

[Exhibit 12]

## **Non-Interference Compliance**

Regarding FCC File Number: BNPFT-20030317IFO

Channel: 234

### **Description of Exhibit 12 Contents**

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

Page 2 of this exhibit is an explanation of the tabulated data, which is included as evidence on page 5 of this exhibit.

Pages 3 and 4 of this exhibit contain an explanation of the method used to demonstrate compliance with contour overlap and interference protection provisions based on 47 CFR 74.1204(d), 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."*

In addition, page 4 includes a tabulation of the second and third adjacent stations which this application is required to protect and the field strengths of those stations in the vicinity of the proposed translator. The field strengths given were based on contours predicted using FCC contour algorithms and 3 arc second terrain data.

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

Page 5 of this exhibit is the tabulated data from the interference analysis, which shows all stations that this application had to consider for contour protection. These tabulated values were generated using high resolution 3 arc second terrain data for the best possible accuracy.

Page 6 of this exhibit is a portion of a USGS 1:24,000 scale 7.5 min quadrangle at full scale with the calculated area of interference overlayed. The sheet includes the quadrangle name and measurement scale at the bottom-left corner (note: "Mt" refers to meters). The area of interference was calculated using a free-space calculation (see FCC 98-117, Appendix A, pg. 41 for reference to the equation used).

## Explanation of Frequency Finder Results

The interference analysis for this application was performed using the "Frequency Finder" module in RadioSoft's Comstudy, version 2.2.

Frequency Finder analyzes data taken directly from the FCC's FM database and looks for prohibited overlap with contours of adjacent stations and prohibited proximity to stations 53 or 54 channels from the proposed station (IF) using 3 arc second terrain data and the FCC's contour algorithms. The results tabulated are the stations returned from that analysis. (Note: Because Comstudy was looking at the FCC's FM database, it took into account the proposed translator when doing the analysis and returned it in the tabulated results. For the sake of simplicity, that record has been deleted from all tabulated results.)

The first several columns of the table are self-explanatory. They give various data on the stations in question. The column labeled "Clr" gives the proposed translator's "clearance" with respect to the tabulated station, either in dB or km. The values listed with no units are given in km and are for stations located on an IF to the proposed site's channel.

**A negative value in the "Clr" column does NOT necessarily represent prohibited contour overlap, as explained below.**

A negative value listed in the "Clr" column would indicate either overlap of interference and protected contours or prohibited proximity to an IF station except in the following situations:

- Since the proposed station's Effective Radiated Power (ERP) is 10 watts, a negative value in km (no units listed in the table) does not represent a violation of the CFR, according to 47 CFR 1204(g), which states that "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."

- 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.

- 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. 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, is protected.

- Entries highlighted in red are those stations where there is overlap of predicted contours and lack of population has been demonstrated within the area of interference.

## Compliance with 47 CFR 74.1204(d)

The proposed translator's Maximum Effective Radiated Power (ERP) is 0.01kW at 146 meters above ground level. According to 47 CFR, 74.1204(a), the desired to undesired ratio between 2nd/3rd adjacent stations is 40dB, making the proposed translator's interfering contour 102.5dBu F(50,10). (See the next page for more discussion on the determination of the signal strength of the proposed translator's area of interference.)

Using a free-space calculation (equation referenced in FCC 98-117, Appendix A, pg. 41), the proposed translator's F(50,10) interference contour was calculated and the maximum horizontal plane was plotted on the pertinent portion of a USGS quadrangle (page 6 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 below 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 (equation referenced in FCC 98-117, Appendix A, pg. 41), the vertical ground clearance of the proposed application's F(50,10) interference contour at each angle has been tabulated. As shown below, the area of interference clears the ground by 59.4 meters at the lowest point. The applicant has taken into account USGS quadrangles and relevant aerial photography in stating that no structures, except possibly tower support structures, puncture the proposed area of interference. 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), there is a lack of population within the proposed area of interference and therefore this application is in full compliance with 47 CFR 74.1204.

**Antenna Manufacturer:** SWR

**Maximum ERP:** 10 watts

**Antenna Model Number:** FM1

**CORAGL:** 146 m

**F(50,10) Contour:** 102.5 dBu

Depression Angle (from COR)	Antenna Relative Field	ERP (watts)	Distance to F(50,10) Interfering Contour from Antenna (m)	Horizontal Distance of F(50,10) Interfering Contour from Tower (m)	Vert. Clearance of F(50,10) Interfering Contour above TGL (m)
5	0.997	9.94	165.8	165.2	131.5
10	0.986	9.72	164.0	161.5	117.5
15	0.969	9.39	161.2	155.7	104.3
20	0.946	8.95	157.4	147.9	92.2
25	0.916	8.39	152.4	138.1	81.6
30	0.879	7.73	146.2	126.6	72.9
35	0.837	7.01	139.2	114.0	66.1
40	0.789	6.23	131.2	100.5	61.6
45	0.736	5.42	122.4	86.6	59.4
50	0.679	4.61	112.9	72.6	59.5
55	0.616	3.79	102.5	58.8	62.1
60	0.55	3.03	91.5	45.7	66.8
65	0.48	2.30	79.8	33.7	73.6
70	0.408	1.66	67.9	23.2	82.2
75	0.333	1.11	55.4	14.3	92.5
80	0.256	0.66	42.6	7.4	104.1
85	0.178	0.32	29.6	2.6	116.5
90	0.1	0.10	16.6	0.0	129.4

Minimum F(50,10) Clearance above TGL **59.4 m**

The F(50,50) signal strength of all relevant second and third adjacent stations have been examined, and are tabulated below. Column three shows the station's signal level at the proposed translator's tower site, and column four gives the minimum value within the entire proposed translator's standard F(50,10) contour (100 dBu for most classes, 94 dBu for class B's, 97 dBu for class B1's). For signal levels too great to determine, 999 was entered. The minimum F(50,50) contour within the proposed translator's standard F(50,10) contour was used to calculate the proposed translator's interference contour, thereby assuring a minimum undesired-to-desired ratio of 40dB for all relevant adjacent stations, as required in 47 CFR, 74.1204(a).

