

Technical Report K293BX Minor Modification

This technical report is submitted in support of an application for a modification to K293BX, FCC file no. BLFT-20150401AEK. Changes in antenna and ERP are submitted. The translator will continue to serve as a fill-in facility to rebroadcast KLTl(AM) 1560 kHz at Macon, MO, FCC facility I.D. 43535.

K293BX Modification Analysis:

An overlap study (exhibit E-1) shows the K293BX modification does not produce any interference overlap to other facilities. The 60 dBu overlaps the licensed 60 dBu contour and is contained within a 25 mile/40 km radius from the primary KLTl(AM) tower site (exhibit E-2).

Antenna System:

The K293BX modification is located on an existing tower, ASR #1251042, at coordinates:

39 27 10N 92 21 58W NAD 27.

A PSI FML-1 nondirectional antenna will be mounted at a COR AGL of 61 meters, 314 meters AMSL and operate at 0.200 kW ERP.

RF Exposure Calculation:

The RF contribution was calculated using FMModel (exhibit E-3). The RF is calculated to be $1.06 \mu\text{W}/\text{cm}^2$ at a distance of 60.4 meters, which is well below 5% of the $200 \mu\text{W}/\text{cm}^2$ maximum permissible for uncontrolled controlled exposure.

Conclusion:

It is concluded that the K293BX modification complies with all Commission rules and policies.



Christopher Anderson April 04, 2017
andersce@bham.rr.com
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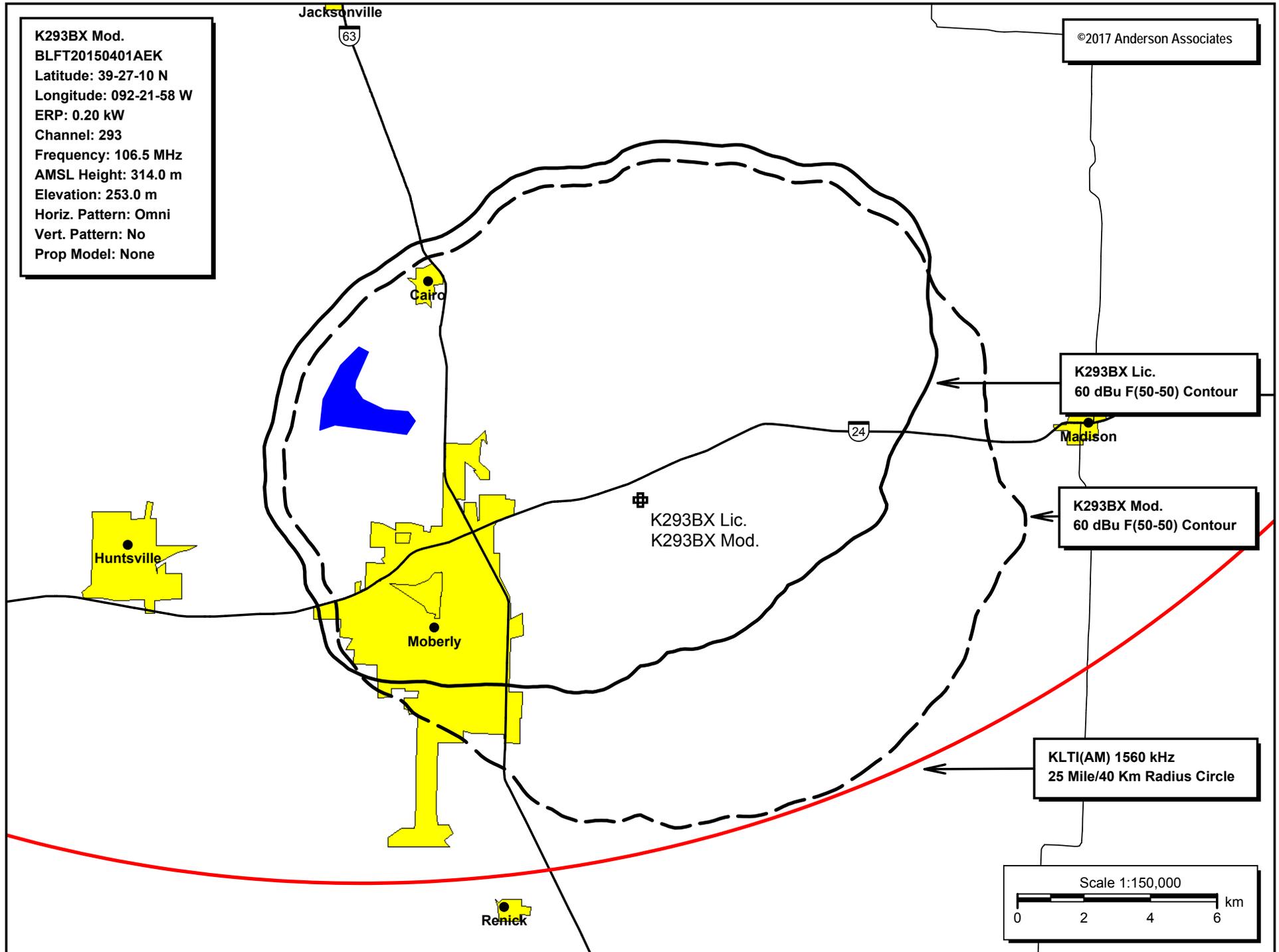
E-1 K293BX Mod. Overlap Study

