

## **Non-Interference Compliance**

Regarding Facility id 149547

Channel 267

### **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.

Pages 4 through 6 include a tabulation of the vertical radiation pattern for the proposed antenna provided by the antenna manufacturer.

Page 7 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 8 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 9 of this exhibit is an aerial photo of the vicinity surrounding the proposed translator's tower site.

### 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.

<b>Application_id</b>	<b>File Number</b>	<b>Callsign</b>	<b>Contour at Tower</b>	<b>Min. Contour</b>
1270065	BLH20081003AEA	WAVF	100	100
Minimum F(50,50) Contour of Adjacent Station within Proposed Translator's Standard Interfering Contour				<b>100</b>

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 **100 dBμ**, this makes the proposed translator's worst-case interfering contour **140 dBμ**. By the free-space equation, this contour is calculated to extend a maximum of **11.1 m** from the transmit antenna.

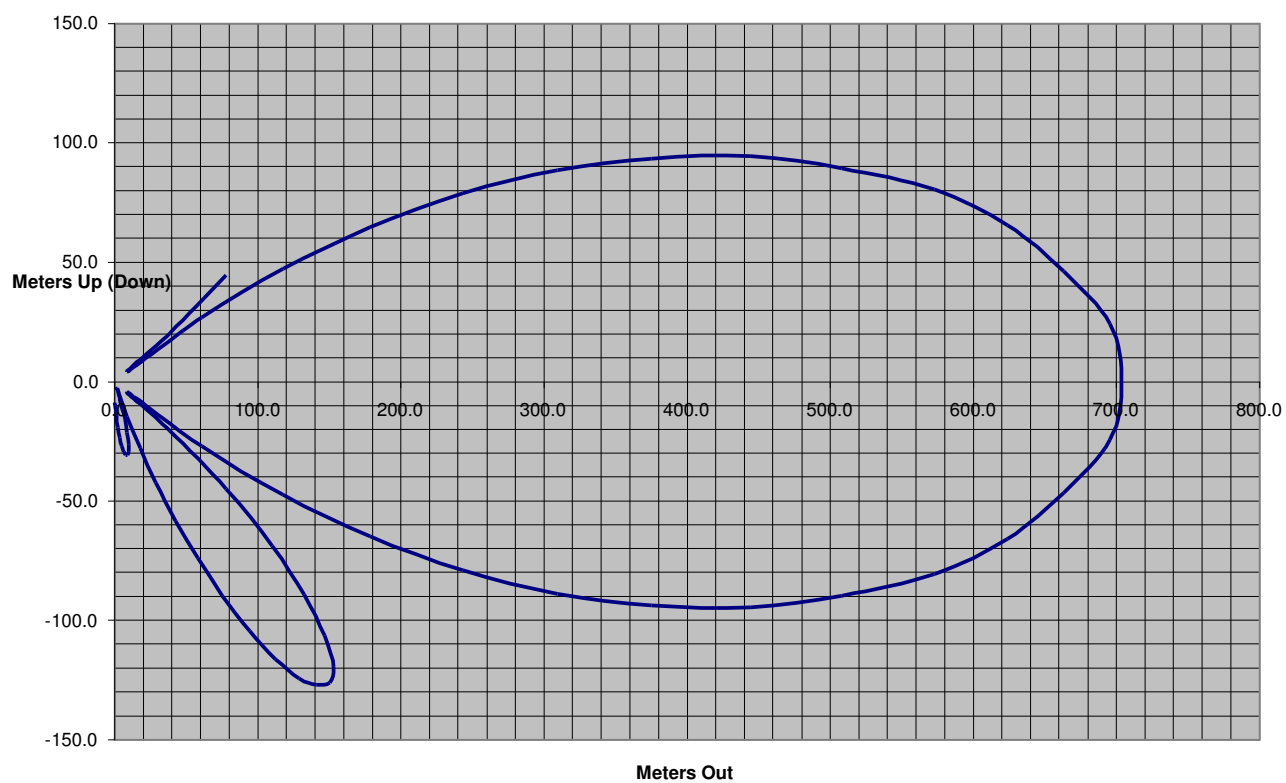
The maximum horizontal plane of the interfering contour was calculated for 120 radials and plotted on the pertinent portion of a USGS quadrangle (page 8 of this exhibit). However, the field strength of the proposed translator's antenna varies with angle of depression from horizontal. The antenna relative 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 tower ground level (TGL) by **196 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.

