Federal Communications Commission Washington, D.C. 20554	Approved by OMB 3060-0029 (July 2011)	FOR FCC USE ONLY
FCC 340		
APPLICATION FOR CONSTRUCTION PERMIT FOR RESERVED CHANNEL NONCOMMERCIAL EDUCATIONAL BROADCAST STATION Read INSTRUCTIONS Before Filling Out Form		FOR COMMISSION USE ONLY FILE NO. - 20120321AAF

Section I - General Information

1.	Legal Name of the Licensee/Permittee SHENANDOAH VALLEY EDUCATIONAL TELEVISION CORPORATION		
	Mailing Address 298 PORT REPUBLIC ROAD		
	City HARRISONBURG	State or Country (if foreign address) VA	Zip Code 22801 - 3052
	Telephone Number (include area code) 5404345391	E-Mail Address (if available) TMANCARI@WVPT.NET	
	FCC Registration Number: 0002064392	Call Sign WVPY	Facility Identifier 66378
2.	Contact Representative (if other than licensee/Permittee) WILLIAM H. FITZ		Firm or Company Name COVINGTON & BURLING LLP
	Mailing Address 1201 PENNSYLVANIA AVE., N.W.		
	City WASHINGTON	State or Country (if foreign address) DC	ZIP Code 20004 - 2401
	Telephone Number (include area code) 2026625120		E-Mail Address (if available) WFITZ@COV.COM
3.	Is this application being filed in response to a window? If Yes, specify closing date and/or window number:		○ Yes ◉ No

4 **Application Purpose**

○ New station	○ Major Modification of construction permit
○ Major Change in licensed facility	○ Minor Modification of construction permit
◉ Minor Change in licensed facility	○ Major Amendment to pending application
	○ Minor Amendment to pending application

(a) File number of original construction permit: -

(b) Service Type: ○ FM ○ TV ○ DTV ◉ DTS

(c) DTV Type: ○ Pre-Transition ○ Post-Transition ○ Both

(d) Community of License:

City: FRONT ROYAL State: VA

(e) Facility Type ◉ Main ○ Auxiliary

If an amendment, **submit as an Exhibit** a listing by Section and Question Number the portions of the pending application that are being revised.	[Exhibit 1]

NOTE: The failure to include an explanatory providing full particulars in connection with a "No" response may result in dismissal of the application. See Instructions, paragraph L for additional information regarding completion of explanatory exhibits.

SECTION II - Legal and Financial

1.	**Certification.** Applicant certifies that it has answered each question in this application based on its review of the application instructions and worksheets. Applicant further certifies that where it has made an affirmative certification below, this certification constitutes its representation that the application satisfies each of the pertinent standards and criteria set forth in the application instructions and worksheets.	(●) Yes ( ) No
2.	**Eligibility.** Each application must answer "Yes" to one and "No" to two of the three following certifications. An applicant should not submit an explanatory exhibit in connection with these Question 2 "No" responses. The applicant certifies that it is: a. a nonprofit educational institution; or b. a governmental entity other than a school; or c. a nonprofit educational organization, other than described in a. or b.	 ( ) Yes ( ) No ( ) Yes ( ) No ( ) Yes ( ) No
3.	For applicants checking "Yes" to question 2(c) and applying for a new noncommercial educational television station only, the applicant certifies that the applicant's officers, directors and members of its governing board are broadly representative of the educational, cultural, and civic segments of the principal community to be served.	( ) Yes ( ) No ( ) N/A
4.	a. The applicant certifies that the Commission has previously granted a broadcast application identified here by file number that found this applicant qualified as a noncommercial educational entity with a qualifying educational program, and that the applicant will use the proposed station to advance a program similar to that the Commission has found qualifying in applicant's previous application. b. Applicants who answered "No" to Question 4(a), must include an exhibit that describes the applicant's educational objective and how the proposed station will be used to advance an educational program that will further that objective according to 47 C.F.R. Section 73.503 (for radio applicants) and 47 C.F.R. Section 73.621 (for television applicants).	( ) Yes ( ) No FCC FileNumber - [Exhibit 2]
5.	The applicant certifies that its governing documents (e.g., articles of incorporation, by-laws, charter, enabling statute, and/or other pertinent organizational document) permit the applicant to advance an educational program and that there is no provision in any of those documents that would restrict the applicant from advancing an educational program or complying with any Commission rule, policy, or provision of the Communications Act of 1934, as amended.	( ) Yes ( ) No
6.	a. **Parties to the Application.** List separately each party to the application including, as applicable, the applicant, its officers, directors, five percent or greater stockholders, non-insulated partners, members, and all other persons and entities with attributable interests. If another entity hold an attributable interest in the applicant, list separately, as applicable, its officers, directors, five percent or greater stockholders, non-insulated partners, and board members. Create a separate row for each individual or entity. Attach additional pages if necessary. [Enter Parties/Owners Information]	

	b. Applicant certifies that equity and financial interests not set forth above are non-attributable pursuant to 47 C.F.R. Section 73.3555 and that there are no agreements or understandings with any non-party that would give influence over the applicant's programming, personnel, or finances to that non-party.	○ Yes ○ No [Exhibit 3]
7.	**Other Authorizations.** List call signs, locations, and facility identifiers of all other broadcast stations in which applicant or any party to the application has an attributable interest pursuant to the notes to 47 C.F.R. Section 73.3555.	☐ N/A [Exhibit 4]
8.	**Character Issues.** Applicant certifies that neither applicant nor any party to the application has or has had any interest in or connection with: a. any broadcast application in any proceeding where character issues were left unresolved or were resolved adversely against the applicant or party to the application; or b. any pending broadcast application in which character issues have been raised.	○ Yes ○ No See Explanation in [Exhibit 5]
9.	**Adverse Findings.** Applicant certifies that, with respect to the applicant, any party to the application, and any non-party equity owner in the applicant, no adverse finding has been made, nor has an adverse final action been taken by any court or administrative body in a civil or criminal proceeding brought under the provisions of any law related to any of the following: any felony; mass media-related antitrust or unfair competition; fraudulent statements to another government unit; or discrimination. If the answer is "No," attach as an Exhibit a full disclosure concerning the persons and matters involved, including an identification of the the court or administrative body and the proceeding (by dates and file numbers), and a description of the disposition of the matter. Where the requisite information has been earlier disclosed in connection with another application or as required by 47 C.F.R. Section 1.65, the applicant need only provide: (i) an identification of that previous submission by reference to the file number in the case of an application, the call letters of the station regarding which the application or Section 1.65 information was filed, and the date of filing; and (ii) the disposition of the previously reported matter.	○ Yes ○ No See Explanation in [Exhibit 6]
10.	**Alien Ownership and Control.** Applicant certifies that it complies with the provisions of Section 310 of the Communications Act of 1934, as amended, relating to interests of aliens and foreign governments.	○ Yes ○ No See Explanation in [Exhibit 7]
11.	**Program Service Certification.** Applicant certifies that it is cognizant of and will comply with its obligations as a commission licensee to present a program service responsive to the issues of public concern facing the station's community of license and service area.	○ Yes ○ No
12.	**Local Public Notice.** Applicant certifies compliance with the public notice requirements of 47 C.F.R. Section 73.3580.	○ Yes ○ No
13.	**Anti-Drug Abuse Act Certification.** Applicant certifies that neither applicant nor any party to the application is subject to denial of federal benefits pursuant to Section 5301 of the Anti-Drug Abuse Act of 1988, 21 U.S.C. Section 862.	◉ Yes ○ No
14.	**Equal Employment Opportunity (EEO).** If the applicant proposes to employ five or more full-time employees, applicant certifies that it is filing simultaneously with this application a Model EEO Program Report on FCC Form 396-A.	○ Yes ○ No ○ N/A
QUESTIONS 15, 16 AND 17 APPLY ONLY TO APPLICANTS FOR NEW STATIONS. OTHER APPLICANTS CAN PROCEED TO QUESTION 18.		
15.	**Financial.** The applicant certifies that sufficient net liquid assets are on hand or that sufficient funds are available from committed sources to construct and operate the requested facilities for three months without revenue. If "No" to 15., answer question 16. and 17.	○ Yes ○ No See Explanation in [Exhibit 8]

16.	Is this application contingent upon receipt of a grant from the National Telecommunications and Information Administration?	○ Yes ○ No
17.	Is this application contingent upon receipt of a grant from a charitable organization, the approval of the budget of a school or university, or an appropriation from a state, county, municipality or other political subdivision?	○ Yes ○ No

NOTE: If Yes to 16. **or** 17., the application cannot be granted unconditionally until all of the necessary funds are committed or appropriated. In the case of grants from the National Telecommunications and Information Administration, no further action on the applicant's part is required. If the applicant relies on funds from a source specified in Question 17., **the applicant must advise the Commission when the funds are committed or appropriated.** This should be accomplished by letter amendment to the application. Applicants should take note that the Commission's construction period is not considered "tolled" by funding difficulties and that any permit granted conditionally on funding will expire if the station is not constructed for any reason, including lack of funding.

QUESTIONS 18 AND 19 DO NOT APPLY TO APPLICATIONS FOR NEW STATIONS. APPLICANTS FOR NEW FM STATIONS CAN PROCEED TO SECTION III. APPLICANTS FOR NEW TV STATIONS CAN PROCEED TO SECTION IV.

Holding Period.

18.	Applicant certifies that this application does not propose a modification to an authorization that was awarded on the basis of a preference for fair distribution of service pursuant to 47 U.S.C. Section 307(b). If "No," answer a. and b. below. If applicant answers "No" to 18. above and cannot answer "Yes" to either a. or b. below, the application is unacceptable.	◉ Yes ○ No
	a. Applicant certifies that the proposed modification will not downgrade service to the area on which the Section 307(b) preference was based.	○ Yes ○ No
	b. Applicant certifies that although it proposes to downgrade service to the area on which the Section 307(b) preference was based, applicant has provided full service to that area for a period of four years of on-air operations.	○ Yes ○ No
19.	Applicant certifies that this application does not propose a modification to an authorized station that received a credit for superior technical parameters under the point system selection method in 47 C.F.R. Section 73.7003. If "No," applicant must be able to answer "Yes" to a. below or provide an exhibit that makes a compelling showing that the downgrade would be in the public interest.	◉ Yes ○ No
	a. Applicant certifies that the population and area within the proposed service contour (60 dBu (FM) or grade B (TV)) are greater than or equivalent to those authorized.	○ Yes ○ No [Exhibit 9]

Section III

Fair Distribution of Service Pursuant to 47 U.S.C. Section 307(b) (New and Major Changes to FM Radio Only) (Other applicants can proceed to Section IV).

1.	Applicant certifies that it provides a first aural (reception) service. Applicants answering "Yes" must provide an Exhibit.	○ Yes ○ No [Exhibit 10]
2.	Applicant certifies that (1) it is a Tribal Applicant, as defined in 47 C.F.R. Section 73.7000; (2) the facilities proposed in this Application will provide Tribal Coverage, as defined in 47 C.F.R. Section 73.7000, of Tribal Lands occupied by the applicant Tribe(s); (3) the proposed community of license is located on Tribal Lands, as defined in 47 C.F.R. Section 73.7000; and (4) the proposed facility would be the first local tribal-owned noncommercial educational transmission service at the proposed community of license. Applicants answering "Yes" must provide an Exhibit.	○ Yes ○ No [Exhibit 11]
3.	Applicant certifies that the proposed station will provide a first noncommercial educational aural service to (a) at least 10 percent of the people residing within the station's 60 dBu (1 mV/m) service contour and (b) to a minimum of 2,000 people. Applicants answering "Yes" must	○ Yes ○ No [Exhibit 12]

	provide an Exhibit.	
4.	Applicant certifies that the proposed station will provide a second noncommercial educational aural service, or an aggregated first and second noncommercial educational aural service, to (a) at least 10 percent of the people residing within the station's 60 dBu (1 mV/m) service contour and (b) to a minimum of 2,000 people. Applicants answering "Yes" must provide an Exhibit.	○ Yes ○ No [Exhibit 13]

Section IV Point System Factors - New and Major Change Applications Only (used to select among mutually exclusive radio and television applications for new stations and major modifications) **NOTE**: Applicants will not receive any additional points for amendments made after the close of the application filing window.

1.	**Established Local Applicant:** Applicant certifies that for at least the 24 months immediately prior to application, and continuing through the present, it qualifies as a local applicant pursuant to 47 C.F.R. Section 73.7000, that its governing documents require that such localism be maintained, and that it has placed documentation of its qualifications as an established local applicant in a local public inspection file and has submitted to the Commission copies of the documentation.	○ Yes ○ No
2.	**Diversity of Ownership:** (a) Applicant certifies that the principal community (city grade) contour of the proposed station does not overlap the principal community contour of any other authorized station (comparing radio and television to television, including non-fill-in translator stations other than those identified in 2(b) below) in which any party to the application has an attributable interest as defined in 47 C.F.R. Section 73.3555, that its governing documents require that such diversity be maintained, and that it has placed documentation of its diversity qualification in a local public inspection file and has submitted to the Commission copies of the documentation.	○ Yes ○ No
	(b) Is the application's certification to 2(a) based on its exclusion of translator station(s) that will be replaced with a full service station pursuant to the authorization requested here? If Yes, applicant must include an exhibit identifying the translator station authorization for which it will request cancellation upon commencement of operation of the proposed full service station (i.e., upon its filing of a license application and receipt of program test authority).	○ Yes ○ No [Exhibit 14]
3.	**State-wide Network:** Applicant certifies that (a) it has NOT claimed a credit for diversity of ownership above: (b) it is one of the three specific types of organizations described in 47 C.F.R. Section 73.7003(b)(3); and (c) it has placed documentation of its qualifications in a local public inspection file and has submitted to the Commission copies of the documentation.	○ Yes ○ No
4.	**Technical Parameters:** Applicant certifies that the numbers in the boxes below accurately reflect the new area and population that its proposal would serve with a 60 dBu (FM) or Grade B (TV) signal measured in accordance with the standard predicted contours in 47 C.F.R. Section 73.713(c) (FM) and 73.683(TV) and that it has documented the basis for its calculations in the local public inspection file and has submitted copies to the Commission. Major modification applicants should include the area of proposed increase only (exclude any area already within the station's existing service area). (Points, if any, will be determined by FCC)	○ Yes ○ No
	New area served in square kilometers (excluding areas of water):	
	Population served based on the most recent census block data from the United States Bureau of Census using the centroid method:	

SECTION V - Tie Breakers - New and Major Change Applications Only (used to choose among competing radio and television applications receiving the same number of points in Section IV)

1.	**Existing Authorizations.** By placing a number in the box, the applicant certifies that it and other parties to the application have, as of the date of filing and pursuant to 47 C.F.R. Section 73.3555, attributable interests in the stated number of relevant broadcast station authorizations. Radio applicants should count all attributable full service radio stations, AM and FM, commercial and noncommercial, and FM translator stations other than fill-in stations or those identified in IV (2)(b) above. TV applicants should count all attributable full service TV stations, commercial and noncommercial and TV translator stations other than fill-in stations or those identified in IV(2)(b) above. (number of commercial and non-commercial licenses and construction permits)
2.	**Pending Applications.** By placing a number in the box, the applicant certifies that it and other parties to the application have, as of the date of filing and pursuant to 47 C.F.R. Section 73.3555, attributable interests in the stated number of pending applications for new or major changes to relevant broadcast stations. Radio applicants should count all

	attributable full service radio stations, AM and FM, commercial and noncommercial, and FM translator stations other than fill-in stations or those identified in IV(2)(b) above. TV applicants should count all attributable full service TV stations, commercial and noncommercial, and TV translator stations other than fill-in stations or those identified in IV(2)(b) above. (number of pending commercial and non-commercial applications)

Section VI -- Certification

I certify that the statements in this application are true, complete, and correct to the best of my knowledge and belief, and are made in good faith. I acknowledge that all certifications and attached Exhibits are considered material representations. I hereby waive any claim to the use of any particular frequency as against the regulatory power of the United States because of the previous use of the same, whether by license or otherwise, and request an authorization in accordance with this application. (See Section 304 of the Communications Act of 1934, as amended.)

Typed or Printed Name of Person Signing TONY MANCARI	Typed or Printed Title of Person Signing COO
Signature	Date 3/21/2012

Section VII Preparer's Certification

I certify that I have prepared Section VII (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 DOUG VERNIER	Relationship to Applicant (e.g., Consulting Engineer) ENGINEERING CONSULTANT	
Signature	Date 3/19/2012	
Mailing Address TELECOMMUNICATIONS CONSULTANTS 401 MAIN ST., SUITE 213		
City CEDAR FALLS	State or Country (if foreign address) IA	Zip Code 50613-
Telephone Number (include area code) 3192668402	E-Mail Address (if available) DVERNIER@V-SOFT.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 VIII - DTS Engineering		
GENERAL QUESTIONS. Complete the following questions that relate to the proposed DTS facility as a whole.		
1.	Channel Number: 21	
2.	Zone: (•) I ( ) II ( ) III	
3.	Reference Point Coordinates for Table of Distances, in accordance with Section 73.626(c) of the rules: Latitude: Degrees 38 Minutes 57 Seconds 36 (•) North ( ) South Longitude: Degrees 78 Minutes 19 Seconds 52 (•) West ( ) East	
4.	File Number for Current Authorized Service Area: BLEDT-20100209AAB	
5.	The proposed DTS facility will operate on the DTV channel for this station as	(•) Yes ( ) No

	established in the Post-Transition DTV Table of Allotments, 47 C.F.R. Section 73.622(i).	
6.	The proposed DTV station satisfies the interference protection provisions of 47 C.F.R. Sections 73.616 and 73.626. If "No," attach as an Exhibit justification.	(•) Yes ( ) No [Exhibit 40]
7.	The proposed DTV station satisfies the coverage requirement in 47 C.F.R. Section 73.625 and, therefore, will encompass the allotted principal community. If "No," attach as an Exhibit justification.	(•) Yes ( ) No [Exhibit 41]
8.	The proposed DTS facility satisfies the requirements in 47 C.F.R. Section 73.626 in the following respects:	
	(a) The combined coverage from all of the DTS transmitters in the proposed DTS facility covers all of the station's authorized service area, as required in 47 C.F.R. Section 73.626(f)(1). If "No," attach as an Exhibit justification.	(•) Yes ( ) No [Exhibit 42]
	(b) Each DTS transmitter's coverage is contained within either the DTV station's Table of Distances area (47 C.F.R. Section 73.626 (c)) or its authorized service area, except where such coverage is of a minimal amount and necessary to meet the requirements of 47 C.F.R. Section 73.626(f)(1). (•) Yes, coverage entirely contained within station's authorized service area. ( ) Yes, but coverage exceeds station's authorized service area by "minimal amount". ( ) No Attach as an Exhibit a justification if "No" or if "Yes but coverage exceeds station's authorized service area by minimal amount".	[Exhibit 43]
	(c) Each DTS transmitter's coverage is contiguous with at least one other DTS transmitter's coverage, as required in 47 C.F.R. Section 73.626(e)(3). If "No," attach as an Exhibit justification.	(•) Yes ( ) No [Exhibit 44]
	(d) The coverage from one or more DTS transmitter(s) in the DTS facility provide (s) principal community coverage, as required in 47 C.F.R. Section 73.626(e)(4). (•) Yes, one transmitter provides principal community coverage. ( ) Yes, multiple transmitters provide principal community coverage. ( ) No If "No," or if "Yes, multiple transmitters provide principal community coverage," attach as Exhibit No. an Exhibit justification.	[Exhibit 45]
	(e) The combined field strength of all of the DTS transmitters in the proposed DTS facility do not cause interference to another station in excess of the criteria specified in 47 C.F.R. Section 73.616, as required in 47 C.F.R. Section 73.626(e)(5). If "No," attach as an Exhibit justification. **Note:** The combined field strength level shall be determined by a "root-sum-square" calculation, where the combined field strength level at a given location is equal to the square root of the sum of the squared field strengths from each transmitter in the DTS network at that location.	(•) Yes ( ) No [Exhibit 46]
	(f) Each DTS transmitter in the proposed DTS facility is located within either the	(•) Yes ( ) No

	DTV station's Table of Distances area or its authorized service area. If "No," attach as an Exhibit justification.	[Exhibit 47]
9.	Environmental Protection Act.	
	(a) The proposed DTS facility will not have a significant environmental impact, including exposure of workers or the general public to levels of RF radiation exceeding the limits specified in 47 C.F.R. Sections 1.1307 and 1.1310.	(•) Yes ( ) No
	(b) Submit in an Exhibit the following for each transmitter site in the proposed DTS facility: If "Yes," provide a brief explanation for each site of why an Environmental Assessment is not required. Also describe in the Exhibit the steps that will be taken to limit RF radiation exposure to the public and to persons authorized access to each transmitter site. **Note:** By checking "Yes" to this question, the applicant also certifies that it, in coordination with other users of each transmitter site, will reduce power or cease operation as necessary to protect persons having access to each site, transmitter or antenna from radio frequency electromagnetic exposure in excess of FCC guidelines. If "No," provide an Environmental Assessment as required by 47 C.F.R. Section 1.1311.	[Exhibit 48]
10.	The proposed DTS facility satisfies the requirements of 47 C.F.R. Section 73.1030 regarding notification to radio astronomy installations, radio receiving installations and FCC monitoring stations.	(•) Yes ( ) No
11.	The antenna structures to be used by the proposed DTS facility have been registered with the Commission and will not require re-registration to support the proposed antennas, OR the FAA has previously determined that the proposed antenna structures will not adversely effect safety in air navigation and these structures qualify for later registration under the Commission's phased registration plan, OR the proposed installation on these antenna structures do not require notification to the FAA pursuant to 47 C.F.R. Section 17.7.	(•) Yes ( ) No

[Tech Specs - Transmitter Sites]

SECTION VIII - DTS 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.	DTS Site Number: 1	
2.	Antenna Location Coordinates: (NAD 27): Latitude: Degrees 38 Minutes 57 Seconds 36 (•) North ( ) South Longitude: Degrees 78 Minutes 19 Seconds 52 (•) West ( ) East	
3.	Antenna Structure Registration Number: [■] Not Applicable [ ] Notification filed with FAA	
4.	Antenna Location Site Elevation Above Mean Sea Level:	642 meters
5.	Overall Tower Height Above Ground Level:	31 meters

6.	Height of Radiation Center Above Ground Level:	26 meters
7.	Height of Radiation Center Above Average Terrain :	400 meters
8.	Maximum Effective Radiated Power (average power):	100 kW

9. Antenna Specifications:

a. Manufacturer RFS Model PHP24C

b. Electrical Beam Tilt:

0.75 degrees ☐ Not Applicable

c. Mechanical Beam Tilt:

degrees toward azimuth

degrees True ☑ Not Applicable

d. Polorization:

◉ Horizontal ○ Circular ○ Elliptical

e. Directional Antenna Relative Field Values: ☐ Not applicable (Nondirectional)

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	.99
60	.94	70	.908	80	.834	90	.72	100	.578	110	.421
120	.268	130	.156	140	.162	150	.169	160	.161	170	.153
180	.268	190	.421	200	.578	210	.72	220	.834	230	.908
240	.933	250	.96	260	1	270	1	280	1	290	1
300	1	310	1	320	1	330	1	340	1	350	1

Additional Azimuths

If a directional antenna is proposed, the requirements of 47 C.F.R. Sections 73.625(c) must be satisfied. **Exhibit required.** [Exhibit 49]

f. **Elevation Pattern:** Does the proposed antenna propose elevation radiation patterns that vary with azimuth for reasons other than the use of mechanical beam tilt? ○ Yes ◉ No

g. **Required Exhibit:** Attach as an Exhibit all data specified in 47 C.F.R. Section 73.625(c). [Exhibit 50]

The elevation antenna (or radiation) pattern data shall be submitted in Office Open XML ("Excel Spreadsheet") format with the first column containing depression angle values and second (and subsequent, when applicable) column(s) containing relative field values. When applicable, the first row shall list the azimuth angle being tabulated. The range of depression angles shall be 10 degrees above horizontal (-10 degrees depression) to 90 degrees below horizontal (90 degrees depression) and shall include data points spaced not more than 0.5-degree between -5 and 10 degrees depression angle, and not more than 5 degrees elsewhere. All pattern minima and maxima shall be included. Additional elevation antenna (or radiation) pattern data may be included following the column corresponding to 350 degrees TN so that the direction(s) of maximum and minimum radiation are provided. A relative field value of 1 shall correspond to the azimuth and depression angles corresponding to the direction of maximum ERP.

PREPARER'S CERTIFICATION ON SECTION III MUST BE COMPLETED AND SIGNED.

TECH BOX

1. DTS Site Number: 2

2. Antenna Location Coordinates: (NAD 27):
Latitude:
Degrees 38 Minutes 36 Seconds 31 (●) North ( ) South

Longitude:
Degrees 78 Minutes 54 Seconds 7 (●) West ( ) East

3. Antenna Structure Registration Number:
[■] Not Applicable [ ] Notification filed with FAA

4. Antenna Location Site Elevation Above Mean Sea Level: 640 meters

5. Overall Tower Height Above Ground Level: 50 meters

6. Height of Radiation Center Above Ground Level: 40 meters

7. Height of Radiation Center Above Average Terrain : 175 meters

8. Maximum Effective Radiated Power (average power): 0.1 kW

9. Antenna Specifications:
a. Manufacturer SCA Model CL-1469
b. Electrical Beam Tilt:
degrees [■] Not Applicable
c. Mechanical Beam Tilt:
degrees toward azimuth
degrees True [■] Not Applicable
d. Polorization:
(●) Horizontal ( ) Circular ( ) Elliptical
e. Directional Antenna Relative Field Values: [ ] Not applicable (Nondirectional)
Rotation (Degrees): [■] No Rotation

Degrees	Value	Degrees	Value	Degrees	Value	Degrees	Value	Degrees	Value	Degrees	Value
0	1	10	0.947	20	0.812	30	0.622	40	0.361	50	0.086
60	0.01	70	0.01	80	0.01	90	0.01	100	0.01	110	0.01
120	0.01	130	0.01	140	0.01	150	0.01	160	0.01	170	0.01
180	0.01	190	0.01	200	0.01	210	0.01	220	0.01	230	0.01
240	0.01	250	0.01	260	0.01	270	0.01	280	0.01	290	0.01
300	0.01	310	0.086	320	0.361	330	0.622	340	0.812	350	0.947
Additional Azimuths											

If a directional antenna is proposed, the requirements of 47 C.F.R. Sections 73.625(c) must be satisfied. **Exhibit required.** [Exhibit 49]

f. **Elevation Pattern:** Does the proposed antenna propose elevation radiation patterns that vary with azimuth for reasons other than the use of mechanical beam tilt? ( ) Yes (●) No

g. **Required Exhibit:** Attach as an Exhibit all data specified in 47 C.F.R. Section 73.625(c). [Exhibit 50]

The elevation antenna (or radiation) pattern data shall be submitted in Office Open XML ("Excel Spreadsheet") format with the first column containing depression angle values and second (and subsequent, when applicable) column(s) containing relative field values. When applicable, the first row shall list the azimuth angle being tabulated. The range of depression angles shall be 10 degrees above horizontal (-10 degrees depression) to 90 degrees below horizontal (90 degrees depression) and shall include data points spaced not more than 0.5-

degree between -5 and 10 degrees depression angle, and not more than 5 degrees elsewhere. All pattern minima and maxima shall be included. Additional elevation antenna (or radiation) pattern data may be included following the column corresponding to 350 degrees TN so that the direction(s) of maximum and minimum radiation are provided. A relative field value of 1 shall correspond to the azimuth and depression angles corresponding to the direction of maximum ERP.

TECH BOX

1. DTS Site Number: 3

2. Antenna Location Coordinates: (NAD 27):
Latitude:
Degrees 38 Minutes 36 Seconds 5 (•) North ( ) South

Longitude:
Degrees 78 Minutes 37 Seconds 58 (•) West ( ) East

3. Antenna Structure Registration Number:
[x] Not Applicable [ ] Notification filed with FAA

4. Antenna Location Site Elevation Above Mean Sea Level: 899 meters

5. Overall Tower Height Above Ground Level: 77 meters

6. Height of Radiation Center Above Ground Level: 59 meters

7. Height of Radiation Center Above Average Terrain : 580 meters

8. Maximum Effective Radiated Power (average power): 0.098 kW

9. Antenna Specifications:
a. Manufacturer SCA Model CL-1469
b. Electrical Beam Tilt:
degrees [x] Not Applicable
c. Mechanical Beam Tilt:
degrees toward azimuth
degrees True [x] Not Applicable
d. Polorization:
(•) Horizontal ( ) Circular ( ) Elliptical
e. Directional Antenna Relative Field Values: [ ] Not applicable (Nondirectional)
Rotation (Degrees): 100 [ ] No Rotation

Degrees	Value	Degrees	Value	Degrees	Value	Degrees	Value	Degrees	Value	Degrees	Value
0	1	10	0.947	20	0.812	30	0.622	40	0.361	50	0.086
60	0.01	70	0.01	80	0.01	90	0.01	100	0.01	110	0.01
120	0.01	130	0.01	140	0.01	150	0.01	160	0.01	170	0.01
180	0.01	190	0.01	200	0.01	210	0.01	220	0.01	230	0.01
240	0.01	250	0.01	260	0.01	270	0.01	280	0.01	290	0.01
300	0.01	310	0.086	320	0.361	330	0.622	340	0.812	350	0.947

Additional Azimuths

If a directional antenna is proposed, the requirements of 47 C.F.R. Sections 73.625(c) must be [Exhibit 49]

satisfied. **Exhibit required.**

f. **Elevation Pattern:** Does the proposed antenna propose elevation radiation patterns that vary with azimuth for reasons other than the use of mechanical beam tilt? ○ Yes ◉ No

g. **Required Exhibit:** Attach as an Exhibit all data specified in 47 C.F.R. Section 73.625(c). [Exhibit 50]

The elevation antenna (or radiation) pattern data shall be submitted in Office Open XML ("Excel Spreadsheet") format with the first column containing depression angle values and second (and subsequent, when applicable) column(s) containing relative field values. When applicable, the first row shall list the azimuth angle being tabulated. The range of depression angles shall be 10 degrees above horizontal (-10 degrees depression) to 90 degrees below horizontal (90 degrees depression) and shall include data points spaced not more than 0.5-degree between -5 and 10 degrees depression angle, and not more than 5 degrees elsewhere. All pattern minima and maxima shall be included. Additional elevation antenna (or radiation) pattern data may be included following the column corresponding to 350 degrees TN so that the direction(s) of maximum and minimum radiation are provided. A relative field value of 1 shall correspond to the azimuth and depression angles corresponding to the direction of maximum ERP.

TECH BOX

1. DTS Site Number: 4

2. Antenna Location Coordinates: (NAD 27):
Latitude:
Degrees 38 Minutes 28 Seconds 43 ◉ North ○ South

Longitude:
Degrees 78 Minutes 24 Seconds 58 ◉ West ○ East

3. Antenna Structure Registration Number:
☑ Not Applicable ☐ Notification filed with FAA

4.	Antenna Location Site Elevation Above Mean Sea Level:	1174 meters
5.	Overall Tower Height Above Ground Level:	17 meters
6.	Height of Radiation Center Above Ground Level:	16 meters
7.	Height of Radiation Center Above Average Terrain :	637 meters
8.	Maximum Effective Radiated Power (average power):	0.039 kW

9. Antenna Specifications:
a. Manufacturer SCA Model CL-1469
b. Electrical Beam Tilt:
degrees ☑ Not Applicable
c. Mechanical Beam Tilt:
degrees toward azimuth
degrees True ☑ Not Applicable
d. Polorization:
◉ Horizontal ○ Circular ○ Elliptical
e. Directional Antenna Relative Field Values: ☐ Not applicable (Nondirectional)
Rotation (Degrees): 170 ☐ No Rotation

Degrees	Value	Degrees	Value	Degrees	Value	Degrees	Value	Degrees	Value	Degrees	Value
0	1	10	0.947	20	0.812	30	0.622	40	0.361	50	0.086
60	0.01	70	0.01	80	0.01	90	0.01	100	0.01	110	0.01
120	0.01	130	0.01	140	0.01	150	0.01	160	0.01	170	0.01
180	0.01	190	0.01	200	0.01	210	0.01	220	0.01	230	0.01
240	0.01	250	0.01	260	0.01	270	0.01	280	0.01	290	0.01
300	0.01	310	0.086	320	0.361	330	0.622	340	0.812	350	0.947
Additional Azimuths											

If a directional antenna is proposed, the requirements of 47 C.F.R. Sections 73.625(c) must be satisfied. **Exhibit required.** [Exhibit 49]

f. **Elevation Pattern:** Does the proposed antenna propose elevation radiation patterns that vary with azimuth for reasons other than the use of mechanical beam tilt? ○ Yes ◉ No

g. **Required Exhibit:** Attach as an Exhibit all data specified in 47 C.F.R. Section 73.625(c). [Exhibit 50]

The elevation antenna (or radiation) pattern data shall be submitted in Office Open XML ("Excel Spreadsheet") format with the first column containing depression angle values and second (and subsequent, when applicable) column(s) containing relative field values. When applicable, the first row shall list the azimuth angle being tabulated. The range of depression angles shall be 10 degrees above horizontal (-10 degrees depression) to 90 degrees below horizontal (90 degrees depression) and shall include data points spaced not more than 0.5-degree between -5 and 10 degrees depression angle, and not more than 5 degrees elsewhere. All pattern minima and maxima shall be included. Additional elevation antenna (or radiation) pattern data may be included following the column corresponding to 350 degrees TN so that the direction(s) of maximum and minimum radiation are provided. A relative field value of 1 shall correspond to the azimuth and depression angles corresponding to the direction of maximum ERP.

Exhibits

Exhibit 1
Description: PURPOSE OF APPLICATION

THIS APPLICATION PROPOSES TO INCORPORATE WVPY'S EXPERIMENTAL BOOSTER AUTHORIZATIONS AS DTS TRANSMITTERS FOR LICENSING PURPOSES.

Attachment 1

Exhibit 40
Description: DOCUMENTATION OF NO INTERFERENCE

THE ATTACHED EXHIBIT USES THE COMPUTER PROGRAM DEVELOPED BY BILL MEINTELL FOR THE FCC. THE RSS METHOD OF SUMMING INTERFERENCE SIGNAL LEVELS WAS USED FOR THIS ANALYSIS. THE DTS SYSTEM CAUSES NO INTERFERENCE TO STATIONS, CONSTRUCTION PERMITS OR APPLICATIONS ABOVE THE THRESHOLD OF 0.5%.

IT SHOULD BE NOTED THAT THIS STUDY USES 0.1 KW @ 975 COR AMSL, HAAT 600 M FOR THE LURAY SITE (SITE #3). THESE PARAMETERS CLEAR THE DTS SYSTEM WITHOUT INTERFERENCE, HOWEVER THE ACTUAL OPERATING PARAMETERS FOR THIS SITE WILL BE SMALLER AT 958 M COR AMSL, 0.098 KW, HAAT = 580 M.

THE READER WILL ALSO FIND A COORDINATION LETTER FROM THE NATIONAL RADIO ASTRONOMY OBSERVATORY AT GREEN BANK, WEST VIRGINIA. NRQZ COORDINATES ARE IN NAD 83. PURSUANT TO 47 C.F.R. 1.924(A)(2) AND THE REFERENCED COORDINATION LETTER, APPLICANT WILL PROVIDE WRITTEN NOTICE TO THE NATIONAL RADIO ASTRONOMY OBSERVATORY OF THE INSTANT FILING, CONCURRENT WITH THE FILING OF THIS APPLICATION.

Attachment 40

Description
Full OET 69 Analysis
Summary OET-69 Analysis
Coordination with NRZQ, Green Bank

Exhibit 41
Description: PRINCIPAL CITY COVERAGE OF THE PROPOSED DTS SYSTEM

PLEASE SEE THE ATTACHED COVERAGE MAP SHOWING THE 48 DBU F(50-90) PRINCIPAL CITY COVERAGE CONTOUR WITH COMPLETE COVERAGE TO THE PRINCIPAL CITY, FRONT ROYAL. THE 41 DBU F(50-90) NOISE LIMITED CONTOUR IS ALSO SHOWN.

Attachment 41

Description
Principal City Coverage - Map - Showing all DTS Sites

Exhibit 43
Description: CONTAINED COVERAGE

PLEASE SEE EXHIBIT #41.

Attachment 43

Exhibit 44
Description: CONTIGIOUS COVERAGE

PLEASE SEE EXHIBIT #41.

Attachment 44

Exhibit 45
Description: PRINCIPAL CITY COVERAGE BY AT LEAST ONE DTS TRANSMITTER

PLEASE SEE EXHIBIT #41.

Attachment 45

Exhibit 46
Description: COMBINED FIELD STRENGTH

PLEASE SEE EXHIBIT #40.

Attachment 46

Exhibit 47
Description: SERVICE AREA

PLEASE SEE EXHIBIT #41.

Attachment 47

Exhibit 48
Description: ENVIRONMENTAL EXHIBIT

PLEASE SEE THE ATTACHED EXHIBIT.

Attachment 48

Description
Environmental Safety Exhibit

Copy 1 - Exhibit 49
Description: DIRECTIONAL ANTENNA EXHIBIT

PLEASE SEE THE ATTACHED EXHIBIT DOCUMENTS.

Copy 1 - Attachment 49

Description
Antenna Exhibit of Licensed and Proposed WVPY Pattern
Contour-to-Contour Distances and Depression Angle Calculations

Copy 2 - Exhibit 49
Description: DIRECTIONAL ANTENNA EXHIBIT

PLEASE SEE THE ATTACHED EXHIBIT DOCUMENTS.

Copy 2 - Attachment 49

Description
Fulks Run - Antenna Exhibit
Contour-to-Contour Distances and Depression Angle Calculations

Copy 3 - Exhibit 49
Description: DIRECTIONAL ANTENNA EXHIBIT

PLEASE SEE THE ATTACHED EXHIBIT.

Copy 3 - Attachment 49

Description

Luray Entenna Exhibit
Distance to contour, depression angle and HAAT table

Copy 4 - Exhibit 49
Description: DIRECTIONAL ANTENNA EXHIBIT

PLEASE SEE THE ATTACHED EXHIBIT DOCUMENTS.

