

**K252DB**  
**Provo, UT**  
Proposed Minor Modification  
of Licensed Translator Facility

**Application Overview:**

The Applicant proposes to modify BLFT-19900323TD using the following parameters:

**Tech Box:**

Channel:	252
Antenna Coordinates:	N40-05-21, W111-49-16 (NAD 27)
ASRN:	N/A
Tower Site Base AMSL:	2076 m
Overall Tower Height AGL:	36 m
COR AGL:	20 m
ERP:	0.165 kW
Directional Antenna:	Yes - SCA CA2-CP at 90 deg

**Primary Station and Translator Protected Contour Relationship:**

Exhibit 1 demonstrates that the proposed fill-in translator facility's protected contour is completely encompassed by the protected contour of the primary station being rebroadcast. The map also notes the currently authorized protected contour for the instant facility.

### **Interference Study (Adjacent Stations):**

Exhibit 2 is a contour overlap study demonstrating that the proposed antenna site provides requisite contour protection towards all applications, authorizations, and permits pursuant to Section 74.1204 with the exception of the following:

- KBEE(FM) (BMLH-20100723AVI) on its Second adjacent channel
- KBZN(FM) (BLH-19781208AG) on its Second adjacent channel

Section 74.1204(a) states that “an application for an FM translator station will not be accepted for filing if the proposed operation would involve overlap of predicted field strength contours with any other station, including commercial and noncommercial educational FM stations, FM translators and Class D (secondary) noncommercial educational FM stations.” However, Section 74.1204(d) states, “the provisions of this section concerning prohibited overlap will not apply where the area of such overlap lies entirely over water. In addition, an application otherwise precluded by this section will be accepted if it can be demonstrated that no actual interference will occur due to intervening terrain, lack of population or other such factors as may be applicable.” Using the undesired-to-desired ratio method regarding interference to a second or third adjacent frequency, interference is predicted to occur where the translator’s undesired signal exceeds the protection station’s desired signal by more than 40 dB. The free space formula was used to determine the signal strength of the proposed facility, in dBu, at the antenna site of the adjacent station(s).

The signal strength of KBEE(FM) at the proposed site is calculated to be 69.9 dBu. As such, the interfering contour of the proposed facility is its F(50,10) 109.9 dBu contour which extends a maximum distance of 286 meters meters from the proposed tower.

The signal strength of KBZN(FM) at the proposed site is calculated to be 63.8 dBu. As such, the interfering contour of the proposed facility is its F(50,10) 103.8 dBu contour which extends a maximum distance of 576 meters meters from the proposed tower.

Exhibit 2A includes a satellite view of the proposed translator site. There are no structures or public roads (other than the site access road to the tower) within the largest interference contour predicted to be created by the translator. Therefore, due to the absence of “potential listeners” within the interference contour, no interference is expected to occur.

**No Other Directional Co-Located Emitters:**

No other directional emitters are authorized to use the proposed tower.

**Downward Radiation Study (FM Model):**

The proposed FM Facility has been evaluated in terms of potential radiofrequency electromagnetic field exposure at ground level in accordance with OET Bulletin No. 65, Evaluating Compliance with FCC Specified Guidelines for Human Exposure to Radiofrequency Electromagnetic Fields (OET Bulletin 65, Second Edition 97-01, August, 1997). The Commission’s FM Model Power Density Prediction program was employed to determine the Field. Using the Phelps-Dodge "Ring Stub" Worst Case antenna with 1 sections and 1 wavelength spacing, and the AGL height and ERP proposed in this application, the highest

predicted power density 2 meters above ground is less than 10.2% of the Uncontrolled Standard with a Power Density of 20.47 microwatts per square centimeter 4.8 meters from the base of the tower.