<b>Antenna Manufacturer:</b>	<b>BEX</b>
<b>Antenna Model:</b>	<b>TFC2K-3(3/4WS)</b>
<b>CORAGL:</b>	<b>198 m</b>
<b>Maximum ERP:</b>	<b>0.25 kW</b>
<b>Interfering Contour:</b>	<b>140 dBμ</b>
<b>Max Int. Contour Distance:</b>	<b>11.1 m</b>
<b>Min Ground Clearance:</b>	<b>196 m</b>

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	.918	210.7	10.2	10.1	197.1
10	.733	134.3	8.1	8.0	196.6
15	.504	63.5	5.6	5.4	196.6
20	.269	18.1	3.0	2.8	197.0
25	.054	0.7	0.6	0.5	197.7
30	.127	4.0	1.4	1.2	197.3
35	.242	14.6	2.7	2.2	196.5
40	.279	19.5	3.1	2.4	196.0
45	.242	14.6	2.7	1.9	196.1
50	.166	6.9	1.8	1.2	196.6
55	.087	1.9	1.0	0.6	197.2
60	.024	0.1	0.3	0.1	197.8
65	.017	0.1	0.2	0.1	197.8
70	.039	0.4	0.4	0.1	197.6
75	.045	0.5	0.5	0.1	197.5
80	.039	0.4	0.4	0.1	197.6
85	.024	0.1	0.3	0.0	197.7
90	.012	0.0	0.1	0.0	197.9
Minimum Clearance above TGL:					<b>196 m</b>



### Vertical Radiation Pattern for BEXT TFC2K-3 (3/4 $\lambda$ )





### Vertical Radiation Pattern for BEXT TFC2K-3 (3/4λ)

ELEV ANGLE	FIELD STRENGTH	FIELD DB	ELEV ERP(KW)	ELEV DBK	103.95DBU CNTR(M)	DISTANCE OUT(M)	DISTANCE UP(DOWN)	ELEVATION AMSL(M)
=====	=====	=====	=====	=====	=====	=====	=====	=====
-90	0.012	-38.30	0.0000	-44.32	8.6	0.0	-8.6	76.6
-88	0.014	-36.90	0.0001	-42.92	10.1	0.4	-10.0	75.2
-86	0.020	-33.80	0.0001	-39.82	14.4	1.0	-14.3	70.9
-84	0.027	-31.30	0.0002	-37.32	19.2	2.0	-19.1	66.1
-82	0.033	-29.50	0.0003	-35.52	23.6	3.3	-23.3	61.9
-80	0.039	-28.20	0.0004	-34.22	27.4	4.8	-27.0	58.2
-78	0.043	-27.40	0.0005	-33.42	30.0	6.2	-29.4	55.8
-76	0.045	-27.00	0.0005	-33.02	31.4	7.6	-30.5	54.7
-74	0.045	-26.90	0.0005	-32.92	31.8	8.8	-30.6	54.6
-72	0.044	-27.20	0.0005	-33.22	30.7	9.5	-29.2	56.0
-70	0.039	-28.10	0.0004	-34.12	27.7	9.5	-26.0	59.2
-68	0.033	-29.70	0.0003	-35.72	23.0	8.6	-21.4	63.8
-66	0.023	-32.60	0.0001	-38.62	16.5	6.7	-15.1	70.1
-64	0.011	-39.10	0.0000	-45.12	7.8	3.4	-7.0	78.2
-62	0.005	-46.80	0.0000	-52.82	3.2	1.5	-2.8	82.4
-60	0.024	-32.50	0.0001	-38.52	16.7	8.3	-14.5	70.7
-58	0.047	-26.60	0.0005	-32.62	32.9	17.4	-27.9	57.3
-56	0.072	-22.80	0.0013	-28.82	51.0	28.5	-42.3	42.9
-54	0.102	-19.80	0.0026	-25.82	72.0	42.3	-58.3	26.9
-52	0.133	-17.50	0.0044	-23.52	93.8	57.8	-73.9	11.3
-50	0.166	-15.60	0.0069	-21.62	116.8	75.1	-89.5	-4.3
-48	0.200	-14.00	0.0100	-20.02	140.4	93.9	-104.3	-19.1
-46	0.229	-12.80	0.0131	-18.82	161.2	112.0	-116.0	-30.8
-44	0.254	-11.90	0.0161	-17.92	178.8	128.6	-124.2	-39.0
-42	0.269	-11.40	0.0181	-17.42	189.4	140.7	-126.7	-41.5
-40	0.279	-11.10	0.0194	-17.12	196.0	150.2	-126.0	-40.8
-38	0.275	-11.20	0.0190	-17.22	193.8	152.7	-119.3	-34.1
-36	0.257	-11.80	0.0165	-17.82	180.9	146.3	-106.3	-21.1
-34	0.226	-12.90	0.0128	-18.92	159.4	132.1	-89.1	-3.9
-32	0.184	-14.70	0.0085	-20.72	129.5	109.8	-68.6	16.6
-30	0.127	-17.90	0.0041	-23.92	89.6	77.6	-44.8	40.4
-28	0.062	-24.20	0.0010	-30.22	43.4	38.3	-20.4	64.8
-26	0.013	-37.60	0.0000	-43.62	9.3	8.3	-4.1	81.1
-24	0.094	-20.50	0.0022	-26.52	66.4	60.7	-27.0	58.2
-22	0.180	-14.90	0.0081	-20.92	126.6	117.4	-47.4	37.8

