TECHNICAL EXHIBIT
APPLICATION FOR FM CONSTRUCTION PERMIT
STATION KZXM
FACILITY ID 170966
BULLARD, TEXAS
CH 232A 3.5 KW (DA) 132 M

Technical Narrative

1. Proposed Operation: It is proposed to relocate KZXM to an existing tower (ASRN 1271564) and operate on channel 232A (94.3 MHz) at Bullard, Texas with a directional antenna maximum ERP of 3.5 kW (H) / 3.3 kW (V) and an HAAT of 132 meters.[1] The proposed KZXM transmitter site is located just 0.22 km from the existing licensed KZXM transmitter site.

2. Compliance with Section 73.315: Figure 1 is a map which demonstrates that the proposed KZXM operation complies with the provisions of section 73.315 and provides the entire community of Bullard, Texas with a 70-dBu signal. The Bullard city limits shown on Figure 1 were obtained from a map contained in the 2010 U.S. Census of Population (as updated in 2016).

3. Compliance with Sections 73.207 and 73.215: Figure 2 is a separation study based on Section 73.207 for channel 232A operation from the proposed KZXM site. As shown, the proposed site complies with the minimum distance separation requirements of Section 73.207 for class A operation on channel 232 towards all existing, authorized and proposed stations and allotments, with the exceptions of the licensed operations of KNLO on channel 231C at Fort Worth, Texas; and KRUF on channel 233C0 at Shreveport, Louisiana. Section 73.215 processing is requested with respect to both KNLO and KRUF.[2] Figure 3 is a map demonstrating compliance with the contour overlap provisions of Section 73.215. It is noted that maximum facilities have been presumed for both KNLO and KRUF for the Section 73.215 analysis. The minimum distance separation requirements of Section 73.215(e) are met with respect to the KNLO and KRUF operations.

4. Use of U.S.G.S. 1-Second Terrain Data: The U.S.G.S. 1-second terrain database was used to determine the locations of the protected and interfering contours depicted on Figures 1 and 3. Terrain data were derived along 72 equally spaced radials.

5. RFR Compliance: The proposed KZXM facility was evaluated in terms of potential radio frequency (RF) energy exposure at ground level to workers and the general

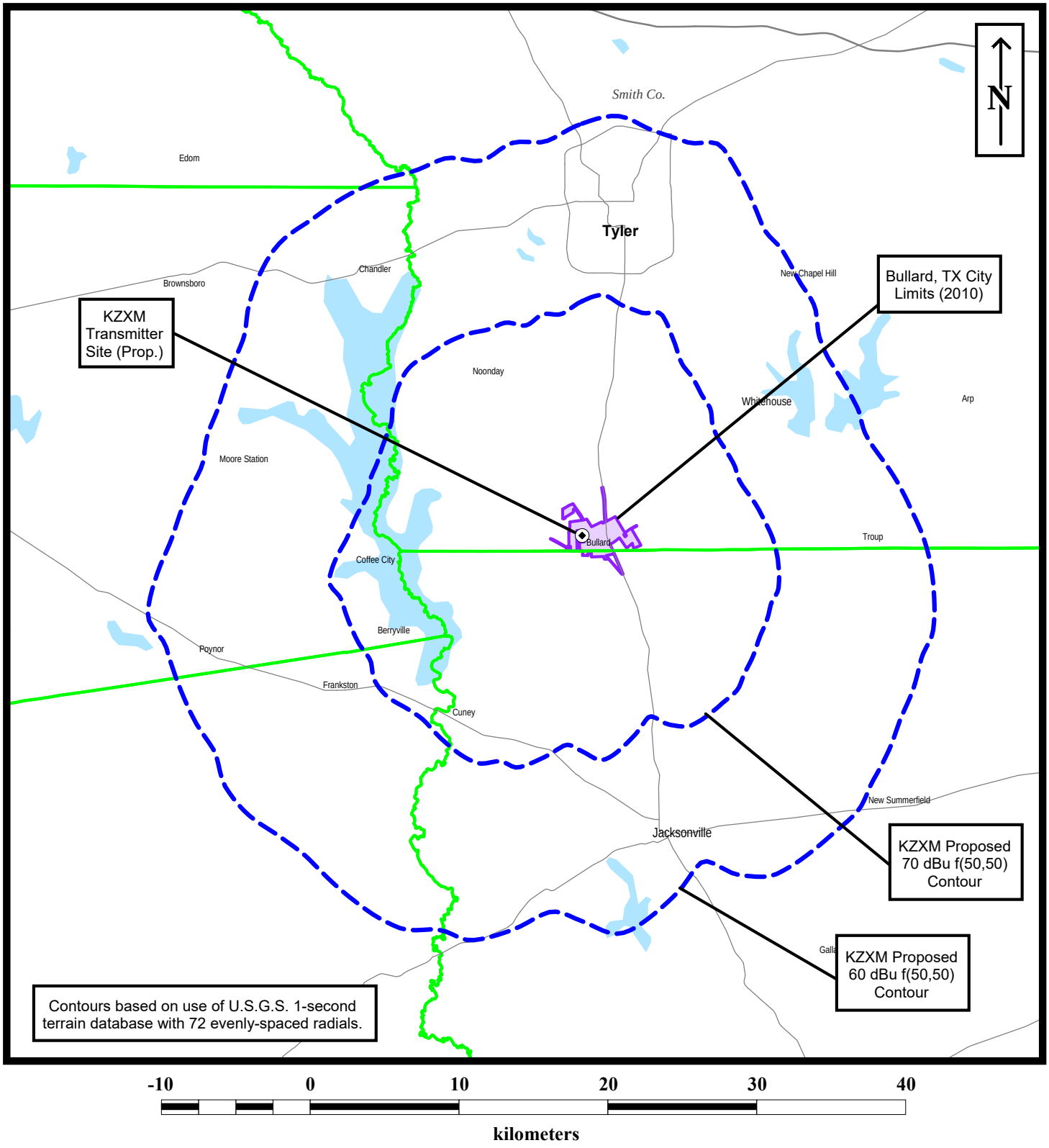
[1] The proposed KZXM facilities are equivalent to maximum Class A facilities in accordance with Section 73.211(b)(2). In addition, the KZXM HAAT was calculated using the U.S.G.S. 1-second terrain database and 8 evenly spaced radials.
[2] This is no change from the licensed KZXM facility.

