KCXU-LP – San Jose, California - Facility ID# 192235
Amendment to Minor Modification – January 2021 – LMS application # 129982

Amendment clarifies second adjacent exhibit and waiver request pursuant to Section 73.807(e)(1) with respect to KSJO. The 'worst-case' interference radius occurring along 40 degree angle clears populated areas.

The attached D/U Ratio Study dataset calculations for KSJO (FM) exported from V-Soft Probe 4 broadcast engineering software shows the estimated signal strength at 87.67 dBuV/m FCC (f)50,50, and at 95.79 dBuV/m using Longley Rice terrain-sensitive methodology. With an additional 40 dBu protection rounded to the nearest decibels, KSJO is protected to 136 dBuV/m using Longley Rice, or 128 dBuV/m with FCC (f)50,50 calculations.

By either methodology, whether FCC contour or Longley-Rice, the worst-case interference radius extends toward the horizon not more than 29 meters from the proposed LPFM antenna.

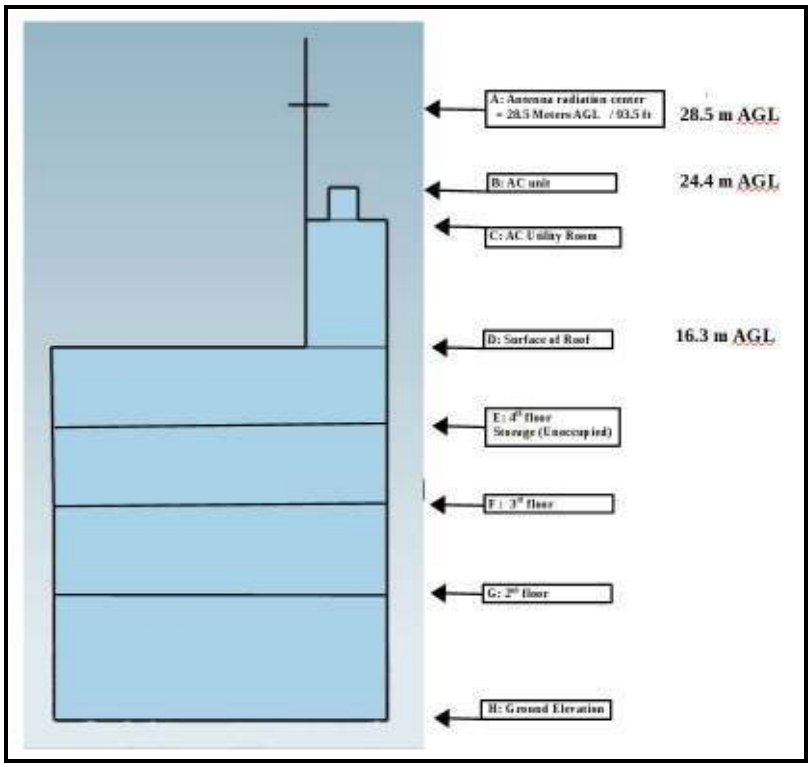
The antenna extends 12.2 meters above the roofline (at 16.3 m AGL), raising the total center of radiation to 28.5 m AGL. An AC unit / elevator housing structure (8.07 m) also extrudes above surface of the roofline, bringing the total height of the building structure to 24.4 m AGL.
The uppermost floor inside the building is reserved for storage and maintenance.

Using a single vertically-polarized CFM-95SL antenna, interference is reduced considerably along depression angles below the horizon. Per the attached elevation field pattern from the manufacturer, the worst-case radius interference angle at 242 degrees extends no more than 5.9 meters below the radiation center (29 m * .205 = 5.9 m) with FCC (f)50,50 calculations ;
and no more than 2.8 m interference radius using the Longley-Rice calculations (11 m * .205 = 2.8 m).

D/U Ratio & Channel Study printouts exported from V-Soft Probe 4 broadcast engineering software in both FCC (f)50,50 and Longley-Rice are included with the attached technical exhibits.

Antenna with 5.9 meter U/D interference radius

Antenna and building elevations



Channel Study

REFERENCE
37 19 53.41 N.
121 53 07.36 W.

CLASS = L1
Current Spacings to 2nd Adj.

