

Minor Modification of K277AG Facility ID No. 51844

This exhibit is for minor modification of translator permit for K277AG Facility ID No. 51844. It specifies a change in location, antenna elevation, and antenna model only.

Antenna Location

The proposed antenna is to be mounted on an existing tower identified by registration number 1033983 at **72.2** meters above ground. Below as **Figure 1** is an overlap and spacing study from which it can be determined that this proposal is within the protected contour of **second** adjacent channel station KHJK(FM).

73.1204 Compliance

We will demonstrate that a lack of population and/or other factors allow this proposal to be compliant with 74.1204. The process commonly called “Living Way”, allows for the use of D/U Analysis, also known as “signal strength ratio methodology” to be utilized to demonstrate compliance. In this instant case the facility to be protected is on a second or third adjacent channel and is to be afforded protection from signals 40 dB stronger than the protected facility presents near the proposed translator antenna location.

Concerning KHJK(FM) In **Figure 2** a map showing the predicted 81.9 dBu signal contour of the protected facility at the proposed translator antenna location is given. This proposal can only cause predicted interference to the protected facility by having a signal exceeding 121.9 dBu ($81.9 + 40$) in a habitable/populated area. Utilizing the line of sight equation shown in **Figure 3** which considers the vertical elevation pattern of the proposed antenna, it has been determined that a 121.9 dBu signal developed by 99 watts, as proposed, emitted by the proposed antenna mounted 72.2 meters above ground, will not reach habitable areas or ground level. With examination of the image in **Figure 4** it can be determined that no habitable space extends above this height within the confines of this contour. Thus the provisions of the rules section concerning prohibited overlap will not apply as it has been demonstrated that no actual interference will occur due to a lack of population and other factors as applied in this instant proposal.

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Fill-in and Minor Change Status

This proposal is to serve as a fill-in translator for station KKMY(FM) Facility ID 62239, Orange, TX. The map of **Figure 5** demonstrates that the proposed 60 dBu contour is contained within that of the

KKMY(FM) facility. It can also be seen that the proposed and permitted facilities have service contour overlap.

RF Fields Statement

The proposed facilities were evaluated in terms of potential radio frequency fields exposure at ground level in accordance with OET Bulletin No. 65, "Evaluating Compliance With FCC-Specified Guidelines for Human Exposure to Radio frequency Radiation."

The proposed antenna system is a **Bext TFC2K**, a one (1) element antenna, mounted 72.2 meters above ground. As this element type is not modeled in any current RF Fields calculation computer program, for purposes of this analysis the FM Model RF Fields program has been set to calculate values for an array of "worst case" type of antenna element(s) "Ring Stub", operated with an effective radiated power of 0.099 Kilowatts in the Horizontal and Vertical plane. At 2 meters above the surface, at 18 meters from the base of the tower, this proposal will contribute worst case, 0.9 microwatts per square centimeter, or 0.09 percent of the allowable ANSI limit for controlled exposure, and 0.5 percent of the allowable limit for uncontrolled exposure. This figure is less than 5.0% of the applicable FCC exposure limit at all locations extending out from the base of the tower. Section 1.1307(b)(3) excludes applications when the calculated level is predicted to be less than 5.0% of the applicable exposure limit. It is therefore believed that this proposal is in compliance with OET Bulletin Number 65 as required by the Federal Communications Commission.

Further, the applicant will see that signs are posted in the vicinity of the tower, warning of potential radio frequency hazards at the site. The site itself is restricted from public access. The applicant will cooperate with other users of the tower to reduce power of the facility, or discontinue operation, as necessary to limit human exposure to levels less than specified by the Federal Communications Commission should anyone be required to climb the tower for maintenance or inspection.

