

T Z SAWYER TECHNICAL CONSULTANTS

2130 HUTCHISON GROVE COURT, SUITE 100
FALLS CHURCH, VIRGINIA 22043
TELEPHONE (703) 848-2130 / (202) 642-2130

DIGITAL LPTV FACILITY
MINOR CHANGE APPLICATION
W33EM-LD
FCC FACILITY ID: 68024
PITTSBURGH, PENNSYLVANIA

MARCH 2024

ENGINEERING NARRATIVE

Minor Change Application:

W33EM-LD seeks to modify its existing LICENSE permit (LMS: 0000164350) to specific a new transmission site and antenna system parameters. The proposed antenna is a SCA, “PR-TV 110/330” 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 2.5-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	40-00-46.7 N	078-53-20.7 W	40.50	25.16
PROPOSED LIC MOD	40-09-24.5 N	079-19-31.4 W		

FCC Tower Registration (ASR): 1290414

The proposed antenna mounting structure (tower) is 78.6 meters in overall height above ground level (AGL) and does NOT require further FAA notice, or modification of the current FCC Tower Registration (ASR). The antenna is to be side-mounted on the supporting structure at the 35.0 meter AGL level. No change in the overall height of the structure will occur. The FCC ASR number is:1290414

Antenna Elevations:

The ground elevation at the site is 527.9 meters above mean sea level (AMSL). The center of radiation of the proposed antenna is 35.0 meters above ground level (AGL). Thus, the center of radiation is 562.9 meters above mean sea level (AMSL), as tabulated below:

ALL ELEVATIONS IN METERS

GROUND ELEVATION	527.9
SUPPORTING STRUCTURE OVERALL HEIGHT AGL	78.6
ANTENNA HEIGHT AGL	35.0
ANTENNA RCAMSL	562.9

FCC TVStudy Results:

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.

Canadian Coordination:

Coordination with Canada is NOT required as the 25.60 dBu f(50,10) contour does not cross the Canadian border.

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 20, 2024



Timothy Z. Sawyer, Consulting Engineer

T Z Sawyer Technical Consultants
2130 Hutchison Grove Court, Suite 100
Falls Church, VA 22043
Tel.: (703) 848-2130
e-mail: tzsawyer@tzsawyer.com

W33EM-LD MOD
 PROPOSED
 FCC Facility ID: 68024
 NAD 83 Latitude: 40-09-24.50 N
 NAD 83 Longitude: 079-19-31.40 W
 ERP: 2.50 kW
 Channel: 33
 Frequency: 587.0 MHz
 Ant. RCAMSL Height: 562.9 m
 Horiz. Pattern: Directional

W33EM-LD PITTSBURG PA
 PRESENT AND PROPOSED SERVICE CONTOURS
 CH 33 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 CONTOURS

FCC 30-MILE SITE MOVE MINOR CHANGE RULE

MINOR CHANGE CONTOUR OVERLAP SHADED AREA

W33EM-LD LIC
 FCC LMS File: 0000164350
 FCC Facility ID: 68024
 NAD 83 Latitude: 40-00-46.70 N
 NAD 83 Longitude: 078-53-20.70 W
 ERP: 2.00 kW
 Channel: 33
 Frequency: 587.0 MHz
 Ant. RCAMSL Height: 756.6 m
 Horiz. Pattern: Directional



