Goldman Engineering Management
Auburn, CA

AMENDMENT TO LICENSE MODIFICATION APPLICATION
W256CL, FOREST PARK, IL

JUNE, 2022

TECHNICAL STATEMENT

This technical statement and attached exhibits have been prepared on behalf of Ohana Del Sol, LLC. Licensee of translator station W256CL, Facility identifier 152811. The applicant proposes to modify W256CL to relocate to Chicago, IL, adjust its AGL height and directional pattern. W256CL is also requesting permission to operate as a fill-in translator for FM station WTMX, Facility ID 6377 with a directional antenna in compliance with 47CFR 74.1203. The translator Community of License will change to Chicago, IL.

Facilities Proposed

Location (NAD27)	41° 52' 44.1" N Latitude, 87° 38' 09.1" W Longitude
Channel	256D (99.1MHz)
Tower Overall AGL Height-	525m
Tower ASR	NONE (building top, 442m AGL)
Proposed Antenna	PSI FMP-1 (DA)
Antenna AGL Height-	448m
Site AMSL Height-	181m
ERP	250w DIRECTIONAL (SEE EXHIBIT A)

560 Perkins Way, Auburn CA 95603
(214) 395-5067

Interference Study

ComStudy 2.2 search of channel 256 (99.1 MHz Class D) at 41-52-44.1 N, 87-38-09.1 W.

CALL	CITY	ST	CHN	CL	DIST	SEP	BRNG	CLEARANCE
WFMT	CHICAGO	IL	254	B	0.02	0.00	90.0	-80.44 dB-collocated
WUSN	CHICAGO	IL	258	B	2.46	0.00	25.4	-67.59 dB Exhibit C1
WMYX-FM	MILWAUKEE	WI	256	B	123.54	0.00	343.7	0.96 dB Exhibit C
WHPK	CHICAGO	IL	203	A	10.89	10.00	164.3	0.9 IF OK
WZQC-LP	CICERO	IL	256	LP100	11.51	24.00	242.8	1.32 dB Exhibit C
WSMK	BUCHANAN	MI	256	A	112.43	0.00	92.7	1.08 dB Exhibit C
W256DC	DEERFIELD	IL	256	D	35.52	0.00	324.6	1.47 dB Exhibit C
WZRD	CHICAGO	IL	202	A	13.38	10.00	329.2	3.4 Exhibit C
WMYX-FM	MILWAUKEE	WI	256	B	125.81	0.00	343.6	3.65 dB
W256CA	JOLIET	IL	256	D	50.19	0.00	221.5	5.36 dB
W256DU	CLOVERDALE	IL	256	D	38.94	0.00	279.3	6.45 dB
WYXY	SAVOY	IL	256	B	192.56	0.00	183.5	7.21 dB
WXAV	CHICAGO	IL	202	A	19.82	10.00	199.4	9.8
WYXY	SAVOY	IL	256	B	192.56	0.00	183.5	11.07 dB
WKVI-FM	KNOX	IN	257	A	105.85	0.00	125.5	14.11 dB
WHSD	HINSDALE	IL	203	A	26.73	10.00	247.9	16.7
WMYX-FM	MILWAUKEE	WI	256	B	130.91	0.00	349.8	18.01 dB
WGBK	GLENVIEW	IL	203	A	30.47	10.00	327.9	20.5
W255BN	DEKALB	IL	255	D	140.83	0.00	242.9	21.47 dB
WDGC-FM	DOWNERS GROVE	IL	202	A	32.34	10.00	255.3	22.3
W255BH	BREMEN	IN	255	D	121.67	0.00	114.6	23.57 dB
WFMK	EAST LANSING	MI	256	B	273.41	0.00	70.0	24.19 dB
W256DM	WHITEHALL	MI	256	D	185.57	0.00	37.7	24.52 dB
WJEZ	DWIGHT	IL	255	A	115.13	0.00	215.7	27.12 dB

(LMS Data as of 6/4/2022)

COMPLIANCE, 74.1201(g), 74.1203(d), 74.1233(a)(1), and 74.1204(d)

As demonstrated in Exhibit B, this application is compliant with FCC rule 74.1233(a)(1) requiring any minor change of a translator's facilities to continue to provide 1mV/m service to some portion of its previously authorized service area.

