

# T Z SAWYER TECHNICAL CONSULTANTS

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## DIGITAL LPTV FACILITY MINOR CHANGE APPLICATION - LICENSE MODIFICATION KWRW-LD TELEVISION CHANNEL 34

### APPLICATION ENGINEERING STATEMENT

FCC FACILITY ID: 68085  
OKLAHOMA CITY, OKLAHOMA

### ENGINEERING NARRATIVE

#### Minor Change Application

KWRW, seeks to MODIFY its licensed operating permit to specify a new antenna site and a new antenna system.

The maximum effective radiated power (ERP) will be 15.0 kilowatts using horizontal polarization only.

The proposed antenna is a PSI "PSILP16AW, a directional UHF slot antenna, employing 1.0 degrees of electrical beam tilt. 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.

A graphical plot and tabulation of the relative field values from the proposed directional antenna have been provided in the application

#### 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 facilities of the existing station as illustrated in Figure 1, Present & Proposed Service Contours.
- There is no change in transmitting antenna location greater than 30 miles (48 km) from the reference coordinates of the existing station's licensed location, as noted below:

CALCULATED DISTANCE BETWEEN EXISTING LICENSED AND PROPOSED SITES

SITE	LAT (NAD83)	LON (NAD83)	(KM)	(MI)
CURRENT LICENSE	35-26-35.2 N	97-28-57.2 W	12.663	7.868
PROPOSED (CP APP)	35-33-25.5 N	97-28-30.6 W		

FCC Tower Registration (ASR) - FAA Notification

The proposed site is a leased American Tower Corporation site, in which an FCC tower/structure antenna structure registration number of 1011667 has been issued.

The overall height of the mounting/supporting structure is 266.7 meters above ground level. No changes in the supporting structure are required that would require notification to the FAA. The antenna is side-mounted upon the structure.

Antenna Elevations:

The center of radiation of the proposed antenna is 122.0 meters AGL, 472.8 meters AMSL. The ground elevation at the site is 350.8 meters.

Antenna/Structure Elevations	
Site Elevation (m)	350.8
Overall Height of Structure (m)	266.7
Antenna Radiation Center AGL (m)	122.0
Antenna Radiation Center AMSL (m)	472.8

FCC TVStudy Results:

FCC TVStudy Cell Size 1.0 km, Profile Spacing 1.0 km

The results of an 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.

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.

Respectfully submitted,

May 22, 2024

A handwritten signature in blue ink, reading "Timothy Z. Sawyer". The signature is written in a cursive style with a large initial "T" and "S".

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Timothy Z. Sawyer, Consulting Engineer

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FCC 51 DBU F(50,90) PREDICTED SERVICE CONTOURS

KWRW-LD OKLAHOMA CITY OK  
PRESENT AND PROPOSED SERVICE CONTOURS  
CH 34 LPTV UHF FCC 51 DBU F(50,90)  
  
PROPOSAL IS IN COMPLIANCE WITH LPTV MINOR CHANGE RULES  
  
FIGURE 1

**KWRW-LD CP APP**  
PROPOSED  
FCC Facility ID: 68085  
NAD 83 Latitude: 35-33-25.50 N  
NAD 83 Longitude: 097-28-30.60 W  
ERP: 15.00 kW  
Channel: 34  
Frequency: 593.0 MHz  
Ant. RCAMSL Height: 472.8 m  
Horiz. Pattern: Directional

MINOR CHANGE CONTOUR OVERLAP

**KWRW-LD LIC EXISTING**  
FCC LMS File: 0000213713  
FCC Facility ID: 68085  
NAD 83 Latitude: 35-26-35.20 N  
NAD 83 Longitude: 097-28-57.20 W  
ERP: 15.00 kW  
Channel: 34  
Frequency: 593.0 MHz  
Ant. RCAMSL Height: 494.2 m  
Horiz. Pattern: Directional

