

TECHNICAL EXHIBIT
APPLICATION FOR CONSTRUCTION PERMIT
LOW POWER TV STATION K63DL
FACILITY ID 10246
BRYAN, TEXAS
CH 23 5 KW

Technical Narrative

The technical exhibit of which this narrative is part was prepared in support of a displacement relief application for construction permit for Low Power TV station K63DL at Bryan, Texas (Facility ID: 10246; File No. BLTT-19880408IE). Station K63DL currently operates on channel 63 which is located in that portion of the TV band (channels 60-69) which has been reallocated for other services. Pursuant to Section 73.3572(a)(4)(ii), K63DL is considered to be displaced and permitted to file a displacement relief application at any time. Therefore, it is proposed to operate K63DL on channel 23 from a new transmitter site location.

Proposed Facilities

Specifically, it is proposed to change transmitter site and operate on channel 23 (524-530 MHz) with a "minus" carrier frequency offset and an ERP of 5 kW using an Andrew ALP8L1-HSO nondirectional antenna. The antenna will be mounted at the 171 meter level on the existing 204 meter tower (FCC Tower ID: 1047731). Figure 1 is a map which depicts K63DL's licensed and proposed 74 dBu contours.

Response to Paragraph 13(a) - TV Broadcast Analog Protection

A study has been conducted using the provisions of Section 74.705 which indicates that the proposed K63DL operation will not create prohibited interference to other existing, authorized or proposed NTSC full-power stations with the exception of the licensed (BLET-19890714KE) and authorized (BMPET-20011119ACB) operations of KHCE on channel 23 at San Antonio, Texas. However, based on the provisions of the OET-69 Bulletin as permitted by FCC rules [Section 74.705(e)], it is believed that K63DL's operation complies with the FCC's interference criteria towards KHCE. Specifically, calculations

have been made using the procedures outlined in the FCC's OET-69 Bulletin and a 2 square kilometer grid. The results of the OET Bulletin No. 69 are tabulated on Figure 2 and, as indicated, the proposal complies with the FCC's 0.5% interference threshold towards KHCE.¹

Response to Paragraph 13(b) - DTV Station Protection

Calculations based on OET Bulletin No. 69 indicate that the proposed K63DL operation on channel 23 complies with the FCC's 0.5% interference threshold criteria to all allotted, proposed or actual DTV operating facilities on channels 22, 23 and 24. Figure 2 provides the output of study based on OET-69 Bulletin which demonstrates that the proposed K63DL operation complies with the FCC's DTV interference criteria.

Response to Paragraph 13(c) - LPTV/TV Translator/Class A TV Protection

A study has been conducted which indicates that the K63DL proposal will not create prohibited interference to other existing, authorized or proposed LPTV, TV translator or Class A stations.

Response to Paragraph 14 - Environmental Protection Act

The proposed K63DL LPTV facilities were evaluated in terms of potential radiofrequency radiation exposure at ground level in accordance with OST Bulletin No. 65, "Evaluating Compliance With FCC-Specified Guidelines for Human Exposure to Radiofrequency Radiation."² The calculated power density at the base of the tower was calculated using the appropriate

¹ The du Treil, Lundin & Rackley, Inc. DTV interference analysis program is based on the program and procedures outlined by the FCC in the Sixth Report and Order; subsequent Memorandum Opinion and Order; and FCC OET Bulletin No. 69. A nominal grid size resolution of 2 km was employed. An Alpha based processor computer system was employed. The results have been found to be in very close agreement with the results of the FCC implementation of OET Bulletin No. 69.

² See *Report and Order* in ET Docket 93-62, FCC 96-326, adopted August 1, 1996, 11 FCC Rcd 15123 (1997). See also *First Memorandum Opinion and Order*, ET Docket 93-62, FCC 96-487, adopted December 23, 1996, 11 FCC Rcd 17512 (1997), and *Second Memorandum Opinion and Order and Notice of Proposed Rulemaking*, ET Docket 93-62, FCC 97-303, adopted August 25, 1997.

equation on Page 13 of the Bulletin. Using a greater than expected vertical relative field value of 0.3 (see vertical plane relative field pattern attached as Figure 3), a maximum visual effective radiated power of 5 kilowatts and 10 percent aural power, the calculated power density at 2 meters above ground level at the base of the tower is 0.0003 milliwatt per square centimeter (mW/cm^2), or 0.1 percent of the Commission's recommended limit applicable to general population/uncontrolled exposure areas ($0.35 \text{ mW}/\text{cm}^2$ for TV channel 23). Therefore, based on the new responsibility threshold of 5%, the proposal will comply with the new RF emission rules.

