

**ENGINEERING EXHIBIT**

**Amendment to Application  
for FM Translator Construction Permit  
BNPFT-20130830ALM**

prepared for

**Sinclair Telecable, Inc.**  
**D/B/A Sinclair Communications**  
New (FX) Norfolk, VA  
Facility ID 141072  
Ch. 243 96.5 MHz 0.25 kW

*Sinclair Telecable, Inc. D/B/A Sinclair Communications (“Sinclair”)* is an applicant for a new FM translator station to operate on Channel 242 (96.3 MHz), Facility ID 141072, Norfolk, VA (“long form” application BNPFT-20130830ALM). The application arose from the FCC’s Auction 83 Filing Window (“short form” application BNPFT-20030317ECQ, as amended). *Sinclair* herein supplies a minor amendment to the pending long form application to now specify Channel 243 (96.5 MHz) and use of a different transmitting site.

The proposed translator will employ a maximum effective radiated power of 0.25 kW (250 Watts) with a directional antenna. The antenna will be side-mounted on an existing antenna support structure having FCC Antenna Structure Registration number 1047304. No change in overall structure height is proposed.

Figure 1 depicts the 60 dB $\mu$  contours of the proposed translator as well as those of the pending application and the original short-form application. The original short-form application specified Channel 243, the same as that now proposed. The service area overlap shown demonstrates that the amendment is considered a minor change under §74.1233 from the initial Auction 83 tech box proposal.

As proposed herein, the facility will be a fill-in translator for the HD-2 program of primary station WUSH(FM) (Ch. 291B1, Facility ID 78447, Poquoson, VA). The 57 dB $\mu$  contour of the proposed translator is encompassed by that of WUSH, as depicted in Figure 2. As a fill-in translator, the proposed 0.25 kW effective radiated power complies with §74.1235(a).

### **Interference Protection**

Table 1 supplies a summary of the proposal's compliance with the interference protection requirements of §74.1204(a) and (g). The proposed facility complies with the prohibited contour overlap requirements of 74.1204(a) regarding all other FM full power, low power, and translator stations except for one full power station, WROX-FM (Ch. 241B, Exmore VA). The proposal complies with §74.1204(d) with respect to WROX-FM.

As described in FCC 02-244<sup>1</sup> the "ratio" undesired-to-desired signal method of interference determination may be used by an FM translator applicant to demonstrate compliance with §74.1204(d). WROX-FM is on a second adjacent channel and is located 53.9 km distant from the proposed translator site. The WROX-FM signal level at the proposed translator site is 59.1 dB $\mu$  based on standard FCC F(50,50) propagation curves. The corresponding undesired interfering signal level is 99.1 dB $\mu$ .

The maximum distance to the proposed translator's 99.1 dB $\mu$  F(50,10) interfering signal at elevations horizontal to the antenna is 1.23 km. An aerial view of the proposed site and vicinity is provided in Figure 3 along with the 99.1 dB $\mu$  F(50,10) interfering contour. Within this area there are roadways, residences and other buildings, but the area does not contain any tall buildings. The surrounding terrain is flat.

Applying the proposed antenna's elevation pattern, calculated signal levels of 99.1 dB $\mu$  or more (the "99.1 dB $\mu$  contour") are well elevated above the ground and buildings such that the 99.1 dB $\mu$  contour does not reach any potentially populated location. The proposed antenna is a

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<sup>1</sup>*Living Way Ministries, Inc.* Memorandum Opinion and Order, Released September 9, 2002, FCC 02-244, 17 FCC Rcd 17054-60.

Shively model 6810 having seven elements spaced at half wavelength intervals. This configuration serves to reduce power at downward angles. Figure 4 provides a plot of the antenna's elevation pattern, a profile plot of the 99.1 dB $\mu$  contour, and a graph of the maximum free-space signal level at an elevation of 10 meters above ground along a radial from the base of the tower (the height of nearby buildings does not exceed 10 meters). The elevation pattern data and free-space calculations are supplied in Table 2.

Figure 4 and Table 2 show that the 99.1 dB $\mu$  contour never falls below an elevation of 25.9 meters above ground. The highest free-space signal level at any point elevated 10 meters above ground is 97.9 dB $\mu$ . These exhibits demonstrate that the high signal levels that would exceed the 40 dB $\mu$  undesired-to-desired ratio with respect to WROX-FM are at locations which are well-elevated, inaccessible, and unpopulated. Thus, the proposal complies with §74.1204(d) with respect to WROX-FM.

### **Other Factors**

The nearest FCC monitoring station is 259 km distant at Laurel, MD. This exceeds by a large margin the threshold minimum distance specified in §73.1030(c)(3) that would suggest consideration of the monitoring station. The site is not located within the areas requiring coordination with "quiet" zones specified in §73.1030(a) and (b). The site location is beyond the border areas requiring international coordination.

Directional AM station WPGL (1350 kHz, Portsmouth VA) is located 3.03 km from the proposed site. The distance to WPGL is greater than the 2.22 km threshold distance (10 wavelengths at WPGL's frequency) described in the new rule §1.30002(b), therefore notification to WPGL and consideration of AM pattern disturbance is not required. Further, the proposal would add a side-mounted antenna and transmission line on an existing tower structure which is not base insulated or detuned at an AM frequency, and would not change the overall tower height, therefore the proposal would not be considered as a significant modification as described in §1.30002(d).

## **Human Exposure to Radiofrequency Electromagnetic Field**

The proposed operation was evaluated for human exposure to RF energy using the procedures outlined in the Commission's OET Bulletin Number 65. Based on OET-65 equation (10), and assuming the worst-case of 100 percent relative field at downward elevations, the calculated signal density near the tower at two meters above ground level attributable to the proposed facility is  $0.9 \mu\text{W}/\text{cm}^2$ , which is 0.5 percent of the general population/uncontrolled maximum permitted exposure limit. This is well below the five percent threshold limit described in §1.1307(b) regarding sites with multiple emitters, categorically excluding the applicant from responsibility for taking any corrective action in the areas where the proposal's contribution is less than five percent. This demonstrates compliance using the FCC's rudimentary "RF Exposure Compliance Worksheet" method. The calculated RF exposure will be much lower when the antenna's elevation pattern is considered.

