

**W252CS MINOR MODIFICATION TO FM TRANSLATOR LICENSE BLFT-20151130FFB**  
**0.12 kW DA FACILITY ID 155892 PALISADES PARK, NJ**  
**ENGINEERING NARRATIVE AND RF RADIATION ENVIRONMENTAL ANALYSIS**  
**AUGUST 2022**

W252CS is a fill-in translator authorized to Sound of Long Island, Inc., Brooklyn, New York. This application proposes a change in community of license to Palisades Park, New Jersey where the proposed FM translator site is located. W252CS rebroadcasts WVIP(FM) on 93.5 MHz licensed to New Rochelle, New York. W252CS will continue to rebroadcast a WVIP(FM) HD channel. This application proposes a 16.3 km site change, continued operation on CH 252 and implementation of a new elliptically polarized antenna system with a maximum ERP of 120 watts.

The applicant proposes herein to locate its proposed PSI, elliptically polarized, three and five element yagi antenna system on the roof of an existing building 18.6 meters AGL. The antenna RC will be 21.3 M AGL and the greatest appurtenance on the building is 21.6 M AGL. The building is existing, and no ASR is associated with the structure. FCC TOWAIR was run, and the determination result is that the structure meets the 6.1 meter (20-foot) rule criteria and does not require registration.

Utilizing the FCC FM Model online calculator with an EPA type 1 antenna with 120 watts ERP H & V on CH 252 the maximum calculated power density is 12.95 microwatts per centimeter squared which is 6.48% percent of the 200 microwatts public exposure guideline. The antenna will be mounted on a mast attached to the side of a 3 meter (10') high stairway penthouse so that the antenna RC is 2.74 meters (9') above the top of the penthouse roof which is unoccupied. Based on this analysis, and the fact that access to the main roof is through a locked and marked access door, it is believed that the proposed facility follows OET-65 Public Exposure Guidelines. The applicant will reduce power or cease transmission as required to meet FCC OET-65 worker Guidelines.

Allocation study mappings are attached demonstrating that there is no impermissible contour overlap to any other co or first adjacent channel station. The facility continues to be within the 54 dBu contour of second adjacent CH stations WSKQ-FM CH 250B and WEPN-FM CH 254 B both New York, NY.

Figure 1, attached, shows no prohibited contour overlap to any co-channel or 1<sup>st</sup> adjacent channel FM station requiring protection.

Figure 2, attached, depicts the 2<sup>nd</sup> adjacent channel station WSKQ-FM 88.9 dBu and the WEPN-FM 88.8 dBu contour respectively at the proposed new W252CS site location. The FCC online FM and TV Propagation Curves calculator was used to determine distance to the FM 128.8 dBu signal level for an HAAT of 99 meters based on an ERP of 0.12 kilowatts on the horizon. The FCC calculates 0.028 km as the Free Space distance. Exhibit 1 attached depicts the Free Space signal level on the ground using the classic free space formula based on the antenna elevation pattern plot and tabulated data also found in Exhibit 1. The strongest free space signal level is 122.2 dBu which is 6.6 dB below the level predicted to be associated with interference and no interference to WSKQ or WEPN should occur. In an abundance of caution a waiver of FCC Rule 74.1204 is requested.

Figure 3, attached, depicts the licensed and proposed 60 dBu contours and the area of common overlap required for minor change status. Also depicted is the WVIP-FM 60 dBu contour which fully envelops the proposed 60 dBu contour. Figure 4 is a vertical plan sketch.

The foregoing was prepared on behalf of Sound of Long Island, Inc. by Clarence M. Beverage of Communications Technologies, Inc., Medford, New Jersey, whose qualifications are a matter of record with the Federal Communications Commission. The statements herein are true and correct of his own knowledge, except such statements made on information and belief, and as to these statements he believes them to be true and correct.



