.25	1.20
44.50	4.50	58.50	2.60	72.50	1.69	86.50	1.19
44.75	4.45	58.75	2.58	72.75	1.68	86.75	1.18
45.00	4.40	59.00	2.56	73.00	1.67	87.00	1.18
45.25	4.35	59.25	2.54	73.25	1.66	87.25	1.17
45.50	4.30	59.50	2.52	73.50	1.65	87.50	1.16
45.75	4.25	59.75	2.49	73.75	1.64	87.75	1.16
46.00	4.21	60.00	2.47	74.00	1.63	88.00	1.15
46.25	4.16	60.25	2.45	74.25	1.62	88.25	1.14
46.50	4.12	60.50	2.43	74.50	1.60	88.50	1.14
46.75	4.07	60.75	2.41	74.75	1.59	88.75	1.13
47.00	4.03	61.00	2.39	75.00	1.58	89.00	1.12
47.25	3.99	61.25	2.37	75.25	1.57	89.25	1.12
47.50	3.95	61.50	2.35	75.50	1.56	89.50	1.11
47.75	3.91	61.75	2.34	75.75	1.55	89.75	1.11
48.00	3.86	62.00	2.32	76.00	1.54	90.00	1.10
48.25	3.82	62.25	2.30	76.25	1.53	90.25	1.09
48.50	3.79	62.50	2.28	76.50	1.52	90.50	1.09
48.75	3.75	62.75	2.26	76.75	1.51	90.75	1.08
49.00	3.71	63.00	2.24	77.00	1.50	91.00	1.08
49.25	3.67	63.25	2.23	77.25	1.49	91.25	1.07
49.50	3.63	63.50	2.21	77.50	1.48	91.50	1.06
49.75	3.60	63.75	2.19	77.75	1.47	91.75	1.06
50.00	3.56	64.00	2.17	78.00	1.46	92.00	1.05
50.25	3.53	64.25	2.16	78.25	1.45	92.25	1.05
50.50	3.49	64.50	2.14	78.50	1.44	92.50	1.04
50.75	3.46	64.75	2.12	78.75	1.44	92.75	1.04
51.00	3.42	65.00	2.11	79.00	1.43	93.00	1.03
51.25	3.39	65.25	2.09	79.25	1.42	93.25	1.02
51.50	3.36	65.50	2.08	79.50	1.41	93.50	1.02
51.75	3.32	65.75	2.06	79.75	1.40	93.75	1.01
52.00	3.29	66.00	2.04	80.00	1.39	94.00	1.01
52.25	3.26	66.25	2.03	80.25	1.38	94.25	1.00
52.50	3.23	66.50	2.01	80.50	1.37	94.50	1.00
52.75	3.20	66.75	2.00	80.75	1.37	94.75	0.99
53.00	3.17	67.00	1.98	81.00	1.36	95.00	0.99
53.25	3.14	67.25	1.97	81.25	1.35	95.25	0.98
53.50	3.11	67.50	1.95	81.50	1.34	95.50	0.98
53.75	3.08	67.75	1.94	81.75	1.33	95.75	0.97
54.00	3.05	68.00	1.93	82.00	1.32	96.00	0.97

Table 7 – 20%

# SMART Meter Power Density Computer Modeling

(8 SMART Meters – 1000% reflections)

**Meters** 8 Electric SMART Meters

Time Avg: 30%

% Reflection 1000%

Distance where limits are exceeded

FCC ft. 4.51 54.1 Inches

BioInitiative ft. 365.00 4380.0 Inches

Distance (ft)	uW/cm <sup>2</sup>	Distance (ft)	uW/cm <sup>2</sup>	Distance (ft)	uW/cm <sup>2</sup>	Distance (ft)	uW/cm <sup>2</sup>
0.25	106852.72	10.25	127.05	20.25	32.57	30.25	14.60
0.50	42741.09	10.50	121.08	20.50	31.78	30.50	14.36
0.75	21370.54	10.75	115.52	20.75	31.02	30.75	14.12
1.00	12570.91	11.00	110.33	21.00	30.28	31.00	13.90
1.25	8219.44	11.25	105.48	21.25	29.57	31.25	13.68
1.50	5775.82	11.50	100.95	21.50	28.89	31.50	13.46
1.75	4274.11	11.75	96.70	21.75	28.23	31.75	13.25
2.00	3287.78	12.00	92.71	22.00	27.59	32.00	13.04
2.25	2606.16	12.25	88.97	22.25	26.98	32.25	12.84
2.50	2115.90	12.50	85.45	22.50	26.38	32.50	12.64
2.75	1751.68	12.75	82.13	22.75	25.80	32.75	12.45
3.00	1473.83	13.00	79.00	23.00	25.25	33.00	12.26
3.25	1257.09	13.25	76.05	23.25	24.71	33.25	12.08
3.50	1084.80	13.50	73.26	23.50	24.18	33.50	11.90
3.75	945.60	13.75	70.62	23.75	23.68	33.75	11.73
4.00	831.54	14.00	68.12	24.00	23.19	34.00	11.55
4.25	736.92	14.25	65.76	24.25	22.71	34.25	11.39
4.50	657.56	14.50	63.51	24.50	22.25	34.50	11.22
4.75	590.35	14.75	61.37	24.75	21.80	34.75	11.06
5.00	532.93	15.00	59.35	25.00	21.37	35.00	10.90
5.25	483.50	15.25	57.42	25.25	20.95	35.25	10.75
5.50	440.63	15.50	55.58	25.50	20.54	35.50	10.60
5.75	403.22	15.75	53.83	25.75	20.14	35.75	10.45
6.00	370.37	16.00	52.16	26.00	19.76	36.00	10.31
6.25	341.38	16.25	50.57	26.25	19.38	36.25	10.16
6.50	315.67	16.50	49.05	26.50	19.02	36.50	10.03
6.75	292.75	16.75	47.60	26.75	18.66	36.75	9.89
7.00	272.24	17.00	46.21	27.00	18.32	37.00	9.76
7.25	253.81	17.25	44.88	27.25	17.99	37.25	9.63
7.50	237.19	17.50	43.60	27.50	17.66	37.50	9.50
7.75	222.15	17.75	42.39	27.75	17.34	37.75	9.37
8.00	208.49	18.00	41.22	28.00	17.04	38.00	9.25
8.25	196.06	18.25	40.09	28.25	16.73	38.25	9.13
8.50	184.71	18.50	39.02	28.50	16.44	38.50	9.01
8.75	174.31	18.75	37.99	28.75	16.16	38.75	8.89
9.00	164.77	19.00	36.99	29.00	15.88	39.00	8.78
9.25	155.99	19.25	36.04	29.25	15.61	39.25	8.67
9.50	147.89	19.50	35.12	29.50	15.35	39.50	8.56
9.75	140.41	19.75	34.24	29.75	15.09	39.75	8.45
10.00	133.48	20.00	33.39	30.00	14.84	40.00	8.35

Notes:

- Formula OET Bulletin 65 equation (3) modified to include the effects of time averaged output and % reflections  

$$S = \text{EIRP} \cdot [\text{TA} \cdot (1 + \% \text{Ref})^2] / (4\pi \cdot R^2)$$
  - S = Power Density uW/cm<sup>2</sup>
  - EIRP = 1.64 \* ERP
  - pi() = 3.1459
  - R = Distance to device
  - TA = Time average
  - %Ref = Percent reflections
- 60 percent reflections is equivalent to OET Bulletin 65 equation (10)
- 100 percent reflections is equivalent to OET Bulletin 65 equation (6)
- Collector meter ERP RFLAN-C = 0.189 W, ZigBee = 0.057 W, GSM = 0.733 W per Edison SmartConnect Community Meeting, Montecito, CA dated February 10, 2010
- TPO 0.267 watts at 902.25 to 927.75 MHz from TCB Grant of Equipment Authorization (SK9AMI-4)
- Antenna Gain 2.2dBi at 914.74 MHz per ACS Certification FCC ID: SK9AMI-4 RFLAN & RFLAN-E ERP = 0.270 W

# SMART Meter Power Density Computer Modeling

(8 SMART Meters – 1000% reflections)