REFERENCE CH# 293D - 106.5 MHz, Pwr= 0.2 kW, HAAT= 70.0 M, COR= 314 M DISPLAY DATES
 39 27 10.0 N. Average Protected F(50-50)= 10.32 km DATA 04-04-17
 92 21 58.0 W. Omni-directional SEARCH 04-04-17

CH CITY	CALL	TYPE STATE	ANT	AZI <--	DIST FILE #	LAT LNG	PWR(kW) HAAT(M)	INT(km) COR(M)	PRO(km) LICENSEE	*IN* (Overlap in km)	*OUT*
293D Moberly	K293BX	LIC DC_ MO		0.0 0.0	0.00 BLFT20150401AEK	39 27 10.0 92 21 58.0	0.250 70	36.2 314	10.7 Fm 105, Inc.	-46.3*	-44.6*
239C Mexico	KWWR	LIC NCY MO		136.6 316.7	28.94 BLH20000530ACL	39 15 49.0 92 08 06.0	100.000 360	128.8 608	52.5 Kxeo Radio, Inc.	28.5R	0.44M
293C1 Liberty	WDAF-FM	LIC _CX MO		257.6 76.3	187.20 BMLH20040802BEU	39 04 24.0 94 29 06.0	100.000 299	171.2 565	71.8 Entercom License, Lic	5.6	82.4
293D Columbia	K293CI	LIC _C_ MO		171.7 351.7	55.90 BLFT20161103ACL	38 57 19.0 92 16 20.0	0.140	38.1 332	10.9 Educational Media Foundati	8.6	11.6
291C1 Ashland	KOQL	LIC NCN MO		192.1 11.9	79.85 BLH19981125KG	38 45 01.0 92 33 31.0	69.000 292	8.9 519	67.3 Cumulus Licensing Lic	61.1	11.5
295C Jefferson City	KTXY	LIC _CY MO		186.9 6.8	91.26 BLH19900727KA	38 38 16.0 92 29 34.0	100.000 381	11.4 609	78.8 Zimmer Radio Of Mid-missou	70.1	11.5
293C1 Granite City	WARH	LIC _C_ IL		118.3 299.6	201.52 BLH20111026AGG	38 34 27.7 90 19 31.5	90.000 309	167.8 462	70.0 St. Louis Fcc License Sub,	22.9	94.6
292D Vandalia	K292GI	CP _C_ MO		105.5 286.0	68.39 BNPFT20130325AIS	39 17 07.4 91 36 01.5	0.250 54	13.4 282	9.6 Covenant Network	43.6	43.3

