

## **Technical Report W238CO Minor Modification**

This technical report is submitted for a minor modification to W238CO at Charleston, SC, FCC file no. BLFT-20180129ADZ. A change in the antenna is submitted. The translator will continue to serve as a fill-in facility for WZJY(AM) 1480 kHz at Mount Pleasant, SC, FCC facility I.D. 47150.

### **W238CO Modification Analysis:**

An overlap study in exhibit E-1 shows the W238CO modification is within the WSSX-FM 236C0 and WMXZ(FM) 240C2 second-adjacent protected contours. Using the vertical elevation pattern of the Nicom BKG77-2 0.75 antenna (exhibit E-2), the +40 F(50-10) interfering contours calculated within the protected contours (exhibits E-3 and E-4) will not encompass or reach any population, major roads or buildings (exhibits E-5 and E-6). Based on this showing, a waiver of Section 74.1204 is requested, in accordance with *Living Way Ministries, Inc.* (FCC 08-242). The 60 dBu contour overlaps the licensed 60 dBu contour and is contained within the primary WZJY(AM) 2.0 mV/m daytime contour (exhibit E-7).

### **Antenna System:**

The W238CO modification is located on the existing tower, ASR 1053895, at coordinates:

**32 49 01.0N 079 50 09.6W NAD 83.**

A Nicom BKG77 two bay, nondirectional antenna will be mounted at a COR AGL of 145 meters, 149.6 meters AMSL, 147 meters HAAT (exhibit E-8) and operate at 250 watts

ERP.

**RF Exposure Calculation:**

The RF contribution was calculated using FMModel (exhibit E-9). The RF is calculated to be  $0.047 \mu\text{W}/\text{cm}^2$  at a distance of 57.8 meters from the base of the tower, which is well below 5% of the  $200 \mu\text{W}/\text{cm}^2$  maximum permissible for uncontrolled, general public exposure, allowing exclusion from consideration.

**Conclusion:**

It is concluded that the W238CO modification complies with all Commission rules and policies.



Christopher Anderson May 05, 2021  
andersce@bham.rr.com  
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## E-1 W238CO Mod. Overlap Study

REFERENCE 32 49 01.00 N. 79 50 09.60 W.		CH# 238D - 95.5 MHz, Pwr= 0.25 kW, HAAT= 147.0 M, COR= 149.6 M Average Protected F(50-50)= 15.7 km Omni-directional								DISPLAY DATES DATA 05-04-21 SEARCH 05-04-21	
CH CITY	CALL	TYPE STATE	ANT	AZI <--	DIST FILE #	LAT LNG	PWR(kW) HAAT(M)	INT(km) COR(M)	PRO(km) LICENSEE	*IN* (Overlap in km)	*OUT*
236C0 Charleston	WSSX-FM	LIC _CN SC		190.3 10.3	2.38 0000125480	32 47 45.00 79 50 26.00	100.000 303	10.1 304	72.4 Radio License Holding Cbc,	-23.6*	-71.1*(1)
238D Charleston	W238CO	LIC _CN SC		0.0 327.8	0.00 BLFT20180129ADZ	32 49 00.60 79 50 09.30	0.250	150	---Reference--- Norsan Communications And		
240C2 Isle Of Palms	WMXZ	LIC _CN SC		273.1 93.0	15.58 BLH20090617ACL	32 49 27.60 80 00 09.30	50.000 107	5.0 109	45.6 Saga South Communications,	-5.1*	-31.1*(2)
238C1 Savannah	WI XV	LIC _CN GA		239.5 58.7	164.28 BLH20030514ADV	32 03 29.70 81 20 18.40	98.000 301	171.7 308	72.3 Cumulus Licensing LLC	-23.1*	40.5
292A Ladson	WJNI	LIC _CN SC		296.5 116.3	27.91 BLH20010608AAF	32 55 42.60 80 06 12.30	6.000 100	107.5 105	42.4 Kirkman Broadcasting Inc.	9.5R	18.4M
238D Georgetown	W238BI	LIC _CN SC		37.4 217.7	86.36 BLFT20080423ADX	33 25 58.60 79 16 15.20	0.027 93	23.9 97	7.2 Radio Training Network, In	46.9	28.1
238A Wedgefield	WI BZ	LIC _CN SC		337.8 157.5	136.06 BLH20020606AAY	33 56 56.60 80 23 33.30	4.400 118	86.4 174	29.4 Community Broadcasters, LL	34.1	55.3

Terrain database is GLOBE 30 Sec , R= 73.215 qualifying spacings or FCC minimum Spacings in KM, M= Margin in KM  
In & Out distances between contours are shown at closest points. Reference zone= East Zone, Co to 3rd adjacent.  
All separation margins (if shown) include rounding.  
Ant Column: (D= DA Standard, Z= DA 73.215, N= Not DA 73.215, \_= Omni), Polarization (C,H,V,E), Beamtilt(Y,N,X)  
"\*"affixed to 'IN' or 'OUT' values = site inside restricted contour.  
« = Station meets FCC minimum distance spacing for its class.