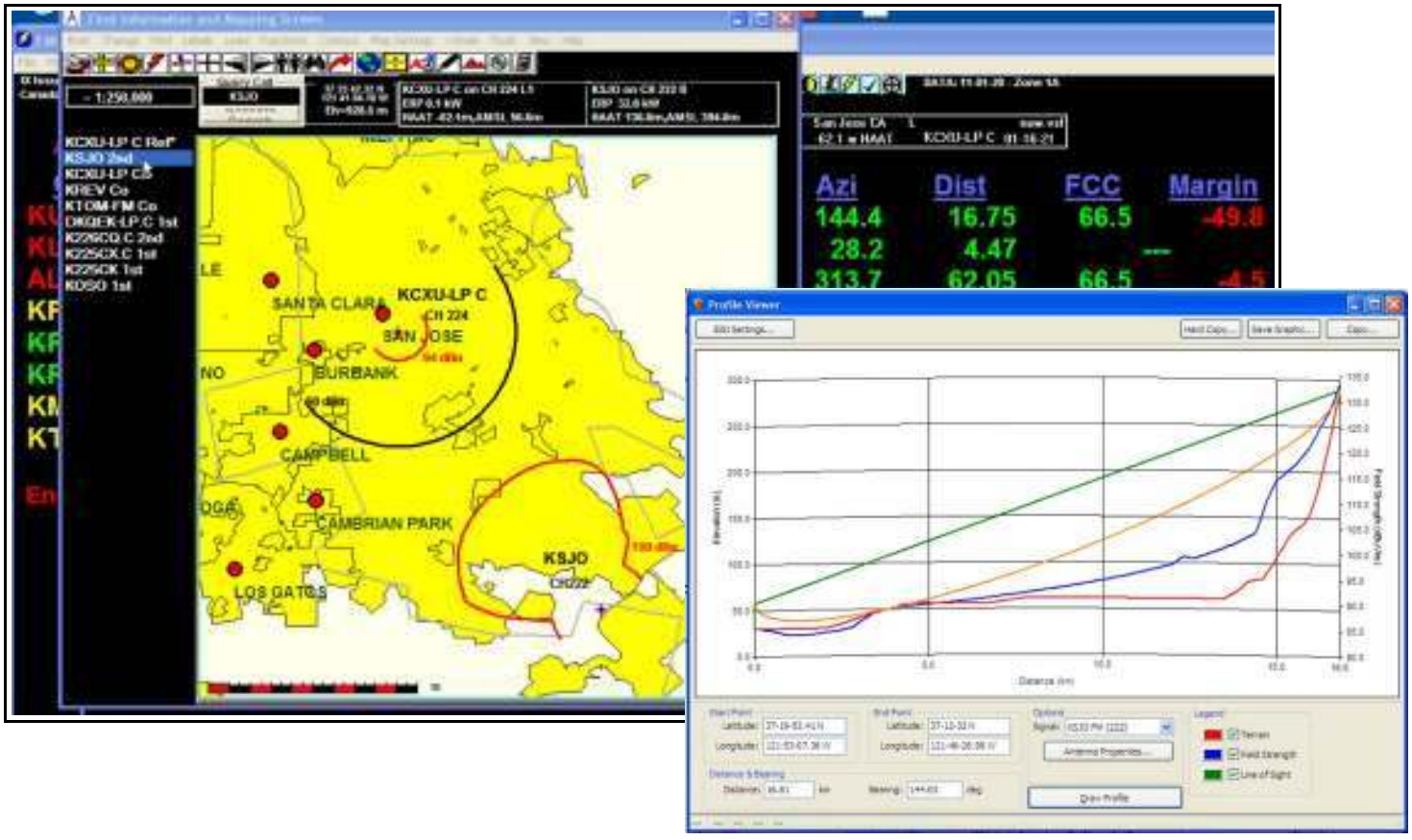
DISPLAY DATES
DATA 01-22-21
SEARCH 01-23-21

Channel 224 - 92.7 MHz

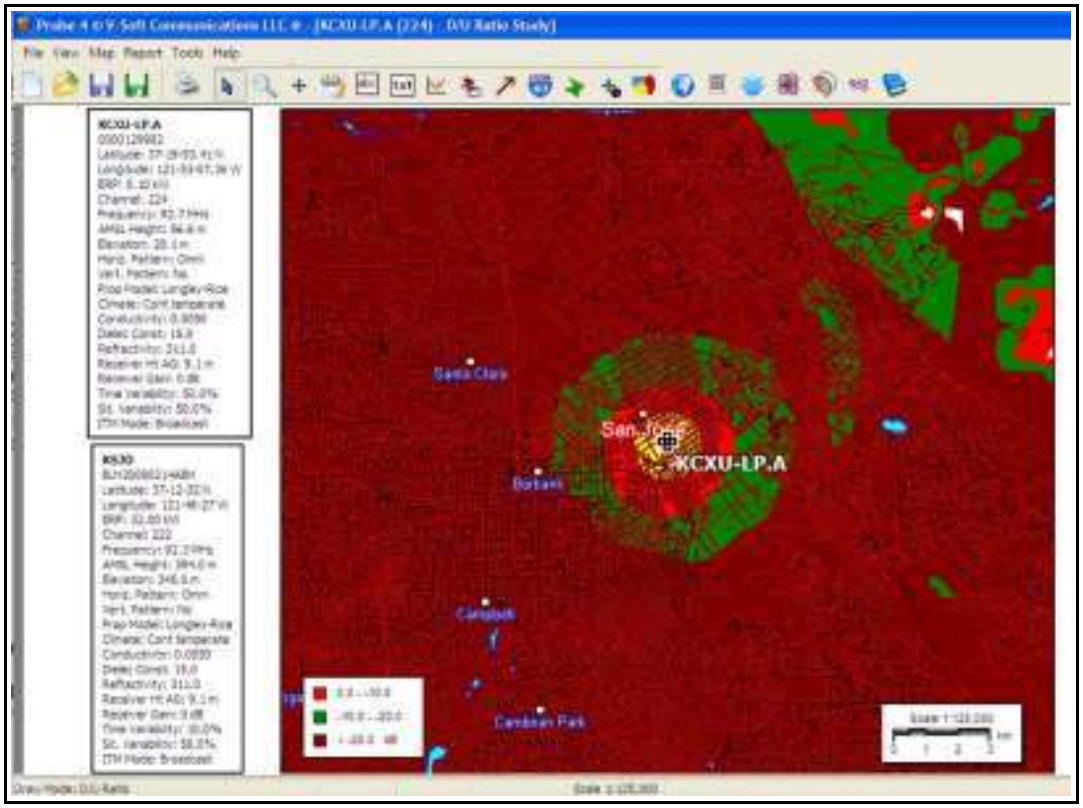
Call		Channel	Location		Azi	Dist	FCC	Margin
KSJO	LIC	222B	San Jose	CA	144.4	16.75	66.5	-49.8
KCXU-LP	LIC	224L1	San Jose	CA	28.2	4.47	23.5	-19.0
KREV	LIC-Z	224A	Alameda	CA	313.7	62.05	66.5	-4.5
KREV	APP-Z	224A	Alameda	CA	313.7	62.05	66.5	-4.5
KTOM-FM	LIC	224B1	Marina	CA	174.3	86.87	86.5	0.37
DKQEK-LP	CP	225L1	Cupertino	CA	252.4	17.05	13.5	3.6
K226CQ	CP -D	226D	Gilmore	CA	162.3	31.89	20.5	11.4
K225CX	CP -D	225D	Palo Alto	CA	307.7	27.89	14.5	13.4
K225CK	LIC-D	225D	Union City	CA	342.4	29.51	14.5	15.0
KOSO	LIC	225A	Patterson	CA	67.3	80.39	55.5	24.9