The general public will not be exposed to RF levels attributable to the proposal in excess of the FCC's guidelines. With respect to worker safety, the applicant will coordinate exposure procedures with all pertinent stations and will reduce power or cease operation as necessary to protect persons having access to the site, tower or antenna from RF electromagnetic field exposure in excess of FCC guidelines.

This exhibit is limited to the evaluation of exposure to RF electromagnetic field. The proposed transmitting antenna will be side-mounted on an existing antenna support structure which was constructed prior to March 16, 2001. No change in structure height is proposed.

### **Certification**

The undersigned hereby certifies that the foregoing statement and associated attachments were prepared by him or under his direction, and that they are true and correct to the best of his knowledge and belief.



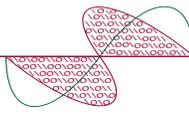
Joseph M. Davis, P.E.  
November 26, 2013

**Chesapeake RF Consultants, LLC**  
207 Old Dominion Road  
Yorktown, VA 23692  
703-650-9600

### List of Attachments

- |          |   |
|----------|---|
| Figure 1 | Coverage Contour Comparison   |
| Figure 2 | Coverage Contours – Primary and Translator Stations                       |
| Figure 3 | Interference Protection to WROX-FM - Aerial View of 99.1 dB $\mu$ Contour |
| Figure 4 | Interference Protection to WROX-FM – U/D Graphs                           |
| Table 1  | Channel Allocation Study Summary  |
| Table 2  | U/D Interference Calculation to WROX-FM                                   |
| Form 349 | Saved Version of Engineering Sections from FCC Form at Time of Upload     |

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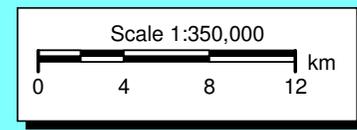
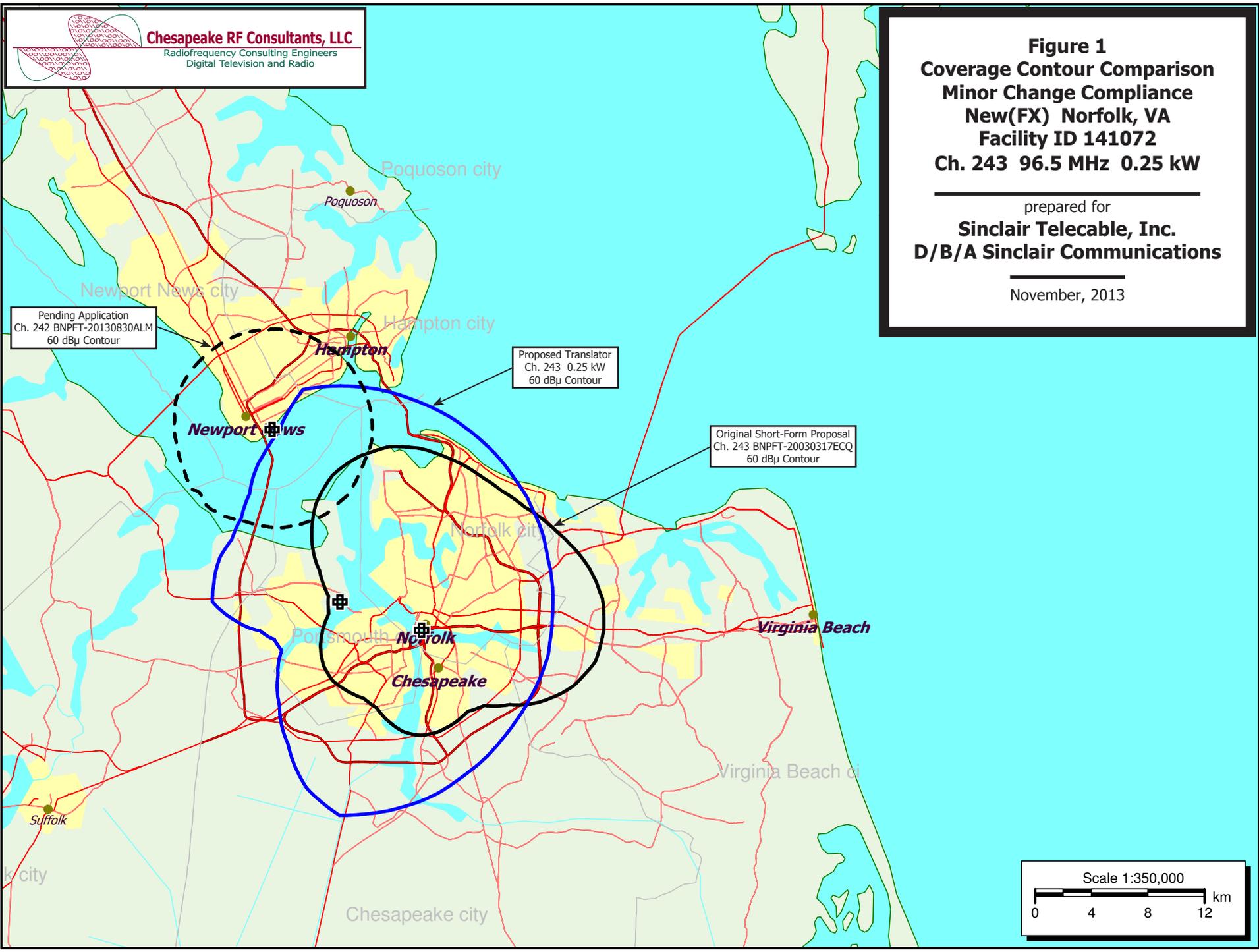


