



Comprehensive Engineering Statement

5/17/2022

This engineering STA application requests special temporary authorization for translator W209CJ. The reason for this request is explained in a separate attachment.

Proposed New Coordinates (NAD 83):

N. Lat. 41-13-34.8

W. Long. 73-42-58.7

Proposed COR AMSL, 104 m

Elevation at the site, 95 m

Tower height above ground, 44.6 m

Antenna height C.O.R. above ground, 12 m

Antenna Type, Scala CA2-FM-CP – ERP 0.002 kW.

The applicant proposes to use input from WFUV, Facility ID 22033 on a temporary basis for this STA while internet is being wired at the translator's transmission site. A letter of agreement from WFUV to allow the use this station is included in a separate attachment.

Page #2 of this statement is a contour-to-contour study of the proposed channel. This site is within the WQWX 3rd adjacent, 60 dBu service contour, however no interference will be caused.

Pages #3 through #13 are composed of a satellite map, showing the antenna site, and graph and tables showing the translator's interference contour is well above ground level at all three protected building locations, as determined using standard U to D values. The reader will note that the proposed CA-2 FM antenna has slightly different azimuth and vertical field patterns for the horizontal and vertical components. All such configurations were analyzed to show that no interference will be caused. This exhibit shows that the Commission's rule, under section 74.1204, regarding protection to other stations and translators, has been carefully followed.

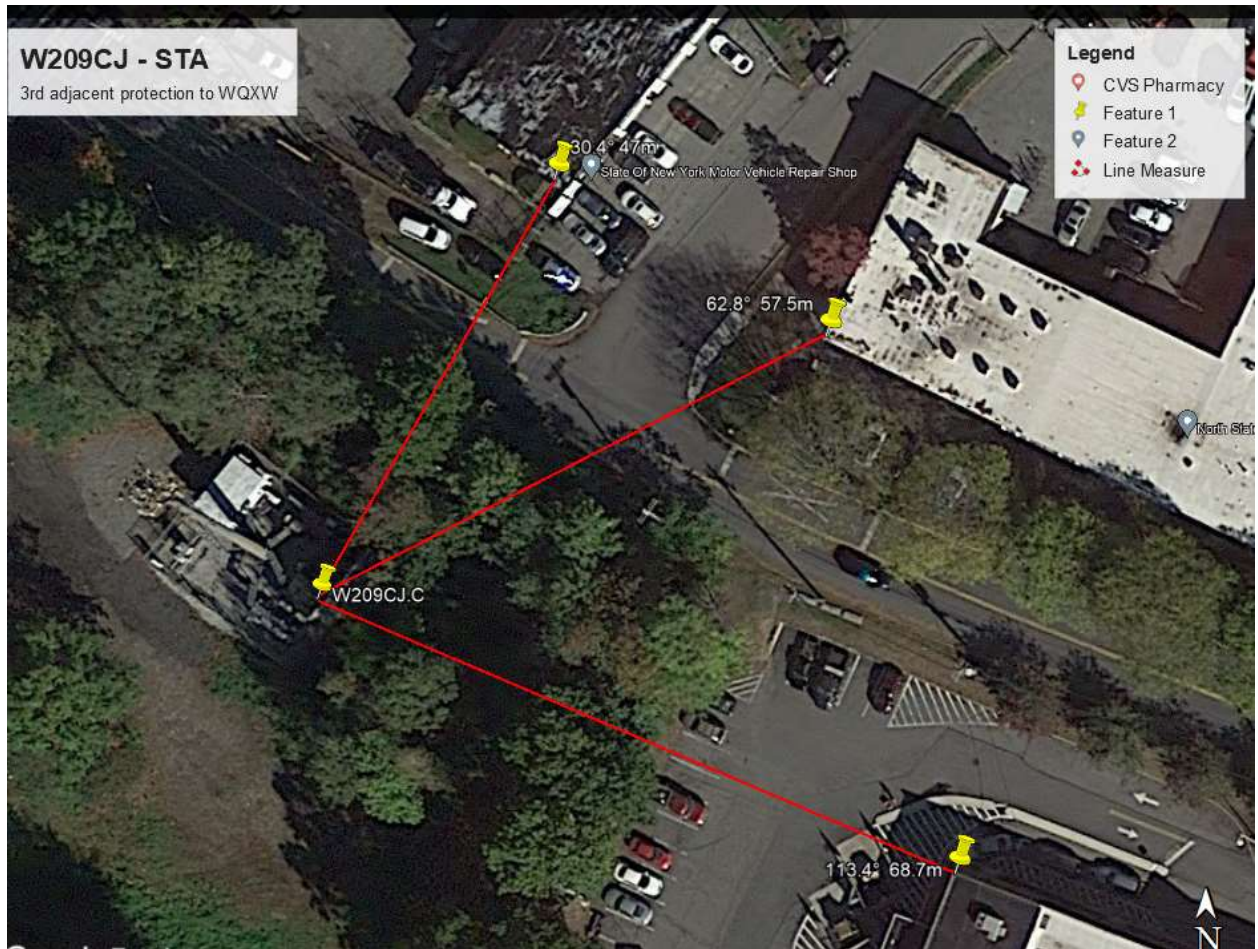
Page #14 is a coverage map showing the 60 dBu of the proposed temporary facility.