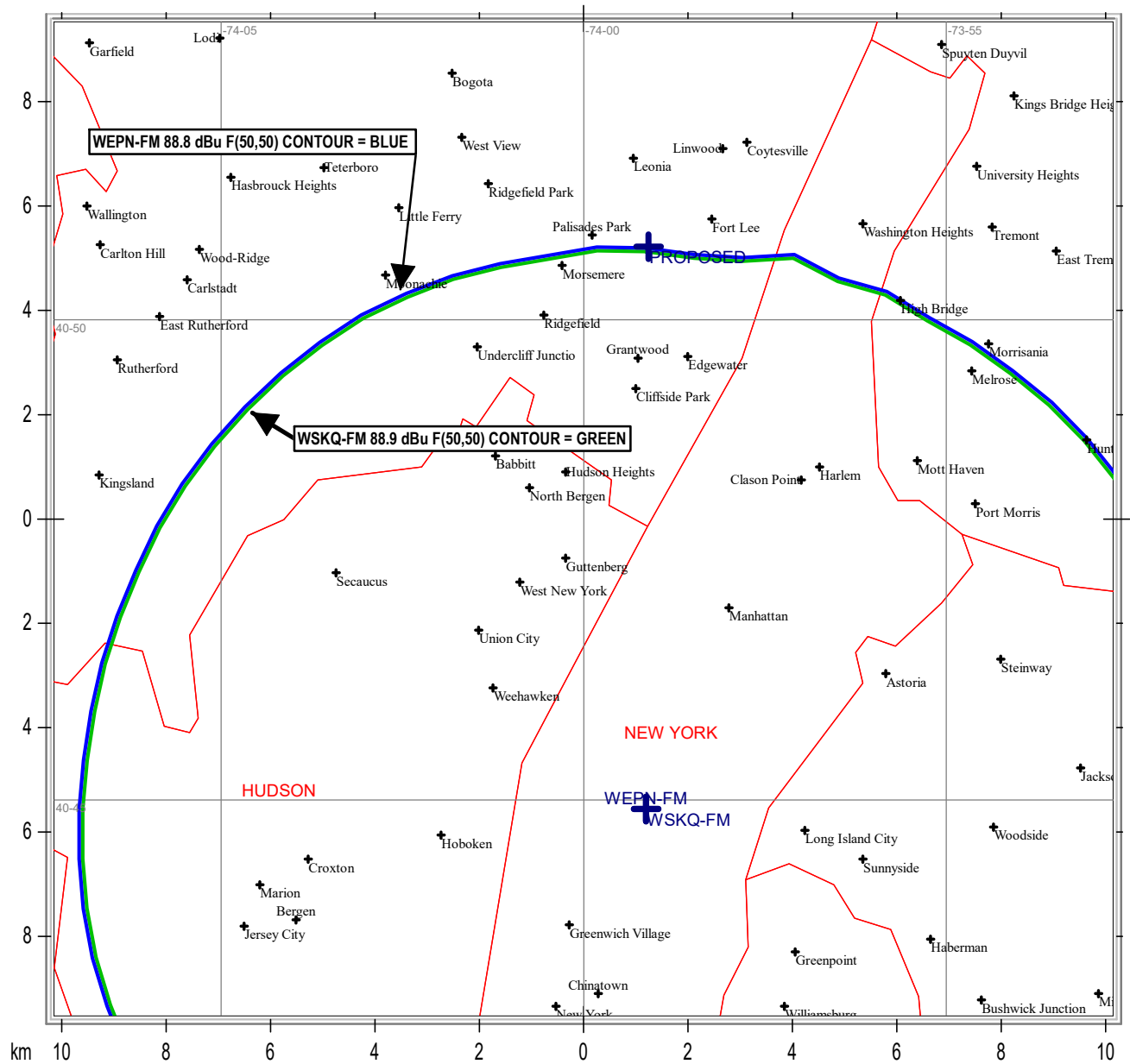
By \_\_\_\_\_

**Clarence M. Beverage**  
for Communications Technologies, Inc.  
Medford, New Jersey  
August 9, 2022

**CONTOUR KEY**  
 GREEN = OTHER STATION PROTECTED 60 dBu F(50,50)  
 CONTOURS ON CHANNEL  
 RED = PROPOSED 40 dBu F(50,10)

