

**Non-Interference Compliance for
SPIRIT BROADCASTING LLC**
Regarding Facility ID 106489 Channel 268

Description of Exhibit 12 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. The applicant acknowledges that it will comply with 47 C.F.R. § 74.1203 in regards to resolving any interference that may occur.

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 contains a tabulation of the vertical radiation pattern of the proposed antenna and the minimum ground clearance of the interfering contour based on this pattern.

Page 4 includes tabulations of the vertical radiation pattern for the proposed antenna provided by the antenna manufacturer.

Page 5 of this exhibit contains the tabulated data from the interference analysis, which shows all stations whose protected contours come within 50 km of the 34 dB μ F(50,10) contour of the proposed translator. These tabulated values were calculated using data from the FCC's CDBS files and 30 arc second terrain data. The column labeled "Adj" shows the number of channels difference between the entry and the proposed translator. The column labeled "Dist" shows the distance in km.

Page 6 of this exhibit is a portion of a USGS 1:24,000 scale 7.5 minute quadrangle at full scale with the calculated area of interference overlaid. The sheet includes the quadrangle name and measurement scale at the bottom. The area of interference was calculated using the free space equation and 120 radials.

Page 7 of this exhibit is a high resolution aerial photo of the vicinity surrounding the proposed translator's tower site provided by the U.S. Geological Survey's National Aerial Photography Program. It has been included to provide clarification of the vicinity.

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 dB μ 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	Callsign	Contour at Tower	Min. Contour	Int Contour	min contour
BMLH-20020611AAI	WDOK	74.93	74.21	114.93	74.21

Minimum F(50,50) Contour of Adjacent Station within Proposed Translator's Standard Interfering Contour:
74.21 dB μ .

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 **74.21 dB μ** , this makes the proposed translator's worst-case interfering contour **114.21 dB μ** . By the free-space equation, this contour is calculated to extend a maximum of **215.94 m** from the transmit antenna.

The maximum horizontal plane of the interfering contour was calculated for 120 radials and plotted on the pertinent portion of a USGS quadrangle (page 8 of this exhibit). However, the field strength of the proposed translator's antenna varies with angle of depression from horizontal. The antenna relative fields are tabulated on the following page at 5 degree increments, starting at 5 degrees below horizontal. Antenna relative field strength data was provided and certified by the manufacturer of the proposed antenna. Using a free-space calculation that neglects any loss due to reflection, the vertical ground clearance of the proposed translator's interference contour has been tabulated. As shown on the following page, the area of interference clears the ground level by **23.76 m** from the tower. The applicant has taken into account USGS quadrangles and relevant aerial photography instating that no structures, except possibly tower support structures, puncture the area of interference. Hence, 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: NICOM
Antenna Model: BKG77 1/2
CORAGL: 86 m
Maximum ERP: 0.25 kW
Interfering Contour: 114.21 dB μ
Max Int. Contour Distance: 215.94 m
Ground Clearance: 23.76 m

NICOM BKG77/2 Depression Propagation Elevations - Two Bay Half Wave Spaced

Depress Angle Below Horizontal	Antenna Relative Field	ERP (watts)	Distance to Interfering Contour (m)	Horizontal Distance to Contour from Antenna (m)	Vertical Clearance of Interfering Contour (m)
0	1	250.00	215.94	215.94	86.00
5	0.988	244.04	213.34	212.53	67.41
10	0.947	224.20	204.49	201.38	50.49
15	0.871	189.66	188.08	181.67	37.32
20	0.792	156.82	171.02	160.71	27.51
25	0.682	116.28	147.27	133.47	23.76
30	0.565	79.81	122.00	105.66	25.00
35	0.469	54.99	101.27	82.96	27.91
40	0.376	35.34	81.19	62.20	33.81
45	0.273	18.63	58.95	41.68	44.32
50	0.188	8.84	40.60	26.09	54.90
55	0.131	4.29	28.29	16.23	62.83
60	0.079	1.56	17.06	8.53	71.23
65	0.047	0.55	10.15	4.29	76.80
70	0.022	0.12	4.75	1.62	81.54
75	0.01	0.03	2.16	0.56	83.91
80	0.003	0.00	0.65	0.11	85.36
85	0.001	0.00	0.22	0.02	85.78
90	0	0.00	0.00	0.00	86.00