Page #15 is a statement of the qualifications of the preparer.

Doug Vernier, Telecommunication Consultants
V-Soft Communications

W209CJ STA										
Town Of Monroe, Connecticut										
REFERENCE		CH#	209D	-	89.7 MHz,	Pwr= 0.002 kW	DA,	HAAT= -27.6 M,	COR= 104 M	DISPLAY DATES
41 13 34.80 N.		Average Protected F(50-50)= 2.17 km								DATA 05-13-22
73 42 58.70 W.		Standard Directional								SEARCH 05-13-22
CH CITY	CALL	TYPE STATE	ANT	AZI	DIST FILE #	LAT LNG	PWR(kW) HAAT(M)	INT(km) COR(M)	PRO(km) LICENSEE	*OUT* (Overlap in km)
209D Mount Ki sco	W209CJ	LIC_CN NY		13.3 193.3	1.44 BMLFT20110602ACX	41 14 20.30 73 42 44.40	0.038 33	166	---Reference---	Town Of Monroe, Connecticut
209D Mount Ki sco	W209CJ	CP_CN NY		0.0 123.6	0.00 0000121669	41 13 34.90 73 42 58.90	0.008 33	128	---Reference---	Town Of Monroe, Connecticut
212A Ossining	WQXW	LIC_DCN NY		215.1 35.1	10.09 BMLED20140401ACT	41 09 07.30 73 47 08.40	0.250 145	1.1 244	15.5 New York Public Radio	-5.4*
206B New York	AL01846	ALO_NY		201.8 21.7	57.01	40 45 00.40 73 58 05.50	50.000 150	6.0 164	52.1	4.7
206B New York	U	VAC_NY		201.8 21.7	57.01	40 45 00.37 73 58 05.50	50.000 150	6.0 164	52.1 From CDBS	4.7
208B Bridgeport	WPKN	LIC_DCN CT		82.3 262.7	44.78 BMLED20060201AYV	41 16 44.30 73 11 06.40	10.000 169	49.2 253	32.0 Wpkn, Inc.	10.8
06+-- New York	WNYZ-LD	LI_D_N NY		199.8 19.6	56.56 BLTVL-20080128ACC	40 44 50.30 73 56 36.40	3.000	0.5 213	24.2	24.8R 31.8M
06 -- New York	WNYZ-LD	LI_DCY NY		199.8 19.6	56.57 0000184380	40 44 50.30 73 56 37.49	3.000	0.5 213	6.7	7.2R 49.4M
06 -- New York	WNYZ-LD	STA_DCY NY		199.8 19.6	56.57 0000184381	40 44 50.30 73 56 37.49	3.000	0.5 213	6.7	7.2R 49.4M

Terrain database is FCC NGDC 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.
Ant Column: (D= DA Standard, Z= DA 73.215, N= Not DA 73.215, _= Omni), Polarization (C,H,V,E), Beamtilt(Y,N,X)
Incoming contour overlap is ignored.
"*"affixed to 'IN' or 'OUT' values = site inside restricted contour.



W209CJ Mt Kisco, NY, Showing Protection to WQXW, Channel: 212
 Geographic Coordinates: N. 411334.8 W. 734258.7
 74.1204(d) Study - Using FCC 30 meter Terrain Database
 Translator or LPFM Maximum Licensed ERP = 0.002 kW, Channel: 209
 Translator or LPFM Antenna Height AG = 12 meters
 W209CJ Antenna Azimuth Model = CA2FMH.PAT Vertical Model Name = CA2-FM_Hpol

Protected Station's Contour = 67.91498 dBu
 Translator's or LPFM's full Interference contour 107.91498

Review Azimuth = 30.4 Degrees True
 Horizontal Relative Field at Review Azimuth = 0.260
 Translator/LPFM ERP on the horizontal at Review Azimuth = 0.0 kW
 Distance between stations = 10.1 km
 Protected Station= WQXW, .25 kW, 244 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	0.26	0.0005	020.3354	020.3354	012.000
05.00	0.99	0.26	0.0005	020.1320	020.0554	010.245
10.00	0.98	0.26	0.0005	019.9287	019.6259	008.539
15.00	0.95	0.26	0.0005	019.3186	018.6604	007.000
20.00	0.923	0.26	0.0004	018.7594	017.6281	005.584
25.00	0.883	0.26	0.0004	017.9460	016.2646	004.416
30.00	0.84	0.26	0.0004	017.0817	014.7932	003.459
35.00	0.785	0.26	0.0003	015.9633	013.0764	002.844
40.00	0.735	0.26	0.0003	014.9465	011.4497	002.393
45.00	0.673	0.26	0.0002	013.6756	009.6701	002.330
50.00	0.6	0.26	0.0002	012.2012	007.8428	002.653
55.00	0.515	0.26	0.0001	010.4727	006.0069	003.421
60.00	0.41	0.26	0.0001	008.3375	004.1688	004.780
65.00	0.305	0.26	0.0000	006.2023	002.6212	006.379
70.00	0.185	0.26	0.0000	003.7620	001.2867	008.465
75.00	0.08	0.26	0.0000	001.6268	000.4211	010.429
80.00	0.03	0.26	0.0000	000.6101	000.1059	011.399
85.00	0.02	0.26	0.0000	000.4067	000.0354	011.595
90.00	0.02	0.26	0.0000	000.4067	000.0000	011.593