public based on the FCC's FM Model software. It is proposed to side-mount a Shively model 6810-2-DA, 2-bay, one-wavelength spaced directional antenna at the 82.3-meter level on the existing tower.[3] The total ERP is 6.8 kW (horizontal and vertical polarization). Figure 4 depicts the output of the FCC's FM Model program. As indicated, a maximum power density of 20.63 $\mu W/cm^2$ will occur at a point located 20.2 meters from the tower. This is only 10.3% of the FCC's recommended limit of 200 $\mu W/cm^2$ for FM frequencies for an uncontrolled environment. Thus, it is believed that the proposed KZXM facility is in full compliance with the FCC's requirements with regard to radio frequency radiation exposure.[4]

Access to the transmitting site will be restricted and appropriately marked with RFR warning signs. Furthermore, a protocol will be in effect in the event that workers or other authorized personnel enter the restricted area or climb the tower to ensure that appropriate measures will be taken to assure worker safety with respect to radio frequency radiation exposure. Such measures include reducing the average exposure by spreading out the work over a longer period of time, wearing accepted RFR protective clothing and/or RFR exposure.

[3] The Shively model 6810 series is considered to be as a 'Type 1' EPA Element for the FM Model study.
[4] It is noted that there are no other broadcast facilities located in closed proximity of the proposed transmitter site.