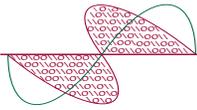
**Chesapeake RF Consultants, LLC**  
 Radiofrequency Consulting Engineers  
 Digital Television and Radio

**Figure 1**  
**Coverage Contour Comparison**  
**Minor Change Compliance**  
**New(FX) Norfolk, VA**  
**Facility ID 141072**  
**Ch. 243 96.5 MHz 0.25 kW**

prepared for  
**Sinclair Telecable, Inc.**  
**D/B/A Sinclair Communications**

November, 2013



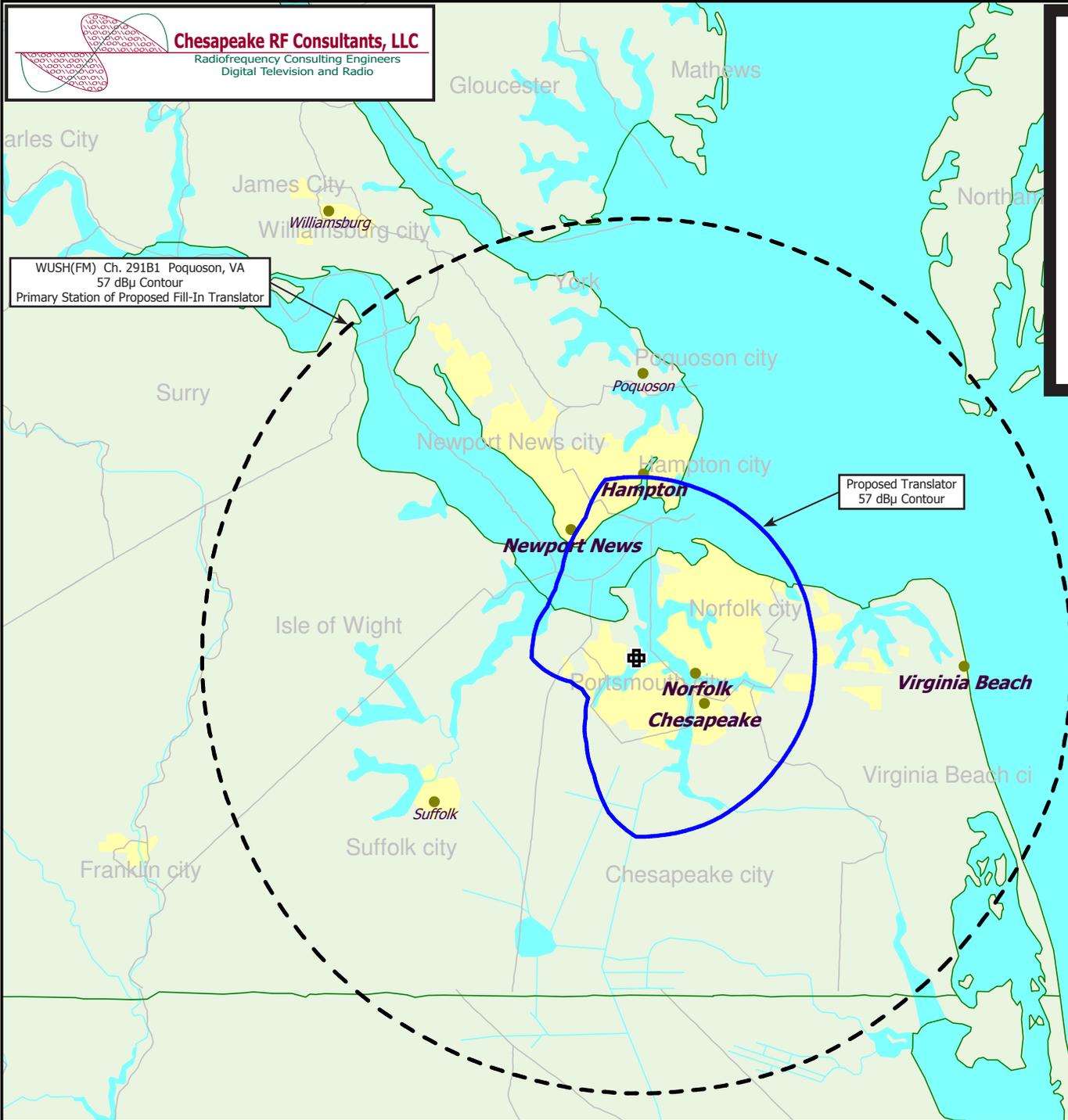


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 Digital Television and Radio

**Figure 2**  
**Coverage Contours**  
**Primary and Translator Stations**  
**New(FX) Norfolk, VA**  
**Facility ID 141072**  
**Ch. 243 96.5 MHz 0.25 kW**

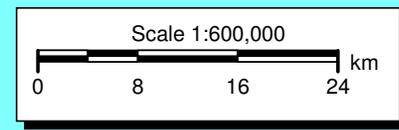
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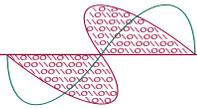
November, 2013



WUSH(FM) Ch. 291B1 Poquoson, VA  
 57 dBu Contour  
 Primary Station of Proposed Fill-In Translator

