

ENGINEERING EXHIBIT

Digital Low Power Television Station Application for Minor Modification of Licensed Facility

prepared for

Gray Television Licensee, LLC

W27EF-D Charleston, WV

Facility ID 36921

Ch. 27 0.83 kW Directional

Gray Television Licensee, LLC (“Gray”) is the licensee of digital Low Power Television station W27EF-D, Channel 27, Charleston WV, Facility ID 36921. W27EF-D is licensed (file# 0000127420) to operate with 4 kW effective radiated power (“ERP”), directional. *Gray* herein seeks a minor modification of W27EF-D to decrease ERP and specify a different directional antenna.

The proposed W27EF-D facility will employ a new antenna to be side-mounted at the currently licensed site, a tower structure associated with FCC Antenna Structure Registration number 1061555. No change to the overall structure height is proposed.

The proposed antenna is a directional Kathrein model 1x K723147. The ERP is 0.83 kW horizontally polarized using a “simple” out of channel emission mask. A plot of the directional antenna’s azimuthal pattern is supplied in Figure 1. Figure 2 depicts the coverage contour of the proposed facility as well as that of the licensed facility, demonstrating compliance with §73.3572 for a minor change.

Interference study per OET Bulletin 69¹ shows that the proposal complies with the FCC’s interference protection requirements toward all digital television, television translator, LPTV, and

¹FCC Office of Engineering and Technology Bulletin number 69, *Longley-Rice Methodology for Evaluating TV Coverage and Interference*, February 6, 2004 (“OET-69”). This analysis employed the FCC’s current “TVStudy” software with the default application processing template settings, 1 km cell size, and 1 km terrain increment. Comparisons of various results of this computer program (run on a Mac processor) to the FCC’s implementation of TVStudy show excellent correlation.

Class A stations. The results, summarized in Table 1, show that any new interference does not exceed the FCC's interference limits (0.5 percent to full power and Class A stations, and 2.0 percent to secondary stations) to any facility.

Human Exposure to Radiofrequency Electromagnetic Field (Environmental)

The proposed operation was evaluated for human exposure to RF energy using the procedures outlined in the FCC's OET Bulletin Number 65. Based on OET-65 equation (10) and considering 20 percent antenna relative field in downward elevations (pattern data shows less than 20 percent relative field at angles 30 to 90 degrees below the antenna), the calculated signal density near the antenna at two meters above ground level attributable to the proposed facility is $8.1 \mu\text{W}/\text{cm}^2$, which is 2.2 percent of the general population/uncontrolled maximum permitted exposure limit. This is below the five percent threshold limit described in §1.1307(b) regarding sites with multiple emitters, categorically excluding the applicant from responsibility for taking any corrective action in the areas where the proposal's contribution is less than five percent.

The general public will not be exposed to RF levels in excess of the FCC's guidelines. The W27EF-D facility will reduce power or cease operation as necessary to protect persons having access to the supporting structure or antenna from RF electromagnetic field exposure in excess of FCC guidelines. Environmental matters covered by this exhibit are limited to the evaluation of exposure to RF electromagnetic field.

List of Attachments

Figure 1	Antenna Azimuthal Pattern
Figure 2	Coverage Contour Comparison
Table 1	TVStudy Analysis of Proposal
Form 2100	Saved Version of Engineering Sections of FCC Form at Time of Upload

Chesapeake RF Consultants, LLC

Joseph M. Davis, P.E. November 23, 2021
207 Old Dominion Road Yorktown, VA 23692 703-650-9600