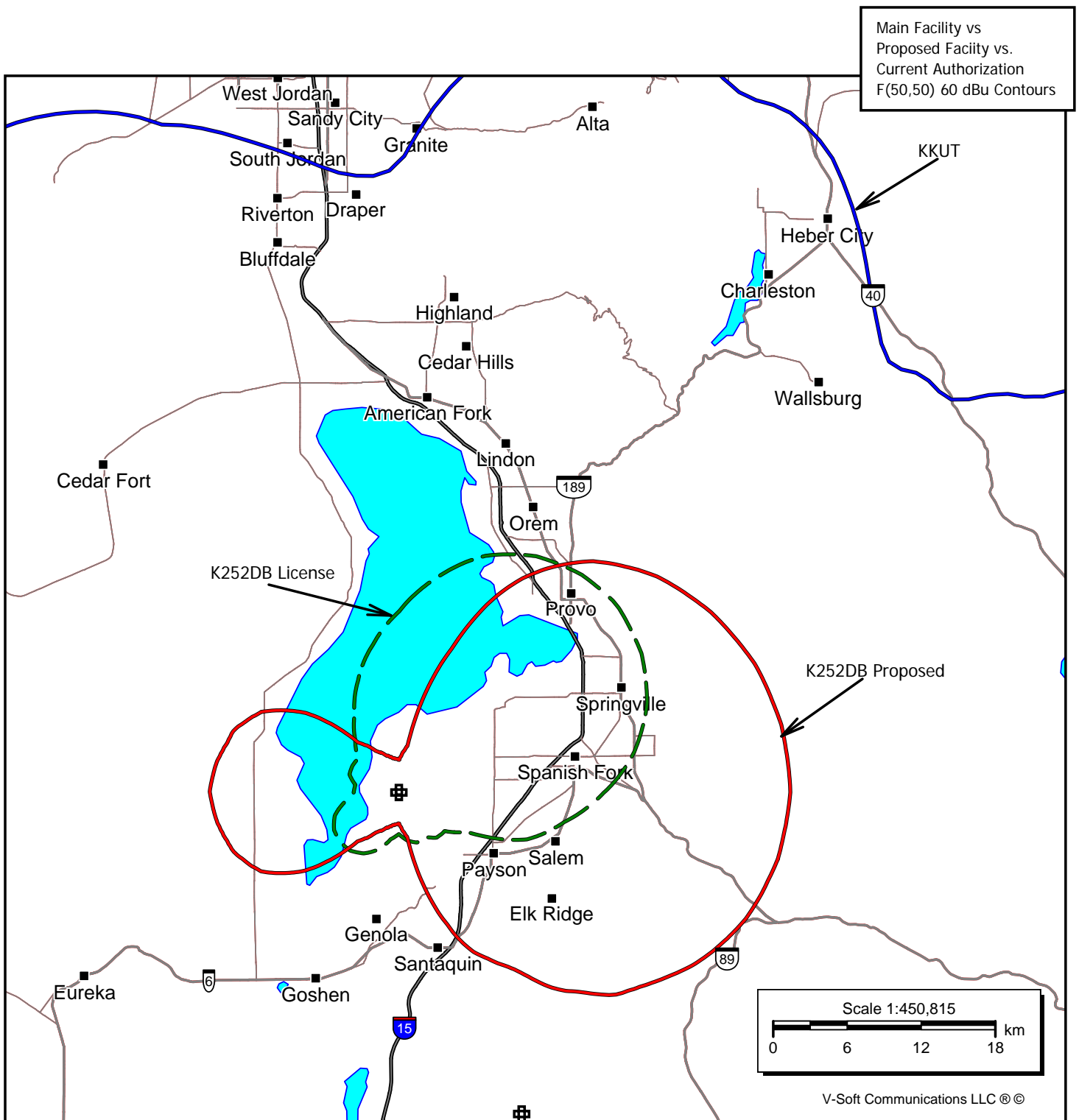
Even though the site will fully comply with the Uncontrolled Site Standards, access to the transmitting site will be restricted and appropriately marked with warning signs. When it becomes necessary for workers to ascend the tower, appropriate measures, such as reduction or shut down of power if necessary, shall be taken to ensure that the human exposure to radiofrequency radiation will not exceed the FCC guidelines.

**Existing Tower:**

The proposed facility is exempt from environmental processing because the facility is not located at a location specified in Section 1.1307(a)(1)-(8) of the Commission's Rules and since the tower in question already exists.

# **Exhibit 1**

**Primary Station Protected Contour**  
**vs.**  
**Proposed Translator Protected Contour**  
**Vs**  
**Licensed Protected Contour**



#### K252DB Proposed

Provo, UT  
Channel: 252D  
Frequency: 98.3 MHz  
Latitude: 40-05-21 N  
Longitude: 111-49-16 W  
COR AGL Height: 20.0 m  
COR AMSL Height: 2096.0 m  
Base Elevation: 2076.0 m  
COR HAAT: 670.51 m  
ERP: 0.165 kW  
Horiz. Pattern: Directional  
Vert. Pattern: No  
Prop Model: None

#### K252DB License

BLFT19900323TD  
Channel: 252D  
Frequency: 98.3 MHz  
Latitude: 40-05-19 N  
Longitude: 111-49-17 W  
COR AGL Height: 173.38 m  
COR AMSL Height: 2083.0 m  
Base Elevation: 1909.62 m  
COR HAAT: 627.0 m  
ERP: 0.046 kW  
Horiz. Pattern: Directional  
Vert. Pattern: No  
Prop Model: None

