

[Exhibit 13]

Non-Interference Compliance

Regarding Facility id 141475

Channel 235

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 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. 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 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.

Application_id	File Number	Callsign	Contour at Tower	Min. Contour
158002	BLH19910307KA	WPST	74.4	74.4
Minimum F(50,50) Contour of Adjacent Station within Proposed Translator's Standard Interfering Contour				74.4

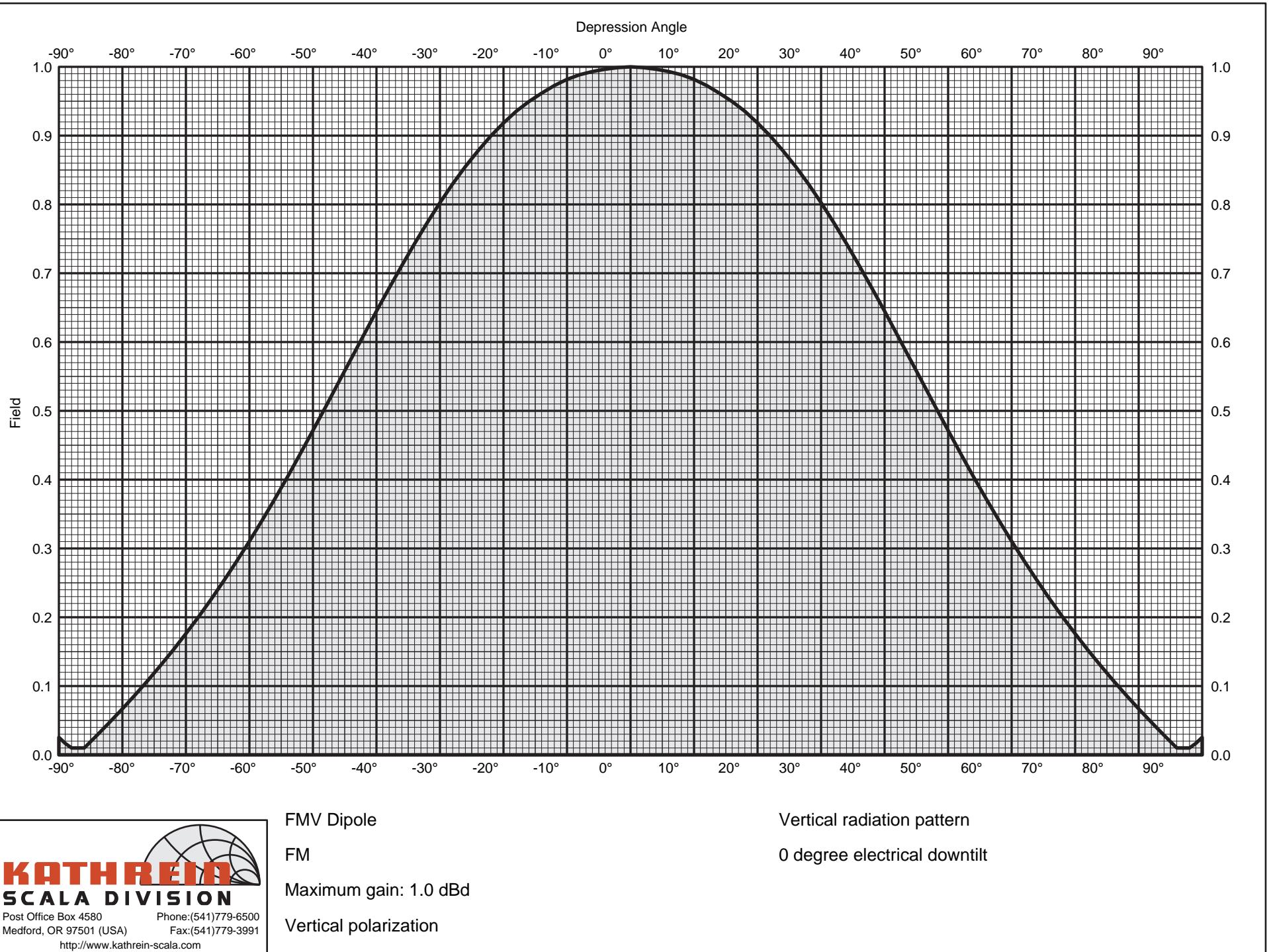
FCC 02-244 at Section II.A.5 states that "when demonstrating that 'no actual interference will occur due to . . . other factors,' pursuant to Section 74.1204(d), an applicant may use the undesired-to-desired signal ratio method." The undesired-to-desired ratio for second and third adjacent stations required by § 74.1204(a) is 40 dB. Since the minimum protected contour strength within the proposed translator's standard interference contour is **74.4 dB μ** , this makes the proposed translator's worst-case interfering contour **114.4 dB μ** . By the free-space equation, this contour is calculated to extend a maximum of **40.1 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 **26.3 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. 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:	SCA
Antenna Model:	FMV
CORAGL:	43 m
Maximum ERP:	0.009 kW
Interfering Contour:	114.4 dBμ
Max Int. Contour Distance:	40.1 m
Min Ground Clearance:	26.3 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	.995	8.9	39.9	39.7	39.5
10	.982	8.7	39.4	38.8	36.2
15	.956	8.2	38.3	37.0	33.1
20	.918	7.6	36.8	34.6	30.4
25	.867	6.8	34.8	31.5	28.3
30	.803	5.8	32.2	27.9	26.9
35	.727	4.8	29.2	23.9	26.3
40	.645	3.7	25.9	19.8	26.4
45	.558	2.8	22.4	15.8	27.2
50	.472	2.0	18.9	12.2	28.5
55	.388	1.4	15.6	8.9	30.3
60	.310	0.9	12.4	6.2	32.2
65	.240	0.5	9.6	4.1	34.3
70	.176	0.3	7.1	2.4	36.4
75	.119	0.1	4.8	1.2	38.4
80	.067	0.0	2.7	0.5	40.4
85	.019	0.0	0.8	0.1	42.2
90	.025	0.0	1.0	0.0	42.0