Figure 1



COMPLIANCE WITH SECTION 73.315

duTreil, Lundin & Rackley, Inc. Sarasota, Florida

FM Study LMS

du Treil, Lundin, & Rackley, Inc., Sarasota, Florida

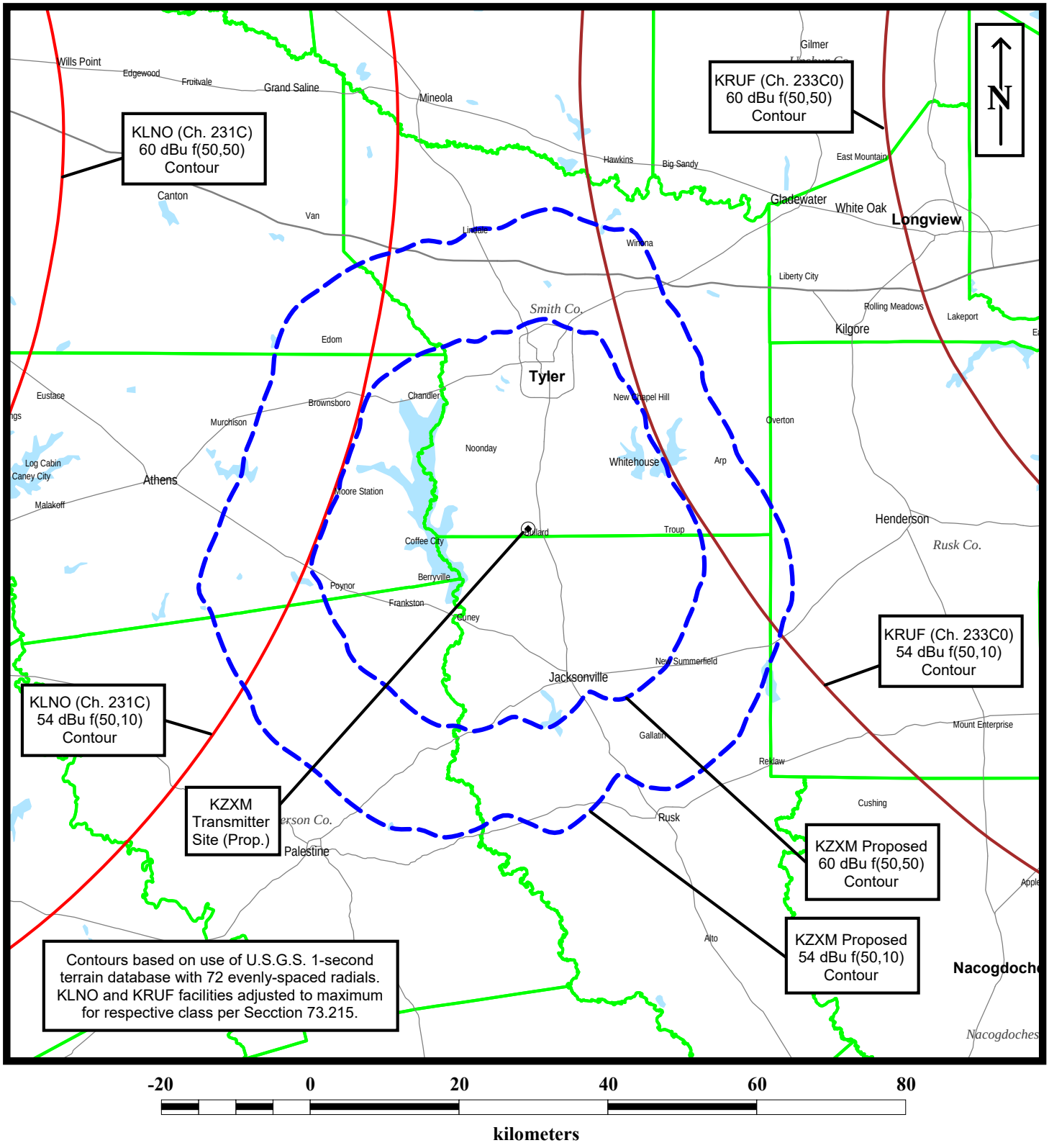
Station Channel: 232 ***Station Coordinates:*** 032-08-42.3 095-19-52.6