TX station:
 Frequency: 100.00 MHz

Site name: 2 BAY 1/2

Vertical diagram at an azimuth of 0° degrees

Dep (°)	Er (%)	ERP (W)	Dep (°)	Er (%)	ERP (W)	Dep (°)	Er (%)	ERP (W)
0.0	100.0	747.3	54.0	14.2	15.0	108.0	1.8	0.2
0.9	100.0	746.6	54.9	13.1	12.9	108.9	2.1	0.3
1.8	99.8	745.0	55.8	12.2	11.0	109.8	2.3	0.4
2.7	99.7	742.5	56.7	11.2	9.4	110.7	2.6	0.5
3.6	99.4	739.1	57.6	10.3	8.0	111.6	2.9	0.6
4.5	99.2	734.7	58.5	9.5	6.7	112.5	3.2	0.8
5.4	98.8	729.5	59.4	8.7	5.6	113.4	3.5	0.9
6.3	98.3	721.9	60.3	7.9	4.7	114.3	3.9	1.1
7.2	97.5	710.3	61.2	7.2	3.9	115.2	4.3	1.4
8.1	96.6	698.0	62.1	6.5	3.2	116.1	4.7	1.6
9.0	95.7	685.1	63.0	5.9	2.6	117.0	5.1	1.9
9.9	94.7	670.3	63.9	5.3	2.1	117.9	5.5	2.3
10.8	93.6	655.0	64.8	4.7	1.7	118.8	5.9	2.6
11.7	92.5	639.2	65.7	4.2	1.3	119.7	6.4	3.1
12.6	91.2	622.1	66.6	3.7	1.0	120.6	6.9	3.6
13.5	89.9	604.2	67.5	3.3	0.8	121.5	7.4	4.1
14.4	88.6	586.1	68.4	2.9	0.6	122.4	7.9	4.7
15.3	87.1	567.5	69.3	2.5	0.5	123.3	8.5	5.4
16.2	85.7	548.5	70.2	2.2	0.4	124.2	9.0	6.1
17.1	84.2	529.4	71.1	1.9	0.3	125.1	9.6	6.9
18.0	82.6	510.3	72.0	1.6	0.2	126.0	10.2	7.8
18.9	80.9	489.6	72.9	1.4	0.1	126.9	10.9	8.8
19.8	79.2	469.1	73.8	1.2	0.1	127.8	11.5	9.9
20.7	77.5	448.8	74.7	1.0	0.1	128.7	12.2	11.1
21.6	75.7	428.2	75.6	0.8	0.1	129.6	12.9	12.4
22.5	73.8	407.5	76.5	0.7	0.0	130.5	13.6	13.7
23.4	72.0	387.3	77.4	0.6	0.0	131.4	14.3	15.2
24.3	70.1	367.4	78.3	0.5	0.0	132.3	15.0	16.8
25.2	68.2	347.8	79.2	0.4	0.0	133.2	15.8	18.6
26.1	66.3	328.7	80.1	0.3	0.0	134.1	16.5	20.5
27.0	64.4	310.1	81.0	0.2	0.0	135.0	17.3	22.5
27.9	62.4	291.2	81.9	0.2	0.0	135.9	18.1	24.6
28.8	60.4	273.0	82.8	0.1	0.0	136.8	19.0	26.9
29.7	58.5	255.5	83.7	0.1	0.0	137.7	19.8	29.3
30.6	56.5	238.7	84.6	0.1	0.0	138.6	20.6	31.9
31.5	54.6	222.6	85.5	0.0	0.0	139.5	21.5	34.6
32.4	52.7	207.2	86.4	0.0	0.0	140.4	22.4	37.5
33.3	50.7	192.3	87.3	0.0	0.0	141.3	23.3	40.5
34.2	48.8	177.8	88.2	0.0	0.0	142.2	24.2	43.6
35.1	46.9	164.0	89.1	0.0	0.0	143.1	25.0	46.8
36.0	45.0	151.0	90.0	0.0	0.0	144.0	25.9	50.2
36.9	43.1	138.7	90.9	0.0	0.0	144.9	26.8	53.8
37.8	41.2	127.1	91.8	0.0	0.0	145.8	27.7	57.5
38.7	39.4	116.2	92.7	0.0	0.0	146.7	28.6	61.3
39.6	37.6	105.6	93.6	0.0	0.0	147.6	29.6	65.6
40.5	35.8	95.7	94.5	0.1	0.0	148.5	30.7	70.3
41.4	34.0	86.4	95.4	0.1	0.0	149.4	31.7	75.1
42.3	32.3	77.8	96.3	0.1	0.0	150.3	32.7	80.1
43.2	30.6	69.9	97.2	0.2	0.0	151.2	33.8	85.4
44.1	28.9	62.5	98.1	0.3	0.0	152.1	34.9	90.8
45.0	27.3	55.8	99.0	0.3	0.0	153.0	35.9	96.4
45.9	25.8	49.6	99.9	0.4	0.0	153.9	37.0	102.2
46.8	24.3	44.0	100.8	0.5	0.0	154.8	38.0	108.1
47.7	22.8	38.8	101.7	0.6	0.0	155.7	39.1	114.2
48.6	21.4	34.2	102.6	0.7	0.0	156.6	40.0	119.8
49.5	20.1	30.1	103.5	0.9	0.1	157.5	41.0	125.3
50.4	18.8	26.3	104.4	1.0	0.1	158.4	41.9	130.9
51.3	17.5	23.0	105.3	1.2	0.1	159.3	42.7	136.5
52.2	16.4	20.0	106.2	1.4	0.1	160.2	43.6	142.1
53.1	15.2	17.3	107.1	1.6	0.2	161.1	44.5	147.8