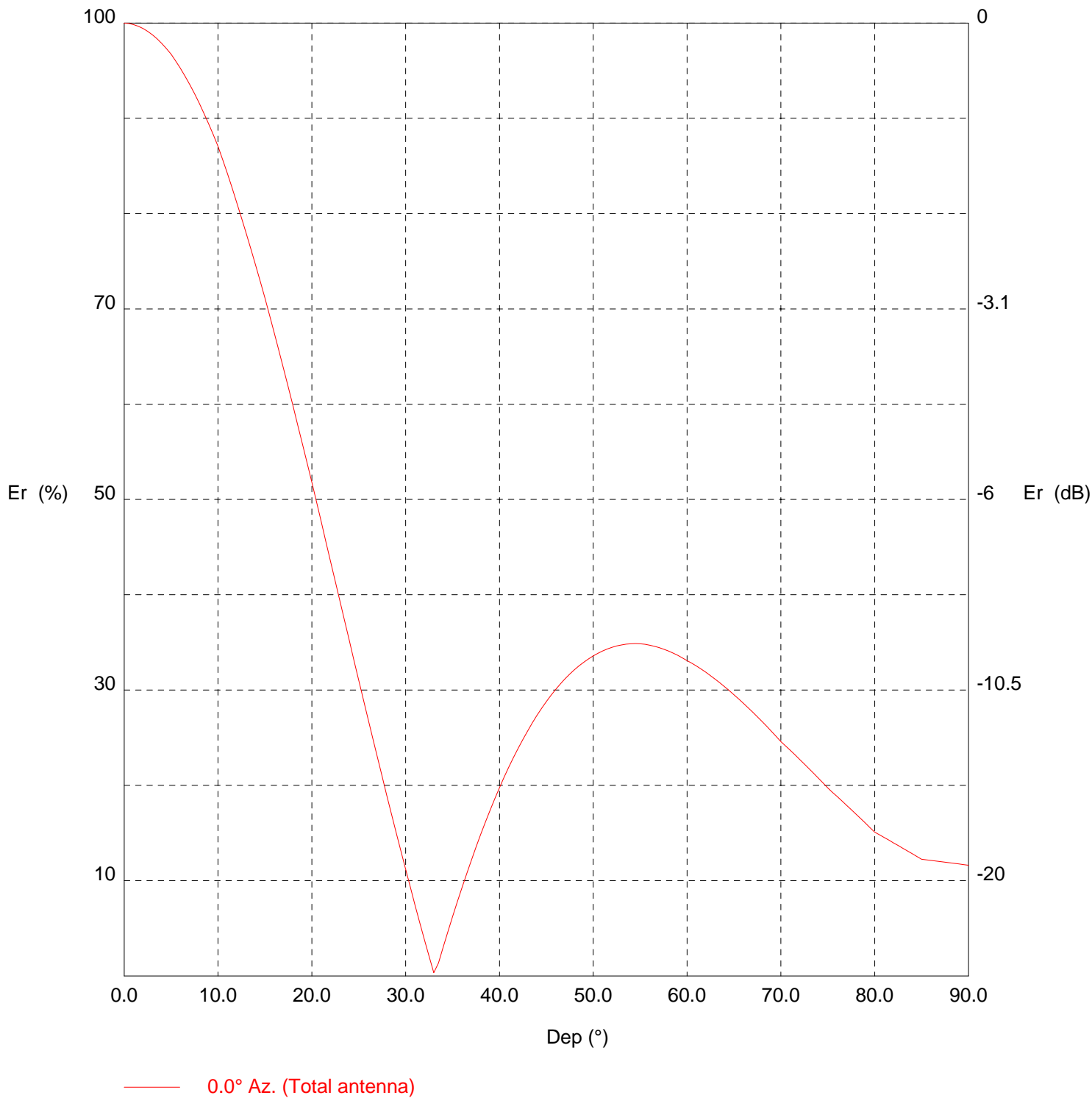
- (1) The +40 158.24 F(50-10) dBu contour within the WSSX-FM 236C0 second-adjacent protected contour (exhibit E-3) does not encompass any population, buildings or roads (exhibit E-4).
- (2) The +40 120.20 F(50-10) dBu contour within the WMXZ(FM) 240C2 second-adjacent protected contour (exhibit E-5) lowest point = 120.7 meters above the site elevation (exhibit E-6).