Exhibit D demonstrates compliance with 74.1201(g) governing the use of a translator as a fill-in for an FM station. The 60dBu contour of the proposed W236CF will be completely contained within the 54dBu contour of WTMX (FM).

Because the proposed W256CL will be co-located with WFMT, there will be no location where the signal of W256CL will be in excess of 40dBu above the WFMT 2nd adjacent signal. Exhibit C1 demonstrates that, similar to WFMT, there will be no locations where the proposed translator will exceed the WUSN signal by 40dB.

Exhibit C demonstrates compliance with 74.1204(a). There will be no impermissible contour overlaps to any other facilities following W256CL's relocation.

Environmental Exhibit

The proposed W256CL facility as proposed will utilize a directional antenna located on the roof of the Willis Tower office building. The engineer for Willis Tower has advised the licensee that because the proposed antenna will not be on the main antenna pylons, that the ASR is not relevant. Therefore, the ASR reference has been deleted from this application. The RF density near the tower was calculated using an EPA type 2 antenna setting at 250 watts horizontal and vertical. The antenna will be 6.1 meters above the roof of the building.

Using the FCC program "FM Model for Windows", it was calculated that the proposed antenna contributes approximately 273 µW/cm² or 137% of the total allowable 200 µW/cm² limit for public exposure. The proposed RF level at roof level is compliant with occupational exposure limits. The maximum was found to be 4.2 meters from the base of the tower. The FM Model output is shown in Exhibit E.

Because the proposed antenna is located on a roof with numerous high-power television and radio transmitters, the entire roof area of the Willis Building is off-limits and locked to

public access. There is a tenant policy that requires stations on the roof to reduce power when

any personnel are on the roof. It is expected that the proposed translator will reduce power to 99

watts whenever any personnel are in the vicinity of the W256CL antenna.

Respectfully Submitted

Bert Goldman
Goldman Engineering Mgmt.
560 Perkins Way
Auburn, CA 95603
(214) 395-5067
bert@bgoldman.net

EXHIBIT A- DIRECTIONAL PATTERN

PROP W256CL PATTERN

Pre-Rotation Antenna Pattern....

Azimuth (deg)	Relative Field
0.0	0.211
10.0	0.283
20.0	0.397
30.0	0.66
40.0	1.0
50.0	1.0
60.0	1.0
70.0	1.0
80.0	1.0
90.0	0.908
100.0	1.0
110.0	1.0
120.0	1.0
130.0	1.0
140.0	1.0
150.0	1.0
160.0	1.0
170.0	1.0
180.0	1.0
190.0	0.899
200.0	0.8
210.0	0.008
220.0	0.006
230.0	0.005
240.0	0.005
250.0	0.005
260.0	0.006
270.0	0.007
280.0	0.01
290.0	0.05
300.0	0.053
310.0	0.062
320.0	0.072
330.0	0.085
340.0	0.114
350.0	0.181