**Meters** 8 Electric SMART Meters

Time Avg: 30%

% Reflection 1000%

Distance where limits are exceeded

FCC ft. 4.51

54.13 Inches

BioInitiative ft. 365.00

4380.00 Inches

Distance (ft)	uW/cm <sup>2</sup>	Distance (ft)	uW/cm <sup>2</sup>	Distance (ft)	uW/cm <sup>2</sup>	Distance (ft)	uW/cm <sup>2</sup>
40.25	8.24	54.25	4.54	68.25	2.87	82.25	1.97
40.50	8.14	54.50	4.50	68.50	2.85	82.50	1.96
40.75	8.04	54.75	4.46	68.75	2.83	82.75	1.95
41.00	7.95	55.00	4.42	69.00	2.81	83.00	1.94
41.25	7.85	55.25	4.38	69.25	2.79	83.25	1.93
41.50	7.76	55.50	4.34	69.50	2.77	83.50	1.92
41.75	7.66	55.75	4.30	69.75	2.75	83.75	1.90
42.00	7.57	56.00	4.26	70.00	2.73	84.00	1.89
42.25	7.48	56.25	4.22	70.25	2.71	84.25	1.88
42.50	7.39	56.50	4.18	70.50	2.69	84.50	1.87
42.75	7.31	56.75	4.15	70.75	2.67	84.75	1.86
43.00	7.22	57.00	4.11	71.00	2.65	85.00	1.85
43.25	7.14	57.25	4.08	71.25	2.63	85.25	1.84
43.50	7.06	57.50	4.04	71.50	2.61	85.50	1.83
43.75	6.98	57.75	4.00	71.75	2.59	85.75	1.82
44.00	6.90	58.00	3.97	72.00	2.58	86.00	1.81
44.25	6.82	58.25	3.94	72.25	2.56	86.25	1.80
44.50	6.74	58.50	3.90	72.50	2.54	86.50	1.79
44.75	6.67	58.75	3.87	72.75	2.52	86.75	1.77
45.00	6.60	59.00	3.84	73.00	2.51	87.00	1.76
45.25	6.52	59.25	3.80	73.25	2.49	87.25	1.75
45.50	6.45	59.50	3.77	73.50	2.47	87.50	1.74
45.75	6.38	59.75	3.74	73.75	2.46	87.75	1.73
46.00	6.31	60.00	3.71	74.00	2.44	88.00	1.72
46.25	6.24	60.25	3.68	74.25	2.42	88.25	1.71
46.50	6.18	60.50	3.65	74.50	2.41	88.50	1.71
46.75	6.11	60.75	3.62	74.75	2.39	88.75	1.70
47.00	6.05	61.00	3.59	75.00	2.37	89.00	1.69
47.25	5.98	61.25	3.56	75.25	2.36	89.25	1.68
47.50	5.92	61.50	3.53	75.50	2.34	89.50	1.67
47.75	5.86	61.75	3.50	75.75	2.33	89.75	1.66
48.00	5.80	62.00	3.47	76.00	2.31	90.00	1.65
48.25	5.74	62.25	3.45	76.25	2.30	90.25	1.64
48.50	5.68	62.50	3.42	76.50	2.28	90.50	1.63
48.75	5.62	62.75	3.39	76.75	2.27	90.75	1.62
49.00	5.56	63.00	3.37	77.00	2.25	91.00	1.61
49.25	5.51	63.25	3.34	77.25	2.24	91.25	1.60
49.50	5.45	63.50	3.31	77.50	2.22	91.50	1.60
49.75	5.40	63.75	3.29	77.75	2.21	91.75	1.59
50.00	5.34	64.00	3.26	78.00	2.20	92.00	1.58
50.25	5.29	64.25	3.24	78.25	2.18	92.25	1.57
50.50	5.24	64.50	3.21	78.50	2.17	92.50	1.56
50.75	5.19	64.75	3.19	78.75	2.15	92.75	1.55
51.00	5.14	65.00	3.16	79.00	2.14	93.00	1.54
51.25	5.09	65.25	3.14	79.25	2.13	93.25	1.54
51.50	5.04	65.50	3.11	79.50	2.11	93.50	1.53
51.75	4.99	65.75	3.09	79.75	2.10	93.75	1.52
52.00	4.94	66.00	3.07	80.00	2.09	94.00	1.51
52.25	4.89	66.25	3.04	80.25	2.07	94.25	1.50
52.50	4.85	66.50	3.02	80.50	2.06	94.50	1.50
52.75	4.80	66.75	3.00	80.75	2.05	94.75	1.49
53.00	4.75	67.00	2.98	81.00	2.04	95.00	1.48
53.25	4.71	67.25	2.95	81.25	2.02	95.25	1.47
53.50	4.67	67.50	2.93	81.50	2.01	95.50	1.46
53.75	4.62	67.75	2.91	81.75	2.00	95.75	1.46
54.00	4.58	68.00	2.89	82.00	1.99	96.00	1.45



# SMART Meter Power Density Computer Modeling

(8 SMART Meters – 1000% reflections)

Meters 8 Electric SMART Meters

Time Avg: 40%

% Reflection 1000%

Distance where limits are exceeded

FCC ft. 5.21 62.5 Inches

BioInitiative ft. 422.00 5064.0 Inches

Distance (ft)	uW/cm <sup>2</sup>	Distance (ft)	uW/cm <sup>2</sup>	Distance (ft)	uW/cm <sup>2</sup>	Distance (ft)	uW/cm <sup>2</sup>
0.25	142470.30	10.25	169.41	20.25	43.42	30.25	19.46
0.50	56988.12	10.50	161.44	20.50	42.37	30.50	19.14
0.75	28494.06	10.75	154.02	20.75	41.36	30.75	18.83
1.00	16761.21	11.00	147.10	21.00	40.38	31.00	18.53
1.25	10959.25	11.25	140.64	21.25	39.43	31.25	18.24
1.50	7701.10	11.50	134.60	21.50	38.52	31.50	17.95
1.75	5698.81	11.75	128.93	21.75	37.64	31.75	17.67
2.00	4383.70	12.00	123.62	22.00	36.79	32.00	17.39
2.25	3474.89	12.25	118.63	22.25	35.97	32.25	17.12
2.50	2821.19	12.50	113.93	22.50	35.17	32.50	16.86
2.75	2335.58	12.75	109.51	22.75	34.40	32.75	16.60
3.00	1965.11	13.00	105.34	23.00	33.66	33.00	16.35
3.25	1676.12	13.25	101.40	23.25	32.94	33.25	16.11
3.50	1446.40	13.50	97.68	23.50	32.24	33.50	15.87
3.75	1260.80	13.75	94.16	23.75	31.57	33.75	15.63
4.00	1108.72	14.00	90.83	24.00	30.91	34.00	15.40
4.25	982.55	14.25	87.67	24.25	30.28	34.25	15.18
4.50	876.74	14.50	84.68	24.50	29.67	34.50	14.96
4.75	787.13	14.75	81.83	24.75	29.07	34.75	14.75
5.00	710.58	15.00	79.13	25.00	28.49	35.00	14.54
5.25	644.66	15.25	76.56	25.25	27.93	35.25	14.33
5.50	587.51	15.50	74.11	25.50	27.38	35.50	14.13
5.75	537.62	15.75	71.77	25.75	26.86	35.75	13.93
6.00	493.83	16.00	69.55	26.00	26.34	36.00	13.74
6.25	455.18	16.25	67.43	26.25	25.84	36.25	13.55
6.50	420.89	16.50	65.40	26.50	25.36	36.50	13.37
6.75	390.33	16.75	63.46	26.75	24.89	36.75	13.19
7.00	362.98	17.00	61.61	27.00	24.43	37.00	13.01
7.25	338.41	17.25	59.84	27.25	23.98	37.25	12.83
7.50	316.25	17.50	58.14	27.50	23.55	37.50	12.66
7.75	296.20	17.75	56.51	27.75	23.12	37.75	12.50
8.00	277.99	18.00	54.95	28.00	22.71	38.00	12.33
8.25	261.41	18.25	53.46	28.25	22.31	38.25	12.17
8.50	246.28	18.50	52.02	28.50	21.92	38.50	12.01
8.75	232.41	18.75	50.65	28.75	21.54	38.75	11.86
9.00	219.69	19.00	49.32	29.00	21.17	39.00	11.71
9.25	207.99	19.25	48.05	29.25	20.81	39.25	11.56
9.50	197.19	19.50	46.83	29.50	20.46	39.50	11.41
9.75	187.21	19.75	45.65	29.75	20.12	39.75	11.27
10.00	177.98	20.00	44.52	30.00	19.79	40.00	11.13

Notes:

- Formula OET Bulletin 65 equation (3) modified to include the effects of time averaged output and % reflections  

$$S = \text{EIRP} \cdot [\text{TA} \cdot (1 + \% \text{Ref})^2] / (4\pi \cdot R^2)$$
  - S = Power Density uW/cm<sup>2</sup>
  - EIRP = 1.64 \* ERP
  - pi() = 3.1459
  - R = Distance to device
  - TA = Time average
  - %Ref = Percent reflections
- 60 percent reflections is equivalent to OET Bulletin 65 equation (10)
- 100 percent reflections is equivalent to OET Bulletin 65 equation (6)
- Collector meter ERP RFLAN-C = 0.189 W, ZigBee = 0.057 W, GSM = 0.733 W per Edison SmartConnect Community Meeting, Montecito, CA dated February 10, 2010
- TPO 0.267 watts at 902.25 to 927.75 MHz from TCB Grant of Equipment Authorization (SK9AMI-4)
- Antenna Gain 2.2dBi at 914.74 MHz per ACS Certification FCC ID: SK9AMI-4 RFLAN & RFLAN-E ERP = 0.270 W

# SMART Meter Power Density Computer Modeling

(8 SMART Meters – 1000% reflections)