FCC 30-MILE SITE MOVE MINOR CHANGE RULE



Created on: 5/22/2024  
NED 3 Second US Terrain

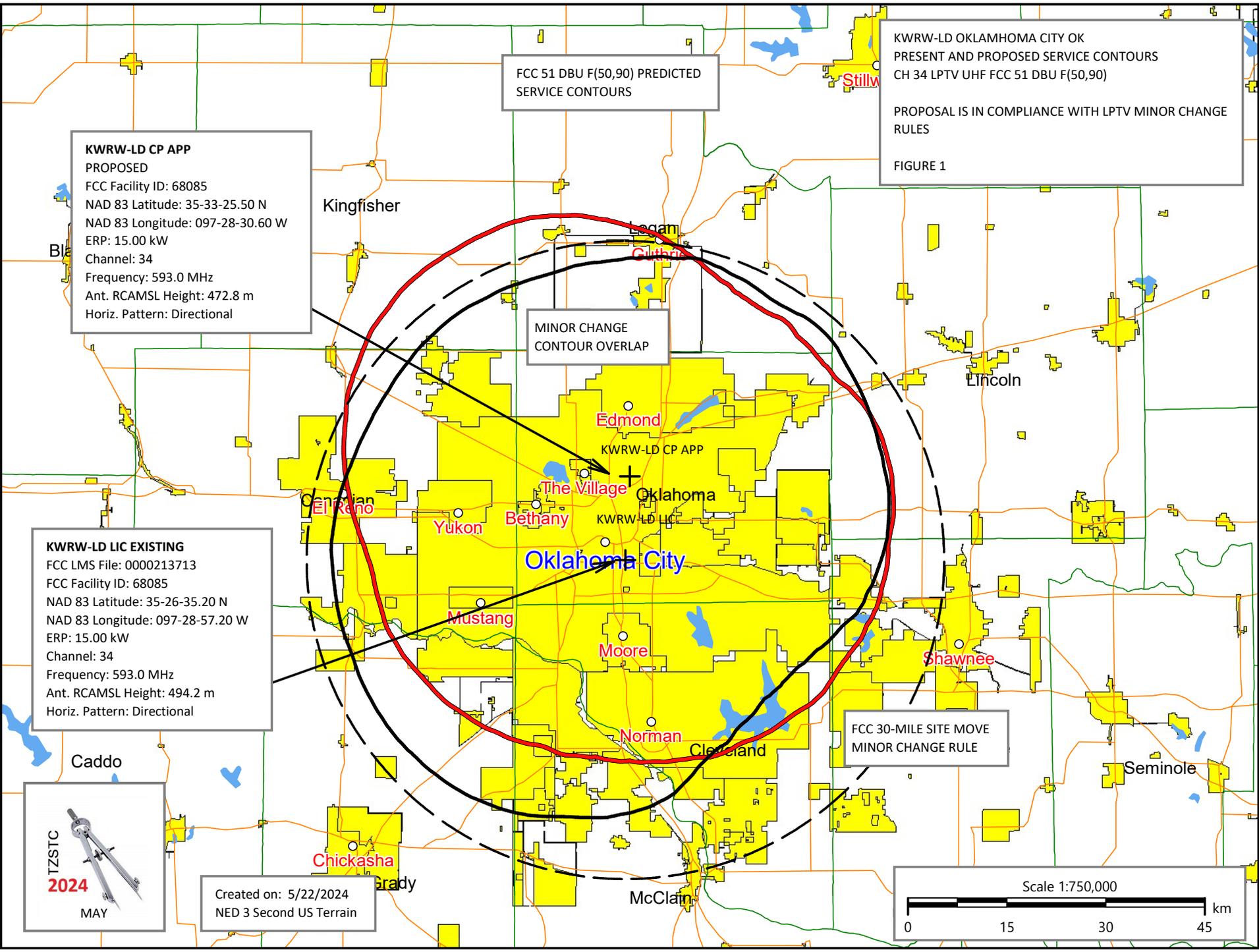
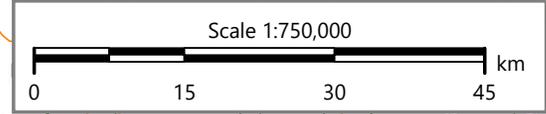
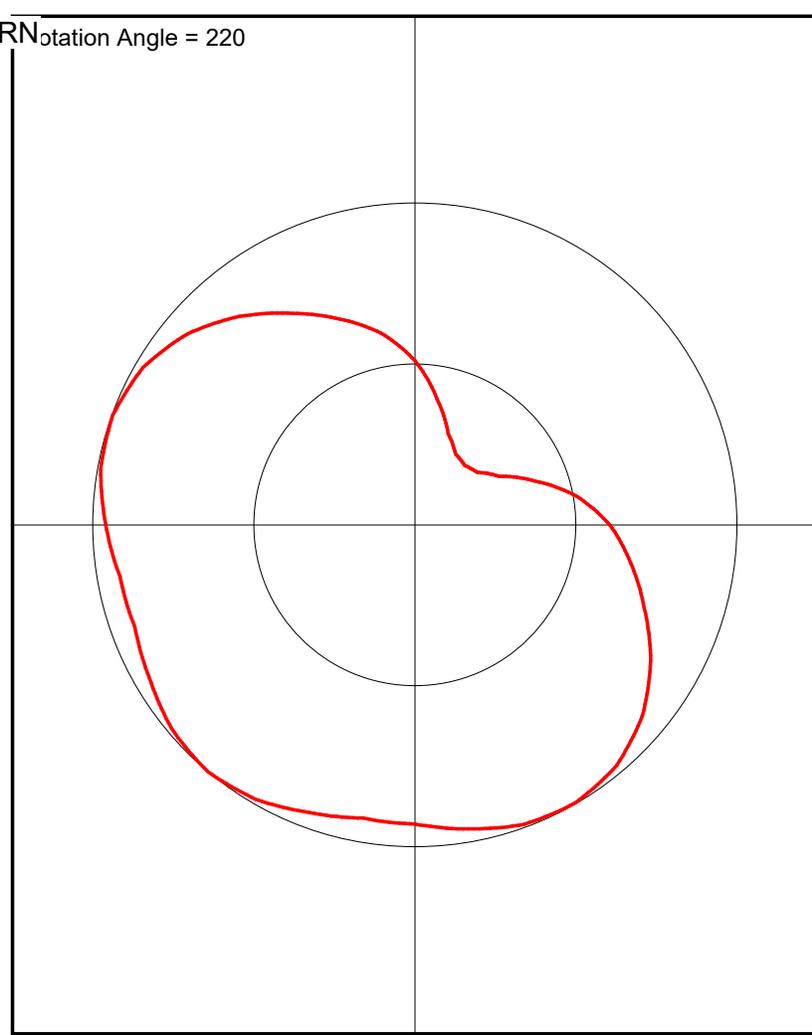