Copy 4 - Attachment 49

Description
Antenna Exhibit
Contour-to-Contour Distances and Depression Angle Calculations

Copy 1 - Attachment 50

Description
WVPY-TV - Elevation Pattern Values

Copy 2 - Attachment 50

Description
Faulks Run Elevation Pattern

Copy 3 - Attachment 50

Description
Luray - Elevation Pattern

Copy 4 - Attachment 50

Description
Ruckersville - Vertical Elevation Field Values

Percent allowed new interference: 0.500
Percent allowed new interference to non Class A LPTV: 2.000
 Census data selected 2000
 Data Base Selected
 ./data_files/pt_tvdb.sff
              TV INTERFERENCE and SPACING ANALYSIS PROGRAM

 Date: 12-13-2011   Time: 14:09:19

 Record Selected for Analysis (Record is a DTS)

 FULK   BLEDT   -20111219AAX   FRONT ROYAL   VA US
 Channel 21 ERP 0.010 kW   HAAT 00175 m RCAMSL 00680 m
 Latitude 038-36-31 Longitude 0078-54-07
 Status APP   Zone 1   Border   Site number: 01
 Dir Antenna Make CDB Model 00000000107752 Beam tilt N Ref Azimuth 000.0
 Elevation Antenna Pattern ID: 120
 Last update 00000000 Cutoff date 00000000 Docket
 Comments
 Applicant SHENANDOAH VALLEY EDUCATIONAL TELEVI

 RUCK   BLEDT   -20111219AAX   FRONT ROYAL   VA US
 Channel 21 ERP 0.039 kW   HAAT 00646 m RCAMSL 01190 m
 Latitude 038-28-43 Longitude 0078-24-58
 Status APP   Zone 1   Border   Site number: 02
 Dir Antenna Make CDB Model 00000000107752 Beam tilt N Ref Azimuth 170.0
 Elevation Antenna Pattern ID: 120
 Last update 00000000 Cutoff date 00000000 Docket
 Comments
 Applicant SHANANDOAH VALLEY EDUCATIONAL TELEVI

 LURA   BLEDT   -20111219AAX   FRONT ROYAL   VA US
 Channel 21 ERP 0.100 kW   HAAT 00600 m RCAMSL 00975 m
 Latitude 038-36-05 Longitude 0078-37-58
 Status APP   Zone 1   Border   Site number: 03
 Dir Antenna Make CDB Model 00000000107752 Beam tilt N Ref Azimuth 100.0
 Elevation Antenna Pattern ID: 120
 Last update 00000000 Cutoff date 00000000 Docket
 Comments
 Applicant SHENANDOAH VALLEY EDUCATIONAL TELEVI

 MAIN   BLEDT   -20111219AAX   FRONT ROYAL   VA US
 Channel 21 ERP 100.0 kW   HAAT 00400 m RCAMSL 00668 m
 Latitude 038-57-36 Longitude 0078-19-52
 Status APP   Zone 1   Border   Site number: 04
 Dir Antenna Make CDB Model 00000000089962 Beam tilt Y Ref Azimuth 000.0
 Elevation Antenna Pattern ID: 121
 Last update 00000000 Cutoff date 00000000 Docket
 Comments
 Applicant SHENANDOAH VALLEY EDUCATIONAL TELEVI

 Cell Size for Service Analysis 2.0 km/side

 Distance Increments for Longley-Rice Analysis 1.00 km

Facility (site # 01) meets maximum height/power limits

Facility (site # 02) meets maximum height/power limits

Facility (site # 03) meets maximum height/power limits

Facility (site # 04) meets maximum height/power limits

Site number 1

Azimuth (Deg)	ERP (kW)	HAAT (m)	41.0 dBu F(50,90) (km)
0.0	0.010	120.7	18.7
45.0	0.000	251.2	12.4
90.0	0.000	318.7	9.2
135.0	0.000	286.4	8.8
180.0	0.000	241.3	8.2
225.0	0.000	82.4	5.0
270.0	0.000	33.0	3.2
315.0	0.000	92.4	7.8

Database HAAT does not agree with computed HAAT
Database HAAT: 175 Computed HAAT: 178

Site number 2

Azimuth (Deg)	ERP (kW)	HAAT (m)	41.0 dBu F(50,90) (km)
0.0	0.000	511.1	11.5
45.0	0.000	688.0	12.6
90.0	0.000	851.0	14.1
135.0	0.009	847.5	39.5
180.0	0.035	703.3	45.2
225.0	0.000	339.6	9.4
270.0	0.000	593.2	12.0
315.0	0.000	626.7	12.1

Database HAAT does not agree with computed HAAT
Database HAAT: 646 Computed HAAT: 645

Site number 3

Azimuth (Deg)	ERP (kW)	HAAT (m)	41.0 dBu F(50,90) (km)
0.0	0.000	659.1	12.4
45.0	0.000	661.8	16.1
90.0	0.089	679.0	50.8
135.0	0.024	516.6	39.7
180.0	0.000	668.5	12.4
225.0	0.000	551.9	11.8
270.0	0.000	628.8	12.2
315.0	0.000	635.3	12.2

Database HAAT does not agree with computed HAAT
Database HAAT: 600 Computed HAAT: 625

Site number 4

Azimuth (Deg)	ERP (kW)	HAAT (m)	41.0 dBu F(50,90) (km)
0.0	99.557	467.0	91.0
45.0	98.594	473.1	91.4
90.0	51.662	497.5	88.2
135.0	2.512	403.9	63.6
180.0	7.103	343.7	66.3
225.0	74.140	236.2	71.7
270.0	99.231	405.0	87.6
315.0	99.123	385.3	86.4

Database HAAT does not agree with computed HAAT
Database HAAT: 400 Computed HAAT: 401

Evaluation toward Class A Stations from site # 01

No Spacing violations or contour overlap
to Class A stations from site # 01

Evaluation toward Class A Stations from site # 02

No Spacing violations or contour overlap
to Class A stations from site # 02

Evaluation toward Class A Stations from site # 03

No Spacing violations or contour overlap
to Class A stations from site # 03

Evaluation toward Class A Stations from site # 04

No Spacing violations or contour overlap
to Class A stations from site # 04

Class A Evaluation Complete

SPACING VIOLATION FOUND BETWEEN STATION

FULK 21 FRONT ROYAL VA BLEDT 20111219AAX Site # 01

and station

SHORT TO: WVPY 21 FRONT ROYAL VA BLEDT 20100209AAB
038-57-36 0078-19-52
Req. separation 196.3 Actual separation 63.1 Short 133.2 km

SHORT TO: WVPY 21 FRONT ROYAL VA DTVPLN DTVP0767
38 -57-36 78 -19-52
Req. separation 196.3 Actual separation 63.1 Short 133.2 km

LANDMOBILE SPACING VIOLATIONS FOUND

NONE from Site # 01

SPACING VIOLATION FOUND BETWEEN STATION

RUCK 21 FRONT ROYAL VA BLEDT 20111219AAX Site # 02

and station

SHORT TO: WVPY 21 FRONT ROYAL VA BLEDT 20100209AAB
038-57-36 0078-19-52
Req. separation 196.3 Actual separation 53.9 Short 142.4 km

SHORT TO: WVPY 21 FRONT ROYAL VA DTVPLN DTVP0767
38 -57-36 78 -19-52
Req. separation 196.3 Actual separation 53.9 Short 142.4 km

LANDMOBILE SPACING VIOLATIONS FOUND

NONE from Site # 02

SPACING VIOLATION FOUND BETWEEN STATION

LURA 21 FRONT ROYAL VA BLEDT 20111219AAX Site # 03

and station

SHORT TO: WVPY 21 FRONT ROYAL VA BLEDT 20100209AAB
038-57-36 0078-19-52
Req. separation 196.3 Actual separation 47.7 Short 148.6 km

SHORT TO: WVPY 21 FRONT ROYAL VA DTVPLN DTVP0767
38 -57-36 78 -19-52
Req. separation 196.3 Actual separation 47.7 Short 148.6 km

LANDMOBILE SPACING VIOLATIONS FOUND

NONE from Site # 03

SPACING VIOLATION FOUND BETWEEN STATION

MAIN 21 FRONT ROYAL VA BLEDT 20111219AAX Site # 04

and station

SHORT TO: WVPY 21 FRONT ROYAL VA BLEDT 20100209AAB

038-57-36 0078-19-52
Req. separation 196.3 Actual separation   0.0 Short 196.3 km

SHORT TO: WVPY   21 FRONT ROYAL   VA DTVPLN   DTVP0767
38 -57-36 78 -19-52
Req. separation 196.3 Actual separation   0.0 Short 196.3 km

LANDMOBILE SPACING VIOLATIONS FOUND

NONE from Site # 04

Checks to Site Number 01

Proposed facility OK to FCC Monitoring Stations

Proposed facility within West Virginia quiet zone

Proposed facility OK toward Table Mountain

Proposed facility is beyond the Canadian coordination distance

Proposed facility is beyond the Mexican coordination distance

Proposed station is OK toward AM broadcast stations

Checks to Site Number 02

Proposed facility OK to FCC Monitoring Stations

Proposed facility OK toward West Virginia quiet zone

Proposed facility OK toward Table Mountain

Proposed facility is beyond the Canadian coordination distance

Proposed facility is beyond the Mexican coordination distance

Proposed station is OK toward AM broadcast stations

Checks to Site Number 03

Proposed facility OK to FCC Monitoring Stations

Proposed facility within West Virginia quiet zone

Proposed facility OK toward Table Mountain

Proposed facility is beyond the Canadian coordination distance

Proposed facility is beyond the Mexican coordination distance

Proposed station is OK toward AM broadcast stations

Checks to Site Number 04

Proposed facility OK to FCC Monitoring Stations

Proposed facility OK toward West Virginia quiet zone

Proposed facility OK toward Table Mountain

Proposed facility is beyond the Canadian coordination distance

Proposed facility is beyond the Mexican coordination distance

Proposed station is OK toward AM broadcast stations

****

Start of Interference Analysis

Proposed Station

Channel	Call	City/State	ARN	
21	FULK	FRONT ROYAL VA	BLEDT	20111219AAX

Stations Potentially Affected by Proposed Station

Chan	Call	City/State	Dist(km)	Status	Application	Ref. No.
20	WWLM-CA	WASHINGTON PA	209.7	CP	BDFCDTA	20081208AAK
20	WWCW	LYNCHBURG VA	156.8	LIC	BLCDT	20090619ABM
21	WUPX-TV	MOREHEAD KY	420.2	LIC	BLCDT	20040901ACJ
21	WBOC-TV	SALISBURY MD	283.4	LIC	BLCDT	20090618ABK
21	W21CK-D	CHARLOTTE NC	417.6	LIC	BLDTA	20110706AAV
21	WBNS-TV	COLUMBUS OH	385.8	LIC	BLCDT	20021025ABK
21	WBNS-TV	COLUMBUS OH	385.8	APP	BPCDT	20080620ANA
21	WHP-TV	HARRISBURG PA	260.1	LIC	BLCDT	20090615ADL
21	WHP-TV	HARRISBURG PA	260.1	CP	BPCDT	20100325ABG
22	WRIC-TV	PETERSBURG VA	166.7	LIC	BLCDT	20090209ABZ
24	WAZH-CA	HARRISONBURG VA	29.1	LIC	BLTTL	19960823JC
25	WAZM-CA	STAUNTON-WAYNESBORO VA	26.5	LIC	BLTTL	20011107ABW
28	WAZF-CA	WINCHESTER/FRONT ROY VA	90.4	LIC	BLTTL	19940422IK

%%%

Analysis of Interference to Affected Station 1

Analysis of current record

Channel	Call	City/State	Application	Ref. No.
20	WWLM-CA	WASHINGTON PA	BDFCDTA	-20081208AAK

Stations Potentially Affecting This Station

Chan	Call	City/State	Dist(km)	Status	Application	Ref. No.
19	WYFX-LD	YOUNGSTOWN OH	102.4	LIC	BLDTL	-20110329AAF
19	WEMW-CD	GREENSBURG PA	55.5	CP	BDISDTL	-20060823AAL
20	WFMJ-TV	YOUNGSTOWN OH	104.7	LIC	BLCDT	-20061013ABM
20	WWCW	LYNCHBURG VA	323.2	LIC	BLCDT	-20090619ABM
20	NEW	ROANOKE WV	139.0	APP	BNPDTL	-20100514AAR
21	WPXI	DERRY PA	86.4	CP	BDRTCT	-20090610ABT
21	FULK	FRONT ROYAL VA	209.7	APP	BLEDT	-20111219AAX
21	RUCK	FRONT ROYAL VA		APP	BLEDT	-20111219AAX
21	LURA	FRONT ROYAL VA		APP	BLEDT	-20111219AAX
21	MAIN	FRONT ROYAL VA		APP	BLEDT	-20111219AAX

Proposed station is beyond the site to
nearest cell evaluation distance

##########

Analysis of Interference to Affected Station 2

Analysis of current record

Channel	Call	City/State	Application Ref. No.
20	WWCW	LYNCHBURG VA	BLCDT -20090619ABM

Stations Potentially Affecting This Station

Chan	Call	City/State	Dist(km)	Status	Application Ref. No.
19	WCWG	LEXINGTON NC	162.4	LIC	BLCDT -20070418ACV
19	WCAV	CHARLOTTESVILLE VA	125.3	LIC	BLCDT -20090522ADB
20	WUND-TV	EDENTON NC	333.0	LIC	BMLEDT -20101027ABX
20	WFMJ-TV	YOUNGSTOWN OH	426.8	LIC	BLCDT -20061013ABM
21	WVPY	FRONT ROYAL VA	214.8	PLN	DTVPLN -DTVP0767
21	FULK	FRONT ROYAL VA	156.8	APP	BLEDT -20111219AAX
21	RUCK	FRONT ROYAL VA	167.2	APP	BLEDT -20111219AAX
21	LURA	FRONT ROYAL VA	167.2	APP	BLEDT -20111219AAX
21	MAIN	FRONT ROYAL VA	214.8	APP	BLEDT -20111219AAX

Proposal causes no interference

##########

Analysis of Interference to Affected Station 3

Analysis of current record

Channel	Call	City/State	Application Ref. No.
21	WUPX-TV	MOREHEAD KY	BLCDT -20040901ACJ

Stations Potentially Affecting This Station

Chan	Call	City/State	Dist(km)	Status	Application Ref. No.
20	WBXX-TV	CROSSVILLE TN	209.4	LIC	BLCDT -20090619ABD
21	WFYI	INDIANAPOLIS IN	313.5	LIC	BLEDT -20100803ADB
21	WBNS-TV	COLUMBUS OH	235.3	LIC	BLCDT -20021025ABK
21	WBNS-TV	COLUMBUS OH	235.3	APP	BPCDT -20080620ANA
21	WHNS	GREENVILLE SC	314.6	LIC	BLCDT -20100430ADX
21	WUXP-TV	NASHVILLE TN	334.5	LIC	BLCDT -20060414AAU
21	FULK	FRONT ROYAL VA	420.2	APP	BLEDT -20111219AAX
22	WCPO-TV	CINCINNATI OH	154.9	LIC	BLCDT -20101216AAF
21	RUCK	FRONT ROYAL VA		APP	BLEDT -20111219AAX
21	LURA	FRONT ROYAL VA		APP	BLEDT -20111219AAX
21	MAIN	FRONT ROYAL VA		APP	BLEDT -20111219AAX

Proposed station is beyond the site to
nearest cell evaluation distance

##########

Analysis of Interference to Affected Station 4

Analysis of current record

Channel	Call	City/State	Application Ref. No.
21	WBOC-TV	SALISBURY MD	BLCDT -20090618ABK

Stations Potentially Affecting This Station

Chan	Call	City/State	Dist(km)	Status	Application Ref. No.
21	WLIW	GARDEN CITY NY	315.6	APP	BMPEDT -20080620AID

21	WLIW	GARDEN CITY NY	315.6	LIC	BLEDT	-20090612AEP
21	WHP-TV	HARRISBURG PA	230.0	LIC	BLCDT	-20090615ADL
21	WHP-TV	HARRISBURG PA	230.0	CP	BPCDT	-20100325ABG
21	WVPY	FRONT ROYAL VA	238.4	PLN	DTVPLN	-DTVP0767
21	FULK	FRONT ROYAL VA	283.4	APP	BLEDT	-20111219AAX
21	RUCK	FRONT ROYAL VA	241.2	APP	BLEDT	-20111219AAX
21	LURA	FRONT ROYAL VA	260.0	APP	BLEDT	-20111219AAX
21	MAIN	FRONT ROYAL VA	238.4	APP	BLEDT	-20111219AAX
22	WNJS	CAMDEN NJ	152.5	LIC	BLEDT	-20070611AAY
22	WNJS	CAMDEN NJ	152.5	CP	BPEDT	-20080620ALH
22	WRIC-TV	PETERSBURG VA	203.9	LIC	BLCDT	-20090209ABZ

Proposal causes no interference

##

Analysis of Interference to Affected Station 5

Analysis of current record

Channel	Call	City/State	Application	Ref. No.
21	W21CK-D	CHARLOTTE NC	BLDTA	-20110706AAV

Stations Potentially Affecting This Station

Chan	Call	City/State	Dist(km)	Status	Application	Ref. No.
20	WCCB	HICKORY NC	72.2	APP	BDRTCDT	-20090824AHX
20	W20DD-D	MARION, ETC. NC	81.7	LIC	BLDTT	-20100209ABG
21	WPBA	ATLANTA GA	355.0	LIC	BLEDT	-20041013ABK
21	WUPX-TV	MOREHEAD KY	388.8	LIC	BLCDT	-20040901ACJ
21	WHWD-LP	STATESVILLE NC	67.3	LIC	BLTT	-20070308ABW
21	WHWD-LP	STATESVILLE NC	67.3	APP	BDFCDTT	-20060331AVP
21	W21CA	COLUMBIA SC	127.3	LIC	BLTTL	-20031001ALE
21	WWMB	FLORENCE SC	168.7	LIC	BLCDT	-20090619ACJ
21	WHNS	GREENVILLE SC	164.0	LIC	BLCDT	-20100430ADX
21	WCYB-TV	KINGSPORT TN	213.3	CP	BDRTCDT	-20100203AAZ
21	FULK	FRONT ROYAL VA	417.6	APP	BLEDT	-20111219AAX
22	WCNC-TV	CHARLOTTE NC	31.4	CP	BPCDT	-20080617AEH
22	WCNC-TV	CHARLOTTE NC	31.4	LIC	BLCDT	-20031211ABN
21	RUCK	FRONT ROYAL VA		APP	BLEDT	-20111219AAX
21	LURA	FRONT ROYAL VA		APP	BLEDT	-20111219AAX
21	MAIN	FRONT ROYAL VA		APP	BLEDT	-20111219AAX

Proposed station is beyond the site to
nearest cell evaluation distance

##

Analysis of Interference to Affected Station 6

Analysis of current record

Channel	Call	City/State	Application	Ref. No.
21	WBNS-TV	COLUMBUS OH	BLCDT	-20021025ABK

Stations Potentially Affecting This Station

Chan	Call	City/State	Dist(km)	Status	Application	Ref. No.
21	WFYI	INDIANAPOLIS IN	270.5	LIC	BLEDT	-20100803ADB
21	WUPX-TV	MOREHEAD KY	235.3	LIC	BLCDT	-20040901ACJ
21	WMYD	DETROIT MI	275.6	LIC	BLCDT	-20040524AOG
21	WVPY	FRONT ROYAL VA	418.3	PLN	DTVPLN	-DTVP0767
21	FULK	FRONT ROYAL VA	385.8	APP	BLEDT	-20111219AAX
21	LURA	FRONT ROYAL VA	407.6	APP	BLEDT	-20111219AAX

21	MAIN	FRONT ROYAL VA	418.3	APP	BLEDT	-20111219AAX
22	WCPO-TV	CINCINNATI OH	157.3	LIC	BLCDT	-20101216AAF
21	RUCK	FRONT ROYAL VA		APP	BLEDT	-20111219AAX

Proposal causes no interference

##

Analysis of Interference to Affected Station 7

Analysis of current record

Channel	Call	City/State	Application Ref. No.
21	WBNS-TV	COLUMBUS OH	BPCDT -20080620ANA

Stations Potentially Affecting This Station

Chan	Call	City/State	Dist(km)	Status	Application Ref. No.
21	WFYI	INDIANAPOLIS IN	270.5	LIC	BLEDT -20100803ADB
21	WUPX-TV	MOREHEAD KY	235.3	LIC	BLCDT -20040901ACJ
21	WMYD	DETROIT MI	275.6	LIC	BLCDT -20040524AOG
21	WVPY	FRONT ROYAL VA	418.3	PLN	DTVPLN -DTVP0767
21	FULK	FRONT ROYAL VA	385.8	APP	BLEDT -20111219AAX
21	LURA	FRONT ROYAL VA	407.6	APP	BLEDT -20111219AAX
21	MAIN	FRONT ROYAL VA	418.3	APP	BLEDT -20111219AAX
22	WCPO-TV	CINCINNATI OH	157.3	LIC	BLCDT -20101216AAF
21	RUCK	FRONT ROYAL VA		APP	BLEDT -20111219AAX

Proposal causes no interference

##

Analysis of Interference to Affected Station 8

Analysis of current record

Channel	Call	City/State	Application Ref. No.
21	WHP-TV	HARRISBURG PA	BLCDT -20090615ADL

Stations Potentially Affecting This Station

Chan	Call	City/State	Dist(km)	Status	Application Ref. No.
21	WBOC-TV	SALISBURY MD	230.0	LIC	BLCDT -20090618ABK
21	WLIW	GARDEN CITY NY	292.6	APP	BMPEDT -20080620AID
21	WLIW	GARDEN CITY NY	292.6	LIC	BLEDT -20090612AEP
21	WWTI	WATERTOWN NY	404.1	LIC	BLCDT -20040128AFQ
21	WVPY	FRONT ROYAL VA	198.4	PLN	DTVPLN -DTVP0767
21	FULK	FRONT ROYAL VA	260.1	APP	BLEDT -20111219AAX
21	RUCK	FRONT ROYAL VA	246.4	APP	BLEDT -20111219AAX
21	LURA	FRONT ROYAL VA	245.9	APP	BLEDT -20111219AAX
21	MAIN	FRONT ROYAL VA	198.4	APP	BLEDT -20111219AAX
22	WNJS	CAMDEN NJ	185.5	LIC	BLEDT -20070611AAY
22	WNJS	CAMDEN NJ	185.5	CP	BPEDT -20080620ALH

Total scenarios = 2

Result key: 1
Scenario 1 Affected station 8
Before Analysis

Results for: 21A PA HARRISBURG BLCDT 20090615ADL LIC
HAAT 369.0 m, ATV ERP 450.0 kW

	POPULATION	AREA (sq km)
within Noise Limited Contour	2554785	25212.2

```
   not affected by terrain losses   2390544      22771.3
   lost to NTSC IX                        0         0.0
   lost to additional IX by ATV      127827       1336.9
   lost to ATV IX only               127827       1336.9
   lost to all IX                    127827       1336.9

 Potential Interfering Stations Included in above Scenario     1

21A MD SALISBURY            BLCDT     20090618ABK  LIC
21A NY GARDEN CITY          BLEDT     20090612AEP  LIC
21A VA FRONT ROYAL          DTVPLN    DTVP0767     PLN

After Analysis

Results for: 21A PA HARRISBURG           BLCDT     20090615ADL  LIC
   HAAT  369.0 m, ATV ERP  450.0 kW
                                POPULATION   AREA (sq km)
   within Noise Limited Contour     2554785      25212.2
   not affected by terrain losses   2390544      22771.3
   lost to NTSC IX                        0         0.0
   lost to additional IX by ATV      133487       1481.4
   lost to ATV IX only               133487       1481.4
   lost to all IX                    133487       1481.4

 Potential Interfering Stations Included in above Scenario     1

21A MD SALISBURY            BLCDT     20090618ABK  LIC
21A NY GARDEN CITY          BLEDT     20090612AEP  LIC
21A VA FRONT ROYAL          BLEDT     20111219AAX  APP

Percent new IX =    0.2501%

Result key:        2
Scenario        2  Affected station        8
Before Analysis

Results for: 21A PA HARRISBURG           BLCDT     20090615ADL  LIC
   HAAT  369.0 m, ATV ERP  450.0 kW
                                POPULATION   AREA (sq km)
   within Noise Limited Contour     2554785      25212.2
   not affected by terrain losses   2390544      22771.3
   lost to NTSC IX                        0         0.0
   lost to additional IX by ATV      130632       1352.9
   lost to ATV IX only               130632       1352.9
   lost to all IX                    130632       1352.9

 Potential Interfering Stations Included in above Scenario     2

21A MD SALISBURY            BLCDT     20090618ABK  LIC
21A NY GARDEN CITY          BMPEDT    20080620AID  APP
21A VA FRONT ROYAL          DTVPLN    DTVP0767     PLN

After Analysis

Results for: 21A PA HARRISBURG           BLCDT     20090615ADL  LIC
   HAAT  369.0 m, ATV ERP  450.0 kW
                                POPULATION   AREA (sq km)
   within Noise Limited Contour     2554785      25212.2
   not affected by terrain losses   2390544      22771.3
   lost to NTSC IX                        0         0.0
   lost to additional IX by ATV      136166       1493.5
   lost to ATV IX only               136166       1493.5
   lost to all IX                    136166       1493.5

 Potential Interfering Stations Included in above Scenario     2
```

```
21A MD SALISBURY            BLCDT     20090618ABK  LIC
21A NY GARDEN CITY          BMPEDT    20080620AID  APP
21A VA FRONT ROYAL          BLEDT     20111219AAX  APP

Percent new IX =    0.2449%

Worst case new IX    0.2501% Scenario      1

######################################################################


     Analysis of Interference to Affected Station   9


Analysis of current record
Channel     Call           City/State        Application Ref. No.
   21      WHP-TV     HARRISBURG PA             BPCDT     -20100325ABG

     Stations Potentially Affecting This Station

Chan   Call      City/State           Dist(km) Status  Application Ref. No.
 21   WBOC-TV  SALISBURY MD             230.0  LIC    BLCDT     -20090618ABK
 21   WLIW     GARDEN CITY NY           292.6  APP    BMPEDT    -20080620AID
 21   WLIW     GARDEN CITY NY           292.6  LIC    BLEDT     -20090612AEP
 21   WWTI     WATERTOWN NY             404.1  LIC    BLCDT     -20040128AFQ
 21   WVPY     FRONT ROYAL VA           198.4  PLN    DTVPLN    -DTVP0767
 21   FULK     FRONT ROYAL VA           260.1  APP    BLEDT     -20111219AAX
 21   RUCK     FRONT ROYAL VA           246.4  APP    BLEDT     -20111219AAX
 21   LURA     FRONT ROYAL VA           245.9  APP    BLEDT     -20111219AAX
 21   MAIN     FRONT ROYAL VA           198.4  APP    BLEDT     -20111219AAX
 22   WNJS     CAMDEN NJ                185.5  LIC    BLEDT     -20070611AAY
 22   WNJS     CAMDEN NJ                185.5  CP     BPEDT     -20080620ALH

 Total scenarios =   2


Result key:        3
Scenario        1  Affected station        9
Before Analysis

Results for: 21A PA HARRISBURG           BPCDT     20100325ABG  CP
   HAAT  369.0 m, ATV ERP  750.0 kW
                                 POPULATION   AREA (sq km)
   within Noise Limited Contour     2763761      27696.0
   not affected by terrain losses   2530273      24773.4
   lost to NTSC IX                        0          0.0
   lost to additional IX by ATV      162956       1429.2
   lost to ATV IX only               162956       1429.2
   lost to all IX                    162956       1429.2

 Potential Interfering Stations Included in above Scenario     1

21A MD SALISBURY            BLCDT     20090618ABK  LIC
21A NY GARDEN CITY          BLEDT     20090612AEP  LIC
22A NJ CAMDEN               BPEDT     20080620ALH  CP
21A VA FRONT ROYAL          DTVPLN    DTVP0767     PLN

After Analysis

Results for: 21A PA HARRISBURG           BPCDT     20100325ABG  CP
   HAAT  369.0 m, ATV ERP  750.0 kW
                                 POPULATION   AREA (sq km)
   within Noise Limited Contour     2763761      27696.0
   not affected by terrain losses   2530273      24773.4
```

```
   lost to NTSC IX                          0          0.0
   lost to additional IX by ATV        172542       1581.7
   lost to ATV IX only                 172542       1581.7
   lost to all IX                      172542       1581.7

 Potential Interfering Stations Included in above Scenario     1

21A MD SALISBURY            BLCDT     20090618ABK  LIC
21A NY GARDEN CITY          BLEDT     20090612AEP  LIC
22A NJ CAMDEN               BPEDT     20080620ALH  CP
21A VA FRONT ROYAL          BLEDT     20111219AAX  APP

Percent new IX =    0.4049%

Result key:        4
Scenario        2  Affected station        9
Before Analysis

Results for: 21A PA HARRISBURG           BPCDT     20100325ABG  CP
   HAAT  369.0 m, ATV ERP  750.0 kW
                                  POPULATION   AREA (sq km)
   within Noise Limited Contour     2763761      27696.0
   not affected by terrain losses   2530273      24773.4
   lost to NTSC IX                        0          0.0
   lost to additional IX by ATV      164619       1457.3
   lost to ATV IX only               164619       1457.3
   lost to all IX                    164619       1457.3

 Potential Interfering Stations Included in above Scenario     2

21A MD SALISBURY            BLCDT     20090618ABK  LIC
21A NY GARDEN CITY          BMPEDT    20080620AID  APP
22A NJ CAMDEN               BPEDT     20080620ALH  CP
21A VA FRONT ROYAL          DTVPLN    DTVP0767     PLN

After Analysis

Results for: 21A PA HARRISBURG           BPCDT     20100325ABG  CP
   HAAT  369.0 m, ATV ERP  750.0 kW
                                  POPULATION   AREA (sq km)
   within Noise Limited Contour     2763761      27696.0
   not affected by terrain losses   2530273      24773.4
   lost to NTSC IX                        0          0.0
   lost to additional IX by ATV      173725       1597.8
   lost to ATV IX only               173725       1597.8
   lost to all IX                    173725       1597.8

 Potential Interfering Stations Included in above Scenario     2

21A MD SALISBURY            BLCDT     20090618ABK  LIC
21A NY GARDEN CITY          BMPEDT    20080620AID  APP
22A NJ CAMDEN               BPEDT     20080620ALH  CP
21A VA FRONT ROYAL          BLEDT     20111219AAX  APP

Percent new IX =    0.3849%

Worst case new IX    0.4049% Scenario      1

########################################################################

     Analysis of Interference to Affected Station  10


Analysis of current record
```

Channel	Call	City/State	Application	Ref. No.
22	WRIC-TV	PETERSBURG VA	BLCDT	-20090209ABZ

Stations Potentially Affecting This Station

Chan	Call	City/State	Dist(km)	Status	Application	Ref. No.
21	WBOC-TV	SALISBURY MD	203.9	LIC	BLCDT	-20090618ABK
21	WVPY	FRONT ROYAL VA	173.0	PLN	DTVPLN	-DTVP0767
21	FULK	FRONT ROYAL VA	166.7	APP	BLEDT	-20111219AAX
21	RUCK	FRONT ROYAL VA	128.9	APP	BLEDT	-20111219AAX
21	LURA	FRONT ROYAL VA	151.0	APP	BLEDT	-20111219AAX
21	MAIN	FRONT ROYAL VA	173.0	APP	BLEDT	-20111219AAX
22	WCNC-TV	CHARLOTTE NC	399.7	CP	BPCDT	-20080617AEH
22	WCNC-TV	CHARLOTTE NC	399.7	LIC	BLCDT	-20031211ABN
22	WNJS	CAMDEN NJ	343.5	LIC	BLEDT	-20070611AAY
22	WNJS	CAMDEN NJ	343.5	CP	BPEDT	-20080620ALH
23	WUNK-TV	GREENVILLE NC	217.8	LIC	BLEDT	-20100913ACD

Proposal causes no interference

##

Analysis of Interference to Affected Station 11

Analysis of current record

Channel	Call	City/State	Application	Ref. No.
24	WAZH-CA	HARRISONBURG VA	BLTTL	-19960823JC

Stations Potentially Affecting This Station

Chan	Call	City/State	Dist(km)	Status	Application	Ref. No.
21	WVPY	FRONT ROYAL VA	42.5	LIC	BLEDT	-20100209AAB
21	WVPY	FRONT ROYAL VA	42.5	PLN	DTVPLN	-DTVP0767
21	FULK	FRONT ROYAL VA	29.1	APP	BLEDT	-20111219AAX
21	RUCK	FRONT ROYAL VA	54.1	APP	BLEDT	-20111219AAX
21	LURA	FRONT ROYAL VA	32.3	APP	BLEDT	-20111219AAX
21	MAIN	FRONT ROYAL VA	42.5	APP	BLEDT	-20111219AAX
23	NEW	HARRISONBURG VA	41.1	APP	BNPDTL	-20100714AAJ
23	W23DR-D	ROMNEY WV	50.7	LIC	BLDTT	-20090609AAZ
24	WKPI-TV	PIKEVILLE KY	369.4	LIC	BLEDT	-20020313ABL
24	WSFJ-TV	NEWARK OH	360.2	LIC	BLCDT	-20060620ABC
24	WATM-TV	ALTOONA PA	192.5	LIC	BLCDT	-20050603ACF
24	WJET-TV	ERIE PA	369.4	LIC	BLCDT	-20090615ACF
24	WEFC-TV	DANVILLE VA	216.2	CP	BPCDT	-20080317AIL
24	WNVC	FAIRFAX VA	136.9	LIC	BLEDT	-20090612ACS
24	W24DK	WOODSTOCK VA	22.3	CP	BNPTTL	-20000831AOC
24	W64CZ	CLARKSBURG WV	137.9	CP	BDISDTL	-20090824ACB
26	WHAG-TV	HAGERSTOWN MD	114.9	LIC	BLCDT	-20090612AFP
28	WFPT	FREDERICK MD	136.4	LIC	BLEDT	-20090330AFA
32	WVIR-TV	CHARLOTTESVILLE VA	101.3	LIC	BLCDT	-20040908AAE
39	WJAL	HAGERSTOWN MD	135.3	LIC	BLCDT	-20090804ACD

Proposal causes no interference

##

Analysis of Interference to Affected Station 12

Analysis of current record

Channel	Call	City/State	Application	Ref. No.
25	WAZM-CA	STAUNTON-WAYNESBORO VA	BLTTL	-20011107ABW

Stations Potentially Affecting This Station

Chan	Call	City/State	Dist(km)	Status	Application	Ref. No.
21	WVPY	FRONT ROYAL VA	73.7	LIC	BLEDT	-20100209AAB
21	WVPY	FRONT ROYAL VA	73.7	PLN	DTVPLN	-DTVP0767
21	FULK	FRONT ROYAL VA	26.5	APP	BLEDT	-20111219AAX
21	RUCK	FRONT ROYAL VA	32.3	APP	BLEDT	-20111219AAX
21	LURA	FRONT ROYAL VA	26.1	APP	BLEDT	-20111219AAX
21	MAIN	FRONT ROYAL VA	73.7	APP	BLEDT	-20111219AAX
22	WRIC-TV	PETERSBURG VA	141.7	LIC	BLCDT	-20090209ABZ
24	WAZH-CA	HARRISONBURG VA	51.9	LIC	BLTTL	-19960823JC
25	WUNC-TV	CHAPEL HILL NC	283.0	LIC	BLEDT	-20090824ABP
25	KDKA-TV	PITTSBURGH PA	256.9	LIC	BLCDT	-20041004ACS
25	WTVE	READING PA	355.2	LIC	BLCDT	-20081117ADZ
25	WTVE	READING PA	340.9	APP	BPCDT	-20100422ACQ
25	WTVE	READING PA	355.2	LIC	BLCDT	-20100405ABM
25	WTVE	READING PA	329.2	LIC	BLCDT	-20100405ABM
25	WTVR-TV	RICHMOND VA	141.7	LIC	BLCDT	-20021204ABA
26	NEW	HARRISONBURG VA	51.9	APP	BDCCDTL	-20061030AAB
32	WVIR-TV	CHARLOTTESVILLE VA	52.0	LIC	BLCDT	-20040908AAE

Proposal causes no interference

##

Analysis of Interference to Affected Station 13

Analysis of current record

Channel	Call	City/State	Application	Ref. No.
28	WAZF-CA	WINCHESTER/FRONT ROY VA	BLTTL	-19940422IK

Stations Potentially Affecting This Station

Chan	Call	City/State	Dist(km)	Status	Application	Ref. No.
21	WVPY	FRONT ROYAL VA	29.3	LIC	BLEDT	-20100209AAB
21	WVPY	FRONT ROYAL VA	29.3	PLN	DTVPLN	-DTVP0767
21	FULK	FRONT ROYAL VA	90.4	APP	BLEDT	-20111219AAX
21	RUCK	FRONT ROYAL VA	82.3	APP	BLEDT	-20111219AAX
21	LURA	FRONT ROYAL VA	76.9	APP	BLEDT	-20111219AAX
21	MAIN	FRONT ROYAL VA	29.3	APP	BLEDT	-20111219AAX
24	WNVC	FAIRFAX VA	89.9	LIC	BLEDT	-20090612ACS
26	WHAG-TV	HAGERSTOWN MD	55.0	LIC	BLCDT	-20090612AFP
27	WETA-TV	WASHINGTON DC	98.7	LIC	BLEDT	-20070727ACJ
28	WFPT	FREDERICK MD	75.0	LIC	BLEDT	-20090330AFA
28	WCPB	SALISBURY MD	241.5	CP	BPEDT	-20080318AAC
28	WCPB	SALISBURY MD	241.5	LIC	BLEDT	-20090209AEM
28	WRDC	DURHAM NC	392.5	LIC	BLCDT	-20090612AID
28	WNBC	NEW YORK NY	392.9	APP	BPCDT	-20080620ADL
28	WVTX-CA	BRIDGEPORT OH	240.6	LIC	BLTTA	-20100322ABR
28	WVTX-CA	BRIDGEPORT OH	240.6	APP	BSTA	-20061222ABQ
28	WUAB	LORAIN OH	386.0	LIC	BLCDT	-20020516AAG
28	W28BF	HARRISONBURG VA	102.9	LIC	BLTT	-19951011IA
29	WMPB	BALTIMORE MD	123.5	LIC	BLEDT	-20090330AEX
30	WNVT	GOLDVEIN VA	89.9	LIC	BLEDT	-20031230AAR
32	WVIR-TV	CHARLOTTESVILLE VA	137.3	LIC	BLCDT	-20040908AAE
35	WDCA	WASHINGTON DC	98.3	LIC	BLCDT	-20070411AAH
35	WDCA	WASHINGTON DC	98.3	CP	BPCDT	-20080620ANP
36	WTTG	WASHINGTON DC	98.3	LIC	BLCDT	-20080507AAA
36	WGPT	OAKLAND MD	98.6	LIC	BLEDT	-20110509ACO
42	WMPT	ANNAPOLIS MD	137.0	LIC	BLEDT	-20100813BHC

Proposed station is beyond the site to
nearest cell evaluation distance

##

Analysis of Interference to Affected Station 14

Analysis of current record
DTS STATION

Channel	Call	City/State	Application Ref. No.
21	MAIN	FRONT ROYAL VA	BLEDT -20111219AAX

Stations Potentially Affecting This Station

Chan	Call	City/State	Dist(km)	Status	Application Ref. No.
20	WWCW	LYNCHBURG VA	214.8	LIC	BLCDT -20090619ABM
21	WBOC-TV	SALISBURY MD	238.4	LIC	BLCDT -20090618ABK
21	WBNS-TV	COLUMBUS OH	418.3	LIC	BLCDT -20021025ABK
21	WBNS-TV	COLUMBUS OH	418.3	APP	BPCDT -20080620ANA
21	WHP-TV	HARRISBURG PA	198.4	LIC	BLCDT -20090615ADL
21	WHP-TV	HARRISBURG PA	198.4	CP	BPCDT -20100325ABG
22	WRIC-TV	PETERSBURG VA	173.0	LIC	BLCDT -20090209ABZ

Total scenarios = 2

Result key: 5
Scenario 1 Affected station 14
Before Analysis

Results for: 21A VA FRONT ROYAL BLEDT 20111219AAX APP
HAAT 175.0 m, ATV ERP 0.0 kW

	POPULATION	AREA (sq km)
within Noise Limited Contour	1457284	24118.1
not affected by terrain losses	1240233	20451.0
lost to NTSC IX	0	0.0
lost to additional IX by ATV	162272	911.8
lost to ATV IX only	162272	911.8
lost to all IX	162272	911.8

Potential Interfering Stations Included in above Scenario 1

21A MD SALISBURY	BLCDT	20090618ABK	LIC
21A PA HARRISBURG	BLCDT	20090615ADL	LIC
22A VA PETERSBURG	BLCDT	20090209ABZ	LIC

Result key: 6
Scenario 2 Affected station 14
Before Analysis

Results for: 21A VA FRONT ROYAL BLEDT 20111219AAX APP
HAAT 175.0 m, ATV ERP 0.0 kW

	POPULATION	AREA (sq km)
within Noise Limited Contour	1457284	24118.1
not affected by terrain losses	1240233	20451.0
lost to NTSC IX	0	0.0
lost to additional IX by ATV	169452	1087.7
lost to ATV IX only	169452	1087.7
lost to all IX	169452	1087.7

Potential Interfering Stations Included in above Scenario 2

21A MD SALISBURY	BLCDT	20090618ABK	LIC
21A PA HARRISBURG	BPCDT	20100325ABG	CP
22A VA PETERSBURG	BLCDT	20090209ABZ	LIC

##

FINISHED FINISHED FINISHED FINISHED FINISHED FINISHED

Summary Study

Percent allowed new interference: 0.500
Percent allowed new interference to non Class A LPTV: 2.000
Census data selected 2000
Data Base Selected
./data_files/pt_tvdb.sff
TV INTERFERENCE and SPACING ANALYSIS PROGRAM

Date: 12-13-2011 Time: 14:09:19

Record Selected for Analysis (Record is a DTS)

FULK BLEDT -20111219AAX FRONT ROYAL VA US
Channel 21 ERP 0.010 kW HAAT 00175 m RCAMSL 00680 m
Latitude 038-36-31 Longitude 0078-54-07
Status APP Zone 1 Border Site number: 01
Dir Antenna Make CDB Model 00000000107752 Beam tilt N Ref Azimuth 000.0
Elevation Antenna Pattern ID: 120
Last update 00000000 Cutoff date 00000000 Docket
Comments
Applicant SHENANDOAH VALLEY EDUCATIONAL TELEVI

RUCK BLEDT -20111219AAX FRONT ROYAL VA US
Channel 21 ERP 0.039 kW HAAT 00646 m RCAMSL 01190 m
Latitude 038-28-43 Longitude 0078-24-58
Status APP Zone 1 Border Site number: 02
Dir Antenna Make CDB Model 00000000107752 Beam tilt N Ref Azimuth 170.0
Elevation Antenna Pattern ID: 120
Last update 00000000 Cutoff date 00000000 Docket
Comments
Applicant SHANANDOAH VALLEY EDUCATIONAL TELEVI

LURA BLEDT -20111219AAX FRONT ROYAL VA US
Channel 21 ERP 0.100 kW HAAT 00600 m RCAMSL 00975 m
Latitude 038-36-05 Longitude 0078-37-58
Status APP Zone 1 Border Site number: 03
Dir Antenna Make CDB Model 00000000107752 Beam tilt N Ref Azimuth 100.0
Elevation Antenna Pattern ID: 120
Last update 00000000 Cutoff date 00000000 Docket
Comments
Applicant SHENANDOAH VALLEY EDUCATIONAL TELEVI

MAIN BLEDT -20111219AAX FRONT ROYAL VA US
Channel 21 ERP 100.0 kW HAAT 00400 m RCAMSL 00668 m
Latitude 038-57-36 Longitude 0078-19-52
Status APP Zone 1 Border Site number: 04
Dir Antenna Make CDB Model 00000000089962 Beam tilt Y Ref Azimuth 000.0
Elevation Antenna Pattern ID: 121
Last update 00000000 Cutoff date 00000000 Docket
Comments
Applicant SHENANDOAH VALLEY EDUCATIONAL TELEVI

Cell Size for Service Analysis 2.0 km/side

Distance Increments for Longley-Rice Analysis 1.00 km

Facility (site # 01) meets maximum height/power limits

Facility (site # 02) meets maximum height/power limits

Facility (site # 03) meets maximum height/power limits

Facility (site # 04) meets maximum height/power limits

Site number 1

Azimuth (Deg)	ERP (kW)	HAAT (m)	41.0 dBu F(50,90) (km)
0.0	0.010	120.7	18.7
45.0	0.000	251.2	12.4
90.0	0.000	318.7	9.2
135.0	0.000	286.4	8.8
180.0	0.000	241.3	8.2
225.0	0.000	82.4	5.0
270.0	0.000	33.0	3.2
315.0	0.000	92.4	7.8

Database HAAT does not agree with computed HAAT
Database HAAT: 175 Computed HAAT: 178

Site number 2

Azimuth (Deg)	ERP (kW)	HAAT (m)	41.0 dBu F(50,90) (km)
0.0	0.000	511.1	11.5
45.0	0.000	688.0	12.6
90.0	0.000	851.0	14.1
135.0	0.009	847.5	39.5
180.0	0.035	703.3	45.2
225.0	0.000	339.6	9.4
270.0	0.000	593.2	12.0
315.0	0.000	626.7	12.1

Database HAAT does not agree with computed HAAT
Database HAAT: 646 Computed HAAT: 645

Site number 3

Azimuth (Deg)	ERP (kW)	HAAT (m)	41.0 dBu F(50,90) (km)
0.0	0.000	659.1	12.4
45.0	0.000	661.8	16.1
90.0	0.089	679.0	50.8
135.0	0.024	516.6	39.7
180.0	0.000	668.5	12.4
225.0	0.000	551.9	11.8
270.0	0.000	628.8	12.2
315.0	0.000	635.3	12.2

Database HAAT does not agree with computed HAAT
Database HAAT: 600 Computed HAAT: 625

Site number 4

Azimuth (Deg)	ERP (kW)	HAAT (m)	41.0 dBu F(50,90) (km)
0.0	99.557	467.0	91.0
45.0	98.594	473.1	91.4
90.0	51.662	497.5	88.2
135.0	2.512	403.9	63.6
180.0	7.103	343.7	66.3
225.0	74.140	236.2	71.7
270.0	99.231	405.0	87.6
315.0	99.123	385.3	86.4

Database HAAT does not agree with computed HAAT
Database HAAT: 400 Computed HAAT: 401

Evaluation toward Class A Stations from site # 01

No Spacing violations or contour overlap
to Class A stations from site # 01

Evaluation toward Class A Stations from site # 02

No Spacing violations or contour overlap
to Class A stations from site # 02

Evaluation toward Class A Stations from site # 03

No Spacing violations or contour overlap
to Class A stations from site # 03

Evaluation toward Class A Stations from site # 04

No Spacing violations or contour overlap
to Class A stations from site # 04

Class A Evaluation Complete

SPACING VIOLATION FOUND BETWEEN STATION

FULK 21 FRONT ROYAL VA BLEDT 20111219AAX Site # 01

and station

SHORT TO: WVPY 21 FRONT ROYAL VA BLEDT 20100209AAB
038-57-36 0078-19-52
Req. separation 196.3 Actual separation 63.1 Short 133.2 km

SHORT TO: WVPY 21 FRONT ROYAL VA DTVPLN DTVP0767
38 -57-36 78 -19-52
Req. separation 196.3 Actual separation 63.1 Short 133.2 km

LANDMOBILE SPACING VIOLATIONS FOUND

NONE from Site # 01

SPACING VIOLATION FOUND BETWEEN STATION

RUCK 21 FRONT ROYAL VA BLEDT 20111219AAX Site # 02

and station

SHORT TO: WVPY 21 FRONT ROYAL VA BLEDT 20100209AAB
038-57-36 0078-19-52
Req. separation 196.3 Actual separation 53.9 Short 142.4 km

SHORT TO: WVPY 21 FRONT ROYAL VA DTVPLN DTVP0767
38 -57-36 78 -19-52
Req. separation 196.3 Actual separation 53.9 Short 142.4 km

LANDMOBILE SPACING VIOLATIONS FOUND

NONE from Site # 02

SPACING VIOLATION FOUND BETWEEN STATION

LURA 21 FRONT ROYAL VA BLEDT 20111219AAX Site # 03

and station

SHORT TO: WVPY 21 FRONT ROYAL VA BLEDT 20100209AAB
038-57-36 0078-19-52
Req. separation 196.3 Actual separation 47.7 Short 148.6 km

SHORT TO: WVPY 21 FRONT ROYAL VA DTVPLN DTVP0767
38 -57-36 78 -19-52
Req. separation 196.3 Actual separation 47.7 Short 148.6 km

LANDMOBILE SPACING VIOLATIONS FOUND

NONE from Site # 03

SPACING VIOLATION FOUND BETWEEN STATION

MAIN 21 FRONT ROYAL VA BLEDT 20111219AAX Site # 04

and station

SHORT TO: WVPY 21 FRONT ROYAL VA BLEDT 20100209AAB
038-57-36 0078-19-52
Req. separation 196.3 Actual separation 0.0 Short 196.3 km

SHORT TO: WVPY 21 FRONT ROYAL VA DTVPLN DTVP0767
38 -57-36 78 -19-52
Req. separation 196.3 Actual separation 0.0 Short 196.3 km

LANDMOBILE SPACING VIOLATIONS FOUND

NONE from Site # 04

Checks to Site Number 01

Proposed facility OK to FCC Monitoring Stations

Proposed facility within West Virginia quiet zone

Proposed facility OK toward Table Mountain

Proposed facility is beyond the Canadian coordination distance

Proposed facility is beyond the Mexican coordination distance

Proposed station is OK toward AM broadcast stations

Checks to Site Number 02

Proposed facility OK to FCC Monitoring Stations

Proposed facility OK toward West Virginia quiet zone

Proposed facility OK toward Table Mountain

Proposed facility is beyond the Canadian coordination distance

Proposed facility is beyond the Mexican coordination distance

Proposed station is OK toward AM broadcast stations

Checks to Site Number 03

Proposed facility OK to FCC Monitoring Stations

Proposed facility within West Virginia quiet zone

Proposed facility OK toward Table Mountain

Proposed facility is beyond the Canadian coordination distance

Proposed facility is beyond the Mexican coordination distance

Proposed station is OK toward AM broadcast stations

Checks to Site Number 04

Proposed facility OK to FCC Monitoring Stations

Proposed facility OK toward West Virginia quiet zone

Proposed facility OK toward Table Mountain

Proposed facility is beyond the Canadian coordination distance

Proposed facility is beyond the Mexican coordination distance

Proposed station is OK toward AM broadcast stations

****

Start of Interference Analysis

Proposed Station

Channel	Call	City/State	ARN	
21	FULK	FRONT ROYAL VA	BLEDT	20111219AAX

Stations Potentially Affected by Proposed Station

Chan	Call	City/State	Dist(km)	Status	Application	Ref. No.
20	WWLM-CA	WASHINGTON PA	209.7	CP	BDFCDTA	20081208AAK
20	WWCW	LYNCHBURG VA	156.8	LIC	BLCDT	20090619ABM
21	WUPX-TV	MOREHEAD KY	420.2	LIC	BLCDT	20040901ACJ
21	WBOC-TV	SALISBURY MD	283.4	LIC	BLCDT	20090618ABK
21	W21CK-D	CHARLOTTE NC	417.6	LIC	BLDTA	20110706AAV
21	WBNS-TV	COLUMBUS OH	385.8	LIC	BLCDT	20021025ABK
21	WBNS-TV	COLUMBUS OH	385.8	APP	BPCDT	20080620ANA
21	WHP-TV	HARRISBURG PA	260.1	LIC	BLCDT	20090615ADL
21	WHP-TV	HARRISBURG PA	260.1	CP	BPCDT	20100325ABG
22	WRIC-TV	PETERSBURG VA	166.7	LIC	BLCDT	20090209ABZ
24	WAZH-CA	HARRISONBURG VA	29.1	LIC	BLTTL	19960823JC
25	WAZM-CA	STAUNTON-WAYNESBORO VA	26.5	LIC	BLTTL	20011107ABW
28	WAZF-CA	WINCHESTER/FRONT ROY VA	90.4	LIC	BLTTL	19940422IK

%%%

Study of this proposal found the following interference problem(s):

NONE.