E-2 W238CO Mod. Antenna Vertical Elevation Pattern and Tabulation

TX station: BKG77/2 GENERIC  
Frequency: 98.10 MHz

Site name: 3/4 WAVE SEPARATION

Vertical diagram



TX station: BKG77/2 GENERIC

Site name: 3/4 WAVE SEPARATION

Frequency: 98.10 MHz

**Vertical diagram at an azimuth of 0° degrees**

Dep (°)	Er (%)	ERP (W)	Dep (°)	Er (%)	ERP (W)	Dep (°)	Er (%)	ERP (W)
0.0	100.0	914.2	30.0	11.2	11.5	60.0	33.1	100.1
0.5	100.0	913.3	30.5	9.3	7.9	60.5	32.8	98.4
1.0	99.8	911.3	31.0	7.5	5.1	61.0	32.5	96.7
1.5	99.7	908.1	31.5	5.6	2.9	61.5	32.2	94.8
2.0	99.4	903.9	32.0	3.8	1.3	62.0	31.9	92.8
2.5	99.1	898.4	32.5	2.1	0.4	62.5	31.5	90.8
3.0	98.8	891.9	33.0	0.3	0.0	63.0	31.1	88.7
3.5	98.4	884.3	33.5	1.4	0.2	63.5	30.8	86.5
4.0	97.9	875.7	34.0	3.0	0.8	64.0	30.4	84.2
4.5	97.3	865.9	34.5	4.6	2.0	64.5	29.9	81.9
5.0	96.7	855.2	35.0	6.2	3.5	65.0	29.5	79.5
5.5	96.0	842.7	35.5	7.8	5.5	65.5	29.1	77.2
6.0	95.2	829.2	36.0	9.3	7.9	66.0	28.6	74.8
6.5	94.4	814.9	36.5	10.7	10.5	66.5	28.2	72.5
7.0	93.5	799.7	37.0	12.1	13.5	67.0	27.7	70.0
7.5	92.6	783.6	37.5	13.5	16.7	67.5	27.2	67.6
8.0	91.6	766.9	38.0	14.9	20.2	68.0	26.7	65.1
8.5	90.5	749.4	38.5	16.1	23.8	68.5	26.2	62.7
9.0	89.4	731.2	39.0	17.4	27.7	69.0	25.7	60.2
9.5	88.3	712.5	39.5	18.6	31.6	69.5	25.1	57.8
10.0	87.1	693.1	40.0	19.8	35.7	70.0	24.6	55.3
10.5	85.7	670.8	40.5	20.9	39.8	70.5	24.1	53.3
11.0	84.2	648.2	41.0	21.9	43.9	71.0	23.7	51.2
11.5	82.7	625.3	41.5	22.9	48.1	71.5	23.2	49.2
12.0	81.2	602.3	42.0	23.9	52.2	72.0	22.7	47.2
12.5	79.6	579.0	42.5	24.8	56.4	72.5	22.2	45.2
13.0	78.0	555.7	43.0	25.7	60.4	73.0	21.7	43.2
13.5	76.3	532.4	43.5	26.5	64.4	73.5	21.2	41.3
14.0	74.6	509.1	44.0	27.3	68.3	74.0	20.7	39.3
14.5	72.9	485.8	44.5	28.1	72.1	74.5	20.2	37.4
15.0	71.1	462.7	45.0	28.8	75.8	75.0	19.7	35.5
15.5	69.3	439.1	45.5	29.5	79.3	75.5	19.3	33.9
16.0	67.4	415.8	46.0	30.1	82.7	76.0	18.8	32.4
16.5	65.6	392.9	46.5	30.7	85.9	76.5	18.4	30.8
17.0	63.6	370.3	47.0	31.2	88.9	77.0	17.9	29.3
17.5	61.7	348.1	47.5	31.7	91.8	77.5	17.4	27.8
18.0	59.8	326.5	48.0	32.1	94.4	78.0	17.0	26.4
18.5	57.8	305.3	48.5	32.6	96.9	78.5	16.5	24.9
19.0	55.8	284.7	49.0	32.9	99.2	79.0	16.0	23.5
19.5	53.8	264.7	49.5	33.3	101.2	79.5	15.6	22.1
20.0	51.8	245.3	50.0	33.6	103.1	80.0	15.1	20.8
20.5	49.7	226.1	50.5	33.9	104.8	80.5	14.8	20.0
21.0	47.6	207.5	51.0	34.1	106.3	81.0	14.5	19.3
21.5	45.6	189.8	51.5	34.3	107.6	81.5	14.3	18.6
22.0	43.5	172.8	52.0	34.5	108.7	82.0	14.0	17.8
22.5	41.4	156.7	52.5	34.6	109.6	82.5	13.7	17.1
23.0	39.3	141.3	53.0	34.7	110.3	83.0	13.4	16.4
23.5	37.2	126.8	53.5	34.8	110.8	83.5	13.1	15.7
24.0	35.2	113.0	54.0	34.9	111.1	84.0	12.8	15.0
24.5	33.1	100.1	54.5	34.9	111.2	84.5	12.5	14.4
25.0	31.0	88.1	55.0	34.9	111.1	85.0	12.2	13.7
25.5	29.0	76.8	55.5	34.8	110.7	85.5	12.2	13.6
26.0	26.9	66.3	56.0	34.7	110.2	86.0	12.1	13.4
26.5	24.9	56.7	56.5	34.6	109.4	86.5	12.1	13.3
27.0	22.9	47.9	57.0	34.5	108.5	87.0	12.0	13.2
27.5	20.9	39.9	57.5	34.3	107.5	87.5	11.9	13.0
28.0	18.9	32.7	58.0	34.1	106.3	88.0	11.9	12.9
28.5	17.0	26.3	58.5	33.9	104.9	88.5	11.8	12.8
29.0	15.0	20.6	59.0	33.6	103.5	89.0	11.7	12.6
29.5	13.1	15.7	59.5	33.4	101.8	89.5	11.7	12.5

E-3 W238CO Mod. +40 158.24 F(50-10) dBu Contour Tabulation Within WSSX-FM 236C0

W238CO Charleston, SC, Showing Protection to WSSX-FM, Channel: 236  
Geographic Coordinates: N. 324901.00 W. 795009.60  
74.1204(d) Study - Using GLOBE 30 SEC Terrain Database  
Translator or LPFM Maximum Licensed ERP = 0.25 kW, Channel: 238  
Translator or LPFM Antenna Height AG = 145 meters  
W238CO Antenna Model = NICOM BKG77-2-75

Protected Station's Contour = 118.2442 dBu  
Translator's or LPFM's full Interference contour 158.2442