Minimum Clearance above TGL: **26.3 m**





FMV Dipole

FM

Maximum gain: 1.0 dBd

Vertical polarization

Vertical radiation pattern
0 degree electrical downtilt

Angle	Field	Rel.dB	dBd	PwrMult	Angle	Field	Rel.dB	dBd	PwrMult
-90	0.025	-31.89	-30.89	0.00	-45	0.558	-5.07	-4.07	0.39
-89	0.017	-35.56	-34.56	0.00	-44	0.575	-4.80	-3.80	0.42
-88	0.010	-40.00	-39.00	0.00	-43	0.593	-4.54	-3.54	0.44
-87	0.010	-40.00	-39.00	0.00	-42	0.610	-4.29	-3.29	0.47
-86	0.010	-39.94	-38.94	0.00	-41	0.628	-4.05	-3.05	0.50
-85	0.019	-34.30	-33.30	0.00	-40	0.645	-3.81	-2.81	0.52
-84	0.028	-30.91	-29.91	0.00	-39	0.662	-3.59	-2.59	0.55
-83	0.038	-28.42	-27.42	0.00	-38	0.678	-3.37	-2.37	0.58
-82	0.047	-26.48	-25.48	0.00	-37	0.695	-3.16	-2.16	0.61
-81	0.057	-24.86	-23.86	0.00	-36	0.711	-2.96	-1.96	0.64
-80	0.067	-23.49	-22.49	0.01	-35	0.727	-2.77	-1.77	0.67
-79	0.077	-22.27	-21.27	0.01	-34	0.743	-2.58	-1.58	0.70
-78	0.087	-21.20	-20.20	0.01	-33	0.758	-2.40	-1.40	0.72
-77	0.098	-20.21	-19.21	0.01	-32	0.774	-2.23	-1.23	0.75
-76	0.108	-19.33	-18.33	0.01	-31	0.788	-2.07	-1.07	0.78
-75	0.119	-18.49	-17.49	0.02	-30	0.803	-1.91	-0.91	0.81
-74	0.130	-17.73	-16.73	0.02	-29	0.816	-1.76	-0.76	0.84
-73	0.141	-17.01	-16.01	0.03	-28	0.830	-1.62	-0.62	0.87
-72	0.152	-16.34	-15.34	0.03	-27	0.842	-1.49	-0.49	0.89
-71	0.164	-15.69	-14.69	0.03	-26	0.855	-1.36	-0.36	0.92
-70	0.176	-15.08	-14.08	0.04	-25	0.867	-1.24	-0.24	0.95
-69	0.188	-14.50	-13.50	0.04	-24	0.878	-1.13	-0.13	0.97
-68	0.201	-13.95	-12.95	0.05	-23	0.889	-1.02	-0.02	0.99
-67	0.214	-13.41	-12.41	0.06	-22	0.899	-0.92	0.08	1.02
-66	0.226	-12.90	-11.90	0.06	-21	0.909	-0.83	0.17	1.04
-65	0.240	-12.40	-11.40	0.07	-20	0.918	-0.74	0.26	1.06
-64	0.254	-11.92	-10.92	0.08	-19	0.927	-0.66	0.34	1.08
-63	0.268	-11.45	-10.45	0.09	-18	0.935	-0.58	0.42	1.10
-62	0.282	-11.01	-10.01	0.10	-17	0.942	-0.51	0.49	1.12
-61	0.296	-10.57	-9.57	0.11	-16	0.950	-0.45	0.55	1.14
-60	0.310	-10.16	-9.16	0.12	-15	0.956	-0.39	0.61	1.15
-59	0.326	-9.75	-8.75	0.13	-14	0.962	-0.34	0.66	1.16
-58	0.341	-9.35	-8.35	0.15	-13	0.967	-0.29	0.71	1.18
-57	0.356	-8.96	-7.96	0.16	-12	0.973	-0.24	0.76	1.19
-56	0.372	-8.59	-7.59	0.17	-11	0.977	-0.20	0.80	1.20
-55	0.388	-8.22	-7.22	0.19	-10	0.982	-0.16	0.84	1.21
-54	0.404	-7.87	-6.87	0.21	-9	0.985	-0.13	0.87	1.22
-53	0.421	-7.52	-6.52	0.22	-8	0.989	-0.10	0.90	1.23
-52	0.438	-7.18	-6.18	0.24	-7	0.991	-0.08	0.92	1.24
-51	0.455	-6.85	-5.85	0.26	-6	0.993	-0.06	0.94	1.24
-50	0.472	-6.53	-5.53	0.28	-5	0.995	-0.04	0.96	1.25
-49	0.489	-6.22	-5.22	0.30	-4	0.997	-0.03	0.97	1.25
-48	0.506	-5.92	-4.92	0.32	-3	0.998	-0.02	0.98	1.25
-47	0.523	-5.63	-4.63	0.34	-2	0.999	-0.01	0.99	1.26
-46	0.541	-5.34	-4.34	0.37	-1	0.999	-0.00	1.00	1.26
					0	1.000	0.00	1.00	1.26