FIGURE 2 - KWRW-LD PSI PSILP16AW ANTENNA PATTERN Notation Angle = 220

Pre-Rotation Antenna Pattern....

Azimuth (deg)	Relative Field
0.0	1.0
10.0	0.985
20.0	0.951
30.0	0.925
40.0	0.929
50.0	0.959
60.0	0.99
70.0	0.997
80.0	0.975
90.0	0.922
100.0	0.845
110.0	0.758
120.0	0.68
130.0	0.605
140.0	0.51
150.0	0.397
160.0	0.302
170.0	0.253
180.0	0.241
190.0	0.253
200.0	0.302
210.0	0.397
220.0	0.51
230.0	0.605
240.0	0.68
250.0	0.758
260.0	0.845
270.0	0.922
280.0	0.975
290.0	0.997
300.0	0.99
310.0	0.959
320.0	0.929
330.0	0.925
340.0	0.951
350.0	0.985



PATTERN SHOWN IS ROTATED PATTERN

FIGURE 3 - KWRW-LD FCC TVSTUDY SUMMARY REPORT

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

Proposal: KWRW-LD D34 LD APP OKLAHOMA CITY, OK  
 File number: KWRW-LD MINOR CHANGE  
 Facility ID: 68085  
 Station data: User record  
 Record ID: 764  
 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	KUOC-LD	D33	LD	LIC	ENID, OK	BLANK0000157473	141.7 km
No	KOCB	D33	DT	LIC	OKLAHOMA CITY, OK	BLANK0000121773	1.5
No	KSJF-CD	D34	DC	LIC	FORT SMITH, AR	BLANK0000116533	280.4
No	K34QO-D	D34	LD	CP	SPRINGDALE, AR	BLANK0000195559	312.3
No	K34QO-D	D34	LD	LIC	SPRINGDALE, AR	BLANK0000198127	312.3
No	KMSS-TV	D34	DT	LIC	SHREVEPORT, LA	BLANK0000192923	457.6
No	K41KX-D	D34	LD	CP	JOPLIN, MO	BLANK0000197949	322.5
No	WDAF-TV	D34	DT	LIC	KANSAS CITY, MO	BLANK0000155694	466.3
Yes	KCYH-LD	D34	LD	LIC	ARDMORE, OK	BLANK0000068523	154.1
No	K34IN-D	D34	LD	LIC	BEAVER, OK	BLDTT20091228AEJ	308.0
No	K34JK-D	D34	LD	LIC	ELK CITY, OK	BLDTT20100607AAA	163.9
No	K34JJ-D	D34	LD	LIC	HOLLIS, OK	BLDTT20100802AZI	230.6
No	K34NE-D	D34	LD	LIC	LAWTON, OK	BLANK0000218713	128.1
No	K34ML-D	D34	LD	CP	MC ALESTER, OK	BLANK0000193303	169.1
No	K34ML-D	D34	LD	LIC	MC ALESTER, OK	BLANK0000198156	169.1
Yes	KMYT-TV	D34	DT	LIC	TULSA, OK	BLANK0000067647	170.1
No	DDKOMI-CD	D34	DC	APP	WOODWARD, OK	BLANK0000014011	194.4
No	KIDV-LD	D34	LD	LIC	ALBANY, TX	BLDTT20110428AAG	363.5
No	DKZFB-LP	N34z	TX	APP	Amarillo, TX	BLTTL20070502AAJ	347.8
No	DK44CC-D	D34	LD	APP	GRUVER, TX	BLANK0000053126	360.0
No	KSTR-DT	D34	DT	LIC	IRVING, TX	BLANK0000233334	338.3
No	K34NQ-D	D34	LD	LIC	MEMPHIS, TX	BLANK0000076196	296.2
No	KMTW	D35	DT	LIC	HUTCHINSON, KS	BLANK0000201733	264.9
No	KMTW	D35	DT	LIC	HUTCHINSON, KS	BLANK0000243766	264.9
Yes	K35MV-D	D35	LD	LIC	CONCHO, OK	BLANK0000060256	47.2
No	DKEGG-LP	N35+	TX	APP	MCALESTER, OK	BLTT20051017ABG	168.3
No	DDKEGG-LD	D35	LD	APP	TULSA, OK	BLANK0000199541	135.6
No	K35MQ-D	D35	LD	LIC	WEATHERFORD, OK	BLANK0000058429	113.9
No	KUOK	D35	DT	LIC	WOODWARD, OK	BLANK0000004509	194.4