Created on: 03/15/2024
 NED 3 Second US Terrain

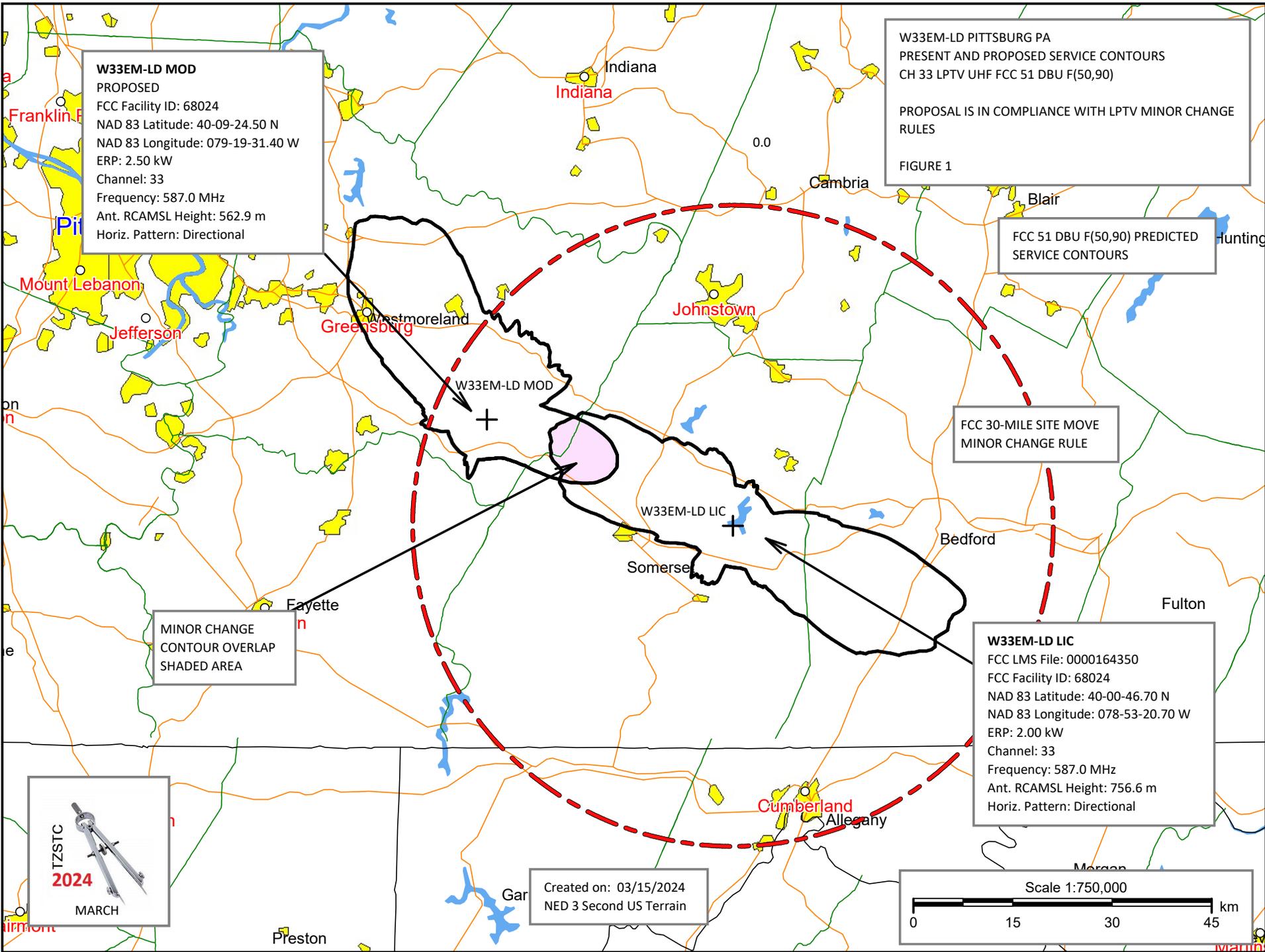
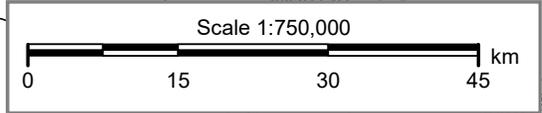


FIGURE 2 W33EM-LD SCA PRTV 2-ARRAY 110/330 ANT PATTERN_{angle = 110}

Pre-Rotation Antenna Pattern....

Azimuth (deg)	Relative Field
0.0	1.0
10.0	0.807
20.0	0.442
30.0	0.184
40.0	0.111
50.0	0.083
60.0	0.078
70.0	0.077
80.0	0.083
90.0	0.084
100.0	0.088
110.0	0.089
120.0	0.088
130.0	0.084
140.0	0.083
150.0	0.077
160.0	0.078
170.0	0.083
180.0	0.111
190.0	0.184
200.0	0.442
210.0	0.807
220.0	1.0
230.0	0.817
240.0	0.458
250.0	0.203
260.0	0.131
270.0	0.103
280.0	0.097
290.0	0.095
300.0	0.097
310.0	0.103
320.0	0.131
330.0	0.203
340.0	0.458
350.0	0.817