All separation margins include rounding

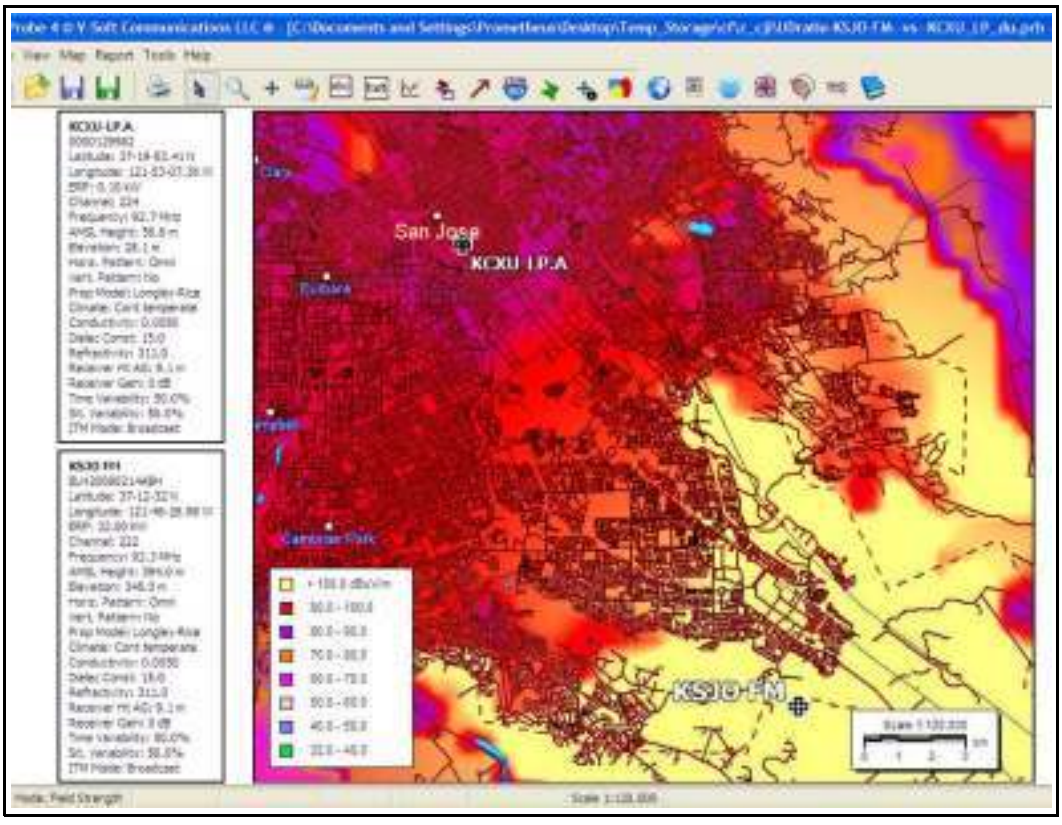
Elevation Profile
KSJO (FM) vs KCXU-LP



D/U Ratio Study:
KSJO (FM) vs KCXU-LP



Longley Rice Signal Coverage:
KSJO (FM)



Calculations for Engineering Studies
Export from V-Soft Probe 4 software

KSJO D/U ratio study at reference point
FCC (f) 50,50 calculations

Study Information:

D/U Ratio Study

Signal Resolution: 0.5 km
Study Date: 1/20/2021

Land Cover was not considered in this study.

Primary Terrain: V-Soft 30 Second US Database
Secondary Terrain: V-Soft 3 Second Alaska Terrain
Coordinate System: NAD27

Transmitters:

Transmitter Information:

Call Letters: KSJO
File Number: BLH20080214ABH
Latitude: 37-12-32 N
Longitude: 121-46-27 W

ERP: 32.00 kW
Channel: 222
Frequency: 92.3 MHz
AMSL Height: 394.0 m
Elevation: 345.0 m
Horiz. Antenna Pattern: Omni
Vert. Elevation Pattern: No
Propagation Model: FCC Model
Location Variability: 50.0%
Time Variability: 10.0%
HAAT Method: FCC

Transmitter Information:

Call Letters: KCXU-LP.A
File Number: 0000129982
Latitude: 37-19-53.41 N
Longitude: 121-53-07.36 W
ERP: 0.10 kW

Channel: 224
Frequency: 92.7 MHz
AMSL Height: 56.6 m
Elevation: 28.1 m
Horiz. Antenna Pattern: Omni
Vert. Elevation Pattern: No
Propagation Model: FCC Model
Location Variability: 50.0%
Time Variability: 50.0%
HAAT Method: FCC

Point Information Report

Latitude: 37-19-53.41 N
Longitude: 121-53-07.36 W

Signal Strength: 87.671 dBuV/m
Elevation: 30.0 m

Distance From Transmitter: 16.807 km
Azimuth From Transmitter: 324.1 degrees

Call Letters: KSJO
File Number: BLH20080214ABH
Latitude: 37-12-32 N
Longitude: 121-46-27 W
ERP: 32.00 kW
Channel: 222
Frequency: 92.3 MHz
AMSL Height: 394.0 m
Elevation: 345.0 m
Horiz. Antenna Pattern: Omni
Vert. Elevation Pattern: No

KSJO D/U ratio study at reference point
Longley Rice calculations
Terrain-sensitive

Study Information:

D/U Ratio Study

Signal Resolution: 0.5 km
Study Date: 1/20/2021

Land Cover was not considered in this study.

Primary Terrain: V-Soft 30 Second US Database
Secondary Terrain: V-Soft 3 Second Alaska Terrain
Coordinate System: NAD27

Transmitters:

Transmitter Information:

Call Letters: KSJO
File Number: BLH20080214ABH
Latitude: 37-12-32 N
Longitude: 121-46-27 W
ERP: 32.00 kW
Channel: 222
Frequency: 92.3 MHz
AMSL Height: 394.0 m
Elevation: 345.0 m
Horiz. Antenna Pattern: Omni
Vert. Elevation Pattern: No
Propagation Model: Longley-Rice
Climate: Continental temperate
Conductivity: 0.0050
Dielectric Constant: 15.0
Refractivity: 311.0
Receiver Height AG: 9.1 m
Receiver Gain: 0 dB
Time Variability: 10.0%
Situation Variability: 50.0%
ITM Mode: Broadcast

Transmitter Information:

Transmitter Information:

Call Letters: KCXU-LP.A
File Number: 0000129982
Latitude: 37-19-53.41 N
Longitude: 121-53-07.36 W
ERP: 0.10 kW
Channel: 224
Frequency: 92.7 MHz
AMSL Height: 56.6 m
Elevation: 28.1 m
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Vert. Elevation Pattern: No
Propagation Model: Longley-Rice
Climate: Continental temperate
Conductivity: 0.0050
Dielectric Constant: 15.0
Refractivity: 311.0
Receiver Height AG: 9.1 m
Receiver Gain: 0 dB
Time Variability: 50.0%
Situation Variability: 50.0%
ITM Mode: Broadcast

