

## **W227BF Comprehensive Engineering Exhibit**

### **June 2011**

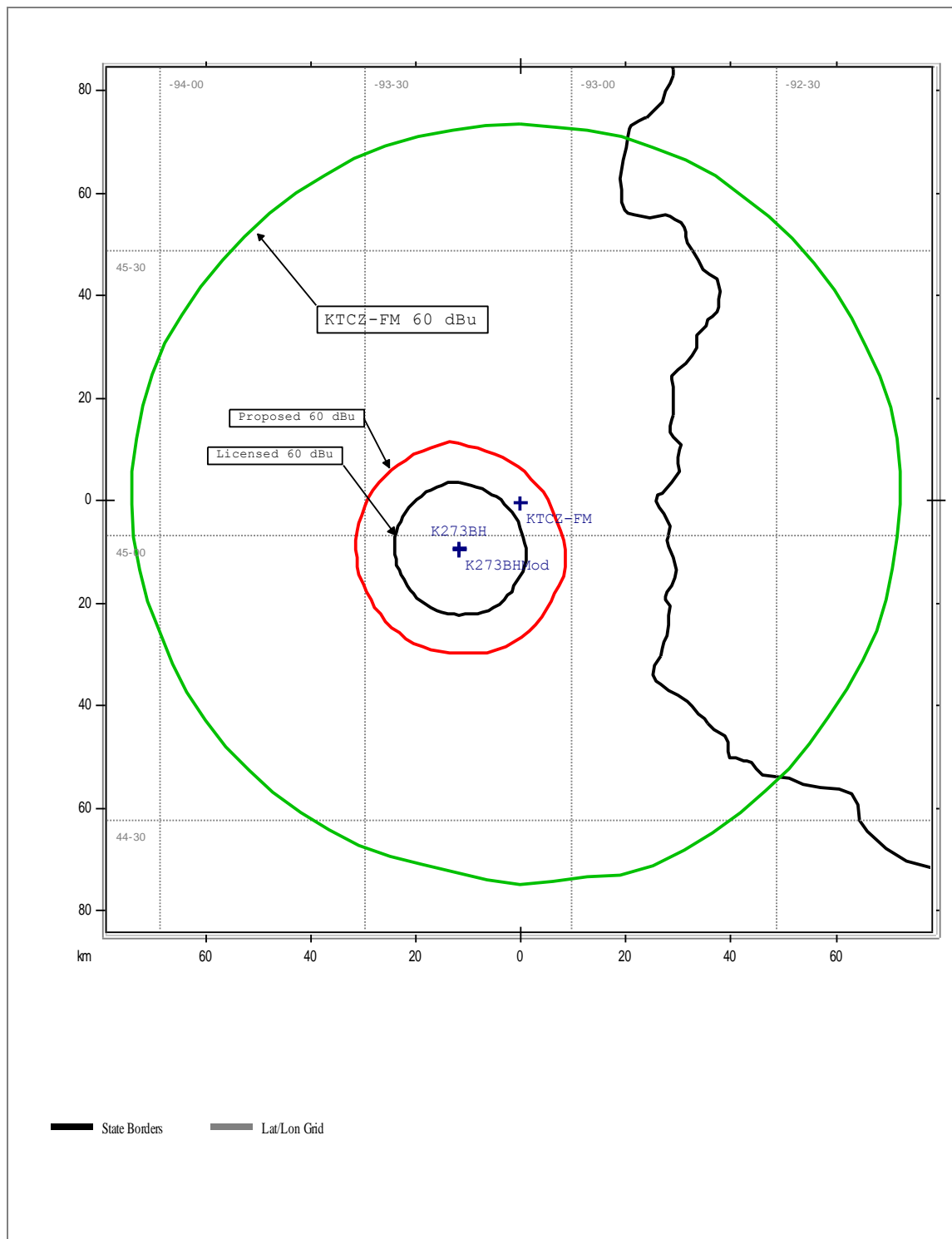
W227BF is seeking to increase power to 99 watts ERP at a location 244 meters above ground level, upon an existing rooftop site identified by ASR No. 1029018, utilizing a non-directional Bext TFLBDI antenna which is to be **shared** with K273BH, which by separate application is co-locating.