Rotation Angle = 0
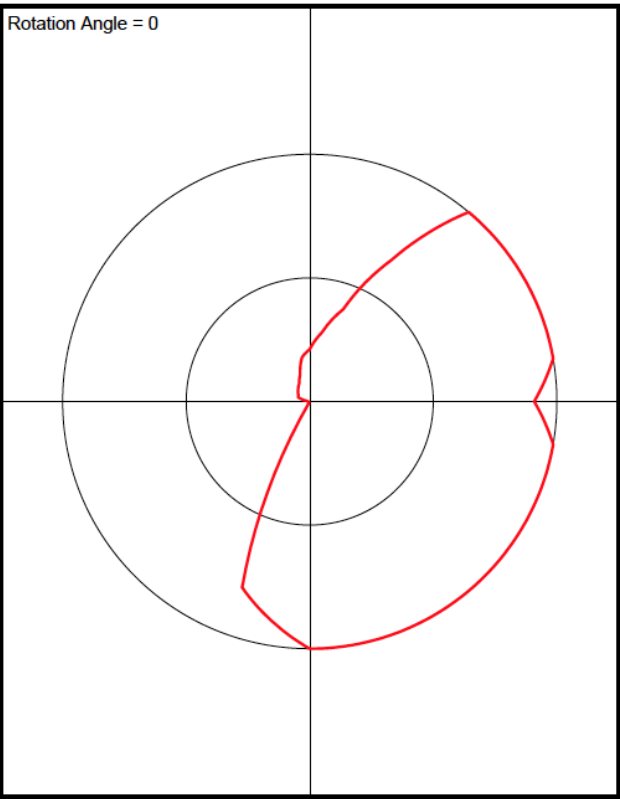
W256CL LIC Vs. PROP 60dBu Contours 74.1233(a)(1) Compliance

W256CL

W256CL

Scale 1:250,000

km

0   4   8   12
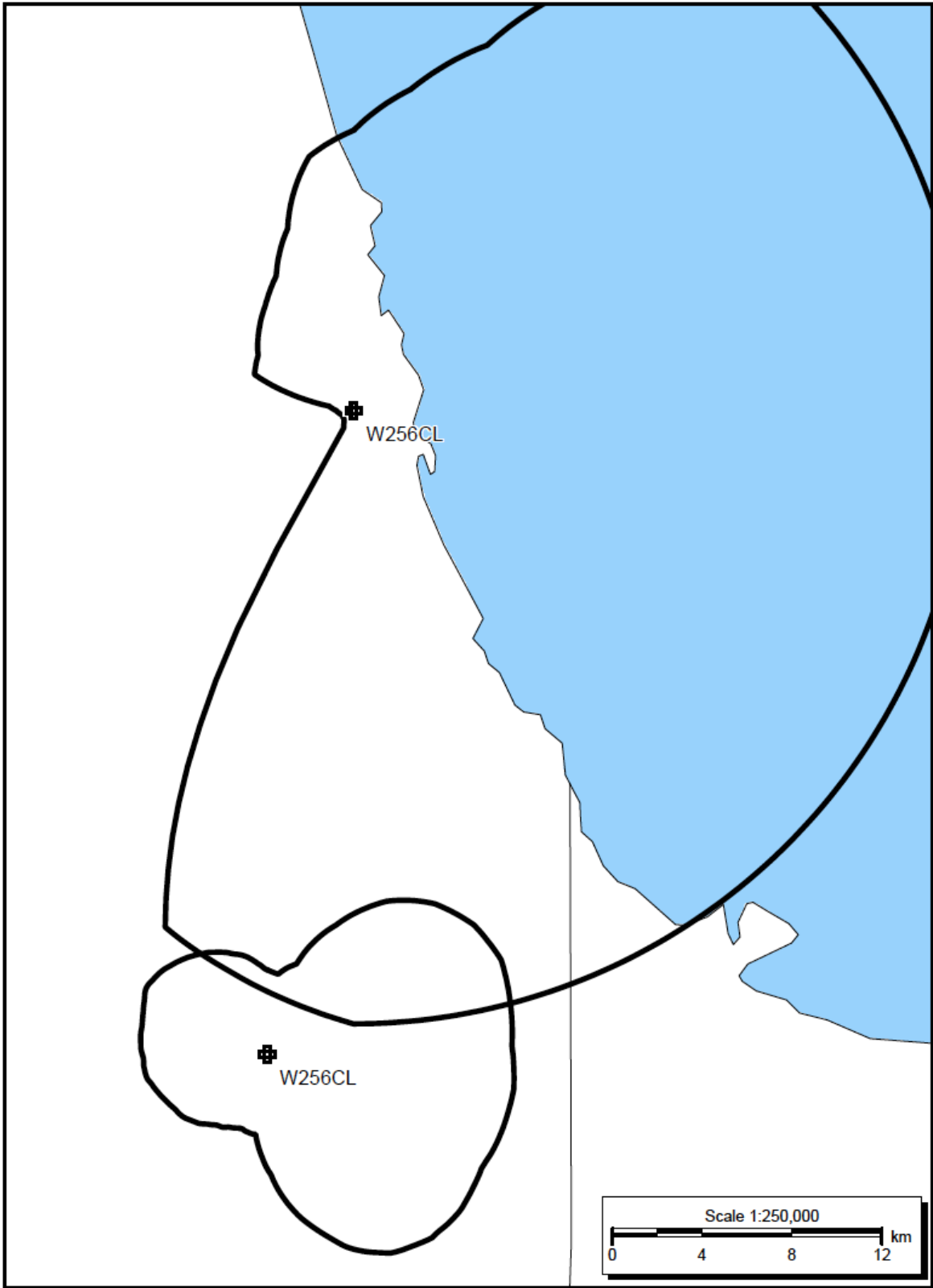
EXHIBIT C- 74.1204(d) Compliance