**Azimuth Pattern - Relative Field
(True North)**

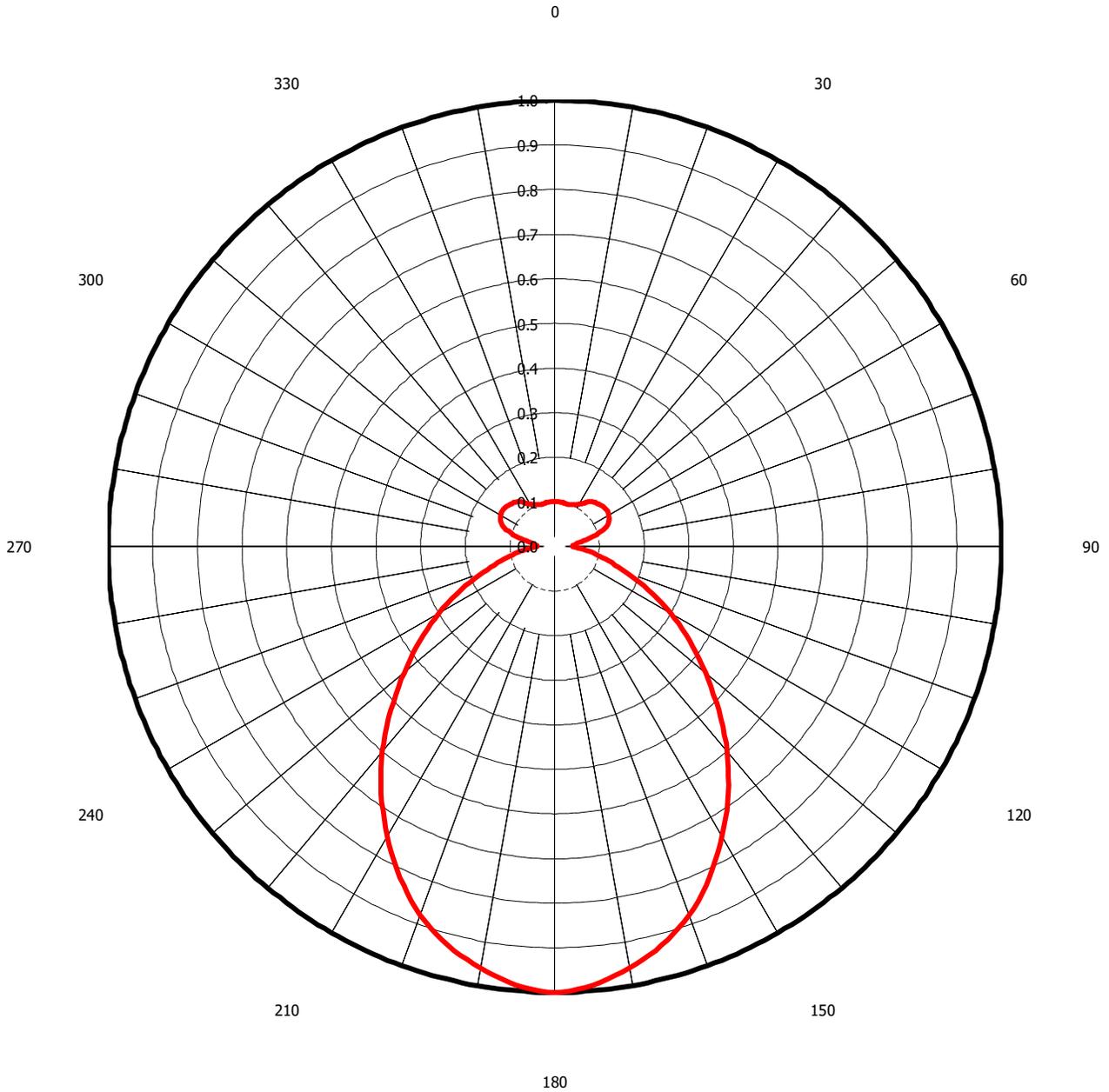
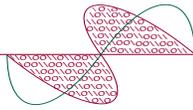


Figure 1
Antenna Azimuthal Pattern
W27EF-D Charleston, WV
Facility ID 36921
Ch. 27 0.83 kW Directional

prepared for
Gray Television Licensee, LLC

November, 2021



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

Figure 2
Coverage Contour Comparison
W27EF-D Charleston, WV
Facility ID 36921
Ch. 27 0.83 kW Directional

