

ENGINEERING EXHIBIT

Application for Minor Modification of Digital Low Power Television Station Construction Permit

prepared for

Gray Television Licensee, LLC

KNXG-LD College Station, TX

Facility ID 182059

Ch. 27 15 kW Directional

Gray Television Licensee, LLC (“Gray”) is the permittee of digital Low Power Television station KNXG-LD, Channel 49, College Station TX, Facility ID 182059 (file# 0000022100). As a result of the Special Displacement Window,¹ a Construction Permit (“CP” file# 0000054049) authorizes KNXG-LD to operate on Channel 27 with 15 kW effective radiated power (“ERP”) and a directional antenna. *Gray* herein seeks a minor modification of the CP to specify a different directional antenna for the Channel 27 displacement facility.

As with the current CP, the proposed facility will employ a new antenna system to be side-mounted on the existing tower structure associated with FCC Antenna Structure Registration number 1062868, located 30.4 km (18.9 miles) from the licensed site. No change to the overall structure height is proposed. The antenna supporting structure is owned by *Gray* and is utilized by *Gray*’s full-service television station KBTX-TV (Facility ID 6669, Bryan TX).

The proposed antenna is a directional ERI model ALP12L6-ESOC-27 having elliptical polarization. The ERP is 15 kW horizontally polarized and 4.5 kW vertically polarized using a “full service” out of channel emission mask. A plot of the directional antenna’s azimuthal pattern is supplied in Figure 1. Figure 2 depicts the 51 dB μ coverage contour of the proposed facility as well as those of the licensed and current CP facilities, demonstrating compliance with §73.3572 for a minor change.

¹“*Incentive Auction Task Force and Media Bureau Announce Post-Incentive Auction Special Displacement Window April 10, 2018, through May 15, 2018, and Make Location and Channel Data Available,*” Public Notice, DA 18-124, released February 9, 2018.

Interference study per OET Bulletin 69² shows that the proposal complies with the FCC's interference protection requirements toward all digital television, television translator, LPTV, and Class A stations. FCC processing of this proposal is requested using a 1.0 km cell size and 0.2 km terrain profile increment. 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 facility 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 20 percent antenna relative field in downward elevations (pattern data shows 20 percent or less relative field at angles 30 to 90 degrees below the antenna), the calculated power density attributable to the proposed facility at locations near the transmitter site at a height of two meters above ground level is $0.2 \mu\text{W}/\text{cm}^2$, which is 0.1 percent of the general population / uncontrolled maximum permissible exposure limit. This is well below the five percent threshold limit described in §1.1307(b) regarding sites with multiple emitters, categorically excluding the applicant from responsibility for taking any corrective action in the areas where the proposal's contribution is less than five percent.

The general public will not be exposed to RF levels attributable to the proposal in excess of the FCC's guidelines. RF exposure warning signs will continue to be posted. With respect to worker safety, the applicant will coordinate exposure procedures with all pertinent stations and will reduce power or cease operation as necessary to protect persons having access to the site, tower, or antenna from RF electromagnetic field exposure in excess of FCC guidelines. This exhibit is limited to the evaluation of exposure to RF electromagnetic field. No increase in structure height is proposed.

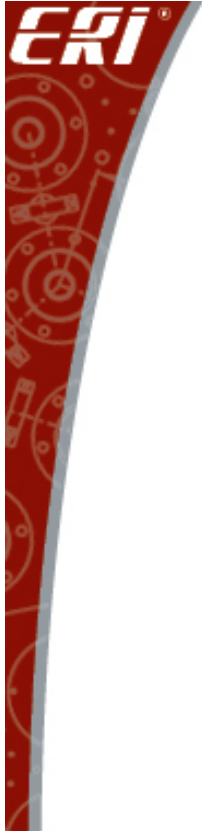
²FCC Office of Engineering and Technology Bulletin number 69, *Longley-Rice Methodology for Evaluating TV Coverage and Interference*, February 6, 2004 ("OET-69"). This analysis employed the FCC's current "TVStudy" software with the default application processing template settings, 1 km cell size, and 0.2 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.

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.	October 4, 2021	
207 Old Dominion Road	Yorktown, VA 23692	703-650-9600



Spec Number: 20211004 JMD prelim

Model Number: ALP12L6-ESOC

Azimuth Pattern

Type:	ALP-OC	Polarization:	Horizontal
Directivity:	1.65 numeric (2.17 dB)	Frequency:	27 (ATSC)
Peak(s) at:		Location:	College Stations, TX
		Note: Pattern shape and directivity may vary with channel and mounting configuration.	

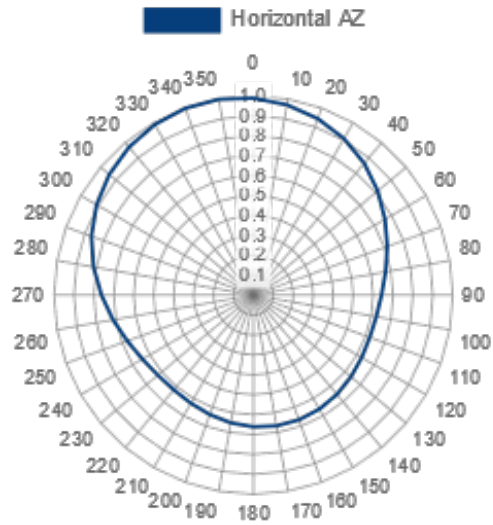
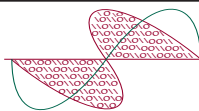