W256CL LIC Vs. PROP 60dBu Contour Protection Compliance

WMYX 256B
54dBu f50,50

PROP 256D
34dBu f50,10

WSMK 256A
60dBu f50,50

W256DC

W256DC
60dBu f50,50

W256CL-P

WZQC-LP

WSMK

WZQC-LP 256D
60dBu f50,50

W256CA

PROP 256D
40dBu f50,10

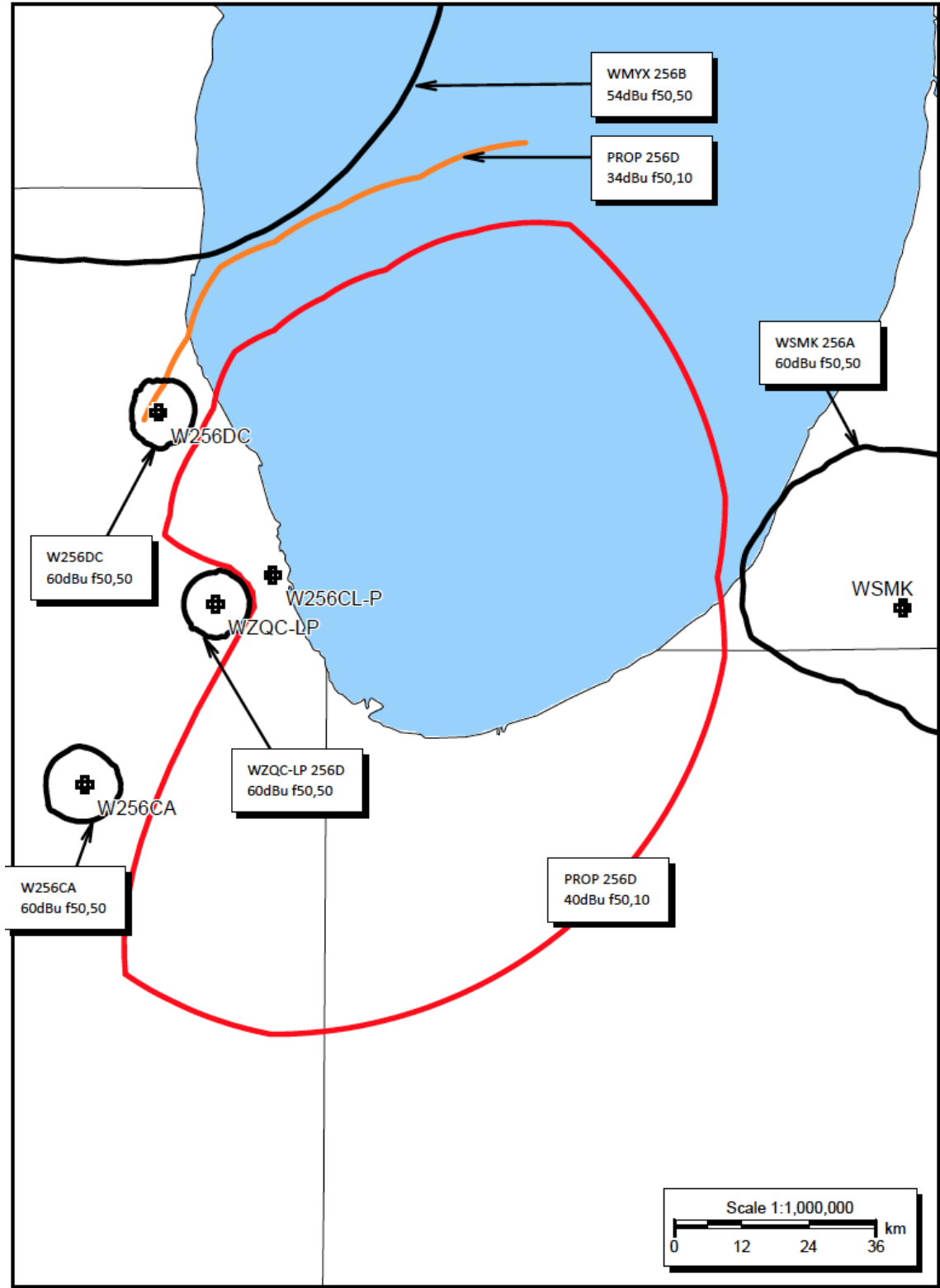W256CA
60dBu f50,50

Scale 1:1,000,000

km
0   12   24   36

EXHIBIT C1 2nd Adjacent Interference Compliance to WUSN

```
W256CL.C Park Forest, IL,  Showing Protection to WUSN    , Channel: 258
Geographic Coordinates: N. 41 52 44.10  W. 87 38 09.10
74.1204(d) Study - Using NED 03 SEC Terrain Database
Translator or LPFM Maximum Licensed ERP = 0.25 kW, Channel: 256
Translator or LPFM Antenna Height AG = 6.1 meters ABOVE ROOF LEVEL
W256CL.C Antenna Azimuth Model =   Vertical Model Name = SCALA CLFM-V VERT

Protected Station's Contour =  106.0178 dBu
Translator's or LPFM's full Interference contour 146.0178

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 = 2.5 km
Protected Station= WUSN, 5.7 kW, 606 M meters COR AMSL