Access to the transmitting site will be restricted and appropriately marked with warning signs. Furthermore, as this is a multi-user site, an agreement will be in effect in the event that workers or other authorized personnel enter the restricted area or climb the tower to ensure that appropriate measures will be taken to assure worker safety with respect to radio frequency radiation exposure. Such measures include reducing the average exposure by spreading out the work over a longer period of time, wearing "accepted" RFR protective clothing and/or RFR exposure monitors or scheduling work when the stations are at reduced power or shut down.

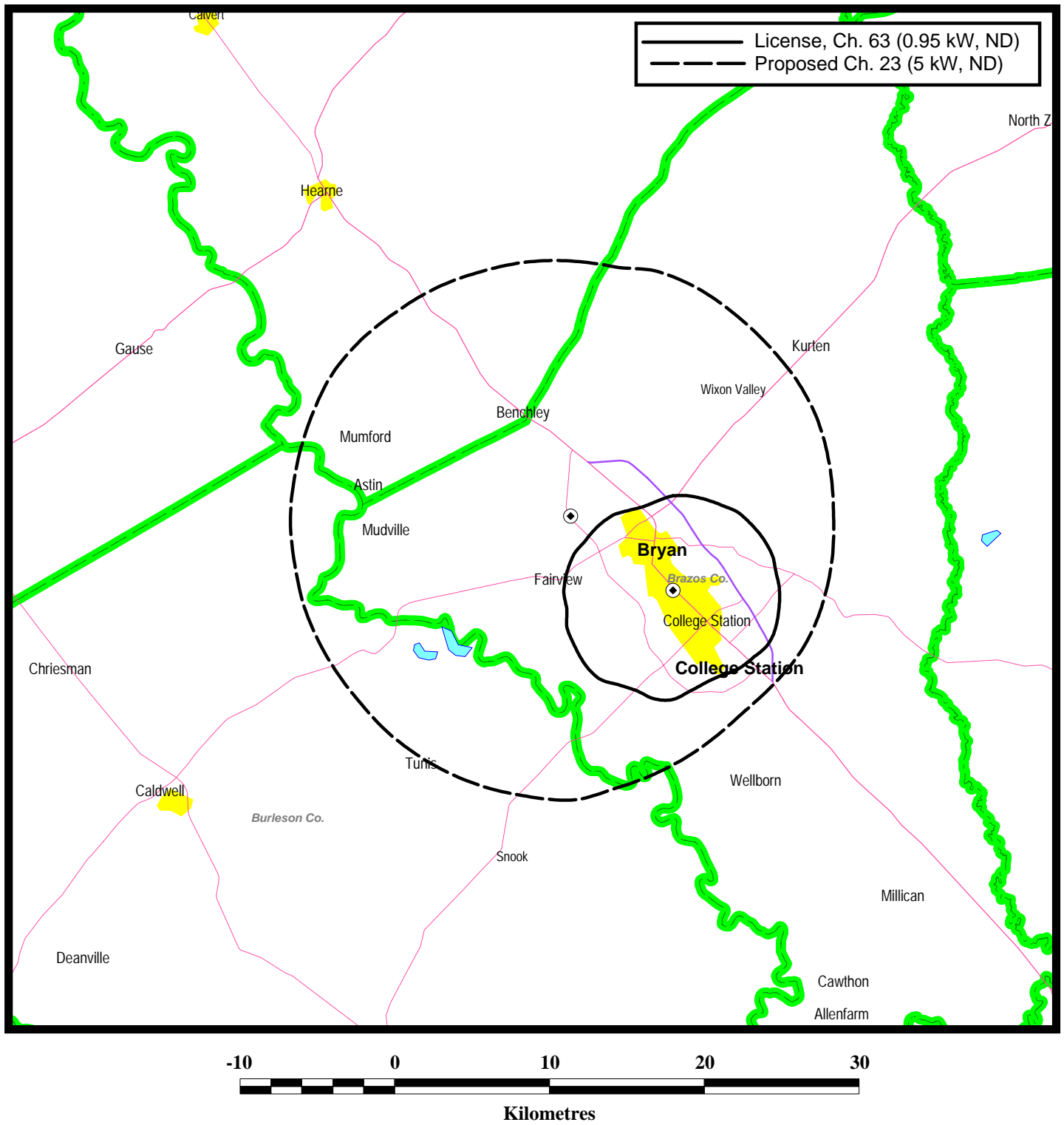
In addition, it appears that the existing tower is otherwise excluded from environmental processing as it complies with all the criteria for such an exclusion in Section 1.1306.

