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DIGITAL LPTV FACILITY
MINOR CHANGE APPLICATION
K22OK-LD
FCC FACILITY ID: 190132
WACO, TEXAS
MARCH 2023

ENGINEERING NARRATIVE

Minor Change Application:

K22OK -LD seeks to modify its existing LICENSE permit (LMS:0000121629) to specific a new transmitter 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 3.2 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	30-56-23.40 N	096-35-06.50 W	40.78	25.34
PROPOSED LIC MOD	31-05-12.80 N	096-58-35.70 W		

FCC Tower Registration - 1052567

FAA Notification Not Required.

The proposed antenna mounting structure is 99.0 meters in overall height above ground level (AGL). No change in the overall height of this structure will occur. This is an existing communication tower that does not require further FAA notification. The antenna is to be side-mounted on the guyed-supporting structure at the 42.7 meter AGL level.

Antenna Elevations:

The ground elevation at the site is 124.9 meters above mean sea level (AMSL). The center of radiation of the proposed antenna is 42.7 meters above ground level (AGL). Thus, the center of radiation is 167.6 meters above mean sea level (AMSL), as tabulated below:

ALL ELEVATIONS IN METERS

GROUND ELEVATION	124.9
SUPPORTING STRUCTURE OVERALL HEIGHT AGL	99.0
ANTENNA HEIGHT AGL	42.7
ANTENNA RCAMSL	167.6

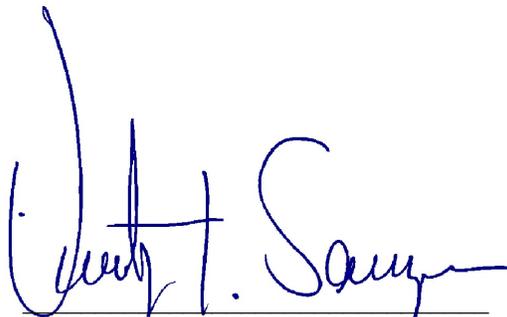
FCC TVStudy Results:

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 terrain profile spacing (the default settings) 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.

March 1, 2023



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K22OK-LD APP
 PROPOSED
 FCC Facility ID: 190132
 NAD 83 Latitude: 31-05-12.80 N
 NAD 83 Longitude: 096-58-35.70 W
 ERP: 3.20 kW
 Channel: 22
 Frequency: 521.0 MHz
 Ant. RCAMSL Height: 167.6 m
 Horiz. Pattern: Directional

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

K22OK-LD WACO TEXAS
 PRESENT AND PROPOSED SERVICE CONTOURS
 CH 22 LPTV UHF FCC 51 DBU F(50,90)
 PROPOSAL IS IN COMPLIANCE WITH LPTV MINOR CHANGE
 RULES
 FIGURE 1

K22OK-LD LIC EXISTING
 FCC LMS File: 0000121629
 FCC Facility ID: 190132
 NAD 83 Latitude: 30-56-23.40 N
 NAD 83 Longitude: 096-35-06.50 W
 ERP: 3.20 kW
 Channel: 22
 Frequency: 521.0 MHz
 Ant. RCAMSL Height: 152.4 m
 Horiz. Pattern: Directional