```

Depression IX 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 Above ROOF (m)
00.00	1.0	1.0	0.2500	005.5473	005.5473	006.100
05.00	0.98	1.0	0.2401	005.4363	005.4156	005.626
10.00	0.95	1.0	0.2256	005.2699	005.1899	005.185
15.00	0.895	1.0	0.2003	004.9648	004.7956	004.815
20.00	0.82	1.0	0.1681	004.5488	004.2744	004.544
25.00	0.735	1.0	0.1351	004.0773	003.6952	004.377
30.00	0.645	1.0	0.1040	003.5780	003.0986	004.311
35.00	0.563	1.0	0.0791	003.1203	002.5560	004.310*
40.00	0.47	1.0	0.0552	002.6072	001.9972	004.424
45.00	0.36	1.0	0.0324	001.9970	001.4121	004.688
50.00	0.25	1.0	0.0156	001.3868	000.8914	005.038
55.00	0.155	1.0	0.0060	000.8598	000.4932	005.396
60.00	0.085	1.0	0.0018	000.4715	000.2358	005.692
65.00	0.045	1.0	0.0005	000.2496	000.1055	005.874
70.00	0.02	1.0	0.0001	000.1109	000.0379	005.996
75.00	0.01	1.0	0.0000	000.0555	000.0144	006.046
80.00	0.01	1.0	0.0000	000.0555	000.0096	006.045
85.00	0.01	1.0	0.0000	000.0555	000.0048	006.045
90.00	0.01	1.0	0.0000	000.0555	000.0000	006.045