Figure 1
Antenna Azimuthal Pattern
KNXG-LD College Station, TX
Facility ID 182059
Ch. 27 15 kW Directional

prepared for
Gray Television Licensee, LLC

October, 2021



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

Figure 2
Coverage Contour Comparison
KNXG-LD College Station, TX
Facility ID 182059
Ch. 27 15 kW Directional

prepared for
Gray Television Licensee, LLC

October, 2021

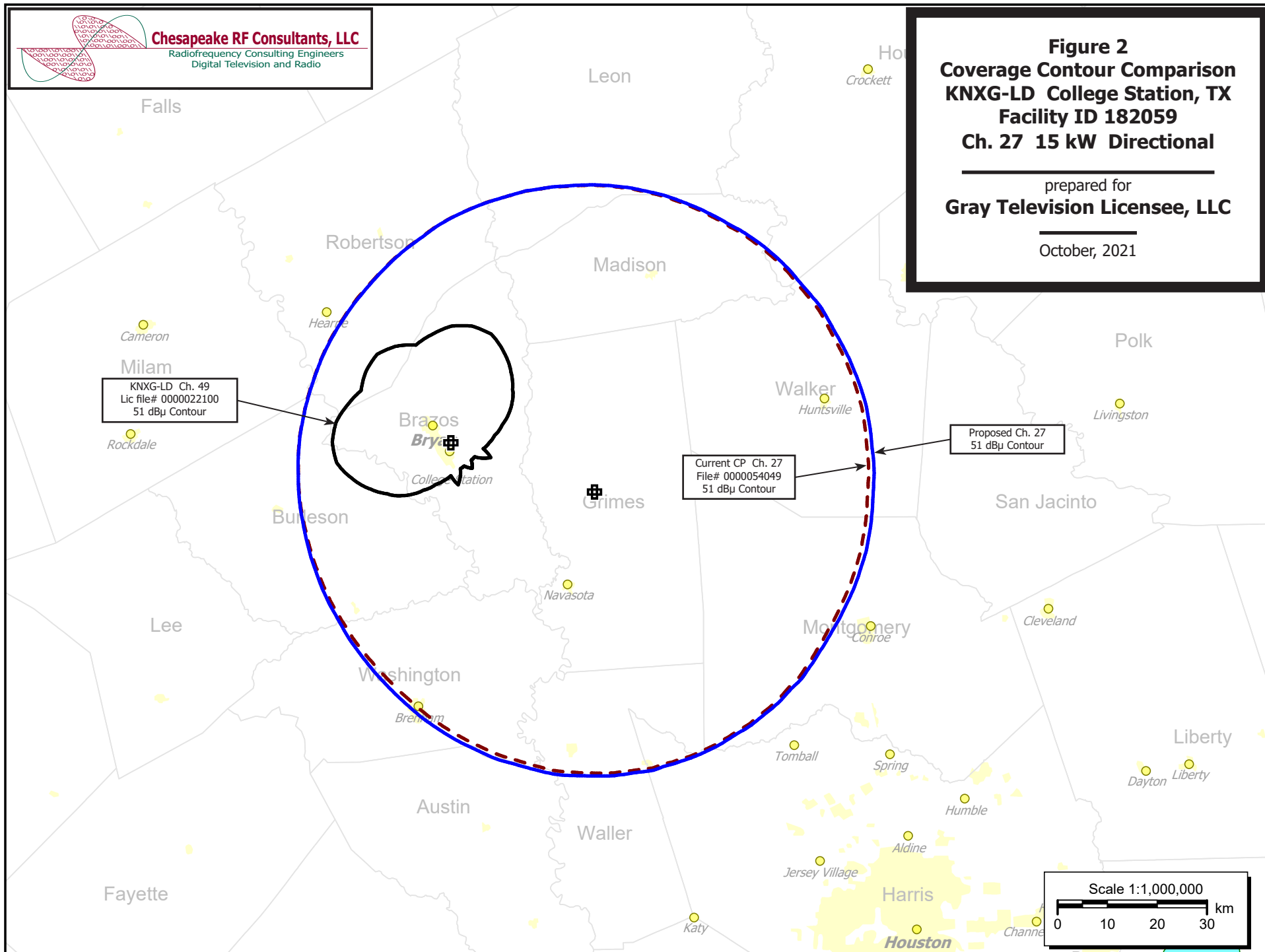


Table 1 KNXG-LD TVStudy Analysis of Proposal (page 1 of 9)



tvstudy v2.2.5 (4uoc83)
Database: localhost, Study: KNXG-LD_ALP-OC, Model: Longley-Rice
Start: 2021.10.04 14:09:49

Study created: 2021.10.04 14:09:49

Study build station data: LMS TV 2021-10-04

Proposal: KNXG-LD D27 LD APP COLLEGE STATION, TX
File number: KNXG-LD_ALP-OC
Facility ID: 182059
Station data: User record
Record ID: 3903
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
Yes	KRIV	D26	DT	CP	HOUSTON, TX	BLANK0000149927	120.6 km
Yes	KRIV	D26	DT	LIC	HOUSTON, TX	BLCDT20111212AHM	120.6
No	KXTS-LD	D26	LD	LIC	VICTORIA, TX	BLANK0000114183	217.4
Yes	KXXV	D26	DT	LIC	WACO, TX	BLCDT20050630AFE	149.8
No	KTVE	D27	DT	LIC	EL DORADO, AR	BLCDT20070105ABH	455.9
No	DKWCE-LP	N27-	TX	APP	ALEXANDRIA, LA	BLTTL20060714ACI	355.8
No	K42FE-D	D27	LD	CP	SHREVEPORT, LA	BLANK0000150148	302.3
No	W27DJ-D	D27	LD	CP	SULPHUR, LA	BNPDTL20100407ABL	249.2
No	K46AI-D	D27	LD	LIC	DURANT, OK	BLANK0000063814	383.4
No	KORO	D27	DT	LIC	CORPUS CHRISTI, TX	BLCDT20060626ACE	352.5
No	KDFI	D27	DT	LIC	DALLAS, TX	BLANK0000074883	242.9
No	DK27JJ-D	D27	LD	APP	FORBES/JASPER CTY, TX	BLDTL20110610AAD	155.3
No	KDJB-LD	D27	LD	LIC	HONDO, TX	BLDTL20110706ABA	370.2
Yes	KBFX-LD	D27	LD	LIC	HOUSTON, TX	BLANK0000072640	109.1
Yes	KQHO-LD	D27	LD	LIC	HOUSTON, TX	BLANK0000072691	109.1
Yes	KBVO	D27	DT	LIC	LLANO, TX	BLCDT20090622ABA	242.9
No	KLUF-LD	D27-	LD	APP	LUFKIN, TX	BLANK0000010680	155.0
Yes	KLUF-LD	D27-	LD	LIC	LUFKIN, TX	BLANK0000151859	154.9
No	KLUF-LD	D27-	LD	CP	LUFKIN, TX	BLANK0000153447	155.0
No	KBTB-TV	D27	DT	LIC	PORT ARTHUR, TX	BLANK0000063140	201.1
No	KCOR-CD	D27	DC	LIC	SAN ANTONIO, TX	BLANK0000115083	268.5
No	KDKJ-LD	D27	LD	LIC	TYLER, TX	BLANK0000001765	199.7
No	KUNU-LD	D27	LD	LIC	VICTORIA, TX	BLANK0000114182	217.4
Yes	K28QN-D	D28	LD	CP	COLLEGE STATION, TX	BLANK0000116857	35.6
No	KUGB-CD	D28	DC	CP	HOUSTON, TX	BLANK0000127537	120.2
No	KUGB-CD	D28	DC	LIC	HOUSTON, TX	BLDTA20120801ALF	120.2
No	DDKETX-LP	D28	LD	APP	LIVINGSTON, TX	BDISDTL20090814AAJ	107.8
No	WOAI-TV	D28	DT	LIC	SAN ANTONIO, TX	BLANK0000074998	258.3
No	WOAI-TV	D28	DT	LIC	SAN ANTONIO, TX	BLANK0000127065	258.3
No	KWKT-TV	D28	DT	LIC	WACO, TX	BLANK0000117686	149.7
No	DKHTX-LP	N30-	TX	APP	HUNTSVILLE, TX	BLTTL19980813JD	55.7