WVPY DTS System - 41 dBu Noise Limited Contours Shown

WVPY-D
BLEDT20100209AAB
Latitude: 38-57-36 N
Longitude: 078-19-52 W
ERP: 100.00 kW
Channel: 21
Frequency: 515.0 MHz
AMSL Height: 668.0 m

Luray

Latitude: 38-36-05 N
Longitude: 078-37-58 W
ERP: 0.098 kW
Channel: 21
Frequency: 515.0 MHz
AMSL Height: 958.0 m

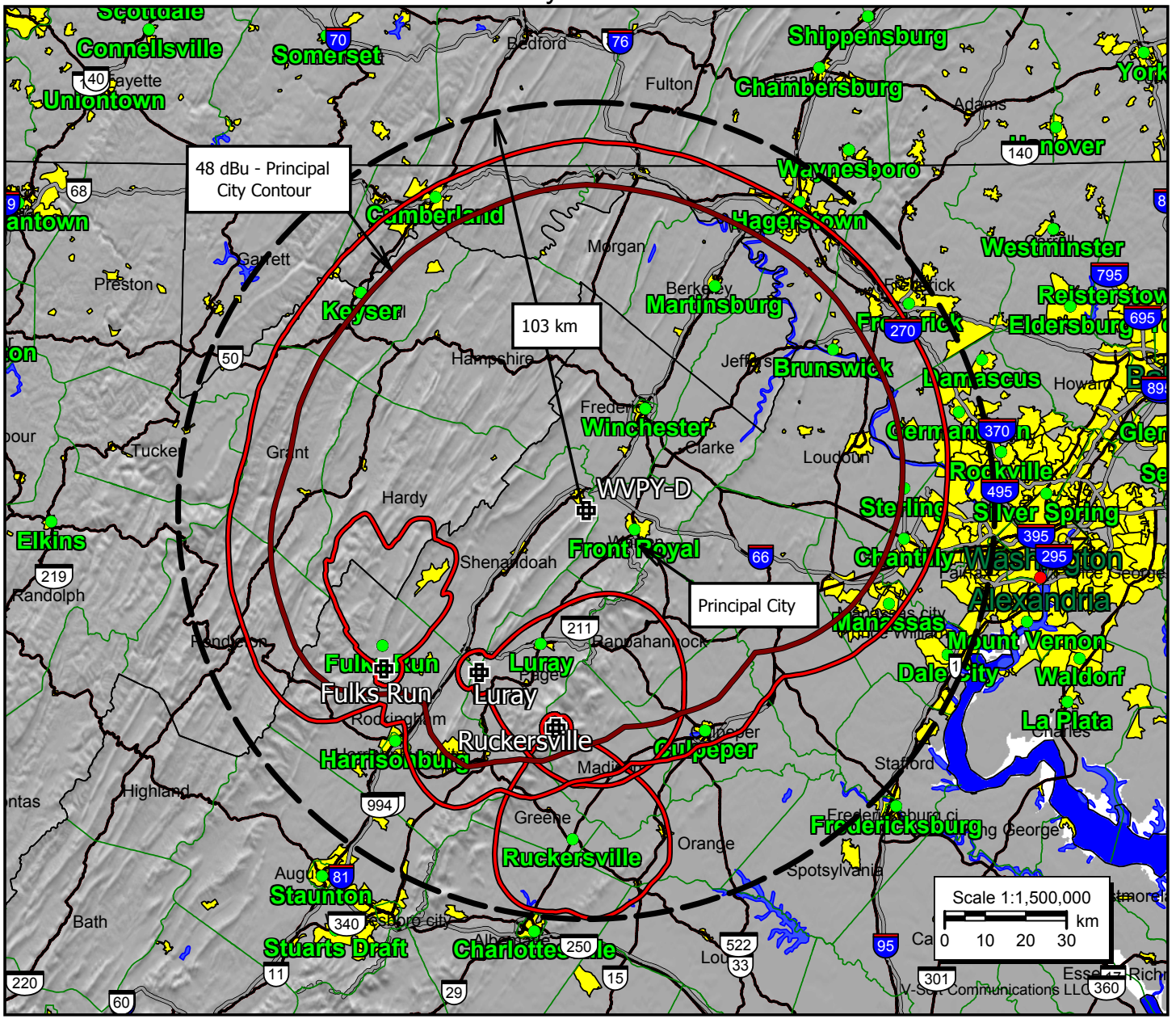
Ruckersville

Latitude: 38-28-43 N
Longitude: 078-24-58 W
ERP: 0.039 kW
Channel: 21
Frequency: 515.0 MHz
AMSL Height: 1190.0 m

Fulks Run

Latitude: 38-36-31 N
Longitude: 078-54-07 W
ERP: 0.10 kW
Channel: 21
Frequency: 515.0 MHz
AMSL Height: 680.0 m

Doug Vernier
401 Main Street, Suite 213
Cedar Falls, Iowa 50613
Telecommunication Consultants



R.F. RADIATION COMPLIANCE STATEMENT
Channel 21 – DTS System
Shenandoah Valley Educational TV Corp

December 22, 2011

The WVPY-TV main transmitter site is located atop Signal Knob. The station has been licensed at this site since 1999 and is therefore exempt from further environmental considerations. There are two other low power TV transmitters at this site, WHSV-TV and WAZW-LP. The site, fenced, gated and locked has warning signs posted making it a "controlled environment."

WVPY-TV

This station is currently licensed on channel 21 by the Commission at 100 kW ERP from an antenna mounted at 26 meters above the ground. Based on the formulas expressed in the OET Bulletin, No. 65, August 1997, "Evaluating Compliance with F.C.C. Guidelines for Human Exposure to Radio frequency Electromagnetic Fields", published by the Federal Communication Commission's Office of Science and Engineering, at head height when assuming a vertical elevation field of 0.1 toward the nadir, this station produces a power density of 58.0 microwatts per square centimeter, which is 3.4 percent of the 1,716.7 microwatts per square centimeter maximum for the frequency in use.

WHSV-TV operates on channel 42 with an ERP of 1 kW from an antenna height of 27 meters above ground. Using the formulas in OET-65, it can be shown that this station produces 0.535 microwatts per square centimeter at head height which is 0.25 percent of the maximum of 2,136.7 microwatts per square centimeter.

WAZL-LP operates on channel 46 with an ERP of 15 kW from an antenna 20 meters above the ground. Using the formulas of OET-65 this station is shown to contribute 15.5 microwatts per square centimeter at head height which is 0.7 percent of the maximum of 2,216.7 microwatts per square centimeter.

The applicant protects workers on the tower by either reducing ERP or terminating transmission. An agreement is in effect with the users at this location to reduce power or to terminate operations to protect workers from exposure in excess of the Commission's standard.

Fulks Run:

This DTS transmitter uses the applicant's previous TV translator site which was constructed prior to 2001. The transmitter employs a high gain antenna from a height above ground of 40 meters. OET-65 calculations show that this high gain antenna produces 0.023 microwatts per square centimeter at head height. This amounts to only 0.0013 percent of the maximum for a controlled area and 0.007 percent for an uncontrolled area. Consequently, no further emissions analysis was deemed necessary.

Luray:

This DTS transmitter uses the applicant's previous translator site which was constructed prior to March 2001. The transmitter employs a high gain antenna with a height above

ground of 59 meters. OET-65 calculations show that this antenna produces 0.01 microwatts per square centimeter. This amounts to only 0.0005 percent of the maximum for a controlled area and 0.003 percent for an uncontrolled area. Consequently, no further analysis was deemed necessary.

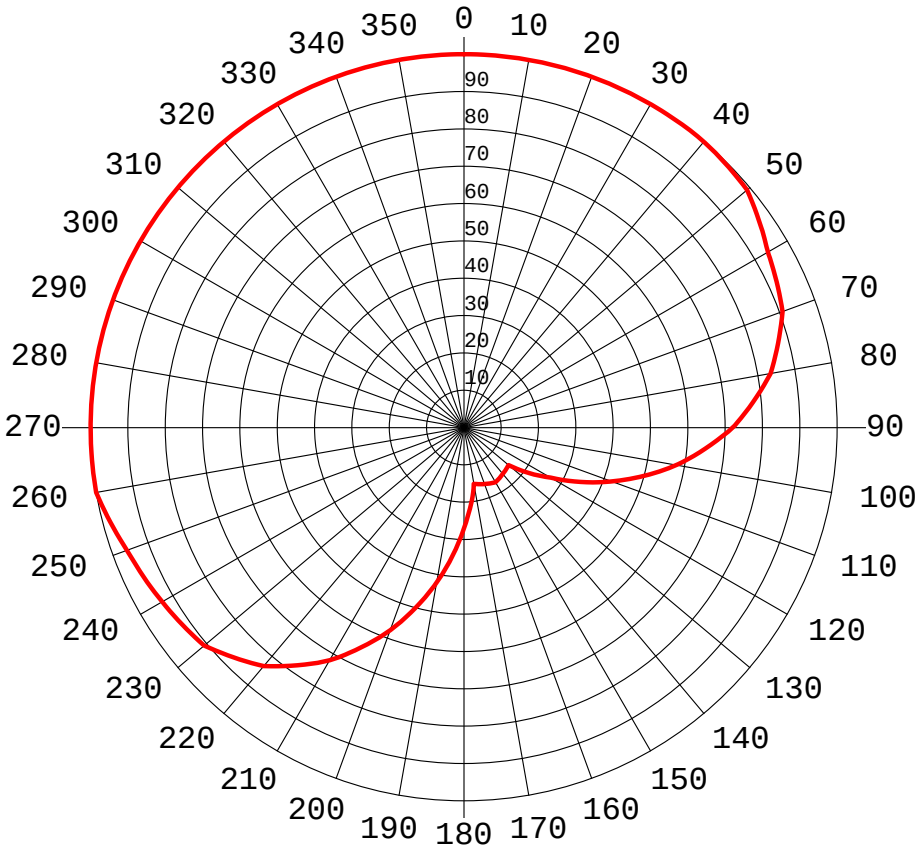
Ruckersville:

This DTS transmitter uses the applicant's previous translator site built prior to March 2001. The transmitter employs a high gain antenna with a height above ground of 16 meters. OET-65 calculations show that this antenna produces 0.0171 microwatts per square centimeter. This amounts to 0.01 percent of the maximum for a controlled area and 0.05 percent for an uncontrolled area. Consequently, no further analysis was deemed necessary.

Therefore, all of the DTS transmitters sites comply with the FCC's maximum R.F. emissions standard with regard to protection of workers and the general public from non- ionization radio frequency radiation.

Doug Vernier
Telecommunications Consultants

WVPY Existing and Proposed - Horizontal Azimuth Pattern

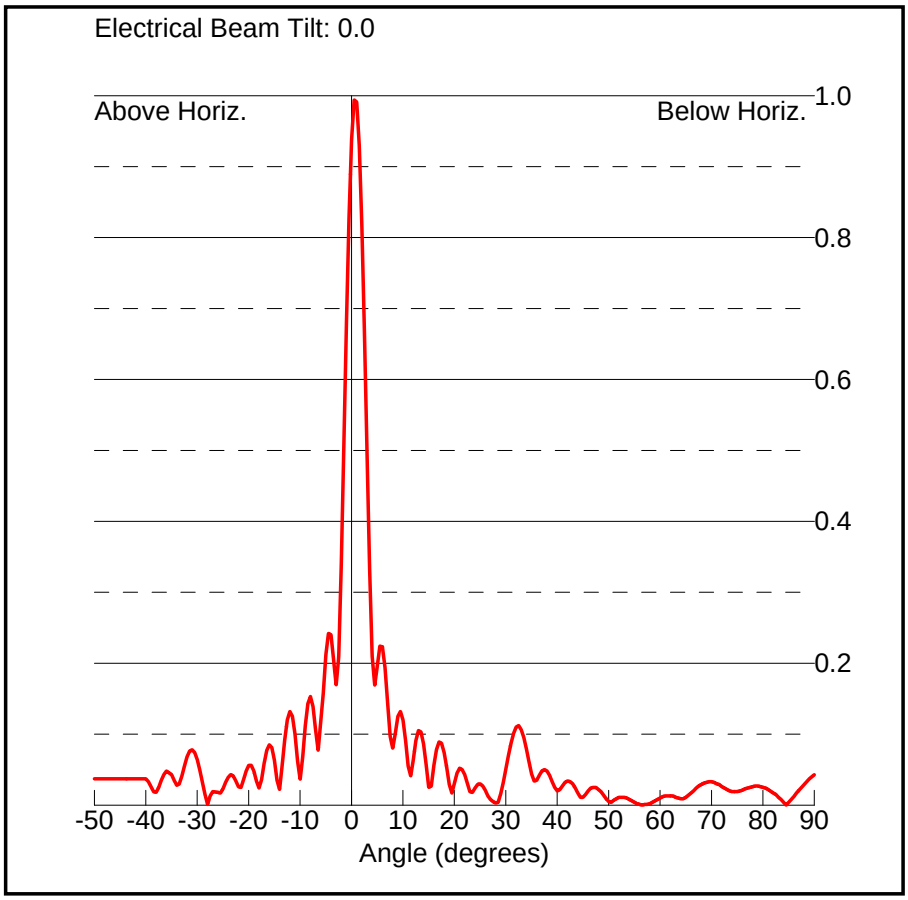


Azi	Rel	dBk	kW	dB
0	1.000	20.00	100.0	0.00
10	1.000	20.00	100.0	0.00
20	1.000	20.00	100.0	0.00
30	1.000	20.00	100.0	0.00
40	1.000	20.00	100.0	0.00
50	0.990	19.91	98.0	-0.09
60	0.940	19.46	88.4	-0.54
70	0.908	19.16	82.4	-0.84
80	0.834	18.42	69.6	-1.58
90	0.720	17.15	51.8	-2.85
100	0.578	15.24	33.4	-4.76
110	0.421	12.49	17.7	-7.51
120	0.268	8.56	7.2	-11.44
130	0.156	3.86	2.4	-16.14
140	0.162	4.19	2.6	-15.81
150	0.169	4.56	2.9	-15.44
160	0.161	4.14	2.6	-15.86
170	0.153	3.69	2.3	-16.31

Azi	Rel	dBk	kW	dB
180	0.268	8.56	7.2	-11.44
190	0.421	12.49	17.7	-7.51
200	0.578	15.24	33.4	-4.76
210	0.720	17.15	51.8	-2.85
220	0.834	18.42	69.6	-1.58
230	0.908	19.16	82.4	-0.84
240	0.933	19.40	87.0	-0.60
250	0.960	19.65	92.2	-0.35
260	1.000	20.00	100.0	0.00
270	1.000	20.00	100.0	0.00
280	1.000	20.00	100.0	0.00
290	1.000	20.00	100.0	0.00
300	1.000	20.00	100.0	0.00
310	1.000	20.00	100.0	0.00
320	1.000	20.00	100.0	0.00
330	1.000	20.00	100.0	0.00
340	1.000	20.00	100.0	0.00
350	1.000	20.00	100.0	0.00

Rotation Angle = 0

WVPY - Vertical Elevation Pattern



Angle (deg)	Relative Field
-40.0	0.037
-39.5	0.033
-39.0	0.026
-38.5	0.019
-38.0	0.018
-37.5	0.025
-37.0	0.035
-36.5	0.043
-36.0	0.048
-35.0	0.043
-34.5	0.035
-34.0	0.028
-33.5	0.03
-33.0	0.041
-32.5	0.055
-32.0	0.068
-31.5	0.076
-31.0	0.078
-30.5	0.074
-30.0	0.064
-29.5	0.049
-29.0	0.032
-28.5	0.015
-28.0	0.001
-27.5	0.013
-27.0	0.019
-26.0	0.018
-25.5	0.017
-25.0	0.023
-24.5	0.032
-24.0	0.039
-23.5	0.043
-23.0	0.041
-22.5	0.034
-22.0	0.026
-21.5	0.025
-21.0	0.036
-20.5	0.048
-20.0	0.056
-19.5	0.056
-19.0	0.048
-18.5	0.034
-18.0	0.024
-17.5	0.036
-17.0	0.059
-16.5	0.077
-16.0	0.085
-15.5	0.081
-15.0	0.063
-14.5	0.035
-14.0	0.022
-13.5	0.056
-13.0	0.092
-12.5	0.12
-12.0	0.132
-11.5	0.125
-11.0	0.1
-10.5	0.062
-10.0	0.036
-9.5	0.068
-9.0	0.112
-8.5	0.143
-8.0	0.153
-7.5	0.139
-7.0	0.106
-6.5	0.077
-5.5	0.158
-5.0	0.212
-4.5	0.242
-4.0	0.24

12/22/2011

-3.5	0.205	22.5	0.031
-3.0	0.169	23.0	0.019
-2.5	0.209	23.5	0.018
-2.0	0.34	24.0	0.024
-1.5	0.508	24.5	0.029
-1.0	0.679	25.0	0.03
-0.5	0.828	25.5	0.027
0.0	0.938	26.0	0.021
0.5	0.994	26.5	0.013
1.0	0.991	27.0	0.008
1.5	0.929	27.5	0.005
2.0	0.816	28.0	0.003
2.5	0.666	28.5	0.004
3.0	0.498	29.0	0.016
3.5	0.335	29.5	0.032
4.0	0.21	30.0	0.051
4.5	0.169	30.5	0.07
5.0	0.196	31.0	0.087
5.5	0.224	31.5	0.101
6.0	0.223	32.0	0.11
6.5	0.194	32.5	0.112
7.0	0.145	33.0	0.106
7.5	0.097	33.5	0.095
8.0	0.08	34.0	0.079
8.5	0.101	34.5	0.061
9.0	0.125	35.0	0.044
9.5	0.132	35.5	0.034
10.0	0.12	36.0	0.035
10.5	0.091	36.5	0.042
11.0	0.055	37.0	0.048
11.5	0.041	37.5	0.05
12.0	0.064	38.0	0.048
12.5	0.091	38.5	0.042
13.0	0.105	39.0	0.033
13.5	0.103	39.5	0.025
14.0	0.086	40.0	0.02
14.5	0.057	40.5	0.022
15.0	0.025	41.0	0.027
15.5	0.027	41.5	0.032
16.0	0.056	42.0	0.034
16.5	0.078	42.5	0.033
17.0	0.089	43.0	0.03
17.5	0.087	43.5	0.024
18.0	0.074	44.0	0.017
18.5	0.053	44.5	0.011
19.0	0.029	45.0	0.011
19.5	0.017	45.5	0.015
20.0	0.031	46.0	0.02
20.5	0.045	46.5	0.024
21.0	0.052	47.0	0.025
21.5	0.05	47.5	0.025
22.0	0.043	48.0	0.022

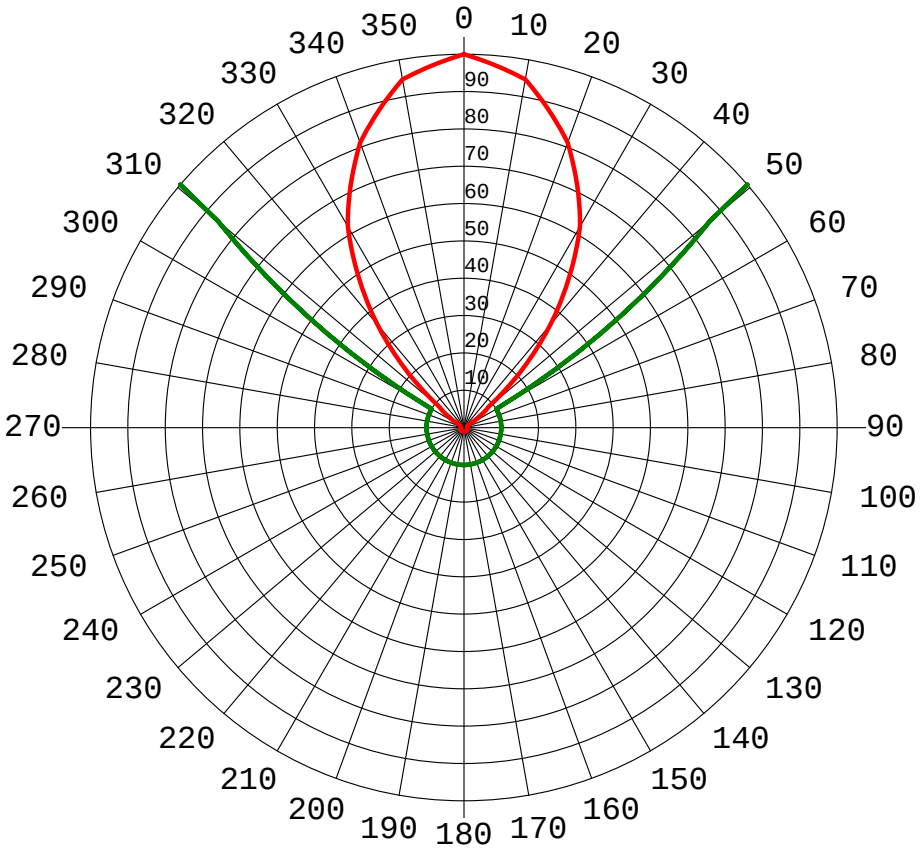
N. Lat. = 385736.0 W. Lng. = 781952.0
HAAT and Distance to Contour,
FCC OET,TV 3.2 - 16.1, 130 pts - USGS 03 SEC

WVPY-TV Main - Distance to Contour - Depression Angle

Azi.	AV EL	HAAT	ERP kW	dBk	Field	DAng	VFld	D-kW	%Max	D-dBk	41-F9
000	200.9	467.1	100.0000	20.00	1.000	0.599	0.998	99.5899	99.8	20.00	90.96
010	211.4	456.6	100.0000	20.00	1.000	0.592	0.998	99.5358	99.8	20.00	90.29
020	213.5	454.5	100.0000	20.00	1.000	0.591	0.998	99.5247	99.8	20.00	90.16
030	213.8	454.2	100.0000	20.00	1.000	0.590	0.998	99.5232	99.8	20.00	90.14
040	200.1	468.0	100.0000	20.00	1.000	0.599	0.998	99.5941	99.8	20.00	91.01
050	189.8	478.2	98.0100	19.91	0.990	0.606	0.998	97.6407	99.8	19.91	91.54
060	183.4	484.6	88.3600	19.46	0.940	0.610	0.998	88.0414	99.8	19.46	91.19
070	176.1	491.9	82.4464	19.16	0.908	0.614	0.998	82.1642	99.8	19.16	91.16
080	173.5	494.5	69.5556	18.42	0.834	0.616	0.998	69.3220	99.8	18.42	90.05
090	170.6	497.4	51.8400	17.15	0.720	0.618	0.998	51.6697	99.8	17.15	88.06
100	180.0	488.0	33.4084	15.24	0.578	0.612	0.998	33.2908	99.8	15.24	84.39
110	189.7	478.3	17.7241	12.49	0.421	0.606	0.998	17.6574	99.8	12.49	79.75
120	210.9	457.1	7.1824	8.56	0.268	0.592	0.998	7.1492	99.8	8.56	73.03
130	268.5	399.5	2.4336	3.86	0.156	0.554	0.996	2.4149	99.6	3.86	63.25
140	250.1	417.9	2.6244	4.19	0.162	0.566	0.997	2.6068	99.7	4.19	64.64
150	250.0	418.0	2.8561	4.56	0.169	0.566	0.997	2.8370	99.7	4.56	65.15
160	251.3	416.7	2.5921	4.14	0.161	0.565	0.997	2.5746	99.7	4.14	64.51
170	269.7	398.3	2.3409	3.69	0.153	0.553	0.996	2.3227	99.6	3.69	62.98
180	325.7	342.3	7.1824	8.56	0.268	0.513	0.995	7.1036	99.5	8.56	66.17
190	324.5	343.5	17.7241	12.49	0.421	0.513	0.995	17.5309	99.5	12.49	71.48
200	330.8	337.2	33.4084	15.24	0.578	0.509	0.994	33.0317	99.4	15.24	74.91
210	315.0	353.0	51.8400	17.15	0.720	0.520	0.995	51.3041	99.5	17.15	79.28
220	452.6	215.4	69.5556	18.42	0.834	0.407	0.987	67.8216	98.7	18.42	69.45
230	341.9	326.1	82.4464	19.16	0.908	0.500	0.994	81.4615	99.4	19.16	79.72
240	226.4	441.6	87.0489	19.40	0.933	0.582	0.997	86.5765	99.7	19.40	88.44
250	223.6	444.4	92.1600	19.65	0.960	0.584	0.997	91.6738	99.7	19.65	88.99
260	234.2	433.8	100.0000	20.00	1.000	0.577	0.997	99.4162	99.7	20.00	88.99
270	264.0	404.0	100.0000	20.00	1.000	0.557	0.996	99.2555	99.6	20.00	87.43
280	301.8	366.2	100.0000	20.00	1.000	0.530	0.995	99.0430	99.5	20.00	84.92
290	289.0	379.0	100.0000	20.00	1.000	0.539	0.996	99.1162	99.6	20.00	85.91
300	287.8	380.2	100.0000	20.00	1.000	0.540	0.996	99.1228	99.6	20.00	85.99
310	290.7	377.3	100.0000	20.00	1.000	0.538	0.996	99.1061	99.6	20.00	85.78
320	278.0	390.0	100.0000	20.00	1.000	0.547	0.996	99.1781	99.6	20.00	86.63
330	261.2	406.8	100.0000	20.00	1.000	0.559	0.996	99.2711	99.6	20.00	87.59
340	247.9	420.1	100.0000	20.00	1.000	0.568	0.997	99.3429	99.7	20.00	88.28
350	221.8	446.2	100.0000	20.00	1.000	0.585	0.997	99.4815	99.7	20.00	89.67

Ave El= 250.56 M HAAT= 417.44 M AMSL= 668 M

Fulks Run - Scala CL-1469 Horizontal Azimuth Pattern

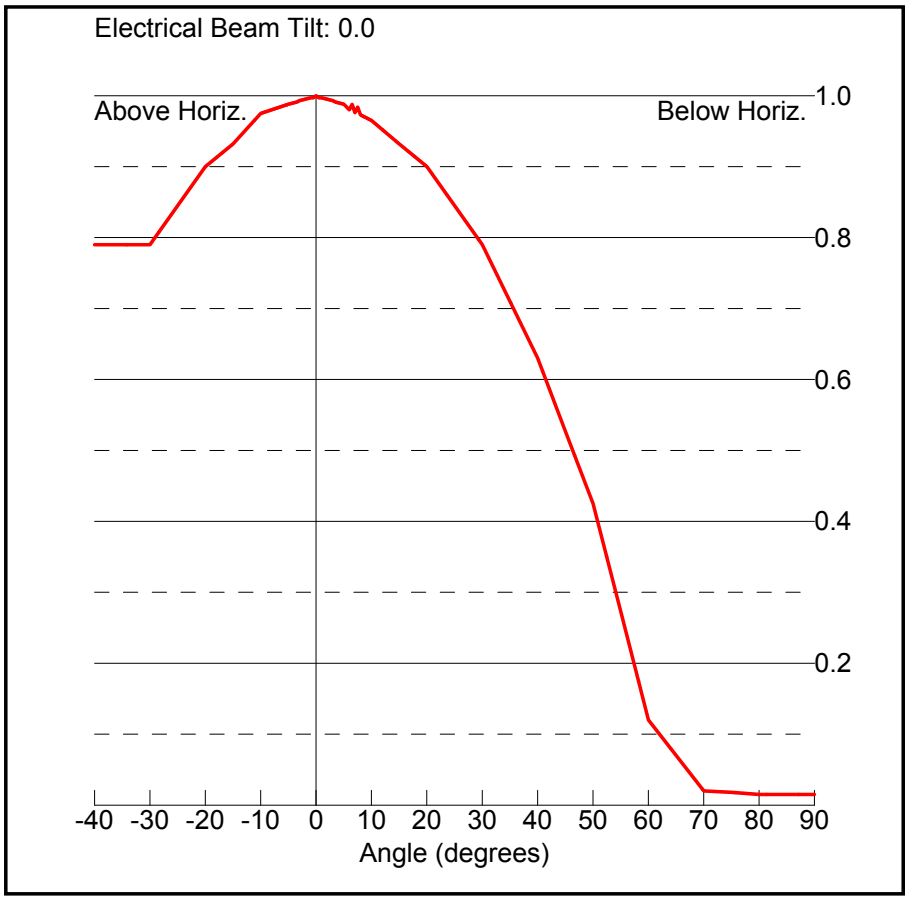


Azi	Rel	dBk	kW	dB
0	1.000	-10.00	0.100	0.00
10	0.947	-10.47	0.090	-0.47
20	0.812	-11.81	0.066	-1.81
30	0.622	-14.12	0.039	-4.12
40	0.361	-18.85	0.013	-8.85
50	0.086	-31.31	0.001	-21.31
60	0.010	-50.00	0.000	-40.00
70	0.010	-50.00	0.000	-40.00
80	0.010	-50.00	0.000	-40.00
90	0.010	-50.00	0.000	-40.00
100	0.010	-50.00	0.000	-40.00
110	0.010	-50.00	0.000	-40.00
120	0.010	-50.00	0.000	-40.00
130	0.010	-50.00	0.000	-40.00
140	0.010	-50.00	0.000	-40.00
150	0.010	-50.00	0.000	-40.00
160	0.010	-50.00	0.000	-40.00
170	0.010	-50.00	0.000	-40.00

Azi	Rel	dBk	kW	dB
180	0.010	-50.00	0.000	-40.00
190	0.010	-50.00	0.000	-40.00
200	0.010	-50.00	0.000	-40.00
210	0.010	-50.00	0.000	-40.00
220	0.010	-50.00	0.000	-40.00
230	0.010	-50.00	0.000	-40.00
240	0.010	-50.00	0.000	-40.00
250	0.010	-50.00	0.000	-40.00
260	0.010	-50.00	0.000	-40.00
270	0.010	-50.00	0.000	-40.00
280	0.010	-50.00	0.000	-40.00
290	0.010	-50.00	0.000	-40.00
300	0.010	-50.00	0.000	-40.00
310	0.086	-31.31	0.001	-21.31
320	0.361	-18.85	0.013	-8.85
330	0.622	-14.12	0.039	-4.12
340	0.812	-11.81	0.066	-1.81
350	0.947	-10.47	0.090	-0.47

Rotation Angle = 0

Fulks Run Vertical Elevation Pattern



Angle (deg)	Relative Field
-30.0	0.79
-25.0	0.845
-20.0	0.9
-15.0	0.932
-10.0	0.975
-5.0	0.988
-4.5	0.989
-4.0	0.99
-3.5	0.991
-3.0	0.993
-2.5	0.994
-2.0	0.995
-1.5	0.996
-1.0	0.997
-0.5	0.997
0.0	1.0
0.5	0.997
1.0	0.997
1.5	0.996
2.5	0.994
3.0	0.993
3.5	0.991
4.0	0.99
4.5	0.989
5.0	0.988
5.5	0.984
6.0	0.98
6.5	0.988
7.0	0.976
7.5	0.984
8.0	0.973
8.5	0.971
9.0	0.969
9.5	0.967
10.0	0.965
15.0	0.932
20.0	0.9
25.0	0.845
30.0	0.79
35.0	0.71
40.0	0.63
45.0	0.527
50.0	0.425
55.0	0.273
60.0	0.12
65.0	0.07
70.0	0.02
75.0	0.018
80.0	0.015
85.0	0.015
90.0	0.015

12/21/2011

KATHREIN
SCALA DIVISION

CL-1469B

UHF-TV LOG-PERIODIC ANTENNA

8 dBd gain

470–862 MHz (Channels 14–69*)

The Kathrein Scala Division CL-1469B is a ruggedly built, linearly polarized log-periodic antenna designed for professional UHF-TV transmit and receive applications.

Like all Kathrein Scala Division antennas, the CL-1469B is made of the finest materials using state of the art electrical and mechanical designs resulting in superior performance and long service life. The rugged fiberglass radome protects the antenna from icing and assures stable pattern and gain performance under adverse environmental conditions.

The CL-1469B may be used stand alone or in arrays for higher gain, increased side-lobe suppression, or custom azimuth patterns.

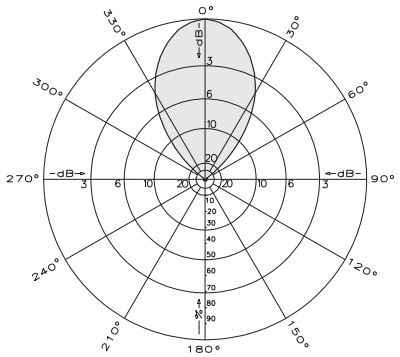
*The CL-1469B covers all 6, 7, and 8 MHz UHF-TV channels worldwide (bands IV/V).

(Shown horizontally polarized)

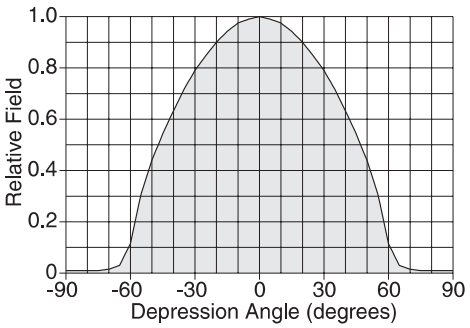
Specifications:

Frequency range	470–862 MHz (broadband)*
Gain	8 dBd
Power gain	6.31
Impedance	50 or 75 ohms
VSWR	< 1.5:1
Polarization	Horizontal or vertical
Front-to-back ratio	>35 dB
Maximum input power	100 watts, type "N" 75 ohm connector 250 watts, type "N" 50 ohm connector
Azimuth pattern	52 degrees (half-power)
Elevation pattern	72 degrees (half-power)
Connector	N female (50 or 75 ohms)
Weight	22 lb (10 kg)
Dimensions	29 x 17 x 12 inches (737 x 432 x 305 mm)
Equivalent flat plate area	2.78 ft^2 (.258 m^2)
Wind survival rating*	100 mph (160 kph)
Shipping dimensions	31 x 20 x 14.5 inches (787 x 508 x 368 mm)
Shipping weight	28.0 lb (12.7 kg)
Mounting	Mounting kits available for masts of 2.375 to 4.5 inch (60 to 114 mm) OD.
See reverse for order information.	

* Mechanical design is based on environmental conditions as stipulated in EIA-222-F (June 1996) and/or ETS 300 019-1-4 which include the static mechanical load imposed on an antenna by wind at maximum velocity. See the Engineering Section of the catalog for further details.



Azimuth pattern (E-plane)



Elevation pattern (H-plane)

10276-C

Kathrein Inc., Scala Division Post Office Box 4580 Medford, OR 97501 (USA) Phone: (541) 779-6500 Fax: (541) 779-6575
Email: broadcast@kathrein.com Internet: www.kathrein-scala.com

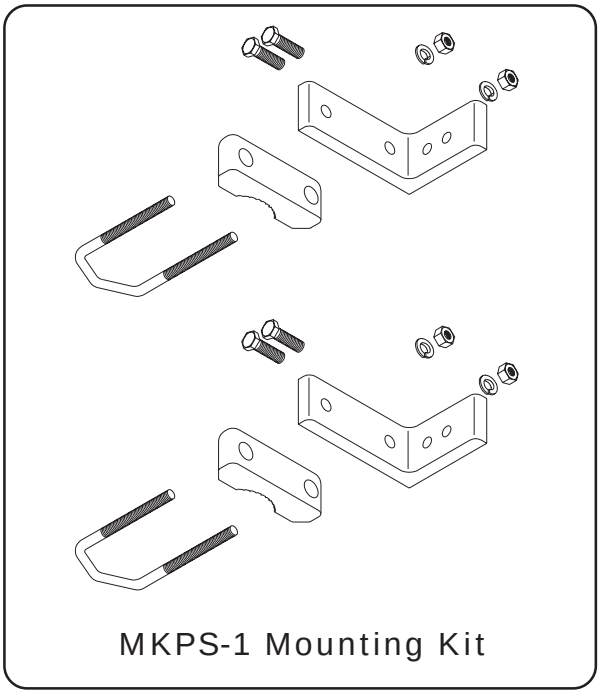
KATHREIN
SCALA DIVISION

CL-1469B

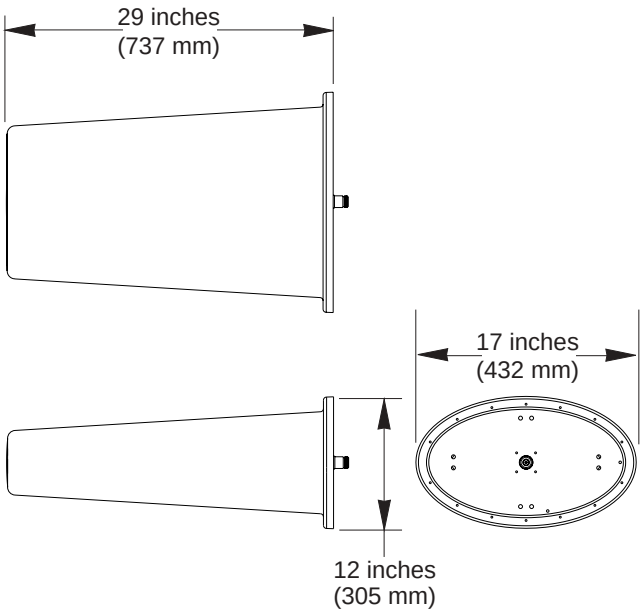
UHF-TV LOG-PERIODIC ANTENNA

8 dBd gain

470–862 MHz (Channels 14–69*)



MKPS-1 Mounting Kit



(Shown horizontally polarized)

Mounting Options:

Model	Description
MKPS-1 (shown)	Mounting Kit for 2.375 inch (60 mm) OD mast.
MKPS-2	Mounting Kit for 2.875 inch (73 mm) OD mast.
MKPS-3	Mounting Kit for 3.5 inch (89 mm) OD mast.
MKPS-4	Mounting Kit for 4 inch (102 mm) OD mast.
MKPS-5	Mounting Kit for 4.5 inch (114 mm) OD mast.