Figure 1. Overlap and Spacing Study

ASR 1033983 at 72.2 m 237 ft AGL											
REFERENCE		CH#	277D - 103.3 MHz, Pwr= 0.099 kW, HAAT= 73.9 M, COR= 77.1 M					DISPLAY DATES			
30 04 32.10 N.			Average Protected F(50-50)= 8.86 km					DATA 01-19-21			
94 07 48.70 W.			Omni-directional					SEARCH 01-26-21			
CH	CALL	TYPE	ANT	AZI	DIST	LAT	PWR(kw)	INT(km)	PRO(km)	IN#	OUT#
CITY		STATE		<--	FILE #	LANG	HAAT(M)	COR(M)	LICENSEE	Overlap	in km
277C2	KBTU	LIC	ZCN	75.9	77.84	30 14 36.70	50.000	133.5	47.9	-64.7*	0.0
	Lake Charles	LA		256.3	BLH20190612AAS	93 20 38.60	115	119		Cumulus Licensing LLC	
279C	KHJK	LIC	CN	247.2	39.81	29 56 09.80	100.000	13.7	91.8	17.4	-52.7*
	La Porte	TX		67.0	BLER20130415ACC	94 30 39.70	590	607		Educational Media Foundati	
277D	K277AG	LIC	CN	353.8	2.19	30 05 42.70	0.090	25.0	7.5	-31.7*	-34.7*
	Beaumont	TX		173.8	BLFT20050215AAA	94 07 57.60	51	57		Capstar TX, LLC	
277C	K30J-FM	CP	CN	228.1	202.33	28 51 04.90	100.000	197.5	91.7	-3.9	81.9
	Freeport	TX		47.3	BPHZ0171221AAD	95 40 36.80	596	596		Estrella Radio License Of	
277C	K30J-FM	LIC	CN	225.8	199.71	28 48 57.90	100.000	172.3	72.6	18.7	98.4
	Freeport	TX		45.1	BLH19871013KC	95 36 03.80	303	303		Estrella Radio License of	
277C2	AL7463	RSV-A	---	336.7	164.61	31 25 59.66	50.000	135.7	50.2	20.2	85.7
	Nacogdoches	TX		156.3	RM10035	94 49 03.75	150	227			
277C2	KJCS	LIC	CN	336.7	164.61	31 25 59.70	22.500	127.8	51.2	28.2	84.7
	Nacogdoches	TX		156.3	BLH20020228AAD	94 49 03.80	224	304		Radio Licensing, Inc.	
277L1	KZCV-LP	LIC	CN	248.9	78.69	29 49 06.80	0.020			50.8	44.1
	Baytown	TX		68.5	BLL20170623ABQ	94 53 28.70	65	74		Iglesia Cristo Viene Of Ba	
275C0	KLTN	LIC	CN	253.4	121.72	29 45 26.80	100.000	10.2	72.7	102.8	48.3
	Houston	TX		72.8	BLH20090715AIB	95 20 19.80	300	312		Univision Radio Stations G	
274C2	KTXJ-FM	LIC	ZCN	8.3	110.64	31 03 36.70	46.000	4.7	44.5	97.0	65.5
	Jasper	TX		188.4	BLH20100910AEJ	93 57 42.70	156	247		Crosstexas Media, Inc.	
277D	K277DE	LIC	DCN	266.3	129.43	29 59 34.80	0.250	50.0	15.3	70.8	84.9
	Houston	TX		85.6	BLFT20170517ABA	95 28 17.80		190		Salem Communications Holdi	
275C	KAJN-FM	LIC	CN	90.9	169.33	30 02 19.70	100.000	12.2	84.1	148.1	84.6
	Crowley	LA		271.8	BLH19800324AD	92 22 15.40	457	459		Agape Broadcasters, Inc.	
276C3	KWLA	LIC	CN	25.3	155.10	31 20 57.10	25.000	58.0	37.1	88.2	103.3
	Anacoco	LA		205.6	BLH20140905ABA	93 25 08.60	100	187		Baldridge-Dumas Communicat	

Terrain database is 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)
*a=affixed to 'IN' or 'OUT' values = site inside restricted contour.