#### KKUT

BLH20130808AAP  
Channel: 229C  
Frequency: 93.7 MHz  
Latitude: 39-51-15 N  
Longitude: 111-42-17 W  
COR AGL Height: 16.0 m  
COR AMSL Height: 2896.0 m  
Base Elevation: 2880.0 m  
COR HAAT: 709.0 m  
ERP: 48.00 kW  
Horiz. Pattern: Directional  
Vert. Pattern: No  
Prop Model: None

## **Exhibit 2**

### **Section 74.1204 Interference Tabulations**

## K252DB Provo, UT

## Section 74.1204 Contour Overlap Tabulations

REFERENCE  
40 05 21.0 N.  
111 49 16.0 W.

CH# 252D - 98.3 MHz, Pwr= 0.165 kW DA, HAAT= 670.5 M, COR= 2096 M  
Average Protected F(50-50)= 30.78 km  
Standard Directional

DISPLAY DATES  
DATA 09-05-16  
SEARCH 09-24-16

CH CITY	CALL	TYPE STATE	ANT	AZI <--	DI ST FILE #	LAT LNG	PWR(kW) HAAT(M)	INT(km) COR(M)	PRO(km) LICENSEE	*IN* (Overlap in km)	*OUT*
252D Rural	K252DB Utah County	LIC DCN UT		200.7 20.7	0.06 BLFT19900323TD	40 05 19.0 111 49 17.0	0.046 627	67.7 2083	20.5 Airfree Wireless, Inc.	-70.8*	-39.3*
254C Salt Lake City	KBEE	LIC _C_ UT		333.7 153.5	64.41 BMLH20100723AVI	40 36 30.0 112 09 34.0	40.000 894	11.0 2603	89.0 Radio License Holding Cbc,	49.9	-24.6*
250C Ogden	KBZN	LIC _CN UT		333.2 153.0	71.11 BLH19781208AG	40 39 35.0 112 12 05.0	26.000 1149	8.9 2801	80.8 Capitol Broadcasting, Inc.	58.6	-9.8*
252D Salt Lake City	K252DI	LIC _C_ UT		355.9 175.8	80.03 BLFT20010423AAE	40 48 29.0 111 53 22.0	0.160 307	82.3 1844	27.1 Arthur Frank Lic	-4.9*	35.0
252C3 Price	KARB	LIC _CX UT		121.5 302.2	101.34 BLH20070605AAW	39 36 33.0 110 48 50.0	7.000 -32	72.0 1830	16.4 Eastern Utah Broadcasting	1.9	1.2
252D Park City	K252EH	LIC _C_ UT		20.8 201.0	70.66 BLFT20070731ADE	40 41 00.2 111 31 23.3	0.034 -2	13.6 2270	4.3 44.0	44.0	16.1
251D Nephi	K251BV	LIC _C_ UT		192.8 12.7	41.65 BLFT20141110ABO	39 43 24.0 111 55 44.0	0.041	15.1 1763	10.7 Air-free Wireless, Inc.	23.7	25.7
252C2 Evanston	KADQ-FM	LIC _CX WY		28.4 209.0	160.10 BLH20080317AAU	41 21 10.0 110 54 31.0	1.200 454	113.8 2628	44.1 Frandsen Media Company, LI	27.2	51.9
251D Moroni	K251BJ	CP _C_ UT		160.9 341.0	63.80 BNPFT20130812AAN	39 32 46.0 111 34 38.0	0.250 -78	10.1 1841	7.1 Sanpete County Broadcastin	42.7	39.3
250D Park City	KBZN-FM1	LIC DVN UT		18.6 198.8	89.83 BLFTB19970925TI	40 51 18.0 111 28 47.0	0.850 819	1.9 2852	44.5 Capitol Broadcasting Inc.	76.6	45.2

Terrain database is NGDC 30 SEC , R= 73.215 qualifying spacings or FCC minimum Spacings in KM, M= Margin in KM  
Contour distances are on direct line to and from reference station. Reference 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.