Order Information:

Model	Description
CL-1469B/50	Antenna with 50 Ω N connector
CL-1469B/75	Antenna with 75 Ω N connector
Note:	*Requires mounting kit at additional cost (see listing above).*

Kathrein Inc., Scala Division Post Office Box 4580 Medford, OR 97501 (USA) Phone: (541) 779-6500 Fax: (541) 779-6575
Email: broadcast@kathrein.com Internet: www.kathrein-scala.com

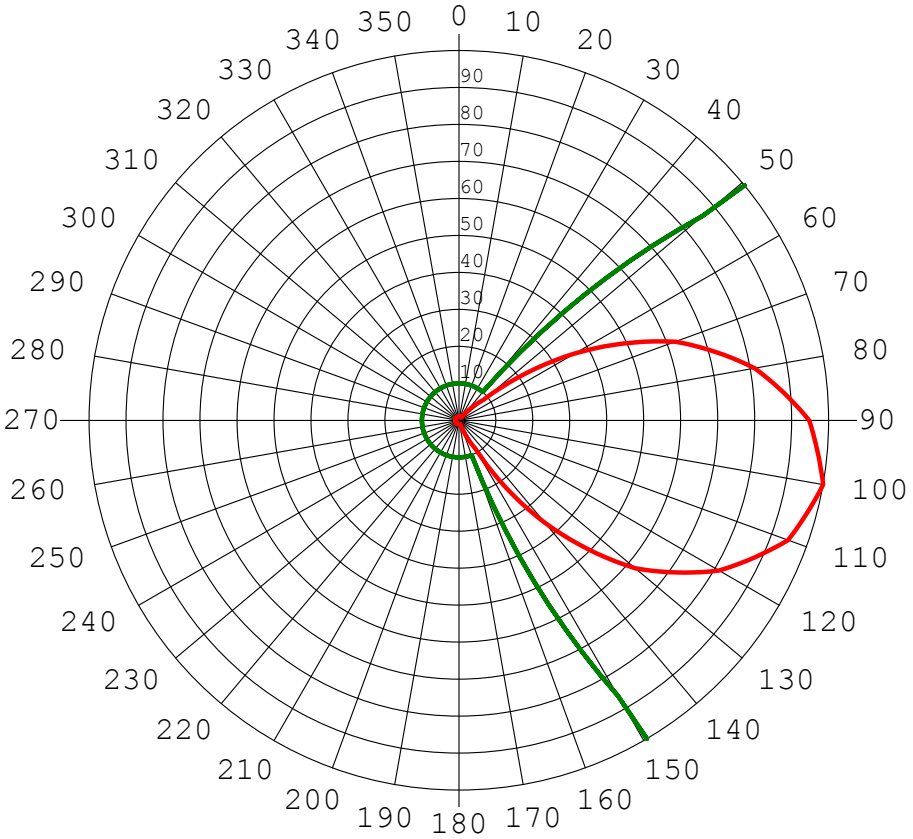
N. Lat. = 383631.0 W. Lng. = 785407.0
HAAT and Distance to Contour,
FCC OET,TV 3.2 - 16.1, 130 pts - USGS 03 SEC

Fulks Run - Distance to Contour - Depression Angle

Azi.	AV EL	HAAT	ERP kW	dBk	Field	DAng	VFld	D-kW	%Max	D-dBk	41-F9
000	560.4	119.6	0.1000	-10.00	1.000	0.303	0.998	0.0996	99.8	-10.00	30.77
010	454.6	225.4	0.0897	-10.47	0.947	0.416	0.998	0.0892	99.8	-10.47	36.71
020	445.5	234.5	0.0659	-11.81	0.812	0.424	0.997	0.0656	99.7	-11.81	35.56
030	415.4	264.6	0.0387	-14.12	0.622	0.451	0.997	0.0385	99.7	-14.12	34.14
040	495.8	184.2	0.0130	-18.85	0.361	0.376	0.998	0.0130	99.8	-18.85	24.33
050	405.1	274.9	0.0007	-31.31	0.086	0.459	0.997	0.0007	99.7	-31.31	14.79
060	366.8	313.2	0.0000	-50.00	0.010	0.490	0.997	0.0000	99.7	-50.00	4.48
070	345.2	334.8	0.0000	-50.00	0.010	0.507	0.997	0.0000	99.7	-50.00	4.58
080	346.1	333.9	0.0000	-50.00	0.010	0.506	0.997	0.0000	99.7	-50.00	4.57
090	361.4	318.6	0.0000	-50.00	0.010	0.494	0.997	0.0000	99.7	-50.00	4.51
100	369.5	310.5	0.0000	-50.00	0.010	0.488	0.997	0.0000	99.7	-50.00	4.47
110	372.4	307.6	0.0000	-50.00	0.010	0.486	0.997	0.0000	99.7	-50.00	4.46
120	379.4	300.6	0.0000	-50.00	0.010	0.480	0.997	0.0000	99.7	-50.00	4.43
130	389.6	290.4	0.0000	-50.00	0.010	0.472	0.997	0.0000	99.7	-50.00	4.38
140	402.0	278.0	0.0000	-50.00	0.010	0.462	0.997	0.0000	99.7	-50.00	4.32
150	411.3	268.7	0.0000	-50.00	0.010	0.454	0.997	0.0000	99.7	-50.00	4.27
160	423.5	256.5	0.0000	-50.00	0.010	0.444	0.997	0.0000	99.7	-50.00	4.20
170	428.4	251.6	0.0000	-50.00	0.010	0.439	0.997	0.0000	99.7	-50.00	4.18
180	439.1	240.9	0.0000	-50.00	0.010	0.430	0.997	0.0000	99.7	-50.00	4.11
190	467.6	212.4	0.0000	-50.00	0.010	0.404	0.998	0.0000	99.8	-50.00	3.93
200	472.9	207.1	0.0000	-50.00	0.010	0.399	0.998	0.0000	99.8	-50.00	3.89
210	492.6	187.4	0.0000	-50.00	0.010	0.379	0.998	0.0000	99.8	-50.00	3.76
220	626.2	53.8	0.0000	-50.00	0.010	0.203	0.999	0.0000	99.9	-50.00	2.34
230	625.2	54.8	0.0000	-50.00	0.010	0.205	0.999	0.0000	99.9	-50.00	2.36
240	678.9	1.1	0.0000	-50.00	0.010	0.029	1.000	0.0000	100.0	-50.00	1.71
250	661.5	18.5	0.0000	-50.00	0.010	0.119	0.999	0.0000	99.9	-50.00	1.71
260	645.5	34.5	0.0000	-50.00	0.010	0.163	0.999	0.0000	99.9	-50.00	1.85
270	670.1	9.9	0.0000	-50.00	0.010	0.087	0.999	0.0000	99.9	-50.00	1.71
280	651.5	28.5	0.0000	-50.00	0.010	0.148	0.999	0.0000	99.9	-50.00	1.71
290	604.6	75.4	0.0000	-50.00	0.010	0.241	0.999	0.0000	99.9	-50.00	2.66
300	547.6	132.4	0.0000	-50.00	0.010	0.319	0.998	0.0000	99.8	-50.00	3.32
310	585.5	94.5	0.0007	-31.31	0.086	0.269	0.998	0.0007	99.8	-31.31	8.77
320	600.1	79.9	0.0130	-18.85	0.361	0.248	0.999	0.0130	99.9	-18.85	16.19
330	512.5	167.5	0.0387	-14.12	0.622	0.359	0.998	0.0385	99.8	-14.12	28.93
340	472.4	207.6	0.0659	-11.81	0.812	0.399	0.998	0.0656	99.8	-11.81	34.09
350	431.7	248.3	0.0897	-10.47	0.947	0.436	0.997	0.0892	99.7	-10.47	37.87

Ave El= 487.72 M HAAT= 192.28 M AMSL= 680 M

Luray - Scala CL-1469

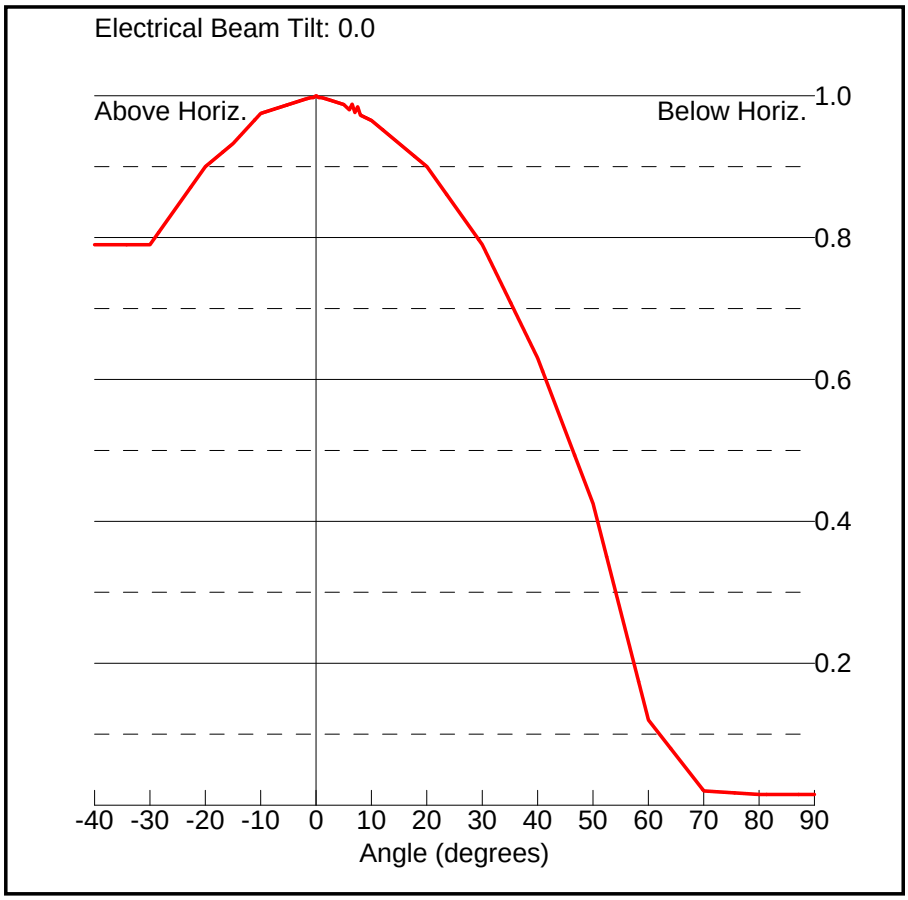


Azi	Rel	dBk	kW	dB
0	0.010	-50.09	0.000	-40.00
10	0.010	-50.09	0.000	-40.00
20	0.010	-50.09	0.000	-40.00
30	0.010	-50.09	0.000	-40.00
40	0.010	-50.09	0.000	-40.00
50	0.086	-31.40	0.001	-21.31
60	0.361	-18.94	0.013	-8.85
70	0.622	-14.21	0.038	-4.12
80	0.812	-11.90	0.065	-1.81
90	0.947	-10.56	0.088	-0.47
100	1.000	-10.09	0.098	0.00
110	0.947	-10.56	0.088	-0.47
120	0.812	-11.90	0.065	-1.81
130	0.622	-14.21	0.038	-4.12
140	0.361	-18.94	0.013	-8.85
150	0.086	-31.40	0.001	-21.31
160	0.010	-50.09	0.000	-40.00
170	0.010	-50.09	0.000	-40.00

Azi	Rel	dBk	kW	dB
180	0.010	-50.09	0.000	-40.00
190	0.010	-50.09	0.000	-40.00
200	0.010	-50.09	0.000	-40.00
210	0.010	-50.09	0.000	-40.00
220	0.010	-50.09	0.000	-40.00
230	0.010	-50.09	0.000	-40.00
240	0.010	-50.09	0.000	-40.00
250	0.010	-50.09	0.000	-40.00
260	0.010	-50.09	0.000	-40.00
270	0.010	-50.09	0.000	-40.00
280	0.010	-50.09	0.000	-40.00
290	0.010	-50.09	0.000	-40.00
300	0.010	-50.09	0.000	-40.00
310	0.010	-50.09	0.000	-40.00
320	0.010	-50.09	0.000	-40.00
330	0.010	-50.09	0.000	-40.00
340	0.010	-50.09	0.000	-40.00
350	0.010	-50.09	0.000	-40.00

Rotation Angle = 0

CL-1469 - Vertical Elevation Pattern, Luray, Ruckersville, Fulks Run



Angle (deg)	Relative Field
-30.0	0.79
-25.0	0.845
-20.0	0.9
-15.0	0.933
-10.0	0.975
-5.0	0.988
-4.5	0.989
-4.0	0.99
-3.5	0.991
-3.0	0.993
-2.5	0.994
-2.0	0.995
-1.5	0.996
-1.0	0.997
-0.5	0.997
0.0	1.0
0.5	0.997
1.0	0.997
1.5	0.996
2.5	0.994
3.0	0.993
3.5	0.991
4.0	0.99
4.5	0.989
5.0	0.988
5.5	0.984
6.0	0.98
6.5	0.988
7.0	0.976
7.5	0.984
8.0	0.973
8.5	0.971
9.0	0.969
9.5	0.967
10.0	0.965
15.0	0.933
20.0	0.9
25.0	0.845
30.0	0.79
35.0	0.71
40.0	0.63
45.0	0.527
50.0	0.425
55.0	0.273
60.0	0.12
65.0	0.07
70.0	0.02
75.0	0.018
80.0	0.015
85.0	0.015
90.0	0.015

12/21/2011

KATHREIN
SCALA DIVISION

CL-1469B

UHF-TV LOG-PERIODIC ANTENNA

8 dBd gain

470–862 MHz (Channels 14–69*)

The Kathrein Scala Division CL-1469B is a ruggedly built, linearly polarized log-periodic antenna designed for professional UHF-TV transmit and receive applications.

Like all Kathrein Scala Division antennas, the CL-1469B is made of the finest materials using state of the art electrical and mechanical designs resulting in superior performance and long service life. The rugged fiberglass radome protects the antenna from icing and assures stable pattern and gain performance under adverse environmental conditions.

The CL-1469B may be used stand alone or in arrays for higher gain, increased side-lobe suppression, or custom azimuth patterns.

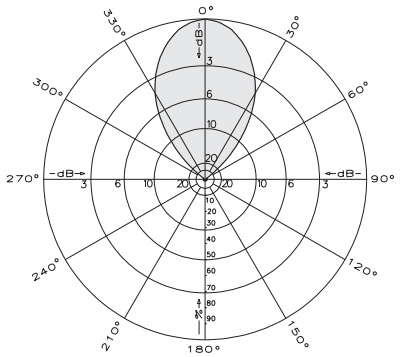
*The CL-1469B covers all 6, 7, and 8 MHz UHF-TV channels worldwide (bands IV/V).

(Shown horizontally polarized)

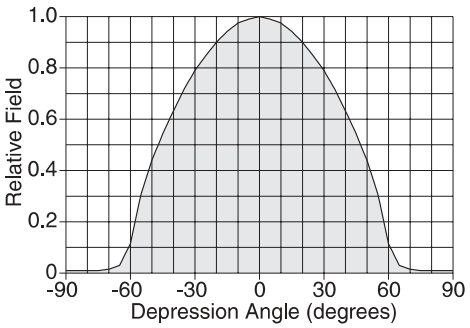
Specifications:

Frequency range	470–862 MHz (broadband)*
Gain	8 dBd
Power gain	6.31
Impedance	50 or 75 ohms
VSWR	< 1.5:1
Polarization	Horizontal or vertical
Front-to-back ratio	>35 dB
Maximum input power	100 watts, type "N" 75 ohm connector 250 watts, type "N" 50 ohm connector
Azimuth pattern	52 degrees (half-power)
Elevation pattern	72 degrees (half-power)
Connector	N female (50 or 75 ohms)
Weight	22 lb (10 kg)
Dimensions	29 x 17 x 12 inches (737 x 432 x 305 mm)
Equivalent flat plate area	2.78 ft^2 (.258 m^2)
Wind survival rating*	100 mph (160 kph)
Shipping dimensions	31 x 20 x 14.5 inches (787 x 508 x 368 mm)
Shipping weight	28.0 lb (12.7 kg)
Mounting	Mounting kits available for masts of 2.375 to 4.5 inch (60 to 114 mm) OD.
See reverse for order information.	

* Mechanical design is based on environmental conditions as stipulated in EIA-222-F (June 1996) and/or ETS 300 019-1-4 which include the static mechanical load imposed on an antenna by wind at maximum velocity. See the Engineering Section of the catalog for further details.



Azimuth pattern (E-plane)



Elevation pattern (H-plane)

10276-C

Kathrein Inc., Scala Division Post Office Box 4580 Medford, OR 97501 (USA) Phone: (541) 779-6500 Fax: (541) 779-6575
Email: broadcast@kathrein.com Internet: www.kathrein-scala.com

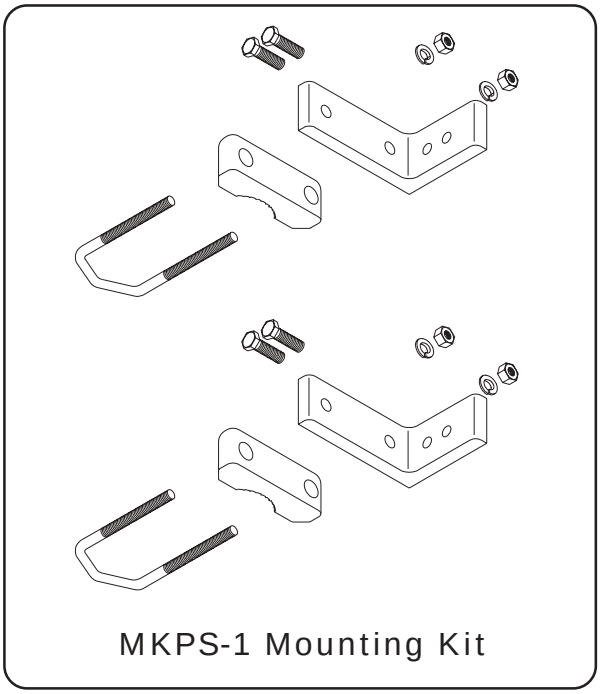
KATHREIN
SCALA DIVISION

CL-1469B

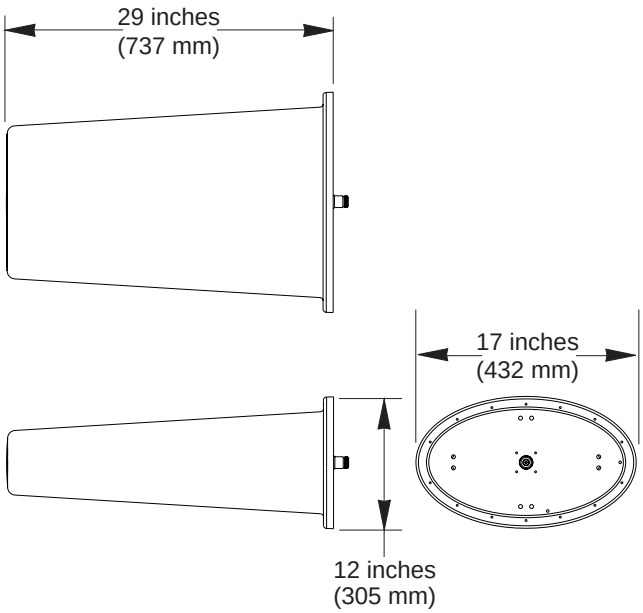
UHF-TV LOG-PERIODIC ANTENNA

8 dBd gain

470–862 MHz (Channels 14–69*)



MKPS-1 Mounting Kit



(Shown horizontally polarized)

Mounting Options:

Model	Description
MKPS-1 (shown)	Mounting Kit for 2.375 inch (60 mm) OD mast.
MKPS-2	Mounting Kit for 2.875 inch (73 mm) OD mast.
MKPS-3	Mounting Kit for 3.5 inch (89 mm) OD mast.
MKPS-4	Mounting Kit for 4 inch (102 mm) OD mast.
MKPS-5	Mounting Kit for 4.5 inch (114 mm) OD mast.

Order Information:

Model	Description
CL-1469B/50	Antenna with 50 Ω N connector
CL-1469B/75	Antenna with 75 Ω N connector
Note:	*Requires mounting kit at additional cost (see listing above).*

Kathrein Inc., Scala Division Post Office Box 4580 Medford, OR 97501 (USA) Phone: (541) 779-6500 Fax: (541) 779-6575
Email: broadcast@kathrein.com Internet: www.kathrein-scala.com

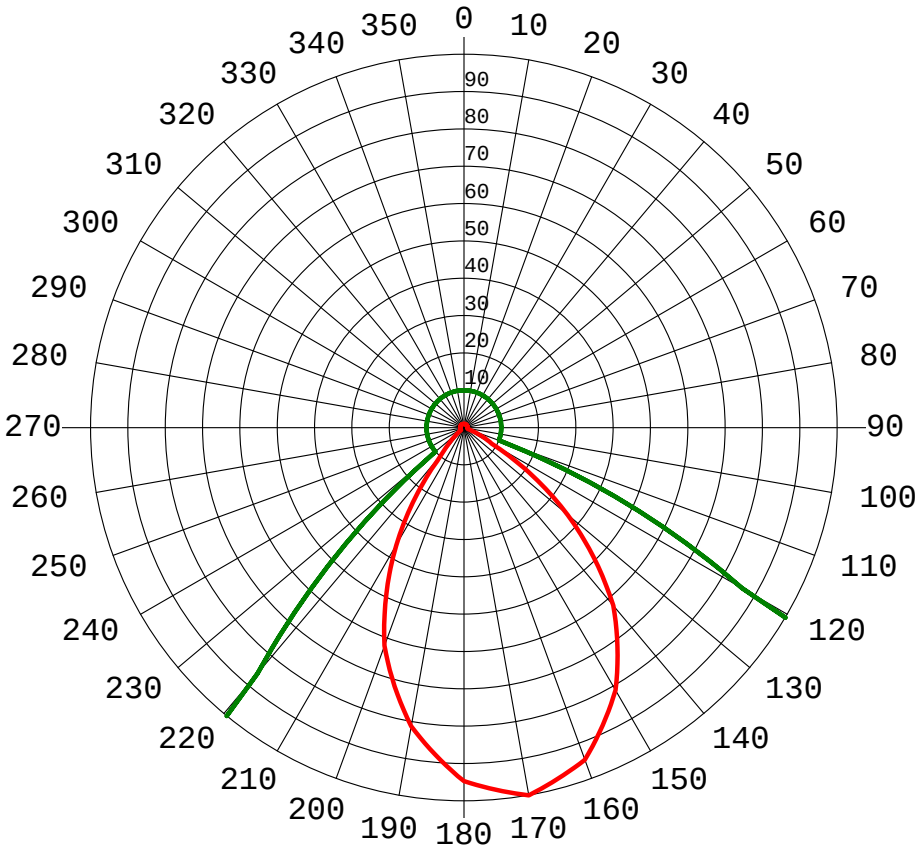
N. Lat. = 383605.0 W. Lng. = 783758.0
HAAT and Distance to Contour,
FCC OET,TV 3.2 - 16.1, 130 pts - USGS 03 SEC

Luray - Distance to Contour & Depression Angle

Azi.	AV EL	HAAT	ERP kW	dBk	Field	DAng	VFld	D-kW	%Max	D-dBk	41-F9
000	311.1	646.9	0.0000	-50.09	0.010	0.705	0.997	0.0000	99.7	-50.09	5.33
010	419.3	538.7	0.0000	-50.09	0.010	0.643	0.997	0.0000	99.7	-50.09	5.19
020	615.7	342.3	0.0000	-50.09	0.010	0.512	0.997	0.0000	99.7	-50.09	4.57
030	578.5	379.5	0.0000	-50.09	0.010	0.540	0.997	0.0000	99.7	-50.09	4.71
040	424.8	533.2	0.0000	-50.09	0.010	0.640	0.997	0.0000	99.7	-50.09	5.18
050	283.2	674.8	0.0007	-31.40	0.086	0.720	0.997	0.0007	99.7	-31.40	22.03
060	277.7	680.3	0.0128	-18.94	0.361	0.722	0.997	0.0127	99.7	-18.94	38.76
070	275.5	682.5	0.0379	-14.21	0.622	0.724	0.997	0.0377	99.7	-14.21	45.33
080	276.9	681.1	0.0646	-11.90	0.812	0.723	0.997	0.0642	99.7	-11.90	48.62
090	294.9	663.1	0.0879	-10.56	0.947	0.713	0.997	0.0874	99.7	-10.56	50.28
100	298.2	659.8	0.0980	-10.09	1.000	0.712	0.997	0.0974	99.7	-10.09	50.93
110	331.0	627.0	0.0879	-10.56	0.947	0.694	0.997	0.0874	99.7	-10.56	49.73
120	384.2	573.8	0.0646	-11.90	0.812	0.664	0.997	0.0642	99.7	-11.90	47.10
130	435.7	522.3	0.0379	-14.21	0.622	0.633	0.997	0.0377	99.7	-14.21	42.77
140	435.5	522.5	0.0128	-18.94	0.361	0.633	0.997	0.0127	99.7	-18.94	36.08
150	409.3	548.7	0.0007	-31.40	0.086	0.649	0.997	0.0007	99.7	-31.40	20.75
160	334.3	623.7	0.0000	-50.09	0.010	0.692	0.997	0.0000	99.7	-50.09	5.30
170	322.7	635.3	0.0000	-50.09	0.010	0.698	0.997	0.0000	99.7	-50.09	5.31
180	308.8	649.2	0.0000	-50.09	0.010	0.706	0.997	0.0000	99.7	-50.09	5.33
190	417.7	540.3	0.0000	-50.09	0.010	0.644	0.997	0.0000	99.7	-50.09	5.20
200	670.0	288.0	0.0000	-50.09	0.010	0.470	0.997	0.0000	99.7	-50.09	4.34
210	621.2	336.8	0.0000	-50.09	0.010	0.508	0.997	0.0000	99.7	-50.09	4.55
220	459.0	499.0	0.0000	-50.09	0.010	0.619	0.997	0.0000	99.7	-50.09	5.06
230	396.8	561.2	0.0000	-50.09	0.010	0.656	0.997	0.0000	99.7	-50.09	5.24
240	358.8	599.2	0.0000	-50.09	0.010	0.678	0.997	0.0000	99.7	-50.09	5.28
250	358.6	599.4	0.0000	-50.09	0.010	0.678	0.997	0.0000	99.7	-50.09	5.28
260	358.4	599.6	0.0000	-50.09	0.010	0.678	0.997	0.0000	99.7	-50.09	5.28
270	346.2	611.8	0.0000	-50.09	0.010	0.685	0.997	0.0000	99.7	-50.09	5.29
280	337.3	620.7	0.0000	-50.09	0.010	0.690	0.997	0.0000	99.7	-50.09	5.30
290	324.1	633.9	0.0000	-50.09	0.010	0.697	0.997	0.0000	99.7	-50.09	5.31
300	333.3	624.7	0.0000	-50.09	0.010	0.692	0.997	0.0000	99.7	-50.09	5.30
310	342.5	615.5	0.0000	-50.09	0.010	0.687	0.997	0.0000	99.7	-50.09	5.29
320	335.1	622.9	0.0000	-50.09	0.010	0.691	0.997	0.0000	99.7	-50.09	5.30
330	317.5	640.5	0.0000	-50.09	0.010	0.701	0.997	0.0000	99.7	-50.09	5.32
340	309.8	648.2	0.0000	-50.09	0.010	0.705	0.997	0.0000	99.7	-50.09	5.33
350	302.0	656.0	0.0000	-50.09	0.010	0.709	0.997	0.0000	99.7	-50.09	5.34

Ave El= 377.94 M HAAT= 580.06 M AMSL= 958 M

Ruckersville - Scala CL-1469 Horizontal Azimuth Pattern

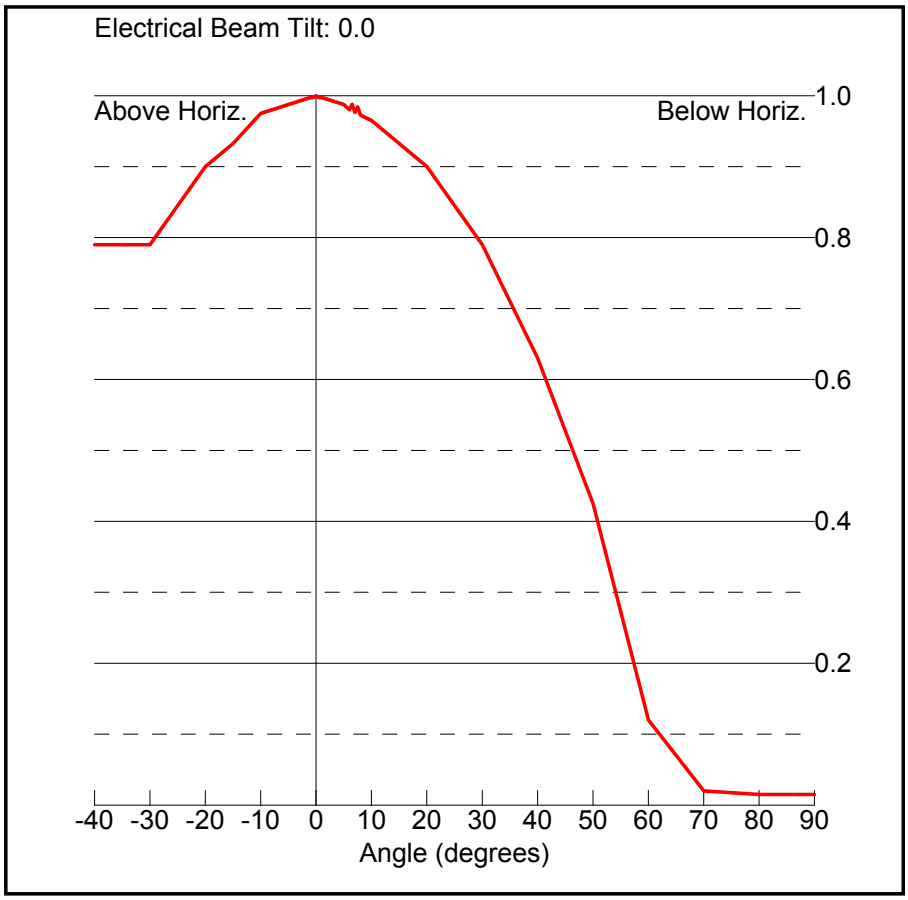


Azi	Rel	dBk	kW	dB
0	1.000	-14.09	0.039	0.00
10	0.947	-14.56	0.035	-0.47
20	0.812	-15.90	0.026	-1.81
30	0.622	-18.21	0.015	-4.12
40	0.361	-22.94	0.005	-8.85
50	0.086	-35.40	0.000	-21.31
60	0.010	-54.09	0.000	-40.00
70	0.010	-54.09	0.000	-40.00
80	0.010	-54.09	0.000	-40.00
90	0.010	-54.09	0.000	-40.00
100	0.010	-54.09	0.000	-40.00
110	0.010	-54.09	0.000	-40.00
120	0.010	-54.09	0.000	-40.00
130	0.010	-54.09	0.000	-40.00
140	0.010	-54.09	0.000	-40.00
150	0.010	-54.09	0.000	-40.00
160	0.010	-54.09	0.000	-40.00
170	0.010	-54.09	0.000	-40.00

Azi	Rel	dBk	kW	dB
180	0.010	-54.09	0.000	-40.00
190	0.010	-54.09	0.000	-40.00
200	0.010	-54.09	0.000	-40.00
210	0.010	-54.09	0.000	-40.00
220	0.010	-54.09	0.000	-40.00
230	0.010	-54.09	0.000	-40.00
240	0.010	-54.09	0.000	-40.00
250	0.010	-54.09	0.000	-40.00
260	0.010	-54.09	0.000	-40.00
270	0.010	-54.09	0.000	-40.00
280	0.010	-54.09	0.000	-40.00
290	0.010	-54.09	0.000	-40.00
300	0.010	-54.09	0.000	-40.00
310	0.086	-35.40	0.000	-21.31
320	0.361	-22.94	0.005	-8.85
330	0.622	-18.21	0.015	-4.12
340	0.812	-15.90	0.026	-1.81
350	0.947	-14.56	0.035	-0.47

Rotation Angle = 170

CL-1469 - Vertical Elevation Pattern, Ruckersville



Angle (deg)	Relative Field
-30.0	0.79
-25.0	0.845
-20.0	0.9
-15.0	0.933
-10.0	0.975
-5.0	0.988
-4.5	0.989
-4.0	0.99
-3.5	0.991
-3.0	0.993
-2.5	0.994
-2.0	0.995
-1.5	0.996
-1.0	0.997
-0.5	0.997
0.0	1.0
0.5	0.997
1.0	0.997
1.5	0.996
2.5	0.994
3.0	0.993
3.5	0.991
4.0	0.99
4.5	0.989
5.0	0.988
5.5	0.984
6.0	0.98
6.5	0.988
7.0	0.976
7.5	0.984
8.0	0.973
8.5	0.971
9.0	0.969
9.5	0.967
10.0	0.965
15.0	0.933
20.0	0.9
25.0	0.845
30.0	0.79
35.0	0.71
40.0	0.63
45.0	0.527
50.0	0.425
55.0	0.273
60.0	0.12
65.0	0.07
70.0	0.02
75.0	0.018
80.0	0.015
85.0	0.015
90.0	0.015

12/21/2011

KATHREIN
SCALA DIVISION

CL-1469B

UHF-TV LOG-PERIODIC ANTENNA

8 dBd gain

470–862 MHz (Channels 14–69*)

The Kathrein Scala Division CL-1469B is a ruggedly built, linearly polarized log-periodic antenna designed for professional UHF-TV transmit and receive applications.

Like all Kathrein Scala Division antennas, the CL-1469B is made of the finest materials using state of the art electrical and mechanical designs resulting in superior performance and long service life. The rugged fiberglass radome protects the antenna from icing and assures stable pattern and gain performance under adverse environmental conditions.

The CL-1469B may be used stand alone or in arrays for higher gain, increased side-lobe suppression, or custom azimuth patterns.

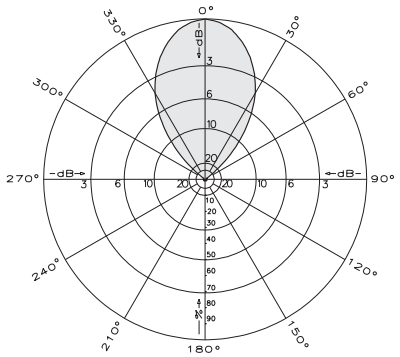
*The CL-1469B covers all 6, 7, and 8 MHz UHF-TV channels worldwide (bands IV/V).

(Shown horizontally polarized)

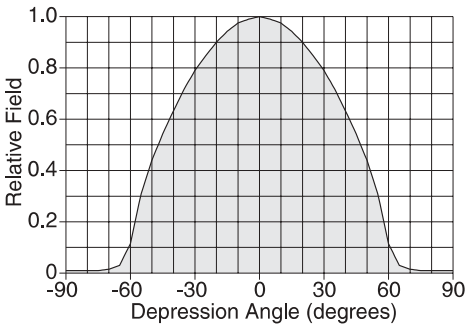
Specifications:

Frequency range	470–862 MHz (broadband)*
Gain	8 dBd
Power gain	6.31
Impedance	50 or 75 ohms
VSWR	< 1.5:1
Polarization	Horizontal or vertical
Front-to-back ratio	>35 dB
Maximum input power	100 watts, type "N" 75 ohm connector 250 watts, type "N" 50 ohm connector
Azimuth pattern	52 degrees (half-power)
Elevation pattern	72 degrees (half-power)
Connector	N female (50 or 75 ohms)
Weight	22 lb (10 kg)
Dimensions	29 x 17 x 12 inches (737 x 432 x 305 mm)
Equivalent flat plate area	2.78 ft^2 (.258 m^2)
Wind survival rating*	100 mph (160 kph)
Shipping dimensions	31 x 20 x 14.5 inches (787 x 508 x 368 mm)
Shipping weight	28.0 lb (12.7 kg)
Mounting	Mounting kits available for masts of 2.375 to 4.5 inch (60 to 114 mm) OD.
See reverse for order information.	

* Mechanical design is based on environmental conditions as stipulated in EIA-222-F (June 1996) and/or ETS 300 019-1-4 which include the static mechanical load imposed on an antenna by wind at maximum velocity. See the Engineering Section of the catalog for further details.



Azimuth pattern (E-plane)



Elevation pattern (H-plane)

10276-C

Kathrein Inc., Scala Division Post Office Box 4580 Medford, OR 97501 (USA) Phone: (541) 779-6500 Fax: (541) 779-6575
Email: broadcast@kathrein.com Internet: www.kathrein-scala.com

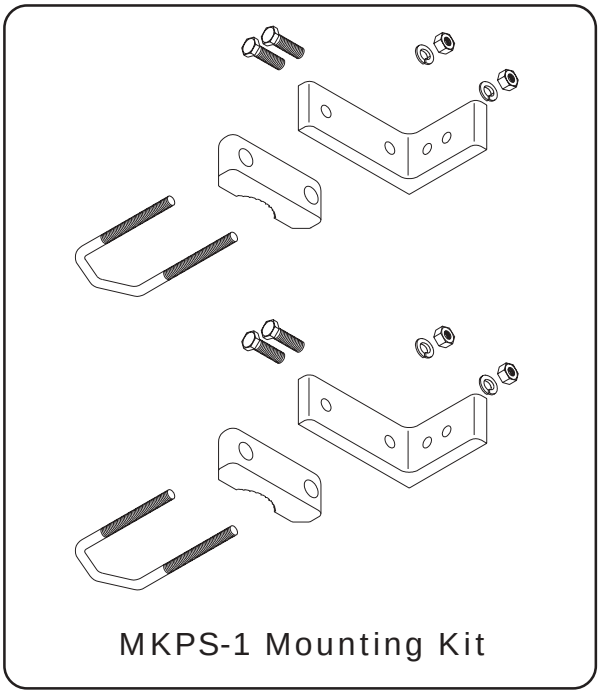
KATHREIN
SCALA DIVISION

CL-1469B

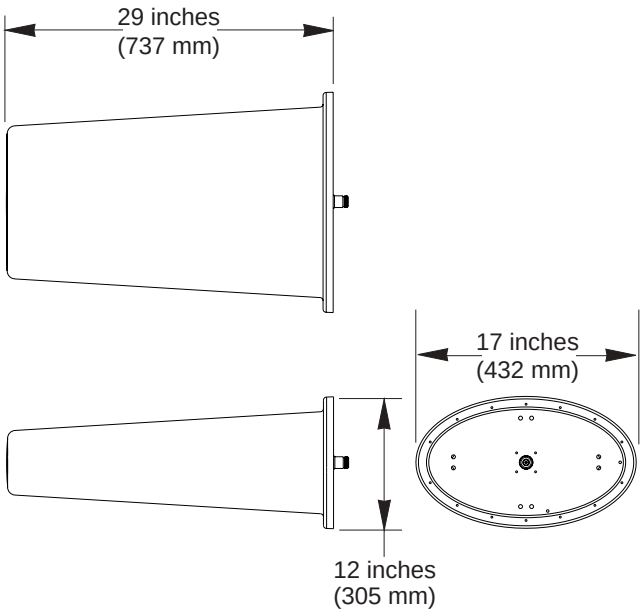
UHF-TV LOG-PERIODIC ANTENNA

8 dBd gain

470–862 MHz (Channels 14–69*)



MKPS-1 Mounting Kit



(Shown horizontally polarized)

Mounting Options:

Model	Description
MKPS-1 (shown)	Mounting Kit for 2.375 inch (60 mm) OD mast.
MKPS-2	Mounting Kit for 2.875 inch (73 mm) OD mast.
MKPS-3	Mounting Kit for 3.5 inch (89 mm) OD mast.
MKPS-4	Mounting Kit for 4 inch (102 mm) OD mast.
MKPS-5	Mounting Kit for 4.5 inch (114 mm) OD mast.

Order Information:

Model	Description
CL-1469B/50	Antenna with 50 Ω N connector
CL-1469B/75	Antenna with 75 Ω N connector
Note:	*Requires mounting kit at additional cost (see listing above).*

Kathrein Inc., Scala Division Post Office Box 4580 Medford, OR 97501 (USA) Phone: (541) 779-6500 Fax: (541) 779-6575
Email: broadcast@kathrein.com Internet: www.kathrein-scala.com

N. Lat. = 382843.0 W. Lng. = 782458.0
HAAT and Distance to Contour,
FCC OET,TV 3.2 - 16.1, 130 pts - USGS 03 SEC

Ruckersville - Distance to Contour - Depression Angle

Azi.	AV EL	HAAT	ERP kW	dBk	Field	DAng	VFld	D-kW	%Max	D-dBk	41-F9
000	675.2	514.8	0.0000	-54.09	0.010	0.629	0.997	0.0000	99.7	-54.09	3.49
010	843.9	346.1	0.0000	-54.09	0.010	0.515	0.997	0.0000	99.7	-54.09	3.21
020	911.0	279.0	0.0000	-54.09	0.010	0.463	0.997	0.0000	99.7	-54.09	3.09
030	700.6	489.4	0.0000	-54.09	0.010	0.613	0.997	0.0000	99.7	-54.09	3.45
040	493.7	696.3	0.0000	-54.09	0.010	0.731	0.997	0.0000	99.7	-54.09	3.59
050	552.1	637.9	0.0000	-54.09	0.010	0.700	0.997	0.0000	99.7	-54.09	3.56
060	371.0	819.0	0.0000	-54.09	0.010	0.793	0.997	0.0000	99.7	-54.09	3.64
070	305.6	884.4	0.0000	-54.09	0.010	0.824	0.997	0.0000	99.7	-54.09	3.67
080	326.7	863.3	0.0000	-54.09	0.010	0.814	0.997	0.0000	99.7	-54.09	3.66
090	344.7	845.3	0.0000	-54.09	0.010	0.805	0.997	0.0000	99.7	-54.09	3.65
100	279.3	910.7	0.0000	-54.09	0.010	0.836	0.997	0.0000	99.7	-54.09	3.68
110	268.0	922.0	0.0000	-54.09	0.010	0.841	0.997	0.0000	99.7	-54.09	3.69
120	316.0	874.0	0.0003	-35.40	0.086	0.819	0.997	0.0003	99.7	-35.40	19.74
130	374.7	815.3	0.0051	-22.94	0.361	0.791	0.997	0.0051	99.7	-22.94	35.34
140	308.6	881.4	0.0151	-18.21	0.622	0.822	0.997	0.0150	99.7	-18.21	42.98
150	375.6	814.4	0.0257	-15.90	0.812	0.791	0.997	0.0256	99.7	-15.90	45.17
160	366.2	823.8	0.0350	-14.56	0.947	0.795	0.997	0.0348	99.7	-14.56	47.25
170	397.3	792.7	0.0390	-14.09	1.000	0.780	0.997	0.0388	99.7	-14.09	47.38
180	489.4	700.6	0.0350	-14.56	0.947	0.733	0.997	0.0348	99.7	-14.56	45.12
190	409.6	780.4	0.0257	-15.90	0.812	0.774	0.997	0.0256	99.7	-15.90	44.59
200	473.5	716.5	0.0151	-18.21	0.622	0.741	0.997	0.0150	99.7	-18.21	40.33
210	713.2	476.8	0.0051	-22.94	0.361	0.605	0.997	0.0051	99.7	-22.94	29.18
220	885.8	304.2	0.0003	-35.40	0.086	0.483	0.997	0.0003	99.7	-35.40	12.06
230	758.1	431.9	0.0000	-54.09	0.010	0.576	0.997	0.0000	99.7	-54.09	3.35
240	618.6	571.4	0.0000	-54.09	0.010	0.662	0.997	0.0000	99.7	-54.09	3.53
250	563.8	626.2	0.0000	-54.09	0.010	0.693	0.997	0.0000	99.7	-54.09	3.56
260	539.6	650.4	0.0000	-54.09	0.010	0.706	0.997	0.0000	99.7	-54.09	3.57
270	596.4	593.6	0.0000	-54.09	0.010	0.675	0.997	0.0000	99.7	-54.09	3.54
280	606.3	583.7	0.0000	-54.09	0.010	0.669	0.997	0.0000	99.7	-54.09	3.54
290	659.1	530.9	0.0000	-54.09	0.010	0.638	0.997	0.0000	99.7	-54.09	3.50
300	616.7	573.3	0.0000	-54.09	0.010	0.663	0.997	0.0000	99.7	-54.09	3.53
310	596.5	593.5	0.0000	-54.09	0.010	0.675	0.997	0.0000	99.7	-54.09	3.54
320	529.6	660.4	0.0000	-54.09	0.010	0.712	0.997	0.0000	99.7	-54.09	3.57
330	542.5	647.5	0.0000	-54.09	0.010	0.705	0.997	0.0000	99.7	-54.09	3.57
340	574.1	615.9	0.0000	-54.09	0.010	0.687	0.997	0.0000	99.7	-54.09	3.55
350	592.3	597.7	0.0000	-54.09	0.010	0.677	0.997	0.0000	99.7	-54.09	3.54

Ave El= 527.10 M HAAT= 662.90 M AMSL= 1190 M

-40	0.037
-39.5	0.033
-39	0.026
-38.5	0.019
-38	0.018
-37.5	0.025
-37	0.035
-36.5	0.043
-36	0.048
-35	0.043
-34.5	0.035
-34	0.028
-33.5	0.03
-33	0.041
-32.5	0.055
-32	0.068
-31.5	0.076
-31	0.078
-30.5	0.074
-30	0.064
-29.5	0.049
-29	0.032
-28.5	0.015
-28	0.001
-27.5	0.013
-27	0.019
-26	0.018
-25.5	0.017
-25	0.023
-24.5	0.032
-24	0.039
-23.5	0.043
-23	0.041
-22.5	0.034
-22	0.026
-21.5	0.025
-21	0.036
-20.5	0.048
-20	0.056
-19.5	0.056
-19	0.048
-18.5	0.034
-18	0.024
-17.5	0.036
-17	0.059
-16.5	0.077
-16	0.085
-15.5	0.081
-15	0.063

-14.5	0.035
-14	0.022
-13.5	0.056
-13	0.092
-12.5	0.12
-12	0.132
-11.5	0.125
-11	0.1
-10.5	0.062
-10	0.036
-9.5	0.068
-9	0.112
-8.5	0.143
-8	0.153
-7.5	0.139
-7	0.106
-6.5	0.077
-5.5	0.158
-5	0.212
-4.5	0.242
-4	0.24
-3.5	0.205
-3	0.169
-2.5	0.209
-2	0.34
-1.5	0.508
-1	0.679
-0.5	0.828
0	0.938
0.5	0.994
1	0.991
1.5	0.929
2	0.816
2.5	0.666
3	0.498
3.5	0.335
4	0.21
4.5	0.169
5	0.196
5.5	0.224
6	0.223
6.5	0.194
7	0.145
7.5	0.097
8	0.08
8.5	0.101
9	0.125
9.5	0.132
10	0.12

10.5	0.091
11	0.055
11.5	0.041
12	0.064
12.5	0.091
13	0.105
13.5	0.103
14	0.086
14.5	0.057
15	0.025
15.5	0.027
16	0.056
16.5	0.078
17	0.089
17.5	0.087
18	0.074
18.5	0.053
19	0.029
19.5	0.017
20	0.031
20.5	0.045
21	0.052
21.5	0.05
22	0.043
22.5	0.031
23	0.019
23.5	0.018
24	0.024
24.5	0.029
25	0.03
25.5	0.027
26	0.021
26.5	0.013
27	0.008
27.5	0.005
28	0.003
28.5	0.004
29	0.016
29.5	0.032
30	0.051
30.5	0.07
31	0.087
31.5	0.101
32	0.11
32.5	0.112
33	0.106
33.5	0.095
34	0.079
34.5	0.061

35	0.044
35.5	0.034
36	0.035
36.5	0.042
37	0.048
37.5	0.05
38	0.048
38.5	0.042
39	0.033
39.5	0.025
40	0.02
40.5	0.022
41	0.027
41.5	0.032
42	0.034
42.5	0.033
43	0.03
43.5	0.024
44	0.017
44.5	0.011
45	0.011
45.5	0.015
46	0.02
46.5	0.024
47	0.025
47.5	0.025
48	0.022
48.5	0.019
49	0.014
49.5	0.009
50	0.005
50.5	0.004
51	0.007
51.5	0.009
52	0.011
52.5	0.011
53	0.011
53.5	0.01
54	0.008
54.5	0.006
55	0.004
55.5	0.002
56	0.001
56.5	0.001
57	0.001
57.5	0.001
58	0.002
58.5	0.004
59	0.006

59.5	0.008
60	0.01
60.5	0.012
61	0.013
61.5	0.013
62	0.013
62.5	0.013
63	0.011
63.5	0.01
64	0.009
64.5	0.009
65	0.011
65.5	0.014
66	0.017
66.5	0.02
67	0.024
67.5	0.027
68	0.029
68.5	0.031
69	0.032
69.5	0.033
70	0.033
70.5	0.032
71	0.03
71.5	0.029
72	0.026
72.5	0.024
73	0.022
73.5	0.02
74	0.019
74.5	0.019
75	0.019
75.5	0.02
76	0.021
76.5	0.023
77	0.024
77.5	0.025
78	0.026
78.5	0.027
79	0.027
79.5	0.026
80	0.025
80.5	0.024
81	0.022
82	0.017
82.5	0.015
83	0.011
83.5	0.008
84	0.004

84.5	0.001
85	0.004
85.5	0.008
86	0.012
86.5	0.017
87	0.021
87.5	0.025
88	0.029
88.5	0.033
89	0.037
89.5	0.04
90	0.043

-30	0.79
-25	0.845
-20	0.9
-15	0.932
-10	0.975
-5	0.988
-4.5	0.989
-4	0.99
-3.5	0.991
-3	0.993
-2.5	0.994
-2	0.995
-1.5	0.996
-1	0.997
-0.5	0.997
0	1
0.5	0.997
1	0.997
1.5	0.996
2.5	0.994
3	0.993
3.5	0.991
4	0.99
4.5	0.989
5	0.988
5.5	0.984
6	0.98
6.5	0.988
7	0.976
7.5	0.984
8	0.973
8.5	0.971
9	0.969
9.5	0.967
10	0.965
15	0.932
20	0.9
25	0.845
30	0.79
35	0.71
40	0.63
45	0.527
50	0.425
55	0.273
60	0.12
65	0.07
70	0.02
75	0.018
80	0.015

85	0.015
90	0.015

-30	0.79
-25	0.845
-20	0.9
-15	0.932
-10	0.975
-5	0.988
-4.5	0.989
-4	0.99
-3.5	0.991
-3	0.993
-2.5	0.994
-2	0.995
-1.5	0.996
-1	0.997
-0.5	0.997
0	1
0.5	0.997
1	0.997
1.5	0.996
2.5	0.994
3	0.993
3.5	0.991
4	0.99
4.5	0.989
5	0.988
5.5	0.984
6	0.98
6.5	0.988
7	0.976
7.5	0.984
8	0.973
8.5	0.971
9	0.969
9.5	0.967
10	0.965
15	0.932
20	0.9
25	0.845
30	0.79
35	0.71
40	0.63
45	0.527
50	0.425
55	0.273
60	0.12
65	0.07
70	0.02
75	0.018
80	0.015

85	0.015
90	0.015

-30	0.79
-25	0.845
-20	0.9
-15	0.932
-10	0.975
-5	0.988
-4.5	0.989
-4	0.99
-3.5	0.991
-3	0.993
-2.5	0.994
-2	0.995
-1.5	0.996
-1	0.997
-0.5	0.997
0	1
0.5	0.997
1	0.997
1.5	0.996
2.5	0.994
3	0.993
3.5	0.991
4	0.99
4.5	0.989
5	0.988
5.5	0.984
6	0.98
6.5	0.988
7	0.976
7.5	0.984
8	0.973
8.5	0.971
9	0.969
9.5	0.967
10	0.965
15	0.932
20	0.9
25	0.845
30	0.79
35	0.71
40	0.63
45	0.527
50	0.425
55	0.273
60	0.12
65	0.07
70	0.02
75	0.018
80	0.015

85	0.015
90	0.015

Percent allowed new interference: 0.500
Percent allowed new interference to non Class A LPTV: 2.000
 Census data selected 2000
 Data Base Selected
 ./data_files/pt_tvdb.sff
TV INTERFERENCE and SPACING ANALYSIS PROGRAM

 Date: 12-14-2011 Time: 16:21:58

 Record Selected for Analysis (Record is a DTS)

 CVIL BPEDT -20111212ABK STAUNTON VA US
 Channel 11 ERP 0.10 kW HAAT 00328 m RCAMSL 00495 m
 Latitude 037-59-00 Longitude 0078-29-02
 Status AP Zone 1 Border Site number: 01
 Dir Antenna Make CDB Model 00000000078975 Beam tilt N Ref Azimuth 0.0
 Elevation Antenna Pattern ID: 123
 Last update 00000000 Cutoff date 00000000 Docket
 Comments
 Applicant SHENANDOAH VALLEY EDUCATIONAL TELEVI

 MONT BPEDT -20111212ABK STAUNTON VA US
 Channel 11 ERP 0.01 kW HAAT 00457 m RCAMSL 01338 m
 Latitude 038-20-39 Longitude 0079-35-47
 Status AP Zone 1 Border Site number: 02
 Dir Antenna Make CDB Model 00000000077677 Beam tilt N Ref Azimuth 345.0
 Elevation Antenna Pattern ID: 124
 Last update 00000000 Cutoff date 00000000 Docket
 Comments
 Applicant SHENANDOAH VALLEY EDUCATIONAL TELEVI

 MAIN BPEDT -20111212ABK STAUNTON VA US
 Channel 11 ERP 10.0 kW HAAT 00680 m RCAMSL 01333 m
 Latitude 038-09-54 Longitude 0079-18-51
 Status AP Zone 1 Border Site number: 03
 Dir Antenna Make CDB Model 00000000107753 Beam tilt N Ref Azimuth 0.0
 Elevation Antenna Pattern ID: 122
 Last update 00000000 Cutoff date 00000000 Docket
 Comments
 Applicant SHENANDOAH VALLEY EDUCATIONAL TELEVI

 Cell Size for Service Analysis 2.0 km/side

 Distance Increments for Longley-Rice Analysis 1.00 km

 Facility (site # 01) meets maximum height/power limits

 Facility (site # 02) meets maximum height/power limits

 Facility (site # 03) does not meet maximum height/power limits
 Channel 11 ERP = 10.00 HAAT = 680.