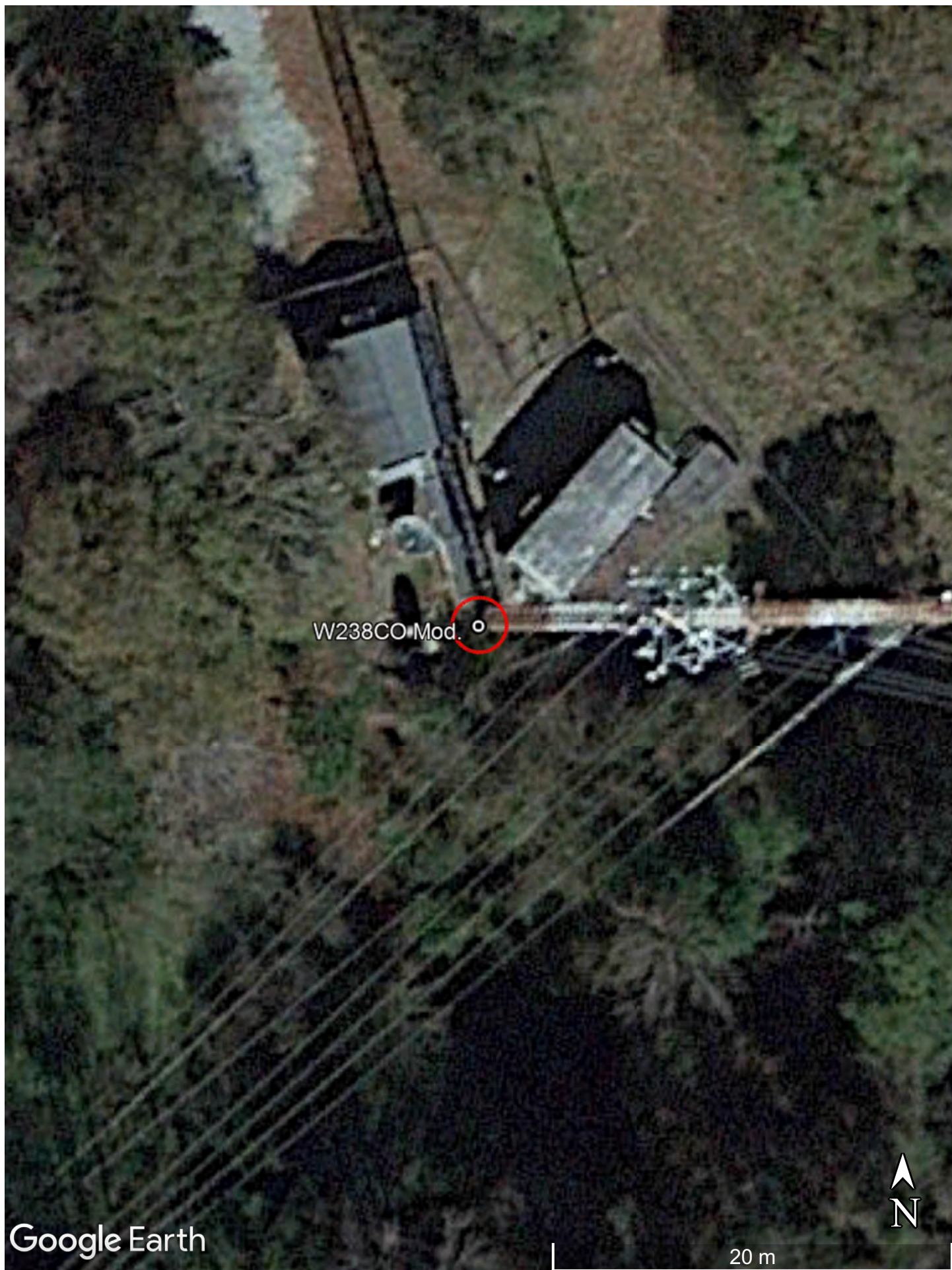
Review Azimuth = 0 Degrees True  
Horizontal Relative Field at Review Azimuth = 1.000  
Translator/LPFM ERP on the horizontal at Review Azimuth = 0.25 kW  
Distance between stations = 2.4 km  
Protected Station= WSSX-FM, 100 kW, 304.2 M meters COR AMSL

Depression Angle From Degree(Deg)	Vertical Relative Field	Horizontal Relative Field	ERP (kw)	Dist to IX Contour Along Dep. Angle(m)	Dist to IX Contour From Tower Base(m)	Height IX Above Ground (m)
00.00	1.0	1.0	0.2500	001.3576	001.3576	145.000
01.00	0.999	1.0	0.2495	001.3562	001.3560	144.976
02.00	0.996	1.0	0.2480	001.3521	001.3513	144.953
03.00	0.991	1.0	0.2455	001.3453	001.3435	144.930
04.00	0.985	1.0	0.2426	001.3372	001.3339	144.907
05.00	0.977	1.0	0.2386	001.3263	001.3213	144.884
06.00	0.966	1.0	0.2333	001.3114	001.3042	144.863
07.00	0.955	1.0	0.2280	001.2965	001.2868	144.842
08.00	0.941	1.0	0.2214	001.2775	001.2650	144.822
09.00	0.926	1.0	0.2144	001.2571	001.2416	144.803
10.00	0.91	1.0	0.2070	001.2354	001.2166	144.785
11.00	0.89	1.0	0.1980	001.2082	001.1860	144.769
12.00	0.868	1.0	0.1884	001.1784	001.1526	144.755
13.00	0.845	1.0	0.1785	001.1471	001.1177	144.742
14.00	0.821	1.0	0.1685	001.1146	001.0815	144.730
15.00	0.796	1.0	0.1584	001.0806	001.0438	144.720
16.00	0.769	1.0	0.1478	001.0440	001.0035	144.712
17.00	0.741	1.0	0.1373	001.0060	000.9620	144.706
18.00	0.713	1.0	0.1271	000.9679	000.9206	144.701
19.00	0.684	1.0	0.1170	000.9286	000.8780	144.698
20.00	0.654	1.0	0.1069	000.8878	000.8343	144.696
21.00	0.622	1.0	0.0967	000.8444	000.7883	144.697
22.00	0.591	1.0	0.0873	000.8023	000.7439	144.699
23.00	0.559	1.0	0.0781	000.7589	000.6986	144.703
24.00	0.526	1.0	0.0692	000.7141	000.6523	144.710
25.00	0.494	1.0	0.0610	000.6706	000.6078	144.717
26.00	0.462	1.0	0.0534	000.6272	000.5637	144.725
27.00	0.429	1.0	0.0460	000.5824	000.5189	144.736
28.00	0.397	1.0	0.0394	000.5390	000.4759	144.747
29.00	0.365	1.0	0.0333	000.4955	000.4334	144.760
30.00	0.333	1.0	0.0277	000.4521	000.3915	144.774
31.00	0.301	1.0	0.0227	000.4086	000.3503	144.790
32.00	0.27	1.0	0.0182	000.3665	000.3108	144.806
33.00	0.239	1.0	0.0143	000.3245	000.2721	144.823
34.00	0.209	1.0	0.0109	000.2837	000.2352	144.841
35.00	0.18	1.0	0.0081	000.2444	000.2002	144.860
36.00	0.151	1.0	0.0057	000.2050	000.1658	144.880
37.00	0.123	1.0	0.0038	000.1670	000.1334	144.900
38.00	0.096	1.0	0.0023	000.1303	000.1027	144.920
39.00	0.07	1.0	0.0012	000.0950	000.0739	144.940
40.00	0.045	1.0	0.0005	000.0611	000.0468	144.961
41.00	0.021	1.0	0.0001	000.0285	000.0215	144.981
42.00	0.001	1.0	0.0000	000.0014	000.0010	144.999
43.00	0.023	1.0	0.0001	000.0312	000.0228	144.979
44.00	0.043	1.0	0.0005	000.0584	000.0420	144.959
45.00	0.062	1.0	0.0010	000.0842	000.0595	144.940
46.00	0.08	1.0	0.0016	000.1086	000.0754	144.922
47.00	0.096	1.0	0.0023	000.1303	000.0889	144.905
48.00	0.112	1.0	0.0031	000.1520	000.1017	144.887
49.00	0.126	1.0	0.0040	000.1711	000.1122	144.871
50.00	0.139	1.0	0.0048	000.1887	000.1213	144.855
51.00	0.15	1.0	0.0056	000.2036	000.1282	144.842
52.00	0.161	1.0	0.0065	000.2186	000.1346	144.828
53.00	0.171	1.0	0.0073	000.2321	000.1397	144.815
54.00	0.179	1.0	0.0080	000.2430	000.1428	144.803
55.00	0.186	1.0	0.0086	000.2525	000.1448	144.793
56.00	0.193	1.0	0.0093	000.2620	000.1465	144.783
57.00	0.198	1.0	0.0098	000.2688	000.1464	144.775
58.00	0.202	1.0	0.0102	000.2742	000.1453	144.767
59.00	0.205	1.0	0.0105	000.2783	000.1433	144.761
60.00	0.208	1.0	0.0108	000.2824	000.1412	144.755
61.00	0.209	1.0	0.0109	000.2837	000.1376	144.752
62.00	0.21	1.0	0.0110	000.2851	000.1338	144.748
63.00	0.21	1.0	0.0110	000.2851	000.1294	144.746
64.00	0.209	1.0	0.0109	000.2837	000.1244	144.745
65.00	0.207	1.0	0.0107	000.2810	000.1188	144.745