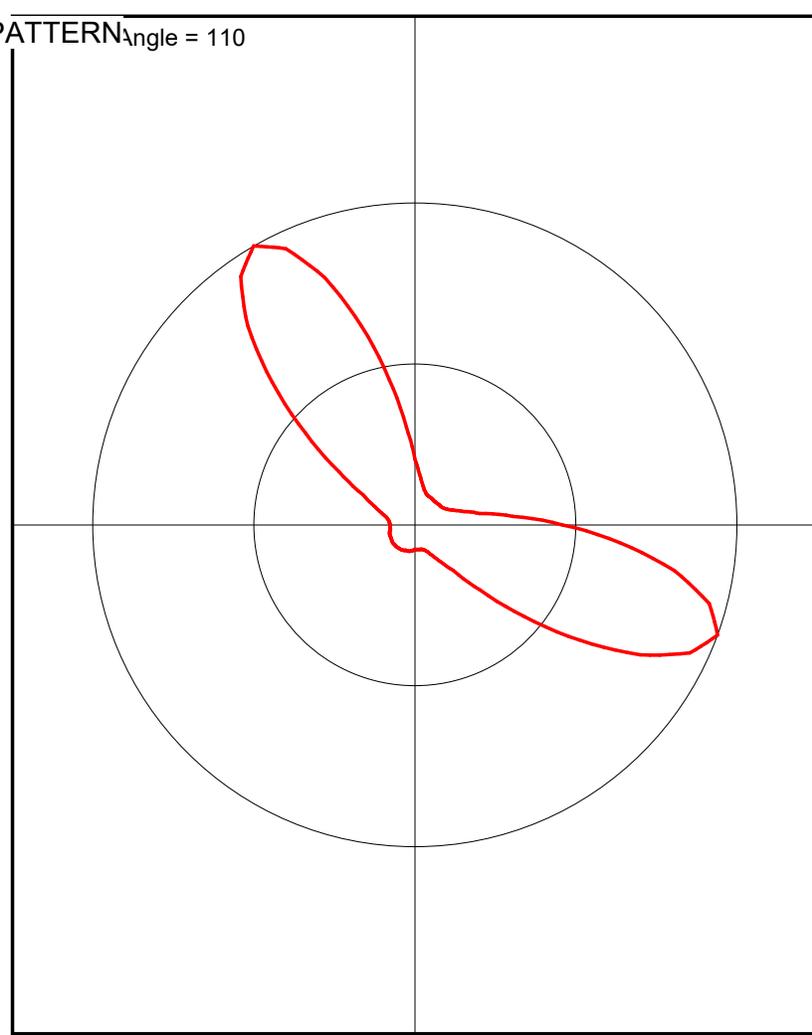


FIGURE 3 W33EM MINOR CHANGE APPLICATION FCC TVSTUDY SUMMARY REPORT

Proposal: W33EM-D D33 LD APP Pittsburgh, PA
 File number: W33EM-LD MOD
 Facility ID: 68024
 Station data: User record
 Record ID: 758
 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	WIIC-LD	N29+	TX	LIC	PITTSBURGH, PA	BLTTL19981230JB	63.0 km
No	WOUB-TV	D32	DT	LIC	ATHENS, OH	BLANK000068360	258.9
No	WYFX-LD	D32	LD	LIC	YOUNGSTOWN, OH	BLANK0000082699	149.7
No	WMVH-CD	D32	DC	LIC	CHARLEROI, PA	BLANK0000079929	48.6
No	WMVH-CD	D32	DC	CP	CHARLEROI, PA	BLANK0000127551	48.6
No	WHP-TV	D32	DT	LIC	HARRISBURG, PA	BLANK0000080028	209.4
No	WKHU-CD	D32	DC	LIC	KITTANNING, PA	BLANK0000079958	72.4
No	WKHU-CD	D32	DC	CP	KITTANNING, PA	BLANK0000127549	72.4
No	WCAV	D32	DT	LIC	CHARLOTTESVILLE, VA	BLANK0000092578	252.2
No	W32FY-D	D32	LD	LIC	CLARKSBURG, WV	BLANK0000179434	129.0
No	WHUT-TV	D33	DT	LIC	WASHINGTON, DC	BLANK0000178029	234.6
No	WKHA	D33	DT	LIC	HAZARD, KY	BLANK0000075043	469.9
No	WOWZ-LD	D33	LD	LIC	SALISBURY, MD	BLANK0000184175	359.3
No	WUNL-TV	D33	DT	LIC	WINSTON-SALEM, NC	BLANK0000221557	430.1
No	WSKG-TV	D33	LD	CP	BINGHAMTON, NY	BLANK0000054938	345.8
No	WGRZ	D33	DT	APP	BUFFALO, NY	BLANK0000220532	291.7
No	WGRZ	D33	DT	CP	BUFFALO, NY	BLANK0000035664	291.7
No	WGRZ	D33	DT	LIC	BUFFALO, NY	BLANK0000137137	291.7
No	WQIZ-LD	D33+	LD	LIC	ASHLAND, OH	BLANK0000136481	261.2
No	WQIZ-LD	N33+	TX	LIC	ASHLAND, OH	BLTTL20020211ABL	261.2
No	WHIO-TV	D33	DT	LIC	DAYTON, OH	BLANK0000204188	422.0
Yes	WFMJ-TV	D33	DT	LIC	YOUNGSTOWN, OH	BLANK0000089155	151.1
Yes	WJAC-TV	D33	LD	LIC	JOHNSTOWN, PA	BLANK0000150586	87.8
No	WPSG	D33	DT	LIC	PHILADELPHIA, PA	BLANK0000237957	347.4
No	WPSG	D33	DT	LIC	PHILADELPHIA, PA	BLANK0000218164	347.4
No	WQPX-TV	D33	DT	LIC	SCRANTON, PA	BLANK0000080158	334.5
No	DW33AD	N33	TX	APP	CONCORD, VA	BLTTL19821108I0	314.3
No	WTVZ-TV	D33	DT	CP	NORFOLK, VA	BLANK0000117232	445.8
No	WTVZ-TV	D33	DT	LIC	NORFOLK, VA	BLANK0000125150	445.8
No	WOCW-LD	D33+	LD	LIC	CHARLESTON, WV	BLANK0000074740	282.1
No	W33EJ-D	D33	LD	LIC	MOOREFIELD, WV	BLANK0000081241	135.3
No	WDTV	D33	DT	LIC	WESTON, WV	BLANK0000197623	129.0
No	WRC-TV	D34	DT	LIC	WASHINGTON, DC	BLANK0000153860	235.1
No	WPXI	D34	LD	LIC	PITTSBURGH, PA	BLANK0000106623	120.0
No	WHSV-TV	D34	LD	LIC	HARRISONBURG, VA	BLANK0000120242	201.8
Yes	WNPB-TV	D34	DT	LIC	MORGANTOWN, WV	BLANK0000106559	63.3
No	W34FE-D	D34	LD	LIC	PARKERSBURG, WV	BLANK0000201163	205.5