Site number 1			
Azimuth (Deg)	ERP (kW)	HAAT (m)	36.0 dBu F(50,90) (km)
0.0	0.098	357.1	61.1
45.0	0.029	264.2	46.6

90.0	0.000	378.9	16.9
135.0	0.001	353.7	29.6
180.0	0.000	350.8	21.3
225.0	0.001	324.8	28.5
270.0	0.000	273.5	13.9
315.0	0.029	321.6	50.0

Site number 2

Azimuth (Deg)	ERP (kW)	HAAT (m)	36.0 dBu F(50,90) (km)
0.0	0.008	401.6	44.5
45.0	0.000	268.2	13.8
90.0	0.000	570.8	20.9
135.0	0.000	651.1	23.0
180.0	0.000	580.4	21.2
225.0	0.000	497.9	19.0
270.0	0.000	386.1	17.1
315.0	0.004	320.9	34.3

Database HAAT does not agree with computed HAAT
Database HAAT: 457 Computed HAAT: 460

Site number 3

Azimuth (Deg)	ERP (kW)	HAAT (m)	36.0 dBu F(50,90) (km)
0.0	0.009	685.0	57.2
45.0	0.649	683.0	92.0
90.0	7.043	778.4	114.3
135.0	6.071	709.4	111.5
180.0	5.173	722.7	110.4
225.0	5.762	619.0	108.4
270.0	0.049	657.0	69.8
315.0	0.006	609.3	52.2

Database HAAT does not agree with computed HAAT
Database HAAT: 680 Computed HAAT: 683

Evaluation toward Class A Stations from site # 01

No Spacing violations or contour overlap
to Class A stations from site # 01

Evaluation toward Class A Stations from site # 02

No Spacing violations or contour overlap
to Class A stations from site # 02

Evaluation toward Class A Stations from site # 03

No Spacing violations or contour overlap
to Class A stations from site # 03

Class A Evaluation Complete

SPACING VIOLATION FOUND BETWEEN STATION

CVIL 11 STAUNTON VA BPEDT 20111212ABK Site # 01

and station

SHORT TO: WBAL-TV 11 BALTIMORE MD BLCDT 20090619ABW
039-20- 5 0076-39- 3
Req. separation 244.6 Actual separation 219.0 Short 25.6 km

SHORT TO: WBAL-TV 11 BALTIMORE MD BPCDT 20100429AAF
039-20- 5 0076-39- 3
Req. separation 244.6 Actual separation 219.0 Short 25.6 km

SHORT TO: WVPT 11 STAUNTON VA BPEDT 20081022ABK
038-09-54 0079-18-51
Req. separation 244.6 Actual separation 75.6 Short 169.0 km

SHORT TO: WVPT 11 STAUNTON VA DTVPLN DTVP0338
38 -09-54 79 -18-51
Req. separation 244.6 Actual separation 75.6 Short 169.0 km

SHORT TO: WVPT 11 STAUNTON VA BLEDT 20021220ADX
038-09-54 0079-18-51
Req. separation 244.6 Actual separation 75.6 Short 169.0 km

SHORT TO: WWBT 12 RICHMOND VA BLCDT 20090803ABS
037-30-23 0077-30-12
Req. separation => 20.0 <= 110.0 Actual separation 101.3 Short 8.7(81.3) km

SPACING VIOLATION FOUND BETWEEN STATION

MONT 11 STAUNTON VA BPEDT 20111212ABK Site # 02

and station

SHORT TO: WPCW 11 JEANNETTE PA BMPCDT 20080616ABM
040-29-38 0080-01- 9
Req. separation 244.6 Actual separation 241.4 Short 3.2 km

SHORT TO: WPCW 11 JEANNETTE PA BLCDT 20090626AAT
040-29-38 0080-01- 9
Req. separation 244.6 Actual separation 241.4 Short 3.2 km

SHORT TO: WVPT 11 STAUNTON VA BPEDT 20081022ABK
038-09-54 0079-18-51
Req. separation 244.6 Actual separation 31.7 Short 212.9 km

SHORT TO: WVPT 11 STAUNTON VA DTVPLN DTVP0338
38 -09-54 79 -18-51
Req. separation 244.6 Actual separation 31.7 Short 212.9 km

SHORT TO: WVPT 11 STAUNTON VA BLEDT 20021220ADX
038-09-54 0079-18-51
Req. separation 244.6 Actual separation 31.7 Short 212.9 km

SPACING VIOLATION FOUND BETWEEN STATION

MAIN 11 STAUNTON VA BPEDT 20111212ABK Site # 03

and station

SHORT TO: WVPT 11 STAUNTON VA BPEDT 20081022ABK
038-09-54 0079-18-51
Req. separation 244.6 Actual separation 0.0 Short 244.6 km

SHORT TO: WVPT 11 STAUNTON VA DTVPLN DTVP0338
38 -09-54 79 -18-51
Req. separation 244.6 Actual separation 0.0 Short 244.6 km

SHORT TO: WVPT 11 STAUNTON VA BLEDT 20021220ADX
038-09-54 0079-18-51
Req. separation 244.6 Actual separation 0.0 Short 244.6 km

Checks to Site Number 01

Proposed facility OK to FCC Monitoring Stations

Proposed facility OK toward West Virginia quiet zone

Proposed facility OK toward Table Mountain

Proposed facility is beyond the Canadian coordination distance

Proposed facility is beyond the Mexican coordination distance

Proposed station is OK toward AM broadcast stations

Checks to Site Number 02

Proposed facility OK to FCC Monitoring Stations

Proposed facility within West Virginia quiet zone

Proposed facility OK toward Table Mountain

Proposed facility is beyond the Canadian coordination distance

Proposed facility is beyond the Mexican coordination distance

Proposed station is OK toward AM broadcast stations

Checks to Site Number 03

Proposed facility OK to FCC Monitoring Stations

Proposed facility within West Virginia quiet zone

Proposed facility OK toward Table Mountain

Proposed facility is beyond the Canadian coordination distance

Proposed facility is beyond the Mexican coordination distance

Proposed station is OK toward AM broadcast stations

****

Start of Interference Analysis

Proposed Station

Channel	Call	City/State	ARN	
11	CVIL	STAUNTON VA	BPEDT	20111212ABK

Stations Potentially Affected by Proposed Station

Chan	Call	City/State	Dist(km)	Status	Application	Ref. No.
10	WAZT-CA	WOODSTOCK VA	109.1	LIC	BLTVA	20030718ADF
10	WVFX	CLARKSBURG WV	217.9	LIC	BLCDT	20090612AJY
10	WSWP-TV	GRANDVIEW WV	219.8	LIC	BLEDT	20100210AAQ
10	WSWP-TV	GRANDVIEW WV	219.8	APP	BDSTA	20080225AGT
11	WBAL-TV	BALTIMORE MD	218.8	LIC	BLCDT	20090619ABW
11	WBAL-TV	BALTIMORE MD	218.8	CP	BPCDT	20100429AAF
11	WTVI	CHARLOTTE NC	358.8	LIC	BLEDT	20101222ABA
11	WTVD	DURHAM NC	257.4	LIC	BLCDT	20100929AGW
11	WPCW	JEANNETTE PA	308.8	CP MOD	BMPCDT	20080616ABM
11	WPCW	JEANNETTE PA	308.8	LIC	BLCDT	20090626AAT
11	WBRE-TV	WILKES-BARRE PA	420.0	LIC	BLCDT	20051123AJX
11	WJHL-TV	JOHNSON CITY TN	366.5	LIC	BLCDT	20100910AAC
12	WWBT	RICHMOND VA	101.2	LIC	BLCDT	20090803ABS
12	WBOY-TV	CLARKSBURG WV	215.9	LIC	BLCDT	20090227ABW
12	WWPX-TV	MARTINSBURG WV	167.8	LIC	BLCDT	20021108AAX

%%

Analysis of Interference to Affected Station 1

Analysis of current record

Channel	Call	City/State	Application	Ref. No.
10	WAZT-CA	WOODSTOCK VA	BLTVA	-20030718ADF

Stations Potentially Affecting This Station

Chan	Call	City/State	Dist(km)	Status	Application	Ref. No.
09	WUSA	WASHINGTON DC	116.7	LIC	BLCDT	-20110314ACQ
09	W09CT-D	MATHIAS, ETC. WV	43.6	LIC	BLDTV	-20090121AGY

10	WOIO	SHAKER HEIGHTS OH	386.6	LIC	BLCDT	-19991110AAR
10	WOIO	SHAKER HEIGHTS OH	386.6	CP	BPCDT	-20080620AKW
10	WHTM-TV	HARRISBURG PA	196.5	LIC	BLCDT	-20040812AAH
10	WHTM-TV	HARRISBURG PA	196.5	CP	BPCDT	-20080620AGL
10	WVFX	CLARKSBURG WV	169.2	LIC	BLCDT	-20090612AJY
10	WSWP-TV	GRANDVIEW WV	252.5	LIC	BLEDT	-20100210AAQ
10	WSWP-TV	GRANDVIEW WV	252.5	APP	BDSTA	-20080225AGT
11	WVPT	STAUNTON VA	117.5	CP	BPEDT	-20081022ABK
11	WVPT	STAUNTON VA	117.5	PLN	DTVPLN	-DTVP0338
11	WVPT	STAUNTON VA	117.5	LIC	BLEDT	-20021220ADX
11	CVIL	STAUNTON VA	109.1	AP	BPEDT	-20111212ABK
11	MONT	STAUNTON VA	122.5	AP	BPEDT	-20111212ABK
11	MAIN	STAUNTON VA	117.5	AP	BPEDT	-20111212ABK

Proposal causes no interference

##

Analysis of Interference to Affected Station 2

Analysis of current record

Channel	Call	City/State	Application	Ref. No.
10	WVFX	CLARKSBURG WV	BLCDT	-20090612AJY

Stations Potentially Affecting This Station

Chan	Call	City/State	Dist(km)	Status	Application	Ref. No.
09	WTOV-TV	STEUBENVILLE OH	118.2	LIC	BLCDT	-20090507AAC
09	WTOV-TV	STEUBENVILLE OH	118.2	CP	BPCDT	-20110308ABN
10	WOIO	SHAKER HEIGHTS OH	258.7	LIC	BLCDT	-19991110AAR
10	WOIO	SHAKER HEIGHTS OH	258.7	CP	BPCDT	-20080620AKW
10	WHTM-TV	HARRISBURG PA	310.9	LIC	BLCDT	-20040812AAH
10	WHTM-TV	HARRISBURG PA	310.9	CP	BPCDT	-20080620AGL
10	WSWP-TV	GRANDVIEW WV	165.9	LIC	BLEDT	-20100210AAQ
10	WSWP-TV	GRANDVIEW WV	165.9	APP	BDSTA	-20080225AGT
11	WPCW	JEANNETTE PA	135.5	CP MOD	BMPCDT	-20080616ABM
11	WPCW	JEANNETTE PA	135.5	LIC	BLCDT	-20090626AAT
11	WVPT	STAUNTON VA	154.6	PLN	DTVPLN	-DTVP0338
11	CVIL	STAUNTON VA	217.9	AP	BPEDT	-20111212ABK
11	MONT	STAUNTON VA	124.4	AP	BPEDT	-20111212ABK

11	MAIN	STAUNTON VA	154.6	AP	BPEDT	-20111212ABK

Proposal causes no interference

##

Analysis of Interference to Affected Station 3

Analysis of current record

Channel	Call	City/State	Application	Ref. No.
10	WSWP-TV	GRANDVIEW WV	BLEDT	-20100210AAQ

Stations Potentially Affecting This Station

Chan	Call	City/State	Dist(km)	Status	Application	Ref. No.
10	WNCT-TV	GREENVILLE NC	426.5	LIC	BLCDT	-20110504ACA
10	WOIO	SHAKER HEIGHTS OH	392.7	LIC	BLCDT	-19991110AAR
10	WOIO	SHAKER HEIGHTS OH	392.7	CP	BPCDT	-20080620AKW
10	WIS	COLUMBIA SC	419.7	LIC	BLCDT	-20090624ABZ
10	WBIR-TV	KNOXVILLE TN	335.9	LIC	BLCDT	-20090619ADG
10	WVFX	CLARKSBURG WV	165.9	LIC	BLCDT	-20090612AJY
11	WJHL-TV	JOHNSON CITY TN	191.9	LIC	BLCDT	-20100910AAC
11	WVPT	STAUNTON VA	149.7	PLN	DTVPLN	-DTVP0338
11	CVIL	STAUNTON VA	219.8	AP	BPEDT	-20111212ABK
11	MONT	STAUNTON VA	131.6	AP	BPEDT	-20111212ABK
11	MAIN	STAUNTON VA	149.7	AP	BPEDT	-20111212ABK

Proposed station is beyond the site to
nearest cell evaluation distance

##

Analysis of Interference to Affected Station 4

Analysis of current record

Channel	Call	City/State	Application	Ref. No.
10	WSWP-TV	GRANDVIEW WV	BDSTA	-20080225AGT

Stations Potentially Affecting This Station

Chan	Call	City/State	Dist(km)	Status	Application	Ref. No.
10	WNCT-TV	GREENVILLE NC	426.5	LIC	BLCDT	-20110504ACA
10	WOIO	SHAKER HEIGHTS OH	392.7	LIC	BLCDT	-19991110AAR
10	WOIO	SHAKER HEIGHTS OH	392.7	CP	BPCDT	-20080620AKW
10	WIS	COLUMBIA SC	419.7	LIC	BLCDT	-20090624ABZ
10	WBIR-TV	KNOXVILLE TN	335.9	LIC	BLCDT	-20090619ADG
10	WVFX	CLARKSBURG WV	165.9	LIC	BLCDT	-20090612AJY

11	WJHL-TV	JOHNSON CITY TN	191.9	LIC	BLCDT	-20100910AAC
11	WVPT	STAUNTON VA	149.7	PLN	DTVPLN	-DTVP0338
11	CVIL	STAUNTON VA	219.8	AP	BPEDT	-20111212ABK
11	MONT	STAUNTON VA	131.6	AP	BPEDT	-20111212ABK
11	MAIN	STAUNTON VA	149.7	AP	BPEDT	-20111212ABK

Proposed station is beyond the site to
nearest cell evaluation distance

##

Analysis of Interference to Affected Station 5

Analysis of current record

Channel	Call	City/State	Application	Ref. No.
11	WBAL-TV	BALTIMORE MD	BLCDT	-20090619ABW

Stations Potentially Affecting This Station

Chan	Call	City/State	Dist(km)	Status	Application	Ref. No.
10	WHTM-TV	HARRISBURG PA	112.0	LIC	BLCDT	-20040812AAH
10	WHTM-TV	HARRISBURG PA	112.0	CP	BPCDT	-20080620AGL
11	WPIX	NEW YORK NY	271.7	APP	BMPCDT	-20080620ALB
11	WPIX	NEW YORK NY	275.8	LIC	BLCDT	-20090911ABN
11	WPCW	JEANNETTE PA	314.7	CP MOD	BMPCDT	-20080616ABM
11	WPCW	JEANNETTE PA	314.7	LIC	BLCDT	-20090626AAT
11	WBRE-TV	WILKES-BARRE PA	215.7	LIC	BLCDT	-20051123AJX
11	WVPT	STAUNTON VA	264.9	PLN	DTVPLN	-DTVP0338
11	CVIL	STAUNTON VA	218.8	AP	BPEDT	-20111212ABK
11	MONT	STAUNTON VA	277.7	AP	BPEDT	-20111212ABK
11	MAIN	STAUNTON VA	264.9	AP	BPEDT	-20111212ABK
12	WHYY-TV	WILMINGTON DE	144.0	CP MOD	BMPEDT	-20091204ADC
12	WWBT	RICHMOND VA	216.4	LIC	BLCDT	-20090803ABS
12	WWPX-TV	MARTINSBURG WV	122.2	LIC	BLCDT	-20021108AAX

Total scenarios = 8

Result key: 1
Scenario 1 Affected station 5
Before Analysis

Results for: 11A MD BALTIMORE BLCDT 20090619ABW LIC
HAAT 299.0 m, ATV ERP 5.0 kW

	POPULATION	AREA (sq km)
within Noise Limited Contour	7449700	24125.2
not affected by terrain losses	7175012	22901.0

```
   lost to NTSC IX                          0          0.0
   lost to additional IX by ATV        217701        946.3
   lost to ATV IX only                 217701        946.3
   lost to all IX                      217701        946.3

 Potential Interfering Stations Included in above Scenario     1

10A PA HARRISBURG           BLCDT     20040812AAH  LIC
11A NY NEW YORK             BLCDT     20090911ABN  LIC
11A PA JEANNETTE            BMPCDT    20080616ABM  CP
11A PA WILKES-BARRE         BLCDT     20051123AJX  LIC
12A WV MARTINSBURG          BLCDT     20021108AAX  LIC
11A VA STAUNTON             DTVPLN    DTVP0338     PLN

After Analysis

Results for: 11A MD BALTIMORE            BLCDT     20090619ABW  LIC
   HAAT  299.0 m, ATV ERP    5.0 kW
                                  POPULATION   AREA (sq km)
   within Noise Limited Contour     7449700      24125.2
   not affected by terrain losses   7175012      22901.0
   lost to NTSC IX                        0          0.0
   lost to additional IX by ATV      218333        958.4
   lost to ATV IX only               218333        958.4
   lost to all IX                    218333        958.4

 Potential Interfering Stations Included in above Scenario     1

10A PA HARRISBURG           BLCDT     20040812AAH  LIC
11A NY NEW YORK             BLCDT     20090911ABN  LIC
11A PA JEANNETTE            BMPCDT    20080616ABM  CP
11A PA WILKES-BARRE         BLCDT     20051123AJX  LIC
12A WV MARTINSBURG          BLCDT     20021108AAX  LIC
11A VA STAUNTON             BPEDT     20111212ABK  AP

Percent new IX =    0.0091%

Result key:        2
Scenario        2  Affected station        5
Before Analysis

Results for: 11A MD BALTIMORE            BLCDT     20090619ABW  LIC
   HAAT  299.0 m, ATV ERP    5.0 kW
                                  POPULATION   AREA (sq km)
   within Noise Limited Contour     7449700      24125.2
   not affected by terrain losses   7175012      22901.0
   lost to NTSC IX                        0          0.0
   lost to additional IX by ATV      217701        946.3
   lost to ATV IX only               217701        946.3
   lost to all IX                    217701        946.3

 Potential Interfering Stations Included in above Scenario     2

10A PA HARRISBURG           BLCDT     20040812AAH  LIC
11A NY NEW YORK             BLCDT     20090911ABN  LIC
11A PA JEANNETTE            BLCDT     20090626AAT  LIC
11A PA WILKES-BARRE         BLCDT     20051123AJX  LIC
12A WV MARTINSBURG          BLCDT     20021108AAX  LIC
11A VA STAUNTON             DTVPLN    DTVP0338     PLN

After Analysis

Results for: 11A MD BALTIMORE            BLCDT     20090619ABW  LIC
   HAAT  299.0 m, ATV ERP    5.0 kW
                                  POPULATION   AREA (sq km)
   within Noise Limited Contour     7449700      24125.2
   not affected by terrain losses   7175012      22901.0
   lost to NTSC IX                        0          0.0
```

```
   lost to additional IX by ATV      218333        958.4
   lost to ATV IX only               218333        958.4
   lost to all IX                    218333        958.4

 Potential Interfering Stations Included in above Scenario     2

10A PA HARRISBURG           BLCDT     20040812AAH  LIC
11A NY NEW YORK             BLCDT     20090911ABN  LIC
11A PA JEANNETTE            BLCDT     20090626AAT  LIC
11A PA WILKES-BARRE         BLCDT     20051123AJX  LIC
12A WV MARTINSBURG          BLCDT     20021108AAX  LIC
11A VA STAUNTON             BPEDT     20111212ABK  AP

Percent new IX =    0.0091%

Result key:        3
Scenario        3  Affected station        5
Before Analysis

Results for: 11A MD BALTIMORE            BLCDT     20090619ABW  LIC
   HAAT  299.0 m, ATV ERP    5.0 kW
                                  POPULATION   AREA (sq km)
   within Noise Limited Contour     7449700      24125.2
   not affected by terrain losses   7175012      22901.0
   lost to NTSC IX                        0          0.0
   lost to additional IX by ATV      228326        974.5
   lost to ATV IX only               228326        974.5
   lost to all IX                    228326        974.5

 Potential Interfering Stations Included in above Scenario     3

10A PA HARRISBURG           BPCDT     20080620AGL  CP
11A NY NEW YORK             BLCDT     20090911ABN  LIC
11A PA JEANNETTE            BMPCDT    20080616ABM  CP
11A PA WILKES-BARRE         BLCDT     20051123AJX  LIC
12A WV MARTINSBURG          BLCDT     20021108AAX  LIC
11A VA STAUNTON             DTVPLN    DTVP0338     PLN

After Analysis

Results for: 11A MD BALTIMORE            BLCDT     20090619ABW  LIC
   HAAT  299.0 m, ATV ERP    5.0 kW
                                  POPULATION   AREA (sq km)
   within Noise Limited Contour     7449700      24125.2
   not affected by terrain losses   7175012      22901.0
   lost to NTSC IX                        0          0.0
   lost to additional IX by ATV      228958        986.6
   lost to ATV IX only               228958        986.6
   lost to all IX                    228958        986.6

 Potential Interfering Stations Included in above Scenario     3

10A PA HARRISBURG           BPCDT     20080620AGL  CP
11A NY NEW YORK             BLCDT     20090911ABN  LIC
11A PA JEANNETTE            BMPCDT    20080616ABM  CP
11A PA WILKES-BARRE         BLCDT     20051123AJX  LIC
12A WV MARTINSBURG          BLCDT     20021108AAX  LIC
11A VA STAUNTON             BPEDT     20111212ABK  AP

Percent new IX =    0.0091%

Result key:        4
Scenario        4  Affected station        5
Before Analysis

Results for: 11A MD BALTIMORE            BLCDT     20090619ABW  LIC
   HAAT  299.0 m, ATV ERP    5.0 kW
                                  POPULATION   AREA (sq km)
```

```
   within Noise Limited Contour     7449700      24125.2
   not affected by terrain losses   7175012      22901.0
   lost to NTSC IX                        0          0.0
   lost to additional IX by ATV      228326        974.5
   lost to ATV IX only               228326        974.5
   lost to all IX                    228326        974.5

 Potential Interfering Stations Included in above Scenario     4

10A PA HARRISBURG           BPCDT     20080620AGL  CP
11A NY NEW YORK             BLCDT     20090911ABN  LIC
11A PA JEANNETTE            BLCDT     20090626AAT  LIC
11A PA WILKES-BARRE         BLCDT     20051123AJX  LIC
12A WV MARTINSBURG          BLCDT     20021108AAX  LIC
11A VA STAUNTON             DTVPLN    DTVP0338     PLN

After Analysis

Results for: 11A MD BALTIMORE            BLCDT     20090619ABW  LIC
   HAAT  299.0 m, ATV ERP    5.0 kW
                                POPULATION   AREA (sq km)
   within Noise Limited Contour     7449700      24125.2
   not affected by terrain losses   7175012      22901.0
   lost to NTSC IX                        0          0.0
   lost to additional IX by ATV      228958        986.6
   lost to ATV IX only               228958        986.6
   lost to all IX                    228958        986.6

 Potential Interfering Stations Included in above Scenario     4

10A PA HARRISBURG           BPCDT     20080620AGL  CP
11A NY NEW YORK             BLCDT     20090911ABN  LIC
11A PA JEANNETTE            BLCDT     20090626AAT  LIC
11A PA WILKES-BARRE         BLCDT     20051123AJX  LIC
12A WV MARTINSBURG          BLCDT     20021108AAX  LIC
11A VA STAUNTON             BPEDT     20111212ABK  AP

Percent new IX =    0.0091%

Result key:        5
Scenario        5  Affected station        5
Before Analysis

Results for: 11A MD BALTIMORE            BLCDT     20090619ABW  LIC
   HAAT  299.0 m, ATV ERP    5.0 kW
                                POPULATION   AREA (sq km)
   within Noise Limited Contour     7449700      24125.2
   not affected by terrain losses   7175012      22901.0
   lost to NTSC IX                        0          0.0
   lost to additional IX by ATV      217359        942.3
   lost to ATV IX only               217359        942.3
   lost to all IX                    217359        942.3

 Potential Interfering Stations Included in above Scenario     5

10A PA HARRISBURG           BLCDT     20040812AAH  LIC
11A NY NEW YORK             BMPCDT    20080620ALB  APP
11A PA JEANNETTE            BMPCDT    20080616ABM  CP
11A PA WILKES-BARRE         BLCDT     20051123AJX  LIC
12A WV MARTINSBURG          BLCDT     20021108AAX  LIC
11A VA STAUNTON             DTVPLN    DTVP0338     PLN

After Analysis

Results for: 11A MD BALTIMORE            BLCDT     20090619ABW  LIC
   HAAT  299.0 m, ATV ERP    5.0 kW
                                POPULATION   AREA (sq km)
   within Noise Limited Contour     7449700      24125.2
```

```
   not affected by terrain losses   7175012      22901.0
   lost to NTSC IX                        0          0.0
   lost to additional IX by ATV      217991        954.4
   lost to ATV IX only               217991        954.4
   lost to all IX                    217991        954.4

 Potential Interfering Stations Included in above Scenario     5

10A PA HARRISBURG           BLCDT     20040812AAH  LIC
11A NY NEW YORK             BMPCDT    20080620ALB  APP
11A PA JEANNETTE            BMPCDT    20080616ABM  CP
11A PA WILKES-BARRE         BLCDT     20051123AJX  LIC
12A WV MARTINSBURG          BLCDT     20021108AAX  LIC
11A VA STAUNTON             BPEDT     20111212ABK  AP

Percent new IX =    0.0091%

Result key:        6
Scenario        6  Affected station        5
Before Analysis

Results for: 11A MD BALTIMORE            BLCDT     20090619ABW  LIC
   HAAT  299.0 m, ATV ERP    5.0 kW
                                 POPULATION   AREA (sq km)
   within Noise Limited Contour     7449700      24125.2
   not affected by terrain losses   7175012      22901.0
   lost to NTSC IX                        0          0.0
   lost to additional IX by ATV      217359        942.3
   lost to ATV IX only               217359        942.3
   lost to all IX                    217359        942.3

 Potential Interfering Stations Included in above Scenario     6

10A PA HARRISBURG           BLCDT     20040812AAH  LIC
11A NY NEW YORK             BMPCDT    20080620ALB  APP
11A PA JEANNETTE            BLCDT     20090626AAT  LIC
11A PA WILKES-BARRE         BLCDT     20051123AJX  LIC
12A WV MARTINSBURG          BLCDT     20021108AAX  LIC
11A VA STAUNTON             DTVPLN    DTVP0338     PLN

After Analysis

Results for: 11A MD BALTIMORE            BLCDT     20090619ABW  LIC
   HAAT  299.0 m, ATV ERP    5.0 kW
                                 POPULATION   AREA (sq km)
   within Noise Limited Contour     7449700      24125.2
   not affected by terrain losses   7175012      22901.0
   lost to NTSC IX                        0          0.0
   lost to additional IX by ATV      217991        954.4
   lost to ATV IX only               217991        954.4
   lost to all IX                    217991        954.4

 Potential Interfering Stations Included in above Scenario     6

10A PA HARRISBURG           BLCDT     20040812AAH  LIC
11A NY NEW YORK             BMPCDT    20080620ALB  APP
11A PA JEANNETTE            BLCDT     20090626AAT  LIC
11A PA WILKES-BARRE         BLCDT     20051123AJX  LIC
12A WV MARTINSBURG          BLCDT     20021108AAX  LIC
11A VA STAUNTON             BPEDT     20111212ABK  AP

Percent new IX =    0.0091%

Result key:        7
Scenario        7  Affected station        5
Before Analysis

Results for: 11A MD BALTIMORE            BLCDT     20090619ABW  LIC
```

HAAT 299.0 m, ATV ERP 5.0 kW

	POPULATION	AREA (sq km)
within Noise Limited Contour	7449700	24125.2
not affected by terrain losses	7175012	22901.0
lost to NTSC IX	0	0.0
lost to additional IX by ATV	227984	970.5
lost to ATV IX only	227984	970.5
lost to all IX	227984	970.5

Potential Interfering Stations Included in above Scenario 7

10A PA HARRISBURG	BPCDT	20080620AGL	CP
11A NY NEW YORK	BMPCDT	20080620ALB	APP
11A PA JEANNETTE	BMPCDT	20080616ABM	CP
11A PA WILKES-BARRE	BLCDT	20051123AJX	LIC
12A WV MARTINSBURG	BLCDT	20021108AAX	LIC
11A VA STAUNTON	DTVPLN	DTVP0338	PLN

After Analysis

Results for: 11A MD BALTIMORE BLCDT 20090619ABW LIC

HAAT 299.0 m, ATV ERP 5.0 kW

	POPULATION	AREA (sq km)
within Noise Limited Contour	7449700	24125.2
not affected by terrain losses	7175012	22901.0
lost to NTSC IX	0	0.0
lost to additional IX by ATV	228616	982.6
lost to ATV IX only	228616	982.6
lost to all IX	228616	982.6

Potential Interfering Stations Included in above Scenario 7

10A PA HARRISBURG	BPCDT	20080620AGL	CP
11A NY NEW YORK	BMPCDT	20080620ALB	APP
11A PA JEANNETTE	BMPCDT	20080616ABM	CP
11A PA WILKES-BARRE	BLCDT	20051123AJX	LIC
12A WV MARTINSBURG	BLCDT	20021108AAX	LIC
11A VA STAUNTON	BPEDT	20111212ABK	AP

Percent new IX = 0.0091%

Result key: 8
Scenario 8 Affected station 5
Before Analysis

Results for: 11A MD BALTIMORE BLCDT 20090619ABW LIC

HAAT 299.0 m, ATV ERP 5.0 kW

	POPULATION	AREA (sq km)
within Noise Limited Contour	7449700	24125.2
not affected by terrain losses	7175012	22901.0
lost to NTSC IX	0	0.0
lost to additional IX by ATV	227984	970.5
lost to ATV IX only	227984	970.5
lost to all IX	227984	970.5

Potential Interfering Stations Included in above Scenario 8

10A PA HARRISBURG	BPCDT	20080620AGL	CP
11A NY NEW YORK	BMPCDT	20080620ALB	APP
11A PA JEANNETTE	BLCDT	20090626AAT	LIC
11A PA WILKES-BARRE	BLCDT	20051123AJX	LIC
12A WV MARTINSBURG	BLCDT	20021108AAX	LIC
11A VA STAUNTON	DTVPLN	DTVP0338	PLN

After Analysis

Results for: 11A MD BALTIMORE BLCDT 20090619ABW LIC

HAAT 299.0 m, ATV ERP 5.0 kW

	POPULATION	AREA (sq km)
within Noise Limited Contour	7449700	24125.2
not affected by terrain losses	7175012	22901.0
lost to NTSC IX	0	0.0
lost to additional IX by ATV	228616	982.6
lost to ATV IX only	228616	982.6
lost to all IX	228616	982.6

Potential Interfering Stations Included in above Scenario 8

10A	PA HARRISBURG	BPCDT	20080620AGL	CP
11A	NY NEW YORK	BMPCDT	20080620ALB	APP
11A	PA JEANNETTE	BLCDT	20090626AAT	LIC
11A	PA WILKES-BARRE	BLCDT	20051123AJX	LIC
12A	WV MARTINSBURG	BLCDT	20021108AAX	LIC
11A	VA STAUNTON	BPEDT	20111212ABK	AP

Percent new IX = 0.0091%

Worst case new IX 0.0091% Scenario 3

##

Analysis of Interference to Affected Station 6

Analysis of current record

Channel	Call	City/State	Application	Ref. No.
11	WBAL-TV	BALTIMORE MD	BPCDT	-20100429AAF

Stations Potentially Affecting This Station

Chan	Call	City/State	Dist(km)	Status	Application	Ref. No.
10	WHTM-TV	HARRISBURG PA	112.0	LIC	BLCDT	-20040812AAH
10	WHTM-TV	HARRISBURG PA	112.0	CP	BPCDT	-20080620AGL
11	WPIX	NEW YORK NY	271.7	APP	BMPCDT	-20080620ALB
11	WPIX	NEW YORK NY	275.8	LIC	BLCDT	-20090911ABN
11	WPCW	JEANNETTE PA	314.7	CP MOD	BMPCDT	-20080616ABM
11	WPCW	JEANNETTE PA	314.7	LIC	BLCDT	-20090626AAT
11	WBRE-TV	WILKES-BARRE PA	215.7	LIC	BLCDT	-20051123AJX
11	WVPT	STAUNTON VA	264.9	PLN	DTVPLN	-DTVP0338
11	CVIL	STAUNTON VA	218.8	AP	BPEDT	-20111212ABK
11	MONT	STAUNTON VA	277.7	AP	BPEDT	-20111212ABK
11	MAIN	STAUNTON VA	264.9	AP	BPEDT	-20111212ABK
12	WHYY-TV	WILMINGTON DE	144.0	CP MOD	BMPEDT	-20091204ADC
12	WWBT	RICHMOND VA	216.4	LIC	BLCDT	-20090803ABS
12	WWPX-TV	MARTINSBURG WV	122.2	LIC	BLCDT	-20021108AAX

Total scenarios = 8

Result key: 9
Scenario 1 Affected station 6

Before Analysis

Results for: 11A MD BALTIMORE BPCDT 20100429AAF CP
HAAT 299.0 m, ATV ERP 26.6 kW

	POPULATION	AREA (sq km)
within Noise Limited Contour	8596693	31809.2
not affected by terrain losses	8300862	29972.9
lost to NTSC IX	0	0.0
lost to additional IX by ATV	388635	1461.8
lost to ATV IX only	388635	1461.8
lost to all IX	388635	1461.8

Potential Interfering Stations Included in above Scenario 1

10A PA HARRISBURG	BLCDT	20040812AAH	LIC
11A NY NEW YORK	BLCDT	20090911ABN	LIC
11A PA JEANNETTE	BMPCDT	20080616ABM	CP
11A PA WILKES-BARRE	BLCDT	20051123AJX	LIC
12A DE WILMINGTON	BMPEDT	20091204ADC	CP
12A WV MARTINSBURG	BLCDT	20021108AAX	LIC
11A VA STAUNTON	DTVPLN	DTVP0338	PLN

After Analysis

Results for: 11A MD BALTIMORE BPCDT 20100429AAF CP
HAAT 299.0 m, ATV ERP 26.6 kW

	POPULATION	AREA (sq km)
within Noise Limited Contour	8596693	31809.2
not affected by terrain losses	8300862	29972.9
lost to NTSC IX	0	0.0
lost to additional IX by ATV	391579	1498.0
lost to ATV IX only	391579	1498.0
lost to all IX	391579	1498.0

Potential Interfering Stations Included in above Scenario 1

10A PA HARRISBURG	BLCDT	20040812AAH	LIC
11A NY NEW YORK	BLCDT	20090911ABN	LIC
11A PA JEANNETTE	BMPCDT	20080616ABM	CP
11A PA WILKES-BARRE	BLCDT	20051123AJX	LIC
12A DE WILMINGTON	BMPEDT	20091204ADC	CP
12A WV MARTINSBURG	BLCDT	20021108AAX	LIC
11A VA STAUNTON	BPEDT	20111212ABK	AP

Percent new IX = 0.0372%

Result key: 10
Scenario 2 Affected station 6
Before Analysis

Results for: 11A MD BALTIMORE BPCDT 20100429AAF CP
HAAT 299.0 m, ATV ERP 26.6 kW

	POPULATION	AREA (sq km)
within Noise Limited Contour	8596693	31809.2
not affected by terrain losses	8300862	29972.9
lost to NTSC IX	0	0.0
lost to additional IX by ATV	388635	1461.8
lost to ATV IX only	388635	1461.8
lost to all IX	388635	1461.8

Potential Interfering Stations Included in above Scenario 2

10A PA HARRISBURG	BLCDT	20040812AAH	LIC
11A NY NEW YORK	BLCDT	20090911ABN	LIC
11A PA JEANNETTE	BLCDT	20090626AAT	LIC
11A PA WILKES-BARRE	BLCDT	20051123AJX	LIC
12A DE WILMINGTON	BMPEDT	20091204ADC	CP
12A WV MARTINSBURG	BLCDT	20021108AAX	LIC

11A VA STAUNTON DTVPLN DTVP0338 PLN

After Analysis

Results for: 11A MD BALTIMORE BPCDT 20100429AAF CP
HAAT 299.0 m, ATV ERP 26.6 kW

	POPULATION	AREA (sq km)
within Noise Limited Contour	8596693	31809.2
not affected by terrain losses	8300862	29972.9
lost to NTSC IX	0	0.0
lost to additional IX by ATV	391579	1498.0
lost to ATV IX only	391579	1498.0
lost to all IX	391579	1498.0

Potential Interfering Stations Included in above Scenario 2

10A PA HARRISBURG	BLCDT	20040812AAH	LIC
11A NY NEW YORK	BLCDT	20090911ABN	LIC
11A PA JEANNETTE	BLCDT	20090626AAT	LIC
11A PA WILKES-BARRE	BLCDT	20051123AJX	LIC
12A DE WILMINGTON	BMPEDT	20091204ADC	CP
12A WV MARTINSBURG	BLCDT	20021108AAX	LIC
11A VA STAUNTON	BPEDT	20111212ABK	AP

Percent new IX = 0.0372%

Result key: 11
Scenario 3 Affected station 6
Before Analysis

Results for: 11A MD BALTIMORE BPCDT 20100429AAF CP
HAAT 299.0 m, ATV ERP 26.6 kW

	POPULATION	AREA (sq km)
within Noise Limited Contour	8596693	31809.2
not affected by terrain losses	8300862	29972.9
lost to NTSC IX	0	0.0
lost to additional IX by ATV	396820	1514.2
lost to ATV IX only	396820	1514.2
lost to all IX	396820	1514.2

Potential Interfering Stations Included in above Scenario 3

10A PA HARRISBURG	BPCDT	20080620AGL	CP
11A NY NEW YORK	BLCDT	20090911ABN	LIC
11A PA JEANNETTE	BMPCDT	20080616ABM	CP
11A PA WILKES-BARRE	BLCDT	20051123AJX	LIC
12A DE WILMINGTON	BMPEDT	20091204ADC	CP
12A WV MARTINSBURG	BLCDT	20021108AAX	LIC
11A VA STAUNTON	DTVPLN	DTVP0338	PLN