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: Full Service
Latitude: 30 33 16.50 N (NAD83)
Longitude: 96 1 52.30 W
Height AMSL: 512.6 m
HAAT: 0.0 m
Peak ERP: 15.0 kW
Antenna: ERI ALP-OC rev2021 345.0 deg
Elev Pattn: Generic
Elec Tilt: 1.50

Table 1 KNXG-LD TV Study Analysis of Proposal
(page 2 of 9)



50.0 dBu contour:

Azimuth	ERP	HAAT	Distance
0.0 deg	14.6 kW	425.5 m	62.9 km
45.0	10.6	403.7	59.9
90.0	6.23	406.1	56.9
135.0	6.26	402.2	56.8
180.0	6.57	425.5	58.1
225.0	5.80	445.6	58.1
270.0	8.74	445.0	60.6
315.0	13.7	430.5	62.7

Database HAAT does not agree with computed HAAT

Database HAAT: 0 m Computed HAAT: 423 m

Distance to Canadian border: 1708.2 km

Distance to Mexican border: 472.9 km

Conditions at FCC monitoring station: Kingsville TX

Bearing: 208.0 degrees Distance: 390.0 km

Proposal is not within the West Virginia quiet zone area

Conditions at Table Mountain receiving zone:

Bearing: 324.5 degrees Distance: 1349.2 km

Study cell size: 1.00 km

Profile point spacing: 0.20 km

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

Maximum new IX to LPTV: 2.00%

Interference to BLANK0000149927 CP scenario 1

Desired:	Call	Chan	Svc	Status	City, State	File Number	Distance
	KRIV	D26	DT	CP	HOUSTON, TX	BLANK0000149927	
Undesireds:	KNXG-LD	D27	LD	APP	COLLEGE STATION, TX	KNXG-LD ALP-OC	120.6 km
	KYAZ	D25	DT	LIC	KATY, TX	BLANK0000125086	2.1
	KBCA	D26	DT	LIC	ALEXANDRIA, LA	BLANK0000078715	312.7
	KRIS-TV	D26	DT	CP	CORPUS CHRISTI, TX	BLANK0000145670	288.5
	KTAL-TV	D26	DT	LIC	TEXARKANA, TX	BLANK0000073076	396.0
	KPXL-TV	D26	DT	LIC	UVALDE, TX	BLCDT20090612AHU	343.6
	KXXV	D26	DT	LIC	WACO, TX	BLCDT20050630AFE	262.1
	KBTW-TV	D27	DT	LIC	PORT ARTHUR, TX	BLANK0000063140	159.0

Service area	Terrain-limited	IX-free, before	IX-free, after	Percent New IX
43904.6	6,093,241	43784.7	6,087,001	43114.7
				6,086,549
				0.14
				0.01

Undesired	Total IX	Unique IX, before	Unique IX, after
KNXG-LD D27 LD APP	226.8	1,308	61.9
KYAZ D25 DT LIC	14.0	1,061	14.0
KBCA D26 DT LIC	5.0	68	0.0
KRIS-TV D26 DT CP	32.2	65	17.1
KTAL-TV D26 DT LIC	14.0	301	2.0
KPXL-TV D26 DT LIC	27.1	39	2.0
KXXV D26 DT LIC	332.0	2,346	286.9
KBTW-TV D27 DT LIC	239.9	1,923	239.9

Interference to BLCDT20111212AHM LIC scenario 1

Desired:	Call	Chan	Svc	Status	City, State	File Number	Distance
	KRIV	D26	DT	LIC	HOUSTON, TX	BLCDT20111212AHM	
Undesireds:	KNXG-LD	D27	LD	APP	COLLEGE STATION, TX	KNXG-LD ALP-OC	120.6 km
	KYAZ	D25	DT	LIC	KATY, TX	BLANK0000125086	2.1
	KBCA	D26	DT	LIC	ALEXANDRIA, LA	BLANK0000078715	312.7
	KRIS-TV	D26	DT	CP	CORPUS CHRISTI, TX	BLANK0000145670	288.5
	KTAL-TV	D26	DT	LIC	TEXARKANA, TX	BLANK0000073076	396.0

Table 1 KNXG-LD TV Study Analysis of Proposal
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KPXL-TV	D26	DT	LIC	UVALDE, TX	BLCDT20090612AHU	343.6
KXXV	D26	DT	LIC	WACO, TX	BLCDT20050630AFE	262.1
KBTW-TV	D27	DT	LIC	PORT ARTHUR, TX	BLANK0000063140	159.0