 County Borders       Lat/Lon Grid

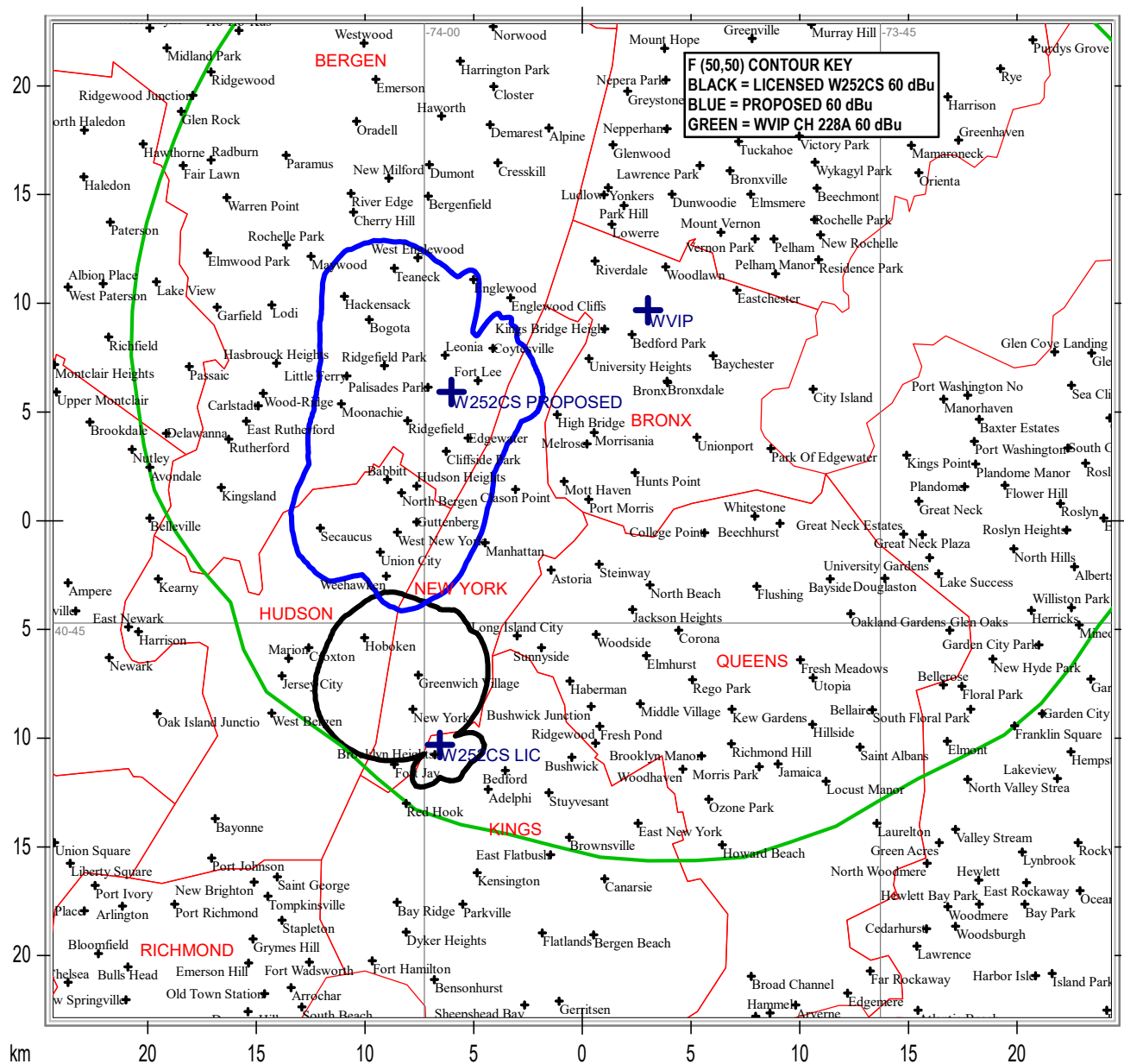
## W252CS 120 WATTS MAX DA PALISADES PARK , NEW JERSEY



Communications Technologies, Inc. Medford, New Jersey

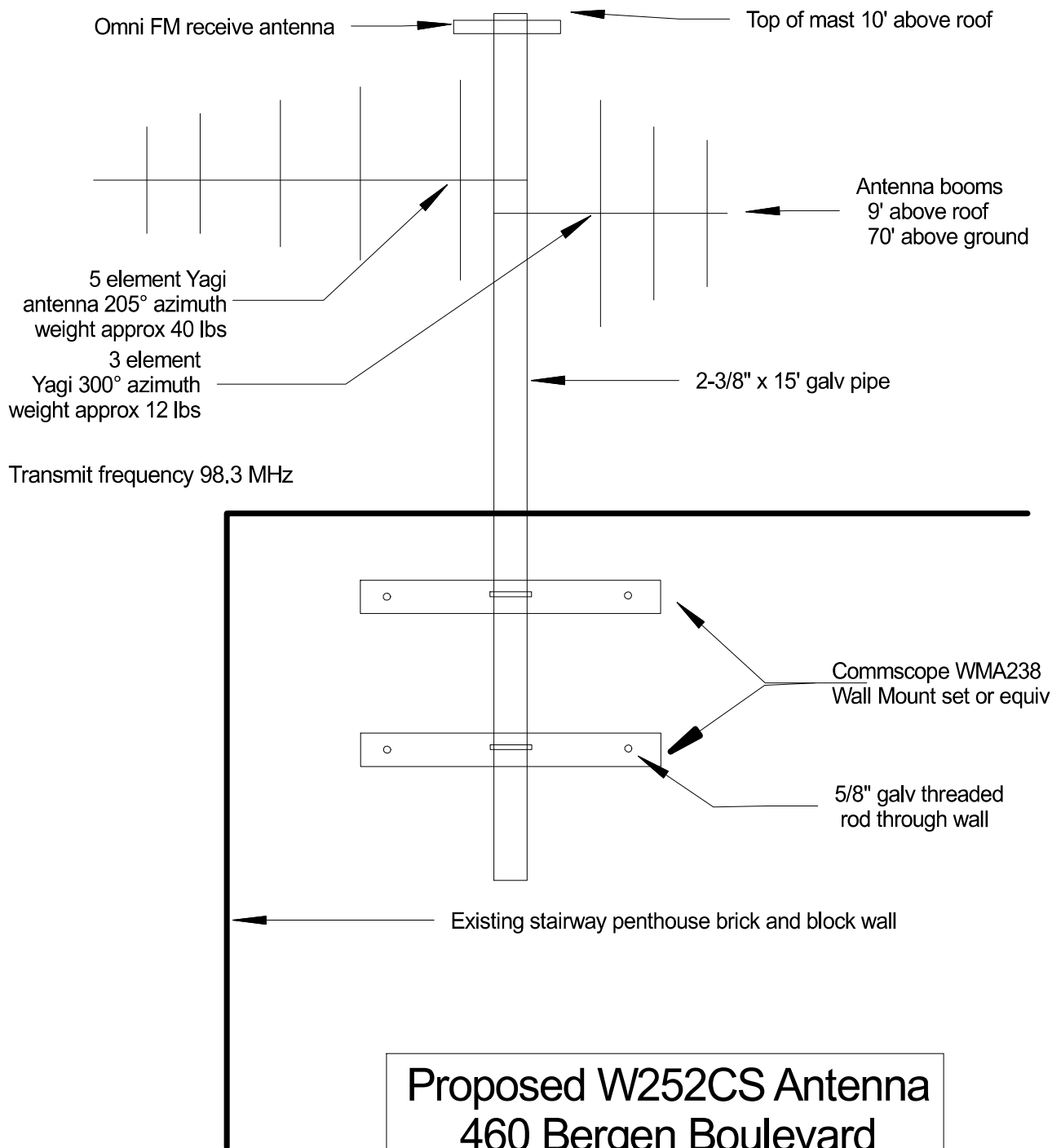
County Borders      Lat/Lon Grid

## W252CS 120 WATTS MAX DA PALISADES PARK, NEW JERSEY



Communications Technologies, Inc. Medford, New Jersey

County Borders      Lat/Lon Grid



#### Metric Data

Overall Structure = 21.6 M

Support Structure = 18.6 M

Ground Elev. = 96.9 M

Antenna RC AGL = 21.3 M

Antenna RC AMSL = 118.2 M

**Proposed W252CS Antenna  
460 Bergen Boulevard  
Palisades Park, NJ**

*Drawing not to scale*

**FIGURE 4**

**FREE SPACE SIGNAL LEVEL  
EXHIBIT 1  
Computation of Signal Level  
on the Ground  
W252CS FM TRANSLATOR  
PALISADES PARK, NEW JERSEY**