No non-directional AM stations found within 0.8 km

No directional AM stations found within 3.2 km

Record parameters as studied:

Channel: D33
 Mask: Full Service
 Latitude: 40 9 24.50 N (NAD83)
 Longitude: 79 19 31.40 W
 Height AMSL: 562.9 m
 HAAT: 0.0 m
 Peak ERP: 2.50 kW
 Antenna: SCA-PR-TV 2-ARRAY 110/330 110.0 deg
 Elev Patrn: Generic

50.6 dBu contour:

Azimuth	ERP	HAAT	Distance
0.0 deg	0.103 kW	83.6 m	15.6 km
45.0	0.023	126.7	13.6
90.0	0.524	-75.5	14.6
135.0	0.204	-129.5	11.5
180.0	0.015	-70.0	6.1
225.0	0.019	17.1	6.5

270.0	0.015	73.1	9.4
315.0	0.977	108.7	30.3

Database HAAT does not agree with computed HAAT
Database HAAT: 0 m Computed HAAT: 17 m

Proposal 25.60 dBu contour does not cross Canadian border
Distance to Canadian border: 256.5 km

Distance to Mexican border: 2265.9 km

Conditions at FCC monitoring station: Laurel MD
Bearing: 116.4 degrees Distance: 241.0 km

Proposal is not within the West Virginia quiet zone area

Conditions at Table Mountain receiving zone:
Bearing: 278.4 degrees Distance: 2192.4 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 BLANK0000089155 LIC
Proposal causes no interference to BLANK0000150586 LIC
Proposal causes 0.02% interference to BLANK0000106559 LIC scenario 1
Proposal causes no interference to W33EM-LD MOD APP

No IX check failures found.

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W33EM-LD
LPTV CHANNEL 33 OPERATION
FACILITY ID: 68024
PITTSBURGH, PENNSYLVANIA
MARCH 2024

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.)

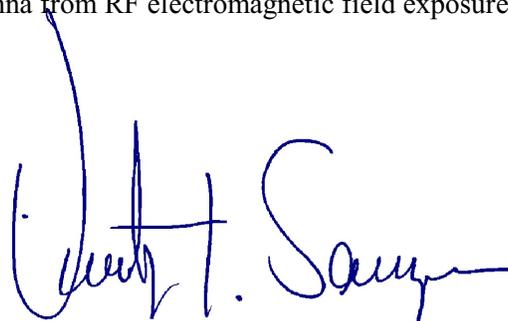
CALCULATED POWER DENSITY AT 2 METERS AGL (0.5 ANTENNA RELATIVE FIELD VALUE) ERP MAX (H ONLY)

CR AGL 33.5 M ERP MAX 2.0 KW	MPE ($\mu\text{W}/\text{CM}^2$)	CALCULATED VALUE ($\mu\text{W}/\text{CM}^2$)	% OF MPE	PASS/FAIL
CONTROLLED AREA	1956.7	19.1690	0.98%	PASS
PUBLIC AREA	391.3		4.90%	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 20, 2024

T Z Sawyer Technical Consultants
2130 Hutchison Grove Court, Suite 100
Falls Church, Virginia 22043
Telephone: (703) 848-2130
e Mail to: tzsawyer@tzsawyer.com



Timothy Z. Sawyer, Consulting Engineer