Point Information Report

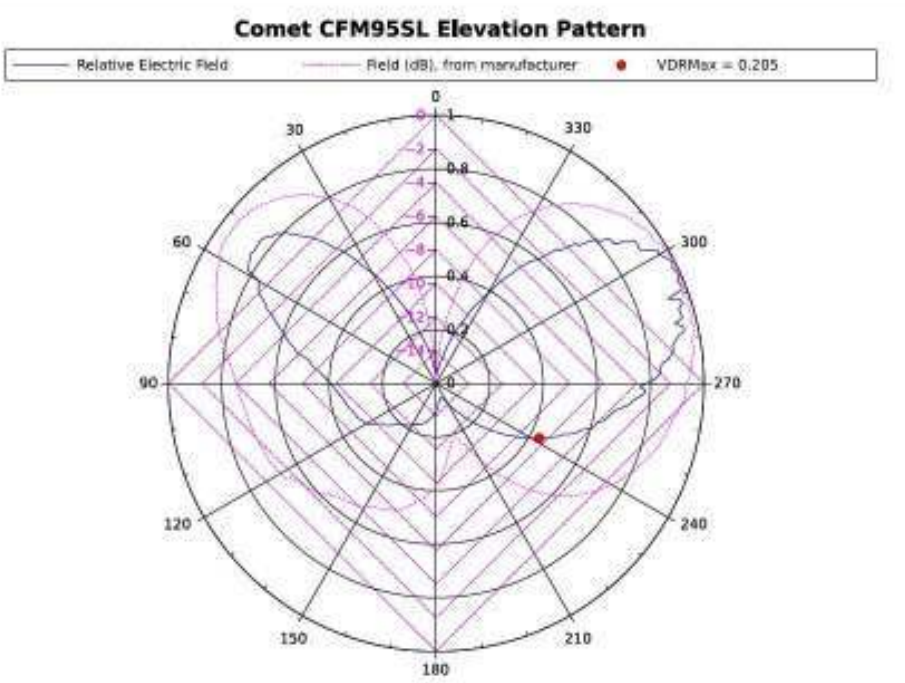
Latitude: 37-19-53.41 N
Longitude: 121-53-07.36 W

Signal Strength: 95.792 dBuV/m
Elevation: 30.0 m

Distance From Transmitter: 16.807 km
Azimuth From Transmitter: 324.1 degrees

Call Letters: KSJO
File Number: BLH20080214ABH
Latitude: 37-12-32 N
Longitude: 121-46-27 W
ERP: 32.00 kW
Channel: 222
Frequency: 92.3 MHz
AMSL Height: 394.0 m
Elevation: 345.0 m
Horiz. Antenna Pattern: Omni
Vert. Elevation Pattern: No

Calculations for Comet CFM-95SL Vertically Polarized Antenna



Antenna Vertical Field Interference Calculation – for CFM-95SL

(courtesy of Paul Bame, Engineer, *Prometheus Radio Project*)

The free-space formula for distance *D1* in meters to the main lobe of a dipole with effective radiated power *P* in watts to a given field strength *E* in volts/meter is:

$$D_1 = \frac{7.01\sqrt{P}}{E}$$

Manufacturers specify antenna patterns as a series of angles *a* and relative electrical field strengths *fa*. The relative field strength *f = 1.0* is equivalent to the dipole gain above and the respective distance is denoted here as *D1*. Using Ohm's law and realizing that the term (7.01) already accounts for the impedance of free space, the effective radiated power with a relative field strength *fa* is:

$$Pa = P(f a^{2})$$

The distance *Da* is therefore given by:

$$D_a = \frac{7.01\sqrt{P f_a^{2}}}{E} = \left(\frac{7.01\sqrt{P}}{E}\right)(f_a)$$

$$D_a = D_1 f_a$$

$$\frac{D_a}{D_1} = f_a$$

Thus given an antenna pattern, once *D1* is computed the distances at each angle of the antenna pattern to the field strength of interest *E* are trivially available by multiplying *D1* by *fa*. When the angles *a* are elevation angles, the vertical component of the distance,*Dav*, from the radiation center to the field strength *E* is:

$$\frac{D_{av}}{D_1} = f_a \sin a$$

The maximum value of the ratio above for any angle, denoted here as VDRmax (Vertical Distance Relative maximum) is a simple single number, independent of power or field strength, for characterizing an antenna in terms of its ability to reduce interference in the vertical direction. In this case E is the field strength at the edge of an undesired-to-desired interference zone when considering a non-population interference waiver exhibit.

As an example, an antenna with VDRmax = 0.403 with an interference distance D1 = 10 meters, would reduce the downward interference distance from 10 meters to 4.03 meters in consideration of its vertical field pattern.

Appendix 2, Antenna Manufacturer's Elevation Field Data

Columns 1 and 2 were obtained from the manufacturer. Column 3, relative electrical field, was calculated from the manufacturer's field in decibels, and VDR calculated from that. VDRmax occurs at 242 degrees and is colored red.

deg	dB	field	VDR
0	-15.86	0.0259	0.0259
1	-15.93	0.0255	0.0255
2	-15.77	0.0265	0.0265
3	-15.12	0.0307	0.0307
4	-14.38	0.0365	0.0364
5	-13.63	0.0434	0.0432
6	-12.81	0.0524	0.0521
7	-12.14	0.0611	0.0606
8	-11.46	0.0714	0.0707
9	-10.75	0.0841	0.0830
10	-10.25	0.0944	0.0930
11	-9.71	0.1069	0.1049
12	-9.25	0.1189	0.1163
13	-8.73	0.1339	0.1305
14	-8.46	0.1424	0.1382
15	-8.03	0.1574	0.1520
16	-7.77	0.1672	0.1608
17	-7.31	0.1857	0.1776
18	-6.94	0.2024	0.1925
19	-6.48	0.2251	0.2128
20	-6.16	0.2423	0.2277
21	-5.73	0.2674	0.2496
22	-5.35	0.2919	0.2707
23	-5.02	0.3144	0.2894
24	-4.74	0.3356	0.3066
25	-4.43	0.3602	0.3264
26	-4.12	0.3872	0.3480
27	-3.89	0.4082	0.3637
28	-3.66	0.4305	0.3801
29	-3.43	0.4544	0.3975
30	-3.23	0.4755	0.4118