E-3 W238CO Mod. +40 158.24 F(50-10) dBu Contour Tabulation Within WSSX-FM 236C0

Depression Angle From Degree (Deg)	Vertical Relative Field	Horizontal Relative Field	ERP (kw)	Dist to IX Contour Along Dep. Angle (m)	Dist to IX Contour From Tower Base (m)	Height IX Above Ground (m)
66.00	0.205	1.0	0.0105	000.2783	000.1132	144.746
67.00	0.202	1.0	0.0102	000.2742	000.1071	144.748
68.00	0.199	1.0	0.0099	000.2702	000.1012	144.750
69.00	0.195	1.0	0.0095	000.2647	000.0949	144.753
70.00	0.19	1.0	0.0090	000.2579	000.0882	144.758
71.00	0.186	1.0	0.0086	000.2525	000.0822	144.761
72.00	0.181	1.0	0.0082	000.2457	000.0759	144.766
73.00	0.175	1.0	0.0077	000.2376	000.0695	144.773
74.00	0.17	1.0	0.0072	000.2308	000.0636	144.778
75.00	0.164	1.0	0.0067	000.2226	000.0576	144.785
76.00	0.158	1.0	0.0062	000.2145	000.0519	144.792
77.00	0.152	1.0	0.0058	000.2063	000.0464	144.799
78.00	0.145	1.0	0.0053	000.1968	000.0409	144.807
79.00	0.139	1.0	0.0048	000.1887	000.0360	144.815
80.00	0.132	1.0	0.0044	000.1792	000.0311	144.824
81.00	0.127	1.0	0.0040	000.1724	000.0270	144.830
82.00	0.123	1.0	0.0038	000.1670	000.0232	144.835
83.00	0.118	1.0	0.0035	000.1602	000.0195	144.841
84.00	0.113	1.0	0.0032	000.1534	000.0160	144.847
85.00	0.107	1.0	0.0029	000.1453	000.0127	144.855
86.00	0.105	1.0	0.0028	000.1425	000.0099	144.858
87.00	0.103	1.0	0.0027	000.1398	000.0073	144.860
88.00	0.101	1.0	0.0026	000.1371	000.0048	144.863
89.00	0.099	1.0	0.0025	000.1344	000.0023	144.866
90.00	0.097	1.0	0.0024	000.1317	000.0000	144.868







E-5 W238CO Mod. +40 120.20 F(50-10) dBu Tabulation Within WMXZ(FM) 240C2

W238CO Charleston, SC, Showing Protection to WMXZ, Channel: 240  
Geographic Coordinates: N. 324901.00 W. 795009.60  
74.1204(d) Study - Using GLOBE 30 SEC Terrain Database  
Translator or LPFM Maximum Licensed ERP = 0.25 kW, Channel: 238  
Translator or LPFM Antenna Height AG = 145 meters  
W238CO Antenna Model = NICOM BKG77-2-75

Protected Station's Contour = 80.1953 dBu  
Translator's or LPFM's full Interference contour 120.1953

Review Azimuth = 0 Degrees True  
Horizontal Relative Field at Review Azimuth = 1.000  
Translator/LPFM ERP on the horizontal at Review Azimuth = 0.25 kW  
Distance between stations = 15.6 km  
Protected Station= WMXZ, 50 kW, 108.8 M meters COR AMSL