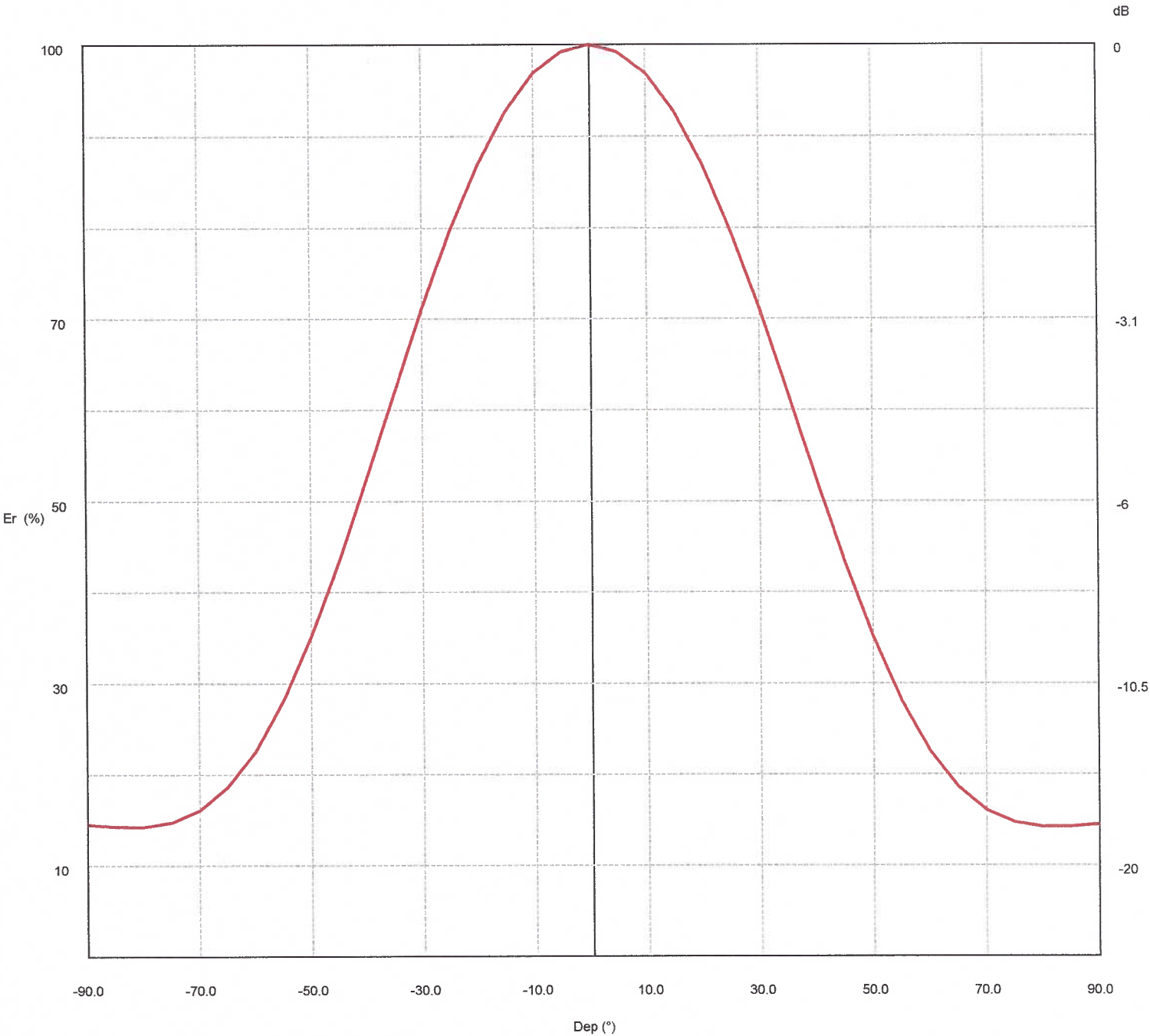
**August 8, 2022**

<b>Depression Angle, Degrees</b>	<b>Relative Field</b>	<b>ERP Watts</b>	<b>dBk</b>	<b>Distance to the Ground in Kilometers</b>	<b>Free Space Signal</b>
90	0.144	2.4883	-26.0	0.0213	114.3
85	0.142	2.4197	-26.2	0.0214	114.2
80	0.142	2.4197	-26.2	0.0216	114.1
75	0.147	2.5931	-25.9	0.0221	114.2
70	0.160	3.0720	-25.1	0.0227	114.7
65	0.186	4.1515	-23.8	0.0235	115.7
60	0.225	6.0750	-22.2	0.0246	116.9
55	0.281	9.4753	-20.2	0.0260	118.4
50	0.351	14.7841	-18.3	0.0278	119.7
45	0.433	22.4987	-16.5	0.0301	120.9
40	0.525	33.0750	-14.8	0.0331	121.7
35	0.619	45.9793	-13.4	0.0371	122.1
30	0.712	60.8333	-12.2	0.0426	122.2
25	0.796	76.0339	-11.2	0.0504	121.7
20	0.869	90.6193	-10.4	0.0623	120.6
15	0.927	103.1195	-9.9	0.0823	118.7
10	0.969	112.6753	-9.5	0.1227	115.7
5	0.992	118.0877	-9.3	0.2444	109.9

**Notes:**

Antenna radiation center above ground (meters): 21.3  
Maximum ERP (watts) at 0° Depression angle: 120  
Free Space Signal =  $106.92 - 20 \cdot \log(\text{distance in km}) + \text{dBk}$   
Relative field based on manufacturer calculated elevation pattern

Vertical diagram at an azimuth of 205.0° degrees



— 205.0° Az. (Total Antenna), Gain (dBd): 7.47

ERP T.Max(KW): 0.12 ERP E.Max(KW): 0.12



## Vertical diagram at an azimuth of 205.0° degrees

Dep (°)	Er (%)	ERP (W)	Dep (°)	Er (%)	ERP (W)	Dep (°)	Er (%)	ERP (W)