W209CJ Mt Kisco, NY, Showing Protection to WQXW, Channel: 212
 Geographic Coordinates: N. 411334.8 W. 734258.7
 74.1204(d) Study - Using FCC 30 meter Terrain Database
 Translator or LPFM Maximum Licensed ERP = 0.002 kW, Channel: 209
 Translator or LPFM Antenna Height AG = 12 meters
 W209CJ Antenna Azimuth Model = CA2FMV.PAT Vertical Model Name = CA2-FM_Vpol

Protected Station's Contour = 67.91498 dBu
 Translator's or LPFM's full Interference contour 107.91498

Review Azimuth = 30.4 Degrees True
 Horizontal Relative Field at Review Azimuth = 0.260
 Translator/LPFM ERP on the horizontal at Review Azimuth = 0.0 kW
 Distance between stations = 10.1 km
 Protected Station= WQXW, .25 kW, 244 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	0.26	0.0005	020.3354	020.3354	012.000
05.00	0.99	0.26	0.0005	020.1320	020.0554	010.245
10.00	0.978	0.26	0.0005	019.8779	019.5759	008.548
15.00	0.958	0.26	0.0005	019.4711	018.8077	006.960
20.00	0.915	0.26	0.0004	018.6069	017.4848	005.636
25.00	0.865	0.26	0.0004	017.5901	015.9421	004.566
30.00	0.808	0.26	0.0003	016.4208	014.2209	003.790
35.00	0.745	0.26	0.0003	015.1499	012.4100	003.310
40.00	0.675	0.26	0.0002	013.7264	010.5150	003.177
45.00	0.595	0.26	0.0002	012.0996	008.5557	003.444
50.00	0.51	0.26	0.0001	010.3711	006.6664	004.055
55.00	0.43	0.26	0.0001	008.7442	005.0155	004.837
60.00	0.345	0.26	0.0001	007.0157	003.5079	005.924
65.00	0.265	0.26	0.0000	005.3889	002.2774	007.116
70.00	0.19	0.26	0.0000	003.8637	001.3215	008.369
75.00	0.125	0.26	0.0000	002.5419	000.6579	009.545
80.00	0.075	0.26	0.0000	001.5252	000.2648	010.498
85.00	0.055	0.26	0.0000	001.1184	000.0975	010.886
90.00	0.05	0.26	0.0000	001.0168	000.0000	010.983

W209CJ Mt Kisco, NY, Showing Protection to WQXW, Channel: 212
 Geographic Coordinates: N. 411334.8 W. 734258.7
 74.1204(d) Study - Using FCC 30 meter Terrain Database
 Translator or LPFM Maximum Licensed ERP = 0.002 kW, Channel: 209
 Translator or LPFM Antenna Height AG = 12 meters
 W209CJ Antenna Azimuth Model = CA2FMH.PAT Vertical Model Name = CA2-FM_Hpol

Protected Station's Contour = 67.91498 dBu
 Translator's or LPFM's full Interference contour 107.91498

Review Azimuth = 62.8 Degrees True
 Horizontal Relative Field at Review Azimuth = 0.205
 Translator/LPFM ERP on the horizontal at Review Azimuth = 0.0 kW
 Distance between stations = 10.1 km
 Protected Station= WQXW, .25 kW, 244 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	0.21	0.0004	018.0613	018.0613	012.000
05.00	0.99	0.21	0.0004	017.8807	017.8126	010.442
10.00	0.98	0.21	0.0004	017.7001	017.4312	008.926
15.00	0.95	0.21	0.0004	017.1582	016.5736	007.559
20.00	0.923	0.21	0.0003	016.6615	015.6567	006.301
25.00	0.883	0.21	0.0003	015.9391	014.4457	005.264
30.00	0.84	0.21	0.0003	015.1715	013.1389	004.414
35.00	0.785	0.21	0.0003	014.1781	011.6140	003.868
40.00	0.735	0.21	0.0002	013.2751	010.1693	003.467
45.00	0.673	0.21	0.0002	012.1462	008.5887	003.411
50.00	0.6	0.21	0.0001	010.8368	006.9657	003.699
55.00	0.515	0.21	0.0001	009.3016	005.3352	004.381
60.00	0.41	0.21	0.0001	007.4051	003.7026	005.587
65.00	0.305	0.21	0.0000	005.5087	002.3281	007.007
70.00	0.185	0.21	0.0000	003.3413	001.1428	008.860
75.00	0.08	0.21	0.0000	001.4449	000.3740	010.604
80.00	0.03	0.21	0.0000	000.5418	000.0941	011.466
85.00	0.02	0.21	0.0000	000.3612	000.0315	011.640
90.00	0.02	0.21	0.0000	000.3612	000.0000	011.639

W209CJ Mt Kisco, NY, Showing Protection to WQXW, Channel: 212
 Geographic Coordinates: N. 411334.8 W. 734258.7
 74.1204(d) Study - Using FCC 30 meter Terrain Database
 Translator or LPFM Maximum Licensed ERP = 0.002 kW, Channel: 209
 Translator or LPFM Antenna Height AG = 12 meters
 W209CJ Antenna Azimuth Model = CA2FMV.PAT Vertical Model Name = CA2-FM_Vpol

