

Non-Interference Compliance W214BQ, Brentwood, TN FAC# 1050735

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, 1st adjacent, 2nd adjacent and 3rd adjacent to the proposal.

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.

File Number	Call Sign	Contour at Tower
BMLED-20030214ABG	WNXP	-----
BMLED-20181105ACD	WPLN-FM	98.9
Minimum F(50,50) Contour of Adjacent Station Within Proposed Translator's Interfering Contour		98.9

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 **98.9 dBμ**, this makes the proposed translator's worst-case interfering contour **138.9 dBμ**. By the free-space equation, this contour is calculated to extend a maximum of **2.5 m** from the transmit antenna.

Note: WNXP is collocated on the same tower as this proposal, so it is not possible to measure the signal strength at the tower. This proposal will not cause any interference to 2nd adjacent WNXP.

Note: The zone of predicted interference is so small there are no structures within the zone; 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: 391 m
Maximum ERP: 0.010 kW
Interfering Contour: 138.9 dBμ
Max Int. Contour Distance: 2.5 m

Adjacent Channel Study
W214BQ, Brentwood, TN FAC# 1050735
8/31/2023

Callsign	State	City	Channel	ERP (W)	Class	Status	Distance (km)	Clr
WNXP	TN	NASHVILLE	216	10000	C2	LIC	0.01	-76.92 dB
W214BQ	TN	BRENTWOOD	214	10	D	LIC	10.96	-56.25 dB
WPLN-FM	TN	NASHVILLE	212	80000	C	LIC	11.77	-39.56 dB
WPLN-FM	TN	NASHVILLE	212	48000	C	LIC	11.77	-36.21 dB
WPLN-FM	TN	NASHVILLE	212	5000	C	LIC	11.77	-25.72 dB
WPLN-FM	TN	NASHVILLE	212	500	C	LIC	11.77	-15.72 dB
WXNA-LP	TN	NASHVILLE	268	100	LP100	LIC	8.83	1.8
WCVK	KY	BOWLING GREEN	214	40000	C2	APP	100.71	5.02 dB
WCVK	KY	BOWLING GREEN	214	14000	C3	LIC	100.71	8.04 dB
WAUO	TN	HOHENWALD	214	500	A	LIC	89.33	13.13 dB
WCVK	KY	BOWLING GREEN	214	200	C3	LIC	100.71	16.36 dB
WVOG	TN	COOKEVILLE	215	40000	C1	LIC	134.21	24.92 dB
WKMS-FM	KY	MURRAY	217	100000	C1	LIC	140.21	27.02 dB
WJAB	AL	HUNTSVILLE	215	100000	C1	LIC	152.75	28.81 dB
WPRH	TN	PARIS	215	5400	A	LIC	119.51	31.69 dB
WKMS-FM	KY	MURRAY	217	37000	C1	LIC	140.21	31.36 dB
WKMS-FM	KY	MURRAY	217	37000	C1	LIC	140.21	31.36 dB
WJCR-FM	KY	UPTON	211	100000	C1	LIC	161.56	32.17 dB
WFIX	AL	FLORENCE	217	100000	C1	LIC	180.18	32.10 dB
WKMD	KY	MADISONVILLE	215	20500	C2	LIC	147.54	33.83 dB
WSMC-FM	TN	COLLEGEDALE	213	100000	C	LIC	177.95	33.06 dB
WAAJ	KY	BENTON	213	16500	C3	LIC	142.52	34.00 dB
WZKV	TN	DYERSBURG	214	100000	C1	LIC	236	37.36 dB
NCE-MXG-9	AL	ATHENS	213	4000	A	DEL	136.36	37.88 dB
WJOU	AL	HUNTSVILLE	211	33000	C2	CP MOD	154.55	38.35 dB
W213BT	TN	COOKEVILLE	213	10	D	LIC	126.72	38.89 dB
NCE-MXG-9	AL	HILLSBORO	213	25000	C3	DEL	177.37	38.95 dB
WKMS-FM	KY	MURRAY	217	9000	C1	LIC	140.21	39.49 dB
WJOU	AL	HUNTSVILLE	211	25000	C3	LIC	154.54	39.80 dB

Aerial Photo Zone Of Predicted Interference
W214BQ, Brentwood, TN FAC# 1050735
August 31, 2023