NicomUsa, Inc

Facility ID	File Number	Callsign	Licensee	Sts	City	St	Cls	ERP	AMSL	Ch	Adj	Dist
28525	BMLH- 20020611AAI	WDOK	CBS RADIO STATIONS INC.	LIC	CLEVELAND	OH	B	12000	570	271	3	37.37
28525	BXLH- 20091008AAL	WDOK	CBS RADIO STATIONS INC.	LIC	CLEVELAND	OH	B	8500	431.6	271	3	38.8
142423	BPFT-20160121AGI	W215BS	EDUCATIONAL MEDIA FOUNDATION	CP	HINCKLEY	OH	D	210	514	269	1	48.29
13670	BLH-19971006KD	WHOT-FM	CUMULUS LICENSING LLC	LIC	YOUNGSTOWN	OH	B	24500	539	266	-2	84.1
144180	BLFT- 20170911AAK	W266CJ	EDUCATIONAL MEDIA FOUNDATION	LIC	BEACHWOOD	OH	D	250	418	266	-2	20.31
142423	BMPFT- 20171107ABU	W215BS	EDUCATIONAL MEDIA FOUNDATION	APP	HINCKLEY	OH	D	250	514	269	1	48.29
2925	BLH-20001218AAJ	WNCO- FM	CAPSTAR TX, LLC	LIC	ASHLAND	OH	B	50000	501.3	267	-1	118.67
62188	BLH-20060309ACK	WRVF	CITICASTERS LICENSES, INC.	LIC	TOLEDO	OH	B	33000	343	268	0	173.07
58627	BLH-20141022ABC	FM	PENNSYLVANIA MEDIA ASSOCIATES, INC.	LIC	PITTSBURGH	PA	B	43000	475	268	0	168.01
62188	BXLH- 20120716ADG	WRVF	CITICASTERS LICENSES, INC.	LIC	TOLEDO	OH	B	5900	292	268	0	173.08
58627	BXLH- 20141022ABD	WORD- FM	PENNSYLVANIA MEDIA ASSOCIATES, INC.	LIC	PITTSBURGH	PA	B	28000	465	268	0	168.01
58627	BXLH- 20040617AFY	WORD- FM	PENNSYLVANIA MEDIA ASSOCIATES, INC.	LIC	PITTSBURGH	PA	B	28000	462	268	0	167.87
2925	BLH-20170426AAA	WNCO- FM	CAPSTAR TX, LLC	LIC	ASHLAND	OH	B	9800	470	267	-1	118.66
73135	BLH-20070206AAE	WHOF	CC LICENSES, LLC	LIC	NORTH CANTON	OH	A	6000	417	269	1	85.63
2900	BLH-20050324AFR	WMVL	VILKIE COMMUNICATIONS, INC.	LIC	LINESVILLE	PA	A	1400	537.9	269	1	90.63
73135	BXLH- 20071212ABP	WHOF	CC LICENSES, LLC	LIC	NORTH CANTON	OH	A	6000	378	269	1	85.63
13670	BXLH- 20070111ABR	WHOT-FM	CUMULUS LICENSING LLC	LIC	YOUNGSTOWN	OH	B	300	498.3	266	-2	84.1
90744	BLFT- 20151130GAL	W268CJ	FAMILY LIFE MINISTRIES, INC.	LIC	PITTSFIELD	PA	D	250	545	268	0	169.52
156770	BLFT- 20161117AAZ	W268CN	PENNSYLVANIA MEDIA ASSOCIATES, INC.	LIC	DETROIT	MI	D	99	478	268	0	178.38
71189	BLED-19980624KB	WDET-FM	WAYNE STATE UNIVERSITY	LIC	DETROIT	MI	B	48000	354	270	2	165.13
200206	BNPFT- 20170731AGZ	NEW	CHADWICK BAY BROADCASTING CORPORATION	APP	DUNKIRK	NY	D	200	505	268	0	184.2

Omitted