

Non-Interference Compliance

Regarding Facility id 151847

Channel 261

Description of Exhibit 13 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 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 a tabulation 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 dBμ 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. The column labeled "Overlap" shows the area of contour overlap in square kilometers.

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-left corner (note: "Mt" refers to meters). The area of interference was calculated using the free space equation and 120 radials.

Page 7 of this exhibit is an aerial photo of the vicinity surrounding the proposed translator's tower site.

Note: The tallest buildings within the zone of predicted interference are 20ft (6.1m) in height. This proposal provides 60m (196.9ft) ground clearance so 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.

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.

Application_id	File Number	Callsign	Contour at Tower	Min. Contour
1272882	BMLH20081103AAM	WRFX	69	69
Minimum F(50,50) Contour of Adjacent Station within Proposed Translator's Standard Interfering Contour				69

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 **69 dBμ**, this makes the proposed translator's worst-case interfering contour **109 dBμ**. By the free-space equation, this contour is calculated to extend a maximum of **229.5 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 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 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 tower ground level (TGL) by **60 m** 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 area of interference.

Note: The tallest buildings within the zone of predicted interference are 20ft (6.1m) in height. This proposal provides 60m (196.9ft) ground clearance so 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:	PSI
Antenna Model:	FML-2(.75)
CORAGL:	111 m
Maximum ERP:	0.085 kW
Interfering Contour:	109 dBμ
Max Int. Contour Distance:	229.5 m
Min Ground Clearance:	60 m

Depression Angle Below Horizontal	Antenna Relative Field	ERP (watts)	Distance to Interfering Contour from Antenna (m)	Horizontal Distance of Interfering Contour from Tower (m)	Vertical Clearance of Interfering Contour above TGL (m)
5	.975	80.8	223.7	222.9	91.5
10	.903	69.3	207.2	204.1	75.0
15	.792	53.3	181.7	175.5	64.0
20	.650	35.9	149.1	140.2	60.0
25	.493	20.7	113.1	102.5	63.2
30	.331	9.3	76.0	65.8	73.0
35	.178	2.7	40.8	33.5	87.6
40	.043	0.2	9.9	7.6	104.7
45	.068	0.4	15.6	11.0	100.0
50	.149	1.9	34.2	22.0	84.8
55	.202	3.5	46.4	26.6	73.0
60	.227	4.4	52.1	26.0	65.9
65	.226	4.3	51.9	21.9	64.0
70	.205	3.6	47.0	16.1	66.8
75	.168	2.4	38.5	10.0	73.8
80	.118	1.2	27.1	4.7	84.3
85	.061	0.3	14.0	1.2	97.1
90	.001	0.0	0.2	0.0	110.8
Minimum Clearance above TGL:					60 m

Propagation Systems Inc.