FMV Dipole

FM

Maximum gain: 1.0 dBd

Vertical polarization

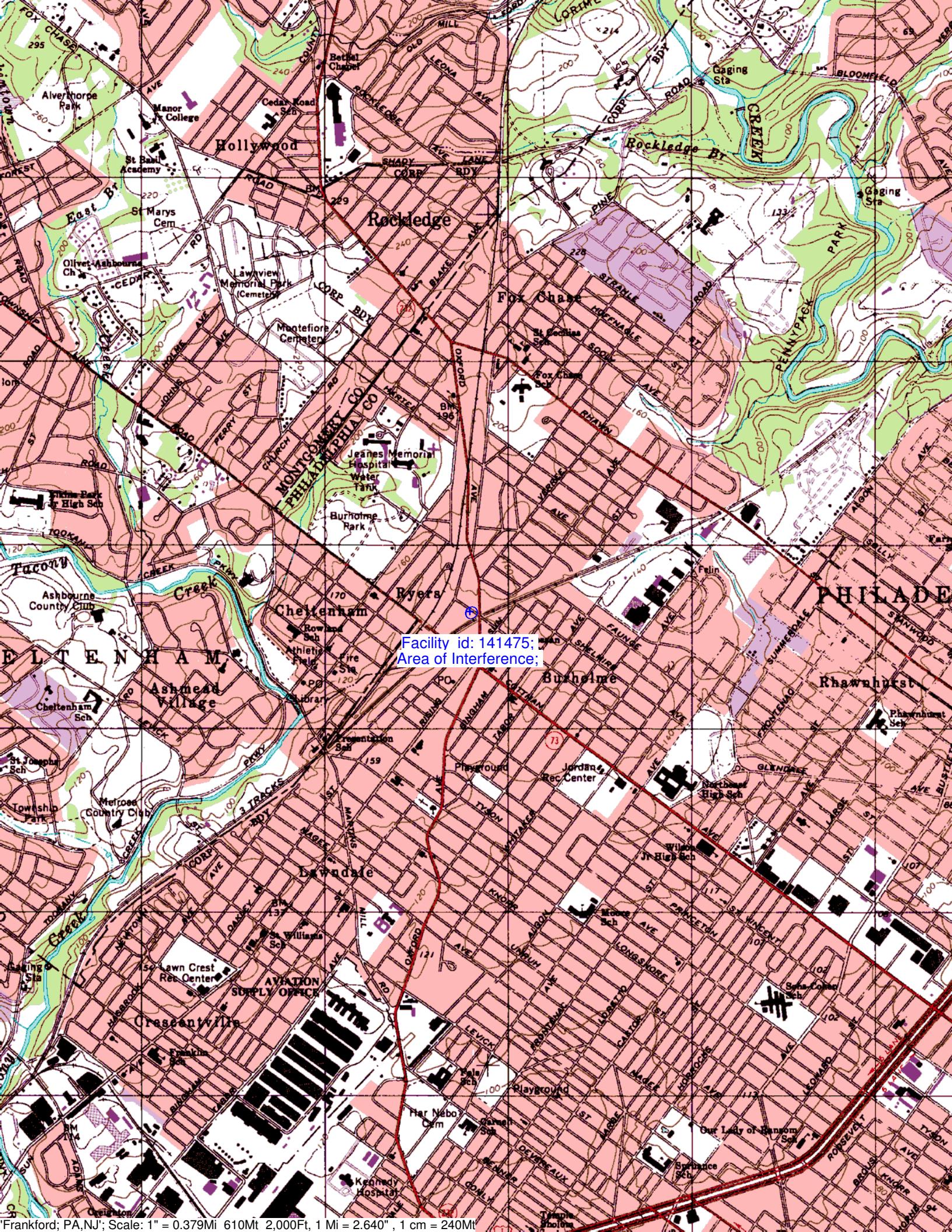
Vertical radiation pattern
0 degree electrical downtilt