Figure 2. Contour Map

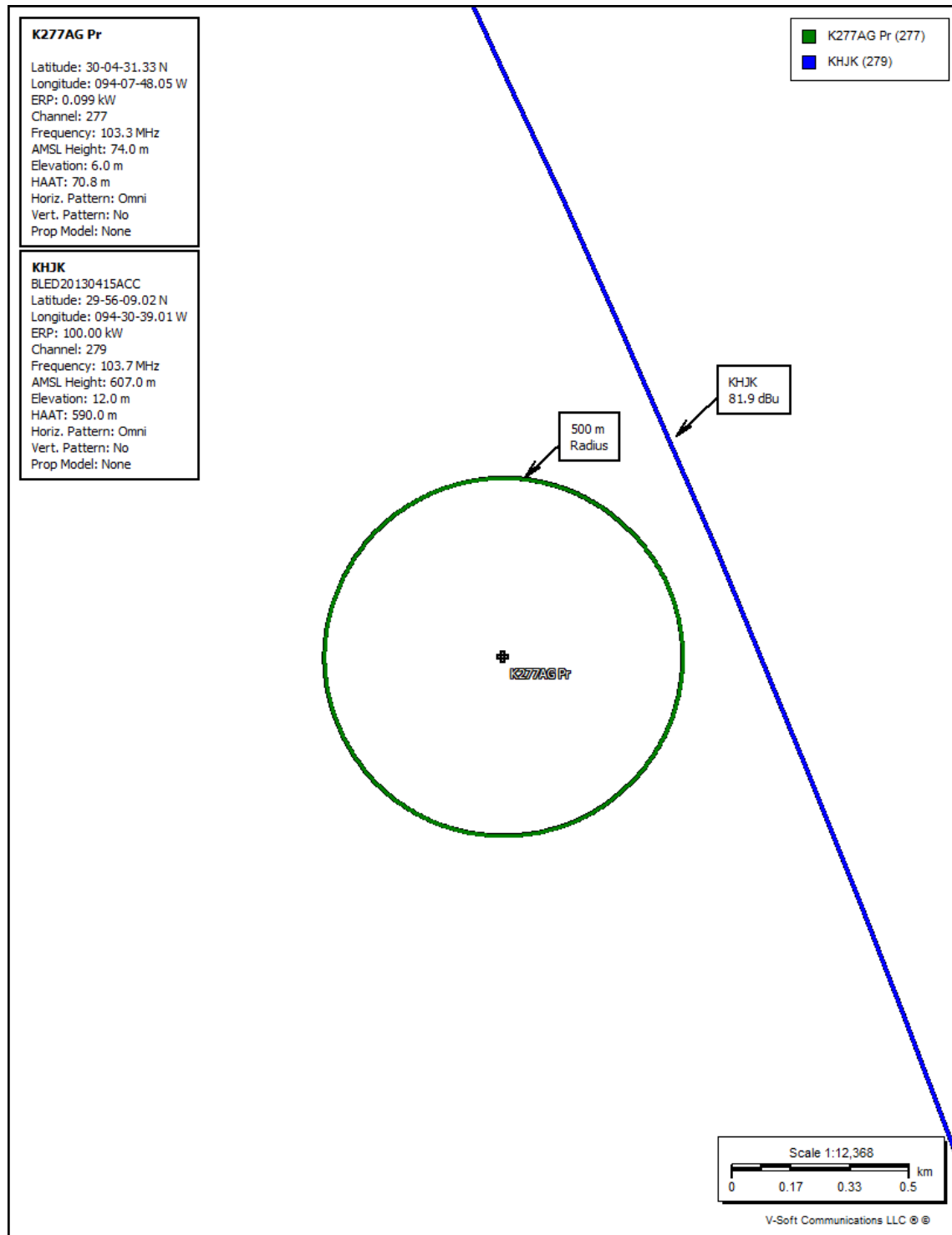


Figure 3. Signal Level at or Near Ground Level

<div> <div>Proposed Antenna:</div> <div>BEX TFC2K-D 1Bay</div> </div> <div> <div>Proposed Power:</div> <div>0.099 kW</div> </div> <div> <div>Antenna Height AGL:</div> <div>72.2 meters</div> </div> <div> <div>Interference Contour:</div> <div>121.9 dBu</div> </div> <div> <div>Artificial Rcv Antenna Height:</div> <div>2 meters</div> </div> <div> <div>Distance (Free Space) Equation:</div> <div>$=(10^{\wedge}((106.92-[\text{desired dBu}]+[\text{ERP in dBk}])/20))*1000$</div> </div> <div> <div>Field Strength (dBu) Equation</div> <div>$"=106.92-(20*(\text{LOG10}[\text{DistMeters}/1000]))+[\text{ERPin dBk}]$</div> </div> <div>Fill in "yellow" cells</div>								
Depression				Distance				
Angle	Antenna			from Ant.	Distance from Ant. to	Field Strength in dBu @	Distance from Ant. to	Field Strength in dBu @
Below	Relative	ERP	ERP	to Interf	to	in dBu @	from Ant. to	in dBu @
Horizon	Field	in kW	in dBk	Contour	Artificial Plane	Artificial Plane	Ground Level	Ground Level
0°	0.952	0.090	-10.47	53.39 m	infinite	---	infinite	---
-5°	1.000	0.099	-10.04	56.08 m	805.45 m	98.76 dBu	828.40 m	98.51 dBu
-10°	0.975	0.094	-10.26	54.68 m	404.27 m	104.52 dBu	415.78 m	104.28 dBu