Protected Station's Contour = 67.91498 dBu
 Translator's or LPFM's full Interference contour 107.91498

Review Azimuth = 62.8 Degrees True
 Horizontal Relative Field at Review Azimuth = 0.174
 Translator/LPFM ERP on the horizontal at Review Azimuth = 0.0 kW
 Distance between stations = 10.1 km
 Protected Station= WQXW, .25 kW, 244 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	0.17	0.0003	016.6357	016.6357	012.000
05.00	0.99	0.17	0.0003	016.4693	016.4067	010.565
10.00	0.978	0.17	0.0003	016.2614	016.0143	009.176
15.00	0.958	0.17	0.0003	015.9287	015.3859	007.877
20.00	0.915	0.17	0.0003	015.2216	014.3037	006.794
25.00	0.865	0.17	0.0003	014.3899	013.0416	005.919
30.00	0.808	0.17	0.0002	013.4333	011.6336	005.283
35.00	0.745	0.17	0.0002	012.3936	010.1522	004.891
40.00	0.675	0.17	0.0002	011.2291	008.6020	004.782
45.00	0.595	0.17	0.0001	009.8982	006.9991	005.001
50.00	0.51	0.17	0.0001	008.4842	005.4535	005.501
55.00	0.43	0.17	0.0001	007.1533	004.1030	006.140
60.00	0.345	0.17	0.0000	005.7393	002.8697	007.030
65.00	0.265	0.17	0.0000	004.4085	001.8631	008.005
70.00	0.19	0.17	0.0000	003.1608	001.0811	009.030
75.00	0.125	0.17	0.0000	002.0795	000.5382	009.991
80.00	0.075	0.17	0.0000	001.2477	000.2167	010.771
85.00	0.055	0.17	0.0000	000.9150	000.0797	011.089
90.00	0.05	0.17	0.0000	000.8318	000.0000	011.168

W209CJ Mt Kisco, NY, Showing Protection to WQXW, Channel: 212
 Geographic Coordinates: N. 411334.8 W. 734258.7
 74.1204(d) Study - Using FCC 30 meter Terrain Database
 Translator or LPFM Maximum Licensed ERP = 0.002 kW, Channel: 209
 Translator or LPFM Antenna Height AG = 12 meters
 W209CJ Antenna Azimuth Model = CA2-FM H.PAT Vertical Model Name = CA2-FM_Hpo1

Protected Station's Contour = 67.91498 dBu
 Translator's or LPFM's full Interference contour 107.91498

Review Azimuth = 113.4 Degrees True
 Horizontal Relative Field at Review Azimuth = 0.054
 Translator/LPFM ERP on the horizontal at Review Azimuth = 0.0 kW
 Distance between stations = 10.1 km
 Protected Station= WQXW, .25 kW, 244 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	0.05	0.0001	009.2245	009.2245	012.000
05.00	0.99	0.05	0.0001	009.1323	009.0975	011.204
10.00	0.98	0.05	0.0001	009.0400	008.9027	010.430
15.00	0.95	0.05	0.0001	008.7633	008.4647	009.732
20.00	0.923	0.05	0.0001	008.5096	007.9964	009.090
25.00	0.883	0.05	0.0001	008.1406	007.3779	008.560
30.00	0.84	0.05	0.0001	007.7486	006.7105	008.126
35.00	0.785	0.05	0.0001	007.2412	005.9317	007.847
40.00	0.735	0.05	0.0001	006.7800	005.1938	007.642
45.00	0.673	0.05	0.0000	006.2035	004.3865	007.613
50.00	0.6	0.05	0.0000	005.5347	003.5576	007.760
55.00	0.515	0.05	0.0000	004.7506	002.7248	008.109
60.00	0.41	0.05	0.0000	003.7820	001.8910	008.725
65.00	0.305	0.05	0.0000	002.8135	001.1890	009.450
70.00	0.185	0.05	0.0000	001.7065	000.5837	010.396
75.00	0.08	0.05	0.0000	000.7380	000.1910	011.287
80.00	0.03	0.05	0.0000	000.2767	000.0481	011.727
85.00	0.02	0.05	0.0000	000.1845	000.0161	011.816
90.00	0.02	0.05	0.0000	000.1845	000.0000	011.816

W209CJ Mt Kisco, NY, Showing Protection to WQXW, Channel: 212
 Geographic Coordinates: N. 411334.8 W. 734258.7
 74.1204(d) Study - Using FCC 30 meter Terrain Database
 Translator or LPFM Maximum Licensed ERP = 0.002 kW, Channel: 209
 Translator or LPFM Antenna Height AG = 12 meters
 W209CJ Antenna Azimuth Model = CA2FMV.PAT Vertical Model Name = CA2-FM_Vpol

Protected Station's Contour = 67.91498 dBu
 Translator's or LPFM's full Interference contour 107.91498