Angle	Field	Rel.dB	dBd	PwrMult	Angle	Field	Rel.dB	dBd	PwrMult
0	1.000	0.00	1.00	1.26	45	0.558	-5.07	-4.07	0.39
1	0.999	-0.00	1.00	1.26	46	0.541	-5.34	-4.34	0.37
2	0.999	-0.01	0.99	1.26	47	0.523	-5.63	-4.63	0.34
3	0.998	-0.02	0.98	1.25	48	0.506	-5.92	-4.92	0.32
4	0.997	-0.03	0.97	1.25	49	0.489	-6.22	-5.22	0.30
5	0.995	-0.04	0.96	1.25	50	0.472	-6.53	-5.53	0.28
6	0.993	-0.06	0.94	1.24	51	0.455	-6.85	-5.85	0.26
7	0.991	-0.08	0.92	1.24	52	0.438	-7.18	-6.18	0.24
8	0.989	-0.10	0.90	1.23	53	0.421	-7.52	-6.52	0.22
9	0.985	-0.13	0.87	1.22	54	0.404	-7.87	-6.87	0.21
10	0.982	-0.16	0.84	1.21	55	0.388	-8.22	-7.22	0.19
11	0.977	-0.20	0.80	1.20	56	0.372	-8.59	-7.59	0.17
12	0.973	-0.24	0.76	1.19	57	0.356	-8.96	-7.96	0.16
13	0.967	-0.29	0.71	1.18	58	0.341	-9.35	-8.35	0.15
14	0.962	-0.34	0.66	1.16	59	0.326	-9.75	-8.75	0.13
15	0.956	-0.39	0.61	1.15	60	0.310	-10.16	-9.16	0.12
16	0.950	-0.45	0.55	1.14	61	0.296	-10.57	-9.57	0.11
17	0.942	-0.51	0.49	1.12	62	0.282	-11.01	-10.01	0.10
18	0.935	-0.58	0.42	1.10	63	0.268	-11.45	-10.45	0.09
19	0.927	-0.66	0.34	1.08	64	0.254	-11.92	-10.92	0.08
20	0.918	-0.74	0.26	1.06	65	0.240	-12.40	-11.40	0.07
21	0.909	-0.83	0.17	1.04	66	0.226	-12.90	-11.90	0.06
22	0.899	-0.92	0.08	1.02	67	0.214	-13.41	-12.41	0.06
23	0.889	-1.02	-0.02	0.99	68	0.201	-13.95	-12.95	0.05
24	0.878	-1.13	-0.13	0.97	69	0.188	-14.50	-13.50	0.04
25	0.867	-1.24	-0.24	0.95	70	0.176	-15.08	-14.08	0.04
26	0.855	-1.36	-0.36	0.92	71	0.164	-15.69	-14.69	0.03
27	0.842	-1.49	-0.49	0.89	72	0.152	-16.34	-15.34	0.03
28	0.830	-1.62	-0.62	0.87	73	0.141	-17.01	-16.01	0.03
29	0.816	-1.76	-0.76	0.84	74	0.130	-17.73	-16.73	0.02
30	0.803	-1.91	-0.91	0.81	75	0.119	-18.49	-17.49	0.02
31	0.788	-2.07	-1.07	0.78	76	0.108	-19.33	-18.33	0.01
32	0.774	-2.23	-1.23	0.75	77	0.098	-20.21	-19.21	0.01
33	0.758	-2.40	-1.40	0.72	78	0.087	-21.20	-20.20	0.01
34	0.743	-2.58	-1.58	0.70	79	0.077	-22.27	-21.27	0.01
35	0.727	-2.77	-1.77	0.67	80	0.067	-23.49	-22.49	0.01
36	0.711	-2.96	-1.96	0.64	81	0.057	-24.86	-23.86	0.00
37	0.695	-3.16	-2.16	0.61	82	0.047	-26.48	-25.48	0.00
38	0.678	-3.37	-2.37	0.58	83	0.038	-28.42	-27.42	0.00
39	0.662	-3.59	-2.59	0.55	84	0.028	-30.91	-29.91	0.00
40	0.645	-3.81	-2.81	0.52	85	0.019	-34.30	-33.30	0.00
41	0.628	-4.05	-3.05	0.50	86	0.010	-39.94	-38.94	0.00
42	0.610	-4.29	-3.29	0.47	87	0.010	-40.00	-39.00	0.00
43	0.593	-4.54	-3.54	0.44	88	0.010	-40.00	-39.00	0.00
44	0.575	-4.80	-3.80	0.42	89	0.017	-35.56	-34.56	0.00
					90	0.025	-31.89	-30.89	0.00