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e-mail: [sales@bext.com](mailto:sales@bext.com)**



### Vertical Radiation Pattern for BEXT TFC2K-3 (3/4λ)

ELEV ANGLE	FIELD STRENGTH	FIELD DB	ELEV ERP(KW)	ELEV DBK	103.95DBU CNTR(M)	DISTANCE OUT(M)	DISTANCE UP(DOWN)	ELEVATION AMSL(M)
=====	=====	=====	=====	=====	=====	=====	=====	=====
-20	0.269	-11.40	0.0181	-17.42	189.4	178.0	-64.8	20.4
-18	0.363	-8.80	0.0330	-14.82	255.5	243.0	-78.9	6.3
-16	0.457	-6.80	0.0522	-12.82	321.6	309.2	-88.7	-3.5
-14	0.550	-5.20	0.0755	-11.22	386.7	375.2	-93.5	-8.3
-12	0.646	-3.80	0.1042	-9.82	454.3	444.4	-94.5	-9.3
-10	0.733	-2.70	0.1343	-8.72	515.6	507.8	-89.5	-4.3
-8	0.822	-1.70	0.1690	-7.72	578.6	572.9	-80.5	4.7
-6	0.891	-1.00	0.1986	-7.02	627.1	623.7	-65.6	19.6
-4	0.944	-0.50	0.2228	-6.52	664.3	662.7	-46.3	38.9
-2	0.989	-0.10	0.2443	-6.12	695.6	695.2	-24.3	60.9
0	1.000	0.00	0.2500	-6.02	703.6	703.6	0.0	85.2
2	0.989	-0.10	0.2443	-6.12	695.6	695.2	24.3	109.5
4	0.944	-0.50	0.2228	-6.52	664.3	662.7	46.3	131.5
6	0.891	-1.00	0.1986	-7.02	627.1	623.7	65.6	150.8
8	0.822	-1.70	0.1690	-7.72	578.6	572.9	80.5	165.7
10	0.733	-2.70	0.1343	-8.72	515.6	507.8	89.5	174.7
12	0.646	-3.80	0.1042	-9.82	454.3	444.4	94.5	179.7
14	0.550	-5.20	0.0755	-11.22	386.7	375.2	93.5	178.7
16	0.457	-6.80	0.0522	-12.82	321.6	309.2	88.7	173.9
18	0.363	-8.80	0.0330	-14.82	255.5	243.0	78.9	164.1
20	0.269	-11.40	0.0181	-17.42	189.4	178.0	64.8	150.0
22	0.180	-14.90	0.0081	-20.92	126.6	117.4	47.4	132.6
24	0.094	-20.50	0.0022	-26.52	66.4	60.7	27.0	112.2
26	0.013	-37.60	0.0000	-43.62	9.3	8.3	4.1	89.3
28	0.062	-24.20	0.0010	-30.22	43.4	38.3	20.4	105.6
30	0.127	-17.90	0.0041	-23.92	89.6	77.6	44.8	130.0