**Meters** 8 Electric SMART Meters

Time Avg: 40%

% Reflection 1000%

Distance where limits are exceeded

FCC ft. 5.21

62.53 Inches

BioInitiative ft. 422.00

5064.00 Inches

Distance (ft)	uW/cm <sup>2</sup>	Distance (ft)	uW/cm <sup>2</sup>	Distance (ft)	uW/cm <sup>2</sup>	Distance (ft)	uW/cm <sup>2</sup>
40.25	10.99	54.25	6.05	68.25	3.82	82.25	2.63
40.50	10.86	54.50	6.00	68.50	3.80	82.50	2.62
40.75	10.72	54.75	5.94	68.75	3.77	82.75	2.60
41.00	10.59	55.00	5.89	69.00	3.74	83.00	2.59
41.25	10.47	55.25	5.83	69.25	3.71	83.25	2.57
41.50	10.34	55.50	5.78	69.50	3.69	83.50	2.55
41.75	10.22	55.75	5.73	69.75	3.66	83.75	2.54
42.00	10.10	56.00	5.68	70.00	3.63	84.00	2.52
42.25	9.98	56.25	5.63	70.25	3.61	84.25	2.51
42.50	9.86	56.50	5.58	70.50	3.58	84.50	2.49
42.75	9.74	56.75	5.53	70.75	3.56	84.75	2.48
43.00	9.63	57.00	5.48	71.00	3.53	85.00	2.46
43.25	9.52	57.25	5.43	71.25	3.51	85.25	2.45
43.50	9.41	57.50	5.39	71.50	3.48	85.50	2.44
43.75	9.30	57.75	5.34	71.75	3.46	85.75	2.42
44.00	9.20	58.00	5.29	72.00	3.44	86.00	2.41
44.25	9.09	58.25	5.25	72.25	3.41	86.25	2.39
44.50	8.99	58.50	5.20	72.50	3.39	86.50	2.38
44.75	8.89	58.75	5.16	72.75	3.36	86.75	2.37
45.00	8.79	59.00	5.12	73.00	3.34	87.00	2.35
45.25	8.70	59.25	5.07	73.25	3.32	87.25	2.34
45.50	8.60	59.50	5.03	73.50	3.30	87.50	2.33
45.75	8.51	59.75	4.99	73.75	3.27	87.75	2.31
46.00	8.42	60.00	4.95	74.00	3.25	88.00	2.30
46.25	8.33	60.25	4.91	74.25	3.23	88.25	2.29
46.50	8.24	60.50	4.87	74.50	3.21	88.50	2.27
46.75	8.15	60.75	4.83	74.75	3.19	88.75	2.26
47.00	8.06	61.00	4.79	75.00	3.17	89.00	2.25
47.25	7.98	61.25	4.75	75.25	3.14	89.25	2.24
47.50	7.89	61.50	4.71	75.50	3.12	89.50	2.22
47.75	7.81	61.75	4.67	75.75	3.10	89.75	2.21
48.00	7.73	62.00	4.63	76.00	3.08	90.00	2.20
48.25	7.65	62.25	4.60	76.25	3.06	90.25	2.19
48.50	7.57	62.50	4.56	76.50	3.04	90.50	2.17
48.75	7.49	62.75	4.52	76.75	3.02	90.75	2.16
49.00	7.42	63.00	4.49	77.00	3.00	91.00	2.15
49.25	7.34	63.25	4.45	77.25	2.98	91.25	2.14
49.50	7.27	63.50	4.42	77.50	2.97	91.50	2.13
49.75	7.20	63.75	4.38	77.75	2.95	91.75	2.12
50.00	7.12	64.00	4.35	78.00	2.93	92.00	2.10
50.25	7.05	64.25	4.31	78.25	2.91	92.25	2.09
50.50	6.98	64.50	4.28	78.50	2.89	92.50	2.08
50.75	6.91	64.75	4.25	78.75	2.87	92.75	2.07
51.00	6.85	65.00	4.22	79.00	2.85	93.00	2.06
51.25	6.78	65.25	4.18	79.25	2.84	93.25	2.05
51.50	6.71	65.50	4.15	79.50	2.82	93.50	2.04
51.75	6.65	65.75	4.12	79.75	2.80	93.75	2.03
52.00	6.59	66.00	4.09	80.00	2.78	94.00	2.02
52.25	6.52	66.25	4.06	80.25	2.77	94.25	2.00
52.50	6.46	66.50	4.03	80.50	2.75	94.50	1.99
52.75	6.40	66.75	4.00	80.75	2.73	94.75	1.98
53.00	6.34	67.00	3.97	81.00	2.71	95.00	1.97
53.25	6.28	67.25	3.94	81.25	2.70	95.25	1.96
53.50	6.22	67.50	3.91	81.50	2.68	95.50	1.95
53.75	6.16	67.75	3.88	81.75	2.66	95.75	1.94
54.00	6.11	68.00	3.85	82.00	2.65	96.00	1.93

Table 7 – 40%

# SMART Meter Power Density Computer Modeling

(8 SMART Meters – 1000% reflections)

**Meters** 8 Electric SMART Meters

Time Avg: 50%

% Reflection 1000%

Distance where limits are exceeded

FCC ft. 5.83 69.9 Inches

BioInitiative ft. 471.00 5652.0 Inches

Distance (ft)	uW/cm <sup>2</sup>	Distance (ft)	uW/cm <sup>2</sup>	Distance (ft)	uW/cm <sup>2</sup>	Distance (ft)	uW/cm <sup>2</sup>
0.25	178087.87	10.25	211.76	20.25	54.28	30.25	24.33
0.50	71235.15	10.50	201.80	20.50	52.96	30.50	23.93
0.75	35617.57	10.75	192.53	20.75	51.69	30.75	23.54
1.00	20951.51	11.00	183.88	21.00	50.47	31.00	23.16
1.25	13699.07	11.25	175.80	21.25	49.29	31.25	22.79
1.50	9626.37	11.50	168.25	21.50	48.15	31.50	22.43
1.75	7123.51	11.75	161.17	21.75	47.05	31.75	22.08
2.00	5479.63	12.00	154.52	22.00	45.99	32.00	21.74
2.25	4343.61	12.25	148.28	22.25	44.96	32.25	21.40
2.50	3526.49	12.50	142.41	22.50	43.97	32.50	21.07
2.75	2919.47	12.75	136.89	22.75	43.01	32.75	20.75
3.00	2456.38	13.00	131.67	23.00	42.08	33.00	20.44
3.25	2095.15	13.25	126.75	23.25	41.18	33.25	20.13
3.50	1808.00	13.50	122.10	23.50	40.31	33.50	19.83
3.75	1576.00	13.75	117.71	23.75	39.46	33.75	19.54
4.00	1385.90	14.00	113.54	24.00	38.64	34.00	19.26
4.25	1228.19	14.25	109.59	24.25	37.85	34.25	18.98
4.50	1095.93	14.50	105.85	24.50	37.08	34.50	18.70
4.75	983.91	14.75	102.29	24.75	36.34	34.75	18.43
5.00	888.22	15.00	98.91	25.00	35.61	35.00	18.17
5.25	805.83	15.25	95.69	25.25	34.91	35.25	17.91
5.50	734.38	15.50	92.63	25.50	34.23	35.50	17.66
5.75	672.03	15.75	89.72	25.75	33.57	35.75	17.42
6.00	617.29	16.00	86.94	26.00	32.93	36.00	17.18
6.25	568.97	16.25	84.28	26.25	32.30	36.25	16.94
6.50	526.11	16.50	81.75	26.50	31.70	36.50	16.71
6.75	487.91	16.75	79.33	26.75	31.11	36.75	16.48
7.00	453.73	17.00	77.01	27.00	30.53	37.00	16.26
7.25	423.01	17.25	74.80	27.25	29.98	37.25	16.04
7.50	395.31	17.50	72.67	27.50	29.43	37.50	15.83
7.75	370.25	17.75	70.64	27.75	28.91	37.75	15.62
8.00	347.49	18.00	68.69	28.00	28.39	38.00	15.42
8.25	326.77	18.25	66.82	28.25	27.89	38.25	15.21
8.50	307.84	18.50	65.03	28.50	27.40	38.50	15.02
8.75	290.52	18.75	63.31	28.75	26.93	38.75	14.82
9.00	274.62	19.00	61.65	29.00	26.47	39.00	14.64
9.25	259.98	19.25	60.06	29.25	26.02	39.25	14.45
9.50	246.49	19.50	58.53	29.50	25.58	39.50	14.27
9.75	234.02	19.75	57.06	29.75	25.15	39.75	14.09
10.00	222.47	20.00	55.64	30.00	24.73	40.00	13.91

Notes:

- Formula OET Bulletin 65 equation (3) modified to include the effects of time averaged output and % reflections  

$$S = \text{EIRP} \cdot [\text{TA} \cdot (1 + \% \text{Ref})^2] / (4\pi \cdot R^2)$$
  - S = Power Density uW/cm<sup>2</sup>
  - EIRP = 1.64 \* ERP
  - pi() = 3.1459
  - R = Distance to device
  - TA = Time average
  - %Ref = Percent reflections
- 60 percent reflections is equivalent to OET Bulletin 65 equation (10)
- 100 percent reflections is equivalent to OET Bulletin 65 equation (6)
- Collector meter ERP RFLAN-C = 0.189 W, ZigBee = 0.057 W, GSM = 0.733 W per Edison SmartConnect Community Meeting, Montecito, CA dated February 10, 2010
- TPO 0.267 watts at 902.25 to 927.75 MHz from TCB Grant of Equipment Authorization (SK9AMI-4)
- Antenna Gain 2.2dBi at 914.74 MHz per ACS Certification FCC ID: SK9AMI-4 RFLAN & RFLAN-E ERP = 0.270 W