-90.0	14.5	2.5	-60.0	22.6	6.1	-30.0	71.2	60.8
-89.5	14.5	2.5	-59.5	23.1	6.4	-29.5	72.0	62.2
-89.0	14.5	2.5	-59.0	23.7	6.7	-29.0	72.9	63.7
-88.5	14.4	2.5	-58.5	24.2	7.1	-28.5	73.7	65.2
-88.0	14.4	2.5	-58.0	24.8	7.4	-28.0	74.6	66.7
-87.5	14.4	2.5	-57.5	25.4	7.7	-27.5	75.4	68.2
-87.0	14.4	2.5	-57.0	25.9	8.1	-27.0	76.3	69.8
-86.5	14.3	2.5	-56.5	26.5	8.4	-26.5	77.1	71.3
-86.0	14.3	2.5	-56.0	27.0	8.8	-26.0	77.9	72.9
-85.5	14.3	2.5	-55.5	27.6	9.1	-25.5	78.8	74.5
-85.0	14.3	2.4	-55.0	28.1	9.5	-25.0	79.6	76.1
-84.5	14.3	2.4	-54.5	28.8	10.0	-24.5	80.4	77.5
-84.0	14.3	2.4	-54.0	29.5	10.5	-24.0	81.1	78.9
-83.5	14.3	2.4	-53.5	30.2	11.0	-23.5	81.8	80.3
-83.0	14.3	2.4	-53.0	30.9	11.5	-23.0	82.5	81.7
-82.5	14.3	2.4	-52.5	31.6	12.0	-22.5	83.3	83.2
-82.0	14.3	2.4	-52.0	32.3	12.5	-22.0	84.0	84.7
-81.5	14.3	2.4	-51.5	33.0	13.1	-21.5	84.7	86.1
-81.0	14.3	2.4	-51.0	33.7	13.6	-21.0	85.5	87.6
-80.5	14.2	2.4	-50.5	34.4	14.2	-20.5	86.2	89.1
-80.0	14.2	2.4	-50.0	35.1	14.8	-20.0	86.9	90.6
-79.5	14.3	2.5	-49.5	35.9	15.5	-19.5	87.5	91.8
-79.0	14.3	2.5	-49.0	36.8	16.2	-19.0	88.1	93.0
-78.5	14.4	2.5	-48.5	37.6	17.0	-18.5	88.6	94.3
-78.0	14.4	2.5	-48.0	38.4	17.7	-18.0	89.2	95.5
-77.5	14.5	2.5	-47.5	39.2	18.5	-17.5	89.8	96.7
-77.0	14.5	2.5	-47.0	40.1	19.2	-17.0	90.4	98.0
-76.5	14.6	2.6	-46.5	40.9	20.0	-16.5	90.9	99.2
-76.0	14.6	2.6	-46.0	41.7	20.9	-16.0	91.5	100.5
-75.5	14.7	2.6	-45.5	42.5	21.7	-15.5	92.1	101.8