Proposed Translator  
 57 dBu Contour





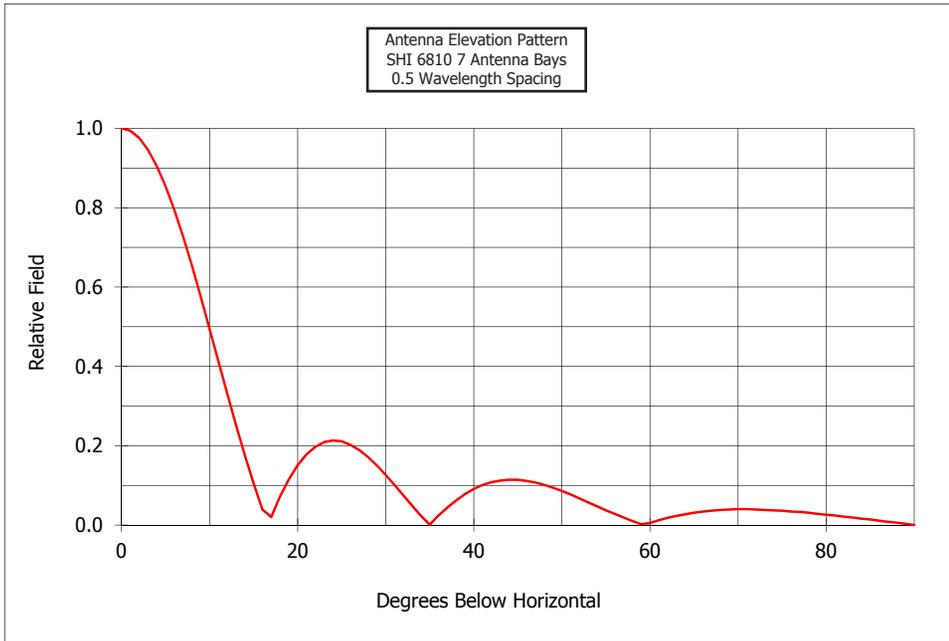
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**Figure 3**  
**Interference Protection to WROX-FM**  
**Aerial View of 99.1 dB $\mu$  Contour**  
**New(FX) Norfolk, VA**  
**Facility ID 141072**  
**Ch. 243 96.5 MHz 0.25 kW**

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November, 2013



**Protection of WROX-FM Ch. 241B 96.1 MHz Exmore, VA**  
 WROX-FM F(50,50) signal level at proposed translator site: 59.1 dBμ  
 Translator interfering signal level = 59.1 dBμ + 40 dB = 99.1 dBμ  
 Proposed translator ERP = 0.25 kW Antenna C/R = 137 m AGL

**Figure 4**  
**Interference Protection to WROX-FM**  
**New(FX) Norfolk, VA**  
**Facility ID 141072**  
**Ch. 243 96.5 MHz 0.25 kW**

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November, 2013

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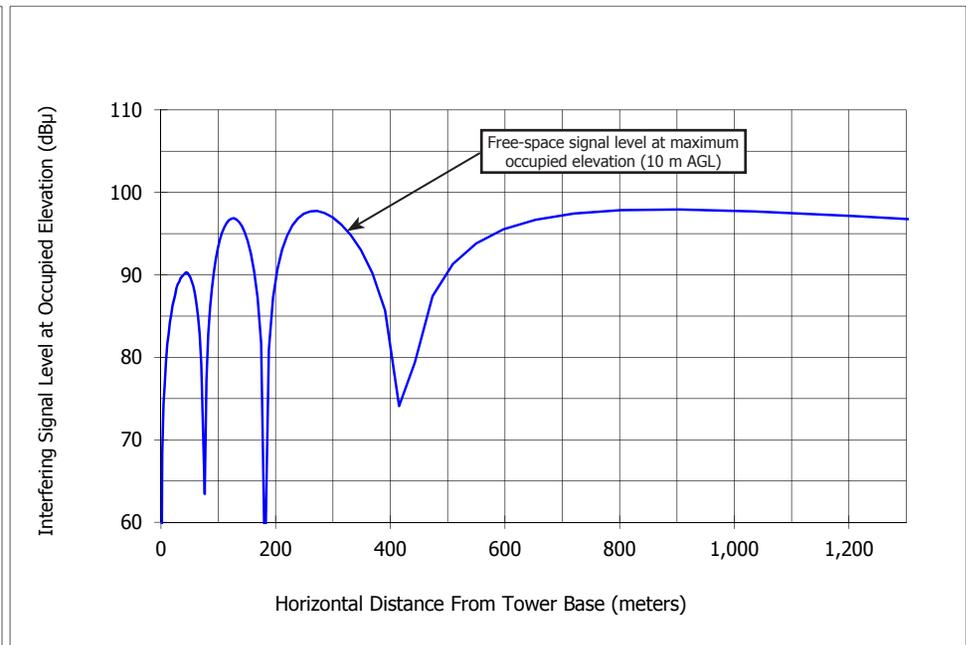
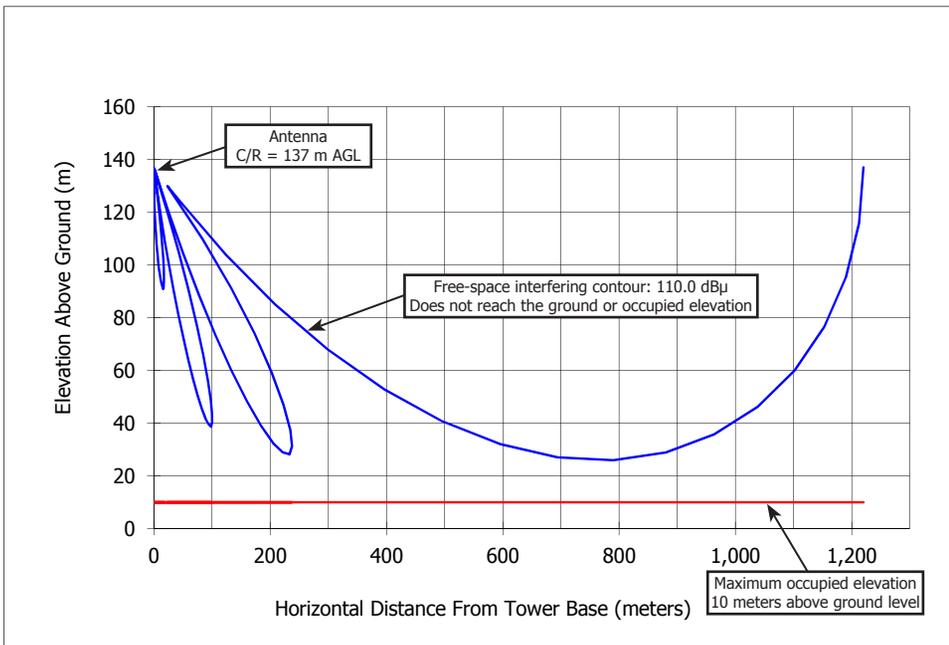
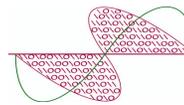