Service area	Terrain-limited	IX-free, before	IX-free, after	Percent New IX
40166.1 6,079,002	40085.2 6,078,684	39522.9 6,070,968	39468.0 6,070,628	0.14 0.01

Undesired	Total IX	Unique IX, before	Unique IX, after
KNXG-LD D27 LD APP	173.8 1,194	54.9 340	
KYAZ D25 DT LIC	14.1 1,314	14.1 1,314	
KBCA D26 DT LIC	5.0 242	0.0 0	
KRIS-TV D26 DT CP	23.1 111	9.1 10	
KTAL-TV D26 DT LIC	10.0 365	1.0 110	
KPXL-TV D26 DT LIC	13.0 55	2.0 0	
KXXV D26 DT LIC	226.0 3,183	199.9 2,827	
KBTW-TV D27 DT LIC	308.2 3,099	308.2 3,099	

Interference to BLCDT20050630AFE LIC scenario 1

Desired:	Call	Chan	Svc	Status	City, State	File Number	Distance
	KXXV	D26	DT	LIC	WACO, TX	BLCDT20050630AFE	
Undesireds:	KNXG-LD	D27	LD	APP	COLLEGE STATION, TX	KNXG-LD_ALP-OC	149.8 km
	KPXD-TV	D25	DT	LIC	ARLINGTON, TX	BLANK0000073172	142.8
	KHPZ-CD	D25	DC	LIC	ROUND ROCK, TX	BLANK0000120824	88.4
	KRIS-TV	D26	DT	CP	CORPUS CHRISTI, TX	BLANK0000145670	398.8
	KRIV	D26	DT	CP	HOUSTON, TX	BLANK0000149927	262.1
	KTAL-TV	D26	DT	LIC	TEXARKANA, TX	BLANK0000073076	356.4
	KPXL-TV	D26	DT	LIC	UVALDE, TX	BLCDT20090612AHU	253.4
	KDFI	D27	DT	LIC	DALLAS, TX	BLANK0000074883	142.1
	KBVO	D27	DT	LIC	LLANO, TX	BLCDT20090622ABA	140.4

Service area	Terrain-limited	IX-free, before	IX-free, after	Percent New IX
39012.0 1,772,998	38710.6 1,757,744	37374.4 1,691,084	37373.4 1,691,066	0.00 0.00

Undesired	Total IX	Unique IX, before	Unique IX, after
KNXG-LD D27 LD APP	18.4 170	1.0 18	
KPXD-TV D25 DT LIC	412.3 9,954	67.4 2,011	
KHPZ-CD D25 DC LIC	4.0 1,910	4.0 1,910	
KRIS-TV D26 DT CP	9.0 4,225	0.0 0	
KRIV D26 DT CP	511.4 33,152	459.3 15,454	
KTAL-TV D26 DT LIC	71.7 221	22.2 26	
KPXL-TV D26 DT LIC	171.3 25,984	97.9 9,212	
KDFI D27 DT LIC	570.4 19,008	219.4 11,057	
KBVO D27 DT LIC	67.9 1,307	26.4 5	

Interference to BLCDT20050630AFE LIC scenario 2

Desired:	Call	Chan	Svc	Status	City, State	File Number	Distance
	KXXV	D26	DT	LIC	WACO, TX	BLCDT20050630AFE	
Undesireds:	KNXG-LD	D27	LD	APP	COLLEGE STATION, TX	KNXG-LD_ALP-OC	149.8 km
	KPXD-TV	D25	DT	LIC	ARLINGTON, TX	BLANK0000073172	142.8
	KHPZ-CD	D25	DC	LIC	ROUND ROCK, TX	BLANK0000120824	88.4
	KRIS-TV	D26	DT	CP	CORPUS CHRISTI, TX	BLANK0000145670	398.8
	KRIV	D26	DT	LIC	HOUSTON, TX	BLCDT20111212AHM	262.1
	KTAL-TV	D26	DT	LIC	TEXARKANA, TX	BLANK0000073076	356.4
	KPXL-TV	D26	DT	LIC	UVALDE, TX	BLCDT20090612AHU	253.4
	KDFI	D27	DT	LIC	DALLAS, TX	BLANK0000074883	142.1
	KBVO	D27	DT	LIC	LLANO, TX	BLCDT20090622ABA	140.4

Service area	Terrain-limited	IX-free, before	IX-free, after	Percent New IX
39012.0 1,772,998	38710.6 1,757,744	37481.6 1,697,297	37480.6 1,697,279	0.00 0.00

Undesired	Total IX	Unique IX, before	Unique IX, after
KNXG-LD D27 LD APP	18.4 170	1.0 18	
KPXD-TV D25 DT LIC	412.3 9,954	67.4 2,011	
KHPZ-CD D25 DC LIC	4.0 1,910	4.0 1,910	
KRIS-TV D26 DT CP	9.0 4,225	0.0 0	
KRIV D26 DT LIC	402.3 22,742	352.1 9,241	
KTAL-TV D26 DT LIC	71.7 221	22.2 26	

Table 1 KNXG-LD TV Study Analysis of Proposal
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KPXL-TV D26 DT LIC	171.3	25,984	99.9	13,409	99.9	13,409
KDFI D27 DT LIC	570.4	19,008	219.4	11,057	219.4	11,057
KBVO D27 DT LIC	67.9	1,307	26.4	5	26.4	5

Interference to BLANK0000072640 LIC scenario 1

Desired:	Call	Chan	Svc	Status	City, State	File Number	Distance
	KBPX-LD	D27	LD	LIC	HOUSTON, TX	BLANK0000072640	
Undesireds:	KNXG-LD	D27	LD	APP	COLLEGE STATION, TX	KNXG-LD_ALP-OC	109.1 km
	KRIV	D26	DT	CP	HOUSTON, TX	BLANK0000149927	24.1
	KQHO-LD	D27	LD	LIC	HOUSTON, TX	BLANK0000072691	0.0
	KLUF-LD	D27-	LD	APP	LUFKIN, TX	BLANK0000010680	187.1
	KBTB-TV	D27	DT	LIC	PORT ARTHUR, TX	BLANK0000063140	139.7
	KUGB-CD	D28	DC	CP	HOUSTON, TX	BLANK0000127537	25.4