## **Exhibit 2B**

**Satellite Picture of  
F(50,10) Interfering Contour**

# K252DB Overlap Map

Second Adjacent Stations

## Legend

-  K252DB Proposed F(50,10) 103.8 dBu Interfering
-  KBEE (254) F(50,50) 69.9 dBu Protected
-  KBZN (250) F(50,50) 63.8 dBu Protected

K252DB (252)

Google earth

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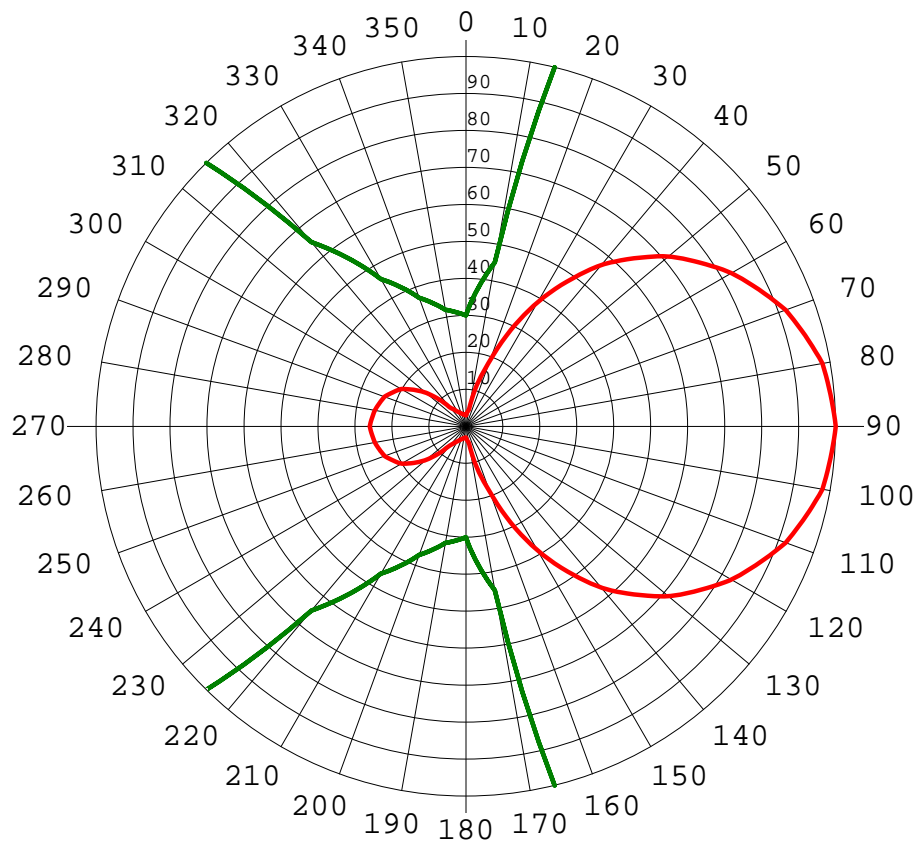


600 m

## **Exhibit 4**

### **Proposed Directional Pattern Azimuth Tabulations**

# K252DB Proposed Azimuth Pattern - SCA CA2-CP



Azi	Rel	dBk	kW	dB	Azi	Rel	dBk	kW	dB
0	0.030	-38.28	0.000	-30.46	180	0.030	-38.28	0.000	-30.46
10	0.045	-34.76	0.000	-26.94	190	0.032	-37.72	0.000	-29.90
20	0.187	-22.39	0.006	-14.56	200	0.037	-36.46	0.000	-28.64
30	0.388	-16.05	0.025	-8.22	210	0.046	-34.57	0.000	-26.74
40	0.570	-12.71	0.054	-4.88	220	0.065	-31.57	0.001	-23.74
50	0.715	-10.74	0.084	-2.91	230	0.142	-24.78	0.003	-16.95
60	0.829	-9.45	0.113	-1.63	240	0.202	-21.72	0.007	-13.89
70	0.920	-8.55	0.140	-0.72	250	0.234	-20.44	0.009	-12.62
80	0.979	-8.01	0.158	-0.18	260	0.250	-19.87	0.010	-12.04
90	1.000	-7.83	0.165	0.00	270	0.260	-19.53	0.011	-11.70
100	0.979	-8.01	0.158	-0.18	280	0.250	-19.87	0.010	-12.04
110	0.920	-8.55	0.140	-0.72	290	0.234	-20.44	0.009	-12.62
120	0.829	-9.45	0.113	-1.63	300	0.202	-21.72	0.007	-13.89
130	0.715	-10.74	0.084	-2.91	310	0.142	-24.78	0.003	-16.95
140	0.570	-12.71	0.054	-4.88	320	0.065	-31.57	0.001	-23.74
150	0.388	-16.05	0.025	-8.22	330	0.046	-34.57	0.000	-26.74
160	0.187	-22.39	0.006	-14.56	340	0.037	-36.46	0.000	-28.64
170	0.045	-34.76	0.000	-26.94	350	0.032	-37.72	0.000	-29.90

Rotation Angle = 0