31	-3.07	0.4937	0.4232
32	-2.87	0.5163	0.4378
33	-2.64	0.5445	0.4567
34	-2.41	0.5737	0.4757
35	-2.23	0.5984	0.4902
36	-2.06	0.6218	0.5031
37	-1.96	0.6365	0.5083
38	-1.79	0.6620	0.5217
39	-1.63	0.6863	0.5334
40	-1.52	0.7041	0.5394
41	-1.40	0.7238	0.5463
42	-1.31	0.7395	0.5495
43	-1.22	0.7549	0.5521
44	-1.11	0.7742	0.5569
45	-1.00	0.7940	0.5614
46	-0.94	0.8053	0.5594
47	-0.87	0.8194	0.5588
48	-0.86	0.8213	0.5495
49	-0.79	0.8335	0.5468
50	-0.75	0.8423	0.5414
51	-0.73	0.8449	0.5317
52	-0.74	0.8427	0.5188
53	-0.75	0.8418	0.5066
54	-0.76	0.8403	0.4939
55	-0.73	0.8446	0.4845
56	-0.79	0.8345	0.4666
57	-0.79	0.8335	0.4540
58	-0.84	0.8239	0.4366
59	-0.86	0.8196	0.4221
60	-1.17	0.7631	0.3816
61	-1.21	0.7568	0.3669
62	-1.23	0.7536	0.3538
63	-1.29	0.7422	0.3370
64	-1.42	0.7216	0.3163
65	-1.52	0.7041	0.2976
66	-1.59	0.6937	0.2821
67	-1.72	0.6724	0.2627
68	-1.84	0.6542	0.2451
69	-1.93	0.6417	0.2300
70	-2.04	0.6251	0.2138
71	-2.14	0.6109	0.1989
72	-2.24	0.5974	0.1846
73	-2.32	0.5863	0.1714
74	-2.40	0.5753	0.1586
75	-2.52	0.5594	0.1448
76	-2.62	0.5464	0.1322
77	-2.69	0.5377	0.1210
78	-2.81	0.5231	0.1088
79	-3.06	0.4942	0.0943
80	-3.21	0.4777	0.0829
81	-3.24	0.4741	0.0742
82	-3.33	0.4646	0.0647
83	-3.44	0.4532	0.0552
84	-3.56	0.4402	0.0460
85	-3.66	0.4309	0.0376
86	-3.73	0.4240	0.0296
87	-3.81	0.4161	0.0218
88	-3.90	0.4077	0.0142
89	-3.98	0.4001	0.0070

90	-4.03	0.3951	0.000
91	-4.09	0.3895	-0.007
92	-4.16	0.3836	-0.013
93	-4.22	0.3786	-0.020
94	-4.26	0.3748	-0.026
95	-4.33	0.3692	-0.032
96	-4.35	0.3672	-0.038
97	-4.42	0.3617	-0.044
98	-4.47	0.3573	-0.050
99	-4.51	0.3541	-0.055
100	-4.55	0.3508	-0.061
101	-4.58	0.3483	-0.066
102	-4.61	0.3456	-0.072
103	-4.63	0.3441	-0.077
104	-4.66	0.3419	-0.083
105	-4.68	0.3402	-0.088
106	-4.73	0.3365	-0.093
107	-4.78	0.3329	-0.097
108	-4.82	0.3295	-0.102
109	-4.83	0.3286	-0.107
110	-4.87	0.3260	-0.112
111	-4.91	0.3226	-0.116
112	-4.94	0.3205	-0.120
113	-4.95	0.3202	-0.125
114	-4.95	0.3197	-0.130
115	-5.00	0.3164	-0.134
116	-5.07	0.3111	-0.136
117	-5.12	0.3077	-0.140
118	-5.16	0.3046	-0.143
119	-5.16	0.3046	-0.148
120	-5.26	0.2977	-0.149
121	-5.30	0.2952	-0.152
122	-5.34	0.2923	-0.155
123	-5.58	0.2767	-0.151
124	-5.70	0.2694	-0.151
125	-5.85	0.2603	-0.149
126	-5.98	0.2522	-0.148
127	-6.00	0.2511	-0.151
128	-6.01	0.2506	-0.154
129	-6.08	0.2469	-0.155
130	-6.16	0.2420	-0.156
131	-6.21	0.2395	-0.157
132	-6.31	0.2339	-0.156
133	-6.39	0.2296	-0.157
134	-6.52	0.2227	-0.155
135	-6.67	0.2151	-0.152
136	-6.77	0.2103	-0.151
137	-6.86	0.2059	-0.151
138	-6.97	0.2007	-0.149
139	-7.00	0.1995	-0.151
140	-7.06	0.1970	-0.151
141	-7.06	0.1970	-0.153
142	-7.08	0.1960	-0.154
143	-7.14	0.1931	-0.154
144	-7.17	0.1919	-0.155
145	-7.19	0.1909	-0.156
146	-7.20	0.1907	-0.158
147	-7.26	0.1878	-0.158
148	-7.36	0.1839	-0.156
149	-7.42	0.1811	-0.155
150	-7.47	0.1789	-0.155

151	-7.54	0.1762	-0.154
152	-7.56	0.1754	-0.155
153	-7.70	0.1699	-0.151
154	-7.77	0.1673	-0.150
155	-7.75	0.1680	-0.152
156	-7.80	0.1659	-0.152
157	-7.79	0.1662	-0.153
158	-7.83	0.1649	-0.153
159	-7.89	0.1625	-0.152
160	-7.92	0.1615	-0.152
161	-7.95	0.1602	-0.151
162	-8.04	0.1569	-0.149
163	-8.12	0.1540	-0.147
164	-8.15	0.1530	-0.147
165	-8.22	0.1506	-0.145
166	-8.31	0.1474	-0.143
167	-8.40	0.1445	-0.141
168	-8.52	0.1407	-0.138
169	-8.62	0.1374	-0.135
170	-8.71	0.1346	-0.133
171	-8.82	0.1313	-0.130
172	-8.89	0.1293	-0.128
173	-9.00	0.1259	-0.125
174	-9.07	0.1238	-0.123
175	-9.16	0.1214	-0.121
176	-9.30	0.1175	-0.117
177	-9.43	0.1139	-0.114
178	-9.54	0.1111	-0.111
179	-9.66	0.1081	-0.108
180	-9.79	0.1051	-0.105
181	-9.96	0.1009	-0.101
182	-10.13	0.0970	-0.097
183	-10.27	0.0939	-0.094
184	-10.50	0.0892	-0.089
185	-10.75	0.0842	-0.084
186	-10.97	0.0800	-0.080
187	-11.15	0.0767	-0.076
188	-11.33	0.0737	-0.073
189	-11.57	0.0697	-0.069
190	-11.74	0.0670	-0.066
191	-11.88	0.0648	-0.064
192	-12.01	0.0630	-0.062
193	-12.15	0.0610	-0.059
194	-12.28	0.0592	-0.057
195	-12.35	0.0582	-0.056
196	-12.42	0.0573	-0.055
197	-12.43	0.0571	-0.055
198	-12.48	0.0565	-0.054
199	-12.47	0.0567	-0.054
200	-12.45	0.0569	-0.053
201	-12.36	0.0580	-0.054
202	-12.31	0.0588	-0.054
203	-12.13	0.0612	-0.056
204	-12.02	0.0628	-0.057
205	-11.88	0.0649	-0.059
206	-11.64	0.0685	-0.062
207	-11.38	0.0728	-0.065
208	-11.20	0.0758	-0.067
209	-10.93	0.0808	-0.071
210	-10.61	0.0868	-0.075