FCC File Number	Call Sign	F(50,50) Contour at Tower	Min. F(50,50) Contour
BLH19940415KB	WCHZ	62.8dBu	62.5dBu
Minimum F(50,50) Protected Contour of Adjacent Station Within Proposed Translator's standard F(50,10) Contour:			<b>62.5dBu</b>

Callsign	State	City	Chan	ERP_w	Licensee	ARN	Class	Status	Distance_km	Cir	Facility_id
WCHZ	GA	HARLEM	236	0	WCHZ LICENSE,LLC		C3	USE	2.06	-26.18 dB	24423
WCHZ	GA	HARLEM	236	5700	WCHZ LICENSE,LLC	BLH19940415KB	C3	LIC	18.75	-11.65 dB	24423
W234AK	GA	WASHINGTON	234	80	AUGUSTA RADIO FELLOWSHIP INSTITUTE, INC.	BLFT19981217TK	D	LIC	39.53	3.36 dB	85699
960916ME	GA	GIBSON	232	3000	JOE RANKE	BPH19960916ME	A	APP	31.87	6.79 dB	83423
960916ME	GA	GIBSON	232	3000	JOE RANKE	BPH19960916ME	A	APP	31.9	6.80 dB	83423
WAAW	SC	WILLISTON	234	2550	FRANK NEELY	BPH20020619AAT	A	CP	72.42	8.23 dB	4094
WAAW	SC	WILLISTON	234	2100	FRANK NEELY	BLH19940907KC	A	LIC	79.41	10.86 dB	4094
	GA	CRAWFORDVII	234	0		RM10517	A	APP	50.67	11.97 dB	0
WHKN	GA	MILLEN	235	14500	MULTI-SERVICE CORP.	BLH19920214KC	C3	LIC	98.51	22.24 dB	54511
WMUU-FM	SC	GREENVILLE	233	100000	WMUU, INC.	BLH6867	C	LIC	160.44	24.35 dB	73296
WAAW	SC	WILLISTON	234	0	FRANK NEELY		A	USE	92.19	24.80 dB	4094
NEW	GA	AUGUSTA-RIC	287	10	RADIO ASSIST MINISTRY, INC	BNPFT20030317HWP	D	APP	29.78	29.8	150366
960916ME	GA	GIBSON	232	0	JOE RANKE		A	APP	31.62	29.40 dB	83423
WCRS-FM	SC	CROSS HILL	231	3600	SOUTHEASTERN BROADCAST ASSOCIATES IN	BLH19991012AAL	A	LIC	90.96	29.57 dB	84438
WLTM	GA	ATLANTA	235	99000	CITICASTERS LICENSES, L.P.	BLH20000413ABM	C1	LIC	183.04	30.85 dB	29735
WBYZ	GA	BAXLEY	233	100000	SOUTH GEORGIA BROADCASTERS, INC.	BLH19880719KA	C	LIC	189.56	31.78 dB	61095
WSTR	GA	SMYRNA	231	100000	JEFFERSON-PILOT COMMUNICATIONS COMPANY OF GEORG	BLH19890929KD	C	LIC	181.65	31.99 dB	30822
WQBT	GA	SAVANNAH	231	100000	CAPSTAR TX LIMITED PARTNERSHIP	BLH20020604AAV	C0	LIC	189.04	32.07 dB	8594
NEW	SC	GREENWOOD	235	27	AUGUSTA RADIO FELLOWSHIP INSTITUTE, INC	BNPFT20030310ABZ	D	APP	80.33	33.38 dB	138322
WMGB	GA	MONTEZUMA	236	46000	CUMULUS LICENSING CORP.	BLH20010810AAD	C2	LIC	162.44	36.01 dB	88541
WFMV	SC	SOUTH CONG	237	6000	GLORY COMMUNICATIONS	BLH20010725AEF	A	LIC	118.12	37.79 dB	24376
NEW	GA	EATONTON	233	10	EDGEWATER BROADCASTING INC.	BNPFT20030317DRX	D	APP	93.59	38.43 dB	146129
WNKS	NC	CHARLOTTE	236	100000	INFINITY RADIO SUBSIDIARY OPERATIONS INC.	BMLH20020321AAN	C	LIC	236.77	38.72 dB	53975
NEW	GA	SPRINGFIELD	234	100	RALPH E. DAVIS	BNPL20000605ABV	LP10	APP	163.31	39.56 dB	123976
NEW	SC	ST. MATTHEW	235	250	MILLER COMMUNICATIONS, INC.	BNPFT20030317CCY	D	APP	149.7	39.29 dB	142014
NEW	GA	SPARTA	237	19	AUGUSTA RADIO FELLOWSHIP INSTITUTE, INC	BNPFT20030310AAQ	D	APP	59.17	39.15 dB	138225



THOMSON EAST QUADRANGLE  
GEORGIA  
7.5 MINUTE SERIES (TOPOGRAPHIC)  
NW/4 HARLEM 15' QUADRANGLE

