

## **Exhibit 12**

### **Non-Interference Compliance for a minor modification of a construction permit for W272CD**

This exhibit will demonstrate that the proposed facility will comply with contour overlap and interference protection provisions in all the applicable rule sections and this application for a construction permit is in full compliance with 47 CFR 74.1204 which states:

*"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 such other factors as may be applicable."*

***If any actual real world interference occurs, the applicant certifies that it will promptly suspend operation of this translator in accordance with 47 CFR 74.1203.***

Included, as part of this exhibit is a channel search showing first, second, and third adjacent channels above and below the requested channel 272 and their field strength in the vicinity of the proposed translator. The field strengths were based on contours predicated using FCC contour algorithms.

#### **Explanation of table:**

The first several columns of the table are self-explanatory. They give various data on the stations in question. The column labeled "clearance" gives the proposed translator's clearance with respect to the tabulated station, in dB.

The table does not include IF frequencies 53 or 54 channels away. Since the proposed station's Effective Radiated Power (ERP) is 53 watts the translator will be treated as a class D station, according to 47 CFR 1204(g)

*"FM translator stations and booster stations operating with less than 100 watts ERP will be treated as class D stations and will not be subject to intermediate frequency separation requirements."*

47 CFR 74.1204(a) requires only the protection of "AUTHORIZED commercial or noncommercial educational FM broadcast stations, FM translators, ..." Any entry with a status listed as "RSV," "USE" or "APP" does not represent an authorized station and therefore is not protected under 47 CFR 74.1204 and therefore not included. The one exception is the case of LP100 applications. The note to 47 CFR 74.1204(a) (4) states that

*"LPFM applications and permits that have not yet been licensed must be considered as operating with the maximum permitted facilities."*

Therefore, any first adjacent or co-channel LP100 station, no matter the status, are protected. A second or third adjacent LP100 station cannot represent a violation of the CFR, as 47 CFR 74.1204(a) (4) requires protection of only co-channel and first adjacent LP100 stations. In addition, the current CP for the translator in question has been removed for clarity.



**Search of channel 272 (102.3 MHz Class D) at 39-52-48.8 N, 84-03-56.2 W**

**Call sign : W272CD Proposed - Gelba**

**Coordinates : 39-52-48.8 N, 84-03-56.2 W**

**Frequency (MHz): 102.30000 ERP (w): 27**

**AMSL (m): 347.00 Elevation (m): 274 RC AGL (m): 73.00**

Callsign	State	City	Freq	Channel	ERP_w	Class	Status	Distance_km	Clr
WDHT	OH	SPRINGFIELD	102.9	275	50000	B	LIC	18.68	-28.83 dB
WKSX	OH	URBANA	101.7	269	3200	A	LIC	31.58	1.53 dB
WIMT	OH	LIMA	102.1	271	11000	B	LIC	84.59	3.08 dB
WKLN	OH	WILMINGTON	102.3	272	3000	A	LIC	62.62	8.11 dB
WIMT	OH	LIMA	102.1	271	13000	B	LIC	87.03	10.17 dB
WKRQ	OH	CINCINNATI	101.9	270	16000	B	LIC	92.74	10.59 dB
WEBN	OH	CINCINNATI	102.7	274	16000	B	LIC	92.74	10.59 dB
WKRQ	OH	CINCINNATI	101.9	270	16000	B	LIC	92.74	13.26 dB
WEBN	OH	CINCINNATI	102.7	274	17000	B	LIC	95.89	14.85 dB
WMDH-FM	IN	NEW CASTLE	102.5	273	50000	B	LIC	114.36	16.50 dB
W272BY	OH	CINCINNATI	102.3	272	99	D	CP MOD	87.88	22.85 dB
W272AT	OH	COLUMBUS	102.3	272	50	D	LIC	89.3	22.86 dB
WHIZ-FM	OH	BALTIMORE	102.5	273	11000	B1	CP	112.64	23.36 dB
WHIZ-FM	OH	ZANESVILLE	102.5	273	50000	B	LIC	177.98	29.82 dB
WFXN-FM	OH	GALION	102.3	272	3500	A	LIC	145.75	31.50 dB
WCYN-FM	KY	CYNTHIANA	102.3	272	3400	A	LIC	164.59	34.95 dB
WGBJ	IN	AUBURN	102.3	272	6000	A	LIC	188.06	38.72 dB
WUGO	KY	GRAYSON	102.3	272	6000	A	CP	188.81	38.78 dB
WUGO	KY	GRAYSON	102.3	272	4800	A	LIC	196.33	39.89 dB
WDEQ-FM	OH	DE GRAFF	91.7	219	100	A	LIC	49.78	39.8
WCPZ	OH	SANDUSKY	102.7	274	50000	B	LIC	208.88	39.23 dB