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Figure 1



PREDICTED 74 DBU CONTOURS

STATION K63DL
BRYAN, TEXAS
CH 23 5 KW

OET-69 TV/DTV INTERFERENCE CAUSED STUDY

CELL SIZE : 2.00
Using offset in determining thresholds
Per 6th Report & Order and FCC OET-69 Bulletin

KLRU2 30-19-33 097-47-58 22(N) 59.900 kw 562 m DA 90.0 % 39.5 dBu
AUSTIN TX 18312 904 DTVSERVICE: 904000 NTSCSERVICE: 904000
CP BPEDT19980528KE
0.66 0.83 0.95 1.00 0.95 0.83 0.66 0.50 0.40 0.36 0.40 0.50
0.66 0.83 0.95 1.00 0.95 0.83 0.66 0.50 0.40 0.36 0.40 0.50
0.66 0.83 0.95 1.00 0.95 0.83 0.66 0.50 0.40 0.36 0.40 0.50

Ref Az: 0.0

Using DEFAULT vertical antenna pattern

	Area	Pop
within Noise Limited Contour	18111.40	901839
not affected by terrain losses	17834.55	899611

K63DLP 30-41-18 096-25-35 23(-) 5.000 kw 287 m 10.0 % 72.6 dBu
BRYAN TX
Using DEFAULT vertical antenna pattern

D/U Baseline: -49.00

	Area	Pop
Interference	0	0

KLRU 30-19-23 097-47-58 22(N) 700.000 kw 608.2 m 90.0 % 39.5 dBu
AUSTIN TX 18312 904 DTVSERVICE: 904000 NTSCSERVICE: 904000
APP BMPEDT20000501AIT

Using DEFAULT vertical antenna pattern

	Area	Pop
within Noise Limited Contour	34625.70	1399911
not affected by terrain losses	33855.35	1380154

K63DLP 30-41-18 096-25-35 23(-) 5.000 kw 287 m 10.0 % 72.6 dBu
BRYAN TX
Using DEFAULT vertical antenna pattern

D/U Baseline: -49.00

	Area	Pop
Interference	0	0

DKLRU 30-19-20 097-48-10 22(0) 66.700 kw 574 m DA 90.0 % 39.5 dBu
AUSTIN TX 18312 904 DTVSERVICE: 904000 NTSCSERVICE: 904000
DTVALT DTV ALLOTMENT

0.64	0.81	0.93	0.99	0.93	0.83	0.68	0.55	0.47	0.45	0.48	0.56
0.66	0.85	0.95	1.00	0.94	0.82	0.67	0.55	0.47	0.43	0.45	0.53
0.65	0.82	0.94	0.99	0.93	0.81	0.66	0.55	0.46	0.44	0.47	0.54

Ref Az: 0.0

Using DEFAULT vertical antenna pattern

	Area	Pop
within Noise Limited Contour	19006.31	910515
not affected by terrain losses	18733.47	908309

K63DLP 30-41-18 096-25-35 23(-) 5.000 kw 287 m 10.0 % 72.6 dBu
BRYAN TX

Using DEFAULT vertical antenna pattern

D/U Baseline: -49.00

	Area	Pop
Interference	0	0

DKAKW 31-18-52 097-19-37 23(0) 50.000 kw 617 m DA 90.0 % 39.6 dBu
KILLEEN TX 16884 540 DTVSERVICE: 540000 NTSCSERVICE: 540000