No non-directional AM stations found within 0.8 km  
 No directional AM stations found within 3.2 km

Record parameters as studied:

Channel: D34  
 Mask: Full Service  
 Latitude: 35 33 25.50 N (NAD83)  
 Longitude: 97 28 30.60 W  
 Height AMSL: 472.8 m  
 HAAT: 0.0 m  
 Peak ERP: 15.0 kW  
 Antenna: PSI-PSILP16AW (ID 1010623) 220.0 deg  
 Elev Pattnr: Generic  
 Elec Tilt: 1.00

50.7 dBu contour:

Azimuth	ERP	HAAT	Distance
0.0 deg	3.90 kW	117.7 m	38.1 km
45.0	0.915	163.4	33.6
90.0	5.49	118.7	39.9
135.0	13.5	109.2	43.6
180.0	12.9	107.2	43.2
225.0	14.8	108.2	43.9
270.0	13.8	103.9	43.1
315.0	11.7	129.1	44.4

Database HAAT does not agree with computed HAAT  
Database HAAT: 0 m Computed HAAT: 120 m

Distance to Canadian border: 1429.9 km  
Distance to Mexican border: 740.5 km

Conditions at FCC monitoring station: Grand Island NE  
Bearing: 352.3 degrees Distance: 602.1 km

Proposal is not within the West Virginia quiet zone area

Conditions at Table Mountain receiving zone:  
Bearing: 309.0 degrees Distance: 847.9 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 no interference to BLANK0000068523 LIC  
Proposal causes 0.01% interference to BLANK0000067647 LIC scenario 1  
Proposal causes 0.01% interference to BLANK0000060256 LIC scenario 2

---- Below is IX received by proposal KWRW-LD MINOR CHANGE ----

Proposal receives 25.06% interference from scenario 1

No IX check failures found.

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MINOR CHANGE APPLICATION  
KWRW-LD  
TELEVISION CHANNEL 34  
FCC FACILITY ID: 68085  
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## 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.)

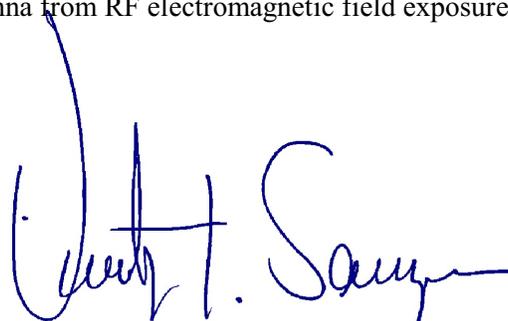
CALCULATED POWER DENSITY AT 2 METERS AGL (0.3 ANTENNA RELATIVE FIELD VALUE) ERP MAX (H)

CR AGL 122 M ERP MAX 15.0 KW (H)	MPE ( $\mu\text{W}/\text{CM}^2$ )	CALCULATED VALUE ( $\mu\text{W}/\text{CM}^2$ )	% OF MPE	PASS/FAIL
CONTROLLED AREA	1976.7	3.1313	0.16%	PASS
PUBLIC AREA	395.3		0.79%	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.

May 22, 2024

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