-15°	0.897	0.080	-10.99	50.30 m	271.23 m	107.27 dBu	278.96 m	107.02 dBu
-20°	0.824	0.067	-11.73	46.21 m	205.25 m	108.95 dBu	211.10 m	108.71 dBu
-25°	0.802	0.064	-11.96	44.98 m	166.11 m	110.55 dBu	170.84 m	110.31 dBu
-30°	0.841	0.070	-11.55	47.16 m	140.40 m	112.42 dBu	144.40 m	112.18 dBu
-35°	0.908	0.082	-10.88	50.92 m	122.39 m	114.28 dBu	125.88 m	114.04 dBu
-40°	0.949	0.089	-10.50	53.22 m	109.21 m	115.66 dBu	112.32 m	115.41 dBu
-45°	0.932	0.086	-10.66	52.27 m	99.28 m	116.33 dBu	102.11 m	116.08 dBu
-50°	0.847	0.071	-11.49	47.50 m	91.64 m	116.19 dBu	94.25 m	115.95 dBu
-55°	0.713	0.050	-12.98	39.99 m	85.70 m	115.28 dBu	88.14 m	115.03 dBu
-60°	0.566	0.032	-14.99	31.74 m	81.06 m	113.76 dBu	83.37 m	113.51 dBu
-65°	0.421	0.018	-17.56	23.61 m	77.46 m	111.58 dBu	79.66 m	111.34 dBu
-70°	0.310	0.010	-20.22	17.39 m	74.71 m	109.24 dBu	76.83 m	108.99 dBu
-75°	0.234	0.005	-22.66	13.12 m	72.68 m	107.03 dBu	74.75 m	106.79 dBu
-80°	0.205	0.004	-23.81	11.50 m	71.28 m	106.05 dBu	73.31 m	105.81 dBu
-85°	0.210	0.004	-23.60	11.78 m	70.47 m	106.36 dBu	72.48 m	106.12 dBu
-90°	0.225	0.005	-23.00	12.62 m	70.20 m	106.99 dBu	72.20 m	106.75 dBu

Figure 4. Image of Proposed Support Tower



Figure 5. Fill-in and Minor Change Contour Map