Service area		Terrain-limited		IX-free, before		IX-free, after	Percent New IX
7003.2	4,680,945	7003.2	4,680,945	14.1	20,146	14.1 20,146	0.00 0.00

Undesired		Total IX		Unique IX, before		Unique IX, after	
KNXG-LD D27 LD APP	40.1	27,843				0.0 0	
KRIV D26 DT CP	742.4	384,130		0.0 0		0.0 0	
KQHO-LD D27 LD LIC	6989.1	4,660,799	6233.6	4,271,413	6202.5	4,254,114	
KBTB-TV D27 DT LIC	14.1	17,613	0.0 0		0.0 0		
KUGB-CD D28 DC CP	635.7	319,056	0.0 0		0.0 0		

Interference to BLANK0000072640 LIC scenario 2

Desired:	Call	Chan	Svc	Status	City, State	File Number	Distance
	KBPX-LD	D27	LD	LIC	HOUSTON, TX	BLANK0000072640	
Undesireds:	KNXG-LD	D27	LD	APP	COLLEGE STATION, TX	KNXG-LD_ALP-OC	109.1 km
	KRIV	D26	DT	LIC	HOUSTON, TX	BLCDT20111212AHM	24.1
	KQHO-LD	D27	LD	LIC	HOUSTON, TX	BLANK0000072691	0.0
	KLUF-LD	D27-	LD	APP	LUFKIN, TX	BLANK0000010680	187.1
	KBTB-TV	D27	DT	LIC	PORT ARTHUR, TX	BLANK0000063140	139.7
	KUGB-CD	D28	DC	CP	HOUSTON, TX	BLANK0000127537	25.4

Service area		Terrain-limited		IX-free, before		IX-free, after	Percent New IX
7003.2	4,680,945	7003.2	4,680,945	14.1	20,146	14.1 20,146	0.00 0.00

Undesired		Total IX		Unique IX, before		Unique IX, after	
KNXG-LD D27 LD APP	40.1	27,843				0.0 0	
KRIV D26 DT LIC	579.6	397,481		0.0 0		0.0 0	
KQHO-LD D27 LD LIC	6989.1	4,660,799	6277.1	4,260,625	6255.1	4,252,984	
KBTB-TV D27 DT LIC	14.1	17,613	0.0 0		0.0 0		
KUGB-CD D28 DC CP	635.7	319,056	0.0 0		0.0 0		

Interference to BLANK0000072640 LIC scenario 3

Desired:	Call	Chan	Svc	Status	City, State	File Number	Distance
	KBPX-LD	D27	LD	LIC	HOUSTON, TX	BLANK0000072640	
Undesireds:	KNXG-LD	D27	LD	APP	COLLEGE STATION, TX	KNXG-LD_ALP-OC	109.1 km
	KRIV	D26	DT	CP	HOUSTON, TX	BLANK0000149927	24.1
	KQHO-LD	D27	LD	LIC	HOUSTON, TX	BLANK0000072691	0.0
	KLUF-LD	D27-	LD	APP	LUFKIN, TX	BLANK0000010680	187.1
	KBTB-TV	D27	DT	LIC	PORT ARTHUR, TX	BLANK0000063140	139.7
	KUGB-CD	D28	DC	LIC	HOUSTON, TX	BLDTA20120801ALF	25.4

Service area		Terrain-limited		IX-free, before		IX-free, after	Percent New IX
7003.2	4,680,945	7003.2	4,680,945	14.1	20,146	14.1 20,146	0.00 0.00

Undesired		Total IX		Unique IX, before		Unique IX, after	
KNXG-LD D27 LD APP	40.1	27,843				0.0 0	
KRIV D26 DT CP	742.4	384,130		0.0 0		0.0 0	
KQHO-LD D27 LD LIC	6989.1	4,660,799	6246.7	4,276,669	6214.6	4,257,289	
KBTB-TV D27 DT LIC	14.1	17,613	0.0 0		0.0 0		
KUGB-CD D28 DC LIC	225.1	161,610	0.0 0		0.0 0		

Table 1 KNXG-LD TVStudy Analysis of Proposal
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Interference to BLANK0000072640 LIC scenario 4

	Call	Chan	Svc	Status	City, State	File Number	Distance
Desired:	KBPX-LD	D27	LD	LIC	HOUSTON, TX	BLANK0000072640	
Undesireds:	KNXG-LD	D27	LD	APP	COLLEGE STATION, TX	KNXG-LD_ALP-OC	109.1 km
	KRIV	D26	DT	LIC	HOUSTON, TX	BLCDT20111212AHM	24.1
	KQHO-LD	D27	LD	LIC	HOUSTON, TX	BLANK0000072691	0.0
	KLUF-LD	D27-	LD	APP	LUFKIN, TX	BLANK0000010680	187.1
	KBTW-TV	D27	DT	LIC	PORT ARTHUR, TX	BLANK0000063140	139.7
	KUGB-CD	D28	DC	LIC	HOUSTON, TX	BLDTA20120801ALF	25.4

	Service area	Terrain-limited		IX-free, before		IX-free, after	Percent New IX
	7003.2 4,680,945	7003.2 4,680,945		14.1 20,146		14.1 20,146	0.00 0.00
Undesired			Total IX	Unique IX, before		Unique IX, after	
KNXG-LD D27 LD APP			40.1 27,843			0.0 0	
KRIV D26 DT LIC			579.6 397,481	0.0 0		0.0 0	
KQHO-LD D27 LD LIC			6989.1 4,660,799	6409.5 4,263,318		6387.5 4,255,677	
KBTW-TV D27 DT LIC			14.1 17,613	0.0 0		0.0 0	
KUGB-CD D28 DC LIC			225.1 161,610	0.0 0		0.0 0	