After Analysis

Results for: 11A MD BALTIMORE BPCDT 20100429AAF CP
HAAT 299.0 m, ATV ERP 26.6 kW

	POPULATION	AREA (sq km)
within Noise Limited Contour	8596693	31809.2
not affected by terrain losses	8300862	29972.9
lost to NTSC IX	0	0.0
lost to additional IX by ATV	399764	1550.4
lost to ATV IX only	399764	1550.4
lost to all IX	399764	1550.4

Potential Interfering Stations Included in above Scenario 3

10A PA HARRISBURG	BPCDT	20080620AGL	CP
11A NY NEW YORK	BLCDT	20090911ABN	LIC
11A PA JEANNETTE	BMPCDT	20080616ABM	CP
11A PA WILKES-BARRE	BLCDT	20051123AJX	LIC

```
12A DE WILMINGTON           BMPEDT    20091204ADC  CP
12A WV MARTINSBURG          BLCDT     20021108AAX  LIC
11A VA STAUNTON             BPEDT     20111212ABK  AP

Percent new IX =    0.0372%

Result key:       12
Scenario        4  Affected station        6
Before Analysis

Results for: 11A MD BALTIMORE            BPCDT     20100429AAF  CP
   HAAT  299.0 m, ATV ERP   26.6 kW
                                POPULATION   AREA (sq km)
   within Noise Limited Contour     8596693      31809.2
   not affected by terrain losses   8300862      29972.9
   lost to NTSC IX                        0          0.0
   lost to additional IX by ATV      396820       1514.2
   lost to ATV IX only               396820       1514.2
   lost to all IX                    396820       1514.2

 Potential Interfering Stations Included in above Scenario     4

10A PA HARRISBURG           BPCDT     20080620AGL  CP
11A NY NEW YORK             BLCDT     20090911ABN  LIC
11A PA JEANNETTE            BLCDT     20090626AAT  LIC
11A PA WILKES-BARRE         BLCDT     20051123AJX  LIC
12A DE WILMINGTON           BMPEDT    20091204ADC  CP
12A WV MARTINSBURG          BLCDT     20021108AAX  LIC
11A VA STAUNTON             DTVPLN    DTVP0338     PLN

After Analysis

Results for: 11A MD BALTIMORE            BPCDT     20100429AAF  CP
   HAAT  299.0 m, ATV ERP   26.6 kW
                                POPULATION   AREA (sq km)
   within Noise Limited Contour     8596693      31809.2
   not affected by terrain losses   8300862      29972.9
   lost to NTSC IX                        0          0.0
   lost to additional IX by ATV      399764       1550.4
   lost to ATV IX only               399764       1550.4
   lost to all IX                    399764       1550.4

 Potential Interfering Stations Included in above Scenario     4

10A PA HARRISBURG           BPCDT     20080620AGL  CP
11A NY NEW YORK             BLCDT     20090911ABN  LIC
11A PA JEANNETTE            BLCDT     20090626AAT  LIC
11A PA WILKES-BARRE         BLCDT     20051123AJX  LIC
12A DE WILMINGTON           BMPEDT    20091204ADC  CP
12A WV MARTINSBURG          BLCDT     20021108AAX  LIC
11A VA STAUNTON             BPEDT     20111212ABK  AP

Percent new IX =    0.0372%

Result key:       13
Scenario        5  Affected station        6
Before Analysis

Results for: 11A MD BALTIMORE            BPCDT     20100429AAF  CP
   HAAT  299.0 m, ATV ERP   26.6 kW
                                POPULATION   AREA (sq km)
   within Noise Limited Contour     8596693      31809.2
   not affected by terrain losses   8300862      29972.9
   lost to NTSC IX                        0          0.0
   lost to additional IX by ATV      386979       1449.7
   lost to ATV IX only               386979       1449.7
   lost to all IX                    386979       1449.7
```

Potential Interfering Stations Included in above Scenario 5

10A	PA HARRISBURG	BLCDT	20040812AAH	LIC
11A	NY NEW YORK	BMPCDT	20080620ALB	APP
11A	PA JEANNETTE	BMPCDT	20080616ABM	CP
11A	PA WILKES-BARRE	BLCDT	20051123AJX	LIC
12A	DE WILMINGTON	BMPEDT	20091204ADC	CP
12A	WV MARTINSBURG	BLCDT	20021108AAX	LIC
11A	VA STAUNTON	DTVPLN	DTVP0338	PLN

After Analysis

Results for: 11A MD BALTIMORE BPCDT 20100429AAF CP
HAAT 299.0 m, ATV ERP 26.6 kW

	POPULATION	AREA (sq km)
within Noise Limited Contour	8596693	31809.2
not affected by terrain losses	8300862	29972.9
lost to NTSC IX	0	0.0
lost to additional IX by ATV	389923	1486.0
lost to ATV IX only	389923	1486.0
lost to all IX	389923	1486.0

Potential Interfering Stations Included in above Scenario 5

10A	PA HARRISBURG	BLCDT	20040812AAH	LIC
11A	NY NEW YORK	BMPCDT	20080620ALB	APP
11A	PA JEANNETTE	BMPCDT	20080616ABM	CP
11A	PA WILKES-BARRE	BLCDT	20051123AJX	LIC
12A	DE WILMINGTON	BMPEDT	20091204ADC	CP
12A	WV MARTINSBURG	BLCDT	20021108AAX	LIC
11A	VA STAUNTON	BPEDT	20111212ABK	AP

Percent new IX = 0.0372%

Result key: 14
Scenario 6 Affected station 6
Before Analysis

Results for: 11A MD BALTIMORE BPCDT 20100429AAF CP
HAAT 299.0 m, ATV ERP 26.6 kW

	POPULATION	AREA (sq km)
within Noise Limited Contour	8596693	31809.2
not affected by terrain losses	8300862	29972.9
lost to NTSC IX	0	0.0
lost to additional IX by ATV	386979	1449.7
lost to ATV IX only	386979	1449.7
lost to all IX	386979	1449.7

Potential Interfering Stations Included in above Scenario 6

10A	PA HARRISBURG	BLCDT	20040812AAH	LIC
11A	NY NEW YORK	BMPCDT	20080620ALB	APP
11A	PA JEANNETTE	BLCDT	20090626AAT	LIC
11A	PA WILKES-BARRE	BLCDT	20051123AJX	LIC
12A	DE WILMINGTON	BMPEDT	20091204ADC	CP
12A	WV MARTINSBURG	BLCDT	20021108AAX	LIC
11A	VA STAUNTON	DTVPLN	DTVP0338	PLN

After Analysis

Results for: 11A MD BALTIMORE BPCDT 20100429AAF CP
HAAT 299.0 m, ATV ERP 26.6 kW

	POPULATION	AREA (sq km)
within Noise Limited Contour	8596693	31809.2
not affected by terrain losses	8300862	29972.9
lost to NTSC IX	0	0.0
lost to additional IX by ATV	389923	1486.0
lost to ATV IX only	389923	1486.0

```
   lost to all IX                    389923       1486.0

 Potential Interfering Stations Included in above Scenario     6

10A PA HARRISBURG           BLCDT     20040812AAH  LIC
11A NY NEW YORK             BMPCDT    20080620ALB  APP
11A PA JEANNETTE            BLCDT     20090626AAT  LIC
11A PA WILKES-BARRE         BLCDT     20051123AJX  LIC
12A DE WILMINGTON           BMPEDT    20091204ADC  CP
12A WV MARTINSBURG          BLCDT     20021108AAX  LIC
11A VA STAUNTON             BPEDT     20111212ABK  AP

Percent new IX =    0.0372%

Result key:       15
Scenario        7  Affected station        6
Before Analysis

Results for: 11A MD BALTIMORE            BPCDT     20100429AAF  CP
   HAAT  299.0 m, ATV ERP   26.6 kW
                                 POPULATION   AREA (sq km)
   within Noise Limited Contour     8596693      31809.2
   not affected by terrain losses   8300862      29972.9
   lost to NTSC IX                        0          0.0
   lost to additional IX by ATV      395437       1506.1
   lost to ATV IX only               395437       1506.1
   lost to all IX                    395437       1506.1

 Potential Interfering Stations Included in above Scenario     7

10A PA HARRISBURG           BPCDT     20080620AGL  CP
11A NY NEW YORK             BMPCDT    20080620ALB  APP
11A PA JEANNETTE            BMPCDT    20080616ABM  CP
11A PA WILKES-BARRE         BLCDT     20051123AJX  LIC
12A DE WILMINGTON           BMPEDT    20091204ADC  CP
12A WV MARTINSBURG          BLCDT     20021108AAX  LIC
11A VA STAUNTON             DTVPLN    DTVP0338     PLN

After Analysis

Results for: 11A MD BALTIMORE            BPCDT     20100429AAF  CP
   HAAT  299.0 m, ATV ERP   26.6 kW
                                 POPULATION   AREA (sq km)
   within Noise Limited Contour     8596693      31809.2
   not affected by terrain losses   8300862      29972.9
   lost to NTSC IX                        0          0.0
   lost to additional IX by ATV      398381       1542.3
   lost to ATV IX only               398381       1542.3
   lost to all IX                    398381       1542.3

 Potential Interfering Stations Included in above Scenario     7

10A PA HARRISBURG           BPCDT     20080620AGL  CP
11A NY NEW YORK             BMPCDT    20080620ALB  APP
11A PA JEANNETTE            BMPCDT    20080616ABM  CP
11A PA WILKES-BARRE         BLCDT     20051123AJX  LIC
12A DE WILMINGTON           BMPEDT    20091204ADC  CP
12A WV MARTINSBURG          BLCDT     20021108AAX  LIC
11A VA STAUNTON             BPEDT     20111212ABK  AP

Percent new IX =    0.0372%

Result key:       16
Scenario        8  Affected station        6
Before Analysis

Results for: 11A MD BALTIMORE            BPCDT     20100429AAF  CP
   HAAT  299.0 m, ATV ERP   26.6 kW
```

	POPULATION	AREA (sq km)
within Noise Limited Contour	8596693	31809.2
not affected by terrain losses	8300862	29972.9
lost to NTSC IX	0	0.0
lost to additional IX by ATV	395437	1506.1
lost to ATV IX only	395437	1506.1
lost to all IX	395437	1506.1

Potential Interfering Stations Included in above Scenario 8

10A PA HARRISBURG	BPCDT	20080620AGL	CP
11A NY NEW YORK	BMPCDT	20080620ALB	APP
11A PA JEANNETTE	BLCDT	20090626AAT	LIC
11A PA WILKES-BARRE	BLCDT	20051123AJX	LIC
12A DE WILMINGTON	BMPEDT	20091204ADC	CP
12A WV MARTINSBURG	BLCDT	20021108AAX	LIC
11A VA STAUNTON	DTVPLN	DTVP0338	PLN

After Analysis

Results for: 11A MD BALTIMORE BPCDT 20100429AAF CP
HAAT 299.0 m, ATV ERP 26.6 kW

	POPULATION	AREA (sq km)
within Noise Limited Contour	8596693	31809.2
not affected by terrain losses	8300862	29972.9
lost to NTSC IX	0	0.0
lost to additional IX by ATV	398381	1542.3
lost to ATV IX only	398381	1542.3
lost to all IX	398381	1542.3

Potential Interfering Stations Included in above Scenario 8

10A PA HARRISBURG	BPCDT	20080620AGL	CP
11A NY NEW YORK	BMPCDT	20080620ALB	APP
11A PA JEANNETTE	BLCDT	20090626AAT	LIC
11A PA WILKES-BARRE	BLCDT	20051123AJX	LIC
12A DE WILMINGTON	BMPEDT	20091204ADC	CP
12A WV MARTINSBURG	BLCDT	20021108AAX	LIC
11A VA STAUNTON	BPEDT	20111212ABK	AP

Percent new IX = 0.0372%

Worst case new IX 0.0372% Scenario 3

##

Analysis of Interference to Affected Station 7

Analysis of current record

Channel	Call	City/State	Application	Ref. No.
11	WTVI	CHARLOTTE NC	BLEDT	-20101222ABA

Stations Potentially Affecting This Station

Chan	Call	City/State	Dist(km)	Status	Application	Ref. No.
10	WIS	COLUMBIA SC	129.3	LIC	BLCDT	-20090624ABZ
11	WTOC-TV	SAVANNAH GA	364.4	LIC	BLCDT	-20090622ABP
11	WTVD	DURHAM NC	200.3	LIC	BLCDT	-20100929AGW
11	WJHL-TV	JOHNSON CITY TN	181.8	LIC	BLCDT	-20100910AAC
11	WVPT	STAUNTON VA	342.7	PLN	DTVPLN	-DTVP0338
11	CVIL	STAUNTON VA	358.8	AP	BPEDT	-20111212ABK

11	MONT	STAUNTON VA	353.6	AP	BPEDT	-20111212ABK
11	MAIN	STAUNTON VA	342.7	AP	BPEDT	-20111212ABK

Total scenarios = 1

Result key: 17
Scenario 1 Affected station 7
Before Analysis

Results for: 11A NC CHARLOTTE BLEDT 20101222ABA LIC
HAAT 363.0 m, ATV ERP 2.6 kW

	POPULATION	AREA (sq km)
within Noise Limited Contour	2322392	23534.0
not affected by terrain losses	2294540	22766.8
lost to NTSC IX	0	0.0
lost to additional IX by ATV	146239	2645.1
lost to ATV IX only	146239	2645.1
lost to all IX	146239	2645.1

Potential Interfering Stations Included in above Scenario 1

10A SC COLUMBIA	BLCDT	20090624ABZ	LIC
11A GA SAVANNAH	BLCDT	20090622ABP	LIC
11A NC DURHAM	BLCDT	20100929AGW	LIC
11A TN JOHNSON CITY	BLCDT	20100910AAC	LIC

After Analysis

Results for: 11A NC CHARLOTTE BLEDT 20101222ABA LIC
HAAT 363.0 m, ATV ERP 2.6 kW

	POPULATION	AREA (sq km)
within Noise Limited Contour	2322392	23534.0
not affected by terrain losses	2294540	22766.8
lost to NTSC IX	0	0.0
lost to additional IX by ATV	146239	2645.1
lost to ATV IX only	146239	2645.1
lost to all IX	146239	2645.1

Potential Interfering Stations Included in above Scenario 1

10A SC COLUMBIA	BLCDT	20090624ABZ	LIC
11A GA SAVANNAH	BLCDT	20090622ABP	LIC
11A NC DURHAM	BLCDT	20100929AGW	LIC
11A TN JOHNSON CITY	BLCDT	20100910AAC	LIC
11A VA STAUNTON	BPEDT	20111212ABK	AP

Percent new IX = 0.0000%

Worst case new IX 0.0000% Scenario 1

##

Analysis of Interference to Affected Station 8

Analysis of current record

Channel	Call	City/State	Application	Ref. No.
11	WTVD	DURHAM NC	BLCDT	-20100929AGW

Stations Potentially Affecting This Station

Chan	Call	City/State	Dist(km)	Status	Application	Ref. No.
10	WNCT-TV	GREENVILLE NC	108.4	LIC	BLCDT	-20110504ACA

11	WTVI	CHARLOTTE NC	200.3	LIC	BLEDT	-20101222ABA
11	WJHL-TV	JOHNSON CITY TN	334.8	LIC	BLCDT	-20100910AAC
11	WVPT	STAUNTON VA	286.1	PLN	DTVPLN	-DTVP0338
11	CVIL	STAUNTON VA	257.4	AP	BPEDT	-20111212ABK
11	MONT	STAUNTON VA	312.1	AP	BPEDT	-20111212ABK
11	MAIN	STAUNTON VA	286.1	AP	BPEDT	-20111212ABK
12	WCTI-TV	NEW BERN NC	125.2	LIC	BLCDT	-20090622ADO
12	WWBT	RICHMOND VA	224.0	LIC	BLCDT	-20090803ABS

Total scenarios = 1

Result key: 18
Scenario 1 Affected station 8
Before Analysis

Results for: 11A NC DURHAM BLCDT 20100929AGW LIC
HAAT 615.0 m, ATV ERP 45.0 kW

	POPULATION	AREA (sq km)
within Noise Limited Contour	3369349	51812.2
not affected by terrain losses	3319437	50720.8
lost to NTSC IX	0	0.0
lost to additional IX by ATV	149679	4067.3
lost to ATV IX only	149679	4067.3
lost to all IX	149679	4067.3

Potential Interfering Stations Included in above Scenario 1

10A NC GREENVILLE	BLCDT	20110504ACA	LIC
11A NC CHARLOTTE	BLEDT	20101222ABA	LIC
11A TN JOHNSON CITY	BLCDT	20100910AAC	LIC
12A NC NEW BERN	BLCDT	20090622ADO	LIC
11A VA STAUNTON	DTVPLN	DTVP0338	PLN

After Analysis

Results for: 11A NC DURHAM BLCDT 20100929AGW LIC
HAAT 615.0 m, ATV ERP 45.0 kW

	POPULATION	AREA (sq km)
within Noise Limited Contour	3369349	51812.2
not affected by terrain losses	3319437	50720.8
lost to NTSC IX	0	0.0
lost to additional IX by ATV	152349	4131.8
lost to ATV IX only	152349	4131.8
lost to all IX	152349	4131.8

Potential Interfering Stations Included in above Scenario 1

10A NC GREENVILLE	BLCDT	20110504ACA	LIC
11A NC CHARLOTTE	BLEDT	20101222ABA	LIC
11A TN JOHNSON CITY	BLCDT	20100910AAC	LIC
12A NC NEW BERN	BLCDT	20090622ADO	LIC
11A VA STAUNTON	BPEDT	20111212ABK	AP

Percent new IX = 0.0842%

Worst case new IX 0.0842% Scenario 1

##

Analysis of Interference to Affected Station 9

Analysis of current record

Channel	Call	City/State	Application	Ref. No.
11	WPCW	JEANNETTE PA	BMPCDT	-20080616ABM

Stations Potentially Affecting This Station

Chan	Call	City/State	Dist(km)	Status	Application	Ref. No.
10	WOIO	SHAKER HEIGHTS OH	172.2	LIC	BLCDT	-19991110AAR
10	WOIO	SHAKER HEIGHTS OH	172.2	CP	BPCDT	-20080620AKW
10	WVFX	CLARKSBURG WV	135.5	LIC	BLCDT	-20090612AJY
11	WBAL-TV	BALTIMORE MD	314.7	LIC	BLCDT	-20090619ABW
11	WBAL-TV	BALTIMORE MD	314.7	CP	BPCDT	-20100429AAF
11	WTOL	TOLEDO OH	310.5	LIC	BLCDT	-20090622ABU
11	WBRE-TV	WILKES-BARRE PA	356.9	LIC	BLCDT	-20051123AJX
11	WVPT	STAUNTON VA	265.9	PLN	DTVPLN	-DTVP0338
11	CVIL	STAUNTON VA	308.8	AP	BPEDT	-20111212ABK
11	MONT	STAUNTON VA	241.7	AP	BPEDT	-20111212ABK
11	MAIN	STAUNTON VA	265.9	AP	BPEDT	-20111212ABK
12	WMFD-TV	MANSFIELD OH	221.2	LIC	BLCDT	-20081112ALJ
12	WICU-TV	ERIE PA	174.5	LIC	BLCDT	-20090619ABT
12	WBOY-TV	CLARKSBURG WV	136.9	LIC	BLCDT	-20090227ABW
12	WWPX-TV	MARTINSBURG WV	202.5	LIC	BLCDT	-20021108AAX

Proposal causes no interference

##

Analysis of Interference to Affected Station 10

Analysis of current record

Channel	Call	City/State	Application	Ref. No.
11	WPCW	JEANNETTE PA	BLCDT	-20090626AAT

Stations Potentially Affecting This Station

Chan	Call	City/State	Dist(km)	Status	Application	Ref. No.
10	WOIO	SHAKER HEIGHTS OH	172.2	LIC	BLCDT	-19991110AAR
10	WOIO	SHAKER HEIGHTS OH	172.2	CP	BPCDT	-20080620AKW
10	WVFX	CLARKSBURG WV	135.5	LIC	BLCDT	-20090612AJY
11	WBAL-TV	BALTIMORE MD	314.7	LIC	BLCDT	-20090619ABW
11	WBAL-TV	BALTIMORE MD	314.7	CP	BPCDT	-20100429AAF
11	WTOL	TOLEDO OH	310.5	LIC	BLCDT	-20090622ABU

11	WBRE-TV	WILKES-BARRE PA	356.9	LIC	BLCDT	-20051123AJX
11	WVPT	STAUNTON VA	265.9	PLN	DTVPLN	-DTVP0338
11	CVIL	STAUNTON VA	308.8	AP	BPEDT	-20111212ABK
11	MONT	STAUNTON VA	241.7	AP	BPEDT	-20111212ABK
11	MAIN	STAUNTON VA	265.9	AP	BPEDT	-20111212ABK
12	WMFD-TV	MANSFIELD OH	221.2	LIC	BLCDT	-20081112ALJ
12	WICU-TV	ERIE PA	174.5	LIC	BLCDT	-20090619ABT
12	WBOY-TV	CLARKSBURG WV	136.9	LIC	BLCDT	-20090227ABW
12	WWPX-TV	MARTINSBURG WV	202.5	LIC	BLCDT	-20021108AAX

Proposal causes no interference

##

Analysis of Interference to Affected Station 11

Analysis of current record

Channel	Call	City/State	Application	Ref. No.
11	WBRE-TV	WILKES-BARRE PA	BLCDT	-20051123AJX

Stations Potentially Affecting This Station

Chan	Call	City/State	Dist(km)	Status	Application	Ref. No.
10	WHTM-TV	HARRISBURG PA	132.3	LIC	BLCDT	-20040812AAH
10	WHTM-TV	HARRISBURG PA	132.3	CP	BPCDT	-20080620AGL
11	WWLP	SPRINGFIELD MA	281.8	LIC	BLCDT	-20090612AJV
11	WBAL-TV	BALTIMORE MD	215.7	LIC	BLCDT	-20090619ABW
11	WBAL-TV	BALTIMORE MD	215.7	CP	BPCDT	-20100429AAF
11	WPIX	NEW YORK NY	164.7	APP	BMPCDT	-20080620ALB
11	WPIX	NEW YORK NY	165.6	LIC	BLCDT	-20090911ABN
11	WPCW	JEANNETTE PA	356.9	CP MOD	BMPCDT	-20080616ABM
11	WPCW	JEANNETTE PA	356.9	LIC	BLCDT	-20090626AAT
11	CVIL	STAUNTON VA	420.0	AP	BPEDT	-20111212ABK
12	WHYY-TV	WILMINGTON DE	137.7	CP MOD	BMPEDT	-20091204ADC
12	WNYT	ALBANY NY	222.4	LIC	BLCDT	-20100505AHT
11	MONT	STAUNTON VA		AP	BPEDT	-20111212ABK
11	MAIN	STAUNTON VA		AP	BPEDT	-20111212ABK

Proposal causes no interference

##

Analysis of Interference to Affected Station 12

Analysis of current record

Channel	Call	City/State	Application	Ref. No.
11	WJHL-TV	JOHNSON CITY TN	BLCDT	-20100910AAC

Stations Potentially Affecting This Station

Chan	Call	City/State	Dist(km)	Status	Application	Ref. No.
10	WBIR-TV	KNOXVILLE TN	168.4	LIC	BLCDT	-20090619ADG
10	WSWP-TV	GRANDVIEW WV	191.9	LIC	BLEDT	-20100210AAQ
10	WSWP-TV	GRANDVIEW WV	191.9	APP	BDSTA	-20080225AGT
11	WHAS-TV	LOUISVILLE KY	391.2	LIC	BLCDT	-20100628AWQ
11	WTVI	CHARLOTTE NC	181.8	LIC	BLEDT	-20101222ABA
11	WTVD	DURHAM NC	334.8	LIC	BLCDT	-20100929AGW
11	WVPT	STAUNTON VA	315.3	PLN	DTVPLN	-DTVP0338
11	CVIL	STAUNTON VA	366.5	AP	BPEDT	-20111212ABK
11	MONT	STAUNTON VA	309.1	AP	BPEDT	-20111212ABK
11	MAIN	STAUNTON VA	315.3	AP	BPEDT	-20111212ABK
12	WYMT-TV	HAZARD KY	125.7	LIC	BLCDT	-20040109ACY

Total scenarios = 1

Result key: 19
Scenario 1 Affected station 12
Before Analysis

Results for: 11A TN JOHNSON CITY BLCDT 20100910AAC LIC
HAAT 708.0 m, ATV ERP 34.5 kW

	POPULATION	AREA (sq km)
within Noise Limited Contour	2087406	49236.0
not affected by terrain losses	1454882	37319.6
lost to NTSC IX	0	0.0
lost to additional IX by ATV	106181	1909.4
lost to ATV IX only	106181	1909.4
lost to all IX	106181	1909.4

Potential Interfering Stations Included in above Scenario 1

10A TN KNOXVILLE	BLCDT	20090619ADG	LIC
11A KY LOUISVILLE	BLCDT	20100628AWQ	LIC
11A NC CHARLOTTE	BLEDT	20101222ABA	LIC
11A NC DURHAM	BLCDT	20100929AGW	LIC
12A KY HAZARD	BLCDT	20040109ACY	LIC
11A VA STAUNTON	DTVPLN	DTVP0338	PLN

After Analysis

Results for: 11A TN JOHNSON CITY BLCDT 20100910AAC LIC
HAAT 708.0 m, ATV ERP 34.5 kW

	POPULATION	AREA (sq km)
within Noise Limited Contour	2087406	49236.0
not affected by terrain losses	1454882	37319.6
lost to NTSC IX	0	0.0
lost to additional IX by ATV	106395	1921.5
lost to ATV IX only	106395	1921.5

lost to all IX 106395 1921.5

Potential Interfering Stations Included in above Scenario 1

10A	TN KNOXVILLE	BLCDT	20090619ADG	LIC
11A	KY LOUISVILLE	BLCDT	20100628AWQ	LIC
11A	NC CHARLOTTE	BLEDT	20101222ABA	LIC
11A	NC DURHAM	BLCDT	20100929AGW	LIC
12A	KY HAZARD	BLCDT	20040109ACY	LIC
11A	VA STAUNTON	BPEDT	20111212ABK	AP

Percent new IX = 0.0159%

Worst case new IX 0.0159% Scenario 1

##

Analysis of Interference to Affected Station 13

Analysis of current record

Channel	Call	City/State	Application	Ref. No.
12	WWBT	RICHMOND VA	BLCDT	-20090803ABS

Stations Potentially Affecting This Station

Chan	Call	City/State	Dist(km)	Status	Application	Ref. No.
11	WBAL-TV	BALTIMORE MD	216.4	LIC	BLCDT	-20090619ABW
11	WBAL-TV	BALTIMORE MD	216.4	CP	BPCDT	-20100429AAF
11	WTVD	DURHAM NC	224.0	LIC	BLCDT	-20100929AGW
11	WVPT	STAUNTON VA	175.0	PLN	DTVPLN	-DTVP0338
11	CVIL	STAUNTON VA	101.2	AP	BPEDT	-20111212ABK
11	MONT	STAUNTON VA	205.8	AP	BPEDT	-20111212ABK
11	MAIN	STAUNTON VA	175.0	AP	BPEDT	-20111212ABK
12	WHYY-TV	WILMINGTON DE	343.3	CP MOD	BMPEDT	-20091204ADC
12	WCTI-TV	NEW BERN NC	267.4	LIC	BLCDT	-20090622ADO
12	WBOY-TV	CLARKSBURG WV	315.7	LIC	BLCDT	-20090227ABW
12	WWPX-TV	MARTINSBURG WV	222.3	LIC	BLCDT	-20021108AAX
13	WJZ-TV	BALTIMORE MD	216.4	CP	BPCDT	-20110810AAL
13	WJZ-TV	BALTIMORE MD	216.4	LIC	BLCDT	-20090727ADD
13	WVEC	HAMPTON VA	119.5	LIC	BLCDT	-20090612AJJ
13	WSET-TV	LYNCHBURG VA	189.4	LIC	BLCDT	-20091013ABE

Proposal causes no interference

##

Analysis of Interference to Affected Station 14

Analysis of current record

Channel	Call	City/State	Application	Ref. No.

Channel	Call	City/State	Application Ref. No.
12	WBOY-TV	CLARKSBURG WV	BLCDT -20090227ABW

Stations Potentially Affecting This Station

Chan	Call	City/State	Dist(km)	Status	Application Ref. No.
11	WPCW	JEANNETTE PA	136.9	CP MOD	BMPCDT -20080616ABM
11	WPCW	JEANNETTE PA	136.9	LIC	BLCDT -20090626AAT
11	WVPT	STAUNTON VA	152.5	PLN	DTVPLN -DTVP0338
11	CVIL	STAUNTON VA	215.9	AP	BPEDT -20111212ABK
11	MONT	STAUNTON VA	122.3	AP	BPEDT -20111212ABK
11	MAIN	STAUNTON VA	152.5	AP	BPEDT -20111212ABK
12	WYMT-TV	HAZARD KY	340.6	LIC	BLCDT -20040109ACY
12	WKRC-TV	CINCINNATI OH	359.9	LIC	BLCDT -20090622AFI
12	WMFD-TV	MANSFIELD OH	254.8	LIC	BLCDT -20081112ALJ
12	WICU-TV	ERIE PA	310.1	LIC	BLCDT -20090619ABT
12	WWBT	RICHMOND VA	315.7	LIC	BLCDT -20090803ABS
12	WWPX-TV	MARTINSBURG WV	195.6	LIC	BLCDT -20021108AAX
13	WQED	PITTSBURGH PA	132.8	LIC	BLEDT -20091127ABD
13	WSET-TV	LYNCHBURG VA	227.2	LIC	BLCDT -20091013ABE
13	WOWK-TV	HUNTINGTON WV	184.2	LIC	BLCDT -20090227ABU

Proposal causes no interference

##

Analysis of Interference to Affected Station 15

Analysis of current record

Channel	Call	City/State	Application Ref. No.
12	WWPX-TV	MARTINSBURG WV	BLCDT -20021108AAX

Stations Potentially Affecting This Station

Chan	Call	City/State	Dist(km)	Status	Application Ref. No.
11	WBAL-TV	BALTIMORE MD	122.2	LIC	BLCDT -20090619ABW
11	WBAL-TV	BALTIMORE MD	122.2	CP	BPCDT -20100429AAF
11	WPCW	JEANNETTE PA	202.5	CP MOD	BMPCDT -20080616ABM
11	WPCW	JEANNETTE PA	202.5	LIC	BLCDT -20090626AAT
11	WVPT	STAUNTON VA	179.9	PLN	DTVPLN -DTVP0338
11	CVIL	STAUNTON VA	167.8	AP	BPEDT -20111212ABK
11	MONT	STAUNTON VA	181.3	AP	BPEDT -20111212ABK
11	MAIN	STAUNTON VA	179.9	AP	BPEDT -20111212ABK
12	WHYY-TV	WILMINGTON DE	250.0	CP MOD	BMPEDT -20091204ADC

12	WMFD-TV	MANSFIELD OH	413.3	LIC	BLCDT	-20081112ALJ
12	WICU-TV	ERIE PA	332.6	LIC	BLCDT	-20090619ABT
12	WWBT	RICHMOND VA	222.3	LIC	BLCDT	-20090803ABS
12	WBOY-TV	CLARKSBURG WV	195.6	LIC	BLCDT	-20090227ABW
13	WJZ-TV	BALTIMORE MD	122.2	CP	BPCDT	-20110810AAL
13	WJZ-TV	BALTIMORE MD	122.2	LIC	BLCDT	-20090727ADD
13	WQED	PITTSBURGH PA	195.6	LIC	BLEDT	-20091127ABD

Proposal causes no interference

##

Analysis of Interference to Affected Station 16

Analysis of current record
DTS STATION

Channel	Call	City/State	Application	Ref. No.
11	MAIN	STAUNTON VA	BPEDT	-20111212ABK

Stations Potentially Affecting This Station

Chan	Call	City/State	Dist(km)	Status	Application	Ref. No.
10	WVFX	CLARKSBURG WV	154.6	LIC	BLCDT	-20090612AJY
10	WSWP-TV	GRANDVIEW WV	149.7	LIC	BLEDT	-20100210AAQ
10	WSWP-TV	GRANDVIEW WV	149.7	APP	BDSTA	-20080225AGT
11	WBAL-TV	BALTIMORE MD	264.9	LIC	BLCDT	-20090619ABW
11	WBAL-TV	BALTIMORE MD	264.9	CP	BPCDT	-20100429AAF
11	WTVI	CHARLOTTE NC	342.7	LIC	BLEDT	-20101222ABA
11	WTVD	DURHAM NC	286.1	LIC	BLCDT	-20100929AGW
11	WPCW	JEANNETTE PA	265.9	CP MOD	BMPCDT	-20080616ABM
11	WPCW	JEANNETTE PA	265.9	LIC	BLCDT	-20090626AAT
11	WJHL-TV	JOHNSON CITY TN	315.3	LIC	BLCDT	-20100910AAC
12	WWBT	RICHMOND VA	175.0	LIC	BLCDT	-20090803ABS
12	WBOY-TV	CLARKSBURG WV	152.5	LIC	BLCDT	-20090227ABW
12	WWPX-TV	MARTINSBURG WV	179.9	LIC	BLCDT	-20021108AAX

DTS Site number 03 for station 20111212ABK
Channel 11 Call MAIN City/State STAUNTON VA
Fails the service area limitations as noted below *** Note this comparison is for the current 3.2 kW license, WVPT has a CP for 10 kW and has applied for a license.
This DTS system uses EWVPT Main as 10 kW, thus there no excursions beyond limits. ****

AZIMUTH (DEGREES)	EXCURSION DISTANCE KM
221.25	0.25

221.50	0.29
221.75	0.28
222.00	0.33
222.25	0.39
222.50	0.43
222.75	0.41
223.00	0.47
223.25	0.50
223.50	0.57
223.75	0.58
224.00	0.64
224.25	0.66
224.50	0.66
224.75	0.79
225.00	0.79
225.25	0.79
225.50	0.85
225.75	0.88
226.00	0.94
226.25	1.00
226.50	0.97
226.75	1.05
227.00	1.14
227.25	1.11
227.50	1.17
227.75	1.14
228.00	1.23
228.25	1.29
228.50	1.39
228.75	1.38
229.00	1.43
229.25	1.43
229.50	1.47
229.75	1.51
230.00	1.51
230.25	1.41
230.50	1.30
230.75	1.24
231.00	1.28
231.25	1.21
231.50	1.09
231.75	1.08
232.00	1.05
232.25	0.92
232.50	0.86
232.75	0.77
233.00	0.71
233.25	0.61
233.50	0.46
233.75	0.42
234.00	0.34

DTS fails to cover non-DTS served area
7 Cells unserved

Total scenarios = 2

Result key: 20
Scenario 1 Affected station 16
Before Analysis

Results for: 11A VA STAUNTON BPEDT 20111212ABK AP
HAAT 328.0 m, ATV ERP 0.1 kW

	POPULATION	AREA (sq km)
within Noise Limited Contour	876240	27162.4
not affected by terrain losses	731286	24347.4
lost to NTSC IX	0	0.0

```
   lost to additional IX by ATV       47000       1523.5
   lost to ATV IX only                47000       1523.5
   lost to all IX                     47000       1523.5

 Potential Interfering Stations Included in above Scenario     1

11A MD BALTIMORE            BLCDT     20090619ABW  LIC
11A NC CHARLOTTE            BLEDT     20101222ABA  LIC
11A NC DURHAM               BLCDT     20100929AGW  LIC
11A TN JOHNSON CITY         BLCDT     20100910AAC  LIC

Result key:       21
Scenario        2  Affected station       16
Before Analysis

Results for: 11A VA STAUNTON             BPEDT     20111212ABK  AP
   HAAT  328.0 m, ATV ERP    0.1 kW
                                    POPULATION   AREA (sq km)
   within Noise Limited Contour      876240      27162.4
   not affected by terrain losses    731286      24347.4
   lost to NTSC IX                        0          0.0
   lost to additional IX by ATV       50777       1783.4
   lost to ATV IX only                50777       1783.4
   lost to all IX                     50777       1783.4

 Potential Interfering Stations Included in above Scenario     2

11A MD BALTIMORE            BPCDT     20100429AAF  CP
11A NC CHARLOTTE            BLEDT     20101222ABA  LIC
11A NC DURHAM               BLCDT     20100929AGW  LIC
11A TN JOHNSON CITY         BLCDT     20100910AAC  LIC

################################################################################

FINISHED FINISHED FINISHED FINISHED FINISHED FINISHED
```

Summary Study

Percent allowed new interference: 0.500
Percent allowed new interference to non Class A LPTV: 2.000
Census data selected 2000
Data Base Selected
./data_files/pt_tvdb.sff
TV INTERFERENCE and SPACING ANALYSIS PROGRAM

Date: 12-14-2011 Time: 16:21:58

Record Selected for Analysis (Record is a DTS)

CVIL BPEDT -20111212ABK STAUNTON VA US
Channel 11 ERP 0.10 kW HAAT 00328 m RCAMSL 00495 m
Latitude 037-59-00 Longitude 0078-29-02
Status AP Zone 1 Border Site number: 01
Dir Antenna Make CDB Model 00000000078975 Beam tilt N Ref Azimuth 0.0
Elevation Antenna Pattern ID: 123
Last update 00000000 Cutoff date 00000000 Docket
Comments
Applicant SHENANDOAH VALLEY EDUCATIONAL TELEVI

MONT BPEDT -20111212ABK STAUNTON VA US
Channel 11 ERP 0.01 kW HAAT 00457 m RCAMSL 01338 m
Latitude 038-20-39 Longitude 0079-35-47
Status AP Zone 1 Border Site number: 02
Dir Antenna Make CDB Model 00000000077677 Beam tilt N Ref Azimuth 345.0
Elevation Antenna Pattern ID: 124
Last update 00000000 Cutoff date 00000000 Docket
Comments
Applicant SHENANDOAH VALLEY EDUCATIONAL TELEVI

MAIN BPEDT -20111212ABK STAUNTON VA US
Channel 11 ERP 10.0 kW HAAT 00680 m RCAMSL 01333 m
Latitude 038-09-54 Longitude 0079-18-51
Status AP Zone 1 Border Site number: 03
Dir Antenna Make CDB Model 00000000107753 Beam tilt N Ref Azimuth 0.0
Elevation Antenna Pattern ID: 122
Last update 00000000 Cutoff date 00000000 Docket
Comments
Applicant SHENANDOAH VALLEY EDUCATIONAL TELEVI

Cell Size for Service Analysis 2.0 km/side

Distance Increments for Longley-Rice Analysis 1.00 km

Facility (site # 01) meets maximum height/power limits

Facility (site # 02) meets maximum height/power limits

Facility (site # 03) does not meet maximum height/power limits
Channel 11 ERP = 10.00 HAAT = 680.

Site number 1

Azimuth (Deg)	ERP (kW)	HAAT (m)	36.0 dBu F(50,90) (km)

0.0	0.098	357.1	61.1
45.0	0.029	264.2	46.6
90.0	0.000	378.9	16.9
135.0	0.001	353.7	29.6
180.0	0.000	350.8	21.3
225.0	0.001	324.8	28.5
270.0	0.000	273.5	13.9
315.0	0.029	321.6	50.0

Site number 2

Azimuth (Deg)	ERP (kW)	HAAT (m)	36.0 dBu F(50,90) (km)
0.0	0.008	401.6	44.5
45.0	0.000	268.2	13.8
90.0	0.000	570.8	20.9
135.0	0.000	651.1	23.0
180.0	0.000	580.4	21.2
225.0	0.000	497.9	19.0
270.0	0.000	386.1	17.1
315.0	0.004	320.9	34.3

Database HAAT does not agree with computed HAAT
Database HAAT: 457 Computed HAAT: 460

Site number 3

Azimuth (Deg)	ERP (kW)	HAAT (m)	36.0 dBu F(50,90) (km)
0.0	0.009	685.0	57.2
45.0	0.649	683.0	92.0
90.0	7.043	778.4	114.3
135.0	6.071	709.4	111.5
180.0	5.173	722.7	110.4
225.0	5.762	619.0	108.4
270.0	0.049	657.0	69.8
315.0	0.006	609.3	52.2

Database HAAT does not agree with computed HAAT
Database HAAT: 680 Computed HAAT: 683

Evaluation toward Class A Stations from site # 01

No Spacing violations or contour overlap
to Class A stations from site # 01

Evaluation toward Class A Stations from site # 02

No Spacing violations or contour overlap
to Class A stations from site # 02

Evaluation toward Class A Stations from site # 03

No Spacing violations or contour overlap
to Class A stations from site # 03

Class A Evaluation Complete

SPACING VIOLATION FOUND BETWEEN STATION

CVIL 11 STAUNTON VA BPEDT 20111212ABK Site # 01

and station

SHORT TO: WBAL-TV 11 BALTIMORE MD BLCDT 20090619ABW
039-20- 5 0076-39- 3
Req. separation 244.6 Actual separation 219.0 Short 25.6 km

SHORT TO: WBAL-TV 11 BALTIMORE MD BPCDT 20100429AAF
039-20- 5 0076-39- 3
Req. separation 244.6 Actual separation 219.0 Short 25.6 km

SHORT TO: WVPT 11 STAUNTON VA BPEDT 20081022ABK
038-09-54 0079-18-51
Req. separation 244.6 Actual separation 75.6 Short 169.0 km

SHORT TO: WVPT 11 STAUNTON VA DTVPLN DTVP0338
38 -09-54 79 -18-51
Req. separation 244.6 Actual separation 75.6 Short 169.0 km

SHORT TO: WVPT 11 STAUNTON VA BLEDT 20021220ADX
038-09-54 0079-18-51
Req. separation 244.6 Actual separation 75.6 Short 169.0 km

SHORT TO: WWBT 12 RICHMOND VA BLCDT 20090803ABS
037-30-23 0077-30-12
Req. separation => 20.0 <= 110.0 Actual separation 101.3 Short 8.7(81.3) km

SPACING VIOLATION FOUND BETWEEN STATION

MONT 11 STAUNTON VA BPEDT 20111212ABK Site # 02

and station

SHORT TO: WPCW 11 JEANNETTE PA BMPCDT 20080616ABM
040-29-38 0080-01- 9
Req. separation 244.6 Actual separation 241.4 Short 3.2 km

SHORT TO: WPCW 11 JEANNETTE PA BLCDT 20090626AAT
040-29-38 0080-01- 9
Req. separation 244.6 Actual separation 241.4 Short 3.2 km

SHORT TO: WVPT 11 STAUNTON VA BPEDT 20081022ABK
038-09-54 0079-18-51
Req. separation 244.6 Actual separation 31.7 Short 212.9 km

SHORT TO: WVPT 11 STAUNTON VA DTVPLN DTVP0338

38 -09-54 79 -18-51
Req. separation 244.6 Actual separation 31.7 Short 212.9 km

SHORT TO: WVPT   11 STAUNTON   VA BLEDT   20021220ADX
038-09-54 0079-18-51
Req. separation 244.6 Actual separation 31.7 Short 212.9 km

SPACING VIOLATION FOUND BETWEEN STATION

MAIN   11 STAUNTON   VA BPEDT   20111212ABK Site # 03

and station

SHORT TO: WVPT   11 STAUNTON   VA BPEDT   20081022ABK
038-09-54 0079-18-51
Req. separation 244.6 Actual separation   0.0 Short 244.6 km

SHORT TO: WVPT   11 STAUNTON   VA DTVPLN   DTVP0338
38 -09-54 79 -18-51
Req. separation 244.6 Actual separation   0.0 Short 244.6 km

SHORT TO: WVPT   11 STAUNTON   VA BLEDT   20021220ADX
038-09-54 0079-18-51
Req. separation 244.6 Actual separation   0.0 Short 244.6 km

Checks to Site Number 01

Proposed facility OK to FCC Monitoring Stations

Proposed facility OK toward West Virginia quiet zone

Proposed facility OK toward Table Mountain

Proposed facility is beyond the Canadian coordination distance

Proposed facility is beyond the Mexican coordination distance

Proposed station is OK toward AM broadcast stations

Checks to Site Number 02

Proposed facility OK to FCC Monitoring Stations

Proposed facility within West Virginia quiet zone

Proposed facility OK toward Table Mountain

Proposed facility is beyond the Canadian coordination distance

Proposed facility is beyond the Mexican coordination distance

Proposed station is OK toward AM broadcast stations

Checks to Site Number 03

Proposed facility OK to FCC Monitoring Stations

Proposed facility within West Virginia quiet zone

Proposed facility OK toward Table Mountain

Proposed facility is beyond the Canadian coordination distance

Proposed facility is beyond the Mexican coordination distance

Proposed station is OK toward AM broadcast stations

****

Start of Interference Analysis

Channel	Proposed Station Call	City/State	ARN	
11	CVIL	STAUNTON VA	BPEDT	20111212ABK

Stations Potentially Affected by Proposed Station

Chan	Call	City/State	Dist(km)	Status	Application	Ref. No.
10	WAZT-CA	WOODSTOCK VA	109.1	LIC	BLTVA	20030718ADF
10	WVFX	CLARKSBURG WV	217.9	LIC	BLCDT	20090612AJY
10	WSWP-TV	GRANDVIEW WV	219.8	LIC	BLEDT	20100210AAQ
10	WSWP-TV	GRANDVIEW WV	219.8	APP	BDSTA	20080225AGT
11	WBAL-TV	BALTIMORE MD	218.8	LIC	BLCDT	20090619ABW
11	WBAL-TV	BALTIMORE MD	218.8	CP	BPCDT	20100429AAF
11	WTVI	CHARLOTTE NC	358.8	LIC	BLEDT	20101222ABA
11	WTVD	DURHAM NC	257.4	LIC	BLCDT	20100929AGW
11	WPCW	JEANNETTE PA	308.8	CP MOD	BMPCDT	20080616ABM
11	WPCW	JEANNETTE PA	308.8	LIC	BLCDT	20090626AAT
11	WBRE-TV	WILKES-BARRE PA	420.0	LIC	BLCDT	20051123AJX
11	WJHL-TV	JOHNSON CITY TN	366.5	LIC	BLCDT	20100910AAC
12	WWBT	RICHMOND VA	101.2	LIC	BLCDT	20090803ABS
12	WBOY-TV	CLARKSBURG WV	215.9	LIC	BLCDT	20090227ABW
12	WWPX-TV	MARTINSBURG WV	167.8	LIC	BLCDT	20021108AAX

%%%

Study of this proposal found the following interference problem(s):

DTS Site number 03 for station 20111212ABK
Channel 11 Call MAIN City/State STAUNTON VA
Fails the service area limitations

DTS fails to cover non-DTS served area
7 Cells unserved

*** Note, as explained in the full text for this study, the OET-60 DTV

analysis program
compares the proposed DTS service area with the 3.2 kW WVPT service area. This sytem proposes
the use of WVPT 10 kW C.P. which as this data is in the process of being licensed.