Table 1

**Channel Allocation Study Summary**  
**Sinclair Telecable, Inc.**  
**D/B/A Sinclair Communications**  
 New(FX) Norfolk, VA



**Chesapeake RF Consultants, LLC**  
 Radiofrequency Consulting Engineers  
 Digital Television and Radio

Long Form Amendment to Ch. 243  
 Sinclair Telecable, Inc. D/b/a Sinclair Communications

REFERENCE CH# 243D - 96.5 MHz, Pwr= 0.25 kw DA, HAAT= 137.7 M, COR= 140 M DISPLAY DATES  
 36 51 39.0 N. Average Protected F(50-50)= 15.1 km DATA 11-26-13  
 76 21 13.0 W. Standard Directional SEARCH 11-26-13

CH CITY	CALL	TYPE	ANT STATE	AZI. <--	DIST FILE #	LAT. LNG.	Pwr(kw) HAAT(M)	INT(km) COR(M)	PRO(km) LICENSEE	*IN* (Overlap in km)	*OUT*
241B Exmore	WROX-FM	LIC	CX VA	34.0 214.2	53.94 BLH20040317ABS	37 15 45.0 76 00 45.0	23.000 220	5.8 221	64.9 Sinclair Telecable, Inc.	33.0	-12.7*<
243B Fort Lee	WKLR	LIC	CN VA	299.9 119.3	107.62 BLH19980929KA	37 20 22.0 77 24 31.0	50.000 138	136.8 173	64.2 Sm-wklr, Llc	-38.0*<	1.8
244C2 Elizabeth City	WKJX	LIC	CX NC	149.5 329.7	84.82 BLH20040618AAH	36 12 10.0 75 52 23.0	50.000 124	73.9 124	48.5 East Carolina Radio Of Eli	-4.3<	13.5
243D Suffolk	w243DD	CP	C VA	237.2 57.0	26.03 BNPFT20130815ABW	36 44 01.0 76 35 57.0	0.080 44	22.5 54	6.7 Delmarva Educational Assoc	-1.8<	1.8
297D Suffolk	w297BH	LIC	DC VA	246.6 66.6	14.56 BLFT20120131ACU	36 48 32.0 76 30 13.0	0.250 145	0.0 150	0.0 Liberty University, Inc.	9.5R	5.1M
245D Newport News	w245BB	LIC	C VA	341.2 161.1	25.51 BLFT20071019ASD	37 04 41.0 76 26 47.0	0.080 50	0.6 51	6.9 Liberty University, Inc.	11.8	17.8
245D Newport News	w245BB	CP	DC VA	331.6 151.5	26.77 BPFT20130325AGJ	37 04 21.5 76 29 49.2	0.099 85	0.7 86	9.4 Liberty University, Inc.	14.5	16.8
243A Chincoteague	WCTG	LIC	CX VA	35.7 216.3	145.59 BLH20021206AAQ	37 55 14.0 75 23 07.0	5.300 105	85.9 107	28.4 Sebago Broadcasting Compan	44.5	66.9
245B1 Nassawadox	WFAJ	LIC	NCX VA	27.6 207.9	83.98 BLH20100428AAV	37 31 46.0 75 54 44.0	13.500 87	3.2 90	37.7 Hispanic Target Media, Inc	65.5	44.7
240A Plymouth	WPNC-FM	LIC	CN NC	197.8 17.6	118.37 BLH19810914AU	35 50 48.0 76 45 22.0	2.600 101	3.3 470	47.3 Durlyn Broadcasting, Co.	103.8	70.4

Terrain database is USGS 03 SEC, R= 73.215 qualifying spacings or FCC minimum spacings in KM, M= Margin in KM  
 Contour distances are on direct line to and from reference station.  
 Reference Zone= East Zone, Co to 3rd adjacent.  
 All separation margins (if shown) include rounding  
 Ant Column: (D= DA Standard, Z= DA 73.215, N= Not DA 73.215, \_= Omni), Polarization (C,H,V,E), Beamtilt(Y,N,X)  
 "\*"affixed to 'IN' or 'OUT' values = site inside protected contour.  
 < = Station meets FCC minimum distance spacing for its class.  
 < = Contour Overlap

Table 2

**U/D Interference Calculation to WROX-FM  
Sinclair Telecable, Inc.  
D/B/A Sinclair Communications**

New (FX) Norfolk, VA  
Page 1 of 2



Antenna: **Shively 6810 7 bays 0.5 lamda spacing**  
 C/R Elevation: **137.0** m AGL  
 Vertical Clearance: **10.0** m AGL to occupied elevation  
 ERP : **0.25** kW  
 Ix Signal Level: **99.1** dBμ