Class: A ***Buffer Distance:*** 5 km

Comment: SHORT

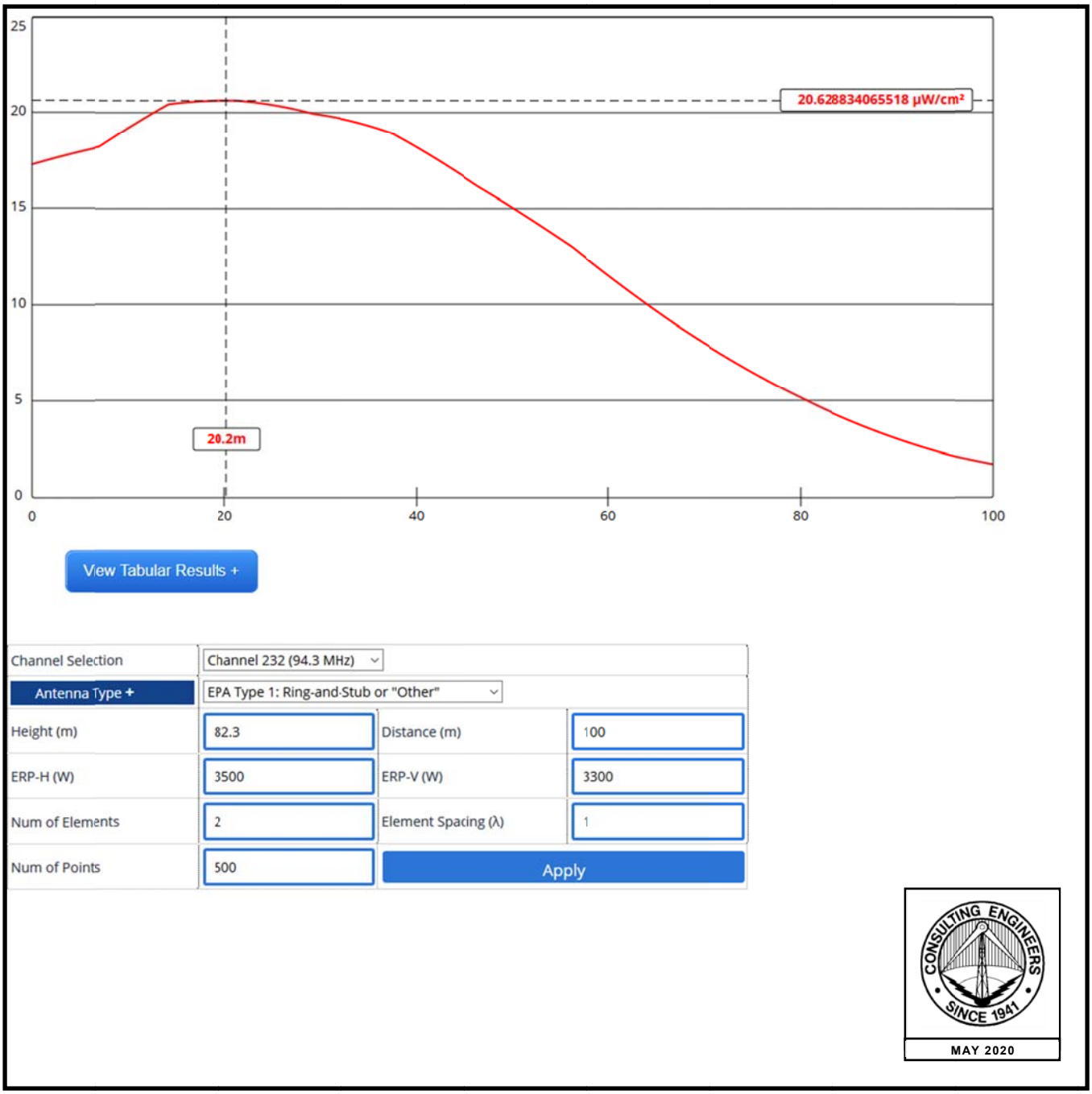
Callsign	Status	Channel	Service	Freq.	City	State	Co.	Rec Type	Latitude	Dist. (km)	Sep. (km)	Spacing (km)	
Facility ID	ARN		Class	DA	Ant ID	ERP (kW)	HAAT (m)	73.215	Longitude	Bear. (deg)	73.215 (km)	Comment	
KLNO	MOD	231	FM	94.1	FORT WORTH	TX		C	032-35-22.5	161.89	165	-3.11	
41380	BMLH-20101015ACJ		C		NDIR	100	485		096-58-11	288.24	142	**SHORT**	/1/
KZXM	MOD	232	FM	94.3	BULLARD	TX		C	032-08-38.6	0.22	115	-114.78	
170966	BMLED-20190607AAS		A		DRL 86847	2.05	172.3		095-19-59.8	238.75	92	**SHORT**	/2/
KRUF	L2C	233	FM	94.5	SHREVEPORT	LA		C	032-40-13.5	143.84	152	-8.16	
60265	BLH-19880314KB		C0		NDIR	100	334		093-55-59.7	65.63	130	**SHORT**	/1/

Notes:
/1/ - Proposed facility in compliance with contour protection requirements of Section 73.215 of the FCC Rules. See Allocation Study Map exhibit.
/2/ - KZXM licensed facility.



SECTION 73.215 COMPLIANCE MAP

duTreil, Lundin & Rackley, Inc. Sarasota, Florida



FCC FM MODEL RESULTS FOR KZXM ANTENNA

du Treil, Lundin & Rackley, Inc. Sarasota, Florida