

# T Z SAWYER TECHNICAL CONSULTANTS

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## DIGITAL LPTV FACILITY MINOR CHANGE APPLICATION

K27OW-LD

FCC FACILITY ID: 129454  
ROCHESTER, MINNESOTA

FEBRUARY 2023

### ENGINEERING NARRATIVE

#### Minor Change Application:

K27OW-LD seeks to modify its existing LICENSE permit (LMS:0000121243) to specific a new transmission site and antenna system parameters. The proposed antenna is a SCA, “PR-TV CUS” horizontally polarized directional UHF parabolic antenna system. A full-service filter mask is to be employed. The facility requested is not contingent upon a grant or channel move of any other known facility at the time of filing.

Maximum Effective Radiated Power (ERP) is 8-kilowatts, horizontal polarization only.

#### Modification Compliance:

Pursuant to 47 CFR §74.787(b) the instant application is considered a “minor” change because;

- There is no change in transmitting antenna location such that the protected service contour resulting from the change does not overlap some portion of the protected service contour of the authorized facility of the station license as illustrated in Figure 1, Present & Proposed Service Contours.
- There is no change in transmitting antenna location greater than 30 miles (48km) from the reference coordinates of the existing station construction permit antenna location, as noted below:

CALCULATED DISTANCE BETWEEN EXISTING LICENSE AND PROPOSED SITES

SITE	LAT (NAD83)	LON (NAD83)	(KM)	(MI)
CURRENT/EXISTING	43-40-21.20 N	092-49-49.10 W	43.76	27.19
PROPOSED LIC MOD	43-55-03.14 N	092-24-16.67 W		

**FCC Tower Registration - FAA Notification Not Required.**

**American Tower Corporation Site ATC #91814**

The proposed antenna mounting structure is 56.4 meters in overall height above ground level (AGL) and does **NOT** require FAA notice or FCC Tower Registration (ASR). This is an existing communication tower that does not require FAA notification. The antenna is to be side-mounted on the self-supporting structure at the 48.8 meter AGL level.

A tower-airport slope study as well as the site brochure (provided by American Tower) is contained within this statement as **Figure 2.**

Antenna Elevations:

The ground elevation at the site is 378.9 meters above mean sea level (AMSL). The center of radiation of the proposed antenna is 48.8 meters above ground level (AGL). Thus, the center of radiation is 427.7 meters above mean sea level (AMSL), as tabulated below:

ALL ELEVATIONS IN METERS

GROUND ELEVATION	378.9
SUPPORTING STRUCTURE OVERALL HEIGHT AGL	56.4
ANTENNA HEIGHT AGL	48.8
ANTENNA RCAMSL	427.7

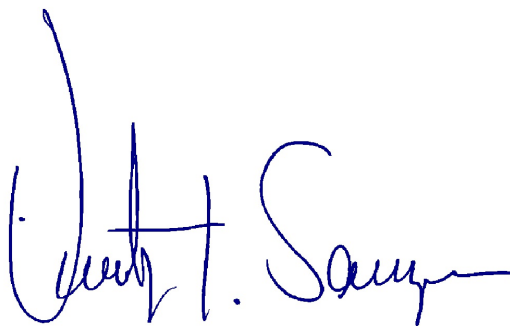
FCC TVStudy Results:

The results of a interference study of the proposal using the FCC TVStudy program (Version 2.2.5), shows that no prohibitive interference will occur from the proposal. A copy of the summary report has been included in this application. The applicant accepts any incoming interference that is predicted to exist to the proposed facility by any authorized or pending, primary or secondary TV station at the time this application is submitted. A cell size of 1.0 kilometer, with a 1.0 profile spacing (the default setting) was used.

Environmental Evaluation Statement:

The environmental evaluation statement concerning this proposal has been included in this application and can be found as a separate file upload within the application. A grant of this proposal would NOT be an action which would have a significant environmental effect as demonstrated in the environmental evaluation statement.

February 28, 2023

A handwritten signature in blue ink, reading "Timothy Z. Sawyer". The signature is fluid and cursive, with the first name "Timothy" and last name "Sawyer" clearly legible.