Elevation Pattern Tabulation

Antenna: PSIFML-2 Special

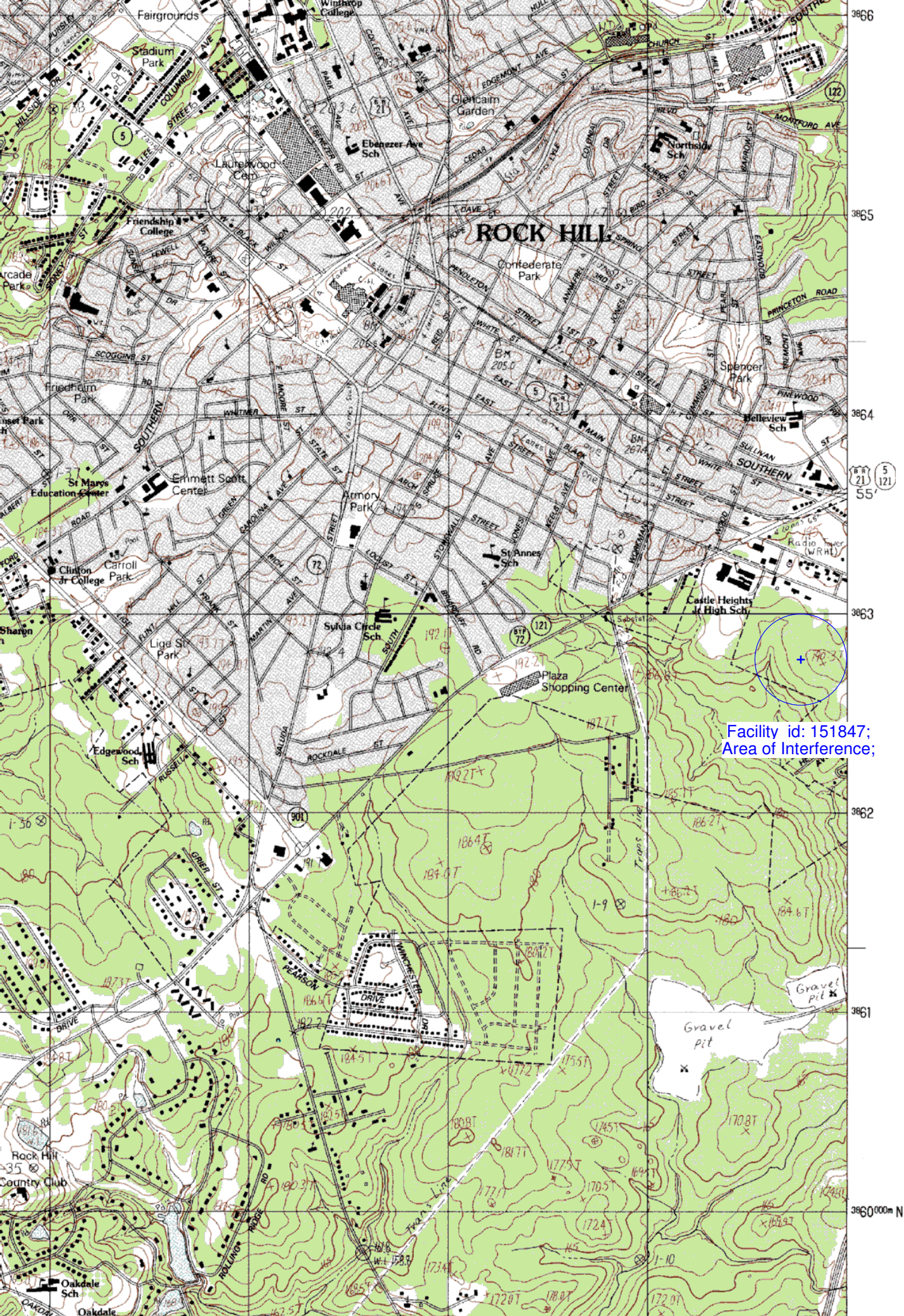
Bay spacing: 3/4 wave

Angle	Field	dB	Angle	Field	dB	Angle	Field	dB
-90.00	0.001	-60.000	-50.00	0.149	-16.513	-10.00	0.903	-0.883
-89.00	0.012	-38.221	-49.00	0.135	-17.364	-9.00	0.921	-0.713
-88.00	0.025	-32.201	-48.00	0.120	-18.405	-8.00	0.937	-0.561
-87.00	0.037	-28.679	-47.00	0.104	-19.677	-7.00	0.952	-0.429
-86.00	0.049	-26.207	-46.00	0.086	-21.289	-6.00	0.964	-0.315
-85.00	0.061	-24.285	-45.00	0.068	-23.404	-5.00	0.975	-0.219
-84.00	0.073	-22.748	-44.00	0.048	-26.425	-4.00	0.984	-0.139
-83.00	0.085	-21.443	-43.00	0.027	-31.481	-3.00	0.991	-0.079
-82.00	0.096	-20.349	-42.00	0.005	-46.848	-2.00	0.996	-0.036
-81.00	0.107	-19.378	-41.00	0.018	-34.664	-1.00	0.999	-0.009
-80.00	0.118	-18.538	-40.00	0.043	-27.417	0.00	1.000	0.000
-79.00	0.129	-17.792	-39.00	0.068	-23.365	1.00	0.999	-0.009
-78.00	0.139	-17.125	-38.00	0.094	-20.529	2.00	0.996	-0.036
-77.00	0.149	-16.522	-37.00	0.121	-18.329	3.00	0.991	-0.079
-76.00	0.159	-15.984	-36.00	0.149	-16.531	4.00	0.984	-0.139
-75.00	0.168	-15.508	-35.00	0.178	-14.998	5.00	0.975	-0.219
-74.00	0.176	-15.072	-34.00	0.207	-13.669	6.00	0.964	-0.315
-73.00	0.184	-14.685	-33.00	0.237	-12.489	7.00	0.952	-0.429
-72.00	0.192	-14.335	-32.00	0.268	-11.431	8.00	0.937	-0.561
-71.00	0.199	-14.026	-31.00	0.299	-10.475	9.00	0.921	-0.713
-70.00	0.205	-13.752	-30.00	0.331	-9.602	10.00	0.903	-0.882
-69.00	0.211	-13.518	-29.00	0.363	-8.801	11.00	0.884	-1.072
-68.00	0.216	-13.315	-28.00	0.395	-8.061	12.00	0.863	-1.279
-67.00	0.220	-13.146	-27.00	0.428	-7.377	13.00	0.841	-1.508
-66.00	0.224	-13.009	-26.00	0.460	-6.742	14.00	0.817	-1.757
-65.00	0.226	-12.904	-25.00	0.493	-6.151	15.00	0.792	-2.029
-64.00	0.228	-12.834	-24.00	0.525	-5.599	16.00	0.765	-2.322
-63.00	0.229	-12.800	-23.00	0.557	-5.083	17.00	0.738	-2.639
-62.00	0.229	-12.794	-22.00	0.589	-4.603	18.00	0.710	-2.979
-61.00	0.228	-12.829	-21.00	0.620	-4.154	19.00	0.680	-3.344
-60.00	0.227	-12.898	-20.00	0.650	-3.736	20.00	0.650	-3.736
-59.00	0.224	-13.009	-19.00	0.680	-3.344	21.00	0.620	-4.154
-58.00	0.220	-13.158	-18.00	0.710	-2.979	22.00	0.589	-4.603
-57.00	0.215	-13.351	-17.00	0.738	-2.639	23.00	0.557	-5.083
-56.00	0.209	-13.600	-16.00	0.765	-2.323	24.00	0.525	-5.599
-55.00	0.202	-13.894	-15.00	0.792	-2.029	25.00	0.493	-6.151
-54.00	0.194	-14.260	-14.00	0.817	-1.759	26.00	0.460	-6.742
-53.00	0.184	-14.685	-13.00	0.840	-1.510	27.00	0.428	-7.377
-52.00	0.174	-15.192	-12.00	0.863	-1.281	28.00	0.395	-8.061
-51.00	0.162	-15.795	-11.00	0.884	-1.072	29.00	0.363	-8.801
						30.00	0.331	-9.602