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### **Compliance with 47 CFR 74.1204(d)**

The proposed translator's Maximum Effective Radiated Power (ERP) is 0.027kw at 73 meters above ground level (AGL). According to 47 CFR 74.1204 (a) the desired to undesired ration between 2<sup>nd</sup>/3<sup>rd</sup> adjacent stations is 40dB, making the proposed translator's interfering contour 127 dB F(50, 10).

Call Sign	F (50, 50) Contour at Tower
WDHT	87 dB

FCC 02-244 at Section II.A.5 states that "when demonstrating that 'no actual interference will occur due to . . . other factors,' pursuant to 47 CFR 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 47 CFR 74.1204(a) is 40 dB. Since the minimum protected contour strength within the proposed translator's standard interference contour is 87 dB, this makes the proposed translator's worst-case interfering contour 127 dB. By the free-space equation, this contour is calculated to extend a maximum of 16 meters from the transmit antenna.

In order to limit the area affected by this interfering contour, an SWR FMEC two-bay half wave spaced antenna has been selected. Engineering data on this antenna has been included at the end of this exhibit. With an antenna HAGL of 73 meters, the largest area of interference would occur at a 45-degree depression from horizontal. At this level, the interference would extend 9 meters from the antenna. With that, this interfering contour is not projected to cause objectionable interference. No state or federal highways pass through the projected area of interference, nor are there any structures other than the tower supporting the antenna. As stated at the beginning of this exhibit, if any actual real world interference occurs, the applicant certifies that it will promptly suspend operation of this translator in accordance with 47 CFR 74.1203. Hence, in accordance with 47 CFR 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 therefore this application is in full compliance with 47 CFR 74.1204.

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**SYSTEMS WITH RELIABILITY, Inc.**

**Broadcast Antenna & Transmission Systems**

## SYSTEM DATA SHEET

Customer: Spirit Communications  
 Contact: Jeff Orr  
 Location:  
 Antenna Model: FMEC/2 HWS  
 Channel / Frequency: 102.3 MHz