prepared for
Gray Television Licensee, LLC

November, 2021

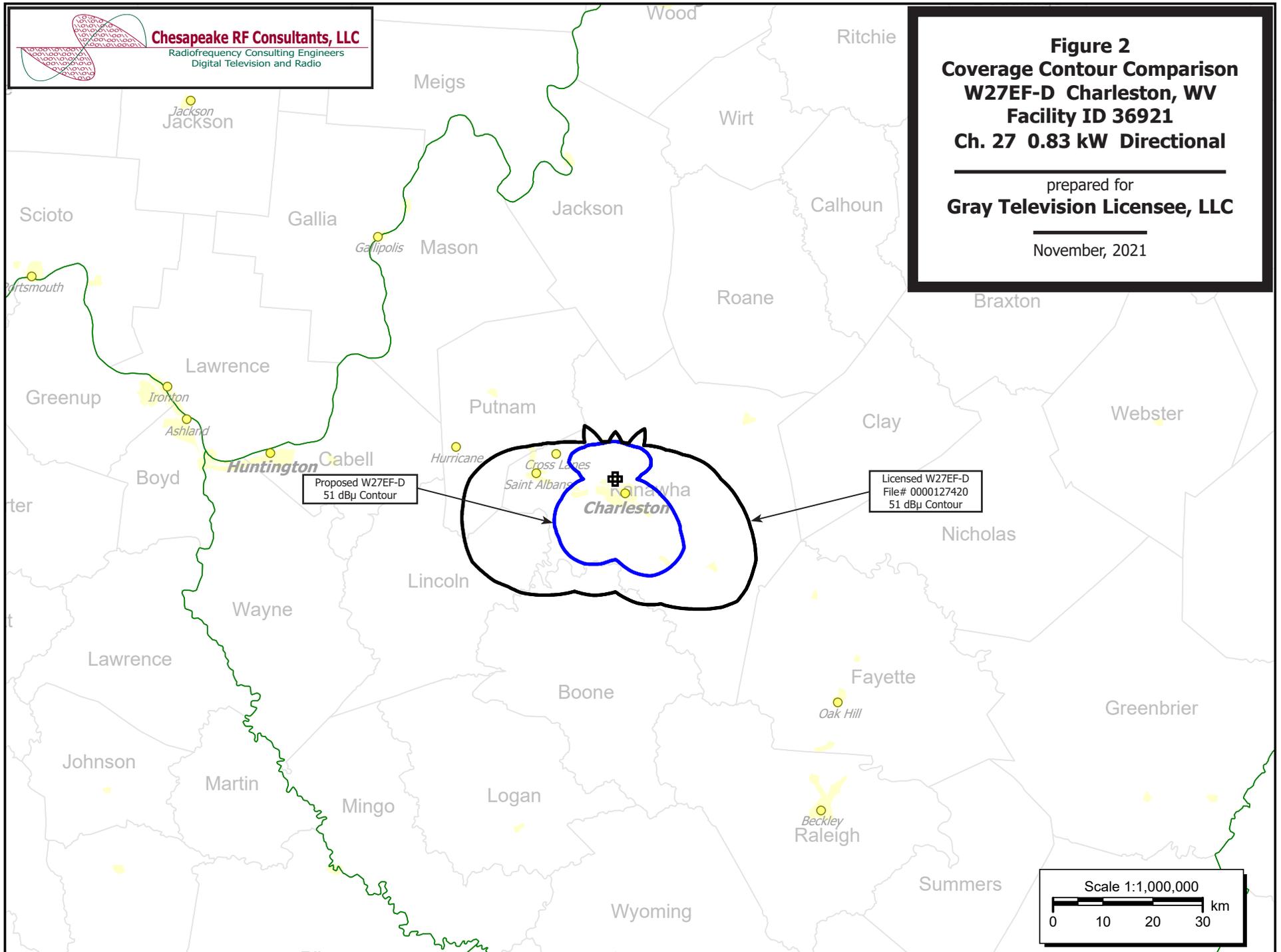
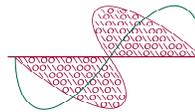


Table 1 W27EF-D TVStudy Analysis of Proposal
 (page 1 of 5)



tvstudy v2.2.5 (4uoc83)
 Database: localhost, Study: W27EF-D_KAT-1x, Model: Longley-Rice
 Start: 2021.11.23 11:25:26

Study created: 2021.11.23 11:25:26

Study build station data: LMS TV 2021-11-22

Proposal: W27EF-D D27 LD APP CHARLESTON, WV
 File number: W27EF-D_KAT-1x
 Facility ID: 36921
 Station data: User record
 Record ID: 3988
 Country: U.S.

Build options:
 Protect pre-transition records not on baseline channel

Search options:
 Baseline record excluded if station has CP

Stations potentially affected by proposal:

IX	Call	Chan	Svc	Status	City, State	File Number	Distance
No	DWVVK-LP	D26-	LD	APP	MARTIN, KY	BLANK0000054354	143.3 km
No	WGPT	D26	DT	LIC	OAKLAND, MD	BLANK0000080370	234.3
No	WCPO-TV	D26	DT	LIC	CINCINNATI, OH	BLANK0000157839	260.2
No	WCSN-LD	D26	LD	LIC	COLUMBUS, OH	BLANK0000113234	217.1
No	WIVD-LD	D26	LD	LIC	NEWCOMERSTOWN, OH	BLANK0000079906	220.9
No	WIVD-LD	D26	LD	CP	NEWCOMERSTOWN, OH	BLANK0000080067	220.9
No	W26EL-D	D26	LD	CP	CLARKSBURG, WV	BNPDTL20100514AAX	154.8
No	W26EW-D	D26	LD	LIC	HUNTINGTON, WV	BLANK0000116963	65.2
No	WIYE-LD	D26	LD	LIC	PARKERSBURG, WV	BLANK0000079793	108.6
No	WTTV	D27	DT	LIC	BLOOMINGTON, IN	BLANK0000086972	405.2
No	WTVQ-DT	D27	DT	LIC	LEXINGTON, KY	BLANK0000087240	242.2
No	WMAR-TV	D27	DT	LIC	BALTIMORE, MD	BLANK0000136334	446.1
No	WADL	D27	DT	LIC	MOUNT CLEMENS, MI	BLANK0000111708	476.0
No	W27EK-D	D27	LD	LIC	BOONE, NC	BLANK0000082270	237.9
No	WUNW	D27	DD	LIC	CANTON, NC	BLANK0000163367	331.2
No	WUNW	D27	DT	LIC	CANTON, NC	BLEDT20110921AAA	331.2
No	WGTV-CD	D27	DC	LIC	CHARLOTTE, NC	BLANK0000120552	337.8
No	WUNP-TV	D27	DT	LIC	ROANOKE RAPIDS, NC	BLANK0000121047	409.3
No	WDYC-LD	D27	LD	CP	CINCINNATI, OH	BLANK0000159588	264.1
No	W27EA-D	D27	DC	LIC	CLEVELAND, OH	BLANK0000116762	334.4
No	WTTE	D27	DT	LIC	COLUMBUS, OH	BLANK0000129745	209.7
No	WPNM-LD	D27z	LD	LIC	LIEPSIC, OH	BLANK0000090626	362.2
No	W27DG-D	D27	LD	LIC	MILLERSBURG, OH	BLANK0000168187	283.0
No	WQLN	D27	DT	LIC	ERIE, PA	BLANK0000083708	429.4
No	WTAE-TV	D27	DT	LIC	PITTSBURGH, PA	BLANK0000112576	265.0
No	WTAE-TV	D27	DT	CP	PITTSBURGH, PA	BLANK0000127499	265.0
No	WHVL-LD	D27	LD	LIC	STATE COLLEGE, ETC., PA	BLANK0000006251	423.3
Yes	WPXR-TV	D27	DT	LIC	ROANOKE, VA	BLANK0000081460	186.0
No	W08EE-D	D27	LD	CP	MARTINSBURG, WV	BLANK0000054634	333.3
No	W27EI-D	D27	LD	LIC	MOOREFIELD, WV	BLANK0000081243	247.7
Yes	WHJC-LP	D27	LD	LIC	WILLIAMSON, WV	BLDTL20100910AAH	89.2
No	WLEX-TV	D28	DT	CP	LEXINGTON, KY	BLANK0000157703	242.2
No	WLEX-TV	D28	DT	LIC	LEXINGTON, KY	BLANK0000087372	242.2
No	WSYX	D28	DT	LIC	COLUMBUS, OH	BLANK0000129744	209.7
No	WPCB-TV	D28	DT	LIC	GREENSBURG, PA	BLANK0000079894	276.0
No	WEMT	D28	DT	LIC	GREENEVILLE, TN	BLANK0000072087	217.7
No	W28DR-D	D28	LD	LIC	CEDARVILLE, WV	BLDTT20130220AAB	94.8
No	W28EX-D	D28	LD	LIC	CLARKSBURG, WV	BLANK0000160515	154.6
No	W28EX-D	D28	LD	CP	CLARKSBURG, WV	BLANK0000162188	169.0
No	W28FC-D	D28	LD	LIC	ROANOKE, WV	BLANK0000158064	117.5

No non-directional AM stations found within 0.8 km

No directional AM stations found within 3.2 km

Record parameters as studied:

Channel: D27
 Mask: Simple

Table 1 W27EF-D TVStudy Analysis of Proposal
(page 2 of 5)



Latitude: 38 22 31.00 N (NAD83)
 Longitude: 81 39 20.00 W
 Height AMSL: 321.6 m
 HAAT: 0.0 m
 Peak ERP: 0.830 kW
 Antenna: KAT 723147 180.0 deg
 Elev Pattn: Generic

50.0 dBu contour:

Azimuth	ERP	HAAT	Distance
0.0 deg	0.008 kW	65.9 m	7.9 km
45.0	0.015	55.7	8.5
90.0	0.001	52.5	4.5
135.0	0.224	85.5	20.6
180.0	0.830	15.7	16.9
225.0	0.224	58.9	17.2
270.0	0.001	117.6	6.8
315.0	0.015	69.0	9.5

Database HAAT does not agree with computed HAAT
 Database HAAT: 0 m Computed HAAT: 65 m

Distance to Canadian border: 372.3 km

Distance to Mexican border: 1985.4 km

Conditions at FCC monitoring station: Laurel MD
 Bearing: 76.7 degrees Distance: 428.0 km

Proposal is not within the West Virginia quiet zone area

Conditions at Table Mountain receiving zone:
 Bearing: 283.0 degrees Distance: 2031.9 km