DTVALT DTV ALLOTMENT

0.80	0.93	1.00	1.00	0.92	0.79	0.61	0.42	0.28	0.19	0.16	0.16
0.16	0.16	0.19	0.27	0.42	0.60	0.78	0.91	0.98	0.99	0.92	0.79
0.62	0.44	0.29	0.21	0.17	0.17	0.17	0.17	0.21	0.29	0.44	0.63

Ref Az: 0.0

Using DEFAULT vertical antenna pattern

USING NTSC GRADE B FOR SERVICE AREA

	Area	Pop
within Noise Limited Contour	17125.33	542867
not affected by terrain losses	17081.08	541805

K63DLP 30-41-18 096-25-35 23(-) 5.000 kw 287 m 10.0 % 72.6 dBu
BRYAN TX

Using DEFAULT vertical antenna pattern

D/U Baseline: 2.00

	Area	Pop
Interference	40.23	85(0.02%)

DKLTJ 29-17-56 095-14-11 23(0) 246.600 kw 570 m DA 90.0 % 39.6 dBu
GALVESTON TX 30569 3689 DTVSERVICE: 3689000 NTSCSERVICE: 3696000

DTVALT DTV ALLOTMENT

0.99	0.96	0.93	0.89	0.84	0.77	0.68	0.57	0.46	0.36	0.29	0.25
0.27	0.31	0.35	0.39	0.39	0.35	0.31	0.27	0.25	0.29	0.36	0.46
0.58	0.68	0.77	0.84	0.89	0.93	0.96	0.99	1.00	1.00	1.00	1.00

Ref Az: 0.0

Using DEFAULT vertical antenna pattern

	Area	Pop
within Noise Limited Contour	30804.58	3696126
not affected by terrain losses	30804.58	3696126

K63DLP 30-41-18 096-25-35 23(-) 5.000 kw 287 m 10.0 % 72.6 dBu
BRYAN TX

Using DEFAULT vertical antenna pattern

D/U Baseline: 2.00

	Area	Pop
Interference	0	0

KLTJ 29-17-56 095-14-11 23(N) 246.600 kw 570 m 90.0 % 39.6 dBu
GALVESTON TX 30569 3689 DTVSERVICE: 3689000 NTSCSERVICE: 3696000
CP BPEDT20000501AHK

Using DEFAULT vertical antenna pattern

	Area	Pop
within Noise Limited Contour	37108.24	3701609
not affected by terrain losses	37108.24	3701609

K63DLP 30-41-18 096-25-35 23(-) 5.000 kw 287 m 10.0 % 72.6 dBu
BRYAN TX

Using DEFAULT vertical antenna pattern

D/U Baseline: 2.00

	Area	Pop
Interference	0	0

KHCE2 29-31-25 098-43-25 23(-) 1480.000 kw 573 m DA 50.0 % 62.6 dBu
SAN ANTONIO TX 11306 1362 FCC NTSC BL: 1366018 FCC IX POP%: 0.2
LIC BLET19890714KE

0.28	0.35	0.43	0.52	0.61	0.69	0.78	0.87	0.94	0.98	1.00	0.99
0.96	0.90	0.82	0.73	0.64	0.56	0.47	0.40	0.33	0.27	0.21	0.18
0.19	0.22	0.26	0.29	0.30	0.29	0.27	0.23	0.20	0.19	0.19	0.22

Ref Az: 0.0

Using DEFAULT vertical antenna pattern

	Area	Pop
within Noise Limited Contour	11672.77	1366104
not affected by terrain losses	11345.42	1361860

K63DLP 30-41-18 096-25-35 23(-) 5.000 kw 287 m 10.0 % 72.6 dBu
BRYAN TX

Using DEFAULT vertical antenna pattern

D/U Baseline: 45.00

	Area	Pop
Interference	11.98	1215(0.09%)

KHCE 29-17-24 098-15-20 23(-) 2032.000 kw 489 m DA 50.0 % 62.6 dBu
SAN ANTONIO TX 11306 1362 FCC NTSC BL: 1366018 FCC IX POP%: 0.2
CP MOD BMPET20011119ACB

0.99	0.99	0.99	0.97	0.92	0.81	0.70	0.60	0.50	0.36	0.24	0.19
0.20	0.19	0.23	0.35	0.50	0.60	0.69	0.80	0.92	0.98	0.99	0.99
1.00	0.97	0.94	0.94	0.96	0.98	0.99	0.99	0.97	0.94	0.94	0.96