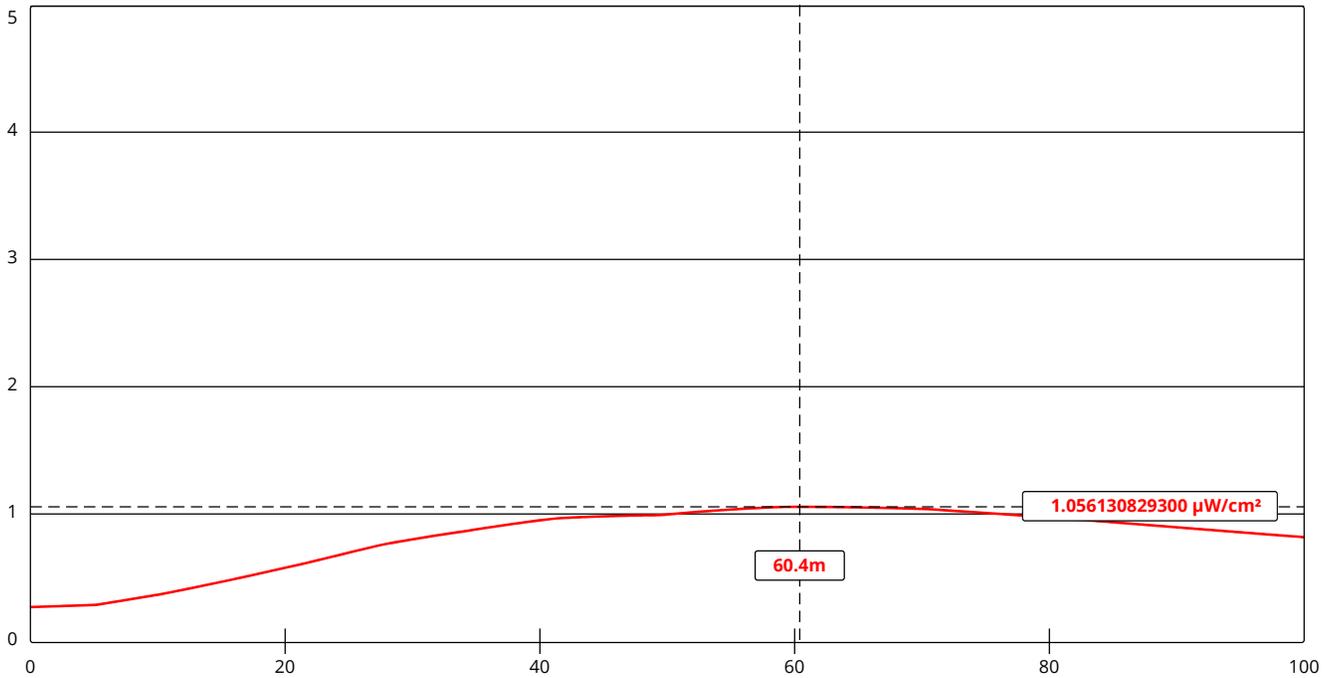
Terrain database is FCC NGDC 30 Sec , R= 73.215 qualifying spacings or FCC minimum Spacings in KM, M= Margin in KM
 In & Out distances between contours are shown at closest points. Reference zone= West Zone, Co to 3rd adjacent.
 All separation margins (if shown) include rounding.
 Ant Column: (D= DA Standard, Z= DA 73.215, N= Not DA 73.215, _= Omni), Polarization (C,H,V,E), Beamtilt(Y,N,X)
 "*"affixed to 'IN' or 'OUT' values = site inside restricted contour.

E-2 K293BX Mod. 60 dBu Contour Plot



E-3 K293BX Mod. RF Calculation

FM Model



Channel Selection	Channel 250 (97.9 MHz)		
Antenna Type +	EPA Type 2: Opposed V Dipole		
Height (m)	61	Distance (m)	100
ERP-H (W)	200	ERP-V (W)	200
Num of Elements	1	Element Spacing (λ)	1
Num of Points	500		

ASR Registration 1251042

Registration Detail

Reg Number	1251042	Status	Constructed
File Number	A0616324	Constructed	03/14/2008
EMI	No	Dismantled	
NEPA	No		

Antenna Structure

Structure Type TOWER - Free standing or Guyed Structure used for Commu

Location (in NAD83 Coordinates)

Lat/Long	39-27-10.1 N 092-21-58.7 W	Address	1 km south southwest from the intersection of County Road 2320 and US Highway 24
City, State	Moberly , MO		
Zip	65270	County	RANDOLPH
Center of AM Array		Position of Tower in Array	

Heights (meters)

Elevation of Site Above Mean Sea Level	Overall Height Above Ground (AGL)
253.0	91.4
Overall Height Above Mean Sea Level	Overall Height Above Ground w/o Appurtenances
344.4	91.4

Painting and Lighting Specifications

FAA Chapters 3, 4, 5, 12
Paint and Light in Accordance with FAA Circular Number 70/7460-1K

FAA Notification

FAA Study	2007-ACE-4028-OE	FAA Issue Date	10/19/2007
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Owner & Contact Information

FRN	0003772548	Owner Entity Type	
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Owner

105-FM, Inc. 408 West Reed Street P.O. Box 219 Moberly , MO 65270	P: (660)263-7368 F: E: best@mcmsys.com
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Contact

P:
F:
E:

Last Action Status

Status	Constructed	Received	12/10/2008
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