211	-10.35	0.0922	-0.079	
212	-10.05	0.0989	-0.084	
213	-9.82	0.1043	-0.087	
214	-9.56	0.1106	-0.092	
215	-9.24	0.1192	-0.098	
216	-8.95	0.1274	-0.103	
217	-8.65	0.1366	-0.109	
218	-8.42	0.1438	-0.113	
219	-8.15	0.1530	-0.119	
220	-7.86	0.1637	-0.125	
221	-7.57	0.1750	-0.132	
222	-7.34	0.1846	-0.137	
223	-7.11	0.1944	-0.142	
224	-6.86	0.2059	-0.148	
225	-6.61	0.2182	-0.154	
226	-6.40	0.2292	-0.159	
227	-6.19	0.2404	-0.164	
228	-6.00	0.2514	-0.168	
229	-5.76	0.2656	-0.174	
230	-5.61	0.2748	-0.177	
231	-5.38	0.2895	-0.182	
232	-5.19	0.3030	-0.187	
233	-4.99	0.3172	-0.191	
234	-4.84	0.3281	-0.193	
235	-4.66	0.3422	-0.196	
236	-4.50	0.3552	-0.199	
237	-4.33	0.3691	-0.201	
238	-4.16	0.3838	-0.203	
239	-4.03	0.3950	-0.203	
240	-3.88	0.4093	-0.205	
241	-3.75	0.4216	-0.204	
242	-3.60	0.4362	-0.205	VDRmax
243	-3.52	0.4450	-0.202	
244	-3.39	0.4576	-0.201	
245	-3.23	0.4755	-0.201	
246	-3.11	0.4890	-0.199	
247	-2.98	0.5038	-0.197	
248	-2.94	0.5084	-0.190	
249	-2.74	0.5318	-0.191	
250	-2.63	0.5459	-0.187	
251	-2.52	0.5596	-0.182	
252	-2.48	0.5649	-0.175	
253	-2.31	0.5873	-0.172	
254	-2.18	0.6054	-0.167	
255	-2.13	0.6119	-0.158	
256	-2.11	0.6151	-0.149	
257	-1.97	0.6350	-0.143	
258	-1.90	0.6451	-0.134	
259	-1.83	0.6554	-0.125	
260	-1.78	0.6636	-0.115	
261	-1.73	0.6712	-0.105	
262	-1.63	0.6871	-0.096	
263	-1.46	0.7138	-0.087	
264	-1.37	0.7288	-0.076	
265	-1.33	0.7364	-0.064	
266	-1.21	0.7569	-0.053	
267	-1.11	0.7741	-0.041	
268	-1.07	0.7824	-0.027	
269	-1.19	0.7606	-0.013	
270	-1.05	0.7856	0.000	

271	-0.90	0.8134	0.014
272	-0.81	0.8295	0.029
273	-0.75	0.8405	0.044
274	-0.75	0.8418	0.059
275	-0.73	0.8445	0.074
276	-0.58	0.8750	0.091
277	-0.54	0.8835	0.108
278	-0.48	0.8949	0.125
279	-0.49	0.8924	0.140
280	-0.43	0.9061	0.157
281	-0.37	0.9188	0.175
282	-0.23	0.9484	0.197
283	-0.24	0.9456	0.213
284	-0.37	0.9186	0.222
285	-0.21	0.9519	0.246
286	-0.22	0.9497	0.262
287	-0.24	0.9466	0.277
288	-0.14	0.9679	0.299
289	-0.17	0.9627	0.313
290	-0.36	0.9203	0.315
291	-0.07	0.9837	0.353
292	-0.06	0.9852	0.369
293	-0.10	0.9771	0.382
294	-0.04	0.9901	0.403
295	-0.04	0.9898	0.418
296	-0.08	0.9815	0.430
297	-0.04	0.9898	0.449
298	-0.06	0.9861	0.463
299	-0.12	0.9724	0.471
300	-0.17	0.9618	0.481
301	-0.17	0.9627	0.496
302	-0.26	0.9409	0.499
303	-0.39	0.9142	0.498
304	-0.42	0.9086	0.508
305	-0.39	0.9143	0.524
306	-0.42	0.9085	0.534
307	-0.55	0.8813	0.530
308	-0.75	0.8415	0.518
309	-0.73	0.8460	0.532
310	-0.76	0.8387	0.539
311	-0.92	0.8092	0.531
312	-0.95	0.8034	0.538
313	-1.11	0.7740	0.528
314	-1.32	0.7386	0.513
315	-1.31	0.7390	0.523
316	-1.52	0.7044	0.507
317	-1.69	0.6779	0.496
318	-1.71	0.6742	0.501
319	-1.91	0.6444	0.486
320	-2.14	0.6116	0.469
321	-2.27	0.5926	0.461
322	-2.37	0.5801	0.457
323	-2.53	0.5587	0.446
324	-2.71	0.5362	0.434
325	-2.95	0.5076	0.416
326	-3.14	0.4852	0.402
327	-3.31	0.4662	0.391
328	-3.56	0.4405	0.374
329	-3.84	0.4131	0.354
330	-4.08	0.3909	0.338