FCC 30-MILE SITE MOVE
 MINOR CHANGE RULE



Map created on: 02/28/2023
 NED 3 Second US Terrain

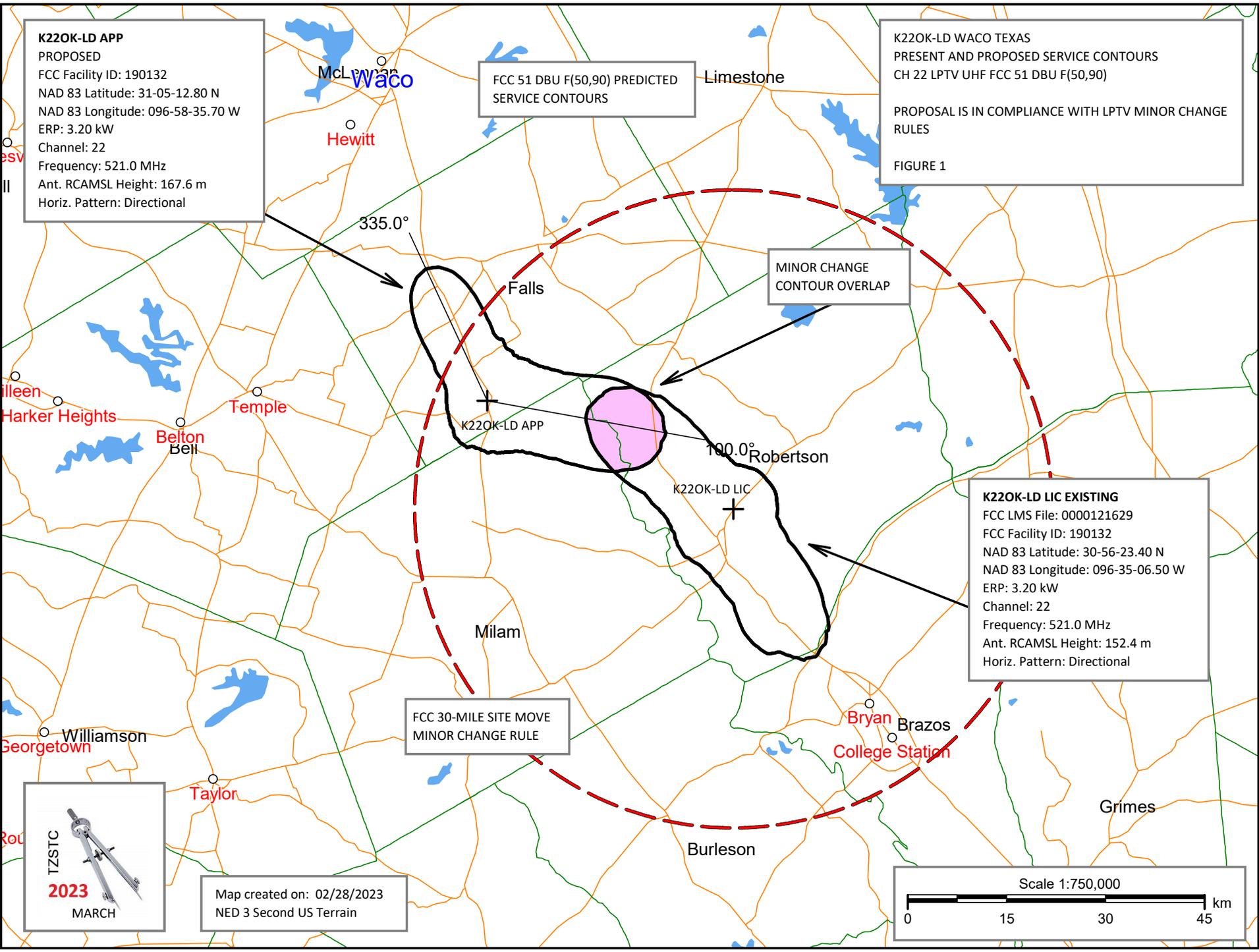
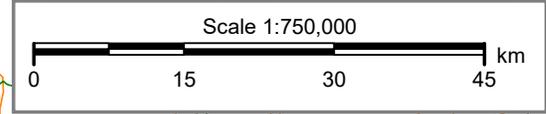


Figure 2 K22OK-LD SCA PR-TV CUS Ant Pattern
Pre-Rotation Antenna Pattern....

Azimuth (deg)	Relative Field
0.0	1.000
10.0	0.812
20.0	0.446
30.0	0.186
40.0	0.112
50.0	0.081
60.0	0.074
70.0	0.073
80.0	0.075
90.0	0.079
100.0	0.081
110.0	0.085
120.0	0.089
130.0	0.081
140.0	0.081
150.0	0.075
160.0	0.074
170.0	0.074
180.0	0.077
190.0	0.092
200.0	0.142
210.0	0.288
220.0	0.631
230.0	0.942
240.0	0.947
250.0	0.639
260.0	0.302
270.0	0.160
280.0	0.114
290.0	0.100
300.0	0.099
310.0	0.104
320.0	0.132
330.0	0.203
340.0	0.455
350.0	0.820