Depr Angle (degrees)	Antenna Elevation Relative Field	ERP at Angle (kW)	Distance to 99.1 dBμ Ix Contour					Observation Point at Occupied Elevation		
			Slant From C/R (m)	Horizontal From Base (m)	Vertical From Base (m)	Occupied Elevation (m)	Margin (m)	Horiz Distance (m)	Slant Distance (m)	Ix Signal at Endpoint (dBμ)
90	0.000	0.0000	0.1	0.0	136.9	10.0	126.9	0.0	127.00	38.8
89	0.003	0.0000	3.7	0.1	133.3	10.0	123.3	2.2	127.02	68.3
88	0.006	0.0000	7.3	0.3	129.7	10.0	119.7	4.4	127.08	74.3
87	0.008	0.0000	9.8	0.5	127.3	10.0	117.3	6.7	127.17	76.8
86	0.011	0.0000	13.4	0.9	123.6	10.0	113.6	8.9	127.31	79.6
85	0.014	0.0000	17.1	1.5	120.0	10.0	110.0	11.1	127.49	81.6
84	0.016	0.0001	19.5	2.0	117.6	10.0	107.6	13.3	127.70	82.8
83	0.019	0.0001	23.2	2.8	114.0	10.0	104.0	15.6	127.95	84.3
82	0.021	0.0001	25.6	3.6	111.6	10.0	101.6	17.8	128.25	85.1
81	0.024	0.0001	29.3	4.6	108.1	10.0	98.1	20.1	128.58	86.2
80	0.026	0.0002	31.7	5.5	105.8	10.0	95.8	22.4	128.96	86.9
79	0.028	0.0002	34.2	6.5	103.5	10.0	93.5	24.7	129.38	87.5
78	0.031	0.0002	37.8	7.9	100.0	10.0	90.0	27.0	129.84	88.4
77	0.033	0.0003	40.3	9.1	97.8	10.0	87.8	29.3	130.34	88.9
76	0.034	0.0003	41.5	10.0	96.7	10.0	86.7	31.7	130.89	89.1
75	0.036	0.0003	43.9	11.4	94.6	10.0	84.6	34.0	131.48	89.6
74	0.037	0.0003	45.2	12.4	93.6	10.0	83.6	36.4	132.12	89.8
73	0.038	0.0004	46.4	13.6	92.7	10.0	82.7	38.8	132.80	90.0
72	0.039	0.0004	47.6	14.7	91.7	10.0	81.7	41.3	133.54	90.1
71	0.040	0.0004	48.8	15.9	90.8	10.0	80.8	43.7	134.32	90.3
70	0.040	0.0004	48.8	16.7	91.1	10.0	81.1	46.2	135.15	90.3
69	0.039	0.0004	47.6	17.1	92.6	10.0	82.6	48.8	136.04	90.0
68	0.038	0.0004	46.4	17.4	94.0	10.0	84.0	51.3	136.97	89.7
67	0.036	0.0003	43.9	17.2	96.6	10.0	86.6	53.9	137.97	89.2
66	0.034	0.0003	41.5	16.9	99.1	10.0	89.1	56.5	139.02	88.6
65	0.031	0.0002	37.8	16.0	102.7	10.0	92.7	59.2	140.13	87.7
64	0.027	0.0002	32.9	14.4	107.4	10.0	97.4	61.9	141.30	86.5
63	0.023	0.0001	28.1	12.7	112.0	10.0	102.0	64.7	142.54	85.0
62	0.018	0.0001	22.0	10.3	117.6	10.0	107.6	67.5	143.84	82.8
61	0.012	0.0000	14.6	7.1	124.2	10.0	114.2	70.4	145.21	79.2
60	0.005	0.0000	6.1	3.1	131.7	10.0	121.7	73.3	146.65	71.5
59	0.002	0.0000	2.4	1.3	134.9	10.0	124.9	76.3	148.16	63.4
58	0.010	0.0000	12.2	6.5	126.7	10.0	116.7	79.4	149.76	77.3
57	0.019	0.0001	23.2	12.6	117.6	10.0	107.6	82.5	151.43	82.8
56	0.028	0.0002	34.2	19.1	108.7	10.0	98.7	85.7	153.19	86.1
55	0.037	0.0003	45.2	25.9	100.0	10.0	90.0	88.9	155.04	88.4
54	0.047	0.0006	57.4	33.7	90.6	10.0	80.6	92.3	156.98	90.4
53	0.057	0.0008	69.6	41.9	81.4	10.0	71.4	95.7	159.02	91.9
52	0.067	0.0011	81.8	50.3	72.6	10.0	62.6	99.2	161.17	93.2
51	0.077	0.0015	94.0	59.1	64.0	10.0	54.0	102.8	163.42	94.3
50	0.086	0.0018	104.9	67.5	56.6	10.0	46.6	106.6	165.79	95.1
49	0.094	0.0022	114.7	75.3	50.4	10.0	40.4	110.4	168.28	95.8
48	0.101	0.0026	123.3	82.5	45.4	10.0	35.4	114.4	170.90	96.3
47	0.107	0.0029	130.6	89.1	41.5	10.0	31.5	118.4	173.65	96.6
46	0.111	0.0031	135.5	94.1	39.6	10.0	29.6	122.6	176.55	96.8
45	0.114	0.0032	139.1	98.4	38.6	10.0	28.6	127.0	179.61	96.9
44	0.114	0.0032	139.1	100.1	40.4	10.0	30.4	131.5	182.82	96.7
43	0.112	0.0031	136.7	100.0	43.8	10.0	33.8	136.2	186.22	96.4
42	0.108	0.0029	131.8	97.9	48.8	10.0	38.8	141.0	189.80	95.9
41	0.101	0.0026	123.3	93.0	56.1	10.0	46.1	146.1	193.58	95.2
40	0.091	0.0021	111.0	85.1	65.6	10.0	55.6	151.4	197.58	94.1

Table 2

**U/D Interference Calculation to WROX-FM  
Sinclair Telecable, Inc.  
D/B/A Sinclair Communications**  
New (FX) Norfolk, VA  
Page 2 of 2



