

## **Non-Interference Compliance K220HT, St. Louis, MO FAC# 93218**

### **Description of Exhibit Contents**

This exhibit demonstrates that the proposed facility complies with contour overlap and interference protection provisions in all of the applicable rule sections and that this application for a construction permit is in full compliance with 47 C.F.R. § 74.1204.

**Let it be noted that should any actual real world interference occur, the applicant acknowledges that it will promptly suspend operation of this translator in accordance with 47 C.F.R. § 74.1203.**

Page 2 of this exhibit is an explanation of the method used to demonstrate compliance with contour overlap and interference provisions based on 47 C.F.R. § 74.1204(d), which states:

*[A]n 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 such other factors as may be applicable.*

Page 3 of this exhibit contains the adjacent channel study created with ComStudy 2.2 which shows all co-channel, 1<sup>st</sup> adjacent, 2<sup>nd</sup> adjacent and 3<sup>rd</sup> adjacent to the proposal.

**Note: Even though this proposal does not meet the short space requirements, IF Station KEZK-FM is protected because the ERP of the proposal is less than 100W.**

Page 4 of this exhibit is a Google Earth aerial photo of the vicinity surrounding the proposed translator's tower site with the plotted zone of predicted interference.

## Compliance with 47 C.F.R. § 74.1204(d)

All authorized second and third adjacent stations with which the proposed translator has contour overlap are tabulated below. Column four show the station's signal level at the proposed translator's tower site, and column five gives the minimum value within the entire standard interfering contour of the proposed translator (100 dBμ for most classes, 94 for class B, 97 for class B1). The minimum second or third adjacent F(50,50) contour within the proposed translator's standard interfering contour was used to calculate the proposed translator's actual "worst-case" interfering contour.

<u>File Number</u>	<u>Call Sign</u>	<u>Contour at Tower</u>
<b>BLED-20120626ABO</b>	<b>KSIV-FM</b>	97.1
<b>BLH-19890707KC</b>	<b>WIL-FM</b>	97.1
Minimum F(50,50) Contour of Adjacent Station		
Within Proposed Translator's Interfering Contour		<b>97.1</b>

FCC 02-244 at Section II.A.5 states that "when demonstrating that 'no actual interference will occur due to . . . other factors,' pursuant to Section 74.1204(d), an applicant may use the undesired-to-desired signal ratio method." The undesired-to-desired ratio for second and third adjacent stations required by § 74.1204(a) is 40 dB. Since the minimum protected contour strength within the proposed translator's standard interference contour is **97.1 dBμ**, this makes the proposed translator's worst-case interfering contour **137.1 dBμ**. By the free-space equation, this contour is calculated to extend a maximum of **6.2 m** from the transmit antenna.

**Note: There are no structures within the zone of predicted interference, so in accordance with 47 C.F.R. § 74.1204(d) and the clarification provided by the FCC in the decision *Re: Living Way Ministries* (FCC 02-244), a lack of population has been demonstrated within the area of interference and this application is therefore in full compliance with 47 C.F.R. § 74.1204.**

**Antenna Manufacturer:** BEXT  
**Antenna Model:** TFC2K  
**CORAGL:** 250 m  
**Maximum ERP:** 0.041 kW  
**Interfering Contour:** 137.1 dBμ  
**Max Int. Contour Distance:** 6.2 m

**Adjacent Channel Study**  
**K220HT, St. Louis, MO FAC# 93218**  
**8/16/2023**

Callsign	State	City	Channel	ERP (W)	Class	Status	Distance (km)	Clr
KSIV-FM	MO	ST. LOUIS	218	90000	C1	CP MOD	0	-86.46 dB
KSIV-FM	MO	ST. LOUIS	218	17000	C1	LIC	0	-79.22 dB
KSIV-FM	MO	ST. LOUIS	218	85000	C1	LIC	0	-73.17 dB
KSIV-FM	MO	ST. LOUIS	218	17000	C1	LIC	0.12	-68.84 dB
K220HT	MO	ST. LOUIS	220	99	D	LIC	16.11	-40.80 dB
WIL-FM	MO	ST. LOUIS	222	100000	C0	LIC	12.03	-38.16 dB
WIL-FM	MO	ST. LOUIS	222	40000	C0	LIC	9.36	-31.75 dB
WIL-FM	MO	ST. LOUIS	222	40000	C0	LIC	9.36	-31.75 dB
KEZK-FM	MO	ST. LOUIS	273	100000	C0	LIC	0	-25
KEZK-FM	MO	ST. LOUIS	273	14500	C0	LIC	4.39	-20.6
KEZK-FM	MO	ST. LOUIS	273	40000	C0	LIC	4.39	-20.6
W220EN	IL	CARLYLE	220	170	D	LIC	82.87	11.88 dB
KCKF	MO	CUBA	220	5000	A	LIC	110.16	15.43 dB
WSIU	IL	CARBONDALE	220	50000	B	LIC	135.61	16.21 dB
WUIS	IL	SPRINGFIELD	220	50000	B	LIC	154.26	20.38 dB
WUIS	IL	SPRINGFIELD	220	500	B	LIC	154.26	28.35 dB
KBIA	MO	COLUMBIA	217	100000	C1	LIC	171.97	32.30 dB
W221DU	IL	SALEM	221	250	D	LIC	122.84	34.82 dB
WVNL	IL	VANDALIA	219	100	A	LIC	113.96	35.66 dB
KJIR	MO	HANNIBAL	219	12000	C2	LIC	160.7	37.32 dB
W220DV	IN	EVANSVILLE	220	250	D	LIC	255.21	38.96 dB
KMFC	MO	CENTRALIA	221	16000	C3	LIC	172.6	39.75 dB
W221BX	IL	PITTSFIELD	221	170	D	LIC	128.4	39.73 dB
W219DV	IL	JACKSONVILLE	219	38	D	LIC	126.14	39.55 dB

**Aerial Photo Zone Of Predicted Interference  
K220HT, St, Louis, MO FAC# 93218  
August 18, 2023**



The yellow circle is the 137 dB $\mu$  F(50,10) interfering contour of proposed K220HT. This represents the Zone of Predicted Interference and extends 6.2m from the base of the tower, ASR# 120785.