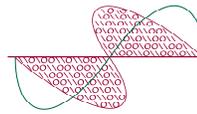
Study cell size: 1.00 km
 Profile point spacing: 1.00 km

Maximum new IX to full-service and Class A: 0.50%
 Maximum new IX to LPTV: 2.00%

 Interference to BLANK0000081460 LIC scenario 1

Desired:	Call	Chan	Svc	Status	City, State	File Number	Distance
	WPXR-TV	D27	DT	LIC	ROANOKE, VA	BLANK0000081460	
Undesireds:	W27EF-D	D27	LD	APP	CHARLESTON, WV	W27EF-D_KAT-1x	186.0 km
	WGPX-TV	D26	DT	LIC	BURLINGTON, NC	BLANK0000081829	150.2
	WHTJ	D26	DT	LIC	CHARLOTTEVILLE, VA	BLANK0000112378	170.7
	WTVQ-DT	D27	DT	LIC	LEXINGTON, KY	BLANK0000087240	385.0
	WMAR-TV	D27	DT	LIC	BALTIMORE, MD	BLANK0000136334	386.8
	WUNW	D27	DD	LIC	CANTON, NC	BLANK0000163367	306.1
	WGTE-CD	D27	DC	LIC	CHARLOTTE, NC	BLANK0000120552	223.1
	WUNP-TV	D27	DT	LIC	ROANOKE RAPIDS, NC	BLANK0000121047	229.4
	WTTE	D27	DT	LIC	COLUMBUS, OH	BLANK0000129745	393.5
	WTAE-TV	D27	DT	LIC	PITTSBURGH, PA	BLANK0000112576	343.8
	WPDE-TV	D27	DT	LIC	FLORENCE, SC	BLANK0000120367	323.3
	WJGN-CD	D27	DC	LIC	CHESAPEAKE, VA	BLANK0000097777	339.0
	WMYV	D28	DT	LIC	GREENSBORO, NC	BLANK0000158590	150.8
	WEMT	D28	DT	LIC	GREENEVILLE, TN	BLANK0000072087	193.1
	Service area		Terrain-limited		IX-free, before	IX-free, after	Percent New IX
	39002.8	1,375,927	33080.5	1,204,959	31992.5	1,175,500	0.00 0.00
Undesired			Total IX		Unique IX, before	Unique IX, after	
W27EF-D	D27	LD	APP	12.1	874	0.0	0
WGPX-TV	D26	DT	LIC	40.2	716	0.0	0
WHTJ	D26	DT	LIC	7.1	31	1.0	23
WTVQ-DT	D27	DT	LIC	38.2	1,929	30.1	1,033
WMAR-TV	D27	DT	LIC	37.5	510	19.3	242
WUNW	D27	DD	LIC	20.0	420	13.0	182

Table 1 W27EF-D TVStudy Analysis of Proposal
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WGTB-CD D27 DC LIC	135.5	2,658	60.2	1,307	60.2	1,307
WUNP-TV D27 DT LIC	676.8	17,439	520.9	12,344	520.9	12,344
WTTE D27 DT LIC	43.4	1,156	23.2	258	22.2	258
WTAE-TV D27 DT LIC	29.3	430	11.1	136	11.1	136
WPDE-TV D27 DT LIC	124.5	3,220	26.1	418	26.1	418
WJGN-CD D27 DC LIC	1.0	1	0.0	0	0.0	0
WMYV D28 DT LIC	240.2	10,317	156.8	6,974	156.8	6,974
WEMT D28 DT LIC	8.0	0	8.0	0	8.0	0

Interference to BLANK0000081460 LIC scenario 2

Desired:	Call	Chan	Svc	Status	City, State	File Number	Distance
	WPXR-TV	D27	DT	LIC	ROANOKE, VA	BLANK0000081460	
Undesireds:	W27EF-D	D27	LD	APP	CHARLESTON, WV	W27EF-D_KAT-1x	186.0 km
	WGPX-TV	D26	DT	LIC	BURLINGTON, NC	BLANK0000081829	150.2
	WHTJ	D26	DT	LIC	CHARLOTTESVILLE, VA	BLANK0000112378	170.7
	WTVQ-DT	D27	DT	LIC	LEXINGTON, KY	BLANK0000087240	385.0
	WMAR-TV	D27	DT	LIC	BALTIMORE, MD	BLANK0000136334	386.8
	WGTB-CD	D27	DC	LIC	CHARLOTTE, NC	BLANK0000120552	223.1
	WUNP-TV	D27	DT	LIC	ROANOKE RAPIDS, NC	BLANK0000121047	229.4
	WTTE	D27	DT	LIC	COLUMBUS, OH	BLANK0000129745	393.5
	WTAE-TV	D27	DT	LIC	PITTSBURGH, PA	BLANK0000112576	343.8
	WPDE-TV	D27	DT	LIC	FLORENCE, SC	BLANK0000120367	323.3
	WJGN-CD	D27	DC	LIC	CHESAPEAKE, VA	BLANK0000097777	339.0
	WMYV	D28	DT	LIC	GREENSBORO, NC	BLANK0000158590	150.8
	WEMT	D28	DT	LIC	GREENEVILLE, TN	BLANK0000072087	193.1