# SMART Meter Power Density Computer Modeling

(8 SMART Meters – 1000% reflections)

**Meters** 8 Electric SMART Meters

Time Avg: 50%

% Reflection 1000%

Distance where limits are exceeded

FCC ft. 5.83

69.92 Inches

BioInitiative ft. 471.00

5652.00 Inches

Distance (ft)	uW/cm <sup>2</sup>	Distance (ft)	uW/cm <sup>2</sup>	Distance (ft)	uW/cm <sup>2</sup>	Distance (ft)	uW/cm <sup>2</sup>
40.25	13.74	54.25	7.56	68.25	4.78	82.25	3.29
40.50	13.57	54.50	7.49	68.50	4.74	82.50	3.27
40.75	13.41	54.75	7.43	68.75	4.71	82.75	3.25
41.00	13.24	55.00	7.36	69.00	4.68	83.00	3.23
41.25	13.08	55.25	7.29	69.25	4.64	83.25	3.21
41.50	12.93	55.50	7.23	69.50	4.61	83.50	3.19
41.75	12.77	55.75	7.16	69.75	4.58	83.75	3.17
42.00	12.62	56.00	7.10	70.00	4.54	84.00	3.15
42.25	12.47	56.25	7.04	70.25	4.51	84.25	3.14
42.50	12.32	56.50	6.97	70.50	4.48	84.50	3.12
42.75	12.18	56.75	6.91	70.75	4.45	84.75	3.10
43.00	12.04	57.00	6.85	71.00	4.42	85.00	3.08
43.25	11.90	57.25	6.79	71.25	4.38	85.25	3.06
43.50	11.76	57.50	6.73	71.50	4.35	85.50	3.05
43.75	11.63	57.75	6.67	71.75	4.32	85.75	3.03
44.00	11.50	58.00	6.62	72.00	4.29	86.00	3.01
44.25	11.37	58.25	6.56	72.25	4.26	86.25	2.99
44.50	11.24	58.50	6.50	72.50	4.24	86.50	2.98
44.75	11.12	58.75	6.45	72.75	4.21	86.75	2.96
45.00	10.99	59.00	6.39	73.00	4.18	87.00	2.94
45.25	10.87	59.25	6.34	73.25	4.15	87.25	2.92
45.50	10.75	59.50	6.29	73.50	4.12	87.50	2.91
45.75	10.64	59.75	6.24	73.75	4.09	87.75	2.89
46.00	10.52	60.00	6.18	74.00	4.07	88.00	2.87
46.25	10.41	60.25	6.13	74.25	4.04	88.25	2.86
46.50	10.29	60.50	6.08	74.50	4.01	88.50	2.84
46.75	10.19	60.75	6.03	74.75	3.98	88.75	2.83
47.00	10.08	61.00	5.98	75.00	3.96	89.00	2.81
47.25	9.97	61.25	5.93	75.25	3.93	89.25	2.79
47.50	9.87	61.50	5.89	75.50	3.91	89.50	2.78
47.75	9.76	61.75	5.84	75.75	3.88	89.75	2.76
48.00	9.66	62.00	5.79	76.00	3.85	90.00	2.75
48.25	9.56	62.25	5.74	76.25	3.83	90.25	2.73
48.50	9.46	62.50	5.70	76.50	3.80	90.50	2.72
48.75	9.37	62.75	5.65	76.75	3.78	90.75	2.70
49.00	9.27	63.00	5.61	77.00	3.75	91.00	2.69
49.25	9.18	63.25	5.56	77.25	3.73	91.25	2.67
49.50	9.08	63.50	5.52	77.50	3.71	91.50	2.66
49.75	8.99	63.75	5.48	77.75	3.68	91.75	2.64
50.00	8.90	64.00	5.43	78.00	3.66	92.00	2.63
50.25	8.82	64.25	5.39	78.25	3.64	92.25	2.62
50.50	8.73	64.50	5.35	78.50	3.61	92.50	2.60
50.75	8.64	64.75	5.31	78.75	3.59	92.75	2.59
51.00	8.56	65.00	5.27	79.00	3.57	93.00	2.57
51.25	8.48	65.25	5.23	79.25	3.54	93.25	2.56
51.50	8.39	65.50	5.19	79.50	3.52	93.50	2.55
51.75	8.31	65.75	5.15	79.75	3.50	93.75	2.53
52.00	8.23	66.00	5.11	80.00	3.48	94.00	2.52
52.25	8.15	66.25	5.07	80.25	3.46	94.25	2.51
52.50	8.08	66.50	5.03	80.50	3.44	94.50	2.49
52.75	8.00	66.75	5.00	80.75	3.41	94.75	2.48
53.00	7.92	67.00	4.96	81.00	3.39	95.00	2.47
53.25	7.85	67.25	4.92	81.25	3.37	95.25	2.45
53.50	7.78	67.50	4.89	81.50	3.35	95.50	2.44
53.75	7.71	67.75	4.85	81.75	3.33	95.75	2.43
54.00	7.63	68.00	4.81	82.00	3.31	96.00	2.42

Table 7 – 50%

# SMART Meter Power Density Computer Modeling

(8 SMART Meters – 1000% reflections)

Meters 8 Electric SMART Meters

Time Avg: 60%

% Reflection 1000%

Distance where limits are exceeded

FCC ft. 6.38 76.6 Inches

BioInitiative ft. 517.00 6204.0 Inches

Distance (ft)	uW/cm <sup>2</sup>	Distance (ft)	uW/cm <sup>2</sup>	Distance (ft)	uW/cm <sup>2</sup>	Distance (ft)	uW/cm <sup>2</sup>
0.25	213705.45	10.25	254.11	20.25	65.13	30.25	29.19
0.50	85482.18	10.50	242.16	20.50	63.56	30.50	28.71
0.75	42741.09	10.75	231.03	20.75	62.03	30.75	28.25
1.00	25141.82	11.00	220.66	21.00	60.57	31.00	27.80
1.25	16438.88	11.25	210.96	21.25	59.15	31.25	27.35
1.50	11551.65	11.50	201.89	21.50	57.78	31.50	26.92
1.75	8548.22	11.75	193.40	21.75	56.46	31.75	26.50
2.00	6575.55	12.00	185.43	22.00	55.19	32.00	26.09
2.25	5212.33	12.25	177.94	22.25	53.95	32.25	25.68
2.50	4231.79	12.50	170.90	22.50	52.76	32.50	25.29
2.75	3503.37	12.75	164.26	22.75	51.61	32.75	24.90
3.00	2947.66	13.00	158.01	23.00	50.49	33.00	24.53
3.25	2514.18	13.25	152.10	23.25	49.41	33.25	24.16
3.50	2169.60	13.50	146.52	23.50	48.37	33.50	23.80
3.75	1891.20	13.75	141.25	23.75	47.35	33.75	23.45
4.00	1663.08	14.00	136.25	24.00	46.37	34.00	23.11
4.25	1473.83	14.25	131.51	24.25	45.42	34.25	22.77
4.50	1315.11	14.50	127.02	24.50	44.50	34.50	22.44
4.75	1180.69	14.75	122.75	24.75	43.60	34.75	22.12
5.00	1065.86	15.00	118.69	25.00	42.74	35.00	21.81
5.25	966.99	15.25	114.83	25.25	41.89	35.25	21.50
5.50	881.26	15.50	111.16	25.50	41.08	35.50	21.20
5.75	806.44	15.75	107.66	25.75	40.28	35.75	20.90
6.00	740.75	16.00	104.32	26.00	39.51	36.00	20.61
6.25	682.77	16.25	101.14	26.25	38.76	36.25	20.33
6.50	631.33	16.50	98.10	26.50	38.04	36.50	20.05
6.75	585.49	16.75	95.19	26.75	37.33	36.75	19.78
7.00	544.47	17.00	92.41	27.00	36.64	37.00	19.51
7.25	507.61	17.25	89.75	27.25	35.97	37.25	19.25
7.50	474.37	17.50	87.21	27.50	35.32	37.50	19.00
7.75	444.29	17.75	84.77	27.75	34.69	37.75	18.74
8.00	416.99	18.00	82.43	28.00	34.07	38.00	18.50
8.25	392.12	18.25	80.19	28.25	33.47	38.25	18.26
8.50	369.41	18.50	78.04	28.50	32.89	38.50	18.02
8.75	348.62	18.75	75.97	28.75	32.32	38.75	17.79
9.00	329.54	19.00	73.98	29.00	31.76	39.00	17.56
9.25	311.98	19.25	72.08	29.25	31.22	39.25	17.34
9.50	295.79	19.50	70.24	29.50	30.69	39.50	17.12
9.75	280.82	19.75	68.47	29.75	30.18	39.75	16.91
10.00	266.96	20.00	66.77	30.00	29.68	40.00	16.70