Depr Angle (degrees)	Antenna Elevation Relative Field	ERP at Angle (kW)	Distance to 99.1 dBµ Ix Contour					Observation Point at Occupied Elevation			
			Slant From C/R (m)	Horizontal From Base (m)	Vertical From Base (m)	Occupied Elevation (m)	Margin (m)	Horiz Distance (m)	Slant Distance (m)	Ix Signal at Endpoint (dBµ)	
39	0.078	0.0015	95.2	74.0	77.1	10.0	67.1	156.8	201.80	92.6	
38	0.062	0.0010	75.7	59.6	90.4	10.0	80.4	162.6	206.28	90.4	
37	0.044	0.0005	53.7	42.9	104.7	10.0	94.7	168.5	211.03	87.2	
36	0.024	0.0001	29.3	23.7	119.8	10.0	109.8	174.8	216.07	81.7	
35	0.001	0.0000	1.2	1.0	136.3	10.0	126.3	181.4	221.42	53.9	
34	0.023	0.0001	28.1	23.3	121.3	10.0	111.3	188.3	227.11	80.9	
33	0.049	0.0006	59.8	50.1	104.4	10.0	94.4	195.6	233.18	87.3	
32	0.075	0.0014	91.5	77.6	88.5	10.0	78.5	203.2	239.66	90.7	
31	0.101	0.0026	123.3	105.6	73.5	10.0	63.5	211.4	246.58	93.1	
30	0.126	0.0040	153.8	133.2	60.1	10.0	50.1	220.0	254.00	94.7	
29	0.150	0.0056	183.0	160.1	48.3	10.0	38.3	229.1	261.96	96.0	
28	0.171	0.0073	208.7	184.2	39.0	10.0	29.0	238.9	270.52	96.8	
27	0.189	0.0089	230.6	205.5	32.3	10.0	22.3	249.3	279.74	97.4	
26	0.202	0.0102	246.5	221.6	28.9	10.0	18.9	260.4	289.71	97.7	
25	0.211	0.0111	257.5	233.4	28.2	10.0	18.2	272.4	300.51	97.8	
24	0.213	0.0113	259.9	237.5	31.3	10.0	21.3	285.2	312.24	97.5	
23	0.209	0.0109	255.0	234.8	37.3	10.0	27.3	299.2	325.03	97.0	
22	0.197	0.0097	240.4	222.9	46.9	10.0	36.9	314.3	339.02	96.1	
21	0.178	0.0079	217.2	202.8	59.2	10.0	49.2	330.8	354.38	94.8	
20	0.151	0.0057	184.3	173.2	74.0	10.0	64.0	348.9	371.32	93.0	
19	0.115	0.0033	140.3	132.7	91.3	10.0	81.3	368.8	390.09	90.2	
18	0.072	0.0013	87.9	83.6	109.8	10.0	99.8	390.9	410.98	85.7	
17	0.020	0.0001	24.4	23.3	129.9	10.0	119.9	415.4	434.38	74.1	
16	0.039	0.0004	47.6	45.7	123.9	10.0	113.9	442.9	460.75	79.4	
15	0.105	0.0028	128.1	123.8	103.8	10.0	93.8	474.0	490.69	87.4	
14	0.176	0.0077	214.8	208.4	85.0	10.0	75.0	509.4	524.96	91.3	
13	0.252	0.0159	307.5	299.6	67.8	10.0	57.8	550.1	564.57	93.8	
12	0.332	0.0276	405.1	396.3	52.8	10.0	42.8	597.5	610.84	95.5	
11	0.413	0.0426	504.0	494.7	40.8	10.0	30.8	653.4	665.59	96.7	
10	0.495	0.0613	604.1	594.9	32.1	10.0	22.1	720.3	731.36	97.4	
9	0.576	0.0829	702.9	694.2	27.0	10.0	17.0	801.8	811.84	97.8	
8	0.654	0.1069	798.1	790.3	25.9	10.0	15.9	903.7	912.53	97.9	
7	0.727	0.1321	887.2	880.6	28.9	10.0	18.9	1034.3	1042.10	97.7	
6	0.794	0.1576	968.9	963.6	35.7	10.0	25.7	1208.3	1214.98	97.1	
5	0.854	0.1823	1042.1	1038.2	46.2	10.0	36.2	1451.6	1457.16	96.2	
4	0.905	0.2048	1104.4	1101.7	60.0	10.0	50.0	1816.2	1820.62	94.8	
3	0.946	0.2237	1154.4	1152.8	76.6	10.0	66.6	2423.3	2426.63	92.6	
2	0.976	0.2381	1191.0	1190.3	95.4	10.0	85.4	3636.8	3639.02	89.4	
1	0.994	0.2470	1213.0	1212.8	115.8	10.0	105.8	7275.8	7276.93	83.5	
0	1.000	0.2500	1220.3	1220.3	137.0	10.0	127.0	---	---	---	
							Min:	15.9			
									Max:	97.9	

**SECTION III - PREPARER'S CERTIFICATION**

I certify that I have prepared Section III (Engineering Data) on behalf of the applicant, and that after such preparation, I have examined and found it to be accurate and true to the best of my knowledge and belief.

Name JOSEPH M. DAVIS, P.E.		Relationship to Applicant (e.g., Consulting Engineer) CONSULTING ENGINEER	
Signature		Date 11/26/2013	
Mailing Address CHESAPEAKE RF CONSULTANTS, LLC 207 OLD DOMINION ROAD			
City YORKTOWN		State or Country (if foreign address) VA	Zip Code 23692 -
Telephone Number (include area code) 7036509600		E-Mail Address (if available) JOSEPH.DAVIS@RF-CONSULTANTS.COM	

WILLFUL FALSE STATEMENTS ON THIS FORM ARE PUNISHABLE BY FINE AND/OR IMPRISONMENT (U.S. CODE, TITLE 18, SECTION 1001), AND/OR REVOCATION OF ANY STATION LICENSE OR CONSTRUCTION PERMIT (U.S. CODE, TITLE 47, SECTION 312(a)(1)), AND/OR FORFEITURE (U.S. CODE, TITLE 47, SECTION 503).