The facility will be utilized as a “fill-in” translator for primary station KTCZ-FM. The 60 dBu service contour of the proposed facility is within that of the primary station, as demonstrated in Figure 1, where it can also be seen that the 60 dBu contour of the facility as proposed overlaps the existing licensed facility, making this application compliant for filing as a minor modification application.

Attached as Figure 2 is an allocation spacing report wherein it can be determined that the proposed location is , on the proposed channel, within the protected contour of 2nd adjacent facilities of KXXR. Figure 3 is a calculation of “line of site” contour value of 93.78 dBu at the translator. Figure 4 is a graph of comparing the signal value of this proposal to that of KXXR. It can be determined that this proposal will not reach or exceed the +40 dB interference level, thus this proposal is appropriate for a waiver utilizing “living way”.

Due to the complexity of the rooftop, the applicant will take power density measurements prior to filing of an application for license to demonstrate compliance with 73 CFR 1.1306.

**Figure 1.**



**Figure 2. Spacing Study**

Search of channel 227 (93.3 MHz Class D) at 44-58-34.0 N, 93-16-20.0 W.								
Callsign	Chanl	ERP_w	ARN	Class	Status	Dist_km	Sep	Clr
KXXR	229	40000	BLH19920604KC	C	LIC	0	0	-66.07 dB
KXXR	229	37000	BMLH19990929ABP	C	LIC	0	0	-65.74 dB
KXXR	229	31000	BMLH20081010BDC	C	LIC	0	0	-64.97 dB
W227BF	227	10	BLFT20061219ACT	D	LIC	12.79	0	-35.54 dB
KXXR	229	100000	BLH19910814KF	C	LIC	14.82	0	-34.87 dB
KZJK	281	32000	BXMLH20080630AAN	C1	LIC	0	22	-22
KZJK	281	34000	BXLH19990902AAU	C1	LIC	0	22	-22
KZJK	281	100000	BLH20071001AGL	C0	LIC	14.82	25	-10.2
W225AP	225	170	BLFT20070730ABV	D	LIC	17.74	0	0.70 dB
KXXR	229	0		C	USE	7.22	0	1.10 dB
KATO-FM	226	100000	BLH19890117KG	C1	LIC	118.97	0	15.64 dB
KBLB	227	100000	BLH20020125AAX	C1	LIC	184.5	0	21.72 dB
WIZM-FM	227	100000	BLH19830527AE	C	LIC	199.8	0	22.95 dB
K228XN	228	60	BLFT20090619ACK	D	LIC	90.74	0	25.12 dB
WIZM-FM	227	100000	BLH19830527AD	C	LIC	209.75	0	26.12 dB
K228DR	228	70	BLFT19970813TA	D	LIC	98.57	0	27.69 dB
KKJM	225	25000	BLH19960510KA	C3	LIC	113.47	0	28.93 dB

**Figure 3**

XField Calculator V:1.0.4 (C) V-Soft Communications (R) 2011

File Defaults Setup Help About

**Test Reference Station Antenna - FM\_Vpol**

Call Sign: W227BF  
Channel: 227  
ERP kW: .099  
COR AG (m): 244  
N. Lat.: 44-58-34.0 N  
W. Lng.: 93-16-20.0 W  
Review Azimuth:   
  
Antenna #1 V-Field  
Browse

**IBOC Station Antenna**

ERP kW:   
COR AG (m): 70%  
  
Antenna #2, V-Field Graph

**Database in Use**

USGS 03 SEC  
NAD 27

**Station to be Protected by Translator**

Protected Station's Call: KXXR  
Protected Channel: 229  
Station ERP (kW): 100 kW  
Ant COR AMSL (m): 593 M  
N. Lat.: 45 03 30.0  
W. Lng.: 93 07 27.0  
  
Antenna #2 Browse

**Translator Protection Parameters**

Table Distance Increment Between Points (m): 2  
Table Distance to Study (m): 2500  
☒ Show Deltas above dB: 30  
  
Show Graph ShowTable

**Initial Calculations**

Distance to Site (km): 14.8 Calc  
Azimuth to Site: 231.9  
HAAT to translator: 317.7  
Signal at translator in dBu: 93.77188

**XFIELD**

**Figure 4**