Notes:

- Formula OET Bulletin 65 equation (3) modified to include the effects of time averaged output and % reflections  

$$S = \text{EIRP} \cdot [\text{TA} \cdot (1 + \% \text{Ref})^2] / (4\pi \cdot R^2)$$

$$S = \text{Power Density uW/cm}^2$$

$$\text{EIRP} = 1.64 \cdot \text{ERP}$$

$$\pi() = 3.1459$$

$$R = \text{Distance to device}$$

$$\text{TA} = \text{Time average}$$

$$\% \text{Ref} = \text{Percent reflections}$$
- 60 percent reflections is equivalent to OET Bulletin 65 equation (10)
- 100 percent reflections is equivalent to OET Bulletin 65 equation (6)
- Collector meter ERP RFLAN-C = 0.189 W, ZigBee = 0.057 W, GSM = 0.733 W per Edison SmartConnect Community Meeting, Montecito, CA dated February 10, 2010
- TPO 0.267 watts at 902.25 to 927.75 MHz from TCB Grant of Equipment Authorization (SK9AMI-4)
- Antenna Gain 2.2dBi at 914.74 MHz per ACS Certification FCC ID: SK9AMI-4 RFLAN & RFLAN-E ERP = 0.270 W

# SMART Meter Power Density Computer Modeling

(8 SMART Meters – 1000% reflections)

**Meters** 8 Electric SMART Meters

Time Avg: 60%

% Reflection 1000%

Distance where limits are exceeded

FCC ft. 6.38

76.61 Inches

BioInitiative ft. 517.00

6204.00 Inches

Distance (ft)	$\mu\text{W}/\text{cm}^2$	Distance (ft)	$\mu\text{W}/\text{cm}^2$	Distance (ft)	$\mu\text{W}/\text{cm}^2$	Distance (ft)	$\mu\text{W}/\text{cm}^2$
40.25	16.49	54.25	9.08	68.25	5.73	82.25	3.95
40.50	16.29	54.50	8.99	68.50	5.69	82.50	3.92
40.75	16.09	54.75	8.91	68.75	5.65	82.75	3.90
41.00	15.89	55.00	8.83	69.00	5.61	83.00	3.88
41.25	15.70	55.25	8.75	69.25	5.57	83.25	3.85
41.50	15.51	55.50	8.67	69.50	5.53	83.50	3.83
41.75	15.32	55.75	8.59	69.75	5.49	83.75	3.81
42.00	15.14	56.00	8.52	70.00	5.45	84.00	3.79
42.25	14.96	56.25	8.44	70.25	5.41	84.25	3.76
42.50	14.79	56.50	8.37	70.50	5.37	84.50	3.74
42.75	14.62	56.75	8.29	70.75	5.34	84.75	3.72
43.00	14.45	57.00	8.22	71.00	5.30	85.00	3.70
43.25	14.28	57.25	8.15	71.25	5.26	85.25	3.68
43.50	14.12	57.50	8.08	71.50	5.23	85.50	3.65
43.75	13.96	57.75	8.01	71.75	5.19	85.75	3.63
44.00	13.80	58.00	7.94	72.00	5.15	86.00	3.61
44.25	13.64	58.25	7.87	72.25	5.12	86.25	3.59
44.50	13.49	58.50	7.81	72.50	5.08	86.50	3.57
44.75	13.34	58.75	7.74	72.75	5.05	86.75	3.55
45.00	13.19	59.00	7.67	73.00	5.01	87.00	3.53
45.25	13.05	59.25	7.61	73.25	4.98	87.25	3.51
45.50	12.90	59.50	7.55	73.50	4.94	87.50	3.49
45.75	12.76	59.75	7.48	73.75	4.91	87.75	3.47
46.00	12.62	60.00	7.42	74.00	4.88	88.00	3.45
46.25	12.49	60.25	7.36	74.25	4.85	88.25	3.43
46.50	12.35	60.50	7.30	74.50	4.81	88.50	3.41
46.75	12.22	60.75	7.24	74.75	4.78	88.75	3.39
47.00	12.09	61.00	7.18	75.00	4.75	89.00	3.37
47.25	11.96	61.25	7.12	75.25	4.72	89.25	3.35
47.50	11.84	61.50	7.06	75.50	4.69	89.50	3.33
47.75	11.72	61.75	7.01	75.75	4.66	89.75	3.32
48.00	11.59	62.00	6.95	76.00	4.62	90.00	3.30
48.25	11.47	62.25	6.89	76.25	4.59	90.25	3.28
48.50	11.36	62.50	6.84	76.50	4.56	90.50	3.26
48.75	11.24	62.75	6.78	76.75	4.53	90.75	3.24
49.00	11.13	63.00	6.73	77.00	4.51	91.00	3.23
49.25	11.01	63.25	6.68	77.25	4.48	91.25	3.21
49.50	10.90	63.50	6.62	77.50	4.45	91.50	3.19
49.75	10.79	63.75	6.57	77.75	4.42	91.75	3.17
50.00	10.69	64.00	6.52	78.00	4.39	92.00	3.16
50.25	10.58	64.25	6.47	78.25	4.36	92.25	3.14
50.50	10.47	64.50	6.42	78.50	4.33	92.50	3.12
50.75	10.37	64.75	6.37	78.75	4.31	92.75	3.11
51.00	10.27	65.00	6.32	79.00	4.28	93.00	3.09
51.25	10.17	65.25	6.27	79.25	4.25	93.25	3.07
51.50	10.07	65.50	6.23	79.50	4.23	93.50	3.06
51.75	9.97	65.75	6.18	79.75	4.20	93.75	3.04
52.00	9.88	66.00	6.13	80.00	4.17	94.00	3.02
52.25	9.78	66.25	6.09	80.25	4.15	94.25	3.01
52.50	9.69	66.50	6.04	80.50	4.12	94.50	2.99
52.75	9.60	66.75	6.00	80.75	4.10	94.75	2.98
53.00	9.51	67.00	5.95	81.00	4.07	95.00	2.96
53.25	9.42	67.25	5.91	81.25	4.05	95.25	2.94
53.50	9.33	67.50	5.86	81.50	4.02	95.50	2.93
53.75	9.25	67.75	5.82	81.75	4.00	95.75	2.91
54.00	9.16	68.00	5.78	82.00	3.97	96.00	2.90

Table 7 – 60%

# SMART Meter Power Density Computer Modeling

(8 SMART Meters – 1000% reflections)

**Meters** 8 Electric SMART Meters

Time Avg: 70%

% Reflection 1000%

Distance where limits are exceeded

FCC ft. 6.90 82.8 Inches

BioInitiative ft. 558.00 6696.0 Inches

Distance (ft)	uW/cm <sup>2</sup>	Distance (ft)	uW/cm <sup>2</sup>	Distance (ft)	uW/cm <sup>2</sup>	Distance (ft)	uW/cm <sup>2</sup>
0.25	249323.02	10.25	296.46	20.25	75.99	30.25	34.06
0.50	99729.21	10.50	282.52	20.50	74.15	30.50	33.50
0.75	49864.60	10.75	269.54	20.75	72.37	30.75	32.96
1.00	29332.12	11.00	257.43	21.00	70.66	31.00	32.43
1.25	19178.69	11.25	246.12	21.25	69.01	31.25	31.91
1.50	13476.92	11.50	235.54	21.50	67.41	31.50	31.41
1.75	9972.92	11.75	225.63	21.75	65.87	31.75	30.91
2.00	7671.48	12.00	216.33	22.00	64.38	32.00	30.43
2.25	6081.05	12.25	207.60	22.25	62.94	32.25	29.96
2.50	4937.09	12.50	199.38	22.50	61.55	32.50	29.50
2.75	4087.26	12.75	191.64	22.75	60.21	32.75	29.06
3.00	3438.94	13.00	184.34	23.00	58.91	33.00	28.62
3.25	2933.21	13.25	177.45	23.25	57.65	33.25	28.19
3.50	2531.20	13.50	170.94	23.50	56.43	33.50	27.77
3.75	2206.40	13.75	164.79	23.75	55.25	33.75	27.36
4.00	1940.26	14.00	158.96	24.00	54.10	34.00	26.96
4.25	1719.47	14.25	153.43	24.25	52.99	34.25	26.57
4.50	1534.30	14.50	148.19	24.50	51.92	34.50	26.18
4.75	1377.48	14.75	143.21	24.75	50.87	34.75	25.81
5.00	1243.51	15.00	138.47	25.00	49.86	35.00	25.44
5.25	1128.16	15.25	133.97	25.25	48.88	35.25	25.08
5.50	1028.14	15.50	129.69	25.50	47.92	35.50	24.73
5.75	940.84	15.75	125.60	25.75	47.00	35.75	24.38
6.00	864.20	16.00	121.71	26.00	46.10	36.00	24.05
6.25	796.56	16.25	117.99	26.25	45.22	36.25	23.72
6.50	736.55	16.50	114.45	26.50	44.38	36.50	23.39
6.75	683.08	16.75	111.06	26.75	43.55	36.75	23.07
7.00	635.22	17.00	107.82	27.00	42.75	37.00	22.76
7.25	592.22	17.25	104.71	27.25	41.97	37.25	22.46
7.50	553.44	17.50	101.74	27.50	41.21	37.50	22.16
7.75	518.34	17.75	98.90	27.75	40.47	37.75	21.87
8.00	486.48	18.00	96.17	28.00	39.75	38.00	21.58
8.25	457.47	18.25	93.55	28.25	39.05	38.25	21.30
8.50	430.98	18.50	91.04	28.50	38.37	38.50	21.02
8.75	406.73	18.75	88.63	28.75	37.70	38.75	20.75
9.00	384.46	19.00	86.32	29.00	37.05	39.00	20.49
9.25	363.98	19.25	84.09	29.25	36.42	39.25	20.23
9.50	345.08	19.50	81.95	29.50	35.81	39.50	19.97
9.75	327.63	19.75	79.89	29.75	35.21	39.75	19.72
10.00	311.46	20.00	77.90	30.00	34.63	40.00	19.48