Depression Angle From Degree(Deg)	Vertical Relative Field	Horizontal Relative Field	ERP (kw)	Dist to IX Contour Along Dep. Angle(m)	Dist to IX Contour From Tower Base(m)	Height IX Above Ground (m) (1)
00.00	1.0	1.0	0.2500	108.4439	108.4439	145.000
01.00	0.999	1.0	0.2495	108.3354	108.3189	143.109
02.00	0.996	1.0	0.2480	108.0101	107.9443	141.231
03.00	0.991	1.0	0.2455	107.4679	107.3206	139.376
04.00	0.985	1.0	0.2426	106.8172	106.5570	137.549
05.00	0.977	1.0	0.2386	105.9497	105.5465	135.766
06.00	0.966	1.0	0.2333	104.7568	104.1829	134.050
07.00	0.955	1.0	0.2280	103.5639	102.7919	132.379
08.00	0.941	1.0	0.2214	102.0457	101.0526	130.798
09.00	0.926	1.0	0.2144	100.4190	099.1827	129.291
10.00	0.91	1.0	0.2070	098.6839	097.1847	127.864
11.00	0.89	1.0	0.1980	096.5150	094.7418	126.584
12.00	0.868	1.0	0.1884	094.1293	092.0723	125.429
13.00	0.845	1.0	0.1785	091.6351	089.2865	124.387
14.00	0.821	1.0	0.1685	089.0324	086.3878	123.461
15.00	0.796	1.0	0.1584	086.3213	083.3800	122.658
16.00	0.769	1.0	0.1478	083.3933	080.1628	122.014
17.00	0.741	1.0	0.1373	080.3569	076.8457	121.506
18.00	0.713	1.0	0.1271	077.3205	073.5361	121.107
19.00	0.684	1.0	0.1170	074.1756	070.1344	120.851
20.00	0.654	1.0	0.1069	070.9223	066.6452	120.743 (1)
21.00	0.622	1.0	0.0967	067.4521	062.9719	120.827
22.00	0.591	1.0	0.0873	064.0903	059.4235	120.991
23.00	0.559	1.0	0.0781	060.6201	055.8011	121.314
24.00	0.526	1.0	0.0692	057.0415	052.1100	121.799
25.00	0.494	1.0	0.0610	053.5713	048.5521	122.360
26.00	0.462	1.0	0.0534	050.1011	045.0305	123.037
27.00	0.429	1.0	0.0460	046.5224	041.4518	123.879
28.00	0.397	1.0	0.0394	043.0522	038.0129	124.788
29.00	0.365	1.0	0.0333	039.5820	034.6192	125.810
30.00	0.333	1.0	0.0277	036.1118	031.2737	126.944
31.00	0.301	1.0	0.0227	032.6416	027.9793	128.188
32.00	0.27	1.0	0.0182	029.2798	024.8307	129.484
33.00	0.239	1.0	0.0143	025.9181	021.7367	130.884
34.00	0.209	1.0	0.0109	022.6648	018.7899	132.326
35.00	0.18	1.0	0.0081	019.5199	015.9898	133.804
36.00	0.151	1.0	0.0057	016.3750	013.2477	135.375
37.00	0.123	1.0	0.0038	013.3386	010.6527	136.973
38.00	0.096	1.0	0.0023	010.4106	008.2037	138.591
39.00	0.07	1.0	0.0012	007.5911	005.8994	140.223
40.00	0.045	1.0	0.0005	004.8800	003.7383	141.863
41.00	0.021	1.0	0.0001	002.2773	001.7187	143.506
42.00	0.001	1.0	0.0000	000.1084	000.0806	144.927
43.00	0.023	1.0	0.0001	002.4942	001.8241	143.299
44.00	0.043	1.0	0.0005	004.6631	003.3543	141.761
45.00	0.062	1.0	0.0010	006.7235	004.7542	140.246
46.00	0.08	1.0	0.0016	008.6755	006.0265	138.759
47.00	0.096	1.0	0.0023	010.4106	007.1000	137.386
48.00	0.112	1.0	0.0031	012.1457	008.1271	135.974
49.00	0.126	1.0	0.0040	013.6639	008.9643	134.688
50.00	0.139	1.0	0.0048	015.0737	009.6892	133.453
51.00	0.15	1.0	0.0056	016.2666	010.2369	132.358
52.00	0.161	1.0	0.0065	017.4595	010.7491	131.242
53.00	0.171	1.0	0.0073	018.5439	011.1600	130.190
54.00	0.179	1.0	0.0080	019.4115	011.4098	129.296
55.00	0.186	1.0	0.0086	020.1706	011.5694	128.477
56.00	0.193	1.0	0.0093	020.9297	011.7037	127.649
57.00	0.198	1.0	0.0098	021.4719	011.6944	126.992
58.00	0.202	1.0	0.0102	021.9057	011.6082	126.423
59.00	0.205	1.0	0.0105	022.2310	011.4498	125.944
60.00	0.208	1.0	0.0108	022.5563	011.2782	125.466
61.00	0.209	1.0	0.0109	022.6648	010.9881	125.177
62.00	0.21	1.0	0.0110	022.7732	010.6914	124.892
63.00	0.21	1.0	0.0110	022.7732	010.3388	124.709
64.00	0.209	1.0	0.0109	022.6648	009.9356	124.629
65.00	0.207	1.0	0.0107	022.4479	009.4869	124.655

E-5 W238CO Mod. +40 120.20 F(50-10) dBu Contour Tabulation Within WMXZ(FM) 240C2

Depression Angle From Degree (Deg)	Vertical Relative Field	Horizontal Relative Field	ERP (kw)	Dist to IX Contour Along Dep. Angle (m)	Dist to IX Contour From Tower Base (m)	Height IX Above Ground (m)
66.00	0.205	1.0	0.0105	022.2310	009.0422	124.691
67.00	0.202	1.0	0.0102	021.9057	008.5592	124.836
68.00	0.199	1.0	0.0099	021.5803	008.0841	124.991
69.00	0.195	1.0	0.0095	021.1466	007.5782	125.258
70.00	0.19	1.0	0.0090	020.6043	007.0471	125.638
71.00	0.186	1.0	0.0086	020.1706	006.5669	125.928
72.00	0.181	1.0	0.0082	019.6283	006.0655	126.332
73.00	0.175	1.0	0.0077	018.9777	005.5485	126.852
74.00	0.17	1.0	0.0072	018.4355	005.0815	127.279
75.00	0.164	1.0	0.0067	017.7848	004.6030	127.821
76.00	0.158	1.0	0.0062	017.1341	004.1451	128.375
77.00	0.152	1.0	0.0058	016.4835	003.7080	128.939
78.00	0.145	1.0	0.0053	015.7244	003.2693	129.619
79.00	0.139	1.0	0.0048	015.0737	002.8762	130.203
80.00	0.132	1.0	0.0044	014.3146	002.4857	130.903
81.00	0.127	1.0	0.0040	013.7724	002.1545	131.397
82.00	0.123	1.0	0.0038	013.3386	001.8564	131.791
83.00	0.118	1.0	0.0035	012.7964	001.5595	132.299
84.00	0.113	1.0	0.0032	012.2542	001.2809	132.813
85.00	0.107	1.0	0.0029	011.6035	001.0113	133.441
86.00	0.105	1.0	0.0028	011.3866	000.7943	133.641
87.00	0.103	1.0	0.0027	011.1697	000.5846	133.846
88.00	0.101	1.0	0.0026	010.9528	000.3822	134.054
89.00	0.099	1.0	0.0025	010.7359	000.1874	134.266
90.00	0.097	1.0	0.0024	010.5191	000.0000	134.481