Service area	Terrain-limited	IX-free, before	IX-free, after	Percent New IX
39002.8 1,375,927	33080.5 1,204,959	32005.5 1,175,682	32005.5 1,175,682	0.00 0.00

Undesired	Total IX	Unique IX, before	Unique IX, after
W27EF-D D27 LD APP	12.1 874	0.0 0	0.0 0
WGPX-TV D26 DT LIC	40.2 716	0.0 0	0.0 0
WHTJ D26 DT LIC	7.1 31	1.0 23	1.0 23
WTVQ-DT D27 DT LIC	38.2 1,929	30.1 1,033	28.1 867
WMAR-TV D27 DT LIC	37.5 510	19.3 242	19.3 242
WGTB-CD D27 DC LIC	135.5 2,658	61.2 1,437	61.2 1,437
WUNP-TV D27 DT LIC	676.8 17,439	521.9 12,399	521.9 12,399
WTTE D27 DT LIC	43.4 1,156	23.2 258	22.2 258
WTAE-TV D27 DT LIC	29.3 430	11.1 136	11.1 136
WPDE-TV D27 DT LIC	124.5 3,220	26.1 418	26.1 418
WJGN-CD D27 DC LIC	1.0 1	0.0 0	0.0 0
WMYV D28 DT LIC	240.2 10,317	156.8 6,974	156.8 6,974
WEMT D28 DT LIC	8.0 0	8.0 0	8.0 0

Interference to BLANK0000081460 LIC scenario 3

Desired:	Call	Chan	Svc	Status	City, State	File Number	Distance
	WPXR-TV	D27	DT	LIC	ROANOKE, VA	BLANK0000081460	
Undesireds:	W27EF-D	D27	LD	APP	CHARLESTON, WV	W27EF-D_KAT-1x	186.0 km
	WGPX-TV	D26	DT	LIC	BURLINGTON, NC	BLANK0000081829	150.2
	WHTJ	D26	DT	LIC	CHARLOTTESVILLE, VA	BLANK0000112378	170.7
	WTVQ-DT	D27	DT	LIC	LEXINGTON, KY	BLANK0000087240	385.0
	WMAR-TV	D27	DT	LIC	BALTIMORE, MD	BLANK0000136334	386.8
	WUNW	D27	DD	LIC	CANTON, NC	BLANK0000163367	306.1
	WGTB-CD	D27	DC	LIC	CHARLOTTE, NC	BLANK0000120552	223.1
	WUNP-TV	D27	DT	LIC	ROANOKE RAPIDS, NC	BLANK0000121047	229.4
	WTTE	D27	DT	LIC	COLUMBUS, OH	BLANK0000129745	393.5
	WTAE-TV	D27	DT	CP	PITTSBURGH, PA	BLANK0000127499	343.8
	WPDE-TV	D27	DT	LIC	FLORENCE, SC	BLANK0000120367	323.3
	WJGN-CD	D27	DC	LIC	CHESAPEAKE, VA	BLANK0000097777	339.0
	WMYV	D28	DT	LIC	GREENSBORO, NC	BLANK0000158590	150.8
	WEMT	D28	DT	LIC	GREENEVILLE, TN	BLANK0000072087	193.1

Service area	Terrain-limited	IX-free, before	IX-free, after	Percent New IX
39002.8 1,375,927	33080.5 1,204,959	31988.5 1,175,500	31988.5 1,175,500	0.00 0.00

Undesired	Total IX	Unique IX, before	Unique IX, after
W27EF-D D27 LD APP	12.1 874	0.0 0	0.0 0

Table 1 W27EF-D TVStudy Analysis of Proposal
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WGFX-TV D26 DT LIC	40.2	716	0.0	0	0.0	0
WHTJ D26 DT LIC	7.1	31	1.0	23	1.0	23
WTVQ-DT D27 DT LIC	38.2	1,929	30.1	1,033	28.1	867
WMAR-TV D27 DT LIC	37.5	510	19.3	242	19.3	242
WUNW D27 DD LIC	20.0	420	13.0	182	13.0	182
WGTB-CD D27 DC LIC	135.5	2,658	60.2	1,307	60.2	1,307
WUNP-TV D27 DT LIC	676.8	17,439	520.9	12,344	520.9	12,344
WTTE D27 DT LIC	43.4	1,156	22.2	258	21.2	258
WTAE-TV D27 DT CP	34.3	430	15.1	136	15.1	136
WPDE-TV D27 DT LIC	124.5	3,220	26.1	418	26.1	418
WJGN-CD D27 DC LIC	1.0	1	0.0	0	0.0	0
WMYV D28 DT LIC	240.2	10,317	156.8	6,974	156.8	6,974
WEMT D28 DT LIC	8.0	0	8.0	0	8.0	0