Notes:

- Formula OET Bulletin 65 equation (3) modified to include the effects of time averaged output and % reflections  

$$S = \text{EIRP} \cdot [\text{TA} \cdot (1 + \% \text{Ref})^2] / (4\pi \cdot R^2)$$
  - S = Power Density uW/cm<sup>2</sup>
  - EIRP = 1.64 \* ERP
  - pi() = 3.1459
  - R = Distance to device
  - TA = Time average
  - %Ref = Percent reflections
- 60 percent reflections is equivalent to OET Bulletin 65 equation (10)
- 100 percent reflections is equivalent to OET Bulletin 65 equation (6)
- Collector meter ERP RFLAN-C = 0.189 W, ZigBee = 0.057 W, GSM = 0.733 W per Edison SmartConnect Community Meeting, Montecito, CA dated February 10, 2010
- TPO 0.267 watts at 902.25 to 927.75 MHz from TCB Grant of Equipment Authorization (SK9AMI-4)
- Antenna Gain 2.2dBi at 914.74 MHz per ACS Certification FCC ID: SK9AMI-4 RFLAN & RFLAN-E ERP = 0.270 W

# SMART Meter Power Density Computer Modeling

(8 SMART Meters – 1000% reflections)

Meters 8 Electric SMART Meters

Time Avg: 70%

% Reflection 1000%

Distance where limits are exceeded

FCC ft. 6.90

82.75 Inches

BioInitiative ft. 558.00

6696.00 Inches

Distance (ft)	uW/cm <sup>2</sup>	Distance (ft)	uW/cm <sup>2</sup>	Distance (ft)	uW/cm <sup>2</sup>	Distance (ft)	uW/cm <sup>2</sup>
40.25	19.24	54.25	10.59	68.25	6.69	82.25	4.61
40.50	19.00	54.50	10.49	68.50	6.64	82.50	4.58
40.75	18.77	54.75	10.40	68.75	6.59	82.75	4.55
41.00	18.54	55.00	10.30	69.00	6.55	83.00	4.52
41.25	18.32	55.25	10.21	69.25	6.50	83.25	4.50
41.50	18.10	55.50	10.12	69.50	6.45	83.50	4.47
41.75	17.88	55.75	10.03	69.75	6.41	83.75	4.44
42.00	17.67	56.00	9.94	70.00	6.36	84.00	4.42
42.25	17.46	56.25	9.85	70.25	6.32	84.25	4.39
42.50	17.25	56.50	9.76	70.50	6.27	84.50	4.36
42.75	17.05	56.75	9.68	70.75	6.23	84.75	4.34
43.00	16.85	57.00	9.59	71.00	6.18	85.00	4.31
43.25	16.66	57.25	9.51	71.25	6.14	85.25	4.29
43.50	16.47	57.50	9.43	71.50	6.10	85.50	4.26
43.75	16.28	57.75	9.34	71.75	6.05	85.75	4.24
44.00	16.10	58.00	9.26	72.00	6.01	86.00	4.21
44.25	15.92	58.25	9.18	72.25	5.97	86.25	4.19
44.50	15.74	58.50	9.11	72.50	5.93	86.50	4.17
44.75	15.56	58.75	9.03	72.75	5.89	86.75	4.14
45.00	15.39	59.00	8.95	73.00	5.85	87.00	4.12
45.25	15.22	59.25	8.88	73.25	5.81	87.25	4.09
45.50	15.05	59.50	8.80	73.50	5.77	87.50	4.07
45.75	14.89	59.75	8.73	73.75	5.73	87.75	4.05
46.00	14.73	60.00	8.66	74.00	5.69	88.00	4.02
46.25	14.57	60.25	8.59	74.25	5.65	88.25	4.00
46.50	14.41	60.50	8.51	74.50	5.62	88.50	3.98
46.75	14.26	60.75	8.44	74.75	5.58	88.75	3.96
47.00	14.11	61.00	8.38	75.00	5.54	89.00	3.93
47.25	13.96	61.25	8.31	75.25	5.50	89.25	3.91
47.50	13.81	61.50	8.24	75.50	5.47	89.50	3.89
47.75	13.67	61.75	8.17	75.75	5.43	89.75	3.87
48.00	13.53	62.00	8.11	76.00	5.40	90.00	3.85
48.25	13.39	62.25	8.04	76.25	5.36	90.25	3.83
48.50	13.25	62.50	7.98	76.50	5.33	90.50	3.81
48.75	13.11	62.75	7.91	76.75	5.29	90.75	3.78
49.00	12.98	63.00	7.85	77.00	5.26	91.00	3.76
49.25	12.85	63.25	7.79	77.25	5.22	91.25	3.74
49.50	12.72	63.50	7.73	77.50	5.19	91.50	3.72
49.75	12.59	63.75	7.67	77.75	5.16	91.75	3.70
50.00	12.47	64.00	7.61	78.00	5.12	92.00	3.68
50.25	12.34	64.25	7.55	78.25	5.09	92.25	3.66
50.50	12.22	64.50	7.49	78.50	5.06	92.50	3.64
50.75	12.10	64.75	7.43	78.75	5.03	92.75	3.62
51.00	11.98	65.00	7.38	79.00	4.99	93.00	3.60
51.25	11.87	65.25	7.32	79.25	4.96	93.25	3.58
51.50	11.75	65.50	7.26	79.50	4.93	93.50	3.56
51.75	11.64	65.75	7.21	79.75	4.90	93.75	3.55
52.00	11.53	66.00	7.15	80.00	4.87	94.00	3.53
52.25	11.42	66.25	7.10	80.25	4.84	94.25	3.51
52.50	11.31	66.50	7.05	80.50	4.81	94.50	3.49
52.75	11.20	66.75	6.99	80.75	4.78	94.75	3.47
53.00	11.09	67.00	6.94	81.00	4.75	95.00	3.45
53.25	10.99	67.25	6.89	81.25	4.72	95.25	3.44
53.50	10.89	67.50	6.84	81.50	4.69	95.50	3.42
53.75	10.79	67.75	6.79	81.75	4.66	95.75	3.40
54.00	10.69	68.00	6.74	82.00	4.63	96.00	3.38

Table 7 – 70%



# SMART Meter Power Density Computer Modeling

(8 SMART Meters – 1000% reflections)