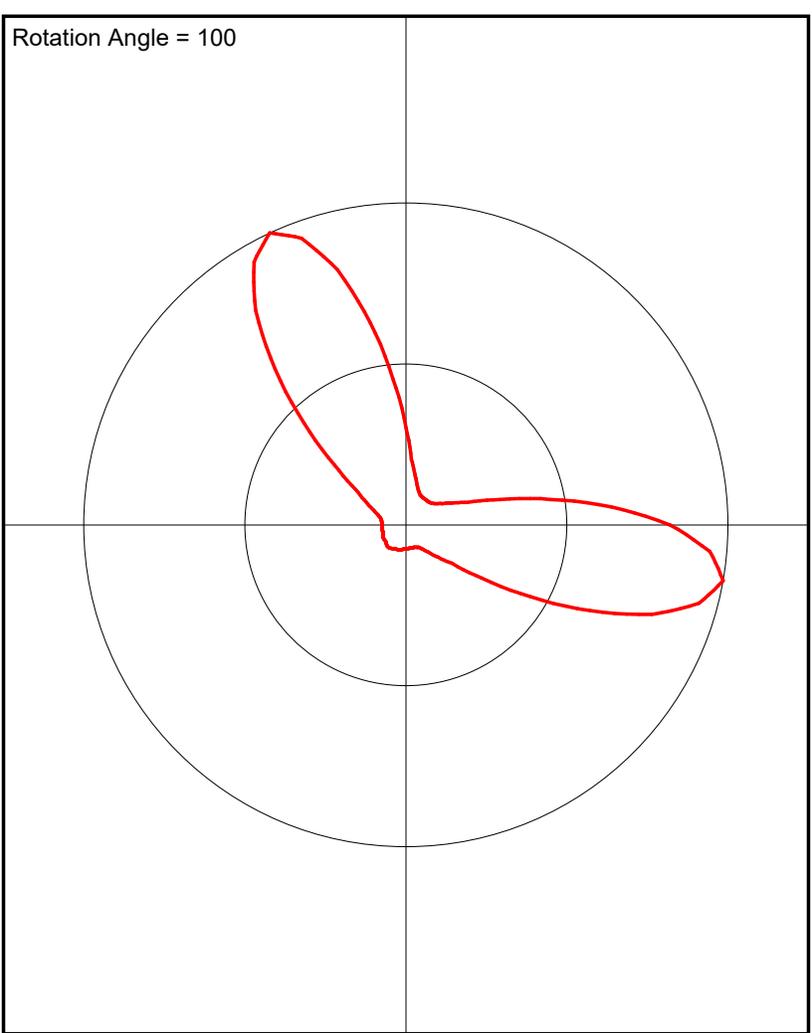


Figure 3 - K220K-LD FCC TVSTUDY SUMMARY REPORT

CELL SIZE 1.0

PROFILE SPACING 1.0 (DEFAULT)

Study build station data: LMS TV 2023-02-28

Proposal: K220K-D D22 LD APP WACO, TX
 File number: K220K-LD APP
 Facility ID: 190132
 Station data: User record
 Record ID: 695
 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	KXAN-TV	D21	DT	LIC	AUSTIN, TX	BLANK0000121393	115.5 km
No	KXAN-TV	D21	DT	CP	AUSTIN, TX	BLANK0000127602	115.5
No	KDTX-TV	D21	DT	LIC	DALLAS, TX	BLANK0000075181	167.0
No	KZJL	D21	DT	LIC	HOUSTON, TX	BLANK0000072328	220.2
No	KHTX-LD	D21	LD	LIC	HUNTSVILLE, TX	BLANK0000014078	149.3
No	K21KJ-D	D21	LD	LIC	MINERAL WELLS, TX	BLDTL20140612AAS	199.4
No	DK22GT	N22z	TX	APP	LAKE CHARLES, LA	BLTTL20060103ABZ	352.5
No	K22NI-D	D22	LD	LIC	LEESVILLE, LA	BLANK0000064144	359.5
No	K22JQ-D	D22	LD	CP	ARDMORE, OK	BLANK0000164280	343.5
No	K22JQ-D	D22	LD	LIC	ARDMORE, OK	BLDTL20140224ACC	351.0
No	K22MT-D	D22	LD	LIC	IDABEL, OK	BLANK0000059597	371.8
No	KZAB-LP	D22-	LD	CP	ABILENE, TX	BLANK0000136000	301.1
No	KZAB-LP	D22-	LD	LIC	ABILENE, TX	BLANK0000179375	301.1
Yes	KLRU	D22	DT	LIC	AUSTIN, TX	BLEDT20040305ACK	116.1
No	KUMY-LD	D22	LD	CP	BEAUMONT, TX	BLANK0000151634	297.1
No	KUMY-LD	D22	LD	LIC	BEAUMONT, TX	BLDTL20120308ACH	297.1
No	K22JA-D	D22	DC	LIC	CORPUS CHRISTI, TX	BLANK0000117103	374.9
No	KNAV-LD	D22	LD	LIC	DALLAS, TX	BLANK0000120153	167.0
No	DK210R-D	D22	LD	APP	Eagle Pass, TX	BLANK0000104166	421.7
No	KTMD	D22	DT	LIC	GALVESTON, TX	BLANK0000169199	219.5
No	KETK-TV	D22	DT	LIC	JACKSONVILLE, TX	BMLCDT20120516ABW	191.1
No	KGSW-LD	D22	LD	LIC	KEENE, TX	BLANK0000106132	150.4
No	KTXE-LD	D22	LD	LIC	SAN ANGELO, TX	BLANK0000152176	333.6
No	KISA-LD	D22	LD	LIC	SAN ANTONIO, TX	BLANK0000101032	234.5
No	K22NR-D	D22	LD	LIC	STEPHENVILLE, TX	BLANK0000074737	182.4
No	KAUZ-TV	D22	DT	LIC	WICHITA FALLS, TX	BLCDT20090724ACR	345.4
No	KNVA	D23	DT	LIC	AUSTIN, TX	BLANK0000121388	115.5
No	KAGS-LD	D23	LD	LIC	BRYAN, TX	BLDTL20101026AAZ	68.8
No	KLTJ	D23	DT	LIC	GALVESTON, TX	BLEDT20110127ACD	219.5
No	KTXD-TV	D23	DT	LIC	GREENVILLE, TX	BLANK0000080284	167.0