Ref Az: 0.0

Using DEFAULT vertical antenna pattern

	Area	Pop
within Noise Limited Contour	17478.28	1444224
not affected by terrain losses	17270.35	1441633

K63DLP 30-41-18 096-25-35 23(-) 5.000 kw 287 m 10.0 % 72.6 dBu
BRYAN TX
Using DEFAULT vertical antenna pattern

D/U Baseline: 45.00

	Area	Pop
Interference	51.98	1416(0.1%)

KEDT 27-39-20 097-33-55 23(N) 200.000 kw 285 m DA 90.0 % 39.6 dBu
CORPUS CHRISTI TX 15085 447 DTVSERVICE: 447000 NTSCSERVICE: 447000
CP BPEDT20000303AAG

0.92	0.94	0.96	0.99	1.00	0.99	0.94	0.85	0.73	0.59	0.44	0.30
0.22	0.21	0.23	0.25	0.23	0.21	0.22	0.30	0.44	0.59	0.73	0.85
0.94	0.99	1.00	0.99	0.96	0.94	0.92	0.90	0.90	0.90	0.90	0.90

Ref Az: 0.0

Using DEFAULT vertical antenna pattern

	Area	Pop
within Noise Limited Contour	18472.91	461227
not affected by terrain losses	18472.91	461227

K63DLP 30-41-18 096-25-35 23(-) 5.000 kw 287 m 10.0 % 72.6 dBu
BRYAN TX
Using DEFAULT vertical antenna pattern

D/U Baseline: 2.00

	Area	Pop
Interference	0	0

DKEDTT 27-39-12 097-33-55 23(0) 50.000 kw 308 m DA 90.0 % 39.6 dBu
CORPUS CHRISTI TX 15085 447 DTVSERVICE: 447000 NTSCSERVICE: 447000
DTVALT DTV ALLOTMENT

0.98	0.95	0.92	0.91	0.85	0.81	0.76	0.70	0.62	0.50	0.39	0.28
0.21	0.22	0.27	0.32	0.34	0.33	0.29	0.24	0.21	0.25	0.34	0.46
0.58	0.67	0.74	0.79	0.82	0.89	0.91	0.94	0.97	0.99	1.00	1.00

Ref Az: 0.0

Using DEFAULT vertical antenna pattern

USING NTSC GRADE B FOR SERVICE AREA

	Area	Pop
within Noise Limited Contour	15129.81	442960
not affected by terrain losses	15129.81	442960

K63DLP 30-41-18 096-25-35 23(-) 5.000 kw 287 m 10.0 % 72.6 dBu
BRYAN TX
Using DEFAULT vertical antenna pattern

D/U Baseline: 2.00

	Area	Pop
Interference	0	0

DKLPBT 30-02-38 092-22-14 23(0) 64.300 kw 371 m DA 90.0 % 39.6 dBu
LAFAYETTE LA 18304 536 DTVSERVICE: 536000 NTSCSERVICE: 536000
DTVALT DTV ALLOTMENT

0.89	0.92	0.96	0.97	1.00	1.00	1.00	0.97	0.95	0.91	0.87	0.83
0.78	0.71	0.63	0.52	0.41	0.30	0.23	0.20	0.24	0.30	0.33	0.33
0.30	0.25	0.21	0.21	0.28	0.40	0.52	0.62	0.69	0.75	0.81	0.84

Ref Az: 0.0

Using DEFAULT vertical antenna pattern

	Area	Pop
within Noise Limited Contour	18319.77	536368
not affected by terrain losses	18319.77	536368

K63DLP 30-41-18 096-25-35 23(-) 5.000 kw 287 m 10.0 % 72.6 dBu

BRYAN TX

Using DEFAULT vertical antenna pattern

D/U Baseline: 2.00

	Area	Pop
Interference	0	0

KLPB-T 30-19-19 092-16-58 23(N) 50.000 kw 473.2 m DA 90.0 % 39.6 dBu
LAFAYETTE LA 18304 536 DTVSERVICE: 536000 NTSCSERVICE: 536000
CP BPEDT20000421AAJ