Interference to BLANK0000072691 LIC scenario 1

	Call	Chan	Svc	Status	City, State	File Number	Distance
Desired:	KQHO-LD	D27	LD	LIC	HOUSTON, TX	BLANK0000072691	
Undesireds:	KNXG-LD	D27	LD	APP	COLLEGE STATION, TX	KNXG-LD_ALP-OC	109.1 km
	KRIV	D26	DT	CP	HOUSTON, TX	BLANK0000149927	24.1
	KBPX-LD	D27	LD	LIC	HOUSTON, TX	BLANK0000072640	0.0
	KLUF-LD	D27-	LD	APP	LUFKIN, TX	BLANK0000010680	187.1
	KBTW-TV	D27	DT	LIC	PORT ARTHUR, TX	BLANK0000063140	139.7
	KUGB-CD	D28	DC	CP	HOUSTON, TX	BLANK0000127537	25.4

	Service area	Terrain-limited		IX-free, before		IX-free, after	Percent New IX
	7003.2 4,680,945	7003.2 4,680,945		14.1 20,146		14.1 20,146	0.00 0.00
Undesired			Total IX	Unique IX, before		Unique IX, after	
KNXG-LD D27 LD APP			40.1 27,843			0.0 0	
KRIV D26 DT CP			742.4 384,130	0.0 0		0.0 0	
KQHO-LD D27 LD LIC			6989.1 4,660,799	6233.6 4,271,413		6202.5 4,254,114	
KBTW-TV D27 DT LIC			14.1 17,613	0.0 0		0.0 0	
KUGB-CD D28 DC CP			635.7 319,056	0.0 0		0.0 0	

Interference to BLANK0000072691 LIC scenario 2

	Call	Chan	Svc	Status	City, State	File Number	Distance
Desired:	KQHO-LD	D27	LD	LIC	HOUSTON, TX	BLANK0000072691	
Undesireds:	KNXG-LD	D27	LD	APP	COLLEGE STATION, TX	KNXG-LD_ALP-OC	109.1 km
	KRIV	D26	DT	LIC	HOUSTON, TX	BLCDT20111212AHM	24.1
	KBPX-LD	D27	LD	LIC	HOUSTON, TX	BLANK0000072640	0.0
	KLUF-LD	D27-	LD	APP	LUFKIN, TX	BLANK0000010680	187.1
	KBTW-TV	D27	DT	LIC	PORT ARTHUR, TX	BLANK0000063140	139.7
	KUGB-CD	D28	DC	CP	HOUSTON, TX	BLANK0000127537	25.4

	Service area	Terrain-limited		IX-free, before		IX-free, after	Percent New IX
	7003.2 4,680,945	7003.2 4,680,945		14.1 20,146		14.1 20,146	0.00 0.00
Undesired			Total IX	Unique IX, before		Unique IX, after	
KNXG-LD D27 LD APP			40.1 27,843			0.0 0	
KRIV D26 DT LIC			579.6 397,481	0.0 0		0.0 0	
KBPX-LD D27 LD LIC			6989.1 4,660,799	6277.1 4,260,625		6255.1 4,252,984	
KBTW-TV D27 DT LIC			14.1 17,613	0.0 0		0.0 0	
KUGB-CD D28 DC CP			635.7 319,056	0.0 0		0.0 0	

Interference to BLANK0000072691 LIC scenario 3

	Call	Chan	Svc	Status	City, State	File Number	Distance
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Chesapeake RF Consultants, LLC
Radiofrequency Consulting Engineers
Digital Television and Radio

Interference to BLANK0000072691 LIC scenario 4

Interference to BLCDT20090622ABA LIC scenario 1

Interference to BLCDT20090622ABA LIC scenario 2

Table 1 KNXG-LD TVStudy Analysis of Proposal
(page 7 of 9)



Desired:	Call	Chan	Svc	Status	City, State	File Number	Distance
	KBVO	D27	DT	LIC	LLANO, TX	BLCDT20090622ABA	
Undesireds:	KNXG-LD	D27	LD	APP	COLLEGE STATION, TX	KNXG-LD_ALP-OC	242.9 km
	KPXL-TV	D26	DT	LIC	UVALDE, TX	BLCDT20090612AHU	126.3
	KXXV	D26	DT	LIC	WACO, TX	BLCDT20050630AFE	140.4
	KORO	D27	DT	LIC	CORPUS CHRISTI, TX	BLCDT20060626ACE	342.2
	KDFI	D27	DT	LIC	DALLAS, TX	BLANK0000074883	260.0
	KETF-CD	D27	DC	APP	LAREDO, TX	BMPDTA20120918AAW	362.9
	KCOR-CD	D27	DC	LIC	SAN ANTONIO, TX	BLANK0000115083	140.1
	WOAI-TV	D28	DT	LIC	SAN ANTONIO, TX	BLANK0000127065	159.1
	KWKT-TV	D28	DT	LIC	WACO, TX	BLANK0000117686	137.8
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	Service area	Terrain-limited		IX-free, before		IX-free, after	Percent New IX
	24658.1 1,491,118	23131.9	1,251,949	22175.0	1,145,613	22159.0 1,141,498	0.07 0.36

Undesired	Total IX	Unique IX, before	Unique IX, after
KNXG-LD D27 LD APP	104.8 26,261	16.0 4,115	
KPXL-TV D26 DT LIC	32.1 291	10.0 0	
KXXV D26 DT LIC	514.8 54,499	112.1 7,507	109.1 7,090
KORO D27 DT LIC	137.4 46,127	62.1 28,810	59.1 26,216
KDFI D27 DT LIC	338.2 28,784	183.7 1,039	174.8 168
KCOR-CD D27 DC LIC	179.1 20,650	51.3 1,677	51.3 1,677
WOAI-TV D28 DT LIC	14.1 21	2.0 0	2.0 0
KWKT-TV D28 DT LIC	417.9 48,829	13.2 1,712	13.2 1,712