### ELECTRICAL SPECIFICATION

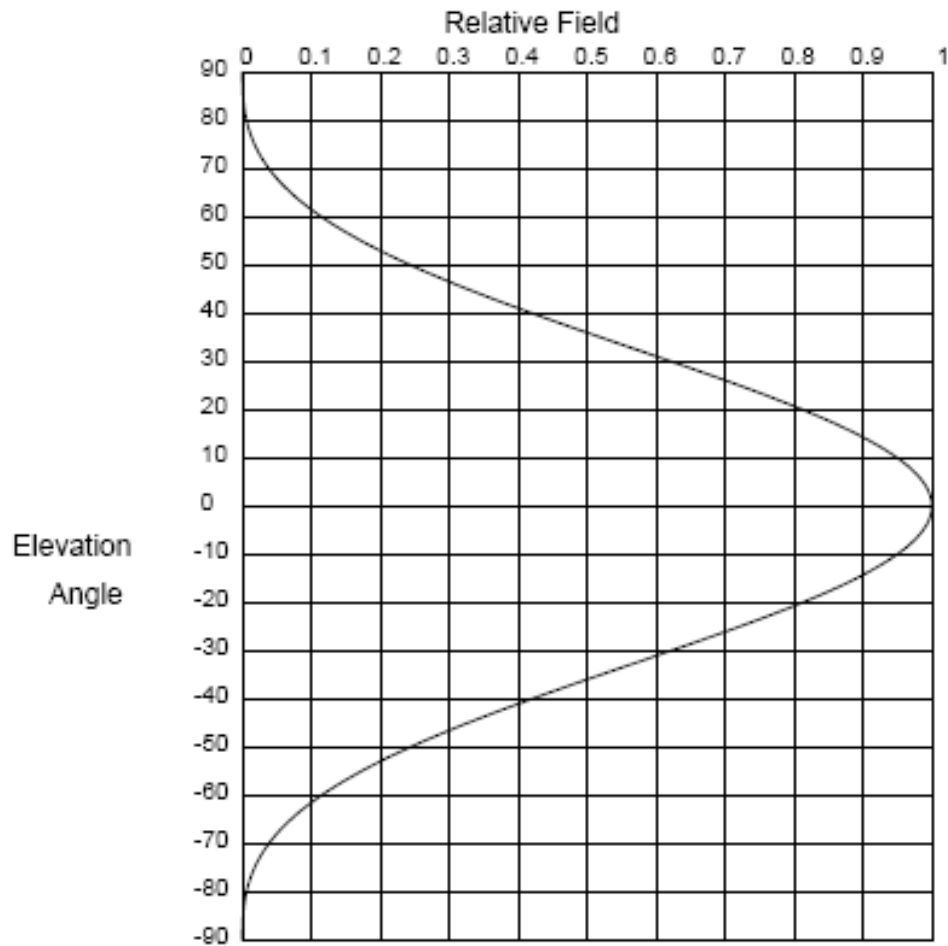
Polarization Type	Circular		
Polarization Ratio			
H-Pol. (PRH)	50.000	%	
V-Pol. (PRV)	50.000	%	
Elevation Directivity (ED)	1.390		
Azimuth Directivity (AD) H-Pol.	1.000		
Azimuth Directivity (AD) V-Pol.	1.000		
Antenna Efficiency	100.000	%	
Antenna Gain (GH)			
H-Pol. (GH)	0.695		
V-Pol. (GV)	0.695		
dB Gain (AG)			
H-Pol (AGH)	-1.580		
V-Pol (AGV)	-1.580		

### MECHANICAL SPECIFICATION

No. Of Bays	2			
Antenna Aperture	4.81	ft.	1.46	m
Antenna Total Length	6.00	ft.	1.83	m
Antenna Weight	46.00	lbs.	20.91	kg
Windload (50/33)	42.00	lbs. 50/33PSF	0.65	ft <sup>2</sup>

Mechanical Specifications will be certified upon final construction and testing.  
 Note: Given values can be used for planning system.

Prepared by:   
 David K. Edmiston Jr.  
 SWR Inc., Engineering



## Elevation Pattern

Scale: Linear

Units: Field, Relative

### Systems With Reliability Inc.

CLIENT: *Jeff Orr*

Date: 3/21/2007

ANTENNA TYPE: FMEC/2 HWS

FREQUENCY: 102.3

PATTERN POL.: Circular

DIRECTIVITY(Peak): 1.39/1.43 dBd

Beam Tilt (Deg.): 0

DIRECTIVITY(Horiz): 1.39/1.43 dBd

Null Fill(s)(%): 0, 0, 0

*Micro-Tek Ena. Ver. 2.5.1*

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## Relative Field Tabulation