NATIONAL RADIO ASTRONOMY OBSERVATORY

POST OFFICE BOX 2
GREEN BANK, WV 24944-0002
NRQZ OFFICE TELEPHONE (304) 456-2107 FAX (304) 456-2276
HTTP://WWW.GB.NRAO.EDU/ NRQZ@NRAO.EDU

NRQZ ID: 753819DEC2011

Shenandoah Valley Educational Television Corporation
298 Port Republic Rd.
Harrisonburg, Virginia 22801-3052

Application Reason/Purpose	Pre-coordination of existing call signs
File/Docket/Assignment #	Shall be provided by the applicant
Applicant Name	Addressee
Call Sign	WVPT
Site Name or Loc	See exhibit A
Frequency Coordinator	Not required
Previous Evaluations	Various
NRAO Coordination	NRQZ ID 7538/19 December 2011

Dear Applicant:

The National Radio Quiet Zone (NRQZ) office evaluated the proposed facilities as shown in exhibit A to determine the possible interference impact on our highly sensitive radio astronomy operations.

SPECIAL CONDITION

The National Radio Astronomy Observatory (NRAO), Green Bank, WV, objects unless and until the special condition of the **Monterey** station license limit the effective radiated power to 0.0014 watts DTV at Azimuth 295 degrees True.

To meet this special condition, the applicant shall:

1. Use the final engineering submitted by Doug Vernier on 13 March 2012 indicating that the site will meet the requested ERPd limit.
2. Arrange for a site inspection to verify implementation of the submitted and approved engineering.

The NRAO has no objection to the Elliott Knob facility as submitted, which indicated no change to the previously approved analysis under NRQZ ID 3563-2; therefore, this location is grandfathered.

Regulatory

The NRQZ office requests that:

1. The FCC places a special condition on the station license.
2. This Letter of Concurrence be attached to the FCC application.
3. The applicant provides the NRQZ office notice of their official filing with the FCC per section 47CFR1.924 (a) (2).

NATIONAL RADIO ASTRONOMY OBSERVATORY
POST OFFICE BOX 2
GREEN BANK, WV 24944-0002
NRQZ OFFICE TELEPHONE (304) 456-2107 FAX (304) 456-2276
HTTP://WWW.GB.NRAO.EDU/ NRQZ@NRAO.EDU

The National Radio Astronomy Observatory, Green Bank, WV, has no objections provided the special condition is met.

The Sugar Grove Research Station, Sugar Grove, WV has no objections.

This letter constitutes coordination of assignment in the National Radio Quiet Zone as required by the FCC Rules and Regulations 47CFR1.924.

If I can be of assistance, please feel free to contact me.

Sincerely,

Paulette W. Woody
Interference Office
NRQZ Administrator
PWW:pww

cc: Doug Vernier okay

File: 7538.doc

Attachment: Exhibit "A"

NATIONAL RADIO ASTRONOMY OBSERVATORY
POST OFFICE BOX 2
GREEN BANK, WV 24944-0002
NRQZ OFFICE TELEPHONE (304) 456-2107 FAX (304) 456-2276
HTTP://WWW.GB.NRAO.EDU/ NRQZ@NRAO.EDU

Exhibit "A"

Site Name or Loc	Elliott Knob
Nearest City/State	Staunton Virginia
N Latitude	38 09 54.47
W Longitude	79 18 50.13
Ground Elevation (m)	1322.8
Frequency (MHz)	201
Emission Designator	Digital TV
Antenna 1 Type (Gain dBi)	On file
Height agl (m)	10
Orientation (degT)	150° true with 1° electrical tilt

Site Name or Loc	Monterey
Nearest City/State	Monterey Virginia
N Latitude	38 20 39
W Longitude	79 35 47
Ground Elevation (m)	1338
Frequency (MHz)	201
Emission Designator	Digital TV
Antenna 1 Type (Gain dBi)	Scala C L-713, 9 dBd
Height agl (m)	42.9
Orientation (degT)	355° true

WVPT DTS System Sites

WVPT-TV (CP)
BLEDT20021220ADX
Latitude: 38-09-54 N
Longitude: 079-18-51 W
ERP: 10.00 kW
Channel: 11
Frequency: 201.0 MHz
AMSL Height: 1333.0 m

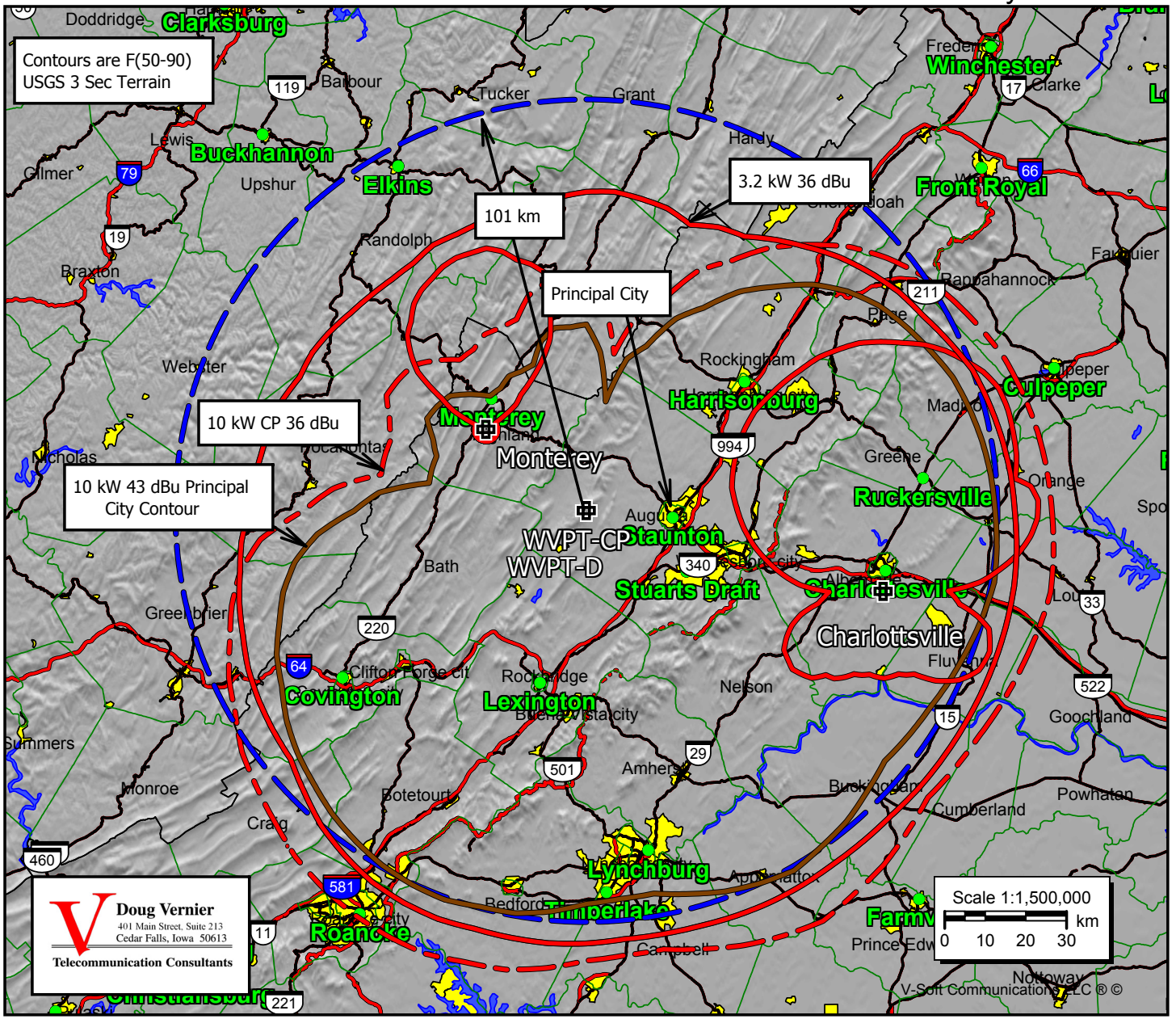
WVPT-TV
BPEDT20081022ABK
Latitude: 38-09-54 N
Longitude: 079-18-51 W
ERP: 3.20 kW
Channel: 11
Frequency: 201.0 MHz
AMSL Height: 1333.0 m

Charlottsville

Latitude: 37-59-00 N
Longitude: 078-29-02 W
ERP: 0.10 kW
Channel: 11
Frequency: 201.0 MHz
AMSL Height: 495.0 m

Monterey

Latitude: 38-20-39 N
Longitude: 079-35-47 W
ERP: 0.008 kW
Channel: 11
Frequency: 201.0 MHz
AMSL Height: 1338.0 m



Environmental Exhibit

WVPT-TV DTS

System Shenandoah Valley Educational TV Corporation

WVPT-TV - Channel 11, 10 kW H, DA

The proposed antenna will be located at the Elliott Knob transmitter site. This is an isolated Forestry controlled antenna site having high elevation, overlooking a wide expanse of terrain with a rapid fall off of elevation in the direction of the proposed major lobe.

The site is at the top of a long winding 4-5 mile steep road up the mountain. There is a gate under lock and key at the start of this road with warning signs posted. Consequently, the site is off limits to the public and can be considered "controlled." The applicant's DTV and analog TV are located atop the mountain. There is an LPTV and an FM station also at the site.

Based on the formulas expressed in the OET Bulletin, No. 65, August 1997 as amended, Evaluating Compliance with FCC guidelines for Human Exposure to Radio Frequency Electronic Magnetic Fields", published by the Federal Communications Commission's Office of Science and Engineering, the proposed 10 kW facility, centered at 201 MHz, with its antenna radiation center 10 meters above ground level, is predicted to produce a maximum power density at a position 2 meters above the tower base (head level) of 208.8 microwatts per square centimeter, which is 20.9 percent of the 1000 microwatt per square centimeter maximum. (Relative Field = 0.2) The proposed antenna has a depression angle of 30.3 degrees to the location of the steep drop-off which is located 13.7 meters in the front of the antenna. Based on the manufacturer's vertical elevation field, this location is within the first null. (See attachment A.) The RF density at head height at this null of relative field 0.025 is 3.39 microwatts per square centimeter. This is only 0.34 percent of the maximum. At a distance of 6.85 meters from the antenna base, or half-way between the antenna base and the drop-off, the depression angle becomes 50.9 degrees. Though the manufacturer's relative field graph ends at a depression angle of 30 degrees, if we use the OET 69 referenced high gain antenna relative field of 0.2, we get the same value as is found directly beneath the antenna. Consequently, the focus of the channel 11 beam is well off the mountain top at an area that cannot be reached by site engineers. Even so, the applicant has placed warning signs directly in front of the antenna. The power off the back of the antenna is 0.32 kW (see the proposed azimuth pattern in attachment B.) This produces 0.668 microwatts per square centimeter, assuming a relative field of 0.2. This is only 0.067 percent of the maximum.

WHSV-TV operates a DTS station from this site using the old WVPT channel 51 antenna. This antenna is a unique "billboard" antenna design which now operates at an ERP of 0.5 kW. This antenna also has its center at 10 meters above the ground. Considering the manufacturer's vertical elevation field graph of 0.02 (see attachment C,) the field of this antenna is also at a null at a depression angle of approximately 28.5 degrees, at the drop off position which is some 13.7 meters from the base of the antenna. The RF density at this point is 0.0023 microwatts per square centimeter which is a negligible percent of the

maximum. As is the case for the WVPT- DT antenna, the field will get higher as the observer gets closer to the antenna itself. At a position half the distance from the antenna, 6.85 meters from the antenna base, using a relative field of 0.1, the antenna produces 0.11 microwatts per square centimeter which is 0.005 percent of the maximum.

Again, the focus of this antenna is in the same direction as the WVPT-DT antenna which the drop-off. This area has been posted with a warning sign for workers to stay outside of the area where the power density is at its highest. The area cannot be fenced off under instructions from the Forest Service which prohibit fencing at the site.

The FM station, WTON-FM, operates with an ERI type 3 antenna having an ERP of 0.34 kW from an antenna 11 meters above ground. This station has a calculated power density, at head height, of 8.4 microwatts per square centimeter, which is 0.84 percent of the maximum.

W31CE also transmits from the site with an ERP of 27 kW from an antenna 10 meters above the ground. This station produces 141.9 microwatts per square centimeter at head height, which is 7.4 percent of the maximum.

The licensee of W41DT transmits from this site using a power of 15 kW at 28 meters above ground. At head height this station produces 8.7 microwatts per square centimeter which is 0.411 percent of the maximum.

Charlottesville Site:

This site uses a Scala DRV-1. The manufacturer indicates the field at the nadir is .08 percent. Using the more conservative field of 0.2 percent as recommend in the OET 65 documents, this antenna which transmits with 0.1 kW of horizontally polarized power from an antenna height of 66 meters to head height, this antenna produces 0.031 microwatts per square centimeter. This amounts to 0.003 percent of the maximum of 1000 microwatts per square centimeter. Since this value is well below 1% no further analysis was deemed necessary.

Monterey Site:

This site uses the Scala CL-713 antenna. The manufacturer indicates the field at the nadir is .02 percent. Using the more conservative field of 0.2 percent as recommend in the OET-65 documents, this antenna which transmits with 0.008 kW of power from an antenna height of 41 meters to head height, this antenna produces 0.006 microwatts per square centimeter. This amounts to 0.0006 percent of the maximum of 1000 microwatts per square centimeter. There are no other sources of R.F. emissions at this site.

The sum of all emissions from the WVPT-TV main site falls well below the maximum threshold for a controlled area. The Charlottesville and Monterey sites are equally protective of the environment. Consequently, the applicant will fully comply with the FCC's maximum RF power density standards. The WVPT-TV main site area is posted with warning signs. As a total system, the applicant is confident it will

be in full compliance with the Commission's human exposure to radiofrequency electromagnetic fields rules.

The applicant has an agreement with the other stations at the WVPT-TV site to protect workers by either reducing R.F. emissions or terminating operations when workers are on the site or on towers where excessive exposure to electromagnetic radiation can be received.

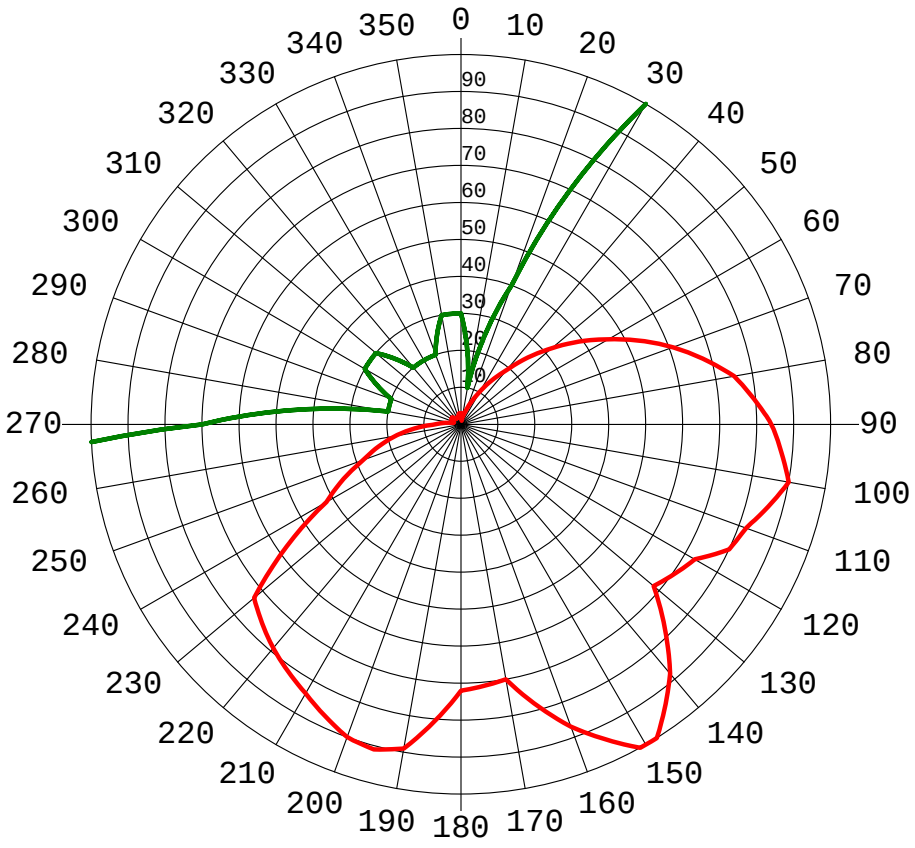
N. Lat. = 380954.0 W. Lng. = 791851.0
HAAT and Distance to Contour,
FCC OET,TV 3.2 - 16.1, 130 pts - USGS 03 SEC

WVPT-D, Shenandoah Valley Educationa, BPEDT20081022ABK

Azi.	AV EL	HAAT	ERP kW	dBk	Field	DAng	VFld	D-kW	%Max	D-dBk	43-F9
000	648.7	684.3	0.0090	-20.46	0.030	0.725	0.999	0.0090	99.9	-20.46	45.69
010	718.4	614.6	0.0010	-30.00	0.010	0.687	0.999	0.0010	99.9	-30.00	27.20
020	822.9	510.1	0.0160	-17.96	0.040	0.626	0.999	0.0160	99.9	-17.96	42.98
030	810.7	522.3	0.1000	-10.00	0.100	0.633	0.999	0.0997	99.9	-10.00	57.50
040	717.1	615.9	0.3610	-4.42	0.190	0.687	0.999	0.3601	99.9	-4.42	71.71
050	608.6	724.4	1.0240	0.10	0.320	0.746	0.999	1.0219	99.9	0.10	83.72
060	561.8	771.2	2.1160	3.26	0.460	0.769	0.999	2.1121	99.9	3.26	90.54
070	527.8	805.2	3.7210	5.71	0.610	0.786	0.999	3.7146	99.9	5.71	95.76
080	547.1	785.9	5.6250	7.50	0.750	0.777	0.999	5.6149	99.9	7.50	98.71
090	556.1	776.9	7.0560	8.49	0.840	0.772	0.999	7.0431	99.9	8.49	100.41
100	549.6	783.4	8.1000	9.08	0.900	0.775	0.999	8.0854	99.9	9.08	101.72
110	572.3	760.7	6.7240	8.28	0.820	0.764	0.999	6.7113	99.9	8.28	99.62
120	589.9	743.1	5.3290	7.27	0.730	0.755	0.999	5.3186	99.9	7.27	97.24
130	606.7	726.3	4.6240	6.65	0.680	0.746	0.999	4.6146	99.9	6.65	95.65
140	623.9	709.1	7.7440	8.89	0.880	0.738	0.999	7.7278	99.9	8.89	99.56
150	613.3	719.7	10.0000	10.00	1.000	0.743	0.999	9.9795	99.9	10.00	102.03
160	617.8	715.2	7.5690	8.79	0.870	0.741	0.999	7.5533	99.9	8.79	99.51
170	633.4	699.6	4.9000	6.90	0.700	0.733	0.999	4.8895	99.9	6.90	95.46
180	608.7	724.3	5.1840	7.15	0.720	0.746	0.999	5.1735	99.9	7.15	96.54
190	600.0	733.0	7.9210	8.99	0.890	0.750	0.999	7.9052	99.9	8.99	100.34
200	555.3	777.7	8.1000	9.08	0.900	0.772	0.999	8.0853	99.9	9.08	101.59
210	553.8	779.2	7.0560	8.49	0.840	0.773	0.999	7.0432	99.9	8.49	100.46
220	646.9	686.1	6.2410	7.95	0.790	0.726	0.999	6.2273	99.9	7.95	97.15
230	763.7	569.3	5.3290	7.27	0.730	0.661	0.999	5.3146	99.9	7.27	92.69
240	670.1	662.9	1.7640	2.46	0.420	0.713	0.999	1.7600	99.9	2.46	86.33
250	654.2	678.8	0.7840	-1.06	0.280	0.722	0.999	0.7823	99.9	-1.06	80.21
260	647.7	685.3	0.3240	-4.89	0.180	0.725	0.999	0.3233	99.9	-4.89	72.71
270	676.8	656.2	0.0490	-13.10	0.070	0.710	0.999	0.0489	99.9	-13.10	56.96
280	660.9	672.1	0.0040	-23.98	0.020	0.718	0.999	0.0040	99.9	-23.98	39.20
290	662.4	670.6	0.0040	-23.98	0.020	0.717	0.999	0.0040	99.9	-23.98	39.16
300	664.4	668.6	0.0090	-20.46	0.030	0.716	0.999	0.0090	99.9	-20.46	45.22
310	706.6	626.4	0.0090	-20.46	0.030	0.693	0.999	0.0090	99.9	-20.46	43.78
320	736.3	596.7	0.0040	-23.98	0.020	0.677	0.999	0.0040	99.9	-23.98	36.83
330	699.3	633.7	0.0040	-23.98	0.020	0.697	0.999	0.0040	99.9	-23.98	38.07
340	697.8	635.2	0.0040	-23.98	0.020	0.698	0.999	0.0040	99.9	-23.98	38.12
350	656.8	676.2	0.0090	-20.46	0.030	0.720	0.999	0.0090	99.9	-20.46	45.45

Ave El= 644.10 M HAAT= 688.90 M AMSL= 1333 M

Horizontal Azimuth Pattern



Azi	Rel	dBk	kW	dB
0	0.030	-20.46	0.009	-30.46
10	0.010	-30.00	0.001	-40.00
20	0.040	-17.96	0.016	-27.96
30	0.100	-10.00	0.100	-20.00
40	0.190	-4.42	0.361	-14.42
50	0.320	0.10	1.024	-9.90
60	0.460	3.26	2.116	-6.74
70	0.610	5.71	3.721	-4.29
80	0.750	7.50	5.625	-2.50
90	0.840	8.49	7.056	-1.51
100	0.900	9.08	8.100	-0.92
110	0.820	8.28	6.724	-1.72
120	0.730	7.27	5.329	-2.73
130	0.680	6.65	4.624	-3.35
140	0.880	8.89	7.744	-1.11
150	1.000	10.00	10.000	0.00
160	0.870	8.79	7.569	-1.21
170	0.700	6.90	4.900	-3.10

Azi	Rel	dBk	kW	dB
180	0.720	7.15	5.184	-2.85
190	0.890	8.99	7.921	-1.01
200	0.900	9.08	8.100	-0.92
210	0.840	8.49	7.056	-1.51
220	0.790	7.95	6.241	-2.05
230	0.730	7.27	5.329	-2.73
240	0.420	2.46	1.764	-7.54
250	0.280	-1.06	0.784	-11.06
260	0.180	-4.89	0.324	-14.89
270	0.070	-13.10	0.049	-23.10
280	0.020	-23.98	0.004	-33.98
290	0.020	-23.98	0.004	-33.98
300	0.030	-20.46	0.009	-30.46
310	0.030	-20.46	0.009	-30.46
320	0.020	-23.98	0.004	-33.98
330	0.020	-23.98	0.004	-33.98
340	0.020	-23.98	0.004	-33.98
350	0.030	-20.46	0.009	-30.46

Rotation Angle = 0

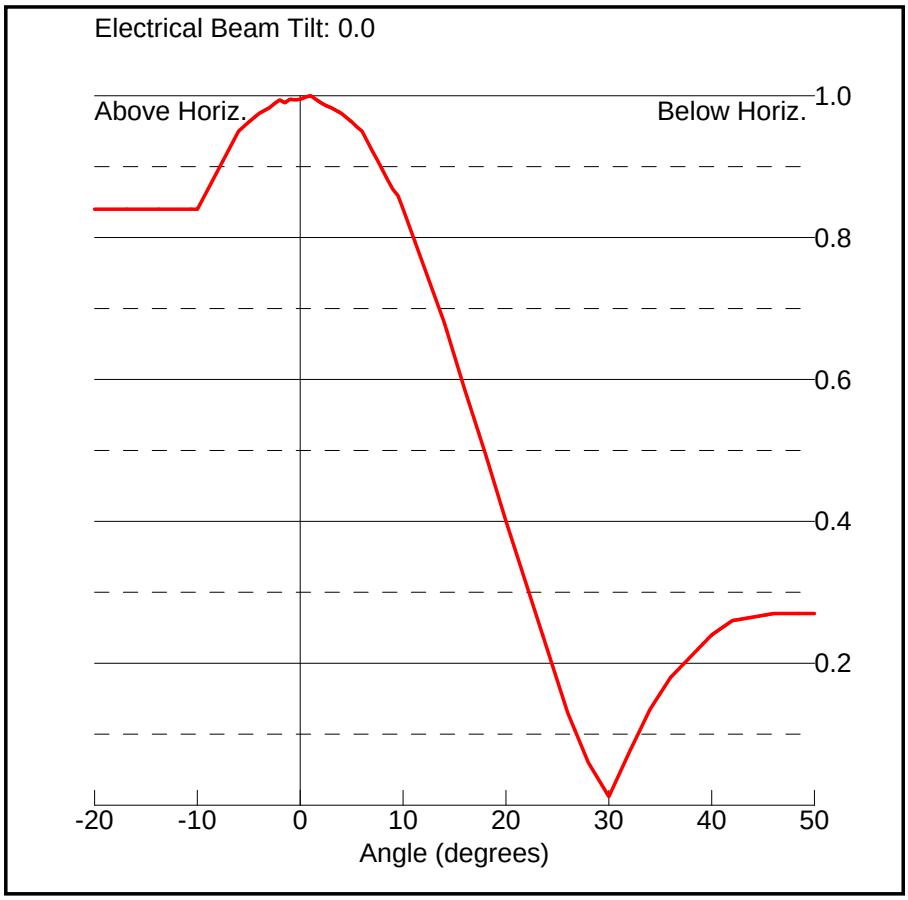
Additional Points

Azi	Rel	dBk	kW	dB	Azi	Rel	dBk	kW	dB
115	0.800	8.06	6.400	-1.94	151	1.000	10.00	10.000	0.00
148	1.000	10.00	10.000	0.00	195	0.910	9.18	8.281	-0.82
149	1.000	10.00	10.000	0.00					

Minor Lobes.

127	0.670	6.78	4.761	-3.22	173	0.695	6.84	5.013	-2.999

Vertical Elevation Pattern



Angle (deg)	Relative Field
-10.0	0.84
-8.0	0.895
-6.0	0.95
-5.0	0.963
-4.5	0.969
-4.0	0.975
-3.5	0.979
-3.0	0.983
-2.5	0.989
-2.0	0.994
-1.5	0.99
-1.0	0.995
-0.5	0.994
0.0	0.995
0.5	0.998
1.0	1.0
1.5	0.995
2.0	0.99
2.5	0.986
3.0	0.983
3.5	0.979
4.0	0.975
4.5	0.969
5.0	0.963
5.5	0.956
6.0	0.95
6.5	0.936
7.0	0.922
7.5	0.909
8.0	0.895
8.5	0.881
9.0	0.868
9.5	0.859
10.0	0.84
12.0	0.76
14.0	0.68
16.0	0.585
18.0	0.495
20.0	0.4
22.0	0.31
24.0	0.22
26.0	0.13
28.0	0.06
30.0	0.012
32.0	0.075
34.0	0.135
36.0	0.18
38.0	0.21
40.0	0.24
42.0	0.26
46.0	0.27

12/15/2011

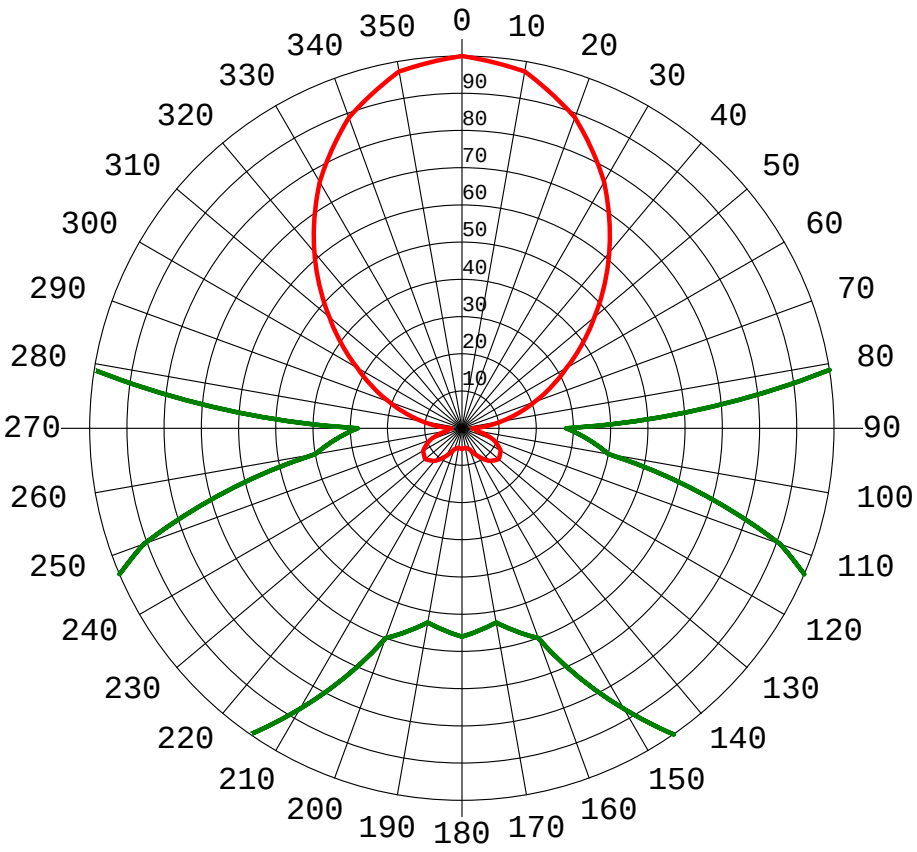
N. Lat. = 375900.0 W. Lng. = 782902.0
HAAT and Distance to Contour,
FCC OET,TV 3.2 - 16.1, 130 pts - USGS 03 SEC

Charlottseville Site - Scala DRV-1, No Rotation

Azi.	AV EL	HAAT	ERP kW	dBk	Field	DAng	VFld	D-kW	%Max	D-dBk	36-F9
000	138.1	356.9	0.1000	-10.00	1.000	0.523	0.989	0.0979	98.9	-10.00	61.33
010	130.4	364.6	0.0947	-10.24	0.973	0.529	0.989	0.0927	98.9	-10.24	61.43
020	128.9	366.1	0.0789	-11.03	0.888	0.530	0.989	0.0772	98.9	-11.03	60.16
030	135.9	359.1	0.0584	-12.34	0.764	0.525	0.989	0.0571	98.9	-12.34	57.46
040	202.9	292.1	0.0379	-14.21	0.616	0.473	0.990	0.0372	99.0	-14.21	50.30
050	262.8	232.2	0.0216	-16.65	0.465	0.422	0.991	0.0212	99.1	-16.65	42.65
060	147.5	347.5	0.0106	-19.76	0.325	0.516	0.989	0.0103	98.9	-19.76	44.13
070	124.1	370.9	0.0043	-23.64	0.208	0.533	0.989	0.0042	98.9	-23.64	38.56
080	121.1	373.9	0.0012	-29.33	0.108	0.536	0.989	0.0011	98.9	-29.33	28.92
090	116.6	378.4	0.0001	-41.06	0.028	0.539	0.989	0.0001	98.9	-41.06	15.94
100	114.7	380.3	0.0002	-37.96	0.040	0.540	0.989	0.0002	98.9	-37.96	19.06
110	105.6	389.4	0.0008	-30.82	0.091	0.547	0.990	0.0008	99.0	-30.82	27.52
120	127.4	367.6	0.0014	-28.42	0.120	0.531	0.989	0.0014	98.9	-28.42	29.99
130	139.9	355.1	0.0017	-27.79	0.129	0.522	0.989	0.0016	98.9	-27.79	30.41
140	147.8	347.2	0.0013	-28.79	0.115	0.516	0.989	0.0013	98.9	-28.79	28.60
150	149.2	345.8	0.0008	-31.21	0.087	0.515	0.989	0.0007	98.9	-31.21	25.43
160	153.2	341.8	0.0004	-34.44	0.060	0.512	0.989	0.0004	98.9	-34.44	21.66
170	150.3	344.7	0.0003	-35.51	0.053	0.514	0.989	0.0003	98.9	-35.51	20.62
180	144.6	350.4	0.0003	-35.04	0.056	0.519	0.989	0.0003	98.9	-35.04	21.31
190	149.4	345.6	0.0003	-35.51	0.053	0.515	0.989	0.0003	98.9	-35.51	20.65
200	157.3	337.7	0.0004	-34.44	0.060	0.509	0.989	0.0004	98.9	-34.44	21.52
210	173.6	321.4	0.0008	-31.21	0.087	0.497	0.989	0.0007	98.9	-31.21	24.55
220	175.8	319.2	0.0013	-28.79	0.115	0.495	0.989	0.0013	98.9	-28.79	27.50
230	164.6	330.4	0.0017	-27.79	0.129	0.503	0.989	0.0016	98.9	-27.79	29.34
240	168.1	326.9	0.0014	-28.42	0.120	0.501	0.989	0.0014	98.9	-28.42	28.31
250	202.2	292.8	0.0008	-30.82	0.091	0.474	0.990	0.0008	99.0	-30.82	24.04
260	213.0	282.0	0.0002	-37.96	0.040	0.465	0.990	0.0002	99.0	-37.96	16.24
270	221.1	273.9	0.0001	-41.06	0.028	0.458	0.990	0.0001	99.0	-41.06	13.26
280	238.0	257.0	0.0012	-29.33	0.108	0.444	0.990	0.0011	99.0	-29.33	24.96
290	218.9	276.1	0.0043	-23.64	0.208	0.460	0.990	0.0042	99.0	-23.64	33.71
300	199.2	295.8	0.0106	-19.76	0.325	0.476	0.990	0.0103	99.0	-19.76	41.35
310	178.6	316.4	0.0216	-16.65	0.465	0.493	0.989	0.0212	98.9	-16.65	47.70
320	166.3	328.7	0.0381	-14.19	0.617	0.502	0.989	0.0372	98.9	-14.19	52.43
330	165.6	329.4	0.0584	-12.34	0.764	0.503	0.989	0.0571	98.9	-12.34	55.54
340	159.7	335.3	0.0789	-11.03	0.888	0.507	0.989	0.0771	98.9	-11.03	58.08
350	144.4	350.6	0.0947	-10.24	0.973	0.519	0.989	0.0926	98.9	-10.24	60.48

Ave El= 162.13 M HAAT= 332.87 M AMSL= 495 M

Charlottesville, DRV-1, Horizontal Azimuth Pattern



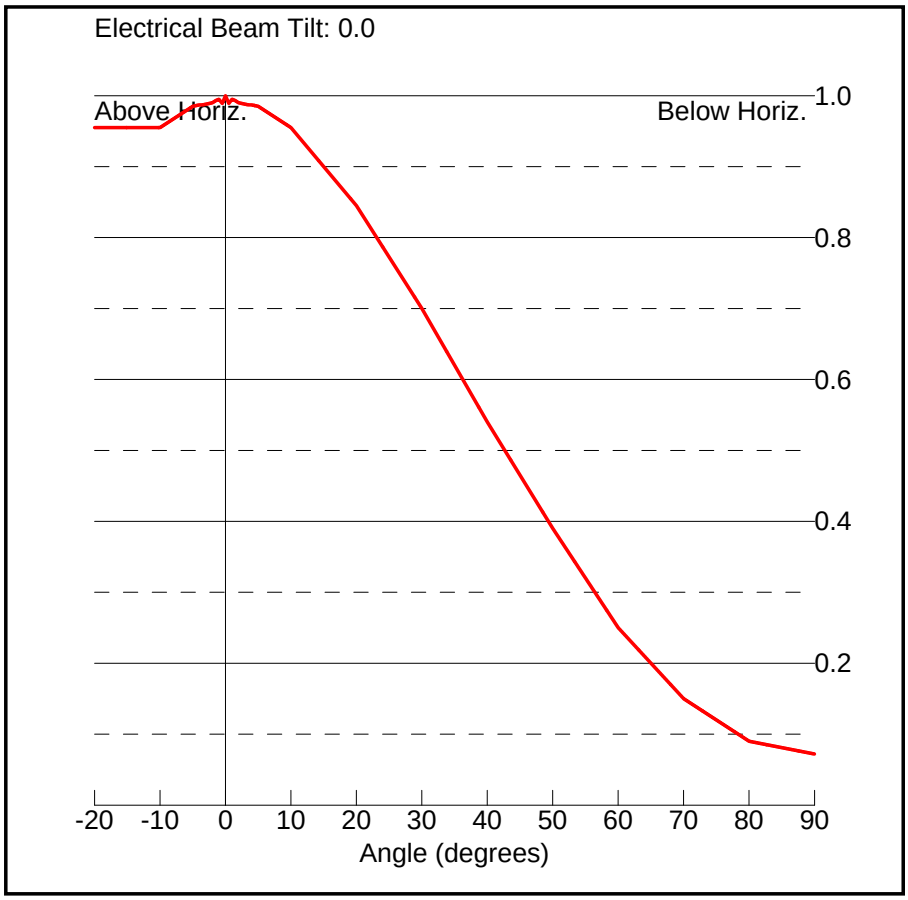
Azi	Rel	dBk	kW	dB
0	1.000	-10.00	0.100	0.00
10	0.973	-10.24	0.095	-0.24
20	0.888	-11.03	0.079	-1.03
30	0.764	-12.34	0.058	-2.34
40	0.616	-14.21	0.038	-4.21
50	0.465	-16.65	0.022	-6.65
60	0.325	-19.76	0.011	-9.76
70	0.208	-23.64	0.004	-13.64
80	0.108	-29.33	0.001	-19.33
90	0.028	-41.06	0.000	-31.06
100	0.040	-37.96	0.000	-27.96
110	0.091	-30.82	0.001	-20.82
120	0.120	-28.42	0.001	-18.42
130	0.129	-27.79	0.002	-17.79
140	0.115	-28.79	0.001	-18.79
150	0.087	-31.21	0.001	-21.21
160	0.060	-34.44	0.000	-24.44
170	0.053	-35.51	0.000	-25.51

Azi	Rel	dBk	kW	dB
180	0.056	-35.04	0.000	-25.04
190	0.053	-35.51	0.000	-25.51
200	0.060	-34.44	0.000	-24.44
210	0.087	-31.21	0.001	-21.21
220	0.115	-28.79	0.001	-18.79
230	0.129	-27.79	0.002	-17.79
240	0.120	-28.42	0.001	-18.42
250	0.091	-30.82	0.001	-20.82
260	0.040	-37.96	0.000	-27.96
270	0.028	-41.06	0.000	-31.06
280	0.108	-29.33	0.001	-19.33
290	0.208	-23.64	0.004	-13.64
300	0.325	-19.76	0.011	-9.76
310	0.465	-16.65	0.022	-6.65
320	0.617	-14.19	0.038	-4.19
330	0.764	-12.34	0.058	-2.34
340	0.888	-11.03	0.079	-1.03
350	0.973	-10.24	0.095	-0.24

Rotation Angle = 0

Chrlottesville_Vertical Elevation Pattern

Angle (deg)	Relative Field
-10.0	0.955
-5.0	0.985
-4.5	0.986
-4.0	0.987
-3.5	0.987
-3.0	0.988
-2.5	0.989
-2.0	0.99
-1.5	0.993
-1.0	0.995
-0.5	0.989
0.0	1.0
0.5	0.989
1.0	0.995
1.5	0.993
2.0	0.99
2.5	0.989
3.0	0.988
3.5	0.987
4.0	0.987
4.5	0.986
5.0	0.985
5.5	0.982
6.0	0.979
6.5	0.976
7.0	0.973
7.5	0.97
8.0	0.967
8.5	0.964
9.0	0.961
9.5	0.958
10.0	0.955
20.0	0.845
30.0	0.7
40.0	0.54
50.0	0.39
60.0	0.25
70.0	0.15
80.0	0.09
90.0	0.072



12/20/2011

KATHREIN
SCALA DIVISION

DRV

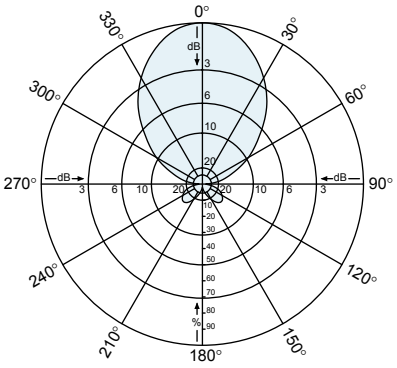
VHF-TV Panel Antenna
174 to 230 MHz (Channels 7–13*)

Kathrein Scala Division DRV panel antennas for VHF television transmission offer high performance, low VSWR, and application flexibility. Multi-panel arrays can be utilized to provide the standard patterns shown below and custom patterns for specific coverage requirements. Arrays include power dividers and coax feeders, plus installation hardware.

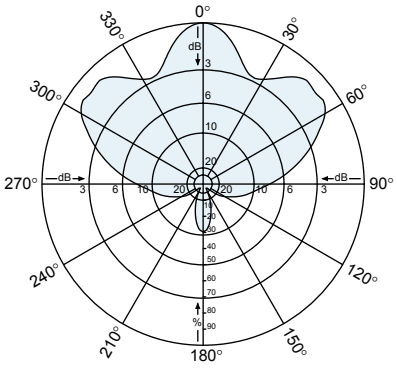
Like all Kathrein Scala Division antennas, the DRV is made of the finest materials using state of the art electrical and mechanical designs, resulting in superior performance and long service life.

*The DRV covers channel 7 through 13 in system M as well as all other international band III channels.