Interference to BLANK0000151859 LIC scenario 1

Desired:	Call	Chan	Svc	Status	City, State	File Number	Distance
	KLUF-LD	D27~	LD	LIC	LUFKIN, TX	BLANK0000151859	
Undesireds:	KNXG-LD	D27	LD	APP	COLLEGE STATION, TX	KNXG-LD_ALP-OC	154.9 km
	KDFI	D27	DT	LIC	DALLAS, TX	BLANK0000074883	256.6
	DK27JJ-D	D27	LD	APP	FORBES/JASPER CTY, TX	BLDTL20110610AAD	91.3
	KBTB-TV	D27	DT	LIC	PORT ARTHUR, TX	BLANK0000063140	147.6
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	Service area	Terrain-limited		IX-free, before		IX-free, after	Percent New IX
	72.2 14,794	69.1 13,771	63.0 12,461	63.0 12,461			0.00 0.00

Undesired	Total IX	Unique IX, before	Unique IX, after
KNXG-LD D27 LD APP	1.0 185	0.0 0	
KDFI D27 DT LIC	2.0 197	0.0 0	0.0 0
DK27JJ-D D27 LD APP	2.0 140	0.0 0	0.0 0
KBTB-TV D27 DT LIC	6.1 1,310	3.0 1,040	2.0 855

Interference to BLANK0000116857 CP scenario 1

Desired:	Call	Chan	Svc	Status	City, State	File Number	Distance
	K28QN-D	D28	LD	CP	COLLEGE STATION, TX	BLANK0000116857	
Undesireds:	KNXG-LD	D27	LD	APP	COLLEGE STATION, TX	KNXG-LD_ALP-OC	35.6 km
	KLEG-CD	D28	DC	LIC	DALLAS, TX	BLANK0000080460	239.7
	KUGB-CD	D28	DC	CP	HOUSTON, TX	BLANK0000127537	146.7
	WOAI-TV	D28	DT	LIC	SAN ANTONIO, TX	BLANK0000074998	237.5
	KWKT-TV	D28	DT	LIC	WACO, TX	BLANK0000117686	116.1
	KYLE-TV	D29	DT	LIC	BRYAN, TX	BLANK0000116951	5.5
<hr/>							
	Service area	Terrain-limited		IX-free, before		IX-free, after	Percent New IX
	2068.7 186,310	2065.7 186,310	1838.0 183,250	1835.0 183,232			0.16 0.01

Undesired	Total IX	Unique IX, before	Unique IX, after
KNXG-LD D27 LD APP	8.0 76	3.0 18	
KUGB-CD D28 DC CP	1.0 0	0.0 0	0.0 0
WOAI-TV D28 DT LIC	5.0 0	0.0 0	0.0 0
KWKT-TV D28 DT LIC	64.0 2,550	26.0 2,347	25.0 2,347
KYLE-TV D29 DT LIC	196.7 713	163.7 510	160.7 510

Interference to BLANK0000116857 CP scenario 2

Table 1 KNXG-LD TVStudy Analysis of Proposal
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	Call	Chan	Svc	Status	City, State	File Number	Distance
Desired:	K28QN-D	D28	LD	CP	COLLEGE STATION, TX	BLANK0000116857	
Undesireds:	KNXG-LD	D27	LD	APP	COLLEGE STATION, TX	KNXG-LD_ALP-OC	35.6 km
	KLEG-CD	D28	DC	LIC	DALLAS, TX	BLANK0000080460	239.7
	WOAI-TV	D28	DT	LIC	SAN ANTONIO, TX	BLANK0000074998	237.5
	KWKT-TV	D28	DT	LIC	WACO, TX	BLANK0000117686	116.1
	KYLE-TV	D29	DT	LIC	BRYAN, TX	BLANK0000116951	5.5
	Service area	Terrain-limited		IX-free, before		IX-free, after	Percent New IX
2068.7	186,310	2065.7	186,310	1838.0	183,250	1835.0 183,232	0.16 0.01

Undesired		Total IX	Unique IX, before	Unique IX, after
KNXG-LD D27 LD APP	8.0	76		3.0 18
WOAI-TV D28 DT LIC	5.0	0	0.0 0	0.0 0
KWKT-TV D28 DT LIC	64.0	2,550	27.0 2,347	26.0 2,347
KYLE-TV D29 DT LIC	196.7	713	163.7 510	160.7 510

Interference to BLANK0000116857 CP scenario 3

	Call	Chan	Svc	Status	City, State	File Number	Distance
Desired:	K28QN-D	D28	LD	CP	COLLEGE STATION, TX	BLANK0000116857	
Undesireds:	KNXG-LD	D27	LD	APP	COLLEGE STATION, TX	KNXG-LD_ALP-OC	35.6 km
	KLEG-CD	D28	DC	LIC	DALLAS, TX	BLANK0000080460	239.7
	KUGB-CD	D28	DC	CP	HOUSTON, TX	BLANK0000127537	146.7
	WOAI-TV	D28	DT	LIC	SAN ANTONIO, TX	BLANK0000127065	237.5
	KWKT-TV	D28	DT	LIC	WACO, TX	BLANK0000117686	116.1
	KYLE-TV	D29	DT	LIC	BRYAN, TX	BLANK0000116951	5.5
	Service area	Terrain-limited		IX-free, before		IX-free, after	Percent New IX
2068.7	186,310	2065.7	186,310	1838.0	183,250	1835.0 183,232	0.16 0.01

Undesired		Total IX	Unique IX, before	Unique IX, after
KNXG-LD D27 LD APP	8.0	76		3.0 18
KUGB-CD D28 DC CP	1.0	0	0.0 0	0.0 0
WOAI-TV D28 DT LIC	5.0	0	0.0 0	0.0 0
KWKT-TV D28 DT LIC	64.0	2,550	26.0 2,347	25.0 2,347
KYLE-TV D29 DT LIC	196.7	713	163.7 510	160.7 510

Interference to BLANK0000116857 CP scenario 4

	Call	Chan	Svc	Status	City, State	File Number	Distance
Desired:	K28QN-D	D28	LD	CP	COLLEGE STATION, TX	BLANK0000116857	
Undesireds:	KNXG-LD	D27	LD	APP	COLLEGE STATION, TX	KNXG-LD_ALP-OC	35.6 km
	KLEG-CD	D28	DC	LIC	DALLAS, TX	BLANK0000080460	239.7
	WOAI-TV	D28	DT	LIC	SAN ANTONIO, TX	BLANK0000127065	237.5
	KWKT-TV	D28	DT	LIC	WACO, TX	BLANK0000117686	116.1
	KYLE-TV	D29	DT	LIC	BRYAN, TX	BLANK0000116951	5.5
	Service area	Terrain-limited		IX-free, before		IX-free, after	Percent New IX
2068.7	186,310	2065.7	186,310	1838.0	183,250	1835.0 183,232	0.16 0.01