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e-mail: [sales@bext.com](mailto:sales@bext.com)**

# **Adjacent Channel Study** **For Station W266BO, Facility\_id: 149547**

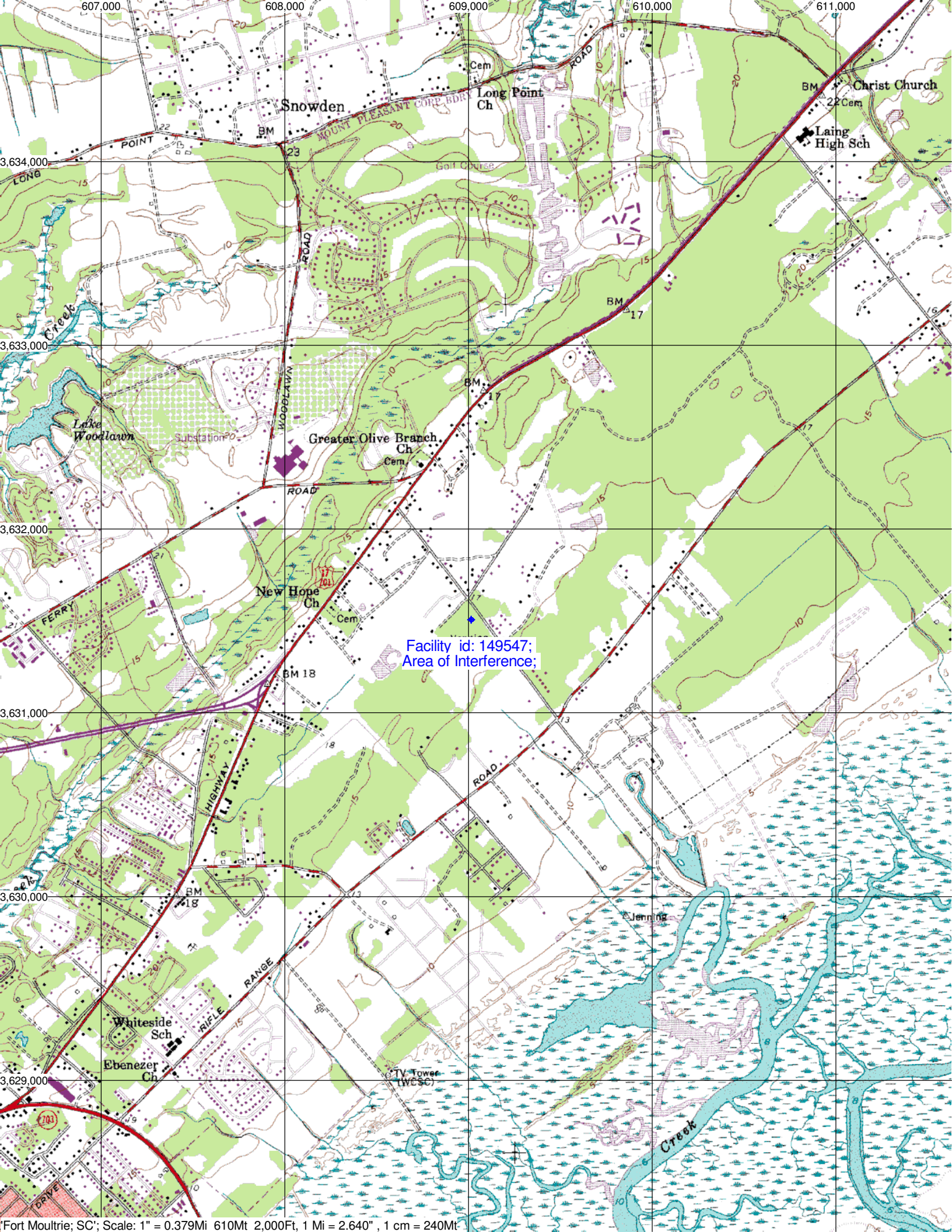
## **Co-channel through third adjacent:**