Elev. Angle	Rel. Fld(dB)	Elev. Angle	Rel. Fld(dB)	Elev. Angle	Rel. Fld(dB)
3.2	.995 (-0.046)	-4.4	.99 (-0.086)	-12.0	.929 (-0.644)
3.0	.995 (-0.04)	-4.6	.989 (-0.094)	-12.2	.926 (-0.666)
2.8	.996 (-0.035)	-4.8	.988 (-0.103)	-12.4	.924 (-0.688)
2.6	.997 (-0.03)	-5.0	.987 (-0.111)	-12.6	.921 (-0.711)
2.4	.997 (-0.026)	-5.2	.986 (-0.121)	-12.8	.919 (-0.733)
2.2	.998 (-0.022)	-5.4	.985 (-0.13)	-13.0	.917 (-0.757)
2.0	.998 (-0.018)	-5.6	.984 (-0.14)	-13.2	.914 (-0.78)
1.8	.998 (-0.014)	-5.8	.983 (-0.15)	-13.4	.912 (-0.804)
1.6	.999 (-0.011)	-6.0	.982 (-0.161)	-13.6	.909 (-0.828)
1.4	.999 (-0.009)	-6.2	.98 (-0.171)	-13.8	.906 (-0.853)
1.2	.999 (-0.006)	-6.4	.979 (-0.183)	-14.0	.904 (-0.878)
1.0	.999 (-0.004)	-6.6	.978 (-0.194)	-14.2	.901 (-0.904)
.8	1.00 (-0.003)	-6.8	.977 (-0.206)	-14.4	.899 (-0.929)
.6	1.00 (-0.002)	-7.0	.975 (-0.219)	-14.6	.896 (-0.956)
.4	1.00 (-0.001)	-7.2	.974 (-0.231)	-14.8	.893 (-0.982)
.2	1.00 (0)	-7.4	.972 (-0.244)	-15.0	.89 (-1.009)
.0	1.00 (0)	-7.6	.971 (-0.258)	-15.2	.888 (-1.036)
-.2	1.00 (0)	-7.8	.969 (-0.272)	-15.4	.885 (-1.064)
-.4	1.00 (-0.001)	-8.0	.968 (-0.286)	-15.6	.882 (-1.092)
-.6	1.00 (-0.002)	-8.2	.966 (-0.3)	-15.8	.879 (-1.12)
-.8	1.00 (-0.003)	-8.4	.964 (-0.315)	-16.0	.876 (-1.149)
-1.0	.999 (-0.004)	-8.6	.963 (-0.33)	-16.2	.873 (-1.178)
-1.2	.999 (-0.006)	-8.8	.961 (-0.346)	-16.4	.87 (-1.208)
-1.4	.999 (-0.009)	-9.0	.959 (-0.362)	-16.6	.867 (-1.238)
-1.6	.999 (-0.011)	-9.2	.957 (-0.378)	-16.8	.864 (-1.268)
-1.8	.998 (-0.014)	-9.4	.956 (-0.395)	-17.0	.861 (-1.299)
-2.0	.998 (-0.018)	-9.6	.954 (-0.412)	-17.2	.858 (-1.33)
-2.2	.998 (-0.022)	-9.8	.952 (-0.429)	-17.4	.855 (-1.361)
-2.4	.997 (-0.026)	-10.0	.95 (-0.447)	-17.6	.852 (-1.393)
-2.6	.997 (-0.03)	-10.2	.948 (-0.465)	-17.8	.849 (-1.425)
-2.8	.996 (-0.035)	-10.4	.946 (-0.483)	-18.0	.846 (-1.457)
-3.0	.995 (-0.04)	-10.6	.944 (-0.502)	-18.2	.842 (-1.49)
-3.2	.995 (-0.046)	-10.8	.942 (-0.521)	-18.4	.839 (-1.524)
-3.4	.994 (-0.052)	-11.0	.94 (-0.541)	-18.6	.836 (-1.557)
-3.6	.993 (-0.058)	-11.2	.937 (-0.561)	-18.8	.833 (-1.591)
-3.8	.993 (-0.064)	-11.4	.935 (-0.581)	-19.0	.829 (-1.626)
-4.0	.992 (-0.071)	-11.6	.933 (-0.602)	-19.2	.826 (-1.661)
-4.2	.991 (-0.079)	-11.8	.931 (-0.623)	-19.4	.823 (-1.696)

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CLIENT: *Jeff Orr*

Date: 3/21/2007

ANTENNA TYPE: FMEC/2 HWS

FREQUENCY: 102.3

PATTERN POL.: Circular

DIRECTIVITY(Peak): 1.39/1.43 dBd

Beam Tilt (Deg.): 0

DIRECTIVITY(Horiz): 1.39/1.43 dBd

Null Fill(s)(%): 0, 0, 0

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## Relative Field Tabulation