Timothy Z. Sawyer, Consulting Engineer

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**K27OW-LD APP**

PROPOSED

FCC Facility ID: 129454

NAD 83 Latitude: 43-55-03.14 N

NAD 83 Longitude: 092-24-16.67 W

ERP: 8.00 kW

Channel: 27

Frequency: 551.0 MHz

Ant. RCAMSL Height: 427.7 m

Horiz. Pattern: Directional

**K27OW-LD ROCHESTER, MN**PRESENT AND PROPOSED SERVICE CONTOURS  
CH 27 LPTV UHF FCC 51 DBU F(50,90)PROPOSAL IS IN COMPLIANCE WITH LPTV MINOR CHANGE  
RULES

FIGURE 1

FCC 51 DBU F(50,90) PREDICTED  
SERVICE CONTOURSFCC 30-MILE SITE MOVE  
MINOR CHANGE RULEMINOR CHANGE  
CONTOUR OVERLAP**K27OW-LD LIC EXISTING**

FCC LMS File: 0000121243

FCC Facility ID: 129454

NAD 83 Latitude: 43-40-21.20 N

NAD 83 Longitude: 092-49-49.10 W

ERP: 5.62 kW

Channel: 27

Frequency: 551.0 MHz

Ant. RCAMSL Height: 436.5 m

Horiz. Pattern: Directional

Map created on: 02/27/2023  
NED 3 Second US Terrain

Scale 1:737,500

0 15 30 45 km

TZSTC

2023

FEBRUARY

**Asset Number: 91814****Asset Name: BTF 61-Baker**

**Lat / Long:** 43.91754, -92.40463 | **Address:** 38th Ave. SE 0.7 miles south of Intersection with CR 16 (and just south of I-90), Rochester, Minnesota, 55904-7120

## Geographic Region

**County** Olmsted

**MTA** Minneapolis-St Paul

**BTA** Rochester-Austin-Albert Lea, MN

**MSA/RSA** Rochester, MN

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## Find This Asset

### Driving

#### Directions

From Rochester, south of Hwy 52 to Marion, turn right (south) on CR-16, proceed west for approx 3.5 miles to 38th ave., turn south proceed approx 1/2 mile. Site access is on west side of road.

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## Specifications

**Asset Class** Wireless

**Structure Type** Guyed

**Ground Elevation** 1243 ft.(AMSL)

**Structure Height** 181 ft.(AGL)

**Appurtenance Height** 4 ft.

**Construction Date** 01/20/1999

**FAA Number** Not Required

**FCC Number** Not Required

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## Utility Providers

**Telco** N/A

**Power** N/A



# TOWAIR Determination Results

A routine check of the coordinates, heights, and structure type you provided indicates that this structure does not require registration.

## \*\*\* 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

**PASS SLOPE(100:1): NO FAA REQ-RWY MORE THAN 10499 MTRS & 7231.68 MTRS (7.2317 KM) AWAY**

Type	C/R	Latitude	Longitude	Name	Address	Lowest Elevation (m)	Runway Length (m)
AIRP	R	43-54-46.00N	092-29-40.00W	ROCHESTER INTL	OLMSTED ROCHESTER, MN	386.6	2753.5999999999999

**PASS SLOPE(100:1): NO FAA REQ-RWY MORE THAN 10499 MTRS & 6774.78 MTRS (6.77479 KM) AWAY**

Type	C/R	Latitude	Longitude	Name	Address	Lowest Elevation (m)	Runway Length (m)
AIRP	R	43-54-12.00N	092-29-12.00W	ROCHESTER INTL	OLMSTED ROCHESTER, MN	386.6	2753.5999999999999

### Your Specifications

#### NAD83 Coordinates

Latitude 43-55-03.1 north  
Longitude 092-24-16.7 west

#### Measurements (Meters)

Overall Structure Height (AGL) 56.4  
Support Structure Height (AGL) 55.2  
Site Elevation (AMSL) 378.9