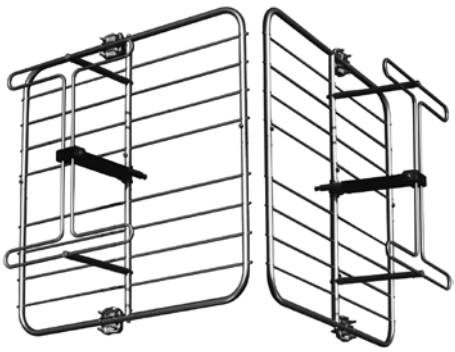
(shown horizontally polarized)



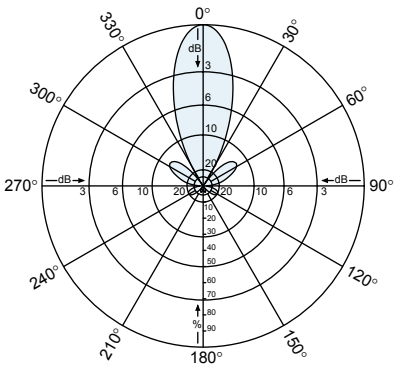
/1 series
Azimuth pattern (E-plane)



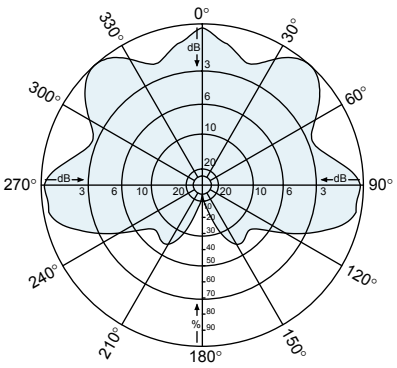
/2HW series
Azimuth pattern (E-plane)



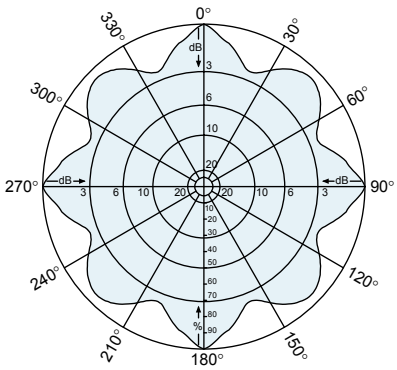
DRV-1/2HW array



/2HN series
Azimuth pattern (E-plane)



/3HC series
Azimuth pattern (E-plane)



/4HO series
Azimuth pattern (E-plane)

10285-E

Kathrein Inc., Scala Division Post Office Box 4580 Medford, OR 97501 (USA) Phone: (541) 779-6500 Fax: (541) 779-3991
Email: communications@kathrein.com Internet: www.kathrein-scala.com

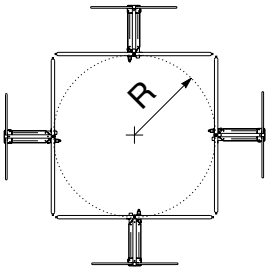
KATHREIN
SCALA DIVISION

DRV

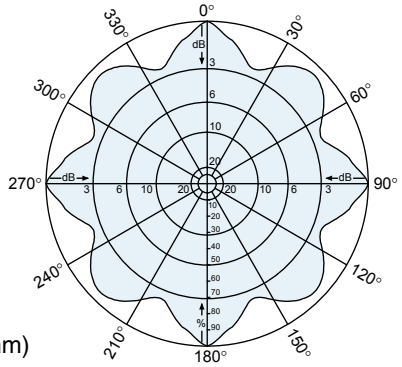
VHF-TV Panel Antenna
174 to 230 MHz (Channels 7–13*)

Panel antennas are designed so that their azimuth patterns achieve optimum smoothness when mounted as closely together as possible. Larger mounting radii produce undesirable scalloping.

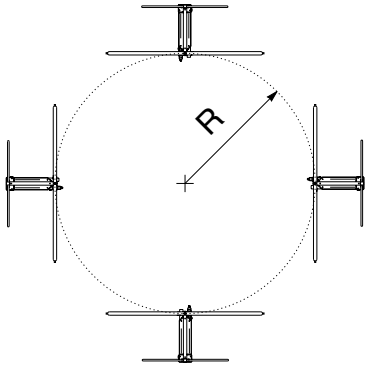
Optimum

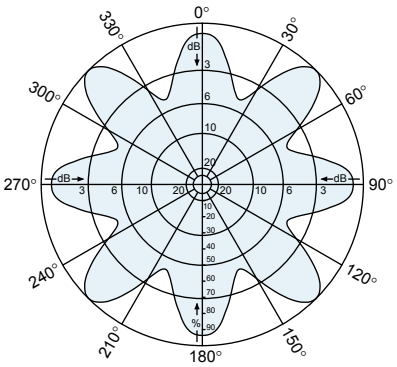


R = 25 inches (635 mm)

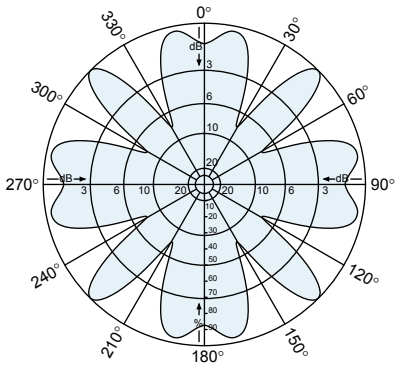


Scalloped





R = 40 inches (1016 mm)



R = 60 inches (1524 mm)

Specifications:

Model	Gain dBd	Power Gain	Weight lb (kg)	Dimensions		Number of Panels	Number of Bays
DRV-1/1	7	5.01	18 (8.2)	48 x 48 x 18 inches	(1219 x 1219 x 457 mm)	1	1
DRV-2/1	10.4	10.96	36 (16.4)	110 x 48 x 18 inches	(2794 x 1219 x 457 mm)	2	2
DRV-4/1	13.4	21.88	72 (32.8)	237 x 48 x 18 inches	(6020 x 1219 x 457 mm)	4	4
DRV-1/2HN	10	10	36 (16.4)	48 x 100 x 18 inches	(1219 x 2540 x 457 mm)	2	1
DRV-2/2HN	13.4	21.88	72 (32.8)	110 x 100 x 18 inches	(2794 x 2540 x 457 mm)	4	2
DRV-4/2HN	16.4	43.65	144 (65.6)	237 x 100 x 18 inches	(6020 x 2540 x 457 mm)	8	4
DRV-1/2HW	4.5	2.82	36 (16.4)	48 x 70 x 70 inches	(1219 x 1778 x 1778 mm)	2	1
DRV-2/2HW	7.9	6.17	72 (32.8)	110 x 70 x 70 inches	(2794 x 1778 x 1778 mm)	4	2
DRV-4/2HW	10.9	12.3	144 (65.6)	237 x 70 x 70 inches	(6020 x 1778 x 1778 mm)	8	4
DRV-1/3HC	2.5	1.78	54 (24.6)	48 x 88 x 70 inches	(1219 x 2235 x 1778 mm)	3	1
DRV-2/3HC	5.9	3.89	108 (49.2)	110 x 88 x 70 inches	(2794 x 2235 x 1778 mm)	6	2
DRV-4/3HC	8.9	7.76	216 (98.4)	237 x 88 x 70 inches	(6020 x 2235 x 1778 mm)	12	4
DRV-1/4HO	1	1.26	72 (32.8)	48 x 88 x 88 inches	(1219 x 2235 x 2235 mm)	4	1
DRV-2/4HO	4.4	2.75	144 (65.6)	110 x 88 x 88 inches	(2794 x 2235 x 2235 mm)	8	2
DRV-4/4HO	7.4	5.5	288 (131)	237 x 88 x 88 inches	(6020 x 2235 x 2235 mm)	16	4

Contact Kathrein Scala Division Sales Engineering for information on special arrays with higher gain, asymmetrical patterns, electrical beamtilt, null fill, multichannel bandwidth, and other features to meet your specific requirements.

Kathrein Inc., Scala Division Post Office Box 4580 Medford, OR 97501 (USA) Phone: (541) 779-6500 Fax: (541) 779-3991
Email: communications@kathrein.com Internet: www.kathrein-scala.com

KATHREIN
SCALA DIVISION

DRV

VHF-TV Panel Antenna
174 to 230 MHz (Channels 7–13*)

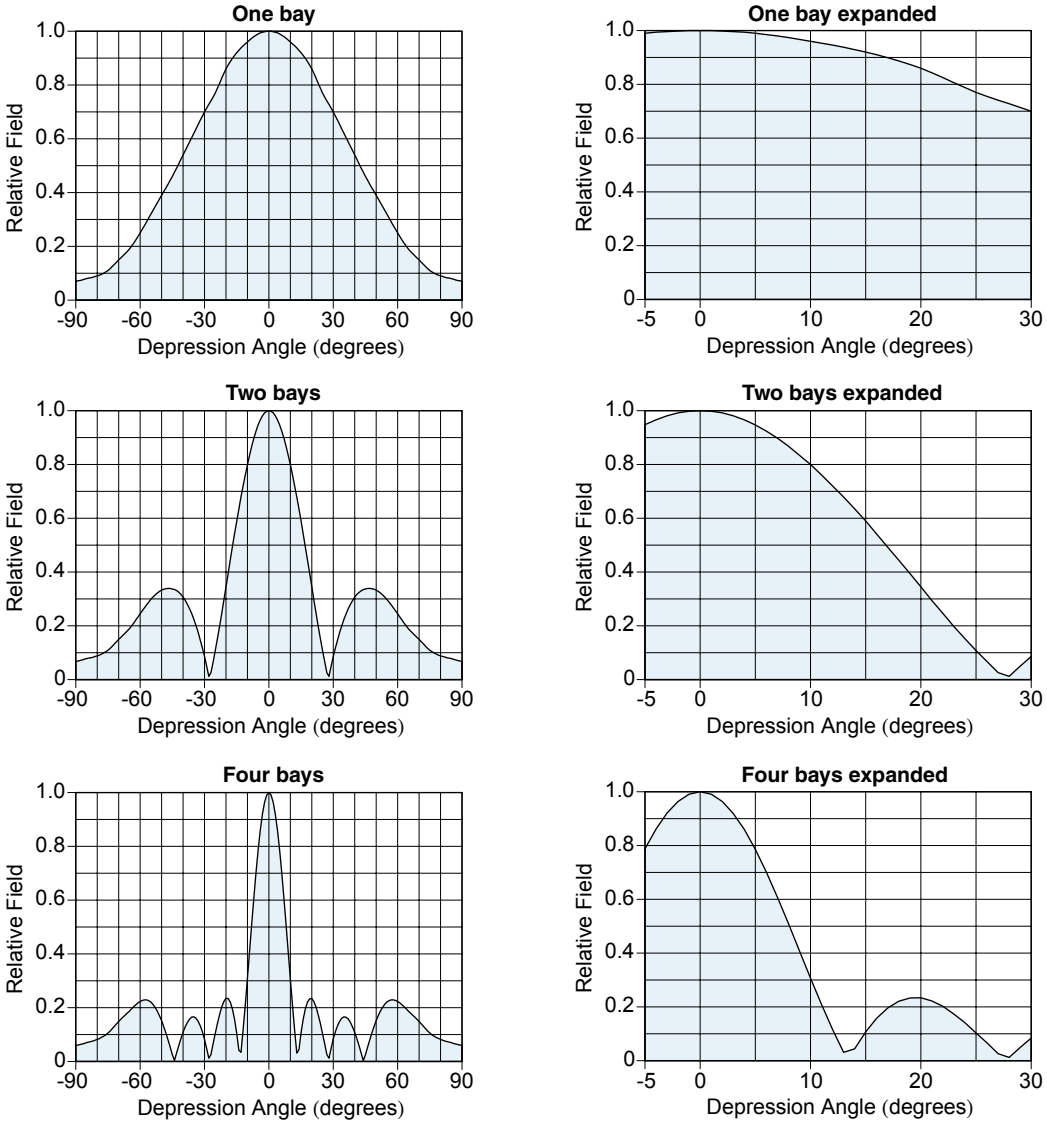
General Specifications:

Frequency	174–230 MHz (broadband)*
Impedance	50 ohms
VSWR	< 1.2:1
Polarization	Horizontal or vertical
Maximum input power	500 watts per panel (at 50° C)
Connector	N female
Wind load Front	at 100 mph (160 kph) 93 lbf (412 N)
Wind survival rating**	120 mph (200 kph)
Mounting	Hardware is included for attachment to 2.375 inch (60 mm) OD masts. Contact Kathrein Scala Division Sales Engineering for special mounting hardware and accessories.

*The DRV covers channel 7 through 13 in system M as well as all other international band III channels.

** Mechanical design is based on environmental conditions as stipulated in TIA-222-G-2 (December 2009) and/or ETS 300 019-1-4 which include the static mechanical load imposed on an antenna by wind at maximum velocity. See the Engineering Section of the catalog for further details.

Elevation patterns



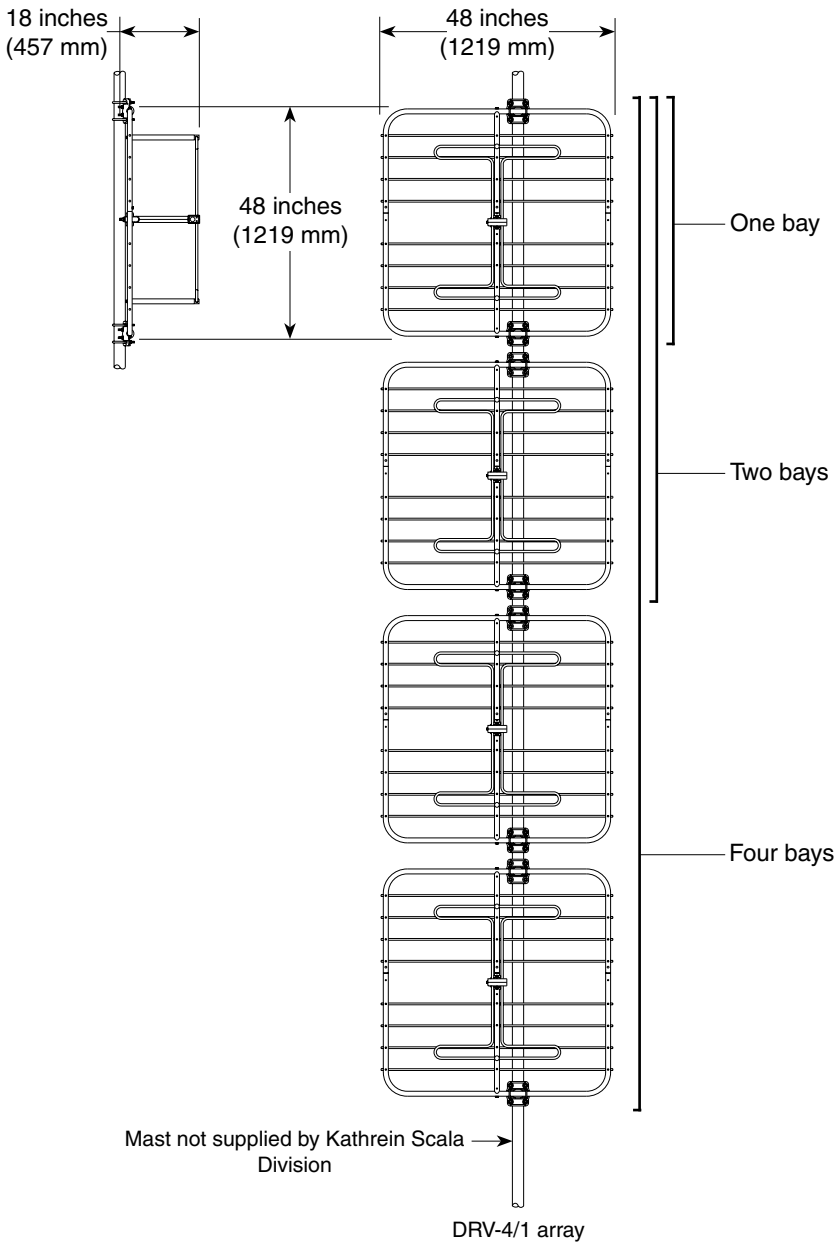
All specifications are subject to change without notice. The latest specifications are available at www.kathrein-scala.com.

Kathrein Inc., Scala Division Post Office Box 4580 Medford, OR 97501 (USA) Phone: (541) 779-6500 Fax: (541) 779-3991
Email: communications@kathrein.com Internet: www.kathrein-scala.com

KATHREIN
SCALA DIVISION

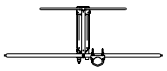
DRV

VHF-TV Panel Antenna
174 to 230 MHz (Channels 7–13*)

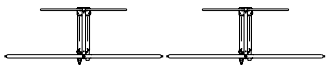


DRV-4/1 array

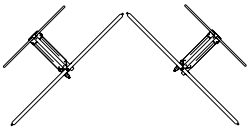
DRV Array Top Views



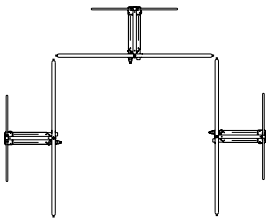
/1 series



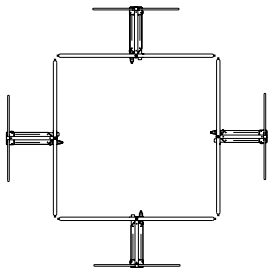
/2HN series



/2HW series



/3HC series



/4HO series

Order Information:

Model	Description
DRV (single panel)	Panel Antenna for VHF-TV

Kathrein Inc., Scala Division Post Office Box 4580 Medford, OR 97501 (USA) Phone: (541) 779-6500 Fax: (541) 779-3991
Email: communications@kathrein.com Internet: www.kathrein-scala.com

N. Lat. = 382039.0 W. Lng. = 793547.0
HAAT and Distance to Contour,
FCC OET,TV 3.2 - 16.1, 130 pts - USGS 03 SEC

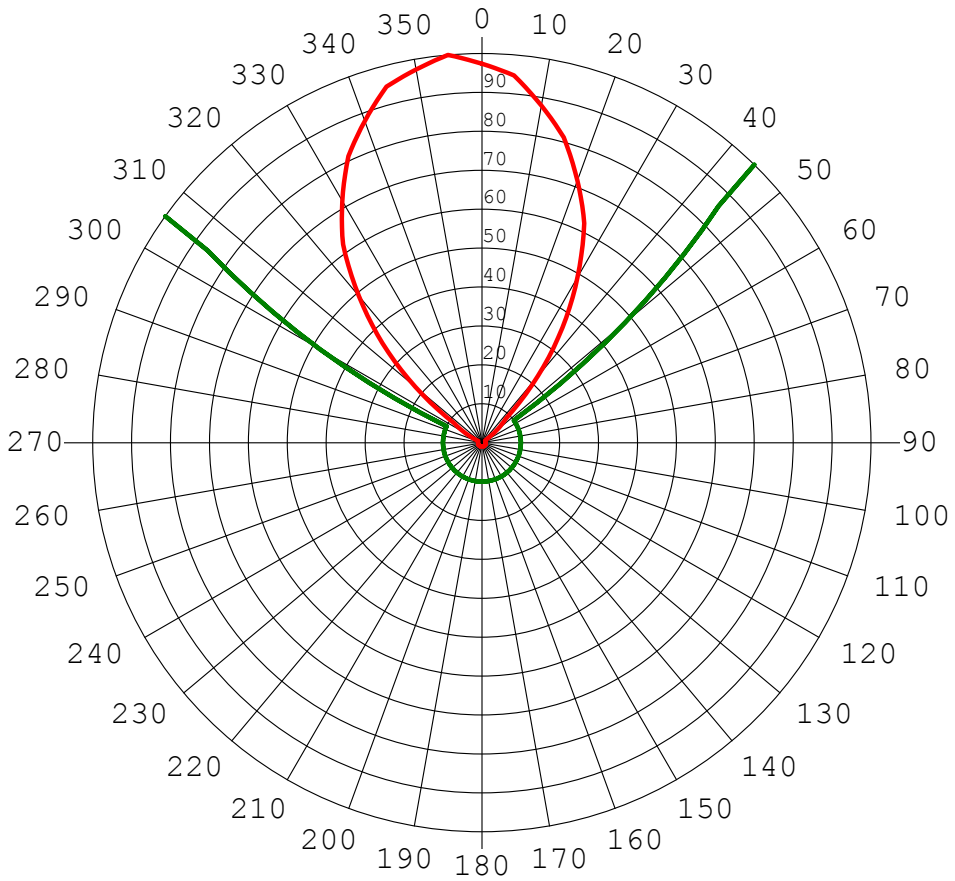
Distance to Contour and Depression Angle

Azi.	AV EL	HAAT	ERP kW	dBk	Field	DAng	VFld	D-kW	%Max	D-dBk	36-F9
000	936.0	402.0	0.0076	-21.20	0.974	0.555	0.998	0.0076	99.8	-21.20	44.53
010	946.5	391.5	0.0062	-22.09	0.879	0.548	0.998	0.0062	99.8	-22.09	42.40
020	912.4	425.6	0.0041	-23.86	0.717	0.571	0.998	0.0041	99.8	-23.86	41.21
030	981.2	356.8	0.0019	-27.15	0.491	0.523	0.998	0.0019	99.8	-27.15	31.53
040	1049.4	288.6	0.0004	-34.00	0.223	0.471	0.998	0.0004	99.8	-34.00	20.39
050	993.3	344.7	0.0000	-47.34	0.048	0.514	0.998	0.0000	99.8	-47.34	9.56
060	874.0	464.0	0.0000	-60.97	0.010	0.597	0.998	0.0000	99.8	-60.97	2.85
070	830.5	507.5	0.0000	-60.97	0.010	0.624	0.998	0.0000	99.8	-60.97	2.88
080	802.8	535.2	0.0000	-60.97	0.010	0.641	0.998	0.0000	99.8	-60.97	2.90
090	767.1	570.9	0.0000	-60.97	0.010	0.662	0.998	0.0000	99.8	-60.97	2.92
100	744.9	593.1	0.0000	-60.97	0.010	0.675	0.998	0.0000	99.8	-60.97	2.93
110	733.5	604.5	0.0000	-60.97	0.010	0.681	0.998	0.0000	99.8	-60.97	2.93
120	707.3	630.7	0.0000	-60.97	0.010	0.696	0.998	0.0000	99.8	-60.97	2.94
130	701.3	636.7	0.0000	-60.97	0.010	0.699	0.998	0.0000	99.8	-60.97	2.94
140	680.9	657.1	0.0000	-60.97	0.010	0.710	0.998	0.0000	99.8	-60.97	2.94
150	678.0	660.0	0.0000	-60.97	0.010	0.712	0.998	0.0000	99.8	-60.97	2.94
160	690.6	647.4	0.0000	-60.97	0.010	0.705	0.998	0.0000	99.8	-60.97	2.94
170	723.3	614.7	0.0000	-60.97	0.010	0.687	0.998	0.0000	99.8	-60.97	2.93
180	763.3	574.7	0.0000	-60.97	0.010	0.664	0.998	0.0000	99.8	-60.97	2.92
190	844.9	493.1	0.0000	-60.97	0.010	0.615	0.998	0.0000	99.8	-60.97	2.87
200	840.5	497.5	0.0000	-60.97	0.010	0.618	0.998	0.0000	99.8	-60.97	2.87
210	840.8	497.2	0.0000	-60.97	0.010	0.618	0.998	0.0000	99.8	-60.97	2.87
220	758.2	579.8	0.0000	-60.97	0.010	0.667	0.998	0.0000	99.8	-60.97	2.92
230	873.1	464.9	0.0000	-60.97	0.010	0.597	0.998	0.0000	99.8	-60.97	2.85
240	847.9	490.1	0.0000	-60.97	0.010	0.613	0.998	0.0000	99.8	-60.97	2.87
250	827.4	510.6	0.0000	-60.97	0.010	0.626	0.998	0.0000	99.8	-60.97	2.88
260	895.4	442.6	0.0000	-60.97	0.010	0.583	0.998	0.0000	99.8	-60.97	2.83
270	959.2	378.8	0.0000	-60.97	0.010	0.539	0.998	0.0000	99.8	-60.97	2.78
280	980.0	358.0	0.0000	-60.97	0.010	0.524	0.998	0.0000	99.8	-60.97	2.76
290	1039.5	298.5	0.0000	-60.97	0.010	0.479	0.998	0.0000	99.8	-60.97	2.69
300	1009.2	328.8	0.0000	-47.34	0.048	0.502	0.998	0.0000	99.8	-47.34	9.31
310	1001.9	336.1	0.0004	-34.00	0.223	0.508	0.998	0.0004	99.8	-34.00	21.93
320	1013.0	325.0	0.0019	-27.15	0.491	0.499	0.998	0.0019	99.8	-27.15	30.08
330	1017.7	320.3	0.0041	-23.86	0.717	0.496	0.998	0.0041	99.8	-23.86	35.58
340	1005.5	332.5	0.0062	-22.09	0.879	0.505	0.998	0.0062	99.8	-22.09	39.31
350	968.3	369.7	0.0076	-21.20	0.974	0.533	0.998	0.0076	99.8	-21.20	42.80

Additional Radials (Not Considered in Average):

355	963.2	374.8	0.0080	-20.97	1.000	0.536	0.998	0.0080	99.8	-20.97	43.47

Ave El= 867.73 M HAAT= 470.27 M AMSL= 1338 M

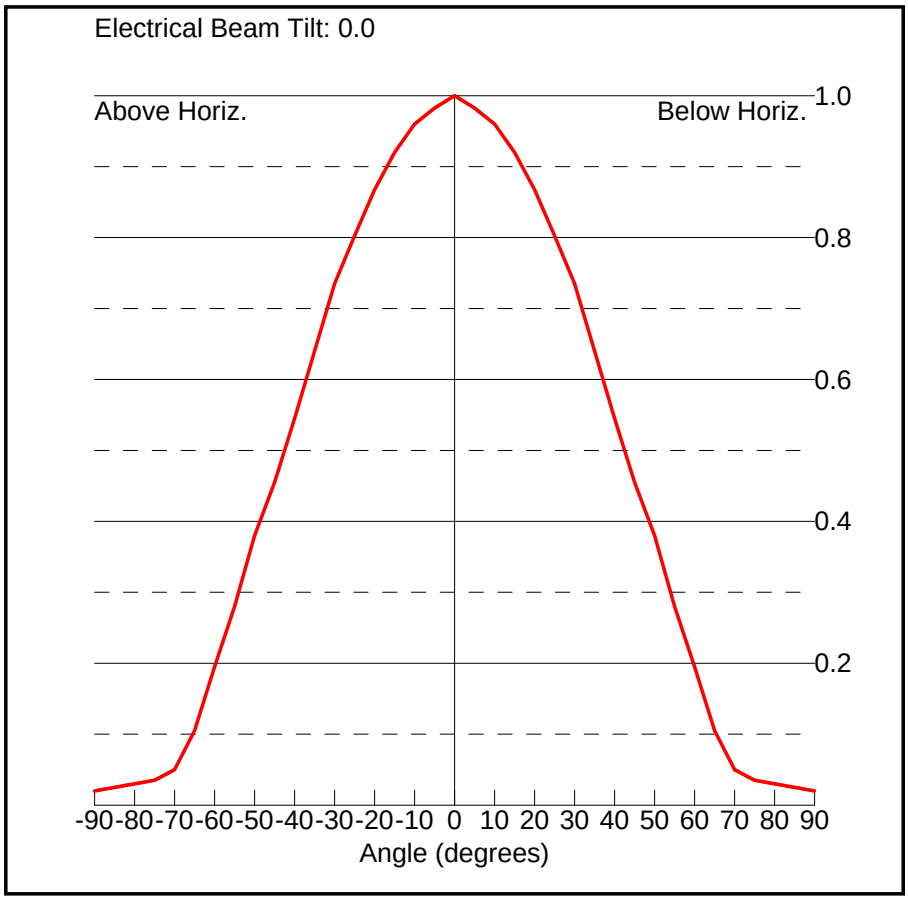


Azi	Rel	dBk	kW	dB
0	0.974	-21.20	0.008	-0.23
10	0.879	-22.08	0.006	-1.12
20	0.717	-23.86	0.004	-2.89
30	0.491	-27.14	0.002	-6.17
40	0.224	-33.98	0.000	-13.01
50	0.048	-47.34	0.000	-26.38
60	0.010	-60.97	0.000	-40.00
70	0.010	-60.97	0.000	-40.00
80	0.010	-60.97	0.000	-40.00
90	0.010	-60.97	0.000	-40.00
100	0.010	-60.97	0.000	-40.00
110	0.010	-60.97	0.000	-40.00
120	0.010	-60.97	0.000	-40.00
130	0.010	-60.97	0.000	-40.00
140	0.010	-60.97	0.000	-40.00
150	0.010	-60.97	0.000	-40.00
160	0.010	-60.97	0.000	-40.00
170	0.010	-60.97	0.000	-40.00

Azi	Rel	dBk	kW	dB
180	0.010	-60.97	0.000	-40.00
190	0.010	-60.97	0.000	-40.00
200	0.010	-60.97	0.000	-40.00
210	0.010	-60.97	0.000	-40.00
220	0.010	-60.97	0.000	-40.00
230	0.010	-60.97	0.000	-40.00
240	0.010	-60.97	0.000	-40.00
250	0.010	-60.97	0.000	-40.00
260	0.010	-60.97	0.000	-40.00
270	0.010	-60.97	0.000	-40.00
280	0.010	-60.97	0.000	-40.00
290	0.010	-60.97	0.000	-40.00
300	0.048	-47.34	0.000	-26.38
310	0.224	-33.98	0.000	-13.01
320	0.491	-27.14	0.002	-6.17
330	0.717	-23.86	0.004	-2.89
340	0.879	-22.08	0.006	-1.12
350	0.974	-21.20	0.008	-0.23

Rotation Angle = 0

Monterey Vertical Elevation Pattern



Angle (deg)	Relative Field
-90.0	0.02
-89.0	0.021
-88.0	0.022
-87.0	0.023
-86.0	0.024
-85.0	0.025
-84.0	0.026
-83.0	0.027
-82.0	0.028
-81.0	0.029
-80.0	0.03
-79.0	0.031
-78.0	0.032
-77.0	0.033
-76.0	0.034
-75.0	0.035
-74.0	0.038
-73.0	0.041
-72.0	0.044
-71.0	0.047
-70.0	0.05
-69.0	0.061
-68.0	0.072
-67.0	0.083
-66.0	0.094
-65.0	0.105
-64.0	0.123
-63.0	0.141
-62.0	0.159
-61.0	0.177
-60.0	0.195
-59.0	0.212
-58.0	0.229
-57.0	0.246
-56.0	0.263
-55.0	0.28
-54.0	0.3
-53.0	0.32
-52.0	0.34
-51.0	0.36
-50.0	0.38
-49.0	0.395
-48.0	0.41
-47.0	0.425
-46.0	0.44
-45.0	0.455
-44.0	0.473
-43.0	0.491
-42.0	0.509
-41.0	0.527
-40.0	0.545
-39.0	0.564
-38.0	0.583
-37.0	0.602
-36.0	0.621
-35.0	0.64
-34.0	0.659
-33.0	0.678
-32.0	0.697
-31.0	0.716
-30.0	0.735
-29.0	0.749
-28.0	0.762
-27.0	0.776
-26.0	0.789
-25.0	0.803
-24.0	0.816
-23.0	0.829
-22.0	0.842
-21.0	0.855

12/20/2011

-20.0	0.868	32.0	0.697
-19.0	0.878	33.0	0.678
-18.0	0.889	34.0	0.659
-17.0	0.899	35.0	0.64
-16.0	0.91	36.0	0.621
-15.0	0.92	37.0	0.602
-14.0	0.928	38.0	0.583
-13.0	0.936	39.0	0.564
-12.0	0.944	40.0	0.545
-11.0	0.952	41.0	0.527
-10.0	0.96	42.0	0.509
-9.0	0.965	43.0	0.491
-8.0	0.969	44.0	0.473
-7.0	0.974	45.0	0.455
-6.0	0.978	46.0	0.44
-5.0	0.983	47.0	0.425
-4.0	0.986	48.0	0.41
-3.0	0.99	49.0	0.395
-2.0	0.993	50.0	0.38
-1.0	0.997	51.0	0.36
0.0	1.0	52.0	0.34
1.0	0.997	53.0	0.32
2.0	0.993	54.0	0.3
3.0	0.99	55.0	0.28
4.0	0.986	56.0	0.263
5.0	0.983	57.0	0.246
6.0	0.978	58.0	0.229
7.0	0.974	59.0	0.212
8.0	0.969	60.0	0.195
9.0	0.965	61.0	0.177
10.0	0.96	62.0	0.159
11.0	0.952	63.0	0.141
12.0	0.944	64.0	0.123
13.0	0.936	65.0	0.105
14.0	0.928	66.0	0.094
15.0	0.92	67.0	0.083
16.0	0.91	68.0	0.072
17.0	0.899	69.0	0.061
18.0	0.889	70.0	0.05
19.0	0.878	71.0	0.047
20.0	0.868	72.0	0.044
21.0	0.855	73.0	0.041
22.0	0.842	74.0	0.038
23.0	0.829	75.0	0.035
24.0	0.816	76.0	0.034
25.0	0.803	77.0	0.033
26.0	0.789	78.0	0.032
27.0	0.776	79.0	0.031
28.0	0.762	80.0	0.03
29.0	0.749	81.0	0.029
30.0	0.735	82.0	0.028
31.0	0.716	83.0	0.027

KATHREIN
SCALA DIVISION

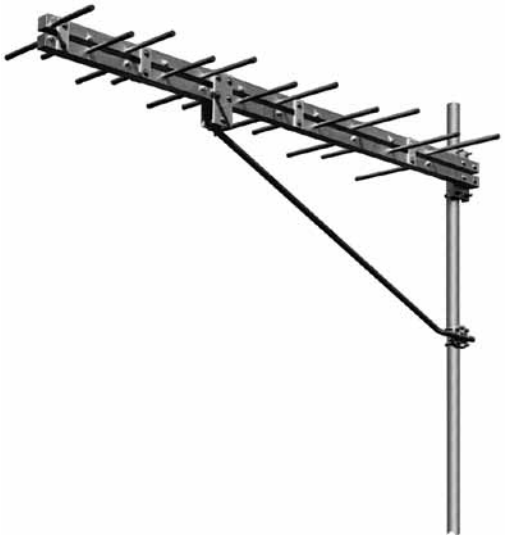
CL-713

VHF-TV Log-periodic Antenna
174 to 216 MHz (Channels 7–13)

The Kathrein Scala Division CL-713 is a ruggedly built, horizontally polarized log-periodic antenna, designed for professional VHF-TV transmit and receive applications.

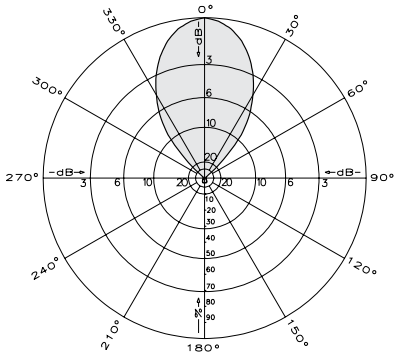
Like all Kathrein Scala Division antennas, the CL-713 is made of the finest materials using state of the art electrical and mechanical designs, resulting in superior performance and long service life.

The CL-713 may be used stand alone or in arrays for higher gains, increased side-lobe suppression or custom azimuth patterns.



Specifications:

Frequency range		174–216 MHz (broadband)
Gain		9 dBd
Power gain		7.84
Impedance		50 or 75 ohms
VSWR		< 1.5:1
Polarization		Horizontal
Front-to-back ratio		>25 dB
Maximum input power		250 watts (higher power rating optional)
Azimuth pattern		50 degrees (half-power)
Elevation pattern		62 degrees (half-power)
Connector		N female (50Ω or 75Ω)
Wind load Front		at 100 mph (160 kph) 121 lbf (537 N) maximum
Wind survival rating*		120 mph (200 kph)
Mounting		For masts of 2.375 inches (60 mm) OD.
	CL-713/HCM	Center-mount
	CL-713/HRM	Rear-mount
See reverse for order information.		



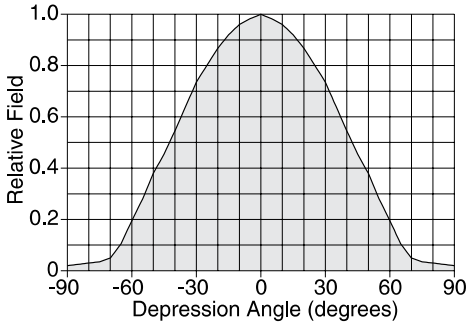
Azimuth pattern (E-plane)

Specifications: CL-713/HCM

Weight	28.5 lb (12.9 kg)
Dimensions	89.2 x 33.9 x 9.9 inches (2266 x 862 x 252 mm)
Shipping dimensions	95 x 10 x 6 inches (2413 x 254 x 153 mm)
Shipping weight	42 lb (19.1 kg)

Specifications: CL-713/HRM

Weight	40 lb (18.2 kg)
Dimensions	104 x 38.5 x 33.9 inches (2642 x 978 x 862 mm)
Shipping dimensions	112 x 14 x 6 inches (2845 x 356 x 153 mm)
Shipping weight	79 lb (35.9 kg)



Elevation pattern (H-plane)

10280-D

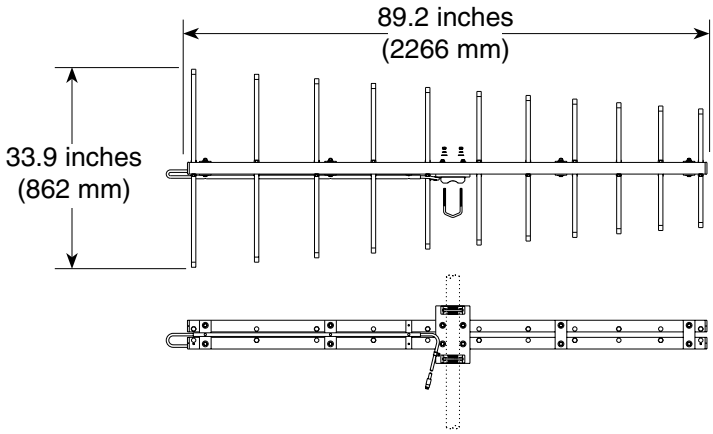
*Mechanical design is based on environmental conditions as stipulated in TIA-222-G-2 (December 2009) and/or ETS 300 019-1-4 which include the static mechanical load imposed on an antenna by wind at maximum velocity. See the Engineering Section of the catalog for further details.

Kathrein Inc., Scala Division Post Office Box 4580 Medford, OR 97501 (USA) Phone: (541) 779-6500 Fax: (541) 779-3991
Email: communications@kathrein.com Internet: www.kathrein-scala.com

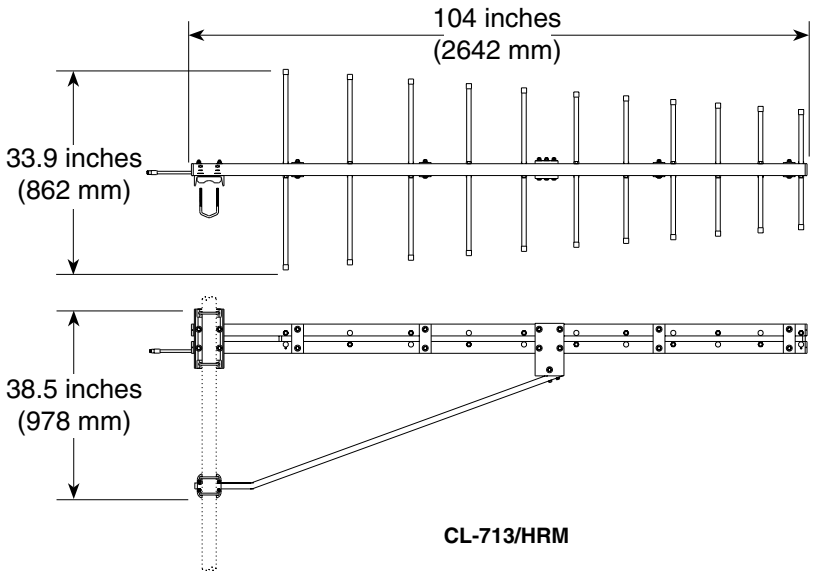
KATHREIN
SCALA DIVISION

CL-713

VHF-TV Log-periodic Antenna
174 to 216 MHz (Channels 7–13)



CL-713/HCM



CL-713/HRM

Order Information:

Model	Description
CL-713/HCM/50N	Antenna with 50 Ω N connector
CL-713/HCM/75N	Antenna with 75 Ω N connector
CL-713/HRM/50N	Antenna with 50 Ω N connector
CL-713/HRM/75N	Antenna with 75 Ω N connector

Kathrein Inc., Scala Division Post Office Box 4580 Medford, OR 97501 (USA) Phone: (541) 779-6500 Fax: (541) 779-3991
Email: communications@kathrein.com Internet: www.kathrein-scala.com

-10	0.84
-8	0.895
-6	0.95
-5	0.963
-4.5	0.969
-4	0.975
-3.5	0.979
-3	0.983
-2.5	0.989
-2	0.994
-1.5	0.99
-1	0.995
-0.5	0.994
0	0.995
0.5	0.998
1	1
1.5	0.995
2	0.99
2.5	0.986
3	0.983
3.5	0.979
4	0.975
4.5	0.969
5	0.963
5.5	0.956
6	0.95
6.5	0.936
7	0.922
7.5	0.909
8	0.895
8.5	0.881
9	0.868
9.5	0.859
10	0.84
12	0.76
14	0.68
16	0.585
18	0.495
20	0.4
22	0.31
24	0.22
26	0.13
28	0.06
30	0.012
32	0.075
34	0.135
36	0.18
38	0.21
40	0.24

42	0.26
46	0.27

-10	0.955
-5	0.985
-4.5	0.986
-4	0.987
-3.5	0.987
-3	0.988
-2.5	0.989
-2	0.99
-1.5	0.993
-1	0.995
-0.5	0.989
0	1
0.5	0.989
1	0.995
1.5	0.993
2	0.99
2.5	0.989
3	0.988
3.5	0.987
4	0.987
4.5	0.986
5	0.985
5.5	0.982
6	0.979
6.5	0.976
7	0.973
7.5	0.97
8	0.967
8.5	0.964
9	0.961
9.5	0.958
10	0.955
20	0.845
30	0.7
40	0.54
50	0.39
60	0.25
70	0.15
80	0.09
90	0.072

-10	0.96
-9	0.965
-8	0.969
-7	0.974
-6	0.978
-5	0.983
-4.5	0.986
-4	0.986
-3.5	0.988
-3	0.99
-2.5	0.991
-2	0.993
-1.5	0.995
-1	0.997
-0.05	0.998
0	1
0.5	0.998
1	0.997
1.5	0.995
2	0.993
2.5	0.991
3	0.99
3.5	0.988
4	0.986
4.5	0.985
5	0.983
5.5	0.98
6	0.978
6.5	0.973
7	0.974
7.5	0.971
8	0.969
8.5	0.967
9	0.965
9.5	0.962
10	0.96
11	0.952
12	0.944
13	0.936
14	0.928
15	0.92
16	0.909
17	0.899
18	0.888
19	0.878
20	0.868
21	0.855
22	0.842
23	0.829

24	0.816
25	0.802
26	0.789
27	0.775
28	0.762
29	0.749
30	0.735
31	0.716
32	0.697
33	0.678
34	0.659
35	0.64
36	0.621
37	0.602
38	0.583
39	0.564
40	0.545
41	0.527
42	0.509
43	0.491
44	0.473
45	0.455
46	0.44
47	0.425
48	0.41
49	0.395
50	0.38
51	0.36
52	0.34
53	0.32
54	0.3
55	0.28
56	0.263
57	0.246
58	0.229
59	0.212
60	0.195
61	0.177
62	0.159
63	0.141
64	0.123
65	0.105
66	0.094
67	0.083
68	0.072
69	0.061
70	0.05
71	0.047
72	0.044

73	0.041
74	0.038
75	0.035
76	0.034
77	0.033
78	0.032
79	0.031
80	0.03
81	0.029
82	0.028
83	0.027
84	0.026
85	0.025
86	0.024
87	0.023
88	0.022
89	0.021
90	0.02