Adjacent Channel Study
For Station W255CU, Facility_id: 151847

Co-channel through third adjacent:

App_id	Fac_id	File_Number	Call	Licensee	Class	City	State	Status	ERP	RCAMSL	Char	Adj	Dist	Overlap
1272882	53970	BMLH-20081103AAM	WRFX	CAPSTAR TX, LLC	C1	KANNAPOLIS	NC	LIC	84	522	259	2	50.5	0.5072
1724784	29264	BLFT-20160316ABD	W262BM	EDUCATIONAL MEDIA FOUNDAT	D	CHARLOTTE	NC	LIC	0.25	323	262	1	34.2	0
1733043	144754	BLFT-20160708ABC	W264CZ	SN RADIO, LLC	D	GASTONIA	NC	LIC	0.24	488	264	3	43.8	0
1182117	141738	BLFT-20070419AAL	W261AP	POSITIVE ALTERNATIVE RADIO,	D	KINGS MOUNTAIN	NC	LIC	0.007	482	261	0	43.8	0
1693969	148049	BLFT-20151020AJQ	W261BZ	RADIO TRAINING NETWORK, INC	D	HUNTERSVILLE	NC	LIC	0.25	294	261	0	64	0
695199	13589	BMLH-20030619AAA	WXBZ	CAPSTAR TX, LLC	A	WEST COLUMBIA	SC	LIC	5.9	188	261	0	93.7	0
1656080	157988	BLFT-20141028AAE	W264CU	IREDELL BROADCASTING, INC.	D	STATESVILLE	NC	LIC	0.25	369	264	3	100	0
1712283	142011	BPFT-20151214AEQ	W259CL	ALPHA MEDIA LICENSEE LLC	D	COLUMBIA	SC	CP	0.25	221	259	2	101	0
1087353	59819	BLH-20050923AFT	WSSL-FM	CAPSTAR TX, LLC	C0	GRAY COURT	SC	LIC	100	587	263	2	108.1	0
1416866	73258	BMLH-20110207AEO	WMAG	CAPSTAR TX, LLC	C	HIGH POINT	NC	LIC	100	681	258	3	150.1	0
116781	74204	BLH-19880805LB	WMKS	CAPSTAR TX, LLC	C	HIGH POINT	NC	LIC	100	554	262	1	159	0
1643883	2947	BLH-20140717ABM	WKSF	CAPSTAR TX, LLC	C	OLD FORT	NC	LIC	49	1784	260	1	169.5	0



Facility id: 151847;
Area of Interference;