331	-4.30	0.3715	0.325
332	-4.59	0.3477	0.307
333	-4.79	0.3323	0.296
334	-5.04	0.3131	0.281
335	-5.39	0.2891	0.262
336	-5.76	0.2656	0.243
337	-6.03	0.2494	0.230
338	-6.32	0.2336	0.217
339	-6.60	0.2185	0.204
340	-6.92	0.2031	0.191
341	-7.41	0.1813	0.171
342	-7.75	0.1678	0.160
343	-8.19	0.1518	0.145
344	-8.66	0.1362	0.131
345	-9.17	0.1210	0.117
346	-9.68	0.1077	0.105
347	-10.21	0.0953	0.093
348	-10.72	0.0848	0.083
349	-11.25	0.0750	0.074
350	-11.66	0.0682	0.067
351	-12.18	0.0605	0.060
352	-12.59	0.0551	0.055
353	-13.12	0.0487	0.048
354	-13.50	0.0446	0.044
355	-13.98	0.0400	0.040
356	-14.41	0.0362	0.036
357	-15.00	0.0316	0.032
358	-15.47	0.0284	0.028
359	-15.80	0.0263	0.026
360	-15.86	0.0259	0.026

Manufacturer's radiation pattern for Comet CFM95SL

ファイル名； D:\CFM95SL-88.cc2　周波数；88ＭＨｚ

0	-15.86	-15.93	-15.77	-15.12	-14.38	-13.63	-12.81	-12.14	-11.46	-10.75
10	-10.25	-9.71	-9.25	-8.73	-8.46	-8.03	-7.77	-7.31	-6.94	-6.48
20	-6.16	-5.73	-5.35	-5.02	-4.74	-4.43	-4.12	-3.89	-3.66	-3.43
30	-3.23	-3.07	-2.87	-2.64	-2.41	-2.23	-2.06	-1.96	-1.79	-1.63
40	-1.52	-1.40	-1.31	-1.22	-1.11	-1.00	-0.94	-0.87	-0.86	-0.79
50	-0.75	-0.73	-0.74	-0.75	-0.76	-0.73	-0.79	-0.79	-0.84	-0.86
60	-1.17	-1.21	-1.23	-1.29	-1.42	-1.52	-1.59	-1.72	-1.84	-1.93
70	-2.04	-2.14	-2.24	-2.32	-2.40	-2.52	-2.62	-2.69	-2.81	-3.06
80	-3.21	-3.24	-3.33	-3.44	-3.56	-3.66	-3.73	-3.81	-3.90	-3.98
90	-4.03	-4.09	-4.16	-4.22	-4.26	-4.33	-4.35	-4.42	-4.47	-4.51
100	-4.55	-4.58	-4.61	-4.63	-4.66	-4.68	-4.73	-4.78	-4.82	-4.83
110	-4.87	-4.91	-4.94	-4.95	-4.95	-5.00	-5.07	-5.12	-5.16	-5.16
120	-5.26	-5.30	-5.34	-5.58	-5.70	-5.85	-5.98	-6.00	-6.01	-6.08
130	-6.16	-6.21	-6.31	-6.39	-6.52	-6.67	-6.77	-6.86	-6.97	-7.00
140	-7.06	-7.06	-7.08	-7.14	-7.17	-7.19	-7.20	-7.26	-7.36	-7.42
150	-7.47	-7.54	-7.56	-7.70	-7.77	-7.75	-7.80	-7.79	-7.83	-7.89
160	-7.92	-7.95	-8.04	-8.12	-8.15	-8.22	-8.31	-8.40	-8.52	-8.62
170	-8.71	-8.82	-8.89	-9.00	-9.07	-9.16	-9.30	-9.43	-9.54	-9.66
180	-9.79	-9.96	-10.13	-10.27	-10.50	-10.75	-10.97	-11.15	-11.33	-11.57
190	-11.74	-11.88	-12.01	-12.15	-12.28	-12.35	-12.42	-12.43	-12.48	-12.47
200	-12.45	-12.36	-12.31	-12.13	-12.02	-11.88	-11.64	-11.38	-11.20	-10.93
210	-10.61	-10.35	-10.05	-9.82	-9.56	-9.24	-8.95	-8.65	-8.42	-8.15
220	-7.86	-7.57	-7.34	-7.11	-6.86	-6.61	-6.40	-6.19	-6.00	-5.76
230	-5.61	-5.38	-5.19	-4.99	-4.84	-4.66	-4.50	-4.33	-4.16	-4.03
240	-3.88	-3.75	-3.60	-3.52	-3.39	-3.23	-3.11	-2.98	-2.94	-2.74
250	-2.63	-2.52	-2.48	-2.31	-2.18	-2.13	-2.11	-1.97	-1.90	-1.83
260	-1.78	-1.73	-1.63	-1.46	-1.37	-1.33	-1.21	-1.11	-1.07	-1.19
270	-1.05	-0.90	-0.81	-0.75	-0.75	-0.73	-0.58	-0.54	-0.48	-0.49
280	-0.43	-0.37	-0.23	-0.24	-0.37	-0.21	-0.22	-0.24	-0.14	-0.17
290	-0.36	-0.07	-0.06	-0.10	-0.04	-0.04	-0.08	-0.04	-0.06	-0.12
300	-0.17	-0.17	-0.26	-0.39	-0.42	-0.39	-0.42	-0.55	-0.75	-0.73
310	-0.76	-0.92	-0.95	-1.11	-1.32	-1.31	-1.52	-1.69	-1.71	-1.91
320	-2.14	-2.27	-2.37	-2.53	-2.71	-2.95	-3.14	-3.31	-3.56	-3.84
330	-4.08	-4.30	-4.59	-4.79	-5.04	-5.39	-5.76	-6.03	-6.32	-6.60
340	-6.92	-7.41	-7.75	-8.19	-8.66	-9.17	-9.68	-10.21	-10.72	-11.25
350	-11.66	-12.18	-12.59	-13.12	-13.50	-13.98	-14.41	-15.00	-15.47	-15.80
360	-15.86									

TOWAIR Determination Results

HELP

New Search Printable Page

*** NOTICE ***

TOWAIR's findings are not definitive or binding, and we cannot guarantee that the data in TOWAIR are fully current and accurate. In some instances, TOWAIR may yield results that differ from application of the criteria set out in 47 C.F.R. Section 17.7 and 14 C.F.R. Section 77.13. A positive finding by TOWAIR recommending notification should be given considerable weight. On the other hand, a finding by TOWAIR recommending either for or against notification is not conclusive. It is the responsibility of each ASR participant to exercise due diligence to determine if it must coordinate its structure with the FAA. TOWAIR is only one tool designed to assist ASR participants in exercising this due diligence, and further investigation may be necessary to determine if FAA coordination is appropriate.