Application_id	Facility_id	Prefix	ARN	Call	Licensee	Class	City	State	Status	ERP	RCAMS	Channel	Adj	Dist	Overlap
1270065	24776	BLH	20081003AEA	WAVF	APEX BROADCASTING, INC.	C1	HANAHAN	SC	LIC	100	239	269	2	0	1.4918
1413135	24776	BXPH	20101230AAO	WAVF	APEX BROADCASTING, INC.	C1	HANAHAN	SC	CP	12.5	134.8	269	2	0	1.4918
1463645	25374	BPH	20111207AEX	WAYA-FM	CASWELL CAPITAL PARTNERS, LLC	C3	RIDGEVILLE	SC	CP	25	80	265	2	42.6	0
1371377	25374	BLH	20100602AHA	WAYA-FM	CASWELL CAPITAL PARTNERS, LLC	C3	RIDGEVILLE	SC	LIC	13	105.4	265	2	44.2	0
288439	25374	Null	Null	WAYA-FM	CASWELL CAPITAL PARTNERS, LLC	C3	RIDGEVILLE	SC	USE	0	0	265	2	56.7	0
572137	23898	BLH	20010628ABR	WGTV-FM	FIDELITY BROADCASTING CORPORATION	A	ANDREWS	SC	LIC	3.1	143	264	3	73.7	0
295976	23898	Null	Null	WGTV-FM	FIDELITY BROADCASTING CORPORATION	A	ANDREWS	SC	USE	0	0	264	3	74.6	0
628669	138400	BNPFT	20030310ADK	NEW	AUGUSTA RADIO FELLOWSHIP INSTITUTE, INC	D	ST GEORGE	SC	APP	0.019	125	270	3	82.3	0
628593	138369	BNPFT	20030310ACJ	NEW	AUGUSTA RADIO FELLOWSHIP INSTITUTE, INC	D	BRANCHVILLE	SC	APP	0.019	138	270	3	106.2	0
629398	138741	BNPFT	20030310ADS	NEW	AUGUSTA RADIO FELLOWSHIP INSTITUTE, INC	D	HAMPTON	SC	APP	0.019	128	268	1	116.8	0
650263	156969	BNPFT	20030317IYT	NEW	RADIO TRAINING NETWORK, INC.	D	HAMPTON	SC	APP	0.055	82	268	1	120.8	0
283026	58398	BXMLH	19990319KE	WWDM	URBAN RADIO II, L.L.C. DEBTOR-IN-POSSESSIC	C	SUMTER	SC	LIC	45	240	267	0	132	0
1506404	83075	BLFT	20120803ABN	W270BZ	CUMULUS LICENSING LLC	D	CONWAY	SC	LIC	0.25	109	270	3	137.8	0
300234	31094	Null	Null	WLVH	CAPSTAR TX LLC	C2	HARDEEVILLE	SC	USE	0	0	266	1	156.8	0
294260	58398	Null	Null	WWDM	URBAN RADIO II, L.L.C. DEBTOR-IN-POSSESSIC	C	SUMTER	SC	USE	0	0	267	0	158	0
274379	58398	BMLH	19980925KB	WWDM	URBAN RADIO II, L.L.C. DEBTOR-IN-POSSESSIC	C	SUMTER	SC	LIC	100	471	267	0	158	0
173545	31094	BLH	19920518KC	WLVH	CAPSTAR TX LLC	C2	HARDEEVILLE	SC	LIC	50	151	266	1	160.8	0