No non-directional AM stations found within 0.8 km

No directional AM stations found within 3.2 km

Record parameters as studied:

Channel: D22
 Mask: Full Service
 Latitude: 31 5 12.80 N (NAD83)
 Longitude: 96 58 35.70 W
 Height AMSL: 167.6 m
 HAAT: 0.0 m
 Peak ERP: 3.20 kW
 Antenna: SCA PR-TV CUS 100.0 deg
 Elev Patrn: Generic

49.6 dBu contour:

Azimuth	ERP	HAAT	Distance
0.0 deg	0.292 kW	31.9 m	13.6 km
45.0	0.032	45.7	9.5
90.0	2.15	48.7	26.9
135.0	0.065	57.8	12.7
180.0	0.018	49.0	8.6
225.0	0.023	34.9	7.6
270.0	0.018	19.6	6.7
315.0	0.637	26.5	16.2

Database HAAT does not agree with computed HAAT
Database HAAT: 0 m Computed HAAT: 39 m

Distance to Canadian border: 1722.0 km
Distance to Mexican border: 418.6 km

Conditions at FCC monitoring station: Kingsville TX
Bearing: 192.5 degrees Distance: 414.6 km

Proposal is not within the West Virginia quiet zone area

Conditions at Table Mountain receiving zone:
Bearing: 325.7 degrees Distance: 1249.0 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 0.04% interference to BLEDT20040305ACK LIC scenario 2

---- Below is IX received by proposal K220K-LD APP ----

Proposal receives 7.83% interference from scenario 1

No IX check failures found.

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K22OK-LD
LPTV CHANNEL 22 OPERATION
FACILITY ID: 190132
WACO, TEXAS
MARCH 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.)

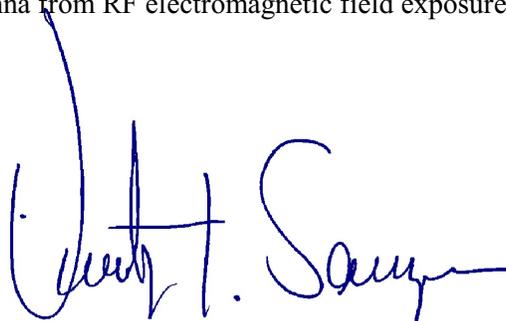
CALCULATED POWER DENSITY AT 2 METERS AGL (0.5 ANTENNA RELATIVE FIELD VALUE) ERP MAX (H ONLY)

CR AGL 42.7 M ERP MAX 3.2 KW	MPE ($\mu\text{W}/\text{CM}^2$)	CALCULATED VALUE ($\mu\text{W}/\text{CM}^2$)	% OF MPE	PASS/FAIL
CONTROLLED AREA	1736.7	16.1305	0.93%	PASS
PUBLIC AREA	347.3		4.64%	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.

March 1, 2023

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