Elev. Angle	Rel. Fld(dB)	Elev. Angle	Rel. Fld(dB)	Elev. Angle	Rel. Fld(dB)
-19.6	.819 (-1.731)	-27.2	.678 (-3.373)	-54.0	.186 (-14.615)
-19.8	.816 (-1.767)	-27.4	.674 (-3.424)	-55.0	.173 (-15.254)
-20.0	.812 (-1.804)	-27.6	.67 (-3.476)	-56.0	.16 (-15.914)
-20.2	.809 (-1.84)	-27.8	.666 (-3.528)	-57.0	.148 (-16.597)
-20.4	.806 (-1.877)	-28.0	.662 (-3.58)	-58.0	.136 (-17.304)
-20.6	.802 (-1.915)	-28.2	.658 (-3.633)	-59.0	.125 (-18.036)
-20.8	.799 (-1.953)	-28.4	.654 (-3.686)	-60.0	.115 (-18.794)
-21.0	.795 (-1.991)	-28.6	.65 (-3.739)	-61.0	.105 (-19.581)
-21.2	.792 (-2.03)	-28.8	.646 (-3.793)	-62.0	.096 (-20.397)
-21.4	.788 (-2.069)	-29.0	.642 (-3.846)	-63.0	.087 (-21.245)
-21.6	.784 (-2.108)	-29.2	.638 (-3.903)	-64.0	.078 (-22.126)
-21.8	.781 (-2.148)	-29.4	.634 (-3.958)	-65.0	.07 (-23.044)
-22.0	.777 (-2.188)	-29.6	.63 (-4.014)	-66.0	.063 (-24)
-22.2	.774 (-2.229)	-29.8	.626 (-4.07)	-67.0	.056 (-24.997)
-22.4	.77 (-2.27)	-30.0	.622 (-4.126)	-68.0	.05 (-26.039)
-22.6	.766 (-2.311)	-31.0	.601 (-4.416)	-69.0	.044 (-27.13)
-22.8	.763 (-2.353)	-32.0	.581 (-4.716)	-70.0	.039 (-28.274)
-23.0	.759 (-2.395)	-33.0	.561 (-5.027)	-71.0	.034 (-29.475)
-23.2	.755 (-2.438)	-34.0	.54 (-5.349)	-72.0	.029 (-30.74)
-23.4	.752 (-2.481)	-35.0	.52 (-5.683)	-73.0	.025 (-32.074)
-23.6	.748 (-2.524)	-36.0	.50 (-6.029)	-74.0	.021 (-33.487)
-23.8	.744 (-2.568)	-37.0	.479 (-6.387)	-75.0	.018 (-34.986)
-24.0	.74 (-2.612)	-38.0	.459 (-6.756)	-76.0	.015 (-36.583)
-24.2	.737 (-2.657)	-39.0	.44 (-7.138)	-77.0	.012 (-38.292)
-24.4	.733 (-2.701)	-40.0	.42 (-7.533)	-78.0	.01 (-40.128)
-24.6	.729 (-2.747)	-41.0	.401 (-7.941)	-79.0	.008 (-42.113)
-24.8	.725 (-2.793)	-42.0	.382 (-8.362)	-80.0	.006 (-44.272)
-25.0	.721 (-2.839)	-43.0	.363 (-8.797)	-81.0	.005 (-46.639)
-25.2	.717 (-2.885)	-44.0	.345 (-9.246)	-82.0	.003 (-49.26)
-25.4	.713 (-2.932)	-45.0	.327 (-9.71)	-83.0	.002 (-52.199)
-25.6	.71 (-2.98)	-46.0	.309 (-10.188)	-84.0	.002 (-55.546)
-25.8	.706 (-3.027)	-47.0	.292 (-10.682)	-85.0	.001 (-59.44)
-26.0	.702 (-3.076)	-48.0	.276 (-11.191)	-86.0	.001 (-64.112)
-26.2	.698 (-3.124)	-49.0	.259 (-11.717)	-87.0	.00 (-69.988)
-26.4	.694 (-3.173)	-50.0	.244 (-12.26)	-88.0	.00 (-78.01)
-26.6	.69 (-3.223)	-51.0	.229 (-12.821)	-89.0	.00 (-91.156)
-26.8	.686 (-3.272)	-52.0	.214 (-13.4)	-90.0	.00 (-50)
-27.0	.682 (-3.323)	-53.0	.20 (-13.998)	90.0	.00 (-50)

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CLIENT: Jeff Orr

Date: 3/21/2007

ANTENNA TYPE: FMEC/2 HWS

FREQUENCY: 102.3

PATTERN POL.: Circular

DIRECTIVITY(Peak): 1.39/1.43 dBd

Beam Tilt (Deg.): 0

DIRECTIVITY(Horiz): 1.39/1.43 dBd

Null Fill(s)(%): 0, 0, 0

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