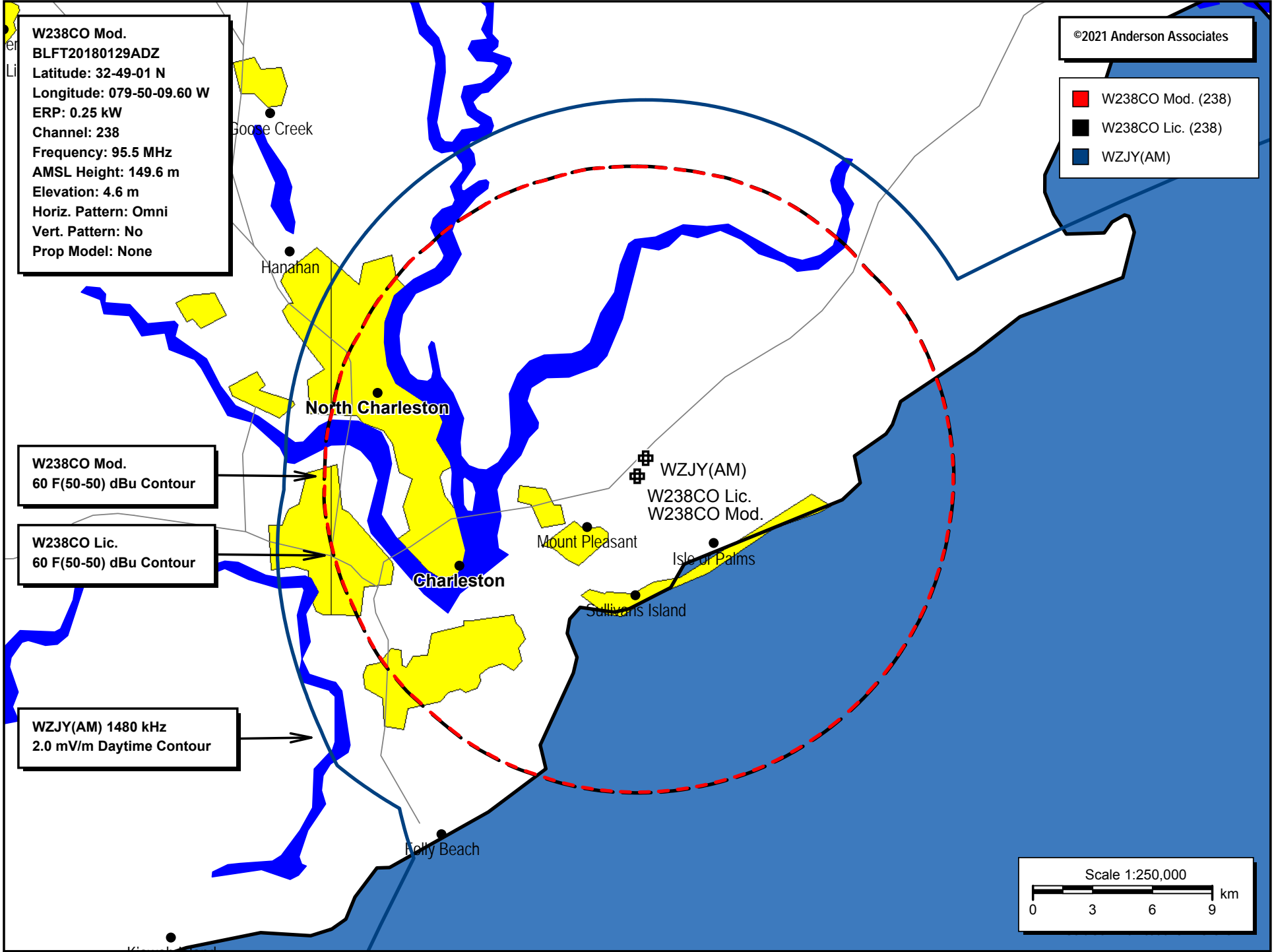
(1) The +40 120.20 F(50-10) dBu contour within the WMXZ(FM) 240C2 second-adjacent protected contour lowest point = 120.7m.