0.96	0.93	0.91	0.90	0.90	0.90	0.91	0.92	0.94	0.97	0.99
1.00	0.98	0.93	0.83	0.71	0.56	0.41	0.28	0.21	0.21	0.24
0.23	0.20	0.23	0.33	0.47	0.62	0.76	0.87	0.95	0.99	1.00

(339.0 1.00)

Ref Az: 0.0

Using DEFAULT vertical antenna pattern

	Area	Pop
within Noise Limited Contour	21072.32	600691
not affected by terrain losses	21072.32	600691

K63DLP 30-41-18 096-25-35 23(-) 5.000 kw 287 m 10.0 % 72.6 dBu

BRYAN TX

Using DEFAULT vertical antenna pattern

D/U Baseline: 2.00

	Area	Pop
Interference	0	0

KETH 29-33-44 095-30-35 24(N) 800.000 kw 564 m DA 90.0 % 39.7 dBu
HOUSTON TX 25772 3782 DTVSERVICE: 3782000 NTSCSERVICE: 3781000
CP BPEDT20000103AAS

0.94	0.98	0.99	1.00	0.99	0.98	0.94	0.91	0.87	0.84	0.80	0.77
0.72	0.66	0.57	0.46	0.35	0.28	0.28	0.34	0.40	0.42	0.40	0.34
0.28	0.28	0.35	0.46	0.57	0.66	0.72	0.77	0.80	0.84	0.87	0.91

Ref Az: 30.0

Using DEFAULT vertical antenna pattern

	Area	Pop
within Noise Limited Contour	37485.35	3858037
not affected by terrain losses	37444.95	3857704

K63DLP 30-41-18 096-25-35 23(-) 5.000 kw 287 m 10.0 % 72.6 dBu

BRYAN TX
Using DEFAULT vertical antenna pattern

D/U Baseline: -48.00

	Area	Pop
Interference	0	0

DKETH 29-33-25 095-30-04 24(0) 277.100 kw 454 m DA 90.0 % 39.7 dBu
HOUSTON TX 25772 3782 DTVSERVICE: 3782000 NTSCSERVICE: 3781000
DTVALT DTV ALLOTMENT
0.95 0.97 0.99 1.00 0.99 0.98 0.95 0.92 0.87 0.85 0.81 0.77
0.69 0.61 0.49 0.35 0.25 0.19 0.22 0.27 0.31 0.34 0.31 0.27
0.22 0.19 0.25 0.35 0.49 0.61 0.69 0.77 0.81 0.84 0.87 0.92
Ref Az: 0.0

Using DEFAULT vertical antenna pattern

	Area	Pop
within Noise Limited Contour	25808.79	3783542
not affected by terrain losses	25804.75	3783542

K63DLP 30-41-18 096-25-35 23(-) 5.000 kw 287 m 10.0 % 72.6 dBu
BRYAN TX
Using DEFAULT vertical antenna pattern

D/U Baseline: -48.00

	Area	Pop
Interference	0	0

Summary of Calculations

Facility	Channel	Type	Baseline	Permissible	IX	%Base
KLRU2, AUSTIN, TX	22	DTV	904000	0.5	0	0.00
KLRU, AUSTIN, TX	22	DTV	904000	0.5	0	0.00
DKLRU, AUSTIN, TX	22	DTV	904000	0.5	0	0.00
DKAKW, KILLEEN, TX	23	DTV	540000	0.5	85	0.02
DKLTJ, GALVESTON, TX	23	DTV	3696000	0.5	0	0.00
KLTJ, GALVESTON, TX	23	DTV	3696000	0.5	0	0.00
KHCE2, SAN ANTONIO, TX	23	TV	1366018	0.5	1215	0.09
KHCE, SAN ANTONIO, TX	23	TV	1366018	0.5	1416	0.10
KEDT, CORPUS CHRISTI, T	23	DTV	447000	0.5	0	0.00
DKEDTT, CORPUS CHRISTI,	23	DTV	447000	0.5	0	0.00
DKLPBT, LAFAYETTE, LA	23	DTV	536000	0.5	0	0.00
KLPB-T, LAFAYETTE, LA	23	DTV	536000	0.5	0	0.00
KETH, HOUSTON, TX	24	DTV	3782000	0.5	0	0.00
DKETH, HOUSTON, TX	24	DTV	3782000	0.5	0	0.00