Review Azimuth = 113.4 Degrees True
 Horizontal Relative Field at Review Azimuth = 0.020
 Translator/LPFM ERP on the horizontal at Review Azimuth = 0.0 kW
 Distance between stations = 10.1 km
 Protected Station= WQXW, .25 kW, 244 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	0.02	0.0000	005.6400	005.6400	012.000
05.00	0.99	0.02	0.0000	005.5836	005.5624	011.513
10.00	0.978	0.02	0.0000	005.5131	005.4294	011.043
15.00	0.958	0.02	0.0000	005.4003	005.2163	010.602
20.00	0.915	0.02	0.0000	005.1606	004.8494	010.235
25.00	0.865	0.02	0.0000	004.8786	004.4215	009.938
30.00	0.808	0.02	0.0000	004.5543	003.9442	009.723
35.00	0.745	0.02	0.0000	004.2018	003.4419	009.590
40.00	0.675	0.02	0.0000	003.8070	002.9163	009.553
45.00	0.595	0.02	0.0000	003.3558	002.3729	009.627
50.00	0.51	0.02	0.0000	002.8764	001.8489	009.797
55.00	0.43	0.02	0.0000	002.4252	001.3910	010.013
60.00	0.345	0.02	0.0000	001.9458	000.9729	010.315
65.00	0.265	0.02	0.0000	001.4946	000.6316	010.645
70.00	0.19	0.02	0.0000	001.0716	000.3665	010.993
75.00	0.125	0.02	0.0000	000.7050	000.1825	011.319
80.00	0.075	0.02	0.0000	000.4230	000.0735	011.583
85.00	0.055	0.02	0.0000	000.3102	000.0270	011.691
90.00	0.05	0.02	0.0000	000.2820	000.0000	011.718