Undesired		Total IX	Unique IX, before	Unique IX, after
KNXG-LD D27 LD APP	8.0	76		3.0 18
WOAI-TV D28 DT LIC	5.0	0	0.0 0	0.0 0
KWKT-TV D28 DT LIC	64.0	2,550	27.0 2,347	26.0 2,347
KYLE-TV D29 DT LIC	196.7	713	163.7 510	160.7 510

Interference to proposal scenario 1
4.98% interference received

	Call	Chan	Svc	Status	City, State	File Number	Distance
Desired:	KNXG-LD	D27	LD	APP	COLLEGE STATION, TX	KNXG-LD_ALP-OC	
Undesireds:	KRIV	D26	DT	CP	HOUSTON, TX	BLANK0000149927	120.6 km
	KBPX-LD	D27	LD	LIC	HOUSTON, TX	BLANK0000072640	109.1
	KQHO-LD	D27	LD	LIC	HOUSTON, TX	BLANK0000072691	109.1
	KBVO	D27	DT	LIC	LLANO, TX	BLCDT20090622ABA	242.9

Table 1 KNXG-LD TV Study Analysis of Proposal
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KLUF-LD	D27-	LD	APP	LUFKIN, TX	BLANK0000010680	155.0
KBTW-TV	D27	DT	LIC	PORT ARTHUR, TX	BLANK0000063140	201.1
KUGB-CD	D28	DC	CP	HOUSTON, TX	BLANK0000127537	120.2

Service area	Terrain-limited	IX-free	Percent IX
11174.8 472,317	11170.7 472,317	10939.0 448,807	2.07 4.98

Undesired	Total IX	Unique IX	Prcnt Unique IX
KRIV D26 DT CP	3.0 73	1.0 0	0.01 0.00
KBPX-LD D27 LD LIC	205.5 22,739	0.0 0	0.00 0.00
KQHO-LD D27 LD LIC	205.5 22,739	0.0 0	0.00 0.00
KBVO D27 DT LIC	7.1 29	2.0 29	0.02 0.01
KBTW-TV D27 DT LIC	25.1 742	16.0 669	0.14 0.14

Interference to proposal scenario 2
4.98% interference received

Call	Chan	Svc	Status	City, State	File Number	Distance
Desired: KNXG-LD	D27	LD	APP	COLLEGE STATION, TX	KNXG-LD_ALP-OC	
Undesireds: KRIV	D26	DT	LIC	HOUSTON, TX	BLCDT20111212AHM	120.6 km
KBPX-LD	D27	LD	LIC	HOUSTON, TX	BLANK0000072640	109.1
KQHO-LD	D27	LD	LIC	HOUSTON, TX	BLANK0000072691	109.1
KBVO	D27	DT	LIC	LLANO, TX	BLCDT20090622ABA	242.9
KLUF-LD	D27-	LD	APP	LUFKIN, TX	BLANK0000010680	155.0
KBTW-TV	D27	DT	LIC	PORT ARTHUR, TX	BLANK0000063140	201.1
KUGB-CD	D28	DC	CP	HOUSTON, TX	BLANK0000127537	120.2

Service area	Terrain-limited	IX-free	Percent IX
11174.8 472,317	11170.7 472,317	10940.0 448,807	2.07 4.98

Undesired	Total IX	Unique IX	Prcnt Unique IX
KRIV D26 DT LIC	3.0 73	0.0 0	0.00 0.00
KBPX-LD D27 LD LIC	205.5 22,739	0.0 0	0.00 0.00
KQHO-LD D27 LD LIC	205.5 22,739	0.0 0	0.00 0.00
KBVO D27 DT LIC	7.1 29	2.0 29	0.02 0.01
KBTW-TV D27 DT LIC	25.1 742	15.0 669	0.13 0.14

Channel and Facility Information

Section	Question	Response
Facility ID	182059	
State	Texas	
City	COLLEGE STATION	
LPD Channel	27	

Primary station proposed to be rebroadcast:

Facility Id	Call Sign	City	State
6669	KBTX-TV	BRYAN	TX

Antenna Location Data

Section	Question	Response
Antenna Structure Registration	Do you have an FCC Antenna Structure Registration (ASR) Number?	Yes
	ASR Number	1062868
Coordinates (NAD83)	Latitude	30° 33' 16.5" N+
	Longitude	096° 01' 52.3" W-
	Structure Type	TOWER-A free standing or guyed struct
	Overall Structure Height	502.9 meters
	Support Structure Height	487.7 meters
	Ground Elevation (AMSL)	101.1 meters
Antenna Data	Height of Radiation Center Above Ground Level	411.5 meters
	Height of Radiation Center Above Mean Sea Level	512.6 meters
	Effective Radiated Power	15 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:	ERI
	Model	ALP12L6-ESOC-27
	Rotation	345 degrees
	Electrical Beam Tilt	1.5
	Mechanical Beam Tilt	Not Applicable
	toward azimuth	
	Polarization	Elliptical
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:	Full Service

Directional Antenna Relative Field Values (Pre-rotated Pattern)

Degree	Value	Degree	Value	Degree	Value	Degree	Value
0	1.000	90	0.693	180	0.668	270	0.693
10	0.995	100	0.656	190	0.666	280	0.738
20	0.980	110	0.633	200	0.658	290	0.789
30	0.957	120	0.622	210	0.646	300	0.840
40	0.925	130	0.623	220	0.633	310	0.887
50	0.887	140	0.633	230	0.623	320	0.925
60	0.840	150	0.646	240	0.622	330	0.957
70	0.789	160	0.658	250	0.633	340	0.980
80	0.738	170	0.666	260	0.656	350	0.995

Additional Azimuths

Degree	V _A
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