Interference to BLANK000081460 LIC scenario 4

Desired:	Call	Chan	Svc	Status	City, State	File Number	Distance
	WPXR-TV	D27	DT	LIC	ROANOKE, VA	BLANK000081460	
Undesireds:	W27EF-D	D27	LD	APP	CHARLESTON, WV	W27EF-D_KAT-1x	186.0 km
	WGFX-TV	D26	DT	LIC	BURLINGTON, NC	BLANK0000081829	150.2
	WHTJ	D26	DT	LIC	CHARLOTTESVILLE, VA	BLANK0000112378	170.7
	WTVQ-DT	D27	DT	LIC	LEXINGTON, KY	BLANK0000087240	385.0
	WMAR-TV	D27	DT	LIC	BALTIMORE, MD	BLANK0000136334	386.8
	WGTB-CD	D27	DC	LIC	CHARLOTTE, NC	BLANK0000120552	223.1
	WUNP-TV	D27	DT	LIC	ROANOKE RAPIDS, NC	BLANK0000121047	229.4
	WTTE	D27	DT	LIC	COLUMBUS, OH	BLANK0000129745	393.5
	WTAE-TV	D27	DT	CP	PITTSBURGH, PA	BLANK0000127499	343.8
	WPDE-TV	D27	DT	LIC	FLORENCE, SC	BLANK0000120367	323.3
	WJGN-CD	D27	DC	LIC	CHESAPEAKE, VA	BLANK0000097777	339.0
	WMYV	D28	DT	LIC	GREENSBORO, NC	BLANK0000158590	150.8
	WEMT	D28	DT	LIC	GREENEVILLE, TN	BLANK0000072087	193.1

Service area	Terrain-limited	IX-free, before	IX-free, after	Percent New IX
39002.8	1,375,927	33080.5	1,175,682	0.00

Undesired	Total IX	Unique IX, before	Unique IX, after
W27EF-D D27 LD APP	12.1	874	0.0
WGFX-TV D26 DT LIC	40.2	716	0.0
WHTJ D26 DT LIC	7.1	31	1.0
WTVQ-DT D27 DT LIC	38.2	1,929	30.1
WMAR-TV D27 DT LIC	37.5	510	19.3
WGTB-CD D27 DC LIC	135.5	2,658	61.2
WUNP-TV D27 DT LIC	676.8	17,439	521.9
WTTE D27 DT LIC	43.4	1,156	22.2
WTAE-TV D27 DT CP	34.3	430	15.1
WPDE-TV D27 DT LIC	124.5	3,220	26.1
WJGN-CD D27 DC LIC	1.0	1	0.0
WMYV D28 DT LIC	240.2	10,317	156.8
WEMT D28 DT LIC	8.0	0	8.0

Interference to BLDTL20100910AAH LIC scenario 1

Desired:	Call	Chan	Svc	Status	City, State	File Number	Distance
	WHJC-LP	D27	LD	LIC	WILLIAMSON, WV	BLDTL20100910AAH	
Undesireds:	W27EF-D	D27	LD	APP	CHARLESTON, WV	W27EF-D_KAT-1x	89.2 km
	DWVVK-LP	D26-	LD	APP	MARTIN, KY	BLANK0000054354	54.2
	WTVQ-DT	D27	DT	LIC	LEXINGTON, KY	BLANK0000087240	194.7
	WUNW	D27	DD	LIC	CANTON, NC	BLANK0000163367	245.3
	WTTE	D27	DT	LIC	COLUMBUS, OH	BLANK0000129745	257.8
	WPXR-TV	D27	DT	LIC	ROANOKE, VA	BLANK0000081460	190.6

Service area	Terrain-limited	IX-free, before	IX-free, after	Percent New IX
2812.3	66,525	2405.1	54,829	0.17

Undesired	Total IX	Unique IX, before	Unique IX, after
W27EF-D D27 LD APP	5.1	0	4.0
DWVVK-LP D26- LD APP	28.3	496	22.2
WTVQ-DT D27 DT LIC	32.3	384	19.2
WTTE D27 DT LIC	30.3	410	15.2