## **Intermediate Frequencies (53 and 54 channels difference):**

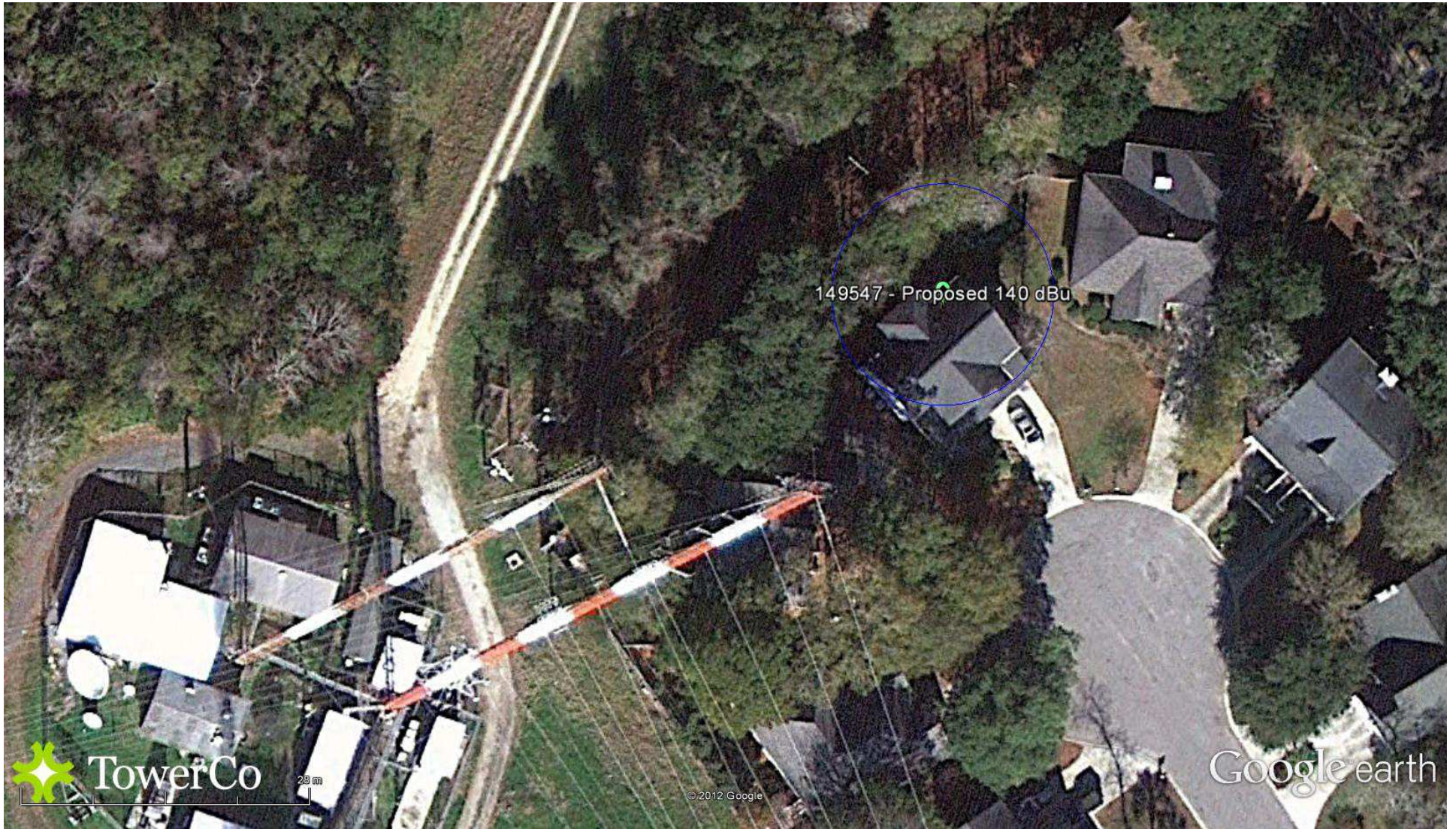
Application_id	Facility_id	Prefix	ARN	Call	Licensee	Class	City	State	Status	ERP	RCAMS	Channel	Adj	Dist	Clr
165863	5095	BLED	19911016KA	WYFH	BIBLE BROADCASTING NETWORK, INC.	C2	NORTH CHARLESTON	SC	LIC	50	158	214	53	40.8	25.8





Facility id: 149547;  
Area of Interference;





Google earth

feet  
meters