DETERMINATION Results	
Structure does not require registration. The structure meets the 6.10-meter (20-foot) Rule criteria.	
Your Specifications	
NAD83 Coordinates	
Latitude	25-58-03.7 north
Longitude	080-12-33.2 west
Measurements (Meters)	
Overall Structure Height (AGL)	30.2
Support Structure Height (AGL)	24.4
Site Elevation (AMSL)	2.1
Structure Type	
BPOLE - Building with Pole	

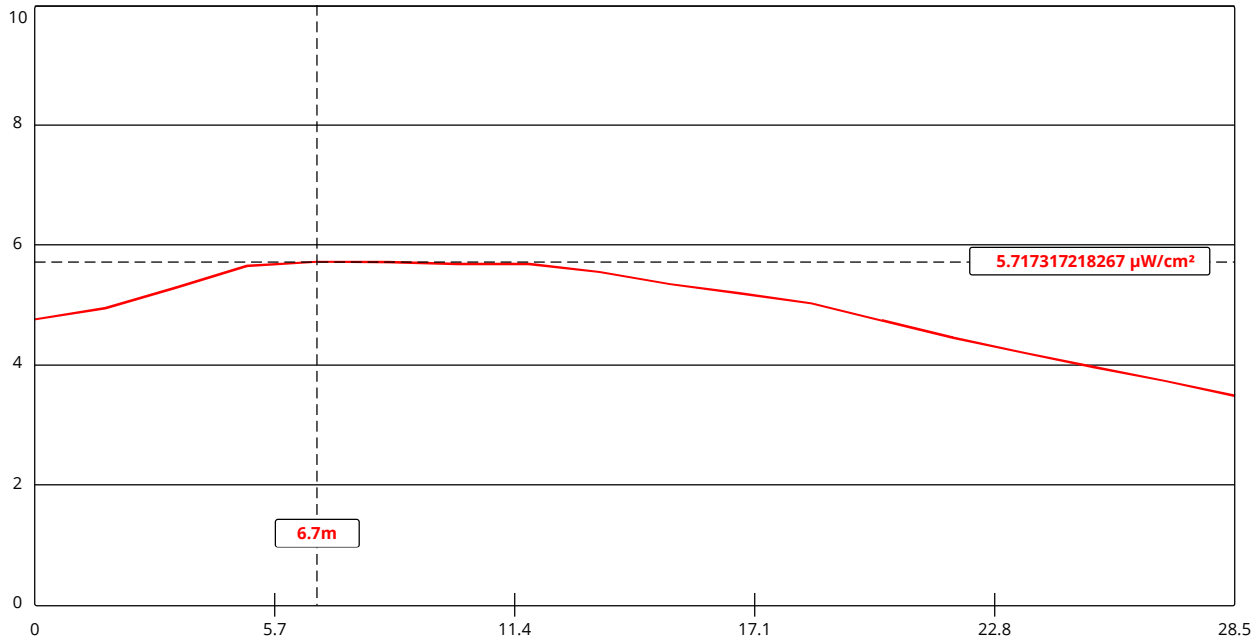
Federal Communications Commission

FM Model

The FM Model calculator determines the potential exposure from radiofrequency (RF) electromagnetic fields produced by FM broadcast station antennas at ground level. The FM Model software was originally developed by the FCC in 1997 as a standalone executable program and this improved version provides more precise predictions and runs via a JavaScript enabled web browser. The FM Model is originally based on measured data published in 1985 by the EPA (http://nepis.epa.gov/Exe/ZyNET.exe/2000ED2W.TXT?ZyActionD=ZyDocument&Client=EPA&Index=1981+Thru+1985&Docs=&Query=&Time=&EndTime=&SearchMethod=1&TocRestrict=n&Toc=&TocEntry=&QField=&QFieldYear=&QFieldMonth=&QFieldDay=&IntQFieldOp=0&ExtQFieldOp=0&XmlQuery=&File=D%3A\zyfiles\Index%20Data\81thru85\Txt\00000003\2000ED2W.txt&User=ANONYMOUS&Password=anonymous&SortMethod=h|-&MaximumDocuments=1&FuzzyDegree=0&ImageQuality=r75g8/r75g8/x150y150g16/i425&Display=p|f&DefSeekPage=x&SearchBack=ZyActionL&Back=ZyActionS&BackDesc=Results%20page&MaximumPages=1&ZyEntry=1&SeekPage=x&ZyPURL).

This version uses the actual distance to each antenna element, rather than the distance to the antenna's radiation center, improving separation distance precision. While most predictions using this updated FM Model will be similar to the previous version, this correction could result in significant differences from the previous model at short separation distances from the bottom element of an antenna array where accurate exposure estimation is most critical. Appendix A of the FM Model Public Notice (https://www.fcc.gov/document/oet-announces-updates-fmmodel-software) contains a brief description of these changes.

Under *Antenna Type* in the user interface below is a collapsible list of associated antenna models cross-referenced with the five EPA element types, initially in Appendix B of the FM Model Public Notice (https://www.fcc.gov/document/oet-announces-updates-fmmodel-software), including any subsequent changes we received. Element designs that are not in this list because they were not specifically evaluated by EPA, e.g., panel antennas, vertical dipoles, etc., should be treated as Type 1. We continue to invite suggested changes and corrections to this list. Inclusion of antenna models on this list does not constitute an endorsement of those manufacturers or their products by the FCC.



Channel Selection	Channel 224 (92.7 MHz)		
Antenna Type +	EPA Type 1: Ring-and-Stub or "Other"		
Height (m)	28.5	Distance (m)	28.5
ERP-H (W)	100	ERP-V (W)	100
Num of Elements	1	Element Spacing (λ)	1
Num of Points	17	Apply	

https://www.fcc.gov/general/fm-model

*** To Print - On your browser, please select Shrink to Fit under the Scale tab from Print Preview**

Hide Tabular Results -

Distance (m)	Power Density (μW/cm²)
0	4.8
1.7	4.9
3.4	5.3
5.0294	5.6
6.7	5.7
8.3824	5.7
10.059	5.7
11.7	5.7
13.4	5.5
15.088	5.3
16.8	5.2
18.4	5.0
20.1	4.7
21.8	4.5
23.5	4.2
25.1	4.0
26.8	3.7
28.5	3.5

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Updated:
Friday, June 8, 2018