**Meters** 8 Electric SMART Meters

Time Avg: 80%

% Reflection 1000%

Distance where limits are exceeded

FCC ft. 7.37 88.5 Inches

BioInitiative ft. 597.50 7170.0 Inches

Distance (ft)	uW/cm <sup>2</sup>	Distance (ft)	uW/cm <sup>2</sup>	Distance (ft)	uW/cm <sup>2</sup>	Distance (ft)	uW/cm <sup>2</sup>
0.25	284940.60	10.25	338.81	20.25	86.85	30.25	38.92
0.50	113976.24	10.50	322.88	20.50	84.74	30.50	38.29
0.75	56988.12	10.75	308.04	20.75	82.71	30.75	37.67
1.00	33522.42	11.00	294.21	21.00	80.75	31.00	37.06
1.25	21918.51	11.25	281.28	21.25	78.87	31.25	36.47
1.50	15402.19	11.50	269.19	21.50	77.04	31.50	35.89
1.75	11397.62	11.75	257.86	21.75	75.28	31.75	35.33
2.00	8767.40	12.00	247.24	22.00	73.58	32.00	34.78
2.25	6949.77	12.25	237.25	22.25	71.94	32.25	34.24
2.50	5642.39	12.50	227.86	22.50	70.35	32.50	33.72
2.75	4671.16	12.75	219.02	22.75	68.81	32.75	33.21
3.00	3930.22	13.00	210.68	23.00	67.32	33.00	32.70
3.25	3352.24	13.25	202.80	23.25	65.88	33.25	32.21
3.50	2892.80	13.50	195.37	23.50	64.49	33.50	31.74
3.75	2521.60	13.75	188.33	23.75	63.14	33.75	31.27
4.00	2217.44	14.00	181.66	24.00	61.83	34.00	30.81
4.25	1965.11	14.25	175.35	24.25	60.56	34.25	30.36
4.50	1753.48	14.50	169.36	24.50	59.33	34.50	29.92
4.75	1574.26	14.75	163.66	24.75	58.14	34.75	29.49
5.00	1421.15	15.00	158.26	25.00	56.98	35.00	29.07
5.25	1289.32	15.25	153.11	25.25	55.86	35.25	28.66
5.50	1175.01	15.50	148.21	25.50	54.77	35.50	28.26
5.75	1075.25	15.75	143.55	25.75	53.71	35.75	27.87
6.00	987.66	16.00	139.10	26.00	52.68	36.00	27.48
6.25	910.35	16.25	134.85	26.25	51.69	36.25	27.10
6.50	841.77	16.50	130.80	26.50	50.71	36.50	26.73
6.75	780.66	16.75	126.92	26.75	49.77	36.75	26.37
7.00	725.96	17.00	123.22	27.00	48.85	37.00	26.02
7.25	676.82	17.25	119.67	27.25	47.96	37.25	25.67
7.50	632.50	17.50	116.28	27.50	47.09	37.50	25.33
7.75	592.39	17.75	113.03	27.75	46.25	37.75	24.99
8.00	555.98	18.00	109.91	28.00	45.43	38.00	24.66
8.25	522.83	18.25	106.92	28.25	44.63	38.25	24.34
8.50	492.55	18.50	104.05	28.50	43.85	38.50	24.03
8.75	464.83	18.75	101.29	28.75	43.09	38.75	23.72
9.00	439.38	19.00	98.65	29.00	42.35	39.00	23.42
9.25	415.97	19.25	96.10	29.25	41.63	39.25	23.12
9.50	394.38	19.50	93.65	29.50	40.93	39.50	22.83
9.75	374.43	19.75	91.30	29.75	40.24	39.75	22.54
10.00	355.95	20.00	89.03	30.00	39.57	40.00	22.26

Notes:

- Formula OET Bulletin 65 equation (3) modified to include the effects of time averaged output and % reflections  

$$S = \text{EIRP} \cdot [\text{TA} \cdot (1 + \% \text{Ref})^2] / (4\pi \cdot R^2)$$
  - S = Power Density uW/cm<sup>2</sup>
  - EIRP = 1.64 \* ERP
  - pi() = 3.1459
  - R = Distance to device
  - TA = Time average
  - %Ref = Percent reflections
- 60 percent reflections is equivalent to OET Bulletin 65 equation (10)
- 100 percent reflections is equivalent to OET Bulletin 65 equation (6)
- Collector meter ERP RFLAN-C = 0.189 W, ZigBee = 0.057 W, GSM = 0.733 W per Edison SmartConnect Community Meeting, Montecito, CA dated February 10, 2010
- TPO 0.267 watts at 902.25 to 927.75 MHz from TCB Grant of Equipment Authorization (SK9AMI-4)
- Antenna Gain 2.2dBi at 914.74 MHz per ACS Certification FCC ID: SK9AMI-4 RFLAN & RFLAN-E ERP = 0.270 W

# SMART Meter Power Density Computer Modeling

(8 SMART Meters – 1000% reflections)

**Meters** 8 Electric SMART Meters

Time Avg: 80%

% Reflection 1000%

Distance where limits are exceeded

FCC ft. 7.37

88.48 Inches

BioInitiative ft. 597.50

7170.00 Inches

Distance (ft)	$\mu\text{W}/\text{cm}^2$	Distance (ft)	$\mu\text{W}/\text{cm}^2$	Distance (ft)	$\mu\text{W}/\text{cm}^2$	Distance (ft)	$\mu\text{W}/\text{cm}^2$
40.25	21.98	54.25	12.10	68.25	7.65	82.25	5.26
40.50	21.71	54.50	11.99	68.50	7.59	82.50	5.23
40.75	21.45	54.75	11.88	68.75	7.54	82.75	5.20
41.00	21.19	55.00	11.77	69.00	7.48	83.00	5.17
41.25	20.93	55.25	11.67	69.25	7.43	83.25	5.14
41.50	20.68	55.50	11.56	69.50	7.37	83.50	5.11
41.75	20.43	55.75	11.46	69.75	7.32	83.75	5.08
42.00	20.19	56.00	11.36	70.00	7.27	84.00	5.05
42.25	19.95	56.25	11.26	70.25	7.22	84.25	5.02
42.50	19.72	56.50	11.16	70.50	7.17	84.50	4.99
42.75	19.49	56.75	11.06	70.75	7.12	84.75	4.96
43.00	19.26	57.00	10.96	71.00	7.07	85.00	4.93
43.25	19.04	57.25	10.87	71.25	7.02	85.25	4.90
43.50	18.82	57.50	10.77	71.50	6.97	85.50	4.87
43.75	18.61	57.75	10.68	71.75	6.92	85.75	4.84
44.00	18.40	58.00	10.59	72.00	6.87	86.00	4.82
44.25	18.19	58.25	10.50	72.25	6.82	86.25	4.79
44.50	17.99	58.50	10.41	72.50	6.78	86.50	4.76
44.75	17.79	58.75	10.32	72.75	6.73	86.75	4.73
45.00	17.59	59.00	10.23	73.00	6.68	87.00	4.71
45.25	17.39	59.25	10.15	73.25	6.64	87.25	4.68
45.50	17.20	59.50	10.06	73.50	6.59	87.50	4.65
45.75	17.02	59.75	9.98	73.75	6.55	87.75	4.63
46.00	16.83	60.00	9.89	74.00	6.50	88.00	4.60
46.25	16.65	60.25	9.81	74.25	6.46	88.25	4.57
46.50	16.47	60.50	9.73	74.50	6.42	88.50	4.55
46.75	16.30	60.75	9.65	74.75	6.37	88.75	4.52
47.00	16.12	61.00	9.57	75.00	6.33	89.00	4.50
47.25	15.95	61.25	9.49	75.25	6.29	89.25	4.47
47.50	15.79	61.50	9.42	75.50	6.25	89.50	4.45
47.75	15.62	61.75	9.34	75.75	6.21	89.75	4.42
48.00	15.46	62.00	9.27	76.00	6.17	90.00	4.40
48.25	15.30	62.25	9.19	76.25	6.13	90.25	4.37
48.50	15.14	62.50	9.12	76.50	6.09	90.50	4.35
48.75	14.99	62.75	9.05	76.75	6.05	90.75	4.32
49.00	14.83	63.00	8.97	77.00	6.01	91.00	4.30
49.25	14.68	63.25	8.90	77.25	5.97	91.25	4.28
49.50	14.54	63.50	8.83	77.50	5.93	91.50	4.25
49.75	14.39	63.75	8.76	77.75	5.89	91.75	4.23
50.00	14.25	64.00	8.70	78.00	5.85	92.00	4.21
50.25	14.11	64.25	8.63	78.25	5.82	92.25	4.19
50.50	13.97	64.50	8.56	78.50	5.78	92.50	4.16
50.75	13.83	64.75	8.50	78.75	5.74	92.75	4.14
51.00	13.69	65.00	8.43	79.00	5.71	93.00	4.12
51.25	13.56	65.25	8.37	79.25	5.67	93.25	4.10
51.50	13.43	65.50	8.30	79.50	5.64	93.50	4.07
51.75	13.30	65.75	8.24	79.75	5.60	93.75	4.05
52.00	13.17	66.00	8.18	80.00	5.57	94.00	4.03
52.25	13.05	66.25	8.11	80.25	5.53	94.25	4.01
52.50	12.92	66.50	8.05	80.50	5.50	94.50	3.99
52.75	12.80	66.75	7.99	80.75	5.46	94.75	3.97
53.00	12.68	67.00	7.93	81.00	5.43	95.00	3.95
53.25	12.56	67.25	7.88	81.25	5.40	95.25	3.93
53.50	12.44	67.50	7.82	81.50	5.36	95.50	3.91
53.75	12.33	67.75	7.76	81.75	5.33	95.75	3.88
54.00	12.21	68.00	7.70	82.00	5.30	96.00	3.86

Table 7 – 80%

# SMART Meter Power Density Computer Modeling

(8 SMART Meters – 1000% reflections)