#### Structure Type

GTOWER - Guyed Structure Used for Communication Purposes

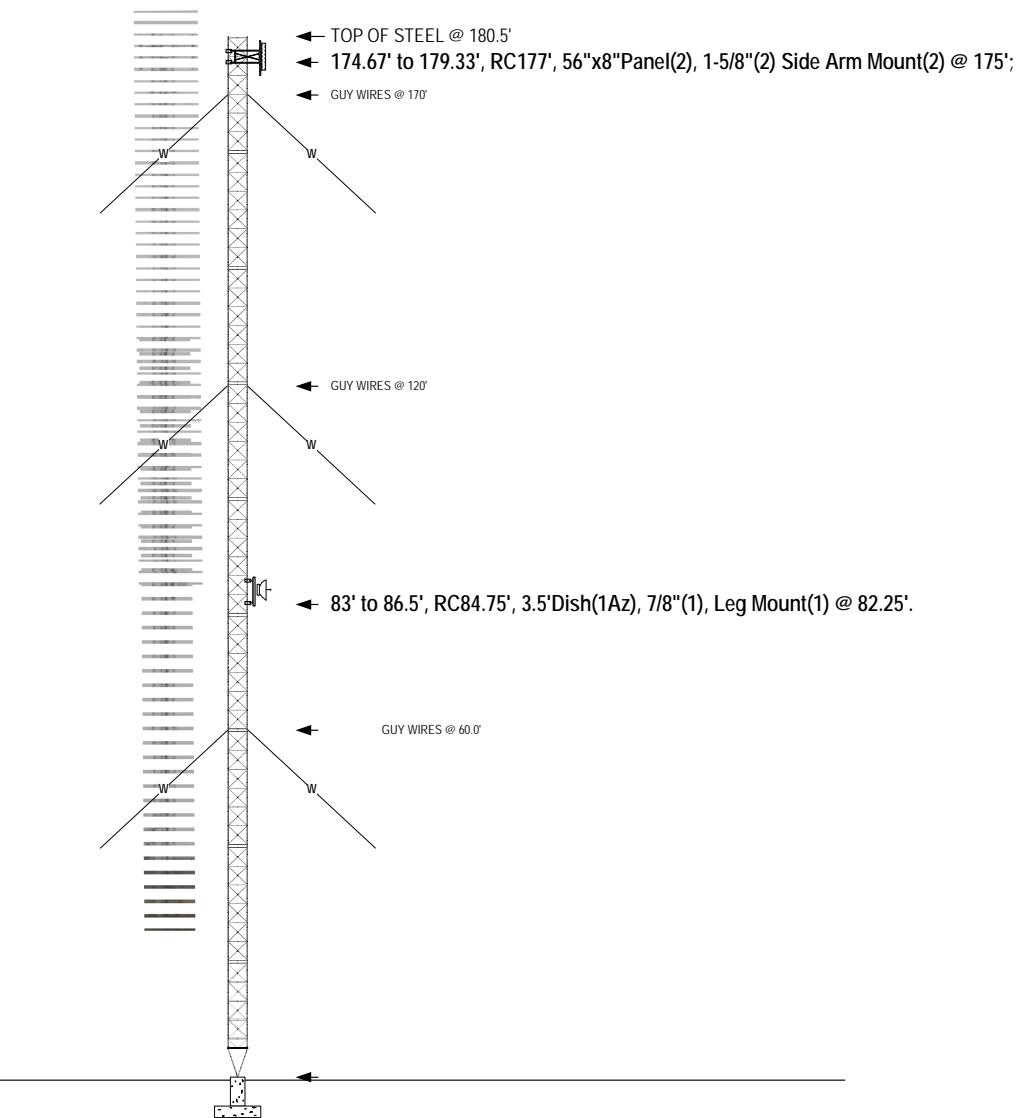
### [Tower Construction Notifications](#)

Notify Tribes and Historic Preservation Officers of your plans to build a tower.