Adjacent Channel Study
For Station NEW, Facility_id: 141475

Co-channel through third adjacent:

App_id	Fac_id	File_Number	Call	Licensee	Class	City	State	Status	ERP	RCAMSL	Chan	Adj	Dist	Overlap
158002	25013	BLH-19910307KA	WPST	CONNOISSEUR MEDIA LICENSES, LLC	B	TRENTON	NJ	LIC	50	180	233	2	24.6	0.3511
1557003	141664	BNPFT-20030314AYB	NEW	BROADCAST LEARNING CENTER, INC.	D	PENNSAUKEN	NJ	APP	0.038	72	237	2	12.5	0
1558768	157852	BNPFT-20030317LVS	NEW	DENISE CHOI	D	MILLBOURNE	PA	APP	0.009	53	236	1	17.2	0
542486	85965	BLFT-20001129ACC	W236AF	BURLINGTON COUNTY COLLEGE	D	BURLINGTON	NJ	LIC	0.12	63	236	1	18.4	0
1550704	141548	BNPFT-20030317ELI	NEW	HOPE CHRISTIAN CHURCH OF MARLTON, INC.	D	MARLTON	NJ	APP	0.01	97	235	0	25.6	0
1190181	141458	BLFT-20070607ACB	W235AP	FOUR RIVERS COMMUNITY BROADCASTING CORPO	D	RADNOR	PA	LIC	0.002	129	235	0	26.1	0
51957	56368	BLED-19830131AH	WRSD	RIDLEY SCHOOL DISTRICT	D	FOLSOM	PA	LIC	0.014	47	235	0	29	0
1551539	140327	BNPFT-20030314BYD	NEW	AMFM RADIO LICENSES, L.L.C.	D	VINELAND	NJ	APP	0.1	54	235	0	60.3	0
1454014	14375	BMLH-20111025AGT	WZZO	CAPSTAR TX LLC	B	BETHLEHEM	PA	LIC	30	321	236	1	64.4	0
1426743	14907	BMLH-20110615AAQ	WJLK	TOWNSQUARE MEDIA MONMOUTH-OCEAN LICENSE,	A	ASBURY PARK	NJ	LIC	1.3	171	232	3	86.5	0
598463	3125	BMLH-20011108AAC	WAYV	EQUITY COMMUNICATIONS, L.P.	B	ATLANTIC CITY	NJ	LIC	50	104	236	1	93.3	0
114179	71309	BLH-19880620KA	WDAC	WDAC RADIO COMPANY	B	LANCASTER	PA	LIC	19	401	233	2	100.1	0
192382	4669	BMLH-19931129KC	WDSD	CAPSTAR TX LLC	B	DOVER	DE	LIC	50	123	234	1	104.4	0
1493965	20886	BLH-20120404ABJ	WNSH	RADIO LICENSE HOLDING X, LLC	B	NEWARK	NJ	LIC	23.5	274	234	1	106.8	0
1046909	73887	BMLH-20050216ACG	WPLJ	RADIO LICENSE HOLDING IX, LLC	B	NEW YORK	NY	LIC	6.7	422	238	3	120.2	0





30 yds

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