E-7 W238CO Mod. 60 dBu Contour Plot



## E-8 W238CO Mod. HAAT Calculation

### Antenna Height Above Average Terrain Calculations -- Results

#### Input Data

Latitude **32° 49' 1" North**

Longitude **79° 50' 9.6" West** (NAD 83)

Height of antenna radiation center above mean sea level: **149.6 meters AMSL**

Number of Evenly Spaced Radials = **12**      0° is referenced to True North

#### Results

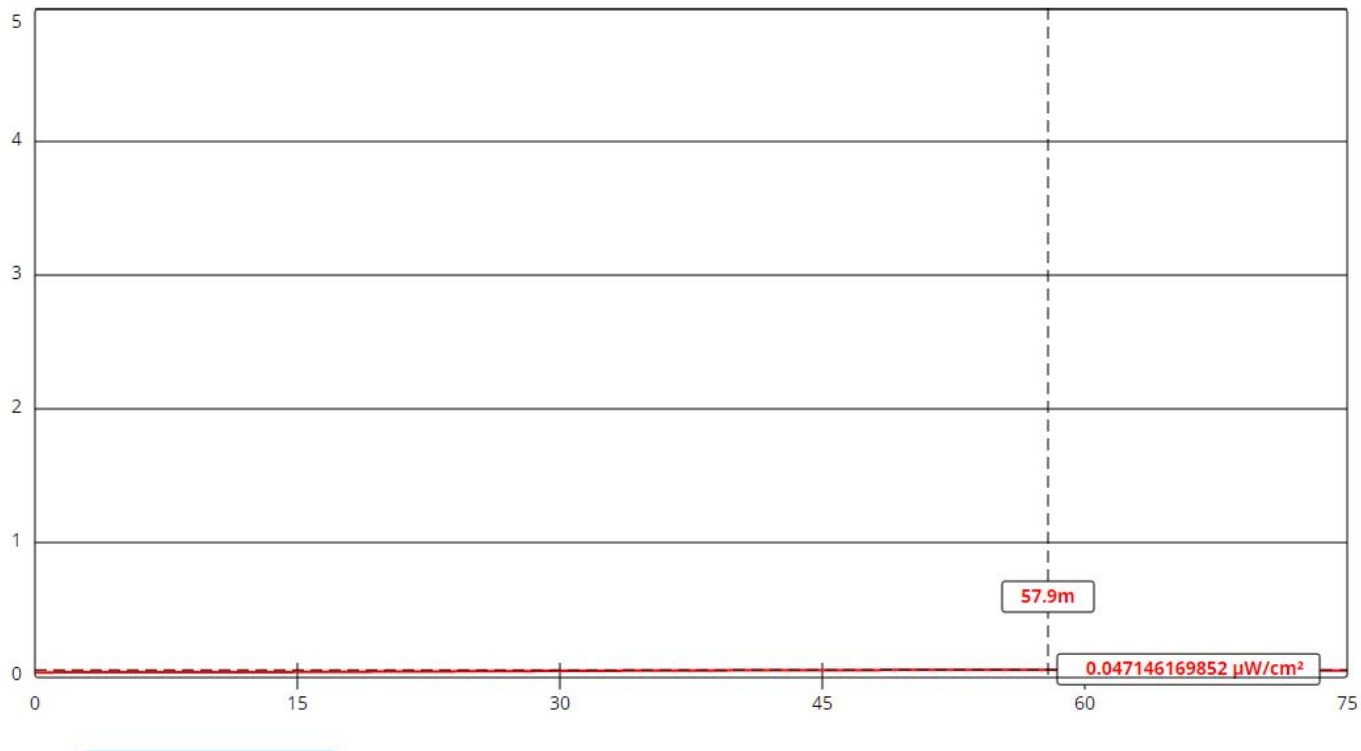
Calculated HAAT = **147 meters**

Antenna Height Above Average Terrain calculated  
using 1 km [GLOBE terrain data](#)

#### Individual "Radial HAAT" Values, in meters

0°	144.1 m
30°	145.5 m
60°	147.3 m
90°	149.1 m
120°	149.2 m
150°	149.3 m
180°	149.1 m
210°	148.5 m
240°	146.9 m
270°	146.3 m
300°	146.4 m
330°	145.1 m

E-9 W238CO Mod. RF Calculation



Channel Selection	Channel 238 (95.5 MHz) ▼		
Antenna Type +	EPA Type 2: Opposed V Dipole ▼		
Height (m)	<input type="text" value="145"/>	Distance (m)	<input type="text" value="75"/>
ERP-H (W)	<input type="text" value="250"/>	ERP-V (W)	<input type="text" value="250"/>
Num of Elements	<input type="text" value="2"/>	Element Spacing (λ)	<input type="text" value="0.75"/>
Num of Points	<input type="text" value="500"/>		

## ASR Registration 1053895

### Registration Detail

Reg Number	1053895	Status	Constructed
File Number	A1122115	Constructed	01/01/1990
EMI	No	Dismantled	
NEPA	No		

### Antenna Structure

Structure Type GTOWER - Guyed Structure Used for Communication Purposes

#### Location (in NAD83 Coordinates)

Lat/Long	32-49-01.0 N 079-50-09.6 W	Address	1209 VENNING RD / US-SC-5062
City, State	MOUNT PLEASANT , SC		
Zip	29464	County	CHARLESTON
Center of AM Array		Position of Tower in Array	

#### Heights (meters)

Elevation of Site Above Mean Sea Level	Overall Height Above Ground (AGL)
4.6	157.0
Overall Height Above Mean Sea Level	Overall Height Above Ground w/o Appurtenances
161.6	152.4

#### Painting and Lighting Specifications

FAA Chapters 4, 8, 12

Paint and Light in Accordance with FAA Circular Number 70/7460-1L

#### FAA Notification

FAA Study	2016-ASO-7405-OE	FAA Issue Date	03/21/2016
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### Owner & Contact Information

FRN	0026975334	Owner Entity Type	Limited Liability Company
Assignor FRN	0023451453	Assignor ID	L01873648

#### Owner

Vertical Bridge CC FM, LLC  
Attention To: FCC Contact  
750 Park of Commerce Dr.  
Suite 200  
Boca Raton , FL 33487

P: (561)406-4015  
F:  
E: fcc-faa@verticalbridge.com

#### Contact

Hickey , Richard  
Attention To: FCC Contact  
750 Park of Commerce Dr.  
Suite 200  
Boca Raton , FL 33487

P: (561)406-4015  
F:  
E: fcc-faa@verticalbridge.com

### Last Action Status

Status	Constructed	Received	12/19/2018
Purpose	Change Owner	Entered	12/19/2018