CLOSE WINDOW







TOWER INFORMATION				
TOWER TAG	Yes	OASIS	TOW	Heights to base of mounts AGL
MANUFACTURER	Central 4200			
HEIGHT	180.25' AGL	TYPE:	Guyed	
DRAW #:	G1708	DATE :	12-99	
TOWER PAINTED:	no	COAX PAINTED	no	
DETUNING	NO	Sketch is to scale		

COLOCATION PROJECT NUMBER:		Project number	
American Tower Corporation		BTF 61 Baker	
		TOWER ELEVATION	
Mark.Luterman@americantower.com		DATE: 20141219	SITE NUMBER: 91814
Mobile: 612-384-1753	AS-BUILT DRAWINGS		Tenant name



SITE NAME: BTF 61/Baker  
SITE NUMBER: 91814  
FCC REGISTRATION NUMBER: FCC Not Required

FOR LEASING INFORMATION:  
877-282-7483  
877-ATC-SITE

IN CASE OF EMERGENCY:  
877-518-6937  
877-51-TOWER

**NO TRESPASSING**

www.americantower.com  
POSTING OF THIS SIGN REQUIRED BY LAW

### NOTICE

#### GUIDELINES FOR WORKING IN RADIOFREQUENCY ENVIRONMENTS

- ▲ All personnel should have electromagnetic energy (EMF) awareness training.
- ▲ All personnel entering this site must be authorized.
- ▲ Obey all posted signs.
- ▲ Assume all antennas are active.
- ▲ Before working on antennas, notify owners and disable appropriate transmitters.
- ▲ Maintain minimum 3 feet clearance from all antennas.
- ▲ Do not stop in front of antennas.
- ▲ Use personal RF monitors while working near antennas.
- ▲ Never operate transmitters without shields during normal operation.
- ▲ Do not operate base station antennas in equipment room.

06/06/2019 07:54



Pre-Rotation Antenna Pattern....		
Azimuth (deg)	Relative Field	
0.0	1.000	MAX
10.0	0.811	
20.0	0.447	
30.0	0.186	
40.0	0.113	
50.0	0.081	
60.0	0.074	
70.0	0.072	MIN
80.0	0.074	
90.0	0.074	
100.0	0.079	
110.0	0.082	
120.0	0.088	
130.0	0.082	
140.0	0.079	
150.0	0.074	
160.0	0.074	
170.0	0.072	MIN
180.0	0.074	
190.0	0.081	
200.0	0.113	
210.0	0.186	
220.0	0.447	
230.0	0.811	
240.0	1.000	MAX
250.0	0.816	
260.0	0.454	
270.0	0.203	
280.0	0.133	
290.0	0.103	
300.0	0.099	
310.0	0.103	
320.0	0.133	
330.0	0.203	
340.0	0.454	
350.0	0.816	