**Meters** 8 Electric SMART Meters

Time Avg: 90%

% Reflection 1000%

Distance where limits are exceeded

FCC ft. 7.82 93.8 Inches

BioInitiative ft. 632.00 7584.0 Inches

Distance (ft)	uW/cm <sup>2</sup>	Distance (ft)	uW/cm <sup>2</sup>	Distance (ft)	uW/cm <sup>2</sup>	Distance (ft)	uW/cm <sup>2</sup>
0.25	320558.17	10.25	381.16	20.25	97.70	30.25	43.79
0.50	128223.27	10.50	363.24	20.50	95.33	30.50	43.07
0.75	64111.63	10.75	346.55	20.75	93.05	30.75	42.37
1.00	37712.73	11.00	330.98	21.00	90.85	31.00	41.69
1.25	24658.32	11.25	316.44	21.25	88.72	31.25	41.03
1.50	17327.47	11.50	302.84	21.50	86.67	31.50	40.38
1.75	12822.33	11.75	290.10	21.75	84.69	31.75	39.75
2.00	9863.33	12.00	278.14	22.00	82.78	32.00	39.13
2.25	7818.49	12.25	266.91	22.25	80.93	32.25	38.52
2.50	6347.69	12.50	256.34	22.50	79.14	32.50	37.93
2.75	5255.05	12.75	246.39	22.75	77.41	32.75	37.36
3.00	4421.49	13.00	237.01	23.00	75.74	33.00	36.79
3.25	3771.27	13.25	228.16	23.25	74.12	33.25	36.24
3.50	3254.40	13.50	219.79	23.50	72.55	33.50	35.70
3.75	2836.80	13.75	211.87	23.75	71.03	33.75	35.18
4.00	2494.62	14.00	204.37	24.00	69.56	34.00	34.66
4.25	2210.75	14.25	197.27	24.25	68.13	34.25	34.16
4.50	1972.67	14.50	190.52	24.50	66.75	34.50	33.66
4.75	1771.04	14.75	184.12	24.75	65.41	34.75	33.18
5.00	1598.79	15.00	178.04	25.00	64.11	35.00	32.71
5.25	1450.49	15.25	172.25	25.25	62.84	35.25	32.25
5.50	1321.89	15.50	166.74	25.50	61.62	35.50	31.79
5.75	1209.65	15.75	161.49	25.75	60.43	35.75	31.35
6.00	1111.12	16.00	156.48	26.00	59.27	36.00	30.92
6.25	1024.15	16.25	151.71	26.25	58.15	36.25	30.49
6.50	947.00	16.50	147.15	26.50	57.05	36.50	30.08
6.75	878.24	16.75	142.79	26.75	55.99	36.75	29.67
7.00	816.71	17.00	138.62	27.00	54.96	37.00	29.27
7.25	761.42	17.25	134.63	27.25	53.96	37.25	28.88
7.50	711.56	17.50	130.81	27.50	52.98	37.50	28.49
7.75	666.44	17.75	127.16	27.75	52.03	37.75	28.12
8.00	625.48	18.00	123.65	28.00	51.11	38.00	27.75
8.25	588.18	18.25	120.28	28.25	50.20	38.25	27.39
8.50	554.12	18.50	117.06	28.50	49.33	38.50	27.03
8.75	522.93	18.75	113.96	28.75	48.47	38.75	26.68
9.00	494.31	19.00	110.98	29.00	47.64	39.00	26.34
9.25	467.97	19.25	108.11	29.25	46.83	39.25	26.01
9.50	443.68	19.50	105.36	29.50	46.04	39.50	25.68
9.75	421.23	19.75	102.71	29.75	45.27	39.75	25.36
10.00	400.45	20.00	100.16	30.00	44.52	40.00	25.04

Notes:

- Formula OET Bulletin 65 equation (3) modified to include the effects of time averaged output and % reflections  
 $S = \text{EIRP} \cdot [\text{TA} \cdot (1 + \% \text{Ref})^2] / (4\pi R^2)$   
 S = Power Density uW/cm<sup>2</sup>  
 EIRP = 1.64 \* ERP  
 pi() = 3.1459  
 R = Distance to device  
 TA = Time average  
 %Ref = Percent reflections
- 60 percent reflections is equivalent to OET Bulletin 65 equation (10)
- 100 percent reflections is equivalent to OET Bulletin 65 equation (6)
- Collector meter ERP RFLAN-C = 0.189 W, ZigBee = 0.057 W, GSM = 0.733 W per Edison SmartConnect Community Meeting, Montecito, CA dated February 10, 2010
- TPO 0.267 watts at 902.25 to 927.75 MHz from TCB Grant of Equipment Authorization (SK9AMI-4)
- Antenna Gain 2.2dBi at 914.74 MHz per ACS Certification FCC ID: SK9AMI-4 RFLAN & RFLAN-E ERP = 0.270 W

# SMART Meter Power Density Computer Modeling

(8 SMART Meters – 1000% reflections)

**Meters** 8 Electric SMART Meters

Time Avg: 90%

% Reflection 1000%

Distance where limits are exceeded

FCC ft. 7.82

93.85 Inches

BioInitiative ft. 632.00

7584.00 Inches

Distance (ft)	uW/cm <sup>2</sup>	Distance (ft)	uW/cm <sup>2</sup>	Distance (ft)	uW/cm <sup>2</sup>	Distance (ft)	uW/cm <sup>2</sup>
40.25	24.73	54.25	13.61	68.25	8.60	82.25	5.92
40.50	24.43	54.50	13.49	68.50	8.54	82.50	5.89
40.75	24.13	54.75	13.37	68.75	8.48	82.75	5.85
41.00	23.84	55.00	13.25	69.00	8.42	83.00	5.82
41.25	23.55	55.25	13.13	69.25	8.36	83.25	5.78
41.50	23.27	55.50	13.01	69.50	8.30	83.50	5.75
41.75	22.99	55.75	12.89	69.75	8.24	83.75	5.71
42.00	22.71	56.00	12.78	70.00	8.18	84.00	5.68
42.25	22.45	56.25	12.66	70.25	8.12	84.25	5.65
42.50	22.18	56.50	12.55	70.50	8.06	84.50	5.61
42.75	21.92	56.75	12.44	70.75	8.00	84.75	5.58
43.00	21.67	57.00	12.33	71.00	7.95	85.00	5.55
43.25	21.42	57.25	12.23	71.25	7.89	85.25	5.51
43.50	21.18	57.50	12.12	71.50	7.84	85.50	5.48
43.75	20.93	57.75	12.01	71.75	7.78	85.75	5.45
44.00	20.70	58.00	11.91	72.00	7.73	86.00	5.42
44.25	20.46	58.25	11.81	72.25	7.68	86.25	5.39
44.50	20.23	58.50	11.71	72.50	7.62	86.50	5.36
44.75	20.01	58.75	11.61	72.75	7.57	86.75	5.32
45.00	19.79	59.00	11.51	73.00	7.52	87.00	5.29
45.25	19.57	59.25	11.41	73.25	7.47	87.25	5.26
45.50	19.35	59.50	11.32	73.50	7.42	87.50	5.23
45.75	19.14	59.75	11.22	73.75	7.37	87.75	5.20
46.00	18.94	60.00	11.13	74.00	7.32	88.00	5.17
46.25	18.73	60.25	11.04	74.25	7.27	88.25	5.14
46.50	18.53	60.50	10.95	74.50	7.22	88.50	5.12
46.75	18.33	60.75	10.86	74.75	7.17	88.75	5.09
47.00	18.14	61.00	10.77	75.00	7.12	89.00	5.06
47.25	17.95	61.25	10.68	75.25	7.08	89.25	5.03
47.50	17.76	61.50	10.59	75.50	7.03	89.50	5.00
47.75	17.57	61.75	10.51	75.75	6.98	89.75	4.97
48.00	17.39	62.00	10.42	76.00	6.94	90.00	4.95
48.25	17.21	62.25	10.34	76.25	6.89	90.25	4.92
48.50	17.03	62.50	10.26	76.50	6.85	90.50	4.89
48.75	16.86	62.75	10.18	76.75	6.80	90.75	4.87
49.00	16.69	63.00	10.10	77.00	6.76	91.00	4.84
49.25	16.52	63.25	10.02	77.25	6.71	91.25	4.81
49.50	16.35	63.50	9.94	77.50	6.67	91.50	4.79
49.75	16.19	63.75	9.86	77.75	6.63	91.75	4.76
50.00	16.03	64.00	9.78	78.00	6.59	92.00	4.73
50.25	15.87	64.25	9.71	78.25	6.54	92.25	4.71
50.50	15.71	64.50	9.63	78.50	6.50	92.50	4.68
50.75	15.56	64.75	9.56	78.75	6.46	92.75	4.66
51.00	15.41	65.00	9.48	79.00	6.42	93.00	4.63
51.25	15.26	65.25	9.41	79.25	6.38	93.25	4.61
51.50	15.11	65.50	9.34	79.50	6.34	93.50	4.58
51.75	14.96	65.75	9.27	79.75	6.30	93.75	4.56
52.00	14.82	66.00	9.20	80.00	6.26	94.00	4.53
52.25	14.68	66.25	9.13	80.25	6.22	94.25	4.51
52.50	14.54	66.50	9.06	80.50	6.18	94.50	4.49
52.75	14.40	66.75	8.99	80.75	6.15	94.75	4.46
53.00	14.26	67.00	8.93	81.00	6.11	95.00	4.44
53.25	14.13	67.25	8.86	81.25	6.07	95.25	4.42
53.50	14.00	67.50	8.79	81.50	6.03	95.50	4.39
53.75	13.87	67.75	8.73	81.75	6.00	95.75	4.37
54.00	13.74	68.00	8.67	82.00	5.96	96.00	4.35

Table 7 – 90%