*= Min AGL where PROP W256CL Exceeds WSUN by >40dB

PROP W256CL and WTMX 54dBu Contours
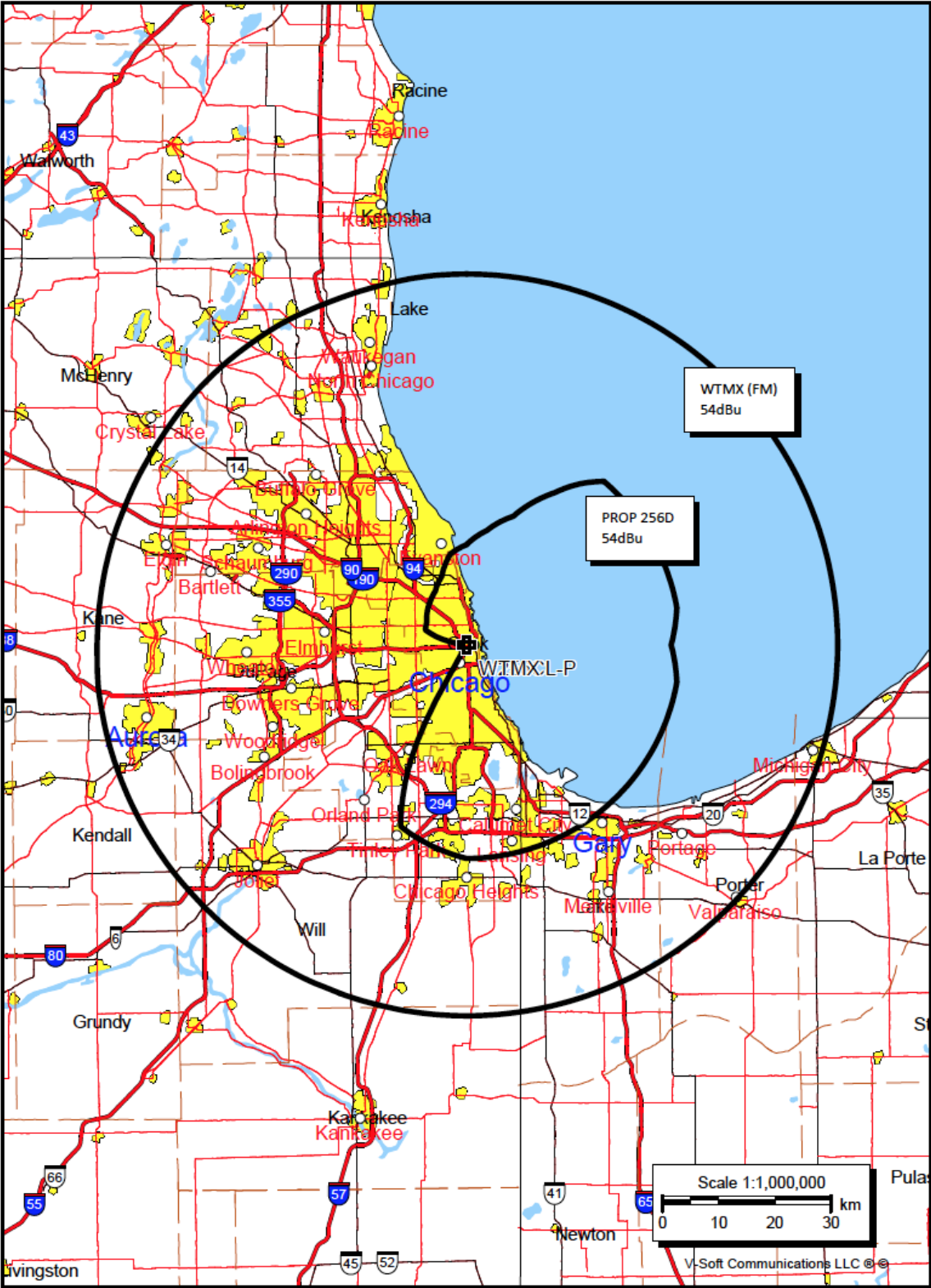
EXHIBIT E- RFR COMPLIANCE
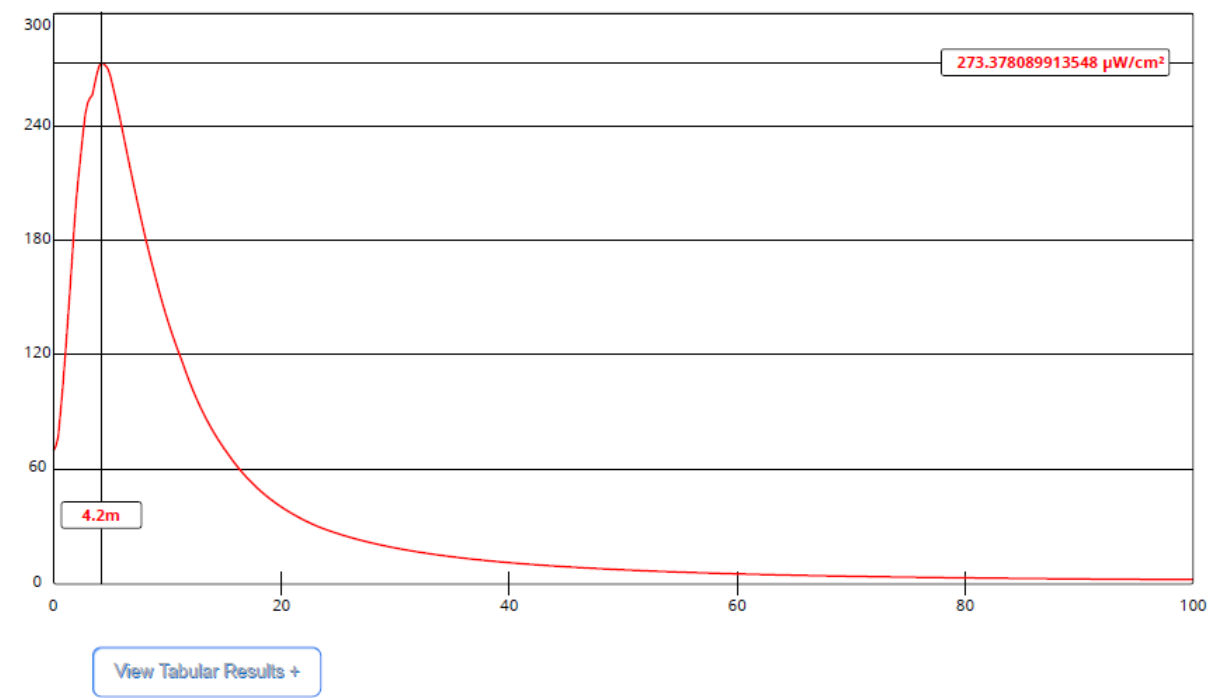
Channel Selection	Channel 256 (99.1 MHz) ▾		
Antenna Type +	EPA Type 2: Opposed V Dipole ▾		
Height (m)	6.1	Distance (m)	100
ERP-H (W)	250	ERP-V (W)	250
Num of Elements	1	Element Spacing (λ)	1
Num of Points	500	Apply	