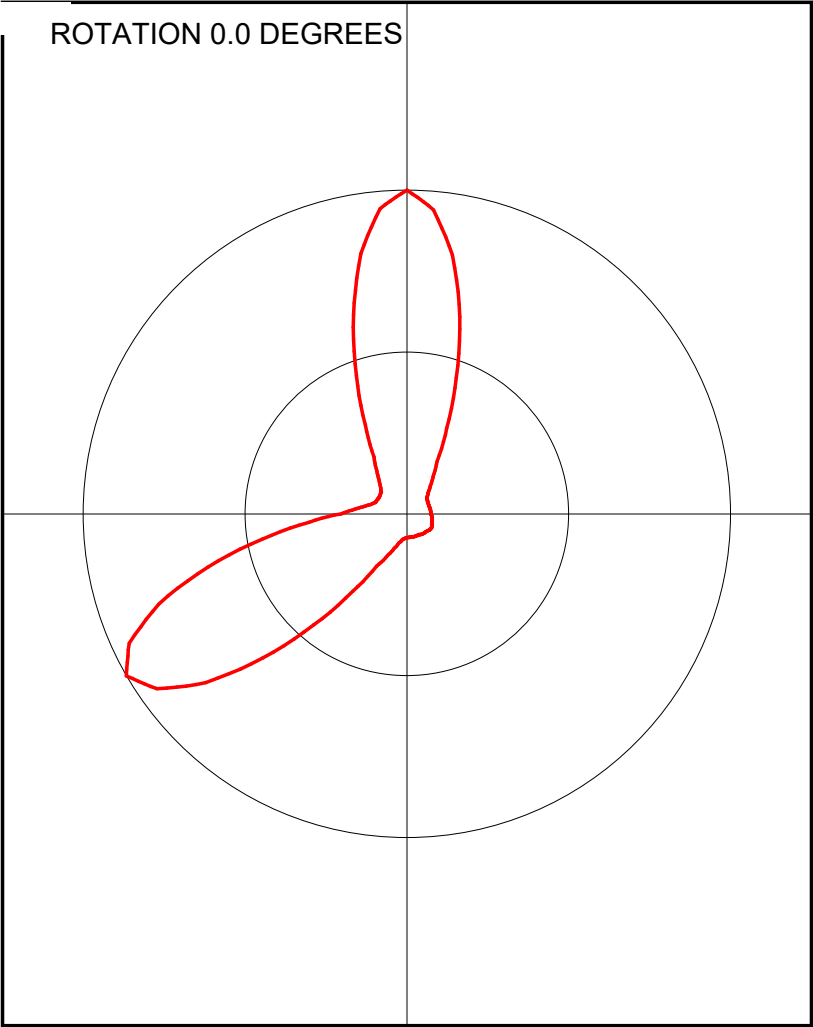


FIGURE 4 - K270W-LD FCC TVSTUDY SUMMARY REPORT

CELL SIZE 1.0

PROFILE SPACING 1.0

Study build station data: LMS TV 2023-02-24 #505

Proposal: K270W-D D27 LD LIC Rochester, MN

File number: K270W APP

Facility ID: 129454

Station data: User record

Record ID: 692

Country: U.S.

Build options:

Protect pre-transition records not on baseline channel

Stations potentially affected by proposal:

IX	Call	Chan	Svc	Status	City, State	File Number	Distance
No	WDMI-LD	D26	LD	LIC	MINNEAPOLIS, MN	BLANK0000194480	141.8 km
No	KXLT-TV	D26	DT	LIC	ROCHESTER, MN	BLANK0000063320	32.1
No	K26CS-D	D26	LD	LIC	ST. JAMES, MN	BLANK0000124213	176.4
No	W26FG-D	D26	LD	LIC	EAU CLAIRE, WI	BLANK0000195966	121.5
No	WZEO-LD	D26	LD	LIC	LA CROSSE, WI	BLANK0000197912	90.7
No	WKOW	D26	DT	LIC	MADISON, WI	BLCDT20111006AAO	250.4
No	KFXA	D27	DT	LIC	CEDAR RAPIDS, IA	BLCDT20050713ABD	204.7
No	K27LD-D	D27	LD	LIC	SALIX, IA	BLANK0000197222	356.2
No	W27EJ-D	D27	LD	LIC	STERLING, IL	BLANK0000063145	319.8
No	K27KN-D	D27	LD	LIC	ALEXANDRIA, MN	BLDTT20111123OCO	327.9
No	KCWV	D27	DT	CP	DULUTH, MN	BLANK0000036079	319.5
No	KCWV	D27	DT	LIC	DULUTH, MN	BLANK0000004652	319.5
No	K27FI-D	D27	LD	LIC	FROST, MN	BLDTT20090730ACP	127.9
No	K27NF-D	D27	LD	LIC	JACKSON, MN	BLANK0000064446	210.7
No	KRWF	D27	DT	LIC	REDWOOD FALLS, MN	BLCDT20080502ABG	253.9
No	KUON-TV	D27	DT	APP	LINCOLN, NE	BLANK0000199898	453.3
No	KOHA-LD	D27	LD	LIC	OMAHA, NE	BLANK0000181422	417.0
No	KCWS-LD	N27	TX	LIC	SIOUX FALLS, SD	BLANK0000116223	351.0
No	KCWS-LD	D27	LD	LIC	SIOUX FALLS, SD	BLANK0000178498	351.0
Yes	WHWC-TV	D27	DT	LIC	MENOMONIE, WI	BLANK0000157562	132.7
No	WVTV	D27	DT	LIC	MILWAUKEE, WI	BLANK0000121792	374.0
No	W27AU-D	D27	LD	LIC	WAUSAU, WI	BLDTL20110315ABH	243.7
No	K28OH-D	D28	LD	LIC	ST. JAMES, MN	BLANK0000064440	176.4
Yes	WXOW	D28	DT	LIC	LA CROSSE, WI	BLANK0000058613	84.0

No non-directional AM stations found within 0.8 km

No directional AM stations found within 3.2 km

Record parameters as studied:

Channel: D27

Mask: Full Service

Latitude: 43 55 3.14 N (NAD83)