05-17-2022

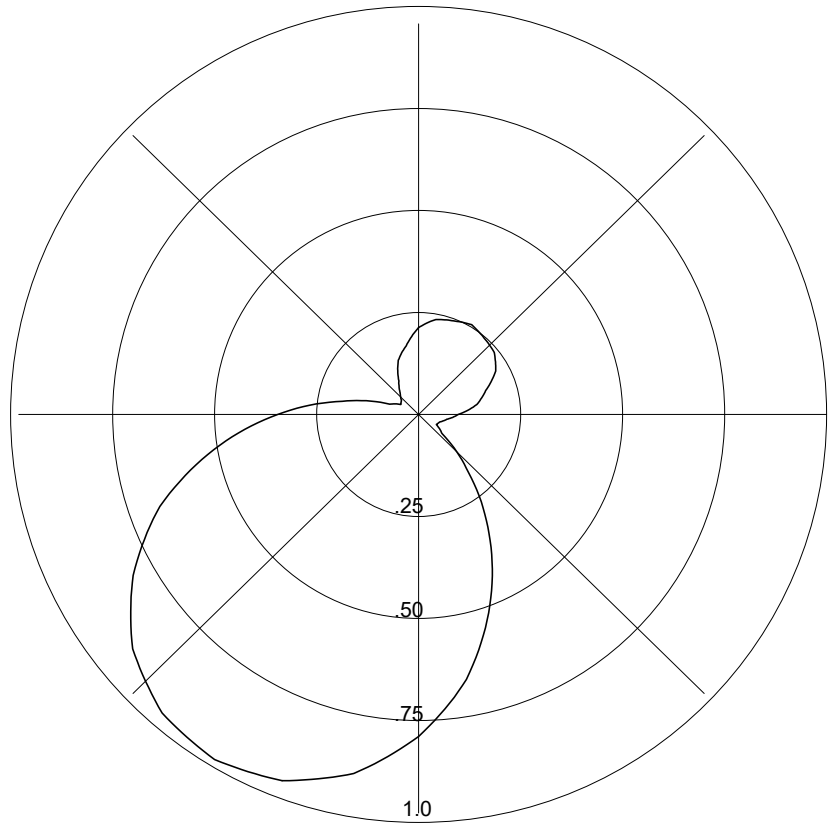
XField ©

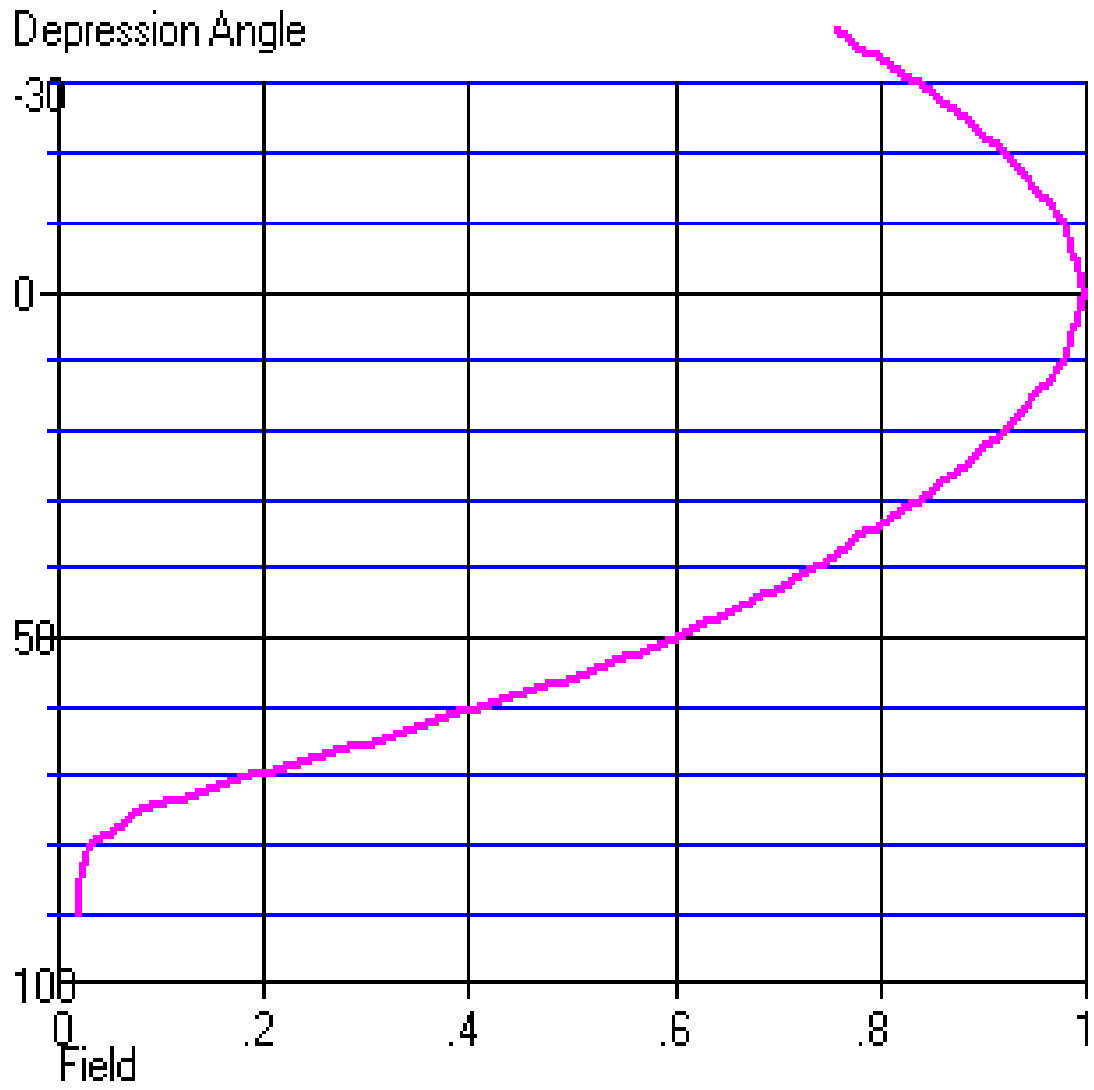
CA2-FM Horz. Azimuth

Rotated 210 Deg.

Bearing	Field Value
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000	0.218
010	0.242
020	0.250
030	0.260
040	0.250
050	0.242
060	0.218
070	0.175
080	0.145
090	0.097
100	0.070
110	0.055
120	0.050
130	0.075
140	0.190
150	0.345
160	0.510
170	0.675
180	0.808
190	0.915
200	0.978
210	1.000
220	0.978
230	0.915
240	0.808
250	0.675
260	0.510
270	0.345
280	0.190
290	0.075
300	0.050
310	0.055
320	0.070
330	0.097
340	0.145
350	0.175