-75.0	14.7	2.6	-45.0	43.3	22.5	-15.0	92.7	103.1
-74.5	14.9	2.7	-44.5	44.3	23.5	-14.5	93.1	104.0
-74.0	15.0	2.7	-44.0	45.2	24.5	-14.0	93.5	104.9
-73.5	15.1	2.8	-43.5	46.1	25.5	-13.5	93.9	105.8
-73.0	15.3	2.8	-43.0	47.0	26.5	-13.0	94.3	106.8
-72.5	15.4	2.8	-42.5	47.9	27.6	-12.5	94.8	107.7
-72.0	15.5	2.9	-42.0	48.8	28.6	-12.0	95.2	108.7
-71.5	15.7	2.9	-41.5	49.8	29.7	-11.5	95.6	109.6
-71.0	15.8	3.0	-41.0	50.7	30.8	-11.0	96.0	110.6
-70.5	15.9	3.0	-40.5	51.6	31.9	-10.5	96.4	111.5
-70.0	16.1	3.1	-40.0	52.5	33.1	-10.0	96.8	112.5
-69.5	16.3	3.2	-39.5	53.4	34.3	-9.5	97.1	113.1
-69.0	16.6	3.3	-39.0	54.4	35.5	-9.0	97.3	113.6
-68.5	16.9	3.4	-38.5	55.3	36.7	-8.5	97.5	114.2
-68.0	17.1	3.5	-38.0	56.3	38.0	-8.0	97.8	114.7
-67.5	17.4	3.6	-37.5	57.2	39.2	-7.5	98.0	115.3
-67.0	17.6	3.7	-37.0	58.1	40.5	-7.0	98.2	115.8
-66.5	17.9	3.8	-36.5	59.1	41.9	-6.5	98.5	116.4
-66.0	18.1	3.9	-36.0	60.0	43.2	-6.0	98.7	116.9
-65.5	18.4	4.1	-35.5	60.9	44.6	-5.5	99.0	117.5
-65.0	18.7	4.2	-35.0	61.9	46.0	-5.0	99.2	118.0
-64.5	19.1	4.4	-34.5	62.8	47.3	-4.5	99.3	118.2
-64.0	19.4	4.5	-34.0	63.7	48.8	-4.0	99.3	118.4
-63.5	19.8	4.7	-33.5	64.7	50.2	-3.5	99.4	118.6
-63.0	20.2	4.9	-33.0	65.6	51.6	-3.0	99.5	118.8
-62.5	20.6	5.1	-32.5	66.5	53.1	-2.5	99.6	119.0
-62.0	21.0	5.3	-32.0	67.5	54.6	-2.0	99.7	119.2
-61.5	21.4	5.5	-31.5	68.4	56.1	-1.5	99.8	119.4
-61.0	21.8	5.7	-31.0	69.3	57.7	-1.0	99.8	119.6
-60.5	22.2	5.9	-30.5	70.3	59.2	-0.5	99.9	119.9