ANDREW

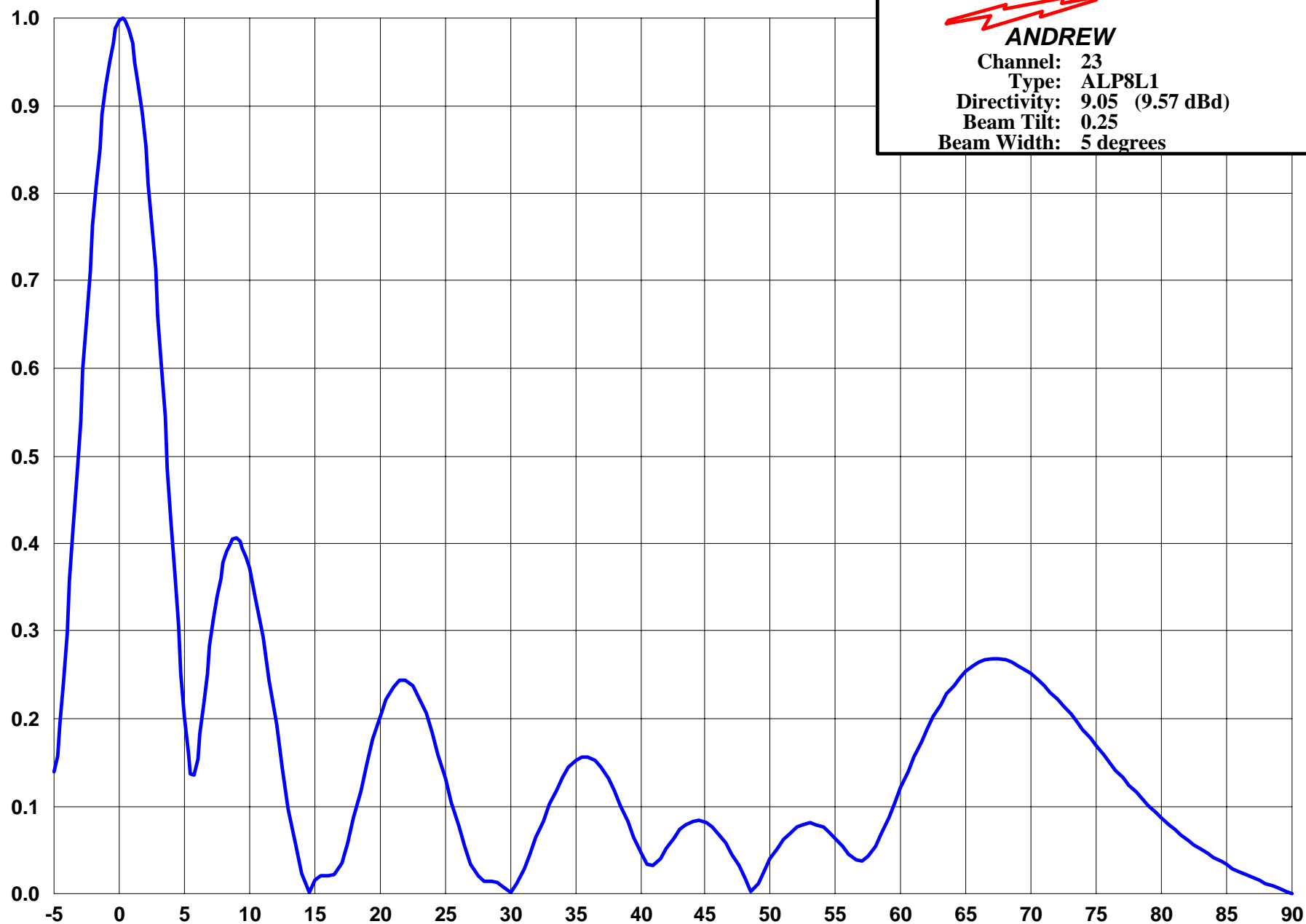
Channel: 23

Type: ALP8L1

Directivity: 9.05 (9.57 dBd)

Beam Tilt: 0.25

Beam Width: 5 degrees



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Figure 3