Longitude: 92 24 16.70 W

Height AMSL: 427.7 m

HAAT: 0.0 m

Peak ERP: 8.00 kW

Antenna: SCA PR-TV CUS 0.0 deg

Elev Pattn: Generic

50.0 dBu contour:

Azimuth	ERP	HAAT	Distance
0.0 deg	8.00 kW	87.0 m	39.1 km
45.0	0.069	55.5	12.3
90.0	0.044	56.5	11.2
135.0	0.051	41.7	9.9
180.0	0.044	42.3	9.6
225.0	3.18	58.5	30.3
270.0	0.330	53.0	18.1
315.0	0.104	86.4	16.7

Database HAAT does not agree with computed HAAT

Database HAAT: 0 m Computed HAAT: 60 m

Distance to Canadian border: 463.2 km

Distance to Mexican border: 1761.7 km

Conditions at FCC monitoring station: Allegan MI  
Bearing: 103.4 degrees Distance: 541.8 km

Proposal is not within the West Virginia quiet zone area

Conditions at Table Mountain receiving zone:  
Bearing: 252.8 degrees Distance: 1136.6 km

Study cell size: 1.00 km  
Profile point spacing: 1.00 km

Maximum new IX to full-service and Class A: 0.50%  
Maximum new IX to LPTV: 2.00%

Proposal causes 0.16% interference to BLANK0000157562 LIC scenario 1  
Proposal causes 0.02% interference to BLANK0000058613 LIC scenario 1

---- Below is IX received by proposal K270W APP ----

Proposal receives 3.86% interference from scenario 1

No IX check failures found.

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K27OW-LD  
LPTV CHANNEL 27 OPERATION  
FACILITY ID: 129454  
ROCHESTER, MINNESOTA  
FEBRUARY 2023

## ENVIRONMENTAL EVALUATION STATEMENT

A grant of this proposal would NOT be an action which would have a significant environmental effect as demonstrated in this environmental evaluation statement. Any changes in equipment, or construction, if necessary will not trigger any event with regards to Section 106 of the National Historical Preservation Act (NHPA).

The proposal does not meet any of the criteria specified in Section 1.1307 of the FCC Rules. More specifically, the proposed facilities are not known to fall within any of the categories enumerated in Sections 1.1307(a)(1)-(7) and will not involve the use of high intensity white lights. Furthermore, operation of the proposed facility will not involve the exposure of workers or the general public to levels of radio frequency electromagnetic fields exceeding guidelines adopted by the Federal Communications Commission. (The current FCC guidelines are based upon criteria contained in the National Council of Radiation Protection and Measurements (NCRP) Report No.86 (1986) and ANSI/IEEE C95.1-1992.)

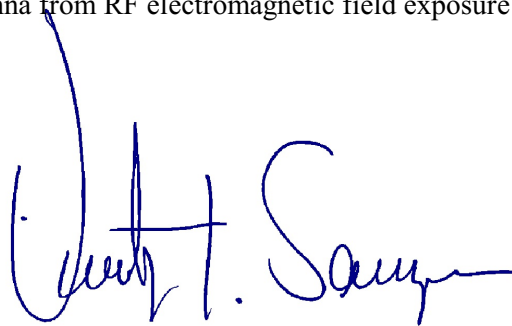
CALCULATED POWER DENSITY AT 2 METERS AGL (0.5 ANTENNA RELATIVE FIELD VALUE) ERP MAX (H ONLY)

CR AGL 48.8 M ERP MAX 8.0 KW	MPE ( $\mu\text{W}/\text{CM}^2$ )	CALCULATED VALUE ( $\mu\text{W}/\text{CM}^2$ )	% OF MPE	PASS/FAIL
CONTROLLED AREA	1836.7	30.4989	1.66%	PASS
PUBLIC AREA	367.3		8.30%	PASS

The general public will not be exposed to RF levels attributable to the proposal in excess of the FCC's guidelines. RF exposure warning signs are posted at the site. The applicant will coordinate exposure procedures with any co-located facilities and will reduce power or cease operation as necessary to protect persons having access to the site, tower, or antenna from RF electromagnetic field exposure in excess of FCC guidelines.

February 28, 2023

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