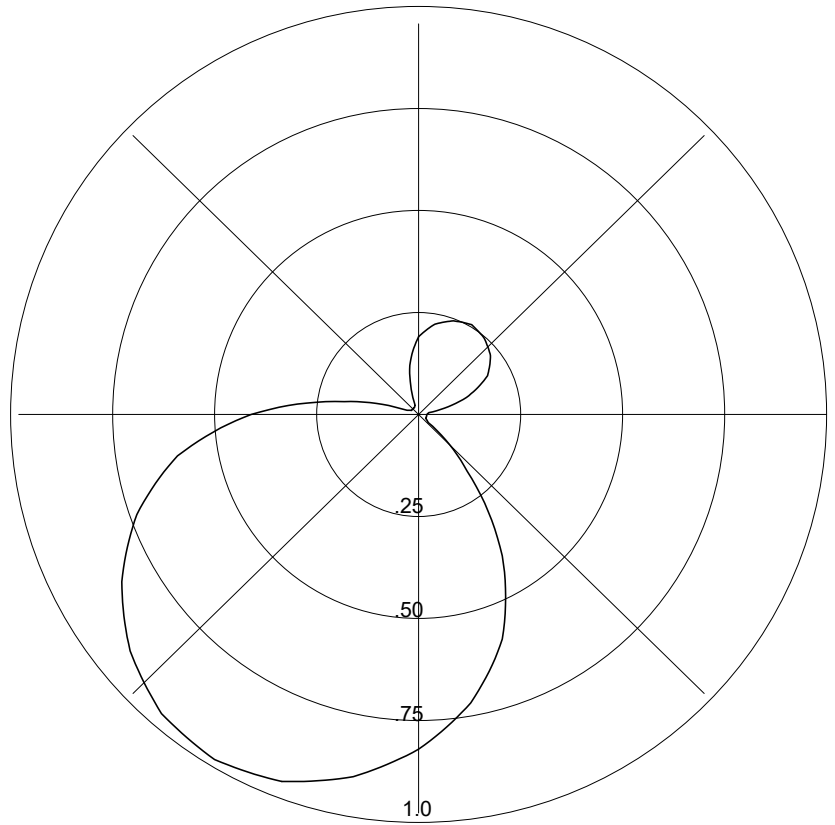




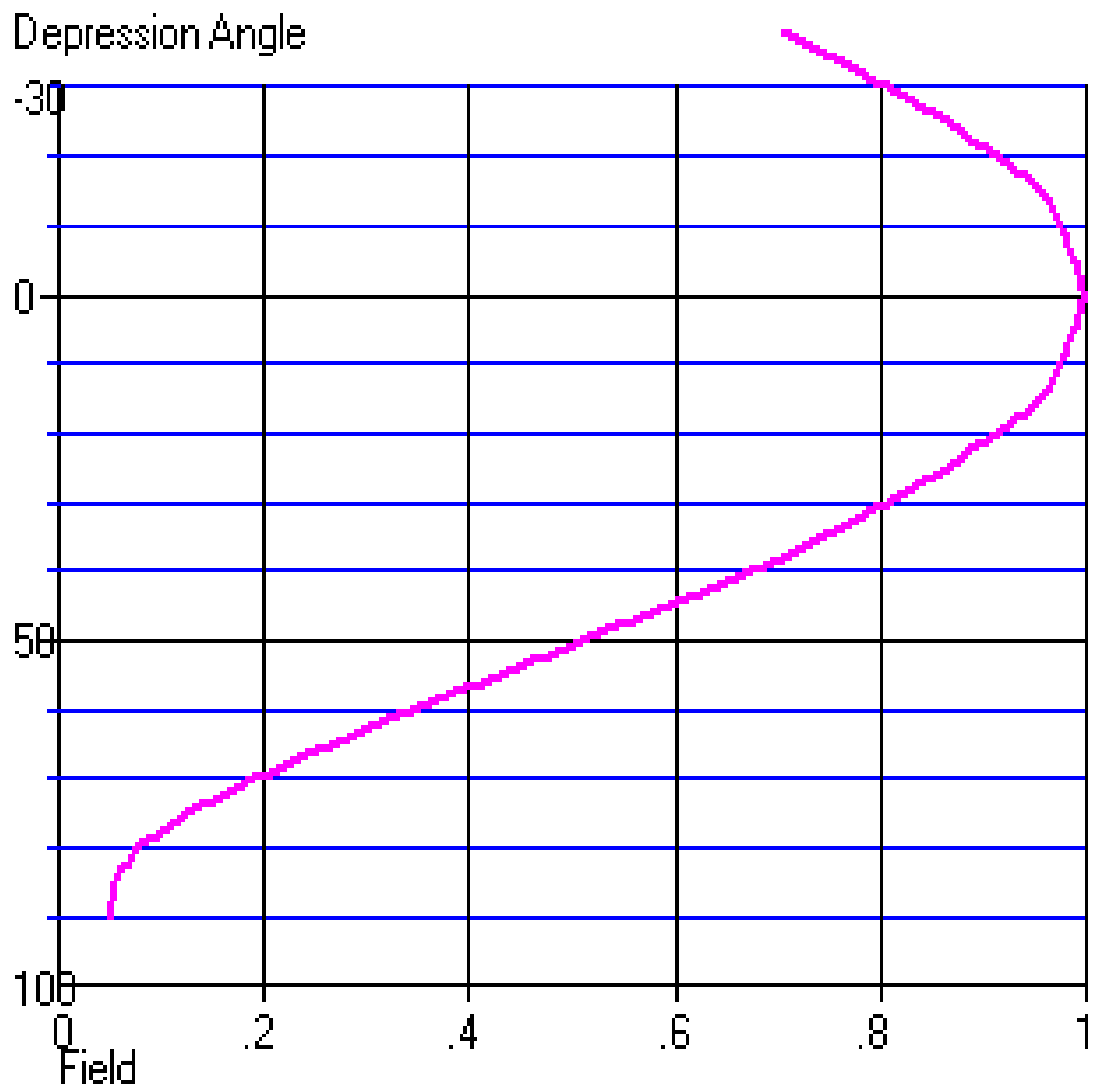
05-17-2022
XField ©

Bearing	Field Value
000	0.195
010	0.230
020	0.250
030	0.260
040	0.250
050	0.230
060	0.195
070	0.125
080	0.025
090	0.020
100	0.020
110	0.020
120	0.020
130	0.030
140	0.185
150	0.410
160	0.600
170	0.735
180	0.840
190	0.923
200	0.980
210	1.000
220	0.980
230	0.923
240	0.840
250	0.735
260	0.600
270	0.410
280	0.185
290	0.030
300	0.020
310	0.020
320	0.020
330	0.020
340	0.025
350	0.125