**Section III-A - Engineering**  
**TECHNICAL SPECIFICATIONS**  
 Ensure that the specifications below are accurate. Contradicting data found elsewhere in this application will be disregarded. All items must be completed. The response "on file" is not acceptable.

**TECH BOX**

1. Channel: 243

2. Primary Station:

Facility ID Number	Call Sign	City	State
78447	WUSH	POQUOSON	VA

3. Delivery Method (Select One):  
 Off-air  Microwave  Satellite  Via  Other

4. Antenna Location Coordinates: (NAD 27)

Latitude:  
 Degrees 36 Minutes 51 Seconds 39  North  South

Longitude:  
 Degrees 76 Minutes 21 Seconds 13  West  East

5. Antenna Structure Registration Number: 1047304  
 Not Applicable  Notification filed with FAA

6. Antenna Location Site Elevation Above Mean Sea Level: 3 meters

7. Overall Tower Height Above Ground Level: 152 meters

8. Height of Radiation Center Above Ground Level: 137 meters(H) 137 meters(V)

9. Effective Radiated Power: 0.25 kW(H) 0.25 kW(V)

10. Transmitting Antenna:  
 Before selecting Directional "Off-the-Shelf", refer to "Search for Antenna Information" under [CDBS Public Access](http://licensing.fcc.gov/prod/cdbs/pubacc/prod/cdbs_pa.htm) (http://licensing.fcc.gov/prod/cdbs/pubacc/prod/cdbs\_pa.htm). Make sure that the Standard Pattern is marked Yes and that the relative field values shown match your values. Enter the Manufacturer (Make) and Model exactly as displayed in the Antenna Search.  
 Nondirectional  Directional Off-the Shelf  Directional composite  
 Manufacturer SHI Model 6810  
 Rotation:degrees  No Rotation

Degrees	Value	Degrees	Value	Degrees	Value	Degrees	Value	Degrees	Value	Degrees	Value
0	1	10	1	20	1	30	1	40	1	50	1
60	1	70	1	80	1	90	1	100	1	110	1
120	1	130	1	140	1	150	1	160	1	170	1
180	1	190	0.794	200	0.501	210	0.316	220	0.2	230	0.126
240	0.126	250	0.158	260	0.251	270	0.355	280	0.355	290	0.355
300	0.335	310	0.355	320	0.422	330	0.562	340	0.708	350	1
Additional Azimuths											

[Relative Field Polar Plot](#)

11. For FM Boosters and Fill-in translators only.

	<p>a. <b>FM Fill-in translators.</b> Applicant certifies that the FM translator's (a) coverage contour does not extend beyond the protected contour of the commercial FM primary station to be rebroadcast, or (b) entire 60 dBu contour is contained within the lesser of: (i) the 2 mV/m daytime contour of the AM primary station to be rebroadcast, or (ii) a 25-mile radius centered at the AM primary station's transmitter site.</p> <p>b. <b>FM Boosters.</b> Applicant certifies that the FM Booster station's service contour is entirely within the primary station's protected coverage contour.</p>	<p><input checked="" type="radio"/> Yes <input type="radio"/> No <input type="radio"/> N/A</p> <p>See Explanation in [Exhibit 10]</p> <p><input type="radio"/> Yes <input type="radio"/> No <input checked="" type="radio"/> N/A</p> <p>See Explanation in [Exhibit 11]</p>
12.	<p><b>Interference.</b> The proposed facility complies with all of the following applicable rule sections. Check all that apply:</p> <p><b>Overlap Requirements.</b> <input checked="" type="checkbox"/> a) 47 C.F.R. Section 74.1204 <b>Exhibit Required.</b></p> <p><b>Television Channel 6 Protection.</b> <input type="checkbox"/> b) 47 C.F.R. Section 74.1205 with respect to station(s) <b>Exhibit Required.</b></p>	<p><input checked="" type="radio"/> Yes <input type="radio"/> No</p> <p>See Explanation in [Exhibit 12]</p> <p>[Exhibit 13]</p> <p>[Exhibit 14]</p>
13.	<p><b>Unattended operation.</b> Applicant certifies that unattended operation is not proposed, or if this application proposes unattended operation, the applicant certifies that it will comply with the requirements of 47 C.F.R. Section 74.1234.</p>	<p><input checked="" type="radio"/> Yes <input type="radio"/> No</p> <p>See Explanation in [Exhibit 15]</p>
14.	<p><b>Multiple Translators.</b> Applicant certifies that it does not have any interest in an application or an authorization for an FM translator station that serves substantially the same area and rebroadcasts the same signal as the proposed FM translator station.</p>	<p><input checked="" type="radio"/> Yes <input type="radio"/> No</p> <p>See Explanation in [Exhibit 16]</p>
15.	<p><b>Environmental Protection Act.</b> Applicant certifies that the proposed facility is excluded from environmental processing under 47 C.F.R. Section 1.1306 (i.e., the facility will not have a significant environmental impact and complies with the maximum permissible radiofrequency electromagnetic exposure limits for controlled and uncontrolled environments). Unless the applicant can determine compliance through the use of the RF worksheets in Appendix A, an <b>Exhibit is required.</b></p> <p>By checking "Yes" above, the applicant also certifies that it, in coordination with other users of the site, will reduce power or cease operation as necessary to protect persons having access to the site, tower or antenna from radiofrequency electromagnetic exposure in excess of FCC guidelines.</p>	<p><input checked="" type="radio"/> Yes <input type="radio"/> No</p> <p>See Explanation in [Exhibit 17]</p>