Table 1 W27EF-D TVStudy Analysis of Proposal
 (page 5 of 5)



WPXR-TV D27 DT LIC 6.1 38 3.0 0 3.0 0

 Interference to proposal scenario 1

Desired:	Call	Chan	Svc	Status	City, State	File Number	Distance
	W27EF-D	D27	LD	APP	CHARLESTON, WV	W27EF-D_KAT-1x	
Undesireds:	WTTE	D27	DT	LIC	COLUMBUS, OH	BLANK0000129745	209.7 km
	WTAE-TV	D27	DT	LIC	PITTSBURGH, PA	BLANK0000112576	265.0
	WHJC-LP	D27	LD	LIC	WILLIAMSON, WV	BLDTL20100910AAH	89.2
	Service area		Terrain-limited		IX-free	Percent IX	
	445.3 95,024		408.1 88,740		397.0 88,275	2.71 0.52	
Undesired			Total IX		Unique IX	Prcnt Unique IX	
WTTE D27 DT LIC		8.0	465	8.0	465	1.97 0.52	
WTAE-TV D27 DT LIC		2.0	0	1.0	0	0.25 0.00	
WHJC-LP D27 LD LIC		2.0	0	1.0	0	0.25 0.00	

 Interference to proposal scenario 2

Desired:	Call	Chan	Svc	Status	City, State	File Number	Distance
	W27EF-D	D27	LD	APP	CHARLESTON, WV	W27EF-D_KAT-1x	
Undesireds:	WTTE	D27	DT	LIC	COLUMBUS, OH	BLANK0000129745	209.7 km
	WTAE-TV	D27	DT	CP	PITTSBURGH, PA	BLANK0000127499	265.0
	WHJC-LP	D27	LD	LIC	WILLIAMSON, WV	BLDTL20100910AAH	89.2
	Service area		Terrain-limited		IX-free	Percent IX	
	445.3 95,024		408.1 88,740		397.0 88,275	2.71 0.52	
Undesired			Total IX		Unique IX	Prcnt Unique IX	
WTTE D27 DT LIC		8.0	465	8.0	465	1.97 0.52	
WTAE-TV D27 DT CP		2.0	0	1.0	0	0.25 0.00	
WHJC-LP D27 LD LIC		2.0	0	1.0	0	0.25 0.00	

**Channel and
Facility
Information**

Section	Question	Response
Facility ID	36921	
State	West Virginia	
City	CHARLESTON	
LPD Channel	27	

Primary station proposed to be rebroadcast:

Facility Id	Call Sign	City	State
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**Antenna Location
Data**

Section	Question	Response
Antenna Structure Registration	Do you have an FCC Antenna Structure Registration (ASR) Number?	Yes
	ASR Number	1061555
Coordinates (NAD83)	Latitude	38° 22' 31.0" N+
	Longitude	081° 39' 20.0" W-
	Structure Type	TOWER-A free standing or guyed struct
	Overall Structure Height	59.4 meters
	Support Structure Height	55.3 meters
	Ground Elevation (AMSL)	307.9 meters
Antenna Data	Height of Radiation Center Above Ground Level	13.7 meters
	Height of Radiation Center Above Mean Sea Level	321.6 meters
	Effective Radiated Power	0.83 kW

**Antenna
Technical Data**

Section	Question	Response
Antenna Type	Antenna Type	Directional Custom
	Do you have an Antenna ID?	No
	Antenna ID	
Antenna Manufacturer and Model	Manufacturer:	KAT
	Model	1x K723147
	Rotation	180 degrees
	Electrical Beam Tilt	Not Applicable
	Mechanical Beam Tilt	Not Applicable
	toward azimuth	
	Polarization	Horizontal
Elevation Radiation Pattern	Does the proposed antenna propose elevation radiation patterns that vary with azimuth for reasons other than the use of mechanical beam tilt?	No
	Uploaded file for elevation antenna (or radiation) pattern data	
	Out-of-Channel Emission Mask:	Simple

Directional Antenna Relative Field Values (Pre-rotated Pattern)

Degree	Value	Degree	Value	Degree	Value	Degree	Value
0	1.000	90	0.04	180	0.10	270	0.04
10	0.96	100	0.06	190	0.10	280	0.09
20	0.88	110	0.12	200	0.10	290	0.17
30	0.75	120	0.14	210	0.11	300	0.30
40	0.60	130	0.14	220	0.13	310	0.44
50	0.44	140	0.13	230	0.14	320	0.60
60	0.30	150	0.11	240	0.14	330	0.75
70	0.17	160	0.10	250	0.12	340	0.88
80	0.09	170	0.10	260	0.06	350	0.96

Additional Azimuths

Degree	V _A
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