CA2-FM Vertical Azimuth



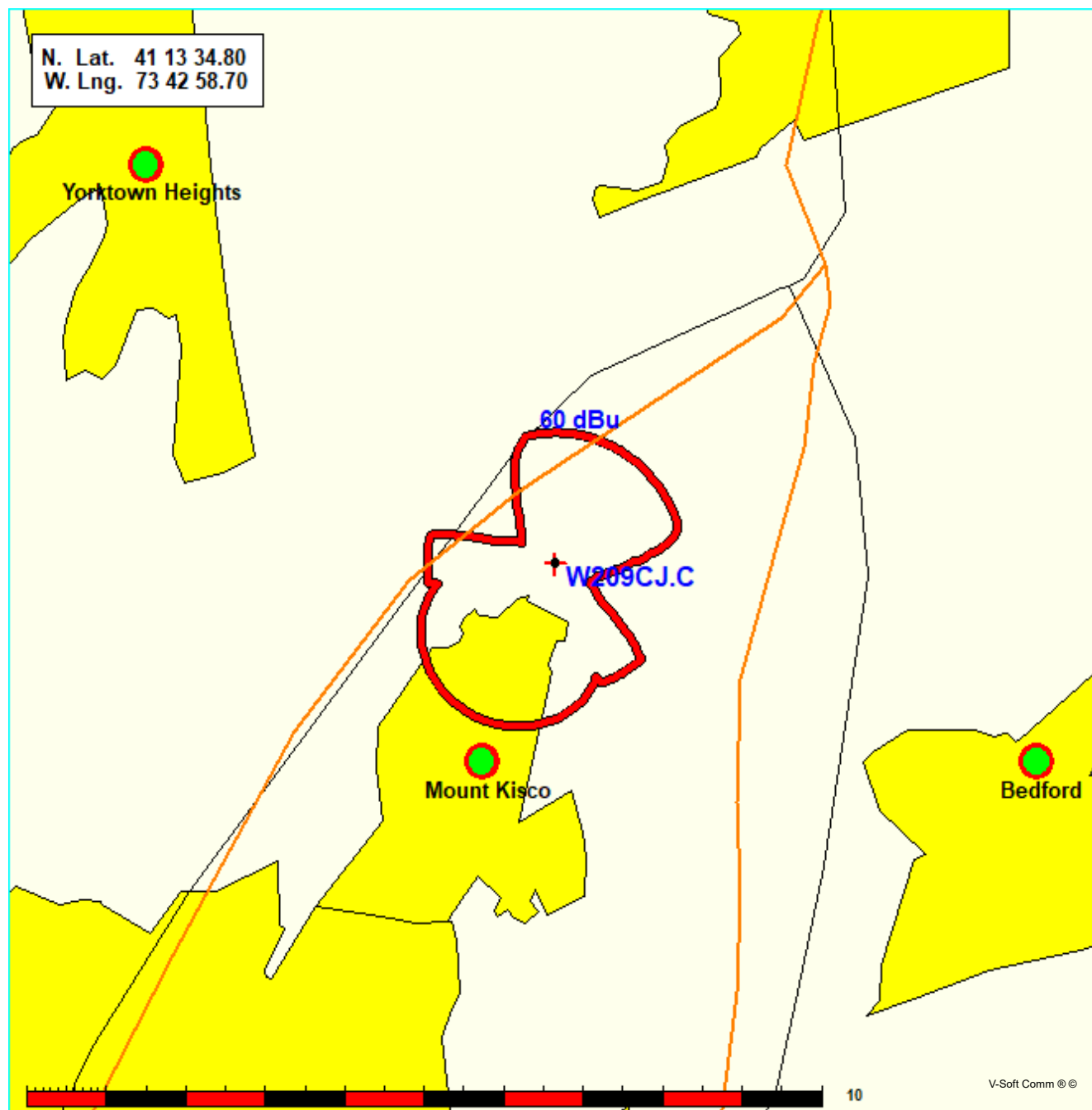
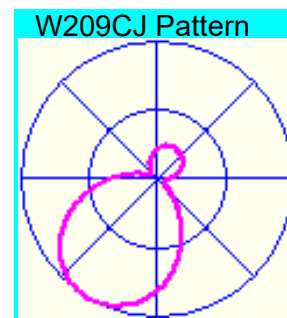
CA2-FM Vertical Field



W209CJ STA 60 dBu Coverage
Town Of Monroe, Connecticut

Coverage Study - FCC NGDC 30 Sec
05-17-2022

W209CJ CH209 D , 0.002 kW, -27.6m HAAT, 104.0m COR AMSL
Service Contour = 60 dBu.



**Declaration and
Statement of Qualifications**

I, Douglas L. Vernier, declare that I have received training as an engineer from the University of Michigan School of Engineering. That, I have received degrees from the University in the field of Broadcast Telecommunications. That, I have been active in broadcast consulting for over 40 years;

That, I have held a Federal Communications Commission First Class Radiotelephone License continually since 1964. In 1985, this license was reissued by the Commission as a lifetime General Radiotelephone license no. PG-16-16464;

That, I am certified as a Professional Broadcast Engineer (#50258) by the Society of Broadcast Engineers, Indianapolis, Indiana. (Life-time Certification received in 2010);

That, my qualifications are a matter of record with the Federal Communications Commission;

That, I have been retained by the City of Monroe to prepare the engineering showing appended hereto;

That, I have prepared this broadcast engineering showing, the technical information contained in same and the facts stated within are true of my knowledge;

That, under penalty of perjury, I declare that the foregoing is correct.

Douglas L. Vernier

A handwritten signature in blue ink, appearing to read "Doug Vernier", with a large, stylized initial "D" and a horizontal line extending to the right.

Executed on May 17, 2022