## Vertical diagram at an azimuth of 205.0° degrees

Dep (°)	Er (%)	ERP (W)	Dep (°)	Er (%)	ERP (W)	Dep (°)	Er (%)	ERP (W)
0.0	100.0	120.0	30.0	71.2	60.8	60.0	22.5	6.1
0.5	99.9	119.8	30.5	70.3	59.2	60.5	22.1	5.9
1.0	99.8	119.6	31.0	69.3	57.7	61.0	21.7	5.7
1.5	99.8	119.4	31.5	68.4	56.1	61.5	21.4	5.5
2.0	99.7	119.2	32.0	67.5	54.6	62.0	21.0	5.3
2.5	99.6	119.0	32.5	66.5	53.1	62.5	20.6	5.1
3.0	99.5	118.8	33.0	65.6	51.6	63.0	20.2	4.9
3.5	99.4	118.6	33.5	64.7	50.2	63.5	19.8	4.7
4.0	99.4	118.4	34.0	63.7	48.7	64.0	19.4	4.5
4.5	99.3	118.2	34.5	62.8	47.3	64.5	19.0	4.3
5.0	99.2	118.0	35.0	61.9	45.9	65.0	18.6	4.2
5.5	99.0	117.5	35.5	60.9	44.6	65.5	18.3	4.0
6.0	98.7	116.9	36.0	60.0	43.2	66.0	18.1	3.9
6.5	98.5	116.4	36.5	59.1	41.9	66.5	17.8	3.8
7.0	98.3	115.8	37.0	58.1	40.5	67.0	17.6	3.7
7.5	98.0	115.3	37.5	57.2	39.2	67.5	17.3	3.6
8.0	97.8	114.7	38.0	56.2	38.0	68.0	17.1	3.5
8.5	97.6	114.2	38.5	55.3	36.7	68.5	16.8	3.4
9.0	97.3	113.6	39.0	54.4	35.5	69.0	16.5	3.3
9.5	97.1	113.1	39.5	53.4	34.2	69.5	16.3	3.2
10.0	96.9	112.5	40.0	52.5	33.1	70.0	16.0	3.1
10.5	96.4	111.6	40.5	51.6	31.9	70.5	15.9	3.0
11.0	96.0	110.6	41.0	50.7	30.8	71.0	15.7	3.0
11.5	95.6	109.7	41.5	49.7	29.7	71.5	15.6	2.9
12.0	95.2	108.7	42.0	48.8	28.6	72.0	15.5	2.9
12.5	94.8	107.8	42.5	47.9	27.5	72.5	15.3	2.8
13.0	94.4	106.8	43.0	47.0	26.5	73.0	15.2	2.8
13.5	93.9	105.9	43.5	46.1	25.5	73.5	15.1	2.7
14.0	93.5	104.9	44.0	45.2	24.5	74.0	14.9	2.7
14.5	93.1	104.0	44.5	44.2	23.5	74.5	14.8	2.6
15.0	92.7	103.1	45.0	43.3	22.5	75.0	14.7	2.6
15.5	92.1	101.8	45.5	42.5	21.7	75.5	14.6	2.6
16.0	91.5	100.5	46.0	41.7	20.8	76.0	14.6	2.6
16.5	91.0	99.3	46.5	40.9	20.0	76.5	14.5	2.5
17.0	90.4	98.0	47.0	40.0	19.2	77.0	14.5	2.5
17.5	89.8	96.8	47.5	39.2	18.4	77.5	14.4	2.5
18.0	89.2	95.5	48.0	38.4	17.7	78.0	14.4	2.5
18.5	88.7	94.3	48.5	37.6	16.9	78.5	14.3	2.5
19.0	88.1	93.1	49.0	36.7	16.2	79.0	14.3	2.4
19.5	87.5	91.8	49.5	35.9	15.5	79.5	14.2	2.4
20.0	86.9	90.6	50.0	35.1	14.8	80.0	14.2	2.4
20.5	86.2	89.1	50.5	34.4	14.2	80.5	14.2	2.4
21.0	85.5	87.6	51.0	33.7	13.6	81.0	14.2	2.4
21.5	84.7	86.1	51.5	33.0	13.1	81.5	14.2	2.4
22.0	84.0	84.7	52.0	32.3	12.5	82.0	14.2	2.4
22.5	83.3	83.2	52.5	31.6	12.0	82.5	14.2	2.4
23.0	82.6	81.8	53.0	30.9	11.5	83.0	14.2	2.4
23.5	81.8	80.3	53.5	30.2	10.9	83.5	14.2	2.4
24.0	81.1	78.9	54.0	29.5	10.4	84.0	14.2	2.4
24.5	80.4	77.5	54.5	28.8	10.0	84.5	14.2	2.4
25.0	79.6	76.1	55.0	28.1	9.5	85.0	14.2	2.4
25.5	78.8	74.5	55.5	27.5	9.1	85.5	14.2	2.4
26.0	78.0	72.9	56.0	27.0	8.7	86.0	14.3	2.4
26.5	77.1	71.3	56.5	26.4	8.4	86.5	14.3	2.4
27.0	76.3	69.8	57.0	25.9	8.0	87.0	14.3	2.5
27.5	75.4	68.2	57.5	25.3	7.7	87.5	14.3	2.5
28.0	74.6	66.7	58.0	24.8	7.4	88.0	14.3	2.5
28.5	73.7	65.2	58.5	24.2	7.0	88.5	14.4	2.5
29.0	72.9	63.7	59.0	23.6	6.7	89.0	14.4	2.5
29.5	72.0	62.3	59.5	23.1	6.4	89.5	14.4	2.5